Lecture 11: Binary IRT Models

Bayesian Psychometric Modeling

```
# Install/Load Packages ========================================================================
if (!require(R2jags)) install.packages("R2jags")
```

```
## Loading required package: R2jags
```

```
## Loading required package: rjags
```

```
## Loading required package: coda
```

```
## Linked to JAGS 4.3.0
```

```
## Loaded modules: basemod,bugs
```

```
##
## Attaching package: 'R2jags'
```

```
## The following object is masked from 'package:coda':
##
##     traceplot
```

```
library(R2jags)

if (!require(CDM)) install.packages("CDM")
```

```
## Loading required package: CDM
```

```
## Loading required package: mvtnorm
```

```
## ***********************************
## ** CDM 7.3-17 (2019-03-18 18:33:40)
## ** Cognitive Diagnostic Models  **
## ***********************************
```

```
library(CDM)

if (!require(MASS)) install.packages("MASS")
```

```
## Loading required package: MASS
```

```
library(MASS)
FSdata = fraction.subtraction.data
FSQmatrix = fraction.subtraction.qmatrix
```

Item Response Models for Binary Data: Example Analyses

We will use the Tatsuoka (1984) fraction subtraction data for today's examples. See DeCarlo (2011, p. 9) for the items: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C36&q=l+decarlo+2011&btnG=.

First, we will treat these data as unidimensional to demonstrate unidimensional IRT models. We can use the syntax from the unidimensional CFA model as a start for modeling the 2PL model.This uses slope/intercept form, which we will change to discrimination/difficulty later. Also, we will use R2jags to make quick use of DIC for model comparisons.

Also note: these analyses take an excessive amount of time to run. So, please follow along with the HTML file through class.

Model 1: Unidimensional 2PNO Model

```
# model 1 specs:
nItems = ncol(FSdata)
```

```
# marker item:
model01.function = function(){

  # measurement model specification
    for (person in 1:N){
      for (item in 1:I){
        X[person, item] ~ dbern(phi(mu[item] + lambda[item]*theta[person]))
      }
    }

  # prior distribution for the factor variance
    theta.precision ~ dgamma(theta.alpha.0, theta.beta.0)

  # saved parameters
    theta.variance <- 1/theta.precision

  # prior distributions for the factor:
    for (person in 1:N){
      theta[person] ~ dnorm(0, theta.precision)
      thetaS[person] <- theta[person]/theta.variance
    }

  # prior distributions for the measurement model mean/precision parameters
    for (item in 1:I){
      mu[item] ~ dnorm(mu.mean.0, mu.precision.0)
    }

  # prior distributions for the loadings (except the first loading, which is fixed to 1.0)
    lambda[1] <- 1
    for (item in 2:I){
      lambda[item] ~ dnorm(lambda.mean.0, lambda.precision.0)
    }

  # create standardized lambda
    lambdaS <- sqrt(theta.variance)*lambda

}
```

```
# specification of prior values for measurement model parameters:
#   item intercepts
mu.mean.0 = 0
mu.variance.0 = 100
mu.precision.0 = 1 / mu.variance.0

#   Factor loadings -- these are the discriminations
lambda.mean.0 = 0
lambda.variance.0 = 100
lambda.precision.0 = 1 / lambda.variance.0
```

```
# unique variances -- these do not exist

# values for prior for factor variance (based on variance of marker item)
theta.df.0 = 1
theta.var.0 = 1
theta.alpha.0 = theta.df.0/2
theta.beta.0 = (theta.df.0*theta.var.0)/2


# next, create data for JAGS to use:
model01.data = list(
  N = nrow(FSdata),
  X = FSdata,
  I = nItems,
  mu.mean.0 = mu.mean.0,
  mu.precision.0 = mu.precision.0,
  lambda.mean.0 = lambda.mean.0,
  lambda.precision.0 = lambda.precision.0,
  theta.alpha.0 = theta.alpha.0,
  theta.beta.0 = theta.beta.0
)

model01.parameters = c("mu", "lambda",  "theta.variance", "theta", "thetaS", "lambdaS", "b")
```

```
# for reproducable analyses
model01.seed = 06042019
```

