

# SB\_project

*MariaRomanova*

## All required packages

```
ipak <- function(pkg){
  new.pkg <- pkg[!(pkg %in% installed.packages()[, "Package"])]
  if (length(new.pkg))
    install.packages(new.pkg, dependencies = TRUE)
  sapply(pkg, require, character.only = TRUE)
}

required_libraries = c('sas7bdat', 'tidyr', 'plyr', 'reshape2', 'MASS', 'ggplot2', 'UpSetR', 'data.table', 'Hmisc')
ipak(required_libraries)

## Loading required package: sas7bdat
## Loading required package: tidyr
## Loading required package: plyr
## Loading required package: reshape2
##
## Attaching package: 'reshape2'
## The following object is masked from 'package:tidyr':
##
##     smiths
## Loading required package: MASS
## Loading required package: ggplot2
## Loading required package: UpSetR
## Loading required package: data.table
##
## Attaching package: 'data.table'
## The following objects are masked from 'package:reshape2':
##
##     dcast, melt
## Loading required package: Hmisc
## Loading required package: lattice
##
## Attaching package: 'lattice'
## The following object is masked from 'package:UpSetR':
##
##     histogram
## Loading required package: survival
## Loading required package: Formula
```

```
##
## Attaching package: 'Hmisc'

## The following objects are masked from 'package:plyr':
##
##     is.discrete, summarize

## The following objects are masked from 'package:base':
##
##     format.pval, units

## Loading required package: foreach

## Loading required package: dplyr

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:Hmisc':
##
##     src, summarize

## The following objects are masked from 'package:data.table':
##
##     between, first, last

## The following object is masked from 'package:MASS':
##
##     select

## The following objects are masked from 'package:plyr':
##
##     arrange, count, desc, failwith, id, mutate, rename, summarise,
##     summarize

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union

##      sas7bdat      tidyr      plyr      reshape2      MASS      ggplot2
##      TRUE         TRUE      TRUE         TRUE         TRUE         TRUE
##      UpSetR data.table      Hmisc      foreach      dplyr
##      TRUE         TRUE      TRUE         TRUE         TRUE
```

## All datasets needed

```
analysis <- data.frame(sas7bdat::read.sas7bdat('Baseline/assay.sas7bdat'))
oldtnfa <- data.frame(sas7bdat::read.sas7bdat('Baseline/oldtnfa.sas7bdat'))
analysis <- join(analysis,oldtnfa)

## Joining by: CODE98, SITE, SEX, DATA_NAS, X_DATEL, X_AGE

analysis_2 <- data.frame(sas7bdat::read.sas7bdat('Follow_up1/assay.sas7bdat'))
analysis_3 <- data.frame(sas7bdat::read.sas7bdat('Follow_up2/assay.sas7bdat'))
```

```

analysis_4 <- data.frame(sas7bdat::read.sas7bdat('Follow_up3/assay.sas7bdat'))
analysis_5 <- data.frame(sas7bdat::read.sas7bdat('Follow_up4/assay.sas7bdat'))
diseases <- data.frame(sas7bdat::read.sas7bdat('Baseline/diseases.sas7bdat'))
interview <- data.frame(sas7bdat::read.sas7bdat('Baseline/interview.sas7bdat'))
physical <- data.frame(sas7bdat::read.sas7bdat('Baseline/phisical.sas7bdat'))
under_65 <- subset(analysis,analysis$X_AGE<65)
under_65_M <- subset(under_65,under_65$SEX==1) %>% dplyr::select(-SEX)
under_65_F <- subset(under_65,under_65$SEX==2) %>% dplyr::select(-SEX)

```

## # PART 1. Separate study

### Oxidized guanine, guanosine and deoxyguanosine using Baseline 24-hour urine sample

X\_CASCTL 1=case,0=control X\_UGUO24 X\_UXGA24 + lm

```

separate_study <- c('X_CASCTL', 'X_PPAIR', 'X_UGUA24', 'X_UXGA24', 'X_UGUO24', 'X_UXGO24', 'X_UDG24', 'X_UXDG24')
separate_study_df_M <- subset(analysis,analysis$SEX==1) %>%
  dplyr::select(separate_study)
separate_study_df_F <- subset(analysis,analysis$SEX==2) %>%
  dplyr::select(separate_study)

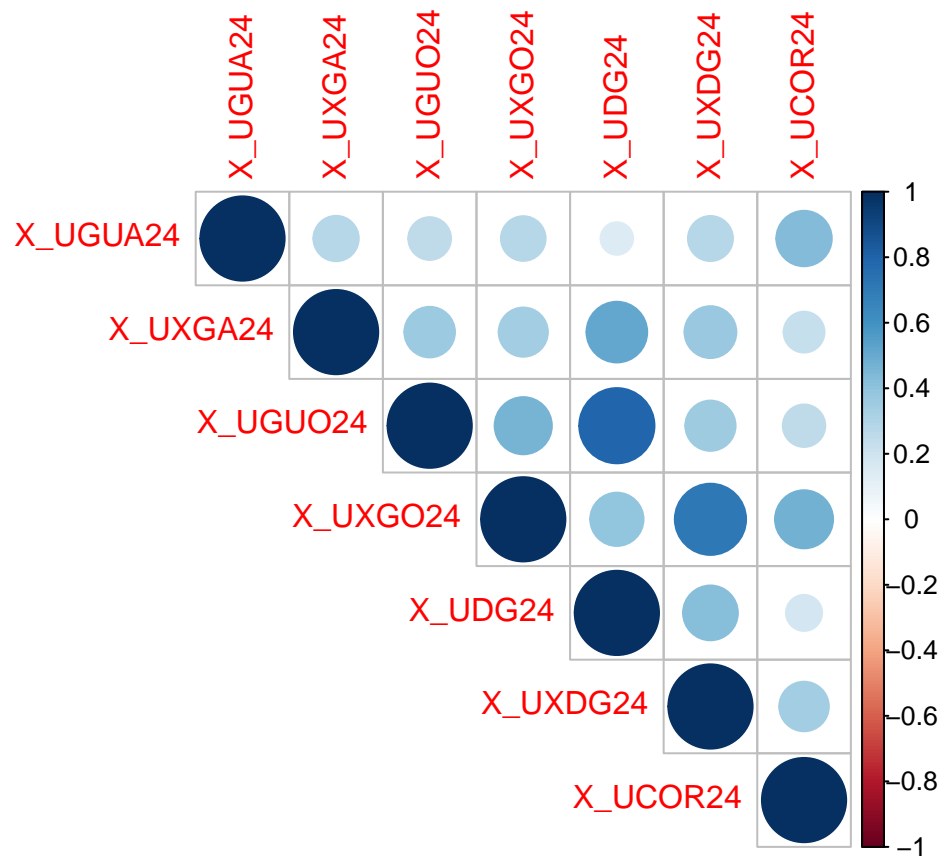
lst <- list(separate_study_df_M,separate_study_df_F)

lapply(lst, function(x){
  df <- x
  case <- subset(df, df$X_CASCTL == '1') %>%
    dplyr::select(-c('X_CASCTL', 'X_PPAIR'))
  control <- subset(df, df$X_CASCTL == '0') %>%
    dplyr::select(-c('X_CASCTL', 'X_PPAIR'))

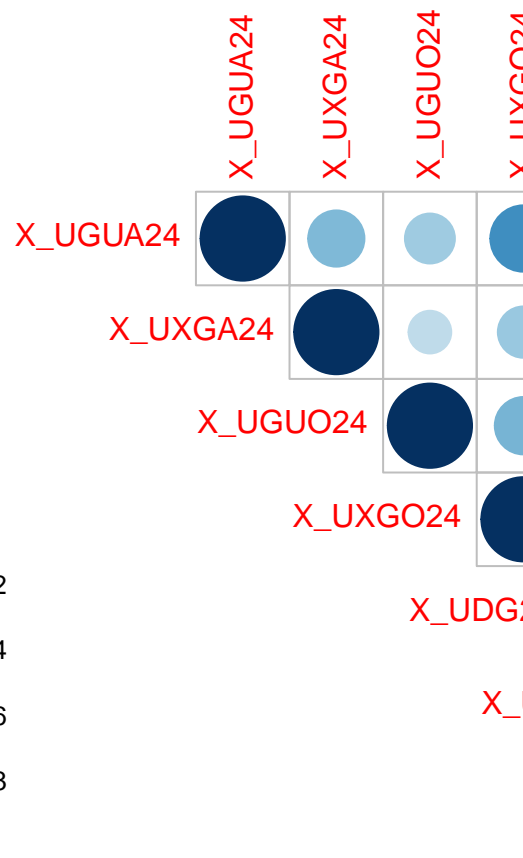
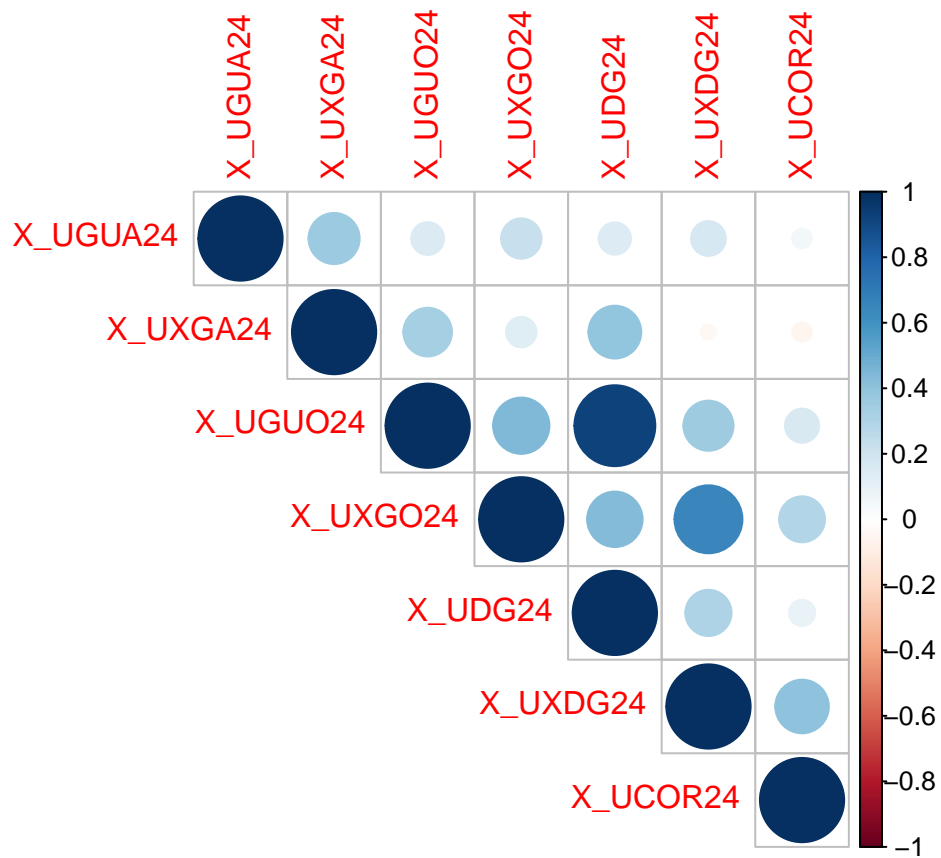
  corplot::corrplot(cor(case,method = 'spearman',
                        use='pairwise.complete'),
                    method = c("circle"),
                    type='upper')
  corplot::corrplot(cor(control,method = 'spearman',
                        use='pairwise.complete'),
                    method = c("circle"),
                    type='upper')

  l <- names(case)
  lapply(l, function(x){
    return(list(x,summary(lm(X_UCOR24~case[,x],data=case))))})
  summary(lm(X_UCOR24~X_UGUA24+X_UXGO24,data=case))
  summary(lm(X_UCOR24~X_UGUA24+X_UGUO24,data=case))
})

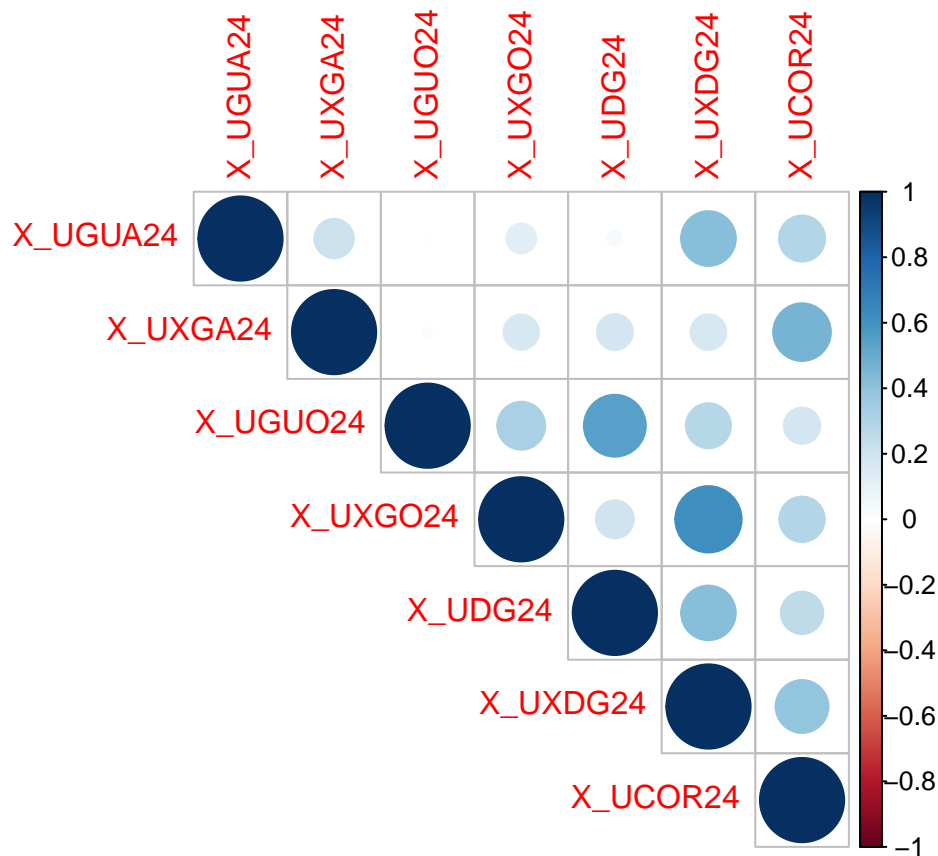
```



```
## Warning in summary.lm(lm(X_UCOR24 ~ case[, x], data = case)): essentially
## perfect fit: summary may be unreliable
```



```
## Warning in summary.lm(lm(X_UCOR24 ~ case[, x], data = case)): essentially
## perfect fit: summary may be unreliable
```



```
## [[1]]
##
## Call:
## lm(formula = X_UCOR24 ~ X_UGUA24 + X_UGUO24, data = case)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -95.41  -33.29  -13.61   25.59  305.08
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  53.376709   23.491207   2.272   0.0277 *
## X_UGUA24      0.017991    0.007796   2.308   0.0255 *
## X_UGUO24      0.090251    0.067377   1.339   0.1869
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 64.27 on 47 degrees of freedom
## (5 observations deleted due to missingness)
## Multiple R-squared:  0.169, Adjusted R-squared:  0.1336
## F-statistic: 4.778 on 2 and 47 DF, p-value: 0.01292
##
##
## [[2]]
##
## Call:
## lm(formula = X_UCOR24 ~ X_UGUA24 + X_UGUO24, data = case)
```

```
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -50.399 -22.256  -0.707   15.532   96.790
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 53.586617  10.187375   5.260 4.84e-06 ***
## X_UGUA24     0.012094   0.006985   1.732 0.090865 .
## X_UGU024     0.133748   0.037488   3.568 0.000934 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 31.22 on 41 degrees of freedom
## (11 observations deleted due to missingness)
## Multiple R-squared:  0.3095, Adjusted R-squared:  0.2758
## F-statistic: 9.188 on 2 and 41 DF,  p-value: 0.0005047

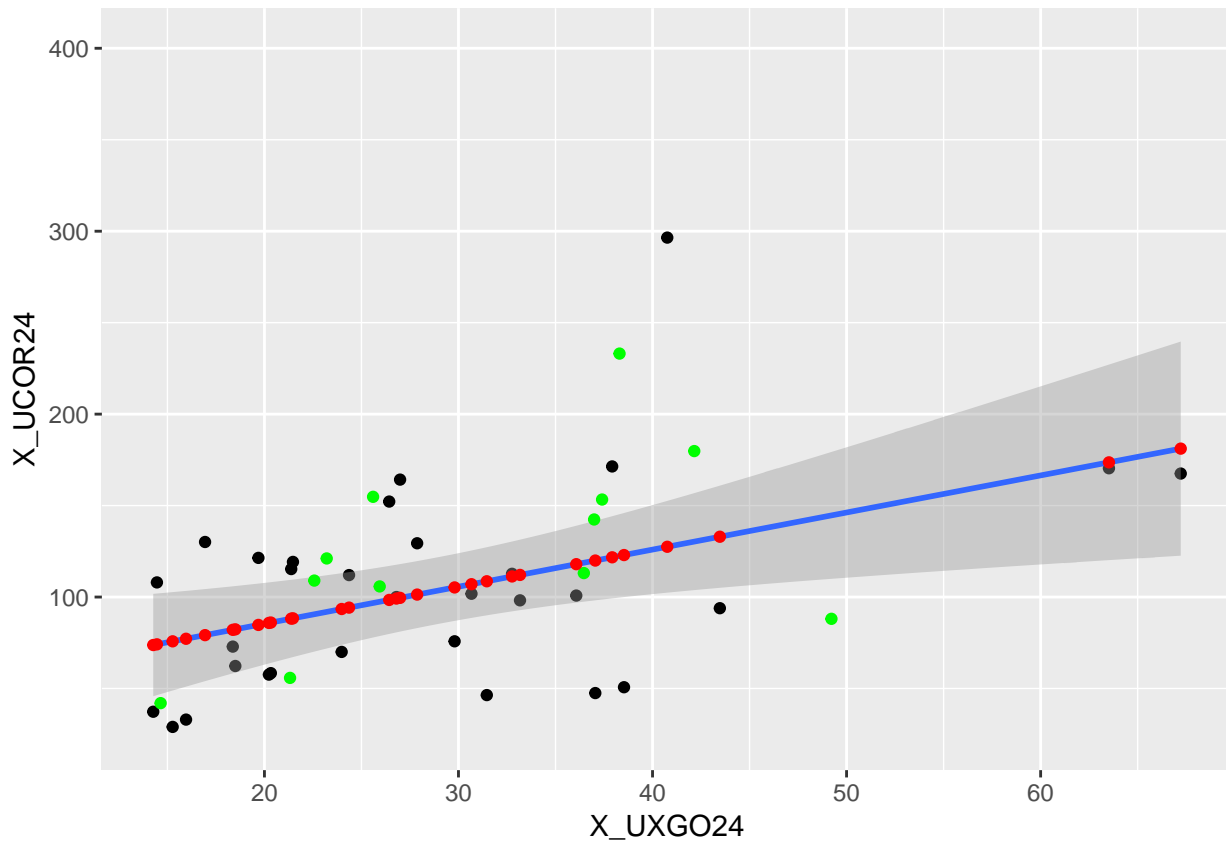
case <- subset(separate_study_df_M, separate_study_df_M$X_CASCTL == '1') %>%
  dplyr::select(-c('X_CASCTL', 'X_PPAIR'))
df <- case
sample <- sample.int(n=nrow(df), size=floor(.75*nrow(df)))
train <- df[sample,]
test <- df[-sample,]
new_mod <- lm(X_UCOR24~X_UXG024, data=train)
summary(new_mod)

##
## Call:
## lm(formula = X_UCOR24 ~ X_UXG024, data = train)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -72.456 -28.851  -9.176   29.448  169.021
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  44.8255    22.3544   2.005  0.05435 .
## X_UXG024     2.0278     0.7094   2.858  0.00781 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 49.65 on 29 degrees of freedom
## (10 observations deleted due to missingness)
## Multiple R-squared:  0.2198, Adjusted R-squared:  0.1929
## F-statistic:  8.17 on 1 and 29 DF,  p-value: 0.007806

pred <- predict(new_mod, test)
ggplot(train, aes(x=X_UXG024, y=X_UCOR24)) +
  geom_point() +
  geom_smooth(method = 'lm') +
  geom_point(data=test, col='green') +
  geom_point(data = new_mod, aes(y=new_mod$fitted.values), color='red')

## Warning: Removed 10 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 10 rows containing missing values (geom_point).
## Warning: Removed 2 rows containing missing values (geom_point).
```



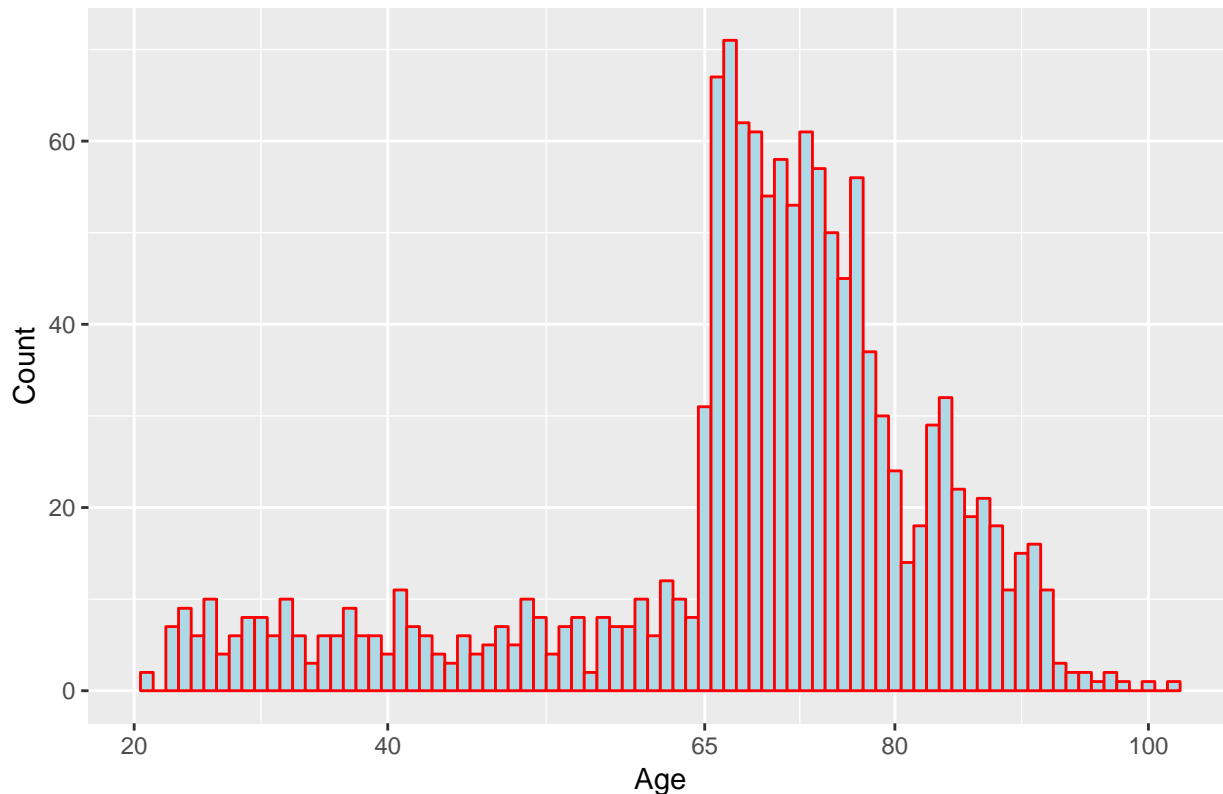
## Part 2

Finding all significant correlations with spearman, creating a list of correlations dataframes over all 5 waves of study

```
qplot(analysis$X_AGE1,
      geom="histogram",
      binwidth = 1,
      main = "Histogram of Age",
      xlab = "Age",
      ylab = "Count",
      col=I("red"),
      fill=I("lightblue")) +
  scale_x_continuous(breaks=c(20,40,65,80,100))
```



# Histogram of Age



Only people up to 65 were taken

```
# List with 5 data frames of significant correlations
lst <- list(analysis,analysis_2,analysis_3,analysis_4,analysis_5)
cor <- lapply(lst, function(x){

  under_65 <- subset(x,x[,6]<65) %>% select_if(is.numeric)

  under_65_M <- subset(under_65,under_65$SEX==1) %>% dplyr::select(-SEX)

  under_65_F <- subset(under_65,under_65$SEX==2) %>% dplyr::select(-SEX)

  flat_cor_mat <- function(cor_r, cor_p){
    library(tidyr)
    library(tibble)
    cor_r <- rownames_to_column(as.data.frame(cor_r), var = "row")
    cor_r <- gather(cor_r, column, cor, -1)
    cor_p <- rownames_to_column(as.data.frame(cor_p), var = "row")
    cor_p <- gather(cor_p, column, p, -1)
    cor_p_matrix <- left_join(cor_r, cor_p, by = c("row", "column"))
    cor_p_matrix %>%
      subset(cor > 0.5 | cor <(-0.5))
  }

  under_65_M <- Hmisc::rcorr(as.matrix(under_65_M),type='spearman')
  under_65_F <- Hmisc::rcorr(as.matrix(under_65_F),type='spearman')
```

```

cor_matrix_1 <- flat_cor_mat(under_65_M$r, under_65_M$P) %>%
  subset(cor > 0.5 | cor < (-0.5) & p < 0.05) %>% subset(!duplicated(cor))

cor_matrix_2 <- flat_cor_mat(under_65_F$r, under_65_F$P) %>%
  subset(cor > 0.5 | cor < (-0.5) & p < 0.05) %>% subset(!duplicated(cor))

cor_matrix_1$cor_pair <- paste(cor_matrix_1$row, cor_matrix_1$column, sep=',')
cor_matrix_2$cor_pair <- paste(cor_matrix_2$row, cor_matrix_2$column, sep=',')

return(merge(cor_matrix_1, cor_matrix_2, by='cor_pair', all=T))
})

```

```
## Warning in sqrt(npair - 2): NaNs produced
```

```
## Warning in sqrt(npair - 2): NaNs produced
```

