

PEC1

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Seleccionar Dataset

Para la realización de la PEC 1 se ha bajado el Dataset DataValues_S013.csv del repositorio https://github.com/nutrimetabolomics/metaboData/blob/main/Datasets/2018-MetabotypingPaper/DataValues_S013.csv

Creación de un repositorio en git Hub

En primer lugar hay que disponer de una cuenta en la web github.com. GitHub es una plataforma de desarrollo colaborativo para alojar proyectos utilizando el sistema de control de versiones Git. (Wikipedia, 2024)

La cuenta GitHub asignada para el repositorio de la PEC 1 es: <https://github.com/Maribelusca>

Contenedor para los datos y megadatos

En primer lugar se debe instalar el Bioconductor “BiocManager” el cual contiene la librería SummarizedExperiment, esta librería sirve para leer los datos de expresión y metadatos de una base de datos de tipo matricial. Las filas representan normalmente los rangos genómicos de interés y las columnas representan las muestras. La clase SummarizedExperiment se utiliza para almacenar matrices rectangulares de resultados experimentales, que se generan comúnmente en experimentos de secuenciación y microarrays. Cada objeto de SummarizedExperiment almacena observaciones de una o más muestras, junto con metadatos adicionales que describen tanto las observaciones (características) como las muestras (fenotipos). (Morgan et al., 2024)

```
library(SummarizedExperiment)
```

```
## Lade nötiges Paket: MatrixGenerics
```

```
## Lade nötiges Paket: matrixStats
```

```
##
```

```
## Attache Paket: 'MatrixGenerics'
```

```
## Die folgenden Objekte sind maskiert von 'package:matrixStats':
```

```
##
```

```
## colAlls, colAnyNAs, colAnys, colAvgsPerRowSet, colCollapse,
```

```
## colCounts, colCummaxs, colCummins, colCumprods, colCumsums,
```

```
## colDiffs, colIQRDiffs, colIQRs, colLogSumExps, colMadDiffs,
```

```
## colMads, colMaxs, colMeans2, colMedians, colMins, colOrderStats,
```

```

##      colProds, colQuantiles, colRanges, colRanks, colSdDiffs, colSds,
##      colSums2, colTabulates, colVarDiffs, colVars, colWeightedMads,
##      colWeightedMeans, colWeightedMedians, colWeightedSds,
##      colWeightedVars, rowAlls, rowAnyNAs, rowAnys, rowAvgPerColSet,
##      rowCollapse, rowCounts, rowCummaxs, rowCummins, rowCumprods,
##      rowCumsums, rowDiffs, rowIQRDiffs, rowIQRs, rowLogSumExps,
##      rowMadDiffs, rowMads, rowMaxs, rowMeans2, rowMedians, rowMins,
##      rowOrderStats, rowProds, rowQuantiles, rowRanges, rowRanks,
##      rowSdDiffs, rowSds, rowSums2, rowTabulates, rowVarDiffs, rowVars,
##      rowWeightedMads, rowWeightedMeans, rowWeightedMedians,
##      rowWeightedSds, rowWeightedVars

## Lade nötiges Paket: GenomicRanges

## Lade nötiges Paket: stats4

## Lade nötiges Paket: BiocGenerics

##
## Attache Paket: 'BiocGenerics'

## Die folgenden Objekte sind maskiert von 'package:stats':
##
##      IQR, mad, sd, var, xtabs

## Die folgenden Objekte sind maskiert von 'package:base':
##
##      anyDuplicated, aperm, append, as.data.frame, basename, cbind,
##      colnames, dirname, do.call, duplicated, eval, evalq, Filter, Find,
##      get, grep, grepl, intersect, is.unsorted, lapply, Map, mapply,
##      match, mget, order, paste, pmax, pmax.int, pmin, pmin.int,
##      Position, rank, rbind, Reduce, rownames, sapply, setdiff, table,
##      tapply, union, unique, unsplit, which.max, which.min

## Lade nötiges Paket: S4Vectors

##
## Attache Paket: 'S4Vectors'

## Das folgende Objekt ist maskiert 'package:utils':
##
##      findMatches

## Die folgenden Objekte sind maskiert von 'package:base':
##
##      expand.grid, I, unname

## Lade nötiges Paket: IRanges

##
## Attache Paket: 'IRanges'

```

```
## Das folgende Objekt ist maskiert 'package:grDevices':
##
##     windows

## Lade nötiges Paket: GenomeInfoDb

## Lade nötiges Paket: Biobase

## Welcome to Bioconductor
##
##     Vignettes contain introductory material; view with
##     'browseVignettes()'. To cite Bioconductor, see
##     'citation("Biobase")', and for packages 'citation("pkgname")'.

##
## Attache Paket: 'Biobase'

## Das folgende Objekt ist maskiert 'package:MatrixGenerics':
##
##     rowMedians

## Die folgenden Objekte sind maskiert von 'package:matrixStats':
##
##     anyMissing, rowMedians
```

```
data <- read.csv("DataValues_S013.csv", row.names = 1)

measurements <- data[, 6:ncol(data)]
dim(measurements)
```

```
## [1] 39 690
```

```
measurements_matrix <- as.matrix(measurements)
dim(measurements_matrix)
```

```
## [1] 39 690
```

```
nrow(measurements_matrix)
```

```
## [1] 39
```

Hay un data frame de 39 observaciones y 695 variables. Sugiere que cada observación corresponde a una muestra y que las variables son mediciones. Al observar los datos se ven como hay una columna de Group clasificada en 1 y 2 que corresponde 1: tubular y 2: by pass

```
feature_info <- DataFrame(FeatureID = colnames(measurements_matrix))
nrow(feature_info) # Esto debe ser 690
```

```
## [1] 690
```

```
sample_info <- DataFrame(SampleID = rownames(measurements_matrix), Group = data$Group)
nrow(sample_info) # Esto debe ser 39
```

```
## [1] 39
```

```
se <- SummarizedExperiment(
  assays = SimpleList(counts = measurements_matrix),
  rowData = sample_info,
  colData = feature_info
)
se
```

```
## class: SummarizedExperiment
## dim: 39 690
## metadata(0):
## assays(1): counts
## rownames(39): 1 2 ... 38 39
## rowData names(2): SampleID Group
## colnames(690): MEDDM_T0 MEDCOL_T0 ... SM.C24.0_T5 SM.C24.1_T5
## colData names(1): FeatureID
```

```
summary(se)
```

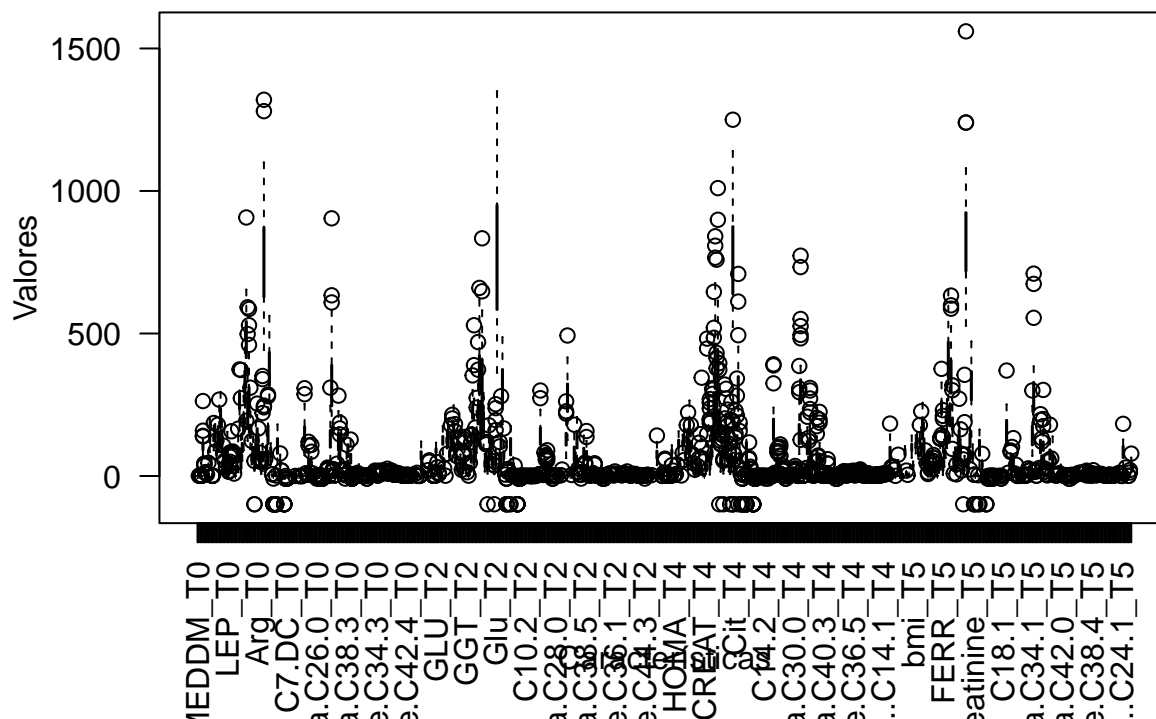
```
## [1] "SummarizedExperiment object of length 39 with 2 metadata columns"
```

```
dim(se)
```

```
## [1] 39 690
```

```
# Boxplot de las medidas
boxplot(assay(se), las=2, main="Boxplot de Medidas", ylab="Valores", xlab="Características")
```

Boxplot de Medidas



```
# Estadísticas descriptivas
summary(assay(se))
```

```
##      MEDDM_T0      MEDCOL_T0      MEDINF_T0      MEDHTA_T0
## Min.      :0      Min.      :0.00000      Min.      :0.0000      Min.      :0.0000
## 1st Qu.:0      1st Qu.:0.00000      1st Qu.:0.0000      1st Qu.:0.0000
## Median :0      Median :0.00000      Median :0.0000      Median :0.0000
## Mean      :0      Mean      :0.02632      Mean      :0.1316      Mean      :0.2368
## 3rd Qu.:0      3rd Qu.:0.00000      3rd Qu.:0.0000      3rd Qu.:0.0000
## Max.      :0      Max.      :1.00000      Max.      :1.0000      Max.      :1.0000
## NA's      :1      NA's      :1          NA's      :1          NA's      :1
##      GLU_T0      INS_T0      HOMA_T0      HBA1C_T0
## Min.      : 71.0      Min.      : 3.40      Min.      : 0.760      Min.      :5.100
## 1st Qu.: 91.0      1st Qu.:11.85      1st Qu.: 2.435      1st Qu.:5.400
## Median :103.0      Median :16.00      Median : 4.210      Median :5.600
## Mean      :106.5      Mean      :17.60      Mean      : 4.890      Mean      :5.592
## 3rd Qu.:109.5      3rd Qu.:21.15      3rd Qu.: 5.720      3rd Qu.:5.800
## Max.      :263.0      Max.      :43.00      Max.      :13.600      Max.      :6.400
## NA's      :15
##      HBA1C.mmol.mol_T0      PESO_T0      bmi_T0      CC_T0
## Min.      :32.23      Min.      : 84.0      Min.      :29.80      Min.      :0.7000
## 1st Qu.:35.51      1st Qu.:119.5      1st Qu.:44.40      1st Qu.:0.9000
## Median :37.69      Median :135.0      Median :48.80      Median :0.9000
## Mean      :37.60      Mean      :140.0      Mean      :50.52      Mean      :0.9343
## 3rd Qu.:39.88      3rd Qu.:155.0      3rd Qu.:55.35      3rd Qu.:1.0000
## Max.      :46.44      Max.      :200.0      Max.      :68.60      Max.      :1.7000
```

##	NA's :15			NA's :4
##	CINT_TO	CAD_TO	TAD_TO	TAS_TO
##	Min. : 90.0	Min. : 85.0	Min. : 60.00	Min. :111.0
##	1st Qu.:122.5	1st Qu.:136.0	1st Qu.: 74.50	1st Qu.:121.0
##	Median :133.0	Median :148.0	Median : 83.00	Median :128.0
##	Mean :135.7	Mean :147.1	Mean : 83.58	Mean :133.5
##	3rd Qu.:147.5	3rd Qu.:158.5	3rd Qu.: 90.00	3rd Qu.:144.0
##	Max. :186.0	Max. :182.0	Max. :125.00	Max. :180.0
##	NA's :4	NA's :4	NA's :8	NA's :8
##	TG_TO	COL_TO	LDL_TO	HDL_TO
##	Min. : 30.0	Min. :102.0	Min. : 24.0	Min. : 11.00
##	1st Qu.: 84.0	1st Qu.:180.5	1st Qu.:100.3	1st Qu.: 39.25
##	Median :118.0	Median :207.0	Median :130.0	Median : 47.00
##	Mean :129.1	Mean :206.6	Mean :128.2	Mean : 49.97
##	3rd Qu.:151.0	3rd Qu.:236.0	3rd Qu.:158.8	3rd Qu.: 59.50
##	Max. :268.0	Max. :295.0	Max. :191.0	Max. :107.00
##			NA's :1	NA's :1
##	VLDL_TO	PCR_TO	LEP_TO	ADIPO_TO
##	Min. : 6.00	Min. : 0.00	Min. : 27.00	Min. : 1.720
##	1st Qu.:16.80	1st Qu.: 3.51	1st Qu.: 49.25	1st Qu.: 4.700
##	Median :23.60	Median : 8.25	Median : 67.20	Median : 7.460
##	Mean :25.81	Mean :10.13	Mean : 78.33	Mean : 7.702
##	3rd Qu.:30.20	3rd Qu.:13.90	3rd Qu.: 98.25	3rd Qu.: 8.590
##	Max. :53.60	Max. :29.80	Max. :155.00	Max. :17.100
##		NA's :14	NA's :13	NA's :14
##	GOT_TO	GPT_TO	GGT_TO	URICO_TO
##	Min. :11.0	Min. : 11.00	Min. :12.00	Min. :2.700
##	1st Qu.:15.0	1st Qu.: 31.00	1st Qu.:20.00	1st Qu.:4.700
##	Median :20.0	Median : 40.00	Median :26.00	Median :5.500
##	Mean :23.9	Mean : 44.54	Mean :31.41	Mean :5.501
##	3rd Qu.:25.0	3rd Qu.: 48.50	3rd Qu.:37.00	3rd Qu.:6.200
##	Max. :83.0	Max. :157.00	Max. :86.00	Max. :8.600
##			NA's :2	NA's :2
##	CREAT_TO	UREA_TO	HIERRO_TO	TRANSF_TO
##	Min. :0.5000	Min. :14.00	Min. : 13.00	Min. :159.0
##	1st Qu.:0.7000	1st Qu.:24.00	1st Qu.: 50.00	1st Qu.:236.5
##	Median :0.8000	Median :29.00	Median : 69.00	Median :268.5
##	Mean :0.7923	Mean :31.38	Mean : 75.61	Mean :262.9
##	3rd Qu.:0.9000	3rd Qu.:38.00	3rd Qu.: 92.25	3rd Qu.:289.8
##	Max. :1.2000	Max. :56.00	Max. :166.00	Max. :374.0
##			NA's :1	NA's :9
##	FERR_TO	Ile_TO	Leu_TO	Val_TO
##	Min. : 11.10	Min. : 53.50	Min. : 90.1	Min. :183.0
##	1st Qu.: 25.00	1st Qu.: 83.55	1st Qu.:150.5	1st Qu.:256.0
##	Median : 49.00	Median : 91.70	Median :183.0	Median :311.0
##	Mean : 77.06	Mean : 98.98	Mean :185.2	Mean :318.4
##	3rd Qu.: 97.00	3rd Qu.:116.00	3rd Qu.:217.0	3rd Qu.:369.5
##	Max. :372.00	Max. :150.00	Max. :281.0	Max. :508.0
##	NA's :2			
##	Ala_TO	Pro_TO	Gly_TO	Ser_TO
##	Min. :194.0	Min. :123.0	Min. :153.0	Min. : 94.5
##	1st Qu.:414.0	1st Qu.:164.5	1st Qu.:227.5	1st Qu.:133.5
##	Median :459.0	Median :222.0	Median :270.0	Median :159.0
##	Mean :471.9	Mean :234.6	Mean :291.1	Mean :161.4

```

## 3rd Qu.:543.0 3rd Qu.:257.5 3rd Qu.:311.5 3rd Qu.:180.0
## Max. :907.0 Max. :592.0 Max. :586.0 Max. :310.0
##
## Trp_T0 Phe_T0 Met_T0 Orn_T0
## Min. : 41.00 Min. : 48.40 Min. : -99.00 Min. : 39.6
## 1st Qu.: 52.15 1st Qu.: 70.60 1st Qu.: 23.25 1st Qu.: 74.6
## Median : 62.30 Median : 87.30 Median : 28.30 Median :103.0
## Mean : 67.22 Mean : 87.48 Mean : 23.08 Mean :102.4
## 3rd Qu.: 76.95 3rd Qu.:102.00 3rd Qu.: 33.30 3rd Qu.:128.5
## Max. :123.00 Max. :139.00 Max. : 53.00 Max. :195.0
##
## Arg_T0 His_T0 Asn_T0 Asp_T0
## Min. : 90.7 Min. : 70.50 Min. :27.30 Min. : 7.10
## 1st Qu.:120.5 1st Qu.: 80.65 1st Qu.:39.55 1st Qu.:15.65
## Median :143.0 Median : 94.40 Median :47.40 Median :20.50
## Mean :148.5 Mean : 97.68 Mean :48.81 Mean :23.12
## 3rd Qu.:167.5 3rd Qu.:108.00 3rd Qu.:56.00 3rd Qu.:27.85
## Max. :254.0 Max. :167.00 Max. :82.10 Max. :59.30
##
## Glu_T0 Gln_T0 Cit_T0 Tyr_T0
## Min. : 16.90 Min. : 241.0 Min. :12.00 Min. : 49.30
## 1st Qu.: 51.70 1st Qu.: 628.0 1st Qu.:26.25 1st Qu.: 71.65
## Median : 66.40 Median : 713.0 Median :30.30 Median : 89.00
## Mean : 84.68 Mean : 749.9 Mean :32.76 Mean : 92.46
## 3rd Qu.: 86.25 3rd Qu.: 872.5 3rd Qu.:38.35 3rd Qu.:108.00
## Max. :351.00 Max. :1320.0 Max. :59.50 Max. :162.00
##
## Thr_T0 Lys_T0 Creatinine_T0 Kynurenine_T0
## Min. : 67.5 Min. :266.0 Min. : 39.10 Min. :1.610
## 1st Qu.:112.0 1st Qu.:316.5 1st Qu.: 65.85 1st Qu.:2.540
## Median :144.0 Median :378.0 Median : 78.40 Median :3.160
## Mean :151.5 Mean :381.8 Mean : 80.43 Mean :3.303
## 3rd Qu.:177.5 3rd Qu.:434.5 3rd Qu.: 99.20 3rd Qu.:3.775
## Max. :286.0 Max. :562.0 Max. :115.00 Max. :6.510
##
## Putrescine_T0 Sarcosine_T0 Serotonin_T0 Taurine_T0
## Min. : -99.0000 Min. : 2.050 Min. : -99.0000 Min. : 41.00
## 1st Qu.: 0.1295 1st Qu.: 5.895 1st Qu.: 0.3565 1st Qu.: 78.55
## Median : 0.2120 Median : 7.700 Median : 0.6500 Median :107.00
## Mean : -12.7355 Mean : 8.648 Mean : -9.5029 Mean :108.77
## 3rd Qu.: 0.2670 3rd Qu.:12.200 3rd Qu.: 0.9180 3rd Qu.:132.50
## Max. : 0.3660 Max. :15.700 Max. : 1.8100 Max. :181.00
##
## SDMA_T0 CO_T0 C2_T0 C3.OH_T0
## Min. :0.820 Min. :21.60 Min. : 0.360 Min. :0.1500
## 1st Qu.:1.115 1st Qu.:36.00 1st Qu.: 5.215 1st Qu.:0.2100
## Median :1.290 Median :43.30 Median : 7.270 Median :0.2400
## Mean :1.317 Mean :45.60 Mean : 7.762 Mean :0.2474
## 3rd Qu.:1.535 3rd Qu.:52.05 3rd Qu.: 9.200 3rd Qu.:0.2800
## Max. :1.940 Max. :79.30 Max. :19.500 Max. :0.3700
##
## C6..C4.1.DC._T0 C5.DC..C6.OH._T0 C7.DC_T0 C8_T0
## Min. : -99.000 Min. : -9.0000 Min. : -9.0000 Min. :0.3230
## 1st Qu.: -9.000 1st Qu.: 0.0410 1st Qu.: 0.0395 1st Qu.:0.4385