Here, we will use the R2jags `jags.parallel()` function, which will run somewhat faster (one chain per core):

```
model01.r2jags =  jags.parallel(
  data = model01.data,
  parameters.to.save = model01.parameters,
  model.file = model01.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  n.cluster = 4,
  jags.seed = model01.seed
)
model01.r2jags
```

```
## Inference for Bugs model at "model01.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##                 mu.vect sd.vect     2.5%      25%      50%      75%
## lambda[1]         1.000   0.000    1.000    1.000    1.000    1.000
## lambda[2]         1.540   0.195    1.204    1.399    1.525    1.662
## lambda[3]         1.287   0.164    1.005    1.166    1.277    1.390
## lambda[4]         0.745   0.107    0.564    0.668    0.739    0.811
## lambda[5]         0.604   0.087    0.449    0.542    0.600    0.659
## lambda[6]         1.133   0.165    0.846    1.014    1.127    1.237
## lambda[7]         1.381   0.189    1.047    1.250    1.366    1.496
## lambda[8]         0.621   0.094    0.460    0.551    0.614    0.680
## lambda[9]         0.421   0.069    0.300    0.373    0.415    0.464
```

```
## lambda[10]        1.560   0.210    1.205    1.411    1.540    1.690
## lambda[11]        1.486   0.217    1.127    1.334    1.464    1.619
## lambda[12]        0.979   0.138    0.740    0.883    0.966    1.062
## lambda[13]        1.512   0.228    1.117    1.349    1.493    1.656
## lambda[14]        1.145   0.163    0.867    1.027    1.131    1.248
## lambda[15]        1.447   0.198    1.097    1.306    1.428    1.577
## lambda[16]        1.006   0.140    0.761    0.906    0.996    1.095
## lambda[17]        1.735   0.247    1.293    1.560    1.716    1.889
## lambda[18]        1.239   0.171    0.942    1.116    1.224    1.350
## lambda[19]        2.010   0.313    1.479    1.789    1.989    2.197
## lambda[20]        1.770   0.269    1.296    1.579    1.749    1.943
## lambdaS[1]        1.257   0.139    0.997    1.158    1.251    1.351
## lambdaS[2]        1.916   0.175    1.593    1.794    1.907    2.030
## lambdaS[3]        1.601   0.146    1.330    1.498    1.597    1.693
## lambdaS[4]        0.925   0.090    0.762    0.862    0.923    0.983
## lambdaS[5]        0.751   0.078    0.600    0.696    0.749    0.801
## lambdaS[6]        1.408   0.150    1.134    1.305    1.398    1.507
## lambdaS[7]        1.716   0.162    1.408    1.606    1.709    1.819
## lambdaS[8]        0.771   0.087    0.609    0.713    0.767    0.827
## lambdaS[9]        0.523   0.069    0.396    0.477    0.521    0.570
## lambdaS[10]       1.940   0.194    1.594    1.806    1.930    2.058
## lambdaS[11]       1.845   0.179    1.527    1.724    1.834    1.955
## lambdaS[12]       1.216   0.115    1.005    1.138    1.210    1.292
## lambdaS[13]       1.879   0.212    1.504    1.732    1.863    2.022
## lambdaS[14]       1.423   0.135    1.169    1.330    1.418    1.510
## lambdaS[15]       1.798   0.168    1.484    1.682    1.794    1.908
## lambdaS[16]       1.250   0.118    1.034    1.168    1.244    1.328
## lambdaS[17]       2.156   0.216    1.761    2.009    2.147    2.295
## lambdaS[18]       1.539   0.143    1.280    1.440    1.531    1.630
## lambdaS[19]       2.499   0.309    1.974    2.280    2.471    2.690
## lambdaS[20]       2.198   0.238    1.767    2.036    2.182    2.346
## mu[1]             0.064   0.089   -0.110    0.006    0.065    0.124
## mu[2]             0.322   0.121    0.087    0.242    0.319    0.401
## mu[3]            -0.031   0.105   -0.246   -0.101   -0.030    0.040
## mu[4]             0.096   0.074   -0.050    0.046    0.097    0.145
## mu[5]             0.260   0.069    0.124    0.214    0.260    0.305
## mu[6]             1.419   0.142    1.154    1.323    1.411    1.510
## mu[7]            -0.617   0.118   -0.859   -0.692   -0.614   -0.538
## mu[8]             0.845   0.080    0.696    0.790    0.844    0.898
## mu[9]             0.428   0.063    0.301    0.385    0.429    0.471
## mu[10]           -0.792   0.140   -1.082   -0.882   -0.791   -0.698
## mu[11]           -0.222   0.119   -0.457   -0.301   -0.223   -0.142
## mu[12]            0.937   0.102    0.748    0.867    0.933    1.005
## mu[13]           -1.275   0.167   -1.621   -1.384   -1.266   -1.159
## mu[14]            0.994   0.113    0.779    0.915    0.990    1.066
## mu[15]           -0.357   0.118   -0.589   -0.436   -0.356   -0.277
## mu[16]            0.790   0.098    0.608    0.724    0.787    0.855
## mu[17]           -0.545   0.140   -0.842   -0.634   -0.540   -0.450
## mu[18]           -0.246   0.103   -0.450   -0.314   -0.246   -0.178
## mu[19]           -1.520   0.219   -1.986   -1.655   -1.505   -1.370
## mu[20]           -0.827   0.160   -1.156   -0.927   -0.822   -0.718
## theta[1]          0.381   0.235   -0.069    0.224    0.380    0.535
## theta[2]          1.351   0.367    0.723    1.089    1.324    1.582
## theta[3]         -0.060   0.259   -0.580   -0.231   -0.055    0.115
```

```
## theta[4]          0.495   0.257    0.011    0.319    0.483    0.664
## theta[5]         -1.111   0.408   -2.002   -1.353   -1.079   -0.825
## theta[6]         -1.115   0.397   -1.947   -1.372   -1.093   -0.840
## theta[7]         -1.895   0.574   -3.137   -2.253   -1.848   -1.482
## theta[8]         -1.695   0.498   -2.771   -2.020   -1.664   -1.340
## theta[9]         -1.315   0.434   -2.261   -1.582   -1.283   -1.008
## theta[10]        -1.306   0.445   -2.278   -1.603   -1.278   -0.985
## theta[11]         0.287   0.255   -0.226    0.121    0.287    0.455
## theta[12]         0.514   0.249    0.018    0.350    0.509    0.677
## theta[13]        -0.496   0.285   -1.084   -0.674   -0.486   -0.298
## theta[14]        -1.352   0.437   -2.307   -1.627   -1.312   -1.047
## theta[15]        -1.287   0.440   -2.226   -1.562   -1.265   -0.975
## theta[16]        -0.648   0.309   -1.277   -0.845   -0.633   -0.432
## theta[17]        -0.918   0.341   -1.652   -1.139   -0.906   -0.680
## theta[18]        -1.350   0.426   -2.236   -1.618   -1.316   -1.059
## theta[19]        -1.064   0.391   -1.892   -1.318   -1.042   -0.787
## theta[20]        -2.104   0.628   -3.523   -2.464   -2.034   -1.673
## theta[21]         0.861   0.278    0.343    0.674    0.846    1.042
## theta[22]         0.493   0.251    0.023    0.322    0.484    0.657
## theta[23]         2.103   0.676    1.054    1.633    1.999    2.462
## theta[24]         0.031   0.246   -0.469   -0.131    0.036    0.196
## theta[25]         0.161   0.250   -0.335    0.001    0.164    0.329
## theta[26]        -2.209   0.653   -3.679   -2.616   -2.125   -1.749
## theta[27]        -1.001   0.379   -1.814   -1.243   -0.968   -0.730
## theta[28]        -2.523   0.748   -4.196   -2.972   -2.450   -1.981
## theta[29]        -0.929   0.367   -1.672   -1.174   -0.914   -0.670
## theta[30]         2.110   0.687    1.079    1.620    2.010    2.480
## theta[31]         0.555   0.245    0.088    0.390    0.551    0.716
## theta[32]         2.167   0.692    1.111    1.671    2.075    2.566
## theta[33]         1.251   0.358    0.631    0.991    1.232    1.470
## theta[34]         0.563   0.241    0.097    0.409    0.555    0.719
## theta[35]         1.010   0.296    0.483    0.802    0.982    1.197
## theta[36]         0.276   0.249   -0.210    0.114    0.277    0.435
## theta[37]        -0.131   0.251   -0.641   -0.289   -0.128    0.042
## theta[38]         0.087   0.255   -0.415   -0.082    0.084    0.258
## theta[39]         1.062   0.295    0.525    0.862    1.043    1.247
## theta[40]        -0.961   0.371   -1.752   -1.191   -0.941   -0.709
## theta[41]        -2.224   0.692   -3.824   -2.632   -2.146   -1.722
## theta[42]         2.128   0.703    1.028    1.621    2.023    2.550
## theta[43]         1.267   0.352    0.665    1.017    1.240    1.482
## theta[44]        -1.418   0.457   -2.413   -1.696   -1.386   -1.101
## theta[45]         1.058   0.316    0.483    0.838    1.041    1.253
## theta[46]         0.614   0.251    0.150    0.446    0.603    0.776
## theta[47]        -1.054   0.378   -1.877   -1.291   -1.026   -0.789
## theta[48]        -0.318   0.263   -0.839   -0.494   -0.311   -0.140
## theta[49]        -1.827   0.519   -2.974   -2.147   -1.795   -1.450
## theta[50]         0.585   0.244    0.126    0.420    0.580    0.743
## theta[51]        -2.041   0.587   -3.324   -2.382   -1.999   -1.631
## theta[52]        -0.510   0.296   -1.109   -0.700   -0.502   -0.307
## theta[53]        -0.599   0.302   -1.228   -0.797   -0.587   -0.392
## theta[54]         1.178   0.323    0.608    0.951    1.155    1.384
## theta[55]         0.031   0.252   -0.472   -0.132    0.036    0.198
## theta[56]         2.134   0.682    1.065    1.630    2.034    2.549
## theta[57]         1.438   0.410    0.745    1.153    1.406    1.682
```

```
## theta[58]       -2.223   0.672   -3.735   -2.610   -2.144   -1.755
## theta[59]       -0.955   0.381   -1.780   -1.190   -0.929   -0.689
## theta[60]        0.807   0.282    0.294    0.611    0.794    0.985
## theta[61]       -1.272   0.421   -2.174   -1.540   -1.253   -0.974
## theta[62]       -2.054   0.587   -3.337   -2.409   -2.010   -1.624
## theta[63]        0.434   0.250   -0.046    0.264    0.430    0.594
## theta[64]        0.830   0.281    0.328    0.638    0.814    0.999
## theta[65]        0.269   0.253   -0.215    0.099    0.264    0.438
## theta[66]       -0.036   0.241   -0.519   -0.194   -0.035    0.125
## theta[67]        0.414   0.244   -0.052    0.254    0.410    0.571
## theta[68]       -2.179   0.654   -3.705   -2.546   -2.107   -1.734
## theta[69]       -2.439   0.721   -3.944   -2.884   -2.379   -1.937
## theta[70]       -0.444   0.269   -0.990   -0.618   -0.431   -0.256
## theta[71]       -0.905   0.356   -1.642   -1.134   -0.881   -0.653
## theta[72]       -0.996   0.378   -1.799   -1.238   -0.966   -0.729
## theta[73]       -2.094   0.631   -3.500   -2.482   -2.031   -1.639
## theta[74]        0.691   0.262    0.211    0.510    0.678    0.864
## theta[75]       -1.039   0.382   -1.863   -1.271   -1.008   -0.785
## theta[76]       -2.493   0.731   -4.208   -2.921   -2.411   -1.973
## theta[77]       -0.537   0.306   -1.187   -0.728   -0.524   -0.323
## theta[78]        0.686   0.266    0.176    0.507    0.674    0.859
## theta[79]        2.137   0.676    1.083    1.636    2.044    2.556
## theta[80]        0.515   0.237    0.064    0.353    0.512    0.668
## theta[81]       -1.069   0.377   -1.874   -1.306   -1.051   -0.802
## theta[82]        0.866   0.279    0.344    0.675    0.854    1.038
## theta[83]       -2.217   0.642   -3.646   -2.592   -2.159   -1.775
## theta[84]       -0.440   0.289   -1.020   -0.632   -0.430   -0.241
## theta[85]       -0.075   0.255   -0.580   -0.246   -0.073    0.099
## theta[86]        0.483   0.253    0.010    0.311    0.479    0.643
## theta[87]        0.573   0.251    0.092    0.405    0.567    0.738
## theta[88]        1.000   0.292    0.459    0.802    0.982    1.185
## theta[89]        2.116   0.680    1.044    1.623    2.023    2.508
## theta[90]        1.273   0.346    0.680    1.026    1.245    1.503
## theta[91]        0.388   0.247   -0.092    0.217    0.384    0.556
## theta[92]       -1.302   0.437   -2.257   -1.578   -1.275   -0.992
## theta[93]        1.203   0.343    0.605    0.966    1.177    1.415
## theta[94]        1.437   0.405    0.759    1.150    1.399    1.677
## theta[95]        2.090   0.696    1.049    1.596    1.982    2.463
## theta[96]        1.358   0.370    0.721    1.102    1.331    1.584
## theta[97]       -0.023   0.248   -0.517   -0.189   -0.020    0.148
## theta[98]       -1.369   0.448   -2.346   -1.642   -1.337   -1.062
## theta[99]        1.207   0.338    0.617    0.976    1.177    1.408
## theta[100]      -1.313   0.418   -2.173   -1.584   -1.287   -1.024
## theta[101]      -0.926   0.348   -1.661   -1.144   -0.908   -0.688
## theta[102]       1.614   0.456    0.853    1.279    1.572    1.903
## theta[103]      -0.915   0.365   -1.693   -1.151   -0.896   -0.665
## theta[104]       1.516   0.405    0.826    1.225    1.487    1.764
## theta[105]       0.608   0.254    0.124    0.438    0.600    0.771
## theta[106]      -0.197   0.270   -0.750   -0.375   -0.192   -0.016
## theta[107]      -0.540   0.300   -1.159   -0.740   -0.530   -0.335
## theta[108]       2.109   0.667    1.069    1.650    2.022    2.467
## theta[109]       0.237   0.244   -0.241    0.071    0.240    0.395
## theta[110]       0.491   0.261    0.005    0.315    0.483    0.662
## theta[111]      -1.272   0.430   -2.190   -1.547   -1.241   -0.966
```

```
## theta[112]      -2.508   0.794   -4.268   -2.971   -2.423   -1.932
## theta[113]       0.014   0.247   -0.473   -0.149    0.017    0.178
## theta[114]       0.125   0.241   -0.353   -0.036    0.127    0.287
## theta[115]       0.431   0.234   -0.011    0.267    0.428    0.583
## theta[116]       1.512   0.408    0.804    1.218    1.480    1.767
## theta[117]      -2.237   0.625   -3.566   -2.631   -2.199   -1.793
## theta[118]      -0.060   0.252   -0.573   -0.221   -0.054    0.112
## theta[119]       0.551   0.244    0.092    0.389    0.542    0.703
## theta[120]      -2.504   0.812   -4.526   -2.886   -2.371   -1.967
## theta[121]      -1.463   0.479   -2.541   -1.755   -1.420   -1.130
## theta[122]      -0.797   0.344   -1.540   -1.008   -0.773   -0.563
## theta[123]      -1.139   0.409   -2.028   -1.388   -1.112   -0.857
## theta[124]       2.001   0.602    1.030    1.566    1.934    2.376
## theta[125]       0.740   0.269    0.235    0.556    0.731    0.911
## theta[126]       1.074   0.309    0.525    0.852    1.050    1.276
## theta[127]       1.437   0.404    0.741    1.149    1.402    1.680
## theta[128]       0.909   0.269    0.424    0.723    0.897    1.083
## theta[129]      -0.034   0.250   -0.541   -0.200   -0.025    0.138
## theta[130]       1.040   0.310    0.487    0.823    1.022    1.227
## theta[131]      -0.702   0.313   -1.348   -0.900   -0.687   -0.482
## theta[132]       0.466   0.245   -0.005    0.301    0.460    0.627
## theta[133]      -0.466   0.284   -1.049   -0.642   -0.454   -0.273
## theta[134]      -2.043   0.578   -3.335   -2.389   -1.997   -1.637
## theta[135]      -1.782   0.531   -2.939   -2.094   -1.729   -1.400
## theta[136]       1.453   0.422    0.741    1.158    1.413    1.695
## theta[137]       0.319   0.246   -0.142    0.156    0.311    0.476
## theta[138]       1.379   0.381    0.733    1.110    1.346    1.611
## theta[139]      -1.866   0.579   -3.186   -2.206   -1.802   -1.463
## theta[140]       1.328   0.371    0.682    1.064    1.304    1.553
## theta[141]       0.245   0.249   -0.237    0.078    0.246    0.409
## theta[142]       1.152   0.328    0.560    0.923    1.129    1.354
## theta[143]      -1.273   0.424   -2.186   -1.536   -1.245   -0.979
## theta[144]      -0.908   0.350   -1.645   -1.133   -0.891   -0.652
## theta[145]      -0.769   0.332   -1.458   -0.986   -0.756   -0.529
## theta[146]       0.903   0.269    0.412    0.716    0.891    1.076
## theta[147]       1.210   0.334    0.621    0.979    1.188    1.418
## theta[148]      -2.474   0.729   -4.104   -2.934   -2.415   -1.959
## theta[149]       0.598   0.254    0.124    0.425    0.589    0.762
## theta[150]       2.131   0.690    1.044    1.630    2.030    2.509
## theta[151]       1.023   0.299    0.483    0.820    1.000    1.204
## theta[152]       1.250   0.338    0.667    1.015    1.223    1.455
## theta[153]       1.045   0.313    0.481    0.829    1.027    1.248
## theta[154]       1.268   0.359    0.649    1.017    1.243    1.486
## theta[155]       0.896   0.271    0.398    0.705    0.880    1.072
## theta[156]       1.275   0.351    0.650    1.029    1.256    1.498
## theta[157]       0.880   0.278    0.375    0.690    0.869    1.049
## theta[158]       0.085   0.236   -0.391   -0.073    0.090    0.243
## theta[159]       0.299   0.239   -0.165    0.138    0.299    0.456
## theta[160]       1.038   0.304    0.502    0.818    1.023    1.236
## theta[161]       0.832   0.276    0.315    0.639    0.826    1.014
## theta[162]       1.208   0.348    0.622    0.963    1.186    1.414
## theta[163]       1.445   0.394    0.750    1.166    1.419    1.687
## theta[164]       1.288   0.361    0.670    1.023    1.266    1.515
## theta[165]      -2.482   0.729   -4.184   -2.925   -2.392   -1.962
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## theta[166]      -1.848   0.555   -3.073   -2.187   -1.803   -1.462
## theta[167]      -1.712   0.524   -2.856   -2.026   -1.667   -1.338
## theta[168]       2.086   0.651    1.031    1.619    2.002    2.489
## theta[169]       1.169   0.336    0.592    0.928    1.147    1.376
## theta[170]      -2.465   0.717   -4.081   -2.881   -2.380   -1.959
## theta[171]      -0.402   0.263   -0.951   -0.574   -0.391   -0.225
## theta[172]       0.753   0.270    0.252    0.568    0.743    0.926
## theta[173]       2.178   0.720    1.065    1.661    2.068    2.554
## theta[174]      -0.001   0.247   -0.493   -0.165    0.002    0.164
## theta[175]      -0.634   0.321   -1.303   -0.839   -0.620   -0.409
## theta[176]      -0.064   0.254   -0.569   -0.229   -0.056    0.109
## theta[177]       0.365   0.253   -0.124    0.196    0.362    0.530
## theta[178]      -0.622   0.307   -1.254   -0.814   -0.611   -0.409
## theta[179]       0.584   0.256    0.079    0.407    0.577    0.755
## theta[180]       1.139   0.323    0.559    0.911    1.122    1.340
## theta[181]      -1.671   0.496   -2.760   -1.959   -1.623   -1.321
## theta[182]       0.389   0.261   -0.115    0.214    0.385    0.563
## theta[183]       0.242   0.249   -0.241    0.075    0.238    0.407
## theta[184]       1.692   0.499    0.886    1.342    1.626    1.986
## theta[185]       1.435   0.403    0.751    1.155    1.397    1.672
## theta[186]       1.045   0.307    0.495    0.838    1.025    1.238
## theta[187]      -0.789   0.316   -1.447   -0.997   -0.782   -0.565
## theta[188]      -0.669   0.321   -1.362   -0.872   -0.646   -0.449
## theta[189]       2.118   0.701    1.059    1.620    2.001    2.507
## theta[190]       2.064   0.663    1.050    1.579    1.957    2.472
## theta[191]       1.175   0.331    0.590    0.942    1.151    1.382
## theta[192]       1.434   0.402    0.744    1.148    1.399    1.679
## theta[193]       1.420   0.399    0.726    1.132    1.387    1.676
## theta[194]      -0.279   0.258   -0.800   -0.445   -0.267   -0.105
## theta[195]      -1.272   0.410   -2.155   -1.531   -1.237   -0.984
## theta[196]       1.424   0.404    0.741    1.136    1.395    1.668
## theta[197]       1.358   0.387    0.709    1.085    1.322    1.589
## theta[198]       2.053   0.628    1.057    1.588    1.973    2.437
## theta[199]       1.704   0.493    0.896    1.343    1.657    1.999
## theta[200]      -0.572   0.295   -1.175   -0.764   -0.558   -0.369
## theta[201]       2.128   0.706    1.073    1.641    2.016    2.496
## theta[202]       1.205   0.329    0.622    0.976    1.184    1.411
## theta[203]       0.771   0.270    0.263    0.588    0.760    0.947
## theta[204]       1.395   0.380    0.719    1.133    1.369    1.631
## theta[205]      -0.077   0.261   -0.598   -0.250   -0.072    0.099
## theta[206]       0.386   0.246   -0.078    0.222    0.385    0.544
## theta[207]       0.568   0.255    0.073    0.397    0.567    0.732
## theta[208]      -0.240   0.263   -0.764   -0.409   -0.234   -0.060
## theta[209]       1.154   0.327    0.592    0.924    1.127    1.360
## theta[210]       2.152   0.727    1.058    1.650    2.046    2.519
## theta[211]      -1.007   0.382   -1.807   -1.245   -0.986   -0.745
## theta[212]       0.194   0.245   -0.293    0.033    0.197    0.357
## theta[213]       2.082   0.653    1.036    1.607    2.011    2.467
## theta[214]       1.522   0.416    0.816    1.226    1.487    1.772
## theta[215]      -0.787   0.313   -1.433   -0.992   -0.771   -0.572
## theta[216]       2.109   0.688    1.059    1.626    2.000    2.474
## theta[217]      -2.081   0.605   -3.395   -2.456   -2.038   -1.651
## theta[218]       1.137   0.321    0.551    0.922    1.116    1.333
## theta[219]       0.173   0.234   -0.281    0.013    0.173    0.327
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## theta[220]        0.450   0.241   -0.017    0.286    0.447    0.610
## theta[221]        0.192   0.242   -0.296    0.038    0.193    0.348
## theta[222]        0.686   0.271    0.185    0.500    0.677    0.856
## theta[223]        2.072   0.665    1.046    1.605    1.972    2.440
## theta[224]       -2.195   0.678   -3.729   -2.600   -2.117   -1.708
## theta[225]        1.041   0.308    0.478    0.828    1.025    1.238
## theta[226]       -0.591   0.314   -1.255   -0.787   -0.569   -0.371
## theta[227]       -2.518   0.787   -4.311   -2.984   -2.430   -1.950
## theta[228]       -1.026   0.359   -1.775   -1.262   -1.000   -0.775
## theta[229]        1.211   0.338    0.629    0.975    1.182    1.422
## theta[230]        0.204   0.246   -0.264    0.036    0.202    0.367
## theta[231]       -2.514   0.746   -4.232   -2.949   -2.417   -1.970
## theta[232]        0.447   0.253   -0.035    0.277    0.440    0.613
## theta[233]       -0.827   0.352   -1.583   -1.050   -0.802   -0.582
## theta[234]        1.033   0.296    0.499    0.826    1.016    1.224
## theta[235]       -0.740   0.327   -1.413   -0.952   -0.727   -0.517
## theta[236]       -0.166   0.258   -0.680   -0.340   -0.158    0.007
## theta[237]       -0.013   0.253   -0.504   -0.181   -0.015    0.153
## theta[238]        1.404   0.385    0.741    1.131    1.375    1.648
## theta[239]       -0.031   0.237   -0.506   -0.187   -0.031    0.132
## theta[240]       -0.644   0.310   -1.282   -0.848   -0.633   -0.427
## theta[241]        0.888   0.287    0.368    0.692    0.867    1.061
## theta[242]        0.338   0.247   -0.146    0.174    0.340    0.503
## theta[243]        0.613   0.261    0.106    0.435    0.609    0.782
## theta[244]       -0.746   0.347   -1.495   -0.963   -0.730   -0.502
## theta[245]        1.801   0.533    0.956    1.413    1.747    2.123
## theta[246]       -2.086   0.623   -3.465   -2.471   -2.022   -1.649
## theta[247]        0.921   0.283    0.421    0.720    0.910    1.108
## theta[248]        1.073   0.315    0.513    0.853    1.053    1.265
## theta[249]       -1.593   0.493   -2.665   -1.901   -1.549   -1.247
## theta[250]       -1.165   0.409   -2.070   -1.413   -1.124   -0.879
## theta[251]       -1.662   0.506   -2.718   -1.987   -1.632   -1.300
## theta[252]        0.219   0.241   -0.269    0.060    0.221    0.382
## theta[253]       -1.071   0.363   -1.842   -1.303   -1.060   -0.810
## theta[254]        1.067   0.299    0.530    0.859    1.051    1.257
## theta[255]       -0.764   0.319   -1.400   -0.973   -0.755   -0.543
## theta[256]        0.874   0.269    0.381    0.686    0.857    1.050
## theta[257]        2.055   0.651    1.026    1.585    1.966    2.441
## theta[258]        1.162   0.327    0.577    0.932    1.140    1.364
## theta[259]        0.347   0.253   -0.123    0.169    0.345    0.517
## theta[260]        0.595   0.260    0.104    0.424    0.587    0.767
## theta[261]       -1.287   0.425   -2.189   -1.555   -1.261   -0.989
## theta[262]        0.780   0.257    0.299    0.604    0.768    0.943
## theta[263]       -0.614   0.322   -1.293   -0.821   -0.591   -0.384
## theta[264]       -1.467   0.478   -2.530   -1.765   -1.430   -1.133
## theta[265]       -0.854   0.334   -1.548   -1.073   -0.833   -0.611
## theta[266]        1.045   0.309    0.495    0.826    1.021    1.238
## theta[267]        1.427   0.401    0.735    1.148    1.389    1.659
## theta[268]       -0.158   0.257   -0.679   -0.327   -0.155    0.011
## theta[269]        0.444   0.250   -0.025    0.279    0.436    0.605
## theta[270]        0.935   0.294    0.403    0.729    0.914    1.121
## theta[271]       -0.802   0.352   -1.541   -1.033   -0.776   -0.558
## theta[272]        0.350   0.244   -0.112    0.185    0.348    0.504
## theta[273]        1.286   0.349    0.668    1.038    1.262    1.509
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## theta[274]      -0.386   0.274   -0.937   -0.557   -0.376   -0.205
## theta[275]       2.099   0.663    1.070    1.630    2.004    2.488
## theta[276]      -0.066   0.259   -0.591   -0.240   -0.061    0.111
## theta[277]       0.845   0.276    0.328    0.656    0.838    1.025
## theta[278]       2.090   0.667    1.055    1.612    1.988    2.466
## theta[279]       1.431   0.400    0.750    1.151    1.397    1.676
## theta[280]       2.065   0.645    1.056    1.592    1.979    2.446
## theta[281]       1.272   0.347    0.659    1.028    1.241    1.489
## theta[282]       2.115   0.702    1.049    1.613    2.016    2.495
## theta[283]       0.544   0.241    0.096    0.375    0.543    0.709
## theta[284]       1.453   0.402    0.764    1.166    1.411    1.698
## theta[285]       0.568   0.242    0.119    0.398    0.556    0.724
## theta[286]      -0.950   0.336   -1.680   -1.157   -0.928   -0.720
## theta[287]       0.793   0.266    0.307    0.611    0.780    0.961
## theta[288]       1.059   0.309    0.511    0.847    1.039    1.257
## theta[289]       0.535   0.252    0.062    0.361    0.526    0.701
## theta[290]       1.283   0.353    0.666    1.031    1.261    1.503
## theta[291]      -2.480   0.765   -4.229   -2.934   -2.399   -1.922
## theta[292]      -0.370   0.273   -0.912   -0.557   -0.363   -0.176
## theta[293]      -0.070   0.251   -0.587   -0.233   -0.071    0.100
## theta[294]      -0.835   0.354   -1.596   -1.057   -0.813   -0.587
## theta[295]       1.430   0.392    0.754    1.153    1.395    1.666
## theta[296]      -1.307   0.422   -2.195   -1.581   -1.281   -1.011
## theta[297]      -1.104   0.364   -1.875   -1.327   -1.086   -0.854
## theta[298]       0.401   0.239   -0.054    0.237    0.397    0.559
## theta[299]      -1.010   0.363   -1.787   -1.233   -0.995   -0.756
## theta[300]       1.143   0.330    0.562    0.909    1.118    1.355
## theta[301]       1.431   0.391    0.770    1.143    1.402    1.669
## theta[302]       1.360   0.377    0.713    1.093    1.331    1.600
## theta[303]       0.445   0.245   -0.021    0.282    0.441    0.603
## theta[304]      -0.367   0.271   -0.935   -0.542   -0.356   -0.179
## theta[305]       1.349   0.375    0.713    1.082    1.312    1.570
## theta[306]       0.587   0.251    0.122    0.417    0.573    0.746
## theta[307]      -0.546   0.299   -1.163   -0.744   -0.538   -0.333
## theta[308]      -0.508   0.296   -1.121   -0.699   -0.492   -0.306
## theta[309]      -1.605   0.503   -2.690   -1.917   -1.564   -1.248
## theta[310]      -0.655   0.316   -1.333   -0.854   -0.646   -0.435
## theta[311]       0.174   0.254   -0.341   -0.003    0.172    0.348
## theta[312]      -1.846   0.556   -3.016   -2.199   -1.791   -1.451
## theta[313]       0.610   0.259    0.108    0.433    0.606    0.777
## theta[314]      -0.571   0.305   -1.203   -0.765   -0.555   -0.358
## theta[315]       1.011   0.312    0.431    0.794    0.996    1.202
## theta[316]      -0.316   0.277   -0.874   -0.493   -0.317   -0.127
## theta[317]      -0.421   0.288   -1.019   -0.610   -0.403   -0.223
## theta[318]       0.663   0.263    0.162    0.485    0.655    0.834
## theta[319]       0.927   0.291    0.405    0.725    0.909    1.114
## theta[320]      -0.747   0.347   -1.463   -0.968   -0.729   -0.506
## theta[321]      -0.313   0.279   -0.878   -0.498   -0.306   -0.120
## theta[322]       1.117   0.318    0.552    0.894    1.093    1.320
## theta[323]       1.428   0.391    0.761    1.148    1.392    1.678
## theta[324]       0.749   0.273    0.252    0.561    0.739    0.927
## theta[325]       1.054   0.309    0.501    0.832    1.032    1.253
## theta[326]      -0.616   0.314   -1.259   -0.820   -0.600   -0.399
## theta[327]      -1.665   0.513   -2.818   -1.979   -1.623   -1.302
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## theta[328]        0.585   0.252    0.120    0.413    0.581    0.751
## theta[329]       -0.069   0.260   -0.589   -0.247   -0.066    0.105
## theta[330]       -0.436   0.298   -1.046   -0.628   -0.420   -0.237
## theta[331]       -0.249   0.281   -0.838   -0.428   -0.242   -0.059
## theta[332]        0.087   0.249   -0.403   -0.076    0.085    0.251
## theta[333]       -0.734   0.338   -1.441   -0.946   -0.716   -0.502
## theta[334]       -2.215   0.653   -3.586   -2.633   -2.166   -1.751
## theta[335]        0.718   0.264    0.220    0.538    0.710    0.892
## theta[336]        0.014   0.257   -0.504   -0.154    0.017    0.189
## theta[337]       -0.998   0.377   -1.812   -1.238   -0.974   -0.732
## theta[338]       -0.919   0.364   -1.690   -1.147   -0.896   -0.667
## theta[339]        0.278   0.253   -0.207    0.110    0.276    0.447
## theta[340]        1.422   0.408    0.742    1.129    1.380    1.666
## theta[341]        1.413   0.394    0.725    1.139    1.378    1.655
## theta[342]       -2.194   0.636   -3.608   -2.589   -2.133   -1.731
## theta[343]       -1.636   0.512   -2.727   -1.945   -1.593   -1.283
## theta[344]        1.068   0.323    0.514    0.842    1.042    1.274
## theta[345]       -1.653   0.507   -2.703   -1.986   -1.621   -1.286
## theta[346]        1.113   0.322    0.551    0.892    1.096    1.314
## theta[347]       -0.301   0.268   -0.860   -0.473   -0.292   -0.112
## theta[348]        0.137   0.250   -0.368   -0.029    0.137    0.301
## theta[349]       -0.331   0.290   -0.925   -0.517   -0.318   -0.134
## theta[350]        0.870   0.273    0.362    0.684    0.853    1.046
## theta[351]        1.630   0.482    0.841    1.286    1.571    1.918
## theta[352]       -0.745   0.343   -1.476   -0.960   -0.720   -0.506
## theta[353]       -1.595   0.489   -2.668   -1.912   -1.565   -1.241
## theta[354]        1.440   0.409    0.734    1.149    1.408    1.694
## theta[355]       -0.235   0.275   -0.784   -0.410   -0.231   -0.048
## theta[356]        0.942   0.289    0.413    0.740    0.933    1.124
## theta[357]       -0.086   0.266   -0.625   -0.259   -0.079    0.097
## theta[358]        2.052   0.626    1.035    1.609    1.991    2.422
## theta[359]        1.129   0.317    0.577    0.908    1.104    1.330
## theta[360]        0.103   0.252   -0.393   -0.063    0.109    0.268
## theta[361]        0.944   0.281    0.426    0.746    0.931    1.122
## theta[362]        0.452   0.245   -0.027    0.285    0.448    0.612
## theta[363]        1.044   0.300    0.511    0.831    1.028    1.239
## theta[364]       -0.826   0.355   -1.582   -1.053   -0.800   -0.572
## theta[365]        0.851   0.278    0.356    0.656    0.837    1.030
## theta[366]        0.285   0.253   -0.212    0.119    0.283    0.448
## theta[367]       -0.841   0.358   -1.606   -1.071   -0.820   -0.593
## theta[368]        1.074   0.307    0.520    0.862    1.059    1.268
## theta[369]        1.291   0.358    0.652    1.038    1.265    1.515
## theta[370]        1.428   0.396    0.747    1.144    1.395    1.675
## theta[371]       -0.521   0.308   -1.152   -0.718   -0.504   -0.308
## theta[372]       -0.749   0.353   -1.502   -0.969   -0.728   -0.506
## theta[373]       -0.293   0.279   -0.863   -0.477   -0.285   -0.100
## theta[374]        0.898   0.281    0.378    0.700    0.884    1.076
## theta[375]        0.954   0.302    0.398    0.747    0.935    1.148
## theta[376]        0.860   0.288    0.319    0.665    0.843    1.037
## theta[377]       -0.750   0.347   -1.484   -0.968   -0.724   -0.510
## theta[378]        0.077   0.256   -0.439   -0.085    0.078    0.247
## theta[379]        0.149   0.257   -0.346   -0.027    0.146    0.319
## theta[380]       -0.728   0.334   -1.424   -0.943   -0.711   -0.502
## theta[381]       -0.311   0.284   -0.887   -0.498   -0.303   -0.114
```

```
## theta[382]      -0.245   0.283   -0.820   -0.429   -0.242   -0.053
## theta[383]       1.128   0.329    0.526    0.898    1.111    1.333
## theta[384]       0.811   0.270    0.298    0.625    0.808    0.987
## theta[385]       1.059   0.309    0.494    0.842    1.050    1.250
## theta[386]      -0.021   0.250   -0.494   -0.191   -0.023    0.149
## theta[387]      -0.742   0.339   -1.453   -0.958   -0.728   -0.508
## theta[388]      -0.167   0.269   -0.693   -0.345   -0.165    0.018
## theta[389]       1.425   0.398    0.748    1.144    1.387    1.665
## theta[390]      -0.436   0.297   -1.037   -0.626   -0.427   -0.236
## theta[391]      -0.295   0.280   -0.858   -0.472   -0.290   -0.103
## theta[392]      -0.930   0.371   -1.710   -1.163   -0.912   -0.673
## theta[393]      -0.832   0.367   -1.633   -1.055   -0.804   -0.577
## theta[394]       2.065   0.660    1.057    1.603    1.960    2.420
## theta[395]      -1.602   0.500   -2.716   -1.899   -1.560   -1.256
## theta[396]       2.065   0.659    1.048    1.579    1.967    2.460
## theta[397]      -1.608   0.489   -2.656   -1.921   -1.559   -1.257
## theta[398]      -0.121   0.269   -0.680   -0.299   -0.109    0.059
## theta[399]      -2.099   0.634   -3.479   -2.499   -2.046   -1.623
## theta[400]       1.358   0.366    0.706    1.101    1.334    1.591
## theta[401]      -0.033   0.256   -0.531   -0.204   -0.032    0.139
## theta[402]       0.568   0.252    0.099    0.400    0.556    0.733
## theta[403]       1.024   0.295    0.479    0.820    1.010    1.211
## theta[404]      -0.378   0.294   -0.983   -0.573   -0.364   -0.171
## theta[405]       0.865   0.277    0.335    0.680    0.853    1.046
## theta[406]      -1.690   0.525   -2.869   -2.001   -1.650   -1.325
## theta[407]      -0.483   0.304   -1.115   -0.678   -0.477   -0.277
## theta[408]      -1.690   0.513   -2.823   -1.998   -1.665   -1.323
## theta[409]       0.841   0.275    0.336    0.649    0.827    1.016
## theta[410]       1.194   0.340    0.594    0.962    1.167    1.402
## theta[411]      -0.382   0.286   -0.985   -0.571   -0.374   -0.188
## theta[412]      -0.746   0.352   -1.497   -0.967   -0.730   -0.503
## theta[413]       1.664   0.475    0.880    1.318    1.607    1.960
## theta[414]      -1.170   0.398   -1.992   -1.421   -1.143   -0.891
## theta[415]      -1.859   0.538   -3.002   -2.203   -1.823   -1.476
## theta[416]      -0.413   0.287   -0.984   -0.600   -0.406   -0.213
## theta[417]      -0.543   0.304   -1.189   -0.734   -0.532   -0.338
## theta[418]      -0.773   0.348   -1.504   -0.993   -0.749   -0.533
## theta[419]      -0.135   0.271   -0.667   -0.315   -0.128    0.050
## theta[420]      -0.436   0.294   -1.049   -0.624   -0.420   -0.240
## theta[421]      -1.882   0.565   -3.171   -2.211   -1.834   -1.483
## theta[422]       0.741   0.262    0.251    0.561    0.737    0.910
## theta[423]      -1.751   0.529   -2.934   -2.064   -1.712   -1.389
## theta[424]      -0.645   0.330   -1.355   -0.854   -0.634   -0.415
## theta[425]      -0.652   0.337   -1.355   -0.870   -0.637   -0.422
## theta[426]      -1.708   0.521   -2.834   -2.033   -1.656   -1.347
## theta[427]      -0.638   0.315   -1.297   -0.841   -0.621   -0.422
## theta[428]       0.869   0.285    0.340    0.674    0.855    1.053
## theta[429]       1.055   0.312    0.488    0.843    1.037    1.256
## theta[430]      -0.624   0.331   -1.318   -0.831   -0.603   -0.395
## theta[431]       2.098   0.655    1.069    1.614    2.016    2.484
## theta[432]       0.981   0.306    0.432    0.774    0.970    1.171
## theta[433]       0.978   0.303    0.428    0.766    0.954    1.166
## theta[434]       1.054   0.309    0.492    0.838    1.044    1.245
## theta[435]      -1.860   0.550   -3.089   -2.204   -1.829   -1.467
```