Interesting correlation of total cholesterol and vitamin E

```
library(ggpubr)
```

```
## Loading required package: magrittr
```

```
##
```

```
## Attaching package: 'magrittr'
```

```
## The following object is masked from 'package:tidyr':
```

```
##
```

```
## extract
```

```
##
```

```
## Attaching package: 'ggpubr'
```

```
## The following object is masked from 'package:plyr':
```

```
##
```

```
## mutate
```

```

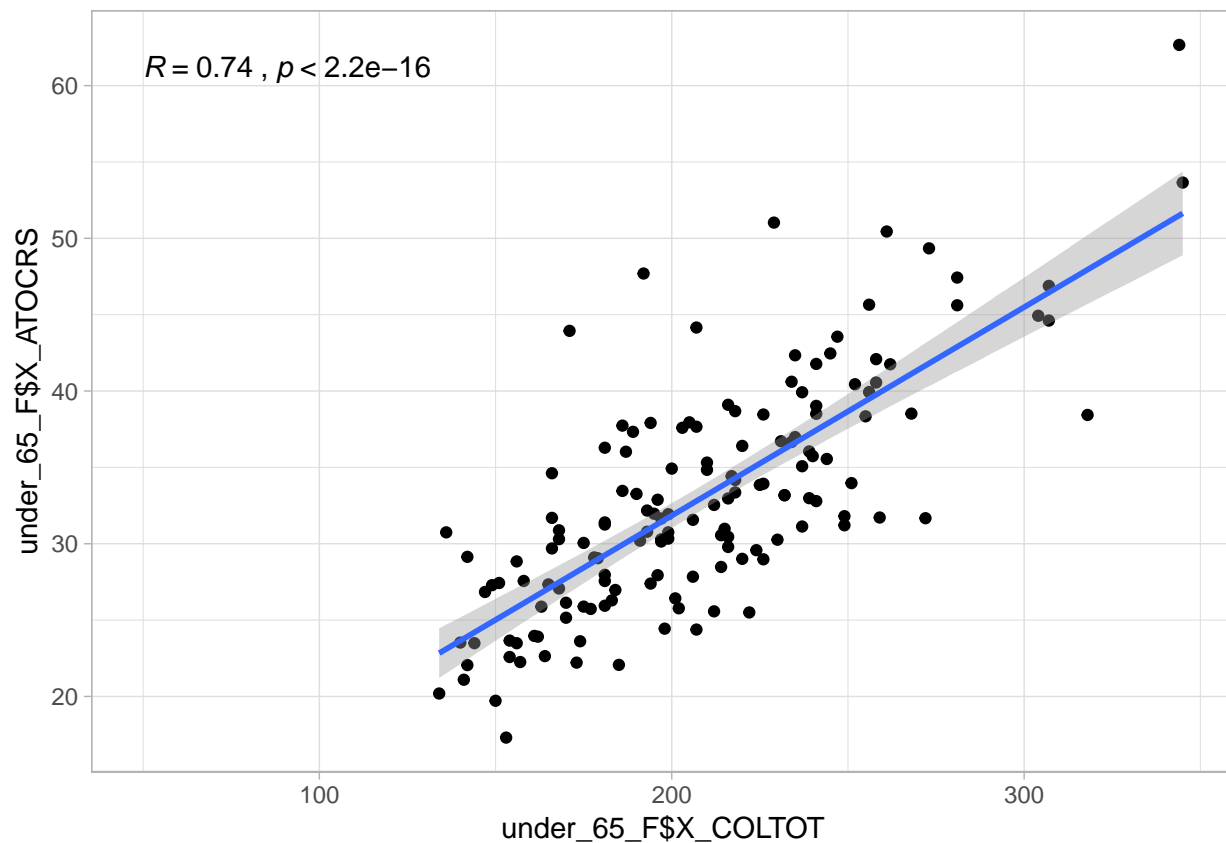
ggplot(under_65_F, aes(under_65_F$X_COLTOT, under_65_F$X_ATO CRS)) +
  geom_point() +
  geom_smooth(method = 'lm') +
  stat_cor(method = "spearman", label.x = 50) +
  theme_light()

```

```
## Warning: Removed 5 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 5 rows containing non-finite values (stat_cor).
```

```
## Warning: Removed 5 rows containing missing values (geom_point).
```



```
df <- under_65_F
sample <- sample.int(n=nrow(df),size=floor(.75*nrow(df)))
train <- df[sample,]
test <- df[-sample,]
new_mod <- lm(X_COLTOT~X_ATOCRS,data=train)
summary(new_mod)
```

```
##
## Call:
## lm(formula = X_COLTOT ~ X_ATOCRS, data = train)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -85.048 -14.300  -0.494  16.833   85.177
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  70.7612    11.6949   6.051 1.99e-08 ***
## X_ATOCRS      4.2167     0.3419  12.331 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 27.59 on 111 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared:  0.5781, Adjusted R-squared:  0.5742
## F-statistic: 152.1 on 1 and 111 DF, p-value: < 2.2e-16
```

```

pred <- predict(new_mod, test)
ggplot(train, aes(x=X_ATO CRS, y=X_COLTOT)) +
  geom_point() +
  geom_smooth(method = 'lm') +
  geom_point(data=test, col='green') +
  geom_point(data = new_mod, aes(y=new_mod$fitted.values), color='red') +
  annotate("text", x=30, y=400, label= "Adjusted R-squared: 0.5173") +
  annotate("text", x=30, y=380, label= "lm(formula = X_COLTOT ~ X_ATO CRS)") +
  ggtitle('Linear model:test/train. Total cholesterol and vitamin E')

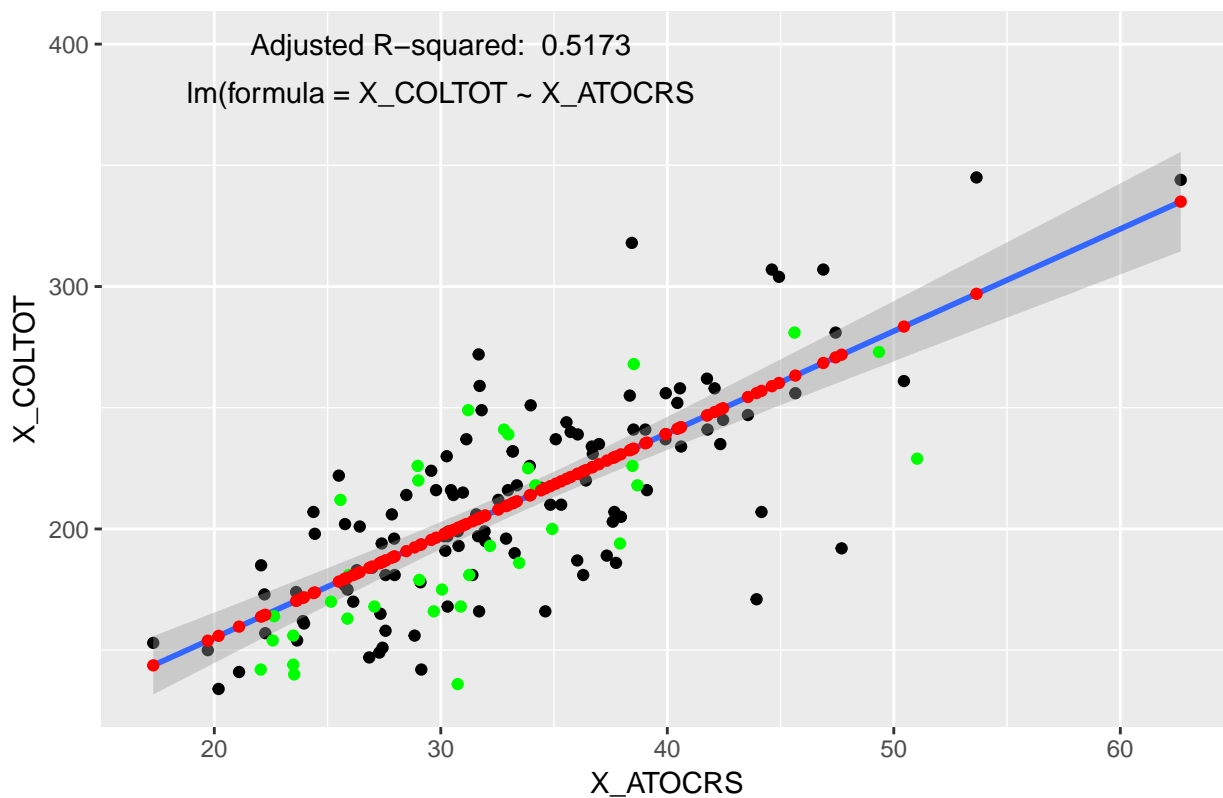
```

## Warning: Removed 1 rows containing non-finite values (stat\_smooth).

## Warning: Removed 1 rows containing missing values (geom\_point).

## Warning: Removed 4 rows containing missing values (geom\_point).

### Linear model:test/train. Total cholesterol and vitamin E



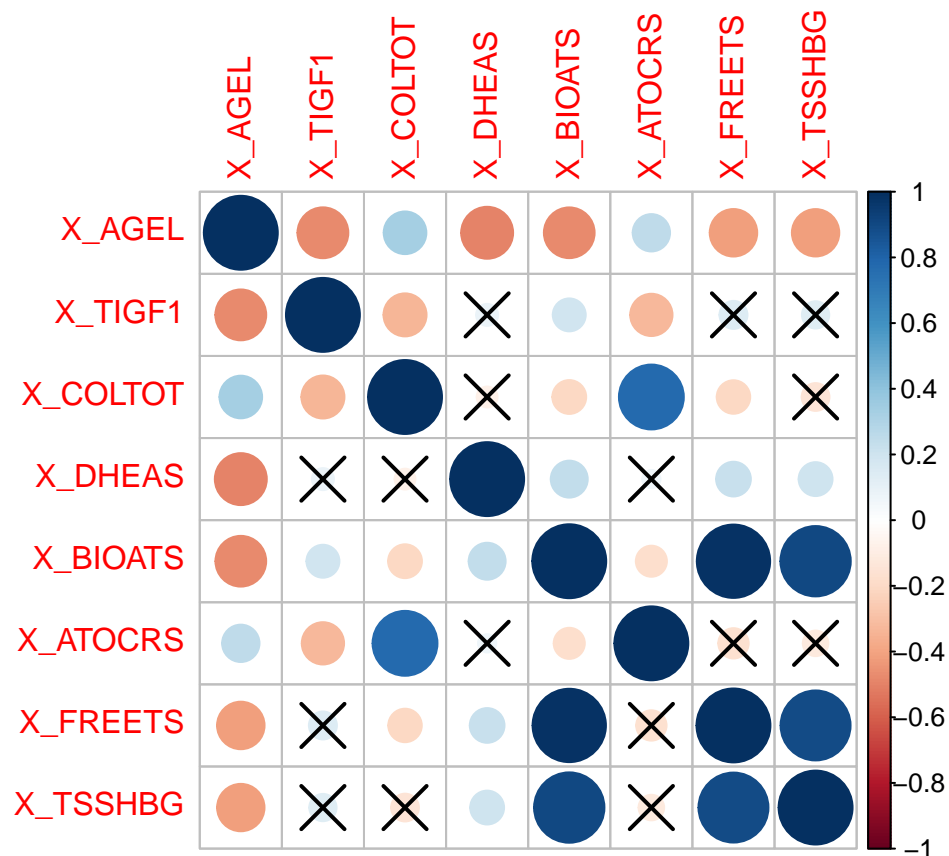
## Age prediction with linear model

Males

```

library(randtests)
df <- select(under_65_M, c(X_AGE L, X_TIGF1, X_COLTOT, X_DHEAS, X_BIOATS, X_ATO CRS, X_FREETS, X_TSSHBG))
corrplot::corrplot(corr(df, use='pairwise.complete'), p.mat=corrplot::cor.mtest(df)$p)

```



```

l <- names(df)
lapply(l, function(x){
  return(list(x,summary(lm(X_AGE~df[,x],data=df))))})

## Warning in summary.lm(lm(X_AGE ~ df[, x], data = df)): essentially perfect
## fit: summary may be unreliable

## [[1]]
## [[1]][[1]]
## [1] "X_AGE"
##
## [[1]][[2]]
##
## Call:
## lm(formula = X_AGE ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -5.647e-14 -1.690e-16  3.410e-16  5.500e-16  4.434e-15
##
## Coefficients:
##              Estimate Std. Error    t value Pr(>|t|)
## (Intercept) -1.957e-14  1.527e-15 -1.281e+01  <2e-16 ***
## df[, x]      1.000e+00  3.381e-17  2.958e+16  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##

```

```

## Residual standard error: 4.993e-15 on 133 degrees of freedom
## Multiple R-squared:      1, Adjusted R-squared:      1
## F-statistic: 8.75e+32 on 1 and 133 DF, p-value: < 2.2e-16
##
##
##
## [[2]]
## [[2]][[1]]
## [1] "X_TIGF1"
##
## [[2]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -23.4049  -8.5685  -0.9066   8.9390  22.1990
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  58.41313    2.69289   21.692 < 2e-16 ***
## df[, x]      -0.08174    0.01372   -5.957 2.51e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.23 on 123 degrees of freedom
## (10 observations deleted due to missingness)
## Multiple R-squared:  0.2239, Adjusted R-squared:  0.2176
## F-statistic: 35.49 on 1 and 123 DF, p-value: 2.508e-08
##
##
##
## [[3]]
## [[3]][[1]]
## [1] "X_COLTOT"
##
## [[3]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -28.237  -9.306  -1.295   9.273  23.918
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  22.79245    5.26428   4.330 2.97e-05 ***
## df[, x]       0.10111    0.02523   4.007 0.000103 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 12 on 129 degrees of freedom

```

```

## (4 observations deleted due to missingness)
## Multiple R-squared: 0.1107, Adjusted R-squared: 0.1038
## F-statistic: 16.06 on 1 and 129 DF, p-value: 0.0001032
##
##
##
## [[4]]
## [[4]][[1]]
## [1] "X_DHEAS"
##
## [[4]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -20.9414  -8.6774   0.2743   9.5375  27.3582
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 54.556446   1.968300  27.718 < 2e-16 ***
## df[, x]      -0.050278   0.007799  -6.447 2.08e-09 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.04 on 129 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared: 0.2437, Adjusted R-squared: 0.2378
## F-statistic: 41.56 on 1 and 129 DF, p-value: 2.083e-09
##
##
##
## [[5]]
## [[5]][[1]]
## [1] "X_BIOATS"
##
## [[5]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -24.0548  -9.2041   0.8027   9.6265  27.6947
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 58.89061    2.72829  21.585 < 2e-16 ***
## df[, x]      -0.09022    0.01489  -6.059 1.4e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.23 on 129 degrees of freedom

```

```

## (4 observations deleted due to missingness)
## Multiple R-squared: 0.2216, Adjusted R-squared: 0.2155
## F-statistic: 36.71 on 1 and 129 DF, p-value: 1.401e-08
##
##
##
## [[6]]
## [[6]][[1]]
## [1] "X_ATOCRS"
##
## [[6]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -36.397  -9.295  -0.853   9.873  23.978
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  29.6305     4.6948   6.311 4.01e-09 ***
## df[, x]       0.4251     0.1413   3.009 0.00315 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 12.29 on 130 degrees of freedom
## (3 observations deleted due to missingness)
## Multiple R-squared: 0.06512, Adjusted R-squared: 0.05793
## F-statistic: 9.056 on 1 and 130 DF, p-value: 0.003146
##
##
##
## [[7]]
## [[7]][[1]]
## [1] "X_FREETS"
##
## [[7]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -22.8134  -9.8169   0.5713  10.0678  28.7465
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  57.0071     2.8195  20.219 < 2e-16 ***
## df[, x]      -1.9308     0.3752  -5.146 9.64e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.6 on 129 degrees of freedom

```



```

## (4 observations deleted due to missingness)
## Multiple R-squared: 0.1703, Adjusted R-squared: 0.1639
## F-statistic: 26.49 on 1 and 129 DF, p-value: 9.642e-07
##
##
## [[8]]
## [[8]][[1]]
## [1] "X_TSSHBG"
##
## [[8]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -22.3958  -9.9181   0.6073  10.2064  23.0539
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   54.201      2.334   23.221 < 2e-16 ***
## df[, x]       -34.614      6.737   -5.138 9.93e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.59 on 130 degrees of freedom
## (3 observations deleted due to missingness)
## Multiple R-squared: 0.1688, Adjusted R-squared: 0.1624
## F-statistic: 26.4 on 1 and 130 DF, p-value: 9.927e-07
fit <- lm(X_AGEL~X_TIGF1+X_DHEAS+X_BIOATS,data=df)
summary(fit)

##
## Call:
## lm(formula = X_AGEL ~ X_TIGF1 + X_DHEAS + X_BIOATS, data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -20.1441  -6.5544   0.0122   6.3481  20.4805
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 73.695976   2.995221  24.605 < 2e-16 ***
## X_TIGF1      -0.066977   0.011489  -5.830 4.86e-08 ***
## X_DHEAS       -0.037841   0.006966  -5.433 2.99e-07 ***
## X_BIOATS      -0.056101   0.013369  -4.196 5.25e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 9.192 on 119 degrees of freedom
## (12 observations deleted due to missingness)
## Multiple R-squared: 0.4882, Adjusted R-squared: 0.4753
## F-statistic: 37.84 on 3 and 119 DF, p-value: < 2.2e-16

```

```

runs.test(fit$residuals)

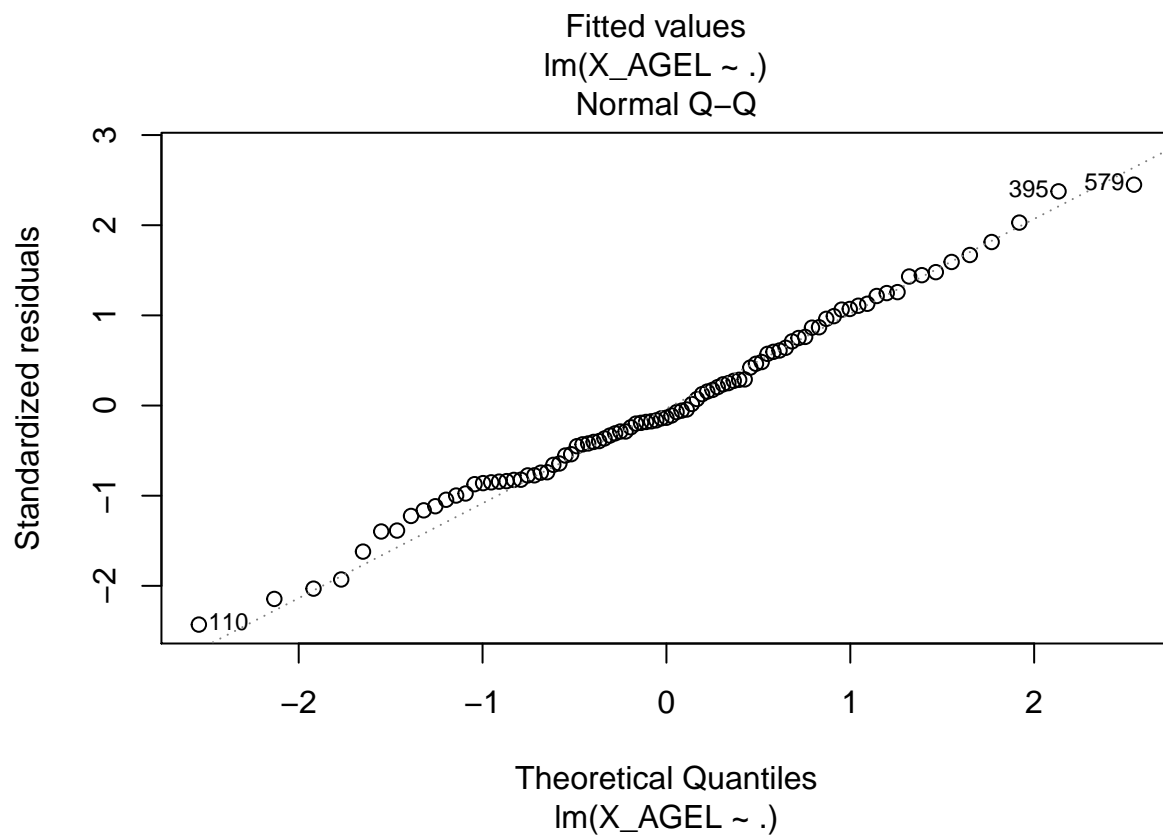
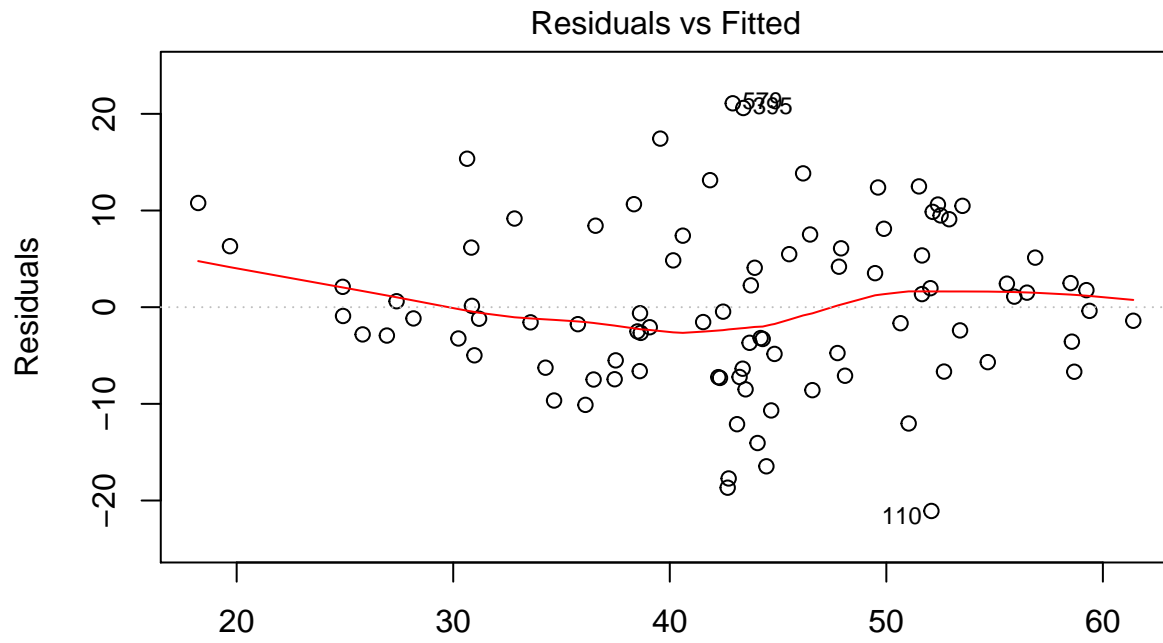
##
## Runs Test
##
## data: fit$residuals
## statistic = 0.54547, runs = 65, n1 = 61, n2 = 61, n = 122, p-value
## = 0.5854
## alternative hypothesis: nonrandomness

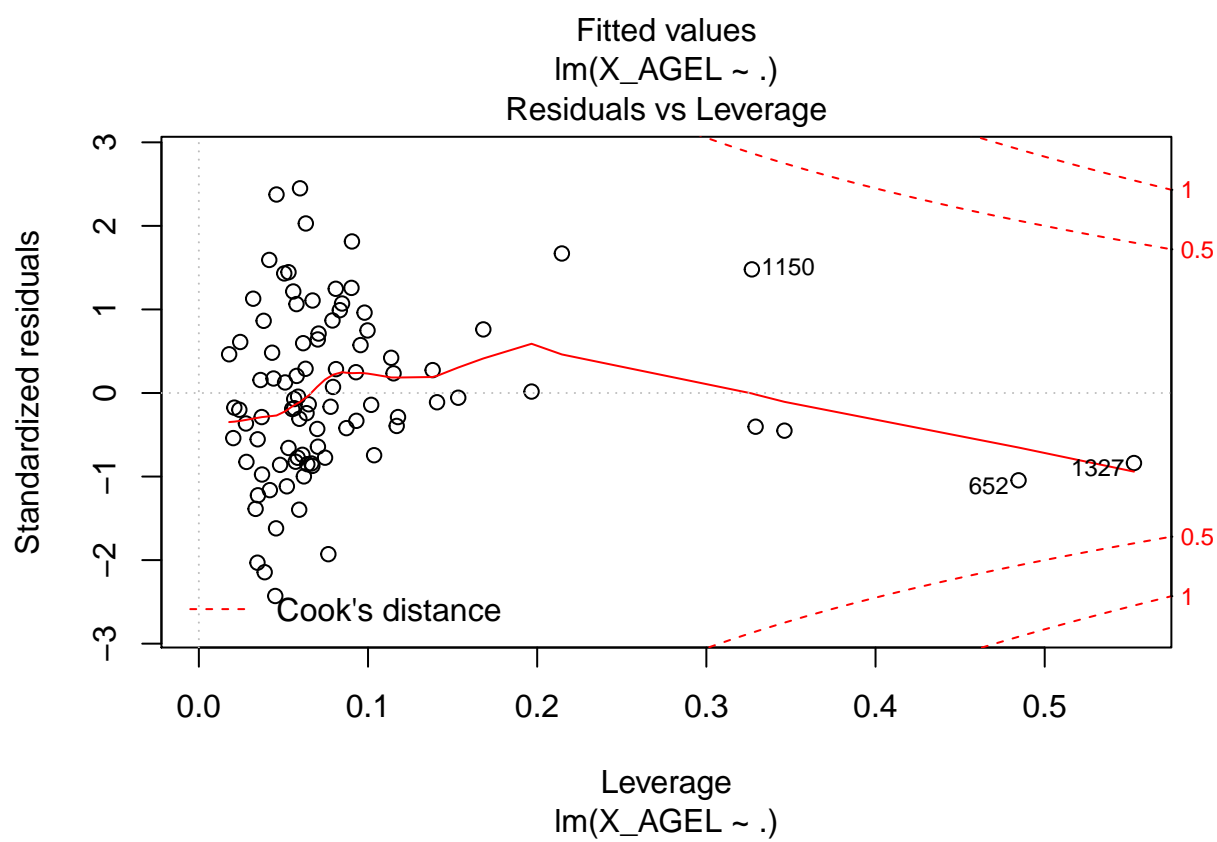
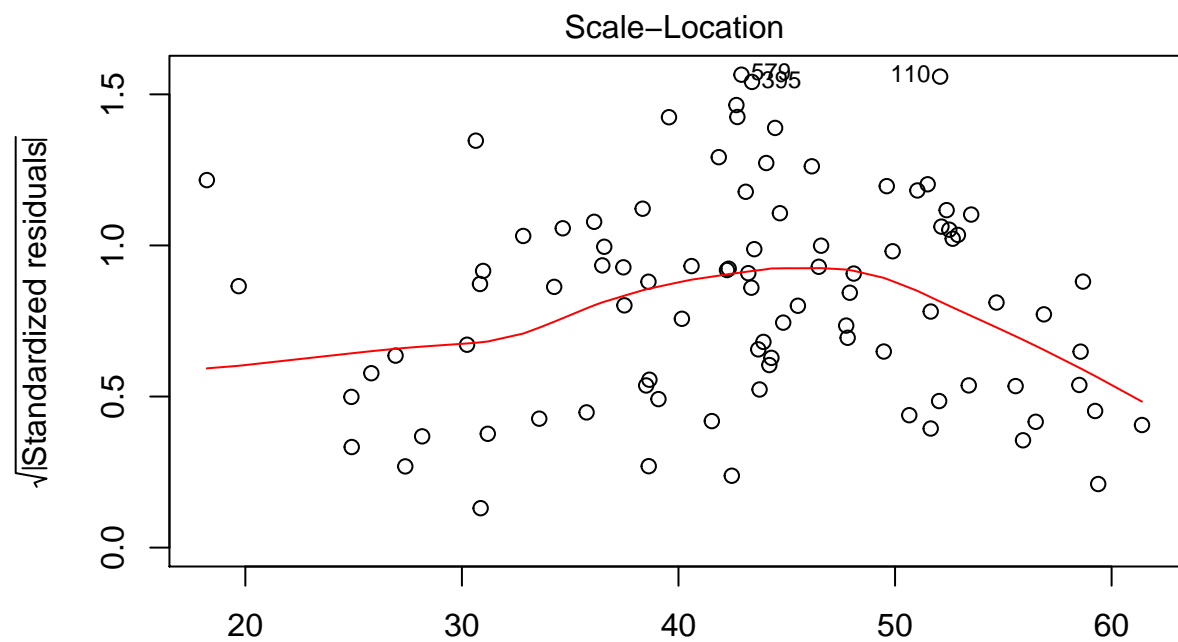
sample <- sample.int(n=nrow(df),size=floor(.75*nrow(df)))
train <- df[sample,]
test <- df[-sample,]
new_mod <- lm(X_AGEL~.,data=train)
summary(new_mod)

##
## Call:
## lm(formula = X_AGEL ~ ., data = train)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -21.081  -5.973  -1.164   5.787  21.092
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  61.96068    7.22028   8.581 4.49e-13 ***
## X_TIGF1      -0.06358    0.01524  -4.170 7.44e-05 ***
## X_COLTOT      0.03757    0.03806   0.987  0.32643
## X_DHEAS      -0.03537    0.00782  -4.522 2.02e-05 ***
## X_BIOATS     -0.24287    0.08446  -2.876  0.00512 **
## X_ATOCRS      0.06694    0.19131   0.350  0.72728
## X_FREETS      4.84446    1.96446   2.466  0.01572 *
## X_TSSHBG     -5.68610   12.79888  -0.444  0.65801
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 8.88 on 83 degrees of freedom
## (10 observations deleted due to missingness)
## Multiple R-squared:  0.5606, Adjusted R-squared:  0.5235
## F-statistic: 15.13 on 7 and 83 DF, p-value: 1.376e-12

plot(new_mod)