```

```

## Median : 0.094 Median : 0.0490 Median : 0.0470 Median :0.5190
## Mean :-14.232 Mean :-1.1096 Mean :-1.1098 Mean :0.5419
## 3rd Qu.: 0.118 3rd Qu.: 0.0565 3rd Qu.: 0.0555 3rd Qu.:0.6235
## Max. : 0.201 Max. : 0.0780 Max. : 0.0760 Max. :0.8710
##
## C10_T0 C10.1_T0 C10.2_T0 C14.1_T0
## Min. :0.2500 Min. :0.1300 Min. :0.1000 Min. :0.0900
## 1st Qu.:0.4200 1st Qu.:0.1900 1st Qu.:0.1300 1st Qu.:0.1450
## Median :0.5200 Median :0.2300 Median :0.1500 Median :0.1900
## Mean :0.5274 Mean :0.2482 Mean :0.1621 Mean :0.1944
## 3rd Qu.:0.6350 3rd Qu.:0.3050 3rd Qu.:0.1850 3rd Qu.:0.2450
## Max. :0.9300 Max. :0.4200 Max. :0.2600 Max. :0.3000
##
## C14.2_T0 C16.1_T0 C16.2_T0 C16.2.OH_T0
## Min. :0.0600 Min. :0.0600 Min. :0.03000 Min. :0.00000
## 1st Qu.:0.1000 1st Qu.:0.0900 1st Qu.:0.03000 1st Qu.:0.04000
## Median :0.1200 Median :0.1000 Median :0.04000 Median :0.04000
## Mean :0.1244 Mean :0.1126 Mean :0.04487 Mean :0.04385
## 3rd Qu.:0.1400 3rd Qu.:0.1300 3rd Qu.:0.05000 3rd Qu.:0.05500
## Max. :0.2100 Max. :0.1900 Max. :0.08000 Max. :0.07000
##
## C18.1_T0 C18.1.OH_T0 C18.2_T0 lysoPC.a.C16.0_T0
## Min. :0.0700 Min. :0.03000 Min. :0.0600 Min. : 72.3
## 1st Qu.:0.1200 1st Qu.:0.04000 1st Qu.:0.0900 1st Qu.:118.5
## Median :0.1600 Median :0.04000 Median :0.1100 Median :144.0
## Mean :0.1703 Mean :0.04615 Mean :0.1074 Mean :151.7
## 3rd Qu.:0.2150 3rd Qu.:0.05000 3rd Qu.:0.1300 3rd Qu.:174.0
## Max. :0.2900 Max. :0.07000 Max. :0.1700 Max. :308.0
##
## lysoPC.a.C16.1_T0 lysoPC.a.C17.0_T0 lysoPC.a.C18.0_T0 lysoPC.a.C18.1_T0
## Min. :1.940 Min. :0.790 Min. : 14.30 Min. :12.70
## 1st Qu.:2.870 1st Qu.:1.445 1st Qu.: 34.05 1st Qu.:22.25
## Median :3.810 Median :2.110 Median : 45.20 Median :28.80
## Mean :4.283 Mean :2.101 Mean : 50.51 Mean :32.32
## 3rd Qu.:5.500 3rd Qu.:2.425 3rd Qu.: 60.70 3rd Qu.:40.55
## Max. :9.890 Max. :4.340 Max. :120.00 Max. :58.20
##
## lysoPC.a.C18.2_T0 lysoPC.a.C20.3_T0 lysoPC.a.C20.4_T0 lysoPC.a.C24.0_T0
## Min. : 19.10 Min. :1.190 Min. : 4.21 Min. :0.2400
## 1st Qu.: 34.75 1st Qu.:2.940 1st Qu.: 7.50 1st Qu.:0.3500
## Median : 39.90 Median :4.090 Median :10.50 Median :0.4600
## Mean : 43.82 Mean :4.373 Mean :10.77 Mean :0.4974
## 3rd Qu.: 50.75 3rd Qu.:5.335 3rd Qu.:13.55 3rd Qu.:0.5550
## Max. :109.00 Max. :9.410 Max. :19.60 Max. :0.9200
##
## lysoPC.a.C26.0_T0 lysoPC.a.C26.1_T0 lysoPC.a.C28.0_T0 lysoPC.a.C28.1_T0
## Min. : -9.0000 Min. :0.1200 Min. : -9.0000 Min. :0.2400
## 1st Qu.: 0.3100 1st Qu.:0.2600 1st Qu.: 0.2650 1st Qu.:0.3800
## Median : 0.4200 Median :0.3300 Median : 0.3400 Median :0.4600
## Mean : 0.2841 Mean :0.3408 Mean : -0.7536 Mean :0.5238
## 3rd Qu.: 0.5050 3rd Qu.:0.4150 3rd Qu.: 0.4100 3rd Qu.:0.5900
## Max. : 2.1300 Max. :0.6600 Max. : 1.7200 Max. :1.5000
##
## PC.aa.C24.0_T0 PC.aa.C28.1_T0 PC.aa.C30.0_T0 PC.aa.C32.0_T0

```


##	Min.	:-9.000	Min.	:1.970	Min.	:0.630	Min.	: 5.360
##	1st Qu.:	0.145	1st Qu.:	2.380	1st Qu.:	1.420	1st Qu.:	8.525
##	Median :	0.180	Median :	2.910	Median :	1.710	Median :	10.200
##	Mean	:-1.650	Mean	:3.014	Mean	:1.895	Mean	:10.695
##	3rd Qu.:	0.250	3rd Qu.:	3.640	3rd Qu.:	2.305	3rd Qu.:	12.100
##	Max.	: 0.780	Max.	:4.770	Max.	:3.520	Max.	:17.300
##								
##	PC.aa.C32.1_T0		PC.aa.C32.3_T0		PC.aa.C34.1_T0		PC.aa.C34.2_T0	
##	Min.	: 2.64	Min.	:0.1200	Min.	: 50.60	Min.	:154.0
##	1st Qu.:	7.11	1st Qu.:	0.1750	1st Qu.:	99.75	1st Qu.:	245.0
##	Median :	10.50	Median :	0.2400	Median :	136.00	Median :	302.0
##	Mean	:11.77	Mean	:0.2362	Mean	:139.15	Mean	:338.7
##	3rd Qu.:	12.80	3rd Qu.:	0.2800	3rd Qu.:	161.00	3rd Qu.:	389.5
##	Max.	:29.60	Max.	:0.4400	Max.	:310.00	Max.	:904.0
##								
##	PC.aa.C34.3_T0		PC.aa.C34.4_T0		PC.aa.C36.0_T0		PC.aa.C36.1_T0	
##	Min.	: 3.94	Min.	:0.2000	Min.	:0.610	Min.	: 8.40
##	1st Qu.:	6.34	1st Qu.:	0.3700	1st Qu.:	1.030	1st Qu.:	13.30
##	Median :	9.73	Median :	0.6300	Median :	1.300	Median :	15.70
##	Mean	:10.29	Mean	:0.7015	Mean	:1.568	Mean	:18.32
##	3rd Qu.:	11.00	3rd Qu.:	0.9050	3rd Qu.:	1.880	3rd Qu.:	23.00
##	Max.	:24.40	Max.	:1.8600	Max.	:4.560	Max.	:43.30
##								
##	PC.aa.C36.2_T0		PC.aa.C36.3_T0		PC.aa.C36.4_T0		PC.aa.C36.5_T0	
##	Min.	: 60.6	Min.	: 36.60	Min.	: 40.10	Min.	: 2.770
##	1st Qu.:	89.8	1st Qu.:	58.90	1st Qu.:	95.15	1st Qu.:	6.595
##	Median :	112.0	Median :	69.80	Median :	120.00	Median :	9.200
##	Mean	:125.9	Mean	: 78.45	Mean	:120.26	Mean	: 9.591
##	3rd Qu.:	151.0	3rd Qu.:	91.20	3rd Qu.:	149.50	3rd Qu.:	11.750
##	Max.	:282.0	Max.	:187.00	Max.	:214.00	Max.	:23.700
##								
##	PC.aa.C38.0_T0		PC.aa.C38.1_T0		PC.aa.C38.3_T0		PC.aa.C38.4_T0	
##	Min.	:1.340	Min.	:-9.000	Min.	: 16.90	Min.	: 34.20
##	1st Qu.:	2.385	1st Qu.:	0.910	1st Qu.:	29.15	1st Qu.:	66.85
##	Median :	3.000	Median :	1.100	Median :	37.40	Median :	92.20
##	Mean	:3.258	Mean	: 1.219	Mean	: 41.54	Mean	: 92.36
##	3rd Qu.:	3.960	3rd Qu.:	1.625	3rd Qu.:	51.25	3rd Qu.:	111.50
##	Max.	:6.180	Max.	: 6.230	Max.	:110.00	Max.	:164.00
##								
##	PC.aa.C38.5_T0		PC.aa.C38.6_T0		PC.aa.C40.1_T0		PC.aa.C40.2_T0	
##	Min.	:11.20	Min.	: 13.90	Min.	:-9.000	Min.	:0.1700
##	1st Qu.:	20.55	1st Qu.:	43.90	1st Qu.:	0.335	1st Qu.:	0.2300
##	Median :	29.50	Median :	56.70	Median :	0.460	Median :	0.3400
##	Mean	:28.74	Mean	: 62.95	Mean	:-1.550	Mean	:0.6377
##	3rd Qu.:	36.75	3rd Qu.:	77.45	3rd Qu.:	0.565	3rd Qu.:	0.4300
##	Max.	:47.70	Max.	:128.00	Max.	: 3.330	Max.	:5.7700
##								
##	PC.aa.C40.3_T0		PC.aa.C40.4_T0		PC.aa.C40.5_T0		PC.aa.C40.6_T0	
##	Min.	:0.370	Min.	:1.080	Min.	: 1.750	Min.	: 5.39
##	1st Qu.:	0.490	1st Qu.:	1.860	1st Qu.:	3.680	1st Qu.:	16.15
##	Median :	0.580	Median :	2.500	Median :	4.910	Median :	19.50
##	Mean	:0.871	Mean	:2.777	Mean	: 5.178	Mean	:22.21
##	3rd Qu.:	0.780	3rd Qu.:	3.385	3rd Qu.:	6.185	3rd Qu.:	29.65
##	Max.	:4.820	Max.	:5.970	Max.	:11.100	Max.	:41.10

```

##
## PC.aa.C42.0_T0 PC.aa.C42.1_T0 PC.aa.C42.2_T0 PC.aa.C42.4_T0
## Min. :0.3700 Min. :0.2000 Min. :0.1600 Min. :0.1100
## 1st Qu.:0.5600 1st Qu.:0.2750 1st Qu.:0.2150 1st Qu.:0.1800
## Median :0.6800 Median :0.3500 Median :0.2800 Median :0.2200
## Mean :0.7562 Mean :0.4087 Mean :0.4064 Mean :0.3379
## 3rd Qu.:0.8700 3rd Qu.:0.4250 3rd Qu.:0.3300 3rd Qu.:0.2450
## Max. :1.7400 Max. :1.3800 Max. :2.3100 Max. :2.6100
##
## PC.aa.C42.5_T0 PC.aa.C42.6_T0 PC.ae.C30.0_T0 PC.ae.C32.1_T0
## Min. :0.1300 Min. : -9.00000 Min. :0.2100 Min. :1.220
## 1st Qu.:0.2600 1st Qu.: 0.27500 1st Qu.:0.2700 1st Qu.:1.675
## Median :0.3200 Median : 0.34000 Median :0.3300 Median :2.160
## Mean :0.3818 Mean : -0.08128 Mean :0.3262 Mean :2.219
## 3rd Qu.:0.4000 3rd Qu.: 0.42500 3rd Qu.:0.3600 3rd Qu.:2.625
## Max. :1.4400 Max. : 1.09000 Max. :0.5000 Max. :4.120
##
## PC.ae.C32.2_T0 PC.ae.C34.0_T0 PC.ae.C34.1_T0 PC.ae.C34.2_T0
## Min. :0.3500 Min. :0.250 Min. :2.760 Min. : 3.030
## 1st Qu.:0.5450 1st Qu.:0.390 1st Qu.:4.135 1st Qu.: 5.310
## Median :0.6700 Median :0.470 Median :4.850 Median : 6.170
## Mean :0.6997 Mean :0.511 Mean :5.147 Mean : 7.382
## 3rd Qu.:0.8300 3rd Qu.:0.630 3rd Qu.:6.395 3rd Qu.: 8.590
## Max. :1.2000 Max. :0.840 Max. :9.350 Max. :19.000
##
## PC.ae.C34.3_T0 PC.ae.C36.0_T0 PC.ae.C36.1_T0 PC.ae.C36.2_T0
## Min. : 1.450 Min. :0.470 Min. : 1.510 Min. : 3.230
## 1st Qu.: 3.285 1st Qu.:0.760 1st Qu.: 2.310 1st Qu.: 4.390
## Median : 4.140 Median :0.940 Median : 3.120 Median : 5.210
## Mean : 4.581 Mean :1.008 Mean : 3.922 Mean : 5.852
## 3rd Qu.: 5.030 3rd Qu.:1.135 3rd Qu.: 3.695 3rd Qu.: 6.965
## Max. :10.100 Max. :1.980 Max. :18.200 Max. :10.800
##
## PC.ae.C36.3_T0 PC.ae.C36.4_T0 PC.ae.C36.5_T0 PC.ae.C38.0_T0
## Min. : 1.660 Min. : 2.180 Min. : 1.760 Min. :0.490
## 1st Qu.: 2.710 1st Qu.: 6.490 1st Qu.: 4.950 1st Qu.:1.265
## Median : 3.120 Median : 7.940 Median : 6.240 Median :1.630
## Mean : 3.812 Mean : 8.826 Mean : 6.642 Mean :1.623
## 3rd Qu.: 4.610 3rd Qu.:10.850 3rd Qu.: 8.215 3rd Qu.:1.945
## Max. :11.000 Max. :20.100 Max. :13.100 Max. :2.960
##
## PC.ae.C38.2_T0 PC.ae.C38.3_T0 PC.ae.C38.4_T0 PC.ae.C38.5_T0
## Min. : 0.350 Min. : 0.830 Min. : 3.100 Min. : 3.370
## 1st Qu.: 1.195 1st Qu.: 1.250 1st Qu.: 4.440 1st Qu.: 7.470
## Median : 1.580 Median : 1.530 Median : 5.480 Median : 8.610
## Mean : 2.752 Mean : 2.235 Mean : 5.729 Mean : 9.477
## 3rd Qu.: 2.115 3rd Qu.: 1.990 3rd Qu.: 6.425 3rd Qu.:10.500
## Max. :25.500 Max. :11.200 Max. :11.100 Max. :19.200
##
## PC.ae.C38.6_T0 PC.ae.C40.1_T0 PC.ae.C40.2_T0 PC.ae.C40.3_T0
## Min. :1.380 Min. :0.450 Min. :0.620 Min. : 0.560
## 1st Qu.:2.715 1st Qu.:0.895 1st Qu.:0.965 1st Qu.: 0.740
## Median :3.740 Median :1.160 Median :1.170 Median : 0.880
## Mean :3.995 Mean :1.373 Mean :1.557 Mean : 1.574

