# jt3swukwd

## September 5, 2023

Proyecto Final Coursera Capstone Mejora de la Seguridad Vial en Bucaramanga a través del Análisis de Accidentes de Tránsito en la Ciudad de bucaramanga, Colombia

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## 1 Introducción

En la actualidad, los accidentes de tránsito representan una preocupación constante en las ciudades de todo el mundo. Bucaramanga, una ciudad en Colombia, no es una excepción. La seguridad vial es un tema crucial que afecta no solo a los conductores y peatones, sino también a la infraestructura urbana, los servicios de emergencia y la calidad de vida en general. Con el aumento del tráfico, la diversidad de vehículos en las carreteras y la interacción entre diferentes modos de transporte, la identificación de patrones y factores relacionados con los accidentes de tránsito se ha convertido en una prioridad para las autoridades y la comunidad en Bucaramanga.

#### 1.1 El Problema

El objetivo principal de este proyecto es analizar y comprender los patrones de accidentes de tránsito en la ciudad de Bucaramanga. Para lograrlo, se utilizará un conjunto de datos que registra la ubicación de accidentes de tránsito en la ciudad. El análisis de estos datos permitirá identificar áreas problemáticas, factores de riesgo y tendencias que contribuyen a la ocurrencia de accidentes. Además, se buscará desarrollar recomendaciones y estrategias para mejorar la seguridad vial y reducir la frecuencia y gravedad de los accidentes.

## 2 Datos

El conjunto de datos utilizado en este proyecto contiene información detallada sobre los accidentes de tránsito en Bucaramanga. Cada registro incluye datos como la ubicación geográfica (latitud y longitud), la fecha y hora del accidente, las condiciones climáticas, el tipo de vehículos involucrados,

la causa probable del accidente y otros detalles relevantes. Estos datos proporcionarán una visión holística de los accidentes en la ciudad y permitirán un análisis profundo de los factores subyacentes.

Los datos fueron adquirodos desde la plataforma del gobierno Colombiano, denominada Datos Abiertos https://datos.gov.co/, espefificamente en esta dirección, https://www.datos.gov.co/Transporte/03-ACCIDENTES-DE-TRANSITO-DESDE-ENERO-2012-A-FEBRE/7cci-nqqb

Los datos que se utilizarán para resolver el problema de los accidentes de tránsito en Bucaramanga provienen de un conjunto de datos que registra información detallada sobre los accidentes. A continuación, se describen las variables presentes en el conjunto de datos:

- 1. **ORDEN**: Un identificador único para cada registro de accidente.
- 2. FECHA: La fecha en que ocurrió el accidente.
- 3. AÑO: El año en que ocurrió el accidente.
- 4. MES: El mes en que ocurrió el accidente.
- 5. **DÍA**: El día de la semana en que ocurrió el accidente.
- 6. GRAVEDAD: Indica la gravedad del accidente (Con Heridos, Solo Daños, etc.).
- 7. **PEATON**: Número de peatones involucrados en el accidente.
- 8. AUTOMOVIL, CAMPAERO, CAMIONETA, MICRO, BUSETA, BUS, CAMION, VOLQUETA, MOTO, BICICLETA, OTRO: Números de diferentes tipos de vehículos involucrados en el accidente.
- 9. VIA 1: La vía principal donde ocurrió el accidente.
- 10. BARRIO: El barrio o ubicación donde ocurrió el accidente.
- 11. HORA: La hora del día en que ocurrió el accidente.
- 12. **ENTIDAD**: La entidad que atendió el accidente.
- 13. nombrecomuna: El nombre de la comuna en la que ocurrió el accidente.
- 14. **Propietario de Vehículo**: Propietario del vehículo involucrado.
- 15. DIURNIO/NOCTURNO: Indica si el accidente ocurrió durante el día o la noche.
- 16. HORA RESTRICCION MOTO: Información sobre la restricción de motocicletas.

Este conjunto de datos proporciona información valiosa sobre las características de los accidentes, incluyendo la ubicación geográfica, la gravedad, los tipos de vehículos involucrados y la hora del día en que ocurren. Además de estos datos, se utilizarán los datos de ubicación de Foursquare para enriquecer el análisis. Los datos de Foursquare pueden incluir información sobre la densidad de tráfico, la presencia de infraestructura vial (señales, semáforos, pasos de peatones, etc.) y la ubicación de establecimientos como hospitales y estaciones de policía, que podrían ser relevantes para el análisis de accidentes de tránsito.

La combinación de estos datos permitirá realizar un análisis más completo y profundo de los accidentes de tránsito en Bucaramanga, identificando patrones, tendencias y factores de riesgo que contribuyen a la ocurrencia de accidentes en la ciudad.

## 2.1 Adquisición de Coordenadas Geográficas para el Conjunto de Datos

Es importante mencionar que este proceso de adquisición de latitud y longitud a partir de direcciones puede ser intensivo en tiempo y recursos. Por lo tanto, se realizó por separado y se proporciona el código como referencia. El archivo "barrios\_con\_coordenadas.csv" resultante puede ser utilizado en análisis posteriores para incorporar la información geográfica en el conjunto de datos original.

Inicialmente, el conjunto de datos no contenía las variables de latitud y longitud. Por lo tanto,

se llevó a cabo un proceso para obtener los datos de geolocalización de cada registro. Este proceso permitió enriquecer el conjunto de datos con información de ubicación precisa para cada evento. Sin embargo, debido a que la adquisición de estas coordenadas requería un tiempo considerable, se realizó por separado y los resultados se guardaron en un archivo denominado "barrios\_con\_coordenadas.csv".

A continuación se presenta el código utilizado para este proceso:

## 3 URL del archivo CSV original

url = ``https://www.datos.gov.co/api/views/7cci-nqqb/rows.csv? access Type = DOWNLOAD &bom = true &format = 1000 + 1

# 4 Cargar el archivo CSV en un DataFrame

 $df = pd.read\_csv(url)$ 

## 5 Agregar columnas para latitud y longitud

df["Latitud"] = None df["Longitud"] = None

## 6 Obtener coordenadas y agregarlas al dataset

for idx, row in df.iterrows(): direccion = f"{row['BARRIO']}, Bucaramanga, Santander, Colombia" location = geocoder.arcgis(direccion) latitud, longitud = location.latlng df.at[idx, "Latitud"] = latitud df.at[idx, "Longitud"] = longitud

## 7 Guardar el dataset actualizado en un nuevo archivo CSV

df.to\_csv("barrios\_con\_coordenadas.csv", index=False)

# 8 Metodologia

La metodología utilizada se describe a continuación:

- Carga de datos: Se comenzó por cargar los datos del conjunto de datos desde un archivo CSV utilizando la biblioteca pandas. Los datos contenían información sobre accidentes en diferentes barrios, incluyendo las coordenadas de latitud y longitud.
- 2. Preprocesamiento de datos: Se seleccionaron las características relevantes para el clustering, en este caso, las columnas 'Latitud' y 'Longitud'. Luego, se estandarizaron estas características utilizando el StandardScaler de sklearn para asegurarse de que tengan la misma escala.
- 3. Determinación del número óptimo de clústeres: Se utilizó el método del codo para determinar el número óptimo de clústeres para el algoritmo KMeans. Se iteró a través de un rango de posibles valores de k y se calculó la inercia (suma de las distancias cuadradas entre

<sup>&</sup>quot;'python import pandas as pd import geocoder

las muestras y los centroides) para cada valor. El punto en el que la inercia deja de disminuir de manera significativa se considera el número óptimo de clústeres.

- 4. **Agrupamiento con KMeans:** Utilizando el número óptimo de clústeres determinado en el paso anterior, se aplicó el algoritmo KMeans para agrupar los datos en los clústeres correspondientes.
- 5. Visualización del resultado: Se generó un diagrama de dispersión para visualizar los resultados del agrupamiento. En este diagrama, cada punto representa una muestra en el espacio bidimensional de las características estandarizadas, y se coloreó de acuerdo al clúster al que pertenece. También se mostraron los centroides de cada clúster en el diagrama.
- 6. Generación de un mapa interactivo: Utilizando la biblioteca folium, se creó un mapa interactivo centrado en una ubicación específica. Se agregaron marcadores para cada muestra en el conjunto de datos, donde la posición de cada marcador corresponde a las coordenadas de latitud y longitud de la muestra. Los marcadores se colorearon de acuerdo al clúster al que pertenecen.
- 7. Visualización del número de muestras por clúster: Se mostró el número de muestras que pertenecen a cada clúster, lo que proporciona información sobre cómo se distribuyen los datos en los diferentes grupos.

La metodología involucró la carga y preprocesamiento de datos, la determinación del número óptimo de clústeres utilizando el método del codo, el agrupamiento de datos con KMeans, la visualización de resultados a través de diagramas de dispersión y mapas interactivos, y la presentación del número de muestras por clúster.

## 8.1 1. Comprensión del conjunto de datos

## 8.2 1.1. Carga del Conjunto de Datos y Visualización de las Primeras Filas

```
[1]: import pandas as pd

# Carga el conjunto de datos en un DataFrame
data = pd.read_csv('barrios_con_coordenadas.csv')

# Muestra las primeras filas del DataFrame
data
```

```
[1]:
            ORDEN
                         FECHA
                                  AÑO
                                                MES
                                                                DÍA
                                                                        GRAVEDAD
     0
                    01/01/2012
                                 2012
                                         01. Enero
                 1
                                                       07. Domingo
                                                                     Con Heridos
     1
                 2
                   01/01/2012
                                 2012
                                         01. Enero
                                                       07. Domingo
                                                                      Solo Daños
     2
                 3
                   01/01/2012
                                         01. Enero
                                                       07. Domingo
                                 2012
                                                                      Solo Daños
     3
                                         01. Enero
                                                                      Solo Daños
                 4
                    01/01/2012
                                 2012
                                                       07. Domingo
     4
                    01/01/2012
                                 2012
                                         01. Enero
                                                       07. Domingo
                                                                     Con Heridos
     38192
            38193
                    06/02/2023
                                 2023
                                       02. Febrero
                                                         01. Lunes
                                                                     Con muertos
     38193
            38194
                    15/02/2023
                                 2023
                                       02. Febrero
                                                     03. Miercoles
                                                                     Con muertos
                                 2023
                                       02. Febrero
                                                       05. Viernes
     38194
            38195
                    17/02/2023
                                                                     Con muertos
     38195
                    19/02/2023
                                 2023
                                       02. Febrero
                                                       07. Domingo
                                                                     Con muertos
            38196
```

| 38196 | 38197   | 11/03/2023    | 2023 03   | 3. Marz | 0    | 06    | . Sabado  | Con mue  | rtos  |   |
|-------|---------|---------------|-----------|---------|------|-------|-----------|----------|-------|---|
|       | PEATON  | AUTOMOVIL     | CAMPAERO  | CAMION  | ETA  |       |           | VIA 1    | \     |   |
| 0     | 0       | 1             | 0         |         | 0    | •••   |           | CALLE    |       |   |
| 1     | 0       | 1             | 0         |         | 1    | •••   | VIA       | MATANZA  |       |   |
| 2     | 0       | 0             | 0         |         | 1    | •••   |           | CARRERA  |       |   |
| 3     | 0       | 1             | 0         |         | 1    | •••   |           | CARRERA  |       |   |
| 4     | 1       | 0             | 0         |         | 0    | •••   |           | CARRERA  |       |   |
| •••   | •••     | •••           |           | •••     |      |       | •••       |          |       |   |
| 38192 | 0       | 0             | 0         |         | 0    | A     | AUTOPISTA | FLORIDA  |       |   |
| 38193 | 0       | 0             | 0         |         | 0    | •••   |           | LLO VIAL |       |   |
| 38194 | 0       | 0             | 0         |         | 0    | •••   |           | A Q SECA |       |   |
| 38195 | 0       | 0             | 0         |         | 0    |       |           | CALLE    |       |   |
| 38196 | 0       | 0             | 0         |         | 0    | •••   | VIA       | MATANZA  |       |   |
| 00100 |         | ·             | •         |         |      | •••   |           |          |       |   |
|       |         | BARRIO        |           | HORA    |      |       |           | ENTIDAD  | \     |   |
| 0     |         | Mutis         | 12:15:00  | p. m.   |      |       | AGEN      |          |       |   |
| 1     | Rega    | aderos Norte  |           | _       |      |       | AGEN      |          |       |   |
| 2     | _       | ra del Llano  |           | _       |      |       |           | TES DTB  |       |   |
| 3     |         | Norte Bajo    |           | _       |      |       | AGEN      |          |       |   |
| 4     |         | Dangond       |           | -       |      |       |           | TES DTB  |       |   |
| •••   |         | ···           |           |         |      |       | •••       |          |       |   |
| 38192 |         | Diamante II   |           | a. m.   | AGE  | NTES  |           | ITO DTB  |       |   |
| 38193 |         | Rio de Oro I  |           |         |      |       |           |          |       |   |
| 38194 |         | San Alonso    |           |         |      |       |           |          |       |   |
| 38195 | Ca      | ampo Hermoso  |           |         |      |       |           |          |       |   |
| 38196 |         | INFORMACION   |           | _       |      |       |           |          |       |   |
|       |         |               |           |         |      |       |           |          |       |   |
|       |         | nombreco      | nuna Prop | ietario | de   | Vehí  | culo DIU  | RNIO/NOC | TURNO | \ |
| 0     |         | 17. M         | _         |         |      | rticı |           |          | iurno |   |
| 1     |         | 02. NORORIE   | NTAL      |         |      | Empi  | resa      |          | iurno |   |
| 2     | 12. CAI | BECERA DEL LI | LANO      |         | Pa   | rticı |           |          | iurno |   |
| 3     | 0:      | 3. SAN FRANC  | ISCO      |         | Pa   | rticı | ılar      |          | turno |   |
| 4     |         |               | SUR       |         |      | rticu |           |          | turno |   |
|       |         | •••           |           |         |      |       |           | •••      |       |   |
| 38192 |         | 10. PROVI     | ENZA      |         | Pa   | rticı | ılar      | Noc      | turno |   |
| 38193 |         | 04. OCCIDE    | NTAL      |         | Pa   | rticu | ılar      | D:       | iurno |   |
| 38194 |         | 13. ORIE      |           |         |      | Empi  | resa      | Noc      | turno |   |
| 38195 | 0!      | 5. GARCIA RO  | VIRA      |         | Pa   | rticı |           |          | turno |   |
| 38196 |         | SIN INFORMA   |           |         |      | rticu |           |          | turno |   |
|       |         |               |           |         |      |       |           |          | -     |   |
|       | HORA RI | ESTRICCION MO | OTO Latit | ud Lon  | gitu | d     |           |          |       |   |
| 0     |         | No apl:       |           | 34 -73. | _    |       |           |          |       |   |
| 1     |         | No apl:       |           | 82 -73. | 1233 | 2     |           |          |       |   |
| 2     |         | No apl:       |           | 03 -73. |      |       |           |          |       |   |
| 3     |         | No apl:       |           | 41 -73. |      |       |           |          |       |   |
| 4     |         | En restricc   |           | 30 -73. |      |       |           |          |       |   |
|       |         |               |           |         |      |       |           |          |       |   |

```
38192 Sin informacion 7.09222 -73.11312
38193 Sin informacion 7.14169 -73.15246
38194 Sin informacion 7.13239 -73.11680
38195 Sin informacion 7.10669 -73.13759
38196 Sin informacion 7.11711 -73.12924
```

[38197 rows x 28 columns]

## 8.3 1.2. Información General del Conjunto de Datos

Se utiliza la función .info() para obtener información sobre el número de entradas no nulas en cada columna, los tipos de datos y la memoria utilizada por el DataFrame.

```
[2]: # Muestra información general del DataFrame print(data.info())
```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 38197 entries, 0 to 38196
Data columns (total 28 columns):

| #  | Column                  | Non-Null Count | Dtype  |
|----|-------------------------|----------------|--------|
|    |                         | 20407          |        |
| 0  |                         | 38197 non-null |        |
| 1  | FECHA                   | 38197 non-null |        |
| 2  |                         | 38197 non-null |        |
| 3  |                         | 38197 non-null | -      |
| 4  | DÍA                     | 38197 non-null | object |
| 5  | GRAVEDAD                | 38197 non-null | object |
| 6  | PEATON                  | 38197 non-null | int64  |
| 7  | AUTOMOVIL               | 38197 non-null | int64  |
| 8  | CAMPAERO                | 38197 non-null | int64  |
| 9  | CAMIONETA               | 38197 non-null | int64  |
| 10 | MICRO                   | 38197 non-null | int64  |
| 11 | BUSETA                  | 38197 non-null | int64  |
| 12 | BUS                     | 38197 non-null | int64  |
| 13 | CAMION                  | 38197 non-null | int64  |
| 14 | VOLQUETA                | 38197 non-null | int64  |
| 15 | МОТО                    | 38197 non-null | int64  |
| 16 | BICICLETA               | 38197 non-null | int64  |
| 17 | OTRO                    | 38197 non-null | int64  |
| 18 | VIA 1                   | 38197 non-null | object |
| 19 | BARRIO                  | 38197 non-null | object |
| 20 | HORA                    | 37931 non-null | object |
| 21 | ENTIDAD                 | 37952 non-null | _      |
| 22 | nombrecomuna            | 38197 non-null | object |
| 23 | Propietario de Vehículo | 38197 non-null | object |
| 24 |                         |                | -      |
| 25 | HORA RESTRICCION MOTO   |                | object |

26 Latitud 38197 non-null float64 27 Longitud 38197 non-null float64

dtypes: float64(2), int64(14), object(12)

memory usage: 8.2+ MB

None

### 8.4 1.3. Listado de Columnas

Se utiliza la propiedad .columns para obtener una lista de todas las columnas presentes en el DataFrame.

[3]: # Muestra la lista de columnas print(data.columns)

### 8.5 1.4. Resumen Estadístico de Variables Numéricas

[4]: # Muestra el resumen estadístico de variables numéricas print(data.describe())

|       | ORDEN        | AÑO          | PEATON       | AUTOMOVIL    | CAMPAERO     | \ |
|-------|--------------|--------------|--------------|--------------|--------------|---|
| count | 38197.000000 | 38197.000000 | 38197.00000  | 38197.000000 | 38197.000000 |   |
| mean  | 19099.000000 | 2016.480430  | 0.10472      | 0.786292     | 0.060947     |   |
| std   | 11026.668453 | 3.063243     | 0.33937      | 0.743994     | 0.245928     |   |
| min   | 1.000000     | 2012.000000  | 0.00000      | 0.000000     | 0.000000     |   |
| 25%   | 9550.000000  | 2014.000000  | 0.00000      | 0.000000     | 0.000000     |   |
| 50%   | 19099.000000 | 2016.000000  | 0.00000      | 1.000000     | 0.000000     |   |
| 75%   | 28648.000000 | 2019.000000  | 0.00000      | 1.000000     | 0.000000     |   |
| max   | 38197.000000 | 2023.000000  | 7.00000      | 29.000000    | 2.000000     |   |
|       |              |              |              |              |              |   |
|       | CAMIONETA    | MICRO        | BUSETA       | BUS          | CAMION       | \ |
| count | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.197555     | 0.020290     | 0.044061     | 0.048198     | 0.083279     |   |
| std   | 0.432211     | 0.141916     | 0.211639     | 0.218303     | 0.287543     |   |
| min   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 25%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 50%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 75%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| max   | 3.000000     | 2.000000     | 2.000000     | 2.000000     | 3.000000     |   |
|       |              |              |              |              |              |   |
|       | VOLQUETA     | MOTO         | BICICLETA    | OTRO         | Latitud      | \ |
| count | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.014242     | 0.611697     | 0.017384     | 0.021075     | 7.117426     |   |
|       |              |              |              |              |              |   |

```
0.120025
                          0.652550
                                         0.132290
                                                        0.149355
                                                                       0.017941
std
           0.000000
                          0.000000
                                         0.000000
                                                                       6.982270
min
                                                        0.000000
25%
           0.000000
                          0.000000
                                         0.000000
                                                        0.000000
                                                                       7.107250
50%
           0.000000
                          1.000000
                                         0.000000
                                                        0.000000
                                                                       7.117110
75%
           0.000000
                          1.000000
                                         0.000000
                                                        0.000000
                                                                       7.127280
           2.000000
                          8.000000
                                         3.000000
                                                        2.000000
                                                                       7.218160
           Longitud
       38197.000000
count
         -73.121426
mean
           0.011464
std
min
         -73.167780
25%
         -73.127370
50%
         -73.119850
75%
         -73.113840
         -73.050230
max
```

## 8.6 1.5. Variables Categoricas y Númericas

```
Variables Categóricas:

['FECHA', 'MES', 'DÍA', 'GRAVEDAD', 'VIA 1', 'BARRIO', 'HORA', 'ENTIDAD',
'nombrecomuna', 'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORA RESTRICCION
MOTO']

Variables Numéricas:

['ORDEN', 'AÑO', 'PEATON', 'AUTOMOVIL', 'CAMPAERO', 'CAMIONETA', 'MICRO',
'BUSETA', 'BUS', 'CAMION', 'VOLQUETA', 'MOTO', 'BICICLETA', 'OTRO', 'Latitud',
'Longitud']
```

## 8.6.1 1.5.1. Conteo de Valores Únicos en Columnas Categóricas

Este código cargará el conjunto de datos, recorrerá cada variable categórica en la lista categorical\_variables, y para cada variable imprimirá los valores únicos presentes y su cantidad total. Esto te proporcionará información sobre la diversidad de categorías en cada columna categórica. Recuerda reemplazar 'nombre\_del\_archivo.csv' con el nombre real de tu archivo de datos.

```
[6]: import pandas as pd
     # Variables categóricas
    categorical_variables = ['FECHA', 'MES', 'DÍA', 'GRAVEDAD', 'VIA 1', 'BARRIO', L
      → 'HORA', 'ENTIDAD', 'nombrecomuna', 'Propietario de Vehículo', 'DIURNIO/
      →NOCTURNO', 'HORA RESTRICCION MOTO']
     # Cuenta los valores únicos en cada variable categórica
    for column in categorical_variables:
        unique_values = data[column].unique()
        print(f"Valores únicos en {column}: {unique_values}\nTotal de valores⊔
      Valores únicos en FECHA: ['01/01/2012' '02/01/2012' '03/01/2012' ...
    '27/02/2023' '28/02/2023'
     '11/03/2023']
    Total de valores únicos: 4050
    Valores únicos en MES: ['01. Enero' '02. Febrero' '03. Marzo' '04. Abril' '05.
    Mayo' '06. Junio'
     '07. Julio' '08. Agosto' '09. Septiembre' '10. Octubre' '11. Noviembre'
     '12. Diciembre'
    Total de valores únicos: 12
    Valores únicos en DÍA: ['07. Domingo' '01. Lunes' '02. Martes' '03. Miercoles'
    '04. Jueves'
     '05. Viernes' '06. Sabado']
    Total de valores únicos: 7
    Valores únicos en GRAVEDAD: ['Con Heridos' 'Solo Daños' 'Con Muertos' 'Con
    heridos' 'Solo daños'
     'Con muertos'
    Total de valores únicos: 6
    Valores únicos en VIA 1: ['CALLE' 'VIA MATANZA' 'CARRERA' 'TRANSVERSAL
    METROPOLITANA'
     'AUTOPISTA NORTE' 'AVENIDA Q SECA' 'ANILLO VIAL'
     'AUTOPISTA FLORIDA BUCARAMANGA' 'CALLE 45 VIA CHIMITA'
     'AVENIDA GONZALEZ VALENCIA' 'AUTOPISTA GIRÓN' 'DIAGONAL' 'TRANSVERSAL'
     'BOULEVAR BOLIVAR' 'AVENIDA EL JARDIN' 'DIAGONAL 15' 'AVENIDA LA ROSITA'
     'TRANSVERSAL ORIENTAL' 'AUTOPISTA CUCUTA' 'AVENIDA BUCAROS'
     'AVENIDA SAMANES' 'BOULEVAR SANTANDER' 'AVENIDA' 'VIA CARRASCO'
     'AVENIDA GUAYACANES' 'AVENIDA LOS ESTUDIANTES' 'AUTOPISTA CUCUTA'
                 FONTANA' 'AVENIDA
                                    EDUARDO SANTOS' 'AUTOPISTA NORTE'
     'AVENIDA BUCAROS' 'CIRCUNVALAR' 'AVENIDA 89' 'TRANSVERSAL 28'
     'AVENIDA GONZÁLEZ VALENCIA' 'AVENIDA EDUARDO SANTOS' 'TRANSVERSAL 93'
     'AVENIDA LOS BUCAROS' 'TRANSVERSAL 24' 'AVENIDA 15 N' 'DIAGONAL 32'
```

'VIA BAVARIA' 'TRANSVERSAL 92' 'AVENIDA EL JARDIN' 'AVENIDA 42'
'DIAGONAL 105' 'TRANSVERSAL 72' 'AVENIDA 61' 'TRANSVERSAL 112'
'AVENIDA TEJAR' 'AVENIDA 88' 'TRANSVERSAL TERRAZAS' 'AVENIDA 87'
'DIAGONAL 14' 'KILOMETRO' 'CL 45 VIA CHIMITA' 'CIRCULAR' 'DIAGONAL 31'
'DIAGONAL 13' 'TRANSVERSAL 93' 'TRANSVERSA 89' 'AUTOPISTA GIRON'
'AVENIDA GONZALEZ VALENCIA' 'CALLE 45 CHIMITA' 'BULEVAR BOLIVAR'
'AUTOP NORTE' 'CALLE ESTUDIANTES' 'TRANSVERSAL 65' 'DIAGONAL 20'
'DIAGONAL 11' 'DIAGONAL 64' 'AUTOP GIRON' 'CARRERA 21' 'CARRERA 9'
'CARREERA 27' 'CALLE 3' 'CARRERA 12' 'CALLE 11' 'CARRERA 33' 'CALLE 31'
'TRV METROPOLITANA' 'CALLE 93' 'CARRERA 12 N' 'CARRERA 17'
'AUTOPISTA FLORIDA' 'CARRERA 15' 'CALLE 41' 'CALLE 105' 'CARRERA 55'
'CALLE 83' 'CARRERA 19' 'AUTOPISTA' 'BOULEVAR BOLÍVAR' 'AVDA Q SECA']
Total de valores únicos: 94

Valores únicos en BARRIO: ['Mutis' 'Regaderos Norte' 'Cabecera del Llano' 'Norte Bajo' 'Dangond' 'San Miguel' 'La Pedregosa' 'Bucaramanga' 'Tejar Norte' 'Sotomayor' 'Fontana' 'Provenza' 'Nuevo Sotomayor' 'Cafe Madrid' 'Centro' 'Alvarez' 'Asturias' 'Bolarqui' 'Los Pinos' 'Manuela Beltran' 'Rio de Oro I' 'Alarcon' 'Real de Minas' 'Antonia Santos Centro' 'Conucos' 'La Aurora' 'Mejoras Publicas' 'Girardot' 'San Alonso' 'Juan XXIII' 'La Ceiba' 'Comuneros' 'Antonia Santos Sur' 'La Concordia' 'PREDIO URBANO PUENTE EL BUENO' 'Divino Niño' 'La Victoria' 'San Francisco' 'Lagos del Cacique' 'El Jardin' 'Colseguros Norte' 'Colorados' 'Miraflores' 'Villa Alicia' 'SIN INFORMACION' 'Candiles' 'Bolivar' 'El Tejar' 'CAMINO DEL PARQUE' 'Campo Hermoso' 'Esperanza I' 'FLORIDABLANCA' 'Universidad' 'San Rafael' 'Ricaurte' 'Kennedy' 'NUEVO SOTOMAYOR' 'SANTA BARBARA' 'Estoraques I y II' 'La Estrella' 'San Gerardo' 'Diamante I' 'Alfonso Lopez' 'Diamante II' 'Puerta del Sol' 'Africa' 'Chapinero' 'Morrorico' 'El Rocio' 'Modelo' 'Garcia Rovira' 'Gaitan' 'ANTONIA SANTOS CENTRO' 'Canelos' 'LA CEIBA' 'El Prado' 'Terrazas' 'Chorreras de Don Juan' 'Toledo Plata' 'ROBLES' 'El Porvenir' 'SAN GERARDO II' 'Albania' 'Manzanares' 'La Joya' 'Quebrada la Iglesia II' 'Pan de Azucar' 'CABECERA DEL LLANO' 'Villa Mercedes' 'Gomez Niño' 'Bosque norte' 'La Feria' 'LA CANTERA-EL CERRO' 'Ciudad Venecia' 'La Salle' 'Antiguo Campestre' 'CONUCOS' 'Mutualidad' 'Villa Helena I' 'EL TEJAR' 'SAN FRANCISCO' 'La Floresta' 'Nariño' 'La Libertad' 'La Juventud' 'Olas II' 'Nueva Granada' 'VIADUCTO LA FLORA(NO BARRIO)' 'CAMPESTRE' 'Mercedes' 'Santander' 'San Martin' 'Monterredondo' 'LA ESMERALDA' 'Vijagual' 'LA TRINIDAD' 'VILLA DIAMANTE' 'San Expedito' 'PEDREGAL' 'Villa Rosa' '13 de junio' 'LA independencia' 'Galan' 'Los Guayacanes' 'Transicion I-V' 'GRANADA' 'VILLA HELENA II' 'SOTOMAYOR' 'Cordoncillo II' 'Delicias' 'SAN ALONSO' 'Quebrada la Iglesia I' 'PRADOS DEL MUTIS' 'SAN PIO' 'Quinta Dania' 'CALDAS' 'Villa Diamante' 'La Esmeralda' 'Brisas del Mutis' 'Malpaso' 'Vegas de Morrorico' 'Buenos Aires' 'NORTE BAJO' 'MODELO' 'Sauces' 'VEGAS DE MORRORICO' 'LA CONCORDIA' 'Limoncito' 'Prados del Mutis' 'LA FLORESTA' 'Altos del Progreso'

```
'Altos del Lago' 'MUTIS' 'Maria Paz' 'Granada' 'PUERTA DEL SOL'
 'San Luis' 'EL PLAN' '10 DE MAYO SANTA BARBARA' 'Altos del Cacique'
 'Balconcitos' 'Lizcano I' 'NAPOLES' 'El Diviso' 'Bosconia' 'Los Heroes'
 'Hacienda San Juan' 'Brisas de Provenza' 'Candado'
 'Villas de San Ignacio' 'Los Angeles' 'El Rosal' 'PORTO FINO'
 'Villa Ines' 'San Cristóbal' 'Miramar' 'Pablo VI' 'Esperanza II'
 'Santa Maria' 'EL PRADO' 'LOS ROBLES' 'MONTERREDONDO' 'Claveriano'
 'RUITOQUE' 'Villa Helena II' 'Minuto de Dios' 'Esperanza III'
 'ANTONIA SANTOS SUR' 'Villa Sara' 'El Pablon' 'Las Hamacas' 'Los Cedros'
 'SAN PEDRO' 'Cordoncillo I' 'Balcones del Kennedy' '23 de junio'
 'Olas Altas' 'MERCEDES' 'VIJAGUAL' 'MUTUALIDAD' 'Venado de Oro'
 'Jardines de Coaviconsa' 'BUENAVISTA' 'CENTRO' 'La Gran Ladera'
 'SAN LUIS' 'PROVENZA' 'BRISAS DEL MUTIS' 'LA SALLE' 'Delicias Altas'
 'SAN RAFAEL' 'TERRAZAS' 'Quinta Brigada' 'COMUNEROS' 'Olas Bajas'
 'Buenavista' 'Don Bosco' 'SAN MIGUEL' 'Omaga II' '12 de Octubre'
 'Puerto Rico' 'Cristal Alto' 'LOS ALPES' 'Los Laureles'
 'Altos del Kennedy' 'Rio de Oro II' 'Zarabanda' 'Rosalta' 'DANGOND'
 'Condado de Gibraltar' 'CANDADO' 'Granjas de Provenza' 'Altos del Jardin'
 'Mirador Norte' 'Pio XII' '20 de julio' 'Miradores del Kennedy'
 'San Jose' 'MIRADORES DE LA CANTERA' 'Las Delicias' 'Vía Chimitá'
 'Robles' 'Quintadania' 'Quinta Estrella' 'San Cristobal' 'Rosa Blanca'
 'Puente El Bueno' 'Napoles' 'Chorreras Don Juan' 'La independencia'
 'Terminal de Transporte' 'EL BUENO' 'Rosa blanca' 'Los Conquistadores'
 'Estoraques']
Total de valores únicos: 255
Valores únicos en HORA: ['12:15:00 p.\xa0m.' '02:00:00 p.\xa0m.' '12:00:00
p.\xa0m.' ...
 '10:56:00 p.\xa0m.' '02:06:00 a.\xa0m.' '01:07:00 a.\xa0m.']
Total de valores únicos: 1120
Valores únicos en ENTIDAD: ['AGENTES DTB' 'AGENTES POLICIA NACIONAL' nan
'AGENTES DE TRANSITO DTB']
Total de valores únicos: 4
Valores únicos en nombrecomuna: ['17. MUTIS' '02. NORORIENTAL' '12. CABECERA DEL
LLANO'
 '03. SAN FRANCISCO' '11. SUR' '06. LA CONCORDIA' '09. LA PEDREGOSA'
 '08. SUROCCIDENTE' '01. NORTE' '10. PROVENZA' '15. CENTRO' '13. ORIENTAL'
 '04. OCCIDENTAL' '07. LA CIUDADELA' '16. LAGOS DEL CACIQUE'
 '14. MORRORICO' 'SIN INFORMACION' '05. GARCIA ROVIRA' 'FLORIDABLANCA'
 '18. CORREG. 1' '24. CALDAS - REPOSO' 'CORREG. 3' '30. CORREG'
 'CORREG. 1' 'GIRON' '08. SUR OCCIDENTE' 'CORREG. 2' 'EL BUENO']
Total de valores únicos: 28
Valores únicos en Propietario de Vehículo: ['Particular' 'Empresa' 'SIN
```

INFORMACION']

Total de valores únicos: 3

```
Valores únicos en DIURNIO/NOCTURNO: ['Diurno' 'Nocturno']
Total de valores únicos: 2

Valores únicos en HORA RESTRICCION MOTO: ['No aplica' 'En restricción' 'Sin restricción' 'SIN INFORMACION'
    'Sin restriccion' 'En restriccion' 'Sin informacion']
Total de valores únicos: 7
```

#### 8.7 1.6. Analisis de la compresión de los datos

Introducción: En el presente análisis, se investiga un conjunto de datos compuesto por registros de incidentes de tráfico. Este conjunto de datos se presenta en forma de un DataFrame con 38197 filas y 28 columnas, cada una de las cuales contiene información relevante sobre los eventos. El objetivo de este análisis es comprender mejor la naturaleza de estos incidentes, identificar patrones y tendencias, y extraer información valiosa para mejorar la seguridad vial.

Estructura del Conjunto de Datos: El conjunto de datos abarca una variedad de atributos que ofrecen una visión integral de los eventos. Cada fila representa un incidente individual, mientras que las columnas comprenden información sobre la fecha, hora, ubicación geográfica, tipos de vehículos involucrados, gravedad del incidente y otros atributos relevantes.

Características Clave: 1. **Atributos Temporales:** Las columnas "FECHA", "AÑO", "MES", "DÍA" y "HORA" permiten el análisis temporal. Esto facilita la identificación de patrones de incidencia a lo largo del tiempo y la comprensión de tendencias estacionales.

- 2. Atributos Geográficos: Las columnas "BARRIO", "nombrecomuna", "Latitud" y "Longitud" ofrecen información espacial. Esto habilita la visualización de áreas geográficas con mayor concentración de incidentes y la detección de posibles puntos de riesgo.
- 3. **Tipos de Vehículos:** A través de las columnas que detallan la cantidad de diferentes tipos de vehículos involucrados en cada incidente, se pueden determinar las categorías de vehículos más susceptibles a los incidentes y posiblemente identificar causas subyacentes.
- 4. **Gravedad y Causas:** La columna "GRAVEDAD" proporciona una medida de la gravedad del evento. Explorar la relación entre los tipos de vehículos, la gravedad y otros atributos podría brindar información sobre las causas detrás de los incidentes más graves.
- 5. Restricciones y Horarios: Las columnas "DIURNIO/NOCTURNO" y "HORA RESTRIC-CION MOTO" sugieren la existencia de restricciones temporales. Estudiar cómo estas restricciones afectan la frecuencia y naturaleza de los incidentes podría ser relevante para la planificación de políticas de seguridad vial.

Conclusiones y Próximos Pasos: El análisis preliminar de este conjunto de datos de incidentes de tráfico revela su potencial para identificar patrones y factores que contribuyen a los incidentes. Sin embargo, es necesario un análisis más profundo y detallado para obtener información más precisa y significativa. En próximas etapas, se pueden aplicar técnicas de visualización y análisis más avanzadas para obtener insights más profundos y proporcionar recomendaciones que contribuyan a la mejora de la seguridad vial y la reducción de incidentes.

Este análisis sienta las bases para futuras investigaciones en el ámbito de la seguridad vial y el

análisis de datos de tráfico, ofreciendo una visión general de la riqueza de información contenida en el conjunto de datos y su potencial impacto en la toma de decisiones informadas para la prevención de accidentes de tráfico. En el presente análisis, se investiga un conjunto de datos compuesto por registros de incidentes de tráfico.

## 9 2. Limpieza de datos

## 9.1 2.1. Identificación y Tratamiento de Valores Faltantes

Se utiliza el método .isnull() en el DataFrame para identificar los valores faltantes en todas las columnas. Igualmente, el método .sum() en el resultado del paso anterior para obtener la cantidad de valores faltantes por columna.

```
[7]: # Identifica valores faltantes en cada columna
missing_values = data.isnull().sum()

# Muestra la cantidad de valores faltantes por columna
print(missing_values)
```

| ORDEN                   | 0   |
|-------------------------|-----|
| FECHA                   | 0   |
| AÑO                     | 0   |
| MES                     | 0   |
| DÍA                     | 0   |
| GRAVEDAD                | 0   |
| PEATON                  | 0   |
| AUTOMOVIL               | 0   |
| CAMPAERO                | 0   |
| CAMIONETA               | 0   |
| MICRO                   | 0   |
| BUSETA                  | 0   |
| BUS                     | 0   |
| CAMION                  | 0   |
| VOLQUETA                | 0   |
| MOTO                    | 0   |
| BICICLETA               | 0   |
| OTRO                    | 0   |
| VIA 1                   | 0   |
| BARRIO                  | 0   |
| HORA                    | 266 |
| ENTIDAD                 | 245 |
| nombrecomuna            | 0   |
| Propietario de Vehículo | 0   |
| DIURNIO/NOCTURNO        | 0   |
| HORA RESTRICCION MOTO   | 0   |
| Latitud                 | 0   |
| Longitud                | 0   |
| dtype: int64            |     |

#### 9.1.1 2.1.1. Imputación con la Moda HORA

#### Columna HORA:

Los valores faltantes en la columna 'HORA' (266 valores faltantes) pueden ser tratados de varias maneras. - imputar los valores faltantes con la mediana o la moda de la columna 'HORA', dependiendo de la distribución de los datos. - eliminar las filas con valores faltantes en esta columna si no representan una parte significativa del conjunto de datos.

En este caso vamos a imputar utilizando la moda.

```
[8]: # Calcula la moda de la columna 'HORA'
hora_moda = data['HORA'].mode()[0] # .mode() devuelve una Serie de modas, [0]
_____toma la primera moda

# Imputa los valores faltantes en la columna 'HORA' con la moda
data['HORA'] = data['HORA'].fillna(hora_moda)

# Verifica que ya no hay valores faltantes en la columna 'HORA'
print(data['HORA'].isnull().sum())
```

0

## 9.1.2 2.1.2 Imputación con el Valor Más Frecuente ENTIDAD

#### Columna ENTIDAD:

Se considera realizar una imputación de los valores faltantes en lugar de eliminar los registros. Sin embargo, la imputación en este caso puede ser más desafiante debido a la naturaleza categórica de la columna.

Esto puede ser válido si el valor más frecuente es representativo de la mayoría de los casos y no sesga significativamente los resultados.

```
[9]: # Calcula la moda de la columna 'ENTIDAD'
entidad_moda = data['ENTIDAD'].mode()[0]

# Imputa los valores faltantes en la columna 'ENTIDAD' con la moda
data['ENTIDAD'] = data['ENTIDAD'].fillna(entidad_moda)

# Verifica que ya no hay valores faltantes en la columna 'ENTIDAD'
print(data['ENTIDAD'].isnull().sum())
```

0

#### 9.2 2.2. Verificación de Datos Erróneos o Inconsistentes

verificar la consistencia de las fechas, convierte la columna FECHA en un formato de fecha utilizando pd.to\_datetime() y verifica si hay fechas fuera del rango esperado.

Fechas inválidas:

Empty DataFrame

Columns: [ORDEN, FECHA, AÑO, MES, DÍA, GRAVEDAD, PEATON, AUTOMOVIL, CAMPAERO, CAMIONETA, MICRO, BUSETA, BUS, CAMION, VOLQUETA, MOTO, BICICLETA, OTRO, VIA 1, BARRIO, HORA, ENTIDAD, nombrecomuna, Propietario de Vehículo, DIURNIO/NOCTURNO, HORA RESTRICCION MOTO, Latitud, Longitud]
Index: []

[0 rows x 28 columns]

después de la conversión de fechas y la verificación, no se encontraron fechas inválidas en el rango especificado.

### 9.3 2.3 Verificar las categorías en las columnas

Verificar si las categorías en las columnas categóricas son coherentes y están correctamente etiquetadas. Se usa el método .value\_counts() para verificar la frecuencia de cada categoría.En la primera etapa se identifico que hay categorias se deben corregir

2013-05-11 26 2018-12-22 26 2022-02-05 25 2016-02-02 24 2013-04-04 23 ... 2020-03-22 1 2022-12-11 1 2020-03-23 1 2021-02-28 1 2023-03-11 1 Name: FECHA, Leng

Name: FECHA, Length: 4050, dtype: int64

03. Marzo 3366 02. Febrero 3360 09. Septiembre 3343 05. Mayo 3339 12. Diciembre 3271 08. Agosto 3180 10. Octubre 3167 07. Julio 3147 01. Enero 3081 04. Abril 3009 11. Noviembre 2995 06. Junio 2939 Name: MES, dtype: int64

06. Sabado 6273
05. Viernes 5826
02. Martes 5668
03. Miercoles 5591
04. Jueves 5573
01. Lunes 5261
07. Domingo 4005
Name: DÍA, dtype: int64

Solo Daños 19475
Con Heridos 18051
Con Muertos 562
Con heridos 99
Con muertos 6
Solo daños 4

Name: GRAVEDAD, dtype: int64

**CARRERA** 16430 CALLE 12313 AUTOPISTA FLORIDA BUCARAMANGA 1239 AVENIDA Q SECA 1113 AUTOPISTA GIRÓN 1095 CALLE ESTUDIANTES 1 TRANSVERSAL 92 1 DIAGONAL 20 1 DIAGONAL 64 1 AVENIDA 61 1

```
Name: VIA 1, Length: 94, dtype: int64
Centro
                       3774
Cabecera del Llano
                       2303
San Francisco
                       1923
Provenza
                       1363
Rio de Oro I
                       1334
MONTERREDONDO
                          1
El Diviso
                          1
Puerto Rico
                          1
MODELO
                          1
Estoraques
                          1
Name: BARRIO, Length: 255, dtype: int64
04:00:00 p. m.
                  819
12:30:00 p. m.
                  542
03:00:00 p. m.
                  540
07:00:00 p. m.
                  522
02:00:00 p. m.
                  515
08:42:00 p. m.
                     1
06:52:00 a. m.
                    1
10:24:00 a. m.
                    1
03:57:00 a. m.
                    1
01:07:00 a. m.
                    1
Name: HORA, Length: 1119, dtype: int64
AGENTES DTB
                             35603
AGENTES POLICIA NACIONAL
                              2588
AGENTES DE TRANSITO DTB
Name: ENTIDAD, dtype: int64
12. CABECERA DEL LLANO
                           6323
03. SAN FRANCISCO
                           5044
13. ORIENTAL
                           4966
15. CENTRO
                           4186
06. LA CONCORDIA
                           3259
10. PROVENZA
                           2361
04. OCCIDENTAL
                           2227
05. GARCIA ROVIRA
                           1515
01. NORTE
                           1345
08. SUROCCIDENTE
                           1325
09. LA PEDREGOSA
                           1227
07. LA CIUDADELA
                            882
16. LAGOS DEL CACIQUE
                            853
11. SUR
                            685
17. MUTIS
                            663
```

| O2. NORORIENTAL            | 536  |
|----------------------------|------|
| 14. MORRORICO              | 531  |
| SIN INFORMACION            | 196  |
| FLORIDABLANCA              | 39   |
| CORREG. 1                  | 8    |
| CORREG. 3                  | 6    |
| 18. CORREG. 1              | 5    |
| 08. SUR OCCIDENTE          | 5    |
| 24. CALDAS - REPOSO        | 3    |
| EL BUENO                   | 3    |
| CORREG. 2                  | 2    |
| 30. CORREG                 | 1    |
| GIRON                      | 1    |
| Name: nombrecomuna, dtvpe: | int6 |

\_\_\_\_\_\_

Particular 31947 Empresa 6248 SIN INFORMACION

Name: Propietario de Vehículo, dtype: int64

Diurno 27032 Nocturno 11165

Name: DIURNIO/NOCTURNO, dtype: int64

Sin restricción 22023 No aplica 15244 En restricción 735 Sin restriccion 96 SIN INFORMACION 86 En restriccion 7 Sin informacion 6

Name: HORA RESTRICCION MOTO, dtype: int64

### 9.3.1 2.3.1. Estandarización de Categorías en Variables Relevantes

En la variable GRAVEDAD se identifica errores en las categorias Con Muertos y Con muertos, igualmente en la varable HORA RESTRICCION MOTO, tambien deben ajustarse En restricción y En restriccion igualmetne para Sin restriccion y Sin restricción, el No aplica hace referencia veiculos diferentes a motocicletas. Para el Caso de entidad sucede lo mismo, la sigla DTB, hace referencia DTB – Dirección de Tránsito de Bucaramanga, en este sendido, solo existirian 2 posibles entidades, la policia y los agentes de transito.

```
[12]: # Corrige errores en la variable 'GRAVEDAD'
                                                                                                            data['GRAVEDAD'] = data['GRAVEDAD'].str.replace('Con muertos', 'Con Muertos'
                                                                                                                              ⇔case=False)
                                                                                                            data['GRAVEDAD'] = data['GRAVEDAD'].str.replace('Con heridos', 'Con Heridos'
                                                                                                                                      ⇔case=False)
```

```
data['GRAVEDAD'] = data['GRAVEDAD'].str.replace('Solo daños', 'Solo Daños', u
       ⇔case=False)
      # Corrige errores en la variable 'HORA RESTRICCION MOTO'
      data['HORA RESTRICCION MOTO'] = data['HORA RESTRICCION MOTO'].str.replace('Enu
       →restriccion', 'En restricción', case=False)
      data['HORA RESTRICCION MOTO'] = data['HORA RESTRICCION MOTO'].str.replace('Sin_
       →restriccion', 'Sin restricción', case=False)
      data['HORA RESTRICCION MOTO'] = data['HORA RESTRICCION MOTO'].str.replace('SIN_
       →INFORMACION', 'Sin información', case=False)
      # Corrige errores en la variable 'ENTIDAD'
      data['ENTIDAD'] = data['ENTIDAD'].str.replace('AGENTES DTB', 'AGENTES DE_

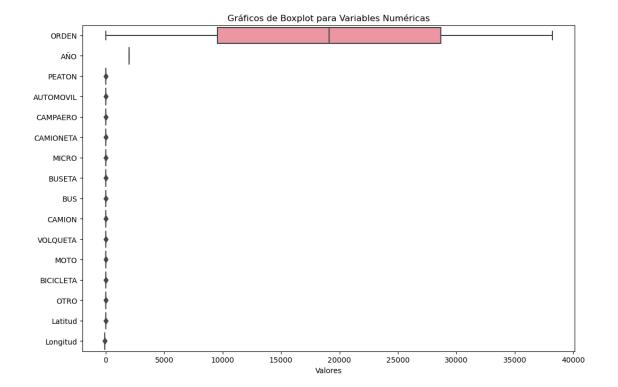
¬TRANSITO DTB', case=False)
      # Verifica que los cambios se hayan aplicado correctamente
      print(data['GRAVEDAD'].value_counts())
      print() # Agrega un salto de línea al final de cada impresión
      print(data['HORA RESTRICCION MOTO'].value_counts())
      print() # Agrega un salto de línea al final de cada impresión
      print(data['ENTIDAD'].value_counts())
     Solo Daños
                    19479
     Con Heridos
                    18150
     Con Muertos
                      568
     Name: GRAVEDAD, dtype: int64
     Sin restricción
                        22119
     No aplica
                        15244
     En restricción
                          742
     Sin información
                           92
     Name: HORA RESTRICCION MOTO, dtype: int64
     AGENTES DE TRANSITO DTB
                                 35609
     AGENTES POLICIA NACIONAL
                                  2588
     Name: ENTIDAD, dtype: int64
[63]: # Guardar el dataset actualizado en un nuevo archivo CSV
      data.to_csv("barrios_con_coordenadas_prepocesado.csv", index=False)
```

# 9.4 2.4 Inspeccionar las variables en busca de valores atípicos o inusuales que puedan indicar datos erróneos.

Este código generará gráficos de boxplot para las variables numéricas y calculará estadísticas descriptivas, incluyendo percentiles. Luego, identificará valores atípicos basados en el rango intercuartil (IQR) y los imprimirá en el formato de DataFrame

### 9.4.1 2.4.1. Valores atípicos en Variables numéricas

```
[13]: import matplotlib.pyplot as plt
      import seaborn as sns
      # Variables numéricas
      numeric_variables = ['ORDEN', 'AÑO', 'PEATON', 'AUTOMOVIL', 'CAMPAERO', _
       →'CAMIONETA', 'MICRO', 'BUSETA', 'BUS', 'CAMION', 'VOLQUETA', 'MOTO', □
      ⇔'BICICLETA', 'OTRO', 'Latitud', 'Longitud']
      # Gráficos de boxplot para identificar valores atípicos
      plt.figure(figsize=(12, 8))
      sns.boxplot(data=data[numeric_variables], orient='h')
      plt.title('Gráficos de Boxplot para Variables Numéricas')
      plt.xlabel('Valores')
      plt.show()
      # Estadísticas descriptivas para identificar valores atípicos
      descriptive_stats = data[numeric_variables].describe()
      print(descriptive_stats)
      print() # Agrega un salto de línea al final de cada impresión
      # Identificación de valores atípicos basados en percentiles
      print('\033[1m' + 'valores atípicos basados en percentiles' + '\033[0m')
      outliers = {}
      for column in numeric_variables:
          Q1 = descriptive_stats.loc['25%', column]
          Q3 = descriptive_stats.loc['75%', column]
          IQR = Q3 - Q1
          lower_bound = Q1 - 1.5 * IQR
          upper bound = Q3 + 1.5 * IQR
          outliers[column] = data[(data[column] < lower_bound) | (data[column] >
       →upper_bound)]
          print() # Agrega un salto de línea al final de cada impresión
      # Imprimir los valores atípicos encontrados
      print('\033[1m' + 'Los valores atípicos encontrados' + '\033[0m')
      for column, outlier_data in outliers.items():
          print(f"Valores atípicos en la variable '{column}':")
          print(outlier_data)
          print() # Agrega un salto de línea al final de cada impresión
```



|       | ORDEN        | AÑO          | PEATON       | AUTOMOVIL    | CAMPAERO     | \ |
|-------|--------------|--------------|--------------|--------------|--------------|---|
| count | 38197.000000 | 38197.000000 | 38197.00000  | 38197.000000 | 38197.000000 |   |
| mean  | 19099.000000 | 2016.480430  | 0.10472      | 0.786292     | 0.060947     |   |
| std   | 11026.668453 | 3.063243     | 0.33937      | 0.743994     | 0.245928     |   |
| min   | 1.000000     | 2012.000000  | 0.00000      | 0.000000     | 0.000000     |   |
| 25%   | 9550.000000  | 2014.000000  | 0.00000      | 0.000000     | 0.000000     |   |
| 50%   | 19099.000000 | 2016.000000  | 0.00000      | 1.000000     | 0.000000     |   |
| 75%   | 28648.000000 | 2019.000000  | 0.00000      | 1.000000     | 0.000000     |   |
| max   | 38197.000000 | 2023.000000  | 7.00000      | 29.000000    | 2.000000     |   |
|       |              |              |              |              |              |   |
|       | CAMIONETA    | MICRO        | BUSETA       | BUS          | CAMION       | \ |
| count | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.197555     | 0.020290     | 0.044061     | 0.048198     | 0.083279     |   |
| std   | 0.432211     | 0.141916     | 0.211639     | 0.218303     | 0.287543     |   |
| min   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 25%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 50%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 75%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| max   | 3.000000     | 2.000000     | 2.000000     | 2.000000     | 3.000000     |   |
|       |              |              |              |              |              |   |
|       | VOLQUETA     | MOTO         | BICICLETA    | OTRO         | Latitud      | \ |
| count | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.014242     | 0.611697     | 0.017384     | 0.021075     | 7.117426     |   |
| std   | 0.120025     | 0.652550     | 0.132290     | 0.149355     | 0.017941     |   |
|       |              |              |              |              |              |   |

| min                                | 0.000000   | 0.000000 | 0.000000 | 0.000000 | 6.982270 |
|------------------------------------|--|----------|----------|----------|----------|
| 25%                                | 0.000000   | 0.000000 | 0.000000 | 0.000000 | 7.107250 |
| 50%                                | 0.000000   | 1.000000 | 0.000000 | 0.000000 | 7.117110 |
| 75%                                | 0.000000   | 1.000000 | 0.000000 | 0.000000 | 7.127280 |
| max                                | 2.000000   | 8.000000 | 3.000000 | 2.000000 | 7.218160 |
| count mean std min 25% 50% 75% max | Longitud 38197.000000 -73.121426 0.011464 -73.167780 -73.127370 -73.119850 -73.113840 -73.050230 |          |          |          |          |

valores atípicos basados en percentiles

## Los valores atípicos encontrados

Valores atípicos en la variable 'ORDEN':

Empty DataFrame

Columns: [ORDEN, FECHA, AÑO, MES, DÍA, GRAVEDAD, PEATON, AUTOMOVIL, CAMPAERO, CAMIONETA, MICRO, BUSETA, BUS, CAMION, VOLQUETA, MOTO, BICICLETA, OTRO, VIA 1, BARRIO, HORA, ENTIDAD, nombrecomuna, Propietario de Vehículo, DIURNIO/NOCTURNO, HORA RESTRICCION MOTO, Latitud, Longitud]

Index: []

[0 rows x 28 columns]

Valores atípicos en la variable 'AÑO':

Empty DataFrame

Columns: [ORDEN, FECHA, AÑO, MES, DÍA, GRAVEDAD, PEATON, AUTOMOVIL, CAMPAERO, CAMIONETA, MICRO, BUSETA, BUS, CAMION, VOLQUETA, MOTO, BICICLETA, OTRO, VIA 1,

BARRIO, HORA, ENTIDAD, nombrecomuna, Propietario de Vehículo, DIURNIO/NOCTURNO, HORA RESTRICCION MOTO, Latitud, Longitud]

Index: []

## [0 rows x 28 columns]

| Valores atípicos en la variable 'PEATON': |                       |               |                |                |          |   |  |  |
|---|-----------------------|---------------|----------------|----------------|----------|---|--|--|
|   | ORDEN FECHA AÑ        | 0 MES         | DÍA            | GRAVEDAD       | PEATON \ | \ |  |  |
| 4   | 5 2012-01-01 201      | 2 01. Enero   | 07. Domingo    | Con Heridos    | 1        |   |  |  |
| 6   | 7 2012-01-02 201      | 2 01. Enero   | 01. Lunes      | Con Heridos    | 1        |   |  |  |
| 34  | 35 2012-01-05 201     | 2 01. Enero   | 04. Jueves     | Con Heridos    | 1        |   |  |  |
| 36  | 37 2012-01-05 201     | 2 01. Enero   | 04. Jueves     | Con Heridos    | 1        |   |  |  |
| 40  | 41 2012-01-05 201     | 2 01. Enero   | 04. Jueves     | Con Heridos    | 1        |   |  |  |
| •••                                       |                       |               |                | •••            |          |   |  |  |
| 38165                                     | 38166 2023-02-21 202  | 3 02. Febrero | 02. Martes     | Con Heridos    | 1        |   |  |  |
| 38169                                     | 38170 2023-02-23 202  | 3 02. Febrero | 04. Jueves     | Con Heridos    | 1        |   |  |  |
| 38173                                     | 38174 2023-02-23 202  | 3 02. Febrero | 04. Jueves     | Con Heridos    | 1        |   |  |  |
| 38179                                     | 38180 2023-02-25 202  | 3 02. Febrero | 06. Sabado     | Con Heridos    | 1        |   |  |  |
| 38183                                     | 38184 2023-02-25 202  | 3 02. Febrero | 06. Sabado     | Con Heridos    | 1        |   |  |  |
|   | AUTOMOVIL CAMPAERO    | CAMIONETA     | VIA 1          | \              |          |   |  |  |
| 4   | 0 0                   | 0             | CARRERA        | `              |          |   |  |  |
| 6   | 0 0                   | 0             | CARRERA        |                |          |   |  |  |
| 34  | 1 0                   |               | AVENIDA Q SECA |                |          |   |  |  |
| 36  | 0 0                   | 1             | CARRERA        |                |          |   |  |  |
| 40  | 1 0                   | 0             | CARRERA        |                |          |   |  |  |
|   | 1 0                   | ·             | CAILLLILA      |                |          |   |  |  |
| <br>38165                                 | 1 0                   | 0             | <br>CARRERA    |                |          |   |  |  |
| 38169                                     | 0 1                   | 0             | CALLE          |                |          |   |  |  |
| 38173                                     | 0 0                   | 0             | CARRERA        |                |          |   |  |  |
| 38179                                     | 0 0                   | 0             | DIAGONAL 15    |                |          |   |  |  |
| 38183                                     | 0 0                   | 0             | CALLE          |                |          |   |  |  |
| 00100                                     | o o                   | ·             | ORBBB          |                |          |   |  |  |
|   | BARRIO                | НОР           | AS             | ENTIDAD        | \        |   |  |  |
| 4   | Dangond               | 12:30:00 a. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 6   | La Pedregosa          | 01:50:00 p. n | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 34  | Alarcon               | 09:30:00 a. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 36  | Antonia Santos Centro | 10:40:00 a. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 40  | Cabecera del Llanc    | 04:15:00 p. n | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| •••                                       |                       | •••           |                | •••            |          |   |  |  |
| 38165                                     | Sotomayor             | 07:10:00 p. n | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 38169                                     | Centro                | 11:05:00 a. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 38173                                     | Gaitan                | 09:50:00 p. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 38179                                     | Ricaurte              | 10:20:00 a. m | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
| 38183                                     | Provenza              | 06:45:00 p. n | n. AGENTES DE  | TRANSITO DTB   |          |   |  |  |
|   | nombrecomun           | a Propietario | de Vehículo I  | TIIRNTO/NOCTII | RNO \    |   |  |  |
| 4   | 11. SU                | -             | Particular     | Noctu          |          |   |  |  |
| 1   | 11. 50                | 10            | . ar orcarar   | woctu          | 1110     |   |  |  |

| 6     | 09. LA PEDREGOSA       |                 | Empresa    | Diurno   |
|-------|------------------------|-----------------|------------|----------|
| 34    | O3. SAN FRANCISCO      |                 | Particular | Diurno   |
| 36    | 13. ORIENTAL           |                 | Particular | Diurno   |
| 40    | 12. CABECERA DEL LLANO |                 | Particular | Diurno   |
|       |                        |                 | •••        | •••      |
| 38165 | 12. CABECERA DEL LLANO |                 | Particular | Nocturno |
| 38169 | 15. CENTRO             |                 | Particular | Diurno   |
| 38173 | 04. OCCIDENTAL         |                 | Particular | Nocturno |
| 38179 | 06. LA CONCORDIA       |                 | Particular | Diurno   |
| 38183 | 10. PROVENZA           |                 | Particular | Nocturno |
|       |                        |                 |            |          |
|       | HORA RESTRICCION MOTO  | ${\tt Latitud}$ | Longitud   |          |
| 4     | En restricción         | 7.07830         | -73.12300  |          |
| 6     | No aplica              | 7.09644         | -73.10752  |          |
| 34    | No aplica              | 7.12608         | -73.12299  |          |
| 36    | No aplica              | 7.12307         | -73.11985  |          |
| 40    | Sin restricción        | 7.11503         | -73.10739  |          |
|       |                        |                 | •••        |          |
| 38165 | Sin restricción        | 7.11575         | -73.11384  |          |
| 38169 | Sin restricción        | 7.11892         | -73.12353  |          |
| 38173 | Sin restricción        | 7.13135         | -73.13283  |          |
| 38179 | Sin restricción        | 7.10725         | -73.11751  |          |
| 38183 | Sin restricción        | 7.08488         | -73.11585  |          |
|       |                        |                 |            |          |

## [3689 rows x 28 columns]

| Va. | Lores | atípicos | en | la | variable | 'AUTOMOVIL': |
|-----|-------|----------|----|----|----------|--------------|
|-----|-------|----------|----|----|----------|--------------|

|       | ORDEN | FECHA       | ΑÑΟ  | MES             |     | DÍA          | GRAVEDAD    | \ |
|-------|-------|-------------|------|-----------------|-----|--------------|-------------|---|
| 20    | 21    | 2012-01-04  | 2012 | 01. Enero       | 03  | 3. Miercoles | Solo Daños  |   |
| 85    | 86    | 2012-01-11  | 2012 | 01. Enero       | 03  | 3. Miercoles | Solo Daños  |   |
| 123   | 124   | 2012-01-14  | 2012 | 01. Enero       |     | 06. Sabado   | Solo Daños  |   |
| 460   | 461   | 2012-02-14  | 2012 | 02. Febrero     |     | 02. Martes   | Solo Daños  |   |
| 524   | 525   | 2012-02-18  | 2012 | 02. Febrero     |     | 06. Sabado   | Solo Daños  |   |
|       |       | •••         |      | •••             | ••• | •••          |             |   |
| 37580 | 37559 | 2022-09-15  | 2022 | 09. Septiembre  |     | 04. Jueves   | Con Heridos |   |
| 37700 | 37679 | 2022-10-10  | 2022 | 10. Octubre     |     | 01. Lunes    | Con Heridos |   |
| 37873 | 37874 | 2022-12-01  | 2022 | 12. Diciembre   |     | 04. Jueves   | Con Heridos |   |
| 37937 | 37938 | 2022-12-19  | 2022 | 12. Diciembre   |     | 01. Lunes    | Con Heridos |   |
| 37977 | 37978 | 2022-12-30  | 2022 | 12. Diciembre   |     | 05. Viernes  | Con Heridos |   |
|       |       |             |      |                 |     |              |             |   |
|       | PEATO | N AUTOMOVIL | CAMP | PAERO CAMIONETA | ••• |              | VIA 1 \     |   |
| 20    | (     | 3           |      | 0 0             | ••• |              | CALLE       |   |
| 85    | (     | 3           |      | 0 0             | ••• | CA           | RRERA       |   |
| 123   | (     | 3           |      | 0 1             | ••• | AUTOPISTA    | NORTE       |   |
| 460   | (     | 3           |      | 0 0             | ••• |              | CALLE       |   |
| 524   | (     | 3           |      | 0 0             | ••• | CA           | RRERA       |   |
| •••   | •••   | •••         | •••  |                 |     | •••          |             |   |
| 37580 | (     | 3           |      | 0 0             | ••• | CA           | RRERA       |   |
|       |       |             |      |                 |     |              |             |   |

```
37700
            0
                                             0
                                                            CARRERA
                       3
                                  0
                       4
37873
                                  0
                                                            CARRERA
                       3
37937
            0
                                  0
                                             1
                                                           DIAGONAL
37977
            0
                       3
                                  0
                                             0 ...
                                                            CARRERA
                   BARRIO
                                      HORA
                                                            ENTIDAD
20
                 Asturias
                          07:00:00 p. m.
                                            AGENTES DE TRANSITO DTB
85
       Cabecera del Llano
                          10:30:00 p. m.
                                            AGENTES DE TRANSITO DTB
          Manuela Beltran 12:30:00 p.m.
                                            AGENTES DE TRANSITO DTB
123
            Alfonso Lopez 06:40:00 p. m.
460
                                            AGENTES DE TRANSITO DTB
524
          SIN INFORMACION
                           08:45:00 a. m.
                                            AGENTES DE TRANSITO DTB
                 El Prado
37580
                           11:00:00 a. m.
                                            AGENTES DE TRANSITO DTB
                 La Salle 04:30:00 p. m.
37700
                                            AGENTES DE TRANSITO DTB
         Mejoras Publicas
37873
                           06:40:00 a. m.
                                            AGENTES DE TRANSITO DTB
37937
        Antiguo Campestre
                           03:25:00 p. m.
                                            AGENTES DE TRANSITO DTB
                                            AGENTES DE TRANSITO DTB
37977
       Cabecera del Llano
                           10:25:00 a. m.
                 nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
20
             09. LA PEDREGOSA
                                                Empresa
                                                                 Nocturno
85
       12. CABECERA DEL LLANO
                                             Particular
                                                                 Nocturno
                      11. SUR
123
                                                Empresa
                                                                   Diurno
460
            05. GARCIA ROVIRA
                                                Empresa
                                                                 Nocturno
524
              SIN INFORMACION
                                                Empresa
                                                                   Diurno
37580
                 13. ORIENTAL
                                                                   Diurno
                                             Particular
37700
             06. LA CONCORDIA
                                             Particular
                                                                   Diurno
                                             Particular
37873
                 13. ORIENTAL
                                                                   Diurno
37937
       12. CABECERA DEL LLANO
                                             Particular
                                                                   Diurno
37977
       12. CABECERA DEL LLANO
                                             Particular
                                                                   Diurno
       HORA RESTRICCION MOTO Latitud Longitud
20
                   No aplica
                             7.12067 -73.12087
85
                   No aplica 7.11503 -73.10739
                   No aplica 7.08444 -73.12404
123
460
                   No aplica 7.11443 -73.13220
                   No aplica 7.11711 -73.12924
524
             Sin restricción 7.12395 -73.11072
37580
             Sin restricción 7.10138 -73.11215
37700
37873
             Sin restricción 7.12340 -73.11463
37937
             Sin restricción 7.11238 -73.11130
37977
             Sin restricción 7.11503 -73.10739
[359 rows x 28 columns]
```

MES

DÍA

GRAVEDAD \

Valores atípicos en la variable 'CAMPAERO':

AÑO

FECHA

ORDEN

```
26
          27 2012-01-04
                          2012
                                  01. Enero
                                              03. Miercoles Con Heridos
55
                          2012
          56 2012-01-07
                                  01. Enero
                                                 06. Sabado
                                                               Solo Daños
97
          98 2012-01-11
                          2012
                                  01. Enero
                                              03. Miercoles
                                                               Solo Daños
         109 2012-01-13
                          2012
                                  01. Enero
                                                05. Viernes Con Heridos
108
         128 2012-01-14
                          2012
                                  01. Enero
                                                               Solo Daños
127
                                                 06. Sabado
37995
       37996 2023-01-05
                          2023
                                  01. Enero
                                                 04. Jueves
                                                              Con Heridos
                                                 06. Sabado
38059
       38060 2023-01-28
                          2023
                                  01. Enero
                                                              Con Heridos
       38137 2023-02-14
                          2023
                                02. Febrero
                                                 02. Martes
                                                             Con Heridos
38136
       38165 2023-02-21
                          2023
                                02. Febrero
                                                 02. Martes
                                                              Con Heridos
38164
       38170 2023-02-23
                          2023
                                02. Febrero
                                                 04. Jueves
                                                             Con Heridos
38169
       PEATON
               AUTOMOVIL
                          CAMPAERO
                                     CAMIONETA
                                                                VIA 1
26
            0
                        0
                                                              CARRERA
55
            0
                        1
                                   1
                                              0
                                                                CALLE
97
                                  1
                                              0
                                                                CALLE
            0
                        1
108
            0
                        0
                                  1
                                              0
                                                    BOULEVAR BOLIVAR
127
            0
                        1
                                              0
                                                              CARRERA
                                  1
37995
            0
                                                              CARRERA
                        0
                                              0
38059
            0
                        0
                                  1
                                              0
                                                              CARRERA
38136
            0
                        0
                                  1
                                              0
                                                                CALLE
38164
            0
                        0
                                  1
                                              0
                                                              CARRERA
38169
                                  1
                                              0
                                                                CALLE
                   BARRIO
                                       HORA
                                                              ENTIDAD
26
                  Alarcon 03:00:00 p. m.
                                             AGENTES DE TRANSITO DTB
55
       Cabecera del Llano
                            11:45:00 a. m.
                                             AGENTES DE TRANSITO DTB
97
       Cabecera del Llano
                            12:15:00 p. m.
                                             AGENTES DE TRANSITO DTB
108
            San Francisco
                            03:45:00 p. m.
                                             AGENTES DE TRANSITO DTB
127
          Nuevo Sotomayor
                            04:20:00 p. m.
                                             AGENTES DE TRANSITO DTB
37995
            Garcia Rovira
                            02:30:00 p. m.
                                             AGENTES DE TRANSITO DTB
38059
                            03:50:00 p. m.
                                             AGENTES DE TRANSITO DTB
               San Alonso
                            09:30:00 a. m.
                                             AGENTES DE TRANSITO DTB
38136
                  Alarcon
                            08:10:00 p. m.
                                             AGENTES DE TRANSITO DTB
38164
       Cabecera del Llano
                            11:05:00 a. m.
                                             AGENTES DE TRANSITO DTB
38169
                    Centro
                 nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
26
            03. SAN FRANCISCO
                                              Particular
                                                                     Diurno
55
       12. CABECERA DEL LLANO
                                              Particular
                                                                     Diurno
97
       12. CABECERA DEL LLANO
                                              Particular
                                                                     Diurno
108
            03. SAN FRANCISCO
                                                 Empresa
                                                                     Diurno
       12. CABECERA DEL LLANO
127
                                              Particular
                                                                     Diurno
37995
                    15. CENTRO
                                              Particular
                                                                     Diurno
38059
                 13. ORIENTAL
                                              Particular
                                                                     Diurno
38136
            03. SAN FRANCISCO
                                              Particular
                                                                     Diurno
```

| 38164<br>38169  | 12. CABECERA DEL LLANO<br>15. CENTRO   |  | Nocturno<br>Diurno   |
|---|--|--|----------------------|
| 26<br>55<br>97<br>108<br>127<br><br>37995<br>38059<br>38136<br>38164<br>38169 | No aplica<br>No aplica<br>Sin restricción<br>No aplica<br><br>Sin restricción<br>Sin restricción | Latitud Longitud 7.12608 -73.12299 7.11503 -73.10739 7.11503 -73.10739 7.13163 -73.12575 7.11505 -73.11625 7.09920 -73.15155 7.13239 -73.11680 7.12608 -73.12299 7.11503 -73.10739 7.11892 -73.12353 |                      |
| [2266   | rows x 28 columns]   |  |                      |
| Valore  | s atípicos en la varial  |  | GRAVIDRAD DILATION V |
| 4   | ORDEN FECHA AÑO<br>2 2012-01-01 2013   |  |                      |
| 1   | 2 2012-01-01 2013<br>3 2012-01-01 2013   | 9  |                      |
| 2<br>3  |  | _  |                      |
| 3<br>7  |  | •  |                      |
| 7<br>16   |  |  |                      |
| 10  | 17 2012-01-03 2012   | 2 01. Enero 02. Martes   | Solo Daños 0         |
|   |  |  | Con Homidan          |
| 38127   | 38128 2023-02-11 2023  |  |                      |
| 38129   |  |  |                      |
| 38142   |  |  | Con Heridos 0        |
|   | 38153 2023-02-18 2023  |  |                      |
| 38182   | 38183 2023-02-25 2023  | 3 02. Febrero 06. Sabado   | Con Heridos 0        |
|   | AUTOMOVIL CAMPAERO   | CAMIONETA  | VIA 1 \              |
| 1   | 1 0  | 1  | VIA MATANZA          |
| 2   | 0 0  | 1  | CARRERA              |
| 3   | 1 0  | 1  | CARRERA              |
| 7   | 0 0  | 2 TRANSVERSAL M  | ETROPOLITANA         |
| 16  | 0 0  | 1  | CALLE                |
| <br>38127   | 1 0  | <br>1  | <br>CARRERA          |
| 38129   | 0 0  | 1  | CALLE                |
| 38142   | 0 0  | 1  | CALLE                |
| 38152   | 1 0  | 1  | CALLE                |
| 38182   | 0 0  | 1  | CARRERA              |
| 00102   | 0  | ±  | OUIMPIN              |
|   | BARRIO   | HORA   | ENTIDAD \            |
| 1   |  | 2:00:00 p. m. AGENTES DE T   |                      |
| 2   | _  | 2:00:00 p. m. AGENTES DE T   |                      |
| _   |  | F  | · ·                  |

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AGENTES DE TRANSITO DTB
3
               Norte Bajo 06:30:00 p. m.
7
                           07:20:00 p. m.
              Bucaramanga
                                            AGENTES DE TRANSITO DTB
                           06:10:00 p. m.
                                            AGENTES DE TRANSITO DTB
16
                   Centro
38127
                Sotomayor
                           02:28:00 a. m.
                                            AGENTES DE TRANSITO DTB
                           10:05:00 a. m.
                                            AGENTES DE TRANSITO DTB
38129
                Comuneros
38142
                   Centro
                           08:15:00 a. m.
                                            AGENTES DE TRANSITO DTB
38152
             Rio de Oro I
                           05:00:00 p. m.
                                            AGENTES DE TRANSITO DTB
38182 Cabecera del Llano 04:50:00 p. m.
                                            AGENTES DE TRANSITO DTB
                 nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
              02. NORORIENTAL
1
                                                Empresa
                                                                    Diurno
2
       12. CABECERA DEL LLANO
                                             Particular
                                                                    Diurno
3
            03. SAN FRANCISCO
                                             Particular
                                                                  Nocturno
7
             08. SUROCCIDENTE
                                             Particular
                                                                  Nocturno
16
                   15. CENTRO
                                             Particular
                                                                  Nocturno
38127
       12. CABECERA DEL LLANO
                                                                  Nocturno
                                             Particular
38129
            03. SAN FRANCISCO
                                                                   Diurno
                                             Particular
38142
                   15. CENTRO
                                             Particular
                                                                    Diurno
38152
               04. OCCIDENTAL
                                             Particular
                                                                   Diurno
      12. CABECERA DEL LLANO
38182
                                             Particular
                                                                    Diurno
       HORA RESTRICCION MOTO Latitud Longitud
1
                   No aplica 7.14582 -73.12332
2
                   No aplica
                             7.11503 -73.10739
3
                   No aplica
                             7.14241 -73.13523
7
                   No aplica
                              7.11711 -73.12924
             Sin restricción
                              7.11892 -73.12353
16
38127
             Sin restricción 7.11575 -73.11384
38129
             Sin restricción 7.13873 -73.12737
38142
             Sin restricción 7.11892 -73.12353
38152
             Sin restricción 7.14169 -73.15246
             Sin restricción 7.11503 -73.10739
38182
[7017 rows x 28 columns]
Valores atípicos en la variable 'MICRO':
       OR.DF.N
                  FECHA
                          ΑÑΩ
                                                          DÍA
                                                                   GRAVEDAD
                                           MF.S
6
           7 2012-01-02
                         2012
                                     01. Enero
                                                    01. Lunes Con Heridos
          16 2012-01-03
                         2012
                                     01. Enero
                                                   02. Martes
                                                                 Solo Daños
15
         118 2012-01-14
                         2012
                                     01. Enero
                                                   06. Sabado
                                                                Con Heridos
117
                                                   02. Martes
                                                                Con Heridos
152
         153 2012-01-17
                         2012
                                     01. Enero
176
         177 2012-01-19
                         2012
                                     01. Enero
                                                   04. Jueves
                                                                 Solo Daños
                                                               Con Heridos
37569
       37548 2022-09-12
                         2022
                               09. Septiembre
                                                    01. Lunes
```

02. Martes

Con Heridos

2022 09. Septiembre

37646 37625 2022-09-27

| 37945 | 37706 2022-10<br>37946 2022-12 | -21 2022  | 12.     | Diciem  | bre   | 03.  | Mie   | rcoles  | Con   | Не | ridos |   |
|-------|--------------------------------|-----------|---------|---------|-------|------|-------|---------|-------|----|-------|---|
| 38002 | 38003 2023-01                  | -08 2023  | •       | 01. Er  | .ero  | 0    | ע. זי | omingo  | So    | Τ0 | Danos |   |
|       | PEATON AUTOM                   | OVIL CAM  | IPAERO  | CAMION  | ETA   | •••  |       |         | VIA   | 1  | \     |   |
| 6     | 1                              | 0         | 0       |         | 0     |      |       | C       | ARRER | A  |       |   |
| 15    | 0                              | 0         | 0       |         | 0     |      | AUTO  | PISTA   | NORT  | E  |       |   |
| 117   | 0                              | 0         | 0       |         | 0     |      |       | C       | ARRER | A  |       |   |
| 152   | 0                              | 0         | 0       |         | 0     |      |       |         | CALL  | E  |       |   |
| 176   | 0                              | 1         | 0       |         | 0     | •••  |       | C       | ARRER | A  |       |   |
|       |                                |           |         | •••     |       |      | •••   | _       |       |    |       |   |
| 37569 | 0                              | 0         | 0       |         | 0     | •••  |       |         | ARRER |    |       |   |
| 37646 | 0                              | 0         | 0       |         | 0     | •••  | AUTO  | PISTA   |       |    |       |   |
| 37727 | 0                              | 1         | 0       |         | 0     | •••  |       |         | ARRER |    |       |   |
| 37945 | 0                              | 1         | 0       |         | 0     | •••  |       | C       | ARRER |    |       |   |
| 38002 | 0                              | 1         | 0       |         | 0     | •••  |       |         | CALL  | E  |       |   |
|       | В                              | ARRIO     |         | HORA    |       |      |       | El      | NTIDA | D  | \     |   |
| 6     |                                | egosa 01  | :50:00  |         | AGE   | NTES | DE    |         |       |    | •     |   |
| 15    |                                | adrid 10  |         | _       |       |      |       |         |       |    |       |   |
| 117   |                                | aurte 02  |         | -       |       |      |       |         |       |    |       |   |
| 152   |                                | venza 09  |         | _       |       |      |       | TRANSI' |       |    |       |   |
| 176   |                                |           | :45:00  |         |       |      |       |         |       |    |       |   |
|       |                                |           |         | r       |       |      |       | •••     |       |    |       |   |
| 37569 | Cabecera del                   | Llano 06  | :00:00  | p. m.   | AGE   | NTES | DE    | TRANSI  | ro dt | В  |       |   |
| 37646 | Rio de                         |           | 3:30:00 | _       |       |      |       |         |       |    |       |   |
| 37727 |                                | arcon 11  |         | -       |       |      |       |         |       |    |       |   |
| 37945 |                                | Salle 04  |         |         |       |      |       |         |       |    |       |   |
| 38002 | SIN INFORM                     |           |         |         |       |      |       | TRANSI' |       |    |       |   |
|       |                                |           |         |         |       |      |       |         |       |    |       |   |
|       |                                | brecomuna | -       | ietario | de    |      |       |         |       |    |       | \ |
| 6     |                                | PEDREGOSA |         |         |       | _    | resa  |         |       |    | urno  |   |
| 15    |                                | 01. NORTE |         |         |       |      | resa  |         | N     |    | urno  |   |
| 117   |                                | CONCORDIA |         |         | _     | _    | resa  |         |       |    | urno  |   |
| 152   |                                | PROVENZA  |         |         | Pa    |      | ular  |         |       |    | urno  |   |
| 176   | 1                              | 5. CENTRO |         |         |       | Emp  | resa  |         |       | Di | urno  |   |
|       |                                |           |         |         | _     | •••  | _     |         | •••   |    |       |   |
| 37569 | 12. CABECERA                   |           |         |         |       |      | ular  |         |       |    | urno  |   |
| 37646 |                                | 01. NORTE |         |         | Рa    |      | ular  |         |       |    | urno  |   |
| 37727 |                                | FRANCISCO |         |         | _     | _    | resa  |         |       |    | urno  |   |
| 37945 |                                | CONCORDIA |         |         |       |      | ular  |         | N     |    | urno  |   |
| 38002 | SIN IN                         | FORMACION | ſ       |         | Pa    | rtic | ular  |         |       | Di | urno  |   |
|       | HORA RESTRICC                  | CION MOTO | Latitı  | ıd Lor  | gitu. | d    |       |         |       |    |       |   |
| 6     |                                | o aplica  |         | 14 -73. | -     |      |       |         |       |    |       |   |
| 15    |                                | o aplica  |         | 57 -73. |       |      |       |         |       |    |       |   |
| 117   |                                | tricción  |         | 25 -73. |       |      |       |         |       |    |       |   |
| 152   |                                | tricción  |         | 38 -73. |       |      |       |         |       |    |       |   |

| 176   |     | No aplica   | 7.11892 | -73.12353 |
|-------|-----|-------------|---------|-----------|
| •••   |     | •••         |         | •••       |
| 37569 | Sin | restricción | 7.11503 | -73.10739 |
| 37646 | Sin | restricción | 7.14169 | -73.15246 |
| 37727 | Sin | restricción | 7.12608 | -73.12299 |
| 37945 | Sin | restricción | 7.10138 | -73.11215 |
| 38002 | Sin | restricción | 7.11711 | -73.12924 |

## [770 rows x 28 columns]

38140

| Valore | s atípicos en la | variab: | le 'BUS | ETA':   |        |            |             |     |
|--------|------------------|---------|---------|---------|--------|------------|-------------|-----|
|        | ORDEN FECH       | A AÑO   |         | MES     |        | DÍA        | GRAVEDAI    | D \ |
| 45     | 46 2012-01-0     | 6 2012  | 01.     | Enero   | 08     | 5. Viernes | Con Heridos | 3   |
| 101    | 102 2012-01-1    | 2 2012  |         | Enero   | (      | 04. Jueves | Solo Daños  | 3   |
| 103    | 104 2012-01-1    | 2 2012  | 01.     | Enero   | (      | 04. Jueves | Solo Daños  | 3   |
| 112    | 113 2012-01-1    | 3 2012  | 01.     | Enero   | 08     | 5. Viernes | Solo Daños  | 3   |
| 119    | 120 2012-01-1    | 4 2012  | 01.     | Enero   | (      | 06. Sabado | Solo Daños  | 3   |
|        |                  |         | •••     |         | •••    | •••        |             |     |
| 38044  | 38045 2023-01-2  | 4 2023  | 01.     | Enero   | (      | 02. Martes | Con Heridos | 3   |
| 38065  | 38066 2023-01-2  | 9 2023  | 01.     | Enero   | 0.     | 7. Domingo | Con Heridos | 3   |
| 38135  | 38136 2023-02-1  | 3 2023  | 02. F   | ebrero  |        | 01. Lunes  | Con Heridos | 3   |
| 38140  | 38141 2023-02-1  | 5 2023  | 02. F   | ebrero  | 03.    | Miercoles  | Con Heridos | 3   |
| 38189  | 38190 2023-02-2  | 8 2023  | 02. F   | ebrero  | (      | 02. Martes | Con Heridos | 3   |
|        |                  |         |         |         |        |            |             |     |
|        | PEATON AUTOMOV   | IL CAM  | PAERO ( | CAMIONE | ETA .  | ••         | VIA 1 \     |     |
| 45     | 1                | 0       | 0       |         | 0.     |            | CALLE       |     |
| 101    | 0                | 0       | 0       |         | 1.     |            | CARRERA     |     |
| 103    | 0                | 0       | 0       |         | 0.     |            | CALLE       |     |
| 112    | 0                | 0       | 0       |         | 0.     | . AUTOPIS  | TA NORTE    |     |
| 119    | 0                | 0       | 0       |         | 0.     | ••         | CARRERA     |     |
| •••    |                  | •••     |         | •••     |        | •••        |             |     |
| 38044  | 0                | 0       | 0       |         | 0.     | AUTOPIS    | TA NORTE    |     |
| 38065  | 0                | 0       | 0       |         | 0.     |            | CALLE       |     |
| 38135  | 0                | 0       | 0       |         | 0.     |            | CARRERA     |     |
| 38140  | 1                | 0       | 0       |         | 0.     |            | CARRERA     |     |
| 38189  | 0                | 0       | 0       |         | 0.     | AUTOPI     | STA GIRÓN   |     |
|        |                  |         |         |         |        |            |             |     |
|        | BARRI            |         |         | ORA     |        |            | ENTIDAD \   |     |
| 45     | Mejoras Publica  | s 08:30 | 0:00 p. |         |        | S DE TRANS |             |     |
| 101    | Centr            |         | 0:00 p. |         |        | S DE TRANS |             |     |
| 103    | Esperanza        | I 08:1  | 0:00 a. | m. AG   | ENTE   | S DE TRANS | ITO DTB     |     |
| 112    | San Rafae        | 1 06:20 | 0:00 p. | m. AG   | ENTE   | S DE TRANS | ITO DTB     |     |
| 119    | Centr            | 09:3    | 0:00 a. | m. AG   | GENTES | S DE TRANS | ITO DTB     |     |
|        | •••              |         | •••     |         |        | •••        |             |     |
| 38044  | SIN INFORMACIO   | N 06:3  | 0:00 a. | m. AG   | GENTES | S DE TRANS | ITO DTB     |     |
| 38065  | Campo Hermos     | o 05:20 | 0:00 p. |         |        | S DE TRANS |             |     |
| 38135  | Muti             | s 08:30 | 0:00 a. | m. AG   | ENTE   | S DE TRANS | ITO DTB     |     |
| 00110  |                  | 011     |         |         |        | ~ ~~ ~~    | TEC DED     |     |

El Prado 04:40:00 p. m. AGENTES DE TRANSITO DTB

# 38189 SIN INFORMACION 01:45:00 p. m. AGENTES DE TRANSITO DTB

| 45<br>101<br>103<br>112<br>119<br><br>38044<br>38065<br>38135                   | 02.<br>02.<br>SIN | nombrecomuna 13. ORIENTAL 15. CENTRO NORORIENTAL NORORIENTAL 15. CENTRO INFORMACION ARCIA ROVIRA 17. MUTIS |   | pietario  | Emp<br>Emp<br>Partic<br>Emp<br>Emp<br><br>Partic<br>Emp                                  | resa<br>resa<br>ular<br>resa<br>resa               | DIURNIO | /NOCTURNO Nocturno Diurno Nocturno Diurno Diurno Diurno Diurno Diurno Diurno | \  |
|---|-------------------|--|---|---|--|--|---------|--|----|
| 38140   |                   | 13. ORIENTAL   |   |   | _  | resa   |         | Diurno   |    |
| 38189   | SIN               | INFORMACION  |   |   | _  | resa   |         | Diurno   |    |
| 45<br>101<br>103<br>112<br>119<br><br>38044<br>38065<br>38135<br>38140<br>38189 |                   | No ap<br>No ap<br>No ap  | lica lica lica lica lica ción ción ción | 7.12340 7.11892 7.21816 7.13894 7.11892 7.11711 7.10669 7.09934 7.12395 | -73.114<br>-73.123<br>-73.093<br>-73.134<br>-73.123<br><br>-73.129<br>-73.137<br>-73.130 | 63<br>53<br>28<br>52<br>53<br>24<br>59<br>87<br>72 |         |  |    |
| Valore  | _                 | icos en la v   |   | le 'BUS'  |  |  |         |  |    |
| 00  | ORDEN             | FECHA  |   | 24  | MES  | 0.4  | DÍA     | GRAVEDA  |    |
| 29  |                   | 2012-01-05   |   |   | . Enero  |  |         | Con Herido   |    |
| 58  |                   | 2012-01-08   |   |   |  |  | •       | Con Herido   |    |
| 77  |                   | 2012-01-10   |   |   |  |  |         | Con Herido   |    |
|   |                   | 2012-01-23   |   |   |  |  |         |  |    |
|   |                   | 2012-01-23   |   |   |  |  |         | Solo Daño  | os |
|   |                   |  |   |   |  |  |         | G II . 1   |    |
|   |                   | 2022-11-27   |   |   |  |  | _       | Con Herido   |    |
|   |                   | 2023-01-17   |   |   |  |  |         |  |    |
|   |                   | 2023-01-31   |   |   |  |  |         | Con Herido   |    |
|   |                   | 2023-02-05   |   |   |  |  | _       |  |    |
| 38141   | 38142             | 2023-02-16   | 2023                                    | 02. ]   | Febrero  | 04.  | Jueves  | Con Herido   | s  |
|   | PEATO             | N AUTOMOVIL  | CAMI                                    |   |  |  |         |  |    |
| 29  |                   | ) 1  |   | 0   |  | •••  |         |  |    |
| 58  | :                 | 1 0  |   | 0   | 0  | •••  |         |  |    |
| 77  | (                 | 0  |   | 0   | 0  | •••  |         |  |    |

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213
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217
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37853
            0
                        0
                                              0
                                  0
38023
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                       0
                                  0
                                              0
38072
            0
                       0
                                  0
                                              0
38104
                        0
                                  0
                                              0
38141
                        0
                                VIA 1
                                                       BARRIO
                                                                         HORA \
29
                              CARRERA
                                      Antonia Santos Centro
                                                               01:00:00 p. m.
58
                              CARRERA
                                                  Cafe Madrid
                                                               10:11:00 a. m.
77
       AUTOPISTA FLORIDA BUCARAMANGA
                                                              10:40:00 a. m.
                                                     Provenza
213
       AUTOPISTA FLORIDA BUCARAMANGA
                                          Antonia Santos Sur
                                                               07:35:00 p. m.
217
                    BOULEVAR BOLIVAR
                                                    Comuneros
                                                               08:45:00 a. m.
37853
                              CARRERA
                                                     Provenza
                                                               09:05:00 p. m.
38023
                              CARRERA
                                                               10:30:00 a. m.
                                                   Norte Bajo
38072
                                             SIN INFORMACION
                                                               09:35:00 a. m.
                                CALLE
38104
                              CARRERA
                                                   San Rafael
                                                               05:20:00 p. m.
                                                               09:00:00 a. m.
38141
                                CALLE
                                             SIN INFORMACION
                       ENTIDAD
                                      nombrecomuna Propietario de Vehículo
29
       AGENTES DE TRANSITO DTB
                                      13. ORIENTAL
                                                                     Empresa
58
       AGENTES DE TRANSITO DTB
                                         01. NORTE
                                                                     Empresa
77
       AGENTES DE TRANSITO DTB
                                      10. PROVENZA
                                                                     Empresa
       AGENTES DE TRANSITO DTB
                                  09. LA PEDREGOSA
213
                                                                  Particular
                                 03. SAN FRANCISCO
217
       AGENTES DE TRANSITO DTB
                                                                     Empresa
37853
      AGENTES DE TRANSITO DTB
                                      10. PROVENZA
                                                                  Particular
38023
      AGENTES DE TRANSITO DTB
                                 03. SAN FRANCISCO
                                                                  Particular
                                   SIN INFORMACION
38072 AGENTES DE TRANSITO DTB
                                                                     Empresa
       AGENTES DE TRANSITO DTB
38104
                                 03. SAN FRANCISCO
                                                                     Empresa
38141
      AGENTES DE TRANSITO DTB
                                   SIN INFORMACION
                                                                  Particular
       DIURNIO/NOCTURNO HORA RESTRICCION MOTO Latitud Longitud
                                      No aplica 7.12307 -73.11985
29
                 Diurno
58
                 Diurno
                                      No aplica 7.16257 -73.14171
77
                 Diurno
                                Sin restricción 7.08488 -73.11585
               Nocturno
                                      No aplica
213
                                                 7.10154 -73.11127
217
                 Diurno
                                      No aplica 7.13873 -73.12737
37853
               Nocturno
                                Sin restricción 7.08488 -73.11585
                                Sin restricción 7.14241 -73.13523
38023
                 Diurno
38072
                 Diurno
                                Sin restricción 7.11711 -73.12924
38104
                 Diurno
                                Sin restricción 7.13894 -73.13452
38141
                 Diurno
                                Sin restricción 7.11711 -73.12924
```

## [1807 rows x 28 columns]

| Valore | s atípicos en la | variab | le 'CAMION': |           |           |             |     |
|--------|------------------|--------|--------------|-----------|-----------|-------------|-----|
|        | ORDEN FECH.      | A AÑO  | ME           | S         | DÍA       | GRAVEDAI    | ) \ |
| 11     | 12 2012-01-0     | 2 2012 | 01. Ener     | o 01.     | Lunes     | Solo Daños  | 3   |
| 15     | 16 2012-01-0     | 3 2012 | 01. Ener     | o 02. N   | Martes    | Solo Daños  | 3   |
| 30     | 31 2012-01-0     | 5 2012 | 01. Ener     | o 04      | Jueves    | Con Heridos | 3   |
| 35     | 36 2012-01-0     | 5 2012 | 01. Ener     | o 04      | Jueves    | Solo Daños  | 3   |
| 73     | 74 2012-01-1     | 2012   | 01. Ener     | o 02. N   | Martes    | Con Heridos | 3   |
|        |                  |        | •••          | •••       | •••       |             |     |
| 37990  | 37991 2023-01-0  | 2 2023 | 01. Ener     | o 01.     | Lunes     | Con Heridos | 3   |
| 38098  | 38099 2023-02-04 | 4 2023 | 02. Febrer   | o 06. S   | Sabado    | Con Heridos | 3   |
| 38102  | 38103 2023-02-04 | 4 2023 | 02. Febrer   | o 06. S   | Sabado    | Con Heridos | 3   |
| 38115  | 38116 2023-02-0  | 3 2023 | 02. Febrer   | o 03. Mie | rcoles    | Con Heridos | 3   |
| 38170  | 38171 2023-02-2  | 3 2023 | 02. Febrer   | o 04      | Jueves    | Con Heridos | 3   |
|        |                  |        |              |           |           |             |     |
|        | PEATON AUTOMOV   | IL CAM | PAERO CAMIO  | NETA      |           | VIA 1 \     |     |
| 11     | 0                | 0      | 0            | O AU      | JTOPISTA  | NORTE       |     |
| 15     | 0                | 0      | 0            | O AU      | JTOPISTA  | NORTE       |     |
| 30     | 0                | 0      | 0            | 0         |           | CALLE       |     |
| 35     | 0                | 1      | 0            | 0         | ANIL      | LO VIAL     |     |
| 73     | 0                | 1      | 0            | O AU      | JTOPISTA  | NORTE       |     |
|        |                  |        | ••• •••      |           | •••       |             |     |
| 37990  | 0                | 0      | 0            | 0         | (         | CARRERA     |     |
| 38098  | 0                | 0      | 0            | 0         | (         | CARRERA     |     |
| 38102  | 0                | 0      | 0            | 0         | (         | CARRERA     |     |
| 38115  | 0                | 0      | 0            | 0         |           | CALLE       |     |
| 38170  | 0                | 0      | 0            | 0         | (         | CARRERA     |     |
|        |                  |        |              |           |           |             |     |
|        |                  | BARRIO |              | ORA       |           | ENTIDAD     | \   |
| 11     |                  | Ū      | 08:20:00 a.  |           |           | ANSITO DTB  |     |
| 15     |                  | Madrid | -            |           |           | ANSITO DTB  |     |
| 30     |                  |        | 05:45:00 p.  |           |           | ANSITO DTB  |     |
| 35     | Rio de           |        | 09:00:00 a.  |           |           | ANSITO DTB  |     |
| 73     | Col              | orados | 09:00:00 a.  | m. AGENTI | ES DE TR. | ANSITO DTB  |     |
|        |                  |        | •••          |           |           | •••         |     |
| 37990  |                  |        | 03:00:00 a.  |           |           | ANSITO DTB  |     |
| 38098  |                  |        | 03:50:00 a.  |           |           |             |     |
| 38102  |                  |        | 07:40:00 p.  |           |           |             |     |
| 38115  |                  |        | _            |           |           |             |     |
| 38170  | Cha              | pinero | 12:00:00 p.  | m. AGENTI | ES DE TR. | ANSITO DTB  |     |
|        |                  |        |              |           |           |             |     |
|        | nombrecomu       |        | pietario de  |           | OIURNIO/  |             | \   |
| 11     | 02. NORORIENT    |        |              | Empresa   | -         | Diurno      |     |
| 15     | 01. NOR          |        | _            | Empresa   | ]         | Nocturno    |     |
| 30     | 15. CENT         |        |              | rticular  |           | Diurno      |     |
| 35     | 04. OCCIDENT     |        |              | rticular  |           | Diurno      |     |
| 73     | O1. NOR          | ľE     | Pa           | rticular  |           | Diurno      |     |

| •••   | ***                   | ***               | •••      |
|-------|-----------------------|-------------------|----------|
| 37990 | O1. NORTE             | Particular        | Nocturno |
| 38098 | 04. OCCIDENTAL        | Particular        | Nocturno |
| 38102 | 03. SAN FRANCISCO     | Particular        | Nocturno |
| 38115 | 13. ORIENTAL          | Particular        | Diurno   |
| 38170 | 03. SAN FRANCISCO     | Particular        | Diurno   |
|       |                       |                   |          |
|       | HORA RESTRICCION MOTO | Latitud Longitud  |          |
| 11    | Sin restricción       | 7.14241 -73.13523 |          |
| 15    | No aplica             | 7.16257 -73.14171 |          |
| 30    | Sin restricción       | 7.11892 -73.12353 |          |
| 35    | No aplica             | 7.14169 -73.15246 |          |
| 73    | No aplica             | 7.17844 -73.13299 |          |
| •••   | <b></b>               |                   |          |
| 37990 | En restricción        | 7.16257 -73.14171 |          |
| 38098 | En restricción        | 7.13135 -73.13283 |          |
| 38102 | Sin restricción       | 7.13163 -73.12575 |          |
| 38115 | Sin restricción       | 7.12307 -73.11985 |          |
| 38170 | Sin restricción       | 7.13926 -73.13277 |          |
|       |                       |                   |          |
| [2060 | roug y 00 columnal    |                   |          |

## [3062 rows x 28 columns]

| Valores atípicos | en l | a variable | 'VOLQUETA': |
|------------------|------|------------|-------------|
|------------------|------|------------|-------------|

|  | ORDEN                 | FECHA                     | AÑO  |                           | MES                       |     | DÍA         | GRAVEDAD  | \ |
|--|-----------------------|---------------------------|------|---------------------------|---------------------------|-----|-------------|---|---|
| 14   | 15 2                  | 2012-01-03                | 2012 |                           | 01. Enero                 |     | 02. Martes  | Con Heridos   |   |
| 42   | 43 2                  | 2012-01-06                | 2012 |                           | 01. Enero                 | (   | 05. Viernes | Solo Daños  |   |
| 51   | 52 2                  | 2012-01-07                | 2012 |                           | 01. Enero                 |     | 06. Sabado  | Solo Daños  |   |
| 103  | 104 2                 | 2012-01-12                | 2012 |                           | 01. Enero                 |     | 04. Jueves  | Solo Daños  |   |
| 194  | 195 2                 | 2012-01-21                | 2012 |                           | 01. Enero                 |     | 06. Sabado  | Solo Daños  |   |
| •••  |                       | •••                       |      |                           |                           | ••• | •••         |   |   |
| 37545  | 37524 2               | 2022-09-08                | 2022 | 09.                       | Septiembre                |     | 04. Jueves  | Solo Daños  |   |
| 37777  | 37756 2               | 2022-11-01                | 2022 | 11.                       | Noviembre                 |     | 02. Martes  | Con Heridos   |   |
| 37802  | 37796 2               | 2022-11-11                | 2022 | 11.                       | Noviembre                 | (   | 05. Viernes | Con Heridos   |   |
| 37890  | 37891 2               | 2022-12-07                | 2022 | 12.                       | Diciembre                 | 03  | . Miercoles | Con Heridos   |   |
| 38035  | 38036 2               | 2023-01-21                | 2023 |                           | 01. Enero                 |     | 06. Sabado  | Con Heridos   |   |
|  |                       |                           |      |                           |                           |     |             |   |   |
|  |                       |                           |      |                           |                           |     |             |   |   |
|  | PEATON                | AUTOMOVIL                 | CAMP | AERO                      | CAMIONETA                 | ••• |             | VIA 1 \   |   |
| 14   | PEATON<br>O           | AUTOMOVIL<br>O            | CAMP | AERO<br>O                 | CAMIONETA O               |     |             | VIA 1 \ CARRERA   |   |
| 14<br>42                                     |                       |                           | CAMP |                           |                           |     | CALLE 45 VI | CARRERA   |   |
|  | 0                     | 0                         | CAMP | 0                         | 0                         | ••• | CALLE 45 VI | CARRERA   |   |
| 42   | 0<br>0                | 0                         | CAMP | 0<br>0                    | 0<br>0                    |     | CALLE 45 VI | CARRERA<br>A CHIMITA                                    |   |
| 42<br>51                                     | 0<br>0<br>0           | 0<br>0<br>0               | CAMP | 0<br>0<br>0               | 0<br>0<br>1               |     | CALLE 45 VI | CARRERA<br>A CHIMITA<br>CARRERA                         |   |
| 42<br>51<br>103                              | 0<br>0<br>0           | 0<br>0<br>0               | CAMP | 0<br>0<br>0               | 0<br>0<br>1<br>0          |     | CALLE 45 VI | CARRERA<br>A CHIMITA<br>CARRERA<br>CALLE                |   |
| 42<br>51<br>103                              | 0<br>0<br>0           | 0<br>0<br>0               |      | 0<br>0<br>0<br>0          | 0<br>0<br>1<br>0          |     |             | CARRERA<br>A CHIMITA<br>CARRERA<br>CALLE                |   |
| 42<br>51<br>103<br>194                       | 0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>2     |      | 0<br>0<br>0<br>0          | 0<br>0<br>1<br>0<br>0     |     |             | CARRERA A CHIMITA CARRERA CALLE CALLE                   |   |
| 42<br>51<br>103<br>194<br><br>37545          | 0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>2<br> |      | 0<br>0<br>0<br>0<br>0     | 0<br>0<br>1<br>0<br>0     |     |             | CARRERA A CHIMITA CARRERA CALLE CALLE CARRERA           |   |
| 42<br>51<br>103<br>194<br><br>37545<br>37777 | 0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>2<br> |      | 0<br>0<br>0<br>0<br>0<br> | 0<br>0<br>1<br>0<br>0<br> |     |             | CARRERA A CHIMITA CARRERA CALLE CALLE CARRERA TA CUCUTA |   |

```
BARRIO
                                   HOR.A
                                                         ENTIDAD
14
       Nuevo Sotomayor
                        06:45:00 a. m.
                                         AGENTES DE TRANSITO DTB
42
          Rio de Oro I
                        04:05:00 p. m.
                                         AGENTES DE TRANSITO DTB
                        06:55:00 p. m.
51
             Comuneros
                                         AGENTES DE TRANSITO DTB
                        08:10:00 a. m.
                                         AGENTES DE TRANSITO DTB
103
           Esperanza I
194
                Centro
                        11:15:00 a. m.
                                         AGENTES DE TRANSITO DTB
         Garcia Rovira 01:20:00 p. m.
                                         AGENTES DE TRANSITO DTB
37545
                       08:10:00 a. m.
37777
            Buenavista
                                         AGENTES DE TRANSITO DTB
             Comuneros 09:00:00 a. m.
                                         AGENTES DE TRANSITO DTB
37802
         San Francisco 10:00:00 a. m.
                                         AGENTES DE TRANSITO DTB
37890
38035
             La Aurora 03:00:00 p. m.
                                         AGENTES DE TRANSITO DTB
                 nombrecomuna
                               Propietario de Vehículo
                                                         DIURNIO/NOCTURNO
14
       12. CABECERA DEL LLANO
                                                Empresa
                                                                    Diurno
42
               04. OCCIDENTAL
                                             Particular
                                                                    Diurno
51
            03. SAN FRANCISCO
                                             Particular
                                                                  Nocturno
              02. NORORIENTAL
103
                                             Particular
                                                                    Diurno
194
                   15. CENTRO
                                                                    Diurno
                                                Empresa
                   15. CENTRO
37545
                                             Particular
                                                                    Diurno
37777
                14. MORRORICO
                                             Particular
                                                                    Diurno
37802
            03. SAN FRANCISCO
                                             Particular
                                                                    Diurno
37890
            03. SAN FRANCISCO
                                             Particular
                                                                   Diurno
                 13. ORIENTAL
38035
                                             Particular
                                                                    Diurno
       HORA RESTRICCION MOTO Latitud Longitud
                             7.11505 -73.11625
14
             Sin restricción
42
                   No aplica
                             7.14169 -73.15246
                             7.13873 -73.12737
                   No aplica
51
103
                   No aplica
                              7.21816 -73.09328
194
                   No aplica
                              7.11892 -73.12353
             Sin restricción 7.09920 -73.15155
37545
37777
             Sin restricción 7.12886 -73.09380
37802
             Sin restricción 7.13873 -73.12737
37890
             Sin restricción 7.13163 -73.12575
             Sin restricción 7.12728 -73.11631
38035
[537 rows x 28 columns]
Valores atípicos en la variable 'MOTO':
                                                       DÍA
       ORDEN
                  FECHA
                          ΑÑΟ
                                                                GRAVEDAD
                                          MES
215
                                    01. Enero
         216 2012-01-23
                         2012
                                                 01. Lunes
                                                            Con Heridos
912
         913 2012-03-17
                         2012
                                    03. Marzo
                                                06. Sabado
                                                            Con Heridos
1459
        1460 2012-05-03
                         2012
                                     05. Mayo
                                                04. Jueves
                                                              Solo Daños
1750
       1751 2012-05-29
                         2012
                                     05. Mayo
                                                02. Martes
                                                            Con Heridos
```

```
1816
       1817 2012-06-03 2012
                                   06. Junio 07. Domingo Con Heridos
36403
      36382 2022-03-25
                         2022
                                   03. Marzo 05. Viernes
                                                            Con Heridos
37458
                         2022
                                  08. Agosto 05. Viernes
                                                            Con Heridos
      37437 2022-08-19
                                                            Con Heridos
37794 37773 2022-11-05
                         2022
                               11. Noviembre
                                                06. Sabado
                               11. Noviembre
                                                06. Sabado Con Heridos
37825
      37819 2022-11-19
                         2022
38137
       38138 2023-02-14
                         2023
                                 02. Febrero
                                                02. Martes Con Heridos
      PEATON
               AUTOMOVIL CAMPAERO
                                    CAMIONETA ...
                                                               VIA 1
215
                       0
                                 0
                                             0
                                                             CARRERA
                                                    BOULEVAR BOLIVAR
912
            1
                       0
                                 0
                                             0 ...
                                             0 ...
1459
            0
                       1
                                 0
                                                             CARRERA
1750
            0
                       0
                                 0
                                             0 ...
                                                    BOULEVAR BOLIVAR
                                                   AUTOPISTA CUCUTA
1816
                                 0
                                                             CARRERA
36403
            0
                       0
                                 0
                                             0
37458
            0
                       0
                                 0
                                             0
                                                    AUTOPISTA NORTE
37794
            0
                       0
                                 0
                                             0
                                                               CALLE
            0
                       2
                                 0
                                             0
                                                             CARRERA
37825
38137
            0
                                 0
                                             0
                                                             CARRERA
              BARRIO
                                HORA
                                                       ENTIDAD \
215
      Alfonso Lopez 06:30:00 p.m. AGENTES DE TRANSITO DTB
912
       San Francisco 09:30:00 a.m.
                                      AGENTES DE TRANSITO DTB
1459
              Gaitan 07:20:00 p. m.
                                      AGENTES DE TRANSITO DTB
       San Francisco 07:00:00 a.m.
                                      AGENTES DE TRANSITO DTB
1750
                     05:00:00 p. m.
           Morrorico
                                      AGENTES DE TRANSITO DTB
1816
               •••
                      09:00:00 p. m.
                                      AGENTES DE TRANSITO DTB
36403
           Sotomayor
37458
          San Rafael
                     01:30:00 p. m. AGENTES DE TRANSITO DTB
            Provenza
                     07:30:00 a. m.
                                      AGENTES DE TRANSITO DTB
37794
                                      AGENTES DE TRANSITO DTB
37825
          San Alonso
                      12:40:00 p. m.
           Sotomayor 07:35:00 p. m. AGENTES DE TRANSITO DTB
38137
                 nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
215
            05. GARCIA ROVIRA
                                             Particular
                                                                 Nocturno
912
            03. SAN FRANCISCO
                                            Particular
                                                                   Diurno
1459
               04. OCCIDENTAL
                                             Particular
                                                                 Nocturno
            03. SAN FRANCISCO
1750
                                            Particular
                                                                   Diurno
1816
                14. MORRORICO
                                             Particular
                                                                   Diurno
       12. CABECERA DEL LLANO
36403
                                             Particular
                                                                 Nocturno
37458
            03. SAN FRANCISCO
                                                Empresa
                                                                   Diurno
37794
                 10. PROVENZA
                                             Particular
                                                                   Diurno
37825
                 13. ORIENTAL
                                             Particular
                                                                   Diurno
38137
      12. CABECERA DEL LLANO
                                             Particular
                                                                 Nocturno
```

HORA RESTRICCION MOTO Latitud Longitud

| 215            | Sin        | restricción                | 7.11443                       | -73.13220              |
|----------------|------------|----------------------------|-------------------------------|------------------------|
| 912            | Sin        | restricción                | 7.13163                       | -73.12575              |
| 1459           | Sin        | restricción                | 7.13135                       | -73.13283              |
| 1750           | Sin        | restricción                | 7.13163                       | -73.12575              |
| 1816           | Sin        | restricción                | 7.13154                       | -73.10638              |
|                |            |                            |                               |                        |
| •••            |            | •••                        | •••                           | •••                    |
| <br>36403      | Sin        | <br>restricción            |                               | <br>-73.11384          |
|                |            | restricción<br>restricción | 7.11575                       |                        |
| 36403          | Sin        |                            | 7.11575<br>7.13894            | -73.11384              |
| 36403<br>37458 | Sin<br>Sin | restricción                | 7.11575<br>7.13894<br>7.08488 | -73.11384<br>-73.13452 |

## [103 rows x 28 columns]

| Valore | s atíp: | icos en la v | ariable | e 'BICICLETA' | :           |             |        |   |
|--------|---------|--------------|---------|---------------|-------------|-------------|--------|---|
|        | ORDEN   | FECHA        | ΑÑΟ     | MES           | DÍA         | GRAVEDAD    | PEATON | \ |
| 48     | 49      | 2012-01-06   | 2012    | 01. Enero     | 05. Viernes | Con Heridos | 0      |   |
| 80     | 81      | 2012-01-10   | 2012    | 01. Enero     | 02. Martes  | Con Heridos | 0      |   |
| 159    | 160     | 2012-01-17   | 2012    | 01. Enero     | 02. Martes  | Con Heridos | 0      |   |
| 445    | 446     | 2012-02-13   | 2012    | 02. Febrero   | 01. Lunes   | Con Heridos | 0      |   |
| 527    | 528     | 2012-02-18   | 2012    | 02. Febrero   | 06. Sabado  | Con Heridos | 0      |   |
| •••    | •••     |              |         |               | •••         | •••         |        |   |
| 38038  | 38039   | 2023-01-22   | 2023    | 01. Enero     | 07. Domingo | Con Heridos | 0      |   |
| 38093  | 38094   | 2023-02-03   | 2023    | 02. Febrero   | 05. Viernes | Con Heridos | 0      |   |
| 38096  | 38097   | 2023-02-04   | 2023    | 02. Febrero   | 06. Sabado  | Con Heridos | 2      |   |
| 38118  | 38119   | 2023-02-09   | 2023    | 02. Febrero   | 04. Jueves  | Con Heridos | 0      |   |
| 38161  | 38162   | 2023-02-21   | 2023    | 02. Febrero   | 02. Martes  | Con Heridos | 0      |   |
|        |         |              |         |               |             |             |        |   |
|        | AUTOMO  | OVIL CAMPAE  | RO CAI  | MIONETA       |             | VIA         | 1 \    |   |
|        |         |              |         |               |             |             |        |   |

| CALLE                         |     | 0 | 0    | 0   | 48    |
|-------------------------------|-----|---|------|-----|-------|
| AVENIDA Q SECA                |     | 0 | 0    | 1   | 80    |
| CARRERA                       |     | 0 | 0    | 0   | 159   |
| CALLE                         |     | 0 | 0    | 0   | 445   |
| ANILLO VIAL                   |     | 0 | 0    | 0   | 527   |
| <b></b>                       |     |   | <br> | ••• | •••   |
| TRANSVERSAL METROPOLITANA     | ••• | 0 | 0    | 1   | 38038 |
| CARRERA                       | ••• | 0 | 0    | 0   | 38093 |
| CARRERA                       |     | 0 | 0    | 0   | 38096 |
| CARRERA                       |     | 0 | 0    | 1   | 38118 |
| AUTOPISTA FLORIDA BUCARAMANGA | ••• | 0 | 0    | 0   | 38161 |

|     | BARRIO         | HORA           | ENTIDAD                 | \ |
|-----|----------------|----------------|-------------------------|---|
| 48  | La Ceiba       | 09:00:00 a. m. | AGENTES DE TRANSITO DTB |   |
| 80  | Alarcon        | 03:50:00 a. m. | AGENTES DE TRANSITO DTB |   |
| 159 | Puerta del Sol | 06:20:00 a. m. | AGENTES DE TRANSITO DTB |   |
| 445 | La Joya        | 06:30:00 p. m. | AGENTES DE TRANSITO DTB |   |
| 527 | Cafe Madrid    | 05:30:00 p. m. | AGENTES DE TRANSITO DTB |   |
|     |                |                |                         |   |

... ... ... ...

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38038
      SIN INFORMACION 07:00:00 a.m.
                                        AGENTES DE TRANSITO DTB
38093
             La Aurora 07:40:00 a.m. AGENTES DE TRANSITO DTB
           Universidad 12:20:00 p.m.
38096
                                        AGENTES DE TRANSITO DTB
38118
              Bolarqui 04:30:00 p. m.
                                        AGENTES DE TRANSITO DTB
        Puerta del Sol 05:50:00 a.m.
                                        AGENTES DE TRANSITO DTB
38161
                 nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
             06. LA CONCORDIA
48
                                            Particular
                                                                  Diurno
80
            03. SAN FRANCISCO
                                            Particular
                                                                Nocturno
       12. CABECERA DEL LLANO
159
                                            Particular
                                                                  Diurno
            05. GARCIA ROVIRA
445
                                               Empresa
                                                                Nocturno
                    01. NORTE
                                            Particular
                                                                  Diurno
527
              SIN INFORMACION
38038
                                            Particular
                                                                  Diurno
38093
                 13. ORIENTAL
                                            Particular
                                                                  Diurno
38096
            03. SAN FRANCISCO
                                            Particular
                                                                  Diurno
38118 12. CABECERA DEL LLANO
                                            Particular
                                                                  Diurno
38161
       12. CABECERA DEL LLANO
                                            Particular
                                                                Nocturno
       HORA RESTRICCION MOTO Latitud Longitud
48
             Sin restricción 7.10471 -73.11565
                   No aplica 7.12608 -73.12299
80
159
             Sin restricción 7.10395 -73.11254
445
             Sin restricción 7.11028 -73.13982
527
             Sin restricción 7.16257 -73.14171
38038
             Sin restricción 7.11711 -73.12924
38093
             Sin restricción 7.12728 -73.11631
             Sin restricción 7.13885 -73.12027
38096
38118
             Sin restricción 7.11098 -73.11422
38161
             Sin restricción 7.10395 -73.11254
[657 rows x 28 columns]
Valores atípicos en la variable 'OTRO':
                          AÑO
                                                      DÍA
       ORDEN
                  FECHA
                                       MES
                                                              GRAVEDAD
8
           9 2012-01-02 2012
                                                01. Lunes
                                                            Solo Daños
                                 01. Enero
81
          82 2012-01-10
                         2012
                                 01. Enero
                                               02. Martes
                                                            Solo Daños
         106 2012-01-13
                         2012
                                 01. Enero
                                              05. Viernes
                                                            Solo Daños
         401 2012-02-08 2012 02. Febrero 03. Miercoles
                                                            Solo Daños
400
417
         418 2012-02-10
                         2012 02. Febrero
                                              05. Viernes
                                                            Solo Daños
```

07. Domingo

02. Martes

06. Sabado

04. Jueves

04. Jueves

Con Heridos

Con Heridos

Con Heridos

Con Heridos

Con Heridos

01. Enero

01. Enero

02. Febrero

02. Febrero

02. Febrero

38020

38023

38100

38121

38021 2023-01-15

38024 2023-01-17

38101 2023-02-04

38122 2023-02-09

38172 38173 2023-02-23

2023

2023

2023

2023

2023

```
PEATON
               AUTOMOVIL CAMPAERO
                                     CAMIONETA
                                                                VIA 1 \
8
                                  0
                                                              CARRERA
            0
                        1
                                              0
                                  0
81
            0
                        0
                                              0
                                                     AUTOPISTA NORTE
105
            0
                        0
                                  0
                                              0
                                                    AUTOPISTA NORTE
400
            0
                        1
                                  0
                                              0
                                                              CARRERA
            0
                                  0
                                                              CARRERA
417
                        0
                                              0
38020
            0
                        0
                                  0
                                              0
                                                          ANILLO VIAL
38023
            0
                                  0
                                                              CARRERA
                        0
                                              0
                                                              CARRERA
38100
            0
                        0
                                  0
                                              0
                                  0
38121
            0
                        0
                                              0
                                                                CALLE
38172
            0
                        1
                                  0
                                              0
                                                                CALLE
                BARRIO
                                   HORA
                                                           ENTIDAD
8
       Regaderos Norte
                         12:00:00 p. m.
                                          AGENTES DE TRANSITO DTB
81
       SIN INFORMACION
                         04:45:00 p. m.
                                          AGENTES DE TRANSITO DTB
105
            Norte Bajo
                         12:30:00 p. m.
                                          AGENTES DE TRANSITO DTB
400
             Comuneros
                         01:30:00 p. m.
                                          AGENTES DE TRANSITO DTB
                         04:30:00 p. m.
                                          AGENTES DE TRANSITO DTB
417
                Centro
                         06:40:00 p. m.
38020
          Rio de Oro I
                                          AGENTES DE TRANSITO DTB
                         10:30:00 a. m.
                                          AGENTES DE TRANSITO DTB
38023
            Norte Bajo
38100
              El Prado
                         05:15:00 p. m.
                                          AGENTES DE TRANSITO DTB
38121
         Pan de Azucar
                        11:50:00 p. m.
                                          AGENTES DE TRANSITO DTB
                         06:37:00 p. m.
38172
            San Alonso
                                          AGENTES DE TRANSITO DTB
                  nombrecomuna Propietario de Vehículo
                                                          DIURNIO/NOCTURNO
8
              02. NORORIENTAL
                                                 Empresa
                                                                     Diurno
81
              SIN INFORMACION
                                              Particular
                                                                     Diurno
105
              02. NORORIENTAL
                                                 Empresa
                                                                     Diurno
400
            03. SAN FRANCISCO
                                                 Empresa
                                                                     Diurno
417
                    15. CENTRO
                                                 Empresa
                                                                     Diurno
38020
               04. OCCIDENTAL
                                              Particular
                                                                   Nocturno
            03. SAN FRANCISCO
38023
                                              Particular
                                                                     Diurno
38100
                  13. ORIENTAL
                                              Particular
                                                                     Diurno
       12. CABECERA DEL LLANO
38121
                                              Particular
                                                                   Nocturno
38172
                  13. ORIENTAL
                                                 Empresa
                                                                   Nocturno
       HORA RESTRICCION MOTO Latitud Longitud
8
                   No aplica 7.14582 -73.12332
                    No aplica 7.11711 -73.12924
81
105
                   No aplica
                               7.14241 -73.13523
                   No aplica
400
                               7.13873 -73.12737
417
                    No aplica
                               7.11892 -73.12353
38020
             Sin restricción 7.14169 -73.15246
38023
             Sin restricción 7.14241 -73.13523
```

| 38100 | Sin restricción | 7.12395 -73.11072 |
|-------|-----------------|-------------------|
| 38121 | Sin restricción | 7.11599 -73.10174 |
| 38172 | Sin restricción | 7.13239 -73.11680 |

[773 rows x 28 columns]

| Valore    | Valores atípicos en la variable 'Latitud': |                |               |                       |                 |  |  |  |  |
|-----------|--|----------------|---------------|-----------------------|-----------------|--|--|--|--|
| ,41010    | ORDEN FECHA                                |                | MES           | DÍA                   | GRAVEDAD \      |  |  |  |  |
| 15        | 16 2012-01-03                              |                | 01. Enero     | 02. Martes            | Solo Daños      |  |  |  |  |
| 58        | 59 2012-01-08                              |                | 01. Enero     | 07. Domingo           |                 |  |  |  |  |
| 63        | 64 2012-01-08                              |                | 01. Enero     | 07. Domingo           | Con Muertos     |  |  |  |  |
| 73        | 74 2012-01-10                              |                | 01. Enero     | 02. Martes            | Con Heridos     |  |  |  |  |
| 95        | 96 2012-01-11                              |                | 01. Enero     | 03. Miercoles         |                 |  |  |  |  |
| •••       | ***  | ••             |               | •••                   |                 |  |  |  |  |
| 37990     | 37991 2023-01-02                           | 2023           | 01. Enero     | 01. Lunes             | Con Heridos     |  |  |  |  |
| 38078     | 38079 2022-12-08                           | 2022 12.       | Diciembre     | 04. Jueves            | Con Muertos     |  |  |  |  |
| 38079     | 38080 2022-12-08                           | 2022 12.       | Diciembre     | 04. Jueves            | Con Muertos     |  |  |  |  |
| 38095     | 38096 2023-02-03                           | 2023 0         | 2. Febrero    | 05. Viernes           | Con Heridos     |  |  |  |  |
| 38125     | 38126 2023-02-10                           | 2023 0         | 2. Febrero    | 05. Viernes           | Con Heridos     |  |  |  |  |
|           |  |                |               |                       |                 |  |  |  |  |
|           | PEATON AUTOMOVI                            | L CAMPAERO     | CAMIONETA     | . •••                 | VIA 1 \         |  |  |  |  |
| 15        | 0  | 0 0            | 0             | I                     | UTOPISTA NORTE  |  |  |  |  |
| 58        | 1  | 0 0            | 0             | •••                   | CARRERA         |  |  |  |  |
| 63        | 0  | 0 0            | 0             | I                     | UTOPISTA NORTE  |  |  |  |  |
| 73        | 0  | 1 C            | 0             | I                     | UTOPISTA NORTE  |  |  |  |  |
| 95        | 1  | 1 C            | 0             | TRANSVERSA            | L METROPOLITANA |  |  |  |  |
|           | •••  | •••            |               |                       | •••             |  |  |  |  |
| 37990     | 0  | 0 0            | 0             | •••                   | CARRERA         |  |  |  |  |
| 38078     | 0  | 0 0            | 0             |                       | AUTOPISTA NORTE |  |  |  |  |
| 38079     | 0  | 0 0            | 0             | •••                   | AUTOPISTA NORTE |  |  |  |  |
| 38095     | 1  | 0 0            | 0             |                       | CALLE           |  |  |  |  |
| 38125     | 0  | 0 0            | 0             | I                     | UTOPISTA NORTE  |  |  |  |  |
|           | DADDI                                      | 0              | HODA          | T'A                   |                 |  |  |  |  |
| 1 5       | BARRI<br>Cofo Modri                        |                | HORA          | EI<br>NTES DE TRANSIT | ITIDAD \        |  |  |  |  |
| 15<br>58  | Cafe Madri<br>Cafe Madri                   |                | -             | NTES DE TRANSIT       |                 |  |  |  |  |
| 63        | Divino Niñ                                 |                |               | NTES DE TRANSIT       |                 |  |  |  |  |
| 73        | Colorado                                   |                |               | NTES DE TRANSIT       |                 |  |  |  |  |
| 95        | CAMINO DEL PARQU                           |                |               | NTES DE TRANSIT       |                 |  |  |  |  |
| 50        | OWILING DEE 1 WIEGO                        | L 00.40.00     | , p. m. Add   | NILO DL IIINDII       | O DID           |  |  |  |  |
| <br>37990 | <br>Cafe Madri                             | <br>d 03:00:00 | ·<br>)a m AGF | <br>NTES DE TRANSIT   | יח חדת          |  |  |  |  |
| 38078     |  | 1 12:00:00     |               | NTES DE TRANSIT       |                 |  |  |  |  |
| 38079     | Vijagua<br>Vijagua                         |                | -             | NTES DE TRANSIT       |                 |  |  |  |  |
| 38095     |  | d 08:20:00     | -             | NTES DE TRANSIT       |                 |  |  |  |  |
| 38125     |  | o 09:45:00     | -             | NTES DE TRANSIT       |                 |  |  |  |  |
| 00120     | 514 V 51 1411                              | 2 00.10.00     |               |                       |                 |  |  |  |  |
|           | nombrecomuna Pr                            | opietario d    | le Vehículo   | DIURNIO/NOCTUF        | RNO /           |  |  |  |  |
| 15        | 01. NORTE                                  | 1              | Empresa       | Noctur                |                 |  |  |  |  |
| -         |  |                | r             |                       |                 |  |  |  |  |

| 58    | O1. NORTE             | Empresa           | Diurno   |
|-------|-----------------------|-------------------|----------|
| 63    | O1. NORTE             | Particular        | Diurno   |
| 73    | O1. NORTE             | Particular        | Diurno   |
| 95    | 11. SUR               | Particular        | Nocturno |
|       | <b></b>               | •••               | •••      |
| 37990 | O1. NORTE             | Particular        | Nocturno |
| 38078 | CORREG. 1             | Particular        | Diurno   |
| 38079 | CORREG. 1             | Particular        | Diurno   |
| 38095 | O1. NORTE             | Particular        | Nocturno |
| 38125 | O1. NORTE             | Particular        | Diurno   |
|       |                       |                   |          |
|       | HORA RESTRICCION MOTO | Latitud Longitud  |          |
| 15    | No aplica             | 7.16257 -73.14171 |          |
| 58    | No aplica             | 7.16257 -73.14171 |          |
| 63    | Sin restricción       | 7.16430 -73.13436 |          |
| 73    | No aplica             | 7.17844 -73.13299 |          |
| 95    | No aplica             | 6.98227 -73.05023 |          |
|       |                       |                   |          |
| 37990 | En restricción        | 7.16257 -73.14171 |          |
| 38078 | Sin información       | 7.20366 -73.13009 |          |
| 38079 | Sin información       | 7.20366 -73.13009 |          |
| 38095 | Sin restricción       | 7.16257 -73.14171 |          |
| 38125 | Sin restricción       | 7.15795 -73.13121 |          |

[608 rows x 28 columns]

| Valore | s atípi | icos en la v | ariable | e 'Longitud':  |               |                  |   |
|--------|---------|--------------|---------|----------------|---------------|------------------|---|
|        | ORDEN   | FECHA        | AÑO     | MES            | DÍA           | GRAVEDAD \       |   |
| 25     | 26      | 2012-01-04   | 2012    | 01. Enero      | 03. Miercoles | Solo Daños       |   |
| 35     | 36      | 2012-01-05   | 2012    | 01. Enero      | 04. Jueves    | Solo Daños       |   |
| 42     | 43      | 2012-01-06   | 2012    | 01. Enero      | 05. Viernes   | Solo Daños       |   |
| 95     | 96      | 2012-01-11   | 2012    | 01. Enero      | 03. Miercoles | Con Heridos      |   |
| 98     | 99      | 2012-01-12   | 2012    | 01. Enero      | 04. Jueves    | Con Heridos      |   |
|        | •••     | •••          |         | •••            | •••           |                  |   |
| 38080  | 38081   | 2022-12-20   | 2022    | 12. Diciembre  | 02. Martes    | Con Muertos      |   |
| 38085  | 38086   | 2023-01-11   | 2023    | 01. Enero      | 03. Miercoles | Con Muertos      |   |
| 38152  | 38153   | 2023-02-18   | 2023    | 02. Febrero    | 06. Sabado    | Con Heridos      |   |
| 38191  | 38192   | 2023-02-05   | 2023    | 02. Febrero    | 07. Domingo   | Con Muertos      |   |
| 38193  | 38194   | 2023-02-15   | 2023    | 02. Febrero    | 03. Miercoles | Con Muertos      |   |
|        |         |              |         |                |               |                  |   |
|        | PEATON  | N AUTOMOVIL  | CAMPA   | AERO CAMIONETA | •••           | VIA 1            | \ |
| 25     | (       | ) 1          |         | 0 0            | •••           | ANILLO VIAL      |   |
| 35     | (       | ) 1          |         | 0 0            | •••           | ANILLO VIAL      |   |
| 42     | (       | 0            |         | 0 0            | CALLE         | 2 45 VIA CHIMITA |   |
| 95     | 1       | 1 1          |         | 0 0            | TRANSVERSA    | L METROPOLITANA  |   |
| 98     | (       | 0 0          |         | 0 0            | •••           | ANILLO VIAL      |   |
| •••    | •••     | •••          |         |                |               | •••              |   |
| 38080  | (       | 0            |         | 0 0            | •••           | ANILLO VIAL      |   |
|        |         |              |         |                |               |                  |   |

```
38085
            0
                                             0 ...
                                                                  ANILLO VIAL
                                  0
38152
                                                                        CALLE
            0
                       1
                                  0
                                             1 ...
                                             0 ...
38191
            0
                       0
                                  0
                                                                  ANILLO VIAL
38193
            0
                       0
                                  0
                                             0 ...
                                                                  ANILLO VIAL
                  BARRIO
                                     HORA
                                                           ENTIDAD
25
            Rio de Oro I
                          08:30:00 p. m.
                                           AGENTES DE TRANSITO DTB
            Rio de Oro I
                          09:00:00 a. m.
35
                                           AGENTES DE TRANSITO DTB
42
            Rio de Oro I 04:05:00 p. m.
                                          AGENTES DE TRANSITO DTB
       CAMINO DEL PARQUE 08:45:00 p. m.
                                           AGENTES DE TRANSITO DTB
95
98
            Rio de Oro I 08:40:00 a. m.
                                           AGENTES DE TRANSITO DTB
38080
                                           AGENTES DE TRANSITO DTB
            Rio de Oro I
                          12:55:00 p. m.
38085
            Rio de Oro I
                          06:20:00 p. m.
                                           AGENTES DE TRANSITO DTB
            Rio de Oro I
                          05:00:00 p. m.
38152
                                           AGENTES DE TRANSITO DTB
38191
            Rio de Oro I 02:15:00 p. m.
                                           AGENTES DE TRANSITO DTB
38193
            Rio de Oro I
                          03:40:00 p. m.
                                           AGENTES DE TRANSITO DTB
            nombrecomuna Propietario de Vehículo DIURNIO/NOCTURNO
25
          04. OCCIDENTAL
                                        Particular
                                                            Nocturno
          04. OCCIDENTAL
                                        Particular
35
                                                              Diurno
42
          04. OCCIDENTAL
                                        Particular
                                                               Diurno
95
                 11. SUR
                                        Particular
                                                            Nocturno
98
          04. OCCIDENTAL
                                        Particular
                                                              Diurno
                                           •••
       05. GARCIA ROVIRA
38080
                                        Particular
                                                               Diurno
      05. GARCIA ROVIRA
38085
                                        Particular
                                                            Nocturno
          04. OCCIDENTAL
38152
                                        Particular
                                                              Diurno
          04. OCCIDENTAL
38191
                                        Particular
                                                              Diurno
38193
          04. OCCIDENTAL
                                        Particular
                                                              Diurno
       HORA RESTRICCION MOTO Latitud Longitud
25
                   No aplica
                             7.14169 -73.15246
                   No aplica 7.14169 -73.15246
35
42
                   No aplica 7.14169 -73.15246
                   No aplica 6.98227 -73.05023
95
             Sin restricción 7.14169 -73.15246
98
38080
             Sin información 7.14169 -73.15246
             Sin información 7.14169 -73.15246
38085
38152
             Sin restricción 7.14169 -73.15246
38191
             Sin información 7.14169 -73.15246
38193
             Sin información 7.14169 -73.15246
```

[1893 rows x 28 columns]

## 9.4.2 2.4.2. Valores atipicos en Variables Categoricas

Este código verificará si cada valor único es una cadena (str) y luego buscará si hay dígitos numéricos en la cadena. Si se encuentran dígitos en la cadena, se considerará una anomalía sintáctica o tipográfica. Esto debería evitar el error que mencionaste. Por favor, inténtalo nuevamente con este código.

```
[14]: categorical_variables = ['FECHA', 'MES', 'DÍA', 'GRAVEDAD', 'VIA 1', 'BARRIO', |
       ⇔'HORA', 'ENTIDAD', 'nombrecomuna', 'Propietario de Vehículo', 'DIURNIO/
       →NOCTURNO', 'HORA RESTRICCION MOTO']
      # Definir una función para identificar anomalías sintácticas o tipográficas
      def identify_typo_anomalies(column):
          unique_values = data[column].unique()
          typo_anomalies = []
          for value in unique_values:
              if isinstance(value, str) and any(char.isdigit() for char in value): #__
       →Verificar si es una cadena y contiene dígitos
                  typo_anomalies.append(value)
          return typo_anomalies
      # Identificar anomalías en cada variable categórica
      for column in categorical_variables:
          anomalies = identify typo anomalies(column)
          if anomalies:
              print(f"Anomalías en la variable '{column}':")
              print(anomalies)
              print()
     Anomalías en la variable 'MES':
     ['01. Enero', '02. Febrero', '03. Marzo', '04. Abril', '05. Mayo', '06. Junio',
     '07. Julio', '08. Agosto', '09. Septiembre', '10. Octubre', '11. Noviembre',
     '12. Diciembre'
     Anomalías en la variable 'DÍA':
     ['07. Domingo', '01. Lunes', '02. Martes', '03. Miercoles', '04. Jueves', '05.
     Viernes', '06. Sabado']
     Anomalías en la variable 'VIA 1':
     ['CALLE 45 VIA CHIMITA', 'DIAGONAL 15', 'AVENIDA 89', 'TRANSVERSAL 28',
     'TRANSVERSAL 93', 'TRANSVERSAL 24', 'AVENIDA 15 N', 'DIAGONAL 32', 'TRANSVERSAL
     92', 'AVENIDA 42', 'DIAGONAL 105', 'TRANSVERSAL 72', 'AVENIDA 61', 'TRANSVERSAL
     112', 'AVENIDA 88', 'AVENIDA 87', 'DIAGONAL 14', 'CL 45 VIA CHIMITA', 'DIAGONAL
     31', 'DIAGONAL 13', 'TRANSVERSAL 93', 'TRANSVERSA 89', 'CALLE 45 CHIMITA',
     'TRANSVERSAL 65', 'DIAGONAL 20', 'DIAGONAL 11', 'DIAGONAL 64', 'CARRERA 21',
     'CARRERA 9', 'CARREERA 27', 'CALLE 3', 'CARRERA 12', 'CALLE 11', 'CARRERA 33',
```

'CALLE 31', 'CALLE 93', 'CARRERA 12 N', 'CARRERA 17', 'CARRERA 15', 'CALLE 41', 'CALLE 105', 'CARRERA 55', 'CALLE 83', 'CARRERA 19']

Anomalías en la variable 'BARRIO':

['13 de junio', '10 DE MAYO SANTA BARBARA', '23 de junio', '12 de Octubre', '20 de julio']

#### Anomalías en la variable 'HORA':

['12:15:00 p.\xa0m.', '02:00:00 p.\xa0m.', '12:00:00 p.\xa0m.', '06:30:00 p.\xa0m.', '12:30:00 a.\xa0m.', '09:10:00 p.\xa0m.', '01:50:00 p.\xa0m.', '07:20:00 p.\xa0m.', '04:35:00 p.\xa0m.', '08:20:00 a.\xa0m.', '01:45:00 p.\xa0m.', '05:10:00 p.\xa0m.', '06:45:00 a.\xa0m.', '10:10:00 p.\xa0m.', '06:10:00 p.\xa0m.', '06:00:00 p.\xa0m.', '04:15:00 p.\xa0m.', '07:00:00 p.\xa0m.', '11:22:00 a.\xa0m.', '08:40:00 p.\xa0m.', '08:30:00 p.\xa0m.', '03:00:00 p.\xa0m.', '06:40:00 p.\xa0m.', '01:00:00 p.\xa0m.', '05:45:00 p.\xa0m.', '07:50:00 p.\xa0m.', '09:15:00 a.\xa0m.', '09:40:00 a.\xa0m.', '09:30:00 a.\xa0m.', '09:00:00 a.\xa0m.', '10:40:00 a.\xa0m.', '07:15:00 a.\xa0m.', '10:20:00 a.\xa0m.', '10:15:00 a.\xa0m.', '04:05:00 p.\xa0m.', '03:10:00 p.\xa0m.', '03:20:00 p.\xa0m.', '11:45:00 a.\xa0m.', '05:40:00 a.\xa0m.', '07:30:00 p.\xa0m.', '05:00:00 p.\xa0m.', '06:55:00 p.\xa0m.', '09:10:00 a.\xa0m.', '10:30:00 p.\xa0m.', '02:30:00 p.\xa0m.', '10:11:00 a.\xa0m.', '04:30:00 p.\xa0m.', '01:00:00 a.\xa0m.', '10:00:00 a.\xa0m.', '10:45:00 a.\xa0m.', '11:15:00 a.\xa0m.', '04:45:00 a.\xa0m.', '02:40:00 p.\xa0m.', '03:50:00 a.\xa0m.', '02:05:00 p.\xa0m.', '08:00:00 p.\xa0m.', '07:40:00 a.\xa0m.', '10:30:00 a.\xa0m.', '12:17:00 a.\xa0m.', '02:10:00 p.\xa0m.', '04:45:00 p.\xa0m.', '06:15:00 p.\xa0m.', '07:00:00 a.\xa0m.', '11:20:00 a.\xa0m.', '03:40:00 p.\xa0m.', '07:15:00 p.\xa0m.', '03:01:00 p.\xa0m.', '07:40:00 p.\xa0m.', '08:45:00 p.\xa0m.', '08:40:00 a.\xa0m.', '11:30:00 a.\xa0m.', '06:45:00 p.\xa0m.', '08:10:00 a.\xa0m.', '12:30:00 p.\xa0m.', '05:20:00 a.\xa0m.', '06:55:00 a.\xa0m.', '03:45:00 p.\xa0m.', '06:20:00 p.\xa0m.', '05:30:00 p.\xa0m.', '08:10:00 p.\xa0m.', '01:50:00 a.\xa0m.', '04:27:00 p.\xa0m.', '03:40:00 a.\xa0m.', '06:10:00 a.\xa0m.', '09:34:00 a.\xa0m.', '02:00:00 a.\xa0m.', '01:30:00 p.\xa0m.', '04:20:00 p.\xa0m.', '10:40:00 p.\xa0m.', '07:26:00 p.\xa0m.', '05:50:00 p.\xa0m.', '05:10:00 a.\xa0m.', '01:15:00 p.\xa0m.', '04:55:00 p.\xa0m.', '12:00:00 a.\xa0m.', '09:50:00 a.\xa0m.', '10:50:00 a.\xa0m.', '03:50:00 p.\xa0m.', '06:50:00 a.\xa0m.', '09:55:00 a.\xa0m.', '04:25:00 p.\xa0m.', '06:25:00 p.\xa0m.', '06:20:00 a.\xa0m.', '10:05:00 a.\xa0m.', '04:40:00 p.\xa0m.', '06:30:00 a.\xa0m.', '11:40:00 a.\xa0m.', '12:36:00 a.\xa0m.', '01:45:00 a. $\xa0m.'$ , '11:50:00 p. $\xa0m.'$ , '05:40:00 p. $\xa0m.'$ , '11:00:00 a. $\xa0m.'$ , '03:30:00 p.\xa0m.', '05:20:00 p.\xa0m.', '06:50:00 p.\xa0m.', '04:00:00 p.\xa0m.', '08:50:00 p.\xa0m.', '01:33:00 p.\xa0m.', '05:50:00 a.\xa0m.', '10:00:00 p.\xa0m.', '07:43:00 p.\xa0m.', '12:35:00 a.\xa0m.', '11:15:00 p.\xa0m.', '12:35:00 p.\xa0m.', '02:50:00 p.\xa0m.', '07:35:00 p.\xa0m.', '08:00:00 a.\xa0m.', '08:45:00 a.\xa0m.', '10:25:00 p.\xa0m.', '01:20:00 p.\xa0m.', '09:20:00 a.\xa0m.', '03:25:00 p.\xa0m.', '05:45:00 a.\xa0m.', '07:30:00 a.\xa0m.', '04:50:00 p.\xa0m.', '12:05:00 p.\xa0m.', '10:10:00 a.\xa0m.', '07:25:00 a.\xa0m.', '09:14:00 a.\xa0m.', '11:10:00 a.\xa0m.',

```
'09:30:00 p.\xa0m.', '09:45:00 a.\xa0m.', '09:25:00 a.\xa0m.', '02:52:00
p.\xa0m.', '11:30:00 p.\xa0m.', '12:40:00 p.\xa0m.', '07:10:00 p.\xa0m.',
'03:15:00 p.\xa0m.', '11:00:00 p.\xa0m.', '04:10:00 a.\xa0m.', '09:52:00
p.\xa0m.', '08:15:00 a.\xa0m.', '04:00:00 a.\xa0m.', '02:50:00 a.\xa0m.',
'08:30:00 a.\xa0m.', '06:00:00 a.\xa0m.', '12:10:00 p.\xa0m.', '11:05:00
a.\xa0m.', '11:50:00 a.\xa0m.', '01:23:00 p.\xa0m.', '09:00:00 p.\xa0m.',
'08:35:00 p.\xa0m.', '12:50:00 p.\xa0m.', '06:05:00 a.\xa0m.', '12:13:00
a.\xa0m.', '06:15:00 a.\xa0m.', '04:10:00 p.\xa0m.', '04:16:00 p.\xa0m.',
'06:28:00 a.\xa0m.', '07:05:00 p.\xa0m.', '09:35:00 a.\xa0m.', '01:10:00
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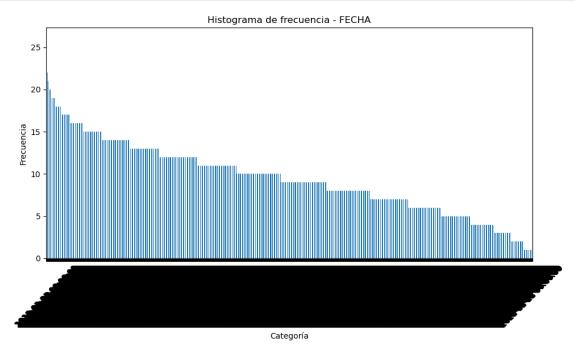
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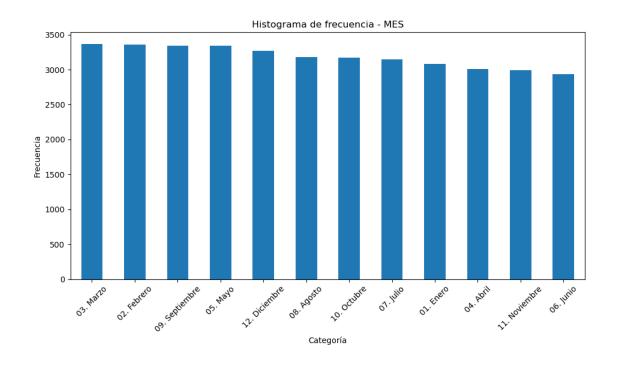
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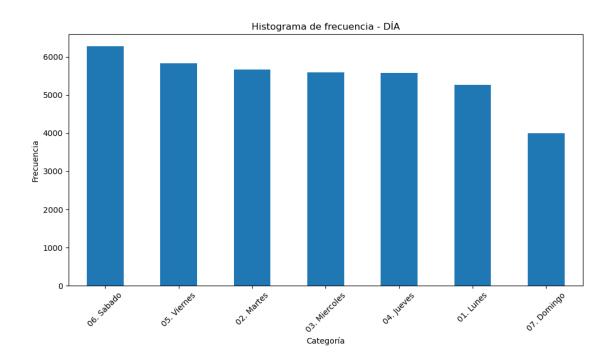
#### Anomalías en la variable 'nombrecomuna':

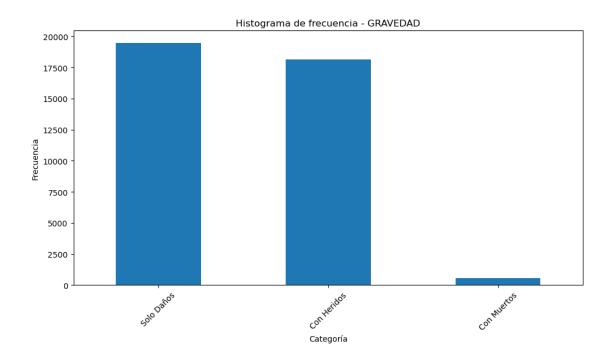
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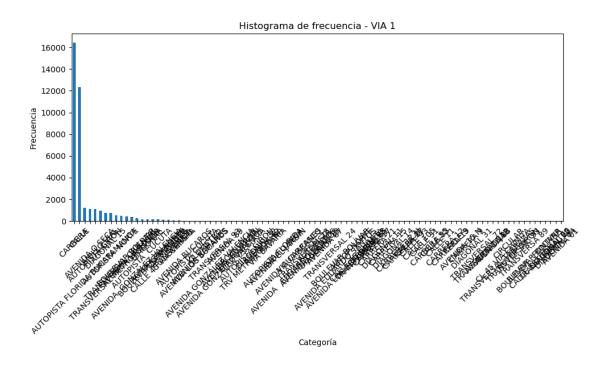
Este código generará un histograma de frecuencia de categorías para cada variable categórica en la lista categorical\_variables. Cada histograma mostrará la frecuencia de cada categoría en el eje y, y el nombre de la categoría en el eje x. Esto te permitirá identificar si hay categorías que tienen frecuencias inusuales o atípicas en comparación con las demás.

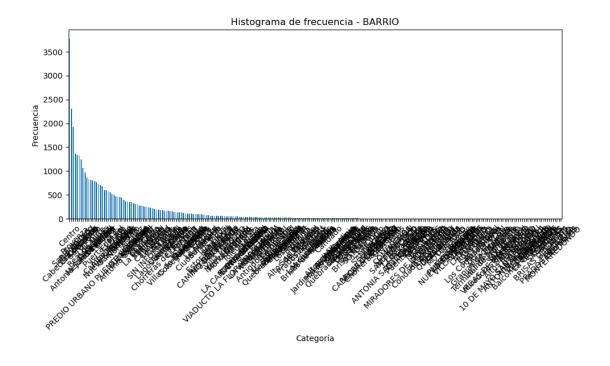


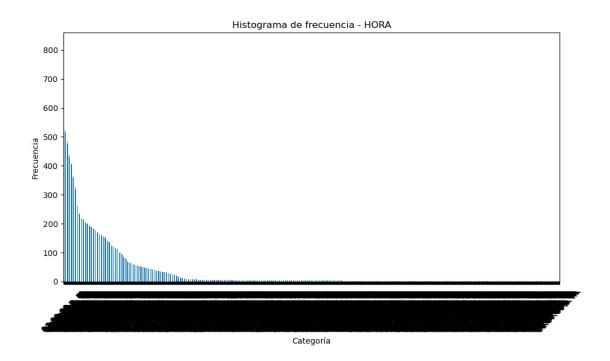


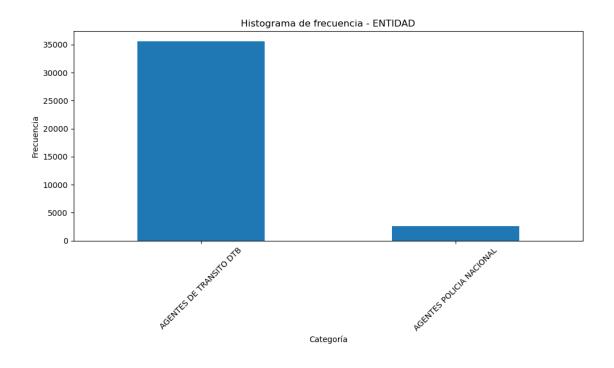


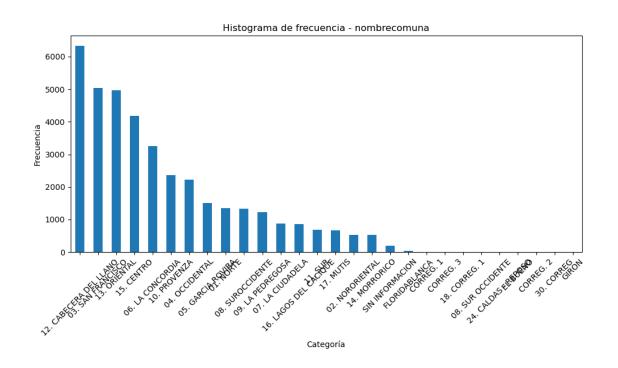


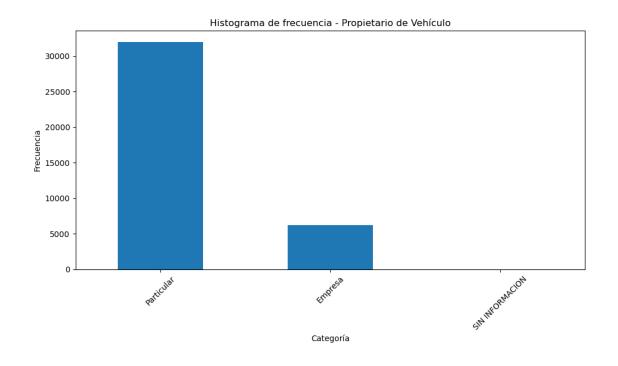


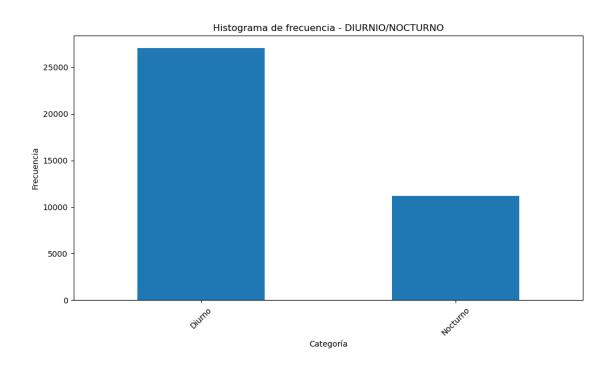


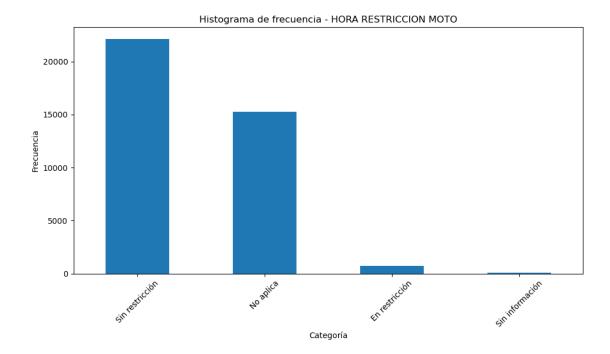












# 10 Metodologia

Mis disculpas por la omisión. Además del uso de KMeans para el agrupamiento, también se hizo uso del algoritmo CatBoost para la creación y entrenamiento de modelos de aprendizaje automático. La metodología se amplía de la siguiente manera:

- Carga de datos: Al igual que en el caso del clustering, se cargaron los datos desde un archivo CSV utilizando la biblioteca pandas. Estos datos contenían información sobre accidentes en diferentes barrios, incluyendo varias características relevantes.
- 2. **Preprocesamiento de datos:** Se realizó un procesamiento previo similar al anterior, donde se seleccionaron las características apropiadas para el análisis y el modelado. Además, se llevaron a cabo pasos de preprocesamiento como la transformación de características categóricas en numéricas (si es necesario) y la división del conjunto de datos en características (X) y la variable objetivo (y).
- 3. Creación de modelo CatBoost: Se utilizó el algoritmo CatBoostClassifier para crear un modelo de clasificación. Se configuraron hiperparámetros como el número de iteraciones, las características categóricas y la semilla aleatoria.
- 4. Entrenamiento del modelo CatBoost: El modelo se entrenó utilizando datos de entrenamiento. Se utilizó el conjunto de entrenamiento para ajustar el modelo a los datos y se evaluó su rendimiento en el conjunto de prueba utilizando el método de evaluación proporcionado (en este caso, se usó el conjunto de prueba y los datos de validación temprana).
- 5. Generación de predicciones: Una vez entrenado el modelo, se realizaron predicciones en un conjunto de prueba separado. Las predicciones se obtuvieron utilizando el método predict() del modelo CatBoost.

- 6. Evaluación del modelo: Se evaluó el rendimiento del modelo utilizando métricas como la precisión, el recall y el F1-score. Estas métricas proporcionaron una comprensión detallada de cómo el modelo estaba funcionando en cada clase.
- 7. Matriz de Confusión: Se generó una matriz de confusión para visualizar las predicciones del modelo en comparación con los valores reales. Esta matriz ayudó a comprender cómo se clasificaban las instancias en cada clase y a identificar posibles áreas de mejora.
- 8. Cross-Validation: Además de la evaluación en un conjunto de prueba único, se aplicó la técnica de cross-validation para evaluar el rendimiento del modelo en diferentes particiones de los datos. Esto proporcionó una visión más robusta de cómo el modelo generalizaba en diferentes situaciones.
- 9. **Determinación del número óptimo de clústeres:** Se utilizó el método del codo para determinar el número óptimo de clústeres para el algoritmo KMeans. Se iteró a través de un rango de posibles valores de k y se calculó la inercia (suma de las distancias cuadradas entre las muestras y los centroides) para cada valor. El punto en el que la inercia deja de disminuir de manera significativa se considera el número óptimo de clústeres.
- 10. Agrupamiento con KMeans: Utilizando el número óptimo de clústeres determinado en el paso anterior, se aplicó el algoritmo KMeans para agrupar los datos en los clústeres correspondientes.
- 11. Visualización del resultado: Se generó un diagrama de dispersión para visualizar los resultados del agrupamiento. En este diagrama, cada punto representa una muestra en el espacio bidimensional de las características estandarizadas, y se coloreó de acuerdo al clúster al que pertenece. También se mostraron los centroides de cada clúster en el diagrama.
- 12. Generación de un mapa interactivo: Utilizando la biblioteca folium, se creó un mapa interactivo centrado en una ubicación específica. Se agregaron marcadores para cada muestra en el conjunto de datos, donde la posición de cada marcador corresponde a las coordenadas de latitud y longitud de la muestra. Los marcadores se colorearon de acuerdo al clúster al que pertenecen.
- 13. Visualización del número de muestras por clúster: Se mostró el número de muestras que pertenecen a cada clúster, lo que proporciona información sobre cómo se distribuyen los datos en los diferentes grupos.
- 14. Representación grafica de interactiva de los clúster en el Mapa: Se mostró el número de muestras que pertenecen a cada clúster, lo que proporciona información sobre cómo se distribuyen los datos en los diferentes grupos.

## 11 3. Análisis

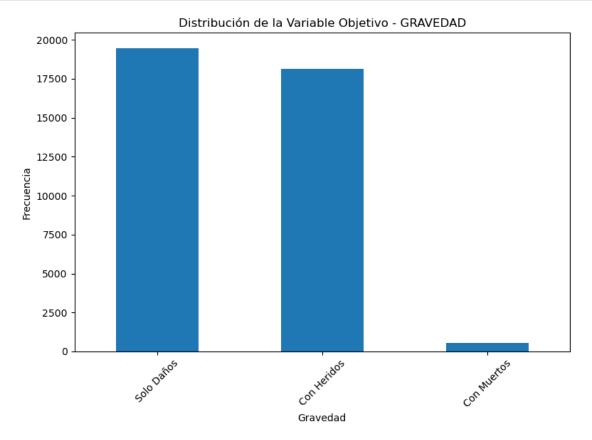
## 11.1 3.1. Distribución de la Variable Objetivo 'GRAVEDAD'

Se Utiliza gráficos de barras o gráficos circulares para visualizar la distribución de las categorías de la variable objetivo 'GRAVEDAD', para comprender cómo se distribuyen los diferentes niveles de gravedad en los accidentes.

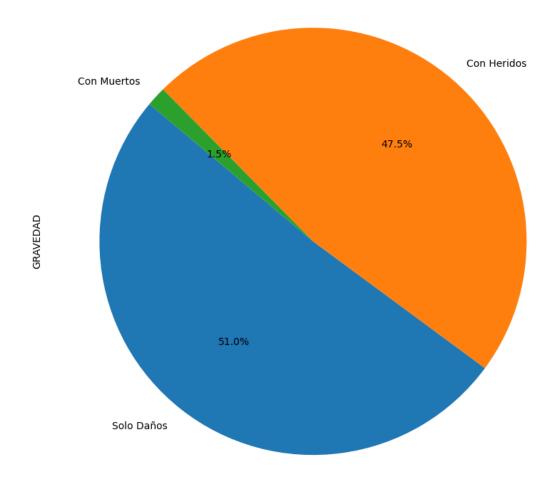
Este código generará dos visualizaciones: un gráfico de barras que muestra la frecuencia de cada nivel de gravedad y un gráfico circular (pastel) que muestra la proporción de cada nivel de gravedad

en forma de porcentaje.

```
[16]: # Visualización con gráfico de barras
      plt.figure(figsize=(8, 6))
      data['GRAVEDAD'].value_counts().plot(kind='bar')
      plt.title('Distribución de la Variable Objetivo - GRAVEDAD')
      plt.xlabel('Gravedad')
      plt.ylabel('Frecuencia')
      plt.xticks(rotation=45)
      plt.tight_layout()
      plt.show()
      # Visualización con gráfico circular (pastel)
      plt.figure(figsize=(8, 8))
      data['GRAVEDAD'].value_counts().plot(kind='pie', autopct='%1.1f%%',u
       ⇒startangle=140)
      plt.title('Distribución de la Variable Objetivo - GRAVEDAD')
      plt.tight_layout()
      plt.show()
```



Distribución de la Variable Objetivo - GRAVEDAD



considerando la distribución de la variable objetivo 'GRAVEDAD', podemos hacer las siguientes observaciones preliminares:

'Con Muertos': Esta categoría representa el 1.5% de los accidentes. Aunque es una proporción relativamente baja, los accidentes con víctimas mortales son eventos graves que deben investigarse en profundidad. A pesar de su baja frecuencia, estos accidentes pueden tener un impacto significativo en la seguridad vial y podrían ser objeto de análisis más detallados para identificar patrones y factores contribuyentes.

'Con Heridos': Esta categoría es la más frecuente, representando el 47.5% de los accidentes. Los accidentes con heridos también son preocupantes, ya que pueden causar daño físico y emocional a las personas involucradas. Dada su alta frecuencia, es importante investigar los factores que contribuyen a estos accidentes y desarrollar medidas de seguridad para reducir su ocurrencia.

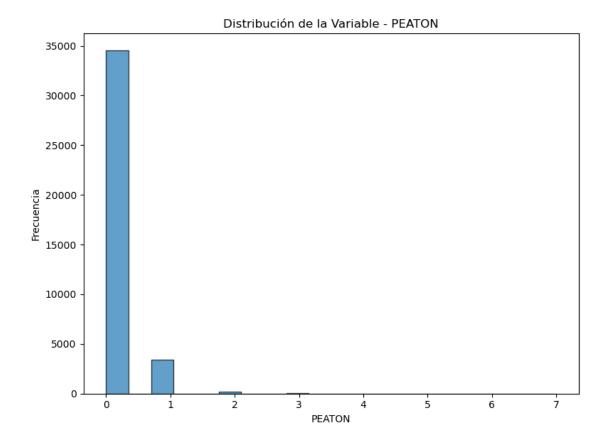
'Solo Daños': La mayoría de los accidentes (51%) caen en esta categoría, donde solo se reportan

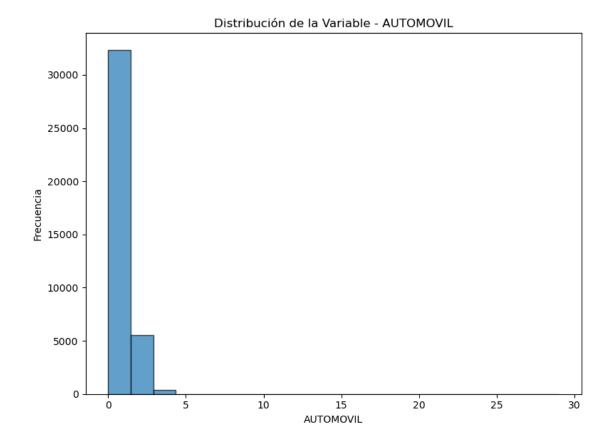
daños materiales. Aunque estos accidentes pueden no causar lesiones personales, aún representan costos económicos y pueden ser indicativos de problemas en el cumplimiento de las normas de tránsito o en la infraestructura vial.

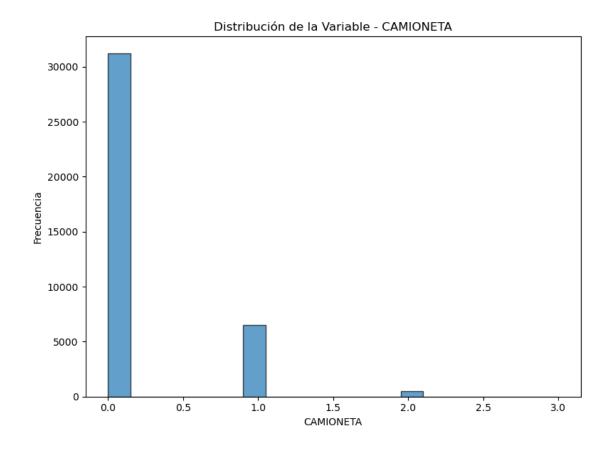
## 11.2 3.2 Exploración de Variables Numéricas

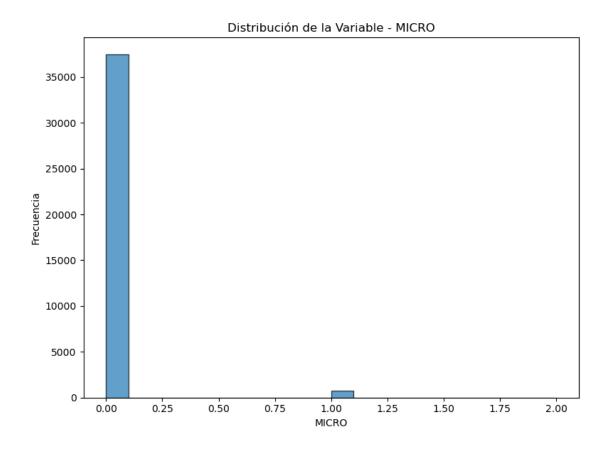
Este código generará histogramas de frecuencia para cada variable numérica en la lista numeric\_variables. Luego, calculará estadísticas descriptivas como la media, mediana, desviación estándar, valores mínimo y máximo, y percentiles para cada una de estas variables.

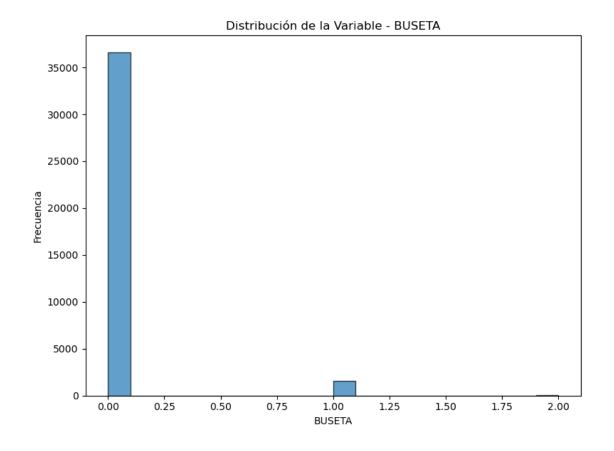
Estos histogramas te permitirán visualizar cómo se distribuyen los valores en cada variable numérica. Las estadísticas descriptivas te darán una idea de la magnitud y dispersión de los valores, lo que te ayudará a comprender mejor la naturaleza de tus datos numéricos.

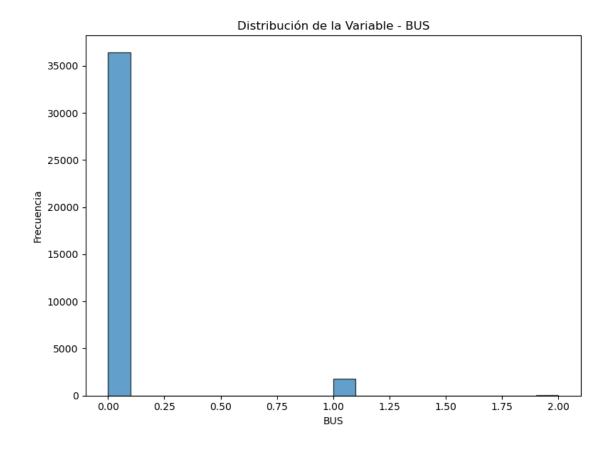


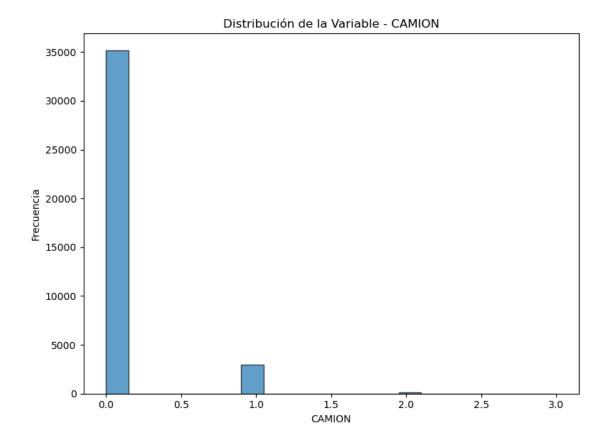


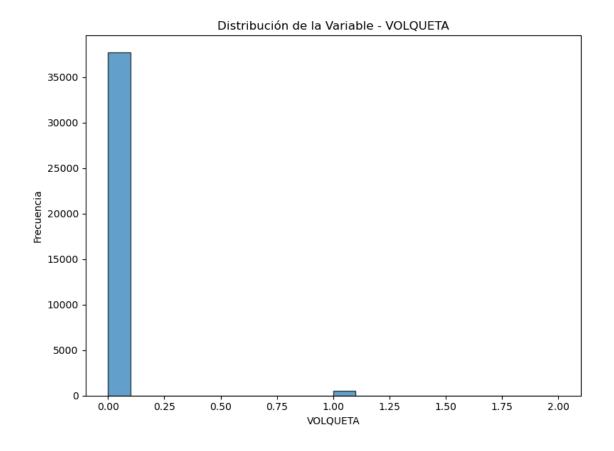


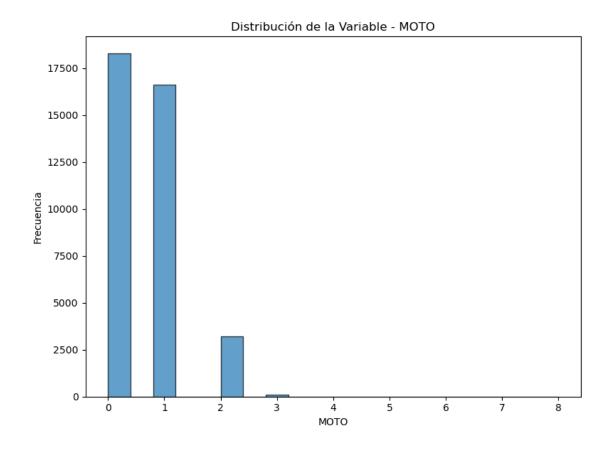


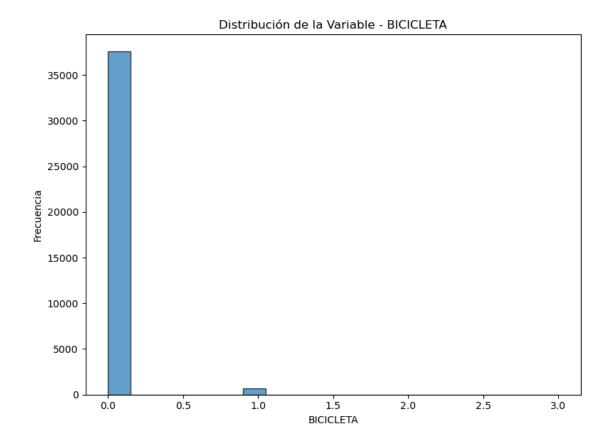












|       | PEATON       | AUTOMOVIL    | CAMIONETA    | MICRO        | BUSETA       | \ |
|-------|--------------|--------------|--------------|--------------|--------------|---|
| count | 38197.00000  | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.10472      | 0.786292     | 0.197555     | 0.020290     | 0.044061     |   |
| std   | 0.33937      | 0.743994     | 0.432211     | 0.141916     | 0.211639     |   |
| min   | 0.00000      | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 25%   | 0.00000      | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 50%   | 0.00000      | 1.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 75%   | 0.00000      | 1.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| max   | 7.00000      | 29.000000    | 3.000000     | 2.000000     | 2.000000     |   |
|       |              |              |              |              |              |   |
|       | BUS          | CAMION       | VOLQUETA     | MOTO         | BICICLETA    |   |
| count | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 | 38197.000000 |   |
| mean  | 0.048198     | 0.083279     | 0.014242     | 0.611697     | 0.017384     |   |
| std   | 0.218303     | 0.287543     | 0.120025     | 0.652550     | 0.132290     |   |
| min   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 25%   | 0.000000     | 0.000000     | 0.000000     | 0.000000     | 0.000000     |   |
| 50%   | 0.000000     | 0.000000     | 0.000000     | 1.000000     | 0.000000     |   |
| 75%   | 0.000000     | 0.000000     | 0.000000     | 1.000000     | 0.000000     |   |
| max   | 2.000000     | 3.000000     | 2.000000     | 8.000000     | 3.000000     |   |

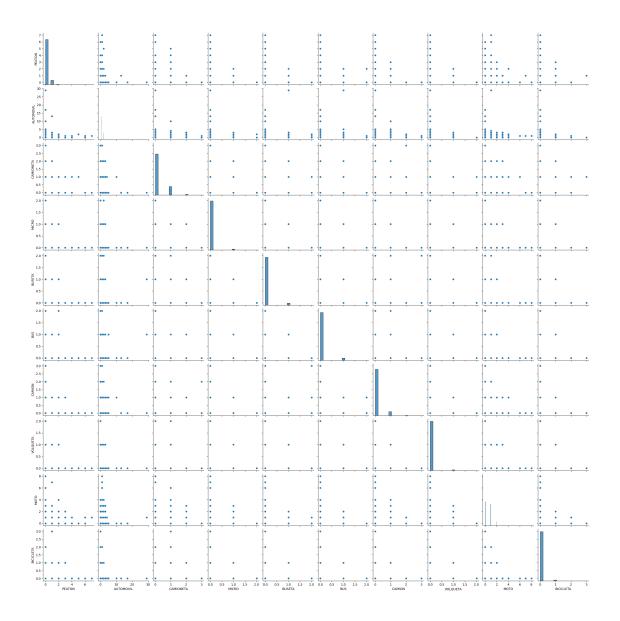
Con base en las estadísticas descriptivas de las variables numéricas relacionadas con la cantidad de vehículos involucrados en los accidentes, podemos extraer varias conclusiones y observaciones:

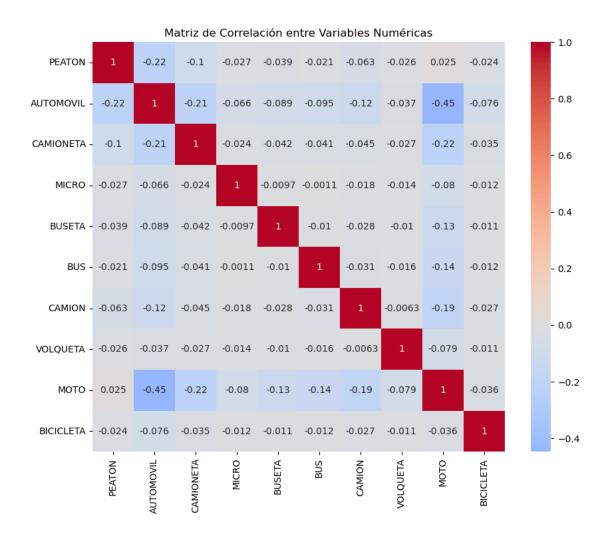
- 1. **Promedios y Distribución**: El promedio (mean) y la mediana (50%) de cada variable nos proporcionan una idea de la cantidad típica de cada tipo de vehículo involucrado en un accidente. Por ejemplo, en promedio, hay aproximadamente 0.10 peatones, 0.79 automóviles, 0.20 camionetas, etc.
- 2. Varianza y Desviación Estándar: La desviación estándar (std) mide la dispersión de los valores alrededor del promedio. Valores más altos indican una mayor variabilidad. Por ejemplo, la cantidad de motos involucradas en accidentes tiene una desviación estándar relativamente alta (0.65), lo que significa que la cantidad de motos varía significativamente entre los accidentes.
- 3. **Distribución Asimétrica**: Observando los valores mínimos, máximos y los percentiles (25%, 50%, 75%), podemos inferir la distribución de los datos. Por ejemplo, en la variable 'MOTO', el valor máximo es 8, lo que indica que en algunos casos hay una cantidad inusualmente alta de motos involucradas en accidentes.
- 4. **Percentiles**: Los percentiles nos muestran cómo se distribuyen los valores en diferentes rangos. Por ejemplo, el 75% de los accidentes involucra 1 o menos peatones, mientras que el 25% restante involucra más de 1 peatón.
- 5. Valores Mínimos y Máximos: Los valores mínimos y máximos son importantes para identificar valores atípicos o inusuales. Por ejemplo, en 'PEATON', el valor máximo es 7, lo cual podría ser inusual y requerir un análisis adicional.

#### 11.3 3.3. Relaciones Entre Variables

#### 11.3.1 3.3.1. Variables Númericas

Este código te permitirá visualizar las relaciones entre pares de variables numéricas mediante gráficos de dispersión y la matriz de correlación. Los gráficos de dispersión ayudarán a identificar patrones visuales de relaciones lineales o no lineales entre variables. La matriz de correlación proporcionará valores numéricos que indican la fuerza y dirección de las relaciones lineales entre variables (valores más cercanos a 1 indican una correlación positiva fuerte, valores cercanos a -1 indican una correlación negativa fuerte y valores cercanos a 0 indican una correlación débil o nula).





variables numéricas del conjunto de datos no están fuertemente correlacionadas entre sí. Los valores cercanos a -0.45 y 0.22 indican correlaciones moderadas en esas direcciones, pero en general, las correlaciones son relativamente bajas.

Esto podría sugerir que las variables numéricas en el conjunto de datos son en gran medida independientes entre sí. En otras palabras, los cambios en una variable numérica no necesariamente están relacionados con cambios predecibles en otras variables numéricas. Esto puede ser una característica importante para tener en cuenta al considerar modelos de análisis o modelos de predicción más adelante en el análisis.

Dado que las correlaciones son bajas, se podría considerar las relaciones entre variables categóricas y numéricas, ya que pueden proporcionar información valiosa sobre el contexto de los datos.

# 11.3.2 3.3.2. Análisis entre las variables categóricas y numéricas

```
[19]: """import pandas as pd
      import seaborn as sns
      import matplotlib.pyplot as plt
      # Variables Categóricas
      categorical_variables = ['MES', 'DÍA', 'GRAVEDAD', 'ENTIDAD', 'Propietario de∟
       ⇔Vehículo', 'DIURNIO/NOCTURNO', 'HORA RESTRICCION MOTO']
      # Variables Numéricas
      numeric_variables = [ 'AÑO', 'PEATON', 'AUTOMOVIL', 'CAMPAERO', 'CAMIONETA', |
       → 'MICRO', 'BUSETA', 'BUS', 'CAMION', 'VOLQUETA', 'MOTO', 'BICICLETA', 'OTRO']
      # Análisis de Boxplots para variables categóricas vs numéricas
      for cat_var in categorical_variables:
          for num_var in numeric_variables:
              plt.figure(figsize=(10, 6))
              sns.boxplot(x=cat_var, y=num_var, data=data)
              plt.title(f'Boxplot de {num_var} por {cat_var}')
              plt.xticks(rotation=45)
              plt.tight_layout()
              plt.show()
      # Análisis de Gráficos de Barras para variables categóricas
      for cat_var in categorical_variables:
          plt.figure(figsize=(10, 6))
          sns.countplot(data=data, x=cat\_var)
          plt.title(f'Gráfico de Barras de {cat_var}')
          plt.xticks(rotation=45)
          plt.tight_layout()
          plt.show()
      # Matriz de Correlación para variables numéricas
      correlation matrix = data[numeric variables].corr()
      plt.figure(figsize=(12, 8))
      sns.heatmap(correlation matrix, annot=True, cmap='coolwarm', center=0)
      plt.title('Matriz de Correlación entre Variables Numéricas')
      plt.show()"""
```

[19]: "import pandas as pd\nimport seaborn as sns\nimport matplotlib.pyplot as plt\n\n# Variables Categóricas\ncategorical\_variables = ['MES', 'DÍA', 'GRAVEDAD', 'ENTIDAD', 'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORA RESTRICCION MOTO']\n\n# Variables Numéricas\nnumeric\_variables = [ 'AÑO', 'PEATON', 'AUTOMOVIL', 'CAMPAERO', 'CAMIONETA', 'MICRO', 'BUSETA', 'BUS', 'CAMION', 'VOLQUETA', 'MOTO', 'BICICLETA', 'OTRO']\n\n# Análisis de Boxplots

```
para variables categóricas vs numéricas\nfor cat_var in categorical_variables:\n
for num_var in numeric_variables:\n
                                           plt.figure(figsize=(10, 6))\n
sns.boxplot(x=cat_var, y=num_var, data=data)\n
                                                      plt.title(f'Boxplot de
{num_var} por {cat_var}')\n
                                   plt.xticks(rotation=45)\n
plt.tight_layout()\n
                           plt.show()\n\n# Análisis de Gráficos de Barras para
variables categóricas\nfor cat_var in categorical_variables:\n
plt.figure(figsize=(10, 6))\n
                                 sns.countplot(data=data, x=cat_var)\n
plt.title(f'Gráfico de Barras de {cat_var}')\n
                                                  plt.xticks(rotation=45)\n
                        plt.show()\n\n# Matriz de Correlación para variables
plt.tight layout()\n
numéricas\ncorrelation matrix =
data[numeric variables].corr()\nplt.figure(figsize=(12,
8))\nsns.heatmap(correlation_matrix, annot=True, cmap='coolwarm',
center=0)\nplt.title('Matriz de Correlación entre Variables
Numéricas')\nplt.show()"
```

Dado que las variables numéricas en tu conjunto de datos no presentan una correlación fuerte entre sí, esto puede complicar la construcción de un modelo predictivo basado en estas variables. Sin embargo vamos a internat aplicar un modelo clasificación para predecir donde susedera el proximo accidente.

# 12 4. Convertir las etiquetas en de la variable objetivo en numericas.

El uso de etiquetas numéricas en lugar de cadenas de texto en la variable objetivo 'GRAVEDAD' tiene varias ventajas en el contexto de modelado y análisis de datos. Aquí hay algunas razones y la correspondencia de las etiquetas numéricas:

- 1. Requisito de Modelos: Muchos algoritmos de aprendizaje automático requieren que la variable objetivo sea numérica. Al convertir las etiquetas en valores numéricos, permitimos que estos algoritmos funcionen sin problemas.
- 2. Eficiencia Computacional: Los cálculos numéricos suelen ser más eficientes que las operaciones de manipulación de cadenas de texto, lo que puede llevar a un procesamiento más rápido y eficiente de los modelos.
- 3. Interpretación de Resultados: Algunos modelos y métricas de evaluación de modelos pueden requerir valores numéricos para la variable objetivo. La conversión permite una interpretación más sencilla de los resultados del modelo.

Aquí está la correspondencia de las etiquetas numéricas para la variable 'GRAVEDAD':

- 'Solo Daños' se convierte en 0
- 'Con Heridos' se convierte en 1
- ullet 'Con Muertos' se convierte en 2

Esta conversión asegura que cada etiqueta tenga un valor único y ordenado que puede ser utilizado por los algoritmos de aprendizaje automático para realizar clasificación multiclase.

# [20]: from sklearn.preprocessing import LabelEncoder # Crear un codificador de etiquetas label\_encoder = LabelEncoder() # Convertir las etiquetas de la variable objetivo en valores numéricos y\_encoded = label\_encoder.fit\_transform(data['GRAVEDAD']) # Reemplazar la columna 'GRAVEDAD' con las etiquetas numéricas data['GRAVEDAD'] = y\_encoded

la elección del modelo CatBoostClassifier, es un modelo de clasificación que se destaca por su eficacia en manejar características categóricas y por ofrecer buenos resultados con configuraciones predeterminadas.

Se realiza un proceso de clasificación utilizando el modelo CatBoostClassifier y proporciona un informe de clasificación para evaluar el rendimiento del modelo en un conjunto de prueba. Aquí está lo que hace paso a paso:

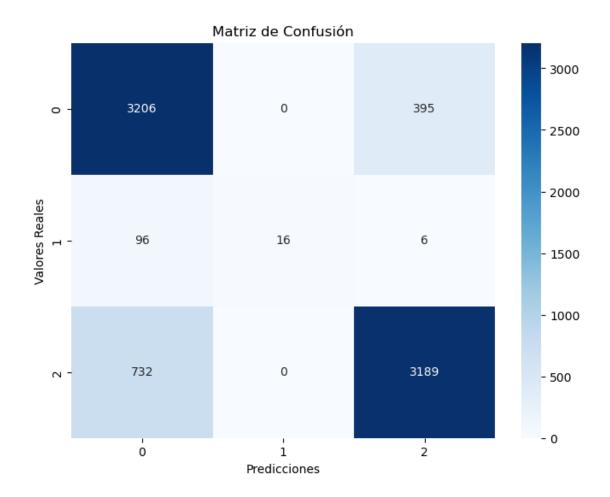
- 1. Importación de bibliotecas: El código importa las bibliotecas necesarias, incluyendo pandas para el manejo de datos, train\_test\_split para dividir los datos en conjuntos de entrenamiento y prueba, CatBoostClassifier para el modelo de clasificación CatBoost y classification\_report para generar el informe de clasificación.
- 2. **Definición de columnas categóricas:** Se definen las columnas categóricas que se utilizarán como características para el modelo. Estas son las columnas que contienen datos categóricos en el conjunto de datos.
- 3. **División de datos:** Se dividen los datos en características (X) y la variable objetivo (y) que se desea predecir. En este caso, 'GRAVEDAD' es la variable objetivo que se eliminará de las características.
- 4. **División en conjuntos de entrenamiento y prueba:** Los datos se dividen en conjuntos de entrenamiento y prueba utilizando train\_test\_split. Esto es fundamental para evaluar el rendimiento del modelo en datos no vistos.
- 5. Creación del modelo CatBoost: Se crea el modelo CatBoostClassifier con 1000 iteraciones y las columnas categóricas definidas se especifican como cat\_features. Se establece una semilla aleatoria para garantizar la reproducibilidad.
- 6. Entrenamiento del modelo: El modelo CatBoost se entrena utilizando los datos de entrenamiento y se evalúa en el conjunto de prueba utilizando el argumento eval\_set. También se implementa el early stopping con early\_stopping\_rounds para detener el entrenamiento si no se observa mejora en la métrica de evaluación.
- 7. **Predicciones:** Se utilizan las características del conjunto de prueba para realizar predicciones utilizando el modelo entrenado.
- 8. **Informe de clasificación:** Se calcula el informe de clasificación utilizando la función classification\_report, que muestra métricas como precisión, recall y F1-score para cada clase en la variable objetivo.

# 13 5. "Creación y Evaluación de un Modelo CatBoost para Clasificación"

```
[21]: import pandas as pd
      from sklearn.model_selection import train_test_split
      from catboost import CatBoostClassifier
      from sklearn.metrics import classification report, confusion matrix
      import seaborn as sns
      import matplotlib.pyplot as plt
      # Define las columnas categóricas
      categorical_cols = ['MES', 'DÍA', 'VIA 1', 'BARRIO', 'HORA', 'ENTIDAD', L

    'nombrecomuna',
                          'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORAL
       →RESTRICCION MOTO'
      # Divide los datos en características (X) y variable objetivo (y)
      X = data.drop(['GRAVEDAD', 'FECHA', 'ORDEN'], axis=1)
      y = data['GRAVEDAD']
      # Divide los datos en conjuntos de entrenamiento y prueba
      X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,_
       →random state=42)
      # Crea el modelo CatBoost
      catboost_model = CatBoostClassifier(iterations=1000,__
       ⇒cat_features=categorical_cols, random_seed=42)
      # Entrena el modelo CatBoost
      catboost_model.fit(X_train, y_train, eval_set=(X_test, y_test),__
       →early_stopping_rounds=10, verbose=False)
      # Realiza predicciones en el conjunto de prueba
      y_pred = catboost_model.predict(X_test)
      # Muestra el informe de clasificación
      print(classification_report(y_test, y_pred))
      # Matriz de Confusión
      confusion = confusion_matrix(y_test, y_pred)
      plt.figure(figsize=(8, 6))
      sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
      plt.title("Matriz de Confusión")
      plt.xlabel("Predicciones")
      plt.ylabel("Valores Reales")
      plt.show()
```

|              | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
|              |           |        |          |         |
| 0            | 0.79      | 0.89   | 0.84     | 3601    |
| 1            | 1.00      | 0.14   | 0.24     | 118     |
| 2            | 0.89      | 0.81   | 0.85     | 3921    |
|              |           |        |          |         |
| accuracy     |           |        | 0.84     | 7640    |
| macro avg    | 0.89      | 0.61   | 0.64     | 7640    |
| weighted avg | 0.85      | 0.84   | 0.84     | 7640    |



La evaluación del modelo CatBoost muestra cómo el modelo se desempeña en términos de precisión, recall (también conocido como sensibilidad), f1-score y el soporte de cada clase. Aquí está la interpretación de los resultados:

• Precisión (Precision): La precisión es la proporción de predicciones positivas que fueron correctas con respecto a todas las predicciones positivas realizadas por el modelo. Para la clase "Con Daños" (clase 0), la precisión es del 79%, lo que significa que el 79% de las predicciones de esta clase fueron correctas. Para la clase "Con Heridos" (clase 1), la precisión es del 94%,

lo que indica que el 94% de las predicciones de esta clase fueron correctas. Para la clase "Con Muertos" (clase 2), la precisión es del 89%.

- Recall (Sensibilidad): El recall es la proporción de instancias positivas que fueron correctamente detectadas por el modelo con respecto a todas las instancias reales positivas en los datos. Para la clase "Con Daños", el recall es del 89%, lo que significa que el modelo identificó correctamente el 89% de las instancias reales de esta clase. Para la clase "Con Heridos", el recall es del 14%, indicando que el modelo solo detectó correctamente el 14% de las instancias reales de esta clase. Para la clase "Con Muertos", el recall es del 81%.
- **F1-Score:** El F1-score es una medida que combina la precisión y el recall, proporcionando una puntuación única que equilibra ambas métricas. Para la clase "Con Daños", el F1-score es 0.84. Para la clase "Con Heridos", el F1-score es 0.24, lo que indica que esta clase tiene un rendimiento bajo en términos de equilibrio entre precisión y recall. Para la clase "Con Muertos", el F1-score es 0.85.
- Soporte (Support): El soporte se refiere al número de instancias reales en cada clase en el conjunto de pruebas. Para la clase "Con Daños", hay 3601 instancias; para la clase "Con Heridos", hay 118 instancias; y para la clase "Con Muertos", hay 3921 instancias.
- Accuracy (Exactitud): La exactitud general del modelo es del 84%, lo que indica la proporción de predicciones totales que son correctas en relación con todas las predicciones realizadas por el modelo.
- Macro Avg y Weighted Avg: Estas métricas proporcionan promedios ponderados y no ponderados de las métricas anteriores para todas las clases.

El modelo CatBoost muestra un buen rendimiento en la clasificación de las clases "Con Daños" y "Con Muertos", con altas precisiones y recalls. Sin embargo, el modelo tiene dificultades para identificar correctamente la clase "Con Heridos", como se refleja en la baja precisión y recall de esta clase. Esto sugiere que el modelo podría beneficiarse de una mayor atención o ajustes específicos para mejorar su rendimiento en la detección de instancias de la clase "Con Heridos".

# 13.1 Otras evaluaciones del modelo CatBoost

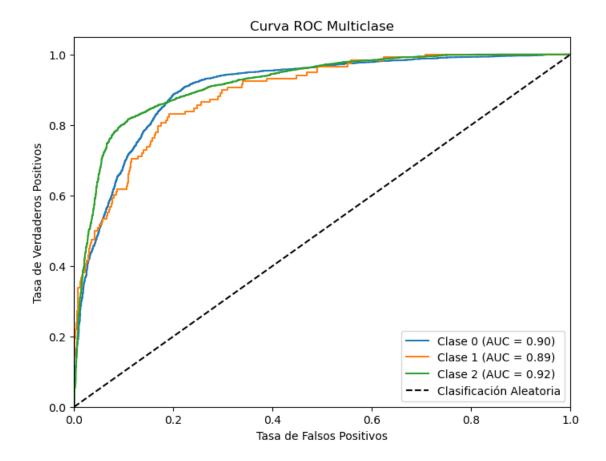
Este código realiza la evaluación de un modelo de clasificación multiclase (en este caso, el modelo CatBoost) utilizando la métrica de Curva ROC y el Área bajo la Curva (AUC). La Curva ROC es una representación gráfica de la tasa de verdaderos positivos (sensibilidad) frente a la tasa de falsos positivos (1 - especificidad) a medida que se ajusta el umbral de clasificación. El AUC mide el área bajo esta curva y proporciona una medida cuantitativa de cuán bien el modelo es capaz de distinguir entre las clases en un problema de clasificación.

Este código es importante porque la Curva ROC y el AUC son métricas útiles para evaluar el rendimiento de un modelo en problemas de clasificación multiclase, y permiten visualizar cómo el modelo está realizando la clasificación para cada clase individualmente y para el conjunto total de clases. Además, el AUC Macro promedia los AUC de todas las clases y proporciona una evaluación global del rendimiento del modelo en todas las clases.

```
[22]: from sklearn.metrics import roc_curve, auc

# Calcular la Curva ROC y el AUC para cada clase
```

```
n_classes = len(catboost_model.classes_)
y_prob = catboost_model.predict_proba(X_test)
fpr = dict()
tpr = dict()
roc_auc = dict()
for i in range(n_classes):
   fpr[i], tpr[i], _ = roc_curve(y_test == i, y_prob[:, i])
   roc_auc[i] = auc(fpr[i], tpr[i])
# Calcular el AUC Macro promediando los AUC de todas las clases
roc_auc_macro = sum(roc_auc.values()) / n_classes
# Graficar la Curva ROC para cada clase
plt.figure(figsize=(8, 6))
for i in range(n_classes):
   plt.plot(fpr[i], tpr[i], label=f'Clase {i} (AUC = {roc_auc[i]:.2f})')
plt.plot([0, 1], [0, 1], 'k--', label='Clasificación Aleatoria')
plt.xlim([0.0, 1.0])
plt.ylim([0.0, 1.05])
plt.xlabel('Tasa de Falsos Positivos')
plt.ylabel('Tasa de Verdaderos Positivos')
plt.title('Curva ROC Multiclase')
plt.legend(loc="lower right")
plt.show()
# Mostrar el AUC Macro
print(f'Area bajo la Curva (AUC) Macro: {roc_auc_macro:.2f}')
```



Área bajo la Curva (AUC) Macro: 0.90

Un AUC (Área bajo la Curva) de 0.90 es indicativo de un buen rendimiento del modelo en términos de su capacidad para distinguir entre las clases en el problema de clasificación multiclase. Las AUC individuales para cada clase también muestran que el modelo tiene una buena capacidad de discriminación para cada clase por separado.

El AUC Macro de 0.90 sugiere que el modelo tiene un buen rendimiento general en todas las clases, lo cual es muy positivo. La curva ROC y los valores de AUC proporcionan información valiosa sobre la calidad del modelo y su capacidad para realizar clasificaciones precisas.

# 13.2 5.2. Manejo de Desequilibrio de Clases:

Si las clases de la variable objetivo están desequilibradas, es decir, hay muchas más instancias de una clase que de las otras, considera técnicas de manejo de desequilibrio de clases, como la sobremuestreo(Oversampling), submuestreo(Undersampling) o el uso de pesos de clase.

