

# RminiProjectSsegawaAbdulKarim

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```
library(readr)
library(tidyverse)

## -- Attaching packages ----- tidyverse 1.3.1 --

## v ggplot2 3.3.4     v dplyr    1.0.7
## v tibble   3.1.2     v stringr  1.4.0
## v tidyrr   1.1.3     vforcats  0.5.1
## v purrr   0.3.4

## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()   masks stats::lag()

library(table1)

##
## Attaching package: 'table1'

## The following objects are masked from 'package:base':
## 
##     units, units<-

library(readr)
library(readxl)
library(stats)
library(Stat2Data)
library(ggplot2)
library(phylloseq)
library(rmarkdown)
library(DESeq2)

## Loading required package: S4Vectors

## Loading required package: stats4

## Loading required package: BiocGenerics
```

```

## Loading required package: parallel

##
## Attaching package: 'BiocGenerics'

## The following objects are masked from 'package:parallel':
## 
##     clusterApply, clusterApplyLB, clusterCall, clusterEvalQ,
##     clusterExport, clusterMap, parApply, parCapply, parLapply,
##     parLapplyLB, parRapply, parSapply, parSapplyLB

## The following objects are masked from 'package:dplyr':
## 
##     combine, intersect, setdiff, union

## The following objects are masked from 'package:stats':
## 
##     IQR, mad, sd, var, xtabs

## The following objects are masked from 'package:base':
## 
##     anyDuplicated, append, as.data.frame, basename, cbind, colnames,
##     dirname, do.call, duplicated, eval, evalq, Filter, Find, get, grep,
##     grepl, intersect, is.unsorted, lapply, Map, mapply, match, mget,
##     order, paste, pmax, pmax.int, pmin, pmin.int, Position, rank,
##     rbind, Reduce, rownames, sapply, setdiff, sort, table, tapply,
##     union, unique, unsplit, which.max, which.min

##
## Attaching package: 'S4Vectors'

## The following objects are masked from 'package:dplyr':
## 
##     first, rename

## The following object is masked from 'package:tidyverse':
## 
##     expand

## The following object is masked from 'package:base':
## 
##     expand.grid

## Loading required package: IRanges

##
## Attaching package: 'IRanges'

## The following object is masked from 'package:phyloseq':
## 
##     distance

```

```

## The following objects are masked from 'package:dplyr':
##
##     collapse, desc, slice

## The following object is masked from 'package:purrr':
##
##     reduce

## Loading required package: GenomicRanges

## Loading required package: GenomeInfoDb

## Loading required package: SummarizedExperiment

## Loading required package: MatrixGenerics

## Loading required package: matrixStats

##
## Attaching package: 'matrixStats'

## The following object is masked from 'package:dplyr':
##
##     count

##
## Attaching package: 'MatrixGenerics'

## The following objects are masked from 'package:matrixStats':
##
##     colAlls, colAnyNAs, colAnys, colAvgsPerRowSet, colCollapse,
##     colCounts, colCummaxs, colCummins, colCumprods, colCumsums,
##     colDiffs, colIQRDiffs, colIQRs, colLogSumExps, colMadDiffs,
##     colMads, colMaxs, colMeans2, colMedians, colMins, colOrderStats,
##     colProds, colQuantiles, colRanges, colRanks, colSdDiffs, colSds,
##     colSums2, colTabulates, colVarDiffs, colVars, colWeightedMads,
##     colWeightedMeans, colWeightedMedians, colWeightedSds,
##     colWeightedVars, rowAlls, rowAnyNAs, rowAnys, rowAvgsPerColSet,
##     rowCollapse, rowCounts, rowCummaxs, rowCummins, rowCumprods,
##     rowCumsums, rowDiffs, rowIQRDiffs, rowIQRs, rowLogSumExps,
##     rowMadDiffs, rowMads, rowMaxs, rowMeans2, rowMedians, rowMins,
##     rowOrderStats, rowProds, rowQuantiles, rowRanges, rowRanks,
##     rowSdDiffs, rowSds, rowSums2, rowTabulates, rowVarDiffs, rowVars,
##     rowWeightedMads, rowWeightedMeans, rowWeightedMedians,
##     rowWeightedSds, rowWeightedVars

## Loading required package: Biobase

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

```

```

## 
## Attaching package: 'Biobase'

## The following object is masked from 'package:MatrixGenerics':
## 
##     rowMedians

## The following objects are masked from 'package:matrixStats':
## 
##     anyMissing, rowMedians

## The following object is masked from 'package:phyloseq':
## 
##     sampleNames

library(tinytex)

```

```
render("Ssegawa.Rmd", output_format = "PDF")
```

```
data1 <- read.csv("diabimmune_16s_t1d_metadata.csv",
                  stringsAsFactors = FALSE)
```

## Change structure of categorical variables to factors

```
#Descriptive Statistics
```

```
summary(data1)
```

```

##   Sample_ID          Subject_ID      Case_Control    Gender
##   Length:777        Length:777       case :260    female:412
##   Class :character  Class :character control:517   male  :365
##   Mode  :character  Mode  :character
## 
## 
## 
##   Delivery_Route Age_at_Collection
##   cesarian: 66    Min.   :   6.0
##   vaginal :711    1st Qu.:229.0
##                      Median :452.0
##                      Mean   :482.9
##                      3rd Qu.:702.0
##                      Max.   :1233.0

```

```

count <- table(data1$Case_Control, data1$Gender)
totalprop <- prop.table(count)
rowprop <- prop.table(count,1)
columnprop <- prop.table(count,2)

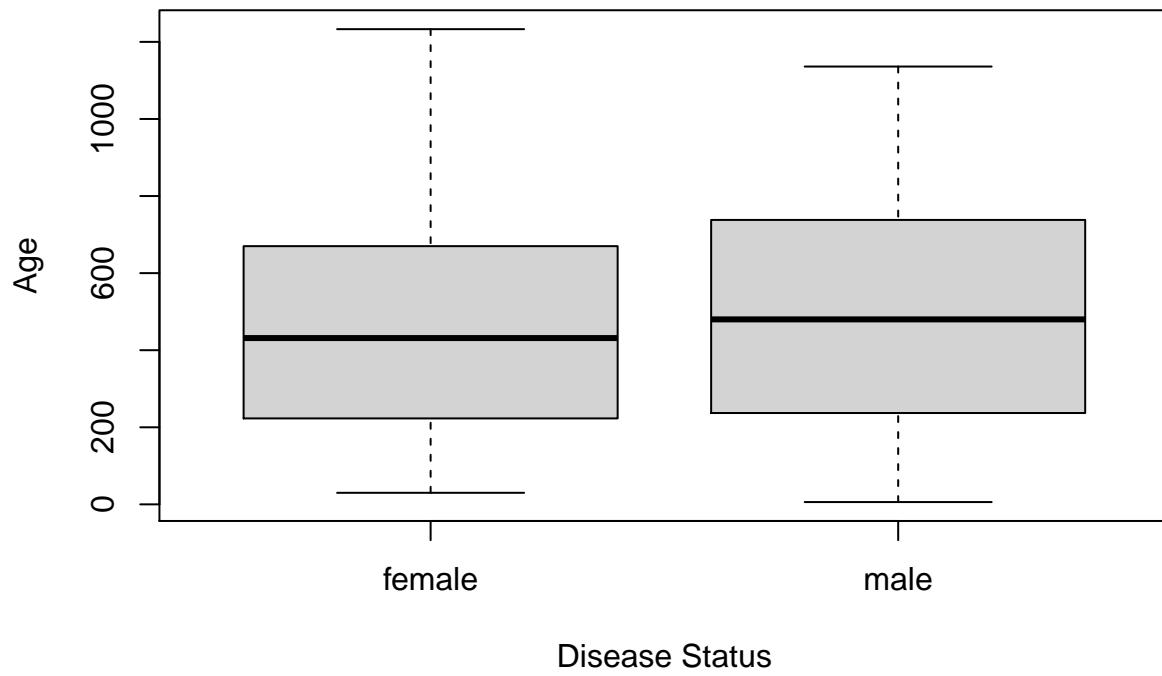
```

```
list(Count=count, "Total Percentage"=round(totalprop,3), "Row Percentage"=round(rowprop,3), "Column Percentage"=round(columnprop,3))
```

```
table1(~ Gender + Delivery_Route + Age_at_Collection | Case_Control, data=data1)
```

```
# Graphics
````r
boxplot1 <- boxplot(data1$Age_at_Collection~ data1$Gender, main="A graph showing Age at Collection by Disease Status"
                      ylab="Age")
```

## A graph showing Age at Collection by Disease Status



```
boxplot1
```

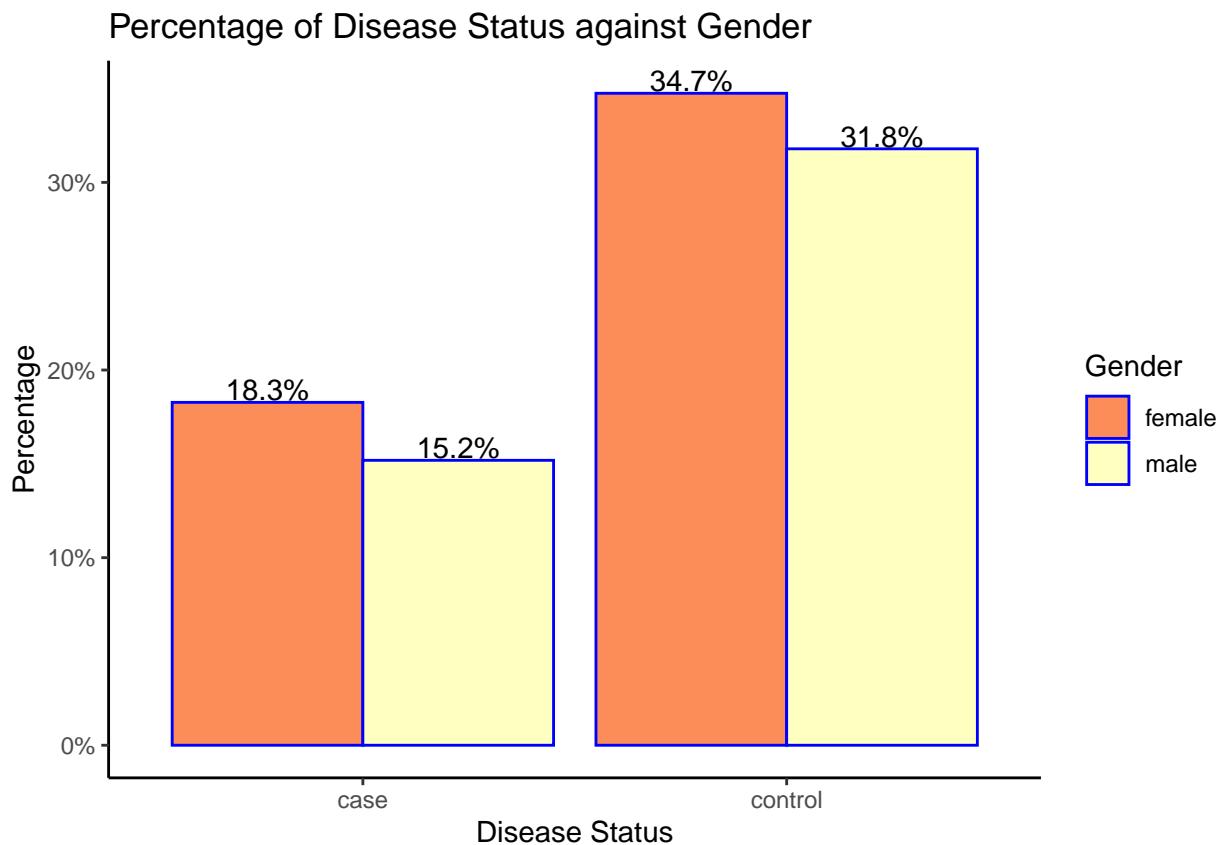
```
## $stats
##      [,1] [,2]
## [1,] 30.0   6
## [2,] 223.0  237
## [3,] 431.5  480
## [4,] 670.0  738
## [5,] 1233.0 1136
## attr(,"class")
##   "female"
##   "integer"
##
## $n
## [1] 412 365
##
## $conf
##      [,1]      [,2]
```

```

## [1,] 396.7051 438.5668
## [2,] 466.2949 521.4332
##
## $out
## numeric(0)
##
## $group
## numeric(0)
##
## $names
## [1] "female" "male"

ggplot(data1, aes(x = Case_Control ,y=(..count..)/sum(..count..), fill= Gender)) +
  geom_bar(position = "dodge", color= "Blue")+
  scale_y_continuous(labels=scales::percent)+
  labs(title = "Percentage of Disease Status against Gender",
       y= "Percentage", x= "Disease Status" )+
  geom_text(stat= "count", aes(label= scales::percent(..count..)/sum(..count..))), position = position_
  theme_classic()+
  scale_fill_brewer(palette = "Spectral")

```



```

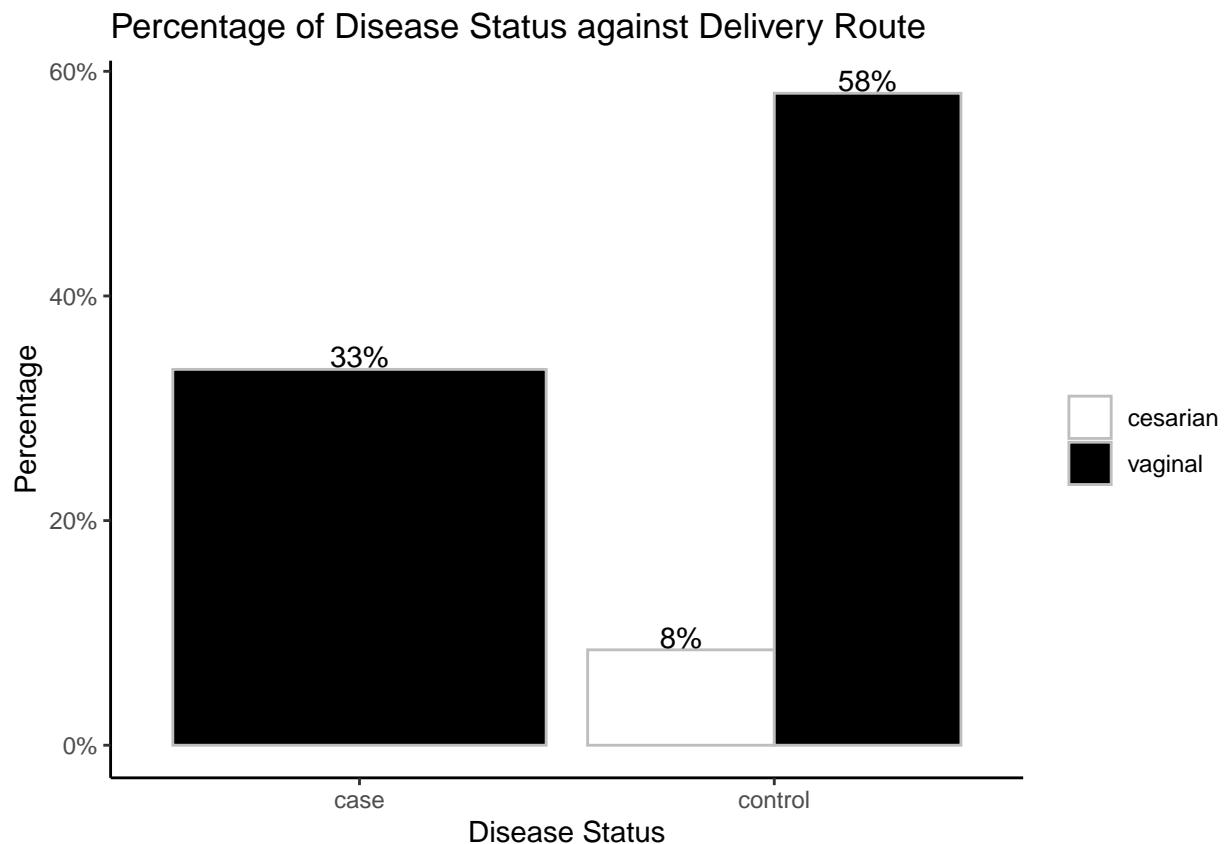
ggplot(data1, aes(x = Case_Control ,y=(..count..)/sum(..count..), fill= Delivery_Route)) +
  geom_bar(position = "dodge", color= "Gray")+
  scale_y_continuous(labels=scales::percent)+
  labs(title = "Percentage of Disease Status against Delivery Route",
       y= "Percentage", x= "Disease Status" )

```

```

y= "Percentage", x= "Disease Status" )+
geom_text(stat= "count", aes(label= scales::percent(..count..)/sum(..count..))), position = position_
theme_classic()+
scale_fill_manual(name = "", values = c("White", "Black"))

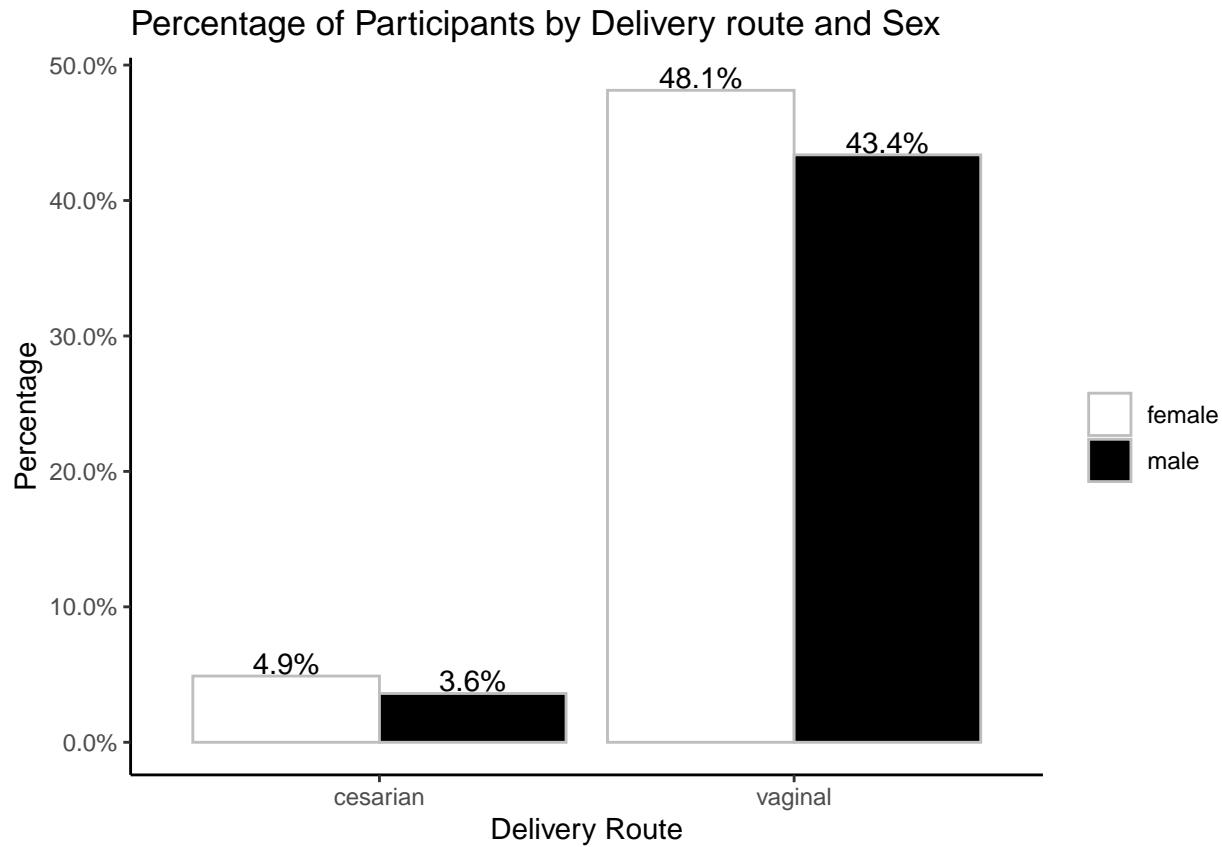
```



```

ggplot(data1, aes(x =Delivery_Route ,y= (.count..)/sum(..count..), fill= Gender)) +
  geom_bar(position = "dodge",color= "Grey")+
  scale_y_continuous(labels=scales::percent)+ 
  labs(title = "Percentage of Participants by Delivery route and Sex",
       y= "Percentage", x= "Delivery Route")+
  geom_text(stat= "count", aes(label= scales::percent(..count..)/sum(..count..))), position = position_
  theme_classic()+
  scale_fill_manual(name = "", values = c("White", "Black"))

```



```
#Test for Associations
```

```
##  
## Fisher's Exact Test for Count Data  
##  
## data: data1$Case_Control and data1$Gender  
## p-value = 0.543  
## alternative hypothesis: true odds ratio is not equal to 1  
## 95 percent confidence interval:  
## 0.8074825 1.5018846  
## sample estimates:  
## odds ratio  
## 1.100742  
  
##  
## Fisher's Exact Test for Count Data  
##  
## data: data1$Case_Control and data1$Delivery_Route  
## p-value = 6.86e-13  
## alternative hypothesis: true odds ratio is not equal to 1  
## 95 percent confidence interval:  
## 0.0000000 0.1010148  
## sample estimates:  
## odds ratio  
## 0
```

```

## Welch Two Sample t-test
## 
## data: data1$Age_at_Collection by data1$Case_Control
## t = 1.0195, df = 502.81, p-value = 0.3085
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -21.43301 67.66969
## sample estimates:
##   mean in group case mean in group control
##                 498.2731                  475.1547

## 
## Call:
## glm(formula = data1$Case_Control ~ data1$Gender + data1$Delivery_Route +
##       data1$Age_at_Collection, family = binomial)
## 
## Deviance Residuals:
##    Min      1Q  Median      3Q     Max
## -1.5032 -1.3854  0.9051  0.9596  1.0564
## 
## Coefficients:
##                               Estimate Std. Error z value Pr(>|z|)
## (Intercept)             1.763e+01  4.862e+02  0.036  0.971
## data1$Gendermale        1.375e-01  1.566e-01  0.878  0.380
## data1$Delivery_Routevaginal -1.702e+01  4.862e+02 -0.035  0.972
## data1$Age_at_Collection -2.614e-04  2.648e-04 -0.987  0.324
## 
## (Dispersion parameter for binomial family taken to be 1)
## 
## Null deviance: 990.52 on 776 degrees of freedom
## Residual deviance: 932.07 on 773 degrees of freedom
## AIC: 940.07
## 
## Number of Fisher Scoring iterations: 16

```

---

```

#Import data to create Phyloseq Object
#Required to have similar row names in OTU and taxonomy table

```

```

Taxonomy <- column_to_rownames(Taxonomy, var = "#OTU_ID")
OTU1 <- column_to_rownames(OTU, var = "#OTU_ID")
sampledata <- column_to_rownames(sampledata, var = "Sample_ID")

```

## Change OTU and taxonomy dataframes to matrices

```

OTUmat <- as.matrix(OTU1)
taxmat <- as.matrix(Taxonomy)

```

## create phyloseq object

```
OTUtd <- otu_table(OTUmat, taxa_are_rows = TRUE)
Taxonomytable <- tax_table(taxmat)
sampledata1 <- sample_data(sampledata)
phseqData = phyloseq(OTUtd, Taxonomytable, sampledata1)

#Validity checks

rank_names(phseqData)

## [1] "Domain"   "Phylum"    "Class"     "Order"     "Family"    "Genus"     "Species"

taxa_names(phseqData)

## [1] "4333897"  "190162"   "134726"   "679245"   "289734"   "302049"   "197991"
## [8] "3903651"  "184922"   "193946"   "189592"   "3211875"  "175261"   "197970"
## [15] "4390365"  "186624"   "4366867"  "175612"   "175184"   "4454531"  "198422"
## [22] "4448492"  "194101"   "730906"   "1740283"  "172777"   "3583645"  "355975"
## [29] "189920"   "798581"   "193672"   "3275562"  "4391262"  "2762219"  "176067"
## [36] "184990"   "4439360"  "1504042"  "306299"   "196957"   "2017729"  "3141094"
## [43] "4446902"  "1142029"  "4354235"  "198646"   "941096"   "1076969"  "536866"
## [50] "197930"   "782953"   "174818"   "176306"   "3472078"  "1992"     "4372612"
## [57] "593043"   "2565100"  "4425571"  "179826"   "184037"   "365621"   "4481861"
## [64] "197072"   "192684"   "368490"   "2700883"  "198909"   "175729"   "308544"
## [71] "4424598"  "4375664"  "271159"   "4385326"  "344525"   "192958"   "3926480"
## [78] "365536"   "194177"   "180999"   "4316928"  "4480189"  "186687"   "196990"
## [85] "72820"    "342397"   "197552"   "4297695"  "197364"   "577294"   "2544615"
## [92] "173863"   "825808"   "4401580"  "4060124"  "198183"   "4372625"  "187447"
## [99] "187569"   "197481"   "4342104"  "196246"   "4395096"  "2683271"  "4437515"
## [106] "535955"   "174672"   "1860112"  "4364745"  "198947"   "3943182"  "4419459"
## [113] "292735"   "313593"   "3134492"  "4020046"  "182289"   "59563"    "182886"
## [120] "656881"   "4381553"  "197022"   "1141218"  "1508541"  "340876"   "676211"
## [127] "349431"   "225919"   "212532"   "4278525"  "190490"   "403701"   "4467447"
## [134] "3801267"  "12574"    "2920309"  "3154070"  "199702"   "4433947"  "198071"
## [141] "2157225"  "192127"   "577170"   "302746"   "1839271"  "523140"   "2876801"
## [148] "588471"   "180509"   "175485"   "4469576"  "4435664"  "198209"   "189450"
## [155] "4103317"  "3272764"  "198930"   "312882"   "3537197"  "4426298"  "187126"
## [162] "179961"   "223059"   "2283862"  "191361"   "4416025"  "191081"   "174288"
## [169] "199694"   "162491"   "4372382"  "184209"   "192308"   "4439469"  "4339832"
## [176] "174862"   "851715"   "188079"   "3327894"  "192536"   "4438116"  "193528"
## [183] "192406"   "4449054"  "180462"   "4372528"  "174763"   "526804"   "195651"
## [190] "180826"   "189997"   "146554"   "4458959"  "170462"   "4329132"  "3907189"
## [197] "177111"   "4468234"  "181139"   "4325509"  "184760"   "587933"   "291090"
## [204] "211706"   "178238"   "4315974"  "4473788"  "4425214"  "367176"   "187882"
## [211] "187883"   "194151"   "4414476"  "4472399"  "340474"   "3805518"  "199145"
## [218] "174010"   "178439"   "4144205"  "188735"   "199761"   "4457427"  "193233"
## [225] "3439402"  "187945"   "3931537"  "2714942"  "4436046"  "190502"   "4453501"
## [232] "192444"   "180037"   "180216"   "2497335"  "4094866"  "175535"   "198449"
## [239] "4256470"   "493391"   "211935"   "4450010"  "4442130"  "328472"   "3887769"
## [246] "161423"   "4393532"  "4483015"  "186888"   "4424239"  "192383"   "3600504"
```

```

## [253] "4309301" "305318" "199293" "195508" "185607" "197004" "471180"
## [260] "195465" "180606" "175751" "4477696" "190058" "716984" "190301"
## [267] "4381338" "178799" "183604" "199430" "4183249" "177581" "182073"
## [274] "191601" "4464173" "4420408" "4411295" "3393191" "322114" "194686"
## [281] "4447072" "187077" "2415144" "180414" "196664" "3709990" "259772"
## [288] "578016" "54794" "553611" "48084" "1751298" "179657" "4396426"
## [295] "4472091" "324894" "4378683" "197760" "4383953" "4434334" "2575651"
## [302] "4451899" "2549971" "4439603" "328617" "365385" "2986828" "4437814"
## [309] "358798" "4347159" "179200" "189208" "359314" "3251419" "2979308"
## [316] "181864" "4331782" "2724175" "4481613" "176753" "356745" "4306048"
## [323] "190761" "4306262" "3475269" "182383" "197490" "184925" "180563"
## [330] "288810" "326482" "4465907" "1830364" "357261" "4357811" "4457268"
## [337] "199054" "2309802" "3265161" "162623" "180123" "295146" "180552"
## [344] "176967" "187210" "335577" "4419650" "348304" "179911" "193075"
## [351] "367456" "194899" "4473596" "4344860" "3039313" "363735" "193887"
## [358] "4232045" "4390319" "190100" "4111715" "4379957" "186921" "4335781"
## [365] "4381555" "177175" "193667" "197334" "187952" "2061739" "193174"
## [372] "2298935" "332185" "176604" "292521" "189630" "183970" "194659"
## [379] "2148365" "4439690" "4404220" "4004991" "177561" "191874" "191872"
## [386] "175704" "182911" "4413347" "185411" "1848900" "180352" "3443092"
## [393] "173135" "2704013" "177237" "174614" "4383922" "194053" "207390"
## [400] "4445673" "2177184" "182506" "179472" "3531225" "183496" "180289"
## [407] "307113" "231952" "198740" "350832" "186263" "4370024" "2654263"
## [414] "191595" "197864" "189647" "177754" "3195500" "180528" "180529"
## [421] "3450454" "208739" "188127" "362765" "191399" "1096610" "354850"
## [428] "206574" "3413566" "177222" "593422" "194670" "1917420" "197458"
## [435] "851938" "304047" "4079463" "182245" "302932" "196307" "2072645"
## [442] "4354477" "340113" "3943186" "192711" "216111" "193666" "3576174"
## [449] "185235" "350865" "1145098" "4456252" "4345850" "170652" "191928"
## [456] "182054" "199677" "178763" "141145" "193477" "189271" "183662"
## [463] "177986" "787663" "183030" "184864" "16513" "567960" "3014082"
## [470] "4383924" "189150" "178015" "2250985" "4375000" "193968" "193763"
## [477] "4447950" "199190" "184910" "4340358" "192735" "186955" "1654474"
## [484] "176057" "681370" "349257" "267718" "185192" "4326080" "1142110"
## [491] "199279" "183849" "1085832" "195929" "178151" "4373152" "198956"
## [498] "190980" "187782" "182517" "363029" "4452633" "196518" "4422456"
## [505] "192461" "4094259" "194758" "3713805" "2689396" "191442" "3203801"
## [512] "2656868" "177515" "4337755" "566243" "179905" "287514" "183340"
## [519] "195015" "2132002" "199490" "842594" "4444262" "311820" "360660"
## [526] "182643" "198198" "1100972" "4377328" "4045882" "358008" "181754"
## [533] "3244992" "173996" "299837" "4388775" "334336" "189403" "181899"
## [540] "3588390" "182874" "318970" "175550" "724120" "566976" "178462"
## [547] "152485" "3756485" "355197" "184477" "347529" "3563235" "176865"
## [554] "4426877" "181140" "3929758" "4296424" "175168" "196100" "511378"
## [561] "317677" "3633129" "1146349" "955102" "4432433" "864465" "176300"
## [568] "299267" "185420" "1928156" "179267" "176244" "2123717" "189782"
## [575] "175145" "184897" "28914" "193367" "3265556" "2686384" "191214"
## [582] "210542" "183698" "189708" "340547" "187051" "964220" "3715618"
## [589] "579851" "181560" "2840201" "210371" "3857426" "174497" "3799784"
## [596] "301578" "4326219" "178885" "538000" "4455308" "4323124" "195646"
## [603] "255367" "270382" "352347" "1046997" "4376828" "191043" "306704"
## [610] "178928" "187623" "4343631" "138389" "334459" "181155" "342110"
## [617] "192625" "4451251" "157327" "337538" "175560" "360636" "180468"
## [624] "188930" "177349" "2318497" "1062051" "661266" "3439403" "265871"