```

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## 3rd Qu.:4.915 3rd Qu.:1.570 3rd Qu.:1.390 3rd Qu.: 1.160
## Max. :7.690 Max. :4.540 Max. :8.440 Max. :11.400
##
## PC.ae.C40.4_T0 PC.ae.C40.5_T0 PC.ae.C40.6_T0 PC.ae.C42.1_T0
## Min. :1.020 Min. :1.050 Min. :1.340 Min. :0.2100
## 1st Qu.:1.645 1st Qu.:1.570 1st Qu.:1.700 1st Qu.:0.3600
## Median :1.940 Median :1.790 Median :2.200 Median :0.4300
## Mean :2.380 Mean :2.317 Mean :2.309 Mean :0.6195
## 3rd Qu.:2.610 3rd Qu.:2.385 3rd Qu.:3.035 3rd Qu.:0.5650
## Max. :7.970 Max. :8.690 Max. :3.540 Max. :3.4000
##
## PC.ae.C42.2_T0 PC.ae.C42.3_T0 PC.ae.C42.4_T0 PC.ae.C42.5_T0
## Min. :0.2900 Min. :0.4600 Min. :0.420 Min. :1.200
## 1st Qu.:0.3800 1st Qu.:0.6050 1st Qu.:0.855 1st Qu.:1.865
## Median :0.4700 Median :0.7900 Median :0.960 Median :2.140
## Mean :0.6236 Mean :0.9569 Mean :1.093 Mean :2.385
## 3rd Qu.:0.6100 3rd Qu.:0.9450 3rd Qu.:1.340 3rd Qu.:2.795
## Max. :2.8200 Max. :4.1900 Max. :2.800 Max. :5.140
##
## PC.ae.C44.3_T0 PC.ae.C44.4_T0 PC.ae.C44.5_T0 PC.ae.C44.6_T0
## Min. :0.0800 Min. :0.2400 Min. :0.940 Min. :0.730
## 1st Qu.:0.1300 1st Qu.:0.4000 1st Qu.:1.600 1st Qu.:1.265
## Median :0.1500 Median :0.4700 Median :2.050 Median :1.480
## Mean :0.2349 Mean :0.5069 Mean :2.169 Mean :1.631
## 3rd Qu.:0.2000 3rd Qu.:0.5600 3rd Qu.:2.640 3rd Qu.:1.985
## Max. :1.6500 Max. :1.1100 Max. :3.550 Max. :2.720
##
## SM..OH..C14.1_T0 SM..OH..C16.1_T0 SM..OH..C22.1_T0 SM..OH..C22.2_T0
## Min. :1.830 Min. :0.810 Min. : 0.550 Min. :2.720
## 1st Qu.:3.180 1st Qu.:1.160 1st Qu.: 4.305 1st Qu.:4.275
## Median :3.640 Median :1.500 Median : 5.630 Median :5.300
## Mean :3.728 Mean :1.509 Mean : 5.770 Mean :5.409
## 3rd Qu.:4.155 3rd Qu.:1.800 3rd Qu.: 6.790 3rd Qu.:6.300
## Max. :6.670 Max. :2.710 Max. :11.300 Max. :9.150
##
## SM..OH..C24.1_T0 SM.C16.0_T0 SM.C16.1_T0 SM.C18.0_T0
## Min. :0.0200 Min. : 39.30 Min. : 5.61 Min. : 4.13
## 1st Qu.:0.4450 1st Qu.: 58.50 1st Qu.: 9.76 1st Qu.: 8.36
## Median :0.5600 Median : 73.70 Median :11.90 Median :10.50
## Mean :0.5667 Mean : 74.81 Mean :12.58 Mean :11.45
## 3rd Qu.:0.7250 3rd Qu.: 86.35 3rd Qu.:15.05 3rd Qu.:14.80
## Max. :1.1600 Max. :121.00 Max. :21.00 Max. :20.90
##
## SM.C18.1_T0 SM.C20.2_T0 SM.C24.0_T0 SM.C24.1_T0 MEDDM_T2
## Min. : 3.300 Min. :0.1400 Min. : 3.630 Min. :13.30 Min. :0
## 1st Qu.: 4.745 1st Qu.:0.2050 1st Qu.: 6.330 1st Qu.:23.60 1st Qu.:0
## Median : 5.870 Median :0.2800 Median : 8.590 Median :29.80 Median :0
## Mean : 6.640 Mean :0.2841 Mean : 8.972 Mean :30.33 Mean :0
## 3rd Qu.: 8.100 3rd Qu.:0.3600 3rd Qu.:10.850 3rd Qu.:34.15 3rd Qu.:0
## Max. :11.500 Max. :0.4600 Max. :20.400 Max. :54.60 Max. :0
## NA's :3
## MEDCOL_T2 MEDINF_T2 MEDHTA_T2 GLU_T2
## Min. :0 Min. :0.00000 Min. :0.0000 Min. : 66.00
## 1st Qu.:0 1st Qu.:0.00000 1st Qu.:0.0000 1st Qu.: 82.50