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## theta[436]      -1.655   0.512   -2.749   -1.963   -1.625   -1.298
## theta[437]      -0.741   0.334   -1.481   -0.944   -0.717   -0.511
## theta[438]       0.100   0.256   -0.416   -0.071    0.105    0.269
## theta[439]       0.828   0.274    0.327    0.636    0.811    1.001
## theta[440]       0.869   0.281    0.337    0.680    0.858    1.048
## theta[441]      -1.610   0.500   -2.717   -1.918   -1.570   -1.259
## theta[442]      -1.692   0.508   -2.820   -1.998   -1.656   -1.340
## theta[443]       0.839   0.275    0.339    0.650    0.830    1.009
## theta[444]       0.279   0.255   -0.223    0.112    0.280    0.445
## theta[445]       1.361   0.373    0.723    1.102    1.329    1.597
## theta[446]      -1.682   0.510   -2.800   -2.000   -1.629   -1.333
## theta[447]       0.684   0.260    0.201    0.503    0.673    0.849
## theta[448]       0.374   0.248   -0.111    0.215    0.368    0.536
## theta[449]       0.037   0.250   -0.473   -0.125    0.033    0.202
## theta[450]      -0.571   0.311   -1.228   -0.774   -0.551   -0.359
## theta[451]      -0.958   0.369   -1.753   -1.195   -0.932   -0.701
## theta[452]      -0.520   0.299   -1.128   -0.711   -0.503   -0.308
## theta[453]       1.320   0.371    0.666    1.068    1.288    1.543
## theta[454]      -1.676   0.508   -2.839   -1.983   -1.631   -1.330
## theta[455]      -0.422   0.275   -0.987   -0.601   -0.411   -0.232
## theta[456]       1.162   0.332    0.561    0.935    1.139    1.378
## theta[457]      -0.065   0.263   -0.604   -0.239   -0.060    0.118
## theta[458]       1.113   0.325    0.537    0.891    1.091    1.316
## theta[459]       1.094   0.323    0.519    0.869    1.076    1.297
## theta[460]       0.129   0.252   -0.358   -0.037    0.127    0.299
## theta[461]       0.291   0.246   -0.192    0.129    0.288    0.453
## theta[462]      -0.941   0.361   -1.731   -1.168   -0.921   -0.689
## theta[463]      -0.548   0.309   -1.186   -0.744   -0.528   -0.336
## theta[464]       0.702   0.259    0.228    0.521    0.692    0.870
## theta[465]       0.078   0.257   -0.434   -0.091    0.078    0.248
## theta[466]       0.880   0.297    0.337    0.675    0.867    1.066
## theta[467]      -0.486   0.302   -1.116   -0.674   -0.470   -0.278
## theta[468]       1.427   0.383    0.762    1.161    1.397    1.673
## theta[469]       0.173   0.252   -0.319    0.004    0.172    0.348
## theta[470]       0.568   0.258    0.097    0.386    0.560    0.738
## theta[471]       0.287   0.248   -0.182    0.121    0.283    0.461
## theta[472]       1.060   0.310    0.504    0.844    1.041    1.248
## theta[473]       0.930   0.297    0.392    0.726    0.914    1.119
## theta[474]       0.929   0.297    0.402    0.725    0.910    1.120
## theta[475]      -2.080   0.613   -3.474   -2.453   -2.012   -1.640
## theta[476]       1.280   0.355    0.675    1.033    1.250    1.496
## theta[477]       0.132   0.255   -0.370   -0.037    0.129    0.302
## theta[478]       0.703   0.268    0.203    0.516    0.690    0.878
## theta[479]      -0.312   0.281   -0.903   -0.492   -0.306   -0.120
## theta[480]       0.779   0.272    0.270    0.593    0.767    0.955
## theta[481]       0.849   0.282    0.324    0.651    0.838    1.032
## theta[482]      -0.782   0.354   -1.548   -1.007   -0.765   -0.537
## theta[483]      -0.104   0.272   -0.628   -0.282   -0.099    0.077
## theta[484]      -0.126   0.271   -0.692   -0.306   -0.117    0.056
## theta[485]      -0.124   0.267   -0.660   -0.297   -0.119    0.058
## theta[486]      -0.073   0.255   -0.591   -0.243   -0.065    0.101
## theta[487]       0.576   0.253    0.098    0.407    0.564    0.740
## theta[488]      -0.640   0.328   -1.329   -0.851   -0.623   -0.409
## theta[489]       0.842   0.281    0.323    0.646    0.829    1.022
```

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## theta[490]       -0.567   0.307   -1.202   -0.768   -0.554   -0.350
## theta[491]       -1.651   0.507   -2.734   -1.960   -1.614   -1.304
## theta[492]        0.184   0.250   -0.309    0.015    0.182    0.351
## theta[493]       -2.177   0.642   -3.607   -2.555   -2.128   -1.723
## theta[494]        1.098   0.318    0.535    0.872    1.074    1.301
## theta[495]       -1.519   0.475   -2.547   -1.814   -1.485   -1.180
## theta[496]        0.644   0.265    0.136    0.463    0.638    0.814
## theta[497]       -1.753   0.518   -2.874   -2.082   -1.701   -1.389
## theta[498]       -2.018   0.595   -3.286   -2.388   -1.971   -1.591
## theta[499]       -1.921   0.581   -3.196   -2.285   -1.870   -1.501
## theta[500]       -0.948   0.370   -1.734   -1.190   -0.922   -0.696
## theta[501]        0.035   0.257   -0.483   -0.138    0.041    0.213
## theta[502]       -0.613   0.312   -1.254   -0.814   -0.596   -0.396
## theta[503]       -2.041   0.613   -3.385   -2.415   -1.991   -1.597
## theta[504]       -0.812   0.354   -1.583   -1.045   -0.794   -0.565
## theta[505]       -1.560   0.486   -2.628   -1.868   -1.519   -1.204
## theta[506]       -1.926   0.546   -3.109   -2.264   -1.892   -1.549
## theta[507]       -0.959   0.359   -1.710   -1.186   -0.942   -0.704
## theta[508]       -0.855   0.352   -1.618   -1.076   -0.835   -0.607
## theta[509]       -1.934   0.561   -3.114   -2.305   -1.904   -1.536
## theta[510]       -1.220   0.386   -2.061   -1.457   -1.201   -0.958
## theta[511]       -0.638   0.333   -1.345   -0.842   -0.615   -0.412
## theta[512]       -0.743   0.354   -1.505   -0.962   -0.725   -0.498
## theta[513]        0.649   0.260    0.157    0.477    0.644    0.815
## theta[514]       -0.744   0.336   -1.435   -0.959   -0.723   -0.514
## theta[515]       -0.807   0.350   -1.556   -1.027   -0.784   -0.567
## theta[516]       -0.696   0.334   -1.384   -0.905   -0.684   -0.463
## theta[517]       -1.384   0.448   -2.365   -1.662   -1.342   -1.068
## theta[518]        0.054   0.259   -0.464   -0.112    0.054    0.222
## theta[519]       -1.944   0.562   -3.155   -2.301   -1.899   -1.548
## theta[520]        0.509   0.257    0.030    0.340    0.502    0.673
## theta[521]       -1.163   0.382   -1.998   -1.404   -1.136   -0.890
## theta[522]       -1.780   0.543   -2.964   -2.106   -1.730   -1.393
## theta[523]       -1.817   0.516   -2.975   -2.133   -1.781   -1.458
## theta[524]       -1.672   0.510   -2.782   -1.984   -1.620   -1.321
## theta[525]       -1.369   0.416   -2.256   -1.638   -1.344   -1.078
## theta[526]       -1.819   0.559   -3.049   -2.159   -1.764   -1.416
## theta[527]        0.041   0.264   -0.474   -0.142    0.044    0.218
## theta[528]        0.040   0.255   -0.467   -0.131    0.042    0.214
## theta[529]       -1.740   0.517   -2.895   -2.051   -1.689   -1.382
## theta[530]       -1.359   0.418   -2.262   -1.623   -1.328   -1.058
## theta[531]       -1.239   0.399   -2.120   -1.485   -1.204   -0.966
## theta[532]       -2.452   0.712   -3.979   -2.904   -2.394   -1.930
## theta[533]        0.785   0.271    0.295    0.599    0.773    0.952
## theta[534]       -2.415   0.709   -3.973   -2.865   -2.374   -1.896
## theta[535]        0.728   0.268    0.234    0.543    0.715    0.906
## theta[536]        0.062   0.263   -0.466   -0.113    0.060    0.240
## theta.variance    1.599   0.354    0.994    1.341    1.565    1.826
## thetaS[1]         0.246   0.154   -0.046    0.142    0.243    0.344
## thetaS[2]         0.873   0.267    0.446    0.685    0.842    1.027
## thetaS[3]        -0.039   0.167   -0.386   -0.147   -0.034    0.072
## thetaS[4]         0.317   0.165    0.006    0.205    0.312    0.421
## thetaS[5]        -0.713   0.264   -1.298   -0.881   -0.694   -0.525
## thetaS[6]        -0.718   0.268   -1.287   -0.888   -0.705   -0.527
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## thetaS[7]       -1.218   0.382   -2.081   -1.439   -1.176   -0.948
## thetaS[8]       -1.093   0.346   -1.885   -1.297   -1.059   -0.848
## thetaS[9]       -0.845   0.288   -1.476   -1.025   -0.816   -0.640
## thetaS[10]      -0.837   0.285   -1.432   -1.024   -0.816   -0.639
## thetaS[11]       0.186   0.167   -0.131    0.076    0.185    0.288
## thetaS[12]       0.329   0.161    0.012    0.221    0.326    0.436
## thetaS[13]      -0.319   0.187   -0.712   -0.440   -0.311   -0.191
## thetaS[14]      -0.867   0.280   -1.466   -1.038   -0.846   -0.673
## thetaS[15]      -0.824   0.279   -1.429   -0.997   -0.806   -0.628
## thetaS[16]      -0.415   0.197   -0.840   -0.541   -0.409   -0.275
## thetaS[17]      -0.591   0.228   -1.078   -0.736   -0.578   -0.434
## thetaS[18]      -0.870   0.291   -1.498   -1.041   -0.848   -0.669
## thetaS[19]      -0.684   0.257   -1.236   -0.848   -0.669   -0.504
## thetaS[20]      -1.354   0.420   -2.285   -1.613   -1.304   -1.054
## thetaS[21]       0.553   0.185    0.227    0.424    0.539    0.673
## thetaS[22]       0.317   0.162    0.013    0.206    0.309    0.426
## thetaS[23]       1.352   0.448    0.672    1.033    1.291    1.603
## thetaS[24]       0.020   0.157   -0.306   -0.086    0.023    0.127
## thetaS[25]       0.102   0.162   -0.221    0.000    0.106    0.206
## thetaS[26]      -1.419   0.428   -2.381   -1.686   -1.375   -1.109
## thetaS[27]      -0.643   0.251   -1.203   -0.786   -0.622   -0.473
## thetaS[28]      -1.623   0.506   -2.813   -1.896   -1.562   -1.258
## thetaS[29]      -0.599   0.251   -1.126   -0.755   -0.581   -0.423
## thetaS[30]       1.357   0.449    0.665    1.038    1.287    1.601
## thetaS[31]       0.357   0.161    0.054    0.250    0.351    0.458
## thetaS[32]       1.400   0.485    0.671    1.048    1.316    1.674
## thetaS[33]       0.803   0.235    0.401    0.639    0.784    0.946
## thetaS[34]       0.364   0.161    0.059    0.255    0.355    0.467
## thetaS[35]       0.650   0.202    0.309    0.510    0.634    0.771
## thetaS[36]       0.176   0.158   -0.134    0.074    0.178    0.280
## thetaS[37]      -0.083   0.162   -0.413   -0.186   -0.081    0.026
## thetaS[38]       0.055   0.164   -0.263   -0.053    0.053    0.163
## thetaS[39]       0.684   0.202    0.334    0.544    0.667    0.807
## thetaS[40]      -0.619   0.247   -1.162   -0.771   -0.602   -0.450
## thetaS[41]      -1.428   0.458   -2.502   -1.675   -1.366   -1.118
## thetaS[42]       1.361   0.442    0.670    1.048    1.300    1.611
## thetaS[43]       0.813   0.232    0.420    0.650    0.794    0.956
## thetaS[44]      -0.912   0.304   -1.602   -1.092   -0.882   -0.700
## thetaS[45]       0.679   0.205    0.315    0.540    0.665    0.803
## thetaS[46]       0.394   0.162    0.092    0.285    0.385    0.498
## thetaS[47]      -0.678   0.252   -1.231   -0.827   -0.659   -0.502
## thetaS[48]      -0.204   0.170   -0.553   -0.317   -0.201   -0.090
## thetaS[49]      -1.178   0.358   -1.971   -1.385   -1.146   -0.924
## thetaS[50]       0.377   0.164    0.080    0.265    0.371    0.479
## thetaS[51]      -1.313   0.392   -2.208   -1.554   -1.267   -1.033
## thetaS[52]      -0.330   0.198   -0.746   -0.449   -0.317   -0.197
## thetaS[53]      -0.385   0.199   -0.806   -0.510   -0.375   -0.248
## thetaS[54]       0.763   0.238    0.363    0.595    0.740    0.900
## thetaS[55]       0.021   0.164   -0.307   -0.082    0.022    0.128
## thetaS[56]       1.371   0.445    0.665    1.043    1.309    1.642
## thetaS[57]       0.924   0.272    0.474    0.735    0.893    1.089
## thetaS[58]      -1.423   0.421   -2.366   -1.683   -1.379   -1.126
## thetaS[59]      -0.614   0.250   -1.157   -0.765   -0.595   -0.435
## thetaS[60]       0.518   0.184    0.189    0.391    0.504    0.631
```