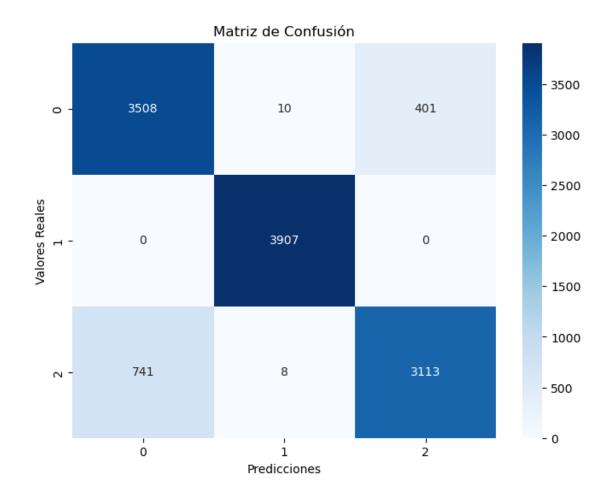
Para este caso se utilizó la técnica de oversampling para abordar el desequilibrio de clases en el conjunto de datos. El desequilibrio de clases ocurre cuando una o varias clases tienen muchas más instancias que otras, lo que puede llevar a que el modelo tenga dificultades para aprender y generalizar correctamente en las clases minoritarias. El oversampling es una técnica que consiste en aumentar el número de instancias de las clases minoritarias para igualar su proporción con las

clases mayoritarias.

```
[23]: import pandas as pd
      from sklearn.model_selection import train_test_split
      from catboost import CatBoostClassifier
      from sklearn.metrics import classification_report, confusion_matrix
      import seaborn as sns
      import matplotlib.pyplot as plt
      from imblearn.over_sampling import RandomOverSampler
      # Define las columnas categóricas
      categorical_cols = ['MES', 'DÍA', 'VIA 1', 'BARRIO', 'HORA', 'ENTIDAD', L
       'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORAL
      ⇔RESTRICCION MOTO'
      # Divide los datos en características (X) y variable objetivo (y)
      X = data.drop(['GRAVEDAD', 'FECHA', 'ORDEN'], axis=1)
      y = data['GRAVEDAD']
      # Aplica oversampling a los datos
      oversampler = RandomOverSampler(random_state=42)
      X_resampled, y_resampled = oversampler.fit_resample(X, y)
      # Divide los datos en conjuntos de entrenamiento y prueba
      X_train, X_test, y_train, y_test = train_test_split(X_resampled, y_resampled,__
       →test_size=0.2, random_state=42)
      # Crea el modelo CatBoost
      catboost_model = CatBoostClassifier(iterations=500,__
       ⇒cat_features=categorical_cols, random_seed=42)
      # Entrena el modelo CatBoost
      catboost_model.fit(X_train, y_train, eval_set=(X_test, y_test),__
       ⇔early_stopping_rounds=10, verbose=False)
      # Realiza predicciones en el conjunto de prueba
      y_pred = catboost_model.predict(X_test)
      # Muestra el informe de clasificación
      print(classification_report(y_test, y_pred))
      # Matriz de Confusión
      confusion = confusion_matrix(y_test, y_pred)
      plt.figure(figsize=(8, 6))
      sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
```

```
plt.title("Matriz de Confusión")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

|              | precision | precision recall f1-sco |      | support |
|--------------|-----------|-------------------------|------|---------|
| 0            | 0.83      | 0.90                    | 0.86 | 3919    |
| 1            | 1.00      | 1.00                    | 1.00 | 3907    |
| 2            | 0.89      | 0.81                    | 0.84 | 3862    |
|              |           |                         |      |         |
| accuracy     |           |                         | 0.90 | 11688   |
| macro avg    | 0.90      | 0.90                    | 0.90 | 11688   |
| weighted avg | 0.90      | 0.90                    | 0.90 | 11688   |



[25]: from sklearn.model\_selection import cross\_val\_score

```
# Realiza cross-validation y muestra los resultados
scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=5,_
 ⇔scoring='accuracy')
print("Accuracy en cada fold:", scores)
print("Accuracy promedio:", scores.mean())
# Entrena el modelo CatBoost en todos los datos de entrenamiento
catboost_model.fit(X_resampled, y_resampled)
# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_resampled)
# Muestra el informe de clasificación en todos los datos
print("Informe de Clasificación en todos los datos:")
print(classification_report(y_resampled, y_pred))
# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

### Learning rate set to 0.172923

```
0:
        learn: 0.9675645
                                 total: 192ms
                                                 remaining: 1m 35s
1:
        learn: 0.8849103
                                 total: 391ms
                                                 remaining: 1m 37s
2:
        learn: 0.8215081
                                 total: 552ms
                                                 remaining: 1m 31s
3:
        learn: 0.7743998
                                 total: 738ms
                                                 remaining: 1m 31s
4:
        learn: 0.6822487
                                 total: 943ms
                                                 remaining: 1m 33s
5:
        learn: 0.6540676
                                 total: 1.13s
                                                 remaining: 1m 32s
6:
                                 total: 1.31s
        learn: 0.6038246
                                                 remaining: 1m 32s
                                 total: 1.52s
7:
        learn: 0.5462266
                                                 remaining: 1m 33s
8:
        learn: 0.5007032
                                 total: 1.7s
                                                 remaining: 1m 32s
9:
        learn: 0.4610557
                                 total: 1.93s
                                                 remaining: 1m 34s
10:
        learn: 0.4337150
                                 total: 2.11s
                                                 remaining: 1m 33s
11.
        learn: 0.4121667
                                 total: 2.37s
                                                 remaining: 1m 36s
12:
        learn: 0.4055972
                                 total: 2.55s
                                                 remaining: 1m 35s
        learn: 0.3843241
                                 total: 2.77s
                                                 remaining: 1m 36s
13:
14:
        learn: 0.3686758
                                 total: 2.99s
                                                 remaining: 1m 36s
                                 total: 3.21s
                                                 remaining: 1m 37s
15:
        learn: 0.3572385
16:
        learn: 0.3392341
                                 total: 3.44s
                                                 remaining: 1m 37s
17:
        learn: 0.3316773
                                 total: 3.64s
                                                 remaining: 1m 37s
18:
        learn: 0.3180817
                                 total: 3.87s
                                                 remaining: 1m 37s
19:
        learn: 0.3068736
                                 total: 4.08s
                                                 remaining: 1m 38s
20:
        learn: 0.3014468
                                 total: 4.28s
                                                 remaining: 1m 37s
```

```
21:
        learn: 0.2931814
                                  total: 4.5s
                                                   remaining: 1m 37s
22:
        learn: 0.2911544
                                  total: 4.72s
                                                   remaining: 1m 37s
23:
        learn: 0.2896651
                                  total: 4.95s
                                                   remaining: 1m 38s
24:
        learn: 0.2883546
                                  total: 5.16s
                                                   remaining: 1m 38s
                                                   remaining: 1m 37s
25:
        learn: 0.2871943
                                  total: 5.36s
                                  total: 5.57s
                                                   remaining: 1m 37s
26:
        learn: 0.2834881
27:
        learn: 0.2767325
                                  total: 5.79s
                                                   remaining: 1m 37s
28:
        learn: 0.2759958
                                  total: 5.97s
                                                   remaining: 1m 36s
                                                   remaining: 1m 36s
29:
        learn: 0.2749382
                                  total: 6.17s
30:
        learn: 0.2700063
                                  total: 6.35s
                                                   remaining: 1m 36s
        learn: 0.2663163
                                                   remaining: 1m 36s
31:
                                  total: 6.58s
                                                   remaining: 1m 35s
32:
        learn: 0.2657131
                                  total: 6.76s
33:
        learn: 0.2653552
                                  total: 6.96s
                                                   remaining: 1m 35s
34:
        learn: 0.2647126
                                  total: 7.15s
                                                   remaining: 1m 34s
35:
        learn: 0.2612041
                                  total: 7.36s
                                                   remaining: 1m 34s
36:
        learn: 0.2609472
                                  total: 7.56s
                                                   remaining: 1m 34s
37:
        learn: 0.2581033
                                  total: 7.76s
                                                   remaining: 1m 34s
38:
        learn: 0.2570619
                                  total: 7.96s
                                                   remaining: 1m 34s
        learn: 0.2564952
                                  total: 8.15s
                                                   remaining: 1m 33s
39:
40:
        learn: 0.2559448
                                  total: 8.33s
                                                   remaining: 1m 33s
                                  total: 8.5s
41:
        learn: 0.2557245
                                                   remaining: 1m 32s
                                  total: 8.7s
                                                   remaining: 1m 32s
42:
        learn: 0.2530036
43:
        learn: 0.2516791
                                  total: 8.89s
                                                   remaining: 1m 32s
        learn: 0.2497868
                                  total: 9.09s
                                                   remaining: 1m 31s
44:
45:
        learn: 0.2494412
                                  total: 9.27s
                                                   remaining: 1m 31s
        learn: 0.2490705
                                                   remaining: 1m 31s
46:
                                  total: 9.45s
47:
        learn: 0.2489626
                                  total: 9.64s
                                                   remaining: 1m 30s
48:
        learn: 0.2485766
                                  total: 9.85s
                                                   remaining: 1m 30s
        learn: 0.2483100
                                                   remaining: 1m 30s
49:
                                  total: 10.1s
50:
        learn: 0.2479728
                                  total: 10.3s
                                                   remaining: 1m 30s
51:
        learn: 0.2475118
                                  total: 10.5s
                                                   remaining: 1m 30s
52:
        learn: 0.2471713
                                  total: 10.7s
                                                   remaining: 1m 30s
53:
        learn: 0.2467241
                                  total: 11s
                                                   remaining: 1m 30s
54:
        learn: 0.2465547
                                  total: 11.2s
                                                   remaining: 1m 30s
                                                   remaining: 1m 30s
55:
        learn: 0.2462840
                                  total: 11.4s
56:
        learn: 0.2457915
                                  total: 11.6s
                                                   remaining: 1m 29s
57:
        learn: 0.2455256
                                  total: 11.8s
                                                   remaining: 1m 29s
58:
        learn: 0.2452259
                                  total: 12s
                                                   remaining: 1m 29s
        learn: 0.2448287
                                                   remaining: 1m 29s
59:
                                  total: 12.2s
60:
        learn: 0.2446977
                                  total: 12.4s
                                                   remaining: 1m 29s
61:
        learn: 0.2444532
                                  total: 12.6s
                                                   remaining: 1m 29s
        learn: 0.2439329
                                  total: 12.9s
                                                   remaining: 1m 29s
62:
63:
        learn: 0.2419126
                                  total: 13.1s
                                                   remaining: 1m 29s
64:
        learn: 0.2416110
                                  total: 13.3s
                                                   remaining: 1m 28s
65:
        learn: 0.2414715
                                  total: 13.5s
                                                   remaining: 1m 28s
66:
        learn: 0.2404264
                                  total: 13.9s
                                                   remaining: 1m 29s
67:
        learn: 0.2402746
                                  total: 14.2s
                                                   remaining: 1m 30s
68:
        learn: 0.2400219
                                  total: 14.5s
                                                   remaining: 1m 30s
```

```
69:
        learn: 0.2398981
                                  total: 14.8s
                                                   remaining: 1m 30s
70:
        learn: 0.2397692
                                  total: 15.1s
                                                   remaining: 1m 31s
71:
        learn: 0.2383486
                                  total: 15.4s
                                                   remaining: 1m 31s
72:
        learn: 0.2381745
                                  total: 15.7s
                                                   remaining: 1m 31s
                                                   remaining: 1m 31s
73:
        learn: 0.2380457
                                  total: 15.9s
74:
        learn: 0.2379090
                                  total: 16.2s
                                                   remaining: 1m 31s
75:
        learn: 0.2377904
                                  total: 16.5s
                                                   remaining: 1m 31s
76:
        learn: 0.2376363
                                  total: 16.8s
                                                   remaining: 1m 32s
77:
        learn: 0.2376025
                                  total: 17s
                                                   remaining: 1m 32s
78:
        learn: 0.2370304
                                  total: 17.3s
                                                   remaining: 1m 32s
                                                   remaining: 1m 32s
79:
        learn: 0.2368649
                                  total: 17.5s
                                                   remaining: 1m 31s
80:
        learn: 0.2367502
                                  total: 17.8s
81:
        learn: 0.2354844
                                  total: 18s
                                                   remaining: 1m 31s
82:
        learn: 0.2354029
                                  total: 18.2s
                                                   remaining: 1m 31s
83:
        learn: 0.2352129
                                  total: 18.5s
                                                   remaining: 1m 31s
        learn: 0.2351461
                                  total: 18.7s
                                                   remaining: 1m 31s
84:
85:
        learn: 0.2349288
                                  total: 18.9s
                                                   remaining: 1m 31s
86:
        learn: 0.2347308
                                  total: 19.2s
                                                   remaining: 1m 31s
        learn: 0.2343981
                                  total: 19.4s
                                                   remaining: 1m 30s
87:
88:
        learn: 0.2341674
                                  total: 19.6s
                                                   remaining: 1m 30s
                                  total: 20s
89:
        learn: 0.2340783
                                                   remaining: 1m 31s
                                  total: 20.3s
                                                   remaining: 1m 31s
90:
        learn: 0.2339784
91:
        learn: 0.2339488
                                  total: 20.6s
                                                   remaining: 1m 31s
92:
        learn: 0.2339359
                                  total: 20.8s
                                                   remaining: 1m 31s
93:
        learn: 0.2338282
                                  total: 21.1s
                                                   remaining: 1m 31s
        learn: 0.2336582
                                  total: 21.4s
                                                   remaining: 1m 31s
94:
        learn: 0.2335178
                                  total: 21.7s
                                                   remaining: 1m 31s
95:
96:
        learn: 0.2334142
                                  total: 22.1s
                                                   remaining: 1m 31s
97:
        learn: 0.2333696
                                  total: 22.3s
                                                   remaining: 1m 31s
98:
        learn: 0.2331706
                                  total: 22.6s
                                                   remaining: 1m 31s
99:
        learn: 0.2330700
                                  total: 22.9s
                                                   remaining: 1m 31s
100:
        learn: 0.2326678
                                  total: 23.2s
                                                   remaining: 1m 31s
101:
        learn: 0.2325485
                                  total: 23.5s
                                                   remaining: 1m 31s
                                  total: 23.7s
102:
        learn: 0.2324675
                                                   remaining: 1m 31s
                                  total: 23.9s
                                                   remaining: 1m 31s
103:
        learn: 0.2323582
                                  total: 24.1s
104:
        learn: 0.2322620
                                                   remaining: 1m 30s
105:
        learn: 0.2321327
                                  total: 24.3s
                                                   remaining: 1m 30s
106:
        learn: 0.2319638
                                  total: 24.5s
                                                   remaining: 1m 29s
        learn: 0.2318706
                                  total: 24.6s
                                                   remaining: 1m 29s
107:
108:
        learn: 0.2317839
                                  total: 24.8s
                                                   remaining: 1m 28s
                                  total: 25s
109:
        learn: 0.2317360
                                                   remaining: 1m 28s
        learn: 0.2315021
                                  total: 25.1s
                                                   remaining: 1m 28s
110:
        learn: 0.2313461
                                  total: 25.3s
                                                   remaining: 1m 27s
111:
112:
        learn: 0.2311387
                                  total: 25.5s
                                                   remaining: 1m 27s
113:
        learn: 0.2310929
                                  total: 25.7s
                                                   remaining: 1m 26s
114:
        learn: 0.2310464
                                  total: 25.9s
                                                   remaining: 1m 26s
115:
        learn: 0.2309761
                                  total: 26.2s
                                                   remaining: 1m 26s
116:
        learn: 0.2308841
                                  total: 26.4s
                                                   remaining: 1m 26s
```

```
117:
        learn: 0.2305523
                                  total: 26.7s
                                                   remaining: 1m 26s
118:
        learn: 0.2303608
                                  total: 27s
                                                   remaining: 1m 26s
119:
        learn: 0.2303446
                                  total: 27.2s
                                                   remaining: 1m 26s
120:
        learn: 0.2302481
                                  total: 27.5s
                                                   remaining: 1m 26s
                                                   remaining: 1m 26s
121:
        learn: 0.2302148
                                  total: 27.8s
                                  total: 28.1s
                                                   remaining: 1m 26s
122:
        learn: 0.2300823
123:
        learn: 0.2299695
                                  total: 28.3s
                                                   remaining: 1m 25s
        learn: 0.2298712
124:
                                  total: 28.6s
                                                   remaining: 1m 25s
125:
        learn: 0.2297908
                                  total: 28.9s
                                                   remaining: 1m 25s
126:
        learn: 0.2290283
                                  total: 29.2s
                                                   remaining: 1m 25s
                                  total: 29.5s
127:
        learn: 0.2290015
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
128:
        learn: 0.2288538
                                  total: 29.7s
129:
        learn: 0.2287938
                                  total: 30s
                                                   remaining: 1m 25s
130:
        learn: 0.2286958
                                  total: 30.3s
                                                   remaining: 1m 25s
131:
        learn: 0.2283906
                                  total: 30.6s
                                                   remaining: 1m 25s
132:
        learn: 0.2283843
                                  total: 30.9s
                                                   remaining: 1m 25s
133:
        learn: 0.2282590
                                  total: 31.1s
                                                   remaining: 1m 25s
134:
        learn: 0.2281212
                                  total: 31.4s
                                                   remaining: 1m 24s
        learn: 0.2280712
                                  total: 31.7s
                                                   remaining: 1m 24s
135:
136:
        learn: 0.2279955
                                  total: 32s
                                                   remaining: 1m 24s
137:
        learn: 0.2279147
                                  total: 32.3s
                                                   remaining: 1m 24s
138:
        learn: 0.2278542
                                  total: 32.6s
                                                   remaining: 1m 24s
139:
        learn: 0.2277970
                                  total: 32.9s
                                                   remaining: 1m 24s
140:
                                  total: 33.2s
                                                   remaining: 1m 24s
        learn: 0.2276919
141:
        learn: 0.2275933
                                  total: 33.5s
                                                   remaining: 1m 24s
142:
        learn: 0.2275274
                                  total: 33.8s
                                                   remaining: 1m 24s
        learn: 0.2273083
                                  total: 34.2s
                                                   remaining: 1m 24s
143:
144:
        learn: 0.2271562
                                  total: 34.4s
                                                   remaining: 1m 24s
145:
        learn: 0.2270716
                                  total: 34.7s
                                                   remaining: 1m 24s
146:
        learn: 0.2269531
                                  total: 35s
                                                   remaining: 1m 24s
147:
        learn: 0.2268268
                                                   remaining: 1m 23s
                                  total: 35.3s
148:
        learn: 0.2267424
                                  total: 35.6s
                                                   remaining: 1m 23s
149:
        learn: 0.2266879
                                  total: 35.9s
                                                   remaining: 1m 23s
        learn: 0.2265696
                                  total: 36.1s
                                                   remaining: 1m 23s
150:
                                                   remaining: 1m 23s
151:
        learn: 0.2265259
                                  total: 36.4s
152:
        learn: 0.2263694
                                  total: 36.7s
                                                   remaining: 1m 23s
153:
        learn: 0.2261586
                                  total: 36.9s
                                                   remaining: 1m 23s
154:
        learn: 0.2260139
                                  total: 37.2s
                                                   remaining: 1m 22s
155:
        learn: 0.2259206
                                  total: 37.5s
                                                   remaining: 1m 22s
156:
        learn: 0.2258713
                                  total: 37.8s
                                                   remaining: 1m 22s
        learn: 0.2257375
                                  total: 38.1s
157:
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
158:
        learn: 0.2257128
                                  total: 38.4s
159:
        learn: 0.2255219
                                  total: 38.7s
                                                   remaining: 1m 22s
160:
        learn: 0.2254311
                                  total: 39s
                                                   remaining: 1m 22s
161:
        learn: 0.2253787
                                  total: 39.2s
                                                   remaining: 1m 21s
162:
        learn: 0.2253417
                                  total: 39.5s
                                                   remaining: 1m 21s
163:
        learn: 0.2252134
                                  total: 39.8s
                                                   remaining: 1m 21s
164:
        learn: 0.2251855
                                  total: 40.1s
                                                   remaining: 1m 21s
```

```
total: 40.4s
        learn: 0.2251278
165:
                                                   remaining: 1m 21s
166:
        learn: 0.2250625
                                  total: 40.7s
                                                   remaining: 1m 21s
167:
        learn: 0.2250184
                                  total: 41s
                                                   remaining: 1m 20s
        learn: 0.2249275
                                                   remaining: 1m 20s
168:
                                  total: 41.2s
                                                   remaining: 1m 20s
169:
        learn: 0.2249094
                                  total: 41.5s
                                  total: 41.8s
                                                   remaining: 1m 20s
170:
        learn: 0.2247985
171:
        learn: 0.2246951
                                  total: 42s
                                                   remaining: 1m 20s
172:
        learn: 0.2245989
                                  total: 42.3s
                                                   remaining: 1m 19s
173:
        learn: 0.2244039
                                  total: 42.6s
                                                   remaining: 1m 19s
174:
        learn: 0.2243128
                                  total: 42.8s
                                                   remaining: 1m 19s
175:
        learn: 0.2242414
                                  total: 43s
                                                   remaining: 1m 19s
176:
        learn: 0.2241579
                                  total: 43.2s
                                                   remaining: 1m 18s
177:
        learn: 0.2241136
                                  total: 43.4s
                                                   remaining: 1m 18s
178:
        learn: 0.2239599
                                  total: 43.6s
                                                   remaining: 1m 18s
179:
        learn: 0.2237894
                                  total: 43.8s
                                                   remaining: 1m 17s
        learn: 0.2237310
180:
                                  total: 44s
                                                   remaining: 1m 17s
181:
        learn: 0.2232923
                                  total: 44.2s
                                                   remaining: 1m 17s
182:
        learn: 0.2231983
                                  total: 44.4s
                                                   remaining: 1m 16s
        learn: 0.2230293
                                  total: 44.7s
                                                   remaining: 1m 16s
183:
184:
        learn: 0.2228738
                                  total: 44.9s
                                                   remaining: 1m 16s
185:
        learn: 0.2228106
                                  total: 45.1s
                                                   remaining: 1m 16s
186:
        learn: 0.2226743
                                  total: 45.4s
                                                   remaining: 1m 16s
187:
        learn: 0.2226213
                                  total: 45.7s
                                                   remaining: 1m 15s
                                                   remaining: 1m 15s
188:
        learn: 0.2224951
                                  total: 46s
189:
        learn: 0.2224263
                                  total: 46.2s
                                                   remaining: 1m 15s
190:
        learn: 0.2223571
                                  total: 46.5s
                                                   remaining: 1m 15s
        learn: 0.2222909
                                                   remaining: 1m 15s
191:
                                  total: 46.8s
192:
        learn: 0.2222453
                                  total: 47s
                                                   remaining: 1m 14s
193:
        learn: 0.222226
                                  total: 47.3s
                                                   remaining: 1m 14s
194:
        learn: 0.2220289
                                  total: 47.6s
                                                   remaining: 1m 14s
                                  total: 47.9s
        learn: 0.2219925
195:
                                                   remaining: 1m 14s
196:
        learn: 0.2218544
                                  total: 48.2s
                                                   remaining: 1m 14s
197:
        learn: 0.2218151
                                  total: 48.5s
                                                   remaining: 1m 13s
198:
        learn: 0.2216913
                                  total: 48.8s
                                                   remaining: 1m 13s
199:
        learn: 0.2215859
                                  total: 49.1s
                                                   remaining: 1m 13s
200:
        learn: 0.2214397
                                  total: 49.4s
                                                   remaining: 1m 13s
201:
        learn: 0.2208435
                                  total: 49.7s
                                                   remaining: 1m 13s
202:
        learn: 0.2208086
                                  total: 50s
                                                   remaining: 1m 13s
203:
        learn: 0.2207785
                                  total: 50.3s
                                                   remaining: 1m 12s
204:
        learn: 0.2206640
                                  total: 50.6s
                                                   remaining: 1m 12s
205:
        learn: 0.2206234
                                  total: 50.9s
                                                   remaining: 1m 12s
        learn: 0.2205939
                                                   remaining: 1m 12s
206:
                                  total: 51.1s
207:
        learn: 0.2205099
                                  total: 51.4s
                                                   remaining: 1m 12s
208:
        learn: 0.2204624
                                  total: 51.7s
                                                   remaining: 1m 11s
209:
        learn: 0.2203492
                                  total: 52s
                                                   remaining: 1m 11s
210:
        learn: 0.2203182
                                  total: 52.3s
                                                   remaining: 1m 11s
211:
        learn: 0.2202599
                                  total: 52.5s
                                                   remaining: 1m 11s
212:
        learn: 0.2201831
                                  total: 52.8s
                                                   remaining: 1m 11s
```

```
213:
        learn: 0.2200757
                                  total: 53.1s
                                                   remaining: 1m 10s
214:
        learn: 0.2199931
                                  total: 53.4s
                                                   remaining: 1m 10s
                                  total: 53.7s
215:
        learn: 0.2199212
                                                   remaining: 1m 10s
216:
        learn: 0.2199104
                                  total: 54s
                                                   remaining: 1m 10s
217:
                                                   remaining: 1m 10s
        learn: 0.2197768
                                  total: 54.3s
                                  total: 54.7s
                                                   remaining: 1m 10s
218:
        learn: 0.2197025
219:
        learn: 0.2196754
                                  total: 55s
                                                   remaining: 1m 9s
220:
        learn: 0.2195714
                                  total: 55.2s
                                                   remaining: 1m 9s
221:
        learn: 0.2195255
                                  total: 55.4s
                                                   remaining: 1m 9s
222:
        learn: 0.2195027
                                  total: 55.7s
                                                   remaining: 1m 9s
223:
        learn: 0.2194551
                                  total: 55.8s
                                                   remaining: 1m 8s
224:
        learn: 0.2193585
                                  total: 56s
                                                   remaining: 1m 8s
225:
        learn: 0.2193048
                                  total: 56.2s
                                                   remaining: 1m 8s
226:
        learn: 0.2192226
                                  total: 56.4s
                                                   remaining: 1m 7s
227:
        learn: 0.2192147
                                  total: 56.5s
                                                   remaining: 1m 7s
228:
        learn: 0.2191462
                                  total: 56.7s
                                                   remaining: 1m 7s
229:
        learn: 0.2189653
                                  total: 56.9s
                                                   remaining: 1m 6s
230:
        learn: 0.2186902
                                  total: 57.1s
                                                   remaining: 1m 6s
        learn: 0.2184474
                                  total: 57.3s
                                                   remaining: 1m 6s
231:
232:
        learn: 0.2183584
                                  total: 57.5s
                                                   remaining: 1m 5s
233:
        learn: 0.2182932
                                  total: 57.7s
                                                   remaining: 1m 5s
234:
        learn: 0.2181838
                                  total: 57.9s
                                                   remaining: 1m 5s
235:
        learn: 0.2181500
                                  total: 58.1s
                                                   remaining: 1m 5s
236:
        learn: 0.2180950
                                  total: 58.4s
                                                   remaining: 1m 4s
237:
        learn: 0.2179905
                                  total: 58.7s
                                                   remaining: 1m 4s
        learn: 0.2179400
238:
                                  total: 59s
                                                   remaining: 1m 4s
239:
        learn: 0.2179055
                                                   remaining: 1m 4s
                                  total: 59.3s
240:
        learn: 0.2178233
                                  total: 59.6s
                                                   remaining: 1m 4s
        learn: 0.2177756
241:
                                  total: 59.8s
                                                   remaining: 1m 3s
242:
        learn: 0.2177167
                                  total: 1m
                                                   remaining: 1m 3s
243:
        learn: 0.2176494
                                  total: 1m
                                                   remaining: 1m 3s
244:
        learn: 0.2175713
                                  total: 1m
                                                   remaining: 1m 3s
245:
        learn: 0.2175047
                                  total: 1m
                                                   remaining: 1m 2s
246:
        learn: 0.2173983
                                  total: 1m 1s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
247:
        learn: 0.2173623
                                  total: 1m 1s
248:
        learn: 0.2172326
                                  total: 1m 1s
                                                   remaining: 1m 2s
249:
        learn: 0.2172074
                                  total: 1m 2s
                                                   remaining: 1m 2s
250:
        learn: 0.2171697
                                  total: 1m 2s
                                                   remaining: 1m 2s
251:
        learn: 0.2171500
                                  total: 1m 2s
                                                   remaining: 1m 1s
252:
        learn: 0.2171047
                                  total: 1m 3s
                                                   remaining: 1m 1s
                                  total: 1m 3s
253:
        learn: 0.2169455
                                                   remaining: 1m 1s
254:
        learn: 0.2169057
                                                   remaining: 1m 1s
                                  total: 1m 3s
255:
        learn: 0.2168152
                                  total: 1m 3s
                                                   remaining: 1m
256:
        learn: 0.2166846
                                  total: 1m 4s
                                                   remaining: 1m
257:
        learn: 0.2165891
                                  total: 1m 4s
                                                   remaining: 1m
258:
        learn: 0.2165253
                                  total: 1m 4s
                                                   remaining: 1m
                                                   remaining: 1m
259:
        learn: 0.2164089
                                  total: 1m 5s
260:
        learn: 0.2163932
                                  total: 1m 5s
                                                   remaining: 59.8s
```

```
learn: 0.2162534
261:
                                  total: 1m 5s
                                                   remaining: 59.6s
262:
        learn: 0.2161636
                                  total: 1m 5s
                                                   remaining: 59.4s
263:
        learn: 0.2161313
                                  total: 1m 6s
                                                   remaining: 59.2s
264:
        learn: 0.2160301
                                                   remaining: 59s
                                  total: 1m 6s
265:
        learn: 0.2159240
                                  total: 1m 6s
                                                   remaining: 58.8s
                                  total: 1m 7s
                                                   remaining: 58.6s
266:
        learn: 0.2158520
267:
        learn: 0.2157998
                                  total: 1m 7s
                                                   remaining: 58.3s
                                                   remaining: 58.1s
268:
        learn: 0.2157918
                                  total: 1m 7s
269:
        learn: 0.2157130
                                  total: 1m 8s
                                                   remaining: 58s
270:
        learn: 0.2156822
                                  total: 1m 8s
                                                   remaining: 57.8s
271:
        learn: 0.2154768
                                  total: 1m 8s
                                                   remaining: 57.6s
272:
        learn: 0.2153393
                                  total: 1m 9s
                                                   remaining: 57.4s
273:
        learn: 0.2153000
                                  total: 1m 9s
                                                   remaining: 57.1s
274:
        learn: 0.2152257
                                  total: 1m 9s
                                                   remaining: 56.9s
                                                   remaining: 56.7s
275:
        learn: 0.2151997
                                  total: 1m 9s
276:
        learn: 0.2151186
                                  total: 1m 10s
                                                   remaining: 56.5s
277:
        learn: 0.2151088
                                  total: 1m 10s
                                                   remaining: 56.3s
                                  total: 1m 10s
278:
        learn: 0.2150216
                                                   remaining: 56.1s
        learn: 0.2149015
279:
                                  total: 1m 11s
                                                   remaining: 55.9s
280:
        learn: 0.2147813
                                  total: 1m 11s
                                                   remaining: 55.6s
281:
        learn: 0.2147530
                                  total: 1m 11s
                                                   remaining: 55.4s
282:
        learn: 0.2147064
                                  total: 1m 11s
                                                   remaining: 55.2s
283:
        learn: 0.2146596
                                  total: 1m 12s
                                                   remaining: 55s
284:
        learn: 0.2146241
                                  total: 1m 12s
                                                   remaining: 54.8s
285:
        learn: 0.2145388
                                  total: 1m 12s
                                                   remaining: 54.5s
        learn: 0.2144876
286:
                                  total: 1m 13s
                                                   remaining: 54.3s
287:
        learn: 0.2144179
                                  total: 1m 13s
                                                   remaining: 54.1s
288:
        learn: 0.2143844
                                  total: 1m 13s
                                                   remaining: 53.8s
289:
        learn: 0.2143256
                                  total: 1m 13s
                                                   remaining: 53.6s
290:
        learn: 0.2142114
                                                   remaining: 53.3s
                                  total: 1m 14s
291:
        learn: 0.2141377
                                  total: 1m 14s
                                                   remaining: 53.1s
292:
        learn: 0.2138205
                                  total: 1m 14s
                                                   remaining: 52.8s
293:
        learn: 0.2137540
                                  total: 1m 14s
                                                   remaining: 52.5s
294:
        learn: 0.2137246
                                  total: 1m 15s
                                                   remaining: 52.3s
295:
        learn: 0.2136525
                                  total: 1m 15s
                                                   remaining: 52.1s
296:
        learn: 0.2135538
                                  total: 1m 15s
                                                   remaining: 51.8s
297:
        learn: 0.2135184
                                  total: 1m 16s
                                                   remaining: 51.6s
298:
        learn: 0.2134742
                                  total: 1m 16s
                                                   remaining: 51.3s
299:
        learn: 0.2134498
                                  total: 1m 16s
                                                   remaining: 51.1s
300:
        learn: 0.2133616
                                  total: 1m 16s
                                                   remaining: 50.8s
301:
        learn: 0.2133206
                                  total: 1m 17s
                                                   remaining: 50.6s
302:
        learn: 0.2132918
                                  total: 1m 17s
                                                   remaining: 50.3s
303:
        learn: 0.2131168
                                  total: 1m 17s
                                                   remaining: 50.1s
304:
        learn: 0.2130403
                                  total: 1m 17s
                                                   remaining: 49.9s
                                                   remaining: 49.6s
305:
        learn: 0.2130151
                                  total: 1m 18s
306:
        learn: 0.2128587
                                  total: 1m 18s
                                                   remaining: 49.4s
307:
        learn: 0.2128245
                                  total: 1m 18s
                                                   remaining: 49.2s
308:
        learn: 0.2127693
                                  total: 1m 19s
                                                   remaining: 48.9s
```

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309:
        learn: 0.2126986
                                  total: 1m 19s
                                                   remaining: 48.7s
310:
        learn: 0.2126312
                                  total: 1m 19s
                                                   remaining: 48.4s
311:
        learn: 0.2125717
                                  total: 1m 19s
                                                   remaining: 48.2s
312:
        learn: 0.2125171
                                  total: 1m 20s
                                                   remaining: 48s
313:
        learn: 0.2124614
                                  total: 1m 20s
                                                   remaining: 47.7s
                                  total: 1m 20s
314:
        learn: 0.2123688
                                                   remaining: 47.5s
315:
        learn: 0.2123195
                                  total: 1m 21s
                                                   remaining: 47.3s
        learn: 0.2121895
316:
                                  total: 1m 21s
                                                   remaining: 47s
317:
        learn: 0.2121302
                                  total: 1m 21s
                                                   remaining: 46.8s
318:
        learn: 0.2120562
                                  total: 1m 22s
                                                   remaining: 46.6s
319:
        learn: 0.2119968
                                  total: 1m 22s
                                                   remaining: 46.4s
320:
        learn: 0.2119279
                                  total: 1m 22s
                                                   remaining: 46.2s
321:
        learn: 0.2118638
                                  total: 1m 23s
                                                   remaining: 45.9s
322:
        learn: 0.2118126
                                  total: 1m 23s
                                                   remaining: 45.7s
                                                   remaining: 45.4s
323:
        learn: 0.2117204
                                  total: 1m 23s
324:
        learn: 0.2116531
                                  total: 1m 23s
                                                   remaining: 45.2s
325:
        learn: 0.2115372
                                  total: 1m 24s
                                                   remaining: 45s
                                  total: 1m 24s
326:
        learn: 0.2114721
                                                   remaining: 44.7s
        learn: 0.2114429
                                  total: 1m 24s
                                                   remaining: 44.5s
327:
328:
        learn: 0.2114052
                                  total: 1m 25s
                                                   remaining: 44.2s
329:
        learn: 0.2113811
                                  total: 1m 25s
                                                   remaining: 43.9s
                                  total: 1m 25s
330:
        learn: 0.2112886
                                                   remaining: 43.7s
331:
        learn: 0.2112702
                                  total: 1m 25s
                                                   remaining: 43.4s
                                  total: 1m 26s
332:
        learn: 0.2112275
                                                   remaining: 43.2s
333:
        learn: 0.2111740
                                  total: 1m 26s
                                                   remaining: 43s
334:
        learn: 0.2111150
                                  total: 1m 26s
                                                   remaining: 42.7s
335:
        learn: 0.2111079
                                  total: 1m 26s
                                                   remaining: 42.4s
336:
        learn: 0.2110774
                                  total: 1m 27s
                                                   remaining: 42.2s
337:
        learn: 0.2109922
                                  total: 1m 27s
                                                   remaining: 41.9s
338:
        learn: 0.2109834
                                  total: 1m 27s
                                                   remaining: 41.7s
339:
        learn: 0.2109128
                                  total: 1m 28s
                                                   remaining: 41.4s
340:
        learn: 0.2108983
                                  total: 1m 28s
                                                   remaining: 41.2s
341:
        learn: 0.2108306
                                  total: 1m 28s
                                                   remaining: 41s
342:
        learn: 0.2107607
                                  total: 1m 28s
                                                   remaining: 40.7s
343:
        learn: 0.2107345
                                  total: 1m 29s
                                                   remaining: 40.5s
        learn: 0.2106529
344:
                                  total: 1m 29s
                                                   remaining: 40.2s
345:
        learn: 0.2105997
                                  total: 1m 29s
                                                   remaining: 40s
346:
        learn: 0.2105558
                                  total: 1m 30s
                                                   remaining: 39.7s
347:
        learn: 0.2105321
                                  total: 1m 30s
                                                   remaining: 39.4s
348:
        learn: 0.2104674
                                  total: 1m 30s
                                                   remaining: 39.2s
349:
        learn: 0.2103951
                                  total: 1m 30s
                                                   remaining: 38.9s
350:
        learn: 0.2103098
                                  total: 1m 31s
                                                   remaining: 38.6s
351:
        learn: 0.2102664
                                  total: 1m 31s
                                                   remaining: 38.4s
352:
        learn: 0.2101085
                                  total: 1m 31s
                                                   remaining: 38.1s
                                                   remaining: 37.9s
353:
        learn: 0.2100625
                                  total: 1m 31s
354:
        learn: 0.2100429
                                  total: 1m 32s
                                                   remaining: 37.6s
355:
        learn: 0.2100059
                                  total: 1m 32s
                                                   remaining: 37.4s
356:
        learn: 0.2099393
                                  total: 1m 32s
                                                   remaining: 37.1s
```

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357:
        learn: 0.2098305
                                  total: 1m 32s
                                                   remaining: 36.9s
358:
        learn: 0.2098087
                                  total: 1m 33s
                                                   remaining: 36.6s
359:
        learn: 0.2097343
                                  total: 1m 33s
                                                   remaining: 36.4s
        learn: 0.2096413
                                                   remaining: 36.1s
360:
                                  total: 1m 33s
361:
        learn: 0.2095261
                                  total: 1m 34s
                                                   remaining: 35.9s
                                  total: 1m 34s
362:
        learn: 0.2094507
                                                   remaining: 35.7s
363:
        learn: 0.2093849
                                  total: 1m 34s
                                                   remaining: 35.4s
                                                   remaining: 35.2s
364:
        learn: 0.2093256
                                  total: 1m 35s
365:
        learn: 0.2092040
                                  total: 1m 35s
                                                   remaining: 34.9s
366:
        learn: 0.2091910
                                  total: 1m 35s
                                                   remaining: 34.7s
367:
        learn: 0.2091387
                                  total: 1m 35s
                                                   remaining: 34.4s
368:
        learn: 0.2090904
                                  total: 1m 36s
                                                   remaining: 34.2s
369:
                                                   remaining: 33.9s
        learn: 0.2090488
                                  total: 1m 36s
370:
        learn: 0.2090032
                                  total: 1m 36s
                                                   remaining: 33.7s
                                                   remaining: 33.4s
371:
        learn: 0.2089325
                                  total: 1m 37s
372:
        learn: 0.2088805
                                  total: 1m 37s
                                                   remaining: 33.1s
373:
        learn: 0.2087984
                                  total: 1m 37s
                                                   remaining: 32.9s
                                  total: 1m 37s
374:
        learn: 0.2087655
                                                   remaining: 32.6s
        learn: 0.2086805
                                  total: 1m 38s
                                                   remaining: 32.4s
375:
376:
        learn: 0.2086333
                                  total: 1m 38s
                                                   remaining: 32.1s
377:
        learn: 0.2084922
                                  total: 1m 38s
                                                   remaining: 31.9s
378:
        learn: 0.2084468
                                  total: 1m 39s
                                                   remaining: 31.6s
379:
        learn: 0.2083749
                                  total: 1m 39s
                                                   remaining: 31.4s
380:
        learn: 0.2083319
                                  total: 1m 39s
                                                   remaining: 31.1s
381:
        learn: 0.2082680
                                  total: 1m 39s
                                                   remaining: 30.9s
382:
        learn: 0.2081391
                                  total: 1m 40s
                                                   remaining: 30.6s
383:
        learn: 0.2080956
                                  total: 1m 40s
                                                   remaining: 30.3s
384:
        learn: 0.2080317
                                  total: 1m 40s
                                                   remaining: 30.1s
385:
        learn: 0.2079746
                                  total: 1m 41s
                                                   remaining: 29.8s
386:
        learn: 0.2079306
                                                   remaining: 29.6s
                                  total: 1m 41s
387:
        learn: 0.2078404
                                  total: 1m 41s
                                                   remaining: 29.3s
388:
        learn: 0.2078053
                                  total: 1m 41s
                                                   remaining: 29.1s
389:
        learn: 0.2077915
                                  total: 1m 42s
                                                   remaining: 28.8s
390:
        learn: 0.2076434
                                  total: 1m 42s
                                                   remaining: 28.6s
391:
        learn: 0.2075710
                                  total: 1m 42s
                                                   remaining: 28.3s
392:
        learn: 0.2075377
                                  total: 1m 42s
                                                   remaining: 28s
393:
        learn: 0.2073909
                                  total: 1m 43s
                                                   remaining: 27.8s
394:
        learn: 0.2073091
                                  total: 1m 43s
                                                   remaining: 27.5s
395:
        learn: 0.2072451
                                  total: 1m 43s
                                                   remaining: 27.3s
396:
        learn: 0.2071749
                                  total: 1m 44s
                                                   remaining: 27s
        learn: 0.2070319
                                  total: 1m 44s
397:
                                                   remaining: 26.8s
398:
        learn: 0.2069734
                                  total: 1m 44s
                                                   remaining: 26.5s
399:
        learn: 0.2068672
                                  total: 1m 44s
                                                   remaining: 26.2s
400:
        learn: 0.2067809
                                  total: 1m 45s
                                                   remaining: 26s
                                                   remaining: 25.7s
401:
        learn: 0.2067243
                                  total: 1m 45s
402:
        learn: 0.2065545
                                  total: 1m 45s
                                                   remaining: 25.5s
403:
        learn: 0.2064846
                                  total: 1m 46s
                                                   remaining: 25.2s
404:
        learn: 0.2063912
                                  total: 1m 46s
                                                   remaining: 24.9s
```

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405:
        learn: 0.2063680
                                  total: 1m 46s
                                                   remaining: 24.7s
406:
        learn: 0.2063243
                                  total: 1m 46s
                                                   remaining: 24.4s
407:
        learn: 0.2062218
                                  total: 1m 47s
                                                   remaining: 24.2s
        learn: 0.2061241
                                                   remaining: 23.9s
408:
                                  total: 1m 47s
409:
        learn: 0.2060026
                                  total: 1m 47s
                                                   remaining: 23.6s
                                  total: 1m 47s
                                                   remaining: 23.4s
410:
        learn: 0.2059800
411:
        learn: 0.2059446
                                  total: 1m 48s
                                                   remaining: 23.1s
        learn: 0.2058472
412:
                                  total: 1m 48s
                                                   remaining: 22.9s
413:
        learn: 0.2057889
                                  total: 1m 48s
                                                   remaining: 22.6s
414:
        learn: 0.2057653
                                  total: 1m 49s
                                                   remaining: 22.3s
415:
        learn: 0.2057342
                                  total: 1m 49s
                                                   remaining: 22.1s
416:
        learn: 0.2056363
                                  total: 1m 49s
                                                   remaining: 21.8s
417:
        learn: 0.2055679
                                  total: 1m 49s
                                                   remaining: 21.6s
418:
        learn: 0.2055061
                                  total: 1m 50s
                                                   remaining: 21.3s
419:
        learn: 0.2054294
                                  total: 1m 50s
                                                   remaining: 21.1s
420:
        learn: 0.2053388
                                  total: 1m 50s
                                                   remaining: 20.8s
421:
        learn: 0.2052784
                                  total: 1m 51s
                                                   remaining: 20.5s
                                  total: 1m 51s
422:
        learn: 0.2052701
                                                   remaining: 20.3s
423:
        learn: 0.2052549
                                  total: 1m 51s
                                                   remaining: 20s
424:
        learn: 0.2052177
                                  total: 1m 51s
                                                   remaining: 19.8s
425:
        learn: 0.2051234
                                  total: 1m 52s
                                                   remaining: 19.5s
426:
        learn: 0.2050671
                                  total: 1m 52s
                                                   remaining: 19.2s
427:
        learn: 0.2049612
                                  total: 1m 52s
                                                   remaining: 19s
428:
                                  total: 1m 52s
        learn: 0.2048298
                                                   remaining: 18.7s
429:
        learn: 0.2047282
                                  total: 1m 53s
                                                   remaining: 18.4s
430:
        learn: 0.2046553
                                  total: 1m 53s
                                                   remaining: 18.2s
431:
        learn: 0.2045988
                                  total: 1m 53s
                                                   remaining: 17.9s
432:
        learn: 0.2045442
                                  total: 1m 54s
                                                   remaining: 17.7s
433:
        learn: 0.2044763
                                  total: 1m 54s
                                                   remaining: 17.4s
434:
        learn: 0.2044280
                                  total: 1m 54s
                                                   remaining: 17.1s
435:
        learn: 0.2044135
                                  total: 1m 54s
                                                   remaining: 16.9s
436:
        learn: 0.2043985
                                  total: 1m 55s
                                                   remaining: 16.6s
437:
        learn: 0.2043363
                                  total: 1m 55s
                                                   remaining: 16.4s
        learn: 0.2043032
                                  total: 1m 55s
438:
                                                   remaining: 16.1s
439:
        learn: 0.2042535
                                  total: 1m 56s
                                                   remaining: 15.8s
        learn: 0.2041183
440:
                                  total: 1m 56s
                                                   remaining: 15.6s
441:
        learn: 0.2040669
                                  total: 1m 56s
                                                   remaining: 15.3s
442:
        learn: 0.2040462
                                  total: 1m 56s
                                                   remaining: 15s
443:
        learn: 0.2039204
                                  total: 1m 57s
                                                   remaining: 14.8s
444:
        learn: 0.2037464
                                  total: 1m 57s
                                                   remaining: 14.5s
445:
        learn: 0.2036191
                                  total: 1m 57s
                                                   remaining: 14.3s
446:
        learn: 0.2035738
                                  total: 1m 58s
                                                   remaining: 14s
447:
        learn: 0.2034788
                                  total: 1m 58s
                                                   remaining: 13.7s
448:
        learn: 0.2034382
                                  total: 1m 58s
                                                   remaining: 13.5s
                                                   remaining: 13.2s
449:
        learn: 0.2034244
                                  total: 1m 58s
450:
        learn: 0.2033706
                                  total: 1m 59s
                                                   remaining: 13s
451:
        learn: 0.2032506
                                  total: 1m 59s
                                                   remaining: 12.7s
452:
        learn: 0.2031701
                                  total: 1m 59s
                                                   remaining: 12.4s
```

| 453:                          | loarn  | 0.2031325 | total: | Om. |     | remaining: | 12 2a |
|-------------------------------|--------|-----------|--------|-----|-----|------------|-------|
| 453:<br>454:                  |        | 0.2031323 | total: |     |     | remaining: |       |
| 454.<br>455:                  |        | 0.2030862 | total: | 2m  |     | _          | 11.9s |
|                               |        |           |        |     |     | O          |       |
| 456:                          |        | 0.2028967 | total: |     | 4   | remaining: | 11.4s |
| 457:                          |        | 0.2028782 | total: |     | 1s  | remaining: | 11.1s |
| 458:                          |        | 0.2028635 | total: |     | 1s  | remaining: |       |
| 459:                          |        | 0.2027462 | total: |     | 1s  | remaining: | 10.6s |
| 460:                          |        | 0.2026558 | total: |     | 2s  | remaining: | 10.3s |
| 461:                          |        | 0.2025848 | total: |     |     | remaining: |       |
| 462:                          |        | 0.2025684 | total: |     |     | remaining: |       |
| 463:                          |        | 0.2025196 | total: |     | 2s  | remaining: | 9.54s |
| 464:                          |        | 0.2023978 | total: |     | 3s  | remaining: | 9.27s |
| 465:                          | learn: | 0.2023689 | total: | 2m  | 3s  | remaining: |       |
| 466:                          | learn: | 0.2023187 | total: | 2m  | 3s  | remaining: | 8.75s |
| 467:                          | learn: | 0.2022835 | total: | 2m  | 4s  | remaining: | 8.48s |
| 468:                          | learn: | 0.2021807 | total: | 2m  | 4s  | remaining: | 8.22s |
| 469:                          | learn: | 0.2020836 | total: | 2m  | 4s  | remaining: | 7.96s |
| 470:                          | learn: | 0.2020433 | total: | 2m  | 5s  | remaining: | 7.7s  |
| 471:                          | learn: | 0.2019232 | total: | 2m  | 5s  | remaining: | 7.44s |
| 472:                          | learn: | 0.2018834 | total: | 2m  | 5s  | remaining: | 7.18s |
| 473:                          | learn: | 0.2018430 | total: | 2m  | 6s  | remaining: | 6.91s |
| 474:                          | learn: | 0.2018130 | total: | 2m  | 6s  | remaining: | 6.65s |
| 475:                          | learn: | 0.2017752 | total: | 2m  | 6s  | remaining: | 6.38s |
| 476:                          | learn: | 0.2017289 | total: | 2m  | 6s  | remaining: |       |
| 477:                          | learn: | 0.2015918 | total: | 2m  | 7s  | remaining: |       |
| 478:                          | learn: | 0.2015348 | total: | 2m  | 7s  | remaining: |       |
| 479:                          | learn: |           | total: |     | 7s  | remaining: | 5.32s |
| 480:                          | learn: | 0.2013928 | total: |     | 8s  | remaining: |       |
| 481:                          |        | 0.2013331 | total: |     |     | remaining: |       |
| 482:                          |        | 0.2012318 | total: | 2m  | 8s  | remaining: |       |
| 483:                          |        | 0.2009100 | total: |     | 9s  | remaining: |       |
| 484:                          |        | 0.2008898 | total: |     |     | remaining: |       |
| 485:                          |        | 0.2007619 | total: |     |     | remaining: |       |
| 486:                          |        | 0.2006932 | total: |     |     | remaining: |       |
| 487:                          |        | 0.2005945 | total: |     |     | remaining: |       |
| 488:                          |        | 0.2005590 | total: |     |     | remaining: |       |
| 489:                          |        | 0.2003590 | total: |     |     | remaining: |       |
| 499:                          |        | 0.2004007 | total: |     |     | remaining: |       |
| 490:<br>491:                  |        | 0.2004022 | total: |     |     | remaining: |       |
|                               |        |           | total: |     |     | J          |       |
| 492:                          |        | 0.2000302 |        |     |     | remaining: |       |
| 493:                          |        | 0.1999737 | total: |     |     | remaining: |       |
| 494:                          |        | 0.1998874 | total: |     |     | remaining: |       |
| 495:                          |        | 0.1998031 | total: |     |     | remaining: |       |
| 496:                          |        | 0.1997428 | total: |     |     | remaining: |       |
| 497:                          |        | 0.1996197 | total: |     |     | remaining: |       |
| 498:                          |        | 0.1995690 | total: |     |     | remaining: |       |
| 499:                          |        | 0.1995369 | total: | 2m  | 13s | remaining: | 0us   |
| Learning rate set to 0.172923 |        |           |        |     |     |            |       |

```
0:
        learn: 0.9785620
                                  total: 315ms
                                                   remaining: 2m 37s
1:
        learn: 0.8930099
                                  total: 647ms
                                                   remaining: 2m 41s
                                  total: 929ms
2:
        learn: 0.8310988
                                                   remaining: 2m 33s
3:
        learn: 0.7859451
                                  total: 1.21s
                                                   remaining: 2m 29s
                                                   remaining: 2m 31s
4:
        learn: 0.6850580
                                  total: 1.53s
                                  total: 1.8s
                                                   remaining: 2m 27s
5:
        learn: 0.6106484
6:
        learn: 0.5800236
                                  total: 2.04s
                                                   remaining: 2m 23s
7:
        learn: 0.5306782
                                  total: 2.33s
                                                   remaining: 2m 23s
        learn: 0.4907446
8.
                                  total: 2.6s
                                                   remaining: 2m 21s
9:
        learn: 0.4706794
                                  total: 2.88s
                                                   remaining: 2m 21s
        learn: 0.4444576
10:
                                  total: 3.15s
                                                   remaining: 2m 20s
                                                   remaining: 2m 19s
11:
        learn: 0.4337219
                                  total: 3.43s
12:
        learn: 0.4089730
                                  total: 3.7s
                                                   remaining: 2m 18s
13:
        learn: 0.3882993
                                  total: 3.95s
                                                   remaining: 2m 17s
14:
        learn: 0.3733495
                                  total: 4.29s
                                                   remaining: 2m 18s
        learn: 0.3605458
                                  total: 4.6s
                                                   remaining: 2m 19s
15:
16:
        learn: 0.3483163
                                  total: 4.87s
                                                   remaining: 2m 18s
17:
        learn: 0.3396954
                                  total: 5.15s
                                                   remaining: 2m 18s
        learn: 0.3259238
                                  total: 5.46s
                                                   remaining: 2m 18s
18:
19:
        learn: 0.3217960
                                  total: 5.76s
                                                   remaining: 2m 18s
20:
        learn: 0.3192888
                                  total: 6.02s
                                                   remaining: 2m 17s
21:
        learn: 0.3155650
                                  total: 6.37s
                                                   remaining: 2m 18s
22:
        learn: 0.3044341
                                  total: 6.67s
                                                   remaining: 2m 18s
23:
        learn: 0.3016508
                                  total: 6.97s
                                                   remaining: 2m 18s
24:
        learn: 0.2930460
                                  total: 7.31s
                                                   remaining: 2m 18s
                                  total: 7.59s
25:
        learn: 0.2908204
                                                   remaining: 2m 18s
26:
        learn: 0.2835284
                                  total: 7.87s
                                                   remaining: 2m 17s
27:
        learn: 0.2776734
                                  total: 8.16s
                                                   remaining: 2m 17s
28:
        learn: 0.2723085
                                  total: 8.44s
                                                   remaining: 2m 17s
29:
        learn: 0.2677479
                                  total: 8.74s
                                                   remaining: 2m 16s
30:
        learn: 0.2669629
                                  total: 9.03s
                                                   remaining: 2m 16s
31:
        learn: 0.2664014
                                  total: 9.34s
                                                   remaining: 2m 16s
32:
        learn: 0.2628172
                                  total: 9.63s
                                                   remaining: 2m 16s
33:
        learn: 0.2620860
                                  total: 9.92s
                                                   remaining: 2m 16s
                                                   remaining: 2m 15s
34:
        learn: 0.2578501
                                  total: 10.2s
35:
        learn: 0.2564221
                                  total: 10.5s
                                                   remaining: 2m 14s
36:
        learn: 0.2531858
                                  total: 10.8s
                                                   remaining: 2m 14s
37:
        learn: 0.2527608
                                  total: 11.1s
                                                   remaining: 2m 14s
        learn: 0.2525242
                                  total: 11.3s
                                                   remaining: 2m 13s
38:
39:
        learn: 0.2504783
                                  total: 11.6s
                                                   remaining: 2m 13s
40:
        learn: 0.2500452
                                  total: 11.9s
                                                   remaining: 2m 13s
41:
        learn: 0.2497231
                                  total: 12.2s
                                                   remaining: 2m 13s
42:
        learn: 0.2471069
                                  total: 12.5s
                                                   remaining: 2m 12s
43:
        learn: 0.2468439
                                  total: 12.8s
                                                   remaining: 2m 12s
44:
        learn: 0.2455985
                                  total: 13.1s
                                                   remaining: 2m 11s
45:
        learn: 0.2452159
                                  total: 13.4s
                                                   remaining: 2m 12s
46:
        learn: 0.2429449
                                  total: 13.7s
                                                   remaining: 2m 12s
47:
        learn: 0.2410610
                                  total: 14.1s
                                                   remaining: 2m 12s
```

```
48:
        learn: 0.2408260
                                  total: 14.3s
                                                   remaining: 2m 12s
49:
        learn: 0.2403741
                                  total: 14.7s
                                                   remaining: 2m 12s
50:
        learn: 0.2400196
                                  total: 15s
                                                   remaining: 2m 11s
51:
        learn: 0.2398071
                                  total: 15.3s
                                                   remaining: 2m 11s
                                                   remaining: 2m 11s
52:
        learn: 0.2394964
                                  total: 15.6s
        learn: 0.2393229
                                  total: 16s
                                                   remaining: 2m 12s
53:
54:
        learn: 0.2381942
                                  total: 16.3s
                                                   remaining: 2m 12s
55:
        learn: 0.2379910
                                  total: 16.6s
                                                   remaining: 2m 11s
        learn: 0.2378145
                                  total: 16.9s
56:
                                                   remaining: 2m 11s
57:
        learn: 0.2374874
                                  total: 17.2s
                                                   remaining: 2m 10s
        learn: 0.2372999
                                  total: 17.5s
58:
                                                   remaining: 2m 10s
                                                   remaining: 2m 10s
59:
        learn: 0.2361864
                                  total: 17.8s
60:
        learn: 0.2359451
                                  total: 18s
                                                   remaining: 2m 9s
61:
        learn: 0.2358046
                                  total: 18.4s
                                                   remaining: 2m 9s
62:
        learn: 0.2355980
                                  total: 18.6s
                                                   remaining: 2m 9s
63:
        learn: 0.2353938
                                  total: 18.9s
                                                   remaining: 2m 8s
64:
        learn: 0.2351035
                                  total: 19.2s
                                                   remaining: 2m 8s
65:
        learn: 0.2349761
                                  total: 19.4s
                                                   remaining: 2m 7s
        learn: 0.2345961
                                  total: 19.7s
                                                   remaining: 2m 7s
66:
67:
        learn: 0.2343218
                                  total: 20s
                                                   remaining: 2m 7s
68:
        learn: 0.2333170
                                  total: 20.3s
                                                   remaining: 2m 6s
        learn: 0.2324319
                                  total: 20.6s
                                                   remaining: 2m 6s
69:
70:
        learn: 0.2321657
                                  total: 20.9s
                                                   remaining: 2m 6s
71:
        learn: 0.2307703
                                  total: 21.3s
                                                   remaining: 2m 6s
72:
        learn: 0.2306045
                                  total: 21.6s
                                                   remaining: 2m 6s
        learn: 0.2304404
73:
                                  total: 21.8s
                                                   remaining: 2m 5s
                                  total: 22.1s
74:
        learn: 0.2302863
                                                   remaining: 2m 5s
75:
                                  total: 22.4s
        learn: 0.2299252
                                                   remaining: 2m 4s
                                  total: 22.7s
76:
        learn: 0.2295814
                                                   remaining: 2m 4s
77:
        learn: 0.2295050
                                  total: 23s
                                                   remaining: 2m 4s
78:
        learn: 0.2293573
                                  total: 23.2s
                                                   remaining: 2m 3s
79:
        learn: 0.2291486
                                  total: 23.6s
                                                   remaining: 2m 3s
80:
        learn: 0.2289388
                                  total: 23.9s
                                                   remaining: 2m 3s
81:
        learn: 0.2288395
                                  total: 24.2s
                                                   remaining: 2m 3s
        learn: 0.2287395
                                  total: 24.5s
                                                   remaining: 2m 3s
82:
                                  total: 24.8s
83:
        learn: 0.2286150
                                                   remaining: 2m 2s
84:
        learn: 0.2283963
                                  total: 25.1s
                                                   remaining: 2m 2s
85:
        learn: 0.2282523
                                  total: 25.4s
                                                   remaining: 2m 2s
        learn: 0.2277021
                                  total: 25.7s
                                                   remaining: 2m 2s
86:
87:
        learn: 0.2275493
                                  total: 26.1s
                                                   remaining: 2m 1s
                                  total: 26.4s
88:
        learn: 0.2273526
                                                   remaining: 2m 1s
89:
        learn: 0.2272213
                                  total: 26.7s
                                                   remaining: 2m 1s
90:
        learn: 0.2270133
                                  total: 26.9s
                                                   remaining: 2m 1s
91:
        learn: 0.2268997
                                  total: 27.2s
                                                   remaining: 2m
92:
        learn: 0.2260903
                                  total: 27.5s
                                                   remaining: 2m
93:
        learn: 0.2259549
                                  total: 27.8s
                                                   remaining: 2m
94:
        learn: 0.2257864
                                  total: 28.1s
                                                   remaining: 1m 59s
95:
        learn: 0.2255919
                                  total: 28.3s
                                                   remaining: 1m 59s
```

```
96:
        learn: 0.2255036
                                  total: 28.6s
                                                   remaining: 1m 58s
97:
        learn: 0.2254188
                                  total: 28.8s
                                                   remaining: 1m 58s
98:
        learn: 0.2253505
                                  total: 29.1s
                                                   remaining: 1m 57s
        learn: 0.2251893
                                  total: 29.4s
                                                   remaining: 1m 57s
99:
                                                   remaining: 1m 57s
100:
        learn: 0.2251385
                                  total: 29.7s
                                  total: 30s
                                                   remaining: 1m 57s
101:
        learn: 0.2250068
102:
        learn: 0.2248523
                                  total: 30.3s
                                                   remaining: 1m 56s
103:
        learn: 0.2248158
                                  total: 30.6s
                                                   remaining: 1m 56s
104:
        learn: 0.2246988
                                  total: 30.9s
                                                   remaining: 1m 56s
105:
        learn: 0.2245937
                                  total: 31.1s
                                                   remaining: 1m 55s
        learn: 0.2244090
106:
                                  total: 31.4s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
107:
        learn: 0.2236450
                                  total: 31.8s
                                  total: 32.1s
108:
        learn: 0.2235669
                                                   remaining: 1m 55s
109:
        learn: 0.2234876
                                  total: 32.4s
                                                   remaining: 1m 54s
110:
        learn: 0.2233068
                                  total: 32.7s
                                                   remaining: 1m 54s
        learn: 0.2232376
111:
                                  total: 32.9s
                                                   remaining: 1m 54s
112:
        learn: 0.2231517
                                  total: 33.2s
                                                   remaining: 1m 53s
113:
        learn: 0.2230493
                                  total: 33.6s
                                                   remaining: 1m 53s
        learn: 0.2225359
                                  total: 33.9s
                                                   remaining: 1m 53s
114.
115:
        learn: 0.2224151
                                  total: 34.2s
                                                   remaining: 1m 53s
116:
        learn: 0.2223596
                                  total: 34.6s
                                                   remaining: 1m 53s
117:
        learn: 0.2222920
                                  total: 34.9s
                                                   remaining: 1m 52s
118:
        learn: 0.2221111
                                  total: 35.1s
                                                   remaining: 1m 52s
119:
                                  total: 35.4s
                                                   remaining: 1m 52s
        learn: 0.2219812
120:
        learn: 0.2218870
                                  total: 35.7s
                                                   remaining: 1m 51s
121:
        learn: 0.2217042
                                  total: 36s
                                                   remaining: 1m 51s
        learn: 0.2215063
                                                   remaining: 1m 51s
122:
                                  total: 36.3s
123:
        learn: 0.2214284
                                  total: 36.6s
                                                   remaining: 1m 50s
        learn: 0.2213598
124:
                                  total: 36.9s
                                                   remaining: 1m 50s
125:
        learn: 0.2212246
                                  total: 37.2s
                                                   remaining: 1m 50s
        learn: 0.2211376
                                  total: 37.4s
                                                   remaining: 1m 49s
126:
127:
        learn: 0.2210661
                                  total: 37.7s
                                                   remaining: 1m 49s
128:
        learn: 0.2209273
                                  total: 38s
                                                   remaining: 1m 49s
129:
        learn: 0.2208307
                                  total: 38.2s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
130:
        learn: 0.2207558
                                  total: 38.5s
131:
        learn: 0.2206848
                                  total: 38.8s
                                                   remaining: 1m 48s
132:
        learn: 0.2204881
                                  total: 39.1s
                                                   remaining: 1m 47s
133:
        learn: 0.2203051
                                  total: 39.4s
                                                   remaining: 1m 47s
                                  total: 39.7s
134:
        learn: 0.2202488
                                                   remaining: 1m 47s
135:
        learn: 0.2202005
                                  total: 40s
                                                   remaining: 1m 47s
136:
        learn: 0.2201425
                                                   remaining: 1m 46s
                                  total: 40.3s
        learn: 0.2200773
                                                   remaining: 1m 46s
137:
                                  total: 40.6s
138:
        learn: 0.2200140
                                  total: 40.9s
                                                   remaining: 1m 46s
139:
        learn: 0.2199026
                                  total: 41.1s
                                                   remaining: 1m 45s
140:
        learn: 0.2198112
                                  total: 41.4s
                                                   remaining: 1m 45s
141:
        learn: 0.2197807
                                  total: 41.6s
                                                   remaining: 1m 44s
142:
        learn: 0.2197080
                                  total: 41.9s
                                                   remaining: 1m 44s
143:
        learn: 0.2196303
                                  total: 42.2s
                                                   remaining: 1m 44s
```

```
144:
        learn: 0.2195432
                                  total: 42.5s
                                                   remaining: 1m 44s
145:
        learn: 0.2194366
                                  total: 42.8s
                                                   remaining: 1m 43s
                                  total: 43s
146:
        learn: 0.2193242
                                                   remaining: 1m 43s
147:
        learn: 0.2192371
                                  total: 43.4s
                                                   remaining: 1m 43s
148:
        learn: 0.2188923
                                  total: 43.7s
                                                   remaining: 1m 42s
                                                   remaining: 1m 42s
149:
        learn: 0.2188431
                                  total: 44s
150:
        learn: 0.2187562
                                  total: 44.3s
                                                   remaining: 1m 42s
151:
        learn: 0.2186999
                                  total: 44.6s
                                                   remaining: 1m 42s
152:
        learn: 0.2186504
                                  total: 44.9s
                                                   remaining: 1m 41s
153:
        learn: 0.2185455
                                  total: 45.2s
                                                   remaining: 1m 41s
154:
        learn: 0.2183631
                                  total: 45.6s
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
155:
        learn: 0.2182896
                                  total: 46s
156:
        learn: 0.2182317
                                                   remaining: 1m 41s
                                  total: 46.2s
157:
        learn: 0.2180702
                                  total: 46.6s
                                                   remaining: 1m 40s
158:
        learn: 0.2179798
                                  total: 46.8s
                                                   remaining: 1m 40s
159:
        learn: 0.2178839
                                  total: 47.1s
                                                   remaining: 1m 40s
160:
        learn: 0.2176896
                                  total: 47.4s
                                                   remaining: 1m 39s
        learn: 0.2174977
                                  total: 47.7s
                                                   remaining: 1m 39s
161:
        learn: 0.2174379
                                  total: 48s
                                                   remaining: 1m 39s
162:
163:
        learn: 0.2173215
                                  total: 48.3s
                                                   remaining: 1m 38s
164:
        learn: 0.2171270
                                  total: 48.6s
                                                   remaining: 1m 38s
165:
        learn: 0.2170667
                                  total: 48.9s
                                                   remaining: 1m 38s
166:
        learn: 0.2170084
                                  total: 49.2s
                                                   remaining: 1m 38s
                                  total: 49.5s
                                                   remaining: 1m 37s
167:
        learn: 0.2169212
168:
        learn: 0.2168876
                                  total: 49.8s
                                                   remaining: 1m 37s
                                  total: 50s
169:
        learn: 0.2168151
                                                   remaining: 1m 37s
        learn: 0.2166200
                                                   remaining: 1m 36s
170:
                                  total: 50.4s
171:
        learn: 0.2165489
                                  total: 50.6s
                                                   remaining: 1m 36s
172:
        learn: 0.2165025
                                  total: 50.9s
                                                   remaining: 1m 36s
173:
        learn: 0.2162605
                                  total: 51.2s
                                                   remaining: 1m 35s
174:
        learn: 0.2161720
                                  total: 51.4s
                                                   remaining: 1m 35s
175:
        learn: 0.2160397
                                  total: 51.7s
                                                   remaining: 1m 35s
176:
        learn: 0.2159809
                                  total: 52.2s
                                                   remaining: 1m 35s
177:
        learn: 0.2158820
                                  total: 52.4s
                                                   remaining: 1m 34s
                                                   remaining: 1m 34s
178:
        learn: 0.2157583
                                  total: 52.7s
179:
        learn: 0.2156940
                                  total: 53s
                                                   remaining: 1m 34s
180:
        learn: 0.2156448
                                  total: 53.3s
                                                   remaining: 1m 33s
181:
        learn: 0.2155504
                                  total: 53.6s
                                                   remaining: 1m 33s
182:
        learn: 0.2154422
                                  total: 53.9s
                                                   remaining: 1m 33s
183:
        learn: 0.2153489
                                  total: 54.2s
                                                   remaining: 1m 33s
184:
        learn: 0.2153277
                                  total: 54.5s
                                                   remaining: 1m 32s
                                  total: 54.7s
                                                   remaining: 1m 32s
185:
        learn: 0.2152452
        learn: 0.2151682
                                  total: 55s
                                                   remaining: 1m 32s
186:
187:
        learn: 0.2149811
                                  total: 55.3s
                                                   remaining: 1m 31s
188:
        learn: 0.2148482
                                  total: 55.6s
                                                   remaining: 1m 31s
189:
        learn: 0.2146948
                                  total: 55.9s
                                                   remaining: 1m 31s
190:
        learn: 0.2145892
                                  total: 56.2s
                                                   remaining: 1m 30s
191:
        learn: 0.2143885
                                  total: 56.5s
                                                   remaining: 1m 30s
```

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192:
        learn: 0.2142975
                                  total: 56.8s
                                                   remaining: 1m 30s
193:
        learn: 0.2141975
                                  total: 57.1s
                                                   remaining: 1m 30s
194:
        learn: 0.2141594
                                  total: 57.4s
                                                   remaining: 1m 29s
        learn: 0.2140869
                                  total: 57.6s
                                                   remaining: 1m 29s
195:
                                                   remaining: 1m 29s
196:
        learn: 0.2138765
                                  total: 57.9s
                                                   remaining: 1m 28s
197:
        learn: 0.2138144
                                  total: 58.2s
198:
        learn: 0.2136840
                                  total: 58.5s
                                                   remaining: 1m 28s
199:
        learn: 0.2135537
                                  total: 58.8s
                                                   remaining: 1m 28s
200:
        learn: 0.2135426
                                  total: 59s
                                                   remaining: 1m 27s
201:
        learn: 0.2134500
                                  total: 59.3s
                                                   remaining: 1m 27s
202:
        learn: 0.2134146
                                  total: 59.6s
                                                   remaining: 1m 27s
203:
        learn: 0.2132779
                                  total: 59.9s
                                                   remaining: 1m 26s
204:
        learn: 0.2132641
                                                   remaining: 1m 26s
                                  total: 1m
205:
        learn: 0.2131537
                                  total: 1m
                                                   remaining: 1m 26s
206:
        learn: 0.2130515
                                  total: 1m
                                                   remaining: 1m 26s
207:
        learn: 0.2129948
                                  total: 1m 1s
                                                   remaining: 1m 25s
208:
        learn: 0.2125694
                                  total: 1m 1s
                                                   remaining: 1m 25s
                                  total: 1m 1s
209:
        learn: 0.2125392
                                                   remaining: 1m 25s
        learn: 0.2123586
                                                   remaining: 1m 24s
210:
                                  total: 1m 1s
211:
        learn: 0.2122581
                                  total: 1m 2s
                                                   remaining: 1m 24s
                                  total: 1m 2s
212:
        learn: 0.2122327
                                                   remaining: 1m 24s
                                  total: 1m 2s
213:
        learn: 0.2121835
                                                   remaining: 1m 24s
214:
        learn: 0.2121325
                                  total: 1m 3s
                                                   remaining: 1m 23s
215:
                                  total: 1m 3s
                                                   remaining: 1m 23s
        learn: 0.2120565
216:
        learn: 0.2120358
                                  total: 1m 3s
                                                   remaining: 1m 23s
217:
        learn: 0.2119794
                                  total: 1m 4s
                                                   remaining: 1m 22s
218:
        learn: 0.2118949
                                                   remaining: 1m 22s
                                  total: 1m 4s
219:
        learn: 0.2117070
                                  total: 1m 4s
                                                   remaining: 1m 22s
220:
        learn: 0.2116415
                                  total: 1m 4s
                                                   remaining: 1m 21s
221:
        learn: 0.2115966
                                  total: 1m 5s
                                                   remaining: 1m 21s
222:
        learn: 0.2115436
                                  total: 1m 5s
                                                   remaining: 1m 21s
223:
        learn: 0.2114462
                                  total: 1m 5s
                                                   remaining: 1m 21s
224:
        learn: 0.2113103
                                  total: 1m 6s
                                                   remaining: 1m 20s
225:
        learn: 0.2112691
                                  total: 1m 6s
                                                   remaining: 1m 20s
226:
        learn: 0.2112210
                                  total: 1m 6s
                                                   remaining: 1m 20s
227:
        learn: 0.2111678
                                  total: 1m 6s
                                                   remaining: 1m 19s
228:
        learn: 0.2111431
                                  total: 1m 7s
                                                   remaining: 1m 19s
229:
        learn: 0.2109218
                                  total: 1m 7s
                                                   remaining: 1m 19s
230:
                                  total: 1m 7s
        learn: 0.2107756
                                                   remaining: 1m 19s
231:
        learn: 0.2107544
                                  total: 1m 8s
                                                   remaining: 1m 18s
232:
        learn: 0.2106956
                                  total: 1m 8s
                                                   remaining: 1m 18s
233:
        learn: 0.2106306
                                                   remaining: 1m 18s
                                  total: 1m 8s
234:
        learn: 0.2105871
                                  total: 1m 9s
                                                   remaining: 1m 17s
235:
        learn: 0.2105490
                                  total: 1m 9s
                                                   remaining: 1m 17s
236:
        learn: 0.2105094
                                  total: 1m 9s
                                                   remaining: 1m 17s
237:
        learn: 0.2103937
                                  total: 1m 9s
                                                   remaining: 1m 17s
238:
        learn: 0.2102855
                                  total: 1m 10s
                                                   remaining: 1m 16s
239:
        learn: 0.2102419
                                  total: 1m 10s
                                                   remaining: 1m 16s
```

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240:
        learn: 0.2102078
                                  total: 1m 10s
                                                   remaining: 1m 16s
                                                  remaining: 1m 15s
241:
        learn: 0.2100756
                                  total: 1m 11s
242:
        learn: 0.2099678
                                  total: 1m 11s
                                                   remaining: 1m 15s
243:
        learn: 0.2098897
                                  total: 1m 11s
                                                   remaining: 1m 15s
244:
        learn: 0.2098663
                                  total: 1m 11s
                                                   remaining: 1m 14s
                                  total: 1m 12s
                                                   remaining: 1m 14s
245:
        learn: 0.2098065
246:
        learn: 0.2096895
                                  total: 1m 12s
                                                   remaining: 1m 14s
247:
        learn: 0.2095848
                                  total: 1m 12s
                                                   remaining: 1m 14s
248:
        learn: 0.2094981
                                  total: 1m 13s
                                                   remaining: 1m 13s
249:
        learn: 0.2094557
                                  total: 1m 13s
                                                   remaining: 1m 13s
250:
        learn: 0.2094099
                                  total: 1m 13s
                                                   remaining: 1m 13s
251:
        learn: 0.2093019
                                  total: 1m 14s
                                                   remaining: 1m 12s
252:
        learn: 0.2092396
                                  total: 1m 14s
                                                   remaining: 1m 12s
253:
        learn: 0.2091937
                                  total: 1m 14s
                                                   remaining: 1m 12s
254:
        learn: 0.2090823
                                  total: 1m 14s
                                                   remaining: 1m 11s
255:
        learn: 0.2089278
                                  total: 1m 15s
                                                   remaining: 1m 11s
256:
        learn: 0.2088539
                                  total: 1m 15s
                                                   remaining: 1m 11s
257:
        learn: 0.2088113
                                  total: 1m 15s
                                                   remaining: 1m 11s
258:
        learn: 0.2087468
                                  total: 1m 16s
                                                   remaining: 1m 10s
259:
        learn: 0.2087185
                                  total: 1m 16s
                                                   remaining: 1m 10s
260:
        learn: 0.2086713
                                  total: 1m 16s
                                                   remaining: 1m 10s
                                  total: 1m 16s
261:
        learn: 0.2085531
                                                   remaining: 1m 9s
262:
        learn: 0.2085246
                                  total: 1m 17s
                                                   remaining: 1m 9s
263:
        learn: 0.2084270
                                  total: 1m 17s
                                                   remaining: 1m 9s
264:
        learn: 0.2083364
                                  total: 1m 17s
                                                   remaining: 1m 8s
265:
        learn: 0.2080777
                                  total: 1m 18s
                                                   remaining: 1m 8s
266:
        learn: 0.2080342
                                  total: 1m 18s
                                                   remaining: 1m 8s
267:
        learn: 0.2079942
                                  total: 1m 18s
                                                   remaining: 1m 8s
268:
        learn: 0.2078619
                                  total: 1m 18s
                                                   remaining: 1m 7s
269:
        learn: 0.2078041
                                  total: 1m 19s
                                                   remaining: 1m 7s
270:
        learn: 0.2077638
                                  total: 1m 19s
                                                   remaining: 1m 7s
271:
        learn: 0.2076497
                                  total: 1m 19s
                                                   remaining: 1m 6s
272:
        learn: 0.2076148
                                  total: 1m 20s
                                                   remaining: 1m 6s
273:
        learn: 0.2075451
                                  total: 1m 20s
                                                   remaining: 1m 6s
274:
                                  total: 1m 20s
        learn: 0.2074913
                                                   remaining: 1m 6s
                                  total: 1m 21s
275:
        learn: 0.2074038
                                                   remaining: 1m 5s
276:
        learn: 0.2072939
                                  total: 1m 21s
                                                   remaining: 1m 5s
277:
        learn: 0.2072786
                                  total: 1m 21s
                                                   remaining: 1m 5s
                                  total: 1m 22s
278:
        learn: 0.2072475
                                                   remaining: 1m 5s
279:
        learn: 0.2071690
                                  total: 1m 22s
                                                   remaining: 1m 4s
                                  total: 1m 22s
280:
        learn: 0.2070966
                                                   remaining: 1m 4s
        learn: 0.2070505
                                                   remaining: 1m 4s
281:
                                  total: 1m 22s
282:
        learn: 0.2069976
                                  total: 1m 23s
                                                   remaining: 1m 3s
283:
        learn: 0.2069343
                                  total: 1m 23s
                                                   remaining: 1m 3s
284:
        learn: 0.2068986
                                  total: 1m 23s
                                                   remaining: 1m 3s
285:
        learn: 0.2068526
                                  total: 1m 24s
                                                   remaining: 1m 2s
286:
        learn: 0.2068221
                                  total: 1m 24s
                                                   remaining: 1m 2s
287:
        learn: 0.2067762
                                  total: 1m 24s
                                                   remaining: 1m 2s
```

```
learn: 0.2066804
288:
                                  total: 1m 24s
                                                   remaining: 1m 1s
289:
        learn: 0.2065732
                                  total: 1m 25s
                                                   remaining: 1m 1s
290:
        learn: 0.2065507
                                  total: 1m 25s
                                                   remaining: 1m 1s
291:
        learn: 0.2065235
                                  total: 1m 25s
                                                   remaining: 1m 1s
292:
        learn: 0.2064709
                                  total: 1m 26s
                                                   remaining: 1m
                                  total: 1m 26s
293:
        learn: 0.2064320
                                                   remaining: 1m
294:
        learn: 0.2063905
                                  total: 1m 26s
                                                   remaining: 1m
        learn: 0.2062950
                                                   remaining: 59.9s
295:
                                  total: 1m 26s
296:
        learn: 0.2061836
                                  total: 1m 27s
                                                   remaining: 59.6s
297:
        learn: 0.2061493
                                  total: 1m 27s
                                                   remaining: 59.3s
298:
        learn: 0.2060975
                                  total: 1m 27s
                                                   remaining: 59s
299:
        learn: 0.2057528
                                  total: 1m 28s
                                                   remaining: 58.7s
300:
        learn: 0.2056077
                                  total: 1m 28s
                                                   remaining: 58.4s
301:
        learn: 0.2053957
                                  total: 1m 28s
                                                   remaining: 58.1s
302:
        learn: 0.2053260
                                  total: 1m 28s
                                                   remaining: 57.8s
303:
        learn: 0.2052603
                                  total: 1m 29s
                                                   remaining: 57.5s
304:
        learn: 0.2049736
                                  total: 1m 29s
                                                   remaining: 57.2s
                                  total: 1m 29s
305:
        learn: 0.2048816
                                                   remaining: 57s
        learn: 0.2048267
                                  total: 1m 30s
306:
                                                   remaining: 56.7s
307:
        learn: 0.2046818
                                  total: 1m 30s
                                                   remaining: 56.4s
308:
        learn: 0.2046016
                                  total: 1m 30s
                                                   remaining: 56.1s
309:
        learn: 0.2045307
                                  total: 1m 31s
                                                   remaining: 55.8s
310:
        learn: 0.2045055
                                  total: 1m 31s
                                                   remaining: 55.5s
311:
        learn: 0.2044577
                                  total: 1m 31s
                                                   remaining: 55.2s
312:
        learn: 0.2044189
                                  total: 1m 31s
                                                   remaining: 54.9s
                                  total: 1m 32s
        learn: 0.2043809
                                                   remaining: 54.6s
313:
314:
        learn: 0.2042758
                                  total: 1m 32s
                                                   remaining: 54.3s
315:
        learn: 0.2042076
                                  total: 1m 32s
                                                   remaining: 54s
316:
        learn: 0.2040977
                                  total: 1m 32s
                                                   remaining: 53.7s
317:
        learn: 0.2040084
                                  total: 1m 33s
                                                   remaining: 53.4s
318:
        learn: 0.2039787
                                  total: 1m 33s
                                                   remaining: 53.1s
319:
        learn: 0.2039110
                                  total: 1m 33s
                                                   remaining: 52.8s
320:
        learn: 0.2038377
                                  total: 1m 34s
                                                   remaining: 52.5s
321:
        learn: 0.2037585
                                  total: 1m 34s
                                                   remaining: 52.2s
322:
        learn: 0.2036712
                                  total: 1m 34s
                                                   remaining: 51.9s
        learn: 0.2036260
323:
                                  total: 1m 35s
                                                   remaining: 51.6s
324:
        learn: 0.2035263
                                  total: 1m 35s
                                                   remaining: 51.3s
325:
        learn: 0.2034568
                                  total: 1m 35s
                                                   remaining: 51s
326:
        learn: 0.2033999
                                  total: 1m 35s
                                                   remaining: 50.7s
327:
        learn: 0.2033401
                                  total: 1m 36s
                                                   remaining: 50.4s
328:
        learn: 0.2033046
                                  total: 1m 36s
                                                   remaining: 50.1s
329:
        learn: 0.2032381
                                  total: 1m 36s
                                                   remaining: 49.8s
330:
        learn: 0.2031944
                                  total: 1m 37s
                                                   remaining: 49.5s
331:
        learn: 0.2030582
                                  total: 1m 37s
                                                   remaining: 49.3s
                                                   remaining: 49s
332:
        learn: 0.2029832
                                  total: 1m 37s
333:
        learn: 0.2029303
                                  total: 1m 38s
                                                   remaining: 48.7s
334:
        learn: 0.2029004
                                  total: 1m 38s
                                                   remaining: 48.4s
335:
        learn: 0.2028255
                                  total: 1m 38s
                                                   remaining: 48.1s
```

```
learn: 0.2026771
336:
                                  total: 1m 38s
                                                   remaining: 47.8s
337:
        learn: 0.2026423
                                  total: 1m 39s
                                                   remaining: 47.5s
338:
        learn: 0.2026051
                                  total: 1m 39s
                                                   remaining: 47.2s
        learn: 0.2025209
339:
                                  total: 1m 39s
                                                   remaining: 47s
340:
        learn: 0.2024751
                                  total: 1m 40s
                                                   remaining: 46.7s
                                  total: 1m 40s
341:
        learn: 0.2024132
                                                   remaining: 46.4s
342:
        learn: 0.2023562
                                  total: 1m 40s
                                                   remaining: 46.1s
                                                   remaining: 45.8s
343:
        learn: 0.2022564
                                  total: 1m 40s
344:
        learn: 0.2022246
                                  total: 1m 41s
                                                   remaining: 45.5s
345:
        learn: 0.2021749
                                  total: 1m 41s
                                                   remaining: 45.2s
346:
        learn: 0.2021213
                                  total: 1m 41s
                                                   remaining: 44.9s
347:
        learn: 0.2020026
                                  total: 1m 42s
                                                   remaining: 44.6s
348:
        learn: 0.2019405
                                  total: 1m 42s
                                                   remaining: 44.3s
349:
        learn: 0.2018962
                                  total: 1m 42s
                                                   remaining: 44s
                                                   remaining: 43.7s
350:
        learn: 0.2018424
                                  total: 1m 43s
351:
        learn: 0.2016222
                                  total: 1m 43s
                                                   remaining: 43.4s
352:
        learn: 0.2015545
                                  total: 1m 43s
                                                   remaining: 43.1s
                                  total: 1m 43s
353:
        learn: 0.2014847
                                                   remaining: 42.9s
        learn: 0.2013684
                                                   remaining: 42.6s
354:
                                  total: 1m 44s
355:
        learn: 0.2013407
                                  total: 1m 44s
                                                   remaining: 42.3s
356:
        learn: 0.2012860
                                  total: 1m 44s
                                                   remaining: 42s
357:
        learn: 0.2012564
                                  total: 1m 45s
                                                   remaining: 41.7s
358:
        learn: 0.2011684
                                  total: 1m 45s
                                                   remaining: 41.4s
359:
        learn: 0.2011111
                                  total: 1m 45s
                                                   remaining: 41.1s
360:
        learn: 0.2010396
                                  total: 1m 46s
                                                   remaining: 40.8s
        learn: 0.2010202
                                  total: 1m 46s
                                                   remaining: 40.5s
361:
        learn: 0.2009747
362:
                                  total: 1m 46s
                                                   remaining: 40.2s
363:
        learn: 0.2008993
                                  total: 1m 46s
                                                   remaining: 39.9s
364:
        learn: 0.2008144
                                  total: 1m 47s
                                                   remaining: 39.6s
365:
        learn: 0.2006996
                                  total: 1m 47s
                                                   remaining: 39.4s
366:
        learn: 0.2006363
                                  total: 1m 47s
                                                   remaining: 39.1s
367:
        learn: 0.2005742
                                  total: 1m 48s
                                                   remaining: 38.8s
368:
        learn: 0.2005523
                                  total: 1m 48s
                                                   remaining: 38.5s
        learn: 0.2004151
                                  total: 1m 48s
369:
                                                   remaining: 38.2s
370:
        learn: 0.2003749
                                  total: 1m 48s
                                                   remaining: 37.9s
        learn: 0.2003431
371:
                                  total: 1m 49s
                                                   remaining: 37.6s
372:
        learn: 0.2002721
                                  total: 1m 49s
                                                   remaining: 37.3s
373:
        learn: 0.2001517
                                  total: 1m 49s
                                                   remaining: 37s
374:
        learn: 0.2000768
                                  total: 1m 50s
                                                   remaining: 36.7s
375:
        learn: 0.2000324
                                  total: 1m 50s
                                                   remaining: 36.4s
376:
        learn: 0.1999962
                                  total: 1m 50s
                                                   remaining: 36.1s
377:
        learn: 0.1999272
                                  total: 1m 50s
                                                   remaining: 35.8s
378:
        learn: 0.1998744
                                  total: 1m 51s
                                                   remaining: 35.5s
379:
        learn: 0.1998397
                                  total: 1m 51s
                                                   remaining: 35.2s
                                                   remaining: 34.9s
380:
        learn: 0.1997546
                                  total: 1m 51s
381:
        learn: 0.1997059
                                  total: 1m 52s
                                                   remaining: 34.6s
382:
        learn: 0.1996672
                                  total: 1m 52s
                                                   remaining: 34.3s
383:
        learn: 0.1995538
                                  total: 1m 52s
                                                   remaining: 34s
```

```
384:
        learn: 0.1995327
                                  total: 1m 53s
                                                   remaining: 33.8s
385:
        learn: 0.1994430
                                  total: 1m 53s
                                                   remaining: 33.5s
386:
        learn: 0.1993815
                                  total: 1m 53s
                                                   remaining: 33.2s
                                                   remaining: 32.9s
387:
        learn: 0.1993219
                                  total: 1m 53s
388:
        learn: 0.1991886
                                  total: 1m 54s
                                                   remaining: 32.6s
                                  total: 1m 54s
                                                   remaining: 32.3s
389:
        learn: 0.1991240
390:
        learn: 0.1989626
                                  total: 1m 54s
                                                   remaining: 32s
391:
        learn: 0.1988330
                                  total: 1m 55s
                                                   remaining: 31.7s
392:
        learn: 0.1987003
                                  total: 1m 55s
                                                   remaining: 31.4s
393:
        learn: 0.1986450
                                  total: 1m 55s
                                                   remaining: 31.1s
394:
        learn: 0.1984985
                                  total: 1m 55s
                                                   remaining: 30.8s
                                  total: 1m 56s
395:
        learn: 0.1984533
                                                   remaining: 30.5s
396:
        learn: 0.1984369
                                  total: 1m 56s
                                                   remaining: 30.3s
397:
        learn: 0.1983407
                                  total: 1m 56s
                                                   remaining: 30s
                                                   remaining: 29.7s
398:
        learn: 0.1982860
                                  total: 1m 57s
399:
        learn: 0.1982147
                                  total: 1m 57s
                                                   remaining: 29.4s
400:
        learn: 0.1981554
                                  total: 1m 57s
                                                   remaining: 29.1s
                                  total: 1m 58s
401:
        learn: 0.1980861
                                                   remaining: 28.8s
                                  total: 1m 58s
402:
        learn: 0.1980471
                                                   remaining: 28.5s
403:
        learn: 0.1979929
                                  total: 1m 58s
                                                   remaining: 28.2s
                                  total: 1m 59s
404:
        learn: 0.1978858
                                                   remaining: 28s
                                  total: 1m 59s
405:
        learn: 0.1978276
                                                   remaining: 27.6s
406:
        learn: 0.1977944
                                  total: 1m 59s
                                                   remaining: 27.4s
407:
        learn: 0.1977574
                                  total: 2m
                                                   remaining: 27.1s
408:
        learn: 0.1976686
                                  total: 2m
                                                   remaining: 26.8s
409:
        learn: 0.1975774
                                                   remaining: 26.5s
                                  total: 2m
410:
        learn: 0.1974980
                                  total: 2m
                                                   remaining: 26.2s
411:
        learn: 0.1973649
                                  total: 2m 1s
                                                   remaining: 25.9s
412:
        learn: 0.1972985
                                  total: 2m 1s
                                                   remaining: 25.6s
413:
        learn: 0.1971735
                                  total: 2m 2s
                                                   remaining: 25.3s
414:
        learn: 0.1971143
                                  total: 2m 2s
                                                   remaining: 25.1s
415:
        learn: 0.1969663
                                  total: 2m 2s
                                                   remaining: 24.8s
                                  total: 2m 3s
416:
        learn: 0.1969337
                                                   remaining: 24.5s
417:
        learn: 0.1967990
                                  total: 2m 3s
                                                   remaining: 24.2s
418:
        learn: 0.1967507
                                  total: 2m 3s
                                                   remaining: 23.9s
419:
        learn: 0.1966539
                                  total: 2m 4s
                                                   remaining: 23.6s
420:
        learn: 0.1966202
                                  total: 2m 4s
                                                   remaining: 23.3s
421:
        learn: 0.1965492
                                  total: 2m 4s
                                                   remaining: 23s
422:
                                  total: 2m 4s
        learn: 0.1964325
                                                   remaining: 22.7s
423:
        learn: 0.1963548
                                  total: 2m 5s
                                                   remaining: 22.5s
424:
        learn: 0.1962960
                                  total: 2m 5s
                                                   remaining: 22.2s
425:
        learn: 0.1962543
                                  total: 2m 5s
                                                   remaining: 21.9s
426:
        learn: 0.1961847
                                  total: 2m 6s
                                                   remaining: 21.6s
427:
        learn: 0.1960904
                                  total: 2m 6s
                                                   remaining: 21.3s
428:
        learn: 0.1959928
                                  total: 2m 6s
                                                   remaining: 21s
429:
        learn: 0.1959498
                                  total: 2m 7s
                                                   remaining: 20.7s
430:
        learn: 0.1959275
                                  total: 2m 7s
                                                   remaining: 20.4s
431:
        learn: 0.1958775
                                  total: 2m 7s
                                                   remaining: 20.1s
```

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432:
        learn: 0.1957807
                                  total: 2m 8s
                                                   remaining: 19.8s
433:
        learn: 0.1957313
                                  total: 2m 8s
                                                   remaining: 19.5s
434:
        learn: 0.1956775
                                  total: 2m 8s
                                                   remaining: 19.2s
                                  total: 2m 8s
                                                   remaining: 18.9s
435:
        learn: 0.1955948
436:
        learn: 0.1955308
                                  total: 2m 9s
                                                   remaining: 18.6s
                                  total: 2m 9s
437:
        learn: 0.1954660
                                                   remaining: 18.3s
438:
        learn: 0.1953861
                                  total: 2m 9s
                                                   remaining: 18s
439:
        learn: 0.1952826
                                  total: 2m 10s
                                                   remaining: 17.7s
440:
        learn: 0.1950286
                                  total: 2m 10s
                                                   remaining: 17.4s
441:
        learn: 0.1949689
                                  total: 2m 10s
                                                   remaining: 17.1s
442:
        learn: 0.1948732
                                  total: 2m 10s
                                                   remaining: 16.8s
443:
        learn: 0.1947307
                                  total: 2m 11s
                                                   remaining: 16.5s
444:
        learn: 0.1946598
                                  total: 2m 11s
                                                   remaining: 16.3s
445:
        learn: 0.1945692
                                  total: 2m 11s
                                                   remaining: 16s
446:
        learn: 0.1945051
                                  total: 2m 12s
                                                   remaining: 15.7s
447:
        learn: 0.1944596
                                  total: 2m 12s
                                                   remaining: 15.4s
448:
        learn: 0.1943671
                                  total: 2m 12s
                                                   remaining: 15.1s
                                  total: 2m 12s
449:
        learn: 0.1942741
                                                   remaining: 14.8s
        learn: 0.1941660
                                  total: 2m 13s
450:
                                                   remaining: 14.5s
451:
        learn: 0.1940769
                                  total: 2m 13s
                                                   remaining: 14.2s
452:
        learn: 0.1940078
                                  total: 2m 13s
                                                   remaining: 13.9s
                                  total: 2m 14s
453:
        learn: 0.1939692
                                                   remaining: 13.6s
454:
        learn: 0.1938450
                                  total: 2m 14s
                                                   remaining: 13.3s
                                  total: 2m 14s
455:
        learn: 0.1937985
                                                   remaining: 13s
456:
        learn: 0.1937400
                                  total: 2m 15s
                                                   remaining: 12.7s
        learn: 0.1936243
457:
                                  total: 2m 15s
                                                   remaining: 12.4s
458:
        learn: 0.1935774
                                  total: 2m 15s
                                                   remaining: 12.1s
459:
        learn: 0.1934994
                                  total: 2m 15s
                                                   remaining: 11.8s
460:
        learn: 0.1934903
                                  total: 2m 16s
                                                   remaining: 11.5s
461:
        learn: 0.1934564
                                  total: 2m 16s
                                                   remaining: 11.2s
462:
        learn: 0.1933826
                                  total: 2m 16s
                                                   remaining: 10.9s
463:
        learn: 0.1933161
                                  total: 2m 17s
                                                   remaining: 10.6s
464:
        learn: 0.1932974
                                  total: 2m 17s
                                                   remaining: 10.4s
        learn: 0.1932386
                                  total: 2m 17s
465:
                                                   remaining: 10.1s
466:
        learn: 0.1931607
                                  total: 2m 18s
                                                   remaining: 9.76s
        learn: 0.1930153
467:
                                  total: 2m 18s
                                                   remaining: 9.46s
468:
        learn: 0.1929213
                                  total: 2m 18s
                                                   remaining: 9.17s
469:
        learn: 0.1929111
                                  total: 2m 18s
                                                   remaining: 8.87s
                                  total: 2m 19s
470:
        learn: 0.1928887
                                                   remaining: 8.57s
471:
        learn: 0.1928165
                                  total: 2m 19s
                                                   remaining: 8.28s
                                  total: 2m 19s
472:
        learn: 0.1927365
                                                   remaining: 7.98s
473:
        learn: 0.1925336
                                  total: 2m 20s
                                                   remaining: 7.69s
474:
        learn: 0.1925111
                                  total: 2m 20s
                                                   remaining: 7.39s
475:
        learn: 0.1924867
                                  total: 2m 20s
                                                   remaining: 7.1s
                                                   remaining: 6.8s
476:
        learn: 0.1924730
                                  total: 2m 21s
477:
        learn: 0.1923887
                                  total: 2m 21s
                                                   remaining: 6.51s
478:
        learn: 0.1923359
                                  total: 2m 21s
                                                   remaining: 6.21s
479:
        learn: 0.1922792
                                  total: 2m 22s
                                                   remaining: 5.92s
```

```
480:
        learn: 0.1922415
                                  total: 2m 22s
                                                   remaining: 5.62s
481:
        learn: 0.1921723
                                  total: 2m 22s
                                                   remaining: 5.33s
482:
        learn: 0.1921364
                                  total: 2m 22s
                                                   remaining: 5.03s
        learn: 0.1920708
                                  total: 2m 23s
                                                   remaining: 4.74s
483:
484:
        learn: 0.1919798
                                  total: 2m 23s
                                                   remaining: 4.44s
                                  total: 2m 23s
                                                   remaining: 4.14s
485:
        learn: 0.1919422
                                  total: 2m 24s
486:
        learn: 0.1918808
                                                   remaining: 3.85s
487:
        learn: 0.1918395
                                  total: 2m 24s
                                                   remaining: 3.55s
                                  total: 2m 24s
488:
        learn: 0.1917478
                                                   remaining: 3.26s
489:
        learn: 0.1916279
                                  total: 2m 25s
                                                   remaining: 2.96s
                                  total: 2m 25s
490:
        learn: 0.1915927
                                                   remaining: 2.66s
491:
        learn: 0.1915288
                                  total: 2m 25s
                                                   remaining: 2.37s
492:
        learn: 0.1914769
                                  total: 2m 26s
                                                   remaining: 2.07s
493:
        learn: 0.1913701
                                  total: 2m 26s
                                                   remaining: 1.78s
                                                   remaining: 1.48s
494:
        learn: 0.1913217
                                  total: 2m 26s
495:
        learn: 0.1912887
                                  total: 2m 26s
                                                   remaining: 1.18s
496:
        learn: 0.1912103
                                  total: 2m 27s
                                                   remaining: 888ms
497:
        learn: 0.1911850
                                  total: 2m 27s
                                                   remaining: 592ms
        learn: 0.1911017
                                  total: 2m 27s
498:
                                                   remaining: 296ms
499:
        learn: 0.1910019
                                  total: 2m 28s
                                                   remaining: Ous
Learning rate set to 0.172923
0:
        learn: 0.9729492
                                  total: 292ms
                                                   remaining: 2m 25s
1:
        learn: 0.8962040
                                  total: 587ms
                                                   remaining: 2m 26s
2:
        learn: 0.8345034
                                  total: 850ms
                                                   remaining: 2m 20s
3:
        learn: 0.7923749
                                  total: 1.24s
                                                   remaining: 2m 33s
4:
        learn: 0.7583960
                                  total: 1.59s
                                                   remaining: 2m 37s
5:
                                                   remaining: 2m 39s
        learn: 0.6620489
                                  total: 1.94s
6:
        learn: 0.5917907
                                  total: 2.29s
                                                   remaining: 2m 40s
7:
                                  total: 2.6s
        learn: 0.5406658
                                                   remaining: 2m 39s
8:
        learn: 0.5212568
                                  total: 2.92s
                                                   remaining: 2m 39s
        learn: 0.4828932
                                  total: 3.25s
9:
                                                   remaining: 2m 39s
10:
        learn: 0.4738210
                                  total: 3.56s
                                                   remaining: 2m 38s
11:
        learn: 0.4436551
                                  total: 3.91s
                                                   remaining: 2m 39s
12:
        learn: 0.4203661
                                  total: 4.25s
                                                   remaining: 2m 39s
                                  total: 4.55s
                                                   remaining: 2m 38s
        learn: 0.4042321
13:
14:
        learn: 0.3882079
                                  total: 4.81s
                                                   remaining: 2m 35s
15:
        learn: 0.3660701
                                  total: 5.16s
                                                   remaining: 2m 36s
        learn: 0.3485879
                                  total: 5.45s
                                                   remaining: 2m 34s
16.
17:
        learn: 0.3352209
                                  total: 5.8s
                                                   remaining: 2m 35s
18:
        learn: 0.3280002
                                  total: 6.11s
                                                   remaining: 2m 34s
19:
        learn: 0.3166018
                                  total: 6.42s
                                                   remaining: 2m 34s
20:
        learn: 0.3065249
                                                   remaining: 2m 33s
                                  total: 6.74s
21:
        learn: 0.2984697
                                  total: 7.04s
                                                   remaining: 2m 32s
22:
        learn: 0.2916620
                                  total: 7.33s
                                                   remaining: 2m 31s
23:
        learn: 0.2868625
                                  total: 7.65s
                                                   remaining: 2m 31s
24:
        learn: 0.2858561
                                  total: 7.98s
                                                   remaining: 2m 31s
25:
        learn: 0.2790300
                                  total: 8.29s
                                                   remaining: 2m 31s
26:
        learn: 0.2751445
                                  total: 8.56s
                                                   remaining: 2m 29s
```

```
27:
        learn: 0.2710259
                                  total: 8.87s
                                                   remaining: 2m 29s
28:
        learn: 0.2702438
                                  total: 9.16s
                                                   remaining: 2m 28s
29:
        learn: 0.2676148
                                  total: 9.45s
                                                   remaining: 2m 27s
30:
        learn: 0.2667575
                                  total: 9.75s
                                                   remaining: 2m 27s
                                                   remaining: 2m 27s
31:
        learn: 0.2614029
                                  total: 10.1s
32:
        learn: 0.2599320
                                  total: 10.3s
                                                   remaining: 2m 26s
33:
        learn: 0.2593760
                                  total: 10.7s
                                                   remaining: 2m 26s
34:
        learn: 0.2568463
                                  total: 11s
                                                   remaining: 2m 25s
        learn: 0.2541448
                                                   remaining: 2m 25s
35:
                                  total: 11.3s
36:
        learn: 0.2519380
                                  total: 11.6s
                                                   remaining: 2m 25s
37:
        learn: 0.2512546
                                  total: 11.9s
                                                   remaining: 2m 24s
                                                   remaining: 2m 24s
38:
        learn: 0.2505282
                                  total: 12.2s
39:
        learn: 0.2483333
                                  total: 12.5s
                                                   remaining: 2m 24s
40:
        learn: 0.2467891
                                  total: 12.9s
                                                   remaining: 2m 24s
41:
        learn: 0.2458324
                                  total: 13.2s
                                                   remaining: 2m 24s
        learn: 0.2454006
42:
                                                   remaining: 2m 23s
                                  total: 13.5s
43:
        learn: 0.2442821
                                  total: 13.8s
                                                   remaining: 2m 22s
44:
        learn: 0.2435938
                                  total: 14s
                                                   remaining: 2m 21s
        learn: 0.2431522
                                  total: 14.4s
                                                   remaining: 2m 22s
45:
46:
        learn: 0.2428049
                                  total: 14.7s
                                                   remaining: 2m 21s
47:
        learn: 0.2426817
                                  total: 15s
                                                   remaining: 2m 21s
        learn: 0.2394217
                                  total: 15.3s
48:
                                                   remaining: 2m 21s
49:
        learn: 0.2388823
                                  total: 15.6s
                                                   remaining: 2m 20s
50:
        learn: 0.2370998
                                  total: 15.9s
                                                   remaining: 2m 20s
51:
        learn: 0.2362014
                                  total: 16.3s
                                                   remaining: 2m 20s
        learn: 0.2360607
52:
                                  total: 16.5s
                                                   remaining: 2m 19s
53:
        learn: 0.2358110
                                  total: 16.8s
                                                   remaining: 2m 19s
54:
        learn: 0.2355849
                                  total: 17.1s
                                                   remaining: 2m 18s
55:
        learn: 0.2333030
                                  total: 17.5s
                                                   remaining: 2m 18s
56:
        learn: 0.2330844
                                  total: 17.7s
                                                   remaining: 2m 17s
57:
        learn: 0.2328685
                                  total: 18s
                                                   remaining: 2m 17s
58:
        learn: 0.2320520
                                  total: 18.4s
                                                   remaining: 2m 17s
59:
        learn: 0.2318757
                                  total: 18.7s
                                                   remaining: 2m 16s
60:
        learn: 0.2316804
                                  total: 18.9s
                                                   remaining: 2m 16s
                                  total: 19.2s
                                                   remaining: 2m 15s
61:
        learn: 0.2313795
62:
        learn: 0.2309142
                                  total: 19.5s
                                                   remaining: 2m 15s
63:
        learn: 0.2307994
                                  total: 19.8s
                                                   remaining: 2m 15s
64:
        learn: 0.2307293
                                  total: 20.1s
                                                   remaining: 2m 14s
        learn: 0.2305242
                                  total: 20.4s
                                                   remaining: 2m 14s
65:
66:
        learn: 0.2303665
                                  total: 20.7s
                                                   remaining: 2m 14s
                                  total: 21s
67:
        learn: 0.2302275
                                                   remaining: 2m 13s
        learn: 0.2300109
                                  total: 21.3s
                                                   remaining: 2m 13s
68:
69:
        learn: 0.2297141
                                  total: 21.6s
                                                   remaining: 2m 12s
70:
        learn: 0.2293880
                                  total: 22s
                                                   remaining: 2m 12s
71:
        learn: 0.2289180
                                  total: 22.2s
                                                   remaining: 2m 12s
72:
        learn: 0.2286720
                                  total: 22.5s
                                                   remaining: 2m 11s
73:
        learn: 0.2286182
                                  total: 22.8s
                                                   remaining: 2m 11s
74:
        learn: 0.2283967
                                  total: 23s
                                                   remaining: 2m 10s
```

```
75:
        learn: 0.2282405
                                  total: 23.3s
                                                   remaining: 2m 9s
76:
        learn: 0.2274368
                                  total: 23.6s
                                                   remaining: 2m 9s
77:
        learn: 0.2269193
                                  total: 23.9s
                                                   remaining: 2m 9s
78:
        learn: 0.2259011
                                  total: 24.2s
                                                   remaining: 2m 9s
                                                   remaining: 2m 8s
79:
        learn: 0.2258339
                                  total: 24.5s
        learn: 0.2255495
                                  total: 24.9s
                                                   remaining: 2m 8s
80:
81:
        learn: 0.2253059
                                  total: 25.1s
                                                   remaining: 2m 8s
82:
        learn: 0.2252667
                                  total: 25.4s
                                                   remaining: 2m 7s
        learn: 0.2236368
                                  total: 25.8s
                                                   remaining: 2m 7s
83:
84:
        learn: 0.2234012
                                  total: 26.1s
                                                   remaining: 2m 7s
                                  total: 26.4s
        learn: 0.2232690
85:
                                                   remaining: 2m 6s
                                                   remaining: 2m 6s
86:
        learn: 0.2230218
                                  total: 26.7s
                                  total: 26.9s
87:
        learn: 0.2228582
                                                   remaining: 2m 6s
88:
        learn: 0.2218078
                                  total: 27.2s
                                                   remaining: 2m 5s
89:
        learn: 0.2210397
                                  total: 27.5s
                                                   remaining: 2m 5s
90:
        learn: 0.2208291
                                  total: 27.8s
                                                   remaining: 2m 4s
91:
        learn: 0.2207506
                                  total: 28.1s
                                                   remaining: 2m 4s
92:
        learn: 0.2206445
                                  total: 28.3s
                                                   remaining: 2m 3s
        learn: 0.2203452
                                  total: 28.5s
                                                   remaining: 2m 3s
93:
94:
        learn: 0.2202445
                                  total: 28.8s
                                                   remaining: 2m 2s
95:
        learn: 0.2200666
                                  total: 29s
                                                   remaining: 2m 2s
        learn: 0.2199825
                                  total: 29.3s
                                                   remaining: 2m 1s
96:
97:
        learn: 0.2199084
                                  total: 29.5s
                                                   remaining: 2m 1s
        learn: 0.2197093
                                  total: 29.8s
                                                   remaining: 2m
98:
99:
        learn: 0.2196471
                                  total: 30s
                                                   remaining: 2m
        learn: 0.2195823
                                                   remaining: 1m 59s
100:
                                  total: 30.3s
        learn: 0.2195655
                                  total: 30.5s
                                                   remaining: 1m 59s
101:
102:
        learn: 0.2193741
                                  total: 30.8s
                                                   remaining: 1m 58s
        learn: 0.2193189
                                                   remaining: 1m 58s
103:
                                  total: 31s
104:
        learn: 0.2190351
                                  total: 31.3s
                                                   remaining: 1m 57s
105:
        learn: 0.2187125
                                  total: 31.5s
                                                   remaining: 1m 57s
106:
        learn: 0.2186020
                                  total: 31.8s
                                                   remaining: 1m 56s
107:
        learn: 0.2185036
                                  total: 32s
                                                   remaining: 1m 56s
108:
        learn: 0.2182281
                                  total: 32.3s
                                                   remaining: 1m 55s
                                  total: 32.5s
                                                   remaining: 1m 55s
109:
        learn: 0.2181365
110:
        learn: 0.2180824
                                  total: 32.8s
                                                   remaining: 1m 54s
111:
        learn: 0.2180381
                                  total: 33s
                                                   remaining: 1m 54s
112:
        learn: 0.2177991
                                  total: 33.2s
                                                   remaining: 1m 53s
        learn: 0.2176643
                                                   remaining: 1m 53s
113:
                                  total: 33.4s
114:
        learn: 0.2176369
                                  total: 33.7s
                                                   remaining: 1m 52s
115:
        learn: 0.2175206
                                  total: 33.9s
                                                   remaining: 1m 52s
        learn: 0.2174624
                                  total: 34.1s
                                                   remaining: 1m 51s
116:
117:
        learn: 0.2170766
                                  total: 34.4s
                                                   remaining: 1m 51s
118:
        learn: 0.2166180
                                  total: 34.6s
                                                   remaining: 1m 50s
119:
        learn: 0.2163170
                                  total: 34.8s
                                                   remaining: 1m 50s
120:
        learn: 0.2161150
                                  total: 35.1s
                                                   remaining: 1m 49s
121:
        learn: 0.2160224
                                  total: 35.3s
                                                   remaining: 1m 49s
122:
        learn: 0.2154596
                                  total: 35.5s
                                                   remaining: 1m 48s
```

```
123:
        learn: 0.2153904
                                  total: 35.8s
                                                   remaining: 1m 48s
124:
        learn: 0.2152548
                                  total: 36s
                                                   remaining: 1m 48s
125:
        learn: 0.2152418
                                  total: 36.3s
                                                   remaining: 1m 47s
126:
        learn: 0.2151764
                                  total: 36.5s
                                                   remaining: 1m 47s
                                                   remaining: 1m 46s
127:
        learn: 0.2150623
                                  total: 36.7s
                                                   remaining: 1m 46s
128:
        learn: 0.2148911
                                  total: 37s
129:
        learn: 0.2147494
                                  total: 37.3s
                                                   remaining: 1m 46s
130:
        learn: 0.2147227
                                  total: 37.5s
                                                   remaining: 1m 45s
131:
        learn: 0.2144070
                                  total: 37.8s
                                                   remaining: 1m 45s
132:
        learn: 0.2143011
                                  total: 38s
                                                   remaining: 1m 44s
133:
        learn: 0.2142771
                                  total: 38.3s
                                                   remaining: 1m 44s
                                                   remaining: 1m 44s
134:
        learn: 0.2141191
                                  total: 38.5s
135:
        learn: 0.2140362
                                  total: 38.7s
                                                   remaining: 1m 43s
136:
        learn: 0.2139958
                                  total: 39s
                                                   remaining: 1m 43s
137:
        learn: 0.2138935
                                  total: 39.2s
                                                   remaining: 1m 42s
138:
        learn: 0.2138706
                                  total: 39.5s
                                                   remaining: 1m 42s
139:
        learn: 0.2137148
                                  total: 39.7s
                                                   remaining: 1m 42s
140:
        learn: 0.2136412
                                  total: 40s
                                                   remaining: 1m 41s
        learn: 0.2135037
                                                   remaining: 1m 41s
141:
                                  total: 40.2s
142:
        learn: 0.2134032
                                  total: 40.5s
                                                   remaining: 1m 41s
143:
        learn: 0.2133291
                                  total: 40.7s
                                                   remaining: 1m 40s
144:
        learn: 0.2124044
                                  total: 41s
                                                   remaining: 1m 40s
145:
        learn: 0.2123492
                                  total: 41.2s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
146:
        learn: 0.2122614
                                  total: 41.4s
147:
        learn: 0.2121705
                                  total: 41.7s
                                                   remaining: 1m 39s
148:
        learn: 0.2119781
                                  total: 41.9s
                                                   remaining: 1m 38s
        learn: 0.2118499
                                  total: 42.1s
                                                   remaining: 1m 38s
149:
150:
        learn: 0.2117486
                                  total: 42.4s
                                                   remaining: 1m 37s
151:
        learn: 0.2117014
                                  total: 42.6s
                                                   remaining: 1m 37s
152:
        learn: 0.2116446
                                  total: 42.8s
                                                   remaining: 1m 37s
        learn: 0.2115383
153:
                                  total: 43s
                                                   remaining: 1m 36s
154:
        learn: 0.2114539
                                  total: 43.2s
                                                   remaining: 1m 36s
155:
        learn: 0.2113609
                                  total: 43.4s
                                                   remaining: 1m 35s
        learn: 0.2111791
                                  total: 43.7s
                                                   remaining: 1m 35s
156:
                                                   remaining: 1m 35s
157:
        learn: 0.2111168
                                  total: 43.9s
158:
        learn: 0.2107759
                                  total: 44.1s
                                                   remaining: 1m 34s
159:
        learn: 0.2107039
                                  total: 44.3s
                                                   remaining: 1m 34s
160:
        learn: 0.2106551
                                  total: 44.5s
                                                   remaining: 1m 33s
                                  total: 44.7s
161:
        learn: 0.2106157
                                                   remaining: 1m 33s
162:
        learn: 0.2105753
                                  total: 44.9s
                                                   remaining: 1m 32s
163:
        learn: 0.2105506
                                  total: 45.1s
                                                   remaining: 1m 32s
        learn: 0.2102910
                                                   remaining: 1m 32s
164:
                                  total: 45.4s
165:
        learn: 0.2101377
                                  total: 45.6s
                                                   remaining: 1m 31s
166:
        learn: 0.2100489
                                  total: 45.8s
                                                   remaining: 1m 31s
167:
        learn: 0.2099229
                                  total: 46s
                                                   remaining: 1m 30s
168:
        learn: 0.2098734
                                  total: 46.3s
                                                   remaining: 1m 30s
169:
        learn: 0.2097684
                                  total: 46.5s
                                                   remaining: 1m 30s
170:
        learn: 0.2097373
                                  total: 46.7s
                                                   remaining: 1m 29s
```

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171:
        learn: 0.2096181
                                  total: 47s
                                                   remaining: 1m 29s
172:
        learn: 0.2095334
                                  total: 47.3s
                                                   remaining: 1m 29s
173:
        learn: 0.2094980
                                  total: 47.5s
                                                   remaining: 1m 29s
174:
        learn: 0.2093326
                                  total: 47.7s
                                                   remaining: 1m 28s
                                                   remaining: 1m 28s
175:
        learn: 0.2092004
                                  total: 48s
                                                   remaining: 1m 27s
176:
        learn: 0.2091085
                                  total: 48.2s
177:
        learn: 0.2090336
                                  total: 48.5s
                                                   remaining: 1m 27s
178:
        learn: 0.2088947
                                  total: 48.7s
                                                   remaining: 1m 27s
179:
        learn: 0.2088295
                                  total: 49s
                                                   remaining: 1m 27s
180:
        learn: 0.2087599
                                  total: 49.2s
                                                   remaining: 1m 26s
181:
        learn: 0.2086592
                                  total: 49.4s
                                                   remaining: 1m 26s
                                                   remaining: 1m 26s
182:
        learn: 0.2085943
                                  total: 49.7s
183:
        learn: 0.2084645
                                                   remaining: 1m 25s
                                  total: 49.9s
184:
        learn: 0.2083636
                                  total: 50.2s
                                                   remaining: 1m 25s
185:
        learn: 0.2082770
                                  total: 50.4s
                                                   remaining: 1m 25s
186:
        learn: 0.2080814
                                  total: 50.7s
                                                   remaining: 1m 24s
187:
        learn: 0.2080749
                                  total: 50.9s
                                                   remaining: 1m 24s
188:
        learn: 0.2079776
                                  total: 51.1s
                                                   remaining: 1m 24s
        learn: 0.2079120
                                                   remaining: 1m 23s
189:
                                  total: 51.4s
190:
        learn: 0.2078499
                                  total: 51.6s
                                                   remaining: 1m 23s
191:
        learn: 0.2077975
                                  total: 51.9s
                                                   remaining: 1m 23s
192:
        learn: 0.2077402
                                  total: 52.1s
                                                   remaining: 1m 22s
193:
        learn: 0.2076167
                                  total: 52.4s
                                                   remaining: 1m 22s
                                  total: 52.6s
                                                   remaining: 1m 22s
194:
        learn: 0.2075116
195:
        learn: 0.2074211
                                  total: 53s
                                                   remaining: 1m 22s
196:
        learn: 0.2071991
                                  total: 53.2s
                                                   remaining: 1m 21s
        learn: 0.2071393
                                                   remaining: 1m 21s
197:
                                  total: 53.5s
198:
        learn: 0.2070316
                                  total: 53.7s
                                                   remaining: 1m 21s
199:
        learn: 0.2069045
                                  total: 54s
                                                   remaining: 1m 20s
200:
        learn: 0.2068670
                                  total: 54.2s
                                                   remaining: 1m 20s
201:
        learn: 0.2068214
                                  total: 54.5s
                                                   remaining: 1m 20s
202:
        learn: 0.2067513
                                  total: 54.7s
                                                   remaining: 1m 20s
203:
        learn: 0.2066314
                                  total: 55s
                                                   remaining: 1m 19s
204:
        learn: 0.2065280
                                  total: 55.3s
                                                   remaining: 1m 19s
                                                   remaining: 1m 19s
205:
        learn: 0.2064878
                                  total: 55.6s
206:
        learn: 0.2064492
                                  total: 55.8s
                                                   remaining: 1m 18s
207:
        learn: 0.2063831
                                  total: 56s
                                                   remaining: 1m 18s
208:
        learn: 0.2063098
                                  total: 56.3s
                                                   remaining: 1m 18s
209:
        learn: 0.2062074
                                  total: 56.6s
                                                   remaining: 1m 18s
210:
        learn: 0.2061461
                                  total: 56.8s
                                                   remaining: 1m 17s
211:
        learn: 0.2060918
                                  total: 57s
                                                   remaining: 1m 17s
        learn: 0.2060634
                                                   remaining: 1m 17s
212:
                                  total: 57.3s
213:
        learn: 0.2060406
                                  total: 57.5s
                                                   remaining: 1m 16s
214:
        learn: 0.2059991
                                  total: 57.7s
                                                   remaining: 1m 16s
215:
        learn: 0.2059726
                                  total: 57.9s
                                                   remaining: 1m 16s
216:
        learn: 0.2059266
                                  total: 58.1s
                                                   remaining: 1m 15s
217:
        learn: 0.2058143
                                  total: 58.4s
                                                   remaining: 1m 15s
218:
        learn: 0.2057975
                                  total: 58.6s
                                                   remaining: 1m 15s
```

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219:
        learn: 0.2057331
                                  total: 58.8s
                                                   remaining: 1m 14s
220:
        learn: 0.2056838
                                  total: 59s
                                                   remaining: 1m 14s
                                  total: 59.2s
221:
        learn: 0.2056058
                                                   remaining: 1m 14s
222:
        learn: 0.2055674
                                  total: 59.4s
                                                   remaining: 1m 13s
223:
        learn: 0.2055077
                                  total: 59.6s
                                                   remaining: 1m 13s
224:
                                  total: 59.9s
                                                   remaining: 1m 13s
        learn: 0.2054677
225:
        learn: 0.2053914
                                  total: 1m
                                                   remaining: 1m 12s
226:
        learn: 0.2052080
                                  total: 1m
                                                   remaining: 1m 12s
227:
        learn: 0.2044659
                                  total: 1m
                                                   remaining: 1m 12s
228:
        learn: 0.2042818
                                  total: 1m
                                                   remaining: 1m 11s
229:
        learn: 0.2042358
                                  total: 1m
                                                   remaining: 1m 11s
230:
        learn: 0.2042075
                                  total: 1m 1s
                                                   remaining: 1m 11s
231:
        learn: 0.2041433
                                  total: 1m 1s
                                                   remaining: 1m 10s
232:
        learn: 0.2040905
                                  total: 1m 1s
                                                   remaining: 1m 10s
233:
        learn: 0.2039650
                                  total: 1m 1s
                                                   remaining: 1m 10s
234:
        learn: 0.2039332
                                  total: 1m 2s
                                                   remaining: 1m 10s
235:
        learn: 0.2038419
                                  total: 1m 2s
                                                   remaining: 1m 9s
236:
        learn: 0.2037990
                                  total: 1m 2s
                                                   remaining: 1m 9s
        learn: 0.2037315
                                  total: 1m 2s
                                                   remaining: 1m 9s
237:
238:
        learn: 0.2036724
                                  total: 1m 3s
                                                   remaining: 1m 8s
239:
        learn: 0.2036456
                                  total: 1m 3s
                                                   remaining: 1m 8s
                                  total: 1m 3s
240:
        learn: 0.2035570
                                                   remaining: 1m 8s
241:
        learn: 0.2034456
                                  total: 1m 3s
                                                   remaining: 1m 8s
242:
        learn: 0.2033641
                                  total: 1m 4s
                                                   remaining: 1m 7s
243:
        learn: 0.2031906
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2031002
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2030253
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2029776
                                  total: 1m 5s
                                                   remaining: 1m 6s
247:
        learn: 0.2029339
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2028930
                                  total: 1m 5s
                                                   remaining: 1m 6s
249:
        learn: 0.2028323
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2027714
                                  total: 1m 5s
                                                   remaining: 1m 5s
251:
        learn: 0.2026866
                                  total: 1m 6s
                                                   remaining: 1m 5s
252:
        learn: 0.2025203
                                  total: 1m 6s
                                                   remaining: 1m 4s
253:
        learn: 0.2024883
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2024033
                                  total: 1m 6s
                                                   remaining: 1m 4s
255:
        learn: 0.2022378
                                  total: 1m 7s
                                                   remaining: 1m 4s
256:
        learn: 0.2021538
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2020986
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2020026
                                  total: 1m 7s
                                                   remaining: 1m 3s
                                  total: 1m 8s
259:
        learn: 0.2019130
                                                   remaining: 1m 2s
260:
        learn: 0.2018229
                                                   remaining: 1m 2s
                                  total: 1m 8s
261:
        learn: 0.2017826
                                  total: 1m 8s
                                                   remaining: 1m 2s
262:
        learn: 0.2017314
                                  total: 1m 8s
                                                   remaining: 1m 2s
263:
        learn: 0.2015983
                                  total: 1m 9s
                                                   remaining: 1m 1s
264:
        learn: 0.2015667
                                  total: 1m 9s
                                                   remaining: 1m 1s
265:
        learn: 0.2013143
                                  total: 1m 9s
                                                   remaining: 1m 1s
266:
        learn: 0.2011684
                                  total: 1m 9s
                                                   remaining: 1m
```

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267:
        learn: 0.2010428
                                  total: 1m 10s
                                                   remaining: 1m
268:
        learn: 0.2009393
                                  total: 1m 10s
                                                   remaining: 1m
269:
        learn: 0.2008423
                                  total: 1m 10s
                                                   remaining: 1m
270:
        learn: 0.2008150
                                  total: 1m 10s
                                                   remaining: 59.9s
271:
        learn: 0.2006944
                                  total: 1m 11s
                                                   remaining: 59.6s
                                  total: 1m 11s
272:
        learn: 0.2006698
                                                   remaining: 59.3s
273:
        learn: 0.2006202
                                  total: 1m 11s
                                                   remaining: 59s
                                                   remaining: 58.7s
274:
        learn: 0.2005470
                                  total: 1m 11s
275:
        learn: 0.2004805
                                  total: 1m 11s
                                                   remaining: 58.4s
276:
        learn: 0.2003979
                                  total: 1m 12s
                                                   remaining: 58.2s
277:
        learn: 0.2003065
                                  total: 1m 12s
                                                   remaining: 57.9s
278:
        learn: 0.2002084
                                  total: 1m 12s
                                                   remaining: 57.6s
279:
        learn: 0.2001755
                                  total: 1m 12s
                                                   remaining: 57.3s
280:
        learn: 0.2001213
                                  total: 1m 13s
                                                   remaining: 57.1s
                                                   remaining: 56.8s
281:
        learn: 0.2000298
                                  total: 1m 13s
282:
        learn: 0.1999610
                                  total: 1m 13s
                                                   remaining: 56.5s
283:
        learn: 0.1999076
                                  total: 1m 13s
                                                   remaining: 56.2s
                                  total: 1m 14s
284:
        learn: 0.1998097
                                                   remaining: 55.9s
                                  total: 1m 14s
285:
        learn: 0.1997092
                                                   remaining: 55.6s
286:
        learn: 0.1996136
                                  total: 1m 14s
                                                   remaining: 55.4s
287:
        learn: 0.1994905
                                  total: 1m 14s
                                                   remaining: 55.1s
288:
        learn: 0.1993975
                                  total: 1m 15s
                                                   remaining: 54.8s
289:
        learn: 0.1993901
                                  total: 1m 15s
                                                   remaining: 54.5s
290:
        learn: 0.1989962
                                  total: 1m 15s
                                                   remaining: 54.2s
291:
        learn: 0.1986474
                                  total: 1m 15s
                                                   remaining: 53.9s
292:
        learn: 0.1986248
                                  total: 1m 15s
                                                   remaining: 53.7s
293:
        learn: 0.1985359
                                  total: 1m 16s
                                                   remaining: 53.4s
294:
        learn: 0.1984727
                                  total: 1m 16s
                                                   remaining: 53.1s
295:
        learn: 0.1984043
                                  total: 1m 16s
                                                   remaining: 52.8s
296:
        learn: 0.1983779
                                  total: 1m 16s
                                                   remaining: 52.5s
297:
        learn: 0.1983486
                                  total: 1m 17s
                                                   remaining: 52.2s
298:
        learn: 0.1982848
                                  total: 1m 17s
                                                   remaining: 52s
299:
        learn: 0.1982043
                                  total: 1m 17s
                                                   remaining: 51.7s
300:
        learn: 0.1981678
                                  total: 1m 17s
                                                   remaining: 51.4s
301:
        learn: 0.1980524
                                  total: 1m 17s
                                                   remaining: 51.1s
302:
        learn: 0.1980235
                                  total: 1m 18s
                                                   remaining: 50.8s
303:
        learn: 0.1978825
                                  total: 1m 18s
                                                   remaining: 50.5s
304:
        learn: 0.1978355
                                  total: 1m 18s
                                                   remaining: 50.3s
305:
        learn: 0.1977801
                                  total: 1m 18s
                                                   remaining: 50s
306:
        learn: 0.1977535
                                  total: 1m 19s
                                                   remaining: 49.7s
307:
        learn: 0.1976978
                                  total: 1m 19s
                                                   remaining: 49.5s
308:
        learn: 0.1976681
                                  total: 1m 19s
                                                   remaining: 49.2s
309:
        learn: 0.1975805
                                  total: 1m 19s
                                                   remaining: 49s
310:
        learn: 0.1974712
                                  total: 1m 20s
                                                   remaining: 48.7s
                                                   remaining: 48.4s
311:
        learn: 0.1973613
                                  total: 1m 20s
312:
        learn: 0.1973152
                                  total: 1m 20s
                                                   remaining: 48.1s
313:
        learn: 0.1972304
                                  total: 1m 20s
                                                   remaining: 47.9s
314:
        learn: 0.1972012
                                  total: 1m 21s
                                                   remaining: 47.6s
```

```
learn: 0.1971271
315:
                                  total: 1m 21s
                                                   remaining: 47.3s
316:
        learn: 0.1970303
                                  total: 1m 21s
                                                   remaining: 47.1s
317:
        learn: 0.1968667
                                  total: 1m 21s
                                                   remaining: 46.8s
        learn: 0.1968361
                                  total: 1m 22s
                                                   remaining: 46.6s
318:
319:
        learn: 0.1966988
                                  total: 1m 22s
                                                   remaining: 46.3s
                                  total: 1m 22s
320:
        learn: 0.1966422
                                                   remaining: 46.1s
321:
        learn: 0.1965332
                                  total: 1m 22s
                                                   remaining: 45.8s
        learn: 0.1965038
                                                   remaining: 45.5s
322:
                                  total: 1m 23s
323:
        learn: 0.1964479
                                  total: 1m 23s
                                                   remaining: 45.3s
324:
        learn: 0.1963726
                                  total: 1m 23s
                                                   remaining: 45s
325:
        learn: 0.1963182
                                  total: 1m 23s
                                                   remaining: 44.7s
                                                   remaining: 44.5s
326:
        learn: 0.1962759
                                  total: 1m 24s
327:
        learn: 0.1962586
                                  total: 1m 24s
                                                   remaining: 44.2s
328:
        learn: 0.1961731
                                  total: 1m 24s
                                                   remaining: 44s
                                                   remaining: 43.7s
329:
        learn: 0.1960438
                                  total: 1m 24s
330:
        learn: 0.1960049
                                  total: 1m 25s
                                                   remaining: 43.4s
331:
        learn: 0.1958793
                                  total: 1m 25s
                                                   remaining: 43.2s
                                  total: 1m 25s
332:
        learn: 0.1958436
                                                   remaining: 42.9s
                                  total: 1m 25s
                                                   remaining: 42.6s
333:
        learn: 0.1957855
334:
        learn: 0.1957441
                                  total: 1m 26s
                                                   remaining: 42.4s
335:
        learn: 0.1956929
                                  total: 1m 26s
                                                   remaining: 42.1s
                                  total: 1m 26s
336:
        learn: 0.1956313
                                                   remaining: 41.8s
                                                  remaining: 41.6s
337:
        learn: 0.1954779
                                  total: 1m 26s
                                  total: 1m 27s
338:
        learn: 0.1953189
                                                   remaining: 41.3s
339:
        learn: 0.1953044
                                  total: 1m 27s
                                                   remaining: 41.1s
340:
        learn: 0.1952529
                                  total: 1m 27s
                                                   remaining: 40.8s
341:
        learn: 0.1951699
                                  total: 1m 27s
                                                   remaining: 40.5s
342:
        learn: 0.1951044
                                  total: 1m 27s
                                                   remaining: 40.3s
343:
        learn: 0.1950745
                                  total: 1m 28s
                                                   remaining: 40s
344:
        learn: 0.1949639
                                  total: 1m 28s
                                                   remaining: 39.7s
345:
        learn: 0.1948681
                                  total: 1m 28s
                                                   remaining: 39.5s
346:
        learn: 0.1948370
                                  total: 1m 28s
                                                   remaining: 39.2s
347:
        learn: 0.1947301
                                  total: 1m 29s
                                                   remaining: 39s
        learn: 0.1946577
                                  total: 1m 29s
                                                   remaining: 38.7s
348:
349:
        learn: 0.1945809
                                  total: 1m 29s
                                                   remaining: 38.4s
350:
        learn: 0.1944872
                                  total: 1m 29s
                                                   remaining: 38.2s
351:
        learn: 0.1943614
                                  total: 1m 30s
                                                   remaining: 37.9s
352:
        learn: 0.1943262
                                  total: 1m 30s
                                                   remaining: 37.6s
353:
        learn: 0.1943064
                                  total: 1m 30s
                                                   remaining: 37.4s
354:
        learn: 0.1942450
                                  total: 1m 30s
                                                   remaining: 37.1s
        learn: 0.1942215
                                  total: 1m 31s
355:
                                                   remaining: 36.8s
356:
        learn: 0.1941010
                                  total: 1m 31s
                                                   remaining: 36.5s
357:
        learn: 0.1940740
                                  total: 1m 31s
                                                   remaining: 36.3s
358:
        learn: 0.1939794
                                  total: 1m 31s
                                                   remaining: 36s
                                                   remaining: 35.7s
359:
        learn: 0.1938723
                                  total: 1m 31s
360:
        learn: 0.1938241
                                  total: 1m 32s
                                                   remaining: 35.4s
361:
        learn: 0.1937205
                                  total: 1m 32s
                                                   remaining: 35.2s
362:
        learn: 0.1936473
                                  total: 1m 32s
                                                   remaining: 34.9s
```

```
learn: 0.1935877
363:
                                  total: 1m 32s
                                                   remaining: 34.7s
364:
        learn: 0.1935500
                                  total: 1m 32s
                                                   remaining: 34.4s
365:
        learn: 0.1934392
                                  total: 1m 33s
                                                   remaining: 34.1s
                                                   remaining: 33.8s
366:
        learn: 0.1934258
                                  total: 1m 33s
367:
        learn: 0.1933644
                                  total: 1m 33s
                                                   remaining: 33.5s
                                  total: 1m 33s
                                                   remaining: 33.3s
368:
        learn: 0.1932504
369:
        learn: 0.1932343
                                  total: 1m 33s
                                                   remaining: 33s
        learn: 0.1931839
                                                   remaining: 32.7s
370:
                                  total: 1m 34s
371:
        learn: 0.1931467
                                  total: 1m 34s
                                                   remaining: 32.4s
372:
        learn: 0.1931163
                                  total: 1m 34s
                                                   remaining: 32.1s
373:
        learn: 0.1929465
                                  total: 1m 34s
                                                   remaining: 31.9s
374:
        learn: 0.1928851
                                  total: 1m 34s
                                                   remaining: 31.6s
375:
        learn: 0.1928111
                                  total: 1m 34s
                                                   remaining: 31.3s
376:
        learn: 0.1927928
                                  total: 1m 35s
                                                   remaining: 31s
                                                   remaining: 30.7s
377:
        learn: 0.1926640
                                  total: 1m 35s
378:
        learn: 0.1926131
                                  total: 1m 35s
                                                   remaining: 30.5s
379:
        learn: 0.1925904
                                  total: 1m 35s
                                                   remaining: 30.2s
                                  total: 1m 35s
380:
        learn: 0.1925410
                                                   remaining: 29.9s
381:
        learn: 0.1924920
                                  total: 1m 36s
                                                   remaining: 29.7s
382:
        learn: 0.1924594
                                  total: 1m 36s
                                                   remaining: 29.4s
383:
        learn: 0.1922892
                                  total: 1m 36s
                                                   remaining: 29.2s
384:
        learn: 0.1922488
                                  total: 1m 36s
                                                   remaining: 28.9s
                                                  remaining: 28.7s
385:
        learn: 0.1921100
                                  total: 1m 37s
                                  total: 1m 37s
386:
        learn: 0.1920129
                                                   remaining: 28.4s
387:
        learn: 0.1919800
                                  total: 1m 37s
                                                   remaining: 28.2s
        learn: 0.1919163
                                  total: 1m 37s
                                                   remaining: 27.9s
388:
389:
        learn: 0.1918760
                                  total: 1m 38s
                                                   remaining: 27.7s
390:
        learn: 0.1917942
                                  total: 1m 38s
                                                   remaining: 27.4s
391:
        learn: 0.1917686
                                  total: 1m 38s
                                                   remaining: 27.1s
392:
        learn: 0.1917250
                                  total: 1m 38s
                                                   remaining: 26.9s
393:
        learn: 0.1916791
                                  total: 1m 38s
                                                   remaining: 26.6s
394:
        learn: 0.1916406
                                  total: 1m 39s
                                                   remaining: 26.4s
                                  total: 1m 39s
395:
        learn: 0.1915485
                                                   remaining: 26.1s
        learn: 0.1914832
                                  total: 1m 39s
                                                   remaining: 25.9s
396:
397:
        learn: 0.1914590
                                  total: 1m 40s
                                                   remaining: 25.6s
398:
        learn: 0.1913912
                                  total: 1m 40s
                                                   remaining: 25.4s
399:
        learn: 0.1913719
                                  total: 1m 40s
                                                   remaining: 25.1s
400:
        learn: 0.1913387
                                  total: 1m 40s
                                                   remaining: 24.9s
401:
        learn: 0.1912904
                                  total: 1m 41s
                                                   remaining: 24.6s
402:
        learn: 0.1911767
                                  total: 1m 41s
                                                   remaining: 24.4s
403:
        learn: 0.1910674
                                  total: 1m 41s
                                                   remaining: 24.1s
404:
        learn: 0.1909759
                                  total: 1m 41s
                                                   remaining: 23.9s
405:
        learn: 0.1908211
                                  total: 1m 42s
                                                   remaining: 23.6s
406:
        learn: 0.1907905
                                  total: 1m 42s
                                                   remaining: 23.4s
                                                   remaining: 23.1s
407:
        learn: 0.1907723
                                  total: 1m 42s
408:
        learn: 0.1907544
                                  total: 1m 42s
                                                   remaining: 22.9s
409:
        learn: 0.1907066
                                  total: 1m 43s
                                                   remaining: 22.6s
410:
        learn: 0.1906957
                                  total: 1m 43s
                                                   remaining: 22.4s
```

```
411:
        learn: 0.1906744
                                  total: 1m 43s
                                                   remaining: 22.1s
412:
        learn: 0.1905883
                                  total: 1m 43s
                                                   remaining: 21.9s
413:
        learn: 0.1905461
                                  total: 1m 44s
                                                   remaining: 21.6s
414:
                                                   remaining: 21.4s
        learn: 0.1905114
                                  total: 1m 44s
415:
        learn: 0.1904596
                                  total: 1m 44s
                                                   remaining: 21.1s
                                  total: 1m 44s
                                                   remaining: 20.9s
416:
        learn: 0.1904029
417:
        learn: 0.1903482
                                  total: 1m 44s
                                                   remaining: 20.6s
        learn: 0.1903104
                                                   remaining: 20.3s
418:
                                  total: 1m 45s
419:
        learn: 0.1901880
                                  total: 1m 45s
                                                   remaining: 20.1s
420:
        learn: 0.1901370
                                  total: 1m 45s
                                                   remaining: 19.8s
421:
        learn: 0.1900081
                                  total: 1m 45s
                                                   remaining: 19.6s
422:
        learn: 0.1899197
                                  total: 1m 46s
                                                   remaining: 19.3s
423:
        learn: 0.1898632
                                  total: 1m 46s
                                                   remaining: 19.1s
424:
        learn: 0.1898082
                                  total: 1m 46s
                                                   remaining: 18.8s
425:
        learn: 0.1897466
                                  total: 1m 46s
                                                   remaining: 18.5s
426:
        learn: 0.1896900
                                  total: 1m 47s
                                                   remaining: 18.3s
427:
        learn: 0.1896351
                                  total: 1m 47s
                                                   remaining: 18s
                                  total: 1m 47s
428:
        learn: 0.1895230
                                                   remaining: 17.8s
                                  total: 1m 47s
429:
        learn: 0.1894714
                                                   remaining: 17.5s
430:
        learn: 0.1894225
                                  total: 1m 47s
                                                   remaining: 17.3s
431:
        learn: 0.1893201
                                  total: 1m 48s
                                                   remaining: 17s
432:
        learn: 0.1892924
                                  total: 1m 48s
                                                   remaining: 16.8s
433:
        learn: 0.1892104
                                  total: 1m 48s
                                                   remaining: 16.5s
434:
        learn: 0.1891402
                                  total: 1m 48s
                                                   remaining: 16.3s
435:
        learn: 0.1890968
                                  total: 1m 48s
                                                   remaining: 16s
        learn: 0.1890702
436:
                                  total: 1m 49s
                                                   remaining: 15.7s
437:
        learn: 0.1890278
                                  total: 1m 49s
                                                   remaining: 15.5s
438:
        learn: 0.1889457
                                  total: 1m 49s
                                                   remaining: 15.2s
439:
        learn: 0.1888606
                                  total: 1m 49s
                                                   remaining: 15s
440:
        learn: 0.1887819
                                  total: 1m 50s
                                                   remaining: 14.7s
441:
        learn: 0.1887099
                                  total: 1m 50s
                                                   remaining: 14.5s
442:
        learn: 0.1885882
                                  total: 1m 50s
                                                   remaining: 14.2s
443:
        learn: 0.1885440
                                  total: 1m 50s
                                                   remaining: 14s
444:
        learn: 0.1885040
                                  total: 1m 51s
                                                   remaining: 13.7s
445:
        learn: 0.1884323
                                  total: 1m 51s
                                                   remaining: 13.5s
446:
        learn: 0.1883823
                                  total: 1m 51s
                                                   remaining: 13.2s
447:
        learn: 0.1883063
                                  total: 1m 51s
                                                   remaining: 13s
448:
        learn: 0.1882623
                                  total: 1m 52s
                                                   remaining: 12.7s
                                  total: 1m 52s
449:
        learn: 0.1881507
                                                   remaining: 12.5s
450:
        learn: 0.1880576
                                  total: 1m 52s
                                                   remaining: 12.2s
451:
        learn: 0.1879494
                                  total: 1m 52s
                                                   remaining: 12s
452:
        learn: 0.1878296
                                  total: 1m 52s
                                                   remaining: 11.7s
453:
        learn: 0.1877214
                                  total: 1m 53s
                                                   remaining: 11.5s
454:
        learn: 0.1876395
                                  total: 1m 53s
                                                   remaining: 11.2s
455:
        learn: 0.1875634
                                  total: 1m 53s
                                                   remaining: 11s
456:
        learn: 0.1875209
                                  total: 1m 53s
                                                   remaining: 10.7s
457:
        learn: 0.1874393
                                  total: 1m 54s
                                                   remaining: 10.5s
458:
        learn: 0.1874202
                                  total: 1m 54s
                                                   remaining: 10.2s
```

```
459:
        learn: 0.1873815
                                  total: 1m 54s
                                                   remaining: 9.98s
460:
        learn: 0.1873314
                                  total: 1m 54s
                                                   remaining: 9.72s
461:
        learn: 0.1872421
                                  total: 1m 55s
                                                   remaining: 9.47s
462:
        learn: 0.1872157
                                                   remaining: 9.22s
                                  total: 1m 55s
463:
        learn: 0.1871776
                                  total: 1m 55s
                                                   remaining: 8.97s
                                  total: 1m 55s
464:
        learn: 0.1871562
                                                   remaining: 8.72s
465:
        learn: 0.1870675
                                  total: 1m 56s
                                                   remaining: 8.48s
                                                   remaining: 8.23s
466:
        learn: 0.1870380
                                  total: 1m 56s
467:
        learn: 0.1869866
                                  total: 1m 56s
                                                   remaining: 7.98s
468:
        learn: 0.1869155
                                  total: 1m 56s
                                                   remaining: 7.73s
469:
        learn: 0.1868539
                                  total: 1m 57s
                                                   remaining: 7.48s
470:
        learn: 0.1868168
                                  total: 1m 57s
                                                   remaining: 7.23s
471:
        learn: 0.1867493
                                  total: 1m 57s
                                                   remaining: 6.98s
472:
        learn: 0.1867403
                                  total: 1m 57s
                                                   remaining: 6.73s
                                                   remaining: 6.48s
473:
        learn: 0.1866632
                                  total: 1m 58s
474:
        learn: 0.1866286
                                  total: 1m 58s
                                                   remaining: 6.23s
475:
        learn: 0.1865783
                                  total: 1m 58s
                                                   remaining: 5.98s
476:
        learn: 0.1865112
                                  total: 1m 58s
                                                   remaining: 5.73s
        learn: 0.1864823
                                  total: 1m 59s
477:
                                                   remaining: 5.48s
478:
        learn: 0.1863623
                                  total: 1m 59s
                                                   remaining: 5.23s
479:
        learn: 0.1863265
                                  total: 1m 59s
                                                   remaining: 4.98s
                                  total: 1m 59s
480:
        learn: 0.1862407
                                                   remaining: 4.73s
481:
        learn: 0.1862092
                                  total: 2m
                                                   remaining: 4.49s
482:
        learn: 0.1861923
                                  total: 2m
                                                   remaining: 4.24s
483:
        learn: 0.1861540
                                  total: 2m
                                                   remaining: 3.98s
                                  total: 2m
484:
        learn: 0.1861127
                                                   remaining: 3.74s
485:
        learn: 0.1860604
                                  total: 2m 1s
                                                   remaining: 3.49s
486:
        learn: 0.1860374
                                  total: 2m 1s
                                                   remaining: 3.24s
487:
        learn: 0.1860165
                                  total: 2m 1s
                                                   remaining: 2.99s
488:
        learn: 0.1859075
                                  total: 2m 1s
                                                   remaining: 2.74s
489:
        learn: 0.1858798
                                  total: 2m 1s
                                                   remaining: 2.49s
490:
        learn: 0.1858187
                                  total: 2m 2s
                                                   remaining: 2.24s
491:
        learn: 0.1857391
                                  total: 2m 2s
                                                   remaining: 1.99s
492:
        learn: 0.1857067
                                  total: 2m 2s
                                                   remaining: 1.74s
493:
        learn: 0.1856911
                                  total: 2m 2s
                                                   remaining: 1.49s
494:
        learn: 0.1856037
                                  total: 2m 3s
                                                   remaining: 1.24s
495:
        learn: 0.1854638
                                  total: 2m 3s
                                                   remaining: 994ms
496:
        learn: 0.1853996
                                  total: 2m 3s
                                                   remaining: 746ms
497:
                                  total: 2m 3s
        learn: 0.1853545
                                                   remaining: 497ms
498:
        learn: 0.1853292
                                  total: 2m 3s
                                                   remaining: 248ms
499:
                                  total: 2m 4s
                                                   remaining: Ous
        learn: 0.1853074
Learning rate set to 0.172923
0:
        learn: 0.9711334
                                  total: 216ms
                                                   remaining: 1m 47s
1:
        learn: 0.8899236
                                  total: 446ms
                                                   remaining: 1m 50s
2:
        learn: 0.8296038
                                  total: 671ms
                                                   remaining: 1m 51s
3:
        learn: 0.7202515
                                  total: 894ms
                                                   remaining: 1m 50s
4:
        learn: 0.6394514
                                  total: 1.13s
                                                   remaining: 1m 51s
5:
        learn: 0.5794753
                                  total: 1.36s
                                                   remaining: 1m 52s
```

```
6:
        learn: 0.5577888
                                  total: 1.56s
                                                   remaining: 1m 49s
7:
        learn: 0.5180823
                                  total: 1.73s
                                                   remaining: 1m 46s
8:
        learn: 0.4836463
                                  total: 1.91s
                                                   remaining: 1m 44s
9:
        learn: 0.4542784
                                  total: 2.08s
                                                   remaining: 1m 41s
                                                   remaining: 1m 40s
10:
        learn: 0.4310445
                                  total: 2.27s
                                  total: 2.48s
                                                   remaining: 1m 40s
11:
        learn: 0.4025131
                                                   remaining: 1m 40s
12:
        learn: 0.3892689
                                  total: 2.67s
13.
        learn: 0.3725392
                                  total: 2.88s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
14:
        learn: 0.3647154
                                  total: 3.07s
15:
        learn: 0.3449917
                                  total: 3.28s
                                                   remaining: 1m 39s
                                                   remaining: 1m 38s
16:
        learn: 0.3288428
                                  total: 3.48s
                                                   remaining: 1m 38s
17:
        learn: 0.3254386
                                  total: 3.66s
        learn: 0.3134165
                                  total: 3.86s
                                                   remaining: 1m 37s
18:
19:
        learn: 0.3084506
                                  total: 4.09s
                                                   remaining: 1m 38s
20:
        learn: 0.2952016
                                  total: 4.34s
                                                   remaining: 1m 38s
21:
        learn: 0.2929947
                                  total: 4.59s
                                                   remaining: 1m 39s
22:
        learn: 0.2915211
                                  total: 4.83s
                                                   remaining: 1m 40s
23:
        learn: 0.2876243
                                  total: 5.08s
                                                   remaining: 1m 40s
        learn: 0.2774668
                                  total: 5.35s
                                                   remaining: 1m 41s
24.
25:
        learn: 0.2697870
                                  total: 5.6s
                                                   remaining: 1m 42s
                                  total: 5.85s
26:
        learn: 0.2682041
                                                   remaining: 1m 42s
27:
        learn: 0.2656822
                                  total: 6.1s
                                                   remaining: 1m 42s
28:
        learn: 0.2606610
                                  total: 6.37s
                                                   remaining: 1m 43s
29:
        learn: 0.2546238
                                  total: 6.6s
                                                   remaining: 1m 43s
30:
        learn: 0.2525802
                                  total: 6.84s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
31:
        learn: 0.2520101
                                  total: 7.09s
32:
        learn: 0.2512874
                                  total: 7.33s
                                                   remaining: 1m 43s
33:
        learn: 0.2496684
                                  total: 7.63s
                                                   remaining: 1m 44s
                                  total: 7.87s
                                                   remaining: 1m 44s
34:
        learn: 0.2490102
35:
        learn: 0.2476880
                                  total: 8.09s
                                                   remaining: 1m 44s
36:
        learn: 0.2431289
                                  total: 8.33s
                                                   remaining: 1m 44s
37:
        learn: 0.2427760
                                  total: 8.58s
                                                   remaining: 1m 44s
38:
        learn: 0.2389060
                                  total: 8.82s
                                                   remaining: 1m 44s
39:
        learn: 0.2384369
                                  total: 9.1s
                                                   remaining: 1m 44s
                                                   remaining: 1m 44s
40:
        learn: 0.2378768
                                  total: 9.34s
41:
        learn: 0.2373917
                                  total: 9.57s
                                                   remaining: 1m 44s
42:
        learn: 0.2372233
                                  total: 9.83s
                                                   remaining: 1m 44s
43:
        learn: 0.2352704
                                  total: 10.1s
                                                   remaining: 1m 44s
        learn: 0.2324198
                                                   remaining: 1m 44s
44:
                                  total: 10.3s
45:
        learn: 0.2321255
                                  total: 10.6s
                                                   remaining: 1m 44s
46:
        learn: 0.2319491
                                  total: 10.8s
                                                   remaining: 1m 44s
47:
        learn: 0.2318435
                                                   remaining: 1m 44s
                                  total: 11.1s
48:
        learn: 0.2316536
                                  total: 11.3s
                                                   remaining: 1m 43s
49:
        learn: 0.2311515
                                  total: 11.5s
                                                   remaining: 1m 43s
50:
        learn: 0.2303372
                                  total: 11.7s
                                                   remaining: 1m 43s
51:
        learn: 0.2297714
                                  total: 12s
                                                   remaining: 1m 43s
52:
        learn: 0.2287449
                                  total: 12.2s
                                                   remaining: 1m 42s
53:
        learn: 0.2276588
                                  total: 12.4s
                                                   remaining: 1m 42s
```

```
54:
        learn: 0.2254551
                                  total: 12.7s
                                                   remaining: 1m 42s
55:
        learn: 0.2249776
                                  total: 12.9s
                                                   remaining: 1m 42s
56:
        learn: 0.2247945
                                  total: 13.1s
                                                   remaining: 1m 42s
57:
        learn: 0.2245985
                                  total: 13.3s
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
58:
        learn: 0.2241157
                                  total: 13.5s
        learn: 0.2235930
                                  total: 13.7s
                                                   remaining: 1m 40s
59:
60:
        learn: 0.2233804
                                  total: 14s
                                                   remaining: 1m 40s
61:
        learn: 0.2229497
                                  total: 14.2s
                                                   remaining: 1m 40s
                                                   remaining: 1m 39s
62:
        learn: 0.2221715
                                  total: 14.4s
63:
        learn: 0.2220601
                                  total: 14.6s
                                                   remaining: 1m 39s
        learn: 0.2214298
                                                   remaining: 1m 39s
64:
                                  total: 14.8s
                                                   remaining: 1m 39s
65:
        learn: 0.2212880
                                  total: 15.1s
66:
        learn: 0.2212701
                                  total: 15.3s
                                                   remaining: 1m 38s
67:
        learn: 0.2210678
                                  total: 15.5s
                                                   remaining: 1m 38s
68:
        learn: 0.2210169
                                  total: 15.7s
                                                   remaining: 1m 38s
69:
        learn: 0.2207674
                                  total: 15.9s
                                                   remaining: 1m 37s
70:
        learn: 0.2206478
                                  total: 16.2s
                                                   remaining: 1m 37s
71:
        learn: 0.2202432
                                  total: 16.4s
                                                   remaining: 1m 37s
72:
        learn: 0.2201035
                                  total: 16.6s
                                                   remaining: 1m 37s
73:
        learn: 0.2198123
                                  total: 16.8s
                                                   remaining: 1m 36s
74:
        learn: 0.2197000
                                  total: 17.1s
                                                   remaining: 1m 36s
        learn: 0.2196779
                                  total: 17.3s
                                                   remaining: 1m 36s
75:
76:
        learn: 0.2195844
                                  total: 17.5s
                                                   remaining: 1m 36s
77:
        learn: 0.2194968
                                  total: 17.7s
                                                   remaining: 1m 35s
78:
        learn: 0.2194312
                                  total: 18s
                                                   remaining: 1m 35s
        learn: 0.2179326
79:
                                                   remaining: 1m 35s
                                  total: 18.2s
        learn: 0.2176655
                                  total: 18.5s
                                                   remaining: 1m 35s
80:
81:
        learn: 0.2174885
                                  total: 18.7s
                                                   remaining: 1m 35s
82:
        learn: 0.2173297
                                                   remaining: 1m 35s
                                  total: 19s
83:
        learn: 0.2172980
                                  total: 19.2s
                                                   remaining: 1m 35s
84:
        learn: 0.2172628
                                  total: 19.5s
                                                   remaining: 1m 34s
85:
        learn: 0.2171378
                                  total: 19.6s
                                                   remaining: 1m 34s
86:
        learn: 0.2170483
                                  total: 19.9s
                                                   remaining: 1m 34s
87:
        learn: 0.2165681
                                  total: 20.1s
                                                   remaining: 1m 34s
                                  total: 20.4s
                                                   remaining: 1m 33s
88:
        learn: 0.2162783
                                  total: 20.6s
89:
        learn: 0.2161826
                                                   remaining: 1m 33s
90:
        learn: 0.2160009
                                  total: 20.9s
                                                   remaining: 1m 33s
91:
        learn: 0.2148960
                                  total: 21.1s
                                                   remaining: 1m 33s
        learn: 0.2132258
                                  total: 21.3s
                                                   remaining: 1m 33s
92:
93:
        learn: 0.2130840
                                  total: 21.6s
                                                   remaining: 1m 33s
94:
        learn: 0.2129792
                                  total: 21.8s
                                                   remaining: 1m 33s
95:
        learn: 0.2128049
                                  total: 22.1s
                                                   remaining: 1m 32s
96:
        learn: 0.2125657
                                  total: 22.3s
                                                   remaining: 1m 32s
97:
        learn: 0.2125472
                                  total: 22.5s
                                                   remaining: 1m 32s
98:
        learn: 0.2124190
                                  total: 22.7s
                                                   remaining: 1m 32s
99:
        learn: 0.2123720
                                  total: 23s
                                                   remaining: 1m 31s
100:
        learn: 0.2122353
                                  total: 23.2s
                                                   remaining: 1m 31s
101:
        learn: 0.2120434
                                  total: 23.5s
                                                   remaining: 1m 31s
```

```
102:
        learn: 0.2120075
                                  total: 23.7s
                                                   remaining: 1m 31s
103:
        learn: 0.2113445
                                  total: 24s
                                                   remaining: 1m 31s
104:
        learn: 0.2113218
                                  total: 24.2s
                                                   remaining: 1m 31s
105:
        learn: 0.2111348
                                  total: 24.4s
                                                   remaining: 1m 30s
                                                   remaining: 1m 30s
106:
        learn: 0.2110604
                                  total: 24.7s
                                  total: 24.9s
                                                   remaining: 1m 30s
107:
        learn: 0.2109969
108:
        learn: 0.2108721
                                  total: 25.2s
                                                   remaining: 1m 30s
109:
        learn: 0.2108163
                                  total: 25.4s
                                                   remaining: 1m 30s
110:
        learn: 0.2106772
                                  total: 25.6s
                                                   remaining: 1m 29s
111:
        learn: 0.2104795
                                  total: 25.9s
                                                   remaining: 1m 29s
                                  total: 26.1s
112:
        learn: 0.2104051
                                                   remaining: 1m 29s
                                                   remaining: 1m 29s
113:
        learn: 0.2103257
                                  total: 26.4s
        learn: 0.2102353
                                  total: 26.6s
                                                   remaining: 1m 29s
114:
115:
        learn: 0.2102123
                                  total: 26.8s
                                                   remaining: 1m 28s
116:
        learn: 0.2101657
                                  total: 27.1s
                                                   remaining: 1m 28s
        learn: 0.2101299
117:
                                  total: 27.3s
                                                   remaining: 1m 28s
118:
        learn: 0.2101072
                                  total: 27.6s
                                                   remaining: 1m 28s
                                  total: 27.8s
119:
        learn: 0.2100708
                                                   remaining: 1m 28s
        learn: 0.2099505
                                  total: 28s
                                                   remaining: 1m 27s
120:
121:
        learn: 0.2098922
                                  total: 28.2s
                                                   remaining: 1m 27s
122:
        learn: 0.2096435
                                  total: 28.5s
                                                   remaining: 1m 27s
123:
        learn: 0.2095701
                                  total: 28.7s
                                                   remaining: 1m 26s
124.
        learn: 0.2095346
                                  total: 28.9s
                                                   remaining: 1m 26s
                                  total: 29.1s
                                                   remaining: 1m 26s
125:
        learn: 0.2094512
126:
        learn: 0.2094067
                                  total: 29.3s
                                                   remaining: 1m 26s
127:
        learn: 0.2093887
                                  total: 29.5s
                                                   remaining: 1m 25s
        learn: 0.2092810
                                  total: 29.7s
                                                   remaining: 1m 25s
128:
129:
        learn: 0.2090845
                                  total: 30s
                                                   remaining: 1m 25s
130:
        learn: 0.2088764
                                  total: 30.2s
                                                   remaining: 1m 25s
131:
        learn: 0.2087440
                                  total: 30.4s
                                                   remaining: 1m 24s
        learn: 0.2086396
                                                   remaining: 1m 24s
132:
                                  total: 30.6s
133:
        learn: 0.2084340
                                  total: 30.8s
                                                   remaining: 1m 24s
134:
        learn: 0.2083619
                                  total: 31.1s
                                                   remaining: 1m 23s
        learn: 0.2083071
                                  total: 31.3s
                                                   remaining: 1m 23s
135:
136:
                                                   remaining: 1m 23s
        learn: 0.2077358
                                  total: 31.5s
137:
        learn: 0.2075808
                                  total: 31.7s
                                                   remaining: 1m 23s
138:
        learn: 0.2075168
                                  total: 31.9s
                                                   remaining: 1m 22s
139:
        learn: 0.2074767
                                  total: 32.1s
                                                   remaining: 1m 22s
                                  total: 32.3s
140:
        learn: 0.2072986
                                                   remaining: 1m 22s
141:
        learn: 0.2070988
                                  total: 32.6s
                                                   remaining: 1m 22s
142:
        learn: 0.2070732
                                  total: 32.8s
                                                   remaining: 1m 21s
143:
        learn: 0.2070047
                                                   remaining: 1m 21s
                                  total: 33s
144:
        learn: 0.2067132
                                  total: 33.2s
                                                   remaining: 1m 21s
145:
        learn: 0.2066328
                                  total: 33.4s
                                                   remaining: 1m 20s
146:
        learn: 0.2065322
                                  total: 33.5s
                                                   remaining: 1m 20s
147:
        learn: 0.2064167
                                  total: 33.7s
                                                   remaining: 1m 20s
148:
        learn: 0.2063463
                                  total: 33.9s
                                                   remaining: 1m 19s
149:
        learn: 0.2061783
                                  total: 34.1s
                                                   remaining: 1m 19s
```

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150:
        learn: 0.2060351
                                  total: 34.3s
                                                   remaining: 1m 19s
151:
        learn: 0.2059650
                                  total: 34.4s
                                                   remaining: 1m 18s
152:
        learn: 0.2058169
                                  total: 34.6s
                                                   remaining: 1m 18s
153:
        learn: 0.2056673
                                  total: 34.8s
                                                   remaining: 1m 18s
                                                   remaining: 1m 17s
154:
        learn: 0.2055892
                                  total: 35s
                                                   remaining: 1m 17s
155:
        learn: 0.2054824
                                  total: 35.2s
156:
        learn: 0.2053886
                                  total: 35.4s
                                                   remaining: 1m 17s
157:
        learn: 0.2053738
                                  total: 35.5s
                                                   remaining: 1m 16s
158:
        learn: 0.2052497
                                  total: 35.8s
                                                   remaining: 1m 16s
159:
        learn: 0.2052171
                                  total: 36s
                                                   remaining: 1m 16s
160:
        learn: 0.2050844
                                  total: 36.2s
                                                   remaining: 1m 16s
161:
        learn: 0.2047641
                                  total: 36.5s
                                                   remaining: 1m 16s
        learn: 0.2047424
                                  total: 36.7s
                                                   remaining: 1m 15s
162:
163:
        learn: 0.2046394
                                  total: 37s
                                                   remaining: 1m 15s
164:
        learn: 0.2044094
                                  total: 37.2s
                                                   remaining: 1m 15s
        learn: 0.2042918
165:
                                  total: 37.4s
                                                   remaining: 1m 15s
166:
        learn: 0.2041994
                                  total: 37.7s
                                                   remaining: 1m 15s
                                  total: 37.9s
167:
        learn: 0.2040928
                                                   remaining: 1m 14s
        learn: 0.2040212
                                                   remaining: 1m 14s
168:
                                  total: 38.1s
169:
        learn: 0.2039093
                                  total: 38.4s
                                                   remaining: 1m 14s
170:
        learn: 0.2038712
                                  total: 38.6s
                                                   remaining: 1m 14s
171:
        learn: 0.2036769
                                  total: 38.8s
                                                   remaining: 1m 14s
172.
        learn: 0.2034839
                                  total: 39.1s
                                                   remaining: 1m 13s
                                  total: 39.3s
                                                   remaining: 1m 13s
173:
        learn: 0.2034339
174:
        learn: 0.2033938
                                  total: 39.5s
                                                   remaining: 1m 13s
175:
        learn: 0.2032502
                                  total: 39.8s
                                                   remaining: 1m 13s
        learn: 0.2032012
                                                   remaining: 1m 13s
176:
                                  total: 40s
177:
        learn: 0.2031634
                                  total: 40.2s
                                                   remaining: 1m 12s
178:
        learn: 0.2030250
                                  total: 40.5s
                                                   remaining: 1m 12s
179:
        learn: 0.2028543
                                  total: 40.7s
                                                   remaining: 1m 12s
180:
        learn: 0.2028417
                                  total: 40.9s
                                                   remaining: 1m 12s
181:
        learn: 0.2028267
                                  total: 41.2s
                                                   remaining: 1m 11s
182:
        learn: 0.2027691
                                  total: 41.4s
                                                   remaining: 1m 11s
        learn: 0.2026952
                                  total: 41.7s
                                                   remaining: 1m 11s
183:
184:
        learn: 0.2024579
                                  total: 41.9s
                                                   remaining: 1m 11s
185:
        learn: 0.2023987
                                  total: 42.1s
                                                   remaining: 1m 11s
186:
        learn: 0.2023374
                                  total: 42.4s
                                                   remaining: 1m 10s
187:
        learn: 0.2023183
                                  total: 42.6s
                                                   remaining: 1m 10s
188:
        learn: 0.2022355
                                  total: 42.8s
                                                   remaining: 1m 10s
189:
        learn: 0.2020855
                                  total: 43.1s
                                                   remaining: 1m 10s
                                  total: 43.3s
190:
        learn: 0.2020332
                                                   remaining: 1m 10s
        learn: 0.2019002
                                  total: 43.5s
                                                   remaining: 1m 9s
191:
192:
        learn: 0.2017336
                                  total: 43.7s
                                                   remaining: 1m 9s
193:
        learn: 0.2016736
                                  total: 43.9s
                                                   remaining: 1m 9s
194:
        learn: 0.2016273
                                  total: 44.2s
                                                   remaining: 1m 9s
195:
        learn: 0.2016008
                                  total: 44.4s
                                                   remaining: 1m 8s
196:
        learn: 0.2015074
                                  total: 44.6s
                                                   remaining: 1m 8s
197:
        learn: 0.2014326
                                  total: 44.8s
                                                   remaining: 1m 8s
```

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198:
        learn: 0.2013643
                                  total: 45.1s
                                                   remaining: 1m 8s
199:
        learn: 0.2012816
                                  total: 45.3s
                                                   remaining: 1m 7s
200:
        learn: 0.2011994
                                  total: 45.5s
                                                   remaining: 1m 7s
201:
        learn: 0.2011638
                                  total: 45.7s
                                                   remaining: 1m 7s
                                                   remaining: 1m 7s
202:
        learn: 0.2010810
                                  total: 45.9s
                                  total: 46.2s
                                                   remaining: 1m 6s
203:
        learn: 0.2010134
204:
        learn: 0.2009551
                                  total: 46.4s
                                                   remaining: 1m 6s
205:
        learn: 0.2009217
                                  total: 46.6s
                                                   remaining: 1m 6s
206:
        learn: 0.2008717
                                  total: 46.8s
                                                   remaining: 1m 6s
207:
        learn: 0.2008562
                                  total: 47s
                                                   remaining: 1m 6s
        learn: 0.2008405
208:
                                  total: 47.2s
                                                   remaining: 1m 5s
209:
        learn: 0.2007290
                                  total: 47.4s
                                                   remaining: 1m 5s
210:
        learn: 0.2005075
                                  total: 47.6s
                                                   remaining: 1m 5s
211:
        learn: 0.2004466
                                  total: 47.8s
                                                   remaining: 1m 4s
212:
        learn: 0.2003613
                                  total: 48.1s
                                                   remaining: 1m 4s
        learn: 0.2002998
                                  total: 48.3s
213:
                                                   remaining: 1m 4s
214:
        learn: 0.2001269
                                  total: 48.5s
                                                   remaining: 1m 4s
215:
        learn: 0.1999918
                                  total: 48.8s
                                                   remaining: 1m 4s
        learn: 0.1998967
                                  total: 49s
                                                   remaining: 1m 3s
216:
217:
        learn: 0.1998676
                                  total: 49.2s
                                                   remaining: 1m 3s
218:
        learn: 0.1986310
                                  total: 49.5s
                                                   remaining: 1m 3s
219:
        learn: 0.1985517
                                  total: 49.7s
                                                   remaining: 1m 3s
220:
        learn: 0.1984844
                                  total: 50s
                                                   remaining: 1m 3s
221:
                                  total: 50.2s
                                                   remaining: 1m 2s
        learn: 0.1984061
222:
        learn: 0.1976928
                                  total: 50.5s
                                                   remaining: 1m 2s
223:
        learn: 0.1976414
                                  total: 50.7s
                                                   remaining: 1m 2s
224:
        learn: 0.1975696
                                  total: 51s
                                                   remaining: 1m 2s
225:
        learn: 0.1975568
                                  total: 51.2s
                                                   remaining: 1m 2s
226:
        learn: 0.1975274
                                  total: 51.5s
                                                   remaining: 1m 1s
227:
        learn: 0.1971413
                                  total: 51.7s
                                                   remaining: 1m 1s
228:
        learn: 0.1970555
                                  total: 52s
                                                   remaining: 1m 1s
229:
        learn: 0.1969166
                                  total: 52.2s
                                                   remaining: 1m 1s
230:
        learn: 0.1968890
                                  total: 52.5s
                                                   remaining: 1m 1s
231:
        learn: 0.1968578
                                  total: 52.7s
                                                   remaining: 1m
                                                   remaining: 1m
232:
        learn: 0.1963752
                                  total: 53s
233:
        learn: 0.1963399
                                  total: 53.2s
                                                   remaining: 1m
234:
        learn: 0.1963001
                                  total: 53.4s
                                                   remaining: 1m
235:
        learn: 0.1962306
                                  total: 53.6s
                                                   remaining: 60s
236:
        learn: 0.1960763
                                  total: 53.8s
                                                   remaining: 59.8s
237:
        learn: 0.1960272
                                  total: 54.1s
                                                   remaining: 59.5s
238:
        learn: 0.1959968
                                  total: 54.3s
                                                   remaining: 59.3s
239:
                                  total: 54.5s
                                                   remaining: 59.1s
        learn: 0.1958917
240:
        learn: 0.1958151
                                  total: 54.8s
                                                   remaining: 58.9s
241:
        learn: 0.1957660
                                  total: 55s
                                                   remaining: 58.6s
242:
        learn: 0.1957386
                                  total: 55.2s
                                                   remaining: 58.4s
243:
        learn: 0.1957018
                                  total: 55.4s
                                                   remaining: 58.2s
244:
        learn: 0.1955828
                                  total: 55.7s
                                                   remaining: 58s
245:
        learn: 0.1955151
                                  total: 55.9s
                                                   remaining: 57.8s
```

```
246:
        learn: 0.1954806
                                  total: 56.2s
                                                   remaining: 57.5s
247:
        learn: 0.1954251
                                  total: 56.4s
                                                   remaining: 57.4s
248:
        learn: 0.1953457
                                  total: 56.7s
                                                   remaining: 57.2s
249:
        learn: 0.1952529
                                  total: 56.9s
                                                   remaining: 56.9s
250:
        learn: 0.1952094
                                  total: 57.2s
                                                   remaining: 56.7s
251:
        learn: 0.1951770
                                  total: 57.4s
                                                   remaining: 56.5s
252:
        learn: 0.1950981
                                  total: 57.7s
                                                   remaining: 56.3s
                                                   remaining: 56.1s
253:
        learn: 0.1950172
                                  total: 57.9s
254:
        learn: 0.1949583
                                  total: 58.1s
                                                   remaining: 55.9s
255:
        learn: 0.1949147
                                  total: 58.4s
                                                   remaining: 55.7s
256:
        learn: 0.1949001
                                  total: 58.6s
                                                   remaining: 55.4s
257:
        learn: 0.1948205
                                  total: 58.8s
                                                   remaining: 55.2s
258:
        learn: 0.1947428
                                  total: 59.1s
                                                   remaining: 55s
259:
        learn: 0.1946347
                                  total: 59.3s
                                                   remaining: 54.8s
                                                   remaining: 54.5s
260:
        learn: 0.1945649
                                  total: 59.6s
261:
        learn: 0.1945018
                                  total: 59.8s
                                                   remaining: 54.3s
262:
        learn: 0.1944736
                                  total: 1m
                                                   remaining: 54.1s
263:
        learn: 0.1944567
                                  total: 1m
                                                   remaining: 53.9s
        learn: 0.1943494
264:
                                  total: 1m
                                                   remaining: 53.6s
265:
        learn: 0.1942795
                                  total: 1m
                                                   remaining: 53.4s
266:
        learn: 0.1941700
                                  total: 1m
                                                   remaining: 53.1s
267:
        learn: 0.1941538
                                  total: 1m 1s
                                                   remaining: 52.9s
268:
        learn: 0.1940050
                                  total: 1m 1s
                                                   remaining: 52.7s
269:
        learn: 0.1939832
                                  total: 1m 1s
                                                   remaining: 52.4s
270:
        learn: 0.1938589
                                  total: 1m 1s
                                                   remaining: 52.2s
        learn: 0.1938456
                                  total: 1m 2s
271:
                                                   remaining: 52s
272:
        learn: 0.1937686
                                  total: 1m 2s
                                                   remaining: 51.7s
273:
        learn: 0.1937461
                                  total: 1m 2s
                                                   remaining: 51.5s
274:
        learn: 0.1935783
                                  total: 1m 2s
                                                   remaining: 51.3s
275:
        learn: 0.1935139
                                  total: 1m 2s
                                                   remaining: 51s
276:
        learn: 0.1934780
                                  total: 1m 3s
                                                   remaining: 50.8s
277:
        learn: 0.1933848
                                  total: 1m 3s
                                                   remaining: 50.6s
278:
        learn: 0.1932683
                                  total: 1m 3s
                                                   remaining: 50.4s
279:
        learn: 0.1932248
                                  total: 1m 3s
                                                   remaining: 50.1s
280:
        learn: 0.1929933
                                  total: 1m 4s
                                                   remaining: 49.9s
281:
        learn: 0.1928545
                                  total: 1m 4s
                                                   remaining: 49.7s
282:
        learn: 0.1928128
                                  total: 1m 4s
                                                   remaining: 49.5s
283:
        learn: 0.1926643
                                  total: 1m 4s
                                                   remaining: 49.2s
284:
        learn: 0.1924818
                                  total: 1m 4s
                                                   remaining: 49s
285:
        learn: 0.1924577
                                  total: 1m 5s
                                                   remaining: 48.8s
286:
        learn: 0.1923565
                                  total: 1m 5s
                                                   remaining: 48.5s
287:
        learn: 0.1922874
                                  total: 1m 5s
                                                   remaining: 48.3s
288:
        learn: 0.1922200
                                  total: 1m 5s
                                                   remaining: 48.1s
289:
        learn: 0.1921579
                                  total: 1m 6s
                                                   remaining: 47.9s
290:
        learn: 0.1920915
                                  total: 1m 6s
                                                   remaining: 47.7s
291:
        learn: 0.1919159
                                  total: 1m 6s
                                                   remaining: 47.4s
292:
        learn: 0.1917672
                                  total: 1m 6s
                                                   remaining: 47.2s
293:
        learn: 0.1917399
                                  total: 1m 7s
                                                   remaining: 47s
```

```
294:
        learn: 0.1917018
                                  total: 1m 7s
                                                   remaining: 46.8s
295:
        learn: 0.1914012
                                  total: 1m 7s
                                                   remaining: 46.5s
296:
        learn: 0.1913675
                                  total: 1m 7s
                                                   remaining: 46.3s
297:
        learn: 0.1913202
                                  total: 1m 7s
                                                   remaining: 46.1s
298:
        learn: 0.1912057
                                  total: 1m 8s
                                                   remaining: 45.9s
                                  total: 1m 8s
                                                   remaining: 45.7s
299:
        learn: 0.1910769
300:
        learn: 0.1908999
                                  total: 1m 8s
                                                   remaining: 45.4s
301:
        learn: 0.1908391
                                  total: 1m 8s
                                                   remaining: 45.2s
302:
        learn: 0.1907517
                                  total: 1m 9s
                                                   remaining: 45s
303:
        learn: 0.1906765
                                  total: 1m 9s
                                                   remaining: 44.8s
304:
        learn: 0.1906346
                                  total: 1m 9s
                                                   remaining: 44.6s
305:
        learn: 0.1905659
                                  total: 1m 9s
                                                   remaining: 44.3s
306:
        learn: 0.1905386
                                  total: 1m 10s
                                                   remaining: 44.1s
307:
        learn: 0.1904756
                                  total: 1m 10s
                                                   remaining: 43.9s
                                                   remaining: 43.7s
308:
        learn: 0.1904098
                                  total: 1m 10s
309:
        learn: 0.1903694
                                  total: 1m 10s
                                                   remaining: 43.4s
310:
        learn: 0.1903299
                                  total: 1m 11s
                                                   remaining: 43.2s
                                  total: 1m 11s
311:
        learn: 0.1902664
                                                   remaining: 43s
        learn: 0.1901686
                                  total: 1m 11s
                                                   remaining: 42.7s
312:
313:
        learn: 0.1901187
                                  total: 1m 11s
                                                   remaining: 42.5s
314:
        learn: 0.1900593
                                  total: 1m 12s
                                                   remaining: 42.3s
315:
        learn: 0.1900212
                                  total: 1m 12s
                                                   remaining: 42.1s
316:
        learn: 0.1899813
                                  total: 1m 12s
                                                   remaining: 41.8s
                                  total: 1m 12s
317:
        learn: 0.1899102
                                                   remaining: 41.6s
318:
        learn: 0.1898450
                                  total: 1m 12s
                                                   remaining: 41.4s
319:
        learn: 0.1898297
                                  total: 1m 13s
                                                   remaining: 41.2s
320:
        learn: 0.1897983
                                  total: 1m 13s
                                                   remaining: 40.9s
321:
        learn: 0.1897206
                                  total: 1m 13s
                                                   remaining: 40.7s
322:
        learn: 0.1896432
                                  total: 1m 13s
                                                   remaining: 40.5s
323:
        learn: 0.1895862
                                  total: 1m 14s
                                                   remaining: 40.3s
324:
        learn: 0.1895159
                                  total: 1m 14s
                                                   remaining: 40.1s
325:
        learn: 0.1894929
                                  total: 1m 14s
                                                   remaining: 39.8s
326:
        learn: 0.1893470
                                  total: 1m 14s
                                                   remaining: 39.6s
327:
        learn: 0.1892887
                                  total: 1m 15s
                                                   remaining: 39.4s
328:
        learn: 0.1892535
                                  total: 1m 15s
                                                   remaining: 39.2s
329:
        learn: 0.1891295
                                  total: 1m 15s
                                                   remaining: 38.9s
330:
        learn: 0.1890353
                                  total: 1m 15s
                                                   remaining: 38.7s
331:
        learn: 0.1890146
                                  total: 1m 16s
                                                   remaining: 38.5s
                                  total: 1m 16s
332:
        learn: 0.1889033
                                                   remaining: 38.3s
333:
        learn: 0.1888138
                                  total: 1m 16s
                                                   remaining: 38s
334:
        learn: 0.1887686
                                  total: 1m 16s
                                                   remaining: 37.8s
335:
        learn: 0.1886816
                                  total: 1m 16s
                                                   remaining: 37.5s
336:
        learn: 0.1886735
                                  total: 1m 17s
                                                   remaining: 37.3s
337:
        learn: 0.1885961
                                  total: 1m 17s
                                                   remaining: 37.1s
                                                   remaining: 36.8s
338:
        learn: 0.1884677
                                  total: 1m 17s
339:
        learn: 0.1883849
                                  total: 1m 17s
                                                   remaining: 36.6s
340:
        learn: 0.1883505
                                  total: 1m 17s
                                                   remaining: 36.4s
341:
        learn: 0.1882406
                                  total: 1m 18s
                                                   remaining: 36.1s
```

```
learn: 0.1882329
342:
                                  total: 1m 18s
                                                   remaining: 35.9s
343:
        learn: 0.1880709
                                  total: 1m 18s
                                                   remaining: 35.7s
344:
        learn: 0.1879799
                                                   remaining: 35.4s
                                  total: 1m 18s
345:
                                                   remaining: 35.2s
        learn: 0.1878906
                                  total: 1m 19s
346:
        learn: 0.1877647
                                  total: 1m 19s
                                                   remaining: 34.9s
                                  total: 1m 19s
347:
        learn: 0.1877094
                                                   remaining: 34.7s
348:
        learn: 0.1876804
                                  total: 1m 19s
                                                   remaining: 34.5s
                                                   remaining: 34.2s
349:
        learn: 0.1876591
                                  total: 1m 19s
350:
        learn: 0.1876020
                                  total: 1m 20s
                                                   remaining: 34s
351:
        learn: 0.1875136
                                  total: 1m 20s
                                                   remaining: 33.8s
352:
        learn: 0.1874913
                                  total: 1m 20s
                                                   remaining: 33.5s
353:
        learn: 0.1873537
                                  total: 1m 20s
                                                   remaining: 33.3s
354:
        learn: 0.1872654
                                  total: 1m 20s
                                                   remaining: 33.1s
355:
        learn: 0.1871641
                                  total: 1m 21s
                                                   remaining: 32.9s
                                                   remaining: 32.6s
356:
        learn: 0.1871035
                                  total: 1m 21s
357:
        learn: 0.1870430
                                  total: 1m 21s
                                                   remaining: 32.4s
358:
        learn: 0.1869791
                                  total: 1m 21s
                                                   remaining: 32.2s
                                  total: 1m 22s
359:
        learn: 0.1868936
                                                   remaining: 32s
                                  total: 1m 22s
                                                   remaining: 31.7s
360:
        learn: 0.1867552
361:
        learn: 0.1867148
                                  total: 1m 22s
                                                   remaining: 31.5s
362:
        learn: 0.1866062
                                  total: 1m 22s
                                                   remaining: 31.3s
                                  total: 1m 23s
363:
        learn: 0.1865256
                                                   remaining: 31.1s
                                                  remaining: 30.9s
364:
        learn: 0.1864200
                                  total: 1m 23s
                                  total: 1m 23s
365:
        learn: 0.1863933
                                                   remaining: 30.6s
366:
        learn: 0.1862799
                                  total: 1m 23s
                                                   remaining: 30.4s
        learn: 0.1861500
367:
                                  total: 1m 24s
                                                   remaining: 30.2s
368:
        learn: 0.1860800
                                  total: 1m 24s
                                                   remaining: 30s
369:
        learn: 0.1860745
                                  total: 1m 24s
                                                   remaining: 29.7s
370:
        learn: 0.1860300
                                  total: 1m 24s
                                                   remaining: 29.5s
371:
        learn: 0.1859915
                                  total: 1m 25s
                                                   remaining: 29.3s
372:
        learn: 0.1859451
                                  total: 1m 25s
                                                   remaining: 29s
373:
        learn: 0.1858804
                                  total: 1m 25s
                                                   remaining: 28.8s
374:
        learn: 0.1858228
                                  total: 1m 25s
                                                   remaining: 28.6s
375:
        learn: 0.1857841
                                  total: 1m 26s
                                                   remaining: 28.4s
376:
        learn: 0.1857680
                                  total: 1m 26s
                                                   remaining: 28.1s
                                  total: 1m 26s
377:
        learn: 0.1857462
                                                   remaining: 27.9s
378:
        learn: 0.1856845
                                  total: 1m 26s
                                                   remaining: 27.7s
379:
        learn: 0.1856063
                                  total: 1m 27s
                                                   remaining: 27.5s
                                  total: 1m 27s
380:
        learn: 0.1854155
                                                   remaining: 27.3s
381:
        learn: 0.1853695
                                  total: 1m 27s
                                                   remaining: 27s
382:
        learn: 0.1852963
                                  total: 1m 27s
                                                   remaining: 26.8s
383:
        learn: 0.1852481
                                  total: 1m 27s
                                                   remaining: 26.6s
384:
                                  total: 1m 28s
        learn: 0.1852268
                                                   remaining: 26.3s
385:
        learn: 0.1851724
                                  total: 1m 28s
                                                   remaining: 26.1s
                                                   remaining: 25.9s
386:
        learn: 0.1851160
                                  total: 1m 28s
387:
        learn: 0.1850839
                                  total: 1m 28s
                                                   remaining: 25.7s
388:
        learn: 0.1849682
                                  total: 1m 29s
                                                   remaining: 25.5s
389:
        learn: 0.1848845
                                  total: 1m 29s
                                                   remaining: 25.2s
```

```
learn: 0.1848142
390:
                                  total: 1m 29s
                                                   remaining: 25s
391:
        learn: 0.1847942
                                  total: 1m 30s
                                                   remaining: 24.8s
392:
        learn: 0.1847134
                                  total: 1m 30s
                                                   remaining: 24.6s
393:
                                  total: 1m 30s
                                                   remaining: 24.4s
        learn: 0.1846830
394:
        learn: 0.1846186
                                  total: 1m 30s
                                                   remaining: 24.1s
                                  total: 1m 31s
                                                   remaining: 23.9s
395:
        learn: 0.1845563
396:
        learn: 0.1844957
                                  total: 1m 31s
                                                   remaining: 23.7s
        learn: 0.1843638
397:
                                  total: 1m 31s
                                                   remaining: 23.5s
398:
        learn: 0.1843448
                                  total: 1m 31s
                                                   remaining: 23.2s
399:
        learn: 0.1843267
                                  total: 1m 32s
                                                   remaining: 23s
400:
        learn: 0.1843033
                                  total: 1m 32s
                                                   remaining: 22.8s
401:
        learn: 0.1842448
                                  total: 1m 32s
                                                   remaining: 22.5s
402:
        learn: 0.1841732
                                  total: 1m 32s
                                                   remaining: 22.3s
403:
        learn: 0.1840863
                                  total: 1m 32s
                                                   remaining: 22.1s
404:
        learn: 0.1840388
                                  total: 1m 33s
                                                   remaining: 21.9s
405:
        learn: 0.1839695
                                  total: 1m 33s
                                                   remaining: 21.6s
406:
        learn: 0.1838962
                                  total: 1m 33s
                                                   remaining: 21.4s
                                  total: 1m 33s
407:
        learn: 0.1838338
                                                   remaining: 21.2s
408:
        learn: 0.1837453
                                  total: 1m 34s
                                                   remaining: 20.9s
409:
        learn: 0.1836820
                                  total: 1m 34s
                                                   remaining: 20.7s
410:
        learn: 0.1836202
                                  total: 1m 34s
                                                   remaining: 20.4s
411:
        learn: 0.1835264
                                  total: 1m 34s
                                                   remaining: 20.2s
412:
        learn: 0.1834431
                                  total: 1m 34s
                                                   remaining: 20s
413:
                                  total: 1m 35s
        learn: 0.1833418
                                                   remaining: 19.8s
414:
        learn: 0.1832772
                                  total: 1m 35s
                                                   remaining: 19.5s
415:
        learn: 0.1832563
                                  total: 1m 35s
                                                   remaining: 19.3s
416:
        learn: 0.1832106
                                  total: 1m 35s
                                                   remaining: 19.1s
417:
        learn: 0.1831794
                                  total: 1m 35s
                                                   remaining: 18.8s
418:
        learn: 0.1831260
                                  total: 1m 36s
                                                   remaining: 18.6s
419:
        learn: 0.1830977
                                  total: 1m 36s
                                                   remaining: 18.4s
420:
        learn: 0.1830403
                                  total: 1m 36s
                                                   remaining: 18.1s
421:
        learn: 0.1829746
                                  total: 1m 36s
                                                   remaining: 17.9s
422:
        learn: 0.1828540
                                  total: 1m 37s
                                                   remaining: 17.7s
423:
        learn: 0.1828195
                                  total: 1m 37s
                                                   remaining: 17.4s
424:
        learn: 0.1827779
                                  total: 1m 37s
                                                   remaining: 17.2s
425:
        learn: 0.1827024
                                  total: 1m 37s
                                                   remaining: 17s
426:
        learn: 0.1826395
                                  total: 1m 38s
                                                   remaining: 16.8s
427:
        learn: 0.1825815
                                  total: 1m 38s
                                                   remaining: 16.5s
                                  total: 1m 38s
428:
        learn: 0.1825362
                                                   remaining: 16.3s
429:
        learn: 0.1825044
                                  total: 1m 38s
                                                   remaining: 16.1s
430:
        learn: 0.1824278
                                  total: 1m 39s
                                                   remaining: 15.9s
431:
        learn: 0.1823406
                                  total: 1m 39s
                                                   remaining: 15.6s
432:
                                  total: 1m 39s
        learn: 0.1822505
                                                   remaining: 15.4s
433:
        learn: 0.1822376
                                  total: 1m 39s
                                                   remaining: 15.2s
                                                   remaining: 14.9s
434:
        learn: 0.1822172
                                  total: 1m 39s
435:
        learn: 0.1821756
                                  total: 1m 40s
                                                   remaining: 14.7s
436:
        learn: 0.1821556
                                  total: 1m 40s
                                                   remaining: 14.5s
437:
        learn: 0.1820602
                                  total: 1m 40s
                                                   remaining: 14.3s
```

```
learn: 0.1819471
438:
                                  total: 1m 40s
                                                   remaining: 14s
439:
        learn: 0.1818811
                                  total: 1m 41s
                                                   remaining: 13.8s
440:
        learn: 0.1818483
                                  total: 1m 41s
                                                   remaining: 13.6s
441:
        learn: 0.1818182
                                  total: 1m 41s
                                                   remaining: 13.3s
442:
        learn: 0.1817793
                                  total: 1m 41s
                                                   remaining: 13.1s
                                  total: 1m 42s
443:
        learn: 0.1817328
                                                   remaining: 12.9s
444:
        learn: 0.1816671
                                  total: 1m 42s
                                                   remaining: 12.7s
445:
        learn: 0.1815661
                                  total: 1m 42s
                                                   remaining: 12.4s
446:
        learn: 0.1814942
                                  total: 1m 42s
                                                   remaining: 12.2s
447:
        learn: 0.1813739
                                  total: 1m 43s
                                                   remaining: 12s
448:
        learn: 0.1812637
                                  total: 1m 43s
                                                   remaining: 11.7s
449:
        learn: 0.1811866
                                  total: 1m 43s
                                                   remaining: 11.5s
450:
        learn: 0.1810317
                                  total: 1m 43s
                                                   remaining: 11.3s
451:
        learn: 0.1809313
                                  total: 1m 44s
                                                   remaining: 11s
452:
        learn: 0.1808755
                                  total: 1m 44s
                                                   remaining: 10.8s
453:
        learn: 0.1807986
                                  total: 1m 44s
                                                   remaining: 10.6s
454:
        learn: 0.1807520
                                  total: 1m 44s
                                                   remaining: 10.4s
                                  total: 1m 44s
455:
        learn: 0.1807426
                                                   remaining: 10.1s
456:
        learn: 0.1806920
                                  total: 1m 45s
                                                   remaining: 9.9s
457:
        learn: 0.1806478
                                  total: 1m 45s
                                                   remaining: 9.67s
458:
        learn: 0.1806156
                                  total: 1m 45s
                                                   remaining: 9.44s
459:
        learn: 0.1805632
                                  total: 1m 46s
                                                   remaining: 9.22s
460:
        learn: 0.1805166
                                  total: 1m 46s
                                                   remaining: 8.99s
461:
        learn: 0.1805118
                                  total: 1m 46s
                                                   remaining: 8.76s
462:
        learn: 0.1804858
                                  total: 1m 46s
                                                   remaining: 8.52s
        learn: 0.1803590
463:
                                  total: 1m 46s
                                                   remaining: 8.29s
464:
        learn: 0.1803308
                                  total: 1m 47s
                                                   remaining: 8.06s
465:
        learn: 0.1803120
                                  total: 1m 47s
                                                   remaining: 7.83s
466:
        learn: 0.1802877
                                  total: 1m 47s
                                                   remaining: 7.6s
467:
        learn: 0.1802177
                                  total: 1m 47s
                                                   remaining: 7.37s
468:
        learn: 0.1801772
                                  total: 1m 48s
                                                   remaining: 7.14s
469:
        learn: 0.1801197
                                  total: 1m 48s
                                                   remaining: 6.91s
470:
        learn: 0.1800733
                                  total: 1m 48s
                                                   remaining: 6.68s
        learn: 0.1800097
                                  total: 1m 48s
471:
                                                   remaining: 6.45s
472:
        learn: 0.1799880
                                  total: 1m 48s
                                                   remaining: 6.21s
473:
        learn: 0.1799593
                                  total: 1m 49s
                                                   remaining: 5.98s
474:
        learn: 0.1798870
                                  total: 1m 49s
                                                   remaining: 5.75s
475:
        learn: 0.1798600
                                  total: 1m 49s
                                                   remaining: 5.52s
476:
        learn: 0.1797600
                                  total: 1m 49s
                                                   remaining: 5.29s
477:
        learn: 0.1797241
                                  total: 1m 49s
                                                   remaining: 5.06s
                                  total: 1m 50s
478:
        learn: 0.1796259
                                                   remaining: 4.83s
479:
        learn: 0.1795739
                                  total: 1m 50s
                                                   remaining: 4.6s
480:
        learn: 0.1795174
                                  total: 1m 50s
                                                   remaining: 4.37s
481:
        learn: 0.1793963
                                  total: 1m 50s
                                                   remaining: 4.14s
                                                   remaining: 3.91s
482:
        learn: 0.1793415
                                  total: 1m 51s
483:
        learn: 0.1793365
                                  total: 1m 51s
                                                   remaining: 3.68s
484:
        learn: 0.1792997
                                  total: 1m 51s
                                                   remaining: 3.45s
485:
        learn: 0.1792872
                                  total: 1m 51s
                                                   remaining: 3.22s
```

```
486:
        learn: 0.1792373
                                  total: 1m 51s
                                                   remaining: 2.99s
487:
        learn: 0.1791948
                                  total: 1m 52s
                                                   remaining: 2.76s
488:
        learn: 0.1791660
                                  total: 1m 52s
                                                   remaining: 2.53s
        learn: 0.1790966
                                  total: 1m 52s
                                                   remaining: 2.3s
489:
490:
        learn: 0.1790789
                                  total: 1m 52s
                                                   remaining: 2.07s
                                  total: 1m 53s
                                                   remaining: 1.84s
491:
        learn: 0.1790388
492:
        learn: 0.1790153
                                  total: 1m 53s
                                                   remaining: 1.61s
493:
        learn: 0.1789542
                                  total: 1m 53s
                                                   remaining: 1.38s
494:
        learn: 0.1788700
                                  total: 1m 53s
                                                   remaining: 1.15s
495:
        learn: 0.1788364
                                  total: 1m 54s
                                                   remaining: 920ms
496:
        learn: 0.1787828
                                  total: 1m 54s
                                                   remaining: 690ms
497:
        learn: 0.1787544
                                  total: 1m 54s
                                                   remaining: 460ms
498:
        learn: 0.1787060
                                  total: 1m 54s
                                                   remaining: 230ms
499:
        learn: 0.1786841
                                  total: 1m 55s
                                                   remaining: Ous
Learning rate set to 0.172923
0:
        learn: 0.9716557
                                  total: 276ms
                                                   remaining: 2m 17s
1:
        learn: 0.8895613
                                  total: 544ms
                                                   remaining: 2m 15s
2:
        learn: 0.8301478
                                  total: 761ms
                                                   remaining: 2m 6s
                                  total: 1.02s
                                                   remaining: 2m 6s
3:
        learn: 0.7155225
4:
        learn: 0.6319274
                                  total: 1.23s
                                                   remaining: 2m 1s
5:
        learn: 0.5699472
                                  total: 1.42s
                                                   remaining: 1m 56s
6:
        learn: 0.5243102
                                  total: 1.57s
                                                   remaining: 1m 50s
7:
        learn: 0.5045321
                                  total: 1.76s
                                                   remaining: 1m 48s
                                  total: 1.93s
                                                   remaining: 1m 45s
8:
        learn: 0.4899787
9:
        learn: 0.4479828
                                  total: 2.12s
                                                   remaining: 1m 43s
10:
        learn: 0.4251463
                                  total: 2.31s
                                                   remaining: 1m 42s
                                  total: 2.48s
                                                   remaining: 1m 40s
11:
        learn: 0.4177008
12:
        learn: 0.3985502
                                  total: 2.67s
                                                   remaining: 1m 39s
                                  total: 2.85s
13:
        learn: 0.3769396
                                                   remaining: 1m 38s
14:
        learn: 0.3670662
                                  total: 3.03s
                                                   remaining: 1m 38s
        learn: 0.3629479
                                  total: 3.23s
15:
                                                   remaining: 1m 37s
16:
        learn: 0.3474098
                                  total: 3.44s
                                                   remaining: 1m 37s
17:
        learn: 0.3339127
                                  total: 3.67s
                                                   remaining: 1m 38s
18:
        learn: 0.3220479
                                  total: 3.89s
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
19:
        learn: 0.3129938
                                  total: 4.11s
                                  total: 4.34s
20:
        learn: 0.3056654
                                                   remaining: 1m 39s
21:
        learn: 0.2995873
                                  total: 4.58s
                                                   remaining: 1m 39s
22:
        learn: 0.2925987
                                  total: 4.83s
                                                   remaining: 1m 40s
23:
                                  total: 5.07s
        learn: 0.2836333
                                                   remaining: 1m 40s
24:
        learn: 0.2805562
                                  total: 5.31s
                                                   remaining: 1m 40s
25:
        learn: 0.2734250
                                  total: 5.56s
                                                   remaining: 1m 41s
                                                   remaining: 1m 42s
26:
        learn: 0.2723861
                                  total: 5.83s
27:
        learn: 0.2717729
                                  total: 6.06s
                                                   remaining: 1m 42s
28:
        learn: 0.2703254
                                  total: 6.31s
                                                   remaining: 1m 42s
29:
        learn: 0.2697266
                                  total: 6.55s
                                                   remaining: 1m 42s
30:
        learn: 0.2682519
                                  total: 6.82s
                                                   remaining: 1m 43s
31:
        learn: 0.2674493
                                  total: 7.03s
                                                   remaining: 1m 42s
32:
        learn: 0.2620732
                                  total: 7.29s
                                                   remaining: 1m 43s
```

```
33:
        learn: 0.2576637
                                  total: 7.53s
                                                   remaining: 1m 43s
34:
        learn: 0.2571225
                                  total: 7.78s
                                                   remaining: 1m 43s
35:
        learn: 0.2528181
                                  total: 7.98s
                                                   remaining: 1m 42s
        learn: 0.2495072
                                  total: 8.18s
                                                   remaining: 1m 42s
36:
                                                   remaining: 1m 42s
37:
        learn: 0.2468017
                                  total: 8.42s
        learn: 0.2450488
                                  total: 8.63s
                                                   remaining: 1m 42s
38:
39:
        learn: 0.2446270
                                  total: 8.85s
                                                   remaining: 1m 41s
40:
        learn: 0.2442620
                                  total: 9.08s
                                                   remaining: 1m 41s
41:
        learn: 0.2437109
                                  total: 9.31s
                                                   remaining: 1m 41s
42:
        learn: 0.2435241
                                  total: 9.52s
                                                   remaining: 1m 41s
        learn: 0.2432770
43:
                                  total: 9.75s
                                                   remaining: 1m 41s
                                                   remaining: 1m 40s
44:
        learn: 0.2420706
                                  total: 9.99s
45:
        learn: 0.2417189
                                  total: 10.2s
                                                   remaining: 1m 40s
46:
        learn: 0.2413886
                                  total: 10.4s
                                                   remaining: 1m 40s
47:
        learn: 0.2409897
                                  total: 10.6s
                                                   remaining: 1m 40s
48:
        learn: 0.2408148
                                                   remaining: 1m 39s
                                  total: 10.9s
49:
        learn: 0.2405387
                                  total: 11.1s
                                                   remaining: 1m 39s
50:
        learn: 0.2398246
                                  total: 11.3s
                                                   remaining: 1m 39s
        learn: 0.2396177
                                  total: 11.5s
                                                   remaining: 1m 39s
51:
52:
        learn: 0.2395500
                                  total: 11.8s
                                                   remaining: 1m 39s
                                  total: 12s
53:
        learn: 0.2394419
                                                   remaining: 1m 39s
                                  total: 12.2s
54:
        learn: 0.2392890
                                                   remaining: 1m 38s
55:
        learn: 0.2390769
                                  total: 12.4s
                                                   remaining: 1m 38s
        learn: 0.2389219
                                  total: 12.7s
                                                   remaining: 1m 38s
56:
57:
        learn: 0.2386480
                                  total: 12.9s
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
58:
        learn: 0.2384313
                                  total: 13.1s
        learn: 0.2379404
                                  total: 13.4s
                                                   remaining: 1m 38s
59:
60:
        learn: 0.2375496
                                  total: 13.7s
                                                   remaining: 1m 38s
        learn: 0.2351105
61:
                                  total: 13.9s
                                                   remaining: 1m 38s
62:
        learn: 0.2349538
                                  total: 14.2s
                                                   remaining: 1m 38s
63:
        learn: 0.2348436
                                  total: 14.5s
                                                   remaining: 1m 38s
64:
        learn: 0.2347275
                                  total: 14.8s
                                                   remaining: 1m 38s
65:
        learn: 0.2344997
                                  total: 15.1s
                                                   remaining: 1m 39s
        learn: 0.2343619
                                  total: 15.3s
                                                   remaining: 1m 38s
66:
                                                   remaining: 1m 38s
67:
        learn: 0.2323655
                                  total: 15.6s
68:
        learn: 0.2322368
                                  total: 15.8s
                                                   remaining: 1m 38s
69:
        learn: 0.2320392
                                  total: 16.1s
                                                   remaining: 1m 38s
70:
        learn: 0.2319895
                                  total: 16.3s
                                                   remaining: 1m 38s
71:
        learn: 0.2318506
                                  total: 16.5s
                                                   remaining: 1m 38s
72:
        learn: 0.2316738
                                  total: 16.8s
                                                   remaining: 1m 38s
73:
        learn: 0.2315723
                                  total: 17s
                                                   remaining: 1m 37s
74:
        learn: 0.2314253
                                                   remaining: 1m 37s
                                  total: 17.3s
75:
        learn: 0.2313764
                                  total: 17.5s
                                                   remaining: 1m 37s
76:
        learn: 0.2312599
                                  total: 17.7s
                                                   remaining: 1m 37s
77:
        learn: 0.2308918
                                  total: 18s
                                                   remaining: 1m 37s
78:
        learn: 0.2304426
                                  total: 18.2s
                                                   remaining: 1m 37s
79:
        learn: 0.2303574
                                  total: 18.5s
                                                   remaining: 1m 37s
80:
        learn: 0.2301518
                                  total: 18.7s
                                                   remaining: 1m 36s
```

```
learn: 0.2284806
                                                   remaining: 1m 36s
81:
                                  total: 19s
82:
        learn: 0.2283070
                                  total: 19.2s
                                                   remaining: 1m 36s
83:
        learn: 0.2281651
                                  total: 19.5s
                                                   remaining: 1m 36s
        learn: 0.2275154
                                  total: 19.8s
                                                   remaining: 1m 36s
84:
                                                   remaining: 1m 36s
85:
        learn: 0.2274443
                                  total: 20s
                                  total: 20.3s
                                                   remaining: 1m 36s
86:
        learn: 0.2270736
87:
        learn: 0.2268617
                                  total: 20.5s
                                                   remaining: 1m 36s
88:
        learn: 0.2267441
                                  total: 20.8s
                                                   remaining: 1m 35s
89:
        learn: 0.2266530
                                  total: 21s
                                                   remaining: 1m 35s
90:
        learn: 0.2264841
                                  total: 21.2s
                                                   remaining: 1m 35s
        learn: 0.2263813
                                  total: 21.5s
91:
                                                   remaining: 1m 35s
                                                   remaining: 1m 34s
92:
        learn: 0.2261711
                                  total: 21.7s
93:
        learn: 0.2261017
                                  total: 21.9s
                                                   remaining: 1m 34s
94:
        learn: 0.2259516
                                  total: 22.2s
                                                   remaining: 1m 34s
95:
        learn: 0.2247409
                                  total: 22.4s
                                                   remaining: 1m 34s
        learn: 0.2245356
96:
                                  total: 22.7s
                                                   remaining: 1m 34s
97:
        learn: 0.2244294
                                  total: 22.9s
                                                   remaining: 1m 33s
                                  total: 23.2s
98:
        learn: 0.2243548
                                                   remaining: 1m 33s
        learn: 0.2241237
                                  total: 23.4s
                                                   remaining: 1m 33s
99:
100:
        learn: 0.2240366
                                  total: 23.7s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
101:
        learn: 0.2239388
                                  total: 23.9s
                                  total: 24.1s
102:
        learn: 0.2237752
                                                   remaining: 1m 32s
103:
        learn: 0.2237115
                                  total: 24.4s
                                                   remaining: 1m 32s
        learn: 0.2234903
                                  total: 24.6s
                                                   remaining: 1m 32s
104:
105:
        learn: 0.2234014
                                  total: 24.8s
                                                   remaining: 1m 32s
        learn: 0.2233470
106:
                                  total: 25s
                                                   remaining: 1m 31s
107:
        learn: 0.2231537
                                  total: 25.2s
                                                   remaining: 1m 31s
108:
        learn: 0.2230090
                                  total: 25.4s
                                                   remaining: 1m 31s
        learn: 0.2229430
                                  total: 25.7s
109:
                                                   remaining: 1m 30s
110:
        learn: 0.2227477
                                  total: 25.9s
                                                   remaining: 1m 30s
        learn: 0.2226959
                                  total: 26.1s
                                                   remaining: 1m 30s
111:
112:
        learn: 0.2226252
                                  total: 26.3s
                                                   remaining: 1m 29s
113:
        learn: 0.2225213
                                  total: 26.5s
                                                   remaining: 1m 29s
114:
        learn: 0.2222595
                                  total: 26.7s
                                                   remaining: 1m 29s
                                                   remaining: 1m 29s
115:
        learn: 0.2222372
                                  total: 26.9s
116:
        learn: 0.2219936
                                  total: 27.1s
                                                   remaining: 1m 28s
117:
        learn: 0.2218866
                                  total: 27.4s
                                                   remaining: 1m 28s
118:
        learn: 0.2216947
                                  total: 27.6s
                                                   remaining: 1m 28s
        learn: 0.2215462
                                  total: 27.8s
                                                   remaining: 1m 28s
119:
120:
        learn: 0.2214524
                                  total: 28s
                                                   remaining: 1m 27s
121:
        learn: 0.2213825
                                  total: 28.2s
                                                   remaining: 1m 27s
        learn: 0.2212841
                                  total: 28.5s
                                                   remaining: 1m 27s
122:
123:
        learn: 0.2211655
                                  total: 28.7s
                                                   remaining: 1m 26s
124:
        learn: 0.2210373
                                  total: 28.9s
                                                   remaining: 1m 26s
125:
        learn: 0.2209141
                                  total: 29.2s
                                                   remaining: 1m 26s
126:
        learn: 0.2208309
                                  total: 29.4s
                                                   remaining: 1m 26s
127:
        learn: 0.2207877
                                  total: 29.6s
                                                   remaining: 1m 26s
128:
        learn: 0.2207297
                                  total: 29.9s
                                                   remaining: 1m 25s
```

```
total: 30.1s
129:
        learn: 0.2206764
                                                   remaining: 1m 25s
130:
        learn: 0.2205133
                                  total: 30.4s
                                                   remaining: 1m 25s
131:
        learn: 0.2204057
                                  total: 30.6s
                                                   remaining: 1m 25s
132:
        learn: 0.2203289
                                  total: 30.9s
                                                   remaining: 1m 25s
                                                   remaining: 1m 24s
133:
        learn: 0.2201520
                                  total: 31.1s
                                                   remaining: 1m 24s
134:
        learn: 0.2200417
                                  total: 31.4s
135:
        learn: 0.2198476
                                  total: 31.6s
                                                   remaining: 1m 24s
136:
        learn: 0.2198077
                                  total: 31.9s
                                                   remaining: 1m 24s
137:
        learn: 0.2194366
                                  total: 32.1s
                                                   remaining: 1m 24s
138:
        learn: 0.2192744
                                  total: 32.3s
                                                   remaining: 1m 23s
139:
        learn: 0.2192294
                                  total: 32.6s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
140:
        learn: 0.2191436
                                  total: 32.8s
        learn: 0.2189867
                                  total: 33.1s
                                                   remaining: 1m 23s
141:
142:
        learn: 0.2189134
                                  total: 33.3s
                                                   remaining: 1m 23s
143:
        learn: 0.2188037
                                  total: 33.5s
                                                   remaining: 1m 22s
144:
        learn: 0.2187383
                                  total: 33.8s
                                                   remaining: 1m 22s
145:
        learn: 0.2186879
                                  total: 34s
                                                   remaining: 1m 22s
146:
        learn: 0.2185900
                                  total: 34.3s
                                                   remaining: 1m 22s
        learn: 0.2184071
                                  total: 34.5s
                                                   remaining: 1m 22s
147:
148:
        learn: 0.2183512
                                  total: 34.8s
                                                   remaining: 1m 21s
149:
        learn: 0.2182602
                                  total: 35s
                                                   remaining: 1m 21s
150:
        learn: 0.2181694
                                  total: 35.3s
                                                   remaining: 1m 21s
151:
        learn: 0.2180462
                                  total: 35.5s
                                                   remaining: 1m 21s
                                  total: 35.8s
                                                   remaining: 1m 21s
152:
        learn: 0.2177706
153:
        learn: 0.2175094
                                  total: 36s
                                                   remaining: 1m 20s
154:
        learn: 0.2173947
                                  total: 36.2s
                                                   remaining: 1m 20s
        learn: 0.2173577
                                  total: 36.5s
                                                   remaining: 1m 20s
155:
156:
        learn: 0.2172844
                                  total: 36.7s
                                                   remaining: 1m 20s
157:
        learn: 0.2172706
                                  total: 36.9s
                                                   remaining: 1m 19s
158:
        learn: 0.2171607
                                  total: 37.1s
                                                  remaining: 1m 19s
159:
        learn: 0.2170622
                                  total: 37.4s
                                                   remaining: 1m 19s
160:
        learn: 0.2169941
                                  total: 37.6s
                                                   remaining: 1m 19s
161:
        learn: 0.2168660
                                  total: 37.9s
                                                   remaining: 1m 19s
        learn: 0.2168354
                                  total: 38.1s
                                                   remaining: 1m 18s
162:
163:
        learn: 0.2166891
                                  total: 38.3s
                                                   remaining: 1m 18s
164:
        learn: 0.2165751
                                  total: 38.6s
                                                   remaining: 1m 18s
165:
        learn: 0.2165022
                                  total: 38.8s
                                                   remaining: 1m 18s
166:
        learn: 0.2164593
                                  total: 39s
                                                   remaining: 1m 17s
167:
        learn: 0.2163746
                                  total: 39.2s
                                                   remaining: 1m 17s
168:
        learn: 0.2161986
                                  total: 39.5s
                                                   remaining: 1m 17s
        learn: 0.2160945
                                  total: 39.7s
169:
                                                   remaining: 1m 17s
                                                   remaining: 1m 16s
170:
        learn: 0.2160025
                                  total: 39.9s
171:
        learn: 0.2159844
                                  total: 40.1s
                                                   remaining: 1m 16s
172:
        learn: 0.2159520
                                  total: 40.3s
                                                   remaining: 1m 16s
173:
        learn: 0.2157380
                                  total: 40.5s
                                                   remaining: 1m 15s
174:
        learn: 0.2156634
                                  total: 40.7s
                                                   remaining: 1m 15s
175:
        learn: 0.2154690
                                  total: 40.9s
                                                   remaining: 1m 15s
176:
        learn: 0.2153008
                                  total: 41.2s
                                                   remaining: 1m 15s
```

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177:
        learn: 0.2151693
                                  total: 41.4s
                                                   remaining: 1m 14s
178:
        learn: 0.2151270
                                  total: 41.6s
                                                   remaining: 1m 14s
179:
        learn: 0.2150486
                                  total: 41.8s
                                                   remaining: 1m 14s
180:
        learn: 0.2149097
                                  total: 42s
                                                   remaining: 1m 14s
                                                   remaining: 1m 13s
181:
        learn: 0.2148481
                                  total: 42.2s
                                  total: 42.5s
                                                   remaining: 1m 13s
182:
        learn: 0.2147871
183:
        learn: 0.2147101
                                  total: 42.7s
                                                   remaining: 1m 13s
184:
        learn: 0.2146861
                                  total: 42.9s
                                                   remaining: 1m 13s
185:
        learn: 0.2146525
                                  total: 43.1s
                                                   remaining: 1m 12s
186:
        learn: 0.2146210
                                  total: 43.4s
                                                   remaining: 1m 12s
        learn: 0.2145790
187:
                                  total: 43.6s
                                                   remaining: 1m 12s
                                                   remaining: 1m 12s
188:
        learn: 0.2145087
                                  total: 43.8s
189:
        learn: 0.2144655
                                  total: 44s
                                                   remaining: 1m 11s
190:
        learn: 0.2144290
                                  total: 44.1s
                                                   remaining: 1m 11s
191:
        learn: 0.2143512
                                  total: 44.3s
                                                   remaining: 1m 11s
        learn: 0.2142655
                                  total: 44.5s
192:
                                                   remaining: 1m 10s
193:
        learn: 0.2142102
                                  total: 44.6s
                                                   remaining: 1m 10s
194:
        learn: 0.2140874
                                  total: 44.8s
                                                   remaining: 1m 10s
        learn: 0.2139919
                                  total: 45s
                                                   remaining: 1m 9s
195:
196:
        learn: 0.2138947
                                  total: 45.1s
                                                   remaining: 1m 9s
                                  total: 45.3s
197:
        learn: 0.2137583
                                                   remaining: 1m 9s
                                  total: 45.5s
198:
        learn: 0.2137360
                                                   remaining: 1m 8s
199:
        learn: 0.2136678
                                  total: 45.7s
                                                   remaining: 1m 8s
200:
        learn: 0.2135509
                                  total: 45.9s
                                                   remaining: 1m 8s
201:
        learn: 0.2134839
                                  total: 46.1s
                                                   remaining: 1m 7s
202:
        learn: 0.2133846
                                  total: 46.2s
                                                   remaining: 1m 7s
203:
        learn: 0.2133734
                                  total: 46.5s
                                                   remaining: 1m 7s
204:
        learn: 0.2133628
                                  total: 46.6s
                                                   remaining: 1m 7s
        learn: 0.2133030
205:
                                  total: 46.9s
                                                   remaining: 1m 6s
206:
        learn: 0.2132220
                                  total: 47.1s
                                                   remaining: 1m 6s
207:
        learn: 0.2130695
                                  total: 47.4s
                                                   remaining: 1m 6s
208:
        learn: 0.2129800
                                  total: 47.6s
                                                   remaining: 1m 6s
209:
        learn: 0.2129435
                                  total: 47.8s
                                                   remaining: 1m 6s
210:
        learn: 0.2128579
                                  total: 48.1s
                                                   remaining: 1m 5s
211:
                                  total: 48.4s
                                                   remaining: 1m 5s
        learn: 0.2126895
212:
        learn: 0.2125966
                                  total: 48.6s
                                                   remaining: 1m 5s
213:
        learn: 0.2125240
                                  total: 48.9s
                                                   remaining: 1m 5s
214:
        learn: 0.2124346
                                  total: 49.1s
                                                   remaining: 1m 5s
        learn: 0.2123787
                                  total: 49.4s
                                                   remaining: 1m 4s
215:
216:
        learn: 0.2123381
                                  total: 49.7s
                                                   remaining: 1m 4s
217:
        learn: 0.2121844
                                  total: 49.9s
                                                   remaining: 1m 4s
        learn: 0.2121086
                                  total: 50.2s
                                                   remaining: 1m 4s
218:
219:
        learn: 0.2120665
                                  total: 50.4s
                                                   remaining: 1m 4s
220:
        learn: 0.2119947
                                  total: 50.7s
                                                   remaining: 1m 3s
221:
        learn: 0.2118728
                                  total: 50.9s
                                                   remaining: 1m 3s
222:
        learn: 0.2118332
                                  total: 51.1s
                                                   remaining: 1m 3s
223:
        learn: 0.2117395
                                  total: 51.4s
                                                   remaining: 1m 3s
224:
        learn: 0.2117096
                                  total: 51.6s
                                                   remaining: 1m 3s
```

```
225:
        learn: 0.2116584
                                  total: 51.9s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
226:
        learn: 0.2116059
                                  total: 52.1s
227:
        learn: 0.2115423
                                  total: 52.4s
                                                   remaining: 1m 2s
228:
        learn: 0.2114733
                                  total: 52.6s
                                                   remaining: 1m 2s
229:
        learn: 0.2114413
                                  total: 52.9s
                                                   remaining: 1m 2s
                                                   remaining: 1m 1s
230:
        learn: 0.2112942
                                  total: 53.1s
231:
        learn: 0.2112436
                                  total: 53.4s
                                                   remaining: 1m 1s
232:
        learn: 0.2111722
                                  total: 53.6s
                                                   remaining: 1m 1s
233:
        learn: 0.2111066
                                  total: 53.8s
                                                   remaining: 1m 1s
234:
        learn: 0.2109943
                                  total: 54.1s
                                                   remaining: 1m
235:
        learn: 0.2109550
                                  total: 54.4s
                                                   remaining: 1m
236:
        learn: 0.2107889
                                  total: 54.6s
                                                   remaining: 1m
237:
        learn: 0.2107158
                                  total: 54.9s
                                                   remaining: 1m
238:
        learn: 0.2106590
                                  total: 55.2s
                                                   remaining: 1m
239:
        learn: 0.2105073
                                  total: 55.4s
                                                   remaining: 1m
240:
        learn: 0.2104797
                                  total: 55.7s
                                                   remaining: 59.8s
241:
        learn: 0.2103374
                                  total: 55.9s
                                                   remaining: 59.6s
242:
        learn: 0.2102930
                                  total: 56.2s
                                                   remaining: 59.4s
        learn: 0.2102354
                                                   remaining: 59.2s
243:
                                  total: 56.4s
244:
        learn: 0.2102316
                                  total: 56.6s
                                                   remaining: 58.9s
245:
        learn: 0.2102070
                                  total: 56.8s
                                                   remaining: 58.6s
246:
        learn: 0.2100737
                                  total: 57s
                                                   remaining: 58.4s
247:
        learn: 0.2099666
                                  total: 57.2s
                                                   remaining: 58.2s
248:
        learn: 0.2099281
                                  total: 57.4s
                                                   remaining: 57.9s
249:
        learn: 0.2098225
                                  total: 57.6s
                                                   remaining: 57.6s
250:
        learn: 0.2097573
                                  total: 57.8s
                                                   remaining: 57.4s
251:
        learn: 0.2096501
                                  total: 58s
                                                   remaining: 57.1s
252:
        learn: 0.2095821
                                  total: 58.2s
                                                   remaining: 56.9s
253:
        learn: 0.2095256
                                  total: 58.5s
                                                   remaining: 56.6s
254:
        learn: 0.2094712
                                  total: 58.7s
                                                   remaining: 56.4s
255:
        learn: 0.2094164
                                  total: 58.9s
                                                   remaining: 56.1s
256:
        learn: 0.2093330
                                  total: 59.1s
                                                   remaining: 55.9s
257:
        learn: 0.2092567
                                  total: 59.4s
                                                   remaining: 55.7s
258:
        learn: 0.2091554
                                  total: 59.6s
                                                   remaining: 55.5s
259:
        learn: 0.2091001
                                  total: 59.8s
                                                   remaining: 55.2s
260:
        learn: 0.2090531
                                  total: 1m
                                                   remaining: 55s
261:
        learn: 0.2090211
                                  total: 1m
                                                   remaining: 54.7s
262:
        learn: 0.2089519
                                  total: 1m
                                                   remaining: 54.5s
263:
        learn: 0.2088927
                                  total: 1m
                                                   remaining: 54.2s
264:
        learn: 0.2088445
                                  total: 1m
                                                   remaining: 54s
265:
        learn: 0.2088088
                                  total: 1m 1s
                                                   remaining: 53.8s
                                                   remaining: 53.5s
266:
        learn: 0.2087123
                                  total: 1m 1s
267:
        learn: 0.2086569
                                  total: 1m 1s
                                                   remaining: 53.2s
268:
        learn: 0.2085803
                                  total: 1m 1s
                                                   remaining: 52.9s
269:
        learn: 0.2085595
                                  total: 1m 1s
                                                   remaining: 52.7s
270:
        learn: 0.2084908
                                  total: 1m 2s
                                                   remaining: 52.4s
271:
        learn: 0.2084070
                                  total: 1m 2s
                                                   remaining: 52.1s
272:
        learn: 0.2083578
                                  total: 1m 2s
                                                   remaining: 51.8s
```

```
273:
        learn: 0.2083215
                                  total: 1m 2s
                                                   remaining: 51.6s
274:
        learn: 0.2082884
                                  total: 1m 2s
                                                   remaining: 51.3s
275:
        learn: 0.2082099
                                  total: 1m 2s
                                                   remaining: 51.1s
276:
        learn: 0.2081474
                                                   remaining: 50.8s
                                  total: 1m 3s
277:
        learn: 0.2080541
                                  total: 1m 3s
                                                   remaining: 50.5s
                                  total: 1m 3s
                                                   remaining: 50.3s
278:
        learn: 0.2079739
279:
        learn: 0.2079385
                                  total: 1m 3s
                                                   remaining: 50s
                                                   remaining: 49.8s
280:
        learn: 0.2077744
                                  total: 1m 3s
281:
        learn: 0.2077006
                                  total: 1m 4s
                                                   remaining: 49.6s
282:
        learn: 0.2076824
                                  total: 1m 4s
                                                   remaining: 49.4s
283:
        learn: 0.2076509
                                  total: 1m 4s
                                                   remaining: 49.1s
284:
        learn: 0.2076105
                                  total: 1m 4s
                                                   remaining: 48.9s
285:
        learn: 0.2075213
                                  total: 1m 5s
                                                   remaining: 48.7s
286:
        learn: 0.2074428
                                  total: 1m 5s
                                                   remaining: 48.5s
                                                   remaining: 48.3s
287:
        learn: 0.2073864
                                  total: 1m 5s
288:
        learn: 0.2072680
                                  total: 1m 5s
                                                   remaining: 48s
289:
        learn: 0.2072144
                                  total: 1m 6s
                                                   remaining: 47.8s
                                  total: 1m 6s
290:
        learn: 0.2071301
                                                   remaining: 47.6s
        learn: 0.2070200
291:
                                  total: 1m 6s
                                                   remaining: 47.4s
292:
        learn: 0.2068714
                                  total: 1m 6s
                                                   remaining: 47.3s
293:
        learn: 0.2067210
                                  total: 1m 7s
                                                   remaining: 47s
294:
        learn: 0.2067019
                                  total: 1m 7s
                                                   remaining: 46.8s
295:
        learn: 0.2066417
                                  total: 1m 7s
                                                   remaining: 46.6s
296:
        learn: 0.2065541
                                  total: 1m 7s
                                                   remaining: 46.4s
297:
        learn: 0.2064676
                                  total: 1m 8s
                                                   remaining: 46.2s
                                  total: 1m 8s
298:
        learn: 0.2064192
                                                   remaining: 46.1s
299:
        learn: 0.2063412
                                  total: 1m 8s
                                                   remaining: 45.9s
300:
        learn: 0.2062665
                                  total: 1m 9s
                                                   remaining: 45.6s
301:
        learn: 0.2061686
                                  total: 1m 9s
                                                   remaining: 45.4s
302:
        learn: 0.2060934
                                  total: 1m 9s
                                                   remaining: 45.2s
303:
        learn: 0.2060234
                                  total: 1m 9s
                                                   remaining: 45s
304:
        learn: 0.2060128
                                  total: 1m 9s
                                                   remaining: 44.7s
305:
        learn: 0.2059884
                                  total: 1m 10s
                                                   remaining: 44.5s
        learn: 0.2059522
                                  total: 1m 10s
                                                   remaining: 44.3s
306:
307:
        learn: 0.2059228
                                  total: 1m 10s
                                                   remaining: 44s
308:
        learn: 0.2058342
                                  total: 1m 10s
                                                   remaining: 43.8s
309:
        learn: 0.2057517
                                  total: 1m 11s
                                                   remaining: 43.6s
310:
        learn: 0.2056271
                                  total: 1m 11s
                                                   remaining: 43.4s
311:
        learn: 0.2055889
                                  total: 1m 11s
                                                   remaining: 43.1s
312:
        learn: 0.2055191
                                  total: 1m 11s
                                                   remaining: 42.9s
313:
        learn: 0.2053825
                                  total: 1m 12s
                                                   remaining: 42.7s
314:
        learn: 0.2053331
                                  total: 1m 12s
                                                   remaining: 42.5s
315:
        learn: 0.2053141
                                  total: 1m 12s
                                                   remaining: 42.2s
316:
        learn: 0.2052364
                                  total: 1m 12s
                                                   remaining: 42s
317:
        learn: 0.2051118
                                  total: 1m 13s
                                                   remaining: 41.9s
318:
        learn: 0.2050210
                                  total: 1m 13s
                                                   remaining: 41.6s
319:
        learn: 0.2049999
                                  total: 1m 13s
                                                   remaining: 41.4s
320:
        learn: 0.2049391
                                  total: 1m 13s
                                                   remaining: 41.1s
```

```
learn: 0.2048450
321:
                                  total: 1m 14s
                                                   remaining: 40.9s
322:
        learn: 0.2047863
                                  total: 1m 14s
                                                   remaining: 40.7s
323:
        learn: 0.2047643
                                                   remaining: 40.4s
                                  total: 1m 14s
324:
        learn: 0.2047273
                                                   remaining: 40.2s
                                  total: 1m 14s
325:
        learn: 0.2046882
                                  total: 1m 14s
                                                   remaining: 40s
                                  total: 1m 15s
326:
        learn: 0.2045788
                                                   remaining: 39.8s
327:
        learn: 0.2045053
                                  total: 1m 15s
                                                   remaining: 39.5s
        learn: 0.2044615
                                                   remaining: 39.3s
328:
                                  total: 1m 15s
329:
        learn: 0.2044417
                                  total: 1m 15s
                                                   remaining: 39s
330:
        learn: 0.2043475
                                  total: 1m 16s
                                                   remaining: 38.8s
331:
        learn: 0.2042788
                                  total: 1m 16s
                                                   remaining: 38.6s
332:
        learn: 0.2042572
                                  total: 1m 16s
                                                   remaining: 38.3s
333:
        learn: 0.2041552
                                  total: 1m 16s
                                                   remaining: 38.1s
334:
        learn: 0.2041143
                                  total: 1m 16s
                                                   remaining: 37.8s
335:
        learn: 0.2040712
                                  total: 1m 17s
                                                   remaining: 37.6s
336:
        learn: 0.2039786
                                  total: 1m 17s
                                                   remaining: 37.4s
337:
        learn: 0.2039192
                                  total: 1m 17s
                                                   remaining: 37.2s
                                  total: 1m 17s
338:
        learn: 0.2038503
                                                   remaining: 37s
        learn: 0.2038070
                                  total: 1m 18s
339:
                                                   remaining: 36.7s
340:
        learn: 0.2037740
                                  total: 1m 18s
                                                   remaining: 36.5s
341:
        learn: 0.2036641
                                  total: 1m 18s
                                                   remaining: 36.3s
342:
        learn: 0.2035651
                                  total: 1m 18s
                                                   remaining: 36.1s
343:
        learn: 0.2035434
                                  total: 1m 19s
                                                   remaining: 35.8s
344:
        learn: 0.2035287
                                  total: 1m 19s
                                                   remaining: 35.6s
345:
        learn: 0.2034166
                                  total: 1m 19s
                                                   remaining: 35.4s
                                                   remaining: 35.2s
346:
        learn: 0.2033562
                                  total: 1m 19s
347:
        learn: 0.2033028
                                  total: 1m 20s
                                                   remaining: 35s
348:
        learn: 0.2032494
                                  total: 1m 20s
                                                   remaining: 34.7s
349:
        learn: 0.2031799
                                  total: 1m 20s
                                                   remaining: 34.5s
350:
        learn: 0.2031528
                                  total: 1m 20s
                                                   remaining: 34.3s
351:
        learn: 0.2031170
                                  total: 1m 21s
                                                   remaining: 34.1s
352:
        learn: 0.2031030
                                  total: 1m 21s
                                                   remaining: 33.8s
353:
        learn: 0.2030112
                                  total: 1m 21s
                                                   remaining: 33.6s
354:
        learn: 0.2029927
                                  total: 1m 21s
                                                   remaining: 33.4s
355:
        learn: 0.2028677
                                  total: 1m 22s
                                                   remaining: 33.2s
        learn: 0.2028341
                                  total: 1m 22s
356:
                                                   remaining: 32.9s
357:
        learn: 0.2027800
                                  total: 1m 22s
                                                   remaining: 32.7s
358:
        learn: 0.2026782
                                  total: 1m 22s
                                                   remaining: 32.5s
                                  total: 1m 22s
359:
        learn: 0.2026144
                                                   remaining: 32.3s
360:
        learn: 0.2025533
                                  total: 1m 23s
                                                   remaining: 32s
        learn: 0.2025155
                                  total: 1m 23s
361:
                                                   remaining: 31.8s
362:
        learn: 0.2024883
                                  total: 1m 23s
                                                   remaining: 31.6s
363:
        learn: 0.2023455
                                  total: 1m 23s
                                                   remaining: 31.4s
364:
        learn: 0.2023061
                                  total: 1m 24s
                                                   remaining: 31.1s
                                                   remaining: 30.9s
365:
        learn: 0.2022578
                                  total: 1m 24s
366:
        learn: 0.2022222
                                  total: 1m 24s
                                                   remaining: 30.7s
367:
        learn: 0.2021529
                                  total: 1m 24s
                                                   remaining: 30.5s
368:
        learn: 0.2021053
                                  total: 1m 25s
                                                   remaining: 30.2s
```

```
total: 1m 25s
369:
        learn: 0.2020133
                                                   remaining: 30s
370:
        learn: 0.2019505
                                  total: 1m 25s
                                                   remaining: 29.8s
371:
        learn: 0.2018773
                                  total: 1m 25s
                                                   remaining: 29.6s
372:
        learn: 0.2018216
                                  total: 1m 26s
                                                   remaining: 29.4s
373:
        learn: 0.2017712
                                  total: 1m 26s
                                                   remaining: 29.1s
                                  total: 1m 26s
                                                   remaining: 28.9s
374:
        learn: 0.2017126
375:
        learn: 0.2016671
                                  total: 1m 27s
                                                   remaining: 28.7s
        learn: 0.2016156
376:
                                  total: 1m 27s
                                                   remaining: 28.5s
377:
        learn: 0.2013056
                                  total: 1m 27s
                                                   remaining: 28.2s
378:
        learn: 0.2012371
                                  total: 1m 27s
                                                   remaining: 28s
379:
        learn: 0.2011495
                                  total: 1m 28s
                                                   remaining: 27.8s
380:
        learn: 0.2011268
                                  total: 1m 28s
                                                   remaining: 27.6s
381:
        learn: 0.2009526
                                  total: 1m 28s
                                                   remaining: 27.3s
382:
        learn: 0.2008750
                                  total: 1m 28s
                                                   remaining: 27.1s
383:
        learn: 0.2008309
                                  total: 1m 28s
                                                   remaining: 26.9s
384:
        learn: 0.2007562
                                  total: 1m 29s
                                                   remaining: 26.7s
385:
        learn: 0.2006997
                                  total: 1m 29s
                                                   remaining: 26.4s
                                  total: 1m 29s
386:
        learn: 0.2006447
                                                   remaining: 26.2s
        learn: 0.2005758
                                  total: 1m 29s
387:
                                                   remaining: 26s
388:
        learn: 0.2005373
                                  total: 1m 30s
                                                   remaining: 25.7s
389:
        learn: 0.2004790
                                  total: 1m 30s
                                                   remaining: 25.5s
390:
        learn: 0.2004174
                                  total: 1m 30s
                                                   remaining: 25.3s
391:
        learn: 0.2001778
                                  total: 1m 30s
                                                   remaining: 25s
392:
        learn: 0.2001449
                                  total: 1m 31s
                                                   remaining: 24.8s
393:
        learn: 0.2000722
                                  total: 1m 31s
                                                   remaining: 24.5s
        learn: 0.2000236
                                  total: 1m 31s
394:
                                                   remaining: 24.3s
395:
        learn: 0.1999763
                                  total: 1m 31s
                                                   remaining: 24.1s
396:
        learn: 0.1999145
                                  total: 1m 31s
                                                   remaining: 23.8s
397:
        learn: 0.1998509
                                  total: 1m 32s
                                                   remaining: 23.6s
398:
        learn: 0.1998196
                                  total: 1m 32s
                                                   remaining: 23.4s
399:
        learn: 0.1997910
                                  total: 1m 32s
                                                   remaining: 23.1s
400:
        learn: 0.1997525
                                  total: 1m 32s
                                                   remaining: 22.9s
401:
        learn: 0.1996730
                                  total: 1m 32s
                                                   remaining: 22.7s
402:
        learn: 0.1995735
                                  total: 1m 33s
                                                   remaining: 22.4s
403:
        learn: 0.1995232
                                  total: 1m 33s
                                                   remaining: 22.2s
404:
        learn: 0.1994050
                                  total: 1m 33s
                                                   remaining: 22s
405:
        learn: 0.1993411
                                  total: 1m 34s
                                                   remaining: 21.8s
406:
        learn: 0.1993039
                                  total: 1m 34s
                                                   remaining: 21.6s
407:
        learn: 0.1992859
                                  total: 1m 34s
                                                   remaining: 21.3s
408:
        learn: 0.1992703
                                  total: 1m 34s
                                                   remaining: 21.1s
409:
        learn: 0.1992466
                                  total: 1m 35s
                                                   remaining: 20.9s
410:
        learn: 0.1991742
                                  total: 1m 35s
                                                   remaining: 20.6s
411:
                                  total: 1m 35s
        learn: 0.1991083
                                                   remaining: 20.4s
412:
        learn: 0.1990409
                                  total: 1m 35s
                                                   remaining: 20.2s
                                                   remaining: 19.9s
413:
        learn: 0.1990136
                                  total: 1m 35s
414:
        learn: 0.1989953
                                  total: 1m 36s
                                                   remaining: 19.7s
415:
        learn: 0.1989095
                                  total: 1m 36s
                                                   remaining: 19.5s
416:
        learn: 0.1988588
                                  total: 1m 36s
                                                   remaining: 19.2s
```

```
learn: 0.1988326
417:
                                  total: 1m 36s
                                                   remaining: 19s
418:
        learn: 0.1987778
                                  total: 1m 36s
                                                   remaining: 18.7s
419:
        learn: 0.1987112
                                  total: 1m 37s
                                                   remaining: 18.5s
420:
                                  total: 1m 37s
        learn: 0.1986439
                                                   remaining: 18.3s
421:
        learn: 0.1984973
                                  total: 1m 37s
                                                   remaining: 18s
                                  total: 1m 37s
422:
        learn: 0.1984349
                                                   remaining: 17.8s
423:
        learn: 0.1984039
                                  total: 1m 37s
                                                   remaining: 17.5s
424:
        learn: 0.1982717
                                  total: 1m 38s
                                                   remaining: 17.3s
425:
        learn: 0.1982190
                                  total: 1m 38s
                                                   remaining: 17.1s
426:
        learn: 0.1980850
                                  total: 1m 38s
                                                   remaining: 16.8s
427:
        learn: 0.1980589
                                  total: 1m 38s
                                                   remaining: 16.6s
428:
        learn: 0.1980071
                                  total: 1m 38s
                                                   remaining: 16.4s
429:
        learn: 0.1978602
                                  total: 1m 39s
                                                   remaining: 16.1s
430:
        learn: 0.1978052
                                  total: 1m 39s
                                                   remaining: 15.9s
431:
        learn: 0.1977854
                                  total: 1m 39s
                                                   remaining: 15.7s
432:
        learn: 0.1972959
                                  total: 1m 39s
                                                   remaining: 15.5s
433:
        learn: 0.1972257
                                  total: 1m 40s
                                                   remaining: 15.2s
                                  total: 1m 40s
434:
        learn: 0.1971942
                                                   remaining: 15s
435:
        learn: 0.1971635
                                  total: 1m 40s
                                                   remaining: 14.8s
436:
        learn: 0.1971374
                                  total: 1m 40s
                                                   remaining: 14.5s
437:
        learn: 0.1970796
                                  total: 1m 41s
                                                   remaining: 14.3s
438:
        learn: 0.1970095
                                  total: 1m 41s
                                                   remaining: 14.1s
439:
        learn: 0.1969875
                                  total: 1m 41s
                                                   remaining: 13.9s
440:
        learn: 0.1969038
                                  total: 1m 41s
                                                   remaining: 13.6s
441:
        learn: 0.1968524
                                  total: 1m 42s
                                                   remaining: 13.4s
442:
        learn: 0.1967709
                                  total: 1m 42s
                                                   remaining: 13.2s
443:
        learn: 0.1967639
                                  total: 1m 42s
                                                   remaining: 12.9s
444:
        learn: 0.1966999
                                  total: 1m 42s
                                                   remaining: 12.7s
445:
        learn: 0.1966432
                                  total: 1m 43s
                                                   remaining: 12.5s
446:
        learn: 0.1965820
                                  total: 1m 43s
                                                   remaining: 12.2s
447:
        learn: 0.1965193
                                  total: 1m 43s
                                                   remaining: 12s
448:
        learn: 0.1964766
                                  total: 1m 43s
                                                   remaining: 11.8s
449:
        learn: 0.1964258
                                  total: 1m 43s
                                                   remaining: 11.5s
450:
        learn: 0.1964065
                                  total: 1m 44s
                                                   remaining: 11.3s
451:
        learn: 0.1963891
                                  total: 1m 44s
                                                   remaining: 11.1s
452:
        learn: 0.1963459
                                  total: 1m 44s
                                                   remaining: 10.8s
453:
        learn: 0.1962835
                                  total: 1m 44s
                                                   remaining: 10.6s
454:
        learn: 0.1962619
                                  total: 1m 45s
                                                   remaining: 10.4s
455:
        learn: 0.1962201
                                  total: 1m 45s
                                                   remaining: 10.2s
456:
        learn: 0.1957847
                                  total: 1m 45s
                                                   remaining: 9.93s
457:
        learn: 0.1956903
                                  total: 1m 45s
                                                   remaining: 9.7s
458:
        learn: 0.1956374
                                  total: 1m 45s
                                                   remaining: 9.47s
459:
        learn: 0.1956220
                                  total: 1m 46s
                                                   remaining: 9.24s
460:
        learn: 0.1955541
                                  total: 1m 46s
                                                   remaining: 9.01s
                                                   remaining: 8.78s
461:
        learn: 0.1954131
                                  total: 1m 46s
462:
        learn: 0.1953723
                                  total: 1m 46s
                                                   remaining: 8.55s
463:
        learn: 0.1953254
                                  total: 1m 47s
                                                   remaining: 8.31s
464:
        learn: 0.1952857
                                  total: 1m 47s
                                                   remaining: 8.08s
```

```
465:
        learn: 0.1952407
                                 total: 1m 47s
                                                  remaining: 7.85s
466:
        learn: 0.1952142
                                 total: 1m 47s
                                                  remaining: 7.62s
467:
        learn: 0.1951710
                                 total: 1m 48s
                                                  remaining: 7.38s
        learn: 0.1951110
                                 total: 1m 48s
                                                  remaining: 7.15s
468:
469:
        learn: 0.1950837
                                 total: 1m 48s
                                                  remaining: 6.92s
                                 total: 1m 48s
470:
        learn: 0.1950476
                                                  remaining: 6.69s
471:
        learn: 0.1949668
                                 total: 1m 48s
                                                  remaining: 6.46s
                                                  remaining: 6.23s
472:
        learn: 0.1948884
                                 total: 1m 49s
473:
        learn: 0.1948451
                                 total: 1m 49s
                                                  remaining: 6s
474:
        learn: 0.1947431
                                 total: 1m 49s
                                                  remaining: 5.77s
475:
        learn: 0.1946985
                                 total: 1m 49s
                                                  remaining: 5.54s
476:
        learn: 0.1946443
                                 total: 1m 50s
                                                  remaining: 5.31s
477:
        learn: 0.1945768
                                 total: 1m 50s
                                                  remaining: 5.08s
478:
        learn: 0.1944885
                                 total: 1m 50s
                                                  remaining: 4.85s
                                                  remaining: 4.62s
479:
        learn: 0.1944518
                                 total: 1m 50s
480:
        learn: 0.1944109
                                 total: 1m 51s
                                                  remaining: 4.39s
481:
        learn: 0.1943398
                                 total: 1m 51s
                                                  remaining: 4.16s
482:
        learn: 0.1942803
                                 total: 1m 51s
                                                  remaining: 3.93s
        learn: 0.1942692
                                 total: 1m 51s
                                                  remaining: 3.7s
483:
484:
        learn: 0.1942367
                                 total: 1m 52s
                                                  remaining: 3.47s
485:
        learn: 0.1941647
                                 total: 1m 52s
                                                  remaining: 3.23s
486:
        learn: 0.1940277
                                 total: 1m 52s
                                                  remaining: 3s
487:
        learn: 0.1940055
                                 total: 1m 52s
                                                  remaining: 2.77s
                                 total: 1m 53s
488:
        learn: 0.1939826
                                                  remaining: 2.54s
489:
        learn: 0.1939193
                                 total: 1m 53s
                                                  remaining: 2.31s
490:
        learn: 0.1938669
                                 total: 1m 53s
                                                  remaining: 2.08s
491:
        learn: 0.1938380
                                 total: 1m 53s
                                                  remaining: 1.85s
492:
        learn: 0.1938007
                                 total: 1m 53s
                                                  remaining: 1.62s
493:
        learn: 0.1936959
                                 total: 1m 54s
                                                  remaining: 1.39s
494:
        learn: 0.1936770
                                 total: 1m 54s
                                                  remaining: 1.16s
495:
        learn: 0.1936040
                                 total: 1m 54s
                                                  remaining: 925ms
496:
        learn: 0.1935282
                                 total: 1m 55s
                                                  remaining: 694ms
497:
        learn: 0.1935000
                                 total: 1m 55s
                                                  remaining: 463ms
498:
        learn: 0.1934345
                                 total: 1m 55s
                                                  remaining: 232ms
499:
        learn: 0.1933655
                                 total: 1m 55s
                                                  remaining: Ous
Accuracy en cada fold: [0.83795346 0.67060233 0.63857277 0.64747155 0.68280996]
Accuracy promedio: 0.6954820132491878
Learning rate set to 0.174902
0:
        learn: 0.9741259
                                 total: 315ms
                                                  remaining: 2m 37s
1:
        learn: 0.8975124
                                 total: 627ms
                                                  remaining: 2m 36s
2:
        learn: 0.8357398
                                 total: 898ms
                                                  remaining: 2m 28s
3:
                                                  remaining: 2m 20s
        learn: 0.7915634
                                 total: 1.14s
4:
        learn: 0.7407766
                                 total: 1.41s
                                                  remaining: 2m 19s
5:
        learn: 0.6475013
                                 total: 1.65s
                                                  remaining: 2m 15s
6:
        learn: 0.5780797
                                 total: 1.9s
                                                  remaining: 2m 13s
7:
        learn: 0.5208903
                                 total: 2.14s
                                                  remaining: 2m 11s
8:
        learn: 0.5077518
                                 total: 2.35s
                                                  remaining: 2m 8s
9:
        learn: 0.4633853
                                 total: 2.57s
                                                  remaining: 2m 5s
```

```
total: 2.8s
10:
        learn: 0.4329555
                                                   remaining: 2m 4s
11:
        learn: 0.4068081
                                  total: 2.99s
                                                   remaining: 2m 1s
12:
        learn: 0.3859958
                                  total: 3.18s
                                                   remaining: 1m 59s
        learn: 0.3696696
                                  total: 3.35s
                                                   remaining: 1m 56s
13:
                                                   remaining: 1m 54s
14:
        learn: 0.3581578
                                  total: 3.54s
                                  total: 3.73s
                                                   remaining: 1m 52s
15:
        learn: 0.3433575
16:
        learn: 0.3354873
                                  total: 3.95s
                                                   remaining: 1m 52s
17:
        learn: 0.3284255
                                  total: 4.25s
                                                   remaining: 1m 53s
18:
        learn: 0.3253633
                                  total: 4.54s
                                                   remaining: 1m 54s
19:
        learn: 0.3150039
                                  total: 4.83s
                                                   remaining: 1m 55s
20:
        learn: 0.3094029
                                  total: 5.08s
                                                   remaining: 1m 55s
                                                   remaining: 1m 56s
21:
        learn: 0.2999760
                                  total: 5.36s
22:
        learn: 0.2986327
                                  total: 5.63s
                                                   remaining: 1m 56s
23:
        learn: 0.2972673
                                  total: 5.88s
                                                   remaining: 1m 56s
24:
        learn: 0.2958170
                                  total: 6.16s
                                                   remaining: 1m 57s
25:
        learn: 0.2886882
                                                   remaining: 1m 57s
                                  total: 6.43s
26:
        learn: 0.2862394
                                  total: 6.69s
                                                   remaining: 1m 57s
27:
        learn: 0.2807344
                                  total: 6.91s
                                                   remaining: 1m 56s
        learn: 0.2761587
                                  total: 7.17s
                                                   remaining: 1m 56s
28.
29:
        learn: 0.2751951
                                  total: 7.43s
                                                   remaining: 1m 56s
                                  total: 7.69s
30:
        learn: 0.2745240
                                                   remaining: 1m 56s
                                  total: 7.99s
                                                   remaining: 1m 56s
31:
        learn: 0.2706097
32:
        learn: 0.2675512
                                  total: 8.24s
                                                   remaining: 1m 56s
33:
        learn: 0.2647427
                                  total: 8.55s
                                                   remaining: 1m 57s
34:
        learn: 0.2641658
                                  total: 8.83s
                                                   remaining: 1m 57s
35:
        learn: 0.2636691
                                  total: 9.09s
                                                   remaining: 1m 57s
        learn: 0.2598143
                                  total: 9.42s
                                                   remaining: 1m 57s
36:
37:
        learn: 0.2594147
                                  total: 9.72s
                                                   remaining: 1m 58s
38:
        learn: 0.2568369
                                  total: 9.97s
                                                   remaining: 1m 57s
39:
        learn: 0.2565865
                                  total: 10.3s
                                                   remaining: 1m 58s
40:
        learn: 0.2563018
                                                   remaining: 1m 58s
                                  total: 10.6s
41:
        learn: 0.2559461
                                  total: 10.9s
                                                   remaining: 1m 58s
42:
        learn: 0.2558945
                                  total: 11.1s
                                                   remaining: 1m 58s
43:
        learn: 0.2557325
                                  total: 11.4s
                                                   remaining: 1m 58s
                                                   remaining: 1m 58s
44:
        learn: 0.2552829
                                  total: 11.7s
45:
        learn: 0.2552356
                                  total: 11.8s
                                                   remaining: 1m 56s
46:
        learn: 0.2546944
                                  total: 12.1s
                                                   remaining: 1m 56s
47:
        learn: 0.2543202
                                  total: 12.4s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
48:
        learn: 0.2539476
                                  total: 12.7s
49:
        learn: 0.2521907
                                  total: 13s
                                                   remaining: 1m 56s
50:
        learn: 0.2519146
                                  total: 13.3s
                                                   remaining: 1m 57s
        learn: 0.2517873
                                                   remaining: 1m 57s
51:
                                  total: 13.6s
52:
        learn: 0.2513858
                                  total: 13.9s
                                                   remaining: 1m 57s
53:
        learn: 0.2510359
                                  total: 14.2s
                                                   remaining: 1m 57s
54:
        learn: 0.2508257
                                  total: 14.5s
                                                   remaining: 1m 57s
55:
        learn: 0.2506781
                                  total: 14.8s
                                                   remaining: 1m 57s
56:
        learn: 0.2504708
                                  total: 15.1s
                                                   remaining: 1m 57s
57:
        learn: 0.2502010
                                  total: 15.3s
                                                   remaining: 1m 56s
```

```
58:
        learn: 0.2499422
                                  total: 15.6s
                                                   remaining: 1m 56s
59:
        learn: 0.2497399
                                  total: 16s
                                                   remaining: 1m 57s
60:
        learn: 0.2496445
                                  total: 16.3s
                                                   remaining: 1m 56s
61:
        learn: 0.2494029
                                  total: 16.6s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
62:
        learn: 0.2492997
                                  total: 16.9s
                                  total: 17.1s
                                                   remaining: 1m 56s
63:
        learn: 0.2491155
64:
        learn: 0.2488741
                                  total: 17.4s
                                                   remaining: 1m 56s
65:
        learn: 0.2485931
                                  total: 17.7s
                                                   remaining: 1m 56s
66:
        learn: 0.2484228
                                  total: 18s
                                                   remaining: 1m 56s
67:
        learn: 0.2482231
                                  total: 18.2s
                                                   remaining: 1m 55s
        learn: 0.2479920
68:
                                  total: 18.5s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
69:
        learn: 0.2478147
                                  total: 18.8s
70:
        learn: 0.2475861
                                  total: 19.1s
                                                   remaining: 1m 55s
71:
        learn: 0.2474646
                                  total: 19.3s
                                                   remaining: 1m 54s
72:
        learn: 0.2473636
                                  total: 19.6s
                                                   remaining: 1m 54s
73:
        learn: 0.2471443
                                                   remaining: 1m 54s
                                  total: 19.8s
74:
        learn: 0.2468174
                                  total: 20.1s
                                                   remaining: 1m 53s
                                  total: 20.4s
75:
        learn: 0.2466766
                                                   remaining: 1m 53s
76:
        learn: 0.2464546
                                  total: 20.6s
                                                   remaining: 1m 53s
77:
        learn: 0.2450854
                                  total: 20.9s
                                                   remaining: 1m 52s
78:
        learn: 0.2448964
                                  total: 21.1s
                                                   remaining: 1m 52s
                                  total: 21.4s
79:
        learn: 0.2446381
                                                   remaining: 1m 52s
80:
        learn: 0.2442519
                                  total: 21.7s
                                                   remaining: 1m 52s
        learn: 0.2441394
81:
                                  total: 21.9s
                                                   remaining: 1m 51s
82:
        learn: 0.2432552
                                  total: 22.2s
                                                   remaining: 1m 51s
                                  total: 22.4s
83:
        learn: 0.2431479
                                                   remaining: 1m 51s
        learn: 0.2430806
                                  total: 22.7s
                                                   remaining: 1m 51s
84:
85:
        learn: 0.2429218
                                  total: 23.1s
                                                   remaining: 1m 51s
        learn: 0.2427474
                                  total: 23.4s
86:
                                                   remaining: 1m 50s
87:
        learn: 0.2421374
                                  total: 23.6s
                                                   remaining: 1m 50s
88:
        learn: 0.2420386
                                  total: 23.8s
                                                   remaining: 1m 50s
89:
        learn: 0.2419432
                                  total: 24.1s
                                                   remaining: 1m 49s
90:
        learn: 0.2418452
                                  total: 24.5s
                                                   remaining: 1m 49s
91:
        learn: 0.2417377
                                  total: 24.8s
                                                   remaining: 1m 50s
                                  total: 25.1s
                                                   remaining: 1m 49s
92:
        learn: 0.2416858
93:
        learn: 0.2415749
                                  total: 25.4s
                                                   remaining: 1m 49s
94:
        learn: 0.2415284
                                  total: 25.7s
                                                   remaining: 1m 49s
95:
        learn: 0.2413702
                                  total: 26s
                                                   remaining: 1m 49s
        learn: 0.2413432
                                                   remaining: 1m 49s
96:
                                  total: 26.3s
97:
        learn: 0.2399699
                                  total: 26.6s
                                                   remaining: 1m 48s
98:
        learn: 0.2398325
                                  total: 26.8s
                                                   remaining: 1m 48s
        learn: 0.2397554
                                  total: 27.1s
                                                   remaining: 1m 48s
99:
100:
        learn: 0.2396959
                                  total: 27.4s
                                                   remaining: 1m 48s
101:
        learn: 0.2395706
                                  total: 27.6s
                                                   remaining: 1m 47s
102:
        learn: 0.2394984
                                  total: 27.9s
                                                   remaining: 1m 47s
103:
        learn: 0.2394305
                                  total: 28.2s
                                                   remaining: 1m 47s
104:
        learn: 0.2393157
                                  total: 28.5s
                                                   remaining: 1m 47s
105:
        learn: 0.2391194
                                  total: 28.8s
                                                   remaining: 1m 46s
```

```
106:
        learn: 0.2389863
                                                   remaining: 1m 46s
                                  total: 29.1s
107:
        learn: 0.2388742
                                  total: 29.4s
                                                   remaining: 1m 46s
108:
        learn: 0.2388563
                                  total: 29.6s
                                                   remaining: 1m 46s
        learn: 0.2387592
                                  total: 29.9s
                                                   remaining: 1m 45s
109:
                                                   remaining: 1m 45s
110:
        learn: 0.2386334
                                  total: 30.2s
                                  total: 30.4s
                                                   remaining: 1m 45s
111:
        learn: 0.2385672
112:
        learn: 0.2384955
                                  total: 30.7s
                                                   remaining: 1m 45s
113:
        learn: 0.2384366
                                  total: 31s
                                                   remaining: 1m 45s
114:
        learn: 0.2383281
                                  total: 31.3s
                                                   remaining: 1m 44s
115:
        learn: 0.2382441
                                  total: 31.7s
                                                   remaining: 1m 44s
116:
        learn: 0.2380843
                                  total: 31.9s
                                                   remaining: 1m 44s
                                                   remaining: 1m 44s
117:
        learn: 0.2380269
                                  total: 32.2s
        learn: 0.2378848
                                  total: 32.5s
                                                   remaining: 1m 43s
118:
119:
        learn: 0.2378007
                                  total: 32.8s
                                                   remaining: 1m 43s
120:
        learn: 0.2377533
                                  total: 33s
                                                   remaining: 1m 43s
121:
        learn: 0.2376980
                                  total: 33.4s
                                                   remaining: 1m 43s
122:
        learn: 0.2376208
                                  total: 33.7s
                                                   remaining: 1m 43s
123:
        learn: 0.2375682
                                  total: 33.9s
                                                   remaining: 1m 42s
        learn: 0.2375137
                                  total: 34.2s
                                                   remaining: 1m 42s
124.
125:
        learn: 0.2374786
                                  total: 34.5s
                                                   remaining: 1m 42s
126:
        learn: 0.2372736
                                  total: 34.8s
                                                   remaining: 1m 42s
127:
        learn: 0.2372433
                                  total: 35.1s
                                                   remaining: 1m 41s
128:
        learn: 0.2371872
                                  total: 35.3s
                                                   remaining: 1m 41s
129:
                                  total: 35.6s
                                                   remaining: 1m 41s
        learn: 0.2370841
130:
        learn: 0.2367446
                                  total: 35.9s
                                                   remaining: 1m 41s
131:
        learn: 0.2367316
                                  total: 36.1s
                                                   remaining: 1m 40s
        learn: 0.2366893
                                  total: 36.4s
                                                   remaining: 1m 40s
132:
133:
        learn: 0.2365789
                                  total: 36.7s
                                                   remaining: 1m 40s
134:
        learn: 0.2364812
                                  total: 37s
                                                   remaining: 1m 39s
135:
        learn: 0.2363756
                                  total: 37.2s
                                                   remaining: 1m 39s
        learn: 0.2359005
                                  total: 37.5s
                                                   remaining: 1m 39s
136:
137:
        learn: 0.2357673
                                  total: 37.8s
                                                   remaining: 1m 39s
138:
        learn: 0.2356417
                                  total: 38.1s
                                                   remaining: 1m 38s
139:
        learn: 0.2354908
                                  total: 38.3s
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
140:
        learn: 0.2353887
                                  total: 38.6s
141:
        learn: 0.2353274
                                  total: 38.9s
                                                   remaining: 1m 38s
142:
        learn: 0.2352938
                                  total: 39.1s
                                                   remaining: 1m 37s
143:
        learn: 0.2351483
                                  total: 39.4s
                                                   remaining: 1m 37s
                                  total: 39.7s
                                                   remaining: 1m 37s
144:
        learn: 0.2348960
145:
        learn: 0.2347970
                                  total: 40s
                                                   remaining: 1m 36s
146:
        learn: 0.2347457
                                  total: 40.2s
                                                   remaining: 1m 36s
147:
        learn: 0.2346944
                                                   remaining: 1m 36s
                                  total: 40.5s
148:
        learn: 0.2346792
                                  total: 40.8s
                                                   remaining: 1m 36s
149:
        learn: 0.2346196
                                  total: 41.1s
                                                   remaining: 1m 35s
150:
        learn: 0.2345125
                                  total: 41.4s
                                                   remaining: 1m 35s
        learn: 0.2344329
151:
                                  total: 41.7s
                                                   remaining: 1m 35s
152:
        learn: 0.2343352
                                  total: 42s
                                                   remaining: 1m 35s
153:
        learn: 0.2342170
                                  total: 42.3s
                                                   remaining: 1m 34s
```

```
154:
        learn: 0.2339289
                                  total: 42.5s
                                                   remaining: 1m 34s
155:
        learn: 0.2338512
                                  total: 42.8s
                                                   remaining: 1m 34s
156:
        learn: 0.2338187
                                  total: 43.1s
                                                   remaining: 1m 34s
157:
        learn: 0.2337047
                                  total: 43.4s
                                                   remaining: 1m 34s
                                                   remaining: 1m 33s
158:
        learn: 0.2335458
                                  total: 43.7s
                                                   remaining: 1m 33s
159:
        learn: 0.2334025
                                  total: 44s
160:
        learn: 0.2333436
                                  total: 44.3s
                                                   remaining: 1m 33s
161:
        learn: 0.2332826
                                  total: 44.6s
                                                   remaining: 1m 33s
162:
        learn: 0.2332279
                                  total: 44.9s
                                                   remaining: 1m 32s
163:
        learn: 0.2330247
                                  total: 45.2s
                                                   remaining: 1m 32s
164:
        learn: 0.2329450
                                  total: 45.5s
                                                   remaining: 1m 32s
                                                   remaining: 1m 32s
165:
        learn: 0.2327632
                                  total: 45.8s
        learn: 0.2326445
                                                   remaining: 1m 31s
166:
                                  total: 46s
167:
        learn: 0.2325536
                                  total: 46.4s
                                                   remaining: 1m 31s
168:
        learn: 0.2324599
                                  total: 46.6s
                                                   remaining: 1m 31s
169:
        learn: 0.2323306
                                  total: 46.9s
                                                   remaining: 1m 31s
170:
        learn: 0.2322290
                                  total: 47.2s
                                                   remaining: 1m 30s
171:
        learn: 0.2321492
                                  total: 47.5s
                                                   remaining: 1m 30s
        learn: 0.2318591
                                  total: 47.8s
                                                   remaining: 1m 30s
172:
173:
        learn: 0.2317098
                                  total: 48.1s
                                                   remaining: 1m 30s
174:
        learn: 0.2316351
                                  total: 48.4s
                                                   remaining: 1m 29s
175:
        learn: 0.2314634
                                  total: 48.7s
                                                   remaining: 1m 29s
176:
        learn: 0.2313835
                                  total: 49s
                                                   remaining: 1m 29s
                                                   remaining: 1m 29s
177:
        learn: 0.2313171
                                  total: 49.3s
178:
        learn: 0.2312776
                                  total: 49.5s
                                                   remaining: 1m 28s
179:
        learn: 0.2312279
                                  total: 49.8s
                                                   remaining: 1m 28s
        learn: 0.2311654
                                                   remaining: 1m 28s
180:
                                  total: 50.1s
181:
        learn: 0.2311466
                                  total: 50.4s
                                                   remaining: 1m 28s
182:
        learn: 0.2310998
                                  total: 50.7s
                                                   remaining: 1m 27s
183:
        learn: 0.2310671
                                  total: 50.9s
                                                   remaining: 1m 27s
        learn: 0.2309419
184:
                                  total: 51.2s
                                                   remaining: 1m 27s
185:
        learn: 0.2309214
                                  total: 51.5s
                                                   remaining: 1m 26s
186:
        learn: 0.2308556
                                  total: 51.8s
                                                   remaining: 1m 26s
        learn: 0.2308032
                                  total: 52s
                                                   remaining: 1m 26s
187:
                                                   remaining: 1m 26s
188:
        learn: 0.2307509
                                  total: 52.3s
189:
        learn: 0.2305724
                                  total: 52.6s
                                                   remaining: 1m 25s
190:
        learn: 0.2305107
                                  total: 52.8s
                                                   remaining: 1m 25s
191:
        learn: 0.2304224
                                  total: 53.1s
                                                   remaining: 1m 25s
192:
        learn: 0.2303650
                                  total: 53.4s
                                                   remaining: 1m 24s
193:
        learn: 0.2302898
                                  total: 53.7s
                                                   remaining: 1m 24s
194:
        learn: 0.2301108
                                  total: 53.9s
                                                   remaining: 1m 24s
                                                   remaining: 1m 24s
195:
        learn: 0.2298922
                                  total: 54.2s
196:
        learn: 0.2298616
                                  total: 54.4s
                                                   remaining: 1m 23s
197:
        learn: 0.2298153
                                  total: 54.6s
                                                   remaining: 1m 23s
198:
        learn: 0.2297256
                                  total: 54.9s
                                                   remaining: 1m 23s
        learn: 0.2296993
199:
                                  total: 55.1s
                                                   remaining: 1m 22s
200:
        learn: 0.2296412
                                  total: 55.4s
                                                   remaining: 1m 22s
201:
        learn: 0.2294458
                                  total: 55.6s
                                                   remaining: 1m 22s
```

```
202:
        learn: 0.2293420
                                  total: 55.9s
                                                   remaining: 1m 21s
203:
        learn: 0.2292630
                                  total: 56.2s
                                                   remaining: 1m 21s
204:
        learn: 0.2291939
                                  total: 56.4s
                                                   remaining: 1m 21s
205:
        learn: 0.2291525
                                                   remaining: 1m 21s
                                  total: 56.8s
206:
        learn: 0.2291156
                                  total: 57s
                                                   remaining: 1m 20s
                                                   remaining: 1m 20s
207:
        learn: 0.2290433
                                  total: 57.3s
208:
        learn: 0.2290027
                                  total: 57.6s
                                                   remaining: 1m 20s
209:
        learn: 0.2289839
                                  total: 57.9s
                                                   remaining: 1m 19s
210:
        learn: 0.2288867
                                  total: 58.2s
                                                   remaining: 1m 19s
211:
        learn: 0.2288305
                                  total: 58.4s
                                                   remaining: 1m 19s
212:
        learn: 0.2286713
                                  total: 58.7s
                                                   remaining: 1m 19s
213:
        learn: 0.2285659
                                  total: 59s
                                                   remaining: 1m 18s
214:
        learn: 0.2285270
                                                   remaining: 1m 18s
                                  total: 59.3s
215:
        learn: 0.2284819
                                  total: 59.6s
                                                   remaining: 1m 18s
216:
        learn: 0.2284221
                                  total: 59.9s
                                                   remaining: 1m 18s
        learn: 0.2283492
217:
                                  total: 1m
                                                   remaining: 1m 17s
218:
        learn: 0.2282491
                                  total: 1m
                                                   remaining: 1m 17s
219:
        learn: 0.2280945
                                                   remaining: 1m 17s
                                  total: 1m
220:
        learn: 0.2280448
                                                   remaining: 1m 17s
                                  total: 1m 1s
221:
        learn: 0.2279829
                                  total: 1m 1s
                                                   remaining: 1m 16s
222:
        learn: 0.2279247
                                  total: 1m 1s
                                                   remaining: 1m 16s
                                  total: 1m 1s
223:
        learn: 0.2278723
                                                   remaining: 1m 16s
224:
        learn: 0.2278232
                                  total: 1m 2s
                                                   remaining: 1m 16s
225:
                                  total: 1m 2s
                                                   remaining: 1m 15s
        learn: 0.2277083
226:
        learn: 0.2276484
                                  total: 1m 2s
                                                   remaining: 1m 15s
227:
        learn: 0.2276087
                                  total: 1m 3s
                                                   remaining: 1m 15s
228:
        learn: 0.2275724
                                                   remaining: 1m 15s
                                  total: 1m 3s
229:
        learn: 0.2275202
                                  total: 1m 3s
                                                   remaining: 1m 14s
230:
        learn: 0.2274389
                                  total: 1m 3s
                                                   remaining: 1m 14s
231:
        learn: 0.2273554
                                  total: 1m 4s
                                                   remaining: 1m 14s
232:
        learn: 0.2272095
                                  total: 1m 4s
                                                   remaining: 1m 14s
233:
        learn: 0.2271647
                                  total: 1m 4s
                                                   remaining: 1m 13s
234:
        learn: 0.2270761
                                  total: 1m 5s
                                                   remaining: 1m 13s
235:
        learn: 0.2270063
                                  total: 1m 5s
                                                   remaining: 1m 13s
                                  total: 1m 5s
236:
        learn: 0.2268886
                                                   remaining: 1m 12s
                                  total: 1m 6s
237:
        learn: 0.2268445
                                                   remaining: 1m 12s
238:
        learn: 0.2267815
                                  total: 1m 6s
                                                   remaining: 1m 12s
239:
        learn: 0.2267063
                                  total: 1m 6s
                                                   remaining: 1m 12s
                                  total: 1m 6s
240:
        learn: 0.2266488
                                                   remaining: 1m 11s
241:
        learn: 0.2265627
                                  total: 1m 7s
                                                   remaining: 1m 11s
                                  total: 1m 7s
242:
        learn: 0.2264830
                                                   remaining: 1m 11s
243:
        learn: 0.2263792
                                                   remaining: 1m 11s
                                  total: 1m 7s
244:
        learn: 0.2263326
                                  total: 1m 7s
                                                   remaining: 1m 10s
245:
        learn: 0.2262446
                                  total: 1m 8s
                                                   remaining: 1m 10s
246:
        learn: 0.2261722
                                  total: 1m 8s
                                                   remaining: 1m 10s
247:
        learn: 0.2261032
                                  total: 1m 8s
                                                   remaining: 1m 9s
248:
        learn: 0.2260631
                                  total: 1m 9s
                                                   remaining: 1m 9s
249:
        learn: 0.2260349
                                  total: 1m 9s
                                                   remaining: 1m 9s
```

```
250:
        learn: 0.2259595
                                  total: 1m 9s
                                                   remaining: 1m 8s
                                                   remaining: 1m 8s
251:
        learn: 0.2259222
                                  total: 1m 9s
252:
        learn: 0.2258134
                                  total: 1m 10s
                                                   remaining: 1m 8s
253:
        learn: 0.2257359
                                  total: 1m 10s
                                                   remaining: 1m 8s
254:
        learn: 0.2256823
                                  total: 1m 10s
                                                   remaining: 1m 7s
255:
                                  total: 1m 10s
                                                   remaining: 1m 7s
        learn: 0.2256016
256:
        learn: 0.2255748
                                  total: 1m 11s
                                                   remaining: 1m 7s
257:
        learn: 0.2255377
                                  total: 1m 11s
                                                   remaining: 1m 6s
258:
        learn: 0.2255042
                                  total: 1m 11s
                                                   remaining: 1m 6s
259:
        learn: 0.2254256
                                  total: 1m 11s
                                                   remaining: 1m 6s
260:
        learn: 0.2252684
                                  total: 1m 12s
                                                   remaining: 1m 6s
261:
        learn: 0.2252368
                                  total: 1m 12s
                                                   remaining: 1m 5s
262:
        learn: 0.2251676
                                  total: 1m 12s
                                                   remaining: 1m 5s
263:
        learn: 0.2250974
                                  total: 1m 12s
                                                   remaining: 1m 5s
                                                   remaining: 1m 4s
264:
        learn: 0.2250074
                                  total: 1m 13s
265:
        learn: 0.2249697
                                  total: 1m 13s
                                                   remaining: 1m 4s
266:
        learn: 0.2248618
                                  total: 1m 13s
                                                   remaining: 1m 4s
                                  total: 1m 14s
267:
        learn: 0.2248233
                                                   remaining: 1m 4s
                                                   remaining: 1m 3s
        learn: 0.2247460
                                  total: 1m 14s
268:
269:
        learn: 0.2246862
                                  total: 1m 14s
                                                   remaining: 1m 3s
270:
        learn: 0.2245665
                                  total: 1m 14s
                                                   remaining: 1m 3s
271:
        learn: 0.2244555
                                  total: 1m 15s
                                                   remaining: 1m 3s
272.
        learn: 0.2244261
                                  total: 1m 15s
                                                   remaining: 1m 2s
273:
        learn: 0.2243882
                                  total: 1m 15s
                                                   remaining: 1m 2s
274:
        learn: 0.2243516
                                  total: 1m 16s
                                                   remaining: 1m 2s
275:
        learn: 0.2242547
                                  total: 1m 16s
                                                   remaining: 1m 1s
276:
        learn: 0.2242050
                                  total: 1m 16s
                                                   remaining: 1m 1s
277:
        learn: 0.2241716
                                  total: 1m 16s
                                                   remaining: 1m 1s
278:
        learn: 0.2241505
                                  total: 1m 17s
                                                   remaining: 1m 1s
279:
        learn: 0.2240931
                                  total: 1m 17s
                                                   remaining: 1m
280:
        learn: 0.2240798
                                  total: 1m 17s
                                                   remaining: 1m
                                                   remaining: 1m
281:
        learn: 0.2240076
                                  total: 1m 18s
282:
        learn: 0.2239579
                                  total: 1m 18s
                                                   remaining: 1m
283:
        learn: 0.2239068
                                  total: 1m 18s
                                                   remaining: 59.9s
284:
        learn: 0.2238640
                                  total: 1m 18s
                                                   remaining: 59.6s
285:
        learn: 0.2238458
                                  total: 1m 19s
                                                   remaining: 59.3s
286:
        learn: 0.2237650
                                  total: 1m 19s
                                                   remaining: 59s
287:
        learn: 0.2236881
                                  total: 1m 19s
                                                   remaining: 58.8s
                                  total: 1m 20s
288:
        learn: 0.2236349
                                                   remaining: 58.5s
289:
        learn: 0.2235725
                                  total: 1m 20s
                                                   remaining: 58.2s
290:
        learn: 0.2235591
                                  total: 1m 20s
                                                   remaining: 57.9s
291:
        learn: 0.2234327
                                  total: 1m 20s
                                                   remaining: 57.7s
292:
        learn: 0.2234003
                                  total: 1m 21s
                                                   remaining: 57.4s
293:
        learn: 0.2233419
                                  total: 1m 21s
                                                   remaining: 57.1s
294:
        learn: 0.2232550
                                  total: 1m 21s
                                                   remaining: 56.8s
295:
        learn: 0.2231381
                                  total: 1m 22s
                                                   remaining: 56.5s
296:
        learn: 0.2230709
                                  total: 1m 22s
                                                   remaining: 56.3s
297:
        learn: 0.2230105
                                  total: 1m 22s
                                                   remaining: 56s
```