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## Median :0      Median :0.00000      Median :0.0000      Median : 89.00
## Mean :0      Mean :0.08333      Mean :0.1389      Mean : 89.17
## 3rd Qu.:0      3rd Qu.:0.00000      3rd Qu.:0.0000      3rd Qu.: 96.25
## Max. :0      Max. :1.00000      Max. :1.0000      Max. :117.00
## NA's :3      NA's :3      NA's :3      NA's :3
##      INS_T2      HOMA_T2      HBA1C_T2      HBA1C.mmol.mol_T2
## Min. : 4.480      Min. : 0.740      Min. :4.700      Min. :27.85
## 1st Qu.: 9.488      1st Qu.: 1.823      1st Qu.:5.000      1st Qu.:31.13
## Median :11.050      Median : 2.630      Median :5.100      Median :32.23
## Mean :13.618      Mean : 3.062      Mean :5.146      Mean :32.73
## 3rd Qu.:16.375      3rd Qu.: 3.595      3rd Qu.:5.300      3rd Qu.:34.41
## Max. :48.400      Max. :11.300      Max. :5.600      Max. :37.69
## NA's :3      NA's :3      NA's :26      NA's :26
##      PESO_T2      bmi_T2      CC_T2      CINT_T2
## Min. : 75.7      Min. :26.80      Min. :0.700      Min. : 78.0
## 1st Qu.:110.0      1st Qu.:40.20      1st Qu.:0.800      1st Qu.:116.0
## Median :120.0      Median :44.60      Median :0.900      Median :125.0
## Mean :124.5      Mean :45.09      Mean :0.873      Mean :123.9
## 3rd Qu.:140.0      3rd Qu.:49.00      3rd Qu.:0.900      3rd Qu.:134.0
## Max. :176.0      Max. :60.70      Max. :1.100      Max. :160.0
## NA's :2      NA's :2      NA's :2      NA's :2
##      CAD_T2      TAD_T2      TAS_T2      TG_T2
## Min. :105.0      Min. : 58.00      Min. : 89.0      Min. : 52.0
## 1st Qu.:128.0      1st Qu.: 67.00      1st Qu.:109.2      1st Qu.:100.0
## Median :141.0      Median : 73.50      Median :123.5      Median :124.0
## Mean :141.6      Mean : 76.47      Mean :124.4      Mean :121.9
## 3rd Qu.:149.0      3rd Qu.: 86.75      3rd Qu.:136.0      3rd Qu.:136.5
## Max. :174.0      Max. :100.00      Max. :179.0      Max. :215.0
## NA's :2      NA's :5      NA's :5      NA's :3
##      COL_T2      LDL_T2      HDL_T2      VLDL_T2
## Min. : 93.0      Min. : 45.0      Min. :22.00      Min. :12.60
## 1st Qu.:136.5      1st Qu.: 84.0      1st Qu.:31.00      1st Qu.:17.35
## Median :163.0      Median : 99.4      Median :38.00      Median :23.20
## Mean :163.8      Mean :101.5      Mean :38.34      Mean :23.90
## 3rd Qu.:181.2      3rd Qu.:113.0      3rd Qu.:43.50      3rd Qu.:26.80
## Max. :248.0      Max. :182.0      Max. :71.00      Max. :43.00
## NA's :3      NA's :6      NA's :4      NA's :17
##      PCR_T2      LEP_T2      ADIPO_T2      GOT_T2
## Min. : 1.700      Min. : 11.00      Min. : 3.85      Min. :10.00
## 1st Qu.: 2.385      1st Qu.: 25.55      1st Qu.: 6.70      1st Qu.:24.50
## Median : 5.345      Median : 31.90      Median : 8.67      Median :32.00
## Mean : 6.694      Mean : 41.15      Mean : 9.66      Mean :34.23
## 3rd Qu.:10.380      3rd Qu.: 55.83      3rd Qu.:11.50      3rd Qu.:37.50
## Max. :18.100      Max. :130.00      Max. :21.40      Max. :86.00
## NA's :17      NA's :17      NA's :18      NA's :4
##      GPT_T2      GGT_T2      URICO_T2      CREAT_T2
## Min. : 22.0      Min. : 9.00      Min. : 1.800      Min. :0.5000
## 1st Qu.: 42.5      1st Qu.:20.50      1st Qu.: 4.475      1st Qu.:0.6000
## Median : 53.0      Median :32.00      Median : 6.350      Median :0.7000
## Mean : 61.6      Mean :32.31      Mean : 6.528      Mean :0.7694
## 3rd Qu.: 72.5      3rd Qu.:43.00      3rd Qu.: 7.800      3rd Qu.:0.8250
## Max. :137.0      Max. :64.00      Max. :13.300      Max. :1.3000
## NA's :4      NA's :4      NA's :3      NA's :3
##      UREA_T2      HIERRO_T2      TRANSF_T2      FERR_T2

```

##	Min.	: 4.00	Min.	: 16.00	Min.	:151.0	Min.	: 12.0
##	1st Qu.:	17.00	1st Qu.:	47.50	1st Qu.:	201.8	1st Qu.:	39.5
##	Median	:22.00	Median	: 56.00	Median	:216.5	Median	: 81.5
##	Mean	:21.97	Mean	: 63.89	Mean	:225.6	Mean	:114.5
##	3rd Qu.:	27.00	3rd Qu.:	70.25	3rd Qu.:	246.8	3rd Qu.:	138.2
##	Max.	:47.00	Max.	:146.00	Max.	:353.0	Max.	:529.0
##	NA's	:3	NA's	:3	NA's	:5	NA's	:3
##	Ile_T2		Leu_T2		Val_T2		Ala_T2	
##	Min.	: 50.70	Min.	: 81.1	Min.	:132.0	Min.	:227.0
##	1st Qu.:	66.88	1st Qu.:	112.8	1st Qu.:	181.2	1st Qu.:	291.0
##	Median	: 87.60	Median	:137.0	Median	:217.5	Median	:365.5
##	Mean	: 91.04	Mean	:143.5	Mean	:225.9	Mean	:374.8
##	3rd Qu.:	104.75	3rd Qu.:	160.5	3rd Qu.:	246.8	3rd Qu.:	420.2
##	Max.	:170.00	Max.	:274.0	Max.	:470.0	Max.	:660.0
##	NA's	:1	NA's	:1	NA's	:1	NA's	:1
##	Pro_T2		Gly_T2		Ser_T2		Trp_T2	
##	Min.	: 97.4	Min.	:178.0	Min.	: 89.9	Min.	:15.40
##	1st Qu.:	142.5	1st Qu.:	262.2	1st Qu.:	140.2	1st Qu.:	33.55
##	Median	:200.0	Median	:363.0	Median	:175.5	Median	:42.10
##	Mean	:207.5	Mean	:365.2	Mean	:180.7	Mean	:44.04
##	3rd Qu.:	258.0	3rd Qu.:	408.5	3rd Qu.:	223.0	3rd Qu.:	52.40
##	Max.	:376.0	Max.	:834.0	Max.	:291.0	Max.	:77.30
##	NA's	:1	NA's	:1	NA's	:1	NA's	:1
##	Phe_T2		Met_T2		Orn_T2		Arg_T2	
##	Min.	: 33.20	Min.	:-99.00	Min.	: 27.60	Min.	: 56.90
##	1st Qu.:	52.92	1st Qu.:	17.75	1st Qu.:	54.75	1st Qu.:	97.92
##	Median	: 59.30	Median	: 23.50	Median	: 73.00	Median	:114.50
##	Mean	: 64.25	Mean	: 21.14	Mean	: 78.10	Mean	:118.73
##	3rd Qu.:	71.00	3rd Qu.:	28.95	3rd Qu.:	94.95	3rd Qu.:	135.75
##	Max.	:119.00	Max.	: 44.10	Max.	:178.00	Max.	:182.00
##	NA's	:1	NA's	:1	NA's	:1	NA's	:1
##	His_T2		Asn_T2		Asp_T2		Glu_T2	
##	Min.	: 39.40	Min.	:23.30	Min.	:-99.000	Min.	: 14.00
##	1st Qu.:	67.92	1st Qu.:	34.42	1st Qu.:	9.982	1st Qu.:	38.17
##	Median	: 74.25	Median	:41.00	Median	: 16.300	Median	: 54.45
##	Mean	: 76.90	Mean	:41.26	Mean	: 15.459	Mean	: 70.10
##	3rd Qu.:	85.60	3rd Qu.:	49.48	3rd Qu.:	19.800	3rd Qu.:	76.35
##	Max.	:115.00	Max.	:66.90	Max.	: 52.200	Max.	:252.00
##	NA's	:1	NA's	:1	NA's	:1	NA's	:1
##	Gln_T2		Cit_T2		Tyr_T2		Thr_T2	
##	Min.	: 362.0	Min.	: 6.90	Min.	: 31.20	Min.	: 61.5
##	1st Qu.:	585.5	1st Qu.:	18.12	1st Qu.:	49.27	1st Qu.:	102.2
##	Median	: 805.0	Median	:25.15	Median	: 60.45	Median	:123.5
##	Mean	: 796.3	Mean	:25.11	Mean	: 62.16	Mean	:128.8
##	3rd Qu.:	940.0	3rd Qu.:	30.98	3rd Qu.:	70.50	3rd Qu.:	149.5
##	Max.	:1350.0	Max.	:43.30	Max.	:119.00	Max.	:280.0
##	NA's	:1	NA's	:1	NA's	:1	NA's	:1
##	Lys_T2		Creatinine_T2		Kynurenine_T2		Putrescine_T2	
##	Min.	:181.0	Min.	: 40.80	Min.	:1.090	Min.	:-99.0000
##	1st Qu.:	249.8	1st Qu.:	60.92	1st Qu.:	1.492	1st Qu.:	0.1620
##	Median	:305.5	Median	: 72.45	Median	:2.080	Median	: 0.2175
##	Mean	:314.8	Mean	: 76.94	Mean	:2.161	Mean	: -8.3248
##	3rd Qu.:	370.0	3rd Qu.:	86.85	3rd Qu.:	2.658	3rd Qu.:	0.2742
##	Max.	:487.0	Max.	:167.00	Max.	:4.910	Max.	: 0.3870

##	NA's :1	NA's :1	NA's :1	NA's :1
##	Sarcosine_T2	Serotonin_T2	Taurine_T2	SDMA_T2
##	Min. : 2.320	Min. : -99.0000	Min. : -99.00	Min. : 0.941
##	1st Qu.: 4.790	1st Qu.: 0.3240	1st Qu.: 73.53	1st Qu.: 1.155
##	Median : 6.580	Median : 0.5215	Median : 106.50	Median : 1.230
##	Mean : 7.779	Mean : -2.0505	Mean : 100.73	Mean : 1.445
##	3rd Qu.: 8.770	3rd Qu.: 0.7750	3rd Qu.: 130.00	3rd Qu.: 1.623
##	Max. : 24.500	Max. : 1.1500	Max. : 176.00	Max. : 3.440
##	NA's :1	NA's :1	NA's :1	NA's :1
##	C0_T2	C2_T2	C3.OH_T2	C6..C4.1.DC._T2
##	Min. : 17.20	Min. : 0.650	Min. : 0.1400	Min. : -99.0000
##	1st Qu.: 26.85	1st Qu.: 7.515	1st Qu.: 0.1900	1st Qu.: -6.7295
##	Median : 32.65	Median : 12.950	Median : 0.2300	Median : 0.0970
##	Mean : 35.27	Mean : 14.258	Mean : 0.2447	Mean : -18.8572
##	3rd Qu.: 44.08	3rd Qu.: 18.650	3rd Qu.: 0.2800	3rd Qu.: 0.1145
##	Max. : 65.20	Max. : 37.000	Max. : 0.4300	Max. : 0.2590
##	NA's :1	NA's :1	NA's :1	NA's :1
##	C5.DC..C6.OH._T2	C7.DC_T2	C8_T2	C10_T2
##	Min. : -9.00000	Min. : -9.00000	Min. : 0.3330	Min. : 0.2600
##	1st Qu.: 0.03825	1st Qu.: 0.04225	1st Qu.: 0.4490	1st Qu.: 0.4300
##	Median : 0.04600	Median : 0.04700	Median : 0.5370	Median : 0.5250
##	Mean : -0.66437	Mean : -0.90021	Mean : 0.5604	Mean : 0.5945
##	3rd Qu.: 0.05250	3rd Qu.: 0.05875	3rd Qu.: 0.6098	3rd Qu.: 0.6925
##	Max. : 0.10700	Max. : 0.08900	Max. : 1.1700	Max. : 1.1800
##	NA's :1	NA's :1	NA's :1	NA's :1
##	C10.1_T2	C10.2_T2	C14.1_T2	C14.2_T2
##	Min. : 0.1400	Min. : 0.0900	Min. : 0.1200	Min. : 0.0700
##	1st Qu.: 0.1900	1st Qu.: 0.1200	1st Qu.: 0.1800	1st Qu.: 0.1000
##	Median : 0.2400	Median : 0.1400	Median : 0.2100	Median : 0.1200
##	Mean : 0.2650	Mean : 0.1563	Mean : 0.2250	Mean : 0.1282
##	3rd Qu.: 0.3275	3rd Qu.: 0.1700	3rd Qu.: 0.2575	3rd Qu.: 0.1400
##	Max. : 0.5300	Max. : 0.4000	Max. : 0.5000	Max. : 0.3200
##	NA's :1	NA's :1	NA's :1	NA's :1
##	C16.1_T2	C16.2_T2	C16.2.OH_T2	C18.1_T2
##	Min. : 0.0600	Min. : 0.03000	Min. : 0.03000	Min. : 0.1200
##	1st Qu.: 0.0900	1st Qu.: 0.04000	1st Qu.: 0.04000	1st Qu.: 0.1725
##	Median : 0.1150	Median : 0.04000	Median : 0.04000	Median : 0.2450
##	Mean : 0.1166	Mean : 0.04816	Mean : 0.04632	Mean : 0.2450
##	3rd Qu.: 0.1300	3rd Qu.: 0.05000	3rd Qu.: 0.05000	3rd Qu.: 0.2975
##	Max. : 0.2500	Max. : 0.10000	Max. : 0.09000	Max. : 0.5200
##	NA's :1	NA's :1	NA's :1	NA's :1
##	C18.1.OH_T2	C18.2_T2	X	lysoPC.a.C14.0_T2
##	Min. : 0.03000	Min. : 0.0700	Min. : NA	Min. : -9.000
##	1st Qu.: 0.04000	1st Qu.: 0.0900	1st Qu.: NA	1st Qu.: -9.000
##	Median : 0.04000	Median : 0.1100	Median : NA	Median : -9.000
##	Mean : 0.04684	Mean : 0.1216	Mean : NaN	Mean : -7.478
##	3rd Qu.: 0.05000	3rd Qu.: 0.1300	3rd Qu.: NA	3rd Qu.: -9.000
##	Max. : 0.14000	Max. : 0.5200	Max. : NA	Max. : 6.000
##	NA's :1	NA's :1	NA's :39	NA's :1
##	lysoPC.a.C16.0_T2	lysoPC.a.C16.1_T2	lysoPC.a.C17.0_T2	lysoPC.a.C18.0_T2
##	Min. : 83.4	Min. : 1.260	Min. : 0.480	Min. : 12.50
##	1st Qu.: 112.2	1st Qu.: 2.163	1st Qu.: 1.265	1st Qu.: 24.12
##	Median : 133.0	Median : 2.780	Median : 1.540	Median : 31.85
##	Mean : 146.9	Mean : 3.190	Mean : 1.758	Mean : 35.96

## 3rd Qu.:169.2	3rd Qu.:4.355	3rd Qu.:2.132	3rd Qu.:42.48
## Max. :300.0	Max. :6.220	Max. :4.020	Max. :82.50
## NA's :1	NA's :1	NA's :1	NA's :1
## lysoPC.a.C18.1_T2	lysoPC.a.C18.2_T2	lysoPC.a.C20.3_T2	lysoPC.a.C20.4_T2
## Min. :12.50	Min. :17.00	Min. :1.030	Min. : 5.430
## 1st Qu.:23.27	1st Qu.:26.12	1st Qu.:1.363	1st Qu.: 7.973
## Median :27.95	Median :31.70	Median :1.970	Median :11.800
## Mean :31.99	Mean :34.47	Mean :2.191	Mean :11.812
## 3rd Qu.:35.35	3rd Qu.:36.00	3rd Qu.:2.678	3rd Qu.:14.775
## Max. :73.20	Max. :90.30	Max. :6.490	Max. :24.200
## NA's :1	NA's :1	NA's :1	NA's :1
## lysoPC.a.C24.0_T2	lysoPC.a.C26.0_T2	lysoPC.a.C26.1_T2	lysoPC.a.C28.0_T2
## Min. :0.2700	Min. :-9.0000	Min. :0.0910	Min. :-9.0000
## 1st Qu.:0.3300	1st Qu.: 0.2250	1st Qu.:0.2132	1st Qu.: -9.0000
## Median :0.3700	Median : 0.3030	Median :0.3440	Median : 0.2240
## Mean :0.4105	Mean :-0.3599	Mean :0.3344	Mean :-3.3463
## 3rd Qu.:0.4450	3rd Qu.: 0.3728	3rd Qu.:0.4027	3rd Qu.: 0.2715
## Max. :1.1000	Max. : 2.3000	Max. :0.9830	Max. : 1.5900
## NA's :1	NA's :1	NA's :1	NA's :1
## lysoPC.a.C28.1_T2	PC.aa.C24.0_T2	PC.aa.C28.1_T2	PC.aa.C30.0_T2
## Min. :0.1590	Min. :-9.0000	Min. :1.060	Min. :0.660
## 1st Qu.:0.2725	1st Qu.: -9.0000	1st Qu.:1.692	1st Qu.:1.070
## Median :0.3170	Median : 0.1565	Median :1.920	Median :1.360
## Mean :0.3827	Mean :-2.4411	Mean :2.110	Mean :1.446
## 3rd Qu.:0.3992	3rd Qu.: 0.2052	3rd Qu.:2.485	3rd Qu.:1.685
## Max. :1.7400	Max. : 1.2100	Max. :3.300	Max. :2.830
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.aa.C32.0_T2	PC.aa.C32.1_T2	PC.aa.C32.3_T2	PC.aa.C34.1_T2
## Min. : 5.720	Min. : 2.270	Min. :0.1000	Min. : 62.8
## 1st Qu.: 9.125	1st Qu.: 4.843	1st Qu.:0.1625	1st Qu.:108.0
## Median :11.200	Median : 6.345	Median :0.2150	Median :126.0
## Mean :11.820	Mean : 7.108	Mean :0.2192	Mean :136.4
## 3rd Qu.:13.000	3rd Qu.: 8.905	3rd Qu.:0.2600	3rd Qu.:150.2
## Max. :22.900	Max. :14.900	Max. :0.3600	Max. :262.0
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.aa.C34.2_T2	PC.aa.C34.3_T2	PC.aa.C34.4_T2	PC.aa.C36.0_T2