```

```

## [631] "245625"   "392887"   "357046"   "174840"   "2365946"   "2617854"   "176704"
## [638] "45363"    "3028273"   "188008"   "328105"   "4473295"   "192046"    "4332082"
## [645] "3794053"   "316732"   "188856"   "186478"   "358939"    "3424669"   "178001"
## [652] "290281"    "212698"   "193551"   "189205"   "196219"    "4307484"   "163243"
## [659] "187385"    "209760"   "4301298"  "196315"   "194383"    "192963"    "3225199"
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## [2010] "189936"  "2978122" "186272"  "2399341" "1986406" "102471"  "3693042"
## [2017] "759816"  "294254"  "19611"   "4429608" "4397439" "179018"  "4451906"
## [2024] "842193"  "4355379" "191718"  "4297222" "319411"  "4004998" "1068836"
## [2031] "4371463"  "168071"  "357930"  "189754"  "175967"  "303269"  "129401"
## [2038] "3278416"  "183925"  "183804"  "348642"  "186851"  "113581"  "1657491"
## [2045] "309107"  "3438642" "293594"  "4396298" "4153054" "190961"  "185802"
## [2052] "4336943"  "11111522" "3579831" "176980"  "1012948" "179744"  "847934"
## [2059] "3806695"  "4425663"  "183439"  "4483045" "540055"  "239863"  "179435"
## [2066] "364563"  "329820"  "4422405" "2932557" "181167"  "584176"  "232696"
## [2073] "317286"  "3228684"  "556126"  "3101394" "1147925" "4480176" "186358"
## [2080] "190241"  "179392"  "178713"  "326936"  "298937"  "2883968" "4453773"
## [2087] "4472551"  "136526"  "320888"  "193868"  "4407747" "178970"  "815422"
## [2094] "1034960"  "849393"  "522595"  "158113"  "544996"  "4307265" "196590"
## [2101] "4473883"  "564290"  "386273"  "178253"  "4178726" "185914"  "366722"
## [2108] "174943"  "179989"  "305946"  "1028036" "4480359" "181961"  "4154872"
## [2115] "548503"  "4308811" "177301"  "4357713" "302333"  "2699610" "2829179"
## [2122] "4381422"  "4416614" "663500"  "178064"  "547913"  "3465233" "2024346"
## [2129] "185972"  "195723"  "710275"  "178809"  "4423553" "190772"  "195081"
## [2136] "177758"  "185603"  "179402"  "182416"  "302321"  "4459940" "363430"

```

```

## [2143] "186233"   "351163"   "327851"   "174019"   "368412"   "158027"   "4404507"
## [2150] "130048"   "3409355"  "4368575"  "815573"   "840961"   "358712"   "4358599"
## [2157] "685156"   "3550973"  "179662"   "3609803" "316728"   "2232355" "14920"
## [2164] "2134134"  "333768"   "579541"   "292758"   "4333921" "2820255" "353330"
## [2171] "178773"   "4474760"  "361864"   "4397098" "182142"   "288258"   "610111"
## [2178] "105409"   "725198"   "4012414" "302880"   "184314"   "268506"   "960871"
## [2185] "4480861"  "4415965"  "724147"   "646800"   "4338624" "107044"   "4307122"
## [2192] "304088"   "195871"   "214682"   "1106254" "347783"   "205613"   "846798"
## [2199] "177518"   "158423"   "16340"    "414949"   "4310326" "4353913" "180982"
## [2206] "1145262"  "747563"   "157470"   "1131759" "2423305" "4300690" "342844"
## [2213] "296858"   "279048"   "511229"   "300618"   "109633"   "4465124" "308386"
## [2220] "191278"   "1148151"  "113542"   "158215"   "2377731" "41128"   "4352875"
## [2227] "320915"   "3785400"  "574720"   "2965498" "4399109" "4299126" "185593"
## [2234] "158270"   "342777"   "842596"   "144395"   "229348"   "187121"   "208972"

```

```
sample_variables(phseqData)
```

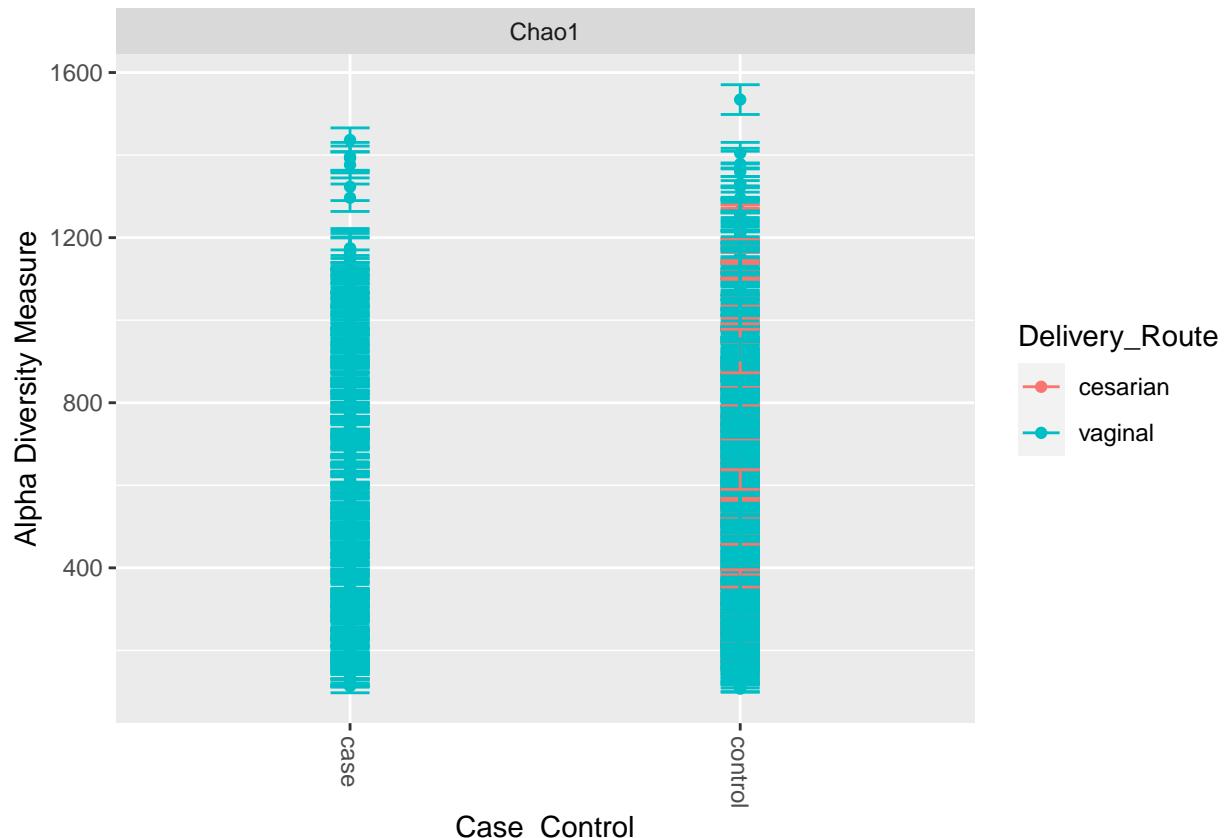
```

## [1] "Subject_ID"          "Case_Control"        "Gender"
## [4] "Delivery_Route"      "Age_at_Collection"

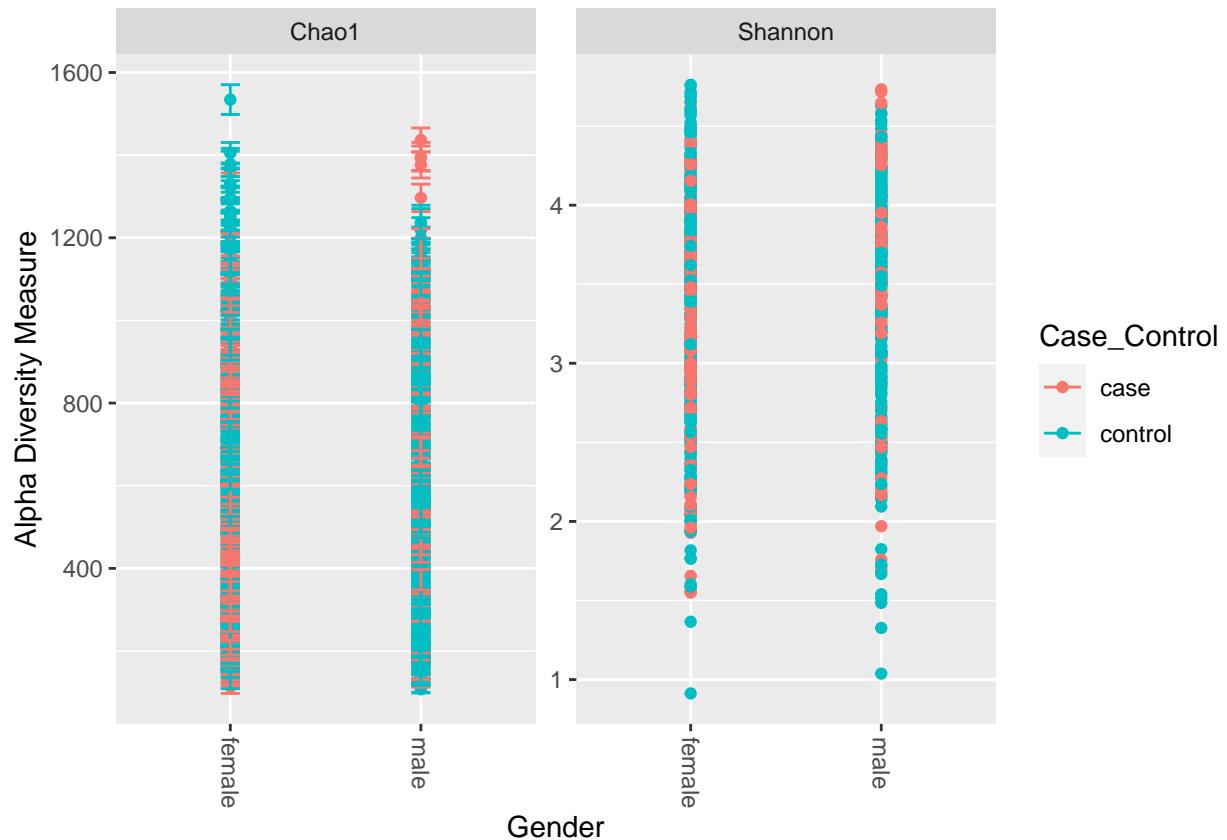
```

#Alpha Diversity

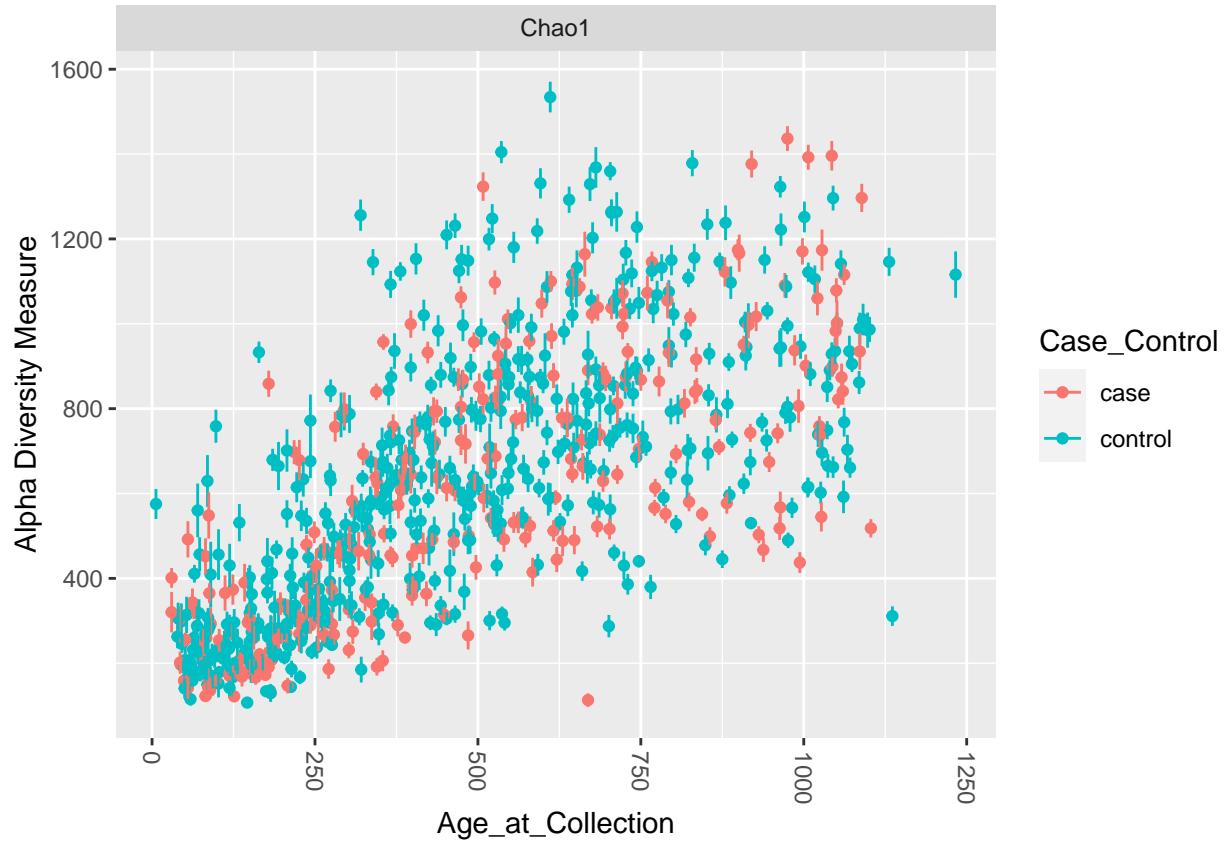
```
plot_richness(phseqData, x = "Case_Control", color="Delivery_Route", measures= "Chao1")
```



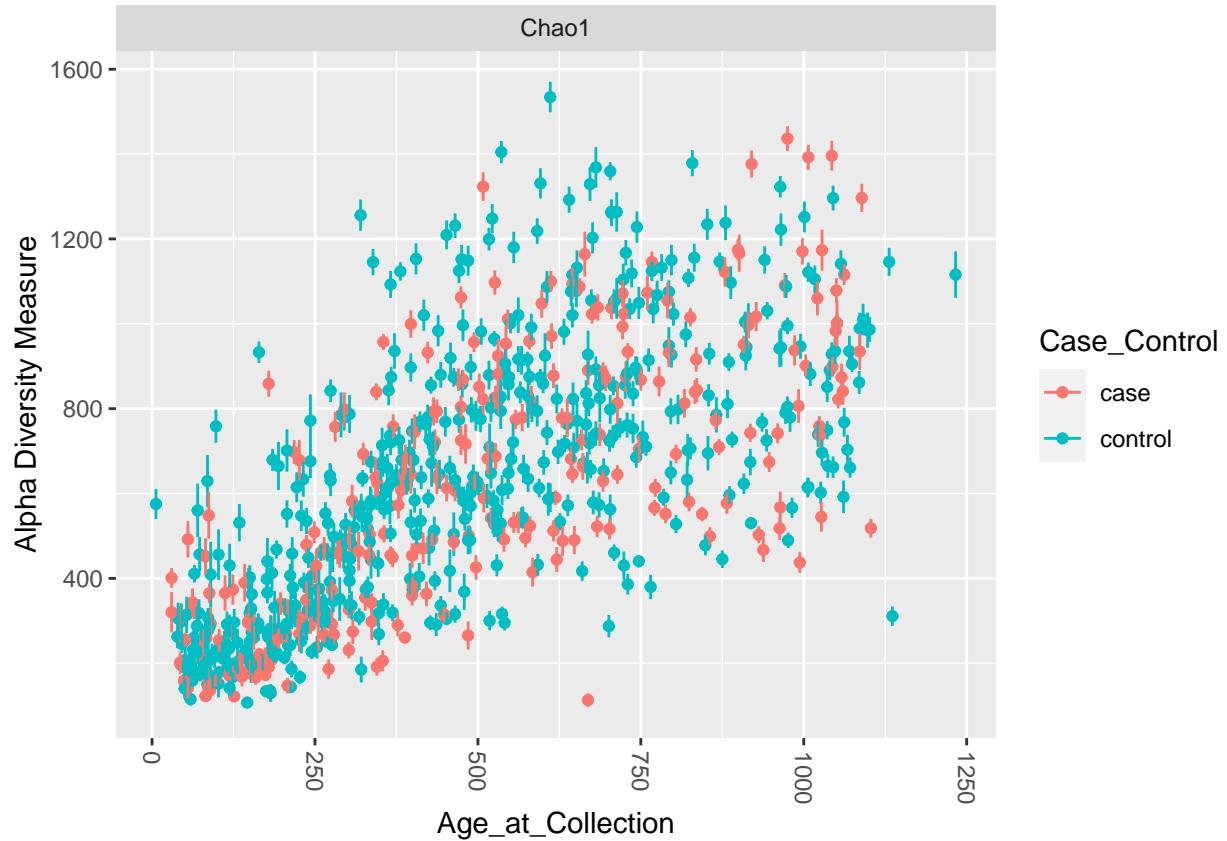
```
plot_richness(phseqData, x = "Gender", color="Case_Control", measures= c("Chao1", "shannon"))
```



```
plot_richness(phseqData, x = "Age_at_Collection", color="Case_Control", measures= "Chao1")
```



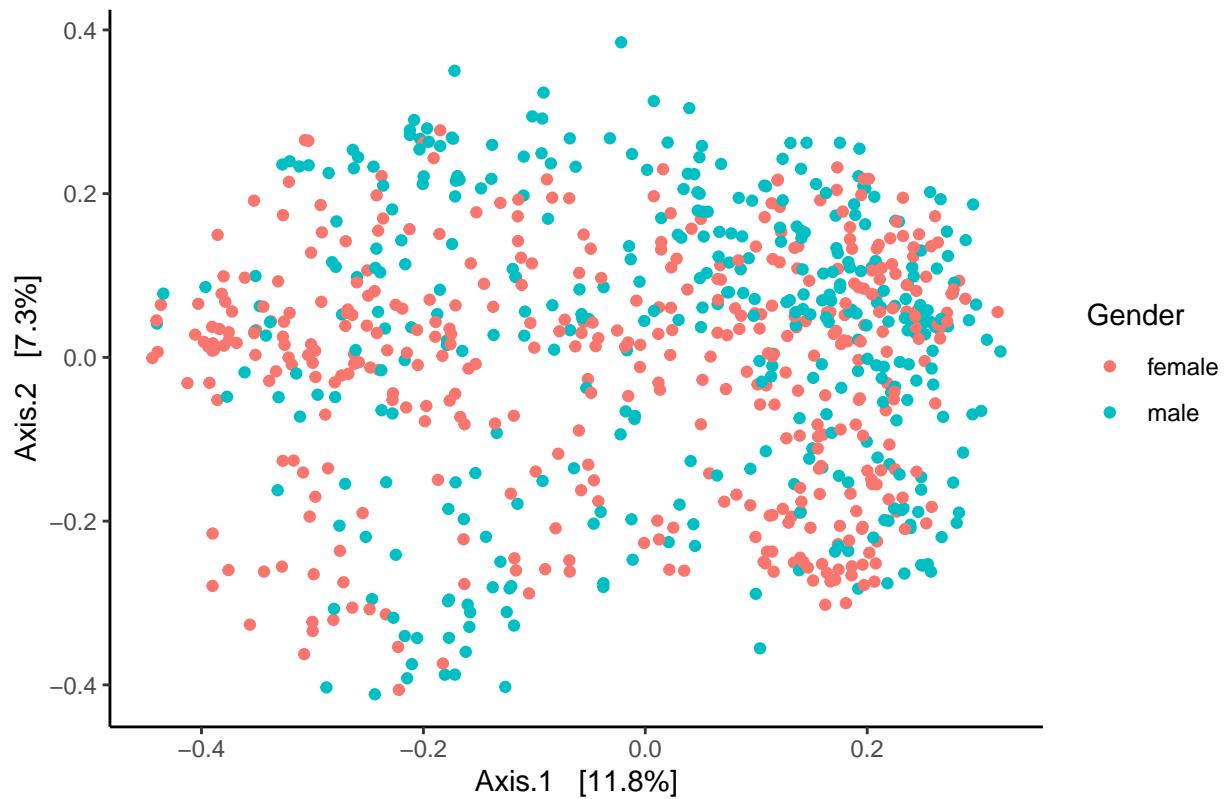
```
plot_richness(phseqData, x = "Age_at_Collection", color="Case_Control", measures= "Chao1")
```



#Ordination Plots

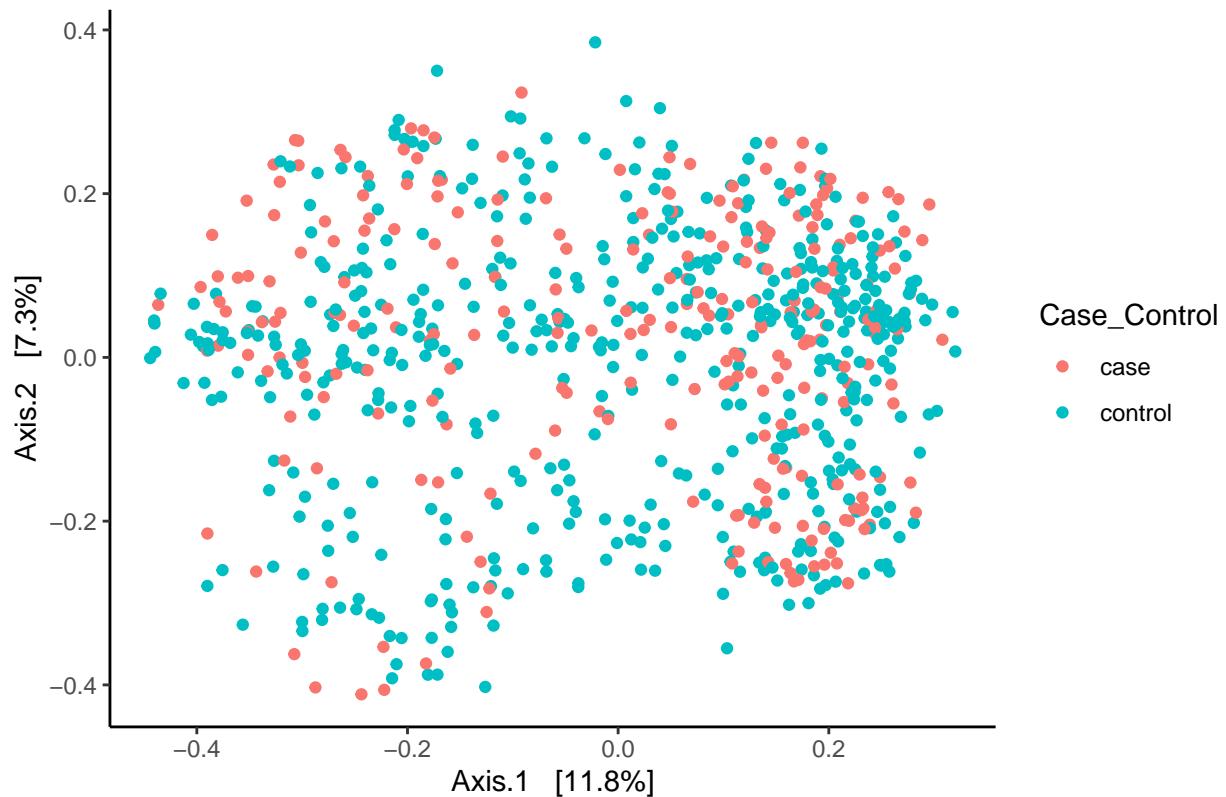
```
ordinate(phseqData, "PCoA", "bray")%>%
plot_ordination(phseqData, ., color = "Gender", title = "The Diversity of samples Grouped by Gender")+
theme_classic()
```

The Diversity of samples Grouped by Gender



```
ordinate <- ordinate(phseqData, "PCoA", "bray")
plot_ordination(phseqData, ordinate, color = "Case_Control", title = "The Diversity of samples Grouped by
  theme_classic()
```

The Diversity of samples Grouped by Disease Status



```
ordinate(phseqData, "NMDS", "bray")%>%
  plot_ordination(phseqData, ., type="taxa", color="Phylum", title = "The Diversity of samples Grouped by
  theme_classic()
```

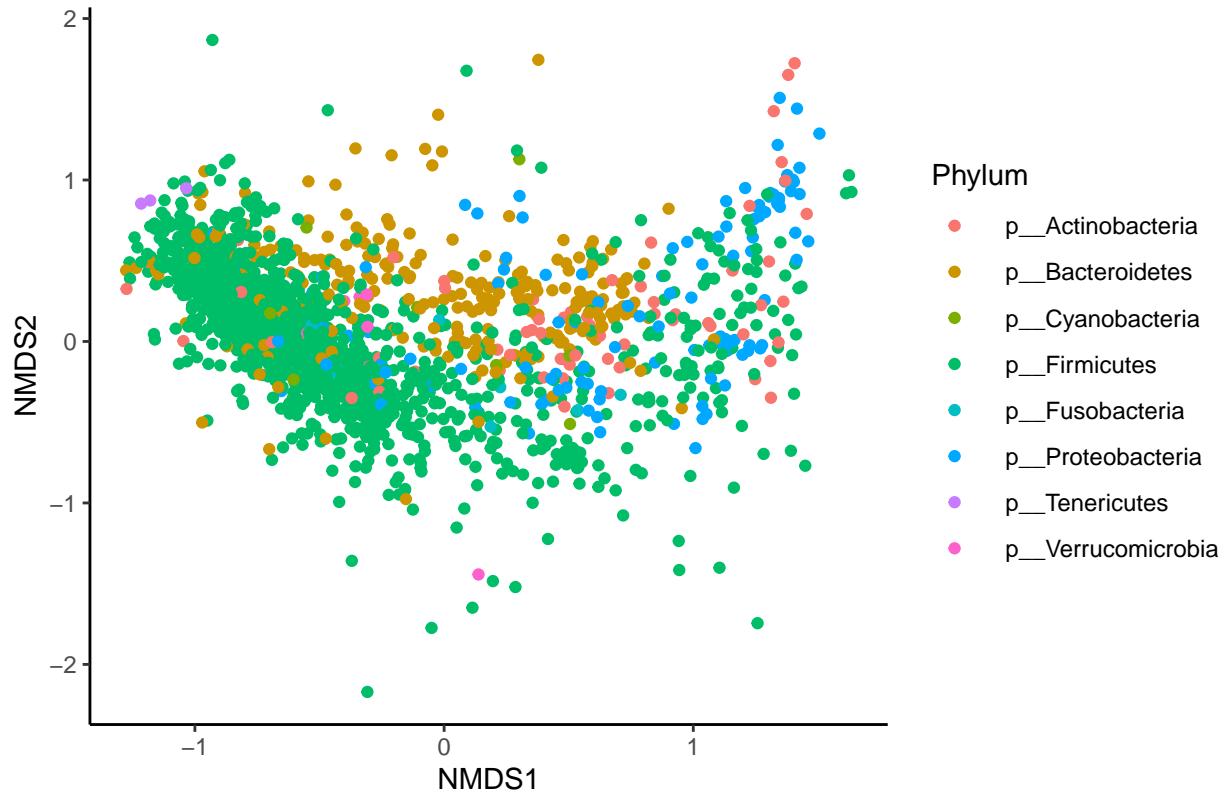
```
## Square root transformation
## Wisconsin double standardization
## Run 0 stress 0.181114
## Run 1 stress 0.1950063
## Run 2 stress 0.1861675
## Run 3 stress 0.1864408
## Run 4 stress 0.1844563
## Run 5 stress 0.1894819
## Run 6 stress 0.1894177
## Run 7 stress 0.1946945
## Run 8 stress 0.1846674
## Run 9 stress 0.1855829
## Run 10 stress 0.1853375
## Run 11 stress 0.1833278
## Run 12 stress 0.1874251
## Run 13 stress 0.1853481
## Run 14 stress 0.1861222
## Run 15 stress 0.1845012
## Run 16 stress 0.1870174
## Run 17 stress 0.1904323
## Run 18 stress 0.1874965
```

```

## Run 19 stress 0.1886607
## Run 20 stress 0.1874118
## *** No convergence -- monoMDS stopping criteria:
##   10: no. of iterations >= maxit
##   5: stress ratio > sratmax
##   5: scale factor of the gradient < sfgrmin

```

### The Diversity of samples Grouped by Disease Status



```
#Differential Abundance (Probably wrong!)
```

```

OTUmat <- OTUmat+1
OTUData = otu_table(OTUmat, taxa_are_rows = TRUE)
phseqData = phyloseq(OTUData, Taxonomytable, sampledata1)
deseqData <- phyloseq_to_deseq2(phseqData, ~ Case_Control)

```

```
## converting counts to integer mode
```

```

## it appears that the last variable in the design formula, 'Case_Control',
## has a factor level, 'control', which is not the reference level. we recommend
## to use factor(...,levels=...) or relevel() to set this as the reference level
## before proceeding. for more information, please see the 'Note on factor levels'
## in vignette('DESeq2').

