Here we will be trying out several ensembles starting from Random forest to custom stacking ensemble classifier.

6. Random Forest Classifier

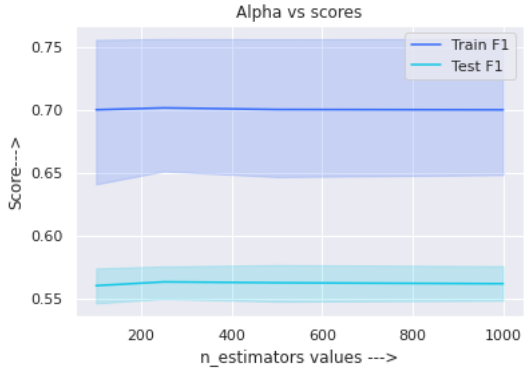
In [3]:
```
import pandas as pd
import numpy as np
import warnings
warnings.filterwarnings("ignore")
X_train=pd.read_csv('/content/drive/MyDrive/X_train.csv')
X_test=pd.read_csv('/content/drive/MyDrive/X_test.csv')
y_train=X_train['y_train']
y_test=X_test['y_test']
X_train.drop('y_train',axis=1,inplace=True)
X_test.drop('y_test',axis=1,inplace=True)
import math
from sklearn.metrics import f1_score
from imblearn.over_sampling import RandomOverSampler
from imblearn.over_sampling import SMOTE
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import GridSearchCV
from sklearn.model_selection import RandomizedSearchCV
from sklearn.model_selection import RepeatedStratifiedKFold
from sklearn.model_selection import cross_val_score
from imblearn.pipeline import Pipeline
from sklearn.linear_model import LogisticRegression
from sklearn.neighbors import KNeighborsClassifier
from sklearn.tree import DecisionTreeClassifier
from xgboost import XGBClassifier
from lightgbm import LGBMClassifier
from sklearn.svm import SVC
from sklearn.naive_bayes import GaussianNB
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.model_selection import train_test_split
import random
from mlxtend.classifier import StackingCVClassifier
X_train.drop(['Unnamed: 0'],axis=1,inplace=True)
X_test.drop(['Unnamed: 0'],axis=1,inplace=True)
```

In [2]:
```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

In [4]:
```
def Heatmapgen(x):
#https://medium.com/@dtuk81/confusion-matrix-visualization-fc31e3f30fea referred from here
  group_names = ['True -ve','False +ve','False -ve','True +ve']
  group_counts = ['{0:0.0f}'.format(value) for value in x.flatten()]
  labels = [f'{v1}\n{v2}' for v1, v2 in
  zip(group_names,group_counts)]
  labels = np.asarray(labels).reshape(2,2)
  sns.heatmap(x, annot=labels, fmt='', cmap='RdBu')
```

In [ ]:
```
param={'model__n_estimators':[100,250,500,1000],
       'model__max_depth':[3,5,7,9,13],
      'model__min_samples_split':[2,5,7,9]
       }
steps=[]
steps.append(('sampling',RandomOverSampler()))
steps.append(('model', RandomForestClassifier(random_state=21)))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=10, scoring='f1',return_train_score=True)
clf.fit(X_train,y_train)param={'model__n_estimators':[100,250,500,1000],
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__n_estimators']]
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__n_estimators']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('n_estimators values --->')
plt.ylabel('Score--->')
plt.title('Alpha vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```



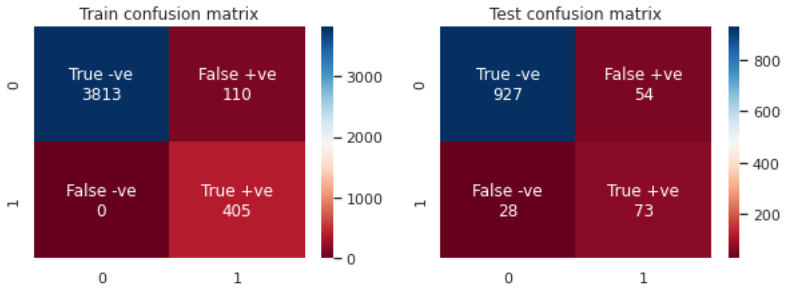

```
Best estimator : {'model__max_depth': 13, 'model__min_samples_split': 7, 'model__n_estimators': 250}
Best score: 0.6056385088772984
```

In [ ]:
```
q=clf.predict(X_test)
print('Test F1 score:',f1_score(y_test,q))
```

```
Test F1 score: 0.6403508771929823
```

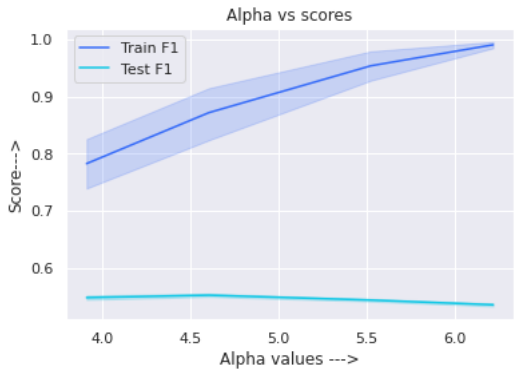
In [ ]:
```
fig = plt.figure(figsize=(10,7))
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,clf.predict(X_train.values))
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,clf.predict(X_test.values))
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,clf.predict(X_test.values)))
```

```
====================================================================================================
F1 score on test set = 0.6403508771929823
```



7 XgBoost with oversampling

In [ ]:
```
import math
from xgboost import XGBClassifier
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import GridSearchCV
param={'model__n_estimators':[50,100,250,500]
       ,'model__max_depth':[3,5,7,9]
       ,'model__col_sample_bytree':[0.3,0.5,0.7]
       ,'model__subsample':[0.5,0.7,0.9]
       }
steps=[]
steps.append(('sampling',RandomOverSampler()))
steps.append(('model', XGBClassifier()))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=3, scoring='f1',return_train_score=True)
clf.fit(X_train.values,y_train)
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [math.log(i) for i in result_clf['param_model__n_estimators']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('Alpha values --->')
plt.ylabel('Score--->')
plt.title('Alpha vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```




```
Best estimator : {'model__col_sample_bytree': 0.7, 'model__max_depth': 7, 'model__n_estimators': 100, 'model__subsamp
le': 0.5}
Best score: 0.5723750673384669
```

In [ ]:
```
q=clf.predict(X_test.values)
f1_score(q,y_test)
```

Out[ ]:
```
0.6050420168067226
```

8. XGBoost with class weight balancing

In [ ]:
```
import math
from xgboost import XGBClassifier
from sklearn.model_selection import GridSearchCV
param={'model__n_estimators':[50,100,250,500]
       ,'model__max_depth':[3,5,7,9]
       ,'model__col_sample_bytree':[0.3,0.5,0.7]
       ,'model__subsample':[0.5,0.7,0.9]
       }
steps=[]
# steps.append(('sampling',RandomOverSampler()))
steps.append(('model', XGBClassifier(scale_pos_weight=9)))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=3, scoring='f1',return_train_score=True)
clf.fit(X_train.values,y_train)
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__n_estimators']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('n_estimators values --->')
plt.ylabel('Score--->')
plt.title('n_estimators vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```


```
Best estimator : {'model__col_sample_bytree': 0.3, 'model__max_depth': 3, 'model__n_estimators': 250, 'model__subsamp
le': 0.9}
Best score: 0.5922350305263345
```

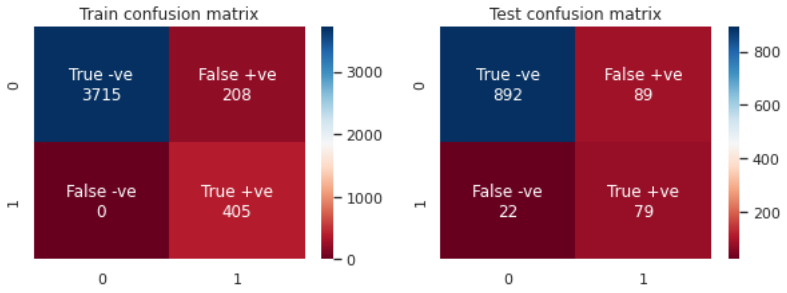
In [ ]:
```
q=clf.predict(X_test.values)
f1_score(q,y_test)
```

Out[ ]:
```
0.5873605947955391
```

In [ ]:
```
fig = plt.figure(figsize=(10,7))
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,clf.predict(X_train.values))
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,clf.predict(X_test.values))
```

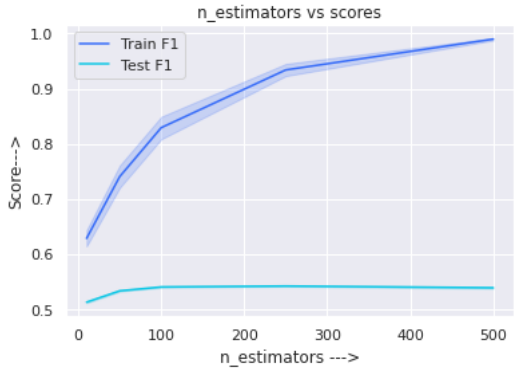
```
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,clf.predict(X_test.values)))
```

```
==========================================================================================
F1 score on test set = 0.5873605947955391
```



9. LGBM classifier with oversampling

In [ ]:
```
from lightgbm import LGBMClassifier
import math
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import GridSearchCV
param={'model__n_estimators':[10,50,100,250,500]
       ,'model__max_depth':[3,5,7,9]
       ,'model__min_data_in_leaf':[3,5,7,11]
       ,'model__min_gain_to_split':[0.0,0.1,0.3],
       'model__num_leaves':[8,32,64,96]
       }
steps=[]
steps.append(('sampling',RandomOverSampler()))
steps.append(('model', LGBMClassifier()))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=3, scoring='f1',return_train_score=True)
clf.fit(X_train.values,y_train)
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__n_estimators']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('n_estimators --->')
plt.ylabel('Score--->')
plt.title('n_estimators vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```




```
Best estimator : {'model__max_depth': 7, 'model__min_data_in_leaf': 11, 'model__min_gain_to_split': 0.3, 'model__n_es
timators': 500, 'model__num_leaves': 32}
Best score: 0.5698382234096243
```

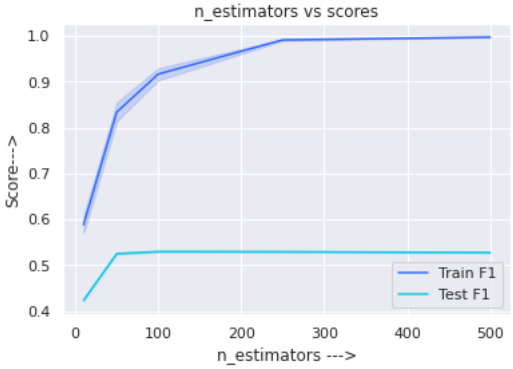
In [ ]:
```
q=clf.predict(X_test.values)
f1_score(q,y_test)
```

Out[ ]:
```
0.5299145299145299
```

10. LightGBM with weight balancing

In [ ]:
```
from lightgbm import LGBMClassifier
import math
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import GridSearchCV
param={'model__n_estimators':[10,50,100,250,500]
       ,'model__max_depth':[3,5,7,9]
       ,'model__min_data_in_leaf':[3,5,7,11]
       ,'model__min_gain_to_split':[0.0,0.1,0.3],
       'model__num_leaves':[8,32,64,96]
       }
steps=[]
# steps.append(('sampling',RandomOverSampler()))
```

```
steps.append(('model', LGBMClassifier()))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=3, scoring='f1',return_train_score=True)
clf.fit(X_train.values,y_train)
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__n_estimators')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__n_estimators']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('n_estimators --->')
plt.ylabel('Score--->')
plt.title('n_estimators vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```



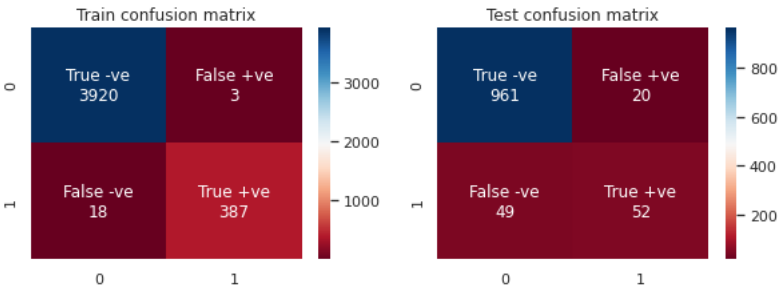

```
Best estimator : {'model__max_depth': 9, 'model__min_data_in_leaf': 11, 'model__min_gain_to_split': 0.3, 'model__n_es
timators': 50, 'model__num_leaves': 32}
Best score: 0.5546296142126909
```

In [ ]:
```
q=clf.predict(X_test.values)
f1_score(q,y_test)
```

Out[ ]:
```
0.6011560693641618
```

In [ ]:
```
fig = plt.figure(figsize=(10,7))
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,clf.predict(X_train))
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,clf.predict(X_test))
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,clf.predict(X_test)))
```

```
====================================================================================================
F1 score on test set = 0.6011560693641618
```



This model is giving comparable performance to Xgboost but at higher false negatives..

11. Catboost

In [ ]:
```
!pip install catboost
```

```
Collecting catboost
  Downloading https://files.pythonhosted.org/packages/1e/21/d1718eb4c93d6bacdd540b3792187f32ccb1ad9c51b9c4f10875d63ec
176/catboost-0.25-cp37-none-manylinux1_x86_64.whl (67.3MB)
     |████████████████████████████████| 67.3MB 53kB/s
Requirement already satisfied: matplotlib in /usr/local/lib/python3.7/dist-packages (from catboost) (3.2.2)
Requirement already satisfied: numpy>=1.16.0 in /usr/local/lib/python3.7/dist-packages (from catboost) (1.19.5)
Requirement already satisfied: plotly in /usr/local/lib/python3.7/dist-packages (from catboost) (4.4.1)
Requirement already satisfied: graphviz in /usr/local/lib/python3.7/dist-packages (from catboost) (0.10.1)
Requirement already satisfied: pandas>=0.24.0 in /usr/local/lib/python3.7/dist-packages (from catboost) (1.1.5)
Requirement already satisfied: six in /usr/local/lib/python3.7/dist-packages (from catboost) (1.15.0)
Requirement already satisfied: scipy in /usr/local/lib/python3.7/dist-packages (from catboost) (1.4.1)
Requirement already satisfied: python-dateutil>=2.1 in /usr/local/lib/python3.7/dist-packages (from matplotlib->catbo
ost) (2.8.1)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.7/dist-packages (from matplotlib->catboost) (0.
```

```
10.0)
Requirement already satisfied: pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.1 in /usr/local/lib/python3.7/dist-packages (fr
om matplotlib->catboost) (2.4.7)
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.7/dist-packages (from matplotlib->catboos
t) (1.3.1)
Requirement already satisfied: retrying>=1.3.3 in /usr/local/lib/python3.7/dist-packages (from plotly->catboost) (1.
3.3)
Requirement already satisfied: pytz>=2017.2 in /usr/local/lib/python3.7/dist-packages (from pandas>=0.24.0->catboost)
(2018.9)
Installing collected packages: catboost
Successfully installed catboost-0.25
```

In [ ]:

```
from catboost import CatBoostClassifier
from lightgbm import LGBMClassifier
from sklearn.model_selection import GridSearchCV
param = {'model__depth'         : [4,5,6,7,8,9, 10],
                 'model__learning_rate' : [0.01,0.02,0.03,0.04],
                  'model__iterations'    : [10, 20,30,40,50,60,70,80,90, 100]
                 }
steps=[]
# steps.append(('sampling',RandomOverSampler()))
steps.append(('model', CatBoostClassifier()))
pipeline = Pipeline(steps=steps)
clf = GridSearchCV(pipeline, param, cv=3, scoring='f1',return_train_score=True)
clf.fit(X_train.values,y_train)
result_clf=pd.DataFrame.from_dict(clf.cv_results_)
result_clf=result_clf.sort_values('param_model__depth')
result_cv=result_clf['mean_test_score']
result_train=result_clf['mean_train_score']
alpha_vals = [i for i in result_clf['param_model__depth']]
plt.figure(figsize=(6,4))
sns.lineplot(x=alpha_vals,y=result_train,markers='o',label='Train F1')
sns.lineplot(x=alpha_vals,y=result_cv,markers='o',label='Test F1')
sns.set(palette='rainbow')
plt.xlabel('n_estimators --->')
plt.ylabel('Score--->')
plt.title('De vs scores')
plt.show()
print('Best estimator :',clf.best_params_)
print('Best score:',clf.best_score_)
```

```
Streaming output truncated to the last 5000 lines.
40:     learn: 0.1524026        total: 2.63s    remaining: 578ms
41:     learn: 0.1507448        total: 2.71s    remaining: 516ms
42:     learn: 0.1497027        total: 2.77s    remaining: 451ms
43:     learn: 0.1473185        total: 2.83s    remaining: 387ms
44:     learn: 0.1461550        total: 2.9s     remaining: 322ms
45:     learn: 0.1445967        total: 2.97s    remaining: 258ms
46:     learn: 0.1432039        total: 3.04s    remaining: 194ms
47:     learn: 0.1419276        total: 3.1s     remaining: 129ms
48:     learn: 0.1401957        total: 3.16s    remaining: 64.5ms
49:     learn: 0.1382599        total: 3.24s    remaining: 0us
0:      learn: 0.6171815        total: 60.8ms   remaining: 2.98s
1:      learn: 0.5623875        total: 128ms    remaining: 3.08s
2:      learn: 0.5152374        total: 191ms    remaining: 2.98s
3:      learn: 0.4750427        total: 252ms    remaining: 2.9s
4:      learn: 0.4330383        total: 314ms    remaining: 2.82s
5:      learn: 0.4006397        total: 392ms    remaining: 2.87s
6:      learn: 0.3730126        total: 454ms    remaining: 2.79s
7:      learn: 0.3522459        total: 517ms    remaining: 2.71s
8:      learn: 0.3297206        total: 580ms    remaining: 2.64s
9:      learn: 0.3106498        total: 650ms    remaining: 2.6s
10:     learn: 0.2956191        total: 713ms    remaining: 2.53s
11:     learn: 0.2828519        total: 775ms    remaining: 2.45s
12:     learn: 0.2683700        total: 836ms    remaining: 2.38s
13:     learn: 0.2548416        total: 904ms    remaining: 2.32s
14:     learn: 0.2445310        total: 969ms    remaining: 2.26s
15:     learn: 0.2368503        total: 1.03s    remaining: 2.19s
16:     learn: 0.2261921        total: 1.09s    remaining: 2.12s
17:     learn: 0.2163627        total: 1.16s    remaining: 2.07s
18:     learn: 0.2087138        total: 1.22s    remaining: 2s
19:     learn: 0.2028515        total: 1.28s    remaining: 1.93s
20:     learn: 0.1969152        total: 1.34s    remaining: 1.86s
21:     learn: 0.1903933        total: 1.42s    remaining: 1.81s
22:     learn: 0.1852247        total: 1.49s    remaining: 1.75s
23:     learn: 0.1797691        total: 1.55s    remaining: 1.68s
24:     learn: 0.1753822        total: 1.61s    remaining: 1.61s
25:     learn: 0.1709508        total: 1.68s    remaining: 1.55s
26:     learn: 0.1678978        total: 1.74s    remaining: 1.49s
27:     learn: 0.1655649        total: 1.8s     remaining: 1.42s
28:     learn: 0.1627581        total: 1.87s    remaining: 1.35s
29:     learn: 0.1602145        total: 1.94s    remaining: 1.29s
30:     learn: 0.1583417        total: 2s       remaining: 1.23s
31:     learn: 0.1568318        total: 2.06s    remaining: 1.16s
32:     learn: 0.1537695        total: 2.12s    remaining: 1.09s
33:     learn: 0.1509333        total: 2.19s    remaining: 1.03s
34:     learn: 0.1489242        total: 2.25s    remaining: 967ms
35:     learn: 0.1469552        total: 2.32s    remaining: 901ms
36:     learn: 0.1447380        total: 2.38s    remaining: 838ms
37:     learn: 0.1430591        total: 2.46s    remaining: 776ms
38:     learn: 0.1415960        total: 2.52s    remaining: 710ms
39:     learn: 0.1392770        total: 2.58s    remaining: 646ms
40:     learn: 0.1371188        total: 2.65s    remaining: 581ms
41:     learn: 0.1355170        total: 2.72s    remaining: 517ms
42:     learn: 0.1339942        total: 2.78s    remaining: 453ms
43:     learn: 0.1320753        total: 2.84s    remaining: 387ms
44:     learn: 0.1297115        total: 2.9s     remaining: 322ms
45:     learn: 0.1286344        total: 2.97s    remaining: 258ms
46:     learn: 0.1270824        total: 3.03s    remaining: 194ms
47:     learn: 0.1258805        total: 3.1s     remaining: 129ms
```

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48:     learn: 0.1248059        total: 3.16s    remaining: 64.5ms
49:     learn: 0.1233328        total: 3.23s    remaining: 0us
0:      learn: 0.6178688        total: 69.2ms   remaining: 3.39s
1:      learn: 0.5633378        total: 141ms    remaining: 3.38s
2:      learn: 0.5165054        total: 206ms    remaining: 3.23s
3:      learn: 0.4765075        total: 270ms    remaining: 3.1s
4:      learn: 0.4356028        total: 334ms    remaining: 3.01s
5:      learn: 0.4025436        total: 406ms    remaining: 2.98s
6:      learn: 0.3728228        total: 470ms    remaining: 2.89s
7:      learn: 0.3519263        total: 534ms    remaining: 2.8s
8:      learn: 0.3321275        total: 596ms    remaining: 2.72s
9:      learn: 0.3139645        total: 665ms    remaining: 2.66s
10:     learn: 0.2999816        total: 727ms    remaining: 2.58s
11:     learn: 0.2850933        total: 789ms    remaining: 2.5s
12:     learn: 0.2699590        total: 856ms    remaining: 2.44s
13:     learn: 0.2566115        total: 929ms    remaining: 2.39s
14:     learn: 0.2440397        total: 992ms    remaining: 2.31s
15:     learn: 0.2337842        total: 1.06s    remaining: 2.26s
16:     learn: 0.2242737        total: 1.12s    remaining: 2.18s
17:     learn: 0.2153247        total: 1.2s     remaining: 2.13s
18:     learn: 0.2082660        total: 1.26s    remaining: 2.06s
19:     learn: 0.2024959        total: 1.33s    remaining: 1.99s
20:     learn: 0.1965595        total: 1.39s    remaining: 1.92s
21:     learn: 0.1907933        total: 1.46s    remaining: 1.86s
22:     learn: 0.1859305        total: 1.52s    remaining: 1.79s
23:     learn: 0.1812887        total: 1.59s    remaining: 1.72s
24:     learn: 0.1765910        total: 1.65s    remaining: 1.65s
25:     learn: 0.1719276        total: 1.72s    remaining: 1.59s
26:     learn: 0.1684441        total: 1.78s    remaining: 1.52s
27:     learn: 0.1654584        total: 1.85s    remaining: 1.45s
28:     learn: 0.1624572        total: 1.91s    remaining: 1.38s
29:     learn: 0.1606699        total: 1.98s    remaining: 1.32s
30:     learn: 0.1589476        total: 2.04s    remaining: 1.25s
31:     learn: 0.1567584        total: 2.11s    remaining: 1.19s
32:     learn: 0.1546824        total: 2.17s    remaining: 1.12s
33:     learn: 0.1519500        total: 2.24s    remaining: 1.05s
34:     learn: 0.1504154        total: 2.31s    remaining: 989ms
35:     learn: 0.1486230        total: 2.37s    remaining: 922ms
36:     learn: 0.1470766        total: 2.43s    remaining: 855ms
37:     learn: 0.1452284        total: 2.5s     remaining: 790ms
38:     learn: 0.1435844        total: 2.56s    remaining: 724ms
39:     learn: 0.1418675        total: 2.63s    remaining: 657ms
40:     learn: 0.1404627        total: 2.69s    remaining: 591ms
41:     learn: 0.1384990        total: 2.76s    remaining: 526ms
42:     learn: 0.1372806        total: 2.83s    remaining: 461ms
43:     learn: 0.1353383        total: 2.9s     remaining: 395ms
44:     learn: 0.1331374        total: 2.96s    remaining: 329ms
45:     learn: 0.1316773        total: 3.04s    remaining: 264ms
46:     learn: 0.1304579        total: 3.12s    remaining: 199ms
47:     learn: 0.1290523        total: 3.18s    remaining: 132ms
48:     learn: 0.1279120        total: 3.24s    remaining: 66.2ms
49:     learn: 0.1271195        total: 3.31s    remaining: 0us
0:      learn: 0.6751837        total: 67.9ms   remaining: 4.01s
1:      learn: 0.6602297        total: 132ms    remaining: 3.81s
2:      learn: 0.6454463        total: 194ms    remaining: 3.68s
3:      learn: 0.6304676        total: 255ms    remaining: 3.58s
4:      learn: 0.6160483        total: 325ms    remaining: 3.58s
5:      learn: 0.6031485        total: 387ms    remaining: 3.48s
6:      learn: 0.5899825        total: 448ms    remaining: 3.39s
7:      learn: 0.5784494        total: 510ms    remaining: 3.31s
8:      learn: 0.5665641        total: 580ms    remaining: 3.29s
9:      learn: 0.5547034        total: 651ms    remaining: 3.25s
10:     learn: 0.5436993        total: 715ms    remaining: 3.18s
11:     learn: 0.5335351        total: 780ms    remaining: 3.12s
12:     learn: 0.5228803        total: 854ms    remaining: 3.09s
13:     learn: 0.5102639        total: 916ms    remaining: 3.01s
14:     learn: 0.4989545        total: 979ms    remaining: 2.94s
15:     learn: 0.4889242        total: 1.04s    remaining: 2.86s
16:     learn: 0.4795053        total: 1.11s    remaining: 2.81s
17:     learn: 0.4696517        total: 1.18s    remaining: 2.74s
18:     learn: 0.4610669        total: 1.24s    remaining: 2.67s
19:     learn: 0.4522233        total: 1.3s     remaining: 2.61s
20:     learn: 0.4443485        total: 1.38s    remaining: 2.56s
21:     learn: 0.4360229        total: 1.44s    remaining: 2.49s
22:     learn: 0.4280483        total: 1.5s     remaining: 2.42s
23:     learn: 0.4202252        total: 1.57s    remaining: 2.35s
24:     learn: 0.4132754        total: 1.61s    remaining: 2.25s
25:     learn: 0.4057576        total: 1.68s    remaining: 2.2s
26:     learn: 0.3985751        total: 1.74s    remaining: 2.13s
27:     learn: 0.3921162        total: 1.8s     remaining: 2.06s
28:     learn: 0.3850611        total: 1.88s    remaining: 2.01s
29:     learn: 0.3785935        total: 1.94s    remaining: 1.94s
30:     learn: 0.3731629        total: 2s       remaining: 1.87s
31:     learn: 0.3678968        total: 2.06s    remaining: 1.8s
32:     learn: 0.3622126        total: 2.13s    remaining: 1.74s
33:     learn: 0.3558665        total: 2.19s    remaining: 1.68s
34:     learn: 0.3503487        total: 2.25s    remaining: 1.61s
35:     learn: 0.3454439        total: 2.32s    remaining: 1.54s
36:     learn: 0.3403020        total: 2.39s    remaining: 1.48s
37:     learn: 0.3355499        total: 2.45s    remaining: 1.42s
38:     learn: 0.3313786        total: 2.51s    remaining: 1.35s
39:     learn: 0.3265447        total: 2.57s    remaining: 1.29s
40:     learn: 0.3221439        total: 2.65s    remaining: 1.23s
41:     learn: 0.3182402        total: 2.71s    remaining: 1.16s
42:     learn: 0.3142320        total: 2.77s    remaining: 1.1s
43:     learn: 0.3102764        total: 2.84s    remaining: 1.03s
44:     learn: 0.3060148        total: 2.91s    remaining: 971ms
45:     learn: 0.3023363        total: 2.98s    remaining: 906ms
46:     learn: 0.2990242        total: 3.04s    remaining: 840ms
47:     learn: 0.2956283        total: 3.1s     remaining: 775ms
48:     learn: 0.2917702        total: 3.17s    remaining: 712ms
49:     learn: 0.2882910        total: 3.23s    remaining: 647ms
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50:     learn: 0.2848467        total: 3.29s    remaining: 582ms
51:     learn: 0.2812317        total: 3.36s    remaining: 516ms
52:     learn: 0.2777402        total: 3.43s    remaining: 453ms
53:     learn: 0.2746565        total: 3.49s    remaining: 388ms
54:     learn: 0.2718787        total: 3.56s    remaining: 323ms
55:     learn: 0.2691514        total: 3.62s    remaining: 258ms
56:     learn: 0.2664806        total: 3.69s    remaining: 194ms
57:     learn: 0.2643008        total: 3.75s    remaining: 130ms
58:     learn: 0.2617112        total: 3.82s    remaining: 64.7ms
59:     learn: 0.2589477        total: 3.88s    remaining: 0us
0:      learn: 0.6733307        total: 61.5ms   remaining: 3.63s
1:      learn: 0.6574651        total: 123ms    remaining: 3.56s
2:      learn: 0.6423078        total: 184ms    remaining: 3.49s
3:      learn: 0.6280499        total: 245ms    remaining: 3.43s
4:      learn: 0.6119764        total: 313ms    remaining: 3.44s
5:      learn: 0.5974304        total: 375ms    remaining: 3.37s
6:      learn: 0.5837695        total: 437ms    remaining: 3.31s
7:      learn: 0.5722608        total: 499ms    remaining: 3.24s
8:      learn: 0.5581532        total: 570ms    remaining: 3.23s
9:      learn: 0.5450776        total: 631ms    remaining: 3.15s
10:     learn: 0.5345495        total: 702ms    remaining: 3.12s
11:     learn: 0.5245084        total: 765ms    remaining: 3.06s
12:     learn: 0.5134314        total: 836ms    remaining: 3.02s
13:     learn: 0.5015661        total: 899ms    remaining: 2.95s
14:     learn: 0.4906146        total: 966ms    remaining: 2.9s
15:     learn: 0.4799681        total: 1.03s    remaining: 2.83s
16:     learn: 0.4697269        total: 1.1s     remaining: 2.79s
17:     learn: 0.4599618        total: 1.16s    remaining: 2.71s
18:     learn: 0.4514277        total: 1.22s    remaining: 2.64s
19:     learn: 0.4425577        total: 1.28s    remaining: 2.57s
20:     learn: 0.4330139        total: 1.36s    remaining: 2.52s
21:     learn: 0.4245915        total: 1.42s    remaining: 2.46s
22:     learn: 0.4157737        total: 1.49s    remaining: 2.39s
23:     learn: 0.4078461        total: 1.55s    remaining: 2.32s
24:     learn: 0.3994713        total: 1.62s    remaining: 2.27s
25:     learn: 0.3906338        total: 1.69s    remaining: 2.21s
26:     learn: 0.3837601        total: 1.75s    remaining: 2.14s
27:     learn: 0.3776733        total: 1.81s    remaining: 2.07s
28:     learn: 0.3709407        total: 1.88s    remaining: 2.01s
29:     learn: 0.3645547        total: 1.94s    remaining: 1.94s
30:     learn: 0.3588721        total: 2s       remaining: 1.88s
31:     learn: 0.3533189        total: 2.06s    remaining: 1.81s
32:     learn: 0.3463799        total: 2.13s    remaining: 1.75s
33:     learn: 0.3405682        total: 2.2s     remaining: 1.68s
34:     learn: 0.3349639        total: 2.26s    remaining: 1.61s
35:     learn: 0.3309261        total: 2.32s    remaining: 1.55s
36:     learn: 0.3260079        total: 2.39s    remaining: 1.49s
37:     learn: 0.3201463        total: 2.45s    remaining: 1.42s
38:     learn: 0.3161146        total: 2.51s    remaining: 1.35s
39:     learn: 0.3107906        total: 2.58s    remaining: 1.29s
40:     learn: 0.3058559        total: 2.65s    remaining: 1.23s
41:     learn: 0.3013465        total: 2.72s    remaining: 1.17s
42:     learn: 0.2974714        total: 2.78s    remaining: 1.1s
43:     learn: 0.2930423        total: 2.84s    remaining: 1.03s
44:     learn: 0.2890118        total: 2.91s    remaining: 971ms
45:     learn: 0.2862115        total: 2.97s    remaining: 905ms
46:     learn: 0.2824689        total: 3.03s    remaining: 839ms
47:     learn: 0.2792255        total: 3.1s     remaining: 774ms
48:     learn: 0.2761512        total: 3.17s    remaining: 711ms
49:     learn: 0.2726204        total: 3.23s    remaining: 646ms
50:     learn: 0.2689020        total: 3.29s    remaining: 581ms
51:     learn: 0.2656368        total: 3.35s    remaining: 516ms
52:     learn: 0.2625087        total: 3.43s    remaining: 453ms
53:     learn: 0.2589296        total: 3.49s    remaining: 388ms
54:     learn: 0.2569181        total: 3.55s    remaining: 323ms
55:     learn: 0.2535212        total: 3.62s    remaining: 258ms
56:     learn: 0.2501648        total: 3.69s    remaining: 194ms
57:     learn: 0.2474302        total: 3.76s    remaining: 130ms
58:     learn: 0.2451064        total: 3.82s    remaining: 64.7ms
59:     learn: 0.2432863        total: 3.88s    remaining: 0us
0:      learn: 0.6735512        total: 62.1ms   remaining: 3.66s
1:      learn: 0.6577597        total: 124ms    remaining: 3.59s
2:      learn: 0.6427683        total: 185ms    remaining: 3.52s
3:      learn: 0.6281200        total: 247ms    remaining: 3.46s
4:      learn: 0.6132483        total: 319ms    remaining: 3.51s
5:      learn: 0.5985002        total: 383ms    remaining: 3.44s
6:      learn: 0.5843741        total: 447ms    remaining: 3.39s
7:      learn: 0.5723056        total: 509ms    remaining: 3.31s
8:      learn: 0.5592025        total: 578ms    remaining: 3.27s
9:      learn: 0.5465685        total: 641ms    remaining: 3.21s
10:     learn: 0.5337807        total: 710ms    remaining: 3.16s
11:     learn: 0.5231143        total: 774ms    remaining: 3.1s
12:     learn: 0.5122572        total: 844ms    remaining: 3.05s
13:     learn: 0.5011157        total: 906ms    remaining: 2.98s
14:     learn: 0.4897634        total: 968ms    remaining: 2.9s
15:     learn: 0.4790040        total: 1.03s    remaining: 2.83s
16:     learn: 0.4689872        total: 1.1s     remaining: 2.78s
17:     learn: 0.4587993        total: 1.16s    remaining: 2.71s
18:     learn: 0.4503380        total: 1.23s    remaining: 2.64s
19:     learn: 0.4413278        total: 1.29s    remaining: 2.58s
20:     learn: 0.4333787        total: 1.36s    remaining: 2.52s
21:     learn: 0.4240938        total: 1.42s    remaining: 2.45s
22:     learn: 0.4155551        total: 1.49s    remaining: 2.39s
23:     learn: 0.4078717        total: 1.55s    remaining: 2.33s
24:     learn: 0.4001818        total: 1.63s    remaining: 2.28s
25:     learn: 0.3922589        total: 1.7s     remaining: 2.22s
26:     learn: 0.3852020        total: 1.76s    remaining: 2.15s
27:     learn: 0.3783847        total: 1.82s    remaining: 2.09s
28:     learn: 0.3718744        total: 1.9s     remaining: 2.03s
29:     learn: 0.3670372        total: 1.96s    remaining: 1.96s
30:     learn: 0.3614585        total: 2.02s    remaining: 1.89s
31:     learn: 0.3556331        total: 2.09s    remaining: 1.83s
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32:     learn: 0.3488100        total: 2.15s    remaining: 1.76s
33:     learn: 0.3422213        total: 2.21s    remaining: 1.69s
34:     learn: 0.3369118        total: 2.27s    remaining: 1.63s
35:     learn: 0.3327062        total: 2.35s    remaining: 1.56s
36:     learn: 0.3274237        total: 2.41s    remaining: 1.5s
37:     learn: 0.3217743        total: 2.48s    remaining: 1.43s
38:     learn: 0.3169396        total: 2.54s    remaining: 1.37s
39:     learn: 0.3119149        total: 2.62s    remaining: 1.31s
40:     learn: 0.3073152        total: 2.68s    remaining: 1.24s
41:     learn: 0.3026618        total: 2.75s    remaining: 1.18s
42:     learn: 0.2987380        total: 2.81s    remaining: 1.11s
43:     learn: 0.2940690        total: 2.88s    remaining: 1.05s
44:     learn: 0.2900901        total: 2.94s    remaining: 981ms
45:     learn: 0.2858553        total: 3s       remaining: 915ms
46:     learn: 0.2817856        total: 3.07s    remaining: 849ms
47:     learn: 0.2784719        total: 3.14s    remaining: 785ms
48:     learn: 0.2750814        total: 3.2s     remaining: 719ms
49:     learn: 0.2716896        total: 3.27s    remaining: 653ms
50:     learn: 0.2679141        total: 3.33s    remaining: 588ms
51:     learn: 0.2644156        total: 3.4s     remaining: 523ms
52:     learn: 0.2610372        total: 3.46s    remaining: 457ms
53:     learn: 0.2575779        total: 3.52s    remaining: 391ms
54:     learn: 0.2556107        total: 3.58s    remaining: 326ms
55:     learn: 0.2539872        total: 3.59s    remaining: 256ms
56:     learn: 0.2509115        total: 3.66s    remaining: 193ms
57:     learn: 0.2483949        total: 3.73s    remaining: 129ms
58:     learn: 0.2452681        total: 3.79s    remaining: 64.3ms
59:     learn: 0.2428459        total: 3.86s    remaining: 0us
0:      learn: 0.6576605        total: 63.3ms   remaining: 3.73s
1:      learn: 0.6290719        total: 126ms    remaining: 3.66s
2:      learn: 0.6029359        total: 193ms    remaining: 3.67s
3:      learn: 0.5768383        total: 270ms    remaining: 3.78s
4:      learn: 0.5516928        total: 335ms    remaining: 3.68s
5:      learn: 0.5299747        total: 396ms    remaining: 3.57s
6:      learn: 0.5084911        total: 458ms    remaining: 3.47s
7:      learn: 0.4906622        total: 527ms    remaining: 3.42s
8:      learn: 0.4724622        total: 589ms    remaining: 3.34s
9:      learn: 0.4547835        total: 652ms    remaining: 3.26s
10:     learn: 0.4406907        total: 715ms    remaining: 3.19s
11:     learn: 0.4262482        total: 794ms    remaining: 3.17s
12:     learn: 0.4116570        total: 857ms    remaining: 3.1s
13:     learn: 0.3947251        total: 919ms    remaining: 3.02s
14:     learn: 0.3812479        total: 980ms    remaining: 2.94s
15:     learn: 0.3706266        total: 1.05s    remaining: 2.9s
16:     learn: 0.3600522        total: 1.12s    remaining: 2.83s
17:     learn: 0.3484489        total: 1.18s    remaining: 2.76s
18:     learn: 0.3387399        total: 1.24s    remaining: 2.69s
19:     learn: 0.3288286        total: 1.31s    remaining: 2.63s
20:     learn: 0.3198014        total: 1.38s    remaining: 2.55s
21:     learn: 0.3111162        total: 1.44s    remaining: 2.48s
22:     learn: 0.3025967        total: 1.5s     remaining: 2.41s
23:     learn: 0.2953821        total: 1.57s    remaining: 2.35s
24:     learn: 0.2884960        total: 1.6s     remaining: 2.24s
25:     learn: 0.2818322        total: 1.66s    remaining: 2.17s
26:     learn: 0.2749111        total: 1.73s    remaining: 2.11s
27:     learn: 0.2695760        total: 1.8s     remaining: 2.06s
28:     learn: 0.2635040        total: 1.87s    remaining: 2s
29:     learn: 0.2579512        total: 1.93s    remaining: 1.93s
30:     learn: 0.2536658        total: 1.99s    remaining: 1.86s
31:     learn: 0.2489553        total: 2.06s    remaining: 1.81s
32:     learn: 0.2440597        total: 2.13s    remaining: 1.75s
33:     learn: 0.2389161        total: 2.2s     remaining: 1.68s
34:     learn: 0.2358505        total: 2.2s     remaining: 1.57s
35:     learn: 0.2319129        total: 2.27s    remaining: 1.51s
36:     learn: 0.2280123        total: 2.34s    remaining: 1.45s
37:     learn: 0.2252110        total: 2.4s     remaining: 1.39s
38:     learn: 0.2217847        total: 2.46s    remaining: 1.33s
39:     learn: 0.2184774        total: 2.53s    remaining: 1.26s
40:     learn: 0.2146430        total: 2.59s    remaining: 1.2s
41:     learn: 0.2115630        total: 2.65s    remaining: 1.14s
42:     learn: 0.2085188        total: 2.72s    remaining: 1.07s
43:     learn: 0.2059390        total: 2.79s    remaining: 1.02s
44:     learn: 0.2032061        total: 2.86s    remaining: 953ms
45:     learn: 0.2007559        total: 2.92s    remaining: 889ms
46:     learn: 0.1989755        total: 2.98s    remaining: 825ms
47:     learn: 0.1972750        total: 3.05s    remaining: 763ms
48:     learn: 0.1947370        total: 3.11s    remaining: 699ms
49:     learn: 0.1924867        total: 3.18s    remaining: 636ms
50:     learn: 0.1907519        total: 3.24s    remaining: 572ms
51:     learn: 0.1890840        total: 3.31s    remaining: 509ms
52:     learn: 0.1879025        total: 3.37s    remaining: 445ms
53:     learn: 0.1862707        total: 3.43s    remaining: 382ms
54:     learn: 0.1844980        total: 3.5s     remaining: 318ms
55:     learn: 0.1831854        total: 3.57s    remaining: 255ms
56:     learn: 0.1814261        total: 3.63s    remaining: 191ms
57:     learn: 0.1795521        total: 3.69s    remaining: 127ms
58:     learn: 0.1782269        total: 3.76s    remaining: 63.7ms
59:     learn: 0.1770042        total: 3.83s    remaining: 0us
0:      learn: 0.6540653        total: 63ms     remaining: 3.71s
1:      learn: 0.6238478        total: 134ms    remaining: 3.9s
2:      learn: 0.5959144        total: 201ms    remaining: 3.81s
3:      learn: 0.5704693        total: 263ms    remaining: 3.68s
4:      learn: 0.5424980        total: 325ms    remaining: 3.58s
5:      learn: 0.5189555        total: 395ms    remaining: 3.56s
6:      learn: 0.4973877        total: 457ms    remaining: 3.46s
7:      learn: 0.4795491        total: 519ms    remaining: 3.37s
8:      learn: 0.4575369        total: 580ms    remaining: 3.29s
9:      learn: 0.4383681        total: 651ms    remaining: 3.25s
10:     learn: 0.4236574        total: 714ms    remaining: 3.18s
11:     learn: 0.4098328        total: 775ms    remaining: 3.1s
12:     learn: 0.3951242        total: 844ms    remaining: 3.05s
13:     learn: 0.3797355        total: 913ms    remaining: 3s
```