## Min. :126.0	Min. : 2.010	Min. :0.1100	Min. :0.440
## 1st Qu.:226.8	1st Qu.: 3.417	1st Qu.:0.1800	1st Qu.:0.705
## Median :264.0	Median : 4.485	Median :0.2050	Median :0.905
## Mean :277.0	Mean : 5.457	Mean :0.2724	Mean :1.063
## 3rd Qu.:323.5	3rd Qu.: 7.062	3rd Qu.:0.3725	3rd Qu.:1.260
## Max. :493.0	Max. :10.500	Max. :0.5700	Max. :3.690
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.aa.C36.1_T2	PC.aa.C36.2_T2	PC.aa.C36.3_T2	PC.aa.C36.4_T2
## Min. : 4.39	Min. : 24.60	Min. :17.90	Min. : 51.6
## 1st Qu.: 7.62	1st Qu.: 52.40	1st Qu.:30.32	1st Qu.: 98.0
## Median : 9.25	Median : 66.10	Median :39.75	Median :126.5
## Mean :11.50	Mean : 77.67	Mean :44.88	Mean :127.9
## 3rd Qu.:16.73	3rd Qu.:102.50	3rd Qu.:61.38	3rd Qu.:156.5
## Max. :23.80	Max. :180.00	Max. :82.00	Max. :207.0
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.aa.C36.5_T2	PC.aa.C38.0_T2	PC.aa.C38.1_T2	PC.aa.C38.3_T2
## Min. : 2.720	Min. :1.150	Min. :-9.0000	Min. : 8.73
## 1st Qu.: 4.065	1st Qu.:1.978	1st Qu.: 0.4845	1st Qu.:14.68

## Median :	5.350	Median :	2.290	Median :	0.8320	Median :	19.15
## Mean :	6.527	Mean :	2.621	Mean :	0.7146	Mean :	21.09
## 3rd Qu.:	7.607	3rd Qu.:	3.035	3rd Qu.:	1.2100	3rd Qu.:	27.00
## Max. :	25.800	Max. :	5.950	Max. :	4.1100	Max. :	42.00
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.aa.C38.4_T2		PC.aa.C38.5_T2		PC.aa.C38.6_T2		PC.aa.C40.1_T2	
## Min. :	30.40	Min. :	10.70	Min. :	17.90	Min. :	-9.0000
## 1st Qu.:	52.92	1st Qu.:	19.40	1st Qu.:	55.90	1st Qu.:	-9.0000
## Median :	71.25	Median :	23.45	Median :	68.20	Median :	0.3775
## Mean :	77.19	Mean :	24.68	Mean :	72.99	Mean :	-3.4683
## 3rd Qu.:	97.72	3rd Qu.:	27.77	3rd Qu.:	87.10	3rd Qu.:	0.4700
## Max. :	142.00	Max. :	47.30	Max. :	158.00	Max. :	1.9800
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.aa.C40.2_T2		PC.aa.C40.3_T2		PC.aa.C40.4_T2		PC.aa.C40.5_T2	
## Min. :	0.1000	Min. :	0.2600	Min. :	0.710	Min. :	1.790
## 1st Qu.:	0.1900	1st Qu.:	0.4325	1st Qu.:	1.323	1st Qu.:	2.705
## Median :	0.2350	Median :	0.4850	Median :	1.595	Median :	3.320
## Mean :	0.4679	Mean :	0.6871	Mean :	1.903	Mean :	3.877
## 3rd Qu.:	0.3475	3rd Qu.:	0.6650	3rd Qu.:	2.270	3rd Qu.:	4.223
## Max. :	4.4500	Max. :	4.2000	Max. :	3.710	Max. :	9.210
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.aa.C40.6_T2		PC.aa.C42.0_T2		PC.aa.C42.1_T2		PC.aa.C42.2_T2	
## Min. :	5.16	Min. :	0.3700	Min. :	0.170	Min. :	0.1100
## 1st Qu.:	14.50	1st Qu.:	0.5800	1st Qu.:	0.280	1st Qu.:	0.1700
## Median :	18.00	Median :	0.6950	Median :	0.310	Median :	0.2100
## Mean :	20.34	Mean :	0.7100	Mean :	0.370	Mean :	0.3061
## 3rd Qu.:	24.07	3rd Qu.:	0.7875	3rd Qu.:	0.425	3rd Qu.:	0.2575
## Max. :	44.60	Max. :	1.7100	Max. :	1.350	Max. :	1.9500
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.aa.C42.4_T2		PC.aa.C42.5_T2		PC.aa.C42.6_T2		PC.aa.C30.0_T2	
## Min. :	0.0800	Min. :	0.1700	Min. :	-9.0000	Min. :	-9.0000
## 1st Qu.:	0.1300	1st Qu.:	0.2525	1st Qu.:	0.2220	1st Qu.:	0.1822
## Median :	0.1600	Median :	0.3050	Median :	0.2710	Median :	0.2190
## Mean :	0.2545	Mean :	0.3471	Mean :	-0.1815	Mean :	-0.4896
## 3rd Qu.:	0.2200	3rd Qu.:	0.3950	3rd Qu.:	0.3265	3rd Qu.:	0.2597
## Max. :	1.3800	Max. :	0.9800	Max. :	0.9970	Max. :	0.4500
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.ae.C32.1_T2		PC.ae.C32.2_T2		PC.ae.C34.0_T2		PC.ae.C34.1_T2	
## Min. :	0.710	Min. :	0.2600	Min. :	0.1500	Min. :	1.810
## 1st Qu.:	1.700	1st Qu.:	0.5325	1st Qu.:	0.3025	1st Qu.:	3.755
## Median :	2.065	Median :	0.6400	Median :	0.3500	Median :	4.295
## Mean :	2.057	Mean :	0.6334	Mean :	0.3918	Mean :	4.724
## 3rd Qu.:	2.345	3rd Qu.:	0.6975	3rd Qu.:	0.4950	3rd Qu.:	5.447
## Max. :	3.560	Max. :	1.0200	Max. :	0.7100	Max. :	8.990
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.ae.C34.2_T2		PC.ae.C34.3_T2		PC.ae.C36.0_T2		PC.ae.C36.1_T2	
## Min. :	1.570	Min. :	1.180	Min. :	0.4000	Min. :	1.050
## 1st Qu.:	3.610	1st Qu.:	2.530	1st Qu.:	0.7075	1st Qu.:	1.695
## Median :	4.435	Median :	3.645	Median :	0.8850	Median :	2.210
## Mean :	4.712	Mean :	3.574	Mean :	0.9092	Mean :	2.917
## 3rd Qu.:	6.305	3rd Qu.:	4.103	3rd Qu.:	1.0075	3rd Qu.:	2.973
## Max. :	8.010	Max. :	6.700	Max. :	1.6400	Max. :	16.100
## NA's :	1	NA's :	1	NA's :	1	NA's :	1
## PC.ae.C36.2_T2		PC.ae.C36.3_T2		PC.ae.C36.4_T2		PC.ae.C36.5_T2	

## Min. :1.370	Min. :0.690	Min. :2.390	Min. : 2.360
## 1st Qu.:3.235	1st Qu.:1.520	1st Qu.:4.425	1st Qu.: 3.928
## Median :3.895	Median :2.110	Median :5.695	Median : 5.055
## Mean :4.211	Mean :2.269	Mean :5.797	Mean : 5.346
## 3rd Qu.:5.308	3rd Qu.:2.945	3rd Qu.:7.075	3rd Qu.: 6.508
## Max. :8.160	Max. :4.280	Max. :9.260	Max. :10.300
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C38.0_T2	PC.ae.C38.2_T2	PC.ae.C38.3_T2	PC.ae.C38.4_T2
## Min. :0.620	Min. : 0.300	Min. : 0.4300	Min. :2.310
## 1st Qu.:0.785	1st Qu.: 0.690	1st Qu.: 0.7275	1st Qu.:3.355
## Median :1.030	Median : 0.950	Median : 0.9450	Median :4.265
## Mean :1.197	Mean : 1.452	Mean : 1.5426	Mean :4.471
## 3rd Qu.:1.502	3rd Qu.: 1.498	3rd Qu.: 1.3750	3rd Qu.:5.588
## Max. :2.790	Max. :10.000	Max. :10.3000	Max. :7.080
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C38.5_T2	PC.ae.C38.6_T2	PC.ae.C40.1_T2	PC.ae.C40.2_T2
## Min. : 3.310	Min. :1.140	Min. :0.4300	Min. :0.5100
## 1st Qu.: 6.600	1st Qu.:2.215	1st Qu.:0.6875	1st Qu.:0.9025
## Median : 8.140	Median :2.745	Median :0.8150	Median :1.0650
## Mean : 8.305	Mean :2.949	Mean :1.0645	Mean :1.2521
## 3rd Qu.:10.120	3rd Qu.:3.555	3rd Qu.:1.1425	3rd Qu.:1.3950
## Max. :16.000	Max. :5.510	Max. :4.8800	Max. :4.1200
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C40.3_T2	PC.ae.C40.4_T2	PC.ae.C40.5_T2	PC.ae.C40.6_T2
## Min. :0.290	Min. :0.770	Min. :0.940	Min. :0.980
## 1st Qu.:0.560	1st Qu.:1.232	1st Qu.:1.558	1st Qu.:1.653
## Median :0.660	Median :1.625	Median :1.950	Median :1.960
## Mean :1.135	Mean :1.778	Mean :2.239	Mean :2.108
## 3rd Qu.:0.890	3rd Qu.:1.985	3rd Qu.:2.413	3rd Qu.:2.417
## Max. :8.030	Max. :5.790	Max. :7.440	Max. :4.040
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C42.1_T2	PC.ae.C42.2_T2	PC.ae.C42.3_T2	PC.ae.C42.4_T2
## Min. :0.1900	Min. :0.1500	Min. :0.2500	Min. :0.3000
## 1st Qu.:0.2700	1st Qu.:0.2900	1st Qu.:0.4925	1st Qu.:0.5400
## Median :0.3300	Median :0.3600	Median :0.5700	Median :0.7200
## Mean :0.4742	Mean :0.4703	Mean :0.7334	Mean :0.7626
## 3rd Qu.:0.4200	3rd Qu.:0.4800	3rd Qu.:0.7275	3rd Qu.:0.8850
## Max. :3.1100	Max. :2.9200	Max. :3.3400	Max. :1.9300
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C42.5_T2	PC.ae.C44.3_T2	PC.ae.C44.4_T2	PC.ae.C44.5_T2
## Min. :1.210	Min. : -9.00000	Min. :0.1900	Min. :0.760
## 1st Qu.:2.040	1st Qu.: 0.10250	1st Qu.:0.2950	1st Qu.:1.785
## Median :2.380	Median : 0.12000	Median :0.3600	Median :2.145
## Mean :2.468	Mean : -0.06316	Mean :0.3753	Mean :2.223
## 3rd Qu.:2.950	3rd Qu.: 0.14000	3rd Qu.:0.4175	3rd Qu.:2.655
## Max. :4.380	Max. : 0.99000	Max. :0.9900	Max. :4.460
## NA's :1	NA's :1	NA's :1	NA's :1
## PC.ae.C44.6_T2	SM..OH..C14.1_T2	SM..OH..C16.1_T2	SM..OH..C22.1_T2
## Min. :0.540	Min. :1.680	Min. :0.870	Min. :1.040
## 1st Qu.:1.103	1st Qu.:2.660	1st Qu.:1.290	1st Qu.:2.080
## Median :1.445	Median :3.305	Median :1.615	Median :2.570
## Mean :1.435	Mean :3.446	Mean :1.685	Mean :2.829
## 3rd Qu.:1.705	3rd Qu.:4.093	3rd Qu.:1.887	3rd Qu.:3.670
## Max. :2.600	Max. :5.770	Max. :3.120	Max. :5.400

##	NA's :1	NA's :1	NA's :1	NA's :1	
##	SM.OH..C22.2_T2	SM.OH..C24.1_T2	SM.C16.0_T2	SM.C16.1_T2	
##	Min. :1.760	Min. :0.1500	Min. : 38.00	Min. : 6.61	
##	1st Qu.:3.020	1st Qu.:0.3000	1st Qu.: 62.88	1st Qu.: 9.69	
##	Median :4.045	Median :0.3300	Median : 71.90	Median :12.70	
##	Mean :3.975	Mean :0.3803	Mean : 76.98	Mean :12.72	
##	3rd Qu.:4.678	3rd Qu.:0.4775	3rd Qu.: 88.35	3rd Qu.:15.57	
##	Max. :6.350	Max. :0.6500	Max. :142.00	Max. :21.90	
##	NA's :1	NA's :1	NA's :1	NA's :1	
##	SM.C18.0_T2	SM.C18.1_T2	SM.C20.2_T2	SM.C24.0_T2	
##	Min. : 7.80	Min. : 4.570	Min. :0.1400	Min. : 2.410	
##	1st Qu.:12.40	1st Qu.: 7.062	1st Qu.:0.2125	1st Qu.: 3.962	
##	Median :14.20	Median : 8.530	Median :0.2550	Median : 4.765	
##	Mean :16.06	Mean : 8.983	Mean :0.2792	Mean : 5.253	
##	3rd Qu.:19.48	3rd Qu.:10.775	3rd Qu.:0.3000	3rd Qu.: 6.043	
##	Max. :28.00	Max. :15.600	Max. :0.5000	Max. :10.600	
##	NA's :1	NA's :1	NA's :1	NA's :1	
##	SM.C24.1_T2	MEDDM_T4	MEDCOL_T4	MEDINF_T4	
##	Min. :13.30	Min. :0.00000	Min. :0.00000	Min. :0.00000	
##	1st Qu.:25.75	1st Qu.:0.00000	1st Qu.:0.00000	1st Qu.:0.00000	
##	Median :29.50	Median :0.00000	Median :0.00000	Median :0.00000	
##	Mean :31.81	Mean :0.02703	Mean :0.02703	Mean :0.05405	
##	3rd Qu.:35.77	3rd Qu.:0.00000	3rd Qu.:0.00000	3rd Qu.:0.00000	
##	Max. :60.90	Max. :1.00000	Max. :1.00000	Max. :1.00000	
##	NA's :1	NA's :2	NA's :2	NA's :2	
##	MEDHTA_T4	GLU_T4	INS_T4	HOMA_T4	
##	Min. :0.0000	Min. : 38.00	Min. : 3.900	Min. :0.710	
##	1st Qu.:0.0000	1st Qu.: 78.25	1st Qu.: 7.705	1st Qu.:1.548	
##	Median :0.0000	Median : 83.50	Median : 9.535	Median :1.985	
##	Mean :0.1351	Mean : 83.76	Mean : 9.941	Mean :2.047	
##	3rd Qu.:0.0000	3rd Qu.: 91.75	3rd Qu.:11.825	3rd Qu.:2.413	
##	Max. :1.0000	Max. :108.00	Max. :18.800	Max. :4.100	
##	NA's :2	NA's :1	NA's :3	NA's :3	
##	HBA1C_T4	HBA1C.mmol.mol_T4	PESO_T4	bmi_T4	
##	Min. :4.700	Min. :27.85	Min. : 74.50	Min. :26.40	
##	1st Qu.:5.075	1st Qu.:31.95	1st Qu.: 99.83	1st Qu.:36.80	
##	Median :5.200	Median :33.32	Median :109.50	Median :40.00	
##	Mean :5.213	Mean :33.46	Mean :113.99	Mean :41.28	
##	3rd Qu.:5.325	3rd Qu.:34.69	3rd Qu.:126.75	3rd Qu.:44.90	
##	Max. :5.900	Max. :40.97	Max. :157.00	Max. :57.40	
##	NA's :23	NA's :23	NA's :1	NA's :1	
##	CC_T4	CINT_T4	CAD_T4	TAD_T4	TAS_T4
##	Min. :0.7	Min. : 81.0	Min. : 56.0	Min. : 56.00	Min. : 97.0
##	1st Qu.:0.8	1st Qu.:108.0	1st Qu.:121.0	1st Qu.: 70.00	1st Qu.:116.5
##	Median :0.9	Median :116.0	Median :132.0	Median : 78.00	Median :124.0
##	Mean :0.9	Mean :116.5	Mean :131.8	Mean : 78.31	Mean :127.5
##	3rd Qu.:0.9	3rd Qu.:123.0	3rd Qu.:142.0	3rd Qu.: 85.50	3rd Qu.:137.5
##	Max. :2.0	Max. :145.0	Max. :167.0	Max. :105.00	Max. :179.0
##	NA's :6	NA's :2	NA's :2	NA's :4	NA's :4
##	TG_T4	COL_T4	LDL_T4	HDL_T4	
##	Min. : 39.00	Min. :107.0	Min. : 51.0	Min. :27.00	
##	1st Qu.: 80.25	1st Qu.:143.8	1st Qu.: 86.0	1st Qu.:37.25	
##	Median :110.50	Median :166.5	Median :104.0	Median :42.00	
##	Mean :109.82	Mean :170.1	Mean :106.3	Mean :44.11	

##	3rd Qu.:136.75	3rd Qu.:191.2	3rd Qu.:122.0	3rd Qu.:49.00
##	Max. :223.00	Max. :265.0	Max. :179.0	Max. :77.00
##	NA's :1	NA's :1	NA's :2	NA's :1
##	VLDL_T4	PCR_T4	LEP_T4	ADIPO_T4
##	Min. : 7.8	Min. : 0.350	Min. :10.20	Min. : 2.920
##	1st Qu.:16.0	1st Qu.: 1.630	1st Qu.:20.38	1st Qu.: 6.795
##	Median :18.8	Median : 3.000	Median :30.35	Median : 8.810
##	Mean :20.5	Mean : 5.546	Mean :32.84	Mean :10.981
##	3rd Qu.:25.2	3rd Qu.: 8.100	3rd Qu.:45.80	3rd Qu.:13.350
##	Max. :44.6	Max. :22.000	Max. :60.40	Max. :35.100
##	NA's :14	NA's :18	NA's :19	NA's :20
##	GOT_T4	GPT_T4	GGT_T4	URICO_T4
##	Min. : 11.00	Min. : 16.00	Min. : 4.00	Min. :2.500
##	1st Qu.: 18.00	1st Qu.: 28.00	1st Qu.: 13.00	1st Qu.:4.125
##	Median : 22.00	Median : 40.00	Median : 19.50	Median :5.200
##	Mean : 27.61	Mean : 45.95	Mean : 30.89	Mean :5.017
##	3rd Qu.: 30.75	3rd Qu.: 55.00	3rd Qu.: 28.00	3rd Qu.:5.850
##	Max. :117.00	Max. :147.00	Max. :345.00	Max. :7.900
##	NA's :1	NA's :1	NA's :1	NA's :1
##	CREAT_T4	UREA_T4	HIERRO_T4	TRANSF_T4
##	Min. :0.4000	Min. : 6.50	Min. : 19.00	Min. :158.0
##	1st Qu.:0.6000	1st Qu.:17.00	1st Qu.: 51.00	1st Qu.:214.5
##	Median :0.6000	Median :23.00	Median : 69.00	Median :247.0
##	Mean :0.6662	Mean :23.61	Mean : 88.43	Mean :243.5
##	3rd Qu.:0.8000	3rd Qu.:30.00	3rd Qu.: 85.00	3rd Qu.:273.0
##	Max. :1.1000	Max. :42.00	Max. :482.00	Max. :335.0
##	NA's :2	NA's :2	NA's :2	NA's :4
##	FERR_T4	Ile_T4	Leu_T4	Val_T4
##	Min. : 5.00	Min. : 40.70	Min. : 69.0	Min. :143.0
##	1st Qu.: 22.75	1st Qu.: 59.12	1st Qu.:102.0	1st Qu.:178.2
##	