```

```
deseqData2 <- DESeq(deseqData)
```

```
## estimating size factors
```

```

## estimating dispersions

## gene-wise dispersion estimates

## mean-dispersion relationship

## -- note: fitType='parametric', but the dispersion trend was not well captured by the
##   function: y = a/x + b, and a local regression fit was automatically substituted.
##   specify fitType='local' or 'mean' to avoid this message next time.

## final dispersion estimates

## fitting model and testing

## -- replacing outliers and refitting for 991 genes
## -- DESeq argument 'minReplicatesForReplace' = 7
## -- original counts are preserved in counts(dds)

## estimating dispersions

## fitting model and testing

output <- results(deseqData2)
deseq.output <- as.data.frame(output)
deseq.output%>% arrange(log2FoldChange, padj)

##          baseMean log2FoldChange      lfcSE       stat     pvalue
## 357305    36.833238   -4.4554614229 0.20411659 -21.828022161 1.257449e-105
## 3039313    31.672260   -3.8895618382 0.20546229 -18.930782040 6.361100e-80
## 113069     27.079313   -3.7501651750 0.20246541 -18.522498142 1.359786e-76
## 2134134     6.506172   -3.5955198666 0.15759681 -22.814673785 3.278901e-115
## 840376     29.796294   -3.3580598413 0.20462011 -16.411191750 1.590525e-60
## 4401580    139.428182   -3.2092518663 0.19699027 -16.291423335 1.135554e-59
## 354574      6.171230   -3.1440032662 0.14227237 -22.098480890 3.268802e-108
## 1105984     4.104460   -2.9308902665 0.14526958 -20.175526887 1.606427e-90
## 4396292     7.202524   -2.8153213715 0.15935778 -17.666670743 7.573680e-70
## 4020502    198.255394   -2.5778122263 0.23979625 -10.750010723 5.925473e-27
## 4463108     3.222651   -2.5751114033 0.14039723 -18.341610896 3.852115e-75
## 193314      3.368792   -2.4096644198 0.14305485 -16.844339567 1.154507e-63
## 196382      3.433317   -2.4089446716 0.12997912 -18.533319985 1.112089e-76
## 4372003     3.816606   -2.3780605909 0.14582147 -16.308027506 8.654252e-60
## 336559      13.924977   -2.3135753022 0.19268563 -12.006994470 3.264966e-33
## 588471      75.564651   -2.2279147382 0.23930797 -9.309822591 1.280460e-20
## 363997      2.663528   -2.1571226855 0.12909556 -16.709503444 1.117623e-62
## 849535      2.376141   -1.8870843608 0.13178116 -14.319834183 1.645153e-46
## 41229       2.249052   -1.8553894248 0.12647084 -14.670491659 9.962059e-49
## 4323124     5.345370   -1.8538282215 0.15895173 -11.662837346 1.973543e-31
## 4391009     8.676015   -1.8397927998 0.16782035 -10.962870801 5.764133e-28
## 16054       34.279064   -1.7714101677 0.22309882 -7.940024728 2.021409e-15
## 4428313     3.426755   -1.7440847782 0.14569388 -11.970885578 5.048686e-33
## 331150      2.570599   -1.7108986968 0.12325106 -13.881412131 8.211017e-44

```

## 4408801	4.558242	-1.6890409087	0.15340768	-11.010146043	3.414498e-28
## 183439	2.927428	-1.6718178196	0.13837607	-12.081697459	1.319669e-33
## 4477861	4.162796	-1.6538319820	0.13330811	-12.406087140	2.422029e-35
## 3244896	17.799962	-1.6256861578	0.20036040	-8.113809648	4.905697e-16
## 4333921	1.929961	-1.6125590684	0.12115285	-13.310120364	2.021558e-40
## 179583	4.250742	-1.5367792591	0.14215382	-10.810678604	3.063951e-27
## 1135084	2.316964	-1.5146120569	0.11984027	-12.638590076	1.293527e-36
## 179291	2.575202	-1.4932878408	0.12484718	-11.960925454	5.692394e-33
## 539581	4.517823	-1.4932156662	0.15520681	-9.620812572	6.531315e-22
## 4374302	65.236161	-1.4331746250	0.21629288	-6.626083214	3.447109e-11
## 3325758	2.790781	-1.4277714900	0.11382160	-12.543941490	4.291099e-36
## 266210	2.653861	-1.4137131366	0.13225489	-10.689307126	1.142211e-26
## 4424063	2.866845	-1.4112796861	0.12064092	-11.698184275	1.302098e-31
## 190639	3.381178	-1.4060022143	0.14784157	-9.510195246	1.903050e-21
## 4350477	5.221077	-1.3948635493	0.15472479	-9.015126312	1.966437e-19
## 4339144	2.500855	-1.3891034745	0.13412463	-10.356810923	3.897403e-25
## 41128	1.812284	-1.3727960204	0.11639065	-11.794727795	4.155421e-32
## 4411295	61.658699	-1.3645832720	0.22257549	-6.130878566	8.739510e-10
## 547913	1.844160	-1.3508649705	0.12207577	-11.065790734	1.838343e-28
## 130103	4.745276	-1.3269042629	0.15173237	-8.745030652	2.229551e-18
## 2820255	1.723855	-1.2926924692	0.11319451	-11.420098658	3.318570e-30
## 4416614	2.223679	-1.2926268861	0.12406088	-10.419294535	2.024493e-25
## 4370025	6.127579	-1.2726229810	0.14822172	-8.585941344	9.009563e-18
## 1142029	34.334004	-1.2568063449	0.17467021	-7.195310131	6.231895e-13
## 178885	253.111666	-1.2458229246	0.25064723	-4.970423602	6.680678e-07
## 839684	2.592778	-1.2380988723	0.12401674	-9.983320937	1.803282e-23
## 178064	1.936294	-1.1873361442	0.11929657	-9.952810742	2.451593e-23
## 181560	41.444554	-1.1846852672	0.20433558	-5.797743449	6.721317e-09
## 4329132	3.049049	-1.1814413154	0.12414950	-9.516279218	1.794908e-21
## 279048	2.356572	-1.1589793571	0.13283486	-8.724963602	2.662663e-18
## 186448	4.532245	-1.1456455895	0.15994669	-7.162671361	7.911987e-13
## 288004	3.740947	-1.1172743015	0.14982899	-7.456996585	8.851700e-14
## 109633	1.634770	-1.1120166106	0.11842278	-9.390225671	5.987184e-21
## 175932	2.236868	-1.1064510080	0.12227780	-9.048666379	1.447250e-19
## 174943	1.646117	-1.0954794610	0.11144715	-9.829587191	8.396223e-23
## 4368575	1.620559	-1.0899743104	0.11533798	-9.450263687	3.379782e-21
## 4405104	29.430635	-1.0868233478	0.21012483	-5.172274793	2.312611e-07
## 4352875	1.600891	-1.0861641262	0.11036835	-9.841264424	7.476521e-23
## 4393172	5.435171	-1.0700128986	0.13664628	-7.830530558	4.858154e-15
## 579541	1.544223	-1.0697553560	0.11556670	-9.256605215	2.110352e-20
## 287813	2.176182	-1.0630041167	0.12062821	-8.812234621	1.226755e-18
## 308386	2.047527	-1.0519043036	0.12910897	-8.147414262	3.717883e-16
## 186723	20.964747	-1.0516742981	0.16014022	-6.567208850	5.126712e-11
## 4468892	2.538836	-1.0441649841	0.12384781	-8.431032936	3.426273e-17
## 194670	5.999997	-1.0318456691	0.15951488	-6.468648209	9.888350e-11
## 4475642	1.777883	-1.0237706234	0.10733768	-9.537849301	1.458250e-21
## 4451907	1.816219	-1.0166731468	0.11261530	-9.027841762	1.750908e-19
## 4442130	74.093451	-1.0159915066	0.16872108	-6.021722355	1.725707e-09
## 562244	2.400556	-1.0104101909	0.13325177	-7.582714801	3.383982e-14
## 324015	1.887742	-0.9891988073	0.11506439	-8.596914983	8.188760e-18
## 190913	4.293601	-0.9755138307	0.14744201	-6.616254396	3.684142e-11
## 168439	62.707879	-0.9738754121	0.22854726	-4.261155559	2.033726e-05
## 183207	12.346460	-0.9732779016	0.17444810	-5.579183298	2.416505e-08
## 4415649	2.927258	-0.9669361418	0.12958324	-7.461891726	8.528896e-14

## 178183	10.271574	-0.9659850942	0.18202439	-5.306899357	1.115057e-07
## 4467447	442.294000	-0.9570548632	0.23277396	-4.111520369	3.930622e-05
## 179861	3.209749	-0.9420379724	0.13328091	-7.068063731	1.571104e-12
## 4281639	4.806138	-0.9389213136	0.13846820	-6.780771964	1.195354e-11
## 178242	3.351970	-0.9317873490	0.14764336	-6.311068288	2.771159e-10
## 4391326	3.556034	-0.9311281570	0.14743586	-6.315479669	2.693248e-10
## 366794	19.465412	-0.9288934025	0.16162398	-5.747250049	9.070654e-09
## 294794	2.376008	-0.9261765274	0.12773094	-7.250995742	4.137187e-13
## 801210	2.435234	-0.9253254334	0.11547996	-8.012866216	1.120655e-15
## 186352	5.012386	-0.9205813008	0.14942808	-6.160698209	7.242490e-10
## 184525	11.316036	-0.9198264174	0.16146165	-5.696872518	1.220251e-08
## 4440670	4.041682	-0.9143307581	0.15454740	-5.916183373	3.294978e-09
## 185836	3.311199	-0.9105632317	0.14662711	-6.210060648	5.296416e-10
## 4144205	2.949796	-0.9093553612	0.12064509	-7.537441919	4.792800e-14
## 4232048	2.453250	-0.9087719431	0.11199912	-8.114098674	4.894036e-16
## 3475269	3.151202	-0.9015722116	0.11679482	-7.719282637	1.169862e-14
## 174792	2.943237	-0.9009687249	0.11932381	-7.550619748	4.331919e-14
## 4439690	2.082763	-0.9000045178	0.11822452	-7.612672001	2.684865e-14
## 353330	1.462087	-0.8933910791	0.10944829	-8.162677438	3.276787e-16
## 4420408	31.444956	-0.8869615215	0.17705023	-5.009660264	5.452620e-07
## 182577	13.167289	-0.8851721254	0.14852883	-5.959598208	2.528589e-09
## 176507	4.562500	-0.8768378031	0.11835393	-7.408607259	1.276327e-13
## 4481861	28.859134	-0.8697116699	0.16386386	-5.307525993	1.111232e-07
## 185731	4.794533	-0.8669407743	0.11581398	-7.485631799	7.120376e-14
## 193644	14.585787	-0.8635571631	0.14833881	-5.821518900	5.831521e-09
## 175559	3.846839	-0.8619784106	0.12186208	-7.073392943	1.511906e-12
## 1952	372.225460	-0.8535725871	0.26349332	-3.239446770	1.197618e-03
## 4360055	1.771180	-0.8525855584	0.10561579	-8.072519441	6.886220e-16
## 4460021	8.162542	-0.8520022940	0.17407538	-4.894444548	9.858377e-07
## 187356	5.161576	-0.8515732453	0.13351271	-6.378218702	1.791595e-10
## 353615	3.162775	-0.8502047543	0.13346348	-6.370317363	1.886375e-10
## 4466275	2.242651	-0.8395195318	0.11496178	-7.302596932	2.822658e-13
## 292057	1.530044	-0.8348562441	0.11153699	-7.485016891	7.153794e-14
## 4349946	3.376972	-0.8270566298	0.14721253	-5.618113118	1.930541e-08
## 15728	37.306503	-0.8252612175	0.20383206	-4.048731143	5.149606e-05
## 179267	90.727494	-0.8236232370	0.21778098	-3.781887812	1.556435e-04
## 182073	6.292355	-0.8205102943	0.16873215	-4.862797678	1.157381e-06
## 3943186	26.742020	-0.8200735816	0.20905962	-3.922678087	8.757012e-05
## 166637	4.984283	-0.8196369536	0.15390820	-5.325492563	1.006798e-07
## 4416025	49.262192	-0.8161285046	0.19939590	-4.093005426	4.258178e-05
## 4420417	6.5561527	-0.8137924570	0.16811391	-4.840720545	1.293692e-06
## 4476065	26.194796	-0.8123804006	0.22233693	-3.653825703	2.583617e-04
## 174010	9.207146	-0.8113113960	0.14685931	-5.524412247	3.305904e-08
## 526682	7.024638	-0.8050319516	0.14733694	-5.463884130	4.658277e-08
## 3321163	2.921488	-0.8033776946	0.11521486	-6.972865271	3.105500e-12
## 185584	3.732735	-0.8028127575	0.13212787	-6.076029016	1.231951e-09
## 177111	6.853177	-0.7990484050	0.13858133	-5.765916532	8.121525e-09
## 186687	32.563362	-0.7982214515	0.15654578	-5.098964899	3.415159e-07
## 3225199	2.273416	-0.7891346729	0.12253832	-6.439901059	1.195514e-10
## 198740	2.254880	-0.7888289069	0.12217383	-6.456610959	1.070737e-10
## 186358	1.913941	-0.7883582938	0.11454962	-6.882242468	5.891762e-12
## 332718	1.933115	-0.7882407110	0.11640509	-6.771531115	1.274265e-11
## 184342	11.437924	-0.7848740157	0.16141560	-4.862442242	1.159462e-06
## 2309802	3.935530	-0.7833942070	0.12157912	-6.443492808	1.167548e-10

## 578016	638.364759	-0.7753638432	0.22995317	-3.371833634	7.466954e-04
## 3924627	49.965514	-0.7748956342	0.21386324	-3.623323179	2.908421e-04
## 130663	2.429667	-0.7722544247	0.11345866	-6.806483107	1.000135e-11
## 1667433	1.996585	-0.7700291804	0.10778300	-7.144254647	9.048552e-13
## 192231	4.559994	-0.7672660452	0.11819781	-6.491372522	8.505787e-11
## 2700883	51.992414	-0.7632309026	0.21176794	-3.604090872	3.132475e-04
## 4356065	4.263727	-0.7596497655	0.13542177	-5.609509750	2.029006e-08
## 270094	4.948847	-0.7528175961	0.13024585	-5.779973977	7.471218e-09
## 328544	5.319036	-0.7492715285	0.12203922	-6.139596128	8.273155e-10
## 185607	25.332184	-0.7429446995	0.15104071	-4.918837437	8.705973e-07
## 193709	26.975503	-0.7263328085	0.16474232	-4.408902460	1.038958e-05
## 211907	5.800244	-0.7244810396	0.12535923	-5.779239616	7.503899e-09
## 362568	2.722228	-0.7228479868	0.10874511	-6.647176834	2.987680e-11
## 4381430	70.7776160	-0.7212256200	0.18846438	-3.826853737	1.297916e-04
## 180826	52.306409	-0.7130483074	0.20843966	-3.420885898	6.241751e-04
## 4368216	6.851143	-0.7104721732	0.17809462	-3.989296167	6.626964e-05
## 2555599	6.564623	-0.7101360781	0.15358953	-4.623596847	3.771425e-06
## 180037	11.603071	-0.7097728162	0.15218335	-4.663932277	3.102235e-06
## 4103317	870.293264	-0.7088960556	0.23179101	-3.058341498	2.225658e-03
## 332732	3.713805	-0.7051607217	0.13316255	-5.295488086	1.186989e-07
## 180857	1.452938	-0.6896057874	0.11104504	-6.210144718	5.293583e-10
## 54563	2.618864	-0.6894837590	0.12003013	-5.744255728	9.232617e-09
## 367889	3.332218	-0.6833922474	0.11750023	-5.816092641	6.023909e-09
## 134265	2.278754	-0.6799498222	0.11698885	-5.812090780	6.169737e-09
## 180572	2.553922	-0.6769058759	0.11162040	-6.064356170	1.324833e-09
## 840961	1.388531	-0.6756270401	0.10828090	-6.239577394	4.387546e-10
## 185570	15.297444	-0.6753096997	0.18630884	-3.624678811	2.893208e-04
## 184037	37.039881	-0.6710555260	0.15858282	-4.231577832	2.320577e-05
## 312586	2.327369	-0.6649806830	0.11301634	-5.883934097	4.006274e-09
## 3588390	373.812373	-0.6643744527	0.19663210	-3.378769100	7.281113e-04
## 181422	17.835725	-0.6591055778	0.14848407	-4.438897715	9.042077e-06
## 583500	1.664983	-0.6589673558	0.11186959	-5.890495918	3.850384e-09
## 4340358	17.695580	-0.6588106918	0.17031021	-3.868298306	1.095975e-04
## 3426658	11.810210	-0.6546535479	0.14296257	-4.579195389	4.667680e-06
## 193873	4.334805	-0.6515593310	0.11516542	-5.657595441	1.535085e-08
## 2018038	2.253290	-0.6466926488	0.09976853	-6.481929983	9.055667e-11
## 197052	1.510355	-0.6461854549	0.09538904	-6.774210756	1.250872e-11
## 190100	28.839254	-0.6440863050	0.14887191	-4.326446133	1.515344e-05
## 326936	1.863706	-0.6436601160	0.11888312	-5.414226147	6.155433e-08
## 3598692	1.625551	-0.6425169295	0.10650170	-6.032926526	1.610166e-09
## 181918	2.666368	-0.6422197056	0.12366609	-5.193175591	2.067370e-07
## 194672	20.944548	-0.6403779389	0.18022124	-3.553287928	3.804478e-04
## 180529	16.935725	-0.6393905405	0.18067335	-3.538931181	4.017506e-04
## 178238	16.972323	-0.6388378272	0.15030782	-4.250196779	2.135828e-05
## 1141218	2.417825	-0.6373180657	0.13027926	-4.891938101	9.984785e-07
## 3439403	42.899105	-0.6371241787	0.16818669	-3.788196277	1.517450e-04
## 357449	1.939440	-0.6369311452	0.11052463	-5.762798010	8.273079e-09
## 199054	6.789838	-0.6315570902	0.14229787	-4.438275220	9.068262e-06
## 177754	14.541084	-0.6315224100	0.13739952	-4.596249158	4.301643e-06
## 187569	25.814616	-0.6298007916	0.16265446	-3.872016663	1.079386e-04
## 179400	69.978558	-0.6286826169	0.23128864	-2.718173353	6.564344e-03
## 177172	5.261971	-0.6228299310	0.13671448	-4.555698283	5.221184e-06
## 198503	2.335166	-0.6215917503	0.09768174	-6.363438676	1.972862e-10
## 324163	4.987826	-0.6179546293	0.10763941	-5.740969823	9.413587e-09

## 265871	3549.566369	-0.6171305652	0.23644082	-2.610084688	9.051981e-03
## 177230	4.284231	-0.6162013050	0.14309872	-4.306127338	1.661374e-05
## 183210	2.551010	-0.6149435301	0.10049070	-6.119407350	9.392402e-10
## 195436	54.234108	-0.6143639586	0.18422834	-3.334796075	8.536197e-04
## 194586	3.772502	-0.6136470440	0.11540495	-5.317337149	1.052969e-07
## 359872	96.136250	-0.6108200187	0.22133478	-2.759711019	5.785251e-03
## 198422	10.714344	-0.6107725088	0.16415124	-3.720791373	1.985995e-04
## 4390319	33.875836	-0.6097551728	0.18490000	-3.297756513	9.746061e-04
## 1646259	1.776982	-0.6041130289	0.11438696	-5.281310460	1.282631e-07
## 302049	106.474193	-0.6030762909	0.16130253	-3.738790128	1.849080e-04
## 195166	6.436753	-0.5994210865	0.16471618	-3.639114848	2.735768e-04
## 318970	25.742991	-0.5992250124	0.14171517	-4.228375954	2.353842e-05
## 344525	6.351084	-0.5987092558	0.13740182	-4.357360403	1.316404e-05
## 295485	2.950331	-0.5947237871	0.11674108	-5.094383188	3.498785e-07
## 197364	72.123693	-0.5916803982	0.21055715	-2.810070283	4.953068e-03
## 182255	14.503712	-0.5915596953	0.14644697	-4.039412360	5.358529e-05
## 4437746	3.102258	-0.5904923765	0.14404998	-4.099218848	4.145469e-05
## 264967	1.411134	-0.5846065662	0.10249861	-5.703556104	1.173334e-08
## 129401	1.419296	-0.5842525647	0.10499304	-5.564679163	2.626352e-08
## 4476780	163.754666	-0.5791752272	0.24706791	-2.344194430	1.906823e-02
## 135956	1.432347	-0.5786072173	0.10776348	-5.369232743	7.907232e-08
## 3302038	2.123913	-0.5773587786	0.11320326	-5.100195762	3.393024e-07
## 184990	14.709404	-0.5761733799	0.14245837	-4.044503626	5.243410e-05
## 365167	1.951758	-0.5760789128	0.10278449	-5.604726091	2.085846e-08
## 157327	16.424050	-0.5754582331	0.14110054	-4.078356072	4.535527e-05
## 192654	1.367296	-0.5724018579	0.10811224	-5.294514956	1.193327e-07
## 3609545	65.055133	-0.5677344681	0.21424673	-2.649909612	8.051331e-03
## 312882	10.729329	-0.5675470730	0.17913083	-3.168338288	1.533130e-03
## 4420669	1.477198	-0.5664911552	0.10656022	-5.316159830	1.059801e-07
## 3997242	1.862458	-0.5662933298	0.09971656	-5.679029751	1.354609e-08
## 365842	3.379095	-0.5649269628	0.11056608	-5.109405673	3.231738e-07
## 177567	26.097862	-0.5637616468	0.16145956	-3.491658526	4.800315e-04
## 525215	2.871965	-0.5636109924	0.11401140	-4.943461764	7.674741e-07
## 176306	15.300861	-0.5628302777	0.17418396	-3.231240563	1.232542e-03
## 365717	6.054665	-0.5621429099	0.12658494	-4.440835511	8.961027e-06
## 206233	4.496781	-0.5604973414	0.16696704	-3.356934046	7.881191e-04
## 365385	705.043060	-0.5593418466	0.24385817	-2.293717929	2.180671e-02
## 4419650	5.830080	-0.5592307045	0.12493663	-4.476114714	7.601365e-06
## 4437024	1.780735	-0.5556960790	0.10082344	-5.511576016	3.556348e-08
## 1096610	2.700384	-0.5554813116	0.11172809	-4.971724744	6.635988e-07
## 191081	12.474279	-0.5545621165	0.13446752	-4.124134234	3.721318e-05
## 194258	2.645850	-0.5534072589	0.10116253	-5.470476808	4.488264e-08
## 174763	4.000730	-0.5524550777	0.10699811	-5.163222961	2.427337e-07
## 187077	3.932944	-0.5494842561	0.10438368	-5.264082188	1.408914e-07
## 182289	515.196097	-0.5485274312	0.20040241	-2.737129878	6.197782e-03
## 182854	9.379005	-0.5410930839	0.13014113	-4.157740928	3.214102e-05
## 321453	12.628367	-0.5408973592	0.12886992	-4.197235106	2.701934e-05
## 2740953	1.749400	-0.5406411733	0.11484796	-4.707451081	2.508334e-06
## 184897	3.884964	-0.5403439747	0.13268083	-4.072509862	4.650923e-05
## 199677	5.574166	-0.5403422196	0.13623914	-3.966130570	7.304886e-05
## 679245	11.148252	-0.5400140979	0.17882833	-3.019734686	2.529962e-03
## 306066	1.877288	-0.5399444676	0.09620492	-5.612441250	1.994920e-08
## 3600504	3368.116901	-0.5374879117	0.21469930	-2.503445071	1.229908e-02
## 187945	3.296063	-0.5358413103	0.13750038	-3.897016919	9.738482e-05

## 4425495	1.806257	-0.5341340312	0.11598250	-4.605298487	4.118747e-06
## 180473	2.373102	-0.5308178285	0.11995050	-4.425307159	9.630515e-06
## 208790	17.647711	-0.5266104108	0.21130565	-2.492173871	1.269639e-02
## 184770	4.082857	-0.5232664844	0.14572803	-3.590705714	3.297838e-04
## 192015	4.873858	-0.5219329998	0.13602737	-3.836970535	1.245614e-04
## 348009	22.794230	-0.5208787418	0.20866638	-2.496227444	1.255221e-02
## 193654	2.698404	-0.5152507153	0.12497672	-4.122773483	3.743378e-05
## 194219	2.761051	-0.5151686147	0.12469850	-4.131313712	3.606959e-05
## 2430693	2.220087	-0.5143772552	0.11362153	-4.527110841	5.979558e-06
## 360311	1.761728	-0.5126816183	0.10096885	-5.077621475	3.821892e-07
## 189450	8.502015	-0.5093938424	0.12609491	-4.039765256	5.350473e-05
## 178557	1.633874	-0.5057153543	0.11004797	-4.595408159	4.319030e-06
## 1126851	1.507801	-0.5055169124	0.10618740	-4.760610978	1.930078e-06
## 3302039	2.199162	-0.4980030444	0.11201954	-4.445680157	8.761422e-06
## 360000	1.524425	-0.4937704820	0.10898510	-4.530623852	5.880977e-06
## 182933	2.443797	-0.4916888492	0.09522219	-5.163595204	2.422513e-07
## 593043	3.221139	-0.4898907877	0.14337305	-3.416895995	6.333947e-04
## 180090	2.070763	-0.4896615550	0.10484045	-4.670540383	3.004084e-06
## 378660	1.396304	-0.4895229949	0.10365665	-4.722543191	2.329136e-06
## 1131759	1.815129	-0.4876453127	0.12229741	-3.987372441	6.680910e-05
## 105287	3.213177	-0.4871189204	0.10351357	-4.705845813	2.528155e-06
## 4376828	14.404966	-0.4860070101	0.13212947	-3.678263420	2.348274e-04
## 1860112	43.229917	-0.4857922178	0.16485458	-2.946792348	3.210887e-03
## 4403113	2.410362	-0.4849469796	0.11509490	-4.213453118	2.514958e-05
## 198183	44.722622	-0.4847905830	0.20167822	-2.403782579	1.622642e-02
## 1077373	2.125552	-0.4847092843	0.11445080	-4.235088773	2.284614e-05
## 147195	2.448133	-0.4846109497	0.13055953	-3.711800579	2.057901e-04
## 188333	1.619866	-0.4845759092	0.10500660	-4.614718516	3.936284e-06
## 4471279	4.993394	-0.4835516595	0.15555400	-3.108577408	1.879904e-03
## 4473788	3.709200	-0.4831244841	0.12078154	-3.999986269	6.334616e-05
## 357930	2.376398	-0.4823981799	0.13372620	-3.607357183	3.093317e-04
## 304047	5.264710	-0.4813277984	0.12461258	-3.862593884	1.121894e-04
## 187782	2.299252	-0.4798410285	0.09017549	-5.321190972	1.030901e-07
## 4453609	272.984352	-0.4763166406	0.25684408	-1.854497225	6.366806e-02
## 162623	12.190804	-0.4757845836	0.16425302	-2.896656522	3.771624e-03
## 3563235	178.498228	-0.4746151176	0.18991278	-2.499121512	1.245016e-02
## 369014	5.441395	-0.4725419889	0.12706993	-3.718755468	2.002067e-04
## 173876	2.873749	-0.4704022166	0.14125193	-3.330235662	8.677251e-04
## 1028036	1.355841	-0.4698495155	0.10682110	-4.398471251	1.090161e-05
## 321517	1.380842	-0.4697505912	0.10442218	-4.498570848	6.841180e-06
## 3272632	3.756324	-0.4689997467	0.11322915	-4.142040742	3.442292e-05
## 960871	1.323494	-0.4678113605	0.10134439	-4.616055841	3.911018e-06
## 191251	3.378738	-0.4675668558	0.13617631	-3.433540456	5.957533e-04
## 923098	1.571393	-0.4643714001	0.09869166	-4.705274758	2.535243e-06
## 198071	19.706587	-0.4609564921	0.18014721	-2.558776769	1.050412e-02
## 176300	1.877110	-0.4600465511	0.09522869	-4.830965888	1.358723e-06
## 185763	317.893111	-0.4594700682	0.24505271	-1.874984622	6.079484e-02
## 183824	3.013846	-0.4569448246	0.10019216	-4.560684507	5.098714e-06
## 174672	2.864404	-0.4565702593	0.10194923	-4.478408263	7.520167e-06
## 194534	1.802581	-0.4544350934	0.09456502	-4.805530588	1.543416e-06
## 331253	2.647462	-0.4542718515	0.09473680	-4.795093943	1.625986e-06
## 552235	1.509603	-0.4530838385	0.10811807	-4.190639262	2.781696e-05
## 4414476	155.111517	-0.4529103864	0.23903128	-1.894774525	5.812228e-02
## 529979	14.525252	-0.4527602190	0.18367211	-2.465046148	1.369956e-02

## 181003	1.907610	-0.4523134992	0.10876466	-4.158643857	3.201426e-05
## 2497335	15.970268	-0.4522450704	0.17472675	-2.588298991	9.645122e-03
## 189208	3.277900	-0.4510442572	0.12246273	-3.683114372	2.304017e-04
## 360636	405.468369	-0.4509318584	0.25771788	-1.749711180	8.016816e-02
## 174516	2.077257	-0.4507493740	0.13163741	-3.424173927	6.166714e-04
## 186255	1.789726	-0.4499449769	0.09882135	-4.553115232	5.285730e-06
## 197864	17.350130	-0.4492931281	0.17857762	-2.515954324	1.187106e-02
## 174950	2.337837	-0.4475652380	0.09438818	-4.741751137	2.118788e-06
## 556126	1.489486	-0.4465554473	0.10817527	-4.128073381	3.658154e-05
## 3465233	1.514387	-0.4453203797	0.10735048	-4.148284987	3.349752e-05
## 179695	3.234986	-0.4443278771	0.12016668	-3.697596428	2.176506e-04
## 197004	630.017715	-0.4428564647	0.24948538	-1.775079859	7.588470e-02
## 190162	13.965656	-0.4418837377	0.13760862	-3.211163325	1.321988e-03
## 825808	1329.691292	-0.4415870764	0.21172356	-2.085677594	3.700784e-02
## 182054	6.788913	-0.4412499160	0.12996416	-3.395166040	6.858699e-04
## 1012948	1.513523	-0.4411155588	0.10257536	-4.300404537	1.704866e-05
## 189610	2.066467	-0.4405756868	0.11179040	-3.941086997	8.111320e-05
## 188454	2.151505	-0.4402598813	0.09456874	-4.655448409	3.232764e-06
## 308544	78.2111545	-0.4384399918	0.15828888	-2.769872263	5.607828e-03
## 180462	20.512619	-0.4380532786	0.14264383	-3.070958475	2.133728e-03
## 1061772	1.885769	-0.4378212488	0.10194687	-4.294602151	1.750069e-05
## 4337755	2.972824	-0.4377519315	0.09756998	-4.486543195	7.238805e-06
## 213870	1.526822	-0.4376280286	0.10898286	-4.015567508	5.930292e-05
## 59563	3.966948	-0.43744479172	0.13955187	-3.134661724	1.720524e-03
## 4473883	1.453347	-0.4349476661	0.10994631	-3.956000620	7.621496e-05
## 177828	1.672256	-0.4345911768	0.11534271	-3.767825196	1.646759e-04
## 179785	9.815643	-0.4341082322	0.16048943	-2.704902368	6.832447e-03
## 1820513	50.000952	-0.4335725936	0.22972902	-1.887321837	5.911705e-02
## 517754	1.683088	-0.4322887526	0.10219053	-4.230223374	2.334594e-05
## 197761	2.796945	-0.4321264121	0.11425304	-3.782187270	1.554563e-04
## 292735	147.954264	-0.4314386373	0.16535833	-2.609113446	9.077714e-03
## 3472078	51.453650	-0.4314348592	0.18571389	-2.323115686	2.017294e-02
## 180874	2.910236	-0.4306836166	0.12147122	-3.545560835	3.917785e-04
## 363430	1.789801	-0.4292363476	0.12269970	-3.498267336	4.682915e-04
## 197334	4.951502	-0.4291144153	0.13816992	-3.105700759	1.898287e-03
## 4323555	1.589849	-0.4285810193	0.10381085	-4.128479996	3.651692e-05
## 2058521	1.320406	-0.4277083802	0.10035141	-4.262106317	2.025091e-05
## 3610691	3.077934	-0.4275880725	0.14442364	-2.960651499	3.069891e-03
## 661266	6.491996	-0.4263912737	0.12307611	-3.464451956	5.313130e-04
## 1943669	3.391846	-0.4260503109	0.10685979	-3.987003194	6.691313e-05
## 192263	2.612460	-0.4258334250	0.09450646	-4.505865681	6.610289e-06
## 519746	4.658638	-0.4253355798	0.14301015	-2.974163570	2.937884e-03
## 211935	7.208318	-0.4248162200	0.15329770	-2.771184635	5.585275e-03
## 681370	67.076697	-0.4246339479	0.13588680	-3.124909551	1.778597e-03
## 166869	5.853434	-0.4245996838	0.15333827	-2.769039311	5.622185e-03
## 136526	1.442637	-0.4240438289	0.11495757	-3.688698503	2.254041e-04
## 370225	3.135749	-0.4238102634	0.13020863	-3.254855457	1.134501e-03
## 174625	2.286879	-0.4229891626	0.10468719	-4.040505606	5.333609e-05
## 3785400	1.303244	-0.4216847339	0.10396613	-4.055981897	4.992413e-05
## 842594	2.226883	-0.4214140776	0.11512280	-3.660561349	2.516633e-04
## 2544615	1.784661	-0.4195476141	0.10125211	-4.143593863	3.419050e-05
## 197988	6.288483	-0.4194245113	0.17104481	-2.452132313	1.420124e-02
## 4393532	145.353228	-0.4189054432	0.16984201	-2.466441883	1.364629e-02
## 2210028	4.368971	-0.4184533358	0.14457599	-2.894348663	3.799460e-03