```
14:     learn: 0.3679848        total: 975ms    remaining: 2.92s
15:     learn: 0.3551584        total: 1.04s    remaining: 2.85s
16:     learn: 0.3429591        total: 1.1s     remaining: 2.78s
17:     learn: 0.3319766        total: 1.17s    remaining: 2.73s
18:     learn: 0.3210817        total: 1.23s    remaining: 2.66s
19:     learn: 0.3113728        total: 1.3s     remaining: 2.59s
20:     learn: 0.3015797        total: 1.36s    remaining: 2.52s
21:     learn: 0.2921199        total: 1.43s    remaining: 2.47s
22:     learn: 0.2835705        total: 1.49s    remaining: 2.39s
23:     learn: 0.2764530        total: 1.55s    remaining: 2.32s
24:     learn: 0.2682459        total: 1.61s    remaining: 2.25s
25:     learn: 0.2607393        total: 1.68s    remaining: 2.19s
26:     learn: 0.2549223        total: 1.74s    remaining: 2.13s
27:     learn: 0.2498269        total: 1.81s    remaining: 2.07s
28:     learn: 0.2448656        total: 1.87s    remaining: 2s
29:     learn: 0.2396942        total: 1.94s    remaining: 1.94s
30:     learn: 0.2352981        total: 2s       remaining: 1.88s
31:     learn: 0.2313328        total: 2.07s    remaining: 1.81s
32:     learn: 0.2260055        total: 2.13s    remaining: 1.74s
33:     learn: 0.2221582        total: 2.2s     remaining: 1.68s
34:     learn: 0.2182782        total: 2.23s    remaining: 1.59s
35:     learn: 0.2150233        total: 2.29s    remaining: 1.53s
36:     learn: 0.2113354        total: 2.36s    remaining: 1.47s
37:     learn: 0.2078619        total: 2.43s    remaining: 1.41s
38:     learn: 0.2052327        total: 2.49s    remaining: 1.34s
39:     learn: 0.2013665        total: 2.55s    remaining: 1.28s
40:     learn: 0.1978561        total: 2.62s    remaining: 1.21s
41:     learn: 0.1950984        total: 2.69s    remaining: 1.15s
42:     learn: 0.1920523        total: 2.75s    remaining: 1.09s
43:     learn: 0.1897285        total: 2.82s    remaining: 1.02s
44:     learn: 0.1871185        total: 2.9s     remaining: 967ms
45:     learn: 0.1856624        total: 2.96s    remaining: 902ms
46:     learn: 0.1837186        total: 3.03s    remaining: 837ms
47:     learn: 0.1813023        total: 3.09s    remaining: 772ms
48:     learn: 0.1796220        total: 3.16s    remaining: 709ms
49:     learn: 0.1776197        total: 3.22s    remaining: 644ms
50:     learn: 0.1751757        total: 3.28s    remaining: 580ms
51:     learn: 0.1729348        total: 3.35s    remaining: 515ms
52:     learn: 0.1708987        total: 3.42s    remaining: 451ms
53:     learn: 0.1688242        total: 3.48s    remaining: 386ms
54:     learn: 0.1673901        total: 3.54s    remaining: 322ms
55:     learn: 0.1658478        total: 3.6s     remaining: 257ms
56:     learn: 0.1645540        total: 3.67s    remaining: 193ms
57:     learn: 0.1627966        total: 3.73s    remaining: 129ms
58:     learn: 0.1616572        total: 3.79s    remaining: 64.3ms
59:     learn: 0.1604134        total: 3.86s    remaining: 0us
0:      learn: 0.6544737        total: 62.3ms   remaining: 3.67s
1:      learn: 0.6243721        total: 125ms    remaining: 3.62s
2:      learn: 0.5967087        total: 187ms    remaining: 3.55s
3:      learn: 0.5714414        total: 252ms    remaining: 3.53s
4:      learn: 0.5438113        total: 324ms    remaining: 3.57s
5:      learn: 0.5205085        total: 389ms    remaining: 3.5s
6:      learn: 0.4973297        total: 454ms    remaining: 3.44s
7:      learn: 0.4784090        total: 518ms    remaining: 3.37s
8:      learn: 0.4614967        total: 587ms    remaining: 3.32s
9:      learn: 0.4428721        total: 649ms    remaining: 3.25s
10:     learn: 0.4288570        total: 713ms    remaining: 3.17s
11:     learn: 0.4138198        total: 775ms    remaining: 3.1s
12:     learn: 0.3982922        total: 855ms    remaining: 3.09s
13:     learn: 0.3836702        total: 918ms    remaining: 3.02s
14:     learn: 0.3703649        total: 981ms    remaining: 2.94s
15:     learn: 0.3603258        total: 1.04s    remaining: 2.87s
16:     learn: 0.3491135        total: 1.11s    remaining: 2.82s
17:     learn: 0.3357067        total: 1.18s    remaining: 2.75s
18:     learn: 0.3262217        total: 1.24s    remaining: 2.68s
19:     learn: 0.3159933        total: 1.31s    remaining: 2.62s
20:     learn: 0.3064733        total: 1.39s    remaining: 2.58s
21:     learn: 0.2980187        total: 1.45s    remaining: 2.5s
22:     learn: 0.2897261        total: 1.51s    remaining: 2.43s
23:     learn: 0.2823463        total: 1.57s    remaining: 2.36s
24:     learn: 0.2749390        total: 1.64s    remaining: 2.3s
25:     learn: 0.2672731        total: 1.71s    remaining: 2.23s
26:     learn: 0.2605535        total: 1.77s    remaining: 2.16s
27:     learn: 0.2547399        total: 1.83s    remaining: 2.09s
28:     learn: 0.2491060        total: 1.91s    remaining: 2.04s
29:     learn: 0.2455756        total: 1.97s    remaining: 1.97s
30:     learn: 0.2408174        total: 2.03s    remaining: 1.9s
31:     learn: 0.2361220        total: 2.09s    remaining: 1.83s
32:     learn: 0.2307084        total: 2.16s    remaining: 1.77s
33:     learn: 0.2258431        total: 2.23s    remaining: 1.7s
34:     learn: 0.2221070        total: 2.29s    remaining: 1.64s
35:     learn: 0.2190044        total: 2.35s    remaining: 1.57s
36:     learn: 0.2156943        total: 2.42s    remaining: 1.5s
37:     learn: 0.2106888        total: 2.48s    remaining: 1.44s
38:     learn: 0.2072490        total: 2.55s    remaining: 1.37s
39:     learn: 0.2039120        total: 2.61s    remaining: 1.31s
40:     learn: 0.2008390        total: 2.68s    remaining: 1.24s
41:     learn: 0.1976952        total: 2.75s    remaining: 1.18s
42:     learn: 0.1953250        total: 2.81s    remaining: 1.11s
43:     learn: 0.1922911        total: 2.88s    remaining: 1.05s
44:     learn: 0.1893275        total: 2.95s    remaining: 983ms
45:     learn: 0.1866475        total: 3.01s    remaining: 916ms
46:     learn: 0.1838725        total: 3.07s    remaining: 850ms
47:     learn: 0.1819540        total: 3.14s    remaining: 784ms
48:     learn: 0.1802048        total: 3.2s     remaining: 719ms
49:     learn: 0.1783634        total: 3.27s    remaining: 653ms
50:     learn: 0.1763171        total: 3.33s    remaining: 588ms
51:     learn: 0.1743584        total: 3.39s    remaining: 522ms
52:     learn: 0.1722372        total: 3.47s    remaining: 458ms
53:     learn: 0.1703785        total: 3.53s    remaining: 392ms
54:     learn: 0.1692472        total: 3.6s     remaining: 327ms
55:     learn: 0.1677786        total: 3.66s    remaining: 262ms
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56:     learn: 0.1660164        total: 3.73s    remaining: 197ms
57:     learn: 0.1640274        total: 3.8s     remaining: 131ms
58:     learn: 0.1623654        total: 3.87s    remaining: 65.5ms
59:     learn: 0.1607201        total: 3.93s    remaining: 0us
0:      learn: 0.6405767        total: 61.4ms   remaining: 3.62s
1:      learn: 0.5996205        total: 124ms    remaining: 3.6s
2:      learn: 0.5643309        total: 187ms    remaining: 3.55s
3:      learn: 0.5291469        total: 253ms    remaining: 3.54s
4:      learn: 0.4963698        total: 328ms    remaining: 3.6s
5:      learn: 0.4686419        total: 392ms    remaining: 3.53s
6:      learn: 0.4413511        total: 458ms    remaining: 3.47s
7:      learn: 0.4204681        total: 522ms    remaining: 3.39s
8:      learn: 0.3996785        total: 596ms    remaining: 3.38s
9:      learn: 0.3800318        total: 662ms    remaining: 3.31s
10:     learn: 0.3650267        total: 726ms    remaining: 3.23s
11:     learn: 0.3500369        total: 793ms    remaining: 3.17s
12:     learn: 0.3351715        total: 873ms    remaining: 3.16s
13:     learn: 0.3181941        total: 936ms    remaining: 3.08s
14:     learn: 0.3058772        total: 998ms    remaining: 2.99s
15:     learn: 0.2938017        total: 1.06s    remaining: 2.91s
16:     learn: 0.2844585        total: 1.13s    remaining: 2.86s
17:     learn: 0.2744596        total: 1.19s    remaining: 2.79s
18:     learn: 0.2658445        total: 1.26s    remaining: 2.71s
19:     learn: 0.2574277        total: 1.32s    remaining: 2.64s
20:     learn: 0.2491778        total: 1.39s    remaining: 2.59s
21:     learn: 0.2413242        total: 1.46s    remaining: 2.52s
22:     learn: 0.2348949        total: 1.52s    remaining: 2.45s
23:     learn: 0.2289314        total: 1.58s    remaining: 2.38s
24:     learn: 0.2224604        total: 1.66s    remaining: 2.32s
25:     learn: 0.2167816        total: 1.72s    remaining: 2.25s
26:     learn: 0.2126064        total: 1.78s    remaining: 2.18s
27:     learn: 0.2088372        total: 1.85s    remaining: 2.12s
28:     learn: 0.2051392        total: 1.92s    remaining: 2.06s
29:     learn: 0.2018980        total: 1.98s    remaining: 1.98s
30:     learn: 0.1995494        total: 2.02s    remaining: 1.89s
31:     learn: 0.1963690        total: 2.08s    remaining: 1.82s
32:     learn: 0.1933529        total: 2.15s    remaining: 1.76s
33:     learn: 0.1899552        total: 2.21s    remaining: 1.69s
34:     learn: 0.1874936        total: 2.27s    remaining: 1.62s
35:     learn: 0.1855012        total: 2.34s    remaining: 1.56s
36:     learn: 0.1827975        total: 2.41s    remaining: 1.5s
37:     learn: 0.1807538        total: 2.48s    remaining: 1.43s
38:     learn: 0.1790976        total: 2.54s    remaining: 1.37s
39:     learn: 0.1763138        total: 2.61s    remaining: 1.3s
40:     learn: 0.1745826        total: 2.68s    remaining: 1.24s
41:     learn: 0.1722213        total: 2.74s    remaining: 1.17s
42:     learn: 0.1704931        total: 2.8s     remaining: 1.11s
43:     learn: 0.1692102        total: 2.87s    remaining: 1.04s
44:     learn: 0.1675135        total: 2.94s    remaining: 981ms
45:     learn: 0.1659442        total: 3.01s    remaining: 915ms
46:     learn: 0.1640419        total: 3.07s    remaining: 849ms
47:     learn: 0.1622280        total: 3.13s    remaining: 783ms
48:     learn: 0.1604812        total: 3.2s     remaining: 718ms
49:     learn: 0.1588540        total: 3.26s    remaining: 652ms
50:     learn: 0.1568258        total: 3.32s    remaining: 587ms
51:     learn: 0.1549497        total: 3.38s    remaining: 521ms
52:     learn: 0.1533531        total: 3.46s    remaining: 456ms
53:     learn: 0.1521984        total: 3.52s    remaining: 391ms
54:     learn: 0.1509152        total: 3.58s    remaining: 326ms
55:     learn: 0.1495315        total: 3.65s    remaining: 260ms
56:     learn: 0.1481156        total: 3.72s    remaining: 196ms
57:     learn: 0.1471316        total: 3.78s    remaining: 130ms
58:     learn: 0.1456776        total: 3.84s    remaining: 65.1ms
59:     learn: 0.1445020        total: 3.91s    remaining: 0us
0:      learn: 0.6353497        total: 64.1ms   remaining: 3.78s
1:      learn: 0.5921152        total: 127ms    remaining: 3.69s
2:      learn: 0.5535898        total: 189ms    remaining: 3.59s
3:      learn: 0.5196290        total: 251ms    remaining: 3.52s
4:      learn: 0.4834735        total: 322ms    remaining: 3.54s
5:      learn: 0.4542054        total: 384ms    remaining: 3.45s
6:      learn: 0.4282525        total: 445ms    remaining: 3.37s
7:      learn: 0.4081607        total: 508ms    remaining: 3.3s
8:      learn: 0.3830675        total: 581ms    remaining: 3.29s
9:      learn: 0.3637118        total: 645ms    remaining: 3.22s
10:     learn: 0.3494296        total: 708ms    remaining: 3.15s
11:     learn: 0.3359621        total: 771ms    remaining: 3.08s
12:     learn: 0.3209310        total: 850ms    remaining: 3.07s
13:     learn: 0.3056161        total: 912ms    remaining: 3s
14:     learn: 0.2945271        total: 974ms    remaining: 2.92s
15:     learn: 0.2825744        total: 1.03s    remaining: 2.85s
16:     learn: 0.2703368        total: 1.1s     remaining: 2.79s
17:     learn: 0.2613187        total: 1.17s    remaining: 2.73s
18:     learn: 0.2528520        total: 1.23s    remaining: 2.66s
19:     learn: 0.2442072        total: 1.29s    remaining: 2.59s
20:     learn: 0.2362274        total: 1.36s    remaining: 2.53s
21:     learn: 0.2285639        total: 1.43s    remaining: 2.47s
22:     learn: 0.2214780        total: 1.49s    remaining: 2.4s
23:     learn: 0.2155780        total: 1.55s    remaining: 2.33s
24:     learn: 0.2093132        total: 1.63s    remaining: 2.28s
25:     learn: 0.2034781        total: 1.69s    remaining: 2.21s
26:     learn: 0.1988842        total: 1.75s    remaining: 2.14s
27:     learn: 0.1947485        total: 1.81s    remaining: 2.07s
28:     learn: 0.1906901        total: 1.88s    remaining: 2.01s
29:     learn: 0.1871079        total: 1.95s    remaining: 1.95s
30:     learn: 0.1843848        total: 2.01s    remaining: 1.88s
31:     learn: 0.1816733        total: 2.07s    remaining: 1.81s
32:     learn: 0.1788240        total: 2.14s    remaining: 1.75s
33:     learn: 0.1751461        total: 2.2s     remaining: 1.68s
34:     learn: 0.1724809        total: 2.27s    remaining: 1.62s
35:     learn: 0.1699664        total: 2.33s    remaining: 1.55s
36:     learn: 0.1671701        total: 2.4s     remaining: 1.49s
37:     learn: 0.1652455        total: 2.46s    remaining: 1.43s
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38:     learn: 0.1633526        total: 2.52s    remaining: 1.36s
39:     learn: 0.1605380        total: 2.59s    remaining: 1.29s
40:     learn: 0.1582161        total: 2.66s    remaining: 1.23s
41:     learn: 0.1564583        total: 2.72s    remaining: 1.17s
42:     learn: 0.1546798        total: 2.78s    remaining: 1.1s
43:     learn: 0.1527895        total: 2.85s    remaining: 1.04s
44:     learn: 0.1503207        total: 2.92s    remaining: 974ms
45:     learn: 0.1484176        total: 2.98s    remaining: 908ms
46:     learn: 0.1469035        total: 3.04s    remaining: 842ms
47:     learn: 0.1459191        total: 3.1s     remaining: 776ms
48:     learn: 0.1443983        total: 3.17s    remaining: 713ms
49:     learn: 0.1428755        total: 3.23s    remaining: 647ms
50:     learn: 0.1412354        total: 3.3s     remaining: 583ms
51:     learn: 0.1402045        total: 3.36s    remaining: 517ms
52:     learn: 0.1384916        total: 3.43s    remaining: 453ms
53:     learn: 0.1369958        total: 3.49s    remaining: 388ms
54:     learn: 0.1356745        total: 3.56s    remaining: 323ms
55:     learn: 0.1338516        total: 3.62s    remaining: 258ms
56:     learn: 0.1328087        total: 3.69s    remaining: 194ms
57:     learn: 0.1316690        total: 3.75s    remaining: 129ms
58:     learn: 0.1309102        total: 3.81s    remaining: 64.5ms
59:     learn: 0.1297630        total: 3.88s    remaining: 0us
0:      learn: 0.6359135        total: 61.7ms   remaining: 3.64s
1:      learn: 0.5929209        total: 124ms    remaining: 3.58s
2:      learn: 0.5547103        total: 187ms    remaining: 3.56s
3:      learn: 0.5209719        total: 249ms    remaining: 3.49s
4:      learn: 0.4852138        total: 320ms    remaining: 3.52s
5:      learn: 0.4562041        total: 383ms    remaining: 3.45s
6:      learn: 0.4282418        total: 447ms    remaining: 3.38s
7:      learn: 0.4083119        total: 512ms    remaining: 3.33s
8:      learn: 0.3891278        total: 594ms    remaining: 3.37s
9:      learn: 0.3702296        total: 656ms    remaining: 3.28s
10:     learn: 0.3553311        total: 719ms    remaining: 3.2s
11:     learn: 0.3395095        total: 781ms    remaining: 3.12s
12:     learn: 0.3229120        total: 853ms    remaining: 3.08s
13:     learn: 0.3082493        total: 922ms    remaining: 3.03s
14:     learn: 0.2955861        total: 985ms    remaining: 2.95s
15:     learn: 0.2860498        total: 1.05s    remaining: 2.88s
16:     learn: 0.2742004        total: 1.12s    remaining: 2.84s
17:     learn: 0.2636846        total: 1.19s    remaining: 2.77s
18:     learn: 0.2554040        total: 1.25s    remaining: 2.69s
19:     learn: 0.2474190        total: 1.31s    remaining: 2.62s
20:     learn: 0.2396295        total: 1.38s    remaining: 2.56s
21:     learn: 0.2334591        total: 1.44s    remaining: 2.49s
22:     learn: 0.2265431        total: 1.51s    remaining: 2.43s
23:     learn: 0.2206535        total: 1.57s    remaining: 2.35s
24:     learn: 0.2147171        total: 1.64s    remaining: 2.3s
25:     learn: 0.2083264        total: 1.71s    remaining: 2.23s
26:     learn: 0.2034177        total: 1.77s    remaining: 2.16s
27:     learn: 0.1987278        total: 1.83s    remaining: 2.09s
28:     learn: 0.1953152        total: 1.91s    remaining: 2.04s
29:     learn: 0.1911483        total: 1.97s    remaining: 1.97s
30:     learn: 0.1884197        total: 2.03s    remaining: 1.9s
31:     learn: 0.1845792        total: 2.1s     remaining: 1.83s
32:     learn: 0.1803822        total: 2.17s    remaining: 1.77s
33:     learn: 0.1772745        total: 2.23s    remaining: 1.7s
34:     learn: 0.1743904        total: 2.29s    remaining: 1.64s
35:     learn: 0.1719947        total: 2.36s    remaining: 1.57s
36:     learn: 0.1696202        total: 2.43s    remaining: 1.51s
37:     learn: 0.1667876        total: 2.5s     remaining: 1.45s
38:     learn: 0.1646059        total: 2.56s    remaining: 1.38s
39:     learn: 0.1628898        total: 2.63s    remaining: 1.31s
40:     learn: 0.1607439        total: 2.7s     remaining: 1.25s
41:     learn: 0.1588222        total: 2.76s    remaining: 1.18s
42:     learn: 0.1572630        total: 2.82s    remaining: 1.11s
43:     learn: 0.1550289        total: 2.89s    remaining: 1.05s
44:     learn: 0.1527577        total: 2.96s    remaining: 987ms
45:     learn: 0.1517774        total: 3.02s    remaining: 920ms
46:     learn: 0.1497283        total: 3.09s    remaining: 854ms
47:     learn: 0.1478776        total: 3.15s    remaining: 787ms
48:     learn: 0.1461697        total: 3.22s    remaining: 723ms
49:     learn: 0.1450131        total: 3.28s    remaining: 657ms
50:     learn: 0.1429934        total: 3.35s    remaining: 590ms
51:     learn: 0.1417741        total: 3.41s    remaining: 524ms
52:     learn: 0.1402628        total: 3.48s    remaining: 460ms
53:     learn: 0.1389643        total: 3.54s    remaining: 394ms
54:     learn: 0.1382555        total: 3.61s    remaining: 328ms
55:     learn: 0.1369022        total: 3.67s    remaining: 262ms
56:     learn: 0.1357385        total: 3.74s    remaining: 197ms
57:     learn: 0.1342481        total: 3.81s    remaining: 131ms
58:     learn: 0.1328087        total: 3.87s    remaining: 65.6ms
59:     learn: 0.1314383        total: 3.94s    remaining: 0us
0:      learn: 0.6239310        total: 61.7ms   remaining: 3.64s
1:      learn: 0.5718186        total: 124ms    remaining: 3.6s
2:      learn: 0.5283946        total: 186ms    remaining: 3.53s
3:      learn: 0.4863956        total: 248ms    remaining: 3.47s
4:      learn: 0.4495513        total: 319ms    remaining: 3.51s
5:      learn: 0.4185317        total: 384ms    remaining: 3.46s
6:      learn: 0.3889110        total: 449ms    remaining: 3.4s
7:      learn: 0.3671180        total: 513ms    remaining: 3.33s
8:      learn: 0.3458984        total: 583ms    remaining: 3.3s
9:      learn: 0.3256360        total: 649ms    remaining: 3.25s
10:     learn: 0.3113740        total: 712ms    remaining: 3.17s
11:     learn: 0.2970701        total: 775ms    remaining: 3.1s
12:     learn: 0.2834752        total: 852ms    remaining: 3.08s
13:     learn: 0.2687126        total: 914ms    remaining: 3s
14:     learn: 0.2579867        total: 975ms    remaining: 2.92s
15:     learn: 0.2487112        total: 1.03s    remaining: 2.85s
16:     learn: 0.2405785        total: 1.1s     remaining: 2.79s
17:     learn: 0.2317074        total: 1.17s    remaining: 2.72s
18:     learn: 0.2250600        total: 1.23s    remaining: 2.65s
19:     learn: 0.2198016        total: 1.29s    remaining: 2.58s
```

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20:     learn: 0.2135793        total: 1.36s    remaining: 2.53s
21:     learn: 0.2081890        total: 1.43s    remaining: 2.47s
22:     learn: 0.2025398        total: 1.49s    remaining: 2.4s
23:     learn: 0.1978335        total: 1.55s    remaining: 2.33s
24:     learn: 0.1927684        total: 1.63s    remaining: 2.28s
25:     learn: 0.1880674        total: 1.69s    remaining: 2.21s
26:     learn: 0.1847693        total: 1.75s    remaining: 2.14s
27:     learn: 0.1819173        total: 1.81s    remaining: 2.07s
28:     learn: 0.1785120        total: 1.89s    remaining: 2.02s
29:     learn: 0.1761272        total: 1.95s    remaining: 1.95s
30:     learn: 0.1743645        total: 1.96s    remaining: 1.83s
31:     learn: 0.1718918        total: 2.02s    remaining: 1.77s
32:     learn: 0.1686857        total: 2.08s    remaining: 1.7s
33:     learn: 0.1663814        total: 2.15s    remaining: 1.65s
34:     learn: 0.1638285        total: 2.22s    remaining: 1.58s
35:     learn: 0.1622072        total: 2.28s    remaining: 1.52s
36:     learn: 0.1596769        total: 2.34s    remaining: 1.46s
37:     learn: 0.1573897        total: 2.41s    remaining: 1.4s
38:     learn: 0.1553698        total: 2.47s    remaining: 1.33s
39:     learn: 0.1537662        total: 2.54s    remaining: 1.27s
40:     learn: 0.1524026        total: 2.6s     remaining: 1.2s
41:     learn: 0.1507448        total: 2.67s    remaining: 1.14s
42:     learn: 0.1497027        total: 2.73s    remaining: 1.08s
43:     learn: 0.1473185        total: 2.8s     remaining: 1.02s
44:     learn: 0.1461550        total: 2.87s    remaining: 955ms
45:     learn: 0.1445967        total: 2.94s    remaining: 895ms
46:     learn: 0.1432039        total: 3s       remaining: 831ms
47:     learn: 0.1419276        total: 3.06s    remaining: 766ms
48:     learn: 0.1401957        total: 3.13s    remaining: 702ms
49:     learn: 0.1382599        total: 3.19s    remaining: 639ms
50:     learn: 0.1366014        total: 3.26s    remaining: 575ms
51:     learn: 0.1358690        total: 3.32s    remaining: 511ms
52:     learn: 0.1341076        total: 3.38s    remaining: 447ms
53:     learn: 0.1331534        total: 3.45s    remaining: 384ms
54:     learn: 0.1317607        total: 3.52s    remaining: 320ms
55:     learn: 0.1302835        total: 3.58s    remaining: 256ms
56:     learn: 0.1295677        total: 3.64s    remaining: 192ms
57:     learn: 0.1289158        total: 3.71s    remaining: 128ms
58:     learn: 0.1277756        total: 3.78s    remaining: 64ms
59:     learn: 0.1265597        total: 3.84s    remaining: 0us
0:      learn: 0.6171815        total: 61.1ms   remaining: 3.6s
1:      learn: 0.5623875        total: 122ms    remaining: 3.55s
2:      learn: 0.5152374        total: 187ms    remaining: 3.54s
3:      learn: 0.4750427        total: 249ms    remaining: 3.49s
4:      learn: 0.4330383        total: 322ms    remaining: 3.54s
5:      learn: 0.4006397        total: 384ms    remaining: 3.46s
6:      learn: 0.3730126        total: 448ms    remaining: 3.39s
7:      learn: 0.3522459        total: 510ms    remaining: 3.31s
8:      learn: 0.3297206        total: 577ms    remaining: 3.27s
9:      learn: 0.3106498        total: 638ms    remaining: 3.19s
10:     learn: 0.2956191        total: 699ms    remaining: 3.11s
11:     learn: 0.2828519        total: 760ms    remaining: 3.04s
12:     learn: 0.2683700        total: 830ms    remaining: 3s
13:     learn: 0.2548416        total: 899ms    remaining: 2.95s
14:     learn: 0.2445310        total: 963ms    remaining: 2.89s
15:     learn: 0.2368503        total: 1.02s    remaining: 2.82s
16:     learn: 0.2261921        total: 1.1s     remaining: 2.77s
17:     learn: 0.2163627        total: 1.17s    remaining: 2.72s
18:     learn: 0.2087138        total: 1.23s    remaining: 2.65s
19:     learn: 0.2028515        total: 1.29s    remaining: 2.58s
20:     learn: 0.1969152        total: 1.36s    remaining: 2.53s
21:     learn: 0.1903933        total: 1.43s    remaining: 2.46s
22:     learn: 0.1852247        total: 1.49s    remaining: 2.39s
23:     learn: 0.1797691        total: 1.55s    remaining: 2.32s
24:     learn: 0.1753822        total: 1.62s    remaining: 2.26s
25:     learn: 0.1709508        total: 1.68s    remaining: 2.19s
26:     learn: 0.1678978        total: 1.74s    remaining: 2.13s
27:     learn: 0.1655649        total: 1.8s     remaining: 2.06s
28:     learn: 0.1627581        total: 1.87s    remaining: 2s
29:     learn: 0.1602145        total: 1.94s    remaining: 1.94s
30:     learn: 0.1583417        total: 2s       remaining: 1.87s
31:     learn: 0.1568318        total: 2.06s    remaining: 1.81s
32:     learn: 0.1537695        total: 2.14s    remaining: 1.75s
33:     learn: 0.1509333        total: 2.2s     remaining: 1.68s
34:     learn: 0.1489242        total: 2.26s    remaining: 1.62s
35:     learn: 0.1469552        total: 2.33s    remaining: 1.55s
36:     learn: 0.1447380        total: 2.4s     remaining: 1.49s
37:     learn: 0.1430591        total: 2.46s    remaining: 1.42s
38:     learn: 0.1415960        total: 2.52s    remaining: 1.36s
39:     learn: 0.1392770        total: 2.58s    remaining: 1.29s
40:     learn: 0.1371188        total: 2.65s    remaining: 1.23s
41:     learn: 0.1355170        total: 2.71s    remaining: 1.16s
42:     learn: 0.1339942        total: 2.77s    remaining: 1.1s
43:     learn: 0.1320753        total: 2.83s    remaining: 1.03s
44:     learn: 0.1297115        total: 2.9s     remaining: 968ms
45:     learn: 0.1286344        total: 2.97s    remaining: 905ms
46:     learn: 0.1270824        total: 3.03s    remaining: 839ms
47:     learn: 0.1258805        total: 3.1s     remaining: 774ms
48:     learn: 0.1248059        total: 3.17s    remaining: 711ms
49:     learn: 0.1233328        total: 3.23s    remaining: 646ms
50:     learn: 0.1221699        total: 3.29s    remaining: 581ms
51:     learn: 0.1214627        total: 3.35s    remaining: 516ms
52:     learn: 0.1199529        total: 3.43s    remaining: 453ms
53:     learn: 0.1183467        total: 3.49s    remaining: 388ms
54:     learn: 0.1178950        total: 3.55s    remaining: 323ms
55:     learn: 0.1163585        total: 3.61s    remaining: 258ms
56:     learn: 0.1156988        total: 3.69s    remaining: 194ms
57:     learn: 0.1140227        total: 3.75s    remaining: 129ms
58:     learn: 0.1128883        total: 3.81s    remaining: 64.7ms
59:     learn: 0.1123318        total: 3.88s    remaining: 0us
0:      learn: 0.6178688        total: 63.4ms   remaining: 3.74s
1:      learn: 0.5633378        total: 126ms    remaining: 3.64s
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2:      learn: 0.5165054        total: 187ms    remaining: 3.56s
3:      learn: 0.4765075        total: 249ms    remaining: 3.49s
4:      learn: 0.4356028        total: 319ms    remaining: 3.51s
5:      learn: 0.4025436        total: 385ms    remaining: 3.46s
6:      learn: 0.3728228        total: 448ms    remaining: 3.39s
7:      learn: 0.3519263        total: 509ms    remaining: 3.31s
8:      learn: 0.3321275        total: 581ms    remaining: 3.29s
9:      learn: 0.3139645        total: 645ms    remaining: 3.22s
10:     learn: 0.2999816        total: 707ms    remaining: 3.15s
11:     learn: 0.2850933        total: 770ms    remaining: 3.08s
12:     learn: 0.2699590        total: 841ms    remaining: 3.04s
13:     learn: 0.2566115        total: 907ms    remaining: 2.98s
14:     learn: 0.2440397        total: 978ms    remaining: 2.93s
15:     learn: 0.2337842        total: 1.04s    remaining: 2.87s
16:     learn: 0.2242737        total: 1.11s    remaining: 2.81s
17:     learn: 0.2153247        total: 1.17s    remaining: 2.74s
18:     learn: 0.2082660        total: 1.24s    remaining: 2.67s
19:     learn: 0.2024959        total: 1.31s    remaining: 2.61s
20:     learn: 0.1965595        total: 1.37s    remaining: 2.55s
21:     learn: 0.1907933        total: 1.44s    remaining: 2.48s
22:     learn: 0.1859305        total: 1.5s     remaining: 2.41s
23:     learn: 0.1812887        total: 1.57s    remaining: 2.36s
24:     learn: 0.1765910        total: 1.63s    remaining: 2.29s
25:     learn: 0.1719276        total: 1.7s     remaining: 2.22s
26:     learn: 0.1684441        total: 1.76s    remaining: 2.16s
27:     learn: 0.1654584        total: 1.83s    remaining: 2.09s
28:     learn: 0.1624572        total: 1.9s     remaining: 2.03s
29:     learn: 0.1606699        total: 1.96s    remaining: 1.96s
30:     learn: 0.1589476        total: 2.03s    remaining: 1.9s
31:     learn: 0.1567584        total: 2.1s     remaining: 1.84s
32:     learn: 0.1546824        total: 2.17s    remaining: 1.77s
33:     learn: 0.1519500        total: 2.23s    remaining: 1.71s
34:     learn: 0.1504154        total: 2.29s    remaining: 1.64s
35:     learn: 0.1486230        total: 2.37s    remaining: 1.58s
36:     learn: 0.1470766        total: 2.43s    remaining: 1.51s
37:     learn: 0.1452284        total: 2.5s     remaining: 1.45s
38:     learn: 0.1435844        total: 2.56s    remaining: 1.38s
39:     learn: 0.1418675        total: 2.63s    remaining: 1.32s
40:     learn: 0.1404627        total: 2.7s     remaining: 1.25s
41:     learn: 0.1384990        total: 2.76s    remaining: 1.18s
42:     learn: 0.1372806        total: 2.83s    remaining: 1.12s
43:     learn: 0.1353383        total: 2.9s     remaining: 1.05s
44:     learn: 0.1331374        total: 2.97s    remaining: 991ms
45:     learn: 0.1316773        total: 3.03s    remaining: 924ms
46:     learn: 0.1304579        total: 3.1s     remaining: 857ms
47:     learn: 0.1290523        total: 3.17s    remaining: 792ms
48:     learn: 0.1279120        total: 3.23s    remaining: 725ms
49:     learn: 0.1271195        total: 3.29s    remaining: 659ms
50:     learn: 0.1257334        total: 3.36s    remaining: 592ms
51:     learn: 0.1248637        total: 3.42s    remaining: 527ms
52:     learn: 0.1235070        total: 3.49s    remaining: 461ms
53:     learn: 0.1222623        total: 3.55s    remaining: 394ms
54:     learn: 0.1218733        total: 3.61s    remaining: 329ms
55:     learn: 0.1208735        total: 3.68s    remaining: 263ms
56:     learn: 0.1198247        total: 3.75s    remaining: 197ms
57:     learn: 0.1185601        total: 3.81s    remaining: 131ms
58:     learn: 0.1173656        total: 3.87s    remaining: 65.6ms
59:     learn: 0.1158636        total: 3.94s    remaining: 0us
0:      learn: 0.6751837        total: 61.7ms   remaining: 4.26s
1:      learn: 0.6602297        total: 132ms    remaining: 4.5s
2:      learn: 0.6454463        total: 195ms    remaining: 4.35s
3:      learn: 0.6304676        total: 260ms    remaining: 4.3s
4:      learn: 0.6160483        total: 323ms    remaining: 4.2s
5:      learn: 0.6031485        total: 393ms    remaining: 4.2s
6:      learn: 0.5899825        total: 456ms    remaining: 4.1s
7:      learn: 0.5784494        total: 518ms    remaining: 4.01s
8:      learn: 0.5665641        total: 580ms    remaining: 3.93s
9:      learn: 0.5547034        total: 653ms    remaining: 3.92s
10:     learn: 0.5436993        total: 717ms    remaining: 3.85s
11:     learn: 0.5335351        total: 780ms    remaining: 3.77s
12:     learn: 0.5228803        total: 842ms    remaining: 3.69s
13:     learn: 0.5102639        total: 919ms    remaining: 3.68s
14:     learn: 0.4989545        total: 982ms    remaining: 3.6s
15:     learn: 0.4889242        total: 1.04s    remaining: 3.53s
16:     learn: 0.4795053        total: 1.11s    remaining: 3.45s
17:     learn: 0.4696517        total: 1.18s    remaining: 3.41s
18:     learn: 0.4610669        total: 1.24s    remaining: 3.33s
19:     learn: 0.4522233        total: 1.3s     remaining: 3.26s
20:     learn: 0.4443485        total: 1.36s    remaining: 3.19s
21:     learn: 0.4360229        total: 1.44s    remaining: 3.13s
22:     learn: 0.4280483        total: 1.5s     remaining: 3.06s
23:     learn: 0.4202252        total: 1.56s    remaining: 2.99s
24:     learn: 0.4132754        total: 1.59s    remaining: 2.87s
25:     learn: 0.4057576        total: 1.66s    remaining: 2.81s
26:     learn: 0.3985751        total: 1.72s    remaining: 2.74s
27:     learn: 0.3921162        total: 1.78s    remaining: 2.67s
28:     learn: 0.3850611        total: 1.84s    remaining: 2.61s
29:     learn: 0.3785935        total: 1.92s    remaining: 2.56s
30:     learn: 0.3731629        total: 1.99s    remaining: 2.5s
31:     learn: 0.3678968        total: 2.05s    remaining: 2.43s
32:     learn: 0.3622126        total: 2.11s    remaining: 2.37s
33:     learn: 0.3558665        total: 2.18s    remaining: 2.31s
34:     learn: 0.3503487        total: 2.25s    remaining: 2.25s
35:     learn: 0.3454439        total: 2.31s    remaining: 2.18s
36:     learn: 0.3403020        total: 2.37s    remaining: 2.12s
37:     learn: 0.3355499        total: 2.45s    remaining: 2.06s
38:     learn: 0.3313786        total: 2.51s    remaining: 2s
39:     learn: 0.3265447        total: 2.57s    remaining: 1.93s
40:     learn: 0.3221439        total: 2.63s    remaining: 1.86s
41:     learn: 0.3182402        total: 2.7s     remaining: 1.8s
42:     learn: 0.3142320        total: 2.77s    remaining: 1.74s
43:     learn: 0.3102764        total: 2.83s    remaining: 1.67s
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44:     learn: 0.3060148        total: 2.89s    remaining: 1.6s
45:     learn: 0.3023363        total: 2.96s    remaining: 1.55s
46:     learn: 0.2990242        total: 3.03s    remaining: 1.48s
47:     learn: 0.2956283        total: 3.09s    remaining: 1.42s
48:     learn: 0.2917702        total: 3.15s    remaining: 1.35s
49:     learn: 0.2882910        total: 3.22s    remaining: 1.29s
50:     learn: 0.2848467        total: 3.29s    remaining: 1.22s
51:     learn: 0.2812317        total: 3.35s    remaining: 1.16s
52:     learn: 0.2777402        total: 3.41s    remaining: 1.09s
53:     learn: 0.2746565        total: 3.48s    remaining: 1.03s
54:     learn: 0.2718787        total: 3.54s    remaining: 967ms
55:     learn: 0.2691514        total: 3.61s    remaining: 903ms
56:     learn: 0.2664806        total: 3.67s    remaining: 838ms
57:     learn: 0.2643008        total: 3.74s    remaining: 775ms
58:     learn: 0.2617112        total: 3.81s    remaining: 709ms
59:     learn: 0.2589477        total: 3.87s    remaining: 644ms
60:     learn: 0.2564266        total: 3.94s    remaining: 581ms
61:     learn: 0.2535901        total: 4.01s    remaining: 517ms
62:     learn: 0.2511621        total: 4.07s    remaining: 452ms
63:     learn: 0.2488866        total: 4.13s    remaining: 388ms
64:     learn: 0.2466017        total: 4.2s     remaining: 323ms
65:     learn: 0.2441167        total: 4.27s    remaining: 259ms
66:     learn: 0.2420935        total: 4.33s    remaining: 194ms
67:     learn: 0.2401606        total: 4.39s    remaining: 129ms
68:     learn: 0.2379425        total: 4.45s    remaining: 64.5ms
69:     learn: 0.2356859        total: 4.52s    remaining: 0us
0:      learn: 0.6733307        total: 61.6ms   remaining: 4.25s
1:      learn: 0.6574651        total: 133ms    remaining: 4.52s
2:      learn: 0.6423078        total: 196ms    remaining: 4.38s
3:      learn: 0.6280499        total: 260ms    remaining: 4.29s
4:      learn: 0.6119764        total: 331ms    remaining: 4.3s
5:      learn: 0.5974304        total: 403ms    remaining: 4.3s
6:      learn: 0.5837695        total: 465ms    remaining: 4.18s
7:      learn: 0.5722608        total: 525ms    remaining: 4.07s
8:      learn: 0.5581532        total: 589ms    remaining: 3.99s
9:      learn: 0.5450776        total: 657ms    remaining: 3.94s
10:     learn: 0.5345495        total: 722ms    remaining: 3.87s
11:     learn: 0.5245084        total: 784ms    remaining: 3.79s
12:     learn: 0.5134314        total: 845ms    remaining: 3.71s
13:     learn: 0.5015661        total: 915ms    remaining: 3.66s
14:     learn: 0.4906146        total: 979ms    remaining: 3.59s
15:     learn: 0.4799681        total: 1.04s    remaining: 3.52s
16:     learn: 0.4697269        total: 1.1s     remaining: 3.44s
17:     learn: 0.4599618        total: 1.18s    remaining: 3.4s
18:     learn: 0.4514277        total: 1.24s    remaining: 3.32s
19:     learn: 0.4425577        total: 1.3s     remaining: 3.26s
20:     learn: 0.4330139        total: 1.37s    remaining: 3.19s
21:     learn: 0.4245915        total: 1.44s    remaining: 3.14s
22:     learn: 0.4157737        total: 1.5s     remaining: 3.06s
23:     learn: 0.4078461        total: 1.56s    remaining: 3s
24:     learn: 0.3994713        total: 1.63s    remaining: 2.93s
25:     learn: 0.3906338        total: 1.7s     remaining: 2.88s
26:     learn: 0.3837601        total: 1.76s    remaining: 2.81s
27:     learn: 0.3776733        total: 1.83s    remaining: 2.74s
28:     learn: 0.3709407        total: 1.89s    remaining: 2.67s
29:     learn: 0.3645547        total: 1.96s    remaining: 2.62s
30:     learn: 0.3588721        total: 2.03s    remaining: 2.55s
31:     learn: 0.3533189        total: 2.09s    remaining: 2.48s
32:     learn: 0.3463799        total: 2.15s    remaining: 2.41s
33:     learn: 0.3405682        total: 2.22s    remaining: 2.35s
34:     learn: 0.3349639        total: 2.29s    remaining: 2.29s
35:     learn: 0.3309261        total: 2.36s    remaining: 2.23s
36:     learn: 0.3260079        total: 2.42s    remaining: 2.16s
37:     learn: 0.3201463        total: 2.49s    remaining: 2.1s
38:     learn: 0.3161146        total: 2.55s    remaining: 2.03s
39:     learn: 0.3107906        total: 2.62s    remaining: 1.96s
40:     learn: 0.3058559        total: 2.68s    remaining: 1.89s
41:     learn: 0.3013465        total: 2.75s    remaining: 1.83s
42:     learn: 0.2974714        total: 2.81s    remaining: 1.76s
43:     learn: 0.2930423        total: 2.87s    remaining: 1.7s
44:     learn: 0.2890118        total: 2.93s    remaining: 1.63s
45:     learn: 0.2862115        total: 3.01s    remaining: 1.57s
46:     learn: 0.2824689        total: 3.07s    remaining: 1.5s
47:     learn: 0.2792255        total: 3.13s    remaining: 1.44s
48:     learn: 0.2761512        total: 3.2s     remaining: 1.37s
49:     learn: 0.2726204        total: 3.27s    remaining: 1.31s
50:     learn: 0.2689020        total: 3.34s    remaining: 1.24s
51:     learn: 0.2656368        total: 3.4s     remaining: 1.18s
52:     learn: 0.2625087        total: 3.46s    remaining: 1.11s
53:     learn: 0.2589296        total: 3.54s    remaining: 1.05s
54:     learn: 0.2569181        total: 3.6s     remaining: 982ms
55:     learn: 0.2535212        total: 3.66s    remaining: 916ms
56:     learn: 0.2501648        total: 3.72s    remaining: 849ms
57:     learn: 0.2474302        total: 3.79s    remaining: 785ms
58:     learn: 0.2451064        total: 3.85s    remaining: 718ms
59:     learn: 0.2432863        total: 3.91s    remaining: 652ms
60:     learn: 0.2403667        total: 3.98s    remaining: 587ms
61:     learn: 0.2381131        total: 4.04s    remaining: 522ms
62:     learn: 0.2360525        total: 4.11s    remaining: 457ms
63:     learn: 0.2337598        total: 4.17s    remaining: 391ms
64:     learn: 0.2315956        total: 4.24s    remaining: 326ms
65:     learn: 0.2297513        total: 4.3s     remaining: 261ms
66:     learn: 0.2275609        total: 4.37s    remaining: 196ms
67:     learn: 0.2261473        total: 4.43s    remaining: 130ms
68:     learn: 0.2237818        total: 4.5s     remaining: 65.2ms
69:     learn: 0.2215920        total: 4.57s    remaining: 0us
0:      learn: 0.6735512        total: 64.6ms   remaining: 4.46s
1:      learn: 0.6577597        total: 134ms    remaining: 4.57s
2:      learn: 0.6427683        total: 198ms    remaining: 4.43s
3:      learn: 0.6281200        total: 261ms    remaining: 4.31s
4:      learn: 0.6132483        total: 325ms    remaining: 4.23s
5:      learn: 0.5985002        total: 398ms    remaining: 4.25s
```

```
6:      learn: 0.5843741        total: 461ms    remaining: 4.15s
7:      learn: 0.5723056        total: 523ms    remaining: 4.05s
8:      learn: 0.5592025        total: 586ms    remaining: 3.97s
9:      learn: 0.5465685        total: 662ms    remaining: 3.97s
10:     learn: 0.5337807        total: 724ms    remaining: 3.88s
11:     learn: 0.5231143        total: 786ms    remaining: 3.8s
12:     learn: 0.5122572        total: 851ms    remaining: 3.73s
13:     learn: 0.5011157        total: 921ms    remaining: 3.68s
14:     learn: 0.4897634        total: 985ms    remaining: 3.61s
15:     learn: 0.4790040        total: 1.05s    remaining: 3.54s
16:     learn: 0.4689872        total: 1.11s    remaining: 3.47s
17:     learn: 0.4587993        total: 1.19s    remaining: 3.43s
18:     learn: 0.4503380        total: 1.25s    remaining: 3.36s
19:     learn: 0.4413278        total: 1.31s    remaining: 3.28s
20:     learn: 0.4333787        total: 1.38s    remaining: 3.21s
21:     learn: 0.4240938        total: 1.45s    remaining: 3.16s
22:     learn: 0.4155551        total: 1.51s    remaining: 3.09s
23:     learn: 0.4078717        total: 1.57s    remaining: 3.02s
24:     learn: 0.4001818        total: 1.64s    remaining: 2.94s
25:     learn: 0.3922589        total: 1.72s    remaining: 2.9s
26:     learn: 0.3852020        total: 1.78s    remaining: 2.83s
27:     learn: 0.3783847        total: 1.84s    remaining: 2.76s
28:     learn: 0.3718744        total: 1.91s    remaining: 2.69s
29:     learn: 0.3670372        total: 1.97s    remaining: 2.63s
30:     learn: 0.3614585        total: 2.04s    remaining: 2.56s
31:     learn: 0.3556331        total: 2.1s     remaining: 2.49s
32:     learn: 0.3488100        total: 2.16s    remaining: 2.42s
33:     learn: 0.3422213        total: 2.23s    remaining: 2.36s
34:     learn: 0.3369118        total: 2.29s    remaining: 2.29s
35:     learn: 0.3327062        total: 2.36s    remaining: 2.23s
36:     learn: 0.3274237        total: 2.42s    remaining: 2.16s
37:     learn: 0.3217743        total: 2.49s    remaining: 2.1s
38:     learn: 0.3169396        total: 2.55s    remaining: 2.03s
39:     learn: 0.3119149        total: 2.61s    remaining: 1.96s
40:     learn: 0.3073152        total: 2.71s    remaining: 1.91s
41:     learn: 0.3026618        total: 2.77s    remaining: 1.85s
42:     learn: 0.2987380        total: 2.83s    remaining: 1.78s
43:     learn: 0.2940690        total: 2.9s     remaining: 1.71s
44:     learn: 0.2900901        total: 2.97s    remaining: 1.65s
45:     learn: 0.2858553        total: 3.03s    remaining: 1.58s
46:     learn: 0.2817856        total: 3.09s    remaining: 1.51s
47:     learn: 0.2784719        total: 3.15s    remaining: 1.45s
48:     learn: 0.2750814        total: 3.23s    remaining: 1.38s
49:     learn: 0.2716896        total: 3.29s    remaining: 1.31s
50:     learn: 0.2679141        total: 3.35s    remaining: 1.25s
51:     learn: 0.2644156        total: 3.41s    remaining: 1.18s
52:     learn: 0.2610372        total: 3.48s    remaining: 1.12s
53:     learn: 0.2575779        total: 3.54s    remaining: 1.05s
54:     learn: 0.2556107        total: 3.6s     remaining: 983ms
55:     learn: 0.2539872        total: 3.61s    remaining: 902ms
56:     learn: 0.2509115        total: 3.67s    remaining: 837ms
57:     learn: 0.2483949        total: 3.75s    remaining: 776ms
58:     learn: 0.2452681        total: 3.81s    remaining: 710ms
59:     learn: 0.2428459        total: 3.88s    remaining: 646ms
60:     learn: 0.2405836        total: 3.94s    remaining: 581ms
61:     learn: 0.2380252        total: 4.01s    remaining: 517ms
62:     learn: 0.2357038        total: 4.07s    remaining: 452ms
63:     learn: 0.2335837        total: 4.13s    remaining: 387ms
64:     learn: 0.2312188        total: 4.19s    remaining: 322ms
65:     learn: 0.2286322        total: 4.26s    remaining: 258ms
66:     learn: 0.2263757        total: 4.32s    remaining: 194ms
67:     learn: 0.2243598        total: 4.39s    remaining: 129ms
68:     learn: 0.2222505        total: 4.45s    remaining: 64.5ms
69:     learn: 0.2195589        total: 4.52s    remaining: 0us
0:      learn: 0.6576605        total: 69ms     remaining: 4.76s
1:      learn: 0.6290719        total: 140ms    remaining: 4.77s
2:      learn: 0.6029359        total: 206ms    remaining: 4.59s
3:      learn: 0.5768383        total: 269ms    remaining: 4.44s
4:      learn: 0.5516928        total: 331ms    remaining: 4.31s
5:      learn: 0.5299747        total: 400ms    remaining: 4.27s
6:      learn: 0.5084911        total: 461ms    remaining: 4.15s
7:      learn: 0.4906622        total: 524ms    remaining: 4.06s
8:      learn: 0.4724622        total: 592ms    remaining: 4.01s
9:      learn: 0.4547835        total: 664ms    remaining: 3.98s
10:     learn: 0.4406907        total: 729ms    remaining: 3.91s
11:     learn: 0.4262482        total: 792ms    remaining: 3.83s
12:     learn: 0.4116570        total: 855ms    remaining: 3.75s
13:     learn: 0.3947251        total: 928ms    remaining: 3.71s
14:     learn: 0.3812479        total: 990ms    remaining: 3.63s
15:     learn: 0.3706266        total: 1.05s    remaining: 3.55s
16:     learn: 0.3600522        total: 1.12s    remaining: 3.49s
17:     learn: 0.3484489        total: 1.19s    remaining: 3.44s
18:     learn: 0.3387399        total: 1.25s    remaining: 3.37s
19:     learn: 0.3288286        total: 1.31s    remaining: 3.29s
20:     learn: 0.3198014        total: 1.38s    remaining: 3.22s
21:     learn: 0.3111162        total: 1.45s    remaining: 3.17s
22:     learn: 0.3025967        total: 1.51s    remaining: 3.1s
23:     learn: 0.2953821        total: 1.58s    remaining: 3.03s
24:     learn: 0.2884960        total: 1.61s    remaining: 2.91s
25:     learn: 0.2818322        total: 1.69s    remaining: 2.85s
26:     learn: 0.2749111        total: 1.75s    remaining: 2.79s
27:     learn: 0.2695760        total: 1.81s    remaining: 2.72s
28:     learn: 0.2635040        total: 1.87s    remaining: 2.65s
29:     learn: 0.2579512        total: 1.94s    remaining: 2.59s
30:     learn: 0.2536658        total: 2.01s    remaining: 2.52s
31:     learn: 0.2489553        total: 2.07s    remaining: 2.46s
32:     learn: 0.2440597        total: 2.14s    remaining: 2.4s
33:     learn: 0.2389161        total: 2.21s    remaining: 2.34s
34:     learn: 0.2358505        total: 2.22s    remaining: 2.22s
35:     learn: 0.2319129        total: 2.28s    remaining: 2.16s
36:     learn: 0.2280123        total: 2.35s    remaining: 2.09s
37:     learn: 0.2252110        total: 2.41s    remaining: 2.03s
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38:     learn: 0.2217847        total: 2.48s    remaining: 1.97s
39:     learn: 0.2184774        total: 2.54s    remaining: 1.91s
40:     learn: 0.2146430        total: 2.61s    remaining: 1.84s
41:     learn: 0.2115630        total: 2.67s    remaining: 1.78s
42:     learn: 0.2085188        total: 2.74s    remaining: 1.72s
43:     learn: 0.2059390        total: 2.8s     remaining: 1.65s
44:     learn: 0.2032061        total: 2.86s    remaining: 1.59s
45:     learn: 0.2007559        total: 2.92s    remaining: 1.52s
46:     learn: 0.1989755        total: 3s       remaining: 1.47s
47:     learn: 0.1972750        total: 3.06s    remaining: 1.4s
48:     learn: 0.1947370        total: 3.13s    remaining: 1.34s
49:     learn: 0.1924867        total: 3.19s    remaining: 1.28s
50:     learn: 0.1907519        total: 3.27s    remaining: 1.22s
51:     learn: 0.1890840        total: 3.33s    remaining: 1.15s
52:     learn: 0.1879025        total: 3.39s    remaining: 1.09s
53:     learn: 0.1862707        total: 3.46s    remaining: 1.02s
54:     learn: 0.1844980        total: 3.53s    remaining: 962ms
55:     learn: 0.1831854        total: 3.59s    remaining: 897ms
56:     learn: 0.1814261        total: 3.65s    remaining: 833ms
57:     learn: 0.1795521        total: 3.71s    remaining: 768ms
58:     learn: 0.1782269        total: 3.78s    remaining: 705ms
59:     learn: 0.1770042        total: 3.85s    remaining: 641ms
60:     learn: 0.1749880        total: 3.91s    remaining: 577ms
61:     learn: 0.1736883        total: 3.97s    remaining: 512ms
62:     learn: 0.1726275        total: 4.04s    remaining: 449ms
63:     learn: 0.1712420        total: 4.11s    remaining: 385ms
64:     learn: 0.1694901        total: 4.17s    remaining: 321ms
65:     learn: 0.1684447        total: 4.24s    remaining: 257ms
66:     learn: 0.1668557        total: 4.31s    remaining: 193ms
67:     learn: 0.1652242        total: 4.37s    remaining: 129ms
68:     learn: 0.1643217        total: 4.43s    remaining: 64.3ms
69:     learn: 0.1632456        total: 4.5s     remaining: 0us
0:      learn: 0.6540653        total: 63.7ms   remaining: 4.4s
1:      learn: 0.6238478        total: 125ms    remaining: 4.25s
2:      learn: 0.5959144        total: 186ms    remaining: 4.16s
3:      learn: 0.5704693        total: 248ms    remaining: 4.08s
4:      learn: 0.5424980        total: 316ms    remaining: 4.11s
5:      learn: 0.5189555        total: 378ms    remaining: 4.03s
6:      learn: 0.4973877        total: 439ms    remaining: 3.95s
7:      learn: 0.4795491        total: 508ms    remaining: 3.94s
8:      learn: 0.4575369        total: 581ms    remaining: 3.94s
9:      learn: 0.4383681        total: 646ms    remaining: 3.87s
10:     learn: 0.4236574        total: 709ms    remaining: 3.8s
11:     learn: 0.4098328        total: 771ms    remaining: 3.73s
12:     learn: 0.3951242        total: 839ms    remaining: 3.68s
13:     learn: 0.3797355        total: 901ms    remaining: 3.6s
14:     learn: 0.3679848        total: 963ms    remaining: 3.53s
15:     learn: 0.3551584        total: 1.02s    remaining: 3.46s
16:     learn: 0.3429591        total: 1.09s    remaining: 3.41s
17:     learn: 0.3319766        total: 1.16s    remaining: 3.34s
18:     learn: 0.3210817        total: 1.22s    remaining: 3.27s
19:     learn: 0.3113728        total: 1.29s    remaining: 3.21s
20:     learn: 0.3015797        total: 1.35s    remaining: 3.16s
21:     learn: 0.2921199        total: 1.42s    remaining: 3.09s
22:     learn: 0.2835705        total: 1.48s    remaining: 3.02s
23:     learn: 0.2764530        total: 1.55s    remaining: 2.97s
24:     learn: 0.2682459        total: 1.62s    remaining: 2.92s
25:     learn: 0.2607393        total: 1.69s    remaining: 2.86s
26:     learn: 0.2549223        total: 1.75s    remaining: 2.79s
27:     learn: 0.2498269        total: 1.81s    remaining: 2.72s
28:     learn: 0.2448656        total: 1.89s    remaining: 2.67s
29:     learn: 0.2396942        total: 1.95s    remaining: 2.6s
30:     learn: 0.2352981        total: 2.01s    remaining: 2.53s
31:     learn: 0.2313328        total: 2.07s    remaining: 2.46s
32:     learn: 0.2260055        total: 2.14s    remaining: 2.4s
33:     learn: 0.2221582        total: 2.2s     remaining: 2.33s
34:     learn: 0.2182782        total: 2.23s    remaining: 2.23s
35:     learn: 0.2150233        total: 2.29s    remaining: 2.17s
36:     learn: 0.2113354        total: 2.36s    remaining: 2.11s
37:     learn: 0.2078619        total: 2.43s    remaining: 2.04s
38:     learn: 0.2052327        total: 2.49s    remaining: 1.98s
39:     learn: 0.2013665        total: 2.57s    remaining: 1.93s
40:     learn: 0.1978561        total: 2.64s    remaining: 1.86s
41:     learn: 0.1950984        total: 2.7s     remaining: 1.8s
42:     learn: 0.1920523        total: 2.76s    remaining: 1.73s
43:     learn: 0.1897285        total: 2.83s    remaining: 1.67s
44:     learn: 0.1871185        total: 2.89s    remaining: 1.6s
45:     learn: 0.1856624        total: 2.95s    remaining: 1.54s
46:     learn: 0.1837186        total: 3.01s    remaining: 1.47s
47:     learn: 0.1813023        total: 3.09s    remaining: 1.42s
48:     learn: 0.1796220        total: 3.15s    remaining: 1.35s
49:     learn: 0.1776197        total: 3.21s    remaining: 1.28s
50:     learn: 0.1751757        total: 3.28s    remaining: 1.22s
51:     learn: 0.1729348        total: 3.35s    remaining: 1.16s
52:     learn: 0.1708987        total: 3.41s    remaining: 1.09s
53:     learn: 0.1688242        total: 3.47s    remaining: 1.03s
54:     learn: 0.1673901        total: 3.55s    remaining: 967ms
55:     learn: 0.1658478        total: 3.62s    remaining: 905ms
56:     learn: 0.1645540        total: 3.68s    remaining: 840ms
57:     learn: 0.1627966        total: 3.74s    remaining: 775ms
58:     learn: 0.1616572        total: 3.8s     remaining: 709ms
59:     learn: 0.1604134        total: 3.87s    remaining: 646ms
60:     learn: 0.1589421        total: 3.94s    remaining: 581ms
61:     learn: 0.1571371        total: 4s       remaining: 516ms
62:     learn: 0.1554685        total: 4.06s    remaining: 451ms
63:     learn: 0.1539043        total: 4.13s    remaining: 387ms
64:     learn: 0.1528442        total: 4.19s    remaining: 322ms
65:     learn: 0.1515344        total: 4.25s    remaining: 258ms
66:     learn: 0.1507021        total: 4.31s    remaining: 193ms
67:     learn: 0.1496661        total: 4.38s    remaining: 129ms
68:     learn: 0.1480835        total: 4.44s    remaining: 64.4ms
69:     learn: 0.1470150        total: 4.51s    remaining: 0us
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0:      learn: 0.6544737        total: 63.2ms   remaining: 4.36s
1:      learn: 0.6243721        total: 125ms    remaining: 4.26s
2:      learn: 0.5967087        total: 187ms    remaining: 4.18s
3:      learn: 0.5714414        total: 252ms    remaining: 4.16s
4:      learn: 0.5438113        total: 323ms    remaining: 4.2s
5:      learn: 0.5205085        total: 387ms    remaining: 4.13s
6:      learn: 0.4973297        total: 452ms    remaining: 4.06s
7:      learn: 0.4784090        total: 523ms    remaining: 4.06s
8:      learn: 0.4614967        total: 595ms    remaining: 4.03s
9:      learn: 0.4428721        total: 657ms    remaining: 3.94s
10:     learn: 0.4288570        total: 719ms    remaining: 3.85s
11:     learn: 0.4138198        total: 781ms    remaining: 3.77s
12:     learn: 0.3982922        total: 855ms    remaining: 3.75s
13:     learn: 0.3836702        total: 925ms    remaining: 3.7s
14:     learn: 0.3703649        total: 987ms    remaining: 3.62s
15:     learn: 0.3603258        total: 1.05s    remaining: 3.54s
16:     learn: 0.3491135        total: 1.12s    remaining: 3.49s
17:     learn: 0.3357067        total: 1.18s    remaining: 3.42s
18:     learn: 0.3262217        total: 1.25s    remaining: 3.35s
19:     learn: 0.3159933        total: 1.31s    remaining: 3.27s
20:     learn: 0.3064733        total: 1.39s    remaining: 3.23s
21:     learn: 0.2980187        total: 1.45s    remaining: 3.17s
22:     learn: 0.2897261        total: 1.52s    remaining: 3.1s
23:     learn: 0.2823463        total: 1.58s    remaining: 3.03s
24:     learn: 0.2749390        total: 1.65s    remaining: 2.97s
25:     learn: 0.2672731        total: 1.71s    remaining: 2.9s
26:     learn: 0.2605535        total: 1.77s    remaining: 2.83s
27:     learn: 0.2547399        total: 1.84s    remaining: 2.76s
28:     learn: 0.2491060        total: 1.92s    remaining: 2.71s
29:     learn: 0.2455756        total: 1.98s    remaining: 2.64s
30:     learn: 0.2408174        total: 2.04s    remaining: 2.57s
31:     learn: 0.2361220        total: 2.1s     remaining: 2.5s
32:     learn: 0.2307084        total: 2.17s    remaining: 2.44s
33:     learn: 0.2258431        total: 2.24s    remaining: 2.37s
34:     learn: 0.2221070        total: 2.3s     remaining: 2.3s
35:     learn: 0.2190044        total: 2.36s    remaining: 2.23s
36:     learn: 0.2156943        total: 2.43s    remaining: 2.17s
37:     learn: 0.2106888        total: 2.49s    remaining: 2.1s
38:     learn: 0.2072490        total: 2.56s    remaining: 2.03s
39:     learn: 0.2039120        total: 2.62s    remaining: 1.97s
40:     learn: 0.2008390        total: 2.69s    remaining: 1.91s
41:     learn: 0.1976952        total: 2.76s    remaining: 1.84s
42:     learn: 0.1953250        total: 2.82s    remaining: 1.77s
43:     learn: 0.1922911        total: 2.88s    remaining: 1.7s
44:     learn: 0.1893275        total: 2.96s    remaining: 1.65s
45:     learn: 0.1866475        total: 3.03s    remaining: 1.58s
46:     learn: 0.1838725        total: 3.09s    remaining: 1.51s
47:     learn: 0.1819540        total: 3.15s    remaining: 1.44s
48:     learn: 0.1802048        total: 3.22s    remaining: 1.38s
49:     learn: 0.1783634        total: 3.28s    remaining: 1.31s
50:     learn: 0.1763171        total: 3.35s    remaining: 1.25s
51:     learn: 0.1743584        total: 3.41s    remaining: 1.18s
52:     learn: 0.1722372        total: 3.48s    remaining: 1.12s
53:     learn: 0.1703785        total: 3.55s    remaining: 1.05s
54:     learn: 0.1692472        total: 3.61s    remaining: 985ms
55:     learn: 0.1677786        total: 3.67s    remaining: 918ms
56:     learn: 0.1660164        total: 3.74s    remaining: 854ms
57:     learn: 0.1640274        total: 3.81s    remaining: 787ms
58:     learn: 0.1623654        total: 3.87s    remaining: 721ms
59:     learn: 0.1607201        total: 3.94s    remaining: 656ms
60:     learn: 0.1590647        total: 4.01s    remaining: 591ms
61:     learn: 0.1583423        total: 4.04s    remaining: 521ms
62:     learn: 0.1569575        total: 4.1s     remaining: 456ms
63:     learn: 0.1556724        total: 4.16s    remaining: 390ms
64:     learn: 0.1544898        total: 4.24s    remaining: 326ms
65:     learn: 0.1532769        total: 4.3s     remaining: 261ms
66:     learn: 0.1519928        total: 4.37s    remaining: 196ms
67:     learn: 0.1509876        total: 4.43s    remaining: 130ms
68:     learn: 0.1501819        total: 4.51s    remaining: 65.3ms
69:     learn: 0.1490874        total: 4.57s    remaining: 0us
0:      learn: 0.6405767        total: 68.1ms   remaining: 4.7s
1:      learn: 0.5996205        total: 133ms    remaining: 4.52s
2:      learn: 0.5643309        total: 196ms    remaining: 4.38s
3:      learn: 0.5291469        total: 265ms    remaining: 4.38s
4:      learn: 0.4963698        total: 336ms    remaining: 4.36s
5:      learn: 0.4686419        total: 398ms    remaining: 4.25s
6:      learn: 0.4413511        total: 460ms    remaining: 4.14s
7:      learn: 0.4204681        total: 523ms    remaining: 4.05s
8:      learn: 0.3996785        total: 594ms    remaining: 4.03s
9:      learn: 0.3800318        total: 656ms    remaining: 3.94s
10:     learn: 0.3650267        total: 718ms    remaining: 3.85s
11:     learn: 0.3500369        total: 779ms    remaining: 3.77s
12:     learn: 0.3351715        total: 850ms    remaining: 3.73s
13:     learn: 0.3181941        total: 916ms    remaining: 3.66s
14:     learn: 0.3058772        total: 979ms    remaining: 3.59s
15:     learn: 0.2938017        total: 1.04s    remaining: 3.51s
16:     learn: 0.2844585        total: 1.11s    remaining: 3.48s
17:     learn: 0.2744596        total: 1.18s    remaining: 3.41s
18:     learn: 0.2658445        total: 1.24s    remaining: 3.34s
19:     learn: 0.2574277        total: 1.31s    remaining: 3.29s
20:     learn: 0.2491778        total: 1.38s    remaining: 3.23s
21:     learn: 0.2413242        total: 1.45s    remaining: 3.16s
22:     learn: 0.2348949        total: 1.51s    remaining: 3.08s
23:     learn: 0.2289314        total: 1.57s    remaining: 3.01s
24:     learn: 0.2224604        total: 1.64s    remaining: 2.96s
25:     learn: 0.2167816        total: 1.71s    remaining: 2.89s
26:     learn: 0.2126064        total: 1.77s    remaining: 2.82s
27:     learn: 0.2088372        total: 1.83s    remaining: 2.75s
28:     learn: 0.2051392        total: 1.91s    remaining: 2.7s
29:     learn: 0.2018980        total: 1.97s    remaining: 2.62s
30:     learn: 0.1995494        total: 2s       remaining: 2.52s
31:     learn: 0.1963690        total: 2.06s    remaining: 2.45s
```