Median : 40.00	Median : 74.25	Median :131.0	Median :222.5
##	Mean : 74.00	Mean : 86.17	Mean :148.7	Mean :253.1
##	3rd Qu.: 81.00	3rd Qu.:104.08	3rd Qu.:167.5	3rd Qu.:284.0
##	Max. :270.00	Max. :192.00	Max. :308.0	Max. :646.0
##	NA's :4	NA's :5	NA's :5	NA's :5
##	Ala_T4	Pro_T4	Gly_T4	Ser_T4
##	Min. :218.0	Min. :132.0	Min. : 157.0	Min. : -99.0
##	1st Qu.:307.5	1st Qu.:183.8	1st Qu.: 272.8	1st Qu.:143.0
##	Median :381.5	Median :216.5	Median : 339.0	Median :173.0
##	Mean :415.1	Mean :241.7	Mean : 379.0	Mean :184.6
##	3rd Qu.:461.8	3rd Qu.:253.0	3rd Qu.: 432.8	3rd Qu.:226.0
##	Max. :841.0	Max. :759.0	Max. :1010.0	Max. :396.0
##	NA's :5	NA's :5	NA's :5	NA's :5
##	Trp_T4	Phe_T4	Met_T4	Orn_T4
##	Min. : 14.80	Min. : 29.40	Min. : -99.00	Min. : 37.50
##	1st Qu.: 42.77	1st Qu.: 51.65	1st Qu.: 19.82	1st Qu.: 65.58
##	Median : 51.65	Median : 66.75	Median : 23.70	Median : 84.10
##	Mean : 55.54	Mean : 70.40	Mean : 23.97	Mean : 94.57
##	3rd Qu.: 64.20	3rd Qu.: 78.88	3rd Qu.: 31.05	3rd Qu.:111.50
##	Max. :123.00	Max. :149.00	Max. : 60.40	Max. :321.00
##	NA's :5	NA's :5	NA's :5	NA's :5
##	Arg_T4	His_T4	Asn_T4	Asp_T4
##	Min. : 76.6	Min. : 56.60	Min. : 15.90	Min. : -99.00
##	1st Qu.:107.2	1st Qu.: 77.10	1st Qu.: 36.30	1st Qu.: 11.28

##	Median :129.5	Median : 86.75	Median : 44.25	Median : 18.15
##	Mean :140.5	Mean : 98.00	Mean : 46.34	Mean : 17.45
##	3rd Qu.:151.0	3rd Qu.: 99.25	3rd Qu.: 51.75	3rd Qu.: 26.35
##	Max. :306.0	Max. :233.00	Max. :114.00	Max. : 44.50
##	NA's :5	NA's :5	NA's :5	NA's :5
##	Glu_T4	Gln_T4	Cit_T4	Tyr_T4
##	Min. : 16.00	Min. : -99.0	Min. :17.90	Min. : 32.20
##	1st Qu.: 36.00	1st Qu.: 641.8	1st Qu.:25.75	1st Qu.: 48.17
##	Median : 51.35	Median : 762.0	Median :32.30	Median : 65.55
##	Mean : 64.69	Mean : 714.1	Mean :34.21	Mean : 72.85
##	3rd Qu.: 76.08	3rd Qu.: 870.5	3rd Qu.:36.40	3rd Qu.: 78.58
##	Max. :261.00	Max. :1250.0	Max. :77.70	Max. :229.00
##	NA's :5	NA's :5	NA's :5	NA's :5
##	Thr_T4	Lys_T4	Creatinine_T4	Kynurenine_T4
##	Min. : 35.1	Min. : -99.0	Min. : 41.50	Min. : -99.0000
##	1st Qu.:100.8	1st Qu.:259.0	1st Qu.: 57.65	1st Qu.: 1.8650
##	Median :124.0	Median :296.5	Median : 67.10	Median : 2.1950
##	Mean :129.4	Mean :315.6	Mean : 76.23	Mean : -0.3882
##	3rd Qu.:142.0	3rd Qu.:347.2	3rd Qu.: 82.47	3rd Qu.: 2.7300
##	Max. :342.0	Max. :709.0	Max. :188.00	Max. : 6.8900
##	NA's :5	NA's :5	NA's :5	NA's :5
##	Putrescine_T4	Sarcosine_T4	Serotonin_T4	Taurine_T4
##	Min. : -99.0000	Min. : 2.640	Min. : -99.0000	Min. : -99.00
##	1st Qu.: 0.1057	1st Qu.: 4.812	1st Qu.: 0.3505	1st Qu.: 49.25
##	Median : 0.1820	Median : 7.145	Median : 0.5670	Median : 75.80
##	Mean : -12.5276	Mean : 7.492	Mean : -2.1515	Mean : 68.35
##	3rd Qu.: 0.2717	3rd Qu.: 9.018	3rd Qu.: 1.0012	3rd Qu.:118.75
##	Max. : 0.4570	Max. :22.100	Max. : 2.4400	Max. :184.00
##	NA's :5	NA's :5	NA's :5	NA's :5
##	SDMA_T4	CO_T4	C2_T4	C3.OH_T4
##	Min. :0.890	Min. : 16.10	Min. : 0.900	Min. :0.1200
##	1st Qu.:1.115	1st Qu.: 30.43	1st Qu.: 6.355	1st Qu.:0.2025
##	Median :1.270	Median : 36.40	Median : 9.485	Median :0.2400
##	Mean :1.490	Mean : 39.69	Mean :10.983	Mean :0.2482
##	3rd Qu.:1.680	3rd Qu.: 41.70	3rd Qu.:12.875	3rd Qu.:0.2875
##	Max. :3.580	Max. :118.00	Max. :32.600	Max. :0.5100
##	NA's :5	NA's :5	NA's :5	NA's :5
##	C6..C4.1.DC..T4	C5.DC..C6.OH..T4	C7.DC_T4	C8_T4
##	Min. : -99.0000	Min. : -9.00000	Min. : -9.00000	Min. :0.2840
##	1st Qu.: -9.0000	1st Qu.: 0.03925	1st Qu.: 0.04075	1st Qu.:0.4400
##	Median : 0.0810	Median : 0.05000	Median : 0.04750	Median :0.5385
##	Mean : -25.3530	Mean : -1.01388	Mean : -0.74371	Mean :0.5526
##	3rd Qu.: 0.1045	3rd Qu.: 0.05550	3rd Qu.: 0.05800	3rd Qu.:0.6405
##	Max. : 0.1660	Max. : 0.08200	Max. : 0.12300	Max. :0.9580
##	NA's :5	NA's :5	NA's :5	NA's :5
##	C10_T4	C10.1_T4	C10.2_T4	C14.1_T4
##	Min. :0.2400	Min. :0.1300	Min. :0.0900	Min. :0.1000
##	1st Qu.:0.4425	1st Qu.:0.2025	1st Qu.:0.1225	1st Qu.:0.1625
##	Median :0.5300	Median :0.2500	Median :0.1550	Median :0.2000
##	Mean :0.6012	Mean :0.2615	Mean :0.1588	Mean :0.2135
##	3rd Qu.:0.7175	3rd Qu.:0.2900	3rd Qu.:0.1875	3rd Qu.:0.2300
##	Max. :1.4000	Max. :0.4700	Max. :0.2400	Max. :0.4500
##	NA's :5	NA's :5	NA's :5	NA's :5
##	C14.2_T4	C16.1_T4	C16.2_T4	C16.2.OH_T4

## Min. :0.0500	Min. :-9.0000	Min. :0.03000	Min. :-9.0000
## 1st Qu.:0.1000	1st Qu.: 0.0900	1st Qu.:0.03250	1st Qu.: 0.0400
## Median :0.1100	Median : 0.1100	Median :0.04000	Median : 0.0500
## Mean :0.1235	Mean :-0.1559	Mean :0.04677	Mean :-0.2185
## 3rd Qu.:0.1375	3rd Qu.: 0.1300	3rd Qu.:0.05000	3rd Qu.: 0.0500
## Max. :0.2400	Max. : 0.2000	Max. :0.18000	Max. : 0.0900
## NA's :5	NA's :5	NA's :5	NA's :5
## C18.1_T4	C18.1.OH_T4	C18.2_T4	lysoPC.a.C16.0_T4
## Min. :0.1000	Min. :0.03000	Min. :0.0600	Min. : 66.2
## 1st Qu.:0.1700	1st Qu.:0.04000	1st Qu.:0.0900	1st Qu.:128.2
## Median :0.2000	Median :0.04000	Median :0.1000	Median :149.5
## Mean :0.2250	Mean :0.04559	Mean :0.1088	Mean :172.7
## 3rd Qu.:0.2575	3rd Qu.:0.05000	3rd Qu.:0.1200	3rd Qu.:196.0
## Max. :0.5500	Max. :0.11000	Max. :0.2100	Max. :392.0
## NA's :5	NA's :5	NA's :5	NA's :5
## lysoPC.a.C16.1_T4	lysoPC.a.C17.0_T4	lysoPC.a.C18.0_T4	lysoPC.a.C18.1_T4
## Min. : 1.240	Min. :1.050	Min. :16.30	Min. : 13.80
## 1st Qu.: 2.970	1st Qu.:1.607	1st Qu.:36.12	1st Qu.: 30.00
## Median : 3.755	Median :2.000	Median :41.30	Median : 35.90
## Mean : 4.271	Mean :2.289	Mean :45.86	Mean : 41.08
## 3rd Qu.: 4.812	3rd Qu.:2.430	3rd Qu.:52.73	3rd Qu.: 44.70
## Max. :11.400	Max. :6.020	Max. :97.60	Max. :102.00
## NA's :5	NA's :5	NA's :5	NA's :5
## lysoPC.a.C18.2_T4	lysoPC.a.C20.3_T4	lysoPC.a.C20.4_T4	lysoPC.a.C24.0_T4
## Min. : 15.70	Min. :1.300	Min. : 5.05	Min. :0.2500
## 1st Qu.: 35.12	1st Qu.:2.223	1st Qu.: 9.38	1st Qu.:0.3525
## Median : 42.55	Median :2.660	Median :10.70	Median :0.4100
## Mean : 45.21	Mean :2.874	Mean :12.75	Mean :0.4371
## 3rd Qu.: 48.77	3rd Qu.:3.300	3rd Qu.:12.80	3rd Qu.:0.5150
## Max. :111.00	Max. :5.310	Max. :36.00	Max. :0.8900
## NA's :5	NA's :5	NA's :5	NA's :5
## lysoPC.a.C26.0_T4	lysoPC.a.C26.1_T4	lysoPC.a.C28.0_T4	lysoPC.a.C28.1_T4
## Min. :-9.0000	Min. :0.1000	Min. :-9.000	Min. :0.1400
## 1st Qu.: 0.2125	1st Qu.:0.2000	1st Qu.: -9.000	1st Qu.:0.3125
## Median : 0.3450	Median :0.2750	Median : 0.255	Median :0.3600
## Mean :-0.4185	Mean :0.3315	Mean :-2.670	Mean :0.4262
## 3rd Qu.: 0.4025	3rd Qu.:0.4275	3rd Qu.: 0.315	3rd Qu.:0.4775
## Max. : 1.7800	Max. :0.7400	Max. : 1.440	Max. :1.3400
## NA's :5	NA's :5	NA's :5	NA's :5
## PC.aa.C24.0_T4	PC.aa.C28.1_T4	PC.aa.C30.0_T4	PC.aa.C32.0_T4
## Min. :-9.000	Min. :1.120	Min. :0.550	Min. : 6.54
## 1st Qu.: -9.000	1st Qu.:1.867	1st Qu.:1.125	1st Qu.:10.30
## Median : 0.150	Median :2.195	Median :1.515	Median :11.20
## Mean :-2.759	Mean :2.410	Mean :1.619	Mean :13.13
## 3rd Qu.: 0.210	3rd Qu.:2.853	3rd Qu.:2.015	3rd Qu.:12.88
## Max. : 0.900	Max. :4.690	Max. :3.530	Max. :35.20
## NA's :5	NA's :5	NA's :5	NA's :5
## PC.aa.C32.1_T4	PC.aa.C32.3_T4	PC.aa.C34.1_T4	PC.aa.C34.2_T4
## Min. : 2.560	Min. :0.1200	Min. : 77.1	Min. :127.0
## 1st Qu.: 5.702	1st Qu.:0.1700	1st Qu.:111.0	1st Qu.:256.8
## Median : 7.320	Median :0.2050	Median :135.5	Median :302.5
## Mean : 9.333	Mean :0.2341	Mean :154.4	Mean :330.5
## 3rd Qu.:12.850	3rd Qu.:0.2800	3rd Qu.:177.8	3rd Qu.:337.5
## Max. :20.300	Max. :0.5100	Max. :386.0	Max. :773.0

##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C34.3_T4	PC.aa.C34.4_T4	PC.aa.C36.0_T4	PC.aa.C36.1_T4
##	Min. : 2.870	Min. :0.1600	Min. :0.6800	Min. : 5.01
##	1st Qu.: 4.880	1st Qu.:0.2225	1st Qu.:0.9275	1st Qu.:10.18
##	Median : 6.040	Median :0.3350	Median :1.2050	Median :13.25
##	Mean : 7.521	Mean :0.3779	Mean :1.3674	Mean :14.06
##	3rd Qu.: 9.005	3rd Qu.:0.4475	3rd Qu.:1.5525	3rd Qu.:16.50
##	Max. :20.600	Max. :1.0700	Max. :3.5400	Max. :27.90
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C36.2_T4	PC.aa.C36.3_T4	PC.aa.C36.4_T4	PC.aa.C36.5_T4
##	Min. : 34.60	Min. : 28.80	Min. : 57.10	Min. : 3.180
##	1st Qu.: 76.78	1st Qu.: 40.70	1st Qu.: 81.15	1st Qu.: 5.040
##	Median : 91.20	Median : 53.80	Median :109.00	Median : 5.810
##	Mean : 99.07	Mean : 58.84	Mean :127.46	Mean : 7.411
##	3rd Qu.:121.25	3rd Qu.: 68.28	3rd Qu.:133.50	3rd Qu.: 7.230
##	Max. :208.00	Max. :134.00	Max. :309.00	Max. :26.800
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C38.0_T4	PC.aa.C38.1_T4	PC.aa.C38.3_T4	PC.aa.C38.4_T4
##	Min. :1.230	Min. :0.270	Min. :12.90	Min. : 40.80
##	1st Qu.:2.433	1st Qu.:0.625	1st Qu.:18.02	1st Qu.: 57.38
##	Median :2.805	Median :0.875	Median :25.30	Median : 74.15
##	Mean :3.082	Mean :1.125	Mean :25.80	Mean : 82.38
##	3rd Qu.:3.208	3rd Qu.:1.242	3rd Qu.:29.90	3rd Qu.: 90.45
##	Max. :9.500	Max. :3.570	Max. :50.90	Max. :204.00
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C38.5_T4	PC.aa.C38.6_T4	PC.aa.C40.1_T4	PC.aa.C40.2_T4
##	Min. :13.50	Min. : 24.60	Min. : -9.000	Min. :0.1100
##	1st Qu.:21.70	1st Qu.: 47.42	1st Qu.: -9.000	1st Qu.:0.2025
##	Median :25.65	Median : 62.85	Median : 0.425	Median :0.2800
##	Mean :28.88	Mean : 74.38	Mean : -2.799	Mean :0.4635
##	3rd Qu.:30.82	3rd Qu.: 76.75	3rd Qu.: 0.475	3rd Qu.:0.3200
##	Max. :72.00	Max. :225.00	Max. : 1.740	Max. :3.7000
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C40.3_T4	PC.aa.C40.4_T4	PC.aa.C40.5_T4	PC.aa.C40.6_T4
##	Min. :0.2900	Min. :0.840	Min. : 1.690	Min. : 9.51
##	1st Qu.:0.4300	1st Qu.:1.488	1st Qu.: 3.382	1st Qu.:15.10
##	Median :0.5700	Median :1.875	Median : 4.430	Median :18.40
##	Mean :0.7247	Mean :2.247	Mean : 4.717	Mean :21.26
##	3rd Qu.:0.6850	3rd Qu.:2.768	3rd Qu.: 5.410	3rd Qu.:23.45
##	Max. :3.1000	Max. :5.170	Max. :10.300	Max. :59.10
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C42.0_T4	PC.aa.C42.1_T4	PC.aa.C42.2_T4	PC.aa.C42.4_T4
##	Min. :0.3400	Min. :0.1600	Min. :0.1600	Min. :0.1100
##	1st Qu.:0.5825	1st Qu.:0.3025	1st Qu.:0.1925	1st Qu.:0.1600
##	Median :0.6800	Median :0.3400	Median :0.2150	Median :0.1750
##	Mean :0.7635	Mean :0.4006	Mean :0.3232	Mean :0.2891
##	3rd Qu.:0.8100	3rd Qu.:0.3875	3rd Qu.:0.2675	3rd Qu.:0.2600
##	Max. :1.8700	Max. :1.0300	Max. :1.7200	Max. :1.8700
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.aa.C42.5_T4	PC.aa.C42.6_T4	PC.aa.C30.0_T4	PC.aa.C32.1_T4
##	Min. :0.1700	Min. : -9.0000	Min. : -9.0000	Min. :1.050
##	1st Qu.:0.2700	1st Qu.: 0.2300	1st Qu.: 0.2300	1st Qu.:1.942
##	Median :0.3200	Median : 0.3050	Median : 0.2750	Median :2.285
##	Mean :0.4135	Mean : -0.4762	Mean : -0.2568	Mean :2.485

##	3rd Qu.:0.4475	3rd Qu.: 0.3550	3rd Qu.: 0.3100	3rd Qu.:2.638
##	Max. :1.0200	Max. : 0.8500	Max. : 0.5000	Max. :5.720
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C32.2_T4	PC.ae.C34.0_T4	PC.ae.C34.1_T4	PC.ae.C34.2_T4
##	Min. :0.3400	Min. :0.2000	Min. : 2.630	Min. : 2.710
##	1st Qu.:0.6225	1st Qu.:0.3800	1st Qu.: 4.535	1st Qu.: 4.907
##	Median :0.6950	Median :0.4300	Median : 5.075	Median : 6.025
##	Mean :0.7974	Mean :0.4776	Mean : 5.594	Mean : 6.549
##	3rd Qu.:0.7900	3rd Qu.:0.4950	3rd Qu.: 5.912	3rd Qu.: 6.910
##	Max. :2.2000	Max. :1.1900	Max. :13.500	Max. :17.300
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C34.3_T4	PC.ae.C36.0_T4	PC.ae.C36.1_T4	PC.ae.C36.2_T4
##	Min. : 1.910	Min. :0.5100	Min. : 1.400	Min. : 2.270
##	1st Qu.: 3.775	1st Qu.:0.7550	1st Qu.: 2.123	1st Qu.: 4.093
##	Median : 4.550	Median :0.9050	Median : 2.485	Median : 4.920
##	Mean : 5.203	Mean :0.9868	Mean : 3.320	Mean : 5.437
##	3rd Qu.: 6.402	3rd Qu.:1.0725	3rd Qu.: 3.255	3rd Qu.: 6.080
##	Max. :13.100	Max. :2.5000	Max. :16.100	Max. :14.200
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C36.3_T4	PC.ae.C36.4_T4	PC.ae.C36.5_T4	PC.ae.C38.0_T4
##	Min. :1.250	Min. : 2.270	Min. : 2.390	Min. :0.750
##	1st Qu.:2.185	1st Qu.: 5.715	1st Qu.: 5.718	1st Qu.:1.000
##	Median :2.935	Median : 6.850	Median : 6.380	Median :1.205
##	Mean :3.114	Mean : 7.445	Mean : 7.212	Mean :1.459
##	3rd Qu.:3.605	3rd Qu.: 7.923	3rd Qu.: 8.105	3rd Qu.:1.542
##	Max. :7.630	Max. :17.400	Max. :18.800	Max. :4.370
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C38.2_T4	PC.ae.C38.3_T4	PC.ae.C38.4_T4	PC.ae.C38.5_T4