## 180974	1.608800	-0.4179479806	0.10949907	-3.816908906	1.351340e-04
## 174045	1.729185	-0.4159531557	0.09800054	-4.244396639	2.191824e-05
## 195681	2.538216	-0.4140296642	0.10615533	-3.900224887	9.610338e-05
## 276484	1.935199	-0.4136895588	0.09888975	-4.183340936	2.872561e-05
## 2423305	1.560537	-0.4133336168	0.11482902	-3.599557057	3.187597e-04
## 4318671	26.497025	-0.4130416965	0.18312338	-2.255537699	2.409960e-02
## 178018	1.387768	-0.4097419613	0.11031978	-3.714129568	2.039043e-04
## 180414	4.380071	-0.4086423360	0.13410359	-3.047214097	2.309731e-03
## 199279	5.620868	-0.4076035113	0.14185137	-2.873454886	4.060091e-03
## 195929	2.821729	-0.4075186935	0.09732319	-4.187272211	2.823271e-05
## 4472091	53.214785	-0.4065024329	0.16740857	-2.428205633	1.517374e-02
## 4306048	3.046911	-0.4061393655	0.10007825	-4.058218051	4.944859e-05
## 1130824	2.424791	-0.4060131337	0.12495093	-3.249380531	1.156566e-03
## 184678	2.291511	-0.4057111121	0.10569043	-3.838674162	1.237005e-04
## 191148	2.052766	-0.4054147061	0.10904851	-3.717746261	2.010080e-04
## 184339	2.235568	-0.4052218777	0.09561805	-4.237922493	2.255976e-05
## 161423	87.798564	-0.4045354479	0.17821393	-2.269942891	2.321105e-02
## 192070	1.543834	-0.4030151614	0.11216610	-3.593021115	3.268661e-04
## 342777	1.293559	-0.4028768182	0.10486920	-3.841707639	1.221813e-04
## 197343	2.236873	-0.4025685875	0.11933832	-3.373338819	7.426251e-04
## 195029	1.396285	-0.4024889530	0.10207379	-3.943117434	8.042925e-05
## 189459	1.725879	-0.4016464390	0.09850719	-4.077331329	4.555555e-05
## 176008	2.446691	-0.4013747281	0.09450053	-4.247327733	2.163354e-05
## 194001	4.052920	-0.3977903311	0.14766279	-2.693910493	7.061913e-03
## 191483	4.583817	-0.3970706613	0.10993348	-3.611917569	3.039412e-04
## 189937	2.694430	-0.3957024813	0.12037116	-3.287352809	1.011340e-03
## 174818	33.157325	-0.3950796998	0.16812382	-2.349932889	1.877680e-02
## 4365130	99.555780	-0.3941881110	0.24248203	-1.625638421	1.040266e-01
## 193863	1.829417	-0.3940264887	0.10191470	-3.866238202	1.105270e-04
## 3754778	1.291806	-0.3936831770	0.10870662	-3.621519819	2.928774e-04
## 191391	2.198573	-0.3907533701	0.09809811	-3.983291402	6.796733e-05
## 182674	5.303485	-0.3898492107	0.15177973	-2.568519514	1.021340e-02
## 181899	1.770204	-0.3889913324	0.09429953	-4.125061067	3.706364e-05
## 3359884	1.639804	-0.3883770595	0.10768320	-3.606663335	3.101597e-04
## 194761	2.118797	-0.3882676504	0.09776711	-3.971352497	7.146574e-05
## 1919007	4.595042	-0.3880533804	0.11394638	-3.405578836	6.602395e-04
## 4325509	1.732162	-0.3879015788	0.11793558	-3.289097123	1.005093e-03
## 191551	1.982390	-0.3857168951	0.10641079	-3.624791237	2.891950e-04
## 2985051	4.930163	-0.3854368789	0.14928182	-2.581941137	9.824634e-03
## 183030	3.051780	-0.3846968366	0.13447202	-2.860794611	4.225807e-03
## 187210	15.455529	-0.3826760979	0.16591637	-2.306439689	2.108608e-02
## 189092	27.140673	-0.3822147341	0.19628276	-1.947265896	5.150287e-02
## 581201	1.469741	-0.3816358859	0.11085204	-3.442750224	5.758309e-04
## 184000	9.237257	-0.3813979489	0.14037923	-2.716911510	6.589422e-03
## 309391	3.814593	-0.3793017358	0.11271572	-3.365118342	7.651084e-04
## 4357811	9.394756	-0.3791058201	0.13973389	-2.713055704	6.666590e-03
## 4307484	6.264208	-0.3782529844	0.10937528	-3.458304265	5.435871e-04
## 193969	2.174233	-0.3779972218	0.13344168	-2.832677288	4.615996e-03
## 181718	2.464731	-0.3766595698	0.12472251	-3.019980755	2.527907e-03
## 190171	4.191285	-0.3758292838	0.14191043	-2.648355577	8.088440e-03
## 4468234	307.771645	-0.3756993489	0.14947683	-2.513428695	1.195639e-02
## 189478	2.276539	-0.3727639088	0.11994881	-3.107691643	1.885547e-03
## 842786	1.277925	-0.3722738666	0.10406259	-3.577403541	3.470242e-04
## 311820	5.106961	-0.3716821302	0.13709496	-2.711129018	6.705453e-03

## 4294457	2.985946	-0.3693266688	0.12993172	-2.842467374	4.476581e-03
## 577170	129.960369	-0.3689615506	0.18001920	-2.049567791	4.040663e-02
## 302880	1.343085	-0.3689407184	0.10158012	-3.632016788	2.812148e-04
## 194443	2.029670	-0.3684889098	0.09241066	-3.987515305	6.676890e-05
## 185861	1.458709	-0.3682768737	0.10167126	-3.622231949	2.920720e-04
## 178799	2.463327	-0.3670776798	0.12557106	-2.923266553	3.463799e-03
## 471180	2.530224	-0.3667994760	0.11551970	-3.175211429	1.497274e-03
## 161762	2.018904	-0.3664458349	0.11772553	-3.112713532	1.853759e-03
## 193480	3.759608	-0.3660489261	0.13805817	-2.651410791	8.015628e-03
## 188676	48.245149	-0.3646636323	0.21050389	-1.732336827	8.321361e-02
## 193191	5.696261	-0.3619965427	0.17268516	-2.096280592	3.605731e-02
## 4465907	15.517606	-0.3604464054	0.13604077	-2.649546910	8.059978e-03
## 342380	3.727595	-0.3579849105	0.10578418	-3.384106363	7.141033e-04
## 3265556	2.819390	-0.3537715115	0.11307500	-3.128644715	1.756145e-03
## 3430935	5.132809	-0.3534527073	0.11831942	-2.987275494	2.814759e-03
## 528628	1.755394	-0.3532018922	0.12012695	-2.940238536	3.279597e-03
## 2840201	2.438926	-0.3505924607	0.11519274	-3.043529114	2.338208e-03
## 3713805	7.979350	-0.3501572005	0.14970897	-2.338919300	1.933961e-02
## 187946	3.427495	-0.3497091542	0.13508613	-2.588786622	9.631476e-03
## 556240	1.652294	-0.3494357774	0.10773211	-3.243562083	1.180451e-03
## 190240	2.168882	-0.3480192395	0.09087429	-3.829677669	1.283112e-04
## 186090	2.813151	-0.3470123065	0.13165563	-2.635757348	8.394974e-03
## 176967	2.130745	-0.3461010225	0.09162806	-3.777238540	1.585768e-04
## 4383922	2.812407	-0.3458874205	0.12076763	-2.864074022	4.182303e-03
## 72820	3346.677987	-0.3452388394	0.14327649	-2.409598615	1.597008e-02
## 176157	2.1111531	-0.3441251436	0.11349566	-3.032055443	2.428946e-03
## 339087	2.019475	-0.3440956292	0.09250615	-3.719705516	1.994552e-04
## 173965	15.907101	-0.3432524329	0.19236353	-1.784394512	7.435958e-02
## 4439469	58.797858	-0.3417364567	0.19037192	-1.795099109	7.263791e-02
## 183457	2.556712	-0.3406694109	0.13098579	-2.600811874	9.300344e-03
## 189755	1.827561	-0.3402217117	0.09598448	-3.544549222	3.932851e-04
## 180528	1.566842	-0.3394027980	0.10423257	-3.256206776	1.129115e-03
## 291090	3.811614	-0.3390317441	0.13262478	-2.556322794	1.057849e-02
## 300952	1.686014	-0.3384429507	0.10486813	-3.227319359	1.249559e-03
## 197022	6.789516	-0.3361977303	0.12605241	-2.667126567	7.650286e-03
## 369635	4.398323	-0.3355942646	0.14203383	-2.362777025	1.813858e-02
## 4315974	4.812820	-0.3344209756	0.12421079	-2.692366525	7.094693e-03
## 610111	1.429067	-0.3343366695	0.11001368	-3.039046314	2.373284e-03
## 292521	3.014395	-0.3340561784	0.10609593	-3.148623995	1.640411e-03
## 4466220	1.556617	-0.3330982130	0.11003994	-3.027066351	2.469397e-03
## 185113	2.191712	-0.3323388307	0.10991282	-3.023658529	2.497381e-03
## 193769	2.505657	-0.3288171778	0.12500721	-2.630385792	8.528802e-03
## 186921	2.626947	-0.3276587266	0.10448322	-3.135993760	1.712728e-03
## 4472174	2.074545	-0.3263528460	0.10781208	-3.027052760	2.469509e-03
## 181269	1.787915	-0.3251435075	0.09310853	-3.492091459	4.792541e-04
## 194110	4.344442	-0.3244156582	0.13728510	-2.363079818	1.812377e-02
## 2487129	1.808466	-0.3240022686	0.09071701	-3.571571434	3.548457e-04
## 178462	34.751353	-0.3236174788	0.16641893	-1.944595324	5.182370e-02
## 194686	3.573322	-0.3229930214	0.12337596	-2.617957496	8.845782e-03
## 196176	4.529718	-0.3197444327	0.13272945	-2.408993801	1.599657e-02
## 175704	14.987420	-0.3186625781	0.14745940	-2.161019084	3.069387e-02
## 303161	1.390147	-0.3185243945	0.10165556	-3.133369270	1.728119e-03
## 4296424	2.947676	-0.3183141403	0.10791314	-2.949725441	3.180564e-03
## 339566	1.499685	-0.3166643060	0.10956086	-2.890304951	3.848683e-03

## 179609	1.458709	-0.3118176776	0.09818730	-3.175743342	1.494531e-03
## 176604	24.648418	-0.3107577099	0.17115644	-1.815635466	6.942631e-02
## 188832	1.899826	-0.3101231864	0.09518209	-3.258209550	1.121176e-03
## 174862	4.287345	-0.3098719582	0.11834968	-2.618274476	8.837569e-03
## 196100	5.528022	-0.3085304757	0.12169057	-2.535368758	1.123290e-02
## 176201	2.723477	-0.3057132024	0.09522577	-3.210404205	1.325484e-03
## 210095	2.265439	-0.3052732230	0.11939237	-2.556890589	1.056124e-02
## 179911	4.852897	-0.3051123702	0.11947431	-2.553790566	1.065573e-02
## 185428	1.482859	-0.3029143042	0.10404067	-2.911499054	3.596990e-03
## 197581	1.530847	-0.3022017484	0.09848840	-3.068399284	2.152089e-03
## 178420	1.713062	-0.3010420400	0.10506665	-2.865248175	4.166825e-03
## 924547	1.592115	-0.2991806682	0.10829591	-2.762622102	5.733911e-03
## 354850	7.382069	-0.2990306675	0.14578217	-2.051215642	4.024595e-02
## 319411	1.804039	-0.2987359470	0.11108208	-2.689326279	7.159640e-03
## 191355	27.525218	-0.2986943543	0.20297445	-1.471585979	1.411327e-01
## 173927	2.069690	-0.2979841576	0.12901908	-2.309613163	2.090958e-02
## 4183249	7.226219	-0.2972267453	0.13199901	-2.251734624	2.433905e-02
## 186022	6.336059	-0.2962226037	0.12572009	-2.356207326	1.846261e-02
## 178970	1.627057	-0.2957076818	0.10633468	-2.780914830	5.420596e-03
## 194868	2.050760	-0.2947683847	0.11680103	-2.523679750	1.161337e-02
## 181176	1.670248	-0.2935247828	0.10016096	-2.930530849	3.383834e-03
## 180083	1.697518	-0.2929654594	0.10293014	-2.846255362	4.423670e-03
## 194320	7.284168	-0.2923200903	0.16456383	-1.776332571	7.567812e-02
## 176865	2.961980	-0.2919416534	0.11885104	-2.456366029	1.403501e-02
## 194824	2.695073	-0.2913445554	0.11488666	-2.535930192	1.121491e-02
## 181853	1.735202	-0.2900677771	0.09978923	-2.906804371	3.651415e-03
## 864465	2.031848	-0.2900216623	0.10101906	-2.870959881	4.092275e-03
## 190058	10.723223	-0.2897676586	0.15040637	-1.926565030	5.403386e-02
## 4377149	2.407086	-0.2893109108	0.13276579	-2.179107394	2.932369e-02
## 171559	2.750023	-0.2889038213	0.08963146	-3.223241226	1.267488e-03
## 3424669	5.070955	-0.2888827100	0.13410223	-2.154197663	3.122467e-02
## 307113	37.038643	-0.2872828902	0.15171491	-1.893570596	5.828203e-02
## 342231	1.344284	-0.2856364273	0.10131488	-2.819293959	4.812942e-03
## 186772	13.150765	-0.2856000943	0.17938028	-1.592148769	1.113513e-01
## 237444	2.530545	-0.2855457928	0.13313570	-2.144772572	3.197104e-02
## 4381422	1.367736	-0.2850370260	0.10378386	-2.746448473	6.024435e-03
## 181756	5.463707	-0.2833674578	0.12802495	-2.213376822	2.687168e-02
## 189828	12.575370	-0.2791197459	0.17746662	-1.572801363	1.157648e-01
## 196518	5.789554	-0.2788161967	0.13965392	-1.996479596	4.588174e-02
## 3195723	16.664066	-0.2778505677	0.19820222	-1.401853941	1.609589e-01
## 197460	1.608785	-0.2772216343	0.10311558	-2.688455253	7.178346e-03
## 975306	2.891799	-0.2752290446	0.11743529	-2.343665533	1.909529e-02
## 178760	1.844300	-0.2751066308	0.09661216	-2.847536331	4.405906e-03
## 194733	2.613542	-0.2746728302	0.10171531	-2.700407996	6.925449e-03
## 193868	1.692257	-0.2746545103	0.10976978	-2.502095839	1.234605e-02
## 928538	1.454412	-0.2735360233	0.10174127	-2.688545340	7.176409e-03
## 178439	3.798923	-0.2714076014	0.12924117	-2.100008921	3.572806e-02
## 178151	3.517286	-0.2710248332	0.12624308	-2.146849104	3.180530e-02
## 4297222	1.368735	-0.2708036019	0.10360688	-2.613760812	8.955170e-03
## 175485	131.854203	-0.2705811220	0.18953412	-1.427611661	1.534037e-01
## 342110	5.985592	-0.2704673915	0.14539767	-1.860190647	6.285856e-02
## 3671383	2.004261	-0.2700870269	0.09705458	-2.782836468	5.388596e-03
## 175535	17.557241	-0.2700299606	0.16343587	-1.652207437	9.849227e-02
## 2160415	4.844136	-0.2694608621	0.14955576	-1.801741735	7.158605e-02

## 355975	4.613699	-0.2688573219	0.14328121	-1.876431183	6.059610e-02
## 192419	1.698601	-0.2681004905	0.10824163	-2.476870508	1.325400e-02
## 194758	1.960357	-0.2672380530	0.09348193	-2.858713513	4.253627e-03
## 288138	1.653549	-0.2669851625	0.11925224	-2.238827275	2.516716e-02
## 798581	55.163681	-0.2666507974	0.20769172	-1.283877832	1.991847e-01
## 191395	2.856108	-0.2665880387	0.09824809	-2.713417058	6.659324e-03
## 4473509	107.887363	-0.2655798640	0.22058750	-1.203966044	2.286027e-01
## 175145	2.879360	-0.2654459668	0.11484122	-2.311417175	2.080982e-02
## 175751	2.620665	-0.2654293905	0.11799126	-2.249568274	2.447636e-02
## 4437515	24.378670	-0.2648633003	0.20244241	-1.308339016	1.907583e-01
## 193915	3.411309	-0.2642768828	0.12357503	-2.138594577	3.246852e-02
## 178253	1.261386	-0.2639841740	0.10571796	-2.497060868	1.252275e-02
## 198866	1.734029	-0.2624027015	0.10124089	-2.591864766	9.545729e-03
## 663649	2.358318	-0.2608075052	0.10255607	-2.543072287	1.098825e-02
## 175550	3.457242	-0.2601540774	0.12569936	-2.069653076	3.848484e-02
## 4437748	1.438632	-0.2601200046	0.10537727	-2.468464088	1.356943e-02
## 189754	1.707408	-0.2595370677	0.10794512	-2.404342667	1.620158e-02
## 192684	7.562763	-0.2586462662	0.14043255	-1.841782891	6.550691e-02
## 577294	3.101028	-0.2543311558	0.11088335	-2.293682104	2.180877e-02
## 4331723	1.722434	-0.2541875911	0.10752576	-2.363969329	1.808031e-02
## 4371463	1.326025	-0.2525888875	0.10249895	-2.464306999	1.372785e-02
## 4330001	2.788072	-0.2525192239	0.13602389	-1.856432850	6.339189e-02
## 4309636	1.726632	-0.2494938480	0.10171610	-2.452845257	1.417313e-02
## 4435655	1.944124	-0.2475171956	0.13113963	-1.887432398	5.910219e-02
## 495017	1.712222	-0.2460015062	0.10700871	-2.298892338	2.151105e-02
## 4343184	1.702510	-0.2458267261	0.09703380	-2.533413417	1.129576e-02
## 194036	2.152709	-0.2451348384	0.11702098	-2.094793916	3.618932e-02
## 197708	2.588366	-0.2437209264	0.11530665	-2.113676324	3.454292e-02
## 2237211	4.004416	-0.2417575003	0.12543113	-1.927412305	5.392827e-02
## 187868	2.077495	-0.2400243248	0.11357602	-2.113336243	3.457200e-02
## 186463	3.102051	-0.2397181434	0.10487721	-2.285702942	2.227164e-02
## 110625	1.450565	-0.2383630788	0.10204014	-2.335973742	1.949261e-02
## 184465	2.654242	-0.2376969129	0.11227239	-2.117144877	3.424755e-02
## 688800	2.326051	-0.2356485897	0.12913960	-1.824758536	6.803748e-02
## 289925	1.498693	-0.2355836934	0.10987317	-2.144142135	3.202150e-02
## 324894	3.549368	-0.2354764715	0.13557836	-1.736829300	8.241731e-02
## 191476	1.788257	-0.2353035384	0.10660260	-2.207296521	2.729335e-02
## 1995363	1.350828	-0.2344488506	0.10309391	-2.274128997	2.295823e-02
## 755148	1.572404	-0.2342047401	0.09986044	-2.345320513	1.901073e-02
## 110144	2.112609	-0.2328481529	0.12160437	-1.914800802	5.551791e-02
## 3014082	22.944297	-0.2318507644	0.15236394	-1.521690560	1.280866e-01
## 1132942	13.811825	-0.2317082606	0.19607187	-1.181751646	2.373043e-01
## 174304	1.930033	-0.2302945748	0.10540324	-2.184890836	2.889685e-02
## 189176	2.948826	-0.2296710963	0.13211720	-1.738389014	8.214229e-02
## 3272764	10.019628	-0.2296022335	0.16241688	-1.413659946	1.574618e-01
## 183698	6.228377	-0.2290231514	0.12708559	-1.802117417	7.152693e-02
## 320915	1.412353	-0.2275055054	0.10804484	-2.105658210	3.523405e-02
## 198587	38.455515	-0.2265325580	0.21103877	-1.073416804	2.830841e-01
## 363731	1.712178	-0.2254731572	0.10629946	-2.121112882	3.391230e-02
## 173851	2.827168	-0.2246022889	0.14013816	-1.602720387	1.089964e-01
## 174840	8.861786	-0.2242698778	0.15537111	-1.443446414	1.488948e-01
## 178485	1.960919	-0.2242514634	0.10442651	-2.147457188	3.175690e-02
## 230232	4.157311	-0.2236494748	0.15863756	-1.409814155	1.585946e-01
## 4072210	1.722909	-0.2236266742	0.09933763	-2.251177843	2.437428e-02

## 4425214	622.923080	-0.2230560037	0.16208820	-1.376139660	1.687784e-01
## 187385	8.131828	-0.2230491340	0.11868145	-1.879393339	6.019081e-02
## 291648	1.650178	-0.2220374219	0.09745700	-2.278311738	2.270801e-02
## 1046997	2.971973	-0.2216630864	0.12777677	-1.734768280	8.278186e-02
## 175184	3.034841	-0.2215850123	0.11560109	-1.916807363	5.526241e-02
## 12564	1.536575	-0.2214362249	0.11428712	-1.937543182	5.267898e-02
## 347639	2.284932	-0.2205145369	0.09145712	-2.411124807	1.590341e-02
## 194727	1.990366	-0.2180448882	0.11298244	-1.929900668	5.361915e-02
## 2565100	4.020928	-0.2172180676	0.13211048	-1.644215290	1.001317e-01
## 199524	2.598172	-0.2166802660	0.10971186	-1.974994068	4.826882e-02
## 193946	2.639985	-0.2162084579	0.11926365	-1.812861291	6.985322e-02
## 1751298	46.642879	-0.2153159703	0.20272572	-1.062104863	2.881881e-01
## 197203	1.699993	-0.2143333553	0.09870683	-2.171413628	2.989992e-02
## 207487	3.308246	-0.2122322925	0.12905868	-1.644463531	1.000805e-01
## 4347159	966.177814	-0.2118903145	0.22574915	-0.938609585	3.479312e-01
## 340219	1.911409	-0.2091917868	0.09603971	-2.178180057	2.939263e-02
## 195548	1.655525	-0.2087223070	0.09415885	-2.216703989	2.664333e-02
## 183604	18.300747	-0.2086874007	0.14951702	-1.395743454	1.627918e-01
## 189271	2.353891	-0.2086657004	0.10888698	-1.916351229	5.532040e-02
## 177134	1.852474	-0.2083920955	0.11961297	-1.742219912	8.146997e-02
## 271159	15.417281	-0.2083253012	0.13118206	-1.588062436	1.122722e-01
## 179677	2.377764	-0.2077904339	0.08850429	-2.347800615	1.888463e-02
## 183662	2.605617	-0.2076312909	0.08842689	-2.348056098	1.887168e-02
## 4364464	2.815219	-0.2076062765	0.12239522	-1.696195918	8.984878e-02
## 185021	2.019365	-0.2068584016	0.09213062	-2.245273136	2.475060e-02
## 180215	1.539872	-0.2059624536	0.10231436	-2.013035732	4.411087e-02
## 352529	2.894570	-0.2040355493	0.12173302	-1.676090385	9.372049e-02
## 4446902	16.963943	-0.2035310651	0.12269570	-1.658827955	9.715047e-02
## 193367	5.512908	-0.2034867443	0.11185940	-1.819129588	6.889166e-02
## 368175	2.001745	-0.2033266512	0.11977895	-1.697515678	8.959921e-02
## 317677	6.413691	-0.2033074772	0.14476533	-1.404393420	1.602017e-01
## 194101	1.607666	-0.2028753446	0.10531296	-1.926404345	5.405391e-02
## 1848900	1.928545	-0.2022057288	0.09923162	-2.037714703	4.157847e-02
## 2498994	1.705009	-0.2020917884	0.09732037	-2.076562003	3.784200e-02
## 192735	4.026926	-0.2015944221	0.14590380	-1.381694148	1.670656e-01
## 187212	3.336196	-0.2012463101	0.12047024	-1.670506385	9.481922e-02
## 185164	2.421590	-0.2011524279	0.12101454	-1.662216970	9.646928e-02
## 846798	1.496849	-0.1998440916	0.11216559	-1.781688062	7.480011e-02
## 194339	1.411155	-0.1977639537	0.10247777	-1.929822902	5.362878e-02
## 194129	1.675945	-0.1960222324	0.09875011	-1.985033051	4.714079e-02
## 178082	1.609884	-0.1954069080	0.10403698	-1.878244781	6.034769e-02
## 354334	7.829955	-0.1939189923	0.14283449	-1.357648182	1.745753e-01
## 4359797	1.783810	-0.1936528025	0.09416483	-2.056529983	3.973146e-02
## 180289	1.409912	-0.1933613957	0.10099539	-1.914556741	5.554906e-02
## 360730	1.320777	-0.1931267058	0.10631912	-1.816481481	6.929655e-02
## 4386507	2.318809	-0.1914871828	0.11393441	-1.680679152	9.282525e-02
## 198117	1.847619	-0.1905933440	0.10002935	-1.905374302	5.673143e-02
## 180629	3.514146	-0.1905573365	0.10284019	-1.852946122	6.389008e-02
## 197481	5.936503	-0.1898112982	0.11359961	-1.670879784	9.474543e-02
## 332929	3.989953	-0.1893725914	0.11652890	-1.625112716	1.041385e-01
## 2979308	32.226668	-0.1890648982	0.20850420	-0.906767797	3.645296e-01
## 302746	1.774208	-0.1879472406	0.09638796	-1.949903682	5.118760e-02
## 2283862	3.405025	-0.1876711520	0.13664042	-1.373467352	1.696071e-01
## 4304475	1.718283	-0.1870858805	0.09958547	-1.878646288	6.029281e-02

## 1918929	1.791154	-0.1863717363	0.10882356	-1.712604733	8.678528e-02
## 194104	3.099563	-0.1857450315	0.11805149	-1.573423880	1.156207e-01
## 4020046	11.122421	-0.1849091082	0.17833483	-1.036864805	2.997989e-01
## 169364	2.747303	-0.1838425657	0.12790942	-1.437287131	1.506364e-01
## 197661	1.832733	-0.1836296777	0.10395054	-1.766510128	7.731030e-02
## 289734	1551.178772	-0.1833473076	0.18791539	-0.975690747	3.292177e-01
## 179826	5.554288	-0.1818030367	0.14308190	-1.270622143	2.038631e-01
## 4434268	1.733143	-0.1812940769	0.11842262	-1.530907510	1.257923e-01
## 349257	2.875283	-0.1800004464	0.12610293	-1.427408869	1.534621e-01
## 403701	806.468518	-0.1796651215	0.26975046	-0.666041935	5.053843e-01
## 4309301	38.647184	-0.1791120108	0.12393316	-1.445230714	1.483931e-01
## 2686384	5.000386	-0.1789202204	0.11977119	-1.493850292	1.352148e-01
## 232828	1.807448	-0.1788432565	0.10776199	-1.659613511	9.699223e-02
## 352347	3.865081	-0.1786855626	0.12492294	-1.430366303	1.526119e-01
## 4468891	1.763823	-0.1774715102	0.09874499	-1.797271040	7.229260e-02
## 4343627	1383.403077	-0.1769661821	0.23945028	-0.739051905	4.598755e-01
## 335577	4.675766	-0.1760888213	0.11031164	-1.596285023	1.104252e-01
## 297182	1.910796	-0.1736806230	0.09851176	-1.763044636	7.789296e-02
## 337538	2.189826	-0.1727854001	0.10599645	-1.630105562	1.030792e-01
## 340474	23.599179	-0.1715644977	0.17375133	-0.987414031	3.234397e-01
## 192983	6.376852	-0.1710451233	0.13796667	-1.239756812	2.150654e-01
## 1124877	1.251774	-0.1710183713	0.10574886	-1.617212485	1.058324e-01
## 183340	5.842783	-0.1705766797	0.11217734	-1.520598421	1.283606e-01
## 185059	1.395483	-0.1705280097	0.10509194	-1.622655413	1.046631e-01
## 3715618	11.213830	-0.1683886258	0.14424986	-1.167339929	2.430731e-01
## 190863	1.452399	-0.1667142242	0.10033126	-1.661637901	9.658540e-02
## 191601	5.460226	-0.1647788048	0.11179441	-1.473944873	1.404964e-01
## 4381555	1.815723	-0.1643259099	0.09351452	-1.757223459	7.887973e-02
## 184864	1.461775	-0.1637712655	0.10123081	-1.617800572	1.057056e-01
## 1148151	1.326379	-0.1630243955	0.10779694	-1.512328590	1.304503e-01
## 177175	4.079885	-0.1620508566	0.13097746	-1.237242294	2.159971e-01
## 197552	1.880460	-0.1608280342	0.11542555	-1.393348637	1.635144e-01
## 4397092	3.815659	-0.1604138056	0.15700445	-1.021715002	3.069158e-01
## 4413347	4.309009	-0.1595274862	0.11460454	-1.391982203	1.639278e-01
## 4476950	3.392088	-0.1594790605	0.12766178	-1.249231021	2.115806e-01
## 194995	1.424381	-0.1594384706	0.10222821	-1.559632883	1.188467e-01
## 16513	1.941265	-0.1585677623	0.12121816	-1.308118858	1.908330e-01
## 210371	2.324955	-0.1583601402	0.09670781	-1.637511395	1.015237e-01
## 199694	1.980963	-0.1579573765	0.10355819	-1.525300731	1.271841e-01
## 4397439	1.430252	-0.1578766832	0.10873420	-1.451950557	1.465154e-01
## 134671	1.755772	-0.1577403034	0.10317734	-1.528827037	1.263073e-01
## 293307	2.563284	-0.1576873053	0.09002452	-1.751603875	7.984195e-02
## 579244	1.990858	-0.1570652117	0.11601913	-1.353787156	1.758043e-01
## 4364405	3.667416	-0.1564899440	0.15242414	-1.026674307	3.045739e-01
## 4465072	1.541867	-0.1557381426	0.10823329	-1.438911628	1.501756e-01
## 1108437	1.281195	-0.1552993595	0.10530528	-1.474753811	1.402787e-01
## 319687	1.759316	-0.1544686483	0.09876758	-1.563961045	1.178267e-01
## 181826	1.457730	-0.1533828837	0.10020553	-1.530682856	1.258478e-01
## 4458634	1.847649	-0.1512071166	0.11180270	-1.352446005	1.762327e-01
## 187751	4.154529	-0.1511550158	0.16190350	-0.933611806	3.505042e-01
## 245625	1.702004	-0.1506166881	0.10489935	-1.435820959	1.510533e-01
## 4045882	13.450491	-0.1504154147	0.16825609	-0.893967143	3.713395e-01
## 174571	2.053217	-0.1500938366	0.10744157	-1.396981091	1.624193e-01
## 166848	1.446955	-0.1489077336	0.09943608	-1.497522237	1.342574e-01

## 4319899	1.369343	-0.1486576343	0.10235582	-1.452361319	1.464012e-01
## 192711	3.002684	-0.1474568311	0.11482233	-1.284217384	1.990659e-01
## 688923	2.076346	-0.1461239305	0.12154284	-1.202242217	2.292697e-01
## 360660	2.680473	-0.1459771942	0.09422480	-1.549243945	1.213231e-01
## 184910	1.727277	-0.1456849274	0.09678718	-1.505208941	1.322704e-01
## 875735	2.675678	-0.1449484284	0.11315775	-1.280941247	2.002143e-01
## 4443846	7.903092	-0.1440871101	0.15905512	-0.905894188	3.649919e-01
## 327851	1.306723	-0.1434655082	0.10550879	-1.359749329	1.739093e-01
## 196307	3.513440	-0.1434589163	0.13613607	-1.053790638	2.919788e-01
## 2683271	25.908805	-0.1432681906	0.15635174	-0.916319768	3.594992e-01
## 288930	2.075693	-0.1429756929	0.10864098	-1.316038315	1.881612e-01
## 1830364	5.705315	-0.1425866205	0.14485532	-0.984338138	3.249493e-01
## 322835	3.922713	-0.1418157927	0.13538360	-1.047510849	2.948640e-01
## 195716	1.696709	-0.1408802235	0.09583138	-1.470084462	1.415389e-01
## 4374853	1.634144	-0.1406538671	0.10718675	-1.312231907	1.894419e-01
## 362608	1.287063	-0.1403150975	0.10463478	-1.340998651	1.799209e-01
## 289452	1.772843	-0.1401866357	0.09252855	-1.515063505	1.297563e-01
## 304757	1.515747	-0.1400261083	0.10273249	-1.363016841	1.728772e-01
## 173996	2.998582	-0.1397784389	0.11874546	-1.177126606	2.391450e-01
## 190076	2.126190	-0.1393303001	0.11664004	-1.194532385	2.322698e-01
## 198646	5.305877	-0.1387673178	0.10976162	-1.264260793	2.061364e-01
## 2407149	11.658919	-0.1382278695	0.17112905	-0.807740533	4.192400e-01
## 199218	1.557989	-0.1374273305	0.10236143	-1.342569460	1.794114e-01
## 178001	2.344704	-0.1366882341	0.11400527	-1.198964122	2.305419e-01
## 179508	3.877584	-0.1348235767	0.14060795	-0.958861676	3.376284e-01
## 176244	4.669863	-0.1329514213	0.10974292	-1.211480667	2.257112e-01
## 177561	1.994349	-0.1328670915	0.10194168	-1.303363730	1.924506e-01
## 1000547	2.666438	-0.1313490781	0.09660934	-1.359589886	1.739597e-01
## 197760	4.180478	-0.1298341931	0.12881387	-1.007920895	3.134924e-01
## 189292	1.769095	-0.1296262381	0.11274299	-1.149749886	2.502469e-01
## 4397098	1.325699	-0.1288086971	0.10577308	-1.217783315	2.233063e-01
## 193744	3.315604	-0.1286293271	0.09954659	-1.292152067	1.963045e-01
## 300297	1.812818	-0.1276264375	0.11608265	-1.099444597	2.715742e-01
## 315958	1.337730	-0.1261676042	0.10461823	-1.205981034	2.278248e-01
## 187035	4.480642	-0.1244342467	0.10722421	-1.160505151	2.458432e-01
## 191180	1.785342	-0.1243270348	0.10666514	-1.165582661	2.437832e-01
## 4458306	3.392354	-0.1236909042	0.12023782	-1.028718759	3.036119e-01
## 174360	1.816821	-0.1223060435	0.10745877	-1.138167113	2.550507e-01
## 192676	1.866027	-0.1217632454	0.10770404	-1.130535517	2.582506e-01
## 536866	6.319576	-0.1214000457	0.12244087	-0.991499366	3.214418e-01
## 194654	2.564307	-0.1210028404	0.11131688	-1.087012461	2.770313e-01
## 1085832	3.016874	-0.1204625275	0.10344452	-1.164513400	2.442160e-01
## 628226	1.749661	-0.1194513203	0.10671208	-1.119379583	2.629782e-01
## 181161	1.439116	-0.1194433890	0.10212882	-1.169536576	2.421875e-01
## 187882	5.737092	-0.1182859080	0.15184648	-0.778983534	4.359894e-01
## 1508541	19.940677	-0.1180792410	0.12015947	-0.982687784	3.257611e-01
## 189592	2.133342	-0.1179393827	0.10611649	-1.111414273	2.663901e-01
## 177349	4.347796	-0.1177105350	0.10722597	-1.097780054	2.723005e-01
## 340711	2.195244	-0.1168593474	0.12800729	-0.912911672	3.612890e-01
## 322580	2.511336	-0.1162491311	0.10314683	-1.127025696	2.597316e-01
## 187447	40.915735	-0.1151742119	0.18624304	-0.618408154	5.363063e-01
## 2024346	1.435401	-0.1147030527	0.10764710	-1.065547046	2.866284e-01
## 311950	2.037689	-0.1145414232	0.12852885	-0.891172829	3.728365e-01
## 184497	1.669848	-0.1135975655	0.10272480	-1.105843677	2.687942e-01