```





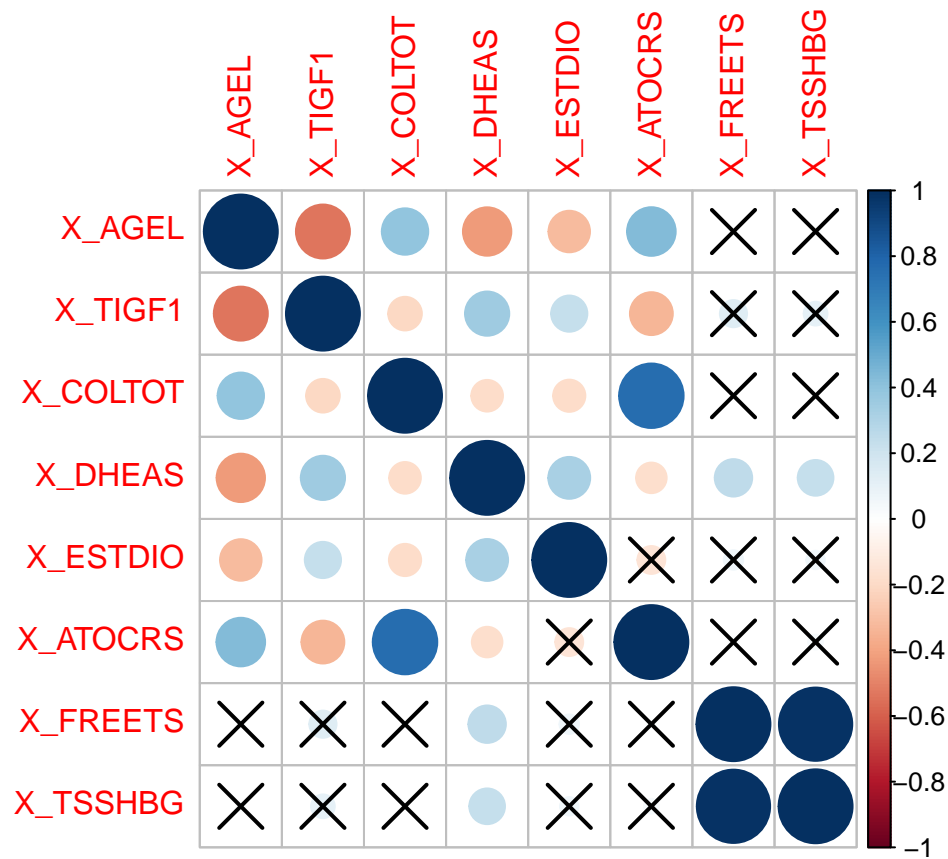
```
library(randtests)
runs.test(new_mod$residuals)
```

```
##
##  Runs Test
##
```

```
## data: new_mod$residuals
## statistic = -1.4841, runs = 39, n1 = 45, n2 = 45, n = 90, p-value
## = 0.1378
## alternative hypothesis: nonrandomness
```

Females

```
df <- select(under_65_F, c(X_AGEL, X_TIGF1, X_COLTOT, X_DHEAS, X_ESTDIO, X_ATO CRS, X_FREETS, X_TSSHBG))
corrplot::corrplot(cor(df, use='pairwise.complete'), p.mat=corrplot::cor.mtest(df)$p)
```



```
l <- names(df)
lapply(l, function(x){
  return(list(x, summary(lm(X_AGEL~df[,x], data=df))))})
```

```
## Warning in summary.lm(lm(X_AGEL ~ df[, x], data = df)): essentially perfect
## fit: summary may be unreliable
```

```
## [[1]]
## [[1]][[1]]
## [1] "X_AGEL"
##
## [[1]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -5.334e-14 -3.950e-16  3.840e-16  7.200e-16  5.311e-15
```

```

##
## Coefficients:
##           Estimate Std. Error    t value Pr(>|t|)
## (Intercept) -1.844e-14  1.284e-15 -1.436e+01  <2e-16 ***
## df[, x]      1.000e+00  2.787e-17  3.588e+16  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 4.474e-15 on 150 degrees of freedom
## Multiple R-squared:      1, Adjusted R-squared:      1
## F-statistic: 1.287e+33 on 1 and 150 DF, p-value: < 2.2e-16
##
##
## [[2]]
## [[2]][[1]]
## [1] "X_TIGF1"
##
## [[2]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -27.6812  -7.7300  -0.4663   8.7201  27.9871
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) 58.19983    2.05655   28.30 < 2e-16 ***
## df[, x]     -0.07942    0.01044   -7.61 3.12e-12 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.1 on 146 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared:  0.284, Adjusted R-squared:  0.2791
## F-statistic: 57.91 on 1 and 146 DF, p-value: 3.117e-12
##
##
## [[3]]
## [[3]][[1]]
## [1] "X_COLTOT"
##
## [[3]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.2100  -9.9345  -0.1067  10.6107  26.2239
##

```

```

## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) 18.41165    5.03627   3.656 0.000355 ***
## df[, x]      0.12413    0.02376   5.225 5.78e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 12.09 on 149 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared:  0.1548, Adjusted R-squared:  0.1492
## F-statistic: 27.3 on 1 and 149 DF, p-value: 5.781e-07
##
##
## [[4]]
## [[4]][[1]]
## [1] "X_DHEAS"
##
## [[4]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.8775  -9.3930   0.3456   9.6210  30.9990
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) 52.328373    1.704270  30.704 < 2e-16 ***
## df[, x]      -0.050717    0.008777  -5.779 4.25e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.88 on 149 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared:  0.1831, Adjusted R-squared:  0.1776
## F-statistic: 33.39 on 1 and 149 DF, p-value: 4.25e-08
##
##
## [[5]]
## [[5]][[1]]
## [1] "X_ESTDIO"
##
## [[5]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -24.818 -10.372   2.001  10.749  20.368
##

```

```

## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  47.5083      1.3673  34.745 < 2e-16 ***
## df[, x]      -0.1258      0.0319  -3.943 0.000126 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 12.59 on 141 degrees of freedom
## (9 observations deleted due to missingness)
## Multiple R-squared:  0.0993, Adjusted R-squared:  0.09291
## F-statistic: 15.54 on 1 and 141 DF, p-value: 0.0001264
##
##
## [[6]]
## [[6]][[1]]
## [1] "X_ATO CRS"
##
## [[6]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -23.4306  -9.9275  -0.0592   9.3855  26.9179
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  19.2832      4.4368   4.346 2.59e-05 ***
## df[, x]       0.7578      0.1313   5.770 4.63e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.99 on 145 degrees of freedom
## (5 observations deleted due to missingness)
## Multiple R-squared:  0.1867, Adjusted R-squared:  0.1811
## F-statistic: 33.29 on 1 and 145 DF, p-value: 4.627e-08
##
##
## [[7]]
## [[7]][[1]]
## [1] "X_FREETS"
##
## [[7]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -23.4289 -12.2364  -0.3492  11.8499  19.6172
##

```



```

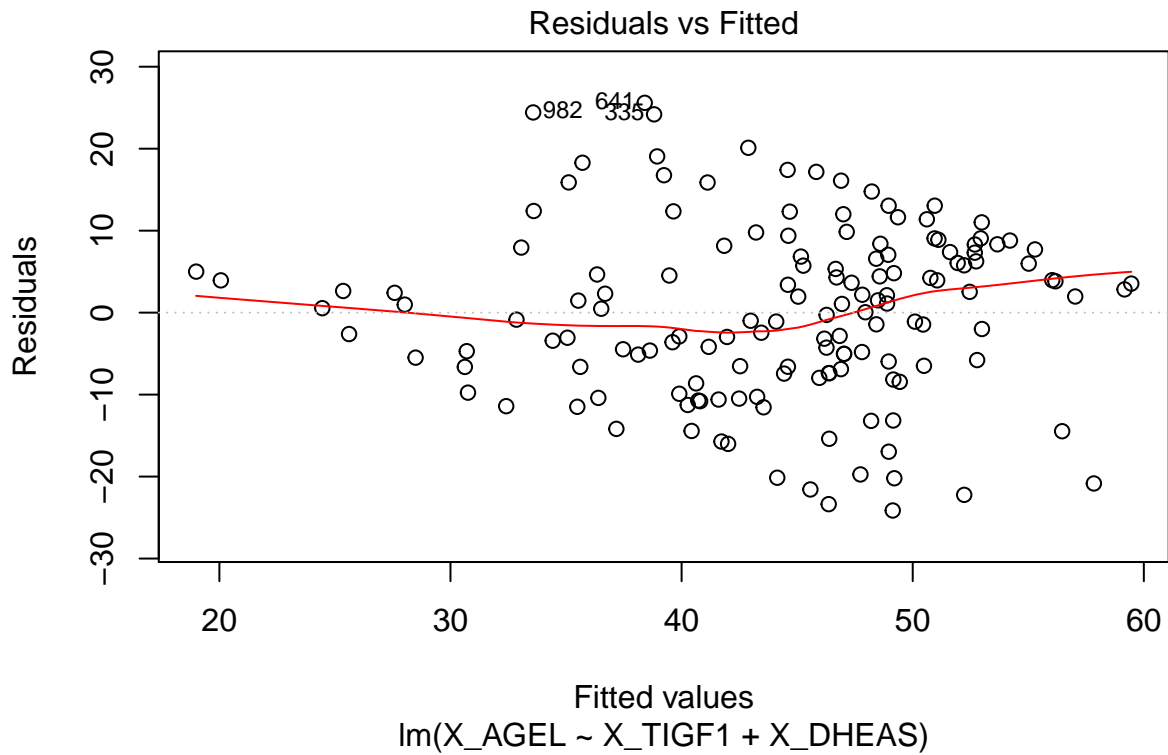
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  44.0907      1.7242  25.572  <2e-16 ***
## df[, x]      0.2629      2.1635   0.122   0.903
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 13.05 on 147 degrees of freedom
## (3 observations deleted due to missingness)
## Multiple R-squared:  0.0001005, Adjusted R-squared:  -0.006702
## F-statistic: 0.01477 on 1 and 147 DF,  p-value: 0.9034
##
##
## [[8]]
## [[8]][[1]]
## [1] "X_TSSHBG"
##
## [[8]][[2]]
##
## Call:
## lm(formula = X_AGEL ~ df[, x], data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -23.4826 -12.2390  -0.3731  11.8922  19.6251
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  44.034      1.527  28.829  <2e-16 ***
## df[, x]      7.725      38.061   0.203   0.839
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 13.05 on 147 degrees of freedom
## (3 observations deleted due to missingness)
## Multiple R-squared:  0.0002801, Adjusted R-squared:  -0.006521
## F-statistic: 0.04119 on 1 and 147 DF,  p-value: 0.8394
fit <- lm(X_AGEL~X_TIGF1+X_DHEAS,data=df)
summary(fit)

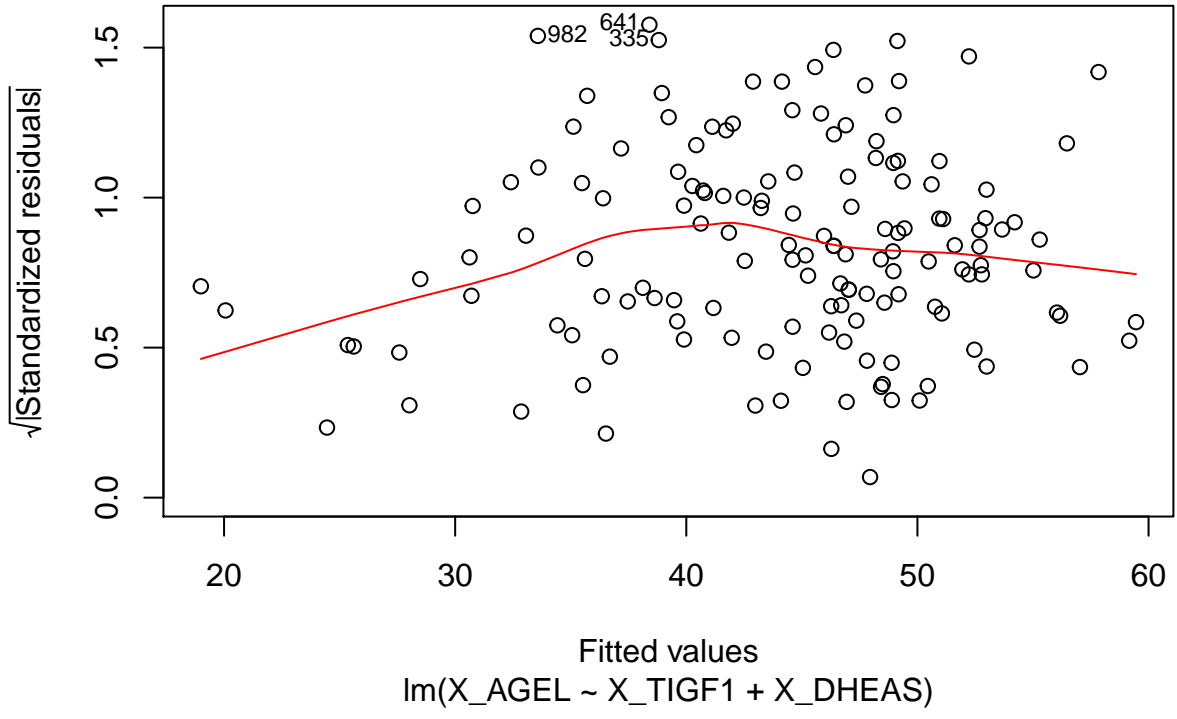
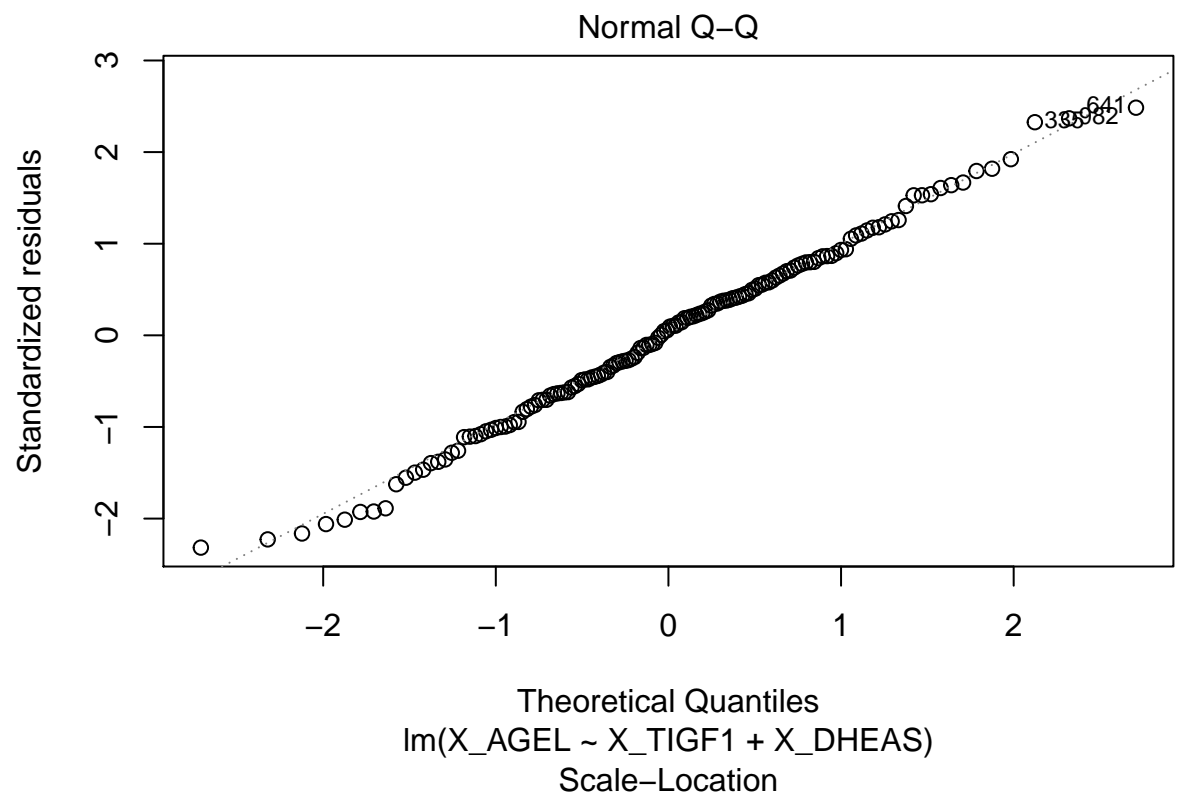
##
## Call:
## lm(formula = X_AGEL ~ X_TIGF1 + X_DHEAS, data = df)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -24.1361  -6.6895   0.7621   7.1232  25.5957
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) 60.969390   2.060950  29.583  < 2e-16 ***
## X_TIGF1     -0.063658   0.010599  -6.006 1.46e-08 ***
## X_DHEAS     -0.035009   0.008414  -4.161 5.42e-05 ***

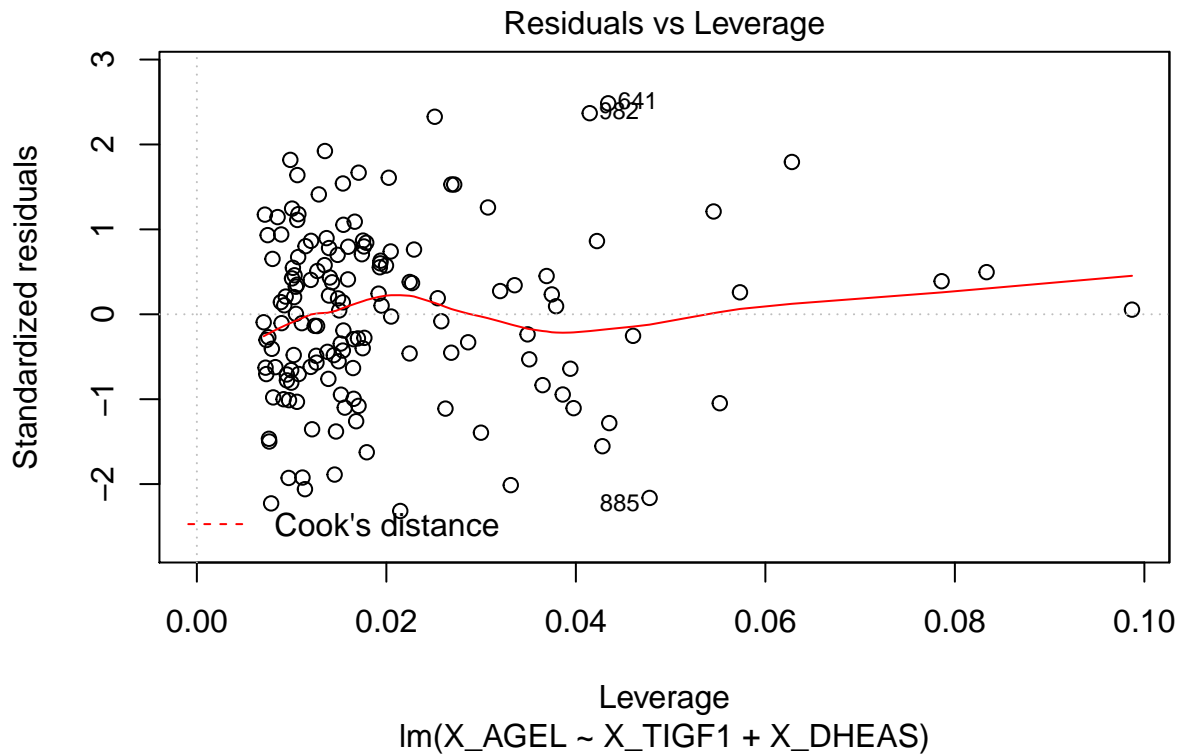
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.53 on 145 degrees of freedom
## (4 observations deleted due to missingness)
## Multiple R-squared:  0.3604, Adjusted R-squared:  0.3515
## F-statistic: 40.85 on 2 and 145 DF,  p-value: 8.516e-15
```

```
plot(fit)
```







```
runs.test(fit$residuals)
```

```
##
## Runs Test
##
## data: fit$residuals
## statistic = -0.32992, runs = 73, n1 = 74, n2 = 74, n = 148,
## p-value = 0.7415
## alternative hypothesis: nonrandomness
```

```
sample <- sample.int(n=nrow(df),size=floor(.75*nrow(df)))
train <- df[sample,]
test <- df[-sample,]
new_mod <- lm(X_AGEL~.,data=train)
summary(new_mod)
```

```
##
## Call:
## lm(formula = X_AGEL ~ ., data = train)
##
## Residuals:
```

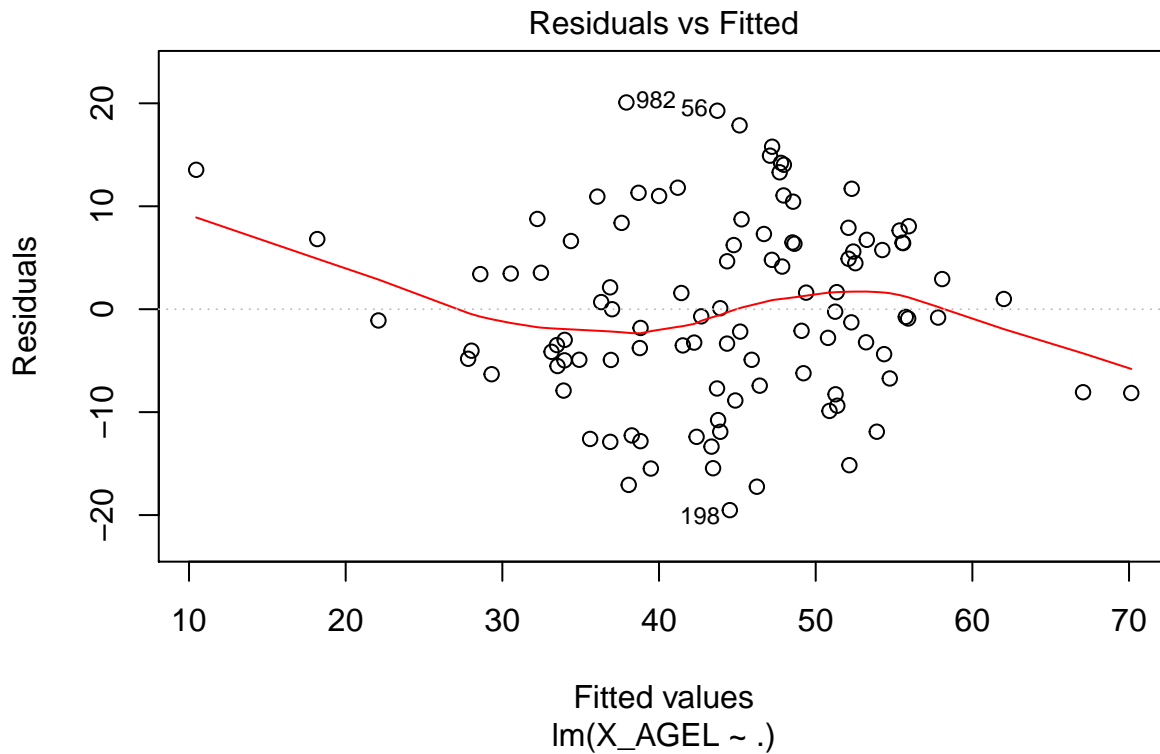
	Min	1Q	Median	3Q	Max
##	-19.5191	-6.2445	-0.7219	6.5184	20.0828