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298:
        learn: 0.2229926
                                  total: 1m 22s
                                                   remaining: 55.7s
299:
        learn: 0.2229791
                                  total: 1m 23s
                                                   remaining: 55.4s
300:
        learn: 0.2229349
                                  total: 1m 23s
                                                   remaining: 55.2s
        learn: 0.2228654
                                  total: 1m 23s
                                                   remaining: 54.9s
301:
302:
        learn: 0.2227887
                                  total: 1m 23s
                                                   remaining: 54.6s
                                  total: 1m 24s
303:
        learn: 0.2227380
                                                   remaining: 54.3s
304:
        learn: 0.2226323
                                  total: 1m 24s
                                                   remaining: 54s
        learn: 0.2225763
                                                   remaining: 53.7s
305:
                                  total: 1m 24s
306:
        learn: 0.2225092
                                  total: 1m 24s
                                                   remaining: 53.4s
307:
        learn: 0.2224520
                                  total: 1m 25s
                                                   remaining: 53.1s
308:
        learn: 0.2223610
                                  total: 1m 25s
                                                   remaining: 52.8s
309:
        learn: 0.2223102
                                  total: 1m 25s
                                                   remaining: 52.5s
310:
        learn: 0.2222576
                                  total: 1m 25s
                                                   remaining: 52.2s
311:
        learn: 0.2222058
                                  total: 1m 26s
                                                   remaining: 51.9s
312:
        learn: 0.2221726
                                  total: 1m 26s
                                                   remaining: 51.6s
313:
        learn: 0.2221249
                                  total: 1m 26s
                                                   remaining: 51.3s
314:
        learn: 0.2220597
                                  total: 1m 26s
                                                   remaining: 51s
                                  total: 1m 27s
315:
        learn: 0.2220371
                                                   remaining: 50.7s
        learn: 0.2219853
                                  total: 1m 27s
316:
                                                   remaining: 50.4s
317:
        learn: 0.2219393
                                  total: 1m 27s
                                                   remaining: 50.1s
318:
        learn: 0.2217625
                                  total: 1m 27s
                                                   remaining: 49.9s
                                  total: 1m 28s
319:
        learn: 0.2216709
                                                   remaining: 49.6s
                                                  remaining: 49.3s
320:
        learn: 0.2216061
                                  total: 1m 28s
                                  total: 1m 28s
321:
        learn: 0.2215124
                                                   remaining: 49s
322:
        learn: 0.2214739
                                  total: 1m 29s
                                                   remaining: 48.8s
323:
        learn: 0.2214268
                                  total: 1m 29s
                                                   remaining: 48.5s
324:
        learn: 0.2213594
                                  total: 1m 29s
                                                   remaining: 48.2s
325:
        learn: 0.2213353
                                  total: 1m 29s
                                                   remaining: 48s
326:
        learn: 0.2211970
                                  total: 1m 30s
                                                   remaining: 47.7s
327:
        learn: 0.2211422
                                  total: 1m 30s
                                                   remaining: 47.4s
328:
        learn: 0.2210916
                                  total: 1m 30s
                                                   remaining: 47.2s
329:
        learn: 0.2210391
                                  total: 1m 30s
                                                   remaining: 46.9s
330:
        learn: 0.2210076
                                  total: 1m 31s
                                                   remaining: 46.6s
        learn: 0.2209935
                                  total: 1m 31s
331:
                                                   remaining: 46.3s
332:
        learn: 0.2209653
                                  total: 1m 31s
                                                   remaining: 46.1s
        learn: 0.2208980
333:
                                  total: 1m 32s
                                                   remaining: 45.8s
334:
        learn: 0.2208724
                                  total: 1m 32s
                                                   remaining: 45.5s
335:
        learn: 0.2207968
                                  total: 1m 32s
                                                   remaining: 45.3s
                                  total: 1m 32s
336:
        learn: 0.2207327
                                                   remaining: 45s
337:
        learn: 0.2206927
                                  total: 1m 33s
                                                   remaining: 44.7s
338:
        learn: 0.2206503
                                  total: 1m 33s
                                                   remaining: 44.4s
339:
        learn: 0.2205673
                                  total: 1m 33s
                                                   remaining: 44.1s
340:
        learn: 0.2205302
                                  total: 1m 34s
                                                   remaining: 43.9s
341:
        learn: 0.2204237
                                  total: 1m 34s
                                                   remaining: 43.6s
                                                   remaining: 43.4s
342:
        learn: 0.2203792
                                  total: 1m 34s
343:
        learn: 0.2203490
                                  total: 1m 35s
                                                   remaining: 43.1s
344:
        learn: 0.2202763
                                  total: 1m 35s
                                                   remaining: 42.8s
345:
        learn: 0.2201767
                                  total: 1m 35s
                                                   remaining: 42.6s
```

```
learn: 0.2201011
346:
                                  total: 1m 35s
                                                   remaining: 42.3s
347:
        learn: 0.2199977
                                  total: 1m 36s
                                                   remaining: 42.1s
348:
        learn: 0.2199471
                                  total: 1m 36s
                                                   remaining: 41.8s
        learn: 0.2198928
                                  total: 1m 36s
                                                   remaining: 41.5s
349:
350:
        learn: 0.2198089
                                  total: 1m 37s
                                                   remaining: 41.3s
                                  total: 1m 37s
351:
        learn: 0.2197558
                                                   remaining: 41s
352:
        learn: 0.2196939
                                  total: 1m 37s
                                                   remaining: 40.7s
        learn: 0.2196495
                                                   remaining: 40.4s
353:
                                  total: 1m 38s
354:
        learn: 0.2195611
                                  total: 1m 38s
                                                   remaining: 40.2s
355:
        learn: 0.2195197
                                  total: 1m 38s
                                                   remaining: 39.9s
356:
        learn: 0.2194576
                                  total: 1m 38s
                                                   remaining: 39.6s
357:
        learn: 0.2194150
                                  total: 1m 39s
                                                   remaining: 39.4s
358:
        learn: 0.2193863
                                  total: 1m 39s
                                                   remaining: 39.1s
359:
        learn: 0.2193606
                                  total: 1m 39s
                                                   remaining: 38.8s
                                                   remaining: 38.5s
360:
        learn: 0.2192257
                                  total: 1m 40s
361:
        learn: 0.2191534
                                  total: 1m 40s
                                                   remaining: 38.2s
362:
        learn: 0.2190906
                                  total: 1m 40s
                                                   remaining: 37.9s
                                  total: 1m 40s
363:
        learn: 0.2189959
                                                   remaining: 37.7s
        learn: 0.2189588
364:
                                  total: 1m 41s
                                                   remaining: 37.4s
365:
        learn: 0.2188945
                                  total: 1m 41s
                                                   remaining: 37.1s
366:
        learn: 0.2188844
                                  total: 1m 41s
                                                   remaining: 36.8s
367:
        learn: 0.2188456
                                  total: 1m 41s
                                                   remaining: 36.5s
                                                  remaining: 36.3s
368:
        learn: 0.2187835
                                  total: 1m 42s
369:
        learn: 0.2187476
                                  total: 1m 42s
                                                   remaining: 36s
370:
        learn: 0.2187265
                                  total: 1m 42s
                                                   remaining: 35.7s
371:
        learn: 0.2186571
                                  total: 1m 42s
                                                   remaining: 35.4s
372:
        learn: 0.2186131
                                  total: 1m 43s
                                                   remaining: 35.1s
373:
        learn: 0.2185514
                                  total: 1m 43s
                                                   remaining: 34.8s
374:
        learn: 0.2185436
                                  total: 1m 43s
                                                   remaining: 34.5s
375:
        learn: 0.2185283
                                  total: 1m 43s
                                                   remaining: 34.2s
376:
        learn: 0.2184505
                                  total: 1m 44s
                                                   remaining: 34s
377:
        learn: 0.2184264
                                  total: 1m 44s
                                                   remaining: 33.7s
378:
        learn: 0.2183407
                                  total: 1m 44s
                                                   remaining: 33.4s
379:
        learn: 0.2182651
                                  total: 1m 44s
                                                   remaining: 33.1s
380:
        learn: 0.2181838
                                  total: 1m 45s
                                                   remaining: 32.9s
        learn: 0.2181160
381:
                                  total: 1m 45s
                                                   remaining: 32.6s
382:
        learn: 0.2180666
                                  total: 1m 45s
                                                   remaining: 32.3s
383:
        learn: 0.2180039
                                  total: 1m 46s
                                                   remaining: 32s
384:
        learn: 0.2179672
                                  total: 1m 46s
                                                   remaining: 31.8s
385:
        learn: 0.2179390
                                  total: 1m 46s
                                                   remaining: 31.5s
        learn: 0.2179067
                                  total: 1m 46s
386:
                                                   remaining: 31.2s
387:
        learn: 0.2178366
                                  total: 1m 47s
                                                   remaining: 31s
388:
        learn: 0.2177422
                                  total: 1m 47s
                                                   remaining: 30.7s
389:
        learn: 0.2176700
                                  total: 1m 47s
                                                   remaining: 30.4s
                                                   remaining: 30.1s
390:
        learn: 0.2175726
                                  total: 1m 48s
391:
        learn: 0.2175187
                                  total: 1m 48s
                                                   remaining: 29.8s
392:
        learn: 0.2174733
                                  total: 1m 48s
                                                   remaining: 29.6s
393:
        learn: 0.2174509
                                  total: 1m 48s
                                                   remaining: 29.3s
```

```
394:
        learn: 0.2173081
                                  total: 1m 49s
                                                   remaining: 29s
395:
        learn: 0.2172811
                                  total: 1m 49s
                                                   remaining: 28.8s
396:
        learn: 0.2172249
                                  total: 1m 49s
                                                   remaining: 28.5s
397:
        learn: 0.2171537
                                  total: 1m 50s
                                                   remaining: 28.2s
398:
        learn: 0.2170979
                                  total: 1m 50s
                                                   remaining: 27.9s
                                  total: 1m 50s
399:
        learn: 0.2170645
                                                   remaining: 27.6s
400:
        learn: 0.2170105
                                  total: 1m 50s
                                                   remaining: 27.4s
        learn: 0.2169722
                                                   remaining: 27.1s
401:
                                  total: 1m 51s
402:
        learn: 0.2169366
                                  total: 1m 51s
                                                   remaining: 26.8s
403:
        learn: 0.2168326
                                  total: 1m 51s
                                                   remaining: 26.5s
404:
        learn: 0.2167016
                                  total: 1m 51s
                                                   remaining: 26.2s
405:
        learn: 0.2166529
                                  total: 1m 52s
                                                   remaining: 26s
406:
        learn: 0.2165697
                                  total: 1m 52s
                                                   remaining: 25.7s
407:
        learn: 0.2164792
                                  total: 1m 52s
                                                   remaining: 25.4s
408:
        learn: 0.2164167
                                  total: 1m 52s
                                                   remaining: 25.1s
409:
        learn: 0.2163670
                                  total: 1m 53s
                                                   remaining: 24.9s
410:
        learn: 0.2163166
                                  total: 1m 53s
                                                   remaining: 24.6s
                                  total: 1m 53s
411:
        learn: 0.2162961
                                                   remaining: 24.3s
412:
        learn: 0.2161867
                                  total: 1m 54s
                                                   remaining: 24s
413:
        learn: 0.2161490
                                  total: 1m 54s
                                                   remaining: 23.8s
414:
        learn: 0.2161241
                                  total: 1m 54s
                                                   remaining: 23.5s
415:
        learn: 0.2160300
                                  total: 1m 54s
                                                   remaining: 23.2s
416:
        learn: 0.2159967
                                  total: 1m 55s
                                                   remaining: 22.9s
417:
        learn: 0.2159822
                                  total: 1m 55s
                                                   remaining: 22.6s
418:
        learn: 0.2159385
                                  total: 1m 55s
                                                   remaining: 22.4s
419:
        learn: 0.2158851
                                  total: 1m 55s
                                                   remaining: 22.1s
420:
        learn: 0.2158101
                                  total: 1m 56s
                                                   remaining: 21.8s
421:
        learn: 0.2157962
                                  total: 1m 56s
                                                   remaining: 21.5s
422:
        learn: 0.2157532
                                  total: 1m 56s
                                                   remaining: 21.2s
423:
        learn: 0.2157251
                                  total: 1m 56s
                                                   remaining: 20.9s
424:
        learn: 0.2156782
                                  total: 1m 56s
                                                   remaining: 20.6s
425:
        learn: 0.2156557
                                  total: 1m 56s
                                                   remaining: 20.3s
426:
        learn: 0.2155956
                                  total: 1m 57s
                                                   remaining: 20s
427:
        learn: 0.2155770
                                  total: 1m 57s
                                                   remaining: 19.7s
428:
        learn: 0.2155328
                                  total: 1m 57s
                                                   remaining: 19.5s
        learn: 0.2154548
429:
                                  total: 1m 57s
                                                   remaining: 19.2s
430:
        learn: 0.2154063
                                  total: 1m 57s
                                                   remaining: 18.9s
431:
        learn: 0.2153234
                                  total: 1m 58s
                                                   remaining: 18.6s
432:
        learn: 0.2152791
                                  total: 1m 58s
                                                   remaining: 18.3s
433:
        learn: 0.2152413
                                  total: 1m 58s
                                                   remaining: 18.1s
434:
        learn: 0.2151305
                                  total: 1m 59s
                                                   remaining: 17.8s
435:
        learn: 0.2150893
                                  total: 1m 59s
                                                   remaining: 17.5s
436:
        learn: 0.2150562
                                  total: 1m 59s
                                                   remaining: 17.2s
437:
        learn: 0.2149277
                                  total: 1m 59s
                                                   remaining: 17s
                                                   remaining: 16.7s
438:
        learn: 0.2149115
                                  total: 2m
        learn: 0.2148769
439:
                                  total: 2m
                                                   remaining: 16.4s
440:
        learn: 0.2148415
                                  total: 2m
                                                   remaining: 16.2s
441:
        learn: 0.2147868
                                  total: 2m 1s
                                                   remaining: 15.9s
```

```
442:
        learn: 0.2146450
                                  total: 2m 1s
                                                   remaining: 15.6s
443:
        learn: 0.2145772
                                  total: 2m 1s
                                                   remaining: 15.3s
444:
        learn: 0.2144877
                                  total: 2m 1s
                                                   remaining: 15.1s
445:
        learn: 0.2144250
                                  total: 2m 2s
                                                   remaining: 14.8s
446:
        learn: 0.2143588
                                  total: 2m 2s
                                                   remaining: 14.5s
                                  total: 2m 2s
                                                   remaining: 14.3s
447:
        learn: 0.2142810
448:
        learn: 0.2142408
                                  total: 2m 3s
                                                   remaining: 14s
449:
        learn: 0.2141973
                                  total: 2m 3s
                                                   remaining: 13.7s
450:
        learn: 0.2141598
                                  total: 2m 3s
                                                   remaining: 13.4s
451:
        learn: 0.2141094
                                  total: 2m 3s
                                                   remaining: 13.2s
452:
        learn: 0.2140869
                                  total: 2m 4s
                                                   remaining: 12.9s
453:
        learn: 0.2139979
                                  total: 2m 4s
                                                   remaining: 12.6s
454:
        learn: 0.2138975
                                  total: 2m 4s
                                                   remaining: 12.3s
455:
        learn: 0.2138709
                                  total: 2m 5s
                                                   remaining: 12.1s
                                                   remaining: 11.8s
456:
        learn: 0.2138340
                                  total: 2m 5s
457:
        learn: 0.2137593
                                  total: 2m 5s
                                                   remaining: 11.5s
458:
        learn: 0.2136907
                                  total: 2m 5s
                                                   remaining: 11.3s
                                  total: 2m 6s
459:
        learn: 0.2136451
                                                   remaining: 11s
        learn: 0.2135870
460:
                                  total: 2m 6s
                                                   remaining: 10.7s
461:
        learn: 0.2135300
                                  total: 2m 6s
                                                   remaining: 10.4s
462:
        learn: 0.2135026
                                  total: 2m 7s
                                                   remaining: 10.2s
                                  total: 2m 7s
463:
        learn: 0.2134254
                                                   remaining: 9.88s
464:
        learn: 0.2133631
                                  total: 2m 7s
                                                   remaining: 9.61s
465:
        learn: 0.2133288
                                  total: 2m 7s
                                                   remaining: 9.34s
466:
        learn: 0.2132852
                                  total: 2m 8s
                                                   remaining: 9.06s
                                  total: 2m 8s
467:
        learn: 0.2132127
                                                   remaining: 8.78s
468:
        learn: 0.2131531
                                  total: 2m 8s
                                                   remaining: 8.51s
469:
        learn: 0.2131193
                                  total: 2m 9s
                                                   remaining: 8.23s
470:
        learn: 0.2130375
                                  total: 2m 9s
                                                   remaining: 7.96s
471:
        learn: 0.2130188
                                  total: 2m 9s
                                                   remaining: 7.68s
472:
        learn: 0.2129868
                                  total: 2m 9s
                                                   remaining: 7.41s
473:
        learn: 0.2129417
                                  total: 2m 10s
                                                   remaining: 7.14s
474:
        learn: 0.2129329
                                  total: 2m 10s
                                                   remaining: 6.86s
475:
        learn: 0.2128419
                                  total: 2m 10s
                                                   remaining: 6.59s
                                  total: 2m 10s
476:
        learn: 0.2128128
                                                   remaining: 6.31s
477:
        learn: 0.2127101
                                  total: 2m 11s
                                                   remaining: 6.04s
478:
        learn: 0.2126206
                                  total: 2m 11s
                                                   remaining: 5.77s
479:
        learn: 0.2125412
                                  total: 2m 11s
                                                   remaining: 5.49s
480:
                                  total: 2m 12s
        learn: 0.2124489
                                                   remaining: 5.21s
481:
        learn: 0.2124103
                                  total: 2m 12s
                                                   remaining: 4.94s
                                  total: 2m 12s
482:
        learn: 0.2123546
                                                   remaining: 4.67s
        learn: 0.2122767
483:
                                  total: 2m 12s
                                                   remaining: 4.39s
484:
        learn: 0.2122670
                                  total: 2m 13s
                                                   remaining: 4.12s
485:
        learn: 0.2122574
                                  total: 2m 13s
                                                   remaining: 3.84s
                                                   remaining: 3.56s
486:
        learn: 0.2122450
                                  total: 2m 13s
487:
        learn: 0.2121389
                                  total: 2m 13s
                                                   remaining: 3.29s
488:
        learn: 0.2121059
                                  total: 2m 14s
                                                   remaining: 3.02s
489:
        learn: 0.2120672
                                  total: 2m 14s
                                                   remaining: 2.74s
```

| 400     | -                             | 0.04000:5               |                      |                              |                                  |        |
|---------|-------------------------------|-------------------------|----------------------|------------------------------|----------------------------------|--------|
| 490:    | learn:                        | 0.2120043               | tota.                | l: 2m 14s                    | remaining:                       | 2.47s  |
| 491:    | learn:                        | 0.2119010               | tota                 | l: 2m 14s                    | remaining:                       | 2.19s  |
| 492:    | learn:                        | 0.2118231               | tota                 | l: 2m 15s                    | remaining:                       | 1.92s  |
| 493:    | learn:                        | 0.2117792               | tota                 | l: 2m 15s                    | remaining:                       | 1.64s  |
| 494:    | learn:                        | 0.2117320               | tota                 | l: 2m 15s                    | remaining:                       | 1.37s  |
| 495:    | learn:                        | 0.2117065               | tota                 | l: 2m 15s                    | remaining:                       | 1.1s   |
| 496:    | learn:                        | 0.2116843               | tota                 | l: 2m 16s                    | remaining:                       | 823ms  |
| 497:    | learn:                        | 0.2116341               | tota                 | l: 2m 16s                    | remaining:                       | 548ms  |
| 498:    | learn:                        | 0.2115835               | tota                 | l: 2m 16s                    | remaining:                       | 274 ms |
| 499:    | learn:                        | 0.2115230               | tota                 | l: 2m 17s                    | remaining:                       | 0us    |
|         |                               |                         |                      |                              |                                  |        |
| Informe | de Clas                       | sificación              | en todos los         | s datos:                     |                                  |        |
| Informe |                               | sificación<br>precision |                      |                              | support                          |        |
| Informe |                               |                         |                      |                              | support                          |        |
| Informe |                               |                         |                      |                              | support                          |        |
| Informe | ]                             | precision               | recall f             | 1-score                      |                                  |        |
| Informe | 0                             | orecision<br>0.84       | recall f             | 1-score<br>0.89              | 19479                            |        |
| Informe | 0<br>1                        | 0.84<br>1.00            | 0.94<br>1.00         | 0.89<br>1.00                 | 19479<br>19479                   |        |
|         | 0<br>1<br>2                   | 0.84<br>1.00            | 0.94<br>1.00         | 0.89<br>1.00                 | 19479<br>19479                   |        |
| acc     | 0<br>1<br>2<br>uracy          | 0.84<br>1.00<br>0.94    | 0.94<br>1.00         | 0.89<br>1.00<br>0.88         | 19479<br>19479<br>19479          |        |
| acc     | 0<br>1<br>2<br>uracy<br>o avg | 0.84<br>1.00<br>0.94    | 0.94<br>1.00<br>0.82 | 0.89<br>1.00<br>0.88<br>0.92 | 19479<br>19479<br>19479<br>58437 |        |

## Matriz de Confusión en todos los datos - 17500 18396 21 1062 0 -- 15000 - 12500 Valores Reales - 10000 0 19479 0 - 7500 - 5000 16035 3442 2 - 2500 - 0 ó 2 1

Predicciones

```
[26]: from sklearn.model_selection import cross_val_score
      # Realiza cross-validation y muestra los resultados
      scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=10,__
       ⇔scoring='accuracy')
      print("Accuracy en cada fold:", scores)
      print("Accuracy promedio:", scores.mean())
      # Entrena el modelo CatBoost en todos los datos de entrenamiento
      catboost_model.fit(X_resampled, y_resampled)
      # Realiza predicciones en el conjunto de prueba
      y_pred = catboost_model.predict(X_resampled)
      # Muestra el informe de clasificación en todos los datos
      print("Informe de Clasificación en todos los datos:")
      print(classification_report(y_resampled, y_pred))
      # Matriz de Confusión en todos los datos
      confusion = confusion_matrix(y_resampled, y_pred)
      plt.figure(figsize=(8, 6))
      sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
      plt.title("Matriz de Confusión en todos los datos")
      plt.xlabel("Predicciones")
      plt.ylabel("Valores Reales")
      plt.show()
```

## Learning rate set to 0.173965

```
learn: 0.9717758
0:
                                 total: 203ms
                                                 remaining: 1m 41s
1:
        learn: 0.8865097
                                 total: 396ms
                                                 remaining: 1m 38s
2:
        learn: 0.8261618
                                 total: 605ms
                                                 remaining: 1m 40s
3:
        learn: 0.7844919
                                 total: 819ms
                                                 remaining: 1m 41s
4:
        learn: 0.7350002
                                 total: 1.04s
                                                 remaining: 1m 42s
5:
        learn: 0.6889790
                                 total: 1.26s
                                                 remaining: 1m 43s
                                 total: 1.45s
6:
        learn: 0.6183396
                                                 remaining: 1m 41s
7:
        learn: 0.6015639
                                 total: 1.65s
                                                 remaining: 1m 41s
8:
        learn: 0.5453495
                                 total: 1.87s
                                                 remaining: 1m 42s
9:
        learn: 0.4985490
                                 total: 2.11s
                                                 remaining: 1m 43s
        learn: 0.4639629
                                 total: 2.31s
10:
                                                 remaining: 1m 42s
        learn: 0.4354920
                                 total: 2.58s
                                                 remaining: 1m 44s
11 •
12:
        learn: 0.4133442
                                 total: 2.88s
                                                 remaining: 1m 47s
        learn: 0.3944326
                                 total: 3.16s
                                                 remaining: 1m 49s
13:
14:
        learn: 0.3778839
                                 total: 3.42s
                                                 remaining: 1m 50s
15:
        learn: 0.3568046
                                 total: 3.71s
                                                 remaining: 1m 52s
16:
        learn: 0.3400878
                                 total: 4.01s
                                                 remaining: 1m 53s
```

```
17:
        learn: 0.3373223
                                  total: 4.3s
                                                   remaining: 1m 55s
18:
        learn: 0.3235422
                                  total: 4.56s
                                                   remaining: 1m 55s
19:
        learn: 0.3124639
                                  total: 4.88s
                                                   remaining: 1m 57s
20:
        learn: 0.3105514
                                  total: 5.15s
                                                   remaining: 1m 57s
                                                   remaining: 1m 56s
21:
        learn: 0.3014466
                                  total: 5.38s
22:
                                  total: 5.63s
                                                   remaining: 1m 56s
        learn: 0.2999489
23:
        learn: 0.2986193
                                  total: 5.86s
                                                   remaining: 1m 56s
24:
        learn: 0.2969061
                                  total: 6.11s
                                                   remaining: 1m 56s
25:
        learn: 0.2897620
                                  total: 6.38s
                                                   remaining: 1m 56s
26:
        learn: 0.2841435
                                  total: 6.63s
                                                   remaining: 1m 56s
27:
        learn: 0.2792644
                                  total: 6.89s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
28:
        learn: 0.2752541
                                  total: 7.15s
29:
        learn: 0.2742867
                                  total: 7.4s
                                                   remaining: 1m 55s
30:
        learn: 0.2692209
                                  total: 7.65s
                                                   remaining: 1m 55s
31:
        learn: 0.2642860
                                  total: 7.89s
                                                   remaining: 1m 55s
32:
        learn: 0.2636422
                                                   remaining: 1m 54s
                                  total: 8.12s
33:
        learn: 0.2598800
                                  total: 8.36s
                                                   remaining: 1m 54s
34:
        learn: 0.2589726
                                  total: 8.61s
                                                   remaining: 1m 54s
        learn: 0.2569579
                                  total: 8.84s
                                                   remaining: 1m 53s
35:
36:
        learn: 0.2542050
                                  total: 9.1s
                                                   remaining: 1m 53s
37:
        learn: 0.2538064
                                  total: 9.35s
                                                   remaining: 1m 53s
38:
        learn: 0.2531771
                                  total: 9.57s
                                                   remaining: 1m 53s
39:
        learn: 0.2527405
                                  total: 9.81s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
40:
        learn: 0.2523588
                                  total: 10.1s
41:
        learn: 0.2516418
                                  total: 10.3s
                                                   remaining: 1m 52s
42:
        learn: 0.2510334
                                  total: 10.6s
                                                   remaining: 1m 52s
43:
        learn: 0.2506541
                                                   remaining: 1m 52s
                                  total: 10.8s
44:
        learn: 0.2502943
                                  total: 11.1s
                                                   remaining: 1m 51s
45:
        learn: 0.2500886
                                  total: 11.3s
                                                   remaining: 1m 51s
46:
        learn: 0.2496632
                                  total: 11.6s
                                                   remaining: 1m 51s
47:
        learn: 0.2494518
                                  total: 11.8s
                                                   remaining: 1m 51s
48:
        learn: 0.2491228
                                  total: 12.1s
                                                   remaining: 1m 51s
49:
        learn: 0.2489543
                                  total: 12.3s
                                                   remaining: 1m 51s
50:
        learn: 0.2487213
                                  total: 12.6s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
51:
        learn: 0.2477462
                                  total: 12.9s
52:
        learn: 0.2463966
                                  total: 13.1s
                                                   remaining: 1m 50s
53:
        learn: 0.2459535
                                  total: 13.4s
                                                   remaining: 1m 50s
54:
        learn: 0.2455480
                                  total: 13.7s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
55:
        learn: 0.2449430
                                  total: 13.9s
56:
        learn: 0.2448556
                                  total: 14.2s
                                                   remaining: 1m 49s
57:
        learn: 0.2444547
                                  total: 14.4s
                                                   remaining: 1m 49s
        learn: 0.2441215
                                  total: 14.7s
                                                   remaining: 1m 49s
58:
59:
        learn: 0.2434459
                                  total: 15s
                                                   remaining: 1m 49s
60:
        learn: 0.2433128
                                  total: 15.2s
                                                   remaining: 1m 49s
61:
        learn: 0.2430129
                                  total: 15.5s
                                                   remaining: 1m 49s
62:
        learn: 0.2429127
                                  total: 15.8s
                                                   remaining: 1m 49s
63:
        learn: 0.2411392
                                  total: 16.1s
                                                   remaining: 1m 49s
64:
        learn: 0.2408940
                                  total: 16.4s
                                                   remaining: 1m 49s
```

```
65:
        learn: 0.2408211
                                  total: 16.6s
                                                   remaining: 1m 49s
66:
        learn: 0.2407746
                                  total: 16.9s
                                                   remaining: 1m 49s
67:
        learn: 0.2405824
                                  total: 17.1s
                                                   remaining: 1m 48s
        learn: 0.2404860
                                  total: 17.4s
                                                   remaining: 1m 48s
68:
                                                   remaining: 1m 48s
69:
        learn: 0.2403232
                                  total: 17.7s
                                  total: 17.9s
                                                   remaining: 1m 48s
70:
        learn: 0.2400895
71:
        learn: 0.2399000
                                  total: 18.2s
                                                   remaining: 1m 47s
72:
        learn: 0.2397849
                                  total: 18.4s
                                                   remaining: 1m 47s
73:
        learn: 0.2395671
                                  total: 18.7s
                                                   remaining: 1m 47s
74:
        learn: 0.2394920
                                  total: 18.9s
                                                   remaining: 1m 47s
75:
        learn: 0.2393283
                                                   remaining: 1m 47s
                                  total: 19.2s
76:
                                                   remaining: 1m 47s
        learn: 0.2391233
                                  total: 19.5s
77:
        learn: 0.2389341
                                  total: 19.8s
                                                   remaining: 1m 47s
78:
        learn: 0.2386746
                                  total: 20s
                                                   remaining: 1m 46s
79:
        learn: 0.2386006
                                  total: 20.3s
                                                   remaining: 1m 46s
80:
        learn: 0.2382283
                                  total: 20.5s
                                                   remaining: 1m 46s
81:
        learn: 0.2381012
                                  total: 20.8s
                                                   remaining: 1m 46s
                                  total: 21.1s
82:
        learn: 0.2379371
                                                   remaining: 1m 45s
        learn: 0.2377893
                                  total: 21.4s
                                                   remaining: 1m 45s
83:
84:
        learn: 0.2377368
                                  total: 21.6s
                                                   remaining: 1m 45s
85:
        learn: 0.2374487
                                  total: 21.9s
                                                   remaining: 1m 45s
                                  total: 22.1s
86:
        learn: 0.2372994
                                                   remaining: 1m 45s
87:
        learn: 0.2372504
                                  total: 22.4s
                                                   remaining: 1m 44s
        learn: 0.2371970
                                  total: 22.6s
                                                   remaining: 1m 44s
88:
89:
        learn: 0.2370518
                                  total: 22.8s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
90:
        learn: 0.2367592
                                  total: 23.1s
        learn: 0.2366568
                                  total: 23.4s
                                                   remaining: 1m 43s
91:
92:
        learn: 0.2365531
                                  total: 23.6s
                                                   remaining: 1m 43s
        learn: 0.2363914
                                  total: 23.8s
                                                   remaining: 1m 42s
93:
94:
        learn: 0.2363700
                                  total: 24.1s
                                                   remaining: 1m 42s
95:
        learn: 0.2363181
                                  total: 24.3s
                                                   remaining: 1m 42s
96:
        learn: 0.2362079
                                  total: 24.6s
                                                   remaining: 1m 42s
97:
        learn: 0.2360524
                                  total: 24.8s
                                                   remaining: 1m 41s
98:
        learn: 0.2359347
                                  total: 25s
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
99:
        learn: 0.2357849
                                  total: 25.3s
100:
        learn: 0.2356764
                                  total: 25.5s
                                                   remaining: 1m 40s
101:
        learn: 0.2356419
                                  total: 25.7s
                                                   remaining: 1m 40s
102:
        learn: 0.2355757
                                  total: 26s
                                                   remaining: 1m 40s
        learn: 0.2354124
                                                   remaining: 1m 39s
103:
                                  total: 26.2s
104:
        learn: 0.2352324
                                  total: 26.5s
                                                   remaining: 1m 39s
105:
        learn: 0.2351485
                                  total: 26.7s
                                                   remaining: 1m 39s
        learn: 0.2350955
                                  total: 26.9s
                                                   remaining: 1m 38s
106:
107:
        learn: 0.2350112
                                  total: 27.1s
                                                   remaining: 1m 38s
108:
        learn: 0.2343942
                                  total: 27.3s
                                                   remaining: 1m 38s
109:
        learn: 0.2342677
                                  total: 27.6s
                                                   remaining: 1m 37s
110:
        learn: 0.2341530
                                  total: 27.8s
                                                   remaining: 1m 37s
111:
        learn: 0.2331275
                                  total: 28.1s
                                                   remaining: 1m 37s
112:
        learn: 0.2330325
                                  total: 28.3s
                                                   remaining: 1m 36s
```

```
learn: 0.2329778
                                  total: 28.6s
                                                   remaining: 1m 36s
113:
114:
        learn: 0.2328220
                                  total: 28.8s
                                                   remaining: 1m 36s
115:
        learn: 0.2327681
                                  total: 29.1s
                                                   remaining: 1m 36s
        learn: 0.2326699
                                  total: 29.3s
                                                   remaining: 1m 36s
116:
                                                   remaining: 1m 35s
117:
        learn: 0.2326000
                                  total: 29.6s
                                  total: 29.8s
                                                   remaining: 1m 35s
118:
        learn: 0.2325788
119:
        learn: 0.2325490
                                  total: 30.1s
                                                   remaining: 1m 35s
120:
        learn: 0.2324461
                                  total: 30.3s
                                                   remaining: 1m 35s
121:
        learn: 0.2323698
                                  total: 30.6s
                                                   remaining: 1m 34s
122:
        learn: 0.2322733
                                  total: 30.9s
                                                   remaining: 1m 34s
123:
        learn: 0.2322020
                                  total: 31.1s
                                                   remaining: 1m 34s
                                                   remaining: 1m 34s
124:
        learn: 0.2320709
                                  total: 31.4s
125:
        learn: 0.2320197
                                  total: 31.7s
                                                   remaining: 1m 34s
126:
        learn: 0.2318525
                                  total: 32s
                                                   remaining: 1m 33s
127:
        learn: 0.2315421
                                  total: 32.3s
                                                   remaining: 1m 33s
        learn: 0.2315092
128:
                                  total: 32.5s
                                                   remaining: 1m 33s
129:
        learn: 0.2314392
                                  total: 32.8s
                                                   remaining: 1m 33s
                                  total: 33s
130:
        learn: 0.2313584
                                                   remaining: 1m 33s
        learn: 0.2312542
                                                   remaining: 1m 32s
131:
                                  total: 33.3s
132:
        learn: 0.2311664
                                  total: 33.6s
                                                   remaining: 1m 32s
133:
        learn: 0.2309438
                                  total: 33.8s
                                                   remaining: 1m 32s
134:
        learn: 0.2309217
                                  total: 34.1s
                                                   remaining: 1m 32s
135:
        learn: 0.2308828
                                  total: 34.3s
                                                   remaining: 1m 31s
                                  total: 34.6s
                                                   remaining: 1m 31s
136:
        learn: 0.2307955
137:
        learn: 0.2307073
                                  total: 34.8s
                                                   remaining: 1m 31s
138:
        learn: 0.2306784
                                  total: 35.1s
                                                   remaining: 1m 31s
        learn: 0.2305547
                                  total: 35.3s
                                                   remaining: 1m 30s
139:
140:
        learn: 0.2304928
                                  total: 35.6s
                                                   remaining: 1m 30s
141:
        learn: 0.2304449
                                  total: 35.9s
                                                   remaining: 1m 30s
142:
        learn: 0.2302295
                                  total: 36.1s
                                                   remaining: 1m 30s
143:
        learn: 0.2301908
                                  total: 36.4s
                                                   remaining: 1m 29s
144:
        learn: 0.2301549
                                  total: 36.7s
                                                   remaining: 1m 29s
145:
        learn: 0.2300892
                                  total: 36.9s
                                                   remaining: 1m 29s
        learn: 0.2299422
                                  total: 37.2s
                                                   remaining: 1m 29s
146:
                                                   remaining: 1m 28s
147:
        learn: 0.2298808
                                  total: 37.4s
        learn: 0.2298644
148:
                                  total: 37.7s
                                                   remaining: 1m 28s
149:
        learn: 0.2298021
                                  total: 37.9s
                                                   remaining: 1m 28s
150:
        learn: 0.2297351
                                  total: 38.1s
                                                   remaining: 1m 28s
151:
        learn: 0.2296058
                                  total: 38.4s
                                                   remaining: 1m 27s
152:
        learn: 0.2294388
                                  total: 38.7s
                                                   remaining: 1m 27s
153:
        learn: 0.2293426
                                  total: 38.9s
                                                   remaining: 1m 27s
154:
        learn: 0.2292840
                                                   remaining: 1m 27s
                                  total: 39.2s
155:
        learn: 0.2291974
                                  total: 39.4s
                                                   remaining: 1m 26s
156:
        learn: 0.2290925
                                  total: 39.7s
                                                   remaining: 1m 26s
157:
        learn: 0.2289467
                                  total: 39.9s
                                                   remaining: 1m 26s
        learn: 0.2289058
158:
                                  total: 40.2s
                                                   remaining: 1m 26s
159:
        learn: 0.2288144
                                  total: 40.4s
                                                   remaining: 1m 25s
160:
        learn: 0.2286941
                                  total: 40.6s
                                                   remaining: 1m 25s
```

```
total: 40.9s
        learn: 0.2285838
161:
                                                   remaining: 1m 25s
162:
        learn: 0.2284841
                                  total: 41.1s
                                                   remaining: 1m 24s
163:
        learn: 0.2283704
                                  total: 41.3s
                                                   remaining: 1m 24s
        learn: 0.2282488
                                  total: 41.4s
                                                   remaining: 1m 24s
164:
                                                   remaining: 1m 23s
165:
        learn: 0.2281916
                                  total: 41.6s
                                  total: 41.9s
                                                   remaining: 1m 23s
166:
        learn: 0.2281258
167:
        learn: 0.2280668
                                  total: 42.1s
                                                   remaining: 1m 23s
168:
        learn: 0.2279780
                                  total: 42.3s
                                                   remaining: 1m 22s
169:
        learn: 0.2279386
                                  total: 42.5s
                                                   remaining: 1m 22s
170:
        learn: 0.2278445
                                  total: 42.6s
                                                   remaining: 1m 22s
171:
        learn: 0.2278220
                                  total: 42.8s
                                                   remaining: 1m 21s
                                                   remaining: 1m 21s
172:
        learn: 0.2276996
                                  total: 43s
173:
        learn: 0.2276677
                                                   remaining: 1m 20s
                                  total: 43.2s
174:
        learn: 0.2275198
                                  total: 43.4s
                                                   remaining: 1m 20s
175:
        learn: 0.2273387
                                  total: 43.5s
                                                   remaining: 1m 20s
176:
        learn: 0.2272383
                                  total: 43.8s
                                                   remaining: 1m 19s
177:
        learn: 0.2271639
                                  total: 44s
                                                   remaining: 1m 19s
178:
        learn: 0.2270656
                                  total: 44.3s
                                                   remaining: 1m 19s
        learn: 0.2270385
                                  total: 44.5s
                                                   remaining: 1m 19s
179:
180:
        learn: 0.2268366
                                  total: 44.7s
                                                   remaining: 1m 18s
181:
        learn: 0.2266778
                                  total: 45s
                                                   remaining: 1m 18s
182:
        learn: 0.2265298
                                  total: 45.3s
                                                   remaining: 1m 18s
183:
        learn: 0.2264098
                                  total: 45.5s
                                                   remaining: 1m 18s
                                                   remaining: 1m 17s
184:
        learn: 0.2262831
                                  total: 45.8s
185:
        learn: 0.2261934
                                  total: 46.1s
                                                   remaining: 1m 17s
186:
        learn: 0.2261160
                                  total: 46.3s
                                                   remaining: 1m 17s
        learn: 0.2260138
                                                   remaining: 1m 17s
187:
                                  total: 46.6s
188:
        learn: 0.2259893
                                  total: 46.8s
                                                   remaining: 1m 17s
189:
        learn: 0.2259592
                                  total: 47.1s
                                                   remaining: 1m 16s
190:
        learn: 0.2259350
                                  total: 47.3s
                                                   remaining: 1m 16s
                                  total: 47.6s
        learn: 0.2258737
191:
                                                   remaining: 1m 16s
192:
        learn: 0.2258490
                                  total: 47.8s
                                                   remaining: 1m 16s
193:
        learn: 0.2257468
                                  total: 48.1s
                                                   remaining: 1m 15s
194:
        learn: 0.2256162
                                  total: 48.4s
                                                   remaining: 1m 15s
195:
        learn: 0.2255495
                                  total: 48.6s
                                                   remaining: 1m 15s
196:
        learn: 0.2254759
                                  total: 48.9s
                                                   remaining: 1m 15s
197:
        learn: 0.2253564
                                  total: 49.1s
                                                   remaining: 1m 14s
198:
        learn: 0.2252782
                                  total: 49.4s
                                                   remaining: 1m 14s
                                  total: 49.6s
199:
        learn: 0.2252160
                                                   remaining: 1m 14s
200:
        learn: 0.2250980
                                  total: 49.9s
                                                   remaining: 1m 14s
201:
        learn: 0.2250664
                                  total: 50.1s
                                                   remaining: 1m 13s
202:
                                                   remaining: 1m 13s
        learn: 0.2250160
                                  total: 50.3s
203:
        learn: 0.2249350
                                  total: 50.6s
                                                   remaining: 1m 13s
204:
        learn: 0.2248767
                                  total: 50.9s
                                                   remaining: 1m 13s
205:
        learn: 0.2248693
                                  total: 51.1s
                                                   remaining: 1m 12s
206:
        learn: 0.2247674
                                  total: 51.4s
                                                   remaining: 1m 12s
207:
        learn: 0.2247350
                                  total: 51.6s
                                                   remaining: 1m 12s
208:
        learn: 0.2247094
                                  total: 51.9s
                                                   remaining: 1m 12s
```

```
209:
        learn: 0.2246215
                                  total: 52.1s
                                                   remaining: 1m 12s
210:
        learn: 0.2245307
                                  total: 52.4s
                                                   remaining: 1m 11s
                                  total: 52.7s
211:
        learn: 0.2244292
                                                   remaining: 1m 11s
212:
        learn: 0.2243349
                                  total: 52.9s
                                                   remaining: 1m 11s
213:
        learn: 0.2242942
                                  total: 53.1s
                                                   remaining: 1m 11s
                                  total: 53.4s
                                                   remaining: 1m 10s
214:
        learn: 0.2242118
215:
        learn: 0.2241239
                                  total: 53.7s
                                                   remaining: 1m 10s
216:
        learn: 0.2240537
                                  total: 53.9s
                                                   remaining: 1m 10s
217:
        learn: 0.2239097
                                  total: 54.2s
                                                   remaining: 1m 10s
218:
        learn: 0.2238008
                                  total: 54.4s
                                                   remaining: 1m 9s
        learn: 0.2236590
219:
                                  total: 54.7s
                                                   remaining: 1m 9s
220:
                                                   remaining: 1m 9s
        learn: 0.2235117
                                  total: 54.9s
221:
        learn: 0.2234812
                                  total: 55.2s
                                                   remaining: 1m 9s
222:
        learn: 0.2233855
                                  total: 55.4s
                                                   remaining: 1m 8s
223:
        learn: 0.2233265
                                  total: 55.6s
                                                   remaining: 1m 8s
224:
        learn: 0.2232838
                                  total: 55.9s
                                                   remaining: 1m 8s
225:
        learn: 0.2232535
                                  total: 56.1s
                                                   remaining: 1m 8s
226:
        learn: 0.2232059
                                  total: 56.3s
                                                   remaining: 1m 7s
227:
        learn: 0.2230250
                                  total: 56.6s
                                                   remaining: 1m 7s
228:
        learn: 0.2229887
                                  total: 56.8s
                                                   remaining: 1m 7s
229:
        learn: 0.2229539
                                  total: 57s
                                                   remaining: 1m 6s
230:
        learn: 0.2228602
                                  total: 57.2s
                                                   remaining: 1m 6s
231:
        learn: 0.2227839
                                  total: 57.4s
                                                   remaining: 1m 6s
232:
                                  total: 57.7s
                                                   remaining: 1m 6s
        learn: 0.2227288
233:
        learn: 0.2226560
                                  total: 57.9s
                                                   remaining: 1m 5s
234:
        learn: 0.2226171
                                  total: 58.2s
                                                   remaining: 1m 5s
235:
        learn: 0.2225046
                                  total: 58.4s
                                                   remaining: 1m 5s
236:
        learn: 0.2224080
                                  total: 58.6s
                                                   remaining: 1m 5s
        learn: 0.2223543
237:
                                  total: 58.9s
                                                   remaining: 1m 4s
238:
        learn: 0.2223074
                                  total: 59.1s
                                                   remaining: 1m 4s
239:
        learn: 0.222264
                                  total: 59.3s
                                                   remaining: 1m 4s
240:
        learn: 0.2221105
                                  total: 59.6s
                                                   remaining: 1m 4s
241:
        learn: 0.2219784
                                  total: 59.8s
                                                   remaining: 1m 3s
242:
        learn: 0.2219366
                                  total: 1m
                                                   remaining: 1m 3s
                                                   remaining: 1m 3s
243:
        learn: 0.2218233
                                  total: 1m
244:
        learn: 0.2218041
                                  total: 1m
                                                   remaining: 1m 3s
245:
        learn: 0.2217560
                                  total: 1m
                                                   remaining: 1m 2s
246:
        learn: 0.2217122
                                  total: 1m 1s
                                                   remaining: 1m 2s
        learn: 0.2216090
247:
                                  total: 1m 1s
                                                   remaining: 1m 2s
248:
        learn: 0.2214747
                                  total: 1m 1s
                                                   remaining: 1m 2s
249:
        learn: 0.2213631
                                  total: 1m 1s
                                                   remaining: 1m 1s
250:
        learn: 0.2213408
                                                   remaining: 1m 1s
                                  total: 1m 2s
251:
        learn: 0.2212552
                                  total: 1m 2s
                                                   remaining: 1m 1s
252:
        learn: 0.2211635
                                  total: 1m 2s
                                                   remaining: 1m 1s
253:
        learn: 0.2210843
                                  total: 1m 2s
                                                   remaining: 1m
254:
        learn: 0.2210103
                                  total: 1m 3s
                                                   remaining: 1m
255:
        learn: 0.2209847
                                  total: 1m 3s
                                                   remaining: 1m
256:
        learn: 0.2209055
                                  total: 1m 3s
                                                   remaining: 1m
```

```
257:
        learn: 0.2208347
                                  total: 1m 3s
                                                   remaining: 59.8s
258:
        learn: 0.2206894
                                  total: 1m 4s
                                                   remaining: 59.6s
259:
        learn: 0.2206086
                                  total: 1m 4s
                                                   remaining: 59.3s
260:
        learn: 0.2205708
                                                   remaining: 59.1s
                                  total: 1m 4s
261:
        learn: 0.2204880
                                  total: 1m 4s
                                                   remaining: 58.9s
                                  total: 1m 5s
262:
        learn: 0.2204136
                                                   remaining: 58.6s
263:
        learn: 0.2203700
                                  total: 1m 5s
                                                   remaining: 58.4s
        learn: 0.2202705
                                                   remaining: 58.1s
264:
                                  total: 1m 5s
265:
        learn: 0.2202227
                                  total: 1m 5s
                                                   remaining: 57.9s
266:
        learn: 0.2201734
                                  total: 1m 6s
                                                   remaining: 57.6s
267:
        learn: 0.2201505
                                  total: 1m 6s
                                                   remaining: 57.4s
268:
        learn: 0.2201061
                                  total: 1m 6s
                                                   remaining: 57.1s
269:
        learn: 0.2199616
                                  total: 1m 6s
                                                   remaining: 56.9s
270:
        learn: 0.2198782
                                  total: 1m 7s
                                                   remaining: 56.7s
                                                   remaining: 56.4s
271:
        learn: 0.2198236
                                  total: 1m 7s
272:
        learn: 0.2198053
                                  total: 1m 7s
                                                   remaining: 56.2s
273:
        learn: 0.2197355
                                  total: 1m 7s
                                                   remaining: 55.9s
                                  total: 1m 8s
274:
        learn: 0.2196243
                                                   remaining: 55.7s
        learn: 0.2196009
                                  total: 1m 8s
                                                   remaining: 55.5s
275:
276:
        learn: 0.2195258
                                  total: 1m 8s
                                                   remaining: 55.2s
                                  total: 1m 8s
277:
        learn: 0.2194743
                                                   remaining: 55s
                                  total: 1m 9s
278:
        learn: 0.2194298
                                                   remaining: 54.8s
279:
        learn: 0.2193047
                                  total: 1m 9s
                                                   remaining: 54.5s
280:
        learn: 0.2191818
                                  total: 1m 9s
                                                   remaining: 54.3s
281:
        learn: 0.2190962
                                  total: 1m 9s
                                                   remaining: 54.1s
282:
        learn: 0.2190463
                                  total: 1m 10s
                                                   remaining: 53.8s
283:
        learn: 0.2189801
                                  total: 1m 10s
                                                   remaining: 53.6s
284:
        learn: 0.2189621
                                  total: 1m 10s
                                                   remaining: 53.3s
285:
        learn: 0.2189144
                                  total: 1m 10s
                                                   remaining: 53.1s
286:
        learn: 0.2188923
                                                   remaining: 52.9s
                                  total: 1m 11s
287:
        learn: 0.2188630
                                  total: 1m 11s
                                                   remaining: 52.6s
288:
        learn: 0.2188153
                                  total: 1m 11s
                                                   remaining: 52.3s
289:
        learn: 0.2187668
                                  total: 1m 11s
                                                   remaining: 52.1s
290:
        learn: 0.2186252
                                  total: 1m 12s
                                                   remaining: 51.8s
291:
        learn: 0.2185833
                                  total: 1m 12s
                                                   remaining: 51.6s
292:
        learn: 0.2185032
                                  total: 1m 12s
                                                   remaining: 51.4s
293:
        learn: 0.2184604
                                  total: 1m 12s
                                                   remaining: 51.1s
294:
        learn: 0.2184369
                                  total: 1m 13s
                                                   remaining: 50.8s
295:
        learn: 0.2183309
                                  total: 1m 13s
                                                   remaining: 50.5s
296:
        learn: 0.2182509
                                  total: 1m 13s
                                                   remaining: 50.2s
                                  total: 1m 13s
297:
        learn: 0.2181394
                                                   remaining: 49.9s
298:
        learn: 0.2180746
                                  total: 1m 13s
                                                   remaining: 49.6s
299:
        learn: 0.2179810
                                  total: 1m 13s
                                                   remaining: 49.3s
300:
        learn: 0.2179348
                                  total: 1m 14s
                                                   remaining: 49s
                                                   remaining: 48.7s
301:
        learn: 0.2177744
                                  total: 1m 14s
302:
        learn: 0.2176723
                                  total: 1m 14s
                                                   remaining: 48.4s
303:
        learn: 0.2176183
                                  total: 1m 14s
                                                   remaining: 48.1s
304:
        learn: 0.2175931
                                  total: 1m 14s
                                                   remaining: 47.9s
```

```
learn: 0.2175635
305:
                                  total: 1m 15s
                                                   remaining: 47.6s
306:
        learn: 0.2173886
                                  total: 1m 15s
                                                   remaining: 47.3s
307:
        learn: 0.2173149
                                  total: 1m 15s
                                                   remaining: 47s
        learn: 0.2172400
                                                   remaining: 46.8s
308:
                                  total: 1m 15s
309:
        learn: 0.2171654
                                  total: 1m 15s
                                                   remaining: 46.5s
                                  total: 1m 16s
310:
        learn: 0.2171055
                                                   remaining: 46.3s
311:
        learn: 0.2170435
                                  total: 1m 16s
                                                   remaining: 46s
        learn: 0.2169709
                                                   remaining: 45.7s
312:
                                  total: 1m 16s
313:
        learn: 0.2168974
                                  total: 1m 16s
                                                   remaining: 45.5s
314:
        learn: 0.2168385
                                  total: 1m 17s
                                                   remaining: 45.3s
315:
        learn: 0.2167483
                                  total: 1m 17s
                                                   remaining: 45s
316:
        learn: 0.2166409
                                  total: 1m 17s
                                                   remaining: 44.8s
317:
        learn: 0.2165449
                                  total: 1m 17s
                                                   remaining: 44.6s
318:
        learn: 0.2165253
                                  total: 1m 18s
                                                   remaining: 44.3s
                                                   remaining: 44.1s
319:
        learn: 0.2165136
                                  total: 1m 18s
320:
        learn: 0.2164272
                                  total: 1m 18s
                                                   remaining: 43.8s
321:
        learn: 0.2163884
                                  total: 1m 18s
                                                   remaining: 43.6s
                                  total: 1m 19s
322:
        learn: 0.2163330
                                                   remaining: 43.4s
        learn: 0.2162588
                                  total: 1m 19s
                                                   remaining: 43.1s
323:
324:
        learn: 0.2161792
                                  total: 1m 19s
                                                   remaining: 42.9s
325:
        learn: 0.2161588
                                  total: 1m 19s
                                                   remaining: 42.7s
326:
        learn: 0.2160368
                                  total: 1m 20s
                                                   remaining: 42.4s
327:
        learn: 0.2159762
                                  total: 1m 20s
                                                   remaining: 42.2s
328:
        learn: 0.2159341
                                  total: 1m 20s
                                                   remaining: 42s
329:
        learn: 0.2158688
                                  total: 1m 20s
                                                   remaining: 41.7s
330:
        learn: 0.2157794
                                  total: 1m 21s
                                                   remaining: 41.5s
331:
        learn: 0.2157213
                                  total: 1m 21s
                                                   remaining: 41.2s
332:
        learn: 0.2156011
                                  total: 1m 21s
                                                   remaining: 41s
333:
        learn: 0.2155293
                                  total: 1m 22s
                                                   remaining: 40.8s
334:
        learn: 0.2154549
                                  total: 1m 22s
                                                   remaining: 40.5s
335:
        learn: 0.2153323
                                  total: 1m 22s
                                                   remaining: 40.3s
336:
        learn: 0.2152866
                                  total: 1m 22s
                                                   remaining: 40s
337:
        learn: 0.2152033
                                  total: 1m 22s
                                                   remaining: 39.8s
        learn: 0.2151680
                                  total: 1m 23s
                                                   remaining: 39.5s
338:
339:
        learn: 0.2150675
                                  total: 1m 23s
                                                   remaining: 39.3s
        learn: 0.2149382
                                  total: 1m 23s
340:
                                                   remaining: 39s
341:
        learn: 0.2148592
                                  total: 1m 23s
                                                   remaining: 38.8s
342:
        learn: 0.2147869
                                  total: 1m 24s
                                                   remaining: 38.5s
                                  total: 1m 24s
343:
        learn: 0.2147591
                                                   remaining: 38.3s
344:
        learn: 0.2146721
                                  total: 1m 24s
                                                   remaining: 38.1s
345:
        learn: 0.2145234
                                  total: 1m 24s
                                                   remaining: 37.8s
346:
        learn: 0.2144827
                                  total: 1m 25s
                                                   remaining: 37.6s
347:
        learn: 0.2144302
                                  total: 1m 25s
                                                   remaining: 37.3s
348:
        learn: 0.2143945
                                  total: 1m 25s
                                                   remaining: 37.1s
                                                   remaining: 36.9s
349:
        learn: 0.2142907
                                  total: 1m 26s
350:
        learn: 0.2142180
                                  total: 1m 26s
                                                   remaining: 36.6s
351:
        learn: 0.2141244
                                  total: 1m 26s
                                                   remaining: 36.4s
352:
        learn: 0.2140620
                                  total: 1m 26s
                                                   remaining: 36.2s
```

```
total: 1m 27s
353:
        learn: 0.2140193
                                                   remaining: 35.9s
354:
        learn: 0.2139379
                                  total: 1m 27s
                                                   remaining: 35.7s
355:
        learn: 0.2138420
                                  total: 1m 27s
                                                   remaining: 35.4s
        learn: 0.2138146
                                  total: 1m 27s
                                                   remaining: 35.2s
356:
357:
        learn: 0.2136872
                                  total: 1m 28s
                                                   remaining: 34.9s
                                  total: 1m 28s
358:
        learn: 0.2136523
                                                   remaining: 34.7s
359:
        learn: 0.2136285
                                  total: 1m 28s
                                                   remaining: 34.4s
                                                   remaining: 34.2s
360:
        learn: 0.2135720
                                  total: 1m 28s
361:
        learn: 0.2134868
                                  total: 1m 28s
                                                   remaining: 33.9s
362:
        learn: 0.2134614
                                  total: 1m 29s
                                                   remaining: 33.7s
363:
        learn: 0.2133926
                                  total: 1m 29s
                                                   remaining: 33.4s
364:
        learn: 0.2133236
                                  total: 1m 29s
                                                   remaining: 33.2s
365:
        learn: 0.2132666
                                                   remaining: 32.9s
                                  total: 1m 29s
366:
        learn: 0.2132006
                                  total: 1m 30s
                                                   remaining: 32.7s
                                                   remaining: 32.4s
367:
        learn: 0.2131349
                                  total: 1m 30s
368:
        learn: 0.2131165
                                  total: 1m 30s
                                                   remaining: 32.2s
369:
        learn: 0.2130549
                                  total: 1m 30s
                                                   remaining: 31.9s
                                  total: 1m 31s
370:
        learn: 0.2129983
                                                   remaining: 31.7s
        learn: 0.2129687
                                  total: 1m 31s
371:
                                                   remaining: 31.4s
372:
        learn: 0.2128755
                                  total: 1m 31s
                                                   remaining: 31.2s
373:
        learn: 0.2128445
                                  total: 1m 31s
                                                   remaining: 30.9s
374:
        learn: 0.2127017
                                  total: 1m 32s
                                                   remaining: 30.7s
375:
        learn: 0.2126214
                                  total: 1m 32s
                                                   remaining: 30.4s
                                  total: 1m 32s
376:
        learn: 0.2125320
                                                   remaining: 30.2s
377:
        learn: 0.2125178
                                  total: 1m 32s
                                                   remaining: 30s
378:
        learn: 0.2125064
                                  total: 1m 33s
                                                   remaining: 29.7s
379:
        learn: 0.2124440
                                  total: 1m 33s
                                                   remaining: 29.5s
380:
        learn: 0.2124252
                                  total: 1m 33s
                                                   remaining: 29.2s
381:
        learn: 0.2124115
                                  total: 1m 33s
                                                   remaining: 29s
382:
        learn: 0.2123429
                                  total: 1m 34s
                                                   remaining: 28.7s
383:
        learn: 0.2122485
                                  total: 1m 34s
                                                   remaining: 28.5s
384:
        learn: 0.2121387
                                  total: 1m 34s
                                                   remaining: 28.3s
385:
        learn: 0.2120437
                                  total: 1m 34s
                                                   remaining: 28s
        learn: 0.2119491
                                  total: 1m 35s
386:
                                                   remaining: 27.8s
387:
        learn: 0.2117993
                                  total: 1m 35s
                                                   remaining: 27.5s
        learn: 0.2115814
388:
                                  total: 1m 35s
                                                   remaining: 27.3s
389:
        learn: 0.2114001
                                  total: 1m 35s
                                                   remaining: 27s
390:
        learn: 0.2113241
                                  total: 1m 36s
                                                   remaining: 26.8s
                                  total: 1m 36s
391:
        learn: 0.2112697
                                                   remaining: 26.6s
392:
        learn: 0.2112348
                                  total: 1m 36s
                                                   remaining: 26.3s
393:
        learn: 0.2111255
                                  total: 1m 36s
                                                   remaining: 26.1s
394:
        learn: 0.2110137
                                  total: 1m 37s
                                                   remaining: 25.8s
395:
        learn: 0.2109432
                                  total: 1m 37s
                                                   remaining: 25.6s
396:
        learn: 0.2108494
                                  total: 1m 37s
                                                   remaining: 25.3s
                                                   remaining: 25.1s
397:
        learn: 0.2108219
                                  total: 1m 37s
398:
        learn: 0.2107373
                                  total: 1m 38s
                                                   remaining: 24.8s
399:
        learn: 0.2107012
                                  total: 1m 38s
                                                   remaining: 24.6s
400:
        learn: 0.2106685
                                  total: 1m 38s
                                                   remaining: 24.3s
```

```
401:
        learn: 0.2103381
                                  total: 1m 38s
                                                   remaining: 24.1s
402:
        learn: 0.2101828
                                  total: 1m 39s
                                                   remaining: 23.9s
403:
        learn: 0.2101195
                                  total: 1m 39s
                                                   remaining: 23.6s
        learn: 0.2100516
                                                   remaining: 23.4s
404:
                                  total: 1m 39s
405:
        learn: 0.2100060
                                  total: 1m 39s
                                                   remaining: 23.1s
                                  total: 1m 40s
                                                   remaining: 22.9s
406:
        learn: 0.2099543
407:
        learn: 0.2098995
                                  total: 1m 40s
                                                   remaining: 22.7s
        learn: 0.2098516
                                                   remaining: 22.4s
408:
                                  total: 1m 40s
409:
        learn: 0.2098036
                                  total: 1m 40s
                                                   remaining: 22.2s
410:
        learn: 0.2097634
                                  total: 1m 41s
                                                   remaining: 21.9s
411:
        learn: 0.2097428
                                  total: 1m 41s
                                                   remaining: 21.7s
412:
        learn: 0.2096390
                                  total: 1m 41s
                                                   remaining: 21.4s
413:
                                                   remaining: 21.2s
        learn: 0.2095623
                                  total: 1m 42s
414:
        learn: 0.2094887
                                  total: 1m 42s
                                                   remaining: 20.9s
415:
        learn: 0.2094225
                                  total: 1m 42s
                                                   remaining: 20.7s
416:
        learn: 0.2092643
                                  total: 1m 42s
                                                   remaining: 20.5s
417:
        learn: 0.2091827
                                  total: 1m 43s
                                                   remaining: 20.2s
                                  total: 1m 43s
418:
        learn: 0.2090250
                                                   remaining: 20s
419:
        learn: 0.2089899
                                  total: 1m 43s
                                                   remaining: 19.7s
420:
        learn: 0.2089113
                                  total: 1m 43s
                                                   remaining: 19.4s
421:
        learn: 0.2088994
                                  total: 1m 43s
                                                   remaining: 19.2s
422:
        learn: 0.2088503
                                  total: 1m 43s
                                                   remaining: 18.9s
423:
        learn: 0.2087846
                                  total: 1m 44s
                                                   remaining: 18.7s
                                  total: 1m 44s
424:
        learn: 0.2087644
                                                   remaining: 18.4s
425:
        learn: 0.2087313
                                  total: 1m 44s
                                                   remaining: 18.2s
        learn: 0.2086882
426:
                                  total: 1m 44s
                                                   remaining: 17.9s
427:
        learn: 0.2086698
                                  total: 1m 44s
                                                   remaining: 17.6s
428:
        learn: 0.2085218
                                  total: 1m 45s
                                                   remaining: 17.4s
429:
        learn: 0.2084830
                                  total: 1m 45s
                                                   remaining: 17.1s
430:
        learn: 0.2083423
                                  total: 1m 45s
                                                   remaining: 16.9s
431:
        learn: 0.2083214
                                  total: 1m 45s
                                                   remaining: 16.6s
432:
        learn: 0.2081891
                                  total: 1m 45s
                                                   remaining: 16.4s
433:
        learn: 0.2081491
                                  total: 1m 46s
                                                   remaining: 16.1s
434:
        learn: 0.2081005
                                  total: 1m 46s
                                                   remaining: 15.9s
435:
        learn: 0.2080292
                                  total: 1m 46s
                                                   remaining: 15.6s
436:
        learn: 0.2079885
                                  total: 1m 46s
                                                   remaining: 15.4s
437:
        learn: 0.2079209
                                  total: 1m 47s
                                                   remaining: 15.1s
438:
        learn: 0.2078777
                                  total: 1m 47s
                                                   remaining: 14.9s
                                  total: 1m 47s
439:
        learn: 0.2078158
                                                   remaining: 14.6s
440:
        learn: 0.2077865
                                  total: 1m 47s
                                                   remaining: 14.4s
441:
        learn: 0.2077395
                                  total: 1m 47s
                                                   remaining: 14.1s
442:
        learn: 0.2076344
                                  total: 1m 47s
                                                   remaining: 13.9s
443:
        learn: 0.2075640
                                  total: 1m 48s
                                                   remaining: 13.7s
444:
        learn: 0.2075603
                                  total: 1m 48s
                                                   remaining: 13.4s
                                                   remaining: 13.2s
445:
        learn: 0.2075377
                                  total: 1m 48s
446:
        learn: 0.2074660
                                  total: 1m 48s
                                                   remaining: 12.9s
447:
        learn: 0.2073949
                                  total: 1m 49s
                                                   remaining: 12.7s
448:
        learn: 0.2073194
                                  total: 1m 49s
                                                   remaining: 12.4s
```

```
449:
        learn: 0.2072699
                                  total: 1m 49s
                                                   remaining: 12.2s
450:
        learn: 0.2072314
                                  total: 1m 49s
                                                   remaining: 11.9s
451:
        learn: 0.2072050
                                  total: 1m 50s
                                                   remaining: 11.7s
452:
        learn: 0.2071214
                                                   remaining: 11.5s
                                  total: 1m 50s
453:
        learn: 0.2069957
                                  total: 1m 50s
                                                   remaining: 11.2s
                                  total: 1m 51s
454:
        learn: 0.2069492
                                                   remaining: 11s
455:
        learn: 0.2068855
                                  total: 1m 51s
                                                   remaining: 10.7s
        learn: 0.2068241
456:
                                  total: 1m 51s
                                                   remaining: 10.5s
457:
        learn: 0.2068084
                                  total: 1m 51s
                                                   remaining: 10.2s
458:
        learn: 0.2067497
                                  total: 1m 52s
                                                   remaining: 10s
459:
        learn: 0.2067089
                                  total: 1m 52s
                                                   remaining: 9.76s
460:
        learn: 0.2066158
                                  total: 1m 52s
                                                   remaining: 9.52s
461:
        learn: 0.2065934
                                  total: 1m 52s
                                                   remaining: 9.28s
462:
        learn: 0.2065306
                                  total: 1m 53s
                                                   remaining: 9.03s
463:
        learn: 0.2064747
                                  total: 1m 53s
                                                   remaining: 8.79s
464:
        learn: 0.2064216
                                  total: 1m 53s
                                                   remaining: 8.54s
465:
        learn: 0.2063656
                                  total: 1m 53s
                                                   remaining: 8.3s
                                  total: 1m 54s
466:
        learn: 0.2063482
                                                   remaining: 8.06s
        learn: 0.2063087
                                  total: 1m 54s
467:
                                                   remaining: 7.81s
468:
        learn: 0.2062628
                                  total: 1m 54s
                                                   remaining: 7.57s
469:
        learn: 0.2061684
                                  total: 1m 54s
                                                   remaining: 7.33s
470:
        learn: 0.2061285
                                  total: 1m 55s
                                                   remaining: 7.08s
471:
        learn: 0.2060663
                                  total: 1m 55s
                                                   remaining: 6.84s
472:
        learn: 0.2059661
                                  total: 1m 55s
                                                   remaining: 6.6s
473:
        learn: 0.2058114
                                  total: 1m 55s
                                                   remaining: 6.36s
474:
                                  total: 1m 56s
        learn: 0.2057722
                                                   remaining: 6.11s
475:
        learn: 0.2057213
                                  total: 1m 56s
                                                   remaining: 5.87s
476:
        learn: 0.2056878
                                  total: 1m 56s
                                                   remaining: 5.62s
477:
        learn: 0.2056666
                                  total: 1m 56s
                                                   remaining: 5.38s
478:
        learn: 0.2055822
                                  total: 1m 57s
                                                   remaining: 5.13s
479:
        learn: 0.2055430
                                  total: 1m 57s
                                                   remaining: 4.89s
480:
        learn: 0.2055055
                                  total: 1m 57s
                                                   remaining: 4.65s
481:
        learn: 0.2054655
                                  total: 1m 57s
                                                   remaining: 4.4s
482:
        learn: 0.2053851
                                  total: 1m 58s
                                                   remaining: 4.16s
483:
        learn: 0.2053727
                                  total: 1m 58s
                                                   remaining: 3.92s
484:
        learn: 0.2053160
                                  total: 1m 58s
                                                   remaining: 3.67s
485:
        learn: 0.2052935
                                  total: 1m 58s
                                                   remaining: 3.43s
486:
        learn: 0.2052651
                                  total: 1m 59s
                                                   remaining: 3.18s
                                  total: 1m 59s
487:
        learn: 0.2052488
                                                   remaining: 2.94s
488:
        learn: 0.2051817
                                  total: 1m 59s
                                                   remaining: 2.69s
489:
        learn: 0.2051386
                                  total: 1m 59s
                                                   remaining: 2.45s
490:
        learn: 0.2050333
                                  total: 2m
                                                   remaining: 2.2s
491:
        learn: 0.2049638
                                  total: 2m
                                                   remaining: 1.96s
492:
        learn: 0.2049124
                                  total: 2m
                                                   remaining: 1.71s
                                                   remaining: 1.47s
493:
        learn: 0.2048776
                                  total: 2m
        learn: 0.2048443
494:
                                  total: 2m 1s
                                                   remaining: 1.22s
495:
        learn: 0.2048233
                                  total: 2m 1s
                                                   remaining: 978ms
496:
        learn: 0.2047665
                                  total: 2m 1s
                                                   remaining: 733ms
```

```
497:
        learn: 0.2047465
                                  total: 2m 1s
                                                   remaining: 489ms
498:
        learn: 0.2045844
                                  total: 2m 1s
                                                   remaining: 244ms
499:
        learn: 0.2044778
                                  total: 2m 2s
                                                   remaining: Ous
Learning rate set to 0.173965
0:
        learn: 0.9720313
                                  total: 239ms
                                                   remaining: 1m 59s
        learn: 0.8887602
                                  total: 441ms
                                                   remaining: 1m 49s
1:
2:
        learn: 0.8293736
                                  total: 642ms
                                                   remaining: 1m 46s
3.
        learn: 0.7853606
                                  total: 811ms
                                                   remaining: 1m 40s
4:
        learn: 0.7149754
                                  total: 982ms
                                                   remaining: 1m 37s
5:
        learn: 0.6586650
                                  total: 1.16s
                                                   remaining: 1m 35s
6:
        learn: 0.5814271
                                  total: 1.35s
                                                   remaining: 1m 35s
7:
                                                   remaining: 1m 33s
        learn: 0.5651943
                                  total: 1.53s
8:
        learn: 0.5146840
                                  total: 1.75s
                                                   remaining: 1m 35s
9:
        learn: 0.4776037
                                  total: 1.94s
                                                   remaining: 1m 34s
10:
        learn: 0.4469732
                                  total: 2.15s
                                                   remaining: 1m 35s
                                  total: 2.33s
11:
        learn: 0.4230889
                                                   remaining: 1m 34s
12:
        learn: 0.4042857
                                  total: 2.54s
                                                   remaining: 1m 35s
                                  total: 2.77s
13:
        learn: 0.3789801
                                                   remaining: 1m 36s
        learn: 0.3582534
                                  total: 3.02s
                                                   remaining: 1m 37s
14.
15:
        learn: 0.3416880
                                  total: 3.27s
                                                   remaining: 1m 39s
16:
        learn: 0.3285493
                                  total: 3.53s
                                                   remaining: 1m 40s
17:
        learn: 0.3171411
                                  total: 3.8s
                                                   remaining: 1m 41s
18.
        learn: 0.3141909
                                  total: 4.08s
                                                   remaining: 1m 43s
                                  total: 4.36s
                                                   remaining: 1m 44s
19:
        learn: 0.3051798
20:
        learn: 0.3026460
                                  total: 4.66s
                                                   remaining: 1m 46s
                                  total: 4.92s
21:
        learn: 0.2951289
                                                   remaining: 1m 46s
22:
        learn: 0.2893399
                                  total: 5.24s
                                                   remaining: 1m 48s
23:
        learn: 0.2840770
                                  total: 5.51s
                                                   remaining: 1m 49s
                                  total: 5.79s
24:
        learn: 0.2796723
                                                   remaining: 1m 49s
25:
        learn: 0.2761654
                                  total: 6.06s
                                                   remaining: 1m 50s
26:
        learn: 0.2753142
                                  total: 6.33s
                                                   remaining: 1m 50s
27:
        learn: 0.2735427
                                  total: 6.61s
                                                   remaining: 1m 51s
28:
        learn: 0.2726783
                                  total: 6.89s
                                                   remaining: 1m 51s
29:
        learn: 0.2710350
                                  total: 7.17s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
30:
        learn: 0.2703920
                                  total: 7.45s
31:
        learn: 0.2698675
                                  total: 7.69s
                                                   remaining: 1m 52s
32:
        learn: 0.2692589
                                  total: 7.96s
                                                   remaining: 1m 52s
33:
        learn: 0.2685581
                                  total: 8.25s
                                                   remaining: 1m 53s
34:
        learn: 0.2670938
                                  total: 8.5s
                                                   remaining: 1m 52s
35:
        learn: 0.2666327
                                  total: 8.79s
                                                   remaining: 1m 53s
36:
        learn: 0.2659570
                                  total: 9.03s
                                                   remaining: 1m 52s
37:
                                                   remaining: 1m 52s
        learn: 0.2622607
                                  total: 9.29s
38:
        learn: 0.2615668
                                  total: 9.63s
                                                   remaining: 1m 53s
39:
        learn: 0.2611227
                                  total: 9.95s
                                                   remaining: 1m 54s
40:
        learn: 0.2593141
                                  total: 10.3s
                                                   remaining: 1m 54s
41:
        learn: 0.2587649
                                  total: 10.6s
                                                   remaining: 1m 55s
42:
        learn: 0.2582755
                                  total: 10.9s
                                                   remaining: 1m 55s
43:
        learn: 0.2576461
                                  total: 11.2s
                                                   remaining: 1m 56s
```

```
44:
        learn: 0.2571301
                                  total: 11.5s
                                                   remaining: 1m 56s
45:
        learn: 0.2570418
                                  total: 11.7s
                                                   remaining: 1m 55s
                                  total: 12s
46:
        learn: 0.2566616
                                                   remaining: 1m 55s
47:
        learn: 0.2560847
                                  total: 12.3s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
48:
        learn: 0.2551450
                                  total: 12.5s
        learn: 0.2548303
                                  total: 12.8s
                                                   remaining: 1m 54s
49:
50:
        learn: 0.2545771
                                  total: 13s
                                                   remaining: 1m 54s
51:
        learn: 0.2543287
                                  total: 13.3s
                                                   remaining: 1m 54s
52:
        learn: 0.2542483
                                  total: 13.5s
                                                   remaining: 1m 53s
53:
        learn: 0.2540982
                                  total: 13.7s
                                                   remaining: 1m 53s
        learn: 0.2529300
54:
                                  total: 14s
                                                   remaining: 1m 53s
                                                   remaining: 1m 53s
55:
        learn: 0.2528278
                                  total: 14.3s
56:
        learn: 0.2526736
                                  total: 14.5s
                                                   remaining: 1m 52s
57:
        learn: 0.2522315
                                  total: 14.7s
                                                   remaining: 1m 52s
58:
        learn: 0.2519880
                                  total: 15s
                                                   remaining: 1m 52s
59:
        learn: 0.2509709
                                                   remaining: 1m 51s
                                  total: 15.2s
60:
        learn: 0.2490494
                                  total: 15.5s
                                                   remaining: 1m 51s
61:
        learn: 0.2485829
                                  total: 15.8s
                                                   remaining: 1m 51s
        learn: 0.2484713
                                                   remaining: 1m 50s
62:
                                  total: 16s
63:
        learn: 0.2483628
                                  total: 16.2s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
64:
        learn: 0.2480574
                                  total: 16.5s
                                                   remaining: 1m 50s
65:
        learn: 0.2473682
                                  total: 16.8s
66:
        learn: 0.2469549
                                  total: 17s
                                                   remaining: 1m 49s
                                  total: 17.3s
                                                   remaining: 1m 49s
67:
        learn: 0.2467958
68:
        learn: 0.2465199
                                  total: 17.5s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
69:
        learn: 0.2463191
                                  total: 17.8s
70:
        learn: 0.2462514
                                  total: 18.1s
                                                   remaining: 1m 49s
71:
        learn: 0.2461973
                                  total: 18.3s
                                                   remaining: 1m 48s
72:
        learn: 0.2459963
                                  total: 18.6s
                                                   remaining: 1m 48s
73:
        learn: 0.2456817
                                  total: 18.9s
                                                   remaining: 1m 48s
74:
        learn: 0.2452321
                                  total: 19.3s
                                                   remaining: 1m 49s
75:
        learn: 0.2450655
                                  total: 19.6s
                                                   remaining: 1m 49s
76:
        learn: 0.2447252
                                  total: 19.9s
                                                   remaining: 1m 49s
77:
        learn: 0.2443755
                                  total: 20.2s
                                                   remaining: 1m 49s
78:
                                                   remaining: 1m 49s
        learn: 0.2442182
                                  total: 20.6s
79:
        learn: 0.2440670
                                  total: 20.8s
                                                   remaining: 1m 49s
80:
        learn: 0.2439477
                                  total: 21.1s
                                                   remaining: 1m 49s
81:
        learn: 0.2438779
                                  total: 21.4s
                                                   remaining: 1m 49s
82:
        learn: 0.2437952
                                  total: 21.7s
                                                   remaining: 1m 49s
83:
        learn: 0.2436591
                                  total: 22s
                                                   remaining: 1m 49s
                                  total: 22.3s
84:
        learn: 0.2434216
                                                   remaining: 1m 48s
        learn: 0.2432765
                                  total: 22.5s
                                                   remaining: 1m 48s
85:
86:
        learn: 0.2431707
                                  total: 22.8s
                                                   remaining: 1m 48s
87:
        learn: 0.2428673
                                  total: 23s
                                                   remaining: 1m 47s
88:
        learn: 0.2427374
                                  total: 23.3s
                                                   remaining: 1m 47s
89:
        learn: 0.2423497
                                  total: 23.6s
                                                   remaining: 1m 47s
90:
        learn: 0.2413185
                                  total: 23.9s
                                                   remaining: 1m 47s
91:
        learn: 0.2411820
                                  total: 24.1s
                                                   remaining: 1m 47s
```

```
92:
        learn: 0.2410109
                                  total: 24.4s
                                                   remaining: 1m 46s
93:
        learn: 0.2408741
                                  total: 24.7s
                                                   remaining: 1m 46s
                                  total: 25s
94:
        learn: 0.2407925
                                                   remaining: 1m 46s
95:
        learn: 0.2407308
                                  total: 25.2s
                                                   remaining: 1m 46s
                                                   remaining: 1m 45s
96:
        learn: 0.2400926
                                  total: 25.5s
                                  total: 25.7s
                                                   remaining: 1m 45s
97:
        learn: 0.2387775
98:
        learn: 0.2383653
                                  total: 25.9s
                                                   remaining: 1m 45s
99:
        learn: 0.2380230
                                  total: 26.2s
                                                   remaining: 1m 44s
100:
        learn: 0.2376512
                                  total: 26.4s
                                                   remaining: 1m 44s
101:
        learn: 0.2374561
                                  total: 26.7s
                                                   remaining: 1m 44s
                                  total: 26.9s
        learn: 0.2372342
102:
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
103:
        learn: 0.2370418
                                  total: 27.2s
104:
        learn: 0.2369046
                                  total: 27.4s
                                                   remaining: 1m 43s
105:
        learn: 0.2368696
                                  total: 27.6s
                                                   remaining: 1m 42s
106:
        learn: 0.2366418
                                  total: 27.9s
                                                   remaining: 1m 42s
        learn: 0.2365764
107:
                                  total: 28.2s
                                                   remaining: 1m 42s
108:
        learn: 0.2363935
                                  total: 28.4s
                                                   remaining: 1m 41s
109:
        learn: 0.2360660
                                  total: 28.7s
                                                   remaining: 1m 41s
        learn: 0.2358674
                                  total: 29s
                                                   remaining: 1m 41s
110:
111:
        learn: 0.2357821
                                  total: 29.3s
                                                   remaining: 1m 41s
                                  total: 29.5s
112:
        learn: 0.2356723
                                                   remaining: 1m 41s
                                  total: 29.8s
113:
        learn: 0.2355108
                                                   remaining: 1m 40s
114:
        learn: 0.2352284
                                  total: 30s
                                                   remaining: 1m 40s
                                  total: 30.2s
                                                   remaining: 1m 40s
115:
        learn: 0.2351565
116:
        learn: 0.2351162
                                  total: 30.5s
                                                   remaining: 1m 39s
117:
        learn: 0.2349100
                                  total: 30.7s
                                                   remaining: 1m 39s
        learn: 0.2348245
                                  total: 30.9s
                                                   remaining: 1m 39s
118:
119:
        learn: 0.2347849
                                  total: 31.2s
                                                   remaining: 1m 38s
        learn: 0.2347364
120:
                                  total: 31.4s
                                                   remaining: 1m 38s
121:
        learn: 0.2345830
                                  total: 31.7s
                                                   remaining: 1m 38s
        learn: 0.2344622
                                  total: 31.9s
                                                   remaining: 1m 37s
122:
123:
        learn: 0.2344344
                                  total: 32.1s
                                                   remaining: 1m 37s
124:
        learn: 0.2343667
                                  total: 32.4s
                                                   remaining: 1m 37s
125:
        learn: 0.2341067
                                  total: 32.6s
                                                   remaining: 1m 36s
                                                   remaining: 1m 36s
126:
        learn: 0.2340143
                                  total: 32.9s
127:
        learn: 0.2339617
                                  total: 33.1s
                                                   remaining: 1m 36s
128:
        learn: 0.2338514
                                  total: 33.4s
                                                   remaining: 1m 35s
129:
        learn: 0.2337635
                                  total: 33.6s
                                                   remaining: 1m 35s
        learn: 0.2335830
                                                   remaining: 1m 35s
130:
                                  total: 33.9s
131:
        learn: 0.2334233
                                  total: 34.1s
                                                   remaining: 1m 35s
132:
        learn: 0.2333654
                                  total: 34.4s
                                                   remaining: 1m 34s
        learn: 0.2332452
                                  total: 34.6s
                                                   remaining: 1m 34s
133:
134:
        learn: 0.2329750
                                  total: 34.9s
                                                   remaining: 1m 34s
135:
        learn: 0.2329036
                                  total: 35.2s
                                                   remaining: 1m 34s
136:
        learn: 0.2327615
                                  total: 35.5s
                                                   remaining: 1m 33s
137:
        learn: 0.2326515
                                  total: 35.7s
                                                   remaining: 1m 33s
138:
        learn: 0.2325889
                                  total: 36s
                                                   remaining: 1m 33s
139:
        learn: 0.2323685
                                  total: 36.2s
                                                   remaining: 1m 33s
```

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140:
        learn: 0.2323040
                                  total: 36.5s
                                                   remaining: 1m 32s
                                                   remaining: 1m 32s
141:
        learn: 0.2322245
                                  total: 36.8s
                                  total: 37s
142:
        learn: 0.2321933
                                                   remaining: 1m 32s
143:
        learn: 0.2321087
                                  total: 37.3s
                                                   remaining: 1m 32s
                                                   remaining: 1m 31s
144:
        learn: 0.2319903
                                  total: 37.5s
                                                   remaining: 1m 31s
145:
        learn: 0.2318649
                                  total: 37.8s
146:
        learn: 0.2317233
                                  total: 38.1s
                                                   remaining: 1m 31s
147:
        learn: 0.2315892
                                  total: 38.3s
                                                   remaining: 1m 31s
148:
        learn: 0.2315516
                                  total: 38.6s
                                                   remaining: 1m 30s
149:
        learn: 0.2314972
                                  total: 38.8s
                                                   remaining: 1m 30s
150:
        learn: 0.2313756
                                  total: 39.1s
                                                   remaining: 1m 30s
151:
                                                   remaining: 1m 30s
        learn: 0.2311830
                                  total: 39.3s
152:
        learn: 0.2310964
                                  total: 39.6s
                                                   remaining: 1m 29s
153:
        learn: 0.2309636
                                  total: 39.9s
                                                   remaining: 1m 29s
154:
        learn: 0.2306158
                                  total: 40.1s
                                                   remaining: 1m 29s
155:
        learn: 0.2304967
                                  total: 40.4s
                                                   remaining: 1m 29s
156:
        learn: 0.2304527
                                  total: 40.7s
                                                   remaining: 1m 28s
157:
        learn: 0.2303414
                                  total: 40.9s
                                                   remaining: 1m 28s
        learn: 0.2302311
                                  total: 41.2s
                                                   remaining: 1m 28s
158:
159:
        learn: 0.2301392
                                  total: 41.5s
                                                   remaining: 1m 28s
160:
        learn: 0.2300899
                                  total: 41.8s
                                                   remaining: 1m 27s
161:
        learn: 0.2300444
                                  total: 42s
                                                   remaining: 1m 27s
162.
        learn: 0.2299528
                                  total: 42.3s
                                                   remaining: 1m 27s
                                                   remaining: 1m 27s
163:
        learn: 0.2298599
                                  total: 42.6s
164:
        learn: 0.2297708
                                  total: 42.8s
                                                   remaining: 1m 26s
165:
        learn: 0.2296980
                                  total: 43.1s
                                                   remaining: 1m 26s
        learn: 0.2295802
                                                   remaining: 1m 26s
166:
                                  total: 43.3s
167:
        learn: 0.2295456
                                  total: 43.6s
                                                   remaining: 1m 26s
168:
        learn: 0.2294301
                                  total: 43.9s
                                                   remaining: 1m 25s
169:
        learn: 0.2293914
                                  total: 44.1s
                                                   remaining: 1m 25s
170:
        learn: 0.2291703
                                  total: 44.4s
                                                   remaining: 1m 25s
171:
        learn: 0.2290705
                                  total: 44.6s
                                                   remaining: 1m 25s
172:
        learn: 0.2290176
                                  total: 44.9s
                                                   remaining: 1m 24s
        learn: 0.2289357
                                  total: 45.2s
                                                   remaining: 1m 24s
173:
                                                   remaining: 1m 24s
174:
        learn: 0.2288501
                                  total: 45.4s
175:
        learn: 0.2288020
                                  total: 45.7s
                                                   remaining: 1m 24s
176:
        learn: 0.2287302
                                  total: 46s
                                                   remaining: 1m 23s
177:
        learn: 0.2286825
                                  total: 46.3s
                                                   remaining: 1m 23s
178:
        learn: 0.2285924
                                  total: 46.6s
                                                   remaining: 1m 23s
179:
        learn: 0.2283288
                                  total: 46.8s
                                                   remaining: 1m 23s
180:
        learn: 0.2282523
                                  total: 47.1s
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
181:
        learn: 0.2281808
                                  total: 47.3s
182:
        learn: 0.2281767
                                  total: 47.5s
                                                   remaining: 1m 22s
183:
        learn: 0.2280226
                                  total: 47.8s
                                                   remaining: 1m 22s
184:
        learn: 0.2279397
                                  total: 48s
                                                   remaining: 1m 21s
185:
        learn: 0.2277942
                                  total: 48.3s
                                                   remaining: 1m 21s
186:
        learn: 0.2277418
                                  total: 48.5s
                                                   remaining: 1m 21s
187:
        learn: 0.2276344
                                  total: 48.7s
                                                   remaining: 1m 20s
```

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188:
        learn: 0.2275187
                                  total: 49s
                                                   remaining: 1m 20s
189:
        learn: 0.2274127
                                  total: 49.2s
                                                   remaining: 1m 20s
190:
        learn: 0.2273804
                                  total: 49.5s
                                                   remaining: 1m 20s
        learn: 0.2272589
                                  total: 49.7s
                                                   remaining: 1m 19s
191:
192:
                                                   remaining: 1m 19s
        learn: 0.2272265
                                  total: 49.9s
                                  total: 50.1s
                                                   remaining: 1m 19s
193:
        learn: 0.2270556
194:
        learn: 0.2269946
                                  total: 50.3s
                                                   remaining: 1m 18s
195:
        learn: 0.2269119
                                  total: 50.5s
                                                   remaining: 1m 18s
196:
        learn: 0.2267373
                                  total: 50.7s
                                                   remaining: 1m 17s
197:
        learn: 0.2266564
                                  total: 50.9s
                                                   remaining: 1m 17s
        learn: 0.2265790
198:
                                  total: 51.1s
                                                   remaining: 1m 17s
199:
        learn: 0.2265343
                                  total: 51.3s
                                                   remaining: 1m 16s
200:
        learn: 0.2264649
                                  total: 51.5s
                                                   remaining: 1m 16s
201:
        learn: 0.2264334
                                  total: 51.7s
                                                   remaining: 1m 16s
202:
        learn: 0.2263937
                                  total: 51.9s
                                                   remaining: 1m 15s
203:
        learn: 0.2263001
                                  total: 52.1s
                                                   remaining: 1m 15s
204:
        learn: 0.2261942
                                  total: 52.4s
                                                   remaining: 1m 15s
205:
        learn: 0.2258572
                                  total: 52.6s
                                                   remaining: 1m 15s
        learn: 0.2257597
                                  total: 52.9s
                                                   remaining: 1m 14s
206:
207:
        learn: 0.2257084
                                  total: 53.2s
                                                   remaining: 1m 14s
208:
        learn: 0.2256014
                                  total: 53.4s
                                                   remaining: 1m 14s
209:
        learn: 0.2255479
                                  total: 53.6s
                                                   remaining: 1m 14s
210:
        learn: 0.2254335
                                  total: 53.9s
                                                   remaining: 1m 13s
211:
                                  total: 54.1s
                                                   remaining: 1m 13s
        learn: 0.2253909
212:
        learn: 0.2253562
                                  total: 54.4s
                                                   remaining: 1m 13s
213:
        learn: 0.2252101
                                  total: 54.7s
                                                   remaining: 1m 13s
214:
        learn: 0.2251532
                                  total: 55s
                                                   remaining: 1m 12s
215:
        learn: 0.2251277
                                  total: 55.2s
                                                   remaining: 1m 12s
        learn: 0.2250403
216:
                                  total: 55.5s
                                                   remaining: 1m 12s
217:
        learn: 0.2250150
                                  total: 55.7s
                                                   remaining: 1m 12s
218:
        learn: 0.2249119
                                  total: 56s
                                                   remaining: 1m 11s
219:
        learn: 0.2248130
                                  total: 56.2s
                                                   remaining: 1m 11s
220:
        learn: 0.2247846
                                  total: 56.5s
                                                   remaining: 1m 11s
221:
        learn: 0.2246854
                                  total: 56.8s
                                                   remaining: 1m 11s
222:
        learn: 0.2246644
                                  total: 57s
                                                   remaining: 1m 10s
223:
        learn: 0.2245654
                                  total: 57.3s
                                                   remaining: 1m 10s
224:
        learn: 0.2244768
                                  total: 57.6s
                                                   remaining: 1m 10s
225:
        learn: 0.2243723
                                  total: 57.9s
                                                   remaining: 1m 10s
226:
        learn: 0.2243121
                                  total: 58.1s
                                                   remaining: 1m 9s
227:
        learn: 0.2242435
                                  total: 58.4s
                                                   remaining: 1m 9s
228:
        learn: 0.2241530
                                  total: 58.7s
                                                   remaining: 1m 9s
229:
        learn: 0.2241334
                                                   remaining: 1m 9s
                                  total: 59s
230:
        learn: 0.2240309
                                  total: 59.3s
                                                   remaining: 1m 9s
231:
        learn: 0.2239968
                                  total: 59.5s
                                                   remaining: 1m 8s
232:
        learn: 0.2239466
                                  total: 59.8s
                                                   remaining: 1m 8s
233:
        learn: 0.2239088
                                  total: 1m
                                                   remaining: 1m 8s
234:
        learn: 0.2238021
                                  total: 1m
                                                   remaining: 1m 7s
235:
        learn: 0.2237581
                                  total: 1m
                                                   remaining: 1m 7s
```

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236:
        learn: 0.2236712
                                  total: 1m
                                                   remaining: 1m 7s
237:
        learn: 0.2236176
                                  total: 1m
                                                   remaining: 1m 7s
238:
        learn: 0.2235992
                                                   remaining: 1m 6s
                                  total: 1m 1s
239:
        learn: 0.2235387
                                                   remaining: 1m 6s
                                  total: 1m 1s
240:
        learn: 0.2234987
                                  total: 1m 1s
                                                   remaining: 1m 6s
                                  total: 1m 1s
                                                   remaining: 1m 5s
241:
        learn: 0.2234438
242:
        learn: 0.2234130
                                  total: 1m 2s
                                                   remaining: 1m 5s
243:
        learn: 0.2233108
                                  total: 1m 2s
                                                   remaining: 1m 5s
244:
        learn: 0.2232076
                                  total: 1m 2s
                                                   remaining: 1m 5s
245:
        learn: 0.2230930
                                  total: 1m 2s
                                                   remaining: 1m 4s
                                                   remaining: 1m 4s
246:
        learn: 0.2230610
                                  total: 1m 3s
247:
        learn: 0.2230036
                                  total: 1m 3s
                                                   remaining: 1m 4s
248:
        learn: 0.2229515
                                  total: 1m 3s
                                                   remaining: 1m 4s
249:
        learn: 0.2228598
                                  total: 1m 3s
                                                   remaining: 1m 3s
250:
        learn: 0.2228051
                                  total: 1m 4s
                                                   remaining: 1m 3s
        learn: 0.2227644
251:
                                  total: 1m 4s
                                                   remaining: 1m 3s
252:
        learn: 0.2227541
                                  total: 1m 4s
                                                   remaining: 1m 2s
253:
        learn: 0.2226453
                                  total: 1m 4s
                                                   remaining: 1m 2s
254:
        learn: 0.2225940
                                  total: 1m 4s
                                                   remaining: 1m 2s
255:
        learn: 0.2225600
                                  total: 1m 5s
                                                   remaining: 1m 2s
256:
        learn: 0.2225373
                                  total: 1m 5s
                                                   remaining: 1m 1s
                                  total: 1m 5s
257:
        learn: 0.2224928
                                                   remaining: 1m 1s
258:
        learn: 0.2224752
                                  total: 1m 6s
                                                   remaining: 1m 1s
259:
                                  total: 1m 6s
        learn: 0.2223944
                                                   remaining: 1m 1s
260:
        learn: 0.2223075
                                  total: 1m 6s
                                                   remaining: 1m
261:
        learn: 0.2221727
                                  total: 1m 6s
                                                   remaining: 1m
262:
        learn: 0.2220966
                                  total: 1m 7s
                                                   remaining: 1m
263:
        learn: 0.2220028
                                  total: 1m 7s
                                                   remaining: 1m
264:
        learn: 0.2218470
                                  total: 1m 7s
                                                   remaining: 59.9s
265:
        learn: 0.2217991
                                  total: 1m 7s
                                                   remaining: 59.7s
        learn: 0.2217569
266:
                                  total: 1m 8s
                                                   remaining: 59.4s
267:
        learn: 0.2216714
                                  total: 1m 8s
                                                   remaining: 59.2s
268:
        learn: 0.2216660
                                  total: 1m 8s
                                                   remaining: 58.9s
269:
        learn: 0.2215165
                                  total: 1m 8s
                                                   remaining: 58.7s
270:
        learn: 0.2214518
                                  total: 1m 9s
                                                   remaining: 58.4s
271:
        learn: 0.2214152
                                  total: 1m 9s
                                                   remaining: 58.2s
272:
        learn: 0.2213756
                                  total: 1m 9s
                                                   remaining: 58s
273:
        learn: 0.2212204
                                  total: 1m 9s
                                                   remaining: 57.7s
274:
        learn: 0.2211988
                                  total: 1m 10s
                                                   remaining: 57.4s
275:
        learn: 0.2211425
                                  total: 1m 10s
                                                   remaining: 57.1s
276:
        learn: 0.2210731
                                  total: 1m 10s
                                                   remaining: 56.8s
277:
        learn: 0.2210070
                                  total: 1m 10s
                                                   remaining: 56.5s
278:
        learn: 0.2209122
                                  total: 1m 11s
                                                   remaining: 56.2s
279:
        learn: 0.2208559
                                  total: 1m 11s
                                                   remaining: 56s
280:
        learn: 0.2207397
                                  total: 1m 11s
                                                   remaining: 55.7s
281:
        learn: 0.2207079
                                  total: 1m 11s
                                                   remaining: 55.4s
282:
        learn: 0.2206537
                                  total: 1m 11s
                                                   remaining: 55.1s
283:
        learn: 0.2205483
                                  total: 1m 12s
                                                   remaining: 54.8s
```

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284:
        learn: 0.2204289
                                  total: 1m 12s
                                                   remaining: 54.5s
285:
        learn: 0.2203085
                                  total: 1m 12s
                                                   remaining: 54.2s
286:
        learn: 0.2201905
                                  total: 1m 12s
                                                   remaining: 53.9s
287:
        learn: 0.2201392
                                  total: 1m 12s
                                                   remaining: 53.6s
288:
        learn: 0.2200261
                                  total: 1m 13s
                                                   remaining: 53.4s
                                  total: 1m 13s
289:
        learn: 0.2198910
                                                   remaining: 53.1s
290:
        learn: 0.2198259
                                  total: 1m 13s
                                                   remaining: 52.9s
                                                   remaining: 52.6s
291:
        learn: 0.2197626
                                  total: 1m 13s
292:
        learn: 0.2196879
                                  total: 1m 14s
                                                   remaining: 52.4s
293:
        learn: 0.2196104
                                  total: 1m 14s
                                                   remaining: 52.1s
294:
        learn: 0.2195677
                                  total: 1m 14s
                                                   remaining: 51.9s
295:
        learn: 0.2195356
                                  total: 1m 14s
                                                   remaining: 51.7s
296:
        learn: 0.2194552
                                  total: 1m 15s
                                                   remaining: 51.4s
297:
        learn: 0.2194165
                                  total: 1m 15s
                                                   remaining: 51.1s
                                                   remaining: 50.9s
298:
        learn: 0.2193304
                                  total: 1m 15s
299:
        learn: 0.2192700
                                  total: 1m 15s
                                                   remaining: 50.6s
300:
        learn: 0.2192508
                                  total: 1m 16s
                                                   remaining: 50.3s
                                  total: 1m 16s
301:
        learn: 0.2176043
                                                   remaining: 50.1s
        learn: 0.2175378
302:
                                  total: 1m 16s
                                                   remaining: 49.8s
303:
        learn: 0.2175134
                                  total: 1m 16s
                                                   remaining: 49.6s
304:
        learn: 0.2174586
                                  total: 1m 17s
                                                   remaining: 49.3s
305:
        learn: 0.2172992
                                  total: 1m 17s
                                                   remaining: 49.1s
306:
        learn: 0.2171978
                                  total: 1m 17s
                                                   remaining: 48.8s
307:
        learn: 0.2170718
                                  total: 1m 17s
                                                   remaining: 48.6s
308:
        learn: 0.2169883
                                  total: 1m 18s
                                                   remaining: 48.3s
309:
        learn: 0.2168556
                                  total: 1m 18s
                                                   remaining: 48.1s
        learn: 0.2167912
310:
                                  total: 1m 18s
                                                   remaining: 47.8s
311:
        learn: 0.2167431
                                  total: 1m 18s
                                                   remaining: 47.5s
312:
        learn: 0.2166671
                                  total: 1m 19s
                                                   remaining: 47.3s
313:
        learn: 0.2166374
                                  total: 1m 19s
                                                   remaining: 47s
314:
        learn: 0.2165893
                                  total: 1m 19s
                                                   remaining: 46.7s
315:
        learn: 0.2164657
                                  total: 1m 19s
                                                   remaining: 46.5s
316:
        learn: 0.2164204
                                  total: 1m 20s
                                                   remaining: 46.2s
317:
        learn: 0.2163459
                                  total: 1m 20s
                                                   remaining: 46s
318:
        learn: 0.2162653
                                  total: 1m 20s
                                                   remaining: 45.7s
                                  total: 1m 20s
319:
        learn: 0.2161947
                                                   remaining: 45.4s
320:
        learn: 0.2161753
                                  total: 1m 21s
                                                   remaining: 45.2s
321:
        learn: 0.2161258
                                  total: 1m 21s
                                                   remaining: 44.9s
                                  total: 1m 21s
322:
        learn: 0.2160008
                                                   remaining: 44.6s
323:
        learn: 0.2159180
                                  total: 1m 21s
                                                   remaining: 44.3s
324:
        learn: 0.2158645
                                  total: 1m 21s
                                                   remaining: 44s
325:
        learn: 0.2157880
                                  total: 1m 22s
                                                   remaining: 43.8s
326:
        learn: 0.2157556
                                  total: 1m 22s
                                                   remaining: 43.5s
327:
        learn: 0.2157253
                                  total: 1m 22s
                                                   remaining: 43.2s
                                                   remaining: 42.9s
328:
        learn: 0.2156796
                                  total: 1m 22s
329:
        learn: 0.2155975
                                  total: 1m 22s
                                                   remaining: 42.6s
330:
        learn: 0.2155182
                                  total: 1m 22s
                                                   remaining: 42.4s
331:
        learn: 0.2154554
                                  total: 1m 23s
                                                   remaining: 42.1s
```

```
learn: 0.2153962
                                  total: 1m 23s
332:
                                                   remaining: 41.8s
333:
        learn: 0.2152749
                                  total: 1m 23s
                                                   remaining: 41.5s
334:
        learn: 0.2151812
                                  total: 1m 23s
                                                   remaining: 41.3s
        learn: 0.2151478
                                  total: 1m 24s
335:
                                                   remaining: 41s
336:
        learn: 0.2151124
                                  total: 1m 24s
                                                   remaining: 40.8s
                                  total: 1m 24s
337:
        learn: 0.2150115
                                                   remaining: 40.5s
338:
        learn: 0.2148973
                                  total: 1m 24s
                                                   remaining: 40.3s
        learn: 0.2148030
                                                   remaining: 40.1s
339:
                                  total: 1m 25s
340:
        learn: 0.2147583
                                  total: 1m 25s
                                                   remaining: 39.8s
341:
        learn: 0.2146628
                                  total: 1m 25s
                                                   remaining: 39.6s
342:
        learn: 0.2146315
                                  total: 1m 25s
                                                   remaining: 39.3s
343:
        learn: 0.2145960
                                  total: 1m 26s
                                                   remaining: 39.1s
344:
        learn: 0.2145395
                                  total: 1m 26s
                                                   remaining: 38.8s
345:
        learn: 0.2144936
                                  total: 1m 26s
                                                   remaining: 38.6s
                                                   remaining: 38.4s
346:
        learn: 0.2143872
                                  total: 1m 27s
347:
        learn: 0.2143674
                                  total: 1m 27s
                                                   remaining: 38.2s
348:
        learn: 0.2142222
                                  total: 1m 27s
                                                   remaining: 37.9s
                                  total: 1m 27s
349:
        learn: 0.2142122
                                                   remaining: 37.7s
        learn: 0.2141780
                                  total: 1m 28s
                                                   remaining: 37.4s
350:
351:
        learn: 0.2141322
                                  total: 1m 28s
                                                   remaining: 37.2s
352:
        learn: 0.2140437
                                  total: 1m 28s
                                                   remaining: 36.9s
353:
        learn: 0.2139128
                                  total: 1m 28s
                                                   remaining: 36.7s
354:
        learn: 0.2137687
                                  total: 1m 29s
                                                   remaining: 36.4s
355:
        learn: 0.2136727
                                  total: 1m 29s
                                                   remaining: 36.2s
356:
        learn: 0.2135919
                                  total: 1m 29s
                                                   remaining: 36s
357:
        learn: 0.2135379
                                  total: 1m 30s
                                                   remaining: 35.7s
358:
        learn: 0.2134981
                                  total: 1m 30s
                                                   remaining: 35.5s
359:
        learn: 0.2134592
                                  total: 1m 30s
                                                   remaining: 35.2s
360:
        learn: 0.2134087
                                  total: 1m 30s
                                                   remaining: 35s
361:
        learn: 0.2133212
                                  total: 1m 31s
                                                   remaining: 34.7s
362:
        learn: 0.2132611
                                  total: 1m 31s
                                                   remaining: 34.5s
363:
        learn: 0.2131689
                                  total: 1m 31s
                                                   remaining: 34.3s
364:
        learn: 0.2131109
                                  total: 1m 31s
                                                   remaining: 34s
        learn: 0.2130766
                                  total: 1m 32s
                                                   remaining: 33.8s
365:
366:
        learn: 0.2130547
                                  total: 1m 32s
                                                   remaining: 33.5s
367:
        learn: 0.2130281
                                  total: 1m 32s
                                                   remaining: 33.2s
368:
        learn: 0.2129804
                                  total: 1m 32s
                                                   remaining: 33s
369:
        learn: 0.2129122
                                  total: 1m 33s
                                                   remaining: 32.7s
370:
        learn: 0.2128817
                                  total: 1m 33s
                                                   remaining: 32.5s
371:
        learn: 0.2128340
                                  total: 1m 33s
                                                   remaining: 32.2s
                                  total: 1m 33s
372:
        learn: 0.2126989
                                                   remaining: 32s
373:
        learn: 0.2126176
                                  total: 1m 34s
                                                   remaining: 31.7s
374:
        learn: 0.2125956
                                  total: 1m 34s
                                                   remaining: 31.5s
375:
        learn: 0.2124943
                                  total: 1m 34s
                                                   remaining: 31.2s
                                                   remaining: 30.9s
376:
        learn: 0.2124286
                                  total: 1m 34s
377:
        learn: 0.2123516
                                  total: 1m 35s
                                                   remaining: 30.7s
378:
        learn: 0.2122950
                                  total: 1m 35s
                                                   remaining: 30.4s
379:
        learn: 0.2122691
                                  total: 1m 35s
                                                   remaining: 30.2s
```

```
380:
        learn: 0.2121852
                                  total: 1m 35s
                                                   remaining: 30s
381:
        learn: 0.2121634
                                  total: 1m 36s
                                                   remaining: 29.7s
382:
        learn: 0.2121074
                                  total: 1m 36s
                                                   remaining: 29.5s
        learn: 0.2120653
                                                   remaining: 29.2s
383:
                                  total: 1m 36s
384:
        learn: 0.2119045
                                  total: 1m 36s
                                                   remaining: 29s
                                  total: 1m 37s
385:
        learn: 0.2118388
                                                   remaining: 28.7s
386:
        learn: 0.2117681
                                  total: 1m 37s
                                                   remaining: 28.5s
        learn: 0.2116849
387:
                                  total: 1m 37s
                                                   remaining: 28.2s
388:
        learn: 0.2116566
                                  total: 1m 37s
                                                   remaining: 28s
389:
        learn: 0.2116192
                                  total: 1m 38s
                                                   remaining: 27.7s
390:
        learn: 0.2115936
                                  total: 1m 38s
                                                   remaining: 27.5s
391:
        learn: 0.2104614
                                  total: 1m 38s
                                                   remaining: 27.2s
392:
        learn: 0.2103556
                                  total: 1m 39s
                                                   remaining: 27s
393:
        learn: 0.2103208
                                  total: 1m 39s
                                                   remaining: 26.7s
394:
        learn: 0.2102312
                                  total: 1m 39s
                                                   remaining: 26.5s
395:
        learn: 0.2102034
                                  total: 1m 39s
                                                   remaining: 26.2s
396:
        learn: 0.2101479
                                  total: 1m 40s
                                                   remaining: 25.9s
397:
        learn: 0.2100996
                                  total: 1m 40s
                                                   remaining: 25.7s
        learn: 0.2100633
398:
                                  total: 1m 40s
                                                   remaining: 25.4s
399:
        learn: 0.2099733
                                  total: 1m 40s
                                                   remaining: 25.2s
                                  total: 1m 41s
400:
        learn: 0.2099234
                                                   remaining: 24.9s
401:
        learn: 0.2098636
                                  total: 1m 41s
                                                   remaining: 24.7s
402:
        learn: 0.2097967
                                  total: 1m 41s
                                                   remaining: 24.4s
403:
        learn: 0.2097169
                                  total: 1m 41s
                                                   remaining: 24.2s
404:
        learn: 0.2096696
                                  total: 1m 42s
                                                   remaining: 24s
405:
        learn: 0.2096138
                                  total: 1m 42s
                                                   remaining: 23.7s
406:
        learn: 0.2095518
                                  total: 1m 42s
                                                   remaining: 23.5s
407:
        learn: 0.2095158
                                  total: 1m 42s
                                                   remaining: 23.2s
408:
        learn: 0.2094400
                                  total: 1m 43s
                                                   remaining: 22.9s
409:
        learn: 0.2093948
                                  total: 1m 43s
                                                   remaining: 22.7s
410:
        learn: 0.2093786
                                  total: 1m 43s
                                                   remaining: 22.4s
411:
        learn: 0.2092846
                                  total: 1m 43s
                                                   remaining: 22.2s
412:
        learn: 0.2091881
                                  total: 1m 44s
                                                   remaining: 21.9s
413:
        learn: 0.2091429
                                  total: 1m 44s
                                                   remaining: 21.7s
414:
        learn: 0.2090695
                                  total: 1m 44s
                                                   remaining: 21.4s
        learn: 0.2089291
415:
                                  total: 1m 45s
                                                   remaining: 21.2s
416:
        learn: 0.2089027
                                  total: 1m 45s
                                                   remaining: 21s
417:
        learn: 0.2088531
                                  total: 1m 45s
                                                   remaining: 20.7s
418:
        learn: 0.2088398
                                  total: 1m 45s
                                                   remaining: 20.4s
419:
        learn: 0.2087712
                                  total: 1m 46s
                                                   remaining: 20.2s
420:
        learn: 0.2087185
                                  total: 1m 46s
                                                   remaining: 20s
421:
        learn: 0.2086776
                                  total: 1m 46s
                                                   remaining: 19.7s
422:
        learn: 0.2086552
                                  total: 1m 46s
                                                   remaining: 19.5s
423:
        learn: 0.2086102
                                  total: 1m 47s
                                                   remaining: 19.2s
424:
        learn: 0.2085327
                                  total: 1m 47s
                                                   remaining: 19s
425:
        learn: 0.2084967
                                  total: 1m 47s
                                                   remaining: 18.7s
426:
        learn: 0.2083996
                                  total: 1m 47s
                                                   remaining: 18.5s
427:
        learn: 0.2083760
                                  total: 1m 48s
                                                   remaining: 18.2s
```

```
learn: 0.2082813
428:
                                  total: 1m 48s
                                                   remaining: 18s
429:
        learn: 0.2082150
                                  total: 1m 48s
                                                   remaining: 17.7s
430:
        learn: 0.2081999
                                  total: 1m 49s
                                                   remaining: 17.5s
        learn: 0.2081779
431:
                                  total: 1m 49s
                                                   remaining: 17.2s
432:
        learn: 0.2081572
                                  total: 1m 49s
                                                   remaining: 16.9s
                                  total: 1m 49s
433:
        learn: 0.2080499
                                                   remaining: 16.7s
434:
        learn: 0.2080337
                                  total: 1m 49s
                                                   remaining: 16.4s
435:
        learn: 0.2079242
                                  total: 1m 50s
                                                   remaining: 16.2s
436:
        learn: 0.2078838
                                  total: 1m 50s
                                                   remaining: 15.9s
437:
        learn: 0.2076101
                                  total: 1m 50s
                                                   remaining: 15.7s
438:
        learn: 0.2075901
                                  total: 1m 50s
                                                   remaining: 15.4s
439:
        learn: 0.2075025
                                  total: 1m 51s
                                                   remaining: 15.1s
440:
        learn: 0.2074368
                                  total: 1m 51s
                                                   remaining: 14.9s
441:
        learn: 0.2073958
                                  total: 1m 51s
                                                   remaining: 14.6s
                                                   remaining: 14.4s
442:
        learn: 0.2073223
                                  total: 1m 51s
443:
        learn: 0.2072309
                                  total: 1m 51s
                                                   remaining: 14.1s
444:
        learn: 0.2071905
                                  total: 1m 52s
                                                   remaining: 13.9s
                                  total: 1m 52s
445:
        learn: 0.2071664
                                                   remaining: 13.6s
        learn: 0.2070943
                                  total: 1m 52s
446:
                                                   remaining: 13.4s
447:
        learn: 0.2070640
                                  total: 1m 53s
                                                   remaining: 13.1s
448:
        learn: 0.2070076
                                  total: 1m 53s
                                                   remaining: 12.9s
449:
        learn: 0.2069600
                                  total: 1m 53s
                                                   remaining: 12.6s
450:
        learn: 0.2068889
                                  total: 1m 53s
                                                   remaining: 12.4s
                                  total: 1m 54s
451:
        learn: 0.2068150
                                                   remaining: 12.1s
452:
        learn: 0.2067759
                                  total: 1m 54s
                                                   remaining: 11.9s
                                  total: 1m 54s
453:
        learn: 0.2067476
                                                   remaining: 11.6s
454:
        learn: 0.2066439
                                  total: 1m 54s
                                                   remaining: 11.4s
455:
        learn: 0.2066368
                                  total: 1m 55s
                                                   remaining: 11.1s
456:
        learn: 0.2065680
                                  total: 1m 55s
                                                   remaining: 10.9s
457:
        learn: 0.2065210
                                  total: 1m 55s
                                                   remaining: 10.6s
458:
        learn: 0.2064851
                                  total: 1m 55s
                                                   remaining: 10.4s
459:
        learn: 0.2064089
                                  total: 1m 56s
                                                   remaining: 10.1s
                                  total: 1m 56s
460:
        learn: 0.2063833
                                                   remaining: 9.85s
        learn: 0.2062794
                                  total: 1m 56s
461:
                                                   remaining: 9.6s
462:
        learn: 0.2062429
                                  total: 1m 56s
                                                   remaining: 9.34s
        learn: 0.2061435
463:
                                  total: 1m 57s
                                                   remaining: 9.09s
464:
        learn: 0.2060986
                                  total: 1m 57s
                                                   remaining: 8.84s
465:
        learn: 0.2060123
                                  total: 1m 57s
                                                   remaining: 8.59s
                                  total: 1m 57s
466:
        learn: 0.2059469
                                                   remaining: 8.33s
467:
        learn: 0.2058941
                                  total: 1m 58s
                                                   remaining: 8.08s
                                  total: 1m 58s
        learn: 0.2058585
468:
                                                   remaining: 7.83s
469:
        learn: 0.2057849
                                  total: 1m 58s
                                                   remaining: 7.58s
470:
        learn: 0.2057600
                                  total: 1m 59s
                                                   remaining: 7.33s
471:
        learn: 0.2057370
                                  total: 1m 59s
                                                   remaining: 7.08s
                                                   remaining: 6.82s
472:
        learn: 0.2057233
                                  total: 1m 59s
473:
        learn: 0.2056528
                                  total: 1m 59s
                                                   remaining: 6.57s
474:
        learn: 0.2056218
                                  total: 2m
                                                   remaining: 6.32s
475:
        learn: 0.2055583
                                  total: 2m
                                                   remaining: 6.07s
```

```
476:
        learn: 0.2055404
                                  total: 2m
                                                   remaining: 5.81s
477:
        learn: 0.2055006
                                  total: 2m
                                                   remaining: 5.56s
478:
        learn: 0.2054544
                                  total: 2m 1s
                                                   remaining: 5.31s
479:
        learn: 0.2054199
                                  total: 2m 1s
                                                   remaining: 5.05s
480:
        learn: 0.2053914
                                  total: 2m 1s
                                                   remaining: 4.8s
                                  total: 2m 1s
                                                   remaining: 4.55s
481:
        learn: 0.2053325
482:
        learn: 0.2052551
                                  total: 2m 2s
                                                   remaining: 4.3s
483:
        learn: 0.2052162
                                  total: 2m 2s
                                                   remaining: 4.04s
484:
        learn: 0.2051412
                                  total: 2m 2s
                                                   remaining: 3.79s
485:
        learn: 0.2051246
                                  total: 2m 2s
                                                   remaining: 3.54s
486:
        learn: 0.2050760
                                  total: 2m 3s
                                                   remaining: 3.29s
487:
        learn: 0.2050218
                                  total: 2m 3s
                                                   remaining: 3.04s
488:
        learn: 0.2049622
                                                   remaining: 2.78s
                                  total: 2m 3s
489:
        learn: 0.2048505
                                  total: 2m 3s
                                                   remaining: 2.53s
                                                   remaining: 2.28s
490:
        learn: 0.2048101
                                  total: 2m 4s
        learn: 0.2047669
491:
                                  total: 2m 4s
                                                   remaining: 2.02s
492:
        learn: 0.2047140
                                  total: 2m 4s
                                                   remaining: 1.77s
                                  total: 2m 4s
493:
        learn: 0.2046841
                                                   remaining: 1.51s
        learn: 0.2045887
                                  total: 2m 4s
                                                   remaining: 1.26s
494:
495:
        learn: 0.2045199
                                  total: 2m 5s
                                                   remaining: 1.01s
496:
        learn: 0.2044811
                                  total: 2m 5s
                                                   remaining: 756ms
                                  total: 2m 5s
497:
        learn: 0.2044547
                                                   remaining: 504ms
498:
        learn: 0.2043435
                                  total: 2m 5s
                                                   remaining: 252ms
499:
                                  total: 2m 5s
        learn: 0.2043006
                                                   remaining: Ous
Learning rate set to 0.173965
0:
        learn: 0.9721976
                                  total: 190ms
                                                   remaining: 1m 34s
1:
        learn: 0.8910675
                                  total: 344ms
                                                   remaining: 1m 25s
2:
        learn: 0.8316425
                                  total: 535ms
                                                   remaining: 1m 28s
3:
        learn: 0.7874819
                                  total: 701ms
                                                   remaining: 1m 26s
4:
        learn: 0.6833754
                                  total: 907ms
                                                   remaining: 1m 29s
5:
        learn: 0.6281102
                                  total: 1.08s
                                                   remaining: 1m 29s
6:
        learn: 0.5593230
                                  total: 1.26s
                                                   remaining: 1m 29s
7:
        learn: 0.5083393
                                  total: 1.47s
                                                   remaining: 1m 30s
8:
        learn: 0.4954499
                                  total: 1.7s
                                                   remaining: 1m 32s
9:
        learn: 0.4598265
                                  total: 1.95s
                                                   remaining: 1m 35s
10:
        learn: 0.4319711
                                  total: 2.19s
                                                   remaining: 1m 37s
11:
        learn: 0.4084138
                                  total: 2.45s
                                                   remaining: 1m 39s
12:
        learn: 0.3900182
                                  total: 2.69s
                                                   remaining: 1m 40s
13:
        learn: 0.3746389
                                  total: 2.91s
                                                   remaining: 1m 41s
14:
        learn: 0.3574881
                                  total: 3.18s
                                                   remaining: 1m 42s
15:
        learn: 0.3527603
                                  total: 3.44s
                                                   remaining: 1m 43s
                                                   remaining: 1m 46s
16:
        learn: 0.3369827
                                  total: 3.74s
17:
        learn: 0.3237437
                                  total: 4.02s
                                                   remaining: 1m 47s
18:
        learn: 0.3125019
                                  total: 4.27s
                                                   remaining: 1m 48s
19:
        learn: 0.3033957
                                  total: 4.55s
                                                   remaining: 1m 49s
20:
        learn: 0.3015594
                                  total: 4.82s
                                                   remaining: 1m 49s
21:
        learn: 0.2997831
                                  total: 5.08s
                                                   remaining: 1m 50s
22:
        learn: 0.2927815
                                  total: 5.37s
                                                   remaining: 1m 51s
```

```
total: 5.62s
23:
        learn: 0.2918168
                                                   remaining: 1m 51s
24:
        learn: 0.2855207
                                  total: 5.89s
                                                   remaining: 1m 51s
25:
        learn: 0.2843489
                                  total: 6.14s
                                                   remaining: 1m 51s
26:
        learn: 0.2833560
                                  total: 6.39s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
27:
        learn: 0.2814888
                                  total: 6.68s
                                  total: 6.95s
                                                   remaining: 1m 52s
28:
        learn: 0.2769901
29:
        learn: 0.2732478
                                  total: 7.24s
                                                   remaining: 1m 53s
30:
        learn: 0.2726245
                                  total: 7.52s
                                                   remaining: 1m 53s
31:
        learn: 0.2690628
                                  total: 7.78s
                                                   remaining: 1m 53s
32:
        learn: 0.2685351
                                  total: 8.04s
                                                   remaining: 1m 53s
33:
        learn: 0.2677637
                                  total: 8.32s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
34:
        learn: 0.2672095
                                  total: 8.6s
35:
        learn: 0.2643350
                                  total: 8.89s
                                                   remaining: 1m 54s
36:
        learn: 0.2640121
                                  total: 9.18s
                                                   remaining: 1m 54s
37:
        learn: 0.2608786
                                  total: 9.47s
                                                   remaining: 1m 55s
38:
        learn: 0.2592737
                                                   remaining: 1m 55s
                                  total: 9.73s
39:
        learn: 0.2588943
                                  total: 9.99s
                                                   remaining: 1m 54s
40:
        learn: 0.2580411
                                  total: 10.3s
                                                   remaining: 1m 55s
        learn: 0.2575510
                                  total: 10.5s
                                                   remaining: 1m 55s
41:
42:
        learn: 0.2572755
                                  total: 10.8s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
43:
        learn: 0.2555185
                                  total: 11.2s
                                  total: 11.5s
44:
        learn: 0.2549704
                                                   remaining: 1m 55s
45:
        learn: 0.2548482
                                  total: 11.7s
                                                   remaining: 1m 55s
                                  total: 12s
                                                   remaining: 1m 55s
46:
        learn: 0.2544720
47:
        learn: 0.2537873
                                  total: 12.3s
                                                   remaining: 1m 56s
                                                   remaining: 1m 55s
48:
        learn: 0.2536520
                                  total: 12.6s
49:
        learn: 0.2532612
                                  total: 12.8s
                                                   remaining: 1m 55s
50:
        learn: 0.2523210
                                  total: 13.1s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
51:
        learn: 0.2521401
                                  total: 13.4s
52:
        learn: 0.2516441
                                  total: 13.7s
                                                   remaining: 1m 55s
53:
        learn: 0.2489486
                                  total: 13.9s
                                                   remaining: 1m 55s
54:
        learn: 0.2487055
                                  total: 14.1s
                                                   remaining: 1m 54s
55:
        learn: 0.2481326
                                  total: 14.4s
                                                   remaining: 1m 54s
56:
        learn: 0.2480875
                                  total: 14.6s
                                                   remaining: 1m 53s
                                                   remaining: 1m 53s
57:
        learn: 0.2479931
                                  total: 14.9s
58:
        learn: 0.2476801
                                  total: 15.1s
                                                   remaining: 1m 53s
59:
        learn: 0.2473136
                                  total: 15.4s
                                                   remaining: 1m 52s
60:
        learn: 0.2471641
                                  total: 15.6s
                                                   remaining: 1m 52s
                                                   remaining: 1m 51s
61:
        learn: 0.2470353
                                  total: 15.8s
62:
        learn: 0.2468763
                                  total: 16s
                                                   remaining: 1m 51s
63:
        learn: 0.2467515
                                  total: 16.3s
                                                   remaining: 1m 50s
        learn: 0.2465924
                                                   remaining: 1m 50s
64:
                                  total: 16.5s
65:
        learn: 0.2465128
                                  total: 16.7s
                                                   remaining: 1m 49s
66:
        learn: 0.2447805
                                  total: 17s
                                                   remaining: 1m 49s
67:
        learn: 0.2447648
                                  total: 17.2s
                                                   remaining: 1m 49s
68:
        learn: 0.2447202
                                  total: 17.4s
                                                   remaining: 1m 48s
69:
        learn: 0.2445037
                                  total: 17.7s
                                                   remaining: 1m 48s
70:
        learn: 0.2442746
                                  total: 17.9s
                                                   remaining: 1m 48s
```

```
71:
        learn: 0.2440755
                                  total: 18.2s
                                                   remaining: 1m 48s
72:
        learn: 0.2428656
                                  total: 18.4s
                                                   remaining: 1m 47s
73:
        learn: 0.2424719
                                  total: 18.7s
                                                   remaining: 1m 47s
74:
        learn: 0.2424251
                                  total: 18.9s
                                                   remaining: 1m 47s
                                                   remaining: 1m 46s
75:
        learn: 0.2423044
                                  total: 19.2s
                                  total: 19.4s
                                                   remaining: 1m 46s
76:
        learn: 0.2421623
77:
        learn: 0.2418259
                                  total: 19.7s
                                                   remaining: 1m 46s
78:
        learn: 0.2417500
                                  total: 20s
                                                   remaining: 1m 46s
79:
        learn: 0.2414199
                                  total: 20.3s
                                                   remaining: 1m 46s
: 08
        learn: 0.2411832
                                  total: 20.6s
                                                   remaining: 1m 46s
                                  total: 20.9s
        learn: 0.2400334
81:
                                                   remaining: 1m 46s
                                                   remaining: 1m 46s
82:
        learn: 0.2392992
                                  total: 21.2s
83:
        learn: 0.2392102
                                  total: 21.5s
                                                   remaining: 1m 46s
84:
        learn: 0.2390202
                                  total: 21.8s
                                                   remaining: 1m 46s
85:
        learn: 0.2388760
                                  total: 22.1s
                                                   remaining: 1m 46s
        learn: 0.2387378
                                  total: 22.3s
                                                   remaining: 1m 45s
86:
87:
        learn: 0.2387030
                                  total: 22.6s
                                                   remaining: 1m 45s
                                  total: 22.8s
88:
        learn: 0.2386764
                                                   remaining: 1m 45s
        learn: 0.2385155
                                  total: 23.1s
                                                   remaining: 1m 45s
89:
90:
        learn: 0.2378345
                                  total: 23.3s
                                                   remaining: 1m 44s
91:
        learn: 0.2378167
                                  total: 23.6s
                                                   remaining: 1m 44s
                                  total: 23.8s
92:
        learn: 0.2377280
                                                   remaining: 1m 44s
93:
        learn: 0.2375697
                                  total: 24.1s
                                                   remaining: 1m 44s
94:
                                  total: 24.4s
                                                   remaining: 1m 44s
        learn: 0.2371193
95:
        learn: 0.2369746
                                  total: 24.7s
                                                   remaining: 1m 43s
96:
        learn: 0.2360061
                                  total: 24.9s
                                                   remaining: 1m 43s
97:
        learn: 0.2356108
                                  total: 25.1s
                                                   remaining: 1m 43s
98:
        learn: 0.2353336
                                  total: 25.3s
                                                   remaining: 1m 42s
        learn: 0.2352791
                                  total: 25.6s
99:
                                                   remaining: 1m 42s
100:
        learn: 0.2351392
                                  total: 25.8s
                                                   remaining: 1m 42s
        learn: 0.2350359
                                  total: 26.1s
                                                   remaining: 1m 41s
101:
102:
        learn: 0.2347575
                                  total: 26.4s
                                                   remaining: 1m 41s
103:
        learn: 0.2346805
                                  total: 26.7s
                                                   remaining: 1m 41s
                                  total: 26.9s
104:
        learn: 0.2344550
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
105:
        learn: 0.2343884
                                  total: 27.2s
106:
        learn: 0.2342182
                                  total: 27.4s
                                                   remaining: 1m 40s
107:
        learn: 0.2341269
                                  total: 27.7s
                                                   remaining: 1m 40s
108:
        learn: 0.2338308
                                  total: 28s
                                                   remaining: 1m 40s
        learn: 0.2336560
                                                   remaining: 1m 40s
109:
                                  total: 28.2s
110:
        learn: 0.2333631
                                  total: 28.5s
                                                   remaining: 1m 39s
        learn: 0.2332944
                                  total: 28.8s
                                                   remaining: 1m 39s
111:
        learn: 0.2331379
                                                   remaining: 1m 39s
112:
                                  total: 29s
113:
        learn: 0.2328910
                                  total: 29.3s
                                                   remaining: 1m 39s
114:
        learn: 0.2327531
                                  total: 29.6s
                                                   remaining: 1m 38s
115:
        learn: 0.2325964
                                  total: 29.8s
                                                   remaining: 1m 38s
116:
        learn: 0.2324497
                                  total: 30.1s
                                                   remaining: 1m 38s
117:
        learn: 0.2323087
                                  total: 30.3s
                                                   remaining: 1m 38s
118:
        learn: 0.2321350
                                  total: 30.6s
                                                   remaining: 1m 37s
```

```
119:
        learn: 0.2320547
                                  total: 30.8s
                                                   remaining: 1m 37s
120:
        learn: 0.2307580
                                  total: 31.1s
                                                   remaining: 1m 37s
121:
        learn: 0.2306850
                                  total: 31.3s
                                                   remaining: 1m 37s
122:
        learn: 0.2306279
                                  total: 31.5s
                                                   remaining: 1m 36s
                                                   remaining: 1m 36s
123:
        learn: 0.2305803
                                  total: 31.8s
                                  total: 32s
                                                   remaining: 1m 35s
124:
        learn: 0.2304206
125:
        learn: 0.2302979
                                  total: 32.2s
                                                   remaining: 1m 35s
        learn: 0.2302522
126:
                                  total: 32.4s
                                                   remaining: 1m 35s
127:
        learn: 0.2301178
                                  total: 32.7s
                                                   remaining: 1m 34s
128:
        learn: 0.2300601
                                  total: 32.9s
                                                   remaining: 1m 34s
129:
        learn: 0.2299651
                                  total: 33.1s
                                                   remaining: 1m 34s
                                                   remaining: 1m 33s
130:
        learn: 0.2298787
                                  total: 33.4s
131:
        learn: 0.2296314
                                  total: 33.6s
                                                   remaining: 1m 33s
132:
        learn: 0.2295270
                                  total: 33.9s
                                                   remaining: 1m 33s
133:
        learn: 0.2294081
                                  total: 34.2s
                                                   remaining: 1m 33s
        learn: 0.2293466
134:
                                  total: 34.4s
                                                   remaining: 1m 32s
135:
        learn: 0.2292842
                                  total: 34.6s
                                                   remaining: 1m 32s
136:
        learn: 0.2290639
                                  total: 34.9s
                                                   remaining: 1m 32s
        learn: 0.2290124
                                  total: 35.1s
                                                   remaining: 1m 32s
137:
138:
        learn: 0.2289590
                                  total: 35.4s
                                                   remaining: 1m 31s
                                  total: 35.7s
139:
        learn: 0.2288170
                                                   remaining: 1m 31s
140:
        learn: 0.2286358
                                  total: 36s
                                                   remaining: 1m 31s
141:
        learn: 0.2285827
                                  total: 36.3s
                                                   remaining: 1m 31s
                                                   remaining: 1m 31s
142:
        learn: 0.2285091
                                  total: 36.5s
143:
        learn: 0.2284487
                                  total: 36.8s
                                                   remaining: 1m 31s
144:
        learn: 0.2282708
                                  total: 37.1s
                                                   remaining: 1m 30s
        learn: 0.2282376
                                  total: 37.4s
                                                   remaining: 1m 30s
145:
146:
        learn: 0.2281250
                                  total: 37.6s
                                                   remaining: 1m 30s
147:
        learn: 0.2280601
                                  total: 37.9s
                                                   remaining: 1m 30s
148:
        learn: 0.2279043
                                  total: 38.1s
                                                   remaining: 1m 29s
149:
        learn: 0.2277434
                                  total: 38.4s
                                                   remaining: 1m 29s
150:
        learn: 0.2276222
                                  total: 38.6s
                                                   remaining: 1m 29s
151:
        learn: 0.2275999
                                  total: 38.9s
                                                   remaining: 1m 29s
        learn: 0.2275081
                                  total: 39.2s
                                                   remaining: 1m 28s
152:
                                                   remaining: 1m 28s
153:
        learn: 0.2274798
                                  total: 39.4s
154:
        learn: 0.2273892
                                  total: 39.7s
                                                   remaining: 1m 28s
155:
        learn: 0.2273542
                                  total: 39.9s
                                                   remaining: 1m 28s
156:
        learn: 0.2271012
                                  total: 40.2s
                                                   remaining: 1m 27s
157:
        learn: 0.2269813
                                  total: 40.4s
                                                   remaining: 1m 27s
158:
        learn: 0.2269656
                                  total: 40.6s
                                                   remaining: 1m 27s
        learn: 0.2268947
                                  total: 40.9s
159:
                                                   remaining: 1m 26s
                                                   remaining: 1m 26s
160:
        learn: 0.2268635
                                  total: 41.2s
        learn: 0.2268318
                                  total: 41.4s
                                                   remaining: 1m 26s
161:
162:
        learn: 0.2267352
                                  total: 41.7s
                                                   remaining: 1m 26s
163:
        learn: 0.2266478
                                  total: 41.9s
                                                   remaining: 1m 25s
164:
        learn: 0.2265642
                                  total: 42.2s
                                                   remaining: 1m 25s
165:
        learn: 0.2264666
                                  total: 42.5s
                                                   remaining: 1m 25s
166:
        learn: 0.2264080
                                  total: 42.7s
                                                   remaining: 1m 25s
```

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167:
        learn: 0.2262649
                                  total: 43s
                                                   remaining: 1m 24s
168:
        learn: 0.2261504
                                  total: 43.2s
                                                   remaining: 1m 24s
169:
        learn: 0.2260336
                                  total: 43.5s
                                                   remaining: 1m 24s
170:
        learn: 0.2259871
                                  total: 43.8s
                                                   remaining: 1m 24s
                                                   remaining: 1m 24s
171:
        learn: 0.2257947
                                  total: 44.1s
                                                   remaining: 1m 23s
172:
        learn: 0.2256583
                                  total: 44.4s
173:
        learn: 0.2256111
                                  total: 44.6s
                                                   remaining: 1m 23s
174:
        learn: 0.2255288
                                  total: 44.9s
                                                   remaining: 1m 23s
175:
        learn: 0.2253560
                                  total: 45.1s
                                                   remaining: 1m 23s
176:
        learn: 0.2253158
                                  total: 45.4s
                                                   remaining: 1m 22s
177:
        learn: 0.2252881
                                  total: 45.6s
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
178:
        learn: 0.2252028
                                  total: 45.9s
179:
        learn: 0.2251452
                                  total: 46.2s
                                                   remaining: 1m 22s
180:
        learn: 0.2250109
                                  total: 46.4s
                                                   remaining: 1m 21s
181:
        learn: 0.2248994
                                  total: 46.7s
                                                   remaining: 1m 21s
182:
        learn: 0.2248327
                                  total: 46.9s
                                                   remaining: 1m 21s
183:
        learn: 0.2247368
                                  total: 47.2s
                                                   remaining: 1m 21s
184:
        learn: 0.2239261
                                  total: 47.4s
                                                   remaining: 1m 20s
        learn: 0.2238576
                                  total: 47.7s
                                                   remaining: 1m 20s
185:
186:
        learn: 0.2237719
                                  total: 47.9s
                                                   remaining: 1m 20s
187:
        learn: 0.2237570
                                  total: 48.1s
                                                   remaining: 1m 19s
188:
        learn: 0.2237311
                                  total: 48.4s
                                                   remaining: 1m 19s
189:
        learn: 0.2236968
                                  total: 48.6s
                                                   remaining: 1m 19s
                                  total: 48.8s
                                                   remaining: 1m 18s
190:
        learn: 0.2236845
191:
        learn: 0.2236184
                                  total: 49s
                                                   remaining: 1m 18s
192:
        learn: 0.2234062
                                  total: 49.3s
                                                   remaining: 1m 18s
        learn: 0.2233133
                                                   remaining: 1m 18s
193:
                                  total: 49.5s
194:
        learn: 0.2231069
                                  total: 49.8s
                                                   remaining: 1m 17s
195:
        learn: 0.2230402
                                  total: 50s
                                                   remaining: 1m 17s
196:
        learn: 0.2230017
                                  total: 50.2s
                                                   remaining: 1m 17s
197:
        learn: 0.2229039
                                  total: 50.4s
                                                   remaining: 1m 16s
198:
        learn: 0.2227213
                                  total: 50.7s
                                                   remaining: 1m 16s
199:
        learn: 0.2226053
                                  total: 50.9s
                                                   remaining: 1m 16s
200:
        learn: 0.2224533
                                  total: 51.2s
                                                   remaining: 1m 16s
                                                   remaining: 1m 15s
201:
        learn: 0.2223882
                                  total: 51.4s
202:
        learn: 0.2223534
                                  total: 51.7s
                                                   remaining: 1m 15s
203:
        learn: 0.2223038
                                  total: 52s
                                                   remaining: 1m 15s
204:
        learn: 0.2222142
                                  total: 52.3s
                                                   remaining: 1m 15s
205:
        learn: 0.2221690
                                  total: 52.5s
                                                   remaining: 1m 14s
206:
        learn: 0.2221457
                                  total: 52.8s
                                                   remaining: 1m 14s
207:
        learn: 0.2221270
                                  total: 53s
                                                   remaining: 1m 14s
208:
        learn: 0.2220505
                                                   remaining: 1m 14s
                                  total: 53.3s
209:
        learn: 0.2220289
                                  total: 53.5s
                                                   remaining: 1m 13s
210:
        learn: 0.2219347
                                  total: 53.7s
                                                   remaining: 1m 13s
211:
        learn: 0.2219030
                                  total: 54s
                                                   remaining: 1m 13s
212:
        learn: 0.2218394
                                  total: 54.3s
                                                   remaining: 1m 13s
213:
        learn: 0.2218267
                                  total: 54.5s
                                                   remaining: 1m 12s
214:
        learn: 0.2207542
                                  total: 54.8s
                                                   remaining: 1m 12s
```

```
215:
        learn: 0.2206244
                                  total: 55.1s
                                                   remaining: 1m 12s
216:
        learn: 0.2206010
                                  total: 55.3s
                                                   remaining: 1m 12s
217:
        learn: 0.2205410
                                  total: 55.6s
                                                   remaining: 1m 11s
218:
        learn: 0.2204920
                                  total: 55.9s
                                                   remaining: 1m 11s
219:
        learn: 0.2204637
                                  total: 56.1s
                                                   remaining: 1m 11s
220:
                                  total: 56.3s
                                                   remaining: 1m 11s
        learn: 0.2204255
221:
        learn: 0.2203451
                                  total: 56.6s
                                                   remaining: 1m 10s
222:
        learn: 0.2202804
                                  total: 56.9s
                                                   remaining: 1m 10s
223:
        learn: 0.2201936
                                  total: 57.1s
                                                   remaining: 1m 10s
224:
        learn: 0.2201324
                                  total: 57.4s
                                                   remaining: 1m 10s
225:
        learn: 0.2201172
                                  total: 57.6s
                                                   remaining: 1m 9s
226:
        learn: 0.2200488
                                  total: 57.9s
                                                   remaining: 1m 9s
227:
        learn: 0.2199976
                                  total: 58.2s
                                                   remaining: 1m 9s
228:
        learn: 0.2199473
                                  total: 58.5s
                                                   remaining: 1m 9s
229:
        learn: 0.2199224
                                  total: 58.7s
                                                   remaining: 1m 8s
230:
        learn: 0.2198818
                                  total: 58.9s
                                                   remaining: 1m 8s
231:
        learn: 0.2198055
                                  total: 59.2s
                                                   remaining: 1m 8s
232:
        learn: 0.2197547
                                  total: 59.5s
                                                   remaining: 1m 8s
        learn: 0.2196920
                                  total: 59.7s
                                                   remaining: 1m 7s
233:
234:
        learn: 0.2196555
                                  total: 60s
                                                   remaining: 1m 7s
235:
        learn: 0.2195934
                                  total: 1m
                                                   remaining: 1m 7s
236:
        learn: 0.2195056
                                  total: 1m
                                                   remaining: 1m 7s
237:
        learn: 0.2194645
                                  total: 1m
                                                   remaining: 1m 6s
238:
                                                   remaining: 1m 6s
        learn: 0.2194540
                                  total: 1m 1s
239:
        learn: 0.2193533
                                  total: 1m 1s
                                                   remaining: 1m 6s
240:
        learn: 0.2193289
                                  total: 1m 1s
                                                   remaining: 1m 6s
241:
        learn: 0.2192152
                                                   remaining: 1m 5s
                                  total: 1m 1s
242:
        learn: 0.2191576
                                  total: 1m 1s
                                                   remaining: 1m 5s
243:
        learn: 0.2191027
                                  total: 1m 1s
                                                   remaining: 1m 5s
244:
        learn: 0.2190636
                                  total: 1m 2s
                                                   remaining: 1m 4s
245:
        learn: 0.2189328
                                  total: 1m 2s
                                                   remaining: 1m 4s
246:
        learn: 0.2189084
                                  total: 1m 2s
                                                   remaining: 1m 4s
247:
        learn: 0.2188834
                                  total: 1m 2s
                                                   remaining: 1m 3s
248:
        learn: 0.2188566
                                  total: 1m 2s
                                                   remaining: 1m 3s
                                  total: 1m 3s
                                                   remaining: 1m 3s
249:
        learn: 0.2188224
                                  total: 1m 3s
250:
        learn: 0.2187578
                                                   remaining: 1m 2s
251:
        learn: 0.2187359
                                  total: 1m 3s
                                                   remaining: 1m 2s
252:
        learn: 0.2186381
                                  total: 1m 3s
                                                   remaining: 1m 2s
253:
                                  total: 1m 4s
        learn: 0.2184047
                                                   remaining: 1m 2s
254:
        learn: 0.2182971
                                  total: 1m 4s
                                                   remaining: 1m 1s
                                  total: 1m 4s
255:
        learn: 0.2181937
                                                   remaining: 1m 1s
256:
        learn: 0.2181586
                                                   remaining: 1m 1s
                                  total: 1m 4s
257:
        learn: 0.2181267
                                  total: 1m 5s
                                                   remaining: 1m 1s
258:
        learn: 0.2176824
                                  total: 1m 5s
                                                   remaining: 1m
259:
        learn: 0.2176575
                                  total: 1m 5s
                                                   remaining: 1m
260:
        learn: 0.2176010
                                  total: 1m 5s
                                                   remaining: 1m
                                                   remaining: 60s
261:
        learn: 0.2175660
                                  total: 1m 6s
262:
        learn: 0.2174864
                                  total: 1m 6s
                                                   remaining: 59.7s
```

```
learn: 0.2173829
263:
                                  total: 1m 6s
                                                   remaining: 59.5s
264:
        learn: 0.2173331
                                  total: 1m 6s
                                                   remaining: 59.2s
265:
        learn: 0.2173006
                                  total: 1m 7s
                                                   remaining: 59s
266:
        learn: 0.2172703
                                  total: 1m 7s
                                                   remaining: 58.7s
267:
        learn: 0.2171590
                                  total: 1m 7s
                                                   remaining: 58.5s
                                  total: 1m 7s
                                                   remaining: 58.2s
268:
        learn: 0.2171172
269:
        learn: 0.2167750
                                  total: 1m 8s
                                                   remaining: 58s
                                                   remaining: 57.8s
270:
        learn: 0.2166704
                                  total: 1m 8s
271:
        learn: 0.2165849
                                  total: 1m 8s
                                                   remaining: 57.6s
272:
        learn: 0.2165160
                                  total: 1m 8s
                                                   remaining: 57.3s
273:
        learn: 0.2164698
                                  total: 1m 9s
                                                   remaining: 57.1s
274:
        learn: 0.2164157
                                  total: 1m 9s
                                                   remaining: 56.9s
275:
        learn: 0.2163929
                                  total: 1m 9s
                                                   remaining: 56.6s
276:
        learn: 0.2163195
                                  total: 1m 10s
                                                   remaining: 56.4s
277:
        learn: 0.2162797
                                  total: 1m 10s
                                                   remaining: 56.1s
278:
        learn: 0.2162429
                                  total: 1m 10s
                                                   remaining: 55.9s
279:
        learn: 0.2162005
                                  total: 1m 10s
                                                   remaining: 55.6s
                                  total: 1m 11s
280:
        learn: 0.2161563
                                                   remaining: 55.4s
        learn: 0.2161062
281:
                                  total: 1m 11s
                                                   remaining: 55.1s
282:
        learn: 0.2159554
                                  total: 1m 11s
                                                   remaining: 54.9s
283:
        learn: 0.2158859
                                  total: 1m 11s
                                                   remaining: 54.6s
284:
        learn: 0.2157769
                                  total: 1m 12s
                                                   remaining: 54.4s
285:
        learn: 0.2156554
                                  total: 1m 12s
                                                   remaining: 54.1s
286:
        learn: 0.2155129
                                  total: 1m 12s
                                                   remaining: 53.9s
287:
        learn: 0.2154957
                                  total: 1m 12s
                                                   remaining: 53.6s
288:
        learn: 0.2154067
                                  total: 1m 13s
                                                   remaining: 53.3s
289:
        learn: 0.2152894
                                  total: 1m 13s
                                                   remaining: 53.1s
290:
        learn: 0.2152182
                                  total: 1m 13s
                                                   remaining: 52.8s
291:
        learn: 0.2151463
                                  total: 1m 13s
                                                   remaining: 52.6s
292:
        learn: 0.2149776
                                  total: 1m 14s
                                                   remaining: 52.3s
293:
        learn: 0.2148755
                                  total: 1m 14s
                                                   remaining: 52.1s
294:
        learn: 0.2148397
                                  total: 1m 14s
                                                   remaining: 51.9s
295:
        learn: 0.2147518
                                  total: 1m 14s
                                                   remaining: 51.6s
296:
        learn: 0.2146435
                                  total: 1m 15s
                                                   remaining: 51.3s
297:
        learn: 0.2145725
                                  total: 1m 15s
                                                   remaining: 51.1s
298:
        learn: 0.2145570
                                  total: 1m 15s
                                                   remaining: 50.8s
299:
        learn: 0.2144853
                                  total: 1m 15s
                                                   remaining: 50.6s
300:
        learn: 0.2144673
                                  total: 1m 16s
                                                   remaining: 50.3s
301:
        learn: 0.2144188
                                  total: 1m 16s
                                                   remaining: 50.1s
302:
        learn: 0.2143860
                                  total: 1m 16s
                                                   remaining: 49.8s
                                  total: 1m 16s
303:
        learn: 0.2141565
                                                   remaining: 49.6s
304:
        learn: 0.2140832
                                  total: 1m 17s
                                                   remaining: 49.4s
305:
        learn: 0.2140247
                                  total: 1m 17s
                                                   remaining: 49.1s
306:
        learn: 0.2139862
                                  total: 1m 17s
                                                   remaining: 48.9s
                                                   remaining: 48.6s
307:
        learn: 0.2139222
                                  total: 1m 18s
308:
        learn: 0.2138855
                                  total: 1m 18s
                                                   remaining: 48.4s
309:
        learn: 0.2138377
                                  total: 1m 18s
                                                   remaining: 48.1s
310:
        learn: 0.2137463
                                  total: 1m 18s
                                                   remaining: 47.9s
```

```
learn: 0.2136748
311:
                                  total: 1m 18s
                                                   remaining: 47.6s
312:
        learn: 0.2136202
                                  total: 1m 19s
                                                   remaining: 47.3s
313:
        learn: 0.2135419
                                  total: 1m 19s
                                                   remaining: 47.1s
314:
        learn: 0.2134938
                                  total: 1m 19s
                                                   remaining: 46.8s
315:
        learn: 0.2134347
                                  total: 1m 19s
                                                   remaining: 46.5s
                                  total: 1m 20s
316:
        learn: 0.2133220
                                                   remaining: 46.3s
317:
        learn: 0.2133069
                                  total: 1m 20s
                                                   remaining: 46s
        learn: 0.2132341
                                                   remaining: 45.7s
318:
                                  total: 1m 20s
319:
        learn: 0.2131523
                                  total: 1m 20s
                                                   remaining: 45.5s
320:
        learn: 0.2130243
                                  total: 1m 21s
                                                   remaining: 45.2s
321:
        learn: 0.2129852
                                  total: 1m 21s
                                                   remaining: 45s
322:
        learn: 0.2129150
                                  total: 1m 21s
                                                   remaining: 44.7s
323:
        learn: 0.2128301
                                  total: 1m 21s
                                                   remaining: 44.4s
324:
        learn: 0.2127527
                                  total: 1m 21s
                                                   remaining: 44.1s
                                                   remaining: 43.8s
325:
        learn: 0.2126618
                                  total: 1m 22s
326:
        learn: 0.2126058
                                  total: 1m 22s
                                                   remaining: 43.5s
327:
        learn: 0.2125304
                                  total: 1m 22s
                                                   remaining: 43.2s
328:
        learn: 0.2124677
                                  total: 1m 22s
                                                   remaining: 42.9s
        learn: 0.2124364
                                  total: 1m 22s
329:
                                                   remaining: 42.6s
330:
        learn: 0.2123633
                                  total: 1m 22s
                                                   remaining: 42.3s
331:
        learn: 0.2123336
                                  total: 1m 23s
                                                   remaining: 42.1s
                                  total: 1m 23s
332:
        learn: 0.2122685
                                                   remaining: 41.8s
333:
        learn: 0.2122366
                                  total: 1m 23s
                                                   remaining: 41.5s
                                  total: 1m 23s
334:
        learn: 0.2121747
                                                   remaining: 41.2s
335:
        learn: 0.2120285
                                  total: 1m 23s
                                                   remaining: 41s
336:
        learn: 0.2118832
                                  total: 1m 24s
                                                   remaining: 40.7s
337:
        learn: 0.2118303
                                  total: 1m 24s
                                                   remaining: 40.5s
338:
        learn: 0.2117984
                                  total: 1m 24s
                                                   remaining: 40.2s
339:
        learn: 0.2117034
                                  total: 1m 25s
                                                   remaining: 40s
340:
        learn: 0.2116232
                                  total: 1m 25s
                                                  remaining: 39.8s
341:
        learn: 0.2115489
                                  total: 1m 25s
                                                   remaining: 39.5s
342:
        learn: 0.2114373
                                  total: 1m 25s
                                                   remaining: 39.3s
343:
        learn: 0.2113942
                                  total: 1m 26s
                                                   remaining: 39s
        learn: 0.2113309
                                  total: 1m 26s
                                                   remaining: 38.8s
344:
345:
        learn: 0.2112814
                                  total: 1m 26s
                                                   remaining: 38.5s
        learn: 0.2112343
                                  total: 1m 26s
346:
                                                   remaining: 38.3s
347:
        learn: 0.2111663
                                  total: 1m 27s
                                                   remaining: 38s
348:
        learn: 0.2111305
                                  total: 1m 27s
                                                   remaining: 37.8s
                                  total: 1m 27s
349:
        learn: 0.2110717
                                                   remaining: 37.5s
350:
        learn: 0.2110464
                                  total: 1m 27s
                                                   remaining: 37.3s
351:
        learn: 0.2109607
                                  total: 1m 28s
                                                   remaining: 37.1s
352:
        learn: 0.2107976
                                  total: 1m 28s
                                                   remaining: 36.8s
353:
        learn: 0.2107379
                                  total: 1m 28s
                                                   remaining: 36.6s
354:
        learn: 0.2107029
                                  total: 1m 29s
                                                   remaining: 36.4s
                                                   remaining: 36.1s
355:
        learn: 0.2106437
                                  total: 1m 29s
356:
        learn: 0.2105967
                                  total: 1m 29s
                                                   remaining: 35.9s
357:
        learn: 0.2105520
                                  total: 1m 29s
                                                   remaining: 35.6s
358:
        learn: 0.2104642
                                  total: 1m 30s
                                                   remaining: 35.4s
```

```
359:
        learn: 0.2104481
                                  total: 1m 30s
                                                   remaining: 35.1s
360:
        learn: 0.2103587
                                  total: 1m 30s
                                                   remaining: 34.9s
361:
        learn: 0.2102548
                                  total: 1m 30s
                                                   remaining: 34.7s
        learn: 0.2102201
                                  total: 1m 31s
                                                   remaining: 34.4s
362:
363:
        learn: 0.2101481
                                  total: 1m 31s
                                                   remaining: 34.2s
                                  total: 1m 31s
                                                   remaining: 33.9s
364:
        learn: 0.2100807
365:
        learn: 0.2099854
                                  total: 1m 31s
                                                   remaining: 33.7s
                                                   remaining: 33.4s
366:
        learn: 0.2099290
                                  total: 1m 32s
367:
        learn: 0.2098886
                                  total: 1m 32s
                                                   remaining: 33.2s
368:
        learn: 0.2098423
                                  total: 1m 32s
                                                   remaining: 32.9s
369:
        learn: 0.2098029
                                  total: 1m 32s
                                                   remaining: 32.7s
370:
        learn: 0.2096626
                                  total: 1m 33s
                                                   remaining: 32.4s
371:
        learn: 0.2096363
                                  total: 1m 33s
                                                   remaining: 32.2s
372:
        learn: 0.2095502
                                  total: 1m 33s
                                                   remaining: 31.9s
373:
        learn: 0.2094753
                                  total: 1m 33s
                                                   remaining: 31.7s
374:
        learn: 0.2094293
                                  total: 1m 34s
                                                   remaining: 31.4s
375:
        learn: 0.2094177
                                  total: 1m 34s
                                                   remaining: 31.1s
                                  total: 1m 34s
376:
        learn: 0.2093520
                                                   remaining: 30.9s
        learn: 0.2093288
                                  total: 1m 34s
377:
                                                   remaining: 30.6s
378:
        learn: 0.2092946
                                  total: 1m 35s
                                                   remaining: 30.4s
379:
        learn: 0.2092570
                                  total: 1m 35s
                                                   remaining: 30.1s
380:
        learn: 0.2091937
                                  total: 1m 35s
                                                   remaining: 29.9s
381:
        learn: 0.2091583
                                  total: 1m 35s
                                                   remaining: 29.6s
382:
        learn: 0.2090649
                                  total: 1m 36s
                                                   remaining: 29.3s
383:
        learn: 0.2089948
                                  total: 1m 36s
                                                   remaining: 29.1s
                                  total: 1m 36s
384:
        learn: 0.2089174
                                                   remaining: 28.8s
385:
        learn: 0.2088770
                                  total: 1m 36s
                                                   remaining: 28.6s
386:
        learn: 0.2088481
                                  total: 1m 36s
                                                   remaining: 28.3s
387:
        learn: 0.2088283
                                  total: 1m 37s
                                                   remaining: 28.1s
388:
        learn: 0.2087807
                                  total: 1m 37s
                                                   remaining: 27.8s
389:
        learn: 0.2087412
                                  total: 1m 37s
                                                   remaining: 27.6s
390:
        learn: 0.2086006
                                  total: 1m 37s
                                                   remaining: 27.3s
391:
        learn: 0.2084786
                                  total: 1m 38s
                                                   remaining: 27s
392:
        learn: 0.2084500
                                  total: 1m 38s
                                                   remaining: 26.8s
393:
        learn: 0.2083939
                                  total: 1m 38s
                                                   remaining: 26.5s
394:
        learn: 0.2083327
                                  total: 1m 38s
                                                   remaining: 26.3s
395:
        learn: 0.2082588
                                  total: 1m 39s
                                                   remaining: 26s
396:
        learn: 0.2082132
                                  total: 1m 39s
                                                   remaining: 25.8s
397:
        learn: 0.2081845
                                  total: 1m 39s
                                                   remaining: 25.5s
398:
        learn: 0.2081732
                                  total: 1m 39s
                                                   remaining: 25.3s
        learn: 0.2081592
                                  total: 1m 40s
399:
                                                   remaining: 25.1s
400:
        learn: 0.2081188
                                  total: 1m 40s
                                                   remaining: 24.8s
401:
        learn: 0.2080413
                                  total: 1m 40s
                                                   remaining: 24.5s
402:
        learn: 0.2080141
                                  total: 1m 40s
                                                   remaining: 24.3s
403:
        learn: 0.2080017
                                  total: 1m 41s
                                                   remaining: 24s
404:
        learn: 0.2079753
                                  total: 1m 41s
                                                   remaining: 23.7s
405:
        learn: 0.2079261
                                  total: 1m 41s
                                                   remaining: 23.5s
406:
        learn: 0.2078585
                                  total: 1m 41s
                                                   remaining: 23.2s
```

```
407:
        learn: 0.2078479
                                  total: 1m 41s
                                                   remaining: 22.9s
408:
        learn: 0.2077143
                                  total: 1m 41s
                                                   remaining: 22.7s
409:
        learn: 0.2070310
                                  total: 1m 42s
                                                   remaining: 22.4s
410:
        learn: 0.2069114
                                                   remaining: 22.2s
                                  total: 1m 42s
411:
        learn: 0.2068336
                                  total: 1m 42s
                                                   remaining: 21.9s
                                  total: 1m 42s
                                                   remaining: 21.7s
412:
        learn: 0.2067658
413:
        learn: 0.2066913
                                  total: 1m 43s
                                                   remaining: 21.4s
414:
        learn: 0.2066402
                                  total: 1m 43s
                                                   remaining: 21.2s
415:
        learn: 0.2065218
                                  total: 1m 43s
                                                   remaining: 20.9s
416:
        learn: 0.2064099
                                  total: 1m 43s
                                                   remaining: 20.7s
417:
        learn: 0.2063661
                                  total: 1m 44s
                                                   remaining: 20.4s
418:
        learn: 0.2063274
                                  total: 1m 44s
                                                   remaining: 20.2s
419:
        learn: 0.2063188
                                  total: 1m 44s
                                                   remaining: 19.9s
420:
        learn: 0.2062037
                                  total: 1m 44s
                                                   remaining: 19.7s
421:
        learn: 0.2060554
                                  total: 1m 45s
                                                   remaining: 19.4s
422:
        learn: 0.2060283
                                  total: 1m 45s
                                                   remaining: 19.2s
423:
        learn: 0.2060065
                                  total: 1m 45s
                                                   remaining: 19s
424:
        learn: 0.2059857
                                  total: 1m 46s
                                                   remaining: 18.7s
425:
        learn: 0.2059171
                                  total: 1m 46s
                                                   remaining: 18.5s
426:
        learn: 0.2058846
                                  total: 1m 46s
                                                   remaining: 18.2s
427:
        learn: 0.2057953
                                  total: 1m 46s
                                                   remaining: 18s
428:
        learn: 0.2056876
                                  total: 1m 47s
                                                   remaining: 17.7s
429:
        learn: 0.2055933
                                  total: 1m 47s
                                                   remaining: 17.5s
430:
        learn: 0.2054506
                                  total: 1m 47s
                                                   remaining: 17.2s
431:
        learn: 0.2054288
                                  total: 1m 47s
                                                   remaining: 17s
432:
        learn: 0.2053607
                                  total: 1m 48s
                                                   remaining: 16.7s
433:
        learn: 0.2052413
                                  total: 1m 48s
                                                   remaining: 16.5s
434:
        learn: 0.2052124
                                  total: 1m 48s
                                                   remaining: 16.2s
435:
        learn: 0.2051583
                                  total: 1m 48s
                                                   remaining: 16s
436:
        learn: 0.2050949
                                  total: 1m 49s
                                                   remaining: 15.7s
437:
        learn: 0.2050040
                                  total: 1m 49s
                                                   remaining: 15.5s
        learn: 0.2049477
438:
                                  total: 1m 49s
                                                   remaining: 15.2s
439:
        learn: 0.2047608
                                  total: 1m 49s
                                                   remaining: 15s
440:
        learn: 0.2047382
                                  total: 1m 50s
                                                   remaining: 14.7s
441:
        learn: 0.2046856
                                  total: 1m 50s
                                                   remaining: 14.5s
        learn: 0.2046364
442:
                                  total: 1m 50s
                                                   remaining: 14.2s
443:
        learn: 0.2045503
                                  total: 1m 50s
                                                   remaining: 14s
444:
        learn: 0.2044775
                                  total: 1m 51s
                                                   remaining: 13.7s
445:
        learn: 0.2044245
                                  total: 1m 51s
                                                   remaining: 13.5s
446:
        learn: 0.2044068
                                  total: 1m 51s
                                                   remaining: 13.3s
447:
        learn: 0.2043756
                                  total: 1m 52s
                                                   remaining: 13s
448:
        learn: 0.2042281
                                  total: 1m 52s
                                                   remaining: 12.8s
449:
        learn: 0.2041998
                                  total: 1m 52s
                                                   remaining: 12.5s
450:
        learn: 0.2041406
                                  total: 1m 52s
                                                   remaining: 12.3s
451:
        learn: 0.2040491
                                  total: 1m 53s
                                                   remaining: 12s
452:
        learn: 0.2039591
                                  total: 1m 53s
                                                   remaining: 11.8s
453:
        learn: 0.2038919
                                  total: 1m 53s
                                                   remaining: 11.5s
454:
        learn: 0.2037613
                                  total: 1m 53s
                                                   remaining: 11.2s
```

```
learn: 0.2033939
455:
                                  total: 1m 53s
                                                   remaining: 11s
456:
        learn: 0.2033190
                                  total: 1m 54s
                                                  remaining: 10.7s
457:
        learn: 0.2031939
                                  total: 1m 54s
                                                   remaining: 10.5s
        learn: 0.2031264
                                                   remaining: 10.2s
458:
                                  total: 1m 54s
459:
        learn: 0.2030520
                                  total: 1m 55s
                                                   remaining: 10s
                                  total: 1m 55s
460:
        learn: 0.2030361
                                                   remaining: 9.75s
461:
        learn: 0.2029574
                                  total: 1m 55s
                                                   remaining: 9.5s
                                                   remaining: 9.25s
462:
        learn: 0.2029377
                                  total: 1m 55s
463:
        learn: 0.2029161
                                  total: 1m 56s
                                                   remaining: 9.01s
464:
        learn: 0.2028465
                                  total: 1m 56s
                                                   remaining: 8.76s
465:
        learn: 0.2028254
                                  total: 1m 56s
                                                   remaining: 8.51s
466:
        learn: 0.2027970
                                  total: 1m 56s
                                                   remaining: 8.26s
467:
        learn: 0.2027143
                                  total: 1m 57s
                                                   remaining: 8.01s
468:
        learn: 0.2026744
                                  total: 1m 57s
                                                   remaining: 7.76s
469:
        learn: 0.2025919
                                  total: 1m 57s
                                                   remaining: 7.51s
470:
        learn: 0.2025711
                                  total: 1m 57s
                                                   remaining: 7.26s
471:
        learn: 0.2025478
                                  total: 1m 58s
                                                   remaining: 7.01s
                                  total: 1m 58s
472:
        learn: 0.2024716
                                                   remaining: 6.76s
        learn: 0.2024528
473:
                                  total: 1m 58s
                                                   remaining: 6.51s
474:
        learn: 0.2023957
                                  total: 1m 58s
                                                   remaining: 6.26s
475:
        learn: 0.2023571
                                  total: 1m 59s
                                                   remaining: 6.01s
476:
        learn: 0.2022994
                                  total: 1m 59s
                                                   remaining: 5.76s
477:
        learn: 0.2022445
                                  total: 1m 59s
                                                   remaining: 5.51s
                                  total: 1m 59s
478:
        learn: 0.2022003
                                                   remaining: 5.26s
479:
        learn: 0.2021248
                                  total: 2m
                                                   remaining: 5.01s
480:
        learn: 0.2020725
                                                   remaining: 4.76s
                                  total: 2m
        learn: 0.2020479
481:
                                  total: 2m
                                                   remaining: 4.51s
482:
        learn: 0.2020211
                                  total: 2m
                                                   remaining: 4.26s
483:
        learn: 0.2019401
                                  total: 2m 1s
                                                   remaining: 4.01s
484:
        learn: 0.2018523
                                  total: 2m 1s
                                                   remaining: 3.75s
485:
        learn: 0.2017856
                                  total: 2m 1s
                                                   remaining: 3.5s
486:
        learn: 0.2017625
                                  total: 2m 1s
                                                   remaining: 3.25s
                                  total: 2m 2s
487:
        learn: 0.2017367
                                                   remaining: 3s
        learn: 0.2016980
                                  total: 2m 2s
488:
                                                   remaining: 2.75s
489:
        learn: 0.2016899
                                  total: 2m 2s
                                                   remaining: 2.5s
490:
        learn: 0.2016766
                                  total: 2m 2s
                                                   remaining: 2.25s
491:
        learn: 0.2015906
                                  total: 2m 3s
                                                   remaining: 2s
492:
        learn: 0.2015284
                                  total: 2m 3s
                                                   remaining: 1.75s
                                  total: 2m 3s
493:
        learn: 0.2014777
                                                   remaining: 1.5s
494:
        learn: 0.2014142
                                  total: 2m 3s
                                                   remaining: 1.25s
495:
        learn: 0.2013692
                                  total: 2m 4s
                                                   remaining: 1s
496:
        learn: 0.2013048
                                  total: 2m 4s
                                                   remaining: 752ms
497:
        learn: 0.2012353
                                  total: 2m 4s
                                                   remaining: 501ms
498:
        learn: 0.2011872
                                  total: 2m 5s
                                                   remaining: 251ms
499:
        learn: 0.2010906
                                                   remaining: Ous
                                  total: 2m 5s
Learning rate set to 0.173965
0:
        learn: 0.9722991
                                  total: 250ms
                                                   remaining: 2m 4s
1:
        learn: 0.8897130
                                  total: 456ms
                                                   remaining: 1m 53s
```

```
2:
        learn: 0.8307392
                                  total: 711ms
                                                   remaining: 1m 57s
3:
        learn: 0.7864693
                                  total: 902ms
                                                   remaining: 1m 51s
4:
        learn: 0.6734678
                                  total: 1.15s
                                                   remaining: 1m 54s
5:
        learn: 0.6213853
                                  total: 1.37s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
6:
        learn: 0.5492391
                                  total: 1.6s
7:
                                                   remaining: 1m 52s
        learn: 0.5147411
                                  total: 1.83s
8:
        learn: 0.4823528
                                  total: 2.09s
                                                   remaining: 1m 54s
9:
        learn: 0.4710436
                                  total: 2.29s
                                                   remaining: 1m 52s
10:
        learn: 0.4385624
                                  total: 2.5s
                                                   remaining: 1m 50s
11:
        learn: 0.4134095
                                  total: 2.69s
                                                   remaining: 1m 49s
                                  total: 2.85s
12:
        learn: 0.3923482
                                                   remaining: 1m 46s
                                                   remaining: 1m 45s
13:
        learn: 0.3756972
                                  total: 3.03s
        learn: 0.3679016
                                  total: 3.21s
                                                   remaining: 1m 43s
14:
15:
        learn: 0.3559721
                                  total: 3.4s
                                                   remaining: 1m 42s
16:
        learn: 0.3442453
                                  total: 3.59s
                                                   remaining: 1m 42s
17:
                                                   remaining: 1m 42s
        learn: 0.3331057
                                  total: 3.84s
18:
        learn: 0.3299847
                                  total: 4.09s
                                                   remaining: 1m 43s
19:
        learn: 0.3239710
                                  total: 4.33s
                                                   remaining: 1m 43s
20:
        learn: 0.3155807
                                  total: 4.57s
                                                   remaining: 1m 44s
21:
        learn: 0.3087889
                                  total: 4.84s
                                                   remaining: 1m 45s
22:
        learn: 0.3070286
                                  total: 5.09s
                                                   remaining: 1m 45s
                                                   remaining: 1m 46s
23:
        learn: 0.3048748
                                  total: 5.36s
24:
        learn: 0.2967456
                                  total: 5.66s
                                                   remaining: 1m 47s
25:
                                  total: 5.93s
                                                   remaining: 1m 48s
        learn: 0.2958084
26:
        learn: 0.2884319
                                  total: 6.23s
                                                   remaining: 1m 49s
27:
        learn: 0.2817725
                                  total: 6.51s
                                                   remaining: 1m 49s
28:
        learn: 0.2769492
                                  total: 6.77s
                                                   remaining: 1m 50s
29:
        learn: 0.2738303
                                  total: 7.05s
                                                   remaining: 1m 50s
                                  total: 7.32s
30:
        learn: 0.2731557
                                                   remaining: 1m 50s
31:
        learn: 0.2707738
                                  total: 7.61s
                                                   remaining: 1m 51s
                                  total: 7.9s
32:
        learn: 0.2691978
                                                   remaining: 1m 51s
33:
        learn: 0.2675075
                                  total: 8.17s
                                                   remaining: 1m 51s
34:
        learn: 0.2651412
                                  total: 8.43s
                                                   remaining: 1m 52s
35:
        learn: 0.2639321
                                  total: 8.7s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
36:
        learn: 0.2627392
                                  total: 8.97s
37:
        learn: 0.2623433
                                  total: 9.27s
                                                   remaining: 1m 52s
38:
        learn: 0.2618633
                                  total: 9.55s
                                                   remaining: 1m 52s
39:
        learn: 0.2587893
                                  total: 9.82s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
40:
        learn: 0.2579674
                                  total: 10.1s
41:
        learn: 0.2574623
                                  total: 10.3s
                                                   remaining: 1m 52s
42:
        learn: 0.2544429
                                  total: 10.6s
                                                   remaining: 1m 52s
        learn: 0.2541080
                                                   remaining: 1m 52s
43:
                                  total: 10.9s
44:
        learn: 0.2536173
                                  total: 11.1s
                                                   remaining: 1m 52s
45:
        learn: 0.2526705
                                  total: 11.4s
                                                   remaining: 1m 52s
46:
        learn: 0.2524912
                                  total: 11.7s
                                                   remaining: 1m 52s
47:
        learn: 0.2524659
                                  total: 12s
                                                   remaining: 1m 52s
48:
        learn: 0.2519450
                                  total: 12.2s
                                                   remaining: 1m 52s
49:
        learn: 0.2515570
                                  total: 12.5s
                                                   remaining: 1m 52s
```

```
50:
        learn: 0.2513486
                                  total: 12.8s
                                                   remaining: 1m 52s
51:
        learn: 0.2510937
                                  total: 13.1s
                                                   remaining: 1m 52s
52:
        learn: 0.2484995
                                  total: 13.4s
                                                   remaining: 1m 52s
53:
        learn: 0.2481261
                                  total: 13.6s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
54:
        learn: 0.2480627
                                  total: 13.9s
                                  total: 14.1s
                                                   remaining: 1m 52s
55:
        learn: 0.2479150
56:
        learn: 0.2476629
                                  total: 14.4s
                                                   remaining: 1m 51s
57:
        learn: 0.2475622
                                  total: 14.7s
                                                   remaining: 1m 51s
58:
        learn: 0.2473811
                                  total: 15s
                                                   remaining: 1m 51s
59:
        learn: 0.2453766
                                  total: 15.2s
                                                   remaining: 1m 51s
        learn: 0.2431690
60:
                                  total: 15.5s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
61:
        learn: 0.2431296
                                  total: 15.8s
62:
        learn: 0.2425751
                                  total: 16s
                                                   remaining: 1m 51s
63:
        learn: 0.2421716
                                  total: 16.3s
                                                   remaining: 1m 50s
64:
        learn: 0.2420155
                                  total: 16.5s
                                                   remaining: 1m 50s
65:
        learn: 0.2402655
                                                   remaining: 1m 50s
                                  total: 16.7s
66:
        learn: 0.2399847
                                  total: 17s
                                                   remaining: 1m 49s
67:
        learn: 0.2396270
                                  total: 17.2s
                                                   remaining: 1m 49s
        learn: 0.2393252
                                  total: 17.4s
                                                   remaining: 1m 48s
68:
69:
        learn: 0.2392605
                                  total: 17.7s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
70:
        learn: 0.2392507
                                  total: 17.9s
                                  total: 18.2s
71:
        learn: 0.2389135
                                                   remaining: 1m 48s
72:
        learn: 0.2387294
                                  total: 18.4s
                                                   remaining: 1m 47s
73:
        learn: 0.2384217
                                  total: 18.7s
                                                   remaining: 1m 47s
74:
        learn: 0.2382056
                                  total: 18.9s
                                                   remaining: 1m 47s
75:
                                                   remaining: 1m 47s
        learn: 0.2371892
                                  total: 19.2s
76:
        learn: 0.2370768
                                  total: 19.4s
                                                   remaining: 1m 46s
77:
        learn: 0.2369617
                                  total: 19.7s
                                                   remaining: 1m 46s
78:
        learn: 0.2368932
                                  total: 19.9s
                                                   remaining: 1m 46s
79:
        learn: 0.2366437
                                  total: 20.2s
                                                   remaining: 1m 45s
80:
        learn: 0.2365894
                                  total: 20.4s
                                                   remaining: 1m 45s
81:
        learn: 0.2358079
                                  total: 20.6s
                                                   remaining: 1m 45s
82:
        learn: 0.2343582
                                  total: 20.9s
                                                   remaining: 1m 45s
83:
        learn: 0.2342787
                                  total: 21.2s
                                                   remaining: 1m 44s
                                  total: 21.4s
                                                   remaining: 1m 44s
84:
        learn: 0.2341593
                                  total: 21.7s
85:
        learn: 0.2340854
                                                   remaining: 1m 44s
86:
        learn: 0.2339676
                                  total: 22s
                                                   remaining: 1m 44s
87:
        learn: 0.2338202
                                  total: 22.2s
                                                   remaining: 1m 44s
        learn: 0.2325309
                                  total: 22.5s
                                                   remaining: 1m 43s
88:
89:
        learn: 0.2323596
                                  total: 22.8s
                                                   remaining: 1m 43s
90:
        learn: 0.2322346
                                  total: 23s
                                                   remaining: 1m 43s
91:
        learn: 0.2314686
                                  total: 23.3s
                                                   remaining: 1m 43s
92:
        learn: 0.2313037
                                  total: 23.5s
                                                   remaining: 1m 43s
93:
        learn: 0.2312271
                                  total: 23.8s
                                                   remaining: 1m 42s
94:
        learn: 0.2311130
                                  total: 24.1s
                                                   remaining: 1m 42s
95:
        learn: 0.2310658
                                  total: 24.3s
                                                   remaining: 1m 42s
96:
        learn: 0.2308979
                                  total: 24.6s
                                                   remaining: 1m 42s
97:
        learn: 0.2307049
                                  total: 24.9s
                                                   remaining: 1m 42s
```

```
total: 25.1s
98:
        learn: 0.2303627
                                                   remaining: 1m 41s
99:
        learn: 0.2301151
                                  total: 25.4s
                                                   remaining: 1m 41s
100:
        learn: 0.2300919
                                  total: 25.7s
                                                   remaining: 1m 41s
        learn: 0.2300600
                                  total: 25.9s
                                                   remaining: 1m 41s
101:
                                                   remaining: 1m 40s
102:
        learn: 0.2300117
                                  total: 26.2s
                                  total: 26.4s
                                                   remaining: 1m 40s
103:
        learn: 0.2299091
104:
        learn: 0.2294040
                                  total: 26.7s
                                                   remaining: 1m 40s
105:
        learn: 0.2293220
                                  total: 26.9s
                                                   remaining: 1m 40s
106:
        learn: 0.2292625
                                  total: 27.2s
                                                   remaining: 1m 40s
107:
        learn: 0.2291459
                                  total: 27.5s
                                                   remaining: 1m 39s
                                  total: 27.8s
108:
        learn: 0.2290359
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
109:
        learn: 0.2288194
                                  total: 28.1s
        learn: 0.2288147
                                  total: 28.3s
                                                   remaining: 1m 39s
110:
111:
        learn: 0.2287634
                                  total: 28.6s
                                                   remaining: 1m 39s
112:
        learn: 0.2286999
                                  total: 28.9s
                                                   remaining: 1m 38s
        learn: 0.2285666
113:
                                  total: 29.1s
                                                   remaining: 1m 38s
114:
        learn: 0.2284525
                                  total: 29.4s
                                                   remaining: 1m 38s
                                  total: 29.7s
115:
        learn: 0.2282834
                                                   remaining: 1m 38s
        learn: 0.2282554
                                  total: 29.9s
                                                   remaining: 1m 38s
116:
117:
        learn: 0.2281378
                                  total: 30.2s
                                                   remaining: 1m 37s
118:
        learn: 0.2280497
                                  total: 30.5s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
119:
        learn: 0.2279226
                                  total: 30.8s
120:
        learn: 0.2278796
                                  total: 31s
                                                   remaining: 1m 37s
                                  total: 31.3s
                                                   remaining: 1m 37s
121:
        learn: 0.2277954
122:
        learn: 0.2276474
                                  total: 31.6s
                                                   remaining: 1m 36s
123:
        learn: 0.2275338
                                  total: 31.9s
                                                   remaining: 1m 36s
124:
        learn: 0.2274586
                                  total: 32.1s
                                                   remaining: 1m 36s
125:
        learn: 0.2272900
                                  total: 32.4s
                                                   remaining: 1m 36s
126:
        learn: 0.2272155
                                  total: 32.6s
                                                   remaining: 1m 35s
127:
        learn: 0.2271495
                                  total: 32.8s
                                                   remaining: 1m 35s
128:
        learn: 0.2270785
                                  total: 33.1s
                                                   remaining: 1m 35s
129:
        learn: 0.2270021
                                  total: 33.3s
                                                   remaining: 1m 34s
130:
        learn: 0.2268391
                                  total: 33.5s
                                                   remaining: 1m 34s
        learn: 0.2266458
                                  total: 33.8s
                                                   remaining: 1m 34s
131:
                                                   remaining: 1m 33s
132:
        learn: 0.2265650
                                  total: 34.1s
133:
        learn: 0.2265381
                                  total: 34.3s
                                                   remaining: 1m 33s
134:
        learn: 0.2264333
                                  total: 34.5s
                                                   remaining: 1m 33s
135:
        learn: 0.2263572
                                  total: 34.8s
                                                   remaining: 1m 33s
                                                   remaining: 1m 32s
136:
        learn: 0.2263193
                                  total: 35s
137:
        learn: 0.2260990
                                  total: 35.3s
                                                   remaining: 1m 32s
138:
        learn: 0.2259938
                                  total: 35.5s
                                                   remaining: 1m 32s
        learn: 0.2259818
                                                   remaining: 1m 31s
139:
                                  total: 35.8s
140:
        learn: 0.2259088
                                  total: 36s
                                                   remaining: 1m 31s
141:
        learn: 0.2258284
                                  total: 36.2s
                                                   remaining: 1m 31s
142:
        learn: 0.2257715
                                  total: 36.5s
                                                   remaining: 1m 31s
143:
        learn: 0.2256714
                                  total: 36.7s
                                                   remaining: 1m 30s
144:
        learn: 0.2256532
                                  total: 37s
                                                   remaining: 1m 30s
145:
        learn: 0.2256029
                                  total: 37.2s
                                                   remaining: 1m 30s
```

```
learn: 0.2255496
146:
                                  total: 37.4s
                                                   remaining: 1m 29s
147:
        learn: 0.2246054
                                  total: 37.7s
                                                   remaining: 1m 29s
148:
        learn: 0.2245253
                                  total: 37.9s
                                                   remaining: 1m 29s
        learn: 0.2244141
                                  total: 38.2s
                                                   remaining: 1m 29s
149:
150:
                                                   remaining: 1m 28s
        learn: 0.2243797
                                  total: 38.5s
                                                   remaining: 1m 28s
151:
        learn: 0.2243532
                                  total: 38.7s
152:
        learn: 0.2242698
                                  total: 39s
                                                   remaining: 1m 28s
153:
        learn: 0.2241808
                                  total: 39.2s
                                                   remaining: 1m 28s
154:
        learn: 0.2241044
                                  total: 39.5s
                                                   remaining: 1m 27s
155:
        learn: 0.2240778
                                  total: 39.7s
                                                   remaining: 1m 27s
156:
        learn: 0.2240594
                                  total: 40s
                                                   remaining: 1m 27s
                                                   remaining: 1m 27s
157:
        learn: 0.2237885
                                  total: 40.3s
158:
        learn: 0.2237064
                                                   remaining: 1m 26s
                                  total: 40.5s
159:
        learn: 0.2236502
                                  total: 40.8s
                                                   remaining: 1m 26s
160:
        learn: 0.2236296
                                  total: 41s
                                                   remaining: 1m 26s
161:
        learn: 0.2235978
                                  total: 41.3s
                                                   remaining: 1m 26s
162:
        learn: 0.2235304
                                  total: 41.5s
                                                   remaining: 1m 25s
163:
        learn: 0.2233978
                                  total: 41.8s
                                                   remaining: 1m 25s
        learn: 0.2232701
                                  total: 42.1s
                                                   remaining: 1m 25s
164:
165:
        learn: 0.2232093
                                  total: 42.3s
                                                   remaining: 1m 25s
166:
        learn: 0.2230846
                                  total: 42.6s
                                                   remaining: 1m 24s
                                  total: 42.9s
167:
        learn: 0.2229843
                                                   remaining: 1m 24s
168:
        learn: 0.2229324
                                  total: 43.1s
                                                   remaining: 1m 24s
                                  total: 43.4s
                                                   remaining: 1m 24s
169:
        learn: 0.2228809
170:
        learn: 0.2228347
                                  total: 43.7s
                                                   remaining: 1m 24s
171:
        learn: 0.2227517
                                  total: 44s
                                                   remaining: 1m 23s
        learn: 0.2226641
                                                   remaining: 1m 23s
172:
                                  total: 44.2s
173:
        learn: 0.2225075
                                  total: 44.5s
                                                   remaining: 1m 23s
174:
        learn: 0.2224723
                                  total: 44.7s
                                                   remaining: 1m 23s
175:
        learn: 0.2223614
                                  total: 45s
                                                   remaining: 1m 22s
        learn: 0.2222294
176:
                                  total: 45.3s
                                                   remaining: 1m 22s
177:
        learn: 0.2222019
                                  total: 45.5s
                                                   remaining: 1m 22s
178:
        learn: 0.2221402
                                  total: 45.8s
                                                   remaining: 1m 22s
179:
        learn: 0.2218967
                                                   remaining: 1m 21s
                                  total: 46s
                                                   remaining: 1m 21s
180:
        learn: 0.2218821
                                  total: 46.3s
181:
        learn: 0.2217581
                                  total: 46.6s
                                                   remaining: 1m 21s
182:
        learn: 0.2216773
                                  total: 46.8s
                                                   remaining: 1m 21s
183:
        learn: 0.2216263
                                  total: 47s
                                                   remaining: 1m 20s
184:
        learn: 0.2214832
                                  total: 47.3s
                                                   remaining: 1m 20s
185:
        learn: 0.2214477
                                  total: 47.5s
                                                   remaining: 1m 20s
        learn: 0.2214274
                                  total: 47.8s
186:
                                                   remaining: 1m 19s
                                                   remaining: 1m 19s
187:
        learn: 0.2213983
                                  total: 48s
188:
        learn: 0.2209525
                                                   remaining: 1m 19s
                                  total: 48.3s
189:
        learn: 0.2208550
                                  total: 48.5s
                                                   remaining: 1m 19s
190:
        learn: 0.2207511
                                  total: 48.8s
                                                   remaining: 1m 18s
191:
        learn: 0.2206353
                                  total: 49s
                                                   remaining: 1m 18s
192:
        learn: 0.2205631
                                  total: 49.2s
                                                   remaining: 1m 18s
193:
        learn: 0.2204542
                                  total: 49.5s
                                                   remaining: 1m 18s
```

```
194:
        learn: 0.2203467
                                  total: 49.7s
                                                   remaining: 1m 17s
195:
        learn: 0.2203019
                                  total: 49.9s
                                                   remaining: 1m 17s
196:
        learn: 0.2202153
                                  total: 50.2s
                                                   remaining: 1m 17s
197:
        learn: 0.2201326
                                  total: 50.4s
                                                   remaining: 1m 16s
                                                   remaining: 1m 16s
198:
        learn: 0.2201135
                                  total: 50.6s
                                  total: 50.9s
                                                   remaining: 1m 16s
199:
        learn: 0.2199850
200:
        learn: 0.2198245
                                  total: 51.1s
                                                   remaining: 1m 16s
201:
        learn: 0.2198032
                                  total: 51.3s
                                                   remaining: 1m 15s
202:
        learn: 0.2197557
                                  total: 51.6s
                                                   remaining: 1m 15s
203:
        learn: 0.2197470
                                  total: 51.8s
                                                   remaining: 1m 15s
        learn: 0.2196172
204:
                                  total: 52.1s
                                                   remaining: 1m 14s
                                                   remaining: 1m 14s
205:
        learn: 0.2195242
                                  total: 52.3s
206:
        learn: 0.2194780
                                  total: 52.6s
                                                   remaining: 1m 14s
207:
        learn: 0.2194343
                                  total: 52.8s
                                                   remaining: 1m 14s
208:
        learn: 0.2190330
                                  total: 53.1s
                                                   remaining: 1m 13s
        learn: 0.2189956
209:
                                  total: 53.3s
                                                   remaining: 1m 13s
210:
        learn: 0.2189314
                                  total: 53.6s
                                                   remaining: 1m 13s
                                  total: 53.9s
211:
        learn: 0.2189016
                                                   remaining: 1m 13s
212:
        learn: 0.2188117
                                  total: 54.1s
                                                   remaining: 1m 12s
213:
        learn: 0.2187967
                                  total: 54.4s
                                                   remaining: 1m 12s
214:
        learn: 0.2187617
                                  total: 54.7s
                                                   remaining: 1m 12s
215:
        learn: 0.2187454
                                  total: 54.9s
                                                   remaining: 1m 12s
216:
        learn: 0.2186529
                                  total: 55.2s
                                                   remaining: 1m 11s
217:
        learn: 0.2185279
                                  total: 55.4s
                                                   remaining: 1m 11s
218:
        learn: 0.2184685
                                  total: 55.7s
                                                   remaining: 1m 11s
219:
        learn: 0.2184266
                                  total: 55.9s
                                                   remaining: 1m 11s
220:
        learn: 0.2182959
                                  total: 56.2s
                                                   remaining: 1m 10s
221:
        learn: 0.2181175
                                  total: 56.4s
                                                   remaining: 1m 10s
                                  total: 56.7s
222:
        learn: 0.2179109
                                                   remaining: 1m 10s
223:
        learn: 0.2178558
                                  total: 57s
                                                   remaining: 1m 10s
224:
        learn: 0.2178077
                                  total: 57.3s
                                                   remaining: 1m 9s
225:
        learn: 0.2177694
                                  total: 57.5s
                                                   remaining: 1m 9s
226:
        learn: 0.2177187
                                  total: 57.8s
                                                   remaining: 1m 9s
227:
        learn: 0.2176474
                                  total: 58s
                                                   remaining: 1m 9s
228:
                                                   remaining: 1m 9s
        learn: 0.2175750
                                  total: 58.3s
229:
        learn: 0.2175205
                                  total: 58.6s
                                                   remaining: 1m 8s
230:
        learn: 0.2174959
                                  total: 58.9s
                                                   remaining: 1m 8s
231:
        learn: 0.2174182
                                  total: 59.1s
                                                   remaining: 1m 8s
232:
        learn: 0.2173678
                                  total: 59.4s
                                                   remaining: 1m 8s
233:
        learn: 0.2173243
                                  total: 59.6s
                                                   remaining: 1m 7s
234:
        learn: 0.2172239
                                  total: 59.8s
                                                   remaining: 1m 7s
235:
        learn: 0.2171212
                                                   remaining: 1m 7s
                                  total: 1m
236:
        learn: 0.2170652
                                  total: 1m
                                                   remaining: 1m 6s
237:
        learn: 0.2169980
                                  total: 1m
                                                   remaining: 1m 6s
238:
        learn: 0.2169278
                                  total: 1m
                                                   remaining: 1m 6s
239:
        learn: 0.2168096
                                  total: 1m
                                                   remaining: 1m 5s
240:
        learn: 0.2167598
                                  total: 1m
                                                   remaining: 1m 5s
241:
        learn: 0.2167011
                                  total: 1m 1s
                                                   remaining: 1m 5s
```

```
242:
        learn: 0.2166391
                                  total: 1m 1s
                                                   remaining: 1m 4s
                                                   remaining: 1m 4s
243:
        learn: 0.2165662
                                  total: 1m 1s
244:
        learn: 0.2165335
                                  total: 1m 1s
                                                   remaining: 1m 4s
245:
        learn: 0.2164181
                                                   remaining: 1m 3s
                                  total: 1m 1s
246:
        learn: 0.2163534
                                  total: 1m 2s
                                                   remaining: 1m 3s
                                  total: 1m 2s
                                                   remaining: 1m 3s
247:
        learn: 0.2163293
248:
        learn: 0.2157115
                                  total: 1m 2s
                                                   remaining: 1m 3s
249:
        learn: 0.2156475
                                  total: 1m 2s
                                                   remaining: 1m 2s
250:
        learn: 0.2152939
                                  total: 1m 3s
                                                   remaining: 1m 2s
251:
        learn: 0.2152396
                                  total: 1m 3s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
252:
        learn: 0.2150910
                                  total: 1m 3s
253:
        learn: 0.2149591
                                  total: 1m 3s
                                                   remaining: 1m 1s
254:
        learn: 0.2148279
                                  total: 1m 4s
                                                   remaining: 1m 1s
255:
        learn: 0.2147857
                                  total: 1m 4s
                                                   remaining: 1m 1s
                                                   remaining: 1m 1s
256:
        learn: 0.2147371
                                  total: 1m 4s
257:
        learn: 0.2146156
                                  total: 1m 4s
                                                   remaining: 1m
258:
        learn: 0.2144820
                                  total: 1m 5s
                                                   remaining: 1m
259:
        learn: 0.2144277
                                  total: 1m 5s
                                                   remaining: 1m
        learn: 0.2143592
                                  total: 1m 5s
                                                   remaining: 1m
260:
261:
        learn: 0.2143072
                                  total: 1m 5s
                                                   remaining: 59.8s
262:
        learn: 0.2142503
                                  total: 1m 6s
                                                   remaining: 59.5s
                                  total: 1m 6s
263:
        learn: 0.2142236
                                                   remaining: 59.2s
264:
        learn: 0.2142055
                                  total: 1m 6s
                                                   remaining: 59s
265:
        learn: 0.2141048
                                  total: 1m 6s
                                                   remaining: 58.7s
266:
        learn: 0.2140077
                                  total: 1m 6s
                                                   remaining: 58.5s
267:
        learn: 0.2139667
                                  total: 1m 7s
                                                   remaining: 58.2s
        learn: 0.2139270
268:
                                  total: 1m 7s
                                                   remaining: 57.9s
269:
        learn: 0.2136244
                                  total: 1m 7s
                                                   remaining: 57.7s
270:
        learn: 0.2134991
                                  total: 1m 8s
                                                   remaining: 57.5s
271:
        learn: 0.2134483
                                  total: 1m 8s
                                                   remaining: 57.2s
272:
        learn: 0.2129304
                                  total: 1m 8s
                                                   remaining: 57s
273:
        learn: 0.2128746
                                  total: 1m 8s
                                                   remaining: 56.7s
274:
        learn: 0.2128326
                                  total: 1m 9s
                                                   remaining: 56.5s
275:
        learn: 0.2128123
                                  total: 1m 9s
                                                   remaining: 56.2s
276:
        learn: 0.2127100
                                  total: 1m 9s
                                                   remaining: 55.9s
277:
        learn: 0.2126666
                                  total: 1m 9s
                                                   remaining: 55.6s
278:
        learn: 0.2125860
                                  total: 1m 9s
                                                   remaining: 55.3s
279:
        learn: 0.2124721
                                  total: 1m 10s
                                                   remaining: 55s
280:
        learn: 0.2123985
                                  total: 1m 10s
                                                   remaining: 54.7s
281:
        learn: 0.2123651
                                  total: 1m 10s
                                                   remaining: 54.4s
282:
        learn: 0.2123076
                                  total: 1m 10s
                                                   remaining: 54.1s
283:
        learn: 0.2122794
                                  total: 1m 10s
                                                   remaining: 53.9s
284:
        learn: 0.2122098
                                  total: 1m 11s
                                                   remaining: 53.6s
285:
        learn: 0.2121579
                                  total: 1m 11s
                                                   remaining: 53.3s
286:
        learn: 0.2119722
                                  total: 1m 11s
                                                   remaining: 53s
287:
        learn: 0.2118400
                                  total: 1m 11s
                                                   remaining: 52.7s
288:
        learn: 0.2117861
                                  total: 1m 11s
                                                   remaining: 52.5s
289:
        learn: 0.2117088
                                  total: 1m 12s
                                                   remaining: 52.2s
```

```
290:
        learn: 0.2116492
                                  total: 1m 12s
                                                   remaining: 52s
291:
        learn: 0.2115542
                                  total: 1m 12s
                                                   remaining: 51.7s
292:
        learn: 0.2115111
                                  total: 1m 12s
                                                   remaining: 51.5s
293:
        learn: 0.2114743
                                  total: 1m 13s
                                                   remaining: 51.2s
294:
        learn: 0.2114496
                                  total: 1m 13s
                                                   remaining: 50.9s
                                  total: 1m 13s
295:
        learn: 0.2114444
                                                   remaining: 50.7s
296:
        learn: 0.2114067
                                  total: 1m 13s
                                                   remaining: 50.4s
                                                   remaining: 50.2s
        learn: 0.2113833
297:
                                  total: 1m 14s
298:
        learn: 0.2113736
                                  total: 1m 14s
                                                   remaining: 49.9s
299:
        learn: 0.2112917
                                  total: 1m 14s
                                                   remaining: 49.7s
300:
        learn: 0.2111770
                                  total: 1m 14s
                                                   remaining: 49.5s
301:
        learn: 0.2111264
                                  total: 1m 15s
                                                   remaining: 49.2s
302:
        learn: 0.2110208
                                  total: 1m 15s
                                                   remaining: 49s
303:
        learn: 0.2110094
                                  total: 1m 15s
                                                   remaining: 48.8s
                                                   remaining: 48.5s
304:
        learn: 0.2109864
                                  total: 1m 15s
305:
        learn: 0.2108924
                                  total: 1m 16s
                                                   remaining: 48.3s
306:
        learn: 0.2108368
                                  total: 1m 16s
                                                   remaining: 48s
                                  total: 1m 16s
307:
        learn: 0.2107700
                                                   remaining: 47.8s
        learn: 0.2106593
308:
                                  total: 1m 16s
                                                   remaining: 47.6s
309:
        learn: 0.2106137
                                  total: 1m 17s
                                                   remaining: 47.3s
310:
        learn: 0.2105234
                                  total: 1m 17s
                                                   remaining: 47.1s
311:
        learn: 0.2104926
                                  total: 1m 17s
                                                   remaining: 46.8s
312:
        learn: 0.2104474
                                  total: 1m 18s
                                                   remaining: 46.6s
313:
        learn: 0.2103997
                                  total: 1m 18s
                                                   remaining: 46.4s
314:
        learn: 0.2102794
                                  total: 1m 18s
                                                   remaining: 46.1s
315:
        learn: 0.2102598
                                  total: 1m 18s
                                                   remaining: 45.9s
316:
        learn: 0.2102056
                                  total: 1m 19s
                                                   remaining: 45.6s
317:
        learn: 0.2101796
                                  total: 1m 19s
                                                   remaining: 45.4s
318:
        learn: 0.2101328
                                  total: 1m 19s
                                                   remaining: 45.1s
319:
        learn: 0.2101140
                                  total: 1m 19s
                                                   remaining: 44.9s
320:
        learn: 0.2100558
                                  total: 1m 19s
                                                   remaining: 44.6s
321:
        learn: 0.2099691
                                  total: 1m 20s
                                                   remaining: 44.4s
322:
        learn: 0.2099218
                                  total: 1m 20s
                                                   remaining: 44.1s
323:
        learn: 0.2098484
                                  total: 1m 20s
                                                   remaining: 43.9s
324:
        learn: 0.2098338
                                  total: 1m 20s
                                                   remaining: 43.6s
                                  total: 1m 21s
325:
        learn: 0.2097476
                                                   remaining: 43.3s
326:
        learn: 0.2096991
                                  total: 1m 21s
                                                   remaining: 43.1s
327:
        learn: 0.2096596
                                  total: 1m 21s
                                                   remaining: 42.8s
                                  total: 1m 21s
328:
        learn: 0.2095570
                                                   remaining: 42.6s
329:
        learn: 0.2093493
                                  total: 1m 22s
                                                   remaining: 42.3s
330:
        learn: 0.2092859
                                  total: 1m 22s
                                                   remaining: 42.1s
331:
        learn: 0.2091863
                                  total: 1m 22s
                                                   remaining: 41.8s
332:
        learn: 0.2091063
                                  total: 1m 22s
                                                   remaining: 41.5s
333:
        learn: 0.2090148
                                  total: 1m 23s
                                                   remaining: 41.3s
334:
        learn: 0.2089529
                                  total: 1m 23s
                                                   remaining: 41s
335:
        learn: 0.2088690
                                  total: 1m 23s
                                                   remaining: 40.8s
336:
        learn: 0.2088121
                                  total: 1m 23s
                                                   remaining: 40.5s
337:
        learn: 0.2087147
                                  total: 1m 23s
                                                   remaining: 40.2s
```

```
total: 1m 24s
338:
        learn: 0.2086175
                                                   remaining: 40s
339:
        learn: 0.2085492
                                  total: 1m 24s
                                                   remaining: 39.7s
340:
        learn: 0.2084608
                                  total: 1m 24s
                                                   remaining: 39.5s
341:
        learn: 0.2084169
                                  total: 1m 24s
                                                   remaining: 39.3s
342:
        learn: 0.2083430
                                  total: 1m 25s
                                                   remaining: 39s
                                  total: 1m 25s
343:
        learn: 0.2083167
                                                   remaining: 38.8s
344:
        learn: 0.2082415
                                  total: 1m 25s
                                                   remaining: 38.5s
345:
        learn: 0.2081570
                                  total: 1m 26s
                                                   remaining: 38.3s
346:
        learn: 0.2077623
                                  total: 1m 26s
                                                   remaining: 38.1s
347:
        learn: 0.2076790
                                  total: 1m 26s
                                                   remaining: 37.8s
348:
        learn: 0.2076341
                                  total: 1m 26s
                                                   remaining: 37.6s
349:
        learn: 0.2075858
                                  total: 1m 27s
                                                   remaining: 37.4s
350:
        learn: 0.2075617
                                  total: 1m 27s
                                                   remaining: 37.1s
351:
        learn: 0.2075280
                                  total: 1m 27s
                                                   remaining: 36.9s
                                                   remaining: 36.6s
352:
        learn: 0.2074555
                                  total: 1m 27s
353:
        learn: 0.2074228
                                  total: 1m 28s
                                                   remaining: 36.4s
354:
        learn: 0.2073473
                                  total: 1m 28s
                                                   remaining: 36.2s
                                  total: 1m 28s
355:
        learn: 0.2073042
                                                   remaining: 35.9s
        learn: 0.2071682
                                  total: 1m 29s
356:
                                                   remaining: 35.7s
357:
        learn: 0.2070842
                                  total: 1m 29s
                                                   remaining: 35.4s
358:
        learn: 0.2069871
                                  total: 1m 29s
                                                   remaining: 35.2s
359:
        learn: 0.2069550
                                  total: 1m 29s
                                                   remaining: 35s
360:
        learn: 0.2069094
                                  total: 1m 30s
                                                   remaining: 34.7s
361:
        learn: 0.2068163
                                  total: 1m 30s
                                                   remaining: 34.5s
362:
        learn: 0.2067782
                                  total: 1m 30s
                                                   remaining: 34.2s
                                  total: 1m 30s
363:
        learn: 0.2067302
                                                   remaining: 34s
364:
        learn: 0.2066777
                                  total: 1m 31s
                                                   remaining: 33.8s
365:
        learn: 0.2066498
                                  total: 1m 31s
                                                   remaining: 33.5s
366:
        learn: 0.2065853
                                  total: 1m 31s
                                                   remaining: 33.3s
367:
        learn: 0.2065483
                                  total: 1m 32s
                                                   remaining: 33s
368:
        learn: 0.2064959
                                  total: 1m 32s
                                                   remaining: 32.8s
369:
        learn: 0.2064916
                                  total: 1m 32s
                                                   remaining: 32.5s
370:
        learn: 0.2064544
                                  total: 1m 32s
                                                   remaining: 32.3s
371:
        learn: 0.2063509
                                  total: 1m 33s
                                                   remaining: 32s
372:
        learn: 0.2063061
                                  total: 1m 33s
                                                   remaining: 31.8s
373:
        learn: 0.2062751
                                  total: 1m 33s
                                                   remaining: 31.5s
374:
        learn: 0.2062543
                                  total: 1m 33s
                                                   remaining: 31.3s
375:
        learn: 0.2062340
                                  total: 1m 34s
                                                   remaining: 31.1s
376:
        learn: 0.2062195
                                  total: 1m 34s
                                                   remaining: 30.8s
377:
        learn: 0.2061728
                                  total: 1m 34s
                                                   remaining: 30.5s
                                  total: 1m 34s
        learn: 0.2060703
378:
                                                   remaining: 30.3s
379:
        learn: 0.2059796
                                  total: 1m 35s
                                                   remaining: 30.1s
380:
        learn: 0.2058738
                                  total: 1m 35s
                                                   remaining: 29.8s
381:
        learn: 0.2058557
                                  total: 1m 35s
                                                   remaining: 29.6s
                                                   remaining: 29.3s
382:
        learn: 0.2057541
                                  total: 1m 35s
383:
        learn: 0.2056807
                                  total: 1m 36s
                                                   remaining: 29.1s
384:
        learn: 0.2056416
                                  total: 1m 36s
                                                   remaining: 28.8s
385:
        learn: 0.2055967
                                  total: 1m 36s
                                                   remaining: 28.5s
```

```
learn: 0.2055653
386:
                                  total: 1m 36s
                                                   remaining: 28.3s
387:
        learn: 0.2055040
                                  total: 1m 37s
                                                   remaining: 28s
388:
        learn: 0.2054728
                                  total: 1m 37s
                                                   remaining: 27.8s
389:
        learn: 0.2054260
                                  total: 1m 37s
                                                   remaining: 27.5s
390:
        learn: 0.2053808
                                  total: 1m 37s
                                                   remaining: 27.3s
                                  total: 1m 38s
391:
        learn: 0.2053292
                                                   remaining: 27s
392:
        learn: 0.2052775
                                  total: 1m 38s
                                                   remaining: 26.8s
                                                   remaining: 26.5s
393:
        learn: 0.2052328
                                  total: 1m 38s
394:
        learn: 0.2052043
                                  total: 1m 38s
                                                   remaining: 26.3s
395:
        learn: 0.2051555
                                  total: 1m 39s
                                                   remaining: 26s
396:
        learn: 0.2050656
                                  total: 1m 39s
                                                   remaining: 25.8s
397:
        learn: 0.2050143
                                  total: 1m 39s
                                                   remaining: 25.5s
398:
        learn: 0.2049740
                                  total: 1m 39s
                                                   remaining: 25.2s
399:
        learn: 0.2049318
                                  total: 1m 39s
                                                   remaining: 25s
400:
        learn: 0.2048950
                                  total: 1m 40s
                                                   remaining: 24.7s
401:
        learn: 0.2048298
                                  total: 1m 40s
                                                   remaining: 24.5s
402:
        learn: 0.2047964
                                  total: 1m 40s
                                                   remaining: 24.2s
403:
        learn: 0.2047605
                                  total: 1m 40s
                                                   remaining: 24s
404:
        learn: 0.2047190
                                  total: 1m 41s
                                                   remaining: 23.7s
405:
        learn: 0.2046412
                                  total: 1m 41s
                                                   remaining: 23.5s
406:
        learn: 0.2045774
                                  total: 1m 41s
                                                   remaining: 23.2s
407:
        learn: 0.2045026
                                  total: 1m 42s
                                                   remaining: 23s
408:
        learn: 0.2044641
                                  total: 1m 42s
                                                   remaining: 22.8s
409:
        learn: 0.2043415
                                  total: 1m 42s
                                                   remaining: 22.5s
410:
        learn: 0.2043045
                                  total: 1m 42s
                                                   remaining: 22.3s
411:
        learn: 0.2042824
                                  total: 1m 43s
                                                   remaining: 22s
412:
        learn: 0.2042525
                                  total: 1m 43s
                                                   remaining: 21.8s
413:
        learn: 0.2042128
                                  total: 1m 43s
                                                   remaining: 21.5s
414:
        learn: 0.2041524
                                  total: 1m 43s
                                                   remaining: 21.3s
415:
        learn: 0.2040345
                                  total: 1m 44s
                                                   remaining: 21s
416:
        learn: 0.2040019
                                  total: 1m 44s
                                                   remaining: 20.8s
417:
        learn: 0.2039394
                                  total: 1m 44s
                                                   remaining: 20.5s
418:
        learn: 0.2038846
                                  total: 1m 44s
                                                   remaining: 20.3s
419:
        learn: 0.2038254
                                  total: 1m 45s
                                                   remaining: 20s
420:
        learn: 0.2037864
                                  total: 1m 45s
                                                   remaining: 19.8s
421:
        learn: 0.2036437
                                  total: 1m 45s
                                                   remaining: 19.5s
422:
        learn: 0.2035925
                                  total: 1m 45s
                                                   remaining: 19.3s
423:
        learn: 0.2034857
                                  total: 1m 46s
                                                   remaining: 19s
424:
        learn: 0.2033887
                                  total: 1m 46s
                                                   remaining: 18.8s
425:
        learn: 0.2033465
                                  total: 1m 46s
                                                   remaining: 18.5s
426:
        learn: 0.2033330
                                  total: 1m 47s
                                                   remaining: 18.3s
427:
        learn: 0.2032835
                                  total: 1m 47s
                                                   remaining: 18s
428:
        learn: 0.2032194
                                  total: 1m 47s
                                                   remaining: 17.8s
429:
        learn: 0.2031837
                                  total: 1m 47s
                                                   remaining: 17.6s
430:
        learn: 0.2031277
                                  total: 1m 48s
                                                   remaining: 17.3s
431:
        learn: 0.2030919
                                  total: 1m 48s
                                                   remaining: 17.1s
432:
        learn: 0.2030828
                                  total: 1m 48s
                                                   remaining: 16.8s
433:
        learn: 0.2028908
                                  total: 1m 48s
                                                   remaining: 16.6s
```

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434:
        learn: 0.2028649
                                  total: 1m 49s
                                                   remaining: 16.3s
435:
        learn: 0.2028202
                                  total: 1m 49s
                                                   remaining: 16.1s
436:
        learn: 0.2027810
                                  total: 1m 49s
                                                   remaining: 15.8s
        learn: 0.2027380
437:
                                  total: 1m 50s
                                                   remaining: 15.6s
438:
        learn: 0.2027315
                                  total: 1m 50s
                                                   remaining: 15.3s
                                  total: 1m 50s
439:
        learn: 0.2026329
                                                   remaining: 15.1s
440:
        learn: 0.2025304
                                  total: 1m 50s
                                                   remaining: 14.8s
441:
        learn: 0.2024972
                                  total: 1m 50s
                                                   remaining: 14.6s
442:
        learn: 0.2024613
                                  total: 1m 51s
                                                   remaining: 14.3s
443:
        learn: 0.2024361
                                  total: 1m 51s
                                                   remaining: 14.1s
444:
        learn: 0.2023929
                                  total: 1m 51s
                                                   remaining: 13.8s
445:
        learn: 0.2023292
                                  total: 1m 51s
                                                   remaining: 13.6s
        learn: 0.2022525
446:
                                  total: 1m 52s
                                                   remaining: 13.3s
447:
        learn: 0.2022198
                                  total: 1m 52s
                                                   remaining: 13.1s
448:
        learn: 0.2020599
                                  total: 1m 52s
                                                   remaining: 12.8s
449:
        learn: 0.2020208
                                  total: 1m 52s
                                                   remaining: 12.6s
450:
        learn: 0.2020068
                                  total: 1m 53s
                                                   remaining: 12.3s
                                  total: 1m 53s
451:
        learn: 0.2019514
                                                   remaining: 12s
        learn: 0.2018908
452:
                                  total: 1m 53s
                                                   remaining: 11.8s
453:
        learn: 0.2018683
                                  total: 1m 53s
                                                   remaining: 11.5s
454:
        learn: 0.2018419
                                  total: 1m 54s
                                                   remaining: 11.3s
455:
        learn: 0.2017766
                                  total: 1m 54s
                                                   remaining: 11s
456:
        learn: 0.2017616
                                  total: 1m 54s
                                                   remaining: 10.8s
                                  total: 1m 54s
457:
        learn: 0.2017117
                                                   remaining: 10.5s
458:
        learn: 0.2016023
                                  total: 1m 55s
                                                   remaining: 10.3s
                                  total: 1m 55s
459:
        learn: 0.2015788
                                                   remaining: 10s
460:
        learn: 0.2015280
                                  total: 1m 55s
                                                   remaining: 9.78s
461:
        learn: 0.2014883
                                  total: 1m 55s
                                                   remaining: 9.53s
462:
        learn: 0.2014230
                                  total: 1m 56s
                                                   remaining: 9.29s
463:
        learn: 0.2013857
                                  total: 1m 56s
                                                   remaining: 9.04s
464:
        learn: 0.2013286
                                  total: 1m 56s
                                                   remaining: 8.79s
465:
        learn: 0.2013116
                                  total: 1m 56s
                                                   remaining: 8.53s
466:
        learn: 0.2012924
                                  total: 1m 57s
                                                   remaining: 8.28s
        learn: 0.2012633
                                  total: 1m 57s
467:
                                                   remaining: 8.03s
468:
        learn: 0.2011820
                                  total: 1m 57s
                                                   remaining: 7.78s
        learn: 0.2011057
469:
                                  total: 1m 57s
                                                   remaining: 7.53s
470:
        learn: 0.2009931
                                  total: 1m 58s
                                                   remaining: 7.28s
471:
        learn: 0.2009427
                                  total: 1m 58s
                                                   remaining: 7.03s
472:
        learn: 0.2008899
                                  total: 1m 58s
                                                   remaining: 6.78s
473:
        learn: 0.2008764
                                  total: 1m 59s
                                                   remaining: 6.53s
                                  total: 1m 59s
474:
        learn: 0.2008240
                                                   remaining: 6.28s
475:
        learn: 0.2007544
                                  total: 1m 59s
                                                   remaining: 6.03s
476:
        learn: 0.2007243
                                  total: 1m 59s
                                                   remaining: 5.78s
477:
        learn: 0.2006142
                                  total: 2m
                                                   remaining: 5.53s
478:
        learn: 0.2005308
                                                   remaining: 5.28s
                                  total: 2m
479:
        learn: 0.2004556
                                  total: 2m
                                                   remaining: 5.03s
480:
        learn: 0.2003234
                                  total: 2m
                                                   remaining: 4.78s
481:
        learn: 0.2002268
                                  total: 2m 1s
                                                   remaining: 4.53s
```