## 192406	90.764008	-0.1133174585	0.22045477	-0.514016806	6.072402e-01
## 196200	3.589429	-0.1127657292	0.10129220	-1.113271588	2.655918e-01
## 226338	1.264903	-0.1116099266	0.10706431	-1.042456868	2.971999e-01
## 199490	1.791904	-0.1114672327	0.09503172	-1.172947647	2.408168e-01
## 1992	77.076944	-0.1102030137	0.18775883	-0.586939167	5.572446e-01
## 4306587	1.381555	-0.1096638081	0.10607358	-1.033846620	3.012079e-01
## 129692	1.644530	-0.1087864915	0.11023064	-0.986898832	3.236922e-01
## 4345285	8.442526	-0.1075395551	0.15535340	-0.692225314	4.887958e-01
## 1076818	1.379038	-0.1056774112	0.10512602	-1.005245079	3.147789e-01
## 4448211	1.590843	-0.1045936785	0.09795126	-1.067813513	2.856046e-01
## 4479397	4.528159	-0.1039143863	0.13606426	-0.763715536	4.450368e-01
## 4335578	1.620433	-0.1030456567	0.09733673	-1.058651359	2.897586e-01
## 3537197	34.246136	-0.1026520897	0.20971595	-0.489481555	6.245008e-01
## 3450454	2.903342	-0.1015171784	0.11713208	-0.866689807	3.861120e-01
## 182196	3.207038	-0.1011004133	0.11371744	-0.889049345	3.739766e-01
## 184477	1.578818	-0.1009564830	0.09961132	-1.013504161	3.108194e-01
## 4472399	290.050207	-0.1009351624	0.20516423	-0.491972527	6.227388e-01
## 2704013	4.091274	-0.1007905799	0.14221298	-0.708729810	4.784922e-01
## 14920	1.424163	-0.1006064864	0.10216056	-0.984787957	3.247282e-01
## 184209	8.484532	-0.1005675627	0.10821300	-0.929348294	3.527086e-01
## 45296	1.626733	-0.0990231723	0.09579523	-1.033696263	3.012782e-01
## 196990	2.514659	-0.0984446349	0.10560049	-0.932236546	3.512143e-01
## 172233	1.785385	-0.0978199850	0.11533941	-0.848105442	3.963793e-01
## 1646171	13.055643	-0.0971669318	0.19470464	-0.499047853	6.177457e-01
## 4354103	1.470478	-0.0970730788	0.10882473	-0.892013079	3.723859e-01
## 4395075	1.790457	-0.0963108692	0.09726560	-0.990184242	3.220841e-01
## 4390972	1.335786	-0.0962552608	0.10428300	-0.923019683	3.559969e-01
## 188315	1.340976	-0.0958206507	0.10748664	-0.891465664	3.726794e-01
## 182588	1.406672	-0.0958098609	0.10350878	-0.925620654	3.546432e-01
## 2927689	1.739257	-0.0951721767	0.11418087	-0.833521175	4.045509e-01
## 175729	6.414127	-0.0949586618	0.14572094	-0.651647327	5.146287e-01
## 193174	2.070938	-0.0947097202	0.10005374	-0.946588472	3.438485e-01
## 2768843	1.791076	-0.0945881804	0.09549519	-0.990502086	3.219288e-01
## 175148	3.663018	-0.0943535379	0.13935985	-0.677049650	4.983745e-01
## 4483015	3.828452	-0.0940794531	0.11345126	-0.829249977	4.069630e-01
## 186478	2.622072	-0.0936240924	0.10440343	-0.896753056	3.698507e-01
## 193477	4.164525	-0.0928555788	0.13865185	-0.669703140	5.030470e-01
## 724120	1.706193	-0.0925352492	0.09652931	-0.958623309	3.377485e-01
## 187623	1.733387	-0.0924505921	0.10381069	-0.890569061	3.731604e-01
## 186030	2.574050	-0.0918799882	0.11300625	-0.813052298	4.161881e-01
## 12574	17.987566	-0.0917154815	0.12983931	-0.706376829	4.799538e-01
## 2201995	5.164700	-0.0913512403	0.15824785	-0.577266868	5.637592e-01
## 187952	4.458371	-0.0906869992	0.10710252	-0.846730758	3.971452e-01
## 199286	2.798233	-0.0901020433	0.14089074	-0.639517133	5.224866e-01
## 174752	5.301883	-0.0895048234	0.12050063	-0.742774755	4.576181e-01
## 4421070	1.398797	-0.0893242404	0.10161398	-0.879054613	3.793717e-01
## 3101394	1.292386	-0.0884442930	0.10535337	-0.839501327	4.011880e-01
## 182911	23.723362	-0.0879792661	0.19268121	-0.456605329	6.479547e-01
## 1823053	1.608003	-0.0875929631	0.10823208	-0.809306834	4.183387e-01
## 174439	4.378944	-0.0865885353	0.14046706	-0.616433039	5.376088e-01
## 176113	2.274946	-0.0856264849	0.10393295	-0.823862767	4.100175e-01
## 328105	1.878885	-0.0856081411	0.09571008	-0.894452690	3.710797e-01
## 187689	3.812909	-0.0843774733	0.14896200	-0.566436214	5.710973e-01
## 183224	3.464637	-0.0831591427	0.14780639	-0.562622125	5.736922e-01

## 4417708	1.555207	-0.0828519735	0.11684426	-0.709080401	4.782746e-01
## 1917420	12.266958	-0.0806072299	0.14719794	-0.547611129	5.839589e-01
## 4217963	5.762251	-0.0796855118	0.14754297	-0.540083421	5.891395e-01
## 189403	2.964083	-0.0789846804	0.12230387	-0.645806858	5.184044e-01
## 3609803	1.282487	-0.0789177695	0.10601414	-0.744407943	4.566297e-01
## 349431	1.575025	-0.0784128214	0.09957702	-0.787458986	4.310132e-01
## 955102	2.132707	-0.0774688215	0.11882285	-0.651969034	5.144211e-01
## 4407515	3.332517	-0.0772204040	0.14381947	-0.536925929	5.913188e-01
## 3887769	4.574770	-0.0765707445	0.09661929	-0.792499551	4.280695e-01
## 192370	2.065011	-0.0765243552	0.11179845	-0.684484944	4.936690e-01
## 185563	4.810273	-0.0762093121	0.10754929	-0.708598916	4.785734e-01
## 3450453	2.314177	-0.0760288712	0.09297089	-0.817770682	4.134881e-01
## 526804	2.232851	-0.0757959414	0.10317738	-0.734617828	4.625723e-01
## 334459	1.636258	-0.0756951071	0.10411654	-0.727022895	4.672119e-01
## 193831	3.335081	-0.0756193489	0.12226829	-0.618470635	5.362651e-01
## 196219	4.067215	-0.0755891707	0.12373292	-0.610905897	5.412619e-01
## 188856	1.527345	-0.0755155708	0.10393060	-0.726596114	4.674734e-01
## 192536	3.522639	-0.0753816391	0.12768979	-0.590349796	5.549562e-01
## 230479	2.379529	-0.0751809504	0.13329415	-0.564022879	5.727386e-01
## 191999	3.046596	-0.0740941055	0.11848209	-0.625361236	5.317340e-01
## 2281172	3.253766	-0.0740307502	0.11219230	-0.659855896	5.093463e-01
## 193075	2.317871	-0.0735517309	0.12046704	-0.610554834	5.414943e-01
## 149614	1.950010	-0.0735058179	0.09802709	-0.749852113	4.533438e-01
## 178849	1.594592	-0.0734235454	0.11191670	-0.656055321	5.117885e-01
## 197890	1.500633	-0.0724375881	0.10537304	-0.687439459	4.918058e-01
## 137026	1.205511	-0.0719672314	0.10828399	-0.664615645	5.062964e-01
## 195646	1.954234	-0.0712747063	0.10419379	-0.684059080	4.939379e-01
## 191872	5.295345	-0.0711252848	0.12629124	-0.563184646	5.733092e-01
## 329703	2.233330	-0.0703965692	0.12802056	-0.549884855	5.823984e-01
## 1740283	27.347758	-0.0699991553	0.18341704	-0.381639317	7.027289e-01
## 355424	2.655569	-0.0691627585	0.11502978	-0.601259583	5.476671e-01
## 183532	1.701101	-0.0690033762	0.11204385	-0.615860443	5.379866e-01
## 193053	55.724231	-0.0681109940	0.22349803	-0.304749862	7.605567e-01
## 302352	2.066982	-0.0675449207	0.10050899	-0.672028651	5.015655e-01
## 4457268	2.281285	-0.0670045445	0.10433264	-0.642220322	5.207301e-01
## 2920309	11.182149	-0.0657642697	0.15855285	-0.414778232	6.783043e-01
## 4464173	32.766787	-0.0654269634	0.19416683	-0.336962620	7.361451e-01
## 196017	1.362571	-0.0652123993	0.10410970	-0.626381588	5.310647e-01
## 3680006	1.416628	-0.0639710570	0.10428475	-0.613426784	5.395942e-01
## 206574	9.691890	-0.0635377036	0.14118593	-0.450028570	6.526898e-01
## 843357	2.122203	-0.0634022242	0.11107251	-0.570818350	5.681228e-01
## 4433823	42.051161	-0.0632770418	0.19248758	-0.328733111	7.423574e-01
## 4111715	16.024948	-0.0631506931	0.15568155	-0.405640180	6.850070e-01
## 179729	2.446680	-0.0629416125	0.09289319	-0.677569695	4.980446e-01
## 288651	2.154476	-0.0624715814	0.13149313	-0.475093887	6.347201e-01
## 355197	1.541371	-0.0619573591	0.09876885	-0.627296555	5.304649e-01
## 194584	2.080227	-0.0619300550	0.10675596	-0.580108656	5.618413e-01
## 4435400	4.314347	-0.0616533353	0.13982599	-0.440929024	6.592644e-01
## 4354486	1.752543	-0.0613214329	0.10154708	-0.603871926	5.459288e-01
## 1065569	1.912150	-0.0612444484	0.09780318	-0.626200985	5.311831e-01
## 4352494	1.310068	-0.0607833075	0.10646714	-0.570911431	5.680597e-01
## 518820	1.484454	-0.0604816968	0.11375128	-0.531701242	5.949329e-01
## 4430843	2.620313	-0.0597501198	0.12485077	-0.478572279	6.322429e-01
## 3195500	5.855231	-0.0589944514	0.14411925	-0.409344688	6.822867e-01

## 183054	2.096703	-0.0588292553	0.11872815	-0.495495414	6.202505e-01
## 4451251	4.508218	-0.0587263799	0.13807165	-0.425332645	6.705942e-01
## 199421	1.509371	-0.0581368347	0.10083562	-0.576550592	5.642431e-01
## 340113	1.591260	-0.0567069588	0.09894049	-0.573142112	5.665485e-01
## 851704	1.545214	-0.0559432687	0.10346101	-0.540718354	5.887017e-01
## 195947	2.042233	-0.0542765524	0.12011507	-0.451871297	6.513617e-01
## 174497	1.775330	-0.0539517008	0.09968123	-0.541242322	5.883406e-01
## 663500	1.379623	-0.0526823951	0.11130984	-0.473295031	6.360027e-01
## 299837	1.987893	-0.0515578740	0.09359836	-0.550841642	5.817422e-01
## 188194	7.480030	-0.0512719827	0.17045068	-0.300802451	7.635651e-01
## 288362	1.981015	-0.0499394143	0.09361582	-0.533450567	5.937217e-01
## 3903651	455.882638	-0.0497558719	0.17739895	-0.280474449	7.791135e-01
## 198190	2.913167	-0.0486892562	0.13046739	-0.373190990	7.090063e-01
## 3544569	1.394623	-0.0484374298	0.10764205	-0.449986127	6.527204e-01
## 147702	3.932875	-0.0483862004	0.13657662	-0.354278783	7.231300e-01
## 161007	2.324360	-0.0478744990	0.09248753	-0.517631908	6.047151e-01
## 4424239	34.913605	-0.0460074254	0.15588458	-0.295137759	7.678886e-01
## 4373152	3.210877	-0.0451952247	0.12037742	-0.375446020	7.073288e-01
## 25461	1.701504	-0.0442602174	0.10093150	-0.438517403	6.610113e-01
## 198909	5.841981	-0.0428667952	0.15226463	-0.281528248	7.783053e-01
## 179273	1.476332	-0.0425724808	0.10139017	-0.419887671	6.745675e-01
## 182874	61.282543	-0.0420308381	0.22768331	-0.184602191	8.535411e-01
## 177100	2.477259	-0.0418615594	0.12151225	-0.344504848	7.304667e-01
## 364563	1.465497	-0.0416926296	0.10145084	-0.410963849	6.810990e-01
## 4432433	2.488343	-0.0414940361	0.12152180	-0.341453442	7.327622e-01
## 199256	1.732751	-0.0408133771	0.11603253	-0.351740823	7.250326e-01
## 193679	3.303396	-0.0376789391	0.13294708	-0.283413057	7.768602e-01
## 196381	1.540141	-0.0372820355	0.10773173	-0.346063655	7.292949e-01
## 184980	1.840530	-0.0372721343	0.10412495	-0.357955830	7.203764e-01
## 193233	24.854739	-0.0369052613	0.17566980	-0.210083124	8.336028e-01
## 386273	1.577583	-0.0366680298	0.11400443	-0.321636878	7.477278e-01
## 357261	5.851668	-0.0366640240	0.15258870	-0.240280073	8.101131e-01
## 358798	3.576286	-0.0364930834	0.13567125	-0.268981707	7.879438e-01
## 175261	11.018556	-0.0358254830	0.15645204	-0.228987005	8.188790e-01
## 196918	1.605734	-0.0357294320	0.10300295	-0.346877742	7.286832e-01
## 3186216	3.403504	-0.0355924973	0.12783524	-0.278424779	7.806863e-01
## 4345397	1.666136	-0.0355304366	0.10350487	-0.343273075	7.313930e-01
## 189381	1.513574	-0.0352139139	0.09869575	-0.356792610	7.212471e-01
## 564290	1.286458	-0.0351800092	0.10769139	-0.326674302	7.439142e-01
## 176469	1.424937	-0.0336552819	0.10375697	-0.324366466	7.456606e-01
## 4433417	1.688880	-0.0331041979	0.11283789	-0.293378396	7.692329e-01
## 183496	6.140468	-0.0328471948	0.12259397	-0.267934839	7.887495e-01
## 64384	1.368860	-0.0327654597	0.10624566	-0.308393397	7.577830e-01
## 199344	2.213823	-0.0321548979	0.11122586	-0.289095523	7.725083e-01
## 178211	2.070181	-0.0307635025	0.11244599	-0.273584691	7.844038e-01
## 4329112	3.899000	-0.0304003848	0.12846505	-0.236643236	8.129336e-01
## 1986324	1.507566	-0.0302102188	0.10229886	-0.295313340	7.677545e-01
## 4397402	1.746475	-0.0300844044	0.11921592	-0.252352229	8.007688e-01
## 4434579	1.202128	-0.0290816109	0.10885033	-0.267170633	7.893378e-01
## 193452	1.844168	-0.0285773187	0.09561374	-0.298882961	7.650293e-01
## 1839271	25.989731	-0.0280954693	0.15981924	-0.175795286	8.604548e-01
## 2949328	2.282318	-0.0278838424	0.11989154	-0.232575568	8.160910e-01
## 188707	2.609313	-0.0269921787	0.12121309	-0.222683688	8.237817e-01
## 367456	2.458225	-0.0266465960	0.09239419	-0.288401210	7.730396e-01

## 4381092	4.871226	-0.0260599364	0.14200214	-0.183517916	8.543917e-01
## 197675	1.590354	-0.0258832865	0.10725159	-0.241332417	8.092975e-01
## 2229500	1.644633	-0.0256446919	0.10054088	-0.255067323	7.986711e-01
## 189067	1.635387	-0.0252074165	0.10194028	-0.247276322	8.046944e-01
## 290281	2.039795	-0.0250968948	0.09879403	-0.254032502	7.994704e-01
## 4346675	1.600697	-0.0241548049	0.09848869	-0.245254602	8.062593e-01
## 361702	1.700990	-0.0241087471	0.11045116	-0.218275186	8.272147e-01
## 4459414	1.422803	-0.0236272439	0.10975674	-0.215269190	8.295574e-01
## 190577	1.730285	-0.0231860238	0.10329464	-0.224464932	8.223956e-01
## 2532173	5.371459	-0.0229175006	0.14069767	-0.162884717	8.706092e-01
## 361864	1.374032	-0.0227822763	0.10908333	-0.208852042	8.345637e-01
## 4436046	200.629167	-0.0224631414	0.21741623	-0.103318605	9.177101e-01
## 4326869	2.681538	-0.0180539322	0.11764654	-0.153459105	8.780362e-01
## 521795	1.780814	-0.0171333157	0.10612347	-0.161446995	8.717414e-01
## 4452051	1.475054	-0.0159179587	0.10604037	-0.150112248	8.806761e-01
## 4431803	1.644212	-0.0158950552	0.11078005	-0.143483010	8.859087e-01
## 180509	12.132821	-0.0153946640	0.17044104	-0.090322518	9.280309e-01
## 157054	1.913348	-0.0135682878	0.12045200	-0.112644774	9.103122e-01
## 4154872	1.621851	-0.0134216934	0.11271820	-0.119072996	9.052175e-01
## 1062051	1.540635	-0.0132908662	0.10359118	-0.128301138	8.979107e-01
## 188648	2.035214	-0.0121654886	0.09595691	-0.126780747	8.991139e-01
## 211706	14.205425	-0.0118321307	0.11796133	-0.100305165	9.201021e-01
## 363029	7.845597	-0.0116605046	0.12043783	-0.096817622	9.228712e-01
## 345540	2.129848	-0.0116090919	0.11955251	-0.097104543	9.226434e-01
## 188127	2.000805	-0.0100056417	0.11366927	-0.088024156	9.298575e-01
## 128382	1.948310	-0.0095944803	0.12220540	-0.078511098	9.374215e-01
## 340759	1.414105	-0.0092838715	0.10242440	-0.090641213	9.277777e-01
## 102471	1.306778	-0.0091515320	0.10706308	-0.085477947	9.318814e-01
## 194899	1.957764	-0.0084490708	0.09823398	-0.086009655	9.314587e-01
## 4443574	1.384105	-0.0080989006	0.10437042	-0.077597664	9.381481e-01
## 189760	2.739660	-0.0072765572	0.12629021	-0.057617745	9.540531e-01
## 130763	1.614488	-0.0069433426	0.11038847	-0.062899163	9.498468e-01
## 4355379	1.390559	-0.0059012550	0.10324671	-0.057156836	9.544203e-01
## 4480189	22.095644	-0.0042865723	0.19401684	-0.022093816	9.823731e-01
## 194089	3.464863	-0.0039435365	0.10801389	-0.036509531	9.708761e-01
## 4373156	2.929462	-0.0023792431	0.10728386	-0.022177083	9.823067e-01
## 2200896	2.201372	-0.0017709730	0.10373893	-0.017071441	9.863796e-01
## 1722623	1.256299	-0.0015288911	0.10730885	-0.014247578	9.886325e-01
## 192444	19.720426	-0.0009568724	0.17118978	-0.005589542	9.955402e-01
## 192461	4.579764	-0.0007970988	0.12796937	-0.006228825	9.950301e-01
## 193763	3.997928	-0.0003795423	0.13032923	-0.002912180	9.976764e-01
## 2689396	4.684647	0.0006716787	0.12290723	0.005464924	9.956396e-01
## 212698	2.017891	0.0009437652	0.09425400	0.010012999	9.920109e-01
## 4326080	3.300048	0.0009715074	0.12092252	0.008034131	9.935898e-01
## 180552	2.348235	0.0012454610	0.11167618	0.011152432	9.911018e-01
## 3799784	7.708176	0.0013629496	0.14056807	0.009696012	9.922638e-01
## 4470870	3.559372	0.0015764282	0.15715780	0.010030862	9.919967e-01
## 197750	1.617252	0.0019725448	0.10374994	0.019012490	9.848311e-01
## 191718	1.439925	0.0021465669	0.10309394	0.020821465	9.833881e-01
## 2388088	1.775791	0.0021603479	0.10290122	0.020994387	9.832501e-01
## 192046	1.644117	0.0024737343	0.10470188	0.023626455	9.811506e-01
## 4379957	3.335588	0.0026027477	0.12189333	0.021352667	9.829643e-01
## 198128	1.824580	0.0030604297	0.09965138	0.030711364	9.754997e-01
## 176704	1.939720	0.0033652062	0.09678946	0.034768312	9.722645e-01

## 186955	2.719106	0.0036667455	0.10859472	0.033765412	9.730642e-01
## 1100471	1.651936	0.0038249224	0.11012463	0.034732670	9.722929e-01
## 335670	1.719615	0.0043484678	0.10253551	0.042409383	9.661723e-01
## 566976	2.853299	0.0056243326	0.10760748	0.052267113	9.583159e-01
## 189647	1.973571	0.0076651281	0.11397763	0.067251162	9.463818e-01
## 193551	3.111770	0.0082159348	0.12039018	0.068244226	9.455912e-01
## 3544699	8.348554	0.0087549299	0.17412535	0.050279468	9.598997e-01
## 4433737	3.976317	0.0092360654	0.13319725	0.069341264	9.447180e-01
## 188863	3.112257	0.0093126938	0.12052152	0.077269964	9.384088e-01
## 368486	4.690322	0.0093328367	0.15465488	0.060346214	9.518799e-01
## 197930	25.363207	0.0100760454	0.18445979	0.054624617	9.564375e-01
## 357046	308.724043	0.0111625678	0.25763323	0.043327360	9.654406e-01
## 141145	14.921011	0.0119855585	0.15773541	0.075985210	9.394309e-01
## 1838560	2.185672	0.0123739825	0.10872588	0.113808994	9.093892e-01
## 4425571	263.853559	0.0130593171	0.19088698	0.068413869	9.454562e-01
## 300378	2.753369	0.0131873160	0.13491867	0.097742708	9.221366e-01
## 216010	3.004743	0.0142850469	0.14168751	0.100820790	9.196927e-01
## 562410	1.319037	0.0146979551	0.10607286	0.138564711	8.897941e-01
## 4425663	1.252603	0.0167765282	0.10868574	0.154358142	8.773274e-01
## 4354477	4.957107	0.0182172307	0.12551969	0.145134448	8.846047e-01
## 192308	69.600190	0.0197878105	0.20034950	0.098766460	9.213237e-01
## 356745	30.248589	0.0201001175	0.19318892	0.104043844	9.171346e-01
## 191792	69.971355	0.0207142007	0.22976289	0.090154685	9.281643e-01
## 231952	2.070634	0.0209411673	0.11631232	0.180042558	8.571192e-01
## 3531225	3.252178	0.0219627987	0.11094783	0.197956084	8.430794e-01
## 113581	1.382632	0.0221026553	0.10661714	0.207308646	8.357688e-01
## 849642	1.452784	0.0235823384	0.11004845	0.214290514	8.303205e-01
## 2123719	2.592749	0.0237824200	0.11524801	0.206358612	8.365108e-01
## 187178	3.086375	0.0240793749	0.14258524	0.168877050	8.658934e-01
## 195105	1.538905	0.0243553703	0.10144529	0.240083799	8.102653e-01
## 207126	2.479048	0.0244324037	0.11791491	0.207203677	8.358508e-01
## 234443	1.250096	0.0247284979	0.10821522	0.228512208	8.192481e-01
## 175036	1.417243	0.0255216536	0.10446846	0.244300087	8.069984e-01
## 194667	1.934929	0.0264775656	0.12437538	0.212884294	8.314172e-01
## 3438642	1.573291	0.0279385392	0.11216692	0.249080034	8.032989e-01
## 2170530	1.660016	0.0289027277	0.09873664	0.292725456	7.697320e-01
## 185141	2.215247	0.0291388784	0.11410339	0.255372599	7.984353e-01
## 4469032	1.407513	0.0292387058	0.10559342	0.276898925	7.818577e-01
## 287875	1.338064	0.0293847200	0.10420868	0.281979590	7.779592e-01
## 3697034	2.486888	0.0299881435	0.12220779	0.245386504	8.061572e-01
## 345354	2.225790	0.0301684421	0.11132647	0.270990728	7.863982e-01
## 189782	1.719789	0.0309652654	0.10772273	0.287453391	7.737652e-01
## 587933	27.495448	0.0313249748	0.18885251	0.165870046	8.682592e-01
## 4449427	45.598396	0.0316656328	0.20757358	0.152551367	8.787521e-01
## 4326452	20.098692	0.0323840897	0.18161469	0.178312057	8.584779e-01
## 333114	2.082499	0.0329534978	0.12143273	0.271372462	7.861046e-01
## 4447072	49.464846	0.0339239460	0.17968302	0.188798845	8.502505e-01
## 179200	9.244491	0.0345083668	0.15494200	0.222717967	8.237550e-01
## 356360	2.030444	0.0346156585	0.09807792	0.352940393	7.241331e-01
## 3409355	1.513319	0.0347678325	0.11167115	0.311341213	7.555412e-01
## 316732	155.718691	0.0348316661	0.23573629	0.147756914	8.825346e-01
## 293511	1.613488	0.0350318087	0.09896310	0.353988583	7.233474e-01
## 1860111	2.356535	0.0359712778	0.11173689	0.321928398	7.475069e-01
## 566243	2.862625	0.0362002116	0.10895906	0.332236812	7.397104e-01

## 195556	1.807228	0.0362720123	0.09914304	0.365855374	7.144730e-01
## 4331360	58.473350	0.0363615935	0.21228995	0.171282688	8.640015e-01
## 524848	3.964894	0.0365156324	0.13479957	0.270888339	7.864769e-01
## 192958	3.775403	0.0370316788	0.12550069	0.295071510	7.679393e-01
## 1624383	1.971581	0.0376292860	0.10828798	0.347492728	7.282212e-01
## 1679707	1.711291	0.0387046924	0.10279233	0.376532871	7.065208e-01
## 527988	3.884022	0.0411933947	0.13325618	0.309129328	7.572232e-01
## 186549	1.713455	0.0414538817	0.11006429	0.376633355	7.064461e-01
## 209760	6.487035	0.0420308505	0.12885901	0.326177048	7.442904e-01
## 1023075	1.944639	0.0421494130	0.11567844	0.364367049	7.155839e-01
## 179392	1.474536	0.0424137540	0.10619356	0.399400419	6.895982e-01
## 195805	2.140397	0.0425275711	0.10818408	0.393103774	6.942428e-01
## 177237	4.847094	0.0427979154	0.13662408	0.313253091	7.540884e-01
## 242298	1.491222	0.0430064888	0.11338131	0.379308452	7.044588e-01
## 2658061	1.699745	0.0450714330	0.10152517	0.443943458	6.570835e-01
## 188966	2.144884	0.0450953544	0.12672301	0.355857654	7.219472e-01
## 193148	1.497794	0.0466893639	0.10307141	0.452980759	6.505626e-01
## 567960	1.781748	0.0468771415	0.09582169	0.489212206	6.246915e-01
## 198696	1.641157	0.0479677257	0.10381391	0.462054886	6.440420e-01
## 194372	1.542685	0.0483200197	0.10032436	0.481637953	6.300632e-01
## 194053	7.845192	0.0501945466	0.15218419	0.329827601	7.415302e-01
## 191833	3.501846	0.0508774023	0.12990301	0.391656825	6.953118e-01
## 173863	11.607792	0.0511092978	0.14988513	0.340989783	7.331113e-01
## 208972	1.346786	0.0522370011	0.10647698	0.490594316	6.237134e-01
## 685156	1.204970	0.0524838993	0.10997836	0.477220220	6.332053e-01
## 185593	1.285062	0.0526527418	0.11120400	0.473478867	6.358716e-01
## 176862	1.713854	0.0526606296	0.10266273	0.512947883	6.079878e-01
## 180563	3.173396	0.0531585907	0.12280546	0.432868314	6.651104e-01
## 389371	2.959148	0.0532183254	0.13435917	0.396090003	6.920386e-01
## 4454531	21.227874	0.0539923031	0.16155729	0.334199115	7.382293e-01
## 2816372	1.683480	0.0540849681	0.10529460	0.513653786	6.074941e-01
## 230578	3.073144	0.0541946642	0.14761658	0.367131271	7.135211e-01
## 196982	2.137158	0.0544624988	0.11528907	0.472399481	6.366417e-01
## 199430	29.055462	0.0563385563	0.17412053	0.323560669	7.462707e-01
## 192818	2.244033	0.0574136830	0.11405028	0.503406762	6.146783e-01
## 146086	1.515081	0.0576117189	0.11103700	0.518851527	6.038643e-01
## 208539	1.799527	0.0593607844	0.12066548	0.491945039	6.227582e-01
## 189624	1.325903	0.0597604352	0.10887724	0.548879053	5.830885e-01
## 4226619	1.691320	0.0603887525	0.10340156	0.584021686	5.592057e-01
## 179663	1.705233	0.0604947163	0.09789211	0.617973333	5.365929e-01
## 178478	2.713026	0.0628620469	0.13269771	0.473723661	6.356970e-01
## 193887	3.208484	0.0631273764	0.12253820	0.515164870	6.064378e-01
## 181754	3.811847	0.0631401338	0.11844234	0.533087523	5.939730e-01
## 67813	2.310602	0.0633563789	0.12021018	0.527046706	5.981612e-01
## 1906635	1.856150	0.0641951220	0.10420633	0.616038593	5.378690e-01
## 189877	1.6777071	0.0651916087	0.10426441	0.625252748	5.318052e-01
## 4342104	20.067223	0.0661964857	0.17270420	0.383294005	7.015018e-01
## 1142110	1.713150	0.0665253452	0.11120096	0.598244361	5.496769e-01
## 267718	1.822101	0.0666456551	0.09691768	0.687652184	4.916718e-01
## 180842	1.510896	0.0678026101	0.11249461	0.602718754	5.466958e-01
## 183925	1.624025	0.0679226059	0.10949486	0.620326880	5.350426e-01
## 534957	1.983709	0.0689380151	0.11352630	0.607242658	5.436899e-01
## 1654474	6.627528	0.0689953860	0.13496765	0.511199432	6.092114e-01
## 195004	3.249160	0.0691998061	0.12387842	0.558610647	5.764275e-01