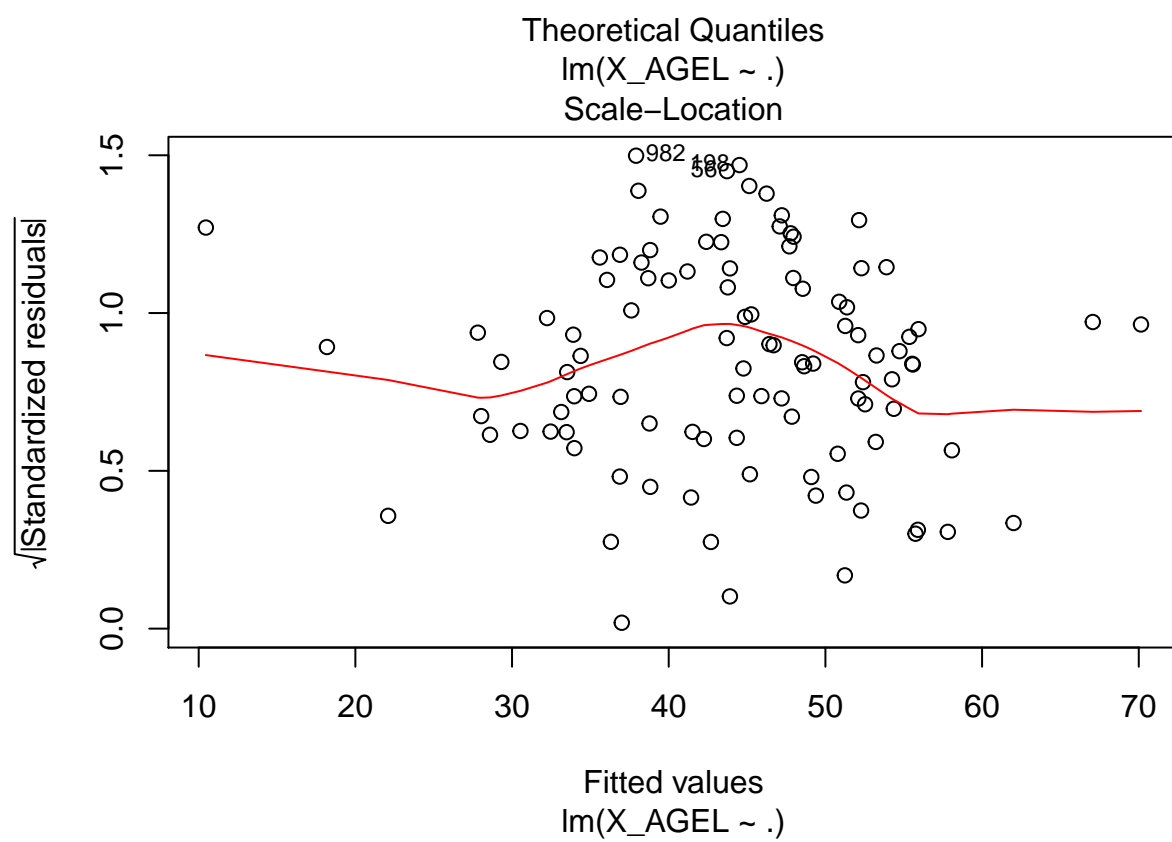
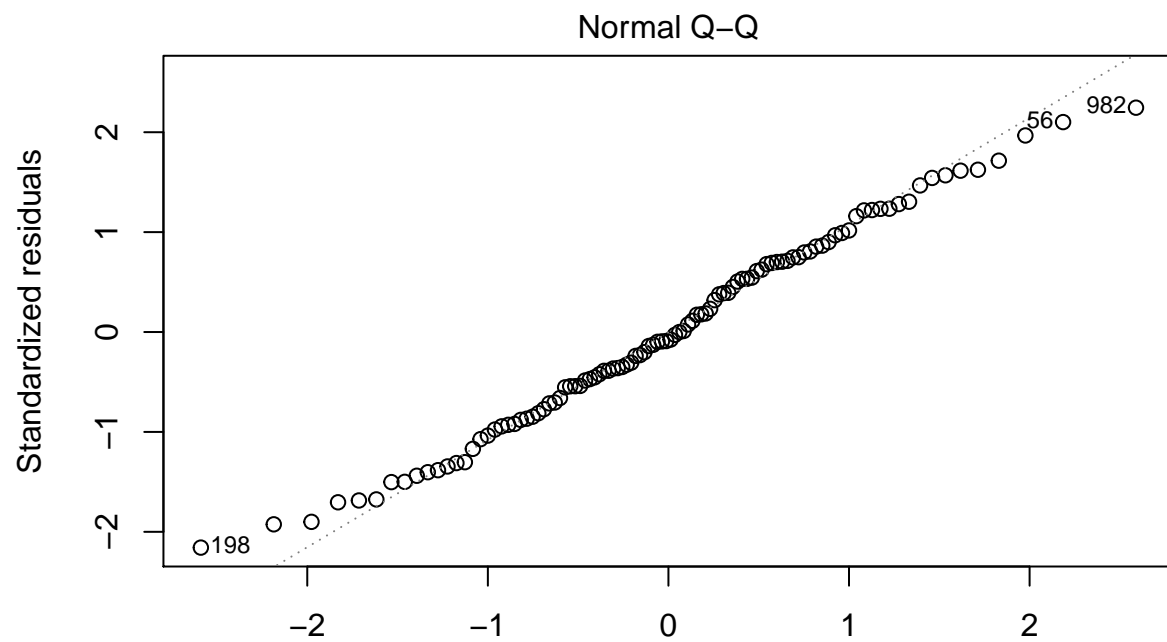
```
##
## Coefficients:
```

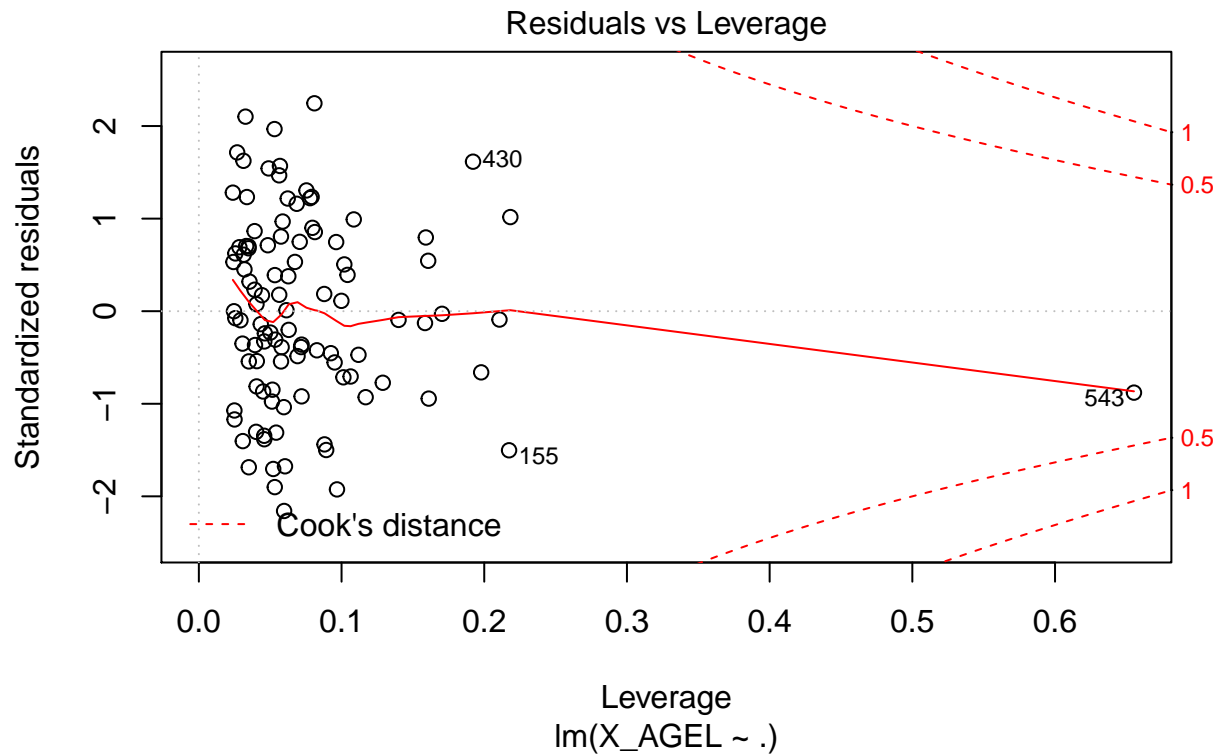
	Estimate	Std. Error	t value	Pr(> t )
## (Intercept)	35.629013	5.713535	6.236	1.2e-08 ***
## X_TIGF1	-0.042684	0.011508	-3.709	0.000348 ***
## X_COLTOT	0.054702	0.035751	1.530	0.129284
## X_DHEAS	-0.036362	0.008925	-4.074	9.5e-05 ***
## X_ESTDIO	-0.046009	0.028893	-1.592	0.114585

```
## X_ATOCRS      0.291593    0.197036    1.480 0.142176
## X_FREETS      7.983550   10.327788    0.773 0.441412
## X_TSSHBG     -90.570539  175.420567   -0.516 0.606829
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 9.328 on 96 degrees of freedom
## (10 observations deleted due to missingness)
## Multiple R-squared:  0.5354, Adjusted R-squared:  0.5015
## F-statistic: 15.81 on 7 and 96 DF,  p-value: 1.203e-13
```

```
plot(new_mod)
```







```
library(randtests)
runs.test(new_mod$residuals)
```

```
##
## Runs Test
##
## data: new_mod$residuals
## statistic = -0.7883, runs = 49, n1 = 52, n2 = 52, n = 104, p-value
## = 0.4305
## alternative hypothesis: nonrandomness
```

## Part 3 Association rules

```
library(arules)
```

```
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
## The following object is masked from 'package:tidyr':
##
## expand
##
## Attaching package: 'arules'
## The following object is masked from 'package:dplyr':
##
## recode
```

```

## The following objects are masked from 'package:base':
##
##      abbreviate, write

physical <- select(physical,c(PX1_V20,PX1_V21,CODE98))
smoke <- select(interview,c(CODE98,IX9_V37))
vec1 <- intersect(physical$CODE98,analysis$CODE98) %>%
  intersect(diseases$CODE98)
analysis <- analysis[analysis$CODE98 %in% vec1,]
physical <- physical[physical$CODE98 %in% vec1,]
df <- select(analysis,c(X_U_PH,X_U_PRO, X_COLTOT,X_A_G,X_AGE1,X_GLU,X_TIGF1,X_INSULN,X_IL6,X_A_G,X_TNFA
df <- as.data.frame(sapply(names(df), function(x){
  discretize(df[,x],method = 'cluster')
}))
vec <- c('AXCANCER','AXEPATOC','AXMI','AXCHF','AXSTROKE','AXPARK','AXBPCO','AXANGINA','AXPADI','AXASTHM

diseases <- diseases[diseases$CODE98 %in% vec1,]
physical <- mutate(physical,BMI=PX1_V20/((PX1_V21/100)^2))

smoke <- smoke[smoke$CODE98 %in% vec1,]
df$BMI <- physical$BMI
diseases_ <- diseases[diseases$CODE98 %in% vec1,names(diseases) %in% vec]
df$smoke <- smoke$IX9_V37
df <- cbind(df,diseases_)
df <- df%>%
  mutate_if(is.numeric,as.factor)
tData <- as (df, "transactions")
rules <- apriori(tData, parameter = list(supp = 0.01, conf = 0.8, target = "rules", maxlen=2))

## Apriori
##
## Parameter specification:
## confidence minval smax arem aval originalSupport maxtime support minlen
##      0.8      0.1      1 none FALSE              TRUE        5      0.01      1
## maxlen target   ext
##      2 rules FALSE
##
## Algorithmic control:
## filter tree heap memopt load sort verbose
##    0.1 TRUE TRUE  FALSE TRUE     2     TRUE
##
## Absolute minimum support count: 13
##
## set item appearances ...[0 item(s)] done [0.00s].
## set transactions ...[1232 item(s), 1304 transaction(s)] done [0.01s].
## sorting and recoding items ... [135 item(s)] done [0.00s].
## creating transaction tree ... done [0.00s].
## checking subsets of size 1 2

## Warning in apriori(tData, parameter = list(supp = 0.01, conf = 0.8, target
## = "rules", : Mining stopped (maxlen reached). Only patterns up to a length
## of 2 returned!

## done [0.00s].
## writing ... [2071 rule(s)] done [0.00s].
## creating S4 object ... done [0.00s].

```



```
inspect(head(rules, by = "lift",n=1000))
```

	lhs	rhs	support	confidence	lift c
## [1]	{AXVASDEM=1}	=> {AXDEMENT=1}	0.03067485	1.0000000	20.698413
## [2]	{X_GLU=[167,335]}	=> {AXMHGLUC=1}	0.02607362	1.0000000	7.367232
## [3]	{X_ESTDIO=[56.2,165]}	=> {X_AGEL=[21,53.2]}	0.01610429	0.9130435	6.105686
## [4]	{X_AGEL=[21,53.2]}	=> {AXVASDEM=9}	0.14953988	1.0000000	4.794118
## [5]	{X_AGEL=[21,53.2]}	=> {AXDEMENT=9}	0.14953988	1.0000000	4.794118
## [6]	{AXVASDEM=9}	=> {AXDEMENT=9}	0.20858896	1.0000000	4.794118
## [7]	{AXDEMENT=9}	=> {AXVASDEM=9}	0.20858896	1.0000000	4.794118
## [8]	{X_ESTDIO=[56.2,165]}	=> {AXVASDEM=9}	0.01687117	0.9565217	4.585678
## [9]	{X_ESTDIO=[56.2,165]}	=> {AXDEMENT=9}	0.01687117	0.9565217	4.585678
## [10]	{X_TRIGLI=[317,1.29e+03]}	=> {AXMHTRIG=1}	0.02147239	1.0000000	4.075000
## [11]	{X_COLLDL=[163,298]}	=> {X_COLTOT=[239,387]}	0.17714724	0.9705882	3.555188
## [12]	{X_TNFAR1=[3.31e+03,7e+03]}	=> {X_AGEL=[76.1,102]}	0.02147239	0.9333333	3.316258
## [13]	{AXMHTRIG=1}	=> {X_TRIGLI=[140,317]}	0.22392638	0.9125000	3.305278
## [14]	{X_TRIGLI=[140,317]}	=> {AXMHTRIG=1}	0.22392638	0.8111111	3.305278
## [15]	{AXVASDEM=1}	=> {X_AGEL=[76.1,102]}	0.02684049	0.8750000	3.108992
## [16]	{X_UGUA24=[2.65e+03,5e+03]}	=> {XBIOATSM=[1.9,4.92]}	0.01610429	0.8400000	3.059665
## [17]	{BMI=NaN}	=> {X_AGEL=[76.1,102]}	0.03297546	0.8431373	2.995779
## [18]	{AXDEMENT=1}	=> {X_AGEL=[76.1,102]}	0.04064417	0.8412698	2.989144
## [19]	{AXMLOHDL=1}	=> {X_COLHDL=[18,49.8]}	0.22162577	1.0000000	2.745263
## [20]	{X_COLTOT=[82,190]}	=> {X_COLLDL=[19,119]}	0.24233129	0.9404762	2.737457
## [21]	{X_TRIGLI=[317,1.29e+03]}	=> {X_COLHDL=[18,49.8]}	0.01993865	0.9285714	2.549173
## [22]	{XBIOATSM=[4.92,15.6]}	=> {SEX=1}	0.10812883	1.0000000	2.229060
## [23]	{XBIOATSM=[1.9,4.92]}	=> {SEX=1}	0.27147239	0.9888268	2.204154
## [24]	{X_UGUA24=[2.65e+03,5e+03]}	=> {SEX=1}	0.01840491	0.9600000	2.139897
## [25]	{X_COLTOT=[82,190]}	=> {X_ATOCRS=[11.3,31.2]}	0.21242331	0.8244048	2.005641
## [26]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {SEX=1}	0.15567485	0.8942731	1.993388
## [27]	{smoke=7}	=> {SEX=1}	0.01073620	0.8750000	1.950427
## [28]	{AXBPC0=1}	=> {SEX=1}	0.05828221	0.8735632	1.947225
## [29]	{smoke=20}	=> {SEX=1}	0.04447853	0.8656716	1.929634
## [30]	{smoke=15}	=> {SEX=1}	0.01840491	0.8275862	1.844739
## [31]	{X_AGEL=[21,53.2]}	=> {AXMIPERT=0}	0.12269939	0.8205128	1.841564
## [32]	{smoke=10}	=> {SEX=1}	0.05981595	0.8125000	1.811111
## [33]	{X_ESTDIO=[56.2,165]}	=> {SEX=2}	0.01610429	0.9130435	1.655923
## [34]	{SEX=2}	=> {XBIOATSM=[0.00304,1.9]}	0.53450920	0.9694019	1.637435
## [35]	{XBIOATSM=[0.00304,1.9]}	=> {SEX=2}	0.53450920	0.9028497	1.637435
## [36]	{AXMETBOL=1}	=> {AXMIPERT=1}	0.18558282	0.8897059	1.604670
## [37]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_AGEL=[53.2,76.1]}	0.01687117	0.8800000	1.546523
## [38]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {X_AGEL=[53.2,76.1]}	0.04754601	0.8493151	1.492597
## [39]	{X_ESTDIO=[56.2,165]}	=> {XBIOATSM=[0.00304,1.9]}	0.01533742	0.8695652	1.468799
## [40]	{X_ESTDIO=[56.2,165]}	=> {X_INSULN=[1.65,11.2]}	0.01533742	0.8695652	1.466899
## [41]	{X_TNFAR1=[3.31e+03,7e+03]}	=> {AXMIPERT=1}	0.01840491	0.8000000	1.442877
## [42]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_DHEAS=[0.7,105]}	0.01687117	0.8800000	1.414945
## [43]	{X_TNFAR1=[3.31e+03,7e+03]}	=> {XBIOATSM=[0.00304,1.9]}	0.01917178	0.8333333	1.407599
## [44]	{X_UCRE24=[106,884]}	=> {XBIOATSM=[0.00304,1.9]}	0.32898773	0.8313953	1.404326
## [45]	{X_AGEL=[21,53.2]}	=> {AXMWAIST=0}	0.12806748	0.8564103	1.399447
## [46]	{smoke=8}	=> {X_INSULN=[1.65,11.2]}	0.01457055	0.8260870	1.393554
## [47]	{X_ESTDIO=[56.2,165]}	=> {X_TNFAR1=[399,1.55e+03]}	0.01687117	0.9565217	1.390529
## [48]	{X_AGEL=[21,53.2]}	=> {X_TNFAR1=[399,1.55e+03]}	0.14187117	0.9487179	1.379184
## [49]	{X_COLHDL=[68.9,143]}	=> {X_TRIGLI=[29,140]}	0.16487730	0.9513274	1.369239
## [50]	{AXCHF=1}	=> {X_DHEAS=[0.7,105]}	0.03757669	0.8448276	1.358391
## [51]	{AXVASDEM=9}	=> {X_TNFAR1=[399,1.55e+03]}	0.19478528	0.9338235	1.357532

## [52]	{AXDEMENT=9}	=> {X_TNFAR1=[399,1.55e+03]}	0.19478528	0.9338235	1.357532
## [53]	{X_OM6_A=[32.9,44.9]}	=> {X_TRIGLI=[29,140]}	0.23696319	0.9420732	1.355920
## [54]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXDEMENT=0}	0.01917178	1.0000000	1.345717
## [55]	{X_UGUA24=[37,1.24e+03]}	=> {AXDEMENT=0}	0.07668712	1.0000000	1.345717
## [56]	{X_TRIGLI=[29,140]}	=> {AXMHTRIG=0}	0.69478528	1.0000000	1.338809
## [57]	{AXMHTRIG=0}	=> {X_TRIGLI=[29,140]}	0.69478528	0.9301848	1.338809
## [58]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXDEMENT=0}	0.05521472	0.9863014	1.327283
## [59]	{XBIOATSM=[4.92,15.6]}	=> {AXMWAIST=0}	0.08742331	0.8085106	1.321175
## [60]	{AXPADI=1}	=> {X_DHEAS=[0.7,105]}	0.07592025	0.8181818	1.315548
## [61]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXVASDEM=0}	0.01917178	1.0000000	1.314516
## [62]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXVASDEM=0}	0.05598160	1.0000000	1.314516
## [63]	{X_UGUA24=[37,1.24e+03]}	=> {AXVASDEM=0}	0.07668712	1.0000000	1.314516
## [64]	{AXDEMENT=0}	=> {AXVASDEM=0}	0.74309816	1.0000000	1.314516
## [65]	{AXVASDEM=0}	=> {AXDEMENT=0}	0.74309816	0.9768145	1.314516
## [66]	{AXSTROKE=1}	=> {X_DHEAS=[0.7,105]}	0.03757669	0.8166667	1.313111
## [67]	{X_COLHDL=[68.9,143]}	=> {AXMLOHDL=0}	0.17331288	1.0000000	1.297512
## [68]	{X_COLHDL=[49.8,68.9]}	=> {AXMLOHDL=0}	0.45475460	1.0000000	1.297512
## [69]	{X_COLHDL=[68.9,143]}	=> {AXMHTRIG=0}	0.16717791	0.9646018	1.291418
## [70]	{AXEPATOC=2}	=> {X_MIO=[0.1,69.4]}	0.01226994	1.0000000	1.287266
## [71]	{X_DHEAS=[247,855]}	=> {X_TNFAR1=[399,1.55e+03]}	0.07055215	0.8846154	1.285996
## [72]	{X_OM6_A=[32.9,44.9]}	=> {AXMHTRIG=0}	0.24156442	0.9603659	1.285746
## [73]	{X_ESTDIO=[56.2,165]}	=> {X_PALK=[0,237]}	0.01687117	0.9565217	1.279287
## [74]	{AXANGINA=1}	=> {AXDEMENT=0}	0.03527607	0.9387755	1.263326
## [75]	{X_AGEL=[21,53.2]}	=> {X_PALK=[0,237]}	0.14033742	0.9384615	1.255132
## [76]	{X_ESTDIO=[56.2,165]}	=> {AXCHF=0}	0.01763804	1.0000000	1.255053
## [77]	{X_ESTDIO=[56.2,165]}	=> {X_TRIGLI=[29,140]}	0.01533742	0.8695652	1.251560
## [78]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXMLOHDL=0}	0.01840491	0.9600000	1.245612
## [79]	{X_COLHDL=[68.9,143]}	=> {AXMETBOL=0}	0.17024540	0.9823009	1.241202
## [80]	{AXPADI=1}	=> {AXVASDEM=0}	0.08742331	0.9421488	1.238470
## [81]	{AXMI=1}	=> {AXDEMENT=0}	0.03527607	0.9200000	1.238060
## [82]	{AXMI=1}	=> {AXVASDEM=0}	0.03604294	0.9400000	1.235645
## [83]	{AXANGINA=1}	=> {AXVASDEM=0}	0.03527607	0.9387755	1.234036
## [84]	{AXCANCER=1}	=> {AXVASDEM=0}	0.04677914	0.9384615	1.233623
## [85]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_PALK=[0,237]}	0.01763804	0.9200000	1.230441
## [86]	{X_AGEL=[21,53.2]}	=> {AXCHF=0}	0.14647239	0.9794872	1.229308
## [87]	{AXVASDEM=9}	=> {X_PALK=[0,237]}	0.19171779	0.9191176	1.229261
## [88]	{AXDEMENT=9}	=> {X_PALK=[0,237]}	0.19171779	0.9191176	1.229261
## [89]	{AXCANCER=1}	=> {AXDEMENT=0}	0.04524540	0.9076923	1.221497
## [90]	{X_A_G=[1.63,2.26]}	=> {X_TNFAR1=[399,1.55e+03]}	0.16411043	0.8392157	1.219997
## [91]	{X_UGUA24=[37,1.24e+03]}	=> {X_UBPA24=[0.584,8.16]}	0.06211656	0.8100000	1.219677
## [92]	{AXVASDEM=9}	=> {AXCHF=0}	0.20245399	0.9705882	1.218140
## [93]	{AXDEMENT=9}	=> {AXCHF=0}	0.20245399	0.9705882	1.218140
## [94]	{X_UBPA24=[29.1,148]}	=> {X_ESTDIO=[0,14.1]}	0.01073620	0.8235294	1.217554
## [95]	{AXCHF=2}	=> {AXVASDEM=0}	0.14647239	0.9227053	1.212911
## [96]	{X_GLU=[103,167]}	=> {AXDEMENT=0}	0.14263804	0.8985507	1.209195
## [97]	{AXCHF=2}	=> {AXDEMENT=0}	0.14263804	0.8985507	1.209195
## [98]	{SEX=2}	=> {X_ESTDIO=[0,14.1]}	0.45092025	0.8178025	1.209087
## [99]	{AXBPCO=1}	=> {AXVASDEM=0}	0.06134969	0.9195402	1.208750
## [100]	{X_GLU=[103,167]}	=> {AXVASDEM=0}	0.14570552	0.9178744	1.206561
## [101]	{AXBPCO=1}	=> {AXDEMENT=0}	0.05981595	0.8965517	1.206505
## [102]	{X_OM6_A=[32.9,44.9]}	=> {X_TNFAR1=[399,1.55e+03]}	0.20858896	0.8292683	1.205536
## [103]	{X_TIGF1=[210,466]}	=> {X_TNFAR1=[399,1.55e+03]}	0.08435583	0.8270677	1.202337
## [104]	{AXMIPERT=0}	=> {AXMETBOL=0}	0.42254601	0.9483649	1.198322
## [105]	{X_FIBRIN=[84,312]}	=> {X_TNFAR1=[399,1.55e+03]}	0.25076687	0.8236776	1.197409

## [106]	{X_UBPA24=[29.1,148]}	=> {X_TNFAR1=[399,1.55e+03]}	0.01073620	0.8235294	1.197193
## [107]	{X_A_G=[1.63,2.26]}	=> {X_PALK=[0,237]}	0.17484663	0.8941176	1.195825
## [108]	{X_TNFAR1=[1.55e+03,3.31e+03]}	=> {AXVASDEM=0}	0.22239264	0.9090909	1.195015
## [109]	{AXMHGLUC=1}	=> {AXDEMENT=0}	0.12039877	0.8870056	1.193659
## [110]	{AXPADI=1}	=> {AXDEMENT=0}	0.08205521	0.8842975	1.190014
## [111]	{X_TNFAR1=[1.55e+03,3.31e+03]}	=> {AXDEMENT=0}	0.21625767	0.8840125	1.189631
## [112]	{XBIOATSM=[0.00304,1.9]}	=> {X_ESTDIO=[0,14.1]}	0.47622699	0.8044041	1.189278
## [113]	{X_AGEL=[76.1,102]}	=> {AXVASDEM=0}	0.25460123	0.9046322	1.189154
## [114]	{AXMHGLUC=1}	=> {AXVASDEM=0}	0.12269939	0.9039548	1.188263
## [115]	{X_AGEL=[53.2,76.1]}	=> {AXDEMENT=0}	0.50230061	0.8827493	1.187931
## [116]	{X_AGEL=[21,53.2]}	=> {X_GLU=[55,103]}	0.14340491	0.9589744	1.187562
## [117]	{XBIOATSM=[4.92,15.6]}	=> {X_PALK=[0,237]}	0.09585890	0.8865248	1.185670
## [118]	{X_ESTDIO=[56.2,165]}	=> {X_GLU=[55,103]}	0.01687117	0.9565217	1.184525
## [119]	{AXCANCER=1}	=> {X_ESTDIO=[0,14.1]}	0.03987730	0.8000000	1.182766
## [120]	{X_ATOCRS=[11.3,31.2]}	=> {X_TRIGLI=[29,140]}	0.33742331	0.8208955	1.181510
## [121]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {X_TNFAR1=[399,1.55e+03]}	0.14110429	0.8105727	1.178358
## [122]	{X_COLTOT=[82,190]}	=> {X_TRIGLI=[29,140]}	0.21088957	0.8184524	1.177993
## [123]	{smoke=7}	=> {AXDEMENT=0}	0.01073620	0.8750000	1.177503
## [124]	{AXPADI=2}	=> {AXDEMENT=0}	0.04831288	0.8750000	1.177503
## [125]	{X_COLHDL=[68.9,143]}	=> {X_TNFAR1=[399,1.55e+03]}	0.14033742	0.8097345	1.177139
## [126]	{X_ESTDIO=[56.2,165]}	=> {AXPADI=0}	0.01763804	1.0000000	1.173717
## [127]	{AXMWAIST=0}	=> {AXMETBOL=0}	0.56825153	0.9285714	1.173311
## [128]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {X_PALK=[0,237]}	0.15260736	0.8766520	1.172466
## [129]	{AXASTHMA=2}	=> {AXDEMENT=0}	0.07668712	0.8695652	1.170189
## [130]	{X_AGEL=[53.2,76.1]}	=> {AXVASDEM=0}	0.50613497	0.8894879	1.169246
## [131]	{X_TIGF1=[210,466]}	=> {X_TRIGLI=[29,140]}	0.08282209	0.8120301	1.168750
## [132]	{AXASTHMA=1}	=> {AXDEMENT=0}	0.03527607	0.8679245	1.167981
## [133]	{X_ESTDIO=[56.2,165]}	=> {AXMHGLUC=0}	0.01763804	1.0000000	1.167413
## [134]	{X_PALK=[237,1.11e+03]}	=> {AXDEMENT=0}	0.20858896	0.8662420	1.165717
## [135]	{AXASTHMA=1}	=> {AXVASDEM=0}	0.03604294	0.8867925	1.165703
## [136]	{X_FIBRIN=[84,312]}	=> {X_PALK=[0,237]}	0.26533742	0.8715365	1.165624
## [137]	{X_ESTDIO=[56.2,165]}	=> {AXMHTRIG=0}	0.01533742	0.8695652	1.164182
## [138]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_TNFAR1=[399,1.55e+03]}	0.01533742	0.8000000	1.162988
## [139]	{AXANGINA=2}	=> {AXVASDEM=0}	0.02914110	0.8837209	1.161665
## [140]	{AXVASDEM=9}	=> {X_GLU=[55,103]}	0.19555215	0.9375000	1.160969
## [141]	{AXDEMENT=9}	=> {X_GLU=[55,103]}	0.19555215	0.9375000	1.160969
## [142]	{X_TRIGLI=[29,140]}	=> {AXMETBOL=0}	0.63803681	0.9183223	1.160361
## [143]	{AXMETBOL=0}	=> {X_TRIGLI=[29,140]}	0.63803681	0.8062016	1.160361
## [144]	{X_PALK=[237,1.11e+03]}	=> {AXVASDEM=0}	0.21242331	0.8821656	1.159621
## [145]	{X_OM6_A=[32.9,44.9]}	=> {AXMLOHDL=0}	0.22469325	0.8932927	1.159058
## [146]	{AXANGINA=2}	=> {AXDEMENT=0}	0.02837423	0.8604651	1.157943
## [147]	{X_GLU=[55,103]}	=> {AXMHGLUC=0}	0.80061350	0.9914530	1.157435
## [148]	{AXMHGLUC=0}	=> {X_GLU=[55,103]}	0.80061350	0.9346464	1.157435
## [149]	{X_MIO=[69.4,457]}	=> {AXVASDEM=0}	0.18634969	0.8804348	1.157346
## [150]	{AXMLOHDL=0}	=> {AXMETBOL=0}	0.70552147	0.9154229	1.156697
## [151]	{AXMETBOL=0}	=> {AXMLOHDL=0}	0.70552147	0.8914729	1.156697
## [152]	{AXMWAIST=1}	=> {AXDEMENT=0}	0.29064417	0.8594104	1.156523
## [153]	{X_AGEL=[21,53.2]}	=> {X_MIO=[0.1,69.4]}	0.13420245	0.8974359	1.155238
## [154]	{AXVASDEM=9}	=> {X_MIO=[0.1,69.4]}	0.18711656	0.8970588	1.154753
## [155]	{AXDEMENT=9}	=> {X_MIO=[0.1,69.4]}	0.18711656	0.8970588	1.154753
## [156]	{AXASTHMA=2}	=> {AXVASDEM=0}	0.07745399	0.8782609	1.154488
## [157]	{smoke=15}	=> {X_MIO=[0.1,69.4]}	0.01993865	0.8965517	1.154100
## [158]	{smoke=8}	=> {AXMETBOL=0}	0.01610429	0.9130435	1.153691
## [159]	{X_TRIGLI=[317,1.29e+03]}	=> {AXDEMENT=0}	0.01840491	0.8571429	1.153472