```
482:
        learn: 0.2001840
                                  total: 2m 1s
                                                   remaining: 4.28s
483:
        learn: 0.2001649
                                  total: 2m 1s
                                                   remaining: 4.03s
484:
        learn: 0.2001183
                                  total: 2m 2s
                                                   remaining: 3.77s
        learn: 0.2000983
                                  total: 2m 2s
                                                   remaining: 3.52s
485:
486:
        learn: 0.2000424
                                  total: 2m 2s
                                                   remaining: 3.27s
                                  total: 2m 2s
                                                   remaining: 3.02s
487:
        learn: 0.2000085
488:
        learn: 0.1999373
                                  total: 2m 3s
                                                   remaining: 2.77s
489:
        learn: 0.1998971
                                  total: 2m 3s
                                                   remaining: 2.52s
490:
        learn: 0.1998344
                                  total: 2m 3s
                                                   remaining: 2.27s
491:
        learn: 0.1997443
                                  total: 2m 3s
                                                   remaining: 2.01s
492:
        learn: 0.1996633
                                  total: 2m 4s
                                                   remaining: 1.76s
493:
        learn: 0.1996375
                                  total: 2m 4s
                                                   remaining: 1.51s
494:
        learn: 0.1995853
                                                   remaining: 1.26s
                                  total: 2m 4s
495:
        learn: 0.1994846
                                  total: 2m 4s
                                                   remaining: 1.01s
                                                   remaining: 756ms
496:
        learn: 0.1993792
                                  total: 2m 5s
497:
        learn: 0.1993506
                                  total: 2m 5s
                                                   remaining: 504ms
498:
        learn: 0.1993154
                                  total: 2m 5s
                                                   remaining: 252ms
499:
        learn: 0.1992662
                                  total: 2m 6s
                                                   remaining: Ous
Learning rate set to 0.173965
0:
        learn: 0.9724600
                                  total: 268ms
                                                   remaining: 2m 13s
1:
        learn: 0.8907111
                                  total: 471ms
                                                   remaining: 1m 57s
2:
        learn: 0.8315699
                                  total: 720ms
                                                   remaining: 1m 59s
3:
        learn: 0.7883131
                                  total: 892ms
                                                   remaining: 1m 50s
                                  total: 1.09s
                                                   remaining: 1m 47s
4:
        learn: 0.6749170
5:
        learn: 0.6236951
                                  total: 1.27s
                                                   remaining: 1m 44s
6:
        learn: 0.5592617
                                  total: 1.47s
                                                   remaining: 1m 43s
7:
                                                   remaining: 1m 41s
        learn: 0.5342018
                                  total: 1.65s
8:
        learn: 0.4892711
                                  total: 1.84s
                                                   remaining: 1m 40s
                                  total: 2.02s
9:
        learn: 0.4554257
                                                   remaining: 1m 38s
10:
        learn: 0.4326566
                                  total: 2.18s
                                                   remaining: 1m 37s
        learn: 0.4087579
                                  total: 2.37s
11:
                                                   remaining: 1m 36s
12:
        learn: 0.3847695
                                  total: 2.59s
                                                   remaining: 1m 37s
13:
        learn: 0.3685936
                                  total: 2.8s
                                                   remaining: 1m 37s
14:
        learn: 0.3559712
                                  total: 2.98s
                                                   remaining: 1m 36s
                                                   remaining: 1m 35s
15:
        learn: 0.3515407
                                  total: 3.17s
16:
        learn: 0.3406724
                                  total: 3.4s
                                                   remaining: 1m 36s
17:
        learn: 0.3283952
                                  total: 3.65s
                                                   remaining: 1m 37s
18:
        learn: 0.3177661
                                  total: 3.92s
                                                   remaining: 1m 39s
19:
        learn: 0.3122098
                                  total: 4.15s
                                                   remaining: 1m 39s
20:
        learn: 0.3056332
                                  total: 4.39s
                                                   remaining: 1m 40s
21:
        learn: 0.2987380
                                  total: 4.6s
                                                   remaining: 1m 39s
22:
                                  total: 4.86s
                                                   remaining: 1m 40s
        learn: 0.2908054
23:
        learn: 0.2843957
                                  total: 5.12s
                                                   remaining: 1m 41s
24:
        learn: 0.2821050
                                  total: 5.41s
                                                   remaining: 1m 42s
25:
        learn: 0.2799260
                                  total: 5.7s
                                                   remaining: 1m 43s
26:
        learn: 0.2783405
                                  total: 5.96s
                                                   remaining: 1m 44s
27:
        learn: 0.2729626
                                  total: 6.27s
                                                   remaining: 1m 45s
28:
        learn: 0.2721108
                                  total: 6.6s
                                                   remaining: 1m 47s
```

```
29:
        learn: 0.2681045
                                  total: 6.93s
                                                   remaining: 1m 48s
30:
        learn: 0.2673761
                                  total: 7.19s
                                                   remaining: 1m 48s
31:
        learn: 0.2666096
                                  total: 7.46s
                                                   remaining: 1m 49s
32:
        learn: 0.2658675
                                  total: 7.71s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
33:
        learn: 0.2650692
                                  total: 7.97s
        learn: 0.2632041
                                  total: 8.28s
                                                   remaining: 1m 50s
34:
35:
        learn: 0.2622991
                                  total: 8.57s
                                                   remaining: 1m 50s
36:
        learn: 0.2619144
                                  total: 8.83s
                                                   remaining: 1m 50s
37:
        learn: 0.2602030
                                  total: 9.11s
                                                   remaining: 1m 50s
38:
        learn: 0.2562582
                                  total: 9.39s
                                                   remaining: 1m 50s
        learn: 0.2555487
39:
                                  total: 9.66s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
40:
        learn: 0.2550763
                                  total: 9.91s
41:
        learn: 0.2548338
                                  total: 10.2s
                                                   remaining: 1m 51s
42:
        learn: 0.2534529
                                  total: 10.5s
                                                   remaining: 1m 51s
43:
        learn: 0.2530407
                                  total: 10.8s
                                                   remaining: 1m 51s
44:
        learn: 0.2523405
                                                   remaining: 1m 51s
                                  total: 11s
45:
        learn: 0.2507983
                                  total: 11.3s
                                                   remaining: 1m 51s
                                  total: 11.6s
46:
        learn: 0.2503560
                                                   remaining: 1m 51s
47:
        learn: 0.2501353
                                  total: 11.9s
                                                   remaining: 1m 51s
48:
        learn: 0.2498342
                                  total: 12.1s
                                                   remaining: 1m 51s
49:
        learn: 0.2483433
                                  total: 12.4s
                                                   remaining: 1m 51s
                                  total: 12.7s
50:
        learn: 0.2476088
                                                   remaining: 1m 51s
51:
        learn: 0.2474058
                                  total: 13s
                                                   remaining: 1m 51s
52:
        learn: 0.2469929
                                  total: 13.3s
                                                   remaining: 1m 52s
53:
        learn: 0.2467379
                                  total: 13.6s
                                                   remaining: 1m 52s
54:
        learn: 0.2464587
                                  total: 13.8s
                                                   remaining: 1m 51s
        learn: 0.2463071
                                  total: 14.1s
                                                   remaining: 1m 51s
55:
56:
        learn: 0.2459254
                                  total: 14.4s
                                                   remaining: 1m 51s
57:
        learn: 0.2449762
                                  total: 14.7s
                                                   remaining: 1m 51s
58:
        learn: 0.2443652
                                  total: 14.9s
                                                   remaining: 1m 51s
59:
        learn: 0.2439577
                                  total: 15.1s
                                                   remaining: 1m 51s
60:
        learn: 0.2437367
                                  total: 15.4s
                                                   remaining: 1m 51s
61:
        learn: 0.2436115
                                  total: 15.7s
                                                   remaining: 1m 50s
62:
        learn: 0.2420893
                                  total: 16s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
63:
        learn: 0.2400083
                                  total: 16.2s
64:
        learn: 0.2397699
                                  total: 16.5s
                                                   remaining: 1m 50s
65:
        learn: 0.2395328
                                  total: 16.8s
                                                   remaining: 1m 50s
66:
        learn: 0.2393853
                                  total: 17s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
67:
        learn: 0.2392640
                                  total: 17.2s
68:
        learn: 0.2390887
                                  total: 17.4s
                                                   remaining: 1m 48s
69:
        learn: 0.2390108
                                  total: 17.7s
                                                   remaining: 1m 48s
70:
        learn: 0.2389330
                                                   remaining: 1m 48s
                                  total: 18s
71:
        learn: 0.2387725
                                  total: 18.2s
                                                   remaining: 1m 48s
72:
        learn: 0.2386745
                                  total: 18.4s
                                                   remaining: 1m 47s
73:
        learn: 0.2385812
                                  total: 18.7s
                                                   remaining: 1m 47s
74:
        learn: 0.2382442
                                  total: 18.9s
                                                   remaining: 1m 47s
75:
        learn: 0.2379558
                                  total: 19.1s
                                                   remaining: 1m 46s
76:
        learn: 0.2370570
                                  total: 19.4s
                                                   remaining: 1m 46s
```

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77:
        learn: 0.2369233
                                  total: 19.6s
                                                   remaining: 1m 46s
78:
        learn: 0.2367681
                                  total: 19.9s
                                                   remaining: 1m 45s
79:
        learn: 0.2362666
                                  total: 20.1s
                                                   remaining: 1m 45s
80:
        learn: 0.2360372
                                  total: 20.4s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
81:
        learn: 0.2358879
                                  total: 20.6s
        learn: 0.2353839
                                  total: 20.9s
                                                   remaining: 1m 44s
82:
83:
        learn: 0.2338050
                                  total: 21.1s
                                                   remaining: 1m 44s
84:
        learn: 0.2336055
                                  total: 21.3s
                                                   remaining: 1m 44s
85:
        learn: 0.2335190
                                  total: 21.6s
                                                   remaining: 1m 43s
86:
        learn: 0.2334191
                                  total: 21.8s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
        learn: 0.2332137
                                  total: 22.1s
87:
                                  total: 22.3s
                                                   remaining: 1m 43s
88:
        learn: 0.2331433
                                  total: 22.6s
89:
        learn: 0.2329729
                                                   remaining: 1m 42s
90:
        learn: 0.2329354
                                  total: 22.8s
                                                   remaining: 1m 42s
91:
        learn: 0.2328957
                                  total: 23.1s
                                                   remaining: 1m 42s
92:
        learn: 0.2327546
                                  total: 23.4s
                                                   remaining: 1m 42s
93:
        learn: 0.2325058
                                  total: 23.7s
                                                   remaining: 1m 42s
94:
        learn: 0.2324846
                                  total: 23.9s
                                                   remaining: 1m 42s
        learn: 0.2322946
                                  total: 24.2s
                                                   remaining: 1m 41s
95:
96:
        learn: 0.2322331
                                  total: 24.5s
                                                   remaining: 1m 41s
97:
        learn: 0.2321086
                                  total: 24.7s
                                                   remaining: 1m 41s
                                  total: 25.1s
98:
        learn: 0.2318275
                                                   remaining: 1m 41s
99:
        learn: 0.2315001
                                  total: 25.3s
                                                   remaining: 1m 41s
        learn: 0.2312475
                                  total: 25.6s
                                                   remaining: 1m 41s
100:
101:
        learn: 0.2310543
                                  total: 25.9s
                                                   remaining: 1m 41s
        learn: 0.2304048
                                                   remaining: 1m 40s
102:
                                  total: 26.2s
        learn: 0.2302312
                                  total: 26.4s
                                                   remaining: 1m 40s
103:
104:
        learn: 0.2302246
                                  total: 26.7s
                                                   remaining: 1m 40s
                                  total: 27s
        learn: 0.2300185
                                                   remaining: 1m 40s
105:
106:
        learn: 0.2297384
                                  total: 27.2s
                                                   remaining: 1m 40s
107:
        learn: 0.2296290
                                  total: 27.5s
                                                   remaining: 1m 39s
108:
        learn: 0.2294529
                                  total: 27.8s
                                                   remaining: 1m 39s
109:
        learn: 0.2293331
                                  total: 28.1s
                                                   remaining: 1m 39s
110:
        learn: 0.2290470
                                  total: 28.3s
                                                   remaining: 1m 39s
                                  total: 28.6s
                                                   remaining: 1m 39s
111:
        learn: 0.2289505
112:
        learn: 0.2289134
                                  total: 28.9s
                                                   remaining: 1m 39s
113:
        learn: 0.2287414
                                  total: 29.2s
                                                   remaining: 1m 38s
114:
        learn: 0.2287011
                                  total: 29.5s
                                                   remaining: 1m 38s
        learn: 0.2286156
                                  total: 29.8s
                                                   remaining: 1m 38s
115:
116:
        learn: 0.2280517
                                  total: 30.1s
                                                   remaining: 1m 38s
117:
        learn: 0.2279575
                                  total: 30.4s
                                                   remaining: 1m 38s
        learn: 0.2279073
                                  total: 30.6s
                                                   remaining: 1m 38s
118:
119:
        learn: 0.2271638
                                  total: 31s
                                                   remaining: 1m 38s
120:
        learn: 0.2270733
                                  total: 31.3s
                                                   remaining: 1m 37s
121:
        learn: 0.2270167
                                  total: 31.5s
                                                   remaining: 1m 37s
122:
        learn: 0.2267915
                                  total: 31.8s
                                                   remaining: 1m 37s
123:
        learn: 0.2266160
                                  total: 32.1s
                                                   remaining: 1m 37s
124:
        learn: 0.2265531
                                  total: 32.4s
                                                   remaining: 1m 37s
```

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125:
        learn: 0.2264997
                                  total: 32.7s
                                                   remaining: 1m 37s
126:
        learn: 0.2264483
                                  total: 33s
                                                   remaining: 1m 36s
127:
        learn: 0.2264019
                                  total: 33.2s
                                                   remaining: 1m 36s
128:
        learn: 0.2263191
                                  total: 33.5s
                                                   remaining: 1m 36s
129:
                                                   remaining: 1m 35s
        learn: 0.2259456
                                  total: 33.7s
                                  total: 33.9s
                                                   remaining: 1m 35s
130:
        learn: 0.2258986
131:
        learn: 0.2254256
                                  total: 34.2s
                                                   remaining: 1m 35s
        learn: 0.2252594
132:
                                  total: 34.5s
                                                   remaining: 1m 35s
133:
        learn: 0.2252054
                                  total: 34.7s
                                                   remaining: 1m 34s
134:
        learn: 0.2250548
                                  total: 34.9s
                                                   remaining: 1m 34s
135:
        learn: 0.2248881
                                  total: 35.2s
                                                   remaining: 1m 34s
                                                   remaining: 1m 33s
136:
        learn: 0.2247474
                                  total: 35.4s
137:
        learn: 0.2246725
                                  total: 35.7s
                                                   remaining: 1m 33s
138:
        learn: 0.2245929
                                  total: 36s
                                                   remaining: 1m 33s
139:
        learn: 0.2245331
                                  total: 36.2s
                                                   remaining: 1m 33s
        learn: 0.2244863
140:
                                  total: 36.5s
                                                   remaining: 1m 32s
141:
        learn: 0.2241272
                                  total: 36.7s
                                                   remaining: 1m 32s
                                  total: 37s
142:
        learn: 0.2240855
                                                   remaining: 1m 32s
        learn: 0.2240008
                                                   remaining: 1m 32s
143:
                                  total: 37.2s
144:
        learn: 0.2238866
                                  total: 37.5s
                                                   remaining: 1m 31s
145:
        learn: 0.2237928
                                  total: 37.8s
                                                   remaining: 1m 31s
146:
        learn: 0.2235810
                                  total: 38.1s
                                                   remaining: 1m 31s
147:
        learn: 0.2232470
                                  total: 38.4s
                                                   remaining: 1m 31s
                                  total: 38.7s
                                                   remaining: 1m 31s
148:
        learn: 0.2231935
149:
        learn: 0.2231645
                                  total: 38.9s
                                                   remaining: 1m 30s
150:
        learn: 0.2231150
                                  total: 39.2s
                                                   remaining: 1m 30s
        learn: 0.2229468
                                  total: 39.5s
                                                   remaining: 1m 30s
151:
152:
        learn: 0.2228809
                                  total: 39.8s
                                                   remaining: 1m 30s
153:
        learn: 0.2227662
                                  total: 40.1s
                                                   remaining: 1m 30s
154:
        learn: 0.2226866
                                  total: 40.4s
                                                   remaining: 1m 29s
                                  total: 40.7s
        learn: 0.2226088
155:
                                                   remaining: 1m 29s
156:
        learn: 0.2225389
                                  total: 41s
                                                   remaining: 1m 29s
157:
        learn: 0.2224755
                                  total: 41.2s
                                                   remaining: 1m 29s
        learn: 0.2224590
                                  total: 41.5s
                                                   remaining: 1m 29s
158:
159:
                                                   remaining: 1m 28s
        learn: 0.2224009
                                  total: 41.8s
        learn: 0.2223812
160:
                                  total: 42.1s
                                                   remaining: 1m 28s
161:
        learn: 0.2222937
                                  total: 42.4s
                                                   remaining: 1m 28s
162:
        learn: 0.222524
                                  total: 42.7s
                                                   remaining: 1m 28s
163:
        learn: 0.2221678
                                  total: 43s
                                                   remaining: 1m 28s
164:
        learn: 0.2220594
                                  total: 43.3s
                                                   remaining: 1m 27s
        learn: 0.2219407
                                  total: 43.6s
165:
                                                   remaining: 1m 27s
        learn: 0.2215481
                                  total: 43.9s
                                                   remaining: 1m 27s
166:
167:
        learn: 0.2215098
                                  total: 44.2s
                                                   remaining: 1m 27s
168:
        learn: 0.2214378
                                  total: 44.4s
                                                   remaining: 1m 27s
169:
        learn: 0.2213766
                                  total: 44.7s
                                                   remaining: 1m 26s
170:
        learn: 0.2211994
                                  total: 45s
                                                   remaining: 1m 26s
171:
        learn: 0.2211144
                                  total: 45.3s
                                                   remaining: 1m 26s
172:
        learn: 0.2210684
                                  total: 45.7s
                                                   remaining: 1m 26s
```

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173:
        learn: 0.2209737
                                  total: 46s
                                                   remaining: 1m 26s
174:
        learn: 0.2209489
                                  total: 46.2s
                                                   remaining: 1m 25s
175:
        learn: 0.2208491
                                  total: 46.5s
                                                   remaining: 1m 25s
        learn: 0.2207130
                                  total: 46.8s
                                                   remaining: 1m 25s
176:
                                                   remaining: 1m 25s
177:
        learn: 0.2206243
                                  total: 47.1s
                                                   remaining: 1m 24s
178:
        learn: 0.2205871
                                  total: 47.4s
179:
        learn: 0.2205504
                                  total: 47.6s
                                                   remaining: 1m 24s
180:
        learn: 0.2204609
                                  total: 47.9s
                                                   remaining: 1m 24s
181:
        learn: 0.2201940
                                  total: 48.2s
                                                   remaining: 1m 24s
182:
        learn: 0.2201551
                                  total: 48.4s
                                                   remaining: 1m 23s
183:
        learn: 0.2200947
                                  total: 48.7s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
184:
        learn: 0.2200260
                                  total: 48.9s
185:
        learn: 0.2199572
                                  total: 49.2s
                                                   remaining: 1m 23s
186:
        learn: 0.2199312
                                  total: 49.5s
                                                   remaining: 1m 22s
187:
        learn: 0.2198473
                                  total: 49.8s
                                                   remaining: 1m 22s
188:
        learn: 0.2197581
                                  total: 50s
                                                   remaining: 1m 22s
189:
        learn: 0.2196533
                                  total: 50.2s
                                                   remaining: 1m 21s
190:
        learn: 0.2195442
                                  total: 50.5s
                                                   remaining: 1m 21s
        learn: 0.2194796
                                  total: 50.7s
                                                   remaining: 1m 21s
191:
192:
        learn: 0.2193402
                                  total: 51s
                                                   remaining: 1m 21s
193:
        learn: 0.2192024
                                  total: 51.3s
                                                   remaining: 1m 20s
194:
        learn: 0.2190823
                                  total: 51.6s
                                                   remaining: 1m 20s
195:
        learn: 0.2190173
                                  total: 51.8s
                                                   remaining: 1m 20s
                                                   remaining: 1m 20s
196:
        learn: 0.2189874
                                  total: 52s
197:
        learn: 0.2189181
                                  total: 52.3s
                                                   remaining: 1m 19s
198:
        learn: 0.2188619
                                  total: 52.5s
                                                   remaining: 1m 19s
        learn: 0.2187533
                                  total: 52.7s
                                                   remaining: 1m 19s
199:
200:
        learn: 0.2187046
                                  total: 53s
                                                   remaining: 1m 18s
201:
        learn: 0.2186375
                                  total: 53.2s
                                                   remaining: 1m 18s
202:
        learn: 0.2186043
                                  total: 53.5s
                                                   remaining: 1m 18s
203:
        learn: 0.2185154
                                  total: 53.7s
                                                   remaining: 1m 17s
204:
        learn: 0.2184726
                                  total: 54s
                                                   remaining: 1m 17s
205:
        learn: 0.2184071
                                  total: 54.3s
                                                   remaining: 1m 17s
206:
        learn: 0.2182855
                                  total: 54.6s
                                                   remaining: 1m 17s
                                                   remaining: 1m 16s
207:
        learn: 0.2182475
                                  total: 54.8s
208:
        learn: 0.2182150
                                  total: 55s
                                                   remaining: 1m 16s
209:
        learn: 0.2181856
                                  total: 55.2s
                                                   remaining: 1m 16s
210:
        learn: 0.2181520
                                  total: 55.4s
                                                   remaining: 1m 15s
211:
        learn: 0.2180744
                                  total: 55.6s
                                                   remaining: 1m 15s
212:
        learn: 0.2180237
                                  total: 55.8s
                                                   remaining: 1m 15s
213:
        learn: 0.2179943
                                  total: 56s
                                                   remaining: 1m 14s
                                                   remaining: 1m 14s
214:
        learn: 0.2178125
                                  total: 56.3s
215:
        learn: 0.2177623
                                  total: 56.5s
                                                   remaining: 1m 14s
216:
        learn: 0.2177376
                                  total: 56.7s
                                                   remaining: 1m 13s
217:
        learn: 0.2175596
                                  total: 56.9s
                                                   remaining: 1m 13s
218:
        learn: 0.2174212
                                  total: 57.1s
                                                   remaining: 1m 13s
219:
        learn: 0.2173936
                                  total: 57.4s
                                                   remaining: 1m 12s
220:
        learn: 0.2172956
                                  total: 57.6s
                                                   remaining: 1m 12s
```

```
221:
        learn: 0.2172681
                                  total: 57.9s
                                                   remaining: 1m 12s
                                                   remaining: 1m 12s
222:
        learn: 0.2172207
                                  total: 58.2s
223:
        learn: 0.2172010
                                  total: 58.5s
                                                   remaining: 1m 12s
224:
        learn: 0.2171752
                                  total: 58.7s
                                                   remaining: 1m 11s
225:
        learn: 0.2171276
                                  total: 59s
                                                   remaining: 1m 11s
226:
                                                   remaining: 1m 11s
        learn: 0.2170840
                                  total: 59.3s
227:
        learn: 0.2170083
                                  total: 59.6s
                                                   remaining: 1m 11s
228:
        learn: 0.2168289
                                  total: 59.8s
                                                   remaining: 1m 10s
229:
        learn: 0.2167957
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2166382
                                  total: 1m
                                                   remaining: 1m 10s
        learn: 0.2165624
231:
                                  total: 1m
                                                   remaining: 1m 10s
232:
        learn: 0.2165098
                                  total: 1m
                                                   remaining: 1m 9s
233:
        learn: 0.2164750
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2163988
                                  total: 1m 1s
                                                   remaining: 1m 9s
235:
        learn: 0.2163361
                                  total: 1m 1s
                                                   remaining: 1m 9s
        learn: 0.2163210
236:
                                  total: 1m 2s
                                                   remaining: 1m 8s
237:
        learn: 0.2162720
                                  total: 1m 2s
                                                   remaining: 1m 8s
238:
        learn: 0.2162291
                                  total: 1m 2s
                                                   remaining: 1m 8s
        learn: 0.2162140
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
240:
        learn: 0.2161119
                                  total: 1m 3s
                                                   remaining: 1m 7s
241:
        learn: 0.2160636
                                  total: 1m 3s
                                                   remaining: 1m 7s
                                  total: 1m 3s
242:
        learn: 0.2159482
                                                   remaining: 1m 7s
243:
        learn: 0.2158243
                                  total: 1m 3s
                                                   remaining: 1m 7s
244:
        learn: 0.2158040
                                  total: 1m 4s
                                                   remaining: 1m 6s
245:
        learn: 0.2157497
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2156476
                                  total: 1m 4s
                                                   remaining: 1m 6s
247:
        learn: 0.2155091
                                  total: 1m 4s
                                                   remaining: 1m 6s
248:
        learn: 0.2154104
                                  total: 1m 5s
                                                   remaining: 1m 5s
249:
        learn: 0.2152778
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2152194
                                  total: 1m 5s
                                                   remaining: 1m 5s
251:
        learn: 0.2151151
                                  total: 1m 5s
                                                   remaining: 1m 4s
252:
        learn: 0.2150514
                                  total: 1m 6s
                                                   remaining: 1m 4s
253:
        learn: 0.2149784
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2149723
                                  total: 1m 6s
                                                   remaining: 1m 4s
255:
        learn: 0.2149054
                                  total: 1m 6s
                                                   remaining: 1m 3s
256:
        learn: 0.2147806
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2147231
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2146506
                                  total: 1m 7s
                                                   remaining: 1m 2s
259:
                                  total: 1m 7s
        learn: 0.2146051
                                                   remaining: 1m 2s
260:
        learn: 0.2145613
                                  total: 1m 8s
                                                   remaining: 1m 2s
                                  total: 1m 8s
261:
        learn: 0.2145408
                                                   remaining: 1m 2s
262:
        learn: 0.2144648
                                                   remaining: 1m 1s
                                  total: 1m 8s
263:
        learn: 0.2144146
                                  total: 1m 8s
                                                   remaining: 1m 1s
264:
        learn: 0.2143408
                                  total: 1m 9s
                                                   remaining: 1m 1s
265:
        learn: 0.2143065
                                  total: 1m 9s
                                                   remaining: 1m 1s
266:
        learn: 0.2142504
                                  total: 1m 9s
                                                   remaining: 1m
267:
        learn: 0.2142028
                                  total: 1m 9s
                                                   remaining: 1m
268:
        learn: 0.2141155
                                  total: 1m 10s
                                                   remaining: 1m
```

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269:
        learn: 0.2141062
                                  total: 1m 10s
                                                   remaining: 60s
270:
        learn: 0.2137460
                                  total: 1m 10s
                                                   remaining: 59.8s
271:
        learn: 0.2137017
                                  total: 1m 10s
                                                   remaining: 59.5s
272:
        learn: 0.2136555
                                  total: 1m 11s
                                                   remaining: 59.2s
273:
        learn: 0.2134885
                                  total: 1m 11s
                                                   remaining: 58.9s
                                  total: 1m 11s
274:
        learn: 0.2134461
                                                   remaining: 58.7s
275:
        learn: 0.2134377
                                  total: 1m 11s
                                                   remaining: 58.4s
276:
        learn: 0.2132963
                                  total: 1m 12s
                                                   remaining: 58.2s
277:
        learn: 0.2131870
                                  total: 1m 12s
                                                   remaining: 57.9s
278:
        learn: 0.2130950
                                  total: 1m 12s
                                                   remaining: 57.6s
279:
        learn: 0.2130467
                                  total: 1m 13s
                                                   remaining: 57.4s
280:
        learn: 0.2129847
                                  total: 1m 13s
                                                   remaining: 57.2s
281:
        learn: 0.2128847
                                  total: 1m 13s
                                                   remaining: 56.9s
282:
        learn: 0.2128793
                                  total: 1m 13s
                                                   remaining: 56.6s
                                                   remaining: 56.4s
283:
        learn: 0.2127945
                                  total: 1m 14s
284:
        learn: 0.2127464
                                  total: 1m 14s
                                                   remaining: 56.1s
285:
        learn: 0.2127071
                                  total: 1m 14s
                                                   remaining: 55.9s
                                  total: 1m 14s
286:
        learn: 0.2126667
                                                   remaining: 55.6s
        learn: 0.2126030
                                  total: 1m 15s
287:
                                                   remaining: 55.4s
288:
        learn: 0.2125405
                                  total: 1m 15s
                                                   remaining: 55.1s
289:
        learn: 0.2124860
                                  total: 1m 15s
                                                   remaining: 54.9s
290:
        learn: 0.2123730
                                  total: 1m 16s
                                                   remaining: 54.6s
291:
        learn: 0.2123504
                                  total: 1m 16s
                                                   remaining: 54.3s
292:
        learn: 0.2123232
                                  total: 1m 16s
                                                   remaining: 54.1s
293:
        learn: 0.2122935
                                  total: 1m 16s
                                                   remaining: 53.8s
294:
        learn: 0.2122481
                                  total: 1m 17s
                                                   remaining: 53.5s
295:
        learn: 0.2122120
                                  total: 1m 17s
                                                   remaining: 53.2s
296:
        learn: 0.2121796
                                  total: 1m 17s
                                                   remaining: 53s
297:
        learn: 0.2121288
                                  total: 1m 17s
                                                   remaining: 52.7s
298:
        learn: 0.2121069
                                  total: 1m 18s
                                                   remaining: 52.4s
299:
        learn: 0.2120865
                                  total: 1m 18s
                                                   remaining: 52.2s
300:
        learn: 0.2120223
                                  total: 1m 18s
                                                   remaining: 51.9s
301:
        learn: 0.2119575
                                  total: 1m 18s
                                                   remaining: 51.7s
302:
        learn: 0.2118831
                                  total: 1m 19s
                                                   remaining: 51.4s
303:
        learn: 0.2118035
                                  total: 1m 19s
                                                   remaining: 51.2s
        learn: 0.2117435
304:
                                  total: 1m 19s
                                                   remaining: 50.9s
305:
        learn: 0.2116924
                                  total: 1m 19s
                                                   remaining: 50.7s
306:
        learn: 0.2116601
                                  total: 1m 20s
                                                   remaining: 50.4s
                                  total: 1m 20s
307:
        learn: 0.2116201
                                                   remaining: 50.1s
308:
        learn: 0.2115248
                                  total: 1m 20s
                                                   remaining: 49.9s
309:
        learn: 0.2114358
                                  total: 1m 20s
                                                   remaining: 49.6s
310:
        learn: 0.2113547
                                  total: 1m 21s
                                                   remaining: 49.3s
311:
        learn: 0.2112034
                                  total: 1m 21s
                                                   remaining: 49s
312:
        learn: 0.2111451
                                  total: 1m 21s
                                                   remaining: 48.7s
                                                   remaining: 48.5s
313:
        learn: 0.2110351
                                  total: 1m 21s
314:
        learn: 0.2110071
                                  total: 1m 22s
                                                   remaining: 48.2s
315:
        learn: 0.2108528
                                  total: 1m 22s
                                                   remaining: 47.9s
316:
        learn: 0.2107700
                                  total: 1m 22s
                                                   remaining: 47.7s
```

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317:
        learn: 0.2107497
                                  total: 1m 22s
                                                   remaining: 47.4s
318:
        learn: 0.2106615
                                  total: 1m 23s
                                                   remaining: 47.1s
319:
        learn: 0.2105425
                                  total: 1m 23s
                                                   remaining: 46.9s
320:
        learn: 0.2104685
                                  total: 1m 23s
                                                   remaining: 46.6s
321:
        learn: 0.2104136
                                  total: 1m 23s
                                                   remaining: 46.3s
                                  total: 1m 24s
322:
        learn: 0.2103449
                                                   remaining: 46.1s
323:
        learn: 0.2102799
                                  total: 1m 24s
                                                   remaining: 45.8s
        learn: 0.2101198
                                                   remaining: 45.5s
324:
                                  total: 1m 24s
325:
        learn: 0.2101002
                                  total: 1m 24s
                                                   remaining: 45.2s
326:
        learn: 0.2100321
                                  total: 1m 25s
                                                   remaining: 45s
327:
        learn: 0.2099616
                                  total: 1m 25s
                                                   remaining: 44.7s
328:
        learn: 0.2099424
                                  total: 1m 25s
                                                   remaining: 44.4s
329:
        learn: 0.2098994
                                  total: 1m 25s
                                                   remaining: 44.2s
330:
        learn: 0.2098421
                                  total: 1m 25s
                                                   remaining: 43.9s
                                                   remaining: 43.6s
331:
        learn: 0.2097412
                                  total: 1m 26s
332:
        learn: 0.2096721
                                  total: 1m 26s
                                                   remaining: 43.4s
333:
        learn: 0.2096535
                                  total: 1m 26s
                                                   remaining: 43.1s
                                  total: 1m 27s
334:
        learn: 0.2096255
                                                   remaining: 42.9s
        learn: 0.2095441
                                  total: 1m 27s
                                                   remaining: 42.6s
335:
336:
        learn: 0.2094719
                                  total: 1m 27s
                                                   remaining: 42.3s
337:
        learn: 0.2094271
                                  total: 1m 27s
                                                   remaining: 42.1s
                                  total: 1m 28s
338:
        learn: 0.2093900
                                                   remaining: 41.8s
339:
        learn: 0.2093645
                                  total: 1m 28s
                                                   remaining: 41.5s
340:
                                  total: 1m 28s
        learn: 0.2093386
                                                   remaining: 41.3s
341:
        learn: 0.2093177
                                  total: 1m 28s
                                                   remaining: 41s
                                  total: 1m 29s
342:
        learn: 0.2092776
                                                   remaining: 40.8s
343:
        learn: 0.2091773
                                  total: 1m 29s
                                                   remaining: 40.5s
344:
        learn: 0.2091724
                                  total: 1m 29s
                                                   remaining: 40.3s
345:
        learn: 0.2091128
                                  total: 1m 29s
                                                   remaining: 40s
346:
        learn: 0.2090617
                                  total: 1m 30s
                                                   remaining: 39.7s
347:
        learn: 0.2090278
                                  total: 1m 30s
                                                   remaining: 39.5s
348:
        learn: 0.2089497
                                  total: 1m 30s
                                                   remaining: 39.2s
                                  total: 1m 30s
349:
        learn: 0.2088584
                                                   remaining: 39s
350:
        learn: 0.2088089
                                  total: 1m 31s
                                                   remaining: 38.7s
351:
        learn: 0.2087314
                                  total: 1m 31s
                                                   remaining: 38.4s
        learn: 0.2086495
352:
                                  total: 1m 31s
                                                   remaining: 38.2s
353:
        learn: 0.2086021
                                  total: 1m 31s
                                                   remaining: 37.9s
354:
        learn: 0.2085540
                                  total: 1m 32s
                                                   remaining: 37.6s
                                  total: 1m 32s
355:
        learn: 0.2085246
                                                   remaining: 37.4s
356:
        learn: 0.2085054
                                  total: 1m 32s
                                                   remaining: 37.2s
        learn: 0.2084340
                                  total: 1m 33s
357:
                                                   remaining: 36.9s
358:
        learn: 0.2084007
                                  total: 1m 33s
                                                   remaining: 36.7s
359:
        learn: 0.2083595
                                  total: 1m 33s
                                                   remaining: 36.4s
360:
        learn: 0.2083152
                                  total: 1m 33s
                                                   remaining: 36.1s
                                                   remaining: 35.9s
361:
        learn: 0.2082579
                                  total: 1m 34s
362:
        learn: 0.2082064
                                  total: 1m 34s
                                                   remaining: 35.6s
363:
        learn: 0.2080475
                                  total: 1m 34s
                                                   remaining: 35.4s
364:
        learn: 0.2079404
                                  total: 1m 34s
                                                   remaining: 35.1s
```

```
learn: 0.2078441
365:
                                  total: 1m 35s
                                                   remaining: 34.9s
366:
        learn: 0.2077835
                                  total: 1m 35s
                                                   remaining: 34.6s
367:
        learn: 0.2077395
                                  total: 1m 35s
                                                   remaining: 34.3s
        learn: 0.2076143
                                                   remaining: 34.1s
368:
                                  total: 1m 36s
369:
        learn: 0.2075427
                                  total: 1m 36s
                                                   remaining: 33.8s
                                  total: 1m 36s
370:
        learn: 0.2074803
                                                   remaining: 33.6s
371:
        learn: 0.2074646
                                  total: 1m 36s
                                                   remaining: 33.3s
372:
        learn: 0.2074569
                                  total: 1m 36s
                                                   remaining: 33s
373:
        learn: 0.2073887
                                  total: 1m 37s
                                                   remaining: 32.8s
374:
        learn: 0.2073654
                                  total: 1m 37s
                                                   remaining: 32.5s
375:
        learn: 0.2073233
                                  total: 1m 37s
                                                   remaining: 32.2s
376:
        learn: 0.2072462
                                  total: 1m 37s
                                                   remaining: 32s
377:
        learn: 0.2071009
                                  total: 1m 38s
                                                   remaining: 31.7s
378:
        learn: 0.2070224
                                  total: 1m 38s
                                                   remaining: 31.4s
379:
        learn: 0.2069188
                                  total: 1m 38s
                                                   remaining: 31.2s
380:
        learn: 0.2068592
                                  total: 1m 38s
                                                   remaining: 30.9s
381:
        learn: 0.2067937
                                  total: 1m 39s
                                                   remaining: 30.6s
                                  total: 1m 39s
382:
        learn: 0.2067744
                                                   remaining: 30.4s
        learn: 0.2066836
383:
                                  total: 1m 39s
                                                   remaining: 30.1s
384:
        learn: 0.2066156
                                  total: 1m 39s
                                                   remaining: 29.8s
385:
        learn: 0.2066030
                                  total: 1m 40s
                                                   remaining: 29.6s
386:
        learn: 0.2065540
                                  total: 1m 40s
                                                   remaining: 29.3s
                                                  remaining: 29s
387:
        learn: 0.2065215
                                  total: 1m 40s
388:
        learn: 0.2064425
                                  total: 1m 40s
                                                   remaining: 28.8s
389:
        learn: 0.2063965
                                  total: 1m 41s
                                                   remaining: 28.5s
390:
        learn: 0.2063418
                                                   remaining: 28.2s
                                  total: 1m 41s
391:
        learn: 0.2063198
                                  total: 1m 41s
                                                   remaining: 28s
392:
        learn: 0.2062811
                                  total: 1m 41s
                                                   remaining: 27.7s
393:
        learn: 0.2062328
                                  total: 1m 42s
                                                   remaining: 27.5s
394:
        learn: 0.2061456
                                  total: 1m 42s
                                                   remaining: 27.2s
395:
        learn: 0.2061014
                                  total: 1m 42s
                                                   remaining: 26.9s
396:
        learn: 0.2060528
                                  total: 1m 42s
                                                   remaining: 26.7s
397:
        learn: 0.2060110
                                  total: 1m 43s
                                                   remaining: 26.4s
        learn: 0.2059827
                                  total: 1m 43s
398:
                                                   remaining: 26.2s
399:
        learn: 0.2059390
                                  total: 1m 43s
                                                   remaining: 25.9s
        learn: 0.2058858
400:
                                  total: 1m 43s
                                                   remaining: 25.7s
401:
        learn: 0.2058540
                                  total: 1m 44s
                                                   remaining: 25.4s
402:
        learn: 0.2058073
                                  total: 1m 44s
                                                   remaining: 25.1s
403:
        learn: 0.2057242
                                  total: 1m 44s
                                                   remaining: 24.9s
404:
        learn: 0.2056591
                                  total: 1m 45s
                                                   remaining: 24.6s
405:
        learn: 0.2055034
                                  total: 1m 45s
                                                   remaining: 24.4s
406:
        learn: 0.2054671
                                  total: 1m 45s
                                                   remaining: 24.1s
407:
        learn: 0.2053925
                                  total: 1m 45s
                                                   remaining: 23.9s
408:
        learn: 0.2052994
                                  total: 1m 46s
                                                   remaining: 23.6s
                                                   remaining: 23.4s
409:
        learn: 0.2052694
                                  total: 1m 46s
410:
        learn: 0.2051879
                                  total: 1m 46s
                                                   remaining: 23.1s
411:
        learn: 0.2051036
                                  total: 1m 46s
                                                   remaining: 22.9s
412:
        learn: 0.2050570
                                  total: 1m 47s
                                                   remaining: 22.6s
```

```
learn: 0.2050049
413:
                                  total: 1m 47s
                                                   remaining: 22.3s
414:
        learn: 0.2049819
                                  total: 1m 47s
                                                   remaining: 22.1s
415:
        learn: 0.2049271
                                                   remaining: 21.8s
                                  total: 1m 48s
416:
        learn: 0.2048226
                                                   remaining: 21.6s
                                  total: 1m 48s
417:
        learn: 0.2047657
                                  total: 1m 48s
                                                   remaining: 21.3s
                                  total: 1m 48s
418:
        learn: 0.2047396
                                                   remaining: 21.1s
419:
        learn: 0.2046661
                                  total: 1m 49s
                                                   remaining: 20.8s
420:
        learn: 0.2046281
                                  total: 1m 49s
                                                   remaining: 20.5s
421:
        learn: 0.2045965
                                  total: 1m 49s
                                                   remaining: 20.3s
422:
        learn: 0.2045683
                                  total: 1m 49s
                                                   remaining: 20s
423:
        learn: 0.2044800
                                  total: 1m 50s
                                                   remaining: 19.8s
424:
        learn: 0.2043938
                                  total: 1m 50s
                                                   remaining: 19.5s
425:
        learn: 0.2043470
                                  total: 1m 50s
                                                   remaining: 19.2s
426:
        learn: 0.2042917
                                  total: 1m 51s
                                                   remaining: 19s
427:
        learn: 0.2040658
                                  total: 1m 51s
                                                   remaining: 18.7s
428:
        learn: 0.2039970
                                  total: 1m 51s
                                                   remaining: 18.5s
429:
        learn: 0.2038937
                                  total: 1m 51s
                                                   remaining: 18.2s
                                  total: 1m 52s
430:
        learn: 0.2038752
                                                   remaining: 17.9s
        learn: 0.2038395
                                  total: 1m 52s
431:
                                                   remaining: 17.7s
432:
        learn: 0.2036963
                                  total: 1m 52s
                                                   remaining: 17.4s
433:
        learn: 0.2036707
                                  total: 1m 52s
                                                   remaining: 17.2s
434:
        learn: 0.2036088
                                  total: 1m 53s
                                                   remaining: 16.9s
435:
        learn: 0.2035821
                                  total: 1m 53s
                                                   remaining: 16.6s
436:
        learn: 0.2035437
                                  total: 1m 53s
                                                   remaining: 16.4s
437:
        learn: 0.2035156
                                  total: 1m 53s
                                                   remaining: 16.1s
438:
        learn: 0.2034738
                                  total: 1m 54s
                                                   remaining: 15.9s
439:
        learn: 0.2033928
                                  total: 1m 54s
                                                   remaining: 15.6s
440:
        learn: 0.2033358
                                  total: 1m 54s
                                                   remaining: 15.3s
441:
        learn: 0.2032699
                                  total: 1m 54s
                                                   remaining: 15.1s
442:
        learn: 0.2031799
                                  total: 1m 55s
                                                   remaining: 14.8s
443:
        learn: 0.2030957
                                  total: 1m 55s
                                                   remaining: 14.5s
444:
        learn: 0.2030291
                                  total: 1m 55s
                                                   remaining: 14.3s
445:
        learn: 0.2029846
                                  total: 1m 55s
                                                   remaining: 14s
        learn: 0.2029431
                                  total: 1m 55s
446:
                                                   remaining: 13.8s
447:
        learn: 0.2029098
                                  total: 1m 56s
                                                   remaining: 13.5s
        learn: 0.2028687
448:
                                  total: 1m 56s
                                                   remaining: 13.2s
449:
        learn: 0.2028580
                                  total: 1m 56s
                                                   remaining: 13s
450:
        learn: 0.2027621
                                  total: 1m 56s
                                                   remaining: 12.7s
451:
        learn: 0.2027303
                                  total: 1m 57s
                                                   remaining: 12.4s
452:
        learn: 0.2026977
                                  total: 1m 57s
                                                   remaining: 12.2s
453:
        learn: 0.2026732
                                  total: 1m 57s
                                                   remaining: 11.9s
454:
        learn: 0.2026421
                                  total: 1m 57s
                                                   remaining: 11.6s
455:
        learn: 0.2025681
                                  total: 1m 57s
                                                   remaining: 11.4s
456:
        learn: 0.2025328
                                  total: 1m 57s
                                                   remaining: 11.1s
                                                   remaining: 10.8s
457:
        learn: 0.2024879
                                  total: 1m 58s
458:
        learn: 0.2024492
                                  total: 1m 58s
                                                   remaining: 10.6s
459:
        learn: 0.2023341
                                  total: 1m 58s
                                                   remaining: 10.3s
460:
        learn: 0.2022939
                                  total: 1m 58s
                                                   remaining: 10s
```

```
461:
        learn: 0.2022336
                                  total: 1m 59s
                                                   remaining: 9.79s
462:
        learn: 0.2021808
                                  total: 1m 59s
                                                   remaining: 9.53s
463:
        learn: 0.2021569
                                  total: 1m 59s
                                                   remaining: 9.27s
        learn: 0.2021284
464:
                                  total: 1m 59s
                                                   remaining: 9.01s
465:
        learn: 0.2020713
                                  total: 1m 59s
                                                   remaining: 8.75s
466:
        learn: 0.2020261
                                  total: 2m
                                                   remaining: 8.49s
467:
        learn: 0.2019567
                                  total: 2m
                                                   remaining: 8.24s
                                                   remaining: 7.98s
468:
        learn: 0.2018667
                                  total: 2m
469:
        learn: 0.2017664
                                  total: 2m 1s
                                                   remaining: 7.72s
470:
        learn: 0.2017206
                                  total: 2m 1s
                                                   remaining: 7.47s
471:
                                  total: 2m 1s
        learn: 0.2016717
                                                   remaining: 7.21s
472:
        learn: 0.2015970
                                  total: 2m 1s
                                                   remaining: 6.95s
473:
        learn: 0.2015788
                                  total: 2m 2s
                                                   remaining: 6.7s
474:
        learn: 0.2015435
                                  total: 2m 2s
                                                   remaining: 6.44s
475:
        learn: 0.2014592
                                  total: 2m 2s
                                                   remaining: 6.18s
476:
        learn: 0.2014236
                                  total: 2m 2s
                                                   remaining: 5.93s
477:
        learn: 0.2013691
                                  total: 2m 3s
                                                   remaining: 5.67s
                                  total: 2m 3s
478:
        learn: 0.2013099
                                                   remaining: 5.41s
        learn: 0.2012822
                                  total: 2m 3s
479:
                                                   remaining: 5.15s
480:
        learn: 0.2012535
                                  total: 2m 3s
                                                   remaining: 4.89s
481:
        learn: 0.2012098
                                  total: 2m 4s
                                                   remaining: 4.64s
                                  total: 2m 4s
482:
        learn: 0.2011450
                                                   remaining: 4.38s
483:
        learn: 0.2010703
                                  total: 2m 4s
                                                   remaining: 4.12s
                                  total: 2m 5s
484:
        learn: 0.2010153
                                                   remaining: 3.87s
485:
        learn: 0.2009738
                                  total: 2m 5s
                                                   remaining: 3.61s
                                  total: 2m 5s
486:
        learn: 0.2009087
                                                   remaining: 3.35s
487:
        learn: 0.2008677
                                  total: 2m 5s
                                                   remaining: 3.09s
488:
        learn: 0.2008154
                                  total: 2m 6s
                                                   remaining: 2.84s
489:
        learn: 0.2007501
                                  total: 2m 6s
                                                   remaining: 2.58s
490:
        learn: 0.2007091
                                  total: 2m 6s
                                                   remaining: 2.32s
491:
        learn: 0.2006919
                                  total: 2m 6s
                                                   remaining: 2.06s
492:
        learn: 0.2006782
                                  total: 2m 7s
                                                   remaining: 1.8s
493:
        learn: 0.2006449
                                  total: 2m 7s
                                                   remaining: 1.55s
494:
        learn: 0.2005742
                                  total: 2m 7s
                                                   remaining: 1.29s
495:
        learn: 0.2005406
                                  total: 2m 7s
                                                   remaining: 1.03s
496:
        learn: 0.2004802
                                  total: 2m 8s
                                                   remaining: 773ms
497:
        learn: 0.2003992
                                  total: 2m 8s
                                                   remaining: 516ms
498:
        learn: 0.2003568
                                  total: 2m 8s
                                                   remaining: 258ms
499:
        learn: 0.2003377
                                  total: 2m 8s
                                                   remaining: Ous
Learning rate set to 0.173965
0:
        learn: 0.9718769
                                                   remaining: 2m 10s
                                  total: 262ms
1:
        learn: 0.8902658
                                  total: 483ms
                                                   remaining: 2m
2:
        learn: 0.8308291
                                  total: 741ms
                                                   remaining: 2m 2s
3:
        learn: 0.7829120
                                  total: 1s
                                                   remaining: 2m 4s
4:
        learn: 0.7090066
                                  total: 1.2s
                                                   remaining: 1m 59s
5:
        learn: 0.6574654
                                  total: 1.38s
                                                   remaining: 1m 53s
6:
        learn: 0.5914973
                                  total: 1.56s
                                                   remaining: 1m 49s
7:
        learn: 0.5344921
                                  total: 1.76s
                                                   remaining: 1m 48s
```

```
8:
        learn: 0.4928213
                                  total: 1.96s
                                                   remaining: 1m 46s
9:
        learn: 0.4619227
                                  total: 2.15s
                                                   remaining: 1m 45s
10:
        learn: 0.4362160
                                  total: 2.32s
                                                   remaining: 1m 43s
        learn: 0.4135384
                                  total: 2.5s
                                                   remaining: 1m 41s
11.
                                                   remaining: 1m 40s
12:
        learn: 0.3955062
                                  total: 2.68s
                                  total: 2.88s
                                                   remaining: 1m 40s
13:
        learn: 0.3714745
14:
        learn: 0.3608219
                                  total: 3.06s
                                                   remaining: 1m 39s
15:
        learn: 0.3431085
                                  total: 3.26s
                                                   remaining: 1m 38s
16:
        learn: 0.3350065
                                  total: 3.45s
                                                   remaining: 1m 38s
17:
        learn: 0.3223072
                                  total: 3.68s
                                                   remaining: 1m 38s
18:
        learn: 0.3112081
                                  total: 3.96s
                                                   remaining: 1m 40s
                                                   remaining: 1m 41s
19:
        learn: 0.3093090
                                  total: 4.23s
20:
        learn: 0.3007027
                                  total: 4.55s
                                                   remaining: 1m 43s
21:
        learn: 0.2992153
                                  total: 4.83s
                                                   remaining: 1m 44s
22:
        learn: 0.2917989
                                  total: 5.09s
                                                   remaining: 1m 45s
23:
        learn: 0.2870457
                                  total: 5.36s
                                                   remaining: 1m 46s
24:
        learn: 0.2809252
                                  total: 5.62s
                                                   remaining: 1m 46s
25:
        learn: 0.2791902
                                  total: 5.87s
                                                   remaining: 1m 47s
        learn: 0.2761473
                                  total: 6.15s
                                                   remaining: 1m 47s
26:
27:
        learn: 0.2716813
                                  total: 6.42s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
28:
        learn: 0.2706400
                                  total: 6.68s
29:
        learn: 0.2702805
                                  total: 6.94s
                                                   remaining: 1m 48s
30:
        learn: 0.2667842
                                  total: 7.22s
                                                   remaining: 1m 49s
31:
        learn: 0.2661541
                                  total: 7.51s
                                                   remaining: 1m 49s
32:
        learn: 0.2634512
                                  total: 7.78s
                                                   remaining: 1m 50s
33:
        learn: 0.2608609
                                  total: 8.05s
                                                   remaining: 1m 50s
34:
        learn: 0.2591434
                                  total: 8.34s
                                                   remaining: 1m 50s
35:
        learn: 0.2586105
                                  total: 8.6s
                                                   remaining: 1m 50s
36:
        learn: 0.2583592
                                  total: 8.86s
                                                   remaining: 1m 50s
37:
        learn: 0.2577305
                                  total: 9.12s
                                                   remaining: 1m 50s
38:
        learn: 0.2574949
                                  total: 9.37s
                                                   remaining: 1m 50s
39:
        learn: 0.2568854
                                  total: 9.67s
                                                   remaining: 1m 51s
40:
        learn: 0.2563702
                                  total: 9.91s
                                                   remaining: 1m 51s
41:
        learn: 0.2559229
                                  total: 10.2s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
42:
        learn: 0.2553915
                                  total: 10.5s
43:
        learn: 0.2548716
                                  total: 10.8s
                                                   remaining: 1m 51s
44:
        learn: 0.2528471
                                  total: 11s
                                                   remaining: 1m 51s
45:
        learn: 0.2524157
                                  total: 11.3s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
46:
        learn: 0.2520746
                                  total: 11.6s
47:
        learn: 0.2516817
                                  total: 11.9s
                                                   remaining: 1m 51s
48:
        learn: 0.2508812
                                  total: 12.2s
                                                   remaining: 1m 52s
49:
        learn: 0.2507890
                                  total: 12.5s
                                                   remaining: 1m 52s
50:
        learn: 0.2506591
                                  total: 12.7s
                                                   remaining: 1m 52s
51:
        learn: 0.2504687
                                  total: 13s
                                                   remaining: 1m 52s
52:
        learn: 0.2503456
                                  total: 13.3s
                                                   remaining: 1m 52s
53:
        learn: 0.2503233
                                  total: 13.6s
                                                   remaining: 1m 52s
54:
        learn: 0.2501744
                                  total: 13.9s
                                                   remaining: 1m 52s
55:
        learn: 0.2476040
                                  total: 14.1s
                                                   remaining: 1m 52s
```

```
56:
        learn: 0.2472773
                                  total: 14.4s
                                                   remaining: 1m 51s
57:
        learn: 0.2468938
                                  total: 14.7s
                                                   remaining: 1m 51s
58:
        learn: 0.2465331
                                  total: 14.9s
                                                   remaining: 1m 51s
59:
        learn: 0.2461659
                                  total: 15.2s
                                                   remaining: 1m 51s
                                                   remaining: 1m 50s
60:
        learn: 0.2450283
                                  total: 15.4s
                                  total: 15.7s
                                                   remaining: 1m 50s
61:
        learn: 0.2448689
62:
        learn: 0.2445386
                                  total: 15.9s
                                                   remaining: 1m 50s
63:
        learn: 0.2443756
                                  total: 16.1s
                                                   remaining: 1m 50s
64:
        learn: 0.2439490
                                  total: 16.4s
                                                   remaining: 1m 49s
65:
        learn: 0.2437982
                                  total: 16.6s
                                                   remaining: 1m 49s
        learn: 0.2436209
66:
                                  total: 16.9s
                                                   remaining: 1m 49s
                                                   remaining: 1m 48s
67:
        learn: 0.2432322
                                  total: 17.1s
68:
        learn: 0.2431512
                                  total: 17.4s
                                                   remaining: 1m 48s
69:
        learn: 0.2428085
                                  total: 17.7s
                                                   remaining: 1m 48s
70:
        learn: 0.2426201
                                  total: 17.9s
                                                   remaining: 1m 48s
71:
        learn: 0.2422590
                                                   remaining: 1m 48s
                                  total: 18.2s
72:
        learn: 0.2399643
                                  total: 18.4s
                                                   remaining: 1m 47s
                                  total: 18.7s
73:
        learn: 0.2395937
                                                   remaining: 1m 47s
74:
        learn: 0.2385900
                                  total: 18.9s
                                                   remaining: 1m 47s
75:
        learn: 0.2371953
                                  total: 19.2s
                                                   remaining: 1m 46s
76:
        learn: 0.2370543
                                  total: 19.4s
                                                   remaining: 1m 46s
                                  total: 19.6s
77:
        learn: 0.2365612
                                                   remaining: 1m 46s
78:
        learn: 0.2364986
                                  total: 19.9s
                                                   remaining: 1m 45s
79:
        learn: 0.2352634
                                  total: 20.1s
                                                   remaining: 1m 45s
80:
        learn: 0.2351283
                                  total: 20.4s
                                                   remaining: 1m 45s
81:
        learn: 0.2349323
                                  total: 20.7s
                                                   remaining: 1m 45s
        learn: 0.2344916
                                  total: 20.9s
                                                   remaining: 1m 45s
82:
83:
        learn: 0.2343427
                                  total: 21.2s
                                                   remaining: 1m 44s
        learn: 0.2342063
                                  total: 21.4s
84:
                                                   remaining: 1m 44s
85:
        learn: 0.2341601
                                  total: 21.7s
                                                   remaining: 1m 44s
86:
        learn: 0.2339888
                                  total: 22s
                                                   remaining: 1m 44s
87:
        learn: 0.2337860
                                  total: 22.2s
                                                   remaining: 1m 43s
88:
        learn: 0.2336535
                                  total: 22.5s
                                                   remaining: 1m 43s
89:
        learn: 0.2335568
                                  total: 22.7s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
90:
        learn: 0.2334841
                                  total: 23s
91:
        learn: 0.2334478
                                  total: 23.3s
                                                   remaining: 1m 43s
92:
        learn: 0.2319048
                                  total: 23.5s
                                                   remaining: 1m 42s
93:
        learn: 0.2318742
                                  total: 23.8s
                                                   remaining: 1m 42s
        learn: 0.2317748
                                  total: 24.1s
                                                   remaining: 1m 42s
94:
95:
        learn: 0.2317153
                                  total: 24.3s
                                                   remaining: 1m 42s
96:
        learn: 0.2313844
                                  total: 24.5s
                                                   remaining: 1m 41s
97:
        learn: 0.2313602
                                  total: 24.8s
                                                   remaining: 1m 41s
98:
        learn: 0.2310649
                                  total: 25.1s
                                                   remaining: 1m 41s
99:
        learn: 0.2309171
                                  total: 25.3s
                                                   remaining: 1m 41s
100:
        learn: 0.2307507
                                  total: 25.6s
                                                   remaining: 1m 41s
101:
        learn: 0.2299206
                                  total: 25.9s
                                                   remaining: 1m 41s
102:
        learn: 0.2298230
                                  total: 26.2s
                                                   remaining: 1m 40s
103:
        learn: 0.2296554
                                  total: 26.5s
                                                   remaining: 1m 40s
```

```
104:
        learn: 0.2295711
                                  total: 26.7s
                                                   remaining: 1m 40s
105:
        learn: 0.2294595
                                  total: 27s
                                                   remaining: 1m 40s
106:
        learn: 0.2293597
                                  total: 27.3s
                                                   remaining: 1m 40s
107:
        learn: 0.2293354
                                  total: 27.5s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
108:
        learn: 0.2291453
                                  total: 27.8s
                                  total: 28s
                                                   remaining: 1m 39s
109:
        learn: 0.2289945
110:
        learn: 0.2282779
                                  total: 28.3s
                                                   remaining: 1m 39s
111:
        learn: 0.2282335
                                  total: 28.5s
                                                   remaining: 1m 38s
112:
        learn: 0.2281754
                                  total: 28.7s
                                                   remaining: 1m 38s
113:
        learn: 0.2280792
                                  total: 29s
                                                   remaining: 1m 38s
114:
        learn: 0.2280093
                                  total: 29.3s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
115:
        learn: 0.2279174
                                  total: 29.5s
        learn: 0.2278337
                                  total: 29.8s
                                                   remaining: 1m 37s
116:
117:
        learn: 0.2277129
                                  total: 30.1s
                                                   remaining: 1m 37s
118:
        learn: 0.2276558
                                  total: 30.4s
                                                   remaining: 1m 37s
        learn: 0.2276055
119:
                                  total: 30.6s
                                                   remaining: 1m 36s
120:
        learn: 0.2273797
                                  total: 30.9s
                                                   remaining: 1m 36s
121:
        learn: 0.2272621
                                  total: 31.1s
                                                   remaining: 1m 36s
122:
        learn: 0.2271599
                                  total: 31.4s
                                                   remaining: 1m 36s
123:
        learn: 0.2270719
                                  total: 31.6s
                                                   remaining: 1m 35s
124:
        learn: 0.2270164
                                  total: 31.9s
                                                   remaining: 1m 35s
125:
        learn: 0.2267789
                                  total: 32.1s
                                                   remaining: 1m 35s
126:
        learn: 0.2267333
                                  total: 32.4s
                                                   remaining: 1m 35s
                                  total: 32.7s
                                                   remaining: 1m 35s
127:
        learn: 0.2261674
128:
        learn: 0.2260580
                                  total: 33s
                                                   remaining: 1m 34s
129:
        learn: 0.2259190
                                  total: 33.2s
                                                   remaining: 1m 34s
                                  total: 33.4s
                                                   remaining: 1m 34s
130:
        learn: 0.2257556
131:
        learn: 0.2256858
                                  total: 33.7s
                                                   remaining: 1m 33s
132:
        learn: 0.2256210
                                  total: 33.9s
                                                   remaining: 1m 33s
133:
        learn: 0.2255650
                                  total: 34.1s
                                                   remaining: 1m 33s
                                  total: 34.4s
134:
        learn: 0.2255137
                                                   remaining: 1m 32s
135:
        learn: 0.2253802
                                  total: 34.6s
                                                   remaining: 1m 32s
136:
        learn: 0.2253088
                                  total: 34.8s
                                                   remaining: 1m 32s
        learn: 0.2252355
                                  total: 35.1s
                                                   remaining: 1m 32s
137:
                                                   remaining: 1m 31s
138:
        learn: 0.2251648
                                  total: 35.3s
139:
        learn: 0.2250621
                                  total: 35.5s
                                                   remaining: 1m 31s
140:
        learn: 0.2245385
                                  total: 35.8s
                                                   remaining: 1m 31s
141:
        learn: 0.2245022
                                  total: 36s
                                                   remaining: 1m 30s
142:
        learn: 0.2244793
                                  total: 36.2s
                                                   remaining: 1m 30s
143:
        learn: 0.2243482
                                  total: 36.5s
                                                   remaining: 1m 30s
144:
        learn: 0.2242394
                                  total: 36.8s
                                                   remaining: 1m 30s
145:
        learn: 0.2241523
                                                   remaining: 1m 29s
                                  total: 37s
146:
        learn: 0.2241085
                                  total: 37.3s
                                                   remaining: 1m 29s
147:
        learn: 0.2240033
                                  total: 37.6s
                                                   remaining: 1m 29s
148:
        learn: 0.2239678
                                  total: 37.8s
                                                   remaining: 1m 29s
149:
        learn: 0.2238552
                                  total: 38.1s
                                                   remaining: 1m 28s
150:
        learn: 0.2238418
                                  total: 38.4s
                                                   remaining: 1m 28s
151:
        learn: 0.2238072
                                  total: 38.7s
                                                   remaining: 1m 28s
```

```
152:
        learn: 0.2237062
                                  total: 38.9s
                                                   remaining: 1m 28s
153:
        learn: 0.2235614
                                  total: 39.2s
                                                   remaining: 1m 27s
154:
        learn: 0.2234925
                                  total: 39.4s
                                                   remaining: 1m 27s
        learn: 0.2234317
                                  total: 39.7s
                                                   remaining: 1m 27s
155:
                                                   remaining: 1m 27s
156:
        learn: 0.2232837
                                  total: 39.9s
                                                   remaining: 1m 27s
157:
        learn: 0.2232602
                                  total: 40.2s
158:
        learn: 0.2231110
                                  total: 40.5s
                                                   remaining: 1m 26s
159:
        learn: 0.2227379
                                  total: 40.7s
                                                   remaining: 1m 26s
160:
        learn: 0.2225739
                                  total: 41s
                                                   remaining: 1m 26s
161:
        learn: 0.2224211
                                  total: 41.3s
                                                   remaining: 1m 26s
162:
        learn: 0.2223788
                                  total: 41.5s
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
163:
        learn: 0.2223190
                                  total: 41.8s
        learn: 0.2221660
                                  total: 42s
                                                   remaining: 1m 25s
164:
165:
        learn: 0.2220358
                                  total: 42.3s
                                                   remaining: 1m 25s
166:
        learn: 0.2218716
                                  total: 42.5s
                                                   remaining: 1m 24s
167:
        learn: 0.2217120
                                  total: 42.8s
                                                   remaining: 1m 24s
168:
        learn: 0.2216878
                                  total: 43.1s
                                                   remaining: 1m 24s
169:
        learn: 0.2216385
                                  total: 43.3s
                                                   remaining: 1m 24s
        learn: 0.2215860
                                  total: 43.6s
                                                   remaining: 1m 23s
170:
171:
        learn: 0.2212178
                                  total: 43.9s
                                                   remaining: 1m 23s
172:
        learn: 0.2206920
                                  total: 44.1s
                                                   remaining: 1m 23s
173:
        learn: 0.2206345
                                  total: 44.4s
                                                   remaining: 1m 23s
174.
        learn: 0.2205891
                                  total: 44.7s
                                                   remaining: 1m 23s
                                                   remaining: 1m 22s
175:
        learn: 0.2204942
                                  total: 45s
176:
        learn: 0.2204500
                                  total: 45.2s
                                                   remaining: 1m 22s
177:
        learn: 0.2203762
                                  total: 45.5s
                                                   remaining: 1m 22s
        learn: 0.2203136
                                                   remaining: 1m 22s
178:
                                  total: 45.7s
179:
        learn: 0.2202109
                                  total: 46s
                                                   remaining: 1m 21s
180:
        learn: 0.2200956
                                  total: 46.3s
                                                   remaining: 1m 21s
181:
        learn: 0.2200396
                                  total: 46.5s
                                                   remaining: 1m 21s
182:
        learn: 0.2199138
                                  total: 46.8s
                                                   remaining: 1m 21s
183:
        learn: 0.2198256
                                  total: 47s
                                                   remaining: 1m 20s
184:
        learn: 0.2197582
                                  total: 47.2s
                                                   remaining: 1m 20s
        learn: 0.2197341
                                  total: 47.4s
                                                   remaining: 1m 19s
185:
186:
        learn: 0.2196427
                                  total: 47.6s
                                                   remaining: 1m 19s
187:
        learn: 0.2195730
                                  total: 47.9s
                                                   remaining: 1m 19s
188:
        learn: 0.2194487
                                  total: 48.1s
                                                   remaining: 1m 19s
189:
        learn: 0.2193453
                                  total: 48.3s
                                                   remaining: 1m 18s
190:
        learn: 0.2193262
                                  total: 48.6s
                                                   remaining: 1m 18s
191:
        learn: 0.2192144
                                  total: 48.8s
                                                   remaining: 1m 18s
192:
        learn: 0.2188580
                                  total: 49.1s
                                                   remaining: 1m 18s
                                                   remaining: 1m 17s
193:
        learn: 0.2187259
                                  total: 49.3s
194:
        learn: 0.2187094
                                  total: 49.6s
                                                   remaining: 1m 17s
195:
        learn: 0.2186531
                                  total: 49.8s
                                                   remaining: 1m 17s
196:
        learn: 0.2186335
                                  total: 50.1s
                                                   remaining: 1m 16s
197:
        learn: 0.2185415
                                  total: 50.3s
                                                   remaining: 1m 16s
198:
        learn: 0.2184608
                                  total: 50.5s
                                                   remaining: 1m 16s
199:
        learn: 0.2184294
                                  total: 50.7s
                                                   remaining: 1m 16s
```

```
200:
        learn: 0.2183539
                                  total: 51s
                                                   remaining: 1m 15s
201:
        learn: 0.2183042
                                  total: 51.2s
                                                   remaining: 1m 15s
202:
        learn: 0.2181888
                                  total: 51.5s
                                                   remaining: 1m 15s
203:
        learn: 0.2180609
                                  total: 51.7s
                                                   remaining: 1m 15s
204:
        learn: 0.2179360
                                  total: 52s
                                                   remaining: 1m 14s
                                                   remaining: 1m 14s
205:
        learn: 0.2178489
                                  total: 52.2s
206:
        learn: 0.2177632
                                  total: 52.5s
                                                   remaining: 1m 14s
207:
        learn: 0.2177316
                                  total: 52.7s
                                                   remaining: 1m 14s
208:
        learn: 0.2177096
                                  total: 53s
                                                   remaining: 1m 13s
209:
        learn: 0.2176802
                                  total: 53.2s
                                                   remaining: 1m 13s
210:
        learn: 0.2176156
                                  total: 53.5s
                                                   remaining: 1m 13s
211:
        learn: 0.2174517
                                  total: 53.8s
                                                   remaining: 1m 13s
212:
        learn: 0.2173914
                                  total: 54s
                                                   remaining: 1m 12s
213:
        learn: 0.2172740
                                  total: 54.3s
                                                   remaining: 1m 12s
214:
        learn: 0.2171745
                                  total: 54.6s
                                                   remaining: 1m 12s
        learn: 0.2171108
215:
                                  total: 54.9s
                                                   remaining: 1m 12s
216:
        learn: 0.2170385
                                  total: 55.1s
                                                   remaining: 1m 11s
                                  total: 55.4s
217:
        learn: 0.2170269
                                                   remaining: 1m 11s
        learn: 0.2169792
                                  total: 55.7s
                                                   remaining: 1m 11s
218:
219:
        learn: 0.2169218
                                  total: 55.9s
                                                   remaining: 1m 11s
220:
        learn: 0.2168846
                                  total: 56.2s
                                                   remaining: 1m 10s
221:
        learn: 0.2167834
                                  total: 56.5s
                                                   remaining: 1m 10s
222:
        learn: 0.2167307
                                  total: 56.7s
                                                   remaining: 1m 10s
223:
                                                   remaining: 1m 10s
        learn: 0.2162765
                                  total: 57s
224:
        learn: 0.2161356
                                  total: 57.3s
                                                   remaining: 1m 10s
225:
        learn: 0.2161121
                                  total: 57.5s
                                                   remaining: 1m 9s
226:
        learn: 0.2160791
                                  total: 57.8s
                                                   remaining: 1m 9s
227:
        learn: 0.2160543
                                  total: 58.1s
                                                   remaining: 1m 9s
228:
        learn: 0.2159774
                                  total: 58.4s
                                                   remaining: 1m 9s
229:
        learn: 0.2159064
                                  total: 58.6s
                                                  remaining: 1m 8s
230:
        learn: 0.2158175
                                  total: 58.9s
                                                   remaining: 1m 8s
231:
        learn: 0.2156759
                                  total: 59.2s
                                                   remaining: 1m 8s
232:
        learn: 0.2156123
                                  total: 59.4s
                                                   remaining: 1m 8s
233:
        learn: 0.2154969
                                  total: 59.7s
                                                   remaining: 1m 7s
                                                   remaining: 1m 7s
234:
        learn: 0.2154519
                                  total: 60s
235:
        learn: 0.2153923
                                  total: 1m
                                                   remaining: 1m 7s
236:
        learn: 0.2152429
                                  total: 1m
                                                   remaining: 1m 7s
237:
        learn: 0.2151777
                                  total: 1m
                                                   remaining: 1m 6s
238:
        learn: 0.2151086
                                  total: 1m 1s
                                                   remaining: 1m 6s
239:
        learn: 0.2149791
                                  total: 1m 1s
                                                   remaining: 1m 6s
                                  total: 1m 1s
240:
        learn: 0.2148813
                                                   remaining: 1m 6s
241:
        learn: 0.2148048
                                                   remaining: 1m 5s
                                  total: 1m 1s
242:
        learn: 0.2147329
                                  total: 1m 2s
                                                   remaining: 1m 5s
243:
        learn: 0.2145877
                                  total: 1m 2s
                                                   remaining: 1m 5s
244:
        learn: 0.2145122
                                  total: 1m 2s
                                                   remaining: 1m 5s
245:
        learn: 0.2144902
                                  total: 1m 2s
                                                   remaining: 1m 5s
246:
        learn: 0.2143875
                                  total: 1m 3s
                                                   remaining: 1m 4s
247:
        learn: 0.2143208
                                  total: 1m 3s
                                                   remaining: 1m 4s
```

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248:
        learn: 0.2142907
                                  total: 1m 3s
                                                   remaining: 1m 4s
                                                   remaining: 1m 3s
249:
        learn: 0.2142398
                                  total: 1m 3s
250:
        learn: 0.2141590
                                  total: 1m 4s
                                                   remaining: 1m 3s
251:
        learn: 0.2141150
                                                   remaining: 1m 3s
                                  total: 1m 4s
252:
        learn: 0.2140266
                                  total: 1m 4s
                                                   remaining: 1m 3s
253:
                                  total: 1m 4s
                                                   remaining: 1m 2s
        learn: 0.2139476
254:
        learn: 0.2138877
                                  total: 1m 5s
                                                   remaining: 1m 2s
255:
        learn: 0.2137987
                                  total: 1m 5s
                                                   remaining: 1m 2s
256:
        learn: 0.2137237
                                  total: 1m 5s
                                                   remaining: 1m 2s
257:
        learn: 0.2136273
                                  total: 1m 5s
                                                   remaining: 1m 1s
                                                   remaining: 1m 1s
258:
        learn: 0.2135603
                                  total: 1m 6s
259:
        learn: 0.2134315
                                  total: 1m 6s
                                                   remaining: 1m 1s
260:
        learn: 0.2133849
                                  total: 1m 6s
                                                   remaining: 1m
261:
        learn: 0.2133517
                                  total: 1m 6s
                                                   remaining: 1m
262:
        learn: 0.2133116
                                  total: 1m 7s
                                                   remaining: 1m
263:
        learn: 0.2132971
                                  total: 1m 7s
                                                   remaining: 1m
264:
        learn: 0.2132208
                                  total: 1m 7s
                                                   remaining: 59.9s
                                  total: 1m 7s
265:
        learn: 0.2132000
                                                   remaining: 59.6s
        learn: 0.2131095
                                                   remaining: 59.3s
266:
                                  total: 1m 8s
267:
        learn: 0.2128740
                                  total: 1m 8s
                                                   remaining: 59.1s
268:
        learn: 0.2127412
                                  total: 1m 8s
                                                   remaining: 58.9s
                                  total: 1m 8s
269:
        learn: 0.2127120
                                                   remaining: 58.6s
270:
        learn: 0.2125371
                                  total: 1m 9s
                                                   remaining: 58.4s
271:
                                  total: 1m 9s
        learn: 0.2124371
                                                   remaining: 58.2s
272:
        learn: 0.2122852
                                  total: 1m 9s
                                                   remaining: 58s
                                  total: 1m 9s
273:
        learn: 0.2122168
                                                   remaining: 57.7s
274:
        learn: 0.2120879
                                  total: 1m 10s
                                                   remaining: 57.5s
275:
        learn: 0.2119984
                                  total: 1m 10s
                                                   remaining: 57.3s
276:
        learn: 0.2119193
                                  total: 1m 10s
                                                   remaining: 57s
277:
        learn: 0.2118667
                                  total: 1m 11s
                                                   remaining: 56.7s
278:
        learn: 0.2118054
                                  total: 1m 11s
                                                   remaining: 56.5s
279:
        learn: 0.2117708
                                  total: 1m 11s
                                                   remaining: 56.2s
280:
        learn: 0.2117357
                                  total: 1m 11s
                                                   remaining: 56s
281:
        learn: 0.2116799
                                  total: 1m 12s
                                                   remaining: 55.7s
282:
        learn: 0.2115737
                                  total: 1m 12s
                                                   remaining: 55.5s
283:
        learn: 0.2115000
                                  total: 1m 12s
                                                   remaining: 55.2s
284:
        learn: 0.2114279
                                  total: 1m 12s
                                                   remaining: 54.9s
285:
        learn: 0.2113464
                                  total: 1m 13s
                                                   remaining: 54.7s
286:
        learn: 0.2112388
                                  total: 1m 13s
                                                   remaining: 54.4s
287:
        learn: 0.2112201
                                  total: 1m 13s
                                                   remaining: 54.2s
288:
        learn: 0.2111376
                                  total: 1m 13s
                                                   remaining: 54s
289:
        learn: 0.2110933
                                  total: 1m 14s
                                                   remaining: 53.7s
290:
        learn: 0.2110643
                                  total: 1m 14s
                                                   remaining: 53.5s
291:
        learn: 0.2109869
                                  total: 1m 14s
                                                   remaining: 53.2s
292:
        learn: 0.2109318
                                  total: 1m 15s
                                                   remaining: 53s
293:
        learn: 0.2109166
                                  total: 1m 15s
                                                   remaining: 52.7s
294:
        learn: 0.2108505
                                  total: 1m 15s
                                                   remaining: 52.5s
295:
        learn: 0.2108093
                                  total: 1m 15s
                                                   remaining: 52.2s
```

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296:
        learn: 0.2107292
                                  total: 1m 15s
                                                   remaining: 51.9s
297:
        learn: 0.2106829
                                  total: 1m 16s
                                                   remaining: 51.7s
298:
        learn: 0.2105518
                                  total: 1m 16s
                                                   remaining: 51.4s
299:
        learn: 0.2104999
                                  total: 1m 16s
                                                   remaining: 51.2s
300:
        learn: 0.2104345
                                  total: 1m 17s
                                                   remaining: 50.9s
                                  total: 1m 17s
301:
        learn: 0.2103612
                                                   remaining: 50.7s
302:
        learn: 0.2102946
                                  total: 1m 17s
                                                   remaining: 50.5s
        learn: 0.2102097
                                                   remaining: 50.2s
303:
                                  total: 1m 17s
304:
        learn: 0.2101479
                                  total: 1m 18s
                                                   remaining: 49.9s
305:
        learn: 0.2101316
                                  total: 1m 18s
                                                   remaining: 49.7s
306:
        learn: 0.2100580
                                  total: 1m 18s
                                                   remaining: 49.4s
307:
        learn: 0.2099697
                                  total: 1m 18s
                                                   remaining: 49.1s
308:
        learn: 0.2099162
                                  total: 1m 19s
                                                   remaining: 48.9s
309:
        learn: 0.2098999
                                  total: 1m 19s
                                                   remaining: 48.6s
                                                   remaining: 48.3s
310:
        learn: 0.2098795
                                  total: 1m 19s
311:
        learn: 0.2097999
                                  total: 1m 19s
                                                   remaining: 48.1s
312:
        learn: 0.2097224
                                  total: 1m 20s
                                                   remaining: 47.8s
313:
        learn: 0.2096729
                                  total: 1m 20s
                                                   remaining: 47.5s
        learn: 0.2095002
                                  total: 1m 20s
                                                   remaining: 47.3s
314:
315:
        learn: 0.2094425
                                  total: 1m 20s
                                                   remaining: 47s
316:
        learn: 0.2094169
                                  total: 1m 20s
                                                   remaining: 46.7s
                                  total: 1m 21s
317:
        learn: 0.2093628
                                                   remaining: 46.4s
318:
        learn: 0.2093162
                                  total: 1m 21s
                                                   remaining: 46.2s
319:
                                  total: 1m 21s
        learn: 0.2092615
                                                   remaining: 45.9s
320:
        learn: 0.2091991
                                  total: 1m 21s
                                                   remaining: 45.7s
                                  total: 1m 22s
321:
        learn: 0.2091474
                                                   remaining: 45.4s
322:
        learn: 0.2090862
                                  total: 1m 22s
                                                   remaining: 45.1s
323:
        learn: 0.2090709
                                  total: 1m 22s
                                                   remaining: 44.8s
324:
        learn: 0.2083469
                                  total: 1m 22s
                                                   remaining: 44.6s
325:
        learn: 0.2082685
                                  total: 1m 23s
                                                   remaining: 44.3s
326:
        learn: 0.2081539
                                  total: 1m 23s
                                                   remaining: 44.1s
327:
        learn: 0.2080722
                                  total: 1m 23s
                                                   remaining: 43.8s
328:
        learn: 0.2079751
                                  total: 1m 23s
                                                   remaining: 43.6s
329:
        learn: 0.2078675
                                  total: 1m 24s
                                                   remaining: 43.3s
                                  total: 1m 24s
330:
        learn: 0.2078360
                                                   remaining: 43.1s
                                  total: 1m 24s
331:
        learn: 0.2077622
                                                   remaining: 42.8s
332:
        learn: 0.2077398
                                  total: 1m 24s
                                                   remaining: 42.6s
333:
        learn: 0.2077027
                                  total: 1m 25s
                                                   remaining: 42.3s
                                  total: 1m 25s
334:
        learn: 0.2076890
                                                   remaining: 42.1s
335:
        learn: 0.2076339
                                  total: 1m 25s
                                                   remaining: 41.8s
336:
        learn: 0.2075738
                                  total: 1m 25s
                                                   remaining: 41.6s
337:
        learn: 0.2075539
                                  total: 1m 26s
                                                   remaining: 41.3s
338:
        learn: 0.2074449
                                  total: 1m 26s
                                                   remaining: 41.1s
339:
        learn: 0.2074276
                                  total: 1m 26s
                                                   remaining: 40.8s
                                                   remaining: 40.6s
340:
        learn: 0.2073667
                                  total: 1m 26s
341:
        learn: 0.2072308
                                  total: 1m 27s
                                                   remaining: 40.3s
342:
        learn: 0.2071273
                                  total: 1m 27s
                                                   remaining: 40.1s
343:
        learn: 0.2070843
                                  total: 1m 27s
                                                   remaining: 39.8s
```

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344:
        learn: 0.2069886
                                  total: 1m 28s
                                                   remaining: 39.6s
345:
        learn: 0.2069668
                                  total: 1m 28s
                                                   remaining: 39.3s
346:
        learn: 0.2069192
                                  total: 1m 28s
                                                   remaining: 39.1s
        learn: 0.2068413
                                                   remaining: 38.8s
347:
                                  total: 1m 28s
348:
        learn: 0.2067901
                                  total: 1m 29s
                                                   remaining: 38.5s
                                  total: 1m 29s
349:
        learn: 0.2067042
                                                   remaining: 38.3s
350:
        learn: 0.2066452
                                  total: 1m 29s
                                                   remaining: 38s
351:
        learn: 0.2065661
                                  total: 1m 29s
                                                   remaining: 37.8s
352:
        learn: 0.2065022
                                  total: 1m 30s
                                                   remaining: 37.5s
353:
        learn: 0.2064661
                                  total: 1m 30s
                                                   remaining: 37.3s
354:
        learn: 0.2064262
                                  total: 1m 30s
                                                   remaining: 37s
355:
        learn: 0.2063734
                                  total: 1m 30s
                                                   remaining: 36.8s
356:
        learn: 0.2063539
                                  total: 1m 31s
                                                   remaining: 36.5s
357:
        learn: 0.2062717
                                  total: 1m 31s
                                                   remaining: 36.3s
358:
        learn: 0.2061869
                                  total: 1m 31s
                                                   remaining: 36s
359:
        learn: 0.2061299
                                  total: 1m 32s
                                                   remaining: 35.8s
360:
        learn: 0.2060810
                                  total: 1m 32s
                                                   remaining: 35.5s
                                  total: 1m 32s
361:
        learn: 0.2060246
                                                   remaining: 35.3s
        learn: 0.2059623
                                  total: 1m 32s
362:
                                                   remaining: 35s
363:
        learn: 0.2059460
                                  total: 1m 32s
                                                   remaining: 34.7s
364:
        learn: 0.2058582
                                  total: 1m 33s
                                                   remaining: 34.5s
365:
        learn: 0.2057788
                                  total: 1m 33s
                                                   remaining: 34.2s
366:
        learn: 0.2057642
                                  total: 1m 33s
                                                   remaining: 33.9s
367:
        learn: 0.2056841
                                  total: 1m 33s
                                                   remaining: 33.7s
368:
        learn: 0.2055441
                                  total: 1m 34s
                                                   remaining: 33.4s
        learn: 0.2054452
                                  total: 1m 34s
                                                   remaining: 33.1s
369:
370:
        learn: 0.2054028
                                  total: 1m 34s
                                                   remaining: 32.8s
371:
        learn: 0.2053211
                                  total: 1m 34s
                                                   remaining: 32.6s
372:
        learn: 0.2052953
                                  total: 1m 34s
                                                   remaining: 32.3s
373:
        learn: 0.2051915
                                  total: 1m 34s
                                                   remaining: 32s
374:
        learn: 0.2051441
                                  total: 1m 35s
                                                   remaining: 31.7s
375:
        learn: 0.2049942
                                  total: 1m 35s
                                                   remaining: 31.4s
376:
        learn: 0.2049608
                                  total: 1m 35s
                                                   remaining: 31.2s
        learn: 0.2048881
                                  total: 1m 35s
377:
                                                   remaining: 30.9s
378:
        learn: 0.2048485
                                  total: 1m 36s
                                                   remaining: 30.7s
379:
        learn: 0.2047796
                                  total: 1m 36s
                                                   remaining: 30.4s
380:
        learn: 0.2047340
                                  total: 1m 36s
                                                   remaining: 30.2s
381:
        learn: 0.2046835
                                  total: 1m 36s
                                                   remaining: 29.9s
382:
        learn: 0.2045663
                                  total: 1m 37s
                                                   remaining: 29.7s
383:
        learn: 0.2045083
                                  total: 1m 37s
                                                   remaining: 29.4s
384:
        learn: 0.2043722
                                  total: 1m 37s
                                                   remaining: 29.1s
385:
        learn: 0.2043392
                                  total: 1m 37s
                                                   remaining: 28.9s
386:
        learn: 0.2043155
                                  total: 1m 38s
                                                   remaining: 28.6s
387:
        learn: 0.2042620
                                  total: 1m 38s
                                                   remaining: 28.4s
388:
        learn: 0.2040577
                                  total: 1m 38s
                                                   remaining: 28.1s
389:
        learn: 0.2039654
                                  total: 1m 38s
                                                   remaining: 27.8s
390:
        learn: 0.2039468
                                  total: 1m 38s
                                                   remaining: 27.6s
391:
        learn: 0.2039188
                                  total: 1m 39s
                                                   remaining: 27.3s
```

```
learn: 0.2038798
392:
                                  total: 1m 39s
                                                   remaining: 27.1s
393:
        learn: 0.2038383
                                  total: 1m 39s
                                                   remaining: 26.8s
394:
        learn: 0.2037084
                                  total: 1m 39s
                                                   remaining: 26.5s
                                                   remaining: 26.3s
395:
        learn: 0.2036209
                                  total: 1m 40s
396:
        learn: 0.2034664
                                  total: 1m 40s
                                                   remaining: 26s
                                  total: 1m 40s
397:
        learn: 0.2033697
                                                   remaining: 25.8s
398:
        learn: 0.2033535
                                  total: 1m 40s
                                                   remaining: 25.5s
399:
        learn: 0.2032606
                                  total: 1m 41s
                                                   remaining: 25.3s
400:
        learn: 0.2031013
                                  total: 1m 41s
                                                   remaining: 25s
401:
        learn: 0.2030677
                                  total: 1m 41s
                                                   remaining: 24.8s
402:
        learn: 0.2030511
                                  total: 1m 41s
                                                   remaining: 24.5s
403:
        learn: 0.2030312
                                  total: 1m 42s
                                                   remaining: 24.3s
404:
        learn: 0.2029925
                                  total: 1m 42s
                                                   remaining: 24s
405:
        learn: 0.2029730
                                  total: 1m 42s
                                                   remaining: 23.8s
406:
        learn: 0.2029029
                                  total: 1m 42s
                                                   remaining: 23.5s
407:
        learn: 0.2028254
                                  total: 1m 43s
                                                   remaining: 23.3s
408:
        learn: 0.2027819
                                  total: 1m 43s
                                                   remaining: 23s
409:
        learn: 0.2027511
                                  total: 1m 43s
                                                   remaining: 22.8s
        learn: 0.2026700
410:
                                  total: 1m 44s
                                                   remaining: 22.5s
411:
        learn: 0.2026395
                                  total: 1m 44s
                                                   remaining: 22.3s
                                  total: 1m 44s
412:
        learn: 0.2025855
                                                   remaining: 22s
413:
        learn: 0.2025340
                                  total: 1m 44s
                                                   remaining: 21.8s
414:
        learn: 0.2024455
                                  total: 1m 45s
                                                   remaining: 21.5s
415:
        learn: 0.2023710
                                  total: 1m 45s
                                                   remaining: 21.3s
416:
        learn: 0.2020359
                                  total: 1m 45s
                                                   remaining: 21s
417:
        learn: 0.2020178
                                  total: 1m 45s
                                                   remaining: 20.8s
418:
        learn: 0.2020078
                                  total: 1m 46s
                                                   remaining: 20.5s
419:
        learn: 0.2019612
                                  total: 1m 46s
                                                   remaining: 20.3s
420:
        learn: 0.2019048
                                  total: 1m 46s
                                                   remaining: 20s
421:
        learn: 0.2018736
                                  total: 1m 46s
                                                   remaining: 19.8s
422:
        learn: 0.2018335
                                  total: 1m 47s
                                                   remaining: 19.5s
423:
        learn: 0.2018042
                                  total: 1m 47s
                                                   remaining: 19.3s
424:
        learn: 0.2017957
                                  total: 1m 48s
                                                   remaining: 19.1s
425:
        learn: 0.2016848
                                  total: 1m 48s
                                                   remaining: 18.8s
426:
        learn: 0.2016675
                                  total: 1m 48s
                                                   remaining: 18.6s
427:
        learn: 0.2016094
                                  total: 1m 49s
                                                   remaining: 18.4s
428:
        learn: 0.2015685
                                  total: 1m 49s
                                                   remaining: 18.1s
429:
        learn: 0.2015455
                                  total: 1m 49s
                                                   remaining: 17.9s
430:
        learn: 0.2014558
                                  total: 1m 50s
                                                   remaining: 17.6s
431:
        learn: 0.2014449
                                  total: 1m 50s
                                                   remaining: 17.4s
432:
        learn: 0.2013771
                                  total: 1m 50s
                                                   remaining: 17.2s
433:
        learn: 0.2012708
                                  total: 1m 51s
                                                   remaining: 16.9s
434:
        learn: 0.2012523
                                  total: 1m 51s
                                                   remaining: 16.7s
435:
        learn: 0.2011824
                                  total: 1m 51s
                                                   remaining: 16.4s
436:
        learn: 0.2010686
                                  total: 1m 52s
                                                   remaining: 16.2s
437:
        learn: 0.2009582
                                  total: 1m 52s
                                                   remaining: 15.9s
438:
        learn: 0.2009311
                                  total: 1m 52s
                                                   remaining: 15.7s
439:
        learn: 0.2008975
                                  total: 1m 53s
                                                   remaining: 15.4s
```

```
440:
        learn: 0.2008488
                                  total: 1m 53s
                                                   remaining: 15.2s
441:
        learn: 0.2008163
                                  total: 1m 53s
                                                   remaining: 14.9s
442:
        learn: 0.2007684
                                  total: 1m 54s
                                                   remaining: 14.7s
443:
        learn: 0.2007269
                                                   remaining: 14.4s
                                  total: 1m 54s
444:
        learn: 0.2006792
                                  total: 1m 54s
                                                   remaining: 14.2s
                                  total: 1m 55s
                                                   remaining: 13.9s
445:
        learn: 0.2006438
446:
        learn: 0.2005807
                                  total: 1m 55s
                                                   remaining: 13.7s
447:
        learn: 0.2005375
                                  total: 1m 55s
                                                   remaining: 13.5s
448:
        learn: 0.2004584
                                  total: 1m 56s
                                                   remaining: 13.2s
449:
        learn: 0.2003941
                                  total: 1m 56s
                                                   remaining: 13s
450:
        learn: 0.2003653
                                  total: 1m 57s
                                                   remaining: 12.7s
451:
        learn: 0.2003180
                                  total: 1m 57s
                                                   remaining: 12.5s
452:
        learn: 0.2002184
                                  total: 1m 57s
                                                   remaining: 12.2s
453:
        learn: 0.2000939
                                  total: 1m 58s
                                                   remaining: 12s
                                                   remaining: 11.7s
454:
        learn: 0.2000148
                                  total: 1m 58s
455:
        learn: 0.1999560
                                  total: 1m 58s
                                                   remaining: 11.5s
456:
        learn: 0.1997707
                                  total: 1m 59s
                                                   remaining: 11.2s
457:
        learn: 0.1997594
                                  total: 1m 59s
                                                   remaining: 10.9s
        learn: 0.1996991
458:
                                  total: 1m 59s
                                                   remaining: 10.7s
459:
        learn: 0.1996337
                                  total: 2m
                                                   remaining: 10.4s
460:
        learn: 0.1995876
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.1994792
                                  total: 2m
                                                   remaining: 9.94s
462:
        learn: 0.1994497
                                  total: 2m 1s
                                                   remaining: 9.68s
463:
        learn: 0.1993620
                                  total: 2m 1s
                                                   remaining: 9.43s
464:
        learn: 0.1992788
                                  total: 2m 1s
                                                   remaining: 9.18s
                                  total: 2m 2s
465:
        learn: 0.1992377
                                                   remaining: 8.92s
466:
        learn: 0.1991420
                                  total: 2m 2s
                                                   remaining: 8.66s
467:
        learn: 0.1990840
                                  total: 2m 3s
                                                   remaining: 8.41s
468:
        learn: 0.1990056
                                  total: 2m 3s
                                                   remaining: 8.15s
469:
        learn: 0.1989894
                                  total: 2m 3s
                                                   remaining: 7.9s
470:
        learn: 0.1989658
                                  total: 2m 3s
                                                   remaining: 7.63s
471:
        learn: 0.1989362
                                  total: 2m 4s
                                                   remaining: 7.37s
472:
        learn: 0.1988593
                                  total: 2m 4s
                                                   remaining: 7.11s
473:
        learn: 0.1988306
                                  total: 2m 5s
                                                   remaining: 6.86s
474:
        learn: 0.1988014
                                  total: 2m 5s
                                                   remaining: 6.6s
                                  total: 2m 5s
475:
        learn: 0.1987381
                                                   remaining: 6.34s
476:
        learn: 0.1987089
                                  total: 2m 6s
                                                   remaining: 6.08s
477:
        learn: 0.1986037
                                  total: 2m 6s
                                                   remaining: 5.82s
478:
                                  total: 2m 6s
        learn: 0.1985319
                                                   remaining: 5.56s
479:
        learn: 0.1984900
                                  total: 2m 7s
                                                   remaining: 5.3s
                                  total: 2m 7s
480:
        learn: 0.1984634
                                                   remaining: 5.04s
481:
        learn: 0.1984311
                                  total: 2m 7s
                                                   remaining: 4.78s
482:
        learn: 0.1983606
                                  total: 2m 8s
                                                   remaining: 4.52s
483:
        learn: 0.1982906
                                  total: 2m 8s
                                                   remaining: 4.25s
                                                   remaining: 3.99s
484:
        learn: 0.1982761
                                  total: 2m 9s
485:
        learn: 0.1982057
                                  total: 2m 9s
                                                   remaining: 3.73s
486:
        learn: 0.1981695
                                  total: 2m 9s
                                                   remaining: 3.46s
487:
        learn: 0.1981089
                                  total: 2m 10s
                                                   remaining: 3.2s
```

```
488:
        learn: 0.1980694
                                  total: 2m 10s
                                                   remaining: 2.94s
489:
        learn: 0.1980276
                                  total: 2m 10s
                                                   remaining: 2.67s
490:
        learn: 0.1979839
                                  total: 2m 11s
                                                   remaining: 2.4s
491:
        learn: 0.1979693
                                  total: 2m 11s
                                                   remaining: 2.14s
492:
        learn: 0.1979215
                                  total: 2m 11s
                                                   remaining: 1.87s
                                  total: 2m 12s
                                                   remaining: 1.61s
493:
        learn: 0.1978807
494:
        learn: 0.1978187
                                  total: 2m 12s
                                                   remaining: 1.34s
495:
        learn: 0.1977116
                                  total: 2m 13s
                                                   remaining: 1.07s
496:
        learn: 0.1976559
                                  total: 2m 13s
                                                   remaining: 805ms
497:
        learn: 0.1975978
                                  total: 2m 13s
                                                   remaining: 537ms
                                  total: 2m 14s
498:
        learn: 0.1975752
                                                   remaining: 269ms
                                                   remaining: Ous
499:
        learn: 0.1975006
                                  total: 2m 14s
Learning rate set to 0.173965
0:
        learn: 0.9706594
                                  total: 356ms
                                                   remaining: 2m 57s
1:
        learn: 0.8903758
                                  total: 729ms
                                                   remaining: 3m 1s
2:
        learn: 0.8308123
                                  total: 1.09s
                                                   remaining: 3m
3:
        learn: 0.7860917
                                  total: 1.41s
                                                   remaining: 2m 54s
                                  total: 1.79s
4:
        learn: 0.6856027
                                                   remaining: 2m 57s
5:
        learn: 0.6332008
                                  total: 2.08s
                                                   remaining: 2m 51s
6:
        learn: 0.6112663
                                  total: 2.44s
                                                   remaining: 2m 51s
                                                   remaining: 2m 52s
7:
        learn: 0.5582156
                                  total: 2.81s
8:
        learn: 0.5076741
                                  total: 3.19s
                                                   remaining: 2m 53s
9:
        learn: 0.4610886
                                  total: 3.55s
                                                   remaining: 2m 53s
        learn: 0.4296468
                                  total: 3.9s
                                                   remaining: 2m 53s
10:
11:
        learn: 0.4153219
                                  total: 4.29s
                                                   remaining: 2m 54s
12:
        learn: 0.3919545
                                  total: 4.7s
                                                   remaining: 2m 56s
        learn: 0.3733179
                                  total: 5.08s
                                                   remaining: 2m 56s
13:
14:
        learn: 0.3583193
                                  total: 5.48s
                                                   remaining: 2m 57s
15:
        learn: 0.3493940
                                  total: 5.82s
                                                   remaining: 2m 55s
16:
        learn: 0.3370837
                                  total: 6.2s
                                                   remaining: 2m 56s
17:
        learn: 0.3271982
                                  total: 6.55s
                                                   remaining: 2m 55s
18:
        learn: 0.3203891
                                  total: 6.91s
                                                   remaining: 2m 54s
19:
        learn: 0.3077774
                                  total: 7.38s
                                                   remaining: 2m 57s
20:
        learn: 0.3060260
                                  total: 7.76s
                                                   remaining: 2m 56s
                                                   remaining: 2m 57s
21:
        learn: 0.2961447
                                  total: 8.17s
22:
        learn: 0.2925062
                                  total: 8.55s
                                                   remaining: 2m 57s
23:
        learn: 0.2844899
                                  total: 8.98s
                                                   remaining: 2m 58s
24:
        learn: 0.2781133
                                  total: 9.36s
                                                   remaining: 2m 57s
25:
        learn: 0.2768506
                                                   remaining: 2m 57s
                                  total: 9.76s
26:
        learn: 0.2753922
                                  total: 10.1s
                                                   remaining: 2m 57s
27:
        learn: 0.2700626
                                  total: 10.4s
                                                   remaining: 2m 56s
28:
        learn: 0.2693443
                                                   remaining: 2m 55s
                                  total: 10.8s
29:
        learn: 0.2668691
                                  total: 11.2s
                                                   remaining: 2m 54s
30:
        learn: 0.2650211
                                  total: 11.5s
                                                   remaining: 2m 54s
31:
        learn: 0.2612506
                                  total: 11.9s
                                                   remaining: 2m 54s
32:
        learn: 0.2604733
                                  total: 12.3s
                                                   remaining: 2m 54s
33:
        learn: 0.2600989
                                  total: 12.6s
                                                   remaining: 2m 52s
34:
        learn: 0.2592773
                                  total: 13s
                                                   remaining: 2m 52s
```

```
35:
        learn: 0.2591453
                                  total: 13.1s
                                                   remaining: 2m 48s
36:
        learn: 0.2586211
                                  total: 13.4s
                                                   remaining: 2m 47s
37:
        learn: 0.2580523
                                  total: 13.8s
                                                   remaining: 2m 47s
38:
        learn: 0.2576334
                                  total: 14.2s
                                                   remaining: 2m 47s
                                                   remaining: 2m 47s
39:
        learn: 0.2563720
                                  total: 14.6s
        learn: 0.2549949
                                  total: 14.9s
                                                   remaining: 2m 46s
40:
41:
        learn: 0.2543469
                                  total: 15.2s
                                                   remaining: 2m 46s
42:
        learn: 0.2501296
                                  total: 15.6s
                                                   remaining: 2m 45s
        learn: 0.2493197
43:
                                  total: 16s
                                                   remaining: 2m 45s
44:
        learn: 0.2490546
                                  total: 16.3s
                                                   remaining: 2m 44s
45:
        learn: 0.2489626
                                  total: 16.6s
                                                   remaining: 2m 43s
                                                   remaining: 2m 43s
46:
        learn: 0.2464420
                                  total: 17s
47:
        learn: 0.2463227
                                  total: 17.4s
                                                   remaining: 2m 43s
48:
        learn: 0.2461599
                                  total: 17.8s
                                                   remaining: 2m 43s
49:
        learn: 0.2454319
                                  total: 18.1s
                                                   remaining: 2m 43s
50:
        learn: 0.2448796
                                                   remaining: 2m 42s
                                  total: 18.5s
51:
        learn: 0.2446282
                                  total: 18.8s
                                                   remaining: 2m 42s
52:
        learn: 0.2432585
                                  total: 19.2s
                                                   remaining: 2m 41s
        learn: 0.2431211
                                  total: 19.6s
                                                   remaining: 2m 41s
53:
54:
        learn: 0.2425952
                                  total: 19.9s
                                                   remaining: 2m 40s
        learn: 0.2423477
                                                   remaining: 2m 40s
55:
                                  total: 20.2s
        learn: 0.2422139
                                  total: 20.6s
56:
                                                   remaining: 2m 40s
57:
        learn: 0.2416924
                                  total: 21s
                                                   remaining: 2m 40s
        learn: 0.2415598
                                  total: 21.4s
                                                   remaining: 2m 40s
58:
59:
        learn: 0.2412428
                                  total: 21.7s
                                                   remaining: 2m 39s
        learn: 0.2411885
                                  total: 22.1s
                                                   remaining: 2m 38s
60:
61:
        learn: 0.2403026
                                  total: 22.5s
                                                   remaining: 2m 38s
62:
        learn: 0.2401079
                                  total: 22.8s
                                                   remaining: 2m 38s
        learn: 0.2397731
                                  total: 23.2s
                                                   remaining: 2m 37s
63:
64:
        learn: 0.2397140
                                  total: 23.6s
                                                   remaining: 2m 37s
65:
        learn: 0.2395533
                                  total: 23.9s
                                                   remaining: 2m 37s
66:
        learn: 0.2391976
                                  total: 24.3s
                                                   remaining: 2m 36s
67:
        learn: 0.2382518
                                  total: 24.6s
                                                   remaining: 2m 36s
        learn: 0.2381847
                                  total: 25s
                                                   remaining: 2m 36s
68:
                                  total: 25.3s
                                                   remaining: 2m 35s
69:
        learn: 0.2381441
                                  total: 25.6s
70:
        learn: 0.2380004
                                                   remaining: 2m 34s
71:
        learn: 0.2376046
                                  total: 26s
                                                   remaining: 2m 34s
72:
        learn: 0.2369514
                                  total: 26.4s
                                                   remaining: 2m 34s
73:
        learn: 0.2366518
                                  total: 26.7s
                                                   remaining: 2m 33s
74:
        learn: 0.2365203
                                  total: 27.1s
                                                   remaining: 2m 33s
75:
        learn: 0.2363582
                                  total: 27.5s
                                                   remaining: 2m 33s
76:
        learn: 0.2363371
                                  total: 27.9s
                                                   remaining: 2m 33s
77:
        learn: 0.2360533
                                  total: 28.3s
                                                   remaining: 2m 33s
78:
        learn: 0.2357212
                                  total: 28.6s
                                                   remaining: 2m 32s
79:
        learn: 0.2356593
                                  total: 29s
                                                   remaining: 2m 32s
80:
        learn: 0.2352605
                                  total: 29.3s
                                                   remaining: 2m 31s
                                  total: 29.7s
81:
        learn: 0.2331356
                                                   remaining: 2m 31s
82:
        learn: 0.2320490
                                  total: 30s
                                                   remaining: 2m 30s
```

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83:
        learn: 0.2319652
                                  total: 30.4s
                                                  remaining: 2m 30s
84:
        learn: 0.2316678
                                  total: 30.7s
                                                  remaining: 2m 30s
85:
        learn: 0.2314991
                                  total: 31.2s
                                                  remaining: 2m 30s
        learn: 0.2313653
                                  total: 31.6s
                                                  remaining: 2m 29s
86:
                                                  remaining: 2m 29s
87:
        learn: 0.2310059
                                  total: 31.9s
        learn: 0.2308130
                                  total: 32.3s
                                                  remaining: 2m 29s
88:
89:
        learn: 0.2306599
                                  total: 32.6s
                                                  remaining: 2m 28s
90:
        learn: 0.2305399
                                  total: 33s
                                                  remaining: 2m 28s
        learn: 0.2300945
                                                  remaining: 2m 27s
91:
                                  total: 33.3s
92:
        learn: 0.2291687
                                  total: 33.7s
                                                  remaining: 2m 27s
                                  total: 34.1s
        learn: 0.2289785
93:
                                                  remaining: 2m 27s
                                                  remaining: 2m 26s
94:
        learn: 0.2284286
                                  total: 34.5s
                                  total: 34.8s
95:
        learn: 0.2282317
                                                  remaining: 2m 26s
96:
        learn: 0.2279616
                                  total: 35.2s
                                                  remaining: 2m 26s
97:
        learn: 0.2278302
                                  total: 35.5s
                                                  remaining: 2m 25s
98:
        learn: 0.2277675
                                  total: 35.8s
                                                  remaining: 2m 25s
99:
        learn: 0.2276630
                                  total: 36.2s
                                                  remaining: 2m 24s
100:
        learn: 0.2275517
                                  total: 36.5s
                                                  remaining: 2m 24s
        learn: 0.2275006
                                  total: 36.9s
                                                  remaining: 2m 23s
101:
102:
        learn: 0.2273339
                                  total: 37.3s
                                                  remaining: 2m 23s
                                  total: 37.7s
                                                  remaining: 2m 23s
103:
        learn: 0.2271211
        learn: 0.2270802
                                                  remaining: 2m 22s
104:
                                  total: 38s
105:
        learn: 0.2269747
                                  total: 38.4s
                                                  remaining: 2m 22s
106:
        learn: 0.2255379
                                  total: 38.8s
                                                  remaining: 2m 22s
107:
        learn: 0.2255166
                                  total: 39.2s
                                                  remaining: 2m 22s
        learn: 0.2254594
108:
                                  total: 39.5s
                                                  remaining: 2m 21s
        learn: 0.2253269
                                  total: 39.9s
                                                  remaining: 2m 21s
109:
110:
        learn: 0.2252614
                                  total: 40.3s
                                                  remaining: 2m 21s
                                  total: 40.7s
        learn: 0.2250748
111:
                                                  remaining: 2m 20s
112:
        learn: 0.2249256
                                  total: 41s
                                                  remaining: 2m 20s
113:
        learn: 0.2248646
                                  total: 41.4s
                                                  remaining: 2m 20s
114:
        learn: 0.2247737
                                  total: 41.7s
                                                  remaining: 2m 19s
115:
        learn: 0.2246929
                                  total: 42s
                                                  remaining: 2m 19s
116:
        learn: 0.2246303
                                  total: 42.3s
                                                  remaining: 2m 18s
        learn: 0.2245490
                                  total: 42.7s
                                                  remaining: 2m 18s
117:
118:
        learn: 0.2244891
                                  total: 43s
                                                  remaining: 2m 17s
119:
        learn: 0.2244665
                                  total: 43.4s
                                                  remaining: 2m 17s
120:
        learn: 0.2243669
                                  total: 43.7s
                                                  remaining: 2m 17s
        learn: 0.2242964
                                  total: 44.1s
                                                  remaining: 2m 16s
121:
122:
        learn: 0.2242410
                                  total: 44.3s
                                                  remaining: 2m 15s
123:
        learn: 0.2242164
                                  total: 44.7s
                                                  remaining: 2m 15s
124:
        learn: 0.2241364
                                                  remaining: 2m 15s
                                  total: 45s
125:
        learn: 0.2241050
                                  total: 45.4s
                                                  remaining: 2m 14s
126:
        learn: 0.2239783
                                  total: 45.7s
                                                  remaining: 2m 14s
127:
        learn: 0.2238404
                                  total: 46.1s
                                                  remaining: 2m 14s
128:
        learn: 0.2237735
                                  total: 46.4s
                                                  remaining: 2m 13s
129:
        learn: 0.2236587
                                  total: 46.7s
                                                  remaining: 2m 13s
130:
        learn: 0.2235872
                                 total: 47.1s
                                                  remaining: 2m 12s
```

```
learn: 0.2234060
                                  total: 47.5s
131:
                                                   remaining: 2m 12s
132:
        learn: 0.2233765
                                  total: 47.8s
                                                   remaining: 2m 11s
133:
        learn: 0.2232484
                                  total: 48.1s
                                                   remaining: 2m 11s
        learn: 0.2230164
                                  total: 48.4s
                                                   remaining: 2m 10s
134:
                                                   remaining: 2m 10s
135:
        learn: 0.2229132
                                  total: 48.8s
                                  total: 49.2s
                                                   remaining: 2m 10s
136:
        learn: 0.2228056
137:
        learn: 0.2227514
                                  total: 49.5s
                                                   remaining: 2m 9s
138:
        learn: 0.2226626
                                  total: 49.8s
                                                   remaining: 2m 9s
139:
        learn: 0.2223882
                                  total: 50.1s
                                                   remaining: 2m 8s
140:
        learn: 0.2221926
                                  total: 50.5s
                                                   remaining: 2m 8s
141:
        learn: 0.2221451
                                  total: 50.8s
                                                   remaining: 2m 8s
142:
        learn: 0.2221046
                                  total: 51.2s
                                                   remaining: 2m 7s
143:
        learn: 0.2219054
                                  total: 51.5s
                                                   remaining: 2m 7s
144:
        learn: 0.2217366
                                  total: 52s
                                                   remaining: 2m 7s
145:
        learn: 0.2216144
                                  total: 52.3s
                                                   remaining: 2m 6s
        learn: 0.2215409
146:
                                  total: 52.7s
                                                   remaining: 2m 6s
147:
        learn: 0.2213728
                                  total: 53.1s
                                                   remaining: 2m 6s
148:
        learn: 0.2212950
                                  total: 53.4s
                                                   remaining: 2m 5s
        learn: 0.2211453
                                  total: 53.7s
                                                   remaining: 2m 5s
149:
150:
        learn: 0.2210521
                                  total: 54.1s
                                                   remaining: 2m 5s
        learn: 0.2209634
151:
                                  total: 54.5s
                                                   remaining: 2m 4s
152:
        learn: 0.2208155
                                  total: 54.9s
                                                   remaining: 2m 4s
153 •
        learn: 0.2207465
                                  total: 55.3s
                                                   remaining: 2m 4s
                                                   remaining: 2m 3s
154:
        learn: 0.2206656
                                  total: 55.6s
155:
        learn: 0.2205618
                                  total: 56s
                                                   remaining: 2m 3s
156:
        learn: 0.2204184
                                  total: 56.3s
                                                   remaining: 2m 2s
        learn: 0.2202531
                                  total: 56.7s
                                                   remaining: 2m 2s
157:
158:
        learn: 0.2198579
                                  total: 57.1s
                                                   remaining: 2m 2s
159:
        learn: 0.2197986
                                  total: 57.5s
                                                   remaining: 2m 2s
160:
        learn: 0.2197575
                                  total: 57.9s
                                                   remaining: 2m 1s
        learn: 0.2196621
                                  total: 58.2s
161:
                                                   remaining: 2m 1s
162:
        learn: 0.2196209
                                  total: 58.6s
                                                   remaining: 2m 1s
163:
        learn: 0.2193396
                                  total: 58.9s
                                                   remaining: 2m
        learn: 0.2192482
                                  total: 59.2s
                                                   remaining: 2m
164:
165:
                                                   remaining: 1m 59s
        learn: 0.2192055
                                  total: 59.6s
166:
        learn: 0.2190643
                                  total: 1m
                                                   remaining: 1m 59s
167:
        learn: 0.2188160
                                  total: 1m
                                                   remaining: 1m 59s
168:
        learn: 0.2187440
                                  total: 1m
                                                   remaining: 1m 59s
169:
        learn: 0.2186096
                                  total: 1m 1s
                                                   remaining: 1m 58s
170:
        learn: 0.2185433
                                  total: 1m 1s
                                                   remaining: 1m 58s
                                  total: 1m 1s
        learn: 0.2185191
171:
                                                   remaining: 1m 57s
        learn: 0.2184370
                                                   remaining: 1m 57s
172:
                                  total: 1m 2s
173:
        learn: 0.2182524
                                  total: 1m 2s
                                                   remaining: 1m 57s
174:
        learn: 0.2181407
                                  total: 1m 2s
                                                   remaining: 1m 56s
175:
        learn: 0.2179876
                                  total: 1m 3s
                                                   remaining: 1m 56s
176:
        learn: 0.2179548
                                  total: 1m 3s
                                                   remaining: 1m 56s
177:
        learn: 0.2177909
                                  total: 1m 3s
                                                   remaining: 1m 55s
178:
        learn: 0.2177284
                                  total: 1m 4s
                                                   remaining: 1m 55s
```

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179:
        learn: 0.2175554
                                  total: 1m 4s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
180:
        learn: 0.2175018
                                  total: 1m 4s
181:
        learn: 0.2174453
                                  total: 1m 5s
                                                   remaining: 1m 54s
182:
        learn: 0.2173708
                                  total: 1m 5s
                                                   remaining: 1m 53s
183:
        learn: 0.2172737
                                  total: 1m 6s
                                                   remaining: 1m 53s
                                  total: 1m 6s
                                                   remaining: 1m 53s
184:
        learn: 0.2172100
185:
        learn: 0.2170592
                                  total: 1m 6s
                                                   remaining: 1m 52s
186:
        learn: 0.2170088
                                  total: 1m 7s
                                                   remaining: 1m 52s
187:
        learn: 0.2169734
                                  total: 1m 7s
                                                   remaining: 1m 52s
188:
        learn: 0.2169177
                                  total: 1m 7s
                                                   remaining: 1m 51s
189:
        learn: 0.2168950
                                  total: 1m 8s
                                                   remaining: 1m 51s
190:
        learn: 0.2168182
                                  total: 1m 8s
                                                   remaining: 1m 50s
191:
        learn: 0.2167493
                                                   remaining: 1m 50s
                                  total: 1m 8s
192:
        learn: 0.2167105
                                  total: 1m 9s
                                                   remaining: 1m 50s
193:
        learn: 0.2166935
                                  total: 1m 9s
                                                   remaining: 1m 49s
194:
        learn: 0.2166373
                                  total: 1m 9s
                                                   remaining: 1m 49s
195:
        learn: 0.2166066
                                  total: 1m 10s
                                                   remaining: 1m 49s
                                  total: 1m 10s
196:
        learn: 0.2164644
                                                   remaining: 1m 48s
        learn: 0.2163888
                                  total: 1m 10s
                                                   remaining: 1m 48s
197:
198:
        learn: 0.2163636
                                  total: 1m 11s
                                                   remaining: 1m 47s
199:
        learn: 0.2162837
                                  total: 1m 11s
                                                   remaining: 1m 47s
200:
        learn: 0.2162246
                                  total: 1m 11s
                                                   remaining: 1m 47s
201:
        learn: 0.2161771
                                  total: 1m 12s
                                                   remaining: 1m 46s
202:
                                  total: 1m 12s
                                                   remaining: 1m 46s
        learn: 0.2160801
203:
        learn: 0.2159935
                                  total: 1m 13s
                                                   remaining: 1m 46s
204:
        learn: 0.2159464
                                  total: 1m 13s
                                                   remaining: 1m 45s
205:
                                                   remaining: 1m 45s
        learn: 0.2159010
                                  total: 1m 13s
206:
        learn: 0.2158316
                                  total: 1m 14s
                                                   remaining: 1m 44s
207:
        learn: 0.2158100
                                  total: 1m 14s
                                                   remaining: 1m 44s
208:
        learn: 0.2157213
                                  total: 1m 14s
                                                   remaining: 1m 44s
209:
        learn: 0.2156849
                                  total: 1m 15s
                                                   remaining: 1m 43s
210:
        learn: 0.2156542
                                  total: 1m 15s
                                                   remaining: 1m 43s
211:
        learn: 0.2154997
                                  total: 1m 15s
                                                   remaining: 1m 43s
212:
        learn: 0.2154522
                                  total: 1m 16s
                                                   remaining: 1m 42s
213:
        learn: 0.2153978
                                  total: 1m 16s
                                                   remaining: 1m 42s
214:
        learn: 0.2153447
                                  total: 1m 16s
                                                   remaining: 1m 42s
215:
        learn: 0.2152976
                                  total: 1m 17s
                                                   remaining: 1m 41s
216:
        learn: 0.2152189
                                  total: 1m 17s
                                                   remaining: 1m 41s
217:
        learn: 0.2151559
                                  total: 1m 18s
                                                   remaining: 1m 40s
218:
        learn: 0.2150093
                                  total: 1m 18s
                                                   remaining: 1m 40s
                                  total: 1m 18s
219:
        learn: 0.2149435
                                                   remaining: 1m 40s
220:
                                                   remaining: 1m 39s
        learn: 0.2149231
                                  total: 1m 19s
221:
        learn: 0.2148134
                                  total: 1m 19s
                                                   remaining: 1m 39s
222:
        learn: 0.2147460
                                  total: 1m 19s
                                                   remaining: 1m 39s
223:
        learn: 0.2146875
                                  total: 1m 20s
                                                   remaining: 1m 38s
224:
        learn: 0.2146412
                                  total: 1m 20s
                                                   remaining: 1m 38s
225:
        learn: 0.2145677
                                  total: 1m 20s
                                                   remaining: 1m 37s
226:
        learn: 0.2144369
                                  total: 1m 21s
                                                   remaining: 1m 37s
```

```
total: 1m 21s
227:
        learn: 0.2144064
                                                   remaining: 1m 37s
                                                  remaining: 1m 36s
228:
        learn: 0.2142968
                                  total: 1m 21s
229:
        learn: 0.2141868
                                  total: 1m 22s
                                                   remaining: 1m 36s
230:
        learn: 0.2141436
                                  total: 1m 22s
                                                   remaining: 1m 36s
231:
        learn: 0.2140620
                                  total: 1m 22s
                                                   remaining: 1m 35s
232:
                                  total: 1m 23s
                                                   remaining: 1m 35s
        learn: 0.2140106
233:
        learn: 0.2138677
                                  total: 1m 23s
                                                   remaining: 1m 35s
        learn: 0.2138374
234:
                                  total: 1m 24s
                                                   remaining: 1m 34s
235:
        learn: 0.2137847
                                  total: 1m 24s
                                                   remaining: 1m 34s
236:
        learn: 0.2137121
                                  total: 1m 24s
                                                   remaining: 1m 34s
237:
        learn: 0.2136703
                                  total: 1m 25s
                                                   remaining: 1m 33s
238:
        learn: 0.2135085
                                  total: 1m 25s
                                                   remaining: 1m 33s
239:
        learn: 0.2134518
                                  total: 1m 25s
                                                   remaining: 1m 33s
240:
        learn: 0.2134168
                                  total: 1m 26s
                                                   remaining: 1m 32s
241:
        learn: 0.2133281
                                  total: 1m 26s
                                                   remaining: 1m 32s
242:
        learn: 0.2132885
                                  total: 1m 26s
                                                   remaining: 1m 31s
243:
        learn: 0.2132575
                                  total: 1m 27s
                                                   remaining: 1m 31s
244:
        learn: 0.2131851
                                  total: 1m 27s
                                                   remaining: 1m 31s
245:
        learn: 0.2130840
                                  total: 1m 28s
                                                   remaining: 1m 30s
246:
        learn: 0.2129635
                                  total: 1m 28s
                                                   remaining: 1m 30s
247:
        learn: 0.2128604
                                  total: 1m 28s
                                                   remaining: 1m 30s
                                  total: 1m 29s
248:
        learn: 0.2122311
                                                   remaining: 1m 29s
249:
        learn: 0.2121898
                                  total: 1m 29s
                                                   remaining: 1m 29s
250:
                                  total: 1m 29s
                                                   remaining: 1m 29s
        learn: 0.2121658
251:
        learn: 0.2120571
                                  total: 1m 30s
                                                   remaining: 1m 28s
252:
        learn: 0.2120274
                                  total: 1m 30s
                                                   remaining: 1m 28s
253:
        learn: 0.2120014
                                  total: 1m 30s
                                                   remaining: 1m 27s
254:
        learn: 0.2118866
                                  total: 1m 31s
                                                   remaining: 1m 27s
255:
        learn: 0.2118349
                                  total: 1m 31s
                                                   remaining: 1m 27s
256:
        learn: 0.2117662
                                  total: 1m 31s
                                                  remaining: 1m 26s
257:
        learn: 0.2116890
                                  total: 1m 32s
                                                   remaining: 1m 26s
258:
        learn: 0.2116533
                                  total: 1m 32s
                                                   remaining: 1m 26s
259:
        learn: 0.2115879
                                  total: 1m 33s
                                                   remaining: 1m 25s
260:
        learn: 0.2115104
                                  total: 1m 33s
                                                   remaining: 1m 25s
261:
        learn: 0.2115000
                                  total: 1m 33s
                                                   remaining: 1m 25s
        learn: 0.2114196
262:
                                  total: 1m 34s
                                                   remaining: 1m 24s
263:
        learn: 0.2113224
                                  total: 1m 34s
                                                   remaining: 1m 24s
264:
        learn: 0.2112649
                                  total: 1m 34s
                                                   remaining: 1m 24s
                                  total: 1m 35s
265:
        learn: 0.2111754
                                                   remaining: 1m 23s
266:
        learn: 0.2111009
                                  total: 1m 35s
                                                   remaining: 1m 23s
                                  total: 1m 35s
267:
        learn: 0.2110199
                                                   remaining: 1m 22s
268:
        learn: 0.2109926
                                                   remaining: 1m 22s
                                  total: 1m 36s
269:
        learn: 0.2109287
                                  total: 1m 36s
                                                   remaining: 1m 22s
270:
        learn: 0.2108861
                                  total: 1m 36s
                                                   remaining: 1m 21s
                                                   remaining: 1m 21s
271:
        learn: 0.2108506
                                  total: 1m 37s
272:
        learn: 0.2107165
                                  total: 1m 37s
                                                   remaining: 1m 21s
273:
        learn: 0.2106536
                                  total: 1m 37s
                                                   remaining: 1m 20s
274:
        learn: 0.2105934
                                  total: 1m 38s
                                                   remaining: 1m 20s
```

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275:
        learn: 0.2105656
                                  total: 1m 38s
                                                   remaining: 1m 20s
                                                  remaining: 1m 19s
276:
        learn: 0.2105498
                                  total: 1m 38s
277:
        learn: 0.2104118
                                  total: 1m 39s
                                                   remaining: 1m 19s
278:
        learn: 0.2103584
                                  total: 1m 39s
                                                   remaining: 1m 18s
279:
        learn: 0.2103300
                                  total: 1m 39s
                                                   remaining: 1m 18s
                                  total: 1m 40s
                                                   remaining: 1m 18s
280:
        learn: 0.2102575
281:
        learn: 0.2102058
                                  total: 1m 40s
                                                   remaining: 1m 17s
282:
        learn: 0.2101349
                                  total: 1m 41s
                                                   remaining: 1m 17s
283:
        learn: 0.2100205
                                  total: 1m 41s
                                                   remaining: 1m 17s
284:
        learn: 0.2099353
                                  total: 1m 41s
                                                   remaining: 1m 16s
285:
        learn: 0.2097613
                                  total: 1m 42s
                                                   remaining: 1m 16s
286:
        learn: 0.2096988
                                  total: 1m 42s
                                                   remaining: 1m 16s
287:
        learn: 0.2095894
                                  total: 1m 42s
                                                   remaining: 1m 15s
288:
        learn: 0.2095269
                                  total: 1m 43s
                                                   remaining: 1m 15s
289:
        learn: 0.2094456
                                  total: 1m 43s
                                                   remaining: 1m 14s
290:
        learn: 0.2094081
                                  total: 1m 43s
                                                   remaining: 1m 14s
291:
        learn: 0.2093322
                                  total: 1m 44s
                                                   remaining: 1m 14s
292:
        learn: 0.2092594
                                  total: 1m 44s
                                                   remaining: 1m 13s
                                                   remaining: 1m 13s
293:
        learn: 0.2091988
                                  total: 1m 45s
294:
        learn: 0.2090695
                                  total: 1m 45s
                                                   remaining: 1m 13s
295:
        learn: 0.2090342
                                  total: 1m 45s
                                                   remaining: 1m 12s
                                  total: 1m 45s
296:
        learn: 0.2089873
                                                   remaining: 1m 12s
297:
        learn: 0.2089791
                                  total: 1m 46s
                                                   remaining: 1m 12s
298:
                                  total: 1m 46s
        learn: 0.2089222
                                                   remaining: 1m 11s
299:
        learn: 0.2088686
                                  total: 1m 46s
                                                   remaining: 1m 11s
300:
        learn: 0.2088089
                                  total: 1m 47s
                                                   remaining: 1m 11s
301:
        learn: 0.2087883
                                  total: 1m 47s
                                                   remaining: 1m 10s
302:
        learn: 0.2087332
                                  total: 1m 48s
                                                   remaining: 1m 10s
303:
        learn: 0.2086248
                                  total: 1m 48s
                                                   remaining: 1m 9s
304:
        learn: 0.2085932
                                  total: 1m 48s
                                                   remaining: 1m 9s
305:
        learn: 0.2084603
                                  total: 1m 49s
                                                   remaining: 1m 9s
306:
        learn: 0.2084104
                                  total: 1m 49s
                                                   remaining: 1m 8s
307:
        learn: 0.2083597
                                  total: 1m 49s
                                                   remaining: 1m 8s
308:
        learn: 0.2083129
                                  total: 1m 50s
                                                   remaining: 1m 8s
309:
        learn: 0.2082627
                                  total: 1m 50s
                                                   remaining: 1m 7s
310:
        learn: 0.2081774
                                  total: 1m 51s
                                                   remaining: 1m 7s
311:
        learn: 0.2081415
                                  total: 1m 51s
                                                   remaining: 1m 7s
312:
        learn: 0.2080770
                                  total: 1m 51s
                                                   remaining: 1m 6s
                                  total: 1m 52s
313:
        learn: 0.2080443
                                                   remaining: 1m 6s
314:
        learn: 0.2079395
                                  total: 1m 52s
                                                   remaining: 1m 6s
                                  total: 1m 52s
315:
        learn: 0.2078097
                                                   remaining: 1m 5s
                                                   remaining: 1m 5s
316:
        learn: 0.2077802
                                  total: 1m 53s
317:
        learn: 0.2077135
                                  total: 1m 53s
                                                   remaining: 1m 4s
318:
        learn: 0.2076792
                                  total: 1m 53s
                                                   remaining: 1m 4s
319:
        learn: 0.2076112
                                  total: 1m 54s
                                                   remaining: 1m 4s
320:
        learn: 0.2075604
                                  total: 1m 54s
                                                   remaining: 1m 3s
321:
        learn: 0.2075260
                                  total: 1m 55s
                                                   remaining: 1m 3s
322:
        learn: 0.2075081
                                  total: 1m 55s
                                                   remaining: 1m 3s
```

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323:
        learn: 0.2074804
                                  total: 1m 55s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
324:
        learn: 0.2074064
                                  total: 1m 56s
325:
        learn: 0.2073362
                                  total: 1m 56s
                                                   remaining: 1m 2s
326:
        learn: 0.2073137
                                  total: 1m 56s
                                                   remaining: 1m 1s
327:
        learn: 0.2072736
                                  total: 1m 57s
                                                   remaining: 1m 1s
                                  total: 1m 57s
                                                   remaining: 1m 1s
328:
        learn: 0.2072609
329:
        learn: 0.2071153
                                  total: 1m 57s
                                                   remaining: 1m
330:
        learn: 0.2069570
                                  total: 1m 58s
                                                   remaining: 1m
331:
        learn: 0.2069243
                                  total: 1m 58s
                                                   remaining: 1m
332:
        learn: 0.2068926
                                  total: 1m 58s
                                                   remaining: 59.7s
333:
        learn: 0.2068516
                                  total: 1m 59s
                                                   remaining: 59.3s
334:
        learn: 0.2067887
                                  total: 1m 59s
                                                   remaining: 58.9s
335:
        learn: 0.2067597
                                  total: 1m 59s
                                                   remaining: 58.6s
336:
        learn: 0.2067225
                                  total: 2m
                                                   remaining: 58.2s
337:
        learn: 0.2059519
                                  total: 2m
                                                   remaining: 57.9s
338:
        learn: 0.2059020
                                  total: 2m 1s
                                                   remaining: 57.6s
339:
        learn: 0.2058179
                                  total: 2m 1s
                                                   remaining: 57.2s
                                  total: 2m 2s
340:
        learn: 0.2057682
                                                   remaining: 56.9s
        learn: 0.2056031
341:
                                  total: 2m 2s
                                                   remaining: 56.5s
342:
        learn: 0.2055626
                                  total: 2m 2s
                                                   remaining: 56.1s
343:
        learn: 0.2054854
                                  total: 2m 2s
                                                   remaining: 55.7s
                                  total: 2m 3s
344:
        learn: 0.2054518
                                                   remaining: 55.4s
345:
        learn: 0.2053624
                                  total: 2m 3s
                                                   remaining: 55s
                                  total: 2m 3s
346:
        learn: 0.2052690
                                                   remaining: 54.6s
347:
        learn: 0.2052032
                                  total: 2m 4s
                                                   remaining: 54.2s
                                  total: 2m 4s
348:
        learn: 0.2051432
                                                   remaining: 53.8s
        learn: 0.2050325
349:
                                  total: 2m 4s
                                                   remaining: 53.4s
350:
        learn: 0.2049992
                                  total: 2m 5s
                                                   remaining: 53.1s
351:
        learn: 0.2048827
                                  total: 2m 5s
                                                   remaining: 52.7s
352:
        learn: 0.2047720
                                  total: 2m 5s
                                                   remaining: 52.3s
353:
        learn: 0.2047100
                                  total: 2m 5s
                                                   remaining: 51.9s
354:
        learn: 0.2046676
                                  total: 2m 6s
                                                   remaining: 51.5s
355:
        learn: 0.2045980
                                  total: 2m 6s
                                                   remaining: 51.1s
356:
        learn: 0.2045271
                                  total: 2m 6s
                                                   remaining: 50.8s
357:
        learn: 0.2044298
                                  total: 2m 7s
                                                   remaining: 50.4s
358:
        learn: 0.2043813
                                  total: 2m 7s
                                                   remaining: 50s
359:
        learn: 0.2043394
                                  total: 2m 7s
                                                   remaining: 49.6s
360:
        learn: 0.2042497
                                  total: 2m 7s
                                                   remaining: 49.2s
                                  total: 2m 8s
361:
        learn: 0.2042103
                                                   remaining: 48.9s
362:
        learn: 0.2041709
                                  total: 2m 8s
                                                   remaining: 48.5s
363:
        learn: 0.2041459
                                  total: 2m 8s
                                                   remaining: 48.1s
364:
        learn: 0.2040517
                                  total: 2m 8s
                                                   remaining: 47.7s
365:
        learn: 0.2039449
                                  total: 2m 9s
                                                   remaining: 47.3s
366:
        learn: 0.2038856
                                  total: 2m 9s
                                                   remaining: 47s
                                                   remaining: 46.6s
367:
        learn: 0.2038567
                                  total: 2m 9s
368:
        learn: 0.2037737
                                  total: 2m 10s
                                                   remaining: 46.2s
369:
        learn: 0.2037089
                                  total: 2m 10s
                                                   remaining: 45.8s
370:
        learn: 0.2035874
                                  total: 2m 10s
                                                   remaining: 45.5s
```

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371:
        learn: 0.2035556
                                  total: 2m 11s
                                                   remaining: 45.1s
372:
        learn: 0.2035030
                                  total: 2m 11s
                                                   remaining: 44.7s
373:
        learn: 0.2033774
                                  total: 2m 11s
                                                   remaining: 44.3s
374:
        learn: 0.2032943
                                  total: 2m 11s
                                                   remaining: 44s
375:
        learn: 0.2032850
                                  total: 2m 12s
                                                   remaining: 43.6s
                                  total: 2m 12s
                                                   remaining: 43.2s
376:
        learn: 0.2032584
377:
        learn: 0.2032290
                                  total: 2m 12s
                                                   remaining: 42.8s
                                                   remaining: 42.5s
378:
        learn: 0.2031709
                                  total: 2m 12s
379:
        learn: 0.2030998
                                  total: 2m 13s
                                                   remaining: 42.1s
380:
        learn: 0.2030142
                                  total: 2m 13s
                                                   remaining: 41.7s
381:
        learn: 0.2029172
                                  total: 2m 13s
                                                   remaining: 41.3s
382:
        learn: 0.2028442
                                  total: 2m 14s
                                                   remaining: 41s
383:
        learn: 0.2028191
                                  total: 2m 14s
                                                   remaining: 40.6s
384:
        learn: 0.2022513
                                  total: 2m 14s
                                                   remaining: 40.2s
                                                   remaining: 39.8s
385:
        learn: 0.2022408
                                  total: 2m 14s
386:
        learn: 0.2021404
                                  total: 2m 15s
                                                   remaining: 39.5s
387:
        learn: 0.2021016
                                  total: 2m 15s
                                                   remaining: 39.1s
                                  total: 2m 15s
388:
        learn: 0.2020517
                                                   remaining: 38.7s
        learn: 0.2019872
                                  total: 2m 16s
389:
                                                   remaining: 38.4s
390:
        learn: 0.2019374
                                  total: 2m 16s
                                                   remaining: 38s
391:
        learn: 0.2019082
                                  total: 2m 16s
                                                   remaining: 37.6s
                                  total: 2m 16s
392:
        learn: 0.2018053
                                                   remaining: 37.2s
393:
        learn: 0.2017205
                                  total: 2m 17s
                                                   remaining: 36.9s
                                  total: 2m 17s
394:
        learn: 0.2016882
                                                   remaining: 36.5s
395:
        learn: 0.2016339
                                  total: 2m 17s
                                                   remaining: 36.1s
                                                   remaining: 35.7s
396:
        learn: 0.2016191
                                  total: 2m 17s
397:
        learn: 0.2015685
                                  total: 2m 17s
                                                   remaining: 35.4s
398:
        learn: 0.2015024
                                  total: 2m 18s
                                                   remaining: 35s
399:
        learn: 0.2014833
                                  total: 2m 18s
                                                   remaining: 34.6s
400:
        learn: 0.2013464
                                  total: 2m 18s
                                                   remaining: 34.2s
        learn: 0.2012997
401:
                                  total: 2m 18s
                                                   remaining: 33.9s
402:
        learn: 0.2012710
                                  total: 2m 19s
                                                   remaining: 33.5s
403:
        learn: 0.2012214
                                  total: 2m 19s
                                                   remaining: 33.1s
        learn: 0.2011783
                                  total: 2m 19s
                                                   remaining: 32.8s
404:
                                  total: 2m 20s
405:
        learn: 0.2010769
                                                   remaining: 32.4s
        learn: 0.2010488
                                  total: 2m 20s
406:
                                                   remaining: 32.1s
407:
        learn: 0.2006371
                                  total: 2m 20s
                                                   remaining: 31.7s
408:
        learn: 0.2005361
                                  total: 2m 20s
                                                   remaining: 31.3s
                                  total: 2m 21s
409:
        learn: 0.2004633
                                                   remaining: 31s
410:
        learn: 0.2004508
                                  total: 2m 21s
                                                   remaining: 30.6s
411:
        learn: 0.2004323
                                  total: 2m 21s
                                                   remaining: 30.3s
412:
        learn: 0.2003492
                                  total: 2m 21s
                                                   remaining: 29.9s
413:
        learn: 0.2002811
                                  total: 2m 22s
                                                   remaining: 29.5s
414:
        learn: 0.2002427
                                  total: 2m 22s
                                                   remaining: 29.2s
                                                   remaining: 28.8s
415:
        learn: 0.2002333
                                  total: 2m 22s
416:
        learn: 0.2002100
                                  total: 2m 22s
                                                   remaining: 28.5s
417:
        learn: 0.2001996
                                  total: 2m 23s
                                                   remaining: 28.1s
418:
        learn: 0.2001064
                                  total: 2m 23s
                                                   remaining: 27.8s
```

```
total: 2m 23s
419:
        learn: 0.2000542
                                                   remaining: 27.4s
420:
        learn: 0.1999460
                                  total: 2m 24s
                                                   remaining: 27s
421:
        learn: 0.1998950
                                  total: 2m 24s
                                                   remaining: 26.7s
422:
        learn: 0.1998460
                                  total: 2m 24s
                                                   remaining: 26.3s
423:
        learn: 0.1998311
                                  total: 2m 24s
                                                   remaining: 26s
                                  total: 2m 25s
424:
        learn: 0.1997723
                                                   remaining: 25.6s
425:
        learn: 0.1996964
                                  total: 2m 25s
                                                   remaining: 25.3s
        learn: 0.1996383
426:
                                  total: 2m 25s
                                                   remaining: 24.9s
427:
        learn: 0.1995823
                                  total: 2m 26s
                                                   remaining: 24.6s
428:
        learn: 0.1995213
                                  total: 2m 26s
                                                   remaining: 24.2s
429:
        learn: 0.1994198
                                  total: 2m 26s
                                                   remaining: 23.9s
430:
        learn: 0.1993584
                                  total: 2m 26s
                                                   remaining: 23.5s
431:
        learn: 0.1992863
                                  total: 2m 27s
                                                   remaining: 23.2s
432:
        learn: 0.1992031
                                  total: 2m 27s
                                                   remaining: 22.8s
433:
        learn: 0.1991699
                                  total: 2m 27s
                                                   remaining: 22.5s
434:
        learn: 0.1991538
                                  total: 2m 27s
                                                   remaining: 22.1s
435:
        learn: 0.1990897
                                  total: 2m 28s
                                                   remaining: 21.8s
                                  total: 2m 28s
436:
        learn: 0.1990177
                                                   remaining: 21.4s
        learn: 0.1989989
                                  total: 2m 28s
                                                   remaining: 21.1s
437:
438:
        learn: 0.1989338
                                  total: 2m 29s
                                                   remaining: 20.7s
439:
        learn: 0.1988469
                                  total: 2m 29s
                                                   remaining: 20.4s
                                  total: 2m 29s
440:
        learn: 0.1988224
                                                   remaining: 20s
441:
        learn: 0.1987902
                                  total: 2m 29s
                                                   remaining: 19.7s
442:
                                  total: 2m 30s
        learn: 0.1987278
                                                   remaining: 19.3s
443:
        learn: 0.1986365
                                  total: 2m 30s
                                                   remaining: 19s
444:
                                  total: 2m 30s
        learn: 0.1985570
                                                   remaining: 18.6s
445:
        learn: 0.1984906
                                  total: 2m 31s
                                                   remaining: 18.3s
446:
        learn: 0.1981674
                                  total: 2m 31s
                                                   remaining: 17.9s
447:
        learn: 0.1980734
                                  total: 2m 31s
                                                   remaining: 17.6s
448:
        learn: 0.1980256
                                  total: 2m 31s
                                                   remaining: 17.2s
449:
        learn: 0.1979481
                                  total: 2m 32s
                                                   remaining: 16.9s
450:
        learn: 0.1978767
                                  total: 2m 32s
                                                   remaining: 16.6s
451:
        learn: 0.1978500
                                  total: 2m 32s
                                                   remaining: 16.2s
452:
        learn: 0.1978284
                                  total: 2m 32s
                                                   remaining: 15.9s
453:
        learn: 0.1977942
                                  total: 2m 33s
                                                   remaining: 15.5s
454:
        learn: 0.1977548
                                  total: 2m 33s
                                                   remaining: 15.2s
455:
        learn: 0.1976533
                                  total: 2m 33s
                                                   remaining: 14.8s
456:
        learn: 0.1976290
                                  total: 2m 33s
                                                   remaining: 14.5s
                                  total: 2m 34s
457:
        learn: 0.1975535
                                                   remaining: 14.1s
458:
        learn: 0.1975124
                                  total: 2m 34s
                                                   remaining: 13.8s
459:
        learn: 0.1974613
                                  total: 2m 34s
                                                   remaining: 13.4s
460:
        learn: 0.1974003
                                  total: 2m 34s
                                                   remaining: 13.1s
461:
        learn: 0.1973556
                                  total: 2m 34s
                                                   remaining: 12.7s
462:
        learn: 0.1972362
                                  total: 2m 35s
                                                   remaining: 12.4s
                                                   remaining: 12.1s
463:
        learn: 0.1971719
                                  total: 2m 35s
        learn: 0.1971402
464:
                                  total: 2m 35s
                                                   remaining: 11.7s
465:
        learn: 0.1970914
                                  total: 2m 36s
                                                   remaining: 11.4s
466:
        learn: 0.1970793
                                  total: 2m 36s
                                                   remaining: 11.1s
```

```
total: 2m 36s
467:
        learn: 0.1970683
                                                   remaining: 10.7s
468:
        learn: 0.1969193
                                  total: 2m 36s
                                                   remaining: 10.4s
469:
        learn: 0.1968855
                                  total: 2m 37s
                                                   remaining: 10s
470:
        learn: 0.1967784
                                  total: 2m 37s
                                                   remaining: 9.7s
471:
        learn: 0.1967623
                                  total: 2m 37s
                                                   remaining: 9.36s
                                  total: 2m 38s
                                                   remaining: 9.02s
472:
        learn: 0.1966299
473:
        learn: 0.1965759
                                  total: 2m 38s
                                                   remaining: 8.68s
                                                   remaining: 8.35s
474:
        learn: 0.1965287
                                  total: 2m 38s
475:
        learn: 0.1965101
                                  total: 2m 38s
                                                   remaining: 8.01s
476:
        learn: 0.1964624
                                  total: 2m 39s
                                                   remaining: 7.67s
                                  total: 2m 39s
477:
        learn: 0.1963597
                                                   remaining: 7.33s
478:
        learn: 0.1963243
                                  total: 2m 39s
                                                   remaining: 7s
479:
        learn: 0.1962915
                                  total: 2m 39s
                                                   remaining: 6.66s
480:
        learn: 0.1962564
                                  total: 2m 40s
                                                   remaining: 6.33s
                                                   remaining: 5.99s
481:
        learn: 0.1961315
                                  total: 2m 40s
482:
        learn: 0.1961001
                                  total: 2m 40s
                                                   remaining: 5.66s
483:
        learn: 0.1960914
                                  total: 2m 41s
                                                   remaining: 5.32s
                                  total: 2m 41s
484:
        learn: 0.1960377
                                                   remaining: 4.99s
        learn: 0.1959533
                                  total: 2m 41s
                                                   remaining: 4.65s
485:
486:
        learn: 0.1959210
                                  total: 2m 41s
                                                   remaining: 4.32s
487:
        learn: 0.1958262
                                  total: 2m 42s
                                                   remaining: 3.99s
                                  total: 2m 42s
488:
        learn: 0.1957714
                                                   remaining: 3.65s
489:
        learn: 0.1957153
                                  total: 2m 42s
                                                   remaining: 3.32s
490:
                                  total: 2m 42s
        learn: 0.1956763
                                                   remaining: 2.99s
491:
        learn: 0.1955848
                                  total: 2m 43s
                                                   remaining: 2.65s
                                  total: 2m 43s
492:
        learn: 0.1955327
                                                   remaining: 2.32s
493:
        learn: 0.1954908
                                  total: 2m 43s
                                                   remaining: 1.99s
494:
        learn: 0.1954577
                                  total: 2m 44s
                                                   remaining: 1.66s
495:
        learn: 0.1953897
                                  total: 2m 44s
                                                   remaining: 1.32s
496:
        learn: 0.1953310
                                  total: 2m 44s
                                                   remaining: 994ms
        learn: 0.1952793
497:
                                  total: 2m 44s
                                                   remaining: 662ms
498:
        learn: 0.1952429
                                  total: 2m 45s
                                                   remaining: 331ms
499:
        learn: 0.1952108
                                  total: 2m 45s
                                                   remaining: Ous
Learning rate set to 0.173965
0:
        learn: 0.9728437
                                  total: 258ms
                                                   remaining: 2m 8s
1:
        learn: 0.8927035
                                  total: 544ms
                                                   remaining: 2m 15s
2:
        learn: 0.8340952
                                  total: 831ms
                                                   remaining: 2m 17s
3:
        learn: 0.7587345
                                  total: 1.09s
                                                   remaining: 2m 15s
4:
        learn: 0.7256208
                                  total: 1.33s
                                                   remaining: 2m 11s
5:
        learn: 0.6395940
                                  total: 1.58s
                                                   remaining: 2m 9s
6:
        learn: 0.5616072
                                  total: 1.82s
                                                   remaining: 2m 8s
7:
                                                   remaining: 2m 6s
        learn: 0.5460436
                                  total: 2.06s
8:
        learn: 0.4954239
                                  total: 2.32s
                                                   remaining: 2m 6s
9:
        learn: 0.4598326
                                  total: 2.56s
                                                   remaining: 2m 5s
10:
        learn: 0.4312779
                                  total: 2.81s
                                                   remaining: 2m 4s
        learn: 0.4088447
11:
                                  total: 3.06s
                                                   remaining: 2m 4s
12:
        learn: 0.3895046
                                  total: 3.32s
                                                   remaining: 2m 4s
13:
        learn: 0.3727037
                                  total: 3.59s
                                                   remaining: 2m 4s
```

```
14:
        learn: 0.3575528
                                  total: 3.83s
                                                   remaining: 2m 3s
15:
        learn: 0.3453903
                                  total: 4.1s
                                                   remaining: 2m 3s
16:
        learn: 0.3419503
                                  total: 4.34s
                                                   remaining: 2m 3s
17:
        learn: 0.3269698
                                  total: 4.62s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
18:
        learn: 0.3245485
                                  total: 4.86s
                                  total: 5.13s
                                                   remaining: 2m 3s
19:
        learn: 0.3122883
                                                   remaining: 2m 2s
20:
        learn: 0.3045225
                                  total: 5.36s
21:
        learn: 0.2951434
                                  total: 5.64s
                                                   remaining: 2m 2s
                                                   remaining: 2m 3s
22:
        learn: 0.2924169
                                  total: 5.93s
23:
        learn: 0.2911730
                                  total: 6.2s
                                                   remaining: 2m 3s
24:
        learn: 0.2839395
                                  total: 6.49s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
25:
        learn: 0.2825849
                                  total: 6.75s
                                  total: 7.02s
26:
        learn: 0.2796233
                                                   remaining: 2m 2s
27:
        learn: 0.2742031
                                  total: 7.29s
                                                   remaining: 2m 2s
28:
        learn: 0.2695843
                                  total: 7.58s
                                                   remaining: 2m 3s
29:
        learn: 0.2690160
                                  total: 7.86s
                                                   remaining: 2m 3s
30:
        learn: 0.2651649
                                  total: 8.14s
                                                   remaining: 2m 3s
31:
        learn: 0.2648472
                                  total: 8.42s
                                                   remaining: 2m 3s
        learn: 0.2643183
                                  total: 8.69s
                                                   remaining: 2m 2s
32:
33:
        learn: 0.2638577
                                  total: 8.96s
                                                   remaining: 2m 2s
34:
        learn: 0.2590704
                                  total: 9.25s
                                                   remaining: 2m 2s
35:
        learn: 0.2586088
                                  total: 9.59s
                                                   remaining: 2m 3s
36:
        learn: 0.2581839
                                  total: 9.9s
                                                   remaining: 2m 3s
37:
        learn: 0.2553393
                                  total: 10.2s
                                                   remaining: 2m 3s
38:
        learn: 0.2522710
                                  total: 10.4s
                                                   remaining: 2m 3s
39:
        learn: 0.2498017
                                  total: 10.7s
                                                   remaining: 2m 2s
40:
        learn: 0.2492829
                                  total: 10.9s
                                                   remaining: 2m 2s
41:
        learn: 0.2486685
                                  total: 11.2s
                                                   remaining: 2m 2s
42:
        learn: 0.2478017
                                  total: 11.4s
                                                   remaining: 2m 1s
43:
        learn: 0.2474123
                                  total: 11.8s
                                                   remaining: 2m 1s
44:
        learn: 0.2470629
                                  total: 12s
                                                   remaining: 2m 1s
                                                   remaining: 2m
45:
        learn: 0.2470124
                                  total: 12.2s
46:
        learn: 0.2464642
                                  total: 12.5s
                                                   remaining: 2m
47:
        learn: 0.2461963
                                  total: 12.8s
                                                   remaining: 2m
                                                   remaining: 2m
48:
        learn: 0.2458232
                                  total: 13.1s
49:
        learn: 0.2455060
                                  total: 13.4s
                                                   remaining: 2m
50:
        learn: 0.2451658
                                  total: 13.7s
                                                   remaining: 2m
51:
        learn: 0.2449346
                                  total: 14s
                                                   remaining: 2m
        learn: 0.2446030
52:
                                                   remaining: 1m 59s
                                  total: 14.2s
53:
        learn: 0.2442544
                                  total: 14.5s
                                                   remaining: 1m 59s
                                  total: 14.8s
54:
        learn: 0.2431698
                                                   remaining: 1m 59s
        learn: 0.2429705
                                                   remaining: 1m 59s
55:
                                  total: 15s
56:
        learn: 0.2425699
                                  total: 15.4s
                                                   remaining: 1m 59s
57:
        learn: 0.2420105
                                  total: 15.7s
                                                   remaining: 1m 59s
58:
        learn: 0.2413862
                                  total: 16s
                                                   remaining: 1m 59s
59:
        learn: 0.2408981
                                  total: 16.3s
                                                   remaining: 1m 59s
60:
        learn: 0.2406400
                                  total: 16.5s
                                                   remaining: 1m 59s
61:
        learn: 0.2403700
                                  total: 16.8s
                                                   remaining: 1m 58s
```

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62:
        learn: 0.2401535
                                  total: 17.1s
                                                   remaining: 1m 58s
63:
        learn: 0.2382386
                                  total: 17.4s
                                                   remaining: 1m 58s
64:
        learn: 0.2380584
                                  total: 17.6s
                                                   remaining: 1m 58s
65:
        learn: 0.2379235
                                  total: 17.9s
                                                   remaining: 1m 57s
                                                   remaining: 1m 57s
66:
        learn: 0.2374777
                                  total: 18.2s
                                  total: 18.5s
                                                   remaining: 1m 57s
67:
        learn: 0.2370916
68:
        learn: 0.2368285
                                  total: 18.7s
                                                   remaining: 1m 56s
69:
        learn: 0.2356168
                                  total: 18.9s
                                                   remaining: 1m 56s
70:
        learn: 0.2354528
                                  total: 19.2s
                                                   remaining: 1m 55s
71:
        learn: 0.2353441
                                  total: 19.4s
                                                   remaining: 1m 55s
72:
        learn: 0.2351415
                                  total: 19.7s
                                                   remaining: 1m 55s
73:
                                                   remaining: 1m 54s
        learn: 0.2344164
                                  total: 20s
74:
        learn: 0.2341013
                                  total: 20.2s
                                                   remaining: 1m 54s
75:
        learn: 0.2339411
                                  total: 20.5s
                                                   remaining: 1m 54s
76:
        learn: 0.2338518
                                  total: 20.7s
                                                   remaining: 1m 53s
77:
        learn: 0.2335076
                                                   remaining: 1m 53s
                                  total: 21s
78:
        learn: 0.2334121
                                  total: 21.3s
                                                   remaining: 1m 53s
79:
        learn: 0.2333542
                                  total: 21.5s
                                                   remaining: 1m 52s
        learn: 0.2332842
                                  total: 21.8s
                                                   remaining: 1m 52s
80:
81:
        learn: 0.2308801
                                  total: 22.1s
                                                   remaining: 1m 52s
                                  total: 22.3s
82:
        learn: 0.2307456
                                                   remaining: 1m 52s
                                  total: 22.6s
83:
        learn: 0.2305000
                                                   remaining: 1m 52s
84:
        learn: 0.2302566
                                  total: 22.9s
                                                   remaining: 1m 51s
85:
        learn: 0.2300698
                                  total: 23.2s
                                                   remaining: 1m 51s
86:
        learn: 0.2284257
                                  total: 23.5s
                                                   remaining: 1m 51s
87:
        learn: 0.2282192
                                  total: 23.7s
                                                   remaining: 1m 51s
        learn: 0.2270314
                                  total: 24s
                                                   remaining: 1m 50s
88:
89:
        learn: 0.2269358
                                  total: 24.3s
                                                   remaining: 1m 50s
90:
        learn: 0.2268241
                                  total: 24.6s
                                                   remaining: 1m 50s
91:
        learn: 0.2266752
                                  total: 24.9s
                                                   remaining: 1m 50s
92:
        learn: 0.2266264
                                  total: 25.1s
                                                   remaining: 1m 49s
93:
        learn: 0.2265374
                                  total: 25.4s
                                                   remaining: 1m 49s
94:
        learn: 0.2264290
                                  total: 25.7s
                                                   remaining: 1m 49s
95:
        learn: 0.2264134
                                  total: 26s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
96:
        learn: 0.2262909
                                  total: 26.3s
97:
        learn: 0.2261715
                                  total: 26.6s
                                                   remaining: 1m 48s
98:
        learn: 0.2258383
                                  total: 26.9s
                                                   remaining: 1m 48s
99:
        learn: 0.2257347
                                  total: 27.1s
                                                   remaining: 1m 48s
                                  total: 27.4s
                                                   remaining: 1m 48s
100:
        learn: 0.2256286
101:
        learn: 0.2255351
                                  total: 27.7s
                                                   remaining: 1m 48s
                                  total: 28s
102:
        learn: 0.2252871
                                                   remaining: 1m 47s
        learn: 0.2252563
                                  total: 28.3s
                                                   remaining: 1m 47s
103:
104:
        learn: 0.2251203
                                  total: 28.5s
                                                   remaining: 1m 47s
105:
        learn: 0.2249768
                                  total: 28.8s
                                                   remaining: 1m 47s
106:
        learn: 0.2248406
                                  total: 29.1s
                                                   remaining: 1m 46s
107:
        learn: 0.2247190
                                  total: 29.3s
                                                   remaining: 1m 46s
108:
        learn: 0.2245741
                                  total: 29.6s
                                                   remaining: 1m 46s
109:
        learn: 0.2244903
                                  total: 29.9s
                                                   remaining: 1m 45s
```

```
total: 30.2s
110:
        learn: 0.2243725
                                                   remaining: 1m 45s
111:
        learn: 0.2243313
                                  total: 30.4s
                                                   remaining: 1m 45s
112:
        learn: 0.2242013
                                  total: 30.7s
                                                   remaining: 1m 45s
113:
        learn: 0.2241379
                                  total: 31s
                                                   remaining: 1m 44s
                                                   remaining: 1m 44s
114:
        learn: 0.2239158
                                  total: 31.3s
                                                   remaining: 1m 44s
115:
        learn: 0.2221721
                                  total: 31.5s
116:
        learn: 0.2221507
                                  total: 31.8s
                                                   remaining: 1m 44s
117:
        learn: 0.2220606
                                  total: 32.1s
                                                   remaining: 1m 43s
118:
        learn: 0.2219331
                                  total: 32.4s
                                                   remaining: 1m 43s
119:
        learn: 0.2218594
                                  total: 32.7s
                                                   remaining: 1m 43s
        learn: 0.2218014
120:
                                  total: 32.9s
                                                   remaining: 1m 43s
                                                   remaining: 1m 42s
121:
        learn: 0.2217181
                                  total: 33.2s
122:
        learn: 0.2214812
                                  total: 33.5s
                                                   remaining: 1m 42s
123:
        learn: 0.2214246
                                  total: 33.7s
                                                   remaining: 1m 42s
124:
        learn: 0.2213839
                                  total: 34s
                                                   remaining: 1m 41s
        learn: 0.2213478
125:
                                  total: 34.2s
                                                   remaining: 1m 41s
126:
        learn: 0.2213050
                                  total: 34.4s
                                                   remaining: 1m 41s
                                  total: 34.7s
127:
        learn: 0.2212192
                                                   remaining: 1m 40s
        learn: 0.2210899
                                                   remaining: 1m 40s
128:
                                  total: 35s
129:
        learn: 0.2210320
                                  total: 35.2s
                                                   remaining: 1m 40s
        learn: 0.2208743
130:
                                  total: 35.5s
                                                   remaining: 1m 40s
131:
        learn: 0.2193883
                                  total: 35.8s
                                                   remaining: 1m 39s
132.
        learn: 0.2192463
                                  total: 36.1s
                                                   remaining: 1m 39s
                                  total: 36.4s
                                                   remaining: 1m 39s
133:
        learn: 0.2191681
134:
        learn: 0.2191093
                                  total: 36.6s
                                                   remaining: 1m 38s
135:
        learn: 0.2189789
                                  total: 36.9s
                                                   remaining: 1m 38s
        learn: 0.2189250
                                  total: 37.1s
                                                   remaining: 1m 38s
136:
137:
        learn: 0.2188372
                                  total: 37.3s
                                                   remaining: 1m 37s
138:
        learn: 0.2186848
                                  total: 37.6s
                                                   remaining: 1m 37s
139:
        learn: 0.2186216
                                  total: 37.8s
                                                   remaining: 1m 37s
        learn: 0.2184366
140:
                                  total: 38.1s
                                                   remaining: 1m 37s
141:
        learn: 0.2183409
                                  total: 38.4s
                                                   remaining: 1m 36s
142:
        learn: 0.2182419
                                  total: 38.6s
                                                   remaining: 1m 36s
143:
        learn: 0.2181183
                                  total: 38.9s
                                                   remaining: 1m 36s
                                                   remaining: 1m 35s
144:
        learn: 0.2179870
                                  total: 39.2s
145:
        learn: 0.2178896
                                  total: 39.4s
                                                   remaining: 1m 35s
146:
        learn: 0.2178734
                                  total: 39.7s
                                                   remaining: 1m 35s
147:
        learn: 0.2178457
                                  total: 39.9s
                                                   remaining: 1m 35s
148:
        learn: 0.2177708
                                  total: 40.2s
                                                   remaining: 1m 34s
149:
        learn: 0.2177404
                                  total: 40.4s
                                                   remaining: 1m 34s
        learn: 0.2177242
                                  total: 40.7s
150 •
                                                   remaining: 1m 33s
        learn: 0.2176045
                                  total: 40.9s
                                                   remaining: 1m 33s
151:
152:
        learn: 0.2175097
                                  total: 41.2s
                                                   remaining: 1m 33s
153:
        learn: 0.2174321
                                  total: 41.5s
                                                   remaining: 1m 33s
154:
        learn: 0.2171309
                                  total: 41.8s
                                                   remaining: 1m 32s
155:
        learn: 0.2170317
                                  total: 42s
                                                   remaining: 1m 32s
156:
        learn: 0.2169743
                                  total: 42.3s
                                                   remaining: 1m 32s
157:
        learn: 0.2167835
                                  total: 42.6s
                                                   remaining: 1m 32s
```

```
total: 42.8s
158:
        learn: 0.2167607
                                                   remaining: 1m 31s
159:
        learn: 0.2165960
                                  total: 43.1s
                                                   remaining: 1m 31s
160:
        learn: 0.2165171
                                  total: 43.4s
                                                   remaining: 1m 31s
        learn: 0.2164852
                                  total: 43.7s
                                                   remaining: 1m 31s
161:
                                                   remaining: 1m 30s
162:
        learn: 0.2164354
                                  total: 44s
                                                   remaining: 1m 30s
163:
        learn: 0.2163356
                                  total: 44.3s
164:
        learn: 0.2162491
                                  total: 44.5s
                                                   remaining: 1m 30s
165:
        learn: 0.2161821
                                  total: 44.8s
                                                   remaining: 1m 30s
166:
        learn: 0.2161353
                                  total: 45s
                                                   remaining: 1m 29s
167:
        learn: 0.2160409
                                  total: 45.3s
                                                   remaining: 1m 29s
        learn: 0.2159632
                                  total: 45.5s
                                                   remaining: 1m 29s
168:
169:
                                                   remaining: 1m 28s
        learn: 0.2158831
                                  total: 45.8s
170:
        learn: 0.2158247
                                  total: 46.1s
                                                   remaining: 1m 28s
171:
        learn: 0.2155816
                                  total: 46.3s
                                                   remaining: 1m 28s
172:
        learn: 0.2154772
                                  total: 46.6s
                                                   remaining: 1m 28s
173:
        learn: 0.2154411
                                  total: 46.9s
                                                   remaining: 1m 27s
174:
        learn: 0.2153772
                                  total: 47.2s
                                                   remaining: 1m 27s
                                  total: 47.4s
175:
        learn: 0.2151747
                                                   remaining: 1m 27s
        learn: 0.2150791
                                  total: 47.7s
                                                   remaining: 1m 27s
176:
177:
        learn: 0.2149028
                                  total: 48s
                                                   remaining: 1m 26s
178:
        learn: 0.2148512
                                  total: 48.3s
                                                   remaining: 1m 26s
179:
        learn: 0.2148011
                                  total: 48.5s
                                                   remaining: 1m 26s
180:
        learn: 0.2147600
                                  total: 48.8s
                                                   remaining: 1m 26s
                                                   remaining: 1m 25s
181:
        learn: 0.2146649
                                  total: 49.1s
182:
        learn: 0.2145751
                                  total: 49.3s
                                                   remaining: 1m 25s
183:
        learn: 0.2145235
                                  total: 49.5s
                                                   remaining: 1m 25s
                                                   remaining: 1m 24s
184:
        learn: 0.2144754
                                  total: 49.8s
185:
        learn: 0.2144210
                                  total: 50s
                                                   remaining: 1m 24s
186:
        learn: 0.2143356
                                  total: 50.2s
                                                   remaining: 1m 24s
187:
        learn: 0.2143050
                                  total: 50.5s
                                                   remaining: 1m 23s
        learn: 0.2142055
188:
                                  total: 50.7s
                                                   remaining: 1m 23s
189:
        learn: 0.2141533
                                  total: 51s
                                                   remaining: 1m 23s
190:
        learn: 0.2140575
                                  total: 51.3s
                                                   remaining: 1m 22s
191:
        learn: 0.2139523
                                  total: 51.5s
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
192:
        learn: 0.2139077
                                  total: 51.7s
193:
        learn: 0.2138718
                                  total: 52s
                                                   remaining: 1m 22s
194:
        learn: 0.2138145
                                  total: 52.2s
                                                   remaining: 1m 21s
195:
        learn: 0.2137072
                                  total: 52.5s
                                                   remaining: 1m 21s
196:
        learn: 0.2136146
                                  total: 52.8s
                                                   remaining: 1m 21s
197:
        learn: 0.2135207
                                  total: 53s
                                                   remaining: 1m 20s
        learn: 0.2133531
198:
                                  total: 53.3s
                                                   remaining: 1m 20s
        learn: 0.2132496
                                                   remaining: 1m 20s
199:
                                  total: 53.5s
200:
        learn: 0.2131682
                                  total: 53.8s
                                                   remaining: 1m 20s
201:
        learn: 0.2130784
                                  total: 54.1s
                                                   remaining: 1m 19s
202:
        learn: 0.2130143
                                  total: 54.4s
                                                   remaining: 1m 19s
        learn: 0.2129796
203:
                                  total: 54.7s
                                                   remaining: 1m 19s
204:
        learn: 0.2128884
                                  total: 55s
                                                   remaining: 1m 19s
205:
        learn: 0.2128473
                                  total: 55.2s
                                                   remaining: 1m 18s
```

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206:
        learn: 0.2127123
                                  total: 55.5s
                                                   remaining: 1m 18s
207:
        learn: 0.2126583
                                  total: 55.8s
                                                   remaining: 1m 18s
208:
        learn: 0.2125616
                                  total: 56.1s
                                                   remaining: 1m 18s
209:
        learn: 0.2125313
                                  total: 56.4s
                                                   remaining: 1m 17s
210:
        learn: 0.2125048
                                  total: 56.7s
                                                   remaining: 1m 17s
                                  total: 56.9s
                                                   remaining: 1m 17s
211:
        learn: 0.2124620
212:
        learn: 0.2124107
                                  total: 57.2s
                                                   remaining: 1m 17s
213:
        learn: 0.2123702
                                  total: 57.5s
                                                   remaining: 1m 16s
214:
        learn: 0.2122778
                                  total: 57.8s
                                                   remaining: 1m 16s
215:
        learn: 0.2122509
                                  total: 58.1s
                                                   remaining: 1m 16s
216:
        learn: 0.2122130
                                  total: 58.3s
                                                   remaining: 1m 16s
217:
        learn: 0.2121054
                                  total: 58.6s
                                                   remaining: 1m 15s
218:
        learn: 0.2120498
                                  total: 58.8s
                                                   remaining: 1m 15s
219:
        learn: 0.2112314
                                  total: 59.1s
                                                   remaining: 1m 15s
220:
        learn: 0.2110388
                                  total: 59.4s
                                                   remaining: 1m 14s
        learn: 0.2109406
221:
                                  total: 59.6s
                                                   remaining: 1m 14s
222:
        learn: 0.2109088
                                  total: 59.9s
                                                   remaining: 1m 14s
                                  total: 1m
223:
        learn: 0.2106945
                                                   remaining: 1m 14s
224:
        learn: 0.2106604
                                                   remaining: 1m 13s
                                  total: 1m
225:
        learn: 0.2105575
                                  total: 1m
                                                   remaining: 1m 13s
226:
        learn: 0.2105178
                                  total: 1m
                                                   remaining: 1m 13s
227:
        learn: 0.2104388
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
        learn: 0.2103738
                                  total: 1m 1s
                                                   remaining: 1m 12s
229:
                                                   remaining: 1m 12s
        learn: 0.2103062
                                  total: 1m 1s
230:
        learn: 0.2102217
                                  total: 1m 2s
                                                   remaining: 1m 12s
231:
        learn: 0.2100276
                                  total: 1m 2s
                                                   remaining: 1m 12s
232:
        learn: 0.2099762
                                  total: 1m 2s
                                                   remaining: 1m 11s
233:
        learn: 0.2098688
                                  total: 1m 2s
                                                   remaining: 1m 11s
234:
        learn: 0.2098308
                                  total: 1m 3s
                                                   remaining: 1m 11s
235:
        learn: 0.2098012
                                  total: 1m 3s
                                                   remaining: 1m 10s
236:
        learn: 0.2097104
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2096720
                                  total: 1m 3s
                                                   remaining: 1m 10s
238:
        learn: 0.2096454
                                  total: 1m 4s
                                                   remaining: 1m 10s
239:
        learn: 0.2095180
                                  total: 1m 4s
                                                   remaining: 1m 9s
                                  total: 1m 4s
240:
        learn: 0.2094925
                                                   remaining: 1m 9s
                                  total: 1m 5s
241:
        learn: 0.2093706
                                                   remaining: 1m 9s
242:
        learn: 0.2093571
                                  total: 1m 5s
                                                   remaining: 1m 9s
243:
        learn: 0.2092673
                                  total: 1m 5s
                                                   remaining: 1m 8s
                                  total: 1m 5s
244:
        learn: 0.2091733
                                                   remaining: 1m 8s
245:
        learn: 0.2090390
                                  total: 1m 6s
                                                   remaining: 1m 8s
246:
        learn: 0.2090186
                                  total: 1m 6s
                                                   remaining: 1m 7s
247:
        learn: 0.2086819
                                                   remaining: 1m 7s
                                  total: 1m 6s
248:
        learn: 0.2086452
                                  total: 1m 6s
                                                   remaining: 1m 7s
249:
        learn: 0.2085988
                                  total: 1m 7s
                                                   remaining: 1m 7s
250:
        learn: 0.2085641
                                  total: 1m 7s
                                                   remaining: 1m 6s
251:
        learn: 0.2084652
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2083288
                                  total: 1m 7s
                                                   remaining: 1m 6s
253:
        learn: 0.2083058
                                  total: 1m 7s
                                                   remaining: 1m 5s
```

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254:
        learn: 0.2082766
                                  total: 1m 8s
                                                   remaining: 1m 5s
                                                   remaining: 1m 5s
255:
        learn: 0.2082042
                                  total: 1m 8s
256:
        learn: 0.2081408
                                  total: 1m 8s
                                                   remaining: 1m 4s
257:
        learn: 0.2080891
                                                   remaining: 1m 4s
                                  total: 1m 8s
258:
        learn: 0.2079661
                                  total: 1m 9s
                                                   remaining: 1m 4s
                                  total: 1m 9s
                                                   remaining: 1m 4s
259:
        learn: 0.2079268
260:
        learn: 0.2078987
                                  total: 1m 9s
                                                   remaining: 1m 3s
261:
        learn: 0.2078678
                                  total: 1m 10s
                                                   remaining: 1m 3s
262:
        learn: 0.2078003
                                  total: 1m 10s
                                                   remaining: 1m 3s
263:
        learn: 0.2077767
                                  total: 1m 10s
                                                   remaining: 1m 3s
                                                   remaining: 1m 2s
264:
        learn: 0.2076838
                                  total: 1m 10s
265:
        learn: 0.2076148
                                  total: 1m 11s
                                                   remaining: 1m 2s
266:
        learn: 0.2075791
                                  total: 1m 11s
                                                   remaining: 1m 2s
267:
        learn: 0.2075310
                                  total: 1m 11s
                                                   remaining: 1m 1s
                                                   remaining: 1m 1s
268:
        learn: 0.2074755
                                  total: 1m 11s
269:
        learn: 0.2074106
                                  total: 1m 12s
                                                   remaining: 1m 1s
270:
        learn: 0.2072596
                                  total: 1m 12s
                                                   remaining: 1m 1s
                                  total: 1m 12s
271:
        learn: 0.2072310
                                                   remaining: 1m
        learn: 0.2072165
                                  total: 1m 12s
                                                   remaining: 1m
272:
273:
        learn: 0.2072048
                                  total: 1m 13s
                                                   remaining: 1m
274:
        learn: 0.2071535
                                  total: 1m 13s
                                                   remaining: 1m
275:
        learn: 0.2070817
                                  total: 1m 13s
                                                   remaining: 59.9s
276:
        learn: 0.2069865
                                  total: 1m 14s
                                                   remaining: 59.6s
277:
        learn: 0.2069635
                                  total: 1m 14s
                                                   remaining: 59.3s
278:
        learn: 0.2069051
                                  total: 1m 14s
                                                   remaining: 59s
279:
        learn: 0.2067812
                                  total: 1m 14s
                                                   remaining: 58.8s
280:
        learn: 0.2067189
                                  total: 1m 15s
                                                   remaining: 58.5s
281:
        learn: 0.2065633
                                  total: 1m 15s
                                                   remaining: 58.3s
282:
        learn: 0.2065141
                                  total: 1m 15s
                                                   remaining: 58s
283:
        learn: 0.2064746
                                  total: 1m 15s
                                                   remaining: 57.7s
        learn: 0.2064178
284:
                                  total: 1m 16s
                                                   remaining: 57.4s
285:
        learn: 0.2063789
                                  total: 1m 16s
                                                   remaining: 57.2s
286:
        learn: 0.2063003
                                  total: 1m 16s
                                                   remaining: 56.9s
287:
        learn: 0.2062613
                                  total: 1m 16s
                                                   remaining: 56.7s
288:
        learn: 0.2062465
                                  total: 1m 17s
                                                   remaining: 56.4s
289:
        learn: 0.2061611
                                  total: 1m 17s
                                                   remaining: 56.1s
290:
        learn: 0.2060785
                                  total: 1m 17s
                                                   remaining: 55.8s
291:
        learn: 0.2060031
                                  total: 1m 17s
                                                   remaining: 55.5s
292:
        learn: 0.2059395
                                  total: 1m 18s
                                                   remaining: 55.3s
293:
        learn: 0.2059077
                                  total: 1m 18s
                                                   remaining: 55s
294:
        learn: 0.2058089
                                  total: 1m 18s
                                                   remaining: 54.8s
295:
        learn: 0.2057732
                                  total: 1m 19s
                                                   remaining: 54.5s
296:
        learn: 0.2056625
                                  total: 1m 19s
                                                   remaining: 54.2s
297:
        learn: 0.2054852
                                  total: 1m 19s
                                                   remaining: 54s
298:
        learn: 0.2054212
                                  total: 1m 19s
                                                   remaining: 53.7s
299:
        learn: 0.2053545
                                  total: 1m 20s
                                                   remaining: 53.4s
300:
        learn: 0.2052209
                                  total: 1m 20s
                                                   remaining: 53.2s
301:
        learn: 0.2051345
                                  total: 1m 20s
                                                   remaining: 52.9s
```

```
302:
        learn: 0.2050668
                                  total: 1m 21s
                                                   remaining: 52.7s
303:
        learn: 0.2049756
                                  total: 1m 21s
                                                   remaining: 52.4s
304:
        learn: 0.2049043
                                  total: 1m 21s
                                                   remaining: 52.1s
305:
        learn: 0.2048412
                                  total: 1m 21s
                                                   remaining: 51.9s
306:
        learn: 0.2047543
                                  total: 1m 22s
                                                   remaining: 51.6s
                                  total: 1m 22s
307:
        learn: 0.2047258
                                                   remaining: 51.3s
308:
        learn: 0.2047051
                                  total: 1m 22s
                                                   remaining: 51s
                                                   remaining: 50.7s
309:
        learn: 0.2046530
                                  total: 1m 22s
310:
        learn: 0.2046300
                                  total: 1m 22s
                                                   remaining: 50.4s
311:
        learn: 0.2045081
                                  total: 1m 23s
                                                   remaining: 50.2s
312:
        learn: 0.2044888
                                  total: 1m 23s
                                                   remaining: 49.9s
313:
        learn: 0.2044136
                                  total: 1m 23s
                                                   remaining: 49.6s
314:
        learn: 0.2043537
                                  total: 1m 23s
                                                   remaining: 49.3s
315:
        learn: 0.2043075
                                  total: 1m 24s
                                                   remaining: 49s
                                                   remaining: 48.7s
316:
        learn: 0.2042972
                                  total: 1m 24s
317:
        learn: 0.2041964
                                  total: 1m 24s
                                                   remaining: 48.5s
318:
        learn: 0.2041532
                                  total: 1m 24s
                                                   remaining: 48.2s
                                  total: 1m 25s
319:
        learn: 0.2040383
                                                   remaining: 47.9s
        learn: 0.2039948
                                  total: 1m 25s
320:
                                                   remaining: 47.6s
321:
        learn: 0.2039677
                                  total: 1m 25s
                                                   remaining: 47.4s
322:
        learn: 0.2039396
                                  total: 1m 25s
                                                   remaining: 47.1s
                                  total: 1m 26s
323:
        learn: 0.2037947
                                                   remaining: 46.8s
324:
        learn: 0.2036960
                                  total: 1m 26s
                                                   remaining: 46.6s
                                  total: 1m 26s
325:
        learn: 0.2036803
                                                   remaining: 46.3s
326:
        learn: 0.2035172
                                  total: 1m 27s
                                                   remaining: 46.1s
327:
        learn: 0.2035049
                                  total: 1m 27s
                                                   remaining: 45.8s
328:
        learn: 0.2034435
                                  total: 1m 27s
                                                   remaining: 45.6s
329:
        learn: 0.2033794
                                  total: 1m 27s
                                                   remaining: 45.3s
330:
        learn: 0.2032841
                                  total: 1m 28s
                                                   remaining: 45.1s
331:
        learn: 0.2032164
                                  total: 1m 28s
                                                   remaining: 44.8s
332:
        learn: 0.2031352
                                  total: 1m 28s
                                                   remaining: 44.6s
333:
        learn: 0.2031214
                                  total: 1m 29s
                                                   remaining: 44.3s
334:
        learn: 0.2030890
                                  total: 1m 29s
                                                   remaining: 44s
        learn: 0.2030629
                                  total: 1m 29s
                                                   remaining: 43.8s
335:
336:
        learn: 0.2030260
                                  total: 1m 29s
                                                   remaining: 43.5s
        learn: 0.2029829
337:
                                  total: 1m 30s
                                                   remaining: 43.2s
338:
        learn: 0.2029625
                                  total: 1m 30s
                                                   remaining: 43s
339:
        learn: 0.2029151
                                  total: 1m 30s
                                                   remaining: 42.7s
                                  total: 1m 31s
340:
        learn: 0.2029017
                                                   remaining: 42.4s
341:
        learn: 0.2028530
                                  total: 1m 31s
                                                   remaining: 42.2s
                                  total: 1m 31s
342:
        learn: 0.2027369
                                                   remaining: 41.9s
343:
        learn: 0.2026733
                                  total: 1m 31s
                                                   remaining: 41.6s
344:
        learn: 0.2026396
                                  total: 1m 32s
                                                   remaining: 41.4s
345:
        learn: 0.2025891
                                  total: 1m 32s
                                                   remaining: 41.1s
346:
        learn: 0.2025619
                                  total: 1m 32s
                                                   remaining: 40.8s
347:
        learn: 0.2025346
                                  total: 1m 32s
                                                   remaining: 40.6s
348:
        learn: 0.2025045
                                  total: 1m 33s
                                                   remaining: 40.3s
349:
        learn: 0.2024392
                                  total: 1m 33s
                                                   remaining: 40.1s
```

```
350:
        learn: 0.2023570
                                  total: 1m 33s
                                                   remaining: 39.8s
351:
        learn: 0.2023116
                                  total: 1m 34s
                                                   remaining: 39.5s
352:
        learn: 0.2022379
                                  total: 1m 34s
                                                   remaining: 39.3s
        learn: 0.2020902
353:
                                  total: 1m 34s
                                                   remaining: 39s
354:
        learn: 0.2020089
                                  total: 1m 34s
                                                   remaining: 38.8s
                                  total: 1m 35s
355:
        learn: 0.2019761
                                                   remaining: 38.5s
356:
        learn: 0.2018228
                                  total: 1m 35s
                                                   remaining: 38.3s
        learn: 0.2017230
357:
                                  total: 1m 35s
                                                   remaining: 38s
358:
        learn: 0.2016287
                                  total: 1m 36s
                                                   remaining: 37.7s
359:
        learn: 0.2015873
                                  total: 1m 36s
                                                   remaining: 37.5s
360:
        learn: 0.2015382
                                  total: 1m 36s
                                                   remaining: 37.2s
361:
        learn: 0.2015087
                                  total: 1m 36s
                                                   remaining: 36.9s
362:
        learn: 0.2014761
                                  total: 1m 37s
                                                   remaining: 36.7s
363:
        learn: 0.2014231
                                  total: 1m 37s
                                                   remaining: 36.4s
364:
        learn: 0.2012612
                                  total: 1m 37s
                                                   remaining: 36.1s
365:
        learn: 0.2011881
                                  total: 1m 37s
                                                   remaining: 35.8s
366:
        learn: 0.2011418
                                  total: 1m 38s
                                                   remaining: 35.6s
                                  total: 1m 38s
367:
        learn: 0.2011076
                                                   remaining: 35.3s
368:
        learn: 0.2010898
                                  total: 1m 38s
                                                   remaining: 35s
369:
        learn: 0.2010424
                                  total: 1m 38s
                                                   remaining: 34.7s
370:
        learn: 0.2009919
                                  total: 1m 39s
                                                   remaining: 34.5s
371:
        learn: 0.2009312
                                  total: 1m 39s
                                                   remaining: 34.2s
372:
        learn: 0.2008796
                                  total: 1m 39s
                                                   remaining: 33.9s
373:
        learn: 0.2008650
                                  total: 1m 39s
                                                   remaining: 33.6s
374:
        learn: 0.2007825
                                  total: 1m 40s
                                                   remaining: 33.4s
375:
        learn: 0.2007042
                                  total: 1m 40s
                                                   remaining: 33.1s
376:
        learn: 0.2006159
                                  total: 1m 40s
                                                   remaining: 32.8s
377:
        learn: 0.2005644
                                  total: 1m 40s
                                                   remaining: 32.5s
378:
        learn: 0.2004967
                                  total: 1m 41s
                                                   remaining: 32.3s
379:
        learn: 0.2004215
                                                   remaining: 32s
                                  total: 1m 41s
380:
        learn: 0.2003249
                                  total: 1m 41s
                                                   remaining: 31.7s
381:
        learn: 0.2002293
                                  total: 1m 41s
                                                   remaining: 31.5s
382:
        learn: 0.2001687
                                  total: 1m 42s
                                                   remaining: 31.2s
        learn: 0.2001373
                                  total: 1m 42s
383:
                                                   remaining: 31s
384:
        learn: 0.2001132
                                  total: 1m 42s
                                                   remaining: 30.7s
        learn: 0.2000812
385:
                                  total: 1m 43s
                                                   remaining: 30.4s
386:
        learn: 0.2000584
                                  total: 1m 43s
                                                   remaining: 30.2s
387:
        learn: 0.2000252
                                  total: 1m 43s
                                                   remaining: 29.9s
388:
        learn: 0.1999887
                                  total: 1m 43s
                                                   remaining: 29.6s
389:
        learn: 0.1999514
                                  total: 1m 44s
                                                   remaining: 29.4s
        learn: 0.1998483
390:
                                  total: 1m 44s
                                                   remaining: 29.1s
391:
        learn: 0.1998143
                                  total: 1m 44s
                                                   remaining: 28.8s
392:
                                  total: 1m 44s
        learn: 0.1997647
                                                   remaining: 28.6s
393:
        learn: 0.1996520
                                  total: 1m 45s
                                                   remaining: 28.3s
394:
        learn: 0.1996317
                                  total: 1m 45s
                                                   remaining: 28.1s
395:
        learn: 0.1996059
                                  total: 1m 45s
                                                   remaining: 27.8s
396:
        learn: 0.1995667
                                  total: 1m 46s
                                                   remaining: 27.5s
397:
        learn: 0.1994917
                                  total: 1m 46s
                                                   remaining: 27.2s
```

```
learn: 0.1994515
398:
                                  total: 1m 46s
                                                   remaining: 27s
399:
        learn: 0.1993876
                                  total: 1m 46s
                                                   remaining: 26.7s
400:
        learn: 0.1993649
                                  total: 1m 47s
                                                   remaining: 26.5s
                                                   remaining: 26.2s
401:
        learn: 0.1992547
                                  total: 1m 47s
402:
        learn: 0.1992285
                                  total: 1m 47s
                                                   remaining: 25.9s
                                  total: 1m 48s
403:
        learn: 0.1991569
                                                   remaining: 25.7s
404:
        learn: 0.1991219
                                  total: 1m 48s
                                                   remaining: 25.4s
        learn: 0.1990291
405:
                                  total: 1m 48s
                                                   remaining: 25.2s
406:
        learn: 0.1989946
                                  total: 1m 48s
                                                   remaining: 24.9s
407:
        learn: 0.1987634
                                  total: 1m 49s
                                                   remaining: 24.6s
408:
        learn: 0.1987236
                                  total: 1m 49s
                                                   remaining: 24.4s
409:
        learn: 0.1987021
                                  total: 1m 49s
                                                   remaining: 24.1s
        learn: 0.1985874
410:
                                  total: 1m 50s
                                                   remaining: 23.8s
411:
        learn: 0.1985480
                                  total: 1m 50s
                                                   remaining: 23.6s
412:
        learn: 0.1984536
                                  total: 1m 50s
                                                   remaining: 23.3s
413:
        learn: 0.1984059
                                  total: 1m 50s
                                                   remaining: 23s
414:
        learn: 0.1983526
                                  total: 1m 51s
                                                   remaining: 22.8s
                                  total: 1m 51s
415:
        learn: 0.1983010
                                                   remaining: 22.5s
                                  total: 1m 51s
                                                   remaining: 22.2s
416:
        learn: 0.1982649
417:
        learn: 0.1981913
                                  total: 1m 51s
                                                   remaining: 22s
418:
        learn: 0.1980707
                                  total: 1m 52s
                                                   remaining: 21.7s
419:
        learn: 0.1979997
                                  total: 1m 52s
                                                   remaining: 21.4s
420:
        learn: 0.1979720
                                  total: 1m 52s
                                                   remaining: 21.1s
                                  total: 1m 52s
421:
        learn: 0.1979480
                                                   remaining: 20.9s
422:
        learn: 0.1978699
                                  total: 1m 53s
                                                   remaining: 20.6s
        learn: 0.1978204
423:
                                  total: 1m 53s
                                                   remaining: 20.3s
424:
        learn: 0.1977963
                                  total: 1m 53s
                                                   remaining: 20.1s
425:
        learn: 0.1977582
                                  total: 1m 53s
                                                   remaining: 19.8s
426:
        learn: 0.1976796
                                  total: 1m 54s
                                                   remaining: 19.5s
427:
        learn: 0.1975898
                                  total: 1m 54s
                                                   remaining: 19.2s
428:
        learn: 0.1975452
                                  total: 1m 54s
                                                   remaining: 19s
429:
        learn: 0.1975185
                                  total: 1m 54s
                                                   remaining: 18.7s
430:
        learn: 0.1974141
                                  total: 1m 55s
                                                   remaining: 18.4s
431:
        learn: 0.1973941
                                  total: 1m 55s
                                                   remaining: 18.2s
432:
        learn: 0.1973723
                                  total: 1m 55s
                                                   remaining: 17.9s
433:
        learn: 0.1973035
                                  total: 1m 55s
                                                   remaining: 17.6s
434:
        learn: 0.1972307
                                  total: 1m 56s
                                                   remaining: 17.3s
435:
        learn: 0.1971424
                                  total: 1m 56s
                                                   remaining: 17.1s
436:
        learn: 0.1970562
                                  total: 1m 56s
                                                   remaining: 16.8s
437:
        learn: 0.1970342
                                  total: 1m 56s
                                                   remaining: 16.5s
438:
        learn: 0.1969934
                                  total: 1m 57s
                                                   remaining: 16.3s
439:
        learn: 0.1969441
                                  total: 1m 57s
                                                   remaining: 16s
440:
        learn: 0.1968745
                                  total: 1m 57s
                                                   remaining: 15.7s
441:
        learn: 0.1968186
                                  total: 1m 57s
                                                   remaining: 15.5s
                                                   remaining: 15.2s
442:
        learn: 0.1967331
                                  total: 1m 58s
443:
        learn: 0.1966291
                                  total: 1m 58s
                                                   remaining: 14.9s
444:
        learn: 0.1965921
                                  total: 1m 58s
                                                   remaining: 14.7s
445:
        learn: 0.1965684
                                  total: 1m 58s
                                                   remaining: 14.4s
```

```
446:
        learn: 0.1965357
                                  total: 1m 59s
                                                   remaining: 14.1s
447:
        learn: 0.1964547
                                  total: 1m 59s
                                                   remaining: 13.9s
448:
        learn: 0.1964258
                                  total: 1m 59s
                                                   remaining: 13.6s
449:
        learn: 0.1963855
                                  total: 1m 59s
                                                   remaining: 13.3s
450:
        learn: 0.1963148
                                  total: 2m
                                                   remaining: 13.1s
                                                   remaining: 12.8s
451:
        learn: 0.1962506
                                  total: 2m
452:
        learn: 0.1962325
                                  total: 2m
                                                   remaining: 12.5s
453:
        learn: 0.1961795
                                  total: 2m 1s
                                                   remaining: 12.3s
454:
        learn: 0.1961262
                                  total: 2m 1s
                                                   remaining: 12s
455:
        learn: 0.1960924
                                  total: 2m 1s
                                                   remaining: 11.7s
                                  total: 2m 1s
456:
        learn: 0.1960472
                                                   remaining: 11.5s
457:
        learn: 0.1959808
                                  total: 2m 2s
                                                   remaining: 11.2s
458:
        learn: 0.1958739
                                  total: 2m 2s
                                                   remaining: 10.9s
459:
        learn: 0.1958264
                                  total: 2m 2s
                                                   remaining: 10.7s
                                                   remaining: 10.4s
460:
        learn: 0.1957868
                                  total: 2m 3s
461:
        learn: 0.1957426
                                  total: 2m 3s
                                                   remaining: 10.1s
462:
        learn: 0.1957113
                                  total: 2m 3s
                                                   remaining: 9.88s
                                  total: 2m 3s
463:
        learn: 0.1957026
                                                   remaining: 9.61s
        learn: 0.1956841
                                  total: 2m 4s
464:
                                                   remaining: 9.34s
465:
        learn: 0.1956201
                                  total: 2m 4s
                                                   remaining: 9.07s
                                  total: 2m 4s
466:
        learn: 0.1955446
                                                   remaining: 8.81s
                                  total: 2m 4s
467:
        learn: 0.1954903
                                                   remaining: 8.54s
468:
        learn: 0.1954334
                                  total: 2m 5s
                                                   remaining: 8.27s
                                  total: 2m 5s
469:
        learn: 0.1953955
                                                   remaining: 8.01s
470:
        learn: 0.1953108
                                  total: 2m 5s
                                                   remaining: 7.74s
                                  total: 2m 6s
471:
        learn: 0.1952262
                                                   remaining: 7.48s
472:
        learn: 0.1951903
                                  total: 2m 6s
                                                   remaining: 7.21s
473:
        learn: 0.1950890
                                  total: 2m 6s
                                                   remaining: 6.94s
474:
        learn: 0.1950585
                                  total: 2m 6s
                                                   remaining: 6.68s
475:
        learn: 0.1949492
                                  total: 2m 7s
                                                   remaining: 6.41s
        learn: 0.1949141
476:
                                  total: 2m 7s
                                                   remaining: 6.14s
477:
        learn: 0.1948999
                                  total: 2m 7s
                                                   remaining: 5.87s
478:
        learn: 0.1948316
                                  total: 2m 7s
                                                   remaining: 5.61s
479:
        learn: 0.1947861
                                  total: 2m 8s
                                                   remaining: 5.34s
480:
        learn: 0.1947102
                                  total: 2m 8s
                                                   remaining: 5.08s
                                  total: 2m 8s
481:
        learn: 0.1946282
                                                   remaining: 4.81s
482:
        learn: 0.1945949
                                  total: 2m 8s
                                                   remaining: 4.54s
483:
        learn: 0.1945105
                                  total: 2m 9s
                                                   remaining: 4.27s
                                  total: 2m 9s
484:
        learn: 0.1944239
                                                   remaining: 4s
485:
        learn: 0.1944059
                                  total: 2m 9s
                                                   remaining: 3.74s
                                  total: 2m 9s
486:
        learn: 0.1943362
                                                   remaining: 3.47s
487:
        learn: 0.1942719
                                  total: 2m 10s
                                                   remaining: 3.2s
488:
        learn: 0.1941548
                                  total: 2m 10s
                                                   remaining: 2.93s
489:
        learn: 0.1940753
                                  total: 2m 10s
                                                   remaining: 2.67s
                                                   remaining: 2.4s
490:
        learn: 0.1940653
                                  total: 2m 10s
491:
        learn: 0.1939938
                                  total: 2m 11s
                                                   remaining: 2.13s
492:
        learn: 0.1939643
                                  total: 2m 11s
                                                   remaining: 1.87s
493:
        learn: 0.1938946
                                  total: 2m 11s
                                                   remaining: 1.6s
```

```
494:
        learn: 0.1938382
                                  total: 2m 11s
                                                   remaining: 1.33s
495:
        learn: 0.1937885
                                  total: 2m 12s
                                                   remaining: 1.07s
496:
        learn: 0.1937720
                                  total: 2m 12s
                                                   remaining: 800ms
497:
        learn: 0.1937044
                                  total: 2m 12s
                                                   remaining: 533ms
498:
        learn: 0.1936813
                                  total: 2m 12s
                                                   remaining: 266ms
                                  total: 2m 13s
                                                   remaining: Ous
499:
        learn: 0.1936600
Learning rate set to 0.173965
                                                   remaining: 2m 36s
0:
        learn: 0.9773338
                                  total: 313ms
1:
        learn: 0.8954502
                                  total: 596ms
                                                   remaining: 2m 28s
2:
        learn: 0.8320173
                                  total: 790ms
                                                   remaining: 2m 10s
3:
        learn: 0.7871652
                                  total: 976ms
                                                   remaining: 2m
4:
        learn: 0.6811655
                                  total: 1.19s
                                                   remaining: 1m 58s
5:
        learn: 0.6570558
                                  total: 1.41s
                                                   remaining: 1m 56s
6:
        learn: 0.5808871
                                  total: 1.63s
                                                   remaining: 1m 54s
7:
        learn: 0.5437468
                                  total: 1.84s
                                                   remaining: 1m 53s
8:
                                  total: 2.06s
        learn: 0.4951412
                                                   remaining: 1m 52s
9:
        learn: 0.4548337
                                  total: 2.27s
                                                   remaining: 1m 51s
                                  total: 2.48s
10:
        learn: 0.4456124
                                                   remaining: 1m 50s
                                  total: 2.7s
                                                   remaining: 1m 49s
11.
        learn: 0.4159201
12:
        learn: 0.3905871
                                  total: 2.91s
                                                   remaining: 1m 49s
13:
        learn: 0.3697504
                                  total: 3.18s
                                                   remaining: 1m 50s
14:
        learn: 0.3538037
                                  total: 3.47s
                                                   remaining: 1m 52s
15.
        learn: 0.3395884
                                  total: 3.77s
                                                   remaining: 1m 54s
                                  total: 4.05s
                                                   remaining: 1m 55s
16:
        learn: 0.3277996
17:
        learn: 0.3251779
                                  total: 4.35s
                                                   remaining: 1m 56s
        learn: 0.3148128
                                  total: 4.67s
                                                   remaining: 1m 58s
18:
        learn: 0.3068742
                                  total: 4.96s
                                                   remaining: 1m 59s
19:
20:
        learn: 0.3034370
                                  total: 5.25s
                                                   remaining: 1m 59s
21:
        learn: 0.2994075
                                  total: 5.52s
                                                   remaining: 1m 59s
22:
        learn: 0.2938780
                                  total: 5.83s
                                                   remaining: 2m
23:
        learn: 0.2868766
                                  total: 6.13s
                                                   remaining: 2m 1s
24:
        learn: 0.2821617
                                  total: 6.4s
                                                   remaining: 2m 1s
25:
        learn: 0.2800034
                                  total: 6.71s
                                                   remaining: 2m 2s
26:
        learn: 0.2761813
                                  total: 7.04s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
27:
        learn: 0.2754336
                                  total: 7.31s
28:
        learn: 0.2730535
                                  total: 7.58s
                                                   remaining: 2m 3s
29:
        learn: 0.2670468
                                  total: 7.84s
                                                   remaining: 2m 2s
30:
        learn: 0.2629233
                                  total: 8.13s
                                                   remaining: 2m 2s
                                                   remaining: 2m 3s
31:
        learn: 0.2589164
                                  total: 8.44s
32:
        learn: 0.2575631
                                  total: 8.71s
                                                   remaining: 2m 3s
33:
        learn: 0.2546900
                                                   remaining: 2m 3s
                                  total: 9s
                                                   remaining: 2m 3s
34:
        learn: 0.2531556
                                  total: 9.31s
35:
        learn: 0.2509007
                                  total: 9.59s
                                                   remaining: 2m 3s
36:
        learn: 0.2505890
                                  total: 9.83s
                                                   remaining: 2m 3s
37:
        learn: 0.2500959
                                  total: 10.1s
                                                   remaining: 2m 2s
38:
        learn: 0.2500161
                                  total: 10.2s
                                                   remaining: 2m
39:
        learn: 0.2494047
                                  total: 10.4s
                                                   remaining: 1m 59s
40:
        learn: 0.2488978
                                  total: 10.7s
                                                   remaining: 1m 59s
```

```
learn: 0.2485124
                                  total: 10.9s
                                                   remaining: 1m 59s
41:
42:
        learn: 0.2470140
                                  total: 11.2s
                                                   remaining: 1m 59s
43:
        learn: 0.2447968
                                  total: 11.5s
                                                   remaining: 1m 58s
44:
        learn: 0.2444784
                                  total: 11.7s
                                                   remaining: 1m 58s
                                                   remaining: 1m 58s
45:
        learn: 0.2432489
                                  total: 12s
                                  total: 12.2s
                                                   remaining: 1m 57s
46:
        learn: 0.2426294
47:
        learn: 0.2424387
                                  total: 12.5s
                                                   remaining: 1m 57s
48:
        learn: 0.2421552
                                  total: 12.7s
                                                   remaining: 1m 56s
49:
        learn: 0.2419135
                                  total: 13s
                                                   remaining: 1m 56s
50:
        learn: 0.2409394
                                  total: 13.3s
                                                   remaining: 1m 56s
        learn: 0.2407455
51:
                                  total: 13.5s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
52:
        learn: 0.2399723
                                  total: 13.8s
53:
        learn: 0.2397377
                                  total: 14.1s
                                                   remaining: 1m 56s
54:
        learn: 0.2394440
                                  total: 14.3s
                                                   remaining: 1m 55s
55:
        learn: 0.2392399
                                  total: 14.6s
                                                   remaining: 1m 55s
56:
        learn: 0.2387072
                                                   remaining: 1m 55s
                                  total: 14.8s
57:
        learn: 0.2381353
                                  total: 15.1s
                                                   remaining: 1m 55s
58:
        learn: 0.2379078
                                  total: 15.3s
                                                   remaining: 1m 54s
        learn: 0.2374602
                                  total: 15.6s
                                                   remaining: 1m 54s
59:
60:
        learn: 0.2363218
                                  total: 15.9s
                                                   remaining: 1m 54s
61:
        learn: 0.2354425
                                  total: 16.2s
                                                   remaining: 1m 54s
                                  total: 16.5s
62:
        learn: 0.2345598
                                                   remaining: 1m 54s
63:
        learn: 0.2342432
                                  total: 16.7s
                                                   remaining: 1m 53s
                                  total: 17s
                                                   remaining: 1m 53s
64:
        learn: 0.2340136
65:
        learn: 0.2338861
                                  total: 17.3s
                                                   remaining: 1m 53s
66:
        learn: 0.2334951
                                  total: 17.5s
                                                   remaining: 1m 53s
67:
        learn: 0.2333739
                                  total: 17.8s
                                                   remaining: 1m 53s
68:
        learn: 0.2326881
                                  total: 18.1s
                                                   remaining: 1m 53s
69:
        learn: 0.2326554
                                  total: 18.4s
                                                   remaining: 1m 52s
70:
        learn: 0.2325242
                                  total: 18.6s
                                                   remaining: 1m 52s
71:
        learn: 0.2322673
                                  total: 18.9s
                                                   remaining: 1m 52s
72:
        learn: 0.2307704
                                  total: 19.2s
                                                   remaining: 1m 52s
73:
        learn: 0.2306130
                                  total: 19.4s
                                                   remaining: 1m 51s
74:
        learn: 0.2304706
                                  total: 19.7s
                                                   remaining: 1m 51s
75:
                                                   remaining: 1m 51s
        learn: 0.2301997
                                  total: 19.9s
76:
        learn: 0.2298237
                                  total: 20.2s
                                                   remaining: 1m 51s
77:
        learn: 0.2296234
                                  total: 20.5s
                                                   remaining: 1m 51s
78:
        learn: 0.2295205
                                  total: 20.8s
                                                   remaining: 1m 50s
79:
                                  total: 21.1s
                                                   remaining: 1m 50s
        learn: 0.2293827
: 08
        learn: 0.2292536
                                  total: 21.4s
                                                   remaining: 1m 50s
81:
        learn: 0.2291140
                                  total: 21.6s
                                                   remaining: 1m 50s
        learn: 0.2289500
                                  total: 21.9s
                                                   remaining: 1m 50s
82:
83:
        learn: 0.2287648
                                  total: 22.2s
                                                   remaining: 1m 50s
84:
        learn: 0.2273757
                                  total: 22.6s
                                                   remaining: 1m 50s
85:
        learn: 0.2272133
                                  total: 22.8s
                                                   remaining: 1m 49s
86:
        learn: 0.2269532
                                  total: 23.1s
                                                   remaining: 1m 49s
87:
        learn: 0.2268822
                                  total: 23.4s
                                                   remaining: 1m 49s
88:
        learn: 0.2267495
                                  total: 23.6s
                                                   remaining: 1m 49s
```

```
89:
        learn: 0.2266648
                                  total: 23.9s
                                                   remaining: 1m 48s
90:
        learn: 0.2266301
                                  total: 24.2s
                                                   remaining: 1m 48s
91:
        learn: 0.2265751
                                  total: 24.5s
                                                   remaining: 1m 48s
92:
        learn: 0.2261860
                                  total: 24.7s
                                                   remaining: 1m 48s
                                                   remaining: 1m 47s
93:
        learn: 0.2261347
                                  total: 25s
                                  total: 25.3s
                                                   remaining: 1m 47s
94:
        learn: 0.2260072
95:
        learn: 0.2258230
                                  total: 25.5s
                                                   remaining: 1m 47s
96:
        learn: 0.2257557
                                  total: 25.8s
                                                   remaining: 1m 47s
97:
        learn: 0.2256481
                                  total: 26.1s
                                                   remaining: 1m 47s
98:
        learn: 0.2254725
                                  total: 26.4s
                                                   remaining: 1m 46s
                                  total: 26.7s
99:
        learn: 0.2252067
                                                   remaining: 1m 46s
                                                   remaining: 1m 46s
100:
        learn: 0.2250481
                                  total: 26.9s
101:
        learn: 0.2248584
                                  total: 27.2s
                                                   remaining: 1m 46s
102:
        learn: 0.2247442
                                  total: 27.4s
                                                   remaining: 1m 45s
103:
        learn: 0.2245556
                                  total: 27.7s
                                                   remaining: 1m 45s
        learn: 0.2244851
104:
                                  total: 28s
                                                   remaining: 1m 45s
105:
        learn: 0.2240342
                                  total: 28.2s
                                                   remaining: 1m 44s
106:
        learn: 0.2239126
                                  total: 28.5s
                                                   remaining: 1m 44s
        learn: 0.2238392
                                  total: 28.7s
                                                   remaining: 1m 44s
107:
108:
        learn: 0.2237755
                                  total: 29s
                                                   remaining: 1m 44s
109:
        learn: 0.2235927
                                  total: 29.2s
                                                   remaining: 1m 43s
110:
        learn: 0.2232415
                                  total: 29.5s
                                                   remaining: 1m 43s
111:
        learn: 0.2231786
                                  total: 29.7s
                                                   remaining: 1m 43s
                                                   remaining: 1m 42s
112:
        learn: 0.2229120
                                  total: 30s
113:
        learn: 0.2227990
                                  total: 30.3s
                                                   remaining: 1m 42s
114:
        learn: 0.2226278
                                  total: 30.5s
                                                   remaining: 1m 42s
        learn: 0.2225118
                                  total: 30.8s
                                                   remaining: 1m 41s
115:
116:
        learn: 0.2224182
                                  total: 31.1s
                                                   remaining: 1m 41s
        learn: 0.2223963
117:
                                  total: 31.3s
                                                   remaining: 1m 41s
118:
        learn: 0.2223253
                                  total: 31.6s
                                                   remaining: 1m 41s
119:
        learn: 0.2222869
                                  total: 31.8s
                                                   remaining: 1m 40s
120:
        learn: 0.2221606
                                  total: 32.1s
                                                   remaining: 1m 40s
121:
        learn: 0.2220806
                                  total: 32.4s
                                                   remaining: 1m 40s
122:
        learn: 0.2219902
                                  total: 32.7s
                                                   remaining: 1m 40s
                                                   remaining: 1m 39s
123:
        learn: 0.2219614
                                  total: 32.9s
124:
        learn: 0.2218886
                                  total: 33.2s
                                                   remaining: 1m 39s
125:
        learn: 0.2217998
                                  total: 33.5s
                                                   remaining: 1m 39s
126:
        learn: 0.2216722
                                  total: 33.8s
                                                   remaining: 1m 39s
                                                   remaining: 1m 38s
127:
        learn: 0.2215994
                                  total: 34s
128:
        learn: 0.2215090
                                  total: 34.3s
                                                   remaining: 1m 38s
129:
        learn: 0.2213553
                                  total: 34.6s
                                                   remaining: 1m 38s
        learn: 0.2212892
                                                   remaining: 1m 38s
130:
                                  total: 34.8s
131:
        learn: 0.2211872
                                  total: 35.1s
                                                   remaining: 1m 37s
132:
        learn: 0.2211214
                                  total: 35.4s
                                                   remaining: 1m 37s
133:
        learn: 0.2210254
                                  total: 35.7s
                                                   remaining: 1m 37s
134:
        learn: 0.2209282
                                  total: 36s
                                                   remaining: 1m 37s
135:
        learn: 0.2208057
                                  total: 36.3s
                                                   remaining: 1m 37s
136:
        learn: 0.2207693
                                  total: 36.5s
                                                   remaining: 1m 36s
```

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137:
        learn: 0.2205901
                                  total: 36.8s
                                                   remaining: 1m 36s
138:
        learn: 0.2205675
                                  total: 37.1s
                                                   remaining: 1m 36s
139:
        learn: 0.2204442
                                  total: 37.4s
                                                   remaining: 1m 36s
140:
        learn: 0.2203003
                                  total: 37.7s
                                                   remaining: 1m 35s
                                                   remaining: 1m 35s
141:
        learn: 0.2200682
                                  total: 38s
                                                   remaining: 1m 35s
142:
        learn: 0.2199669
                                  total: 38.3s
143:
        learn: 0.2195411
                                  total: 38.5s
                                                   remaining: 1m 35s
144:
        learn: 0.2193798
                                  total: 38.8s
                                                   remaining: 1m 35s
145:
        learn: 0.2192723
                                  total: 39.1s
                                                   remaining: 1m 34s
146:
        learn: 0.2191563
                                  total: 39.4s
                                                   remaining: 1m 34s
147:
        learn: 0.2190932
                                  total: 39.7s
                                                   remaining: 1m 34s
                                                   remaining: 1m 34s
148:
        learn: 0.2190411
                                  total: 39.9s
149:
        learn: 0.2189916
                                                   remaining: 1m 33s
                                  total: 40.2s
150:
        learn: 0.2189357
                                  total: 40.5s
                                                   remaining: 1m 33s
151:
        learn: 0.2178321
                                  total: 40.8s
                                                   remaining: 1m 33s
152:
        learn: 0.2177566
                                  total: 41.1s
                                                   remaining: 1m 33s
153:
        learn: 0.2177224
                                  total: 41.3s
                                                   remaining: 1m 32s
154:
        learn: 0.2175817
                                  total: 41.6s
                                                   remaining: 1m 32s
        learn: 0.2175016
                                  total: 41.9s
                                                   remaining: 1m 32s
155:
156:
        learn: 0.2173642
                                  total: 42.2s
                                                   remaining: 1m 32s
157:
        learn: 0.2173019
                                  total: 42.5s
                                                   remaining: 1m 31s
                                  total: 42.7s
158:
        learn: 0.2172773
                                                   remaining: 1m 31s
159:
        learn: 0.2171376
                                  total: 43s
                                                   remaining: 1m 31s
                                                   remaining: 1m 30s
160:
        learn: 0.2170249
                                  total: 43.2s
161:
        learn: 0.2169996
                                  total: 43.5s
                                                   remaining: 1m 30s
162:
        learn: 0.2169347
                                  total: 43.7s
                                                   remaining: 1m 30s
        learn: 0.2169037
                                  total: 43.9s
                                                   remaining: 1m 30s
163:
164:
        learn: 0.2168089
                                  total: 44.2s
                                                   remaining: 1m 29s
165:
        learn: 0.2167447
                                  total: 44.5s
                                                   remaining: 1m 29s
166:
        learn: 0.2167204
                                  total: 44.7s
                                                   remaining: 1m 29s
167:
        learn: 0.2166805
                                  total: 44.9s
                                                   remaining: 1m 28s
168:
        learn: 0.2166059
                                  total: 45.2s
                                                   remaining: 1m 28s
169:
        learn: 0.2160759
                                  total: 45.5s
                                                   remaining: 1m 28s
170:
        learn: 0.2159683
                                  total: 45.7s
                                                   remaining: 1m 27s
                                                   remaining: 1m 27s
171:
        learn: 0.2159269
                                  total: 46s
172:
        learn: 0.2158540
                                  total: 46.2s
                                                   remaining: 1m 27s
173:
        learn: 0.2158286
                                  total: 46.5s
                                                   remaining: 1m 27s
174:
        learn: 0.2157443
                                  total: 46.7s
                                                   remaining: 1m 26s
175:
        learn: 0.2157212
                                  total: 47s
                                                   remaining: 1m 26s
176:
        learn: 0.2156236
                                  total: 47.2s
                                                   remaining: 1m 26s
177:
        learn: 0.2155606
                                  total: 47.5s
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
178:
        learn: 0.2154712
                                  total: 47.8s
179:
        learn: 0.2152774
                                  total: 48s
                                                   remaining: 1m 25s
180:
        learn: 0.2152232
                                  total: 48.3s
                                                   remaining: 1m 25s
181:
        learn: 0.2151473
                                  total: 48.6s
                                                   remaining: 1m 24s
182:
        learn: 0.2150260
                                  total: 48.9s
                                                   remaining: 1m 24s
183:
        learn: 0.2149750
                                  total: 49.2s
                                                   remaining: 1m 24s
184:
        learn: 0.2148337
                                  total: 49.5s
                                                   remaining: 1m 24s
```

```
185:
        learn: 0.2146942
                                  total: 49.8s
                                                   remaining: 1m 23s
186:
        learn: 0.2145760
                                  total: 50.1s
                                                   remaining: 1m 23s
187:
        learn: 0.2144965
                                  total: 50.3s
                                                   remaining: 1m 23s
        learn: 0.2144360
                                                   remaining: 1m 23s
188:
                                  total: 50.6s
                                                   remaining: 1m 23s
189:
        learn: 0.2143482
                                  total: 50.9s
                                                   remaining: 1m 22s
190:
        learn: 0.2142394
                                  total: 51.2s
191:
        learn: 0.2141948
                                  total: 51.4s
                                                   remaining: 1m 22s
192:
        learn: 0.2138913
                                  total: 51.7s
                                                   remaining: 1m 22s
193:
        learn: 0.2138336
                                  total: 51.9s
                                                   remaining: 1m 21s
194:
        learn: 0.2137375
                                  total: 52.2s
                                                   remaining: 1m 21s
195:
        learn: 0.2129193
                                  total: 52.5s
                                                   remaining: 1m 21s
196:
        learn: 0.2128758
                                  total: 52.8s
                                                   remaining: 1m 21s
197:
        learn: 0.2128073
                                  total: 53.1s
                                                   remaining: 1m 20s
198:
        learn: 0.2127598
                                  total: 53.4s
                                                   remaining: 1m 20s
199:
        learn: 0.2126657
                                  total: 53.7s
                                                   remaining: 1m 20s
200:
        learn: 0.2125511
                                  total: 54.1s
                                                   remaining: 1m 20s
201:
        learn: 0.2125257
                                  total: 54.3s
                                                   remaining: 1m 20s
202:
        learn: 0.2124612
                                  total: 54.6s
                                                   remaining: 1m 19s
        learn: 0.2124417
                                  total: 54.9s
                                                   remaining: 1m 19s
203:
204:
        learn: 0.2124088
                                  total: 55.2s
                                                   remaining: 1m 19s
205:
        learn: 0.2123546
                                  total: 55.5s
                                                   remaining: 1m 19s
206:
        learn: 0.2123023
                                  total: 55.9s
                                                   remaining: 1m 19s
207:
        learn: 0.2117632
                                  total: 56.1s
                                                   remaining: 1m 18s
208:
                                  total: 56.4s
                                                   remaining: 1m 18s
        learn: 0.2117154
209:
        learn: 0.2116335
                                  total: 56.7s
                                                   remaining: 1m 18s
210:
        learn: 0.2116007
                                  total: 57s
                                                   remaining: 1m 18s
211:
        learn: 0.2113680
                                                   remaining: 1m 17s
                                  total: 57.2s
212:
        learn: 0.2113439
                                  total: 57.5s
                                                   remaining: 1m 17s
213:
        learn: 0.2112668
                                  total: 57.7s
                                                   remaining: 1m 17s
214:
        learn: 0.2111838
                                  total: 58s
                                                   remaining: 1m 16s
215:
        learn: 0.2111346
                                  total: 58.3s
                                                   remaining: 1m 16s
216:
        learn: 0.2110383
                                  total: 58.6s
                                                   remaining: 1m 16s
217:
        learn: 0.2109793
                                  total: 58.8s
                                                   remaining: 1m 16s
218:
        learn: 0.2109279
                                  total: 59.1s
                                                   remaining: 1m 15s
219:
        learn: 0.2108672
                                  total: 59.3s
                                                   remaining: 1m 15s
220:
        learn: 0.2107727
                                  total: 59.6s
                                                   remaining: 1m 15s
221:
        learn: 0.2107002
                                  total: 59.9s
                                                   remaining: 1m 14s
222:
        learn: 0.2106416
                                  total: 1m
                                                   remaining: 1m 14s
223:
        learn: 0.2105827
                                  total: 1m
                                                   remaining: 1m 14s
224:
        learn: 0.2105458
                                  total: 1m
                                                   remaining: 1m 14s
                                  total: 1m
225:
        learn: 0.2103540
                                                   remaining: 1m 13s
226:
        learn: 0.2103454
                                                   remaining: 1m 13s
                                  total: 1m 1s
227:
        learn: 0.2102815
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
        learn: 0.2101295
                                  total: 1m 1s
                                                   remaining: 1m 13s
229:
        learn: 0.2100592
                                  total: 1m 1s
                                                   remaining: 1m 12s
230:
        learn: 0.2099828
                                  total: 1m 2s
                                                   remaining: 1m 12s
231:
        learn: 0.2098819
                                  total: 1m 2s
                                                   remaining: 1m 12s
232:
        learn: 0.2097032
                                  total: 1m 2s
                                                   remaining: 1m 11s
```

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233:
        learn: 0.2096076
                                  total: 1m 2s
                                                   remaining: 1m 11s
234:
        learn: 0.2095593
                                  total: 1m 3s
                                                   remaining: 1m 11s
                                  total: 1m 3s
235:
        learn: 0.2094812
                                                   remaining: 1m 11s
236:
        learn: 0.2094475
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2094231
                                  total: 1m 4s
                                                   remaining: 1m 10s
238:
                                  total: 1m 4s
                                                   remaining: 1m 10s
        learn: 0.2093982
239:
        learn: 0.2093675
                                  total: 1m 4s
                                                   remaining: 1m 10s
240:
        learn: 0.2092864
                                  total: 1m 4s
                                                   remaining: 1m 9s
241:
        learn: 0.2091426
                                  total: 1m 5s
                                                   remaining: 1m 9s
242:
        learn: 0.2090431
                                  total: 1m 5s
                                                   remaining: 1m 9s
243:
        learn: 0.2089474
                                  total: 1m 5s
                                                   remaining: 1m 9s
244:
        learn: 0.2088559
                                  total: 1m 6s
                                                   remaining: 1m 8s
245:
        learn: 0.2088163
                                  total: 1m 6s
                                                   remaining: 1m 8s
246:
        learn: 0.2087713
                                  total: 1m 6s
                                                   remaining: 1m 8s
247:
        learn: 0.2086776
                                  total: 1m 6s
                                                   remaining: 1m 7s
        learn: 0.2086248
248:
                                  total: 1m 7s
                                                   remaining: 1m 7s
249:
        learn: 0.2085239
                                  total: 1m 7s
                                                   remaining: 1m 7s
250:
        learn: 0.2084605
                                  total: 1m 7s
                                                   remaining: 1m 7s
251:
        learn: 0.2083846
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2083235
                                  total: 1m 8s
                                                   remaining: 1m 6s
253:
        learn: 0.2082498
                                  total: 1m 8s
                                                   remaining: 1m 6s
                                  total: 1m 8s
254:
        learn: 0.2081859
                                                   remaining: 1m 6s
255:
        learn: 0.2081482
                                  total: 1m 8s
                                                   remaining: 1m 5s
256:
        learn: 0.2081234
                                  total: 1m 9s
                                                   remaining: 1m 5s
257:
        learn: 0.2080864
                                  total: 1m 9s
                                                   remaining: 1m 5s
258:
        learn: 0.2080477
                                  total: 1m 9s
                                                   remaining: 1m 4s
259:
        learn: 0.2080118
                                  total: 1m 10s
                                                   remaining: 1m 4s
260:
        learn: 0.2079329
                                  total: 1m 10s
                                                   remaining: 1m 4s
261:
        learn: 0.2078047
                                  total: 1m 10s
                                                   remaining: 1m 4s
262:
        learn: 0.2077681
                                  total: 1m 10s
                                                   remaining: 1m 3s
263:
        learn: 0.2077392
                                  total: 1m 11s
                                                   remaining: 1m 3s
264:
        learn: 0.2077071
                                  total: 1m 11s
                                                   remaining: 1m 3s
265:
        learn: 0.2076059
                                  total: 1m 11s
                                                   remaining: 1m 3s
266:
        learn: 0.2075801
                                  total: 1m 12s
                                                   remaining: 1m 2s
267:
        learn: 0.2074996
                                  total: 1m 12s
                                                   remaining: 1m 2s
268:
        learn: 0.2073937
                                  total: 1m 12s
                                                   remaining: 1m 2s
269:
        learn: 0.2073005
                                  total: 1m 12s
                                                   remaining: 1m 2s
270:
        learn: 0.2072252
                                  total: 1m 13s
                                                   remaining: 1m 1s
271:
                                  total: 1m 13s
        learn: 0.2071809
                                                   remaining: 1m 1s
272:
        learn: 0.2071202
                                  total: 1m 13s
                                                   remaining: 1m 1s
                                  total: 1m 14s
273:
        learn: 0.2070406
                                                   remaining: 1m 1s
274:
        learn: 0.2069524
                                                   remaining: 1m
                                  total: 1m 14s
275:
        learn: 0.2068123
                                  total: 1m 14s
                                                   remaining: 1m
276:
        learn: 0.2067874
                                  total: 1m 14s
                                                   remaining: 1m
277:
        learn: 0.2067610
                                  total: 1m 15s
                                                   remaining: 1m
278:
        learn: 0.2067378
                                  total: 1m 15s
                                                   remaining: 59.7s
279:
        learn: 0.2067018
                                  total: 1m 15s
                                                   remaining: 59.5s
280:
        learn: 0.2066689
                                  total: 1m 15s
                                                   remaining: 59.2s
```