## 535955	7.515947	0.0707005135	0.12887043	0.548617051	5.832683e-01
## 182052	9.984875	0.0709658400	0.18666181	0.380184035	7.038088e-01
## 4344207	2.290284	0.0713313936	0.12052557	0.591836170	5.539603e-01
## 180352	2.872654	0.0716416333	0.11872535	0.603423228	5.462272e-01
## 197499	12.543581	0.0717798119	0.18435686	0.389352532	6.970154e-01
## 4336940	2.060575	0.0737338111	0.13142383	0.561038387	5.747714e-01
## 195186	1.711593	0.0742097202	0.09941287	0.746480031	4.553775e-01
## 186624	13.535281	0.0742106681	0.16959073	0.437586810	6.616858e-01
## 177792	9.663863	0.0749358962	0.17253961	0.434311277	6.640624e-01
## 192127	4.586133	0.0749610186	0.13942486	0.537644570	5.908225e-01
## 158625	1.556563	0.0759141810	0.09922880	0.765041804	4.442467e-01
## 305561	1.960664	0.0766018548	0.11148447	0.687107855	4.920148e-01
## 4333897	15.517470	0.0779440821	0.15464130	0.504031477	6.142393e-01
## 199710	1.553477	0.0782701717	0.10661057	0.734168977	4.628458e-01
## 839152	1.626137	0.0786598101	0.10927965	0.719802892	4.716464e-01
## 4480176	1.213467	0.0792374798	0.10968632	0.722400779	4.700481e-01
## 4455767	1.887160	0.0795509479	0.09839000	0.808526758	4.187874e-01
## 189793	1.904174	0.0796959221	0.10589802	0.752572364	4.517069e-01
## 1959881	1.568375	0.0797743693	0.10281031	0.775937408	4.377859e-01
## 198928	1.590442	0.0802076041	0.10231747	0.783909167	4.330934e-01
## 181452	4.318721	0.0810924269	0.13827907	0.586440346	5.575796e-01
## 4318284	1.431789	0.0811560655	0.10886266	0.745490374	4.559753e-01
## 305288	1.633623	0.0811660829	0.10222184	0.794019021	4.271844e-01
## 523140	2.630369	0.0815208379	0.11667196	0.698718335	4.847281e-01
## 190502	6.419629	0.0839869716	0.13024103	0.644858009	5.190192e-01
## 4393073	1.983691	0.0851095077	0.10835993	0.785433415	4.321995e-01
## 191222	1.449364	0.0868686610	0.10181000	0.853242951	3.935246e-01
## 4041792	1.606949	0.0868731980	0.09894794	0.877968779	3.799607e-01
## 190301	2.250144	0.0873664463	0.10891831	0.802128165	4.224788e-01
## 4409962	2.122873	0.0887664746	0.10238865	0.866956198	3.859660e-01
## 189334	1.328543	0.0888338791	0.10596929	0.838298310	4.018632e-01
## 315223	1.219957	0.0897716996	0.10974549	0.817998983	4.133578e-01
## 194559	2.368907	0.0908264252	0.11117634	0.816958212	4.139523e-01
## 191214	4.438105	0.0909903511	0.12705889	0.716127380	4.739127e-01
## 4396656	1.656695	0.0910172621	0.10147859	0.896910967	3.697664e-01
## 186896	1.779100	0.0913604250	0.09609339	0.950746162	3.417332e-01
## 4430639	2.258072	0.0915929162	0.10806803	0.847548700	3.966894e-01
## 189860	2.751997	0.0917013811	0.12251649	0.748481949	4.541695e-01
## 198947	2.746822	0.0920766994	0.09880077	0.931943144	3.513659e-01
## 328659	1.680056	0.0921595971	0.10208693	0.902756098	3.666554e-01
## 190864	2.521622	0.0921997040	0.11608913	0.794214769	4.270704e-01
## 189630	2.281015	0.0924292226	0.11028833	0.838068917	4.019920e-01
## 2072645	2.102609	0.0924753477	0.09945810	0.929792039	3.524788e-01
## 2996838	2.275372	0.0926019392	0.12410826	0.746138406	4.555838e-01
## 198468	1.660017	0.0931088726	0.10452541	0.890777385	3.730486e-01
## 4383924	1.958383	0.0934319412	0.10201063	0.915904011	3.597172e-01
## 192696	1.404990	0.0936492581	0.10338668	0.905815538	3.650335e-01
## 193797	1.845435	0.0946524410	0.12624729	0.749738387	4.534123e-01
## 3096648	1.812071	0.0950102086	0.11230231	0.846021858	3.975406e-01
## 179384	3.431288	0.0950765353	0.11859235	0.801708861	4.227214e-01
## 656881	46.006213	0.0959775063	0.17152617	0.559550235	5.757863e-01
## 197991	1.514034	0.0964173305	0.10375167	0.929308695	3.527291e-01
## 366147	1.660818	0.0964953179	0.11483164	0.840319980	4.007290e-01
## 351163	1.395462	0.0965634758	0.11175166	0.864089864	3.875385e-01

## 363735	6.647530	0.0966468772	0.12073994	0.800454887	4.234473e-01
## 196724	1.763967	0.0967981415	0.10479953	0.923650503	3.556683e-01
## 3244992	1.850820	0.0972766455	0.10620917	0.915896859	3.597210e-01
## 4449458	2.376633	0.0983178792	0.12873928	0.763697599	4.450475e-01
## 2420187	2.023677	0.1001515121	0.11111103	0.901364269	3.673947e-01
## 743082	1.703275	0.1005704603	0.10101444	0.995604783	3.194422e-01
## 4227110	1.772617	0.1011553823	0.11454957	0.883070855	3.771980e-01
## 193778	1.360630	0.1027918692	0.10552403	0.974108675	3.300026e-01
## 305224	1.375702	0.1036130106	0.10640603	0.973751345	3.301800e-01
## 179436	2.342172	0.1042674948	0.12520049	0.832804205	4.049552e-01
## 223059	3.143441	0.1047802495	0.12190689	0.859510505	3.900589e-01
## 188262	1.679244	0.1050149786	0.10359279	1.013728681	3.107122e-01
## 181217	1.432407	0.1058252824	0.10945615	0.966828104	3.336300e-01
## 583134	2.699946	0.1061982785	0.13491891	0.787126723	4.312077e-01
## 3756485	2.511428	0.1077189495	0.11578738	0.930316836	3.522071e-01
## 4390330	2.791105	0.1088688324	0.14479314	0.751892224	4.521159e-01
## 181140	1.806321	0.1089545635	0.10071581	1.081802041	2.793405e-01
## 1607319	2.041093	0.1089744561	0.10391368	1.048701707	2.943154e-01
## 4375000	2.519036	0.1098600884	0.10507399	1.045549793	2.957689e-01
## 185802	1.237189	0.1103271962	0.10926817	1.009691999	3.126429e-01
## 179905	2.243626	0.1107043800	0.11613955	0.953201361	3.404881e-01
## 851938	4.018398	0.1107541188	0.11193129	0.989483099	3.224268e-01
## 177910	1.325849	0.1110610990	0.10623477	1.045430749	2.958239e-01
## 1835779	2.674394	0.1118897356	0.11598422	0.964697889	3.346962e-01
## 190961	1.334467	0.1122442565	0.10620544	1.056859772	2.905756e-01
## 782953	1138.404595	0.1124343141	0.19991189	0.562419332	5.738304e-01
## 772515	3.090038	0.1135130790	0.13090575	0.867135956	3.858675e-01
## 4404507	1.461259	0.1142239471	0.10883747	1.049490975	2.939522e-01
## 3931537	119.737022	0.1143168175	0.21590652	0.529473681	5.964769e-01
## 308333	2.538672	0.1146237053	0.11202191	1.023225745	3.062011e-01
## 225919	1.591744	0.1146667529	0.10626117	1.079103051	2.805418e-01
## 4379646	1.568441	0.1148130273	0.10472224	1.096357595	2.729223e-01
## 189205	1.488556	0.1148900517	0.10763363	1.067417779	2.857832e-01
## 1103978	2.063049	0.1155311460	0.10171973	1.135779075	2.560490e-01
## 178631	1.675440	0.1166170367	0.11289106	1.033005032	3.016015e-01
## 4331760	3.845895	0.1168257777	0.15546543	0.751458220	4.523769e-01
## 146554	957.713815	0.1169744448	0.25953147	0.450713922	6.521957e-01
## 4254313	1.387329	0.1176929287	0.10648407	1.105263220	2.690456e-01
## 4362300	1.799340	0.1178320751	0.10529279	1.119089653	2.631019e-01
## 178928	1.544387	0.1179660182	0.10186158	1.158101173	2.468228e-01
## 189920	94.811449	0.1193499809	0.18233207	0.654574814	5.127415e-01
## 227565	1.410388	0.1194279530	0.10662301	1.120095508	2.626731e-01
## 392887	5.309712	0.1210746362	0.13961517	0.867202578	3.858310e-01
## 340547	1.492138	0.1218212341	0.10326163	1.179733750	2.381061e-01
## 313593	23.404977	0.1220633512	0.17936859	0.680516873	4.961772e-01
## 183970	2.083514	0.1227024625	0.10463402	1.172682303	2.409232e-01
## 179715	1.564669	0.1227545786	0.11086596	1.107234209	2.681927e-01
## 215097	1.252434	0.1228386759	0.11071833	1.109470126	2.672274e-01
## 4387453	1.647292	0.1232752568	0.11249852	1.095794493	2.731687e-01
## 192424	1.679081	0.1236733135	0.10129961	1.220866594	2.221365e-01
## 1068836	1.629838	0.1249152349	0.10931127	1.142748022	2.531432e-01
## 186263	21.882263	0.1261752132	0.18139093	0.695598257	4.866805e-01
## 4460786	2.477458	0.1264196674	0.11870978	1.064947366	2.868997e-01
## 184729	1.906197	0.1266225027	0.09824918	1.288789369	1.974713e-01

## 637546	1.566392	0.1286188792	0.10660863	1.206458470	2.276408e-01
## 4416763	1.861422	0.1286210358	0.10153959	1.266708256	2.052596e-01
## 197490	1.902993	0.1303747596	0.10109356	1.289644573	1.971741e-01
## 4334770	1.930470	0.1305594702	0.10193810	1.280772095	2.002737e-01
## 192592	1.336615	0.1310419050	0.10596518	1.236650660	2.162168e-01
## 180155	2.186383	0.1310901930	0.10246014	1.279426213	2.007470e-01
## 1811927	1.736448	0.1312766682	0.10178508	1.289743686	1.971397e-01
## 194177	4.146908	0.1321587715	0.12204675	1.082853701	2.788734e-01
## 174738	1.783078	0.1324755564	0.10547790	1.255955544	2.091321e-01
## 198583	1.764795	0.1345165219	0.09908441	1.357595162	1.745922e-01
## 195294	1.853412	0.1347734034	0.10867019	1.240205882	2.148993e-01
## 180123	2.385175	0.1358476069	0.11904150	1.141178598	2.537956e-01
## 691423	1.381694	0.1366487663	0.10916040	1.251816338	2.106368e-01
## 4346677	5.932806	0.1367067999	0.17008198	0.803770061	4.215298e-01
## 194925	1.841547	0.1367893805	0.10335698	1.323465353	1.856807e-01
## 225088	1.416270	0.1382858574	0.11257722	1.228364469	2.193102e-01
## 1111522	1.241814	0.1384587854	0.10920911	1.267831861	2.048580e-01
## 198221	2.033377	0.1392043499	0.11837058	1.176004670	2.395930e-01
## 319197	2.077587	0.1400832859	0.10410316	1.345619947	1.784251e-01
## 4004998	1.265167	0.1418493285	0.10950283	1.295394226	1.951843e-01
## 964220	2.346475	0.1438549297	0.10560415	1.362209117	1.731319e-01
## 181059	17.604771	0.1445890542	0.21151568	0.683585512	4.942369e-01
## 196581	1.696427	0.1446618537	0.11053043	1.308796602	1.906033e-01
## 184922	12.215836	0.1448543547	0.17891590	0.809622570	4.181571e-01
## 4290144	1.958297	0.1454090775	0.10943646	1.328707771	1.839444e-01
## 4354235	248.779309	0.1460924389	0.23393922	0.624488880	5.323066e-01
## 4305372	1.387557	0.1461075433	0.11195720	1.305030383	1.918825e-01
## 186133	1.691717	0.1468617893	0.11446046	1.283078802	1.994645e-01
## 181827	1.450294	0.1470108408	0.10183698	1.443589952	1.488544e-01
## 287700	1.495354	0.1484681164	0.10803350	1.374278477	1.693552e-01
## 695909	1.704612	0.1485491043	0.10380781	1.431001272	1.524299e-01
## 4449055	1.474501	0.1490984696	0.11335068	1.315373417	1.883844e-01
## 553150	1.886208	0.1492515496	0.12593987	1.185101652	2.359773e-01
## 322571	1.335513	0.1504017057	0.10778688	1.395361897	1.629067e-01
## 1888072	1.603237	0.1508417194	0.10397275	1.450781242	1.468408e-01
## 192741	2.106172	0.1509242118	0.12980131	1.162732571	2.449380e-01
## 189588	1.744585	0.1513394792	0.10605807	1.426949177	1.535945e-01
## 191361	249.155619	0.1513464037	0.22586077	0.670087182	5.028022e-01
## 174288	6.531798	0.1528398089	0.14559539	1.049757196	2.938298e-01
## 4411138	2.125846	0.1531199119	0.12120737	1.263288787	2.064854e-01
## 619140	1.292000	0.1545698086	0.10785690	1.433100792	1.518290e-01
## 4345850	1.935618	0.1559374488	0.10258304	1.520109488	1.284835e-01
## 199448	6.173652	0.1566384260	0.13508454	1.159558498	2.462286e-01
## 3550973	1.263820	0.1566513436	0.11038225	1.419171453	1.558490e-01
## 195522	2.097593	0.1578088975	0.10669872	1.479014039	1.391366e-01
## 2399341	1.296032	0.1578502876	0.10828950	1.457669432	1.449317e-01
## 186471	2.190577	0.1582032436	0.11918105	1.327419437	1.843700e-01
## 2714942	114.818474	0.1589703232	0.17721167	0.897064619	3.696844e-01
## 3794053	1.698168	0.1593186978	0.10124556	1.573587084	1.155829e-01
## 4344860	3.473035	0.1594926150	0.12619162	1.263892311	2.062687e-01
## 4426877	2.065388	0.1595365278	0.10709308	1.489699709	1.363032e-01
## 190649	2.844464	0.1600752996	0.12880072	1.242813740	2.139365e-01
## 196513	4.406800	0.1609871766	0.15702997	1.025200347	3.052687e-01
## 4456702	1.846494	0.1618053357	0.11822870	1.368579168	1.711309e-01

## 185859	1.660188	0.1633518785	0.10604558	1.540393141	1.234646e-01
## 175168	2.047205	0.1640952723	0.11667034	1.406486654	1.595797e-01
## 177207	5.806001	0.1643878116	0.16815387	0.977603486	3.282705e-01
## 4094259	3.394362	0.1650230893	0.12770872	1.292183360	1.962937e-01
## 186906	1.366880	0.1650604589	0.10648026	1.550150739	1.211053e-01
## 1986406	1.263840	0.1653948780	0.10963626	1.508578302	1.314066e-01
## 4387246	4.846566	0.1668998112	0.15757981	1.059144633	2.895339e-01
## 197458	3.477944	0.1669140812	0.11922453	1.399997856	1.615140e-01
## 258375	1.624709	0.1670476248	0.10528851	1.586570318	1.126100e-01
## 2177184	2.168923	0.1687613035	0.11520899	1.464827548	1.429680e-01
## 4477719	1.413041	0.1689838384	0.11316928	1.493195361	1.353861e-01
## 362793	3.338794	0.1708234963	0.15073728	1.133253122	2.571080e-01
## 175967	1.470680	0.1708919067	0.11499143	1.486127392	1.372454e-01
## 4396298	1.379385	0.1711454826	0.10825016	1.581018219	1.138739e-01
## 4388775	502.701890	0.1711718214	0.22554622	0.758921276	4.478997e-01
## 3413566	7.849136	0.1713392907	0.13325145	1.285834317	1.985009e-01
## 300662	4.682268	0.1732748179	0.13674328	1.267154203	2.051002e-01
## 191043	3.667140	0.1745575599	0.12241079	1.425998126	1.538689e-01
## 730906	3.883306	0.1757020077	0.13549275	1.296763142	1.947127e-01
## 48084	219.029081	0.1761365987	0.24439962	0.720690962	4.710997e-01
## 198119	1.841708	0.1762002892	0.10138962	1.737853416	8.223665e-02
## 125624	2.420285	0.1763942098	0.13870102	1.271758584	2.034589e-01
## 12562	1.277550	0.1767668055	0.11163528	1.583431356	1.133232e-01
## 194471	1.552246	0.1773376766	0.10730523	1.652647032	9.840272e-02
## 174960	1.760822	0.1784995349	0.09981187	1.788359815	7.371798e-02
## 182506	9.589733	0.1786882045	0.14444328	1.237082182	2.160566e-01
## 177040	3.735807	0.1789968888	0.13580627	1.318031062	1.874932e-01
## 195723	1.508704	0.1798201960	0.11037193	1.629220296	1.032664e-01
## 181871	2.038058	0.1800514440	0.12713071	1.416270287	1.566964e-01
## 4297420	2.033548	0.1809375727	0.10424943	1.735621685	8.263075e-02
## 232696	1.685738	0.1821416133	0.11049372	1.648434137	9.926362e-02
## 352852	2.954392	0.1825286937	0.14409820	1.266696600	2.052638e-01
## 196391	2.831035	0.1826609859	0.11852736	1.541087052	1.232956e-01
## 190980	3.995784	0.1827124343	0.11967355	1.526757035	1.268214e-01
## 188008	1.517640	0.1833026384	0.10161526	1.803888820	7.124874e-02
## 328617	937.193870	0.1835091633	0.23231176	0.789926260	4.295708e-01
## 4465124	1.284859	0.1835238295	0.11033823	1.663284081	9.625558e-02
## 187917	1.455315	0.1837789771	0.10617632	1.730884753	8.347232e-02
## 156357	2.156697	0.1843546883	0.13036486	1.414143987	1.573196e-01
## 584176	1.463806	0.1844943585	0.11237787	1.641732165	1.006455e-01
## 186381	1.792141	0.1847236054	0.11804212	1.564895755	1.176074e-01
## 187225	1.425853	0.1848491754	0.10840805	1.705124024	8.817130e-02
## 193852	2.046759	0.1857355568	0.10940009	1.697764154	8.955228e-02
## 182643	64.660936	0.1859255359	0.20241895	0.918518433	3.583475e-01
## 363264	1.454955	0.1860983191	0.10591273	1.757091200	7.890227e-02
## 4396297	10.283404	0.1862980488	0.18391384	1.012963706	3.110775e-01
## 2017729	2.847050	0.1863325339	0.11431725	1.629959915	1.031100e-01
## 4435784	1.680145	0.1865116095	0.10680099	1.746347148	8.075065e-02
## 4352805	1.341331	0.1874697547	0.11385990	1.646494919	9.966191e-02
## 3300804	3.071036	0.1878726660	0.12688661	1.480634294	1.387041e-01
## 4377328	1.546454	0.1880495445	0.10165929	1.849801856	6.434211e-02
## 4474760	1.348503	0.1886600536	0.10829598	1.742078064	8.149479e-02
## 4308811	1.393895	0.1888720733	0.11526521	1.638587010	1.012993e-01
## 1146771	1.568210	0.1897029971	0.10862810	1.746352906	8.074965e-02

## 4444262	4.801070	0.1898321771	0.14396585	1.318591742	1.873056e-01
## 1928156	2.591227	0.1899382631	0.11551193	1.644317243	1.001107e-01
## 3228684	1.640783	0.1900040458	0.09992158	1.901531669	5.723241e-02
## 746679	2.431256	0.1902074483	0.12366406	1.538098088	1.240246e-01
## 188077	1.399131	0.1902530836	0.10772176	1.766152752	7.737023e-02
## 4352747	2.036919	0.1912351029	0.10127580	1.888260598	5.899097e-02
## 4079463	2.593330	0.1914006263	0.10814183	1.769903772	7.674317e-02
## 3393191	116.008264	0.1914628052	0.21664157	0.883776834	3.768167e-01
## 295146	2.133945	0.1915456345	0.12011687	1.594660585	1.107882e-01
## 4372625	2.299913	0.1918215914	0.10246678	1.872036928	6.120149e-02
## 3907189	2.311292	0.1919735421	0.11056113	1.736356571	8.250081e-02
## 4468384	2.117430	0.1920493047	0.13331396	1.440579148	1.497036e-01
## 3462224	1.873432	0.1938209439	0.09968436	1.944346493	5.185368e-02
## 4391262	64.890084	0.1940840732	0.17895495	1.084541527	2.781248e-01
## 196590	1.368375	0.1974303333	0.10630161	1.857265689	6.327336e-02
## 759816	1.390581	0.1983472462	0.10716729	1.850818851	6.419562e-02
## 4364745	1.383559	0.1986409545	0.11080271	1.792744548	7.301378e-02
## 204126	2.020974	0.1996343296	0.10592393	1.884695338	5.947098e-02
## 2762219	4.499530	0.1997744701	0.13070275	1.528464143	1.263973e-01
## 341920	1.490730	0.2000219052	0.10473323	1.909822788	5.615603e-02
## 364227	4.457461	0.2000414915	0.14736897	1.357419325	1.746480e-01
## 307984	1.472792	0.2002818288	0.10660812	1.878673249	6.028912e-02
## 342844	1.288658	0.2006714477	0.11448203	1.752864219	7.962532e-02
## 175586	2.659682	0.2021061067	0.12958419	1.559651015	1.188424e-01
## 2575651	50.954831	0.2021728467	0.16961495	1.191951808	2.332801e-01
## 195465	3.760409	0.2022810105	0.12593816	1.606193136	1.082315e-01
## 197274	5.485951	0.2025319963	0.16474118	1.229395068	2.189237e-01
## 198198	5.185758	0.2025408602	0.13077931	1.548722451	1.214485e-01
## 105409	1.280441	0.2026686278	0.10957354	1.849612815	6.436937e-02
## 191734	1.564961	0.2028755934	0.10532124	1.926255314	5.407250e-02
## 292758	1.631170	0.2029497545	0.12350042	1.643312239	1.003183e-01
## 3696710	1.473238	0.2029800047	0.11275044	1.800259127	7.181973e-02
## 2170526	1.542442	0.2031492343	0.10263698	1.979298566	4.778240e-02
## 4316928	16.597593	0.2037952340	0.18506659	1.101199464	2.708099e-01
## 327218	2.207389	0.2042645657	0.13297885	1.536068075	1.245217e-01
## 3141094	13.789987	0.2058402647	0.15737934	1.307924317	1.908990e-01
## 194659	2.193847	0.2059236439	0.10833128	1.900869664	5.731909e-02
## 348680	1.558859	0.2059511246	0.10740940	1.917440363	5.518201e-02
## 4321810	20.279435	0.2066504776	0.20001644	1.033167474	3.015255e-01
## 176067	3.675925	0.2067230221	0.12502618	1.653437913	9.824177e-02
## 4451906	2.709468	0.2072571600	0.14331050	1.446210526	1.481182e-01
## 201772	1.528866	0.2073088622	0.10209422	2.030564169	4.229923e-02
## 193829	2.162417	0.2075567549	0.12033437	1.724833562	8.455747e-02
## 191779	1.766426	0.2077494363	0.10818479	1.920320164	5.481747e-02
## 2532909	1.579183	0.2078055676	0.11135977	1.866073887	6.203103e-02
## 4448928	1.405876	0.2096631975	0.10813764	1.938854966	5.251900e-02
## 4332078	1.285043	0.2099295718	0.10957318	1.915884709	5.537977e-02
## 183932	1.405859	0.2127741985	0.10684546	1.991420179	4.643471e-02
## 865469	2.210795	0.2138776783	0.10876333	1.966450335	4.924661e-02
## 2235671	8.697365	0.2154319528	0.18160659	1.186256250	2.355211e-01
## 174614	6.108442	0.2154765289	0.15577723	1.383235038	1.665928e-01
## 4422405	1.303693	0.2168529427	0.10930502	1.983924895	4.726421e-02
## 1776714	2.022418	0.2171143501	0.11273032	1.925962320	5.410908e-02
## 363442	2.198694	0.2172083983	0.09806499	2.214943269	2.676396e-02

## 302321	1.424105	0.2178016914	0.11314070	1.925051666	5.422289e-02
## 540055	1.398051	0.2179697698	0.11486010	1.897697950	5.773588e-02
## 238205	3.138087	0.2180652248	0.14601548	1.493439100	1.353223e-01
## 208479	1.703493	0.2188228436	0.12836214	1.704730448	8.824471e-02
## 191412	1.759935	0.2188352802	0.10927139	2.002676856	4.521198e-02
## 3439402	3.511503	0.2189548813	0.13990487	1.565026868	1.175766e-01
## 195015	1.584833	0.2216380181	0.10349624	2.141508018	3.223309e-02
## 579851	3.478461	0.2220921852	0.12630883	1.758326625	7.869195e-02
## 181864	4.608923	0.2224541475	0.13503143	1.647424900	9.947074e-02
## 941096	4.574743	0.2225312149	0.11800018	1.885854844	5.931452e-02
## 178331	2.078942	0.2238718851	0.11654062	1.920977237	5.473458e-02
## 710275	1.329756	0.2248229261	0.10930630	2.056815738	3.970395e-02
## 198127	1.876663	0.2249854619	0.11156857	2.016566757	4.374075e-02
## 3943182	42.919768	0.2262623219	0.18812078	1.202750258	2.290730e-01
## 136518	1.386811	0.2264503361	0.11006364	2.057448998	3.964306e-02
## 196526	1.500753	0.2267634892	0.11108158	2.041413995	4.120969e-02
## 230421	4.383938	0.2268007080	0.15130579	1.498955925	1.338851e-01
## 177581	7.491843	0.2274728638	0.14987324	1.517768362	1.290728e-01
## 182116	2.589610	0.2276952128	0.12150008	1.874033388	6.092582e-02
## 4380813	2.096197	0.2279309491	0.10369900	2.198005344	2.794873e-02
## 4473596	1.338250	0.2279897835	0.10769283	2.117037717	3.425665e-02
## 308081	1.351242	0.2296907229	0.11212349	2.048551395	4.050600e-02
## 4408423	2.488170	0.2299755397	0.11742144	1.958548030	5.016574e-02
## 119010	3.746053	0.2300081112	0.13585638	1.693024002	9.045090e-02
## 185235	1.896854	0.2300438902	0.10512880	2.188210004	2.865431e-02
## 332185	4.272886	0.2302234808	0.13866854	1.660243076	9.686556e-02
## 177986	4.096209	0.2310637541	0.13880424	1.664673626	9.597789e-02
## 4012414	1.308990	0.2321331130	0.11437729	2.029538419	4.240348e-02
## 228556	2.234158	0.2322862255	0.12031657	1.930625360	5.352940e-02
## 4318208	2.825861	0.2328845141	0.13483202	1.727219665	8.412822e-02
## 4462107	2.420131	0.2329597584	0.10295687	2.262692717	2.365464e-02
## 182517	4.195532	0.2331316535	0.12166405	1.916191740	5.534069e-02
## 178994	1.560763	0.2332838120	0.10347261	2.254546573	2.416180e-02
## 187038	1.511806	0.2342425437	0.10814537	2.165997036	3.031141e-02
## 4337431	1.320228	0.2343090783	0.10882454	2.153090493	3.131157e-02
## 45363	1.445211	0.2350377603	0.10867816	2.162695432	3.056461e-02
## 177222	9.867647	0.2351132033	0.13265008	1.772431733	7.632292e-02
## 296858	1.306290	0.2356146259	0.11427694	2.061786252	3.922809e-02
## 2137906	1.755167	0.2356319134	0.11736624	2.007663425	4.467907e-02
## 192625	2.047067	0.2356351316	0.10363871	2.273620877	2.298879e-02
## 3579831	1.356983	0.2358157049	0.10768418	2.189882524	2.853276e-02
## 193667	19.640799	0.2358780702	0.16987507	1.388538445	1.649731e-01
## 179435	1.569761	0.2361170214	0.10267527	2.299648389	2.146815e-02
## 4349261	1.310794	0.2372273827	0.11084309	2.140209031	3.233788e-02
## 358008	5.894756	0.2383724435	0.14528361	1.640738683	1.008517e-01
## 4343631	2.317327	0.2387488419	0.10300486	2.317840653	2.045798e-02
## 4370024	4.722868	0.2388649761	0.13674995	1.746728127	8.068451e-02
## 593422	2.014004	0.2393308664	0.10845420	2.206745914	2.733182e-02
## 4453060	1.447906	0.2398314752	0.10606849	2.261100090	2.375306e-02
## 3633129	4.371588	0.2401704339	0.11983640	2.004152557	4.505372e-02
## 255367	1.744887	0.2432246405	0.11436436	2.126752020	3.344069e-02
## 3186388	2.016476	0.2435868533	0.10644231	2.288440192	2.211190e-02
## 196831	1.444539	0.2441957691	0.10954465	2.229189383	2.580131e-02
## 302333	1.379640	0.2448637894	0.10825770	2.261860241	2.370604e-02

## 179402	1.397756	0.2460608585	0.10957991	2.245492510	2.473653e-02
## 49088	1.373962	0.2462443839	0.11017920	2.234944442	2.542100e-02
## 183579	2.535733	0.2463289768	0.12203555	2.018501856	4.353902e-02
## 188449	1.328686	0.2471382457	0.10846136	2.278583333	2.269185e-02
## 212532	6.610952	0.2477404001	0.16216479	1.527707711	1.265851e-01
## 191595	3.548126	0.2482962594	0.13616906	1.823441154	6.823660e-02
## 4443094	1.307507	0.2488485074	0.11195798	2.222695652	2.623633e-02
## 3857426	2.419407	0.2491733614	0.11454639	2.175305226	2.960725e-02
## 183804	1.398395	0.2501112739	0.10800072	2.315829760	2.056757e-02
## 3806695	1.408251	0.2502863827	0.10961388	2.283345630	2.241002e-02
## 4386317	1.887553	0.2510060976	0.11671324	2.150622384	3.150602e-02
## 178763	1.529695	0.2524600766	0.10477651	2.409510346	1.597394e-02
## 4459196	1.706590	0.2524908609	0.10382456	2.431899266	1.501988e-02
## 288258	1.320898	0.2533998776	0.11280388	2.246375474	2.467997e-02
## 3569942	2.568507	0.2536872205	0.11272229	2.250550621	2.441401e-02
## 3278416	1.616853	0.2541122962	0.11804017	2.152761103	3.133746e-02
## 207994	5.392103	0.2549827694	0.15172484	1.680560449	9.284832e-02
## 3318103	2.144041	0.2558083950	0.10789591	2.370881239	1.774573e-02
## 4456027	2.004317	0.2560823903	0.11547374	2.217667697	2.657750e-02
## 4379449	43.213504	0.2564175202	0.21607463	1.186708108	2.353428e-01
## 197970	22.477354	0.2564845502	0.17289678	1.483454788	1.379536e-01
## 176057	1.684255	0.2573350183	0.10312973	2.495255510	1.258665e-02
## 198956	9.552837	0.2582936175	0.14723235	1.754326519	7.937457e-02
## 2415144	24.427516	0.2585009155	0.15829609	1.633021437	1.024645e-01
## 306704	2.556518	0.2587799062	0.12453590	2.077954297	3.771357e-02
## 4278525	7.930643	0.2592058161	0.14293054	1.813508907	6.975337e-02
## 4391625	2.064599	0.2607461461	0.10495508	2.484359489	1.297847e-02
## 2232355	1.998203	0.2616631152	0.13112950	1.995455681	4.599320e-02
## 4450194	1.318827	0.2618262688	0.11588617	2.259340069	2.386224e-02
## 351020	1.909425	0.2621817921	0.11950930	2.193819204	2.824841e-02
## 4395096	10.863516	0.2633082949	0.15291771	1.721895356	8.508848e-02
## 195358	1.575738	0.2635160869	0.11368443	2.317961036	2.045144e-02
## 4375889	1.311467	0.2645341601	0.10863921	2.434978590	1.489267e-02
## 3141342	1.859468	0.2648419830	0.11717985	2.260132410	2.381303e-02
## 192437	2.451283	0.2661823121	0.13912399	1.913273971	5.571299e-02
## 574720	1.308870	0.2663668485	0.11256142	2.366413362	1.796138e-02
## 191442	4.561581	0.2667070717	0.13233571	2.015382555	4.386458e-02
## 760967	2.850159	0.2669012716	0.11812838	2.259417033	2.385746e-02
## 4458758	1.896447	0.2674586039	0.09920483	2.696023936	7.017262e-03
## 305318	8.335569	0.2676498580	0.15941009	1.679001950	9.315166e-02
## 4483045	1.667764	0.26895666531	0.10998848	2.445316612	1.447250e-02
## 175180	1.745609	0.2697346831	0.11879941	2.270505205	2.317695e-02
## 181204	9.022275	0.2703995387	0.16349930	1.653826893	9.816269e-02
## 300374	1.830683	0.2706184463	0.12099215	2.236661281	2.530849e-02
## 3443092	3.156358	0.2707846780	0.10977902	2.466634102	1.363896e-02
## 355510	4.691498	0.2713025904	0.14725899	1.842349889	6.542399e-02
## 4410401	13.498299	0.2714771962	0.15928067	1.704395098	8.830730e-02
## 266274	2.208457	0.2721667728	0.12105555	2.248279983	2.455834e-02
## 3851391	5.113011	0.2729519860	0.15672950	1.741548275	8.158752e-02
## 189524	5.801646	0.2730555593	0.15568058	1.753947453	7.943951e-02
## 287514	4.352476	0.2735915028	0.14253279	1.919498644	5.492126e-02
## 352747	1.666380	0.2743287652	0.11675944	2.349521080	1.879758e-02
## 4453501	640.970805	0.2745004433	0.19412698	1.414025173	1.573545e-01
## 191110	2.272308	0.2751433289	0.11431937	2.406795428	1.609318e-02