## [160]	{X_AGEL=[21,53.2]}	=> {AXMETBOL=0}	0.13650307	0.9128205	1.153409
## [161]	{smoke=15}	=> {X_PALK=[0,237]}	0.01917178	0.8620690	1.152962
## [162]	{AXMHTRIG=0}	=> {AXMETBOL=0}	0.68098160	0.9117043	1.151998
## [163]	{AXMETBOL=0}	=> {AXMHTRIG=0}	0.68098160	0.8604651	1.151998
## [164]	{X_ATOCRS=[11.3,31.2]}	=> {AXMHTRIG=0}	0.35352761	0.8600746	1.151476
## [165]	{X_AGEL=[76.1,102]}	=> {AXDEMENT=0}	0.24079755	0.8555858	1.151377
## [166]	{X_MIO=[69.4,457]}	=> {AXDEMENT=0}	0.18098160	0.8550725	1.150686
## [167]	{AXASTHMA=1}	=> {AXMLOHDL=0}	0.03604294	0.8867925	1.150624
## [168]	{AXEPATOC=2}	=> {AXVASDEM=0}	0.01073620	0.8750000	1.150202
## [169]	{smoke=7}	=> {AXVASDEM=0}	0.01073620	0.8750000	1.150202
## [170]	{AXPADI=2}	=> {AXVASDEM=0}	0.04831288	0.8750000	1.150202
## [171]	{smoke=3}	=> {X_PALK=[0,237]}	0.03757669	0.8596491	1.149726
## [172]	{X_UCRE24=[106,884]}	=> {AXVASDEM=0}	0.34585890	0.8740310	1.148928
## [173]	{AXMWAIST=1}	=> {AXVASDEM=0}	0.29524540	0.8730159	1.147593
## [174]	{AXMWAIST=9}	=> {AXMETBOL=0}	0.04524540	0.9076923	1.146929
## [175]	{X_DHEAS=[0.7,105]}	=> {AXDEMENT=0}	0.52990798	0.8520345	1.146598
## [176]	{X_DHEAS=[0.7,105]}	=> {AXVASDEM=0}	0.54217791	0.8717633	1.145947
## [177]	{XBIOATSM=[1.9,4.92]}	=> {AXVASDEM=0}	0.23926380	0.8715084	1.145612
## [178]	{smoke=3}	=> {AXCHF=0}	0.03987730	0.9122807	1.144961
## [179]	{X_UCRE24=[106,884]}	=> {AXDEMENT=0}	0.33665644	0.8507752	1.144903
## [180]	{X_UBPA24=[29.1,148]}	=> {AXMLOHDL=0}	0.01150307	0.8823529	1.144864
## [181]	{X_DHEAS=[247,855]}	=> {X_PALK=[0,237]}	0.06825153	0.8557692	1.144536
## [182]	{X_UCOR24=[247,833]}	=> {X_MIO=[0.1,69.4]}	0.01840491	0.8888889	1.144236
## [183]	{XBIOATSM=[1.9,4.92]}	=> {AXDEMENT=0}	0.23312883	0.8491620	1.142732
## [184]	{X_TIGF1=[2.81,114]}	=> {AXDEMENT=0}	0.37730061	0.8482759	1.141539
## [185]	{X_OM6_A=[32.9,44.9]}	=> {AXMETBOL=0}	0.22699387	0.9024390	1.140291
## [186]	{X_TIGF1=[2.81,114]}	=> {AXVASDEM=0}	0.38573620	0.8672414	1.140003
## [187]	{X_COLTOT=[82,190]}	=> {AXMHTRIG=0}	0.21932515	0.8511905	1.139581
## [188]	{X_AGEL=[21,53.2]}	=> {AXPADI=0}	0.14493865	0.9692308	1.137603
## [189]	{X_AGEL=[21,53.2]}	=> {AXMHGLUC=0}	0.14570552	0.9743590	1.137479
## [190]	{X_TIGF1=[210,466]}	=> {X_PALK=[0,237]}	0.08665644	0.8496241	1.136318
## [191]	{smoke=7}	=> {AXMLOHDL=0}	0.01073620	0.8750000	1.135323
## [192]	{AXVASDEM=9}	=> {AXPADI=0}	0.20168712	0.9669118	1.134881
## [193]	{AXDEMENT=9}	=> {AXPADI=0}	0.20168712	0.9669118	1.134881
## [194]	{AXCHF=1}	=> {AXVASDEM=0}	0.03834356	0.8620690	1.133204
## [195]	{X_TNFA=[20.6,131]}	=> {AXMHTRIG=0}	0.02530675	0.8461538	1.132838
## [196]	{smoke=2}	=> {X_PALK=[0,237]}	0.02530675	0.8461538	1.131677
## [197]	{smoke=8}	=> {X_GLU=[55,103]}	0.01610429	0.9130435	1.130683
## [198]	{smoke=6}	=> {AXCHF=0}	0.02070552	0.9000000	1.129548
## [199]	{X_ESTDIO=[56.2,165]}	=> {AXMLOHDL=0}	0.01533742	0.8695652	1.128272
## [200]	{AXMETBOL=1}	=> {AXDEMENT=0}	0.17484663	0.8382353	1.128028
## [201]	{X_LUTEIN=[0.556,1.25]}	=> {AXMLOHDL=0}	0.09662577	0.8689655	1.127494
## [202]	{X_COLHDL=[49.8,68.9]}	=> {AXMETBOL=0}	0.40567485	0.8920742	1.127195
## [203]	{X_TRIGLI=[29,140]}	=> {AXMLOHDL=0}	0.60352761	0.8686534	1.127089
## [204]	{X_TRIGLI=[317,1.29e+03]}	=> {AXVASDEM=0}	0.01840491	0.8571429	1.126728
## [205]	{smoke=4}	=> {X_MIO=[0.1,69.4]}	0.03220859	0.8750000	1.126357
## [206]	{AXMIPERT=1}	=> {AXDEMENT=0}	0.46395706	0.8367911	1.126084
## [207]	{X_UBPA24=[29.1,148]}	=> {X_U_PRO=[0,15.2]}	0.01303681	1.0000000	1.126079
## [208]	{AXVASDEM=9}	=> {AXMHGLUC=0}	0.20092025	0.9632353	1.124493
## [209]	{AXDEMENT=9}	=> {AXMHGLUC=0}	0.20092025	0.9632353	1.124493
## [210]	{X_LUTEIN=[0.556,1.25]}	=> {AXDEMENT=0}	0.09279141	0.8344828	1.122978
## [211]	{X_DHEAS=[247,855]}	=> {AXCHF=0}	0.07131902	0.8942308	1.122307
## [212]	{AXMIPERT=1}	=> {AXVASDEM=0}	0.47315951	0.8533887	1.121793
## [213]	{X_U_PRO=[15.2,81.7]}	=> {AXDEMENT=0}	0.01150307	0.8333333	1.121431

## [214]	{X_TIGF1=[210,466]}	=> {AXMETBOL=0}	0.09049080	0.8872180	1.121058
## [215]	{AXVASDEM=9}	=> {AXMETBOL=0}	0.18481595	0.8860294	1.119557
## [216]	{AXDEMENT=9}	=> {AXMETBOL=0}	0.18481595	0.8860294	1.119557
## [217]	{X_ESTDIO=[56.2,165]}	=> {X_MIO=[0.1,69.4]}	0.01533742	0.8695652	1.119361
## [218]	{smoke=5}	=> {AXDEMENT=0}	0.06441718	0.8316832	1.119210
## [219]	{X_TIGF1=[210,466]}	=> {AXMHTRIG=0}	0.08512270	0.8345865	1.117352
## [220]	{smoke=8}	=> {AXMHGLUC=0}	0.01687117	0.9565217	1.116656
## [221]	{AXMETBOL=1}	=> {AXVASDEM=0}	0.17714724	0.8492647	1.116372
## [222]	{X_UCOR24=[247,833]}	=> {AXCHF=0}	0.01840491	0.8888889	1.115603
## [223]	{smoke=3}	=> {AXMLOHDL=0}	0.03757669	0.8596491	1.115405
## [224]	{X_LUTEIN=[0.556,1.25]}	=> {AXVASDEM=0}	0.09432515	0.8482759	1.115072
## [225]	{X_DHEAS=[247,855]}	=> {X_MIO=[0.1,69.4]}	0.06901840	0.8653846	1.113980
## [226]	{XBIOATSM=[4.92,15.6]}	=> {AXCHF=0}	0.09585890	0.8865248	1.112636
## [227]	{AXBPC0=2}	=> {AXVASDEM=0}	0.02530675	0.8461538	1.112283
## [228]	{X_TIGF1=[210,466]}	=> {AXMLOHDL=0}	0.08742331	0.8571429	1.112154
## [229]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXMETBOL=0}	0.01687117	0.8800000	1.111938
## [230]	{AXASTHMA=1}	=> {X_PALK=[0,237]}	0.03374233	0.8301887	1.110324
## [231]	{AXMHTRIG=0}	=> {AXMLOHDL=0}	0.63880368	0.8552361	1.109680
## [232]	{AXMLOHDL=0}	=> {AXMHTRIG=0}	0.63880368	0.8288557	1.109680
## [233]	{X_U_PH=[4.5,5.34]}	=> {X_U_PRO=[0,15.2]}	0.24616564	0.9846626	1.108808
## [234]	{X_FIBRIN=[408,730]}	=> {AXVASDEM=0}	0.16487730	0.8431373	1.108318
## [235]	{smoke=4}	=> {AXMLOHDL=0}	0.03144172	0.8541667	1.108292
## [236]	{X_UBPA24=[29.1,148]}	=> {AXDEMENT=0}	0.01073620	0.8235294	1.108238
## [237]	{smoke=3}	=> {X_GLU=[55,103]}	0.03911043	0.8947368	1.108012
## [238]	{X_UBPA24=[29.1,148]}	=> {AXCHF=0}	0.01150307	0.8823529	1.107400
## [239]	{X_A_G=[1.63,2.26]}	=> {AXCHF=0}	0.17254601	0.8823529	1.107400
## [240]	{smoke=3}	=> {X_MIO=[0.1,69.4]}	0.03757669	0.8596491	1.106597
## [241]	{X_DHEAS=[247,855]}	=> {AXPADI=0}	0.07515337	0.9423077	1.106003
## [242]	{X_OM6_A=[32.9,44.9]}	=> {AXCHF=0}	0.22162577	0.8810976	1.105824
## [243]	{X_U_PH=[5.34,6.2]}	=> {X_U_PRO=[0,15.2]}	0.45782209	0.9819079	1.105706
## [244]	{smoke=7}	=> {AXMETBOL=0}	0.01073620	0.8750000	1.105620
## [245]	{X_UBPA24=[29.1,148]}	=> {AXPADI=0}	0.01226994	0.9411765	1.104675
## [246]	{AXBPC0=2}	=> {AXDEMENT=0}	0.02453988	0.8205128	1.104178
## [247]	{X_U_PH=[6.2,8.5]}	=> {X_U_PRO=[0,15.2]}	0.18404908	0.9795918	1.103098
## [248]	{X_FIBRIN=[408,730]}	=> {AXDEMENT=0}	0.16027607	0.8196078	1.102960
## [249]	{AXMWAIST=9}	=> {AXPADI=0}	0.04677914	0.9384615	1.101489
## [250]	{X_COLHDL=[68.9,143]}	=> {X_GLU=[55,103]}	0.15414110	0.8893805	1.101379
## [251]	{X_OM6_A=[32.9,44.9]}	=> {X_PALK=[0,237]}	0.20705521	0.8231707	1.100938
## [252]	{X_COLTOT=[239,387]}	=> {AXDEMENT=0}	0.22315951	0.8174157	1.100010
## [253]	{AXMIPERT=0}	=> {AXCHF=0}	0.39033742	0.8760757	1.099521
## [254]	{AXMWAIST=0}	=> {AXMLOHDL=0}	0.51840491	0.8471178	1.099146
## [255]	{X_A_G=[1.63,2.26]}	=> {AXMLOHDL=0}	0.16564417	0.8470588	1.099069
## [256]	{X_OM6_A=[32.9,44.9]}	=> {X_MIO=[0.1,69.4]}	0.21472393	0.8536585	1.098885
## [257]	{X_ESTDIO=[56.2,165]}	=> {AXMETBOL=0}	0.01533742	0.8695652	1.098753
## [258]	{X_ESTDIO=[56.2,165]}	=> {AXASTHMA=0}	0.01687117	0.9565217	1.097979
## [259]	{X_GLU=[167,335]}	=> {X_MIO=[0.1,69.4]}	0.02223926	0.8529412	1.097962
## [260]	{X_INSULN=[11.2,23.8]}	=> {AXVASDEM=0}	0.28374233	0.8352144	1.097903
## [261]	{X_TNFA=[20.6,131]}	=> {X_PALK=[0,237]}	0.02453988	0.8205128	1.097383
## [262]	{AXVASDEM=9}	=> {AXASTHMA=0}	0.19938650	0.9558824	1.097245
## [263]	{AXDEMENT=9}	=> {AXASTHMA=0}	0.19938650	0.9558824	1.097245
## [264]	{smoke=2}	=> {X_U_PRO=[0,15.2]}	0.02914110	0.9743590	1.097206
## [265]	{X_INSULN=[11.2,23.8]}	=> {AXDEMENT=0}	0.27684049	0.8148984	1.096623
## [266]	{X_U_PRO=[15.2,81.7]}	=> {AXVASDEM=0}	0.01150307	0.8333333	1.095430
## [267]	{AXSTROKE=1}	=> {AXVASDEM=0}	0.03834356	0.8333333	1.095430

## [268]	{X_OM6_A=[32.9,44.9]}	=> {AXPADI=0}	0.23466258	0.9329268	1.094992
## [269]	{X_COLHDL=[49.8,68.9]}	=> {AXMHTRIG=0}	0.37193252	0.8178752	1.094979
## [270]	{X_AGEL=[21,53.2]}	=> {AXASTHMA=0}	0.14263804	0.9538462	1.094908
## [271]	{smoke=5}	=> {AXVASDEM=0}	0.06441718	0.8316832	1.093261
## [272]	{AXASTHMA=1}	=> {X_MIO=[0.1,69.4]}	0.03450920	0.8490566	1.092961
## [273]	{X_DHEAS=[247,855]}	=> {AXASTHMA=0}	0.07592025	0.9519231	1.092700
## [274]	{smoke=8}	=> {AXCHF=0}	0.01533742	0.8695652	1.091350
## [275]	{X_A_G=[0.67,1.36]}	=> {AXVASDEM=0}	0.25766871	0.8296296	1.090562
## [276]	{AXCHF=1}	=> {AXDEMENT=0}	0.03604294	0.8103448	1.090495
## [277]	{X_UBPA24=[8.16,29.1]}	=> {X_PALK=[0,237]}	0.13880368	0.8153153	1.090432
## [278]	{BMI=NaN}	=> {AXMETBOL=0}	0.03374233	0.8627451	1.090135
## [279]	{X_U_PH=[4.5,5.34]}	=> {AXDEMENT=0}	0.20245399	0.8098160	1.089783
## [280]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_GLU=[55,103]}	0.01687117	0.8800000	1.089763
## [281]	{X_OM6_A=[12.5,27.2]}	=> {AXVASDEM=0}	0.17407975	0.8284672	1.089033
## [282]	{smoke=4}	=> {X_PALK=[0,237]}	0.02990798	0.8125000	1.086667
## [283]	{AXVASDEM=9}	=> {AXBPC0=0}	0.20475460	0.9816176	1.086612
## [284]	{AXDEMENT=9}	=> {AXBPC0=0}	0.20475460	0.9816176	1.086612
## [285]	{X_A_G=[0.67,1.36]}	=> {AXDEMENT=0}	0.25076687	0.8074074	1.086542
## [286]	{smoke=3}	=> {AXMETBOL=0}	0.03757669	0.8596491	1.086223
## [287]	{X_COLTOT=[239,387]}	=> {AXMLOHDL=0}	0.22852761	0.8370787	1.086120
## [288]	{X_COLTOT=[239,387]}	=> {AXVASDEM=0}	0.22546012	0.8258427	1.085584
## [289]	{smoke=3}	=> {AXMHGLUC=0}	0.04064417	0.9298246	1.085489
## [290]	{X_TIGF1=[210,466]}	=> {AXCHF=0}	0.08819018	0.8646617	1.085196
## [291]	{X_ESTDIO=[0,14.1]}	=> {AXVASDEM=0}	0.55828221	0.8253968	1.084997
## [292]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXASTHMA=0}	0.05291411	0.9452055	1.084989
## [293]	{X_U_PH=[4.5,5.34]}	=> {AXVASDEM=0}	0.20628834	0.8251534	1.084677
## [294]	{XBIOATSM=[4.92,15.6]}	=> {AXMETBOL=0}	0.09279141	0.8581560	1.084337
## [295]	{X_AGEL=[21,53.2]}	=> {AXBPC0=0}	0.14647239	0.9794872	1.084254
## [296]	{AXMETBOL=0}	=> {X_GLU=[55,103]}	0.69248466	0.8750000	1.083571
## [297]	{X_GLU=[55,103]}	=> {AXMETBOL=0}	0.69248466	0.8575499	1.083571
## [298]	{AXCANCER=1}	=> {AXPADI=0}	0.04601227	0.9230769	1.083431
## [299]	{X_UBPA24=[29.1,148]}	=> {AXVASDEM=0}	0.01073620	0.8235294	1.082543
## [300]	{X_UBPA24=[8.16,29.1]}	=> {X_GLU=[55,103]}	0.14877301	0.8738739	1.082176
## [301]	{X_ESTDIO=[0,14.1]}	=> {AXDEMENT=0}	0.54371166	0.8038549	1.081761
## [302]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXPADI=0}	0.16027607	0.9207048	1.080647
## [303]	{X_IL6=[5.18,46.5]}	=> {AXDEMENT=0}	0.04984663	0.8024691	1.079897
## [304]	{X_TNFA=[20.6,131]}	=> {X_GLU=[55,103]}	0.02607362	0.8717949	1.079602
## [305]	{X_UCOR24=[3.6,103]}	=> {AXVASDEM=0}	0.42254601	0.8211624	1.079431
## [306]	{smoke=4}	=> {AXMETBOL=0}	0.03144172	0.8541667	1.079296
## [307]	{smoke=5}	=> {AXMLOHDL=0}	0.06441718	0.8316832	1.079119
## [308]	{smoke=20}	=> {AXVASDEM=0}	0.04217791	0.8208955	1.079080
## [309]	{X_UCOR24=[3.6,103]}	=> {AXDEMENT=0}	0.41257669	0.8017884	1.078980
## [310]	{X_TIGF1=[210,466]}	=> {AXASTHMA=0}	0.09585890	0.9398496	1.078841
## [311]	{X_COLLDL=[19,119]}	=> {AXMHTRIG=0}	0.27684049	0.8058036	1.078817
## [312]	{X_DHEAS=[105,247]}	=> {AXCHF=0}	0.24386503	0.8594595	1.078667
## [313]	{smoke=8}	=> {X_U_PRO=[0,15.2]}	0.01687117	0.9565217	1.077119
## [314]	{AXSTROKE=1}	=> {AXDEMENT=0}	0.03680982	0.8000000	1.076574
## [315]	{X_COLHDL=[68.9,143]}	=> {X_MIO=[0.1,69.4]}	0.14493865	0.8362832	1.076519
## [316]	{X_TNFAR1=[399,1.55e+03]}	=> {X_MIO=[0.1,69.4]}	0.57515337	0.8361204	1.076309
## [317]	{XBIOATSM=[1.9,4.92]}	=> {X_PALK=[0,237]}	0.22085890	0.8044693	1.075926
## [318]	{AXEPATOC=2}	=> {AXANGINA=0}	0.01226994	1.0000000	1.075908
## [319]	{X_UBPA24=[29.1,148]}	=> {X_IL6=[0.01,5.18]}	0.01303681	1.0000000	1.075908
## [320]	{X_ESTDIO=[56.2,165]}	=> {AXANGINA=0}	0.01763804	1.0000000	1.075908
## [321]	{X_ESTDIO=[56.2,165]}	=> {X_IL6=[0.01,5.18]}	0.01763804	1.0000000	1.075908

## [322]	{smoke=4}	=> {AXANGINA=0}	0.03680982	1.0000000	1.075908
## [323]	{X_OM6_A=[27.2,32.9]}	=> {AXMHTRIG=0}	0.33819018	0.8032787	1.075437
## [324]	{X_A_G=[1.63,2.26]}	=> {AXMETBOL=0}	0.16641104	0.8509804	1.075270
## [325]	{X_COLHDL=[68.9,143]}	=> {AXPADI=0}	0.15874233	0.9159292	1.075042
## [326]	{X_DHEAS=[247,855]}	=> {AXBPCO=0}	0.07745399	0.9711538	1.075029
## [327]	{AXMIPERT=0}	=> {X_PALK=[0,237]}	0.35812883	0.8037866	1.075013
## [328]	{X_TIGF1=[210,466]}	=> {X_MIO=[0.1,69.4]}	0.08512270	0.8345865	1.074334
## [329]	{AXMWAIST=0}	=> {X_PALK=[0,237]}	0.49156442	0.8032581	1.074306
## [330]	{X_UCRE24=[884,1.35e+03]}	=> {AXCHF=0}	0.31748466	0.8553719	1.073537
## [331]	{X_TNFAR1=[399,1.55e+03]}	=> {X_PALK=[0,237]}	0.55214724	0.8026756	1.073527
## [332]	{SEX=1}	=> {AXMETBOL=0}	0.38113497	0.8495726	1.073491
## [333]	{XBIOATSM=[1.9,4.92]}	=> {AXMLOHDL=0}	0.22699387	0.8268156	1.072804
## [334]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXCHF=0}	0.14877301	0.8546256	1.072600
## [335]	{SEX=2}	=> {X_MIO=[0.1,69.4]}	0.45935583	0.8331015	1.072423
## [336]	{X_FIBRIN=[84,312]}	=> {AXMLOHDL=0}	0.25153374	0.8261965	1.072000
## [337]	{X_LUTEIN=[0.556,1.25]}	=> {X_U_PRO=[0,15.2]}	0.10582822	0.9517241	1.071717
## [338]	{X_DHEAS=[247,855]}	=> {X_GLU=[55,103]}	0.06901840	0.8653846	1.071663
## [339]	{X_U_PH=[6.2,8.5]}	=> {X_GLU=[55,103]}	0.16257669	0.8653061	1.071566
## [340]	{AXMIPERT=0}	=> {AXMHTRIG=0}	0.35659509	0.8003442	1.071508
## [341]	{X_IL6=[5.18,46.5]}	=> {AXVASDEM=0}	0.05061350	0.8148148	1.071087
## [342]	{X_TIGF1=[210,466]}	=> {AXMHGLUC=0}	0.09355828	0.9172932	1.070860
## [343]	{X_TIGF1=[210,466]}	=> {X_GLU=[55,103]}	0.08819018	0.8646617	1.070768
## [344]	{AXEPATOC=2}	=> {AXSTROKE=0}	0.01226994	1.0000000	1.070608
## [345]	{smoke=8}	=> {AXSTROKE=0}	0.01763804	1.0000000	1.070608
## [346]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXSTROKE=0}	0.01917178	1.0000000	1.070608
## [347]	{X_AGEL=[21,53.2]}	=> {AXANGINA=0}	0.14877301	0.9948718	1.070390
## [348]	{AXMETBOL=0}	=> {AXMHGLUC=0}	0.72546012	0.9166667	1.070128
## [349]	{AXMHGLUC=0}	=> {AXMETBOL=0}	0.72546012	0.8469114	1.070128
## [350]	{AXMI=1}	=> {X_PALK=[0,237]}	0.03067485	0.8000000	1.069949
## [351]	{X_ATOCSR=[40.8,77.1]}	=> {AXVASDEM=0}	0.11733129	0.8138298	1.069792
## [352]	{X_UBPA24=[8.16,29.1]}	=> {AXCHF=0}	0.14493865	0.8513514	1.068491
## [353]	{X_OM6_A=[32.9,44.9]}	=> {X_GLU=[55,103]}	0.21702454	0.8628049	1.068469
## [354]	{X_UCOR24=[103,247]}	=> {X_U_PRO=[0,15.2]}	0.36963190	0.9488189	1.068445
## [355]	{X_DHEAS=[105,247]}	=> {X_MIO=[0.1,69.4]}	0.23542945	0.8297297	1.068082
## [356]	{XBIOATSM=[4.92,15.6]}	=> {AXMHGLUC=0}	0.09892638	0.9148936	1.068058
## [357]	{X_A_G=[1.63,2.26]}	=> {AXPADI=0}	0.17791411	0.9098039	1.067853
## [358]	{X_U_PH=[6.2,8.5]}	=> {AXMETBOL=0}	0.15874233	0.8448980	1.067584
## [359]	{XBIOATSM=[4.92,15.6]}	=> {AXMLOHDL=0}	0.08895706	0.8226950	1.067457
## [360]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {X_U_PRO=[0,15.2]}	0.16487730	0.9471366	1.066551
## [361]	{X_DHEAS=[247,855]}	=> {AXMHGLUC=0}	0.07285276	0.9134615	1.066387
## [362]	{smoke=10}	=> {AXMETBOL=0}	0.06211656	0.8437500	1.066134
## [363]	{AXMIPERT=0}	=> {X_MIO=[0.1,69.4]}	0.36886503	0.8278830	1.065705
## [364]	{X_DHEAS=[247,855]}	=> {AXANGINA=0}	0.07898773	0.9903846	1.065562
## [365]	{X_ATOCSR=[11.3,31.2]}	=> {AXMETBOL=0}	0.34662577	0.8432836	1.065544
## [366]	{X_TIGF1=[210,466]}	=> {AXBPCO=0}	0.09815951	0.9624060	1.065346
## [367]	{AXMIPERT=0}	=> {AXMLOHDL=0}	0.36579755	0.8209983	1.065255
## [368]	{X_UBPA24=[8.16,29.1]}	=> {X_U_PRO=[0,15.2]}	0.16104294	0.9459459	1.065210
## [369]	{X_U_PH=[6.2,8.5]}	=> {AXMLOHDL=0}	0.15414110	0.8204082	1.064490
## [370]	{X_COLHDL=[68.9,143]}	=> {AXMHGLUC=0}	0.15797546	0.9115044	1.064102
## [371]	{AXASTHMA=0}	=> {AXBPCO=0}	0.83742331	0.9612676	1.064086
## [372]	{AXBPCO=0}	=> {AXASTHMA=0}	0.83742331	0.9269949	1.064086
## [373]	{AXVASDEM=9}	=> {AXANGINA=0}	0.20628834	0.9889706	1.064041
## [374]	{AXDEMENT=9}	=> {AXANGINA=0}	0.20628834	0.9889706	1.064041
## [375]	{X_UBPA24=[8.16,29.1]}	=> {AXMLOHDL=0}	0.13957055	0.8198198	1.063726