##	Min. : 0.4000	Min. : 0.630	Min. : 2.240	Min. : 3.170
##	1st Qu.: 0.7325	1st Qu.: 0.850	1st Qu.: 4.000	1st Qu.: 7.225
##	Median : 1.0750	Median : 1.160	Median : 4.445	Median : 8.880
##	Mean : 1.7062	Mean : 1.720	Mean : 5.036	Mean : 9.766
##	3rd Qu.: 1.5075	3rd Qu.: 1.465	3rd Qu.: 5.438	3rd Qu.:10.475
##	Max. :11.4000	Max. :11.400	Max. :10.400	Max. :23.200
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C38.6_T4	PC.ae.C40.1_T4	PC.ae.C40.2_T4	PC.ae.C40.3_T4
##	Min. :1.160	Min. :0.5800	Min. :0.590	Min. :0.3800
##	1st Qu.:3.015	1st Qu.:0.8025	1st Qu.:0.980	1st Qu.:0.6325
##	Median :3.430	Median :1.0300	Median :1.160	Median :0.7600
##	Mean :3.854	Mean :1.1838	Mean :1.396	Mean :1.2538
##	3rd Qu.:4.465	3rd Qu.:1.2725	3rd Qu.:1.448	3rd Qu.:0.8700
##	Max. :9.380	Max. :3.3000	Max. :4.460	Max. :9.6700
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C40.4_T4	PC.ae.C40.5_T4	PC.ae.C40.6_T4	PC.ae.C42.1_T4
##	Min. :0.870	Min. :0.870	Min. :1.120	Min. :0.2000
##	1st Qu.:1.377	1st Qu.:1.548	1st Qu.:1.770	1st Qu.:0.2925
##	Median :1.570	Median :1.815	Median :2.065	Median :0.3800
##	Mean :2.066	Mean :2.446	Mean :2.350	Mean :0.5118
##	3rd Qu.:2.100	3rd Qu.:2.335	3rd Qu.:2.688	3rd Qu.:0.4975
##	Max. :6.890	Max. :9.800	Max. :5.940	Max. :2.4200
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C42.2_T4	PC.ae.C42.3_T4	PC.ae.C42.4_T4	PC.ae.C42.5_T4
##	Min. :0.2400	Min. :0.3700	Min. :0.3900	Min. :1.280
##	1st Qu.:0.3600	1st Qu.:0.5450	1st Qu.:0.6500	1st Qu.:2.130

##	Median :0.4450	Median :0.6400	Median :0.8000	Median :2.310
##	Mean :0.5612	Mean :0.8385	Mean :0.9347	Mean :2.704
##	3rd Qu.:0.5550	3rd Qu.:0.8950	3rd Qu.:1.1350	3rd Qu.:2.965
##	Max. :2.0900	Max. :3.3000	Max. :2.0500	Max. :6.190
##	NA's :5	NA's :5	NA's :5	NA's :5
##	PC.ae.C44.3_T4	PC.ae.C44.4_T4	PC.ae.C44.5_T4	PC.ae.C44.6_T4
##	Min. :0.0900	Min. :0.2000	Min. :0.920	Min. :0.760
##	1st Qu.:0.1100	1st Qu.:0.3200	1st Qu.:1.603	1st Qu.:1.232
##	Median :0.1200	Median :0.3850	Median :2.325	Median :1.575
##	Mean :0.1903	Mean :0.4135	Mean :2.498	Mean :1.654
##	3rd Qu.:0.1675	3rd Qu.:0.4500	3rd Qu.:2.947	3rd Qu.:1.910
##	Max. :1.2100	Max. :0.8200	Max. :7.040	Max. :4.050
##	NA's :5	NA's :5	NA's :5	NA's :5
##	SM.OH..C14.1_T4	SM.OH..C16.1_T4	SM.OH..C22.1_T4	SM.OH..C22.2_T4
##	Min. :1.480	Min. :0.840	Min. :1.130	Min. :1.940
##	1st Qu.:3.020	1st Qu.:1.262	1st Qu.:2.695	1st Qu.:3.783
##	Median :3.705	Median :1.675	Median :3.225	Median :4.405
##	Mean :3.937	Mean :1.767	Mean :3.305	Mean :4.627
##	3rd Qu.:4.617	3rd Qu.:2.115	3rd Qu.:4.143	3rd Qu.:5.165
##	Max. :8.820	Max. :4.800	Max. :7.240	Max. :8.580
##	NA's :5	NA's :5	NA's :5	NA's :5
##	SM.OH..C24.1_T4	SM.C16.0_T4	SM.C16.1_T4	SM.C18.0_T4
##	Min. :0.2100	Min. : 38.30	Min. : 4.96	Min. : 6.23
##	1st Qu.:0.3200	1st Qu.: 63.00	1st Qu.: 9.95	1st Qu.:10.22
##	Median :0.4150	Median : 76.05	Median :13.50	Median :13.05
##	Mean :0.4406	Mean : 85.12	Mean :14.06	Mean :14.89
##	3rd Qu.:0.5100	3rd Qu.:100.67	3rd Qu.:16.35	3rd Qu.:16.57
##	Max. :0.7800	Max. :184.00	Max. :31.80	Max. :34.10
##	NA's :5	NA's :5	NA's :5	NA's :5
##	SM.C18.1_T4	SM.C20.2_T4	SM.C24.0_T4	SM.C24.1_T4
##	Min. : 3.730	Min. :0.1200	Min. :2.440	Min. :18.00
##	1st Qu.: 6.122	1st Qu.:0.1925	1st Qu.:4.645	1st Qu.:25.93
##	Median : 7.755	Median :0.2550	Median :5.990	Median :30.30
##	Mean : 9.022	Mean :0.2988	Mean :6.021	Mean :34.66
##	3rd Qu.:11.075	3rd Qu.:0.3475	3rd Qu.:7.450	3rd Qu.:41.38
##	Max. :22.000	Max. :0.6300	Max. :9.700	Max. :74.70
##	NA's :5	NA's :5	NA's :5	NA's :5
##	MEDDM_T5	MEDCOL_T5	MEDINF_T5	MEDHTA_T5
##	Min. :0.0000	Min. :0.0000	Min. :0.0000	Min. :0.000
##	1st Qu.:0.0000	1st Qu.:0.0000	1st Qu.:0.0000	1st Qu.:0.000
##	Median :0.0000	Median :0.0000	Median :0.0000	Median :0.000
##	Mean :0.3438	Mean :0.3438	Mean :0.4333	Mean :0.375
##	3rd Qu.:1.0000	3rd Qu.:1.0000	3rd Qu.:1.0000	3rd Qu.:1.000
##	Max. :1.0000	Max. :1.0000	Max. :1.0000	Max. :1.000
##	NA's :7	NA's :7	NA's :9	NA's :7
##	GLU_T5	INS_T5	HOMA_T5	HBA1C_T5
##	Min. : 67.00	Min. : 2.230	Min. :0.400	Min. :4.900
##	1st Qu.: 74.75	1st Qu.: 6.005	1st Qu.:1.240	1st Qu.:5.000
##	Median : 84.00	Median : 9.710	Median :1.860	Median :5.200
##	Mean : 84.31	Mean : 8.949	Mean :1.888	Mean :5.200
##	3rd Qu.: 94.25	3rd Qu.:10.850	3rd Qu.:2.435	3rd Qu.:5.325
##	Max. :105.00	Max. :19.000	Max. :4.270	Max. :5.600
##	NA's :7	NA's :8	NA's :8	NA's :27
##	HBA1C.mmol.mol_T5	PESO_T5	bmi_T5	CC_T5

##	Min.	:30.04	Min.	: 64.00	Min.	:25.50	Min.	:0.7000
##	1st Qu.	:31.13	1st Qu.	: 88.42	1st Qu.	:32.55	1st Qu.	:0.8000
##	Median	:33.32	Median	:100.00	Median	:35.53	Median	:0.8000
##	Mean	:33.32	Mean	:100.41	Mean	:36.42	Mean	:0.8519
##	3rd Qu.	:34.69	3rd Qu.	:112.25	3rd Qu.	:40.58	3rd Qu.	:0.9000
##	Max.	:37.69	Max.	:142.00	Max.	:50.90	Max.	:1.0000
##	NA's	:27	NA's	:7	NA's	:7	NA's	:12
##	CINT_T5		CAD_T5		TAD_T5		TAS_T5	
##	Min.	: 79.5	Min.	:103.0	Min.	:60.00	Min.	:103.0
##	1st Qu.	: 98.0	1st Qu.	:115.0	1st Qu.	:70.00	1st Qu.	:113.5
##	Median	:105.0	Median	:127.0	Median	:74.00	Median	:125.0
##	Mean	:108.7	Mean	:125.6	Mean	:76.71	Mean	:126.3
##	3rd Qu.	:117.0	3rd Qu.	:134.0	3rd Qu.	:83.50	3rd Qu.	:130.5
##	Max.	:143.0	Max.	:153.0	Max.	:96.00	Max.	:179.0
##	NA's	:6	NA's	:6	NA's	:8	NA's	:8
##	TG_T5		COL_T5		LDL_T5		HDL_T5	
##	Min.	: 37.00	Min.	: 91.0	Min.	: 37.60	Min.	:28.00
##	1st Qu.	: 72.75	1st Qu.	:132.2	1st Qu.	: 72.95	1st Qu.	:36.00
##	Median	: 87.00	Median	:170.0	Median	:106.50	Median	:43.50
##	Mean	: 95.56	Mean	:169.7	Mean	:106.07	Mean	:46.44
##	3rd Qu.	:110.50	3rd Qu.	:205.5	3rd Qu.	:131.00	3rd Qu.	:57.00
##	Max.	:227.00	Max.	:257.0	Max.	:186.80	Max.	:90.00
##	NA's	:7	NA's	:7	NA's	:9	NA's	:7
##	VLDL_T5		PCR_T5		LEP_T5		ADIPO_T5	
##	Min.	: 9.60	Min.	: 0.2700	Min.	: 7.08	Min.	: 5.600
##	1st Qu.	:12.60	1st Qu.	: 0.7375	1st Qu.	:18.05	1st Qu.	: 8.488
##	Median	:16.00	Median	: 1.9250	Median	:23.35	Median	:10.550
##	Mean	:18.88	Mean	: 2.5460	Mean	:23.83	Mean	:12.764
##	3rd Qu.	:23.60	3rd Qu.	: 3.0100	3rd Qu.	:28.10	3rd Qu.	:13.875
##	Max.	:45.40	Max.	:12.2000	Max.	:52.30	Max.	:39.200
##	NA's	:18	NA's	:19	NA's	:19	NA's	:19
##	GOT_T5		GPT_T5		GGT_T5		URICO_T5	
##	Min.	: 3.00	Min.	:13.00	Min.	: 5.00	Min.	:2.300
##	1st Qu.	:15.50	1st Qu.	:29.75	1st Qu.	:12.00	1st Qu.	:3.900
##	Median	:22.00	Median	:34.00	Median	:19.00	Median	:4.500
##	Mean	:21.47	Mean	:36.22	Mean	:19.03	Mean	:4.459
##	3rd Qu.	:25.00	3rd Qu.	:41.50	3rd Qu.	:21.50	3rd Qu.	:5.200
##	Max.	:55.00	Max.	:74.00	Max.	:50.00	Max.	:6.700
##	NA's	:7	NA's	:7	NA's	:8	NA's	:10
##	CREAT_T5		UREA_T5		HIERR0_T5		TRANSF_T5	
##	Min.	:0.5000	Min.	:11.00	Min.	: 23.00	Min.	:144.0
##	1st Qu.	:0.6000	1st Qu.	:19.00	1st Qu.	: 49.00	1st Qu.	:218.2
##	Median	:0.7000	Median	:24.00	Median	: 70.00	Median	:244.5
##	Mean	:0.7172	Mean	:25.17	Mean	: 70.47	Mean	:240.2
##	3rd Qu.	:0.8000	3rd Qu.	:30.00	3rd Qu.	: 79.25	3rd Qu.	:259.8
##	Max.	:1.0000	Max.	:44.00	Max.	:133.00	Max.	:376.0
##	NA's	:10	NA's	:10	NA's	:7	NA's	:7
##	FERR_T5		Ile_T5		Leu_T5		Val_T5	
##	Min.	: 4.00	Min.	: 32.3	Min.	: 63.9	Min.	: 97.9
##	1st Qu.	: 19.00	1st Qu.	: 60.8	1st Qu.	:113.0	1st Qu.	:182.5
##	Median	: 50.50	Median	: 72.3	Median	:134.0	Median	:219.0
##	Mean	: 61.38	Mean	: 74.6	Mean	:132.3	Mean	:214.6
##	3rd Qu.	: 64.08	3rd Qu.	: 88.9	3rd Qu.	:155.0	3rd Qu.	:244.0
##	Max.	:231.00	Max.	:128.0	Max.	:210.0	Max.	:327.0

##	NA's :7	NA's :12	NA's :12	NA's :12
##	Ala_T5	Pro_T5	Gly_T5	Ser_T5
##	Min. :209.0	Min. :118.0	Min. :176.0	Min. : 95.0
##	1st Qu.:345.5	1st Qu.:175.5	1st Qu.:292.5	1st Qu.:163.0
##	Median :380.0	Median :199.0	Median :337.0	Median :185.0
##	Mean :405.6	Mean :207.0	Mean :366.7	Mean :189.8
##	3rd Qu.:470.0	3rd Qu.:241.0	3rd Qu.:406.5	3rd Qu.:205.0
##	Max. :654.0	Max. :312.0	Max. :633.0	Max. :318.0
##	NA's :12	NA's :12	NA's :12	NA's :12
##	Trp_T5	Phe_T5	Met_T5	Orn_T5
##	Min. : 8.92	Min. : 32.00	Min. : 5.86	Min. : 30.60
##	1st Qu.:41.35	1st Qu.: 51.40	1st Qu.:22.10	1st Qu.: 71.40
##	Median :47.90	Median : 59.60	Median :24.90	Median : 86.80
##	Mean :49.70	Mean : 65.37	Mean :25.02	Mean : 88.49
##	3rd Qu.:61.25	3rd Qu.: 78.75	3rd Qu.:28.05	3rd Qu.:103.50
##	Max. :83.10	Max. :100.00	Max. :41.20	Max. :140.00
##	NA's :12	NA's :12	NA's :12	NA's :12
##	Arg_T5	His_T5	Asn_T5	Asp_T5
##	Min. : 50.6	Min. : 55.60	Min. :19.60	Min. : -99.00
##	1st Qu.:110.5	1st Qu.: 79.40	1st Qu.:40.60	1st Qu.: 11.30
##	Median :138.0	Median : 91.10	Median :45.70	Median : 16.70
##	Mean :137.7	Mean : 94.81	Mean :46.79	Mean : 15.61
##	3rd Qu.:161.0	3rd Qu.:108.00	3rd Qu.:50.65	3rd Qu.: 22.50
##	Max. :271.0	Max. :164.00	Max. :77.80	Max. : 58.30
##	NA's :12	NA's :12	NA's :12	NA's :12
##	Glu_T5	Gln_T5	Cit_T5	Tyr_T5
##	Min. : 19.00	Min. : 527.0	Min. :11.20	Min. : 28.70
##	1st Qu.: 33.25	1st Qu.: 719.0	1st Qu.:29.10	1st Qu.: 55.25
##	Median : 43.40	Median : 833.0	Median :33.70	Median : 60.50
##	Mean : 59.26	Mean : 855.7	Mean :34.87	Mean : 65.83
##	3rd Qu.: 49.00	3rd Qu.: 925.0	3rd Qu.:42.00	3rd Qu.: 81.00
##	Max. :355.00	Max. :1560.0	Max. :49.90	Max. :102.00
##	NA's :12	NA's :12	NA's :12	NA's :12
##	Thr_T5	Lys_T5	Creatinine_T5	Kynurenine_T5
##	Min. : 23.4	Min. :138.0	Min. : 47.30	Min. : -99.000
##	1st Qu.:100.5	1st Qu.:266.5	1st Qu.: 60.65	1st Qu.: 1.630
##	Median :125.0	Median :292.0	Median : 71.60	Median : 2.230
##	Mean :121.2	Mean :312.3	Mean : 73.75	Mean : -5.124
##	3rd Qu.:148.5	3rd Qu.:367.5	3rd Qu.: 84.90	3rd Qu.: 2.725
##	Max. :167.0	Max. :472.0	Max. :111.00	Max. : 5.110
##	NA's :12	NA's :12	NA's :12	NA's :12
##	Putrescine_T5	Sarcosine_T5	Serotonin_T5	Taurine_T5
##	Min. : -99.0000	Min. : 2.840	Min. : -99.000	Min. : -99.00
##	1st Qu.: 0.1852	1st Qu.: 5.825	1st Qu.: 0.471	1st Qu.: 71.40
##	Median : 0.2325	Median : 7.570	Median : 0.647	Median : 96.10
##	Mean : -3.8777	Mean : 7.534	Mean : -2.830	Mean : 93.24
##	3rd Qu.: 0.3280	3rd Qu.: 8.790	3rd Qu.: 1.145	3rd Qu.:126.50
##	Max. : 0.4300	Max. :12.800	Max. : 2.810	Max. :163.00
##	NA's :15	NA's :12	NA's :12	NA's :12
##	SDMA_T5	CO_T5	C2_T5	C3.OH_T5
##	Min. :0.713	Min. :22.40	Min. : 1.790	Min. :0.1200
##	1st Qu.:1.205	1st Qu.:31.90	1st Qu.: 6.335	1st Qu.:0.2150
##	Median :1.430	Median :37.60	Median : 8.940	Median :0.2500
##	Mean :1.382	Mean :39.67	Mean : 8.787	Mean :0.2474

## 3rd Qu.:1.615	3rd Qu.:45.05	3rd Qu.:12.050	3rd Qu.:0.2850
## Max. :1.910	Max. :77.80	Max. :14.300	Max. :0.3800
## NA's :12	NA's :12	NA's :12	NA's :12
## C6..C4.1.DC._T5	C5.DC..C6.OH._T5	C7.DC_T5	C8_T5
## Min. :-99.000	Min. :-9.0000	Min. :-9.0000	Min. :0.350
## 1st Qu.: -9.000	1st Qu.: 0.0400	1st Qu.: 0.0400	1st Qu.:0.465
## Median : 0.090	Median : 0.0500	Median : 0.0500	Median :0.500
## Mean :-12.586	Mean :-0.2844	Mean :-0.9574	Mean :0.543
## 3rd Qu.: 0.115	3rd Qu.: 0.0600	3rd Qu.: 0.0600	3rd Qu.:0.590
## Max. : 0.268	Max. : 0.0800	Max. : 0.0700	Max. :1.170
## NA's :12	NA's :12	NA's :12	NA's :12
## C10_T5	C10.1_T5	C10.2_T5	C14.1_T5
## Min. :0.2400	Min. :-9.000	Min. :0.1000	Min. :0.09
## 1st Qu.:0.4800	1st Qu.: 0.195	1st Qu.:0.1350	1st Qu.:0.16
## Median :0.5300	Median : 0.230	Median :0.1500	Median :0.18
## Mean :0.5652	Mean :-0.433	Mean :0.1563	Mean :0.19
## 3rd Qu.:0.6000	3rd Qu.: 0.275	3rd Qu.:0.1800	3rd Qu.:0.22
## Max. :1.5900	Max. : 0.700	Max. :0.2800	Max. :0.33
## NA's :12	NA's :12	NA's :12	NA's :12
## C14.2_T5	C16.1_T5	C16.2_T5	C16.2.OH_T5
## Min. :0.0700	Min. :0.0600	Min. :0.03000	Min. :-9.0000
## 1st Qu.:0.0900	1st Qu.:0.0900	1st Qu.:0.04000	1st Qu.: 0.0400
## Median :0.1200	Median :0.1100	Median :0.04000	Median : 0.0500
## Mean :0.1178	Mean :0.1081	Mean :0.04444	Mean :-0.6211
## 3rd Qu.:0.1400	3rd Qu.:0.1200	3rd Qu.:0.05000	3rd Qu.: 0.0500
## Max. :0.1900	Max. :0.1800	Max. :0.07000	Max. : 0.0700
## NA's :12	NA's :12	NA's :12	NA's :12
## C18.1_T5	