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32:     learn: 0.1933529        total: 2.13s    remaining: 2.39s
33:     learn: 0.1899552        total: 2.19s    remaining: 2.32s
34:     learn: 0.1874936        total: 2.27s    remaining: 2.27s
35:     learn: 0.1855012        total: 2.33s    remaining: 2.2s
36:     learn: 0.1827975        total: 2.4s     remaining: 2.14s
37:     learn: 0.1807538        total: 2.46s    remaining: 2.08s
38:     learn: 0.1790976        total: 2.52s    remaining: 2.01s
39:     learn: 0.1763138        total: 2.59s    remaining: 1.94s
40:     learn: 0.1745826        total: 2.65s    remaining: 1.88s
41:     learn: 0.1722213        total: 2.72s    remaining: 1.81s
42:     learn: 0.1704931        total: 2.78s    remaining: 1.74s
43:     learn: 0.1692102        total: 2.84s    remaining: 1.68s
44:     learn: 0.1675135        total: 2.91s    remaining: 1.62s
45:     learn: 0.1659442        total: 2.97s    remaining: 1.55s
46:     learn: 0.1640419        total: 3.03s    remaining: 1.48s
47:     learn: 0.1622280        total: 3.1s     remaining: 1.42s
48:     learn: 0.1604812        total: 3.17s    remaining: 1.36s
49:     learn: 0.1588540        total: 3.23s    remaining: 1.29s
50:     learn: 0.1568258        total: 3.31s    remaining: 1.23s
51:     learn: 0.1549497        total: 3.37s    remaining: 1.17s
52:     learn: 0.1533531        total: 3.44s    remaining: 1.1s
53:     learn: 0.1521984        total: 3.51s    remaining: 1.04s
54:     learn: 0.1509152        total: 3.58s    remaining: 975ms
55:     learn: 0.1495315        total: 3.65s    remaining: 911ms
56:     learn: 0.1481156        total: 3.71s    remaining: 846ms
57:     learn: 0.1471316        total: 3.77s    remaining: 780ms
58:     learn: 0.1456776        total: 3.85s    remaining: 717ms
59:     learn: 0.1445020        total: 3.91s    remaining: 652ms
60:     learn: 0.1434291        total: 3.98s    remaining: 587ms
61:     learn: 0.1420458        total: 4.04s    remaining: 521ms
62:     learn: 0.1407414        total: 4.11s    remaining: 457ms
63:     learn: 0.1399374        total: 4.17s    remaining: 391ms
64:     learn: 0.1393622        total: 4.24s    remaining: 326ms
65:     learn: 0.1384174        total: 4.31s    remaining: 261ms
66:     learn: 0.1376984        total: 4.38s    remaining: 196ms
67:     learn: 0.1367097        total: 4.44s    remaining: 131ms
68:     learn: 0.1355475        total: 4.5s     remaining: 65.2ms
69:     learn: 0.1347687        total: 4.56s    remaining: 0us
0:      learn: 0.6353497        total: 61.8ms   remaining: 4.26s
1:      learn: 0.5921152        total: 124ms    remaining: 4.22s
2:      learn: 0.5535898        total: 186ms    remaining: 4.15s
3:      learn: 0.5196290        total: 247ms    remaining: 4.08s
4:      learn: 0.4834735        total: 318ms    remaining: 4.13s
5:      learn: 0.4542054        total: 386ms    remaining: 4.12s
6:      learn: 0.4282525        total: 450ms    remaining: 4.05s
7:      learn: 0.4081607        total: 514ms    remaining: 3.98s
8:      learn: 0.3830675        total: 584ms    remaining: 3.96s
9:      learn: 0.3637118        total: 653ms    remaining: 3.92s
10:     learn: 0.3494296        total: 715ms    remaining: 3.83s
11:     learn: 0.3359621        total: 776ms    remaining: 3.75s
12:     learn: 0.3209310        total: 844ms    remaining: 3.7s
13:     learn: 0.3056161        total: 906ms    remaining: 3.62s
14:     learn: 0.2945271        total: 968ms    remaining: 3.55s
15:     learn: 0.2825744        total: 1.03s    remaining: 3.47s
16:     learn: 0.2703368        total: 1.1s     remaining: 3.42s
17:     learn: 0.2613187        total: 1.16s    remaining: 3.36s
18:     learn: 0.2528520        total: 1.23s    remaining: 3.29s
19:     learn: 0.2442072        total: 1.29s    remaining: 3.22s
20:     learn: 0.2362274        total: 1.36s    remaining: 3.17s
21:     learn: 0.2285639        total: 1.42s    remaining: 3.1s
22:     learn: 0.2214780        total: 1.48s    remaining: 3.03s
23:     learn: 0.2155780        total: 1.55s    remaining: 2.97s
24:     learn: 0.2093132        total: 1.63s    remaining: 2.94s
25:     learn: 0.2034781        total: 1.7s     remaining: 2.87s
26:     learn: 0.1988842        total: 1.76s    remaining: 2.8s
27:     learn: 0.1947485        total: 1.82s    remaining: 2.73s
28:     learn: 0.1906901        total: 1.89s    remaining: 2.67s
29:     learn: 0.1871079        total: 1.95s    remaining: 2.6s
30:     learn: 0.1843848        total: 2.01s    remaining: 2.53s
31:     learn: 0.1816733        total: 2.07s    remaining: 2.46s
32:     learn: 0.1788240        total: 2.14s    remaining: 2.4s
33:     learn: 0.1751461        total: 2.2s     remaining: 2.33s
34:     learn: 0.1724809        total: 2.26s    remaining: 2.26s
35:     learn: 0.1699664        total: 2.33s    remaining: 2.2s
36:     learn: 0.1671701        total: 2.4s     remaining: 2.14s
37:     learn: 0.1652455        total: 2.46s    remaining: 2.07s
38:     learn: 0.1633526        total: 2.52s    remaining: 2s
39:     learn: 0.1605380        total: 2.58s    remaining: 1.94s
40:     learn: 0.1582161        total: 2.66s    remaining: 1.88s
41:     learn: 0.1564583        total: 2.72s    remaining: 1.81s
42:     learn: 0.1546798        total: 2.78s    remaining: 1.75s
43:     learn: 0.1527895        total: 2.84s    remaining: 1.68s
44:     learn: 0.1503207        total: 2.91s    remaining: 1.62s
45:     learn: 0.1484176        total: 2.98s    remaining: 1.55s
46:     learn: 0.1469035        total: 3.04s    remaining: 1.49s
47:     learn: 0.1459191        total: 3.1s     remaining: 1.42s
48:     learn: 0.1443983        total: 3.17s    remaining: 1.36s
49:     learn: 0.1428755        total: 3.23s    remaining: 1.29s
50:     learn: 0.1412354        total: 3.3s     remaining: 1.23s
51:     learn: 0.1402045        total: 3.36s    remaining: 1.16s
52:     learn: 0.1384916        total: 3.43s    remaining: 1.1s
53:     learn: 0.1369958        total: 3.49s    remaining: 1.03s
54:     learn: 0.1356745        total: 3.56s    remaining: 970ms
55:     learn: 0.1338516        total: 3.62s    remaining: 905ms
56:     learn: 0.1328087        total: 3.7s     remaining: 844ms
57:     learn: 0.1316690        total: 3.76s    remaining: 778ms
58:     learn: 0.1309102        total: 3.82s    remaining: 713ms
59:     learn: 0.1297630        total: 3.88s    remaining: 647ms
60:     learn: 0.1288514        total: 3.95s    remaining: 583ms
61:     learn: 0.1281114        total: 4.01s    remaining: 518ms
62:     learn: 0.1269264        total: 4.08s    remaining: 453ms
63:     learn: 0.1255855        total: 4.14s    remaining: 388ms
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64:     learn: 0.1247680        total: 4.21s    remaining: 324ms
65:     learn: 0.1241446        total: 4.27s    remaining: 259ms
66:     learn: 0.1231742        total: 4.33s    remaining: 194ms
67:     learn: 0.1225475        total: 4.39s    remaining: 129ms
68:     learn: 0.1215522        total: 4.46s    remaining: 64.7ms
69:     learn: 0.1205536        total: 4.53s    remaining: 0us
0:      learn: 0.6359135        total: 66.2ms   remaining: 4.57s
1:      learn: 0.5929209        total: 130ms    remaining: 4.41s
2:      learn: 0.5547103        total: 193ms    remaining: 4.3s
3:      learn: 0.5209719        total: 255ms    remaining: 4.2s
4:      learn: 0.4852138        total: 322ms    remaining: 4.19s
5:      learn: 0.4562041        total: 384ms    remaining: 4.1s
6:      learn: 0.4282418        total: 446ms    remaining: 4.02s
7:      learn: 0.4083119        total: 510ms    remaining: 3.95s
8:      learn: 0.3891278        total: 580ms    remaining: 3.93s
9:      learn: 0.3702296        total: 642ms    remaining: 3.85s
10:     learn: 0.3553311        total: 709ms    remaining: 3.8s
11:     learn: 0.3395095        total: 773ms    remaining: 3.74s
12:     learn: 0.3229120        total: 842ms    remaining: 3.69s
13:     learn: 0.3082493        total: 905ms    remaining: 3.62s
14:     learn: 0.2955861        total: 967ms    remaining: 3.54s
15:     learn: 0.2860498        total: 1.04s    remaining: 3.5s
16:     learn: 0.2742004        total: 1.11s    remaining: 3.45s
17:     learn: 0.2636846        total: 1.17s    remaining: 3.38s
18:     learn: 0.2554040        total: 1.23s    remaining: 3.31s
19:     learn: 0.2474190        total: 1.3s     remaining: 3.24s
20:     learn: 0.2396295        total: 1.37s    remaining: 3.19s
21:     learn: 0.2334591        total: 1.43s    remaining: 3.12s
22:     learn: 0.2265431        total: 1.49s    remaining: 3.05s
23:     learn: 0.2206535        total: 1.55s    remaining: 2.98s
24:     learn: 0.2147171        total: 1.63s    remaining: 2.92s
25:     learn: 0.2083264        total: 1.69s    remaining: 2.86s
26:     learn: 0.2034177        total: 1.75s    remaining: 2.79s
27:     learn: 0.1987278        total: 1.81s    remaining: 2.72s
28:     learn: 0.1953152        total: 1.88s    remaining: 2.66s
29:     learn: 0.1911483        total: 1.95s    remaining: 2.6s
30:     learn: 0.1884197        total: 2.02s    remaining: 2.54s
31:     learn: 0.1845792        total: 2.08s    remaining: 2.47s
32:     learn: 0.1803822        total: 2.15s    remaining: 2.41s
33:     learn: 0.1772745        total: 2.21s    remaining: 2.34s
34:     learn: 0.1743904        total: 2.28s    remaining: 2.28s
35:     learn: 0.1719947        total: 2.35s    remaining: 2.22s
36:     learn: 0.1696202        total: 2.41s    remaining: 2.15s
37:     learn: 0.1667876        total: 2.47s    remaining: 2.08s
38:     learn: 0.1646059        total: 2.53s    remaining: 2.01s
39:     learn: 0.1628898        total: 2.6s     remaining: 1.95s
40:     learn: 0.1607439        total: 2.67s    remaining: 1.89s
41:     learn: 0.1588222        total: 2.73s    remaining: 1.82s
42:     learn: 0.1572630        total: 2.8s     remaining: 1.76s
43:     learn: 0.1550289        total: 2.87s    remaining: 1.69s
44:     learn: 0.1527577        total: 2.93s    remaining: 1.63s
45:     learn: 0.1517774        total: 2.99s    remaining: 1.56s
46:     learn: 0.1497283        total: 3.06s    remaining: 1.5s
47:     learn: 0.1478776        total: 3.13s    remaining: 1.44s
48:     learn: 0.1461697        total: 3.19s    remaining: 1.37s
49:     learn: 0.1450131        total: 3.25s    remaining: 1.3s
50:     learn: 0.1429934        total: 3.32s    remaining: 1.24s
51:     learn: 0.1417741        total: 3.39s    remaining: 1.17s
52:     learn: 0.1402628        total: 3.46s    remaining: 1.11s
53:     learn: 0.1389643        total: 3.52s    remaining: 1.04s
54:     learn: 0.1382555        total: 3.58s    remaining: 977ms
55:     learn: 0.1369022        total: 3.65s    remaining: 914ms
56:     learn: 0.1357385        total: 3.72s    remaining: 848ms
57:     learn: 0.1342481        total: 3.78s    remaining: 783ms
58:     learn: 0.1328087        total: 3.85s    remaining: 717ms
59:     learn: 0.1314383        total: 3.92s    remaining: 653ms
60:     learn: 0.1303359        total: 3.98s    remaining: 587ms
61:     learn: 0.1296234        total: 4.05s    remaining: 523ms
62:     learn: 0.1287660        total: 4.12s    remaining: 457ms
63:     learn: 0.1278191        total: 4.19s    remaining: 393ms
64:     learn: 0.1267352        total: 4.25s    remaining: 327ms
65:     learn: 0.1258630        total: 4.31s    remaining: 261ms
66:     learn: 0.1250921        total: 4.37s    remaining: 196ms
67:     learn: 0.1243756        total: 4.44s    remaining: 131ms
68:     learn: 0.1232851        total: 4.5s     remaining: 65.3ms
69:     learn: 0.1223489        total: 4.57s    remaining: 0us
0:      learn: 0.6239310        total: 62ms     remaining: 4.27s
1:      learn: 0.5718186        total: 124ms    remaining: 4.2s
2:      learn: 0.5283946        total: 190ms    remaining: 4.25s
3:      learn: 0.4863956        total: 254ms    remaining: 4.2s
4:      learn: 0.4495513        total: 328ms    remaining: 4.27s
5:      learn: 0.4185317        total: 396ms    remaining: 4.22s
6:      learn: 0.3889110        total: 459ms    remaining: 4.13s
7:      learn: 0.3671180        total: 521ms    remaining: 4.04s
8:      learn: 0.3458984        total: 590ms    remaining: 4s
9:      learn: 0.3256360        total: 652ms    remaining: 3.91s
10:     learn: 0.3113740        total: 713ms    remaining: 3.82s
11:     learn: 0.2970701        total: 774ms    remaining: 3.74s
12:     learn: 0.2834752        total: 845ms    remaining: 3.7s
13:     learn: 0.2687126        total: 908ms    remaining: 3.63s
14:     learn: 0.2579867        total: 972ms    remaining: 3.56s
15:     learn: 0.2487112        total: 1.03s    remaining: 3.49s
16:     learn: 0.2405785        total: 1.1s     remaining: 3.44s
17:     learn: 0.2317074        total: 1.17s    remaining: 3.37s
18:     learn: 0.2250600        total: 1.23s    remaining: 3.3s
19:     learn: 0.2198016        total: 1.29s    remaining: 3.23s
20:     learn: 0.2135793        total: 1.37s    remaining: 3.2s
21:     learn: 0.2081890        total: 1.43s    remaining: 3.13s
22:     learn: 0.2025398        total: 1.5s     remaining: 3.06s
23:     learn: 0.1978335        total: 1.56s    remaining: 2.99s
24:     learn: 0.1927684        total: 1.63s    remaining: 2.94s
25:     learn: 0.1880674        total: 1.7s     remaining: 2.87s
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26:     learn: 0.1847693        total: 1.76s    remaining: 2.8s
27:     learn: 0.1819173        total: 1.82s    remaining: 2.73s
28:     learn: 0.1785120        total: 1.89s    remaining: 2.67s
29:     learn: 0.1761272        total: 1.96s    remaining: 2.61s
30:     learn: 0.1743645        total: 1.97s    remaining: 2.48s
31:     learn: 0.1718918        total: 2.03s    remaining: 2.41s
32:     learn: 0.1686857        total: 2.11s    remaining: 2.37s
33:     learn: 0.1663814        total: 2.17s    remaining: 2.3s
34:     learn: 0.1638285        total: 2.24s    remaining: 2.24s
35:     learn: 0.1622072        total: 2.3s     remaining: 2.17s
36:     learn: 0.1596769        total: 2.38s    remaining: 2.12s
37:     learn: 0.1573897        total: 2.44s    remaining: 2.05s
38:     learn: 0.1553698        total: 2.5s     remaining: 1.99s
39:     learn: 0.1537662        total: 2.56s    remaining: 1.92s
40:     learn: 0.1524026        total: 2.63s    remaining: 1.86s
41:     learn: 0.1507448        total: 2.7s     remaining: 1.8s
42:     learn: 0.1497027        total: 2.76s    remaining: 1.73s
43:     learn: 0.1473185        total: 2.82s    remaining: 1.67s
44:     learn: 0.1461550        total: 2.89s    remaining: 1.6s
45:     learn: 0.1445967        total: 2.95s    remaining: 1.54s
46:     learn: 0.1432039        total: 3.02s    remaining: 1.48s
47:     learn: 0.1419276        total: 3.08s    remaining: 1.41s
48:     learn: 0.1401957        total: 3.15s    remaining: 1.35s
49:     learn: 0.1382599        total: 3.21s    remaining: 1.28s
50:     learn: 0.1366014        total: 3.28s    remaining: 1.22s
51:     learn: 0.1358690        total: 3.34s    remaining: 1.16s
52:     learn: 0.1341076        total: 3.42s    remaining: 1.1s
53:     learn: 0.1331534        total: 3.48s    remaining: 1.03s
54:     learn: 0.1317607        total: 3.55s    remaining: 967ms
55:     learn: 0.1302835        total: 3.61s    remaining: 903ms
56:     learn: 0.1295677        total: 3.68s    remaining: 840ms
57:     learn: 0.1289158        total: 3.74s    remaining: 775ms
58:     learn: 0.1277756        total: 3.81s    remaining: 710ms
59:     learn: 0.1265597        total: 3.87s    remaining: 645ms
60:     learn: 0.1254814        total: 3.94s    remaining: 581ms
61:     learn: 0.1247039        total: 4s       remaining: 516ms
62:     learn: 0.1241899        total: 4.06s    remaining: 451ms
63:     learn: 0.1236659        total: 4.12s    remaining: 387ms
64:     learn: 0.1227985        total: 4.2s     remaining: 323ms
65:     learn: 0.1218466        total: 4.26s    remaining: 258ms
66:     learn: 0.1204131        total: 4.32s    remaining: 194ms
67:     learn: 0.1194781        total: 4.39s    remaining: 129ms
68:     learn: 0.1184859        total: 4.47s    remaining: 64.8ms
69:     learn: 0.1173508        total: 4.54s    remaining: 0us
0:      learn: 0.6171815        total: 67.6ms   remaining: 4.66s
1:      learn: 0.5623875        total: 129ms    remaining: 4.39s
2:      learn: 0.5152374        total: 190ms    remaining: 4.25s
3:      learn: 0.4750427        total: 253ms    remaining: 4.18s
4:      learn: 0.4330383        total: 327ms    remaining: 4.25s
5:      learn: 0.4006397        total: 391ms    remaining: 4.17s
6:      learn: 0.3730126        total: 454ms    remaining: 4.09s
7:      learn: 0.3522459        total: 517ms    remaining: 4s
8:      learn: 0.3297206        total: 590ms    remaining: 4s
9:      learn: 0.3106498        total: 654ms    remaining: 3.93s
10:     learn: 0.2956191        total: 716ms    remaining: 3.84s
11:     learn: 0.2828519        total: 788ms    remaining: 3.81s
12:     learn: 0.2683700        total: 856ms    remaining: 3.75s
13:     learn: 0.2548416        total: 918ms    remaining: 3.67s
14:     learn: 0.2445310        total: 980ms    remaining: 3.59s
15:     learn: 0.2368503        total: 1.04s    remaining: 3.52s
16:     learn: 0.2261921        total: 1.11s    remaining: 3.48s
17:     learn: 0.2163627        total: 1.18s    remaining: 3.4s
18:     learn: 0.2087138        total: 1.24s    remaining: 3.33s
19:     learn: 0.2028515        total: 1.3s     remaining: 3.26s
20:     learn: 0.1969152        total: 1.37s    remaining: 3.2s
21:     learn: 0.1903933        total: 1.43s    remaining: 3.13s
22:     learn: 0.1852247        total: 1.5s     remaining: 3.06s
23:     learn: 0.1797691        total: 1.56s    remaining: 2.99s
24:     learn: 0.1753822        total: 1.63s    remaining: 2.93s
25:     learn: 0.1709508        total: 1.69s    remaining: 2.86s
26:     learn: 0.1678978        total: 1.75s    remaining: 2.79s
27:     learn: 0.1655649        total: 1.82s    remaining: 2.73s
28:     learn: 0.1627581        total: 1.89s    remaining: 2.67s
29:     learn: 0.1602145        total: 1.95s    remaining: 2.6s
30:     learn: 0.1583417        total: 2.01s    remaining: 2.53s
31:     learn: 0.1568318        total: 2.08s    remaining: 2.46s
32:     learn: 0.1537695        total: 2.15s    remaining: 2.41s
33:     learn: 0.1509333        total: 2.21s    remaining: 2.34s
34:     learn: 0.1489242        total: 2.27s    remaining: 2.27s
35:     learn: 0.1469552        total: 2.33s    remaining: 2.2s
36:     learn: 0.1447380        total: 2.4s     remaining: 2.14s
37:     learn: 0.1430591        total: 2.46s    remaining: 2.07s
38:     learn: 0.1415960        total: 2.52s    remaining: 2.01s
39:     learn: 0.1392770        total: 2.59s    remaining: 1.94s
40:     learn: 0.1371188        total: 2.66s    remaining: 1.88s
41:     learn: 0.1355170        total: 2.72s    remaining: 1.81s
42:     learn: 0.1339942        total: 2.79s    remaining: 1.75s
43:     learn: 0.1320753        total: 2.85s    remaining: 1.69s
44:     learn: 0.1297115        total: 2.92s    remaining: 1.62s
45:     learn: 0.1286344        total: 2.98s    remaining: 1.56s
46:     learn: 0.1270824        total: 3.04s    remaining: 1.49s
47:     learn: 0.1258805        total: 3.11s    remaining: 1.42s
48:     learn: 0.1248059        total: 3.18s    remaining: 1.36s
49:     learn: 0.1233328        total: 3.24s    remaining: 1.3s
50:     learn: 0.1221699        total: 3.3s     remaining: 1.23s
51:     learn: 0.1214627        total: 3.36s    remaining: 1.16s
52:     learn: 0.1199529        total: 3.44s    remaining: 1.1s
53:     learn: 0.1183467        total: 3.5s     remaining: 1.04s
54:     learn: 0.1178950        total: 3.57s    remaining: 973ms
55:     learn: 0.1163585        total: 3.63s    remaining: 907ms
56:     learn: 0.1156988        total: 3.7s     remaining: 843ms
57:     learn: 0.1140227        total: 3.76s    remaining: 778ms
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58:     learn: 0.1128883        total: 3.83s    remaining: 714ms
59:     learn: 0.1123318        total: 3.89s    remaining: 648ms
60:     learn: 0.1109377        total: 3.96s    remaining: 584ms
61:     learn: 0.1103783        total: 4.02s    remaining: 519ms
62:     learn: 0.1099997        total: 4.09s    remaining: 454ms
63:     learn: 0.1086760        total: 4.15s    remaining: 389ms
64:     learn: 0.1082588        total: 4.22s    remaining: 325ms
65:     learn: 0.1077245        total: 4.29s    remaining: 260ms
66:     learn: 0.1064655        total: 4.35s    remaining: 195ms
67:     learn: 0.1055730        total: 4.41s    remaining: 130ms
68:     learn: 0.1045349        total: 4.48s    remaining: 64.9ms
69:     learn: 0.1039016        total: 4.54s    remaining: 0us
0:      learn: 0.6178688        total: 72.6ms   remaining: 5.01s
1:      learn: 0.5633378        total: 142ms    remaining: 4.82s
2:      learn: 0.5165054        total: 204ms    remaining: 4.55s
3:      learn: 0.4765075        total: 266ms    remaining: 4.39s
4:      learn: 0.4356028        total: 341ms    remaining: 4.43s
5:      learn: 0.4025436        total: 404ms    remaining: 4.3s
6:      learn: 0.3728228        total: 466ms    remaining: 4.19s
7:      learn: 0.3519263        total: 527ms    remaining: 4.08s
8:      learn: 0.3321275        total: 599ms    remaining: 4.06s
9:      learn: 0.3139645        total: 663ms    remaining: 3.98s
10:     learn: 0.2999816        total: 726ms    remaining: 3.9s
11:     learn: 0.2850933        total: 789ms    remaining: 3.81s
12:     learn: 0.2699590        total: 859ms    remaining: 3.77s
13:     learn: 0.2566115        total: 924ms    remaining: 3.7s
14:     learn: 0.2440397        total: 989ms    remaining: 3.63s
15:     learn: 0.2337842        total: 1.06s    remaining: 3.57s
16:     learn: 0.2242737        total: 1.14s    remaining: 3.55s
17:     learn: 0.2153247        total: 1.2s     remaining: 3.47s
18:     learn: 0.2082660        total: 1.26s    remaining: 3.39s
19:     learn: 0.2024959        total: 1.32s    remaining: 3.31s
20:     learn: 0.1965595        total: 1.39s    remaining: 3.25s
21:     learn: 0.1907933        total: 1.46s    remaining: 3.18s
22:     learn: 0.1859305        total: 1.52s    remaining: 3.1s
23:     learn: 0.1812887        total: 1.58s    remaining: 3.03s
24:     learn: 0.1765910        total: 1.65s    remaining: 2.98s
25:     learn: 0.1719276        total: 1.72s    remaining: 2.91s
26:     learn: 0.1684441        total: 1.78s    remaining: 2.84s
27:     learn: 0.1654584        total: 1.84s    remaining: 2.76s
28:     learn: 0.1624572        total: 1.91s    remaining: 2.71s
29:     learn: 0.1606699        total: 1.98s    remaining: 2.63s
30:     learn: 0.1589476        total: 2.04s    remaining: 2.56s
31:     learn: 0.1567584        total: 2.1s     remaining: 2.49s
32:     learn: 0.1546824        total: 2.18s    remaining: 2.44s
33:     learn: 0.1519500        total: 2.24s    remaining: 2.38s
34:     learn: 0.1504154        total: 2.31s    remaining: 2.31s
35:     learn: 0.1486230        total: 2.38s    remaining: 2.24s
36:     learn: 0.1470766        total: 2.44s    remaining: 2.18s
37:     learn: 0.1452284        total: 2.51s    remaining: 2.11s
38:     learn: 0.1435844        total: 2.57s    remaining: 2.04s
39:     learn: 0.1418675        total: 2.63s    remaining: 1.98s
40:     learn: 0.1404627        total: 2.71s    remaining: 1.91s
41:     learn: 0.1384990        total: 2.77s    remaining: 1.84s
42:     learn: 0.1372806        total: 2.83s    remaining: 1.78s
43:     learn: 0.1353383        total: 2.89s    remaining: 1.71s
44:     learn: 0.1331374        total: 2.96s    remaining: 1.65s
45:     learn: 0.1316773        total: 3.03s    remaining: 1.58s
46:     learn: 0.1304579        total: 3.09s    remaining: 1.51s
47:     learn: 0.1290523        total: 3.16s    remaining: 1.45s
48:     learn: 0.1279120        total: 3.23s    remaining: 1.39s
49:     learn: 0.1271195        total: 3.29s    remaining: 1.32s
50:     learn: 0.1257334        total: 3.36s    remaining: 1.25s
51:     learn: 0.1248637        total: 3.42s    remaining: 1.18s
52:     learn: 0.1235070        total: 3.49s    remaining: 1.12s
53:     learn: 0.1222623        total: 3.55s    remaining: 1.05s
54:     learn: 0.1218733        total: 3.62s    remaining: 987ms
55:     learn: 0.1208735        total: 3.68s    remaining: 921ms
56:     learn: 0.1198247        total: 3.75s    remaining: 856ms
57:     learn: 0.1185601        total: 3.81s    remaining: 789ms
58:     learn: 0.1173656        total: 3.88s    remaining: 723ms
59:     learn: 0.1158636        total: 3.94s    remaining: 657ms
60:     learn: 0.1151075        total: 4.01s    remaining: 591ms
61:     learn: 0.1140085        total: 4.07s    remaining: 526ms
62:     learn: 0.1130084        total: 4.14s    remaining: 460ms
63:     learn: 0.1121582        total: 4.21s    remaining: 394ms
64:     learn: 0.1108909        total: 4.28s    remaining: 329ms
65:     learn: 0.1101080        total: 4.34s    remaining: 263ms
66:     learn: 0.1088338        total: 4.4s     remaining: 197ms
67:     learn: 0.1083752        total: 4.46s    remaining: 131ms
68:     learn: 0.1078381        total: 4.54s    remaining: 65.8ms
69:     learn: 0.1070600        total: 4.6s     remaining: 0us
0:      learn: 0.6751837        total: 75.6ms   remaining: 5.97s
1:      learn: 0.6602297        total: 139ms    remaining: 5.42s
2:      learn: 0.6454463        total: 201ms    remaining: 5.17s
3:      learn: 0.6304676        total: 264ms    remaining: 5.02s
4:      learn: 0.6160483        total: 335ms    remaining: 5.02s
5:      learn: 0.6031485        total: 407ms    remaining: 5.01s
6:      learn: 0.5899825        total: 476ms    remaining: 4.96s
7:      learn: 0.5784494        total: 542ms    remaining: 4.88s
8:      learn: 0.5665641        total: 608ms    remaining: 4.8s
9:      learn: 0.5547034        total: 670ms    remaining: 4.69s
10:     learn: 0.5436993        total: 732ms    remaining: 4.59s
11:     learn: 0.5335351        total: 804ms    remaining: 4.55s
12:     learn: 0.5228803        total: 868ms    remaining: 4.47s
13:     learn: 0.5102639        total: 931ms    remaining: 4.39s
14:     learn: 0.4989545        total: 1s       remaining: 4.33s
15:     learn: 0.4889242        total: 1.08s    remaining: 4.3s
16:     learn: 0.4795053        total: 1.14s    remaining: 4.22s
17:     learn: 0.4696517        total: 1.2s     remaining: 4.14s
18:     learn: 0.4610669        total: 1.26s    remaining: 4.06s
19:     learn: 0.4522233        total: 1.33s    remaining: 4.01s
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20:     learn: 0.4443485        total: 1.4s     remaining: 3.92s
21:     learn: 0.4360229        total: 1.47s    remaining: 3.87s
22:     learn: 0.4280483        total: 1.53s    remaining: 3.79s
23:     learn: 0.4202252        total: 1.6s     remaining: 3.73s
24:     learn: 0.4132754        total: 1.63s    remaining: 3.59s
25:     learn: 0.4057576        total: 1.69s    remaining: 3.52s
26:     learn: 0.3985751        total: 1.75s    remaining: 3.44s
27:     learn: 0.3921162        total: 1.83s    remaining: 3.39s
28:     learn: 0.3850611        total: 1.89s    remaining: 3.32s
29:     learn: 0.3785935        total: 1.95s    remaining: 3.25s
30:     learn: 0.3731629        total: 2.02s    remaining: 3.19s
31:     learn: 0.3678968        total: 2.09s    remaining: 3.13s
32:     learn: 0.3622126        total: 2.15s    remaining: 3.06s
33:     learn: 0.3558665        total: 2.21s    remaining: 2.99s
34:     learn: 0.3503487        total: 2.27s    remaining: 2.92s
35:     learn: 0.3454439        total: 2.35s    remaining: 2.87s
36:     learn: 0.3403020        total: 2.41s    remaining: 2.8s
37:     learn: 0.3355499        total: 2.48s    remaining: 2.74s
38:     learn: 0.3313786        total: 2.54s    remaining: 2.67s
39:     learn: 0.3265447        total: 2.61s    remaining: 2.61s
40:     learn: 0.3221439        total: 2.67s    remaining: 2.54s
41:     learn: 0.3182402        total: 2.74s    remaining: 2.48s
42:     learn: 0.3142320        total: 2.8s     remaining: 2.41s
43:     learn: 0.3102764        total: 2.87s    remaining: 2.35s
44:     learn: 0.3060148        total: 2.93s    remaining: 2.28s
45:     learn: 0.3023363        total: 3s       remaining: 2.21s
46:     learn: 0.2990242        total: 3.06s    remaining: 2.15s
47:     learn: 0.2956283        total: 3.13s    remaining: 2.08s
48:     learn: 0.2917702        total: 3.19s    remaining: 2.02s
49:     learn: 0.2882910        total: 3.25s    remaining: 1.95s
50:     learn: 0.2848467        total: 3.31s    remaining: 1.88s
51:     learn: 0.2812317        total: 3.38s    remaining: 1.82s
52:     learn: 0.2777402        total: 3.44s    remaining: 1.75s
53:     learn: 0.2746565        total: 3.52s    remaining: 1.69s
54:     learn: 0.2718787        total: 3.58s    remaining: 1.63s
55:     learn: 0.2691514        total: 3.65s    remaining: 1.56s
56:     learn: 0.2664806        total: 3.71s    remaining: 1.5s
57:     learn: 0.2643008        total: 3.78s    remaining: 1.43s
58:     learn: 0.2617112        total: 3.85s    remaining: 1.37s
59:     learn: 0.2589477        total: 3.92s    remaining: 1.3s
60:     learn: 0.2564266        total: 3.98s    remaining: 1.24s
61:     learn: 0.2535901        total: 4.04s    remaining: 1.17s
62:     learn: 0.2511621        total: 4.1s     remaining: 1.11s
63:     learn: 0.2488866        total: 4.17s    remaining: 1.04s
64:     learn: 0.2466017        total: 4.23s    remaining: 977ms
65:     learn: 0.2441167        total: 4.29s    remaining: 911ms
66:     learn: 0.2420935        total: 4.36s    remaining: 845ms
67:     learn: 0.2401606        total: 4.43s    remaining: 781ms
68:     learn: 0.2379425        total: 4.5s     remaining: 717ms
69:     learn: 0.2356859        total: 4.56s    remaining: 652ms
70:     learn: 0.2336955        total: 4.62s    remaining: 586ms
71:     learn: 0.2318063        total: 4.69s    remaining: 521ms
72:     learn: 0.2301906        total: 4.76s    remaining: 456ms
73:     learn: 0.2284850        total: 4.82s    remaining: 391ms
74:     learn: 0.2269975        total: 4.88s    remaining: 325ms
75:     learn: 0.2251348        total: 4.95s    remaining: 261ms
76:     learn: 0.2238033        total: 4.97s    remaining: 194ms
77:     learn: 0.2223040        total: 5.03s    remaining: 129ms
78:     learn: 0.2204589        total: 5.1s     remaining: 64.5ms
79:     learn: 0.2188231        total: 5.17s    remaining: 0us
0:      learn: 0.6733307        total: 62.9ms   remaining: 4.97s
1:      learn: 0.6574651        total: 136ms    remaining: 5.31s
2:      learn: 0.6423078        total: 205ms    remaining: 5.25s
3:      learn: 0.6280499        total: 268ms    remaining: 5.1s
4:      learn: 0.6119764        total: 334ms    remaining: 5.01s
5:      learn: 0.5974304        total: 395ms    remaining: 4.87s
6:      learn: 0.5837695        total: 458ms    remaining: 4.78s
7:      learn: 0.5722608        total: 529ms    remaining: 4.76s
8:      learn: 0.5581532        total: 593ms    remaining: 4.68s
9:      learn: 0.5450776        total: 655ms    remaining: 4.58s
10:     learn: 0.5345495        total: 716ms    remaining: 4.49s
11:     learn: 0.5245084        total: 788ms    remaining: 4.46s
12:     learn: 0.5134314        total: 851ms    remaining: 4.38s
13:     learn: 0.5015661        total: 913ms    remaining: 4.31s
14:     learn: 0.4906146        total: 976ms    remaining: 4.23s
15:     learn: 0.4799681        total: 1.04s    remaining: 4.18s
16:     learn: 0.4697269        total: 1.11s    remaining: 4.11s
17:     learn: 0.4599618        total: 1.17s    remaining: 4.03s
18:     learn: 0.4514277        total: 1.24s    remaining: 3.98s
19:     learn: 0.4425577        total: 1.31s    remaining: 3.93s
20:     learn: 0.4330139        total: 1.37s    remaining: 3.85s
21:     learn: 0.4245915        total: 1.43s    remaining: 3.78s
22:     learn: 0.4157737        total: 1.49s    remaining: 3.7s
23:     learn: 0.4078461        total: 1.56s    remaining: 3.65s
24:     learn: 0.3994713        total: 1.62s    remaining: 3.57s
25:     learn: 0.3906338        total: 1.69s    remaining: 3.5s
26:     learn: 0.3837601        total: 1.75s    remaining: 3.43s
27:     learn: 0.3776733        total: 1.82s    remaining: 3.38s
28:     learn: 0.3709407        total: 1.88s    remaining: 3.31s
29:     learn: 0.3645547        total: 1.94s    remaining: 3.23s
30:     learn: 0.3588721        total: 2s       remaining: 3.17s
31:     learn: 0.3533189        total: 2.07s    remaining: 3.1s
32:     learn: 0.3463799        total: 2.14s    remaining: 3.04s
33:     learn: 0.3405682        total: 2.2s     remaining: 2.98s
34:     learn: 0.3349639        total: 2.27s    remaining: 2.92s
35:     learn: 0.3309261        total: 2.34s    remaining: 2.87s
36:     learn: 0.3260079        total: 2.41s    remaining: 2.8s
37:     learn: 0.3201463        total: 2.47s    remaining: 2.73s
38:     learn: 0.3161146        total: 2.54s    remaining: 2.67s
39:     learn: 0.3107906        total: 2.61s    remaining: 2.61s
40:     learn: 0.3058559        total: 2.67s    remaining: 2.54s
41:     learn: 0.3013465        total: 2.73s    remaining: 2.47s
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42:     learn: 0.2974714        total: 2.79s    remaining: 2.4s
43:     learn: 0.2930423        total: 2.86s    remaining: 2.34s
44:     learn: 0.2890118        total: 2.92s    remaining: 2.27s
45:     learn: 0.2862115        total: 2.98s    remaining: 2.21s
46:     learn: 0.2824689        total: 3.05s    remaining: 2.14s
47:     learn: 0.2792255        total: 3.12s    remaining: 2.08s
48:     learn: 0.2761512        total: 3.18s    remaining: 2.01s
49:     learn: 0.2726204        total: 3.25s    remaining: 1.95s
50:     learn: 0.2689020        total: 3.32s    remaining: 1.89s
51:     learn: 0.2656368        total: 3.39s    remaining: 1.82s
52:     learn: 0.2625087        total: 3.45s    remaining: 1.76s
53:     learn: 0.2589296        total: 3.52s    remaining: 1.69s
54:     learn: 0.2569181        total: 3.58s    remaining: 1.63s
55:     learn: 0.2535212        total: 3.65s    remaining: 1.56s
56:     learn: 0.2501648        total: 3.71s    remaining: 1.5s
57:     learn: 0.2474302        total: 3.77s    remaining: 1.43s
58:     learn: 0.2451064        total: 3.84s    remaining: 1.37s
59:     learn: 0.2432863        total: 3.91s    remaining: 1.3s
60:     learn: 0.2403667        total: 3.97s    remaining: 1.24s
61:     learn: 0.2381131        total: 4.03s    remaining: 1.17s
62:     learn: 0.2360525        total: 4.1s     remaining: 1.11s
63:     learn: 0.2337598        total: 4.17s    remaining: 1.04s
64:     learn: 0.2315956        total: 4.23s    remaining: 976ms
65:     learn: 0.2297513        total: 4.3s     remaining: 913ms
66:     learn: 0.2275609        total: 4.37s    remaining: 849ms
67:     learn: 0.2261473        total: 4.44s    remaining: 783ms
68:     learn: 0.2237818        total: 4.5s     remaining: 718ms
69:     learn: 0.2215920        total: 4.57s    remaining: 653ms
70:     learn: 0.2197051        total: 4.64s    remaining: 588ms
71:     learn: 0.2186369        total: 4.64s    remaining: 516ms
72:     learn: 0.2163322        total: 4.7s     remaining: 451ms
73:     learn: 0.2141689        total: 4.76s    remaining: 386ms
74:     learn: 0.2123920        total: 4.83s    remaining: 322ms
75:     learn: 0.2106064        total: 4.89s    remaining: 258ms
76:     learn: 0.2091290        total: 4.96s    remaining: 193ms
77:     learn: 0.2071692        total: 5.02s    remaining: 129ms
78:     learn: 0.2058813        total: 5.09s    remaining: 64.4ms
79:     learn: 0.2043049        total: 5.15s    remaining: 0us
0:      learn: 0.6735512        total: 72.2ms   remaining: 5.7s
1:      learn: 0.6577597        total: 137ms    remaining: 5.33s
2:      learn: 0.6427683        total: 199ms    remaining: 5.1s
3:      learn: 0.6281200        total: 262ms    remaining: 4.98s
4:      learn: 0.6132483        total: 336ms    remaining: 5.04s
5:      learn: 0.5985002        total: 400ms    remaining: 4.93s
6:      learn: 0.5843741        total: 463ms    remaining: 4.83s
7:      learn: 0.5723056        total: 526ms    remaining: 4.74s
8:      learn: 0.5592025        total: 595ms    remaining: 4.7s
9:      learn: 0.5465685        total: 657ms    remaining: 4.6s
10:     learn: 0.5337807        total: 720ms    remaining: 4.52s
11:     learn: 0.5231143        total: 782ms    remaining: 4.43s
12:     learn: 0.5122572        total: 852ms    remaining: 4.39s
13:     learn: 0.5011157        total: 914ms    remaining: 4.31s
14:     learn: 0.4897634        total: 983ms    remaining: 4.26s
15:     learn: 0.4790040        total: 1.05s    remaining: 4.18s
16:     learn: 0.4689872        total: 1.12s    remaining: 4.15s
17:     learn: 0.4587993        total: 1.18s    remaining: 4.07s
18:     learn: 0.4503380        total: 1.24s    remaining: 4s
19:     learn: 0.4413278        total: 1.31s    remaining: 3.93s
20:     learn: 0.4333787        total: 1.38s    remaining: 3.87s
21:     learn: 0.4240938        total: 1.44s    remaining: 3.8s
22:     learn: 0.4155551        total: 1.5s     remaining: 3.72s
23:     learn: 0.4078717        total: 1.56s    remaining: 3.65s
24:     learn: 0.4001818        total: 1.64s    remaining: 3.6s
25:     learn: 0.3922589        total: 1.7s     remaining: 3.53s
26:     learn: 0.3852020        total: 1.76s    remaining: 3.46s
27:     learn: 0.3783847        total: 1.82s    remaining: 3.38s
28:     learn: 0.3718744        total: 1.89s    remaining: 3.33s
29:     learn: 0.3670372        total: 1.96s    remaining: 3.26s
30:     learn: 0.3614585        total: 2.02s    remaining: 3.2s
31:     learn: 0.3556331        total: 2.09s    remaining: 3.13s
32:     learn: 0.3488100        total: 2.16s    remaining: 3.08s
33:     learn: 0.3422213        total: 2.23s    remaining: 3.01s
34:     learn: 0.3369118        total: 2.29s    remaining: 2.94s
35:     learn: 0.3327062        total: 2.36s    remaining: 2.88s
36:     learn: 0.3274237        total: 2.43s    remaining: 2.83s
37:     learn: 0.3217743        total: 2.5s     remaining: 2.76s
38:     learn: 0.3169396        total: 2.56s    remaining: 2.69s
39:     learn: 0.3119149        total: 2.62s    remaining: 2.62s
40:     learn: 0.3073152        total: 2.69s    remaining: 2.56s
41:     learn: 0.3026618        total: 2.75s    remaining: 2.49s
42:     learn: 0.2987380        total: 2.81s    remaining: 2.42s
43:     learn: 0.2940690        total: 2.87s    remaining: 2.35s
44:     learn: 0.2900901        total: 2.94s    remaining: 2.29s
45:     learn: 0.2858553        total: 3.01s    remaining: 2.23s
46:     learn: 0.2817856        total: 3.08s    remaining: 2.16s
47:     learn: 0.2784719        total: 3.14s    remaining: 2.09s
48:     learn: 0.2750814        total: 3.21s    remaining: 2.03s
49:     learn: 0.2716896        total: 3.28s    remaining: 1.97s
50:     learn: 0.2679141        total: 3.34s    remaining: 1.9s
51:     learn: 0.2644156        total: 3.4s     remaining: 1.83s
52:     learn: 0.2610372        total: 3.48s    remaining: 1.77s
53:     learn: 0.2575779        total: 3.54s    remaining: 1.7s
54:     learn: 0.2556107        total: 3.6s     remaining: 1.64s
55:     learn: 0.2539872        total: 3.6s     remaining: 1.54s
56:     learn: 0.2509115        total: 3.67s    remaining: 1.48s
57:     learn: 0.2483949        total: 3.74s    remaining: 1.42s
58:     learn: 0.2452681        total: 3.8s     remaining: 1.35s
59:     learn: 0.2428459        total: 3.86s    remaining: 1.29s
60:     learn: 0.2405836        total: 3.93s    remaining: 1.22s
61:     learn: 0.2380252        total: 4s       remaining: 1.16s
62:     learn: 0.2357038        total: 4.07s    remaining: 1.1s
63:     learn: 0.2335837        total: 4.13s    remaining: 1.03s
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64:     learn: 0.2312188        total: 4.19s    remaining: 967ms
65:     learn: 0.2286322        total: 4.26s    remaining: 904ms
66:     learn: 0.2263757        total: 4.32s    remaining: 839ms
67:     learn: 0.2243598        total: 4.39s    remaining: 774ms
68:     learn: 0.2222505        total: 4.45s    remaining: 710ms
69:     learn: 0.2195589        total: 4.53s    remaining: 647ms
70:     learn: 0.2176068        total: 4.59s    remaining: 582ms
71:     learn: 0.2160003        total: 4.66s    remaining: 517ms
72:     learn: 0.2140495        total: 4.72s    remaining: 453ms
73:     learn: 0.2122960        total: 4.79s    remaining: 389ms
74:     learn: 0.2103703        total: 4.86s    remaining: 324ms
75:     learn: 0.2085460        total: 4.92s    remaining: 259ms
76:     learn: 0.2070400        total: 4.99s    remaining: 194ms
77:     learn: 0.2051615        total: 5.06s    remaining: 130ms
78:     learn: 0.2034867        total: 5.13s    remaining: 64.9ms
79:     learn: 0.2020687        total: 5.19s    remaining: 0us
0:      learn: 0.6576605        total: 61.4ms   remaining: 4.85s
1:      learn: 0.6290719        total: 127ms    remaining: 4.96s
2:      learn: 0.6029359        total: 189ms    remaining: 4.86s
3:      learn: 0.5768383        total: 251ms    remaining: 4.77s
4:      learn: 0.5516928        total: 320ms    remaining: 4.79s
5:      learn: 0.5299747        total: 381ms    remaining: 4.7s
6:      learn: 0.5084911        total: 444ms    remaining: 4.63s
7:      learn: 0.4906622        total: 506ms    remaining: 4.56s
8:      learn: 0.4724622        total: 578ms    remaining: 4.56s
9:      learn: 0.4547835        total: 642ms    remaining: 4.49s
10:     learn: 0.4406907        total: 712ms    remaining: 4.46s
11:     learn: 0.4262482        total: 777ms    remaining: 4.4s
12:     learn: 0.4116570        total: 851ms    remaining: 4.38s
13:     learn: 0.3947251        total: 917ms    remaining: 4.32s
14:     learn: 0.3812479        total: 982ms    remaining: 4.26s
15:     learn: 0.3706266        total: 1.05s    remaining: 4.18s
16:     learn: 0.3600522        total: 1.12s    remaining: 4.14s
17:     learn: 0.3484489        total: 1.18s    remaining: 4.06s
18:     learn: 0.3387399        total: 1.24s    remaining: 3.98s
19:     learn: 0.3288286        total: 1.3s     remaining: 3.91s
20:     learn: 0.3198014        total: 1.37s    remaining: 3.85s
21:     learn: 0.3111162        total: 1.43s    remaining: 3.78s
22:     learn: 0.3025967        total: 1.49s    remaining: 3.7s
23:     learn: 0.2953821        total: 1.55s    remaining: 3.63s
24:     learn: 0.2884960        total: 1.59s    remaining: 3.51s
25:     learn: 0.2818322        total: 1.66s    remaining: 3.44s
26:     learn: 0.2749111        total: 1.72s    remaining: 3.38s
27:     learn: 0.2695760        total: 1.78s    remaining: 3.32s
28:     learn: 0.2635040        total: 1.86s    remaining: 3.27s
29:     learn: 0.2579512        total: 1.92s    remaining: 3.2s
30:     learn: 0.2536658        total: 1.98s    remaining: 3.13s
31:     learn: 0.2489553        total: 2.04s    remaining: 3.06s
32:     learn: 0.2440597        total: 2.12s    remaining: 3.01s
33:     learn: 0.2389161        total: 2.18s    remaining: 2.95s
34:     learn: 0.2358505        total: 2.18s    remaining: 2.81s
35:     learn: 0.2319129        total: 2.25s    remaining: 2.75s
36:     learn: 0.2280123        total: 2.31s    remaining: 2.68s
37:     learn: 0.2252110        total: 2.38s    remaining: 2.63s
38:     learn: 0.2217847        total: 2.44s    remaining: 2.56s
39:     learn: 0.2184774        total: 2.5s     remaining: 2.5s
40:     learn: 0.2146430        total: 2.56s    remaining: 2.44s
41:     learn: 0.2115630        total: 2.63s    remaining: 2.38s
42:     learn: 0.2085188        total: 2.69s    remaining: 2.32s
43:     learn: 0.2059390        total: 2.77s    remaining: 2.26s
44:     learn: 0.2032061        total: 2.83s    remaining: 2.2s
45:     learn: 0.2007559        total: 2.9s     remaining: 2.14s
46:     learn: 0.1989755        total: 2.96s    remaining: 2.08s
47:     learn: 0.1972750        total: 3.02s    remaining: 2.02s
48:     learn: 0.1947370        total: 3.09s    remaining: 1.95s
49:     learn: 0.1924867        total: 3.15s    remaining: 1.89s
50:     learn: 0.1907519        total: 3.22s    remaining: 1.83s
51:     learn: 0.1890840        total: 3.28s    remaining: 1.77s
52:     learn: 0.1879025        total: 3.34s    remaining: 1.7s
53:     learn: 0.1862707        total: 3.42s    remaining: 1.65s
54:     learn: 0.1844980        total: 3.49s    remaining: 1.58s
55:     learn: 0.1831854        total: 3.55s    remaining: 1.52s
56:     learn: 0.1814261        total: 3.62s    remaining: 1.46s
57:     learn: 0.1795521        total: 3.69s    remaining: 1.4s
58:     learn: 0.1782269        total: 3.76s    remaining: 1.34s
59:     learn: 0.1770042        total: 3.82s    remaining: 1.27s
60:     learn: 0.1749880        total: 3.88s    remaining: 1.21s
61:     learn: 0.1736883        total: 3.95s    remaining: 1.15s
62:     learn: 0.1726275        total: 4.02s    remaining: 1.08s
63:     learn: 0.1712420        total: 4.08s    remaining: 1.02s
64:     learn: 0.1694901        total: 4.14s    remaining: 956ms
65:     learn: 0.1684447        total: 4.21s    remaining: 894ms
66:     learn: 0.1668557        total: 4.28s    remaining: 830ms
67:     learn: 0.1652242        total: 4.34s    remaining: 767ms
68:     learn: 0.1643217        total: 4.41s    remaining: 703ms
69:     learn: 0.1632456        total: 4.48s    remaining: 640ms
70:     learn: 0.1622070        total: 4.54s    remaining: 575ms
71:     learn: 0.1610221        total: 4.6s     remaining: 511ms
72:     learn: 0.1597558        total: 4.66s    remaining: 447ms
73:     learn: 0.1585218        total: 4.73s    remaining: 384ms
74:     learn: 0.1574255        total: 4.8s     remaining: 320ms
75:     learn: 0.1561515        total: 4.86s    remaining: 256ms
76:     learn: 0.1554964        total: 4.92s    remaining: 192ms
77:     learn: 0.1547786        total: 5s       remaining: 128ms
78:     learn: 0.1537094        total: 5.06s    remaining: 64ms
79:     learn: 0.1531566        total: 5.12s    remaining: 0us
0:      learn: 0.6540653        total: 62.1ms   remaining: 4.9s
1:      learn: 0.6238478        total: 123ms    remaining: 4.8s
2:      learn: 0.5959144        total: 184ms    remaining: 4.72s
3:      learn: 0.5704693        total: 245ms    remaining: 4.66s
4:      learn: 0.5424980        total: 316ms    remaining: 4.74s
5:      learn: 0.5189555        total: 380ms    remaining: 4.69s
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6:      learn: 0.4973877        total: 443ms    remaining: 4.62s
7:      learn: 0.4795491        total: 515ms    remaining: 4.63s
8:      learn: 0.4575369        total: 588ms    remaining: 4.64s
9:      learn: 0.4383681        total: 652ms    remaining: 4.56s
10:     learn: 0.4236574        total: 715ms    remaining: 4.48s
11:     learn: 0.4098328        total: 783ms    remaining: 4.43s
12:     learn: 0.3951242        total: 854ms    remaining: 4.4s
13:     learn: 0.3797355        total: 915ms    remaining: 4.31s
14:     learn: 0.3679848        total: 976ms    remaining: 4.23s
15:     learn: 0.3551584        total: 1.04s    remaining: 4.15s
16:     learn: 0.3429591        total: 1.11s    remaining: 4.1s
17:     learn: 0.3319766        total: 1.17s    remaining: 4.03s
18:     learn: 0.3210817        total: 1.23s    remaining: 3.96s
19:     learn: 0.3113728        total: 1.29s    remaining: 3.89s
20:     learn: 0.3015797        total: 1.36s    remaining: 3.83s
21:     learn: 0.2921199        total: 1.43s    remaining: 3.76s
22:     learn: 0.2835705        total: 1.49s    remaining: 3.69s
23:     learn: 0.2764530        total: 1.56s    remaining: 3.63s
24:     learn: 0.2682459        total: 1.63s    remaining: 3.58s
25:     learn: 0.2607393        total: 1.69s    remaining: 3.5s
26:     learn: 0.2549223        total: 1.75s    remaining: 3.43s
27:     learn: 0.2498269        total: 1.81s    remaining: 3.36s
28:     learn: 0.2448656        total: 1.88s    remaining: 3.3s
29:     learn: 0.2396942        total: 1.94s    remaining: 3.23s
30:     learn: 0.2352981        total: 2s       remaining: 3.16s
31:     learn: 0.2313328        total: 2.06s    remaining: 3.09s
32:     learn: 0.2260055        total: 2.13s    remaining: 3.04s
33:     learn: 0.2221582        total: 2.2s     remaining: 2.97s
34:     learn: 0.2182782        total: 2.23s    remaining: 2.87s
35:     learn: 0.2150233        total: 2.29s    remaining: 2.8s