## [376]	{AXMIPERT=0}	=> {X_GLU=[55,103]}	0.38266871	0.8588640	1.063589
## [377]	{X_TNFAR1=[399,1.55e+03]}	=> {AXCHF=0}	0.58282209	0.8472687	1.063367
## [378]	{X_LUTEIN=[0.556,1.25]}	=> {AXMETBOL=0}	0.09355828	0.8413793	1.063138
## [379]	{X_INSULN=[1.65,11.2]}	=> {AXMETBOL=0}	0.49846626	0.8408797	1.062507
## [380]	{X_A_G=[1.63,2.26]}	=> {AXASTHMA=0}	0.18098160	0.9254902	1.062358
## [381]	{SEX=2}	=> {AXBPCO=0}	0.52914110	0.9596662	1.062313
## [382]	{X_FIBRIN=[84,312]}	=> {AXCHF=0}	0.25766871	0.8463476	1.062211
## [383]	{X_TNFAR1=[399,1.55e+03]}	=> {AXMLOHDL=0}	0.56288344	0.8182832	1.061733
## [384]	{X_COLLDL=[119,163]}	=> {AXVASDEM=0}	0.37653374	0.8075658	1.061558
## [385]	{X_OM6_A=[32.9,44.9]}	=> {AXMHGLUC=0}	0.22852761	0.9085366	1.060637
## [386]	{AXMIPERT=0}	=> {AXPADI=0}	0.40260736	0.9036145	1.060588
## [387]	{X_COLLDL=[163,298]}	=> {AXVASDEM=0}	0.14723926	0.8067227	1.060450
## [388]	{SEX=1}	=> {AXMLOHDL=0}	0.36656442	0.8170940	1.060190
## [389]	{X_COLLDL=[163,298]}	=> {AXCHF=0}	0.15414110	0.8445378	1.059940
## [390]	{X_LUTEIN=[0.348,0.556]}	=> {AXMLOHDL=0}	0.33512270	0.8168224	1.059837
## [391]	{X_TIGF1=[210,466]}	=> {AXANGINA=0}	0.10046012	0.9849624	1.059729
## [392]	{smoke=2}	=> {AXASTHMA=0}	0.02760736	0.9230769	1.059588
## [393]	{X_A_G=[1.63,2.26]}	=> {X_IL6=[0.01,5.18]}	0.19248466	0.9843137	1.059031
## [394]	{X_ESTDIO=[56.2,165]}	=> {AXBPCO=0}	0.01687117	0.9565217	1.058832
## [395]	{XBIOATSM=[0.00304,1.9]}	=> {X_MIO=[0.1,69.4]}	0.48696319	0.8225389	1.058826
## [396]	{X_OM6_A=[27.2,32.9]}	=> {AXMETBOL=0}	0.35276074	0.8378871	1.058726
## [397]	{BMI=NaN}	=> {AXPADI=0}	0.03527607	0.9019608	1.058647
## [398]	{X_TIGF1=[210,466]}	=> {X_U_PRO=[0,15.2]}	0.09585890	0.9398496	1.058345
## [399]	{X_FIBRIN=[84,312]}	=> {X_GLU=[55,103]}	0.25996933	0.8539043	1.057447
## [400]	{X_COLHDL=[68.9,143]}	=> {X_IL6=[0.01,5.18]}	0.17024540	0.9823009	1.056865
## [401]	{X_UBPA24=[0.584,8.16]}	=> {AXVASDEM=0}	0.53374233	0.8036952	1.056470
## [402]	{X_UCRE24=[884,1.35e+03]}	=> {X_U_PRO=[0,15.2]}	0.34815951	0.9380165	1.056281
## [403]	{AXBPCO=2}	=> {X_MIO=[0.1,69.4]}	0.02453988	0.8205128	1.056218
## [404]	{AXEPATOC=2}	=> {X_U_PRO=[0,15.2]}	0.01150307	0.9375000	1.055699
## [405]	{smoke=7}	=> {X_U_PRO=[0,15.2]}	0.01150307	0.9375000	1.055699
## [406]	{X_FIBRIN=[84,312]}	=> {AXPADI=0}	0.27377301	0.8992443	1.055459
## [407]	{AXVASDEM=9}	=> {AXSTROKE=0}	0.20552147	0.9852941	1.054863
## [408]	{AXDEMENT=9}	=> {AXSTROKE=0}	0.20552147	0.9852941	1.054863
## [409]	{X_AGEL=[21,53.2]}	=> {AXSTROKE=0}	0.14723926	0.9846154	1.054137
## [410]	{X_AGEL=[21,53.2]}	=> {X_IL6=[0.01,5.18]}	0.14647239	0.9794872	1.053838
## [411]	{X_OM6_A=[27.2,32.9]}	=> {AXVASDEM=0}	0.33742331	0.8014572	1.053528
## [412]	{X_ATOCSR=[40.8,77.1]}	=> {X_IL6=[0.01,5.18]}	0.14110429	0.9787234	1.053016
## [413]	{X_ESTDIO=[56.2,165]}	=> {AXCANCER=0}	0.01763804	1.0000000	1.052462
## [414]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXCANCER=0}	0.01917178	1.0000000	1.052462
## [415]	{AXASTHMA=1}	=> {AXCANCER=0}	0.04064417	1.0000000	1.052462
## [416]	{X_COLTOT=[239,387]}	=> {X_MIO=[0.1,69.4]}	0.22315951	0.8174157	1.052231
## [417]	{AXVASDEM=9}	=> {X_IL6=[0.01,5.18]}	0.20398773	0.9779412	1.052174
## [418]	{AXDEMENT=9}	=> {X_IL6=[0.01,5.18]}	0.20398773	0.9779412	1.052174
## [419]	{X_DHEAS=[105,247]}	=> {AXMLOHDL=0}	0.23006135	0.8108108	1.052037
## [420]	{X_FIBRIN=[312,408]}	=> {AXVASDEM=0}	0.38726994	0.8003170	1.052030
## [421]	{XBIOATSM=[1.9,4.92]}	=> {AXMETBOL=0}	0.22852761	0.8324022	1.051795
## [422]	{X_COLLDL=[163,298]}	=> {AXASTHMA=0}	0.16717791	0.9159664	1.051426
## [423]	{smoke=6}	=> {AXMHGLUC=0}	0.02070552	0.9000000	1.050671
## [424]	{AXMWAIST=0}	=> {X_GLU=[55,103]}	0.51917178	0.8483709	1.050594
## [425]	{X_COLLDL=[19,119]}	=> {AXPADI=0}	0.30751534	0.8950893	1.050582
## [426]	{X_TIGF1=[210,466]}	=> {AXPADI=0}	0.09125767	0.8947368	1.050168
## [427]	{X_COLLDL=[163,298]}	=> {AXMHGLUC=0}	0.16411043	0.8991597	1.049690
## [428]	{X_UBPA24=[8.16,29.1]}	=> {X_MIO=[0.1,69.4]}	0.13880368	0.8153153	1.049527
## [429]	{X_INSULN=[1.65,11.2]}	=> {AXMLOHDL=0}	0.47929448	0.8085382	1.049088



## [430]	{X_INSULN=[11.2,23.8]}	=> {X_MIO=[0.1,69.4]}	0.27684049	0.8148984	1.048991
## [431]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {X_U_PRO=[0,15.2]}	0.05214724	0.9315068	1.048951
## [432]	{AXMHTRIG=0}	=> {X_GLU=[55,103]}	0.63266871	0.8470226	1.048924
## [433]	{X_INSULN=[1.65,11.2]}	=> {AXCHF=0}	0.49539877	0.8357050	1.048854
## [434]	{X_TRIGLI=[29,140]}	=> {X_GLU=[55,103]}	0.58819018	0.8465784	1.048374
## [435]	{X_COLLDL=[163,298]}	=> {AXSTROKE=0}	0.17868098	0.9789916	1.048116
## [436]	{AXBPCO=2}	=> {X_GLU=[55,103]}	0.02530675	0.8461538	1.047849
## [437]	{X_ATOCSR=[31.2,40.8]}	=> {AXMLOHDL=0}	0.34432515	0.8075540	1.047811
## [438]	{X_INSULN=[23.8,55.6]}	=> {X_MIO=[0.1,69.4]}	0.02684049	0.8139535	1.047774
## [439]	{smoke=NaN}	=> {AXBPCO=0}	0.54217791	0.9464525	1.047686
## [440]	{X_TNFA=[20.6,131]}	=> {AXMHGLUC=0}	0.02684049	0.8974359	1.047678
## [441]	{X_UCOR24=[103,247]}	=> {AXMLOHDL=0}	0.31441718	0.8070866	1.047205
## [442]	{X_FIBRIN=[84,312]}	=> {AXMETBOL=0}	0.25230061	0.8287154	1.047136
## [443]	{X_AGEL=[21,53.2]}	=> {AXCANCER=0}	0.14877301	0.9948718	1.047064
## [444]	{X_TNFAR1=[399,1.55e+03]}	=> {AXMETBOL=0}	0.56978528	0.8283166	1.046633
## [445]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXANGINA=0}	0.05444785	0.9726027	1.046431
## [446]	{X_OM6_A=[32.9,44.9]}	=> {AXASTHMA=0}	0.22929448	0.9115854	1.046397
## [447]	{X_OM6_A=[32.9,44.9]}	=> {X_IL6=[0.01,5.18]}	0.24463190	0.9725610	1.046386
## [448]	{X_A_G=[1.63,2.26]}	=> {AXANGINA=0}	0.19018405	0.9725490	1.046373
## [449]	{X_FIBRIN=[84,312]}	=> {X_IL6=[0.01,5.18]}	0.29601227	0.9722922	1.046097
## [450]	{X_ESTDIO=[14.1,56.2]}	=> {AXMLOHDL=0}	0.18174847	0.8061224	1.045954
## [451]	{X_COLLDL=[163,298]}	=> {X_U_PRO=[0,15.2]}	0.16947853	0.9285714	1.045645
## [452]	{X_UCRE24=[884,1.35e+03]}	=> {AXMLOHDL=0}	0.29907975	0.8057851	1.045516
## [453]	{AXPADI=2}	=> {AXBPCO=0}	0.05214724	0.94444444	1.045463
## [454]	{X_A_G=[1.63,2.26]}	=> {AXSTROKE=0}	0.19095092	0.9764706	1.045417
## [455]	{X_COLTOT=[190,239]}	=> {AXMLOHDL=0}	0.37193252	0.8056478	1.045338
## [456]	{XBIOATSM=[4.92,15.6]}	=> {X_GLU=[55,103]}	0.09125767	0.8439716	1.045146
## [457]	{AXPARK=1}	=> {AXMI=0}	0.01073620	1.0000000	1.044872
## [458]	{smoke=7}	=> {AXMI=0}	0.01226994	1.0000000	1.044872
## [459]	{X_UBPA24=[29.1,148]}	=> {AXMI=0}	0.01303681	1.0000000	1.044872
## [460]	{X_ESTDIO=[56.2,165]}	=> {AXMI=0}	0.01763804	1.0000000	1.044872
## [461]	{AXSTROKE=3}	=> {AXMI=0}	0.01840491	1.0000000	1.044872
## [462]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXMI=0}	0.01917178	1.0000000	1.044872
## [463]	{X_UCOR24=[247,833]}	=> {AXMI=0}	0.02070552	1.0000000	1.044872
## [464]	{AXVASDEM=1}	=> {AXMI=0}	0.03067485	1.0000000	1.044872
## [465]	{BMI=NaN}	=> {AXMI=0}	0.03911043	1.0000000	1.044872
## [466]	{X_DHEAS=[247,855]}	=> {X_IL6=[0.01,5.18]}	0.07745399	0.9711538	1.044872
## [467]	{AXVASDEM=9}	=> {AXCANCER=0}	0.20705521	0.9926471	1.044723
## [468]	{AXDEMENT=9}	=> {AXCANCER=0}	0.20705521	0.9926471	1.044723
## [469]	{X_AGEL=[21,53.2]}	=> {AXMLOHDL=0}	0.12039877	0.8051282	1.044664
## [470]	{X_FIBRIN=[84,312]}	=> {X_MIO=[0.1,69.4]}	0.24693252	0.8110831	1.044079
## [471]	{AXBPCO=1}	=> {AXMLOHDL=0}	0.05368098	0.8045977	1.043976
## [472]	{X_FIBRIN=[84,312]}	=> {AXMHGLUC=0}	0.27223926	0.8942065	1.043908
## [473]	{smoke=5}	=> {AXCHF=0}	0.06441718	0.8316832	1.043806
## [474]	{X_TNFAR1=[399,1.55e+03]}	=> {AXMHGLUC=0}	0.61503067	0.8940914	1.043774
## [475]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXBPCO=0}	0.16411043	0.9427313	1.043567
## [476]	{X_TNFAR1=[399,1.55e+03]}	=> {X_IL6=[0.01,5.18]}	0.66717791	0.9698997	1.043522
## [477]	{smoke=2}	=> {AXSTROKE=0}	0.02914110	0.9743590	1.043156
## [478]	{X_LUTEIN=[0.348,0.556]}	=> {AXMHGLUC=0}	0.36656442	0.8934579	1.043034
## [479]	{X_UCRE24=[884,1.35e+03]}	=> {X_MIO=[0.1,69.4]}	0.30061350	0.8099174	1.042579
## [480]	{X_TNFAR1=[399,1.55e+03]}	=> {X_GLU=[55,103]}	0.57898773	0.8416945	1.042326
## [481]	{smoke=10}	=> {AXANGINA=0}	0.07131902	0.9687500	1.042285
## [482]	{AXCANCER=1}	=> {AXASTHMA=0}	0.04524540	0.9076923	1.041928
## [483]	{X_COLLDL=[163,298]}	=> {AXBPCO=0}	0.17177914	0.9411765	1.041846

## [484]	{X_A_G=[1.63,2.26]}	=> {AXBPC0=0}	0.18404908	0.9411765	1.041846
## [485]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXASTHMA=0}	0.15797546	0.9074890	1.041695
## [486]	{X_LUTEIN=[0.348,0.556]}	=> {X_GLU=[55,103]}	0.34509202	0.8411215	1.041617
## [487]	{X_DHEAS=[105,247]}	=> {AXMETBOL=0}	0.23389571	0.8243243	1.041588
## [488]	{X_ATOCRS=[40.8,77.1]}	=> {AXCHF=0}	0.11963190	0.8297872	1.041427
## [489]	{X_COLLDL=[119,163]}	=> {AXMLOHDL=0}	0.37423313	0.8026316	1.041424
## [490]	{X_UBPA24=[8.16,29.1]}	=> {AXMHGLUC=0}	0.15184049	0.8918919	1.041206
## [491]	{X_DHEAS=[105,247]}	=> {AXMHGLUC=0}	0.25306748	0.8918919	1.041206
## [492]	{X_INSULN=[23.8,55.6]}	=> {AXASTHMA=0}	0.02990798	0.9069767	1.041107
## [493]	{X_COLTOT=[239,387]}	=> {X_U_PRO=[0,15.2]}	0.25230061	0.9241573	1.040675
## [494]	{X_DHEAS=[105,247]}	=> {AXPADI=0}	0.25153374	0.8864865	1.040485
## [495]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXMLOHDL=0}	0.13957055	0.8017621	1.040296
## [496]	{X_AGEL=[53.2,76.1]}	=> {AXCHF=0}	0.47162577	0.8288410	1.040239
## [497]	{X_ESTDIO=[14.1,56.2]}	=> {AXMETBOL=0}	0.18558282	0.8231293	1.040078
## [498]	{smoke=7}	=> {X_TNFA=[0,20.6]}	0.01226994	1.0000000	1.039872
## [499]	{X_TRIGLI=[317,1.29e+03]}	=> {X_TNFA=[0,20.6]}	0.02147239	1.0000000	1.039872
## [500]	{X_COLLDL=[163,298]}	=> {X_IL6=[0.01,5.18]}	0.17638037	0.9663866	1.039743
## [501]	{X_DHEAS=[247,855]}	=> {AXSTROKE=0}	0.07745399	0.9711538	1.039725
## [502]	{X_U_PH=[4.5,5.34]}	=> {AXANGINA=0}	0.24156442	0.9662577	1.039604
## [503]	{X_U_PH=[4.5,5.34]}	=> {X_IL6=[0.01,5.18]}	0.24156442	0.9662577	1.039604
## [504]	{X_AGEL=[21,53.2]}	=> {AXMI=0}	0.14877301	0.9948718	1.039513
## [505]	{AXBPC0=2}	=> {X_U_PRO=[0,15.2]}	0.02760736	0.9230769	1.039458
## [506]	{X_A_G=[1.63,2.26]}	=> {X_GLU=[55,103]}	0.16411043	0.8392157	1.039257
## [507]	{AXMIPERT=0}	=> {AXMHGLUC=0}	0.39647239	0.8898451	1.038816
## [508]	{X_U_PH=[6.2,8.5]}	=> {AXMHGLUC=0}	0.16717791	0.8897959	1.038759
## [509]	{X_AGEL=[53.2,76.1]}	=> {X_U_PRO=[0,15.2]}	0.52453988	0.9218329	1.038057
## [510]	{X_UBPA24=[0.584,8.16]}	=> {X_U_PRO=[0,15.2]}	0.61196319	0.9214781	1.037658
## [511]	{X_TNFAR1=[399,1.55e+03]}	=> {AXPADI=0}	0.60812883	0.8840580	1.037634
## [512]	{X_A_G=[1.36,1.63]}	=> {X_U_PRO=[0,15.2]}	0.44708589	0.9210111	1.037132
## [513]	{X_UBPA24=[8.16,29.1]}	=> {AXSTROKE=0}	0.16487730	0.9684685	1.036850
## [514]	{XBIOATSM=[0.00304,1.9]}	=> {AXBPC0=0}	0.55444785	0.9365285	1.036700
## [515]	{X_UCOR24=[247,833]}	=> {AXANGINA=0}	0.01993865	0.9629630	1.036059
## [516]	{X_TIGF1=[210,466]}	=> {X_IL6=[0.01,5.18]}	0.09815951	0.9624060	1.035460
## [517]	{X_PALK=[0,237]}	=> {AXPADI=0}	0.65950920	0.8820513	1.035279
## [518]	{X_U_PH=[4.5,5.34]}	=> {AXASTHMA=0}	0.22546012	0.9018405	1.035211
## [519]	{AXPADI=1}	=> {AXCANCER=0}	0.09125767	0.9834711	1.035066
## [520]	{smoke=6}	=> {AXSTROKE=0}	0.02223926	0.9666667	1.034921
## [521]	{XBIOATSM=[1.9,4.92]}	=> {X_U_PRO=[0,15.2]}	0.25230061	0.9189944	1.034861
## [522]	{X_DHEAS=[247,855]}	=> {AXMI=0}	0.07898773	0.9903846	1.034825
## [523]	{X_OM6_A=[32.9,44.9]}	=> {AXSTROKE=0}	0.24309816	0.9664634	1.034703
## [524]	{AXCHF=0}	=> {AXANGINA=0}	0.76610429	0.9615014	1.034487
## [525]	{AXANGINA=0}	=> {AXCHF=0}	0.76610429	0.8242574	1.034487
## [526]	{X_PALK=[0,237]}	=> {AXMETBOL=0}	0.61196319	0.8184615	1.034180
## [527]	{AXMWAIST=1}	=> {X_U_PRO=[0,15.2]}	0.31058282	0.9183673	1.034155
## [528]	{X_COLTOT=[82,190]}	=> {AXPADI=0}	0.22699387	0.8809524	1.033989
## [529]	{smoke=NaN}	=> {AXPADI=0}	0.50460123	0.8808568	1.033877
## [530]	{AXMLOHDL=0}	=> {X_GLU=[55,103]}	0.64340491	0.8348259	1.033820
## [531]	{X_UCRE24=[884,1.35e+03]}	=> {X_IL6=[0.01,5.18]}	0.35659509	0.9607438	1.033672
## [532]	{X_OM6_A=[32.9,44.9]}	=> {X_U_PRO=[0,15.2]}	0.23082822	0.9176829	1.033384
## [533]	{AXVASDEM=9}	=> {AXMI=0}	0.20628834	0.9889706	1.033347
## [534]	{AXDEMENT=9}	=> {AXMI=0}	0.20628834	0.9889706	1.033347
## [535]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {X_IL6=[0.01,5.18]}	0.16717791	0.9603524	1.033250
## [536]	{AXMHTRIG=0}	=> {AXMHGLUC=0}	0.66104294	0.8850103	1.033172
## [537]	{X_COLLDL=[163,298]}	=> {X_MIO=[0.1,69.4]}	0.14647239	0.8025210	1.033058

## [538]	{smoke=3}	=> {AXSTROKE=0}	0.04217791	0.9649123	1.033042
## [539]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXANGINA=0}	0.01840491	0.9600000	1.032871
## [540]	{X_UGUA24=[2.65e+03,5e+03]}	=> {X_IL6=[0.01,5.18]}	0.01840491	0.9600000	1.032871
## [541]	{X_PALK=[0,237]}	=> {X_GLU=[55,103]}	0.62346626	0.8338462	1.032607
## [542]	{smoke=4}	=> {X_U_PRO=[0,15.2]}	0.03374233	0.9166667	1.032239
## [543]	{AXPADI=2}	=> {X_U_PRO=[0,15.2]}	0.05061350	0.9166667	1.032239
## [544]	{X_DHEAS=[247,855]}	=> {AXCANCER=0}	0.07822086	0.9807692	1.032222
## [545]	{XBIOATSM=[4.92,15.6]}	=> {AXPADI=0}	0.09509202	0.8794326	1.032205
## [546]	{X_TIGF1=[210,466]}	=> {X_TNFA=[0,20.6]}	0.10122699	0.9924812	1.032054
## [547]	{smoke=4}	=> {X_GLU=[55,103]}	0.03067485	0.8333333	1.031972
## [548]	{XBIOATSM=[4.92,15.6]}	=> {X_MIO=[0.1,69.4]}	0.08665644	0.8014184	1.031638
## [549]	{X_COLHDL=[68.9,143]}	=> {X_U_PRO=[0,15.2]}	0.15874233	0.9159292	1.031409
## [550]	{AXCHF=0}	=> {AXPADI=0}	0.70015337	0.8787295	1.031380
## [551]	{AXPADI=0}	=> {AXCHF=0}	0.70015337	0.8217822	1.031380
## [552]	{AXMWAIST=0}	=> {AXMHGLUC=0}	0.54064417	0.8834586	1.031361
## [553]	{X_TRIGLI=[29,140]}	=> {AXPADI=0}	0.61042945	0.8785872	1.031213
## [554]	{X_UCRE24=[884,1.35e+03]}	=> {X_GLU=[55,103]}	0.30904908	0.8326446	1.031119
## [555]	{AXSTROKE=3}	=> {AXANGINA=0}	0.01763804	0.9583333	1.031078
## [556]	{X_UCOR24=[247,833]}	=> {AXSTROKE=0}	0.01993865	0.9629630	1.030955
## [557]	{X_DHEAS=[105,247]}	=> {X_GLU=[55,103]}	0.23619632	0.8324324	1.030856
## [558]	{X_TRIGLI=[29,140]}	=> {AXMHGLUC=0}	0.61349693	0.8830022	1.030828
## [559]	{AXCHF=0}	=> {AXMI=0}	0.78604294	0.9865255	1.030793
## [560]	{AXMI=0}	=> {AXCHF=0}	0.78604294	0.8213141	1.030793
## [561]	{X_ATOCRS=[40.8,77.1]}	=> {AXSTROKE=0}	0.13880368	0.9627660	1.030745
## [562]	{X_LUTEIN=[0.556,1.25]}	=> {AXMHGLUC=0}	0.09815951	0.8827586	1.030544
## [563]	{X_UCOR24=[103,247]}	=> {AXPADI=0}	0.34202454	0.8779528	1.030468
## [564]	{X_ATOCRS=[40.8,77.1]}	=> {AXBPCO=0}	0.13420245	0.9308511	1.030416
## [565]	{X_TIGF1=[210,466]}	=> {AXSTROKE=0}	0.09815951	0.9624060	1.030359
## [566]	{X_INSULN=[1.65,11.2]}	=> {X_GLU=[55,103]}	0.49309816	0.8318241	1.030103
## [567]	{X_OM6_A=[32.9,44.9]}	=> {AXANGINA=0}	0.24079755	0.9573171	1.029985
## [568]	{smoke=6}	=> {X_MIO=[0.1,69.4]}	0.01840491	0.8000000	1.029812
## [569]	{smoke=2}	=> {AXCHF=0}	0.02453988	0.8205128	1.029787
## [570]	{smoke=5}	=> {X_TNFA=[0,20.6]}	0.07668712	0.9900990	1.029577
## [571]	{X_INSULN=[11.2,23.8]}	=> {X_U_PRO=[0,15.2]}	0.31058282	0.9142212	1.029486
## [572]	{smoke=8}	=> {X_IL6=[0.01,5.18]}	0.01687117	0.9565217	1.029129
## [573]	{X_A_G=[1.36,1.63]}	=> {AXMHGLUC=0}	0.42791411	0.8815166	1.029094
## [574]	{X_OM6_A=[32.9,44.9]}	=> {AXMI=0}	0.24769939	0.9847561	1.028944
## [575]	{AXMWAIST=9}	=> {AXMI=0}	0.04907975	0.9846154	1.028797
## [576]	{AXMLOHDL=1}	=> {AXASTHMA=0}	0.19861963	0.8961938	1.028729
## [577]	{X_TIGF1=[210,466]}	=> {AXCANCER=0}	0.09969325	0.9774436	1.028722
## [578]	{X_DHEAS=[105,247]}	=> {X_U_PRO=[0,15.2]}	0.25920245	0.9135135	1.028689
## [579]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXMHGLUC=0}	0.15337423	0.8810573	1.028557
## [580]	{X_PALK=[0,237]}	=> {AXCHF=0}	0.61273006	0.8194872	1.028500
## [581]	{AXANGINA=2}	=> {AXMETBOL=0}	0.02684049	0.8139535	1.028484
## [582]	{AXDEMENT=1}	=> {AXMI=0}	0.04754601	0.9841270	1.028287
## [583]	{XBIOATSM=[0.00304,1.9]}	=> {X_GLU=[55,103]}	0.49156442	0.8303109	1.028229
## [584]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXSTROKE=0}	0.16717791	0.9603524	1.028161
## [585]	{X_ESTDIO=[56.2,165]}	=> {X_U_PRO=[0,15.2]}	0.01610429	0.9130435	1.028159
## [586]	{AXCHF=2}	=> {X_U_PRO=[0,15.2]}	0.14493865	0.9130435	1.028159
## [587]	{AXANGINA=2}	=> {AXCANCER=0}	0.03220859	0.9767442	1.027986
## [588]	{X_COLHDL=[68.9,143]}	=> {AXSTROKE=0}	0.16641104	0.9601770	1.027973
## [589]	{AXBPCO=1}	=> {X_TNFA=[0,20.6]}	0.06595092	0.9885057	1.027920
## [590]	{X_COLTOT=[239,387]}	=> {X_IL6=[0.01,5.18]}	0.26073620	0.9550562	1.027552
## [591]	{X_FIBRIN=[84,312]}	=> {AXSTROKE=0}	0.29217791	0.9596977	1.027460