## 192839	1.464832	0.2758623027	0.10553581	2.613921240	8.950967e-03
## 4328189	1.458425	0.2758729414	0.10751148	2.565985994	1.028830e-02
## 186866	4.424705	0.2759913138	0.15201620	1.815538829	6.944114e-02
## 193534	1.762762	0.2763288511	0.11178653	2.471933251	1.343846e-02
## 366451	2.439438	0.2763873090	0.12167238	2.271569827	2.311251e-02
## 210542	1.610628	0.2770486274	0.10383902	2.668058974	7.629087e-03
## 1099710	1.400245	0.2776501204	0.10967234	2.531633087	1.135327e-02
## 2549971	5.218408	0.2778563892	0.13399539	2.073626455	3.811402e-02
## 175560	4.646115	0.2787038497	0.12877646	2.164245244	3.044553e-02
## 184036	1.510561	0.2800163426	0.10508823	2.664583290	7.708378e-03
## 4481624	2.741765	0.2801518562	0.11975620	2.339351563	1.931725e-02
## 304973	1.690381	0.2802685772	0.11805429	2.374065161	1.759345e-02
## 3154070	108.626244	0.2802700666	0.19254673	1.455595082	1.455046e-01
## 326390	1.577688	0.2804544575	0.10711847	2.618170791	8.840255e-03
## 3693042	1.470336	0.2815467150	0.11271079	2.497957173	1.249113e-02
## 505670	2.455749	0.2816959256	0.12414827	2.269028255	2.326661e-02
## 3747551	3.654016	0.2817251691	0.12627714	2.231006828	2.568068e-02
## 4475758	3.953007	0.2823214726	0.13420130	2.103716318	3.540320e-02
## 4465472	2.161443	0.2825447255	0.10917911	2.587901007	9.656273e-03
## 4178726	1.368739	0.2842931232	0.11415867	2.490333082	1.276234e-02
## 3562626	1.531700	0.2843094885	0.11860986	2.397013861	1.652930e-02
## 3441309	2.587227	0.2844442129	0.12478872	2.279406385	2.264292e-02
## 4438116	1.377751	0.2847114761	0.10800653	2.636057914	8.387541e-03
## 309929	1.552764	0.2848748850	0.11351285	2.509626820	1.208588e-02
## 289927	1.506620	0.2856286476	0.10439456	2.736049144	6.218174e-03
## 182383	8.378594	0.2858007065	0.15024060	1.902286781	5.713367e-02
## 330414	1.790239	0.2876989455	0.11269168	2.552974148	1.068074e-02
## 195494	1.998786	0.2891996213	0.12165472	2.377216557	1.744384e-02
## 203579	1.523504	0.2896181599	0.10703058	2.705938429	6.811167e-03
## 2438203	5.781199	0.2899703957	0.14683457	1.974810112	4.828970e-02
## 360890	1.338272	0.2902965227	0.11445283	2.536385696	1.120033e-02
## 54794	2.404438	0.2910393682	0.10981065	2.650374647	8.040256e-03
## 198626	1.515817	0.2914481069	0.10560326	2.759839978	5.782968e-03
## 188735	30.994951	0.2936001449	0.18622557	1.576583373	1.148914e-01
## 195651	11.594764	0.2941439258	0.15541516	1.892633427	5.840664e-02
## 302932	2.545593	0.2950647764	0.11258039	2.620925042	8.769154e-03
## 194734	4.544469	0.2952387324	0.15723744	1.877661773	6.042745e-02
## 4331782	10.982462	0.2959946018	0.17134303	1.727497218	8.407840e-02
## 229348	1.343982	0.2961047820	0.11516168	2.571209298	1.013441e-02
## 125270	2.158992	0.2964950615	0.12520536	2.368070047	1.788115e-02
## 189997	3.234382	0.2965588212	0.13157453	2.253922706	2.420103e-02
## 4347652	1.928638	0.2966343807	0.10964046	2.705519343	6.819768e-03
## 4420570	8.119053	0.2968464279	0.17364126	1.709538568	8.735123e-02
## 350865	2.108392	0.2969142509	0.11111108	2.672228889	7.534923e-03
## 258550	1.359794	0.2974318155	0.11084335	2.683352761	7.288806e-03
## 192438	1.891792	0.2983137211	0.11776918	2.533037299	1.130789e-02
## 213566	2.170421	0.3012544115	0.13083430	2.302564487	2.130336e-02
## 197397	3.477937	0.3017302727	0.13159264	2.292911494	2.185310e-02
## 342666	2.054455	0.3018013599	0.11115331	2.715181033	6.623955e-03
## 343257	1.346514	0.3019301865	0.11390886	2.650629503	8.034192e-03
## 239863	1.400363	0.3024986818	0.11312160	2.674101805	7.492970e-03
## 195207	1.994981	0.3027152852	0.11068108	2.735022889	6.237594e-03
## 330469	1.717039	0.3027839714	0.11140044	2.717978252	6.568216e-03
## 4480359	1.876843	0.3031156099	0.12573384	2.410771829	1.591880e-02

## 182142	1.365146	0.3044232918	0.11233038	2.710070965	6.726881e-03
## 180257	1.483194	0.3047166453	0.10525011	2.895166923	3.789570e-03
## 338177	1.727835	0.3050068279	0.10934480	2.789403976	5.280515e-03
## 3807411	1.344021	0.3060504975	0.10862754	2.817430037	4.840966e-03
## 158215	1.349141	0.3065459027	0.11264652	2.721308289	6.502409e-03
## 332450	1.570339	0.3069931942	0.11077814	2.771243474	5.584265e-03
## 4380191	2.236630	0.3076922884	0.11547146	2.664661001	7.706597e-03
## 3583645	2.036434	0.3097466694	0.10556856	2.934080743	3.345372e-03
## 1727777	30.951075	0.3100971614	0.16138525	1.921471513	5.467229e-02
## 91962	1.970461	0.3106028129	0.11168383	2.781090274	5.417667e-03
## 167950	1.883426	0.3117123351	0.11199983	2.783150167	5.383388e-03
## 303326	1.726055	0.3123647666	0.10678456	2.925186697	3.442496e-03
## 189309	1.371897	0.3125245919	0.11099522	2.815658221	4.867742e-03
## 787663	2.048154	0.3125668484	0.10352171	3.019336243	2.533292e-03
## 191928	4.736882	0.3128301411	0.12537866	2.495082836	1.259277e-02
## 333768	1.370921	0.3160204189	0.11548030	2.736574193	6.208259e-03
## 4060124	5.862823	0.3160987290	0.13569834	2.329422211	1.983671e-02
## 2148365	40.933234	0.3165199149	0.18489890	1.711853946	8.692359e-02
## 196054	12.835210	0.3169755125	0.17723152	1.788482712	7.369816e-02
## 178712	1.349210	0.3178151257	0.11681196	2.720741371	6.513570e-03
## 2377731	1.365200	0.3181435159	0.11424021	2.784864559	5.355009e-03
## 198248	1.355294	0.3181921031	0.11466156	2.775054805	5.519241e-03
## 175642	1.451255	0.3182200815	0.11227516	2.834287540	4.592799e-03
## 189150	3.594344	0.3195781427	0.13382467	2.388036089	1.693868e-02
## 4468805	2.072740	0.3197865693	0.12164019	2.628954802	8.564774e-03
## 180982	1.572787	0.3213016785	0.12037444	2.669185248	7.603550e-03
## 2831841	2.859310	0.3231758866	0.12176724	2.654046152	7.953295e-03
## 3926480	778.921165	0.3237881699	0.24402076	1.326887819	1.845458e-01
## 2424737	2.197598	0.3240622437	0.11521793	2.812602432	4.914237e-03
## 849393	1.371647	0.3250312718	0.11826656	2.748293988	5.990627e-03
## 207390	1.784418	0.3250526569	0.10806361	3.007975304	2.629945e-03
## 293594	1.366780	0.3252195698	0.11418381	2.848210862	4.396578e-03
## 178965	1.496900	0.3254925951	0.10900270	2.986096560	2.825634e-03
## 561171	1.576413	0.3257625757	0.11484607	2.836514678	4.560888e-03
## 181174	2.817234	0.3259244884	0.13847521	2.353666670	1.858927e-02
## 4410166	8.597201	0.3260272571	0.17969690	1.814317624	6.962884e-02
## 190320	3.925526	0.3264719099	0.13302325	2.454246950	1.411800e-02
## 145856	1.361885	0.3278985119	0.11488319	2.854190583	4.314664e-03
## 194380	1.480814	0.3285525566	0.11191866	2.935636940	3.328637e-03
## 4390365	566.669218	0.3295981825	0.18646049	1.767656998	7.711826e-02
## 180999	24.740122	0.3296430513	0.20459456	1.611201431	1.071358e-01
## 190987	1.594160	0.3304612614	0.11416871	2.894499505	3.797635e-03
## 4310326	1.360819	0.3309352068	0.11128801	2.973682396	2.942495e-03
## 186233	1.645790	0.3333495419	0.12171580	2.738753149	6.167266e-03
## 3805518	2.240460	0.3333999834	0.11106473	3.001852810	2.683419e-03
## 1657491	1.587955	0.3339450941	0.12040810	2.773443792	5.546642e-03
## 368412	1.362321	0.3339771811	0.11130704	3.000503608	2.695336e-03
## 176297	2.896470	0.3360147785	0.12385887	2.712884319	6.670039e-03
## 196957	35.949687	0.3364078786	0.18362427	1.832044787	6.694475e-02
## 1107755	1.428117	0.3371349021	0.11515785	2.927589533	3.416007e-03
## 350832	1.512274	0.3372963255	0.11368411	2.966961041	3.007591e-03
## 1108007	1.899140	0.3384821747	0.12267013	2.759287698	5.792751e-03
## 430191	1.389459	0.3386636890	0.10843836	3.123098538	1.789578e-03
## 1147925	1.605048	0.3391875673	0.12007455	2.824808185	4.730893e-03

## 192323	2.649259	0.3392410730	0.12785235	2.653381671	7.968971e-03
## 4212012	2.188852	0.3395321739	0.10137262	3.349347831	8.100204e-04
## 309107	1.389116	0.3395744692	0.11932409	2.845816640	4.429769e-03
## 2883968	1.367984	0.3406976749	0.11811960	2.884345097	3.922287e-03
## 358712	1.366382	0.3407926018	0.11290327	3.018447699	2.540733e-03
## 3889756	1.697162	0.3408195800	0.12473325	2.732387640	6.287711e-03
## 194287	2.504376	0.3421427418	0.12152951	2.815305927	4.873082e-03
## 1763286	2.892514	0.3421815371	0.12250944	2.793103518	5.220498e-03
## 187121	1.366936	0.3427111364	0.11983011	2.859975177	4.236742e-03
## 198930	4.495211	0.3429550198	0.13271321	2.584181558	9.761040e-03
## 4381338	2.317739	0.3439916228	0.11311930	3.040963029	2.358228e-03
## 348863	1.775153	0.3444455927	0.10901699	3.159558876	1.580082e-03
## 191874	1.635636	0.3466054453	0.10376691	3.340230857	8.370877e-04
## 575768	2.739655	0.3484780540	0.12057957	2.890025753	3.852103e-03
## 708285	2.108515	0.3484852332	0.12379281	2.815068517	4.876684e-03
## 4004991	1.895169	0.3504832419	0.11246142	3.116475358	1.830270e-03
## 4310208	2.705355	0.3508996218	0.11981870	2.928588102	3.405053e-03
## 288810	3.119509	0.3511704996	0.12881775	2.726103353	6.408693e-03
## 207340	1.381735	0.3526094953	0.11533742	3.057199390	2.234156e-03
## 192342	5.150891	0.3527727441	0.14965811	2.357190924	1.841378e-02
## 176381	1.993575	0.3529944332	0.11356158	3.108396690	1.881054e-03
## 511229	1.388261	0.3532363857	0.11782343	2.998014777	2.717445e-03
## 545299	1.724404	0.3543225481	0.11483139	3.085589652	2.031490e-03
## 182653	4.285449	0.3549398024	0.15125769	2.346590146	1.894608e-02
## 308157	1.416576	0.3551624753	0.11557655	3.072963062	2.119447e-03
## 194215	3.015346	0.3556736023	0.13218653	2.690694716	7.130341e-03
## 205613	1.376959	0.3562984799	0.11246305	3.168138247	1.534185e-03
## 248126	1.695911	0.3563143233	0.10500664	3.393255070	6.906729e-04
## 2688035	3.897181	0.3565784470	0.13429829	2.655122848	7.927953e-03
## 4455308	3.471751	0.3567148447	0.12359502	2.886158759	3.899754e-03
## 261590	1.589799	0.3573747812	0.10500284	3.403477300	6.653394e-04
## 4370941	2.400239	0.3574200631	0.13430221	2.661311893	7.783682e-03
## 4454025	3.497806	0.3574277959	0.12851751	2.781160318	5.416498e-03
## 4405482	1.435288	0.3576316929	0.10972038	3.259482911	1.116155e-03
## 544419	1.959970	0.3580024667	0.11936956	2.999110261	2.707693e-03
## 4429239	1.522219	0.3602614081	0.10579150	3.405390952	6.606939e-04
## 4318125	1.636485	0.3603543088	0.11099443	3.246598236	1.167931e-03
## 191399	5.156570	0.3606009283	0.12812520	2.814441826	4.886202e-03
## 146935	1.470501	0.3613028484	0.11695142	3.089341344	2.006008e-03
## 19611	2.377175	0.3614880443	0.13631022	2.651951066	8.002814e-03
## 4431545	21.921316	0.3629366142	0.18013149	2.014842687	4.392113e-02
## 147969	14.165602	0.3630746719	0.19574633	1.854822396	6.362159e-02
## 179662	1.417038	0.3639426807	0.11261193	3.231830653	1.229999e-03
## 815573	1.450193	0.3642764847	0.11861543	3.071071530	2.132920e-03
## 216710	1.431721	0.3649159299	0.11909048	3.064190585	2.182598e-03
## 184314	1.373810	0.3664264956	0.11874188	3.085907940	2.029316e-03
## 185603	1.473636	0.3671697003	0.11065706	3.318086575	9.063639e-04
## 296420	1.778706	0.3676527485	0.11604367	3.168227547	1.533714e-03
## 90487	2.334320	0.3699668169	0.11130292	3.323963161	8.874792e-04
## 4335781	3.025418	0.3700151493	0.11579683	3.195382417	1.396457e-03
## 192255	1.548384	0.3701084122	0.10810412	3.423629181	6.179088e-04
## 194371	3.132775	0.3706962832	0.12714196	2.915609259	3.549948e-03
## 177301	2.031927	0.3709774546	0.13030846	2.846917654	4.414478e-03
## 581021	2.889630	0.3717271879	0.12744310	2.916809162	3.536321e-03

## 334336	8.642428	0.3717308043	0.15691411	2.369008068	1.783586e-02
## 305946	1.481693	0.3720534021	0.10776629	3.452409790	5.556032e-04
## 191153	533.011224	0.3728776929	0.26940489	1.384079154	1.663342e-01
## 185972	1.437069	0.3731774610	0.11606845	3.215149944	1.303764e-03
## 196315	2.804063	0.3750503625	0.11304789	3.317623678	9.078671e-04
## 4379889	4.896375	0.3754643763	0.14654728	2.562069890	1.040504e-02
## 4366843	2.969471	0.3756095593	0.11863850	3.166000568	1.545505e-03
## 177062	5.828201	0.3769360603	0.15169319	2.484858126	1.296031e-02
## 4366391	3.684150	0.3777955757	0.12368128	3.054589861	2.253685e-03
## 191250	1.968718	0.3780559858	0.12195969	3.099843676	1.936228e-03
## 187051	2.128247	0.3780576998	0.11762300	3.214147636	1.308324e-03
## 4406616	1.605161	0.3789752056	0.11993772	3.159766600	1.578956e-03
## 4429608	1.917878	0.3795514175	0.11465561	3.310360645	9.317584e-04
## 842596	1.398783	0.3815126811	0.11738273	3.250160100	1.153401e-03
## 797229	1.991458	0.3816662011	0.11378873	3.354165263	7.960480e-04
## 113003	1.470698	0.3818339166	0.10649079	3.585605204	3.362974e-04
## 493391	1.505208	0.3824209048	0.11598718	3.297096409	9.768996e-04
## 158649	2.343810	0.3829990260	0.13077398	2.928709670	3.403722e-03
## 4451899	6.781711	0.3831857960	0.16167349	2.370121350	1.778225e-02
## 336063	1.716157	0.3840182540	0.11081692	3.465339463	5.295626e-04
## 323106	14.102591	0.3850655523	0.20383428	1.889110877	5.887697e-02
## 1756274	1.802390	0.3858132431	0.11600798	3.325747499	8.818177e-04
## 4475469	1.664572	0.3860437002	0.10952697	3.524645121	4.240505e-04
## 176753	6.251462	0.3865273826	0.13321731	2.901480200	3.714042e-03
## 4352349	1.669553	0.3880351092	0.12570323	3.086914488	2.022458e-03
## 175373	1.510857	0.3893834887	0.10798446	3.605921531	3.110471e-04
## 158270	1.405939	0.3899878531	0.11789240	3.307998382	9.396535e-04
## 2724175	1182.068714	0.3900101115	0.19609348	1.988898973	4.671236e-02
## 4405423	1.578492	0.3900243951	0.11712801	3.329898631	8.687761e-04
## 4418165	1.520636	0.3915311924	0.11186171	3.500135928	4.650210e-04
## 3801267	74.912193	0.3916536331	0.18459549	2.121685845	3.386413e-02
## 2656868	2.188473	0.3917635734	0.10983665	3.566783677	3.613896e-04
## 187883	11.719507	0.3923194884	0.15409038	2.546034910	1.089543e-02
## 747563	1.419372	0.3930099532	0.11937502	3.292229436	9.939649e-04
## 185148	1.495151	0.3933204147	0.10718632	3.669502057	2.430234e-04
## 4351284	1.429272	0.3933593901	0.12098061	3.251425016	1.148281e-03
## 175650	2.136462	0.3937661262	0.11312657	3.480757085	4.999987e-04
## 4466616	6.840231	0.3958459313	0.13913910	2.844965382	4.441625e-03
## 316728	1.438726	0.3963380870	0.11298139	3.507994485	4.514984e-04
## 188079	16.127396	0.3968182218	0.18292133	2.169338154	3.005702e-02
## 4366867	6.572186	0.4018665154	0.14373945	2.795798393	5.177168e-03
## 190679	1.499719	0.4023731073	0.11099012	3.625305662	2.886199e-04
## 1868703	2.128041	0.4024861832	0.11220244	3.587143009	3.343210e-04
## 191783	1.548860	0.4030036267	0.11118949	3.624475938	2.895480e-04
## 176269	88.655015	0.4042322886	0.22754483	1.776495158	7.565134e-02
## 177421	1.465478	0.4042517823	0.10912614	3.704445156	2.118539e-04
## 180136	1.462067	0.4046110958	0.11911948	3.396682750	6.820800e-04
## 2774254	1.422315	0.4056179833	0.11770784	3.445972621	5.690080e-04
## 347529	2.044571	0.4057400702	0.11286480	3.594921341	3.244896e-04
## 4070490	1.438541	0.4071349389	0.11655360	3.493113331	4.774238e-04
## 188047	71.210164	0.4082169340	0.23821024	1.713683364	8.658689e-02
## 4435664	27.708430	0.4091150834	0.17267945	2.369216984	1.782579e-02
## 189708	6.235872	0.4095511385	0.13382399	3.060371536	2.210626e-03
## 522433	1.421532	0.4107997540	0.11499994	3.572173664	3.540305e-04

## 552376	1.496850	0.4111732499	0.11109925	3.700954305	2.147902e-04
## 4468466	10.406167	0.4115205667	0.19431759	2.117773124	3.419429e-02
## 180401	1.556697	0.4119004910	0.11149887	3.694212165	2.205696e-04
## 3929758	1.940626	0.4119713409	0.10756876	3.829841986	1.282256e-04
## 2037235	1.925279	0.4126192576	0.11817271	3.491662919	4.800236e-04
## 103166	1.534665	0.4146618032	0.11393382	3.639497148	2.731710e-04
## 194383	4.588694	0.4152479774	0.12488198	3.325123163	8.837948e-04
## 301578	11.532495	0.4153021561	0.17661090	2.351509246	1.869742e-02
## 196246	5.578538	0.4168816533	0.14738936	2.828437849	4.677578e-03
## 4454257	1.804452	0.4201524053	0.11212753	3.747094126	1.788950e-04
## 338301	1.438398	0.4203882019	0.12008276	3.500820682	4.638278e-04
## 199761	77.225915	0.4207689629	0.19368289	2.172463295	2.982074e-02
## 187468	1.820451	0.4212606165	0.10933334	3.852993188	1.166826e-04
## 4365141	1.474087	0.4222957963	0.11702300	3.608656270	3.077871e-04
## 759349	1.769290	0.4226384473	0.11692292	3.614675629	3.007239e-04
## 194297	33.503316	0.4246690672	0.22193059	1.913522005	5.568126e-02
## 2061739	2.478796	0.4248269148	0.11191446	3.795996657	1.470515e-04
## 4376230	2.985830	0.4253561803	0.13205506	3.221051771	1.277211e-03
## 307680	1.878121	0.4259477962	0.11303441	3.768301970	1.643618e-04
## 4102199	2.072202	0.4267460366	0.11985520	3.560513286	3.701306e-04
## 342397	4.235423	0.4274691427	0.12951477	3.300543522	9.649775e-04
## 4459940	1.436631	0.4294368488	0.11576629	3.709515616	2.076561e-04
## 3040024	1.736066	0.4304186865	0.11603077	3.709521991	2.076509e-04
## 197286	1.626236	0.4320010031	0.11504231	3.755148733	1.732386e-04
## 2932557	1.776091	0.4321261163	0.12115511	3.566718115	3.614800e-04
## 3221787	1.912437	0.4324306718	0.12113014	3.569967523	3.570255e-04
## 186748	1.513881	0.4329953219	0.10803582	4.007886545	6.126454e-05
## 4450010	8.194869	0.4341602000	0.15366213	2.825420991	4.721853e-03
## 851715	1.486588	0.4344369241	0.11546770	3.762410797	1.682833e-04
## 4442508	1.573199	0.4349079244	0.11013072	3.949015649	7.847322e-05
## 572889	1.604302	0.4349643158	0.12415524	3.503390688	4.593752e-04
## 688934	1.620513	0.4353952772	0.11529919	3.776221466	1.592254e-04
## 195937	83.737133	0.4354224484	0.22427070	1.941503948	5.219718e-02
## 199555	1.499003	0.4360133099	0.11346552	3.842694390	1.216910e-04
## 4381553	3633.859545	0.4361724222	0.22594090	1.930471302	5.354847e-02
## 199190	2.209184	0.4378082277	0.10977781	3.988130399	6.659606e-05
## 4316391	21.125802	0.4384308488	0.16787367	2.611671309	9.010083e-03
## 188753	4.347833	0.4391705650	0.13803140	3.181671357	1.464279e-03
## 198449	25.011256	0.4403631808	0.17536668	2.511099554	1.203557e-02
## 158027	1.447600	0.4417402640	0.12091853	3.653205816	2.589865e-04
## 175612	2.735081	0.4438997793	0.12601700	3.522538754	4.274345e-04
## 4407747	1.590524	0.4441879601	0.12114335	3.666630882	2.457672e-04
## 190761	2.384385	0.4447507691	0.11530079	3.857308791	1.146423e-04
## 294254	1.476219	0.4449164695	0.12243126	3.634010435	2.790496e-04
## 304779	5.420464	0.4450688524	0.13637808	3.263492601	1.100481e-03
## 311402	1.451348	0.4469929676	0.12069844	3.703386305	2.127405e-04
## 3028273	3.480740	0.4471091719	0.13807961	3.238053623	1.203482e-03
## 716984	2.291624	0.4475079034	0.12376872	3.615678428	2.995621e-04
## 1736067	1.738292	0.4501360099	0.10704070	4.205279207	2.607600e-05
## 3235048	2.967914	0.4501707799	0.13961822	3.224298121	1.262819e-03
## 173135	8.109955	0.4506237888	0.14334009	3.143738780	1.668043e-03
## 2119695	1.555627	0.4507720716	0.11992178	3.758884042	1.706729e-04
## 4439603	51.818460	0.4510324862	0.14943442	3.018263753	2.542275e-03
## 4339831	3.696051	0.4518886110	0.13150560	3.436268969	5.897851e-04

## 144814	6.476760	0.4521197506	0.15835515	2.855099734	4.302332e-03
## 4473295	1.677692	0.4539504728	0.11197664	4.053974734	5.035466e-05
## 4434334	214.730781	0.4546057878	0.15435989	2.945103128	3.228470e-03
## 359314	2.675412	0.4574749975	0.11795201	3.878484105	1.051094e-04
## 319275	2.519367	0.4588997137	0.13573275	3.380906432	7.224714e-04
## 701221	2.245512	0.4607580485	0.11374680	4.050734002	5.105722e-05
## 558839	1.956810	0.4610587875	0.11955971	3.856305548	1.151136e-04
## 4393568	2.677024	0.4618624657	0.12821656	3.602206082	3.155281e-04
## 4472130	5.621982	0.4630187705	0.16532274	2.800696197	5.099250e-03
## 199293	188.395060	0.4638150545	0.21230287	2.184685730	2.891190e-02
## 866280	1.825452	0.4663685505	0.11814862	3.947304109	7.903614e-05
## 2986828	66.641290	0.4679868632	0.19121942	2.447381439	1.438985e-02
## 2506486	7.358652	0.4681304908	0.16116871	2.904599054	3.677238e-03
## 197099	2.072476	0.4688768909	0.11988475	3.911063515	9.189060e-05
## 317286	2.118500	0.4695541000	0.13029638	3.603738724	3.136724e-04
## 188930	1.587861	0.4716157981	0.11789276	4.000379516	6.324098e-05
## 4372382	69.903604	0.4749230057	0.22844822	2.078908786	3.762573e-02
## 191278	1.462011	0.4750439062	0.11673805	4.069315061	4.715155e-05
## 4326084	1.540307	0.4751661254	0.11669558	4.071843333	4.664255e-05
## 1115481	2.287334	0.4751828588	0.12295499	3.864689354	1.112307e-04
## 563572	1.638745	0.4755137843	0.11432246	4.159408197	3.190732e-05
## 175836	2.112396	0.4756758856	0.12434556	3.825435170	1.305413e-04
## 71165	1.524283	0.4770188417	0.11857980	4.022766577	5.751849e-05
## 188044	1.7111703	0.4796359264	0.11421341	4.199471106	2.675392e-05
## 184320	2.054639	0.4801651392	0.12028704	3.991827590	6.556604e-05
## 4469359	2.139887	0.4802091466	0.12490596	3.844565491	1.207662e-04
## 196139	1.681184	0.4817051716	0.11393364	4.227945061	2.358354e-05
## 180421	1.623383	0.4823464894	0.11648017	4.141017981	3.457679e-05
## 4339832	4.683370	0.4828079263	0.13024950	3.706793032	2.099003e-04
## 197698	5.348306	0.4831677275	0.16581022	2.913980292	3.568524e-03
## 195081	1.707142	0.4835035915	0.12161653	3.975640429	7.019011e-05
## 4423553	1.439143	0.4837964923	0.12279801	3.939774700	8.155817e-05
## 186011	1.508883	0.4845463693	0.12147731	3.988780998	6.641370e-05
## 199702	37.128208	0.4859764355	0.18267453	2.660340424	7.806171e-03
## 4335815	3.131905	0.4893312763	0.12704327	3.851689866	1.173055e-04
## 185914	1.485172	0.4914929464	0.12032799	4.084610152	4.415088e-05
## 4332082	6.702003	0.4915829731	0.15338714	3.204851238	1.351323e-03
## 2876801	2.948093	0.4922528818	0.10862819	4.531538933	5.855554e-06
## 2365946	3.379424	0.4926048627	0.13169507	3.740495779	1.836576e-04
## 4429335	3.367929	0.4968908466	0.13501804	3.680181202	2.330683e-04
## 193061	2.105975	0.4969421859	0.11862982	4.189015922	2.801667e-05
## 4356080	11.391430	0.4974945579	0.19657825	2.530771075	1.138121e-02
## 4474255	2.455485	0.4975282299	0.12504797	3.978698924	6.929342e-05
## 757622	2.490229	0.4981994478	0.12919208	3.856269328	1.151306e-04
## 183093	1.497360	0.4989793027	0.12251069	4.072944884	4.642241e-05
## 4484075	2.859868	0.4992446129	0.14751316	3.384407253	7.133211e-04
## 4404577	2.023987	0.4993097427	0.11409367	4.376313976	1.207031e-05
## 208739	26.026059	0.5005291878	0.17299126	2.893378543	3.811217e-03
## 197696	1.491733	0.5010600207	0.11856118	4.226172796	2.376995e-05
## 891034	2.058844	0.5015428648	0.12626488	3.972148444	7.122731e-05
## 3856408	2.481436	0.5016242502	0.13459945	3.726792710	1.939318e-04
## 187126	4.522285	0.5026050298	0.13001858	3.865640181	1.107982e-04
## 304088	1.484259	0.5030735732	0.12264222	4.101960714	4.096638e-05
## 177758	1.695799	0.5033747630	0.12177873	4.133519716	3.572496e-05