36:     learn: 0.2113354        total: 2.36s    remaining: 2.75s
37:     learn: 0.2078619        total: 2.43s    remaining: 2.68s
38:     learn: 0.2052327        total: 2.49s    remaining: 2.62s
39:     learn: 0.2013665        total: 2.56s    remaining: 2.56s
40:     learn: 0.1978561        total: 2.63s    remaining: 2.5s
41:     learn: 0.1950984        total: 2.69s    remaining: 2.44s
42:     learn: 0.1920523        total: 2.75s    remaining: 2.37s
43:     learn: 0.1897285        total: 2.82s    remaining: 2.31s
44:     learn: 0.1871185        total: 2.89s    remaining: 2.25s
45:     learn: 0.1856624        total: 2.95s    remaining: 2.18s
46:     learn: 0.1837186        total: 3.01s    remaining: 2.12s
47:     learn: 0.1813023        total: 3.07s    remaining: 2.05s
48:     learn: 0.1796220        total: 3.14s    remaining: 1.99s
49:     learn: 0.1776197        total: 3.21s    remaining: 1.92s
50:     learn: 0.1751757        total: 3.27s    remaining: 1.86s
51:     learn: 0.1729348        total: 3.33s    remaining: 1.79s
52:     learn: 0.1708987        total: 3.4s     remaining: 1.73s
53:     learn: 0.1688242        total: 3.46s    remaining: 1.67s
54:     learn: 0.1673901        total: 3.52s    remaining: 1.6s
55:     learn: 0.1658478        total: 3.59s    remaining: 1.54s
56:     learn: 0.1645540        total: 3.66s    remaining: 1.48s
57:     learn: 0.1627966        total: 3.72s    remaining: 1.41s
58:     learn: 0.1616572        total: 3.79s    remaining: 1.35s
59:     learn: 0.1604134        total: 3.85s    remaining: 1.28s
60:     learn: 0.1589421        total: 3.92s    remaining: 1.22s
61:     learn: 0.1571371        total: 3.99s    remaining: 1.16s
62:     learn: 0.1554685        total: 4.05s    remaining: 1.09s
63:     learn: 0.1539043        total: 4.11s    remaining: 1.03s
64:     learn: 0.1528442        total: 4.18s    remaining: 964ms
65:     learn: 0.1515344        total: 4.24s    remaining: 900ms
66:     learn: 0.1507021        total: 4.3s     remaining: 835ms
67:     learn: 0.1496661        total: 4.37s    remaining: 770ms
68:     learn: 0.1480835        total: 4.43s    remaining: 707ms
69:     learn: 0.1470150        total: 4.5s     remaining: 643ms
70:     learn: 0.1459767        total: 4.57s    remaining: 579ms
71:     learn: 0.1450815        total: 4.63s    remaining: 514ms
72:     learn: 0.1440835        total: 4.7s     remaining: 450ms
73:     learn: 0.1429796        total: 4.76s    remaining: 386ms
74:     learn: 0.1422009        total: 4.82s    remaining: 321ms
75:     learn: 0.1409572        total: 4.88s    remaining: 257ms
76:     learn: 0.1400775        total: 4.95s    remaining: 193ms
77:     learn: 0.1390817        total: 5.01s    remaining: 129ms
78:     learn: 0.1387175        total: 5.08s    remaining: 64.3ms
79:     learn: 0.1379462        total: 5.14s    remaining: 0us
0:      learn: 0.6544737        total: 64.1ms   remaining: 5.06s
1:      learn: 0.6243721        total: 128ms    remaining: 4.99s
2:      learn: 0.5967087        total: 193ms    remaining: 4.96s
3:      learn: 0.5714414        total: 257ms    remaining: 4.89s
4:      learn: 0.5438113        total: 338ms    remaining: 5.07s
5:      learn: 0.5205085        total: 400ms    remaining: 4.93s
6:      learn: 0.4973297        total: 462ms    remaining: 4.81s
7:      learn: 0.4784090        total: 524ms    remaining: 4.71s
8:      learn: 0.4614967        total: 600ms    remaining: 4.74s
9:      learn: 0.4428721        total: 662ms    remaining: 4.63s
10:     learn: 0.4288570        total: 724ms    remaining: 4.54s
11:     learn: 0.4138198        total: 786ms    remaining: 4.46s
12:     learn: 0.3982922        total: 857ms    remaining: 4.42s
13:     learn: 0.3836702        total: 920ms    remaining: 4.34s
14:     learn: 0.3703649        total: 994ms    remaining: 4.31s
15:     learn: 0.3603258        total: 1.06s    remaining: 4.23s
16:     learn: 0.3491135        total: 1.13s    remaining: 4.18s
17:     learn: 0.3357067        total: 1.19s    remaining: 4.11s
18:     learn: 0.3262217        total: 1.26s    remaining: 4.04s
19:     learn: 0.3159933        total: 1.34s    remaining: 4.01s
20:     learn: 0.3064733        total: 1.4s     remaining: 3.93s
21:     learn: 0.2980187        total: 1.46s    remaining: 3.86s
22:     learn: 0.2897261        total: 1.53s    remaining: 3.8s
23:     learn: 0.2823463        total: 1.6s     remaining: 3.73s
24:     learn: 0.2749390        total: 1.67s    remaining: 3.67s
25:     learn: 0.2672731        total: 1.74s    remaining: 3.6s
26:     learn: 0.2605535        total: 1.8s     remaining: 3.53s
27:     learn: 0.2547399        total: 1.86s    remaining: 3.46s
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28:     learn: 0.2491060        total: 1.94s    remaining: 3.41s
29:     learn: 0.2455756        total: 2s       remaining: 3.34s
30:     learn: 0.2408174        total: 2.07s    remaining: 3.27s
31:     learn: 0.2361220        total: 2.13s    remaining: 3.19s
32:     learn: 0.2307084        total: 2.2s     remaining: 3.13s
33:     learn: 0.2258431        total: 2.26s    remaining: 3.06s
34:     learn: 0.2221070        total: 2.33s    remaining: 3s
35:     learn: 0.2190044        total: 2.39s    remaining: 2.92s
36:     learn: 0.2156943        total: 2.46s    remaining: 2.87s
37:     learn: 0.2106888        total: 2.53s    remaining: 2.8s
38:     learn: 0.2072490        total: 2.59s    remaining: 2.73s
39:     learn: 0.2039120        total: 2.65s    remaining: 2.65s
40:     learn: 0.2008390        total: 2.72s    remaining: 2.59s
41:     learn: 0.1976952        total: 2.78s    remaining: 2.52s
42:     learn: 0.1953250        total: 2.85s    remaining: 2.45s
43:     learn: 0.1922911        total: 2.91s    remaining: 2.38s
44:     learn: 0.1893275        total: 2.98s    remaining: 2.32s
45:     learn: 0.1866475        total: 3.04s    remaining: 2.25s
46:     learn: 0.1838725        total: 3.11s    remaining: 2.18s
47:     learn: 0.1819540        total: 3.17s    remaining: 2.11s
48:     learn: 0.1802048        total: 3.24s    remaining: 2.05s
49:     learn: 0.1783634        total: 3.3s     remaining: 1.98s
50:     learn: 0.1763171        total: 3.37s    remaining: 1.92s
51:     learn: 0.1743584        total: 3.43s    remaining: 1.85s
52:     learn: 0.1722372        total: 3.51s    remaining: 1.79s
53:     learn: 0.1703785        total: 3.57s    remaining: 1.72s
54:     learn: 0.1692472        total: 3.63s    remaining: 1.65s
55:     learn: 0.1677786        total: 3.69s    remaining: 1.58s
56:     learn: 0.1660164        total: 3.76s    remaining: 1.52s
57:     learn: 0.1640274        total: 3.83s    remaining: 1.45s
58:     learn: 0.1623654        total: 3.89s    remaining: 1.39s
59:     learn: 0.1607201        total: 3.95s    remaining: 1.32s
60:     learn: 0.1590647        total: 4.03s    remaining: 1.25s
61:     learn: 0.1583423        total: 4.06s    remaining: 1.18s
62:     learn: 0.1569575        total: 4.12s    remaining: 1.11s
63:     learn: 0.1556724        total: 4.19s    remaining: 1.05s
64:     learn: 0.1544898        total: 4.26s    remaining: 984ms
65:     learn: 0.1532769        total: 4.33s    remaining: 919ms
66:     learn: 0.1519928        total: 4.4s     remaining: 853ms
67:     learn: 0.1509876        total: 4.46s    remaining: 787ms
68:     learn: 0.1501819        total: 4.53s    remaining: 722ms
69:     learn: 0.1490874        total: 4.59s    remaining: 656ms
70:     learn: 0.1479765        total: 4.66s    remaining: 590ms
71:     learn: 0.1470488        total: 4.72s    remaining: 524ms
72:     learn: 0.1463420        total: 4.79s    remaining: 459ms
73:     learn: 0.1450452        total: 4.85s    remaining: 394ms
74:     learn: 0.1442532        total: 4.92s    remaining: 328ms
75:     learn: 0.1434088        total: 4.98s    remaining: 262ms
76:     learn: 0.1424383        total: 5.05s    remaining: 197ms
77:     learn: 0.1414310        total: 5.12s    remaining: 131ms
78:     learn: 0.1404513        total: 5.18s    remaining: 65.6ms
79:     learn: 0.1399318        total: 5.25s    remaining: 0us
0:      learn: 0.6405767        total: 61.6ms   remaining: 4.87s
1:      learn: 0.5996205        total: 124ms    remaining: 4.84s
2:      learn: 0.5643309        total: 186ms    remaining: 4.78s
3:      learn: 0.5291469        total: 249ms    remaining: 4.73s
4:      learn: 0.4963698        total: 320ms    remaining: 4.8s
5:      learn: 0.4686419        total: 382ms    remaining: 4.71s
6:      learn: 0.4413511        total: 445ms    remaining: 4.64s
7:      learn: 0.4204681        total: 507ms    remaining: 4.57s
8:      learn: 0.3996785        total: 578ms    remaining: 4.56s
9:      learn: 0.3800318        total: 642ms    remaining: 4.49s
10:     learn: 0.3650267        total: 706ms    remaining: 4.43s
11:     learn: 0.3500369        total: 771ms    remaining: 4.37s
12:     learn: 0.3351715        total: 843ms    remaining: 4.34s
13:     learn: 0.3181941        total: 906ms    remaining: 4.27s
14:     learn: 0.3058772        total: 974ms    remaining: 4.22s
15:     learn: 0.2938017        total: 1.04s    remaining: 4.16s
16:     learn: 0.2844585        total: 1.11s    remaining: 4.12s
17:     learn: 0.2744596        total: 1.17s    remaining: 4.04s
18:     learn: 0.2658445        total: 1.24s    remaining: 3.97s
19:     learn: 0.2574277        total: 1.3s     remaining: 3.9s
20:     learn: 0.2491778        total: 1.37s    remaining: 3.84s
21:     learn: 0.2413242        total: 1.43s    remaining: 3.77s
22:     learn: 0.2348949        total: 1.49s    remaining: 3.7s
23:     learn: 0.2289314        total: 1.55s    remaining: 3.63s
24:     learn: 0.2224604        total: 1.63s    remaining: 3.58s
25:     learn: 0.2167816        total: 1.69s    remaining: 3.51s
26:     learn: 0.2126064        total: 1.75s    remaining: 3.45s
27:     learn: 0.2088372        total: 1.82s    remaining: 3.38s
28:     learn: 0.2051392        total: 1.89s    remaining: 3.32s
29:     learn: 0.2018980        total: 1.95s    remaining: 3.25s
30:     learn: 0.1995494        total: 1.99s    remaining: 3.15s
31:     learn: 0.1963690        total: 2.06s    remaining: 3.09s
32:     learn: 0.1933529        total: 2.13s    remaining: 3.03s
33:     learn: 0.1899552        total: 2.19s    remaining: 2.96s
34:     learn: 0.1874936        total: 2.25s    remaining: 2.89s
35:     learn: 0.1855012        total: 2.31s    remaining: 2.83s
36:     learn: 0.1827975        total: 2.38s    remaining: 2.77s
37:     learn: 0.1807538        total: 2.45s    remaining: 2.71s
38:     learn: 0.1790976        total: 2.51s    remaining: 2.64s
39:     learn: 0.1763138        total: 2.58s    remaining: 2.58s
40:     learn: 0.1745826        total: 2.65s    remaining: 2.52s
41:     learn: 0.1722213        total: 2.71s    remaining: 2.45s
42:     learn: 0.1704931        total: 2.77s    remaining: 2.39s
43:     learn: 0.1692102        total: 2.84s    remaining: 2.32s
44:     learn: 0.1675135        total: 2.91s    remaining: 2.26s
45:     learn: 0.1659442        total: 2.97s    remaining: 2.2s
46:     learn: 0.1640419        total: 3.04s    remaining: 2.14s
47:     learn: 0.1622280        total: 3.11s    remaining: 2.07s
48:     learn: 0.1604812        total: 3.18s    remaining: 2.01s
49:     learn: 0.1588540        total: 3.24s    remaining: 1.94s
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50:     learn: 0.1568258        total: 3.3s     remaining: 1.88s
51:     learn: 0.1549497        total: 3.37s    remaining: 1.81s
52:     learn: 0.1533531        total: 3.44s    remaining: 1.75s
53:     learn: 0.1521984        total: 3.5s     remaining: 1.69s
54:     learn: 0.1509152        total: 3.56s    remaining: 1.62s
55:     learn: 0.1495315        total: 3.64s    remaining: 1.56s
56:     learn: 0.1481156        total: 3.7s     remaining: 1.49s
57:     learn: 0.1471316        total: 3.76s    remaining: 1.43s
58:     learn: 0.1456776        total: 3.82s    remaining: 1.36s
59:     learn: 0.1445020        total: 3.9s     remaining: 1.3s
60:     learn: 0.1434291        total: 3.96s    remaining: 1.23s
61:     learn: 0.1420458        total: 4.03s    remaining: 1.17s
62:     learn: 0.1407414        total: 4.09s    remaining: 1.1s
63:     learn: 0.1399374        total: 4.16s    remaining: 1.04s
64:     learn: 0.1393622        total: 4.23s    remaining: 975ms
65:     learn: 0.1384174        total: 4.29s    remaining: 911ms
66:     learn: 0.1376984        total: 4.36s    remaining: 846ms
67:     learn: 0.1367097        total: 4.43s    remaining: 782ms
68:     learn: 0.1355475        total: 4.49s    remaining: 717ms
69:     learn: 0.1347687        total: 4.56s    remaining: 651ms
70:     learn: 0.1338496        total: 4.62s    remaining: 586ms
71:     learn: 0.1333170        total: 4.69s    remaining: 521ms
72:     learn: 0.1326448        total: 4.75s    remaining: 456ms
73:     learn: 0.1320969        total: 4.82s    remaining: 391ms
74:     learn: 0.1310365        total: 4.88s    remaining: 325ms
75:     learn: 0.1300034        total: 4.95s    remaining: 261ms
76:     learn: 0.1293969        total: 5.02s    remaining: 195ms
77:     learn: 0.1283932        total: 5.08s    remaining: 130ms
78:     learn: 0.1276565        total: 5.15s    remaining: 65.2ms
79:     learn: 0.1272210        total: 5.22s    remaining: 0us
0:      learn: 0.6353497        total: 69.7ms   remaining: 5.5s
1:      learn: 0.5921152        total: 133ms    remaining: 5.19s
2:      learn: 0.5535898        total: 194ms    remaining: 4.99s
3:      learn: 0.5196290        total: 256ms    remaining: 4.86s
4:      learn: 0.4834735        total: 328ms    remaining: 4.92s
5:      learn: 0.4542054        total: 392ms    remaining: 4.83s
6:      learn: 0.4282525        total: 456ms    remaining: 4.76s
7:      learn: 0.4081607        total: 521ms    remaining: 4.69s
8:      learn: 0.3830675        total: 590ms    remaining: 4.66s
9:      learn: 0.3637118        total: 661ms    remaining: 4.63s
10:     learn: 0.3494296        total: 732ms    remaining: 4.59s
11:     learn: 0.3359621        total: 798ms    remaining: 4.52s
12:     learn: 0.3209310        total: 867ms    remaining: 4.47s
13:     learn: 0.3056161        total: 932ms    remaining: 4.39s
14:     learn: 0.2945271        total: 994ms    remaining: 4.31s
15:     learn: 0.2825744        total: 1.06s    remaining: 4.26s
16:     learn: 0.2703368        total: 1.13s    remaining: 4.17s
17:     learn: 0.2613187        total: 1.19s    remaining: 4.09s
18:     learn: 0.2528520        total: 1.25s    remaining: 4.01s
19:     learn: 0.2442072        total: 1.32s    remaining: 3.97s
20:     learn: 0.2362274        total: 1.39s    remaining: 3.89s
21:     learn: 0.2285639        total: 1.45s    remaining: 3.81s
22:     learn: 0.2214780        total: 1.55s    remaining: 3.84s
23:     learn: 0.2155780        total: 1.61s    remaining: 3.76s
24:     learn: 0.2093132        total: 1.68s    remaining: 3.7s
25:     learn: 0.2034781        total: 1.74s    remaining: 3.62s
26:     learn: 0.1988842        total: 1.81s    remaining: 3.56s
27:     learn: 0.1947485        total: 1.88s    remaining: 3.49s
28:     learn: 0.1906901        total: 1.95s    remaining: 3.42s
29:     learn: 0.1871079        total: 2.01s    remaining: 3.35s
30:     learn: 0.1843848        total: 2.08s    remaining: 3.29s
31:     learn: 0.1816733        total: 2.14s    remaining: 3.21s
32:     learn: 0.1788240        total: 2.2s     remaining: 3.14s
33:     learn: 0.1751461        total: 2.26s    remaining: 3.06s
34:     learn: 0.1724809        total: 2.34s    remaining: 3s
35:     learn: 0.1699664        total: 2.4s     remaining: 2.93s
36:     learn: 0.1671701        total: 2.46s    remaining: 2.86s
37:     learn: 0.1652455        total: 2.53s    remaining: 2.79s
38:     learn: 0.1633526        total: 2.6s     remaining: 2.73s
39:     learn: 0.1605380        total: 2.67s    remaining: 2.67s
40:     learn: 0.1582161        total: 2.73s    remaining: 2.6s
41:     learn: 0.1564583        total: 2.79s    remaining: 2.52s
42:     learn: 0.1546798        total: 2.87s    remaining: 2.46s
43:     learn: 0.1527895        total: 2.93s    remaining: 2.4s
44:     learn: 0.1503207        total: 2.99s    remaining: 2.33s
45:     learn: 0.1484176        total: 3.05s    remaining: 2.26s
46:     learn: 0.1469035        total: 3.12s    remaining: 2.19s
47:     learn: 0.1459191        total: 3.18s    remaining: 2.12s
48:     learn: 0.1443983        total: 3.24s    remaining: 2.05s
49:     learn: 0.1428755        total: 3.31s    remaining: 1.98s
50:     learn: 0.1412354        total: 3.38s    remaining: 1.92s
51:     learn: 0.1402045        total: 3.44s    remaining: 1.85s
52:     learn: 0.1384916        total: 3.5s     remaining: 1.79s
53:     learn: 0.1369958        total: 3.57s    remaining: 1.72s
54:     learn: 0.1356745        total: 3.64s    remaining: 1.65s
55:     learn: 0.1338516        total: 3.71s    remaining: 1.59s
56:     learn: 0.1328087        total: 3.77s    remaining: 1.52s
57:     learn: 0.1316690        total: 3.84s    remaining: 1.46s
58:     learn: 0.1309102        total: 3.91s    remaining: 1.39s
59:     learn: 0.1297630        total: 3.97s    remaining: 1.32s
60:     learn: 0.1288514        total: 4.03s    remaining: 1.25s
61:     learn: 0.1281114        total: 4.09s    remaining: 1.19s
62:     learn: 0.1269264        total: 4.16s    remaining: 1.12s
63:     learn: 0.1255855        total: 4.23s    remaining: 1.06s
64:     learn: 0.1247680        total: 4.29s    remaining: 990ms
65:     learn: 0.1241446        total: 4.35s    remaining: 923ms
66:     learn: 0.1231742        total: 4.42s    remaining: 858ms
67:     learn: 0.1225475        total: 4.48s    remaining: 791ms
68:     learn: 0.1215522        total: 4.55s    remaining: 725ms
69:     learn: 0.1205536        total: 4.61s    remaining: 659ms
70:     learn: 0.1201911        total: 4.69s    remaining: 595ms
71:     learn: 0.1193865        total: 4.76s    remaining: 529ms
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72:     learn: 0.1183752        total: 4.82s    remaining: 462ms
73:     learn: 0.1174429        total: 4.89s    remaining: 396ms
74:     learn: 0.1166777        total: 4.96s    remaining: 331ms
75:     learn: 0.1162296        total: 5.02s    remaining: 264ms
76:     learn: 0.1157291        total: 5.08s    remaining: 198ms
77:     learn: 0.1150606        total: 5.14s    remaining: 132ms
78:     learn: 0.1142144        total: 5.21s    remaining: 66ms
79:     learn: 0.1134072        total: 5.27s    remaining: 0us
0:      learn: 0.6359135        total: 70.2ms   remaining: 5.54s
1:      learn: 0.5929209        total: 133ms    remaining: 5.18s
2:      learn: 0.5547103        total: 196ms    remaining: 5.03s
3:      learn: 0.5209719        total: 263ms    remaining: 4.99s
4:      learn: 0.4852138        total: 341ms    remaining: 5.11s
5:      learn: 0.4562041        total: 403ms    remaining: 4.97s
6:      learn: 0.4282418        total: 465ms    remaining: 4.85s
7:      learn: 0.4083119        total: 527ms    remaining: 4.74s
8:      learn: 0.3891278        total: 596ms    remaining: 4.7s
9:      learn: 0.3702296        total: 659ms    remaining: 4.61s
10:     learn: 0.3553311        total: 722ms    remaining: 4.53s
11:     learn: 0.3395095        total: 783ms    remaining: 4.44s
12:     learn: 0.3229120        total: 855ms    remaining: 4.41s
13:     learn: 0.3082493        total: 921ms    remaining: 4.34s
14:     learn: 0.2955861        total: 985ms    remaining: 4.27s
15:     learn: 0.2860498        total: 1.05s    remaining: 4.2s
16:     learn: 0.2742004        total: 1.12s    remaining: 4.15s
17:     learn: 0.2636846        total: 1.18s    remaining: 4.07s
18:     learn: 0.2554040        total: 1.25s    remaining: 4.01s
19:     learn: 0.2474190        total: 1.32s    remaining: 3.95s
20:     learn: 0.2396295        total: 1.39s    remaining: 3.9s
21:     learn: 0.2334591        total: 1.45s    remaining: 3.82s
22:     learn: 0.2265431        total: 1.51s    remaining: 3.75s
23:     learn: 0.2206535        total: 1.57s    remaining: 3.67s
24:     learn: 0.2147171        total: 1.64s    remaining: 3.62s
25:     learn: 0.2083264        total: 1.71s    remaining: 3.54s
26:     learn: 0.2034177        total: 1.77s    remaining: 3.47s
27:     learn: 0.1987278        total: 1.83s    remaining: 3.4s
28:     learn: 0.1953152        total: 1.9s     remaining: 3.34s
29:     learn: 0.1911483        total: 1.96s    remaining: 3.27s
30:     learn: 0.1884197        total: 2.02s    remaining: 3.2s
31:     learn: 0.1845792        total: 2.09s    remaining: 3.13s
32:     learn: 0.1803822        total: 2.16s    remaining: 3.07s
33:     learn: 0.1772745        total: 2.22s    remaining: 3s
34:     learn: 0.1743904        total: 2.28s    remaining: 2.93s
35:     learn: 0.1719947        total: 2.35s    remaining: 2.87s
36:     learn: 0.1696202        total: 2.42s    remaining: 2.81s
37:     learn: 0.1667876        total: 2.48s    remaining: 2.75s
38:     learn: 0.1646059        total: 2.55s    remaining: 2.68s
39:     learn: 0.1628898        total: 2.61s    remaining: 2.61s
40:     learn: 0.1607439        total: 2.68s    remaining: 2.55s
41:     learn: 0.1588222        total: 2.75s    remaining: 2.48s
42:     learn: 0.1572630        total: 2.81s    remaining: 2.42s
43:     learn: 0.1550289        total: 2.87s    remaining: 2.35s
44:     learn: 0.1527577        total: 2.94s    remaining: 2.29s
45:     learn: 0.1517774        total: 3.01s    remaining: 2.22s
46:     learn: 0.1497283        total: 3.07s    remaining: 2.16s
47:     learn: 0.1478776        total: 3.13s    remaining: 2.09s
48:     learn: 0.1461697        total: 3.2s     remaining: 2.03s
49:     learn: 0.1450131        total: 3.27s    remaining: 1.96s
50:     learn: 0.1429934        total: 3.34s    remaining: 1.9s
51:     learn: 0.1417741        total: 3.4s     remaining: 1.83s
52:     learn: 0.1402628        total: 3.47s    remaining: 1.77s
53:     learn: 0.1389643        total: 3.53s    remaining: 1.7s
54:     learn: 0.1382555        total: 3.59s    remaining: 1.63s
55:     learn: 0.1369022        total: 3.66s    remaining: 1.57s
56:     learn: 0.1357385        total: 3.73s    remaining: 1.5s
57:     learn: 0.1342481        total: 3.79s    remaining: 1.44s
58:     learn: 0.1328087        total: 3.85s    remaining: 1.37s
59:     learn: 0.1314383        total: 3.91s    remaining: 1.3s
60:     learn: 0.1303359        total: 3.98s    remaining: 1.24s
61:     learn: 0.1296234        total: 4.05s    remaining: 1.18s
62:     learn: 0.1287660        total: 4.12s    remaining: 1.11s
63:     learn: 0.1278191        total: 4.18s    remaining: 1.04s
64:     learn: 0.1267352        total: 4.25s    remaining: 981ms
65:     learn: 0.1258630        total: 4.32s    remaining: 916ms
66:     learn: 0.1250921        total: 4.39s    remaining: 851ms
67:     learn: 0.1243756        total: 4.45s    remaining: 785ms
68:     learn: 0.1232851        total: 4.52s    remaining: 721ms
69:     learn: 0.1223489        total: 4.58s    remaining: 655ms
70:     learn: 0.1219980        total: 4.65s    remaining: 589ms
71:     learn: 0.1211863        total: 4.71s    remaining: 523ms
72:     learn: 0.1205269        total: 4.78s    remaining: 458ms
73:     learn: 0.1197791        total: 4.84s    remaining: 393ms
74:     learn: 0.1189355        total: 4.91s    remaining: 327ms
75:     learn: 0.1182368        total: 4.97s    remaining: 262ms
76:     learn: 0.1173689        total: 5.04s    remaining: 197ms
77:     learn: 0.1162632        total: 5.11s    remaining: 131ms
78:     learn: 0.1154873        total: 5.17s    remaining: 65.5ms
79:     learn: 0.1151215        total: 5.23s    remaining: 0us
0:      learn: 0.6239310        total: 62ms     remaining: 4.9s
1:      learn: 0.5718186        total: 125ms    remaining: 4.86s
2:      learn: 0.5283946        total: 186ms    remaining: 4.78s
3:      learn: 0.4863956        total: 251ms    remaining: 4.76s
4:      learn: 0.4495513        total: 321ms    remaining: 4.82s
5:      learn: 0.4185317        total: 384ms    remaining: 4.74s
6:      learn: 0.3889110        total: 447ms    remaining: 4.67s
7:      learn: 0.3671180        total: 513ms    remaining: 4.62s
8:      learn: 0.3458984        total: 585ms    remaining: 4.62s
9:      learn: 0.3256360        total: 650ms    remaining: 4.55s
10:     learn: 0.3113740        total: 713ms    remaining: 4.47s
11:     learn: 0.2970701        total: 776ms    remaining: 4.4s
12:     learn: 0.2834752        total: 847ms    remaining: 4.36s
13:     learn: 0.2687126        total: 909ms    remaining: 4.28s
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14:     learn: 0.2579867        total: 973ms    remaining: 4.21s
15:     learn: 0.2487112        total: 1.04s    remaining: 4.16s
16:     learn: 0.2405785        total: 1.11s    remaining: 4.12s
17:     learn: 0.2317074        total: 1.17s    remaining: 4.04s
18:     learn: 0.2250600        total: 1.23s    remaining: 3.96s
19:     learn: 0.2198016        total: 1.3s     remaining: 3.89s
20:     learn: 0.2135793        total: 1.37s    remaining: 3.84s
21:     learn: 0.2081890        total: 1.43s    remaining: 3.77s
22:     learn: 0.2025398        total: 1.5s     remaining: 3.71s
23:     learn: 0.1978335        total: 1.56s    remaining: 3.64s
24:     learn: 0.1927684        total: 1.64s    remaining: 3.6s
25:     learn: 0.1880674        total: 1.7s     remaining: 3.53s
26:     learn: 0.1847693        total: 1.76s    remaining: 3.46s
27:     learn: 0.1819173        total: 1.83s    remaining: 3.39s
28:     learn: 0.1785120        total: 1.9s     remaining: 3.34s
29:     learn: 0.1761272        total: 1.96s    remaining: 3.27s
30:     learn: 0.1743645        total: 1.97s    remaining: 3.12s
31:     learn: 0.1718918        total: 2.04s    remaining: 3.06s
32:     learn: 0.1686857        total: 2.11s    remaining: 3.01s
33:     learn: 0.1663814        total: 2.18s    remaining: 2.94s
34:     learn: 0.1638285        total: 2.24s    remaining: 2.88s
35:     learn: 0.1622072        total: 2.3s     remaining: 2.81s
36:     learn: 0.1596769        total: 2.37s    remaining: 2.76s
37:     learn: 0.1573897        total: 2.43s    remaining: 2.69s
38:     learn: 0.1553698        total: 2.5s     remaining: 2.63s
39:     learn: 0.1537662        total: 2.56s    remaining: 2.56s
40:     learn: 0.1524026        total: 2.63s    remaining: 2.5s
41:     learn: 0.1507448        total: 2.69s    remaining: 2.44s
42:     learn: 0.1497027        total: 2.76s    remaining: 2.37s
43:     learn: 0.1473185        total: 2.82s    remaining: 2.31s
44:     learn: 0.1461550        total: 2.9s     remaining: 2.25s
45:     learn: 0.1445967        total: 2.96s    remaining: 2.19s
46:     learn: 0.1432039        total: 3.03s    remaining: 2.13s
47:     learn: 0.1419276        total: 3.1s     remaining: 2.06s
48:     learn: 0.1401957        total: 3.17s    remaining: 2s
49:     learn: 0.1382599        total: 3.23s    remaining: 1.94s
50:     learn: 0.1366014        total: 3.29s    remaining: 1.87s
51:     learn: 0.1358690        total: 3.36s    remaining: 1.81s
52:     learn: 0.1341076        total: 3.43s    remaining: 1.75s
53:     learn: 0.1331534        total: 3.49s    remaining: 1.68s
54:     learn: 0.1317607        total: 3.55s    remaining: 1.61s
55:     learn: 0.1302835        total: 3.62s    remaining: 1.55s
56:     learn: 0.1295677        total: 3.69s    remaining: 1.49s
57:     learn: 0.1289158        total: 3.75s    remaining: 1.42s
58:     learn: 0.1277756        total: 3.82s    remaining: 1.36s
59:     learn: 0.1265597        total: 3.88s    remaining: 1.29s
60:     learn: 0.1254814        total: 3.95s    remaining: 1.23s
61:     learn: 0.1247039        total: 4.02s    remaining: 1.17s
62:     learn: 0.1241899        total: 4.08s    remaining: 1.1s
63:     learn: 0.1236659        total: 4.14s    remaining: 1.04s
64:     learn: 0.1227985        total: 4.21s    remaining: 973ms
65:     learn: 0.1218466        total: 4.28s    remaining: 907ms
66:     learn: 0.1204131        total: 4.34s    remaining: 842ms
67:     learn: 0.1194781        total: 4.4s     remaining: 777ms
68:     learn: 0.1184859        total: 4.47s    remaining: 713ms
69:     learn: 0.1173508        total: 4.53s    remaining: 647ms
70:     learn: 0.1167230        total: 4.59s    remaining: 582ms
71:     learn: 0.1162203        total: 4.66s    remaining: 517ms
72:     learn: 0.1155052        total: 4.73s    remaining: 453ms
73:     learn: 0.1147068        total: 4.79s    remaining: 388ms
74:     learn: 0.1144198        total: 4.85s    remaining: 323ms
75:     learn: 0.1137842        total: 4.91s    remaining: 259ms
76:     learn: 0.1134772        total: 4.98s    remaining: 194ms
77:     learn: 0.1128541        total: 5.05s    remaining: 130ms
78:     learn: 0.1117335        total: 5.12s    remaining: 64.8ms
79:     learn: 0.1113213        total: 5.18s    remaining: 0us
0:      learn: 0.6171815        total: 62.4ms   remaining: 4.93s
1:      learn: 0.5623875        total: 124ms    remaining: 4.83s
2:      learn: 0.5152374        total: 187ms    remaining: 4.79s
3:      learn: 0.4750427        total: 248ms    remaining: 4.71s
4:      learn: 0.4330383        total: 318ms    remaining: 4.77s
5:      learn: 0.4006397        total: 380ms    remaining: 4.68s
6:      learn: 0.3730126        total: 441ms    remaining: 4.6s
7:      learn: 0.3522459        total: 502ms    remaining: 4.52s
8:      learn: 0.3297206        total: 574ms    remaining: 4.53s
9:      learn: 0.3106498        total: 641ms    remaining: 4.48s
10:     learn: 0.2956191        total: 703ms    remaining: 4.41s
11:     learn: 0.2828519        total: 773ms    remaining: 4.38s
12:     learn: 0.2683700        total: 847ms    remaining: 4.36s
13:     learn: 0.2548416        total: 909ms    remaining: 4.29s
14:     learn: 0.2445310        total: 971ms    remaining: 4.21s
15:     learn: 0.2368503        total: 1.03s    remaining: 4.13s
16:     learn: 0.2261921        total: 1.1s     remaining: 4.08s
17:     learn: 0.2163627        total: 1.16s    remaining: 4.01s
18:     learn: 0.2087138        total: 1.22s    remaining: 3.93s
19:     learn: 0.2028515        total: 1.28s    remaining: 3.86s
20:     learn: 0.1969152        total: 1.36s    remaining: 3.81s
21:     learn: 0.1903933        total: 1.42s    remaining: 3.74s
22:     learn: 0.1852247        total: 1.48s    remaining: 3.67s
23:     learn: 0.1797691        total: 1.54s    remaining: 3.6s
24:     learn: 0.1753822        total: 1.61s    remaining: 3.54s
25:     learn: 0.1709508        total: 1.67s    remaining: 3.48s
26:     learn: 0.1678978        total: 1.74s    remaining: 3.42s
27:     learn: 0.1655649        total: 1.8s     remaining: 3.35s
28:     learn: 0.1627581        total: 1.87s    remaining: 3.3s
29:     learn: 0.1602145        total: 1.94s    remaining: 3.23s
30:     learn: 0.1583417        total: 2.01s    remaining: 3.17s
31:     learn: 0.1568318        total: 2.07s    remaining: 3.1s
32:     learn: 0.1537695        total: 2.14s    remaining: 3.04s
33:     learn: 0.1509333        total: 2.2s     remaining: 2.98s
34:     learn: 0.1489242        total: 2.26s    remaining: 2.91s
35:     learn: 0.1469552        total: 2.32s    remaining: 2.84s
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36:     learn: 0.1447380        total: 2.39s    remaining: 2.78s
37:     learn: 0.1430591        total: 2.46s    remaining: 2.72s
38:     learn: 0.1415960        total: 2.52s    remaining: 2.65s
39:     learn: 0.1392770        total: 2.58s    remaining: 2.58s
40:     learn: 0.1371188        total: 2.65s    remaining: 2.52s
41:     learn: 0.1355170        total: 2.71s    remaining: 2.45s
42:     learn: 0.1339942        total: 2.78s    remaining: 2.39s
43:     learn: 0.1320753        total: 2.84s    remaining: 2.33s
44:     learn: 0.1297115        total: 2.91s    remaining: 2.27s
45:     learn: 0.1286344        total: 2.98s    remaining: 2.2s
46:     learn: 0.1270824        total: 3.04s    remaining: 2.13s
47:     learn: 0.1258805        total: 3.1s     remaining: 2.07s
48:     learn: 0.1248059        total: 3.17s    remaining: 2.01s
49:     learn: 0.1233328        total: 3.24s    remaining: 1.94s
50:     learn: 0.1221699        total: 3.3s     remaining: 1.88s
51:     learn: 0.1214627        total: 3.37s    remaining: 1.81s
52:     learn: 0.1199529        total: 3.44s    remaining: 1.75s
53:     learn: 0.1183467        total: 3.5s     remaining: 1.69s
54:     learn: 0.1178950        total: 3.56s    remaining: 1.62s
55:     learn: 0.1163585        total: 3.62s    remaining: 1.55s
56:     learn: 0.1156988        total: 3.69s    remaining: 1.49s
57:     learn: 0.1140227        total: 3.76s    remaining: 1.43s
58:     learn: 0.1128883        total: 3.83s    remaining: 1.36s
59:     learn: 0.1123318        total: 3.89s    remaining: 1.3s
60:     learn: 0.1109377        total: 3.97s    remaining: 1.24s
61:     learn: 0.1103783        total: 4.04s    remaining: 1.17s
62:     learn: 0.1099997        total: 4.1s     remaining: 1.11s
63:     learn: 0.1086760        total: 4.17s    remaining: 1.04s
64:     learn: 0.1082588        total: 4.24s    remaining: 978ms
65:     learn: 0.1077245        total: 4.3s     remaining: 913ms
66:     learn: 0.1064655        total: 4.36s    remaining: 847ms
67:     learn: 0.1055730        total: 4.44s    remaining: 783ms
68:     learn: 0.1045349        total: 4.5s     remaining: 717ms
69:     learn: 0.1039016        total: 4.56s    remaining: 651ms
70:     learn: 0.1034796        total: 4.62s    remaining: 586ms
71:     learn: 0.1024758        total: 4.69s    remaining: 521ms
72:     learn: 0.1012859        total: 4.75s    remaining: 456ms
73:     learn: 0.1004897        total: 4.82s    remaining: 391ms
74:     learn: 0.0994806        total: 4.89s    remaining: 326ms
75:     learn: 0.0989034        total: 4.96s    remaining: 261ms
76:     learn: 0.0981296        total: 5.02s    remaining: 196ms
77:     learn: 0.0974566        total: 5.09s    remaining: 130ms
78:     learn: 0.0963567        total: 5.15s    remaining: 65.2ms
79:     learn: 0.0955816        total: 5.22s    remaining: 0us
0:      learn: 0.6178688        total: 63.3ms   remaining: 5s
1:      learn: 0.5633378        total: 132ms    remaining: 5.14s
2:      learn: 0.5165054        total: 195ms    remaining: 5s
3:      learn: 0.4765075        total: 256ms    remaining: 4.87s
4:      learn: 0.4356028        total: 319ms    remaining: 4.78s
5:      learn: 0.4025436        total: 388ms    remaining: 4.79s
6:      learn: 0.3728228        total: 459ms    remaining: 4.78s
7:      learn: 0.3519263        total: 521ms    remaining: 4.69s
8:      learn: 0.3321275        total: 584ms    remaining: 4.6s
9:      learn: 0.3139645        total: 654ms    remaining: 4.58s
10:     learn: 0.2999816        total: 717ms    remaining: 4.5s
11:     learn: 0.2850933        total: 781ms    remaining: 4.43s
12:     learn: 0.2699590        total: 843ms    remaining: 4.34s
13:     learn: 0.2566115        total: 912ms    remaining: 4.3s
14:     learn: 0.2440397        total: 979ms    remaining: 4.24s
15:     learn: 0.2337842        total: 1.04s    remaining: 4.17s
16:     learn: 0.2242737        total: 1.1s     remaining: 4.09s
17:     learn: 0.2153247        total: 1.17s    remaining: 4.05s
18:     learn: 0.2082660        total: 1.24s    remaining: 3.97s
19:     learn: 0.2024959        total: 1.3s     remaining: 3.9s
20:     learn: 0.1965595        total: 1.36s    remaining: 3.82s
21:     learn: 0.1907933        total: 1.44s    remaining: 3.78s
22:     learn: 0.1859305        total: 1.5s     remaining: 3.71s
23:     learn: 0.1812887        total: 1.56s    remaining: 3.64s
24:     learn: 0.1765910        total: 1.62s    remaining: 3.57s
25:     learn: 0.1719276        total: 1.7s     remaining: 3.52s
26:     learn: 0.1684441        total: 1.76s    remaining: 3.46s
27:     learn: 0.1654584        total: 1.82s    remaining: 3.39s
28:     learn: 0.1624572        total: 1.89s    remaining: 3.32s
29:     learn: 0.1606699        total: 1.96s    remaining: 3.27s
30:     learn: 0.1589476        total: 2.02s    remaining: 3.2s
31:     learn: 0.1567584        total: 2.09s    remaining: 3.13s
32:     learn: 0.1546824        total: 2.15s    remaining: 3.07s
33:     learn: 0.1519500        total: 2.22s    remaining: 3.01s
34:     learn: 0.1504154        total: 2.29s    remaining: 2.94s
35:     learn: 0.1486230        total: 2.35s    remaining: 2.87s
36:     learn: 0.1470766        total: 2.41s    remaining: 2.8s
37:     learn: 0.1452284        total: 2.49s    remaining: 2.75s
38:     learn: 0.1435844        total: 2.55s    remaining: 2.69s
39:     learn: 0.1418675        total: 2.62s    remaining: 2.62s
40:     learn: 0.1404627        total: 2.68s    remaining: 2.55s
41:     learn: 0.1384990        total: 2.76s    remaining: 2.49s
42:     learn: 0.1372806        total: 2.82s    remaining: 2.43s
43:     learn: 0.1353383        total: 2.88s    remaining: 2.36s
44:     learn: 0.1331374        total: 2.95s    remaining: 2.29s
45:     learn: 0.1316773        total: 3.02s    remaining: 2.23s
46:     learn: 0.1304579        total: 3.08s    remaining: 2.16s
47:     learn: 0.1290523        total: 3.14s    remaining: 2.1s
48:     learn: 0.1279120        total: 3.21s    remaining: 2.03s
49:     learn: 0.1271195        total: 3.28s    remaining: 1.97s
50:     learn: 0.1257334        total: 3.34s    remaining: 1.9s
51:     learn: 0.1248637        total: 3.41s    remaining: 1.83s
52:     learn: 0.1235070        total: 3.48s    remaining: 1.77s
53:     learn: 0.1222623        total: 3.55s    remaining: 1.71s
54:     learn: 0.1218733        total: 3.62s    remaining: 1.64s
55:     learn: 0.1208735        total: 3.68s    remaining: 1.58s
56:     learn: 0.1198247        total: 3.74s    remaining: 1.51s
57:     learn: 0.1185601        total: 3.81s    remaining: 1.45s
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58:     learn: 0.1173656        total: 3.88s    remaining: 1.38s
59:     learn: 0.1158636        total: 3.94s    remaining: 1.31s
60:     learn: 0.1151075        total: 4s       remaining: 1.25s
61:     learn: 0.1140085        total: 4.08s    remaining: 1.18s
62:     learn: 0.1130084        total: 4.14s    remaining: 1.12s
63:     learn: 0.1121582        total: 4.2s     remaining: 1.05s
64:     learn: 0.1108909        total: 4.26s    remaining: 984ms
65:     learn: 0.1101080        total: 4.33s    remaining: 919ms
66:     learn: 0.1088338        total: 4.4s     remaining: 853ms
67:     learn: 0.1083752        total: 4.46s    remaining: 787ms
68:     learn: 0.1078381        total: 4.53s    remaining: 722ms
69:     learn: 0.1070600        total: 4.6s     remaining: 657ms
70:     learn: 0.1061523        total: 4.66s    remaining: 591ms
71:     learn: 0.1054264        total: 4.73s    remaining: 526ms
72:     learn: 0.1045404        total: 4.79s    remaining: 460ms
73:     learn: 0.1039008        total: 4.87s    remaining: 395ms
74:     learn: 0.1031445        total: 4.93s    remaining: 329ms
75:     learn: 0.1027041        total: 4.99s    remaining: 263ms
76:     learn: 0.1017017        total: 5.05s    remaining: 197ms
77:     learn: 0.1004931        total: 5.13s    remaining: 131ms
78:     learn: 0.1000225        total: 5.19s    remaining: 65.7ms
79:     learn: 0.0996009        total: 5.25s    remaining: 0us
0:      learn: 0.6751837        total: 63.5ms   remaining: 5.65s
1:      learn: 0.6602297        total: 135ms    remaining: 5.96s
2:      learn: 0.6454463        total: 199ms    remaining: 5.76s
3:      learn: 0.6304676        total: 262ms    remaining: 5.63s
4:      learn: 0.6160483        total: 337ms    remaining: 5.72s
5:      learn: 0.6031485        total: 400ms    remaining: 5.6s
6:      learn: 0.5899825        total: 461ms    remaining: 5.47s
7:      learn: 0.5784494        total: 526ms    remaining: 5.39s
8:      learn: 0.5665641        total: 604ms    remaining: 5.43s
9:      learn: 0.5547034        total: 669ms    remaining: 5.35s
10:     learn: 0.5436993        total: 735ms    remaining: 5.28s
11:     learn: 0.5335351        total: 799ms    remaining: 5.19s
12:     learn: 0.5228803        total: 869ms    remaining: 5.15s
13:     learn: 0.5102639        total: 933ms    remaining: 5.07s
14:     learn: 0.4989545        total: 997ms    remaining: 4.99s
15:     learn: 0.4889242        total: 1.06s    remaining: 4.91s
16:     learn: 0.4795053        total: 1.14s    remaining: 4.89s
17:     learn: 0.4696517        total: 1.2s     remaining: 4.81s
18:     learn: 0.4610669        total: 1.26s    remaining: 4.72s
19:     learn: 0.4522233        total: 1.33s    remaining: 4.65s
20:     learn: 0.4443485        total: 1.4s     remaining: 4.59s
21:     learn: 0.4360229        total: 1.46s    remaining: 4.51s
22:     learn: 0.4280483        total: 1.52s    remaining: 4.43s
23:     learn: 0.4202252        total: 1.58s    remaining: 4.36s
24:     learn: 0.4132754        total: 1.63s    remaining: 4.24s
25:     learn: 0.4057576        total: 1.69s    remaining: 4.17s
26:     learn: 0.3985751        total: 1.75s    remaining: 4.09s
27:     learn: 0.3921162        total: 1.82s    remaining: 4.02s
28:     learn: 0.3850611        total: 1.89s    remaining: 3.97s
29:     learn: 0.3785935        total: 1.95s    remaining: 3.9s
30:     learn: 0.3731629        total: 2.01s    remaining: 3.83s
31:     learn: 0.3678968        total: 2.07s    remaining: 3.76s
32:     learn: 0.3622126        total: 2.15s    remaining: 3.71s
33:     learn: 0.3558665        total: 2.22s    remaining: 3.65s
34:     learn: 0.3503487        total: 2.28s    remaining: 3.58s
35:     learn: 0.3454439        total: 2.34s    remaining: 3.51s
36:     learn: 0.3403020        total: 2.41s    remaining: 3.45s
37:     learn: 0.3355499        total: 2.47s    remaining: 3.38s
38:     learn: 0.3313786        total: 2.54s    remaining: 3.31s
39:     learn: 0.3265447        total: 2.6s     remaining: 3.25s
40:     learn: 0.3221439        total: 2.67s    remaining: 3.19s
41:     learn: 0.3182402        total: 2.73s    remaining: 3.12s
42:     learn: 0.3142320        total: 2.8s     remaining: 3.06s
43:     learn: 0.3102764        total: 2.87s    remaining: 3s
44:     learn: 0.3060148        total: 2.94s    remaining: 2.94s
45:     learn: 0.3023363        total: 3s       remaining: 2.87s
46:     learn: 0.2990242        total: 3.07s    remaining: 2.81s
47:     learn: 0.2956283        total: 3.13s    remaining: 2.74s
48:     learn: 0.2917702        total: 3.2s     remaining: 2.68s
49:     learn: 0.2882910        total: 3.27s    remaining: 2.61s
50:     learn: 0.2848467        total: 3.33s    remaining: 2.55s
51:     learn: 0.2812317        total: 3.4s     remaining: 2.48s
52:     learn: 0.2777402        total: 3.47s    remaining: 2.42s
53:     learn: 0.2746565        total: 3.53s    remaining: 2.35s
54:     learn: 0.2718787        total: 3.59s    remaining: 2.29s
55:     learn: 0.2691514        total: 3.65s    remaining: 2.22s
56:     learn: 0.2664806        total: 3.73s    remaining: 2.16s
57:     learn: 0.2643008        total: 3.79s    remaining: 2.09s
58:     learn: 0.2617112        total: 3.85s    remaining: 2.02s
59:     learn: 0.2589477        total: 3.92s    remaining: 1.96s
60:     learn: 0.2564266        total: 3.99s    remaining: 1.9s
61:     learn: 0.2535901        total: 4.06s    remaining: 1.83s
62:     learn: 0.2511621        total: 4.12s    remaining: 1.77s
63:     learn: 0.2488866        total: 4.2s     remaining: 1.71s
64:     learn: 0.2466017        total: 4.26s    remaining: 1.64s
65:     learn: 0.2441167        total: 4.33s    remaining: 1.57s
66:     learn: 0.2420935        total: 4.39s    remaining: 1.51s
67:     learn: 0.2401606        total: 4.47s    remaining: 1.45s
68:     learn: 0.2379425        total: 4.53s    remaining: 1.38s
69:     learn: 0.2356859        total: 4.59s    remaining: 1.31s
70:     learn: 0.2336955        total: 4.66s    remaining: 1.25s
71:     learn: 0.2318063        total: 4.73s    remaining: 1.18s
72:     learn: 0.2301906        total: 4.79s    remaining: 1.12s
73:     learn: 0.2284850        total: 4.86s    remaining: 1.05s
74:     learn: 0.2269975        total: 4.92s    remaining: 984ms
75:     learn: 0.2251348        total: 4.99s    remaining: 919ms
76:     learn: 0.2238033        total: 5.01s    remaining: 846ms
77:     learn: 0.2223040        total: 5.07s    remaining: 780ms
78:     learn: 0.2204589        total: 5.13s    remaining: 715ms
79:     learn: 0.2188231        total: 5.21s    remaining: 651ms
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80:     learn: 0.2170442        total: 5.28s    remaining: 586ms
81:     learn: 0.2155983        total: 5.34s    remaining: 521ms
82:     learn: 0.2143196        total: 5.4s     remaining: 456ms
83:     learn: 0.2129395        total: 5.47s    remaining: 391ms
84:     learn: 0.2117390        total: 5.54s    remaining: 326ms
85:     learn: 0.2100351        total: 5.6s     remaining: 261ms
86:     learn: 0.2087151        total: 5.66s    remaining: 195ms
87:     learn: 0.2072727        total: 5.74s    remaining: 130ms
88:     learn: 0.2060930        total: 5.8s     remaining: 65.2ms
89:     learn: 0.2047911        total: 5.87s    remaining: 0us
0:      learn: 0.6733307        total: 61.5ms   remaining: 5.47s
1:      learn: 0.6574651        total: 124ms    remaining: 5.44s
2:      learn: 0.6423078        total: 193ms    remaining: 5.58s
3:      learn: 0.6280499        total: 254ms    remaining: 5.46s
4:      learn: 0.6119764        total: 324ms    remaining: 5.5s
5:      learn: 0.5974304        total: 386ms    remaining: 5.4s
6:      learn: 0.5837695        total: 448ms    remaining: 5.31s
7:      learn: 0.5722608        total: 511ms    remaining: 5.23s
8:      learn: 0.5581532        total: 581ms    remaining: 5.23s
9:      learn: 0.5450776        total: 644ms    remaining: 5.16s
10:     learn: 0.5345495        total: 708ms    remaining: 5.08s
11:     learn: 0.5245084        total: 769ms    remaining: 5s
12:     learn: 0.5134314        total: 837ms    remaining: 4.96s
13:     learn: 0.5015661        total: 903ms    remaining: 4.9s
14:     learn: 0.4906146        total: 964ms    remaining: 4.82s
15:     learn: 0.4799681        total: 1.03s    remaining: 4.75s
16:     learn: 0.4697269        total: 1.1s     remaining: 4.71s
17:     learn: 0.4599618        total: 1.16s    remaining: 4.64s
18:     learn: 0.4514277        total: 1.23s    remaining: 4.59s
19:     learn: 0.4425577        total: 1.29s    remaining: 4.52s
20:     learn: 0.4330139        total: 1.36s    remaining: 4.47s
21:     learn: 0.4245915        total: 1.42s    remaining: 4.4s
22:     learn: 0.4157737        total: 1.49s    remaining: 4.33s
23:     learn: 0.4078461        total: 1.55s    remaining: 4.26s
24:     learn: 0.3994713        total: 1.62s    remaining: 4.21s
25:     learn: 0.3906338        total: 1.68s    remaining: 4.14s
26:     learn: 0.3837601        total: 1.74s    remaining: 4.07s
27:     learn: 0.3776733        total: 1.8s     remaining: 4s
28:     learn: 0.3709407        total: 1.88s    remaining: 3.94s
29:     learn: 0.3645547        total: 1.94s    remaining: 3.88s
30:     learn: 0.3588721        total: 2s       remaining: 3.81s
31:     learn: 0.3533189        total: 2.06s    remaining: 3.74s
32:     learn: 0.3463799        total: 2.14s    remaining: 3.7s
33:     learn: 0.3405682        total: 2.22s    remaining: 3.65s
34:     learn: 0.3349639        total: 2.28s    remaining: 3.59s
35:     learn: 0.3309261        total: 2.35s    remaining: 3.52s
36:     learn: 0.3260079        total: 2.42s    remaining: 3.46s
37:     learn: 0.3201463        total: 2.48s    remaining: 3.4s
38:     learn: 0.3161146        total: 2.54s    remaining: 3.33s
39:     learn: 0.3107906        total: 2.61s    remaining: 3.26s
40:     learn: 0.3058559        total: 2.67s    remaining: 3.19s
41:     learn: 0.3013465        total: 2.73s    remaining: 3.13s
42:     learn: 0.2974714        total: 2.8s     remaining: 3.06s
43:     learn: 0.2930423        total: 2.87s    remaining: 3s
44:     learn: 0.2890118        total: 2.93s    remaining: 2.93s
45:     learn: 0.2862115        total: 2.99s    remaining: 2.86s
46:     learn: 0.2824689        total: 3.05s    remaining: 2.79s
47:     learn: 0.2792255        total: 3.13s    remaining: 2.74s
48:     learn: 0.2761512        total: 3.19s    remaining: 2.67s
49:     learn: 0.2726204        total: 3.26s    remaining: 2.61s