## [592]	{X_COLHDL=[49.8,68.9]}	=> {X_GLU=[55,103]}	0.37730061	0.8296796	1.027447
## [593]	{X_ESTDIO=[14.1,56.2]}	=> {AXCANCER=0}	0.22009202	0.9761905	1.027403
## [594]	{X_PALK=[0,237]}	=> {AXMHGLUC=0}	0.65797546	0.8800000	1.027323
## [595]	{smoke=3}	=> {X_U_PRO=[0,15.2]}	0.03987730	0.9122807	1.027301
## [596]	{X_UCOR24=[103,247]}	=> {X_IL6=[0.01,5.18]}	0.37193252	0.9547244	1.027195
## [597]	{AXEPATOC=2}	=> {AXPADI=0}	0.01073620	0.8750000	1.027003
## [598]	{smoke=7}	=> {AXPADI=0}	0.01073620	0.8750000	1.027003
## [599]	{AXMETBOL=0}	=> {AXPADI=0}	0.69248466	0.8750000	1.027003
## [600]	{AXPADI=0}	=> {AXMETBOL=0}	0.69248466	0.8127813	1.027003
## [601]	{X_COLLDL=[19,119]}	=> {AXMETBOL=0}	0.27914110	0.8125000	1.026647
## [602]	{smoke=3}	=> {AXMI=0}	0.04294479	0.9824561	1.026541
## [603]	{X_INSULN=[1.65,11.2]}	=> {AXPADI=0}	0.51840491	0.8745149	1.026433
## [604]	{X_OM6_A=[27.2,32.9]}	=> {X_GLU=[55,103]}	0.34892638	0.8287796	1.026333
## [605]	{XBIOATSM=[1.9,4.92]}	=> {AXCANCER=0}	0.26763804	0.9748603	1.026003
## [606]	{X_OM6_A=[32.9,44.9]}	=> {AXBPCO=0}	0.23312883	0.9268293	1.025964
## [607]	{AXMIPERT=0}	=> {AXANGINA=0}	0.42484663	0.9535284	1.025908
## [608]	{AXMLOHDL=0}	=> {AXMHGLUC=0}	0.67714724	0.8786070	1.025697
## [609]	{X_UBPA24=[8.16,29.1]}	=> {AXPADI=0}	0.14877301	0.8738739	1.025681
## [610]	{X_TNFAR1=[399,1.55e+03]}	=> {X_U_PRO=[0,15.2]}	0.62653374	0.9108138	1.025649
## [611]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {X_TNFA=[0,20.6]}	0.05521472	0.9863014	1.025628
## [612]	{X_A_G=[1.63,2.26]}	=> {AXMHGLUC=0}	0.17177914	0.8784314	1.025492
## [613]	{AXBPCO=2}	=> {AXCANCER=0}	0.02914110	0.9743590	1.025475
## [614]	{AXASTHMA=0}	=> {AXCHF=0}	0.71165644	0.8169014	1.025255
## [615]	{AXCHF=0}	=> {AXASTHMA=0}	0.71165644	0.8931665	1.025255
## [616]	{X_TNFAR1=[399,1.55e+03]}	=> {AXSTROKE=0}	0.65874233	0.9576366	1.025253
## [617]	{smoke=20}	=> {X_U_PRO=[0,15.2]}	0.04677914	0.9104478	1.025237
## [618]	{AXMLOHDL=0}	=> {X_U_PRO=[0,15.2]}	0.70168712	0.9104478	1.025237
## [619]	{AXMETBOL=0}	=> {AXCHF=0}	0.64647239	0.8168605	1.025203
## [620]	{AXCHF=0}	=> {AXMETBOL=0}	0.64647239	0.8113571	1.025203
## [621]	{AXMWAIST=0}	=> {AXPADI=0}	0.53450920	0.8734336	1.025164
## [622]	{X_LUTEIN=[0.348,0.556]}	=> {AXCHF=0}	0.33512270	0.8168224	1.025155
## [623]	{X_LUTEIN=[0.348,0.556]}	=> {X_U_PRO=[0,15.2]}	0.37346626	0.9102804	1.025048
## [624]	{X_A_G=[1.36,1.63]}	=> {X_IL6=[0.01,5.18]}	0.46242331	0.9526066	1.024917
## [625]	{X_LUTEIN=[0.556,1.25]}	=> {X_GLU=[55,103]}	0.09202454	0.8275862	1.024855
## [626]	{X_UCOR24=[103,247]}	=> {AXMETBOL=0}	0.31595092	0.8110236	1.024782
## [627]	{X_UGUA24=[37,1.24e+03]}	=> {X_U_PRO=[0,15.2]}	0.06978528	0.9100000	1.024732
## [628]	{X_ATOCSR=[31.2,40.8]}	=> {AXMHGLUC=0}	0.37423313	0.8776978	1.024636
## [629]	{X_ATOCSR=[40.8,77.1]}	=> {AXMHGLUC=0}	0.12653374	0.8776596	1.024591
## [630]	{X_COLTOT=[190,239]}	=> {X_GLU=[55,103]}	0.38190184	0.8272425	1.024429
## [631]	{X_A_G=[1.63,2.26]}	=> {AXMI=0}	0.19171779	0.9803922	1.024384
## [632]	{X_DHEAS=[105,247]}	=> {AXSTROKE=0}	0.27147239	0.9567568	1.024311
## [633]	{AXMHRIG=0}	=> {AXPADI=0}	0.65184049	0.8726899	1.024291
## [634]	{X_ATOCSR=[40.8,77.1]}	=> {X_U_PRO=[0,15.2]}	0.13113497	0.9095745	1.024253
## [635]	{X_LUTEIN=[0.348,0.556]}	=> {AXBPCO=0}	0.37960123	0.9252336	1.024198
## [636]	{AXMWAIST=1}	=> {AXBPCO=0}	0.31288344	0.9251701	1.024127
## [637]	{X_U_PH=[4.5,5.34]}	=> {AXCHF=0}	0.20398773	0.8159509	1.024062
## [638]	{X_ESTDIO=[56.2,165]}	=> {AXSTROKE=0}	0.01687117	0.9565217	1.024059
## [639]	{X_LUTEIN=[0.556,1.25]}	=> {X_IL6=[0.01,5.18]}	0.10582822	0.9517241	1.023967
## [640]	{X_FIBRIN=[84,312]}	=> {X_U_PRO=[0,15.2]}	0.27684049	0.9093199	1.023966
## [641]	{X_COLHDL=[49.8,68.9]}	=> {AXMHGLUC=0}	0.39877301	0.8768971	1.023701
## [642]	{X_COLTOT=[239,387]}	=> {AXMHGLUC=0}	0.23926380	0.8764045	1.023126
## [643]	{smoke=4}	=> {AXMI=0}	0.03604294	0.9791667	1.023104
## [644]	{X_COLTOT=[82,190]}	=> {AXMETBOL=0}	0.20858896	0.8095238	1.022887
## [645]	{X_FIBRIN=[312,408]}	=> {AXBPCO=0}	0.44708589	0.9239303	1.022755

## [646]	{smoke=5}	=> {AXANGINA=0}	0.07361963	0.9504950	1.022645
## [647]	{X_ATO CRS=[11.3,31.2]}	=> {AXPAD I=0}	0.35812883	0.8712687	1.022623
## [648]	{X_UBPA24=[8.16,29.1]}	=> {X_IL6=[0.01,5.18]}	0.16180982	0.9504505	1.022597
## [649]	{X_U_PH=[6.2,8.5]}	=> {AXSTROKE=0}	0.17944785	0.9551020	1.022539
## [650]	{X_INSULN=[1.65,11.2]}	=> {AXMHGLUC=0}	0.51917178	0.8758085	1.022430
## [651]	{X_FIBRIN=[312,408]}	=> {AXASTHMA=0}	0.43098160	0.8906498	1.022366
## [652]	{X_PALK=[0,237]}	=> {AXSTROKE=0}	0.71395706	0.9548718	1.022293
## [653]	{X_COLTOT=[190,239]}	=> {X_IL6=[0.01,5.18]}	0.43865031	0.9501661	1.022291
## [654]	{X_MIO=[0.1,69.4]}	=> {X_GLU=[55,103]}	0.64110429	0.8252715	1.021989
## [655]	{SEX=2}	=> {AXPAD I=0}	0.48006135	0.8706537	1.021901
## [656]	{smoke=NaN}	=> {AXASTHMA=0}	0.50996933	0.8902276	1.021881
## [657]	{X_PALK=[0,237]}	=> {X_IL6=[0.01,5.18]}	0.71012270	0.9497436	1.021836
## [658]	{X_TNFA=[20.6,131]}	=> {AXBPCO=0}	0.02760736	0.9230769	1.021810
## [659]	{smoke=2}	=> {AXBPCO=0}	0.02760736	0.9230769	1.021810
## [660]	{AXCANCER=1}	=> {AXBPCO=0}	0.04601227	0.9230769	1.021810
## [661]	{X_U_PH=[5.34,6.2]}	=> {AXMHGLUC=0}	0.40797546	0.8750000	1.021486
## [662]	{SEX=2}	=> {X_GLU=[55,103]}	0.45475460	0.8247566	1.021351
## [663]	{AXMIPERT=1}	=> {AXBPCO=0}	0.51150307	0.9225450	1.021221
## [664]	{smoke=20}	=> {AXCANCER=0}	0.04984663	0.9701493	1.021045
## [665]	{smoke=2}	=> {AXANGINA=0}	0.02837423	0.9487179	1.020733
## [666]	{smoke=2}	=> {X_IL6=[0.01,5.18]}	0.02837423	0.9487179	1.020733
## [667]	{X_DHEAS=[247,855]}	=> {AXMETBOL=0}	0.06441718	0.8076923	1.020572
## [668]	{SEX=2}	=> {X_IL6=[0.01,5.18]}	0.52300613	0.9485396	1.020541
## [669]	{smoke=10}	=> {X_U_PRO=[0,15.2]}	0.06671779	0.9062500	1.020509
## [670]	{X_UCOR24=[3.6,103]}	=> {X_U_PRO=[0,15.2]}	0.46625767	0.9061103	1.020352
## [671]	{X_U_PRO=[15.2,81.7]}	=> {AXASTHMA=0}	0.01226994	0.8888889	1.020344
## [672]	{X_MIO=[0.1,69.4]}	=> {AXMETBOL=0}	0.62730061	0.8075025	1.020333
## [673]	{X_UCRE24=[884,1.35e+03]}	=> {AXMHGLUC=0}	0.32438650	0.8739669	1.020280
## [674]	{AXCHF=0}	=> {X_GLU=[55,103]}	0.65644172	0.8238691	1.020252
## [675]	{X_GLU=[55,103]}	=> {AXCHF=0}	0.65644172	0.8129155	1.020252
## [676]	{SEX=2}	=> {AXASTHMA=0}	0.49003067	0.8887344	1.020167
## [677]	{BMI=NaN}	=> {X_GLU=[55,103]}	0.03220859	0.8235294	1.019831
## [678]	{X_COLHDL=[49.8,68.9]}	=> {X_U_PRO=[0,15.2]}	0.41180982	0.9055649	1.019738
## [679]	{smoke=4}	=> {AXCHF=0}	0.02990798	0.8125000	1.019731
## [680]	{smoke=10}	=> {AXCHF=0}	0.05981595	0.8125000	1.019731
## [681]	{X_ATO CRS=[40.8,77.1]}	=> {AXASTHMA=0}	0.12806748	0.8882979	1.019666
## [682]	{X_FIBRIN=[312,408]}	=> {X_IL6=[0.01,5.18]}	0.45858896	0.9477021	1.019640
## [683]	{smoke=7}	=> {AXPARK=0}	0.01226994	1.0000000	1.019547
## [684]	{X_UBPA24=[29.1,148]}	=> {AXPARK=0}	0.01303681	1.0000000	1.019547
## [685]	{X_U_PRO=[15.2,81.7]}	=> {AXPARK=0}	0.01380368	1.0000000	1.019547
## [686]	{X_ESTDIO=[56.2,165]}	=> {AXPARK=0}	0.01763804	1.0000000	1.019547
## [687]	{smoke=8}	=> {AXPARK=0}	0.01763804	1.0000000	1.019547
## [688]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXPARK=0}	0.01917178	1.0000000	1.019547
## [689]	{X_TRIGLI=[317,1.29e+03]}	=> {AXPARK=0}	0.02147239	1.0000000	1.019547
## [690]	{smoke=15}	=> {AXPARK=0}	0.02223926	1.0000000	1.019547
## [691]	{X_TNFAR1=[3.31e+03,7e+03]}	=> {AXPARK=0}	0.02300613	1.0000000	1.019547
## [692]	{smoke=6}	=> {AXPARK=0}	0.02300613	1.0000000	1.019547
## [693]	{AXBPCO=2}	=> {AXPARK=0}	0.02990798	1.0000000	1.019547
## [694]	{smoke=2}	=> {AXPARK=0}	0.02990798	1.0000000	1.019547
## [695]	{X_INSULN=[23.8,55.6]}	=> {AXPARK=0}	0.03297546	1.0000000	1.019547
## [696]	{AXCHF=1}	=> {AXPARK=0}	0.04447853	1.0000000	1.019547
## [697]	{XBIOATSM=[4.92,15.6]}	=> {AXPARK=0}	0.10812883	1.0000000	1.019547
## [698]	{X_AGE L=[21,53.2]}	=> {AXPARK=0}	0.14953988	1.0000000	1.019547
## [699]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXPARK=0}	0.17407975	1.0000000	1.019547

## [700]	{X_COLLDL=[163,298]}	=> {AXPARK=0}	0.18251534	1.0000000	1.019547
## [701]	{AXVASDEM=9}	=> {AXPARK=0}	0.20858896	1.0000000	1.019547
## [702]	{AXDEMENT=9}	=> {AXPARK=0}	0.20858896	1.0000000	1.019547
## [703]	{X_AGEL=[53.2,76.1]}	=> {X_IL6=[0.01,5.18]}	0.53911043	0.9474394	1.019357
## [704]	{X_ESTDIO=[0,14.1]}	=> {X_GLU=[55,103]}	0.55674847	0.8231293	1.019336
## [705]	{smoke=3}	=> {AXANGINA=0}	0.04141104	0.9473684	1.019281
## [706]	{X_UBPA24=[8.16,29.1]}	=> {AXCANCER=0}	0.16487730	0.9684685	1.019276
## [707]	{AXMLOHDL=0}	=> {X_IL6=[0.01,5.18]}	0.73006135	0.9472637	1.019168
## [708]	{AXCHF=0}	=> {AXMHGLUC=0}	0.69555215	0.8729548	1.019098
## [709]	{AXMHGLUC=0}	=> {AXCHF=0}	0.69555215	0.8119964	1.019098
## [710]	{X_ATOCRS=[11.3,31.2]}	=> {AXCANCER=0}	0.39800613	0.9682836	1.019081
## [711]	{X_UGUA24=[37,1.24e+03]}	=> {X_TNFA=[0,20.6]}	0.07515337	0.9800000	1.019075
## [712]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXANGINA=0}	0.16487730	0.9471366	1.019031
## [713]	{X_FIBRIN=[312,408]}	=> {X_U_PRO=[0,15.2]}	0.43788344	0.9049128	1.019004
## [714]	{X_U_PH=[6.2,8.5]}	=> {X_IL6=[0.01,5.18]}	0.17791411	0.9469388	1.018819
## [715]	{X_MIO=[0.1,69.4]}	=> {AXMHGLUC=0}	0.67791411	0.8726555	1.018749
## [716]	{X_TIGF1=[114,210]}	=> {AXCHF=0}	0.34049080	0.8117002	1.018727
## [717]	{X_GLU=[55,103]}	=> {X_IL6=[0.01,5.18]}	0.76457055	0.9468186	1.018689
## [718]	{X_IL6=[0.01,5.18]}	=> {X_GLU=[55,103]}	0.76457055	0.8226073	1.018689
## [719]	{X_U_PH=[4.5,5.34]}	=> {AXBPC0=0}	0.23006135	0.9202454	1.018676
## [720]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXMETBOL=0}	0.14033742	0.8061674	1.018646
## [721]	{AXMWAIST=0}	=> {AXASTHMA=0}	0.54294479	0.8872180	1.018426
## [722]	{X_MIO=[0.1,69.4]}	=> {AXCHF=0}	0.63036810	0.8114511	1.018414
## [723]	{smoke=20}	=> {AXMETBOL=0}	0.04141104	0.8059701	1.018396
## [724]	{X_COLLDL=[119,163]}	=> {X_GLU=[55,103]}	0.38343558	0.8223684	1.018394
## [725]	{AXANGINA=0}	=> {AXMI=0}	0.90567485	0.9744224	1.018147
## [726]	{AXMI=0}	=> {AXANGINA=0}	0.90567485	0.9463141	1.018147
## [727]	{smoke=2}	=> {AXMI=0}	0.02914110	0.9743590	1.018080
## [728]	{X_COLTOT=[190,239]}	=> {AXMETBOL=0}	0.37193252	0.8056478	1.017989
## [729]	{X_UCOR24=[103,247]}	=> {AXCHF=0}	0.31595092	0.8110236	1.017878
## [730]	{X_DHEAS=[105,247]}	=> {AXANGINA=0}	0.26840491	0.9459459	1.017750
## [731]	{XBIOATSM=[0.00304,1.9]}	=> {AXMHGLUC=0}	0.51610429	0.8717617	1.017706
## [732]	{smoke=6}	=> {AXCANCER=0}	0.02223926	0.9666667	1.017380
## [733]	{AXMWAIST=1}	=> {X_IL6=[0.01,5.18]}	0.31978528	0.9455782	1.017355
## [734]	{X_MIO=[0.1,69.4]}	=> {AXPADI=0}	0.67331288	0.8667325	1.017299
## [735]	{X_COLLDL=[19,119]}	=> {AXASTHMA=0}	0.30444785	0.8861607	1.017213
## [736]	{X_UBPA24=[8.16,29.1]}	=> {AXBPC0=0}	0.15644172	0.9189189	1.017207
## [737]	{X_TNFAR1=[399,1.55e+03]}	=> {AXANGINA=0}	0.65030675	0.9453735	1.017134
## [738]	{AXCHF=0}	=> {AXSTROKE=0}	0.75690184	0.9499519	1.017026
## [739]	{AXSTROKE=0}	=> {AXCHF=0}	0.75690184	0.8103448	1.017026
## [740]	{X_TNFAR1=[399,1.55e+03]}	=> {AXMI=0}	0.66947853	0.9732441	1.016915
## [741]	{X_UCOR24=[103,247]}	=> {AXASTHMA=0}	0.34509202	0.8858268	1.016829
## [742]	{X_PALK=[237,1.11e+03]}	=> {X_TNFA=[0,20.6]}	0.23542945	0.9777070	1.016691
## [743]	{X_COLHDL=[49.8,68.9]}	=> {AXMI=0}	0.44248466	0.9730185	1.016680
## [744]	{X_UGUA24=[37,1.24e+03]}	=> {AXCHF=0}	0.06211656	0.8100000	1.016593
## [745]	{X_LUTEIN=[0.348,0.556]}	=> {AXSTROKE=0}	0.38957055	0.9495327	1.016577
## [746]	{X_COLTOT=[239,387]}	=> {AXSTROKE=0}	0.25920245	0.9494382	1.016476
## [747]	{X_OM6_A=[27.2,32.9]}	=> {AXMHGLUC=0}	0.36656442	0.8706740	1.016436
## [748]	{SEX=2}	=> {AXMHGLUC=0}	0.48006135	0.8706537	1.016412
## [749]	{X_COLTOT=[190,239]}	=> {AXMHGLUC=0}	0.40184049	0.8704319	1.016153
## [750]	{AXPADI=2}	=> {X_IL6=[0.01,5.18]}	0.05214724	0.9444444	1.016135
## [751]	{X_TRIGLI=[140,317]}	=> {X_IL6=[0.01,5.18]}	0.26073620	0.9444444	1.016135
## [752]	{AXMIPERT=0}	=> {AXMI=0}	0.43328221	0.9724613	1.016097
## [753]	{X_INSULN=[1.65,11.2]}	=> {AXANGINA=0}	0.55981595	0.9443726	1.016058

## [754]	{X_UCOR24=[3.6,103]}	=> {AXMHGLUC=0}	0.44785276	0.8703428	1.016049
## [755]	{X_COLHDL=[49.8,68.9]}	=> {AXANGINA=0}	0.42944785	0.9443508	1.016034
## [756]	{AXMWAIST=0}	=> {X_U_PRO=[0,15.2]}	0.55214724	0.9022556	1.016012
## [757]	{XBIOATSM=[0.00304,1.9]}	=> {X_IL6=[0.01,5.18]}	0.55904908	0.9443005	1.015980
## [758]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXBPC0=0}	0.05138037	0.9178082	1.015978
## [759]	{X_ATOCSR=[31.2,40.8]}	=> {X_IL6=[0.01,5.18]}	0.40260736	0.9442446	1.015920
## [760]	{X_UCRE24=[884,1.35e+03]}	=> {AXANGINA=0}	0.35046012	0.9442149	1.015888
## [761]	{X_INSULN=[23.8,55.6]}	=> {X_TNFA=[0,20.6]}	0.03220859	0.9767442	1.015689
## [762]	{AXPARK=1}	=> {AXEPATOC=0}	0.01073620	1.0000000	1.015576
## [763]	{smoke=7}	=> {AXEPATOC=0}	0.01226994	1.0000000	1.015576
## [764]	{X_UBPA24=[29.1,148]}	=> {AXEPATOC=0}	0.01303681	1.0000000	1.015576
## [765]	{X_U_PRO=[15.2,81.7]}	=> {AXEPATOC=0}	0.01380368	1.0000000	1.015576
## [766]	{X_ESTDIO=[56.2,165]}	=> {AXEPATOC=0}	0.01763804	1.0000000	1.015576
## [767]	{smoke=8}	=> {AXEPATOC=0}	0.01763804	1.0000000	1.015576
## [768]	{AXSTROKE=3}	=> {AXEPATOC=0}	0.01840491	1.0000000	1.015576
## [769]	{X_UGUA24=[2.65e+03,5e+03]}	=> {AXEPATOC=0}	0.01917178	1.0000000	1.015576
## [770]	{X_UCOR24=[247,833]}	=> {AXEPATOC=0}	0.02070552	1.0000000	1.015576
## [771]	{X_TRIGLI=[317,1.29e+03]}	=> {AXEPATOC=0}	0.02147239	1.0000000	1.015576
## [772]	{X_TNFAR1=[3.31e+03,7e+03]}	=> {AXEPATOC=0}	0.02300613	1.0000000	1.015576
## [773]	{X_GLU=[167,335]}	=> {AXEPATOC=0}	0.02607362	1.0000000	1.015576
## [774]	{AXVASDEM=1}	=> {AXEPATOC=0}	0.03067485	1.0000000	1.015576
## [775]	{AXANGINA=2}	=> {AXEPATOC=0}	0.03297546	1.0000000	1.015576
## [776]	{AXANGINA=1}	=> {AXEPATOC=0}	0.03757669	1.0000000	1.015576
## [777]	{smoke=3}	=> {AXEPATOC=0}	0.04371166	1.0000000	1.015576
## [778]	{AXSTROKE=1}	=> {AXEPATOC=0}	0.04601227	1.0000000	1.015576
## [779]	{AXPADI=2}	=> {AXEPATOC=0}	0.05521472	1.0000000	1.015576
## [780]	{X_LUTEIN=[0.348,0.556]}	=> {AXMETBOL=0}	0.32975460	0.8037383	1.015576
## [781]	{X_AGEL=[53.2,76.1]}	=> {AXPADI=0}	0.49233129	0.8652291	1.015534
## [782]	{AXMIPERT=0}	=> {AXASTHMA=0}	0.39417178	0.8846816	1.015515
## [783]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {AXCANCER=0}	0.16794479	0.9647577	1.015371
## [784]	{X_ESTDIO=[0,14.1]}	=> {AXBPC0=0}	0.62039877	0.9172336	1.015342
## [785]	{AXBPC0=0}	=> {AXCHF=0}	0.73082822	0.8089983	1.015336
## [786]	{AXCHF=0}	=> {AXBPC0=0}	0.73082822	0.9172281	1.015336
## [787]	{AXMIPERT=0}	=> {AXSTROKE=0}	0.42254601	0.9483649	1.015327
## [788]	{X_COLTOT=[190,239]}	=> {AXCHF=0}	0.37346626	0.8089701	1.015300
## [789]	{AXMHGLUC=0}	=> {X_IL6=[0.01,5.18]}	0.80828221	0.9435989	1.015225
## [790]	{X_IL6=[0.01,5.18]}	=> {AXMHGLUC=0}	0.80828221	0.8696370	1.015225
## [791]	{XBIOATSM=[4.92,15.6]}	=> {AXCANCER=0}	0.10429448	0.9645390	1.015140
## [792]	{X_TRIGLI=[29,140]}	=> {AXSTROKE=0}	0.65874233	0.9481236	1.015068
## [793]	{AXASTHMA=1}	=> {X_IL6=[0.01,5.18]}	0.03834356	0.9433962	1.015007
## [794]	{X_COLLDL=[119,163]}	=> {X_U_PRO=[0,15.2]}	0.42024540	0.9013158	1.014953
## [795]	{X_FIBRIN=[84,312]}	=> {AXBPC0=0}	0.27914110	0.9168766	1.014947
## [796]	{X_LUTEIN=[0.0649,0.348]}	=> {AXANGINA=0}	0.43404908	0.9433333	1.014939
## [797]	{X_ESTDIO=[0,14.1]}	=> {X_IL6=[0.01,5.18]}	0.63803681	0.9433107	1.014915
## [798]	{X_TRIGLI=[317,1.29e+03]}	=> {AXCANCER=0}	0.02070552	0.9642857	1.014874
## [799]	{X_COLTOT=[82,190]}	=> {AXCANCER=0}	0.24846626	0.9642857	1.014874
## [800]	{XBIOATSM=[4.92,15.6]}	=> {AXANGINA=0}	0.10199387	0.9432624	1.014863
## [801]	{smoke=10}	=> {AXSTROKE=0}	0.06978528	0.9479167	1.014847
## [802]	{X_UCRE24=[106,884]}	=> {X_U_PRO=[0,15.2]}	0.35659509	0.9011628	1.014781
## [803]	{X_GLU=[103,167]}	=> {X_TNFA=[0,20.6]}	0.15490798	0.9758454	1.014755
## [804]	{AXPADI=0}	=> {AXSTROKE=0}	0.80751534	0.9477948	1.014716
## [805]	{AXSTROKE=0}	=> {AXPADI=0}	0.80751534	0.8645320	1.014716
## [806]	{AXSTROKE=3}	=> {AXBPC0=0}	0.01687117	0.9166667	1.014714
## [807]	{X_UCRE24=[1.35e+03,2.77e+03]}	=> {X_GLU=[55,103]}	0.14263804	0.8193833	1.014697