```
learn: 0.2065903
281:
                                  total: 1m 16s
                                                   remaining: 58.9s
282:
        learn: 0.2065033
                                  total: 1m 16s
                                                   remaining: 58.6s
283:
        learn: 0.2064430
                                  total: 1m 16s
                                                   remaining: 58.3s
284:
        learn: 0.2064126
                                  total: 1m 16s
                                                   remaining: 58s
285:
        learn: 0.2063573
                                  total: 1m 17s
                                                   remaining: 57.7s
                                  total: 1m 17s
286:
        learn: 0.2063088
                                                   remaining: 57.4s
287:
        learn: 0.2062387
                                  total: 1m 17s
                                                   remaining: 57.1s
288:
        learn: 0.2061831
                                  total: 1m 17s
                                                   remaining: 56.8s
289:
        learn: 0.2061380
                                  total: 1m 18s
                                                   remaining: 56.5s
290:
        learn: 0.2059966
                                  total: 1m 18s
                                                   remaining: 56.3s
291:
        learn: 0.2059419
                                  total: 1m 18s
                                                   remaining: 56s
292:
        learn: 0.2059071
                                  total: 1m 18s
                                                   remaining: 55.7s
293:
        learn: 0.2058586
                                  total: 1m 19s
                                                   remaining: 55.4s
294:
        learn: 0.2057873
                                  total: 1m 19s
                                                   remaining: 55.1s
295:
        learn: 0.2056890
                                  total: 1m 19s
                                                   remaining: 54.9s
296:
        learn: 0.2050848
                                  total: 1m 19s
                                                   remaining: 54.6s
297:
        learn: 0.2049717
                                  total: 1m 20s
                                                   remaining: 54.3s
                                  total: 1m 20s
298:
        learn: 0.2048297
                                                   remaining: 54.1s
        learn: 0.2047918
                                  total: 1m 20s
299:
                                                   remaining: 53.8s
300:
        learn: 0.2046574
                                  total: 1m 20s
                                                   remaining: 53.5s
301:
        learn: 0.2046236
                                  total: 1m 21s
                                                   remaining: 53.3s
302:
        learn: 0.2045977
                                  total: 1m 21s
                                                   remaining: 53s
303:
        learn: 0.2045746
                                  total: 1m 21s
                                                   remaining: 52.8s
304:
        learn: 0.2044969
                                  total: 1m 22s
                                                   remaining: 52.5s
305:
        learn: 0.2044775
                                  total: 1m 22s
                                                   remaining: 52.2s
306:
        learn: 0.2044454
                                  total: 1m 22s
                                                   remaining: 51.9s
307:
        learn: 0.2044086
                                  total: 1m 22s
                                                   remaining: 51.7s
308:
        learn: 0.2043427
                                  total: 1m 23s
                                                   remaining: 51.4s
309:
        learn: 0.2043082
                                  total: 1m 23s
                                                   remaining: 51.2s
310:
        learn: 0.2042802
                                  total: 1m 23s
                                                   remaining: 50.9s
        learn: 0.2042032
311:
                                  total: 1m 24s
                                                   remaining: 50.7s
312:
        learn: 0.2041608
                                  total: 1m 24s
                                                   remaining: 50.4s
313:
        learn: 0.2040596
                                  total: 1m 24s
                                                   remaining: 50.1s
314:
        learn: 0.2037969
                                  total: 1m 24s
                                                   remaining: 49.9s
315:
        learn: 0.2037695
                                  total: 1m 25s
                                                   remaining: 49.6s
                                  total: 1m 25s
316:
        learn: 0.2037386
                                                   remaining: 49.3s
317:
        learn: 0.2037051
                                  total: 1m 25s
                                                   remaining: 49.1s
318:
        learn: 0.2036822
                                  total: 1m 26s
                                                   remaining: 48.8s
                                  total: 1m 26s
319:
        learn: 0.2036410
                                                   remaining: 48.5s
320:
        learn: 0.2035188
                                  total: 1m 26s
                                                   remaining: 48.3s
321:
        learn: 0.2034347
                                  total: 1m 26s
                                                   remaining: 48s
322:
        learn: 0.2033832
                                  total: 1m 27s
                                                   remaining: 47.7s
323:
        learn: 0.2033176
                                  total: 1m 27s
                                                   remaining: 47.5s
324:
        learn: 0.2033030
                                  total: 1m 27s
                                                   remaining: 47.2s
                                                   remaining: 46.9s
325:
        learn: 0.2032746
                                  total: 1m 27s
326:
        learn: 0.2031528
                                  total: 1m 28s
                                                   remaining: 46.6s
327:
        learn: 0.2030764
                                  total: 1m 28s
                                                   remaining: 46.4s
328:
        learn: 0.2029577
                                  total: 1m 28s
                                                   remaining: 46.1s
```

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329:
        learn: 0.2029118
                                  total: 1m 29s
                                                   remaining: 45.9s
330:
        learn: 0.2028451
                                  total: 1m 29s
                                                   remaining: 45.6s
331:
        learn: 0.2025574
                                  total: 1m 29s
                                                   remaining: 45.3s
332:
        learn: 0.2024956
                                  total: 1m 29s
                                                   remaining: 45s
333:
        learn: 0.2024693
                                  total: 1m 30s
                                                   remaining: 44.8s
                                  total: 1m 30s
334:
        learn: 0.2024473
                                                   remaining: 44.5s
335:
        learn: 0.2023818
                                  total: 1m 30s
                                                   remaining: 44.2s
                                                   remaining: 43.9s
336:
        learn: 0.2022831
                                  total: 1m 30s
337:
        learn: 0.2022527
                                  total: 1m 31s
                                                   remaining: 43.7s
338:
        learn: 0.2021742
                                  total: 1m 31s
                                                   remaining: 43.4s
339:
        learn: 0.2021535
                                  total: 1m 31s
                                                   remaining: 43.1s
340:
        learn: 0.2020741
                                  total: 1m 31s
                                                   remaining: 42.9s
341:
        learn: 0.2020517
                                  total: 1m 32s
                                                   remaining: 42.6s
342:
        learn: 0.2019915
                                  total: 1m 32s
                                                   remaining: 42.3s
343:
        learn: 0.2019520
                                  total: 1m 32s
                                                   remaining: 42s
344:
        learn: 0.2019351
                                  total: 1m 32s
                                                   remaining: 41.7s
345:
        learn: 0.2018338
                                  total: 1m 33s
                                                   remaining: 41.5s
                                  total: 1m 33s
346:
        learn: 0.2018007
                                                   remaining: 41.2s
        learn: 0.2016810
347:
                                  total: 1m 33s
                                                   remaining: 40.9s
348:
        learn: 0.2016291
                                  total: 1m 33s
                                                   remaining: 40.6s
349:
        learn: 0.2015883
                                  total: 1m 34s
                                                   remaining: 40.3s
350:
        learn: 0.2014976
                                  total: 1m 34s
                                                   remaining: 40.1s
351:
        learn: 0.2014016
                                  total: 1m 34s
                                                   remaining: 39.8s
352:
        learn: 0.2013280
                                  total: 1m 34s
                                                   remaining: 39.5s
353:
        learn: 0.2011973
                                  total: 1m 35s
                                                   remaining: 39.3s
                                  total: 1m 35s
354:
        learn: 0.2010738
                                                   remaining: 39s
355:
        learn: 0.2010107
                                  total: 1m 35s
                                                   remaining: 38.7s
356:
        learn: 0.2009423
                                  total: 1m 35s
                                                   remaining: 38.4s
357:
        learn: 0.2009087
                                  total: 1m 36s
                                                   remaining: 38.2s
358:
        learn: 0.2008188
                                  total: 1m 36s
                                                   remaining: 37.9s
359:
        learn: 0.2007635
                                  total: 1m 36s
                                                   remaining: 37.6s
360:
        learn: 0.2006949
                                  total: 1m 37s
                                                   remaining: 37.4s
361:
        learn: 0.2006538
                                  total: 1m 37s
                                                   remaining: 37.1s
        learn: 0.2005679
                                  total: 1m 37s
362:
                                                   remaining: 36.8s
363:
        learn: 0.2005388
                                  total: 1m 37s
                                                   remaining: 36.5s
        learn: 0.2004916
364:
                                  total: 1m 38s
                                                   remaining: 36.3s
365:
        learn: 0.2001293
                                  total: 1m 38s
                                                   remaining: 36s
        learn: 0.2001064
                                  total: 1m 38s
                                                   remaining: 35.7s
366:
367:
        learn: 0.2000369
                                  total: 1m 38s
                                                   remaining: 35.5s
368:
        learn: 0.1999710
                                  total: 1m 39s
                                                   remaining: 35.2s
        learn: 0.1999113
                                  total: 1m 39s
369:
                                                   remaining: 34.9s
370:
        learn: 0.1998368
                                  total: 1m 39s
                                                   remaining: 34.7s
371:
        learn: 0.1997984
                                  total: 1m 40s
                                                   remaining: 34.4s
372:
        learn: 0.1997188
                                  total: 1m 40s
                                                   remaining: 34.1s
                                                   remaining: 33.9s
373:
        learn: 0.1996767
                                  total: 1m 40s
374:
        learn: 0.1995961
                                  total: 1m 40s
                                                   remaining: 33.6s
375:
        learn: 0.1995581
                                  total: 1m 41s
                                                   remaining: 33.3s
376:
        learn: 0.1992712
                                  total: 1m 41s
                                                   remaining: 33.1s
```

```
377:
        learn: 0.1992229
                                  total: 1m 41s
                                                   remaining: 32.8s
378:
        learn: 0.1991700
                                  total: 1m 41s
                                                   remaining: 32.5s
379:
        learn: 0.1991129
                                                   remaining: 32.3s
                                  total: 1m 42s
380:
        learn: 0.1990556
                                  total: 1m 42s
                                                   remaining: 32s
381:
        learn: 0.1989912
                                  total: 1m 42s
                                                   remaining: 31.7s
                                  total: 1m 42s
382:
        learn: 0.1989594
                                                   remaining: 31.5s
383:
        learn: 0.1989270
                                  total: 1m 43s
                                                   remaining: 31.2s
        learn: 0.1988865
384:
                                  total: 1m 43s
                                                   remaining: 30.9s
385:
        learn: 0.1988263
                                  total: 1m 43s
                                                   remaining: 30.6s
386:
        learn: 0.1987779
                                  total: 1m 44s
                                                   remaining: 30.4s
387:
        learn: 0.1987559
                                  total: 1m 44s
                                                   remaining: 30.1s
388:
        learn: 0.1986844
                                  total: 1m 44s
                                                   remaining: 29.8s
389:
        learn: 0.1986409
                                  total: 1m 44s
                                                   remaining: 29.6s
390:
        learn: 0.1985712
                                  total: 1m 45s
                                                   remaining: 29.3s
                                                   remaining: 29s
391:
        learn: 0.1985394
                                  total: 1m 45s
392:
        learn: 0.1985253
                                  total: 1m 45s
                                                   remaining: 28.8s
393:
        learn: 0.1983370
                                  total: 1m 45s
                                                   remaining: 28.5s
                                  total: 1m 46s
394:
        learn: 0.1982807
                                                   remaining: 28.2s
395:
        learn: 0.1982497
                                  total: 1m 46s
                                                   remaining: 28s
396:
        learn: 0.1982050
                                  total: 1m 46s
                                                   remaining: 27.7s
397:
        learn: 0.1980846
                                  total: 1m 47s
                                                   remaining: 27.4s
398:
        learn: 0.1979947
                                  total: 1m 47s
                                                   remaining: 27.2s
                                                  remaining: 26.9s
399:
        learn: 0.1979391
                                  total: 1m 47s
400:
        learn: 0.1979213
                                  total: 1m 47s
                                                   remaining: 26.6s
401:
        learn: 0.1979002
                                  total: 1m 48s
                                                   remaining: 26.4s
402:
        learn: 0.1978509
                                  total: 1m 48s
                                                   remaining: 26.1s
403:
        learn: 0.1977648
                                  total: 1m 48s
                                                   remaining: 25.8s
404:
        learn: 0.1976968
                                  total: 1m 48s
                                                   remaining: 25.5s
405:
        learn: 0.1976033
                                  total: 1m 49s
                                                   remaining: 25.3s
406:
        learn: 0.1975508
                                  total: 1m 49s
                                                   remaining: 25s
407:
        learn: 0.1974854
                                  total: 1m 49s
                                                   remaining: 24.7s
408:
        learn: 0.1974091
                                  total: 1m 49s
                                                   remaining: 24.4s
409:
        learn: 0.1973288
                                  total: 1m 50s
                                                   remaining: 24.2s
410:
        learn: 0.1972606
                                  total: 1m 50s
                                                   remaining: 23.9s
411:
        learn: 0.1971420
                                  total: 1m 50s
                                                   remaining: 23.6s
412:
        learn: 0.1971053
                                  total: 1m 50s
                                                   remaining: 23.4s
413:
        learn: 0.1970630
                                  total: 1m 51s
                                                   remaining: 23.1s
414:
        learn: 0.1969733
                                  total: 1m 51s
                                                   remaining: 22.8s
415:
        learn: 0.1969591
                                  total: 1m 51s
                                                   remaining: 22.6s
416:
        learn: 0.1969252
                                  total: 1m 52s
                                                   remaining: 22.3s
417:
        learn: 0.1968923
                                  total: 1m 52s
                                                   remaining: 22s
418:
        learn: 0.1968386
                                  total: 1m 52s
                                                   remaining: 21.8s
419:
        learn: 0.1968047
                                  total: 1m 52s
                                                   remaining: 21.5s
420:
        learn: 0.1967037
                                  total: 1m 53s
                                                   remaining: 21.2s
421:
        learn: 0.1966506
                                  total: 1m 53s
                                                   remaining: 21s
422:
        learn: 0.1966336
                                  total: 1m 53s
                                                   remaining: 20.7s
423:
        learn: 0.1965736
                                  total: 1m 54s
                                                   remaining: 20.4s
424:
        learn: 0.1965213
                                  total: 1m 54s
                                                   remaining: 20.2s
```

```
425:
        learn: 0.1964529
                                  total: 1m 54s
                                                   remaining: 19.9s
426:
        learn: 0.1964227
                                  total: 1m 54s
                                                   remaining: 19.6s
427:
        learn: 0.1963419
                                  total: 1m 55s
                                                   remaining: 19.4s
428:
        learn: 0.1963178
                                                   remaining: 19.1s
                                  total: 1m 55s
429:
        learn: 0.1962342
                                  total: 1m 55s
                                                   remaining: 18.8s
                                  total: 1m 55s
430:
        learn: 0.1961946
                                                   remaining: 18.6s
431:
        learn: 0.1961697
                                  total: 1m 56s
                                                   remaining: 18.3s
432:
        learn: 0.1961259
                                  total: 1m 56s
                                                   remaining: 18s
433:
        learn: 0.1960925
                                  total: 1m 56s
                                                   remaining: 17.8s
434:
        learn: 0.1960238
                                  total: 1m 57s
                                                   remaining: 17.5s
435:
        learn: 0.1959825
                                  total: 1m 57s
                                                   remaining: 17.2s
436:
        learn: 0.1959493
                                  total: 1m 57s
                                                   remaining: 16.9s
437:
        learn: 0.1958487
                                  total: 1m 57s
                                                   remaining: 16.7s
438:
        learn: 0.1956897
                                  total: 1m 58s
                                                   remaining: 16.4s
439:
        learn: 0.1956468
                                  total: 1m 58s
                                                   remaining: 16.1s
440:
        learn: 0.1955844
                                  total: 1m 58s
                                                   remaining: 15.9s
441:
        learn: 0.1955758
                                  total: 1m 58s
                                                   remaining: 15.6s
                                  total: 1m 59s
442:
        learn: 0.1955206
                                                   remaining: 15.3s
443:
                                  total: 1m 59s
        learn: 0.1954800
                                                   remaining: 15.1s
444:
        learn: 0.1953825
                                  total: 1m 59s
                                                   remaining: 14.8s
445:
        learn: 0.1953421
                                  total: 1m 59s
                                                   remaining: 14.5s
446:
        learn: 0.1952457
                                  total: 2m
                                                   remaining: 14.3s
447:
        learn: 0.1951930
                                  total: 2m
                                                   remaining: 14s
448:
        learn: 0.1951352
                                  total: 2m
                                                   remaining: 13.7s
449:
        learn: 0.1950937
                                  total: 2m 1s
                                                   remaining: 13.5s
        learn: 0.1948638
                                                   remaining: 13.2s
450:
                                  total: 2m 1s
451:
        learn: 0.1948000
                                  total: 2m 1s
                                                   remaining: 12.9s
452:
        learn: 0.1947666
                                  total: 2m 1s
                                                   remaining: 12.7s
453:
        learn: 0.1946777
                                  total: 2m 2s
                                                   remaining: 12.4s
454:
        learn: 0.1946092
                                  total: 2m 2s
                                                   remaining: 12.1s
455:
        learn: 0.1945936
                                  total: 2m 2s
                                                   remaining: 11.8s
456:
        learn: 0.1945150
                                  total: 2m 3s
                                                   remaining: 11.6s
                                  total: 2m 3s
457:
        learn: 0.1944520
                                                   remaining: 11.3s
        learn: 0.1944033
                                  total: 2m 3s
458:
                                                   remaining: 11s
459:
        learn: 0.1943145
                                  total: 2m 3s
                                                   remaining: 10.8s
460:
        learn: 0.1942912
                                  total: 2m 3s
                                                   remaining: 10.5s
461:
        learn: 0.1942425
                                  total: 2m 4s
                                                   remaining: 10.2s
462:
        learn: 0.1941991
                                  total: 2m 4s
                                                   remaining: 9.94s
                                  total: 2m 4s
463:
        learn: 0.1941330
                                                   remaining: 9.67s
464:
        learn: 0.1940325
                                  total: 2m 4s
                                                   remaining: 9.4s
465:
        learn: 0.1940051
                                  total: 2m 5s
                                                   remaining: 9.13s
466:
        learn: 0.1939556
                                  total: 2m 5s
                                                   remaining: 8.86s
467:
        learn: 0.1939294
                                  total: 2m 5s
                                                   remaining: 8.59s
468:
        learn: 0.1938525
                                  total: 2m 5s
                                                   remaining: 8.32s
                                                   remaining: 8.05s
469:
        learn: 0.1938340
                                  total: 2m 6s
470:
        learn: 0.1937724
                                  total: 2m 6s
                                                   remaining: 7.78s
471:
        learn: 0.1936391
                                  total: 2m 6s
                                                   remaining: 7.51s
472:
        learn: 0.1935888
                                  total: 2m 6s
                                                   remaining: 7.25s
```

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473:
        learn: 0.1935310
                                  total: 2m 7s
                                                   remaining: 6.98s
474:
        learn: 0.1933872
                                  total: 2m 7s
                                                   remaining: 6.71s
475:
        learn: 0.1932876
                                  total: 2m 7s
                                                   remaining: 6.44s
476:
        learn: 0.1932611
                                  total: 2m 8s
                                                   remaining: 6.17s
477:
        learn: 0.1932370
                                  total: 2m 8s
                                                   remaining: 5.9s
                                  total: 2m 8s
                                                   remaining: 5.63s
478:
        learn: 0.1932059
479:
        learn: 0.1931688
                                  total: 2m 8s
                                                   remaining: 5.36s
                                                   remaining: 5.1s
480:
        learn: 0.1931325
                                  total: 2m 9s
481:
        learn: 0.1930760
                                  total: 2m 9s
                                                   remaining: 4.83s
482:
        learn: 0.1930414
                                  total: 2m 9s
                                                   remaining: 4.56s
                                  total: 2m 9s
483:
        learn: 0.1929953
                                                   remaining: 4.29s
484:
        learn: 0.1929216
                                  total: 2m 10s
                                                   remaining: 4.02s
485:
        learn: 0.1929083
                                  total: 2m 10s
                                                   remaining: 3.75s
486:
        learn: 0.1928604
                                  total: 2m 10s
                                                   remaining: 3.48s
                                                   remaining: 3.22s
487:
        learn: 0.1928070
                                  total: 2m 10s
488:
        learn: 0.1927252
                                  total: 2m 11s
                                                   remaining: 2.95s
489:
        learn: 0.1927129
                                  total: 2m 11s
                                                   remaining: 2.68s
                                  total: 2m 11s
490:
        learn: 0.1926715
                                                   remaining: 2.41s
        learn: 0.1925852
                                  total: 2m 11s
                                                   remaining: 2.15s
491:
492:
        learn: 0.1925595
                                  total: 2m 12s
                                                   remaining: 1.88s
493:
        learn: 0.1924903
                                  total: 2m 12s
                                                   remaining: 1.61s
                                  total: 2m 12s
494:
        learn: 0.1924522
                                                   remaining: 1.34s
495:
        learn: 0.1924294
                                  total: 2m 13s
                                                   remaining: 1.07s
496:
                                  total: 2m 13s
        learn: 0.1923961
                                                   remaining: 804ms
497:
        learn: 0.1923663
                                  total: 2m 13s
                                                   remaining: 536ms
498:
        learn: 0.1923040
                                  total: 2m 13s
                                                   remaining: 268ms
                                                   remaining: Ous
499:
        learn: 0.1922764
                                  total: 2m 14s
Learning rate set to 0.173965
0:
        learn: 0.9742959
                                  total: 274ms
                                                   remaining: 2m 16s
1:
        learn: 0.8958650
                                  total: 520ms
                                                   remaining: 2m 9s
2:
        learn: 0.8382540
                                  total: 710ms
                                                   remaining: 1m 57s
3:
        learn: 0.7927891
                                  total: 920ms
                                                   remaining: 1m 54s
4:
        learn: 0.7570612
                                  total: 1.13s
                                                   remaining: 1m 51s
5:
        learn: 0.6538657
                                  total: 1.33s
                                                   remaining: 1m 49s
6:
        learn: 0.5821171
                                  total: 1.54s
                                                   remaining: 1m 48s
7:
        learn: 0.5582873
                                  total: 1.73s
                                                   remaining: 1m 46s
8:
        learn: 0.5070054
                                  total: 1.95s
                                                   remaining: 1m 46s
9:
        learn: 0.4665556
                                  total: 2.16s
                                                   remaining: 1m 46s
10:
        learn: 0.4345563
                                  total: 2.35s
                                                   remaining: 1m 44s
11:
        learn: 0.4096847
                                  total: 2.55s
                                                   remaining: 1m 43s
12:
        learn: 0.3881112
                                  total: 2.73s
                                                   remaining: 1m 42s
                                  total: 2.92s
                                                   remaining: 1m 41s
13:
        learn: 0.3706118
14:
        learn: 0.3566568
                                  total: 3.19s
                                                   remaining: 1m 43s
15:
        learn: 0.3471927
                                  total: 3.43s
                                                   remaining: 1m 43s
16:
        learn: 0.3321171
                                  total: 3.71s
                                                   remaining: 1m 45s
17:
        learn: 0.3174806
                                  total: 3.98s
                                                   remaining: 1m 46s
18:
        learn: 0.3142890
                                  total: 4.23s
                                                   remaining: 1m 47s
19:
        learn: 0.3119400
                                  total: 4.46s
                                                   remaining: 1m 47s
```

```
20:
        learn: 0.3087293
                                  total: 4.7s
                                                   remaining: 1m 47s
21:
        learn: 0.2992666
                                  total: 4.99s
                                                   remaining: 1m 48s
                                  total: 5.24s
22:
        learn: 0.2912799
                                                   remaining: 1m 48s
23:
        learn: 0.2829460
                                  total: 5.53s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
24:
        learn: 0.2811735
                                  total: 5.77s
25:
                                  total: 6.02s
                                                   remaining: 1m 49s
        learn: 0.2748792
26:
        learn: 0.2695606
                                  total: 6.26s
                                                   remaining: 1m 49s
27:
        learn: 0.2654189
                                  total: 6.51s
                                                   remaining: 1m 49s
                                  total: 6.76s
28:
        learn: 0.2636640
                                                   remaining: 1m 49s
29:
        learn: 0.2630566
                                  total: 7s
                                                   remaining: 1m 49s
        learn: 0.2602935
                                                   remaining: 1m 49s
30:
                                  total: 7.26s
                                                   remaining: 1m 49s
31:
        learn: 0.2570528
                                  total: 7.51s
                                  total: 7.75s
32:
        learn: 0.2566071
                                                   remaining: 1m 49s
33:
        learn: 0.2548086
                                  total: 8s
                                                   remaining: 1m 49s
34:
        learn: 0.2542241
                                  total: 8.26s
                                                   remaining: 1m 49s
35:
        learn: 0.2536279
                                                   remaining: 1m 50s
                                  total: 8.54s
36:
        learn: 0.2531007
                                  total: 8.81s
                                                   remaining: 1m 50s
37:
        learn: 0.2526861
                                  total: 9.1s
                                                   remaining: 1m 50s
        learn: 0.2520983
                                  total: 9.38s
                                                   remaining: 1m 50s
38:
39:
        learn: 0.2513892
                                  total: 9.67s
                                                   remaining: 1m 51s
40:
        learn: 0.2484528
                                  total: 9.99s
                                                   remaining: 1m 51s
41:
        learn: 0.2465423
                                  total: 10.3s
                                                   remaining: 1m 51s
42:
        learn: 0.2460712
                                  total: 10.6s
                                                   remaining: 1m 52s
        learn: 0.2451342
                                  total: 10.8s
                                                   remaining: 1m 52s
43:
44:
        learn: 0.2447172
                                  total: 11.1s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
45:
        learn: 0.2443071
                                  total: 11.3s
46:
        learn: 0.2436492
                                  total: 11.6s
                                                   remaining: 1m 51s
47:
        learn: 0.2433662
                                  total: 11.9s
                                                   remaining: 1m 51s
        learn: 0.2431148
                                  total: 12.2s
                                                   remaining: 1m 51s
48:
49:
        learn: 0.2428102
                                  total: 12.4s
                                                   remaining: 1m 51s
50:
        learn: 0.2425795
                                  total: 12.7s
                                                   remaining: 1m 51s
51:
        learn: 0.2423265
                                  total: 13s
                                                   remaining: 1m 51s
52:
        learn: 0.2420555
                                  total: 13.2s
                                                   remaining: 1m 51s
53:
        learn: 0.2418731
                                  total: 13.5s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
54:
        learn: 0.2416965
                                  total: 13.8s
55:
        learn: 0.2410378
                                  total: 14s
                                                   remaining: 1m 51s
56:
        learn: 0.2408243
                                  total: 14.3s
                                                   remaining: 1m 51s
57:
        learn: 0.2406124
                                  total: 14.6s
                                                   remaining: 1m 51s
        learn: 0.2399557
                                                   remaining: 1m 51s
58:
                                  total: 14.9s
59:
        learn: 0.2393492
                                  total: 15.1s
                                                   remaining: 1m 51s
60:
        learn: 0.2390054
                                  total: 15.4s
                                                   remaining: 1m 51s
        learn: 0.2383933
                                  total: 15.7s
                                                   remaining: 1m 51s
61:
62:
        learn: 0.2374864
                                  total: 16s
                                                   remaining: 1m 50s
63:
        learn: 0.2374006
                                  total: 16.2s
                                                   remaining: 1m 50s
64:
        learn: 0.2372392
                                  total: 16.5s
                                                   remaining: 1m 50s
65:
        learn: 0.2370813
                                  total: 16.8s
                                                   remaining: 1m 50s
66:
        learn: 0.2367626
                                  total: 17.1s
                                                   remaining: 1m 50s
67:
        learn: 0.2365441
                                  total: 17.4s
                                                   remaining: 1m 50s
```

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68:
        learn: 0.2363644
                                  total: 17.6s
                                                   remaining: 1m 50s
69:
        learn: 0.2361471
                                  total: 17.9s
                                                   remaining: 1m 49s
70:
        learn: 0.2357787
                                  total: 18.1s
                                                   remaining: 1m 49s
71:
        learn: 0.2356874
                                  total: 18.4s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
72:
        learn: 0.2356163
                                  total: 18.7s
73:
        learn: 0.2354536
                                  total: 18.9s
                                                   remaining: 1m 49s
74:
        learn: 0.2352804
                                  total: 19.2s
                                                   remaining: 1m 48s
75:
        learn: 0.2348999
                                  total: 19.5s
                                                   remaining: 1m 48s
                                  total: 19.7s
76:
        learn: 0.2346794
                                                   remaining: 1m 48s
77:
        learn: 0.2345131
                                  total: 20s
                                                   remaining: 1m 48s
        learn: 0.2343029
                                  total: 20.2s
78:
                                                   remaining: 1m 47s
79:
                                                   remaining: 1m 47s
        learn: 0.2340992
                                  total: 20.5s
80:
        learn: 0.2339659
                                  total: 20.7s
                                                   remaining: 1m 47s
81:
        learn: 0.2339294
                                  total: 21s
                                                   remaining: 1m 46s
82:
        learn: 0.2337825
                                  total: 21.2s
                                                   remaining: 1m 46s
83:
        learn: 0.2337223
                                  total: 21.4s
                                                   remaining: 1m 46s
84:
        learn: 0.2336841
                                  total: 21.7s
                                                   remaining: 1m 45s
85:
        learn: 0.2336384
                                  total: 21.9s
                                                   remaining: 1m 45s
        learn: 0.2335292
                                  total: 22.2s
                                                   remaining: 1m 45s
86:
87:
        learn: 0.2334023
                                  total: 22.4s
                                                   remaining: 1m 44s
88:
        learn: 0.2332762
                                  total: 22.7s
                                                   remaining: 1m 44s
                                  total: 22.9s
89:
        learn: 0.2332551
                                                   remaining: 1m 44s
90:
        learn: 0.2330287
                                  total: 23.1s
                                                   remaining: 1m 43s
91:
        learn: 0.2328139
                                  total: 23.4s
                                                   remaining: 1m 43s
92:
        learn: 0.2327317
                                  total: 23.6s
                                                   remaining: 1m 43s
                                  total: 23.9s
                                                   remaining: 1m 43s
93:
        learn: 0.2326505
94:
        learn: 0.2324854
                                  total: 24.1s
                                                   remaining: 1m 42s
95:
        learn: 0.2324076
                                  total: 24.4s
                                                   remaining: 1m 42s
                                  total: 24.7s
        learn: 0.2323144
96:
                                                   remaining: 1m 42s
97:
        learn: 0.2322587
                                  total: 25s
                                                   remaining: 1m 42s
98:
        learn: 0.2321751
                                  total: 25.3s
                                                   remaining: 1m 42s
99:
        learn: 0.2320320
                                  total: 25.6s
                                                   remaining: 1m 42s
100:
        learn: 0.2319381
                                  total: 25.8s
                                                   remaining: 1m 41s
101:
        learn: 0.2318894
                                  total: 26.1s
                                                   remaining: 1m 41s
        learn: 0.2318025
                                                   remaining: 1m 41s
102:
                                  total: 26.3s
103:
        learn: 0.2317701
                                  total: 26.6s
                                                   remaining: 1m 41s
104:
        learn: 0.2317410
                                  total: 26.9s
                                                   remaining: 1m 41s
105:
        learn: 0.2317111
                                  total: 27.1s
                                                   remaining: 1m 40s
        learn: 0.2315276
                                  total: 27.4s
                                                   remaining: 1m 40s
106:
107:
        learn: 0.2314576
                                  total: 27.7s
                                                   remaining: 1m 40s
108:
        learn: 0.2313791
                                  total: 27.9s
                                                   remaining: 1m 40s
        learn: 0.2313181
                                  total: 28.2s
                                                   remaining: 1m 39s
109:
110:
        learn: 0.2311843
                                  total: 28.5s
                                                   remaining: 1m 39s
111:
        learn: 0.2310797
                                  total: 28.7s
                                                   remaining: 1m 39s
112:
        learn: 0.2310148
                                  total: 29s
                                                   remaining: 1m 39s
113:
        learn: 0.2308504
                                  total: 29.2s
                                                   remaining: 1m 38s
114:
        learn: 0.2307607
                                  total: 29.5s
                                                   remaining: 1m 38s
115:
        learn: 0.2305183
                                  total: 29.8s
                                                   remaining: 1m 38s
```

```
total: 30.1s
        learn: 0.2303454
116:
                                                   remaining: 1m 38s
117:
        learn: 0.2299793
                                  total: 30.4s
                                                   remaining: 1m 38s
118:
        learn: 0.2297502
                                  total: 30.6s
                                                   remaining: 1m 38s
119:
        learn: 0.2296622
                                  total: 30.9s
                                                   remaining: 1m 37s
120:
                                                   remaining: 1m 37s
        learn: 0.2296179
                                  total: 31.2s
                                  total: 31.4s
                                                   remaining: 1m 37s
121:
        learn: 0.2295561
122:
        learn: 0.2294334
                                  total: 31.7s
                                                   remaining: 1m 37s
123:
        learn: 0.2293752
                                  total: 32s
                                                   remaining: 1m 36s
124:
        learn: 0.2291776
                                  total: 32.2s
                                                   remaining: 1m 36s
125:
        learn: 0.2291010
                                  total: 32.5s
                                                   remaining: 1m 36s
                                  total: 32.7s
126:
        learn: 0.2289875
                                                   remaining: 1m 36s
                                                   remaining: 1m 35s
127:
        learn: 0.2289376
                                  total: 33s
128:
        learn: 0.2289082
                                  total: 33.2s
                                                   remaining: 1m 35s
129:
        learn: 0.2287649
                                  total: 33.5s
                                                   remaining: 1m 35s
130:
        learn: 0.2287030
                                  total: 33.7s
                                                   remaining: 1m 34s
131:
        learn: 0.2278280
                                  total: 34s
                                                   remaining: 1m 34s
132:
        learn: 0.2277621
                                  total: 34.3s
                                                   remaining: 1m 34s
133:
        learn: 0.2277179
                                  total: 34.5s
                                                   remaining: 1m 34s
        learn: 0.2276532
                                  total: 34.8s
                                                   remaining: 1m 34s
134:
135:
        learn: 0.2275833
                                  total: 35s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
136:
        learn: 0.2275233
                                  total: 35.3s
137:
        learn: 0.2273430
                                  total: 35.5s
                                                   remaining: 1m 33s
138:
        learn: 0.2271831
                                  total: 35.8s
                                                   remaining: 1m 32s
139:
                                                   remaining: 1m 32s
        learn: 0.2271478
                                  total: 36s
140:
        learn: 0.2269915
                                  total: 36.3s
                                                   remaining: 1m 32s
141:
        learn: 0.2269455
                                  total: 36.6s
                                                   remaining: 1m 32s
        learn: 0.2269247
                                  total: 36.8s
                                                   remaining: 1m 31s
142:
143:
        learn: 0.2268220
                                  total: 37.1s
                                                   remaining: 1m 31s
144:
        learn: 0.2267753
                                  total: 37.3s
                                                   remaining: 1m 31s
145:
        learn: 0.2267058
                                  total: 37.5s
                                                   remaining: 1m 30s
        learn: 0.2266357
                                  total: 37.8s
                                                   remaining: 1m 30s
146:
147:
        learn: 0.2265283
                                  total: 38s
                                                   remaining: 1m 30s
148:
        learn: 0.2265017
                                  total: 38.3s
                                                   remaining: 1m 30s
149:
        learn: 0.2262589
                                  total: 38.5s
                                                   remaining: 1m 29s
                                                   remaining: 1m 29s
150:
        learn: 0.2262282
                                  total: 38.7s
151:
        learn: 0.2261529
                                  total: 38.9s
                                                   remaining: 1m 29s
152:
        learn: 0.2260816
                                  total: 39.2s
                                                   remaining: 1m 28s
153:
        learn: 0.2260050
                                  total: 39.4s
                                                   remaining: 1m 28s
154:
        learn: 0.2259210
                                  total: 39.6s
                                                   remaining: 1m 28s
155:
        learn: 0.2258526
                                  total: 39.9s
                                                   remaining: 1m 27s
        learn: 0.2257857
                                  total: 40.1s
                                                   remaining: 1m 27s
156:
        learn: 0.2257441
                                                   remaining: 1m 27s
157:
                                  total: 40.3s
158:
        learn: 0.2255669
                                  total: 40.6s
                                                   remaining: 1m 27s
159:
        learn: 0.2255031
                                  total: 40.9s
                                                   remaining: 1m 26s
160:
        learn: 0.2254379
                                  total: 41.2s
                                                   remaining: 1m 26s
161:
        learn: 0.2253244
                                  total: 41.5s
                                                   remaining: 1m 26s
162:
        learn: 0.2252774
                                  total: 41.7s
                                                   remaining: 1m 26s
163:
        learn: 0.2251928
                                  total: 42s
                                                   remaining: 1m 26s
```

```
164:
        learn: 0.2251447
                                  total: 42.3s
                                                   remaining: 1m 25s
165:
        learn: 0.2250433
                                  total: 42.5s
                                                   remaining: 1m 25s
166:
        learn: 0.2249101
                                  total: 42.8s
                                                   remaining: 1m 25s
        learn: 0.2248923
                                  total: 43.1s
                                                   remaining: 1m 25s
167:
                                                   remaining: 1m 25s
168:
        learn: 0.2247599
                                  total: 43.4s
                                  total: 43.7s
                                                   remaining: 1m 24s
169:
        learn: 0.2245253
170:
        learn: 0.2244286
                                  total: 43.9s
                                                   remaining: 1m 24s
171:
        learn: 0.2243486
                                  total: 44.2s
                                                   remaining: 1m 24s
172:
        learn: 0.2243115
                                  total: 44.5s
                                                   remaining: 1m 24s
173:
        learn: 0.2242388
                                  total: 44.7s
                                                   remaining: 1m 23s
174:
        learn: 0.2242039
                                  total: 45s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
175:
        learn: 0.2240568
                                  total: 45.3s
176:
        learn: 0.2239530
                                  total: 45.6s
                                                   remaining: 1m 23s
177:
        learn: 0.2239042
                                  total: 45.8s
                                                   remaining: 1m 22s
178:
        learn: 0.2238101
                                  total: 46.1s
                                                   remaining: 1m 22s
        learn: 0.2237404
179:
                                  total: 46.4s
                                                   remaining: 1m 22s
180:
        learn: 0.2237018
                                  total: 46.7s
                                                   remaining: 1m 22s
181:
        learn: 0.2236709
                                  total: 46.9s
                                                   remaining: 1m 21s
        learn: 0.2236245
                                  total: 47.2s
                                                   remaining: 1m 21s
182:
183:
        learn: 0.2235612
                                  total: 47.5s
                                                   remaining: 1m 21s
                                  total: 47.7s
184:
        learn: 0.2234844
                                                   remaining: 1m 21s
185:
        learn: 0.2234012
                                  total: 48s
                                                   remaining: 1m 20s
186:
        learn: 0.2233202
                                  total: 48.2s
                                                   remaining: 1m 20s
                                  total: 48.5s
                                                   remaining: 1m 20s
187:
        learn: 0.2232714
188:
        learn: 0.2231365
                                  total: 48.8s
                                                   remaining: 1m 20s
189:
        learn: 0.2230664
                                  total: 49s
                                                   remaining: 1m 20s
        learn: 0.2230059
                                                   remaining: 1m 19s
190:
                                  total: 49.3s
191:
        learn: 0.2229144
                                  total: 49.6s
                                                   remaining: 1m 19s
192:
        learn: 0.2228605
                                  total: 49.9s
                                                   remaining: 1m 19s
193:
        learn: 0.2228042
                                  total: 50.1s
                                                   remaining: 1m 19s
194:
        learn: 0.2227817
                                  total: 50.4s
                                                   remaining: 1m 18s
195:
        learn: 0.2226547
                                  total: 50.7s
                                                   remaining: 1m 18s
196:
        learn: 0.2225381
                                  total: 50.9s
                                                   remaining: 1m 18s
197:
        learn: 0.2224818
                                  total: 51.2s
                                                   remaining: 1m 18s
                                                   remaining: 1m 17s
198:
        learn: 0.2223446
                                  total: 51.4s
199:
        learn: 0.2223074
                                  total: 51.6s
                                                   remaining: 1m 17s
200:
        learn: 0.2222118
                                  total: 51.9s
                                                   remaining: 1m 17s
201:
        learn: 0.2221667
                                  total: 52.1s
                                                   remaining: 1m 16s
        learn: 0.2220993
202:
                                  total: 52.4s
                                                   remaining: 1m 16s
203:
        learn: 0.2220405
                                  total: 52.6s
                                                   remaining: 1m 16s
204:
        learn: 0.2219472
                                  total: 52.8s
                                                   remaining: 1m 16s
205:
        learn: 0.2218605
                                                   remaining: 1m 15s
                                  total: 53.1s
206:
        learn: 0.2217941
                                  total: 53.3s
                                                   remaining: 1m 15s
207:
        learn: 0.2216100
                                  total: 53.6s
                                                   remaining: 1m 15s
208:
        learn: 0.2215592
                                  total: 53.8s
                                                   remaining: 1m 14s
209:
        learn: 0.2214162
                                  total: 54s
                                                   remaining: 1m 14s
210:
        learn: 0.2212402
                                  total: 54.3s
                                                   remaining: 1m 14s
211:
        learn: 0.2211896
                                  total: 54.5s
                                                   remaining: 1m 14s
```

```
212:
        learn: 0.2210818
                                  total: 54.8s
                                                   remaining: 1m 13s
213:
        learn: 0.2209805
                                  total: 55s
                                                   remaining: 1m 13s
                                  total: 55.3s
214:
        learn: 0.2208965
                                                   remaining: 1m 13s
215:
        learn: 0.2208747
                                  total: 55.5s
                                                   remaining: 1m 12s
216:
        learn: 0.2207468
                                  total: 55.7s
                                                   remaining: 1m 12s
217:
                                                   remaining: 1m 12s
        learn: 0.2206080
                                  total: 56s
218:
        learn: 0.2205704
                                  total: 56.2s
                                                   remaining: 1m 12s
219:
        learn: 0.2204364
                                  total: 56.5s
                                                   remaining: 1m 11s
220:
        learn: 0.2204139
                                  total: 56.7s
                                                   remaining: 1m 11s
221:
        learn: 0.2202790
                                  total: 57s
                                                   remaining: 1m 11s
222:
        learn: 0.2202447
                                  total: 57.2s
                                                   remaining: 1m 11s
223:
        learn: 0.2201715
                                  total: 57.5s
                                                   remaining: 1m 10s
224:
        learn: 0.2201342
                                  total: 57.7s
                                                   remaining: 1m 10s
225:
        learn: 0.2200810
                                  total: 58s
                                                   remaining: 1m 10s
226:
        learn: 0.2200126
                                  total: 58.3s
                                                   remaining: 1m 10s
227:
        learn: 0.2199349
                                  total: 58.5s
                                                   remaining: 1m 9s
228:
        learn: 0.2198315
                                  total: 58.8s
                                                   remaining: 1m 9s
229:
        learn: 0.2196582
                                  total: 59s
                                                   remaining: 1m 9s
230:
        learn: 0.2195313
                                                   remaining: 1m 9s
                                  total: 59.3s
231:
        learn: 0.2194669
                                  total: 59.6s
                                                   remaining: 1m 8s
                                  total: 59.8s
232:
        learn: 0.2193544
                                                   remaining: 1m 8s
233:
        learn: 0.2191986
                                  total: 1m
                                                   remaining: 1m 8s
234:
        learn: 0.2190073
                                  total: 1m
                                                   remaining: 1m 8s
235:
        learn: 0.2189839
                                                   remaining: 1m 7s
                                  total: 1m
236:
        learn: 0.2188919
                                  total: 1m
                                                   remaining: 1m 7s
237:
        learn: 0.2188611
                                  total: 1m 1s
                                                   remaining: 1m 7s
238:
        learn: 0.2187739
                                                   remaining: 1m 7s
                                  total: 1m 1s
239:
        learn: 0.2186798
                                  total: 1m 1s
                                                   remaining: 1m 6s
240:
        learn: 0.2185543
                                  total: 1m 2s
                                                   remaining: 1m 6s
241:
        learn: 0.2185051
                                  total: 1m 2s
                                                   remaining: 1m 6s
242:
        learn: 0.2184769
                                  total: 1m 2s
                                                   remaining: 1m 6s
243:
        learn: 0.2184406
                                  total: 1m 2s
                                                   remaining: 1m 5s
244:
        learn: 0.2183561
                                  total: 1m 3s
                                                   remaining: 1m 5s
245:
        learn: 0.2182502
                                  total: 1m 3s
                                                   remaining: 1m 5s
                                  total: 1m 3s
                                                   remaining: 1m 5s
246:
        learn: 0.2181766
                                  total: 1m 4s
247:
        learn: 0.2180914
                                                   remaining: 1m 5s
248:
        learn: 0.2180396
                                  total: 1m 4s
                                                   remaining: 1m 4s
249:
        learn: 0.2179159
                                  total: 1m 4s
                                                   remaining: 1m 4s
250:
        learn: 0.2178842
                                  total: 1m 4s
                                                   remaining: 1m 4s
251:
        learn: 0.2177665
                                  total: 1m 5s
                                                   remaining: 1m 4s
252:
        learn: 0.2177489
                                  total: 1m 5s
                                                   remaining: 1m 3s
253:
        learn: 0.2176366
                                                   remaining: 1m 3s
                                  total: 1m 5s
254:
        learn: 0.2175413
                                  total: 1m 5s
                                                   remaining: 1m 3s
255:
        learn: 0.2175141
                                  total: 1m 6s
                                                   remaining: 1m 3s
256:
        learn: 0.2174914
                                  total: 1m 6s
                                                   remaining: 1m 2s
257:
        learn: 0.2174320
                                  total: 1m 6s
                                                   remaining: 1m 2s
258:
        learn: 0.2173638
                                  total: 1m 7s
                                                   remaining: 1m 2s
259:
        learn: 0.2172486
                                  total: 1m 7s
                                                   remaining: 1m 2s
```

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260:
        learn: 0.2171382
                                  total: 1m 7s
                                                   remaining: 1m 1s
261:
        learn: 0.2170256
                                  total: 1m 7s
                                                   remaining: 1m 1s
262:
        learn: 0.2169450
                                  total: 1m 8s
                                                   remaining: 1m 1s
263:
        learn: 0.2167561
                                                   remaining: 1m 1s
                                  total: 1m 8s
264:
        learn: 0.2166722
                                  total: 1m 8s
                                                   remaining: 1m
                                  total: 1m 8s
                                                   remaining: 1m
265:
        learn: 0.2165492
266:
        learn: 0.2164964
                                  total: 1m 9s
                                                   remaining: 1m
                                                   remaining: 1m
267:
        learn: 0.2164826
                                  total: 1m 9s
268:
        learn: 0.2164144
                                  total: 1m 9s
                                                   remaining: 59.7s
269:
        learn: 0.2163749
                                  total: 1m 9s
                                                   remaining: 59.5s
270:
        learn: 0.2163077
                                  total: 1m 10s
                                                   remaining: 59.2s
271:
        learn: 0.2162472
                                  total: 1m 10s
                                                   remaining: 58.9s
272:
        learn: 0.2162019
                                  total: 1m 10s
                                                   remaining: 58.6s
273:
        learn: 0.2161542
                                  total: 1m 10s
                                                   remaining: 58.4s
274:
        learn: 0.2160520
                                  total: 1m 10s
                                                   remaining: 58.1s
275:
        learn: 0.2160345
                                  total: 1m 11s
                                                   remaining: 57.8s
276:
        learn: 0.2159815
                                  total: 1m 11s
                                                   remaining: 57.6s
                                  total: 1m 11s
277:
        learn: 0.2159140
                                                   remaining: 57.3s
        learn: 0.2158941
278:
                                  total: 1m 11s
                                                   remaining: 57s
279:
        learn: 0.2158211
                                  total: 1m 12s
                                                   remaining: 56.7s
280:
        learn: 0.2157200
                                  total: 1m 12s
                                                   remaining: 56.5s
281:
        learn: 0.2156482
                                  total: 1m 12s
                                                   remaining: 56.2s
282:
        learn: 0.2155398
                                  total: 1m 12s
                                                   remaining: 56s
283:
        learn: 0.2155081
                                  total: 1m 13s
                                                   remaining: 55.7s
284:
        learn: 0.2153496
                                  total: 1m 13s
                                                   remaining: 55.5s
285:
        learn: 0.2152350
                                  total: 1m 13s
                                                   remaining: 55.2s
286:
        learn: 0.2151538
                                  total: 1m 14s
                                                   remaining: 55s
287:
        learn: 0.2150815
                                  total: 1m 14s
                                                   remaining: 54.7s
288:
        learn: 0.2149478
                                  total: 1m 14s
                                                   remaining: 54.5s
289:
        learn: 0.2148701
                                  total: 1m 15s
                                                   remaining: 54.4s
290:
        learn: 0.2148168
                                  total: 1m 15s
                                                   remaining: 54.1s
291:
        learn: 0.2146241
                                  total: 1m 15s
                                                   remaining: 53.9s
292:
        learn: 0.2145119
                                  total: 1m 15s
                                                   remaining: 53.6s
293:
        learn: 0.2144283
                                  total: 1m 16s
                                                   remaining: 53.4s
294:
        learn: 0.2143533
                                  total: 1m 16s
                                                   remaining: 53.1s
295:
        learn: 0.2142354
                                  total: 1m 16s
                                                   remaining: 52.9s
296:
        learn: 0.2141788
                                  total: 1m 16s
                                                   remaining: 52.6s
297:
        learn: 0.2141388
                                  total: 1m 17s
                                                   remaining: 52.3s
298:
        learn: 0.2140556
                                  total: 1m 17s
                                                   remaining: 52s
299:
        learn: 0.2140182
                                  total: 1m 17s
                                                   remaining: 51.8s
300:
        learn: 0.2138917
                                  total: 1m 18s
                                                   remaining: 51.7s
301:
        learn: 0.2138491
                                  total: 1m 18s
                                                   remaining: 51.4s
302:
        learn: 0.2137828
                                  total: 1m 18s
                                                   remaining: 51.2s
303:
        learn: 0.2136831
                                  total: 1m 18s
                                                   remaining: 50.9s
                                                   remaining: 50.6s
304:
        learn: 0.2135996
                                  total: 1m 19s
305:
        learn: 0.2135920
                                  total: 1m 19s
                                                   remaining: 50.4s
306:
        learn: 0.2134725
                                  total: 1m 19s
                                                   remaining: 50.1s
307:
        learn: 0.2134090
                                  total: 1m 19s
                                                   remaining: 49.9s
```

```
total: 1m 20s
308:
        learn: 0.2132997
                                                   remaining: 49.6s
309:
        learn: 0.2132597
                                  total: 1m 20s
                                                   remaining: 49.3s
310:
        learn: 0.2131296
                                  total: 1m 20s
                                                   remaining: 49.1s
311:
        learn: 0.2130878
                                  total: 1m 20s
                                                   remaining: 48.8s
312:
        learn: 0.2130431
                                  total: 1m 21s
                                                   remaining: 48.5s
                                  total: 1m 21s
313:
        learn: 0.2128068
                                                   remaining: 48.3s
314:
        learn: 0.2127702
                                  total: 1m 21s
                                                   remaining: 48s
        learn: 0.2127167
                                                   remaining: 47.8s
315:
                                  total: 1m 22s
316:
        learn: 0.2126967
                                  total: 1m 22s
                                                   remaining: 47.5s
317:
        learn: 0.2126273
                                  total: 1m 22s
                                                   remaining: 47.3s
318:
        learn: 0.2124155
                                  total: 1m 22s
                                                   remaining: 47s
319:
        learn: 0.2123958
                                  total: 1m 23s
                                                   remaining: 46.8s
320:
        learn: 0.2123456
                                  total: 1m 23s
                                                   remaining: 46.5s
321:
        learn: 0.2123086
                                  total: 1m 23s
                                                   remaining: 46.3s
322:
        learn: 0.2122269
                                  total: 1m 23s
                                                   remaining: 46s
323:
        learn: 0.2121590
                                  total: 1m 24s
                                                   remaining: 45.7s
324:
        learn: 0.2121122
                                  total: 1m 24s
                                                   remaining: 45.5s
                                  total: 1m 24s
325:
        learn: 0.2120670
                                                   remaining: 45.2s
        learn: 0.2120384
                                  total: 1m 24s
326:
                                                   remaining: 44.9s
327:
        learn: 0.2118744
                                  total: 1m 25s
                                                   remaining: 44.7s
328:
        learn: 0.2118410
                                  total: 1m 25s
                                                   remaining: 44.4s
                                  total: 1m 25s
329:
        learn: 0.2117455
                                                   remaining: 44.1s
                                                  remaining: 43.9s
330:
        learn: 0.2117115
                                  total: 1m 25s
                                  total: 1m 26s
331:
        learn: 0.2116631
                                                   remaining: 43.6s
332:
        learn: 0.2116362
                                  total: 1m 26s
                                                   remaining: 43.3s
        learn: 0.2115701
333:
                                  total: 1m 26s
                                                   remaining: 43s
334:
        learn: 0.2114710
                                  total: 1m 26s
                                                   remaining: 42.8s
335:
        learn: 0.2114233
                                  total: 1m 27s
                                                   remaining: 42.5s
336:
        learn: 0.2113575
                                  total: 1m 27s
                                                   remaining: 42.3s
337:
        learn: 0.2112935
                                  total: 1m 27s
                                                   remaining: 42s
338:
        learn: 0.2111762
                                  total: 1m 27s
                                                   remaining: 41.7s
339:
        learn: 0.2110586
                                  total: 1m 28s
                                                   remaining: 41.5s
340:
        learn: 0.2110359
                                  total: 1m 28s
                                                   remaining: 41.2s
341:
        learn: 0.2109723
                                  total: 1m 28s
                                                   remaining: 40.9s
342:
        learn: 0.2108658
                                  total: 1m 28s
                                                   remaining: 40.7s
        learn: 0.2108274
343:
                                  total: 1m 29s
                                                   remaining: 40.4s
344:
        learn: 0.2107684
                                  total: 1m 29s
                                                   remaining: 40.2s
345:
        learn: 0.2106947
                                  total: 1m 29s
                                                   remaining: 39.9s
                                  total: 1m 29s
346:
        learn: 0.2106263
                                                   remaining: 39.7s
347:
        learn: 0.2106019
                                  total: 1m 30s
                                                   remaining: 39.4s
348:
        learn: 0.2105559
                                  total: 1m 30s
                                                   remaining: 39.2s
349:
        learn: 0.2105309
                                  total: 1m 30s
                                                   remaining: 38.9s
350:
        learn: 0.2104655
                                  total: 1m 31s
                                                   remaining: 38.6s
351:
        learn: 0.2104126
                                  total: 1m 31s
                                                   remaining: 38.4s
                                                   remaining: 38.1s
352:
        learn: 0.2103914
                                  total: 1m 31s
353:
        learn: 0.2102810
                                  total: 1m 31s
                                                   remaining: 37.9s
354:
        learn: 0.2102518
                                  total: 1m 32s
                                                   remaining: 37.6s
355:
        learn: 0.2101585
                                  total: 1m 32s
                                                   remaining: 37.3s
```

```
learn: 0.2101191
356:
                                  total: 1m 32s
                                                   remaining: 37.1s
357:
        learn: 0.2100832
                                  total: 1m 32s
                                                   remaining: 36.8s
358:
        learn: 0.2100021
                                  total: 1m 33s
                                                   remaining: 36.6s
        learn: 0.2099253
                                                   remaining: 36.3s
359:
                                  total: 1m 33s
360:
        learn: 0.2098949
                                  total: 1m 33s
                                                   remaining: 36.1s
                                  total: 1m 33s
361:
        learn: 0.2098162
                                                   remaining: 35.8s
362:
        learn: 0.2097433
                                  total: 1m 34s
                                                   remaining: 35.6s
        learn: 0.2096888
                                                   remaining: 35.3s
363:
                                  total: 1m 34s
364:
        learn: 0.2095940
                                  total: 1m 34s
                                                   remaining: 35s
365:
        learn: 0.2095519
                                  total: 1m 35s
                                                   remaining: 34.8s
366:
        learn: 0.2094720
                                  total: 1m 35s
                                                   remaining: 34.5s
                                  total: 1m 35s
367:
        learn: 0.2094239
                                                   remaining: 34.3s
368:
        learn: 0.2093475
                                  total: 1m 35s
                                                   remaining: 34s
369:
        learn: 0.2093073
                                  total: 1m 36s
                                                   remaining: 33.8s
                                                   remaining: 33.5s
370:
        learn: 0.2092573
                                  total: 1m 36s
371:
        learn: 0.2091936
                                  total: 1m 36s
                                                   remaining: 33.3s
372:
        learn: 0.2091705
                                  total: 1m 36s
                                                   remaining: 33s
                                  total: 1m 37s
373:
        learn: 0.2090938
                                                   remaining: 32.8s
        learn: 0.2090066
                                  total: 1m 37s
                                                   remaining: 32.5s
374:
375:
        learn: 0.2089613
                                  total: 1m 37s
                                                   remaining: 32.3s
376:
        learn: 0.2089149
                                  total: 1m 38s
                                                   remaining: 32s
377:
        learn: 0.2089022
                                  total: 1m 38s
                                                   remaining: 31.7s
378:
        learn: 0.2086734
                                  total: 1m 38s
                                                   remaining: 31.5s
379:
        learn: 0.2086661
                                  total: 1m 38s
                                                   remaining: 31.2s
380:
        learn: 0.2085621
                                  total: 1m 39s
                                                   remaining: 31s
                                  total: 1m 39s
        learn: 0.2085069
                                                   remaining: 30.7s
381:
382:
        learn: 0.2083625
                                  total: 1m 39s
                                                   remaining: 30.4s
383:
        learn: 0.2082882
                                  total: 1m 39s
                                                   remaining: 30.2s
384:
        learn: 0.2081778
                                  total: 1m 40s
                                                   remaining: 29.9s
385:
        learn: 0.2081271
                                  total: 1m 40s
                                                   remaining: 29.6s
386:
        learn: 0.2080826
                                  total: 1m 40s
                                                   remaining: 29.4s
387:
        learn: 0.2079659
                                  total: 1m 40s
                                                   remaining: 29.1s
388:
        learn: 0.2078946
                                  total: 1m 41s
                                                   remaining: 28.8s
        learn: 0.2078046
                                  total: 1m 41s
389:
                                                   remaining: 28.6s
390:
        learn: 0.2077632
                                  total: 1m 41s
                                                   remaining: 28.3s
391:
        learn: 0.2077118
                                  total: 1m 41s
                                                   remaining: 28.1s
392:
        learn: 0.2076443
                                  total: 1m 42s
                                                   remaining: 27.8s
393:
        learn: 0.2076294
                                  total: 1m 42s
                                                   remaining: 27.5s
394:
        learn: 0.2075429
                                  total: 1m 42s
                                                   remaining: 27.3s
                                                   remaining: 27s
395:
        learn: 0.2074370
                                  total: 1m 42s
        learn: 0.2073812
396:
                                  total: 1m 43s
                                                   remaining: 26.7s
397:
        learn: 0.2073420
                                  total: 1m 43s
                                                   remaining: 26.5s
398:
        learn: 0.2073089
                                  total: 1m 43s
                                                   remaining: 26.2s
399:
        learn: 0.2072830
                                  total: 1m 43s
                                                   remaining: 25.9s
400:
        learn: 0.2072556
                                  total: 1m 43s
                                                   remaining: 25.7s
401:
        learn: 0.2072216
                                  total: 1m 44s
                                                   remaining: 25.4s
402:
        learn: 0.2071617
                                  total: 1m 44s
                                                   remaining: 25.1s
403:
        learn: 0.2070903
                                  total: 1m 44s
                                                   remaining: 24.9s
```

```
404:
        learn: 0.2070556
                                  total: 1m 44s
                                                   remaining: 24.6s
405:
        learn: 0.2069945
                                  total: 1m 45s
                                                   remaining: 24.4s
406:
        learn: 0.2069371
                                  total: 1m 45s
                                                   remaining: 24.1s
407:
        learn: 0.2069145
                                                   remaining: 23.8s
                                  total: 1m 45s
408:
        learn: 0.2068205
                                  total: 1m 46s
                                                   remaining: 23.6s
                                  total: 1m 46s
409:
        learn: 0.2067408
                                                   remaining: 23.3s
410:
        learn: 0.2066912
                                  total: 1m 46s
                                                   remaining: 23.1s
        learn: 0.2066701
                                                   remaining: 22.8s
411:
                                  total: 1m 46s
412:
        learn: 0.2066537
                                  total: 1m 47s
                                                   remaining: 22.5s
413:
        learn: 0.2065972
                                  total: 1m 47s
                                                   remaining: 22.3s
414:
        learn: 0.2065363
                                  total: 1m 47s
                                                   remaining: 22s
415:
        learn: 0.2065154
                                  total: 1m 47s
                                                   remaining: 21.8s
416:
        learn: 0.2064848
                                  total: 1m 48s
                                                   remaining: 21.5s
417:
        learn: 0.2064735
                                  total: 1m 48s
                                                   remaining: 21.2s
418:
        learn: 0.2064421
                                  total: 1m 48s
                                                   remaining: 21s
419:
        learn: 0.2063729
                                  total: 1m 48s
                                                   remaining: 20.7s
420:
        learn: 0.2062791
                                  total: 1m 49s
                                                   remaining: 20.5s
                                  total: 1m 49s
421:
        learn: 0.2062447
                                                   remaining: 20.2s
422:
        learn: 0.2062085
                                  total: 1m 49s
                                                   remaining: 20s
423:
        learn: 0.2061294
                                  total: 1m 49s
                                                   remaining: 19.7s
424:
        learn: 0.2060998
                                  total: 1m 50s
                                                   remaining: 19.4s
425:
        learn: 0.2060629
                                  total: 1m 50s
                                                   remaining: 19.2s
426:
        learn: 0.2060389
                                  total: 1m 50s
                                                   remaining: 18.9s
427:
        learn: 0.2059248
                                  total: 1m 50s
                                                   remaining: 18.7s
428:
        learn: 0.2058935
                                  total: 1m 51s
                                                   remaining: 18.4s
429:
        learn: 0.2058728
                                  total: 1m 51s
                                                   remaining: 18.1s
430:
        learn: 0.2058340
                                  total: 1m 51s
                                                   remaining: 17.9s
431:
        learn: 0.2057788
                                  total: 1m 51s
                                                   remaining: 17.6s
432:
        learn: 0.2057530
                                  total: 1m 52s
                                                   remaining: 17.4s
433:
        learn: 0.2056572
                                  total: 1m 52s
                                                   remaining: 17.1s
434:
        learn: 0.2055893
                                  total: 1m 52s
                                                   remaining: 16.8s
435:
        learn: 0.2055056
                                  total: 1m 53s
                                                   remaining: 16.6s
436:
        learn: 0.2054442
                                  total: 1m 53s
                                                   remaining: 16.3s
437:
        learn: 0.2053451
                                  total: 1m 53s
                                                   remaining: 16.1s
438:
        learn: 0.2053052
                                  total: 1m 53s
                                                   remaining: 15.8s
        learn: 0.2052833
439:
                                  total: 1m 54s
                                                   remaining: 15.6s
440:
        learn: 0.2052378
                                  total: 1m 54s
                                                   remaining: 15.3s
441:
        learn: 0.2052165
                                  total: 1m 54s
                                                   remaining: 15s
442:
        learn: 0.2051813
                                  total: 1m 54s
                                                   remaining: 14.8s
443:
        learn: 0.2050995
                                  total: 1m 55s
                                                   remaining: 14.5s
444:
        learn: 0.2050489
                                  total: 1m 55s
                                                   remaining: 14.3s
445:
        learn: 0.2049758
                                  total: 1m 55s
                                                   remaining: 14s
446:
        learn: 0.2049030
                                  total: 1m 55s
                                                   remaining: 13.7s
447:
        learn: 0.2048637
                                  total: 1m 56s
                                                   remaining: 13.5s
                                                   remaining: 13.2s
448:
        learn: 0.2048187
                                  total: 1m 56s
449:
        learn: 0.2047381
                                  total: 1m 56s
                                                   remaining: 13s
450:
        learn: 0.2046853
                                  total: 1m 56s
                                                   remaining: 12.7s
451:
        learn: 0.2045638
                                  total: 1m 57s
                                                   remaining: 12.4s
```

```
452:
        learn: 0.2045235
                                  total: 1m 57s
                                                   remaining: 12.2s
453:
        learn: 0.2044906
                                  total: 1m 57s
                                                   remaining: 11.9s
454:
        learn: 0.2044453
                                  total: 1m 57s
                                                   remaining: 11.7s
        learn: 0.2044117
                                                   remaining: 11.4s
455:
                                  total: 1m 58s
456:
        learn: 0.2043628
                                  total: 1m 58s
                                                   remaining: 11.1s
                                  total: 1m 58s
                                                   remaining: 10.9s
457:
        learn: 0.2043283
458:
        learn: 0.2042594
                                  total: 1m 58s
                                                   remaining: 10.6s
459:
        learn: 0.2041979
                                  total: 1m 59s
                                                   remaining: 10.4s
460:
        learn: 0.2041020
                                  total: 1m 59s
                                                   remaining: 10.1s
461:
        learn: 0.2040220
                                  total: 1m 59s
                                                   remaining: 9.83s
462:
        learn: 0.2039608
                                  total: 1m 59s
                                                   remaining: 9.57s
463:
        learn: 0.2039309
                                  total: 2m
                                                   remaining: 9.31s
464:
        learn: 0.2038994
                                  total: 2m
                                                   remaining: 9.05s
465:
        learn: 0.2037281
                                  total: 2m
                                                   remaining: 8.79s
                                                   remaining: 8.54s
466:
        learn: 0.2036532
                                  total: 2m
467:
        learn: 0.2036191
                                  total: 2m 1s
                                                   remaining: 8.28s
468:
        learn: 0.2035708
                                  total: 2m 1s
                                                   remaining: 8.02s
                                  total: 2m 1s
469:
        learn: 0.2035269
                                                   remaining: 7.76s
        learn: 0.2034951
470:
                                  total: 2m 1s
                                                   remaining: 7.51s
471:
        learn: 0.2034463
                                  total: 2m 2s
                                                   remaining: 7.25s
472:
        learn: 0.2033719
                                  total: 2m 2s
                                                   remaining: 6.99s
                                  total: 2m 2s
473:
        learn: 0.2033302
                                                   remaining: 6.74s
474:
        learn: 0.2032523
                                  total: 2m 3s
                                                   remaining: 6.48s
                                  total: 2m 3s
475:
        learn: 0.2031761
                                                   remaining: 6.22s
476:
        learn: 0.2030703
                                  total: 2m 3s
                                                   remaining: 5.97s
                                  total: 2m 4s
477:
        learn: 0.2030282
                                                   remaining: 5.71s
478:
        learn: 0.2029734
                                  total: 2m 4s
                                                   remaining: 5.45s
479:
        learn: 0.2029401
                                  total: 2m 4s
                                                   remaining: 5.19s
480:
        learn: 0.2027716
                                  total: 2m 4s
                                                   remaining: 4.93s
481:
        learn: 0.2027628
                                  total: 2m 5s
                                                   remaining: 4.67s
482:
        learn: 0.2027289
                                  total: 2m 5s
                                                   remaining: 4.41s
483:
        learn: 0.2026069
                                  total: 2m 5s
                                                   remaining: 4.15s
484:
        learn: 0.2025092
                                  total: 2m 5s
                                                   remaining: 3.89s
        learn: 0.2024501
                                  total: 2m 6s
485:
                                                   remaining: 3.63s
486:
        learn: 0.2023868
                                  total: 2m 6s
                                                   remaining: 3.38s
487:
        learn: 0.2023627
                                  total: 2m 6s
                                                   remaining: 3.12s
488:
        learn: 0.2022773
                                  total: 2m 6s
                                                   remaining: 2.85s
489:
        learn: 0.2021646
                                  total: 2m 7s
                                                   remaining: 2.6s
                                  total: 2m 7s
490:
        learn: 0.2021327
                                                   remaining: 2.34s
491:
        learn: 0.2020221
                                  total: 2m 7s
                                                   remaining: 2.08s
492:
        learn: 0.2020042
                                  total: 2m 8s
                                                   remaining: 1.82s
493:
        learn: 0.2019589
                                  total: 2m 8s
                                                   remaining: 1.56s
494:
        learn: 0.2019096
                                  total: 2m 8s
                                                   remaining: 1.3s
495:
        learn: 0.2018261
                                  total: 2m 8s
                                                   remaining: 1.04s
                                                   remaining: 780ms
496:
        learn: 0.2017602
                                  total: 2m 9s
497:
        learn: 0.2017120
                                  total: 2m 9s
                                                   remaining: 520ms
498:
        learn: 0.2016200
                                  total: 2m 9s
                                                   remaining: 260ms
499:
        learn: 0.2015721
                                  total: 2m 10s
                                                   remaining: Ous
```

Accuracy en cada fold: [0.8449692 0.80817933 0.76180698 0.69284736 0.68463381 0.71338125

0.69952088 0.64076673 0.62348109 0.67585145]

Accuracy promedio: 0.7145438073111581

Learning rate set to 0.174902

| 0:  | learn: | 0.9741259 | total: | 285ms | remaining: | 2m | 22s |
|-----|--------|-----------|--------|-------|------------|----|-----|
| 1:  |        | 0.8975124 | total: | 563ms | remaining: |    |     |
| 2:  | learn: | 0.8357398 | total: | 814ms | remaining: | 2m | 14s |
| 3:  | learn: | 0.7915634 | total: | 1.03s | remaining: | 2m | 7s  |
| 4:  | learn: | 0.7407766 | total: | 1.22s | remaining: | 2m |     |
| 5:  | learn: | 0.6475013 | total: | 1.43s | remaining: | 1m | 58s |
| 6:  | learn: | 0.5780797 | total: | 1.65s | remaining: | 1m | 56s |
| 7:  | learn: | 0.5208903 | total: | 1.87s | remaining: | 1m | 54s |
| 8:  | learn: | 0.5077518 | total: | 2.06s | remaining: | 1m | 52s |
| 9:  | learn: | 0.4633853 | total: | 2.3s  | remaining: | 1m | 52s |
| 10: | learn: | 0.4329555 | total: | 2.56s | remaining: | 1m | 53s |
| 11: | learn: | 0.4068081 | total: | 2.76s | remaining: | 1m | 52s |
| 12: | learn: | 0.3859958 | total: | 2.95s | remaining: | 1m | 50s |
| 13: | learn: | 0.3696696 | total: | 3.13s | remaining: | 1m | 48s |
| 14: | learn: | 0.3581578 | total: | 3.32s | remaining: | 1m | 47s |
| 15: | learn: | 0.3433575 | total: | 3.53s | remaining: | 1m | 46s |
| 16: | learn: | 0.3354873 | total: | 3.79s | remaining: | 1m | 47s |
| 17: | learn: | 0.3284255 | total: | 4.08s | remaining: | 1m | 49s |
| 18: | learn: | 0.3253633 | total: | 4.37s | remaining: | 1m | 50s |
| 19: | learn: | 0.3150039 | total: | 4.65s | remaining: | 1m | 51s |
| 20: | learn: | 0.3094029 | total: | 4.93s | remaining: | 1m | 52s |
| 21: | learn: | 0.2999760 | total: | 5.23s | remaining: | 1m | 53s |
| 22: | learn: | 0.2986327 | total: | 5.53s | remaining: | 1m | 54s |
| 23: | learn: | 0.2972673 | total: | 5.82s | remaining: | 1m | 55s |
| 24: | learn: | 0.2958170 | total: | 6.12s | remaining: | 1m | 56s |
| 25: | learn: | 0.2886882 | total: | 6.42s | remaining: | 1m | 57s |
| 26: | learn: | 0.2862394 | total: | 6.7s  | remaining: | 1m | 57s |
| 27: | learn: | 0.2807344 | total: | 6.96s | remaining: | 1m | 57s |
| 28: | learn: | 0.2761587 | total: | 7.24s | remaining: | 1m | 57s |
| 29: | learn: | 0.2751951 | total: | 7.52s | remaining: | 1m | 57s |
| 30: | learn: | 0.2745240 | total: | 7.81s | remaining: | 1m | 58s |
| 31: | learn: | 0.2706097 | total: | 8.15s | remaining: | 1m | 59s |
| 32: | learn: | 0.2675512 | total: | 8.44s | remaining: | 1m | 59s |
| 33: | learn: | 0.2647427 | total: | 8.76s | remaining: | 2m |     |
| 34: | learn: | 0.2641658 | total: | 9.04s | remaining: | 2m |     |
| 35: | learn: | 0.2636691 | total: | 9.3s  | remaining: | 1m | 59s |
| 36: | learn: | 0.2598143 | total: | 9.62s | remaining: | 2m |     |
| 37: | learn: | 0.2594147 | total: | 9.91s | remaining: | 2m |     |
| 38: |        | 0.2568369 | total: | 10.2s | remaining: | 2m |     |
| 39: |        | 0.2565865 | total: |       | remaining: |    |     |
| 40: | learn: | 0.2563018 | total: |       | remaining: |    |     |
| 41: |        | 0.2559461 | total: |       | remaining: |    |     |
| 42: | learn: | 0.2558945 | total: | 11.3s | remaining: | 2m |     |
|     |        |           |        |       |            |    |     |

```
43:
        learn: 0.2557325
                                  total: 11.6s
                                                   remaining: 2m
44:
        learn: 0.2552829
                                  total: 11.9s
                                                   remaining: 2m
                                  total: 12s
45:
        learn: 0.2552356
                                                   remaining: 1m 58s
        learn: 0.2546944
                                  total: 12.3s
                                                   remaining: 1m 58s
46:
                                                   remaining: 1m 58s
47:
        learn: 0.2543202
                                  total: 12.6s
        learn: 0.2539476
                                  total: 12.9s
                                                   remaining: 1m 58s
48:
49:
        learn: 0.2521907
                                  total: 13.2s
                                                   remaining: 1m 58s
50:
        learn: 0.2519146
                                  total: 13.5s
                                                   remaining: 1m 59s
51:
        learn: 0.2517873
                                  total: 13.8s
                                                   remaining: 1m 59s
52:
        learn: 0.2513858
                                  total: 14.1s
                                                   remaining: 1m 58s
        learn: 0.2510359
53:
                                  total: 14.4s
                                                   remaining: 1m 58s
                                                   remaining: 1m 59s
54:
        learn: 0.2508257
                                  total: 14.7s
55:
        learn: 0.2506781
                                  total: 15s
                                                   remaining: 1m 59s
56:
        learn: 0.2504708
                                  total: 15.3s
                                                   remaining: 1m 58s
57:
        learn: 0.2502010
                                  total: 15.6s
                                                   remaining: 1m 58s
        learn: 0.2499422
58:
                                                   remaining: 1m 58s
                                  total: 15.9s
59:
        learn: 0.2497399
                                  total: 16.2s
                                                   remaining: 1m 58s
60:
        learn: 0.2496445
                                  total: 16.5s
                                                   remaining: 1m 58s
        learn: 0.2494029
                                  total: 16.8s
                                                   remaining: 1m 58s
61:
62:
        learn: 0.2492997
                                  total: 17s
                                                   remaining: 1m 58s
63:
        learn: 0.2491155
                                  total: 17.3s
                                                   remaining: 1m 57s
                                  total: 17.6s
                                                   remaining: 1m 57s
64:
        learn: 0.2488741
65:
        learn: 0.2485931
                                  total: 17.8s
                                                   remaining: 1m 57s
        learn: 0.2484228
                                  total: 18s
                                                   remaining: 1m 56s
66:
67:
        learn: 0.2482231
                                  total: 18.3s
                                                   remaining: 1m 56s
68:
        learn: 0.2479920
                                  total: 18.5s
                                                   remaining: 1m 55s
        learn: 0.2478147
                                  total: 18.8s
                                                   remaining: 1m 55s
69:
70:
        learn: 0.2475861
                                  total: 19.1s
                                                   remaining: 1m 55s
71:
        learn: 0.2474646
                                  total: 19.3s
                                                   remaining: 1m 54s
72:
        learn: 0.2473636
                                  total: 19.6s
                                                   remaining: 1m 54s
73:
        learn: 0.2471443
                                  total: 19.8s
                                                   remaining: 1m 54s
74:
        learn: 0.2468174
                                  total: 20.1s
                                                   remaining: 1m 53s
75:
        learn: 0.2466766
                                  total: 20.4s
                                                   remaining: 1m 53s
76:
        learn: 0.2464546
                                  total: 20.6s
                                                   remaining: 1m 53s
77:
                                                   remaining: 1m 52s
        learn: 0.2450854
                                  total: 20.9s
78:
        learn: 0.2448964
                                  total: 21.1s
                                                   remaining: 1m 52s
79:
        learn: 0.2446381
                                  total: 21.4s
                                                   remaining: 1m 52s
80:
        learn: 0.2442519
                                  total: 21.7s
                                                   remaining: 1m 52s
        learn: 0.2441394
81:
                                  total: 22.1s
                                                   remaining: 1m 52s
82:
        learn: 0.2432552
                                  total: 22.3s
                                                   remaining: 1m 52s
83:
        learn: 0.2431479
                                  total: 22.6s
                                                   remaining: 1m 52s
84:
        learn: 0.2430806
                                                   remaining: 1m 52s
                                  total: 23s
85:
        learn: 0.2429218
                                  total: 23.3s
                                                   remaining: 1m 52s
86:
        learn: 0.2427474
                                  total: 23.6s
                                                   remaining: 1m 52s
87:
        learn: 0.2421374
                                  total: 23.9s
                                                   remaining: 1m 51s
88:
        learn: 0.2420386
                                  total: 24.1s
                                                   remaining: 1m 51s
89:
        learn: 0.2419432
                                  total: 24.4s
                                                   remaining: 1m 51s
90:
        learn: 0.2418452
                                  total: 24.7s
                                                   remaining: 1m 51s
```

```
91:
        learn: 0.2417377
                                                   remaining: 1m 50s
                                  total: 25s
92:
        learn: 0.2416858
                                  total: 25.3s
                                                   remaining: 1m 50s
93:
        learn: 0.2415749
                                  total: 25.6s
                                                   remaining: 1m 50s
94:
        learn: 0.2415284
                                  total: 25.9s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
95:
        learn: 0.2413702
                                  total: 26.2s
                                  total: 26.4s
                                                   remaining: 1m 49s
96:
        learn: 0.2413432
97:
        learn: 0.2399699
                                  total: 26.7s
                                                   remaining: 1m 49s
98:
        learn: 0.2398325
                                  total: 27s
                                                   remaining: 1m 49s
99:
        learn: 0.2397554
                                  total: 27.3s
                                                   remaining: 1m 49s
100:
        learn: 0.2396959
                                  total: 27.6s
                                                   remaining: 1m 48s
                                  total: 27.8s
101:
        learn: 0.2395706
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
102:
        learn: 0.2394984
                                  total: 28.1s
103:
        learn: 0.2394305
                                  total: 28.4s
                                                   remaining: 1m 48s
104:
        learn: 0.2393157
                                  total: 28.7s
                                                   remaining: 1m 47s
105:
        learn: 0.2391194
                                  total: 29s
                                                   remaining: 1m 47s
        learn: 0.2389863
                                                   remaining: 1m 47s
106:
                                  total: 29.3s
107:
        learn: 0.2388742
                                  total: 29.6s
                                                   remaining: 1m 47s
108:
        learn: 0.2388563
                                  total: 29.9s
                                                   remaining: 1m 47s
        learn: 0.2387592
                                  total: 30.2s
                                                   remaining: 1m 46s
109:
110:
        learn: 0.2386334
                                  total: 30.5s
                                                   remaining: 1m 46s
111:
        learn: 0.2385672
                                  total: 30.7s
                                                   remaining: 1m 46s
112:
        learn: 0.2384955
                                  total: 31s
                                                   remaining: 1m 46s
113:
        learn: 0.2384366
                                  total: 31.3s
                                                   remaining: 1m 46s
                                  total: 31.6s
                                                   remaining: 1m 45s
114:
        learn: 0.2383281
115:
        learn: 0.2382441
                                  total: 31.9s
                                                   remaining: 1m 45s
116:
        learn: 0.2380843
                                  total: 32.1s
                                                   remaining: 1m 45s
        learn: 0.2380269
                                  total: 32.4s
                                                   remaining: 1m 44s
117:
118:
        learn: 0.2378848
                                  total: 32.7s
                                                   remaining: 1m 44s
119:
        learn: 0.2378007
                                  total: 32.9s
                                                   remaining: 1m 44s
120:
        learn: 0.2377533
                                  total: 33.2s
                                                   remaining: 1m 43s
        learn: 0.2376980
                                  total: 33.4s
                                                   remaining: 1m 43s
121:
122:
        learn: 0.2376208
                                  total: 33.7s
                                                   remaining: 1m 43s
123:
        learn: 0.2375682
                                  total: 34s
                                                   remaining: 1m 43s
124:
        learn: 0.2375137
                                  total: 34.2s
                                                   remaining: 1m 42s
                                                   remaining: 1m 42s
125:
        learn: 0.2374786
                                  total: 34.5s
126:
        learn: 0.2372736
                                  total: 34.8s
                                                   remaining: 1m 42s
127:
        learn: 0.2372433
                                  total: 35s
                                                   remaining: 1m 41s
128:
        learn: 0.2371872
                                  total: 35.3s
                                                   remaining: 1m 41s
129:
        learn: 0.2370841
                                  total: 35.6s
                                                   remaining: 1m 41s
130:
        learn: 0.2367446
                                  total: 35.8s
                                                   remaining: 1m 40s
131:
        learn: 0.2367316
                                  total: 36.1s
                                                   remaining: 1m 40s
        learn: 0.2366893
                                                   remaining: 1m 40s
132:
                                  total: 36.4s
133:
        learn: 0.2365789
                                  total: 36.6s
                                                   remaining: 1m 40s
134:
        learn: 0.2364812
                                  total: 36.9s
                                                   remaining: 1m 39s
135:
        learn: 0.2363756
                                  total: 37.2s
                                                   remaining: 1m 39s
136:
        learn: 0.2359005
                                  total: 37.5s
                                                   remaining: 1m 39s
137:
        learn: 0.2357673
                                  total: 37.8s
                                                   remaining: 1m 39s
138:
        learn: 0.2356417
                                  total: 38.1s
                                                   remaining: 1m 38s
```

```
139:
        learn: 0.2354908
                                  total: 38.4s
                                                   remaining: 1m 38s
140:
        learn: 0.2353887
                                  total: 38.7s
                                                   remaining: 1m 38s
                                  total: 39s
141:
        learn: 0.2353274
                                                   remaining: 1m 38s
142:
        learn: 0.2352938
                                  total: 39.3s
                                                   remaining: 1m 38s
                                                   remaining: 1m 37s
143:
        learn: 0.2351483
                                  total: 39.6s
                                                   remaining: 1m 37s
144:
        learn: 0.2348960
                                  total: 39.9s
145:
        learn: 0.2347970
                                  total: 40.2s
                                                   remaining: 1m 37s
146:
        learn: 0.2347457
                                  total: 40.5s
                                                   remaining: 1m 37s
147:
        learn: 0.2346944
                                  total: 40.8s
                                                   remaining: 1m 36s
148:
        learn: 0.2346792
                                  total: 41s
                                                   remaining: 1m 36s
149:
        learn: 0.2346196
                                  total: 41.3s
                                                   remaining: 1m 36s
                                                   remaining: 1m 36s
150:
        learn: 0.2345125
                                  total: 41.6s
151:
        learn: 0.2344329
                                  total: 41.9s
                                                   remaining: 1m 35s
152:
        learn: 0.2343352
                                  total: 42.2s
                                                   remaining: 1m 35s
153:
        learn: 0.2342170
                                  total: 42.5s
                                                   remaining: 1m 35s
154:
        learn: 0.2339289
                                  total: 42.8s
                                                   remaining: 1m 35s
155:
        learn: 0.2338512
                                  total: 43.1s
                                                   remaining: 1m 35s
                                  total: 43.4s
156:
        learn: 0.2338187
                                                   remaining: 1m 34s
        learn: 0.2337047
                                  total: 43.7s
                                                   remaining: 1m 34s
157:
158:
        learn: 0.2335458
                                  total: 44s
                                                   remaining: 1m 34s
159:
        learn: 0.2334025
                                  total: 44.4s
                                                   remaining: 1m 34s
160:
        learn: 0.2333436
                                  total: 44.7s
                                                   remaining: 1m 34s
161:
        learn: 0.2332826
                                  total: 45s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
162:
        learn: 0.2332279
                                  total: 45.3s
163:
        learn: 0.2330247
                                  total: 45.5s
                                                   remaining: 1m 33s
164:
        learn: 0.2329450
                                  total: 45.9s
                                                   remaining: 1m 33s
        learn: 0.2327632
                                                   remaining: 1m 32s
165:
                                  total: 46.2s
166:
        learn: 0.2326445
                                  total: 46.4s
                                                   remaining: 1m 32s
                                  total: 46.7s
167:
        learn: 0.2325536
                                                   remaining: 1m 32s
168:
        learn: 0.2324599
                                  total: 47s
                                                   remaining: 1m 32s
        learn: 0.2323306
169:
                                  total: 47.3s
                                                   remaining: 1m 31s
170:
        learn: 0.2322290
                                  total: 47.6s
                                                   remaining: 1m 31s
171:
        learn: 0.2321492
                                  total: 48s
                                                   remaining: 1m 31s
172:
        learn: 0.2318591
                                  total: 48.2s
                                                   remaining: 1m 31s
                                                   remaining: 1m 30s
173:
        learn: 0.2317098
                                  total: 48.5s
174:
        learn: 0.2316351
                                  total: 48.8s
                                                   remaining: 1m 30s
175:
        learn: 0.2314634
                                  total: 49s
                                                   remaining: 1m 30s
176:
        learn: 0.2313835
                                  total: 49.3s
                                                   remaining: 1m 29s
                                  total: 49.6s
177:
        learn: 0.2313171
                                                   remaining: 1m 29s
178:
        learn: 0.2312776
                                  total: 49.8s
                                                   remaining: 1m 29s
179:
        learn: 0.2312279
                                  total: 50.1s
                                                   remaining: 1m 29s
        learn: 0.2311654
                                                   remaining: 1m 28s
180:
                                  total: 50.4s
181:
        learn: 0.2311466
                                  total: 50.6s
                                                   remaining: 1m 28s
182:
        learn: 0.2310998
                                  total: 50.9s
                                                   remaining: 1m 28s
183:
        learn: 0.2310671
                                  total: 51.2s
                                                   remaining: 1m 27s
        learn: 0.2309419
184:
                                  total: 51.4s
                                                   remaining: 1m 27s
185:
        learn: 0.2309214
                                  total: 51.7s
                                                   remaining: 1m 27s
186:
        learn: 0.2308556
                                  total: 52s
                                                   remaining: 1m 27s
```

```
187:
        learn: 0.2308032
                                  total: 52.3s
                                                   remaining: 1m 26s
188:
        learn: 0.2307509
                                  total: 52.6s
                                                   remaining: 1m 26s
189:
        learn: 0.2305724
                                  total: 52.9s
                                                   remaining: 1m 26s
        learn: 0.2305107
                                                   remaining: 1m 26s
190:
                                  total: 53.3s
                                                   remaining: 1m 25s
191:
        learn: 0.2304224
                                  total: 53.6s
                                  total: 53.9s
                                                   remaining: 1m 25s
192:
        learn: 0.2303650
193:
        learn: 0.2302898
                                  total: 54.2s
                                                   remaining: 1m 25s
194:
        learn: 0.2301108
                                  total: 54.5s
                                                   remaining: 1m 25s
195:
        learn: 0.2298922
                                  total: 54.8s
                                                   remaining: 1m 25s
196:
        learn: 0.2298616
                                  total: 55.1s
                                                   remaining: 1m 24s
197:
        learn: 0.2298153
                                  total: 55.3s
                                                   remaining: 1m 24s
                                                   remaining: 1m 24s
198:
        learn: 0.2297256
                                  total: 55.6s
199:
        learn: 0.2296993
                                  total: 55.8s
                                                   remaining: 1m 23s
200:
        learn: 0.2296412
                                  total: 56.1s
                                                   remaining: 1m 23s
201:
        learn: 0.2294458
                                  total: 56.4s
                                                   remaining: 1m 23s
202:
        learn: 0.2293420
                                  total: 56.7s
                                                   remaining: 1m 22s
203:
        learn: 0.2292630
                                  total: 57s
                                                   remaining: 1m 22s
204:
        learn: 0.2291939
                                  total: 57.3s
                                                   remaining: 1m 22s
        learn: 0.2291525
                                                   remaining: 1m 22s
205:
                                  total: 57.6s
206:
        learn: 0.2291156
                                  total: 57.9s
                                                   remaining: 1m 21s
207:
        learn: 0.2290433
                                  total: 58.1s
                                                   remaining: 1m 21s
208:
        learn: 0.2290027
                                  total: 58.4s
                                                   remaining: 1m 21s
209:
        learn: 0.2289839
                                  total: 58.8s
                                                   remaining: 1m 21s
210:
                                                   remaining: 1m 20s
        learn: 0.2288867
                                  total: 59s
211:
        learn: 0.2288305
                                  total: 59.3s
                                                   remaining: 1m 20s
212:
        learn: 0.2286713
                                  total: 59.6s
                                                   remaining: 1m 20s
213:
        learn: 0.2285659
                                                   remaining: 1m 20s
                                  total: 59.9s
214:
        learn: 0.2285270
                                  total: 1m
                                                   remaining: 1m 19s
215:
        learn: 0.2284819
                                  total: 1m
                                                   remaining: 1m 19s
216:
        learn: 0.2284221
                                  total: 1m
                                                   remaining: 1m 19s
217:
        learn: 0.2283492
                                  total: 1m 1s
                                                   remaining: 1m 18s
218:
        learn: 0.2282491
                                  total: 1m 1s
                                                   remaining: 1m 18s
219:
        learn: 0.2280945
                                  total: 1m 1s
                                                   remaining: 1m 18s
220:
        learn: 0.2280448
                                  total: 1m 1s
                                                   remaining: 1m 18s
221:
                                                   remaining: 1m 17s
        learn: 0.2279829
                                  total: 1m 2s
222:
        learn: 0.2279247
                                  total: 1m 2s
                                                   remaining: 1m 17s
223:
        learn: 0.2278723
                                  total: 1m 2s
                                                   remaining: 1m 17s
224:
        learn: 0.2278232
                                  total: 1m 3s
                                                   remaining: 1m 17s
225:
                                  total: 1m 3s
        learn: 0.2277083
                                                   remaining: 1m 16s
226:
        learn: 0.2276484
                                  total: 1m 3s
                                                   remaining: 1m 16s
227:
        learn: 0.2276087
                                  total: 1m 4s
                                                   remaining: 1m 16s
228:
        learn: 0.2275724
                                                   remaining: 1m 16s
                                  total: 1m 4s
229:
        learn: 0.2275202
                                  total: 1m 4s
                                                   remaining: 1m 15s
230:
        learn: 0.2274389
                                  total: 1m 4s
                                                   remaining: 1m 15s
231:
        learn: 0.2273554
                                  total: 1m 5s
                                                   remaining: 1m 15s
232:
        learn: 0.2272095
                                  total: 1m 5s
                                                   remaining: 1m 14s
233:
        learn: 0.2271647
                                  total: 1m 5s
                                                   remaining: 1m 14s
234:
        learn: 0.2270761
                                  total: 1m 5s
                                                   remaining: 1m 14s
```

```
235:
        learn: 0.2270063
                                  total: 1m 6s
                                                   remaining: 1m 13s
                                                   remaining: 1m 13s
236:
        learn: 0.2268886
                                  total: 1m 6s
237:
        learn: 0.2268445
                                  total: 1m 6s
                                                   remaining: 1m 13s
238:
        learn: 0.2267815
                                  total: 1m 6s
                                                   remaining: 1m 13s
239:
        learn: 0.2267063
                                  total: 1m 7s
                                                   remaining: 1m 12s
                                  total: 1m 7s
                                                   remaining: 1m 12s
240:
        learn: 0.2266488
241:
        learn: 0.2265627
                                  total: 1m 7s
                                                   remaining: 1m 12s
242:
        learn: 0.2264830
                                  total: 1m 7s
                                                   remaining: 1m 11s
243:
        learn: 0.2263792
                                  total: 1m 8s
                                                   remaining: 1m 11s
244:
        learn: 0.2263326
                                  total: 1m 8s
                                                   remaining: 1m 11s
245:
        learn: 0.2262446
                                  total: 1m 8s
                                                   remaining: 1m 11s
246:
        learn: 0.2261722
                                  total: 1m 9s
                                                   remaining: 1m 10s
247:
        learn: 0.2261032
                                                   remaining: 1m 10s
                                  total: 1m 9s
248:
        learn: 0.2260631
                                  total: 1m 9s
                                                   remaining: 1m 10s
249:
        learn: 0.2260349
                                  total: 1m 9s
                                                   remaining: 1m 9s
250:
        learn: 0.2259595
                                  total: 1m 10s
                                                   remaining: 1m 9s
251:
        learn: 0.2259222
                                  total: 1m 10s
                                                   remaining: 1m 9s
252:
        learn: 0.2258134
                                  total: 1m 10s
                                                   remaining: 1m 9s
253:
        learn: 0.2257359
                                  total: 1m 11s
                                                   remaining: 1m 8s
254:
        learn: 0.2256823
                                  total: 1m 11s
                                                   remaining: 1m 8s
255:
        learn: 0.2256016
                                  total: 1m 11s
                                                   remaining: 1m 8s
256:
        learn: 0.2255748
                                  total: 1m 11s
                                                   remaining: 1m 7s
257:
        learn: 0.2255377
                                  total: 1m 12s
                                                   remaining: 1m 7s
258:
                                  total: 1m 12s
        learn: 0.2255042
                                                   remaining: 1m 7s
259:
        learn: 0.2254256
                                  total: 1m 12s
                                                   remaining: 1m 7s
260:
        learn: 0.2252684
                                  total: 1m 13s
                                                   remaining: 1m 6s
261:
        learn: 0.2252368
                                  total: 1m 13s
                                                   remaining: 1m 6s
262:
        learn: 0.2251676
                                  total: 1m 13s
                                                   remaining: 1m 6s
263:
        learn: 0.2250974
                                  total: 1m 13s
                                                   remaining: 1m 6s
264:
        learn: 0.2250074
                                  total: 1m 14s
                                                   remaining: 1m 5s
265:
        learn: 0.2249697
                                  total: 1m 14s
                                                   remaining: 1m 5s
266:
        learn: 0.2248618
                                  total: 1m 14s
                                                   remaining: 1m 5s
267:
        learn: 0.2248233
                                  total: 1m 15s
                                                   remaining: 1m 5s
268:
        learn: 0.2247460
                                  total: 1m 15s
                                                   remaining: 1m 4s
269:
        learn: 0.2246862
                                  total: 1m 15s
                                                   remaining: 1m 4s
270:
        learn: 0.2245665
                                  total: 1m 16s
                                                   remaining: 1m 4s
271:
        learn: 0.2244555
                                  total: 1m 16s
                                                   remaining: 1m 4s
272:
        learn: 0.2244261
                                  total: 1m 16s
                                                   remaining: 1m 3s
273:
        learn: 0.2243882
                                  total: 1m 16s
                                                   remaining: 1m 3s
274:
        learn: 0.2243516
                                  total: 1m 17s
                                                   remaining: 1m 3s
                                  total: 1m 17s
275:
        learn: 0.2242547
                                                   remaining: 1m 2s
276:
        learn: 0.2242050
                                                   remaining: 1m 2s
                                  total: 1m 17s
277:
        learn: 0.2241716
                                  total: 1m 18s
                                                   remaining: 1m 2s
278:
        learn: 0.2241505
                                  total: 1m 18s
                                                   remaining: 1m 2s
                                                   remaining: 1m 1s
279:
        learn: 0.2240931
                                  total: 1m 18s
280:
        learn: 0.2240798
                                  total: 1m 19s
                                                   remaining: 1m 1s
281:
        learn: 0.2240076
                                  total: 1m 19s
                                                   remaining: 1m 1s
282:
        learn: 0.2239579
                                  total: 1m 19s
                                                   remaining: 1m 1s
```

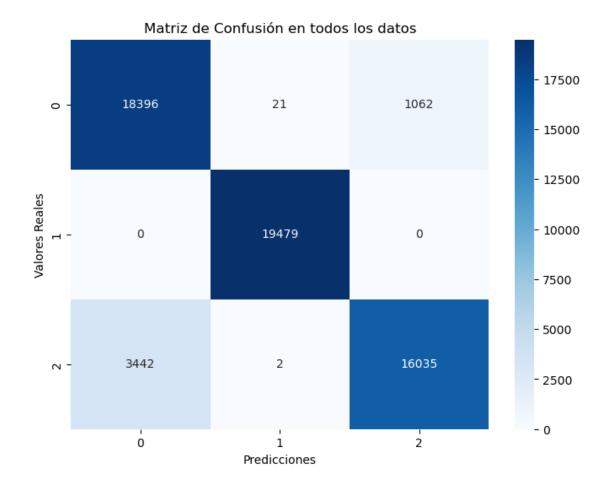
```
learn: 0.2239068
283:
                                  total: 1m 19s
                                                   remaining: 1m
284:
        learn: 0.2238640
                                  total: 1m 20s
                                                   remaining: 1m
285:
        learn: 0.2238458
                                  total: 1m 20s
                                                   remaining: 1m
286:
        learn: 0.2237650
                                  total: 1m 20s
                                                   remaining: 59.9s
287:
        learn: 0.2236881
                                  total: 1m 20s
                                                   remaining: 59.6s
                                  total: 1m 21s
288:
        learn: 0.2236349
                                                   remaining: 59.3s
289:
        learn: 0.2235725
                                  total: 1m 21s
                                                   remaining: 59s
        learn: 0.2235591
                                                   remaining: 58.7s
290:
                                  total: 1m 21s
291:
        learn: 0.2234327
                                  total: 1m 22s
                                                   remaining: 58.4s
292:
        learn: 0.2234003
                                  total: 1m 22s
                                                   remaining: 58.1s
293:
        learn: 0.2233419
                                  total: 1m 22s
                                                   remaining: 57.8s
294:
        learn: 0.2232550
                                  total: 1m 22s
                                                   remaining: 57.6s
295:
        learn: 0.2231381
                                  total: 1m 23s
                                                   remaining: 57.3s
296:
        learn: 0.2230709
                                  total: 1m 23s
                                                   remaining: 57s
297:
        learn: 0.2230105
                                  total: 1m 23s
                                                   remaining: 56.7s
298:
        learn: 0.2229926
                                  total: 1m 23s
                                                   remaining: 56.4s
299:
        learn: 0.2229791
                                  total: 1m 24s
                                                   remaining: 56.1s
                                  total: 1m 24s
300:
        learn: 0.2229349
                                                   remaining: 55.8s
301:
        learn: 0.2228654
                                  total: 1m 24s
                                                   remaining: 55.6s
302:
        learn: 0.2227887
                                  total: 1m 25s
                                                   remaining: 55.3s
303:
        learn: 0.2227380
                                  total: 1m 25s
                                                   remaining: 55s
304:
        learn: 0.2226323
                                  total: 1m 25s
                                                   remaining: 54.7s
305:
        learn: 0.2225763
                                  total: 1m 25s
                                                   remaining: 54.4s
306:
        learn: 0.2225092
                                  total: 1m 26s
                                                   remaining: 54.1s
307:
        learn: 0.2224520
                                  total: 1m 26s
                                                   remaining: 53.8s
        learn: 0.2223610
                                  total: 1m 26s
                                                   remaining: 53.5s
308:
309:
        learn: 0.2223102
                                  total: 1m 26s
                                                   remaining: 53.3s
310:
        learn: 0.2222576
                                  total: 1m 27s
                                                   remaining: 53s
311:
        learn: 0.2222058
                                  total: 1m 27s
                                                   remaining: 52.7s
312:
        learn: 0.2221726
                                  total: 1m 27s
                                                   remaining: 52.4s
313:
        learn: 0.2221249
                                  total: 1m 28s
                                                   remaining: 52.1s
314:
        learn: 0.2220597
                                  total: 1m 28s
                                                   remaining: 51.8s
315:
        learn: 0.2220371
                                  total: 1m 28s
                                                   remaining: 51.6s
        learn: 0.2219853
                                  total: 1m 28s
316:
                                                   remaining: 51.3s
317:
        learn: 0.2219393
                                  total: 1m 29s
                                                   remaining: 51s
        learn: 0.2217625
318:
                                  total: 1m 29s
                                                   remaining: 50.7s
319:
        learn: 0.2216709
                                  total: 1m 29s
                                                   remaining: 50.5s
320:
        learn: 0.2216061
                                  total: 1m 30s
                                                   remaining: 50.2s
321:
        learn: 0.2215124
                                  total: 1m 30s
                                                   remaining: 49.9s
322:
        learn: 0.2214739
                                  total: 1m 30s
                                                   remaining: 49.7s
323:
        learn: 0.2214268
                                  total: 1m 30s
                                                   remaining: 49.4s
324:
        learn: 0.2213594
                                  total: 1m 31s
                                                   remaining: 49.1s
325:
        learn: 0.2213353
                                  total: 1m 31s
                                                   remaining: 48.8s
326:
        learn: 0.2211970
                                  total: 1m 31s
                                                   remaining: 48.5s
                                                   remaining: 48.3s
327:
        learn: 0.2211422
                                  total: 1m 32s
328:
        learn: 0.2210916
                                  total: 1m 32s
                                                   remaining: 48s
329:
        learn: 0.2210391
                                  total: 1m 32s
                                                   remaining: 47.7s
330:
        learn: 0.2210076
                                  total: 1m 32s
                                                   remaining: 47.4s
```

```
learn: 0.2209935
331:
                                  total: 1m 33s
                                                   remaining: 47.2s
332:
        learn: 0.2209653
                                  total: 1m 33s
                                                   remaining: 46.9s
333:
        learn: 0.2208980
                                  total: 1m 33s
                                                   remaining: 46.6s
        learn: 0.2208724
                                                   remaining: 46.3s
334:
                                  total: 1m 34s
335:
        learn: 0.2207968
                                  total: 1m 34s
                                                   remaining: 46s
                                  total: 1m 34s
336:
        learn: 0.2207327
                                                   remaining: 45.8s
337:
        learn: 0.2206927
                                  total: 1m 34s
                                                   remaining: 45.5s
        learn: 0.2206503
                                                   remaining: 45.2s
338:
                                  total: 1m 35s
339:
        learn: 0.2205673
                                  total: 1m 35s
                                                   remaining: 44.9s
340:
        learn: 0.2205302
                                  total: 1m 35s
                                                   remaining: 44.7s
341:
        learn: 0.2204237
                                  total: 1m 36s
                                                   remaining: 44.4s
342:
        learn: 0.2203792
                                  total: 1m 36s
                                                   remaining: 44.1s
343:
        learn: 0.2203490
                                  total: 1m 36s
                                                   remaining: 43.9s
344:
        learn: 0.2202763
                                  total: 1m 36s
                                                   remaining: 43.6s
                                                   remaining: 43.3s
345:
        learn: 0.2201767
                                  total: 1m 37s
346:
        learn: 0.2201011
                                  total: 1m 37s
                                                   remaining: 43s
347:
        learn: 0.2199977
                                  total: 1m 37s
                                                   remaining: 42.8s
                                  total: 1m 38s
348:
        learn: 0.2199471
                                                   remaining: 42.5s
        learn: 0.2198928
349:
                                  total: 1m 38s
                                                   remaining: 42.2s
350:
        learn: 0.2198089
                                  total: 1m 38s
                                                   remaining: 41.9s
351:
        learn: 0.2197558
                                  total: 1m 38s
                                                   remaining: 41.6s
352:
        learn: 0.2196939
                                  total: 1m 39s
                                                   remaining: 41.3s
353:
        learn: 0.2196495
                                  total: 1m 39s
                                                   remaining: 41s
354:
        learn: 0.2195611
                                  total: 1m 39s
                                                   remaining: 40.8s
355:
        learn: 0.2195197
                                  total: 1m 40s
                                                   remaining: 40.5s
356:
        learn: 0.2194576
                                  total: 1m 40s
                                                   remaining: 40.2s
357:
        learn: 0.2194150
                                  total: 1m 40s
                                                   remaining: 39.9s
358:
        learn: 0.2193863
                                  total: 1m 40s
                                                   remaining: 39.6s
359:
        learn: 0.2193606
                                  total: 1m 41s
                                                   remaining: 39.4s
360:
        learn: 0.2192257
                                  total: 1m 41s
                                                   remaining: 39.1s
361:
        learn: 0.2191534
                                  total: 1m 41s
                                                   remaining: 38.8s
362:
        learn: 0.2190906
                                  total: 1m 42s
                                                   remaining: 38.5s
363:
        learn: 0.2189959
                                  total: 1m 42s
                                                   remaining: 38.2s
        learn: 0.2189588
                                  total: 1m 42s
364:
                                                   remaining: 38s
365:
        learn: 0.2188945
                                  total: 1m 42s
                                                   remaining: 37.7s
        learn: 0.2188844
366:
                                  total: 1m 43s
                                                   remaining: 37.4s
367:
        learn: 0.2188456
                                  total: 1m 43s
                                                   remaining: 37.1s
368:
        learn: 0.2187835
                                  total: 1m 43s
                                                   remaining: 36.9s
369:
        learn: 0.2187476
                                  total: 1m 44s
                                                   remaining: 36.6s
370:
        learn: 0.2187265
                                  total: 1m 44s
                                                   remaining: 36.3s
371:
        learn: 0.2186571
                                  total: 1m 44s
                                                   remaining: 36s
372:
        learn: 0.2186131
                                  total: 1m 44s
                                                   remaining: 35.7s
373:
        learn: 0.2185514
                                  total: 1m 45s
                                                   remaining: 35.5s
374:
        learn: 0.2185436
                                  total: 1m 45s
                                                   remaining: 35.2s
                                                   remaining: 34.9s
375:
        learn: 0.2185283
                                  total: 1m 45s
376:
        learn: 0.2184505
                                  total: 1m 46s
                                                   remaining: 34.6s
377:
        learn: 0.2184264
                                  total: 1m 46s
                                                   remaining: 34.3s
378:
        learn: 0.2183407
                                  total: 1m 46s
                                                   remaining: 34s
```

```
379:
        learn: 0.2182651
                                  total: 1m 46s
                                                   remaining: 33.8s
380:
        learn: 0.2181838
                                  total: 1m 47s
                                                   remaining: 33.5s
381:
        learn: 0.2181160
                                  total: 1m 47s
                                                   remaining: 33.2s
        learn: 0.2180666
                                                   remaining: 32.9s
382:
                                  total: 1m 47s
383:
        learn: 0.2180039
                                  total: 1m 48s
                                                   remaining: 32.6s
                                  total: 1m 48s
                                                   remaining: 32.4s
384:
        learn: 0.2179672
385:
        learn: 0.2179390
                                  total: 1m 48s
                                                   remaining: 32.1s
        learn: 0.2179067
386:
                                  total: 1m 48s
                                                   remaining: 31.8s
387:
        learn: 0.2178366
                                  total: 1m 49s
                                                   remaining: 31.5s
388:
        learn: 0.2177422
                                  total: 1m 49s
                                                   remaining: 31.2s
389:
        learn: 0.2176700
                                  total: 1m 49s
                                                   remaining: 31s
390:
        learn: 0.2175726
                                  total: 1m 50s
                                                   remaining: 30.7s
391:
        learn: 0.2175187
                                  total: 1m 50s
                                                   remaining: 30.4s
392:
        learn: 0.2174733
                                  total: 1m 50s
                                                   remaining: 30.1s
                                                   remaining: 29.8s
393:
        learn: 0.2174509
                                  total: 1m 50s
394:
        learn: 0.2173081
                                  total: 1m 51s
                                                   remaining: 29.5s
395:
        learn: 0.2172811
                                  total: 1m 51s
                                                   remaining: 29.3s
                                  total: 1m 51s
396:
        learn: 0.2172249
                                                   remaining: 29s
        learn: 0.2171537
                                  total: 1m 51s
397:
                                                   remaining: 28.7s
398:
        learn: 0.2170979
                                  total: 1m 52s
                                                   remaining: 28.4s
399:
        learn: 0.2170645
                                  total: 1m 52s
                                                   remaining: 28.1s
400:
        learn: 0.2170105
                                  total: 1m 52s
                                                   remaining: 27.8s
401:
        learn: 0.2169722
                                  total: 1m 52s
                                                   remaining: 27.5s
402:
        learn: 0.2169366
                                  total: 1m 53s
                                                   remaining: 27.2s
403:
        learn: 0.2168326
                                  total: 1m 53s
                                                   remaining: 27s
        learn: 0.2167016
404:
                                  total: 1m 53s
                                                   remaining: 26.7s
405:
        learn: 0.2166529
                                  total: 1m 53s
                                                   remaining: 26.4s
406:
        learn: 0.2165697
                                  total: 1m 54s
                                                   remaining: 26.1s
407:
        learn: 0.2164792
                                  total: 1m 54s
                                                   remaining: 25.8s
408:
        learn: 0.2164167
                                  total: 1m 54s
                                                   remaining: 25.5s
409:
        learn: 0.2163670
                                  total: 1m 54s
                                                   remaining: 25.2s
410:
        learn: 0.2163166
                                  total: 1m 55s
                                                   remaining: 24.9s
411:
        learn: 0.2162961
                                  total: 1m 55s
                                                   remaining: 24.7s
412:
        learn: 0.2161867
                                  total: 1m 55s
                                                   remaining: 24.4s
413:
        learn: 0.2161490
                                  total: 1m 56s
                                                   remaining: 24.1s
        learn: 0.2161241
414:
                                  total: 1m 56s
                                                   remaining: 23.8s
415:
        learn: 0.2160300
                                  total: 1m 56s
                                                   remaining: 23.5s
416:
        learn: 0.2159967
                                  total: 1m 56s
                                                   remaining: 23.2s
417:
        learn: 0.2159822
                                  total: 1m 57s
                                                   remaining: 23s
418:
        learn: 0.2159385
                                  total: 1m 57s
                                                   remaining: 22.7s
419:
        learn: 0.2158851
                                  total: 1m 57s
                                                   remaining: 22.4s
420:
        learn: 0.2158101
                                  total: 1m 57s
                                                   remaining: 22.1s
421:
        learn: 0.2157962
                                  total: 1m 58s
                                                   remaining: 21.8s
422:
        learn: 0.2157532
                                  total: 1m 58s
                                                   remaining: 21.6s
                                                   remaining: 21.3s
423:
        learn: 0.2157251
                                  total: 1m 58s
424:
        learn: 0.2156782
                                  total: 1m 59s
                                                   remaining: 21s
425:
        learn: 0.2156557
                                  total: 1m 59s
                                                   remaining: 20.7s
426:
        learn: 0.2155956
                                  total: 1m 59s
                                                   remaining: 20.4s
```

```
427:
        learn: 0.2155770
                                  total: 1m 59s
                                                   remaining: 20.2s
428:
        learn: 0.2155328
                                  total: 2m
                                                   remaining: 19.9s
429:
        learn: 0.2154548
                                                   remaining: 19.6s
                                  total: 2m
430:
        learn: 0.2154063
                                                   remaining: 19.3s
                                  total: 2m
431:
        learn: 0.2153234
                                  total: 2m 1s
                                                   remaining: 19.1s
                                                   remaining: 18.8s
432:
        learn: 0.2152791
                                  total: 2m 1s
433:
        learn: 0.2152413
                                  total: 2m 1s
                                                   remaining: 18.5s
434:
        learn: 0.2151305
                                  total: 2m 1s
                                                   remaining: 18.2s
435:
        learn: 0.2150893
                                  total: 2m 2s
                                                   remaining: 18s
436:
        learn: 0.2150562
                                  total: 2m 2s
                                                   remaining: 17.7s
437:
        learn: 0.2149277
                                  total: 2m 2s
                                                   remaining: 17.4s
438:
        learn: 0.2149115
                                  total: 2m 3s
                                                   remaining: 17.1s
439:
        learn: 0.2148769
                                  total: 2m 3s
                                                   remaining: 16.8s
440:
        learn: 0.2148415
                                  total: 2m 3s
                                                   remaining: 16.6s
441:
        learn: 0.2147868
                                  total: 2m 4s
                                                   remaining: 16.3s
442:
        learn: 0.2146450
                                  total: 2m 4s
                                                   remaining: 16s
443:
        learn: 0.2145772
                                  total: 2m 4s
                                                   remaining: 15.7s
                                  total: 2m 4s
444:
        learn: 0.2144877
                                                   remaining: 15.4s
445:
        learn: 0.2144250
                                  total: 2m 5s
                                                   remaining: 15.2s
446:
        learn: 0.2143588
                                  total: 2m 5s
                                                   remaining: 14.9s
                                  total: 2m 5s
447:
        learn: 0.2142810
                                                   remaining: 14.6s
                                  total: 2m 6s
448:
        learn: 0.2142408
                                                   remaining: 14.3s
449:
        learn: 0.2141973
                                  total: 2m 6s
                                                   remaining: 14s
450:
                                  total: 2m 6s
        learn: 0.2141598
                                                   remaining: 13.8s
451:
        learn: 0.2141094
                                  total: 2m 6s
                                                   remaining: 13.5s
        learn: 0.2140869
                                  total: 2m 7s
                                                   remaining: 13.2s
452:
453:
        learn: 0.2139979
                                  total: 2m 7s
                                                   remaining: 12.9s
454:
        learn: 0.2138975
                                  total: 2m 7s
                                                   remaining: 12.6s
455:
        learn: 0.2138709
                                  total: 2m 8s
                                                   remaining: 12.4s
456:
        learn: 0.2138340
                                  total: 2m 8s
                                                   remaining: 12.1s
457:
        learn: 0.2137593
                                  total: 2m 8s
                                                   remaining: 11.8s
458:
        learn: 0.2136907
                                  total: 2m 8s
                                                   remaining: 11.5s
459:
        learn: 0.2136451
                                  total: 2m 9s
                                                   remaining: 11.2s
460:
        learn: 0.2135870
                                  total: 2m 9s
                                                   remaining: 10.9s
461:
        learn: 0.2135300
                                  total: 2m 9s
                                                   remaining: 10.7s
462:
        learn: 0.2135026
                                  total: 2m 9s
                                                   remaining: 10.4s
463:
        learn: 0.2134254
                                  total: 2m 10s
                                                   remaining: 10.1s
464:
        learn: 0.2133631
                                  total: 2m 10s
                                                   remaining: 9.82s
                                  total: 2m 10s
465:
        learn: 0.2133288
                                                   remaining: 9.54s
466:
        learn: 0.2132852
                                  total: 2m 10s
                                                   remaining: 9.25s
467:
        learn: 0.2132127
                                  total: 2m 11s
                                                   remaining: 8.97s
468:
        learn: 0.2131531
                                  total: 2m 11s
                                                   remaining: 8.69s
469:
        learn: 0.2131193
                                  total: 2m 11s
                                                   remaining: 8.41s
470:
        learn: 0.2130375
                                  total: 2m 11s
                                                   remaining: 8.13s
                                                   remaining: 7.84s
471:
        learn: 0.2130188
                                  total: 2m 12s
472:
        learn: 0.2129868
                                  total: 2m 12s
                                                   remaining: 7.56s
473:
        learn: 0.2129417
                                  total: 2m 12s
                                                   remaining: 7.28s
474:
        learn: 0.2129329
                                  total: 2m 12s
                                                   remaining: 7s
```

```
475:
        learn: 0.2128419
                                 total: 2m 13s
                                                  remaining: 6.72s
476:
        learn: 0.2128128
                                 total: 2m 13s
                                                  remaining: 6.44s
477:
        learn: 0.2127101
                                 total: 2m 13s
                                                  remaining: 6.16s
478:
        learn: 0.2126206
                                 total: 2m 14s
                                                  remaining: 5.88s
                                                  remaining: 5.6s
479:
        learn: 0.2125412
                                 total: 2m 14s
480:
        learn: 0.2124489
                                 total: 2m 14s
                                                  remaining: 5.32s
481:
        learn: 0.2124103
                                 total: 2m 14s
                                                  remaining: 5.04s
482:
        learn: 0.2123546
                                 total: 2m 15s
                                                  remaining: 4.76s
483:
        learn: 0.2122767
                                 total: 2m 15s
                                                  remaining: 4.48s
484:
        learn: 0.2122670
                                 total: 2m 15s
                                                  remaining: 4.2s
        learn: 0.2122574
                                 total: 2m 16s
485:
                                                  remaining: 3.92s
486:
                                 total: 2m 16s
        learn: 0.2122450
                                                  remaining: 3.64s
                                 total: 2m 16s
487:
        learn: 0.2121389
                                                  remaining: 3.36s
488:
        learn: 0.2121059
                                 total: 2m 16s
                                                  remaining: 3.08s
489:
        learn: 0.2120672
                                 total: 2m 17s
                                                  remaining: 2.8s
490:
        learn: 0.2120043
                                 total: 2m 17s
                                                  remaining: 2.52s
491:
        learn: 0.2119010
                                 total: 2m 17s
                                                  remaining: 2.24s
492:
        learn: 0.2118231
                                 total: 2m 18s
                                                  remaining: 1.96s
493:
        learn: 0.2117792
                                 total: 2m 18s
                                                  remaining: 1.68s
494:
        learn: 0.2117320
                                 total: 2m 18s
                                                  remaining: 1.4s
495:
        learn: 0.2117065
                                 total: 2m 19s
                                                  remaining: 1.12s
        learn: 0.2116843
                                 total: 2m 19s
496:
                                                  remaining: 841ms
497:
        learn: 0.2116341
                                 total: 2m 19s
                                                  remaining: 561ms
                                 total: 2m 19s
498:
        learn: 0.2115835
                                                  remaining: 280ms
499:
        learn: 0.2115230
                                 total: 2m 20s
                                                  remaining: Ous
Informe de Clasificación en todos los datos:
              precision
                            recall f1-score
                                                support
           0
                    0.84
                              0.94
                                         0.89
                                                  19479
           1
                    1.00
                              1.00
                                         1.00
                                                  19479
           2
                    0.94
                              0.82
                                         0.88
                                                  19479
    accuracy
                                         0.92
                                                  58437
                              0.92
                                         0.92
   macro avg
                    0.93
                                                  58437
weighted avg
                                         0.92
                    0.93
                              0.92
                                                  58437
```



```
# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

## Learning rate set to 0.174288

```
0:
        learn: 0.9714116
                                 total: 216ms
                                                  remaining: 1m 47s
1:
        learn: 0.8883859
                                 total: 427ms
                                                  remaining: 1m 46s
                                 total: 597ms
2:
        learn: 0.8296581
                                                  remaining: 1m 38s
        learn: 0.7135603
3.
                                 total: 809ms
                                                  remaining: 1m 40s
4:
        learn: 0.6669661
                                 total: 1s
                                                  remaining: 1m 39s
5:
        learn: 0.6403400
                                 total: 1.18s
                                                  remaining: 1m 37s
6:
        learn: 0.5962975
                                 total: 1.37s
                                                  remaining: 1m 36s
7:
        learn: 0.5790478
                                 total: 1.56s
                                                  remaining: 1m 35s
8:
        learn: 0.5279892
                                 total: 1.77s
                                                  remaining: 1m 36s
9:
        learn: 0.4893306
                                 total: 1.97s
                                                  remaining: 1m 36s
                                 total: 2.17s
10:
        learn: 0.4589302
                                                  remaining: 1m 36s
11:
        learn: 0.4343142
                                 total: 2.41s
                                                  remaining: 1m 37s
12:
        learn: 0.4120600
                                 total: 2.64s
                                                  remaining: 1m 38s
        learn: 0.3940240
                                 total: 2.87s
13:
                                                  remaining: 1m 39s
14:
        learn: 0.3705987
                                 total: 3.14s
                                                  remaining: 1m 41s
        learn: 0.3516192
                                 total: 3.42s
15:
                                                  remaining: 1m 43s
16:
        learn: 0.3356508
                                 total: 3.7s
                                                  remaining: 1m 45s
        learn: 0.3316767
                                 total: 3.94s
                                                  remaining: 1m 45s
17:
                                 total: 4.22s
18:
        learn: 0.3193714
                                                  remaining: 1m 46s
19:
        learn: 0.3085673
                                 total: 4.47s
                                                  remaining: 1m 47s
20:
        learn: 0.2999999
                                 total: 4.74s
                                                  remaining: 1m 48s
21:
        learn: 0.2983816
                                 total: 4.99s
                                                  remaining: 1m 48s
22:
        learn: 0.2909197
                                 total: 5.24s
                                                  remaining: 1m 48s
23:
        learn: 0.2846054
                                 total: 5.49s
                                                  remaining: 1m 48s
24:
        learn: 0.2783539
                                 total: 5.75s
                                                  remaining: 1m 49s
25:
        learn: 0.2765616
                                 total: 6s
                                                  remaining: 1m 49s
26:
        learn: 0.2730960
                                 total: 6.26s
                                                  remaining: 1m 49s
27:
        learn: 0.2688300
                                 total: 6.49s
                                                  remaining: 1m 49s
        learn: 0.2681816
28:
                                 total: 6.75s
                                                  remaining: 1m 49s
29:
        learn: 0.2650790
                                 total: 7.06s
                                                  remaining: 1m 50s
30:
        learn: 0.2646178
                                 total: 7.34s
                                                  remaining: 1m 51s
31:
        learn: 0.2639859
                                 total: 7.6s
                                                  remaining: 1m 51s
32:
        learn: 0.2632060
                                 total: 7.91s
                                                  remaining: 1m 51s
33:
                                 total: 8.16s
                                                  remaining: 1m 51s
        learn: 0.2625286
34:
        learn: 0.2601828
                                 total: 8.49s
                                                  remaining: 1m 52s
35:
        learn: 0.2595424
                                 total: 8.78s
                                                  remaining: 1m 53s
        learn: 0.2585046
                                 total: 9.05s
                                                  remaining: 1m 53s
36:
```

```
37:
        learn: 0.2579184
                                  total: 9.31s
                                                   remaining: 1m 53s
38:
        learn: 0.2574550
                                  total: 9.59s
                                                   remaining: 1m 53s
                                  total: 9.9s
39:
        learn: 0.2571675
                                                   remaining: 1m 53s
        learn: 0.2553037
                                  total: 10.2s
                                                   remaining: 1m 54s
40:
                                                   remaining: 1m 53s
41:
        learn: 0.2550470
                                  total: 10.5s
        learn: 0.2548083
                                  total: 10.7s
                                                   remaining: 1m 54s
42:
43:
        learn: 0.2543934
                                  total: 11s
                                                   remaining: 1m 54s
44:
        learn: 0.2540256
                                  total: 11.3s
                                                   remaining: 1m 54s
45:
        learn: 0.2537058
                                  total: 11.6s
                                                   remaining: 1m 54s
46:
        learn: 0.2533642
                                  total: 11.9s
                                                   remaining: 1m 54s
47:
        learn: 0.2530995
                                  total: 12.1s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
48:
        learn: 0.2529461
                                  total: 12.4s
49:
        learn: 0.2528595
                                  total: 12.6s
                                                   remaining: 1m 53s
50:
        learn: 0.2524857
                                  total: 12.9s
                                                   remaining: 1m 53s
51:
        learn: 0.2524201
                                  total: 13.2s
                                                   remaining: 1m 53s
52:
        learn: 0.2513606
                                                   remaining: 1m 53s
                                  total: 13.4s
53:
        learn: 0.2512054
                                  total: 13.7s
                                                   remaining: 1m 53s
54:
        learn: 0.2510299
                                  total: 14s
                                                   remaining: 1m 53s
        learn: 0.2506766
                                  total: 14.3s
                                                   remaining: 1m 53s
55:
56:
        learn: 0.2480711
                                  total: 14.6s
                                                   remaining: 1m 53s
                                                   remaining: 1m 53s
57:
        learn: 0.2476867
                                  total: 14.9s
                                  total: 15.1s
58:
        learn: 0.2473235
                                                   remaining: 1m 53s
59:
        learn: 0.2470734
                                  total: 15.4s
                                                   remaining: 1m 53s
        learn: 0.2468765
                                  total: 15.7s
                                                   remaining: 1m 52s
60:
61:
        learn: 0.2461521
                                  total: 16s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
62:
        learn: 0.2459054
                                  total: 16.2s
63:
        learn: 0.2455215
                                  total: 16.5s
                                                   remaining: 1m 52s
64:
        learn: 0.2453901
                                  total: 16.8s
                                                   remaining: 1m 52s
        learn: 0.2449699
65:
                                  total: 17s
                                                   remaining: 1m 52s
66:
        learn: 0.2447858
                                  total: 17.3s
                                                   remaining: 1m 51s
67:
        learn: 0.2446668
                                  total: 17.5s
                                                   remaining: 1m 51s
68:
        learn: 0.2445145
                                  total: 17.8s
                                                   remaining: 1m 51s
69:
        learn: 0.2441189
                                  total: 18s
                                                   remaining: 1m 50s
70:
        learn: 0.2436264
                                  total: 18.3s
                                                   remaining: 1m 50s
71:
                                                   remaining: 1m 50s
        learn: 0.2432725
                                  total: 18.5s
72:
        learn: 0.2431376
                                  total: 18.7s
                                                   remaining: 1m 49s
73:
        learn: 0.2429173
                                  total: 19s
                                                   remaining: 1m 49s
74:
        learn: 0.2427394
                                  total: 19.2s
                                                   remaining: 1m 48s
75:
        learn: 0.2426289
                                  total: 19.5s
                                                   remaining: 1m 48s
76:
        learn: 0.2424946
                                  total: 19.7s
                                                   remaining: 1m 48s
77:
        learn: 0.2423364
                                  total: 20s
                                                   remaining: 1m 48s
78:
        learn: 0.2422881
                                                   remaining: 1m 47s
                                  total: 20.2s
79:
        learn: 0.2422076
                                  total: 20.4s
                                                   remaining: 1m 47s
80:
        learn: 0.2419579
                                  total: 20.7s
                                                   remaining: 1m 46s
81:
        learn: 0.2419249
                                  total: 20.9s
                                                   remaining: 1m 46s
82:
        learn: 0.2417942
                                  total: 21.2s
                                                   remaining: 1m 46s
83:
        learn: 0.2417194
                                  total: 21.4s
                                                   remaining: 1m 46s
84:
        learn: 0.2416088
                                  total: 21.7s
                                                   remaining: 1m 45s
```

```
85:
        learn: 0.2415298
                                  total: 21.9s
                                                   remaining: 1m 45s
86:
        learn: 0.2413111
                                  total: 22.2s
                                                   remaining: 1m 45s
87:
        learn: 0.2412423
                                  total: 22.4s
                                                   remaining: 1m 44s
        learn: 0.2412078
                                  total: 22.7s
                                                   remaining: 1m 44s
88:
                                                   remaining: 1m 44s
89:
        learn: 0.2411015
                                  total: 22.9s
        learn: 0.2410079
                                  total: 23.2s
                                                   remaining: 1m 44s
90:
91:
        learn: 0.2408366
                                  total: 23.5s
                                                   remaining: 1m 44s
92:
        learn: 0.2406708
                                  total: 23.7s
                                                   remaining: 1m 43s
93:
        learn: 0.2404720
                                  total: 24s
                                                   remaining: 1m 43s
94:
        learn: 0.2403533
                                  total: 24.3s
                                                   remaining: 1m 43s
        learn: 0.2401701
                                  total: 24.6s
95:
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
96:
        learn: 0.2400213
                                  total: 24.8s
                                  total: 25.1s
97:
        learn: 0.2399512
                                                   remaining: 1m 43s
98:
        learn: 0.2398818
                                  total: 25.4s
                                                   remaining: 1m 42s
99:
        learn: 0.2398007
                                  total: 25.7s
                                                   remaining: 1m 42s
        learn: 0.2397571
                                  total: 25.9s
                                                   remaining: 1m 42s
100:
101:
        learn: 0.2397261
                                  total: 26.2s
                                                   remaining: 1m 42s
102:
        learn: 0.2396207
                                  total: 26.5s
                                                   remaining: 1m 42s
        learn: 0.2395540
                                  total: 26.7s
                                                   remaining: 1m 41s
103:
104:
        learn: 0.2393897
                                  total: 27s
                                                   remaining: 1m 41s
105:
        learn: 0.2393530
                                  total: 27.3s
                                                   remaining: 1m 41s
                                  total: 27.6s
106:
        learn: 0.2391673
                                                   remaining: 1m 41s
107:
        learn: 0.2391376
                                  total: 27.9s
                                                   remaining: 1m 41s
        learn: 0.2389198
                                  total: 28.1s
                                                   remaining: 1m 40s
108:
109:
        learn: 0.2388626
                                  total: 28.4s
                                                   remaining: 1m 40s
110:
        learn: 0.2385953
                                  total: 28.6s
                                                   remaining: 1m 40s
        learn: 0.2384613
                                  total: 28.9s
                                                   remaining: 1m 40s
111:
112:
        learn: 0.2366635
                                  total: 29.2s
                                                   remaining: 1m 39s
        learn: 0.2365764
                                  total: 29.5s
113:
                                                   remaining: 1m 39s
114:
        learn: 0.2364672
                                  total: 29.7s
                                                   remaining: 1m 39s
        learn: 0.2363843
                                                   remaining: 1m 39s
115:
                                  total: 30s
116:
        learn: 0.2362100
                                  total: 30.3s
                                                   remaining: 1m 39s
117:
        learn: 0.2348578
                                  total: 30.6s
                                                   remaining: 1m 38s
        learn: 0.2347272
                                  total: 30.8s
                                                   remaining: 1m 38s
118:
                                                   remaining: 1m 38s
119:
        learn: 0.2346335
                                  total: 31.1s
120:
        learn: 0.2345410
                                  total: 31.4s
                                                   remaining: 1m 38s
121:
        learn: 0.2344517
                                  total: 31.7s
                                                   remaining: 1m 38s
122:
        learn: 0.2344069
                                  total: 31.9s
                                                   remaining: 1m 37s
        learn: 0.2342873
                                  total: 32.3s
                                                   remaining: 1m 37s
123:
124:
        learn: 0.2342226
                                  total: 32.6s
                                                   remaining: 1m 37s
125:
        learn: 0.2340870
                                  total: 32.9s
                                                   remaining: 1m 37s
126:
        learn: 0.2339503
                                  total: 33.2s
                                                   remaining: 1m 37s
127:
        learn: 0.2337967
                                  total: 33.5s
                                                   remaining: 1m 37s
128:
        learn: 0.2337159
                                  total: 33.8s
                                                   remaining: 1m 37s
129:
        learn: 0.2329422
                                  total: 34s
                                                   remaining: 1m 36s
130:
        learn: 0.2328890
                                  total: 34.2s
                                                   remaining: 1m 36s
131:
        learn: 0.2328210
                                  total: 34.5s
                                                   remaining: 1m 36s
132:
        learn: 0.2326585
                                  total: 34.7s
                                                   remaining: 1m 35s
```

```
learn: 0.2325150
133:
                                  total: 35s
                                                   remaining: 1m 35s
134:
        learn: 0.2323563
                                  total: 35.2s
                                                   remaining: 1m 35s
135:
        learn: 0.2322944
                                  total: 35.4s
                                                   remaining: 1m 34s
        learn: 0.2322447
                                  total: 35.7s
                                                   remaining: 1m 34s
136:
                                                   remaining: 1m 34s
137:
        learn: 0.2317216
                                  total: 36s
                                                   remaining: 1m 34s
138:
        learn: 0.2315993
                                  total: 36.2s
139:
        learn: 0.2314762
                                  total: 36.5s
                                                   remaining: 1m 33s
140:
        learn: 0.2314090
                                  total: 36.7s
                                                   remaining: 1m 33s
141:
        learn: 0.2313726
                                  total: 37s
                                                   remaining: 1m 33s
142:
        learn: 0.2313326
                                  total: 37.2s
                                                   remaining: 1m 32s
143:
        learn: 0.2312485
                                  total: 37.5s
                                                   remaining: 1m 32s
                                                   remaining: 1m 32s
144:
        learn: 0.2311897
                                  total: 37.8s
145:
        learn: 0.2311596
                                  total: 38.1s
                                                   remaining: 1m 32s
146:
        learn: 0.2311168
                                  total: 38.4s
                                                   remaining: 1m 32s
147:
        learn: 0.2310808
                                  total: 38.6s
                                                   remaining: 1m 31s
148:
        learn: 0.2309639
                                  total: 38.9s
                                                   remaining: 1m 31s
149:
        learn: 0.2309205
                                  total: 39.2s
                                                   remaining: 1m 31s
150:
        learn: 0.2307987
                                  total: 39.5s
                                                   remaining: 1m 31s
        learn: 0.2306582
                                  total: 39.8s
                                                   remaining: 1m 31s
151:
152:
        learn: 0.2303297
                                  total: 40.1s
                                                   remaining: 1m 30s
153:
        learn: 0.2302708
                                  total: 40.3s
                                                   remaining: 1m 30s
154:
        learn: 0.2301242
                                  total: 40.6s
                                                   remaining: 1m 30s
155:
        learn: 0.2300542
                                  total: 40.9s
                                                   remaining: 1m 30s
                                                   remaining: 1m 29s
156:
        learn: 0.2300047
                                  total: 41.1s
157:
        learn: 0.2299234
                                  total: 41.4s
                                                   remaining: 1m 29s
158:
        learn: 0.2298188
                                  total: 41.7s
                                                   remaining: 1m 29s
                                  total: 41.9s
                                                   remaining: 1m 29s
159:
        learn: 0.2297182
160:
        learn: 0.2296349
                                  total: 42.2s
                                                   remaining: 1m 28s
                                  total: 42.5s
161:
        learn: 0.2295680
                                                   remaining: 1m 28s
162:
        learn: 0.2294164
                                  total: 42.8s
                                                   remaining: 1m 28s
        learn: 0.2293734
163:
                                  total: 43s
                                                   remaining: 1m 28s
164:
        learn: 0.2292383
                                  total: 43.3s
                                                   remaining: 1m 28s
165:
        learn: 0.2292076
                                  total: 43.6s
                                                   remaining: 1m 27s
        learn: 0.2289107
                                  total: 43.9s
                                                   remaining: 1m 27s
166:
                                                   remaining: 1m 27s
167:
        learn: 0.2288664
                                  total: 44.1s
168:
        learn: 0.2288311
                                  total: 44.4s
                                                   remaining: 1m 26s
169:
        learn: 0.2287651
                                  total: 44.7s
                                                   remaining: 1m 26s
170:
        learn: 0.2287362
                                  total: 44.9s
                                                   remaining: 1m 26s
171:
        learn: 0.2286163
                                  total: 45.2s
                                                   remaining: 1m 26s
172:
        learn: 0.2285594
                                  total: 45.5s
                                                   remaining: 1m 25s
173:
        learn: 0.2285351
                                  total: 45.7s
                                                   remaining: 1m 25s
174:
        learn: 0.2283976
                                                   remaining: 1m 25s
                                  total: 46s
175:
        learn: 0.2282559
                                  total: 46.3s
                                                   remaining: 1m 25s
176:
        learn: 0.2281780
                                  total: 46.6s
                                                   remaining: 1m 24s
177:
        learn: 0.2281288
                                  total: 46.8s
                                                   remaining: 1m 24s
178:
        learn: 0.2281100
                                  total: 47.1s
                                                   remaining: 1m 24s
179:
        learn: 0.2279682
                                  total: 47.4s
                                                   remaining: 1m 24s
180:
        learn: 0.2278185
                                  total: 47.7s
                                                   remaining: 1m 23s
```

```
learn: 0.2276541
181:
                                  total: 48s
                                                   remaining: 1m 23s
182:
        learn: 0.2275839
                                  total: 48.2s
                                                   remaining: 1m 23s
183:
        learn: 0.2275235
                                  total: 48.5s
                                                   remaining: 1m 23s
        learn: 0.2274702
                                  total: 48.8s
                                                   remaining: 1m 23s
184:
185:
        learn: 0.2273976
                                  total: 49s
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
186:
        learn: 0.2271701
                                  total: 49.3s
187:
        learn: 0.2270944
                                  total: 49.6s
                                                   remaining: 1m 22s
188:
        learn: 0.2270616
                                  total: 49.9s
                                                   remaining: 1m 22s
189:
        learn: 0.2270028
                                  total: 50.1s
                                                   remaining: 1m 21s
190:
        learn: 0.2269774
                                  total: 50.4s
                                                   remaining: 1m 21s
191:
        learn: 0.2269199
                                  total: 50.6s
                                                   remaining: 1m 21s
192:
        learn: 0.2267994
                                  total: 50.9s
                                                   remaining: 1m 20s
193:
        learn: 0.2267581
                                                   remaining: 1m 20s
                                  total: 51.1s
194:
        learn: 0.2267159
                                  total: 51.4s
                                                   remaining: 1m 20s
195:
        learn: 0.2266925
                                  total: 51.6s
                                                   remaining: 1m 20s
196:
        learn: 0.2266207
                                  total: 51.9s
                                                   remaining: 1m 19s
197:
        learn: 0.2265361
                                  total: 52.1s
                                                   remaining: 1m 19s
198:
        learn: 0.2264699
                                  total: 52.3s
                                                   remaining: 1m 19s
        learn: 0.2264456
                                  total: 52.6s
                                                   remaining: 1m 18s
199:
200:
        learn: 0.2263738
                                  total: 52.8s
                                                   remaining: 1m 18s
201:
        learn: 0.2262672
                                  total: 53s
                                                   remaining: 1m 18s
202:
        learn: 0.2262088
                                  total: 53.3s
                                                   remaining: 1m 17s
203:
        learn: 0.2260769
                                  total: 53.6s
                                                   remaining: 1m 17s
204:
                                  total: 53.8s
                                                   remaining: 1m 17s
        learn: 0.2260373
205:
        learn: 0.2259029
                                  total: 54.1s
                                                   remaining: 1m 17s
206:
        learn: 0.2258580
                                  total: 54.3s
                                                   remaining: 1m 16s
207:
        learn: 0.2256425
                                  total: 54.5s
                                                   remaining: 1m 16s
208:
        learn: 0.2254986
                                  total: 54.8s
                                                   remaining: 1m 16s
209:
        learn: 0.2253925
                                  total: 55s
                                                   remaining: 1m 16s
210:
        learn: 0.2253756
                                  total: 55.3s
                                                  remaining: 1m 15s
        learn: 0.2253355
211:
                                  total: 55.6s
                                                   remaining: 1m 15s
212:
        learn: 0.2252712
                                  total: 55.8s
                                                   remaining: 1m 15s
213:
        learn: 0.2252049
                                  total: 56.1s
                                                   remaining: 1m 15s
214:
        learn: 0.2251542
                                  total: 56.4s
                                                   remaining: 1m 14s
215:
        learn: 0.2250771
                                  total: 56.7s
                                                   remaining: 1m 14s
216:
        learn: 0.2250057
                                  total: 56.9s
                                                   remaining: 1m 14s
217:
        learn: 0.2249165
                                  total: 57.2s
                                                   remaining: 1m 14s
218:
        learn: 0.2248723
                                  total: 57.5s
                                                   remaining: 1m 13s
219:
        learn: 0.2247872
                                  total: 57.8s
                                                   remaining: 1m 13s
220:
        learn: 0.2247673
                                  total: 58.1s
                                                   remaining: 1m 13s
221:
        learn: 0.2247505
                                  total: 58.4s
                                                   remaining: 1m 13s
222:
        learn: 0.2246981
                                                   remaining: 1m 12s
                                  total: 58.7s
223:
        learn: 0.2245506
                                  total: 59s
                                                   remaining: 1m 12s
224:
        learn: 0.2245002
                                  total: 59.2s
                                                   remaining: 1m 12s
225:
        learn: 0.2242694
                                  total: 59.4s
                                                   remaining: 1m 12s
226:
        learn: 0.2241770
                                  total: 59.7s
                                                   remaining: 1m 11s
227:
        learn: 0.2240715
                                  total: 60s
                                                   remaining: 1m 11s
228:
        learn: 0.2240602
                                  total: 1m
                                                   remaining: 1m 11s
```

```
229:
        learn: 0.2240075
                                  total: 1m
                                                   remaining: 1m 11s
                                                   remaining: 1m 10s
230:
        learn: 0.2239460
                                  total: 1m
231:
        learn: 0.2238056
                                                   remaining: 1m 10s
                                  total: 1m 1s
232:
        learn: 0.2237178
                                  total: 1m 1s
                                                   remaining: 1m 10s
233:
        learn: 0.2236282
                                  total: 1m 1s
                                                   remaining: 1m 10s
234:
                                  total: 1m 1s
                                                   remaining: 1m 9s
        learn: 0.2235812
235:
        learn: 0.2233911
                                  total: 1m 2s
                                                   remaining: 1m 9s
236:
        learn: 0.2232690
                                  total: 1m 2s
                                                   remaining: 1m 9s
237:
        learn: 0.2231980
                                  total: 1m 2s
                                                   remaining: 1m 9s
238:
        learn: 0.2231542
                                  total: 1m 3s
                                                   remaining: 1m 8s
        learn: 0.2230832
239:
                                  total: 1m 3s
                                                   remaining: 1m 8s
240:
        learn: 0.2230105
                                  total: 1m 3s
                                                   remaining: 1m 8s
241:
        learn: 0.2229370
                                  total: 1m 3s
                                                   remaining: 1m 8s
242:
        learn: 0.2228176
                                  total: 1m 4s
                                                   remaining: 1m 7s
243:
        learn: 0.2227498
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2227034
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2226841
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2226243
                                  total: 1m 5s
                                                   remaining: 1m 6s
247:
        learn: 0.2225293
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2224460
                                  total: 1m 5s
                                                   remaining: 1m 6s
        learn: 0.2223360
                                                   remaining: 1m 5s
249:
                                  total: 1m 5s
                                  total: 1m 6s
250:
        learn: 0.2222860
                                                   remaining: 1m 5s
251:
        learn: 0.2222405
                                  total: 1m 6s
                                                   remaining: 1m 5s
252:
                                  total: 1m 6s
                                                   remaining: 1m 5s
        learn: 0.2222197
253:
        learn: 0.2221844
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2220978
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
        learn: 0.2220878
                                  total: 1m 7s
                                                   remaining: 1m 4s
256:
        learn: 0.2220480
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2219420
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2218890
                                  total: 1m 8s
                                                   remaining: 1m 3s
259:
        learn: 0.2217927
                                  total: 1m 8s
                                                   remaining: 1m 3s
260:
        learn: 0.2217478
                                  total: 1m 8s
                                                   remaining: 1m 2s
261:
        learn: 0.2216962
                                  total: 1m 8s
                                                   remaining: 1m 2s
262:
        learn: 0.2215800
                                  total: 1m 9s
                                                   remaining: 1m 2s
263:
        learn: 0.2214839
                                  total: 1m 9s
                                                   remaining: 1m 1s
264:
        learn: 0.2214045
                                  total: 1m 9s
                                                   remaining: 1m 1s
265:
        learn: 0.2213328
                                  total: 1m 9s
                                                   remaining: 1m 1s
266:
        learn: 0.2212990
                                  total: 1m 10s
                                                   remaining: 1m 1s
        learn: 0.2212471
267:
                                  total: 1m 10s
                                                   remaining: 1m
268:
        learn: 0.2211113
                                  total: 1m 10s
                                                   remaining: 1m
                                  total: 1m 10s
269:
        learn: 0.2210710
                                                   remaining: 1m
270:
        learn: 0.2209936
                                  total: 1m 11s
                                                   remaining: 1m
271:
        learn: 0.2209423
                                  total: 1m 11s
                                                   remaining: 59.8s
272:
        learn: 0.2208806
                                  total: 1m 11s
                                                   remaining: 59.5s
273:
        learn: 0.2208223
                                  total: 1m 11s
                                                   remaining: 59.2s
274:
        learn: 0.2207429
                                  total: 1m 12s
                                                   remaining: 59s
275:
        learn: 0.2207201
                                  total: 1m 12s
                                                   remaining: 58.7s
276:
        learn: 0.2206213
                                  total: 1m 12s
                                                   remaining: 58.5s
```

```
277:
        learn: 0.2204791
                                  total: 1m 12s
                                                   remaining: 58.2s
278:
        learn: 0.2204529
                                  total: 1m 13s
                                                   remaining: 58s
279:
        learn: 0.2204050
                                  total: 1m 13s
                                                   remaining: 57.7s
280:
        learn: 0.2203679
                                  total: 1m 13s
                                                   remaining: 57.5s
281:
        learn: 0.2202621
                                  total: 1m 14s
                                                   remaining: 57.2s
                                  total: 1m 14s
282:
        learn: 0.2201744
                                                   remaining: 57s
283:
        learn: 0.2200902
                                  total: 1m 14s
                                                   remaining: 56.7s
                                                   remaining: 56.5s
284:
        learn: 0.2199859
                                  total: 1m 14s
285:
        learn: 0.2199715
                                  total: 1m 15s
                                                   remaining: 56.2s
286:
        learn: 0.2198897
                                  total: 1m 15s
                                                   remaining: 56s
287:
        learn: 0.2198371
                                  total: 1m 15s
                                                   remaining: 55.7s
288:
        learn: 0.2197175
                                  total: 1m 15s
                                                   remaining: 55.5s
289:
        learn: 0.2196677
                                  total: 1m 16s
                                                   remaining: 55.2s
290:
        learn: 0.2196261
                                  total: 1m 16s
                                                   remaining: 54.9s
                                                   remaining: 54.7s
291:
        learn: 0.2194898
                                  total: 1m 16s
292:
        learn: 0.2194637
                                  total: 1m 17s
                                                   remaining: 54.4s
293:
        learn: 0.2193227
                                  total: 1m 17s
                                                   remaining: 54.2s
                                  total: 1m 17s
294:
        learn: 0.2192435
                                                   remaining: 53.9s
        learn: 0.2191722
                                  total: 1m 17s
295:
                                                   remaining: 53.6s
296:
        learn: 0.2191111
                                  total: 1m 18s
                                                   remaining: 53.4s
297:
        learn: 0.2190832
                                  total: 1m 18s
                                                   remaining: 53.1s
298:
        learn: 0.2190189
                                  total: 1m 18s
                                                   remaining: 52.9s
299:
        learn: 0.2189854
                                  total: 1m 18s
                                                   remaining: 52.6s
300:
        learn: 0.2189752
                                  total: 1m 19s
                                                   remaining: 52.3s
301:
        learn: 0.2189134
                                  total: 1m 19s
                                                   remaining: 52.1s
        learn: 0.2188738
302:
                                  total: 1m 19s
                                                   remaining: 51.9s
303:
        learn: 0.2187970
                                  total: 1m 20s
                                                   remaining: 51.6s
304:
        learn: 0.2187597
                                  total: 1m 20s
                                                   remaining: 51.4s
305:
        learn: 0.2187190
                                  total: 1m 20s
                                                   remaining: 51.1s
306:
        learn: 0.2186702
                                  total: 1m 20s
                                                   remaining: 50.9s
307:
        learn: 0.2185934
                                  total: 1m 21s
                                                   remaining: 50.6s
308:
        learn: 0.2185637
                                  total: 1m 21s
                                                   remaining: 50.4s
309:
        learn: 0.2184513
                                  total: 1m 21s
                                                   remaining: 50.1s
310:
        learn: 0.2183835
                                  total: 1m 21s
                                                   remaining: 49.8s
311:
        learn: 0.2183367
                                  total: 1m 22s
                                                   remaining: 49.5s
        learn: 0.2182818
                                  total: 1m 22s
312:
                                                   remaining: 49.3s
313:
        learn: 0.2182351
                                  total: 1m 22s
                                                   remaining: 49s
314:
        learn: 0.2181555
                                  total: 1m 22s
                                                   remaining: 48.7s
                                  total: 1m 23s
315:
        learn: 0.2181044
                                                   remaining: 48.5s
316:
        learn: 0.2180534
                                  total: 1m 23s
                                                   remaining: 48.2s
317:
        learn: 0.2179942
                                  total: 1m 23s
                                                   remaining: 47.9s
318:
        learn: 0.2179390
                                  total: 1m 23s
                                                   remaining: 47.6s
319:
        learn: 0.2178663
                                  total: 1m 24s
                                                   remaining: 47.4s
320:
        learn: 0.2178399
                                  total: 1m 24s
                                                   remaining: 47.1s
                                                   remaining: 46.9s
321:
        learn: 0.2177328
                                  total: 1m 24s
322:
        learn: 0.2176996
                                  total: 1m 25s
                                                   remaining: 46.6s
323:
        learn: 0.2175522
                                  total: 1m 25s
                                                   remaining: 46.3s
324:
        learn: 0.2174587
                                  total: 1m 25s
                                                   remaining: 46.1s
```

```
total: 1m 25s
        learn: 0.2174177
325:
                                                   remaining: 45.8s
326:
        learn: 0.2173736
                                  total: 1m 26s
                                                   remaining: 45.5s
327:
        learn: 0.2172380
                                  total: 1m 26s
                                                   remaining: 45.3s
328:
        learn: 0.2172089
                                  total: 1m 26s
                                                   remaining: 45s
329:
        learn: 0.2171356
                                  total: 1m 26s
                                                   remaining: 44.7s
                                  total: 1m 27s
                                                   remaining: 44.5s
330:
        learn: 0.2171121
331:
        learn: 0.2170597
                                  total: 1m 27s
                                                   remaining: 44.2s
        learn: 0.2169967
                                                   remaining: 44s
332:
                                  total: 1m 27s
333:
        learn: 0.2169630
                                  total: 1m 27s
                                                   remaining: 43.7s
334:
        learn: 0.2168929
                                  total: 1m 28s
                                                   remaining: 43.4s
335:
        learn: 0.2168705
                                  total: 1m 28s
                                                   remaining: 43.2s
336:
        learn: 0.2166873
                                  total: 1m 28s
                                                   remaining: 42.9s
337:
        learn: 0.2164502
                                  total: 1m 29s
                                                   remaining: 42.7s
338:
        learn: 0.2164207
                                  total: 1m 29s
                                                   remaining: 42.4s
                                                   remaining: 42.1s
339:
        learn: 0.2163719
                                  total: 1m 29s
340:
        learn: 0.2162639
                                  total: 1m 29s
                                                   remaining: 41.9s
341:
        learn: 0.2162079
                                  total: 1m 30s
                                                   remaining: 41.6s
                                  total: 1m 30s
342:
        learn: 0.2161508
                                                   remaining: 41.4s
        learn: 0.2161249
                                  total: 1m 30s
                                                   remaining: 41.1s
343:
344:
        learn: 0.2160693
                                  total: 1m 30s
                                                   remaining: 40.8s
345:
        learn: 0.2158923
                                  total: 1m 31s
                                                   remaining: 40.6s
346:
        learn: 0.2158065
                                  total: 1m 31s
                                                   remaining: 40.3s
                                                  remaining: 40.1s
347:
        learn: 0.2157411
                                  total: 1m 31s
                                  total: 1m 31s
348:
        learn: 0.2156216
                                                   remaining: 39.8s
349:
        learn: 0.2156146
                                  total: 1m 32s
                                                   remaining: 39.5s
                                  total: 1m 32s
350:
        learn: 0.2155807
                                                   remaining: 39.3s
351:
        learn: 0.2155117
                                  total: 1m 32s
                                                   remaining: 39s
352:
        learn: 0.2154511
                                  total: 1m 33s
                                                   remaining: 38.8s
353:
        learn: 0.2153879
                                  total: 1m 33s
                                                   remaining: 38.5s
354:
        learn: 0.2152904
                                  total: 1m 33s
                                                   remaining: 38.2s
355:
        learn: 0.2152256
                                  total: 1m 33s
                                                   remaining: 38s
356:
        learn: 0.2151520
                                  total: 1m 34s
                                                   remaining: 37.7s
357:
        learn: 0.2151250
                                  total: 1m 34s
                                                   remaining: 37.4s
        learn: 0.2150779
                                  total: 1m 34s
358:
                                                   remaining: 37.2s
359:
        learn: 0.2150362
                                  total: 1m 34s
                                                   remaining: 36.9s
        learn: 0.2149445
360:
                                  total: 1m 35s
                                                   remaining: 36.7s
361:
        learn: 0.2148130
                                  total: 1m 35s
                                                   remaining: 36.4s
362:
        learn: 0.2147709
                                  total: 1m 35s
                                                   remaining: 36.1s
                                  total: 1m 36s
363:
        learn: 0.2146611
                                                   remaining: 35.9s
364:
        learn: 0.2146130
                                  total: 1m 36s
                                                   remaining: 35.6s
        learn: 0.2145663
                                  total: 1m 36s
365:
                                                   remaining: 35.4s
366:
        learn: 0.2145168
                                  total: 1m 36s
                                                   remaining: 35.1s
367:
        learn: 0.2144469
                                  total: 1m 37s
                                                   remaining: 34.9s
368:
        learn: 0.2143831
                                  total: 1m 37s
                                                   remaining: 34.6s
                                                   remaining: 34.3s
369:
        learn: 0.2143391
                                  total: 1m 37s
370:
        learn: 0.2142722
                                  total: 1m 38s
                                                   remaining: 34.1s
371:
        learn: 0.2141426
                                  total: 1m 38s
                                                   remaining: 33.8s
372:
        learn: 0.2141206
                                  total: 1m 38s
                                                   remaining: 33.5s
```

```
373:
        learn: 0.2141014
                                  total: 1m 38s
                                                   remaining: 33.3s
374:
        learn: 0.2140594
                                  total: 1m 38s
                                                   remaining: 33s
375:
        learn: 0.2140437
                                  total: 1m 39s
                                                   remaining: 32.7s
376:
        learn: 0.2140019
                                                   remaining: 32.5s
                                  total: 1m 39s
377:
        learn: 0.2139463
                                  total: 1m 39s
                                                   remaining: 32.2s
                                  total: 1m 40s
                                                   remaining: 31.9s
378:
        learn: 0.2138733
379:
        learn: 0.2138353
                                  total: 1m 40s
                                                   remaining: 31.7s
        learn: 0.2137948
380:
                                  total: 1m 40s
                                                   remaining: 31.4s
381:
        learn: 0.2136965
                                  total: 1m 40s
                                                   remaining: 31.1s
382:
        learn: 0.2136435
                                  total: 1m 41s
                                                   remaining: 30.9s
383:
        learn: 0.2136035
                                  total: 1m 41s
                                                   remaining: 30.6s
384:
        learn: 0.2135536
                                  total: 1m 41s
                                                   remaining: 30.3s
385:
        learn: 0.2135395
                                  total: 1m 41s
                                                   remaining: 30.1s
386:
        learn: 0.2135097
                                  total: 1m 41s
                                                   remaining: 29.8s
                                                   remaining: 29.5s
387:
        learn: 0.2133958
                                  total: 1m 42s
388:
        learn: 0.2133640
                                  total: 1m 42s
                                                   remaining: 29.2s
389:
        learn: 0.2132913
                                  total: 1m 42s
                                                   remaining: 29s
                                  total: 1m 42s
390:
        learn: 0.2132385
                                                   remaining: 28.7s
        learn: 0.2131385
                                  total: 1m 43s
391:
                                                   remaining: 28.5s
392:
        learn: 0.2130779
                                  total: 1m 43s
                                                   remaining: 28.2s
                                  total: 1m 43s
393:
        learn: 0.2130118
                                                   remaining: 27.9s
394:
        learn: 0.2129548
                                  total: 1m 44s
                                                   remaining: 27.7s
395:
        learn: 0.2129089
                                  total: 1m 44s
                                                   remaining: 27.4s
396:
        learn: 0.2128657
                                  total: 1m 44s
                                                   remaining: 27.1s
397:
        learn: 0.2127721
                                  total: 1m 44s
                                                   remaining: 26.9s
398:
        learn: 0.2126626
                                  total: 1m 45s
                                                   remaining: 26.6s
399:
        learn: 0.2125766
                                  total: 1m 45s
                                                   remaining: 26.4s
400:
        learn: 0.2124988
                                  total: 1m 45s
                                                   remaining: 26.1s
401:
        learn: 0.2124552
                                  total: 1m 46s
                                                   remaining: 25.9s
402:
        learn: 0.2123941
                                  total: 1m 46s
                                                   remaining: 25.6s
403:
        learn: 0.2123669
                                  total: 1m 46s
                                                   remaining: 25.3s
404:
        learn: 0.2123239
                                  total: 1m 46s
                                                   remaining: 25.1s
405:
        learn: 0.2121848
                                  total: 1m 47s
                                                   remaining: 24.8s
        learn: 0.2121412
                                  total: 1m 47s
                                                   remaining: 24.6s
406:
407:
        learn: 0.2121113
                                  total: 1m 47s
                                                   remaining: 24.3s
        learn: 0.2120547
408:
                                  total: 1m 47s
                                                   remaining: 24s
409:
        learn: 0.2119166
                                  total: 1m 48s
                                                   remaining: 23.8s
410:
        learn: 0.2118895
                                  total: 1m 48s
                                                   remaining: 23.5s
411:
        learn: 0.2118168
                                  total: 1m 48s
                                                   remaining: 23.2s
412:
        learn: 0.2116351
                                  total: 1m 49s
                                                   remaining: 23s
413:
        learn: 0.2115412
                                  total: 1m 49s
                                                   remaining: 22.7s
414:
        learn: 0.2115137
                                  total: 1m 49s
                                                   remaining: 22.4s
415:
        learn: 0.2114883
                                  total: 1m 49s
                                                   remaining: 22.2s
416:
        learn: 0.2114383
                                  total: 1m 50s
                                                   remaining: 21.9s
                                                   remaining: 21.7s
417:
        learn: 0.2113667
                                  total: 1m 50s
418:
        learn: 0.2113288
                                  total: 1m 50s
                                                   remaining: 21.4s
419:
        learn: 0.2113191
                                  total: 1m 50s
                                                   remaining: 21.1s
420:
        learn: 0.2112585
                                  total: 1m 51s
                                                   remaining: 20.9s
```

```
421:
        learn: 0.2112438
                                  total: 1m 51s
                                                   remaining: 20.6s
422:
        learn: 0.2111858
                                  total: 1m 51s
                                                   remaining: 20.3s
423:
        learn: 0.2111008
                                  total: 1m 52s
                                                   remaining: 20.1s
424:
        learn: 0.2110342
                                  total: 1m 52s
                                                   remaining: 19.8s
425:
        learn: 0.2108421
                                  total: 1m 52s
                                                   remaining: 19.6s
                                  total: 1m 52s
426:
        learn: 0.2107737
                                                   remaining: 19.3s
427:
        learn: 0.2107279
                                  total: 1m 53s
                                                   remaining: 19s
        learn: 0.2106581
428:
                                  total: 1m 53s
                                                   remaining: 18.8s
429:
        learn: 0.2106214
                                  total: 1m 53s
                                                   remaining: 18.5s
430:
        learn: 0.2105510
                                  total: 1m 53s
                                                   remaining: 18.2s
431:
        learn: 0.2103948
                                  total: 1m 54s
                                                   remaining: 18s
432:
        learn: 0.2103231
                                  total: 1m 54s
                                                   remaining: 17.7s
433:
        learn: 0.2102521
                                  total: 1m 54s
                                                   remaining: 17.4s
434:
        learn: 0.2102008
                                  total: 1m 54s
                                                   remaining: 17.2s
435:
        learn: 0.2101700
                                  total: 1m 55s
                                                   remaining: 16.9s
436:
        learn: 0.2101303
                                  total: 1m 55s
                                                   remaining: 16.6s
437:
        learn: 0.2100688
                                  total: 1m 55s
                                                   remaining: 16.4s
                                  total: 1m 55s
438:
        learn: 0.2100086
                                                   remaining: 16.1s
        learn: 0.2099754
439:
                                  total: 1m 56s
                                                   remaining: 15.8s
440:
        learn: 0.2099326
                                  total: 1m 56s
                                                   remaining: 15.6s
441:
        learn: 0.2098752
                                  total: 1m 56s
                                                   remaining: 15.3s
442:
        learn: 0.2098429
                                  total: 1m 56s
                                                   remaining: 15s
                                                   remaining: 14.8s
443:
        learn: 0.2098052
                                  total: 1m 57s
444:
        learn: 0.2097830
                                  total: 1m 57s
                                                   remaining: 14.5s
445:
        learn: 0.2097578
                                  total: 1m 57s
                                                   remaining: 14.2s
                                                   remaining: 14s
446:
        learn: 0.2097471
                                  total: 1m 57s
447:
        learn: 0.2097294
                                  total: 1m 57s
                                                   remaining: 13.7s
448:
        learn: 0.2096716
                                  total: 1m 58s
                                                   remaining: 13.4s
449:
        learn: 0.2096144
                                  total: 1m 58s
                                                   remaining: 13.1s
450:
        learn: 0.2095836
                                  total: 1m 58s
                                                   remaining: 12.9s
        learn: 0.2094742
451:
                                  total: 1m 58s
                                                   remaining: 12.6s
452:
        learn: 0.2094257
                                  total: 1m 58s
                                                   remaining: 12.3s
453:
        learn: 0.2093522
                                  total: 1m 59s
                                                   remaining: 12.1s
454:
        learn: 0.2092736
                                  total: 1m 59s
                                                   remaining: 11.8s
455:
        learn: 0.2092401
                                  total: 1m 59s
                                                   remaining: 11.5s
        learn: 0.2091888
456:
                                  total: 1m 59s
                                                   remaining: 11.3s
457:
        learn: 0.2091517
                                  total: 2m
                                                   remaining: 11s
458:
        learn: 0.2091198
                                  total: 2m
                                                   remaining: 10.7s
459:
        learn: 0.2090748
                                  total: 2m
                                                   remaining: 10.5s
460:
        learn: 0.2090425
                                  total: 2m
                                                   remaining: 10.2s
        learn: 0.2089691
461:
                                  total: 2m 1s
                                                   remaining: 9.96s
462:
        learn: 0.2089100
                                  total: 2m 1s
                                                   remaining: 9.7s
463:
        learn: 0.2088911
                                  total: 2m 1s
                                                   remaining: 9.44s
464:
        learn: 0.2088584
                                  total: 2m 1s
                                                   remaining: 9.18s
                                                   remaining: 8.91s
465:
        learn: 0.2088152
                                  total: 2m 2s
466:
        learn: 0.2087766
                                  total: 2m 2s
                                                   remaining: 8.65s
467:
        learn: 0.2086904
                                  total: 2m 2s
                                                   remaining: 8.39s
468:
        learn: 0.2085675
                                  total: 2m 3s
                                                   remaining: 8.13s
```

```
469:
        learn: 0.2085334
                                  total: 2m 3s
                                                   remaining: 7.87s
470:
        learn: 0.2084508
                                  total: 2m 3s
                                                   remaining: 7.61s
471:
        learn: 0.2083800
                                  total: 2m 3s
                                                   remaining: 7.35s
472:
        learn: 0.2083563
                                  total: 2m 4s
                                                   remaining: 7.09s
473:
        learn: 0.2083113
                                  total: 2m 4s
                                                   remaining: 6.83s
                                  total: 2m 4s
                                                   remaining: 6.56s
474:
        learn: 0.2082554
475:
        learn: 0.2082233
                                  total: 2m 4s
                                                   remaining: 6.3s
476:
        learn: 0.2082065
                                  total: 2m 5s
                                                   remaining: 6.04s
477:
        learn: 0.2081413
                                  total: 2m 5s
                                                   remaining: 5.78s
478:
        learn: 0.2081296
                                  total: 2m 5s
                                                   remaining: 5.51s
479:
        learn: 0.2081101
                                  total: 2m 6s
                                                   remaining: 5.25s
480:
        learn: 0.2080886
                                  total: 2m 6s
                                                   remaining: 4.99s
481:
        learn: 0.2080585
                                  total: 2m 6s
                                                   remaining: 4.73s
482:
        learn: 0.2080034
                                  total: 2m 6s
                                                   remaining: 4.47s
                                                   remaining: 4.2s
483:
        learn: 0.2079037
                                  total: 2m 7s
484:
        learn: 0.2078227
                                  total: 2m 7s
                                                   remaining: 3.94s
485:
        learn: 0.2077890
                                  total: 2m 7s
                                                   remaining: 3.68s
                                  total: 2m 7s
486:
        learn: 0.2077582
                                                   remaining: 3.42s
        learn: 0.2076887
                                  total: 2m 8s
487:
                                                   remaining: 3.15s
488:
        learn: 0.2075868
                                  total: 2m 8s
                                                   remaining: 2.89s
489:
        learn: 0.2074850
                                  total: 2m 8s
                                                   remaining: 2.63s
                                  total: 2m 9s
490:
        learn: 0.2074560
                                                   remaining: 2.37s
491:
        learn: 0.2073910
                                  total: 2m 9s
                                                   remaining: 2.1s
492:
                                  total: 2m 9s
        learn: 0.2073779
                                                   remaining: 1.84s
493:
        learn: 0.2073656
                                  total: 2m 9s
                                                   remaining: 1.58s
494:
        learn: 0.2072971
                                  total: 2m 10s
                                                   remaining: 1.31s
495:
        learn: 0.2072011
                                  total: 2m 10s
                                                   remaining: 1.05s
496:
        learn: 0.2071757
                                  total: 2m 10s
                                                   remaining: 788ms
497:
        learn: 0.2071370
                                  total: 2m 10s
                                                   remaining: 526ms
498:
        learn: 0.2070799
                                  total: 2m 11s
                                                   remaining: 263ms
499:
        learn: 0.2070240
                                  total: 2m 11s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9720334
                                  total: 251ms
                                                   remaining: 2m 5s
1:
        learn: 0.8891876
                                  total: 508ms
                                                   remaining: 2m 6s
2:
        learn: 0.8306081
                                  total: 730ms
                                                   remaining: 2m
3.
        learn: 0.7389512
                                  total: 943ms
                                                   remaining: 1m 56s
4:
        learn: 0.6904103
                                  total: 1.14s
                                                   remaining: 1m 52s
5:
        learn: 0.6638463
                                  total: 1.31s
                                                   remaining: 1m 48s
6:
        learn: 0.5899247
                                  total: 1.53s
                                                   remaining: 1m 47s
7:
        learn: 0.5368518
                                  total: 1.73s
                                                   remaining: 1m 46s
8:
        learn: 0.4923155
                                  total: 1.93s
                                                   remaining: 1m 45s
                                                   remaining: 1m 44s
9:
        learn: 0.4697140
                                  total: 2.13s
10:
        learn: 0.4385098
                                  total: 2.33s
                                                   remaining: 1m 43s
11:
        learn: 0.4137625
                                  total: 2.52s
                                                   remaining: 1m 42s
12:
        learn: 0.3874317
                                  total: 2.74s
                                                   remaining: 1m 42s
13:
        learn: 0.3819872
                                  total: 2.96s
                                                   remaining: 1m 42s
14:
        learn: 0.3646877
                                  total: 3.19s
                                                   remaining: 1m 42s
15:
        learn: 0.3479687
                                  total: 3.45s
                                                   remaining: 1m 44s
```

```
learn: 0.3453353
                                  total: 3.71s
                                                   remaining: 1m 45s
16:
17:
        learn: 0.3320221
                                  total: 4.02s
                                                   remaining: 1m 47s
18:
        learn: 0.3226949
                                  total: 4.31s
                                                   remaining: 1m 49s
19:
        learn: 0.3207704
                                  total: 4.56s
                                                   remaining: 1m 49s
                                                   remaining: 1m 51s
20:
        learn: 0.3114111
                                  total: 4.87s
                                  total: 5.16s
                                                   remaining: 1m 52s
21:
        learn: 0.3037195
22:
        learn: 0.3011185
                                  total: 5.43s
                                                   remaining: 1m 52s
23:
        learn: 0.2964545
                                  total: 5.69s
                                                   remaining: 1m 52s
24:
        learn: 0.2936208
                                  total: 6s
                                                   remaining: 1m 53s
25:
        learn: 0.2918343
                                  total: 6.29s
                                                   remaining: 1m 54s
26:
        learn: 0.2859664
                                  total: 6.58s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
27:
        learn: 0.2838492
                                  total: 6.87s
28:
        learn: 0.2806397
                                  total: 7.14s
                                                   remaining: 1m 55s
29:
        learn: 0.2765232
                                  total: 7.42s
                                                   remaining: 1m 56s
30:
        learn: 0.2754406
                                  total: 7.69s
                                                   remaining: 1m 56s
31:
        learn: 0.2702315
                                  total: 7.99s
                                                   remaining: 1m 56s
32:
        learn: 0.2697628
                                  total: 8.27s
                                                   remaining: 1m 57s
33:
        learn: 0.2655872
                                  total: 8.56s
                                                   remaining: 1m 57s
        learn: 0.2632848
                                  total: 8.87s
                                                   remaining: 1m 57s
34:
35:
        learn: 0.2628070
                                  total: 9.13s
                                                   remaining: 1m 57s
36:
        learn: 0.2595584
                                  total: 9.41s
                                                   remaining: 1m 57s
                                                   remaining: 1m 57s
37:
        learn: 0.2555544
                                  total: 9.69s
38:
        learn: 0.2526560
                                  total: 9.96s
                                                   remaining: 1m 57s
                                  total: 10.2s
                                                   remaining: 1m 57s
39:
        learn: 0.2515036
40:
        learn: 0.2511185
                                  total: 10.5s
                                                   remaining: 1m 57s
                                                   remaining: 1m 57s
41:
        learn: 0.2507499
                                  total: 10.8s
42:
        learn: 0.2502480
                                  total: 11.1s
                                                   remaining: 1m 57s
43:
        learn: 0.2500829
                                  total: 11.4s
                                                   remaining: 1m 57s
                                  total: 11.6s
44:
        learn: 0.2497698
                                                   remaining: 1m 57s
45:
        learn: 0.2496366
                                  total: 11.9s
                                                   remaining: 1m 57s
46:
        learn: 0.2491768
                                  total: 12.1s
                                                   remaining: 1m 56s
47:
        learn: 0.2488901
                                  total: 12.4s
                                                   remaining: 1m 57s
48:
        learn: 0.2484427
                                  total: 12.7s
                                                   remaining: 1m 56s
49:
        learn: 0.2481094
                                  total: 13s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
50:
        learn: 0.2477986
                                  total: 13.3s
51:
        learn: 0.2472801
                                  total: 13.5s
                                                   remaining: 1m 56s
52:
        learn: 0.2469279
                                  total: 13.8s
                                                   remaining: 1m 56s
53:
        learn: 0.2466432
                                  total: 14.1s
                                                   remaining: 1m 56s
                                                   remaining: 1m 55s
54:
        learn: 0.2463037
                                  total: 14.3s
55:
        learn: 0.2449184
                                  total: 14.5s
                                                   remaining: 1m 55s
56:
        learn: 0.2436998
                                  total: 14.8s
                                                   remaining: 1m 54s
57:
        learn: 0.2435187
                                                   remaining: 1m 54s
                                  total: 15.1s
58:
        learn: 0.2432949
                                  total: 15.3s
                                                   remaining: 1m 54s
59:
        learn: 0.2429620
                                  total: 15.6s
                                                   remaining: 1m 54s
60:
        learn: 0.2409321
                                  total: 15.9s
                                                   remaining: 1m 54s
61:
        learn: 0.2405332
                                  total: 16.1s
                                                   remaining: 1m 53s
62:
        learn: 0.2403481
                                  total: 16.4s
                                                   remaining: 1m 53s
63:
        learn: 0.2401742
                                  total: 16.6s
                                                   remaining: 1m 53s
```

```
64:
        learn: 0.2399060
                                  total: 16.9s
                                                   remaining: 1m 52s
65:
        learn: 0.2398326
                                  total: 17.1s
                                                   remaining: 1m 52s
66:
        learn: 0.2396579
                                  total: 17.4s
                                                   remaining: 1m 52s
67:
        learn: 0.2395441
                                  total: 17.6s
                                                   remaining: 1m 52s
                                                   remaining: 1m 51s
68:
        learn: 0.2384881
                                  total: 17.9s
                                  total: 18.1s
                                                   remaining: 1m 51s
69:
        learn: 0.2381289
70:
        learn: 0.2380798
                                  total: 18.4s
                                                   remaining: 1m 51s
71:
        learn: 0.2373913
                                  total: 18.7s
                                                   remaining: 1m 50s
72:
        learn: 0.2373102
                                  total: 19s
                                                   remaining: 1m 50s
73:
        learn: 0.2369998
                                  total: 19.2s
                                                   remaining: 1m 50s
74:
        learn: 0.2368376
                                                   remaining: 1m 50s
                                  total: 19.5s
75:
                                                   remaining: 1m 50s
        learn: 0.2366688
                                  total: 19.8s
76:
        learn: 0.2360707
                                  total: 20.1s
                                                   remaining: 1m 50s
77:
        learn: 0.2359793
                                  total: 20.3s
                                                   remaining: 1m 49s
78:
        learn: 0.2357502
                                  total: 20.6s
                                                   remaining: 1m 49s
79:
        learn: 0.2355350
                                  total: 20.9s
                                                   remaining: 1m 49s
:08
        learn: 0.2354446
                                  total: 21.2s
                                                   remaining: 1m 49s
                                  total: 21.5s
81:
        learn: 0.2353723
                                                   remaining: 1m 49s
        learn: 0.2349385
                                  total: 21.8s
                                                   remaining: 1m 49s
82:
83:
        learn: 0.2348922
                                  total: 22.1s
                                                   remaining: 1m 49s
84:
        learn: 0.2347786
                                  total: 22.4s
                                                   remaining: 1m 49s
                                  total: 22.6s
85:
        learn: 0.2347374
                                                   remaining: 1m 48s
86:
        learn: 0.2343868
                                  total: 22.9s
                                                   remaining: 1m 48s
87:
                                  total: 23.2s
                                                   remaining: 1m 48s
        learn: 0.2341737
88:
        learn: 0.2340239
                                  total: 23.5s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
89:
        learn: 0.2338984
                                  total: 23.8s
90:
        learn: 0.2338398
                                  total: 24s
                                                   remaining: 1m 47s
91:
        learn: 0.2334085
                                  total: 24.3s
                                                   remaining: 1m 47s
92:
        learn: 0.2332684
                                  total: 24.6s
                                                   remaining: 1m 47s
93:
        learn: 0.2330718
                                  total: 24.9s
                                                   remaining: 1m 47s
94:
        learn: 0.2329378
                                  total: 25.1s
                                                   remaining: 1m 47s
95:
        learn: 0.2327981
                                  total: 25.5s
                                                   remaining: 1m 47s
96:
        learn: 0.2327049
                                  total: 25.7s
                                                   remaining: 1m 46s
97:
        learn: 0.2326649
                                  total: 26s
                                                   remaining: 1m 46s
                                                   remaining: 1m 46s
98:
        learn: 0.2324560
                                  total: 26.3s
99:
        learn: 0.2323836
                                  total: 26.6s
                                                   remaining: 1m 46s
100:
        learn: 0.2320211
                                  total: 26.8s
                                                   remaining: 1m 45s
101:
        learn: 0.2319405
                                  total: 27.1s
                                                   remaining: 1m 45s
        learn: 0.2317923
                                  total: 27.3s
                                                   remaining: 1m 45s
102:
103:
        learn: 0.2316393
                                  total: 27.6s
                                                   remaining: 1m 45s
104:
        learn: 0.2314823
                                  total: 27.9s
                                                   remaining: 1m 44s
        learn: 0.2313664
                                  total: 28.2s
                                                   remaining: 1m 44s
105:
106:
        learn: 0.2311650
                                  total: 28.4s
                                                   remaining: 1m 44s
107:
        learn: 0.2308922
                                  total: 28.7s
                                                   remaining: 1m 44s
108:
        learn: 0.2305703
                                  total: 28.9s
                                                   remaining: 1m 43s
109:
        learn: 0.2305303
                                  total: 29.2s
                                                   remaining: 1m 43s
110:
        learn: 0.2304773
                                  total: 29.5s
                                                   remaining: 1m 43s
111:
        learn: 0.2303747
                                  total: 29.7s
                                                   remaining: 1m 42s
```

```
learn: 0.2300863
112:
                                  total: 30s
                                                   remaining: 1m 42s
113:
        learn: 0.2300209
                                  total: 30.2s
                                                   remaining: 1m 42s
114:
        learn: 0.2299682
                                  total: 30.4s
                                                   remaining: 1m 41s
115:
        learn: 0.2298917
                                  total: 30.7s
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
116:
        learn: 0.2298781
                                  total: 30.9s
                                                   remaining: 1m 40s
117:
        learn: 0.2297803
                                  total: 31.2s
118:
        learn: 0.2296896
                                  total: 31.4s
                                                   remaining: 1m 40s
119:
        learn: 0.2295593
                                  total: 31.7s
                                                   remaining: 1m 40s
120:
        learn: 0.2294953
                                  total: 32s
                                                   remaining: 1m 40s
121:
        learn: 0.2294290
                                  total: 32.2s
                                                   remaining: 1m 39s
122:
        learn: 0.2293342
                                  total: 32.4s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
123:
        learn: 0.2292329
                                  total: 32.7s
124:
        learn: 0.2292153
                                  total: 32.9s
                                                   remaining: 1m 38s
125:
        learn: 0.2290696
                                  total: 33.2s
                                                   remaining: 1m 38s
126:
        learn: 0.2289471
                                  total: 33.4s
                                                   remaining: 1m 38s
127:
        learn: 0.2288239
                                  total: 33.7s
                                                   remaining: 1m 37s
128:
        learn: 0.2285548
                                  total: 33.9s
                                                   remaining: 1m 37s
                                  total: 34.2s
129:
        learn: 0.2285042
                                                   remaining: 1m 37s
        learn: 0.2280987
                                  total: 34.4s
                                                   remaining: 1m 36s
130:
131:
        learn: 0.2280506
                                  total: 34.7s
                                                   remaining: 1m 36s
132:
        learn: 0.2279374
                                  total: 35s
                                                   remaining: 1m 36s
133:
        learn: 0.2279117
                                  total: 35.2s
                                                   remaining: 1m 36s
134 •
        learn: 0.2277718
                                  total: 35.5s
                                                   remaining: 1m 36s
                                  total: 35.8s
                                                   remaining: 1m 35s
135:
        learn: 0.2277473
136:
        learn: 0.2276835
                                  total: 36.1s
                                                   remaining: 1m 35s
137:
        learn: 0.2276764
                                  total: 36.3s
                                                   remaining: 1m 35s
        learn: 0.2275857
                                  total: 36.6s
                                                   remaining: 1m 35s
138:
139:
        learn: 0.2275011
                                  total: 36.9s
                                                   remaining: 1m 34s
140:
        learn: 0.2274789
                                  total: 37.2s
                                                   remaining: 1m 34s
141:
        learn: 0.2273232
                                  total: 37.5s
                                                   remaining: 1m 34s
        learn: 0.2271722
                                  total: 37.8s
                                                   remaining: 1m 34s
142:
143:
        learn: 0.2269308
                                  total: 38s
                                                   remaining: 1m 34s
144:
        learn: 0.2267094
                                  total: 38.3s
                                                   remaining: 1m 33s
        learn: 0.2263636
                                  total: 38.6s
                                                   remaining: 1m 33s
145:
                                                   remaining: 1m 33s
146:
        learn: 0.2262632
                                  total: 38.8s
147:
        learn: 0.2262054
                                  total: 39.1s
                                                   remaining: 1m 32s
148:
        learn: 0.2261030
                                  total: 39.4s
                                                   remaining: 1m 32s
149:
        learn: 0.2260232
                                  total: 39.6s
                                                   remaining: 1m 32s
150:
        learn: 0.2259403
                                  total: 39.9s
                                                   remaining: 1m 32s
151:
        learn: 0.2259088
                                  total: 40.2s
                                                   remaining: 1m 32s
152:
        learn: 0.2257183
                                  total: 40.4s
                                                   remaining: 1m 31s
        learn: 0.2256235
                                  total: 40.7s
                                                   remaining: 1m 31s
153:
154:
        learn: 0.2255758
                                  total: 41s
                                                   remaining: 1m 31s
155:
        learn: 0.2254644
                                  total: 41.3s
                                                   remaining: 1m 31s
156:
        learn: 0.2254363
                                  total: 41.6s
                                                   remaining: 1m 30s
157:
        learn: 0.2253500
                                  total: 41.9s
                                                   remaining: 1m 30s
158:
        learn: 0.2251941
                                  total: 42.1s
                                                   remaining: 1m 30s
159:
        learn: 0.2251317
                                  total: 42.4s
                                                   remaining: 1m 30s
```

```
total: 42.7s
160:
        learn: 0.2250708
                                                   remaining: 1m 29s
161:
        learn: 0.2248727
                                  total: 43s
                                                   remaining: 1m 29s
162:
        learn: 0.2247784
                                  total: 43.3s
                                                   remaining: 1m 29s
        learn: 0.2247253
                                  total: 43.5s
                                                   remaining: 1m 29s
163:
                                                   remaining: 1m 28s
164:
        learn: 0.2246227
                                  total: 43.8s
                                                   remaining: 1m 28s
165:
        learn: 0.2244270
                                  total: 44.1s
166:
        learn: 0.2243706
                                  total: 44.3s
                                                   remaining: 1m 28s
167:
        learn: 0.2242618
                                  total: 44.6s
                                                   remaining: 1m 28s
168:
        learn: 0.2242200
                                  total: 44.9s
                                                   remaining: 1m 27s
169:
        learn: 0.2241133
                                  total: 45.1s
                                                   remaining: 1m 27s
170:
        learn: 0.2239773
                                  total: 45.4s
                                                   remaining: 1m 27s
                                                   remaining: 1m 27s
171:
        learn: 0.2238980
                                  total: 45.7s
172:
        learn: 0.2238606
                                  total: 45.9s
                                                   remaining: 1m 26s
173:
        learn: 0.2238230
                                  total: 46.2s
                                                   remaining: 1m 26s
174:
        learn: 0.2237758
                                  total: 46.4s
                                                   remaining: 1m 26s
175:
        learn: 0.2236986
                                  total: 46.7s
                                                   remaining: 1m 25s
176:
        learn: 0.2236086
                                  total: 47s
                                                   remaining: 1m 25s
177:
        learn: 0.2235732
                                  total: 47.2s
                                                   remaining: 1m 25s
        learn: 0.2235028
                                  total: 47.4s
                                                   remaining: 1m 25s
178:
179:
        learn: 0.2234789
                                  total: 47.7s
                                                   remaining: 1m 24s
180:
        learn: 0.2233875
                                  total: 47.9s
                                                   remaining: 1m 24s
181:
        learn: 0.2233028
                                  total: 48.1s
                                                   remaining: 1m 24s
182.
        learn: 0.2232617
                                  total: 48.3s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
183:
        learn: 0.2231971
                                  total: 48.6s
184:
        learn: 0.2229492
                                  total: 48.9s
                                                   remaining: 1m 23s
185:
        learn: 0.2228796
                                  total: 49.1s
                                                   remaining: 1m 22s
        learn: 0.2228234
                                                   remaining: 1m 22s
186:
                                  total: 49.3s
187:
        learn: 0.2227965
                                  total: 49.6s
                                                   remaining: 1m 22s
188:
        learn: 0.2227469
                                  total: 49.8s
                                                   remaining: 1m 21s
189:
        learn: 0.2226888
                                  total: 50s
                                                   remaining: 1m 21s
        learn: 0.2225873
190:
                                  total: 50.2s
                                                   remaining: 1m 21s
191:
        learn: 0.2225390
                                  total: 50.4s
                                                   remaining: 1m 20s
192:
        learn: 0.2225102
                                  total: 50.5s
                                                   remaining: 1m 20s
193:
        learn: 0.2224330
                                  total: 50.7s
                                                   remaining: 1m 20s
194:
        learn: 0.2222208
                                  total: 51s
                                                   remaining: 1m 19s
        learn: 0.2221565
195:
                                  total: 51.2s
                                                   remaining: 1m 19s
196:
        learn: 0.2221147
                                  total: 51.4s
                                                   remaining: 1m 19s
197:
        learn: 0.2220273
                                  total: 51.6s
                                                   remaining: 1m 18s
198:
        learn: 0.2219773
                                  total: 51.8s
                                                   remaining: 1m 18s
199:
        learn: 0.2219292
                                  total: 52s
                                                   remaining: 1m 18s
200:
        learn: 0.2218903
                                  total: 52.2s
                                                   remaining: 1m 17s
        learn: 0.2218149
                                                   remaining: 1m 17s
201:
                                  total: 52.5s
202:
        learn: 0.2217551
                                  total: 52.8s
                                                   remaining: 1m 17s
203:
        learn: 0.2216773
                                  total: 53s
                                                   remaining: 1m 16s
204:
        learn: 0.2215316
                                  total: 53.3s
                                                   remaining: 1m 16s
205:
        learn: 0.2214539
                                  total: 53.6s
                                                   remaining: 1m 16s
206:
        learn: 0.2213792
                                  total: 53.9s
                                                   remaining: 1m 16s
207:
        learn: 0.2212992
                                  total: 54.1s
                                                   remaining: 1m 15s
```

```
208:
        learn: 0.2212585
                                  total: 54.4s
                                                   remaining: 1m 15s
209:
        learn: 0.2212287
                                  total: 54.6s
                                                   remaining: 1m 15s
210:
        learn: 0.2211738
                                  total: 54.9s
                                                   remaining: 1m 15s
211:
        learn: 0.2211274
                                                   remaining: 1m 14s
                                  total: 55.1s
212:
        learn: 0.2210496
                                  total: 55.4s
                                                   remaining: 1m 14s
213:
                                  total: 55.7s
                                                   remaining: 1m 14s
        learn: 0.2210101
214:
        learn: 0.2209300
                                  total: 56s
                                                   remaining: 1m 14s
215:
        learn: 0.2208760
                                  total: 56.2s
                                                   remaining: 1m 13s
216:
        learn: 0.2208558
                                  total: 56.5s
                                                   remaining: 1m 13s
217:
        learn: 0.2207957
                                  total: 56.8s
                                                   remaining: 1m 13s
        learn: 0.2206903
218:
                                  total: 57.1s
                                                   remaining: 1m 13s
219:
        learn: 0.2206581
                                  total: 57.3s
                                                   remaining: 1m 12s
220:
        learn: 0.2206475
                                  total: 57.6s
                                                   remaining: 1m 12s
221:
        learn: 0.2205640
                                  total: 57.9s
                                                   remaining: 1m 12s
222:
        learn: 0.2204685
                                  total: 58.1s
                                                   remaining: 1m 12s
223:
        learn: 0.2204148
                                  total: 58.4s
                                                   remaining: 1m 11s
224:
        learn: 0.2203410
                                  total: 58.7s
                                                   remaining: 1m 11s
                                  total: 59s
225:
        learn: 0.2202749
                                                   remaining: 1m 11s
226:
        learn: 0.2202206
                                                   remaining: 1m 11s
                                  total: 59.3s
227:
        learn: 0.2201697
                                  total: 59.5s
                                                   remaining: 1m 11s
        learn: 0.2200658
                                  total: 59.8s
228:
                                                   remaining: 1m 10s
229:
        learn: 0.2200016
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2199392
                                  total: 1m
                                                   remaining: 1m 10s
231:
        learn: 0.2198759
                                                   remaining: 1m 10s
                                  total: 1m
232:
        learn: 0.2197577
                                  total: 1m
                                                   remaining: 1m 9s
233:
        learn: 0.2197256
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2196766
                                                   remaining: 1m 9s
                                  total: 1m 1s
235:
        learn: 0.2195238
                                  total: 1m 1s
                                                   remaining: 1m 8s
236:
        learn: 0.2194677
                                  total: 1m 1s
                                                   remaining: 1m 8s
237:
        learn: 0.2193898
                                  total: 1m 2s
                                                   remaining: 1m 8s
238:
        learn: 0.2193335
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
        learn: 0.2191530
                                  total: 1m 2s
                                                   remaining: 1m 7s
240:
        learn: 0.2190803
                                  total: 1m 2s
                                                   remaining: 1m 7s
241:
        learn: 0.2190381
                                  total: 1m 3s
                                                   remaining: 1m 7s
242:
                                  total: 1m 3s
                                                   remaining: 1m 7s
        learn: 0.2190081
                                  total: 1m 3s
243:
        learn: 0.2188465
                                                   remaining: 1m 6s
244:
        learn: 0.2188247
                                  total: 1m 3s
                                                   remaining: 1m 6s
245:
        learn: 0.2186946
                                  total: 1m 4s
                                                   remaining: 1m 6s
        learn: 0.2186771
                                  total: 1m 4s
246:
                                                   remaining: 1m 5s
247:
        learn: 0.2185944
                                  total: 1m 4s
                                                   remaining: 1m 5s
                                  total: 1m 4s
248:
        learn: 0.2185714
                                                   remaining: 1m 5s
249:
        learn: 0.2185487
                                                   remaining: 1m 5s
                                  total: 1m 5s
250:
        learn: 0.2184776
                                  total: 1m 5s
                                                   remaining: 1m 4s
251:
        learn: 0.2184393
                                  total: 1m 5s
                                                   remaining: 1m 4s
252:
        learn: 0.2182765
                                  total: 1m 5s
                                                   remaining: 1m 4s
253:
        learn: 0.2182586
                                  total: 1m 5s
                                                   remaining: 1m 3s
254:
        learn: 0.2181664
                                  total: 1m 6s
                                                   remaining: 1m 3s
255:
        learn: 0.2181218
                                  total: 1m 6s
                                                   remaining: 1m 3s
```

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256:
        learn: 0.2179600
                                  total: 1m 6s
                                                   remaining: 1m 3s
                                                   remaining: 1m 2s
257:
        learn: 0.2179337
                                  total: 1m 7s
258:
        learn: 0.2178678
                                  total: 1m 7s
                                                   remaining: 1m 2s
259:
        learn: 0.2177767
                                  total: 1m 7s
                                                   remaining: 1m 2s
260:
        learn: 0.2176066
                                  total: 1m 7s
                                                   remaining: 1m 2s
                                  total: 1m 8s
                                                   remaining: 1m 1s
261:
        learn: 0.2175304
262:
        learn: 0.2175067
                                  total: 1m 8s
                                                   remaining: 1m 1s
263:
        learn: 0.2174249
                                  total: 1m 8s
                                                   remaining: 1m 1s
264:
        learn: 0.2173581
                                  total: 1m 8s
                                                   remaining: 1m 1s
265:
        learn: 0.2173351
                                  total: 1m 9s
                                                   remaining: 1m
266:
        learn: 0.2172948
                                  total: 1m 9s
                                                   remaining: 1m
267:
        learn: 0.2172408
                                  total: 1m 9s
                                                   remaining: 1m
268:
        learn: 0.2171183
                                  total: 1m 10s
                                                   remaining: 1m
269:
        learn: 0.2169344
                                  total: 1m 10s
                                                   remaining: 59.9s
                                                   remaining: 59.6s
270:
        learn: 0.2168867
                                  total: 1m 10s
271:
        learn: 0.2168189
                                  total: 1m 10s
                                                   remaining: 59.4s
272:
        learn: 0.2167487
                                  total: 1m 11s
                                                   remaining: 59.2s
                                  total: 1m 11s
273:
        learn: 0.2166812
                                                   remaining: 58.9s
        learn: 0.2166511
274:
                                  total: 1m 11s
                                                   remaining: 58.6s
275:
        learn: 0.2165764
                                  total: 1m 11s
                                                   remaining: 58.4s
276:
        learn: 0.2165433
                                  total: 1m 12s
                                                   remaining: 58.1s
277:
        learn: 0.2164882
                                  total: 1m 12s
                                                   remaining: 57.9s
278:
        learn: 0.2164384
                                  total: 1m 12s
                                                   remaining: 57.6s
279:
        learn: 0.2164007
                                  total: 1m 13s
                                                   remaining: 57.4s
280:
        learn: 0.2163365
                                  total: 1m 13s
                                                   remaining: 57.1s
281:
        learn: 0.2162796
                                  total: 1m 13s
                                                   remaining: 56.8s
282:
        learn: 0.2162245
                                  total: 1m 13s
                                                   remaining: 56.6s
283:
        learn: 0.2161651
                                  total: 1m 14s
                                                   remaining: 56.3s
284:
        learn: 0.2161219
                                  total: 1m 14s
                                                   remaining: 56.1s
285:
        learn: 0.2160928
                                  total: 1m 14s
                                                   remaining: 55.8s
286:
        learn: 0.2160078
                                  total: 1m 14s
                                                   remaining: 55.5s
287:
        learn: 0.2159595
                                  total: 1m 15s
                                                   remaining: 55.3s
288:
        learn: 0.2158808
                                  total: 1m 15s
                                                   remaining: 55s
289:
        learn: 0.2158555
                                  total: 1m 15s
                                                   remaining: 54.7s
290:
        learn: 0.2158455
                                  total: 1m 15s
                                                   remaining: 54.5s
291:
        learn: 0.2157731
                                  total: 1m 16s
                                                   remaining: 54.2s
292:
        learn: 0.2157254
                                  total: 1m 16s
                                                   remaining: 54s
293:
        learn: 0.2156198
                                  total: 1m 16s
                                                   remaining: 53.7s
294:
        learn: 0.2155420
                                  total: 1m 16s
                                                   remaining: 53.5s
295:
        learn: 0.2155092
                                  total: 1m 17s
                                                   remaining: 53.2s
296:
        learn: 0.2154556
                                  total: 1m 17s
                                                   remaining: 52.9s
297:
        learn: 0.2153572
                                  total: 1m 17s
                                                   remaining: 52.7s
298:
        learn: 0.2153295
                                  total: 1m 17s
                                                   remaining: 52.4s
299:
        learn: 0.2152050
                                  total: 1m 18s
                                                   remaining: 52.1s
300:
        learn: 0.2151778
                                  total: 1m 18s
                                                   remaining: 51.9s
301:
        learn: 0.2151002
                                  total: 1m 18s
                                                   remaining: 51.6s
302:
        learn: 0.2149754
                                  total: 1m 18s
                                                   remaining: 51.3s
303:
        learn: 0.2149570
                                  total: 1m 19s
                                                   remaining: 51s
```

```
304:
        learn: 0.2149078
                                  total: 1m 19s
                                                   remaining: 50.7s
305:
        learn: 0.2147974
                                  total: 1m 19s
                                                   remaining: 50.5s
306:
        learn: 0.2147535
                                  total: 1m 19s
                                                   remaining: 50.2s
307:
        learn: 0.2147136
                                  total: 1m 20s
                                                   remaining: 49.9s
308:
        learn: 0.2143478
                                  total: 1m 20s
                                                   remaining: 49.7s
                                  total: 1m 20s
                                                   remaining: 49.4s
309:
        learn: 0.2143024
310:
        learn: 0.2142602
                                  total: 1m 20s
                                                   remaining: 49.1s
        learn: 0.2142180
311:
                                  total: 1m 21s
                                                   remaining: 48.8s
312:
        learn: 0.2141702
                                  total: 1m 21s
                                                   remaining: 48.6s
313:
        learn: 0.2141613
                                  total: 1m 21s
                                                   remaining: 48.3s
314:
        learn: 0.2140403
                                  total: 1m 21s
                                                   remaining: 48s
315:
        learn: 0.2139907
                                  total: 1m 21s
                                                   remaining: 47.7s
316:
        learn: 0.2139100
                                  total: 1m 22s
                                                   remaining: 47.5s
317:
        learn: 0.2138885
                                  total: 1m 22s
                                                   remaining: 47.2s
                                                   remaining: 46.9s
318:
        learn: 0.2138558
                                  total: 1m 22s
319:
        learn: 0.2138129
                                  total: 1m 22s
                                                   remaining: 46.7s
320:
        learn: 0.2138071
                                  total: 1m 23s
                                                   remaining: 46.4s
                                  total: 1m 23s
321:
        learn: 0.2136680
                                                   remaining: 46.2s
322:
        learn: 0.2136232
                                  total: 1m 23s
                                                   remaining: 45.9s
323:
        learn: 0.2135797
                                  total: 1m 24s
                                                   remaining: 45.7s
324:
        learn: 0.2134749
                                  total: 1m 24s
                                                   remaining: 45.4s
                                  total: 1m 24s
325:
        learn: 0.2134630
                                                   remaining: 45.1s
326:
        learn: 0.2133993
                                  total: 1m 24s
                                                   remaining: 44.9s
                                  total: 1m 25s
327:
        learn: 0.2133627
                                                   remaining: 44.6s
328:
        learn: 0.2132825
                                  total: 1m 25s
                                                   remaining: 44.4s
                                  total: 1m 25s
329:
        learn: 0.2132287
                                                   remaining: 44.1s
330:
        learn: 0.2131793
                                  total: 1m 25s
                                                   remaining: 43.9s
331:
        learn: 0.2130869
                                  total: 1m 26s
                                                   remaining: 43.6s
332:
        learn: 0.2130217
                                  total: 1m 26s
                                                   remaining: 43.3s
333:
        learn: 0.2129937
                                  total: 1m 26s
                                                   remaining: 43.1s
334:
        learn: 0.2129647
                                  total: 1m 27s
                                                   remaining: 42.9s
335:
        learn: 0.2128763
                                  total: 1m 27s
                                                   remaining: 42.6s
336:
        learn: 0.2128041
                                  total: 1m 27s
                                                   remaining: 42.3s
337:
        learn: 0.2127698
                                  total: 1m 27s
                                                   remaining: 42.1s
                                  total: 1m 28s
338:
        learn: 0.2126857
                                                   remaining: 41.9s
                                  total: 1m 28s
339:
        learn: 0.2126288
                                                   remaining: 41.6s
340:
        learn: 0.2125856
                                  total: 1m 28s
                                                   remaining: 41.4s
341:
        learn: 0.2125364
                                  total: 1m 29s
                                                   remaining: 41.1s
                                  total: 1m 29s
342:
        learn: 0.2124633
                                                   remaining: 40.9s
343:
        learn: 0.2123573
                                  total: 1m 29s
                                                   remaining: 40.6s
                                  total: 1m 29s
344:
        learn: 0.2123007
                                                   remaining: 40.3s
345:
        learn: 0.2122174
                                  total: 1m 30s
                                                   remaining: 40.1s
346:
        learn: 0.2121826
                                  total: 1m 30s
                                                   remaining: 39.8s
347:
        learn: 0.2121426
                                  total: 1m 30s
                                                   remaining: 39.5s
                                                   remaining: 39.3s
348:
        learn: 0.2121235
                                  total: 1m 30s
349:
        learn: 0.2118634
                                  total: 1m 31s
                                                   remaining: 39s
350:
        learn: 0.2117876
                                  total: 1m 31s
                                                   remaining: 38.8s
351:
        learn: 0.2117637
                                  total: 1m 31s
                                                   remaining: 38.5s
```

```
352:
        learn: 0.2117299
                                  total: 1m 31s
                                                   remaining: 38.3s
353:
        learn: 0.2116808
                                  total: 1m 32s
                                                   remaining: 38s
354:
        learn: 0.2116268
                                  total: 1m 32s
                                                   remaining: 37.8s
        learn: 0.2115980
355:
                                  total: 1m 32s
                                                   remaining: 37.5s
356:
        learn: 0.2115225
                                  total: 1m 33s
                                                   remaining: 37.3s
                                  total: 1m 33s
357:
        learn: 0.2114816
                                                   remaining: 37s
358:
        learn: 0.2114512
                                  total: 1m 33s
                                                   remaining: 36.7s
        learn: 0.2113444
359:
                                  total: 1m 33s
                                                   remaining: 36.5s
360:
        learn: 0.2112940
                                  total: 1m 34s
                                                   remaining: 36.2s
361:
        learn: 0.2112320
                                  total: 1m 34s
                                                   remaining: 35.9s
362:
        learn: 0.2111558
                                  total: 1m 34s
                                                   remaining: 35.7s
363:
        learn: 0.2110294
                                  total: 1m 34s
                                                   remaining: 35.4s
364:
        learn: 0.2109541
                                  total: 1m 35s
                                                   remaining: 35.1s
365:
        learn: 0.2109072
                                  total: 1m 35s
                                                   remaining: 34.9s
                                                   remaining: 34.6s
366:
        learn: 0.2108476
                                  total: 1m 35s
367:
        learn: 0.2108055
                                  total: 1m 35s
                                                   remaining: 34.3s
368:
        learn: 0.2107297
                                  total: 1m 36s
                                                   remaining: 34.1s
                                  total: 1m 36s
369:
        learn: 0.2106568
                                                   remaining: 33.8s
        learn: 0.2106334
370:
                                  total: 1m 36s
                                                   remaining: 33.6s
371:
        learn: 0.2105791
                                  total: 1m 36s
                                                   remaining: 33.3s
372:
        learn: 0.2105343
                                  total: 1m 37s
                                                   remaining: 33s
373:
        learn: 0.2104669
                                  total: 1m 37s
                                                   remaining: 32.8s
374:
        learn: 0.2103687
                                  total: 1m 37s
                                                   remaining: 32.5s
375:
        learn: 0.2102714
                                  total: 1m 37s
                                                   remaining: 32.2s
376:
        learn: 0.2102191
                                  total: 1m 38s
                                                   remaining: 32s
                                  total: 1m 38s
377:
        learn: 0.2101841
                                                   remaining: 31.7s
378:
        learn: 0.2101016
                                  total: 1m 38s
                                                   remaining: 31.4s
379:
        learn: 0.2100832
                                  total: 1m 38s
                                                   remaining: 31.2s
380:
        learn: 0.2100584
                                  total: 1m 39s
                                                   remaining: 30.9s
381:
        learn: 0.2100225
                                  total: 1m 39s
                                                   remaining: 30.7s
382:
        learn: 0.2099682
                                  total: 1m 39s
                                                   remaining: 30.4s
383:
        learn: 0.2099536
                                  total: 1m 39s
                                                   remaining: 30.1s
384:
        learn: 0.2098644
                                  total: 1m 40s
                                                   remaining: 29.9s
        learn: 0.2097659
                                  total: 1m 40s
385:
                                                   remaining: 29.6s
386:
        learn: 0.2096920
                                  total: 1m 40s
                                                   remaining: 29.4s
        learn: 0.2096447
387:
                                  total: 1m 40s
                                                   remaining: 29.1s
388:
        learn: 0.2095860
                                  total: 1m 41s
                                                   remaining: 28.8s
389:
        learn: 0.2095304
                                  total: 1m 41s
                                                   remaining: 28.6s
390:
        learn: 0.2094080
                                  total: 1m 41s
                                                   remaining: 28.3s
391:
        learn: 0.2093803
                                  total: 1m 41s
                                                   remaining: 28.1s
392:
        learn: 0.2093652
                                  total: 1m 42s
                                                   remaining: 27.8s
393:
        learn: 0.2093130
                                  total: 1m 42s
                                                   remaining: 27.5s
394:
        learn: 0.2092436
                                  total: 1m 42s
                                                   remaining: 27.3s
395:
        learn: 0.2092000
                                  total: 1m 42s
                                                   remaining: 27s
396:
        learn: 0.2091796
                                  total: 1m 43s
                                                   remaining: 26.8s
397:
        learn: 0.2091476
                                  total: 1m 43s
                                                   remaining: 26.5s
398:
        learn: 0.2091130
                                  total: 1m 43s
                                                   remaining: 26.2s
399:
        learn: 0.2090541
                                  total: 1m 43s
                                                   remaining: 26s
```

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400:
        learn: 0.2090472
                                  total: 1m 44s
                                                   remaining: 25.7s
401:
        learn: 0.2089911
                                  total: 1m 44s
                                                   remaining: 25.4s
402:
        learn: 0.2089393
                                  total: 1m 44s
                                                   remaining: 25.2s
        learn: 0.2089104
                                                   remaining: 24.9s
403:
                                  total: 1m 44s
404:
        learn: 0.2088470
                                  total: 1m 45s
                                                   remaining: 24.7s
                                  total: 1m 45s
405:
        learn: 0.2088023
                                                   remaining: 24.4s
406:
        learn: 0.2087667
                                  total: 1m 45s
                                                   remaining: 24.1s
407:
        learn: 0.2087065
                                  total: 1m 45s
                                                   remaining: 23.9s
408:
        learn: 0.2086827
                                  total: 1m 46s
                                                   remaining: 23.6s
409:
        learn: 0.2086369
                                  total: 1m 46s
                                                   remaining: 23.4s
410:
        learn: 0.2085459
                                  total: 1m 46s
                                                   remaining: 23.1s
411:
        learn: 0.2085164
                                  total: 1m 47s
                                                   remaining: 22.9s
412:
        learn: 0.2084527
                                  total: 1m 47s
                                                   remaining: 22.6s
413:
        learn: 0.2084366
                                  total: 1m 47s
                                                   remaining: 22.4s
414:
        learn: 0.2083987
                                  total: 1m 47s
                                                   remaining: 22.1s
415:
        learn: 0.2083289
                                  total: 1m 48s
                                                   remaining: 21.8s
416:
        learn: 0.2083040
                                  total: 1m 48s
                                                   remaining: 21.6s
                                  total: 1m 48s
417:
        learn: 0.2082613
                                                   remaining: 21.3s
418:
        learn: 0.2082378
                                  total: 1m 48s
                                                   remaining: 21.1s
419:
        learn: 0.2081823
                                  total: 1m 49s
                                                   remaining: 20.8s
420:
        learn: 0.2080813
                                  total: 1m 49s
                                                   remaining: 20.5s
421:
        learn: 0.2080500
                                  total: 1m 49s
                                                   remaining: 20.3s
422:
        learn: 0.2080177
                                  total: 1m 49s
                                                   remaining: 20s
423:
        learn: 0.2079402
                                  total: 1m 50s
                                                   remaining: 19.8s
424:
        learn: 0.2078829
                                  total: 1m 50s
                                                   remaining: 19.5s
425:
        learn: 0.2077737
                                  total: 1m 50s
                                                   remaining: 19.2s
426:
        learn: 0.2077389
                                  total: 1m 51s
                                                   remaining: 19s
427:
        learn: 0.2077295
                                  total: 1m 51s
                                                   remaining: 18.7s
428:
        learn: 0.2076160
                                  total: 1m 51s
                                                   remaining: 18.5s
429:
        learn: 0.2075911
                                  total: 1m 51s
                                                   remaining: 18.2s
430:
        learn: 0.2075580
                                  total: 1m 51s
                                                   remaining: 17.9s
431:
        learn: 0.2075013
                                  total: 1m 52s
                                                   remaining: 17.7s
432:
        learn: 0.2074393
                                  total: 1m 52s
                                                   remaining: 17.4s
433:
        learn: 0.2073591
                                  total: 1m 52s
                                                   remaining: 17.1s
434:
        learn: 0.2072789
                                  total: 1m 52s
                                                   remaining: 16.9s
435:
        learn: 0.2072001
                                  total: 1m 53s
                                                   remaining: 16.6s
436:
        learn: 0.2071624
                                  total: 1m 53s
                                                   remaining: 16.4s
437:
        learn: 0.2070359
                                  total: 1m 53s
                                                   remaining: 16.1s
438:
        learn: 0.2070186
                                  total: 1m 53s
                                                   remaining: 15.8s
439:
        learn: 0.2069872
                                  total: 1m 54s
                                                   remaining: 15.6s
440:
        learn: 0.2069102
                                  total: 1m 54s
                                                   remaining: 15.3s
441:
        learn: 0.2068536
                                  total: 1m 54s
                                                   remaining: 15.1s
442:
        learn: 0.2067539
                                  total: 1m 55s
                                                   remaining: 14.8s
443:
        learn: 0.2066153
                                  total: 1m 55s
                                                   remaining: 14.5s
                                                   remaining: 14.3s
444:
        learn: 0.2066057
                                  total: 1m 55s
445:
        learn: 0.2065896
                                  total: 1m 55s
                                                   remaining: 14s
446:
        learn: 0.2065641
                                  total: 1m 56s
                                                   remaining: 13.8s
447:
        learn: 0.2064998
                                  total: 1m 56s
                                                   remaining: 13.5s
```

```
448:
        learn: 0.2064387
                                  total: 1m 56s
                                                   remaining: 13.3s
449:
        learn: 0.2064162
                                  total: 1m 56s
                                                   remaining: 13s
450:
        learn: 0.2063524
                                  total: 1m 57s
                                                   remaining: 12.7s
        learn: 0.2063007
                                  total: 1m 57s
                                                   remaining: 12.5s
451:
452:
        learn: 0.2062480
                                  total: 1m 57s
                                                   remaining: 12.2s
                                  total: 1m 57s
                                                   remaining: 12s
453:
        learn: 0.2061379
454:
        learn: 0.2060920
                                  total: 1m 58s
                                                   remaining: 11.7s
455:
        learn: 0.2060145
                                  total: 1m 58s
                                                   remaining: 11.4s
456:
        learn: 0.2059778
                                  total: 1m 58s
                                                   remaining: 11.2s
457:
        learn: 0.2059151
                                  total: 1m 59s
                                                   remaining: 10.9s
458:
        learn: 0.2058892
                                  total: 1m 59s
                                                   remaining: 10.7s
459:
        learn: 0.2058559
                                  total: 1m 59s
                                                   remaining: 10.4s
460:
        learn: 0.2058104
                                  total: 1m 59s
                                                   remaining: 10.1s
461:
        learn: 0.2057676
                                  total: 2m
                                                   remaining: 9.89s
462:
        learn: 0.2056990
                                  total: 2m
                                                   remaining: 9.63s
463:
        learn: 0.2056372
                                  total: 2m
                                                   remaining: 9.37s
464:
        learn: 0.2055562
                                  total: 2m 1s
                                                   remaining: 9.11s
                                  total: 2m 1s
465:
        learn: 0.2055017
                                                   remaining: 8.85s
        learn: 0.2054611
466:
                                  total: 2m 1s
                                                   remaining: 8.59s
467:
        learn: 0.2054265
                                  total: 2m 1s
                                                   remaining: 8.33s
468:
        learn: 0.2053647
                                  total: 2m 2s
                                                   remaining: 8.07s
                                  total: 2m 2s
469:
        learn: 0.2053383
                                                   remaining: 7.81s
470:
        learn: 0.2052716
                                  total: 2m 2s
                                                   remaining: 7.55s
                                  total: 2m 2s
471:
        learn: 0.2052274
                                                   remaining: 7.29s
472:
        learn: 0.2051346
                                  total: 2m 3s
                                                   remaining: 7.03s
                                  total: 2m 3s
473:
        learn: 0.2050823
                                                   remaining: 6.77s
474:
        learn: 0.2049466
                                  total: 2m 3s
                                                   remaining: 6.51s
475:
        learn: 0.2048770
                                  total: 2m 4s
                                                   remaining: 6.25s
476:
        learn: 0.2048336
                                  total: 2m 4s
                                                   remaining: 5.99s
477:
        learn: 0.2047404
                                  total: 2m 4s
                                                   remaining: 5.73s
478:
        learn: 0.2046461
                                  total: 2m 4s
                                                   remaining: 5.47s
479:
        learn: 0.2046158
                                  total: 2m 5s
                                                   remaining: 5.21s
480:
        learn: 0.2045734
                                  total: 2m 5s
                                                   remaining: 4.95s
481:
        learn: 0.2045130
                                  total: 2m 5s
                                                   remaining: 4.69s
482:
        learn: 0.2044654
                                  total: 2m 5s
                                                   remaining: 4.43s
483:
        learn: 0.2044108
                                  total: 2m 6s
                                                   remaining: 4.17s
484:
        learn: 0.2043695
                                  total: 2m 6s
                                                   remaining: 3.9s
485:
        learn: 0.2043366
                                  total: 2m 6s
                                                   remaining: 3.64s
                                  total: 2m 6s
486:
        learn: 0.2042516
                                                   remaining: 3.38s
487:
        learn: 0.2042172
                                  total: 2m 7s
                                                   remaining: 3.12s
488:
        learn: 0.2041505
                                  total: 2m 7s
                                                   remaining: 2.86s
489:
        learn: 0.2041205
                                  total: 2m 7s
                                                   remaining: 2.6s
490:
        learn: 0.2040743
                                  total: 2m 7s
                                                   remaining: 2.34s
491:
        learn: 0.2039728
                                  total: 2m 8s
                                                   remaining: 2.08s
                                                   remaining: 1.82s
492:
        learn: 0.2039260
                                  total: 2m 8s
493:
        learn: 0.2038637
                                  total: 2m 8s
                                                   remaining: 1.56s
494:
        learn: 0.2038272
                                  total: 2m 8s
                                                   remaining: 1.3s
495:
        learn: 0.2037813
                                  total: 2m 9s
                                                   remaining: 1.04s
```

```
496:
        learn: 0.2037650
                                  total: 2m 9s
                                                   remaining: 781ms
497:
        learn: 0.2037254
                                  total: 2m 9s
                                                   remaining: 520ms
498:
        learn: 0.2036991
                                  total: 2m 9s
                                                   remaining: 260ms
499:
        learn: 0.2036822
                                  total: 2m 10s
                                                   remaining: Ous
Learning rate set to 0.174288
        learn: 0.9714160
                                                   remaining: 2m 27s
0:
                                  total: 295ms
                                                   remaining: 2m 24s
1:
        learn: 0.8884781
                                  total: 580ms
2:
        learn: 0.8295731
                                  total: 823ms
                                                   remaining: 2m 16s
3.
        learn: 0.7384586
                                  total: 1.12s
                                                   remaining: 2m 19s
4:
        learn: 0.6655190
                                  total: 1.42s
                                                   remaining: 2m 20s
5:
        learn: 0.6399593
                                  total: 1.69s
                                                   remaining: 2m 18s
                                                   remaining: 2m 18s
6:
        learn: 0.6185471
                                  total: 1.96s
7:
        learn: 0.5549316
                                  total: 2.27s
                                                   remaining: 2m 19s
8:
        learn: 0.5065485
                                  total: 2.54s
                                                   remaining: 2m 18s
9:
        learn: 0.4675536
                                  total: 2.82s
                                                   remaining: 2m 18s
10:
                                  total: 3.08s
        learn: 0.4598879
                                                   remaining: 2m 16s
11:
        learn: 0.4322648
                                  total: 3.38s
                                                   remaining: 2m 17s
12:
        learn: 0.4079065
                                  total: 3.69s
                                                   remaining: 2m 18s
        learn: 0.3876222
                                  total: 3.98s
                                                   remaining: 2m 18s
13.
14:
        learn: 0.3713255
                                  total: 4.27s
                                                   remaining: 2m 18s
                                                   remaining: 2m 17s
15:
        learn: 0.3540575
                                  total: 4.55s
16:
        learn: 0.3404556
                                  total: 4.82s
                                                   remaining: 2m 16s
17:
        learn: 0.3315706
                                  total: 5.09s
                                                   remaining: 2m 16s
        learn: 0.3182144
                                  total: 5.37s
                                                   remaining: 2m 16s
18:
19:
        learn: 0.3131228
                                  total: 5.64s
                                                   remaining: 2m 15s
20:
        learn: 0.3027596
                                  total: 5.93s
                                                   remaining: 2m 15s
21:
        learn: 0.2974109
                                  total: 6.24s
                                                   remaining: 2m 15s
22:
        learn: 0.2957655
                                  total: 6.51s
                                                   remaining: 2m 15s
                                  total: 6.79s
23:
        learn: 0.2884805
                                                   remaining: 2m 14s
24:
        learn: 0.2871295
                                  total: 7.07s
                                                   remaining: 2m 14s
25:
        learn: 0.2812937
                                  total: 7.38s
                                                   remaining: 2m 14s
26:
        learn: 0.2760433
                                  total: 7.66s
                                                   remaining: 2m 14s
27:
        learn: 0.2751447
                                  total: 7.94s
                                                   remaining: 2m 13s
28:
        learn: 0.2743507
                                  total: 8.22s
                                                   remaining: 2m 13s
29:
                                  total: 8.52s
                                                   remaining: 2m 13s
        learn: 0.2736952
30:
        learn: 0.2695535
                                  total: 8.81s
                                                   remaining: 2m 13s
31:
        learn: 0.2691394
                                  total: 9.11s
                                                   remaining: 2m 13s
32:
        learn: 0.2687001
                                  total: 9.38s
                                                   remaining: 2m 12s
        learn: 0.2680796
33:
                                  total: 9.68s
                                                   remaining: 2m 12s
34:
        learn: 0.2675077
                                  total: 9.96s
                                                   remaining: 2m 12s
35:
        learn: 0.2643615
                                  total: 10.2s
                                                   remaining: 2m 12s
        learn: 0.2613950
                                  total: 10.5s
                                                   remaining: 2m 11s
36:
37:
        learn: 0.2608356
                                  total: 10.7s
                                                   remaining: 2m 10s
38:
        learn: 0.2604766
                                  total: 11s
                                                   remaining: 2m 9s
39:
        learn: 0.2583703
                                  total: 11.3s
                                                   remaining: 2m 9s
40:
        learn: 0.2579814
                                  total: 11.6s
                                                   remaining: 2m 9s
41:
        learn: 0.2576370
                                  total: 11.8s
                                                   remaining: 2m 9s
42:
        learn: 0.2574845
                                  total: 12.1s
                                                   remaining: 2m 8s
```

```
43:
        learn: 0.2567535
                                  total: 12.4s
                                                   remaining: 2m 8s
44:
        learn: 0.2565105
                                  total: 12.6s
                                                   remaining: 2m 7s
45:
        learn: 0.2550493
                                  total: 12.9s
                                                   remaining: 2m 7s
        learn: 0.2542526
                                  total: 13.2s
                                                   remaining: 2m 6s
46:
                                                   remaining: 2m 6s
47:
        learn: 0.2540157
                                  total: 13.4s
        learn: 0.2536472
                                  total: 13.7s
                                                   remaining: 2m 5s
48:
49:
        learn: 0.2531318
                                  total: 13.9s
                                                   remaining: 2m 5s
50:
        learn: 0.2529483
                                  total: 14.2s
                                                   remaining: 2m 5s
                                                   remaining: 2m 4s
51:
        learn: 0.2517574
                                  total: 14.5s
52:
        learn: 0.2514577
                                  total: 14.7s
                                                   remaining: 2m 4s
        learn: 0.2511380
53:
                                  total: 15s
                                                   remaining: 2m 3s
                                                   remaining: 2m 2s
54:
        learn: 0.2509813
                                  total: 15.2s
55:
        learn: 0.2506613
                                  total: 15.5s
                                                   remaining: 2m 2s
56:
        learn: 0.2504461
                                  total: 15.7s
                                                   remaining: 2m 2s
57:
        learn: 0.2502078
                                  total: 16s
                                                   remaining: 2m 2s
58:
        learn: 0.2497216
                                                   remaining: 2m 2s
                                  total: 16.3s
59:
        learn: 0.2493017
                                  total: 16.6s
                                                   remaining: 2m 1s
60:
        learn: 0.2491927
                                  total: 16.9s
                                                   remaining: 2m 1s
        learn: 0.2489709
                                  total: 17.1s
                                                   remaining: 2m 1s
61:
62:
        learn: 0.2489256
                                  total: 17.4s
                                                   remaining: 2m
                                  total: 17.7s
63:
        learn: 0.2485633
                                                   remaining: 2m
64:
        learn: 0.2465040
                                  total: 18s
                                                   remaining: 2m
65:
        learn: 0.2462623
                                  total: 18.3s
                                                   remaining: 2m
        learn: 0.2445372
                                  total: 18.5s
                                                   remaining: 1m 59s
66:
67:
        learn: 0.2444074
                                  total: 18.8s
                                                   remaining: 1m 59s
        learn: 0.2443096
68:
                                  total: 19.1s
                                                   remaining: 1m 59s
        learn: 0.2420539
                                  total: 19.4s
                                                   remaining: 1m 59s
69:
70:
        learn: 0.2420098
                                  total: 19.6s
                                                   remaining: 1m 58s
71:
        learn: 0.2414880
                                  total: 19.9s
                                                   remaining: 1m 58s
72:
        learn: 0.2400681
                                  total: 20.2s
                                                   remaining: 1m 58s
73:
        learn: 0.2398986
                                  total: 20.5s
                                                   remaining: 1m 57s
74:
        learn: 0.2398518
                                  total: 20.7s
                                                   remaining: 1m 57s
75:
        learn: 0.2397443
                                  total: 21s
                                                   remaining: 1m 57s
76:
        learn: 0.2396282
                                  total: 21.3s
                                                   remaining: 1m 56s
77:
                                  total: 21.6s
                                                   remaining: 1m 56s
        learn: 0.2395882
78:
        learn: 0.2382827
                                  total: 21.8s
                                                   remaining: 1m 56s
79:
        learn: 0.2379621
                                  total: 22.1s
                                                   remaining: 1m 56s
: 08
        learn: 0.2376907
                                  total: 22.4s
                                                   remaining: 1m 56s
81:
        learn: 0.2376465
                                  total: 22.7s
                                                   remaining: 1m 55s
82:
        learn: 0.2363311
                                  total: 23s
                                                   remaining: 1m 55s
                                  total: 23.2s
83:
        learn: 0.2361726
                                                   remaining: 1m 55s
84:
        learn: 0.2359334
                                  total: 23.5s
                                                   remaining: 1m 54s
85:
        learn: 0.2356882
                                  total: 23.7s
                                                   remaining: 1m 54s
86:
        learn: 0.2356173
                                  total: 24s
                                                   remaining: 1m 53s
87:
        learn: 0.2354800
                                  total: 24.3s
                                                   remaining: 1m 53s
88:
        learn: 0.2353935
                                  total: 24.5s
                                                   remaining: 1m 53s
89:
        learn: 0.2353465
                                  total: 24.7s
                                                   remaining: 1m 52s
90:
        learn: 0.2350845
                                  total: 25s
                                                   remaining: 1m 52s
```

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91:
        learn: 0.2349800
                                  total: 25.3s
                                                   remaining: 1m 52s
92:
        learn: 0.2347523
                                  total: 25.6s
                                                   remaining: 1m 51s
93:
        learn: 0.2347098
                                  total: 25.8s
                                                   remaining: 1m 51s
94:
        learn: 0.2345471
                                  total: 26.1s
                                                   remaining: 1m 51s
                                                   remaining: 1m 50s
95:
        learn: 0.2345144
                                  total: 26.3s
                                  total: 26.5s
                                                   remaining: 1m 50s
96:
        learn: 0.2343235
97:
        learn: 0.2341420
                                  total: 26.8s
                                                   remaining: 1m 49s
98:
        learn: 0.2340158
                                  total: 27s
                                                   remaining: 1m 49s
99:
        learn: 0.2340017
                                  total: 27.3s
                                                   remaining: 1m 49s
100:
        learn: 0.2338930
                                  total: 27.5s
                                                   remaining: 1m 48s
                                  total: 27.7s
101:
        learn: 0.2337877
                                                   remaining: 1m 48s
                                                   remaining: 1m 47s
102:
        learn: 0.2337547
                                  total: 28s
103:
        learn: 0.2335649
                                  total: 28.2s
                                                   remaining: 1m 47s
104:
        learn: 0.2334847
                                  total: 28.4s
                                                   remaining: 1m 46s
105:
        learn: 0.2332316
                                  total: 28.7s
                                                   remaining: 1m 46s
        learn: 0.2330790
106:
                                  total: 28.9s
                                                   remaining: 1m 46s
107:
        learn: 0.2329881
                                  total: 29.2s
                                                   remaining: 1m 45s
108:
        learn: 0.2329056
                                  total: 29.4s
                                                   remaining: 1m 45s
        learn: 0.2327724
                                  total: 29.6s
                                                   remaining: 1m 45s
109:
110:
        learn: 0.2326757
                                  total: 29.8s
                                                   remaining: 1m 44s
111:
        learn: 0.2325549
                                  total: 30s
                                                   remaining: 1m 44s
112:
        learn: 0.2325058
                                  total: 30.2s
                                                   remaining: 1m 43s
113:
        learn: 0.2324272
                                  total: 30.4s
                                                   remaining: 1m 42s
                                  total: 30.5s
                                                   remaining: 1m 42s
114:
        learn: 0.2323949
115:
        learn: 0.2322423
                                  total: 30.7s
                                                   remaining: 1m 41s
116:
        learn: 0.2322197
                                  total: 30.9s
                                                   remaining: 1m 41s
        learn: 0.2321942
                                  total: 31.1s
                                                   remaining: 1m 40s
117:
118:
        learn: 0.2321564
                                  total: 31.3s
                                                   remaining: 1m 40s
        learn: 0.2321035
119:
                                  total: 31.4s
                                                   remaining: 1m 39s
120:
        learn: 0.2319644
                                  total: 31.7s
                                                   remaining: 1m 39s
        learn: 0.2319388
                                  total: 31.9s
                                                   remaining: 1m 38s
121:
122:
        learn: 0.2318074
                                  total: 32.1s
                                                   remaining: 1m 38s
123:
        learn: 0.2316460
                                  total: 32.3s
                                                   remaining: 1m 37s
124:
        learn: 0.2315697
                                  total: 32.6s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
125:
        learn: 0.2314746
                                  total: 32.8s
126:
        learn: 0.2313492
                                  total: 33.1s
                                                   remaining: 1m 37s
127:
        learn: 0.2312869
                                  total: 33.3s
                                                   remaining: 1m 36s
128:
        learn: 0.2312096
                                  total: 33.6s
                                                   remaining: 1m 36s
                                                   remaining: 1m 36s
129:
        learn: 0.2311167
                                  total: 33.9s
130:
        learn: 0.2310968
                                  total: 34.2s
                                                   remaining: 1m 36s
131:
        learn: 0.2310456
                                  total: 34.5s
                                                   remaining: 1m 36s
        learn: 0.2309671
                                  total: 34.7s
                                                   remaining: 1m 35s
132:
133:
        learn: 0.2309028
                                  total: 35s
                                                   remaining: 1m 35s
134:
        learn: 0.2308225
                                  total: 35.3s
                                                   remaining: 1m 35s
135:
        learn: 0.2307529
                                  total: 35.5s
                                                   remaining: 1m 35s
136:
        learn: 0.2306867
                                  total: 35.8s
                                                   remaining: 1m 34s
137:
        learn: 0.2305995
                                  total: 36s
                                                   remaining: 1m 34s
138:
        learn: 0.2298370
                                  total: 36.3s
                                                   remaining: 1m 34s
```

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139:
        learn: 0.2298112
                                  total: 36.5s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
140:
        learn: 0.2297745
                                  total: 36.8s
                                  total: 37s
141:
        learn: 0.2291994
                                                   remaining: 1m 33s
142:
        learn: 0.2291421
                                  total: 37.3s
                                                   remaining: 1m 33s
                                                   remaining: 1m 32s
143:
        learn: 0.2290091
                                  total: 37.6s
                                                   remaining: 1m 32s
144:
        learn: 0.2289608
                                  total: 37.9s
145:
        learn: 0.2287070
                                  total: 38.1s
                                                   remaining: 1m 32s
146:
        learn: 0.2286476
                                  total: 38.4s
                                                   remaining: 1m 32s
147:
        learn: 0.2286078
                                  total: 38.7s
                                                   remaining: 1m 32s
148:
        learn: 0.2285452
                                  total: 39s
                                                   remaining: 1m 31s
149:
        learn: 0.2284951
                                  total: 39.2s
                                                   remaining: 1m 31s
150:
        learn: 0.2284712
                                  total: 39.5s
                                                   remaining: 1m 31s
                                  total: 39.8s
151:
        learn: 0.2283853
                                                   remaining: 1m 31s
152:
        learn: 0.2282986
                                  total: 40.1s
                                                   remaining: 1m 30s
153:
        learn: 0.2282134
                                  total: 40.3s
                                                   remaining: 1m 30s
154:
        learn: 0.2281463
                                  total: 40.6s
                                                   remaining: 1m 30s
155:
        learn: 0.2280326
                                  total: 40.9s
                                                   remaining: 1m 30s
156:
        learn: 0.2279293
                                  total: 41.1s
                                                   remaining: 1m 29s
        learn: 0.2277627
                                  total: 41.4s
                                                   remaining: 1m 29s
157:
158:
        learn: 0.2276350
                                  total: 41.6s
                                                   remaining: 1m 29s
159:
        learn: 0.2276119
                                  total: 41.9s
                                                   remaining: 1m 29s
160:
        learn: 0.2273959
                                  total: 42.1s
                                                   remaining: 1m 28s
161:
        learn: 0.2273223
                                  total: 42.4s
                                                   remaining: 1m 28s
                                                   remaining: 1m 28s
162:
        learn: 0.2272776
                                  total: 42.6s
163:
        learn: 0.2271786
                                  total: 42.9s
                                                   remaining: 1m 27s
164:
        learn: 0.2269127
                                  total: 43.1s
                                                   remaining: 1m 27s
        learn: 0.2268716
                                                   remaining: 1m 27s
165:
                                  total: 43.3s
166:
        learn: 0.2267963
                                  total: 43.6s
                                                   remaining: 1m 26s
167:
        learn: 0.2267394
                                  total: 43.8s
                                                   remaining: 1m 26s
168:
        learn: 0.2266701
                                  total: 44.1s
                                                   remaining: 1m 26s
        learn: 0.2265471
169:
                                  total: 44.3s
                                                   remaining: 1m 25s
170:
        learn: 0.2264499
                                  total: 44.5s
                                                   remaining: 1m 25s
171:
        learn: 0.2262760
                                  total: 44.8s
                                                   remaining: 1m 25s
172:
        learn: 0.2261927
                                  total: 45s
                                                   remaining: 1m 25s
173:
        learn: 0.2261350
                                  total: 45.3s
                                                   remaining: 1m 24s
174:
        learn: 0.2260840
                                  total: 45.5s
                                                   remaining: 1m 24s
175:
        learn: 0.2260070
                                  total: 45.8s
                                                   remaining: 1m 24s
176:
        learn: 0.2253864
                                  total: 46s
                                                   remaining: 1m 23s
177:
        learn: 0.2252549
                                  total: 46.3s
                                                   remaining: 1m 23s
178:
        learn: 0.2252142
                                  total: 46.5s
                                                   remaining: 1m 23s
179:
        learn: 0.2250365
                                  total: 46.7s
                                                   remaining: 1m 23s
        learn: 0.2249793
                                                   remaining: 1m 22s
180:
                                  total: 47s
        learn: 0.2249459
                                                   remaining: 1m 22s
181:
                                  total: 47.2s
182:
        learn: 0.2248979
                                  total: 47.4s
                                                   remaining: 1m 22s
183:
        learn: 0.2248496
                                  total: 47.7s
                                                   remaining: 1m 21s
        learn: 0.2248021
184:
                                  total: 48s
                                                   remaining: 1m 21s
185:
        learn: 0.2246958
                                  total: 48.3s
                                                   remaining: 1m 21s
186:
        learn: 0.2245880
                                  total: 48.6s
                                                   remaining: 1m 21s
```