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## thetaS[61]      -0.818   0.283   -1.466   -0.988   -0.797   -0.617
## thetaS[62]      -1.322   0.396   -2.196   -1.564   -1.279   -1.036
## thetaS[63]       0.278   0.160   -0.028    0.169    0.273    0.381
## thetaS[64]       0.533   0.185    0.214    0.404    0.519    0.646
## thetaS[65]       0.171   0.162   -0.146    0.064    0.169    0.276
## thetaS[66]      -0.022   0.155   -0.332   -0.124   -0.023    0.082
## thetaS[67]       0.265   0.157   -0.034    0.162    0.263    0.363
## thetaS[68]      -1.400   0.424   -2.326   -1.671   -1.354   -1.094
## thetaS[69]      -1.573   0.501   -2.739   -1.862   -1.508   -1.220
## thetaS[70]      -0.285   0.176   -0.669   -0.396   -0.276   -0.163
## thetaS[71]      -0.582   0.232   -1.081   -0.730   -0.566   -0.415
## thetaS[72]      -0.640   0.251   -1.200   -0.786   -0.620   -0.469
## thetaS[73]      -1.346   0.416   -2.267   -1.592   -1.309   -1.059
## thetaS[74]       0.443   0.171    0.140    0.326    0.437    0.550
## thetaS[75]      -0.669   0.256   -1.216   -0.823   -0.646   -0.497
## thetaS[76]      -1.606   0.499   -2.721   -1.898   -1.545   -1.251
## thetaS[77]      -0.345   0.198   -0.764   -0.474   -0.335   -0.208
## thetaS[78]       0.440   0.174    0.118    0.323    0.432    0.547
## thetaS[79]       1.372   0.441    0.687    1.046    1.314    1.639
## thetaS[80]       0.332   0.156    0.042    0.224    0.326    0.432
## thetaS[81]      -0.686   0.244   -1.215   -0.842   -0.669   -0.517
## thetaS[82]       0.558   0.186    0.213    0.430    0.546    0.670
## thetaS[83]      -1.425   0.426   -2.390   -1.679   -1.389   -1.122
## thetaS[84]      -0.285   0.191   -0.689   -0.408   -0.275   -0.153
## thetaS[85]      -0.049   0.166   -0.378   -0.158   -0.046    0.064
## thetaS[86]       0.309   0.164    0.007    0.199    0.304    0.410
## thetaS[87]       0.368   0.164    0.063    0.259    0.360    0.475
## thetaS[88]       0.644   0.201    0.308    0.503    0.627    0.764
## thetaS[89]       1.356   0.440    0.696    1.037    1.295    1.600
## thetaS[90]       0.819   0.234    0.425    0.653    0.791    0.959
## thetaS[91]       0.249   0.160   -0.058    0.140    0.243    0.356
## thetaS[92]      -0.836   0.286   -1.493   -1.005   -0.812   -0.638
## thetaS[93]       0.773   0.226    0.376    0.615    0.755    0.915
## thetaS[94]       0.922   0.262    0.481    0.740    0.894    1.081
## thetaS[95]       1.345   0.457    0.648    1.011    1.272    1.597
## thetaS[96]       0.878   0.264    0.432    0.694    0.851    1.035
## thetaS[97]      -0.015   0.159   -0.328   -0.121   -0.013    0.093
## thetaS[98]      -0.879   0.292   -1.508   -1.058   -0.855   -0.675
## thetaS[99]       0.775   0.219    0.402    0.616    0.758    0.907
## thetaS[100]     -0.846   0.286   -1.458   -1.021   -0.829   -0.645
## thetaS[101]     -0.598   0.236   -1.114   -0.743   -0.577   -0.431
## thetaS[102]      1.040   0.316    0.537    0.817    1.006    1.210
## thetaS[103]     -0.588   0.239   -1.113   -0.735   -0.571   -0.423
## thetaS[104]      0.983   0.305    0.488    0.767    0.940    1.161
## thetaS[105]      0.392   0.169    0.082    0.277    0.380    0.499
## thetaS[106]     -0.128   0.176   -0.490   -0.247   -0.119   -0.011
## thetaS[107]     -0.351   0.203   -0.776   -0.484   -0.337   -0.209
## thetaS[108]      1.360   0.456    0.671    1.034    1.296    1.618
## thetaS[109]      0.151   0.158   -0.158    0.046    0.150    0.255
## thetaS[110]      0.315   0.167    0.004    0.201    0.308    0.420
## thetaS[111]     -0.819   0.288   -1.438   -0.996   -0.798   -0.612
## thetaS[112]     -1.601   0.483   -2.640   -1.908   -1.545   -1.245
## thetaS[113]      0.008   0.159   -0.305   -0.094    0.011    0.114
## thetaS[114]      0.081   0.156   -0.222   -0.022    0.082    0.185
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## thetaS[115]       0.277   0.153   -0.006    0.174    0.272    0.374
## thetaS[116]       0.977   0.294    0.505    0.766    0.945    1.150
## thetaS[117]      -1.448   0.459   -2.516   -1.712   -1.394   -1.114
## thetaS[118]      -0.037   0.161   -0.358   -0.143   -0.033    0.072
## thetaS[119]       0.355   0.162    0.061    0.244    0.344    0.457
## thetaS[120]      -1.601   0.487   -2.706   -1.884   -1.529   -1.249
## thetaS[121]      -0.941   0.316   -1.634   -1.133   -0.913   -0.722
## thetaS[122]      -0.511   0.223   -1.002   -0.644   -0.496   -0.362
## thetaS[123]      -0.731   0.264   -1.296   -0.898   -0.714   -0.543
## thetaS[124]       1.286   0.399    0.648    1.001    1.231    1.512
## thetaS[125]       0.476   0.176    0.151    0.352    0.470    0.586
## thetaS[126]       0.690   0.207    0.332    0.548    0.672    0.820
## thetaS[127]       0.922   0.261    0.470    0.740    0.896    1.077
## thetaS[128]       0.587   0.190    0.261    0.456    0.571    0.705
## thetaS[129]      -0.020   0.161   -0.347   -0.126   -0.017    0.090
## thetaS[130]       0.668   0.203    0.310    0.525    0.658    0.794
## thetaS[131]      -0.452   0.206   -0.897   -0.584   -0.439   -0.308
## thetaS[132]       0.301   0.162   -0.003    0.190    0.294    0.403
## thetaS[133]      -0.301   0.186   -0.693   -0.418   -0.290   -0.176
## thetaS[134]      -1.311   0.376   -2.123   -1.542   -1.276   -1.050
## thetaS[135]      -1.145   0.348   -1.914   -1.358   -1.111   -0.906
## thetaS[136]       0.933   0.279    0.470    0.744    0.905    1.094
## thetaS[137]       0.206   0.159   -0.089    0.099    0.201    0.307
## thetaS[138]       0.887   0.256    0.455    0.707    0.859    1.037
## thetaS[139]      -1.199   0.383   -2.052   -1.417   -1.167   -0.930
## thetaS[140]       0.852   0.241    0.439    0.681    0.832    1.001
## thetaS[141]       0.158   0.161   -0.151    0.050    0.158    0.263
## thetaS[142]       0.741   0.221    0.357    0.585    0.723    0.871
## thetaS[143]      -0.818   0.278   -1.436   -0.986   -0.795   -0.621
## thetaS[144]      -0.584   0.232   -1.087   -0.731   -0.564   -0.421
## thetaS[145]      -0.494   0.217   -0.954   -0.627   -0.480   -0.343
## thetaS[146]       0.582   0.185    0.253    0.455    0.572    0.697
## thetaS[147]       0.777   0.219    0.393    0.628    0.763    0.909
## thetaS[148]      -1.591   0.496   -2.765   -1.870   -1.538   -1.246
## thetaS[149]       0.386   0.170    0.077    0.271    0.378    0.493
## thetaS[150]       1.360   0.414    0.684    1.060    1.313    1.606
## thetaS[151]       0.658   0.201    0.306    0.518    0.639    0.775
## thetaS[152]       0.804   0.229    0.413    0.645    0.786    0.943
## thetaS[153]       0.671   0.207    0.306    0.528    0.655    0.800
## thetaS[154]       0.815   0.237    0.413    0.644    0.793    0.961
## thetaS[155]       0.577   0.185    0.253    0.444    0.561    0.697
## thetaS[156]       0.821   0.240    0.402    0.654    0.803    0.964
## thetaS[157]       0.567   0.189    0.236    0.438    0.556    0.686
## thetaS[158]       0.055   0.152   -0.251   -0.045    0.056    0.156
## thetaS[159]       0.192   0.155   -0.103    0.088    0.191    0.292
## thetaS[160]       0.667   0.205    0.316    0.522    0.653    0.793
## thetaS[161]       0.535   0.182    0.210    0.411    0.524    0.651
## thetaS[162]       0.777   0.237    0.386    0.610    0.756    0.919
## thetaS[163]       0.929   0.263    0.483    0.746    0.905    1.082
## thetaS[164]       0.828   0.241    0.417    0.656    0.806    0.975
## thetaS[165]      -1.592   0.474   -2.683   -1.864   -1.536   -1.249
## thetaS[166]      -1.185   0.360   -1.972   -1.402   -1.151   -0.926
## thetaS[167]      -1.099   0.338   -1.838   -1.309   -1.073   -0.857
## thetaS[168]       1.342   0.441    0.657    1.029    1.279    1.598
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## thetaS[169]       0.751   0.223    0.376    0.593    0.729    0.890
## thetaS[170]      -1.588   0.489   -2.690   -1.885   -1.525   -1.229
## thetaS[171]      -0.257   0.170   -0.618   -0.361   -0.254   -0.143
## thetaS[172]       0.486   0.183    0.153    0.359    0.477    0.599
## thetaS[173]       1.397   0.459    0.683    1.061    1.342    1.670
## thetaS[174]       0.001   0.159   -0.311   -0.103    0.001    0.108
## thetaS[175]      -0.407   0.208   -0.842   -0.540   -0.396   -0.265
## thetaS[176]      -0.039   0.162   -0.354   -0.148   -0.037    0.071
## thetaS[177]       0.236   0.165   -0.078    0.124    0.231    0.341
## thetaS[178]      -0.401   0.204   -0.832   -0.533   -0.393   -0.257
## thetaS[179]       0.376   0.170    0.052    0.265    0.371    0.481
## thetaS[180]       0.733   0.217    0.362    0.578    0.715    0.866
## thetaS[181]      -1.075   0.335   -1.824   -1.270   -1.041   -0.841
## thetaS[182]       0.249   0.167   -0.071    0.136    0.246    0.358
## thetaS[183]       0.155   0.160   -0.150    0.048    0.153    0.260
## thetaS[184]       1.086   0.324    0.562    0.856    1.043    1.284
## thetaS[185]       0.922   0.266    0.469    0.737    0.899    1.084
## thetaS[186]       0.671   0.203    0.307    0.531    0.657    0.800
## thetaS[187]      -0.512   0.220   -0.996   -0.646   -0.497   -0.357
## thetaS[188]      -0.429   0.207   -0.857   -0.556   -0.415   -0.288
## thetaS[189]       1.363   0.476    0.674    1.035    1.280    1.599
## thetaS[190]       1.321   0.417    0.672    1.022    1.260    1.566
## thetaS[191]       0.755   0.220    0.366    0.603    0.740    0.891
## thetaS[192]       0.920   0.261    0.474    0.732    0.899    1.080
## thetaS[193]       0.912   0.265    0.465    0.724    0.896    1.073
## thetaS[194]      -0.178   0.167   -0.522   -0.283   -0.171   -0.068
## thetaS[195]      -0.820   0.281   -1.451   -0.988   -0.795   -0.618
## thetaS[196]       0.915   0.266    0.465    0.733    0.888    1.070
## thetaS[197]       0.872   0.254    0.448    0.691    0.847    1.026
## thetaS[198]       1.321   0.423    0.666    1.008    1.261    1.569
## thetaS[199]       1.099   0.340    0.547    0.856    1.056    1.301
## thetaS[200]      -0.370   0.197   -0.789   -0.495   -0.358   -0.235
## thetaS[201]       1.359   0.426    0.694    1.048    1.314    1.599
## thetaS[202]       0.779   0.239    0.382    0.609    0.755    0.926
## thetaS[203]       0.495   0.178    0.173    0.373    0.486    0.606
## thetaS[204]       0.899   0.262    0.449    0.717    0.873    1.055
## thetaS[205]      -0.048   0.168   -0.379   -0.160   -0.046    0.065
## thetaS[206]       0.249   0.162   -0.053    0.141    0.244    0.352
## thetaS[207]       0.365   0.166    0.051    0.254    0.362    0.473
## thetaS[208]      -0.157   0.172   -0.517   -0.268   -0.151   -0.038
## thetaS[209]       0.741   0.217    0.370    0.585    0.724    0.873
## thetaS[210]       1.375   0.444    0.691    1.050    1.318    1.629
## thetaS[211]      -0.646   0.246   -1.175   -0.799   -0.631   -0.473
## thetaS[212]       0.124   0.159   -0.195    0.021    0.126    0.230
## thetaS[213]       1.338   0.430    0.653    1.020    1.276    1.598
## thetaS[214]       0.986   0.313    0.505    0.766    0.941    1.158
## thetaS[215]      -0.509   0.213   -0.971   -0.641   -0.496   -0.361
## thetaS[216]       1.356   0.455    0.673    1.037    1.286    1.611
## thetaS[217]      -1.343   0.422   -2.278   -1.593   -1.310   -1.040
## thetaS[218]       0.732   0.218    0.352    0.582    0.714    0.864
## thetaS[219]       0.110   0.151   -0.181    0.009    0.112    0.207
## thetaS[220]       0.289   0.156   -0.011    0.184    0.283    0.392
## thetaS[221]       0.126   0.159   -0.186    0.024    0.123    0.228
## thetaS[222]       0.441   0.176    0.114    0.323    0.434    0.550
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## thetaS[223]       1.330   0.433    0.660    1.019    1.265    1.584
## thetaS[224]      -1.402   0.414   -2.348   -1.655   -1.373   -1.102
## thetaS[225]       0.669   0.208    0.302    0.526    0.651    0.792
## thetaS[226]      -0.378   0.200   -0.816   -0.502   -0.363   -0.239
## thetaS[227]      -1.606   0.472   -2.638   -1.887   -1.561   -1.272
## thetaS[228]      -0.661   0.239   -1.160   -0.815   -0.648   -0.493
## thetaS[229]       0.781   0.234    0.387    0.616    0.757    0.917
## thetaS[230]       0.131   0.158   -0.172    0.023    0.125    0.237
## thetaS[231]      -1.610   0.460   -2.616   -1.901   -1.569   -1.286
## thetaS[232]       0.287   0.163   -0.024    0.176    0.284    0.392
## thetaS[233]      -0.531   0.229   -1.042   -0.674   -0.515   -0.373
## thetaS[234]       0.667   0.209    0.305    0.518    0.647    0.793
## thetaS[235]      -0.479   0.222   -0.945   -0.620   -0.461   -0.322
## thetaS[236]      -0.108   0.167   -0.449   -0.218   -0.103    0.005
## thetaS[237]      -0.010   0.163   -0.334   -0.114   -0.010    0.101
## thetaS[238]       0.905   0.264    0.456    0.716    0.880    1.061
## thetaS[239]      -0.018   0.153   -0.323   -0.119   -0.019    0.085
## thetaS[240]      -0.417   0.207   -0.860   -0.546   -0.404   -0.274
## thetaS[241]       0.571   0.190    0.236    0.437    0.557    0.685
## thetaS[242]       0.216   0.159   -0.092    0.111    0.213    0.319
## thetaS[243]       0.395   0.174    0.066    0.279    0.387    0.501
## thetaS[244]      -0.479   0.223   -0.939   -0.625   -0.465   -0.324
## thetaS[245]       1.162   0.379    0.598    0.892    1.108    1.374
## thetaS[246]      -1.336   0.394   -2.218   -1.568   -1.299   -1.055
## thetaS[247]       0.594   0.193    0.260    0.456    0.586    0.718
## thetaS[248]       0.690   0.208    0.320    0.546    0.676    0.820
## thetaS[249]      -1.023   0.319   -1.718   -1.226   -1.006   -0.795
## thetaS[250]      -0.750   0.272   -1.352   -0.910   -0.720   -0.562
## thetaS[251]      -1.070   0.345   -1.815   -1.282   -1.044   -0.817
## thetaS[252]       0.140   0.155   -0.169    0.038    0.142    0.243
## thetaS[253]      -0.688   0.239   -1.187   -0.840   -0.674   -0.521
## thetaS[254]       0.687   0.203    0.337    0.546    0.669    0.813
## thetaS[255]      -0.495   0.219   -0.975   -0.633   -0.481   -0.342
## thetaS[256]       0.562   0.178    0.240    0.440    0.549    0.671
## thetaS[257]       1.319   0.425    0.658    1.016    1.257    1.564
## thetaS[258]       0.747   0.218    0.368    0.598    0.732    0.877
## thetaS[259]       0.223   0.164   -0.083    0.111    0.221    0.335
## thetaS[260]       0.383   0.170    0.070    0.265    0.377    0.493
## thetaS[261]      -0.826   0.279   -1.438   -0.995   -0.802   -0.631
## thetaS[262]       0.504   0.178    0.186    0.379    0.490    0.615
## thetaS[263]      -0.392   0.204   -0.817   -0.521   -0.381   -0.249
## thetaS[264]      -0.942   0.312   -1.653   -1.122   -0.913   -0.724
## thetaS[265]      -0.550   0.221   -1.039   -0.686   -0.530   -0.396
## thetaS[266]       0.672   0.204    0.315    0.528    0.657    0.795
## thetaS[267]       0.916   0.264    0.466    0.734    0.891    1.069
## thetaS[268]      -0.104   0.166   -0.440   -0.210   -0.099    0.006
## thetaS[269]       0.285   0.161   -0.018    0.176    0.280    0.387
## thetaS[270]       0.601   0.194    0.264    0.462    0.588    0.724
## thetaS[271]      -0.516   0.231   -1.010   -0.663   -0.498   -0.356
## thetaS[272]       0.225   0.158   -0.071    0.117    0.222    0.325
## thetaS[273]       0.827   0.237    0.424    0.664    0.806    0.970
## thetaS[274]      -0.251   0.183   -0.655   -0.363   -0.241   -0.127
## thetaS[275]       1.350   0.440    0.666    1.039    1.278    1.601
## thetaS[276]      -0.044   0.168   -0.393   -0.155   -0.039    0.070
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## thetaS[277]       0.543   0.182    0.198    0.421    0.533    0.658
## thetaS[278]       1.346   0.457    0.658    1.013    1.282    1.597
## thetaS[279]       0.920   0.264    0.468    0.739    0.894    1.076
## thetaS[280]       1.321   0.403    0.679    1.036    1.269    1.557
## thetaS[281]       0.820   0.240    0.419    0.654    0.792    0.959
## thetaS[282]       1.365   0.485    0.668    1.024    1.274    1.608
## thetaS[283]       0.352   0.162    0.056    0.237    0.344    0.455
## thetaS[284]       0.936   0.277    0.474    0.737    0.906    1.106
## thetaS[285]       0.365   0.159    0.071    0.255    0.358    0.469
## thetaS[286]      -0.614   0.235   -1.138   -0.751   -0.591   -0.455
## thetaS[287]       0.512   0.185    0.187    0.386    0.499    0.620
## thetaS[288]       0.680   0.202    0.329    0.541    0.658    0.805
## thetaS[289]       0.344   0.165    0.040    0.233    0.337    0.450
## thetaS[290]       0.826   0.240    0.423    0.658    0.801    0.968
## thetaS[291]      -1.587   0.476   -2.630   -1.880   -1.544   -1.252
## thetaS[292]      -0.242   0.183   -0.630   -0.361   -0.233   -0.112
## thetaS[293]      -0.044   0.162   -0.370   -0.149   -0.044    0.066
## thetaS[294]      -0.537   0.233   -1.040   -0.677   -0.519   -0.376
## thetaS[295]       0.919   0.263    0.481    0.740    0.892    1.074
## thetaS[296]      -0.840   0.281   -1.456   -1.015   -0.818   -0.645
## thetaS[297]      -0.712   0.246   -1.241   -0.861   -0.691   -0.540
## thetaS[298]       0.258   0.156   -0.036    0.151    0.254    0.360
## thetaS[299]      -0.650   0.237   -1.165   -0.804   -0.637   -0.487
## thetaS[300]       0.734   0.218    0.365    0.578    0.717    0.868
## thetaS[301]       0.918   0.252    0.490    0.738    0.898    1.074
## thetaS[302]       0.873   0.250    0.460    0.698    0.847    1.026
## thetaS[303]       0.286   0.160   -0.013    0.178    0.280    0.387
## thetaS[304]      -0.238   0.180   -0.621   -0.351   -0.228   -0.113
## thetaS[305]       0.866   0.247    0.443    0.691    0.846    1.015
## thetaS[306]       0.377   0.163    0.083    0.267    0.368    0.479
## thetaS[307]      -0.352   0.199   -0.770   -0.477   -0.344   -0.215
## thetaS[308]      -0.330   0.198   -0.750   -0.454   -0.318   -0.193
## thetaS[309]      -1.030   0.327   -1.746   -1.227   -1.002   -0.797
## thetaS[310]      -0.422   0.208   -0.870   -0.548   -0.407   -0.277
## thetaS[311]       0.111   0.163   -0.209   -0.002    0.110    0.219
## thetaS[312]      -1.188   0.373   -2.010   -1.404   -1.161   -0.923
## thetaS[313]       0.392   0.169    0.069    0.278    0.386    0.501
## thetaS[314]      -0.367   0.200   -0.795   -0.493   -0.356   -0.229
## thetaS[315]       0.649   0.205    0.277    0.506    0.636    0.775
## thetaS[316]      -0.206   0.183   -0.589   -0.320   -0.204   -0.077
## thetaS[317]      -0.271   0.185   -0.653   -0.390   -0.261   -0.145
## thetaS[318]       0.426   0.172    0.104    0.307    0.420    0.540
## thetaS[319]       0.595   0.190    0.258    0.460    0.583    0.715
## thetaS[320]      -0.480   0.223   -0.938   -0.626   -0.469   -0.320
## thetaS[321]      -0.203   0.181   -0.577   -0.320   -0.198   -0.075
## thetaS[322]       0.719   0.213    0.352    0.569    0.701    0.849
## thetaS[323]       0.918   0.263    0.467    0.736    0.896    1.075
## thetaS[324]       0.482   0.182    0.160    0.356    0.472    0.594
## thetaS[325]       0.678   0.211    0.312    0.533    0.661    0.803
## thetaS[326]      -0.395   0.201   -0.821   -0.528   -0.384   -0.256
## thetaS[327]      -1.070   0.341   -1.826   -1.278   -1.035   -0.824
## thetaS[328]       0.376   0.166    0.077    0.260    0.369    0.485
## thetaS[329]      -0.045   0.169   -0.386   -0.155   -0.044    0.069
## thetaS[330]      -0.282   0.197   -0.696   -0.408   -0.273   -0.149
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## thetaS[331]     -0.159   0.181   -0.541   -0.276   -0.153   -0.037
## thetaS[332]      0.055   0.160   -0.270   -0.048    0.054    0.162
## thetaS[333]     -0.473   0.227   -0.971   -0.612   -0.455   -0.314
## thetaS[334]     -1.425   0.441   -2.435   -1.684   -1.375   -1.116
## thetaS[335]      0.461   0.173    0.144    0.345    0.453    0.571
## thetaS[336]      0.008   0.166   -0.331   -0.099    0.011    0.119
## thetaS[337]     -0.640   0.246   -1.163   -0.792   -0.618   -0.472
## thetaS[338]     -0.593   0.246   -1.128   -0.744   -0.574   -0.420
## thetaS[339]      0.178   0.161   -0.140    0.072    0.178    0.284
## thetaS[340]      0.913   0.268    0.463    0.724    0.888    1.073
## thetaS[341]      0.907   0.258    0.458    0.726    0.886    1.067
## thetaS[342]     -1.414   0.449   -2.472   -1.659   -1.362   -1.101
## thetaS[343]     -1.052   0.338   -1.790   -1.271   -1.023   -0.805
## thetaS[344]      0.686   0.214    0.311    0.538    0.669    0.816
## thetaS[345]     -1.062   0.335   -1.809   -1.269   -1.035   -0.829
## thetaS[346]      0.716   0.214    0.339    0.568    0.698    0.843
## thetaS[347]     -0.194   0.175   -0.556   -0.308   -0.187   -0.072
## thetaS[348]      0.086   0.160   -0.234   -0.019    0.087    0.193
## thetaS[349]     -0.214   0.190   -0.614   -0.335   -0.206   -0.087
## thetaS[350]      0.559   0.180    0.231    0.435    0.547    0.674
## thetaS[351]      1.047   0.322    0.536    0.821    1.007    1.232
## thetaS[352]     -0.481   0.228   -0.974   -0.616   -0.463   -0.321
## thetaS[353]     -1.026   0.329   -1.759   -1.227   -0.992   -0.799
## thetaS[354]      0.924   0.268    0.480    0.737    0.896    1.080
## thetaS[355]     -0.153   0.180   -0.526   -0.262   -0.151   -0.032
## thetaS[356]      0.607   0.198    0.260    0.468    0.592    0.724
## thetaS[357]     -0.056   0.173   -0.405   -0.169   -0.053    0.063
## thetaS[358]      1.316   0.402    0.664    1.029    1.270    1.549
## thetaS[359]      0.727   0.216    0.365    0.575    0.702    0.855
## thetaS[360]      0.065   0.163   -0.259   -0.040    0.070    0.173
## thetaS[361]      0.608   0.194    0.266    0.471    0.592    0.730
## thetaS[362]      0.290   0.159   -0.018    0.178    0.289    0.392
## thetaS[363]      0.671   0.201    0.326    0.530    0.657    0.795
## thetaS[364]     -0.530   0.234   -1.025   -0.678   -0.513   -0.360
## thetaS[365]      0.548   0.188    0.218    0.416    0.535    0.666
## thetaS[366]      0.183   0.164   -0.135    0.076    0.183    0.287
## thetaS[367]     -0.540   0.231   -1.029   -0.684   -0.525   -0.379
## thetaS[368]      0.692   0.209    0.330    0.546    0.673    0.820
## thetaS[369]      0.828   0.231    0.430    0.668    0.810    0.970
## thetaS[370]      0.919   0.270    0.476    0.731    0.889    1.081
## thetaS[371]     -0.339   0.204   -0.776   -0.464   -0.325   -0.193
## thetaS[372]     -0.479   0.226   -0.974   -0.617   -0.470   -0.318
## thetaS[373]     -0.188   0.180   -0.556   -0.308   -0.185   -0.063
## thetaS[374]      0.578   0.189    0.243    0.445    0.563    0.694
## thetaS[375]      0.612   0.196    0.266    0.474    0.600    0.739
## thetaS[376]      0.552   0.185    0.207    0.425    0.543    0.668
## thetaS[377]     -0.484   0.231   -0.983   -0.625   -0.469   -0.322
## thetaS[378]      0.048   0.166   -0.281   -0.054    0.050    0.156
## thetaS[379]      0.095   0.165   -0.226   -0.016    0.094    0.203
## thetaS[380]     -0.471   0.228   -0.970   -0.603   -0.455   -0.314
## thetaS[381]     -0.203   0.188   -0.595   -0.320   -0.193   -0.075
## thetaS[382]     -0.158   0.182   -0.529   -0.278   -0.155   -0.031
## thetaS[383]      0.725   0.221    0.333    0.570    0.708    0.862
## thetaS[384]      0.522   0.182    0.189    0.398    0.514    0.637
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## thetaS[385]       0.682   0.208    0.302    0.539    0.670    0.812
## thetaS[386]      -0.015   0.162   -0.335   -0.121   -0.015    0.096
## thetaS[387]      -0.478   0.223   -0.943   -0.619   -0.464   -0.321
## thetaS[388]      -0.109   0.176   -0.474   -0.220   -0.103    0.012
## thetaS[389]       0.916   0.267    0.477    0.728    0.893    1.072
## thetaS[390]      -0.280   0.194   -0.695   -0.403   -0.269   -0.149
## thetaS[391]      -0.190   0.183   -0.576   -0.300   -0.186   -0.065
## thetaS[392]      -0.600   0.249   -1.149   -0.747   -0.582   -0.427
## thetaS[393]      -0.535   0.237   -1.039   -0.677   -0.520   -0.370
## thetaS[394]       1.327   0.429    0.651    1.019    1.256    1.581
## thetaS[395]      -1.028   0.325   -1.764   -1.221   -0.995   -0.803
## thetaS[396]       1.335   0.471    0.653    1.000    1.248    1.583
## thetaS[397]      -1.036   0.330   -1.740   -1.238   -1.008   -0.805
## thetaS[398]      -0.078   0.173   -0.437   -0.192   -0.070    0.038
## thetaS[399]      -1.343   0.393   -2.208   -1.591   -1.310   -1.063
## thetaS[400]       0.879   0.271    0.431    0.687    0.852    1.037
## thetaS[401]      -0.022   0.164   -0.349   -0.130   -0.020    0.089
## thetaS[402]       0.365   0.166    0.061    0.253    0.357    0.470
## thetaS[403]       0.660   0.205    0.294    0.519    0.645    0.783
## thetaS[404]      -0.241   0.188   -0.634   -0.363   -0.237   -0.111
## thetaS[405]       0.557   0.186    0.219    0.431    0.548    0.678
## thetaS[406]      -1.086   0.345   -1.851   -1.295   -1.055   -0.844
## thetaS[407]      -0.309   0.196   -0.713   -0.435   -0.301   -0.177
## thetaS[408]      -1.088   0.348   -1.860   -1.287   -1.055   -0.848
## thetaS[409]       0.540   0.181    0.214    0.416    0.529    0.651
## thetaS[410]       0.767   0.223    0.393    0.608    0.747    0.902
## thetaS[411]      -0.248   0.190   -0.646   -0.366   -0.239   -0.120
## thetaS[412]      -0.478   0.227   -0.974   -0.615   -0.462   -0.326
## thetaS[413]       1.068   0.311    0.550    0.845    1.032    1.255
## thetaS[414]      -0.752   0.267   -1.338   -0.910   -0.726   -0.572
## thetaS[415]      -1.197   0.365   -1.998   -1.431   -1.164   -0.944
## thetaS[416]      -0.264   0.185   -0.649   -0.382   -0.257   -0.137
## thetaS[417]      -0.350   0.199   -0.770   -0.475   -0.340   -0.211
## thetaS[418]      -0.497   0.230   -1.021   -0.639   -0.476   -0.334
## thetaS[419]      -0.088   0.177   -0.457   -0.200   -0.081    0.031
## thetaS[420]      -0.280   0.191   -0.701   -0.398   -0.271   -0.153
## thetaS[421]      -1.209   0.371   -2.025   -1.446   -1.175   -0.939
## thetaS[422]       0.476   0.173    0.164    0.354    0.470    0.586
## thetaS[423]      -1.125   0.346   -1.869   -1.335   -1.102   -0.877
## thetaS[424]      -0.415   0.217   -0.875   -0.550   -0.399   -0.269
## thetaS[425]      -0.419   0.220   -0.881   -0.554   -0.408   -0.269
## thetaS[426]      -1.098   0.347   -1.867   -1.317   -1.065   -0.854
## thetaS[427]      -0.410   0.205   -0.842   -0.538   -0.398   -0.270
## thetaS[428]       0.559   0.190    0.218    0.427    0.551    0.682
## thetaS[429]       0.678   0.207    0.310    0.538    0.665    0.803
## thetaS[430]      -0.399   0.211   -0.825   -0.535   -0.387   -0.256
## thetaS[431]       1.352   0.445    0.670    1.038    1.276    1.606
## thetaS[432]       0.629   0.199    0.269    0.491    0.618    0.751
## thetaS[433]       0.628   0.200    0.277    0.490    0.614    0.752
## thetaS[434]       0.679   0.211    0.309    0.536    0.664    0.807
## thetaS[435]      -1.199   0.380   -2.064   -1.435   -1.154   -0.925
## thetaS[436]      -1.062   0.332   -1.783   -1.268   -1.027   -0.832
## thetaS[437]      -0.476   0.218   -0.950   -0.608   -0.458   -0.327
## thetaS[438]       0.064   0.167   -0.265   -0.044    0.066    0.174
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## thetaS[439]       0.533   0.181    0.212    0.407    0.522    0.651
## thetaS[440]       0.559   0.188    0.219    0.429    0.547    0.675
## thetaS[441]      -1.037   0.339   -1.827   -1.232   -1.002   -0.798
## thetaS[442]      -1.087   0.334   -1.810   -1.304   -1.065   -0.848
## thetaS[443]       0.540   0.184    0.215    0.413    0.528    0.656
## thetaS[444]       0.179   0.164   -0.141    0.073    0.180    0.290
## thetaS[445]       0.877   0.259    0.453    0.692    0.848    1.028
## thetaS[446]      -1.077   0.319   -1.758   -1.267   -1.052   -0.852
## thetaS[447]       0.440   0.171    0.132    0.319    0.434    0.547
## thetaS[448]       0.239   0.161   -0.073    0.134    0.235    0.344
## thetaS[449]       0.023   0.161   -0.307   -0.079    0.022    0.127
## thetaS[450]      -0.367   0.202   -0.799   -0.493   -0.355   -0.225
## thetaS[451]      -0.614   0.240   -1.138   -0.762   -0.596   -0.449
## thetaS[452]      -0.334   0.195   -0.751   -0.457   -0.323   -0.200
## thetaS[453]       0.848   0.244    0.434    0.675    0.825    1.001
## thetaS[454]      -1.076   0.334   -1.821   -1.274   -1.038   -0.840
## thetaS[455]      -0.271   0.177   -0.642   -0.382   -0.264   -0.151
## thetaS[456]       0.747   0.221    0.362    0.592    0.731    0.888
## thetaS[457]      -0.041   0.171   -0.384   -0.150   -0.037    0.075
## thetaS[458]       0.715   0.216    0.345    0.562    0.697    0.850
## thetaS[459]       0.703   0.214    0.321    0.554    0.687    0.838
## thetaS[460]       0.081   0.163   -0.242   -0.023    0.081    0.189
## thetaS[461]       0.186   0.158   -0.121    0.083    0.183    0.287
## thetaS[462]      -0.606   0.239   -1.114   -0.757   -0.592   -0.436
## thetaS[463]      -0.356   0.206   -0.804   -0.488   -0.341   -0.214
## thetaS[464]       0.453   0.175    0.136    0.331    0.442    0.566
## thetaS[465]       0.048   0.167   -0.295   -0.057    0.051    0.159
## thetaS[466]       0.564   0.191    0.221    0.435    0.554    0.682
## thetaS[467]      -0.313   0.196   -0.727   -0.439   -0.301   -0.178
## thetaS[468]       0.921   0.271    0.478    0.731    0.886    1.082
## thetaS[469]       0.110   0.162   -0.213    0.003    0.109    0.218
## thetaS[470]       0.365   0.167    0.065    0.251    0.359    0.469
## thetaS[471]       0.184   0.161   -0.121    0.076    0.180    0.291
## thetaS[472]       0.680   0.199    0.327    0.542    0.666    0.803
## thetaS[473]       0.597   0.194    0.255    0.462    0.581    0.721
## thetaS[474]       0.596   0.192    0.257    0.463    0.585    0.719
## thetaS[475]      -1.338   0.411   -2.259   -1.585   -1.293   -1.053
## thetaS[476]       0.823   0.238    0.417    0.655    0.801    0.965
## thetaS[477]       0.084   0.163   -0.244   -0.022    0.083    0.193
## thetaS[478]       0.452   0.176    0.134    0.332    0.439    0.560
## thetaS[479]      -0.200   0.181   -0.578   -0.318   -0.193   -0.078
## thetaS[480]       0.500   0.176    0.176    0.378    0.491    0.613
## thetaS[481]       0.547   0.191    0.212    0.413    0.533    0.667
## thetaS[482]      -0.501   0.228   -0.982   -0.643   -0.485   -0.341
## thetaS[483]      -0.068   0.175   -0.431   -0.181   -0.064    0.049
## thetaS[484]      -0.082   0.176   -0.447   -0.197   -0.074    0.034
## thetaS[485]      -0.081   0.173   -0.430   -0.191   -0.077    0.037
## thetaS[486]      -0.046   0.164   -0.369   -0.155   -0.042    0.064
## thetaS[487]       0.370   0.165    0.065    0.258    0.363    0.480
## thetaS[488]      -0.413   0.218   -0.903   -0.549   -0.395   -0.263
## thetaS[489]       0.540   0.180    0.210    0.416    0.531    0.655
## thetaS[490]      -0.367   0.204   -0.805   -0.493   -0.356   -0.225
## thetaS[491]      -1.060   0.328   -1.772   -1.274   -1.031   -0.830
## thetaS[492]       0.117   0.162   -0.205    0.009    0.118    0.221
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## thetaS[493]      -1.396   0.416   -2.344   -1.646   -1.348   -1.105
## thetaS[494]       0.706   0.213    0.334    0.559    0.687    0.833
## thetaS[495]      -0.977   0.318   -1.683   -1.166   -0.941   -0.752
## thetaS[496]       0.414   0.173    0.088    0.295    0.408    0.522
## thetaS[497]      -1.128   0.352   -1.919   -1.335   -1.094   -0.879
## thetaS[498]      -1.294   0.383   -2.124   -1.530   -1.262   -1.028
## thetaS[499]      -1.229   0.367   -2.059   -1.446   -1.198   -0.973
## thetaS[500]      -0.610   0.245   -1.150   -0.763   -0.594   -0.438
## thetaS[501]       0.021   0.166   -0.316   -0.089    0.026    0.135
## thetaS[502]      -0.395   0.206   -0.839   -0.524   -0.382   -0.250
## thetaS[503]      -1.309   0.400   -2.214   -1.538   -1.274   -1.031
## thetaS[504]      -0.522   0.230   -1.025   -0.664   -0.507   -0.360
## thetaS[505]      -1.002   0.318   -1.699   -1.199   -0.977   -0.775
## thetaS[506]      -1.242   0.379   -2.063   -1.470   -1.202   -0.972
## thetaS[507]      -0.618   0.242   -1.149   -0.763   -0.600   -0.449
## thetaS[508]      -0.552   0.235   -1.062   -0.694   -0.533   -0.388
## thetaS[509]      -1.244   0.381   -2.078   -1.475   -1.208   -0.977
## thetaS[510]      -0.783   0.254   -1.334   -0.935   -0.759   -0.607
## thetaS[511]      -0.410   0.216   -0.871   -0.541   -0.393   -0.262
## thetaS[512]      -0.475   0.225   -0.943   -0.616   -0.462   -0.319
## thetaS[513]       0.418   0.171    0.101    0.302    0.408    0.526
## thetaS[514]      -0.478   0.220   -0.944   -0.613   -0.466   -0.329
## thetaS[515]      -0.518   0.225   -1.006   -0.656   -0.504   -0.364
## thetaS[516]      -0.447   0.219   -0.913   -0.585   -0.433   -0.294
## thetaS[517]      -0.888   0.289   -1.519   -1.061   -0.866   -0.683
## thetaS[518]       0.033   0.168   -0.304   -0.072    0.034    0.143
## thetaS[519]      -1.249   0.368   -2.018   -1.478   -1.223   -0.986
## thetaS[520]       0.326   0.164    0.019    0.218    0.321    0.427
## thetaS[521]      -0.747   0.252   -1.305   -0.901   -0.726   -0.569
## thetaS[522]      -1.140   0.345   -1.878   -1.359   -1.115   -0.896
## thetaS[523]      -1.166   0.334   -1.889   -1.364   -1.143   -0.933
## thetaS[524]      -1.073   0.331   -1.801   -1.274   -1.041   -0.842
## thetaS[525]      -0.880   0.274   -1.470   -1.053   -0.864   -0.686
## thetaS[526]      -1.164   0.352   -1.931   -1.374   -1.133   -0.916
## thetaS[527]       0.025   0.171   -0.315   -0.090    0.028    0.139
## thetaS[528]       0.024   0.166   -0.307   -0.085    0.027    0.138
## thetaS[529]      -1.118   0.340   -1.871   -1.323   -1.082   -0.878
## thetaS[530]      -0.872   0.274   -1.478   -1.039   -0.856   -0.679
## thetaS[531]      -0.795   0.260   -1.376   -0.953   -0.776   -0.616
## thetaS[532]      -1.578   0.478   -2.656   -1.873   -1.526   -1.239
## thetaS[533]       0.505   0.178    0.189    0.382    0.492    0.616
## thetaS[534]      -1.550   0.467   -2.585   -1.837   -1.509   -1.221
## thetaS[535]       0.468   0.175    0.148    0.349    0.462    0.576
## thetaS[536]       0.038   0.169   -0.303   -0.071    0.038    0.153
## deviance       7910.113  35.922 7840.900 7885.528 7909.033 7933.600
##                   97.5%  Rhat n.eff
## lambda[1]         1.000 1.000     1
## lambda[2]         1.963 1.036    79
## lambda[3]         1.637 1.032    87
## lambda[4]         0.976 1.038    79
## lambda[5]         0.793 1.033    87
## lambda[6]         1.493 1.039    71
## lambda[7]         1.792 1.052    56
## lambda[8]         0.820 1.029    92
```