50:     learn: 0.2689020        total: 3.32s    remaining: 2.54s
51:     learn: 0.2656368        total: 3.39s    remaining: 2.48s
52:     learn: 0.2625087        total: 3.46s    remaining: 2.41s
53:     learn: 0.2589296        total: 3.53s    remaining: 2.35s
54:     learn: 0.2569181        total: 3.59s    remaining: 2.28s
55:     learn: 0.2535212        total: 3.66s    remaining: 2.22s
56:     learn: 0.2501648        total: 3.72s    remaining: 2.15s
57:     learn: 0.2474302        total: 3.78s    remaining: 2.09s
58:     learn: 0.2451064        total: 3.84s    remaining: 2.02s
59:     learn: 0.2432863        total: 3.91s    remaining: 1.96s
60:     learn: 0.2403667        total: 3.97s    remaining: 1.89s
61:     learn: 0.2381131        total: 4.03s    remaining: 1.82s
62:     learn: 0.2360525        total: 4.09s    remaining: 1.75s
63:     learn: 0.2337598        total: 4.17s    remaining: 1.69s
64:     learn: 0.2315956        total: 4.24s    remaining: 1.63s
65:     learn: 0.2297513        total: 4.3s     remaining: 1.56s
66:     learn: 0.2275609        total: 4.36s    remaining: 1.5s
67:     learn: 0.2261473        total: 4.43s    remaining: 1.43s
68:     learn: 0.2237818        total: 4.49s    remaining: 1.37s
69:     learn: 0.2215920        total: 4.55s    remaining: 1.3s
70:     learn: 0.2197051        total: 4.62s    remaining: 1.24s
71:     learn: 0.2186369        total: 4.62s    remaining: 1.16s
72:     learn: 0.2163322        total: 4.69s    remaining: 1.09s
73:     learn: 0.2141689        total: 4.75s    remaining: 1.03s
74:     learn: 0.2123920        total: 4.82s    remaining: 963ms
75:     learn: 0.2106064        total: 4.88s    remaining: 899ms
76:     learn: 0.2091290        total: 4.95s    remaining: 836ms
77:     learn: 0.2071692        total: 5.01s    remaining: 771ms
78:     learn: 0.2058813        total: 5.07s    remaining: 706ms
79:     learn: 0.2043049        total: 5.14s    remaining: 642ms
80:     learn: 0.2026107        total: 5.21s    remaining: 579ms
81:     learn: 0.2012975        total: 5.28s    remaining: 515ms
82:     learn: 0.2001599        total: 5.34s    remaining: 451ms
83:     learn: 0.1988201        total: 5.41s    remaining: 386ms
84:     learn: 0.1973243        total: 5.48s    remaining: 322ms
85:     learn: 0.1960277        total: 5.54s    remaining: 258ms
86:     learn: 0.1946488        total: 5.61s    remaining: 193ms
87:     learn: 0.1930275        total: 5.67s    remaining: 129ms
88:     learn: 0.1915866        total: 5.74s    remaining: 64.5ms
89:     learn: 0.1902307        total: 5.81s    remaining: 0us
0:      learn: 0.6735512        total: 69.4ms   remaining: 6.17s
1:      learn: 0.6577597        total: 132ms    remaining: 5.82s
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2:      learn: 0.6427683        total: 195ms    remaining: 5.65s
3:      learn: 0.6281200        total: 257ms    remaining: 5.54s
4:      learn: 0.6132483        total: 338ms    remaining: 5.75s
5:      learn: 0.5985002        total: 402ms    remaining: 5.62s
6:      learn: 0.5843741        total: 465ms    remaining: 5.52s
7:      learn: 0.5723056        total: 531ms    remaining: 5.44s
8:      learn: 0.5592025        total: 605ms    remaining: 5.44s
9:      learn: 0.5465685        total: 669ms    remaining: 5.35s
10:     learn: 0.5337807        total: 734ms    remaining: 5.27s
11:     learn: 0.5231143        total: 798ms    remaining: 5.18s
12:     learn: 0.5122572        total: 868ms    remaining: 5.14s
13:     learn: 0.5011157        total: 932ms    remaining: 5.06s
14:     learn: 0.4897634        total: 995ms    remaining: 4.97s
15:     learn: 0.4790040        total: 1.06s    remaining: 4.89s
16:     learn: 0.4689872        total: 1.13s    remaining: 4.86s
17:     learn: 0.4587993        total: 1.19s    remaining: 4.78s
18:     learn: 0.4503380        total: 1.26s    remaining: 4.7s
19:     learn: 0.4413278        total: 1.33s    remaining: 4.65s
20:     learn: 0.4333787        total: 1.4s     remaining: 4.59s
21:     learn: 0.4240938        total: 1.46s    remaining: 4.51s
22:     learn: 0.4155551        total: 1.52s    remaining: 4.43s
23:     learn: 0.4078717        total: 1.58s    remaining: 4.36s
24:     learn: 0.4001818        total: 1.65s    remaining: 4.3s
25:     learn: 0.3922589        total: 1.72s    remaining: 4.22s
26:     learn: 0.3852020        total: 1.78s    remaining: 4.15s
27:     learn: 0.3783847        total: 1.84s    remaining: 4.08s
28:     learn: 0.3718744        total: 1.91s    remaining: 4.03s
29:     learn: 0.3670372        total: 1.98s    remaining: 3.96s
30:     learn: 0.3614585        total: 2.04s    remaining: 3.89s
31:     learn: 0.3556331        total: 2.11s    remaining: 3.82s
32:     learn: 0.3488100        total: 2.18s    remaining: 3.77s
33:     learn: 0.3422213        total: 2.24s    remaining: 3.7s
34:     learn: 0.3369118        total: 2.31s    remaining: 3.64s
35:     learn: 0.3327062        total: 2.38s    remaining: 3.57s
36:     learn: 0.3274237        total: 2.45s    remaining: 3.51s
37:     learn: 0.3217743        total: 2.51s    remaining: 3.44s
38:     learn: 0.3169396        total: 2.58s    remaining: 3.37s
39:     learn: 0.3119149        total: 2.65s    remaining: 3.31s
40:     learn: 0.3073152        total: 2.71s    remaining: 3.24s
41:     learn: 0.3026618        total: 2.77s    remaining: 3.17s
42:     learn: 0.2987380        total: 2.83s    remaining: 3.1s
43:     learn: 0.2940690        total: 2.91s    remaining: 3.04s
44:     learn: 0.2900901        total: 2.97s    remaining: 2.97s
45:     learn: 0.2858553        total: 3.03s    remaining: 2.9s
46:     learn: 0.2817856        total: 3.1s     remaining: 2.83s
47:     learn: 0.2784719        total: 3.17s    remaining: 2.78s
48:     learn: 0.2750814        total: 3.24s    remaining: 2.71s
49:     learn: 0.2716896        total: 3.31s    remaining: 2.65s
50:     learn: 0.2679141        total: 3.38s    remaining: 2.59s
51:     learn: 0.2644156        total: 3.45s    remaining: 2.52s
52:     learn: 0.2610372        total: 3.51s    remaining: 2.45s
53:     learn: 0.2575779        total: 3.58s    remaining: 2.38s
54:     learn: 0.2556107        total: 3.65s    remaining: 2.32s
55:     learn: 0.2539872        total: 3.65s    remaining: 2.22s
56:     learn: 0.2509115        total: 3.72s    remaining: 2.15s
57:     learn: 0.2483949        total: 3.78s    remaining: 2.08s
58:     learn: 0.2452681        total: 3.84s    remaining: 2.02s
59:     learn: 0.2428459        total: 3.91s    remaining: 1.96s
60:     learn: 0.2405836        total: 3.97s    remaining: 1.89s
61:     learn: 0.2380252        total: 4.04s    remaining: 1.82s
62:     learn: 0.2357038        total: 4.1s     remaining: 1.76s
63:     learn: 0.2335837        total: 4.17s    remaining: 1.69s
64:     learn: 0.2312188        total: 4.23s    remaining: 1.63s
65:     learn: 0.2286322        total: 4.3s     remaining: 1.56s
66:     learn: 0.2263757        total: 4.37s    remaining: 1.5s
67:     learn: 0.2243598        total: 4.44s    remaining: 1.44s
68:     learn: 0.2222505        total: 4.5s     remaining: 1.37s
69:     learn: 0.2195589        total: 4.57s    remaining: 1.3s
70:     learn: 0.2176068        total: 4.63s    remaining: 1.24s
71:     learn: 0.2160003        total: 4.71s    remaining: 1.18s
72:     learn: 0.2140495        total: 4.77s    remaining: 1.11s
73:     learn: 0.2122960        total: 4.83s    remaining: 1.04s
74:     learn: 0.2103703        total: 4.89s    remaining: 978ms
75:     learn: 0.2085460        total: 4.96s    remaining: 914ms
76:     learn: 0.2070400        total: 5.03s    remaining: 849ms
77:     learn: 0.2051615        total: 5.09s    remaining: 783ms
78:     learn: 0.2034867        total: 5.16s    remaining: 718ms
79:     learn: 0.2020687        total: 5.23s    remaining: 654ms
80:     learn: 0.2006777        total: 5.29s    remaining: 588ms
81:     learn: 0.1991338        total: 5.36s    remaining: 523ms
82:     learn: 0.1976645        total: 5.43s    remaining: 458ms
83:     learn: 0.1961606        total: 5.5s     remaining: 393ms
84:     learn: 0.1950103        total: 5.57s    remaining: 327ms
85:     learn: 0.1940502        total: 5.63s    remaining: 262ms
86:     learn: 0.1925525        total: 5.69s    remaining: 196ms
87:     learn: 0.1914091        total: 5.77s    remaining: 131ms
88:     learn: 0.1902835        total: 5.83s    remaining: 65.5ms
89:     learn: 0.1890510        total: 5.9s     remaining: 0us
0:      learn: 0.6576605        total: 61.6ms   remaining: 5.48s
1:      learn: 0.6290719        total: 124ms    remaining: 5.46s
2:      learn: 0.6029359        total: 186ms    remaining: 5.38s
3:      learn: 0.5768383        total: 249ms    remaining: 5.36s
4:      learn: 0.5516928        total: 324ms    remaining: 5.51s
5:      learn: 0.5299747        total: 389ms    remaining: 5.45s
6:      learn: 0.5084911        total: 451ms    remaining: 5.35s
7:      learn: 0.4906622        total: 514ms    remaining: 5.27s
8:      learn: 0.4724622        total: 585ms    remaining: 5.26s
9:      learn: 0.4547835        total: 649ms    remaining: 5.19s
10:     learn: 0.4406907        total: 716ms    remaining: 5.14s
11:     learn: 0.4262482        total: 779ms    remaining: 5.06s
12:     learn: 0.4116570        total: 852ms    remaining: 5.04s
13:     learn: 0.3947251        total: 915ms    remaining: 4.97s
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14:     learn: 0.3812479        total: 979ms    remaining: 4.89s
15:     learn: 0.3706266        total: 1.04s    remaining: 4.82s
16:     learn: 0.3600522        total: 1.11s    remaining: 4.78s
17:     learn: 0.3484489        total: 1.18s    remaining: 4.71s
18:     learn: 0.3387399        total: 1.24s    remaining: 4.63s
19:     learn: 0.3288286        total: 1.3s     remaining: 4.55s
20:     learn: 0.3198014        total: 1.38s    remaining: 4.53s
21:     learn: 0.3111162        total: 1.44s    remaining: 4.45s
22:     learn: 0.3025967        total: 1.5s     remaining: 4.38s
23:     learn: 0.2953821        total: 1.56s    remaining: 4.3s
24:     learn: 0.2884960        total: 1.61s    remaining: 4.18s
25:     learn: 0.2818322        total: 1.67s    remaining: 4.1s
26:     learn: 0.2749111        total: 1.73s    remaining: 4.04s
27:     learn: 0.2695760        total: 1.79s    remaining: 3.97s
28:     learn: 0.2635040        total: 1.86s    remaining: 3.92s
29:     learn: 0.2579512        total: 1.93s    remaining: 3.86s
30:     learn: 0.2536658        total: 1.99s    remaining: 3.79s
31:     learn: 0.2489553        total: 2.05s    remaining: 3.72s
32:     learn: 0.2440597        total: 2.12s    remaining: 3.66s
33:     learn: 0.2389161        total: 2.18s    remaining: 3.59s
34:     learn: 0.2358505        total: 2.19s    remaining: 3.44s
35:     learn: 0.2319129        total: 2.25s    remaining: 3.37s
36:     learn: 0.2280123        total: 2.31s    remaining: 3.31s
37:     learn: 0.2252110        total: 2.39s    remaining: 3.27s
38:     learn: 0.2217847        total: 2.45s    remaining: 3.2s
39:     learn: 0.2184774        total: 2.51s    remaining: 3.14s
40:     learn: 0.2146430        total: 2.57s    remaining: 3.08s
41:     learn: 0.2115630        total: 2.64s    remaining: 3.02s
42:     learn: 0.2085188        total: 2.7s     remaining: 2.96s
43:     learn: 0.2059390        total: 2.77s    remaining: 2.89s
44:     learn: 0.2032061        total: 2.83s    remaining: 2.83s
45:     learn: 0.2007559        total: 2.9s     remaining: 2.77s
46:     learn: 0.1989755        total: 2.96s    remaining: 2.71s
47:     learn: 0.1972750        total: 3.02s    remaining: 2.64s
48:     learn: 0.1947370        total: 3.08s    remaining: 2.58s
49:     learn: 0.1924867        total: 3.15s    remaining: 2.52s
50:     learn: 0.1907519        total: 3.22s    remaining: 2.46s
51:     learn: 0.1890840        total: 3.28s    remaining: 2.4s
52:     learn: 0.1879025        total: 3.35s    remaining: 2.33s
53:     learn: 0.1862707        total: 3.42s    remaining: 2.28s
54:     learn: 0.1844980        total: 3.49s    remaining: 2.22s
55:     learn: 0.1831854        total: 3.55s    remaining: 2.16s
56:     learn: 0.1814261        total: 3.62s    remaining: 2.09s
57:     learn: 0.1795521        total: 3.69s    remaining: 2.03s
58:     learn: 0.1782269        total: 3.75s    remaining: 1.97s
59:     learn: 0.1770042        total: 3.81s    remaining: 1.91s
60:     learn: 0.1749880        total: 3.87s    remaining: 1.84s
61:     learn: 0.1736883        total: 3.94s    remaining: 1.78s
62:     learn: 0.1726275        total: 4s       remaining: 1.72s
63:     learn: 0.1712420        total: 4.07s    remaining: 1.65s
64:     learn: 0.1694901        total: 4.13s    remaining: 1.59s
65:     learn: 0.1684447        total: 4.2s     remaining: 1.53s
66:     learn: 0.1668557        total: 4.26s    remaining: 1.46s
67:     learn: 0.1652242        total: 4.33s    remaining: 1.4s
68:     learn: 0.1643217        total: 4.4s     remaining: 1.34s
69:     learn: 0.1632456        total: 4.47s    remaining: 1.28s
70:     learn: 0.1622070        total: 4.53s    remaining: 1.21s
71:     learn: 0.1610221        total: 4.6s     remaining: 1.15s
72:     learn: 0.1597558        total: 4.66s    remaining: 1.08s
73:     learn: 0.1585218        total: 4.73s    remaining: 1.02s
74:     learn: 0.1574255        total: 4.79s    remaining: 958ms
75:     learn: 0.1561515        total: 4.86s    remaining: 894ms
76:     learn: 0.1554964        total: 4.92s    remaining: 830ms
77:     learn: 0.1547786        total: 4.99s    remaining: 768ms
78:     learn: 0.1537094        total: 5.05s    remaining: 704ms
79:     learn: 0.1531566        total: 5.12s    remaining: 639ms
80:     learn: 0.1525018        total: 5.2s     remaining: 578ms
81:     learn: 0.1517559        total: 5.26s    remaining: 514ms
82:     learn: 0.1507217        total: 5.33s    remaining: 449ms
83:     learn: 0.1501427        total: 5.39s    remaining: 385ms
84:     learn: 0.1492777        total: 5.47s    remaining: 322ms
85:     learn: 0.1478195        total: 5.54s    remaining: 258ms
86:     learn: 0.1472703        total: 5.6s     remaining: 193ms
87:     learn: 0.1463466        total: 5.67s    remaining: 129ms
88:     learn: 0.1454892        total: 5.74s    remaining: 64.5ms
89:     learn: 0.1447916        total: 5.8s     remaining: 0us
0:      learn: 0.6540653        total: 68ms     remaining: 6.05s
1:      learn: 0.6238478        total: 129ms    remaining: 5.68s
2:      learn: 0.5959144        total: 190ms    remaining: 5.51s
3:      learn: 0.5704693        total: 251ms    remaining: 5.4s
4:      learn: 0.5424980        total: 322ms    remaining: 5.48s
5:      learn: 0.5189555        total: 386ms    remaining: 5.4s
6:      learn: 0.4973877        total: 454ms    remaining: 5.38s
7:      learn: 0.4795491        total: 520ms    remaining: 5.33s
8:      learn: 0.4575369        total: 591ms    remaining: 5.32s
9:      learn: 0.4383681        total: 652ms    remaining: 5.21s
10:     learn: 0.4236574        total: 712ms    remaining: 5.11s
11:     learn: 0.4098328        total: 773ms    remaining: 5.02s
12:     learn: 0.3951242        total: 840ms    remaining: 4.97s
13:     learn: 0.3797355        total: 900ms    remaining: 4.88s
14:     learn: 0.3679848        total: 960ms    remaining: 4.8s
15:     learn: 0.3551584        total: 1.02s    remaining: 4.72s
16:     learn: 0.3429591        total: 1.09s    remaining: 4.68s
17:     learn: 0.3319766        total: 1.16s    remaining: 4.63s
18:     learn: 0.3210817        total: 1.22s    remaining: 4.55s
19:     learn: 0.3113728        total: 1.28s    remaining: 4.49s
20:     learn: 0.3015797        total: 1.35s    remaining: 4.44s
21:     learn: 0.2921199        total: 1.41s    remaining: 4.37s
22:     learn: 0.2835705        total: 1.48s    remaining: 4.32s
23:     learn: 0.2764530        total: 1.55s    remaining: 4.25s
24:     learn: 0.2682459        total: 1.61s    remaining: 4.2s
25:     learn: 0.2607393        total: 1.68s    remaining: 4.13s
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26:     learn: 0.2549223        total: 1.74s    remaining: 4.06s
27:     learn: 0.2498269        total: 1.8s     remaining: 3.98s
28:     learn: 0.2448656        total: 1.87s    remaining: 3.93s
29:     learn: 0.2396942        total: 1.93s    remaining: 3.86s
30:     learn: 0.2352981        total: 1.99s    remaining: 3.79s
31:     learn: 0.2313328        total: 2.05s    remaining: 3.72s
32:     learn: 0.2260055        total: 2.12s    remaining: 3.66s
33:     learn: 0.2221582        total: 2.18s    remaining: 3.59s
34:     learn: 0.2182782        total: 2.21s    remaining: 3.48s
35:     learn: 0.2150233        total: 2.28s    remaining: 3.42s
36:     learn: 0.2113354        total: 2.35s    remaining: 3.36s
37:     learn: 0.2078619        total: 2.41s    remaining: 3.3s
38:     learn: 0.2052327        total: 2.48s    remaining: 3.25s
39:     learn: 0.2013665        total: 2.54s    remaining: 3.18s
40:     learn: 0.1978561        total: 2.62s    remaining: 3.13s
41:     learn: 0.1950984        total: 2.68s    remaining: 3.06s
42:     learn: 0.1920523        total: 2.74s    remaining: 3s
43:     learn: 0.1897285        total: 2.8s     remaining: 2.93s
44:     learn: 0.1871185        total: 2.87s    remaining: 2.87s
45:     learn: 0.1856624        total: 2.93s    remaining: 2.8s
46:     learn: 0.1837186        total: 2.99s    remaining: 2.74s
47:     learn: 0.1813023        total: 3.05s    remaining: 2.67s
48:     learn: 0.1796220        total: 3.12s    remaining: 2.61s
49:     learn: 0.1776197        total: 3.19s    remaining: 2.55s
50:     learn: 0.1751757        total: 3.25s    remaining: 2.49s
51:     learn: 0.1729348        total: 3.32s    remaining: 2.42s
52:     learn: 0.1708987        total: 3.39s    remaining: 2.36s
53:     learn: 0.1688242        total: 3.45s    remaining: 2.3s
54:     learn: 0.1673901        total: 3.52s    remaining: 2.24s
55:     learn: 0.1658478        total: 3.58s    remaining: 2.17s
56:     learn: 0.1645540        total: 3.65s    remaining: 2.11s
57:     learn: 0.1627966        total: 3.71s    remaining: 2.05s
58:     learn: 0.1616572        total: 3.78s    remaining: 1.98s
59:     learn: 0.1604134        total: 3.84s    remaining: 1.92s
60:     learn: 0.1589421        total: 3.91s    remaining: 1.86s
61:     learn: 0.1571371        total: 3.97s    remaining: 1.79s
62:     learn: 0.1554685        total: 4.03s    remaining: 1.73s
63:     learn: 0.1539043        total: 4.09s    remaining: 1.66s
64:     learn: 0.1528442        total: 4.16s    remaining: 1.6s
65:     learn: 0.1515344        total: 4.22s    remaining: 1.53s
66:     learn: 0.1507021        total: 4.29s    remaining: 1.47s
67:     learn: 0.1496661        total: 4.35s    remaining: 1.41s
68:     learn: 0.1480835        total: 4.42s    remaining: 1.34s
69:     learn: 0.1470150        total: 4.48s    remaining: 1.28s
70:     learn: 0.1459767        total: 4.55s    remaining: 1.22s
71:     learn: 0.1450815        total: 4.61s    remaining: 1.15s
72:     learn: 0.1440835        total: 4.68s    remaining: 1.09s
73:     learn: 0.1429796        total: 4.74s    remaining: 1.02s
74:     learn: 0.1422009        total: 4.8s     remaining: 961ms
75:     learn: 0.1409572        total: 4.86s    remaining: 896ms
76:     learn: 0.1400775        total: 4.93s    remaining: 833ms
77:     learn: 0.1390817        total: 5s       remaining: 769ms
78:     learn: 0.1387175        total: 5.06s    remaining: 705ms
79:     learn: 0.1379462        total: 5.13s    remaining: 641ms
80:     learn: 0.1368535        total: 5.19s    remaining: 577ms
81:     learn: 0.1365185        total: 5.26s    remaining: 513ms
82:     learn: 0.1353786        total: 5.32s    remaining: 449ms
83:     learn: 0.1345152        total: 5.38s    remaining: 385ms
84:     learn: 0.1337387        total: 5.46s    remaining: 321ms
85:     learn: 0.1328631        total: 5.53s    remaining: 257ms
86:     learn: 0.1322802        total: 5.59s    remaining: 193ms
87:     learn: 0.1317863        total: 5.65s    remaining: 128ms
88:     learn: 0.1307686        total: 5.72s    remaining: 64.3ms
89:     learn: 0.1300485        total: 5.78s    remaining: 0us
0:      learn: 0.6544737        total: 76.5ms   remaining: 6.81s
1:      learn: 0.6243721        total: 141ms    remaining: 6.21s
2:      learn: 0.5967087        total: 205ms    remaining: 5.96s
3:      learn: 0.5714414        total: 270ms    remaining: 5.8s
4:      learn: 0.5438113        total: 342ms    remaining: 5.81s
5:      learn: 0.5205085        total: 407ms    remaining: 5.7s
6:      learn: 0.4973297        total: 470ms    remaining: 5.58s
7:      learn: 0.4784090        total: 533ms    remaining: 5.47s
8:      learn: 0.4614967        total: 608ms    remaining: 5.47s
9:      learn: 0.4428721        total: 680ms    remaining: 5.44s
10:     learn: 0.4288570        total: 743ms    remaining: 5.33s
11:     learn: 0.4138198        total: 805ms    remaining: 5.23s
12:     learn: 0.3982922        total: 873ms    remaining: 5.17s
13:     learn: 0.3836702        total: 934ms    remaining: 5.07s
14:     learn: 0.3703649        total: 996ms    remaining: 4.98s
15:     learn: 0.3603258        total: 1.06s    remaining: 4.89s
16:     learn: 0.3491135        total: 1.13s    remaining: 4.85s
17:     learn: 0.3357067        total: 1.19s    remaining: 4.76s
18:     learn: 0.3262217        total: 1.25s    remaining: 4.69s
19:     learn: 0.3159933        total: 1.32s    remaining: 4.62s
20:     learn: 0.3064733        total: 1.39s    remaining: 4.57s
21:     learn: 0.2980187        total: 1.46s    remaining: 4.5s
22:     learn: 0.2897261        total: 1.52s    remaining: 4.43s
23:     learn: 0.2823463        total: 1.58s    remaining: 4.36s
24:     learn: 0.2749390        total: 1.66s    remaining: 4.32s
25:     learn: 0.2672731        total: 1.72s    remaining: 4.24s
26:     learn: 0.2605535        total: 1.78s    remaining: 4.17s
27:     learn: 0.2547399        total: 1.85s    remaining: 4.09s
28:     learn: 0.2491060        total: 1.92s    remaining: 4.04s
29:     learn: 0.2455756        total: 1.98s    remaining: 3.97s
30:     learn: 0.2408174        total: 2.05s    remaining: 3.89s
31:     learn: 0.2361220        total: 2.11s    remaining: 3.82s
32:     learn: 0.2307084        total: 2.18s    remaining: 3.76s
33:     learn: 0.2258431        total: 2.24s    remaining: 3.69s
34:     learn: 0.2221070        total: 2.3s     remaining: 3.62s
35:     learn: 0.2190044        total: 2.37s    remaining: 3.55s
36:     learn: 0.2156943        total: 2.44s    remaining: 3.49s
37:     learn: 0.2106888        total: 2.5s     remaining: 3.42s
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38:     learn: 0.2072490        total: 2.57s    remaining: 3.36s
39:     learn: 0.2039120        total: 2.64s    remaining: 3.3s
40:     learn: 0.2008390        total: 2.71s    remaining: 3.24s
41:     learn: 0.1976952        total: 2.77s    remaining: 3.17s
42:     learn: 0.1953250        total: 2.84s    remaining: 3.1s
43:     learn: 0.1922911        total: 2.9s     remaining: 3.03s
44:     learn: 0.1893275        total: 2.97s    remaining: 2.97s
45:     learn: 0.1866475        total: 3.04s    remaining: 2.9s
46:     learn: 0.1838725        total: 3.1s     remaining: 2.83s
47:     learn: 0.1819540        total: 3.16s    remaining: 2.76s
48:     learn: 0.1802048        total: 3.23s    remaining: 2.71s
49:     learn: 0.1783634        total: 3.3s     remaining: 2.64s
50:     learn: 0.1763171        total: 3.37s    remaining: 2.57s
51:     learn: 0.1743584        total: 3.43s    remaining: 2.51s
52:     learn: 0.1722372        total: 3.5s     remaining: 2.44s
53:     learn: 0.1703785        total: 3.57s    remaining: 2.38s
54:     learn: 0.1692472        total: 3.63s    remaining: 2.31s
55:     learn: 0.1677786        total: 3.7s     remaining: 2.24s
56:     learn: 0.1660164        total: 3.77s    remaining: 2.18s
57:     learn: 0.1640274        total: 3.83s    remaining: 2.11s
58:     learn: 0.1623654        total: 3.89s    remaining: 2.04s
59:     learn: 0.1607201        total: 3.95s    remaining: 1.98s
60:     learn: 0.1590647        total: 4.02s    remaining: 1.91s
61:     learn: 0.1583423        total: 4.06s    remaining: 1.83s
62:     learn: 0.1569575        total: 4.12s    remaining: 1.77s
63:     learn: 0.1556724        total: 4.18s    remaining: 1.7s
64:     learn: 0.1544898        total: 4.25s    remaining: 1.64s
65:     learn: 0.1532769        total: 4.32s    remaining: 1.57s
66:     learn: 0.1519928        total: 4.38s    remaining: 1.5s
67:     learn: 0.1509876        total: 4.45s    remaining: 1.44s
68:     learn: 0.1501819        total: 4.52s    remaining: 1.38s
69:     learn: 0.1490874        total: 4.58s    remaining: 1.31s
70:     learn: 0.1479765        total: 4.65s    remaining: 1.24s
71:     learn: 0.1470488        total: 4.72s    remaining: 1.18s
72:     learn: 0.1463420        total: 4.79s    remaining: 1.11s
73:     learn: 0.1450452        total: 4.86s    remaining: 1.05s
74:     learn: 0.1442532        total: 4.92s    remaining: 983ms
75:     learn: 0.1434088        total: 4.99s    remaining: 918ms
76:     learn: 0.1424383        total: 5.05s    remaining: 852ms
77:     learn: 0.1414310        total: 5.11s    remaining: 786ms
78:     learn: 0.1404513        total: 5.17s    remaining: 720ms
79:     learn: 0.1399318        total: 5.24s    remaining: 655ms
80:     learn: 0.1390932        total: 5.31s    remaining: 590ms
81:     learn: 0.1383976        total: 5.37s    remaining: 524ms
82:     learn: 0.1374238        total: 5.44s    remaining: 459ms
83:     learn: 0.1363694        total: 5.51s    remaining: 394ms
84:     learn: 0.1356039        total: 5.58s    remaining: 328ms
85:     learn: 0.1347112        total: 5.65s    remaining: 263ms
86:     learn: 0.1338571        total: 5.71s    remaining: 197ms
87:     learn: 0.1332672        total: 5.79s    remaining: 132ms
88:     learn: 0.1323777        total: 5.85s    remaining: 65.7ms
89:     learn: 0.1318842        total: 5.91s    remaining: 0us
0:      learn: 0.6405767        total: 62.9ms   remaining: 5.6s
1:      learn: 0.5996205        total: 128ms    remaining: 5.62s
2:      learn: 0.5643309        total: 190ms    remaining: 5.52s
3:      learn: 0.5291469        total: 257ms    remaining: 5.53s
4:      learn: 0.4963698        total: 334ms    remaining: 5.67s
5:      learn: 0.4686419        total: 399ms    remaining: 5.59s
6:      learn: 0.4413511        total: 462ms    remaining: 5.48s
7:      learn: 0.4204681        total: 525ms    remaining: 5.38s
8:      learn: 0.3996785        total: 594ms    remaining: 5.34s
9:      learn: 0.3800318        total: 663ms    remaining: 5.3s
10:     learn: 0.3650267        total: 725ms    remaining: 5.21s
11:     learn: 0.3500369        total: 787ms    remaining: 5.12s
12:     learn: 0.3351715        total: 858ms    remaining: 5.08s
13:     learn: 0.3181941        total: 920ms    remaining: 4.99s
14:     learn: 0.3058772        total: 981ms    remaining: 4.91s
15:     learn: 0.2938017        total: 1.04s    remaining: 4.83s
16:     learn: 0.2844585        total: 1.12s    remaining: 4.81s
17:     learn: 0.2744596        total: 1.18s    remaining: 4.73s
18:     learn: 0.2658445        total: 1.25s    remaining: 4.66s
19:     learn: 0.2574277        total: 1.31s    remaining: 4.58s
20:     learn: 0.2491778        total: 1.38s    remaining: 4.53s
21:     learn: 0.2413242        total: 1.44s    remaining: 4.46s
22:     learn: 0.2348949        total: 1.5s     remaining: 4.38s
23:     learn: 0.2289314        total: 1.57s    remaining: 4.31s
24:     learn: 0.2224604        total: 1.64s    remaining: 4.26s
25:     learn: 0.2167816        total: 1.71s    remaining: 4.21s
26:     learn: 0.2126064        total: 1.77s    remaining: 4.13s
27:     learn: 0.2088372        total: 1.83s    remaining: 4.06s
28:     learn: 0.2051392        total: 1.91s    remaining: 4.02s
29:     learn: 0.2018980        total: 1.98s    remaining: 3.95s
30:     learn: 0.1995494        total: 2.01s    remaining: 3.82s
31:     learn: 0.1963690        total: 2.07s    remaining: 3.75s
32:     learn: 0.1933529        total: 2.14s    remaining: 3.69s
33:     learn: 0.1899552        total: 2.2s     remaining: 3.62s
34:     learn: 0.1874936        total: 2.26s    remaining: 3.55s
35:     learn: 0.1855012        total: 2.32s    remaining: 3.48s
36:     learn: 0.1827975        total: 2.39s    remaining: 3.43s
37:     learn: 0.1807538        total: 2.46s    remaining: 3.36s
38:     learn: 0.1790976        total: 2.52s    remaining: 3.3s
39:     learn: 0.1763138        total: 2.59s    remaining: 3.23s
40:     learn: 0.1745826        total: 2.66s    remaining: 3.18s
41:     learn: 0.1722213        total: 2.73s    remaining: 3.12s
42:     learn: 0.1704931        total: 2.79s    remaining: 3.05s
43:     learn: 0.1692102        total: 2.85s    remaining: 2.98s
44:     learn: 0.1675135        total: 2.92s    remaining: 2.92s
45:     learn: 0.1659442        total: 2.99s    remaining: 2.86s
46:     learn: 0.1640419        total: 3.05s    remaining: 2.79s
47:     learn: 0.1622280        total: 3.12s    remaining: 2.73s
48:     learn: 0.1604812        total: 3.19s    remaining: 2.67s
49:     learn: 0.1588540        total: 3.25s    remaining: 2.6s
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50:     learn: 0.1568258        total: 3.31s    remaining: 2.54s
51:     learn: 0.1549497        total: 3.38s    remaining: 2.47s
52:     learn: 0.1533531        total: 3.45s    remaining: 2.41s
53:     learn: 0.1521984        total: 3.51s    remaining: 2.34s
54:     learn: 0.1509152        total: 3.58s    remaining: 2.28s
55:     learn: 0.1495315        total: 3.64s    remaining: 2.21s
56:     learn: 0.1481156        total: 3.72s    remaining: 2.15s
57:     learn: 0.1471316        total: 3.78s    remaining: 2.09s
58:     learn: 0.1456776        total: 3.85s    remaining: 2.02s
59:     learn: 0.1445020        total: 3.91s    remaining: 1.95s
60:     learn: 0.1434291        total: 3.98s    remaining: 1.89s
61:     learn: 0.1420458        total: 4.04s    remaining: 1.82s
62:     learn: 0.1407414        total: 4.1s     remaining: 1.76s
63:     learn: 0.1399374        total: 4.16s    remaining: 1.69s
64:     learn: 0.1393622        total: 4.23s    remaining: 1.63s
65:     learn: 0.1384174        total: 4.3s     remaining: 1.56s
66:     learn: 0.1376984        total: 4.36s    remaining: 1.5s
67:     learn: 0.1367097        total: 4.42s    remaining: 1.43s
68:     learn: 0.1355475        total: 4.5s     remaining: 1.37s
69:     learn: 0.1347687        total: 4.56s    remaining: 1.3s
70:     learn: 0.1338496        total: 4.63s    remaining: 1.24s
71:     learn: 0.1333170        total: 4.7s     remaining: 1.18s
72:     learn: 0.1326448        total: 4.77s    remaining: 1.11s
73:     learn: 0.1320969        total: 4.83s    remaining: 1.04s
74:     learn: 0.1310365        total: 4.89s    remaining: 979ms
75:     learn: 0.1300034        total: 4.96s    remaining: 914ms
76:     learn: 0.1293969        total: 5.03s    remaining: 849ms
77:     learn: 0.1283932        total: 5.09s    remaining: 783ms
78:     learn: 0.1276565        total: 5.16s    remaining: 718ms
79:     learn: 0.1272210        total: 5.23s    remaining: 654ms
80:     learn: 0.1265984        total: 5.29s    remaining: 588ms
81:     learn: 0.1262164        total: 5.35s    remaining: 522ms
82:     learn: 0.1254524        total: 5.42s    remaining: 457ms
83:     learn: 0.1249389        total: 5.49s    remaining: 392ms
84:     learn: 0.1241101        total: 5.55s    remaining: 326ms
85:     learn: 0.1235268        total: 5.61s    remaining: 261ms
86:     learn: 0.1231324        total: 5.67s    remaining: 196ms
87:     learn: 0.1227627        total: 5.75s    remaining: 131ms
88:     learn: 0.1219023        total: 5.82s    remaining: 65.3ms
89:     learn: 0.1212426        total: 5.88s    remaining: 0us
0:      learn: 0.6353497        total: 64.5ms   remaining: 5.74s
1:      learn: 0.5921152        total: 127ms    remaining: 5.57s
2:      learn: 0.5535898        total: 192ms    remaining: 5.58s
3:      learn: 0.5196290        total: 254ms    remaining: 5.46s
4:      learn: 0.4834735        total: 327ms    remaining: 5.55s
5:      learn: 0.4542054        total: 391ms    remaining: 5.47s
6:      learn: 0.4282525        total: 455ms    remaining: 5.4s
7:      learn: 0.4081607        total: 518ms    remaining: 5.31s
8:      learn: 0.3830675        total: 589ms    remaining: 5.3s
9:      learn: 0.3637118        total: 651ms    remaining: 5.21s
10:     learn: 0.3494296        total: 719ms    remaining: 5.17s
11:     learn: 0.3359621        total: 780ms    remaining: 5.07s
12:     learn: 0.3209310        total: 848ms    remaining: 5.02s
13:     learn: 0.3056161        total: 909ms    remaining: 4.94s
14:     learn: 0.2945271        total: 971ms    remaining: 4.85s
15:     learn: 0.2825744        total: 1.03s    remaining: 4.78s
16:     learn: 0.2703368        total: 1.11s    remaining: 4.75s
17:     learn: 0.2613187        total: 1.17s    remaining: 4.68s
18:     learn: 0.2528520        total: 1.23s    remaining: 4.61s
19:     learn: 0.2442072        total: 1.29s    remaining: 4.53s
20:     learn: 0.2362274        total: 1.36s    remaining: 4.48s
21:     learn: 0.2285639        total: 1.43s    remaining: 4.41s
22:     learn: 0.2214780        total: 1.49s    remaining: 4.33s
23:     learn: 0.2155780        total: 1.55s    remaining: 4.26s
24:     learn: 0.2093132        total: 1.62s    remaining: 4.22s
25:     learn: 0.2034781        total: 1.68s    remaining: 4.15s
26:     learn: 0.1988842        total: 1.75s    remaining: 4.09s
27:     learn: 0.1947485        total: 1.81s    remaining: 4.02s
28:     learn: 0.1906901        total: 1.89s    remaining: 3.97s
29:     learn: 0.1871079        total: 1.95s    remaining: 3.9s
30:     learn: 0.1843848        total: 2.02s    remaining: 3.84s
31:     learn: 0.1816733        total: 2.08s    remaining: 3.77s
32:     learn: 0.1788240        total: 2.15s    remaining: 3.71s
33:     learn: 0.1751461        total: 2.21s    remaining: 3.65s
34:     learn: 0.1724809        total: 2.27s    remaining: 3.57s
35:     learn: 0.1699664        total: 2.34s    remaining: 3.5s
36:     learn: 0.1671701        total: 2.41s    remaining: 3.45s
37:     learn: 0.1652455        total: 2.47s    remaining: 3.38s
38:     learn: 0.1633526        total: 2.53s    remaining: 3.31s
39:     learn: 0.1605380        total: 2.6s     remaining: 3.24s
40:     learn: 0.1582161        total: 2.67s    remaining: 3.19s
41:     learn: 0.1564583        total: 2.73s    remaining: 3.12s
42:     learn: 0.1546798        total: 2.8s     remaining: 3.06s
43:     learn: 0.1527895        total: 2.86s    remaining: 2.99s
44:     learn: 0.1503207        total: 2.93s    remaining: 2.93s
45:     learn: 0.1484176        total: 2.99s    remaining: 2.86s
46:     learn: 0.1469035        total: 3.06s    remaining: 2.79s
47:     learn: 0.1459191        total: 3.12s    remaining: 2.73s
48:     learn: 0.1443983        total: 3.19s    remaining: 2.67s
49:     learn: 0.1428755        total: 3.25s    remaining: 2.6s
50:     learn: 0.1412354        total: 3.31s    remaining: 2.53s
51:     learn: 0.1402045        total: 3.37s    remaining: 2.46s
52:     learn: 0.1384916        total: 3.44s    remaining: 2.4s
53:     learn: 0.1369958        total: 3.51s    remaining: 2.34s
54:     learn: 0.1356745        total: 3.57s    remaining: 2.27s
55:     learn: 0.1338516        total: 3.63s    remaining: 2.21s
56:     learn: 0.1328087        total: 3.71s    remaining: 2.15s
57:     learn: 0.1316690        total: 3.78s    remaining: 2.08s
58:     learn: 0.1309102        total: 3.84s    remaining: 2.02s
59:     learn: 0.1297630        total: 3.9s     remaining: 1.95s
60:     learn: 0.1288514        total: 3.97s    remaining: 1.89s
61:     learn: 0.1281114        total: 4.04s    remaining: 1.82s
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62:     learn: 0.1269264        total: 4.1s     remaining: 1.75s
63:     learn: 0.1255855        total: 4.16s    remaining: 1.69s
64:     learn: 0.1247680        total: 4.23s    remaining: 1.63s
65:     learn: 0.1241446        total: 4.29s    remaining: 1.56s
66:     learn: 0.1231742        total: 4.36s    remaining: 1.5s
67:     learn: 0.1225475        total: 4.42s    remaining: 1.43s
68:     learn: 0.1215522        total: 4.49s    remaining: 1.36s
69:     learn: 0.1205536        total: 4.55s    remaining: 1.3s
70:     learn: 0.1201911        total: 4.61s    remaining: 1.23s
71:     learn: 0.1193865        total: 4.67s    remaining: 1.17s
72:     learn: 0.1183752        total: 4.75s    remaining: 1.1s
73:     learn: 0.1174429        total: 4.81s    remaining: 1.04s
74:     learn: 0.1166777        total: 4.87s    remaining: 975ms
75:     learn: 0.1162296        total: 4.94s    remaining: 910ms
76:     learn: 0.1157291        total: 5.01s    remaining: 846ms
77:     learn: 0.1150606        total: 5.07s    remaining: 780ms
78:     learn: 0.1142144        total: 5.13s    remaining: 715ms
79:     learn: 0.1134072        total: 5.2s     remaining: 650ms
80:     learn: 0.1129746        total: 5.27s    remaining: 586ms
81:     learn: 0.1122674        total: 5.33s    remaining: 521ms
82:     learn: 0.1117449        total: 5.4s     remaining: 455ms
83:     learn: 0.1112770        total: 5.46s    remaining: 390ms
84:     learn: 0.1102044        total: 5.53s    remaining: 325ms
85:     learn: 0.1095606        total: 5.59s    remaining: 260ms
86:     learn: 0.1081200        total: 5.65s    remaining: 195ms
87:     learn: 0.1072115        total: 5.71s    remaining: 130ms
88:     learn: 0.1066320        total: 5.79s    remaining: 65.1ms
89:     learn: 0.1062135        total: 5.86s    remaining: 0us
0:      learn: 0.6359135        total: 71ms     remaining: 6.32s
1:      learn: 0.5929209        total: 133ms    remaining: 5.83s
2:      learn: 0.5547103        total: 197ms    remaining: 5.71s
3:      learn: 0.5209719        total: 260ms    remaining: 5.58s
4:      learn: 0.4852138        total: 338ms    remaining: 5.74s
5:      learn: 0.4562041        total: 406ms    remaining: 5.69s
6:      learn: 0.4282418        total: 471ms    remaining: 5.58s
7:      learn: 0.4083119        total: 534ms    remaining: 5.48s
8:      learn: 0.3891278        total: 608ms    remaining: 5.47s
9:      learn: 0.3702296        total: 673ms    remaining: 5.39s
10:     learn: 0.3553311        total: 739ms    remaining: 5.3s
11:     learn: 0.3395095        total: 811ms    remaining: 5.27s
12:     learn: 0.3229120        total: 883ms    remaining: 5.23s
13:     learn: 0.3082493        total: 946ms    remaining: 5.13s
14:     learn: 0.2955861        total: 1.01s    remaining: 5.04s
15:     learn: 0.2860498        total: 1.08s    remaining: 4.98s
16:     learn: 0.2742004        total: 1.14s    remaining: 4.91s
17:     learn: 0.2636846        total: 1.21s    remaining: 4.83s
18:     learn: 0.2554040        total: 1.27s    remaining: 4.75s
19:     learn: 0.2474190        total: 1.34s    remaining: 4.71s
20:     learn: 0.2396295        total: 1.41s    remaining: 4.62s
21:     learn: 0.2334591        total: 1.47s    remaining: 4.54s
22:     learn: 0.2265431        total: 1.53s    remaining: 4.46s
23:     learn: 0.2206535        total: 1.6s     remaining: 4.4s
24:     learn: 0.2147171        total: 1.66s    remaining: 4.32s
25:     learn: 0.2083264        total: 1.73s    remaining: 4.25s
26:     learn: 0.2034177        total: 1.79s    remaining: 4.19s
27:     learn: 0.1987278        total: 1.87s    remaining: 4.13s
28:     learn: 0.1953152        total: 1.93s    remaining: 4.06s
29:     learn: 0.1911483        total: 1.99s    remaining: 3.98s
30:     learn: 0.1884197        total: 2.05s    remaining: 3.91s
31:     learn: 0.1845792        total: 2.12s    remaining: 3.85s
32:     learn: 0.1803822        total: 2.19s    remaining: 3.78s
33:     learn: 0.1772745        total: 2.25s    remaining: 3.71s
34:     learn: 0.1743904        total: 2.32s    remaining: 3.64s
35:     learn: 0.1719947        total: 2.39s    remaining: 3.58s
36:     learn: 0.1696202        total: 2.45s    remaining: 3.51s
37:     learn: 0.1667876        total: 2.52s    remaining: 3.44s
38:     learn: 0.1646059        total: 2.58s    remaining: 3.37s
39:     learn: 0.1628898        total: 2.65s    remaining: 3.31s
40:     learn: 0.1607439        total: 2.71s    remaining: 3.24s
41:     learn: 0.1588222        total: 2.77s    remaining: 3.17s
42:     learn: 0.1572630        total: 2.84s    remaining: 3.11s
43:     learn: 0.1550289        total: 2.91s    remaining: 3.05s
44:     learn: 0.1527577        total: 2.98s    remaining: 2.98s
45:     learn: 0.1517774        total: 3.04s    remaining: 2.91s
46:     learn: 0.1497283        total: 3.1s     remaining: 2.84s
47:     learn: 0.1478776        total: 3.17s    remaining: 2.78s
48:     learn: 0.1461697        total: 3.24s    remaining: 2.71s
49:     learn: 0.1450131        total: 3.3s     remaining: 2.64s
50:     learn: 0.1429934        total: 3.36s    remaining: 2.57s
51:     learn: 0.1417741        total: 3.44s    remaining: 2.51s
52:     learn: 0.1402628        total: 3.5s     remaining: 2.44s
53:     learn: 0.1389643        total: 3.56s    remaining: 2.37s
54:     learn: 0.1382555        total: 3.62s    remaining: 2.31s
55:     learn: 0.1369022        total: 3.7s     remaining: 2.25s
56:     learn: 0.1357385        total: 3.76s    remaining: 2.18s
57:     learn: 0.1342481        total: 3.83s    remaining: 2.11s
58:     learn: 0.1328087        total: 3.89s    remaining: 2.04s
59:     learn: 0.1314383        total: 3.96s    remaining: 1.98s
60:     learn: 0.1303359        total: 4.03s    remaining: 1.91s
61:     learn: 0.1296234        total: 4.09s    remaining: 1.85s
62:     learn: 0.1287660        total: 4.15s    remaining: 1.78s
63:     learn: 0.1278191        total: 4.22s    remaining: 1.71s
64:     learn: 0.1267352        total: 4.28s    remaining: 1.65s
65:     learn: 0.1258630        total: 4.35s    remaining: 1.58s
66:     learn: 0.1250921        total: 4.41s    remaining: 1.51s
67:     learn: 0.1243756        total: 4.48s    remaining: 1.45s
68:     learn: 0.1232851        total: 4.54s    remaining: 1.38s
69:     learn: 0.1223489        total: 4.61s    remaining: 1.32s
70:     learn: 0.1219980        total: 4.67s    remaining: 1.25s
71:     learn: 0.1211863        total: 4.74s    remaining: 1.18s
72:     learn: 0.1205269        total: 4.8s     remaining: 1.12s
73:     learn: 0.1197791        total: 4.87s    remaining: 1.05s
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74:     learn: 0.1189355        total: 4.93s    remaining: 986ms
75:     learn: 0.1182368        total: 5s       remaining: 922ms
76:     learn: 0.1173689        total: 5.07s    remaining: 856ms
77:     learn: 0.1162632        total: 5.14s    remaining: 792ms
78:     learn: 0.1154873        total: 5.21s    remaining: 726ms
79:     learn: 0.1151215        total: 5.28s    remaining: 660ms
80:     learn: 0.1144938        total: 5.35s    remaining: 594ms
81:     learn: 0.1136620        total: 5.41s    remaining: 528ms
82:     learn: 0.1131121        total: 5.48s    remaining: 462ms
83:     learn: 0.1121625        total: 5.54s    remaining: 396ms
84:     learn: 0.1114457        total: 5.61s    remaining: 330ms
85:     learn: 0.1107807        total: 5.67s    remaining: 264ms
86:     learn: 0.1100561        total: 5.74s    remaining: 198ms
87:     learn: 0.1094486        total: 5.8s     remaining: 132ms
88:     learn: 0.1089382        total: 5.88s    remaining: 66ms
89:     learn: 0.1084094        total: 5.94s    remaining: 0us
0:      learn: 0.6239310        total: 63.6ms   remaining: 5.66s
1:      learn: 0.5718186        total: 127ms    remaining: 5.57s
2:      learn: 0.5283946        total: 188ms    remaining: 5.46s
3:      learn: 0.4863956        total: 250ms    remaining: 5.37s
4:      learn: 0.4495513        total: 322ms    remaining: 5.48s
5:      learn: 0.4185317        total: 387ms    remaining: 5.42s
6:      learn: 0.3889110        total: 451ms    remaining: 5.34s
7:      learn: 0.3671180        total: 513ms    remaining: 5.26s
8:      learn: 0.3458984        total: 585ms    remaining: 5.26s
9:      learn: 0.3256360        total: 647ms    remaining: 5.18s
10:     learn: 0.3113740        total: 709ms    remaining: 5.09s
11:     learn: 0.2970701        total: 772ms    remaining: 5.02s
12:     learn: 0.2834752        total: 850ms    remaining: 5.04s
13:     learn: 0.2687126        total: 912ms    remaining: 4.95s
14:     learn: 0.2579867        total: 977ms    remaining: 4.88s
15:     learn: 0.2487112        total: 1.04s    remaining: 4.81s
16:     learn: 0.2405785        total: 1.11s    remaining: 4.77s
17:     learn: 0.2317074        total: 1.17s    remaining: 4.7s
18:     learn: 0.2250600        total: 1.24s    remaining: 4.62s
19:     learn: 0.2198016        total: 1.3s     remaining: 4.54s
20:     learn: 0.2135793        total: 1.37s    remaining: 4.5s
21:     learn: 0.2081890        total: 1.43s    remaining: 4.43s
22:     learn: 0.2025398        total: 1.49s    remaining: 4.35s
23:     learn: 0.1978335        total: 1.55s    remaining: 4.28s
24:     learn: 0.1927684        total: 1.63s    remaining: 4.23s
25:     learn: 0.1880674        total: 1.69s    remaining: 4.16s
26:     learn: 0.1847693        total: 1.75s    remaining: 4.09s
27:     learn: 0.1819173        total: 1.83s    remaining: 4.06s
28:     learn: 0.1785120        total: 1.91s    remaining: 4.01s
29:     learn: 0.1761272        total: 1.97s    remaining: 3.94s
30:     learn: 0.1743645        total: 1.98s    remaining: 3.77s
31:     learn: 0.1718918        total: 2.05s    remaining: 3.72s
32:     learn: 0.1686857        total: 2.11s    remaining: 3.65s
33:     learn: 0.1663814        total: 2.17s    remaining: 3.58s
34:     learn: 0.1638285        total: 2.24s    remaining: 3.52s
35:     learn: 0.1622072        total: 2.31s    remaining: 3.46s
36:     learn: 0.1596769        total: 2.37s    remaining: 3.4s
37:     learn: 0.1573897        total: 2.44s    remaining: 3.33s
38:     learn: 0.1553698        total: 2.5s     remaining: 3.27s
39:     learn: 0.1537662        total: 2.57s    remaining: 3.22s
40:     learn: 0.1524026        total: 2.63s    remaining: 3.15s
41:     learn: 0.1507448        total: 2.7s     remaining: 3.08s
42:     learn: 0.1497027        total: 2.76s    remaining: 3.02s
43:     learn: 0.1473185        total: 2.84s    remaining: 2.97s
44:     learn: 0.1461550        total: 2.9s     remaining: 2.9s
45:     learn: 0.1445967        total: 2.97s    remaining: 2.84s
46:     learn: 0.1432039        total: 3.03s    remaining: 2.77s
47:     learn: 0.1419276        total: 3.1s     remaining: 2.72s
48:     learn: 0.1401957        total: 3.17s    remaining: 2.65s
49:     learn: 0.1382599        total: 3.23s    remaining: 2.59s
50:     learn: 0.1366014        total: 3.3s     remaining: 2.52s
51:     learn: 0.1358690        total: 3.37s    remaining: 2.46s
52:     learn: 0.1341076        total: 3.44s    remaining: 2.4s
53:     learn: 0.1331534        total: 3.5s     remaining: 2.33s
54:     learn: 0.1317607        total: 3.56s    remaining: 2.27s
55:     learn: 0.1302835        total: 3.63s    remaining: 2.2s
56:     learn: 0.1295677        total: 3.69s    remaining: 2.14s
57:     learn: 0.1289158        total: 3.75s    remaining: 2.07s
58:     learn: 0.1277756        total: 3.82s    remaining: 2.01s
59:     learn: 0.1265597        total: 3.89s    remaining: 1.95s
60:     learn: 0.1254814        total: 3.96s    remaining: 1.88s
61:     learn: 0.1247039        total: 4.03s    remaining: 1.82s
62:     learn: 0.1241899        total: 4.09s    remaining: 1.75s
63:     learn: 0.1236659        total: 4.17s    remaining: 1.69s
64:     learn: 0.1227985        total: 4.23s    remaining: 1.63s
65:     learn: 0.1218466        total: 4.29s    remaining: 1.56s
66:     learn: 0.1204131        total: 4.35s    remaining: 1.49s
67:     learn: 0.1194781        total: 4.42s    remaining: 1.43s
68:     learn: 0.1184859        total: 4.49s    remaining: 1.36s
69:     learn: 0.1173508        total: 4.55s    remaining: 1.3s
70:     learn: 0.1167230        total: 4.61s    remaining: 1.23s
71:     learn: 0.1162203        total: 4.68s    remaining: 1.17s
72:     learn: 0.1155052        total: 4.75s    remaining: 1.1s
73:     learn: 0.1147068        total: 4.81s    remaining: 1.04s