## [808]	{X_U_PRO=[0,15.2]}	=> {X_IL6=[0.01,5.18]}	0.83742331	0.9430052	1.014586
## [809]	{X_IL6=[0.01,5.18]}	=> {X_U_PRO=[0,15.2]}	0.83742331	0.9009901	1.014586
## [810]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXCHF=0}	0.04524540	0.8082192	1.014358
## [811]	{AXASTHMA=0}	=> {AXANGINA=0}	0.82131902	0.9427817	1.014346
## [812]	{AXANGINA=0}	=> {AXASTHMA=0}	0.82131902	0.8836634	1.014346
## [813]	{AXMHGLUC=0}	=> {AXASTHMA=0}	0.75690184	0.8836168	1.014293
## [814]	{AXASTHMA=0}	=> {AXMHGLUC=0}	0.75690184	0.8688380	1.014293
## [815]	{X_INSULN=[1.65,11.2]}	=> {AXASTHMA=0}	0.52377301	0.8835705	1.014239
## [816]	{X_COLHDL=[49.8,68.9]}	=> {X_IL6=[0.01,5.18]}	0.42868098	0.9426644	1.014220
## [817]	{X_DHEAS=[105,247]}	=> {AXBPCO=0}	0.25996933	0.9162162	1.014216
## [818]	{X_ATOCSR=[40.8,77.1]}	=> {AXPARK=0}	0.14340491	0.9946809	1.014123
## [819]	{AXPADI=1}	=> {X_TNFA=[0,20.6]}	0.09049080	0.9752066	1.014090
## [820]	{XBIOATSM=[0.00304,1.9]}	=> {AXPADI=0}	0.51150307	0.8639896	1.014080
## [821]	{X_ESTDIO=[14.1,56.2]}	=> {AXPADI=0}	0.19478528	0.8639456	1.014028
## [822]	{AXMHTRIG=1}	=> {X_TNFA=[0,20.6]}	0.23926380	0.9750000	1.013876
## [823]	{X_LUTEIN=[0.0649,0.348]}	=> {X_TNFA=[0,20.6]}	0.44861963	0.9750000	1.013876
## [824]	{smoke=5}	=> {AXMI=0}	0.07515337	0.9702970	1.013836
## [825]	{X_LUTEIN=[0.348,0.556]}	=> {X_IL6=[0.01,5.18]}	0.38650307	0.9420561	1.013565
## [826]	{X_AGEL=[53.2,76.1]}	=> {AXANGINA=0}	0.53604294	0.9420485	1.013557
## [827]	{X_TNFAR1=[399,1.55e+03]}	=> {AXASTHMA=0}	0.60736196	0.8829431	1.013519
## [828]	{X_U_PH=[5.34,6.2]}	=> {AXPADI=0}	0.40260736	0.8634868	1.013490
## [829]	{X_TIGF1=[210,466]}	=> {AXMI=0}	0.09892638	0.9699248	1.013447
## [830]	{smoke=5}	=> {AXMETBOL=0}	0.06211656	0.8019802	1.013355
## [831]	{X_LUTEIN=[0.0649,0.348]}	=> {AXPADI=0}	0.39723926	0.8633333	1.013309
## [832]	{X_LUTEIN=[0.556,1.25]}	=> {AXASTHMA=0}	0.09815951	0.8827586	1.013307
## [833]	{X_OM6_A=[12.5,27.2]}	=> {X_TNFA=[0,20.6]}	0.20475460	0.9744526	1.013306
## [834]	{X_UCOR24=[3.6,103]}	=> {X_GLU=[55,103]}	0.42101227	0.8181818	1.013209
## [835]	{X_TNFAR1=[399,1.55e+03]}	=> {AXBPCO=0}	0.62960123	0.9152731	1.013172
## [836]	{X_U_PRO=[0,15.2]}	=> {AXMHGLUC=0}	0.77070552	0.8678756	1.013169
## [837]	{AXMHGLUC=0}	=> {X_U_PRO=[0,15.2]}	0.77070552	0.8997314	1.013169
## [838]	{AXPADI=0}	=> {AXANGINA=0}	0.80214724	0.9414941	1.012961
## [839]	{AXANGINA=0}	=> {AXPADI=0}	0.80214724	0.8630363	1.012961
## [840]	{X_ATOCSR=[40.8,77.1]}	=> {AXANGINA=0}	0.13573620	0.9414894	1.012956
## [841]	{AXMIPERT=0}	=> {X_IL6=[0.01,5.18]}	0.41947853	0.9414802	1.012946
## [842]	{X_UCRE24=[884,1.35e+03]}	=> {AXMETBOL=0}	0.29754601	0.8016529	1.012941
## [843]	{X_UGUA24=[1.24e+03,2.65e+03]}	=> {AXPADI=0}	0.04831288	0.8630137	1.012934
## [844]	{X_PALK=[0,237]}	=> {X_U_PRO=[0,15.2]}	0.67254601	0.8994872	1.012894
## [845]	{SEX=1}	=> {AXCANCER=0}	0.43174847	0.9623932	1.012882
## [846]	{X_COLHDL=[49.8,68.9]}	=> {AXSTROKE=0}	0.43021472	0.9460371	1.012834
## [847]	{X_U_PH=[4.5,5.34]}	=> {AXMI=0}	0.24233129	0.9693252	1.012821
## [848]	{AXMHTRIG=0}	=> {X_U_PRO=[0,15.2]}	0.67177914	0.8993840	1.012778
## [849]	{X_INSULN=[11.2,23.8]}	=> {X_IL6=[0.01,5.18]}	0.31978528	0.9413093	1.012762
## [850]	{X_FIBRIN=[84,312]}	=> {AXCANCER=0}	0.29294479	0.9622166	1.012696
## [851]	{X_TRIGLI=[29,140]}	=> {AXCHF=0}	0.56058282	0.8068433	1.012631
## [852]	{X_UBPA24=[29.1,148]}	=> {AXANGINA=0}	0.01226994	0.9411765	1.012619
## [853]	{XBIOATSM=[0.00304,1.9]}	=> {AXASTHMA=0}	0.52223926	0.8821244	1.012579
## [854]	{X_TNFAR1=[399,1.55e+03]}	=> {AXCANCER=0}	0.66180982	0.9620959	1.012569
## [855]	{AXDEMENT=0}	=> {X_U_PRO=[0,15.2]}	0.66794479	0.8988648	1.012193
## [856]	{X_MIO=[0.1,69.4]}	=> {X_IL6=[0.01,5.18]}	0.73082822	0.9407700	1.012182
## [857]	{X_GLU=[55,103]}	=> {AXPADI=0}	0.69631902	0.8622982	1.012094
## [858]	{AXPADI=0}	=> {X_GLU=[55,103]}	0.69631902	0.8172817	1.012094
## [859]	{X_FIBRIN=[84,312]}	=> {AXASTHMA=0}	0.26840491	0.8816121	1.011991
## [860]	{AXBPCO=0}	=> {X_IL6=[0.01,5.18]}	0.84969325	0.9405772	1.011974
## [861]	{X_IL6=[0.01,5.18]}	=> {AXBPCO=0}	0.84969325	0.9141914	1.011974



## [862]	{X_UCRE24=[884,1.35e+03]}	=> {X_TNFA=[0,20.6]}	0.36119632	0.9731405	1.011942
## [863]	{X_COLTOT=[82,190]}	=> {AXANGINA=0}	0.24233129	0.9404762	1.011865
## [864]	{X_TRIGLI=[29,140]}	=> {X_U_PRO=[0,15.2]}	0.62423313	0.8984547	1.011731
## [865]	{AXMHTRIG=0}	=> {AXMI=0}	0.72315951	0.9681725	1.011616
## [866]	{X_ESTDIO=[14.1,56.2]}	=> {X_TNFA=[0,20.6]}	0.21932515	0.9727891	1.011577
## [867]	{X_AGEL=[53.2,76.1]}	=> {AXSTROKE=0}	0.53757669	0.9447439	1.011450
## [868]	{X_TRIGLI=[29,140]}	=> {AXMI=0}	0.67254601	0.9679912	1.011427
## [869]	{X_COLHDL=[18,49.8]}	=> {X_TNFA=[0,20.6]}	0.35429448	0.9726316	1.011413
## [870]	{X_COLLDL=[163,298]}	=> {AXEPATOC=0}	0.18174847	0.9957983	1.011309
## [871]	{AXMHTRIG=0}	=> {AXSTROKE=0}	0.70552147	0.9445585	1.011251
## [872]	{X_UCRE24=[884,1.35e+03]}	=> {AXPADI=0}	0.31978528	0.8615702	1.011240
## [873]	{X_ESTDIO=[0,14.1]}	=> {AXASTHMA=0}	0.59585890	0.8809524	1.011234
## [874]	{AXMLOHDL=1}	=> {AXBPCO=0}	0.20245399	0.9134948	1.011203
## [875]	{X_U_PRO=[15.2,81.7]}	=> {AXSTROKE=0}	0.01303681	0.9444444	1.011129
## [876]	{AXPADI=1}	=> {AXPARK=0}	0.09202454	0.9917355	1.011121
## [877]	{AXMLOHDL=1}	=> {X_TNFA=[0,20.6]}	0.21549080	0.9723183	1.011087
## [878]	{SEX=2}	=> {AXSTROKE=0}	0.52070552	0.9443672	1.011047
## [879]	{X_TIGF1=[114,210]}	=> {X_IL6=[0.01,5.18]}	0.39417178	0.9396709	1.010999
## [880]	{X_TRIGLI=[140,317]}	=> {X_TNFA=[0,20.6]}	0.26840491	0.9722222	1.010987
## [881]	{X_DHEAS=[105,247]}	=> {AXMI=0}	0.27453988	0.9675676	1.010984
## [882]	{X_COLTOT=[239,387]}	=> {AXPARK=0}	0.27070552	0.9915730	1.010955
## [883]	{X_UCRE24=[884,1.35e+03]}	=> {AXSTROKE=0}	0.35046012	0.9442149	1.010884
## [884]	{AXMHGLUC=0}	=> {AXBPCO=0}	0.78220859	0.9131603	1.010833
## [885]	{AXBPCO=0}	=> {AXMHGLUC=0}	0.78220859	0.8658744	1.010833
## [886]	{X_TIGF1=[114,210]}	=> {X_U_PRO=[0,15.2]}	0.37653374	0.8976234	1.010795
## [887]	{X_ATOCRS=[11.3,31.2]}	=> {X_TNFA=[0,20.6]}	0.39953988	0.9720149	1.010772
## [888]	{X_COLHDL=[68.9,143]}	=> {AXASTHMA=0}	0.15260736	0.8805310	1.010750
## [889]	{X_OM6_A=[32.9,44.9]}	=> {AXCANCER=0}	0.24156442	0.9603659	1.010748
## [890]	{X_COLHDL=[68.9,143]}	=> {AXCHF=0}	0.13957055	0.8053097	1.010706
## [891]	{X_COLTOT=[82,190]}	=> {AXMI=0}	0.24923313	0.9672619	1.010665
## [892]	{X_FIBRIN=[84,312]}	=> {AXMI=0}	0.29447853	0.9672544	1.010657
## [893]	{AXASTHMA=0}	=> {X_IL6=[0.01,5.18]}	0.81825153	0.9392606	1.010558
## [894]	{X_IL6=[0.01,5.18]}	=> {AXASTHMA=0}	0.81825153	0.8803630	1.010558
## [895]	{X_TNFA1=[1.55e+03,3.31e+03]}	=> {X_TNFA=[0,20.6]}	0.23773006	0.9717868	1.010534
## [896]	{AXANGINA=0}	=> {X_GLU=[55,103]}	0.75843558	0.8160066	1.010515
## [897]	{X_GLU=[55,103]}	=> {AXANGINA=0}	0.75843558	0.9392213	1.010515
## [898]	{AXMHGLUC=1}	=> {X_TNFA=[0,20.6]}	0.13190184	0.9717514	1.010497
## [899]	{X_TNFA1=[399,1.55e+03]}	=> {AXPARK=0}	0.68174847	0.9910814	1.010454
## [900]	{AXMI=1}	=> {AXCANCER=0}	0.03680982	0.9600000	1.010363
## [901]	{X_A_G=[1.36,1.63]}	=> {X_TNFA=[0,20.6]}	0.47162577	0.9715640	1.010303
## [902]	{AXVASDEM=0}	=> {X_U_PRO=[0,15.2]}	0.68251534	0.8971774	1.010293
## [903]	{X_OM6_A=[27.2,32.9]}	=> {AXCANCER=0}	0.40414110	0.9599271	1.010287
## [904]	{AXMLOHDL=0}	=> {AXCHF=0}	0.62039877	0.8049751	1.010286
## [905]	{AXSTROKE=0}	=> {AXMHGLUC=0}	0.80828221	0.8653530	1.010224
## [906]	{AXMHGLUC=0}	=> {AXSTROKE=0}	0.80828221	0.9435989	1.010224
## [907]	{AXMLOHDL=0}	=> {AXPADI=0}	0.66334356	0.8606965	1.010214
## [908]	{X_UCOR24=[3.6,103]}	=> {AXANGINA=0}	0.48312883	0.9388972	1.010167
## [909]	{X_U_PH=[4.5,5.34]}	=> {AXPARK=0}	0.24769939	0.9907975	1.010164
## [910]	{AXVASDEM=9}	=> {X_U_PRO=[0,15.2]}	0.18711656	0.8970588	1.010160
## [911]	{AXDEMENT=9}	=> {X_U_PRO=[0,15.2]}	0.18711656	0.8970588	1.010160
## [912]	{AXBPCO=0}	=> {AXANGINA=0}	0.84815951	0.9388795	1.010148
## [913]	{AXANGINA=0}	=> {AXBPCO=0}	0.84815951	0.9125413	1.010148
## [914]	{X_UBPA24=[0.584,8.16]}	=> {X_IL6=[0.01,5.18]}	0.62346626	0.9387991	1.010061
## [915]	{SEX=2}	=> {AXMI=0}	0.53297546	0.9666203	1.009994

## [916]	{XBIOATSM=[4.92,15.6]}	=> {AXSTROKE=0}	0.10199387	0.9432624	1.009864
## [917]	{X_UBPA24=[0.584,8.16]}	=> {X_TNFA=[0,20.6]}	0.64493865	0.9711316	1.009853
## [918]	{X_ATOCS=[11.3,31.2]}	=> {AXMI=0}	0.39723926	0.9664179	1.009783
## [919]	{AXCHF=2}	=> {X_TNFA=[0,20.6]}	0.15414110	0.9710145	1.009731
## [920]	{X_MIO=[69.4,457]}	=> {X_TNFA=[0,20.6]}	0.20552147	0.9710145	1.009731
## [921]	{X_INSULN=[1.65,11.2]}	=> {AXMI=0}	0.57285276	0.9663648	1.009727
## [922]	{AXCANCER=1}	=> {X_IL6=[0.01,5.18]}	0.04677914	0.9384615	1.009698
## [923]	{X_COLLDL=[19,119]}	=> {X_TNFA=[0,20.6]}	0.33358896	0.9709821	1.009698
## [924]	{X_GLU=[103,167]}	=> {AXPARK=0}	0.15720859	0.9903382	1.009696
## [925]	{X_INSULN=[1.65,11.2]}	=> {AXSTROKE=0}	0.55904908	0.9430789	1.009667
## [926]	{X_AGEL=[53.2,76.1]}	=> {AXMI=0}	0.54984663	0.9663073	1.009667
## [927]	{AXCHF=0}	=> {X_IL6=[0.01,5.18]}	0.74769939	0.9384023	1.009634
## [928]	{X_IL6=[0.01,5.18]}	=> {AXCHF=0}	0.74769939	0.8044554	1.009634
## [929]	{AXMHTRIG=0}	=> {X_IL6=[0.01,5.18]}	0.70092025	0.9383984	1.009630
## [930]	{X_FIBRIN=[312,408]}	=> {AXSTROKE=0}	0.45628834	0.9429477	1.009527
## [931]	{X_INSULN=[11.2,23.8]}	=> {AXBPCO=0}	0.30981595	0.9119639	1.009508
## [932]	{X_COLTOT=[190,239]}	=> {AXBPCO=0}	0.42101227	0.9119601	1.009504
## [933]	{X_UCOR24=[103,247]}	=> {AXSTROKE=0}	0.36733129	0.9429134	1.009490
## [934]	{X_TRIGLI=[29,140]}	=> {AXCANCER=0}	0.66641104	0.9591611	1.009480
## [935]	{X_A_G=[1.36,1.63]}	=> {X_GLU=[55,103]}	0.39570552	0.8151659	1.009474
## [936]	{X_GLU=[55,103]}	=> {AXASTHMA=0}	0.71012270	0.8793922	1.009443
## [937]	{AXASTHMA=0}	=> {X_GLU=[55,103]}	0.71012270	0.8151408	1.009443
## [938]	{AXMHTRIG=0}	=> {AXCANCER=0}	0.71625767	0.9589322	1.009239
## [939]	{X_ESTDIO=[14.1,56.2]}	=> {AXPARK=0}	0.22315951	0.9897959	1.009143
## [940]	{AXPADI=0}	=> {AXMI=0}	0.82285276	0.9657966	1.009134
## [941]	{AXMI=0}	=> {AXPADI=0}	0.82285276	0.8597756	1.009134
## [942]	{X_LUTEIN=[0.556,1.25]}	=> {AXANGINA=0}	0.10429448	0.9379310	1.009127
## [943]	{X_DHEAS=[0.7,105]}	=> {X_TNFA=[0,20.6]}	0.60352761	0.9704069	1.009099
## [944]	{X_COLHDL=[68.9,143]}	=> {AXBPCO=0}	0.15797546	0.9115044	1.009000
## [945]	{smoke=3}	=> {AXPADI=0}	0.03757669	0.8596491	1.008985
## [946]	{X_UCRE24=[884,1.35e+03]}	=> {AXCANCER=0}	0.35582822	0.9586777	1.008972
## [947]	{X_ATOCS=[31.2,40.8]}	=> {X_GLU=[55,103]}	0.34739264	0.8147482	1.008957
## [948]	{X_UCOR24=[103,247]}	=> {AXCANCER=0}	0.37346626	0.9586614	1.008954
## [949]	{AXMHTRIG=0}	=> {AXCHF=0}	0.60046012	0.8039014	1.008939
## [950]	{X_COLTOT=[82,190]}	=> {X_TNFA=[0,20.6]}	0.25000000	0.9702381	1.008924
## [951]	{X_UCOR24=[3.6,103]}	=> {AXPARK=0}	0.50920245	0.9895678	1.008910
## [952]	{smoke=20}	=> {X_TNFA=[0,20.6]}	0.04984663	0.9701493	1.008831
## [953]	{X_COLTOT=[190,239]}	=> {X_TNFA=[0,20.6]}	0.44785276	0.9700997	1.008780
## [954]	{X_IL6=[0.01,5.18]}	=> {AXSTROKE=0}	0.87576687	0.9422442	1.008774
## [955]	{AXSTROKE=0}	=> {X_IL6=[0.01,5.18]}	0.87576687	0.9376026	1.008774
## [956]	{X_MIO=[0.1,69.4]}	=> {AXMI=0}	0.75000000	0.9654492	1.008771
## [957]	{AXPADI=0}	=> {AXMHGLUC=0}	0.73619632	0.8640864	1.008745
## [958]	{AXMHGLUC=0}	=> {AXPADI=0}	0.73619632	0.8594449	1.008745
## [959]	{X_AGEL=[76.1,102]}	=> {X_TNFA=[0,20.6]}	0.27300613	0.9700272	1.008705
## [960]	{X_A_G=[1.36,1.63]}	=> {AXPADI=0}	0.41717791	0.8593997	1.008692
## [961]	{AXEPATOC=2}	=> {X_IL6=[0.01,5.18]}	0.01150307	0.9375000	1.008663
## [962]	{smoke=7}	=> {AXANGINA=0}	0.01150307	0.9375000	1.008663
## [963]	{smoke=4}	=> {X_IL6=[0.01,5.18]}	0.03450920	0.9375000	1.008663
## [964]	{X_COLLDL=[19,119]}	=> {AXANGINA=0}	0.32208589	0.9375000	1.008663
## [965]	{X_COLLDL=[119,163]}	=> {X_IL6=[0.01,5.18]}	0.43711656	0.9375000	1.008663
## [966]	{X_ATOCS=[31.2,40.8]}	=> {X_U_PRO=[0,15.2]}	0.38190184	0.8956835	1.008611
## [967]	{smoke=4}	=> {AXCANCER=0}	0.03527607	0.9583333	1.008609
## [968]	{AXPADI=2}	=> {AXCANCER=0}	0.05291411	0.9583333	1.008609
## [969]	{AXMETBOL=0}	=> {AXCANCER=0}	0.75843558	0.9583333	1.008609

## [970]	{X_LUTEIN=[0.556,1.25]}	=> {AXEPATOC=0}	0.11042945	0.9931034	1.008572
## [971]	{SEX=2}	=> {AXANGINA=0}	0.51687117	0.9374131	1.008570
## [972]	{X_TRIGLI=[29,140]}	=> {AXASTHMA=0}	0.61042945	0.8785872	1.008519
## [973]	{AXMWAIST=0}	=> {AXANGINA=0}	0.57361963	0.9373434	1.008495
## [974]	{X_GLU=[55,103]}	=> {AXCANCER=0}	0.77377301	0.9582146	1.008484
## [975]	{AXCANCER=0}	=> {X_GLU=[55,103]}	0.77377301	0.8143664	1.008484
## [976]	{X_U_PRO=[0,15.2]}	=> {X_GLU=[55,103]}	0.72315951	0.8143351	1.008445
## [977]	{X_GLU=[55,103]}	=> {X_U_PRO=[0,15.2]}	0.72315951	0.8955366	1.008445
## [978]	{XBIOATSM=[0.00304,1.9]}	=> {AXMI=0}	0.57131902	0.9650259	1.008328
## [979]	{AXMETBOL=1}	=> {AXPARK=0}	0.20628834	0.9889706	1.008302
## [980]	{X_MIO=[69.4,457]}	=> {AXEPATOC=0}	0.21012270	0.9927536	1.008217
## [981]	{X_U_PH=[4.5,5.34]}	=> {AXSTROKE=0}	0.23542945	0.9417178	1.008210
## [982]	{X_U_PH=[5.34,6.2]}	=> {X_GLU=[55,103]}	0.37960123	0.8141447	1.008210
## [983]	{X_OM6_A=[27.2,32.9]}	=> {AXSTROKE=0}	0.39647239	0.9417122	1.008204
## [984]	{X_FIBRIN=[84,312]}	=> {AXANGINA=0}	0.28527607	0.9370277	1.008155
## [985]	{X_TIGF1=[114,210]}	=> {AXEPATOC=0}	0.41641104	0.9926874	1.008150
## [986]	{X_GLU=[55,103]}	=> {AXBPCO=0}	0.73542945	0.9107312	1.008144
## [987]	{AXBPCO=0}	=> {X_GLU=[55,103]}	0.73542945	0.8140917	1.008144
## [988]	{AXMWAIST=0}	=> {AXCHF=0}	0.49156442	0.8032581	1.008131
## [989]	{AXVASDEM=9}	=> {AXEPATOC=0}	0.20705521	0.9926471	1.008109
## [990]	{AXDEMENT=9}	=> {AXEPATOC=0}	0.20705521	0.9926471	1.008109
## [991]	{X_COLLDL=[163,298]}	=> {AXANGINA=0}	0.17101227	0.9369748	1.008098
## [992]	{X_COLHDL=[49.8,68.9]}	=> {AXBPCO=0}	0.41411043	0.9106239	1.008025
## [993]	{X_TRIGLI=[29,140]}	=> {AXBPCO=0}	0.63266871	0.9105960	1.007994
## [994]	{X_TIGF1=[210,466]}	=> {AXEPATOC=0}	0.10122699	0.9924812	1.007940
## [995]	{XBIOATSM=[1.9,4.92]}	=> {X_TNFA=[0,20.6]}	0.26610429	0.9692737	1.007921
## [996]	{X_COLTOT=[82,190]}	=> {AXASTHMA=0}	0.22622699	0.8779762	1.007818
## [997]	{X_TIGF1=[2.81,114]}	=> {X_GLU=[55,103]}	0.36196319	0.8137931	1.007774
## [998]	{AXMLOHDL=0}	=> {AXSTROKE=0}	0.72546012	0.9412935	1.007756
## [999]	{X_U_PRO=[0,15.2]}	=> {AXSTROKE=0}	0.83588957	0.9412781	1.007739
## [1000]	{AXSTROKE=0}	=> {X_U_PRO=[0,15.2]}	0.83588957	0.8949097	1.007739