```
## lambda[9]         0.575 1.024   110
## lambda[10]        2.015 1.035    82
## lambda[11]        1.967 1.036    76
## lambda[12]        1.289 1.040    72
## lambda[13]        2.015 1.021   150
## lambda[14]        1.503 1.033    83
## lambda[15]        1.879 1.025   110
## lambda[16]        1.302 1.030    95
## lambda[17]        2.284 1.030    92
## lambda[18]        1.608 1.038    73
## lambda[19]        2.688 1.051    61
## lambda[20]        2.351 1.036    79
## lambdaS[1]        1.531 1.061    51
## lambdaS[2]        2.272 1.005   620
## lambdaS[3]        1.908 1.006   490
## lambdaS[4]        1.108 1.003   930
## lambdaS[5]        0.910 1.001  4000
## lambdaS[6]        1.706 1.007   510
## lambdaS[7]        2.050 1.010   270
## lambdaS[8]        0.949 1.002  2000
## lambdaS[9]        0.661 1.002  1800
## lambdaS[10]       2.363 1.005  1300
## lambdaS[11]       2.230 1.003   960
## lambdaS[12]       1.457 1.007   390
## lambdaS[13]       2.317 1.013   200
## lambdaS[14]       1.701 1.002  1300
## lambdaS[15]       2.134 1.004   740
## lambdaS[16]       1.498 1.002  2100
## lambdaS[17]       2.597 1.001  2500
## lambdaS[18]       1.835 1.001  4000
## lambdaS[19]       3.165 1.015   500
## lambdaS[20]       2.705 1.005   900
## mu[1]             0.234 1.001  3300
## mu[2]             0.569 1.003   850
## mu[3]             0.170 1.003   930
## mu[4]             0.242 1.001  3500
## mu[5]             0.401 1.001  4000
## mu[6]             1.712 1.012   230
## mu[7]            -0.394 1.003  1100
## mu[8]             1.005 1.002  2400
## mu[9]             0.553 1.001  4000
## mu[10]           -0.529 1.003  1200
## mu[11]            0.009 1.003  1100
## mu[12]            1.145 1.003  1000
## mu[13]           -0.969 1.009   290
## mu[14]            1.220 1.003   910
## mu[15]           -0.126 1.002  2400
## mu[16]            0.993 1.003  1100
## mu[17]           -0.284 1.004   690
## mu[18]           -0.042 1.002  2000
## mu[19]           -1.134 1.015   410
## mu[20]           -0.531 1.004   760
## theta[1]          0.851 1.001  2700
## theta[2]          2.154 1.003   860
```

```
## theta[3]          0.432 1.001  4000
## theta[4]          1.018 1.007   380
## theta[5]         -0.395 1.004   790
## theta[6]         -0.400 1.009   300
## theta[7]         -0.924 1.014   190
## theta[8]         -0.834 1.021   130
## theta[9]         -0.565 1.017   170
## theta[10]        -0.527 1.019   140
## theta[11]         0.794 1.004  1100
## theta[12]         1.004 1.004   800
## theta[13]         0.041 1.002  2400
## theta[14]        -0.578 1.016   180
## theta[15]        -0.536 1.009   330
## theta[16]        -0.102 1.009   280
## theta[17]        -0.307 1.005   620
## theta[18]        -0.589 1.007   400
## theta[19]        -0.362 1.007   400
## theta[20]        -1.059 1.003  1700
## theta[21]         1.428 1.006   440
## theta[22]         0.997 1.005   550
## theta[23]         3.756 1.007   540
## theta[24]         0.513 1.002  1900
## theta[25]         0.647 1.001  4000
## theta[26]        -1.127 1.010   260
## theta[27]        -0.341 1.005   540
## theta[28]        -1.282 1.019   180
## theta[29]        -0.247 1.004   780
## theta[30]         3.877 1.010   290
## theta[31]         1.041 1.003   980
## theta[32]         3.779 1.010   260
## theta[33]         2.012 1.003  1000
## theta[34]         1.054 1.003  1200
## theta[35]         1.647 1.003   900
## theta[36]         0.778 1.005   630
## theta[37]         0.352 1.002  1600
## theta[38]         0.585 1.001  4000
## theta[39]         1.695 1.004   820
## theta[40]        -0.288 1.011   240
## theta[41]        -1.098 1.006   460
## theta[42]         3.778 1.031    94
## theta[43]         2.020 1.015   180
## theta[44]        -0.629 1.023   120
## theta[45]         1.736 1.006   430
## theta[46]         1.124 1.004   800
## theta[47]        -0.385 1.007   450
## theta[48]         0.177 1.003  1100
## theta[49]        -0.955 1.006   560
## theta[50]         1.082 1.004   740
## theta[51]        -1.033 1.011   340
## theta[52]         0.044 1.003   980
## theta[53]        -0.045 1.001  4000
## theta[54]         1.869 1.007   420
## theta[55]         0.523 1.002  1600
## theta[56]         3.724 1.004  1100
```

```
## theta[57]         2.341 1.006   480
## theta[58]        -1.092 1.003  1200
## theta[59]        -0.279 1.004   700
## theta[60]         1.391 1.004   640
## theta[61]        -0.528 1.007   410
## theta[62]        -1.064 1.009   360
## theta[63]         0.943 1.003   850
## theta[64]         1.438 1.007   400
## theta[65]         0.782 1.003   890
## theta[66]         0.431 1.001  4000
## theta[67]         0.902 1.004   790
## theta[68]        -1.104 1.004   660
## theta[69]        -1.206 1.035    89
## theta[70]         0.048 1.002  1400
## theta[71]        -0.277 1.003  1000
## theta[72]        -0.329 1.004   660
## theta[73]        -1.007 1.013   210
## theta[74]         1.246 1.010   290
## theta[75]        -0.345 1.008   340
## theta[76]        -1.278 1.019   190
## theta[77]         0.026 1.001  4000
## theta[78]         1.228 1.006   450
## theta[79]         3.696 1.016   170
## theta[80]         0.991 1.001  3900
## theta[81]        -0.402 1.012   230
## theta[82]         1.451 1.005   520
## theta[83]        -1.132 1.011   250
## theta[84]         0.091 1.004   720
## theta[85]         0.425 1.001  3400
## theta[86]         1.017 1.006   450
## theta[87]         1.081 1.006   510
## theta[88]         1.615 1.009   340
## theta[89]         3.674 1.013   220
## theta[90]         2.003 1.008   330
## theta[91]         0.879 1.004   640
## theta[92]        -0.525 1.006   460
## theta[93]         1.951 1.010   270
## theta[94]         2.338 1.007   380
## theta[95]         3.733 1.008   510
## theta[96]         2.161 1.005   720
## theta[97]         0.458 1.002  4000
## theta[98]        -0.594 1.009   460
## theta[99]         1.972 1.010   260
## theta[100]       -0.563 1.002  2000
## theta[101]       -0.297 1.004   830
## theta[102]        2.607 1.004   750
## theta[103]       -0.272 1.007   640
## theta[104]        2.411 1.003  1200
## theta[105]        1.130 1.003  1300
## theta[106]        0.326 1.001  3600
## theta[107]        0.024 1.003  1700
## theta[108]        3.779 1.014   200
## theta[109]        0.722 1.001  3000
## theta[110]        1.023 1.002  1500
```

```
## theta[111]       -0.537 1.014   190
## theta[112]       -1.218 1.006   530
## theta[113]        0.490 1.002  1800
## theta[114]        0.601 1.001  3200
## theta[115]        0.913 1.007   440
## theta[116]        2.394 1.008   350
## theta[117]       -1.149 1.008   350
## theta[118]        0.412 1.002  2000
## theta[119]        1.065 1.005   520
## theta[120]       -1.291 1.079    56
## theta[121]       -0.642 1.017   180
## theta[122]       -0.176 1.004   720
## theta[123]       -0.416 1.003   970
## theta[124]        3.357 1.003  1300
## theta[125]        1.294 1.005   530
## theta[126]        1.730 1.005   510
## theta[127]        2.339 1.013   200
## theta[128]        1.453 1.006   450
## theta[129]        0.436 1.003  2100
## theta[130]        1.693 1.007   380
## theta[131]       -0.133 1.006   510
## theta[132]        0.970 1.005   750
## theta[133]        0.055 1.001  4000
## theta[134]       -1.023 1.016   170
## theta[135]       -0.886 1.009   340
## theta[136]        2.388 1.012   220
## theta[137]        0.839 1.002  1700
## theta[138]        2.206 1.009   290
## theta[139]       -0.907 1.010   360
## theta[140]        2.130 1.012   220
## theta[141]        0.736 1.001  4000
## theta[142]        1.867 1.007   420
## theta[143]       -0.535 1.008   360
## theta[144]       -0.290 1.003  1100
## theta[145]       -0.166 1.011   250
## theta[146]        1.477 1.007   410
## theta[147]        1.922 1.006   450
## theta[148]       -1.234 1.037    79
## theta[149]        1.139 1.004   640
## theta[150]        3.767 1.008   360
## theta[151]        1.675 1.011   240
## theta[152]        2.001 1.014   200
## theta[153]        1.708 1.007   400
## theta[154]        2.078 1.007   420
## theta[155]        1.470 1.004   680
## theta[156]        2.034 1.009   290
## theta[157]        1.471 1.003   900
## theta[158]        0.539 1.001  4000
## theta[159]        0.771 1.002  1300
## theta[160]        1.664 1.010   260
## theta[161]        1.405 1.006   500
## theta[162]        1.963 1.005   510
## theta[163]        2.287 1.011   240
## theta[164]        2.056 1.007   380
```

```
## theta[165]       -1.298 1.041    82
## theta[166]       -0.891 1.015   190
## theta[167]       -0.820 1.007   400
## theta[168]        3.578 1.003   970
## theta[169]        1.900 1.007   360
## theta[170]       -1.281 1.008   330
## theta[171]        0.097 1.005   700
## theta[172]        1.304 1.008   330
## theta[173]        3.913 1.014   210
## theta[174]        0.485 1.001  4000
## theta[175]       -0.052 1.002  2000
## theta[176]        0.416 1.005  1400
## theta[177]        0.879 1.002  1700
## theta[178]       -0.051 1.005   680
## theta[179]        1.094 1.004   740
## theta[180]        1.834 1.005   620
## theta[181]       -0.822 1.003  1600
## theta[182]        0.911 1.005   520
## theta[183]        0.726 1.002  1800
## theta[184]        2.817 1.009   280
## theta[185]        2.368 1.010   270
## theta[186]        1.696 1.007   430
## theta[187]       -0.202 1.008   330
## theta[188]       -0.100 1.001  4000
## theta[189]        3.823 1.015   230
## theta[190]        3.603 1.018   150
## theta[191]        1.886 1.004   640
## theta[192]        2.318 1.007   410
## theta[193]        2.293 1.007   410
## theta[194]        0.201 1.001  2900
## theta[195]       -0.560 1.006   490
## theta[196]        2.342 1.006   450
## theta[197]        2.198 1.016   190
## theta[198]        3.455 1.009   320
## theta[199]        2.817 1.011   230
## theta[200]       -0.031 1.002  1600
## theta[201]        3.816 1.023   150
## theta[202]        1.899 1.007   370
## theta[203]        1.345 1.004   810
## theta[204]        2.204 1.011   240
## theta[205]        0.418 1.002  1300
## theta[206]        0.882 1.004   810
## theta[207]        1.090 1.008   370
## theta[208]        0.261 1.001  4000
## theta[209]        1.846 1.009   290
## theta[210]        3.891 1.011   250
## theta[211]       -0.337 1.009   310
## theta[212]        0.657 1.002  2200
## theta[213]        3.573 1.004   840
## theta[214]        2.457 1.009   310
## theta[215]       -0.209 1.003   940
## theta[216]        3.761 1.013   220
## theta[217]       -1.042 1.019   140
## theta[218]        1.840 1.007   380
```