74:     learn: 0.1144198        total: 4.88s    remaining: 975ms
75:     learn: 0.1137842        total: 4.95s    remaining: 911ms
76:     learn: 0.1134772        total: 5.01s    remaining: 845ms
77:     learn: 0.1128541        total: 5.07s    remaining: 780ms
78:     learn: 0.1117335        total: 5.13s    remaining: 714ms
79:     learn: 0.1113213        total: 5.2s     remaining: 650ms
80:     learn: 0.1105426        total: 5.26s    remaining: 585ms
81:     learn: 0.1097639        total: 5.33s    remaining: 520ms
82:     learn: 0.1089559        total: 5.39s    remaining: 455ms
83:     learn: 0.1080754        total: 5.47s    remaining: 390ms
84:     learn: 0.1073626        total: 5.53s    remaining: 325ms
85:     learn: 0.1065836        total: 5.59s    remaining: 260ms
```

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86:     learn: 0.1060247        total: 5.65s    remaining: 195ms
87:     learn: 0.1053012        total: 5.72s    remaining: 130ms
88:     learn: 0.1041980        total: 5.78s    remaining: 65ms
89:     learn: 0.1036933        total: 5.85s    remaining: 0us
0:      learn: 0.6171815        total: 61.9ms   remaining: 5.51s
1:      learn: 0.5623875        total: 125ms    remaining: 5.5s
2:      learn: 0.5152374        total: 187ms    remaining: 5.42s
3:      learn: 0.4750427        total: 250ms    remaining: 5.37s
4:      learn: 0.4330383        total: 321ms    remaining: 5.46s
5:      learn: 0.4006397        total: 385ms    remaining: 5.39s
6:      learn: 0.3730126        total: 447ms    remaining: 5.3s
7:      learn: 0.3522459        total: 508ms    remaining: 5.21s
8:      learn: 0.3297206        total: 579ms    remaining: 5.21s
9:      learn: 0.3106498        total: 641ms    remaining: 5.13s
10:     learn: 0.2956191        total: 703ms    remaining: 5.05s
11:     learn: 0.2828519        total: 768ms    remaining: 4.99s
12:     learn: 0.2683700        total: 837ms    remaining: 4.96s
13:     learn: 0.2548416        total: 906ms    remaining: 4.92s
14:     learn: 0.2445310        total: 968ms    remaining: 4.84s
15:     learn: 0.2368503        total: 1.03s    remaining: 4.76s
16:     learn: 0.2261921        total: 1.1s     remaining: 4.71s
17:     learn: 0.2163627        total: 1.16s    remaining: 4.63s
18:     learn: 0.2087138        total: 1.22s    remaining: 4.56s
19:     learn: 0.2028515        total: 1.28s    remaining: 4.49s
20:     learn: 0.1969152        total: 1.35s    remaining: 4.45s
21:     learn: 0.1903933        total: 1.42s    remaining: 4.38s
22:     learn: 0.1852247        total: 1.48s    remaining: 4.31s
23:     learn: 0.1797691        total: 1.54s    remaining: 4.23s
24:     learn: 0.1753822        total: 1.61s    remaining: 4.18s
25:     learn: 0.1709508        total: 1.67s    remaining: 4.11s
26:     learn: 0.1678978        total: 1.74s    remaining: 4.06s
27:     learn: 0.1655649        total: 1.8s     remaining: 4s
28:     learn: 0.1627581        total: 1.88s    remaining: 3.95s
29:     learn: 0.1602145        total: 1.95s    remaining: 3.89s
30:     learn: 0.1583417        total: 2.01s    remaining: 3.82s
31:     learn: 0.1568318        total: 2.07s    remaining: 3.75s
32:     learn: 0.1537695        total: 2.14s    remaining: 3.69s
33:     learn: 0.1509333        total: 2.2s     remaining: 3.62s
34:     learn: 0.1489242        total: 2.26s    remaining: 3.55s
35:     learn: 0.1469552        total: 2.32s    remaining: 3.48s
36:     learn: 0.1447380        total: 2.39s    remaining: 3.43s
37:     learn: 0.1430591        total: 2.46s    remaining: 3.36s
38:     learn: 0.1415960        total: 2.52s    remaining: 3.29s
39:     learn: 0.1392770        total: 2.58s    remaining: 3.22s
40:     learn: 0.1371188        total: 2.64s    remaining: 3.16s
41:     learn: 0.1355170        total: 2.71s    remaining: 3.1s
42:     learn: 0.1339942        total: 2.77s    remaining: 3.03s
43:     learn: 0.1320753        total: 2.83s    remaining: 2.96s
44:     learn: 0.1297115        total: 2.91s    remaining: 2.91s
45:     learn: 0.1286344        total: 2.98s    remaining: 2.85s
46:     learn: 0.1270824        total: 3.04s    remaining: 2.78s
47:     learn: 0.1258805        total: 3.1s     remaining: 2.71s
48:     learn: 0.1248059        total: 3.17s    remaining: 2.65s
49:     learn: 0.1233328        total: 3.23s    remaining: 2.58s
50:     learn: 0.1221699        total: 3.29s    remaining: 2.52s
51:     learn: 0.1214627        total: 3.35s    remaining: 2.45s
52:     learn: 0.1199529        total: 3.42s    remaining: 2.39s
53:     learn: 0.1183467        total: 3.49s    remaining: 2.33s
54:     learn: 0.1178950        total: 3.55s    remaining: 2.26s
55:     learn: 0.1163585        total: 3.61s    remaining: 2.19s
56:     learn: 0.1156988        total: 3.68s    remaining: 2.13s
57:     learn: 0.1140227        total: 3.74s    remaining: 2.06s
58:     learn: 0.1128883        total: 3.81s    remaining: 2s
59:     learn: 0.1123318        total: 3.87s    remaining: 1.94s
60:     learn: 0.1109377        total: 3.95s    remaining: 1.88s
61:     learn: 0.1103783        total: 4.02s    remaining: 1.81s
62:     learn: 0.1099997        total: 4.08s    remaining: 1.75s
63:     learn: 0.1086760        total: 4.14s    remaining: 1.68s
64:     learn: 0.1082588        total: 4.21s    remaining: 1.62s
65:     learn: 0.1077245        total: 4.28s    remaining: 1.55s
66:     learn: 0.1064655        total: 4.34s    remaining: 1.49s
67:     learn: 0.1055730        total: 4.41s    remaining: 1.43s
68:     learn: 0.1045349        total: 4.48s    remaining: 1.36s
69:     learn: 0.1039016        total: 4.54s    remaining: 1.3s
70:     learn: 0.1034796        total: 4.6s     remaining: 1.23s
71:     learn: 0.1024758        total: 4.66s    remaining: 1.17s
72:     learn: 0.1012859        total: 4.73s    remaining: 1.1s
73:     learn: 0.1004897        total: 4.79s    remaining: 1.04s
74:     learn: 0.0994806        total: 4.86s    remaining: 971ms
75:     learn: 0.0989034        total: 4.93s    remaining: 907ms
76:     learn: 0.0981296        total: 5s       remaining: 844ms
77:     learn: 0.0974566        total: 5.06s    remaining: 778ms
78:     learn: 0.0963567        total: 5.12s    remaining: 714ms
79:     learn: 0.0955816        total: 5.19s    remaining: 648ms
80:     learn: 0.0951567        total: 5.25s    remaining: 584ms
81:     learn: 0.0944803        total: 5.32s    remaining: 519ms
82:     learn: 0.0941616        total: 5.38s    remaining: 454ms
83:     learn: 0.0932592        total: 5.45s    remaining: 389ms
84:     learn: 0.0922195        total: 5.52s    remaining: 325ms
85:     learn: 0.0917217        total: 5.58s    remaining: 260ms
86:     learn: 0.0904324        total: 5.64s    remaining: 195ms
87:     learn: 0.0896711        total: 5.7s     remaining: 130ms
88:     learn: 0.0884106        total: 5.78s    remaining: 64.9ms
89:     learn: 0.0882298        total: 5.84s    remaining: 0us
0:      learn: 0.6178688        total: 63.4ms   remaining: 5.64s
1:      learn: 0.5633378        total: 125ms    remaining: 5.51s
2:      learn: 0.5165054        total: 187ms    remaining: 5.42s
3:      learn: 0.4765075        total: 259ms    remaining: 5.57s
4:      learn: 0.4356028        total: 331ms    remaining: 5.63s
5:      learn: 0.4025436        total: 395ms    remaining: 5.53s
6:      learn: 0.3728228        total: 461ms    remaining: 5.47s
7:      learn: 0.3519263        total: 523ms    remaining: 5.36s
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8:      learn: 0.3321275        total: 595ms    remaining: 5.36s
9:      learn: 0.3139645        total: 658ms    remaining: 5.26s
10:     learn: 0.2999816        total: 720ms    remaining: 5.17s
11:     learn: 0.2850933        total: 781ms    remaining: 5.08s
12:     learn: 0.2699590        total: 853ms    remaining: 5.05s
13:     learn: 0.2566115        total: 917ms    remaining: 4.98s
14:     learn: 0.2440397        total: 990ms    remaining: 4.95s
15:     learn: 0.2337842        total: 1.05s    remaining: 4.88s
16:     learn: 0.2242737        total: 1.13s    remaining: 4.83s
17:     learn: 0.2153247        total: 1.19s    remaining: 4.76s
18:     learn: 0.2082660        total: 1.25s    remaining: 4.68s
19:     learn: 0.2024959        total: 1.33s    remaining: 4.64s
20:     learn: 0.1965595        total: 1.39s    remaining: 4.57s
21:     learn: 0.1907933        total: 1.46s    remaining: 4.5s
22:     learn: 0.1859305        total: 1.52s    remaining: 4.42s
23:     learn: 0.1812887        total: 1.59s    remaining: 4.37s
24:     learn: 0.1765910        total: 1.65s    remaining: 4.3s
25:     learn: 0.1719276        total: 1.73s    remaining: 4.27s
26:     learn: 0.1684441        total: 1.81s    remaining: 4.22s
27:     learn: 0.1654584        total: 1.87s    remaining: 4.14s
28:     learn: 0.1624572        total: 1.94s    remaining: 4.07s
29:     learn: 0.1606699        total: 2s       remaining: 4.01s
30:     learn: 0.1589476        total: 2.08s    remaining: 3.95s
31:     learn: 0.1567584        total: 2.14s    remaining: 3.88s
32:     learn: 0.1546824        total: 2.2s     remaining: 3.8s
33:     learn: 0.1519500        total: 2.27s    remaining: 3.74s
34:     learn: 0.1504154        total: 2.33s    remaining: 3.67s
35:     learn: 0.1486230        total: 2.4s     remaining: 3.6s
36:     learn: 0.1470766        total: 2.46s    remaining: 3.52s
37:     learn: 0.1452284        total: 2.54s    remaining: 3.48s
38:     learn: 0.1435844        total: 2.61s    remaining: 3.41s
39:     learn: 0.1418675        total: 2.67s    remaining: 3.34s
40:     learn: 0.1404627        total: 2.73s    remaining: 3.27s
41:     learn: 0.1384990        total: 2.81s    remaining: 3.21s
42:     learn: 0.1372806        total: 2.87s    remaining: 3.14s
43:     learn: 0.1353383        total: 2.93s    remaining: 3.07s
44:     learn: 0.1331374        total: 3s       remaining: 3s
45:     learn: 0.1316773        total: 3.08s    remaining: 2.94s
46:     learn: 0.1304579        total: 3.14s    remaining: 2.87s
47:     learn: 0.1290523        total: 3.21s    remaining: 2.8s
48:     learn: 0.1279120        total: 3.27s    remaining: 2.73s
49:     learn: 0.1271195        total: 3.34s    remaining: 2.67s
50:     learn: 0.1257334        total: 3.4s     remaining: 2.6s
51:     learn: 0.1248637        total: 3.46s    remaining: 2.53s
52:     learn: 0.1235070        total: 3.52s    remaining: 2.46s
53:     learn: 0.1222623        total: 3.6s     remaining: 2.4s
54:     learn: 0.1218733        total: 3.66s    remaining: 2.33s
55:     learn: 0.1208735        total: 3.72s    remaining: 2.26s
56:     learn: 0.1198247        total: 3.78s    remaining: 2.19s
57:     learn: 0.1185601        total: 3.85s    remaining: 2.13s
58:     learn: 0.1173656        total: 3.92s    remaining: 2.06s
59:     learn: 0.1158636        total: 3.98s    remaining: 1.99s
60:     learn: 0.1151075        total: 4.05s    remaining: 1.92s
61:     learn: 0.1140085        total: 4.12s    remaining: 1.86s
62:     learn: 0.1130084        total: 4.18s    remaining: 1.79s
63:     learn: 0.1121582        total: 4.25s    remaining: 1.73s
64:     learn: 0.1108909        total: 4.31s    remaining: 1.66s
65:     learn: 0.1101080        total: 4.39s    remaining: 1.59s
66:     learn: 0.1088338        total: 4.45s    remaining: 1.53s
67:     learn: 0.1083752        total: 4.51s    remaining: 1.46s
68:     learn: 0.1078381        total: 4.57s    remaining: 1.39s
69:     learn: 0.1070600        total: 4.64s    remaining: 1.33s
70:     learn: 0.1061523        total: 4.7s     remaining: 1.26s
71:     learn: 0.1054264        total: 4.77s    remaining: 1.19s
72:     learn: 0.1045404        total: 4.84s    remaining: 1.13s
73:     learn: 0.1039008        total: 4.91s    remaining: 1.06s
74:     learn: 0.1031445        total: 4.97s    remaining: 995ms
75:     learn: 0.1027041        total: 5.04s    remaining: 929ms
76:     learn: 0.1017017        total: 5.11s    remaining: 863ms
77:     learn: 0.1004931        total: 5.17s    remaining: 796ms
78:     learn: 0.1000225        total: 5.23s    remaining: 729ms
79:     learn: 0.0996009        total: 5.31s    remaining: 664ms
80:     learn: 0.0989654        total: 5.37s    remaining: 597ms
81:     learn: 0.0983771        total: 5.43s    remaining: 530ms
82:     learn: 0.0977839        total: 5.5s     remaining: 464ms
83:     learn: 0.0968156        total: 5.57s    remaining: 398ms
84:     learn: 0.0963710        total: 5.63s    remaining: 331ms
85:     learn: 0.0954315        total: 5.7s     remaining: 265ms
86:     learn: 0.0951295        total: 5.76s    remaining: 199ms
87:     learn: 0.0944380        total: 5.83s    remaining: 133ms
88:     learn: 0.0938849        total: 5.89s    remaining: 66.2ms
89:     learn: 0.0933537        total: 5.96s    remaining: 0us
0:      learn: 0.6751837        total: 62ms     remaining: 6.14s
1:      learn: 0.6602297        total: 126ms    remaining: 6.15s
2:      learn: 0.6454463        total: 188ms    remaining: 6.09s
3:      learn: 0.6304676        total: 250ms    remaining: 6s
4:      learn: 0.6160483        total: 320ms    remaining: 6.08s
5:      learn: 0.6031485        total: 384ms    remaining: 6.01s
6:      learn: 0.5899825        total: 447ms    remaining: 5.94s
7:      learn: 0.5784494        total: 509ms    remaining: 5.86s
8:      learn: 0.5665641        total: 582ms    remaining: 5.89s
9:      learn: 0.5547034        total: 645ms    remaining: 5.8s
10:     learn: 0.5436993        total: 707ms    remaining: 5.72s
11:     learn: 0.5335351        total: 769ms    remaining: 5.63s
12:     learn: 0.5228803        total: 838ms    remaining: 5.61s
13:     learn: 0.5102639        total: 900ms    remaining: 5.53s
14:     learn: 0.4989545        total: 969ms    remaining: 5.49s
15:     learn: 0.4889242        total: 1.03s    remaining: 5.41s
16:     learn: 0.4795053        total: 1.11s    remaining: 5.4s
17:     learn: 0.4696517        total: 1.17s    remaining: 5.34s
18:     learn: 0.4610669        total: 1.24s    remaining: 5.29s
19:     learn: 0.4522233        total: 1.3s     remaining: 5.21s
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20:     learn: 0.4443485        total: 1.37s    remaining: 5.16s
21:     learn: 0.4360229        total: 1.43s    remaining: 5.08s
22:     learn: 0.4280483        total: 1.49s    remaining: 5s
23:     learn: 0.4202252        total: 1.55s    remaining: 4.92s
24:     learn: 0.4132754        total: 1.6s     remaining: 4.79s
25:     learn: 0.4057576        total: 1.66s    remaining: 4.72s
26:     learn: 0.3985751        total: 1.72s    remaining: 4.65s
27:     learn: 0.3921162        total: 1.78s    remaining: 4.59s
28:     learn: 0.3850611        total: 1.86s    remaining: 4.56s
29:     learn: 0.3785935        total: 1.92s    remaining: 4.48s
30:     learn: 0.3731629        total: 1.99s    remaining: 4.43s
31:     learn: 0.3678968        total: 2.05s    remaining: 4.36s
32:     learn: 0.3622126        total: 2.12s    remaining: 4.31s
33:     learn: 0.3558665        total: 2.19s    remaining: 4.24s
34:     learn: 0.3503487        total: 2.25s    remaining: 4.17s
35:     learn: 0.3454439        total: 2.31s    remaining: 4.12s
36:     learn: 0.3403020        total: 2.39s    remaining: 4.07s
37:     learn: 0.3355499        total: 2.45s    remaining: 4s
38:     learn: 0.3313786        total: 2.51s    remaining: 3.93s
39:     learn: 0.3265447        total: 2.58s    remaining: 3.86s
40:     learn: 0.3221439        total: 2.64s    remaining: 3.8s
41:     learn: 0.3182402        total: 2.71s    remaining: 3.74s
42:     learn: 0.3142320        total: 2.77s    remaining: 3.67s
43:     learn: 0.3102764        total: 2.83s    remaining: 3.6s
44:     learn: 0.3060148        total: 2.9s     remaining: 3.54s
45:     learn: 0.3023363        total: 2.97s    remaining: 3.48s
46:     learn: 0.2990242        total: 3.03s    remaining: 3.42s
47:     learn: 0.2956283        total: 3.09s    remaining: 3.35s
48:     learn: 0.2917702        total: 3.17s    remaining: 3.3s
49:     learn: 0.2882910        total: 3.23s    remaining: 3.23s
50:     learn: 0.2848467        total: 3.29s    remaining: 3.17s
51:     learn: 0.2812317        total: 3.36s    remaining: 3.1s
52:     learn: 0.2777402        total: 3.42s    remaining: 3.04s
53:     learn: 0.2746565        total: 3.49s    remaining: 2.97s
54:     learn: 0.2718787        total: 3.55s    remaining: 2.9s
55:     learn: 0.2691514        total: 3.61s    remaining: 2.84s
56:     learn: 0.2664806        total: 3.68s    remaining: 2.78s
57:     learn: 0.2643008        total: 3.74s    remaining: 2.71s
58:     learn: 0.2617112        total: 3.81s    remaining: 2.64s
59:     learn: 0.2589477        total: 3.87s    remaining: 2.58s
60:     learn: 0.2564266        total: 3.94s    remaining: 2.52s
61:     learn: 0.2535901        total: 4s       remaining: 2.46s
62:     learn: 0.2511621        total: 4.07s    remaining: 2.39s
63:     learn: 0.2488866        total: 4.13s    remaining: 2.32s
64:     learn: 0.2466017        total: 4.21s    remaining: 2.27s
65:     learn: 0.2441167        total: 4.27s    remaining: 2.2s
66:     learn: 0.2420935        total: 4.34s    remaining: 2.14s
67:     learn: 0.2401606        total: 4.4s     remaining: 2.07s
68:     learn: 0.2379425        total: 4.47s    remaining: 2.01s
69:     learn: 0.2356859        total: 4.54s    remaining: 1.94s
70:     learn: 0.2336955        total: 4.6s     remaining: 1.88s
71:     learn: 0.2318063        total: 4.66s    remaining: 1.81s
72:     learn: 0.2301906        total: 4.73s    remaining: 1.75s
73:     learn: 0.2284850        total: 4.8s     remaining: 1.69s
74:     learn: 0.2269975        total: 4.86s    remaining: 1.62s
75:     learn: 0.2251348        total: 4.92s    remaining: 1.55s
76:     learn: 0.2238033        total: 4.95s    remaining: 1.48s
77:     learn: 0.2223040        total: 5.02s    remaining: 1.42s
78:     learn: 0.2204589        total: 5.08s    remaining: 1.35s
79:     learn: 0.2188231        total: 5.14s    remaining: 1.29s
80:     learn: 0.2170442        total: 5.21s    remaining: 1.22s
81:     learn: 0.2155983        total: 5.28s    remaining: 1.16s
82:     learn: 0.2143196        total: 5.34s    remaining: 1.09s
83:     learn: 0.2129395        total: 5.4s     remaining: 1.03s
84:     learn: 0.2117390        total: 5.48s    remaining: 967ms
85:     learn: 0.2100351        total: 5.55s    remaining: 903ms
86:     learn: 0.2087151        total: 5.61s    remaining: 838ms
87:     learn: 0.2072727        total: 5.67s    remaining: 774ms
88:     learn: 0.2060930        total: 5.75s    remaining: 711ms
89:     learn: 0.2047911        total: 5.81s    remaining: 646ms
90:     learn: 0.2035190        total: 5.88s    remaining: 581ms
91:     learn: 0.2024185        total: 5.94s    remaining: 516ms
92:     learn: 0.2012586        total: 6.02s    remaining: 453ms
93:     learn: 0.2000411        total: 6.08s    remaining: 388ms
94:     learn: 0.1989881        total: 6.15s    remaining: 323ms
95:     learn: 0.1978261        total: 6.21s    remaining: 259ms
96:     learn: 0.1970698        total: 6.28s    remaining: 194ms
97:     learn: 0.1958207        total: 6.34s    remaining: 129ms
98:     learn: 0.1949293        total: 6.41s    remaining: 64.7ms
99:     learn: 0.1938553        total: 6.47s    remaining: 0us
0:      learn: 0.6733307        total: 61ms     remaining: 6.04s
1:      learn: 0.6574651        total: 123ms    remaining: 6.03s
2:      learn: 0.6423078        total: 184ms    remaining: 5.95s
3:      learn: 0.6280499        total: 246ms    remaining: 5.9s
4:      learn: 0.6119764        total: 319ms    remaining: 6.06s
5:      learn: 0.5974304        total: 380ms    remaining: 5.96s
6:      learn: 0.5837695        total: 451ms    remaining: 5.99s
7:      learn: 0.5722608        total: 512ms    remaining: 5.89s
8:      learn: 0.5581532        total: 590ms    remaining: 5.97s
9:      learn: 0.5450776        total: 654ms    remaining: 5.88s
10:     learn: 0.5345495        total: 718ms    remaining: 5.81s
11:     learn: 0.5245084        total: 781ms    remaining: 5.73s
12:     learn: 0.5134314        total: 857ms    remaining: 5.73s
13:     learn: 0.5015661        total: 919ms    remaining: 5.64s
14:     learn: 0.4906146        total: 983ms    remaining: 5.57s
15:     learn: 0.4799681        total: 1.04s    remaining: 5.48s
16:     learn: 0.4697269        total: 1.11s    remaining: 5.44s
17:     learn: 0.4599618        total: 1.18s    remaining: 5.36s
18:     learn: 0.4514277        total: 1.24s    remaining: 5.27s
19:     learn: 0.4425577        total: 1.3s     remaining: 5.19s
20:     learn: 0.4330139        total: 1.38s    remaining: 5.17s
21:     learn: 0.4245915        total: 1.45s    remaining: 5.13s
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22:     learn: 0.4157737        total: 1.51s    remaining: 5.06s
23:     learn: 0.4078461        total: 1.58s    remaining: 4.99s
24:     learn: 0.3994713        total: 1.65s    remaining: 4.95s
25:     learn: 0.3906338        total: 1.71s    remaining: 4.87s
26:     learn: 0.3837601        total: 1.77s    remaining: 4.8s
27:     learn: 0.3776733        total: 1.84s    remaining: 4.74s
28:     learn: 0.3709407        total: 1.91s    remaining: 4.67s
29:     learn: 0.3645547        total: 1.97s    remaining: 4.59s
30:     learn: 0.3588721        total: 2.03s    remaining: 4.51s
31:     learn: 0.3533189        total: 2.1s     remaining: 4.46s
32:     learn: 0.3463799        total: 2.16s    remaining: 4.39s
33:     learn: 0.3405682        total: 2.22s    remaining: 4.32s
34:     learn: 0.3349639        total: 2.29s    remaining: 4.25s
35:     learn: 0.3309261        total: 2.36s    remaining: 4.19s
36:     learn: 0.3260079        total: 2.43s    remaining: 4.14s
37:     learn: 0.3201463        total: 2.49s    remaining: 4.07s
38:     learn: 0.3161146        total: 2.56s    remaining: 4s
39:     learn: 0.3107906        total: 2.63s    remaining: 3.94s
40:     learn: 0.3058559        total: 2.69s    remaining: 3.87s
41:     learn: 0.3013465        total: 2.75s    remaining: 3.8s
42:     learn: 0.2974714        total: 2.81s    remaining: 3.72s
43:     learn: 0.2930423        total: 2.88s    remaining: 3.66s
44:     learn: 0.2890118        total: 2.94s    remaining: 3.59s
45:     learn: 0.2862115        total: 3s       remaining: 3.52s
46:     learn: 0.2824689        total: 3.06s    remaining: 3.45s
47:     learn: 0.2792255        total: 3.13s    remaining: 3.39s
48:     learn: 0.2761512        total: 3.19s    remaining: 3.32s
49:     learn: 0.2726204        total: 3.26s    remaining: 3.26s
50:     learn: 0.2689020        total: 3.32s    remaining: 3.19s
51:     learn: 0.2656368        total: 3.39s    remaining: 3.13s
52:     learn: 0.2625087        total: 3.46s    remaining: 3.07s
53:     learn: 0.2589296        total: 3.52s    remaining: 3s
54:     learn: 0.2569181        total: 3.59s    remaining: 2.93s
55:     learn: 0.2535212        total: 3.67s    remaining: 2.88s
56:     learn: 0.2501648        total: 3.73s    remaining: 2.81s
57:     learn: 0.2474302        total: 3.79s    remaining: 2.75s
58:     learn: 0.2451064        total: 3.85s    remaining: 2.68s
59:     learn: 0.2432863        total: 3.92s    remaining: 2.62s
60:     learn: 0.2403667        total: 3.99s    remaining: 2.55s
61:     learn: 0.2381131        total: 4.05s    remaining: 2.48s
62:     learn: 0.2360525        total: 4.11s    remaining: 2.41s
63:     learn: 0.2337598        total: 4.18s    remaining: 2.35s
64:     learn: 0.2315956        total: 4.25s    remaining: 2.29s
65:     learn: 0.2297513        total: 4.32s    remaining: 2.22s
66:     learn: 0.2275609        total: 4.38s    remaining: 2.16s
67:     learn: 0.2261473        total: 4.46s    remaining: 2.1s
68:     learn: 0.2237818        total: 4.52s    remaining: 2.03s
69:     learn: 0.2215920        total: 4.58s    remaining: 1.96s
70:     learn: 0.2197051        total: 4.64s    remaining: 1.9s
71:     learn: 0.2186369        total: 4.64s    remaining: 1.81s
72:     learn: 0.2163322        total: 4.71s    remaining: 1.74s
73:     learn: 0.2141689        total: 4.78s    remaining: 1.68s
74:     learn: 0.2123920        total: 4.84s    remaining: 1.61s
75:     learn: 0.2106064        total: 4.9s     remaining: 1.55s
76:     learn: 0.2091290        total: 4.97s    remaining: 1.48s
77:     learn: 0.2071692        total: 5.03s    remaining: 1.42s
78:     learn: 0.2058813        total: 5.09s    remaining: 1.35s
79:     learn: 0.2043049        total: 5.15s    remaining: 1.29s
80:     learn: 0.2026107        total: 5.22s    remaining: 1.23s
81:     learn: 0.2012975        total: 5.29s    remaining: 1.16s
82:     learn: 0.2001599        total: 5.35s    remaining: 1.1s
83:     learn: 0.1988201        total: 5.42s    remaining: 1.03s
84:     learn: 0.1973243        total: 5.49s    remaining: 970ms
85:     learn: 0.1960277        total: 5.56s    remaining: 905ms
86:     learn: 0.1946488        total: 5.62s    remaining: 840ms
87:     learn: 0.1930275        total: 5.68s    remaining: 774ms
88:     learn: 0.1915866        total: 5.75s    remaining: 710ms
89:     learn: 0.1902307        total: 5.81s    remaining: 645ms
90:     learn: 0.1889972        total: 5.87s    remaining: 581ms
91:     learn: 0.1876146        total: 5.93s    remaining: 516ms
92:     learn: 0.1866411        total: 6s       remaining: 452ms
93:     learn: 0.1855940        total: 6.07s    remaining: 387ms
94:     learn: 0.1842821        total: 6.13s    remaining: 323ms
95:     learn: 0.1830526        total: 6.19s    remaining: 258ms
96:     learn: 0.1820054        total: 6.27s    remaining: 194ms
97:     learn: 0.1808673        total: 6.33s    remaining: 129ms
98:     learn: 0.1798523        total: 6.39s    remaining: 64.6ms
99:     learn: 0.1787609        total: 6.46s    remaining: 0us
0:      learn: 0.6735512        total: 62.3ms   remaining: 6.17s
1:      learn: 0.6577597        total: 125ms    remaining: 6.1s
2:      learn: 0.6427683        total: 186ms    remaining: 6.03s
3:      learn: 0.6281200        total: 248ms    remaining: 5.96s
4:      learn: 0.6132483        total: 322ms    remaining: 6.12s
5:      learn: 0.5985002        total: 386ms    remaining: 6.04s
6:      learn: 0.5843741        total: 448ms    remaining: 5.95s
7:      learn: 0.5723056        total: 510ms    remaining: 5.87s
8:      learn: 0.5592025        total: 582ms    remaining: 5.88s
9:      learn: 0.5465685        total: 648ms    remaining: 5.83s
10:     learn: 0.5337807        total: 710ms    remaining: 5.75s
11:     learn: 0.5231143        total: 772ms    remaining: 5.66s
12:     learn: 0.5122572        total: 845ms    remaining: 5.65s
13:     learn: 0.5011157        total: 915ms    remaining: 5.62s
14:     learn: 0.4897634        total: 978ms    remaining: 5.54s
15:     learn: 0.4790040        total: 1.04s    remaining: 5.46s
16:     learn: 0.4689872        total: 1.11s    remaining: 5.43s
17:     learn: 0.4587993        total: 1.18s    remaining: 5.37s
18:     learn: 0.4503380        total: 1.24s    remaining: 5.29s
19:     learn: 0.4413278        total: 1.3s     remaining: 5.22s
20:     learn: 0.4333787        total: 1.38s    remaining: 5.18s
21:     learn: 0.4240938        total: 1.44s    remaining: 5.12s
22:     learn: 0.4155551        total: 1.5s     remaining: 5.04s
23:     learn: 0.4078717        total: 1.57s    remaining: 4.97s
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24:     learn: 0.4001818        total: 1.64s    remaining: 4.91s
25:     learn: 0.3922589        total: 1.7s     remaining: 4.84s
26:     learn: 0.3852020        total: 1.76s    remaining: 4.77s
27:     learn: 0.3783847        total: 1.82s    remaining: 4.7s
28:     learn: 0.3718744        total: 1.91s    remaining: 4.66s
29:     learn: 0.3670372        total: 1.97s    remaining: 4.59s
30:     learn: 0.3614585        total: 2.03s    remaining: 4.52s
31:     learn: 0.3556331        total: 2.09s    remaining: 4.45s
32:     learn: 0.3488100        total: 2.16s    remaining: 4.39s
33:     learn: 0.3422213        total: 2.23s    remaining: 4.33s
34:     learn: 0.3369118        total: 2.29s    remaining: 4.25s
35:     learn: 0.3327062        total: 2.35s    remaining: 4.18s
36:     learn: 0.3274237        total: 2.42s    remaining: 4.13s
37:     learn: 0.3217743        total: 2.48s    remaining: 4.05s
38:     learn: 0.3169396        total: 2.55s    remaining: 3.98s
39:     learn: 0.3119149        total: 2.61s    remaining: 3.91s
40:     learn: 0.3073152        total: 2.68s    remaining: 3.85s
41:     learn: 0.3026618        total: 2.74s    remaining: 3.79s
42:     learn: 0.2987380        total: 2.8s     remaining: 3.72s
43:     learn: 0.2940690        total: 2.87s    remaining: 3.65s
44:     learn: 0.2900901        total: 2.95s    remaining: 3.6s
45:     learn: 0.2858553        total: 3.02s    remaining: 3.54s
46:     learn: 0.2817856        total: 3.08s    remaining: 3.48s
47:     learn: 0.2784719        total: 3.15s    remaining: 3.41s
48:     learn: 0.2750814        total: 3.22s    remaining: 3.35s
49:     learn: 0.2716896        total: 3.28s    remaining: 3.28s
50:     learn: 0.2679141        total: 3.34s    remaining: 3.21s
51:     learn: 0.2644156        total: 3.4s     remaining: 3.14s
52:     learn: 0.2610372        total: 3.48s    remaining: 3.08s
53:     learn: 0.2575779        total: 3.54s    remaining: 3.02s
54:     learn: 0.2556107        total: 3.6s     remaining: 2.95s
55:     learn: 0.2539872        total: 3.61s    remaining: 2.83s
56:     learn: 0.2509115        total: 3.67s    remaining: 2.77s
57:     learn: 0.2483949        total: 3.75s    remaining: 2.71s
58:     learn: 0.2452681        total: 3.81s    remaining: 2.65s
59:     learn: 0.2428459        total: 3.88s    remaining: 2.58s
60:     learn: 0.2405836        total: 3.96s    remaining: 2.53s
61:     learn: 0.2380252        total: 4.02s    remaining: 2.46s
62:     learn: 0.2357038        total: 4.08s    remaining: 2.4s
63:     learn: 0.2335837        total: 4.14s    remaining: 2.33s
64:     learn: 0.2312188        total: 4.21s    remaining: 2.27s
65:     learn: 0.2286322        total: 4.28s    remaining: 2.2s
66:     learn: 0.2263757        total: 4.34s    remaining: 2.14s
67:     learn: 0.2243598        total: 4.4s     remaining: 2.07s
68:     learn: 0.2222505        total: 4.47s    remaining: 2.01s
69:     learn: 0.2195589        total: 4.53s    remaining: 1.94s
70:     learn: 0.2176068        total: 4.59s    remaining: 1.88s
71:     learn: 0.2160003        total: 4.66s    remaining: 1.81s
72:     learn: 0.2140495        total: 4.73s    remaining: 1.75s
73:     learn: 0.2122960        total: 4.79s    remaining: 1.68s
74:     learn: 0.2103703        total: 4.86s    remaining: 1.62s
75:     learn: 0.2085460        total: 4.93s    remaining: 1.55s
76:     learn: 0.2070400        total: 5s       remaining: 1.49s
77:     learn: 0.2051615        total: 5.06s    remaining: 1.43s
78:     learn: 0.2034867        total: 5.12s    remaining: 1.36s
79:     learn: 0.2020687        total: 5.18s    remaining: 1.3s
80:     learn: 0.2006777        total: 5.26s    remaining: 1.23s
81:     learn: 0.1991338        total: 5.32s    remaining: 1.17s
82:     learn: 0.1976645        total: 5.38s    remaining: 1.1s
83:     learn: 0.1961606        total: 5.45s    remaining: 1.04s
84:     learn: 0.1950103        total: 5.52s    remaining: 974ms
85:     learn: 0.1940502        total: 5.58s    remaining: 908ms
86:     learn: 0.1925525        total: 5.64s    remaining: 843ms
87:     learn: 0.1914091        total: 5.7s     remaining: 778ms
88:     learn: 0.1902835        total: 5.78s    remaining: 714ms
89:     learn: 0.1890510        total: 5.84s    remaining: 649ms
90:     learn: 0.1880908        total: 5.9s     remaining: 584ms
91:     learn: 0.1870990        total: 5.97s    remaining: 519ms
92:     learn: 0.1861275        total: 6.04s    remaining: 455ms
93:     learn: 0.1851812        total: 6.11s    remaining: 390ms
94:     learn: 0.1839969        total: 6.17s    remaining: 325ms
95:     learn: 0.1829925        total: 6.23s    remaining: 260ms
96:     learn: 0.1818644        total: 6.31s    remaining: 195ms
97:     learn: 0.1810409        total: 6.37s    remaining: 130ms
98:     learn: 0.1802898        total: 6.44s    remaining: 65ms
99:     learn: 0.1791391        total: 6.5s     remaining: 0us
0:      learn: 0.6576605        total: 62.7ms   remaining: 6.21s
1:      learn: 0.6290719        total: 125ms    remaining: 6.13s
2:      learn: 0.6029359        total: 187ms    remaining: 6.04s
3:      learn: 0.5768383        total: 250ms    remaining: 5.99s
4:      learn: 0.5516928        total: 329ms    remaining: 6.26s
5:      learn: 0.5299747        total: 391ms    remaining: 6.13s
6:      learn: 0.5084911        total: 453ms    remaining: 6.02s
7:      learn: 0.4906622        total: 515ms    remaining: 5.92s
8:      learn: 0.4724622        total: 588ms    remaining: 5.95s
9:      learn: 0.4547835        total: 650ms    remaining: 5.85s
10:     learn: 0.4406907        total: 712ms    remaining: 5.76s
11:     learn: 0.4262482        total: 774ms    remaining: 5.68s
12:     learn: 0.4116570        total: 844ms    remaining: 5.65s
13:     learn: 0.3947251        total: 906ms    remaining: 5.56s
14:     learn: 0.3812479        total: 968ms    remaining: 5.48s
15:     learn: 0.3706266        total: 1.03s    remaining: 5.41s
16:     learn: 0.3600522        total: 1.1s     remaining: 5.38s
17:     learn: 0.3484489        total: 1.17s    remaining: 5.31s
18:     learn: 0.3387399        total: 1.24s    remaining: 5.27s
19:     learn: 0.3288286        total: 1.31s    remaining: 5.23s
20:     learn: 0.3198014        total: 1.38s    remaining: 5.2s
21:     learn: 0.3111162        total: 1.44s    remaining: 5.12s
22:     learn: 0.3025967        total: 1.51s    remaining: 5.04s
23:     learn: 0.2953821        total: 1.58s    remaining: 5s
24:     learn: 0.2884960        total: 1.61s    remaining: 4.83s
25:     learn: 0.2818322        total: 1.67s    remaining: 4.76s
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26:     learn: 0.2749111        total: 1.73s    remaining: 4.68s
27:     learn: 0.2695760        total: 1.8s     remaining: 4.64s
28:     learn: 0.2635040        total: 1.86s    remaining: 4.57s
29:     learn: 0.2579512        total: 1.93s    remaining: 4.49s
30:     learn: 0.2536658        total: 1.99s    remaining: 4.42s
31:     learn: 0.2489553        total: 2.06s    remaining: 4.38s
32:     learn: 0.2440597        total: 2.13s    remaining: 4.32s
33:     learn: 0.2389161        total: 2.19s    remaining: 4.25s
34:     learn: 0.2358505        total: 2.19s    remaining: 4.08s
35:     learn: 0.2319129        total: 2.26s    remaining: 4.02s
36:     learn: 0.2280123        total: 2.34s    remaining: 3.98s
37:     learn: 0.2252110        total: 2.4s     remaining: 3.92s
38:     learn: 0.2217847        total: 2.47s    remaining: 3.86s
39:     learn: 0.2184774        total: 2.53s    remaining: 3.79s
40:     learn: 0.2146430        total: 2.6s     remaining: 3.74s
41:     learn: 0.2115630        total: 2.66s    remaining: 3.67s
42:     learn: 0.2085188        total: 2.72s    remaining: 3.61s
43:     learn: 0.2059390        total: 2.79s    remaining: 3.55s
44:     learn: 0.2032061        total: 2.86s    remaining: 3.5s
45:     learn: 0.2007559        total: 2.93s    remaining: 3.44s
46:     learn: 0.1989755        total: 2.99s    remaining: 3.37s
47:     learn: 0.1972750        total: 3.06s    remaining: 3.31s
48:     learn: 0.1947370        total: 3.13s    remaining: 3.25s
49:     learn: 0.1924867        total: 3.19s    remaining: 3.19s
50:     learn: 0.1907519        total: 3.25s    remaining: 3.13s
51:     learn: 0.1890840        total: 3.32s    remaining: 3.06s
52:     learn: 0.1879025        total: 3.4s     remaining: 3.01s
53:     learn: 0.1862707        total: 3.46s    remaining: 2.95s
54:     learn: 0.1844980        total: 3.53s    remaining: 2.89s
55:     learn: 0.1831854        total: 3.59s    remaining: 2.82s
56:     learn: 0.1814261        total: 3.66s    remaining: 2.76s
57:     learn: 0.1795521        total: 3.72s    remaining: 2.69s
58:     learn: 0.1782269        total: 3.79s    remaining: 2.63s
59:     learn: 0.1770042        total: 3.85s    remaining: 2.56s
60:     learn: 0.1749880        total: 3.92s    remaining: 2.5s
61:     learn: 0.1736883        total: 3.98s    remaining: 2.44s
62:     learn: 0.1726275        total: 4.04s    remaining: 2.37s
63:     learn: 0.1712420        total: 4.11s    remaining: 2.31s
64:     learn: 0.1694901        total: 4.18s    remaining: 2.25s
65:     learn: 0.1684447        total: 4.24s    remaining: 2.19s
66:     learn: 0.1668557        total: 4.3s     remaining: 2.12s
67:     learn: 0.1652242        total: 4.37s    remaining: 2.06s
68:     learn: 0.1643217        total: 4.45s    remaining: 2s
69:     learn: 0.1632456        total: 4.51s    remaining: 1.93s
70:     learn: 0.1622070        total: 4.57s    remaining: 1.87s
71:     learn: 0.1610221        total: 4.63s    remaining: 1.8s
72:     learn: 0.1597558        total: 4.7s     remaining: 1.74s
73:     learn: 0.1585218        total: 4.77s    remaining: 1.67s
74:     learn: 0.1574255        total: 4.83s    remaining: 1.61s
75:     learn: 0.1561515        total: 4.89s    remaining: 1.54s
76:     learn: 0.1554964        total: 4.96s    remaining: 1.48s
77:     learn: 0.1547786        total: 5.03s    remaining: 1.42s
78:     learn: 0.1537094        total: 5.09s    remaining: 1.35s
79:     learn: 0.1531566        total: 5.15s    remaining: 1.29s
80:     learn: 0.1525018        total: 5.23s    remaining: 1.23s
81:     learn: 0.1517559        total: 5.29s    remaining: 1.16s
82:     learn: 0.1507217        total: 5.36s    remaining: 1.1s
83:     learn: 0.1501427        total: 5.43s    remaining: 1.03s
84:     learn: 0.1492777        total: 5.5s     remaining: 970ms
85:     learn: 0.1478195        total: 5.56s    remaining: 905ms
86:     learn: 0.1472703        total: 5.62s    remaining: 840ms
87:     learn: 0.1463466        total: 5.69s    remaining: 776ms
88:     learn: 0.1454892        total: 5.75s    remaining: 711ms
89:     learn: 0.1447916        total: 5.82s    remaining: 646ms
90:     learn: 0.1441773        total: 5.88s    remaining: 581ms
91:     learn: 0.1436952        total: 5.95s    remaining: 517ms
92:     learn: 0.1426867        total: 6.01s    remaining: 452ms
93:     learn: 0.1417135        total: 6.07s    remaining: 388ms
94:     learn: 0.1410550        total: 6.14s    remaining: 323ms
95:     learn: 0.1399964        total: 6.21s    remaining: 259ms
96:     learn: 0.1391385        total: 6.27s    remaining: 194ms
97:     learn: 0.1385389        total: 6.34s    remaining: 129ms
98:     learn: 0.1379841        total: 6.41s    remaining: 64.7ms
99:     learn: 0.1375329        total: 6.48s    remaining: 0us
0:      learn: 0.6540653        total: 61.3ms   remaining: 6.07s
1:      learn: 0.6238478        total: 130ms    remaining: 6.39s
2:      learn: 0.5959144        total: 192ms    remaining: 6.2s
3:      learn: 0.5704693        total: 253ms    remaining: 6.08s
4:      learn: 0.5424980        total: 315ms    remaining: 5.98s
5:      learn: 0.5189555        total: 388ms    remaining: 6.08s
6:      learn: 0.4973877        total: 457ms    remaining: 6.07s
7:      learn: 0.4795491        total: 523ms    remaining: 6.01s
8:      learn: 0.4575369        total: 586ms    remaining: 5.92s
9:      learn: 0.4383681        total: 659ms    remaining: 5.93s
10:     learn: 0.4236574        total: 721ms    remaining: 5.83s
11:     learn: 0.4098328        total: 790ms    remaining: 5.79s
12:     learn: 0.3951242        total: 851ms    remaining: 5.7s
13:     learn: 0.3797355        total: 923ms    remaining: 5.67s
14:     learn: 0.3679848        total: 984ms    remaining: 5.57s
15:     learn: 0.3551584        total: 1.04s    remaining: 5.48s
16:     learn: 0.3429591        total: 1.1s     remaining: 5.4s
17:     learn: 0.3319766        total: 1.18s    remaining: 5.36s
18:     learn: 0.3210817        total: 1.24s    remaining: 5.28s
19:     learn: 0.3113728        total: 1.3s     remaining: 5.2s
20:     learn: 0.3015797        total: 1.36s    remaining: 5.12s
21:     learn: 0.2921199        total: 1.44s    remaining: 5.09s
22:     learn: 0.2835705        total: 1.5s     remaining: 5.02s
23:     learn: 0.2764530        total: 1.56s    remaining: 4.94s
24:     learn: 0.2682459        total: 1.62s    remaining: 4.87s
25:     learn: 0.2607393        total: 1.7s     remaining: 4.83s
26:     learn: 0.2549223        total: 1.76s    remaining: 4.76s
27:     learn: 0.2498269        total: 1.83s    remaining: 4.71s
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28:     learn: 0.2448656        total: 1.89s    remaining: 4.63s
29:     learn: 0.2396942        total: 1.96s    remaining: 4.58s
30:     learn: 0.2352981        total: 2.03s    remaining: 4.51s
31:     learn: 0.2313328        total: 2.09s    remaining: 4.44s
32:     learn: 0.2260055        total: 2.15s    remaining: 4.37s
33:     learn: 0.2221582        total: 2.22s    remaining: 4.32s
34:     learn: 0.2182782        total: 2.26s    remaining: 4.19s
35:     learn: 0.2150233        total: 2.32s    remaining: 4.12s
36:     learn: 0.2113354        total: 2.38s    remaining: 4.05s
37:     learn: 0.2078619        total: 2.45s    remaining: 4s
38:     learn: 0.2052327        total: 2.52s    remaining: 3.94s
39:     learn: 0.2013665        total: 2.58s    remaining: 3.87s
40:     learn: 0.1978561        total: 2.65s    remaining: 3.81s
41:     learn: 0.1950984        total: 2.72s    remaining: 3.76s
42:     learn: 0.1920523        total: 2.79s    remaining: 3.69s
43:     learn: 0.1897285        total: 2.85s    remaining: 3.63s
44:     learn: 0.1871185        total: 2.91s    remaining: 3.56s
45:     learn: 0.1856624        total: 2.99s    remaining: 3.5s
46:     learn: 0.1837186        total: 3.05s    remaining: 3.44s
47:     learn: 0.1813023        total: 3.11s    remaining: 3.37s
48:     learn: 0.1796220        total: 3.17s    remaining: 3.3s
49:     learn: 0.1776197        total: 3.24s    remaining: 3.24s
50:     learn: 0.1751757        total: 3.3s     remaining: 3.17s
51:     learn: 0.1729348        total: 3.36s    remaining: 3.1s
52:     learn: 0.1708987        total: 3.42s    remaining: 3.04s
53:     learn: 0.1688242        total: 3.5s     remaining: 2.98s
54:     learn: 0.1673901        total: 3.56s    remaining: 2.91s
55:     learn: 0.1658478        total: 3.62s    remaining: 2.84s
56:     learn: 0.1645540        total: 3.68s    remaining: 2.78s
57:     learn: 0.1627966        total: 3.75s    remaining: 2.72s
58:     learn: 0.1616572        total: 3.82s    remaining: 2.65s
59:     learn: 0.1604134        total: 3.88s    remaining: 2.59s
60:     learn: 0.1589421        total: 3.94s    remaining: 2.52s
61:     learn: 0.1571371        total: 4.02s    remaining: 2.46s
62:     learn: 0.1554685        total: 4.08s    remaining: 2.4s
63:     learn: 0.1539043        total: 4.14s    remaining: 2.33s
64:     learn: 0.1528442        total: 4.2s     remaining: 2.26s
65:     learn: 0.1515344        total: 4.27s    remaining: 2.2s
66:     learn: 0.1507021        total: 4.33s    remaining: 2.13s
67:     learn: 0.1496661        total: 4.39s    remaining: 2.07s
68:     learn: 0.1480835        total: 4.46s    remaining: 2s
69:     learn: 0.1470150        total: 4.53s    remaining: 1.94s
70:     learn: 0.1459767        total: 4.59s    remaining: 1.88s
71:     learn: 0.1450815        total: 4.65s    remaining: 1.81s
72:     learn: 0.1440835        total: 4.71s    remaining: 1.74s
73:     learn: 0.1429796        total: 4.79s    remaining: 1.68s
74:     learn: 0.1422009        total: 4.85s    remaining: 1.62s
75:     learn: 0.1409572        total: 4.91s    remaining: 1.55s
76:     learn: 0.1400775        total: 4.97s    remaining: 1.49s
77:     learn: 0.1390817        total: 5.04s    remaining: 1.42s
78:     learn: 0.1387175        total: 5.11s    remaining: 1.36s
79:     learn: 0.1379462        total: 5.17s    remaining: 1.29s
80:     learn: 0.1368535        total: 5.23s    remaining: 1.23s
81:     learn: 0.1365185        total: 5.3s     remaining: 1.16s
82:     learn: 0.1353786        total: 5.37s    remaining: 1.1s
83:     learn: 0.1345152        total: 5.43s    remaining: 1.03s
84:     learn: 0.1337387        total: 5.49s    remaining: 969ms
85:     learn: 0.1328631        total: 5.56s    remaining: 905ms
86:     learn: 0.1322802        total: 5.62s    remaining: 840ms
87:     learn: 0.1317863        total: 5.68s    remaining: 775ms
88:     learn: 0.1307686        total: 5.75s    remaining: 710ms
89:     learn: 0.1300485        total: 5.82s    remaining: 646ms
90:     learn: 0.1289662        total: 5.88s    remaining: 582ms
91:     learn: 0.1283517        total: 5.95s    remaining: 517ms
92:     learn: 0.1280596        total: 6.01s    remaining: 452ms
93:     learn: 0.1273379        total: 6.08s    remaining: 388ms
94:     learn: 0.1267970        total: 6.14s    remaining: 323ms
95:     learn: 0.1259918        total: 6.2s     remaining: 258ms
96:     learn: 0.1256699        total: 6.26s    remaining: 194ms
97:     learn: 0.1248844        total: 6.34s    remaining: 129ms
98:     learn: 0.1243483        total: 6.4s     remaining: 64.7ms
99:     learn: 0.1237676        total: 6.46s    remaining: 0us
0:      learn: 0.6544737        total: 61.8ms   remaining: 6.12s
1:      learn: 0.6243721        total: 129ms    remaining: 6.32s
2:      learn: 0.5967087        total: 194ms    remaining: 6.29s
3:      learn: 0.5714414        total: 266ms    remaining: 6.38s
4:      learn: 0.5438113        total: 338ms    remaining: 6.42s
5:      learn: 0.5205085        total: 400ms    remaining: 6.27s
6:      learn: 0.4973297        total: 462ms    remaining: 6.14s
7:      learn: 0.4784090        total: 536ms    remaining: 6.16s
8:      learn: 0.4614967        total: 600ms    remaining: 6.07s
9:      learn: 0.4428721        total: 664ms    remaining: 5.97s
10:     learn: 0.4288570        total: 726ms    remaining: 5.87s
11:     learn: 0.4138198        total: 798ms    remaining: 5.85s
12:     learn: 0.3982922        total: 861ms    remaining: 5.76s
13:     learn: 0.3836702        total: 923ms    remaining: 5.67s
14:     learn: 0.3703649        total: 987ms    remaining: 5.59s
15:     learn: 0.3603258        total: 1.06s    remaining: 5.56s
16:     learn: 0.3491135        total: 1.13s    remaining: 5.5s
17:     learn: 0.3357067        total: 1.19s    remaining: 5.42s
18:     learn: 0.3262217        total: 1.26s    remaining: 5.38s
19:     learn: 0.3159933        total: 1.34s    remaining: 5.35s
20:     learn: 0.3064733        total: 1.4s     remaining: 5.27s
21:     learn: 0.2980187        total: 1.47s    remaining: 5.2s
22:     learn: 0.2897261        total: 1.54s    remaining: 5.17s
23:     learn: 0.2823463        total: 1.61s    remaining: 5.09s
24:     learn: 0.2749390        total: 1.67s    remaining: 5.01s
25:     learn: 0.2672731        total: 1.73s    remaining: 4.93s
26:     learn: 0.2605535        total: 1.8s     remaining: 4.88s
27:     learn: 0.2547399        total: 1.87s    remaining: 4.8s
28:     learn: 0.2491060        total: 1.93s    remaining: 4.72s
29:     learn: 0.2455756        total: 1.99s    remaining: 4.65s
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30:     learn: 0.2408174        total: 2.06s    remaining: 4.6s
31:     learn: 0.2361220        total: 2.13s    remaining: 4.52s
32:     learn: 0.2307084        total: 2.19s    remaining: 4.45s
33:     learn: 0.2258431        total: 2.26s    remaining: 4.39s
34:     learn: 0.2221070        total: 2.33s    remaining: 4.34s
35:     learn: 0.2190044        total: 2.4s     remaining: 4.26s
36:     learn: 0.2156943        total: 2.46s    remaining: 4.19s
37:     learn: 0.2106888        total: 2.52s    remaining: 4.12s
38:     learn: 0.2072490        total: 2.6s     remaining: 4.06s
39:     learn: 0.2039120        total: 2.66s    remaining: 3.99s
40:     learn: 0.2008390        total: 2.72s    remaining: 3.92s
41:     learn: 0.1976952        total: 2.79s    remaining: 3.85s
42:     learn: 0.1953250        total: 2.86s    remaining: 3.79s
43:     learn: 0.1922911        total: 2.92s    remaining: 3.72s
44:     learn: 0.1893275        total: 2.99s    remaining: 3.66s
45:     learn: 0.1866475        total: 3.05s    remaining: 3.58s
46:     learn: 0.1838725        total: 3.13s    remaining: 3.53s