C18.1.OH_T5	C18.2_T5	lysoPC.a.C16.0_T5
## Min. :0.0800	Min. :0.03000	Min. :0.0500	Min. : 64.7
## 1st Qu.:0.1550	1st Qu.:0.03000	1st Qu.:0.0850	1st Qu.:121.5
## Median :0.1900	Median :0.04000	Median :0.1000	Median :142.0
## Mean :0.1941	Mean :0.04407	Mean :0.1019	Mean :159.6
## 3rd Qu.:0.2350	3rd Qu.:0.05000	3rd Qu.:0.1200	3rd Qu.:196.5
## Max. :0.3200	Max. :0.08000	Max. :0.1700	Max. :370.0
## NA's :12	NA's :12	NA's :12	NA's :12
## lysoPC.a.C16.1_T5	lysoPC.a.C17.0_T5	lysoPC.a.C18.0_T5	lysoPC.a.C18.1_T5
## Min. : 1.630	Min. :0.740	Min. :18.10	Min. : 18.00
## 1st Qu.: 2.940	1st Qu.:1.655	1st Qu.:34.75	1st Qu.: 29.30
## Median : 3.540	Median :2.200	Median :42.70	Median : 40.20
## Mean : 4.163	Mean :2.246	Mean :46.25	Mean : 42.94
## 3rd Qu.: 4.835	3rd Qu.:2.740	3rd Qu.:53.35	3rd Qu.: 52.90
## Max. :11.100	Max. :3.850	Max. :89.50	Max. :102.00
## NA's :12	NA's :12	NA's :12	NA's :12
## lysoPC.a.C18.2_T5	lysoPC.a.C20.3_T5	lysoPC.a.C20.4_T5	lysoPC.a.C24.0_T5
## Min. : 16.70	Min. :1.520	Min. : 5.330	Min. :0.2300
## 1st Qu.: 30.65	1st Qu.:2.060	1st Qu.: 8.715	1st Qu.:0.3800
## Median : 45.90	Median :2.450	Median :10.800	Median :0.4300
## Mean : 47.53	Mean :3.082	Mean :12.406	Mean :0.4448
## 3rd Qu.: 58.10	3rd Qu.:3.345	3rd Qu.:13.700	3rd Qu.:0.4800
## Max. :133.00	Max. :9.130	Max. :39.300	Max. :1.0000
## NA's :12	NA's :12	NA's :12	NA's :12
## lysoPC.a.C26.0_T5	lysoPC.a.C26.1_T5	lysoPC.a.C28.0_T5	lysoPC.a.C28.1_T5
## Min. :0.0000	Min. :0.0800	Min. :-9.000	Min. :0.150
## 1st Qu.:0.2150	1st Qu.:0.2100	1st Qu.: -9.000	1st Qu.:0.310

## Median :0.3000	Median :0.3100	Median : 0.260	Median :0.380
## Mean :0.3789	Mean :0.3226	Mean :-2.396	Mean :0.423
## 3rd Qu.:0.3950	3rd Qu.:0.4150	3rd Qu.: 0.340	3rd Qu.:0.475
## Max. :1.7000	Max. :0.6600	Max. : 1.280	Max. :0.930
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C24.0_T5	PC.aa.C28.1_T5	PC.aa.C30.0_T5	PC.aa.C32.0_T5
## Min. :-9.000	Min. :0.820	Min. :0.760	Min. : 5.730
## 1st Qu.: -4.435	1st Qu.:1.880	1st Qu.:0.980	1st Qu.: 8.725
## Median : 0.150	Median :2.230	Median :1.240	Median :11.300
## Mean :-2.181	Mean :2.298	Mean :1.519	Mean :12.213
## 3rd Qu.: 0.185	3rd Qu.:2.440	3rd Qu.:1.680	3rd Qu.:14.500
## Max. : 0.600	Max. :4.180	Max. :4.940	Max. :26.800
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C32.1_T5	PC.aa.C32.3_T5	PC.aa.C34.1_T5	PC.aa.C34.2_T5
## Min. : 2.750	Min. :0.0900	Min. : 70.6	Min. :126.0
## 1st Qu.: 5.440	1st Qu.:0.1500	1st Qu.:108.0	1st Qu.:231.0
## Median : 7.280	Median :0.1900	Median :140.0	Median :290.0
## Mean : 8.164	Mean :0.2019	Mean :144.9	Mean :307.8
## 3rd Qu.: 8.925	3rd Qu.:0.2500	3rd Qu.:176.0	3rd Qu.:329.5
## Max. :20.800	Max. :0.3500	Max. :300.0	Max. :710.0
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C34.3_T5	PC.aa.C34.4_T5	PC.aa.C36.0_T5	PC.aa.C36.1_T5
## Min. : 3.320	Min. :0.1600	Min. :0.460	Min. : 5.21
## 1st Qu.: 4.755	1st Qu.:0.2300	1st Qu.:0.935	1st Qu.:12.05
## Median : 6.610	Median :0.2900	Median :1.150	Median :14.10
## Mean : 7.237	Mean :0.3863	Mean :1.374	Mean :14.54
## 3rd Qu.: 7.800	3rd Qu.:0.4200	3rd Qu.:1.825	3rd Qu.:17.45
## Max. :20.100	Max. :1.3500	Max. :3.160	Max. :28.10
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C36.2_T5	PC.aa.C36.3_T5	PC.aa.C36.4_T5	PC.aa.C36.5_T5
## Min. : 35.00	Min. : 25.00	Min. : 28.5	Min. : 2.520
## 1st Qu.: 80.25	1st Qu.: 43.05	1st Qu.: 88.4	1st Qu.: 3.685
## Median : 95.30	Median : 54.30	Median :103.0	Median : 4.960
## Mean :104.34	Mean : 59.76	Mean :111.1	Mean : 5.771
## 3rd Qu.:126.50	3rd Qu.: 72.25	3rd Qu.:121.0	3rd Qu.: 7.295
## Max. :217.00	Max. :132.00	Max. :302.0	Max. :14.300
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C38.0_T5	PC.aa.C38.1_T5	PC.aa.C38.3_T5	PC.aa.C38.4_T5
## Min. :1.260	Min. :0.380	Min. :12.00	Min. : 24.00
## 1st Qu.:2.210	1st Qu.:1.000	1st Qu.:17.75	1st Qu.: 57.60
## Median :2.840	Median :1.190	Median :21.10	Median : 71.80
## Mean :3.072	Mean :1.301	Mean :25.56	Mean : 77.39
## 3rd Qu.:3.665	3rd Qu.:1.485	3rd Qu.:30.55	3rd Qu.: 92.80
## Max. :6.520	Max. :3.710	Max. :56.00	Max. :180.00
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C38.5_T5	PC.aa.C38.6_T5	PC.aa.C40.1_T5	PC.aa.C40.2_T5
## Min. :10.80	Min. : 27.60	Min. : -9.000	Min. :0.1500
## 1st Qu.:20.70	1st Qu.: 36.30	1st Qu.: -9.000	1st Qu.:0.2300
## Median :24.70	Median : 55.40	Median : 0.440	Median :0.3100
## Mean :27.16	Mean : 61.91	Mean : -2.256	Mean :0.4844
## 3rd Qu.:33.00	3rd Qu.: 78.95	3rd Qu.: 0.605	3rd Qu.:0.4250
## Max. :61.70	Max. :139.00	Max. : 1.610	Max. :3.4600
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.aa.C40.3_T5	PC.aa.C40.4_T5	PC.aa.C40.5_T5	PC.aa.C40.6_T5

##	Min.	:0.2800	Min.	:0.660	Min.	: 1.780	Min.	: 7.15
##	1st Qu.	:0.4600	1st Qu.	:1.675	1st Qu.	: 3.395	1st Qu.	:10.50
##	Median	:0.5400	Median	:1.940	Median	: 3.750	Median	:16.70
##	Mean	:0.7296	Mean	:2.221	Mean	: 4.496	Mean	:19.00
##	3rd Qu.	:0.7650	3rd Qu.	:2.655	3rd Qu.	: 5.675	3rd Qu.	:27.30
##	Max.	:3.7100	Max.	:4.350	Max.	:10.100	Max.	:40.10
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C42.0_T5		PC.aa.C42.1_T5		PC.aa.C42.2_T5		PC.aa.C42.4_T5	
##	Min.	:0.3600	Min.	:0.1600	Min.	:0.1300	Min.	:0.0800
##	1st Qu.	:0.5600	1st Qu.	:0.3050	1st Qu.	:0.1900	1st Qu.	:0.1650
##	Median	:0.6800	Median	:0.3600	Median	:0.2200	Median	:0.2000
##	Mean	:0.7437	Mean	:0.3959	Mean	:0.3304	Mean	:0.3037
##	3rd Qu.	:0.9600	3rd Qu.	:0.4550	3rd Qu.	:0.3300	3rd Qu.	:0.2600
##	Max.	:1.2400	Max.	:0.8800	Max.	:1.8300	Max.	:2.0300
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C42.5_T5		PC.aa.C42.6_T5		PC.aa.C30.0_T5		PC.aa.C32.1_T5	
##	Min.	:0.1500	Min.	:-9.0000	Min.	:-9.00000	Min.	:1.260
##	1st Qu.	:0.2850	1st Qu.	: 0.2300	1st Qu.	: 0.21500	1st Qu.	:1.965
##	Median	:0.3300	Median	: 0.3000	Median	: 0.27000	Median	:2.410
##	Mean	:0.4226	Mean	:-0.3341	Mean	:-0.06519	Mean	:2.436
##	3rd Qu.	:0.4650	3rd Qu.	: 0.4050	3rd Qu.	: 0.31000	3rd Qu.	:2.960
##	Max.	:1.2600	Max.	: 0.8200	Max.	: 0.50000	Max.	:4.480
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C32.2_T5		PC.aa.C34.0_T5		PC.aa.C34.1_T5		PC.aa.C34.2_T5	
##	Min.	:0.3500	Min.	:0.1200	Min.	:2.310	Min.	: 2.660
##	1st Qu.	:0.5900	1st Qu.	:0.3750	1st Qu.	:4.470	1st Qu.	: 5.080
##	Median	:0.7300	Median	:0.4700	Median	:5.500	Median	: 6.400
##	Mean	:0.7396	Mean	:0.4922	Mean	:5.562	Mean	: 6.624
##	3rd Qu.	:0.8900	3rd Qu.	:0.6250	3rd Qu.	:6.560	3rd Qu.	: 8.325
##	Max.	:1.1300	Max.	:1.0200	Max.	:9.020	Max.	:10.400
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C34.3_T5		PC.aa.C36.0_T5		PC.aa.C36.1_T5		PC.aa.C36.2_T5	
##	Min.	: 1.840	Min.	:0.3600	Min.	: 0.740	Min.	: 1.350
##	1st Qu.	: 3.840	1st Qu.	:0.7450	1st Qu.	: 2.085	1st Qu.	: 3.950
##	Median	: 5.630	Median	:0.9300	Median	: 2.580	Median	: 5.240
##	Mean	: 5.253	Mean	:0.9863	Mean	: 3.211	Mean	: 5.426
##	3rd Qu.	: 6.305	3rd Qu.	:1.3250	3rd Qu.	: 3.435	3rd Qu.	: 6.310
##	Max.	:10.700	Max.	:1.6100	Max.	:12.800	Max.	:10.600
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C36.3_T5		PC.aa.C36.4_T5		PC.aa.C36.5_T5		PC.aa.C38.0_T5	
##	Min.	:1.210	Min.	: 2.920	Min.	: 2.110	Min.	:0.530
##	1st Qu.	:2.590	1st Qu.	: 6.510	1st Qu.	: 6.025	1st Qu.	:0.860
##	Median	:2.950	Median	: 7.320	Median	: 6.950	Median	:1.290
##	Mean	:3.185	Mean	: 7.738	Mean	: 7.314	Mean	:1.317
##	3rd Qu.	:3.820	3rd Qu.	: 9.160	3rd Qu.	: 8.460	3rd Qu.	:1.655
##	Max.	:5.380	Max.	:14.300	Max.	:18.800	Max.	:2.870
##	NA's	:12	NA's	:12	NA's	:12	NA's	:12
##	PC.aa.C38.2_T5		PC.aa.C38.3_T5		PC.aa.C38.4_T5		PC.aa.C38.5_T5	
##	Min.	: 0.320	Min.	:0.350	Min.	:1.320	Min.	: 3.03
##	1st Qu.	: 0.895	1st Qu.	:0.955	1st Qu.	:4.425	1st Qu.	: 7.62
##	Median	: 1.260	Median	:1.090	Median	:4.690	Median	: 9.85
##	Mean	: 1.815	Mean	:1.667	Mean	:5.018	Mean	:10.09
##	3rd Qu.	: 1.745	3rd Qu.	:1.405	3rd Qu.	:5.830	3rd Qu.	:12.05
##	Max.	:12.100	Max.	:8.900	Max.	:8.960	Max.	:20.40

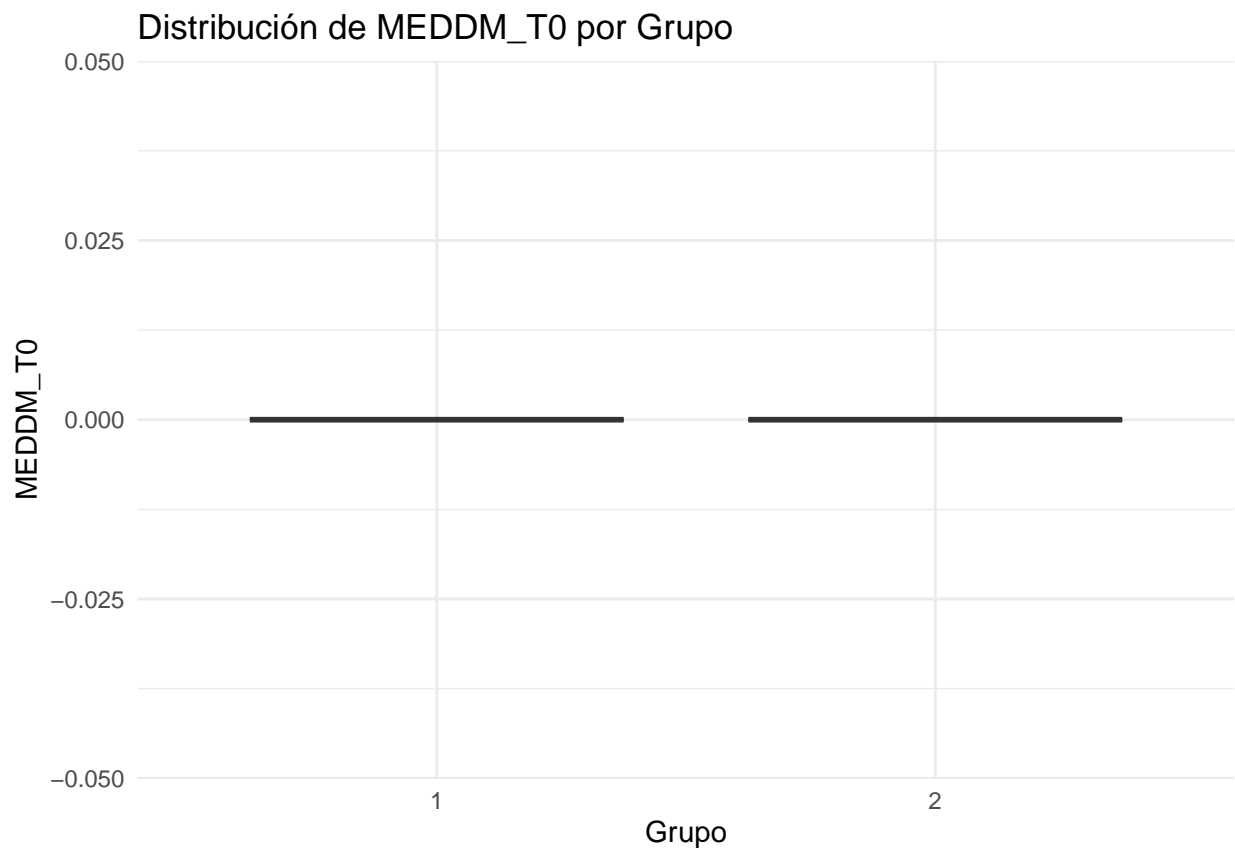
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.ae.C38.6_T5	PC.ae.C40.1_T5	PC.ae.C40.2_T5	PC.ae.C40.3_T5
## Min. :1.430	Min. :0.420	Min. :0.380	Min. :0.270
## 1st Qu.:2.805	1st Qu.:0.850	1st Qu.:0.910	1st Qu.:0.620
## Median :3.680	Median :1.040	Median :1.160	Median :0.780
## Mean :3.781	Mean :1.183	Mean :1.394	Mean :1.268
## 3rd Qu.:4.620	3rd Qu.:1.470	3rd Qu.:1.640	3rd Qu.:0.990
## Max. :7.440	Max. :2.990	Max. :4.120	Max. :8.350
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.ae.C40.4_T5	PC.ae.C40.5_T5	PC.ae.C40.6_T5	PC.ae.C42.1_T5
## Min. :0.640	Min. :0.700	Min. :0.820	Min. :0.1900
## 1st Qu.:1.530	1st Qu.:1.690	1st Qu.:1.785	1st Qu.:0.3350
## Median :1.900	Median :2.120	Median :2.150	Median :0.4200
## Mean :2.135	Mean :2.465	Mean :2.338	Mean :0.5415
## 3rd Qu.:2.265	3rd Qu.:2.500	3rd Qu.:2.790	3rd Qu.:0.5500
## Max. :5.700	Max. :7.470	Max. :3.970	Max. :2.1600
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.ae.C42.2_T5	PC.ae.C42.3_T5	PC.ae.C42.4_T5	PC.ae.C42.5_T5
## Min. :0.2200	Min. :0.2700	Min. :0.3300	Min. :1.160
## 1st Qu.:0.4000	1st Qu.:0.5850	1st Qu.:0.7150	1st Qu.:2.195
## Median :0.4800	Median :0.6900	Median :0.9100	Median :2.710
## Mean :0.5548	Mean :0.8526	Mean :0.9826	Mean :2.790
## 3rd Qu.:0.5750	3rd Qu.:0.9600	3rd Qu.:1.1250	3rd Qu.:3.125
## Max. :1.9700	Max. :3.0900	Max. :2.2000	Max. :5.740
## NA's :12	NA's :12	NA's :12	NA's :12
## PC.ae.C44.3_T5	PC.ae.C44.4_T5	PC.ae.C44.5_T5	PC.ae.C44.6_T5
## Min. :0.0600	Min. :0.2000	Min. :0.910	Min. :0.670
## 1st Qu.:0.1200	1st Qu.:0.3400	1st Qu.:2.110	1st Qu.:1.325
## Median :0.1400	Median :0.3900	Median :2.520	Median :1.740
## Mean :0.2152	Mean :0.4548	Mean :2.481	Mean :1.704
## 3rd Qu.:0.1950	3rd Qu.:0.5500	3rd Qu.:2.875	3rd Qu.:2.060
## Max. :1.4200	Max. :0.8900	Max. :4.150	Max. :2.850
## NA's :12	NA's :12	NA's :12	NA's :12
## SM.OH..C14.1_T5	SM.OH..C16.1_T5	SM.OH..C22.1_T5	SM.OH..C22.2_T5
## Min. :0.980	Min. :0.490	Min. :0.580	Min. :1.230
## 1st Qu.:3.045	1st Qu.:1.265	1st Qu.:2.620	1st Qu.:3.620
## Median :3.640	Median :1.620	Median :3.310	Median :4.270
## Mean :3.813	Mean :1.626	Mean :3.611	Mean :4.581
## 3rd Qu.:4.695	3rd Qu.:1.985	3rd Qu.:4.380	3rd Qu.:5.190
## Max. :5.800	Max. :2.710	Max. :11.400	Max. :9.480
## NA's :12	NA's :12	NA's :12	NA's :12
## SM.OH..C24.1_T5	SM.C16.0_T5	SM.C16.1_T5	SM.C18.0_T5
## Min. :0.0700	Min. :27.40	Min. :3.570	Min. :6.640
## 1st Qu.:0.3550	1st Qu.:63.45	1st Qu.:9.525	1st Qu.:8.975
## Median :0.4400	Median :76.60	Median :11.800	Median :10.700
## Mean :0.4378	Mean :83.88	Mean :12.076	Mean :12.910
## 3rd Qu.:0.5200	3rd Qu.:105.00	3rd Qu.:14.150	3rd Qu.:15.750
## Max. :1.0400	Max. :183.00	Max. :19.000	Max. :29.900
## NA's :12	NA's :12	NA's :12	NA's :12
## SM.C18.1_T5	SM.C20.2_T5	SM.C24.0_T5	SM.C24.1_T5
## Min. :3.320	Min. :0.1300	Min. :1.600	Min. :13.40
## 1st Qu.:6.015	1st Qu.:0.1900	1st Qu.:4.510	1st Qu.:24.30
## Median :6.890	Median :0.2400	Median :5.480	Median :28.90
## Mean :7.359	Mean :0.2641	Mean :6.454	Mean :33.99

```
## 3rd Qu.: 8.860    3rd Qu.:0.3000    3rd Qu.: 7.445    3rd Qu.:41.00
## Max.      :12.500    Max.      :0.6400    Max.      :21.100    Max.      :78.60
## NA's      :12       NA's      :12       NA's      :12       NA's      :12
```

```
library(ggplot2)
# Convertir a un data frame para ggplot
se_df <- as.data.frame(assay(se))
se_df$Group <- as.factor(sample_info$Group)

# Boxplot por grupo
ggplot(se_df, aes(x = Group, y = MEDDM_T0)) +
  geom_boxplot() +
  theme_minimal() +
  labs(title = "Distribución de MEDDM_T0 por Grupo", x = "Grupo", y = "MEDDM_T0")
```

```
## Warning: Removed 1 row containing non-finite outside the scale range
## ('stat_boxplot()').
```



Referencias

Morgan, M., Obenchain, V., Hester, J., & Pagès, H. (2024). *SummarizedExperiment: SummarizedExperiment container* (Version 1.34.0).
Wikipedia. (2024). *GitHub — wikipedia, la enciclopedia libre*. <https://es.wikipedia.org/w/index.php?title=GitHub&oldid=163109382>