```
## theta[219]        0.644 1.003  1000
## theta[220]        0.941 1.003  1100
## theta[221]        0.652 1.003  1200
## theta[222]        1.256 1.006   430
## theta[223]        3.641 1.003  1200
## theta[224]       -1.065 1.037    83
## theta[225]        1.700 1.005   530
## theta[226]       -0.031 1.007   420
## theta[227]       -1.243 1.006   430
## theta[228]       -0.377 1.005   520
## theta[229]        1.939 1.004   720
## theta[230]        0.687 1.002  1300
## theta[231]       -1.334 1.007   410
## theta[232]        0.946 1.003  1000
## theta[233]       -0.192 1.007   380
## theta[234]        1.650 1.007   420
## theta[235]       -0.150 1.002  1500
## theta[236]        0.325 1.001  3000
## theta[237]        0.488 1.001  4000
## theta[238]        2.235 1.008   340
## theta[239]        0.418 1.001  3400
## theta[240]       -0.067 1.001  3900
## theta[241]        1.521 1.008   380
## theta[242]        0.825 1.002  1500
## theta[243]        1.141 1.007   390
## theta[244]       -0.114 1.002  1300
## theta[245]        2.963 1.017   160
## theta[246]       -1.075 1.024   160
## theta[247]        1.502 1.010   280
## theta[248]        1.758 1.009   290
## theta[249]       -0.741 1.012   220
## theta[250]       -0.458 1.010   300
## theta[251]       -0.760 1.009   290
## theta[252]        0.698 1.001  2700
## theta[253]       -0.428 1.002  1800
## theta[254]        1.719 1.009   300
## theta[255]       -0.176 1.005   540
## theta[256]        1.428 1.006   420
## theta[257]        3.551 1.004   810
## theta[258]        1.863 1.005   520
## theta[259]        0.862 1.003  1200
## theta[260]        1.135 1.004   810
## theta[261]       -0.516 1.011   240
## theta[262]        1.311 1.004   670
## theta[263]       -0.040 1.005   600
## theta[264]       -0.644 1.009   290
## theta[265]       -0.269 1.008   340
## theta[266]        1.712 1.008   350
## theta[267]        2.331 1.009   290
## theta[268]        0.346 1.001  2500
## theta[269]        0.957 1.002  1700
## theta[270]        1.563 1.009   310
## theta[271]       -0.183 1.003   950
## theta[272]        0.862 1.005   500
```

```
## theta[273]        2.025 1.010   260
## theta[274]        0.127 1.001  2700
## theta[275]        3.606 1.021   140
## theta[276]        0.425 1.003  1100
## theta[277]        1.413 1.009   300
## theta[278]        3.662 1.003   940
## theta[279]        2.324 1.010   270
## theta[280]        3.555 1.005   550
## theta[281]        2.030 1.011   240
## theta[282]        3.820 1.006   520
## theta[283]        1.023 1.002  2200
## theta[284]        2.341 1.007   360
## theta[285]        1.068 1.005   560
## theta[286]       -0.352 1.004   760
## theta[287]        1.336 1.007   390
## theta[288]        1.727 1.012   220
## theta[289]        1.035 1.003   920
## theta[290]        2.057 1.005   640
## theta[291]       -1.240 1.028   110
## theta[292]        0.141 1.004   670
## theta[293]        0.413 1.001  4000
## theta[294]       -0.197 1.009   370
## theta[295]        2.294 1.015   180
## theta[296]       -0.566 1.009   300
## theta[297]       -0.456 1.009   320
## theta[298]        0.886 1.004   790
## theta[299]       -0.361 1.004   670
## theta[300]        1.839 1.008   330
## theta[301]        2.288 1.008   340
## theta[302]        2.171 1.008   350
## theta[303]        0.944 1.003   880
## theta[304]        0.136 1.001  2800
## theta[305]        2.176 1.011   250
## theta[306]        1.115 1.004   780
## theta[307]        0.008 1.002  2300
## theta[308]        0.044 1.002  3900
## theta[309]       -0.741 1.028    99
## theta[310]       -0.083 1.003   970
## theta[311]        0.673 1.002  1700
## theta[312]       -0.902 1.039    74
## theta[313]        1.133 1.005   550
## theta[314]       -0.025 1.006   450
## theta[315]        1.674 1.005   520
## theta[316]        0.217 1.001  4000
## theta[317]        0.120 1.006   540
## theta[318]        1.212 1.002  1600
## theta[319]        1.531 1.006   480
## theta[320]       -0.132 1.002  1300
## theta[321]        0.218 1.001  3100
## theta[322]        1.792 1.009   290
## theta[323]        2.303 1.007   360
## theta[324]        1.334 1.004   630
## theta[325]        1.720 1.008   350
## theta[326]       -0.045 1.003  1100
```

```
## theta[327]       -0.801 1.010   280
## theta[328]        1.078 1.008   320
## theta[329]        0.437 1.002  2000
## theta[330]        0.116 1.010   270
## theta[331]        0.268 1.004   680
## theta[332]        0.580 1.002  2100
## theta[333]       -0.114 1.005   570
## theta[334]       -1.102 1.009   430
## theta[335]        1.249 1.004   690
## theta[336]        0.514 1.001  4000
## theta[337]       -0.325 1.009   310
## theta[338]       -0.271 1.002  1800
## theta[339]        0.775 1.005   780
## theta[340]        2.313 1.008   350
## theta[341]        2.270 1.010   330
## theta[342]       -1.131 1.009   400
## theta[343]       -0.736 1.009   550
## theta[344]        1.761 1.003   920
## theta[345]       -0.775 1.002  1800
## theta[346]        1.799 1.008   340
## theta[347]        0.205 1.001  4000
## theta[348]        0.630 1.002  1300
## theta[349]        0.219 1.001  4000
## theta[350]        1.429 1.010   270
## theta[351]        2.701 1.011   280
## theta[352]       -0.139 1.008   320
## theta[353]       -0.747 1.011   240
## theta[354]        2.343 1.009   300
## theta[355]        0.298 1.002  4000
## theta[356]        1.558 1.007   370
## theta[357]        0.416 1.002  1400
## theta[358]        3.505 1.029    93
## theta[359]        1.807 1.013   210
## theta[360]        0.600 1.003  1100
## theta[361]        1.513 1.007   370
## theta[362]        0.945 1.004   840
## theta[363]        1.672 1.008   320
## theta[364]       -0.209 1.010   260
## theta[365]        1.445 1.013   220
## theta[366]        0.792 1.005   680
## theta[367]       -0.202 1.010   270
## theta[368]        1.727 1.009   310
## theta[369]        2.083 1.009   350
## theta[370]        2.279 1.010   260
## theta[371]        0.037 1.001  4000
## theta[372]       -0.124 1.004   750
## theta[373]        0.245 1.003  1600
## theta[374]        1.493 1.008   320
## theta[375]        1.575 1.009   320
## theta[376]        1.474 1.007   390
## theta[377]       -0.136 1.004   700
## theta[378]        0.576 1.001  2900
## theta[379]        0.660 1.001  4000
## theta[380]       -0.108 1.004   770
```

```
## theta[381]        0.224 1.001  4000
## theta[382]        0.286 1.002  2100
## theta[383]        1.840 1.006   430
## theta[384]        1.350 1.003   880
## theta[385]        1.712 1.006   470
## theta[386]        0.463 1.003  1200
## theta[387]       -0.119 1.003   900
## theta[388]        0.349 1.003  1000
## theta[389]        2.310 1.007   420
## theta[390]        0.112 1.003   850
## theta[391]        0.234 1.004   770
## theta[392]       -0.274 1.003  1100
## theta[393]       -0.175 1.013   230
## theta[394]        3.632 1.012   250
## theta[395]       -0.741 1.007   430
## theta[396]        3.574 1.004   700
## theta[397]       -0.779 1.010   310
## theta[398]        0.383 1.002  2100
## theta[399]       -1.027 1.016   160
## theta[400]        2.131 1.010   270
## theta[401]        0.462 1.001  3700
## theta[402]        1.093 1.006   440
## theta[403]        1.649 1.007   400
## theta[404]        0.159 1.003  1200
## theta[405]        1.421 1.008   350
## theta[406]       -0.779 1.008   590
## theta[407]        0.090 1.002  2400
## theta[408]       -0.799 1.007   460
## theta[409]        1.398 1.006   470
## theta[410]        1.906 1.010   260
## theta[411]        0.163 1.003   930
## theta[412]       -0.115 1.004  1000
## theta[413]        2.716 1.013   210
## theta[414]       -0.455 1.013   220
## theta[415]       -0.940 1.020   140
## theta[416]        0.128 1.002  1400
## theta[417]        0.026 1.003  1100
## theta[418]       -0.154 1.008   350
## theta[419]        0.368 1.001  3800
## theta[420]        0.116 1.005  1000
## theta[421]       -0.904 1.017   200
## theta[422]        1.277 1.007   420
## theta[423]       -0.832 1.007   380
## theta[424]       -0.055 1.003  1000
## theta[425]       -0.036 1.003   970
## theta[426]       -0.804 1.008   420
## theta[427]       -0.054 1.008   430
## theta[428]        1.457 1.007   390
## theta[429]        1.715 1.011   240
## theta[430]       -0.030 1.001  4000
## theta[431]        3.575 1.021   130
## theta[432]        1.635 1.008   390
## theta[433]        1.629 1.006   460
## theta[434]        1.706 1.007   390
```

```
## theta[435]       -0.910 1.014   190
## theta[436]       -0.773 1.007   390
## theta[437]       -0.134 1.004   730
## theta[438]        0.594 1.002  1400
## theta[439]        1.410 1.008   330
## theta[440]        1.452 1.007   730
## theta[441]       -0.738 1.004   740
## theta[442]       -0.810 1.009   300
## theta[443]        1.443 1.003   970
## theta[444]        0.780 1.002  4000
## theta[445]        2.170 1.008   330
## theta[446]       -0.812 1.010   360
## theta[447]        1.229 1.002  1600
## theta[448]        0.871 1.005   570
## theta[449]        0.542 1.003  1100
## theta[450]       -0.008 1.002  1400
## theta[451]       -0.302 1.002  1300
## theta[452]        0.029 1.003   950
## theta[453]        2.135 1.009   300
## theta[454]       -0.822 1.017   170
## theta[455]        0.081 1.003   910
## theta[456]        1.870 1.011   250
## theta[457]        0.435 1.001  4000
## theta[458]        1.795 1.006   480
## theta[459]        1.786 1.005   500
## theta[460]        0.618 1.003   880
## theta[461]        0.786 1.003   970
## theta[462]       -0.302 1.001  4000
## theta[463]        0.014 1.002  1500
## theta[464]        1.231 1.006   430
## theta[465]        0.575 1.001  2700
## theta[466]        1.504 1.009   320
## theta[467]        0.080 1.003   980
## theta[468]        2.233 1.009   300
## theta[469]        0.666 1.004   820
## theta[470]        1.091 1.004   770
## theta[471]        0.770 1.002  1800
## theta[472]        1.740 1.006   540
## theta[473]        1.573 1.005   540
## theta[474]        1.564 1.006   480
## theta[475]       -1.065 1.028   110
## theta[476]        2.042 1.009   290
## theta[477]        0.644 1.001  3200
## theta[478]        1.255 1.007   400
## theta[479]        0.206 1.002  2400
## theta[480]        1.336 1.006   440
## theta[481]        1.452 1.010   510
## theta[482]       -0.138 1.004   640
## theta[483]        0.419 1.001  4000
## theta[484]        0.383 1.001  3600
## theta[485]        0.380 1.001  3100
## theta[486]        0.427 1.002  1500
## theta[487]        1.098 1.002  1500
## theta[488]       -0.033 1.003  1300
```

```
## theta[489]        1.447 1.011   230
## theta[490]        0.007 1.001  2900
## theta[491]       -0.757 1.007   600
## theta[492]        0.679 1.001  2800
## theta[493]       -1.098 1.008   660
## theta[494]        1.769 1.008   360
## theta[495]       -0.721 1.010   280
## theta[496]        1.187 1.003   900
## theta[497]       -0.855 1.013   210
## theta[498]       -0.998 1.015   250
## theta[499]       -0.907 1.012   220
## theta[500]       -0.278 1.005   530
## theta[501]        0.535 1.001  4000
## theta[502]       -0.036 1.008   320
## theta[503]       -0.998 1.022   140
## theta[504]       -0.185 1.011   320
## theta[505]       -0.743 1.019   180
## theta[506]       -0.955 1.004   930
## theta[507]       -0.309 1.003  1200
## theta[508]       -0.232 1.006   460
## theta[509]       -0.939 1.006   450
## theta[510]       -0.543 1.014   210
## theta[511]       -0.052 1.002  1900
## theta[512]       -0.099 1.003  1000
## theta[513]        1.176 1.006   460
## theta[514]       -0.128 1.010   350
## theta[515]       -0.176 1.011   290
## theta[516]       -0.087 1.004   690
## theta[517]       -0.609 1.006   440
## theta[518]        0.555 1.003  2900
## theta[519]       -0.965 1.016   260
## theta[520]        1.031 1.004   660
## theta[521]       -0.495 1.003   940
## theta[522]       -0.846 1.012   220
## theta[523]       -0.928 1.007   440
## theta[524]       -0.799 1.010   260
## theta[525]       -0.628 1.005   590
## theta[526]       -0.876 1.009   320
## theta[527]        0.545 1.004   780
## theta[528]        0.530 1.001  3400
## theta[529]       -0.845 1.007   360
## theta[530]       -0.637 1.003  1200
## theta[531]       -0.519 1.018   150
## theta[532]       -1.269 1.023   120
## theta[533]        1.354 1.007   410
## theta[534]       -1.190 1.020   250
## theta[535]        1.291 1.007   400
## theta[536]        0.568 1.004   810
## theta.variance    2.344 1.061    51
## thetaS[1]         0.555 1.005   570
## thetaS[2]         1.503 1.014   190
## thetaS[3]         0.283 1.001  4000
## thetaS[4]         0.664 1.001  4000
## thetaS[5]        -0.250 1.010   300
```

```
## thetaS[6]       -0.258 1.007   400
## thetaS[7]       -0.580 1.013   400
## thetaS[8]       -0.509 1.002  1300
## thetaS[9]       -0.363 1.002  1900
## thetaS[10]      -0.338 1.004   700
## thetaS[11]       0.517 1.001  4000
## thetaS[12]       0.653 1.003  1200
## thetaS[13]       0.026 1.005   620
## thetaS[14]      -0.377 1.003  1000
## thetaS[15]      -0.343 1.007   370
## thetaS[16]      -0.064 1.007   690
## thetaS[17]      -0.192 1.008   370
## thetaS[18]      -0.359 1.012   300
## thetaS[19]      -0.225 1.009   280
## thetaS[20]      -0.669 1.017   170
## thetaS[21]       0.938 1.008   320
## thetaS[22]       0.647 1.001  2900
## thetaS[23]       2.426 1.022   120
## thetaS[24]       0.324 1.003  1600
## thetaS[25]       0.421 1.003  1200
## thetaS[26]      -0.721 1.014   180
## thetaS[27]      -0.216 1.006   500
## thetaS[28]      -0.833 1.006   570
## thetaS[29]      -0.159 1.010   270
## thetaS[30]       2.428 1.007   610
## thetaS[31]       0.688 1.006   450
## thetaS[32]       2.544 1.010   290
## thetaS[33]       1.332 1.015   180
## thetaS[34]       0.696 1.006   490
## thetaS[35]       1.089 1.011   240
## thetaS[36]       0.483 1.001  4000
## thetaS[37]       0.227 1.001  3900
## thetaS[38]       0.380 1.001  3600
## thetaS[39]       1.134 1.014   190
## thetaS[40]      -0.177 1.002  2100
## thetaS[41]      -0.700 1.009   420
## thetaS[42]       2.426 1.002  1700
## thetaS[43]       1.314 1.004   810
## thetaS[44]      -0.405 1.005   510
## thetaS[45]       1.111 1.010   270
## thetaS[46]       0.725 1.006   530
## thetaS[47]      -0.247 1.005   530
## thetaS[48]       0.112 1.002  1600
## thetaS[49]      -0.581 1.021   130
## thetaS[50]       0.727 1.004   720
## thetaS[51]      -0.661 1.011   240
## thetaS[52]       0.029 1.007   420
## thetaS[53]      -0.026 1.011   250
## thetaS[54]       1.305 1.015   180
## thetaS[55]       0.348 1.002  1500
## thetaS[56]       2.344 1.021   130
## thetaS[57]       1.541 1.016   170
## thetaS[58]      -0.718 1.019   150
## thetaS[59]      -0.181 1.012   260
```

```
## thetaS[60]        0.908 1.007   410
## thetaS[61]       -0.333 1.009   330
## thetaS[62]       -0.663 1.007   370
## thetaS[63]        0.608 1.003  2100
## thetaS[64]        0.932 1.005   560
## thetaS[65]        0.493 1.001  4000
## thetaS[66]        0.275 1.001  4000
## thetaS[67]        0.590 1.004   770
## thetaS[68]       -0.692 1.027   100
## thetaS[69]       -0.761 1.016   970
## thetaS[70]        0.031 1.005   580
## thetaS[71]       -0.172 1.017   160
## thetaS[72]       -0.211 1.008   370
## thetaS[73]       -0.628 1.010   270
## thetaS[74]        0.814 1.002  1300
## thetaS[75]       -0.220 1.003  1000
## thetaS[76]       -0.821 1.030   120
## thetaS[77]        0.017 1.006   510
## thetaS[78]        0.806 1.005   570
## thetaS[79]        2.372 1.017   150
## thetaS[80]        0.649 1.007   420
## thetaS[81]       -0.248 1.003  1100
## thetaS[82]        0.956 1.008   330
## thetaS[83]       -0.721 1.015   190
## thetaS[84]        0.058 1.003  1100
## thetaS[85]        0.270 1.002  2400
## thetaS[86]        0.655 1.002  4000
## thetaS[87]        0.708 1.003   940
## thetaS[88]        1.082 1.006   480
## thetaS[89]        2.426 1.008   330
## thetaS[90]        1.338 1.010   260
## thetaS[91]        0.569 1.002  3400
## thetaS[92]       -0.336 1.009   340
## thetaS[93]        1.272 1.006   460
## thetaS[94]        1.509 1.009   290
## thetaS[95]        2.444 1.016   160
## thetaS[96]        1.477 1.012   220
## thetaS[97]        0.295 1.001  4000
## thetaS[98]       -0.369 1.010   290
## thetaS[99]        1.257 1.006   430
## thetaS[100]      -0.360 1.020   150
## thetaS[101]      -0.184 1.008   360
## thetaS[102]       1.758 1.013   210
## thetaS[103]      -0.163 1.005   540
## thetaS[104]       1.692 1.020   130
## thetaS[105]       0.750 1.007   420
## thetaS[106]       0.210 1.001  4000
## thetaS[107]       0.016 1.005   530
## thetaS[108]       2.453 1.013   210
## thetaS[109]       0.463 1.001  4000
## thetaS[110]       0.661 1.010   330
## thetaS[111]      -0.333 1.002  2500
## thetaS[112]      -0.800 1.020   150
## thetaS[113]       0.318 1.002  1400
```

```
## thetaS[114]       0.401 1.003  1100
## thetaS[115]       0.600 1.002  2000
## thetaS[116]       1.651 1.008   320
## thetaS[117]      -0.714 1.025   130
## thetaS[118]       0.277 1.001  4000
## thetaS[119]       0.693 1.002  1500
## thetaS[120]      -0.817 1.012   340
## thetaS[121]      -0.396 1.009   540
## thetaS[122]      -0.114 1.006   600
## thetaS[123]      -0.262 1.010   290
## thetaS[124]       2.219 1.022   120
## thetaS[125]       0.847 1.008   360
## thetaS[126]       1.155 1.010   260
## thetaS[127]       1.511 1.009   300
## thetaS[128]       1.007 1.007   410
## thetaS[129]       0.285 1.001  3200
## thetaS[130]       1.110 1.006   440
## thetaS[131]      -0.087 1.004   810
## thetaS[132]       0.641 1.003   990
## thetaS[133]       0.037 1.006   480
## thetaS[134]      -0.669 1.008   380
## thetaS[135]      -0.554 1.014   220
## thetaS[136]       1.565 1.009   310
## thetaS[137]       0.532 1.003   930
## thetaS[138]       1.452 1.009   310
## thetaS[139]      -0.563 1.018   170
## thetaS[140]       1.369 1.008   350
## thetaS[141]       0.479 1.001  3200
## thetaS[142]       1.223 1.008   340
## thetaS[143]      -0.334 1.005   550
## thetaS[144]      -0.180 1.012   240
## thetaS[145]      -0.106 1.001  4000
## thetaS[146]       0.979 1.006   460
## thetaS[147]       1.260 1.011   230
## thetaS[148]      -0.794 1.008   640
## thetaS[149]       0.730 1.004   720
## thetaS[150]       2.280 1.009   330
## thetaS[151]       1.105 1.005   640
## thetaS[152]       1.324 1.006   440
## thetaS[153]       1.105 1.006   460
## thetaS[154]       1.335 1.009   290
## thetaS[155]       0.975 1.008   320
## thetaS[156]       1.330 1.009   310
## thetaS[157]       0.980 1.011   250
## thetaS[158]       0.352 1.001  4000
## thetaS[159]       0.506 1.001  4000
## thetaS[160]       1.107 1.005   580
## thetaS[161]       0.914 1.005   540
## thetaS[162]       1.304 1.012   230
## thetaS[163]       1.533 1.007   420
## thetaS[164]       1.375 1.010   270
## thetaS[165]      -0.822 1.015   240
## thetaS[166]      -0.580 1.029   110
## thetaS[167]      -0.505 1.012   220
```