47:     learn: 0.1819540        total: 3.19s    remaining: 3.46s
48:     learn: 0.1802048        total: 3.25s    remaining: 3.39s
49:     learn: 0.1783634        total: 3.32s    remaining: 3.32s
50:     learn: 0.1763171        total: 3.4s     remaining: 3.26s
51:     learn: 0.1743584        total: 3.46s    remaining: 3.19s
52:     learn: 0.1722372        total: 3.52s    remaining: 3.12s
53:     learn: 0.1703785        total: 3.58s    remaining: 3.05s
54:     learn: 0.1692472        total: 3.65s    remaining: 2.99s
55:     learn: 0.1677786        total: 3.71s    remaining: 2.92s
56:     learn: 0.1660164        total: 3.78s    remaining: 2.85s
57:     learn: 0.1640274        total: 3.84s    remaining: 2.78s
58:     learn: 0.1623654        total: 3.91s    remaining: 2.72s
59:     learn: 0.1607201        total: 3.97s    remaining: 2.65s
60:     learn: 0.1590647        total: 4.04s    remaining: 2.58s
61:     learn: 0.1583423        total: 4.07s    remaining: 2.49s
62:     learn: 0.1569575        total: 4.14s    remaining: 2.43s
63:     learn: 0.1556724        total: 4.2s     remaining: 2.36s
64:     learn: 0.1544898        total: 4.27s    remaining: 2.3s
65:     learn: 0.1532769        total: 4.33s    remaining: 2.23s
66:     learn: 0.1519928        total: 4.41s    remaining: 2.17s
67:     learn: 0.1509876        total: 4.47s    remaining: 2.1s
68:     learn: 0.1501819        total: 4.53s    remaining: 2.04s
69:     learn: 0.1490874        total: 4.6s     remaining: 1.97s
70:     learn: 0.1479765        total: 4.67s    remaining: 1.91s
71:     learn: 0.1470488        total: 4.73s    remaining: 1.84s
72:     learn: 0.1463420        total: 4.79s    remaining: 1.77s
73:     learn: 0.1450452        total: 4.86s    remaining: 1.71s
74:     learn: 0.1442532        total: 4.94s    remaining: 1.65s
75:     learn: 0.1434088        total: 5s       remaining: 1.58s
76:     learn: 0.1424383        total: 5.07s    remaining: 1.51s
77:     learn: 0.1414310        total: 5.13s    remaining: 1.45s
78:     learn: 0.1404513        total: 5.2s     remaining: 1.38s
79:     learn: 0.1399318        total: 5.26s    remaining: 1.31s
80:     learn: 0.1390932        total: 5.33s    remaining: 1.25s
81:     learn: 0.1383976        total: 5.39s    remaining: 1.18s
82:     learn: 0.1374238        total: 5.46s    remaining: 1.12s
83:     learn: 0.1363694        total: 5.53s    remaining: 1.05s
84:     learn: 0.1356039        total: 5.6s     remaining: 988ms
85:     learn: 0.1347112        total: 5.66s    remaining: 922ms
86:     learn: 0.1338571        total: 5.74s    remaining: 857ms
87:     learn: 0.1332672        total: 5.8s     remaining: 791ms
88:     learn: 0.1323777        total: 5.86s    remaining: 725ms
89:     learn: 0.1318842        total: 5.93s    remaining: 659ms
90:     learn: 0.1309418        total: 6s       remaining: 593ms
91:     learn: 0.1302658        total: 6.06s    remaining: 527ms
92:     learn: 0.1296418        total: 6.12s    remaining: 461ms
93:     learn: 0.1290132        total: 6.18s    remaining: 395ms
94:     learn: 0.1285363        total: 6.25s    remaining: 329ms
95:     learn: 0.1276542        total: 6.32s    remaining: 264ms
96:     learn: 0.1271076        total: 6.39s    remaining: 198ms
97:     learn: 0.1264411        total: 6.45s    remaining: 132ms
98:     learn: 0.1260409        total: 6.52s    remaining: 65.9ms
99:     learn: 0.1251608        total: 6.59s    remaining: 0us
0:      learn: 0.6405767        total: 74.5ms   remaining: 7.38s
1:      learn: 0.5996205        total: 138ms    remaining: 6.77s
2:      learn: 0.5643309        total: 202ms    remaining: 6.53s
3:      learn: 0.5291469        total: 265ms    remaining: 6.37s
4:      learn: 0.4963698        total: 338ms    remaining: 6.42s
5:      learn: 0.4686419        total: 402ms    remaining: 6.3s
6:      learn: 0.4413511        total: 466ms    remaining: 6.19s
7:      learn: 0.4204681        total: 530ms    remaining: 6.09s
8:      learn: 0.3996785        total: 611ms    remaining: 6.18s
9:      learn: 0.3800318        total: 673ms    remaining: 6.06s
10:     learn: 0.3650267        total: 735ms    remaining: 5.95s
11:     learn: 0.3500369        total: 804ms    remaining: 5.89s
12:     learn: 0.3351715        total: 876ms    remaining: 5.86s
13:     learn: 0.3181941        total: 946ms    remaining: 5.81s
14:     learn: 0.3058772        total: 1.01s    remaining: 5.71s
15:     learn: 0.2938017        total: 1.07s    remaining: 5.62s
16:     learn: 0.2844585        total: 1.14s    remaining: 5.59s
17:     learn: 0.2744596        total: 1.21s    remaining: 5.51s
18:     learn: 0.2658445        total: 1.27s    remaining: 5.43s
19:     learn: 0.2574277        total: 1.33s    remaining: 5.34s
20:     learn: 0.2491778        total: 1.41s    remaining: 5.3s
21:     learn: 0.2413242        total: 1.47s    remaining: 5.22s
22:     learn: 0.2348949        total: 1.53s    remaining: 5.14s
23:     learn: 0.2289314        total: 1.6s     remaining: 5.08s
24:     learn: 0.2224604        total: 1.68s    remaining: 5.03s
25:     learn: 0.2167816        total: 1.74s    remaining: 4.95s
26:     learn: 0.2126064        total: 1.8s     remaining: 4.87s
27:     learn: 0.2088372        total: 1.86s    remaining: 4.79s
28:     learn: 0.2051392        total: 1.94s    remaining: 4.74s
29:     learn: 0.2018980        total: 2s       remaining: 4.66s
30:     learn: 0.1995494        total: 2.03s    remaining: 4.52s
31:     learn: 0.1963690        total: 2.09s    remaining: 4.45s
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32:     learn: 0.1933529        total: 2.16s    remaining: 4.39s
33:     learn: 0.1899552        total: 2.23s    remaining: 4.32s
34:     learn: 0.1874936        total: 2.29s    remaining: 4.25s
35:     learn: 0.1855012        total: 2.35s    remaining: 4.17s
36:     learn: 0.1827975        total: 2.42s    remaining: 4.12s
37:     learn: 0.1807538        total: 2.48s    remaining: 4.05s
38:     learn: 0.1790976        total: 2.55s    remaining: 3.98s
39:     learn: 0.1763138        total: 2.62s    remaining: 3.92s
40:     learn: 0.1745826        total: 2.69s    remaining: 3.87s
41:     learn: 0.1722213        total: 2.75s    remaining: 3.8s
42:     learn: 0.1704931        total: 2.81s    remaining: 3.73s
43:     learn: 0.1692102        total: 2.87s    remaining: 3.66s
44:     learn: 0.1675135        total: 2.95s    remaining: 3.6s
45:     learn: 0.1659442        total: 3.01s    remaining: 3.53s
46:     learn: 0.1640419        total: 3.07s    remaining: 3.46s
47:     learn: 0.1622280        total: 3.13s    remaining: 3.39s
48:     learn: 0.1604812        total: 3.2s     remaining: 3.33s
49:     learn: 0.1588540        total: 3.27s    remaining: 3.27s
50:     learn: 0.1568258        total: 3.33s    remaining: 3.2s
51:     learn: 0.1549497        total: 3.39s    remaining: 3.13s
52:     learn: 0.1533531        total: 3.46s    remaining: 3.07s
53:     learn: 0.1521984        total: 3.52s    remaining: 3s
54:     learn: 0.1509152        total: 3.59s    remaining: 2.93s
55:     learn: 0.1495315        total: 3.65s    remaining: 2.87s
56:     learn: 0.1481156        total: 3.73s    remaining: 2.81s
57:     learn: 0.1471316        total: 3.79s    remaining: 2.74s
58:     learn: 0.1456776        total: 3.85s    remaining: 2.68s
59:     learn: 0.1445020        total: 3.91s    remaining: 2.61s
60:     learn: 0.1434291        total: 3.99s    remaining: 2.55s
61:     learn: 0.1420458        total: 4.05s    remaining: 2.48s
62:     learn: 0.1407414        total: 4.11s    remaining: 2.42s
63:     learn: 0.1399374        total: 4.18s    remaining: 2.35s
64:     learn: 0.1393622        total: 4.25s    remaining: 2.29s
65:     learn: 0.1384174        total: 4.31s    remaining: 2.22s
66:     learn: 0.1376984        total: 4.38s    remaining: 2.15s
67:     learn: 0.1367097        total: 4.44s    remaining: 2.09s
68:     learn: 0.1355475        total: 4.51s    remaining: 2.02s
69:     learn: 0.1347687        total: 4.57s    remaining: 1.96s
70:     learn: 0.1338496        total: 4.64s    remaining: 1.9s
71:     learn: 0.1333170        total: 4.7s     remaining: 1.83s
72:     learn: 0.1326448        total: 4.77s    remaining: 1.76s
73:     learn: 0.1320969        total: 4.83s    remaining: 1.7s
74:     learn: 0.1310365        total: 4.89s    remaining: 1.63s
75:     learn: 0.1300034        total: 4.96s    remaining: 1.56s
76:     learn: 0.1293969        total: 5.03s    remaining: 1.5s
77:     learn: 0.1283932        total: 5.09s    remaining: 1.44s
78:     learn: 0.1276565        total: 5.15s    remaining: 1.37s
79:     learn: 0.1272210        total: 5.22s    remaining: 1.3s
80:     learn: 0.1265984        total: 5.29s    remaining: 1.24s
81:     learn: 0.1262164        total: 5.35s    remaining: 1.17s
82:     learn: 0.1254524        total: 5.41s    remaining: 1.11s
83:     learn: 0.1249389        total: 5.47s    remaining: 1.04s
84:     learn: 0.1241101        total: 5.54s    remaining: 978ms
85:     learn: 0.1235268        total: 5.61s    remaining: 913ms
86:     learn: 0.1231324        total: 5.68s    remaining: 848ms
87:     learn: 0.1227627        total: 5.74s    remaining: 782ms
88:     learn: 0.1219023        total: 5.81s    remaining: 718ms
89:     learn: 0.1212426        total: 5.87s    remaining: 653ms
90:     learn: 0.1202911        total: 5.94s    remaining: 587ms
91:     learn: 0.1195236        total: 6s       remaining: 522ms
92:     learn: 0.1192031        total: 6.08s    remaining: 457ms
93:     learn: 0.1188718        total: 6.14s    remaining: 392ms
94:     learn: 0.1180442        total: 6.2s     remaining: 326ms
95:     learn: 0.1170755        total: 6.26s    remaining: 261ms
96:     learn: 0.1166094        total: 6.33s    remaining: 196ms
97:     learn: 0.1158592        total: 6.39s    remaining: 130ms
98:     learn: 0.1154253        total: 6.46s    remaining: 65.2ms
99:     learn: 0.1147398        total: 6.52s    remaining: 0us
0:      learn: 0.6353497        total: 64.7ms   remaining: 6.4s
1:      learn: 0.5921152        total: 127ms    remaining: 6.24s
2:      learn: 0.5535898        total: 190ms    remaining: 6.14s
3:      learn: 0.5196290        total: 252ms    remaining: 6.04s
4:      learn: 0.4834735        total: 325ms    remaining: 6.17s
5:      learn: 0.4542054        total: 386ms    remaining: 6.05s
6:      learn: 0.4282525        total: 448ms    remaining: 5.95s
7:      learn: 0.4081607        total: 509ms    remaining: 5.85s
8:      learn: 0.3830675        total: 580ms    remaining: 5.87s
9:      learn: 0.3637118        total: 642ms    remaining: 5.78s
10:     learn: 0.3494296        total: 703ms    remaining: 5.69s
11:     learn: 0.3359621        total: 766ms    remaining: 5.62s
12:     learn: 0.3209310        total: 839ms    remaining: 5.62s
13:     learn: 0.3056161        total: 903ms    remaining: 5.54s
14:     learn: 0.2945271        total: 965ms    remaining: 5.47s
15:     learn: 0.2825744        total: 1.03s    remaining: 5.44s
16:     learn: 0.2703368        total: 1.1s     remaining: 5.4s
17:     learn: 0.2613187        total: 1.17s    remaining: 5.31s
18:     learn: 0.2528520        total: 1.23s    remaining: 5.23s
19:     learn: 0.2442072        total: 1.29s    remaining: 5.16s
20:     learn: 0.2362274        total: 1.36s    remaining: 5.11s
21:     learn: 0.2285639        total: 1.42s    remaining: 5.04s
22:     learn: 0.2214780        total: 1.48s    remaining: 4.96s
23:     learn: 0.2155780        total: 1.54s    remaining: 4.89s
24:     learn: 0.2093132        total: 1.62s    remaining: 4.85s
25:     learn: 0.2034781        total: 1.68s    remaining: 4.79s
26:     learn: 0.1988842        total: 1.75s    remaining: 4.72s
27:     learn: 0.1947485        total: 1.81s    remaining: 4.65s
28:     learn: 0.1906901        total: 1.88s    remaining: 4.6s
29:     learn: 0.1871079        total: 1.94s    remaining: 4.53s
30:     learn: 0.1843848        total: 2.01s    remaining: 4.47s
31:     learn: 0.1816733        total: 2.07s    remaining: 4.4s
32:     learn: 0.1788240        total: 2.14s    remaining: 4.35s
33:     learn: 0.1751461        total: 2.2s     remaining: 4.28s
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34:     learn: 0.1724809        total: 2.27s    remaining: 4.21s
35:     learn: 0.1699664        total: 2.33s    remaining: 4.14s
36:     learn: 0.1671701        total: 2.4s     remaining: 4.08s
37:     learn: 0.1652455        total: 2.46s    remaining: 4.02s
38:     learn: 0.1633526        total: 2.52s    remaining: 3.95s
39:     learn: 0.1605380        total: 2.59s    remaining: 3.88s
40:     learn: 0.1582161        total: 2.67s    remaining: 3.84s
41:     learn: 0.1564583        total: 2.73s    remaining: 3.77s
42:     learn: 0.1546798        total: 2.79s    remaining: 3.7s
43:     learn: 0.1527895        total: 2.85s    remaining: 3.63s
44:     learn: 0.1503207        total: 2.92s    remaining: 3.57s
45:     learn: 0.1484176        total: 2.98s    remaining: 3.5s
46:     learn: 0.1469035        total: 3.05s    remaining: 3.44s
47:     learn: 0.1459191        total: 3.11s    remaining: 3.37s
48:     learn: 0.1443983        total: 3.18s    remaining: 3.31s
49:     learn: 0.1428755        total: 3.24s    remaining: 3.24s
50:     learn: 0.1412354        total: 3.31s    remaining: 3.18s
51:     learn: 0.1402045        total: 3.37s    remaining: 3.11s
52:     learn: 0.1384916        total: 3.44s    remaining: 3.05s
53:     learn: 0.1369958        total: 3.5s     remaining: 2.98s
54:     learn: 0.1356745        total: 3.56s    remaining: 2.91s
55:     learn: 0.1338516        total: 3.62s    remaining: 2.85s
56:     learn: 0.1328087        total: 3.69s    remaining: 2.79s
57:     learn: 0.1316690        total: 3.76s    remaining: 2.72s
58:     learn: 0.1309102        total: 3.82s    remaining: 2.65s
59:     learn: 0.1297630        total: 3.88s    remaining: 2.59s
60:     learn: 0.1288514        total: 3.95s    remaining: 2.53s
61:     learn: 0.1281114        total: 4.02s    remaining: 2.46s
62:     learn: 0.1269264        total: 4.08s    remaining: 2.4s
63:     learn: 0.1255855        total: 4.15s    remaining: 2.33s
64:     learn: 0.1247680        total: 4.22s    remaining: 2.27s
65:     learn: 0.1241446        total: 4.28s    remaining: 2.2s
66:     learn: 0.1231742        total: 4.34s    remaining: 2.14s
67:     learn: 0.1225475        total: 4.4s     remaining: 2.07s
68:     learn: 0.1215522        total: 4.47s    remaining: 2.01s
69:     learn: 0.1205536        total: 4.54s    remaining: 1.94s
70:     learn: 0.1201911        total: 4.6s     remaining: 1.88s
71:     learn: 0.1193865        total: 4.66s    remaining: 1.81s
72:     learn: 0.1183752        total: 4.73s    remaining: 1.75s
73:     learn: 0.1174429        total: 4.79s    remaining: 1.68s
74:     learn: 0.1166777        total: 4.85s    remaining: 1.62s
75:     learn: 0.1162296        total: 4.91s    remaining: 1.55s
76:     learn: 0.1157291        total: 4.99s    remaining: 1.49s
77:     learn: 0.1150606        total: 5.05s    remaining: 1.43s
78:     learn: 0.1142144        total: 5.12s    remaining: 1.36s
79:     learn: 0.1134072        total: 5.18s    remaining: 1.29s
80:     learn: 0.1129746        total: 5.25s    remaining: 1.23s
81:     learn: 0.1122674        total: 5.32s    remaining: 1.17s
82:     learn: 0.1117449        total: 5.38s    remaining: 1.1s
83:     learn: 0.1112770        total: 5.44s    remaining: 1.04s
84:     learn: 0.1102044        total: 5.51s    remaining: 973ms
85:     learn: 0.1095606        total: 5.57s    remaining: 907ms
86:     learn: 0.1081200        total: 5.63s    remaining: 842ms
87:     learn: 0.1072115        total: 5.69s    remaining: 777ms
88:     learn: 0.1066320        total: 5.77s    remaining: 713ms
89:     learn: 0.1062135        total: 5.83s    remaining: 648ms
90:     learn: 0.1055393        total: 5.89s    remaining: 582ms
91:     learn: 0.1048152        total: 5.95s    remaining: 517ms
92:     learn: 0.1041522        total: 6.02s    remaining: 453ms
93:     learn: 0.1035477        total: 6.09s    remaining: 389ms
94:     learn: 0.1031037        total: 6.16s    remaining: 324ms
95:     learn: 0.1025854        total: 6.22s    remaining: 259ms
96:     learn: 0.1020947        total: 6.29s    remaining: 195ms
97:     learn: 0.1017123        total: 6.36s    remaining: 130ms
98:     learn: 0.1013673        total: 6.42s    remaining: 64.8ms
99:     learn: 0.1008839        total: 6.48s    remaining: 0us
0:      learn: 0.6359135        total: 62.1ms   remaining: 6.15s
1:      learn: 0.5929209        total: 125ms    remaining: 6.12s
2:      learn: 0.5547103        total: 187ms    remaining: 6.05s
3:      learn: 0.5209719        total: 249ms    remaining: 5.99s
4:      learn: 0.4852138        total: 321ms    remaining: 6.1s
5:      learn: 0.4562041        total: 384ms    remaining: 6.02s
6:      learn: 0.4282418        total: 465ms    remaining: 6.17s
7:      learn: 0.4083119        total: 537ms    remaining: 6.17s
8:      learn: 0.3891278        total: 601ms    remaining: 6.08s
9:      learn: 0.3702296        total: 663ms    remaining: 5.97s
10:     learn: 0.3553311        total: 726ms    remaining: 5.87s
11:     learn: 0.3395095        total: 797ms    remaining: 5.84s
12:     learn: 0.3229120        total: 858ms    remaining: 5.75s
13:     learn: 0.3082493        total: 921ms    remaining: 5.66s
14:     learn: 0.2955861        total: 983ms    remaining: 5.57s
15:     learn: 0.2860498        total: 1.05s    remaining: 5.53s
16:     learn: 0.2742004        total: 1.12s    remaining: 5.46s
17:     learn: 0.2636846        total: 1.18s    remaining: 5.4s
18:     learn: 0.2554040        total: 1.25s    remaining: 5.32s
19:     learn: 0.2474190        total: 1.32s    remaining: 5.28s
20:     learn: 0.2396295        total: 1.38s    remaining: 5.21s
21:     learn: 0.2334591        total: 1.45s    remaining: 5.13s
22:     learn: 0.2265431        total: 1.52s    remaining: 5.08s
23:     learn: 0.2206535        total: 1.59s    remaining: 5.04s
24:     learn: 0.2147171        total: 1.65s    remaining: 4.96s
25:     learn: 0.2083264        total: 1.72s    remaining: 4.88s
26:     learn: 0.2034177        total: 1.78s    remaining: 4.81s
27:     learn: 0.1987278        total: 1.85s    remaining: 4.76s
28:     learn: 0.1953152        total: 1.91s    remaining: 4.68s
29:     learn: 0.1911483        total: 1.98s    remaining: 4.61s
30:     learn: 0.1884197        total: 2.04s    remaining: 4.54s
31:     learn: 0.1845792        total: 2.11s    remaining: 4.49s
32:     learn: 0.1803822        total: 2.18s    remaining: 4.42s
33:     learn: 0.1772745        total: 2.24s    remaining: 4.35s
34:     learn: 0.1743904        total: 2.31s    remaining: 4.28s
35:     learn: 0.1719947        total: 2.38s    remaining: 4.23s
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36:     learn: 0.1696202        total: 2.44s    remaining: 4.16s
37:     learn: 0.1667876        total: 2.51s    remaining: 4.1s
38:     learn: 0.1646059        total: 2.57s    remaining: 4.03s
39:     learn: 0.1628898        total: 2.64s    remaining: 3.96s
40:     learn: 0.1607439        total: 2.71s    remaining: 3.89s
41:     learn: 0.1588222        total: 2.77s    remaining: 3.82s
42:     learn: 0.1572630        total: 2.83s    remaining: 3.75s
43:     learn: 0.1550289        total: 2.9s     remaining: 3.7s
44:     learn: 0.1527577        total: 2.97s    remaining: 3.63s
45:     learn: 0.1517774        total: 3.03s    remaining: 3.56s
46:     learn: 0.1497283        total: 3.09s    remaining: 3.49s
47:     learn: 0.1478776        total: 3.16s    remaining: 3.42s
48:     learn: 0.1461697        total: 3.22s    remaining: 3.35s
49:     learn: 0.1450131        total: 3.29s    remaining: 3.29s
50:     learn: 0.1429934        total: 3.35s    remaining: 3.22s
51:     learn: 0.1417741        total: 3.42s    remaining: 3.16s
52:     learn: 0.1402628        total: 3.49s    remaining: 3.1s
53:     learn: 0.1389643        total: 3.55s    remaining: 3.02s
54:     learn: 0.1382555        total: 3.61s    remaining: 2.96s
55:     learn: 0.1369022        total: 3.69s    remaining: 2.9s
56:     learn: 0.1357385        total: 3.75s    remaining: 2.83s
57:     learn: 0.1342481        total: 3.81s    remaining: 2.76s
58:     learn: 0.1328087        total: 3.88s    remaining: 2.69s
59:     learn: 0.1314383        total: 3.95s    remaining: 2.63s
60:     learn: 0.1303359        total: 4.01s    remaining: 2.57s
61:     learn: 0.1296234        total: 4.08s    remaining: 2.5s
62:     learn: 0.1287660        total: 4.14s    remaining: 2.43s
63:     learn: 0.1278191        total: 4.21s    remaining: 2.37s
64:     learn: 0.1267352        total: 4.28s    remaining: 2.3s
65:     learn: 0.1258630        total: 4.34s    remaining: 2.24s
66:     learn: 0.1250921        total: 4.4s     remaining: 2.17s
67:     learn: 0.1243756        total: 4.47s    remaining: 2.1s
68:     learn: 0.1232851        total: 4.54s    remaining: 2.04s
69:     learn: 0.1223489        total: 4.6s     remaining: 1.97s
70:     learn: 0.1219980        total: 4.67s    remaining: 1.91s
71:     learn: 0.1211863        total: 4.74s    remaining: 1.84s
72:     learn: 0.1205269        total: 4.8s     remaining: 1.78s
73:     learn: 0.1197791        total: 4.87s    remaining: 1.71s
74:     learn: 0.1189355        total: 4.93s    remaining: 1.64s
75:     learn: 0.1182368        total: 5s       remaining: 1.58s
76:     learn: 0.1173689        total: 5.06s    remaining: 1.51s
77:     learn: 0.1162632        total: 5.12s    remaining: 1.45s
78:     learn: 0.1154873        total: 5.19s    remaining: 1.38s
79:     learn: 0.1151215        total: 5.26s    remaining: 1.31s
80:     learn: 0.1144938        total: 5.33s    remaining: 1.25s
81:     learn: 0.1136620        total: 5.39s    remaining: 1.18s
82:     learn: 0.1131121        total: 5.45s    remaining: 1.12s
83:     learn: 0.1121625        total: 5.53s    remaining: 1.05s
84:     learn: 0.1114457        total: 5.59s    remaining: 986ms
85:     learn: 0.1107807        total: 5.65s    remaining: 920ms
86:     learn: 0.1100561        total: 5.71s    remaining: 854ms
87:     learn: 0.1094486        total: 5.79s    remaining: 789ms
88:     learn: 0.1089382        total: 5.85s    remaining: 723ms
89:     learn: 0.1084094        total: 5.91s    remaining: 657ms
90:     learn: 0.1075474        total: 5.97s    remaining: 591ms
91:     learn: 0.1068708        total: 6.04s    remaining: 526ms
92:     learn: 0.1060686        total: 6.11s    remaining: 460ms
93:     learn: 0.1054711        total: 6.18s    remaining: 395ms
94:     learn: 0.1049941        total: 6.25s    remaining: 329ms
95:     learn: 0.1045097        total: 6.32s    remaining: 263ms
96:     learn: 0.1041566        total: 6.39s    remaining: 198ms
97:     learn: 0.1031776        total: 6.45s    remaining: 132ms
98:     learn: 0.1021069        total: 6.53s    remaining: 66ms
99:     learn: 0.1016102        total: 6.59s    remaining: 0us
0:      learn: 0.6239310        total: 72.8ms   remaining: 7.21s
1:      learn: 0.5718186        total: 136ms    remaining: 6.68s
2:      learn: 0.5283946        total: 198ms    remaining: 6.39s
3:      learn: 0.4863956        total: 259ms    remaining: 6.22s
4:      learn: 0.4495513        total: 332ms    remaining: 6.3s
5:      learn: 0.4185317        total: 395ms    remaining: 6.19s
6:      learn: 0.3889110        total: 460ms    remaining: 6.11s
7:      learn: 0.3671180        total: 522ms    remaining: 6s
8:      learn: 0.3458984        total: 591ms    remaining: 5.97s
9:      learn: 0.3256360        total: 653ms    remaining: 5.88s
10:     learn: 0.3113740        total: 715ms    remaining: 5.79s
11:     learn: 0.2970701        total: 777ms    remaining: 5.7s
12:     learn: 0.2834752        total: 857ms    remaining: 5.74s
13:     learn: 0.2687126        total: 920ms    remaining: 5.65s
14:     learn: 0.2579867        total: 982ms    remaining: 5.56s
15:     learn: 0.2487112        total: 1.04s    remaining: 5.48s
16:     learn: 0.2405785        total: 1.11s    remaining: 5.43s
17:     learn: 0.2317074        total: 1.18s    remaining: 5.36s
18:     learn: 0.2250600        total: 1.24s    remaining: 5.28s
19:     learn: 0.2198016        total: 1.3s     remaining: 5.21s
20:     learn: 0.2135793        total: 1.37s    remaining: 5.16s
21:     learn: 0.2081890        total: 1.43s    remaining: 5.08s
22:     learn: 0.2025398        total: 1.5s     remaining: 5.01s
23:     learn: 0.1978335        total: 1.56s    remaining: 4.93s
24:     learn: 0.1927684        total: 1.63s    remaining: 4.89s
25:     learn: 0.1880674        total: 1.7s     remaining: 4.83s
26:     learn: 0.1847693        total: 1.76s    remaining: 4.76s
27:     learn: 0.1819173        total: 1.83s    remaining: 4.72s
28:     learn: 0.1785120        total: 1.91s    remaining: 4.67s
29:     learn: 0.1761272        total: 1.97s    remaining: 4.6s
30:     learn: 0.1743645        total: 1.98s    remaining: 4.41s
31:     learn: 0.1718918        total: 2.05s    remaining: 4.36s
32:     learn: 0.1686857        total: 2.11s    remaining: 4.29s
33:     learn: 0.1663814        total: 2.18s    remaining: 4.22s
34:     learn: 0.1638285        total: 2.24s    remaining: 4.16s
35:     learn: 0.1622072        total: 2.31s    remaining: 4.1s
36:     learn: 0.1596769        total: 2.37s    remaining: 4.04s
37:     learn: 0.1573897        total: 2.43s    remaining: 3.97s
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38:     learn: 0.1553698        total: 2.49s    remaining: 3.9s
39:     learn: 0.1537662        total: 2.57s    remaining: 3.85s
40:     learn: 0.1524026        total: 2.63s    remaining: 3.79s
41:     learn: 0.1507448        total: 2.7s     remaining: 3.73s
42:     learn: 0.1497027        total: 2.76s    remaining: 3.66s
43:     learn: 0.1473185        total: 2.84s    remaining: 3.61s
44:     learn: 0.1461550        total: 2.9s     remaining: 3.54s
45:     learn: 0.1445967        total: 2.96s    remaining: 3.48s
46:     learn: 0.1432039        total: 3.03s    remaining: 3.41s
47:     learn: 0.1419276        total: 3.1s     remaining: 3.35s
48:     learn: 0.1401957        total: 3.16s    remaining: 3.29s
49:     learn: 0.1382599        total: 3.22s    remaining: 3.22s
50:     learn: 0.1366014        total: 3.29s    remaining: 3.16s
51:     learn: 0.1358690        total: 3.36s    remaining: 3.1s
52:     learn: 0.1341076        total: 3.42s    remaining: 3.03s
53:     learn: 0.1331534        total: 3.48s    remaining: 2.97s
54:     learn: 0.1317607        total: 3.55s    remaining: 2.9s
55:     learn: 0.1302835        total: 3.62s    remaining: 2.84s
56:     learn: 0.1295677        total: 3.68s    remaining: 2.78s
57:     learn: 0.1289158        total: 3.74s    remaining: 2.71s
58:     learn: 0.1277756        total: 3.8s     remaining: 2.64s
59:     learn: 0.1265597        total: 3.88s    remaining: 2.59s
60:     learn: 0.1254814        total: 3.95s    remaining: 2.52s
61:     learn: 0.1247039        total: 4.01s    remaining: 2.46s
62:     learn: 0.1241899        total: 4.07s    remaining: 2.39s
63:     learn: 0.1236659        total: 4.14s    remaining: 2.33s
64:     learn: 0.1227985        total: 4.21s    remaining: 2.26s
65:     learn: 0.1218466        total: 4.27s    remaining: 2.2s
66:     learn: 0.1204131        total: 4.33s    remaining: 2.13s
67:     learn: 0.1194781        total: 4.4s     remaining: 2.07s
68:     learn: 0.1184859        total: 4.46s    remaining: 2s
69:     learn: 0.1173508        total: 4.53s    remaining: 1.94s
70:     learn: 0.1167230        total: 4.59s    remaining: 1.88s
71:     learn: 0.1162203        total: 4.66s    remaining: 1.81s
72:     learn: 0.1155052        total: 4.72s    remaining: 1.75s
73:     learn: 0.1147068        total: 4.79s    remaining: 1.68s
74:     learn: 0.1144198        total: 4.86s    remaining: 1.62s
75:     learn: 0.1137842        total: 4.93s    remaining: 1.56s
76:     learn: 0.1134772        total: 4.99s    remaining: 1.49s
77:     learn: 0.1128541        total: 5.06s    remaining: 1.43s
78:     learn: 0.1117335        total: 5.12s    remaining: 1.36s
79:     learn: 0.1113213        total: 5.2s     remaining: 1.3s
80:     learn: 0.1105426        total: 5.26s    remaining: 1.23s
81:     learn: 0.1097639        total: 5.33s    remaining: 1.17s
82:     learn: 0.1089559        total: 5.39s    remaining: 1.1s
83:     learn: 0.1080754        total: 5.46s    remaining: 1.04s
84:     learn: 0.1073626        total: 5.52s    remaining: 974ms
85:     learn: 0.1065836        total: 5.58s    remaining: 909ms
86:     learn: 0.1060247        total: 5.64s    remaining: 843ms
87:     learn: 0.1053012        total: 5.71s    remaining: 779ms
88:     learn: 0.1041980        total: 5.78s    remaining: 714ms
89:     learn: 0.1036933        total: 5.84s    remaining: 649ms
90:     learn: 0.1031705        total: 5.91s    remaining: 584ms
91:     learn: 0.1026576        total: 5.98s    remaining: 520ms
92:     learn: 0.1014268        total: 6.04s    remaining: 455ms
93:     learn: 0.1008535        total: 6.11s    remaining: 390ms
94:     learn: 0.1001186        total: 6.17s    remaining: 325ms
95:     learn: 0.0996875        total: 6.24s    remaining: 260ms
96:     learn: 0.0993911        total: 6.3s     remaining: 195ms
97:     learn: 0.0984643        total: 6.37s    remaining: 130ms
98:     learn: 0.0976382        total: 6.43s    remaining: 64.9ms
99:     learn: 0.0973757        total: 6.5s     remaining: 0us
0:      learn: 0.6171815        total: 61.8ms   remaining: 6.11s
1:      learn: 0.5623875        total: 135ms    remaining: 6.63s
2:      learn: 0.5152374        total: 196ms    remaining: 6.34s
3:      learn: 0.4750427        total: 265ms    remaining: 6.36s
4:      learn: 0.4330383        total: 327ms    remaining: 6.21s
5:      learn: 0.4006397        total: 396ms    remaining: 6.21s
6:      learn: 0.3730126        total: 458ms    remaining: 6.08s
7:      learn: 0.3522459        total: 520ms    remaining: 5.98s
8:      learn: 0.3297206        total: 587ms    remaining: 5.93s
9:      learn: 0.3106498        total: 661ms    remaining: 5.95s
10:     learn: 0.2956191        total: 724ms    remaining: 5.86s
11:     learn: 0.2828519        total: 786ms    remaining: 5.77s
12:     learn: 0.2683700        total: 848ms    remaining: 5.68s
13:     learn: 0.2548416        total: 921ms    remaining: 5.66s
14:     learn: 0.2445310        total: 985ms    remaining: 5.58s
15:     learn: 0.2368503        total: 1.05s    remaining: 5.5s
16:     learn: 0.2261921        total: 1.11s    remaining: 5.41s
17:     learn: 0.2163627        total: 1.18s    remaining: 5.39s
18:     learn: 0.2087138        total: 1.25s    remaining: 5.34s
19:     learn: 0.2028515        total: 1.31s    remaining: 5.26s
20:     learn: 0.1969152        total: 1.38s    remaining: 5.18s
21:     learn: 0.1903933        total: 1.45s    remaining: 5.13s
22:     learn: 0.1852247        total: 1.51s    remaining: 5.06s
23:     learn: 0.1797691        total: 1.57s    remaining: 4.98s
24:     learn: 0.1753822        total: 1.63s    remaining: 4.9s
25:     learn: 0.1709508        total: 1.7s     remaining: 4.85s
26:     learn: 0.1678978        total: 1.76s    remaining: 4.77s
27:     learn: 0.1655649        total: 1.83s    remaining: 4.7s
28:     learn: 0.1627581        total: 1.89s    remaining: 4.62s
29:     learn: 0.1602145        total: 1.96s    remaining: 4.58s
30:     learn: 0.1583417        total: 2.02s    remaining: 4.51s
31:     learn: 0.1568318        total: 2.08s    remaining: 4.43s
32:     learn: 0.1537695        total: 2.15s    remaining: 4.36s
33:     learn: 0.1509333        total: 2.22s    remaining: 4.31s
34:     learn: 0.1489242        total: 2.29s    remaining: 4.25s
35:     learn: 0.1469552        total: 2.35s    remaining: 4.18s
36:     learn: 0.1447380        total: 2.41s    remaining: 4.11s
37:     learn: 0.1430591        total: 2.48s    remaining: 4.05s
38:     learn: 0.1415960        total: 2.54s    remaining: 3.98s
39:     learn: 0.1392770        total: 2.61s    remaining: 3.91s
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40:     learn: 0.1371188        total: 2.67s    remaining: 3.84s
41:     learn: 0.1355170        total: 2.74s    remaining: 3.78s
42:     learn: 0.1339942        total: 2.8s     remaining: 3.71s
43:     learn: 0.1320753        total: 2.86s    remaining: 3.64s
44:     learn: 0.1297115        total: 2.92s    remaining: 3.57s
45:     learn: 0.1286344        total: 3s       remaining: 3.52s
46:     learn: 0.1270824        total: 3.06s    remaining: 3.45s
47:     learn: 0.1258805        total: 3.12s    remaining: 3.38s
48:     learn: 0.1248059        total: 3.18s    remaining: 3.31s
49:     learn: 0.1233328        total: 3.25s    remaining: 3.25s
50:     learn: 0.1221699        total: 3.32s    remaining: 3.19s
51:     learn: 0.1214627        total: 3.39s    remaining: 3.13s
52:     learn: 0.1199529        total: 3.45s    remaining: 3.06s
53:     learn: 0.1183467        total: 3.52s    remaining: 3s
54:     learn: 0.1178950        total: 3.58s    remaining: 2.93s
55:     learn: 0.1163585        total: 3.64s    remaining: 2.86s
56:     learn: 0.1156988        total: 3.7s     remaining: 2.79s
57:     learn: 0.1140227        total: 3.77s    remaining: 2.73s
58:     learn: 0.1128883        total: 3.83s    remaining: 2.67s
59:     learn: 0.1123318        total: 3.9s     remaining: 2.6s
60:     learn: 0.1109377        total: 3.96s    remaining: 2.53s
61:     learn: 0.1103783        total: 4.03s    remaining: 2.47s
62:     learn: 0.1099997        total: 4.09s    remaining: 2.4s
63:     learn: 0.1086760        total: 4.16s    remaining: 2.34s
64:     learn: 0.1082588        total: 4.23s    remaining: 2.28s
65:     learn: 0.1077245        total: 4.31s    remaining: 2.22s
66:     learn: 0.1064655        total: 4.37s    remaining: 2.15s
67:     learn: 0.1055730        total: 4.44s    remaining: 2.09s
68:     learn: 0.1045349        total: 4.5s     remaining: 2.02s
69:     learn: 0.1039016        total: 4.57s    remaining: 1.96s
70:     learn: 0.1034796        total: 4.63s    remaining: 1.89s
71:     learn: 0.1024758        total: 4.7s     remaining: 1.83s
72:     learn: 0.1012859        total: 4.76s    remaining: 1.76s
73:     learn: 0.1004897        total: 4.83s    remaining: 1.7s
74:     learn: 0.0994806        total: 4.89s    remaining: 1.63s
75:     learn: 0.0989034        total: 4.96s    remaining: 1.56s
76:     learn: 0.0981296        total: 5.02s    remaining: 1.5s
77:     learn: 0.0974566        total: 5.09s    remaining: 1.44s
78:     learn: 0.0963567        total: 5.15s    remaining: 1.37s
79:     learn: 0.0955816        total: 5.22s    remaining: 1.3s
80:     learn: 0.0951567        total: 5.28s    remaining: 1.24s
81:     learn: 0.0944803        total: 5.36s    remaining: 1.18s
82:     learn: 0.0941616        total: 5.42s    remaining: 1.11s
83:     learn: 0.0932592        total: 5.48s    remaining: 1.04s
84:     learn: 0.0922195        total: 5.54s    remaining: 978ms
85:     learn: 0.0917217        total: 5.61s    remaining: 914ms
86:     learn: 0.0904324        total: 5.67s    remaining: 848ms
87:     learn: 0.0896711        total: 5.74s    remaining: 782ms
88:     learn: 0.0884106        total: 5.8s     remaining: 717ms
89:     learn: 0.0882298        total: 5.87s    remaining: 652ms
90:     learn: 0.0874551        total: 5.93s    remaining: 586ms
91:     learn: 0.0868005        total: 5.99s    remaining: 521ms
92:     learn: 0.0862617        total: 6.05s    remaining: 455ms
93:     learn: 0.0857801        total: 6.12s    remaining: 391ms
94:     learn: 0.0853225        total: 6.18s    remaining: 325ms
95:     learn: 0.0847961        total: 6.24s    remaining: 260ms
96:     learn: 0.0842080        total: 6.31s    remaining: 195ms
97:     learn: 0.0835601        total: 6.38s    remaining: 130ms
98:     learn: 0.0833563        total: 6.44s    remaining: 65.1ms
99:     learn: 0.0822983        total: 6.5s     remaining: 0us
0:      learn: 0.6178688        total: 68.6ms   remaining: 6.79s
1:      learn: 0.5633378        total: 135ms    remaining: 6.61s
2:      learn: 0.5165054        total: 200ms    remaining: 6.46s
3:      learn: 0.4765075        total: 263ms    remaining: 6.3s
4:      learn: 0.4356028        total: 335ms    remaining: 6.37s
5:      learn: 0.4025436        total: 399ms    remaining: 6.26s
6:      learn: 0.3728228        total: 462ms    remaining: 6.14s
7:      learn: 0.3519263        total: 525ms    remaining: 6.04s
8:      learn: 0.3321275        total: 599ms    remaining: 6.05s
9:      learn: 0.3139645        total: 671ms    remaining: 6.04s
10:     learn: 0.2999816        total: 735ms    remaining: 5.94s
11:     learn: 0.2850933        total: 799ms    remaining: 5.86s
12:     learn: 0.2699590        total: 868ms    remaining: 5.81s
13:     learn: 0.2566115        total: 931ms    remaining: 5.72s
14:     learn: 0.2440397        total: 994ms    remaining: 5.63s
15:     learn: 0.2337842        total: 1.06s    remaining: 5.54s
16:     learn: 0.2242737        total: 1.13s    remaining: 5.51s
17:     learn: 0.2153247        total: 1.19s    remaining: 5.43s
18:     learn: 0.2082660        total: 1.25s    remaining: 5.35s
19:     learn: 0.2024959        total: 1.32s    remaining: 5.27s
20:     learn: 0.1965595        total: 1.39s    remaining: 5.23s
21:     learn: 0.1907933        total: 1.46s    remaining: 5.16s
22:     learn: 0.1859305        total: 1.52s    remaining: 5.09s
23:     learn: 0.1812887        total: 1.58s    remaining: 5.02s
24:     learn: 0.1765910        total: 1.66s    remaining: 4.97s
25:     learn: 0.1719276        total: 1.73s    remaining: 4.91s
26:     learn: 0.1684441        total: 1.79s    remaining: 4.84s
27:     learn: 0.1654584        total: 1.85s    remaining: 4.76s
28:     learn: 0.1624572        total: 1.92s    remaining: 4.71s
29:     learn: 0.1606699        total: 1.99s    remaining: 4.63s
30:     learn: 0.1589476        total: 2.05s    remaining: 4.56s
31:     learn: 0.1567584        total: 2.11s    remaining: 4.48s
32:     learn: 0.1546824        total: 2.18s    remaining: 4.42s
33:     learn: 0.1519500        total: 2.24s    remaining: 4.35s
34:     learn: 0.1504154        total: 2.3s     remaining: 4.27s
35:     learn: 0.1486230        total: 2.37s    remaining: 4.2s
36:     learn: 0.1470766        total: 2.44s    remaining: 4.15s
37:     learn: 0.1452284        total: 2.5s     remaining: 4.08s
38:     learn: 0.1435844        total: 2.56s    remaining: 4.01s
39:     learn: 0.1418675        total: 2.62s    remaining: 3.94s
40:     learn: 0.1404627        total: 2.7s     remaining: 3.89s
41:     learn: 0.1384990        total: 2.77s    remaining: 3.82s
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42:     learn: 0.1372806        total: 2.83s    remaining: 3.75s
43:     learn: 0.1353383        total: 2.89s    remaining: 3.68s
44:     learn: 0.1331374        total: 2.96s    remaining: 3.62s
45:     learn: 0.1316773        total: 3.03s    remaining: 3.56s
46:     learn: 0.1304579        total: 3.09s    remaining: 3.49s
47:     learn: 0.1290523        total: 3.16s    remaining: 3.42s
48:     learn: 0.1279120        total: 3.23s    remaining: 3.36s
49:     learn: 0.1271195        total: 3.3s     remaining: 3.3s
50:     learn: 0.1257334        total: 3.36s    remaining: 3.23s
51:     learn: 0.1248637        total: 3.42s    remaining: 3.16s
52:     learn: 0.1235070        total: 3.49s    remaining: 3.1s
53:     learn: 0.1222623        total: 3.56s    remaining: 3.03s
54:     learn: 0.1218733        total: 3.62s    remaining: 2.96s
55:     learn: 0.1208735        total: 3.68s    remaining: 2.89s
56:     learn: 0.1198247        total: 3.76s    remaining: 2.83s
57:     learn: 0.1185601        total: 3.82s    remaining: 2.77s
58:     learn: 0.1173656        total: 3.88s    remaining: 2.7s
59:     learn: 0.1158636        total: 3.95s    remaining: 2.63s
60:     learn: 0.1151075        total: 4.02s    remaining: 2.57s
61:     learn: 0.1140085        total: 4.08s    remaining: 2.5s
62:     learn: 0.1130084        total: 4.15s    remaining: 2.44s
63:     learn: 0.1121582        total: 4.21s    remaining: 2.37s
64:     learn: 0.1108909        total: 4.29s    remaining: 2.31s
65:     learn: 0.1101080        total: 4.36s    remaining: 2.24s
66:     learn: 0.1088338        total: 4.42s    remaining: 2.18s
67:     learn: 0.1083752        total: 4.48s    remaining: 2.11s
68:     learn: 0.1078381        total: 4.55s    remaining: 2.04s
69:     learn: 0.1070600        total: 4.62s    remaining: 1.98s
70:     learn: 0.1061523        total: 4.68s    remaining: 1.91s
71:     learn: 0.1054264        total: 4.75s    remaining: 1.85s
72:     learn: 0.1045404        total: 4.82s    remaining: 1.78s
73:     learn: 0.1039008        total: 4.88s    remaining: 1.72s
74:     learn: 0.1031445        total: 4.94s    remaining: 1.65s
75:     learn: 0.1027041        total: 5s       remaining: 1.58s
76:     learn: 0.1017017        total: 5.08s    remaining: 1.52s
77:     learn: 0.1004931        total: 5.14s    remaining: 1.45s
78:     learn: 0.1000225        total: 5.2s     remaining: 1.38s
79:     learn: 0.0996009        total: 5.27s    remaining: 1.32s
80:     learn: 0.0989654        total: 5.34s    remaining: 1.25s
81:     learn: 0.0983771        total: 5.41s    remaining: 1.19s
82:     learn: 0.0977839        total: 5.47s    remaining: 1.12s
83:     learn: 0.0968156        total: 5.53s    remaining: 1.05s
84:     learn: 0.0963710        total: 5.6s     remaining: 989ms
85:     learn: 0.0954315        total: 5.67s    remaining: 922ms
86:     learn: 0.0951295        total: 5.73s    remaining: 857ms
87:     learn: 0.0944380        total: 5.8s     remaining: 791ms
88:     learn: 0.0938849        total: 5.87s    remaining: 725ms
89:     learn: 0.0933537        total: 5.93s    remaining: 659ms
90:     learn: 0.0923832        total: 5.99s    remaining: 593ms
91:     learn: 0.0917629        total: 6.05s    remaining: 527ms
92:     learn: 0.0910255        total: 6.12s    remaining: 461ms
93:     learn: 0.0906224        total: 6.18s    remaining: 395ms
94:     learn: 0.0899207        total: 6.25s    remaining: 329ms
95:     learn: 0.0894074        total: 6.31s    remaining: 263ms
96:     learn: 0.0890199        total: 6.38s    remaining: 197ms
97:     learn: 0.0882961        total: 6.44s    remaining: 132ms
98:     learn: 0.0874996        total: 6.51s    remaining: 65.7ms
99:     learn: 0.0870054        total: 6.57s    remaining: 0us
0:      learn: 0.6507526        total: 4.58ms   remaining: 408ms
1:      learn: 0.6064715        total: 9.48ms   remaining: 417ms
2:      learn: 0.5677958        total: 13.6ms   remaining: 396ms
3:      learn: 0.5324929        total: 17.8ms   remaining: 383ms
4:      learn: 0.5071804        total: 22.1ms   remaining: 375ms
5:      learn: 0.4774282        total: 26.2ms   remaining: 367ms
6:      learn: 0.4536728        total: 33.2ms   remaining: 394ms
7:      learn: 0.4342612        total: 43.3ms   remaining: 444ms
8:      learn: 0.4116619        total: 52.2ms   remaining: 470ms
9:      learn: 0.3948385        total: 56.5ms   remaining: 452ms
10:     learn: 0.3745295        total: 60.8ms   remaining: 436ms
11:     learn: 0.3587316        total: 65ms     remaining: 422ms
12:     learn: 0.3459583        total: 70.3ms   remaining: 416ms
13:     learn: 0.3339882        total: 74.6ms   remaining: 405ms
14:     learn: 0.3222868        total: 78.8ms   remaining: 394ms
15:     learn: 0.3101768        total: 83.3ms   remaining: 385ms
16:     learn: 0.3005212        total: 87.8ms   remaining: 377ms
17:     learn: 0.2929786        total: 92ms     remaining: 368ms
18:     learn: 0.2845836        total: 96.2ms   remaining: 359ms
19:     learn: 0.2763345        total: 101ms    remaining: 352ms
20:     learn: 0.2674279        total: 105ms    remaining: 344ms
21:     learn: 0.2604730        total: 109ms    remaining: 337ms
22:     learn: 0.2539057        total: 113ms    remaining: 330ms
23:     learn: 0.2479539        total: 117ms    remaining: 323ms
24:     learn: 0.2417328        total: 122ms    remaining: 316ms
25:     learn: 0.2364747        total: 126ms    remaining: 310ms
26:     learn: 0.2307118        total: 130ms    remaining: 304ms
27:     learn: 0.2276241        total: 134ms    remaining: 298ms
28:     learn: 0.2239849        total: 139ms    remaining: 292ms
29:     learn: 0.2199074        total: 143ms    remaining: 286ms
30:     learn: 0.2163290        total: 147ms    remaining: 280ms
31:     learn: 0.2130992        total: 151ms    remaining: 274ms
32:     learn: 0.2101067        total: 156ms    remaining: 269ms
33:     learn: 0.2073260        total: 160ms    remaining: 263ms
34:     learn: 0.2055327        total: 164ms    remaining: 258ms
35:     learn: 0.2038854        total: 168ms    remaining: 253ms
36:     learn: 0.2012726        total: 173ms    remaining: 247ms
37:     learn: 0.1999048        total: 177ms    remaining: 242ms
38:     learn: 0.1985307        total: 181ms    remaining: 237ms
39:     learn: 0.1962628        total: 185ms    remaining: 232ms
40:     learn: 0.1944378        total: 190ms    remaining: 227ms
41:     learn: 0.1925153        total: 194ms    remaining: 221ms
42:     learn: 0.1912032        total: 198ms    remaining: 216ms
43:     learn: 0.1896637        total: 205ms    remaining: 214ms
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44:     learn: 0.1887158        total: 219ms    remaining: 219ms
45:     learn: 0.1873155        total: 224ms    remaining: 215ms
46:     learn: 0.1856302        total: 229ms    remaining: 209ms
47:     learn: 0.1838849        total: 233ms    remaining: 204ms
48:     learn: 0.1827603        total: 237ms    remaining: 198ms
49:     learn: 0.1814435        total: 241ms    remaining: 193ms
50:     learn: 0.1810011        total: 246ms    remaining: 188ms
51:     learn: 0.1801167        total: 250ms    remaining: 183ms
52:     learn: 0.1791063        total: 254ms    remaining: 177ms
53:     learn: 0.1782583        total: 258ms    remaining: 172ms
54:     learn: 0.1772807        total: 263ms    remaining: 167ms
55:     learn: 0.1763727        total: 267ms    remaining: 162ms
56:     learn: 0.1760486        total: 271ms    remaining: 157ms
57:     learn: 0.1754958        total: 275ms    remaining: 152ms
58:     learn: 0.1750213        total: 280ms    remaining: 147ms
59:     learn: 0.1742402        total: 286ms    remaining: 143ms
60:     learn: 0.1734982        total: 290ms    remaining: 138ms
61:     learn: 0.1729632        total: 294ms    remaining: 133ms
62:     learn: 0.1719140        total: 299ms    remaining: 128ms
63:     learn: 0.1709737        total: 303ms    remaining: 123ms
64:     learn: 0.1706960        total: 307ms    remaining: 118ms
65:     learn: 0.1700348        total: 312ms    remaining: 113ms
66:     learn: 0.1695576        total: 316ms    remaining: 108ms
67:     learn: 0.1687366        total: 320ms    remaining: 104ms
68:     learn: 0.1683422        total: 324ms    remaining: 98.7ms
69:     learn: 0.1680341        total: 329ms    remaining: 93.9ms
70:     learn: 0.1676644        total: 333ms    remaining: 89.1ms
71:     learn: 0.1669397        total: 337ms    remaining: 84.3ms
72:     learn: 0.1667489        total: 341ms    remaining: 79.5ms
73:     learn: 0.1663654        total: 346ms    remaining: 74.8ms
74:     learn: 0.1661089        total: 350ms    remaining: 70ms
75:     learn: 0.1657991        total: 354ms    remaining: 65.3ms
76:     learn: 0.1653049        total: 359ms    remaining: 60.5ms
77:     learn: 0.1647936        total: 363ms    remaining: 55.8ms
78:     learn: 0.1646559        total: 367ms    remaining: 51.1ms
79:     learn: 0.1641562        total: 371ms    remaining: 46.4ms
80:     learn: 0.1639410        total: 376ms    remaining: 41.8ms
81:     learn: 0.1636851        total: 380ms    remaining: 37.1ms
82:     learn: 0.1634284        total: 384ms    remaining: 32.4ms
83:     learn: 0.1631474        total: 388ms    remaining: 27.7ms
84:     learn: 0.1629648        total: 393ms    remaining: 23.1ms
85:     learn: 0.1626927        total: 397ms    remaining: 18.5ms
86:     learn: 0.1624347        total: 401ms    remaining: 13.8ms
87:     learn: 0.1620594        total: 410ms    remaining: 9.32ms
88:     learn: 0.1618059        total: 420ms    remaining: 4.72ms
89:     learn: 0.1615061        total: 425ms    remaining: 0us
```
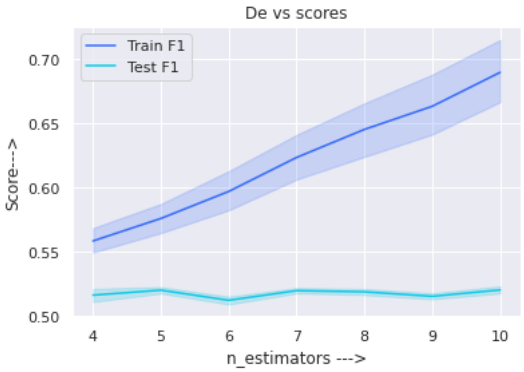