## 182431	2.003409	0.5066776493	0.12390889	4.089114455	4.330232e-05
## 306499	2.197529	0.5069564574	0.12837444	3.949045109	7.846357e-05
## 4432431	1.564776	0.5076388688	0.11765477	4.314647596	1.598577e-05
## 1602805	3.225176	0.5085028077	0.12821939	3.965880676	7.312544e-05
## 732765	1.499436	0.5126618099	0.12475594	4.109318003	3.968293e-05
## 199145	2018.033270	0.5130565507	0.24220619	2.118263550	3.415275e-02
## 4346374	1.672020	0.5175536087	0.10646142	4.861419234	1.165471e-06
## 185034	3.521751	0.5196413283	0.15456071	3.362053134	7.736524e-04
## 346938	1.642126	0.5198873561	0.10893833	4.772308925	1.821259e-06
## 368236	1.469891	0.5203289958	0.11324138	4.594866065	4.330273e-06
## 3082155	2.237926	0.5204452018	0.12156982	4.281039643	1.860222e-05
## 183849	2.186485	0.5218413668	0.12004419	4.347077181	1.379637e-05
## 322114	3.517983	0.5220316884	0.13466479	3.876526954	1.059581e-04
## 586453	1.673110	0.5247092918	0.12667885	4.142043523	3.442250e-05
## 192963	2.409098	0.5271030060	0.14415765	3.656434624	2.557476e-04
## 1024529	3.216163	0.5274772857	0.12246031	4.307332577	1.652351e-05
## 2654263	7.516442	0.5278730783	0.14490464	3.642899791	2.695838e-04
## 181008	3.995056	0.5280062074	0.13636446	3.872022108	1.079362e-04
## 158113	1.510578	0.5281720953	0.12006658	4.398993405	1.087541e-05
## 2157225	7.518708	0.5289854424	0.15359994	3.443916975	5.733517e-04
## 186997	11.906633	0.5316743713	0.17140867	3.101793950	1.923518e-03
## 836693	1.499231	0.5321963467	0.12066659	4.410469807	1.031466e-05
## 187924	2.125265	0.5330232919	0.12109901	4.401549474	1.074806e-05
## 2699610	2.051270	0.5334100768	0.13245080	4.027231781	5.643739e-05
## 4358921	1.995429	0.5335377642	0.11787187	4.526421640	5.999083e-06
## 4450415	1.798464	0.5337001008	0.11338034	4.707166302	2.511840e-06
## 4315658	2.928673	0.5338005123	0.14868570	3.590126867	3.305171e-04
## 170462	193.915478	0.5347798616	0.21728323	2.461210931	1.384689e-02
## 179319	9.354750	0.5378505215	0.15275355	3.521034536	4.298666e-04
## 2877100	1.518644	0.5382369868	0.11920034	4.515398078	6.319794e-06
## 3648884	2.113073	0.5411521463	0.13242966	4.086336574	4.382379e-05
## 185864	3.700669	0.5414621089	0.13783326	3.928384867	8.551828e-05
## 178708	2.114360	0.5443515950	0.12637696	4.307364298	1.652114e-05
## 3825935	2.680462	0.5448717554	0.12907130	4.221478953	2.427046e-05
## 151870	7.801819	0.5449170284	0.17180902	3.171643829	1.515788e-03
## 185192	8.633794	0.5453798277	0.15719099	3.469536098	5.213580e-04
## 179572	1.749697	0.5470770362	0.11467850	4.770528273	1.837434e-06
## 592616	82.878287	0.5485099185	0.22656492	2.420983444	1.547858e-02
## 181466	1.533732	0.5492233713	0.12162068	4.515871583	6.305687e-06
## 184394	1.986217	0.5504392888	0.13183753	4.175133411	2.978115e-05
## 180468	20.539043	0.5515572808	0.19334439	2.852719329	4.334689e-03
## 366722	1.537041	0.5522693604	0.12462855	4.431323054	9.365665e-06
## 347783	3.474066	0.5530421530	0.15522327	3.562881711	3.668060e-04
## 91557	17.231334	0.5536215777	0.18434867	3.003122209	2.672251e-03
## 186077	3.662530	0.5542433740	0.13056319	4.245020094	2.185738e-05
## 348304	11.458755	0.5559213951	0.15596195	3.564468205	3.645946e-04
## 2978122	1.751349	0.5568243376	0.12631882	4.408087037	1.042876e-05
## 4474759	1.643859	0.5570626868	0.12823414	4.344105860	1.398441e-05
## 300618	1.484688	0.5572681512	0.12221420	4.559765914	5.121067e-06
## 4428544	1.572366	0.5582381568	0.12393390	4.504321737	6.658526e-06
## 4029584	1.679429	0.5605273454	0.10889009	5.147643287	2.637795e-07
## 329693	1.828440	0.5606637892	0.11393350	4.920973914	8.611461e-07
## 2298935	61.863946	0.5618113361	0.20753195	2.707107628	6.787225e-03
## 268506	1.572314	0.5620132412	0.12936562	4.344378785	1.396703e-05

## 724147	1.562127	0.5637938963	0.12288464	4.587993325	4.475269e-06
## 196664	33.696217	0.5640545442	0.18298031	3.082596909	2.052029e-03
## 4472195	1.511200	0.5652423277	0.11773525	4.800960798	1.579062e-06
## 2272791	12.195182	0.5677645365	0.16678736	3.404122040	6.637709e-04
## 1146349	1.581835	0.5690877493	0.12702151	4.480247071	7.455668e-06
## 4474951	3.890698	0.5744444454	0.14102328	4.073401450	4.633146e-05
## 180216	29.222764	0.5751483236	0.19596284	2.934986696	3.335620e-03
## 4094866	9.354571	0.5751665578	0.14509178	3.964156855	7.365581e-05
## 1145262	1.541548	0.5760190464	0.12206947	4.718780463	2.372627e-06
## 193975	2.234328	0.5762810645	0.13358181	4.314068426	1.602773e-05
## 494906	2.953928	0.5765948234	0.13744412	4.195121858	2.727249e-05
## 320888	1.547241	0.5770346810	0.12426128	4.643720557	3.421903e-06
## 84709	1.558187	0.5785431226	0.12443018	4.649540011	3.326761e-06
## 182245	1.753419	0.5787792279	0.12188571	4.748540323	2.048900e-06
## 165118	1.637415	0.5794371365	0.12975469	4.465635552	7.983141e-06
## 1504042	275.824933	0.5797893246	0.23606700	2.456037203	1.404786e-02
## 1100972	37.327687	0.5801980111	0.20132086	2.881956780	3.952139e-03
## 193666	17.994870	0.5815514208	0.15423669	3.770512787	1.629125e-04
## 180606	9.269362	0.5817265676	0.17284126	3.365669650	7.635810e-04
## 152485	3.318695	0.5830185927	0.13100074	4.450498309	8.567127e-06
## 4481613	500.755852	0.5833963592	0.24576240	2.373822699	1.760500e-02
## 110060	2.975456	0.5842298469	0.14428775	4.049060534	5.142364e-05
## 308444	1.576244	0.5848223486	0.12689562	4.608688337	4.052172e-06
## 175336	17.611009	0.5878596726	0.20640107	2.848142512	4.397523e-03
## 815422	1.575626	0.5879390096	0.12171392	4.830499321	1.361911e-06
## 170652	6.155291	0.5894327840	0.16853364	3.497419086	4.697832e-04
## 144395	1.544387	0.5908316350	0.12448944	4.746038029	2.074397e-06
## 329313	3.312371	0.5921506680	0.13020212	4.547934054	5.417510e-06
## 193987	1.643371	0.5942158607	0.12864057	4.619194760	3.852321e-06
## 4421273	2.372405	0.5945845439	0.13572052	4.380947940	1.181641e-05
## 181139	18.558474	0.5972124660	0.18604618	3.210022797	1.327244e-03
## 538322	1.823698	0.5972455823	0.11983514	4.983893375	6.231743e-07
## 184760	35.833848	0.5976655968	0.18572302	3.218048104	1.290662e-03
## 174499	1.887750	0.5978396320	0.12722018	4.699251756	2.611164e-06
## 1034960	1.578842	0.5984932317	0.12728225	4.702095156	2.575054e-06
## 177518	1.591034	0.5986691734	0.12331557	4.854773670	1.205243e-06
## 182036	2.451128	0.6009448244	0.13367609	4.495529645	6.939699e-06
## 179657	9.167221	0.6025605128	0.17278928	3.487256340	4.880034e-04
## 1950496	3.003943	0.6060534827	0.13661636	4.436170617	9.157328e-06
## 270382	2.981463	0.6074094081	0.12204537	4.976914687	6.460578e-07
## 190991	3.907319	0.6092822145	0.13411889	4.542851501	5.549835e-06
## 4473129	2.883518	0.6106086446	0.12224019	4.995154671	5.878863e-07
## 179847	1.760278	0.6115127882	0.11561084	5.289406838	1.227137e-07
## 2123717	12.144585	0.6115843998	0.16805423	3.639208613	2.734772e-04
## 214031	1.575097	0.6157633852	0.12715782	4.842512880	1.282073e-06
## 725198	1.631484	0.6174643849	0.12634124	4.887275098	1.022412e-06
## 4415965	1.592272	0.6183337598	0.12428642	4.975071049	6.522371e-07
## 208901	1.645162	0.6207804206	0.12246006	5.069248092	3.993904e-07
## 322505	1.599012	0.6218290014	0.12668368	4.908516997	9.176768e-07
## 109413	3.068581	0.6221640402	0.12393860	5.019937763	5.168822e-07
## 281015	2.139506	0.6270358993	0.12793494	4.901209254	9.524853e-07
## 4473664	3.171766	0.6301228596	0.14575980	4.323022146	1.539063e-05
## 4401375	4.400552	0.6311511659	0.14509149	4.350022010	1.361239e-05
## 198209	3.859462	0.6313659062	0.12690735	4.975014394	6.524279e-07

## 190490	1.678877	0.6324258514	0.12542051	5.042443588	4.596243e-07
## 110562	1.614346	0.6335332138	0.12289196	5.155204909	2.533537e-07
## 586141	1.992582	0.6355340139	0.12424310	5.115245790	3.133327e-07
## 511378	70.863666	0.6358752811	0.22092727	2.878210940	3.999376e-03
## 16340	1.618837	0.6382647288	0.12289096	5.193748511	2.061015e-07
## 180107	1.736609	0.6420354073	0.13277409	4.835547533	1.327796e-06
## 4427290	14.534106	0.6438774244	0.20624296	3.121936494	1.796657e-03
## 181047	2.182234	0.6449753716	0.13381813	4.819790803	1.437088e-06
## 4357713	2.238069	0.6457084333	0.13765775	4.690679978	2.722986e-06
## 414949	1.630123	0.6484910021	0.12598309	5.147444979	2.640584e-07
## 114462	11.209647	0.6492160071	0.17232981	3.767287994	1.650306e-04
## 4399109	1.575828	0.6499680966	0.12675644	5.127693006	2.933142e-07
## 4439398	2.555336	0.6554549577	0.14652590	4.473304474	7.701999e-06
## 290241	1.757773	0.6559530843	0.12185278	5.383160434	7.318925e-08
## 174885	1.674856	0.6579905923	0.11827442	5.563253412	2.647909e-08
## 130048	1.619271	0.6581854411	0.12184710	5.401732348	6.600038e-08
## 192383	9.210045	0.6595856590	0.16514634	3.993946524	6.498253e-05
## 216111	10.548496	0.6614920595	0.17543860	3.770504572	1.629178e-04
## 190772	1.801393	0.6622450695	0.12473969	5.309016673	1.102183e-07
## 179472	24.138922	0.6643449542	0.18632817	3.565456336	3.632236e-04
## 180771	2.487557	0.6646732447	0.13925727	4.772987740	1.815128e-06
## 2442706	6.783761	0.6669870681	0.16389228	4.069667361	4.708031e-05
## 4396235	2.720965	0.6673294604	0.12751142	5.233487837	1.663410e-07
## 178015	4.156996	0.6723239393	0.13381834	5.024153854	5.056569e-07
## 4463532	4.181664	0.6737355842	0.14680128	4.589439424	4.444379e-06
## 187384	1.797628	0.6772277674	0.12323258	5.495525364	3.895489e-08
## 4387092	2.478984	0.6784229391	0.12455476	5.446784398	5.128857e-08
## 4471251	2.817841	0.6833077054	0.13321017	5.129546076	2.904417e-07
## 2250985	18.814968	0.6847307433	0.18116891	3.779515785	1.571336e-04
## 847934	1.595892	0.6880446213	0.12665165	5.432575260	5.554651e-08
## 306299	12.141847	0.6885144337	0.15859131	4.341438718	1.415528e-05
## 4377715	1.672591	0.6933398468	0.12502428	5.545641702	2.928780e-08
## 589329	2.304192	0.6936499021	0.12647823	5.484342397	4.150103e-08
## 2829179	1.674834	0.6947109550	0.13082899	5.310068861	1.095838e-07
## 2500766	1.829441	0.6953787337	0.12226886	5.687292254	1.290695e-08
## 215269	2.071621	0.6962878045	0.13207026	5.272101575	1.348704e-07
## 495451	2.376989	0.6973808877	0.12433872	5.608718785	2.038299e-08
## 182033	1.856394	0.6974443071	0.12141139	5.744471641	9.220845e-09
## 186272	1.614467	0.6988707606	0.12934626	5.403100051	6.549890e-08
## 182089	7.950950	0.7022851062	0.16629646	4.223091195	2.409743e-05
## 3797933	2.852382	0.7046021734	0.13818419	5.099007166	3.414396e-07
## 4353757	1.867654	0.7053575165	0.12337150	5.717345865	1.082007e-08
## 358939	4.352646	0.7053660650	0.14027677	5.028388218	4.946197e-07
## 4469007	49.742624	0.7073865244	0.22462145	3.149238463	1.636966e-03
## 3709990	117.878681	0.7081113457	0.18480144	3.831741390	1.272394e-04
## 2318497	71.392172	0.7082326351	0.20552517	3.445965381	5.690232e-04
## 4412022	2.254560	0.7098023228	0.14256359	4.978847068	6.396416e-07
## 4299126	2.018685	0.7112862139	0.13956313	5.096519338	3.459552e-07
## 3576174	70.157388	0.7123992596	0.21810991	3.266239728	1.089859e-03
## 3134492	379.608020	0.7125107274	0.23920514	2.978659794	2.895120e-03
## 183147	1.858539	0.7129098103	0.11944393	5.968573138	2.393374e-09
## 668514	130.068089	0.7131010632	0.22617574	3.152862788	1.616778e-03
## 306412	1.687539	0.7166074312	0.12908438	5.551465240	2.832850e-08
## 4418787	3.462617	0.7180662849	0.13879848	5.173444842	2.298170e-07

## 190453	2.382337	0.7226084642	0.14065972	5.137280515	2.787427e-07
## 3422630	1.656885	0.7260031183	0.12623910	5.751016254	8.870859e-09
## 186732	58.224960	0.7281140090	0.21137183	3.444706858	5.716790e-04
## 4202174	1.663437	0.7284227701	0.12959885	5.620595839	1.903000e-08
## 2368865	2.059907	0.7310866687	0.13773724	5.307836079	1.109343e-07
## 3530697	2.624071	0.7330163329	0.13708150	5.347302969	8.927451e-08
## 193129	3.740354	0.7348533584	0.15193795	4.836535985	1.321214e-06
## 237081	2.466008	0.7380603403	0.13237296	5.575612653	2.466602e-08
## 1010113	2.712825	0.7415211378	0.12975274	5.714878233	1.097826e-08
## 2391105	1.789955	0.7443639277	0.11906835	6.251568248	4.063515e-10
## 362765	2.409246	0.7457662698	0.13127874	5.680784774	1.340781e-08
## 302160	2.165140	0.7458423717	0.13588675	5.488705826	4.048893e-08
## 184174	2.539014	0.7462481058	0.13493811	5.530298909	3.196856e-08
## 158722	2.036151	0.7490261841	0.13400337	5.589606874	2.275843e-08
## 561607	1.924330	0.7501986296	0.13207026	5.680299497	1.344591e-08
## 196371	5.257258	0.7508360763	0.15784211	4.756880722	1.966073e-06
## 522595	1.727212	0.7563234826	0.13027297	5.805682328	6.410440e-09
## 28914	8.341264	0.7575453362	0.15916996	4.759348651	1.942187e-06
## 4331364	2.834933	0.7582875868	0.13969401	5.428203983	5.692396e-08
## 571642	1.705860	0.7583646272	0.12560132	6.037871586	1.561603e-09
## 365621	2.788521	0.7601702872	0.13700159	5.548623769	2.879270e-08
## 2063400	3.560144	0.7614449943	0.12813248	5.942638531	2.804705e-09
## 2132002	6.731310	0.7617621858	0.18164380	4.193714303	2.744236e-05
## 4353913	1.721739	0.7627297645	0.13040349	5.848997966	4.945431e-09
## 195123	1.834812	0.7633429507	0.12085926	6.315965722	2.684796e-10
## 197072	76.386852	0.7645064011	0.18222308	4.195442220	2.723397e-05
## 197624	7.044518	0.7664570606	0.16759204	4.573350118	4.799871e-06
## 182416	1.722110	0.7670198012	0.13095557	5.857099465	4.710210e-09
## 215231	2.481987	0.7692885144	0.13745205	5.596777244	2.183730e-08
## 4385326	20.059662	0.7709577761	0.20357361	3.787120467	1.524032e-04
## 305141	2.342740	0.7718621920	0.14034673	5.499680440	3.804802e-08
## 195508	10.593590	0.7743591497	0.16477758	4.699420656	2.609006e-06
## 4300690	1.732276	0.7751587882	0.13444498	5.765620829	8.135779e-09
## 4307265	1.771434	0.7764481238	0.13391656	5.797999256	6.711075e-09
## 885437	1.905216	0.7798530561	0.12896560	6.046984908	1.475816e-09
## 1033413	61.427730	0.7821633268	0.21470098	3.643035703	2.694414e-04
## 350503	1.790847	0.7844441585	0.13311404	5.893023494	3.791925e-09
## 4428676	2.051853	0.7888897798	0.13597355	5.801788455	6.561131e-09
## 259772	39.567045	0.7902395542	0.19731378	4.004989142	6.202033e-05
## 3211875	27.572130	0.7938604279	0.18756019	4.232563534	2.310426e-05
## 185411	17.217154	0.7940064690	0.18088436	4.389580439	1.135696e-05
## 4459634	5.489291	0.7963959749	0.17080541	4.662592330	3.122509e-06
## 4448492	121.167386	0.7993999116	0.21567171	3.706558933	2.100944e-04
## 4458576	3.534666	0.8019944487	0.15761545	5.088298569	3.612903e-07
## 510295	1.901517	0.8041491044	0.13197726	6.093088352	1.107529e-09
## 4415390	6.216125	0.8185548324	0.17203498	4.758072185	1.954506e-06
## 4472551	3.284718	0.8190221881	0.15086105	5.428983743	5.667585e-08
## 372146	1.825389	0.8208815164	0.12951361	6.338187232	2.324842e-10
## 363646	1.956468	0.8234255292	0.13258192	6.210692326	5.275167e-10
## 4456252	2.557551	0.8234980625	0.14445624	5.700675071	1.193339e-08
## 179576	1.736118	0.8235729042	0.12884748	6.391843436	1.638977e-10
## 189936	2.064046	0.8239299220	0.13350325	6.171609545	6.759827e-10
## 181155	21.092618	0.8266154293	0.16298649	5.071680754	3.943175e-07
## 360238	1.944907	0.8278971006	0.12871732	6.431901269	1.260176e-10

## 4396426	1.816712	0.8278983168	0.12681190	6.528553930	6.640770e-11
## 814442	14.140121	0.8321014973	0.18145194	4.585795534	4.522610e-06
## 3090117	1.761973	0.8357258360	0.12711806	6.574406979	4.884746e-11
## 341730	1.766886	0.8388336940	0.12523708	6.697965966	2.113405e-11
## 181485	10.810934	0.8428901812	0.16733025	5.037285104	4.721812e-07
## 4477696	488.675023	0.8445594867	0.18298998	4.615331821	3.924677e-06
## 2182669	2.111935	0.8497428873	0.13180596	6.446922925	1.141438e-10
## 4378683	82.271559	0.8501184097	0.20659063	4.114990071	3.871961e-05
## 564334	1.795497	0.8517801195	0.13049448	6.527326762	6.695388e-11
## 577710	2.878395	0.8518033645	0.14734628	5.780962830	7.427430e-09
## 186452	2.088275	0.8550318261	0.13416264	6.373099282	1.852459e-10
## 578511	2.071797	0.8634449611	0.13640335	6.330086253	2.450242e-10
## 198786	2.096922	0.8646788116	0.12280516	7.041062588	1.907793e-12
## 179744	1.779698	0.8699806610	0.13175653	6.602941702	4.030781e-11
## 4458959	429.515996	0.8703439744	0.20150094	4.319304821	1.565215e-05
## 2331530	2.153290	0.8704336348	0.12093112	7.197763591	6.120815e-13
## 178713	1.935533	0.8713500907	0.13786089	6.320502310	2.607144e-10
## 177515	548.885466	0.8718188097	0.24837309	3.510117788	4.479082e-04
## 177520	8.505123	0.8725703677	0.16081159	5.426041529	5.761756e-08
## 3203801	18.205913	0.8739477840	0.19143580	4.565226576	4.989551e-06
## 4449054	30.790309	0.8753687261	0.18304475	4.782266137	1.733300e-06
## 138389	9.975833	0.8760749628	0.17393107	5.036908901	4.731098e-07
## 279107	4.008230	0.8782314765	0.15667680	5.605370240	2.078103e-08
## 4481195	2.074057	0.8795845973	0.12421770	7.080992739	1.431254e-12
## 107044	1.807233	0.8846048404	0.13423371	6.590035137	4.397225e-11
## 187404	2.624446	0.8858201397	0.13837335	6.401667305	1.536893e-10
## 819353	13.250423	0.8890513370	0.20233566	4.393942836	1.113131e-05
## 175520	2.155777	0.8898192156	0.12814330	6.943938913	3.813154e-12
## 113542	1.797690	0.8936696714	0.13859875	6.447891418	1.134170e-10
## 3265161	10.826724	0.8938591367	0.16782423	5.326162647	1.003093e-07
## 212686	7.963140	0.8940193188	0.17210017	5.194761446	2.049825e-07
## 4405869	2.606074	0.8941216981	0.13178763	6.784564667	1.164371e-11
## 194151	17.909858	0.8942672624	0.16451599	5.435746884	5.456737e-08
## 4375664	1.883379	0.8951612326	0.13383114	6.688736279	2.251060e-11
## 4372528	23.379260	0.8968627730	0.17564305	5.106167086	3.287590e-07
## 185232	3.990812	0.8969571603	0.13415553	6.685949825	2.294316e-11
## 181539	3.777211	0.8997156705	0.14808320	6.075744400	1.234139e-09
## 2256425	2.302868	0.9002712127	0.13539737	6.649104068	2.948825e-11
## 275237	1.898417	0.9071105618	0.13715984	6.613528782	3.752650e-11
## 299267	7.812570	0.9076297729	0.15415838	5.887644539	3.917385e-09
## 186888	15.095069	0.9083653409	0.17605678	5.159502216	2.476073e-07
## 1105376	1.852062	0.9165533680	0.13737259	6.672025246	2.522972e-11
## 4372612	18.998858	0.9170667800	0.17285143	5.305520208	1.123521e-07
## 181167	2.486657	0.9175200521	0.13886339	6.607357386	3.912408e-11
## 4306262	461.435455	0.9235894252	0.26449724	3.491867919	4.796554e-04
## 182167	1.885422	0.9284760749	0.13179980	7.044593912	1.860032e-12
## 157470	1.884299	0.9366566469	0.13451018	6.963463118	3.320081e-12
## 194660	8.573784	0.9391815364	0.16287732	5.766189784	8.108375e-09
## 190169	3.363739	0.9436336538	0.14843835	6.357074374	2.056324e-10
## 312969	2.419106	0.9461057076	0.13295777	7.115836094	1.112364e-12
## 136127	2.253284	0.9462485437	0.13562974	6.976703786	3.021859e-12
## 167373	28.818366	0.9483934581	0.21111073	4.492398262	7.042556e-06
## 303269	2.161440	0.9497228391	0.14203936	6.686335759	2.288277e-11
## 4433947	149.225557	0.9504536813	0.20886831	4.550492537	5.352049e-06

## 4424598	8.539272	0.9542672142	0.16258343	5.869400077	4.373749e-09
## 4479443	4.090558	0.9618572013	0.14058828	6.841659901	7.828076e-12
## 300235	8.510557	0.9636355788	0.16106702	5.982823806	2.193020e-09
## 4383953	146.550341	0.9639620295	0.19829936	4.861145373	1.167085e-06
## 4256470	485.652065	0.9664964736	0.23950291	4.035426880	5.450311e-05
## 181074	3.697887	0.9704654434	0.14708884	6.597818369	4.172520e-11
## 544996	1.929543	0.9734168594	0.13633746	7.139760649	9.349357e-13
## 4404731	2.483551	0.9735880814	0.13503615	7.209832873	5.602059e-13
## 4476561	2.520338	0.9750813754	0.13905546	7.012175929	2.346399e-12
## 180171	30.418395	0.9776772644	0.19293657	5.067350752	4.033906e-07
## 583656	2.647618	0.9797346696	0.13738109	7.131510255	9.927356e-13
## 182886	14.042586	0.9899264407	0.15209996	6.508393863	7.595855e-11
## 157338	3.304206	0.9936539284	0.15732604	6.315889907	2.686112e-10
## 4404220	13.032421	0.9943721709	0.16909501	5.880553137	4.088977e-09
## 348642	2.020745	0.9986054474	0.13634356	7.324184672	2.403555e-13
## 213394	10.047801	1.0074107646	0.18769593	5.367248874	7.994671e-08
## 2280817	2.655256	1.0084585479	0.13353850	7.551818987	4.292208e-14
## 548503	2.848700	1.0093064563	0.14865986	6.789367559	1.126262e-11
## 179018	2.952612	1.0144563760	0.14855460	6.828845149	8.560091e-12
## 111135	2.092767	1.0152520636	0.13868561	7.320529104	2.469951e-13
## 519763	2.029256	1.0177462706	0.13498510	7.539693175	4.710785e-14
## 307238	7.661235	1.0191627157	0.17488759	5.827530263	5.625365e-09
## 3270612	1.952544	1.0197718615	0.13023402	7.830303413	4.866940e-15
## 816702	42.234049	1.0243859444	0.20513610	4.993689341	5.923666e-07
## 3251419	2.562169	1.0256828318	0.13763727	7.452071837	9.188567e-14
## 187780	2.786580	1.0272465719	0.14567726	7.051523156	1.769698e-12
## 132892	5.950389	1.0296397720	0.15784311	6.523184952	6.882990e-11
## 184114	3.827016	1.0347472425	0.15259679	6.780924113	1.194096e-11
## 4362337	2.013740	1.0352682124	0.13738409	7.535575831	4.861846e-14
## 1076969	3.531111	1.0391871974	0.15105595	6.879485205	6.006924e-12
## 2403301	1.976737	1.0396590217	0.13805822	7.530583844	5.051394e-14
## 2965498	2.091732	1.0468584498	0.14105010	7.421890867	1.154599e-13
## 4318122	2.238378	1.0497098340	0.13667718	7.680212923	1.588244e-14
## 299302	2.500598	1.0523117337	0.13082957	8.043378608	8.739478e-16
## 1106254	2.436128	1.0569932716	0.14756137	7.163075563	7.888684e-13
## 4419459	53.407431	1.0575526117	0.21973918	4.812763043	1.488577e-06
## 367176	54.055149	1.0607064005	0.21245873	4.992529061	5.959374e-07
## 4439360	1203.316191	1.0649454458	0.23256597	4.579111214	4.669559e-06
## 4483337	138.244094	1.0692008611	0.23016559	4.645354896	3.394923e-06
## 158423	2.007246	1.0707006961	0.13970178	7.664187820	1.799664e-14
## 317814	2.418372	1.0723359976	0.13935786	7.694836619	1.416751e-14
## 646800	2.009420	1.0734806431	0.14036209	7.647938681	2.042266e-14
## 193968	15.706832	1.0927288690	0.17567996	6.219997428	4.971630e-10
## 175508	2.433488	1.0930224563	0.13495491	8.099167616	5.533650e-16
## 553080	2.1111706	1.0934668649	0.13706295	7.977844301	1.489111e-15
## 4452633	6.214743	1.0975292949	0.16873251	6.504551279	7.792563e-11
## 258099	3.221930	1.1006624886	0.14167966	7.768669652	7.931472e-15
## 179486	3.286765	1.1071391723	0.14290805	7.747213654	9.393084e-15
## 2800178	2.623919	1.1103264400	0.13594226	8.167632738	3.144996e-16
## 4336943	2.543729	1.1132703901	0.15090942	7.377076920	1.618025e-13
## 148279	3.058112	1.1146564136	0.14759598	7.552078242	4.283670e-14
## 851733	2.868752	1.1167971412	0.14825363	7.533017370	4.958101e-14
## 221429	2.974485	1.1176735974	0.14343756	7.792056556	6.592721e-15
## 3275562	165.631420	1.1180228998	0.23301128	4.798149229	1.601385e-06

## 157772	2.347505	1.1194164280	0.13832535	8.092633734	5.838824e-16
## 195871	2.092164	1.1268399926	0.14265163	7.899243623	2.806010e-15
## 563803	2.105486	1.1301178743	0.13609764	8.303728416	1.008941e-16
## 4469576	313.911148	1.1313895493	0.20292463	5.575417600	2.469368e-08
## 718358	3.526083	1.1327630269	0.14687190	7.712591993	1.232877e-14
## 2066056	4.280022	1.1360507171	0.15524186	7.317940644	2.518052e-13
## 134174	2.338970	1.1377572737	0.14056470	8.094189341	5.764696e-16
## 328472	5.136676	1.1405333648	0.15310824	7.449196314	9.391054e-14
## 4396688	13.045224	1.1460847819	0.19389165	5.910954805	3.401304e-09
## 296442	2.959204	1.1483852407	0.13916170	8.252164212	1.555515e-16
## 232900	2.434537	1.1502089013	0.14472114	7.947759846	1.899144e-15
## 13986	3.265568	1.1549523192	0.15275269	7.560929571	4.001989e-14
## 4384058	6.074829	1.1578584674	0.15841894	7.308838426	2.694615e-13
## 178809	3.629288	1.1647590706	0.15434599	7.546415969	4.473995e-14
## 358781	38.042111	1.1667327822	0.22697460	5.140367105	2.742022e-07
## 4326219	3.876355	1.1833749171	0.14315201	8.266561485	1.378780e-16
## 1145098	2.150709	1.1906835774	0.13608147	8.749784804	2.137600e-18
## 4445673	12.103872	1.1985869113	0.18731309	6.398842088	1.565597e-10
## 4358599	2.207879	1.2103837604	0.14861604	8.144368159	3.812675e-16
## 4464445	7.638381	1.2105078864	0.17999777	6.725126968	1.754394e-11
## 4307122	2.177896	1.2132060593	0.14429399	8.407876661	4.174998e-17
## 194324	2.847142	1.2182231832	0.14025714	8.685641384	3.766113e-18
## 676211	4.700351	1.2242387084	0.15545348	7.875273711	3.399977e-15
## 180312	11.126572	1.2320971751	0.16605970	7.419603622	1.174714e-13
## 215670	2.780461	1.2362471923	0.13704345	9.020841065	1.866507e-19
## 178773	2.306128	1.2376437228	0.14763797	8.382963495	5.161149e-17
## 188348	2.241599	1.2462578461	0.14503235	8.592964730	8.475356e-18
## 4153054	9.626765	1.2493029915	0.19139116	6.527485493	6.688298e-11
## 344154	3.123839	1.2521595000	0.13372240	9.363872653	7.686646e-21
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## 189083	8.540459	1.2691070204	0.17670684	7.181991285	6.870330e-13
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## 4347520	17.076960	1.2814763969	0.19072822	6.718861002	1.831505e-11
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## 214036	8.180154	1.2975983269	0.17444816	7.438303309	1.019867e-13
## 4297695	2.719265	1.3096823956	0.15249870	8.588154747	8.837719e-18
## 176104	2.388489	1.3205272964	0.14758361	8.947655596	3.631119e-19
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## 196296	3.358658	1.3231546215	0.14665362	9.022311259	1.841621e-19
## 370086	8.149453	1.3288080560	0.17904153	7.421786568	1.155509e-13
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## 190676	2.960572	1.6755243252	0.15371146	10.900451506	1.146868e-27
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## 186468	6.461679	2.0532081537	0.16370220	12.542336930	4.378891e-36
## 3692427	4.409247	2.0601119340	0.16209417	12.709352739	5.246691e-37
## 186416	9.941197	2.0966261405	0.18784982	11.161182556	6.314597e-29
## 178852	4.526849	2.1057609066	0.16403458	12.837298607	1.013496e-37

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## 186851	3.911965	2.1581505028	0.16763864	12.873824840	6.319359e-38
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## 301253	14.587756	2.2730986252	0.18901063	12.026300646	2.584853e-33
## 4437359	5.724225	2.2982746011	0.17761595	12.939573239	2.691203e-38
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## 4422456	73.378971	2.5297209305	0.22350298	11.318511001	1.062614e-29
## 3327894	787.351692	2.5561521682	0.22969190	11.128612617	9.104145e-29
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## 4301511	21.599052	3.5675823304	0.20570016	17.343605369	2.204642e-67
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## 192720	20.433376	3.7084789666	0.20454964	18.129970900	1.848569e-73
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