```
## thetaS[168]       2.351 1.015   180
## thetaS[169]       1.249 1.008   370
## thetaS[170]      -0.809 1.018   160
## thetaS[171]       0.064 1.001  2500
## thetaS[172]       0.878 1.004   720
## thetaS[173]       2.459 1.004   790
## thetaS[174]       0.322 1.001  4000
## thetaS[175]      -0.034 1.008   350
## thetaS[176]       0.279 1.001  4000
## thetaS[177]       0.575 1.002  2400
## thetaS[178]      -0.033 1.006   680
## thetaS[179]       0.732 1.005   570
## thetaS[180]       1.223 1.011   250
## thetaS[181]      -0.521 1.021   130
## thetaS[182]       0.590 1.001  4000
## thetaS[183]       0.483 1.005   520
## thetaS[184]       1.817 1.014   190
## thetaS[185]       1.512 1.009   290
## thetaS[186]       1.112 1.010   320
## thetaS[187]      -0.126 1.007   460
## thetaS[188]      -0.060 1.007   400
## thetaS[189]       2.548 1.025   120
## thetaS[190]       2.286 1.002  1300
## thetaS[191]       1.231 1.011   240
## thetaS[192]       1.482 1.011   240
## thetaS[193]       1.515 1.010   270
## thetaS[194]       0.136 1.002  1800
## thetaS[195]      -0.354 1.011   270
## thetaS[196]       1.507 1.010   260
## thetaS[197]       1.437 1.007   400
## thetaS[198]       2.297 1.008   370
## thetaS[199]       1.887 1.011   340
## thetaS[200]      -0.016 1.004   730
## thetaS[201]       2.340 1.004   970
## thetaS[202]       1.301 1.010   260
## thetaS[203]       0.867 1.011   240
## thetaS[204]       1.482 1.007   360
## thetaS[205]       0.285 1.002  1700
## thetaS[206]       0.584 1.001  3700
## thetaS[207]       0.700 1.002  2100
## thetaS[208]       0.164 1.004   690
## thetaS[209]       1.206 1.007   400
## thetaS[210]       2.434 1.024   120
## thetaS[211]      -0.212 1.004   680
## thetaS[212]       0.435 1.003  1100
## thetaS[213]       2.331 1.016   160
## thetaS[214]       1.720 1.008   350
## thetaS[215]      -0.130 1.008   400
## thetaS[216]       2.437 1.003  1000
## thetaS[217]      -0.636 1.008   390
## thetaS[218]       1.214 1.011   250
## thetaS[219]       0.422 1.003  1200
## thetaS[220]       0.604 1.002  1500
## thetaS[221]       0.454 1.003  1600
```

```
## thetaS[222]       0.817 1.005   610
## thetaS[223]       2.328 1.021   140
## thetaS[224]      -0.702 1.009   320
## thetaS[225]       1.128 1.008   320
## thetaS[226]      -0.019 1.003  1300
## thetaS[227]      -0.830 1.017   170
## thetaS[228]      -0.239 1.005   510
## thetaS[229]       1.311 1.013   210
## thetaS[230]       0.449 1.001  4000
## thetaS[231]      -0.807 1.021   130
## thetaS[232]       0.614 1.002  1600
## thetaS[233]      -0.124 1.004   830
## thetaS[234]       1.140 1.007   390
## thetaS[235]      -0.090 1.008   340
## thetaS[236]       0.209 1.003  1100
## thetaS[237]       0.310 1.001  3800
## thetaS[238]       1.504 1.009   310
## thetaS[239]       0.279 1.002  3700
## thetaS[240]      -0.042 1.008   340
## thetaS[241]       0.974 1.005   570
## thetaS[242]       0.540 1.002  2200
## thetaS[243]       0.762 1.004   790
## thetaS[244]      -0.071 1.008   390
## thetaS[245]       2.002 1.008   480
## thetaS[246]      -0.679 1.012   250
## thetaS[247]       1.006 1.006   460
## thetaS[248]       1.138 1.005   550
## thetaS[249]      -0.459 1.006   440
## thetaS[250]      -0.292 1.006   550
## thetaS[251]      -0.500 1.005   620
## thetaS[252]       0.447 1.001  2900
## thetaS[253]      -0.262 1.022   130
## thetaS[254]       1.139 1.008   330
## thetaS[255]      -0.106 1.006   560
## thetaS[256]       0.954 1.007   460
## thetaS[257]       2.291 1.018   150
## thetaS[258]       1.231 1.011   240
## thetaS[259]       0.555 1.005   600
## thetaS[260]       0.741 1.006   470
## thetaS[261]      -0.340 1.003  1200
## thetaS[262]       0.891 1.007   370
## thetaS[263]      -0.027 1.002  2000
## thetaS[264]      -0.413 1.006   480
## thetaS[265]      -0.170 1.012   270
## thetaS[266]       1.124 1.006   460
## thetaS[267]       1.518 1.007   400
## thetaS[268]       0.217 1.003   950
## thetaS[269]       0.624 1.004   800
## thetaS[270]       1.026 1.006   420
## thetaS[271]      -0.111 1.007   420
## thetaS[272]       0.549 1.001  4000
## thetaS[273]       1.344 1.009   320
## thetaS[274]       0.081 1.009   320
## thetaS[275]       2.387 1.006  1100
```

```
## thetaS[276]       0.268 1.003   920
## thetaS[277]       0.923 1.005   510
## thetaS[278]       2.421 1.030    90
## thetaS[279]       1.505 1.014   190
## thetaS[280]       2.227 1.010   270
## thetaS[281]       1.367 1.006   500
## thetaS[282]       2.562 1.010   290
## thetaS[283]       0.692 1.007   410
## thetaS[284]       1.552 1.012   230
## thetaS[285]       0.702 1.005   590
## thetaS[286]      -0.207 1.008   370
## thetaS[287]       0.912 1.006   420
## thetaS[288]       1.108 1.005   550
## thetaS[289]       0.684 1.004   690
## thetaS[290]       1.373 1.018   140
## thetaS[291]      -0.774 1.017   160
## thetaS[292]       0.088 1.008   330
## thetaS[293]       0.268 1.001  4000
## thetaS[294]      -0.129 1.003  1200
## thetaS[295]       1.528 1.007   430
## thetaS[296]      -0.353 1.004   690
## thetaS[297]      -0.284 1.005   610
## thetaS[298]       0.573 1.005   730
## thetaS[299]      -0.229 1.007   400
## thetaS[300]       1.208 1.007   370
## thetaS[301]       1.470 1.009   290
## thetaS[302]       1.427 1.012   230
## thetaS[303]       0.613 1.002  2000
## thetaS[304]       0.086 1.003  1200
## thetaS[305]       1.420 1.006   450
## thetaS[306]       0.724 1.004   670
## thetaS[307]       0.005 1.007   430
## thetaS[308]       0.028 1.007   400
## thetaS[309]      -0.469 1.002  1300
## thetaS[310]      -0.053 1.005   560
## thetaS[311]       0.437 1.001  4000
## thetaS[312]      -0.563 1.003  1100
## thetaS[313]       0.731 1.003  1100
## thetaS[314]      -0.018 1.002  3500
## thetaS[315]       1.101 1.008   350
## thetaS[316]       0.136 1.005   630
## thetaS[317]       0.076 1.001  4000
## thetaS[318]       0.781 1.008   340
## thetaS[319]       0.995 1.007   360
## thetaS[320]      -0.081 1.009   310
## thetaS[321]       0.136 1.004   640
## thetaS[322]       1.189 1.006   490
## thetaS[323]       1.519 1.009   290
## thetaS[324]       0.873 1.006   490
## thetaS[325]       1.136 1.007   380
## thetaS[326]      -0.031 1.004   780
## thetaS[327]      -0.506 1.008   380
## thetaS[328]       0.721 1.002  1500
## thetaS[329]       0.284 1.002  1500
```

```
## thetaS[330]       0.073 1.005   600
## thetaS[331]       0.175 1.001  2600
## thetaS[332]       0.364 1.001  4000
## thetaS[333]      -0.075 1.003  1700
## thetaS[334]      -0.693 1.018   150
## thetaS[335]       0.825 1.007   370
## thetaS[336]       0.329 1.001  4000
## thetaS[337]      -0.221 1.003  1200
## thetaS[338]      -0.167 1.009   320
## thetaS[339]       0.488 1.001  4000
## thetaS[340]       1.502 1.010   270
## thetaS[341]       1.478 1.014   240
## thetaS[342]      -0.713 1.011   250
## thetaS[343]      -0.472 1.010   260
## thetaS[344]       1.162 1.013   210
## thetaS[345]      -0.491 1.019   160
## thetaS[346]       1.203 1.007   420
## thetaS[347]       0.131 1.003   960
## thetaS[348]       0.406 1.001  4000
## thetaS[349]       0.140 1.005   530
## thetaS[350]       0.932 1.006   470
## thetaS[351]       1.787 1.012   230
## thetaS[352]      -0.084 1.003  1000
## thetaS[353]      -0.472 1.007   380
## thetaS[354]       1.521 1.012   230
## thetaS[355]       0.183 1.003  1100
## thetaS[356]       1.039 1.006   470
## thetaS[357]       0.266 1.003  1000
## thetaS[358]       2.255 1.014   190
## thetaS[359]       1.197 1.004   690
## thetaS[360]       0.373 1.002  1400
## thetaS[361]       1.031 1.007   410
## thetaS[362]       0.610 1.003  1100
## thetaS[363]       1.110 1.008   320
## thetaS[364]      -0.137 1.007   490
## thetaS[365]       0.958 1.003  1000
## thetaS[366]       0.515 1.002  1600
## thetaS[367]      -0.129 1.004   790
## thetaS[368]       1.139 1.006   480
## thetaS[369]       1.321 1.011   250
## thetaS[370]       1.525 1.008   320
## thetaS[371]       0.023 1.008   320
## thetaS[372]      -0.079 1.003  1500
## thetaS[373]       0.156 1.001  2800
## thetaS[374]       0.990 1.008   340
## thetaS[375]       1.031 1.007   370
## thetaS[376]       0.939 1.009   300
## thetaS[377]      -0.081 1.003   970
## thetaS[378]       0.372 1.001  4000
## thetaS[379]       0.417 1.002  1800
## thetaS[380]      -0.069 1.005   900
## thetaS[381]       0.141 1.002  1600
## thetaS[382]       0.182 1.002  1300
## thetaS[383]       1.205 1.009   300
```

```
## thetaS[384]       0.897 1.006   480
## thetaS[385]       1.128 1.008   360
## thetaS[386]       0.297 1.003   860
## thetaS[387]      -0.072 1.011   280
## thetaS[388]       0.220 1.006   490
## thetaS[389]       1.518 1.010   270
## thetaS[390]       0.075 1.007   450
## thetaS[391]       0.152 1.006   470
## thetaS[392]      -0.174 1.011   260
## thetaS[393]      -0.109 1.003  1200
## thetaS[394]       2.305 1.035    77
## thetaS[395]      -0.476 1.009   300
## thetaS[396]       2.494 1.011   240
## thetaS[397]      -0.464 1.007   380
## thetaS[398]       0.251 1.003  1000
## thetaS[399]      -0.661 1.003  1200
## thetaS[400]       1.497 1.012   220
## thetaS[401]       0.283 1.001  4000
## thetaS[402]       0.716 1.002  1300
## thetaS[403]       1.117 1.006   430
## thetaS[404]       0.108 1.003   890
## thetaS[405]       0.954 1.007   370
## thetaS[406]      -0.503 1.013   220
## thetaS[407]       0.059 1.006   490
## thetaS[408]      -0.501 1.029   110
## thetaS[409]       0.932 1.007   420
## thetaS[410]       1.260 1.005   530
## thetaS[411]       0.103 1.006   480
## thetaS[412]      -0.069 1.005   530
## thetaS[413]       1.768 1.005   560
## thetaS[414]      -0.292 1.002  1900
## thetaS[415]      -0.554 1.012   240
## thetaS[416]       0.084 1.007   410
## thetaS[417]       0.015 1.002  1500
## thetaS[418]      -0.098 1.004   630
## thetaS[419]       0.242 1.002  2100
## thetaS[420]       0.072 1.004   770
## thetaS[421]      -0.584 1.006   470
## thetaS[422]       0.848 1.006   510
## thetaS[423]      -0.525 1.012   220
## thetaS[424]      -0.035 1.004   980
## thetaS[425]      -0.022 1.004   640
## thetaS[426]      -0.519 1.022   130
## thetaS[427]      -0.033 1.003  1200
## thetaS[428]       0.957 1.004   650
## thetaS[429]       1.135 1.004   750
## thetaS[430]      -0.018 1.008   330
## thetaS[431]       2.401 1.004   780
## thetaS[432]       1.061 1.006   440
## thetaS[433]       1.064 1.009   300
## thetaS[434]       1.130 1.007   460
## thetaS[435]      -0.571 1.007   440
## thetaS[436]      -0.485 1.009   320
## thetaS[437]      -0.088 1.005   610
```

```
## thetaS[438]       0.387 1.001  3300
## thetaS[439]       0.917 1.004   660
## thetaS[440]       0.965 1.011   400
## thetaS[441]      -0.467 1.014   200
## thetaS[442]      -0.508 1.014   210
## thetaS[443]       0.938 1.010   270
## thetaS[444]       0.509 1.003   910
## thetaS[445]       1.470 1.008   340
## thetaS[446]      -0.512 1.010   270
## thetaS[447]       0.797 1.008   340
## thetaS[448]       0.558 1.002  2400
## thetaS[449]       0.338 1.002  1400
## thetaS[450]      -0.006 1.006   550
## thetaS[451]      -0.199 1.010   270
## thetaS[452]       0.017 1.005   570
## thetaS[453]       1.376 1.009   310
## thetaS[454]      -0.523 1.008   430
## thetaS[455]       0.054 1.007   400
## thetaS[456]       1.227 1.008   340
## thetaS[457]       0.279 1.003  2500
## thetaS[458]       1.180 1.012   220
## thetaS[459]       1.160 1.010   280
## thetaS[460]       0.399 1.002  1700
## thetaS[461]       0.511 1.001  3800
## thetaS[462]      -0.190 1.014   200
## thetaS[463]       0.010 1.008   360
## thetaS[464]       0.827 1.006   470
## thetaS[465]       0.372 1.001  4000
## thetaS[466]       0.972 1.005   550
## thetaS[467]       0.049 1.003  1000
## thetaS[468]       1.542 1.011   240
## thetaS[469]       0.425 1.001  3800
## thetaS[470]       0.707 1.004   690
## thetaS[471]       0.516 1.002  2300
## thetaS[472]       1.112 1.013   230
## thetaS[473]       1.003 1.010   260
## thetaS[474]       0.980 1.008   350
## thetaS[475]      -0.668 1.027   130
## thetaS[476]       1.342 1.007   390
## thetaS[477]       0.404 1.001  3100
## thetaS[478]       0.819 1.003  1100
## thetaS[479]       0.133 1.001  2800
## thetaS[480]       0.858 1.005   590
## thetaS[481]       0.960 1.009   590
## thetaS[482]      -0.088 1.002  1300
## thetaS[483]       0.265 1.002  2300
## thetaS[484]       0.247 1.001  4000
## thetaS[485]       0.244 1.001  4000
## thetaS[486]       0.278 1.001  3800
## thetaS[487]       0.707 1.008   380
## thetaS[488]      -0.023 1.003   920
## thetaS[489]       0.920 1.005   540
## thetaS[490]       0.004 1.004   750
## thetaS[491]      -0.493 1.012   220
```

```
## thetaS[492]       0.430 1.004  1400
## thetaS[493]      -0.709 1.021   130
## thetaS[494]       1.163 1.009   290
## thetaS[495]      -0.455 1.017   160
## thetaS[496]       0.772 1.005   510
## thetaS[497]      -0.544 1.007   520
## thetaS[498]      -0.630 1.012   240
## thetaS[499]      -0.597 1.014   180
## thetaS[500]      -0.185 1.009   370
## thetaS[501]       0.338 1.001  4000
## thetaS[502]      -0.025 1.002  2200
## thetaS[503]      -0.646 1.004  1000
## thetaS[504]      -0.115 1.002  1300
## thetaS[505]      -0.466 1.003   850
## thetaS[506]      -0.605 1.031    96
## thetaS[507]      -0.182 1.009   340
## thetaS[508]      -0.144 1.004   780
## thetaS[509]      -0.604 1.010   270
## thetaS[510]      -0.349 1.004   680
## thetaS[511]      -0.034 1.009   310
## thetaS[512]      -0.065 1.006   560
## thetaS[513]       0.778 1.005   640
## thetaS[514]      -0.082 1.002  2100
## thetaS[515]      -0.112 1.003  1100
## thetaS[516]      -0.060 1.003  1400
## thetaS[517]      -0.395 1.009   370
## thetaS[518]       0.360 1.001  4000
## thetaS[519]      -0.601 1.010   280
## thetaS[520]       0.659 1.003   940
## thetaS[521]      -0.302 1.011   270
## thetaS[522]      -0.537 1.004   950
## thetaS[523]      -0.577 1.012   220
## thetaS[524]      -0.507 1.006   500
## thetaS[525]      -0.396 1.016   170
## thetaS[526]      -0.570 1.019   190
## thetaS[527]       0.355 1.004   900
## thetaS[528]       0.341 1.001  3000
## thetaS[529]      -0.546 1.011   250
## thetaS[530]      -0.389 1.018   170
## thetaS[531]      -0.344 1.003  1000
## thetaS[532]      -0.789 1.017   200
## thetaS[533]       0.897 1.003   980
## thetaS[534]      -0.763 1.008   330
## thetaS[535]       0.838 1.004   650
## thetaS[536]       0.357 1.003   960
## deviance       7983.044 1.003  1100
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 643.9 and DIC = 8554.0
## DIC is an estimate of expected predictive error (lower deviance is better).
```

```r
# printing only certain parameters
summary(mcmc(model01.r2jags$BUGSoutput$sims.matrix[,grep(x = colnames(model01.r2jags$BUGSoutput$sims.ma
```

```
##
## Iterations = 1:4000
## Thinning interval = 1
## Number of chains = 1
## Sample size per chain = 4000
##
## 1. Empirical mean and standard deviation for each variable,
##    plus standard error of the mean:
##
##               Mean      SD Naive SE Time-series SE
## lambda[1]   1.0000 0.00000 0.000000       0.000000
## lambda[2]   1.5395 0.19473 0.003079       0.003079
## lambda[3]   1.2865 0.16409 0.002595       0.002595
## lambda[4]   0.7445 0.10686 0.001690       0.001690
## lambda[5]   0.6041 0.08739 0.001382       0.001382
## lambda[6]   1.1330 0.16490 0.002607       0.002607
## lambda[7]   1.3805 0.18859 0.002982       0.003054
## lambda[8]   0.6207 0.09444 0.001493       0.001493
## lambda[9]   0.4208 0.06912 0.001093       0.001093
## lambda[10]  1.5598 0.21037 0.003326       0.003326
## lambda[11]  1.4858 0.21700 0.003431       0.003431
## lambda[12]  0.9790 0.13820 0.002185       0.002185
## lambda[13]  1.5120 0.22767 0.003600       0.003683
## lambda[14]  1.1453 0.16278 0.002574       0.002574
## lambda[15]  1.4468 0.19818 0.003134       0.003134
## lambda[16]  1.0059 0.13996 0.002213       0.002213
## lambda[17]  1.7349 0.24693 0.003904       0.003904
## lambda[18]  1.2385 0.17106 0.002705       0.002705
## lambda[19]  2.0102 0.31303 0.004950       0.004950
## lambda[20]  1.7696 0.26854 0.004246       0.004246
## lambdaS[1]  1.2567 0.13935 0.002203       0.002203
## lambdaS[2]  1.9157 0.17544 0.002774       0.002774
## lambdaS[3]  1.6005 0.14558 0.002302       0.002302
## lambdaS[4]  0.9249 0.09020 0.001426       0.001426
## lambdaS[5]  0.7508 0.07825 0.001237       0.001237
## lambdaS[6]  1.4082 0.14963 0.002366       0.002246
## lambdaS[7]  1.7160 0.16187 0.002559       0.002559
## lambdaS[8]  0.7713 0.08673 0.001371       0.001371
## lambdaS[9]  0.5232 0.06892 0.001090       0.001090
## lambdaS[10] 1.9404 0.19409 0.003069       0.003069
## lambdaS[11] 1.8450 0.17902 0.002831       0.002831
## lambdaS[12] 1.2162 0.11471 0.001814       0.001814
## lambdaS[13] 1.8793 0.21244 0.003359       0.003359
## lambdaS[14] 1.4226 0.13461 0.002128       0.002254
## lambdaS[15] 1.7981 0.16769 0.002651       0.002651
## lambdaS[16] 1.2499 0.11819 0.001869       0.001836
## lambdaS[17] 2.1559 0.21551 0.003408       0.003408
## lambdaS[18] 1.5389 0.14293 0.002260       0.002260
## lambdaS[19] 2.4994 0.30934 0.004891       0.004891
## lambdaS[20] 2.1977 0.23782 0.003760       0.003678
##
```

```
## 2. Quantiles for each variable:
##
##               2.5%    25%    50%    75%  97.5%
## lambda[1]   1.0000 1.0000 1.0000 1.0000 1.0000
## lambda[2]   1.2041 1.3994 1.5251 1.6624 1.9630
## lambda[3]   1.0052 1.1657 1.2772 1.3897 1.6368
## lambda[4]   0.5640 0.6681 0.7387 0.8110 0.9760
## lambda[5]   0.4491 0.5420 0.5996 0.6589 0.7931
## lambda[6]   0.8460 1.0138 1.1269 1.2366 1.4927
## lambda[7]   1.0472 1.2496 1.3657 1.4960 1.7917
## lambda[8]   0.4603 0.5507 0.6143 0.6797 0.8199
## lambda[9]   0.3004 0.3725 0.4154 0.4642 0.5751
## lambda[10]  1.2047 1.4108 1.5400 1.6903 2.0148
## lambda[11]  1.1265 1.3343 1.4640 1.6188 1.9669
## lambda[12]  0.7404 0.8827 0.9658 1.0618 1.2891
## lambda[13]  1.1169 1.3488 1.4927 1.6559 2.0146
## lambda[14]  0.8673 1.0270 1.1307 1.2477 1.5030
## lambda[15]  1.0970 1.3056 1.4275 1.5767 1.8795
## lambda[16]  0.7612 0.9064 0.9956 1.0952 1.3020
## lambda[17]  1.2930 1.5603 1.7160 1.8894 2.2837
## lambda[18]  0.9423 1.1160 1.2244 1.3498 1.6081
## lambda[19]  1.4786 1.7888 1.9893 2.1969 2.6876
## lambda[20]  1.2959 1.5792 1.7491 1.9433 2.3507
## lambdaS[1]  0.9972 1.1581 1.2509 1.3514 1.5311
## lambdaS[2]  1.5929 1.7937 1.9073 2.0296 2.2725
## lambdaS[3]  1.3298 1.4979 1.5968 1.6929 1.9080
## lambdaS[4]  0.7616 0.8620 0.9228 0.9833 1.1082
## lambdaS[5]  0.5999 0.6964 0.7486 0.8013 0.9102
## lambdaS[6]  1.1341 1.3052 1.3978 1.5074 1.7061
## lambdaS[7]  1.4079 1.6059 1.7092 1.8186 2.0502
## lambdaS[8]  0.6090 0.7131 0.7674 0.8269 0.9494
## lambdaS[9]  0.3957 0.4766 0.5214 0.5695 0.6615
## lambdaS[10] 1.5938 1.8064 1.9298 2.0581 2.3627
## lambdaS[11] 1.5266 1.7241 1.8336 1.9553 2.2303
## lambdaS[12] 1.0049 1.1379 1.2102 1.2918 1.4573
## lambdaS[13] 1.5042 1.7324 1.8635 2.0216 2.3166
## lambdaS[14] 1.1691 1.3303 1.4179 1.5098 1.7009
## lambdaS[15] 1.4840 1.6821 1.7941 1.9081 2.1336
## lambdaS[16] 1.0342 1.1677 1.2441 1.3284 1.4978
## lambdaS[17] 1.7615 2.0086 2.1473 2.2954 2.5969
## lambdaS[18] 1.2796 1.4396 1.5314 1.6302 1.8351
## lambdaS[19] 1.9742 2.2797 2.4711 2.6898 3.1649
## lambdaS[20] 1.7671 2.0360 2.1816 2.3464 2.7050
```