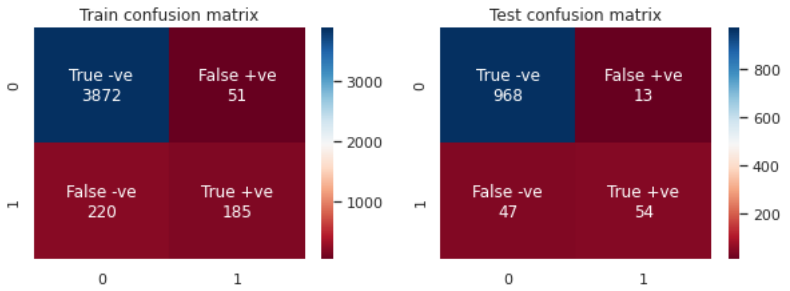

```
Best estimator : {'model__depth': 4, 'model__iterations': 90, 'model__learning_rate': 0.03}
Best score: 0.5434032822726832
```

In [ ]:
```
q=clf.predict(X_test.values)
f1_score(q,y_test)
```

Out[ ]:
```
0.6428571428571428
```

In [ ]:
```
fig = plt.figure(figsize=(10,7))
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,clf.predict(X_train))
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,clf.predict(X_test))
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,clf.predict(X_test)))
```

```
====================================================================================================
F1 score on test set = 0.6428571428571428
```

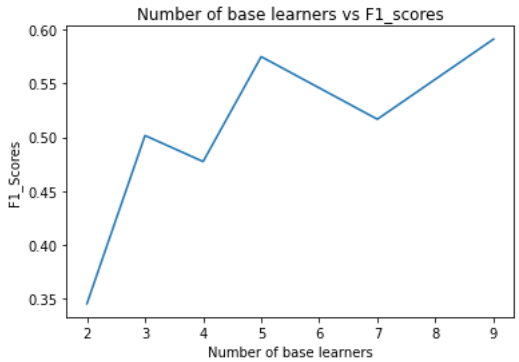


Custom stacking ensemble

In [ ]:
```
D1,D2,y_D1,y_D2=train_test_split(X_train,y_train,test_size=0.5,stratify=y_train)
```

In [ ]:
```
def stacker(num_base_learners):
  """This function takes input number of baselearners and returns a trained stacking classfier on below given base class
  b_clf=[('LR',LogisticRegression()),('SVM',SVC()),('DT',DecisionTreeClassifier()),('KNN',KNeighborsClassifier()),('Naiv
        ('Xgboost',XGBClassifier()),('RandomForest',RandomForestClassifier()),('LightGBM',LGBMClassifier())]        #ba
  m_clf=[('LR',LogisticRegression()),('RandomForest',RandomForestClassifier()),('Xgboost',XGBClassifier())]          #me
  D1['y_D1']=y_D1
  clf_comb=[]
  base_pred=[]
  for i in range(num_base_learners):                                                                                  #ge
      samp_D=D1.sample(frac=0.8,replace=True)
      y_samp=samp_D['y_D1']
      samp_D.drop('y_D1',inplace=True,axis=1)
      b_clf_ch=random.choice(b_clf)
      b_clf_ch[1].fit(samp_D,y_samp)
      y_pred=b_clf_ch[1].predict(D2)                                                                                  #p
      base_pred.append(y_pred)
      clf_comb.append(b_clf_ch[1])
  m_clf_ch=random.choice(m_clf)
  m_clf_ch[1].fit(np.array(base_pred).T,y_D2)                                                                          #
  y_pred=m_clf_ch[1].predict(np.array(base_pred).T)                                                                    #
  score=f1_score(y_D2,y_pred)
  details={'Base_clf':clf_comb,'Meta_clf':m_clf_ch[1],'Num_learners':num_base_learners}
  return score,details                                                                                                 #
                                                                                                                       #
```

In [ ]:
```
#trying out various number baselearners
base_learners=[2,3,4,5,7,9]
score_list=[]
details_list=[]
for i in base_learners:
  scores,details=stacker(i)
  score_list.append(scores)
  details_list.append(details)
max_score=np.argmax(score_list)
plt.plot(base_learners,score_list)
plt.title('Number of base learners vs F1_scores')
plt.xlabel('Number of base learners')
plt.ylabel('F1_Scores')
plt.show()
```



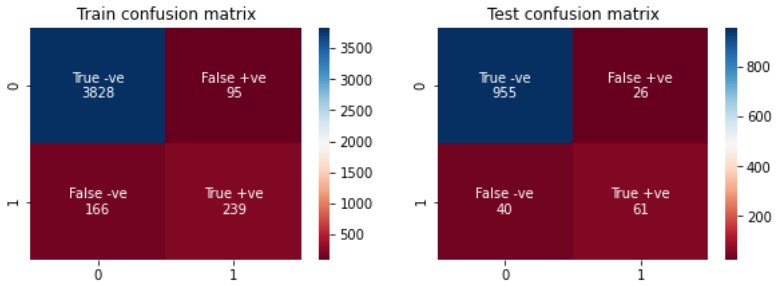
In [ ]:
```
#Evaluating on remaining test set
pred_arr_tr=[]
pred_arr_te=[]
for i in details_list[max_score]['Base_clf']:
  pred_arr_tr.append(i.predict(X_train))
  pred_arr_te.append(i.predict(X_test))
y_pred_tr=details_list[max_score]['Meta_clf'].predict(np.array(pred_arr_tr).T)
y_pred_te=details_list[max_score]['Meta_clf'].predict(np.array(pred_arr_te).T)
print('Train Scores',f1_score(y_train,y_pred_tr))
print('Test F1 Scores',f1_score(y_test,y_pred_te))
```

```
Train Scores 0.6468200270635994
Test F1 Scores 0.648936170212766
```

In [ ]:
```
fig = plt.figure(figsize=(10,7))
```

```
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,y_pred_tr)
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,y_pred_te)
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,y_pred_te))
```

```
====================================================================================================
F1 score on test set = 0.648936170212766
```



Hyperparameter tuned stacking classifier

In [ ]:
```
details_list[max_score]
```

Out[ ]:
```
{'Base_clf': [RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                       criterion='gini', max_depth=None, max_features='auto',
                       max_leaf_nodes=None, max_samples=None,
                       min_impurity_decrease=0.0, min_impurity_split=None,
                       min_samples_leaf=1, min_samples_split=2,
                       min_weight_fraction_leaf=0.0, n_estimators=100,
                       n_jobs=None, oob_score=False, random_state=None,
                       verbose=0, warm_start=False),
  LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                     intercept_scaling=1, l1_ratio=None, max_iter=100,
                     multi_class='auto', n_jobs=None, penalty='l2',
                     random_state=None, solver='lbfgs', tol=0.0001, verbose=0,
                     warm_start=False),
  XGBClassifier(base_score=0.5, booster='gbtree', colsample_bylevel=1,
                colsample_bynode=1, colsample_bytree=1, gamma=0,
                learning_rate=0.1, max_delta_step=0, max_depth=3,
                min_child_weight=1, missing=None, n_estimators=100, n_jobs=1,
                nthread=None, objective='binary:logistic', random_state=0,
                reg_alpha=0, reg_lambda=1, scale_pos_weight=1, seed=None,
                silent=None, subsample=1, verbosity=1),
  RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                       criterion='gini', max_depth=None, max_features='auto',
                       max_leaf_nodes=None, max_samples=None,
                       min_impurity_decrease=0.0, min_impurity_split=None,
                       min_samples_leaf=1, min_samples_split=2,
                       min_weight_fraction_leaf=0.0, n_estimators=100,
                       n_jobs=None, oob_score=False, random_state=None,
                       verbose=0, warm_start=False),
  DecisionTreeClassifier(ccp_alpha=0.0, class_weight=None, criterion='gini',
                       max_depth=None, max_features=None, max_leaf_nodes=None,
                       min_impurity_decrease=0.0, min_impurity_split=None,
                       min_samples_leaf=1, min_samples_split=2,
                       min_weight_fraction_leaf=0.0, presort='deprecated',
                       random_state=None, splitter='best'),
  LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                     intercept_scaling=1, l1_ratio=None, max_iter=100,
                     multi_class='auto', n_jobs=None, penalty='l2',
                     random_state=None, solver='lbfgs', tol=0.0001, verbose=0,
                     warm_start=False),
  GaussianNB(priors=None, var_smoothing=1e-09)],
 'Meta_clf': XGBClassifier(base_score=0.5, booster='gbtree', colsample_bylevel=1,
               colsample_bynode=1, colsample_bytree=1, gamma=0,
               learning_rate=0.1, max_delta_step=0, max_depth=3,
               min_child_weight=1, missing=None, n_estimators=100, n_jobs=1,
               nthread=None, objective='binary:logistic', random_state=0,
               reg_alpha=0, reg_lambda=1, scale_pos_weight=1, seed=None,
               silent=None, subsample=1, verbosity=1),
 'Num_learners': 7}
```

In [30]:
```
#lets tune the hyper parameters of above stacking classifer
clf1=RandomForestClassifier()
clf2=LogisticRegression()
clf3=XGBClassifier()
clf4=RandomForestClassifier()
clf5=DecisionTreeClassifier()
clf6=LogisticRegression()
clf7=GaussianNB()
meta_clf=XGBClassifier()
sclf=StackingCVClassifier(classifiers=[clf1,clf2,clf3,clf4,clf5,clf6,clf7]
                          ,meta_classifier=meta_clf)
params={'decisiontreeclassifier__class_weight': [None,'balanced']
        ,'decisiontreeclassifier__min_samples_split':[2,4,7]
        ,'logisticregression-1__C':[0.01,0.1,1,10]
        ,'logisticregression-1__class_weight':[None,'balanced']
        ,'logisticregression-2__C':[0.01,0.1,1,10]
        ,'logisticregression-2__class_weight':[None,'balanced']
```

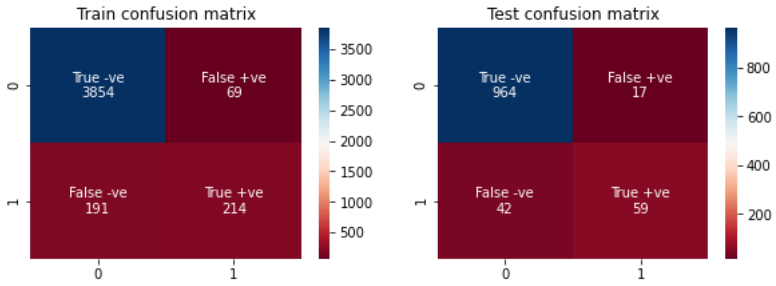
```
        ,'randomforestclassifier-1__class_weight': [None,'balanced','balanced_subsample']
        ,'randomforestclassifier-2__class_weight': [None,'balanced','balanced_subsample']
        ,'xgbclassifier__scale_pos_weight': [1,9]
        ,'meta-xgbclassifier__scale_pos_weight': [1,9]
        }
```

In [ ]:
```
y_pred_tr=grid.predict(X_train.values)
y_pred_te=grid.predict(X_test.values)
print('Train Scores',f1_score(y_train,y_pred_tr))
print('Test F1 Scores',f1_score(y_test,y_pred_te))
```

```
Train Scores 0.622093023255814
Test F1 Scores 0.6666666666666666
```

In [ ]:
```
fig = plt.figure(figsize=(10,7))
ax1 = fig.add_subplot(221)
print("="*100)
from sklearn.metrics import confusion_matrix
cf_matr1=confusion_matrix(y_train,y_pred_tr)
plt.title('Train confusion matrix')
Heatmapgen(cf_matr1)
ax2 = fig.add_subplot(222)
cf_matr2=confusion_matrix(y_test,y_pred_te)
plt.title('Test confusion matrix')
Heatmapgen(cf_matr2)
print('F1 score on test set =',f1_score(y_test,y_pred_te))
```

```
====================================================================================================
F1 score on test set = 0.6666666666666666
```



In [ ]:
```
from prettytable import PrettyTable
x = PrettyTable()
x.field_names=['Sl No','Classifier Name','Train/Validation F1_scr','Test F1_Scr']
x.add_row([6,'Random Forest',0.605,0.64])
x.add_row([7,'XGBoost(Oversampling)',0.572,0.605])
x.add_row([8,'XGBoost(weight_balancing)',0.587,0.592])
x.add_row([9,'LightGBM(oversampling)',0.569,0.529])
x.add_row([10,'LightGBM',0.554,0.601])
x.add_row([11,'Catboost',0.543,0.642])
x.add_row([12,'Custom_ensemble',0.646,0.648])
x.add_row([12,'Tuned_Custom_ensemble',0.622,0.666])
print(x)
```

```
+-------+--------------------------+-------------------------+-------------+
| Sl No |      Classifier Name     | Train/Validation F1_scr | Test F1_Scr |
+-------+--------------------------+-------------------------+-------------+
|   6   |       Random Forest      |          0.605          |     0.64    |
|   7   |   XGBoost(Oversampling)  |          0.572          |    0.605    |
|   8   | XGBoost(weight_balancing)|          0.587          |    0.592    |
|   9   |   LightGBM(oversampling) |          0.569          |    0.529    |
|   10  |          LightGBM        |          0.554          |    0.601    |
|   11  |          Catboost        |          0.543          |    0.642    |
|   12  |      Custom_ensemble     |          0.646          |    0.648    |
|   12  |   Tuned_Custom_ensemble  |          0.622          |    0.666    |
+-------+--------------------------+-------------------------+-------------+
```

By stacking we observe a minor boost in performance at the cost of interpretability of the model.

In [34]:
```
import pickle
Pkl_Filename = "model.pkl"

with open(Pkl_Filename, 'wb') as file:
    pickle.dump(grid, file)
```