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187:
        learn: 0.2245624
                                  total: 48.8s
                                                   remaining: 1m 21s
188:
        learn: 0.2245327
                                  total: 49.1s
                                                   remaining: 1m 20s
189:
        learn: 0.2244785
                                  total: 49.4s
                                                   remaining: 1m 20s
        learn: 0.2244407
                                  total: 49.6s
                                                   remaining: 1m 20s
190:
                                                   remaining: 1m 19s
191:
        learn: 0.2243709
                                  total: 49.9s
                                                   remaining: 1m 19s
192:
        learn: 0.2243437
                                  total: 50.1s
193:
        learn: 0.2243157
                                  total: 50.4s
                                                   remaining: 1m 19s
194:
        learn: 0.2242392
                                  total: 50.7s
                                                   remaining: 1m 19s
195:
        learn: 0.2242085
                                  total: 50.9s
                                                   remaining: 1m 18s
196:
        learn: 0.2241879
                                  total: 51.2s
                                                   remaining: 1m 18s
197:
        learn: 0.2241642
                                  total: 51.5s
                                                   remaining: 1m 18s
198:
        learn: 0.2241385
                                  total: 51.7s
                                                   remaining: 1m 18s
199:
        learn: 0.2241200
                                  total: 52s
                                                   remaining: 1m 17s
200:
        learn: 0.2240601
                                  total: 52.2s
                                                   remaining: 1m 17s
201:
        learn: 0.2239290
                                  total: 52.5s
                                                   remaining: 1m 17s
        learn: 0.2238229
202:
                                  total: 52.8s
                                                   remaining: 1m 17s
203:
        learn: 0.2237394
                                  total: 53.1s
                                                   remaining: 1m 16s
204:
        learn: 0.2237149
                                  total: 53.3s
                                                   remaining: 1m 16s
        learn: 0.2236949
                                                   remaining: 1m 16s
205:
                                  total: 53.6s
206:
        learn: 0.2236466
                                  total: 53.8s
                                                   remaining: 1m 16s
207:
        learn: 0.2236069
                                  total: 54.1s
                                                   remaining: 1m 15s
208:
        learn: 0.2235674
                                  total: 54.4s
                                                   remaining: 1m 15s
209:
        learn: 0.2235121
                                  total: 54.7s
                                                   remaining: 1m 15s
210:
                                  total: 54.9s
                                                   remaining: 1m 15s
        learn: 0.2234090
211:
        learn: 0.2233120
                                  total: 55.2s
                                                   remaining: 1m 15s
212:
        learn: 0.2232844
                                  total: 55.4s
                                                   remaining: 1m 14s
213:
        learn: 0.2232627
                                  total: 55.6s
                                                   remaining: 1m 14s
214:
        learn: 0.2230315
                                  total: 55.9s
                                                   remaining: 1m 14s
215:
        learn: 0.2228820
                                  total: 56.1s
                                                   remaining: 1m 13s
216:
        learn: 0.2228101
                                  total: 56.3s
                                                  remaining: 1m 13s
217:
        learn: 0.2226848
                                  total: 56.5s
                                                   remaining: 1m 13s
218:
        learn: 0.2226349
                                  total: 56.7s
                                                   remaining: 1m 12s
219:
        learn: 0.2225523
                                  total: 56.9s
                                                   remaining: 1m 12s
220:
        learn: 0.2225129
                                  total: 57.1s
                                                   remaining: 1m 12s
221:
        learn: 0.2224749
                                  total: 57.3s
                                                   remaining: 1m 11s
222:
        learn: 0.2224592
                                  total: 57.5s
                                                   remaining: 1m 11s
223:
        learn: 0.2223455
                                  total: 57.8s
                                                   remaining: 1m 11s
224:
        learn: 0.2222827
                                  total: 58s
                                                   remaining: 1m 10s
225:
        learn: 0.2209491
                                  total: 58.3s
                                                   remaining: 1m 10s
226:
        learn: 0.2208965
                                  total: 58.5s
                                                   remaining: 1m 10s
227:
        learn: 0.2208172
                                  total: 58.8s
                                                   remaining: 1m 10s
228:
        learn: 0.2207294
                                                   remaining: 1m 9s
                                  total: 59.1s
229:
        learn: 0.2206411
                                  total: 59.4s
                                                   remaining: 1m 9s
230:
        learn: 0.2205661
                                  total: 59.6s
                                                   remaining: 1m 9s
231:
        learn: 0.2204138
                                  total: 59.9s
                                                   remaining: 1m 9s
232:
        learn: 0.2203805
                                  total: 1m
                                                   remaining: 1m 8s
233:
        learn: 0.2202824
                                  total: 1m
                                                   remaining: 1m 8s
234:
        learn: 0.2201753
                                  total: 1m
                                                   remaining: 1m 8s
```

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235:
        learn: 0.2201104
                                  total: 1m
                                                   remaining: 1m 8s
                                                   remaining: 1m 7s
236:
        learn: 0.2200892
                                  total: 1m 1s
237:
        learn: 0.2200407
                                  total: 1m 1s
                                                   remaining: 1m 7s
238:
        learn: 0.2199652
                                                   remaining: 1m 7s
                                  total: 1m 1s
239:
        learn: 0.2198934
                                  total: 1m 1s
                                                   remaining: 1m 6s
                                  total: 1m 2s
                                                   remaining: 1m 6s
240:
        learn: 0.2198321
241:
        learn: 0.2198045
                                  total: 1m 2s
                                                   remaining: 1m 6s
242:
        learn: 0.2197350
                                  total: 1m 2s
                                                   remaining: 1m 6s
243:
        learn: 0.2196395
                                  total: 1m 2s
                                                   remaining: 1m 5s
244:
        learn: 0.2195896
                                  total: 1m 3s
                                                   remaining: 1m 5s
245:
                                                   remaining: 1m 5s
        learn: 0.2194596
                                  total: 1m 3s
246:
        learn: 0.2193695
                                  total: 1m 3s
                                                   remaining: 1m 5s
247:
        learn: 0.2193134
                                  total: 1m 3s
                                                   remaining: 1m 4s
248:
        learn: 0.2191792
                                  total: 1m 4s
                                                   remaining: 1m 4s
249:
        learn: 0.2191341
                                  total: 1m 4s
                                                   remaining: 1m 4s
250:
        learn: 0.2190942
                                  total: 1m 4s
                                                   remaining: 1m 4s
251:
        learn: 0.2190598
                                  total: 1m 4s
                                                   remaining: 1m 3s
252:
        learn: 0.2189867
                                  total: 1m 5s
                                                   remaining: 1m 3s
                                  total: 1m 5s
253:
        learn: 0.2189278
                                                   remaining: 1m 3s
254:
        learn: 0.2188910
                                  total: 1m 5s
                                                   remaining: 1m 3s
255:
        learn: 0.2188631
                                  total: 1m 5s
                                                   remaining: 1m 2s
                                  total: 1m 6s
256:
        learn: 0.2188211
                                                   remaining: 1m 2s
257:
        learn: 0.2187810
                                  total: 1m 6s
                                                   remaining: 1m 2s
258:
                                  total: 1m 6s
        learn: 0.2187251
                                                   remaining: 1m 2s
259:
        learn: 0.2186318
                                  total: 1m 7s
                                                   remaining: 1m 1s
260:
        learn: 0.2185718
                                  total: 1m 7s
                                                   remaining: 1m 1s
261:
        learn: 0.2184834
                                  total: 1m 7s
                                                   remaining: 1m 1s
262:
        learn: 0.2184621
                                  total: 1m 7s
                                                   remaining: 1m 1s
263:
        learn: 0.2184160
                                  total: 1m 8s
                                                   remaining: 1m
264:
        learn: 0.2183881
                                  total: 1m 8s
                                                   remaining: 1m
265:
        learn: 0.2183549
                                  total: 1m 8s
                                                   remaining: 1m
266:
        learn: 0.2182939
                                  total: 1m 8s
                                                   remaining: 1m
267:
        learn: 0.2182220
                                  total: 1m 9s
                                                   remaining: 59.9s
268:
        learn: 0.2181716
                                  total: 1m 9s
                                                   remaining: 59.6s
269:
        learn: 0.2181074
                                  total: 1m 9s
                                                   remaining: 59.4s
270:
        learn: 0.2180156
                                  total: 1m 10s
                                                   remaining: 59.2s
271:
        learn: 0.2179275
                                  total: 1m 10s
                                                   remaining: 58.9s
272:
        learn: 0.2177648
                                  total: 1m 10s
                                                   remaining: 58.7s
273:
        learn: 0.2177077
                                  total: 1m 10s
                                                   remaining: 58.5s
274:
        learn: 0.2175986
                                  total: 1m 11s
                                                   remaining: 58.2s
                                  total: 1m 11s
275:
        learn: 0.2175140
                                                   remaining: 58s
276:
        learn: 0.2174910
                                  total: 1m 11s
                                                   remaining: 57.7s
277:
        learn: 0.2174449
                                  total: 1m 11s
                                                   remaining: 57.5s
278:
        learn: 0.2174015
                                  total: 1m 12s
                                                   remaining: 57.2s
279:
        learn: 0.2173569
                                  total: 1m 12s
                                                   remaining: 56.9s
280:
        learn: 0.2172543
                                  total: 1m 12s
                                                   remaining: 56.7s
281:
        learn: 0.2172071
                                  total: 1m 12s
                                                   remaining: 56.4s
282:
        learn: 0.2171754
                                  total: 1m 13s
                                                   remaining: 56.2s
```

```
learn: 0.2171683
283:
                                  total: 1m 13s
                                                   remaining: 55.9s
284:
        learn: 0.2170825
                                  total: 1m 13s
                                                   remaining: 55.6s
285:
        learn: 0.2169740
                                  total: 1m 13s
                                                   remaining: 55.3s
286:
        learn: 0.2169332
                                  total: 1m 14s
                                                   remaining: 55.1s
287:
        learn: 0.2168326
                                  total: 1m 14s
                                                   remaining: 54.8s
288:
        learn: 0.2167333
                                  total: 1m 14s
                                                   remaining: 54.5s
289:
        learn: 0.2166357
                                  total: 1m 14s
                                                   remaining: 54.3s
        learn: 0.2165993
290:
                                  total: 1m 15s
                                                   remaining: 54s
291:
        learn: 0.2165432
                                  total: 1m 15s
                                                   remaining: 53.7s
292:
        learn: 0.2165207
                                  total: 1m 15s
                                                   remaining: 53.5s
293:
        learn: 0.2163818
                                  total: 1m 15s
                                                   remaining: 53.2s
294:
        learn: 0.2163225
                                  total: 1m 16s
                                                   remaining: 52.9s
295:
        learn: 0.2162429
                                  total: 1m 16s
                                                   remaining: 52.7s
296:
        learn: 0.2162245
                                  total: 1m 16s
                                                   remaining: 52.4s
297:
        learn: 0.2161707
                                  total: 1m 16s
                                                   remaining: 52.1s
298:
        learn: 0.2160550
                                  total: 1m 17s
                                                   remaining: 51.9s
299:
        learn: 0.2159635
                                  total: 1m 17s
                                                   remaining: 51.6s
                                  total: 1m 17s
300:
        learn: 0.2159013
                                                   remaining: 51.4s
301:
        learn: 0.2158891
                                  total: 1m 17s
                                                   remaining: 51.1s
302:
        learn: 0.2158478
                                  total: 1m 18s
                                                   remaining: 50.8s
                                  total: 1m 18s
303:
        learn: 0.2158266
                                                   remaining: 50.6s
304:
        learn: 0.2157097
                                  total: 1m 18s
                                                   remaining: 50.3s
305:
        learn: 0.2156287
                                  total: 1m 18s
                                                   remaining: 50s
306:
        learn: 0.2155834
                                  total: 1m 19s
                                                   remaining: 49.8s
307:
        learn: 0.2155409
                                  total: 1m 19s
                                                   remaining: 49.5s
        learn: 0.2155008
                                  total: 1m 19s
                                                   remaining: 49.2s
308:
309:
        learn: 0.2154634
                                  total: 1m 19s
                                                   remaining: 49s
310:
        learn: 0.2154187
                                  total: 1m 20s
                                                   remaining: 48.7s
311:
        learn: 0.2153988
                                  total: 1m 20s
                                                   remaining: 48.5s
312:
        learn: 0.2153790
                                  total: 1m 20s
                                                   remaining: 48.2s
313:
        learn: 0.2153650
                                  total: 1m 20s
                                                   remaining: 47.9s
314:
        learn: 0.2153489
                                  total: 1m 21s
                                                   remaining: 47.7s
315:
        learn: 0.2152426
                                  total: 1m 21s
                                                   remaining: 47.5s
        learn: 0.2151019
                                  total: 1m 21s
316:
                                                   remaining: 47.2s
317:
        learn: 0.2150671
                                  total: 1m 22s
                                                   remaining: 47s
        learn: 0.2150144
                                  total: 1m 22s
318:
                                                   remaining: 46.7s
319:
        learn: 0.2149798
                                  total: 1m 22s
                                                   remaining: 46.5s
320:
        learn: 0.2149050
                                  total: 1m 22s
                                                   remaining: 46.2s
321:
        learn: 0.2140702
                                  total: 1m 23s
                                                   remaining: 46s
322:
        learn: 0.2140157
                                  total: 1m 23s
                                                   remaining: 45.7s
323:
        learn: 0.2140103
                                  total: 1m 23s
                                                   remaining: 45.5s
324:
        learn: 0.2139592
                                  total: 1m 24s
                                                   remaining: 45.3s
325:
        learn: 0.2138174
                                  total: 1m 24s
                                                   remaining: 45s
326:
        learn: 0.2136923
                                  total: 1m 24s
                                                   remaining: 44.7s
                                                   remaining: 44.5s
327:
        learn: 0.2136251
                                  total: 1m 24s
328:
        learn: 0.2136002
                                  total: 1m 25s
                                                   remaining: 44.2s
329:
        learn: 0.2135085
                                  total: 1m 25s
                                                   remaining: 44s
330:
        learn: 0.2134827
                                  total: 1m 25s
                                                   remaining: 43.7s
```

```
total: 1m 25s
        learn: 0.2134609
331:
                                                   remaining: 43.5s
332:
        learn: 0.2134142
                                  total: 1m 26s
                                                   remaining: 43.2s
333:
        learn: 0.2133712
                                  total: 1m 26s
                                                   remaining: 43s
        learn: 0.2132836
                                  total: 1m 26s
334:
                                                   remaining: 42.7s
335:
        learn: 0.2130639
                                  total: 1m 27s
                                                   remaining: 42.5s
                                  total: 1m 27s
                                                   remaining: 42.2s
336:
        learn: 0.2130034
337:
        learn: 0.2129150
                                  total: 1m 27s
                                                   remaining: 42s
        learn: 0.2128998
338:
                                  total: 1m 27s
                                                   remaining: 41.7s
339:
        learn: 0.2128573
                                  total: 1m 28s
                                                   remaining: 41.5s
340:
        learn: 0.2128272
                                  total: 1m 28s
                                                   remaining: 41.2s
341:
        learn: 0.2128005
                                  total: 1m 28s
                                                   remaining: 41s
342:
        learn: 0.2127449
                                  total: 1m 28s
                                                   remaining: 40.7s
343:
        learn: 0.2126432
                                  total: 1m 29s
                                                   remaining: 40.5s
344:
        learn: 0.2125824
                                  total: 1m 29s
                                                   remaining: 40.2s
                                                   remaining: 39.9s
345:
        learn: 0.2125131
                                  total: 1m 29s
346:
        learn: 0.2124914
                                  total: 1m 29s
                                                   remaining: 39.7s
347:
        learn: 0.2124792
                                  total: 1m 30s
                                                   remaining: 39.4s
                                  total: 1m 30s
348:
        learn: 0.2124307
                                                   remaining: 39.2s
        learn: 0.2123758
                                  total: 1m 30s
349:
                                                   remaining: 38.9s
350:
        learn: 0.2123059
                                  total: 1m 31s
                                                   remaining: 38.6s
351:
        learn: 0.2122011
                                  total: 1m 31s
                                                   remaining: 38.4s
352:
        learn: 0.2121200
                                  total: 1m 31s
                                                   remaining: 38.1s
353:
        learn: 0.2120682
                                  total: 1m 31s
                                                   remaining: 37.9s
354:
        learn: 0.2120448
                                  total: 1m 32s
                                                   remaining: 37.6s
355:
        learn: 0.2120008
                                  total: 1m 32s
                                                   remaining: 37.4s
356:
        learn: 0.2119699
                                  total: 1m 32s
                                                   remaining: 37.1s
357:
        learn: 0.2119241
                                  total: 1m 32s
                                                   remaining: 36.8s
358:
        learn: 0.2117952
                                  total: 1m 33s
                                                   remaining: 36.6s
359:
        learn: 0.2117756
                                  total: 1m 33s
                                                   remaining: 36.3s
360:
        learn: 0.2116164
                                  total: 1m 33s
                                                   remaining: 36s
361:
        learn: 0.2114919
                                  total: 1m 33s
                                                   remaining: 35.8s
362:
        learn: 0.2114707
                                  total: 1m 34s
                                                   remaining: 35.5s
363:
        learn: 0.2114062
                                  total: 1m 34s
                                                   remaining: 35.2s
        learn: 0.2113412
                                  total: 1m 34s
364:
                                                   remaining: 35s
365:
        learn: 0.2113136
                                  total: 1m 34s
                                                   remaining: 34.7s
        learn: 0.2112615
366:
                                  total: 1m 35s
                                                   remaining: 34.4s
367:
        learn: 0.2111862
                                  total: 1m 35s
                                                   remaining: 34.2s
368:
        learn: 0.2111422
                                  total: 1m 35s
                                                   remaining: 33.9s
                                  total: 1m 35s
369:
        learn: 0.2110471
                                                   remaining: 33.6s
370:
        learn: 0.2109501
                                  total: 1m 36s
                                                   remaining: 33.4s
371:
        learn: 0.2108548
                                  total: 1m 36s
                                                   remaining: 33.1s
372:
        learn: 0.2108072
                                  total: 1m 36s
                                                   remaining: 32.9s
373:
        learn: 0.2107275
                                  total: 1m 36s
                                                   remaining: 32.6s
374:
        learn: 0.2107016
                                  total: 1m 37s
                                                   remaining: 32.4s
                                                   remaining: 32.1s
375:
        learn: 0.2106331
                                  total: 1m 37s
376:
        learn: 0.2106169
                                  total: 1m 37s
                                                   remaining: 31.9s
377:
        learn: 0.2105820
                                  total: 1m 37s
                                                   remaining: 31.6s
378:
        learn: 0.2104093
                                  total: 1m 38s
                                                   remaining: 31.3s
```

```
379:
        learn: 0.2103180
                                  total: 1m 38s
                                                   remaining: 31.1s
380:
        learn: 0.2102700
                                  total: 1m 38s
                                                   remaining: 30.8s
381:
        learn: 0.2102053
                                  total: 1m 38s
                                                   remaining: 30.6s
        learn: 0.2100545
382:
                                  total: 1m 39s
                                                   remaining: 30.3s
383:
        learn: 0.2099991
                                  total: 1m 39s
                                                   remaining: 30.1s
                                  total: 1m 39s
384:
        learn: 0.2099370
                                                   remaining: 29.8s
385:
        learn: 0.2099082
                                  total: 1m 40s
                                                   remaining: 29.5s
        learn: 0.2098887
                                                   remaining: 29.3s
386:
                                  total: 1m 40s
387:
        learn: 0.2098363
                                  total: 1m 40s
                                                   remaining: 29s
388:
        learn: 0.2098087
                                  total: 1m 40s
                                                   remaining: 28.8s
389:
        learn: 0.2097775
                                  total: 1m 41s
                                                   remaining: 28.5s
390:
        learn: 0.2096702
                                  total: 1m 41s
                                                   remaining: 28.2s
391:
        learn: 0.2096130
                                  total: 1m 41s
                                                   remaining: 28s
392:
        learn: 0.2095681
                                  total: 1m 41s
                                                   remaining: 27.7s
393:
        learn: 0.2094984
                                  total: 1m 42s
                                                   remaining: 27.5s
394:
        learn: 0.2094169
                                  total: 1m 42s
                                                   remaining: 27.2s
395:
        learn: 0.2093304
                                  total: 1m 42s
                                                   remaining: 27s
396:
        learn: 0.2092693
                                  total: 1m 43s
                                                   remaining: 26.7s
                                  total: 1m 43s
397:
        learn: 0.2091703
                                                   remaining: 26.5s
398:
        learn: 0.2090726
                                  total: 1m 43s
                                                   remaining: 26.2s
399:
        learn: 0.2090469
                                  total: 1m 43s
                                                   remaining: 26s
400:
        learn: 0.2089804
                                  total: 1m 44s
                                                   remaining: 25.7s
401:
        learn: 0.2089427
                                  total: 1m 44s
                                                   remaining: 25.4s
402:
        learn: 0.2089255
                                  total: 1m 44s
                                                   remaining: 25.2s
403:
        learn: 0.2089155
                                  total: 1m 44s
                                                   remaining: 24.9s
404:
        learn: 0.2088835
                                                   remaining: 24.7s
                                  total: 1m 45s
405:
        learn: 0.2088537
                                  total: 1m 45s
                                                   remaining: 24.4s
406:
        learn: 0.2088093
                                  total: 1m 45s
                                                   remaining: 24.2s
407:
        learn: 0.2087265
                                  total: 1m 46s
                                                   remaining: 23.9s
408:
        learn: 0.2086445
                                  total: 1m 46s
                                                   remaining: 23.6s
409:
        learn: 0.2086136
                                  total: 1m 46s
                                                   remaining: 23.4s
410:
        learn: 0.2085783
                                  total: 1m 46s
                                                   remaining: 23.1s
411:
        learn: 0.2084999
                                  total: 1m 46s
                                                   remaining: 22.9s
412:
        learn: 0.2084328
                                  total: 1m 47s
                                                   remaining: 22.6s
413:
        learn: 0.2083814
                                  total: 1m 47s
                                                   remaining: 22.3s
        learn: 0.2083237
414:
                                  total: 1m 47s
                                                   remaining: 22.1s
415:
        learn: 0.2082946
                                  total: 1m 47s
                                                   remaining: 21.8s
416:
        learn: 0.2082498
                                  total: 1m 48s
                                                   remaining: 21.5s
417:
        learn: 0.2081673
                                  total: 1m 48s
                                                   remaining: 21.3s
418:
        learn: 0.2081121
                                  total: 1m 48s
                                                   remaining: 21s
419:
        learn: 0.2080228
                                  total: 1m 48s
                                                   remaining: 20.7s
420:
        learn: 0.2079327
                                  total: 1m 49s
                                                   remaining: 20.5s
421:
        learn: 0.2078806
                                  total: 1m 49s
                                                   remaining: 20.2s
422:
        learn: 0.2078050
                                  total: 1m 49s
                                                   remaining: 20s
                                                   remaining: 19.7s
423:
        learn: 0.2077826
                                  total: 1m 49s
424:
        learn: 0.2077271
                                  total: 1m 50s
                                                   remaining: 19.4s
425:
        learn: 0.2076857
                                  total: 1m 50s
                                                   remaining: 19.2s
426:
        learn: 0.2076539
                                  total: 1m 50s
                                                   remaining: 18.9s
```

```
427:
        learn: 0.2075918
                                  total: 1m 50s
                                                   remaining: 18.6s
428:
        learn: 0.2074918
                                  total: 1m 51s
                                                   remaining: 18.4s
429:
        learn: 0.2074405
                                  total: 1m 51s
                                                   remaining: 18.1s
430:
        learn: 0.2072786
                                  total: 1m 51s
                                                   remaining: 17.8s
431:
        learn: 0.2072534
                                  total: 1m 51s
                                                   remaining: 17.6s
                                  total: 1m 51s
432:
        learn: 0.2072346
                                                   remaining: 17.3s
433:
        learn: 0.2070836
                                  total: 1m 51s
                                                   remaining: 17s
434:
        learn: 0.2070381
                                  total: 1m 52s
                                                   remaining: 16.8s
435:
        learn: 0.2069593
                                  total: 1m 52s
                                                   remaining: 16.5s
436:
        learn: 0.2068635
                                  total: 1m 52s
                                                   remaining: 16.2s
437:
        learn: 0.2068214
                                  total: 1m 52s
                                                   remaining: 16s
438:
        learn: 0.2068034
                                  total: 1m 53s
                                                   remaining: 15.7s
439:
        learn: 0.2067613
                                  total: 1m 53s
                                                   remaining: 15.4s
440:
        learn: 0.2067485
                                  total: 1m 53s
                                                   remaining: 15.2s
441:
        learn: 0.2066768
                                  total: 1m 53s
                                                   remaining: 14.9s
442:
        learn: 0.2065680
                                  total: 1m 54s
                                                   remaining: 14.7s
443:
        learn: 0.2065539
                                  total: 1m 54s
                                                   remaining: 14.4s
                                  total: 1m 54s
444:
        learn: 0.2065317
                                                   remaining: 14.2s
445:
        learn: 0.2064334
                                  total: 1m 54s
                                                   remaining: 13.9s
446:
        learn: 0.2063619
                                  total: 1m 55s
                                                   remaining: 13.7s
447:
        learn: 0.2063438
                                  total: 1m 55s
                                                   remaining: 13.4s
448:
        learn: 0.2063149
                                  total: 1m 55s
                                                   remaining: 13.1s
449:
        learn: 0.2062892
                                  total: 1m 55s
                                                   remaining: 12.9s
450:
        learn: 0.2062541
                                  total: 1m 56s
                                                   remaining: 12.6s
451:
        learn: 0.2061938
                                  total: 1m 56s
                                                   remaining: 12.4s
        learn: 0.2061135
                                  total: 1m 56s
452:
                                                   remaining: 12.1s
453:
        learn: 0.2060454
                                  total: 1m 57s
                                                   remaining: 11.9s
454:
        learn: 0.2060008
                                  total: 1m 57s
                                                   remaining: 11.6s
455:
        learn: 0.2059567
                                  total: 1m 57s
                                                   remaining: 11.3s
456:
        learn: 0.2059269
                                  total: 1m 57s
                                                   remaining: 11.1s
457:
        learn: 0.2058678
                                  total: 1m 58s
                                                   remaining: 10.8s
458:
        learn: 0.2057978
                                  total: 1m 58s
                                                   remaining: 10.6s
459:
        learn: 0.2057413
                                  total: 1m 58s
                                                   remaining: 10.3s
        learn: 0.2057056
                                  total: 1m 58s
460:
                                                   remaining: 10.1s
461:
        learn: 0.2056470
                                  total: 1m 59s
                                                   remaining: 9.8s
462:
        learn: 0.2055719
                                  total: 1m 59s
                                                   remaining: 9.55s
463:
        learn: 0.2055063
                                  total: 1m 59s
                                                   remaining: 9.29s
464:
        learn: 0.2054643
                                  total: 2m
                                                   remaining: 9.03s
465:
        learn: 0.2054333
                                  total: 2m
                                                   remaining: 8.78s
466:
        learn: 0.2054001
                                  total: 2m
                                                   remaining: 8.52s
        learn: 0.2053203
467:
                                  total: 2m
                                                   remaining: 8.26s
468:
        learn: 0.2052876
                                  total: 2m 1s
                                                   remaining: 8s
469:
        learn: 0.2052573
                                  total: 2m 1s
                                                   remaining: 7.74s
470:
        learn: 0.2052386
                                  total: 2m 1s
                                                   remaining: 7.48s
                                                   remaining: 7.22s
471:
        learn: 0.2052081
                                  total: 2m 1s
472:
        learn: 0.2051291
                                  total: 2m 2s
                                                   remaining: 6.97s
473:
        learn: 0.2049979
                                  total: 2m 2s
                                                   remaining: 6.71s
474:
        learn: 0.2049589
                                  total: 2m 2s
                                                   remaining: 6.45s
```

```
475:
        learn: 0.2049331
                                  total: 2m 2s
                                                   remaining: 6.19s
476:
        learn: 0.2048832
                                  total: 2m 3s
                                                   remaining: 5.93s
477:
        learn: 0.2048729
                                  total: 2m 3s
                                                   remaining: 5.68s
        learn: 0.2048337
                                  total: 2m 3s
                                                   remaining: 5.42s
478:
479:
        learn: 0.2047965
                                  total: 2m 3s
                                                   remaining: 5.16s
                                  total: 2m 4s
                                                   remaining: 4.9s
480:
        learn: 0.2047191
481:
        learn: 0.2046479
                                  total: 2m 4s
                                                   remaining: 4.64s
                                                   remaining: 4.38s
482:
        learn: 0.2045602
                                  total: 2m 4s
483:
        learn: 0.2045067
                                  total: 2m 4s
                                                   remaining: 4.13s
484:
        learn: 0.2044402
                                  total: 2m 5s
                                                   remaining: 3.87s
485:
        learn: 0.2043969
                                  total: 2m 5s
                                                   remaining: 3.61s
486:
        learn: 0.2043358
                                  total: 2m 5s
                                                   remaining: 3.35s
487:
        learn: 0.2042418
                                  total: 2m 5s
                                                   remaining: 3.09s
488:
        learn: 0.2041964
                                  total: 2m 6s
                                                   remaining: 2.84s
                                                   remaining: 2.58s
489:
        learn: 0.2040963
                                  total: 2m 6s
        learn: 0.2040883
490:
                                  total: 2m 6s
                                                   remaining: 2.32s
491:
        learn: 0.2040071
                                  total: 2m 6s
                                                   remaining: 2.06s
                                  total: 2m 7s
492:
        learn: 0.2039672
                                                   remaining: 1.8s
        learn: 0.2039327
                                  total: 2m 7s
                                                   remaining: 1.55s
493:
494:
        learn: 0.2038660
                                  total: 2m 7s
                                                   remaining: 1.29s
495:
        learn: 0.2038001
                                  total: 2m 7s
                                                   remaining: 1.03s
                                  total: 2m 8s
496:
        learn: 0.2037560
                                                   remaining: 774ms
497:
        learn: 0.2037032
                                  total: 2m 8s
                                                   remaining: 516ms
498:
                                  total: 2m 8s
        learn: 0.2036452
                                                   remaining: 258ms
499:
        learn: 0.2035814
                                  total: 2m 9s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9719698
                                  total: 286ms
                                                   remaining: 2m 22s
1:
        learn: 0.8889687
                                  total: 563ms
                                                   remaining: 2m 20s
2:
        learn: 0.8302046
                                  total: 790ms
                                                   remaining: 2m 10s
3:
        learn: 0.7389797
                                  total: 1.1s
                                                   remaining: 2m 15s
        learn: 0.6649204
4:
                                  total: 1.36s
                                                   remaining: 2m 14s
5:
        learn: 0.6391021
                                  total: 1.56s
                                                   remaining: 2m 8s
6:
        learn: 0.5663800
                                  total: 1.78s
                                                   remaining: 2m 5s
7:
        learn: 0.5302471
                                  total: 1.98s
                                                   remaining: 2m 1s
8:
        learn: 0.5162777
                                  total: 2.19s
                                                   remaining: 1m 59s
9:
        learn: 0.4859017
                                  total: 2.4s
                                                   remaining: 1m 57s
10:
        learn: 0.4471078
                                  total: 2.65s
                                                   remaining: 1m 57s
11:
        learn: 0.4165719
                                  total: 2.87s
                                                   remaining: 1m 56s
12:
        learn: 0.3932325
                                  total: 3.1s
                                                   remaining: 1m 55s
13:
        learn: 0.3743986
                                  total: 3.32s
                                                   remaining: 1m 55s
14:
        learn: 0.3584680
                                  total: 3.55s
                                                   remaining: 1m 54s
                                                   remaining: 1m 55s
15:
        learn: 0.3456662
                                  total: 3.83s
        learn: 0.3352810
                                  total: 4.11s
                                                   remaining: 1m 56s
16:
17:
        learn: 0.3327858
                                  total: 4.4s
                                                   remaining: 1m 57s
18:
        learn: 0.3237713
                                  total: 4.64s
                                                   remaining: 1m 57s
19:
        learn: 0.3203858
                                  total: 4.91s
                                                   remaining: 1m 57s
20:
        learn: 0.3153031
                                  total: 5.17s
                                                   remaining: 1m 58s
21:
        learn: 0.3046561
                                  total: 5.45s
                                                   remaining: 1m 58s
```

```
22:
        learn: 0.3029919
                                  total: 5.73s
                                                   remaining: 1m 58s
23:
        learn: 0.2950787
                                  total: 6.01s
                                                   remaining: 1m 59s
24:
        learn: 0.2878689
                                  total: 6.28s
                                                   remaining: 1m 59s
25:
        learn: 0.2819119
                                  total: 6.56s
                                                   remaining: 1m 59s
                                                   remaining: 1m 59s
26:
        learn: 0.2811299
                                  total: 6.82s
27:
                                  total: 7.06s
                                                   remaining: 1m 59s
        learn: 0.2763269
28:
        learn: 0.2745337
                                  total: 7.32s
                                                   remaining: 1m 58s
29:
        learn: 0.2703998
                                  total: 7.55s
                                                   remaining: 1m 58s
30:
        learn: 0.2669401
                                  total: 7.82s
                                                   remaining: 1m 58s
31:
        learn: 0.2641874
                                  total: 8.07s
                                                   remaining: 1m 58s
32:
        learn: 0.2617963
                                  total: 8.31s
                                                   remaining: 1m 57s
                                                   remaining: 1m 57s
33:
        learn: 0.2597284
                                  total: 8.56s
34:
        learn: 0.2592922
                                  total: 8.83s
                                                   remaining: 1m 57s
35:
        learn: 0.2588444
                                  total: 9.09s
                                                   remaining: 1m 57s
36:
        learn: 0.2584106
                                  total: 9.35s
                                                   remaining: 1m 56s
37:
        learn: 0.2579826
                                                   remaining: 1m 56s
                                  total: 9.59s
38:
        learn: 0.2572862
                                  total: 9.84s
                                                   remaining: 1m 56s
39:
        learn: 0.2567133
                                  total: 10.1s
                                                   remaining: 1m 56s
        learn: 0.2564274
                                  total: 10.3s
                                                   remaining: 1m 55s
40:
41:
        learn: 0.2560950
                                  total: 10.6s
                                                   remaining: 1m 55s
42:
        learn: 0.2558065
                                  total: 10.9s
                                                   remaining: 1m 55s
43:
        learn: 0.2551461
                                  total: 11.1s
                                                   remaining: 1m 55s
44:
        learn: 0.2536240
                                  total: 11.4s
                                                   remaining: 1m 54s
                                  total: 11.6s
                                                   remaining: 1m 54s
45:
        learn: 0.2533062
46:
        learn: 0.2531473
                                  total: 11.9s
                                                   remaining: 1m 54s
47:
        learn: 0.2528315
                                  total: 12.1s
                                                   remaining: 1m 54s
        learn: 0.2512422
                                  total: 12.4s
                                                   remaining: 1m 53s
48:
49:
        learn: 0.2511528
                                  total: 12.6s
                                                   remaining: 1m 53s
50:
        learn: 0.2509872
                                  total: 12.8s
                                                   remaining: 1m 53s
51:
        learn: 0.2509853
                                  total: 12.9s
                                                   remaining: 1m 51s
52:
        learn: 0.2508301
                                  total: 13.2s
                                                   remaining: 1m 50s
53:
        learn: 0.2490411
                                  total: 13.4s
                                                   remaining: 1m 50s
54:
        learn: 0.2487150
                                  total: 13.7s
                                                   remaining: 1m 51s
55:
        learn: 0.2483528
                                  total: 14s
                                                   remaining: 1m 50s
                                                   remaining: 1m 51s
56:
        learn: 0.2475048
                                  total: 14.3s
57:
        learn: 0.2472802
                                  total: 14.5s
                                                   remaining: 1m 50s
58:
        learn: 0.2470979
                                  total: 14.8s
                                                   remaining: 1m 50s
59:
        learn: 0.2469519
                                  total: 15.1s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
60:
        learn: 0.2467770
                                  total: 15.4s
61:
        learn: 0.2464441
                                  total: 15.7s
                                                   remaining: 1m 50s
62:
        learn: 0.2461448
                                  total: 16s
                                                   remaining: 1m 50s
        learn: 0.2457294
                                                   remaining: 1m 50s
63:
                                  total: 16.2s
64:
        learn: 0.2455217
                                  total: 16.5s
                                                   remaining: 1m 50s
65:
        learn: 0.2452981
                                  total: 16.8s
                                                   remaining: 1m 50s
66:
        learn: 0.244444
                                  total: 17.1s
                                                   remaining: 1m 50s
67:
        learn: 0.2436182
                                  total: 17.3s
                                                   remaining: 1m 50s
68:
        learn: 0.2435417
                                  total: 17.6s
                                                   remaining: 1m 50s
69:
        learn: 0.2432381
                                  total: 17.9s
                                                   remaining: 1m 50s
```

```
70:
        learn: 0.2431593
                                  total: 18.2s
                                                   remaining: 1m 49s
71:
        learn: 0.2429950
                                  total: 18.5s
                                                   remaining: 1m 49s
72:
        learn: 0.2427929
                                  total: 18.7s
                                                   remaining: 1m 49s
73:
        learn: 0.2424868
                                  total: 19s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
74:
        learn: 0.2421575
                                  total: 19.3s
75:
                                  total: 19.6s
                                                   remaining: 1m 49s
        learn: 0.2419586
76:
        learn: 0.2417162
                                  total: 19.9s
                                                   remaining: 1m 49s
77:
        learn: 0.2414342
                                  total: 20.2s
                                                   remaining: 1m 49s
78:
        learn: 0.2411569
                                  total: 20.5s
                                                   remaining: 1m 49s
79:
        learn: 0.2410887
                                  total: 20.7s
                                                   remaining: 1m 48s
        learn: 0.2408712
                                  total: 21s
80:
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
81:
        learn: 0.2408170
                                  total: 21.3s
82:
        learn: 0.2406324
                                  total: 21.6s
                                                   remaining: 1m 48s
83:
        learn: 0.2405793
                                  total: 21.8s
                                                   remaining: 1m 48s
84:
        learn: 0.2404839
                                  total: 22.1s
                                                   remaining: 1m 47s
85:
        learn: 0.2404524
                                  total: 22.4s
                                                   remaining: 1m 47s
86:
        learn: 0.2403610
                                  total: 22.6s
                                                   remaining: 1m 47s
87:
        learn: 0.2402703
                                  total: 22.9s
                                                   remaining: 1m 47s
        learn: 0.2402141
                                  total: 23.2s
                                                   remaining: 1m 46s
88:
89:
        learn: 0.2399730
                                  total: 23.4s
                                                   remaining: 1m 46s
90:
        learn: 0.2399024
                                  total: 23.7s
                                                   remaining: 1m 46s
                                  total: 23.9s
91:
        learn: 0.2396231
                                                   remaining: 1m 46s
92:
        learn: 0.2393269
                                  total: 24.2s
                                                   remaining: 1m 45s
93:
        learn: 0.2392205
                                  total: 24.4s
                                                   remaining: 1m 45s
94:
        learn: 0.2391707
                                  total: 24.7s
                                                   remaining: 1m 45s
        learn: 0.2390859
                                  total: 24.9s
                                                   remaining: 1m 44s
95:
        learn: 0.2389112
                                  total: 25.2s
                                                   remaining: 1m 44s
96:
97:
        learn: 0.2386769
                                  total: 25.4s
                                                   remaining: 1m 44s
        learn: 0.2384678
                                  total: 25.7s
98:
                                                   remaining: 1m 44s
99:
        learn: 0.2384385
                                  total: 25.9s
                                                   remaining: 1m 43s
100:
        learn: 0.2378593
                                  total: 26.1s
                                                   remaining: 1m 43s
101:
        learn: 0.2377751
                                  total: 26.3s
                                                   remaining: 1m 42s
102:
        learn: 0.2376559
                                  total: 26.6s
                                                   remaining: 1m 42s
                                  total: 26.8s
103:
        learn: 0.2372353
                                                   remaining: 1m 42s
                                  total: 27.1s
                                                   remaining: 1m 42s
104:
        learn: 0.2371529
                                  total: 27.4s
105:
        learn: 0.2370202
                                                   remaining: 1m 41s
106:
        learn: 0.2369437
                                  total: 27.6s
                                                   remaining: 1m 41s
107:
        learn: 0.2368570
                                  total: 27.9s
                                                   remaining: 1m 41s
        learn: 0.2367818
                                  total: 28.1s
                                                   remaining: 1m 40s
108:
109:
        learn: 0.2366613
                                  total: 28.4s
                                                   remaining: 1m 40s
110:
        learn: 0.2364043
                                  total: 28.7s
                                                   remaining: 1m 40s
        learn: 0.2362644
                                  total: 28.9s
                                                   remaining: 1m 40s
111:
112:
        learn: 0.2362042
                                  total: 29.1s
                                                   remaining: 1m 39s
113:
        learn: 0.2361801
                                  total: 29.4s
                                                   remaining: 1m 39s
114:
        learn: 0.2360964
                                  total: 29.6s
                                                   remaining: 1m 39s
115:
        learn: 0.2359713
                                  total: 29.9s
                                                   remaining: 1m 38s
116:
        learn: 0.2357732
                                  total: 30.2s
                                                   remaining: 1m 38s
117:
        learn: 0.2357231
                                  total: 30.4s
                                                   remaining: 1m 38s
```

```
learn: 0.2356456
                                  total: 30.7s
118:
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
119:
        learn: 0.2355365
                                  total: 31s
120:
        learn: 0.2353697
                                  total: 31.2s
                                                   remaining: 1m 37s
121:
        learn: 0.2351700
                                  total: 31.5s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
122:
        learn: 0.2350711
                                  total: 31.8s
                                  total: 32s
                                                   remaining: 1m 37s
123:
        learn: 0.2350381
124:
        learn: 0.2349859
                                  total: 32.3s
                                                   remaining: 1m 36s
125:
        learn: 0.2342457
                                  total: 32.6s
                                                   remaining: 1m 36s
126:
        learn: 0.2340099
                                  total: 32.9s
                                                   remaining: 1m 36s
127:
        learn: 0.2339144
                                  total: 33.2s
                                                   remaining: 1m 36s
128:
        learn: 0.2336985
                                  total: 33.4s
                                                   remaining: 1m 36s
                                                   remaining: 1m 35s
129:
        learn: 0.2336080
                                  total: 33.7s
130:
        learn: 0.2335890
                                  total: 34s
                                                   remaining: 1m 35s
131:
        learn: 0.2335546
                                  total: 34.2s
                                                   remaining: 1m 35s
132:
        learn: 0.2334468
                                  total: 34.5s
                                                   remaining: 1m 35s
133:
        learn: 0.2333779
                                  total: 34.8s
                                                   remaining: 1m 34s
134:
        learn: 0.2332844
                                  total: 35.1s
                                                   remaining: 1m 34s
135:
        learn: 0.2331989
                                  total: 35.3s
                                                   remaining: 1m 34s
        learn: 0.2331879
                                  total: 35.6s
                                                   remaining: 1m 34s
136:
137:
        learn: 0.2330664
                                  total: 35.9s
                                                   remaining: 1m 34s
138:
        learn: 0.2329557
                                  total: 36.2s
                                                   remaining: 1m 33s
139:
        learn: 0.2328668
                                  total: 36.5s
                                                   remaining: 1m 33s
140:
        learn: 0.2327864
                                  total: 36.7s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
141:
        learn: 0.2323780
                                  total: 37s
142:
        learn: 0.2323152
                                  total: 37.2s
                                                   remaining: 1m 32s
143:
        learn: 0.2322755
                                  total: 37.5s
                                                   remaining: 1m 32s
        learn: 0.2322161
                                  total: 37.8s
                                                   remaining: 1m 32s
144:
145:
        learn: 0.2321791
                                  total: 38.1s
                                                   remaining: 1m 32s
146:
        learn: 0.2321516
                                  total: 38.3s
                                                   remaining: 1m 32s
147:
        learn: 0.2320712
                                  total: 38.6s
                                                   remaining: 1m 31s
        learn: 0.2319492
148:
                                  total: 38.9s
                                                   remaining: 1m 31s
149:
        learn: 0.2318841
                                  total: 39.2s
                                                   remaining: 1m 31s
150:
        learn: 0.2317166
                                  total: 39.5s
                                                   remaining: 1m 31s
        learn: 0.2315201
                                  total: 39.7s
                                                   remaining: 1m 30s
151:
                                                   remaining: 1m 30s
152:
        learn: 0.2314040
                                  total: 40s
153:
        learn: 0.2313561
                                  total: 40.3s
                                                   remaining: 1m 30s
154:
        learn: 0.2311730
                                  total: 40.6s
                                                   remaining: 1m 30s
155:
        learn: 0.2308823
                                  total: 40.8s
                                                   remaining: 1m 29s
156:
        learn: 0.2304065
                                  total: 41s
                                                   remaining: 1m 29s
157:
        learn: 0.2303597
                                  total: 41.3s
                                                   remaining: 1m 29s
        learn: 0.2300723
                                  total: 41.5s
158:
                                                   remaining: 1m 29s
                                                   remaining: 1m 28s
159:
        learn: 0.2298769
                                  total: 41.8s
160:
        learn: 0.2296913
                                  total: 42.1s
                                                   remaining: 1m 28s
161:
        learn: 0.2295901
                                  total: 42.3s
                                                   remaining: 1m 28s
162:
        learn: 0.2295471
                                  total: 42.6s
                                                   remaining: 1m 28s
        learn: 0.2294638
163:
                                  total: 42.8s
                                                   remaining: 1m 27s
164:
        learn: 0.2293606
                                  total: 43.1s
                                                   remaining: 1m 27s
165:
        learn: 0.2292934
                                  total: 43.3s
                                                   remaining: 1m 27s
```

```
learn: 0.2292378
                                  total: 43.6s
166:
                                                   remaining: 1m 26s
167:
        learn: 0.2290516
                                  total: 43.8s
                                                   remaining: 1m 26s
168:
        learn: 0.2289700
                                  total: 44.1s
                                                   remaining: 1m 26s
        learn: 0.2288944
                                  total: 44.3s
                                                   remaining: 1m 26s
169:
                                                   remaining: 1m 25s
170:
        learn: 0.2286017
                                  total: 44.5s
                                                   remaining: 1m 25s
171:
        learn: 0.2284805
                                  total: 44.8s
172:
        learn: 0.2284089
                                  total: 45.1s
                                                   remaining: 1m 25s
173:
        learn: 0.2283223
                                  total: 45.3s
                                                   remaining: 1m 24s
174:
        learn: 0.2281774
                                  total: 45.6s
                                                   remaining: 1m 24s
175:
        learn: 0.2280160
                                  total: 45.9s
                                                   remaining: 1m 24s
176:
        learn: 0.2279262
                                  total: 46.1s
                                                   remaining: 1m 24s
                                                   remaining: 1m 23s
177:
        learn: 0.2279060
                                  total: 46.4s
178:
        learn: 0.2278051
                                  total: 46.6s
                                                   remaining: 1m 23s
179:
        learn: 0.2277486
                                  total: 46.9s
                                                   remaining: 1m 23s
180:
        learn: 0.2275652
                                  total: 47.1s
                                                   remaining: 1m 23s
181:
        learn: 0.2275412
                                  total: 47.4s
                                                   remaining: 1m 22s
182:
        learn: 0.2274781
                                  total: 47.6s
                                                   remaining: 1m 22s
183:
        learn: 0.2274339
                                  total: 47.9s
                                                   remaining: 1m 22s
        learn: 0.2273635
                                  total: 48.2s
                                                   remaining: 1m 22s
184:
185:
        learn: 0.2272994
                                  total: 48.5s
                                                   remaining: 1m 21s
186:
        learn: 0.2272757
                                  total: 48.8s
                                                   remaining: 1m 21s
187:
        learn: 0.2271912
                                  total: 49.1s
                                                   remaining: 1m 21s
188:
        learn: 0.2270815
                                  total: 49.4s
                                                   remaining: 1m 21s
                                                   remaining: 1m 21s
189:
        learn: 0.2269875
                                  total: 49.7s
190:
        learn: 0.2268478
                                  total: 50s
                                                   remaining: 1m 20s
191:
        learn: 0.2267911
                                  total: 50.2s
                                                   remaining: 1m 20s
        learn: 0.2267092
                                                   remaining: 1m 20s
192:
                                  total: 50.5s
193:
        learn: 0.2265782
                                  total: 50.8s
                                                   remaining: 1m 20s
194:
        learn: 0.2264319
                                  total: 51s
                                                   remaining: 1m 19s
195:
        learn: 0.2263963
                                                   remaining: 1m 19s
                                  total: 51.3s
        learn: 0.2262864
196:
                                  total: 51.6s
                                                   remaining: 1m 19s
197:
        learn: 0.2262543
                                  total: 51.9s
                                                   remaining: 1m 19s
198:
        learn: 0.2261411
                                  total: 52.2s
                                                   remaining: 1m 18s
199:
        learn: 0.2260174
                                  total: 52.5s
                                                   remaining: 1m 18s
                                                   remaining: 1m 18s
200:
        learn: 0.2259830
                                  total: 52.7s
        learn: 0.2256197
201:
                                  total: 53s
                                                   remaining: 1m 18s
202:
        learn: 0.2255478
                                  total: 53.3s
                                                   remaining: 1m 17s
203:
        learn: 0.2255189
                                  total: 53.5s
                                                   remaining: 1m 17s
204:
        learn: 0.2254662
                                  total: 53.8s
                                                   remaining: 1m 17s
205:
        learn: 0.2250308
                                  total: 54.1s
                                                   remaining: 1m 17s
206:
        learn: 0.2249223
                                  total: 54.4s
                                                   remaining: 1m 16s
        learn: 0.2248778
                                                   remaining: 1m 16s
207:
                                  total: 54.6s
208:
        learn: 0.2247180
                                  total: 54.9s
                                                   remaining: 1m 16s
209:
        learn: 0.2246355
                                  total: 55.2s
                                                   remaining: 1m 16s
210:
        learn: 0.2245862
                                  total: 55.4s
                                                   remaining: 1m 15s
211:
        learn: 0.2245117
                                  total: 55.7s
                                                   remaining: 1m 15s
212:
        learn: 0.2244145
                                  total: 56s
                                                   remaining: 1m 15s
213:
        learn: 0.2243281
                                  total: 56.3s
                                                   remaining: 1m 15s
```

```
214:
        learn: 0.2242654
                                  total: 56.5s
                                                   remaining: 1m 14s
                                                   remaining: 1m 14s
215:
        learn: 0.2241696
                                  total: 56.8s
                                  total: 57s
216:
        learn: 0.2240534
                                                   remaining: 1m 14s
217:
        learn: 0.2239890
                                  total: 57.2s
                                                   remaining: 1m 14s
218:
        learn: 0.2238958
                                  total: 57.5s
                                                   remaining: 1m 13s
                                                   remaining: 1m 13s
219:
        learn: 0.2238760
                                  total: 57.7s
220:
        learn: 0.2238230
                                  total: 58s
                                                   remaining: 1m 13s
221:
        learn: 0.2236892
                                  total: 58.2s
                                                   remaining: 1m 12s
222:
        learn: 0.2235953
                                  total: 58.5s
                                                   remaining: 1m 12s
223:
        learn: 0.2235538
                                  total: 58.7s
                                                   remaining: 1m 12s
224:
        learn: 0.2235093
                                  total: 58.9s
                                                   remaining: 1m 12s
225:
        learn: 0.2233974
                                  total: 59.2s
                                                   remaining: 1m 11s
226:
        learn: 0.2233555
                                  total: 59.4s
                                                   remaining: 1m 11s
227:
        learn: 0.2232233
                                  total: 59.7s
                                                   remaining: 1m 11s
228:
        learn: 0.2231613
                                  total: 59.9s
                                                   remaining: 1m 10s
229:
        learn: 0.2230093
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2228203
                                  total: 1m
                                                   remaining: 1m 10s
                                  total: 1m
231:
        learn: 0.2227591
                                                   remaining: 1m 10s
232:
        learn: 0.2227205
                                                   remaining: 1m 9s
                                  total: 1m
233:
        learn: 0.2226571
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2225714
                                  total: 1m 1s
                                                   remaining: 1m 9s
235:
        learn: 0.2225533
                                  total: 1m 1s
                                                   remaining: 1m 8s
236:
        learn: 0.2224429
                                  total: 1m 1s
                                                   remaining: 1m 8s
237:
        learn: 0.2223707
                                  total: 1m 2s
                                                   remaining: 1m 8s
238:
        learn: 0.2223180
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
        learn: 0.2222483
                                  total: 1m 2s
                                                   remaining: 1m 7s
240:
        learn: 0.2222094
                                  total: 1m 2s
                                                   remaining: 1m 7s
241:
        learn: 0.2221487
                                  total: 1m 3s
                                                   remaining: 1m 7s
        learn: 0.2221137
242:
                                  total: 1m 3s
                                                   remaining: 1m 7s
243:
        learn: 0.2219504
                                  total: 1m 3s
                                                   remaining: 1m 6s
244:
        learn: 0.2219136
                                  total: 1m 3s
                                                   remaining: 1m 6s
245:
        learn: 0.2218148
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2217059
                                  total: 1m 4s
                                                   remaining: 1m 6s
247:
        learn: 0.2215989
                                  total: 1m 4s
                                                   remaining: 1m 5s
                                  total: 1m 5s
248:
        learn: 0.2215032
                                                   remaining: 1m 5s
                                  total: 1m 5s
249:
        learn: 0.2214584
                                                   remaining: 1m 5s
250:
        learn: 0.2213711
                                  total: 1m 5s
                                                   remaining: 1m 4s
251:
        learn: 0.2213096
                                  total: 1m 5s
                                                   remaining: 1m 4s
252:
        learn: 0.2212213
                                  total: 1m 6s
                                                   remaining: 1m 4s
253:
        learn: 0.2211625
                                  total: 1m 6s
                                                   remaining: 1m 4s
                                  total: 1m 6s
254:
        learn: 0.2210537
                                                   remaining: 1m 3s
255:
        learn: 0.2209779
                                                   remaining: 1m 3s
                                  total: 1m 6s
256:
        learn: 0.2209237
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2209061
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2207906
                                  total: 1m 7s
                                                   remaining: 1m 3s
259:
        learn: 0.2207015
                                  total: 1m 7s
                                                   remaining: 1m 2s
260:
        learn: 0.2205990
                                  total: 1m 8s
                                                   remaining: 1m 2s
261:
        learn: 0.2205044
                                  total: 1m 8s
                                                   remaining: 1m 2s
```

```
learn: 0.2204614
262:
                                  total: 1m 8s
                                                   remaining: 1m 2s
263:
        learn: 0.2204245
                                  total: 1m 9s
                                                   remaining: 1m 1s
264:
        learn: 0.2203032
                                  total: 1m 9s
                                                   remaining: 1m 1s
265:
        learn: 0.2202457
                                                   remaining: 1m 1s
                                  total: 1m 9s
266:
        learn: 0.2201893
                                  total: 1m 9s
                                                   remaining: 1m 1s
                                  total: 1m 10s
                                                   remaining: 1m
267:
        learn: 0.2201317
268:
        learn: 0.2201107
                                  total: 1m 10s
                                                   remaining: 1m
                                                   remaining: 1m
269:
        learn: 0.2200695
                                  total: 1m 10s
270:
        learn: 0.2200110
                                  total: 1m 11s
                                                   remaining: 1m
271:
        learn: 0.2199253
                                  total: 1m 11s
                                                   remaining: 59.8s
272:
        learn: 0.2198603
                                  total: 1m 11s
                                                   remaining: 59.6s
273:
        learn: 0.2197346
                                  total: 1m 11s
                                                   remaining: 59.3s
274:
        learn: 0.2196425
                                  total: 1m 12s
                                                   remaining: 59.1s
275:
        learn: 0.2195859
                                  total: 1m 12s
                                                   remaining: 58.8s
276:
        learn: 0.2194985
                                  total: 1m 12s
                                                   remaining: 58.5s
277:
        learn: 0.2194467
                                  total: 1m 12s
                                                   remaining: 58.2s
278:
        learn: 0.2193371
                                  total: 1m 13s
                                                   remaining: 58s
                                  total: 1m 13s
279:
        learn: 0.2192941
                                                   remaining: 57.7s
        learn: 0.2192397
280:
                                  total: 1m 13s
                                                   remaining: 57.4s
281:
        learn: 0.2191762
                                  total: 1m 13s
                                                   remaining: 57.2s
282:
        learn: 0.2191181
                                  total: 1m 14s
                                                   remaining: 56.9s
283:
        learn: 0.2190287
                                  total: 1m 14s
                                                   remaining: 56.6s
284:
        learn: 0.2189405
                                  total: 1m 14s
                                                   remaining: 56.4s
285:
        learn: 0.2189204
                                  total: 1m 14s
                                                   remaining: 56.1s
286:
        learn: 0.2188636
                                  total: 1m 15s
                                                   remaining: 55.8s
        learn: 0.2185338
287:
                                  total: 1m 15s
                                                   remaining: 55.6s
288:
        learn: 0.2184623
                                  total: 1m 15s
                                                   remaining: 55.3s
289:
        learn: 0.2184057
                                  total: 1m 16s
                                                   remaining: 55s
290:
        learn: 0.2183977
                                  total: 1m 16s
                                                   remaining: 54.8s
291:
        learn: 0.2183742
                                  total: 1m 16s
                                                   remaining: 54.5s
292:
        learn: 0.2183162
                                  total: 1m 16s
                                                   remaining: 54.2s
293:
        learn: 0.2182715
                                  total: 1m 16s
                                                   remaining: 53.9s
294:
        learn: 0.2181628
                                  total: 1m 17s
                                                   remaining: 53.7s
295:
        learn: 0.2181419
                                  total: 1m 17s
                                                   remaining: 53.3s
296:
        learn: 0.2180496
                                  total: 1m 17s
                                                   remaining: 53.1s
297:
        learn: 0.2180198
                                  total: 1m 17s
                                                   remaining: 52.7s
298:
        learn: 0.2179273
                                  total: 1m 18s
                                                   remaining: 52.4s
299:
        learn: 0.2178682
                                  total: 1m 18s
                                                   remaining: 52.2s
300:
        learn: 0.2178485
                                  total: 1m 18s
                                                   remaining: 51.9s
301:
        learn: 0.2178061
                                  total: 1m 18s
                                                   remaining: 51.6s
302:
        learn: 0.2177605
                                  total: 1m 18s
                                                   remaining: 51.3s
303:
        learn: 0.2176206
                                  total: 1m 19s
                                                   remaining: 51s
304:
        learn: 0.2175768
                                  total: 1m 19s
                                                   remaining: 50.6s
305:
        learn: 0.2175260
                                  total: 1m 19s
                                                   remaining: 50.3s
306:
        learn: 0.2174846
                                  total: 1m 19s
                                                   remaining: 50s
307:
        learn: 0.2174440
                                  total: 1m 19s
                                                   remaining: 49.8s
308:
        learn: 0.2173803
                                  total: 1m 20s
                                                   remaining: 49.5s
309:
        learn: 0.2173459
                                  total: 1m 20s
                                                   remaining: 49.3s
```

```
total: 1m 20s
310:
        learn: 0.2173220
                                                   remaining: 49s
311:
        learn: 0.2172541
                                  total: 1m 20s
                                                   remaining: 48.8s
312:
        learn: 0.2171465
                                  total: 1m 21s
                                                   remaining: 48.5s
313:
        learn: 0.2170833
                                  total: 1m 21s
                                                   remaining: 48.3s
314:
        learn: 0.2170217
                                  total: 1m 21s
                                                   remaining: 48s
                                  total: 1m 21s
315:
        learn: 0.2168852
                                                   remaining: 47.7s
316:
        learn: 0.2168065
                                  total: 1m 22s
                                                   remaining: 47.5s
        learn: 0.2166932
317:
                                  total: 1m 22s
                                                   remaining: 47.2s
318:
        learn: 0.2166436
                                  total: 1m 22s
                                                   remaining: 47s
319:
        learn: 0.2165329
                                  total: 1m 23s
                                                   remaining: 46.8s
320:
        learn: 0.2163927
                                  total: 1m 23s
                                                   remaining: 46.5s
321:
        learn: 0.2163651
                                  total: 1m 23s
                                                   remaining: 46.2s
322:
        learn: 0.2162667
                                  total: 1m 23s
                                                   remaining: 46s
323:
        learn: 0.2162278
                                  total: 1m 24s
                                                   remaining: 45.7s
                                                   remaining: 45.5s
324:
        learn: 0.2160210
                                  total: 1m 24s
325:
        learn: 0.2159353
                                  total: 1m 24s
                                                   remaining: 45.2s
326:
        learn: 0.2159039
                                  total: 1m 24s
                                                   remaining: 45s
                                  total: 1m 25s
327:
        learn: 0.2158800
                                                   remaining: 44.7s
        learn: 0.2158565
                                  total: 1m 25s
                                                   remaining: 44.4s
328:
329:
        learn: 0.2158313
                                  total: 1m 25s
                                                   remaining: 44.1s
330:
        learn: 0.2157707
                                  total: 1m 25s
                                                   remaining: 43.9s
                                  total: 1m 26s
331:
        learn: 0.2157652
                                                   remaining: 43.6s
332:
        learn: 0.2157338
                                  total: 1m 26s
                                                   remaining: 43.4s
                                  total: 1m 26s
333:
        learn: 0.2156919
                                                   remaining: 43.1s
334:
        learn: 0.2156038
                                  total: 1m 27s
                                                   remaining: 42.9s
335:
        learn: 0.2155739
                                  total: 1m 27s
                                                   remaining: 42.6s
336:
        learn: 0.2155602
                                  total: 1m 27s
                                                   remaining: 42.3s
337:
        learn: 0.2155158
                                  total: 1m 27s
                                                   remaining: 42.1s
338:
        learn: 0.2154238
                                  total: 1m 28s
                                                   remaining: 41.8s
339:
        learn: 0.2152804
                                  total: 1m 28s
                                                   remaining: 41.6s
340:
        learn: 0.2152473
                                  total: 1m 28s
                                                   remaining: 41.3s
341:
        learn: 0.2151973
                                  total: 1m 28s
                                                   remaining: 41.1s
342:
        learn: 0.2150932
                                  total: 1m 29s
                                                   remaining: 40.8s
343:
        learn: 0.2150482
                                  total: 1m 29s
                                                   remaining: 40.5s
344:
        learn: 0.2150232
                                  total: 1m 29s
                                                   remaining: 40.3s
        learn: 0.2149235
345:
                                  total: 1m 29s
                                                   remaining: 40s
346:
        learn: 0.2148856
                                  total: 1m 30s
                                                   remaining: 39.7s
347:
        learn: 0.2147962
                                  total: 1m 30s
                                                   remaining: 39.4s
348:
        learn: 0.2147544
                                  total: 1m 30s
                                                   remaining: 39.2s
349:
        learn: 0.2146786
                                  total: 1m 30s
                                                   remaining: 38.9s
350:
        learn: 0.2146565
                                  total: 1m 31s
                                                   remaining: 38.6s
351:
        learn: 0.2146419
                                  total: 1m 31s
                                                   remaining: 38.4s
352:
        learn: 0.2146157
                                  total: 1m 31s
                                                   remaining: 38.1s
353:
        learn: 0.2145861
                                  total: 1m 31s
                                                   remaining: 37.8s
                                                   remaining: 37.6s
354:
        learn: 0.2145490
                                  total: 1m 32s
        learn: 0.2145009
355:
                                  total: 1m 32s
                                                   remaining: 37.3s
356:
        learn: 0.2144835
                                  total: 1m 32s
                                                   remaining: 37s
357:
        learn: 0.2144147
                                  total: 1m 32s
                                                   remaining: 36.8s
```

```
358:
        learn: 0.2143376
                                  total: 1m 32s
                                                   remaining: 36.5s
359:
        learn: 0.2142731
                                  total: 1m 33s
                                                   remaining: 36.2s
360:
        learn: 0.2142238
                                  total: 1m 33s
                                                   remaining: 36s
        learn: 0.2141348
361:
                                  total: 1m 33s
                                                   remaining: 35.7s
362:
        learn: 0.2140535
                                  total: 1m 34s
                                                   remaining: 35.5s
                                  total: 1m 34s
363:
        learn: 0.2140361
                                                   remaining: 35.2s
364:
        learn: 0.2139574
                                  total: 1m 34s
                                                   remaining: 35s
        learn: 0.2138687
                                                   remaining: 34.7s
365:
                                  total: 1m 34s
366:
        learn: 0.2137892
                                  total: 1m 35s
                                                   remaining: 34.5s
367:
        learn: 0.2137715
                                  total: 1m 35s
                                                   remaining: 34.2s
368:
        learn: 0.2137050
                                  total: 1m 35s
                                                   remaining: 34s
                                  total: 1m 35s
369:
        learn: 0.2136469
                                                   remaining: 33.7s
370:
        learn: 0.2135419
                                  total: 1m 36s
                                                   remaining: 33.5s
371:
        learn: 0.2134954
                                  total: 1m 36s
                                                   remaining: 33.2s
372:
        learn: 0.2134353
                                  total: 1m 36s
                                                   remaining: 33s
373:
        learn: 0.2133850
                                  total: 1m 37s
                                                   remaining: 32.7s
374:
        learn: 0.2133534
                                  total: 1m 37s
                                                   remaining: 32.5s
                                  total: 1m 37s
375:
        learn: 0.2132839
                                                   remaining: 32.2s
        learn: 0.2132433
                                  total: 1m 37s
                                                   remaining: 32s
376:
377:
        learn: 0.2131835
                                  total: 1m 38s
                                                   remaining: 31.7s
378:
        learn: 0.2131210
                                  total: 1m 38s
                                                   remaining: 31.5s
379:
        learn: 0.2131086
                                  total: 1m 38s
                                                   remaining: 31.2s
380:
        learn: 0.2129831
                                  total: 1m 39s
                                                   remaining: 30.9s
381:
        learn: 0.2129419
                                  total: 1m 39s
                                                   remaining: 30.7s
382:
        learn: 0.2128630
                                  total: 1m 39s
                                                   remaining: 30.5s
383:
        learn: 0.2128290
                                  total: 1m 39s
                                                   remaining: 30.2s
384:
        learn: 0.2128118
                                  total: 1m 40s
                                                   remaining: 29.9s
385:
        learn: 0.2127434
                                  total: 1m 40s
                                                   remaining: 29.7s
386:
        learn: 0.2126941
                                  total: 1m 40s
                                                   remaining: 29.4s
387:
        learn: 0.2126195
                                  total: 1m 41s
                                                   remaining: 29.2s
388:
        learn: 0.2124763
                                  total: 1m 41s
                                                   remaining: 28.9s
389:
        learn: 0.2123994
                                  total: 1m 41s
                                                   remaining: 28.7s
390:
        learn: 0.2123754
                                  total: 1m 41s
                                                   remaining: 28.4s
391:
        learn: 0.2122997
                                  total: 1m 42s
                                                   remaining: 28.1s
392:
        learn: 0.2121726
                                  total: 1m 42s
                                                   remaining: 27.9s
        learn: 0.2121211
393:
                                  total: 1m 42s
                                                   remaining: 27.6s
394:
        learn: 0.2120919
                                  total: 1m 42s
                                                   remaining: 27.4s
395:
        learn: 0.2120170
                                  total: 1m 43s
                                                   remaining: 27.1s
396:
        learn: 0.2119119
                                  total: 1m 43s
                                                   remaining: 26.9s
397:
        learn: 0.2118707
                                  total: 1m 43s
                                                   remaining: 26.6s
        learn: 0.2118462
398:
                                  total: 1m 44s
                                                   remaining: 26.3s
399:
        learn: 0.2117978
                                  total: 1m 44s
                                                   remaining: 26.1s
400:
        learn: 0.2117252
                                  total: 1m 44s
                                                   remaining: 25.8s
401:
        learn: 0.2116586
                                  total: 1m 44s
                                                   remaining: 25.5s
                                                   remaining: 25.3s
402:
        learn: 0.2116008
                                  total: 1m 45s
403:
        learn: 0.2115255
                                  total: 1m 45s
                                                   remaining: 25s
404:
        learn: 0.2114718
                                  total: 1m 45s
                                                   remaining: 24.8s
405:
        learn: 0.2114408
                                  total: 1m 45s
                                                   remaining: 24.5s
```

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406:
        learn: 0.2113774
                                  total: 1m 46s
                                                   remaining: 24.2s
407:
        learn: 0.2113426
                                  total: 1m 46s
                                                  remaining: 24s
408:
        learn: 0.2112402
                                  total: 1m 46s
                                                   remaining: 23.7s
        learn: 0.2111580
                                                   remaining: 23.4s
409:
                                  total: 1m 46s
410:
        learn: 0.2110740
                                  total: 1m 46s
                                                   remaining: 23.2s
                                  total: 1m 47s
                                                   remaining: 22.9s
411:
        learn: 0.2109438
412:
        learn: 0.2108588
                                  total: 1m 47s
                                                   remaining: 22.6s
        learn: 0.2108220
                                                   remaining: 22.4s
413:
                                  total: 1m 47s
414:
        learn: 0.2107444
                                  total: 1m 48s
                                                   remaining: 22.1s
415:
        learn: 0.2106828
                                  total: 1m 48s
                                                   remaining: 21.9s
416:
        learn: 0.2105950
                                  total: 1m 48s
                                                   remaining: 21.6s
417:
        learn: 0.2105254
                                  total: 1m 48s
                                                   remaining: 21.3s
        learn: 0.2104194
418:
                                  total: 1m 49s
                                                   remaining: 21.1s
419:
        learn: 0.2103450
                                  total: 1m 49s
                                                   remaining: 20.8s
420:
        learn: 0.2102966
                                  total: 1m 49s
                                                   remaining: 20.6s
421:
        learn: 0.2102424
                                  total: 1m 49s
                                                   remaining: 20.3s
422:
        learn: 0.2101990
                                  total: 1m 50s
                                                   remaining: 20s
                                  total: 1m 50s
423:
        learn: 0.2100975
                                                   remaining: 19.8s
424:
        learn: 0.2100405
                                  total: 1m 50s
                                                   remaining: 19.5s
425:
        learn: 0.2100026
                                  total: 1m 50s
                                                   remaining: 19.3s
426:
        learn: 0.2099422
                                  total: 1m 51s
                                                   remaining: 19s
427:
        learn: 0.2099128
                                  total: 1m 51s
                                                   remaining: 18.8s
428:
        learn: 0.2098781
                                  total: 1m 51s
                                                   remaining: 18.5s
429:
        learn: 0.2098516
                                  total: 1m 52s
                                                   remaining: 18.2s
430:
        learn: 0.2098302
                                  total: 1m 52s
                                                   remaining: 18s
        learn: 0.2097913
                                                   remaining: 17.7s
431:
                                  total: 1m 52s
432:
        learn: 0.2097544
                                  total: 1m 52s
                                                   remaining: 17.5s
433:
        learn: 0.2097322
                                  total: 1m 53s
                                                   remaining: 17.2s
434:
        learn: 0.2096643
                                  total: 1m 53s
                                                   remaining: 16.9s
435:
        learn: 0.2096486
                                  total: 1m 53s
                                                   remaining: 16.7s
436:
        learn: 0.2096205
                                  total: 1m 53s
                                                   remaining: 16.4s
437:
        learn: 0.2095677
                                  total: 1m 54s
                                                   remaining: 16.2s
438:
        learn: 0.2094974
                                  total: 1m 54s
                                                   remaining: 15.9s
439:
        learn: 0.2094223
                                  total: 1m 54s
                                                   remaining: 15.7s
440:
        learn: 0.2093647
                                  total: 1m 55s
                                                   remaining: 15.4s
        learn: 0.2093120
441:
                                  total: 1m 55s
                                                   remaining: 15.1s
442:
        learn: 0.2092873
                                  total: 1m 55s
                                                   remaining: 14.9s
443:
        learn: 0.2092290
                                  total: 1m 55s
                                                   remaining: 14.6s
444:
        learn: 0.2091789
                                  total: 1m 56s
                                                   remaining: 14.4s
445:
        learn: 0.2091379
                                  total: 1m 56s
                                                   remaining: 14.1s
446:
        learn: 0.2091063
                                  total: 1m 56s
                                                   remaining: 13.8s
447:
        learn: 0.2090812
                                  total: 1m 57s
                                                   remaining: 13.6s
448:
        learn: 0.2090268
                                  total: 1m 57s
                                                   remaining: 13.3s
449:
        learn: 0.2089973
                                  total: 1m 57s
                                                   remaining: 13.1s
                                                   remaining: 12.8s
450:
        learn: 0.2088991
                                  total: 1m 57s
451:
        learn: 0.2087626
                                  total: 1m 58s
                                                   remaining: 12.5s
452:
        learn: 0.2087010
                                  total: 1m 58s
                                                   remaining: 12.3s
453:
        learn: 0.2086411
                                  total: 1m 58s
                                                   remaining: 12s
```

```
454:
        learn: 0.2085866
                                  total: 1m 58s
                                                   remaining: 11.8s
455:
        learn: 0.2084105
                                  total: 1m 59s
                                                   remaining: 11.5s
456:
        learn: 0.2083910
                                  total: 1m 59s
                                                   remaining: 11.2s
        learn: 0.2083422
457:
                                  total: 1m 59s
                                                   remaining: 11s
458:
        learn: 0.2082088
                                  total: 2m
                                                   remaining: 10.7s
459:
        learn: 0.2081647
                                  total: 2m
                                                   remaining: 10.5s
460:
        learn: 0.2080880
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.2079216
                                  total: 2m
                                                   remaining: 9.94s
462:
        learn: 0.2078733
                                  total: 2m 1s
                                                   remaining: 9.67s
463:
        learn: 0.2078515
                                  total: 2m 1s
                                                   remaining: 9.41s
                                  total: 2m 1s
464:
        learn: 0.2078029
                                                   remaining: 9.15s
465:
        learn: 0.2077374
                                  total: 2m 1s
                                                   remaining: 8.89s
        learn: 0.2076810
466:
                                  total: 2m 2s
                                                   remaining: 8.63s
467:
        learn: 0.2076442
                                  total: 2m 2s
                                                   remaining: 8.36s
468:
        learn: 0.2075813
                                  total: 2m 2s
                                                   remaining: 8.1s
469:
        learn: 0.2075236
                                  total: 2m 2s
                                                   remaining: 7.84s
470:
        learn: 0.2074047
                                  total: 2m 3s
                                                   remaining: 7.58s
                                  total: 2m 3s
471:
        learn: 0.2073488
                                                   remaining: 7.32s
        learn: 0.2072973
472:
                                  total: 2m 3s
                                                   remaining: 7.05s
473:
        learn: 0.2072368
                                  total: 2m 3s
                                                   remaining: 6.79s
474:
        learn: 0.2071934
                                  total: 2m 4s
                                                   remaining: 6.53s
475:
        learn: 0.2071251
                                  total: 2m 4s
                                                   remaining: 6.27s
476:
        learn: 0.2070076
                                  total: 2m 4s
                                                   remaining: 6.01s
                                  total: 2m 4s
477:
        learn: 0.2069404
                                                   remaining: 5.75s
478:
        learn: 0.2068192
                                  total: 2m 5s
                                                   remaining: 5.49s
                                  total: 2m 5s
479:
        learn: 0.2067915
                                                   remaining: 5.23s
480:
        learn: 0.2066120
                                  total: 2m 5s
                                                   remaining: 4.97s
481:
        learn: 0.2064630
                                  total: 2m 5s
                                                   remaining: 4.71s
482:
        learn: 0.2064233
                                  total: 2m 6s
                                                   remaining: 4.44s
483:
        learn: 0.2064003
                                  total: 2m 6s
                                                   remaining: 4.18s
        learn: 0.2062914
484:
                                  total: 2m 6s
                                                   remaining: 3.92s
485:
        learn: 0.2062717
                                  total: 2m 7s
                                                   remaining: 3.66s
486:
        learn: 0.2062276
                                  total: 2m 7s
                                                   remaining: 3.4s
        learn: 0.2061788
                                  total: 2m 7s
487:
                                                   remaining: 3.14s
488:
        learn: 0.2061252
                                  total: 2m 7s
                                                   remaining: 2.88s
489:
        learn: 0.2059490
                                  total: 2m 8s
                                                   remaining: 2.62s
490:
        learn: 0.2059297
                                  total: 2m 8s
                                                   remaining: 2.35s
491:
        learn: 0.2059228
                                  total: 2m 8s
                                                   remaining: 2.09s
492:
        learn: 0.2059082
                                  total: 2m 9s
                                                   remaining: 1.83s
493:
        learn: 0.2058667
                                  total: 2m 9s
                                                   remaining: 1.57s
494:
        learn: 0.2057676
                                  total: 2m 9s
                                                   remaining: 1.31s
495:
        learn: 0.2057135
                                  total: 2m 9s
                                                   remaining: 1.05s
496:
        learn: 0.2056573
                                  total: 2m 10s
                                                   remaining: 786ms
497:
        learn: 0.2055840
                                  total: 2m 10s
                                                   remaining: 524ms
498:
        learn: 0.2055336
                                  total: 2m 10s
                                                   remaining: 262ms
499:
        learn: 0.2054904
                                  total: 2m 11s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9719443
                                 total: 211ms
                                                   remaining: 1m 45s
```

```
learn: 0.8892711
                                  total: 422ms
                                                   remaining: 1m 44s
1:
2:
        learn: 0.8306438
                                  total: 603ms
                                                   remaining: 1m 39s
3:
        learn: 0.7386466
                                  total: 834ms
                                                   remaining: 1m 43s
4:
        learn: 0.6656243
                                  total: 1.06s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
5:
        learn: 0.6400953
                                  total: 1.27s
                                                   remaining: 1m 44s
6:
        learn: 0.6186335
                                  total: 1.48s
7:
        learn: 0.5562085
                                  total: 1.7s
                                                   remaining: 1m 44s
8.
        learn: 0.5060478
                                  total: 1.97s
                                                   remaining: 1m 47s
9:
        learn: 0.4684576
                                  total: 2.23s
                                                   remaining: 1m 49s
10:
        learn: 0.4396376
                                  total: 2.52s
                                                   remaining: 1m 52s
                                  total: 2.78s
        learn: 0.4216286
                                                   remaining: 1m 53s
11:
                                                   remaining: 1m 53s
12:
        learn: 0.4008018
                                  total: 3.04s
        learn: 0.3843863
                                  total: 3.3s
                                                   remaining: 1m 54s
13:
14:
        learn: 0.3693819
                                  total: 3.55s
                                                   remaining: 1m 54s
15:
        learn: 0.3584437
                                  total: 3.81s
                                                   remaining: 1m 55s
16:
        learn: 0.3486471
                                  total: 4.08s
                                                   remaining: 1m 55s
17:
        learn: 0.3381052
                                  total: 4.35s
                                                   remaining: 1m 56s
18:
        learn: 0.3236456
                                  total: 4.62s
                                                   remaining: 1m 57s
        learn: 0.3120731
                                  total: 4.88s
                                                   remaining: 1m 57s
19:
20:
        learn: 0.3025687
                                  total: 5.13s
                                                   remaining: 1m 56s
21:
        learn: 0.2995086
                                  total: 5.38s
                                                   remaining: 1m 57s
                                                   remaining: 1m 56s
22:
        learn: 0.2963259
                                  total: 5.63s
23:
        learn: 0.2886502
                                  total: 5.89s
                                                   remaining: 1m 56s
24:
                                  total: 6.16s
                                                   remaining: 1m 57s
        learn: 0.2869495
25:
        learn: 0.2860337
                                  total: 6.44s
                                                   remaining: 1m 57s
26:
        learn: 0.2845343
                                  total: 6.7s
                                                   remaining: 1m 57s
27:
        learn: 0.2807250
                                  total: 6.98s
                                                   remaining: 1m 57s
28:
        learn: 0.2793565
                                  total: 7.23s
                                                   remaining: 1m 57s
29:
        learn: 0.2756267
                                  total: 7.5s
                                                   remaining: 1m 57s
30:
        learn: 0.2711033
                                  total: 7.76s
                                                   remaining: 1m 57s
31:
        learn: 0.2701518
                                  total: 8.02s
                                                   remaining: 1m 57s
32:
        learn: 0.2693122
                                  total: 8.27s
                                                   remaining: 1m 56s
33:
        learn: 0.2678570
                                  total: 8.52s
                                                   remaining: 1m 56s
34:
        learn: 0.2642684
                                  total: 8.8s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
35:
        learn: 0.2635854
                                  total: 9.06s
36:
        learn: 0.2614152
                                  total: 9.3s
                                                   remaining: 1m 56s
37:
        learn: 0.2597499
                                  total: 9.57s
                                                   remaining: 1m 56s
38:
        learn: 0.2580417
                                  total: 9.87s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
39:
        learn: 0.2573312
                                  total: 10.2s
40:
        learn: 0.2570810
                                  total: 10.4s
                                                   remaining: 1m 56s
41:
        learn: 0.2566699
                                  total: 10.7s
                                                   remaining: 1m 56s
42:
                                                   remaining: 1m 56s
        learn: 0.2528142
                                  total: 11s
43:
        learn: 0.2526336
                                  total: 11.3s
                                                   remaining: 1m 56s
44:
        learn: 0.2505344
                                  total: 11.6s
                                                   remaining: 1m 56s
45:
        learn: 0.2502855
                                  total: 11.9s
                                                   remaining: 1m 57s
46:
        learn: 0.2500068
                                  total: 12.2s
                                                   remaining: 1m 57s
47:
        learn: 0.2488145
                                  total: 12.5s
                                                   remaining: 1m 57s
48:
        learn: 0.2484547
                                  total: 12.8s
                                                   remaining: 1m 57s
```

```
49:
        learn: 0.2482333
                                                   remaining: 1m 57s
                                  total: 13.1s
50:
        learn: 0.2478461
                                  total: 13.3s
                                                   remaining: 1m 57s
51:
        learn: 0.2476086
                                  total: 13.6s
                                                   remaining: 1m 57s
52:
        learn: 0.2473747
                                  total: 13.9s
                                                   remaining: 1m 57s
                                                   remaining: 1m 56s
53:
        learn: 0.2473177
                                  total: 14.1s
                                  total: 14.4s
                                                   remaining: 1m 56s
54:
        learn: 0.2471333
55:
        learn: 0.2468117
                                  total: 14.7s
                                                   remaining: 1m 56s
56:
        learn: 0.2459387
                                  total: 15s
                                                   remaining: 1m 56s
57:
        learn: 0.2459328
                                  total: 15.1s
                                                   remaining: 1m 54s
58:
        learn: 0.2457827
                                  total: 15.3s
                                                   remaining: 1m 54s
        learn: 0.2457238
59:
                                  total: 15.6s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
60:
        learn: 0.2455716
                                  total: 15.9s
61:
        learn: 0.2448141
                                  total: 16.2s
                                                   remaining: 1m 54s
62:
        learn: 0.2446071
                                  total: 16.4s
                                                   remaining: 1m 54s
63:
        learn: 0.2444340
                                  total: 16.7s
                                                   remaining: 1m 54s
        learn: 0.2442634
                                                   remaining: 1m 53s
64:
                                  total: 17s
65:
        learn: 0.2439934
                                  total: 17.3s
                                                   remaining: 1m 53s
                                  total: 17.6s
66:
        learn: 0.2438545
                                                   remaining: 1m 53s
        learn: 0.2435432
                                  total: 17.9s
                                                   remaining: 1m 53s
67:
68:
        learn: 0.2430920
                                  total: 18.2s
                                                   remaining: 1m 53s
        learn: 0.2428806
69:
                                  total: 18.5s
                                                   remaining: 1m 53s
                                  total: 18.7s
70:
        learn: 0.2428329
                                                   remaining: 1m 53s
71:
        learn: 0.2426467
                                  total: 19s
                                                   remaining: 1m 52s
72:
        learn: 0.2423607
                                  total: 19.3s
                                                   remaining: 1m 52s
73:
        learn: 0.2419496
                                  total: 19.5s
                                                   remaining: 1m 52s
74:
        learn: 0.2418890
                                  total: 19.8s
                                                   remaining: 1m 52s
75:
        learn: 0.2416746
                                  total: 20.1s
                                                   remaining: 1m 51s
76:
        learn: 0.2414360
                                  total: 20.3s
                                                   remaining: 1m 51s
77:
        learn: 0.2389885
                                  total: 20.6s
                                                   remaining: 1m 51s
78:
        learn: 0.2389054
                                  total: 20.9s
                                                   remaining: 1m 51s
79:
        learn: 0.2381963
                                  total: 21.2s
                                                   remaining: 1m 51s
80:
        learn: 0.2376076
                                  total: 21.4s
                                                   remaining: 1m 50s
81:
        learn: 0.2374827
                                  total: 21.7s
                                                   remaining: 1m 50s
82:
        learn: 0.2373929
                                  total: 21.9s
                                                   remaining: 1m 50s
                                  total: 22.1s
                                                   remaining: 1m 49s
83:
        learn: 0.2368784
                                  total: 22.4s
84:
        learn: 0.2367884
                                                   remaining: 1m 49s
85:
        learn: 0.2365893
                                  total: 22.7s
                                                   remaining: 1m 49s
86:
        learn: 0.2358293
                                  total: 22.9s
                                                   remaining: 1m 48s
                                  total: 23.1s
                                                   remaining: 1m 48s
87:
        learn: 0.2357492
88:
        learn: 0.2355676
                                  total: 23.4s
                                                   remaining: 1m 48s
89:
        learn: 0.2352992
                                  total: 23.6s
                                                   remaining: 1m 47s
90:
        learn: 0.2351729
                                  total: 23.9s
                                                   remaining: 1m 47s
91:
        learn: 0.2349132
                                  total: 24.2s
                                                   remaining: 1m 47s
92:
        learn: 0.2346879
                                  total: 24.4s
                                                   remaining: 1m 46s
93:
        learn: 0.2331239
                                  total: 24.7s
                                                   remaining: 1m 46s
94:
        learn: 0.2329997
                                  total: 24.9s
                                                   remaining: 1m 46s
95:
        learn: 0.2328666
                                  total: 25.2s
                                                   remaining: 1m 46s
96:
        learn: 0.2316712
                                  total: 25.5s
                                                   remaining: 1m 45s
```

```
97:
        learn: 0.2316311
                                  total: 25.7s
                                                   remaining: 1m 45s
98:
        learn: 0.2313551
                                  total: 26s
                                                   remaining: 1m 45s
99:
        learn: 0.2312976
                                  total: 26.3s
                                                   remaining: 1m 45s
        learn: 0.2311357
                                  total: 26.6s
                                                   remaining: 1m 44s
100:
                                                   remaining: 1m 44s
101:
        learn: 0.2310309
                                  total: 26.8s
        learn: 0.2308983
                                  total: 27.1s
                                                   remaining: 1m 44s
102:
103:
        learn: 0.2307796
                                  total: 27.4s
                                                   remaining: 1m 44s
104:
        learn: 0.2306207
                                  total: 27.7s
                                                   remaining: 1m 44s
105:
        learn: 0.2304634
                                  total: 28s
                                                   remaining: 1m 44s
106:
        learn: 0.2294943
                                  total: 28.3s
                                                   remaining: 1m 43s
        learn: 0.2294393
                                  total: 28.6s
107:
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
108:
        learn: 0.2293289
                                  total: 28.8s
109:
        learn: 0.2291648
                                  total: 29.1s
                                                   remaining: 1m 43s
110:
        learn: 0.2290713
                                  total: 29.3s
                                                   remaining: 1m 42s
111:
        learn: 0.2290098
                                  total: 29.6s
                                                   remaining: 1m 42s
        learn: 0.2288270
                                  total: 29.8s
112:
                                                   remaining: 1m 42s
113:
        learn: 0.2286241
                                  total: 30.1s
                                                   remaining: 1m 41s
                                  total: 30.4s
114:
        learn: 0.2285659
                                                   remaining: 1m 41s
        learn: 0.2284214
                                  total: 30.7s
                                                   remaining: 1m 41s
115:
116:
        learn: 0.2283329
                                  total: 30.9s
                                                   remaining: 1m 41s
117:
        learn: 0.2281506
                                  total: 31.2s
                                                   remaining: 1m 41s
118:
        learn: 0.2280384
                                  total: 31.5s
                                                   remaining: 1m 40s
119:
        learn: 0.2279202
                                  total: 31.7s
                                                   remaining: 1m 40s
120:
                                  total: 32s
                                                   remaining: 1m 40s
        learn: 0.2277638
121:
        learn: 0.2277258
                                  total: 32.3s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
122:
        learn: 0.2276372
                                  total: 32.6s
123:
        learn: 0.2269248
                                  total: 32.8s
                                                   remaining: 1m 39s
124:
        learn: 0.2268435
                                  total: 33.1s
                                                   remaining: 1m 39s
        learn: 0.2267248
                                  total: 33.4s
125:
                                                   remaining: 1m 39s
126:
        learn: 0.2266073
                                  total: 33.7s
                                                   remaining: 1m 38s
127:
        learn: 0.2264065
                                  total: 34s
                                                   remaining: 1m 38s
128:
        learn: 0.2263639
                                  total: 34.3s
                                                   remaining: 1m 38s
129:
        learn: 0.2262877
                                  total: 34.6s
                                                   remaining: 1m 38s
130:
        learn: 0.2262120
                                  total: 34.9s
                                                   remaining: 1m 38s
131:
                                                   remaining: 1m 37s
        learn: 0.2258786
                                  total: 35.2s
132:
        learn: 0.2257658
                                  total: 35.4s
                                                   remaining: 1m 37s
133:
        learn: 0.2256149
                                  total: 35.7s
                                                   remaining: 1m 37s
134:
        learn: 0.2255600
                                  total: 36s
                                                   remaining: 1m 37s
        learn: 0.2253147
                                                   remaining: 1m 37s
135:
                                  total: 36.3s
136:
        learn: 0.2250921
                                  total: 36.5s
                                                   remaining: 1m 36s
137:
        learn: 0.2250258
                                  total: 36.8s
                                                   remaining: 1m 36s
        learn: 0.2248906
                                  total: 37.1s
                                                   remaining: 1m 36s
138:
139:
        learn: 0.2248411
                                  total: 37.4s
                                                   remaining: 1m 36s
140:
        learn: 0.2248090
                                  total: 37.6s
                                                   remaining: 1m 35s
141:
        learn: 0.2246840
                                  total: 37.9s
                                                   remaining: 1m 35s
142:
        learn: 0.2245726
                                  total: 38.1s
                                                   remaining: 1m 35s
143:
        learn: 0.2244760
                                  total: 38.4s
                                                   remaining: 1m 34s
144:
        learn: 0.2243970
                                  total: 38.6s
                                                   remaining: 1m 34s
```

```
145:
        learn: 0.2242911
                                  total: 38.8s
                                                   remaining: 1m 34s
146:
        learn: 0.2241329
                                  total: 39.1s
                                                   remaining: 1m 33s
147:
        learn: 0.2240470
                                  total: 39.3s
                                                   remaining: 1m 33s
        learn: 0.2239188
                                  total: 39.6s
                                                   remaining: 1m 33s
148:
                                                   remaining: 1m 33s
149:
        learn: 0.2237973
                                  total: 39.9s
                                                   remaining: 1m 32s
150:
        learn: 0.2236903
                                  total: 40.1s
151:
        learn: 0.2236038
                                  total: 40.4s
                                                   remaining: 1m 32s
152:
        learn: 0.2235648
                                  total: 40.6s
                                                   remaining: 1m 32s
153:
        learn: 0.2234317
                                  total: 40.8s
                                                   remaining: 1m 31s
154:
        learn: 0.2233634
                                  total: 41.1s
                                                   remaining: 1m 31s
155:
        learn: 0.2233301
                                  total: 41.3s
                                                   remaining: 1m 31s
                                                   remaining: 1m 30s
156:
        learn: 0.2228103
                                  total: 41.6s
157:
        learn: 0.2227082
                                  total: 41.9s
                                                   remaining: 1m 30s
158:
        learn: 0.2226488
                                  total: 42.2s
                                                   remaining: 1m 30s
159:
        learn: 0.2225168
                                  total: 42.5s
                                                   remaining: 1m 30s
        learn: 0.2223819
160:
                                  total: 42.7s
                                                   remaining: 1m 29s
161:
        learn: 0.2223316
                                  total: 43s
                                                   remaining: 1m 29s
162:
        learn: 0.2222300
                                  total: 43.3s
                                                   remaining: 1m 29s
        learn: 0.2221545
                                  total: 43.6s
                                                   remaining: 1m 29s
163:
164:
        learn: 0.2220466
                                  total: 43.8s
                                                   remaining: 1m 28s
165:
        learn: 0.2219935
                                  total: 44.1s
                                                   remaining: 1m 28s
166:
        learn: 0.2219638
                                  total: 44.4s
                                                   remaining: 1m 28s
167:
        learn: 0.2217712
                                  total: 44.6s
                                                   remaining: 1m 28s
                                                   remaining: 1m 28s
168:
        learn: 0.2216053
                                  total: 44.9s
169:
        learn: 0.2215441
                                  total: 45.2s
                                                   remaining: 1m 27s
170:
        learn: 0.2213693
                                  total: 45.5s
                                                   remaining: 1m 27s
        learn: 0.2212658
                                                   remaining: 1m 27s
171:
                                  total: 45.8s
172:
        learn: 0.2211702
                                  total: 46s
                                                   remaining: 1m 27s
173:
        learn: 0.2211053
                                  total: 46.3s
                                                   remaining: 1m 26s
174:
        learn: 0.2210422
                                  total: 46.6s
                                                   remaining: 1m 26s
        learn: 0.2210065
175:
                                  total: 46.8s
                                                   remaining: 1m 26s
176:
        learn: 0.2208476
                                  total: 47.1s
                                                   remaining: 1m 25s
177:
        learn: 0.2207405
                                  total: 47.4s
                                                   remaining: 1m 25s
        learn: 0.2206773
                                  total: 47.7s
                                                   remaining: 1m 25s
178:
                                                   remaining: 1m 25s
179:
        learn: 0.2206486
                                  total: 47.9s
        learn: 0.2206303
180:
                                  total: 48.2s
                                                   remaining: 1m 24s
181:
        learn: 0.2205185
                                  total: 48.5s
                                                   remaining: 1m 24s
182:
        learn: 0.2204689
                                  total: 48.7s
                                                   remaining: 1m 24s
183:
        learn: 0.2203656
                                  total: 49s
                                                   remaining: 1m 24s
184:
        learn: 0.2203446
                                  total: 49.3s
                                                   remaining: 1m 23s
185:
        learn: 0.2202800
                                  total: 49.5s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
186:
        learn: 0.2202335
                                  total: 49.8s
187:
        learn: 0.2200399
                                  total: 50.1s
                                                   remaining: 1m 23s
188:
        learn: 0.2199905
                                  total: 50.3s
                                                   remaining: 1m 22s
189:
        learn: 0.2199048
                                  total: 50.6s
                                                   remaining: 1m 22s
190:
        learn: 0.2198142
                                  total: 50.9s
                                                   remaining: 1m 22s
191:
        learn: 0.2197670
                                  total: 51.2s
                                                   remaining: 1m 22s
192:
        learn: 0.2197393
                                  total: 51.4s
                                                   remaining: 1m 21s
```

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193:
        learn: 0.2196834
                                  total: 51.7s
                                                   remaining: 1m 21s
194:
        learn: 0.2196300
                                  total: 51.9s
                                                   remaining: 1m 21s
195:
        learn: 0.2195653
                                  total: 52.2s
                                                   remaining: 1m 20s
        learn: 0.2195392
                                  total: 52.5s
                                                   remaining: 1m 20s
196:
197:
                                                   remaining: 1m 20s
        learn: 0.2194832
                                  total: 52.7s
                                  total: 53s
                                                   remaining: 1m 20s
198:
        learn: 0.2194207
199:
        learn: 0.2193269
                                  total: 53.2s
                                                   remaining: 1m 19s
200:
        learn: 0.2192413
                                  total: 53.4s
                                                   remaining: 1m 19s
201:
        learn: 0.2191659
                                  total: 53.7s
                                                   remaining: 1m 19s
202:
        learn: 0.2191186
                                  total: 54s
                                                   remaining: 1m 18s
203:
        learn: 0.2189707
                                  total: 54.2s
                                                   remaining: 1m 18s
204:
        learn: 0.2189475
                                  total: 54.5s
                                                   remaining: 1m 18s
205:
        learn: 0.2188551
                                  total: 54.7s
                                                   remaining: 1m 18s
206:
        learn: 0.2188118
                                  total: 55s
                                                   remaining: 1m 17s
207:
        learn: 0.2187636
                                  total: 55.2s
                                                   remaining: 1m 17s
        learn: 0.2187239
208:
                                  total: 55.4s
                                                   remaining: 1m 17s
209:
        learn: 0.2186995
                                  total: 55.7s
                                                   remaining: 1m 16s
210:
        learn: 0.2186213
                                  total: 55.9s
                                                   remaining: 1m 16s
        learn: 0.2185256
                                  total: 56.2s
                                                   remaining: 1m 16s
211:
212:
        learn: 0.2184595
                                  total: 56.4s
                                                   remaining: 1m 16s
213:
        learn: 0.2184056
                                  total: 56.7s
                                                   remaining: 1m 15s
214:
        learn: 0.2179842
                                  total: 56.9s
                                                   remaining: 1m 15s
215:
        learn: 0.2178839
                                  total: 57.2s
                                                   remaining: 1m 15s
216:
                                  total: 57.5s
                                                   remaining: 1m 14s
        learn: 0.2177731
217:
        learn: 0.2177270
                                  total: 57.7s
                                                   remaining: 1m 14s
218:
        learn: 0.2175897
                                  total: 58s
                                                   remaining: 1m 14s
219:
        learn: 0.2175290
                                                   remaining: 1m 14s
                                  total: 58.2s
220:
        learn: 0.2174867
                                  total: 58.4s
                                                   remaining: 1m 13s
221:
        learn: 0.2174068
                                  total: 58.6s
                                                   remaining: 1m 13s
222:
        learn: 0.2173433
                                  total: 58.8s
                                                   remaining: 1m 13s
223:
        learn: 0.2171751
                                  total: 59s
                                                   remaining: 1m 12s
224:
        learn: 0.2170967
                                  total: 59.2s
                                                   remaining: 1m 12s
225:
        learn: 0.2170826
                                  total: 59.4s
                                                   remaining: 1m 12s
226:
        learn: 0.2170258
                                  total: 59.6s
                                                   remaining: 1m 11s
227:
        learn: 0.2169884
                                  total: 59.9s
                                                   remaining: 1m 11s
228:
        learn: 0.2169451
                                  total: 1m
                                                   remaining: 1m 11s
229:
        learn: 0.2168120
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2167708
                                  total: 1m
                                                   remaining: 1m 10s
231:
        learn: 0.2167291
                                  total: 1m
                                                   remaining: 1m 10s
232:
        learn: 0.2166658
                                  total: 1m 1s
                                                   remaining: 1m 9s
233:
        learn: 0.2166441
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2165809
                                                   remaining: 1m 9s
                                  total: 1m 1s
235:
        learn: 0.2165222
                                  total: 1m 1s
                                                   remaining: 1m 9s
236:
        learn: 0.2164251
                                  total: 1m 2s
                                                   remaining: 1m 9s
237:
        learn: 0.2163406
                                  total: 1m 2s
                                                   remaining: 1m 8s
238:
        learn: 0.2162820
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
        learn: 0.2161586
                                  total: 1m 3s
                                                   remaining: 1m 8s
240:
        learn: 0.2161108
                                  total: 1m 3s
                                                   remaining: 1m 8s
```

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241:
        learn: 0.2158990
                                  total: 1m 3s
                                                   remaining: 1m 7s
                                                   remaining: 1m 7s
242:
        learn: 0.2158452
                                  total: 1m 3s
243:
        learn: 0.2157391
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2157220
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2156887
                                  total: 1m 4s
                                                   remaining: 1m 6s
                                  total: 1m 5s
                                                   remaining: 1m 6s
246:
        learn: 0.2153462
247:
        learn: 0.2152961
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2152602
                                  total: 1m 5s
                                                   remaining: 1m 6s
249:
        learn: 0.2152172
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2151827
                                  total: 1m 6s
                                                   remaining: 1m 5s
                                                   remaining: 1m 5s
251:
        learn: 0.2151185
                                  total: 1m 6s
252:
        learn: 0.2150385
                                  total: 1m 6s
                                                   remaining: 1m 5s
253:
        learn: 0.2150139
                                  total: 1m 7s
                                                   remaining: 1m 4s
254:
        learn: 0.2149663
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
        learn: 0.2147180
                                  total: 1m 7s
                                                   remaining: 1m 4s
256:
        learn: 0.2146868
                                  total: 1m 7s
                                                   remaining: 1m 4s
257:
        learn: 0.2146386
                                  total: 1m 8s
                                                   remaining: 1m 3s
258:
        learn: 0.2146030
                                  total: 1m 8s
                                                   remaining: 1m 3s
        learn: 0.2145070
                                                   remaining: 1m 3s
259:
                                  total: 1m 8s
260:
        learn: 0.2144874
                                  total: 1m 8s
                                                   remaining: 1m 2s
261:
        learn: 0.2144197
                                  total: 1m 9s
                                                   remaining: 1m 2s
                                  total: 1m 9s
262:
        learn: 0.2143351
                                                   remaining: 1m 2s
263:
        learn: 0.2142084
                                  total: 1m 9s
                                                   remaining: 1m 2s
                                  total: 1m 9s
264:
        learn: 0.2141583
                                                   remaining: 1m 1s
265:
        learn: 0.2140874
                                  total: 1m 10s
                                                   remaining: 1m 1s
266:
        learn: 0.2140024
                                  total: 1m 10s
                                                   remaining: 1m 1s
        learn: 0.2139710
267:
                                  total: 1m 10s
                                                   remaining: 1m 1s
268:
        learn: 0.2138767
                                  total: 1m 10s
                                                   remaining: 1m
269:
        learn: 0.2138192
                                  total: 1m 10s
                                                   remaining: 1m
270:
        learn: 0.2137539
                                  total: 1m 11s
                                                   remaining: 1m
271:
        learn: 0.2136597
                                  total: 1m 11s
                                                   remaining: 59.9s
272:
        learn: 0.2135401
                                  total: 1m 11s
                                                   remaining: 59.6s
273:
        learn: 0.2134861
                                  total: 1m 11s
                                                   remaining: 59.4s
274:
        learn: 0.2134290
                                  total: 1m 12s
                                                   remaining: 59.1s
275:
        learn: 0.2133594
                                  total: 1m 12s
                                                   remaining: 58.8s
276:
        learn: 0.2133481
                                  total: 1m 12s
                                                   remaining: 58.5s
277:
        learn: 0.2133391
                                  total: 1m 12s
                                                   remaining: 58.3s
278:
        learn: 0.2132830
                                  total: 1m 13s
                                                   remaining: 58s
279:
        learn: 0.2131418
                                  total: 1m 13s
                                                   remaining: 57.7s
280:
        learn: 0.2130551
                                  total: 1m 13s
                                                   remaining: 57.5s
                                  total: 1m 13s
281:
        learn: 0.2129303
                                                   remaining: 57.2s
        learn: 0.2128493
282:
                                  total: 1m 14s
                                                   remaining: 56.9s
283:
        learn: 0.2127613
                                  total: 1m 14s
                                                   remaining: 56.6s
284:
        learn: 0.2127250
                                  total: 1m 14s
                                                   remaining: 56.2s
285:
        learn: 0.2126599
                                  total: 1m 14s
                                                   remaining: 55.9s
286:
        learn: 0.2126259
                                  total: 1m 14s
                                                   remaining: 55.6s
287:
        learn: 0.2125725
                                  total: 1m 15s
                                                   remaining: 55.3s
288:
        learn: 0.2125122
                                  total: 1m 15s
                                                   remaining: 55.1s
```

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289:
        learn: 0.2124491
                                  total: 1m 15s
                                                   remaining: 54.7s
290:
        learn: 0.2124252
                                  total: 1m 15s
                                                   remaining: 54.4s
291:
        learn: 0.2123676
                                  total: 1m 15s
                                                   remaining: 54.1s
292:
        learn: 0.2123498
                                  total: 1m 16s
                                                   remaining: 53.8s
293:
        learn: 0.2123005
                                  total: 1m 16s
                                                   remaining: 53.6s
                                  total: 1m 16s
294:
        learn: 0.2122623
                                                   remaining: 53.3s
295:
        learn: 0.2121645
                                  total: 1m 16s
                                                   remaining: 53s
        learn: 0.2121159
                                                   remaining: 52.8s
296:
                                  total: 1m 17s
297:
        learn: 0.2120517
                                  total: 1m 17s
                                                   remaining: 52.6s
298:
        learn: 0.2120023
                                  total: 1m 17s
                                                   remaining: 52.3s
299:
        learn: 0.2119526
                                  total: 1m 18s
                                                   remaining: 52s
300:
        learn: 0.2119268
                                  total: 1m 18s
                                                   remaining: 51.8s
301:
        learn: 0.2118720
                                  total: 1m 18s
                                                   remaining: 51.5s
302:
        learn: 0.2118350
                                  total: 1m 18s
                                                   remaining: 51.3s
303:
        learn: 0.2118013
                                  total: 1m 19s
                                                   remaining: 51s
304:
        learn: 0.2117561
                                  total: 1m 19s
                                                   remaining: 50.8s
305:
        learn: 0.2116820
                                  total: 1m 19s
                                                   remaining: 50.5s
                                  total: 1m 20s
306:
        learn: 0.2116245
                                                   remaining: 50.3s
        learn: 0.2115739
                                  total: 1m 20s
307:
                                                   remaining: 50.1s
308:
        learn: 0.2115255
                                  total: 1m 20s
                                                   remaining: 49.8s
309:
        learn: 0.2114817
                                  total: 1m 20s
                                                   remaining: 49.6s
                                  total: 1m 21s
310:
        learn: 0.2114681
                                                   remaining: 49.3s
                                                  remaining: 49.1s
311:
        learn: 0.2113653
                                  total: 1m 21s
312:
        learn: 0.2113348
                                  total: 1m 21s
                                                   remaining: 48.8s
313:
        learn: 0.2112708
                                  total: 1m 21s
                                                   remaining: 48.5s
        learn: 0.2112350
314:
                                  total: 1m 22s
                                                   remaining: 48.3s
315:
        learn: 0.2111786
                                  total: 1m 22s
                                                   remaining: 48s
316:
        learn: 0.2110974
                                  total: 1m 22s
                                                   remaining: 47.8s
317:
        learn: 0.2110260
                                  total: 1m 23s
                                                   remaining: 47.5s
318:
        learn: 0.2108928
                                                   remaining: 47.3s
                                  total: 1m 23s
319:
        learn: 0.2108520
                                  total: 1m 23s
                                                   remaining: 47s
320:
        learn: 0.2107923
                                  total: 1m 23s
                                                   remaining: 46.7s
321:
        learn: 0.2107541
                                  total: 1m 24s
                                                   remaining: 46.5s
322:
        learn: 0.2107294
                                  total: 1m 24s
                                                   remaining: 46.2s
323:
        learn: 0.2107119
                                  total: 1m 24s
                                                   remaining: 45.9s
        learn: 0.2106905
                                  total: 1m 24s
324:
                                                   remaining: 45.7s
325:
        learn: 0.2106374
                                  total: 1m 25s
                                                   remaining: 45.4s
326:
        learn: 0.2105110
                                  total: 1m 25s
                                                   remaining: 45.1s
                                  total: 1m 25s
327:
        learn: 0.2104407
                                                   remaining: 44.9s
328:
        learn: 0.2103930
                                  total: 1m 25s
                                                   remaining: 44.6s
329:
        learn: 0.2103278
                                  total: 1m 26s
                                                   remaining: 44.3s
330:
        learn: 0.2102727
                                  total: 1m 26s
                                                   remaining: 44.1s
331:
        learn: 0.2102040
                                  total: 1m 26s
                                                   remaining: 43.8s
332:
        learn: 0.2101195
                                  total: 1m 26s
                                                   remaining: 43.5s
                                                   remaining: 43.3s
333:
        learn: 0.2100104
                                  total: 1m 27s
        learn: 0.2099384
334:
                                  total: 1m 27s
                                                   remaining: 43s
335:
        learn: 0.2098865
                                  total: 1m 27s
                                                   remaining: 42.7s
336:
        learn: 0.2098719
                                  total: 1m 27s
                                                   remaining: 42.5s
```

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337:
        learn: 0.2097876
                                  total: 1m 28s
                                                   remaining: 42.2s
338:
        learn: 0.2097631
                                  total: 1m 28s
                                                   remaining: 41.9s
339:
        learn: 0.2097316
                                  total: 1m 28s
                                                   remaining: 41.7s
        learn: 0.2096477
                                                   remaining: 41.4s
340:
                                  total: 1m 28s
341:
        learn: 0.2095747
                                  total: 1m 29s
                                                   remaining: 41.2s
                                  total: 1m 29s
                                                   remaining: 40.9s
342:
        learn: 0.2095474
343:
        learn: 0.2094101
                                  total: 1m 29s
                                                   remaining: 40.6s
                                                   remaining: 40.4s
344:
        learn: 0.2093577
                                  total: 1m 29s
345:
        learn: 0.2093157
                                  total: 1m 30s
                                                   remaining: 40.1s
346:
        learn: 0.2092478
                                  total: 1m 30s
                                                   remaining: 39.9s
347:
        learn: 0.2091681
                                  total: 1m 30s
                                                   remaining: 39.6s
348:
        learn: 0.2091107
                                  total: 1m 30s
                                                   remaining: 39.3s
349:
        learn: 0.2090903
                                  total: 1m 31s
                                                   remaining: 39.1s
350:
        learn: 0.2090437
                                  total: 1m 31s
                                                   remaining: 38.8s
                                                   remaining: 38.6s
351:
        learn: 0.2089669
                                  total: 1m 31s
352:
        learn: 0.2089250
                                  total: 1m 31s
                                                   remaining: 38.3s
353:
        learn: 0.2088879
                                  total: 1m 32s
                                                   remaining: 38.1s
                                  total: 1m 32s
354:
        learn: 0.2088406
                                                   remaining: 37.8s
        learn: 0.2088157
                                  total: 1m 32s
                                                   remaining: 37.6s
355:
356:
        learn: 0.2087881
                                  total: 1m 33s
                                                   remaining: 37.3s
357:
        learn: 0.2087423
                                  total: 1m 33s
                                                   remaining: 37s
358:
        learn: 0.2087256
                                  total: 1m 33s
                                                   remaining: 36.8s
359:
        learn: 0.2086847
                                  total: 1m 33s
                                                   remaining: 36.5s
                                  total: 1m 34s
360:
        learn: 0.2086480
                                                   remaining: 36.3s
361:
        learn: 0.2085835
                                  total: 1m 34s
                                                   remaining: 36s
362:
        learn: 0.2084995
                                  total: 1m 34s
                                                   remaining: 35.8s
363:
        learn: 0.2084435
                                  total: 1m 35s
                                                   remaining: 35.5s
364:
        learn: 0.2083862
                                  total: 1m 35s
                                                   remaining: 35.2s
365:
        learn: 0.2083092
                                  total: 1m 35s
                                                   remaining: 35s
366:
        learn: 0.2082355
                                  total: 1m 35s
                                                  remaining: 34.7s
367:
        learn: 0.2081894
                                  total: 1m 36s
                                                   remaining: 34.5s
368:
        learn: 0.2081629
                                  total: 1m 36s
                                                   remaining: 34.2s
369:
        learn: 0.2081280
                                  total: 1m 36s
                                                   remaining: 33.9s
370:
        learn: 0.2080793
                                  total: 1m 36s
                                                   remaining: 33.7s
371:
        learn: 0.2080126
                                  total: 1m 37s
                                                   remaining: 33.4s
372:
        learn: 0.2079735
                                  total: 1m 37s
                                                   remaining: 33.2s
373:
        learn: 0.2078726
                                  total: 1m 37s
                                                   remaining: 32.9s
374:
        learn: 0.2078291
                                  total: 1m 37s
                                                   remaining: 32.7s
                                  total: 1m 38s
375:
        learn: 0.2077877
                                                   remaining: 32.4s
376:
        learn: 0.2077740
                                  total: 1m 38s
                                                   remaining: 32.1s
                                  total: 1m 38s
377:
        learn: 0.2077234
                                                   remaining: 31.9s
378:
        learn: 0.2076798
                                  total: 1m 39s
                                                   remaining: 31.6s
379:
        learn: 0.2076409
                                  total: 1m 39s
                                                   remaining: 31.4s
380:
        learn: 0.2075657
                                  total: 1m 39s
                                                   remaining: 31.1s
                                                   remaining: 30.8s
381:
        learn: 0.2074506
                                  total: 1m 39s
382:
        learn: 0.2073896
                                  total: 1m 40s
                                                   remaining: 30.6s
383:
        learn: 0.2073473
                                  total: 1m 40s
                                                   remaining: 30.3s
384:
        learn: 0.2072065
                                  total: 1m 40s
                                                   remaining: 30.1s
```

```
learn: 0.2071644
385:
                                  total: 1m 40s
                                                   remaining: 29.8s
386:
        learn: 0.2070727
                                  total: 1m 41s
                                                   remaining: 29.5s
387:
        learn: 0.2070173
                                                   remaining: 29.3s
                                  total: 1m 41s
        learn: 0.2069800
388:
                                  total: 1m 41s
                                                   remaining: 29s
389:
        learn: 0.2069560
                                  total: 1m 41s
                                                   remaining: 28.8s
                                  total: 1m 42s
390:
        learn: 0.2068751
                                                   remaining: 28.5s
391:
        learn: 0.2068511
                                  total: 1m 42s
                                                   remaining: 28.2s
        learn: 0.2067669
392:
                                  total: 1m 42s
                                                   remaining: 28s
393:
        learn: 0.2067207
                                  total: 1m 42s
                                                   remaining: 27.7s
394:
        learn: 0.2066969
                                  total: 1m 43s
                                                   remaining: 27.4s
395:
        learn: 0.2066533
                                  total: 1m 43s
                                                   remaining: 27.2s
396:
        learn: 0.2065911
                                  total: 1m 43s
                                                   remaining: 26.9s
397:
        learn: 0.2065647
                                  total: 1m 43s
                                                   remaining: 26.6s
398:
        learn: 0.2065431
                                  total: 1m 44s
                                                   remaining: 26.4s
399:
        learn: 0.2065144
                                  total: 1m 44s
                                                   remaining: 26.1s
400:
        learn: 0.2064503
                                  total: 1m 44s
                                                   remaining: 25.8s
401:
        learn: 0.2064044
                                  total: 1m 44s
                                                   remaining: 25.6s
402:
        learn: 0.2063845
                                  total: 1m 45s
                                                   remaining: 25.3s
        learn: 0.2062959
403:
                                  total: 1m 45s
                                                   remaining: 25.1s
404:
        learn: 0.2061658
                                  total: 1m 45s
                                                   remaining: 24.8s
405:
        learn: 0.2061029
                                  total: 1m 45s
                                                   remaining: 24.5s
406:
        learn: 0.2060411
                                  total: 1m 46s
                                                   remaining: 24.3s
407:
        learn: 0.2060234
                                  total: 1m 46s
                                                   remaining: 24s
408:
        learn: 0.2059622
                                  total: 1m 46s
                                                   remaining: 23.8s
409:
        learn: 0.2059264
                                  total: 1m 47s
                                                   remaining: 23.5s
410:
        learn: 0.2058875
                                  total: 1m 47s
                                                   remaining: 23.2s
411:
        learn: 0.2057458
                                  total: 1m 47s
                                                   remaining: 23s
412:
        learn: 0.2057039
                                  total: 1m 47s
                                                   remaining: 22.7s
413:
        learn: 0.2056402
                                  total: 1m 48s
                                                   remaining: 22.5s
414:
        learn: 0.2055851
                                  total: 1m 48s
                                                   remaining: 22.2s
415:
        learn: 0.2055588
                                  total: 1m 48s
                                                   remaining: 22s
416:
        learn: 0.2055156
                                  total: 1m 49s
                                                   remaining: 21.7s
417:
        learn: 0.2054782
                                  total: 1m 49s
                                                   remaining: 21.4s
        learn: 0.2054619
                                  total: 1m 49s
418:
                                                   remaining: 21.2s
419:
        learn: 0.2054000
                                  total: 1m 49s
                                                   remaining: 20.9s
        learn: 0.2053628
420:
                                  total: 1m 50s
                                                   remaining: 20.7s
421:
        learn: 0.2052740
                                  total: 1m 50s
                                                   remaining: 20.4s
422:
        learn: 0.2052247
                                  total: 1m 50s
                                                   remaining: 20.1s
423:
        learn: 0.2051698
                                  total: 1m 50s
                                                   remaining: 19.9s
424:
        learn: 0.2051371
                                  total: 1m 51s
                                                   remaining: 19.6s
425:
        learn: 0.2050905
                                  total: 1m 51s
                                                   remaining: 19.4s
426:
        learn: 0.2050347
                                  total: 1m 51s
                                                   remaining: 19.1s
427:
        learn: 0.2049701
                                  total: 1m 51s
                                                   remaining: 18.8s
428:
        learn: 0.2049411
                                  total: 1m 52s
                                                   remaining: 18.6s
429:
        learn: 0.2049057
                                  total: 1m 52s
                                                   remaining: 18.3s
430:
        learn: 0.2048088
                                  total: 1m 52s
                                                   remaining: 18.1s
431:
        learn: 0.2047589
                                  total: 1m 53s
                                                   remaining: 17.8s
432:
        learn: 0.2047211
                                  total: 1m 53s
                                                   remaining: 17.5s
```

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433:
        learn: 0.2046664
                                  total: 1m 53s
                                                   remaining: 17.3s
434:
        learn: 0.2046040
                                  total: 1m 53s
                                                   remaining: 17s
435:
        learn: 0.2045756
                                  total: 1m 54s
                                                   remaining: 16.8s
        learn: 0.2045277
                                                   remaining: 16.5s
436:
                                  total: 1m 54s
437:
        learn: 0.2044988
                                  total: 1m 54s
                                                   remaining: 16.3s
                                  total: 1m 55s
438:
        learn: 0.2043860
                                                   remaining: 16s
439:
        learn: 0.2043606
                                  total: 1m 55s
                                                   remaining: 15.7s
440:
        learn: 0.2043121
                                  total: 1m 55s
                                                   remaining: 15.5s
441:
        learn: 0.2042476
                                  total: 1m 55s
                                                   remaining: 15.2s
442:
        learn: 0.2041932
                                  total: 1m 56s
                                                   remaining: 14.9s
443:
        learn: 0.2041618
                                  total: 1m 56s
                                                   remaining: 14.7s
444:
        learn: 0.2040938
                                  total: 1m 56s
                                                   remaining: 14.4s
445:
        learn: 0.2040697
                                  total: 1m 56s
                                                   remaining: 14.2s
446:
        learn: 0.2039138
                                  total: 1m 57s
                                                   remaining: 13.9s
447:
        learn: 0.2038552
                                  total: 1m 57s
                                                   remaining: 13.6s
448:
        learn: 0.2037629
                                  total: 1m 57s
                                                   remaining: 13.4s
449:
        learn: 0.2037331
                                  total: 1m 57s
                                                   remaining: 13.1s
                                  total: 1m 58s
450:
        learn: 0.2036196
                                                   remaining: 12.8s
        learn: 0.2034944
451:
                                  total: 1m 58s
                                                   remaining: 12.6s
452:
        learn: 0.2034352
                                  total: 1m 58s
                                                   remaining: 12.3s
453:
        learn: 0.2033740
                                  total: 1m 58s
                                                   remaining: 12.1s
454:
        learn: 0.2032945
                                  total: 1m 59s
                                                   remaining: 11.8s
455:
        learn: 0.2032319
                                  total: 1m 59s
                                                   remaining: 11.5s
                                  total: 1m 59s
456:
        learn: 0.2031830
                                                   remaining: 11.3s
457:
        learn: 0.2031321
                                  total: 1m 59s
                                                   remaining: 11s
        learn: 0.2031006
                                  total: 2m
458:
                                                   remaining: 10.7s
        learn: 0.2030687
459:
                                  total: 2m
                                                   remaining: 10.5s
460:
        learn: 0.2029764
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.2029520
                                  total: 2m
                                                   remaining: 9.94s
462:
        learn: 0.2029301
                                  total: 2m 1s
                                                   remaining: 9.68s
463:
        learn: 0.2028869
                                  total: 2m 1s
                                                   remaining: 9.41s
464:
        learn: 0.2028327
                                  total: 2m 1s
                                                   remaining: 9.15s
465:
        learn: 0.2027871
                                  total: 2m 1s
                                                   remaining: 8.89s
        learn: 0.2027544
                                  total: 2m 2s
466:
                                                   remaining: 8.63s
467:
        learn: 0.2027041
                                  total: 2m 2s
                                                   remaining: 8.37s
                                  total: 2m 2s
468:
        learn: 0.2026931
                                                   remaining: 8.11s
469:
        learn: 0.2026734
                                  total: 2m 2s
                                                   remaining: 7.85s
470:
        learn: 0.2026404
                                  total: 2m 3s
                                                   remaining: 7.59s
                                  total: 2m 3s
471:
        learn: 0.2026013
                                                   remaining: 7.33s
472:
        learn: 0.2025801
                                  total: 2m 3s
                                                   remaining: 7.06s
473:
        learn: 0.2025640
                                  total: 2m 4s
                                                   remaining: 6.8s
474:
        learn: 0.2025414
                                  total: 2m 4s
                                                   remaining: 6.54s
475:
        learn: 0.2024882
                                  total: 2m 4s
                                                   remaining: 6.28s
476:
        learn: 0.2024552
                                  total: 2m 4s
                                                   remaining: 6.02s
477:
        learn: 0.2024009
                                  total: 2m 5s
                                                   remaining: 5.76s
478:
        learn: 0.2023739
                                  total: 2m 5s
                                                   remaining: 5.5s
479:
        learn: 0.2022790
                                  total: 2m 5s
                                                   remaining: 5.24s
480:
        learn: 0.2022526
                                  total: 2m 5s
                                                   remaining: 4.98s
```

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481:
        learn: 0.2022207
                                  total: 2m 6s
                                                   remaining: 4.71s
482:
        learn: 0.2021796
                                  total: 2m 6s
                                                   remaining: 4.45s
483:
        learn: 0.2020905
                                  total: 2m 6s
                                                   remaining: 4.19s
        learn: 0.2020422
                                  total: 2m 7s
                                                   remaining: 3.93s
484:
                                                   remaining: 3.67s
485:
        learn: 0.2020043
                                  total: 2m 7s
                                  total: 2m 7s
                                                   remaining: 3.4s
486:
        learn: 0.2019762
487:
        learn: 0.2019388
                                  total: 2m 7s
                                                   remaining: 3.14s
488:
        learn: 0.2018967
                                  total: 2m 8s
                                                   remaining: 2.88s
489:
        learn: 0.2018424
                                  total: 2m 8s
                                                   remaining: 2.62s
490:
        learn: 0.2017880
                                  total: 2m 8s
                                                   remaining: 2.36s
491:
        learn: 0.2015895
                                  total: 2m 8s
                                                   remaining: 2.1s
492:
        learn: 0.2015257
                                  total: 2m 9s
                                                   remaining: 1.83s
493:
        learn: 0.2014832
                                  total: 2m 9s
                                                   remaining: 1.57s
494:
        learn: 0.2013934
                                  total: 2m 9s
                                                   remaining: 1.31s
                                                   remaining: 1.05s
495:
        learn: 0.2012606
                                  total: 2m 10s
496:
        learn: 0.2012303
                                  total: 2m 10s
                                                   remaining: 786ms
497:
        learn: 0.2011375
                                  total: 2m 10s
                                                   remaining: 524ms
                                  total: 2m 10s
498:
        learn: 0.2009991
                                                   remaining: 262ms
499:
        learn: 0.2009286
                                  total: 2m 11s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9716258
                                  total: 290ms
                                                   remaining: 2m 24s
1:
        learn: 0.8884807
                                  total: 492ms
                                                   remaining: 2m 2s
2:
        learn: 0.8315846
                                  total: 691ms
                                                   remaining: 1m 54s
                                                   remaining: 1m 50s
3:
        learn: 0.7887301
                                  total: 889ms
4:
        learn: 0.7363409
                                  total: 1.08s
                                                   remaining: 1m 46s
5:
        learn: 0.6450091
                                  total: 1.28s
                                                   remaining: 1m 45s
6:
                                                   remaining: 1m 44s
        learn: 0.5791642
                                  total: 1.49s
7:
        learn: 0.5170829
                                  total: 1.69s
                                                   remaining: 1m 44s
8:
        learn: 0.4932440
                                  total: 1.87s
                                                   remaining: 1m 42s
9:
        learn: 0.4503546
                                  total: 2.09s
                                                   remaining: 1m 42s
        learn: 0.4204499
                                  total: 2.29s
10:
                                                   remaining: 1m 42s
11:
        learn: 0.3980078
                                  total: 2.47s
                                                   remaining: 1m 40s
12:
        learn: 0.3913473
                                  total: 2.67s
                                                   remaining: 1m 39s
        learn: 0.3737271
                                  total: 2.85s
                                                   remaining: 1m 39s
13:
14:
        learn: 0.3602331
                                  total: 3.1s
                                                   remaining: 1m 40s
15:
        learn: 0.3508858
                                  total: 3.34s
                                                   remaining: 1m 41s
16:
        learn: 0.3364727
                                  total: 3.61s
                                                   remaining: 1m 42s
17:
        learn: 0.3287254
                                  total: 3.9s
                                                   remaining: 1m 44s
18:
        learn: 0.3184633
                                  total: 4.17s
                                                   remaining: 1m 45s
19:
        learn: 0.3078584
                                  total: 4.41s
                                                   remaining: 1m 45s
20:
        learn: 0.2987461
                                  total: 4.66s
                                                   remaining: 1m 46s
                                  total: 4.89s
                                                   remaining: 1m 46s
21:
        learn: 0.2914065
22:
        learn: 0.2901171
                                  total: 5.2s
                                                   remaining: 1m 47s
23:
        learn: 0.2887159
                                  total: 5.45s
                                                   remaining: 1m 48s
24:
        learn: 0.2826272
                                  total: 5.75s
                                                   remaining: 1m 49s
25:
        learn: 0.2816232
                                  total: 6.02s
                                                   remaining: 1m 49s
26:
        learn: 0.2810137
                                  total: 6.29s
                                                   remaining: 1m 50s
27:
        learn: 0.2790395
                                  total: 6.56s
                                                   remaining: 1m 50s
```

```
28:
        learn: 0.2757956
                                  total: 6.86s
                                                   remaining: 1m 51s
29:
        learn: 0.2714867
                                  total: 7.14s
                                                   remaining: 1m 51s
30:
        learn: 0.2709084
                                  total: 7.45s
                                                   remaining: 1m 52s
31:
        learn: 0.2683122
                                  total: 7.72s
                                                   remaining: 1m 52s
                                                   remaining: 1m 53s
32:
        learn: 0.2674948
                                  total: 8s
                                  total: 8.29s
                                                   remaining: 1m 53s
33:
        learn: 0.2664540
34:
        learn: 0.2623099
                                  total: 8.58s
                                                   remaining: 1m 53s
35:
        learn: 0.2618797
                                  total: 8.86s
                                                   remaining: 1m 54s
36:
        learn: 0.2607470
                                  total: 9.16s
                                                   remaining: 1m 54s
37:
        learn: 0.2602702
                                  total: 9.42s
                                                   remaining: 1m 54s
38:
        learn: 0.2597391
                                  total: 9.7s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
39:
        learn: 0.2594310
                                  total: 9.99s
40:
        learn: 0.2582539
                                  total: 10.3s
                                                   remaining: 1m 54s
41:
        learn: 0.2562647
                                  total: 10.6s
                                                   remaining: 1m 55s
42:
        learn: 0.2544392
                                  total: 10.8s
                                                   remaining: 1m 55s
        learn: 0.2542712
43:
                                                   remaining: 1m 55s
                                  total: 11.1s
44:
        learn: 0.2533070
                                  total: 11.4s
                                                   remaining: 1m 54s
                                  total: 11.6s
45:
        learn: 0.2528969
                                                   remaining: 1m 54s
        learn: 0.2525500
                                  total: 11.9s
                                                   remaining: 1m 54s
46:
47:
        learn: 0.2523560
                                  total: 12.2s
                                                   remaining: 1m 55s
48:
        learn: 0.2521935
                                  total: 12.5s
                                                   remaining: 1m 54s
                                  total: 12.8s
49:
        learn: 0.2497388
                                                   remaining: 1m 54s
50:
        learn: 0.2495861
                                  total: 13s
                                                   remaining: 1m 54s
51:
                                  total: 13.3s
                                                   remaining: 1m 54s
        learn: 0.2482156
52:
        learn: 0.2478668
                                  total: 13.6s
                                                   remaining: 1m 54s
53:
        learn: 0.2477343
                                  total: 13.9s
                                                   remaining: 1m 54s
54:
        learn: 0.2474383
                                  total: 14.1s
                                                   remaining: 1m 54s
55:
        learn: 0.2471745
                                  total: 14.4s
                                                   remaining: 1m 54s
                                  total: 14.7s
                                                   remaining: 1m 54s
56:
        learn: 0.2468548
57:
        learn: 0.2466558
                                  total: 15s
                                                   remaining: 1m 54s
58:
        learn: 0.2463813
                                                   remaining: 1m 54s
                                  total: 15.3s
59:
        learn: 0.2461853
                                  total: 15.5s
                                                   remaining: 1m 54s
60:
        learn: 0.2460425
                                  total: 15.8s
                                                   remaining: 1m 53s
61:
        learn: 0.2456452
                                  total: 16.1s
                                                   remaining: 1m 53s
                                                   remaining: 1m 53s
62:
        learn: 0.2454197
                                  total: 16.4s
63:
        learn: 0.2453150
                                  total: 16.7s
                                                   remaining: 1m 53s
64:
        learn: 0.2449313
                                  total: 16.9s
                                                   remaining: 1m 53s
65:
        learn: 0.2447160
                                  total: 17.2s
                                                   remaining: 1m 52s
        learn: 0.2429405
                                                   remaining: 1m 52s
66:
                                  total: 17.4s
67:
        learn: 0.2427783
                                  total: 17.7s
                                                   remaining: 1m 52s
68:
        learn: 0.2426372
                                  total: 17.9s
                                                   remaining: 1m 51s
        learn: 0.2424157
                                                   remaining: 1m 51s
69:
                                  total: 18.2s
70:
        learn: 0.2422301
                                  total: 18.4s
                                                   remaining: 1m 51s
71:
        learn: 0.2419200
                                  total: 18.7s
                                                   remaining: 1m 51s
72:
        learn: 0.2418263
                                  total: 18.9s
                                                   remaining: 1m 50s
73:
        learn: 0.2415982
                                  total: 19.2s
                                                   remaining: 1m 50s
74:
        learn: 0.2413007
                                  total: 19.5s
                                                   remaining: 1m 50s
75:
        learn: 0.2410928
                                  total: 19.8s
                                                   remaining: 1m 50s
```

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76:
        learn: 0.2410131
                                  total: 20s
                                                   remaining: 1m 49s
77:
        learn: 0.2407527
                                  total: 20.3s
                                                   remaining: 1m 49s
78:
        learn: 0.2406760
                                  total: 20.5s
                                                   remaining: 1m 49s
79:
        learn: 0.2405499
                                  total: 20.8s
                                                   remaining: 1m 49s
                                                   remaining: 1m 48s
80:
        learn: 0.2403310
                                  total: 21.1s
        learn: 0.2400845
                                  total: 21.3s
                                                   remaining: 1m 48s
81:
82:
        learn: 0.2395520
                                  total: 21.6s
                                                   remaining: 1m 48s
83:
        learn: 0.2392718
                                  total: 21.8s
                                                   remaining: 1m 48s
84:
        learn: 0.2391932
                                  total: 22.1s
                                                   remaining: 1m 47s
85:
        learn: 0.2390905
                                  total: 22.4s
                                                   remaining: 1m 47s
        learn: 0.2390016
                                  total: 22.6s
                                                   remaining: 1m 47s
86:
                                                   remaining: 1m 47s
87:
        learn: 0.2389333
                                  total: 22.9s
                                  total: 23.2s
88:
        learn: 0.2388215
                                                   remaining: 1m 47s
89:
        learn: 0.2387036
                                  total: 23.5s
                                                   remaining: 1m 46s
90:
        learn: 0.2382011
                                  total: 23.8s
                                                   remaining: 1m 46s
91:
        learn: 0.2381424
                                  total: 24s
                                                   remaining: 1m 46s
92:
        learn: 0.2380425
                                  total: 24.3s
                                                   remaining: 1m 46s
93:
        learn: 0.2376235
                                  total: 24.5s
                                                   remaining: 1m 45s
        learn: 0.2375607
                                  total: 24.8s
                                                   remaining: 1m 45s
94:
95:
        learn: 0.2374678
                                  total: 25s
                                                   remaining: 1m 45s
                                  total: 25.3s
96:
        learn: 0.2374119
                                                   remaining: 1m 45s
                                  total: 25.6s
97:
        learn: 0.2369356
                                                   remaining: 1m 44s
98:
        learn: 0.2368745
                                  total: 25.8s
                                                   remaining: 1m 44s
        learn: 0.2366938
                                  total: 26.1s
                                                   remaining: 1m 44s
99:
100:
        learn: 0.2366476
                                  total: 26.3s
                                                   remaining: 1m 44s
        learn: 0.2365214
101:
                                                   remaining: 1m 43s
                                  total: 26.6s
        learn: 0.2364312
                                  total: 26.9s
                                                   remaining: 1m 43s
102:
103:
        learn: 0.2363249
                                  total: 27.2s
                                                   remaining: 1m 43s
        learn: 0.2362158
                                  total: 27.4s
104:
                                                   remaining: 1m 43s
105:
        learn: 0.2361589
                                  total: 27.7s
                                                   remaining: 1m 43s
        learn: 0.2359796
                                  total: 28s
                                                   remaining: 1m 42s
106:
107:
        learn: 0.2357831
                                  total: 28.3s
                                                   remaining: 1m 42s
108:
        learn: 0.2347955
                                  total: 28.6s
                                                   remaining: 1m 42s
109:
        learn: 0.2347038
                                  total: 28.8s
                                                   remaining: 1m 42s
                                  total: 29.1s
                                                   remaining: 1m 41s
110:
        learn: 0.2346392
111:
        learn: 0.2344838
                                  total: 29.4s
                                                   remaining: 1m 41s
112:
        learn: 0.2344206
                                  total: 29.7s
                                                   remaining: 1m 41s
113:
        learn: 0.2342094
                                  total: 29.9s
                                                   remaining: 1m 41s
        learn: 0.2341249
                                  total: 30.2s
                                                   remaining: 1m 41s
114:
115:
        learn: 0.2339818
                                  total: 30.5s
                                                   remaining: 1m 40s
116:
        learn: 0.2338606
                                  total: 30.7s
                                                   remaining: 1m 40s
        learn: 0.2337475
                                                   remaining: 1m 40s
117:
                                  total: 31s
118:
        learn: 0.2336971
                                  total: 31.3s
                                                   remaining: 1m 40s
119:
        learn: 0.2336424
                                  total: 31.6s
                                                   remaining: 1m 39s
120:
        learn: 0.2336140
                                  total: 31.8s
                                                   remaining: 1m 39s
121:
        learn: 0.2335554
                                  total: 32.1s
                                                   remaining: 1m 39s
122:
        learn: 0.2335137
                                  total: 32.4s
                                                   remaining: 1m 39s
123:
        learn: 0.2334731
                                  total: 32.6s
                                                   remaining: 1m 38s
```

```
total: 32.9s
124:
        learn: 0.2333287
                                                   remaining: 1m 38s
125:
        learn: 0.2330158
                                  total: 33.1s
                                                   remaining: 1m 38s
126:
        learn: 0.2329964
                                  total: 33.4s
                                                   remaining: 1m 38s
127:
        learn: 0.2328977
                                  total: 33.6s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
128:
        learn: 0.2328156
                                  total: 33.9s
                                                   remaining: 1m 37s
129:
        learn: 0.2327793
                                  total: 34.2s
130:
        learn: 0.2327456
                                  total: 34.4s
                                                   remaining: 1m 36s
131:
        learn: 0.2327253
                                  total: 34.7s
                                                   remaining: 1m 36s
132:
        learn: 0.2326148
                                  total: 34.9s
                                                   remaining: 1m 36s
133:
        learn: 0.2325520
                                  total: 35.2s
                                                   remaining: 1m 36s
134:
        learn: 0.2323429
                                  total: 35.5s
                                                   remaining: 1m 35s
                                                   remaining: 1m 35s
135:
        learn: 0.2323147
                                  total: 35.7s
136:
        learn: 0.2322969
                                  total: 36s
                                                   remaining: 1m 35s
137:
        learn: 0.2320509
                                  total: 36.2s
                                                   remaining: 1m 35s
138:
        learn: 0.2319703
                                  total: 36.5s
                                                   remaining: 1m 34s
139:
        learn: 0.2318005
                                  total: 36.8s
                                                   remaining: 1m 34s
140:
        learn: 0.2316528
                                  total: 37s
                                                   remaining: 1m 34s
141:
        learn: 0.2315364
                                  total: 37.3s
                                                   remaining: 1m 33s
142:
        learn: 0.2314120
                                                   remaining: 1m 33s
                                  total: 37.6s
143:
        learn: 0.2313842
                                  total: 37.8s
                                                   remaining: 1m 33s
144:
        learn: 0.2311375
                                  total: 38.1s
                                                   remaining: 1m 33s
145:
        learn: 0.2310989
                                  total: 38.3s
                                                   remaining: 1m 32s
146:
        learn: 0.2310538
                                  total: 38.5s
                                                   remaining: 1m 32s
                                  total: 38.8s
                                                   remaining: 1m 32s
147:
        learn: 0.2309243
148:
        learn: 0.2308588
                                  total: 39.1s
                                                   remaining: 1m 32s
149:
        learn: 0.2308182
                                  total: 39.4s
                                                   remaining: 1m 31s
        learn: 0.2307975
                                  total: 39.6s
                                                   remaining: 1m 31s
150:
151:
        learn: 0.2307404
                                  total: 39.9s
                                                   remaining: 1m 31s
152:
        learn: 0.2306197
                                  total: 40.2s
                                                   remaining: 1m 31s
153:
        learn: 0.2304617
                                  total: 40.4s
                                                   remaining: 1m 30s
                                  total: 40.7s
154:
        learn: 0.2302841
                                                   remaining: 1m 30s
155:
        learn: 0.2301840
                                  total: 41s
                                                   remaining: 1m 30s
156:
        learn: 0.2301499
                                  total: 41.3s
                                                   remaining: 1m 30s
        learn: 0.2301191
                                  total: 41.5s
                                                   remaining: 1m 29s
157:
158:
                                                   remaining: 1m 29s
        learn: 0.2301042
                                  total: 41.8s
        learn: 0.2300438
159:
                                  total: 42s
                                                   remaining: 1m 29s
160:
        learn: 0.2299912
                                  total: 42.3s
                                                   remaining: 1m 29s
161:
        learn: 0.2297708
                                  total: 42.6s
                                                   remaining: 1m 28s
162:
        learn: 0.2295813
                                  total: 42.9s
                                                   remaining: 1m 28s
163:
        learn: 0.2294973
                                  total: 43.2s
                                                   remaining: 1m 28s
        learn: 0.2292801
                                  total: 43.4s
                                                   remaining: 1m 28s
164:
        learn: 0.2292247
                                  total: 43.7s
                                                   remaining: 1m 28s
165:
        learn: 0.2291280
                                  total: 44s
                                                   remaining: 1m 27s
166:
167:
        learn: 0.2290598
                                  total: 44.2s
                                                   remaining: 1m 27s
168:
        learn: 0.2290444
                                  total: 44.5s
                                                   remaining: 1m 27s
        learn: 0.2289751
169:
                                  total: 44.8s
                                                   remaining: 1m 26s
170:
        learn: 0.2288884
                                  total: 45.1s
                                                   remaining: 1m 26s
171:
        learn: 0.2288173
                                  total: 45.4s
                                                   remaining: 1m 26s
```

```
172:
        learn: 0.2287581
                                  total: 45.6s
                                                   remaining: 1m 26s
173:
        learn: 0.2286393
                                  total: 45.9s
                                                   remaining: 1m 26s
174:
        learn: 0.2285679
                                  total: 46.2s
                                                   remaining: 1m 25s
175:
        learn: 0.2285492
                                  total: 46.5s
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
176:
        learn: 0.2285183
                                  total: 46.8s
                                                   remaining: 1m 25s
177:
        learn: 0.2284011
                                  total: 47s
178:
        learn: 0.2282741
                                  total: 47.3s
                                                   remaining: 1m 24s
179:
        learn: 0.2281662
                                  total: 47.6s
                                                   remaining: 1m 24s
180:
        learn: 0.2280779
                                  total: 47.9s
                                                   remaining: 1m 24s
181:
        learn: 0.2280029
                                  total: 48.2s
                                                   remaining: 1m 24s
182:
        learn: 0.2279272
                                  total: 48.5s
                                                   remaining: 1m 23s
                                                   remaining: 1m 23s
183:
        learn: 0.2277913
                                  total: 48.7s
184:
        learn: 0.2277558
                                  total: 48.9s
                                                   remaining: 1m 23s
185:
        learn: 0.2277043
                                  total: 49.2s
                                                   remaining: 1m 22s
186:
        learn: 0.2275861
                                  total: 49.4s
                                                   remaining: 1m 22s
187:
        learn: 0.2275542
                                  total: 49.7s
                                                   remaining: 1m 22s
188:
        learn: 0.2274578
                                  total: 49.9s
                                                   remaining: 1m 22s
189:
        learn: 0.2274335
                                  total: 50.2s
                                                   remaining: 1m 21s
        learn: 0.2274176
                                                   remaining: 1m 21s
190:
                                  total: 50.4s
191:
        learn: 0.2272516
                                  total: 50.7s
                                                   remaining: 1m 21s
192:
        learn: 0.2271429
                                  total: 50.9s
                                                   remaining: 1m 20s
193:
        learn: 0.2270964
                                  total: 51.2s
                                                   remaining: 1m 20s
194:
        learn: 0.2270034
                                  total: 51.4s
                                                   remaining: 1m 20s
                                                   remaining: 1m 20s
195:
        learn: 0.2269478
                                  total: 51.7s
196:
        learn: 0.2268485
                                  total: 51.9s
                                                   remaining: 1m 19s
197:
        learn: 0.2267139
                                  total: 52.2s
                                                   remaining: 1m 19s
        learn: 0.2266563
                                  total: 52.4s
                                                   remaining: 1m 19s
198:
199:
        learn: 0.2266014
                                  total: 52.7s
                                                   remaining: 1m 18s
200:
        learn: 0.2265845
                                  total: 52.9s
                                                   remaining: 1m 18s
201:
        learn: 0.2265510
                                  total: 53.2s
                                                   remaining: 1m 18s
202:
        learn: 0.2264195
                                  total: 53.4s
                                                   remaining: 1m 18s
203:
        learn: 0.2262735
                                  total: 53.7s
                                                   remaining: 1m 17s
204:
        learn: 0.2262313
                                  total: 54s
                                                   remaining: 1m 17s
205:
        learn: 0.2261743
                                  total: 54.2s
                                                   remaining: 1m 17s
206:
        learn: 0.2260752
                                  total: 54.4s
                                                   remaining: 1m 17s
207:
        learn: 0.2260083
                                  total: 54.6s
                                                   remaining: 1m 16s
208:
        learn: 0.2259489
                                  total: 54.8s
                                                   remaining: 1m 16s
209:
        learn: 0.2258934
                                  total: 55s
                                                   remaining: 1m 15s
210:
        learn: 0.2258410
                                  total: 55.2s
                                                   remaining: 1m 15s
211:
        learn: 0.2257852
                                  total: 55.4s
                                                   remaining: 1m 15s
212:
        learn: 0.2257318
                                  total: 55.6s
                                                   remaining: 1m 14s
        learn: 0.2256029
                                                   remaining: 1m 14s
213:
                                  total: 55.9s
214:
        learn: 0.2255326
                                  total: 56.1s
                                                   remaining: 1m 14s
215:
        learn: 0.2254742
                                  total: 56.3s
                                                   remaining: 1m 13s
216:
        learn: 0.2254280
                                  total: 56.5s
                                                   remaining: 1m 13s
217:
        learn: 0.2253432
                                  total: 56.7s
                                                   remaining: 1m 13s
218:
        learn: 0.2252609
                                  total: 57s
                                                   remaining: 1m 13s
219:
        learn: 0.2250966
                                  total: 57.3s
                                                   remaining: 1m 12s
```

```
220:
        learn: 0.2250555
                                  total: 57.6s
                                                   remaining: 1m 12s
                                                   remaining: 1m 12s
221:
        learn: 0.2250155
                                  total: 57.9s
                                  total: 58.1s
222:
        learn: 0.2249146
                                                   remaining: 1m 12s
223:
        learn: 0.2248406
                                  total: 58.4s
                                                   remaining: 1m 11s
224:
        learn: 0.2247723
                                  total: 58.7s
                                                   remaining: 1m 11s
225:
                                  total: 59s
                                                   remaining: 1m 11s
        learn: 0.2247533
226:
        learn: 0.2246788
                                  total: 59.2s
                                                   remaining: 1m 11s
227:
        learn: 0.2245761
                                  total: 59.5s
                                                   remaining: 1m 11s
228:
        learn: 0.2245141
                                  total: 59.8s
                                                   remaining: 1m 10s
229:
        learn: 0.2244602
                                  total: 1m
                                                   remaining: 1m 10s
        learn: 0.2242728
230:
                                  total: 1m
                                                   remaining: 1m 10s
231:
                                  total: 1m
        learn: 0.2241427
                                                   remaining: 1m 10s
232:
        learn: 0.2240574
                                  total: 1m
                                                   remaining: 1m 9s
233:
        learn: 0.2238720
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2238495
                                  total: 1m 1s
                                                   remaining: 1m 9s
235:
        learn: 0.2238043
                                  total: 1m 1s
                                                   remaining: 1m 9s
236:
        learn: 0.2237779
                                  total: 1m 1s
                                                   remaining: 1m 8s
237:
        learn: 0.2237431
                                  total: 1m 2s
                                                   remaining: 1m 8s
        learn: 0.2236886
                                  total: 1m 2s
                                                   remaining: 1m 8s
238:
239:
        learn: 0.2236525
                                  total: 1m 2s
                                                   remaining: 1m 8s
        learn: 0.2235954
240:
                                  total: 1m 3s
                                                   remaining: 1m 7s
                                  total: 1m 3s
241:
        learn: 0.2235652
                                                   remaining: 1m 7s
242:
        learn: 0.2234049
                                  total: 1m 3s
                                                   remaining: 1m 7s
243:
                                  total: 1m 3s
                                                   remaining: 1m 7s
        learn: 0.2232809
244:
        learn: 0.2231639
                                  total: 1m 4s
                                                   remaining: 1m 6s
245:
        learn: 0.2230804
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2230495
                                  total: 1m 4s
                                                   remaining: 1m 6s
247:
        learn: 0.2229832
                                  total: 1m 4s
                                                   remaining: 1m 5s
        learn: 0.2229490
248:
                                  total: 1m 5s
                                                   remaining: 1m 5s
249:
        learn: 0.2229283
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2228878
                                  total: 1m 5s
                                                   remaining: 1m 5s
251:
        learn: 0.2228217
                                  total: 1m 5s
                                                   remaining: 1m 4s
252:
        learn: 0.2227460
                                  total: 1m 6s
                                                   remaining: 1m 4s
253:
        learn: 0.2226885
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2226154
                                  total: 1m 6s
                                                   remaining: 1m 4s
255:
        learn: 0.2225714
                                  total: 1m 6s
                                                   remaining: 1m 3s
256:
        learn: 0.2224843
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2224578
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2224410
                                  total: 1m 7s
                                                   remaining: 1m 3s
259:
        learn: 0.2222880
                                  total: 1m 7s
                                                   remaining: 1m 2s
                                  total: 1m 8s
260:
        learn: 0.2221902
                                                   remaining: 1m 2s
        learn: 0.2221527
                                                   remaining: 1m 2s
261:
                                  total: 1m 8s
262:
        learn: 0.2221236
                                  total: 1m 8s
                                                   remaining: 1m 1s
263:
        learn: 0.2220480
                                  total: 1m 8s
                                                   remaining: 1m 1s
264:
        learn: 0.2219136
                                  total: 1m 9s
                                                   remaining: 1m 1s
265:
        learn: 0.2218065
                                  total: 1m 9s
                                                   remaining: 1m 1s
266:
        learn: 0.2217525
                                  total: 1m 9s
                                                   remaining: 1m
267:
        learn: 0.2217425
                                  total: 1m 9s
                                                   remaining: 1m
```

```
learn: 0.2216526
268:
                                  total: 1m 10s
                                                   remaining: 1m
269:
        learn: 0.2216126
                                  total: 1m 10s
                                                   remaining: 1m
270:
        learn: 0.2215584
                                  total: 1m 10s
                                                   remaining: 59.8s
271:
        learn: 0.2214686
                                  total: 1m 11s
                                                   remaining: 59.5s
272:
        learn: 0.2214221
                                  total: 1m 11s
                                                   remaining: 59.3s
                                  total: 1m 11s
273:
        learn: 0.2213712
                                                   remaining: 59s
274:
        learn: 0.2212459
                                  total: 1m 11s
                                                   remaining: 58.8s
        learn: 0.2211965
                                                   remaining: 58.5s
275:
                                  total: 1m 12s
276:
        learn: 0.2211122
                                  total: 1m 12s
                                                   remaining: 58.3s
277:
        learn: 0.2210319
                                  total: 1m 12s
                                                   remaining: 58s
278:
        learn: 0.2209744
                                  total: 1m 12s
                                                   remaining: 57.7s
279:
        learn: 0.2208851
                                  total: 1m 13s
                                                   remaining: 57.5s
280:
        learn: 0.2208723
                                  total: 1m 13s
                                                   remaining: 57.2s
281:
        learn: 0.2208113
                                  total: 1m 13s
                                                   remaining: 57s
                                                   remaining: 56.7s
282:
        learn: 0.2206788
                                  total: 1m 13s
283:
        learn: 0.2205855
                                  total: 1m 14s
                                                   remaining: 56.5s
284:
        learn: 0.2205503
                                  total: 1m 14s
                                                   remaining: 56.2s
                                  total: 1m 14s
285:
        learn: 0.2205208
                                                   remaining: 56s
        learn: 0.2205032
286:
                                  total: 1m 15s
                                                   remaining: 55.7s
287:
        learn: 0.2203631
                                  total: 1m 15s
                                                   remaining: 55.5s
288:
        learn: 0.2202730
                                  total: 1m 15s
                                                   remaining: 55.2s
289:
        learn: 0.2201644
                                  total: 1m 15s
                                                   remaining: 55s
                                                  remaining: 54.7s
290:
        learn: 0.2200667
                                  total: 1m 16s
291:
        learn: 0.2200554
                                  total: 1m 16s
                                                   remaining: 54.5s
292:
        learn: 0.2199445
                                  total: 1m 16s
                                                   remaining: 54.2s
293:
        learn: 0.2198712
                                  total: 1m 17s
                                                   remaining: 54s
294:
        learn: 0.2196889
                                  total: 1m 17s
                                                   remaining: 53.7s
295:
        learn: 0.2196142
                                  total: 1m 17s
                                                   remaining: 53.5s
296:
        learn: 0.2195378
                                  total: 1m 17s
                                                   remaining: 53.2s
297:
        learn: 0.2194878
                                  total: 1m 18s
                                                   remaining: 53s
298:
        learn: 0.2194590
                                  total: 1m 18s
                                                   remaining: 52.7s
299:
        learn: 0.2193958
                                  total: 1m 18s
                                                   remaining: 52.4s
300:
        learn: 0.2193592
                                  total: 1m 18s
                                                   remaining: 52.2s
301:
        learn: 0.2192715
                                  total: 1m 19s
                                                   remaining: 51.9s
302:
        learn: 0.2190773
                                  total: 1m 19s
                                                   remaining: 51.7s
        learn: 0.2190392
303:
                                  total: 1m 19s
                                                   remaining: 51.4s
304:
        learn: 0.2189876
                                  total: 1m 20s
                                                   remaining: 51.1s
305:
        learn: 0.2189508
                                  total: 1m 20s
                                                   remaining: 51s
306:
        learn: 0.2189232
                                  total: 1m 20s
                                                   remaining: 50.7s
307:
        learn: 0.2188626
                                  total: 1m 20s
                                                   remaining: 50.4s
        learn: 0.2188068
                                  total: 1m 21s
308:
                                                   remaining: 50.2s
309:
        learn: 0.2187025
                                  total: 1m 21s
                                                   remaining: 49.9s
310:
        learn: 0.2185714
                                  total: 1m 21s
                                                   remaining: 49.6s
311:
        learn: 0.2185359
                                  total: 1m 21s
                                                   remaining: 49.4s
                                                   remaining: 49.1s
312:
        learn: 0.2184928
                                  total: 1m 22s
313:
        learn: 0.2184453
                                  total: 1m 22s
                                                   remaining: 48.8s
314:
        learn: 0.2184061
                                  total: 1m 22s
                                                   remaining: 48.6s
315:
        learn: 0.2183330
                                  total: 1m 22s
                                                   remaining: 48.3s
```

```
learn: 0.2183087
                                  total: 1m 23s
316:
                                                   remaining: 48s
317:
        learn: 0.2182887
                                  total: 1m 23s
                                                   remaining: 47.7s
318:
        learn: 0.2181883
                                  total: 1m 23s
                                                   remaining: 47.5s
        learn: 0.2181099
                                  total: 1m 23s
319:
                                                   remaining: 47.2s
320:
        learn: 0.2180589
                                  total: 1m 24s
                                                   remaining: 46.9s
                                  total: 1m 24s
321:
        learn: 0.2180284
                                                   remaining: 46.7s
322:
        learn: 0.2179615
                                  total: 1m 24s
                                                   remaining: 46.4s
        learn: 0.2178612
                                                   remaining: 46.1s
323:
                                  total: 1m 24s
324:
        learn: 0.2177400
                                  total: 1m 25s
                                                   remaining: 45.9s
325:
        learn: 0.2176702
                                  total: 1m 25s
                                                   remaining: 45.6s
326:
        learn: 0.2176294
                                  total: 1m 25s
                                                   remaining: 45.4s
327:
        learn: 0.2175798
                                  total: 1m 26s
                                                   remaining: 45.1s
328:
        learn: 0.2175330
                                  total: 1m 26s
                                                   remaining: 44.8s
329:
        learn: 0.2173905
                                  total: 1m 26s
                                                   remaining: 44.6s
                                                   remaining: 44.3s
330:
        learn: 0.2173316
                                  total: 1m 26s
331:
        learn: 0.2172987
                                  total: 1m 27s
                                                   remaining: 44.1s
332:
        learn: 0.2172695
                                  total: 1m 27s
                                                   remaining: 43.8s
333:
        learn: 0.2172048
                                  total: 1m 27s
                                                   remaining: 43.6s
        learn: 0.2171651
                                  total: 1m 27s
                                                   remaining: 43.3s
334:
335:
        learn: 0.2171184
                                  total: 1m 28s
                                                   remaining: 43.1s
336:
        learn: 0.2171049
                                  total: 1m 28s
                                                   remaining: 42.8s
                                  total: 1m 28s
337:
        learn: 0.2170693
                                                   remaining: 42.5s
                                                  remaining: 42.3s
338:
        learn: 0.2170649
                                  total: 1m 28s
                                  total: 1m 29s
339:
        learn: 0.2169843
                                                   remaining: 42s
340:
        learn: 0.2169512
                                  total: 1m 29s
                                                   remaining: 41.7s
                                  total: 1m 29s
341:
        learn: 0.2169092
                                                   remaining: 41.4s
342:
        learn: 0.2168316
                                  total: 1m 29s
                                                   remaining: 41.2s
343:
        learn: 0.2167785
                                  total: 1m 30s
                                                   remaining: 40.9s
344:
        learn: 0.2166925
                                  total: 1m 30s
                                                   remaining: 40.7s
345:
        learn: 0.2166378
                                  total: 1m 30s
                                                   remaining: 40.4s
346:
        learn: 0.2165900
                                  total: 1m 31s
                                                   remaining: 40.2s
347:
        learn: 0.2165270
                                  total: 1m 31s
                                                   remaining: 39.9s
                                  total: 1m 31s
348:
        learn: 0.2165003
                                                   remaining: 39.6s
        learn: 0.2164256
                                  total: 1m 31s
                                                   remaining: 39.4s
349:
350:
        learn: 0.2163284
                                  total: 1m 32s
                                                   remaining: 39.1s
351:
        learn: 0.2162477
                                  total: 1m 32s
                                                   remaining: 38.8s
352:
        learn: 0.2161197
                                  total: 1m 32s
                                                   remaining: 38.6s
353:
        learn: 0.2160644
                                  total: 1m 32s
                                                   remaining: 38.3s
                                  total: 1m 33s
354:
        learn: 0.2159959
                                                   remaining: 38.1s
355:
        learn: 0.2159198
                                  total: 1m 33s
                                                   remaining: 37.8s
356:
        learn: 0.2158767
                                  total: 1m 33s
                                                   remaining: 37.6s
357:
        learn: 0.2158464
                                  total: 1m 34s
                                                   remaining: 37.3s
358:
        learn: 0.2157703
                                  total: 1m 34s
                                                   remaining: 37.1s
359:
        learn: 0.2156899
                                  total: 1m 34s
                                                   remaining: 36.8s
                                                   remaining: 36.6s
360:
        learn: 0.2156373
                                  total: 1m 34s
361:
        learn: 0.2155995
                                  total: 1m 35s
                                                   remaining: 36.3s
362:
        learn: 0.2155460
                                  total: 1m 35s
                                                   remaining: 36s
363:
        learn: 0.2154800
                                  total: 1m 35s
                                                   remaining: 35.8s
```

```
learn: 0.2154220
364:
                                  total: 1m 35s
                                                   remaining: 35.5s
365:
        learn: 0.2153197
                                  total: 1m 36s
                                                   remaining: 35.2s
        learn: 0.2152806
                                  total: 1m 36s
366:
                                                   remaining: 35s
        learn: 0.2152192
367:
                                  total: 1m 36s
                                                   remaining: 34.8s
368:
        learn: 0.2151289
                                  total: 1m 37s
                                                   remaining: 34.5s
                                  total: 1m 37s
369:
        learn: 0.2150023
                                                   remaining: 34.3s
370:
        learn: 0.2149777
                                  total: 1m 37s
                                                   remaining: 34s
        learn: 0.2148973
                                                   remaining: 33.7s
371:
                                  total: 1m 38s
372:
        learn: 0.2148373
                                  total: 1m 38s
                                                   remaining: 33.4s
373:
        learn: 0.2148125
                                  total: 1m 38s
                                                   remaining: 33.2s
374:
        learn: 0.2146854
                                  total: 1m 38s
                                                   remaining: 32.9s
375:
        learn: 0.2146155
                                  total: 1m 39s
                                                   remaining: 32.7s
376:
        learn: 0.2145425
                                  total: 1m 39s
                                                   remaining: 32.4s
377:
        learn: 0.2144880
                                  total: 1m 39s
                                                   remaining: 32.1s
378:
        learn: 0.2144672
                                  total: 1m 39s
                                                   remaining: 31.8s
379:
        learn: 0.2143981
                                  total: 1m 39s
                                                   remaining: 31.6s
380:
        learn: 0.2143463
                                  total: 1m 40s
                                                   remaining: 31.3s
                                  total: 1m 40s
381:
        learn: 0.2143094
                                                   remaining: 31s
        learn: 0.2142137
382:
                                  total: 1m 40s
                                                   remaining: 30.7s
383:
        learn: 0.2141737
                                  total: 1m 40s
                                                   remaining: 30.5s
384:
        learn: 0.2140589
                                  total: 1m 41s
                                                   remaining: 30.2s
385:
        learn: 0.2139904
                                  total: 1m 41s
                                                   remaining: 30s
386:
        learn: 0.2139117
                                  total: 1m 41s
                                                   remaining: 29.7s
387:
        learn: 0.2138496
                                  total: 1m 41s
                                                   remaining: 29.4s
388:
        learn: 0.2137716
                                  total: 1m 42s
                                                   remaining: 29.1s
        learn: 0.2137442
                                  total: 1m 42s
                                                   remaining: 28.9s
389:
390:
        learn: 0.2136992
                                  total: 1m 42s
                                                   remaining: 28.6s
391:
        learn: 0.2136289
                                  total: 1m 42s
                                                   remaining: 28.3s
392:
        learn: 0.2135369
                                  total: 1m 42s
                                                   remaining: 28s
393:
        learn: 0.2135002
                                  total: 1m 43s
                                                   remaining: 27.8s
394:
        learn: 0.2134056
                                  total: 1m 43s
                                                   remaining: 27.5s
395:
        learn: 0.2133773
                                  total: 1m 43s
                                                   remaining: 27.2s
396:
        learn: 0.2133250
                                  total: 1m 43s
                                                   remaining: 26.9s
397:
        learn: 0.2133091
                                  total: 1m 44s
                                                   remaining: 26.7s
398:
        learn: 0.2131073
                                  total: 1m 44s
                                                   remaining: 26.4s
        learn: 0.2130474
399:
                                  total: 1m 44s
                                                   remaining: 26.2s
400:
        learn: 0.2129991
                                  total: 1m 44s
                                                   remaining: 25.9s
401:
        learn: 0.2128979
                                  total: 1m 45s
                                                   remaining: 25.6s
402:
        learn: 0.2128846
                                  total: 1m 45s
                                                   remaining: 25.4s
403:
        learn: 0.2128307
                                  total: 1m 45s
                                                   remaining: 25.1s
404:
        learn: 0.2127755
                                  total: 1m 46s
                                                   remaining: 24.9s
405:
        learn: 0.2126362
                                  total: 1m 46s
                                                   remaining: 24.6s
406:
        learn: 0.2125734
                                  total: 1m 46s
                                                   remaining: 24.3s
407:
        learn: 0.2124465
                                  total: 1m 46s
                                                   remaining: 24.1s
408:
        learn: 0.2124092
                                  total: 1m 47s
                                                   remaining: 23.8s
409:
        learn: 0.2123266
                                  total: 1m 47s
                                                   remaining: 23.6s
410:
        learn: 0.2122616
                                  total: 1m 47s
                                                   remaining: 23.3s
411:
        learn: 0.2121801
                                  total: 1m 47s
                                                   remaining: 23.1s
```

```
412:
        learn: 0.2121398
                                  total: 1m 48s
                                                   remaining: 22.8s
413:
        learn: 0.2120766
                                  total: 1m 48s
                                                   remaining: 22.5s
414:
        learn: 0.2120128
                                  total: 1m 48s
                                                   remaining: 22.3s
415:
        learn: 0.2118500
                                  total: 1m 49s
                                                   remaining: 22s
416:
        learn: 0.2118308
                                  total: 1m 49s
                                                   remaining: 21.8s
                                  total: 1m 49s
                                                   remaining: 21.5s
417:
        learn: 0.2118076
418:
        learn: 0.2117572
                                  total: 1m 49s
                                                   remaining: 21.2s
        learn: 0.2117042
419:
                                  total: 1m 50s
                                                   remaining: 21s
420:
        learn: 0.2116544
                                  total: 1m 50s
                                                   remaining: 20.7s
421:
        learn: 0.2116275
                                  total: 1m 50s
                                                   remaining: 20.5s
422:
        learn: 0.2116109
                                  total: 1m 51s
                                                   remaining: 20.2s
423:
        learn: 0.2115735
                                  total: 1m 51s
                                                   remaining: 19.9s
424:
        learn: 0.2115219
                                  total: 1m 51s
                                                   remaining: 19.7s
425:
        learn: 0.2113766
                                  total: 1m 51s
                                                   remaining: 19.4s
426:
        learn: 0.2112769
                                  total: 1m 52s
                                                   remaining: 19.2s
427:
        learn: 0.2112282
                                  total: 1m 52s
                                                   remaining: 18.9s
428:
        learn: 0.2111963
                                  total: 1m 52s
                                                   remaining: 18.6s
                                  total: 1m 52s
429:
        learn: 0.2110485
                                                   remaining: 18.4s
        learn: 0.2110130
                                  total: 1m 53s
430:
                                                   remaining: 18.1s
431:
        learn: 0.2109782
                                  total: 1m 53s
                                                   remaining: 17.8s
432:
        learn: 0.2109470
                                  total: 1m 53s
                                                   remaining: 17.6s
433:
        learn: 0.2109099
                                  total: 1m 53s
                                                   remaining: 17.3s
434:
        learn: 0.2108968
                                  total: 1m 54s
                                                   remaining: 17.1s
                                  total: 1m 54s
435:
        learn: 0.2107515
                                                   remaining: 16.8s
436:
        learn: 0.2106939
                                  total: 1m 54s
                                                   remaining: 16.5s
        learn: 0.2106443
437:
                                  total: 1m 54s
                                                   remaining: 16.3s
438:
        learn: 0.2105924
                                  total: 1m 55s
                                                   remaining: 16s
439:
        learn: 0.2104978
                                  total: 1m 55s
                                                   remaining: 15.7s
440:
        learn: 0.2104490
                                  total: 1m 55s
                                                   remaining: 15.5s
441:
        learn: 0.2103449
                                  total: 1m 55s
                                                   remaining: 15.2s
442:
        learn: 0.2103171
                                  total: 1m 56s
                                                   remaining: 14.9s
443:
        learn: 0.2102691
                                  total: 1m 56s
                                                   remaining: 14.7s
444:
        learn: 0.2102517
                                  total: 1m 56s
                                                   remaining: 14.4s
        learn: 0.2102003
                                  total: 1m 56s
445:
                                                   remaining: 14.2s
446:
        learn: 0.2101295
                                  total: 1m 57s
                                                   remaining: 13.9s
        learn: 0.2099808
447:
                                  total: 1m 57s
                                                   remaining: 13.6s
448:
        learn: 0.2099275
                                  total: 1m 57s
                                                   remaining: 13.4s
449:
        learn: 0.2099034
                                  total: 1m 57s
                                                   remaining: 13.1s
450:
        learn: 0.2098090
                                  total: 1m 58s
                                                   remaining: 12.8s
451:
        learn: 0.2097838
                                  total: 1m 58s
                                                   remaining: 12.6s
452:
        learn: 0.2097264
                                  total: 1m 58s
                                                   remaining: 12.3s
453:
        learn: 0.2096949
                                  total: 1m 59s
                                                   remaining: 12.1s
454:
        learn: 0.2096280
                                  total: 1m 59s
                                                   remaining: 11.8s
455:
        learn: 0.2095827
                                  total: 1m 59s
                                                   remaining: 11.5s
                                                   remaining: 11.3s
456:
        learn: 0.2095438
                                  total: 1m 59s
457:
        learn: 0.2095136
                                  total: 2m
                                                   remaining: 11s
458:
        learn: 0.2094498
                                  total: 2m
                                                   remaining: 10.8s
459:
        learn: 0.2094208
                                  total: 2m
                                                   remaining: 10.5s
```

```
460:
        learn: 0.2093777
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.2093501
                                  total: 2m 1s
                                                   remaining: 9.97s
462:
        learn: 0.2093355
                                  total: 2m 1s
                                                   remaining: 9.71s
        learn: 0.2092805
                                  total: 2m 1s
                                                   remaining: 9.45s
463:
464:
        learn: 0.2091603
                                  total: 2m 2s
                                                   remaining: 9.19s
                                  total: 2m 2s
                                                   remaining: 8.93s
465:
        learn: 0.2091033
466:
        learn: 0.2090570
                                  total: 2m 2s
                                                   remaining: 8.66s
        learn: 0.2089557
                                                   remaining: 8.4s
467:
                                  total: 2m 2s
468:
        learn: 0.2088523
                                  total: 2m 3s
                                                   remaining: 8.14s
469:
        learn: 0.2088127
                                  total: 2m 3s
                                                   remaining: 7.89s
470:
        learn: 0.2087913
                                  total: 2m 3s
                                                   remaining: 7.63s
471:
        learn: 0.2086959
                                  total: 2m 4s
                                                   remaining: 7.37s
472:
        learn: 0.2086545
                                                   remaining: 7.11s
                                  total: 2m 4s
473:
        learn: 0.2086066
                                  total: 2m 4s
                                                   remaining: 6.85s
                                                   remaining: 6.59s
474:
        learn: 0.2085065
                                  total: 2m 5s
475:
        learn: 0.2084668
                                  total: 2m 5s
                                                   remaining: 6.32s
476:
        learn: 0.2083776
                                  total: 2m 5s
                                                   remaining: 6.06s
                                  total: 2m 6s
477:
        learn: 0.2083340
                                                   remaining: 5.8s
        learn: 0.2082690
478:
                                  total: 2m 6s
                                                   remaining: 5.54s
479:
        learn: 0.2082199
                                  total: 2m 6s
                                                   remaining: 5.28s
480:
        learn: 0.2081871
                                  total: 2m 6s
                                                   remaining: 5.01s
481:
        learn: 0.2081624
                                  total: 2m 7s
                                                   remaining: 4.75s
482:
        learn: 0.2081060
                                  total: 2m 7s
                                                   remaining: 4.49s
483:
        learn: 0.2080037
                                  total: 2m 7s
                                                   remaining: 4.22s
484:
        learn: 0.2079667
                                  total: 2m 8s
                                                   remaining: 3.96s
                                  total: 2m 8s
                                                   remaining: 3.7s
485:
        learn: 0.2079133
486:
        learn: 0.2078831
                                  total: 2m 8s
                                                   remaining: 3.43s
487:
        learn: 0.2078509
                                  total: 2m 8s
                                                   remaining: 3.17s
488:
        learn: 0.2077207
                                  total: 2m 9s
                                                   remaining: 2.9s
489:
        learn: 0.2075284
                                  total: 2m 9s
                                                   remaining: 2.64s
490:
        learn: 0.2074717
                                  total: 2m 9s
                                                   remaining: 2.38s
491:
        learn: 0.2073530
                                  total: 2m 9s
                                                   remaining: 2.11s
                                  total: 2m 10s
492:
        learn: 0.2073003
                                                   remaining: 1.85s
493:
        learn: 0.2072288
                                  total: 2m 10s
                                                   remaining: 1.58s
494:
        learn: 0.2072028
                                  total: 2m 10s
                                                   remaining: 1.32s
495:
        learn: 0.2071007
                                  total: 2m 10s
                                                   remaining: 1.05s
496:
        learn: 0.2069949
                                  total: 2m 11s
                                                   remaining: 792ms
497:
        learn: 0.2069824
                                  total: 2m 11s
                                                   remaining: 528ms
498:
                                  total: 2m 11s
        learn: 0.2069016
                                                   remaining: 264ms
499:
        learn: 0.2068482
                                  total: 2m 11s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9722388
                                  total: 254ms
                                                   remaining: 2m 6s
1:
        learn: 0.8890007
                                  total: 511ms
                                                   remaining: 2m 7s
2:
        learn: 0.8310700
                                  total: 767ms
                                                   remaining: 2m 6s
3:
        learn: 0.7600255
                                  total: 969ms
                                                   remaining: 2m
4:
        learn: 0.6646822
                                  total: 1.16s
                                                   remaining: 1m 55s
5:
        learn: 0.5812795
                                  total: 1.36s
                                                   remaining: 1m 52s
6:
        learn: 0.5312801
                                  total: 1.59s
                                                   remaining: 1m 52s
```

```
7:
        learn: 0.5140644
                                  total: 1.79s
                                                   remaining: 1m 50s
8:
        learn: 0.5010026
                                  total: 2s
                                                   remaining: 1m 49s
9:
        learn: 0.4611280
                                  total: 2.23s
                                                   remaining: 1m 49s
10:
        learn: 0.4265423
                                  total: 2.44s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
11:
        learn: 0.4071684
                                  total: 2.68s
                                  total: 2.93s
                                                   remaining: 1m 49s
12:
        learn: 0.3873383
13:
        learn: 0.3706327
                                  total: 3.17s
                                                   remaining: 1m 50s
14.
        learn: 0.3577086
                                  total: 3.47s
                                                   remaining: 1m 52s
15:
        learn: 0.3469085
                                  total: 3.73s
                                                   remaining: 1m 52s
16:
        learn: 0.3362290
                                  total: 4.03s
                                                   remaining: 1m 54s
                                  total: 4.33s
17:
        learn: 0.3274259
                                                   remaining: 1m 55s
                                                   remaining: 1m 57s
18:
        learn: 0.3147365
                                  total: 4.63s
19:
        learn: 0.3047181
                                  total: 4.89s
                                                   remaining: 1m 57s
20:
        learn: 0.2964068
                                  total: 5.17s
                                                   remaining: 1m 57s
21:
        learn: 0.2898338
                                  total: 5.47s
                                                   remaining: 1m 58s
22:
        learn: 0.2866325
                                  total: 5.73s
                                                   remaining: 1m 58s
23:
        learn: 0.2859082
                                  total: 6s
                                                   remaining: 1m 58s
24:
        learn: 0.2830893
                                  total: 6.28s
                                                   remaining: 1m 59s
25:
        learn: 0.2813176
                                  total: 6.54s
                                                   remaining: 1m 59s
26:
        learn: 0.2765331
                                  total: 6.83s
                                                   remaining: 1m 59s
27:
        learn: 0.2727824
                                  total: 7.11s
                                                   remaining: 1m 59s
28:
        learn: 0.2709535
                                  total: 7.4s
                                                   remaining: 2m
29:
        learn: 0.2697487
                                  total: 7.69s
                                                   remaining: 2m
30:
        learn: 0.2689832
                                  total: 7.98s
                                                   remaining: 2m
31:
        learn: 0.2678367
                                  total: 8.29s
                                                   remaining: 2m 1s
32:
        learn: 0.2658895
                                  total: 8.59s
                                                   remaining: 2m 1s
        learn: 0.2641375
                                  total: 8.89s
                                                   remaining: 2m 1s
33:
34:
        learn: 0.2636906
                                  total: 9.14s
                                                   remaining: 2m 1s
35:
        learn: 0.2627725
                                  total: 9.39s
                                                   remaining: 2m 1s
36:
        learn: 0.2623666
                                  total: 9.67s
                                                   remaining: 2m 1s
37:
        learn: 0.2618980
                                  total: 9.94s
                                                   remaining: 2m
                                                   remaining: 2m
38:
        learn: 0.2614386
                                  total: 10.2s
39:
        learn: 0.2600814
                                  total: 10.5s
                                                   remaining: 2m
40:
        learn: 0.2590003
                                  total: 10.8s
                                                   remaining: 2m
                                                   remaining: 2m
41:
        learn: 0.2585748
                                  total: 11s
42:
        learn: 0.2577814
                                  total: 11.3s
                                                   remaining: 1m 59s
43:
        learn: 0.2570676
                                  total: 11.5s
                                                   remaining: 1m 59s
44:
        learn: 0.2567575
                                  total: 11.8s
                                                   remaining: 1m 59s
                                                   remaining: 1m 58s
45:
        learn: 0.2565059
                                  total: 12s
46:
        learn: 0.2550556
                                  total: 12.3s
                                                   remaining: 1m 58s
47:
        learn: 0.2548163
                                  total: 12.6s
                                                   remaining: 1m 58s
48:
        learn: 0.2527508
                                                   remaining: 1m 58s
                                  total: 12.9s
49:
        learn: 0.2525847
                                  total: 13.2s
                                                   remaining: 1m 58s
50:
        learn: 0.2524544
                                  total: 13.4s
                                                   remaining: 1m 58s
51:
        learn: 0.2517150
                                  total: 13.7s
                                                   remaining: 1m 57s
52:
        learn: 0.2515394
                                  total: 13.9s
                                                   remaining: 1m 57s
53:
        learn: 0.2513082
                                  total: 14.2s
                                                   remaining: 1m 56s
54:
        learn: 0.2511155
                                  total: 14.4s
                                                   remaining: 1m 56s
```

```
55:
        learn: 0.2508851
                                  total: 14.7s
                                                   remaining: 1m 56s
56:
        learn: 0.2496982
                                  total: 14.9s
                                                   remaining: 1m 55s
57:
        learn: 0.2491862
                                  total: 15.2s
                                                   remaining: 1m 55s
58:
        learn: 0.2489718
                                  total: 15.4s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
59:
        learn: 0.2486967
                                  total: 15.7s
                                  total: 15.9s
                                                   remaining: 1m 54s
60:
        learn: 0.2481317
61:
        learn: 0.2460485
                                  total: 16.2s
                                                   remaining: 1m 54s
62:
        learn: 0.2459200
                                  total: 16.4s
                                                   remaining: 1m 54s
63:
        learn: 0.2455318
                                  total: 16.7s
                                                   remaining: 1m 53s
64:
        learn: 0.2450875
                                  total: 17s
                                                   remaining: 1m 53s
        learn: 0.2447170
65:
                                  total: 17.3s
                                                   remaining: 1m 53s
                                                   remaining: 1m 53s
66:
        learn: 0.2444493
                                  total: 17.6s
67:
        learn: 0.2433146
                                  total: 17.9s
                                                   remaining: 1m 53s
68:
        learn: 0.2431856
                                  total: 18.1s
                                                   remaining: 1m 53s
69:
        learn: 0.2429576
                                  total: 18.4s
                                                   remaining: 1m 53s
70:
        learn: 0.2428219
                                                   remaining: 1m 53s
                                  total: 18.7s
71:
        learn: 0.2426166
                                  total: 19s
                                                   remaining: 1m 52s
72:
        learn: 0.2424478
                                  total: 19.3s
                                                   remaining: 1m 52s
        learn: 0.2423978
                                  total: 19.5s
                                                   remaining: 1m 52s
73:
74:
        learn: 0.2422098
                                  total: 19.8s
                                                   remaining: 1m 52s
        learn: 0.2418027
75:
                                  total: 20.1s
                                                   remaining: 1m 52s
76:
        learn: 0.2415109
                                  total: 20.4s
                                                   remaining: 1m 51s
77:
        learn: 0.2409503
                                  total: 20.6s
                                                   remaining: 1m 51s
78:
        learn: 0.2407028
                                  total: 20.9s
                                                   remaining: 1m 51s
79:
        learn: 0.2393136
                                  total: 21.2s
                                                   remaining: 1m 51s
80:
        learn: 0.2390972
                                  total: 21.5s
                                                   remaining: 1m 51s
        learn: 0.2390732
                                  total: 21.8s
                                                   remaining: 1m 51s
81:
82:
        learn: 0.2389939
                                  total: 22s
                                                   remaining: 1m 50s
                                  total: 22.3s
83:
        learn: 0.2388525
                                                   remaining: 1m 50s
84:
        learn: 0.2387837
                                  total: 22.6s
                                                   remaining: 1m 50s
85:
        learn: 0.2386341
                                  total: 22.8s
                                                   remaining: 1m 49s
86:
        learn: 0.2384480
                                  total: 23.1s
                                                   remaining: 1m 49s
87:
        learn: 0.2381584
                                  total: 23.4s
                                                   remaining: 1m 49s
88:
        learn: 0.2380367
                                  total: 23.7s
                                                   remaining: 1m 49s
                                                   remaining: 1m 49s
89:
        learn: 0.2377970
                                  total: 24s
90:
        learn: 0.2376427
                                  total: 24.2s
                                                   remaining: 1m 48s
91:
        learn: 0.2374369
                                  total: 24.5s
                                                   remaining: 1m 48s
92:
        learn: 0.2372363
                                  total: 24.8s
                                                   remaining: 1m 48s
                                  total: 25.1s
                                                   remaining: 1m 48s
93:
        learn: 0.2371341
94:
        learn: 0.2369828
                                  total: 25.4s
                                                   remaining: 1m 48s
95:
        learn: 0.2368639
                                  total: 25.6s
                                                   remaining: 1m 47s
96:
        learn: 0.2367710
                                  total: 25.9s
                                                   remaining: 1m 47s
97:
        learn: 0.2367506
                                  total: 26.2s
                                                   remaining: 1m 47s
98:
        learn: 0.2366401
                                  total: 26.4s
                                                   remaining: 1m 47s
99:
        learn: 0.2356228
                                  total: 26.7s
                                                   remaining: 1m 46s
100:
        learn: 0.2354191
                                  total: 27s
                                                   remaining: 1m 46s
101:
        learn: 0.2344784
                                  total: 27.3s
                                                   remaining: 1m 46s
102:
        learn: 0.2343290
                                  total: 27.5s
                                                   remaining: 1m 46s
```

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103:
        learn: 0.2342085
                                  total: 27.8s
                                                   remaining: 1m 45s
104:
        learn: 0.2340882
                                  total: 28s
                                                   remaining: 1m 45s
105:
        learn: 0.2340263
                                  total: 28.3s
                                                   remaining: 1m 45s
        learn: 0.2340110
                                  total: 28.5s
                                                   remaining: 1m 44s
106:
                                                   remaining: 1m 44s
107:
        learn: 0.2338993
                                  total: 28.7s
                                  total: 29s
                                                   remaining: 1m 43s
108:
        learn: 0.2338215
109:
        learn: 0.2337032
                                  total: 29.2s
                                                   remaining: 1m 43s
110:
        learn: 0.2336216
                                  total: 29.5s
                                                   remaining: 1m 43s
111:
        learn: 0.2335187
                                  total: 29.7s
                                                   remaining: 1m 42s
112:
        learn: 0.2333703
                                  total: 30s
                                                   remaining: 1m 42s
113:
        learn: 0.2331048
                                  total: 30.2s
                                                   remaining: 1m 42s
                                                   remaining: 1m 41s
114:
        learn: 0.2329994
                                  total: 30.4s
        learn: 0.2328168
                                  total: 30.7s
                                                   remaining: 1m 41s
115:
116:
        learn: 0.2327479
                                  total: 30.9s
                                                   remaining: 1m 41s
117:
        learn: 0.2325460
                                  total: 31.2s
                                                   remaining: 1m 40s
118:
        learn: 0.2324076
                                  total: 31.5s
                                                   remaining: 1m 40s
119:
        learn: 0.2323209
                                  total: 31.7s
                                                   remaining: 1m 40s
                                  total: 32s
120:
        learn: 0.2322728
                                                   remaining: 1m 40s
        learn: 0.2322472
                                                   remaining: 1m 39s
121:
                                  total: 32.2s
122:
        learn: 0.2321859
                                  total: 32.5s
                                                   remaining: 1m 39s
123:
        learn: 0.2321119
                                  total: 32.7s
                                                   remaining: 1m 39s
124:
        learn: 0.2319553
                                  total: 33s
                                                   remaining: 1m 38s
125:
        learn: 0.2318099
                                  total: 33.3s
                                                   remaining: 1m 38s
                                  total: 33.5s
                                                   remaining: 1m 38s
126:
        learn: 0.2317596
127:
        learn: 0.2317065
                                  total: 33.8s
                                                   remaining: 1m 38s
128:
        learn: 0.2316108
                                  total: 34.1s
                                                   remaining: 1m 38s
        learn: 0.2314177
                                  total: 34.4s
                                                   remaining: 1m 37s
129:
130:
        learn: 0.2313213
                                  total: 34.6s
                                                   remaining: 1m 37s
131:
        learn: 0.2312650
                                  total: 34.9s
                                                   remaining: 1m 37s
132:
        learn: 0.2311162
                                  total: 35.2s
                                                   remaining: 1m 37s
        learn: 0.2310771
                                  total: 35.4s
133:
                                                   remaining: 1m 36s
134:
        learn: 0.2309311
                                  total: 35.7s
                                                   remaining: 1m 36s
135:
        learn: 0.2308511
                                  total: 36s
                                                   remaining: 1m 36s
        learn: 0.2303292
                                  total: 36.3s
                                                   remaining: 1m 36s
136:
                                                   remaining: 1m 35s
137:
        learn: 0.2302788
                                  total: 36.5s
138:
        learn: 0.2302306
                                  total: 36.8s
                                                   remaining: 1m 35s
139:
        learn: 0.2301473
                                  total: 37.1s
                                                   remaining: 1m 35s
140:
        learn: 0.2300413
                                  total: 37.3s
                                                   remaining: 1m 35s
141:
        learn: 0.2298890
                                  total: 37.6s
                                                   remaining: 1m 34s
142:
        learn: 0.2298253
                                  total: 37.9s
                                                   remaining: 1m 34s
143:
        learn: 0.2297841
                                  total: 38.2s
                                                   remaining: 1m 34s
144:
        learn: 0.2297212
                                                   remaining: 1m 34s
                                  total: 38.4s
145:
        learn: 0.2296618
                                  total: 38.7s
                                                   remaining: 1m 33s
146:
        learn: 0.2294782
                                  total: 39s
                                                   remaining: 1m 33s
147:
        learn: 0.2294283
                                  total: 39.3s
                                                   remaining: 1m 33s
148:
        learn: 0.2293539
                                  total: 39.5s
                                                   remaining: 1m 33s
149:
        learn: 0.2291730
                                  total: 39.8s
                                                   remaining: 1m 32s
150:
        learn: 0.2290880
                                  total: 40.1s
                                                   remaining: 1m 32s
```

```
learn: 0.2289957
                                  total: 40.4s
151:
                                                   remaining: 1m 32s
152:
        learn: 0.2289417
                                  total: 40.7s
                                                   remaining: 1m 32s
153:
        learn: 0.2289288
                                  total: 40.9s
                                                   remaining: 1m 31s
154:
        learn: 0.2288367
                                  total: 41.2s
                                                   remaining: 1m 31s
                                                   remaining: 1m 31s
155:
        learn: 0.2287993
                                  total: 41.5s
                                                   remaining: 1m 31s
156:
        learn: 0.2286957
                                  total: 41.8s
157:
        learn: 0.2286026
                                  total: 42s
                                                   remaining: 1m 30s
        learn: 0.2285653
                                  total: 42.3s
158:
                                                   remaining: 1m 30s
159:
        learn: 0.2284745
                                  total: 42.6s
                                                   remaining: 1m 30s
160:
        learn: 0.2283288
                                  total: 42.9s
                                                   remaining: 1m 30s
        learn: 0.2276412
                                  total: 43.1s
                                                   remaining: 1m 30s
161:
                                                   remaining: 1m 29s
162:
        learn: 0.2275657
                                  total: 43.4s
        learn: 0.2274373
                                  total: 43.7s
                                                   remaining: 1m 29s
163:
164:
        learn: 0.2273865
                                  total: 43.9s
                                                   remaining: 1m 29s
165:
        learn: 0.2272420
                                  total: 44.2s
                                                   remaining: 1m 28s
166:
        learn: 0.2270346
                                  total: 44.4s
                                                   remaining: 1m 28s
167:
        learn: 0.2270167
                                  total: 44.7s
                                                   remaining: 1m 28s
        learn: 0.2269291
                                  total: 44.9s
                                                   remaining: 1m 27s
168:
        learn: 0.2268907
                                  total: 45.2s
                                                   remaining: 1m 27s
169:
170:
        learn: 0.2268223
                                  total: 45.4s
                                                   remaining: 1m 27s
171:
        learn: 0.2266800
                                  total: 45.6s
                                                   remaining: 1m 27s
172:
        learn: 0.2266188
                                  total: 45.9s
                                                   remaining: 1m 26s
173:
        learn: 0.2265105
                                  total: 46.2s
                                                   remaining: 1m 26s
                                                   remaining: 1m 26s
174:
        learn: 0.2264668
                                  total: 46.4s
175:
        learn: 0.2263833
                                  total: 46.7s
                                                   remaining: 1m 25s
176:
        learn: 0.2263392
                                  total: 46.9s
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
177:
        learn: 0.2261706
                                  total: 47.2s
178:
        learn: 0.2261013
                                  total: 47.4s
                                                   remaining: 1m 25s
179:
        learn: 0.2259830
                                  total: 47.7s
                                                   remaining: 1m 24s
180:
        learn: 0.2258896
                                  total: 47.9s
                                                   remaining: 1m 24s
        learn: 0.2257915
181:
                                  total: 48.2s
                                                   remaining: 1m 24s
182:
        learn: 0.2257126
                                  total: 48.4s
                                                   remaining: 1m 23s
183:
        learn: 0.2256361
                                  total: 48.7s
                                                   remaining: 1m 23s
        learn: 0.2255375
                                  total: 48.9s
                                                   remaining: 1m 23s
184:
185:
                                                   remaining: 1m 23s
        learn: 0.2254712
                                  total: 49.2s
186:
        learn: 0.2253698
                                  total: 49.5s
                                                   remaining: 1m 22s
187:
        learn: 0.2251285
                                  total: 49.8s
                                                   remaining: 1m 22s
188:
        learn: 0.2250447
                                  total: 50s
                                                   remaining: 1m 22s
189:
        learn: 0.2249860
                                  total: 50.3s
                                                   remaining: 1m 22s
190:
        learn: 0.2249228
                                  total: 50.6s
                                                   remaining: 1m 21s
        learn: 0.2248950
                                  total: 50.9s
191:
                                                   remaining: 1m 21s
                                                   remaining: 1m 21s
192:
        learn: 0.2248351
                                  total: 51.1s
193:
        learn: 0.2247806
                                  total: 51.4s
                                                   remaining: 1m 21s
194:
        learn: 0.2247028
                                  total: 51.7s
                                                   remaining: 1m 20s
195:
        learn: 0.2246735
                                  total: 51.9s
                                                   remaining: 1m 20s
        learn: 0.2245296
196:
                                  total: 52.2s
                                                   remaining: 1m 20s
197:
        learn: 0.2244577
                                  total: 52.4s
                                                   remaining: 1m 19s
198:
        learn: 0.2243706
                                  total: 52.7s
                                                   remaining: 1m 19s
```

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199:
        learn: 0.2242560
                                  total: 53s
                                                   remaining: 1m 19s
                                                   remaining: 1m 19s
200:
        learn: 0.2242489
                                  total: 53.2s
201:
        learn: 0.2242112
                                  total: 53.5s
                                                   remaining: 1m 18s
202:
        learn: 0.2241257
                                  total: 53.7s
                                                   remaining: 1m 18s
203:
        learn: 0.2240828
                                  total: 54s
                                                   remaining: 1m 18s
                                                   remaining: 1m 18s
204:
        learn: 0.2240215
                                  total: 54.2s
205:
        learn: 0.2239362
                                  total: 54.5s
                                                   remaining: 1m 17s
206:
        learn: 0.2238110
                                  total: 54.7s
                                                   remaining: 1m 17s
207:
        learn: 0.2237896
                                  total: 55s
                                                   remaining: 1m 17s
208:
        learn: 0.2231677
                                  total: 55.3s
                                                   remaining: 1m 16s
        learn: 0.2231028
209:
                                  total: 55.6s
                                                   remaining: 1m 16s
210:
        learn: 0.2229959
                                  total: 55.9s
                                                   remaining: 1m 16s
211:
        learn: 0.2229671
                                  total: 56.1s
                                                   remaining: 1m 16s
212:
        learn: 0.2228598
                                  total: 56.4s
                                                   remaining: 1m 15s
213:
        learn: 0.2228273
                                  total: 56.6s
                                                   remaining: 1m 15s
        learn: 0.2226936
214:
                                  total: 56.9s
                                                   remaining: 1m 15s
215:
        learn: 0.2226075
                                  total: 57.2s
                                                   remaining: 1m 15s
216:
        learn: 0.2225398
                                  total: 57.5s
                                                   remaining: 1m 14s
        learn: 0.2224763
                                  total: 57.7s
                                                   remaining: 1m 14s
217:
218:
        learn: 0.2223276
                                  total: 58s
                                                   remaining: 1m 14s
219:
        learn: 0.2222574
                                  total: 58.3s
                                                   remaining: 1m 14s
220:
        learn: 0.2221841
                                  total: 58.6s
                                                   remaining: 1m 13s
221:
        learn: 0.2221023
                                  total: 58.9s
                                                   remaining: 1m 13s
222:
        learn: 0.2220268
                                  total: 59.1s
                                                   remaining: 1m 13s
223:
        learn: 0.2219732
                                  total: 59.4s
                                                   remaining: 1m 13s
224:
        learn: 0.2218744
                                  total: 59.7s
                                                   remaining: 1m 12s
225:
        learn: 0.2216275
                                  total: 60s
                                                   remaining: 1m 12s
226:
        learn: 0.2215478
                                  total: 1m
                                                   remaining: 1m 12s
227:
        learn: 0.2213761
                                  total: 1m
                                                   remaining: 1m 12s
228:
        learn: 0.2208594
                                  total: 1m
                                                   remaining: 1m 11s
229:
        learn: 0.2207385
                                  total: 1m
                                                   remaining: 1m 11s
230:
        learn: 0.2206164
                                  total: 1m 1s
                                                   remaining: 1m 11s
231:
        learn: 0.2205577
                                  total: 1m 1s
                                                   remaining: 1m 10s
232:
        learn: 0.2204393
                                  total: 1m 1s
                                                   remaining: 1m 10s
233:
        learn: 0.2203992
                                  total: 1m 1s
                                                   remaining: 1m 10s
234:
        learn: 0.2203344
                                  total: 1m 2s
                                                   remaining: 1m 10s
235:
        learn: 0.2202884
                                  total: 1m 2s
                                                   remaining: 1m 9s
236:
        learn: 0.2201789
                                  total: 1m 2s
                                                   remaining: 1m 9s
                                  total: 1m 2s
237:
        learn: 0.2201225
                                                   remaining: 1m 9s
238:
        learn: 0.2200783
                                  total: 1m 3s
                                                   remaining: 1m 9s
                                  total: 1m 3s
239:
        learn: 0.2200543
                                                   remaining: 1m 8s
240:
        learn: 0.2200005
                                                   remaining: 1m 8s
                                  total: 1m 3s
241:
        learn: 0.2198986
                                  total: 1m 3s
                                                   remaining: 1m 8s
242:
        learn: 0.2198313
                                  total: 1m 4s
                                                   remaining: 1m 7s
243:
        learn: 0.2197595
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2196566
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2195584
                                  total: 1m 5s
                                                   remaining: 1m 7s
246:
        learn: 0.2195350
                                  total: 1m 5s
                                                   remaining: 1m 6s
```

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247:
        learn: 0.2192991
                                  total: 1m 5s
                                                   remaining: 1m 6s
                                                   remaining: 1m 6s
248:
        learn: 0.2192871
                                  total: 1m 5s
249:
        learn: 0.2192170
                                  total: 1m 6s
                                                   remaining: 1m 6s
250:
        learn: 0.2191694
                                  total: 1m 6s
                                                   remaining: 1m 5s
251:
        learn: 0.2190045
                                  total: 1m 6s
                                                   remaining: 1m 5s
252:
                                  total: 1m 6s
                                                   remaining: 1m 5s
        learn: 0.2189340
253:
        learn: 0.2188844
                                  total: 1m 7s
                                                   remaining: 1m 5s
254:
        learn: 0.2188714
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
        learn: 0.2187441
                                  total: 1m 7s
                                                   remaining: 1m 4s
256:
        learn: 0.2186929
                                  total: 1m 8s
                                                   remaining: 1m 4s
                                                   remaining: 1m 4s
257:
        learn: 0.2185934
                                  total: 1m 8s
258:
        learn: 0.2185561
                                  total: 1m 8s
                                                   remaining: 1m 3s
259:
        learn: 0.2185086
                                  total: 1m 8s
                                                   remaining: 1m 3s
260:
        learn: 0.2184293
                                  total: 1m 9s
                                                   remaining: 1m 3s
261:
        learn: 0.2183577
                                  total: 1m 9s
                                                   remaining: 1m 3s
262:
        learn: 0.2183188
                                  total: 1m 9s
                                                   remaining: 1m 2s
263:
        learn: 0.2181603
                                  total: 1m 10s
                                                   remaining: 1m 2s
264:
        learn: 0.2180980
                                  total: 1m 10s
                                                   remaining: 1m 2s
        learn: 0.2180632
                                  total: 1m 10s
                                                   remaining: 1m 2s
265:
266:
        learn: 0.2180014
                                  total: 1m 11s
                                                   remaining: 1m 1s
267:
        learn: 0.2179730
                                  total: 1m 11s
                                                   remaining: 1m 1s
268:
        learn: 0.2179205
                                  total: 1m 11s
                                                   remaining: 1m 1s
269:
        learn: 0.2178386
                                  total: 1m 11s
                                                   remaining: 1m 1s
270:
        learn: 0.2177408
                                  total: 1m 12s
                                                   remaining: 1m
271:
        learn: 0.2176877
                                  total: 1m 12s
                                                   remaining: 1m
272:
        learn: 0.2176648
                                  total: 1m 12s
                                                   remaining: 1m
273:
        learn: 0.2174550
                                  total: 1m 12s
                                                   remaining: 1m
274:
        learn: 0.2174292
                                  total: 1m 13s
                                                   remaining: 59.9s
275:
        learn: 0.2174076
                                  total: 1m 13s
                                                   remaining: 59.6s
276:
        learn: 0.2173709
                                  total: 1m 13s
                                                   remaining: 59.4s
277:
        learn: 0.2173451
                                  total: 1m 14s
                                                   remaining: 59.1s
278:
        learn: 0.2172347
                                  total: 1m 14s
                                                   remaining: 58.9s
279:
        learn: 0.2171858
                                  total: 1m 14s
                                                   remaining: 58.6s
280:
        learn: 0.2171410
                                  total: 1m 14s
                                                   remaining: 58.4s
281:
        learn: 0.2170776
                                  total: 1m 15s
                                                   remaining: 58.1s
282:
        learn: 0.2170473
                                  total: 1m 15s
                                                   remaining: 57.9s
283:
        learn: 0.2170199
                                  total: 1m 15s
                                                   remaining: 57.6s
284:
        learn: 0.2169243
                                  total: 1m 16s
                                                   remaining: 57.4s
285:
        learn: 0.2168993
                                  total: 1m 16s
                                                   remaining: 57.1s
286:
        learn: 0.2168782
                                  total: 1m 16s
                                                   remaining: 56.9s
                                  total: 1m 16s
287:
        learn: 0.2167885
                                                   remaining: 56.6s
288:
        learn: 0.2167348
                                  total: 1m 17s
                                                   remaining: 56.3s
289:
        learn: 0.2166817
                                  total: 1m 17s
                                                   remaining: 56.1s
290:
        learn: 0.2166269
                                  total: 1m 17s
                                                   remaining: 55.8s
291:
        learn: 0.2165529
                                  total: 1m 17s
                                                   remaining: 55.5s
292:
        learn: 0.2164512
                                  total: 1m 18s
                                                   remaining: 55.3s
293:
        learn: 0.2163936
                                  total: 1m 18s
                                                   remaining: 55s
294:
        learn: 0.2163353
                                  total: 1m 18s
                                                   remaining: 54.7s
```

```
295:
        learn: 0.2163208
                                  total: 1m 19s
                                                   remaining: 54.5s
296:
        learn: 0.2162687
                                  total: 1m 19s
                                                   remaining: 54.2s
297:
        learn: 0.2162451
                                  total: 1m 19s
                                                   remaining: 53.9s
298:
        learn: 0.2161979
                                  total: 1m 19s
                                                   remaining: 53.7s
299:
        learn: 0.2161536
                                  total: 1m 20s
                                                   remaining: 53.4s
                                  total: 1m 20s
300:
        learn: 0.2161121
                                                   remaining: 53.1s
301:
        learn: 0.2160773
                                  total: 1m 20s
                                                   remaining: 52.9s
        learn: 0.2160566
                                                   remaining: 52.6s
302:
                                  total: 1m 20s
303:
        learn: 0.2160222
                                  total: 1m 21s
                                                   remaining: 52.4s
304:
        learn: 0.2159755
                                  total: 1m 21s
                                                   remaining: 52.1s
305:
        learn: 0.2159290
                                  total: 1m 21s
                                                   remaining: 51.9s
306:
        learn: 0.2158398
                                  total: 1m 22s
                                                   remaining: 51.6s
307:
        learn: 0.2157472
                                  total: 1m 22s
                                                   remaining: 51.4s
308:
        learn: 0.2157353
                                  total: 1m 22s
                                                   remaining: 51.1s
                                                   remaining: 50.9s
309:
        learn: 0.2156852
                                  total: 1m 22s
310:
        learn: 0.2156468
                                  total: 1m 23s
                                                   remaining: 50.6s
311:
        learn: 0.2155716
                                  total: 1m 23s
                                                   remaining: 50.3s
                                  total: 1m 23s
312:
        learn: 0.2155273
                                                   remaining: 50.1s
        learn: 0.2154331
                                  total: 1m 24s
313:
                                                   remaining: 49.8s
314:
        learn: 0.2153804
                                  total: 1m 24s
                                                   remaining: 49.5s
315:
        learn: 0.2153276
                                  total: 1m 24s
                                                   remaining: 49.3s
                                  total: 1m 24s
316:
        learn: 0.2151726
                                                   remaining: 49s
                                                  remaining: 48.7s
317:
        learn: 0.2151228
                                  total: 1m 25s
                                  total: 1m 25s
318:
        learn: 0.2150904
                                                   remaining: 48.5s
319:
        learn: 0.2150627
                                  total: 1m 25s
                                                   remaining: 48.2s
320:
        learn: 0.2150283
                                  total: 1m 25s
                                                   remaining: 47.9s
321:
        learn: 0.2149932
                                  total: 1m 26s
                                                   remaining: 47.7s
322:
        learn: 0.2148963
                                  total: 1m 26s
                                                   remaining: 47.4s
323:
        learn: 0.2147953
                                  total: 1m 26s
                                                   remaining: 47.1s
324:
        learn: 0.2147699
                                  total: 1m 27s
                                                   remaining: 46.9s
325:
        learn: 0.2147242
                                  total: 1m 27s
                                                   remaining: 46.6s
326:
        learn: 0.2146034
                                  total: 1m 27s
                                                   remaining: 46.4s
327:
        learn: 0.2144518
                                  total: 1m 27s
                                                   remaining: 46.1s
328:
        learn: 0.2144218
                                  total: 1m 28s
                                                   remaining: 45.8s
329:
        learn: 0.2143265
                                  total: 1m 28s
                                                   remaining: 45.6s
                                  total: 1m 28s
330:
        learn: 0.2142789
                                                   remaining: 45.3s
331:
        learn: 0.2141999
                                  total: 1m 29s
                                                   remaining: 45.1s
332:
        learn: 0.2141286
                                  total: 1m 29s
                                                   remaining: 44.8s
                                  total: 1m 29s
333:
        learn: 0.2140833
                                                   remaining: 44.6s
334:
        learn: 0.2140412
                                  total: 1m 29s
                                                   remaining: 44.3s
335:
        learn: 0.2140029
                                  total: 1m 30s
                                                   remaining: 44.1s
336:
        learn: 0.2139010
                                  total: 1m 30s
                                                   remaining: 43.8s
337:
        learn: 0.2138456
                                  total: 1m 30s
                                                   remaining: 43.5s
338:
        learn: 0.2137672
                                  total: 1m 31s
                                                   remaining: 43.3s
                                                   remaining: 43s
339:
        learn: 0.2137186
                                  total: 1m 31s
340:
        learn: 0.2136396
                                  total: 1m 31s
                                                   remaining: 42.8s
341:
        learn: 0.2135227
                                  total: 1m 31s
                                                   remaining: 42.5s
342:
        learn: 0.2135064
                                  total: 1m 32s
                                                   remaining: 42.2s
```

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343:
        learn: 0.2134547
                                  total: 1m 32s
                                                   remaining: 42s
344:
        learn: 0.2134042
                                  total: 1m 32s
                                                   remaining: 41.7s
345:
        learn: 0.2132889
                                  total: 1m 33s
                                                   remaining: 41.5s
        learn: 0.2132190
                                                   remaining: 41.2s
346:
                                  total: 1m 33s
347:
        learn: 0.2131970
                                  total: 1m 33s
                                                   remaining: 40.9s
                                  total: 1m 33s
348:
        learn: 0.2130991
                                                   remaining: 40.6s
349:
        learn: 0.2130485
                                  total: 1m 34s
                                                   remaining: 40.4s
        learn: 0.2129325
                                                   remaining: 40.1s
350:
                                  total: 1m 34s
351:
        learn: 0.2128963
                                  total: 1m 34s
                                                   remaining: 39.9s
352:
        learn: 0.2127979
                                  total: 1m 35s
                                                   remaining: 39.6s
353:
        learn: 0.2127687
                                  total: 1m 35s
                                                   remaining: 39.3s
354:
        learn: 0.2127130
                                  total: 1m 35s
                                                   remaining: 39s
355:
        learn: 0.2126166
                                  total: 1m 35s
                                                   remaining: 38.8s
356:
        learn: 0.2125974
                                  total: 1m 36s
                                                   remaining: 38.5s
                                                   remaining: 38.2s
357:
        learn: 0.2125878
                                  total: 1m 36s
358:
        learn: 0.2125057
                                  total: 1m 36s
                                                   remaining: 38s
359:
        learn: 0.2124803
                                  total: 1m 36s
                                                   remaining: 37.7s
                                  total: 1m 37s
360:
        learn: 0.2124039
                                                   remaining: 37.5s
        learn: 0.2123153
                                  total: 1m 37s
361:
                                                   remaining: 37.2s
362:
        learn: 0.2122621
                                  total: 1m 37s
                                                   remaining: 36.9s
363:
        learn: 0.2121011
                                  total: 1m 38s
                                                   remaining: 36.7s
364:
        learn: 0.2120341
                                  total: 1m 38s
                                                   remaining: 36.4s
365:
        learn: 0.2120177
                                  total: 1m 38s
                                                   remaining: 36.2s
366:
        learn: 0.2119212
                                  total: 1m 39s
                                                   remaining: 35.9s
367:
        learn: 0.2118028
                                  total: 1m 39s
                                                   remaining: 35.6s
        learn: 0.2117403
                                  total: 1m 39s
                                                   remaining: 35.4s
368:
369:
        learn: 0.2116965
                                  total: 1m 39s
                                                   remaining: 35.1s
370:
        learn: 0.2116284
                                  total: 1m 40s
                                                   remaining: 34.9s
371:
        learn: 0.2116085
                                  total: 1m 40s
                                                   remaining: 34.6s
372:
        learn: 0.2115901
                                  total: 1m 40s
                                                   remaining: 34.3s
373:
        learn: 0.2115698
                                  total: 1m 41s
                                                   remaining: 34.1s
374:
        learn: 0.2115433
                                  total: 1m 41s
                                                   remaining: 33.8s
375:
        learn: 0.2114548
                                  total: 1m 41s
                                                   remaining: 33.6s
        learn: 0.2113705
                                  total: 1m 42s
376:
                                                   remaining: 33.3s
377:
        learn: 0.2112977
                                  total: 1m 42s
                                                   remaining: 33s
        learn: 0.2112514
378:
                                  total: 1m 42s
                                                   remaining: 32.8s
379:
        learn: 0.2111965
                                  total: 1m 42s
                                                   remaining: 32.5s
380:
        learn: 0.2111215
                                  total: 1m 43s
                                                   remaining: 32.2s
381:
        learn: 0.2110567
                                  total: 1m 43s
                                                   remaining: 32s
382:
        learn: 0.2109906
                                  total: 1m 43s
                                                   remaining: 31.7s
383:
        learn: 0.2109303
                                  total: 1m 44s
                                                   remaining: 31.4s
384:
        learn: 0.2107595
                                  total: 1m 44s
                                                   remaining: 31.2s
385:
        learn: 0.2107199
                                  total: 1m 44s
                                                   remaining: 30.9s
386:
        learn: 0.2106956
                                  total: 1m 44s
                                                   remaining: 30.7s
                                                   remaining: 30.4s
387:
        learn: 0.2106667
                                  total: 1m 45s
388:
        learn: 0.2106203
                                  total: 1m 45s
                                                   remaining: 30.1s
389:
        learn: 0.2105358
                                  total: 1m 45s
                                                   remaining: 29.9s
390:
        learn: 0.2104334
                                  total: 1m 46s
                                                   remaining: 29.6s
```

```
learn: 0.2103782
391:
                                  total: 1m 46s
                                                   remaining: 29.3s
392:
        learn: 0.2103044
                                  total: 1m 46s
                                                   remaining: 29.1s
393:
        learn: 0.2102575
                                  total: 1m 47s
                                                   remaining: 28.8s
394:
        learn: 0.2101849
                                  total: 1m 47s
                                                   remaining: 28.5s
395:
        learn: 0.2101349
                                  total: 1m 47s
                                                   remaining: 28.3s
                                  total: 1m 47s
396:
        learn: 0.2100402
                                                   remaining: 28s
397:
        learn: 0.2100066
                                  total: 1m 48s
                                                   remaining: 27.7s
        learn: 0.2099536
398:
                                  total: 1m 48s
                                                   remaining: 27.5s
399:
        learn: 0.2098497
                                  total: 1m 48s
                                                   remaining: 27.2s
400:
        learn: 0.2098238
                                  total: 1m 49s
                                                   remaining: 26.9s
401:
        learn: 0.2097681
                                  total: 1m 49s
                                                   remaining: 26.7s
402:
        learn: 0.2097268
                                  total: 1m 49s
                                                   remaining: 26.4s
403:
        learn: 0.2096873
                                  total: 1m 49s
                                                   remaining: 26.1s
404:
        learn: 0.2096590
                                  total: 1m 50s
                                                   remaining: 25.8s
405:
        learn: 0.2095632
                                  total: 1m 50s
                                                   remaining: 25.6s
406:
        learn: 0.2094725
                                  total: 1m 50s
                                                   remaining: 25.3s
407:
        learn: 0.2094079
                                  total: 1m 50s
                                                   remaining: 25s
                                  total: 1m 51s
408:
        learn: 0.2093369
                                                   remaining: 24.7s
        learn: 0.2091740
                                  total: 1m 51s
409:
                                                   remaining: 24.5s
410:
        learn: 0.2091247
                                  total: 1m 51s
                                                   remaining: 24.2s
411:
        learn: 0.2089983
                                  total: 1m 52s
                                                   remaining: 24s
412:
        learn: 0.2089495
                                  total: 1m 52s
                                                   remaining: 23.7s
413:
        learn: 0.2089161
                                  total: 1m 52s
                                                   remaining: 23.4s
414:
        learn: 0.2088715
                                  total: 1m 53s
                                                   remaining: 23.2s
415:
        learn: 0.2087741
                                  total: 1m 53s
                                                   remaining: 22.9s
416:
        learn: 0.2086872
                                  total: 1m 53s
                                                   remaining: 22.6s
417:
        learn: 0.2086459
                                  total: 1m 53s
                                                   remaining: 22.4s
418:
        learn: 0.2085630
                                  total: 1m 54s
                                                   remaining: 22.1s
419:
        learn: 0.2085150
                                  total: 1m 54s
                                                   remaining: 21.8s
420:
        learn: 0.2084559
                                  total: 1m 54s
                                                   remaining: 21.6s
421:
        learn: 0.2083157
                                  total: 1m 55s
                                                   remaining: 21.3s
422:
        learn: 0.2082621
                                  total: 1m 55s
                                                   remaining: 21s
423:
        learn: 0.2082508
                                  total: 1m 55s
                                                   remaining: 20.8s
424:
        learn: 0.2082095
                                  total: 1m 56s
                                                   remaining: 20.5s
425:
        learn: 0.2081684
                                  total: 1m 56s
                                                   remaining: 20.2s
        learn: 0.2080948
426:
                                  total: 1m 56s
                                                   remaining: 20s
427:
        learn: 0.2080794
                                  total: 1m 57s
                                                   remaining: 19.7s
428:
        learn: 0.2080157
                                  total: 1m 57s
                                                   remaining: 19.4s
429:
        learn: 0.2079750
                                  total: 1m 57s
                                                   remaining: 19.1s
430:
        learn: 0.2079095
                                  total: 1m 57s
                                                   remaining: 18.9s
431:
        learn: 0.2078801
                                  total: 1m 58s
                                                   remaining: 18.6s
432:
        learn: 0.2078372
                                  total: 1m 58s
                                                   remaining: 18.3s
433:
        learn: 0.2077710
                                  total: 1m 58s
                                                   remaining: 18.1s
434:
        learn: 0.2077300
                                  total: 1m 59s
                                                   remaining: 17.8s
                                                   remaining: 17.5s
435:
        learn: 0.2076863
                                  total: 1m 59s
436:
        learn: 0.2076267
                                  total: 1m 59s
                                                   remaining: 17.3s
437:
        learn: 0.2075618
                                  total: 2m
                                                   remaining: 17s
438:
        learn: 0.2074984
                                  total: 2m
                                                   remaining: 16.7s
```

```
439:
        learn: 0.2073861
                                  total: 2m
                                                   remaining: 16.4s
440:
        learn: 0.2073383
                                  total: 2m
                                                   remaining: 16.2s
441:
        learn: 0.2073019
                                  total: 2m 1s
                                                   remaining: 15.9s
442:
        learn: 0.2072138
                                  total: 2m 1s
                                                   remaining: 15.6s
443:
        learn: 0.2071335
                                  total: 2m 1s
                                                   remaining: 15.4s
                                  total: 2m 2s
                                                   remaining: 15.1s
444:
        learn: 0.2071060
445:
        learn: 0.2070363
                                  total: 2m 2s
                                                   remaining: 14.8s
446:
        learn: 0.2069627
                                  total: 2m 2s
                                                   remaining: 14.6s
447:
        learn: 0.2068988
                                  total: 2m 3s
                                                   remaining: 14.3s
448:
        learn: 0.2068451
                                  total: 2m 3s
                                                   remaining: 14s
449:
        learn: 0.2067047
                                  total: 2m 3s
                                                   remaining: 13.7s
450:
        learn: 0.2066836
                                  total: 2m 3s
                                                   remaining: 13.5s
451:
        learn: 0.2066435
                                  total: 2m 4s
                                                   remaining: 13.2s
452:
        learn: 0.2066041
                                  total: 2m 4s
                                                   remaining: 12.9s
453:
        learn: 0.2065418
                                  total: 2m 4s
                                                   remaining: 12.6s
454:
        learn: 0.2065067
                                  total: 2m 5s
                                                   remaining: 12.4s
455:
        learn: 0.2064824
                                  total: 2m 5s
                                                   remaining: 12.1s
                                  total: 2m 5s
456:
        learn: 0.2064465
                                                   remaining: 11.8s
        learn: 0.2064195
457:
                                  total: 2m 5s
                                                   remaining: 11.5s
458:
        learn: 0.2062903
                                  total: 2m 6s
                                                   remaining: 11.3s
459:
        learn: 0.2062164
                                  total: 2m 6s
                                                   remaining: 11s
460:
        learn: 0.2061743
                                  total: 2m 6s
                                                   remaining: 10.7s
461:
        learn: 0.2061038
                                  total: 2m 7s
                                                   remaining: 10.5s
462:
        learn: 0.2060622
                                  total: 2m 7s
                                                   remaining: 10.2s
463:
        learn: 0.2060091
                                  total: 2m 7s
                                                   remaining: 9.9s
                                  total: 2m 7s
464:
        learn: 0.2059309
                                                   remaining: 9.63s
465:
        learn: 0.2058361
                                  total: 2m 8s
                                                   remaining: 9.36s
466:
        learn: 0.2057555
                                  total: 2m 8s
                                                   remaining: 9.08s
467:
        learn: 0.2056566
                                  total: 2m 8s
                                                   remaining: 8.8s
468:
        learn: 0.2055922
                                  total: 2m 9s
                                                   remaining: 8.53s
469:
        learn: 0.2055059
                                  total: 2m 9s
                                                   remaining: 8.26s
470:
        learn: 0.2054669
                                  total: 2m 9s
                                                   remaining: 7.98s
471:
        learn: 0.2054204
                                  total: 2m 9s
                                                   remaining: 7.7s
472:
        learn: 0.2053650
                                  total: 2m 10s
                                                   remaining: 7.43s
473:
        learn: 0.2053077
                                  total: 2m 10s
                                                   remaining: 7.15s
474:
        learn: 0.2052199
                                  total: 2m 10s
                                                   remaining: 6.88s
475:
        learn: 0.2051909
                                  total: 2m 10s
                                                   remaining: 6.6s
476:
        learn: 0.2050465
                                  total: 2m 11s
                                                   remaining: 6.33s
                                  total: 2m 11s
477:
        learn: 0.2050263
                                                   remaining: 6.05s
478:
        learn: 0.2049907
                                  total: 2m 11s
                                                   remaining: 5.78s
479:
        learn: 0.2048843
                                  total: 2m 12s
                                                   remaining: 5.5s
480:
        learn: 0.2048610
                                  total: 2m 12s
                                                   remaining: 5.23s
481:
        learn: 0.2048148
                                  total: 2m 12s
                                                   remaining: 4.95s
482:
        learn: 0.2047441
                                  total: 2m 12s
                                                   remaining: 4.68s
                                                   remaining: 4.4s
483:
        learn: 0.2047344
                                  total: 2m 13s
        learn: 0.2047104
484:
                                  total: 2m 13s
                                                   remaining: 4.13s
485:
        learn: 0.2046656
                                  total: 2m 13s
                                                   remaining: 3.85s
486:
        learn: 0.2046280
                                  total: 2m 13s
                                                   remaining: 3.57s
```

```
487:
        learn: 0.2045074
                                  total: 2m 14s
                                                   remaining: 3.3s
488:
        learn: 0.2044797
                                  total: 2m 14s
                                                   remaining: 3.02s
489:
        learn: 0.2044365
                                  total: 2m 14s
                                                   remaining: 2.75s
490:
        learn: 0.2043750
                                  total: 2m 15s
                                                   remaining: 2.48s
491:
        learn: 0.2042566
                                  total: 2m 15s
                                                   remaining: 2.2s
                                  total: 2m 15s
                                                   remaining: 1.93s
492:
        learn: 0.2042403
493:
        learn: 0.2041970
                                  total: 2m 15s
                                                   remaining: 1.65s
494:
        learn: 0.2041908
                                  total: 2m 16s
                                                   remaining: 1.38s
495:
        learn: 0.2041313
                                  total: 2m 16s
                                                   remaining: 1.1s
496:
        learn: 0.2040989
                                  total: 2m 16s
                                                   remaining: 826ms
                                  total: 2m 17s
497:
        learn: 0.2040368
                                                   remaining: 551ms
498:
        learn: 0.2040169
                                  total: 2m 17s
                                                   remaining: 275ms
        learn: 0.2040038
                                  total: 2m 17s
                                                   remaining: Ous
499:
Learning rate set to 0.174288
                                                   remaining: 2m 15s
0:
        learn: 0.9715545
                                  total: 272ms
        learn: 0.8881123
                                                   remaining: 2m 12s
1:
                                  total: 532ms
2:
        learn: 0.8315271
                                  total: 796ms
                                                   remaining: 2m 11s
3:
        learn: 0.7884626
                                  total: 1.06s
                                                   remaining: 2m 12s
4:
                                                   remaining: 2m 13s
        learn: 0.6751326
                                  total: 1.35s
5:
        learn: 0.6489147
                                  total: 1.53s
                                                   remaining: 2m 5s
                                                   remaining: 2m 2s
6:
        learn: 0.5799087
                                  total: 1.73s
7:
        learn: 0.5292223
                                  total: 1.92s
                                                   remaining: 1m 58s
8:
        learn: 0.4877030
                                  total: 2.14s
                                                   remaining: 1m 56s
                                  total: 2.33s
                                                   remaining: 1m 54s
9:
        learn: 0.4576662
10:
        learn: 0.4315348
                                  total: 2.53s
                                                   remaining: 1m 52s
        learn: 0.4109672
                                  total: 2.73s
                                                   remaining: 1m 50s
11:
        learn: 0.3840052
                                  total: 2.94s
                                                   remaining: 1m 50s
12:
13:
        learn: 0.3631521
                                  total: 3.14s
                                                   remaining: 1m 49s
14:
        learn: 0.3463010
                                  total: 3.31s
                                                   remaining: 1m 47s
15:
        learn: 0.3321929
                                  total: 3.51s
                                                   remaining: 1m 46s
        learn: 0.3294739
                                  total: 3.71s
16:
                                                   remaining: 1m 45s
17:
        learn: 0.3188115
                                  total: 3.93s
                                                   remaining: 1m 45s
18:
        learn: 0.3095820
                                  total: 4.22s
                                                   remaining: 1m 46s
        learn: 0.3075244
                                  total: 4.5s
                                                   remaining: 1m 48s
19:
20:
        learn: 0.3050942
                                  total: 4.75s
                                                   remaining: 1m 48s
21:
        learn: 0.2976447
                                  total: 5.01s
                                                   remaining: 1m 48s
22:
        learn: 0.2962042
                                  total: 5.25s
                                                   remaining: 1m 48s
23:
        learn: 0.2899877
                                  total: 5.51s
                                                   remaining: 1m 49s
                                  total: 5.77s
24:
        learn: 0.2850851
                                                   remaining: 1m 49s
25:
        learn: 0.2831215
                                  total: 6.07s
                                                   remaining: 1m 50s
26:
        learn: 0.2822026
                                  total: 6.34s
                                                   remaining: 1m 51s
27:
                                                   remaining: 1m 51s
        learn: 0.2774651
                                  total: 6.62s
28:
        learn: 0.2764718
                                  total: 6.9s
                                                   remaining: 1m 52s
29:
        learn: 0.2726791
                                  total: 7.19s
                                                   remaining: 1m 52s
30:
        learn: 0.2719736
                                  total: 7.48s
                                                   remaining: 1m 53s
31:
        learn: 0.2701826
                                  total: 7.75s
                                                   remaining: 1m 53s
32:
        learn: 0.2695649
                                  total: 8.02s
                                                   remaining: 1m 53s
33:
        learn: 0.2690901
                                  total: 8.3s
                                                   remaining: 1m 53s
```

```
34:
        learn: 0.2685861
                                  total: 8.6s
                                                   remaining: 1m 54s
35:
        learn: 0.2671735
                                  total: 8.88s
                                                   remaining: 1m 54s
36:
        learn: 0.2653546
                                  total: 9.16s
                                                   remaining: 1m 54s
37:
        learn: 0.2650820
                                  total: 9.42s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
38:
        learn: 0.2644478
                                  total: 9.69s
                                  total: 9.97s
                                                   remaining: 1m 54s
39:
        learn: 0.2639687
40:
        learn: 0.2637832
                                  total: 10.3s
                                                   remaining: 1m 54s
41:
        learn: 0.2634852
                                  total: 10.6s
                                                   remaining: 1m 55s
42:
        learn: 0.2604922
                                  total: 10.8s
                                                   remaining: 1m 55s
43:
        learn: 0.2599404
                                  total: 11.1s
                                                   remaining: 1m 55s
44:
        learn: 0.2596981
                                  total: 11.4s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
45:
        learn: 0.2593029
                                  total: 11.7s
46:
        learn: 0.2589143
                                  total: 12s
                                                   remaining: 1m 55s
47:
        learn: 0.2579899
                                  total: 12.3s
                                                   remaining: 1m 55s
48:
        learn: 0.2558052
                                  total: 12.6s
                                                   remaining: 1m 55s
49:
        learn: 0.2547720
                                                   remaining: 1m 55s
                                  total: 12.8s
50:
        learn: 0.2525329
                                  total: 13.1s
                                                   remaining: 1m 55s
                                  total: 13.4s
51:
        learn: 0.2517107
                                                   remaining: 1m 55s
        learn: 0.2515419
                                  total: 13.7s
                                                   remaining: 1m 55s
52:
53:
        learn: 0.2492966
                                  total: 13.9s
                                                   remaining: 1m 54s
54:
        learn: 0.2489006
                                  total: 14.2s
                                                   remaining: 1m 55s
                                  total: 14.4s
55:
        learn: 0.2486398
                                                   remaining: 1m 54s
56:
        learn: 0.2480143
                                  total: 14.7s
                                                   remaining: 1m 54s
                                  total: 15s
                                                   remaining: 1m 54s
57:
        learn: 0.2477830
58:
        learn: 0.2476908
                                  total: 15.3s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
59:
        learn: 0.2468251
                                  total: 15.6s
        learn: 0.2464074
                                  total: 15.9s
                                                   remaining: 1m 54s
60:
61:
        learn: 0.2462996
                                  total: 16.1s
                                                   remaining: 1m 54s
                                  total: 16.4s
                                                   remaining: 1m 53s
62:
        learn: 0.2460868
63:
        learn: 0.2457604
                                  total: 16.7s
                                                   remaining: 1m 53s
64:
        learn: 0.2456634
                                  total: 17s
                                                   remaining: 1m 53s
65:
        learn: 0.2454470
                                  total: 17.2s
                                                   remaining: 1m 53s
66:
        learn: 0.2452328
                                  total: 17.5s
                                                   remaining: 1m 52s
67:
        learn: 0.2430183
                                  total: 17.7s
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
68:
        learn: 0.2429112
                                  total: 18s
69:
        learn: 0.2426445
                                  total: 18.2s
                                                   remaining: 1m 51s
70:
        learn: 0.2424610
                                  total: 18.5s
                                                   remaining: 1m 51s
71:
        learn: 0.2423774
                                  total: 18.8s
                                                   remaining: 1m 51s
72:
        learn: 0.2415750
                                                   remaining: 1m 51s
                                  total: 19s
73:
        learn: 0.2403114
                                  total: 19.3s
                                                   remaining: 1m 50s
74:
        learn: 0.2400472
                                  total: 19.5s
                                                   remaining: 1m 50s
75:
        learn: 0.2399333
                                                   remaining: 1m 50s
                                  total: 19.8s
76:
        learn: 0.2387015
                                  total: 20s
                                                   remaining: 1m 49s
77:
        learn: 0.2380947
                                  total: 20.3s
                                                   remaining: 1m 49s
78:
        learn: 0.2379287
                                  total: 20.5s
                                                   remaining: 1m 49s
79:
        learn: 0.2373401
                                  total: 20.8s
                                                   remaining: 1m 49s
80:
        learn: 0.2372307
                                  total: 21s
                                                   remaining: 1m 48s
81:
        learn: 0.2371823
                                  total: 21.3s
                                                   remaining: 1m 48s
```

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82:
        learn: 0.2370562
                                  total: 21.5s
                                                   remaining: 1m 48s
83:
        learn: 0.2370111
                                  total: 21.8s
                                                   remaining: 1m 47s
                                  total: 22s
84:
        learn: 0.2369630
                                                   remaining: 1m 47s
85:
        learn: 0.2367702
                                  total: 22.3s
                                                   remaining: 1m 47s
                                                   remaining: 1m 47s
86:
        learn: 0.2365449
                                  total: 22.6s
                                  total: 22.9s
                                                   remaining: 1m 47s
87:
        learn: 0.2363635
88:
        learn: 0.2362794
                                  total: 23.1s
                                                   remaining: 1m 46s
89:
        learn: 0.2361026
                                  total: 23.4s
                                                   remaining: 1m 46s
90:
        learn: 0.2360390
                                  total: 23.6s
                                                   remaining: 1m 46s
91:
        learn: 0.2359051
                                  total: 23.9s
                                                   remaining: 1m 46s
                                  total: 24.2s
92:
        learn: 0.2358661
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
93:
        learn: 0.2357015
                                  total: 24.5s
                                  total: 24.8s
94:
        learn: 0.2355582
                                                   remaining: 1m 45s
95:
        learn: 0.2354691
                                  total: 25.1s
                                                   remaining: 1m 45s
96:
        learn: 0.2353420
                                  total: 25.4s
                                                   remaining: 1m 45s
97:
        learn: 0.2352285
                                  total: 25.7s
                                                   remaining: 1m 45s
98:
        learn: 0.2351959
                                  total: 25.9s
                                                   remaining: 1m 45s
                                  total: 26.2s
99:
        learn: 0.2350304
                                                   remaining: 1m 44s
        learn: 0.2344429
                                  total: 26.5s
                                                   remaining: 1m 44s
100:
101:
        learn: 0.2343981
                                  total: 26.8s
                                                   remaining: 1m 44s
102:
        learn: 0.2342408
                                  total: 27.1s
                                                   remaining: 1m 44s
                                  total: 27.4s
103:
        learn: 0.2341511
                                                   remaining: 1m 44s
104:
        learn: 0.2340032
                                  total: 27.7s
                                                   remaining: 1m 44s
        learn: 0.2338768
                                  total: 27.9s
                                                   remaining: 1m 43s
105:
106:
        learn: 0.2337773
                                  total: 28.2s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
107:
        learn: 0.2336272
                                  total: 28.5s
        learn: 0.2335400
                                  total: 28.8s
                                                   remaining: 1m 43s
108:
109:
        learn: 0.2334030
                                  total: 29s
                                                   remaining: 1m 42s
        learn: 0.2331797
                                  total: 29.3s
110:
                                                   remaining: 1m 42s
111:
        learn: 0.2331495
                                  total: 29.5s
                                                   remaining: 1m 42s
        learn: 0.2330518
                                  total: 29.8s
                                                   remaining: 1m 41s
112:
113:
        learn: 0.2329109
                                  total: 30.1s
                                                   remaining: 1m 41s
114:
        learn: 0.2328597
                                  total: 30.4s
                                                   remaining: 1m 41s
        learn: 0.2327459
                                  total: 30.6s
                                                   remaining: 1m 41s
115:
                                                   remaining: 1m 41s
116:
        learn: 0.2325840
                                  total: 30.9s
117:
        learn: 0.2324936
                                  total: 31.2s
                                                   remaining: 1m 40s
118:
        learn: 0.2323730
                                  total: 31.5s
                                                   remaining: 1m 40s
119:
        learn: 0.2323226
                                  total: 31.7s
                                                   remaining: 1m 40s
        learn: 0.2320694
                                                   remaining: 1m 40s
120:
                                  total: 32s
121:
        learn: 0.2318773
                                  total: 32.3s
                                                   remaining: 1m 39s
122:
        learn: 0.2314392
                                  total: 32.6s
                                                   remaining: 1m 39s
123:
        learn: 0.2313327
                                  total: 32.9s
                                                   remaining: 1m 39s
124:
        learn: 0.2311731
                                  total: 33.1s
                                                   remaining: 1m 39s
125:
        learn: 0.2311504
                                  total: 33.4s
                                                   remaining: 1m 38s
126:
        learn: 0.2311046
                                  total: 33.6s
                                                   remaining: 1m 38s
127:
        learn: 0.2310456
                                  total: 33.9s
                                                   remaining: 1m 38s
128:
        learn: 0.2306193
                                  total: 34.1s
                                                   remaining: 1m 38s
129:
        learn: 0.2304744
                                  total: 34.4s
                                                   remaining: 1m 37s
```

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130:
        learn: 0.2304441
                                  total: 34.6s
                                                   remaining: 1m 37s
131:
        learn: 0.2303793
                                  total: 34.9s
                                                   remaining: 1m 37s
132:
        learn: 0.2303088
                                  total: 35.2s
                                                   remaining: 1m 37s
        learn: 0.2301789
                                  total: 35.4s
                                                   remaining: 1m 36s
133:
                                                   remaining: 1m 36s
134:
        learn: 0.2301368
                                  total: 35.6s
                                  total: 35.9s
                                                   remaining: 1m 36s
135:
        learn: 0.2299668
136:
        learn: 0.2298718
                                  total: 36.1s
                                                   remaining: 1m 35s
137:
        learn: 0.2297972
                                  total: 36.4s
                                                   remaining: 1m 35s
138:
        learn: 0.2297527
                                  total: 36.6s
                                                   remaining: 1m 35s
139:
        learn: 0.2296334
                                  total: 36.9s
                                                   remaining: 1m 34s
140:
        learn: 0.2295109
                                  total: 37.1s
                                                   remaining: 1m 34s
                                                   remaining: 1m 34s
141:
        learn: 0.2294420
                                  total: 37.3s
142:
        learn: 0.2292652
                                  total: 37.6s
                                                   remaining: 1m 33s
143:
        learn: 0.2292167
                                  total: 37.8s
                                                   remaining: 1m 33s
144:
        learn: 0.2291037
                                  total: 38.1s
                                                   remaining: 1m 33s
145:
        learn: 0.2290544
                                  total: 38.3s
                                                   remaining: 1m 32s
146:
        learn: 0.2290054
                                  total: 38.6s
                                                   remaining: 1m 32s
147:
        learn: 0.2288822
                                  total: 38.9s
                                                   remaining: 1m 32s
        learn: 0.2287776
                                  total: 39.1s
                                                   remaining: 1m 32s
148:
149:
        learn: 0.2286318
                                  total: 39.4s
                                                   remaining: 1m 31s
150:
        learn: 0.2285902
                                  total: 39.7s
                                                   remaining: 1m 31s
151:
        learn: 0.2285299
                                  total: 40s
                                                   remaining: 1m 31s
152.
        learn: 0.2279676
                                  total: 40.3s
                                                   remaining: 1m 31s
                                                   remaining: 1m 31s
153:
        learn: 0.2277873
                                  total: 40.5s
154:
        learn: 0.2276939
                                  total: 40.8s
                                                   remaining: 1m 30s
155:
        learn: 0.2276724
                                  total: 41.1s
                                                   remaining: 1m 30s
        learn: 0.2273247
                                                   remaining: 1m 30s
156:
                                  total: 41.4s
157:
        learn: 0.2272146
                                  total: 41.7s
                                                   remaining: 1m 30s
158:
        learn: 0.2271693
                                  total: 42s
                                                   remaining: 1m 29s
159:
        learn: 0.2270993
                                  total: 42.2s
                                                   remaining: 1m 29s
        learn: 0.2270061
                                  total: 42.5s
160:
                                                   remaining: 1m 29s
161:
        learn: 0.2268950
                                  total: 42.7s
                                                   remaining: 1m 29s
162:
        learn: 0.2268060
                                  total: 43s
                                                   remaining: 1m 28s
        learn: 0.2267485
                                  total: 43.3s
                                                   remaining: 1m 28s
163:
                                                   remaining: 1m 28s
164:
        learn: 0.2266932
                                  total: 43.6s
165:
        learn: 0.2266362
                                  total: 43.8s
                                                   remaining: 1m 28s
166:
        learn: 0.2266025
                                  total: 44.1s
                                                   remaining: 1m 27s
167:
        learn: 0.2265333
                                  total: 44.3s
                                                   remaining: 1m 27s
                                  total: 44.6s
168:
        learn: 0.2264939
                                                   remaining: 1m 27s
169:
        learn: 0.2263760
                                  total: 44.9s
                                                   remaining: 1m 27s
170:
        learn: 0.2263680
                                  total: 45.1s
                                                   remaining: 1m 26s
                                  total: 45.4s
                                                   remaining: 1m 26s
171:
        learn: 0.2262153
172:
        learn: 0.2261560
                                  total: 45.7s
                                                   remaining: 1m 26s
173:
        learn: 0.2259587
                                  total: 46s
                                                   remaining: 1m 26s
174:
        learn: 0.2258614
                                  total: 46.2s
                                                   remaining: 1m 25s
175:
        learn: 0.2258224
                                  total: 46.5s
                                                   remaining: 1m 25s
176:
        learn: 0.2257867
                                  total: 46.8s
                                                   remaining: 1m 25s
177:
        learn: 0.2256739
                                  total: 47.1s
                                                   remaining: 1m 25s
```

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178:
        learn: 0.2256285
                                  total: 47.3s
                                                   remaining: 1m 24s
179:
        learn: 0.2254782
                                  total: 47.6s
                                                   remaining: 1m 24s
180:
        learn: 0.2253650
                                  total: 47.9s
                                                   remaining: 1m 24s
        learn: 0.2252811
                                  total: 48.2s
                                                   remaining: 1m 24s
181:
                                                   remaining: 1m 24s
182:
        learn: 0.2251381
                                  total: 48.5s
                                                   remaining: 1m 23s
183:
        learn: 0.2250829
                                  total: 48.8s
184:
        learn: 0.2249695
                                  total: 49s
                                                   remaining: 1m 23s
185:
        learn: 0.2247978
                                  total: 49.3s
                                                   remaining: 1m 23s
186:
        learn: 0.2246123
                                  total: 49.5s
                                                   remaining: 1m 22s
187:
        learn: 0.2245131
                                  total: 49.8s
                                                   remaining: 1m 22s
188:
        learn: 0.2243433
                                  total: 50s
                                                   remaining: 1m 22s
                                                   remaining: 1m 22s
189:
        learn: 0.2241893
                                  total: 50.3s
190:
        learn: 0.2240942
                                                   remaining: 1m 21s
                                  total: 50.5s
191:
        learn: 0.2238831
                                  total: 50.8s
                                                   remaining: 1m 21s
192:
        learn: 0.2238481
                                  total: 51s
                                                   remaining: 1m 21s
193:
        learn: 0.2238177
                                  total: 51.2s
                                                   remaining: 1m 20s
194:
        learn: 0.2237128
                                  total: 51.5s
                                                   remaining: 1m 20s
                                  total: 51.7s
195:
        learn: 0.2237027
                                                   remaining: 1m 20s
        learn: 0.2236306
                                                   remaining: 1m 19s
196:
                                  total: 52s
197:
        learn: 0.2235900
                                  total: 52.2s
                                                   remaining: 1m 19s
198:
        learn: 0.2235163
                                  total: 52.5s
                                                   remaining: 1m 19s
199:
        learn: 0.2234304
                                  total: 52.7s
                                                   remaining: 1m 19s
200:
        learn: 0.2232913
                                  total: 52.9s
                                                   remaining: 1m 18s
201:
                                                   remaining: 1m 18s
        learn: 0.2232553
                                  total: 53.2s
202:
        learn: 0.2231826
                                  total: 53.4s
                                                   remaining: 1m 18s
203:
        learn: 0.2231510
                                  total: 53.7s
                                                   remaining: 1m 17s
204:
        learn: 0.2231442
                                  total: 53.9s
                                                   remaining: 1m 17s
205:
        learn: 0.2230157
                                  total: 54.2s
                                                   remaining: 1m 17s
206:
        learn: 0.2229935
                                  total: 54.5s
                                                   remaining: 1m 17s
207:
        learn: 0.2229420
                                  total: 54.8s
                                                  remaining: 1m 16s
208:
        learn: 0.2228819
                                  total: 55.1s
                                                   remaining: 1m 16s
209:
        learn: 0.2228186
                                  total: 55.4s
                                                   remaining: 1m 16s
210:
        learn: 0.2226948
                                  total: 55.7s
                                                   remaining: 1m 16s
211:
        learn: 0.2226050
                                  total: 55.9s
                                                   remaining: 1m 16s
212:
        learn: 0.2225983
                                  total: 56.2s
                                                   remaining: 1m 15s
213:
        learn: 0.2225652
                                  total: 56.5s
                                                   remaining: 1m 15s
214:
        learn: 0.2224955
                                  total: 56.7s
                                                   remaining: 1m 15s
215:
        learn: 0.2224528
                                  total: 56.9s
                                                   remaining: 1m 14s
216:
        learn: 0.2223895
                                  total: 57.2s
                                                   remaining: 1m 14s
217:
        learn: 0.2223013
                                  total: 57.5s
                                                   remaining: 1m 14s
218:
        learn: 0.2222251
                                  total: 57.7s
                                                   remaining: 1m 14s
        learn: 0.2221132
                                                   remaining: 1m 13s
219:
                                  total: 58s
220:
        learn: 0.2220616
                                  total: 58.3s
                                                   remaining: 1m 13s
221:
        learn: 0.2219835
                                  total: 58.6s
                                                   remaining: 1m 13s
222:
        learn: 0.2219230
                                  total: 58.8s
                                                   remaining: 1m 13s
223:
        learn: 0.2218650
                                  total: 59.1s
                                                   remaining: 1m 12s
224:
        learn: 0.2218482
                                  total: 59.4s
                                                   remaining: 1m 12s
225:
        learn: 0.2216909
                                  total: 59.6s
                                                   remaining: 1m 12s
```

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226:
        learn: 0.2216620
                                  total: 60s
                                                   remaining: 1m 12s
                                                   remaining: 1m 11s
227:
        learn: 0.2216391
                                  total: 1m
228:
        learn: 0.2215735
                                                   remaining: 1m 11s
                                  total: 1m
229:
        learn: 0.2215358
                                                   remaining: 1m 11s
                                  total: 1m
230:
        learn: 0.2215028
                                  total: 1m 1s
                                                   remaining: 1m 11s
231:
        learn: 0.2214449
                                  total: 1m 1s
                                                   remaining: 1m 10s
232:
        learn: 0.2213893
                                  total: 1m 1s
                                                   remaining: 1m 10s
233:
        learn: 0.2213041
                                  total: 1m 1s
                                                   remaining: 1m 10s
234:
        learn: 0.2212864
                                  total: 1m 2s
                                                   remaining: 1m 10s
235:
        learn: 0.2212138
                                  total: 1m 2s
                                                   remaining: 1m 9s
        learn: 0.2211951
236:
                                  total: 1m 2s
                                                   remaining: 1m 9s
237:
        learn: 0.2211670
                                  total: 1m 3s
                                                   remaining: 1m 9s
238:
        learn: 0.2211094
                                  total: 1m 3s
                                                   remaining: 1m 9s
239:
        learn: 0.2210809
                                  total: 1m 3s
                                                   remaining: 1m 8s
240:
        learn: 0.2209907
                                  total: 1m 3s
                                                   remaining: 1m 8s
        learn: 0.2209623
241:
                                  total: 1m 4s
                                                   remaining: 1m 8s
242:
        learn: 0.2208299
                                  total: 1m 4s
                                                   remaining: 1m 8s
243:
        learn: 0.2207898
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2207260
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2206850
                                  total: 1m 5s
                                                   remaining: 1m 7s
246:
        learn: 0.2206532
                                  total: 1m 5s
                                                   remaining: 1m 6s
                                  total: 1m 5s
247:
        learn: 0.2206117
                                                   remaining: 1m 6s
248:
        learn: 0.2205372
                                  total: 1m 5s
                                                   remaining: 1m 6s
249:
        learn: 0.2205050
                                  total: 1m 6s
                                                   remaining: 1m 6s
250:
        learn: 0.2204480
                                  total: 1m 6s
                                                   remaining: 1m 5s
251:
        learn: 0.2203045
                                  total: 1m 6s
                                                   remaining: 1m 5s
252:
        learn: 0.2201795
                                  total: 1m 6s
                                                   remaining: 1m 5s
253:
        learn: 0.2201480
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2200561
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
        learn: 0.2199597
                                  total: 1m 7s
                                                   remaining: 1m 4s
256:
        learn: 0.2198485
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2197858
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2197512
                                  total: 1m 7s
                                                   remaining: 1m 3s
259:
        learn: 0.2197067
                                  total: 1m 7s
                                                   remaining: 1m 2s
                                  total: 1m 8s
260:
        learn: 0.2196694
                                                   remaining: 1m 2s
                                  total: 1m 8s
261:
        learn: 0.2195333
                                                   remaining: 1m 2s
262:
        learn: 0.2194836
                                  total: 1m 8s
                                                   remaining: 1m 1s
263:
        learn: 0.2194091
                                  total: 1m 8s
                                                   remaining: 1m 1s
        learn: 0.2193747
                                  total: 1m 8s
264:
                                                   remaining: 1m 1s
265:
        learn: 0.2190935
                                  total: 1m 9s
                                                   remaining: 1m
                                  total: 1m 9s
266:
        learn: 0.2190653
                                                   remaining: 1m
267:
        learn: 0.2189661
                                                   remaining: 1m
                                  total: 1m 9s
268:
        learn: 0.2189422
                                  total: 1m 9s
                                                   remaining: 1m
269:
        learn: 0.2188791
                                  total: 1m 10s
                                                   remaining: 59.7s
270:
        learn: 0.2187250
                                  total: 1m 10s
                                                   remaining: 59.5s
271:
        learn: 0.2186726
                                  total: 1m 10s
                                                   remaining: 59.2s
272:
        learn: 0.2186405
                                  total: 1m 10s
                                                   remaining: 59s
273:
        learn: 0.2185247
                                  total: 1m 11s
                                                   remaining: 58.7s
```

```
274:
        learn: 0.2184938
                                  total: 1m 11s
                                                   remaining: 58.5s
275:
        learn: 0.2184234
                                  total: 1m 11s
                                                   remaining: 58.2s
276:
        learn: 0.2183768
                                  total: 1m 12s
                                                   remaining: 58s
277:
        learn: 0.2182930
                                  total: 1m 12s
                                                   remaining: 57.7s
278:
        learn: 0.2181804
                                  total: 1m 12s
                                                   remaining: 57.5s
                                  total: 1m 12s
279:
        learn: 0.2180854
                                                   remaining: 57.2s
280:
        learn: 0.2180302
                                  total: 1m 13s
                                                   remaining: 57s
        learn: 0.2179933
                                                   remaining: 56.7s
281:
                                  total: 1m 13s
282:
        learn: 0.2179518
                                  total: 1m 13s
                                                   remaining: 56.5s
283:
        learn: 0.2178499
                                  total: 1m 13s
                                                   remaining: 56.3s
284:
        learn: 0.2178022
                                  total: 1m 14s
                                                   remaining: 56s
285:
        learn: 0.2177120
                                  total: 1m 14s
                                                   remaining: 55.8s
286:
        learn: 0.2176398
                                  total: 1m 14s
                                                   remaining: 55.5s
287:
        learn: 0.2175626
                                  total: 1m 15s
                                                   remaining: 55.3s
288:
        learn: 0.2175357
                                  total: 1m 15s
                                                   remaining: 55s
289:
        learn: 0.2174589
                                  total: 1m 15s
                                                   remaining: 54.7s
290:
        learn: 0.2173871
                                  total: 1m 15s
                                                   remaining: 54.5s
                                  total: 1m 16s
291:
        learn: 0.2173536
                                                   remaining: 54.3s
        learn: 0.2173053
                                                   remaining: 54s
292:
                                  total: 1m 16s
293:
        learn: 0.2172766
                                  total: 1m 16s
                                                   remaining: 53.8s
294:
        learn: 0.2172442
                                  total: 1m 17s
                                                   remaining: 53.5s
295:
        learn: 0.2171202
                                  total: 1m 17s
                                                   remaining: 53.3s
296:
        learn: 0.2165734
                                  total: 1m 17s
                                                   remaining: 53.1s
297:
        learn: 0.2164940
                                  total: 1m 17s
                                                   remaining: 52.8s
298:
        learn: 0.2164748
                                  total: 1m 18s
                                                   remaining: 52.6s
        learn: 0.2164273
299:
                                                   remaining: 52.3s
                                  total: 1m 18s
300:
        learn: 0.2163868
                                  total: 1m 18s
                                                   remaining: 52.1s
301:
        learn: 0.2163499
                                  total: 1m 19s
                                                   remaining: 51.8s
302:
        learn: 0.2162990
                                  total: 1m 19s
                                                   remaining: 51.5s
303:
        learn: 0.2162920
                                  total: 1m 19s
                                                   remaining: 51.3s
304:
        learn: 0.2162627
                                  total: 1m 19s
                                                   remaining: 51s
305:
        learn: 0.2162289
                                  total: 1m 20s
                                                   remaining: 50.8s
306:
        learn: 0.2161573
                                  total: 1m 20s
                                                   remaining: 50.5s
        learn: 0.2161133
                                  total: 1m 20s
307:
                                                   remaining: 50.3s
308:
        learn: 0.2160662
                                  total: 1m 20s
                                                   remaining: 50s
        learn: 0.2160235
309:
                                  total: 1m 21s
                                                   remaining: 49.8s
310:
        learn: 0.2159309
                                  total: 1m 21s
                                                   remaining: 49.5s
311:
        learn: 0.2158828
                                  total: 1m 21s
                                                   remaining: 49.2s
312:
        learn: 0.2157920
                                  total: 1m 21s
                                                   remaining: 49s
313:
        learn: 0.2157281
                                  total: 1m 22s
                                                   remaining: 48.7s
314:
        learn: 0.2156385
                                  total: 1m 22s
                                                   remaining: 48.4s
315:
        learn: 0.2155738
                                  total: 1m 22s
                                                   remaining: 48.2s
316:
        learn: 0.2155105
                                  total: 1m 22s
                                                   remaining: 47.9s
317:
        learn: 0.2154842
                                  total: 1m 23s
                                                   remaining: 47.6s
                                                   remaining: 47.3s
318:
        learn: 0.2154167
                                  total: 1m 23s
319:
        learn: 0.2153901
                                  total: 1m 23s
                                                   remaining: 47.1s
320:
        learn: 0.2153152
                                  total: 1m 23s
                                                   remaining: 46.8s
321:
        learn: 0.2152606
                                  total: 1m 24s
                                                   remaining: 46.6s
```

```
322:
        learn: 0.2152301
                                  total: 1m 24s
                                                   remaining: 46.3s
323:
        learn: 0.2151638
                                  total: 1m 24s
                                                   remaining: 46s
324:
        learn: 0.2150940
                                  total: 1m 24s
                                                   remaining: 45.7s
325:
        learn: 0.2150556
                                  total: 1m 25s
                                                   remaining: 45.5s
326:
        learn: 0.2149195
                                  total: 1m 25s
                                                   remaining: 45.2s
                                  total: 1m 25s
327:
        learn: 0.2148749
                                                   remaining: 45s
328:
        learn: 0.2148364
                                  total: 1m 26s
                                                   remaining: 44.7s
                                                   remaining: 44.4s
329:
        learn: 0.2147953
                                  total: 1m 26s
330:
        learn: 0.2147110
                                  total: 1m 26s
                                                   remaining: 44.2s
331:
        learn: 0.2146354
                                  total: 1m 26s
                                                   remaining: 43.9s
332:
        learn: 0.2145335
                                  total: 1m 27s
                                                   remaining: 43.7s
333:
        learn: 0.2144980
                                  total: 1m 27s
                                                   remaining: 43.4s
334:
        learn: 0.2144666
                                  total: 1m 27s
                                                   remaining: 43.1s
335:
        learn: 0.2144336
                                  total: 1m 27s
                                                   remaining: 42.9s
                                                   remaining: 42.6s
336:
        learn: 0.2143189
                                  total: 1m 28s
337:
        learn: 0.2142830
                                  total: 1m 28s
                                                   remaining: 42.4s
338:
        learn: 0.2142002
                                  total: 1m 28s
                                                   remaining: 42.1s
                                  total: 1m 28s
339:
        learn: 0.2141692
                                                   remaining: 41.8s
        learn: 0.2141203
                                  total: 1m 29s
340:
                                                   remaining: 41.6s
341:
        learn: 0.2140846
                                  total: 1m 29s
                                                   remaining: 41.3s
342:
        learn: 0.2140375
                                  total: 1m 29s
                                                   remaining: 41.1s
343:
        learn: 0.2139551
                                  total: 1m 29s
                                                   remaining: 40.8s
344:
        learn: 0.2139226
                                  total: 1m 30s
                                                   remaining: 40.5s
345:
        learn: 0.2138837
                                  total: 1m 30s
                                                   remaining: 40.3s
346:
        learn: 0.2137295
                                  total: 1m 30s
                                                   remaining: 40s
347:
        learn: 0.2135851
                                  total: 1m 31s
                                                   remaining: 39.8s
348:
        learn: 0.2135329
                                  total: 1m 31s
                                                   remaining: 39.5s
349:
        learn: 0.2134734
                                  total: 1m 31s
                                                   remaining: 39.2s
350:
        learn: 0.2134401
                                  total: 1m 31s
                                                   remaining: 39s
351:
        learn: 0.2133675
                                  total: 1m 32s
                                                   remaining: 38.7s
352:
        learn: 0.2133228
                                  total: 1m 32s
                                                   remaining: 38.5s
353:
        learn: 0.2133086
                                  total: 1m 32s
                                                   remaining: 38.3s
354:
        learn: 0.2132790
                                  total: 1m 33s
                                                   remaining: 38s
        learn: 0.2132550
                                  total: 1m 33s
355:
                                                   remaining: 37.7s
356:
        learn: 0.2131870
                                  total: 1m 33s
                                                   remaining: 37.5s
        learn: 0.2130998
357:
                                  total: 1m 33s
                                                   remaining: 37.2s
358:
        learn: 0.2130141
                                  total: 1m 34s
                                                   remaining: 37s
359:
        learn: 0.2129623
                                  total: 1m 34s
                                                   remaining: 36.7s
                                  total: 1m 34s
360:
        learn: 0.2128437
                                                   remaining: 36.4s
361:
        learn: 0.2128003
                                  total: 1m 34s
                                                   remaining: 36.2s
362:
        learn: 0.2127062
                                  total: 1m 35s
                                                   remaining: 35.9s
363:
        learn: 0.2126987
                                  total: 1m 35s
                                                   remaining: 35.6s
364:
        learn: 0.2126733
                                  total: 1m 35s
                                                   remaining: 35.4s
365:
        learn: 0.2126136
                                  total: 1m 35s
                                                   remaining: 35.1s
                                                   remaining: 34.9s
366:
        learn: 0.2125486
                                  total: 1m 36s
367:
        learn: 0.2124572
                                  total: 1m 36s
                                                   remaining: 34.6s
368:
        learn: 0.2123907
                                  total: 1m 36s
                                                   remaining: 34.3s
369:
        learn: 0.2122970
                                  total: 1m 36s
                                                   remaining: 34.1s
```

```
total: 1m 37s
370:
        learn: 0.2122410
                                                   remaining: 33.8s
371:
        learn: 0.2122213
                                  total: 1m 37s
                                                   remaining: 33.5s
372:
        learn: 0.2121918
                                  total: 1m 37s
                                                   remaining: 33.3s
373:
        learn: 0.2121576
                                  total: 1m 37s
                                                   remaining: 33s
374:
        learn: 0.2121435
                                  total: 1m 38s
                                                   remaining: 32.7s
                                  total: 1m 38s
375:
        learn: 0.2120864
                                                   remaining: 32.5s
376:
        learn: 0.2120642
                                  total: 1m 38s
                                                   remaining: 32.2s
        learn: 0.2120231
377:
                                  total: 1m 38s
                                                   remaining: 31.9s
378:
        learn: 0.2119515
                                  total: 1m 39s
                                                   remaining: 31.7s
379:
        learn: 0.2119160
                                  total: 1m 39s
                                                   remaining: 31.4s
380:
        learn: 0.2118775
                                  total: 1m 39s
                                                   remaining: 31.1s
381:
        learn: 0.2118019
                                  total: 1m 39s
                                                   remaining: 30.9s
382:
        learn: 0.2116673
                                  total: 1m 40s
                                                   remaining: 30.6s
383:
        learn: 0.2115345
                                  total: 1m 40s
                                                   remaining: 30.3s
384:
        learn: 0.2114834
                                  total: 1m 40s
                                                   remaining: 30.1s
385:
        learn: 0.2114474
                                  total: 1m 40s
                                                   remaining: 29.8s
386:
        learn: 0.2114243
                                  total: 1m 41s
                                                   remaining: 29.5s
                                  total: 1m 41s
387:
        learn: 0.2113793
                                                   remaining: 29.3s
        learn: 0.2113061
388:
                                  total: 1m 41s
                                                   remaining: 29s
389:
        learn: 0.2112415
                                  total: 1m 41s
                                                   remaining: 28.8s
390:
        learn: 0.2111433
                                  total: 1m 42s
                                                   remaining: 28.5s
391:
        learn: 0.2111161
                                  total: 1m 42s
                                                   remaining: 28.2s
392:
        learn: 0.2110946
                                  total: 1m 42s
                                                   remaining: 28s
393:
        learn: 0.2109937
                                  total: 1m 43s
                                                   remaining: 27.7s
394:
        learn: 0.2109801
                                  total: 1m 43s
                                                   remaining: 27.5s
        learn: 0.2109600
395:
                                  total: 1m 43s
                                                   remaining: 27.2s
396:
        learn: 0.2108987
                                  total: 1m 43s
                                                   remaining: 26.9s
397:
        learn: 0.2108365
                                  total: 1m 44s
                                                   remaining: 26.7s
398:
        learn: 0.2108208
                                  total: 1m 44s
                                                   remaining: 26.4s
399:
        learn: 0.2108100
                                  total: 1m 44s
                                                   remaining: 26.1s
400:
        learn: 0.2107841
                                  total: 1m 44s
                                                   remaining: 25.9s
401:
        learn: 0.2107676
                                  total: 1m 45s
                                                   remaining: 25.6s
402:
        learn: 0.2107175
                                  total: 1m 45s
                                                   remaining: 25.4s
403:
        learn: 0.2106253
                                  total: 1m 45s
                                                   remaining: 25.1s
404:
        learn: 0.2105450
                                  total: 1m 45s
                                                   remaining: 24.8s
        learn: 0.2104968
405:
                                  total: 1m 46s
                                                   remaining: 24.6s
406:
        learn: 0.2104574
                                  total: 1m 46s
                                                   remaining: 24.3s
407:
        learn: 0.2103785
                                  total: 1m 46s
                                                   remaining: 24s
408:
        learn: 0.2101153
                                  total: 1m 46s
                                                   remaining: 23.8s
409:
        learn: 0.2100981
                                  total: 1m 47s
                                                   remaining: 23.5s
410:
        learn: 0.2100565
                                  total: 1m 47s
                                                   remaining: 23.3s
411:
        learn: 0.2100057
                                  total: 1m 47s
                                                   remaining: 23s
412:
        learn: 0.2099798
                                  total: 1m 48s
                                                   remaining: 22.8s
413:
        learn: 0.2099334
                                  total: 1m 48s
                                                   remaining: 22.5s
                                                   remaining: 22.3s
414:
        learn: 0.2099146
                                  total: 1m 48s
415:
        learn: 0.2098647
                                  total: 1m 48s
                                                   remaining: 22s
416:
        learn: 0.2097427
                                  total: 1m 49s
                                                   remaining: 21.7s
417:
        learn: 0.2096656
                                  total: 1m 49s
                                                   remaining: 21.5s
```

```
learn: 0.2096152
418:
                                  total: 1m 49s
                                                   remaining: 21.2s
419:
        learn: 0.2095785
                                  total: 1m 50s
                                                   remaining: 21s
420:
        learn: 0.2094708
                                  total: 1m 50s
                                                   remaining: 20.7s
421:
        learn: 0.2093985
                                                   remaining: 20.5s
                                  total: 1m 50s
422:
        learn: 0.2093737
                                  total: 1m 50s
                                                   remaining: 20.2s
                                  total: 1m 51s
423:
        learn: 0.2093164
                                                   remaining: 19.9s
424:
        learn: 0.2092744
                                  total: 1m 51s
                                                   remaining: 19.7s
425:
        learn: 0.2091786
                                  total: 1m 51s
                                                   remaining: 19.4s
426:
        learn: 0.2091508
                                  total: 1m 52s
                                                   remaining: 19.1s
427:
        learn: 0.2091350
                                  total: 1m 52s
                                                   remaining: 18.9s
428:
        learn: 0.2090704
                                  total: 1m 52s
                                                   remaining: 18.6s
429:
        learn: 0.2090569
                                  total: 1m 52s
                                                   remaining: 18.4s
430:
        learn: 0.2090011
                                  total: 1m 53s
                                                   remaining: 18.1s
431:
        learn: 0.2089294
                                  total: 1m 53s
                                                   remaining: 17.8s
432:
        learn: 0.2088316
                                  total: 1m 53s
                                                   remaining: 17.6s
433:
        learn: 0.2087965
                                  total: 1m 53s
                                                   remaining: 17.3s
434:
        learn: 0.2087783
                                  total: 1m 54s
                                                   remaining: 17.1s
                                  total: 1m 54s
435:
        learn: 0.2087562
                                                   remaining: 16.8s
        learn: 0.2086992
                                  total: 1m 54s
436:
                                                   remaining: 16.5s
437:
        learn: 0.2086772
                                  total: 1m 54s
                                                   remaining: 16.3s
438:
        learn: 0.2085907
                                  total: 1m 55s
                                                   remaining: 16s
439:
        learn: 0.2085379
                                  total: 1m 55s
                                                   remaining: 15.7s
440:
        learn: 0.2084494
                                  total: 1m 55s
                                                   remaining: 15.5s
441:
        learn: 0.2084308
                                  total: 1m 55s
                                                   remaining: 15.2s
442:
        learn: 0.2083980
                                  total: 1m 56s
                                                   remaining: 14.9s
443:
        learn: 0.2083340
                                  total: 1m 56s
                                                   remaining: 14.7s
444:
        learn: 0.2082453
                                  total: 1m 56s
                                                   remaining: 14.4s
445:
        learn: 0.2082086
                                  total: 1m 56s
                                                   remaining: 14.2s
446:
        learn: 0.2081741
                                  total: 1m 57s
                                                   remaining: 13.9s
447:
        learn: 0.2081156
                                  total: 1m 57s
                                                   remaining: 13.6s
448:
        learn: 0.2080507
                                  total: 1m 57s
                                                   remaining: 13.4s
449:
        learn: 0.2079639
                                  total: 1m 58s
                                                   remaining: 13.1s
450:
        learn: 0.2079162
                                  total: 1m 58s
                                                   remaining: 12.8s
451:
        learn: 0.2078779
                                  total: 1m 58s
                                                   remaining: 12.6s
452:
        learn: 0.2078179
                                  total: 1m 58s
                                                   remaining: 12.3s
453:
        learn: 0.2077633
                                  total: 1m 59s
                                                   remaining: 12.1s
454:
        learn: 0.2076910
                                  total: 1m 59s
                                                   remaining: 11.8s
455:
        learn: 0.2076468
                                  total: 1m 59s
                                                   remaining: 11.5s
                                  total: 1m 59s
456:
        learn: 0.2076163
                                                   remaining: 11.3s
457:
        learn: 0.2075332
                                  total: 2m
                                                   remaining: 11s
        learn: 0.2074901
458:
                                  total: 2m
                                                   remaining: 10.8s
459:
        learn: 0.2074357
                                  total: 2m
                                                   remaining: 10.5s
460:
        learn: 0.2074066
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.2073923
                                  total: 2m 1s
                                                   remaining: 9.97s
                                                   remaining: 9.71s
462:
        learn: 0.2073633
                                  total: 2m 1s
463:
        learn: 0.2072911
                                  total: 2m 1s
                                                   remaining: 9.45s
464:
        learn: 0.2071949
                                  total: 2m 2s
                                                   remaining: 9.19s
465:
        learn: 0.2071770
                                  total: 2m 2s
                                                   remaining: 8.93s
```

```
466:
        learn: 0.2071385
                                  total: 2m 2s
                                                   remaining: 8.66s
467:
        learn: 0.2070877
                                  total: 2m 2s
                                                   remaining: 8.4s
468:
        learn: 0.2069970
                                  total: 2m 3s
                                                   remaining: 8.14s
        learn: 0.2069895
                                  total: 2m 3s
                                                   remaining: 7.88s
469:
470:
        learn: 0.2069389
                                  total: 2m 3s
                                                   remaining: 7.62s
                                  total: 2m 3s
                                                   remaining: 7.35s
471:
        learn: 0.2068701
472:
        learn: 0.2068464
                                  total: 2m 4s
                                                   remaining: 7.09s
473:
        learn: 0.2068072
                                  total: 2m 4s
                                                   remaining: 6.83s
474:
        learn: 0.2067671
                                  total: 2m 4s
                                                   remaining: 6.57s
475:
        learn: 0.2067252
                                  total: 2m 5s
                                                   remaining: 6.3s
476:
        learn: 0.2066670
                                  total: 2m 5s
                                                   remaining: 6.04s
477:
        learn: 0.2066181
                                  total: 2m 5s
                                                   remaining: 5.78s
478:
        learn: 0.2065573
                                  total: 2m 5s
                                                   remaining: 5.52s
479:
        learn: 0.2065257
                                  total: 2m 6s
                                                   remaining: 5.25s
                                                   remaining: 4.99s
480:
        learn: 0.2064904
                                  total: 2m 6s
481:
        learn: 0.2063481
                                  total: 2m 6s
                                                   remaining: 4.73s
482:
        learn: 0.2063069
                                  total: 2m 6s
                                                   remaining: 4.47s
                                  total: 2m 7s
483:
        learn: 0.2062470
                                                   remaining: 4.2s
        learn: 0.2061667
                                                   remaining: 3.94s
484:
                                  total: 2m 7s
485:
        learn: 0.2061331
                                  total: 2m 7s
                                                   remaining: 3.68s
486:
        learn: 0.2060996
                                  total: 2m 7s
                                                   remaining: 3.42s
                                  total: 2m 8s
487:
        learn: 0.2060832
                                                   remaining: 3.15s
488:
        learn: 0.2059996
                                  total: 2m 8s
                                                   remaining: 2.89s
                                  total: 2m 8s
489:
        learn: 0.2058987
                                                   remaining: 2.63s
490:
        learn: 0.2058526
                                  total: 2m 9s
                                                   remaining: 2.37s
                                  total: 2m 9s
491:
        learn: 0.2058423
                                                   remaining: 2.1s
492:
        learn: 0.2058033
                                  total: 2m 9s
                                                   remaining: 1.84s
493:
        learn: 0.2057651
                                  total: 2m 9s
                                                   remaining: 1.57s
494:
        learn: 0.2056423
                                  total: 2m 9s
                                                   remaining: 1.31s
495:
        learn: 0.2055759
                                  total: 2m 10s
                                                   remaining: 1.05s
496:
        learn: 0.2055557
                                  total: 2m 10s
                                                   remaining: 787ms
497:
        learn: 0.2055128
                                  total: 2m 10s
                                                   remaining: 524ms
                                  total: 2m 10s
498:
        learn: 0.2054271
                                                   remaining: 262ms
499:
        learn: 0.2053906
                                  total: 2m 10s
                                                   remaining: Ous
Learning rate set to 0.174288
                                  total: 192ms
0:
        learn: 0.9715533
                                                   remaining: 1m 36s
1:
        learn: 0.8883449
                                  total: 379ms
                                                   remaining: 1m 34s
2:
        learn: 0.8303379
                                  total: 588ms
                                                   remaining: 1m 37s
3:
        learn: 0.7268725
                                  total: 794ms
                                                   remaining: 1m 38s
4:
        learn: 0.6936778
                                  total: 985ms
                                                   remaining: 1m 37s
5:
        learn: 0.6372329
                                  total: 1.18s
                                                   remaining: 1m 36s
6:
                                                   remaining: 1m 36s
        learn: 0.5978185
                                  total: 1.37s
7:
        learn: 0.5549299
                                  total: 1.57s
                                                   remaining: 1m 36s
8:
        learn: 0.5418109
                                  total: 1.76s
                                                   remaining: 1m 36s
9:
        learn: 0.4917172
                                  total: 2s
                                                   remaining: 1m 37s
10:
        learn: 0.4528276
                                  total: 2.24s
                                                   remaining: 1m 39s
11:
        learn: 0.4203695
                                  total: 2.53s
                                                   remaining: 1m 43s
12:
        learn: 0.3939763
                                  total: 2.81s
                                                   remaining: 1m 45s
```

```
learn: 0.3756233
                                                   remaining: 1m 47s
13:
                                  total: 3.1s
14:
        learn: 0.3579528
                                  total: 3.38s
                                                   remaining: 1m 49s
15:
        learn: 0.3433059
                                  total: 3.68s
                                                   remaining: 1m 51s
        learn: 0.3335326
                                  total: 3.97s
                                                   remaining: 1m 52s
16:
                                                   remaining: 1m 53s
17:
        learn: 0.3310902
                                  total: 4.25s
                                  total: 4.51s
                                                   remaining: 1m 54s
18:
        learn: 0.3222134
19:
        learn: 0.3148999
                                  total: 4.79s
                                                   remaining: 1m 55s
20:
        learn: 0.3074667
                                  total: 5.09s
                                                   remaining: 1m 56s
21:
        learn: 0.3053733
                                  total: 5.36s
                                                   remaining: 1m 56s
22:
        learn: 0.2961543
                                  total: 5.64s
                                                   remaining: 1m 56s
23:
        learn: 0.2885894
                                  total: 5.94s
                                                   remaining: 1m 57s
                                                   remaining: 1m 58s
24:
        learn: 0.2854501
                                  total: 6.21s
25:
        learn: 0.2797896
                                  total: 6.5s
                                                   remaining: 1m 58s
26:
        learn: 0.2787836
                                  total: 6.78s
                                                   remaining: 1m 58s
27:
        learn: 0.2756668
                                  total: 7.08s
                                                   remaining: 1m 59s
        learn: 0.2747514
                                  total: 7.37s
                                                   remaining: 1m 59s
28:
29:
        learn: 0.2703065
                                  total: 7.66s
                                                   remaining: 2m
30:
        learn: 0.2693552
                                  total: 7.93s
                                                   remaining: 2m
        learn: 0.2687636
                                  total: 8.22s
                                                   remaining: 2m
31:
32:
        learn: 0.2683486
                                  total: 8.48s
                                                   remaining: 1m 59s
33:
        learn: 0.2651594
                                  total: 8.79s
                                                   remaining: 2m
34:
        learn: 0.2646752
                                  total: 9.05s
                                                   remaining: 2m
35:
        learn: 0.2633018
                                  total: 9.35s
                                                   remaining: 2m
36:
        learn: 0.2629058
                                  total: 9.61s
                                                   remaining: 2m
37:
        learn: 0.2618526
                                  total: 9.93s
                                                   remaining: 2m
38:
        learn: 0.2611279
                                  total: 10.2s
                                                   remaining: 2m
        learn: 0.2607630
39:
                                  total: 10.5s
                                                   remaining: 2m
40:
        learn: 0.2603806
                                  total: 10.8s
                                                   remaining: 2m
41:
        learn: 0.2601343
                                  total: 11s
                                                   remaining: 2m
42:
        learn: 0.2600175
                                  total: 11.2s
                                                   remaining: 1m 59s
43:
        learn: 0.2598279
                                  total: 11.5s
                                                   remaining: 1m 59s
44:
        learn: 0.2595622
                                  total: 11.7s
                                                   remaining: 1m 58s
45:
        learn: 0.2562517
                                  total: 12s
                                                   remaining: 1m 58s
        learn: 0.2557959
                                  total: 12.3s
                                                   remaining: 1m 58s
46:
                                                   remaining: 1m 58s
47:
        learn: 0.2552691
                                  total: 12.6s
48:
        learn: 0.2550996
                                  total: 12.9s
                                                   remaining: 1m 58s
49:
        learn: 0.2549026
                                  total: 13.2s
                                                   remaining: 1m 58s
50:
        learn: 0.2531229
                                  total: 13.5s
                                                   remaining: 1m 58s
                                                   remaining: 1m 58s
51:
        learn: 0.2529405
                                  total: 13.7s
52:
        learn: 0.2519615
                                  total: 14s
                                                   remaining: 1m 57s
53:
        learn: 0.2514304
                                  total: 14.2s
                                                   remaining: 1m 57s
        learn: 0.2513008
                                                   remaining: 1m 57s
54:
                                  total: 14.5s
55:
        learn: 0.2511603
                                  total: 14.8s
                                                   remaining: 1m 57s
56:
        learn: 0.2510107
                                  total: 15.1s
                                                   remaining: 1m 57s
57:
        learn: 0.2484835
                                  total: 15.4s
                                                   remaining: 1m 57s
58:
        learn: 0.2481481
                                  total: 15.7s
                                                   remaining: 1m 57s
59:
        learn: 0.2459852
                                  total: 15.9s
                                                   remaining: 1m 56s
60:
        learn: 0.2454109
                                  total: 16.2s
                                                   remaining: 1m 56s
```

```
61:
        learn: 0.2452679
                                  total: 16.4s
                                                   remaining: 1m 55s
62:
        learn: 0.2451662
                                  total: 16.7s
                                                   remaining: 1m 55s
63:
        learn: 0.2451067
                                  total: 16.9s
                                                   remaining: 1m 55s
64:
        learn: 0.2450056
                                  total: 17.2s
                                                   remaining: 1m 55s
                                                   remaining: 1m 54s
65:
        learn: 0.2447369
                                  total: 17.5s
                                  total: 17.7s
                                                   remaining: 1m 54s
66:
        learn: 0.2446105
67:
        learn: 0.2445665
                                  total: 17.9s
                                                   remaining: 1m 53s
68:
        learn: 0.2444599
                                  total: 18.2s
                                                   remaining: 1m 53s
69:
        learn: 0.2441859
                                  total: 18.4s
                                                   remaining: 1m 53s
70:
        learn: 0.2440060
                                  total: 18.7s
                                                   remaining: 1m 53s
71:
        learn: 0.2437941
                                  total: 19s
                                                   remaining: 1m 53s
72:
                                                   remaining: 1m 52s
        learn: 0.2436566
                                  total: 19.3s
73:
        learn: 0.2434605
                                  total: 19.6s
                                                   remaining: 1m 52s
74:
        learn: 0.2433531
                                  total: 19.9s
                                                   remaining: 1m 52s
75:
        learn: 0.2429878
                                  total: 20.2s
                                                   remaining: 1m 52s
76:
        learn: 0.2428119
                                  total: 20.5s
                                                   remaining: 1m 52s
77:
        learn: 0.2427038
                                  total: 20.7s
                                                   remaining: 1m 52s
                                  total: 21s
78:
        learn: 0.2426164
                                                   remaining: 1m 51s
79:
        learn: 0.2425557
                                  total: 21.3s
                                                   remaining: 1m 51s
80:
        learn: 0.2424767
                                  total: 21.6s
                                                   remaining: 1m 51s
81:
        learn: 0.2422302
                                  total: 21.8s
                                                   remaining: 1m 51s
                                  total: 22.1s
82:
        learn: 0.2420474
                                                   remaining: 1m 50s
83:
        learn: 0.2419440
                                  total: 22.4s
                                                   remaining: 1m 50s
        learn: 0.2417876
                                  total: 22.7s
                                                   remaining: 1m 50s
84:
85:
        learn: 0.2417489
                                  total: 22.9s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
86:
        learn: 0.2416077
                                  total: 23.3s
87:
        learn: 0.2415851
                                  total: 23.5s
                                                   remaining: 1m 50s
88:
        learn: 0.2413995
                                  total: 23.8s
                                                   remaining: 1m 50s
                                  total: 24.1s
89:
        learn: 0.2412200
                                                   remaining: 1m 49s
90:
        learn: 0.2410291
                                  total: 24.4s
                                                   remaining: 1m 49s
91:
        learn: 0.2395706
                                  total: 24.7s
                                                   remaining: 1m 49s
92:
        learn: 0.2393336
                                  total: 25s
                                                   remaining: 1m 49s
93:
        learn: 0.2391682
                                  total: 25.3s
                                                   remaining: 1m 49s
94:
        learn: 0.2389332
                                  total: 25.6s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
95:
        learn: 0.2388215
                                  total: 25.8s
96:
        learn: 0.2386337
                                  total: 26.1s
                                                   remaining: 1m 48s
97:
        learn: 0.2385358
                                  total: 26.4s
                                                   remaining: 1m 48s
98:
        learn: 0.2385063
                                  total: 26.6s
                                                   remaining: 1m 47s
                                                   remaining: 1m 47s
99:
        learn: 0.2384369
                                  total: 26.9s
100:
        learn: 0.2383375
                                  total: 27.2s
                                                   remaining: 1m 47s
                                  total: 27.4s
101:
        learn: 0.2382386
                                                   remaining: 1m 47s
        learn: 0.2381495
                                  total: 27.7s
                                                   remaining: 1m 46s
102:
103:
        learn: 0.2380916
                                  total: 28s
                                                   remaining: 1m 46s
104:
        learn: 0.2379990
                                  total: 28.3s
                                                   remaining: 1m 46s
105:
        learn: 0.2377779
                                  total: 28.6s
                                                   remaining: 1m 46s
106:
        learn: 0.2376084
                                  total: 28.9s
                                                   remaining: 1m 46s
107:
        learn: 0.2374599
                                  total: 29.1s
                                                   remaining: 1m 45s
108:
        learn: 0.2372884
                                  total: 29.4s
                                                   remaining: 1m 45s
```

```
109:
        learn: 0.2371225
                                  total: 29.6s
                                                   remaining: 1m 45s
110:
        learn: 0.2370557
                                  total: 29.9s
                                                   remaining: 1m 44s
        learn: 0.2369495
                                  total: 30.1s
                                                   remaining: 1m 44s
111:
112:
        learn: 0.2367179
                                  total: 30.4s
                                                   remaining: 1m 44s
                                                   remaining: 1m 43s
113:
        learn: 0.2366678
                                  total: 30.7s
                                                   remaining: 1m 43s
114:
        learn: 0.2365506
                                  total: 31s
115:
        learn: 0.2363843
                                  total: 31.2s
                                                   remaining: 1m 43s
116:
        learn: 0.2363587
                                  total: 31.4s
                                                   remaining: 1m 42s
117:
        learn: 0.2362770
                                  total: 31.7s
                                                   remaining: 1m 42s
118:
        learn: 0.2354763
                                  total: 32s
                                                   remaining: 1m 42s
119:
        learn: 0.2353978
                                  total: 32.2s
                                                   remaining: 1m 41s
                                                   remaining: 1m 41s
120:
        learn: 0.2349390
                                  total: 32.4s
121:
        learn: 0.2348489
                                  total: 32.7s
                                                   remaining: 1m 41s
122:
        learn: 0.2347758
                                  total: 32.9s
                                                   remaining: 1m 40s
123:
        learn: 0.2345444
                                  total: 33.2s
                                                   remaining: 1m 40s
124:
        learn: 0.2344160
                                  total: 33.4s
                                                   remaining: 1m 40s
125:
        learn: 0.2343613
                                  total: 33.7s
                                                   remaining: 1m 39s
126:
        learn: 0.2343289
                                  total: 33.9s
                                                   remaining: 1m 39s
        learn: 0.2342166
                                  total: 34.1s
                                                   remaining: 1m 39s
127:
128:
        learn: 0.2341275
                                  total: 34.4s
                                                   remaining: 1m 38s
                                  total: 34.7s
129:
        learn: 0.2336041
                                                   remaining: 1m 38s
130:
        learn: 0.2335064
                                  total: 35s
                                                   remaining: 1m 38s
131:
        learn: 0.2333920
                                  total: 35.2s
                                                   remaining: 1m 38s
                                                   remaining: 1m 37s
132:
        learn: 0.2333282
                                  total: 35.5s
133:
        learn: 0.2332694
                                  total: 35.8s
                                                   remaining: 1m 37s
134:
        learn: 0.2331669
                                  total: 36.1s
                                                   remaining: 1m 37s
        learn: 0.2330426
                                                   remaining: 1m 37s
135:
                                  total: 36.3s
136:
        learn: 0.2329285
                                  total: 36.6s
                                                   remaining: 1m 36s
137:
        learn: 0.2328720
                                  total: 36.8s
                                                   remaining: 1m 36s
138:
        learn: 0.2327632
                                  total: 37.1s
                                                   remaining: 1m 36s
                                  total: 37.3s
139:
        learn: 0.2326850
                                                   remaining: 1m 35s
140:
        learn: 0.2325562
                                  total: 37.6s
                                                   remaining: 1m 35s
141:
        learn: 0.2323975
                                  total: 37.9s
                                                   remaining: 1m 35s
142:
        learn: 0.2322594
                                  total: 38.2s
                                                   remaining: 1m 35s
                                                   remaining: 1m 35s
143:
        learn: 0.2321342
                                  total: 38.4s
144:
        learn: 0.2320398
                                  total: 38.7s
                                                   remaining: 1m 34s
145:
        learn: 0.2319210
                                  total: 39s
                                                   remaining: 1m 34s
146:
        learn: 0.2318328
                                  total: 39.3s
                                                   remaining: 1m 34s
147:
        learn: 0.2317457
                                  total: 39.6s
                                                   remaining: 1m 34s
148:
        learn: 0.2317025
                                  total: 39.9s
                                                   remaining: 1m 33s
149:
        learn: 0.2316486
                                  total: 40.2s
                                                   remaining: 1m 33s
                                                   remaining: 1m 33s
150:
        learn: 0.2315168
                                  total: 40.4s
151:
        learn: 0.2314403
                                  total: 40.7s
                                                   remaining: 1m 33s
152:
        learn: 0.2313816
                                  total: 41s
                                                   remaining: 1m 32s
153:
        learn: 0.2311349
                                  total: 41.3s
                                                   remaining: 1m 32s
154:
        learn: 0.2310571
                                  total: 41.5s
                                                   remaining: 1m 32s
155:
        learn: 0.2310028
                                  total: 41.8s
                                                   remaining: 1m 32s
156:
        learn: 0.2308971
                                  total: 42.1s
                                                   remaining: 1m 31s
```

```
total: 42.4s
157:
        learn: 0.2307472
                                                   remaining: 1m 31s
158:
        learn: 0.2306092
                                  total: 42.6s
                                                   remaining: 1m 31s
159:
        learn: 0.2305163
                                  total: 42.9s
                                                   remaining: 1m 31s
        learn: 0.2303694
                                  total: 43.2s
                                                   remaining: 1m 30s
160:
                                                   remaining: 1m 30s
161:
        learn: 0.2302930
                                  total: 43.5s
                                                   remaining: 1m 30s
162:
        learn: 0.2302649
                                  total: 43.7s
163:
        learn: 0.2301491
                                  total: 44s
                                                   remaining: 1m 30s
164:
        learn: 0.2301046
                                  total: 44.3s
                                                   remaining: 1m 29s
165:
        learn: 0.2300519
                                  total: 44.6s
                                                   remaining: 1m 29s
166:
        learn: 0.2300386
                                  total: 44.8s
                                                   remaining: 1m 29s
167:
        learn: 0.2299991
                                  total: 45.1s
                                                   remaining: 1m 29s
                                                   remaining: 1m 28s
168:
        learn: 0.2298837
                                  total: 45.3s
        learn: 0.2298524
                                  total: 45.6s
                                                   remaining: 1m 28s
169:
170:
        learn: 0.2298166
                                  total: 45.8s
                                                   remaining: 1m 28s
171:
        learn: 0.2297289
                                  total: 46s
                                                   remaining: 1m 27s
172:
        learn: 0.2296407
                                  total: 46.3s
                                                   remaining: 1m 27s
173:
        learn: 0.2295756
                                  total: 46.6s
                                                   remaining: 1m 27s
174:
        learn: 0.2294303
                                  total: 46.8s
                                                   remaining: 1m 26s
        learn: 0.2293819
                                  total: 47.1s
                                                   remaining: 1m 26s
175:
176:
        learn: 0.2293658
                                  total: 47.4s
                                                   remaining: 1m 26s
177:
        learn: 0.2292409
                                  total: 47.6s
                                                   remaining: 1m 26s
178:
        learn: 0.2289600
                                  total: 47.9s
                                                   remaining: 1m 25s
179:
        learn: 0.2289241
                                  total: 48.2s
                                                   remaining: 1m 25s
                                  total: 48.5s
                                                   remaining: 1m 25s
180:
        learn: 0.2288446
181:
        learn: 0.2287782
                                  total: 48.8s
                                                   remaining: 1m 25s
182:
        learn: 0.2287020
                                  total: 49s
                                                   remaining: 1m 24s
        learn: 0.2286388
                                                   remaining: 1m 24s
183:
                                  total: 49.3s
184:
        learn: 0.2285470
                                  total: 49.5s
                                                   remaining: 1m 24s
185:
        learn: 0.2284043
                                  total: 49.8s
                                                   remaining: 1m 24s
186:
        learn: 0.2283640
                                  total: 50s
                                                   remaining: 1m 23s
        learn: 0.2283104
187:
                                  total: 50.2s
                                                   remaining: 1m 23s
188:
        learn: 0.2281358
                                  total: 50.5s
                                                   remaining: 1m 23s
189:
        learn: 0.2280279
                                  total: 50.8s
                                                   remaining: 1m 22s
190:
        learn: 0.2279245
                                                   remaining: 1m 22s
                                  total: 51.1s
                                                   remaining: 1m 22s
191:
        learn: 0.2278624
                                  total: 51.4s
192:
        learn: 0.2278031
                                  total: 51.6s
                                                   remaining: 1m 22s
193:
        learn: 0.2277053
                                  total: 51.9s
                                                   remaining: 1m 21s
194:
        learn: 0.2276871
                                  total: 52.2s
                                                   remaining: 1m 21s
195:
        learn: 0.2276142
                                  total: 52.4s
                                                   remaining: 1m 21s
196:
        learn: 0.2274413
                                  total: 52.7s
                                                   remaining: 1m 21s
        learn: 0.2273993
                                  total: 53s
197:
                                                   remaining: 1m 20s
        learn: 0.2273449
                                                   remaining: 1m 20s
198:
                                  total: 53.3s
199:
        learn: 0.2272812
                                  total: 53.5s
                                                   remaining: 1m 20s
200:
        learn: 0.2272087
                                  total: 53.8s
                                                   remaining: 1m 20s
201:
        learn: 0.2269814
                                  total: 54.1s
                                                   remaining: 1m 19s
202:
        learn: 0.2269165
                                  total: 54.4s
                                                   remaining: 1m 19s
203:
        learn: 0.2268078
                                  total: 54.6s
                                                   remaining: 1m 19s
204:
        learn: 0.2267463
                                  total: 54.9s
                                                   remaining: 1m 19s
```

```
205:
        learn: 0.2266388
                                  total: 55.2s
                                                   remaining: 1m 18s
                                                   remaining: 1m 18s
206:
        learn: 0.2265725
                                  total: 55.5s
207:
        learn: 0.2265103
                                  total: 55.8s
                                                   remaining: 1m 18s
208:
        learn: 0.2264582
                                                   remaining: 1m 18s
                                  total: 56s
                                                   remaining: 1m 17s
209:
        learn: 0.2264081
                                  total: 56.3s
                                                   remaining: 1m 17s
210:
        learn: 0.2263943
                                  total: 56.6s
211:
        learn: 0.2263410
                                  total: 56.8s
                                                   remaining: 1m 17s
212:
        learn: 0.2262507
                                  total: 57.1s
                                                   remaining: 1m 16s
213:
        learn: 0.2261122
                                  total: 57.4s
                                                   remaining: 1m 16s
214:
        learn: 0.2260345
                                  total: 57.7s
                                                   remaining: 1m 16s
        learn: 0.2259743
215:
                                  total: 57.9s
                                                   remaining: 1m 16s
216:
        learn: 0.2258797
                                  total: 58.2s
                                                   remaining: 1m 15s
217:
        learn: 0.2258412
                                  total: 58.5s
                                                   remaining: 1m 15s
218:
        learn: 0.2257918
                                  total: 58.7s
                                                   remaining: 1m 15s
219:
        learn: 0.2257481
                                  total: 59s
                                                   remaining: 1m 15s
220:
        learn: 0.2256453
                                  total: 59.3s
                                                   remaining: 1m 14s
221:
        learn: 0.2255168
                                  total: 59.6s
                                                   remaining: 1m 14s
222:
        learn: 0.2254699
                                  total: 59.9s
                                                   remaining: 1m 14s
223:
        learn: 0.2254152
                                                   remaining: 1m 14s
                                  total: 1m
224:
        learn: 0.2253635
                                  total: 1m
                                                   remaining: 1m 13s
225:
        learn: 0.2253234
                                  total: 1m
                                                   remaining: 1m 13s
226:
        learn: 0.2252502
                                  total: 1m
                                                   remaining: 1m 13s
227:
        learn: 0.2251922
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
                                                   remaining: 1m 12s
        learn: 0.2250732
                                  total: 1m 1s
229:
        learn: 0.2250108
                                  total: 1m 1s
                                                   remaining: 1m 12s
        learn: 0.2249096
230:
                                  total: 1m 2s
                                                   remaining: 1m 12s
231:
        learn: 0.2247999
                                  total: 1m 2s
                                                   remaining: 1m 11s
232:
        learn: 0.2246988
                                  total: 1m 2s
                                                   remaining: 1m 11s
233:
        learn: 0.2244895
                                  total: 1m 2s
                                                   remaining: 1m 11s
234:
        learn: 0.2244599
                                  total: 1m 2s
                                                   remaining: 1m 11s
235:
        learn: 0.2243810
                                  total: 1m 3s
                                                   remaining: 1m 10s
236:
        learn: 0.2242485
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2241993
                                  total: 1m 3s
                                                   remaining: 1m 10s
238:
        learn: 0.2239773
                                  total: 1m 3s
                                                   remaining: 1m 9s
239:
        learn: 0.2239259
                                  total: 1m 4s
                                                   remaining: 1m 9s
240:
        learn: 0.2238385
                                  total: 1m 4s
                                                   remaining: 1m 9s
241:
        learn: 0.2237716
                                  total: 1m 4s
                                                   remaining: 1m 9s
242:
        learn: 0.2234228
                                  total: 1m 5s
                                                   remaining: 1m 8s
                                  total: 1m 5s
243:
        learn: 0.2232799
                                                   remaining: 1m 8s
244:
        learn: 0.2232423
                                  total: 1m 5s
                                                   remaining: 1m 8s
                                  total: 1m 5s
245:
        learn: 0.2231807
                                                   remaining: 1m 7s
246:
        learn: 0.2229917
                                                   remaining: 1m 7s
                                  total: 1m 6s
247:
        learn: 0.2229392
                                  total: 1m 6s
                                                   remaining: 1m 7s
248:
        learn: 0.2227142
                                  total: 1m 6s
                                                   remaining: 1m 7s
249:
        learn: 0.2226680
                                  total: 1m 6s
                                                   remaining: 1m 6s
250:
        learn: 0.2226508
                                  total: 1m 7s
                                                   remaining: 1m 6s
251:
        learn: 0.2226233
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2225420
                                  total: 1m 7s
                                                   remaining: 1m 6s
```

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253:
        learn: 0.2224989
                                  total: 1m 8s
                                                   remaining: 1m 5s
                                                   remaining: 1m 5s
254:
        learn: 0.2224659
                                  total: 1m 8s
255:
        learn: 0.2224259
                                  total: 1m 8s
                                                   remaining: 1m 5s
256:
        learn: 0.2223633
                                                   remaining: 1m 5s
                                  total: 1m 8s
257:
        learn: 0.2222301
                                  total: 1m 9s
                                                   remaining: 1m 4s
                                  total: 1m 9s
                                                   remaining: 1m 4s
258:
        learn: 0.2221481
259:
        learn: 0.2221206
                                  total: 1m 9s
                                                   remaining: 1m 4s
260:
        learn: 0.2219958
                                  total: 1m 10s
                                                   remaining: 1m 4s
261:
        learn: 0.2219041
                                  total: 1m 10s
                                                   remaining: 1m 3s
262:
        learn: 0.2218754
                                  total: 1m 10s
                                                   remaining: 1m 3s
                                                   remaining: 1m 3s
263:
        learn: 0.2217883
                                  total: 1m 10s
264:
        learn: 0.2217233
                                  total: 1m 11s
                                                   remaining: 1m 3s
265:
        learn: 0.2216107
                                  total: 1m 11s
                                                   remaining: 1m 2s
266:
        learn: 0.2215789
                                  total: 1m 11s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
267:
        learn: 0.2215340
                                  total: 1m 12s
268:
        learn: 0.2214452
                                  total: 1m 12s
                                                   remaining: 1m 2s
269:
        learn: 0.2214064
                                  total: 1m 12s
                                                   remaining: 1m 1s
                                  total: 1m 12s
270:
        learn: 0.2212953
                                                   remaining: 1m 1s
        learn: 0.2212388
                                  total: 1m 13s
                                                   remaining: 1m 1s
271:
272:
        learn: 0.2211801
                                  total: 1m 13s
                                                   remaining: 1m 1s
273:
        learn: 0.2210859
                                  total: 1m 13s
                                                   remaining: 1m
274:
        learn: 0.2209446
                                  total: 1m 14s
                                                   remaining: 1m
275:
        learn: 0.2209089
                                  total: 1m 14s
                                                   remaining: 1m
276:
        learn: 0.2208282
                                  total: 1m 14s
                                                   remaining: 1m
277:
        learn: 0.2207530
                                  total: 1m 14s
                                                   remaining: 59.8s
278:
        learn: 0.2206669
                                  total: 1m 15s
                                                   remaining: 59.5s
279:
        learn: 0.2205921
                                  total: 1m 15s
                                                   remaining: 59.2s
280:
        learn: 0.2205486
                                  total: 1m 15s
                                                   remaining: 59s
281:
        learn: 0.2204954
                                  total: 1m 15s
                                                   remaining: 58.7s
282:
        learn: 0.2204566
                                  total: 1m 16s
                                                   remaining: 58.4s
283:
        learn: 0.2203796
                                  total: 1m 16s
                                                   remaining: 58.2s
284:
        learn: 0.2203375
                                  total: 1m 16s
                                                   remaining: 57.9s
285:
        learn: 0.2202489
                                  total: 1m 17s
                                                   remaining: 57.6s
286:
        learn: 0.2201336
                                  total: 1m 17s
                                                   remaining: 57.3s
287:
        learn: 0.2200994
                                  total: 1m 17s
                                                   remaining: 57.1s
288:
        learn: 0.2200918
                                  total: 1m 17s
                                                   remaining: 56.8s
289:
        learn: 0.2197193
                                  total: 1m 18s
                                                   remaining: 56.5s
290:
        learn: 0.2194652
                                  total: 1m 18s
                                                   remaining: 56.2s
291:
        learn: 0.2193533
                                  total: 1m 18s
                                                   remaining: 55.9s
292:
        learn: 0.2192788
                                  total: 1m 18s
                                                   remaining: 55.6s
293:
        learn: 0.2191752
                                  total: 1m 18s
                                                   remaining: 55.3s
294:
        learn: 0.2191286
                                  total: 1m 19s
                                                   remaining: 55s
295:
        learn: 0.2191145
                                  total: 1m 19s
                                                   remaining: 54.7s
296:
        learn: 0.2190528
                                  total: 1m 19s
                                                   remaining: 54.5s
297:
        learn: 0.2190082
                                  total: 1m 19s
                                                   remaining: 54.2s
298:
        learn: 0.2189298
                                  total: 1m 20s
                                                   remaining: 53.9s
299:
        learn: 0.2188473
                                  total: 1m 20s
                                                   remaining: 53.6s
300:
        learn: 0.2188197
                                  total: 1m 20s
                                                   remaining: 53.3s
```

```
total: 1m 20s
        learn: 0.2186761
301:
                                                   remaining: 53.1s
302:
        learn: 0.2185248
                                  total: 1m 21s
                                                   remaining: 52.8s
303:
        learn: 0.2184858
                                  total: 1m 21s
                                                   remaining: 52.5s
        learn: 0.2184518
                                  total: 1m 21s
                                                   remaining: 52.3s
304:
305:
        learn: 0.2183530
                                  total: 1m 21s
                                                   remaining: 52s
                                  total: 1m 22s
306:
        learn: 0.2183398
                                                   remaining: 51.7s
307:
        learn: 0.2181986
                                  total: 1m 22s
                                                   remaining: 51.4s
308:
        learn: 0.2181552
                                  total: 1m 22s
                                                   remaining: 51.2s
309:
        learn: 0.2180344
                                  total: 1m 23s
                                                   remaining: 50.9s
310:
        learn: 0.2179190
                                  total: 1m 23s
                                                   remaining: 50.7s
311:
        learn: 0.2178755
                                  total: 1m 23s
                                                   remaining: 50.4s
312:
        learn: 0.2177677
                                  total: 1m 23s
                                                   remaining: 50.1s
313:
        learn: 0.2176851
                                  total: 1m 24s
                                                   remaining: 49.9s
314:
        learn: 0.2176552
                                  total: 1m 24s
                                                   remaining: 49.6s
                                                   remaining: 49.3s
315:
        learn: 0.2176296
                                  total: 1m 24s
316:
        learn: 0.2176107
                                  total: 1m 24s
                                                   remaining: 49.1s
317:
        learn: 0.2175135
                                  total: 1m 25s
                                                   remaining: 48.8s
                                  total: 1m 25s
318:
        learn: 0.2174879
                                                   remaining: 48.5s
        learn: 0.2174286
                                  total: 1m 25s
319:
                                                   remaining: 48.3s
320:
        learn: 0.2173778
                                  total: 1m 26s
                                                   remaining: 48s
321:
        learn: 0.2173301
                                  total: 1m 26s
                                                   remaining: 47.7s
                                  total: 1m 26s
322:
        learn: 0.2172988
                                                   remaining: 47.4s
323:
        learn: 0.2172322
                                  total: 1m 26s
                                                   remaining: 47.2s
                                  total: 1m 27s
324:
        learn: 0.2171896
                                                   remaining: 46.9s
325:
        learn: 0.2170954
                                  total: 1m 27s
                                                   remaining: 46.7s
326:
        learn: 0.2170647
                                  total: 1m 27s
                                                   remaining: 46.4s
327:
        learn: 0.2170011
                                  total: 1m 28s
                                                   remaining: 46.2s
328:
        learn: 0.2168898
                                  total: 1m 28s
                                                   remaining: 45.9s
329:
        learn: 0.2168296
                                  total: 1m 28s
                                                   remaining: 45.6s
330:
        learn: 0.2167367
                                  total: 1m 28s
                                                   remaining: 45.3s
331:
        learn: 0.2166556
                                  total: 1m 29s
                                                   remaining: 45.1s
332:
        learn: 0.2165888
                                  total: 1m 29s
                                                   remaining: 44.8s
333:
        learn: 0.2165459
                                  total: 1m 29s
                                                   remaining: 44.6s
334:
        learn: 0.2164399
                                  total: 1m 29s
                                                   remaining: 44.3s
335:
        learn: 0.2163136
                                  total: 1m 30s
                                                   remaining: 44s
336:
        learn: 0.2162661
                                  total: 1m 30s
                                                   remaining: 43.8s
337:
        learn: 0.2161950
                                  total: 1m 30s
                                                   remaining: 43.5s
338:
        learn: 0.2161803
                                  total: 1m 31s
                                                   remaining: 43.2s
                                  total: 1m 31s
339:
        learn: 0.2160490
                                                   remaining: 43s
340:
        learn: 0.2160041
                                  total: 1m 31s
                                                   remaining: 42.7s
341:
        learn: 0.2159508
                                  total: 1m 31s
                                                   remaining: 42.4s
342:
        learn: 0.2158311
                                  total: 1m 32s
                                                   remaining: 42.2s
343:
        learn: 0.2158035
                                  total: 1m 32s
                                                   remaining: 41.9s
344:
        learn: 0.2156824
                                  total: 1m 32s
                                                   remaining: 41.7s
                                                   remaining: 41.4s
345:
        learn: 0.2156454
                                  total: 1m 33s
346:
        learn: 0.2155769
                                  total: 1m 33s
                                                   remaining: 41.1s
347:
        learn: 0.2155275
                                  total: 1m 33s
                                                   remaining: 40.8s
348:
        learn: 0.2154514
                                  total: 1m 33s
                                                   remaining: 40.6s
```

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349:
        learn: 0.2154165
                                  total: 1m 34s
                                                   remaining: 40.3s
                                                  remaining: 40s
350:
        learn: 0.2153771
                                  total: 1m 34s
351:
        learn: 0.2153377
                                  total: 1m 34s
                                                   remaining: 39.7s
352:
        learn: 0.2152357
                                  total: 1m 34s
                                                   remaining: 39.5s
353:
        learn: 0.2151899
                                  total: 1m 35s
                                                   remaining: 39.2s
                                  total: 1m 35s
354:
        learn: 0.2151686
                                                   remaining: 38.9s
355:
        learn: 0.2151142
                                  total: 1m 35s
                                                   remaining: 38.6s
        learn: 0.2150020
                                                   remaining: 38.4s
356:
                                  total: 1m 35s
357:
        learn: 0.2149092
                                  total: 1m 36s
                                                   remaining: 38.1s
358:
        learn: 0.2148795
                                  total: 1m 36s
                                                   remaining: 37.8s
359:
        learn: 0.2148591
                                  total: 1m 36s
                                                   remaining: 37.5s
360:
        learn: 0.2147823
                                  total: 1m 36s
                                                   remaining: 37.2s
361:
        learn: 0.2147121
                                  total: 1m 36s
                                                   remaining: 37s
362:
        learn: 0.2145626
                                  total: 1m 37s
                                                   remaining: 36.7s
                                                   remaining: 36.4s
363:
        learn: 0.2144881
                                  total: 1m 37s
364:
        learn: 0.2144019
                                  total: 1m 37s
                                                   remaining: 36.1s
365:
        learn: 0.2143392
                                  total: 1m 37s
                                                   remaining: 35.9s
                                  total: 1m 38s
366:
        learn: 0.2142907
                                                   remaining: 35.6s
        learn: 0.2142509
367:
                                  total: 1m 38s
                                                   remaining: 35.3s
368:
        learn: 0.2142373
                                  total: 1m 38s
                                                   remaining: 35.1s
369:
        learn: 0.2142030
                                  total: 1m 39s
                                                   remaining: 34.8s
370:
        learn: 0.2141359
                                  total: 1m 39s
                                                   remaining: 34.6s
371:
        learn: 0.2140977
                                  total: 1m 39s
                                                   remaining: 34.3s
372:
        learn: 0.2140380
                                  total: 1m 39s
                                                   remaining: 34s
373:
        learn: 0.2139795
                                  total: 1m 40s
                                                   remaining: 33.7s
374:
        learn: 0.2139333
                                  total: 1m 40s
                                                   remaining: 33.5s
375:
        learn: 0.2139103
                                  total: 1m 40s
                                                   remaining: 33.2s
376:
        learn: 0.2138944
                                  total: 1m 40s
                                                   remaining: 32.9s
377:
        learn: 0.2138065
                                  total: 1m 41s
                                                   remaining: 32.7s
378:
        learn: 0.2137115
                                  total: 1m 41s
                                                   remaining: 32.4s
379:
        learn: 0.2136777
                                  total: 1m 41s
                                                   remaining: 32.2s
380:
        learn: 0.2136415
                                  total: 1m 42s
                                                   remaining: 31.9s
381:
        learn: 0.2136096
                                  total: 1m 42s
                                                   remaining: 31.6s
        learn: 0.2135301
                                  total: 1m 42s
382:
                                                   remaining: 31.4s
383:
        learn: 0.2135042
                                  total: 1m 43s
                                                   remaining: 31.1s
        learn: 0.2134630
384:
                                  total: 1m 43s
                                                   remaining: 30.9s
385:
        learn: 0.2133734
                                  total: 1m 43s
                                                   remaining: 30.6s
386:
        learn: 0.2133188
                                  total: 1m 43s
                                                   remaining: 30.3s
387:
        learn: 0.2132403
                                  total: 1m 44s
                                                   remaining: 30s
388:
        learn: 0.2131278
                                  total: 1m 44s
                                                   remaining: 29.8s
389:
        learn: 0.2130860
                                  total: 1m 44s
                                                   remaining: 29.5s
390:
        learn: 0.2130603
                                  total: 1m 44s
                                                   remaining: 29.3s
391:
        learn: 0.2129101
                                  total: 1m 45s
                                                   remaining: 29s
392:
        learn: 0.2128478
                                  total: 1m 45s
                                                   remaining: 28.7s
                                                   remaining: 28.5s
393:
        learn: 0.2128158
                                  total: 1m 45s
394:
        learn: 0.2127181
                                  total: 1m 46s
                                                   remaining: 28.2s
395:
        learn: 0.2126408
                                  total: 1m 46s
                                                   remaining: 27.9s
396:
        learn: 0.2126320
                                  total: 1m 46s
                                                   remaining: 27.7s
```

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397:
        learn: 0.2125952
                                  total: 1m 46s
                                                   remaining: 27.4s
398:
        learn: 0.2125800
                                  total: 1m 47s
                                                   remaining: 27.1s
399:
        learn: 0.2125340
                                  total: 1m 47s
                                                   remaining: 26.8s
        learn: 0.2125066
                                                   remaining: 26.6s
400:
                                  total: 1m 47s
401:
        learn: 0.2124797
                                  total: 1m 47s
                                                   remaining: 26.3s
                                  total: 1m 48s
402:
        learn: 0.2124108
                                                   remaining: 26s
403:
        learn: 0.2123504
                                  total: 1m 48s
                                                   remaining: 25.8s
        learn: 0.2123148
404:
                                  total: 1m 48s
                                                   remaining: 25.5s
405:
        learn: 0.2122292
                                  total: 1m 49s
                                                   remaining: 25.2s
406:
        learn: 0.2121850
                                  total: 1m 49s
                                                   remaining: 25s
407:
        learn: 0.2121314
                                  total: 1m 49s
                                                   remaining: 24.7s
408:
        learn: 0.2121006
                                  total: 1m 49s
                                                   remaining: 24.4s
        learn: 0.2120807
409:
                                  total: 1m 50s
                                                   remaining: 24.1s
410:
        learn: 0.2120478
                                  total: 1m 50s
                                                   remaining: 23.9s
411:
        learn: 0.2119804
                                  total: 1m 50s
                                                   remaining: 23.6s
412:
        learn: 0.2119299
                                  total: 1m 50s
                                                   remaining: 23.3s
413:
        learn: 0.2118274
                                  total: 1m 50s
                                                   remaining: 23s
                                  total: 1m 51s
414:
        learn: 0.2117383
                                                   remaining: 22.8s
        learn: 0.2116517
                                  total: 1m 51s
415:
                                                   remaining: 22.5s
416:
        learn: 0.2116018
                                  total: 1m 51s
                                                   remaining: 22.2s
                                  total: 1m 51s
417:
        learn: 0.2115715
                                                   remaining: 22s
418:
        learn: 0.2115355
                                  total: 1m 52s
                                                   remaining: 21.7s
                                                  remaining: 21.4s
419:
        learn: 0.2114083
                                  total: 1m 52s
420:
        learn: 0.2113640
                                  total: 1m 52s
                                                   remaining: 21.1s
421:
        learn: 0.2113466
                                  total: 1m 52s
                                                   remaining: 20.9s
422:
        learn: 0.2111973
                                  total: 1m 53s
                                                   remaining: 20.6s
423:
        learn: 0.2111454
                                  total: 1m 53s
                                                   remaining: 20.3s
424:
        learn: 0.2110580
                                  total: 1m 53s
                                                   remaining: 20.1s
425:
        learn: 0.2110111
                                  total: 1m 53s
                                                   remaining: 19.8s
426:
        learn: 0.2109661
                                  total: 1m 54s
                                                   remaining: 19.5s
427:
        learn: 0.2108641
                                  total: 1m 54s
                                                   remaining: 19.2s
428:
        learn: 0.2108194
                                  total: 1m 54s
                                                   remaining: 19s
429:
        learn: 0.2107790
                                  total: 1m 54s
                                                   remaining: 18.7s
430:
        learn: 0.2107559
                                  total: 1m 55s
                                                   remaining: 18.4s
431:
        learn: 0.2107217
                                  total: 1m 55s
                                                   remaining: 18.2s
        learn: 0.2106954
432:
                                  total: 1m 55s
                                                   remaining: 17.9s
433:
        learn: 0.2106372
                                  total: 1m 56s
                                                   remaining: 17.6s
434:
        learn: 0.2105725
                                  total: 1m 56s
                                                   remaining: 17.4s
435:
        learn: 0.2105606
                                  total: 1m 56s
                                                   remaining: 17.1s
436:
        learn: 0.2105098
                                  total: 1m 56s
                                                   remaining: 16.9s
437:
        learn: 0.2104087
                                  total: 1m 57s
                                                   remaining: 16.6s
438:
        learn: 0.2102723
                                  total: 1m 57s
                                                   remaining: 16.3s
439:
        learn: 0.2102101
                                  total: 1m 57s
                                                   remaining: 16s
440:
        learn: 0.2101922
                                  total: 1m 57s
                                                   remaining: 15.8s
                                                   remaining: 15.5s
441:
        learn: 0.2101608
                                  total: 1m 58s
442:
        learn: 0.2101123
                                  total: 1m 58s
                                                   remaining: 15.2s
443:
        learn: 0.2100818
                                  total: 1m 58s
                                                   remaining: 15s
444:
        learn: 0.2100383
                                  total: 1m 59s
                                                   remaining: 14.7s
```

```
445:
        learn: 0.2099993
                                  total: 1m 59s
                                                   remaining: 14.4s
446:
        learn: 0.2099907
                                  total: 1m 59s
                                                   remaining: 14.2s
447:
        learn: 0.2099132
                                  total: 1m 59s
                                                   remaining: 13.9s
448:
        learn: 0.2099003
                                  total: 2m
                                                   remaining: 13.6s
449:
        learn: 0.2098302
                                  total: 2m
                                                   remaining: 13.4s
                                                   remaining: 13.1s
450:
        learn: 0.2097791
                                  total: 2m
451:
        learn: 0.2097624
                                  total: 2m
                                                   remaining: 12.8s
452:
        learn: 0.2096576
                                  total: 2m 1s
                                                   remaining: 12.6s
453:
        learn: 0.2096299
                                  total: 2m 1s
                                                   remaining: 12.3s
454:
        learn: 0.2095558
                                  total: 2m 1s
                                                   remaining: 12s
                                  total: 2m 1s
455:
        learn: 0.2094911
                                                   remaining: 11.8s
456:
        learn: 0.2094361
                                  total: 2m 2s
                                                   remaining: 11.5s
457:
        learn: 0.2094045
                                  total: 2m 2s
                                                   remaining: 11.2s
458:
        learn: 0.2093517
                                  total: 2m 2s
                                                   remaining: 11s
                                                   remaining: 10.7s
459:
        learn: 0.2091958
                                  total: 2m 3s
460:
        learn: 0.2091621
                                  total: 2m 3s
                                                   remaining: 10.4s
461:
        learn: 0.2091235
                                  total: 2m 3s
                                                   remaining: 10.2s
                                  total: 2m 3s
462:
        learn: 0.2089716
                                                   remaining: 9.9s
        learn: 0.2089194
463:
                                  total: 2m 4s
                                                   remaining: 9.63s
464:
        learn: 0.2088182
                                  total: 2m 4s
                                                   remaining: 9.37s
465:
        learn: 0.2087590
                                  total: 2m 4s
                                                   remaining: 9.1s
                                  total: 2m 5s
466:
        learn: 0.2086318
                                                   remaining: 8.84s
467:
        learn: 0.2085793
                                  total: 2m 5s
                                                   remaining: 8.57s
                                  total: 2m 5s
468:
        learn: 0.2085715
                                                   remaining: 8.3s
469:
        learn: 0.2085290
                                  total: 2m 5s
                                                   remaining: 8.03s
                                  total: 2m 6s
470:
        learn: 0.2084715
                                                   remaining: 7.76s
471:
        learn: 0.2083923
                                  total: 2m 6s
                                                   remaining: 7.49s
472:
        learn: 0.2083662
                                  total: 2m 6s
                                                   remaining: 7.22s
473:
        learn: 0.2083318
                                  total: 2m 6s
                                                   remaining: 6.96s
474:
        learn: 0.2082542
                                  total: 2m 7s
                                                   remaining: 6.69s
475:
        learn: 0.2081621
                                  total: 2m 7s
                                                   remaining: 6.42s
476:
        learn: 0.2081036
                                  total: 2m 7s
                                                   remaining: 6.15s
477:
        learn: 0.2080488
                                  total: 2m 7s
                                                   remaining: 5.88s
        learn: 0.2080064
                                  total: 2m 8s
478:
                                                   remaining: 5.61s
479:
        learn: 0.2079259
                                  total: 2m 8s
                                                   remaining: 5.35s
480:
        learn: 0.2079049
                                  total: 2m 8s
                                                   remaining: 5.08s
481:
        learn: 0.2078205
                                  total: 2m 8s
                                                   remaining: 4.81s
482:
        learn: 0.2077829
                                  total: 2m 9s
                                                   remaining: 4.54s
                                  total: 2m 9s
483:
        learn: 0.2076943
                                                   remaining: 4.28s
484:
        learn: 0.2075417
                                  total: 2m 9s
                                                   remaining: 4.01s
                                  total: 2m 9s
485:
        learn: 0.2074232
                                                   remaining: 3.74s
486:
        learn: 0.2073905
                                  total: 2m 10s
                                                   remaining: 3.47s
487:
        learn: 0.2073618
                                  total: 2m 10s
                                                   remaining: 3.21s
488:
        learn: 0.2072828
                                  total: 2m 10s
                                                   remaining: 2.94s
                                                   remaining: 2.67s
489:
        learn: 0.2072171
                                  total: 2m 10s
490:
        learn: 0.2071924
                                  total: 2m 11s
                                                   remaining: 2.4s
491:
        learn: 0.2071276
                                  total: 2m 11s
                                                   remaining: 2.14s
492:
        learn: 0.2070996
                                  total: 2m 11s
                                                   remaining: 1.87s
```

```
493:
        learn: 0.2070331
                                  total: 2m 12s
                                                   remaining: 1.6s
494:
        learn: 0.2069709
                                  total: 2m 12s
                                                   remaining: 1.34s
495:
        learn: 0.2069586
                                  total: 2m 12s
                                                   remaining: 1.07s
        learn: 0.2069345
                                  total: 2m 12s
                                                   remaining: 802ms
496:
                                                   remaining: 535ms
497:
        learn: 0.2068884
                                  total: 2m 13s
                                  total: 2m 13s
                                                   remaining: 267ms
498:
        learn: 0.2068618
499:
        learn: 0.2067634
                                  total: 2m 13s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9705105
                                  total: 290ms
                                                   remaining: 2m 24s
1:
        learn: 0.8868716
                                  total: 568ms
                                                   remaining: 2m 21s
2:
        learn: 0.8295044
                                  total: 874ms
                                                   remaining: 2m 24s
3:
        learn: 0.7863401
                                  total: 1.13s
                                                   remaining: 2m 19s
4:
        learn: 0.7513554
                                  total: 1.32s
                                                   remaining: 2m 10s
5:
        learn: 0.6614958
                                  total: 1.54s
                                                   remaining: 2m 6s
6:
        learn: 0.5813246
                                  total: 1.78s
                                                   remaining: 2m 5s
7:
                                                   remaining: 2m 2s
        learn: 0.5643541
                                  total: 1.99s
8:
        learn: 0.5128848
                                  total: 2.23s
                                                   remaining: 2m 1s
9:
        learn: 0.4736318
                                  total: 2.45s
                                                   remaining: 2m
                                  total: 2.69s
                                                   remaining: 1m 59s
10.
        learn: 0.4427438
11:
        learn: 0.4183673
                                  total: 2.92s
                                                   remaining: 1m 58s
12:
        learn: 0.4003395
                                  total: 3.17s
                                                   remaining: 1m 58s
13:
        learn: 0.3746589
                                  total: 3.37s
                                                   remaining: 1m 57s
14.
        learn: 0.3537617
                                  total: 3.6s
                                                   remaining: 1m 56s
                                  total: 3.88s
                                                   remaining: 1m 57s
15:
        learn: 0.3450358
16:
        learn: 0.3298585
                                  total: 4.19s
                                                   remaining: 1m 59s
17:
        learn: 0.3176510
                                  total: 4.49s
                                                   remaining: 2m
        learn: 0.3087522
                                  total: 4.79s
18:
                                                   remaining: 2m 1s
19:
        learn: 0.3063611
                                  total: 5.05s
                                                   remaining: 2m 1s
20:
        learn: 0.2975399
                                  total: 5.33s
                                                   remaining: 2m 1s
21:
        learn: 0.2940864
                                  total: 5.57s
                                                   remaining: 2m 1s
22:
        learn: 0.2886329
                                  total: 5.85s
                                                   remaining: 2m 1s
23:
        learn: 0.2860652
                                  total: 6.11s
                                                   remaining: 2m 1s
24:
        learn: 0.2833045
                                  total: 6.36s
                                                   remaining: 2m
25:
        learn: 0.2773775
                                  total: 6.61s
                                                   remaining: 2m
                                                   remaining: 2m
26:
        learn: 0.2762265
                                  total: 6.86s
27:
        learn: 0.2742170
                                  total: 7.11s
                                                   remaining: 1m 59s
28:
        learn: 0.2708766
                                  total: 7.37s
                                                   remaining: 1m 59s
29:
        learn: 0.2701600
                                  total: 7.63s
                                                   remaining: 1m 59s
                                  total: 7.89s
30:
        learn: 0.2687489
                                                   remaining: 1m 59s
31:
        learn: 0.2680417
                                  total: 8.18s
                                                   remaining: 1m 59s
32:
        learn: 0.2675826
                                  total: 8.44s
                                                   remaining: 1m 59s
                                                   remaining: 1m 58s
33:
        learn: 0.2652497
                                  total: 8.68s
34:
        learn: 0.2646086
                                  total: 8.94s
                                                   remaining: 1m 58s
35:
        learn: 0.2615740
                                  total: 9.21s
                                                   remaining: 1m 58s
36:
        learn: 0.2612233
                                  total: 9.5s
                                                   remaining: 1m 58s
37:
        learn: 0.2607545
                                  total: 9.79s
                                                   remaining: 1m 59s
38:
        learn: 0.2603856
                                  total: 10.1s
                                                   remaining: 1m 59s
39:
        learn: 0.2558752
                                  total: 10.3s
                                                   remaining: 1m 58s
```

```
40:
        learn: 0.2530393
                                  total: 10.6s
                                                   remaining: 1m 58s
41:
        learn: 0.2510824
                                  total: 10.8s
                                                   remaining: 1m 58s
42:
        learn: 0.2508061
                                  total: 11.1s
                                                   remaining: 1m 57s
        learn: 0.2505678
                                  total: 11.3s
                                                   remaining: 1m 57s
43:
                                                   remaining: 1m 57s
44:
        learn: 0.2503350
                                  total: 11.6s
                                  total: 11.9s
                                                   remaining: 1m 57s
45:
        learn: 0.2500002
46:
        learn: 0.2498210
                                  total: 12.1s
                                                   remaining: 1m 56s
47:
        learn: 0.2496024
                                  total: 12.4s
                                                   remaining: 1m 56s
48:
        learn: 0.2490751
                                  total: 12.7s
                                                   remaining: 1m 57s
49:
        learn: 0.2478000
                                  total: 13s
                                                   remaining: 1m 57s
        learn: 0.2474453
50:
                                  total: 13.3s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
51:
        learn: 0.2469456
                                  total: 13.5s
52:
        learn: 0.2464578
                                  total: 13.8s
                                                   remaining: 1m 56s
53:
        learn: 0.2463453
                                  total: 14.1s
                                                   remaining: 1m 56s
54:
        learn: 0.2461362
                                  total: 14.4s
                                                   remaining: 1m 56s
55:
        learn: 0.2460444
                                                   remaining: 1m 55s
                                  total: 14.6s
56:
        learn: 0.2458954
                                  total: 14.9s
                                                   remaining: 1m 55s
57:
        learn: 0.2457255
                                  total: 15.2s
                                                   remaining: 1m 55s
        learn: 0.2455545
                                  total: 15.5s
                                                   remaining: 1m 55s
58:
59:
        learn: 0.2453360
                                  total: 15.8s
                                                   remaining: 1m 55s
        learn: 0.2448908
60:
                                  total: 16s
                                                   remaining: 1m 55s
                                  total: 16.3s
61:
        learn: 0.2446404
                                                   remaining: 1m 55s
62:
        learn: 0.2444662
                                  total: 16.6s
                                                   remaining: 1m 55s
        learn: 0.2443647
                                  total: 16.9s
                                                   remaining: 1m 54s
63:
64:
        learn: 0.2440952
                                  total: 17.1s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
65:
        learn: 0.2439770
                                  total: 17.4s
        learn: 0.2437596
                                  total: 17.7s
                                                   remaining: 1m 54s
66:
67:
        learn: 0.2434432
                                  total: 18s
                                                   remaining: 1m 54s
68:
        learn: 0.2433921
                                  total: 18.2s
                                                   remaining: 1m 53s
69:
        learn: 0.2414648
                                  total: 18.5s
                                                   remaining: 1m 53s
70:
        learn: 0.2408714
                                  total: 18.8s
                                                   remaining: 1m 53s
71:
        learn: 0.2407282
                                  total: 19.1s
                                                   remaining: 1m 53s
72:
        learn: 0.2406730
                                  total: 19.3s
                                                   remaining: 1m 53s
73:
        learn: 0.2398139
                                  total: 19.6s
                                                   remaining: 1m 52s
74:
                                                   remaining: 1m 52s
        learn: 0.2396173
                                  total: 19.9s
75:
        learn: 0.2391779
                                  total: 20.2s
                                                   remaining: 1m 52s
76:
        learn: 0.2389727
                                  total: 20.5s
                                                   remaining: 1m 52s
77:
        learn: 0.2387685
                                  total: 20.7s
                                                   remaining: 1m 52s
78:
                                  total: 21.1s
                                                   remaining: 1m 52s
        learn: 0.2377106
79:
        learn: 0.2375590
                                  total: 21.4s
                                                   remaining: 1m 52s
80:
        learn: 0.2375512
                                  total: 21.6s
                                                   remaining: 1m 51s
        learn: 0.2373395
                                  total: 21.9s
                                                   remaining: 1m 51s
81:
82:
        learn: 0.2373013
                                  total: 22.2s
                                                   remaining: 1m 51s
83:
        learn: 0.2371973
                                  total: 22.4s
                                                   remaining: 1m 51s
84:
        learn: 0.2370287
                                  total: 22.7s
                                                   remaining: 1m 50s
85:
        learn: 0.2367815
                                  total: 22.9s
                                                   remaining: 1m 50s
86:
        learn: 0.2366651
                                  total: 23.2s
                                                   remaining: 1m 50s
87:
        learn: 0.2364943
                                  total: 23.5s
                                                   remaining: 1m 49s
```

```
learn: 0.2363893
                                  total: 23.7s
                                                   remaining: 1m 49s
88:
89:
        learn: 0.2363284
                                  total: 24s
                                                   remaining: 1m 49s
90:
        learn: 0.2361589
                                  total: 24.3s
                                                   remaining: 1m 49s
91:
        learn: 0.2360415
                                  total: 24.5s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
92:
        learn: 0.2359731
                                  total: 24.8s
                                  total: 25s
                                                   remaining: 1m 47s
93:
        learn: 0.2359197
94:
        learn: 0.2357176
                                  total: 25.3s
                                                   remaining: 1m 47s
95:
        learn: 0.2355007
                                  total: 25.5s
                                                   remaining: 1m 47s
96:
        learn: 0.2351680
                                  total: 25.7s
                                                   remaining: 1m 46s
97:
        learn: 0.2350433
                                  total: 26s
                                                   remaining: 1m 46s
98:
        learn: 0.2349247
                                  total: 26.2s
                                                   remaining: 1m 46s
                                                   remaining: 1m 45s
99:
        learn: 0.2347850
                                  total: 26.5s
100:
        learn: 0.2346862
                                  total: 26.7s
                                                   remaining: 1m 45s
101:
        learn: 0.2345797
                                  total: 26.9s
                                                   remaining: 1m 45s
102:
        learn: 0.2343449
                                  total: 27.2s
                                                   remaining: 1m 44s
        learn: 0.2342085
                                  total: 27.4s
                                                   remaining: 1m 44s
103:
104:
        learn: 0.2339949
                                  total: 27.7s
                                                   remaining: 1m 44s
                                  total: 28s
105:
        learn: 0.2338112
                                                   remaining: 1m 43s
        learn: 0.2337295
                                  total: 28.3s
                                                   remaining: 1m 43s
106:
107:
        learn: 0.2336751
                                  total: 28.5s
                                                   remaining: 1m 43s
108:
        learn: 0.2336620
                                  total: 28.8s
                                                   remaining: 1m 43s
109:
        learn: 0.2334814
                                  total: 29.1s
                                                   remaining: 1m 43s
110:
        learn: 0.2334388
                                  total: 29.4s
                                                   remaining: 1m 42s
                                  total: 29.7s
                                                   remaining: 1m 42s
111:
        learn: 0.2331780
112:
        learn: 0.2329888
                                  total: 30s
                                                   remaining: 1m 42s
113:
        learn: 0.2329447
                                  total: 30.2s
                                                   remaining: 1m 42s
        learn: 0.2327892
                                  total: 30.5s
                                                   remaining: 1m 42s
114:
115:
        learn: 0.2327271
                                  total: 30.8s
                                                   remaining: 1m 41s
        learn: 0.2326796
116:
                                  total: 31.1s
                                                   remaining: 1m 41s
117:
        learn: 0.2325796
                                  total: 31.4s
                                                   remaining: 1m 41s
        learn: 0.2324229
                                  total: 31.6s
118:
                                                   remaining: 1m 41s
119:
        learn: 0.2323929
                                  total: 31.9s
                                                   remaining: 1m 40s
120:
        learn: 0.2323561
                                  total: 32.2s
                                                   remaining: 1m 40s
121:
        learn: 0.2322253
                                  total: 32.4s
                                                   remaining: 1m 40s
                                                   remaining: 1m 40s
122:
        learn: 0.2320841
                                  total: 32.7s
123:
        learn: 0.2308373
                                  total: 33s
                                                   remaining: 1m 39s
124:
        learn: 0.2306694
                                  total: 33.3s
                                                   remaining: 1m 39s
125:
        learn: 0.2305839
                                  total: 33.6s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
126:
        learn: 0.2304271
                                  total: 33.8s
127:
        learn: 0.2303243
                                  total: 34.1s
                                                   remaining: 1m 39s
128:
        learn: 0.2300876
                                  total: 34.4s
                                                   remaining: 1m 39s
129:
        learn: 0.2300017
                                  total: 34.7s
                                                   remaining: 1m 38s
130:
        learn: 0.2296783
                                  total: 35s
                                                   remaining: 1m 38s
131:
        learn: 0.2296120
                                  total: 35.2s
                                                   remaining: 1m 38s
132:
        learn: 0.2293994
                                  total: 35.5s
                                                   remaining: 1m 38s
133:
        learn: 0.2293413
                                  total: 35.8s
                                                   remaining: 1m 37s
134:
        learn: 0.2288610
                                  total: 36.1s
                                                   remaining: 1m 37s
135:
        learn: 0.2287326
                                  total: 36.3s
                                                   remaining: 1m 37s
```

```
learn: 0.2286223
136:
                                  total: 36.6s
                                                   remaining: 1m 36s
137:
        learn: 0.2284837
                                  total: 36.9s
                                                   remaining: 1m 36s
138:
        learn: 0.2283908
                                  total: 37.1s
                                                   remaining: 1m 36s
        learn: 0.2282806
                                  total: 37.4s
                                                   remaining: 1m 36s
139:
                                                   remaining: 1m 35s
140:
        learn: 0.2282416
                                  total: 37.7s
                                                   remaining: 1m 35s
141:
        learn: 0.2279419
                                  total: 38s
142:
        learn: 0.2278529
                                  total: 38.3s
                                                   remaining: 1m 35s
143:
        learn: 0.2278026
                                  total: 38.5s
                                                   remaining: 1m 35s
144:
        learn: 0.2276672
                                  total: 38.7s
                                                   remaining: 1m 34s
145:
        learn: 0.2274438
                                  total: 39s
                                                   remaining: 1m 34s
146:
        learn: 0.2274036
                                  total: 39.2s
                                                   remaining: 1m 34s
                                                   remaining: 1m 33s
147:
        learn: 0.2273436
                                  total: 39.5s
        learn: 0.2272880
                                  total: 39.7s
                                                   remaining: 1m 33s
148:
149:
        learn: 0.2272619
                                  total: 39.9s
                                                   remaining: 1m 33s
150:
        learn: 0.2270839
                                  total: 40.2s
                                                   remaining: 1m 32s
151:
        learn: 0.2269960
                                  total: 40.4s
                                                   remaining: 1m 32s
152:
        learn: 0.2269426
                                  total: 40.7s
                                                   remaining: 1m 32s
153:
        learn: 0.2263586
                                  total: 40.9s
                                                   remaining: 1m 31s
        learn: 0.2262772
                                  total: 41.2s
                                                   remaining: 1m 31s
154:
155:
        learn: 0.2262337
                                  total: 41.4s
                                                   remaining: 1m 31s
156:
        learn: 0.2260874
                                  total: 41.7s
                                                   remaining: 1m 31s
157:
        learn: 0.2257825
                                  total: 41.9s
                                                   remaining: 1m 30s
158:
        learn: 0.2256989
                                  total: 42.2s
                                                   remaining: 1m 30s
                                  total: 42.4s
                                                   remaining: 1m 30s
159:
        learn: 0.2256612
160:
        learn: 0.2255717
                                  total: 42.7s
                                                   remaining: 1m 29s
        learn: 0.2255095
                                  total: 42.9s
                                                   remaining: 1m 29s
161:
                                  total: 43.2s
                                                   remaining: 1m 29s
162:
        learn: 0.2254530
163:
        learn: 0.2253974
                                  total: 43.4s
                                                   remaining: 1m 28s
164:
        learn: 0.2253747
                                  total: 43.7s
                                                   remaining: 1m 28s
165:
        learn: 0.2253076
                                  total: 43.9s
                                                   remaining: 1m 28s
        learn: 0.2252101
166:
                                  total: 44.2s
                                                   remaining: 1m 28s
167:
        learn: 0.2251474
                                  total: 44.5s
                                                   remaining: 1m 27s
168:
        learn: 0.2250892
                                  total: 44.8s
                                                   remaining: 1m 27s
        learn: 0.2250182
                                  total: 45s
                                                   remaining: 1m 27s
169:
170:
        learn: 0.2249610
                                  total: 45.3s
                                                   remaining: 1m 27s
171:
        learn: 0.2248686
                                  total: 45.5s
                                                   remaining: 1m 26s
172:
        learn: 0.2248199
                                  total: 45.8s
                                                   remaining: 1m 26s
173:
        learn: 0.2247002
                                  total: 46.1s
                                                   remaining: 1m 26s
174:
        learn: 0.2246479
                                  total: 46.3s
                                                   remaining: 1m 25s
175:
        learn: 0.2245358
                                  total: 46.6s
                                                   remaining: 1m 25s
        learn: 0.2243989
                                  total: 46.8s
176:
                                                   remaining: 1m 25s
        learn: 0.2243241
                                                   remaining: 1m 25s
177:
                                  total: 47.1s
178:
        learn: 0.2241607
                                  total: 47.4s
                                                   remaining: 1m 24s
179:
        learn: 0.2241023
                                  total: 47.6s
                                                   remaining: 1m 24s
180:
        learn: 0.2240128
                                  total: 47.9s
                                                   remaining: 1m 24s
181:
        learn: 0.2239604
                                  total: 48.2s
                                                   remaining: 1m 24s
182:
        learn: 0.2239225
                                  total: 48.5s
                                                   remaining: 1m 23s
183:
        learn: 0.2238609
                                  total: 48.7s
                                                   remaining: 1m 23s
```

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184:
        learn: 0.2237571
                                  total: 49s
                                                   remaining: 1m 23s
185:
        learn: 0.2236245
                                  total: 49.3s
                                                   remaining: 1m 23s
186:
        learn: 0.2234958
                                  total: 49.5s
                                                   remaining: 1m 22s
        learn: 0.2233162
                                                   remaining: 1m 22s
187:
                                  total: 49.9s
                                                   remaining: 1m 22s
188:
        learn: 0.2232068
                                  total: 50.1s
                                                   remaining: 1m 22s
189:
        learn: 0.2231472
                                  total: 50.4s
190:
        learn: 0.2230676
                                  total: 50.7s
                                                   remaining: 1m 22s
191:
        learn: 0.2229722
                                  total: 51s
                                                   remaining: 1m 21s
192:
        learn: 0.2229106
                                  total: 51.3s
                                                   remaining: 1m 21s
193:
        learn: 0.2228161
                                  total: 51.6s
                                                   remaining: 1m 21s
        learn: 0.2227958
194:
                                  total: 51.8s
                                                   remaining: 1m 21s
                                                   remaining: 1m 20s
195:
        learn: 0.2226840
                                  total: 52.1s
196:
        learn: 0.2225655
                                  total: 52.4s
                                                   remaining: 1m 20s
197:
        learn: 0.2224680
                                  total: 52.6s
                                                   remaining: 1m 20s
198:
        learn: 0.2224654
                                  total: 52.9s
                                                   remaining: 1m 20s
        learn: 0.2224026
199:
                                  total: 53.2s
                                                   remaining: 1m 19s
200:
        learn: 0.2223019
                                  total: 53.5s
                                                   remaining: 1m 19s
                                  total: 53.7s
201:
        learn: 0.2222248
                                                   remaining: 1m 19s
202:
        learn: 0.2221079
                                                   remaining: 1m 19s
                                  total: 54s
203:
        learn: 0.2219681
                                  total: 54.3s
                                                   remaining: 1m 18s
204:
        learn: 0.2218856
                                  total: 54.6s
                                                   remaining: 1m 18s
205:
        learn: 0.2218491
                                  total: 54.9s
                                                   remaining: 1m 18s
206:
        learn: 0.2218343
                                  total: 55.2s
                                                   remaining: 1m 18s
207:
                                                   remaining: 1m 17s
        learn: 0.2216607
                                  total: 55.4s
208:
        learn: 0.2216071
                                  total: 55.7s
                                                   remaining: 1m 17s
209:
        learn: 0.2215557
                                  total: 55.9s
                                                   remaining: 1m 17s
210:
        learn: 0.2208874
                                  total: 56.2s
                                                   remaining: 1m 17s
211:
        learn: 0.2203910
                                  total: 56.5s
                                                   remaining: 1m 16s
                                  total: 56.7s
212:
        learn: 0.2203011
                                                   remaining: 1m 16s
213:
        learn: 0.2202890
                                  total: 57s
                                                   remaining: 1m 16s
214:
        learn: 0.2201850
                                  total: 57.3s
                                                   remaining: 1m 15s
215:
        learn: 0.2200826
                                  total: 57.5s
                                                   remaining: 1m 15s
216:
        learn: 0.2200086
                                  total: 57.7s
                                                   remaining: 1m 15s
217:
        learn: 0.2199469
                                  total: 57.9s
                                                   remaining: 1m 14s
218:
        learn: 0.2199089
                                  total: 58.2s
                                                   remaining: 1m 14s
219:
        learn: 0.2198515
                                  total: 58.3s
                                                   remaining: 1m 14s
220:
        learn: 0.2197840
                                  total: 58.5s
                                                   remaining: 1m 13s
221:
        learn: 0.2196987
                                  total: 58.7s
                                                   remaining: 1m 13s
222:
        learn: 0.2196211
                                  total: 58.9s
                                                   remaining: 1m 13s
223:
        learn: 0.2195198
                                  total: 59.1s
                                                   remaining: 1m 12s
224:
        learn: 0.2194020
                                  total: 59.3s
                                                   remaining: 1m 12s
225:
        learn: 0.2192882
                                                   remaining: 1m 12s
                                  total: 59.6s
226:
        learn: 0.2192109
                                  total: 59.8s
                                                   remaining: 1m 11s
227:
        learn: 0.2190858
                                  total: 60s
                                                   remaining: 1m 11s
228:
        learn: 0.2189924
                                  total: 1m
                                                   remaining: 1m 11s
229:
        learn: 0.2189388
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2189124
                                  total: 1m
                                                   remaining: 1m 10s
231:
        learn: 0.2188621
                                                   remaining: 1m 10s
                                  total: 1m
```

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232:
        learn: 0.2188035
                                  total: 1m 1s
                                                   remaining: 1m 10s
                                                   remaining: 1m 9s
233:
        learn: 0.2187819
                                  total: 1m 1s
234:
        learn: 0.2187534
                                  total: 1m 1s
                                                   remaining: 1m 9s
235:
        learn: 0.2187140
                                                   remaining: 1m 9s
                                  total: 1m 1s
236:
        learn: 0.2186991
                                  total: 1m 2s
                                                   remaining: 1m 9s
237:
                                  total: 1m 2s
                                                   remaining: 1m 8s
        learn: 0.2182658
238:
        learn: 0.2182352
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
        learn: 0.2181731
                                  total: 1m 3s
                                                   remaining: 1m 8s
240:
        learn: 0.2181194
                                  total: 1m 3s
                                                   remaining: 1m 8s
241:
        learn: 0.2180180
                                  total: 1m 3s
                                                   remaining: 1m 7s
242:
        learn: 0.2179369
                                  total: 1m 3s
                                                   remaining: 1m 7s
243:
        learn: 0.2178985
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2178690
                                  total: 1m 4s
                                                   remaining: 1m 7s
245:
        learn: 0.2178242
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2177908
                                  total: 1m 5s
                                                   remaining: 1m 6s
247:
        learn: 0.2177178
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2176789
                                  total: 1m 5s
                                                   remaining: 1m 6s
249:
        learn: 0.2176016
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2175339
                                  total: 1m 6s
                                                   remaining: 1m 5s
251:
        learn: 0.2174865
                                  total: 1m 6s
                                                   remaining: 1m 5s
                                  total: 1m 6s
252:
        learn: 0.2173939
                                                   remaining: 1m 5s
                                  total: 1m 7s
253:
        learn: 0.2173589
                                                   remaining: 1m 4s
254:
        learn: 0.2173144
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
                                  total: 1m 7s
        learn: 0.2172922
                                                   remaining: 1m 4s
256:
        learn: 0.2172099
                                  total: 1m 7s
                                                   remaining: 1m 4s
257:
        learn: 0.2171197
                                  total: 1m 8s
                                                   remaining: 1m 3s
258:
        learn: 0.2170331
                                  total: 1m 8s
                                                   remaining: 1m 3s
259:
        learn: 0.2168890
                                  total: 1m 8s
                                                   remaining: 1m 3s
260:
        learn: 0.2168652
                                  total: 1m 9s
                                                   remaining: 1m 3s
261:
        learn: 0.2168038
                                  total: 1m 9s
                                                   remaining: 1m 2s
262:
        learn: 0.2167511
                                  total: 1m 9s
                                                   remaining: 1m 2s
263:
        learn: 0.2166783
                                  total: 1m 9s
                                                   remaining: 1m 2s
264:
        learn: 0.2166303
                                  total: 1m 10s
                                                   remaining: 1m 2s
265:
        learn: 0.2166299
                                  total: 1m 10s
                                                   remaining: 1m 1s
266:
        learn: 0.2166004
                                  total: 1m 10s
                                                   remaining: 1m 1s
267:
        learn: 0.2165516
                                  total: 1m 10s
                                                   remaining: 1m 1s
268:
        learn: 0.2164170
                                  total: 1m 11s
                                                   remaining: 1m
269:
        learn: 0.2162452
                                  total: 1m 11s
                                                   remaining: 1m
270:
        learn: 0.2161735
                                  total: 1m 11s
                                                   remaining: 1m
271:
        learn: 0.2159653
                                  total: 1m 11s
                                                   remaining: 1m
                                  total: 1m 12s
272:
        learn: 0.2159466
                                                   remaining: 59.9s
273:
        learn: 0.2159121
                                                   remaining: 59.7s
                                  total: 1m 12s
274:
        learn: 0.2158433
                                  total: 1m 12s
                                                   remaining: 59.4s
275:
        learn: 0.2158057
                                  total: 1m 12s
                                                   remaining: 59.1s
276:
        learn: 0.2157326
                                  total: 1m 13s
                                                   remaining: 58.8s
277:
        learn: 0.2157014
                                  total: 1m 13s
                                                   remaining: 58.6s
278:
        learn: 0.2156657
                                  total: 1m 13s
                                                   remaining: 58.3s
279:
        learn: 0.2156045
                                  total: 1m 13s
                                                   remaining: 58s
```

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280:
        learn: 0.2155737
                                  total: 1m 14s
                                                   remaining: 57.8s
281:
        learn: 0.2155351
                                  total: 1m 14s
                                                   remaining: 57.5s
282:
        learn: 0.2154239
                                  total: 1m 14s
                                                   remaining: 57.2s
283:
        learn: 0.2153262
                                  total: 1m 14s
                                                   remaining: 56.9s
284:
        learn: 0.2152557
                                  total: 1m 15s
                                                   remaining: 56.6s
                                  total: 1m 15s
285:
        learn: 0.2152206
                                                   remaining: 56.4s
286:
        learn: 0.2150998
                                  total: 1m 15s
                                                   remaining: 56.1s
        learn: 0.2149906
287:
                                  total: 1m 15s
                                                   remaining: 55.9s
288:
        learn: 0.2149794
                                  total: 1m 16s
                                                   remaining: 55.6s
289:
        learn: 0.2149098
                                  total: 1m 16s
                                                   remaining: 55.4s
290:
        learn: 0.2148812
                                  total: 1m 16s
                                                   remaining: 55.1s
291:
        learn: 0.2148091
                                  total: 1m 17s
                                                   remaining: 54.9s
292:
        learn: 0.2147829
                                  total: 1m 17s
                                                   remaining: 54.6s
293:
        learn: 0.2147042
                                  total: 1m 17s
                                                   remaining: 54.3s
                                                   remaining: 54.1s
294:
        learn: 0.2146195
                                  total: 1m 17s
295:
        learn: 0.2145198
                                  total: 1m 18s
                                                   remaining: 53.8s
296:
        learn: 0.2144627
                                  total: 1m 18s
                                                   remaining: 53.6s
                                  total: 1m 18s
297:
        learn: 0.2142955
                                                   remaining: 53.3s
        learn: 0.2142234
                                                   remaining: 53s
298:
                                  total: 1m 18s
299:
        learn: 0.2141567
                                  total: 1m 19s
                                                   remaining: 52.8s
300:
        learn: 0.2141114
                                  total: 1m 19s
                                                   remaining: 52.5s
301:
        learn: 0.2139661
                                  total: 1m 19s
                                                   remaining: 52.3s
302:
        learn: 0.2139047
                                  total: 1m 19s
                                                   remaining: 52s
303:
        learn: 0.2138271
                                  total: 1m 20s
                                                   remaining: 51.7s
304:
        learn: 0.2137691
                                  total: 1m 20s
                                                   remaining: 51.5s
305:
        learn: 0.2137199
                                  total: 1m 20s
                                                   remaining: 51.2s
306:
        learn: 0.2136775
                                  total: 1m 21s
                                                   remaining: 51s
307:
        learn: 0.2136172
                                  total: 1m 21s
                                                   remaining: 50.7s
308:
        learn: 0.2135917
                                  total: 1m 21s
                                                   remaining: 50.4s
309:
        learn: 0.2135425
                                  total: 1m 21s
                                                   remaining: 50.2s
310:
        learn: 0.2134874
                                  total: 1m 22s
                                                   remaining: 49.9s
311:
        learn: 0.2134604
                                  total: 1m 22s
                                                   remaining: 49.6s
312:
        learn: 0.2133757
                                  total: 1m 22s
                                                   remaining: 49.4s
313:
        learn: 0.2133168
                                  total: 1m 22s
                                                   remaining: 49.2s
314:
        learn: 0.2132636
                                  total: 1m 23s
                                                   remaining: 48.9s
        learn: 0.2131699
                                  total: 1m 23s
315:
                                                   remaining: 48.6s
316:
        learn: 0.2130728
                                  total: 1m 23s
                                                   remaining: 48.4s
317:
        learn: 0.2129801
                                  total: 1m 24s
                                                   remaining: 48.1s
                                  total: 1m 24s
318:
        learn: 0.2129549
                                                   remaining: 47.8s
319:
        learn: 0.2129164
                                  total: 1m 24s
                                                   remaining: 47.6s
320:
        learn: 0.2129019
                                  total: 1m 24s
                                                   remaining: 47.3s
321:
        learn: 0.2128718
                                  total: 1m 25s
                                                   remaining: 47.1s
322:
        learn: 0.2128265
                                  total: 1m 25s
                                                   remaining: 46.8s
323:
        learn: 0.2128188
                                  total: 1m 25s
                                                   remaining: 46.6s
                                                   remaining: 46.3s
324:
        learn: 0.2127510
                                  total: 1m 26s
325:
        learn: 0.2127362
                                  total: 1m 26s
                                                   remaining: 46s
326:
        learn: 0.2126630
                                  total: 1m 26s
                                                   remaining: 45.8s
327:
        learn: 0.2126078
                                  total: 1m 26s
                                                   remaining: 45.5s
```

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328:
        learn: 0.2124895
                                  total: 1m 27s
                                                   remaining: 45.2s
329:
        learn: 0.2123550
                                  total: 1m 27s
                                                   remaining: 44.9s
330:
        learn: 0.2123008
                                  total: 1m 27s
                                                   remaining: 44.7s
        learn: 0.2122559
                                  total: 1m 27s
                                                   remaining: 44.4s
331:
332:
        learn: 0.2122336
                                  total: 1m 27s
                                                   remaining: 44.1s
                                  total: 1m 28s
333:
        learn: 0.2122114
                                                   remaining: 43.8s
334:
        learn: 0.2121984
                                  total: 1m 28s
                                                   remaining: 43.6s
        learn: 0.2121391
                                                   remaining: 43.3s
335:
                                  total: 1m 28s
336:
        learn: 0.2120998
                                  total: 1m 28s
                                                   remaining: 43s
337:
        learn: 0.2120895
                                  total: 1m 29s
                                                   remaining: 42.8s
338:
        learn: 0.2120372
                                  total: 1m 29s
                                                   remaining: 42.5s
339:
        learn: 0.2118826
                                  total: 1m 29s
                                                   remaining: 42.2s
340:
        learn: 0.2117857
                                  total: 1m 29s
                                                   remaining: 42s
341:
        learn: 0.2116567
                                  total: 1m 30s
                                                   remaining: 41.7s
                                                   remaining: 41.5s
342:
        learn: 0.2116022
                                  total: 1m 30s
343:
        learn: 0.2115639
                                  total: 1m 30s
                                                   remaining: 41.2s
344:
        learn: 0.2114878
                                  total: 1m 31s
                                                   remaining: 40.9s
                                  total: 1m 31s
345:
        learn: 0.2114759
                                                   remaining: 40.6s
        learn: 0.2114439
                                  total: 1m 31s
                                                   remaining: 40.4s
346:
347:
        learn: 0.2113865
                                  total: 1m 31s
                                                   remaining: 40.1s
348:
        learn: 0.2113211
                                  total: 1m 32s
                                                   remaining: 39.9s
349:
        learn: 0.2112121
                                  total: 1m 32s
                                                   remaining: 39.6s
350:
        learn: 0.2111853
                                  total: 1m 32s
                                                   remaining: 39.3s
                                  total: 1m 32s
351:
        learn: 0.2111277
                                                   remaining: 39.1s
352:
        learn: 0.2110258
                                  total: 1m 33s
                                                   remaining: 38.8s
                                  total: 1m 33s
                                                   remaining: 38.6s
353:
        learn: 0.2109983
354:
        learn: 0.2109208
                                  total: 1m 33s
                                                   remaining: 38.3s
355:
        learn: 0.2108056
                                  total: 1m 34s
                                                   remaining: 38s
356:
        learn: 0.2107242
                                  total: 1m 34s
                                                   remaining: 37.8s
357:
        learn: 0.2106808
                                  total: 1m 34s
                                                   remaining: 37.5s
358:
        learn: 0.2106311
                                  total: 1m 34s
                                                   remaining: 37.3s
359:
        learn: 0.2105106
                                  total: 1m 35s
                                                   remaining: 37s
360:
        learn: 0.2104897
                                  total: 1m 35s
                                                   remaining: 36.7s
        learn: 0.2104568
                                  total: 1m 35s
361:
                                                   remaining: 36.5s
362:
        learn: 0.2104265
                                  total: 1m 35s
                                                   remaining: 36.2s
        learn: 0.2103692
363:
                                  total: 1m 36s
                                                   remaining: 36s
364:
        learn: 0.2103388
                                  total: 1m 36s
                                                   remaining: 35.7s
365:
        learn: 0.2102876
                                  total: 1m 36s
                                                   remaining: 35.4s
                                  total: 1m 37s
366:
        learn: 0.2102823
                                                   remaining: 35.2s
367:
        learn: 0.2101914
                                  total: 1m 37s
                                                   remaining: 34.9s
        learn: 0.2101327
                                  total: 1m 37s
368:
                                                   remaining: 34.7s
369:
        learn: 0.2100417
                                  total: 1m 37s
                                                   remaining: 34.4s
370:
        learn: 0.2100066
                                  total: 1m 38s
                                                   remaining: 34.1s
371:
        learn: 0.2098517
                                  total: 1m 38s
                                                   remaining: 33.9s
                                                   remaining: 33.6s
372:
        learn: 0.2096762
                                  total: 1m 38s
373:
        learn: 0.2096371
                                  total: 1m 38s
                                                   remaining: 33.3s
374:
        learn: 0.2096096
                                  total: 1m 39s
                                                   remaining: 33.1s
375:
        learn: 0.2095224
                                  total: 1m 39s
                                                   remaining: 32.8s
```

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376:
        learn: 0.2094745
                                  total: 1m 39s
                                                   remaining: 32.5s
377:
        learn: 0.2094017
                                  total: 1m 40s
                                                   remaining: 32.3s
378:
        learn: 0.2089803
                                  total: 1m 40s
                                                   remaining: 32s
        learn: 0.2089225
379:
                                  total: 1m 40s
                                                   remaining: 31.8s
380:
        learn: 0.2088357
                                  total: 1m 40s
                                                   remaining: 31.5s
                                  total: 1m 41s
381:
        learn: 0.2087194
                                                   remaining: 31.2s
382:
        learn: 0.2086580
                                  total: 1m 41s
                                                   remaining: 31s
        learn: 0.2085617
                                                   remaining: 30.7s
383:
                                  total: 1m 41s
384:
        learn: 0.2084801
                                  total: 1m 41s
                                                   remaining: 30.4s
385:
        learn: 0.2084319
                                  total: 1m 42s
                                                   remaining: 30.2s
        learn: 0.2084153
                                  total: 1m 42s
                                                   remaining: 29.9s
386:
387:
        learn: 0.2084060
                                  total: 1m 42s
                                                   remaining: 29.7s
388:
        learn: 0.2083615
                                  total: 1m 43s
                                                   remaining: 29.4s
389:
        learn: 0.2083020
                                  total: 1m 43s
                                                   remaining: 29.1s
390:
        learn: 0.2082550
                                  total: 1m 43s
                                                   remaining: 28.8s
391:
        learn: 0.2081963
                                  total: 1m 43s
                                                   remaining: 28.6s
392:
        learn: 0.2080166
                                  total: 1m 44s
                                                   remaining: 28.3s
                                  total: 1m 44s
393:
        learn: 0.2079668
                                                   remaining: 28.1s
394:
        learn: 0.2079360
                                  total: 1m 44s
                                                   remaining: 27.8s
395:
        learn: 0.2079043
                                  total: 1m 44s
                                                   remaining: 27.5s
396:
        learn: 0.2077886
                                  total: 1m 45s
                                                   remaining: 27.2s
397:
        learn: 0.2076991
                                  total: 1m 45s
                                                   remaining: 27s
398:
        learn: 0.2076508
                                  total: 1m 45s
                                                   remaining: 26.7s
399:
        learn: 0.2075320
                                  total: 1m 45s
                                                   remaining: 26.4s
400:
        learn: 0.2074896
                                  total: 1m 46s
                                                   remaining: 26.2s
        learn: 0.2074566
401:
                                  total: 1m 46s
                                                   remaining: 25.9s
402:
        learn: 0.2073049
                                  total: 1m 46s
                                                   remaining: 25.6s
403:
        learn: 0.2072493
                                  total: 1m 46s
                                                   remaining: 25.4s
404:
        learn: 0.2072181
                                  total: 1m 47s
                                                   remaining: 25.1s
405:
        learn: 0.2071150
                                  total: 1m 47s
                                                   remaining: 24.8s
406:
        learn: 0.2070964
                                  total: 1m 47s
                                                   remaining: 24.6s
407:
        learn: 0.2070428
                                  total: 1m 47s
                                                   remaining: 24.3s
408:
        learn: 0.2070211
                                  total: 1m 48s
                                                   remaining: 24s
409:
        learn: 0.2069305
                                  total: 1m 48s
                                                   remaining: 23.8s
410:
        learn: 0.2069156
                                  total: 1m 48s
                                                   remaining: 23.5s
411:
        learn: 0.2068785
                                  total: 1m 48s
                                                   remaining: 23.2s
412:
        learn: 0.2068564
                                  total: 1m 49s
                                                   remaining: 23s
413:
        learn: 0.2068316
                                  total: 1m 49s
                                                   remaining: 22.7s
414:
        learn: 0.2066658
                                  total: 1m 49s
                                                   remaining: 22.4s
415:
        learn: 0.2066259
                                  total: 1m 49s
                                                   remaining: 22.2s
416:
        learn: 0.2065578
                                  total: 1m 50s
                                                   remaining: 21.9s
417:
        learn: 0.2065122
                                  total: 1m 50s
                                                   remaining: 21.6s
418:
        learn: 0.2064388
                                  total: 1m 50s
                                                   remaining: 21.4s
419:
        learn: 0.2064250
                                  total: 1m 50s
                                                   remaining: 21.1s
                                                   remaining: 20.9s
420:
        learn: 0.2063759
                                  total: 1m 51s
421:
        learn: 0.2063208
                                  total: 1m 51s
                                                   remaining: 20.6s
422:
        learn: 0.2062815
                                  total: 1m 51s
                                                   remaining: 20.3s
423:
        learn: 0.2062316
                                  total: 1m 51s
                                                   remaining: 20.1s
```

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424:
        learn: 0.2061819
                                  total: 1m 52s
                                                   remaining: 19.8s
425:
        learn: 0.2061469
                                  total: 1m 52s
                                                   remaining: 19.5s
426:
        learn: 0.2061012
                                  total: 1m 52s
                                                   remaining: 19.3s
427:
        learn: 0.2060710
                                  total: 1m 52s
                                                   remaining: 19s
428:
        learn: 0.2060139
                                  total: 1m 53s
                                                   remaining: 18.7s
                                  total: 1m 53s
429:
        learn: 0.2060008
                                                   remaining: 18.5s
430:
        learn: 0.2059700
                                  total: 1m 53s
                                                   remaining: 18.2s
        learn: 0.2059124
431:
                                  total: 1m 54s
                                                   remaining: 18s
432:
        learn: 0.2058205
                                  total: 1m 54s
                                                   remaining: 17.7s
433:
        learn: 0.2057407
                                  total: 1m 54s
                                                   remaining: 17.4s
434:
        learn: 0.2056494
                                  total: 1m 54s
                                                   remaining: 17.2s
435:
        learn: 0.2056199
                                  total: 1m 55s
                                                   remaining: 16.9s
436:
        learn: 0.2054785
                                  total: 1m 55s
                                                   remaining: 16.6s
437:
        learn: 0.2053112
                                  total: 1m 55s
                                                   remaining: 16.4s
438:
        learn: 0.2052665
                                  total: 1m 55s
                                                   remaining: 16.1s
439:
        learn: 0.2052177
                                  total: 1m 56s
                                                   remaining: 15.9s
440:
        learn: 0.2051584
                                  total: 1m 56s
                                                   remaining: 15.6s
                                  total: 1m 56s
441:
        learn: 0.2051094
                                                   remaining: 15.3s
442:
        learn: 0.2050655
                                  total: 1m 57s
                                                   remaining: 15.1s
443:
        learn: 0.2050117
                                  total: 1m 57s
                                                   remaining: 14.8s
444:
        learn: 0.2049911
                                  total: 1m 57s
                                                   remaining: 14.5s
445:
        learn: 0.2049056
                                  total: 1m 57s
                                                   remaining: 14.3s
446:
        learn: 0.2048014
                                  total: 1m 58s
                                                   remaining: 14s
447:
        learn: 0.2047209
                                  total: 1m 58s
                                                   remaining: 13.8s
448:
        learn: 0.2046809
                                  total: 1m 58s
                                                   remaining: 13.5s
                                  total: 1m 59s
449:
        learn: 0.2046480
                                                   remaining: 13.2s
450:
        learn: 0.2045859
                                  total: 1m 59s
                                                   remaining: 13s
451:
        learn: 0.2045684
                                  total: 1m 59s
                                                   remaining: 12.7s
452:
        learn: 0.2044835
                                  total: 1m 59s
                                                   remaining: 12.4s
453:
        learn: 0.2044618
                                  total: 2m
                                                   remaining: 12.2s
454:
        learn: 0.2043973
                                  total: 2m
                                                   remaining: 11.9s
455:
        learn: 0.2043213
                                  total: 2m
                                                   remaining: 11.6s
456:
        learn: 0.2042672
                                  total: 2m
                                                   remaining: 11.4s
        learn: 0.2042223
                                  total: 2m 1s
457:
                                                   remaining: 11.1s
458:
        learn: 0.2041858
                                  total: 2m 1s
                                                   remaining: 10.8s
459:
        learn: 0.2041445
                                  total: 2m 1s
                                                   remaining: 10.6s
460:
        learn: 0.2040827
                                  total: 2m 1s
                                                   remaining: 10.3s
461:
        learn: 0.2040412
                                  total: 2m 2s
                                                   remaining: 10s
                                  total: 2m 2s
462:
        learn: 0.2040259
                                                   remaining: 9.77s
463:
        learn: 0.2040086
                                  total: 2m 2s
                                                   remaining: 9.51s
464:
        learn: 0.2039765
                                  total: 2m 2s
                                                   remaining: 9.24s
465:
        learn: 0.2039477
                                  total: 2m 2s
                                                   remaining: 8.97s
        learn: 0.2038659
                                  total: 2m 3s
466:
                                                   remaining: 8.71s
467:
        learn: 0.2038540
                                  total: 2m 3s
                                                   remaining: 8.45s
                                                   remaining: 8.18s
468:
        learn: 0.2038206
                                  total: 2m 3s
469:
        learn: 0.2037455
                                  total: 2m 4s
                                                   remaining: 7.92s
470:
        learn: 0.2037365
                                  total: 2m 4s
                                                   remaining: 7.66s
471:
        learn: 0.2036490
                                  total: 2m 4s
                                                   remaining: 7.39s
```

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472:
        learn: 0.2035202
                                  total: 2m 4s
                                                   remaining: 7.13s
473:
        learn: 0.2034393
                                  total: 2m 5s
                                                   remaining: 6.87s
474:
        learn: 0.2034069
                                  total: 2m 5s
                                                   remaining: 6.6s
475:
        learn: 0.2033733
                                  total: 2m 5s
                                                   remaining: 6.34s
476:
        learn: 0.2032745
                                  total: 2m 6s
                                                   remaining: 6.08s
                                  total: 2m 6s
                                                   remaining: 5.81s
477:
        learn: 0.2032611
478:
        learn: 0.2031315
                                  total: 2m 6s
                                                   remaining: 5.55s
                                                   remaining: 5.29s
479:
        learn: 0.2030792
                                  total: 2m 6s
480:
        learn: 0.2029667
                                  total: 2m 7s
                                                   remaining: 5.02s
481:
        learn: 0.2029191
                                  total: 2m 7s
                                                   remaining: 4.76s
482:
        learn: 0.2028464
                                  total: 2m 7s
                                                   remaining: 4.5s
483:
        learn: 0.2028121
                                  total: 2m 8s
                                                   remaining: 4.23s
484:
        learn: 0.2027518
                                                   remaining: 3.97s
                                  total: 2m 8s
485:
        learn: 0.2027253
                                  total: 2m 8s
                                                   remaining: 3.7s
                                                   remaining: 3.44s
486:
        learn: 0.2026918
                                  total: 2m 8s
        learn: 0.2026360
487:
                                  total: 2m 9s
                                                   remaining: 3.17s
488:
        learn: 0.2025277
                                  total: 2m 9s
                                                   remaining: 2.91s
                                  total: 2m 9s
489:
        learn: 0.2024936
                                                   remaining: 2.65s
        learn: 0.2024639
                                  total: 2m 9s
                                                   remaining: 2.38s
490:
491:
        learn: 0.2024409
                                  total: 2m 10s
                                                   remaining: 2.12s
492:
        learn: 0.2024010
                                  total: 2m 10s
                                                   remaining: 1.85s
                                  total: 2m 10s
493:
        learn: 0.2023218
                                                   remaining: 1.59s
494:
        learn: 0.2022547
                                  total: 2m 11s
                                                   remaining: 1.32s
                                  total: 2m 11s
495:
        learn: 0.2021698
                                                   remaining: 1.06s
496:
        learn: 0.2021021
                                  total: 2m 11s
                                                   remaining: 794ms
497:
        learn: 0.2020647
                                  total: 2m 11s
                                                   remaining: 529ms
498:
        learn: 0.2020544
                                  total: 2m 12s
                                                   remaining: 265ms
499:
        learn: 0.2020102
                                  total: 2m 12s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9715735
                                  total: 286ms
                                                  remaining: 2m 22s
        learn: 0.8882029
1:
                                  total: 552ms
                                                   remaining: 2m 17s
2:
        learn: 0.8310136
                                  total: 821ms
                                                   remaining: 2m 16s
3:
        learn: 0.7862810
                                  total: 1.01s
                                                   remaining: 2m 5s
4:
        learn: 0.7091513
                                  total: 1.21s
                                                   remaining: 1m 59s
5:
        learn: 0.6170511
                                  total: 1.41s
                                                   remaining: 1m 56s
6:
        learn: 0.5966323
                                  total: 1.6s
                                                   remaining: 1m 52s
7:
        learn: 0.5365121
                                  total: 1.81s
                                                   remaining: 1m 51s
8:
        learn: 0.4951500
                                  total: 2.02s
                                                   remaining: 1m 50s
9:
        learn: 0.4608515
                                  total: 2.21s
                                                   remaining: 1m 48s
10:
        learn: 0.4305015
                                  total: 2.4s
                                                   remaining: 1m 46s
        learn: 0.4124719
                                  total: 2.6s
11.
                                                   remaining: 1m 45s
                                                   remaining: 1m 44s
12:
        learn: 0.3924065
                                  total: 2.78s
        learn: 0.3776396
                                  total: 2.97s
                                                   remaining: 1m 43s
13:
14:
        learn: 0.3634650
                                  total: 3.15s
                                                   remaining: 1m 41s
15:
        learn: 0.3519140
                                  total: 3.39s
                                                   remaining: 1m 42s
16:
        learn: 0.3359114
                                  total: 3.66s
                                                   remaining: 1m 43s
17:
        learn: 0.3211985
                                  total: 3.91s
                                                   remaining: 1m 44s
18:
        learn: 0.3104417
                                  total: 4.17s
                                                   remaining: 1m 45s
```

```
19:
        learn: 0.3005192
                                  total: 4.42s
                                                   remaining: 1m 46s
20:
        learn: 0.2978514
                                  total: 4.67s
                                                   remaining: 1m 46s
21:
        learn: 0.2904026
                                  total: 4.91s
                                                   remaining: 1m 46s
22:
        learn: 0.2892103
                                  total: 5.16s
                                                   remaining: 1m 46s
                                                   remaining: 1m 47s
23:
        learn: 0.2831094
                                  total: 5.41s
                                  total: 5.67s
                                                   remaining: 1m 47s
24:
        learn: 0.2811030
25:
        learn: 0.2798990
                                  total: 5.91s
                                                   remaining: 1m 47s
26:
        learn: 0.2751001
                                  total: 6.2s
                                                   remaining: 1m 48s
27:
        learn: 0.2721080
                                  total: 6.51s
                                                   remaining: 1m 49s
28:
        learn: 0.2694556
                                  total: 6.8s
                                                   remaining: 1m 50s
        learn: 0.2686503
29:
                                  total: 7.1s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
30:
        learn: 0.2679921
                                  total: 7.39s
31:
        learn: 0.2627114
                                  total: 7.65s
                                                   remaining: 1m 51s
32:
        learn: 0.2622660
                                  total: 7.95s
                                                   remaining: 1m 52s
33:
        learn: 0.2604819
                                  total: 8.22s
                                                   remaining: 1m 52s
34:
        learn: 0.2596544
                                  total: 8.49s
                                                   remaining: 1m 52s
35:
        learn: 0.2588692
                                  total: 8.78s
                                                   remaining: 1m 53s
36:
        learn: 0.2585634
                                  total: 9.02s
                                                   remaining: 1m 52s
        learn: 0.2550819
                                  total: 9.35s
                                                   remaining: 1m 53s
37:
38:
        learn: 0.2519456
                                  total: 9.65s
                                                   remaining: 1m 54s
39:
        learn: 0.2516739
                                  total: 9.94s
                                                   remaining: 1m 54s
40:
        learn: 0.2506052
                                  total: 10.2s
                                                   remaining: 1m 54s
41:
        learn: 0.2502679
                                  total: 10.5s
                                                   remaining: 1m 54s
        learn: 0.2499651
                                  total: 10.8s
                                                   remaining: 1m 54s
42:
43:
        learn: 0.2493361
                                  total: 11.1s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
44:
        learn: 0.2490098
                                  total: 11.3s
45:
        learn: 0.2486049
                                  total: 11.6s
                                                   remaining: 1m 54s
46:
        learn: 0.2481519
                                  total: 11.9s
                                                   remaining: 1m 54s
47:
                                  total: 12.2s
                                                   remaining: 1m 54s
        learn: 0.2478838
48:
        learn: 0.2465021
                                  total: 12.5s
                                                   remaining: 1m 54s
49:
        learn: 0.2455528
                                  total: 12.7s
                                                   remaining: 1m 54s
50:
        learn: 0.2453342
                                  total: 13s
                                                   remaining: 1m 54s
51:
        learn: 0.2451205
                                  total: 13.3s
                                                   remaining: 1m 54s
52:
        learn: 0.2446764
                                  total: 13.5s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
53:
        learn: 0.2428651
                                  total: 13.8s
54:
        learn: 0.2419923
                                  total: 14.1s
                                                   remaining: 1m 54s
55:
        learn: 0.2418072
                                  total: 14.5s
                                                   remaining: 1m 54s
56:
        learn: 0.2415039
                                  total: 14.8s
                                                   remaining: 1m 54s
        learn: 0.2410273
                                                   remaining: 1m 54s
57:
                                  total: 15.1s
58:
        learn: 0.2406579
                                  total: 15.3s
                                                   remaining: 1m 54s
59:
        learn: 0.2404790
                                  total: 15.6s
                                                   remaining: 1m 54s
        learn: 0.2403117
                                                   remaining: 1m 54s
60:
                                  total: 15.9s
61:
        learn: 0.2402274
                                  total: 16.2s
                                                   remaining: 1m 54s
62:
        learn: 0.2398588
                                  total: 16.4s
                                                   remaining: 1m 54s
63:
        learn: 0.2395273
                                  total: 16.7s
                                                   remaining: 1m 53s
64:
        learn: 0.2393764
                                  total: 17s
                                                   remaining: 1m 53s
65:
        learn: 0.2389981
                                  total: 17.3s
                                                   remaining: 1m 53s
66:
        learn: 0.2388873
                                  total: 17.5s
                                                   remaining: 1m 53s
```

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67:
        learn: 0.2387017
                                  total: 17.8s
                                                   remaining: 1m 52s
68:
        learn: 0.2385010
                                  total: 18s
                                                   remaining: 1m 52s
69:
        learn: 0.2381343
                                  total: 18.3s
                                                   remaining: 1m 52s
70:
        learn: 0.2380210
                                  total: 18.5s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
71:
        learn: 0.2373236
                                  total: 18.8s
72:
                                  total: 19s
                                                   remaining: 1m 51s
        learn: 0.2370921
73:
        learn: 0.2369840
                                  total: 19.3s
                                                   remaining: 1m 51s
74:
        learn: 0.2367666
                                  total: 19.6s
                                                   remaining: 1m 50s
75:
        learn: 0.2365016
                                  total: 19.8s
                                                   remaining: 1m 50s
76:
        learn: 0.2363745
                                  total: 20.1s
                                                   remaining: 1m 50s
                                  total: 20.3s
77:
        learn: 0.2363321
                                                   remaining: 1m 49s
78:
                                                   remaining: 1m 49s
        learn: 0.2361909
                                  total: 20.6s
79:
        learn: 0.2359557
                                  total: 20.8s
                                                   remaining: 1m 49s
80:
        learn: 0.2355358
                                  total: 21.1s
                                                   remaining: 1m 48s
81:
        learn: 0.2349577
                                  total: 21.3s
                                                   remaining: 1m 48s
        learn: 0.2347935
82:
                                  total: 21.6s
                                                   remaining: 1m 48s
83:
        learn: 0.2346438
                                  total: 21.9s
                                                   remaining: 1m 48s
                                  total: 22.1s
84:
        learn: 0.2343023
                                                   remaining: 1m 47s
        learn: 0.2329121
                                  total: 22.4s
                                                   remaining: 1m 47s
85:
86:
        learn: 0.2327164
                                  total: 22.7s
                                                   remaining: 1m 47s
87:
        learn: 0.2324955
                                  total: 23s
                                                   remaining: 1m 47s
                                  total: 23.3s
88:
        learn: 0.2323121
                                                   remaining: 1m 47s
89:
        learn: 0.2322734
                                  total: 23.5s
                                                   remaining: 1m 47s
90:
        learn: 0.2321335
                                  total: 23.8s
                                                   remaining: 1m 46s
91:
        learn: 0.2320289
                                  total: 24s
                                                   remaining: 1m 46s
                                                   remaining: 1m 46s
92:
        learn: 0.2319326
                                  total: 24.3s
93:
        learn: 0.2318728
                                  total: 24.6s
                                                   remaining: 1m 46s
94:
        learn: 0.2317716
                                  total: 24.8s
                                                   remaining: 1m 45s
95:
        learn: 0.2316745
                                  total: 25.1s
                                                   remaining: 1m 45s
96:
        learn: 0.2315126
                                  total: 25.4s
                                                   remaining: 1m 45s
97:
        learn: 0.2314017
                                  total: 25.7s
                                                   remaining: 1m 45s
98:
        learn: 0.2312894
                                  total: 26s
                                                   remaining: 1m 45s
99:
        learn: 0.2312284
                                  total: 26.2s
                                                   remaining: 1m 44s
100:
        learn: 0.2310968
                                  total: 26.5s
                                                   remaining: 1m 44s
                                                   remaining: 1m 44s
101:
        learn: 0.2308139
                                  total: 26.8s
102:
        learn: 0.2307254
                                  total: 27s
                                                   remaining: 1m 44s
103:
        learn: 0.2306700
                                  total: 27.3s
                                                   remaining: 1m 43s
104:
        learn: 0.2305878
                                  total: 27.5s
                                                   remaining: 1m 43s
        learn: 0.2299903
                                  total: 27.8s
                                                   remaining: 1m 43s
105:
106:
        learn: 0.2298918
                                  total: 28.1s
                                                   remaining: 1m 43s
107:
        learn: 0.2298314
                                  total: 28.4s
                                                   remaining: 1m 42s
        learn: 0.2297220
                                  total: 28.6s
                                                   remaining: 1m 42s
108:
109:
        learn: 0.2296630
                                  total: 28.9s
                                                   remaining: 1m 42s
110:
        learn: 0.2295710
                                  total: 29.2s
                                                   remaining: 1m 42s
111:
        learn: 0.2294414
                                  total: 29.5s
                                                   remaining: 1m 42s
112:
        learn: 0.2291312
                                  total: 29.7s
                                                   remaining: 1m 41s
113:
        learn: 0.2289337
                                  total: 30s
                                                   remaining: 1m 41s
114:
        learn: 0.2287365
                                  total: 30.3s
                                                   remaining: 1m 41s
```

```
learn: 0.2286403
                                  total: 30.5s
115:
                                                   remaining: 1m 41s
116:
        learn: 0.2285011
                                  total: 30.8s
                                                   remaining: 1m 40s
117:
        learn: 0.2284413
                                  total: 31.1s
                                                   remaining: 1m 40s
        learn: 0.2283945
                                  total: 31.4s
                                                   remaining: 1m 40s
118:
                                                   remaining: 1m 40s
119:
        learn: 0.2282925
                                  total: 31.7s
                                  total: 32s
                                                   remaining: 1m 40s
120:
        learn: 0.2282179
121:
        learn: 0.2281989
                                  total: 32.2s
                                                   remaining: 1m 39s
122:
        learn: 0.2281239
                                  total: 32.5s
                                                   remaining: 1m 39s
123:
        learn: 0.2280768
                                  total: 32.7s
                                                   remaining: 1m 39s
124:
        learn: 0.2278446
                                  total: 33s
                                                   remaining: 1m 38s
125:
        learn: 0.2277169
                                  total: 33.3s
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
126:
        learn: 0.2276078
                                  total: 33.5s
127:
        learn: 0.2275835
                                  total: 33.7s
                                                   remaining: 1m 38s
128:
        learn: 0.2275217
                                  total: 34s
                                                   remaining: 1m 37s
129:
        learn: 0.2273246
                                  total: 34.2s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
130:
        learn: 0.2272332
                                  total: 34.5s
131:
        learn: 0.2271415
                                  total: 34.7s
                                                   remaining: 1m 36s
132:
        learn: 0.2270208
                                  total: 34.9s
                                                   remaining: 1m 36s
        learn: 0.2269520
                                  total: 35.2s
                                                   remaining: 1m 36s
133:
134:
        learn: 0.2267788
                                  total: 35.4s
                                                   remaining: 1m 35s
                                  total: 35.7s
135:
        learn: 0.2267508
                                                   remaining: 1m 35s
136:
        learn: 0.2266707
                                  total: 36s
                                                   remaining: 1m 35s
137:
        learn: 0.2265383
                                  total: 36.2s
                                                   remaining: 1m 34s
                                                   remaining: 1m 34s
138:
        learn: 0.2264273
                                  total: 36.4s
139:
        learn: 0.2264073
                                  total: 36.7s
                                                   remaining: 1m 34s
140:
        learn: 0.2262668
                                  total: 37s
                                                   remaining: 1m 34s
        learn: 0.2262008
                                                   remaining: 1m 33s
141:
                                  total: 37.2s
142:
        learn: 0.2260754
                                  total: 37.5s
                                                   remaining: 1m 33s
143:
        learn: 0.2258695
                                  total: 37.7s
                                                   remaining: 1m 33s
144:
        learn: 0.2256583
                                  total: 38s
                                                   remaining: 1m 32s
        learn: 0.2256133
                                                   remaining: 1m 32s
145:
                                  total: 38.2s
146:
        learn: 0.2254943
                                  total: 38.5s
                                                   remaining: 1m 32s
147:
        learn: 0.2252821
                                  total: 38.8s
                                                   remaining: 1m 32s
        learn: 0.2251924
                                  total: 39s
                                                   remaining: 1m 31s
148:
                                                   remaining: 1m 31s
149:
        learn: 0.2249524
                                  total: 39.2s
150:
        learn: 0.2248629
                                  total: 39.4s
                                                   remaining: 1m 31s
151:
        learn: 0.2247152
                                  total: 39.6s
                                                   remaining: 1m 30s
152:
        learn: 0.2246337
                                  total: 39.8s
                                                   remaining: 1m 30s
153:
        learn: 0.2244328
                                  total: 40s
                                                   remaining: 1m 29s
154:
        learn: 0.2242830
                                  total: 40.3s
                                                   remaining: 1m 29s
        learn: 0.2242344
                                  total: 40.5s
                                                   remaining: 1m 29s
155:
        learn: 0.2241926
                                                   remaining: 1m 28s
156:
                                  total: 40.7s
157:
        learn: 0.2241358
                                  total: 40.8s
                                                   remaining: 1m 28s
158:
        learn: 0.2240637
                                  total: 41.1s
                                                   remaining: 1m 28s
159:
        learn: 0.2239602
                                  total: 41.3s
                                                   remaining: 1m 27s
160:
        learn: 0.2237830
                                  total: 41.5s
                                                   remaining: 1m 27s
161:
        learn: 0.2237213
                                  total: 41.8s
                                                   remaining: 1m 27s
162:
        learn: 0.2235435
                                  total: 42.1s
                                                   remaining: 1m 26s
```

```
learn: 0.2233899
                                  total: 42.3s
163:
                                                   remaining: 1m 26s
164:
        learn: 0.2233369
                                  total: 42.6s
                                                   remaining: 1m 26s
165:
        learn: 0.2232472
                                  total: 42.9s
                                                   remaining: 1m 26s
        learn: 0.2231417
                                  total: 43.2s
                                                   remaining: 1m 26s
166:
                                                   remaining: 1m 25s
167:
        learn: 0.2230911
                                  total: 43.5s
                                                   remaining: 1m 25s
168:
        learn: 0.2230607
                                  total: 43.7s
169:
        learn: 0.2229879
                                  total: 44s
                                                   remaining: 1m 25s
170:
        learn: 0.2229636
                                  total: 44.3s
                                                   remaining: 1m 25s
171:
        learn: 0.2229495
                                  total: 44.5s
                                                   remaining: 1m 24s
172:
        learn: 0.2229252
                                  total: 44.8s
                                                   remaining: 1m 24s
173:
        learn: 0.2228467
                                  total: 45.1s
                                                   remaining: 1m 24s
                                                   remaining: 1m 24s
174:
        learn: 0.2227479
                                  total: 45.4s
175:
        learn: 0.2226783
                                                   remaining: 1m 24s
                                  total: 45.6s
176:
        learn: 0.2226239
                                  total: 45.9s
                                                   remaining: 1m 23s
177:
        learn: 0.2225725
                                  total: 46.2s
                                                   remaining: 1m 23s
        learn: 0.2225193
178:
                                  total: 46.5s
                                                   remaining: 1m 23s
179:
        learn: 0.2224761
                                  total: 46.8s
                                                   remaining: 1m 23s
                                  total: 47s
180:
        learn: 0.2223428
                                                   remaining: 1m 22s
        learn: 0.2221496
                                                   remaining: 1m 22s
181:
                                  total: 47.3s
182:
        learn: 0.2220838
                                  total: 47.6s
                                                   remaining: 1m 22s
183:
        learn: 0.2220081
                                  total: 47.9s
                                                   remaining: 1m 22s
184:
        learn: 0.2219414
                                  total: 48.2s
                                                   remaining: 1m 22s
185:
        learn: 0.2218792
                                  total: 48.4s
                                                   remaining: 1m 21s
                                  total: 48.7s
                                                   remaining: 1m 21s
186:
        learn: 0.2218541
187:
        learn: 0.2217299
                                  total: 48.9s
                                                   remaining: 1m 21s
188:
        learn: 0.2216448
                                  total: 49.2s
                                                   remaining: 1m 20s
        learn: 0.2215881
                                                   remaining: 1m 20s
189:
                                  total: 49.5s
190:
        learn: 0.2214041
                                  total: 49.7s
                                                   remaining: 1m 20s
191:
        learn: 0.2213442
                                  total: 50s
                                                   remaining: 1m 20s
192:
        learn: 0.2212752
                                  total: 50.3s
                                                   remaining: 1m 19s
        learn: 0.2211861
193:
                                  total: 50.5s
                                                   remaining: 1m 19s
194:
        learn: 0.2211363
                                  total: 50.7s
                                                   remaining: 1m 19s
195:
        learn: 0.2210646
                                  total: 51s
                                                   remaining: 1m 19s
        learn: 0.2210274
                                                   remaining: 1m 18s
196:
                                  total: 51.2s
                                                   remaining: 1m 18s
197:
        learn: 0.2209678
                                  total: 51.4s
        learn: 0.2209447
198:
                                  total: 51.7s
                                                   remaining: 1m 18s
199:
        learn: 0.2207790
                                  total: 51.9s
                                                   remaining: 1m 17s
200:
        learn: 0.2200653
                                  total: 52.2s
                                                   remaining: 1m 17s
201:
        learn: 0.2199052
                                  total: 52.5s
                                                   remaining: 1m 17s
202:
        learn: 0.2197631
                                  total: 52.8s
                                                   remaining: 1m 17s
203:
        learn: 0.2196707
                                  total: 53s
                                                   remaining: 1m 16s
204:
        learn: 0.2196537
                                                   remaining: 1m 16s
                                  total: 53.3s
205:
        learn: 0.2195680
                                  total: 53.5s
                                                   remaining: 1m 16s
206:
        learn: 0.2194999
                                  total: 53.8s
                                                   remaining: 1m 16s
207:
        learn: 0.2194588
                                  total: 54s
                                                   remaining: 1m 15s
208:
        learn: 0.2193748
                                  total: 54.3s
                                                   remaining: 1m 15s
209:
        learn: 0.2191133
                                  total: 54.6s
                                                   remaining: 1m 15s
210:
        learn: 0.2190629
                                  total: 54.9s
                                                   remaining: 1m 15s
```

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211:
        learn: 0.2189975
                                  total: 55.1s
                                                   remaining: 1m 14s
212:
        learn: 0.2187845
                                  total: 55.5s
                                                   remaining: 1m 14s
                                  total: 55.7s
213:
        learn: 0.2185955
                                                   remaining: 1m 14s
214:
        learn: 0.2185763
                                                   remaining: 1m 14s
                                  total: 56s
215:
        learn: 0.2184570
                                  total: 56.3s
                                                   remaining: 1m 13s
                                  total: 56.5s
                                                   remaining: 1m 13s
216:
        learn: 0.2184251
217:
        learn: 0.2183301
                                  total: 56.8s
                                                   remaining: 1m 13s
218:
        learn: 0.2182832
                                  total: 57.1s
                                                   remaining: 1m 13s
219:
        learn: 0.2182246
                                  total: 57.3s
                                                   remaining: 1m 12s
220:
        learn: 0.2181768
                                  total: 57.5s
                                                   remaining: 1m 12s
221:
        learn: 0.2180938
                                  total: 57.8s
                                                   remaining: 1m 12s
222:
        learn: 0.2179943
                                  total: 58.1s
                                                   remaining: 1m 12s
223:
        learn: 0.2179169
                                  total: 58.4s
                                                   remaining: 1m 11s
224:
        learn: 0.2178583
                                  total: 58.6s
                                                   remaining: 1m 11s
225:
        learn: 0.2178186
                                  total: 58.9s
                                                   remaining: 1m 11s
        learn: 0.2177215
226:
                                  total: 59.2s
                                                   remaining: 1m 11s
227:
        learn: 0.2176538
                                  total: 59.5s
                                                   remaining: 1m 10s
228:
        learn: 0.2176152
                                  total: 59.8s
                                                   remaining: 1m 10s
229:
        learn: 0.2174291
                                  total: 1m
                                                   remaining: 1m 10s
230:
        learn: 0.2171527
                                  total: 1m
                                                   remaining: 1m 10s
231:
        learn: 0.2171048
                                  total: 1m
                                                   remaining: 1m 10s
232:
        learn: 0.2170977
                                  total: 1m
                                                   remaining: 1m 9s
233:
        learn: 0.2168381
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2167720
                                  total: 1m 1s
                                                   remaining: 1m 9s
235:
        learn: 0.2166683
                                  total: 1m 1s
                                                   remaining: 1m 9s
236:
        learn: 0.2165765
                                  total: 1m 2s
                                                   remaining: 1m 8s
237:
        learn: 0.2165171
                                                   remaining: 1m 8s
                                  total: 1m 2s
238:
        learn: 0.2164725
                                  total: 1m 2s
                                                   remaining: 1m 8s
239:
        learn: 0.2163390
                                  total: 1m 2s
                                                   remaining: 1m 8s
240:
        learn: 0.2162838
                                  total: 1m 3s
                                                   remaining: 1m 7s
241:
        learn: 0.2162256
                                  total: 1m 3s
                                                   remaining: 1m 7s
242:
        learn: 0.2161693
                                  total: 1m 3s
                                                   remaining: 1m 7s
243:
        learn: 0.2160464
                                  total: 1m 3s
                                                   remaining: 1m 7s
244:
        learn: 0.2159721
                                  total: 1m 4s
                                                   remaining: 1m 6s
                                                   remaining: 1m 6s
245:
        learn: 0.2158312
                                  total: 1m 4s
                                  total: 1m 4s
246:
        learn: 0.2157475
                                                   remaining: 1m 6s
247:
        learn: 0.2157314
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2157218
                                  total: 1m 5s
                                                   remaining: 1m 5s
        learn: 0.2155697
                                  total: 1m 5s
249:
                                                   remaining: 1m 5s
250:
        learn: 0.2154640
                                  total: 1m 5s
                                                   remaining: 1m 5s
251:
        learn: 0.2154192
                                  total: 1m 6s
                                                   remaining: 1m 4s
252:
        learn: 0.2153727
                                                   remaining: 1m 4s
                                  total: 1m 6s
253:
        learn: 0.2152767
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2152175
                                  total: 1m 6s
                                                   remaining: 1m 4s
255:
        learn: 0.2151886
                                  total: 1m 6s
                                                   remaining: 1m 3s
256:
        learn: 0.2151725
                                  total: 1m 7s
                                                   remaining: 1m 3s
257:
        learn: 0.2151646
                                  total: 1m 7s
                                                   remaining: 1m 3s
258:
        learn: 0.2151062
                                  total: 1m 7s
                                                   remaining: 1m 2s
```

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259:
        learn: 0.2150761
                                  total: 1m 7s
                                                   remaining: 1m 2s
                                                   remaining: 1m 2s
260:
        learn: 0.2150050
                                  total: 1m 8s
261:
        learn: 0.2149564
                                  total: 1m 8s
                                                   remaining: 1m 2s
262:
        learn: 0.2149124
                                                   remaining: 1m 1s
                                  total: 1m 8s
263:
        learn: 0.2148312
                                  total: 1m 8s
                                                   remaining: 1m 1s
                                  total: 1m 9s
                                                   remaining: 1m 1s
264:
        learn: 0.2147580
265:
        learn: 0.2147255
                                  total: 1m 9s
                                                   remaining: 1m
                                                   remaining: 1m
266:
        learn: 0.2146656
                                  total: 1m 9s
267:
        learn: 0.2146346
                                  total: 1m 9s
                                                   remaining: 1m
268:
        learn: 0.2145649
                                  total: 1m 9s
                                                   remaining: 1m
269:
        learn: 0.2145165
                                  total: 1m 10s
                                                   remaining: 59.7s
270:
        learn: 0.2144637
                                  total: 1m 10s
                                                   remaining: 59.4s
271:
        learn: 0.2144104
                                  total: 1m 10s
                                                   remaining: 59.1s
272:
        learn: 0.2143561
                                  total: 1m 10s
                                                   remaining: 58.8s
                                                   remaining: 58.5s
273:
        learn: 0.2143265
                                  total: 1m 10s
274:
        learn: 0.2142270
                                  total: 1m 11s
                                                   remaining: 58.2s
275:
        learn: 0.2142093
                                  total: 1m 11s
                                                   remaining: 57.9s
                                  total: 1m 11s
276:
        learn: 0.2141493
                                                   remaining: 57.6s
        learn: 0.2140730
                                  total: 1m 11s
277:
                                                   remaining: 57.4s
278:
        learn: 0.2140438
                                  total: 1m 12s
                                                   remaining: 57.1s
279:
        learn: 0.2139482
                                  total: 1m 12s
                                                   remaining: 56.9s
280:
        learn: 0.2138321
                                  total: 1m 12s
                                                   remaining: 56.6s
281:
        learn: 0.2137604
                                  total: 1m 12s
                                                   remaining: 56.4s
282:
        learn: 0.2137073
                                  total: 1m 13s
                                                   remaining: 56.1s
283:
        learn: 0.2136650
                                  total: 1m 13s
                                                   remaining: 55.9s
284:
        learn: 0.2135753
                                  total: 1m 13s
                                                   remaining: 55.6s
        learn: 0.2135095
285:
                                  total: 1m 14s
                                                   remaining: 55.4s
286:
        learn: 0.2134860
                                  total: 1m 14s
                                                   remaining: 55.1s
287:
        learn: 0.2134474
                                  total: 1m 14s
                                                   remaining: 54.9s
288:
        learn: 0.2133333
                                  total: 1m 14s
                                                   remaining: 54.7s
289:
        learn: 0.2132712
                                  total: 1m 15s
                                                   remaining: 54.4s
290:
        learn: 0.2132577
                                  total: 1m 15s
                                                   remaining: 54.1s
291:
        learn: 0.2131935
                                  total: 1m 15s
                                                   remaining: 53.9s
292:
        learn: 0.2131112
                                  total: 1m 15s
                                                   remaining: 53.6s
293:
        learn: 0.2130536
                                  total: 1m 16s
                                                   remaining: 53.4s
294:
        learn: 0.2130217
                                  total: 1m 16s
                                                   remaining: 53.2s
295:
        learn: 0.2129766
                                  total: 1m 16s
                                                   remaining: 52.9s
296:
        learn: 0.2129022
                                  total: 1m 17s
                                                   remaining: 52.7s
297:
        learn: 0.2128264
                                  total: 1m 17s
                                                   remaining: 52.4s
298:
        learn: 0.2127308
                                  total: 1m 17s
                                                   remaining: 52.2s
299:
        learn: 0.2126931
                                  total: 1m 17s
                                                   remaining: 51.9s
300:
        learn: 0.2126585
                                  total: 1m 18s
                                                   remaining: 51.7s
301:
        learn: 0.2126287
                                  total: 1m 18s
                                                   remaining: 51.4s
302:
        learn: 0.2125391
                                  total: 1m 18s
                                                   remaining: 51.2s
303:
        learn: 0.2124787
                                  total: 1m 18s
                                                   remaining: 50.9s
304:
        learn: 0.2124274
                                  total: 1m 19s
                                                   remaining: 50.7s
305:
        learn: 0.2123878
                                  total: 1m 19s
                                                   remaining: 50.4s
306:
        learn: 0.2123497
                                  total: 1m 19s
                                                   remaining: 50.2s
```

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307:
        learn: 0.2122118
                                  total: 1m 20s
                                                   remaining: 49.9s
308:
        learn: 0.2121270
                                  total: 1m 20s
                                                   remaining: 49.7s
309:
        learn: 0.2120189
                                  total: 1m 20s
                                                   remaining: 49.4s
310:
        learn: 0.2119943
                                  total: 1m 20s
                                                   remaining: 49.1s
311:
        learn: 0.2118927
                                  total: 1m 21s
                                                   remaining: 48.9s
                                  total: 1m 21s
312:
        learn: 0.2118698
                                                   remaining: 48.6s
313:
        learn: 0.2117730
                                  total: 1m 21s
                                                   remaining: 48.4s
        learn: 0.2117310
                                                   remaining: 48.1s
314:
                                  total: 1m 21s
315:
        learn: 0.2117267
                                  total: 1m 22s
                                                   remaining: 47.8s
316:
        learn: 0.2116609
                                  total: 1m 22s
                                                   remaining: 47.5s
317:
        learn: 0.2116467
                                  total: 1m 22s
                                                   remaining: 47.3s
318:
        learn: 0.2115770
                                  total: 1m 22s
                                                   remaining: 47s
319:
        learn: 0.2115084
                                  total: 1m 23s
                                                   remaining: 46.8s
320:
        learn: 0.2113572
                                  total: 1m 23s
                                                   remaining: 46.5s
                                                   remaining: 46.2s
321:
        learn: 0.2113035
                                  total: 1m 23s
322:
        learn: 0.2112366
                                  total: 1m 23s
                                                   remaining: 45.9s
323:
        learn: 0.2111779
                                  total: 1m 24s
                                                   remaining: 45.7s
                                  total: 1m 24s
324:
        learn: 0.2111172
                                                   remaining: 45.4s
        learn: 0.2110561
                                  total: 1m 24s
325:
                                                   remaining: 45.1s
326:
        learn: 0.2109799
                                  total: 1m 24s
                                                   remaining: 44.9s
327:
        learn: 0.2109128
                                  total: 1m 25s
                                                   remaining: 44.6s
                                  total: 1m 25s
328:
        learn: 0.2108548
                                                   remaining: 44.3s
329:
        learn: 0.2108040
                                  total: 1m 25s
                                                   remaining: 44.1s
330:
                                  total: 1m 25s
        learn: 0.2107137
                                                   remaining: 43.8s
331:
        learn: 0.2106205
                                  total: 1m 26s
                                                   remaining: 43.5s
332:
        learn: 0.2106138
                                  total: 1m 26s
                                                   remaining: 43.3s
333:
        learn: 0.2105991
                                  total: 1m 26s
                                                   remaining: 43s
334:
        learn: 0.2104932
                                  total: 1m 26s
                                                   remaining: 42.8s
335:
        learn: 0.2104422
                                  total: 1m 27s
                                                   remaining: 42.5s
336:
        learn: 0.2103877
                                  total: 1m 27s
                                                   remaining: 42.3s
337:
        learn: 0.2103345
                                  total: 1m 27s
                                                   remaining: 42s
338:
        learn: 0.2102281
                                  total: 1m 27s
                                                   remaining: 41.7s
339:
        learn: 0.2102009
                                  total: 1m 28s
                                                   remaining: 41.5s
340:
        learn: 0.2101911
                                  total: 1m 28s
                                                   remaining: 41.2s
341:
        learn: 0.2101212
                                  total: 1m 28s
                                                   remaining: 41s
        learn: 0.2100955
                                  total: 1m 28s
342:
                                                   remaining: 40.7s
343:
        learn: 0.2098809
                                  total: 1m 29s
                                                   remaining: 40.5s
344:
        learn: 0.2098266
                                  total: 1m 29s
                                                   remaining: 40.2s
                                  total: 1m 29s
345:
        learn: 0.2098150
                                                   remaining: 40s
346:
        learn: 0.2097829
                                  total: 1m 30s
                                                   remaining: 39.7s
347:
        learn: 0.2097345
                                  total: 1m 30s
                                                   remaining: 39.4s
348:
        learn: 0.2097264
                                  total: 1m 30s
                                                   remaining: 39.2s
349:
        learn: 0.2097049
                                  total: 1m 30s
                                                   remaining: 38.9s
350:
        learn: 0.2096300
                                  total: 1m 31s
                                                   remaining: 38.7s
                                                   remaining: 38.4s
351:
        learn: 0.2095756
                                  total: 1m 31s
352:
        learn: 0.2094339
                                  total: 1m 31s
                                                   remaining: 38.1s
353:
        learn: 0.2093822
                                  total: 1m 31s
                                                   remaining: 37.9s
354:
        learn: 0.2092764
                                  total: 1m 32s
                                                   remaining: 37.6s
```

```
learn: 0.2091729
355:
                                  total: 1m 32s
                                                   remaining: 37.4s
356:
        learn: 0.2091452
                                  total: 1m 32s
                                                   remaining: 37.1s
357:
        learn: 0.2091202
                                  total: 1m 33s
                                                   remaining: 36.9s
        learn: 0.2090580
                                                   remaining: 36.6s
358:
                                  total: 1m 33s
359:
        learn: 0.2089604
                                  total: 1m 33s
                                                   remaining: 36.4s
                                  total: 1m 33s
360:
        learn: 0.2089094
                                                   remaining: 36.1s
361:
        learn: 0.2088214
                                  total: 1m 34s
                                                   remaining: 35.9s
362:
        learn: 0.2087532
                                  total: 1m 34s
                                                   remaining: 35.6s
363:
        learn: 0.2086812
                                  total: 1m 34s
                                                   remaining: 35.4s
364:
        learn: 0.2085894
                                  total: 1m 34s
                                                   remaining: 35.1s
365:
        learn: 0.2085594
                                  total: 1m 35s
                                                   remaining: 34.8s
366:
        learn: 0.2084995
                                  total: 1m 35s
                                                   remaining: 34.6s
367:
        learn: 0.2084820
                                  total: 1m 35s
                                                   remaining: 34.3s
368:
        learn: 0.2084422
                                  total: 1m 35s
                                                   remaining: 34.1s
                                                   remaining: 33.8s
369:
        learn: 0.2083462
                                  total: 1m 36s
370:
        learn: 0.2083271
                                  total: 1m 36s
                                                   remaining: 33.6s
371:
        learn: 0.2082459
                                  total: 1m 36s
                                                   remaining: 33.3s
                                  total: 1m 36s
372:
        learn: 0.2081755
                                                   remaining: 33s
        learn: 0.2081239
                                                   remaining: 32.8s
373:
                                  total: 1m 37s
374:
        learn: 0.2080585
                                  total: 1m 37s
                                                   remaining: 32.5s
375:
        learn: 0.2080130
                                  total: 1m 37s
                                                   remaining: 32.2s
376:
        learn: 0.2079828
                                  total: 1m 37s
                                                   remaining: 32s
                                                  remaining: 31.7s
377:
        learn: 0.2078824
                                  total: 1m 38s
378:
        learn: 0.2078622
                                  total: 1m 38s
                                                   remaining: 31.4s
379:
        learn: 0.2077481
                                  total: 1m 38s
                                                   remaining: 31.2s
                                  total: 1m 38s
380:
        learn: 0.2076928
                                                   remaining: 30.9s
381:
        learn: 0.2076789
                                  total: 1m 39s
                                                   remaining: 30.6s
382:
        learn: 0.2075916
                                  total: 1m 39s
                                                   remaining: 30.4s
383:
        learn: 0.2075262
                                  total: 1m 39s
                                                   remaining: 30.1s
384:
        learn: 0.2074694
                                  total: 1m 40s
                                                   remaining: 29.9s
385:
        learn: 0.2074462
                                  total: 1m 40s
                                                   remaining: 29.6s
386:
        learn: 0.2074164
                                  total: 1m 40s
                                                   remaining: 29.3s
387:
        learn: 0.2073535
                                  total: 1m 40s
                                                   remaining: 29.1s
        learn: 0.2073150
                                  total: 1m 40s
                                                   remaining: 28.8s
388:
389:
        learn: 0.2072314
                                  total: 1m 41s
                                                   remaining: 28.6s
        learn: 0.2071444
390:
                                  total: 1m 41s
                                                   remaining: 28.3s
391:
        learn: 0.2071212
                                  total: 1m 41s
                                                   remaining: 28s
392:
        learn: 0.2070878
                                  total: 1m 41s
                                                   remaining: 27.8s
393:
        learn: 0.2069727
                                  total: 1m 42s
                                                   remaining: 27.5s
394:
        learn: 0.2069351
                                  total: 1m 42s
                                                   remaining: 27.2s
        learn: 0.2068189
395:
                                  total: 1m 42s
                                                   remaining: 27s
396:
        learn: 0.2067337
                                  total: 1m 43s
                                                   remaining: 26.7s
397:
        learn: 0.2066792
                                  total: 1m 43s
                                                   remaining: 26.5s
398:
        learn: 0.2066314
                                  total: 1m 43s
                                                   remaining: 26.2s
399:
        learn: 0.2066060
                                  total: 1m 43s
                                                   remaining: 26s
400:
        learn: 0.2065897
                                  total: 1m 44s
                                                   remaining: 25.7s
401:
        learn: 0.2065676
                                  total: 1m 44s
                                                   remaining: 25.4s
402:
        learn: 0.2065240
                                  total: 1m 44s
                                                   remaining: 25.2s
```

```
403:
        learn: 0.2064803
                                  total: 1m 44s
                                                   remaining: 24.9s
404:
        learn: 0.2063821
                                  total: 1m 45s
                                                   remaining: 24.7s
405:
        learn: 0.2062776
                                  total: 1m 45s
                                                   remaining: 24.5s
        learn: 0.2062553
                                                   remaining: 24.2s
406:
                                  total: 1m 45s
407:
        learn: 0.2061379
                                  total: 1m 46s
                                                   remaining: 23.9s
                                  total: 1m 46s
408:
        learn: 0.2061221
                                                   remaining: 23.7s
409:
        learn: 0.2059974
                                  total: 1m 46s
                                                   remaining: 23.4s
        learn: 0.2059329
410:
                                  total: 1m 46s
                                                   remaining: 23.2s
411:
        learn: 0.2058356
                                  total: 1m 47s
                                                   remaining: 22.9s
412:
        learn: 0.2057687
                                  total: 1m 47s
                                                   remaining: 22.6s
413:
        learn: 0.2057107
                                  total: 1m 47s
                                                   remaining: 22.4s
414:
        learn: 0.2055887
                                  total: 1m 48s
                                                   remaining: 22.1s
415:
        learn: 0.2055722
                                  total: 1m 48s
                                                   remaining: 21.9s
416:
        learn: 0.2055380
                                  total: 1m 48s
                                                   remaining: 21.6s
417:
        learn: 0.2054442
                                  total: 1m 48s
                                                   remaining: 21.4s
418:
        learn: 0.2054007
                                  total: 1m 49s
                                                   remaining: 21.1s
419:
        learn: 0.2053631
                                  total: 1m 49s
                                                   remaining: 20.8s
                                  total: 1m 49s
420:
        learn: 0.2053276
                                                   remaining: 20.6s
        learn: 0.2053054
421:
                                  total: 1m 49s
                                                   remaining: 20.3s
422:
        learn: 0.2051906
                                  total: 1m 50s
                                                   remaining: 20.1s
423:
        learn: 0.2051458
                                  total: 1m 50s
                                                   remaining: 19.8s
424:
        learn: 0.2050182
                                  total: 1m 50s
                                                   remaining: 19.5s
425:
        learn: 0.2049966
                                  total: 1m 50s
                                                   remaining: 19.3s
426:
        learn: 0.2049809
                                  total: 1m 51s
                                                   remaining: 19s
427:
        learn: 0.2049250
                                  total: 1m 51s
                                                   remaining: 18.8s
                                                   remaining: 18.5s
428:
        learn: 0.2048628
                                  total: 1m 51s
429:
        learn: 0.2047854
                                  total: 1m 52s
                                                   remaining: 18.2s
430:
        learn: 0.2047172
                                  total: 1m 52s
                                                   remaining: 18s
431:
        learn: 0.2046677
                                  total: 1m 52s
                                                   remaining: 17.7s
432:
        learn: 0.2046576
                                  total: 1m 52s
                                                   remaining: 17.5s
433:
        learn: 0.2045475
                                  total: 1m 53s
                                                   remaining: 17.2s
434:
        learn: 0.2044881
                                  total: 1m 53s
                                                   remaining: 16.9s
435:
        learn: 0.2043819
                                  total: 1m 53s
                                                   remaining: 16.7s
        learn: 0.2043626
                                  total: 1m 53s
436:
                                                   remaining: 16.4s
437:
        learn: 0.2043239
                                  total: 1m 54s
                                                   remaining: 16.2s
        learn: 0.2042533
438:
                                  total: 1m 54s
                                                   remaining: 15.9s
439:
        learn: 0.2042225
                                  total: 1m 54s
                                                   remaining: 15.6s
440:
        learn: 0.2041707
                                  total: 1m 54s
                                                   remaining: 15.4s
441:
        learn: 0.2040846
                                  total: 1m 55s
                                                   remaining: 15.1s
442:
        learn: 0.2040256
                                  total: 1m 55s
                                                   remaining: 14.8s
443:
        learn: 0.2039825
                                  total: 1m 55s
                                                   remaining: 14.6s
444:
        learn: 0.2038777
                                  total: 1m 55s
                                                   remaining: 14.3s
445:
        learn: 0.2038085
                                  total: 1m 56s
                                                   remaining: 14.1s
446:
        learn: 0.2037875
                                  total: 1m 56s
                                                   remaining: 13.8s
                                                   remaining: 13.6s
447:
        learn: 0.2036504
                                  total: 1m 56s
448:
        learn: 0.2035759
                                  total: 1m 57s
                                                   remaining: 13.3s
449:
        learn: 0.2035193
                                  total: 1m 57s
                                                   remaining: 13s
450:
        learn: 0.2034580
                                  total: 1m 57s
                                                   remaining: 12.8s
```

```
451:
        learn: 0.2034109
                                  total: 1m 57s
                                                   remaining: 12.5s
452:
        learn: 0.2033861
                                  total: 1m 58s
                                                   remaining: 12.2s
453:
        learn: 0.2033055
                                  total: 1m 58s
                                                   remaining: 12s
        learn: 0.2032470
454:
                                  total: 1m 58s
                                                   remaining: 11.7s
455:
        learn: 0.2032307
                                  total: 1m 58s
                                                   remaining: 11.5s
                                  total: 1m 59s
456:
        learn: 0.2031878
                                                   remaining: 11.2s
457:
        learn: 0.2031771
                                  total: 1m 59s
                                                   remaining: 10.9s
458:
        learn: 0.2030477
                                  total: 1m 59s
                                                   remaining: 10.7s
459:
        learn: 0.2029513
                                  total: 1m 59s
                                                   remaining: 10.4s
460:
        learn: 0.2028070
                                  total: 2m
                                                   remaining: 10.2s
461:
        learn: 0.2027957
                                  total: 2m
                                                   remaining: 9.91s
462:
        learn: 0.2027292
                                  total: 2m
                                                   remaining: 9.65s
463:
        learn: 0.2027060
                                  total: 2m 1s
                                                   remaining: 9.39s
464:
        learn: 0.2026642
                                  total: 2m 1s
                                                   remaining: 9.13s
465:
        learn: 0.2025144
                                  total: 2m 1s
                                                   remaining: 8.87s
466:
        learn: 0.2024342
                                  total: 2m 1s
                                                   remaining: 8.61s
467:
        learn: 0.2023589
                                  total: 2m 2s
                                                   remaining: 8.35s
                                  total: 2m 2s
468:
        learn: 0.2022767
                                                   remaining: 8.09s
        learn: 0.2022647
469:
                                  total: 2m 2s
                                                   remaining: 7.83s
470:
        learn: 0.2022117
                                  total: 2m 2s
                                                   remaining: 7.57s
471:
        learn: 0.2021550
                                  total: 2m 3s
                                                   remaining: 7.31s
                                  total: 2m 3s
472:
        learn: 0.2021115
                                                   remaining: 7.05s
473:
        learn: 0.2020835
                                  total: 2m 3s
                                                   remaining: 6.79s
                                  total: 2m 3s
474:
        learn: 0.2020053
                                                   remaining: 6.53s
475:
        learn: 0.2019296
                                  total: 2m 4s
                                                   remaining: 6.27s
                                  total: 2m 4s
476:
        learn: 0.2019173
                                                   remaining: 6.01s
477:
        learn: 0.2018732
                                  total: 2m 4s
                                                   remaining: 5.75s
478:
        learn: 0.2018399
                                  total: 2m 5s
                                                   remaining: 5.48s
479:
        learn: 0.2017113
                                  total: 2m 5s
                                                   remaining: 5.22s
480:
        learn: 0.2016713
                                  total: 2m 5s
                                                   remaining: 4.96s
481:
        learn: 0.2016237
                                  total: 2m 5s
                                                   remaining: 4.7s
482:
        learn: 0.2015947
                                  total: 2m 6s
                                                   remaining: 4.44s
483:
        learn: 0.2015636
                                  total: 2m 6s
                                                   remaining: 4.18s
        learn: 0.2015228
                                  total: 2m 6s
484:
                                                   remaining: 3.92s
485:
        learn: 0.2014477
                                  total: 2m 7s
                                                   remaining: 3.66s
486:
        learn: 0.2013893
                                  total: 2m 7s
                                                   remaining: 3.4s
487:
        learn: 0.2013454
                                  total: 2m 7s
                                                   remaining: 3.14s
488:
        learn: 0.2012943
                                  total: 2m 7s
                                                   remaining: 2.88s
                                  total: 2m 8s
489:
        learn: 0.2012790
                                                   remaining: 2.61s
490:
        learn: 0.2012339
                                  total: 2m 8s
                                                   remaining: 2.35s
491:
        learn: 0.2011563
                                  total: 2m 8s
                                                   remaining: 2.09s
492:
        learn: 0.2010909
                                  total: 2m 8s
                                                   remaining: 1.83s
493:
        learn: 0.2010096
                                  total: 2m 9s
                                                   remaining: 1.57s
494:
        learn: 0.2009457
                                  total: 2m 9s
                                                   remaining: 1.31s
                                                   remaining: 1.05s
495:
        learn: 0.2008909
                                  total: 2m 9s
496:
        learn: 0.2008410
                                  total: 2m 10s
                                                   remaining: 785ms
497:
        learn: 0.2007494
                                  total: 2m 10s
                                                   remaining: 523ms
498:
        learn: 0.2007006
                                  total: 2m 10s
                                                   remaining: 262ms
```

| 499:                          | learn: | 0.2006518 | total: | 2m 10s | remaining: | 0us | 3   |
|-------------------------------|--------|-----------|--------|--------|------------|-----|-----|
| Learning rate set to 0.174288 |        |           |        |        |            |     |     |
| 0:                            | learn: | 0.9736013 | total: | 254ms  | remaining: | 2m  | 6s  |
| 1:                            | learn: | 0.8898855 | total: | 512ms  | remaining: | 2m  | 7s  |
| 2:                            | learn: | 0.8306507 | total: | 689ms  | remaining: | 1m  | 54s |
| 3:                            | learn: | 0.7859236 | total: | 884ms  | remaining: | 1m  | 49s |
| 4:                            | learn: | 0.6938425 | total: | 1.08s  | remaining: | 1m  | 46s |
| 5:                            | learn: | 0.6598397 | total: | 1.27s  | remaining: | 1m  | 44s |
| 6:                            | learn: | 0.5839318 | total: | 1.47s  | remaining: | 1m  | 43s |
| 7:                            | learn: | 0.5297910 | total: | 1.67s  | remaining: | 1m  | 42s |
| 8:                            | learn: | 0.5041683 | total: | 1.86s  | remaining: | 1m  | 41s |
| 9:                            | learn: | 0.4643600 | total: | 2.06s  | remaining: | 1m  | 40s |
| 10:                           | learn: | 0.4336282 | total: | 2.25s  | remaining: | 1m  | 39s |
| 11:                           | learn: | 0.4080826 | total: | 2.48s  | remaining: | 1m  | 40s |
| 12:                           | learn: | 0.3927323 | total: | 2.72s  | remaining: | 1m  | 41s |
| 13:                           | learn: | 0.3881637 | total: | 2.93s  | remaining: | 1m  | 41s |
| 14:                           | learn: | 0.3717417 | total: | 3.19s  | remaining: | 1m  | 43s |
| 15:                           | learn: | 0.3577669 | total: | 3.52s  | remaining: | 1m  | 46s |
| 16:                           | learn: | 0.3460787 | total: | 3.83s  | remaining: | 1m  | 48s |
| 17:                           | learn: | 0.3298488 | total: | 4.13s  | remaining: | 1m  | 50s |
| 18:                           | learn: | 0.3174609 | total: | 4.44s  | remaining: | 1m  | 52s |
| 19:                           | learn: | 0.3074011 | total: | 4.71s  | remaining: | 1m  | 53s |
| 20:                           | learn: | 0.3058793 | total: | 4.99s  | remaining: | 1m  | 53s |
| 21:                           | learn: | 0.2976452 | total: | 5.28s  | remaining: | 1m  | 54s |
| 22:                           | learn: | 0.2912849 | total: | 5.58s  | remaining: | 1m  | 55s |
| 23:                           | learn: | 0.2856090 | total: | 5.88s  | remaining: | 1m  | 56s |
| 24:                           | learn: | 0.2829590 | total: | 6.16s  | remaining: | 1m  | 56s |
| 25:                           | learn: | 0.2780824 | total: | 6.43s  | remaining: | 1m  | 57s |
| 26:                           | learn: | 0.2771104 | total: | 6.72s  | remaining: | 1m  | 57s |
| 27:                           | learn: | 0.2750935 | total: | 6.99s  | remaining: | 1m  | 57s |
| 28:                           | learn: | 0.2730383 | total: | 7.28s  | remaining: | 1m  | 58s |
| 29:                           | learn: | 0.2720495 | total: | 7.55s  | remaining: | 1m  | 58s |
| 30:                           | learn: | 0.2691219 | total: | 7.86s  | remaining: | 1m  | 58s |
| 31:                           | learn: | 0.2679747 | total: | 8.13s  | remaining: | 1m  | 58s |
| 32:                           | learn: | 0.2653210 | total: | 8.44s  | remaining: | 1m  | 59s |
| 33:                           | learn: | 0.2646240 | total: | 8.73s  | remaining: | 1m  | 59s |
| 34:                           | learn: | 0.2634929 | total: | 9.01s  | remaining: | 1m  | 59s |
| 35:                           | learn: | 0.2626403 | total: | 9.32s  | remaining: | 2m  |     |
| 36:                           | learn: | 0.2622553 | total: | 9.6s   | remaining: | 2m  |     |
| 37:                           | learn: | 0.2600348 | total: | 9.92s  | remaining: | 2m  |     |
| 38:                           | learn: | 0.2594646 | total: | 10.2s  | remaining: | 2m  |     |
| 39:                           | learn: | 0.2592362 | total: | 10.5s  | remaining: | 2m  |     |
| 40:                           | learn: | 0.2587705 | total: | 10.7s  | remaining: | 2m  |     |
| 41:                           | learn: | 0.2584702 | total: | 11s    | remaining: | 1m  | 59s |
| 42:                           | learn: | 0.2582053 | total: |        | remaining: | 1m  | 59s |
| 43:                           | learn: | 0.2577681 | total: | 11.5s  | remaining: | 1m  | 59s |
| 44:                           | learn: | 0.2566806 | total: | 11.8s  | remaining: | 1m  | 59s |
| 45:                           | learn: | 0.2561666 | total: | 12.1s  | remaining: | 1m  | 59s |
|                               |        |           |        |        |            |     |     |

```
46:
        learn: 0.2559652
                                  total: 12.4s
                                                   remaining: 1m 59s
47:
        learn: 0.2554719
                                  total: 12.7s
                                                   remaining: 1m 59s
48:
        learn: 0.2550032
                                  total: 12.9s
                                                   remaining: 1m 59s
49:
        learn: 0.2544959
                                  total: 13.2s
                                                   remaining: 1m 58s
                                                   remaining: 1m 58s
50:
        learn: 0.2540824
                                  total: 13.4s
        learn: 0.2538804
                                  total: 13.7s
                                                   remaining: 1m 58s
51:
52:
        learn: 0.2537174
                                  total: 13.9s
                                                   remaining: 1m 57s
53:
        learn: 0.2533221
                                  total: 14.1s
                                                   remaining: 1m 56s
54:
        learn: 0.2531241
                                  total: 14.4s
                                                   remaining: 1m 56s
55:
        learn: 0.2528306
                                  total: 14.6s
                                                   remaining: 1m 56s
        learn: 0.2526056
56:
                                  total: 14.9s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
57:
        learn: 0.2496390
                                  total: 15.2s
58:
        learn: 0.2469294
                                  total: 15.4s
                                                   remaining: 1m 55s
59:
        learn: 0.2467459
                                  total: 15.6s
                                                   remaining: 1m 54s
60:
        learn: 0.2464018
                                  total: 15.9s
                                                   remaining: 1m 54s
61:
        learn: 0.2461778
                                                   remaining: 1m 53s
                                  total: 16.1s
62:
        learn: 0.2459582
                                  total: 16.4s
                                                   remaining: 1m 53s
63:
        learn: 0.2457046
                                  total: 16.6s
                                                   remaining: 1m 53s
        learn: 0.2456459
                                  total: 16.9s
                                                   remaining: 1m 52s
64:
65:
        learn: 0.2453690
                                  total: 17.1s
                                                   remaining: 1m 52s
66:
        learn: 0.2452125
                                  total: 17.4s
                                                   remaining: 1m 52s
                                  total: 17.6s
67:
        learn: 0.2443937
                                                   remaining: 1m 52s
68:
        learn: 0.2441810
                                  total: 17.9s
                                                   remaining: 1m 51s
                                  total: 18.1s
                                                   remaining: 1m 51s
69:
        learn: 0.2437890
70:
        learn: 0.2435969
                                  total: 18.4s
                                                   remaining: 1m 51s
71:
        learn: 0.2433814
                                  total: 18.7s
                                                   remaining: 1m 51s
72:
        learn: 0.2429525
                                  total: 19s
                                                   remaining: 1m 50s
73:
        learn: 0.2428469
                                  total: 19.2s
                                                   remaining: 1m 50s
74:
        learn: 0.2426695
                                  total: 19.5s
                                                   remaining: 1m 50s
75:
        learn: 0.2423823
                                  total: 19.8s
                                                   remaining: 1m 50s
76:
        learn: 0.2419928
                                  total: 20.1s
                                                   remaining: 1m 50s
77:
        learn: 0.2418336
                                  total: 20.4s
                                                   remaining: 1m 50s
78:
        learn: 0.2416985
                                  total: 20.7s
                                                   remaining: 1m 50s
79:
        learn: 0.2414475
                                  total: 21s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
80:
        learn: 0.2413867
                                  total: 21.3s
81:
        learn: 0.2412070
                                  total: 21.6s
                                                   remaining: 1m 49s
82:
        learn: 0.2409470
                                  total: 21.8s
                                                   remaining: 1m 49s
83:
        learn: 0.2408269
                                  total: 22.1s
                                                   remaining: 1m 49s
                                  total: 22.4s
                                                   remaining: 1m 49s
84:
        learn: 0.2392221
85:
        learn: 0.2390918
                                  total: 22.7s
                                                   remaining: 1m 49s
86:
        learn: 0.2389975
                                  total: 23s
                                                   remaining: 1m 49s
87:
        learn: 0.2388648
                                                   remaining: 1m 48s
                                  total: 23.2s
88:
        learn: 0.2383795
                                  total: 23.5s
                                                   remaining: 1m 48s
89:
        learn: 0.2382663
                                  total: 23.8s
                                                   remaining: 1m 48s
90:
        learn: 0.2377784
                                  total: 24.1s
                                                   remaining: 1m 48s
91:
        learn: 0.2376850
                                  total: 24.4s
                                                   remaining: 1m 48s
92:
        learn: 0.2376333
                                  total: 24.6s
                                                   remaining: 1m 47s
93:
        learn: 0.2358014
                                  total: 24.9s
                                                   remaining: 1m 47s
```

```
94:
        learn: 0.2356495
                                  total: 25.2s
                                                   remaining: 1m 47s
95:
        learn: 0.2355332
                                  total: 25.5s
                                                   remaining: 1m 47s
96:
        learn: 0.2354531
                                  total: 25.8s
                                                   remaining: 1m 47s
97:
        learn: 0.2352580
                                  total: 26.1s
                                                   remaining: 1m 46s
                                                   remaining: 1m 46s
98:
        learn: 0.2351812
                                  total: 26.4s
                                  total: 26.6s
                                                   remaining: 1m 46s
99:
        learn: 0.2350253
100:
        learn: 0.2346614
                                  total: 26.9s
                                                   remaining: 1m 46s
101:
        learn: 0.2345703
                                  total: 27.2s
                                                   remaining: 1m 46s
102:
        learn: 0.2345583
                                  total: 27.4s
                                                   remaining: 1m 45s
103:
        learn: 0.2344694
                                  total: 27.7s
                                                   remaining: 1m 45s
        learn: 0.2343276
104:
                                  total: 28s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
105:
        learn: 0.2341991
                                  total: 28.3s
106:
        learn: 0.2340047
                                  total: 28.6s
                                                   remaining: 1m 44s
107:
        learn: 0.2338724
                                  total: 28.9s
                                                   remaining: 1m 44s
108:
        learn: 0.2338453
                                  total: 29.1s
                                                   remaining: 1m 44s
        learn: 0.2336712
                                                   remaining: 1m 44s
109:
                                  total: 29.4s
110:
        learn: 0.2335795
                                  total: 29.7s
                                                   remaining: 1m 43s
111:
        learn: 0.2335609
                                  total: 29.9s
                                                   remaining: 1m 43s
112:
        learn: 0.2334668
                                  total: 30.1s
                                                   remaining: 1m 43s
113:
        learn: 0.2333984
                                  total: 30.4s
                                                   remaining: 1m 42s
114:
        learn: 0.2333074
                                  total: 30.7s
                                                   remaining: 1m 42s
115:
        learn: 0.2331477
                                  total: 30.9s
                                                   remaining: 1m 42s
116:
        learn: 0.2330912
                                  total: 31.2s
                                                   remaining: 1m 41s
                                  total: 31.4s
                                                   remaining: 1m 41s
117:
        learn: 0.2330124
118:
        learn: 0.2329589
                                  total: 31.7s
                                                   remaining: 1m 41s
119:
        learn: 0.2328518
                                  total: 31.9s
                                                   remaining: 1m 41s
        learn: 0.2327000
                                  total: 32.2s
                                                   remaining: 1m 40s
120:
121:
        learn: 0.2326670
                                  total: 32.5s
                                                   remaining: 1m 40s
        learn: 0.2325255
                                  total: 32.8s
122:
                                                   remaining: 1m 40s
123:
        learn: 0.2322054
                                  total: 33s
                                                   remaining: 1m 40s
124:
        learn: 0.2321378
                                  total: 33.3s
                                                   remaining: 1m 39s
125:
        learn: 0.2320313
                                  total: 33.5s
                                                   remaining: 1m 39s
126:
        learn: 0.2319269
                                  total: 33.8s
                                                   remaining: 1m 39s
127:
        learn: 0.2318477
                                  total: 34.1s
                                                   remaining: 1m 39s
                                                   remaining: 1m 38s
128:
        learn: 0.2316276
                                  total: 34.4s
129:
        learn: 0.2315508
                                  total: 34.7s
                                                   remaining: 1m 38s
130:
        learn: 0.2315293
                                  total: 34.9s
                                                   remaining: 1m 38s
131:
        learn: 0.2313626
                                  total: 35.2s
                                                   remaining: 1m 38s
        learn: 0.2312073
                                                   remaining: 1m 37s
132:
                                  total: 35.4s
133:
        learn: 0.2311492
                                  total: 35.7s
                                                   remaining: 1m 37s
134:
        learn: 0.2310256
                                  total: 35.9s
                                                   remaining: 1m 37s
        learn: 0.2307817
                                                   remaining: 1m 36s
135:
                                  total: 36.2s
136:
        learn: 0.2307345
                                  total: 36.5s
                                                   remaining: 1m 36s
137:
        learn: 0.2306892
                                  total: 36.8s
                                                   remaining: 1m 36s
138:
        learn: 0.2306407
                                  total: 37.1s
                                                   remaining: 1m 36s
139:
        learn: 0.2306269
                                  total: 37.3s
                                                   remaining: 1m 35s
140:
        learn: 0.2305127
                                  total: 37.6s
                                                   remaining: 1m 35s
141:
        learn: 0.2304496
                                  total: 37.9s
                                                   remaining: 1m 35s
```

```
total: 38.2s
142:
        learn: 0.2302401
                                                   remaining: 1m 35s
143:
        learn: 0.2301303
                                  total: 38.4s
                                                   remaining: 1m 34s
144:
        learn: 0.2300658
                                  total: 38.7s
                                                   remaining: 1m 34s
145:
        learn: 0.2299966
                                                   remaining: 1m 34s
                                  total: 39s
                                                   remaining: 1m 34s
146:
        learn: 0.2299637
                                  total: 39.3s
                                                   remaining: 1m 34s
147:
        learn: 0.2299293
                                  total: 39.5s
148:
        learn: 0.2298368
                                  total: 39.8s
                                                   remaining: 1m 33s
149:
        learn: 0.2297890
                                  total: 40.1s
                                                   remaining: 1m 33s
150:
        learn: 0.2297201
                                  total: 40.4s
                                                   remaining: 1m 33s
151:
        learn: 0.2295353
                                  total: 40.7s
                                                   remaining: 1m 33s
152:
        learn: 0.2293654
                                  total: 41s
                                                   remaining: 1m 32s
                                                   remaining: 1m 32s
153:
        learn: 0.2292736
                                  total: 41.3s
154:
        learn: 0.2292206
                                  total: 41.5s
                                                   remaining: 1m 32s
155:
        learn: 0.2290175
                                  total: 41.8s
                                                   remaining: 1m 32s
156:
        learn: 0.2288325
                                  total: 42.2s
                                                   remaining: 1m 32s
157:
        learn: 0.2287772
                                  total: 42.4s
                                                   remaining: 1m 31s
158:
        learn: 0.2287089
                                  total: 42.7s
                                                   remaining: 1m 31s
                                  total: 43s
159:
        learn: 0.2286716
                                                   remaining: 1m 31s
        learn: 0.2285992
                                                   remaining: 1m 31s
160:
                                  total: 43.3s
161:
        learn: 0.2284931
                                  total: 43.6s
                                                   remaining: 1m 30s
162:
        learn: 0.2284033
                                  total: 43.8s
                                                   remaining: 1m 30s
163:
        learn: 0.2283446
                                  total: 44.1s
                                                   remaining: 1m 30s
164 .
        learn: 0.2282853
                                  total: 44.4s
                                                   remaining: 1m 30s
                                                   remaining: 1m 29s
165:
        learn: 0.2281891
                                  total: 44.7s
166:
        learn: 0.2281465
                                  total: 44.9s
                                                   remaining: 1m 29s
167:
        learn: 0.2281049
                                  total: 45.2s
                                                   remaining: 1m 29s
        learn: 0.2280230
                                                   remaining: 1m 29s
168:
                                  total: 45.5s
169:
        learn: 0.2279149
                                  total: 45.8s
                                                   remaining: 1m 28s
170:
        learn: 0.2278506
                                  total: 46s
                                                   remaining: 1m 28s
171:
        learn: 0.2275899
                                  total: 46.3s
                                                   remaining: 1m 28s
        learn: 0.2267052
172:
                                  total: 46.6s
                                                   remaining: 1m 27s
173:
        learn: 0.2266096
                                  total: 46.8s
                                                   remaining: 1m 27s
174:
        learn: 0.2265159
                                  total: 47s
                                                   remaining: 1m 27s
        learn: 0.2264222
                                  total: 47.3s
                                                   remaining: 1m 27s
175:
176:
        learn: 0.2264089
                                  total: 47.6s
                                                   remaining: 1m 26s
177:
        learn: 0.2261862
                                  total: 47.9s
                                                   remaining: 1m 26s
178:
        learn: 0.2260158
                                  total: 48.1s
                                                   remaining: 1m 26s
179:
        learn: 0.2259632
                                  total: 48.4s
                                                   remaining: 1m 26s
180:
        learn: 0.2259233
                                  total: 48.6s
                                                   remaining: 1m 25s
181:
        learn: 0.2258800
                                  total: 48.9s
                                                   remaining: 1m 25s
182:
        learn: 0.2258535
                                  total: 49.1s
                                                   remaining: 1m 25s
                                                   remaining: 1m 24s
183:
        learn: 0.2258207
                                  total: 49.4s
184:
        learn: 0.2257310
                                  total: 49.7s
                                                   remaining: 1m 24s
185:
        learn: 0.2255718
                                  total: 50s
                                                   remaining: 1m 24s
186:
        learn: 0.2255271
                                  total: 50.2s
                                                   remaining: 1m 24s
187:
        learn: 0.2255104
                                  total: 50.5s
                                                   remaining: 1m 23s
188:
        learn: 0.2254466
                                  total: 50.8s
                                                   remaining: 1m 23s
189:
        learn: 0.2254267
                                  total: 51s
                                                   remaining: 1m 23s
```

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190:
        learn: 0.2253645
                                  total: 51.3s
                                                   remaining: 1m 22s
191:
        learn: 0.2253093
                                  total: 51.6s
                                                   remaining: 1m 22s
192:
        learn: 0.2252318
                                  total: 51.8s
                                                   remaining: 1m 22s
193:
        learn: 0.2251557
                                  total: 52.1s
                                                   remaining: 1m 22s
194:
        learn: 0.2251231
                                  total: 52.4s
                                                   remaining: 1m 21s
                                  total: 52.6s
                                                   remaining: 1m 21s
195:
        learn: 0.2250870
196:
        learn: 0.2250455
                                  total: 52.9s
                                                   remaining: 1m 21s
197:
        learn: 0.2249227
                                  total: 53.2s
                                                   remaining: 1m 21s
198:
        learn: 0.2248727
                                  total: 53.4s
                                                   remaining: 1m 20s
199:
        learn: 0.2247776
                                  total: 53.7s
                                                   remaining: 1m 20s
200:
        learn: 0.2247160
                                  total: 54s
                                                   remaining: 1m 20s
                                                   remaining: 1m 20s
201:
        learn: 0.2245404
                                  total: 54.3s
202:
        learn: 0.2244808
                                  total: 54.6s
                                                   remaining: 1m 19s
203:
        learn: 0.2244354
                                  total: 54.8s
                                                   remaining: 1m 19s
204:
        learn: 0.2243990
                                  total: 55.1s
                                                   remaining: 1m 19s
205:
        learn: 0.2243569
                                  total: 55.4s
                                                   remaining: 1m 19s
206:
        learn: 0.2241615
                                  total: 55.7s
                                                   remaining: 1m 18s
207:
        learn: 0.2241152
                                  total: 55.9s
                                                   remaining: 1m 18s
        learn: 0.2240874
                                  total: 56.2s
                                                   remaining: 1m 18s
208:
209:
        learn: 0.2239409
                                  total: 56.5s
                                                   remaining: 1m 17s
210:
        learn: 0.2239007
                                  total: 56.7s
                                                   remaining: 1m 17s
211:
        learn: 0.2238606
                                  total: 57s
                                                   remaining: 1m 17s
212:
        learn: 0.2237665
                                  total: 57.3s
                                                   remaining: 1m 17s
213:
                                                   remaining: 1m 16s
        learn: 0.2237375
                                  total: 57.6s
214:
        learn: 0.2236136
                                  total: 57.9s
                                                   remaining: 1m 16s
215:
        learn: 0.2235352
                                  total: 58.3s
                                                   remaining: 1m 16s
216:
        learn: 0.2234332
                                                   remaining: 1m 16s
                                  total: 58.5s
217:
        learn: 0.2232962
                                  total: 58.8s
                                                   remaining: 1m 16s
218:
        learn: 0.2231864
                                  total: 59.1s
                                                   remaining: 1m 15s
219:
        learn: 0.2230814
                                  total: 59.4s
                                                   remaining: 1m 15s
220:
        learn: 0.2229562
                                  total: 59.7s
                                                   remaining: 1m 15s
221:
        learn: 0.2229095
                                  total: 60s
                                                   remaining: 1m 15s
222:
        learn: 0.2228894
                                  total: 1m
                                                   remaining: 1m 14s
223:
        learn: 0.2228231
                                  total: 1m
                                                   remaining: 1m 14s
224:
        learn: 0.2227606
                                  total: 1m
                                                   remaining: 1m 14s
225:
        learn: 0.2227478
                                  total: 1m 1s
                                                   remaining: 1m 14s
226:
        learn: 0.2226842
                                  total: 1m 1s
                                                   remaining: 1m 13s
227:
        learn: 0.2223436
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
        learn: 0.2221931
                                  total: 1m 1s
                                                   remaining: 1m 13s
229:
        learn: 0.2221577
                                  total: 1m 2s
                                                   remaining: 1m 12s
230:
        learn: 0.2220642
                                  total: 1m 2s
                                                   remaining: 1m 12s
        learn: 0.2220082
                                                   remaining: 1m 12s
231:
                                  total: 1m 2s
232:
        learn: 0.2219698
                                  total: 1m 2s
                                                   remaining: 1m 12s
233:
        learn: 0.2218748
                                  total: 1m 3s
                                                   remaining: 1m 11s
234:
        learn: 0.2217687
                                  total: 1m 3s
                                                   remaining: 1m 11s
235:
        learn: 0.2216804
                                  total: 1m 3s
                                                   remaining: 1m 11s
236:
        learn: 0.2215047
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2213910
                                  total: 1m 4s
                                                   remaining: 1m 10s
```

```
238:
        learn: 0.2213190
                                  total: 1m 4s
                                                   remaining: 1m 10s
                                                   remaining: 1m 10s
239:
        learn: 0.2210652
                                  total: 1m 4s
240:
        learn: 0.2209955
                                  total: 1m 4s
                                                   remaining: 1m 9s
241:
        learn: 0.2208770
                                  total: 1m 5s
                                                   remaining: 1m 9s
242:
        learn: 0.2208400
                                  total: 1m 5s
                                                   remaining: 1m 9s
                                  total: 1m 5s
                                                   remaining: 1m 8s
243:
        learn: 0.2207849
244:
        learn: 0.2206757
                                  total: 1m 5s
                                                   remaining: 1m 8s
245:
        learn: 0.2205357
                                  total: 1m 6s
                                                   remaining: 1m 8s
246:
        learn: 0.2204443
                                  total: 1m 6s
                                                   remaining: 1m 8s
247:
        learn: 0.2204062
                                  total: 1m 6s
                                                   remaining: 1m 7s
248:
        learn: 0.2203807
                                  total: 1m 7s
                                                   remaining: 1m 7s
249:
        learn: 0.2203373
                                  total: 1m 7s
                                                   remaining: 1m 7s
250:
        learn: 0.2203001
                                  total: 1m 7s
                                                   remaining: 1m 7s
251:
        learn: 0.2202574
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2201690
                                  total: 1m 8s
                                                   remaining: 1m 6s
253:
        learn: 0.2200632
                                  total: 1m 8s
                                                   remaining: 1m 6s
254:
        learn: 0.2200496
                                  total: 1m 8s
                                                   remaining: 1m 6s
255:
        learn: 0.2198851
                                  total: 1m 8s
                                                   remaining: 1m 5s
        learn: 0.2198384
                                                   remaining: 1m 5s
256:
                                  total: 1m 9s
257:
        learn: 0.2197816
                                  total: 1m 9s
                                                   remaining: 1m 5s
258:
        learn: 0.2197571
                                  total: 1m 9s
                                                   remaining: 1m 4s
259:
        learn: 0.2196994
                                  total: 1m 10s
                                                   remaining: 1m 4s
260:
        learn: 0.2196264
                                  total: 1m 10s
                                                   remaining: 1m 4s
261:
        learn: 0.2195921
                                  total: 1m 10s
                                                   remaining: 1m 4s
262:
        learn: 0.2195465
                                  total: 1m 10s
                                                   remaining: 1m 3s
263:
        learn: 0.2194650
                                  total: 1m 11s
                                                   remaining: 1m 3s
264:
        learn: 0.2193925
                                  total: 1m 11s
                                                   remaining: 1m 3s
265:
        learn: 0.2193248
                                  total: 1m 11s
                                                   remaining: 1m 3s
266:
        learn: 0.2192824
                                  total: 1m 11s
                                                   remaining: 1m 2s
267:
        learn: 0.2192559
                                  total: 1m 12s
                                                   remaining: 1m 2s
268:
        learn: 0.2192156
                                  total: 1m 12s
                                                   remaining: 1m 2s
269:
        learn: 0.2191599
                                  total: 1m 12s
                                                   remaining: 1m 1s
                                  total: 1m 13s
270:
        learn: 0.2191167
                                                   remaining: 1m 1s
271:
        learn: 0.2189994
                                  total: 1m 13s
                                                   remaining: 1m 1s
272:
        learn: 0.2189451
                                  total: 1m 13s
                                                   remaining: 1m 1s
273:
        learn: 0.2188376
                                  total: 1m 13s
                                                   remaining: 1m
274:
        learn: 0.2187804
                                  total: 1m 14s
                                                   remaining: 1m
275:
        learn: 0.2186679
                                  total: 1m 14s
                                                   remaining: 1m
276:
        learn: 0.2185211
                                  total: 1m 14s
                                                   remaining: 1m
277:
        learn: 0.2184725
                                  total: 1m 14s
                                                   remaining: 59.9s
                                  total: 1m 15s
278:
        learn: 0.2184379
                                                   remaining: 59.6s
279:
        learn: 0.2183892
                                  total: 1m 15s
                                                   remaining: 59.3s
280:
        learn: 0.2182941
                                  total: 1m 15s
                                                   remaining: 59.1s
281:
        learn: 0.2182284
                                  total: 1m 16s
                                                   remaining: 58.8s
282:
        learn: 0.2181812
                                  total: 1m 16s
                                                   remaining: 58.5s
283:
        learn: 0.2180786
                                  total: 1m 16s
                                                   remaining: 58.3s
284:
        learn: 0.2179973
                                  total: 1m 16s
                                                   remaining: 58s
285:
        learn: 0.2179661
                                  total: 1m 17s
                                                   remaining: 57.7s
```

```
learn: 0.2179513
286:
                                  total: 1m 17s
                                                   remaining: 57.4s
287:
        learn: 0.2178439
                                  total: 1m 17s
                                                   remaining: 57.2s
288:
        learn: 0.2178072
                                  total: 1m 17s
                                                   remaining: 56.9s
289:
        learn: 0.2176904
                                  total: 1m 18s
                                                   remaining: 56.6s
290:
        learn: 0.2176081
                                  total: 1m 18s
                                                   remaining: 56.4s
                                  total: 1m 18s
291:
        learn: 0.2174937
                                                   remaining: 56.1s
292:
        learn: 0.2174288
                                  total: 1m 18s
                                                   remaining: 55.8s
        learn: 0.2173845
                                                   remaining: 55.5s
293:
                                  total: 1m 19s
294:
        learn: 0.2173275
                                  total: 1m 19s
                                                   remaining: 55.2s
295:
        learn: 0.2171142
                                  total: 1m 19s
                                                   remaining: 55s
296:
        learn: 0.2170615
                                  total: 1m 19s
                                                   remaining: 54.7s
297:
        learn: 0.2170357
                                  total: 1m 20s
                                                   remaining: 54.4s
298:
        learn: 0.2169962
                                  total: 1m 20s
                                                   remaining: 54.1s
299:
        learn: 0.2169074
                                  total: 1m 20s
                                                   remaining: 53.8s
                                                   remaining: 53.5s
300:
        learn: 0.2168795
                                  total: 1m 20s
301:
        learn: 0.2167003
                                  total: 1m 21s
                                                   remaining: 53.3s
302:
        learn: 0.2166546
                                  total: 1m 21s
                                                   remaining: 52.9s
                                  total: 1m 21s
303:
        learn: 0.2165826
                                                   remaining: 52.6s
        learn: 0.2165348
                                  total: 1m 21s
                                                   remaining: 52.4s
304:
305:
        learn: 0.2165137
                                  total: 1m 22s
                                                   remaining: 52.1s
306:
        learn: 0.2164311
                                  total: 1m 22s
                                                   remaining: 51.8s
                                  total: 1m 22s
307:
        learn: 0.2163468
                                                   remaining: 51.6s
                                                  remaining: 51.3s
308:
        learn: 0.2162963
                                  total: 1m 22s
                                  total: 1m 23s
309:
        learn: 0.2162319
                                                   remaining: 51s
310:
        learn: 0.2162151
                                  total: 1m 23s
                                                   remaining: 50.7s
        learn: 0.2161497
                                  total: 1m 23s
                                                   remaining: 50.5s
311:
312:
        learn: 0.2161299
                                  total: 1m 24s
                                                   remaining: 50.2s
313:
        learn: 0.2160747
                                  total: 1m 24s
                                                   remaining: 49.9s
314:
        learn: 0.2159997
                                  total: 1m 24s
                                                   remaining: 49.7s
315:
        learn: 0.2159726
                                  total: 1m 24s
                                                   remaining: 49.4s
316:
        learn: 0.2158982
                                  total: 1m 25s
                                                   remaining: 49.2s
317:
        learn: 0.2157650
                                  total: 1m 25s
                                                   remaining: 48.9s
318:
        learn: 0.2156192
                                  total: 1m 25s
                                                   remaining: 48.6s
319:
        learn: 0.2153821
                                  total: 1m 26s
                                                   remaining: 48.4s
320:
        learn: 0.2153465
                                  total: 1m 26s
                                                   remaining: 48.1s
                                  total: 1m 26s
321:
        learn: 0.2153005
                                                   remaining: 47.9s
322:
        learn: 0.2152490
                                  total: 1m 26s
                                                   remaining: 47.6s
323:
        learn: 0.2151472
                                  total: 1m 27s
                                                   remaining: 47.3s
                                  total: 1m 27s
324:
        learn: 0.2150694
                                                   remaining: 47.1s
325:
        learn: 0.2150190
                                  total: 1m 27s
                                                   remaining: 46.8s
326:
        learn: 0.2149069
                                  total: 1m 27s
                                                   remaining: 46.5s
327:
        learn: 0.2148446
                                  total: 1m 28s
                                                   remaining: 46.3s
328:
        learn: 0.2146925
                                  total: 1m 28s
                                                   remaining: 46s
329:
        learn: 0.2145989
                                  total: 1m 28s
                                                   remaining: 45.8s
                                                   remaining: 45.5s
330:
        learn: 0.2145617
                                  total: 1m 29s
        learn: 0.2144935
331:
                                  total: 1m 29s
                                                   remaining: 45.2s
332:
        learn: 0.2144348
                                  total: 1m 29s
                                                   remaining: 44.9s
333:
        learn: 0.2143474
                                  total: 1m 29s
                                                   remaining: 44.7s
```

```
total: 1m 30s
334:
        learn: 0.2143396
                                                   remaining: 44.4s
335:
        learn: 0.2134359
                                  total: 1m 30s
                                                   remaining: 44.2s
336:
        learn: 0.2134304
                                  total: 1m 30s
                                                   remaining: 43.9s
        learn: 0.2131907
                                  total: 1m 31s
                                                   remaining: 43.6s
337:
338:
        learn: 0.2131205
                                  total: 1m 31s
                                                   remaining: 43.4s
                                  total: 1m 31s
                                                   remaining: 43.1s
339:
        learn: 0.2130909
340:
        learn: 0.2130261
                                  total: 1m 31s
                                                   remaining: 42.8s
        learn: 0.2129756
341:
                                  total: 1m 32s
                                                   remaining: 42.6s
342:
        learn: 0.2129086
                                  total: 1m 32s
                                                   remaining: 42.3s
343:
        learn: 0.2128812
                                  total: 1m 32s
                                                   remaining: 42s
344:
        learn: 0.2127788
                                  total: 1m 32s
                                                   remaining: 41.8s
345:
        learn: 0.2127022
                                  total: 1m 33s
                                                   remaining: 41.5s
346:
        learn: 0.2126788
                                  total: 1m 33s
                                                   remaining: 41.2s
347:
        learn: 0.2126633
                                  total: 1m 33s
                                                   remaining: 41s
                                                   remaining: 40.7s
348:
        learn: 0.2125196
                                  total: 1m 34s
349:
        learn: 0.2123688
                                  total: 1m 34s
                                                   remaining: 40.4s
350:
        learn: 0.2122878
                                  total: 1m 34s
                                                   remaining: 40.2s
                                  total: 1m 34s
351:
        learn: 0.2122313
                                                   remaining: 39.9s
        learn: 0.2121390
                                  total: 1m 35s
352:
                                                   remaining: 39.6s
353:
        learn: 0.2121081
                                  total: 1m 35s
                                                   remaining: 39.3s
354:
        learn: 0.2120681
                                  total: 1m 35s
                                                   remaining: 39.1s
355:
        learn: 0.2120077
                                  total: 1m 35s
                                                   remaining: 38.8s
356:
        learn: 0.2119772
                                  total: 1m 36s
                                                   remaining: 38.5s
                                  total: 1m 36s
357:
        learn: 0.2118436
                                                   remaining: 38.2s
358:
        learn: 0.2118043
                                  total: 1m 36s
                                                   remaining: 37.9s
        learn: 0.2117836
                                  total: 1m 36s
359:
                                                   remaining: 37.7s
360:
        learn: 0.2117077
                                  total: 1m 37s
                                                   remaining: 37.4s
361:
        learn: 0.2116566
                                  total: 1m 37s
                                                   remaining: 37.1s
362:
        learn: 0.2113437
                                  total: 1m 37s
                                                   remaining: 36.8s
363:
        learn: 0.2112726
                                  total: 1m 37s
                                                   remaining: 36.5s
364:
        learn: 0.2111177
                                  total: 1m 37s
                                                   remaining: 36.2s
365:
        learn: 0.2110707
                                  total: 1m 37s
                                                   remaining: 35.9s
366:
        learn: 0.2110366
                                  total: 1m 38s
                                                   remaining: 35.6s
        learn: 0.2109154
                                  total: 1m 38s
367:
                                                   remaining: 35.3s
368:
        learn: 0.2108507
                                  total: 1m 38s
                                                   remaining: 35s
        learn: 0.2106824
369:
                                  total: 1m 38s
                                                   remaining: 34.7s
370:
        learn: 0.2106781
                                  total: 1m 38s
                                                   remaining: 34.4s
371:
        learn: 0.2106357
                                  total: 1m 39s
                                                   remaining: 34.1s
372:
        learn: 0.2105818
                                  total: 1m 39s
                                                   remaining: 33.8s
373:
        learn: 0.2105553
                                  total: 1m 39s
                                                   remaining: 33.6s
                                  total: 1m 39s
374:
        learn: 0.2104973
                                                   remaining: 33.3s
375:
        learn: 0.2104368
                                  total: 1m 40s
                                                   remaining: 33s
376:
        learn: 0.2103824
                                  total: 1m 40s
                                                   remaining: 32.8s
377:
        learn: 0.2103349
                                  total: 1m 40s
                                                   remaining: 32.5s
                                                   remaining: 32.2s
378:
        learn: 0.2102696
                                  total: 1m 41s
        learn: 0.2102400
379:
                                  total: 1m 41s
                                                   remaining: 32s
380:
        learn: 0.2101866
                                  total: 1m 41s
                                                   remaining: 31.7s
381:
        learn: 0.2100834
                                  total: 1m 41s
                                                   remaining: 31.5s
```

```
learn: 0.2100247
382:
                                  total: 1m 42s
                                                   remaining: 31.2s
383:
        learn: 0.2099548
                                  total: 1m 42s
                                                   remaining: 30.9s
384:
        learn: 0.2098537
                                  total: 1m 42s
                                                   remaining: 30.7s
        learn: 0.2097833
                                                   remaining: 30.4s
385:
                                  total: 1m 42s
386:
        learn: 0.2097521
                                  total: 1m 43s
                                                   remaining: 30.2s
                                  total: 1m 43s
387:
        learn: 0.2096328
                                                   remaining: 29.9s
388:
        learn: 0.2095770
                                  total: 1m 43s
                                                   remaining: 29.6s
        learn: 0.2094796
                                                   remaining: 29.4s
389:
                                  total: 1m 44s
390:
        learn: 0.2094341
                                  total: 1m 44s
                                                   remaining: 29.1s
391:
        learn: 0.2094054
                                  total: 1m 44s
                                                   remaining: 28.8s
392:
        learn: 0.2093292
                                  total: 1m 44s
                                                   remaining: 28.6s
393:
        learn: 0.2092134
                                  total: 1m 45s
                                                   remaining: 28.3s
394:
        learn: 0.2091512
                                  total: 1m 45s
                                                   remaining: 28s
395:
        learn: 0.2091266
                                  total: 1m 45s
                                                   remaining: 27.8s
396:
        learn: 0.2090970
                                  total: 1m 45s
                                                   remaining: 27.5s
397:
        learn: 0.2090608
                                  total: 1m 46s
                                                   remaining: 27.2s
398:
        learn: 0.2089751
                                  total: 1m 46s
                                                   remaining: 27s
399:
        learn: 0.2089387
                                  total: 1m 46s
                                                   remaining: 26.7s
400:
        learn: 0.2088298
                                  total: 1m 47s
                                                   remaining: 26.4s
401:
        learn: 0.2087821
                                  total: 1m 47s
                                                   remaining: 26.2s
402:
        learn: 0.2087626
                                  total: 1m 47s
                                                   remaining: 25.9s
403:
        learn: 0.2086606
                                  total: 1m 47s
                                                   remaining: 25.6s
404:
        learn: 0.2086001
                                  total: 1m 48s
                                                   remaining: 25.4s
405:
        learn: 0.2085666
                                  total: 1m 48s
                                                   remaining: 25.1s
406:
        learn: 0.2084042
                                  total: 1m 48s
                                                   remaining: 24.9s
407:
        learn: 0.2083011
                                  total: 1m 49s
                                                   remaining: 24.6s
408:
        learn: 0.2082677
                                  total: 1m 49s
                                                   remaining: 24.3s
409:
        learn: 0.2081883
                                  total: 1m 49s
                                                   remaining: 24.1s
410:
        learn: 0.2081314
                                  total: 1m 49s
                                                   remaining: 23.8s
411:
        learn: 0.2080095
                                  total: 1m 50s
                                                   remaining: 23.5s
412:
        learn: 0.2079997
                                  total: 1m 50s
                                                   remaining: 23.2s
413:
        learn: 0.2078878
                                  total: 1m 50s
                                                   remaining: 23s
414:
        learn: 0.2077966
                                  total: 1m 50s
                                                   remaining: 22.7s
        learn: 0.2077482
                                  total: 1m 51s
415:
                                                   remaining: 22.4s
416:
        learn: 0.2076668
                                  total: 1m 51s
                                                   remaining: 22.2s
417:
        learn: 0.2076231
                                  total: 1m 51s
                                                   remaining: 21.9s
418:
        learn: 0.2076005
                                  total: 1m 51s
                                                   remaining: 21.6s
419:
        learn: 0.2075065
                                  total: 1m 52s
                                                   remaining: 21.4s
420:
        learn: 0.2074126
                                  total: 1m 52s
                                                   remaining: 21.1s
421:
        learn: 0.2073578
                                  total: 1m 52s
                                                   remaining: 20.8s
422:
        learn: 0.2073129
                                  total: 1m 52s
                                                   remaining: 20.6s
423:
        learn: 0.2072845
                                  total: 1m 53s
                                                   remaining: 20.3s
424:
        learn: 0.2072538
                                  total: 1m 53s
                                                   remaining: 20s
425:
        learn: 0.2071791
                                  total: 1m 53s
                                                   remaining: 19.8s
                                                   remaining: 19.5s
426:
        learn: 0.2071527
                                  total: 1m 54s
427:
        learn: 0.2070987
                                  total: 1m 54s
                                                   remaining: 19.2s
428:
        learn: 0.2070750
                                  total: 1m 54s
                                                   remaining: 19s
429:
        learn: 0.2070202
                                  total: 1m 54s
                                                   remaining: 18.7s
```

```
430:
        learn: 0.2069838
                                  total: 1m 55s
                                                   remaining: 18.4s
431:
        learn: 0.2069063
                                  total: 1m 55s
                                                   remaining: 18.2s
432:
        learn: 0.2068765
                                  total: 1m 55s
                                                   remaining: 17.9s
        learn: 0.2068375
433:
                                  total: 1m 55s
                                                   remaining: 17.6s
434:
        learn: 0.2067959
                                  total: 1m 56s
                                                   remaining: 17.4s
                                  total: 1m 56s
435:
        learn: 0.2067493
                                                   remaining: 17.1s
436:
        learn: 0.2066992
                                  total: 1m 56s
                                                   remaining: 16.8s
437:
        learn: 0.2066542
                                  total: 1m 57s
                                                   remaining: 16.6s
438:
        learn: 0.2065865
                                  total: 1m 57s
                                                   remaining: 16.3s
439:
        learn: 0.2065544
                                  total: 1m 57s
                                                   remaining: 16s
440:
        learn: 0.2064534
                                  total: 1m 57s
                                                   remaining: 15.8s
441:
        learn: 0.2064200
                                  total: 1m 58s
                                                   remaining: 15.5s
442:
        learn: 0.2063799
                                  total: 1m 58s
                                                   remaining: 15.2s
443:
        learn: 0.2062926
                                  total: 1m 58s
                                                   remaining: 15s
444:
        learn: 0.2062682
                                  total: 1m 59s
                                                   remaining: 14.7s
445:
        learn: 0.2061908
                                  total: 1m 59s
                                                   remaining: 14.4s
446:
        learn: 0.2061414
                                  total: 1m 59s
                                                   remaining: 14.2s
                                  total: 1m 59s
447:
        learn: 0.2061095
                                                   remaining: 13.9s
        learn: 0.2060906
448:
                                  total: 2m
                                                   remaining: 13.6s
449:
        learn: 0.2060188
                                  total: 2m
                                                   remaining: 13.4s
450:
        learn: 0.2060033
                                  total: 2m
                                                   remaining: 13.1s
451:
        learn: 0.2058912
                                  total: 2m
                                                   remaining: 12.8s
452:
        learn: 0.2058317
                                  total: 2m 1s
                                                   remaining: 12.6s
453:
        learn: 0.2057474
                                  total: 2m 1s
                                                   remaining: 12.3s
454:
        learn: 0.2057089
                                  total: 2m 1s
                                                   remaining: 12s
                                  total: 2m 2s
455:
        learn: 0.2056506
                                                   remaining: 11.8s
456:
        learn: 0.2056216
                                  total: 2m 2s
                                                   remaining: 11.5s
457:
        learn: 0.2055867
                                  total: 2m 2s
                                                   remaining: 11.2s
458:
        learn: 0.2054979
                                  total: 2m 2s
                                                   remaining: 11s
459:
        learn: 0.2054522
                                  total: 2m 3s
                                                   remaining: 10.7s
460:
        learn: 0.2054345
                                  total: 2m 3s
                                                   remaining: 10.4s
461:
        learn: 0.2053938
                                  total: 2m 3s
                                                   remaining: 10.2s
                                  total: 2m 3s
462:
        learn: 0.2053424
                                                   remaining: 9.91s
        learn: 0.2052645
                                  total: 2m 4s
463:
                                                   remaining: 9.64s
464:
        learn: 0.2052033
                                  total: 2m 4s
                                                   remaining: 9.38s
465:
        learn: 0.2051874
                                  total: 2m 4s
                                                   remaining: 9.11s
466:
        learn: 0.2051189
                                  total: 2m 5s
                                                   remaining: 8.84s
467:
        learn: 0.2051080
                                  total: 2m 5s
                                                   remaining: 8.57s
                                  total: 2m 5s
468:
        learn: 0.2050880
                                                   remaining: 8.3s
469:
        learn: 0.2050551
                                  total: 2m 5s
                                                   remaining: 8.04s
470:
        learn: 0.2049754
                                  total: 2m 6s
                                                   remaining: 7.77s
471:
        learn: 0.2049377
                                  total: 2m 6s
                                                   remaining: 7.5s
472:
        learn: 0.2048142
                                  total: 2m 6s
                                                   remaining: 7.23s
473:
        learn: 0.2047317
                                  total: 2m 6s
                                                   remaining: 6.96s
                                                   remaining: 6.7s
474:
        learn: 0.2046892
                                  total: 2m 7s
475:
        learn: 0.2046503
                                  total: 2m 7s
                                                   remaining: 6.43s
476:
        learn: 0.2045587
                                  total: 2m 7s
                                                   remaining: 6.16s
477:
        learn: 0.2044280
                                  total: 2m 7s
                                                   remaining: 5.89s
```

```
478:
        learn: 0.2043744
                                  total: 2m 8s
                                                   remaining: 5.62s
479:
        learn: 0.2042970
                                  total: 2m 8s
                                                   remaining: 5.35s
480:
        learn: 0.2041518
                                  total: 2m 8s
                                                   remaining: 5.08s
        learn: 0.2041373
                                  total: 2m 8s
                                                   remaining: 4.82s
481:
482:
        learn: 0.2040706
                                  total: 2m 9s
                                                   remaining: 4.55s
                                  total: 2m 9s
                                                   remaining: 4.28s
483:
        learn: 0.2039903
484:
        learn: 0.2039265
                                  total: 2m 9s
                                                   remaining: 4.01s
485:
        learn: 0.2038597
                                  total: 2m 9s
                                                   remaining: 3.74s
486:
        learn: 0.2038332
                                  total: 2m 10s
                                                   remaining: 3.47s
487:
        learn: 0.2037652
                                  total: 2m 10s
                                                   remaining: 3.21s
                                  total: 2m 10s
488:
        learn: 0.2037029
                                                   remaining: 2.94s
489:
        learn: 0.2035314
                                  total: 2m 11s
                                                   remaining: 2.67s
490:
        learn: 0.2035075
                                  total: 2m 11s
                                                   remaining: 2.4s
491:
        learn: 0.2034267
                                  total: 2m 11s
                                                   remaining: 2.14s
                                                   remaining: 1.87s
492:
        learn: 0.2033873
                                  total: 2m 11s
493:
        learn: 0.2032960
                                  total: 2m 12s
                                                   remaining: 1.6s
494:
        learn: 0.2032650
                                  total: 2m 12s
                                                   remaining: 1.34s
                                  total: 2m 12s
495:
        learn: 0.2032401
                                                   remaining: 1.07s
        learn: 0.2031911
                                  total: 2m 12s
496:
                                                   remaining: 802ms
497:
        learn: 0.2031562
                                  total: 2m 13s
                                                   remaining: 535ms
498:
        learn: 0.2031257
                                  total: 2m 13s
                                                   remaining: 267ms
                                  total: 2m 13s
499:
        learn: 0.2030595
                                                   remaining: Ous
Learning rate set to 0.174288
                                                   remaining: 2m 17s
0:
        learn: 0.9730200
                                  total: 275ms
1:
        learn: 0.8897738
                                  total: 553ms
                                                   remaining: 2m 17s
2:
        learn: 0.8300559
                                  total: 768ms
                                                   remaining: 2m 7s
3:
                                  total: 938ms
        learn: 0.7869539
                                                   remaining: 1m 56s
4:
        learn: 0.6816113
                                  total: 1.15s
                                                   remaining: 1m 53s
5:
        learn: 0.5982421
                                  total: 1.37s
                                                   remaining: 1m 52s
6:
        learn: 0.5640157
                                  total: 1.57s
                                                   remaining: 1m 50s
7:
        learn: 0.5132655
                                  total: 1.8s
                                                   remaining: 1m 50s
8:
        learn: 0.4853489
                                  total: 2.03s
                                                   remaining: 1m 50s
9:
        learn: 0.4620767
                                  total: 2.25s
                                                   remaining: 1m 50s
10:
        learn: 0.4537139
                                  total: 2.46s
                                                   remaining: 1m 49s
        learn: 0.4206320
                                  total: 2.67s
                                                   remaining: 1m 48s
11:
12:
        learn: 0.3947966
                                  total: 2.9s
                                                   remaining: 1m 48s
13:
        learn: 0.3891090
                                  total: 3.18s
                                                   remaining: 1m 50s
14:
        learn: 0.3674795
                                  total: 3.46s
                                                   remaining: 1m 51s
15:
        learn: 0.3506674
                                  total: 3.73s
                                                   remaining: 1m 52s
16:
        learn: 0.3369340
                                  total: 4s
                                                   remaining: 1m 53s
17:
        learn: 0.3269735
                                  total: 4.29s
                                                   remaining: 1m 54s
                                  total: 4.59s
                                                   remaining: 1m 56s
18:
        learn: 0.3158469
19:
        learn: 0.3078270
                                  total: 4.87s
                                                   remaining: 1m 56s
20:
        learn: 0.3051346
                                  total: 5.17s
                                                   remaining: 1m 57s
21:
        learn: 0.2983504
                                  total: 5.48s
                                                   remaining: 1m 59s
22:
        learn: 0.2969992
                                  total: 5.74s
                                                   remaining: 1m 59s
23:
        learn: 0.2944420
                                  total: 6.01s
                                                   remaining: 1m 59s
24:
        learn: 0.2902898
                                  total: 6.28s
                                                   remaining: 1m 59s
```

```
25:
        learn: 0.2889166
                                  total: 6.53s
                                                   remaining: 1m 59s
26:
        learn: 0.2850886
                                  total: 6.79s
                                                   remaining: 1m 58s
27:
        learn: 0.2781643
                                  total: 7.06s
                                                   remaining: 1m 58s
28:
        learn: 0.2729671
                                  total: 7.28s
                                                   remaining: 1m 58s
                                                   remaining: 1m 57s
29:
        learn: 0.2680802
                                  total: 7.51s
        learn: 0.2630695
                                  total: 7.76s
                                                   remaining: 1m 57s
30:
31:
        learn: 0.2619443
                                  total: 8s
                                                   remaining: 1m 57s
32:
        learn: 0.2605993
                                  total: 8.25s
                                                   remaining: 1m 56s
33:
        learn: 0.2600903
                                  total: 8.5s
                                                   remaining: 1m 56s
34:
        learn: 0.2570390
                                  total: 8.78s
                                                   remaining: 1m 56s
35:
        learn: 0.2566872
                                  total: 9.05s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
36:
        learn: 0.2562254
                                  total: 9.3s
37:
        learn: 0.2553851
                                  total: 9.56s
                                                   remaining: 1m 56s
38:
        learn: 0.2548508
                                  total: 9.79s
                                                   remaining: 1m 55s
39:
        learn: 0.2546186
                                  total: 10.1s
                                                   remaining: 1m 55s
        learn: 0.2542767
40:
                                                   remaining: 1m 55s
                                  total: 10.3s
41:
        learn: 0.2539679
                                  total: 10.6s
                                                   remaining: 1m 55s
42:
        learn: 0.2535865
                                  total: 10.8s
                                                   remaining: 1m 55s
        learn: 0.2529711
                                  total: 11.1s
                                                   remaining: 1m 55s
43:
44:
        learn: 0.2524052
                                  total: 11.4s
                                                   remaining: 1m 54s
45:
        learn: 0.2513245
                                  total: 11.6s
                                                   remaining: 1m 54s
                                  total: 11.9s
46:
        learn: 0.2509829
                                                   remaining: 1m 54s
47:
        learn: 0.2507300
                                  total: 12.2s
                                                   remaining: 1m 54s
        learn: 0.2504310
                                  total: 12.5s
                                                   remaining: 1m 54s
48:
49:
        learn: 0.2499525
                                  total: 12.7s
                                                   remaining: 1m 54s
50:
        learn: 0.2488365
                                  total: 13s
                                                   remaining: 1m 54s
        learn: 0.2485013
                                                   remaining: 1m 54s
51:
                                  total: 13.3s
52:
        learn: 0.2482282
                                  total: 13.6s
                                                   remaining: 1m 54s
53:
        learn: 0.2479371
                                  total: 13.9s
                                                   remaining: 1m 54s
54:
        learn: 0.2470993
                                  total: 14.1s
                                                   remaining: 1m 54s
55:
        learn: 0.2468310
                                  total: 14.4s
                                                   remaining: 1m 54s
56:
        learn: 0.2465921
                                  total: 14.7s
                                                   remaining: 1m 54s
57:
        learn: 0.2464561
                                  total: 15s
                                                   remaining: 1m 54s
58:
        learn: 0.2438033
                                  total: 15.3s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
59:
        learn: 0.2436568
                                  total: 15.6s
60:
        learn: 0.2434031
                                  total: 15.8s
                                                   remaining: 1m 53s
61:
        learn: 0.2433049
                                  total: 16.1s
                                                   remaining: 1m 53s
62:
        learn: 0.2431036
                                  total: 16.3s
                                                   remaining: 1m 53s
        learn: 0.2428024
                                                   remaining: 1m 53s
63:
                                  total: 16.6s
64:
        learn: 0.2425136
                                  total: 16.9s
                                                   remaining: 1m 53s
65:
        learn: 0.2423230
                                  total: 17.2s
                                                   remaining: 1m 52s
        learn: 0.2419493
                                  total: 17.4s
                                                   remaining: 1m 52s
66:
67:
        learn: 0.2416571
                                  total: 17.7s
                                                   remaining: 1m 52s
68:
        learn: 0.2412688
                                  total: 18s
                                                   remaining: 1m 52s
69:
        learn: 0.2410319
                                  total: 18.3s
                                                   remaining: 1m 52s
70:
        learn: 0.2398887
                                  total: 18.5s
                                                   remaining: 1m 52s
71:
        learn: 0.2395185
                                  total: 18.9s
                                                   remaining: 1m 52s
72:
        learn: 0.2391369
                                  total: 19.2s
                                                   remaining: 1m 52s
```

```
73:
        learn: 0.2389893
                                  total: 19.4s
                                                   remaining: 1m 51s
74:
        learn: 0.2388464
                                  total: 19.7s
                                                   remaining: 1m 51s
                                  total: 20s
75:
        learn: 0.2388182
                                                   remaining: 1m 51s
76:
        learn: 0.2387138
                                  total: 20.3s
                                                   remaining: 1m 51s
                                                   remaining: 1m 51s
77:
        learn: 0.2384988
                                  total: 20.6s
        learn: 0.2383167
                                  total: 20.9s
                                                   remaining: 1m 51s
78:
79:
        learn: 0.2381760
                                  total: 21.2s
                                                   remaining: 1m 51s
80:
        learn: 0.2380416
                                  total: 21.5s
                                                   remaining: 1m 50s
81:
        learn: 0.2379223
                                  total: 21.8s
                                                   remaining: 1m 50s
82:
        learn: 0.2377036
                                  total: 22.1s
                                                   remaining: 1m 50s
        learn: 0.2375004
                                  total: 22.3s
                                                   remaining: 1m 50s
83:
                                                   remaining: 1m 50s
84:
        learn: 0.2373156
                                  total: 22.6s
                                  total: 22.8s
85:
        learn: 0.2370886
                                                   remaining: 1m 49s
86:
        learn: 0.2368589
                                  total: 23.1s
                                                   remaining: 1m 49s
87:
        learn: 0.2367031
                                  total: 23.4s
                                                   remaining: 1m 49s
88:
        learn: 0.2365998
                                  total: 23.7s
                                                   remaining: 1m 49s
89:
        learn: 0.2364640
                                  total: 23.9s
                                                   remaining: 1m 48s
                                  total: 24.2s
90:
        learn: 0.2363897
                                                   remaining: 1m 48s
        learn: 0.2363417
                                  total: 24.4s
                                                   remaining: 1m 48s
91:
92:
        learn: 0.2361663
                                  total: 24.7s
                                                   remaining: 1m 47s
        learn: 0.2360809
93:
                                  total: 24.8s
                                                   remaining: 1m 47s
                                  total: 25.1s
94:
        learn: 0.2358906
                                                   remaining: 1m 46s
95:
        learn: 0.2351282
                                  total: 25.3s
                                                   remaining: 1m 46s
        learn: 0.2349095
                                  total: 25.6s
                                                   remaining: 1m 46s
96:
97:
        learn: 0.2346132
                                  total: 25.9s
                                                   remaining: 1m 46s
                                                   remaining: 1m 45s
98:
        learn: 0.2345271
                                  total: 26.1s
        learn: 0.2343760
                                  total: 26.3s
                                                   remaining: 1m 45s
99:
100:
        learn: 0.2342526
                                  total: 26.5s
                                                   remaining: 1m 44s
        learn: 0.2340339
                                  total: 26.8s
101:
                                                   remaining: 1m 44s
102:
        learn: 0.2338459
                                  total: 27s
                                                   remaining: 1m 44s
        learn: 0.2337930
                                  total: 27.3s
                                                   remaining: 1m 43s
103:
104:
        learn: 0.2330868
                                  total: 27.5s
                                                   remaining: 1m 43s
105:
        learn: 0.2329685
                                  total: 27.8s
                                                   remaining: 1m 43s
106:
        learn: 0.2329109
                                  total: 28.1s
                                                   remaining: 1m 43s
                                                   remaining: 1m 43s
107:
        learn: 0.2326868
                                  total: 28.4s
                                  total: 28.7s
108:
        learn: 0.2326390
                                                   remaining: 1m 42s
109:
        learn: 0.2325871
                                  total: 29s
                                                   remaining: 1m 42s
110:
        learn: 0.2324614
                                  total: 29.2s
                                                   remaining: 1m 42s
        learn: 0.2323507
                                  total: 29.5s
                                                   remaining: 1m 42s
111:
112:
        learn: 0.2322094
                                  total: 29.8s
                                                   remaining: 1m 42s
113:
        learn: 0.2321191
                                  total: 30.1s
                                                   remaining: 1m 41s
        learn: 0.2315599
                                  total: 30.4s
                                                   remaining: 1m 41s
114:
115:
        learn: 0.2309700
                                  total: 30.6s
                                                   remaining: 1m 41s
116:
        learn: 0.2309127
                                  total: 30.9s
                                                   remaining: 1m 41s
117:
        learn: 0.2307699
                                  total: 31.2s
                                                   remaining: 1m 40s
118:
        learn: 0.2305918
                                  total: 31.5s
                                                   remaining: 1m 40s
119:
        learn: 0.2304523
                                  total: 31.7s
                                                   remaining: 1m 40s
120:
        learn: 0.2302358
                                  total: 32s
                                                   remaining: 1m 40s
```

```
learn: 0.2301192
121:
                                  total: 32.3s
                                                   remaining: 1m 39s
122:
        learn: 0.2300092
                                  total: 32.6s
                                                   remaining: 1m 39s
123:
        learn: 0.2299586
                                  total: 32.9s
                                                   remaining: 1m 39s
124:
        learn: 0.2295506
                                  total: 33.1s
                                                   remaining: 1m 39s
                                                   remaining: 1m 39s
125:
        learn: 0.2292116
                                  total: 33.4s
                                  total: 33.7s
                                                   remaining: 1m 39s
126:
        learn: 0.2291475
127:
        learn: 0.2288106
                                  total: 34s
                                                   remaining: 1m 38s
128:
        learn: 0.2287328
                                  total: 34.3s
                                                   remaining: 1m 38s
129:
        learn: 0.2286459
                                  total: 34.6s
                                                   remaining: 1m 38s
130:
        learn: 0.2285283
                                  total: 34.9s
                                                   remaining: 1m 38s
131:
        learn: 0.2283550
                                  total: 35.1s
                                                   remaining: 1m 37s
                                                   remaining: 1m 37s
132:
        learn: 0.2282366
                                  total: 35.4s
133:
        learn: 0.2281076
                                  total: 35.7s
                                                   remaining: 1m 37s
134:
        learn: 0.2280071
                                  total: 36s
                                                   remaining: 1m 37s
135:
        learn: 0.2279568
                                  total: 36.3s
                                                   remaining: 1m 37s
136:
        learn: 0.2277350
                                  total: 36.5s
                                                   remaining: 1m 36s
137:
        learn: 0.2274383
                                  total: 36.8s
                                                   remaining: 1m 36s
138:
        learn: 0.2273858
                                  total: 37.1s
                                                   remaining: 1m 36s
        learn: 0.2271669
                                  total: 37.4s
                                                   remaining: 1m 36s
139:
140:
        learn: 0.2270024
                                  total: 37.6s
                                                   remaining: 1m 35s
141:
        learn: 0.2269725
                                  total: 37.9s
                                                   remaining: 1m 35s
142:
        learn: 0.2269310
                                  total: 38.2s
                                                   remaining: 1m 35s
143:
        learn: 0.2268378
                                  total: 38.4s
                                                   remaining: 1m 35s
                                  total: 38.7s
                                                   remaining: 1m 34s
144:
        learn: 0.2267892
145:
        learn: 0.2267588
                                  total: 39s
                                                   remaining: 1m 34s
146:
        learn: 0.2266656
                                  total: 39.3s
                                                   remaining: 1m 34s
        learn: 0.2265727
                                  total: 39.5s
                                                   remaining: 1m 33s
147:
148:
        learn: 0.2264694
                                  total: 39.8s
                                                   remaining: 1m 33s
149:
        learn: 0.2262931
                                  total: 40s
                                                   remaining: 1m 33s
150:
        learn: 0.2262395
                                  total: 40.3s
                                                   remaining: 1m 33s
        learn: 0.2261261
151:
                                  total: 40.5s
                                                   remaining: 1m 32s
152:
        learn: 0.2259971
                                  total: 40.8s
                                                   remaining: 1m 32s
153:
        learn: 0.2259771
                                  total: 41s
                                                   remaining: 1m 32s
        learn: 0.2259026
                                  total: 41.3s
                                                   remaining: 1m 31s
154:
155:
                                                   remaining: 1m 31s
        learn: 0.2258097
                                  total: 41.5s
156:
        learn: 0.2256710
                                  total: 41.8s
                                                   remaining: 1m 31s
157:
        learn: 0.2254580
                                  total: 42.1s
                                                   remaining: 1m 31s
158:
        learn: 0.2254129
                                  total: 42.3s
                                                   remaining: 1m 30s
159:
        learn: 0.2253280
                                  total: 42.6s
                                                   remaining: 1m 30s
160:
        learn: 0.2252798
                                  total: 42.8s
                                                   remaining: 1m 30s
        learn: 0.2252198
                                  total: 43.1s
161:
                                                   remaining: 1m 29s
                                  total: 43.3s
                                                   remaining: 1m 29s
162:
        learn: 0.2251356
163:
        learn: 0.2250849
                                  total: 43.6s
                                                   remaining: 1m 29s
164:
        learn: 0.2250081
                                  total: 43.9s
                                                   remaining: 1m 29s
165:
        learn: 0.2249154
                                  total: 44.2s
                                                   remaining: 1m 28s
        learn: 0.2248613
166:
                                  total: 44.4s
                                                   remaining: 1m 28s
167:
        learn: 0.2246929
                                  total: 44.7s
                                                   remaining: 1m 28s
168:
        learn: 0.2245891
                                  total: 45s
                                                   remaining: 1m 28s
```

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169:
        learn: 0.2245528
                                  total: 45.3s
                                                   remaining: 1m 27s
170:
        learn: 0.2244855
                                  total: 45.6s
                                                   remaining: 1m 27s
171:
        learn: 0.2244409
                                  total: 45.8s
                                                   remaining: 1m 27s
172:
        learn: 0.2243707
                                                   remaining: 1m 27s
                                  total: 46.1s
                                                   remaining: 1m 26s
173:
        learn: 0.2243398
                                  total: 46.4s
                                  total: 46.7s
                                                   remaining: 1m 26s
174:
        learn: 0.2242997
175:
        learn: 0.2242687
                                  total: 46.9s
                                                   remaining: 1m 26s
176:
        learn: 0.2241695
                                  total: 47.2s
                                                   remaining: 1m 26s
177:
        learn: 0.2240935
                                  total: 47.4s
                                                   remaining: 1m 25s
178:
        learn: 0.2239818
                                  total: 47.7s
                                                   remaining: 1m 25s
179:
        learn: 0.2239187
                                  total: 48s
                                                   remaining: 1m 25s
                                                   remaining: 1m 25s
180:
        learn: 0.2236495
                                  total: 48.3s
        learn: 0.2234905
                                  total: 48.5s
                                                   remaining: 1m 24s
181:
182:
        learn: 0.2234728
                                  total: 48.8s
                                                   remaining: 1m 24s
183:
        learn: 0.2233271
                                  total: 49.1s
                                                   remaining: 1m 24s
184:
        learn: 0.2230675
                                  total: 49.4s
                                                   remaining: 1m 24s
185:
        learn: 0.2229642
                                  total: 49.7s
                                                   remaining: 1m 23s
                                  total: 50s
186:
        learn: 0.2228703
                                                   remaining: 1m 23s
        learn: 0.2228226
                                                   remaining: 1m 23s
187:
                                  total: 50.2s
188:
        learn: 0.2227879
                                  total: 50.5s
                                                   remaining: 1m 23s
189:
        learn: 0.2227397
                                  total: 50.8s
                                                   remaining: 1m 22s
190:
        learn: 0.2227095
                                  total: 51.1s
                                                   remaining: 1m 22s
191:
        learn: 0.2226814
                                  total: 51.3s
                                                   remaining: 1m 22s
                                                   remaining: 1m 21s
192:
        learn: 0.2225661
                                  total: 51.5s
193:
        learn: 0.2224686
                                  total: 51.8s
                                                   remaining: 1m 21s
                                  total: 52s
194:
        learn: 0.2223418
                                                   remaining: 1m 21s
        learn: 0.2221157
                                                   remaining: 1m 20s
195:
                                  total: 52.2s
196:
        learn: 0.2220170
                                  total: 52.4s
                                                   remaining: 1m 20s
197:
        learn: 0.2208608
                                  total: 52.6s
                                                   remaining: 1m 20s
198:
        learn: 0.2207586
                                  total: 52.8s
                                                   remaining: 1m 19s
199:
        learn: 0.2206580
                                  total: 53s
                                                   remaining: 1m 19s
200:
        learn: 0.2206112
                                  total: 53.2s
                                                   remaining: 1m 19s
201:
        learn: 0.2205771
                                  total: 53.4s
                                                   remaining: 1m 18s
202:
        learn: 0.2205192
                                  total: 53.6s
                                                   remaining: 1m 18s
                                                   remaining: 1m 18s
203:
        learn: 0.2203916
                                  total: 53.8s
204:
        learn: 0.2202734
                                  total: 54.1s
                                                   remaining: 1m 17s
205:
        learn: 0.2201718
                                  total: 54.4s
                                                   remaining: 1m 17s
206:
        learn: 0.2201433
                                  total: 54.6s
                                                   remaining: 1m 17s
207:
        learn: 0.2201213
                                  total: 54.9s
                                                   remaining: 1m 17s
208:
        learn: 0.2199945
                                  total: 55.2s
                                                   remaining: 1m 16s
209:
        learn: 0.2199006
                                  total: 55.4s
                                                   remaining: 1m 16s
                                                   remaining: 1m 16s
210:
        learn: 0.2194677
                                  total: 55.7s
211:
        learn: 0.2194534
                                  total: 55.9s
                                                   remaining: 1m 15s
212:
        learn: 0.2193999
                                  total: 56.2s
                                                   remaining: 1m 15s
213:
        learn: 0.2193309
                                  total: 56.4s
                                                   remaining: 1m 15s
214:
        learn: 0.2192947
                                  total: 56.7s
                                                   remaining: 1m 15s
215:
        learn: 0.2192149
                                  total: 56.9s
                                                   remaining: 1m 14s
216:
        learn: 0.2191037
                                  total: 57.1s
                                                   remaining: 1m 14s
```

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217:
        learn: 0.2190858
                                  total: 57.4s
                                                   remaining: 1m 14s
218:
        learn: 0.2190315
                                  total: 57.6s
                                                   remaining: 1m 13s
219:
        learn: 0.2189068
                                  total: 57.9s
                                                   remaining: 1m 13s
220:
        learn: 0.2188566
                                  total: 58.1s
                                                   remaining: 1m 13s
221:
        learn: 0.2188279
                                  total: 58.3s
                                                   remaining: 1m 13s
222:
                                  total: 58.5s
                                                   remaining: 1m 12s
        learn: 0.2188074
223:
        learn: 0.2187426
                                  total: 58.8s
                                                   remaining: 1m 12s
224:
        learn: 0.2186263
                                  total: 59s
                                                   remaining: 1m 12s
225:
        learn: 0.2184484
                                  total: 59.3s
                                                   remaining: 1m 11s
226:
        learn: 0.2183412
                                  total: 59.6s
                                                   remaining: 1m 11s
227:
        learn: 0.2183036
                                  total: 59.8s
                                                   remaining: 1m 11s
228:
        learn: 0.2182743
                                  total: 1m
                                                   remaining: 1m 11s
229:
        learn: 0.2180962
                                                   remaining: 1m 10s
                                  total: 1m
230:
        learn: 0.2177478
                                  total: 1m
                                                   remaining: 1m 10s
231:
        learn: 0.2176335
                                  total: 1m
                                                   remaining: 1m 10s
232:
        learn: 0.2175396
                                  total: 1m 1s
                                                   remaining: 1m 10s
233:
        learn: 0.2174842
                                  total: 1m 1s
                                                   remaining: 1m 9s
234:
        learn: 0.2174369
                                  total: 1m 1s
                                                   remaining: 1m 9s
        learn: 0.2174119
                                                   remaining: 1m 9s
235:
                                  total: 1m 1s
236:
        learn: 0.2173747
                                  total: 1m 2s
                                                   remaining: 1m 8s
237:
        learn: 0.2173366
                                  total: 1m 2s
                                                   remaining: 1m 8s
                                  total: 1m 2s
238:
        learn: 0.2166759
                                                   remaining: 1m 8s
239:
        learn: 0.2166223
                                  total: 1m 2s
                                                   remaining: 1m 8s
240:
        learn: 0.2165688
                                  total: 1m 3s
                                                   remaining: 1m 7s
241:
        learn: 0.2164910
                                  total: 1m 3s
                                                   remaining: 1m 7s
242:
        learn: 0.2163549
                                  total: 1m 3s
                                                   remaining: 1m 7s
243:
        learn: 0.2162824
                                  total: 1m 4s
                                                   remaining: 1m 7s
244:
        learn: 0.2161928
                                  total: 1m 4s
                                                   remaining: 1m 6s
245:
        learn: 0.2161630
                                  total: 1m 4s
                                                   remaining: 1m 6s
246:
        learn: 0.2160494
                                  total: 1m 4s
                                                   remaining: 1m 6s
247:
        learn: 0.2159952
                                  total: 1m 5s
                                                   remaining: 1m 6s
248:
        learn: 0.2159391
                                  total: 1m 5s
                                                   remaining: 1m 5s
249:
        learn: 0.2159157
                                  total: 1m 5s
                                                   remaining: 1m 5s
250:
        learn: 0.2157573
                                  total: 1m 6s
                                                   remaining: 1m 5s
251:
        learn: 0.2157284
                                  total: 1m 6s
                                                   remaining: 1m 5s
252:
        learn: 0.2156619
                                  total: 1m 6s
                                                   remaining: 1m 4s
253:
        learn: 0.2156222
                                  total: 1m 6s
                                                   remaining: 1m 4s
254:
        learn: 0.2154967
                                  total: 1m 7s
                                                   remaining: 1m 4s
255:
                                  total: 1m 7s
        learn: 0.2154423
                                                   remaining: 1m 4s
256:
        learn: 0.2153722
                                  total: 1m 7s
                                                   remaining: 1m 4s
                                  total: 1m 7s
257:
        learn: 0.2153170
                                                   remaining: 1m 3s
258:
        learn: 0.2152977
                                                   remaining: 1m 3s
                                  total: 1m 8s
259:
        learn: 0.2152426
                                  total: 1m 8s
                                                   remaining: 1m 3s
260:
        learn: 0.2150752
                                  total: 1m 8s
                                                   remaining: 1m 2s
261:
        learn: 0.2150114
                                  total: 1m 9s
                                                   remaining: 1m 2s
262:
        learn: 0.2149060
                                  total: 1m 9s
                                                   remaining: 1m 2s
263:
        learn: 0.2147893
                                  total: 1m 9s
                                                   remaining: 1m 2s
264:
        learn: 0.2147485
                                  total: 1m 9s
                                                   remaining: 1m 1s
```

```
learn: 0.2146485
265:
                                  total: 1m 10s
                                                   remaining: 1m 1s
266:
        learn: 0.2144950
                                  total: 1m 10s
                                                   remaining: 1m 1s
267:
        learn: 0.2143570
                                  total: 1m 10s
                                                   remaining: 1m 1s
268:
        learn: 0.2142928
                                  total: 1m 10s
                                                   remaining: 1m
269:
        learn: 0.2142612
                                  total: 1m 11s
                                                   remaining: 1m
                                  total: 1m 11s
                                                   remaining: 1m
270:
        learn: 0.2142095
271:
        learn: 0.2140777
                                  total: 1m 11s
                                                   remaining: 1m
                                                   remaining: 59.9s
272:
        learn: 0.2139425
                                  total: 1m 11s
273:
        learn: 0.2138838
                                  total: 1m 12s
                                                   remaining: 59.6s
274:
        learn: 0.2138405
                                  total: 1m 12s
                                                   remaining: 59.3s
275:
        learn: 0.2136067
                                  total: 1m 12s
                                                   remaining: 59s
276:
        learn: 0.2135691
                                  total: 1m 12s
                                                   remaining: 58.7s
277:
        learn: 0.2134514
                                  total: 1m 13s
                                                   remaining: 58.5s
278:
        learn: 0.2133945
                                  total: 1m 13s
                                                   remaining: 58.2s
279:
        learn: 0.2133862
                                  total: 1m 13s
                                                   remaining: 57.9s
280:
        learn: 0.2132940
                                  total: 1m 14s
                                                   remaining: 57.7s
281:
        learn: 0.2132009
                                  total: 1m 14s
                                                   remaining: 57.4s
                                  total: 1m 14s
282:
        learn: 0.2130663
                                                   remaining: 57.1s
        learn: 0.2130127
                                  total: 1m 14s
283:
                                                   remaining: 56.9s
284:
        learn: 0.2128396
                                  total: 1m 15s
                                                   remaining: 56.6s
285:
        learn: 0.2128266
                                  total: 1m 15s
                                                   remaining: 56.3s
286:
        learn: 0.2127644
                                  total: 1m 15s
                                                   remaining: 56s
287:
        learn: 0.2126297
                                  total: 1m 15s
                                                   remaining: 55.7s
288:
        learn: 0.2125721
                                  total: 1m 15s
                                                   remaining: 55.5s
289:
        learn: 0.2124928
                                  total: 1m 16s
                                                   remaining: 55.2s
290:
        learn: 0.2124284
                                  total: 1m 16s
                                                   remaining: 54.9s
291:
        learn: 0.2123025
                                  total: 1m 16s
                                                   remaining: 54.7s
292:
        learn: 0.2122409
                                  total: 1m 16s
                                                   remaining: 54.4s
293:
        learn: 0.2122087
                                  total: 1m 17s
                                                   remaining: 54.1s
294:
        learn: 0.2121321
                                  total: 1m 17s
                                                   remaining: 53.9s
295:
        learn: 0.2120725
                                  total: 1m 17s
                                                   remaining: 53.6s
296:
        learn: 0.2119838
                                  total: 1m 18s
                                                   remaining: 53.4s
297:
        learn: 0.2118791
                                  total: 1m 18s
                                                   remaining: 53.1s
298:
        learn: 0.2118168
                                  total: 1m 18s
                                                   remaining: 52.9s
299:
        learn: 0.2117720
                                  total: 1m 18s
                                                   remaining: 52.6s
300:
        learn: 0.2116943
                                  total: 1m 19s
                                                   remaining: 52.4s
301:
        learn: 0.2116489
                                  total: 1m 19s
                                                   remaining: 52.1s
302:
        learn: 0.2115909
                                  total: 1m 19s
                                                   remaining: 51.9s
303:
        learn: 0.2114708
                                  total: 1m 20s
                                                   remaining: 51.6s
304:
        learn: 0.2114304
                                  total: 1m 20s
                                                   remaining: 51.4s
305:
        learn: 0.2113636
                                  total: 1m 20s
                                                   remaining: 51.1s
306:
        learn: 0.2112985
                                  total: 1m 20s
                                                   remaining: 50.9s
307:
        learn: 0.2111220
                                  total: 1m 21s
                                                   remaining: 50.6s
308:
        learn: 0.2110031
                                  total: 1m 21s
                                                   remaining: 50.3s
                                                   remaining: 50.1s
309:
        learn: 0.2109616
                                  total: 1m 21s
310:
        learn: 0.2109239
                                  total: 1m 22s
                                                   remaining: 49.8s
311:
        learn: 0.2108325
                                  total: 1m 22s
                                                   remaining: 49.6s
312:
        learn: 0.2107766
                                  total: 1m 22s
                                                   remaining: 49.3s
```

```
learn: 0.2106935
313:
                                  total: 1m 22s
                                                   remaining: 49.1s
314:
        learn: 0.2106662
                                  total: 1m 23s
                                                   remaining: 48.8s
315:
        learn: 0.2106358
                                  total: 1m 23s
                                                   remaining: 48.5s
        learn: 0.2105496
                                  total: 1m 23s
316:
                                                   remaining: 48.2s
317:
        learn: 0.2104975
                                  total: 1m 23s
                                                   remaining: 47.9s
                                  total: 1m 23s
318:
        learn: 0.2104015
                                                   remaining: 47.6s
319:
        learn: 0.2102151
                                  total: 1m 24s
                                                   remaining: 47.3s
        learn: 0.2101904
320:
                                  total: 1m 24s
                                                   remaining: 47s
321:
        learn: 0.2100874
                                  total: 1m 24s
                                                   remaining: 46.8s
322:
        learn: 0.2100266
                                  total: 1m 24s
                                                   remaining: 46.5s
323:
        learn: 0.2099784
                                  total: 1m 24s
                                                   remaining: 46.2s
324:
        learn: 0.2099512
                                  total: 1m 25s
                                                   remaining: 45.9s
325:
        learn: 0.2098982
                                  total: 1m 25s
                                                   remaining: 45.6s
326:
        learn: 0.2098735
                                  total: 1m 25s
                                                   remaining: 45.3s
                                                   remaining: 45s
327:
        learn: 0.2098455
                                  total: 1m 25s
328:
        learn: 0.2097608
                                  total: 1m 26s
                                                   remaining: 44.8s
329:
        learn: 0.2096575
                                  total: 1m 26s
                                                   remaining: 44.5s
                                  total: 1m 26s
330:
        learn: 0.2095527
                                                   remaining: 44.2s
331:
        learn: 0.2095370
                                  total: 1m 26s
                                                   remaining: 44s
332:
        learn: 0.2094412
                                  total: 1m 27s
                                                   remaining: 43.7s
333:
        learn: 0.2093831
                                  total: 1m 27s
                                                   remaining: 43.4s
                                  total: 1m 27s
334:
        learn: 0.2093504
                                                   remaining: 43.2s
                                                  remaining: 42.9s
335:
        learn: 0.2092722
                                  total: 1m 27s
                                  total: 1m 28s
336:
        learn: 0.2092334
                                                   remaining: 42.6s
337:
        learn: 0.2091913
                                  total: 1m 28s
                                                   remaining: 42.4s
                                  total: 1m 28s
338:
        learn: 0.2091594
                                                   remaining: 42.1s
339:
        learn: 0.2090899
                                  total: 1m 28s
                                                   remaining: 41.8s
340:
        learn: 0.2090634
                                  total: 1m 29s
                                                   remaining: 41.6s
341:
        learn: 0.2090081
                                  total: 1m 29s
                                                   remaining: 41.3s
342:
        learn: 0.2088894
                                  total: 1m 29s
                                                   remaining: 41s
343:
        learn: 0.2088496
                                  total: 1m 29s
                                                   remaining: 40.8s
344:
        learn: 0.2087080
                                  total: 1m 30s
                                                   remaining: 40.5s
345:
        learn: 0.2085527
                                  total: 1m 30s
                                                   remaining: 40.2s
        learn: 0.2084962
                                  total: 1m 30s
                                                   remaining: 40s
346:
347:
        learn: 0.2083559
                                  total: 1m 30s
                                                   remaining: 39.7s
348:
        learn: 0.2082904
                                  total: 1m 31s
                                                   remaining: 39.4s
349:
        learn: 0.2082270
                                  total: 1m 31s
                                                   remaining: 39.2s
350:
        learn: 0.2081068
                                  total: 1m 31s
                                                   remaining: 38.9s
351:
        learn: 0.2080730
                                  total: 1m 31s
                                                   remaining: 38.7s
352:
        learn: 0.2080578
                                  total: 1m 32s
                                                   remaining: 38.4s
353:
        learn: 0.2079971
                                  total: 1m 32s
                                                   remaining: 38.1s
354:
        learn: 0.2079549
                                  total: 1m 32s
                                                   remaining: 37.9s
355:
        learn: 0.2079132
                                  total: 1m 33s
                                                   remaining: 37.6s
356:
        learn: 0.2078425
                                  total: 1m 33s
                                                   remaining: 37.4s
                                                   remaining: 37.1s
357:
        learn: 0.2078107
                                  total: 1m 33s
358:
        learn: 0.2077079
                                  total: 1m 33s
                                                   remaining: 36.9s
359:
        learn: 0.2076036
                                  total: 1m 34s
                                                   remaining: 36.7s
360:
        learn: 0.2075264
                                  total: 1m 34s
                                                   remaining: 36.4s
```

```
learn: 0.2074918
361:
                                  total: 1m 34s
                                                   remaining: 36.2s
362:
        learn: 0.2074011
                                  total: 1m 35s
                                                   remaining: 35.9s
363:
        learn: 0.2073261
                                  total: 1m 35s
                                                   remaining: 35.6s
        learn: 0.2070182
364:
                                  total: 1m 35s
                                                   remaining: 35.4s
365:
        learn: 0.2069719
                                  total: 1m 35s
                                                   remaining: 35.1s
                                  total: 1m 36s
366:
        learn: 0.2069541
                                                   remaining: 34.8s
367:
        learn: 0.2068292
                                  total: 1m 36s
                                                   remaining: 34.6s
368:
        learn: 0.2067355
                                  total: 1m 36s
                                                   remaining: 34.3s
369:
        learn: 0.2066936
                                  total: 1m 36s
                                                   remaining: 34.1s
370:
        learn: 0.2066387
                                  total: 1m 37s
                                                   remaining: 33.8s
371:
        learn: 0.2065494
                                  total: 1m 37s
                                                   remaining: 33.6s
372:
        learn: 0.2065167
                                  total: 1m 37s
                                                   remaining: 33.3s
373:
        learn: 0.2064571
                                  total: 1m 38s
                                                   remaining: 33.1s
374:
        learn: 0.2063663
                                  total: 1m 38s
                                                   remaining: 32.9s
375:
        learn: 0.2062733
                                  total: 1m 38s
                                                   remaining: 32.6s
376:
        learn: 0.2061659
                                  total: 1m 39s
                                                   remaining: 32.4s
377:
        learn: 0.2061131
                                  total: 1m 39s
                                                   remaining: 32.1s
                                  total: 1m 39s
378:
        learn: 0.2060596
                                                   remaining: 31.9s
        learn: 0.2060351
379:
                                  total: 1m 40s
                                                   remaining: 31.6s
380:
        learn: 0.2058907
                                  total: 1m 40s
                                                   remaining: 31.3s
381:
        learn: 0.2058546
                                  total: 1m 40s
                                                   remaining: 31.1s
382:
        learn: 0.2058417
                                  total: 1m 40s
                                                   remaining: 30.8s
383:
        learn: 0.2057909
                                  total: 1m 41s
                                                   remaining: 30.6s
384:
        learn: 0.2057559
                                  total: 1m 41s
                                                   remaining: 30.3s
385:
        learn: 0.2057193
                                  total: 1m 41s
                                                   remaining: 30s
        learn: 0.2056187
                                  total: 1m 41s
                                                   remaining: 29.7s
386:
387:
        learn: 0.2055716
                                  total: 1m 42s
                                                   remaining: 29.5s
388:
        learn: 0.2055118
                                  total: 1m 42s
                                                   remaining: 29.2s
389:
        learn: 0.2054980
                                  total: 1m 42s
                                                   remaining: 29s
390:
        learn: 0.2054615
                                  total: 1m 42s
                                                   remaining: 28.7s
391:
        learn: 0.2054207
                                  total: 1m 43s
                                                   remaining: 28.4s
392:
        learn: 0.2053043
                                  total: 1m 43s
                                                   remaining: 28.2s
393:
        learn: 0.2052498
                                  total: 1m 43s
                                                   remaining: 27.9s
394:
        learn: 0.2052233
                                  total: 1m 43s
                                                   remaining: 27.6s
395:
        learn: 0.2051642
                                  total: 1m 44s
                                                   remaining: 27.4s
        learn: 0.2050958
396:
                                  total: 1m 44s
                                                   remaining: 27.1s
397:
        learn: 0.2050793
                                  total: 1m 44s
                                                   remaining: 26.8s
398:
        learn: 0.2050087
                                  total: 1m 44s
                                                   remaining: 26.6s
399:
        learn: 0.2049895
                                  total: 1m 45s
                                                   remaining: 26.3s
400:
        learn: 0.2048435
                                  total: 1m 45s
                                                   remaining: 26s
        learn: 0.2047511
401:
                                  total: 1m 45s
                                                   remaining: 25.8s
402:
        learn: 0.2047168
                                  total: 1m 45s
                                                   remaining: 25.5s
403:
        learn: 0.2046183
                                  total: 1m 46s
                                                   remaining: 25.2s
404:
        learn: 0.2045761
                                  total: 1m 46s
                                                   remaining: 25s
                                                   remaining: 24.7s
405:
        learn: 0.2045221
                                  total: 1m 46s
        learn: 0.2045070
406:
                                  total: 1m 46s
                                                   remaining: 24.4s
407:
        learn: 0.2044369
                                  total: 1m 47s
                                                   remaining: 24.2s
408:
        learn: 0.2043960
                                  total: 1m 47s
                                                   remaining: 23.9s
```

```
409:
        learn: 0.2043579
                                  total: 1m 47s
                                                   remaining: 23.7s
410:
        learn: 0.2043150
                                  total: 1m 48s
                                                   remaining: 23.4s
411:
        learn: 0.2042546
                                  total: 1m 48s
                                                   remaining: 23.1s
412:
        learn: 0.2042421
                                                   remaining: 22.9s
                                  total: 1m 48s
413:
        learn: 0.2042180
                                  total: 1m 48s
                                                   remaining: 22.6s
                                  total: 1m 49s
                                                   remaining: 22.3s
414:
        learn: 0.2041894
415:
        learn: 0.2040834
                                  total: 1m 49s
                                                   remaining: 22.1s
        learn: 0.2040632
416:
                                  total: 1m 49s
                                                   remaining: 21.8s
417:
        learn: 0.2040403
                                  total: 1m 49s
                                                   remaining: 21.6s
418:
        learn: 0.2039712
                                  total: 1m 50s
                                                   remaining: 21.3s
419:
        learn: 0.2038895
                                  total: 1m 50s
                                                   remaining: 21s
420:
        learn: 0.2038517
                                  total: 1m 50s
                                                   remaining: 20.8s
421:
        learn: 0.2038302
                                  total: 1m 50s
                                                   remaining: 20.5s
422:
        learn: 0.2037915
                                  total: 1m 51s
                                                   remaining: 20.3s
423:
        learn: 0.2037696
                                  total: 1m 51s
                                                   remaining: 20s
424:
        learn: 0.2037524
                                  total: 1m 51s
                                                   remaining: 19.7s
425:
        learn: 0.2037114
                                  total: 1m 52s
                                                   remaining: 19.5s
                                  total: 1m 52s
426:
        learn: 0.2036667
                                                   remaining: 19.2s
        learn: 0.2036099
                                  total: 1m 52s
427:
                                                   remaining: 18.9s
428:
        learn: 0.2034625
                                  total: 1m 52s
                                                   remaining: 18.7s
429:
        learn: 0.2034403
                                  total: 1m 53s
                                                   remaining: 18.4s
430:
        learn: 0.2034266
                                  total: 1m 53s
                                                   remaining: 18.2s
431:
        learn: 0.2034002
                                  total: 1m 53s
                                                   remaining: 17.9s
432:
        learn: 0.2033657
                                  total: 1m 53s
                                                   remaining: 17.6s
433:
        learn: 0.2032904
                                  total: 1m 54s
                                                   remaining: 17.4s
434:
        learn: 0.2032601
                                  total: 1m 54s
                                                   remaining: 17.1s
435:
        learn: 0.2032119
                                  total: 1m 54s
                                                   remaining: 16.8s
436:
        learn: 0.2031469
                                  total: 1m 54s
                                                   remaining: 16.6s
437:
        learn: 0.2031129
                                  total: 1m 55s
                                                   remaining: 16.3s
438:
        learn: 0.2030767
                                  total: 1m 55s
                                                   remaining: 16s
439:
        learn: 0.2030568
                                  total: 1m 55s
                                                   remaining: 15.8s
440:
        learn: 0.2030099
                                  total: 1m 56s
                                                   remaining: 15.5s
441:
        learn: 0.2028740
                                  total: 1m 56s
                                                   remaining: 15.3s
442:
        learn: 0.2028293
                                  total: 1m 56s
                                                   remaining: 15s
443:
        learn: 0.2027518
                                  total: 1m 56s
                                                   remaining: 14.7s
        learn: 0.2026591
444:
                                  total: 1m 57s
                                                   remaining: 14.5s
445:
        learn: 0.2026118
                                  total: 1m 57s
                                                   remaining: 14.2s
446:
        learn: 0.2024887
                                  total: 1m 57s
                                                   remaining: 14s
447:
        learn: 0.2023952
                                  total: 1m 57s
                                                   remaining: 13.7s
448:
        learn: 0.2023402
                                  total: 1m 58s
                                                   remaining: 13.4s
449:
        learn: 0.2023141
                                  total: 1m 58s
                                                   remaining: 13.2s
450:
        learn: 0.2023046
                                  total: 1m 58s
                                                   remaining: 12.9s
451:
        learn: 0.2022641
                                  total: 1m 59s
                                                   remaining: 12.6s
452:
        learn: 0.2022421
                                  total: 1m 59s
                                                   remaining: 12.4s
                                                   remaining: 12.1s
453:
        learn: 0.2022030
                                  total: 1m 59s
454:
        learn: 0.2021130
                                  total: 1m 59s
                                                   remaining: 11.9s
455:
        learn: 0.2020801
                                  total: 2m
                                                   remaining: 11.6s
456:
        learn: 0.2020714
                                  total: 2m
                                                   remaining: 11.3s
```

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457:
        learn: 0.2018675
                                  total: 2m
                                                   remaining: 11.1s
458:
        learn: 0.2018120
                                  total: 2m
                                                   remaining: 10.8s
459:
        learn: 0.2017699
                                  total: 2m 1s
                                                   remaining: 10.5s
        learn: 0.2016767
                                  total: 2m 1s
                                                   remaining: 10.3s
460:
461:
        learn: 0.2016455
                                  total: 2m 1s
                                                   remaining: 10s
                                  total: 2m 1s
                                                   remaining: 9.74s
462:
        learn: 0.2015600
463:
        learn: 0.2014744
                                  total: 2m 2s
                                                   remaining: 9.48s
464:
        learn: 0.2014368
                                  total: 2m 2s
                                                   remaining: 9.21s
465:
        learn: 0.2013700
                                  total: 2m 2s
                                                   remaining: 8.95s
466:
        learn: 0.2013113
                                  total: 2m 2s
                                                   remaining: 8.68s
467:
        learn: 0.2012512
                                  total: 2m 3s
                                                   remaining: 8.42s
468:
        learn: 0.2012216
                                  total: 2m 3s
                                                   remaining: 8.15s
469:
        learn: 0.2011907
                                  total: 2m 3s
                                                   remaining: 7.89s
470:
        learn: 0.2011511
                                  total: 2m 3s
                                                   remaining: 7.62s
                                                   remaining: 7.36s
471:
        learn: 0.2010445
                                  total: 2m 4s
472:
        learn: 0.2009956
                                  total: 2m 4s
                                                   remaining: 7.1s
473:
        learn: 0.2009560
                                  total: 2m 4s
                                                   remaining: 6.84s
                                  total: 2m 4s
474:
        learn: 0.2009085
                                                   remaining: 6.57s
        learn: 0.2008464
                                  total: 2m 5s
475:
                                                   remaining: 6.31s
476:
        learn: 0.2007240
                                  total: 2m 5s
                                                   remaining: 6.05s
                                  total: 2m 5s
477:
        learn: 0.2007130
                                                   remaining: 5.79s
                                  total: 2m 6s
478:
        learn: 0.2006327
                                                   remaining: 5.53s
479:
        learn: 0.2006117
                                  total: 2m 6s
                                                   remaining: 5.26s
480:
        learn: 0.2005849
                                  total: 2m 6s
                                                   remaining: 5s
481:
        learn: 0.2004824
                                  total: 2m 6s
                                                   remaining: 4.74s
482:
        learn: 0.2004512
                                  total: 2m 7s
                                                   remaining: 4.47s
483:
        learn: 0.2004057
                                  total: 2m 7s
                                                   remaining: 4.21s
484:
        learn: 0.2003135
                                  total: 2m 7s
                                                   remaining: 3.95s
485:
        learn: 0.2002975
                                  total: 2m 7s
                                                   remaining: 3.69s
486:
        learn: 0.2002199
                                  total: 2m 8s
                                                   remaining: 3.42s
487:
        learn: 0.2000273
                                  total: 2m 8s
                                                   remaining: 3.16s
488:
        learn: 0.1999836
                                  total: 2m 8s
                                                   remaining: 2.9s
489:
        learn: 0.1999137
                                  total: 2m 9s
                                                   remaining: 2.63s
490:
        learn: 0.1998717
                                  total: 2m 9s
                                                   remaining: 2.37s
491:
        learn: 0.1998295
                                  total: 2m 9s
                                                   remaining: 2.11s
492:
        learn: 0.1997458
                                  total: 2m 9s
                                                   remaining: 1.84s
493:
        learn: 0.1996720
                                  total: 2m 10s
                                                   remaining: 1.58s
494:
        learn: 0.1996460
                                  total: 2m 10s
                                                   remaining: 1.32s
                                  total: 2m 10s
495:
        learn: 0.1995756
                                                   remaining: 1.05s
496:
        learn: 0.1995448
                                  total: 2m 11s
                                                   remaining: 791ms
                                  total: 2m 11s
497:
        learn: 0.1995025
                                                   remaining: 527ms
498:
        learn: 0.1994633
                                  total: 2m 11s
                                                   remaining: 264ms
499:
                                                   remaining: Ous
        learn: 0.1993889
                                  total: 2m 11s
Learning rate set to 0.174288
0:
        learn: 0.9757351
                                  total: 291ms
                                                   remaining: 2m 25s
1:
        learn: 0.8962446
                                  total: 531ms
                                                   remaining: 2m 12s
2:
        learn: 0.8337171
                                  total: 812ms
                                                   remaining: 2m 14s
3:
        learn: 0.7881487
                                  total: 1.04s
                                                   remaining: 2m 9s
```

```
4:
        learn: 0.7037020
                                  total: 1.26s
                                                   remaining: 2m 4s
5:
        learn: 0.6421275
                                  total: 1.48s
                                                   remaining: 2m 2s
6:
        learn: 0.5694141
                                  total: 1.69s
                                                   remaining: 1m 59s
7:
        learn: 0.5519573
                                  total: 1.88s
                                                   remaining: 1m 55s
                                                   remaining: 1m 53s
8:
        learn: 0.5102172
                                  total: 2.08s
                                  total: 2.3s
                                                   remaining: 1m 52s
9:
        learn: 0.4710066
10:
        learn: 0.4389387
                                  total: 2.49s
                                                   remaining: 1m 50s
11.
        learn: 0.4319440
                                  total: 2.69s
                                                   remaining: 1m 49s
12:
        learn: 0.4076903
                                  total: 2.86s
                                                   remaining: 1m 47s
13:
        learn: 0.3881053
                                  total: 3.05s
                                                   remaining: 1m 45s
14:
        learn: 0.3730187
                                  total: 3.25s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
15:
        learn: 0.3595781
                                  total: 3.5s
        learn: 0.3490590
                                  total: 3.73s
                                                   remaining: 1m 45s
16:
17:
        learn: 0.3330731
                                  total: 3.98s
                                                   remaining: 1m 46s
18:
        learn: 0.3204427
                                  total: 4.26s
                                                   remaining: 1m 47s
        learn: 0.3182672
                                                   remaining: 1m 48s
19:
                                  total: 4.51s
20:
        learn: 0.3159507
                                  total: 4.76s
                                                   remaining: 1m 48s
21:
        learn: 0.3057775
                                  total: 5.03s
                                                   remaining: 1m 49s
22:
        learn: 0.2971320
                                  total: 5.29s
                                                   remaining: 1m 49s
23:
        learn: 0.2954510
                                  total: 5.54s
                                                   remaining: 1m 49s
                                  total: 5.8s
24:
        learn: 0.2943721
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
25:
        learn: 0.2932065
                                  total: 6.07s
26:
        learn: 0.2919016
                                  total: 6.33s
                                                   remaining: 1m 50s
27:
                                  total: 6.64s
                                                   remaining: 1m 51s
        learn: 0.2856200
28:
        learn: 0.2811402
                                  total: 6.92s
                                                   remaining: 1m 52s
29:
        learn: 0.2801783
                                  total: 7.21s
                                                   remaining: 1m 52s
        learn: 0.2782822
                                  total: 7.47s
                                                   remaining: 1m 53s
30:
31:
        learn: 0.2735834
                                  total: 7.76s
                                                   remaining: 1m 53s
32:
        learn: 0.2724837
                                  total: 8.07s
                                                   remaining: 1m 54s
33:
        learn: 0.2713052
                                  total: 8.34s
                                                   remaining: 1m 54s
34:
        learn: 0.2676444
                                  total: 8.62s
                                                   remaining: 1m 54s
35:
        learn: 0.2650727
                                  total: 8.92s
                                                   remaining: 1m 54s
36:
        learn: 0.2604626
                                  total: 9.23s
                                                   remaining: 1m 55s
37:
        learn: 0.2597275
                                  total: 9.53s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
38:
        learn: 0.2560201
                                  total: 9.8s
39:
        learn: 0.2555549
                                  total: 10.1s
                                                   remaining: 1m 55s
40:
        learn: 0.2525740
                                  total: 10.3s
                                                   remaining: 1m 55s
41:
        learn: 0.2522600
                                  total: 10.7s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
42.
        learn: 0.2519566
                                  total: 11s
43:
        learn: 0.2514644
                                  total: 11.3s
                                                   remaining: 1m 56s
44:
        learn: 0.2510378
                                  total: 11.5s
                                                   remaining: 1m 56s
45:
        learn: 0.2505506
                                                   remaining: 1m 56s
                                  total: 11.8s
46:
        learn: 0.2501504
                                  total: 12.1s
                                                   remaining: 1m 56s
47:
        learn: 0.2497179
                                  total: 12.4s
                                                   remaining: 1m 56s
48:
        learn: 0.2493344
                                  total: 12.7s
                                                   remaining: 1m 56s
49:
        learn: 0.2491264
                                  total: 12.9s
                                                   remaining: 1m 56s
50:
        learn: 0.2489540
                                  total: 13.2s
                                                   remaining: 1m 56s
51:
        learn: 0.2487405
                                  total: 13.5s
                                                   remaining: 1m 56s
```

```
52:
        learn: 0.2483311
                                  total: 13.8s
                                                   remaining: 1m 56s
53:
        learn: 0.2480682
                                  total: 14.1s
                                                   remaining: 1m 56s
54:
        learn: 0.2463968
                                  total: 14.4s
                                                   remaining: 1m 56s
55:
        learn: 0.2462627
                                  total: 14.7s
                                                   remaining: 1m 56s
                                                   remaining: 1m 56s
56:
        learn: 0.2460690
                                  total: 14.9s
        learn: 0.2458867
                                  total: 15.2s
                                                   remaining: 1m 55s
57:
58:
        learn: 0.2443975
                                  total: 15.5s
                                                   remaining: 1m 56s
59:
        learn: 0.2441907
                                  total: 15.8s
                                                   remaining: 1m 55s
60:
        learn: 0.2437243
                                  total: 16s
                                                   remaining: 1m 55s
61:
        learn: 0.2434138
                                  total: 16.3s
                                                   remaining: 1m 55s
        learn: 0.2430417
62:
                                  total: 16.6s
                                                   remaining: 1m 55s
                                                   remaining: 1m 55s
63:
        learn: 0.2428018
                                  total: 16.9s
64:
        learn: 0.2427284
                                  total: 17.2s
                                                   remaining: 1m 55s
65:
        learn: 0.2424978
                                  total: 17.5s
                                                   remaining: 1m 54s
66:
        learn: 0.2421550
                                  total: 17.8s
                                                   remaining: 1m 54s
67:
        learn: 0.2420192
                                                   remaining: 1m 54s
                                  total: 18s
68:
        learn: 0.2414691
                                  total: 18.2s
                                                   remaining: 1m 53s
                                  total: 18.5s
69:
        learn: 0.2407707
                                                   remaining: 1m 53s
        learn: 0.2406050
                                  total: 18.8s
                                                   remaining: 1m 53s
70:
71:
        learn: 0.2405147
                                  total: 19.1s
                                                   remaining: 1m 53s
        learn: 0.2402897
72:
                                  total: 19.3s
                                                   remaining: 1m 53s
                                  total: 19.6s
73:
        learn: 0.2401245
                                                   remaining: 1m 52s
74:
        learn: 0.2400344
                                  total: 19.8s
                                                   remaining: 1m 52s
75:
        learn: 0.2399312
                                  total: 20.1s
                                                   remaining: 1m 51s
76:
        learn: 0.2396320
                                  total: 20.3s
                                                   remaining: 1m 51s
77:
        learn: 0.2379827
                                  total: 20.6s
                                                   remaining: 1m 51s
78:
        learn: 0.2378332
                                  total: 20.8s
                                                   remaining: 1m 50s
79:
        learn: 0.2376160
                                  total: 21.1s
                                                   remaining: 1m 50s
        learn: 0.2368945
                                  total: 21.3s
80:
                                                   remaining: 1m 50s
81:
        learn: 0.2366546
                                  total: 21.6s
                                                   remaining: 1m 50s
82:
        learn: 0.2365997
                                  total: 21.9s
                                                   remaining: 1m 49s
83:
        learn: 0.2364519
                                  total: 22.1s
                                                   remaining: 1m 49s
84:
        learn: 0.2363761
                                  total: 22.4s
                                                   remaining: 1m 49s
85:
        learn: 0.2362654
                                  total: 22.6s
                                                   remaining: 1m 48s
                                  total: 22.9s
                                                   remaining: 1m 48s
86:
        learn: 0.2360597
87:
        learn: 0.2358257
                                  total: 23.2s
                                                   remaining: 1m 48s
88:
        learn: 0.2354925
                                  total: 23.5s
                                                   remaining: 1m 48s
89:
        learn: 0.2354042
                                  total: 23.7s
                                                   remaining: 1m 47s
        learn: 0.2353556
                                                   remaining: 1m 47s
90:
                                  total: 24s
91:
        learn: 0.2352401
                                  total: 24.3s
                                                   remaining: 1m 47s
92:
        learn: 0.2349791
                                  total: 24.6s
                                                   remaining: 1m 47s
93:
        learn: 0.2347449
                                  total: 24.9s
                                                   remaining: 1m 47s
94:
        learn: 0.2346110
                                  total: 25.1s
                                                   remaining: 1m 47s
95:
        learn: 0.2345094
                                  total: 25.4s
                                                   remaining: 1m 46s
96:
        learn: 0.2343511
                                  total: 25.7s
                                                   remaining: 1m 46s
97:
        learn: 0.2338133
                                  total: 26s
                                                   remaining: 1m 46s
98:
        learn: 0.2335788
                                  total: 26.3s
                                                   remaining: 1m 46s
99:
        learn: 0.2334222
                                  total: 26.5s
                                                   remaining: 1m 46s
```

```
100:
        learn: 0.2333155
                                  total: 26.8s
                                                   remaining: 1m 45s
101:
        learn: 0.2330839
                                  total: 27.1s
                                                   remaining: 1m 45s
102:
        learn: 0.2329965
                                  total: 27.4s
                                                   remaining: 1m 45s
103:
        learn: 0.2321532
                                  total: 27.7s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
104:
        learn: 0.2320960
                                  total: 27.9s
                                  total: 28.2s
                                                   remaining: 1m 44s
105:
        learn: 0.2320297
106:
        learn: 0.2319581
                                  total: 28.6s
                                                   remaining: 1m 44s
107:
        learn: 0.2317886
                                  total: 28.8s
                                                   remaining: 1m 44s
108:
        learn: 0.2317527
                                  total: 29.1s
                                                   remaining: 1m 44s
109:
        learn: 0.2315347
                                  total: 29.4s
                                                   remaining: 1m 44s
                                  total: 29.7s
110:
        learn: 0.2314093
                                                   remaining: 1m 44s
                                                   remaining: 1m 43s
111:
        learn: 0.2313943
                                  total: 29.9s
        learn: 0.2312802
                                  total: 30.2s
                                                   remaining: 1m 43s
112:
113:
        learn: 0.2311836
                                  total: 30.5s
                                                   remaining: 1m 43s
114:
        learn: 0.2311374
                                  total: 30.8s
                                                   remaining: 1m 43s
        learn: 0.2310178
115:
                                  total: 31.1s
                                                   remaining: 1m 42s
116:
        learn: 0.2309500
                                  total: 31.4s
                                                   remaining: 1m 42s
                                  total: 31.6s
117:
        learn: 0.2307941
                                                   remaining: 1m 42s
        learn: 0.2306385
                                  total: 31.9s
                                                   remaining: 1m 42s
118:
119:
        learn: 0.2305235
                                  total: 32.1s
                                                   remaining: 1m 41s
120:
        learn: 0.2304528
                                  total: 32.4s
                                                   remaining: 1m 41s
                                  total: 32.7s
121:
        learn: 0.2303884
                                                   remaining: 1m 41s
122.
        learn: 0.2303128
                                  total: 32.9s
                                                   remaining: 1m 40s
123:
                                  total: 33.2s
                                                   remaining: 1m 40s
        learn: 0.2302506
124:
        learn: 0.2302046
                                  total: 33.5s
                                                   remaining: 1m 40s
125:
        learn: 0.2300855
                                  total: 33.7s
                                                   remaining: 1m 40s
        learn: 0.2299989
                                  total: 34s
                                                   remaining: 1m 39s
126:
127:
        learn: 0.2298776
                                  total: 34.3s
                                                   remaining: 1m 39s
128:
        learn: 0.2298554
                                  total: 34.6s
                                                   remaining: 1m 39s
129:
        learn: 0.2297847
                                  total: 34.8s
                                                   remaining: 1m 39s
130:
        learn: 0.2297380
                                  total: 35.1s
                                                   remaining: 1m 38s
131:
        learn: 0.2296297
                                  total: 35.3s
                                                   remaining: 1m 38s
132:
        learn: 0.2295403
                                  total: 35.7s
                                                   remaining: 1m 38s
        learn: 0.2295062
                                  total: 35.9s
                                                   remaining: 1m 38s
133:
                                                   remaining: 1m 37s
134:
        learn: 0.2293955
                                  total: 36.1s
135:
        learn: 0.2293149
                                  total: 36.4s
                                                   remaining: 1m 37s
136:
        learn: 0.2292587
                                  total: 36.6s
                                                   remaining: 1m 37s
137:
        learn: 0.2290811
                                  total: 36.9s
                                                   remaining: 1m 36s
138:
        learn: 0.2290048
                                  total: 37.2s
                                                   remaining: 1m 36s
139:
        learn: 0.2285576
                                  total: 37.4s
                                                   remaining: 1m 36s
140:
        learn: 0.2285127
                                  total: 37.7s
                                                   remaining: 1m 35s
141:
        learn: 0.2284712
                                  total: 37.9s
                                                   remaining: 1m 35s
142:
        learn: 0.2284266
                                  total: 38.2s
                                                   remaining: 1m 35s
143:
        learn: 0.2283165
                                  total: 38.4s
                                                   remaining: 1m 35s
144:
        learn: 0.2282343
                                  total: 38.7s
                                                   remaining: 1m 34s
145:
        learn: 0.2282062
                                  total: 39s
                                                   remaining: 1m 34s
146:
        learn: 0.2281388
                                  total: 39.2s
                                                   remaining: 1m 34s
147:
        learn: 0.2280662
                                  total: 39.6s
                                                   remaining: 1m 34s
```

```
total: 39.8s
148:
        learn: 0.2279777
                                                   remaining: 1m 33s
149:
        learn: 0.2278239
                                  total: 40.1s
                                                   remaining: 1m 33s
150:
        learn: 0.2278046
                                  total: 40.4s
                                                   remaining: 1m 33s
        learn: 0.2277755
                                                   remaining: 1m 33s
151:
                                  total: 40.6s
                                                   remaining: 1m 32s
152:
        learn: 0.2277137
                                  total: 40.9s
                                                   remaining: 1m 32s
153:
        learn: 0.2276464
                                  total: 41.2s
154:
        learn: 0.2275751
                                  total: 41.5s
                                                   remaining: 1m 32s
155:
        learn: 0.2274764
                                  total: 41.8s
                                                   remaining: 1m 32s
156:
        learn: 0.2274316
                                  total: 42.1s
                                                   remaining: 1m 31s
157:
        learn: 0.2273846
                                  total: 42.3s
                                                   remaining: 1m 31s
158:
        learn: 0.2273597
                                  total: 42.6s
                                                   remaining: 1m 31s
                                                   remaining: 1m 31s
159:
        learn: 0.2272825
                                  total: 42.9s
        learn: 0.2272274
                                  total: 43.2s
                                                   remaining: 1m 30s
160:
161:
        learn: 0.2270536
                                  total: 43.4s
                                                   remaining: 1m 30s
162:
        learn: 0.2269508
                                  total: 43.7s
                                                   remaining: 1m 30s
163:
        learn: 0.2268515
                                  total: 44s
                                                   remaining: 1m 30s
164:
        learn: 0.2267986
                                  total: 44.3s
                                                   remaining: 1m 29s
165:
        learn: 0.2266971
                                  total: 44.6s
                                                   remaining: 1m 29s
        learn: 0.2265789
                                                   remaining: 1m 29s
166:
                                  total: 44.9s
167:
        learn: 0.2265317
                                  total: 45.2s
                                                   remaining: 1m 29s
168:
        learn: 0.2264454
                                  total: 45.4s
                                                   remaining: 1m 28s
169:
        learn: 0.2263391
                                  total: 45.6s
                                                   remaining: 1m 28s
170:
        learn: 0.2262139
                                  total: 45.9s
                                                   remaining: 1m 28s
                                                   remaining: 1m 28s
171:
        learn: 0.2261509
                                  total: 46.2s
172:
        learn: 0.2260933
                                  total: 46.5s
                                                   remaining: 1m 27s
173:
        learn: 0.2260089
                                  total: 46.7s
                                                   remaining: 1m 27s
        learn: 0.2259635
                                  total: 47s
                                                   remaining: 1m 27s
174:
175:
        learn: 0.2258404
                                  total: 47.3s
                                                   remaining: 1m 27s
176:
        learn: 0.2257684
                                  total: 47.5s
                                                   remaining: 1m 26s
177:
        learn: 0.2257260
                                  total: 47.8s
                                                   remaining: 1m 26s
        learn: 0.2256865
178:
                                  total: 48.1s
                                                   remaining: 1m 26s
179:
        learn: 0.2254898
                                  total: 48.4s
                                                   remaining: 1m 25s
180:
        learn: 0.2254194
                                  total: 48.6s
                                                   remaining: 1m 25s
        learn: 0.2253606
                                  total: 48.9s
                                                   remaining: 1m 25s
181:
                                                   remaining: 1m 25s
182:
        learn: 0.2252336
                                  total: 49.2s
183:
        learn: 0.2249104
                                  total: 49.4s
                                                   remaining: 1m 24s
184:
        learn: 0.2248530
                                  total: 49.7s
                                                   remaining: 1m 24s
185:
        learn: 0.2247995
                                  total: 50s
                                                   remaining: 1m 24s
186:
        learn: 0.2247330
                                  total: 50.2s
                                                   remaining: 1m 24s
187:
        learn: 0.2245765
                                  total: 50.5s
                                                   remaining: 1m 23s
        learn: 0.2245014
                                  total: 50.8s
188:
                                                   remaining: 1m 23s
        learn: 0.2244643
                                                   remaining: 1m 23s
189:
                                  total: 51s
190:
        learn: 0.2243324
                                                   remaining: 1m 22s
                                  total: 51.3s
191:
        learn: 0.2242667
                                  total: 51.5s
                                                   remaining: 1m 22s
192:
        learn: 0.2241306
                                  total: 51.8s
                                                   remaining: 1m 22s
        learn: 0.2240369
193:
                                  total: 52.1s
                                                   remaining: 1m 22s
194:
        learn: 0.2239522
                                  total: 52.3s
                                                   remaining: 1m 21s
195:
        learn: 0.2239013
                                  total: 52.5s
                                                   remaining: 1m 21s
```

```
learn: 0.2238853
196:
                                  total: 52.8s
                                                   remaining: 1m 21s
197:
        learn: 0.2238541
                                  total: 53s
                                                   remaining: 1m 20s
198:
        learn: 0.2238291
                                  total: 53.3s
                                                   remaining: 1m 20s
        learn: 0.2237786
                                  total: 53.5s
                                                   remaining: 1m 20s
199:
200:
        learn: 0.2234640
                                  total: 53.7s
                                                   remaining: 1m 19s
                                                   remaining: 1m 19s
201:
        learn: 0.2233888
                                  total: 54s
202:
        learn: 0.2233128
                                  total: 54.2s
                                                   remaining: 1m 19s
203:
        learn: 0.2232077
                                  total: 54.5s
                                                   remaining: 1m 19s
204:
        learn: 0.2229219
                                  total: 54.8s
                                                   remaining: 1m 18s
205:
        learn: 0.2227609
                                  total: 55.1s
                                                   remaining: 1m 18s
        learn: 0.2226976
206:
                                  total: 55.3s
                                                   remaining: 1m 18s
207:
        learn: 0.2226422
                                  total: 55.6s
                                                   remaining: 1m 18s
208:
        learn: 0.2225913
                                  total: 55.9s
                                                   remaining: 1m 17s
209:
        learn: 0.2225188
                                  total: 56.2s
                                                   remaining: 1m 17s
210:
        learn: 0.2224686
                                  total: 56.4s
                                                   remaining: 1m 17s
        learn: 0.2223709
211:
                                  total: 56.7s
                                                   remaining: 1m 17s
212:
        learn: 0.2223393
                                  total: 57s
                                                   remaining: 1m 16s
213:
        learn: 0.2221704
                                  total: 57.3s
                                                   remaining: 1m 16s
        learn: 0.2221211
                                  total: 57.5s
                                                   remaining: 1m 16s
214.
215:
        learn: 0.2220219
                                  total: 57.8s
                                                   remaining: 1m 16s
216:
        learn: 0.2219276
                                  total: 58.1s
                                                   remaining: 1m 15s
217:
        learn: 0.2217969
                                  total: 58.4s
                                                   remaining: 1m 15s
218:
        learn: 0.2217053
                                  total: 58.7s
                                                   remaining: 1m 15s
219:
                                                   remaining: 1m 15s
        learn: 0.2215698
                                  total: 59s
220:
        learn: 0.2214552
                                  total: 59.3s
                                                   remaining: 1m 14s
221:
        learn: 0.2213622
                                  total: 59.6s
                                                   remaining: 1m 14s
222:
        learn: 0.2212921
                                                   remaining: 1m 14s
                                  total: 59.8s
223:
        learn: 0.2211962
                                  total: 1m
                                                   remaining: 1m 14s
224:
        learn: 0.2211021
                                  total: 1m
                                                   remaining: 1m 13s
225:
        learn: 0.2210416
                                  total: 1m
                                                   remaining: 1m 13s
226:
        learn: 0.2208831
                                  total: 1m
                                                   remaining: 1m 13s
227:
        learn: 0.2207386
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
        learn: 0.2206678
                                  total: 1m 1s
                                                   remaining: 1m 12s
229:
        learn: 0.2205365
                                  total: 1m 1s
                                                   remaining: 1m 12s
230:
        learn: 0.2204231
                                  total: 1m 2s
                                                   remaining: 1m 12s
231:
        learn: 0.2203498
                                  total: 1m 2s
                                                   remaining: 1m 12s
232:
        learn: 0.2203258
                                  total: 1m 2s
                                                   remaining: 1m 11s
233:
        learn: 0.2202787
                                  total: 1m 2s
                                                   remaining: 1m 11s
        learn: 0.2201401
                                  total: 1m 3s
234:
                                                   remaining: 1m 11s
235:
        learn: 0.2200469
                                  total: 1m 3s
                                                   remaining: 1m 11s
236:
        learn: 0.2199248
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2198679
                                                   remaining: 1m 10s
                                  total: 1m 4s
238:
        learn: 0.2197758
                                  total: 1m 4s
                                                   remaining: 1m 10s
239:
        learn: 0.2196892
                                  total: 1m 4s
                                                   remaining: 1m 10s
240:
        learn: 0.2196548
                                  total: 1m 4s
                                                   remaining: 1m 9s
241:
        learn: 0.2195904
                                  total: 1m 5s
                                                   remaining: 1m 9s
242:
        learn: 0.2195268
                                  total: 1m 5s
                                                   remaining: 1m 9s
243:
        learn: 0.2194980
                                  total: 1m 5s
                                                   remaining: 1m 9s
```

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244:
        learn: 0.2194831
                                  total: 1m 6s
                                                   remaining: 1m 8s
                                                   remaining: 1m 8s
245:
        learn: 0.2194408
                                  total: 1m 6s
246:
        learn: 0.2192068
                                  total: 1m 6s
                                                   remaining: 1m 8s
247:
        learn: 0.2191492
                                  total: 1m 6s
                                                   remaining: 1m 7s
248:
        learn: 0.2190883
                                  total: 1m 7s
                                                   remaining: 1m 7s
                                  total: 1m 7s
                                                   remaining: 1m 7s
249:
        learn: 0.2190457
250:
        learn: 0.2189700
                                  total: 1m 7s
                                                   remaining: 1m 7s
251:
        learn: 0.2188616
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2187990
                                  total: 1m 8s
                                                   remaining: 1m 6s
253:
        learn: 0.2187219
                                  total: 1m 8s
                                                   remaining: 1m 6s
                                                   remaining: 1m 5s
254:
        learn: 0.2186960
                                  total: 1m 8s
255:
        learn: 0.2185952
                                  total: 1m 8s
                                                   remaining: 1m 5s
256:
        learn: 0.2185412
                                  total: 1m 9s
                                                   remaining: 1m 5s
257:
        learn: 0.2185101
                                  total: 1m 9s
                                                   remaining: 1m 5s
258:
        learn: 0.2184267
                                  total: 1m 9s
                                                   remaining: 1m 4s
259:
        learn: 0.2183983
                                  total: 1m 9s
                                                   remaining: 1m 4s
260:
        learn: 0.2183198
                                  total: 1m 10s
                                                   remaining: 1m 4s
261:
        learn: 0.2182805
                                  total: 1m 10s
                                                   remaining: 1m 3s
                                                   remaining: 1m 3s
        learn: 0.2181931
                                  total: 1m 10s
262:
263:
        learn: 0.2181335
                                  total: 1m 10s
                                                   remaining: 1m 3s
264:
        learn: 0.2180601
                                  total: 1m 11s
                                                   remaining: 1m 3s
265:
        learn: 0.2179017
                                  total: 1m 11s
                                                   remaining: 1m 2s
266:
        learn: 0.2177263
                                  total: 1m 11s
                                                   remaining: 1m 2s
267:
        learn: 0.2176674
                                  total: 1m 11s
                                                   remaining: 1m 2s
268:
        learn: 0.2175916
                                  total: 1m 12s
                                                   remaining: 1m 2s
269:
        learn: 0.2175026
                                  total: 1m 12s
                                                   remaining: 1m 1s
270:
        learn: 0.2174551
                                  total: 1m 12s
                                                   remaining: 1m 1s
271:
        learn: 0.2173455
                                  total: 1m 13s
                                                   remaining: 1m 1s
272:
        learn: 0.2172899
                                  total: 1m 13s
                                                   remaining: 1m
273:
        learn: 0.2172158
                                  total: 1m 13s
                                                   remaining: 1m
274:
        learn: 0.2171485
                                  total: 1m 13s
                                                   remaining: 1m
275:
        learn: 0.2170251
                                  total: 1m 14s
                                                   remaining: 1m
276:
        learn: 0.2170058
                                  total: 1m 14s
                                                   remaining: 59.9s
277:
        learn: 0.2169690
                                  total: 1m 14s
                                                   remaining: 59.7s
278:
        learn: 0.2169437
                                  total: 1m 15s
                                                   remaining: 59.4s
279:
        learn: 0.2168787
                                  total: 1m 15s
                                                   remaining: 59.2s
280:
        learn: 0.2167428
                                  total: 1m 15s
                                                   remaining: 58.9s
281:
        learn: 0.2166662
                                  total: 1m 15s
                                                   remaining: 58.6s
282:
        learn: 0.2165913
                                  total: 1m 16s
                                                   remaining: 58.4s
283:
        learn: 0.2165046
                                  total: 1m 16s
                                                   remaining: 58.1s
                                  total: 1m 16s
284:
        learn: 0.2164005
                                                   remaining: 57.9s
285:
        learn: 0.2163611
                                  total: 1m 16s
                                                   remaining: 57.6s
286:
        learn: 0.2163036
                                  total: 1m 17s
                                                   remaining: 57.3s
287:
        learn: 0.2162618
                                  total: 1m 17s
                                                   remaining: 57s
288:
        learn: 0.2161954
                                  total: 1m 17s
                                                   remaining: 56.7s
289:
        learn: 0.2160840
                                  total: 1m 17s
                                                   remaining: 56.5s
290:
        learn: 0.2159322
                                  total: 1m 18s
                                                   remaining: 56.2s
291:
        learn: 0.2159136
                                  total: 1m 18s
                                                   remaining: 55.9s
```

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292:
        learn: 0.2158194
                                  total: 1m 18s
                                                   remaining: 55.7s
293:
        learn: 0.2157888
                                  total: 1m 19s
                                                   remaining: 55.4s
294:
        learn: 0.2157314
                                  total: 1m 19s
                                                   remaining: 55.1s
295:
        learn: 0.2157039
                                  total: 1m 19s
                                                   remaining: 54.9s
296:
        learn: 0.2156145
                                  total: 1m 19s
                                                   remaining: 54.6s
                                  total: 1m 20s
297:
        learn: 0.2155006
                                                   remaining: 54.3s
298:
        learn: 0.2154384
                                  total: 1m 20s
                                                   remaining: 54.1s
        learn: 0.2153858
299:
                                  total: 1m 20s
                                                   remaining: 53.8s
300:
        learn: 0.2153262
                                  total: 1m 20s
                                                   remaining: 53.5s
301:
        learn: 0.2152731
                                  total: 1m 21s
                                                   remaining: 53.3s
302:
        learn: 0.2151802
                                  total: 1m 21s
                                                   remaining: 53s
303:
        learn: 0.2151237
                                  total: 1m 21s
                                                   remaining: 52.7s
304:
        learn: 0.2150905
                                  total: 1m 22s
                                                   remaining: 52.5s
305:
        learn: 0.2150274
                                  total: 1m 22s
                                                   remaining: 52.2s
306:
        learn: 0.2149450
                                  total: 1m 22s
                                                   remaining: 51.9s
307:
        learn: 0.2149064
                                  total: 1m 22s
                                                   remaining: 51.6s
308:
        learn: 0.2147767
                                  total: 1m 23s
                                                   remaining: 51.3s
                                  total: 1m 23s
309:
        learn: 0.2146791
                                                   remaining: 51s
        learn: 0.2146570
                                  total: 1m 23s
310:
                                                   remaining: 50.7s
311:
        learn: 0.2146254
                                  total: 1m 23s
                                                   remaining: 50.5s
312:
        learn: 0.2145855
                                  total: 1m 24s
                                                   remaining: 50.2s
                                  total: 1m 24s
313:
        learn: 0.2145183
                                                   remaining: 49.9s
314:
        learn: 0.2140396
                                  total: 1m 24s
                                                   remaining: 49.7s
                                  total: 1m 24s
315:
        learn: 0.2140023
                                                   remaining: 49.4s
316:
        learn: 0.2139533
                                  total: 1m 25s
                                                   remaining: 49.1s
317:
        learn: 0.2139090
                                  total: 1m 25s
                                                   remaining: 48.8s
318:
        learn: 0.2138620
                                  total: 1m 25s
                                                   remaining: 48.5s
319:
        learn: 0.2137304
                                  total: 1m 25s
                                                   remaining: 48.3s
320:
        learn: 0.2136693
                                  total: 1m 26s
                                                   remaining: 48s
321:
        learn: 0.2135982
                                  total: 1m 26s
                                                   remaining: 47.7s
322:
        learn: 0.2134866
                                  total: 1m 26s
                                                   remaining: 47.5s
323:
        learn: 0.2134522
                                  total: 1m 26s
                                                   remaining: 47.2s
324:
        learn: 0.2134156
                                  total: 1m 27s
                                                   remaining: 46.9s
325:
        learn: 0.2133139
                                  total: 1m 27s
                                                   remaining: 46.7s
326:
        learn: 0.2132652
                                  total: 1m 27s
                                                   remaining: 46.4s
        learn: 0.2131454
                                  total: 1m 27s
327:
                                                   remaining: 46.1s
328:
        learn: 0.2130697
                                  total: 1m 28s
                                                   remaining: 45.9s
329:
        learn: 0.2130469
                                  total: 1m 28s
                                                   remaining: 45.6s
                                  total: 1m 28s
330:
        learn: 0.2130007
                                                   remaining: 45.4s
331:
        learn: 0.2129569
                                  total: 1m 29s
                                                   remaining: 45.1s
332:
        learn: 0.2128602
                                  total: 1m 29s
                                                   remaining: 44.8s
333:
        learn: 0.2127897
                                  total: 1m 29s
                                                   remaining: 44.6s
334:
        learn: 0.2127610
                                  total: 1m 29s
                                                   remaining: 44.3s
335:
        learn: 0.2127486
                                  total: 1m 30s
                                                   remaining: 44s
                                                   remaining: 43.8s
336:
        learn: 0.2125665
                                  total: 1m 30s
337:
        learn: 0.2125442
                                  total: 1m 30s
                                                   remaining: 43.5s
338:
        learn: 0.2125196
                                  total: 1m 31s
                                                   remaining: 43.2s
339:
        learn: 0.2124820
                                  total: 1m 31s
                                                   remaining: 43s
```

```
340:
        learn: 0.2124196
                                  total: 1m 31s
                                                   remaining: 42.7s
341:
        learn: 0.2123965
                                  total: 1m 31s
                                                   remaining: 42.4s
342:
        learn: 0.2123763
                                  total: 1m 32s
                                                   remaining: 42.1s
343:
        learn: 0.2122378
                                  total: 1m 32s
                                                   remaining: 41.9s
344:
        learn: 0.2122020
                                  total: 1m 32s
                                                   remaining: 41.6s
                                  total: 1m 32s
                                                   remaining: 41.4s
345:
        learn: 0.2121272
346:
        learn: 0.2121025
                                  total: 1m 33s
                                                   remaining: 41.1s
        learn: 0.2120337
347:
                                  total: 1m 33s
                                                   remaining: 40.9s
348:
        learn: 0.2119779
                                  total: 1m 33s
                                                   remaining: 40.6s
349:
        learn: 0.2119247
                                  total: 1m 34s
                                                   remaining: 40.3s
350:
        learn: 0.2118830
                                  total: 1m 34s
                                                   remaining: 40.1s
351:
        learn: 0.2118218
                                  total: 1m 34s
                                                   remaining: 39.8s
352:
        learn: 0.2117653
                                                   remaining: 39.5s
                                  total: 1m 34s
353:
        learn: 0.2116825
                                  total: 1m 35s
                                                   remaining: 39.3s
                                                   remaining: 39s
354:
        learn: 0.2116428
                                  total: 1m 35s
355:
        learn: 0.2115366
                                  total: 1m 35s
                                                   remaining: 38.7s
356:
        learn: 0.2114904
                                  total: 1m 36s
                                                   remaining: 38.5s
                                  total: 1m 36s
357:
        learn: 0.2114163
                                                   remaining: 38.2s
        learn: 0.2113676
358:
                                  total: 1m 36s
                                                   remaining: 37.9s
359:
        learn: 0.2113442
                                  total: 1m 36s
                                                   remaining: 37.7s
360:
        learn: 0.2112008
                                  total: 1m 37s
                                                   remaining: 37.4s
361:
        learn: 0.2111583
                                  total: 1m 37s
                                                   remaining: 37.1s
362:
        learn: 0.2111176
                                  total: 1m 37s
                                                   remaining: 36.9s
                                  total: 1m 38s
363:
        learn: 0.2110474
                                                   remaining: 36.6s
364:
        learn: 0.2110085
                                  total: 1m 38s
                                                   remaining: 36.4s
                                  total: 1m 38s
                                                   remaining: 36.1s
365:
        learn: 0.2109666
366:
        learn: 0.2109151
                                  total: 1m 38s
                                                   remaining: 35.8s
367:
        learn: 0.2108297
                                  total: 1m 39s
                                                   remaining: 35.5s
368:
        learn: 0.2107730
                                  total: 1m 39s
                                                   remaining: 35.3s
369:
        learn: 0.2107425
                                  total: 1m 39s
                                                   remaining: 35s
370:
        learn: 0.2107154
                                  total: 1m 39s
                                                   remaining: 34.7s
371:
        learn: 0.2106531
                                  total: 1m 40s
                                                   remaining: 34.4s
372:
        learn: 0.2105392
                                  total: 1m 40s
                                                   remaining: 34.2s
373:
        learn: 0.2104798
                                  total: 1m 40s
                                                   remaining: 33.9s
374:
        learn: 0.2104276
                                  total: 1m 40s
                                                   remaining: 33.6s
        learn: 0.2103599
375:
                                  total: 1m 41s
                                                   remaining: 33.4s
376:
        learn: 0.2102629
                                  total: 1m 41s
                                                   remaining: 33.1s
377:
        learn: 0.2101656
                                  total: 1m 41s
                                                   remaining: 32.8s
378:
        learn: 0.2101055
                                  total: 1m 41s
                                                   remaining: 32.5s
379:
        learn: 0.2100267
                                  total: 1m 42s
                                                   remaining: 32.3s
380:
        learn: 0.2100125
                                  total: 1m 42s
                                                   remaining: 32s
381:
        learn: 0.2099667
                                  total: 1m 42s
                                                   remaining: 31.7s
382:
        learn: 0.2098864
                                  total: 1m 43s
                                                   remaining: 31.5s
383:
        learn: 0.2098345
                                  total: 1m 43s
                                                   remaining: 31.2s
                                                   remaining: 30.9s
384:
        learn: 0.2097784
                                  total: 1m 43s
385:
        learn: 0.2096958
                                  total: 1m 43s
                                                   remaining: 30.7s
386:
        learn: 0.2096583
                                  total: 1m 44s
                                                   remaining: 30.4s
387:
        learn: 0.2095960
                                  total: 1m 44s
                                                   remaining: 30.1s
```

```
388:
        learn: 0.2095242
                                  total: 1m 44s
                                                   remaining: 29.8s
389:
        learn: 0.2094889
                                  total: 1m 44s
                                                   remaining: 29.5s
390:
        learn: 0.2094423
                                  total: 1m 44s
                                                   remaining: 29.2s
        learn: 0.2093529
391:
                                  total: 1m 45s
                                                   remaining: 28.9s
392:
        learn: 0.2092801
                                  total: 1m 45s
                                                   remaining: 28.6s
                                  total: 1m 45s
393:
        learn: 0.2091711
                                                   remaining: 28.4s
394:
        learn: 0.2090517
                                  total: 1m 45s
                                                   remaining: 28.1s
        learn: 0.2089891
395:
                                  total: 1m 45s
                                                   remaining: 27.8s
396:
        learn: 0.2089475
                                  total: 1m 45s
                                                   remaining: 27.5s
397:
        learn: 0.2088886
                                  total: 1m 46s
                                                   remaining: 27.2s
398:
        learn: 0.2088108
                                  total: 1m 46s
                                                   remaining: 27s
                                  total: 1m 46s
399:
        learn: 0.2087416
                                                   remaining: 26.7s
400:
        learn: 0.2087133
                                  total: 1m 47s
                                                   remaining: 26.4s
401:
        learn: 0.2086928
                                  total: 1m 47s
                                                   remaining: 26.2s
402:
        learn: 0.2086273
                                  total: 1m 47s
                                                   remaining: 25.9s
403:
        learn: 0.2084930
                                  total: 1m 47s
                                                   remaining: 25.6s
404:
        learn: 0.2084397
                                  total: 1m 48s
                                                   remaining: 25.4s
                                  total: 1m 48s
405:
        learn: 0.2084261
                                                   remaining: 25.1s
        learn: 0.2084083
406:
                                  total: 1m 48s
                                                   remaining: 24.8s
407:
        learn: 0.2083566
                                  total: 1m 49s
                                                   remaining: 24.6s
408:
        learn: 0.2083181
                                  total: 1m 49s
                                                   remaining: 24.3s
409:
        learn: 0.2082079
                                  total: 1m 49s
                                                   remaining: 24.1s
410:
        learn: 0.2080703
                                  total: 1m 49s
                                                   remaining: 23.8s
411:
        learn: 0.2080533
                                  total: 1m 50s
                                                   remaining: 23.5s
412:
        learn: 0.2080308
                                  total: 1m 50s
                                                   remaining: 23.3s
        learn: 0.2080162
413:
                                  total: 1m 50s
                                                   remaining: 23s
414:
        learn: 0.2079018
                                  total: 1m 51s
                                                   remaining: 22.7s
415:
        learn: 0.2078310
                                  total: 1m 51s
                                                   remaining: 22.5s
416:
        learn: 0.2077840
                                  total: 1m 51s
                                                   remaining: 22.2s
417:
        learn: 0.2076926
                                  total: 1m 52s
                                                   remaining: 22s
418:
        learn: 0.2076828
                                  total: 1m 52s
                                                   remaining: 21.7s
419:
        learn: 0.2076383
                                  total: 1m 52s
                                                   remaining: 21.4s
420:
        learn: 0.2075742
                                  total: 1m 52s
                                                   remaining: 21.2s
421:
        learn: 0.2075103
                                  total: 1m 53s
                                                   remaining: 20.9s
422:
        learn: 0.2072002
                                  total: 1m 53s
                                                   remaining: 20.6s
423:
        learn: 0.2071631
                                  total: 1m 53s
                                                   remaining: 20.4s
424:
        learn: 0.2071305
                                  total: 1m 53s
                                                   remaining: 20.1s
425:
        learn: 0.2070301
                                  total: 1m 54s
                                                   remaining: 19.8s
426:
        learn: 0.2069493
                                  total: 1m 54s
                                                   remaining: 19.6s
427:
        learn: 0.2069032
                                  total: 1m 54s
                                                   remaining: 19.3s
428:
        learn: 0.2068334
                                  total: 1m 54s
                                                   remaining: 19s
429:
        learn: 0.2067515
                                  total: 1m 55s
                                                   remaining: 18.8s
430:
        learn: 0.2067189
                                  total: 1m 55s
                                                   remaining: 18.5s
431:
        learn: 0.2066789
                                  total: 1m 55s
                                                   remaining: 18.2s
432:
        learn: 0.2066401
                                  total: 1m 55s
                                                   remaining: 17.9s
433:
        learn: 0.2066225
                                  total: 1m 56s
                                                   remaining: 17.7s
434:
        learn: 0.2065951
                                  total: 1m 56s
                                                   remaining: 17.4s
435:
        learn: 0.2065247
                                  total: 1m 56s
                                                   remaining: 17.1s
```

```
436:
        learn: 0.2064439
                                  total: 1m 56s
                                                   remaining: 16.9s
437:
        learn: 0.2063823
                                  total: 1m 57s
                                                   remaining: 16.6s
438:
        learn: 0.2062650
                                  total: 1m 57s
                                                   remaining: 16.3s
        learn: 0.2062180
                                  total: 1m 57s
439:
                                                   remaining: 16.1s
440:
        learn: 0.2061580
                                  total: 1m 57s
                                                   remaining: 15.8s
                                  total: 1m 58s
441:
        learn: 0.2061336
                                                   remaining: 15.5s
442:
        learn: 0.2060804
                                  total: 1m 58s
                                                   remaining: 15.2s
                                                   remaining: 15s
443:
        learn: 0.2060300
                                  total: 1m 58s
444:
        learn: 0.2060028
                                  total: 1m 59s
                                                   remaining: 14.7s
445:
        learn: 0.2059849
                                  total: 1m 59s
                                                   remaining: 14.4s
446:
        learn: 0.2059340
                                  total: 1m 59s
                                                   remaining: 14.2s
447:
        learn: 0.2059069
                                  total: 1m 59s
                                                   remaining: 13.9s
448:
        learn: 0.2058497
                                  total: 2m
                                                   remaining: 13.6s
449:
        learn: 0.2058245
                                  total: 2m
                                                   remaining: 13.4s
450:
        learn: 0.2058028
                                  total: 2m
                                                   remaining: 13.1s
451:
        learn: 0.2057824
                                  total: 2m
                                                   remaining: 12.8s
452:
        learn: 0.2056631
                                  total: 2m 1s
                                                   remaining: 12.6s
                                  total: 2m 1s
453:
        learn: 0.2055696
                                                   remaining: 12.3s
        learn: 0.2055294
454:
                                  total: 2m 1s
                                                   remaining: 12s
455:
        learn: 0.2053908
                                  total: 2m 2s
                                                   remaining: 11.8s
456:
        learn: 0.2052878
                                  total: 2m 2s
                                                   remaining: 11.5s
                                  total: 2m 2s
457:
        learn: 0.2052451
                                                   remaining: 11.2s
458:
        learn: 0.2051723
                                  total: 2m 2s
                                                   remaining: 11s
459:
                                  total: 2m 3s
        learn: 0.2051198
                                                   remaining: 10.7s
460:
        learn: 0.2050854
                                  total: 2m 3s
                                                   remaining: 10.4s
                                  total: 2m 3s
461:
        learn: 0.2049813
                                                   remaining: 10.2s
        learn: 0.2049172
462:
                                  total: 2m 3s
                                                   remaining: 9.91s
463:
        learn: 0.2048778
                                  total: 2m 4s
                                                   remaining: 9.64s
464:
        learn: 0.2047860
                                  total: 2m 4s
                                                   remaining: 9.37s
465:
        learn: 0.2047271
                                  total: 2m 4s
                                                   remaining: 9.1s
        learn: 0.2046059
466:
                                  total: 2m 4s
                                                   remaining: 8.83s
467:
        learn: 0.2045696
                                  total: 2m 5s
                                                   remaining: 8.57s
468:
        learn: 0.2045124
                                  total: 2m 5s
                                                   remaining: 8.3s
        learn: 0.2044711
                                  total: 2m 5s
469:
                                                   remaining: 8.03s
470:
        learn: 0.2044399
                                  total: 2m 6s
                                                   remaining: 7.77s
471:
        learn: 0.2043656
                                  total: 2m 6s
                                                   remaining: 7.5s
472:
        learn: 0.2043418
                                  total: 2m 6s
                                                   remaining: 7.23s
473:
        learn: 0.2042999
                                  total: 2m 6s
                                                   remaining: 6.96s
474:
        learn: 0.2042251
                                  total: 2m 7s
                                                   remaining: 6.7s
475:
        learn: 0.2041580
                                  total: 2m 7s
                                                   remaining: 6.43s
476:
        learn: 0.2040919
                                  total: 2m 7s
                                                   remaining: 6.16s
477:
        learn: 0.2040329
                                  total: 2m 8s
                                                   remaining: 5.9s
478:
        learn: 0.2039924
                                  total: 2m 8s
                                                   remaining: 5.63s
479:
        learn: 0.2039577
                                  total: 2m 8s
                                                   remaining: 5.36s
                                                   remaining: 5.09s
480:
        learn: 0.2038899
                                  total: 2m 8s
481:
        learn: 0.2038555
                                  total: 2m 9s
                                                   remaining: 4.83s
482:
        learn: 0.2037305
                                  total: 2m 9s
                                                   remaining: 4.56s
483:
        learn: 0.2036753
                                  total: 2m 9s
                                                   remaining: 4.29s
```

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484:
        learn: 0.2036553
                                  total: 2m 10s
                                                   remaining: 4.02s
485:
        learn: 0.2036269
                                  total: 2m 10s
                                                   remaining: 3.75s
486:
        learn: 0.2036136
                                  total: 2m 10s
                                                   remaining: 3.48s
487:
        learn: 0.2035923
                                  total: 2m 10s
                                                   remaining: 3.21s
488:
        learn: 0.2035719
                                  total: 2m 10s
                                                   remaining: 2.95s
                                  total: 2m 11s
                                                   remaining: 2.68s
489:
        learn: 0.2035250
                                  total: 2m 11s
490:
        learn: 0.2034898
                                                   remaining: 2.41s
491:
        learn: 0.2034854
                                  total: 2m 11s
                                                   remaining: 2.14s
                                  total: 2m 12s
492:
        learn: 0.2034494
                                                   remaining: 1.88s
493:
        learn: 0.2033971
                                  total: 2m 12s
                                                   remaining: 1.61s
                                  total: 2m 12s
494:
        learn: 0.2033439
                                                   remaining: 1.34s
                                                   remaining: 1.07s
495:
        learn: 0.2032089
                                  total: 2m 12s
496:
        learn: 0.2031770
                                  total: 2m 13s
                                                   remaining: 804ms
497:
        learn: 0.2031493
                                  total: 2m 13s
                                                   remaining: 536ms
498:
        learn: 0.2030966
                                  total: 2m 13s
                                                   remaining: 268ms
499:
        learn: 0.2030453
                                  total: 2m 14s
                                                   remaining: Ous
Learning rate set to 0.174288
0:
        learn: 0.9751622
                                  total: 288ms
                                                   remaining: 2m 23s
1:
        learn: 0.8942363
                                  total: 507ms
                                                   remaining: 2m 6s
2:
        learn: 0.8356837
                                  total: 709ms
                                                   remaining: 1m 57s
3:
        learn: 0.7439014
                                  total: 922ms
                                                   remaining: 1m 54s
4:
        learn: 0.7095395
                                  total: 1.11s
                                                   remaining: 1m 50s
5:
        learn: 0.6789742
                                  total: 1.32s
                                                   remaining: 1m 49s
                                  total: 1.53s
                                                   remaining: 1m 47s
6:
        learn: 0.6563228
7:
        learn: 0.5813198
                                  total: 1.77s
                                                   remaining: 1m 49s
8:
        learn: 0.5266161
                                  total: 2s
                                                   remaining: 1m 49s
9:
        learn: 0.4805696
                                  total: 2.21s
                                                   remaining: 1m 48s
10:
        learn: 0.4458561
                                  total: 2.42s
                                                   remaining: 1m 47s
                                  total: 2.65s
11:
        learn: 0.4186516
                                                   remaining: 1m 47s
12:
        learn: 0.3958008
                                  total: 2.86s
                                                   remaining: 1m 47s
13:
        learn: 0.3768266
                                  total: 3.11s
                                                   remaining: 1m 47s
14:
        learn: 0.3625418
                                  total: 3.4s
                                                   remaining: 1m 50s
15:
        learn: 0.3505132
                                  total: 3.7s
                                                   remaining: 1m 51s
        learn: 0.3360099
                                  total: 4.01s
                                                   remaining: 1m 53s
16:
                                  total: 4.29s
                                                   remaining: 1m 54s
17:
        learn: 0.3330810
18:
        learn: 0.3250726
                                  total: 4.58s
                                                   remaining: 1m 55s
19:
        learn: 0.3231130
                                  total: 4.84s
                                                   remaining: 1m 56s
20:
        learn: 0.3100114
                                  total: 5.15s
                                                   remaining: 1m 57s
21:
        learn: 0.2998377
                                  total: 5.49s
                                                   remaining: 1m 59s
22:
        learn: 0.2909999
                                  total: 5.78s
                                                   remaining: 1m 59s
23:
        learn: 0.2831947
                                  total: 6.09s
                                                   remaining: 2m
24:
        learn: 0.2768520
                                  total: 6.38s
                                                   remaining: 2m 1s
25:
        learn: 0.2717087
                                  total: 6.66s
                                                   remaining: 2m 1s
26:
        learn: 0.2690120
                                  total: 6.92s
                                                   remaining: 2m 1s
27:
        learn: 0.2679574
                                  total: 7.2s
                                                   remaining: 2m 1s
28:
        learn: 0.2671203
                                  total: 7.49s
                                                   remaining: 2m 1s
29:
        learn: 0.2663182
                                  total: 7.79s
                                                   remaining: 2m 2s
30:
        learn: 0.2656014
                                  total: 8.09s
                                                   remaining: 2m 2s
```

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31:
        learn: 0.2622339
                                  total: 8.39s
                                                   remaining: 2m 2s
32:
        learn: 0.2612488
                                  total: 8.7s
                                                   remaining: 2m 3s
33:
        learn: 0.2584113
                                  total: 9s
                                                   remaining: 2m 3s
34:
        learn: 0.2576587
                                  total: 9.29s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
35:
        learn: 0.2574004
                                  total: 9.58s
        learn: 0.2564335
                                  total: 9.89s
                                                   remaining: 2m 3s
36:
                                                   remaining: 2m 3s
37:
        learn: 0.2543240
                                  total: 10.2s
38:
        learn: 0.2539934
                                  total: 10.5s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
39:
        learn: 0.2534839
                                  total: 10.7s
40:
        learn: 0.2531082
                                  total: 11s
                                                   remaining: 2m 3s
        learn: 0.2528287
41:
                                  total: 11.3s
                                                   remaining: 2m 2s
                                                   remaining: 2m 3s
42:
        learn: 0.2524559
                                  total: 11.6s
43:
        learn: 0.2522557
                                  total: 11.9s
                                                   remaining: 2m 3s
44:
        learn: 0.2519169
                                  total: 12.1s
                                                   remaining: 2m 2s
45:
        learn: 0.2516822
                                  total: 12.4s
                                                   remaining: 2m 2s
46:
        learn: 0.2505822
                                  total: 12.7s
                                                   remaining: 2m 1s
47:
        learn: 0.2501772
                                  total: 12.9s
                                                   remaining: 2m 1s
                                  total: 13.2s
48:
        learn: 0.2498922
                                                   remaining: 2m 1s
        learn: 0.2490933
                                  total: 13.5s
                                                   remaining: 2m 1s
49:
50:
        learn: 0.2489149
                                  total: 13.7s
                                                   remaining: 2m
51:
        learn: 0.2484867
                                  total: 14s
                                                   remaining: 2m
                                  total: 14.2s
                                                   remaining: 1m 59s
52:
        learn: 0.2483305
53:
        learn: 0.2480200
                                  total: 14.5s
                                                   remaining: 1m 59s
54:
        learn: 0.2471273
                                  total: 14.7s
                                                   remaining: 1m 59s
55:
        learn: 0.2469078
                                  total: 15s
                                                   remaining: 1m 59s
56:
        learn: 0.2467556
                                  total: 15.3s
                                                   remaining: 1m 58s
57:
        learn: 0.2466744
                                  total: 15.6s
                                                   remaining: 1m 58s
58:
        learn: 0.2466240
                                  total: 15.8s
                                                   remaining: 1m 58s
        learn: 0.2464147
59:
                                  total: 16.1s
                                                   remaining: 1m 58s
60:
        learn: 0.2460213
                                  total: 16.4s
                                                   remaining: 1m 57s
61:
        learn: 0.2458947
                                  total: 16.7s
                                                   remaining: 1m 57s
62:
        learn: 0.2451393
                                  total: 17s
                                                   remaining: 1m 57s
63:
        learn: 0.2448796
                                  total: 17.3s
                                                   remaining: 1m 57s
        learn: 0.2436076
                                  total: 17.6s
                                                   remaining: 1m 57s
64:
                                                   remaining: 1m 57s
65:
        learn: 0.2434188
                                  total: 17.9s
66:
        learn: 0.2428237
                                  total: 18.2s
                                                   remaining: 1m 57s
67:
        learn: 0.2424722
                                  total: 18.5s
                                                   remaining: 1m 57s
68:
        learn: 0.2421332
                                  total: 18.8s
                                                   remaining: 1m 57s
        learn: 0.2419826
                                  total: 19.1s
                                                   remaining: 1m 57s
69:
70:
        learn: 0.2416547
                                  total: 19.4s
                                                   remaining: 1m 57s
71:
        learn: 0.2412112
                                  total: 19.7s
                                                   remaining: 1m 57s
72:
        learn: 0.2409871
                                                   remaining: 1m 56s
                                  total: 20s
73:
        learn: 0.2400569
                                  total: 20.2s
                                                   remaining: 1m 56s
74:
        learn: 0.2382783
                                  total: 20.6s
                                                   remaining: 1m 56s
75:
        learn: 0.2375756
                                  total: 20.9s
                                                   remaining: 1m 56s
76:
        learn: 0.2374410
                                  total: 21.1s
                                                   remaining: 1m 55s
77:
        learn: 0.2369304
                                  total: 21.4s
                                                   remaining: 1m 55s
78:
        learn: 0.2368150
                                  total: 21.6s
                                                   remaining: 1m 55s
```

```
79:
        learn: 0.2366822
                                  total: 21.9s
                                                   remaining: 1m 55s
80:
        learn: 0.2365805
                                  total: 22.2s
                                                   remaining: 1m 54s
81:
        learn: 0.2365027
                                  total: 22.5s
                                                   remaining: 1m 54s
82:
        learn: 0.2363802
                                  total: 22.8s
                                                   remaining: 1m 54s
                                                   remaining: 1m 54s
83:
        learn: 0.2362987
                                  total: 23.1s
                                  total: 23.3s
                                                   remaining: 1m 53s
84:
        learn: 0.2361885
85:
        learn: 0.2359017
                                  total: 23.6s
                                                   remaining: 1m 53s
86:
        learn: 0.2358247
                                  total: 23.9s
                                                   remaining: 1m 53s
87:
        learn: 0.2354944
                                  total: 24.2s
                                                   remaining: 1m 53s
88:
        learn: 0.2353745
                                  total: 24.5s
                                                   remaining: 1m 52s
        learn: 0.2352266
                                  total: 24.7s
89:
                                                   remaining: 1m 52s
                                                   remaining: 1m 52s
90:
        learn: 0.2349518
                                  total: 25s
91:
        learn: 0.2348477
                                  total: 25.3s
                                                   remaining: 1m 52s
92:
        learn: 0.2345244
                                  total: 25.6s
                                                   remaining: 1m 52s
93:
        learn: 0.2337081
                                  total: 25.8s
                                                   remaining: 1m 51s
        learn: 0.2336800
                                  total: 26.1s
                                                   remaining: 1m 51s
94:
95:
        learn: 0.2334366
                                  total: 26.4s
                                                   remaining: 1m 51s
                                  total: 26.7s
96:
        learn: 0.2332766
                                                   remaining: 1m 50s
        learn: 0.2331483
                                  total: 27s
                                                   remaining: 1m 50s
97:
98:
        learn: 0.2329988
                                  total: 27.3s
                                                   remaining: 1m 50s
                                                   remaining: 1m 50s
99:
        learn: 0.2328964
                                  total: 27.5s
                                  total: 27.8s
100:
        learn: 0.2327324
                                                   remaining: 1m 49s
101:
        learn: 0.2326673
                                  total: 28.1s
                                                   remaining: 1m 49s
        learn: 0.2325341
                                  total: 28.3s
                                                   remaining: 1m 49s
102:
103:
        learn: 0.2323790
                                  total: 28.6s
                                                   remaining: 1m 48s
                                                   remaining: 1m 48s
104:
        learn: 0.2322438
                                  total: 28.8s
        learn: 0.2320797
                                  total: 29.1s
                                                   remaining: 1m 48s
105:
106:
        learn: 0.2319142
                                  total: 29.3s
                                                   remaining: 1m 47s
        learn: 0.2318498
                                  total: 29.6s
107:
                                                   remaining: 1m 47s
108:
        learn: 0.2317661
                                  total: 29.9s
                                                   remaining: 1m 47s
109:
        learn: 0.2317163
                                  total: 30.1s
                                                   remaining: 1m 46s
110:
        learn: 0.2316955
                                  total: 30.3s
                                                   remaining: 1m 46s
111:
        learn: 0.2316316
                                  total: 30.6s
                                                   remaining: 1m 46s
112:
        learn: 0.2315849
                                  total: 30.8s
                                                   remaining: 1m 45s
                                                   remaining: 1m 45s
113:
        learn: 0.2314144
                                  total: 31.1s
114:
        learn: 0.2312661
                                  total: 31.4s
                                                   remaining: 1m 44s
115:
        learn: 0.2309852
                                  total: 31.6s
                                                   remaining: 1m 44s
116:
        learn: 0.2309074
                                  total: 31.9s
                                                   remaining: 1m 44s
        learn: 0.2308151
                                  total: 32.1s
                                                   remaining: 1m 44s
117:
118:
        learn: 0.2306854
                                  total: 32.4s
                                                   remaining: 1m 43s
119:
        learn: 0.2306182
                                  total: 32.6s
                                                   remaining: 1m 43s
120:
        learn: 0.2305521
                                  total: 32.8s
                                                   remaining: 1m 42s
121:
        learn: 0.2302995
                                  total: 33s
                                                   remaining: 1m 42s
122:
        learn: 0.2302582
                                  total: 33.2s
                                                   remaining: 1m 41s
123:
        learn: 0.2300968
                                  total: 33.4s
                                                   remaining: 1m 41s
124:
        learn: 0.2299332
                                  total: 33.6s
                                                   remaining: 1m 40s
125:
        learn: 0.2297829
                                  total: 33.8s
                                                   remaining: 1m 40s
126:
        learn: 0.2290849
                                  total: 34s
                                                   remaining: 1m 40s
```

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127:
        learn: 0.2287377
                                  total: 34.3s
                                                   remaining: 1m 39s
128:
        learn: 0.2286038
                                  total: 34.5s
                                                   remaining: 1m 39s
129:
        learn: 0.2285382
                                  total: 34.7s
                                                   remaining: 1m 38s
        learn: 0.2284001
                                  total: 35s
                                                   remaining: 1m 38s
130:
                                                   remaining: 1m 38s
131:
        learn: 0.2280769
                                  total: 35.3s
                                  total: 35.6s
                                                   remaining: 1m 38s
132:
        learn: 0.2279430
133:
        learn: 0.2278337
                                  total: 35.8s
                                                   remaining: 1m 37s
134:
        learn: 0.2277337
                                  total: 36.1s
                                                   remaining: 1m 37s
135:
        learn: 0.2275713
                                  total: 36.4s
                                                   remaining: 1m 37s
136:
        learn: 0.2275154
                                  total: 36.7s
                                                   remaining: 1m 37s
137:
        learn: 0.2273010
                                  total: 37s
                                                   remaining: 1m 37s
                                                   remaining: 1m 36s
138:
        learn: 0.2272277
                                  total: 37.3s
139:
        learn: 0.2272234
                                  total: 37.6s
                                                   remaining: 1m 36s
140:
        learn: 0.2271109
                                  total: 37.9s
                                                   remaining: 1m 36s
141:
        learn: 0.2270169
                                  total: 38.1s
                                                   remaining: 1m 36s
        learn: 0.2269766
142:
                                  total: 38.4s
                                                   remaining: 1m 35s
143:
        learn: 0.2269311
                                  total: 38.7s
                                                   remaining: 1m 35s
144:
        learn: 0.2268201
                                  total: 38.9s
                                                   remaining: 1m 35s
        learn: 0.2265574
                                  total: 39.2s
                                                   remaining: 1m 35s
145:
146:
        learn: 0.2264838
                                  total: 39.5s
                                                   remaining: 1m 34s
147:
        learn: 0.2263757
                                  total: 39.8s
                                                   remaining: 1m 34s
148:
        learn: 0.2262561
                                  total: 40.1s
                                                   remaining: 1m 34s
149:
        learn: 0.2262004
                                  total: 40.4s
                                                   remaining: 1m 34s
                                                   remaining: 1m 33s
150:
        learn: 0.2261171
                                  total: 40.6s
151:
        learn: 0.2260668
                                  total: 41s
                                                   remaining: 1m 33s
152:
        learn: 0.2259461
                                  total: 41.3s
                                                   remaining: 1m 33s
153:
        learn: 0.2258163
                                                   remaining: 1m 33s
                                  total: 41.5s
154:
        learn: 0.2257736
                                  total: 41.8s
                                                   remaining: 1m 33s
155:
        learn: 0.2256485
                                  total: 42s
                                                   remaining: 1m 32s
156:
        learn: 0.2253219
                                  total: 42.3s
                                                   remaining: 1m 32s
                                  total: 42.6s
        learn: 0.2252423
157:
                                                   remaining: 1m 32s
158:
        learn: 0.2251339
                                  total: 42.9s
                                                   remaining: 1m 31s
159:
        learn: 0.2250720
                                  total: 43.1s
                                                   remaining: 1m 31s
        learn: 0.2250392
                                  total: 43.4s
                                                   remaining: 1m 31s
160:
                                                   remaining: 1m 30s
161:
        learn: 0.2249712
                                  total: 43.6s
162:
        learn: 0.2249395
                                  total: 43.8s
                                                   remaining: 1m 30s
163:
        learn: 0.2248646
                                  total: 44.1s
                                                   remaining: 1m 30s
164:
        learn: 0.2248021
                                  total: 44.3s
                                                   remaining: 1m 30s
                                  total: 44.6s
165:
        learn: 0.2247510
                                                   remaining: 1m 29s
166:
        learn: 0.2246873
                                  total: 44.8s
                                                   remaining: 1m 29s
        learn: 0.2246460
                                  total: 45.1s
                                                   remaining: 1m 29s
167:
        learn: 0.2244302
                                                   remaining: 1m 28s
168:
                                  total: 45.3s
169:
        learn: 0.2243542
                                  total: 45.6s
                                                   remaining: 1m 28s
170:
        learn: 0.2242403
                                  total: 45.9s
                                                   remaining: 1m 28s
171:
        learn: 0.2239208
                                  total: 46.2s
                                                   remaining: 1m 28s
172:
        learn: 0.2238780
                                  total: 46.4s
                                                   remaining: 1m 27s
173:
        learn: 0.2237590
                                  total: 46.6s
                                                   remaining: 1m 27s
174:
        learn: 0.2236123
                                  total: 46.9s
                                                   remaining: 1m 27s
```

```
total: 47.1s
175:
        learn: 0.2234875
                                                   remaining: 1m 26s
176:
        learn: 0.2234406
                                  total: 47.4s
                                                   remaining: 1m 26s
177:
        learn: 0.2234120
                                  total: 47.7s
                                                   remaining: 1m 26s
        learn: 0.2233404
                                  total: 47.9s
                                                   remaining: 1m 25s
178:
                                                   remaining: 1m 25s
179:
        learn: 0.2232725
                                  total: 48.2s
                                                   remaining: 1m 25s
180:
        learn: 0.2232211
                                  total: 48.4s
181:
        learn: 0.2231723
                                  total: 48.7s
                                                   remaining: 1m 25s
182:
        learn: 0.2230752
                                  total: 49s
                                                   remaining: 1m 24s
183:
        learn: 0.2229718
                                  total: 49.2s
                                                   remaining: 1m 24s
184:
        learn: 0.2228979
                                  total: 49.6s
                                                   remaining: 1m 24s
185:
        learn: 0.2228470
                                  total: 49.8s
                                                   remaining: 1m 24s
                                                   remaining: 1m 23s
186:
        learn: 0.2228420
                                  total: 50.1s
187:
        learn: 0.2227966
                                                   remaining: 1m 23s
                                  total: 50.4s
188:
        learn: 0.2226403
                                  total: 50.7s
                                                   remaining: 1m 23s
189:
        learn: 0.2225626
                                  total: 51s
                                                   remaining: 1m 23s
        learn: 0.2224873
190:
                                  total: 51.3s
                                                   remaining: 1m 22s
191:
        learn: 0.2224384
                                  total: 51.6s
                                                   remaining: 1m 22s
192:
        learn: 0.2223849
                                  total: 51.8s
                                                   remaining: 1m 22s
        learn: 0.2223236
                                  total: 52.1s
                                                   remaining: 1m 22s
193:
194:
        learn: 0.2221705
                                  total: 52.4s
                                                   remaining: 1m 21s
195:
        learn: 0.2221323
                                  total: 52.7s
                                                   remaining: 1m 21s
196:
        learn: 0.2221185
                                  total: 53s
                                                   remaining: 1m 21s
197:
        learn: 0.2220910
                                  total: 53.2s
                                                   remaining: 1m 21s
                                                   remaining: 1m 20s
198:
        learn: 0.2219912
                                  total: 53.5s
199:
        learn: 0.2218536
                                  total: 53.8s
                                                   remaining: 1m 20s
200:
        learn: 0.2217534
                                  total: 54.1s
                                                   remaining: 1m 20s
201:
        learn: 0.2217134
                                                   remaining: 1m 20s
                                  total: 54.3s
202:
        learn: 0.2216585
                                  total: 54.6s
                                                   remaining: 1m 19s
203:
        learn: 0.2216112
                                  total: 54.8s
                                                   remaining: 1m 19s
204:
        learn: 0.2215430
                                  total: 55.2s
                                                   remaining: 1m 19s
205:
        learn: 0.2214167
                                  total: 55.4s
                                                   remaining: 1m 19s
206:
        learn: 0.2212951
                                  total: 55.7s
                                                   remaining: 1m 18s
207:
        learn: 0.2212526
                                  total: 56s
                                                   remaining: 1m 18s
208:
        learn: 0.2211799
                                  total: 56.3s
                                                   remaining: 1m 18s
                                                   remaining: 1m 18s
209:
        learn: 0.2211425
                                  total: 56.6s
        learn: 0.2210942
210:
                                  total: 56.9s
                                                   remaining: 1m 17s
211:
        learn: 0.2209085
                                  total: 57.2s
                                                   remaining: 1m 17s
212:
        learn: 0.2208381
                                  total: 57.5s
                                                   remaining: 1m 17s
213:
        learn: 0.2207590
                                  total: 57.7s
                                                   remaining: 1m 17s
214:
        learn: 0.2207319
                                  total: 58s
                                                   remaining: 1m 16s
215:
        learn: 0.2206605
                                  total: 58.3s
                                                   remaining: 1m 16s
                                                   remaining: 1m 16s
216:
        learn: 0.2205277
                                  total: 58.6s
217:
        learn: 0.2205021
                                  total: 58.8s
                                                   remaining: 1m 16s
218:
        learn: 0.2203535
                                  total: 59.1s
                                                   remaining: 1m 15s
219:
        learn: 0.2202546
                                  total: 59.4s
                                                   remaining: 1m 15s
220:
        learn: 0.2202056
                                  total: 59.7s
                                                   remaining: 1m 15s
221:
        learn: 0.2201209
                                  total: 59.9s
                                                   remaining: 1m 15s
222:
        learn: 0.2200565
                                  total: 1m
                                                   remaining: 1m 14s
```

```
223:
        learn: 0.2200348
                                  total: 1m
                                                   remaining: 1m 14s
                                                   remaining: 1m 14s
224:
        learn: 0.2200015
                                  total: 1m
                                  total: 1m
225:
        learn: 0.2199632
                                                   remaining: 1m 13s
226:
        learn: 0.2198767
                                                   remaining: 1m 13s
                                  total: 1m 1s
227:
        learn: 0.2198191
                                  total: 1m 1s
                                                   remaining: 1m 13s
228:
                                  total: 1m 1s
                                                   remaining: 1m 12s
        learn: 0.2197817
229:
        learn: 0.2196829
                                  total: 1m 1s
                                                   remaining: 1m 12s
230:
        learn: 0.2196553
                                  total: 1m 2s
                                                   remaining: 1m 12s
231:
        learn: 0.2195858
                                  total: 1m 2s
                                                   remaining: 1m 12s
232:
        learn: 0.2195316
                                  total: 1m 2s
                                                   remaining: 1m 11s
233:
        learn: 0.2194260
                                  total: 1m 2s
                                                   remaining: 1m 11s
234:
        learn: 0.2193149
                                  total: 1m 3s
                                                   remaining: 1m 11s
235:
        learn: 0.2191865
                                  total: 1m 3s
                                                   remaining: 1m 10s
236:
        learn: 0.2190993
                                  total: 1m 3s
                                                   remaining: 1m 10s
237:
        learn: 0.2190590
                                  total: 1m 3s
                                                   remaining: 1m 10s
238:
        learn: 0.2188971
                                  total: 1m 4s
                                                   remaining: 1m 10s
239:
        learn: 0.2188136
                                  total: 1m 4s
                                                   remaining: 1m 9s
240:
        learn: 0.2186934
                                  total: 1m 4s
                                                   remaining: 1m 9s
241:
        learn: 0.2186243
                                  total: 1m 5s
                                                   remaining: 1m 9s
242:
        learn: 0.2185031
                                  total: 1m 5s
                                                   remaining: 1m 9s
        learn: 0.2184172
                                                   remaining: 1m 8s
243:
                                  total: 1m 5s
                                  total: 1m 5s
244:
        learn: 0.2183795
                                                   remaining: 1m 8s
245:
        learn: 0.2183301
                                  total: 1m 6s
                                                   remaining: 1m 8s
246:
        learn: 0.2182812
                                  total: 1m 6s
                                                   remaining: 1m 8s
247:
        learn: 0.2182076
                                  total: 1m 6s
                                                   remaining: 1m 7s
248:
        learn: 0.2181335
                                  total: 1m 7s
                                                   remaining: 1m 7s
249:
        learn: 0.2180823
                                  total: 1m 7s
                                                   remaining: 1m 7s
250:
        learn: 0.2180437
                                  total: 1m 7s
                                                   remaining: 1m 7s
        learn: 0.2179971
251:
                                  total: 1m 7s
                                                   remaining: 1m 6s
252:
        learn: 0.2179532
                                  total: 1m 8s
                                                   remaining: 1m 6s
253:
        learn: 0.2179385
                                  total: 1m 8s
                                                   remaining: 1m 6s
254:
        learn: 0.2178985
                                  total: 1m 8s
                                                   remaining: 1m 5s
255:
        learn: 0.2178252
                                  total: 1m 8s
                                                   remaining: 1m 5s
256:
        learn: 0.2177893
                                  total: 1m 9s
                                                   remaining: 1m 5s
257:
                                  total: 1m 9s
        learn: 0.2177425
                                                   remaining: 1m 5s
258:
        learn: 0.2176923
                                  total: 1m 9s
                                                   remaining: 1m 4s
259:
        learn: 0.2176418
                                  total: 1m 9s
                                                   remaining: 1m 4s
260:
        learn: 0.2175889
                                  total: 1m 10s
                                                   remaining: 1m 4s
        learn: 0.2175311
                                  total: 1m 10s
261:
                                                   remaining: 1m 4s
262:
        learn: 0.2174400
                                  total: 1m 10s
                                                   remaining: 1m 3s
                                  total: 1m 11s
263:
        learn: 0.2173673
                                                   remaining: 1m 3s
264:
        learn: 0.2173080
                                                   remaining: 1m 3s
                                  total: 1m 11s
265:
        learn: 0.2172787
                                  total: 1m 11s
                                                   remaining: 1m 3s
266:
        learn: 0.2172209
                                  total: 1m 12s
                                                   remaining: 1m 2s
267:
        learn: 0.2172005
                                  total: 1m 12s
                                                   remaining: 1m 2s
268:
        learn: 0.2171597
                                  total: 1m 12s
                                                   remaining: 1m 2s
269:
        learn: 0.2171073
                                  total: 1m 12s
                                                   remaining: 1m 2s
270:
        learn: 0.2170505
                                  total: 1m 13s
                                                   remaining: 1m 1s
```

```
271:
        learn: 0.2169380
                                  total: 1m 13s
                                                   remaining: 1m 1s
272:
        learn: 0.2169026
                                  total: 1m 13s
                                                   remaining: 1m 1s
273:
        learn: 0.2168716
                                  total: 1m 14s
                                                   remaining: 1m 1s
274:
        learn: 0.2168527
                                  total: 1m 14s
                                                   remaining: 1m
275:
        learn: 0.2168346
                                  total: 1m 14s
                                                   remaining: 1m
                                  total: 1m 14s
276:
        learn: 0.2167312
                                                   remaining: 1m
277:
        learn: 0.2166606
                                  total: 1m 15s
                                                   remaining: 1m
                                                   remaining: 59.8s
278:
        learn: 0.2166310
                                  total: 1m 15s
279:
        learn: 0.2166113
                                  total: 1m 15s
                                                   remaining: 59.5s
280:
        learn: 0.2165311
                                  total: 1m 16s
                                                   remaining: 59.3s
281:
        learn: 0.2164263
                                  total: 1m 16s
                                                   remaining: 59s
282:
        learn: 0.2163345
                                  total: 1m 16s
                                                   remaining: 58.7s
283:
        learn: 0.2162416
                                  total: 1m 16s
                                                   remaining: 58.4s
284:
        learn: 0.2161439
                                  total: 1m 17s
                                                   remaining: 58.1s
285:
        learn: 0.2160876
                                  total: 1m 17s
                                                   remaining: 57.9s
286:
        learn: 0.2159160
                                  total: 1m 17s
                                                   remaining: 57.6s
287:
        learn: 0.2157821
                                  total: 1m 17s
                                                   remaining: 57.3s
                                  total: 1m 18s
288:
        learn: 0.2156939
                                                   remaining: 57s
        learn: 0.2156346
289:
                                  total: 1m 18s
                                                   remaining: 56.7s
290:
        learn: 0.2155949
                                  total: 1m 18s
                                                   remaining: 56.5s
291:
        learn: 0.2155048
                                  total: 1m 18s
                                                   remaining: 56.2s
292:
        learn: 0.2154199
                                  total: 1m 19s
                                                   remaining: 55.9s
293:
        learn: 0.2153721
                                  total: 1m 19s
                                                   remaining: 55.6s
294:
        learn: 0.2153318
                                  total: 1m 19s
                                                   remaining: 55.3s
295:
        learn: 0.2152117
                                  total: 1m 19s
                                                   remaining: 55s
        learn: 0.2150247
296:
                                  total: 1m 20s
                                                   remaining: 54.8s
297:
        learn: 0.2149962
                                  total: 1m 20s
                                                   remaining: 54.5s
298:
        learn: 0.2149058
                                  total: 1m 20s
                                                   remaining: 54.2s
299:
        learn: 0.2147988
                                  total: 1m 20s
                                                   remaining: 54s
300:
        learn: 0.2147649
                                  total: 1m 21s
                                                   remaining: 53.7s
301:
        learn: 0.2146286
                                  total: 1m 21s
                                                   remaining: 53.5s
302:
        learn: 0.2145294
                                  total: 1m 21s
                                                   remaining: 53.2s
303:
        learn: 0.2145021
                                  total: 1m 22s
                                                   remaining: 52.9s
304:
        learn: 0.2144599
                                  total: 1m 22s
                                                   remaining: 52.7s
305:
        learn: 0.2144029
                                  total: 1m 22s
                                                   remaining: 52.4s
        learn: 0.2143295
                                  total: 1m 22s
306:
                                                   remaining: 52.1s
307:
        learn: 0.2142796
                                  total: 1m 23s
                                                   remaining: 51.9s
308:
        learn: 0.2142574
                                  total: 1m 23s
                                                   remaining: 51.6s
309:
        learn: 0.2141721
                                  total: 1m 23s
                                                   remaining: 51.3s
310:
        learn: 0.2141564
                                  total: 1m 24s
                                                   remaining: 51.1s
        learn: 0.2140931
                                  total: 1m 24s
311:
                                                   remaining: 50.8s
312:
        learn: 0.2140719
                                  total: 1m 24s
                                                   remaining: 50.5s
313:
        learn: 0.2139453
                                  total: 1m 24s
                                                   remaining: 50.3s
314:
        learn: 0.2139026
                                  total: 1m 25s
                                                   remaining: 50s
                                                   remaining: 49.8s
315:
        learn: 0.2138533
                                  total: 1m 25s
316:
        learn: 0.2137461
                                  total: 1m 25s
                                                   remaining: 49.5s
317:
        learn: 0.2135857
                                  total: 1m 26s
                                                   remaining: 49.2s
318:
        learn: 0.2135252
                                  total: 1m 26s
                                                   remaining: 49s
```

```
319:
        learn: 0.2134613
                                  total: 1m 26s
                                                   remaining: 48.7s
320:
        learn: 0.2134230
                                  total: 1m 26s
                                                   remaining: 48.4s
321:
        learn: 0.2133579
                                  total: 1m 27s
                                                   remaining: 48.2s
322:
        learn: 0.2133022
                                  total: 1m 27s
                                                   remaining: 47.9s
323:
        learn: 0.2132655
                                  total: 1m 27s
                                                   remaining: 47.7s
                                  total: 1m 28s
324:
        learn: 0.2131728
                                                   remaining: 47.4s
325:
        learn: 0.2131190
                                  total: 1m 28s
                                                   remaining: 47.1s
        learn: 0.2130135
                                                   remaining: 46.8s
326:
                                  total: 1m 28s
327:
        learn: 0.2129802
                                  total: 1m 28s
                                                   remaining: 46.6s
328:
        learn: 0.2129105
                                  total: 1m 29s
                                                   remaining: 46.3s
329:
        learn: 0.2128944
                                  total: 1m 29s
                                                   remaining: 46s
330:
        learn: 0.2128574
                                  total: 1m 29s
                                                   remaining: 45.7s
331:
        learn: 0.2128096
                                  total: 1m 29s
                                                   remaining: 45.5s
332:
        learn: 0.2127286
                                  total: 1m 30s
                                                   remaining: 45.2s
                                                   remaining: 44.9s
333:
        learn: 0.2126275
                                  total: 1m 30s
334:
        learn: 0.2124780
                                  total: 1m 30s
                                                   remaining: 44.7s
335:
        learn: 0.2124062
                                  total: 1m 30s
                                                   remaining: 44.4s
                                  total: 1m 31s
336:
        learn: 0.2123521
                                                   remaining: 44.1s
        learn: 0.2122761
                                  total: 1m 31s
                                                   remaining: 43.8s
337:
338:
        learn: 0.2121629
                                  total: 1m 31s
                                                   remaining: 43.5s
339:
        learn: 0.2121002
                                  total: 1m 31s
                                                   remaining: 43.3s
340:
        learn: 0.2120743
                                  total: 1m 32s
                                                   remaining: 43s
341:
        learn: 0.2119666
                                  total: 1m 32s
                                                   remaining: 42.7s
                                  total: 1m 32s
342:
        learn: 0.2118404
                                                   remaining: 42.4s
343:
        learn: 0.2117361
                                  total: 1m 32s
                                                   remaining: 42.1s
                                  total: 1m 33s
344:
        learn: 0.2116593
                                                   remaining: 41.9s
345:
        learn: 0.2115943
                                  total: 1m 33s
                                                   remaining: 41.6s
346:
        learn: 0.2114918
                                  total: 1m 33s
                                                   remaining: 41.3s
347:
        learn: 0.2114204
                                  total: 1m 34s
                                                   remaining: 41.1s
348:
        learn: 0.2113256
                                  total: 1m 34s
                                                   remaining: 40.8s
349:
        learn: 0.2112075
                                  total: 1m 34s
                                                   remaining: 40.5s
350:
        learn: 0.2110673
                                  total: 1m 34s
                                                   remaining: 40.3s
351:
        learn: 0.2109364
                                  total: 1m 35s
                                                   remaining: 40s
352:
        learn: 0.2108923
                                  total: 1m 35s
                                                   remaining: 39.7s
353:
        learn: 0.2108684
                                  total: 1m 35s
                                                   remaining: 39.4s
        learn: 0.2108437
354:
                                  total: 1m 35s
                                                   remaining: 39.2s
355:
        learn: 0.2108185
                                  total: 1m 36s
                                                   remaining: 38.9s
356:
        learn: 0.2107788
                                  total: 1m 36s
                                                   remaining: 38.6s
                                  total: 1m 36s
357:
        learn: 0.2106830
                                                   remaining: 38.4s
358:
        learn: 0.2106509
                                  total: 1m 36s
                                                   remaining: 38.1s
        learn: 0.2105344
                                  total: 1m 37s
359:
                                                   remaining: 37.8s
360:
        learn: 0.2105140
                                  total: 1m 37s
                                                   remaining: 37.6s
361:
        learn: 0.2104912
                                  total: 1m 37s
                                                   remaining: 37.3s
362:
        learn: 0.2104425
                                  total: 1m 38s
                                                   remaining: 37s
                                                   remaining: 36.8s
363:
        learn: 0.2103999
                                  total: 1m 38s
364:
        learn: 0.2103794
                                  total: 1m 38s
                                                   remaining: 36.5s
365:
        learn: 0.2103352
                                  total: 1m 38s
                                                   remaining: 36.2s
366:
        learn: 0.2102790
                                  total: 1m 39s
                                                   remaining: 35.9s
```

```
learn: 0.2102423
367:
                                  total: 1m 39s
                                                   remaining: 35.7s
368:
        learn: 0.2101303
                                  total: 1m 39s
                                                   remaining: 35.4s
369:
        learn: 0.2100828
                                                   remaining: 35.1s
                                  total: 1m 40s
        learn: 0.2100559
                                                   remaining: 34.9s
370:
                                  total: 1m 40s
371:
        learn: 0.2099630
                                  total: 1m 40s
                                                   remaining: 34.6s
372:
        learn: 0.2098314
                                  total: 1m 40s
                                                   remaining: 34.4s
373:
        learn: 0.2097078
                                  total: 1m 41s
                                                   remaining: 34.1s
        learn: 0.2096459
374:
                                  total: 1m 41s
                                                   remaining: 33.8s
375:
        learn: 0.2095606
                                  total: 1m 41s
                                                   remaining: 33.6s
376:
        learn: 0.2095081
                                  total: 1m 42s
                                                   remaining: 33.3s
377:
        learn: 0.2094188
                                  total: 1m 42s
                                                   remaining: 33s
378:
        learn: 0.2093763
                                  total: 1m 42s
                                                   remaining: 32.8s
379:
        learn: 0.2093545
                                  total: 1m 42s
                                                   remaining: 32.5s
380:
        learn: 0.2093016
                                  total: 1m 43s
                                                   remaining: 32.2s
381:
        learn: 0.2092317
                                  total: 1m 43s
                                                   remaining: 32s
382:
        learn: 0.2091486
                                  total: 1m 43s
                                                   remaining: 31.7s
383:
        learn: 0.2091071
                                  total: 1m 44s
                                                   remaining: 31.4s
                                  total: 1m 44s
384:
        learn: 0.2090732
                                                   remaining: 31.2s
        learn: 0.2090273
385:
                                  total: 1m 44s
                                                   remaining: 30.9s
386:
        learn: 0.2089036
                                  total: 1m 44s
                                                   remaining: 30.6s
387:
        learn: 0.2088664
                                  total: 1m 45s
                                                   remaining: 30.3s
388:
        learn: 0.2086793
                                  total: 1m 45s
                                                   remaining: 30.1s
389:
        learn: 0.2086244
                                  total: 1m 45s
                                                   remaining: 29.8s
390:
        learn: 0.2085531
                                  total: 1m 46s
                                                   remaining: 29.6s
391:
        learn: 0.2085311
                                  total: 1m 46s
                                                   remaining: 29.3s
392:
        learn: 0.2084479
                                                   remaining: 29s
                                  total: 1m 46s
393:
        learn: 0.2083536
                                  total: 1m 46s
                                                   remaining: 28.7s
394:
        learn: 0.2083359
                                  total: 1m 46s
                                                   remaining: 28.4s
395:
        learn: 0.2083124
                                  total: 1m 47s
                                                   remaining: 28.1s
396:
        learn: 0.2082293
                                  total: 1m 47s
                                                   remaining: 27.9s
397:
        learn: 0.2081612
                                  total: 1m 47s
                                                   remaining: 27.6s
398:
        learn: 0.2081299
                                  total: 1m 47s
                                                   remaining: 27.3s
399:
        learn: 0.2081044
                                  total: 1m 47s
                                                   remaining: 27s
        learn: 0.2080411
                                  total: 1m 48s
400:
                                                   remaining: 26.7s
401:
        learn: 0.2079784
                                  total: 1m 48s
                                                   remaining: 26.4s
402:
        learn: 0.2079502
                                  total: 1m 48s
                                                   remaining: 26.1s
403:
        learn: 0.2078949
                                  total: 1m 48s
                                                   remaining: 25.8s
404:
        learn: 0.2078412
                                  total: 1m 48s
                                                   remaining: 25.5s
405:
        learn: 0.2077962
                                  total: 1m 49s
                                                   remaining: 25.3s
406:
        learn: 0.2077168
                                  total: 1m 49s
                                                   remaining: 25s
407:
        learn: 0.2076919
                                  total: 1m 49s
                                                   remaining: 24.7s
408:
        learn: 0.2076363
                                  total: 1m 49s
                                                   remaining: 24.5s
409:
        learn: 0.2075575
                                  total: 1m 50s
                                                   remaining: 24.2s
410:
        learn: 0.2074958
                                  total: 1m 50s
                                                   remaining: 23.9s
411:
        learn: 0.2074543
                                  total: 1m 50s
                                                   remaining: 23.6s
412:
        learn: 0.2074038
                                  total: 1m 50s
                                                   remaining: 23.4s
413:
        learn: 0.2073037
                                  total: 1m 51s
                                                   remaining: 23.1s
414:
        learn: 0.2072366
                                  total: 1m 51s
                                                   remaining: 22.8s
```

```
415:
        learn: 0.2071684
                                  total: 1m 51s
                                                   remaining: 22.5s
416:
        learn: 0.2070176
                                  total: 1m 51s
                                                   remaining: 22.3s
417:
        learn: 0.2069673
                                  total: 1m 52s
                                                   remaining: 22s
418:
        learn: 0.2069266
                                                   remaining: 21.7s
                                  total: 1m 52s
419:
        learn: 0.2068449
                                  total: 1m 52s
                                                   remaining: 21.5s
                                  total: 1m 53s
420:
        learn: 0.2067270
                                                   remaining: 21.2s
421:
        learn: 0.2066751
                                  total: 1m 53s
                                                   remaining: 21s
422:
        learn: 0.2066031
                                  total: 1m 53s
                                                   remaining: 20.7s
423:
        learn: 0.2064772
                                  total: 1m 53s
                                                   remaining: 20.4s
424:
        learn: 0.2063941
                                  total: 1m 54s
                                                   remaining: 20.2s
425:
        learn: 0.2063286
                                  total: 1m 54s
                                                   remaining: 19.9s
426:
        learn: 0.2062487
                                  total: 1m 54s
                                                   remaining: 19.6s
427:
        learn: 0.2061590
                                  total: 1m 55s
                                                   remaining: 19.4s
428:
        learn: 0.2061089
                                  total: 1m 55s
                                                   remaining: 19.1s
429:
        learn: 0.2060789
                                  total: 1m 55s
                                                   remaining: 18.8s
430:
        learn: 0.2060599
                                  total: 1m 55s
                                                   remaining: 18.5s
431:
        learn: 0.2060158
                                  total: 1m 56s
                                                   remaining: 18.3s
                                  total: 1m 56s
432:
        learn: 0.2059800
                                                   remaining: 18s
        learn: 0.2059001
433:
                                  total: 1m 56s
                                                   remaining: 17.7s
434:
        learn: 0.2058472
                                  total: 1m 56s
                                                   remaining: 17.5s
435:
        learn: 0.2057974
                                  total: 1m 57s
                                                   remaining: 17.2s
436:
        learn: 0.2057231
                                  total: 1m 57s
                                                   remaining: 16.9s
                                                   remaining: 16.7s
437:
        learn: 0.2056887
                                  total: 1m 57s
438:
        learn: 0.2056027
                                  total: 1m 58s
                                                   remaining: 16.4s
439:
        learn: 0.2055452
                                  total: 1m 58s
                                                   remaining: 16.1s
                                  total: 1m 58s
440:
        learn: 0.2055201
                                                   remaining: 15.9s
441:
        learn: 0.2054977
                                  total: 1m 58s
                                                   remaining: 15.6s
442:
        learn: 0.2054546
                                  total: 1m 59s
                                                   remaining: 15.3s
443:
        learn: 0.2054066
                                  total: 1m 59s
                                                   remaining: 15.1s
444:
        learn: 0.2053686
                                  total: 1m 59s
                                                   remaining: 14.8s
445:
        learn: 0.2053061
                                  total: 2m
                                                   remaining: 14.5s
446:
        learn: 0.2052334
                                  total: 2m
                                                   remaining: 14.3s
447:
        learn: 0.2051362
                                  total: 2m
                                                   remaining: 14s
        learn: 0.2050857
448:
                                  total: 2m
                                                   remaining: 13.7s
449:
        learn: 0.2050553
                                  total: 2m 1s
                                                   remaining: 13.5s
450:
        learn: 0.2050195
                                  total: 2m 1s
                                                   remaining: 13.2s
451:
        learn: 0.2049827
                                  total: 2m 1s
                                                   remaining: 12.9s
452:
        learn: 0.2049534
                                  total: 2m 2s
                                                   remaining: 12.7s
                                  total: 2m 2s
453:
        learn: 0.2048859
                                                   remaining: 12.4s
454:
        learn: 0.2048269
                                  total: 2m 2s
                                                   remaining: 12.1s
455:
        learn: 0.2047796
                                  total: 2m 2s
                                                   remaining: 11.9s
456:
        learn: 0.2047497
                                  total: 2m 3s
                                                   remaining: 11.6s
457:
        learn: 0.2047277
                                  total: 2m 3s
                                                   remaining: 11.3s
458:
        learn: 0.2046966
                                  total: 2m 3s
                                                   remaining: 11s
                                                   remaining: 10.8s
459:
        learn: 0.2046474
                                  total: 2m 3s
460:
        learn: 0.2045652
                                  total: 2m 4s
                                                   remaining: 10.5s
461:
        learn: 0.2044933
                                  total: 2m 4s
                                                   remaining: 10.2s
462:
        learn: 0.2044066
                                  total: 2m 4s
                                                   remaining: 9.96s
```

```
463:
        learn: 0.2043583
                                 total: 2m 4s
                                                  remaining: 9.69s
464:
        learn: 0.2043166
                                 total: 2m 5s
                                                  remaining: 9.42s
465:
        learn: 0.2042772
                                 total: 2m 5s
                                                  remaining: 9.15s
        learn: 0.2042045
                                 total: 2m 5s
                                                  remaining: 8.88s
466:
467:
        learn: 0.2041743
                                 total: 2m 5s
                                                  remaining: 8.61s
                                 total: 2m 6s
                                                  remaining: 8.34s
468:
        learn: 0.2041344
469:
        learn: 0.2040508
                                 total: 2m 6s
                                                  remaining: 8.07s
470:
        learn: 0.2039846
                                 total: 2m 6s
                                                  remaining: 7.8s
471:
        learn: 0.2039193
                                 total: 2m 6s
                                                  remaining: 7.53s
472:
        learn: 0.2038271
                                 total: 2m 7s
                                                  remaining: 7.26s
473:
        learn: 0.2037163
                                 total: 2m 7s
                                                  remaining: 6.99s
474:
        learn: 0.2036982
                                 total: 2m 7s
                                                  remaining: 6.72s
475:
        learn: 0.2036716
                                 total: 2m 8s
                                                  remaining: 6.46s
476:
        learn: 0.2035866
                                 total: 2m 8s
                                                  remaining: 6.19s
                                                  remaining: 5.92s
477:
        learn: 0.2035579
                                 total: 2m 8s
478:
        learn: 0.2034621
                                 total: 2m 8s
                                                  remaining: 5.65s
479:
        learn: 0.2033371
                                 total: 2m 9s
                                                  remaining: 5.38s
                                 total: 2m 9s
480:
        learn: 0.2032857
                                                  remaining: 5.11s
        learn: 0.2032141
                                 total: 2m 9s
                                                  remaining: 4.84s
481:
482:
        learn: 0.2031706
                                 total: 2m 10s
                                                  remaining: 4.58s
483:
        learn: 0.2031180
                                 total: 2m 10s
                                                  remaining: 4.31s
                                 total: 2m 10s
484:
        learn: 0.2030802
                                                  remaining: 4.04s
485:
        learn: 0.2030470
                                 total: 2m 10s
                                                  remaining: 3.77s
                                 total: 2m 11s
486:
        learn: 0.2029453
                                                  remaining: 3.5s
487:
        learn: 0.2029172
                                 total: 2m 11s
                                                  remaining: 3.23s
488:
        learn: 0.2028182
                                 total: 2m 11s
                                                  remaining: 2.96s
489:
        learn: 0.2027649
                                 total: 2m 11s
                                                  remaining: 2.69s
490:
        learn: 0.2027563
                                 total: 2m 12s
                                                  remaining: 2.42s
491:
        learn: 0.2026542
                                 total: 2m 12s
                                                  remaining: 2.15s
492:
        learn: 0.2026125
                                 total: 2m 12s
                                                  remaining: 1.89s
493:
        learn: 0.2025273
                                 total: 2m 13s
                                                  remaining: 1.62s
494:
        learn: 0.2024622
                                 total: 2m 13s
                                                  remaining: 1.35s
495:
        learn: 0.2024232
                                 total: 2m 13s
                                                  remaining: 1.08s
496:
        learn: 0.2024000
                                 total: 2m 13s
                                                  remaining: 808ms
497:
        learn: 0.2023328
                                 total: 2m 14s
                                                  remaining: 539ms
        learn: 0.2022532
                                 total: 2m 14s
498:
                                                  remaining: 269ms
499:
        learn: 0.2021509
                                 total: 2m 14s
                                                  remaining: Ous
Accuracy en cada fold: [0.8488193 0.72561602 0.77566735 0.73049281 0.66709446
0.78182752
 0.79158111 0.79825462 0.80287474 0.69840862 0.71021561 0.79209446
 0.67522465 0.74223363 0.70731707]
Accuracy promedio: 0.7498481309950892
Learning rate set to 0.174902
0:
        learn: 0.9741259
                                 total: 314ms
                                                  remaining: 2m 36s
1:
        learn: 0.8975124
                                 total: 629ms
                                                  remaining: 2m 36s
```

remaining: 2m 28s

remaining: 2m 14s

remaining: 2m 8s

total: 898ms

total: 1.08s

total: 1.3s

2:

3:

4:

learn: 0.8357398

learn: 0.7915634

learn: 0.7407766

```
5:
        learn: 0.6475013
                                  total: 1.53s
                                                   remaining: 2m 5s
6:
        learn: 0.5780797
                                  total: 1.78s
                                                   remaining: 2m 5s
7:
        learn: 0.5208903
                                  total: 2.03s
                                                   remaining: 2m 5s
8:
        learn: 0.5077518
                                  total: 2.24s
                                                   remaining: 2m 2s
                                                   remaining: 2m
9:
        learn: 0.4633853
                                  total: 2.46s
                                  total: 2.69s
                                                   remaining: 1m 59s
10:
        learn: 0.4329555
11:
        learn: 0.4068081
                                  total: 2.89s
                                                   remaining: 1m 57s
12.
        learn: 0.3859958
                                  total: 3.08s
                                                   remaining: 1m 55s
13:
        learn: 0.3696696
                                  total: 3.25s
                                                   remaining: 1m 52s
14:
        learn: 0.3581578
                                  total: 3.49s
                                                   remaining: 1m 52s
                                  total: 3.75s
15:
        learn: 0.3433575
                                                   remaining: 1m 53s
                                  total: 4.02s
                                                   remaining: 1m 54s
16:
        learn: 0.3354873
17:
        learn: 0.3284255
                                  total: 4.35s
                                                   remaining: 1m 56s
18:
        learn: 0.3253633
                                  total: 4.65s
                                                   remaining: 1m 57s
19:
        learn: 0.3150039
                                  total: 4.95s
                                                   remaining: 1m 58s
        learn: 0.3094029
20:
                                  total: 5.21s
                                                   remaining: 1m 58s
21:
        learn: 0.2999760
                                  total: 5.49s
                                                   remaining: 1m 59s
22:
        learn: 0.2986327
                                  total: 5.77s
                                                   remaining: 1m 59s
        learn: 0.2972673
                                  total: 6.03s
                                                   remaining: 1m 59s
23.
24:
        learn: 0.2958170
                                  total: 6.31s
                                                   remaining: 1m 59s
                                                   remaining: 1m 59s
25:
        learn: 0.2886882
                                  total: 6.58s
26:
        learn: 0.2862394
                                  total: 6.88s
                                                   remaining: 2m
27:
        learn: 0.2807344
                                  total: 7.12s
                                                   remaining: 2m
28:
        learn: 0.2761587
                                  total: 7.39s
                                                   remaining: 2m
29:
        learn: 0.2751951
                                  total: 7.66s
                                                   remaining: 1m 59s
30:
        learn: 0.2745240
                                  total: 7.91s
                                                   remaining: 1m 59s
        learn: 0.2706097
                                  total: 8.25s
31:
                                                   remaining: 2m
32:
        learn: 0.2675512
                                  total: 8.57s
                                                   remaining: 2m 1s
33:
        learn: 0.2647427
                                  total: 8.88s
                                                   remaining: 2m 1s
34:
        learn: 0.2641658
                                  total: 9.22s
                                                   remaining: 2m 2s
35:
        learn: 0.2636691
                                  total: 9.52s
                                                   remaining: 2m 2s
36:
        learn: 0.2598143
                                  total: 9.85s
                                                   remaining: 2m 3s
37:
        learn: 0.2594147
                                  total: 10.1s
                                                   remaining: 2m 3s
38:
        learn: 0.2568369
                                  total: 10.4s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
39:
        learn: 0.2565865
                                  total: 10.7s
40:
        learn: 0.2563018
                                  total: 11s
                                                   remaining: 2m 3s
41:
        learn: 0.2559461
                                  total: 11.4s
                                                   remaining: 2m 3s
42:
        learn: 0.2558945
                                  total: 11.7s
                                                   remaining: 2m 3s
                                                   remaining: 2m 3s
43:
        learn: 0.2557325
                                  total: 12s
44:
        learn: 0.2552829
                                  total: 12.3s
                                                   remaining: 2m 4s
45:
        learn: 0.2552356
                                  total: 12.4s
                                                   remaining: 2m 2s
46:
        learn: 0.2546944
                                  total: 12.7s
                                                   remaining: 2m 2s
47:
        learn: 0.2543202
                                  total: 13s
                                                   remaining: 2m 2s
48:
        learn: 0.2539476
                                  total: 13.4s
                                                   remaining: 2m 2s
49:
        learn: 0.2521907
                                  total: 13.7s
                                                   remaining: 2m 3s
50:
        learn: 0.2519146
                                  total: 14s
                                                   remaining: 2m 3s
51:
        learn: 0.2517873
                                  total: 14.3s
                                                   remaining: 2m 3s
52:
        learn: 0.2513858
                                  total: 14.6s
                                                   remaining: 2m 3s
```

```
53:
        learn: 0.2510359
                                  total: 14.9s
                                                   remaining: 2m 3s
54:
        learn: 0.2508257
                                  total: 15.3s
                                                   remaining: 2m 3s
55:
        learn: 0.2506781
                                  total: 15.5s
                                                   remaining: 2m 3s
56:
        learn: 0.2504708
                                  total: 15.8s
                                                   remaining: 2m 3s
                                                   remaining: 2m 2s
57:
        learn: 0.2502010
                                  total: 16.1s
        learn: 0.2499422
                                  total: 16.4s
                                                   remaining: 2m 2s
58:
                                                   remaining: 2m 2s
59:
        learn: 0.2497399
                                  total: 16.7s
60:
        learn: 0.2496445
                                  total: 17s
                                                   remaining: 2m 2s
        learn: 0.2494029
                                                   remaining: 2m 2s
61:
                                  total: 17.3s
62:
        learn: 0.2492997
                                  total: 17.6s
                                                   remaining: 2m 2s
        learn: 0.2491155
63:
                                  total: 17.9s
                                                   remaining: 2m 1s
                                                   remaining: 2m 1s
64:
        learn: 0.2488741
                                  total: 18.2s
65:
        learn: 0.2485931
                                  total: 18.5s
                                                   remaining: 2m 1s
66:
        learn: 0.2484228
                                  total: 18.7s
                                                   remaining: 2m 1s
67:
        learn: 0.2482231
                                  total: 19s
                                                   remaining: 2m
        learn: 0.2479920
                                                   remaining: 2m
68:
                                  total: 19.3s
69:
        learn: 0.2478147
                                  total: 19.6s
                                                   remaining: 2m
70:
        learn: 0.2475861
                                  total: 19.9s
                                                   remaining: 2m
71:
        learn: 0.2474646
                                  total: 20.1s
                                                   remaining: 1m 59s
72:
        learn: 0.2473636
                                  total: 20.4s
                                                   remaining: 1m 59s
73:
        learn: 0.2471443
                                  total: 20.7s
                                                   remaining: 1m 58s
                                  total: 20.9s
                                                   remaining: 1m 58s
74:
        learn: 0.2468174
75:
        learn: 0.2466766
                                  total: 21.2s
                                                   remaining: 1m 58s
76:
        learn: 0.2464546
                                  total: 21.5s
                                                   remaining: 1m 57s
77:
        learn: 0.2450854
                                  total: 21.7s
                                                   remaining: 1m 57s
        learn: 0.2448964
78:
                                                   remaining: 1m 57s
                                  total: 22s
79:
        learn: 0.2446381
                                  total: 22.3s
                                                   remaining: 1m 56s
80:
        learn: 0.2442519
                                  total: 22.5s
                                                   remaining: 1m 56s
        learn: 0.2441394
                                  total: 22.8s
81:
                                                   remaining: 1m 56s
82:
        learn: 0.2432552
                                  total: 23.1s
                                                   remaining: 1m 55s
83:
        learn: 0.2431479
                                  total: 23.3s
                                                   remaining: 1m 55s
84:
        learn: 0.2430806
                                  total: 23.6s
                                                   remaining: 1m 55s
85:
        learn: 0.2429218
                                  total: 24s
                                                   remaining: 1m 55s
        learn: 0.2427474
                                  total: 24.3s
                                                   remaining: 1m 55s
86:
                                  total: 24.5s
                                                   remaining: 1m 54s
87:
        learn: 0.2421374
                                  total: 24.8s
88:
        learn: 0.2420386
                                                   remaining: 1m 54s
89:
        learn: 0.2419432
                                  total: 25.1s
                                                   remaining: 1m 54s
90:
        learn: 0.2418452
                                  total: 25.4s
                                                   remaining: 1m 54s
91:
        learn: 0.2417377
                                  total: 25.8s
                                                   remaining: 1m 54s
92:
        learn: 0.2416858
                                  total: 26s
                                                   remaining: 1m 53s
                                  total: 26.3s
93:
        learn: 0.2415749
                                                   remaining: 1m 53s
94:
        learn: 0.2415284
                                  total: 26.6s
                                                   remaining: 1m 53s
95:
        learn: 0.2413702
                                  total: 26.9s
                                                   remaining: 1m 53s
96:
        learn: 0.2413432
                                  total: 27.2s
                                                   remaining: 1m 52s
97:
        learn: 0.2399699
                                  total: 27.5s
                                                   remaining: 1m 52s
98:
        learn: 0.2398325
                                  total: 27.8s
                                                   remaining: 1m 52s
99:
        learn: 0.2397554
                                  total: 28.1s
                                                   remaining: 1m 52s
100:
        learn: 0.2396959
                                  total: 28.3s
                                                   remaining: 1m 51s
```

```
101:
        learn: 0.2395706
                                  total: 28.6s
                                                  remaining: 1m 51s
                                                  remaining: 1m 51s
102:
        learn: 0.2394984
                                  total: 28.9s
103:
        learn: 0.2394305
                                  total: 29.2s
                                                  remaining: 1m 51s
104:
        learn: 0.2393157
                                  total: 29.5s
                                                  remaining: 1m 51s
                                                  remaining: 1m 50s
105:
        learn: 0.2391194
                                  total: 29.8s
                                                  remaining: 1m 50s
106:
        learn: 0.2389863
                                  total: 30.1s
107:
        learn: 0.2388742
                                  total: 30.4s
                                                  remaining: 1m 50s
108:
        learn: 0.2388563
                                  total: 30.7s
                                                  remaining: 1m 50s
109:
        learn: 0.2387592
                                  total: 31s
                                                  remaining: 1m 49s
110:
        learn: 0.2386334
                                  total: 31.3s
                                                  remaining: 1m 49s
        learn: 0.2385672
                                  total: 31.5s
                                                  remaining: 1m 49s
111:
                                                  remaining: 1m 49s
112:
        learn: 0.2384955
                                  total: 31.8s
        learn: 0.2384366
                                  total: 32.2s
                                                  remaining: 1m 48s
113:
114:
        learn: 0.2383281
                                  total: 32.5s
                                                  remaining: 1m 48s
115:
        learn: 0.2382441
                                  total: 32.8s
                                                  remaining: 1m 48s
116:
        learn: 0.2380843
                                  total: 33.1s
                                                  remaining: 1m 48s
117:
        learn: 0.2380269
                                  total: 33.4s
                                                  remaining: 1m 48s
                                  total: 33.7s
118:
        learn: 0.2378848
                                                  remaining: 1m 47s
        learn: 0.2378007
                                                  remaining: 1m 47s
119:
                                  total: 34s
120:
        learn: 0.2377533
                                  total: 34.2s
                                                  remaining: 1m 47s
121:
        learn: 0.2376980
                                  total: 34.6s
                                                  remaining: 1m 47s
122:
        learn: 0.2376208
                                  total: 34.9s
                                                  remaining: 1m 46s
123:
        learn: 0.2375682
                                  total: 35.1s
                                                  remaining: 1m 46s
                                                  remaining: 1m 46s
124:
        learn: 0.2375137
                                  total: 35.4s
125:
        learn: 0.2374786
                                  total: 35.6s
                                                  remaining: 1m 45s
126:
        learn: 0.2372736
                                  total: 35.9s
                                                  remaining: 1m 45s
        learn: 0.2372433
                                  total: 36.2s
                                                  remaining: 1m 45s
127:
128:
        learn: 0.2371872
                                  total: 36.4s
                                                  remaining: 1m 44s
                                  total: 36.7s
129:
        learn: 0.2370841
                                                  remaining: 1m 44s
130:
        learn: 0.2367446
                                  total: 37s
                                                  remaining: 1m 44s
        learn: 0.2367316
131:
                                  total: 37.3s
                                                  remaining: 1m 44s
132:
        learn: 0.2366893
                                  total: 37.6s
                                                  remaining: 1m 43s
133:
        learn: 0.2365789
                                  total: 37.9s
                                                  remaining: 1m 43s
        learn: 0.2364812
                                  total: 38.3s
                                                  remaining: 1m 43s
134:
                                                  remaining: 1m 43s
135:
        learn: 0.2363756
                                  total: 38.5s
136:
        learn: 0.2359005
                                  total: 38.8s
                                                  remaining: 1m 42s
137:
        learn: 0.2357673
                                  total: 39.1s
                                                  remaining: 1m 42s
138:
        learn: 0.2356417
                                  total: 39.4s
                                                  remaining: 1m 42s
                                  total: 39.7s
139:
        learn: 0.2354908
                                                  remaining: 1m 42s
140:
        learn: 0.2353887
                                  total: 40s
                                                  remaining: 1m 41s
141:
        learn: 0.2353274
                                  total: 40.4s
                                                  remaining: 1m 41s
142:
                                                  remaining: 1m 41s
        learn: 0.2352938
                                  total: 40.6s
143:
        learn: 0.2351483
                                  total: 40.9s
                                                  remaining: 1m 41s
144:
        learn: 0.2348960
                                  total: 41.2s
                                                  remaining: 1m 40s
145:
        learn: 0.2347970
                                  total: 41.6s
                                                  remaining: 1m 40s
        learn: 0.2347457
146:
                                  total: 41.8s
                                                  remaining: 1m 40s
147:
        learn: 0.2346944
                                  total: 42.1s
                                                  remaining: 1m 40s
148:
        learn: 0.2346792
                                  total: 42.4s
                                                  remaining: 1m 39s
```

```
149:
        learn: 0.2346196
                                  total: 42.7s
                                                   remaining: 1m 39s
150:
        learn: 0.2345125
                                  total: 43s
                                                   remaining: 1m 39s
151:
        learn: 0.2344329
                                  total: 43.3s
                                                   remaining: 1m 39s
152:
        learn: 0.2343352
                                  total: 43.6s
                                                   remaining: 1m 38s
                                                   remaining: 1m 38s
153:
        learn: 0.2342170
                                  total: 43.9s
                                                   remaining: 1m 38s
154:
        learn: 0.2339289
                                  total: 44.2s
155:
        learn: 0.2338512
                                  total: 44.5s
                                                   remaining: 1m 38s
156:
        learn: 0.2338187
                                  total: 44.8s
                                                   remaining: 1m 37s
157:
        learn: 0.2337047
                                  total: 45.1s
                                                   remaining: 1m 37s
158:
        learn: 0.2335458
                                  total: 45.4s
                                                   remaining: 1m 37s
159:
        learn: 0.2334025
                                  total: 45.7s
                                                   remaining: 1m 37s
                                                   remaining: 1m 36s
160:
        learn: 0.2333436
                                  total: 46s
        learn: 0.2332826
                                                   remaining: 1m 36s
161:
                                  total: 46.3s
162:
        learn: 0.2332279
                                  total: 46.6s
                                                   remaining: 1m 36s
163:
        learn: 0.2330247
                                  total: 46.9s
                                                   remaining: 1m 36s
164:
        learn: 0.2329450
                                  total: 47.2s
                                                   remaining: 1m 35s
165:
        learn: 0.2327632
                                  total: 47.5s
                                                   remaining: 1m 35s
166:
        learn: 0.2326445
                                  total: 47.8s
                                                   remaining: 1m 35s
        learn: 0.2325536
                                  total: 48.1s
                                                   remaining: 1m 35s
167:
168:
        learn: 0.2324599
                                  total: 48.4s
                                                   remaining: 1m 34s
                                  total: 48.6s
169:
        learn: 0.2323306
                                                   remaining: 1m 34s
170:
        learn: 0.2322290
                                  total: 49s
                                                   remaining: 1m 34s
171:
        learn: 0.2321492
                                  total: 49.3s
                                                   remaining: 1m 33s
                                  total: 49.5s
                                                   remaining: 1m 33s
172:
        learn: 0.2318591
173:
        learn: 0.2317098
                                  total: 49.8s
                                                   remaining: 1m 33s
174:
        learn: 0.2316351
                                  total: 50.1s
                                                   remaining: 1m 33s
        learn: 0.2314634
                                                   remaining: 1m 32s
175:
                                  total: 50.4s
176:
        learn: 0.2313835
                                  total: 50.7s
                                                   remaining: 1m 32s
177:
        learn: 0.2313171
                                  total: 51s
                                                   remaining: 1m 32s
178:
        learn: 0.2312776
                                                   remaining: 1m 31s
                                  total: 51.3s
179:
        learn: 0.2312279
                                  total: 51.5s
                                                   remaining: 1m 31s
180:
        learn: 0.2311654
                                  total: 51.9s
                                                   remaining: 1m 31s
181:
        learn: 0.2311466
                                  total: 52.1s
                                                   remaining: 1m 31s
        learn: 0.2310998
                                  total: 52.4s
                                                   remaining: 1m 30s
182:
183:
                                                   remaining: 1m 30s
        learn: 0.2310671
                                  total: 52.7s
        learn: 0.2309419
184:
                                  total: 52.9s
                                                   remaining: 1m 30s
185:
        learn: 0.2309214
                                  total: 53.2s
                                                   remaining: 1m 29s
186:
        learn: 0.2308556
                                  total: 53.5s
                                                   remaining: 1m 29s
187:
        learn: 0.2308032
                                  total: 53.8s
                                                   remaining: 1m 29s
188:
        learn: 0.2307509
                                  total: 54s
                                                   remaining: 1m 28s
189:
        learn: 0.2305724
                                  total: 54.3s
                                                   remaining: 1m 28s
                                                   remaining: 1m 28s
190:
        learn: 0.2305107
                                  total: 54.6s
191:
        learn: 0.2304224
                                  total: 54.9s
                                                   remaining: 1m 28s
192:
        learn: 0.2303650
                                  total: 55.2s
                                                   remaining: 1m 27s
193:
        learn: 0.2302898
                                  total: 55.4s
                                                   remaining: 1m 27s
194:
        learn: 0.2301108
                                  total: 55.7s
                                                   remaining: 1m 27s
195:
        learn: 0.2298922
                                  total: 56s
                                                   remaining: 1m 26s
196:
        learn: 0.2298616
                                  total: 56.3s
                                                   remaining: 1m 26s
```

```
197:
        learn: 0.2298153
                                  total: 56.6s
                                                   remaining: 1m 26s
198:
        learn: 0.2297256
                                  total: 56.9s
                                                   remaining: 1m 25s
199:
        learn: 0.2296993
                                  total: 57.1s
                                                   remaining: 1m 25s
200:
        learn: 0.2296412
                                  total: 57.4s
                                                   remaining: 1m 25s
201:
        learn: 0.2294458
                                  total: 57.7s
                                                   remaining: 1m 25s
                                  total: 58s
                                                   remaining: 1m 24s
202:
        learn: 0.2293420
203:
        learn: 0.2292630
                                  total: 58.3s
                                                   remaining: 1m 24s
        learn: 0.2291939
204:
                                  total: 58.5s
                                                   remaining: 1m 24s
205:
        learn: 0.2291525
                                  total: 58.9s
                                                   remaining: 1m 24s
206:
        learn: 0.2291156
                                  total: 59.1s
                                                   remaining: 1m 23s
207:
        learn: 0.2290433
                                  total: 59.4s
                                                   remaining: 1m 23s
208:
        learn: 0.2290027
                                  total: 59.7s
                                                   remaining: 1m 23s
209:
        learn: 0.2289839
                                  total: 60s
                                                   remaining: 1m 22s
210:
        learn: 0.2288867
                                  total: 1m
                                                   remaining: 1m 22s
211:
        learn: 0.2288305
                                  total: 1m
                                                   remaining: 1m 22s
        learn: 0.2286713
212:
                                  total: 1m
                                                   remaining: 1m 22s
213:
        learn: 0.2285659
                                  total: 1m 1s
                                                   remaining: 1m 21s
                                  total: 1m 1s
214:
        learn: 0.2285270
                                                   remaining: 1m 21s
215:
        learn: 0.2284819
                                                   remaining: 1m 21s
                                  total: 1m 1s
216:
        learn: 0.2284221
                                  total: 1m 2s
                                                   remaining: 1m 20s
217:
        learn: 0.2283492
                                  total: 1m 2s
                                                   remaining: 1m 20s
                                  total: 1m 2s
218:
        learn: 0.2282491
                                                   remaining: 1m 20s
219:
        learn: 0.2280945
                                  total: 1m 2s
                                                   remaining: 1m 20s
220:
        learn: 0.2280448
                                  total: 1m 3s
                                                   remaining: 1m 19s
221:
        learn: 0.2279829
                                  total: 1m 3s
                                                   remaining: 1m 19s
222:
        learn: 0.2279247
                                  total: 1m 3s
                                                   remaining: 1m 19s
223:
        learn: 0.2278723
                                  total: 1m 4s
                                                   remaining: 1m 18s
224:
        learn: 0.2278232
                                  total: 1m 4s
                                                   remaining: 1m 18s
225:
        learn: 0.2277083
                                  total: 1m 4s
                                                   remaining: 1m 18s
226:
        learn: 0.2276484
                                  total: 1m 5s
                                                   remaining: 1m 18s
227:
        learn: 0.2276087
                                  total: 1m 5s
                                                   remaining: 1m 17s
228:
        learn: 0.2275724
                                  total: 1m 5s
                                                   remaining: 1m 17s
229:
        learn: 0.2275202
                                  total: 1m 5s
                                                   remaining: 1m 17s
230:
        learn: 0.2274389
                                  total: 1m 6s
                                                   remaining: 1m 17s
231:
        learn: 0.2273554
                                  total: 1m 6s
                                                   remaining: 1m 16s
232:
        learn: 0.2272095
                                  total: 1m 6s
                                                   remaining: 1m 16s
233:
        learn: 0.2271647
                                  total: 1m 7s
                                                   remaining: 1m 16s
234:
        learn: 0.2270761
                                  total: 1m 7s
                                                   remaining: 1m 15s
                                  total: 1m 7s
235:
        learn: 0.2270063
                                                   remaining: 1m 15s
236:
        learn: 0.2268886
                                  total: 1m 7s
                                                   remaining: 1m 15s
237:
        learn: 0.2268445
                                  total: 1m 8s
                                                   remaining: 1m 14s
238:
        learn: 0.2267815
                                                   remaining: 1m 14s
                                  total: 1m 8s
239:
        learn: 0.2267063
                                  total: 1m 8s
                                                   remaining: 1m 14s
240:
        learn: 0.2266488
                                  total: 1m 8s
                                                   remaining: 1m 14s
241:
        learn: 0.2265627
                                  total: 1m 9s
                                                   remaining: 1m 13s
242:
        learn: 0.2264830
                                  total: 1m 9s
                                                   remaining: 1m 13s
243:
        learn: 0.2263792
                                  total: 1m 9s
                                                   remaining: 1m 13s
244:
        learn: 0.2263326
                                  total: 1m 9s
                                                   remaining: 1m 12s
```

```
245:
        learn: 0.2262446
                                  total: 1m 10s
                                                   remaining: 1m 12s
                                                  remaining: 1m 12s
246:
        learn: 0.2261722
                                  total: 1m 10s
247:
        learn: 0.2261032
                                  total: 1m 10s
                                                   remaining: 1m 11s
248:
        learn: 0.2260631
                                  total: 1m 11s
                                                   remaining: 1m 11s
249:
        learn: 0.2260349
                                  total: 1m 11s
                                                   remaining: 1m 11s
250:
                                  total: 1m 11s
                                                   remaining: 1m 11s
        learn: 0.2259595
251:
        learn: 0.2259222
                                  total: 1m 11s
                                                   remaining: 1m 10s
252:
        learn: 0.2258134
                                  total: 1m 12s
                                                   remaining: 1m 10s
253:
        learn: 0.2257359
                                  total: 1m 12s
                                                   remaining: 1m 10s
254:
        learn: 0.2256823
                                  total: 1m 12s
                                                   remaining: 1m 9s
255:
        learn: 0.2256016
                                  total: 1m 13s
                                                   remaining: 1m 9s
256:
        learn: 0.2255748
                                  total: 1m 13s
                                                   remaining: 1m 9s
257:
        learn: 0.2255377
                                  total: 1m 13s
                                                   remaining: 1m 9s
258:
        learn: 0.2255042
                                  total: 1m 13s
                                                   remaining: 1m 8s
259:
        learn: 0.2254256
                                  total: 1m 14s
                                                   remaining: 1m 8s
        learn: 0.2252684
260:
                                  total: 1m 14s
                                                   remaining: 1m 8s
261:
        learn: 0.2252368
                                  total: 1m 14s
                                                   remaining: 1m 7s
262:
        learn: 0.2251676
                                  total: 1m 15s
                                                   remaining: 1m 7s
        learn: 0.2250974
                                  total: 1m 15s
                                                   remaining: 1m 7s
263:
264:
        learn: 0.2250074
                                  total: 1m 15s
                                                   remaining: 1m 7s
265:
        learn: 0.2249697
                                  total: 1m 15s
                                                   remaining: 1m 6s
                                  total: 1m 16s
266:
        learn: 0.2248618
                                                   remaining: 1m 6s
267:
        learn: 0.2248233
                                  total: 1m 16s
                                                   remaining: 1m 6s
268:
                                  total: 1m 16s
        learn: 0.2247460
                                                   remaining: 1m 5s
269:
        learn: 0.2246862
                                  total: 1m 17s
                                                   remaining: 1m 5s
270:
        learn: 0.2245665
                                  total: 1m 17s
                                                   remaining: 1m 5s
271:
        learn: 0.2244555
                                  total: 1m 17s
                                                   remaining: 1m 5s
272:
        learn: 0.2244261
                                  total: 1m 18s
                                                   remaining: 1m 4s
273:
        learn: 0.2243882
                                  total: 1m 18s
                                                   remaining: 1m 4s
274:
        learn: 0.2243516
                                  total: 1m 18s
                                                   remaining: 1m 4s
275:
        learn: 0.2242547
                                  total: 1m 18s
                                                   remaining: 1m 4s
276:
        learn: 0.2242050
                                  total: 1m 19s
                                                   remaining: 1m 3s
277:
        learn: 0.2241716
                                  total: 1m 19s
                                                   remaining: 1m 3s
278:
        learn: 0.2241505
                                  total: 1m 19s
                                                   remaining: 1m 3s
                                  total: 1m 20s
279:
        learn: 0.2240931
                                                   remaining: 1m 2s
                                  total: 1m 20s
280:
        learn: 0.2240798
                                                   remaining: 1m 2s
281:
        learn: 0.2240076
                                  total: 1m 20s
                                                   remaining: 1m 2s
282:
        learn: 0.2239579
                                  total: 1m 20s
                                                   remaining: 1m 2s
283:
                                  total: 1m 21s
        learn: 0.2239068
                                                   remaining: 1m 1s
284:
        learn: 0.2238640
                                  total: 1m 21s
                                                   remaining: 1m 1s
285:
        learn: 0.2238458
                                  total: 1m 21s
                                                   remaining: 1m 1s
286:
        learn: 0.2237650
                                                   remaining: 1m
                                  total: 1m 22s
287:
        learn: 0.2236881
                                  total: 1m 22s
                                                   remaining: 1m
288:
        learn: 0.2236349
                                  total: 1m 22s
                                                   remaining: 1m
289:
        learn: 0.2235725
                                  total: 1m 22s
                                                   remaining: 1m
290:
        learn: 0.2235591
                                  total: 1m 23s
                                                   remaining: 59.8s
291:
        learn: 0.2234327
                                  total: 1m 23s
                                                   remaining: 59.5s
292:
        learn: 0.2234003
                                  total: 1m 23s
                                                   remaining: 59.2s
```

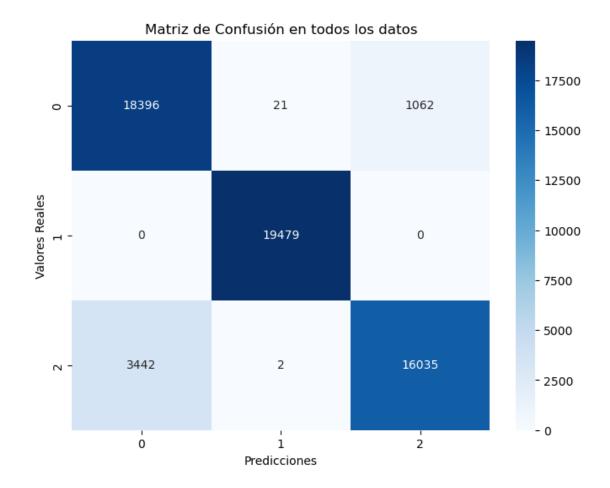
```
293:
        learn: 0.2233419
                                  total: 1m 24s
                                                   remaining: 58.9s
294:
        learn: 0.2232550
                                  total: 1m 24s
                                                   remaining: 58.6s
295:
        learn: 0.2231381
                                  total: 1m 24s
                                                   remaining: 58.3s
296:
        learn: 0.2230709
                                  total: 1m 24s
                                                   remaining: 58s
297:
        learn: 0.2230105
                                  total: 1m 25s
                                                   remaining: 57.7s
                                  total: 1m 25s
298:
        learn: 0.2229926
                                                   remaining: 57.4s
299:
        learn: 0.2229791
                                  total: 1m 25s
                                                   remaining: 57.1s
300:
        learn: 0.2229349
                                  total: 1m 25s
                                                   remaining: 56.8s
301:
        learn: 0.2228654
                                  total: 1m 26s
                                                   remaining: 56.5s
302:
        learn: 0.2227887
                                  total: 1m 26s
                                                   remaining: 56.2s
303:
        learn: 0.2227380
                                  total: 1m 26s
                                                   remaining: 55.9s
304:
        learn: 0.2226323
                                  total: 1m 27s
                                                   remaining: 55.6s
305:
        learn: 0.2225763
                                  total: 1m 27s
                                                   remaining: 55.3s
306:
        learn: 0.2225092
                                  total: 1m 27s
                                                   remaining: 55s
                                                   remaining: 54.7s
307:
        learn: 0.2224520
                                  total: 1m 27s
308:
        learn: 0.2223610
                                  total: 1m 27s
                                                   remaining: 54.4s
309:
        learn: 0.2223102
                                  total: 1m 28s
                                                   remaining: 54.1s
                                  total: 1m 28s
310:
        learn: 0.2222576
                                                   remaining: 53.8s
        learn: 0.2222058
                                  total: 1m 28s
311:
                                                   remaining: 53.5s
312:
        learn: 0.2221726
                                  total: 1m 29s
                                                   remaining: 53.2s
313:
        learn: 0.2221249
                                  total: 1m 29s
                                                   remaining: 53s
314:
        learn: 0.2220597
                                  total: 1m 29s
                                                   remaining: 52.6s
315:
        learn: 0.2220371
                                  total: 1m 29s
                                                   remaining: 52.4s
316:
        learn: 0.2219853
                                  total: 1m 30s
                                                   remaining: 52.1s
317:
        learn: 0.2219393
                                  total: 1m 30s
                                                   remaining: 51.8s
        learn: 0.2217625
                                  total: 1m 30s
                                                   remaining: 51.5s
318:
319:
        learn: 0.2216709
                                  total: 1m 31s
                                                   remaining: 51.2s
320:
        learn: 0.2216061
                                  total: 1m 31s
                                                   remaining: 50.9s
321:
        learn: 0.2215124
                                  total: 1m 31s
                                                   remaining: 50.6s
322:
        learn: 0.2214739
                                  total: 1m 31s
                                                   remaining: 50.3s
323:
        learn: 0.2214268
                                  total: 1m 31s
                                                   remaining: 49.9s
324:
        learn: 0.2213594
                                  total: 1m 32s
                                                   remaining: 49.6s
325:
        learn: 0.2213353
                                  total: 1m 32s
                                                   remaining: 49.3s
326:
        learn: 0.2211970
                                  total: 1m 32s
                                                   remaining: 49s
327:
        learn: 0.2211422
                                  total: 1m 32s
                                                   remaining: 48.7s
        learn: 0.2210916
328:
                                  total: 1m 33s
                                                   remaining: 48.4s
329:
        learn: 0.2210391
                                  total: 1m 33s
                                                   remaining: 48.1s
330:
        learn: 0.2210076
                                  total: 1m 33s
                                                   remaining: 47.8s
                                  total: 1m 33s
331:
        learn: 0.2209935
                                                   remaining: 47.5s
332:
        learn: 0.2209653
                                  total: 1m 34s
                                                   remaining: 47.2s
333:
        learn: 0.2208980
                                  total: 1m 34s
                                                   remaining: 46.9s
334:
        learn: 0.2208724
                                  total: 1m 34s
                                                   remaining: 46.6s
335:
        learn: 0.2207968
                                  total: 1m 34s
                                                   remaining: 46.3s
336:
        learn: 0.2207327
                                  total: 1m 35s
                                                   remaining: 46.1s
                                                   remaining: 45.8s
337:
        learn: 0.2206927
                                  total: 1m 35s
338:
        learn: 0.2206503
                                  total: 1m 35s
                                                   remaining: 45.5s
339:
        learn: 0.2205673
                                  total: 1m 36s
                                                   remaining: 45.2s
340:
        learn: 0.2205302
                                  total: 1m 36s
                                                   remaining: 44.9s
```

```
total: 1m 36s
341:
        learn: 0.2204237
                                                   remaining: 44.7s
342:
        learn: 0.2203792
                                  total: 1m 36s
                                                   remaining: 44.4s
343:
        learn: 0.2203490
                                  total: 1m 37s
                                                   remaining: 44.1s
344:
        learn: 0.2202763
                                  total: 1m 37s
                                                   remaining: 43.9s
345:
        learn: 0.2201767
                                  total: 1m 37s
                                                   remaining: 43.6s
                                  total: 1m 38s
                                                   remaining: 43.3s
346:
        learn: 0.2201011
347:
        learn: 0.2199977
                                  total: 1m 38s
                                                   remaining: 43.1s
        learn: 0.2199471
348:
                                  total: 1m 38s
                                                   remaining: 42.8s
349:
        learn: 0.2198928
                                  total: 1m 39s
                                                   remaining: 42.5s
350:
        learn: 0.2198089
                                  total: 1m 39s
                                                   remaining: 42.2s
351:
        learn: 0.2197558
                                  total: 1m 39s
                                                   remaining: 41.9s
352:
        learn: 0.2196939
                                  total: 1m 39s
                                                   remaining: 41.6s
353:
        learn: 0.2196495
                                  total: 1m 40s
                                                   remaining: 41.3s
354:
        learn: 0.2195611
                                  total: 1m 40s
                                                   remaining: 41s
                                                   remaining: 40.8s
355:
        learn: 0.2195197
                                  total: 1m 40s
356:
        learn: 0.2194576
                                  total: 1m 41s
                                                   remaining: 40.5s
357:
        learn: 0.2194150
                                  total: 1m 41s
                                                   remaining: 40.2s
                                  total: 1m 41s
358:
        learn: 0.2193863
                                                   remaining: 39.9s
        learn: 0.2193606
                                  total: 1m 41s
359:
                                                   remaining: 39.6s
360:
        learn: 0.2192257
                                  total: 1m 42s
                                                   remaining: 39.3s
361:
        learn: 0.2191534
                                  total: 1m 42s
                                                   remaining: 39s
362:
        learn: 0.2190906
                                  total: 1m 42s
                                                   remaining: 38.7s
363:
        learn: 0.2189959
                                  total: 1m 42s
                                                   remaining: 38.5s
364:
        learn: 0.2189588
                                  total: 1m 43s
                                                   remaining: 38.2s
365:
        learn: 0.2188945
                                  total: 1m 43s
                                                   remaining: 37.9s
                                                   remaining: 37.6s
        learn: 0.2188844
                                  total: 1m 43s
366:
367:
        learn: 0.2188456
                                  total: 1m 44s
                                                   remaining: 37.3s
368:
        learn: 0.2187835
                                  total: 1m 44s
                                                   remaining: 37s
369:
        learn: 0.2187476
                                  total: 1m 44s
                                                   remaining: 36.8s
370:
        learn: 0.2187265
                                  total: 1m 44s
                                                   remaining: 36.5s
371:
        learn: 0.2186571
                                  total: 1m 45s
                                                   remaining: 36.2s
372:
        learn: 0.2186131
                                  total: 1m 45s
                                                   remaining: 35.9s
373:
        learn: 0.2185514
                                  total: 1m 45s
                                                   remaining: 35.6s
374:
        learn: 0.2185436
                                  total: 1m 46s
                                                   remaining: 35.3s
375:
        learn: 0.2185283
                                  total: 1m 46s
                                                   remaining: 35.1s
376:
        learn: 0.2184505
                                  total: 1m 46s
                                                   remaining: 34.8s
377:
        learn: 0.2184264
                                  total: 1m 46s
                                                   remaining: 34.5s
378:
        learn: 0.2183407
                                  total: 1m 47s
                                                   remaining: 34.2s
379:
        learn: 0.2182651
                                  total: 1m 47s
                                                   remaining: 34s
380:
        learn: 0.2181838
                                  total: 1m 47s
                                                   remaining: 33.7s
381:
        learn: 0.2181160
                                  total: 1m 48s
                                                   remaining: 33.4s
382:
        learn: 0.2180666
                                  total: 1m 48s
                                                   remaining: 33.1s
383:
        learn: 0.2180039
                                  total: 1m 48s
                                                   remaining: 32.8s
384:
        learn: 0.2179672
                                  total: 1m 49s
                                                   remaining: 32.6s
                                                   remaining: 32.3s
385:
        learn: 0.2179390
                                  total: 1m 49s
386:
        learn: 0.2179067
                                  total: 1m 49s
                                                   remaining: 32s
387:
        learn: 0.2178366
                                  total: 1m 49s
                                                   remaining: 31.7s
388:
        learn: 0.2177422
                                  total: 1m 50s
                                                   remaining: 31.4s
```

```
389:
        learn: 0.2176700
                                  total: 1m 50s
                                                   remaining: 31.2s
390:
        learn: 0.2175726
                                  total: 1m 50s
                                                   remaining: 30.9s
391:
        learn: 0.2175187
                                  total: 1m 51s
                                                   remaining: 30.6s
392:
        learn: 0.2174733
                                                   remaining: 30.3s
                                  total: 1m 51s
393:
        learn: 0.2174509
                                  total: 1m 51s
                                                   remaining: 30s
                                  total: 1m 51s
394:
        learn: 0.2173081
                                                   remaining: 29.8s
395:
        learn: 0.2172811
                                  total: 1m 52s
                                                   remaining: 29.5s
        learn: 0.2172249
                                                   remaining: 29.2s
396:
                                  total: 1m 52s
397:
        learn: 0.2171537
                                  total: 1m 52s
                                                   remaining: 28.9s
398:
        learn: 0.2170979
                                  total: 1m 53s
                                                   remaining: 28.6s
399:
        learn: 0.2170645
                                  total: 1m 53s
                                                   remaining: 28.3s
400:
        learn: 0.2170105
                                  total: 1m 53s
                                                   remaining: 28s
        learn: 0.2169722
401:
                                  total: 1m 53s
                                                   remaining: 27.7s
402:
        learn: 0.2169366
                                  total: 1m 54s
                                                   remaining: 27.5s
403:
        learn: 0.2168326
                                  total: 1m 54s
                                                   remaining: 27.2s
404:
        learn: 0.2167016
                                  total: 1m 54s
                                                   remaining: 26.9s
405:
        learn: 0.2166529
                                  total: 1m 54s
                                                   remaining: 26.6s
                                  total: 1m 55s
406:
        learn: 0.2165697
                                                   remaining: 26.3s
        learn: 0.2164792
407:
                                  total: 1m 55s
                                                   remaining: 26s
408:
        learn: 0.2164167
                                  total: 1m 55s
                                                   remaining: 25.8s
409:
        learn: 0.2163670
                                  total: 1m 55s
                                                   remaining: 25.5s
410:
        learn: 0.2163166
                                  total: 1m 56s
                                                   remaining: 25.2s
411:
        learn: 0.2162961
                                  total: 1m 56s
                                                   remaining: 24.9s
412:
        learn: 0.2161867
                                  total: 1m 56s
                                                   remaining: 24.6s
413:
        learn: 0.2161490
                                  total: 1m 57s
                                                   remaining: 24.3s
        learn: 0.2161241
414:
                                  total: 1m 57s
                                                   remaining: 24s
415:
        learn: 0.2160300
                                  total: 1m 57s
                                                   remaining: 23.7s
416:
        learn: 0.2159967
                                  total: 1m 57s
                                                   remaining: 23.5s
417:
        learn: 0.2159822
                                  total: 1m 58s
                                                   remaining: 23.2s
418:
        learn: 0.2159385
                                  total: 1m 58s
                                                   remaining: 22.9s
419:
        learn: 0.2158851
                                  total: 1m 58s
                                                   remaining: 22.6s
420:
        learn: 0.2158101
                                  total: 1m 58s
                                                   remaining: 22.3s
421:
        learn: 0.2157962
                                  total: 1m 59s
                                                   remaining: 22s
422:
        learn: 0.2157532
                                  total: 1m 59s
                                                   remaining: 21.8s
423:
        learn: 0.2157251
                                  total: 1m 59s
                                                   remaining: 21.5s
424:
        learn: 0.2156782
                                  total: 2m
                                                   remaining: 21.2s
425:
        learn: 0.2156557
                                  total: 2m
                                                   remaining: 20.9s
426:
        learn: 0.2155956
                                                   remaining: 20.6s
                                  total: 2m
427:
        learn: 0.2155770
                                  total: 2m
                                                   remaining: 20.3s
428:
        learn: 0.2155328
                                  total: 2m 1s
                                                   remaining: 20.1s
429:
        learn: 0.2154548
                                  total: 2m 1s
                                                   remaining: 19.8s
430:
        learn: 0.2154063
                                  total: 2m 1s
                                                   remaining: 19.5s
431:
        learn: 0.2153234
                                  total: 2m 2s
                                                   remaining: 19.2s
432:
        learn: 0.2152791
                                  total: 2m 2s
                                                   remaining: 18.9s
433:
        learn: 0.2152413
                                  total: 2m 2s
                                                   remaining: 18.7s
434:
        learn: 0.2151305
                                  total: 2m 3s
                                                   remaining: 18.4s
435:
        learn: 0.2150893
                                  total: 2m 3s
                                                   remaining: 18.1s
436:
        learn: 0.2150562
                                  total: 2m 3s
                                                   remaining: 17.8s
```

```
437:
        learn: 0.2149277
                                  total: 2m 3s
                                                   remaining: 17.5s
438:
        learn: 0.2149115
                                  total: 2m 4s
                                                   remaining: 17.3s
439:
        learn: 0.2148769
                                  total: 2m 4s
                                                   remaining: 17s
440:
        learn: 0.2148415
                                  total: 2m 4s
                                                   remaining: 16.7s
441:
        learn: 0.2147868
                                  total: 2m 5s
                                                   remaining: 16.4s
                                  total: 2m 5s
442:
        learn: 0.2146450
                                                   remaining: 16.1s
443:
        learn: 0.2145772
                                  total: 2m 5s
                                                   remaining: 15.9s
444:
        learn: 0.2144877
                                  total: 2m 6s
                                                   remaining: 15.6s
445:
        learn: 0.2144250
                                  total: 2m 6s
                                                   remaining: 15.3s
446:
        learn: 0.2143588
                                  total: 2m 6s
                                                   remaining: 15s
447:
        learn: 0.2142810
                                  total: 2m 6s
                                                   remaining: 14.7s
448:
        learn: 0.2142408
                                  total: 2m 7s
                                                   remaining: 14.4s
449:
        learn: 0.2141973
                                  total: 2m 7s
                                                   remaining: 14.2s
450:
        learn: 0.2141598
                                  total: 2m 7s
                                                   remaining: 13.9s
                                                   remaining: 13.6s
451:
        learn: 0.2141094
                                  total: 2m 8s
        learn: 0.2140869
452:
                                  total: 2m 8s
                                                   remaining: 13.3s
453:
        learn: 0.2139979
                                  total: 2m 8s
                                                   remaining: 13s
                                  total: 2m 9s
454:
        learn: 0.2138975
                                                   remaining: 12.8s
        learn: 0.2138709
                                  total: 2m 9s
455:
                                                   remaining: 12.5s
456:
        learn: 0.2138340
                                  total: 2m 9s
                                                   remaining: 12.2s
457:
        learn: 0.2137593
                                  total: 2m 9s
                                                   remaining: 11.9s
                                  total: 2m 10s
458:
        learn: 0.2136907
                                                   remaining: 11.6s
459:
        learn: 0.2136451
                                  total: 2m 10s
                                                   remaining: 11.3s
460:
                                  total: 2m 10s
        learn: 0.2135870
                                                   remaining: 11.1s
461:
        learn: 0.2135300
                                  total: 2m 11s
                                                   remaining: 10.8s
462:
        learn: 0.2135026
                                  total: 2m 11s
                                                   remaining: 10.5s
463:
        learn: 0.2134254
                                  total: 2m 11s
                                                   remaining: 10.2s
464:
        learn: 0.2133631
                                  total: 2m 11s
                                                   remaining: 9.92s
465:
        learn: 0.2133288
                                  total: 2m 12s
                                                   remaining: 9.63s
466:
        learn: 0.2132852
                                  total: 2m 12s
                                                   remaining: 9.35s
        learn: 0.2132127
467:
                                  total: 2m 12s
                                                   remaining: 9.06s
468:
        learn: 0.2131531
                                  total: 2m 12s
                                                   remaining: 8.78s
                                  total: 2m 13s
469:
        learn: 0.2131193
                                                   remaining: 8.49s
470:
        learn: 0.2130375
                                  total: 2m 13s
                                                   remaining: 8.21s
471:
        learn: 0.2130188
                                  total: 2m 13s
                                                   remaining: 7.92s
472:
        learn: 0.2129868
                                  total: 2m 13s
                                                   remaining: 7.64s
473:
        learn: 0.2129417
                                  total: 2m 14s
                                                   remaining: 7.36s
474:
        learn: 0.2129329
                                  total: 2m 14s
                                                   remaining: 7.07s
                                  total: 2m 14s
475:
        learn: 0.2128419
                                                   remaining: 6.79s
476:
        learn: 0.2128128
                                  total: 2m 14s
                                                   remaining: 6.51s
477:
        learn: 0.2127101
                                  total: 2m 15s
                                                   remaining: 6.22s
478:
        learn: 0.2126206
                                  total: 2m 15s
                                                   remaining: 5.94s
479:
        learn: 0.2125412
                                  total: 2m 15s
                                                   remaining: 5.66s
480:
        learn: 0.2124489
                                  total: 2m 15s
                                                   remaining: 5.37s
                                                   remaining: 5.09s
481:
        learn: 0.2124103
                                  total: 2m 16s
482:
        learn: 0.2123546
                                  total: 2m 16s
                                                   remaining: 4.81s
483:
        learn: 0.2122767
                                  total: 2m 16s
                                                   remaining: 4.53s
484:
        learn: 0.2122670
                                  total: 2m 17s
                                                   remaining: 4.24s
```

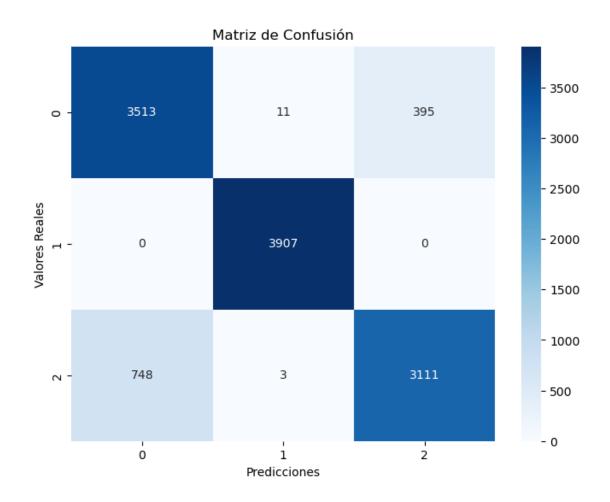
| 485:           | learn: | 0.2122574  | to       | tal:  | 2m 17s | remaining: | 3.96s |
|----------------|--------|------------|----------|-------|--------|------------|-------|
| 486:           | learn: | 0.2122450  | to       | tal:  | 2m 17s | remaining: | 3.68s |
| 487:           | learn: | 0.2121389  | to       | tal:  | 2m 18s | remaining: | 3.39s |
| 488:           | learn: | 0.2121059  | to       | tal:  | 2m 18s | remaining: | 3.11s |
| 489:           | learn: | 0.2120672  | to       | tal:  | 2m 18s | remaining: | 2.83s |
| 490:           | learn: | 0.2120043  | to       | tal:  | 2m 18s | remaining: | 2.55s |
| 491:           | learn: | 0.2119010  | to       | tal:  | 2m 19s | remaining: | 2.26s |
| 492:           | learn: | 0.2118231  | to       | tal:  | 2m 19s | remaining: | 1.98s |
| 493:           | learn: | 0.2117792  | to       | tal:  | 2m 19s | remaining: | 1.7s  |
| 494:           | learn: | 0.2117320  | to       | tal:  | 2m 20s | remaining: | 1.42s |
| 495:           | learn: | 0.2117065  | to       | tal:  | 2m 20s | remaining: | 1.13s |
| 496:           | learn: | 0.2116843  | to       | tal:  | 2m 20s | remaining: | 850ms |
| 497:           | learn: | 0.2116341  | to       | tal:  | 2m 21s | remaining: | 567ms |
| 498:           | learn: | 0.2115835  | to       | tal:  | 2m 21s | remaining: | 283ms |
| 499:           | learn: | 0.2115230  | to       | tal:  | 2m 21s | remaining: | 0us   |
| Informe        | de Cla | sificación | en todos | los d | atos:  |            |       |
|                | ]      | precision  | recall   | f1-s  | core   | support    |       |
|                |        |            |          |       |        |            |       |
|                | 0      | 0.84       | 0.94     |       | 0.89   | 19479      |       |
|                | 1      | 1.00       | 1.00     |       | 1.00   | 19479      |       |
|                | 2      | 0.94       | 0.82     | (     | 0.88   | 19479      |       |
|                |        |            |          |       |        |            |       |
| acc.           | uracy  |            |          |       | 0.92   | 58437      |       |
| macro avg 0.93 |        | 0.93       | 0.92     |       | 0.92   | 58437      |       |
| weighte        | d avg  | 0.93       | 0.92     | (     | 0.92   | 58437      |       |
|                |        |            |          |       |        |            |       |



# 13.2.1 Modelo 20% 80% 1000 iteraciones

```
X = data.drop(['GRAVEDAD', 'FECHA', 'ORDEN'], axis=1)
y = data['GRAVEDAD']
# Aplica oversampling a los datos
oversampler = RandomOverSampler(random_state=42)
X_resampled, y_resampled = oversampler.fit_resample(X, y)
# Divide los datos en conjuntos de entrenamiento y prueba
X_train, X_test, y_train, y_test = train_test_split(X_resampled, y_resampled,__
# Crea el modelo CatBoost
catboost_model = CatBoostClassifier(iterations=1000,__
 Grat_features=categorical_cols, random_seed=42)
# Entrena el modelo CatBoost
catboost_model.fit(X_train, y_train, eval_set=(X_test, y_test),__
⇔early_stopping_rounds=10, verbose=False)
# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_test)
# Muestra el informe de clasificación
print(classification_report(y_test, y_pred))
# Matriz de Confusión
confusion = confusion_matrix(y_test, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

|              | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| 0            | 0.82      | 0.90   | 0.86     | 3919    |
| 1            | 1.00      | 1.00   | 1.00     | 3907    |
| 2            | 0.89      | 0.81   | 0.84     | 3862    |
| accuracy     |           |        | 0.90     | 11688   |
| macro avg    | 0.90      | 0.90   | 0.90     | 11688   |
| weighted avg | 0.90      | 0.90   | 0.90     | 11688   |



## 13.2.2 Iteraciones 1000 - cross-validation 5 grupos

```
[]: from sklearn.model_selection import cross_val_score

# Realiza cross-validation y muestra los resultados
scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=5,___
scoring='accuracy')
print("Accuracy en cada fold:", scores)
print("Accuracy promedio:", scores.mean())

# Entrena el modelo CatBoost en todos los datos de entrenamiento
catboost_model.fit(X_resampled, y_resampled)

# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_resampled)

# Muestra el informe de clasificación en todos los datos
print("Informe de Clasificación en todos los datos:")
```

```
print(classification_report(y_resampled, y_pred))

# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

## 13.2.3 iteraciones 1000 cross-validation 10 grupos

```
[]: from sklearn.model_selection import cross_val_score
     # Realiza cross-validation y muestra los resultados
     scores = cross val score(catboost model, X resampled, v resampled, cv=10,,,
      ⇔scoring='accuracy')
     print("Accuracy en cada fold:", scores)
     print("Accuracy promedio:", scores.mean())
     # Entrena el modelo CatBoost en todos los datos de entrenamiento
     catboost_model.fit(X_resampled, y_resampled)
     # Realiza predicciones en el conjunto de prueba
     y_pred = catboost_model.predict(X_resampled)
     # Muestra el informe de clasificación en todos los datos
     print("Informe de Clasificación en todos los datos:")
     print(classification_report(y_resampled, y_pred))
     # Matriz de Confusión en todos los datos
     confusion = confusion_matrix(y_resampled, y_pred)
     plt.figure(figsize=(8, 6))
     sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
     plt.title("Matriz de Confusión en todos los datos")
     plt.xlabel("Predicciones")
     plt.ylabel("Valores Reales")
     plt.show()
```

#### 13.2.4 teraciones 1000 cros-validation 15

```
[]: from sklearn.model_selection import cross_val_score

# Realiza cross-validation y muestra los resultados
```

```
scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=15,_u
 ⇔scoring='accuracy')
print("Accuracy en cada fold:", scores)
print("Accuracy promedio:", scores.mean())
# Entrena el modelo CatBoost en todos los datos de entrenamiento
catboost model.fit(X resampled, y resampled)
# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_resampled)
# Muestra el informe de clasificación en todos los datos
print("Informe de Clasificación en todos los datos:")
print(classification_report(y_resampled, y_pred))
# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

## 13.2.5 modelo 20% 80% 1500 iteraciones

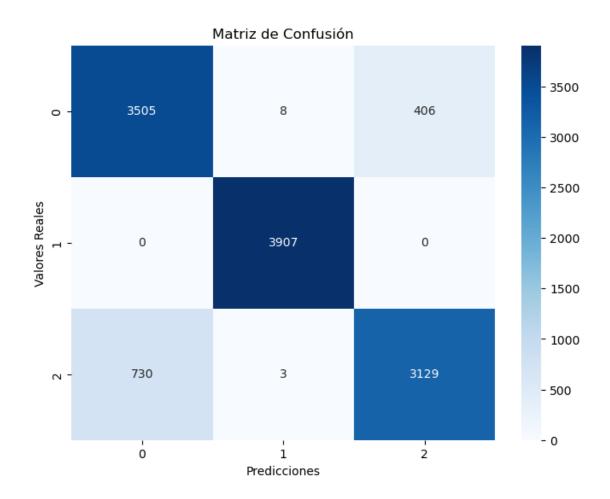
```
[32]: import pandas as pd
     from sklearn.model_selection import train_test_split
     from catboost import CatBoostClassifier
     from sklearn.metrics import classification_report, confusion_matrix
     import seaborn as sns
     import matplotlib.pyplot as plt
     from imblearn.over_sampling import RandomOverSampler
      # Define las columnas categóricas
     categorical_cols = ['MES', 'DÍA', 'VIA 1', 'BARRIO', 'HORA', 'ENTIDAD', L
       'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORA
       ⇔RESTRICCION MOTO'
     # Divide los datos en características (X) y variable objetivo (y)
     X = data.drop(['GRAVEDAD', 'FECHA', 'ORDEN'], axis=1)
     y = data['GRAVEDAD']
      # Aplica oversampling a los datos
     oversampler = RandomOverSampler(random_state=42)
```

```
X_resampled, y_resampled = oversampler.fit_resample(X, y)
# Divide los datos en conjuntos de entrenamiento y prueba
X_train, X_test, y_train, y_test = train_test_split(X_resampled, y_resampled,__

→test_size=0.2, random_state=42)
# Crea el modelo CatBoost
catboost_model = CatBoostClassifier(iterations=1500,__

cat_features=categorical_cols, random_seed=42)
# Entrena el modelo CatBoost
catboost_model.fit(X_train, y_train, eval_set=(X_test, y_test),__
⇔early_stopping_rounds=10, verbose=False)
# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_test)
# Muestra el informe de clasificación
print(classification_report(y_test, y_pred))
# Matriz de Confusión
confusion = confusion_matrix(y_test, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

|              | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| 0            | 0.83      | 0.89   | 0.86     | 3919    |
| 1            | 1.00      | 1.00   | 1.00     | 3919    |
| 2            | 0.89      | 0.81   | 0.85     | 3862    |
|              |           |        |          |         |
| accuracy     |           |        | 0.90     | 11688   |
| macro avg    | 0.90      | 0.90   | 0.90     | 11688   |
| weighted avg | 0.90      | 0.90   | 0.90     | 11688   |



## 13.2.6 iteriaciones 1500 cross-validation 5

```
[]: from sklearn.model_selection import cross_val_score

# Realiza cross-validation y muestra los resultados
scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=5,___
scoring='accuracy')
print("Accuracy en cada fold:", scores)
print("Accuracy promedio:", scores.mean())

# Entrena el modelo CatBoost en todos los datos de entrenamiento
catboost_model.fit(X_resampled, y_resampled)

# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_resampled)

# Muestra el informe de clasificación en todos los datos
print("Informe de Clasificación en todos los datos:")
print(classification_report(y_resampled, y_pred))
```

```
# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

## 13.2.7 iteraciones 15000 cros-validation 10

```
[]: from sklearn.model_selection import cross_val_score
     # Realiza cross-validation y muestra los resultados
     scores = cross_val_score(catboost_model, X_resampled, y_resampled, cv=10,_
     ⇔scoring='accuracy')
     print("Accuracy en cada fold:", scores)
     print("Accuracy promedio:", scores.mean())
     # Entrena el modelo CatBoost en todos los datos de entrenamiento
     catboost_model.fit(X_resampled, y_resampled)
     # Realiza predicciones en el conjunto de prueba
     y_pred = catboost_model.predict(X_resampled)
     # Muestra el informe de clasificación en todos los datos
     print("Informe de Clasificación en todos los datos:")
     print(classification_report(y_resampled, y_pred))
     # Matriz de Confusión en todos los datos
     confusion = confusion_matrix(y_resampled, y_pred)
     plt.figure(figsize=(8, 6))
     sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
     plt.title("Matriz de Confusión en todos los datos")
     plt.xlabel("Predicciones")
     plt.ylabel("Valores Reales")
     plt.show()
```

### 13.2.8 iteraciones 1500 cross-validation 15

```
# Entrena el modelo CatBoost en todos los datos de entrenamiento
catboost_model.fit(X_resampled, y_resampled)

# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_resampled)

# Muestra el informe de clasificación en todos los datos
print("Informe de Clasificación en todos los datos:")
print(classification_report(y_resampled, y_pred))

# Matriz de Confusión en todos los datos
confusion = confusion_matrix(y_resampled, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión en todos los datos")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

#### 13.2.9 modelo 20% 80% 500 iteraciones

```
[36]: import pandas as pd
     from sklearn.model_selection import train_test_split
     from catboost import CatBoostClassifier
     from sklearn.metrics import classification_report, confusion_matrix
     import seaborn as sns
     import matplotlib.pyplot as plt
     from imblearn.over_sampling import RandomOverSampler
      # Define las columnas categóricas
     categorical_cols = ['MES', 'DÍA', 'VIA 1', 'BARRIO', 'HORA', 'ENTIDAD', L
      'Propietario de Vehículo', 'DIURNIO/NOCTURNO', 'HORA
       ⇔RESTRICCION MOTO'
     # Divide los datos en características (X) y variable objetivo (y)
     X = data.drop(['GRAVEDAD', 'FECHA', 'ORDEN'], axis=1)
     y = data['GRAVEDAD']
     # Aplica oversampling a los datos
     oversampler = RandomOverSampler(random_state=42)
     X_resampled, y_resampled = oversampler.fit_resample(X, y)
     # Divide los datos en conjuntos de entrenamiento y prueba
```

```
X_train, X_test, y_train, y_test = train_test_split(X_resampled, y_resampled, __

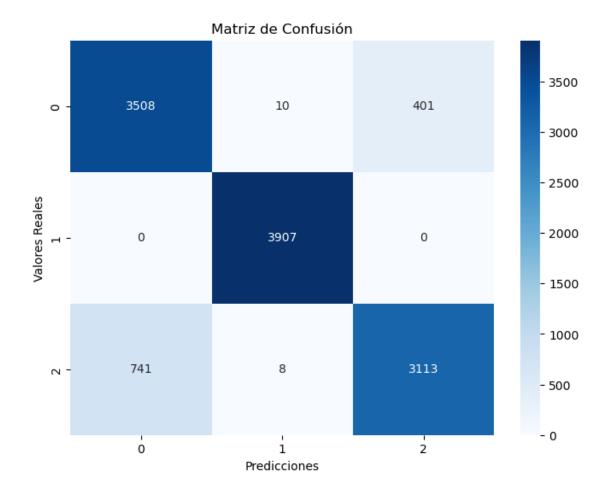
state=42)

state=42)

state=42)

# Crea el modelo CatBoost
catboost_model = CatBoostClassifier(iterations=500,__
 ⇒cat_features=categorical_cols, random_seed=42)
# Entrena el modelo CatBoost
catboost_model.fit(X_train, y_train, eval_set=(X_test, y_test),__
 ⇔early_stopping_rounds=10, verbose=False)
# Realiza predicciones en el conjunto de prueba
y_pred = catboost_model.predict(X_test)
# Muestra el informe de clasificación
print(classification_report(y_test, y_pred))
# Matriz de Confusión
confusion = confusion_matrix(y_test, y_pred)
plt.figure(figsize=(8, 6))
sns.heatmap(confusion, annot=True, fmt="d", cmap="Blues")
plt.title("Matriz de Confusión")
plt.xlabel("Predicciones")
plt.ylabel("Valores Reales")
plt.show()
```

|              | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
|              |           |        |          |         |
| 0            | 0.83      | 0.90   | 0.86     | 3919    |
| 1            | 1.00      | 1.00   | 1.00     | 3907    |
| 2            | 0.89      | 0.81   | 0.84     | 3862    |
|              |           |        |          |         |
| accuracy     |           |        | 0.90     | 11688   |
| macro avg    | 0.90      | 0.90   | 0.90     | 11688   |
| weighted avg | 0.90      | 0.90   | 0.90     | 11688   |



#### 13.2.10 Analisis de los rultados

Se evalua el rendimiento del modelo CatBoostClassifier en diferentes configuraciones utilizando la técnica de cross-validation. Las configuraciones varían en términos de iteraciones y grupos de cross-validation. Vamos a analizar los resultados:

- 1. Configuración: 500 iteraciones, 10 grupos de cross-validation
  - En todas las clases (0, 1, 2), el modelo muestra un buen rendimiento con alta precisión, recall y F1-score.
  - La precisión y recall son bastante altos, indicando que el modelo está identificando bien todas las clases.
  - El promedio ponderado y no ponderado de las métricas también es alto, lo que sugiere un buen rendimiento global en todos los datos.
  - La precisión general del modelo es del 92%, lo que es bastante sólido.
- 2. Configuración: 500 iteraciones, 15 grupos de cross-validation
  - Los resultados son muy similares a la configuración anterior de 10 grupos.
  - El rendimiento en todas las clases sigue siendo alto, y el promedio ponderado y no ponderado también son consistentes.
- 3. Configuración: 1000 iteraciones, 5 grupos de cross-validation

- Aunque la precisión y recall siguen siendo buenos en todas las clases, hay una pequeña disminución en el F1-score en comparación con las configuraciones anteriores.
- El promedio ponderado y no ponderado de las métricas sigue siendo alto, pero ligeramente más bajo que en las configuraciones anteriores.
- 4. Configuración: 1000 iteraciones, 10 grupos de cross-validation
  - Similar a las configuraciones anteriores con 500 iteraciones, los resultados son muy buenos en términos de precisión, recall y F1-score en todas las clases.
  - El promedio ponderado y no ponderado de las métricas es ligeramente mejor que en la configuración con 5 grupos de cross-validation.
- 5. Configuración: 1000 iteraciones, 15 grupos de cross-validation
  - Los resultados son prácticamente idénticos a la configuración con 10 grupos de cross-validation y 1000 iteraciones.
  - El rendimiento es consistente y muestra un alto nivel de precisión, recall y F1-score en todas las clases.
- 6. Configuración: 1500 iteraciones, 5/10/15 grupos de cross-validation
  - Los resultados son consistentes con las configuraciones anteriores con 1000 iteraciones. No hay mejoras significativas en el rendimiento.

Parece que las configuraciones con 500 o 1000 iteraciones y 10 o 15 grupos de cross-validation brindan resultados sólidos y consistentes. Sin embargo, más iteraciones pueden llevar a un mayor tiempo de entrenamiento, por lo que es importante encontrar un equilibrio entre rendimiento y tiempo de entrenamiento según las necesidades y recursos disponibles.

Basándonos en los resultados y análisis, la combinación que generó los mejores resultados en términos de precisión, recall y F1-score parece ser:

Configuración: 500 iteraciones, 10 grupos de cross-validation

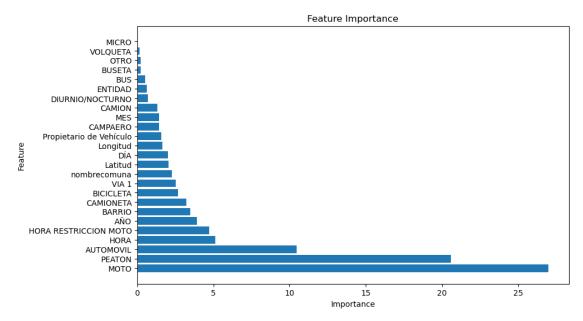
En esta configuración, el modelo alcanzó una precisión del 92% en todas las clases y mostró un alto nivel de recall y F1-score. Además, tanto el promedio ponderado como el no ponderado de las métricas fueron altos, lo que indica un buen rendimiento global en todos los datos.

Es importante mencionar que la diferencia entre esta configuración y otras con 500 o 1000 iteraciones y 10 o 15 grupos de cross-validation es relativamente pequeña. Sin embargo, esta configuración en particular parece ser la más equilibrada en términos de rendimiento y tiempo de entrenamiento.

## 13.3 5.5. Visualización de Importancia de Características

Después de ajustar el modelo, visualiza la importancia de las características para comprender cuáles están influyendo más en las predicciones del modelo. Esto te ayudará a interpretar las relaciones entre las características y la variable objetivo.

```
# Visualiza la importancia de características
plt.figure(figsize=(10, 6))
plt.barh(importance_df['Feature'], importance_df['Importance'])
plt.xlabel('Importance')
plt.ylabel('Feature')
plt.title('Feature Importance')
plt.show()
```



# 14 6.Creación y Evaluación de un Modelo para agrupamiento K-Means

```
X_scaled = scaler.fit_transform(X)
# Encuentra el número óptimo de clústeres usando el método del codo
inertia = ∏
for k in range(1, 11):
    kmeans = KMeans(n_clusters=k, random_state=42)
    kmeans.fit(X_scaled)
    inertia.append(kmeans.inertia_)
# Visualiza el método del codo
plt.figure(figsize=(8, 6))
plt.plot(range(1, 11), inertia, marker='o')
plt.title('Método del Codo')
plt.xlabel('Número de Clústeres')
plt.ylabel('Inercia')
plt.show()
# Encuentra el valor óptimo de k (número de clústeres)
optimal_k = None
min_diff = float('inf')
for k in range(1, len(inertia)):
    diff = inertia[k - 1] - inertia[k]
    if diff < min diff:</pre>
        min_diff = diff
        optimal_k = k
print("Número óptimo de clústeres:", optimal k)
C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\_kmeans.py:1412:
FutureWarning: The default value of `n_init` will change from 10 to 'auto' in
1.4. Set the value of `n_init` explicitly to suppress the warning
  super()._check_params_vs_input(X, default_n_init=10)
C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\ kmeans.py:1412:
FutureWarning: The default value of `n_init` will change from 10 to 'auto' in
1.4. Set the value of `n_init` explicitly to suppress the warning
  super()._check_params_vs_input(X, default_n_init=10)
C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\ kmeans.py:1412:
FutureWarning: The default value of `n_init` will change from 10 to 'auto' in
1.4. Set the value of `n_init` explicitly to suppress the warning
  super()._check_params_vs_input(X, default_n_init=10)
C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\_kmeans.py:1412:
FutureWarning: The default value of `n init` will change from 10 to 'auto' in
```

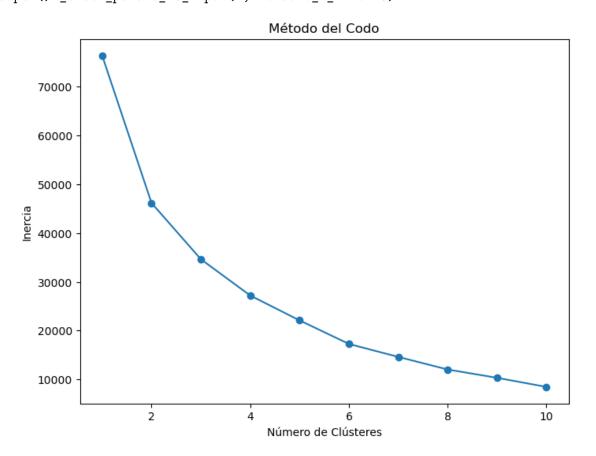
scaler = StandardScaler()

C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\\_kmeans.py:1412: FutureWarning: The default value of `n\_init` will change from 10 to 'auto' in

1.4. Set the value of `n\_init` explicitly to suppress the warning

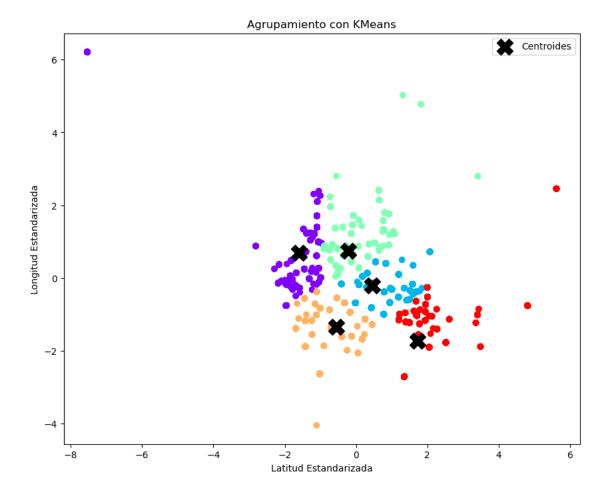
super().\_check\_params\_vs\_input(X, default\_n\_init=10)

1.4. Set the value of `n\_init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10) C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\ kmeans.py:1412: FutureWarning: The default value of `n\_init` will change from 10 to 'auto' in 1.4. Set the value of `n init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10) C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\ kmeans.py:1412: FutureWarning: The default value of `n\_init` will change from 10 to 'auto' in 1.4. Set the value of `n\_init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10) C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\ kmeans.py:1412: FutureWarning: The default value of `n init` will change from 10 to 'auto' in 1.4. Set the value of `n\_init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10) C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\\_kmeans.py:1412: FutureWarning: The default value of `n init` will change from 10 to 'auto' in 1.4. Set the value of `n\_init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10) C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\\_kmeans.py:1412: FutureWarning: The default value of `n\_init` will change from 10 to 'auto' in 1.4. Set the value of `n\_init` explicitly to suppress the warning super().\_check\_params\_vs\_input(X, default\_n\_init=10)



```
Número óptimo de clústeres: 8
```

```
[71]: # Elije el número óptimo de clústeres y realiza el agrupamiento
      n clusters = 5 # Cambia este valor según lo que encuentres en el gráfico del 11
       ⇔método del codo
      kmeans = KMeans(n_clusters=n_clusters, random_state=42)
      data['cluster'] = kmeans.fit_predict(X_scaled)
      # Muestra los resultados del agrupamiento
      cluster_counts = data['cluster'].value_counts()
      print("Número de muestras en cada clúster:")
      print(cluster_counts)
     C:\Users\DIAZOVIEDO\anaconda3\Lib\site-packages\sklearn\cluster\_kmeans.py:1412:
     FutureWarning: The default value of `n_init` will change from 10 to 'auto' in
     1.4. Set the value of `n_init` explicitly to suppress the warning
       super()._check_params_vs_input(X, default_n_init=10)
     Número de muestras en cada clúster:
     2
          13294
     1
          13293
     0
           4751
     4
           3641
           3218
     Name: cluster, dtype: int64
[72]: # Visualiza el resultado en un diagrama de dispersión
      plt.figure(figsize=(10, 8))
      plt.scatter(X_scaled[:, 0], X_scaled[:, 1], c=data['cluster'], cmap='rainbow')
      plt.scatter(kmeans.cluster_centers_[:, 0], kmeans.cluster_centers_[:, 1],__
       ⇒s=300, c='black', marker='X', label='Centroides')
      plt.title('Agrupamiento con KMeans')
      plt.xlabel('Latitud Estandarizada')
      plt.ylabel('Longitud Estandarizada')
      plt.legend()
      plt.show()
      # Muestra el número de muestras en cada clúster
      cluster_counts = data['cluster'].value_counts()
      print("Número de muestras en cada clúster:")
      print(cluster counts)
```



Número de muestras en cada clúster:

- 2 13294
- 1 13293
- 0 4751
- 4 3641
- 3 3218

Name: cluster, dtype: int64

Abrir enlace, para ver el mapa interactivo

<IPython.core.display.HTML object>

# 15 7. Resultados y Discusión

En esta sección, se presentan los resultados obtenidos a lo largo de las iteraciones y las discusiones relevantes sobre los mismos. Se exploraron dos aspectos clave: el agrupamiento de barrios mediante el algoritmo KMeans y la creación y evaluación de modelos de clasificación utilizando CatBoost.

#### 15.0.1 Agrupamiento de Barrios con KMeans

Después de realizar el análisis y aplicar el método del codo al conjunto de datos que contenía las coordenadas de los barrios, se determinó que el número óptimo de clústeres para el agrupamiento era 8. Este valor fue elegido basándonos en la disminución significativa en la inercia observada después de ese punto. Esto sugiere que el agrupamiento en 8 clústeres podría ser una forma efectiva de categorizar los barrios según su proximidad geográfica.

Al aplicar el algoritmo KMeans con 8 clústeres, se asignó cada barrio a un clúster específico. Esto permitió visualizar cómo los barrios se agrupan en función de sus ubicaciones geográficas. Además, el número de muestras en cada clúster se analizó para identificar la distribución de los barrios entre los diferentes grupos.

#### 15.0.2 Modelado de Clasificación con CatBoost

Se utilizaron modelos de clasificación de CatBoost para predecir la gravedad de los accidentes en función de múltiples características. Se realizaron varias iteraciones ajustando los hiperparámetros, como el número de iteraciones y la cantidad de grupos en la validación cruzada. Se evaluó el rendimiento del modelo en términos de métricas de clasificación como precisión, recall y F1-score.

Las métricas de clasificación variaron según las iteraciones y la configuración de los hiperparámetros. Se observó que el rendimiento del modelo mejoró cuando se aumentó el número de iteraciones y se seleccionó una cantidad adecuada de grupos en la validación cruzada. Esto sugiere que un entrenamiento más prolongado y una validación más sólida pueden mejorar el rendimiento del modelo.

### 15.0.3 Comparación de Resultados

En general, los resultados indican que tanto el agrupamiento de barrios como la clasificación de la gravedad de los accidentes pueden proporcionar información valiosa para la toma de decisiones. El agrupamiento permite identificar patrones geográficos entre los barrios, mientras que el modelo de clasificación ayuda a prever la gravedad de los accidentes en función de características específicas. Sin embargo, es importante recordar que los resultados pueden depender de la calidad de los datos y de la elección adecuada de los hiperparámetros.

## 16 8. Conclusiones

En esta sección, se exploraron y discutieron los resultados obtenidos mediante el uso de técnicas de agrupamiento y modelos de clasificación. Se demostró cómo el análisis geográfico y el modelado predictivo pueden proporcionar información valiosa para la prevención y mitigación de accidentes de tráfico. Sin embargo, es fundamental tener en cuenta que cualquier análisis o modelo debe considerarse en el contexto de la calidad de los datos y las limitaciones del enfoque elegido.