```
summary(mcmc(model01.r2jags$BUGSoutput$sims.matrix[,grep(x = colnames(model01.r2jags$BUGSoutput$sims.ma
```

```
##
## Iterations = 1:4000
## Thinning interval = 1
## Number of chains = 1
## Sample size per chain = 4000
##
## 1. Empirical mean and standard deviation for each variable,
##    plus standard error of the mean:
##
```

```
##            Mean      SD Naive SE Time-series SE
## mu[1]   0.06408 0.08917 0.001410      0.0014132
## mu[2]   0.32214 0.12115 0.001915      0.0019155
## mu[3]  -0.03137 0.10519 0.001663      0.0016610
## mu[4]   0.09632 0.07398 0.001170      0.0011966
## mu[5]   0.26030 0.06911 0.001093      0.0010928
## mu[6]   1.41857 0.14207 0.002246      0.0021720
## mu[7]  -0.61715 0.11784 0.001863      0.0018791
## mu[8]   0.84541 0.07974 0.001261      0.0012609
## mu[9]   0.42840 0.06327 0.001000      0.0009639
## mu[10] -0.79225 0.14025 0.002218      0.0022836
## mu[11] -0.22250 0.11940 0.001888      0.0018878
## mu[12]  0.93691 0.10161 0.001607      0.0015609
## mu[13] -1.27484 0.16691 0.002639      0.0026391
## mu[14]  0.99354 0.11308 0.001788      0.0017880
## mu[15] -0.35679 0.11768 0.001861      0.0019749
## mu[16]  0.79036 0.09758 0.001543      0.0015429
## mu[17] -0.54511 0.14007 0.002215      0.0022788
## mu[18] -0.24609 0.10272 0.001624      0.0015887
## mu[19] -1.52022 0.21917 0.003465      0.0034654
## mu[20] -0.82719 0.15985 0.002527      0.0025275
##
## 2. Quantiles for each variable:
##
##            2.5%       25%      50%      75%     97.5%
## mu[1]  -0.10956  0.005762  0.06457  0.12448  0.234352
## mu[2]   0.08684  0.241970  0.31875  0.40141  0.569328
## mu[3]  -0.24560 -0.101193 -0.03018  0.04035  0.170384
## mu[4]  -0.04999  0.045594  0.09672  0.14484  0.242281
## mu[5]   0.12391  0.213584  0.25972  0.30514  0.400644
## mu[6]   1.15412  1.322699  1.41119  1.51007  1.712144
## mu[7]  -0.85878 -0.692088 -0.61445 -0.53761 -0.393747
## mu[8]   0.69632  0.790333  0.84378  0.89770  1.005056
## mu[9]   0.30074  0.385485  0.42889  0.47077  0.553414
## mu[10] -1.08153 -0.882052 -0.79092 -0.69839 -0.529173
## mu[11] -0.45685 -0.301499 -0.22258 -0.14210  0.008955
## mu[12]  0.74839  0.867266  0.93276  1.00543  1.145106
## mu[13] -1.62136 -1.384000 -1.26619 -1.15928 -0.969061
## mu[14]  0.77939  0.915182  0.98999  1.06619  1.220323
## mu[15] -0.58877 -0.436072 -0.35550 -0.27662 -0.125807
## mu[16]  0.60833  0.724089  0.78749  0.85499  0.993036
## mu[17] -0.84207 -0.634052 -0.54048 -0.44968 -0.283723
## mu[18] -0.44977 -0.314089 -0.24560 -0.17786 -0.042298
## mu[19] -1.98598 -1.654615 -1.50484 -1.36952 -1.134154
## mu[20] -1.15607 -0.927429 -0.82246 -0.71768 -0.531378
```

```
summary(mcmc(model01.r2jags$BUGSoutput$sims.matrix[,grep(x = colnames(model01.r2jags$BUGSoutput$sims.ma
```

```
##
## Iterations = 1:4000
## Thinning interval = 1
## Number of chains = 1
## Sample size per chain = 4000
##
## 1. Empirical mean and standard deviation for each variable,
```

```
##    plus standard error of the mean:
##
##           Mean             SD       Naive SE Time-series SE
##       1.598648       0.354224       0.005601       0.005741
##
## 2. Quantiles for each variable:
##
##   2.5%    25%    50%    75%  97.5%
## 0.9943 1.3411 1.5647 1.8264 2.3444
```

Now, let's look at model fit. We will have to use a slightly different version of the syntax from before:

```
# list number of simulated data sets
nSimulatedDataSets = 5000

# create one large matrix of posterior values
model01.Posterior.all = model01.r2jags$BUGSoutput$sims.matrix
dim(model01.Posterior.all)
```

```
## [1] 4000 1134
```

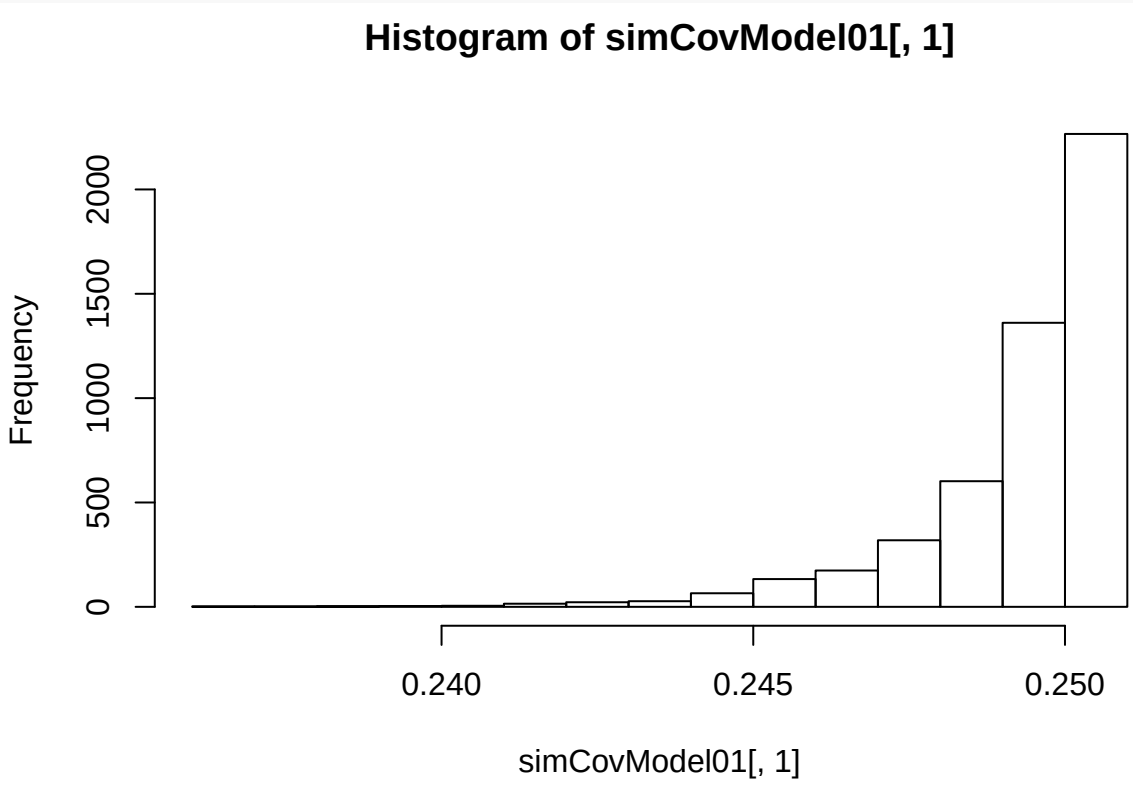
```
# determine columns of posterior that go into each model matrix
# colnames(model01.Posterior.all)
muCols = grep(x = colnames(model01.Posterior.all), pattern = "mu")
lambdaCols = grep(x = colnames(model01.Posterior.all), pattern = "lambda\\[")
varCol = grep(x = colnames(model01.Posterior.all), pattern = "theta.variance")

# save simulated covariances:
simCovModel01 = matrix(data = NA, nrow = nSimulatedDataSets, ncol = nItems*nItems)

# loop through data sets (can be sped up with functions and lapply)
pb = txtProgressBar()
sim = 1
for (sim in 1:nSimulatedDataSets){

  # draw sample from one iteration of posterior chain
  iternum = sample(x = 1:nrow(model01.Posterior.all), size = 1, replace = TRUE)

  # get parameters for that sample: put into factor model matrices for easier generation of data
  mu = matrix(data = model01.Posterior.all[iternum, muCols], ncol = 1)
  lambda = matrix(data = model01.Posterior.all[iternum, lambdaCols], ncol = 1)
  varTheta = model01.Posterior.all[iternum, varCol]

  # generate sample of thetas from theta distribution
  theta = matrix(data = rnorm(n = nrow(FSdata), mean = 0, sd = sqrt(varTheta)), nrow = nrow(FSdata), nc

  # calculate predicted probits:
  probits = matrix(data = 1, nrow = nrow(FSdata), ncol = 1) %*% t(mu) + theta %*% t(lambda)

  simData = probits
  i=1
  for (i in 1:ncol(probits)){
    simData[,i] = rbinom(n = nrow(probits), size = 1, prob = pnorm(q = probits[,i]) )
  }

  # calculate the value of SRMR using simulated data's covariance matrix and observed covariance matrix
```

```
  simCov = cov(simData)
  simCovModel01[sim,] = c(cov(simData))

  setTxtProgressBar(pb = pb, value = sim/nSimulatedDataSets)
}
```

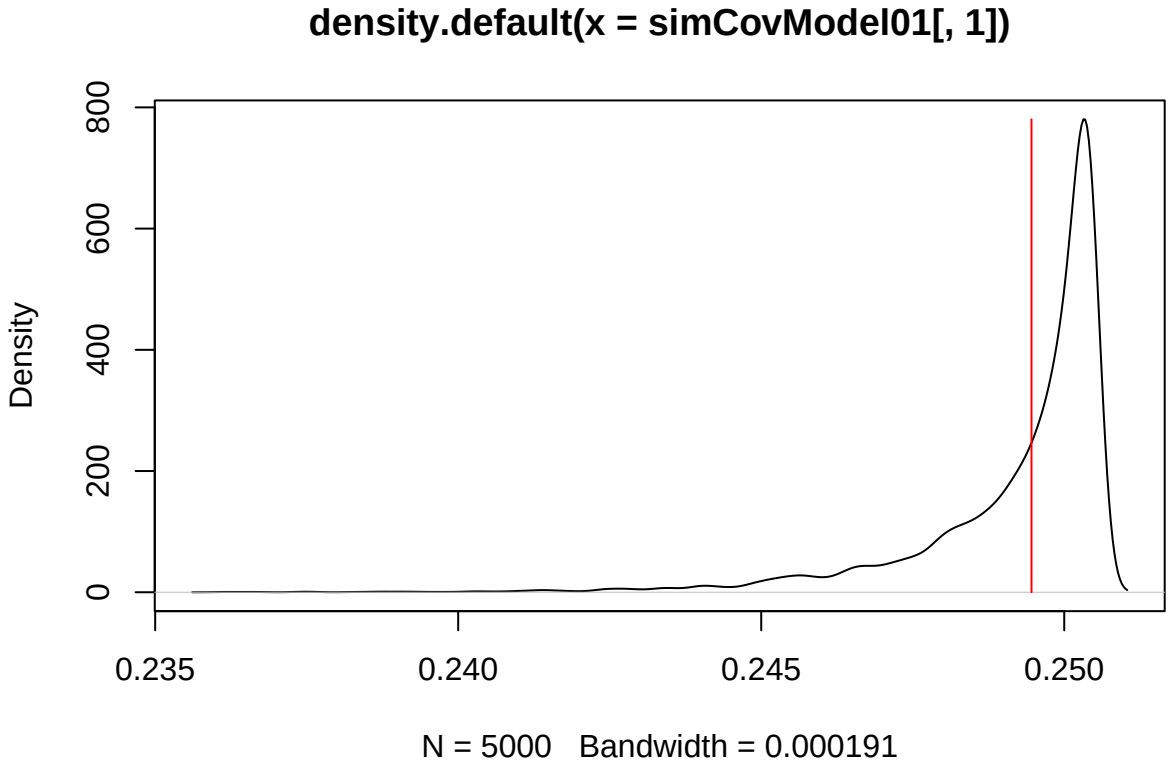
```
## ================================================================================
```

```
close(pb)
```

```
# label values of simCor to ensure we have the right comparison
covNames = NULL
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    covNames = c(covNames, paste0("cov", i, "." , j))
  }
}
colnames(simCovModel01) = covNames

# show how one correlation compares to distribution of simulated correlations
dataCov = cov(FSdata)
hist(simCovModel01[,1])
```




```
plot(density(simCovModel01[,1]))
lines(x = c(dataCov[1,1], dataCov[1,1]), y = c(0, max(density(simCovModel01[,1])$y)), col = 2)
```




```
quantile(simCovModel01[,1])
```

```
##        0%       25%       50%       75%      100%
## 0.2361836 0.2487795 0.2498779 0.2503417 0.2504673
```

```
mean(simCovModel01[,1])
```

```
## [1] 0.249264
```

```
dataCov[1,1]
```

```
## [1] 0.2494595
```

```
# create quantiles of correlations to see where each observed correlation falls
covQuantiles01 = NULL

# compute the quantiles of the observed correlations:

col = 1
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    # get empirical CDF of simulated correlation distribution
    covEcdf = ecdf(simCovModel01[,col])
    covQuantiles01 = rbind(covQuantiles01, c(i, j, summary(covEcdf), dataCov[i,j], covEcdf(dataCov[i,j])

    col = col + 1
  }
}
colnames(covQuantiles01)[1:2] = c("Item 1", "Item 2")
colnames(covQuantiles01)[9:10] = c("ObsCor", "CorPctile")
covQuantiles01[which(covQuantiles01[,10] > .975 | covQuantiles01[,10] < .025),]
```

```
##       Item 1 Item 2         Min.    1st Qu.     Median       Mean
##  [1,]      1      2  0.078720882 0.11056807 0.11982843 0.11962328
##  [2,]      1      3  0.069043800 0.10472782 0.11446855 0.11426385
##  [3,]      1      5  0.026175199 0.06641094 0.07533826 0.07535039
##  [4,]      1      6  0.038073650 0.06553128 0.07361905 0.07385127
##  [5,]      2      1  0.078720882 0.11056807 0.11982843 0.11962328
##  [6,]      2      3  0.091131957 0.12386316 0.13249407 0.13216583
##  [7,]      2      5  0.036936811 0.07746984 0.08659157 0.08651337
##  [8,]      3      1  0.069043800 0.10472782 0.11446855 0.11426385
##  [9,]      3      2  0.091131957 0.12386316 0.13249407 0.13216583
## [10,]      3     20  0.085214116 0.12058516 0.12913238 0.12891119
## [11,]      4      5  0.016668991 0.05608174 0.06496722 0.06490362
## [12,]      4      8  0.011103362 0.04552762 0.05369298 0.05355727
## [13,]      4      9  0.007455712 0.03849997 0.04724683 0.04710361
## [14,]      4     10  0.052531734 0.08552274 0.09348584 0.09367866
## [15,]      4     11  0.055182034 0.09105960 0.10011508 0.10006951
## [16,]      4     13  0.041494630 0.07298089 0.08095969 0.08102367
## [17,]      4     17  0.057368531 0.09172130 0.10049867 0.10052477
## [18,]      4     19  0.049595481 0.07963802 0.08780862 0.08752609
## [19,]      4     20  0.059743339 0.08841802 0.09689985 0.09683306
## [20,]      5      1  0.026175199 0.06641094 0.07533826 0.07535039
## [21,]      5      2  0.036936811 0.07746984 0.08659157 0.08651337
## [22,]      5      4  0.016668991 0.05608174 0.06496722 0.06490362
## [23,]      5      9 -0.004644999 0.03247053 0.04111103 0.04117677
## [24,]      6      1  0.038073650 0.06553128 0.07361905 0.07385127
## [25,]      6     12  0.026279816 0.06294462 0.07152148 0.07177308
## [26,]      6     14  0.035709304 0.06883457 0.07766076 0.07782788
## [27,]      6     16  0.033700656 0.06610755 0.07496861 0.07512898
## [28,]      7     15  0.084314409 0.11964360 0.12840354 0.12823861
## [29,]      8      4  0.011103362 0.04552762 0.05369298 0.05355727
## [30,]      9      4  0.007455712 0.03849997 0.04724683 0.04710361
## [31,]      9      5 -0.004644999 0.03247053 0.04111103 0.04117677
## [32,]     10      4  0.052531734 0.08552274 0.09348584 0.09367866
## [33,]     10     11  0.083582090 0.12354582 0.13178965 0.13154449
## [34,]     10     20  0.095620031 0.12733645 0.13614172 0.13596994
## [35,]     11      4  0.055182034 0.09105960 0.10011508 0.10006951
## [36,]     11     10  0.083582090 0.12354582 0.13178965 0.13154449
## [37,]     11     17  0.099135165 0.13343039 0.14179802 0.14170583
## [38,]     11     18  0.082229042 0.12107337 0.12962408 0.12939199
## [39,]     11     20  0.091791045 0.12894232 0.13715302 0.13703517
## [40,]     12      6  0.026279816 0.06294462 0.07152148 0.07177308
## [41,]     12     14  0.040835542 0.07393291 0.08318629 0.08317948
## [42,]     12     16  0.037355280 0.07194257 0.08081671 0.08100022
## [43,]     13      4  0.041494630 0.07298089 0.08095969 0.08102367
## [44,]     14      6  0.035709304 0.06883457 0.07766076 0.07782788
## [45,]     14     12  0.040835542 0.07393291 0.08318629 0.08317948
## [46,]     14     16  0.046966104 0.07914109 0.08791672 0.08815561
## [47,]     15      7  0.084314409 0.11964360 0.12840354 0.12823861
## [48,]     16      6  0.033700656 0.06610755 0.07496861 0.07512898
## [49,]     16     12  0.037355280 0.07194257 0.08081671 0.08100022
## [50,]     16     14  0.046966104 0.07914109 0.08791672 0.08815561
## [51,]     17      4  0.057368531 0.09172130 0.10049867 0.10052477
## [52,]     17     11  0.099135165 0.13343039 0.14179802 0.14170583
## [53,]     17     18  0.091477193 0.12453445 0.13308341 0.13288438
```

```
## [54,]     17     20  0.102385270 0.13534663 0.14388339 0.14364162
## [55,]     18     11  0.082229042 0.12107337 0.12962408 0.12939199
## [56,]     18     17  0.091477193 0.12453445 0.13308341 0.13288438
## [57,]     19      4  0.049595481 0.07963802 0.08780862 0.08752609
## [58,]     20      3  0.085214116 0.12058516 0.12913238 0.12891119
## [59,]     20      4  0.059743339 0.08841802 0.09689985 0.09683306
## [60,]     20     10  0.095620031 0.12733645 0.13614172 0.13596994
## [61,]     20     11  0.091791045 0.12894232 0.13715302 0.13703517
## [62,]     20     17  0.102385270 0.13534663 0.14388339 0.14364162
##          3rd Qu.       Max.     ObsCor CorPctile
##  [1,] 0.12866334 0.16563328 0.19196192    1.0000
##  [2,] 0.12366090 0.15914702 0.18363789    1.0000
##  [3,] 0.08440159 0.11941693 0.10948180    0.9970
##  [4,] 0.08205119 0.10933185 0.09624076    0.9784
##  [5,] 0.12866334 0.16563328 0.19196192    1.0000
##  [6,] 0.14032641 0.17383178 0.20165992    1.0000
##  [7,] 0.09526085 0.13271028 0.11506138    0.9888
##  [8,] 0.12366090 0.15914702 0.18363789    1.0000
##  [9,] 0.14032641 0.17383178 0.20165992    1.0000
## [10,] 0.13736749 0.16634817 0.10255266    0.0094
## [11,] 0.07392942 0.10305482 0.04063677    0.0210
## [12,] 0.06148870 0.09296973 0.10332334    1.0000
## [13,] 0.05603205 0.08760287 0.02016669    0.0140
## [14,] 0.10221440 0.14813433 0.12479077    0.9952
## [15,] 0.10904764 0.13963593 0.14933045    1.0000
## [16,] 0.08913726 0.12419096 0.10201562    0.9780
## [17,] 0.10935974 0.14884921 0.13365881    0.9970
## [18,] 0.09585019 0.12740968 0.11094295    0.9882
## [19,] 0.10545491 0.14481448 0.13107128    0.9988
## [20,] 0.08440159 0.11941693 0.10948180    0.9970
## [21,] 0.09526085 0.13271028 0.11506138    0.9888
## [22,] 0.07392942 0.10305482 0.04063677    0.0210
## [23,] 0.04991369 0.08712512 0.07171502    0.9942
## [24,] 0.08205119 0.10933185 0.09624076    0.9784
## [25,] 0.08052030 0.11457316 0.10325708    0.9950
## [26,] 0.08662645 0.13027619 0.10919933    0.9954
## [27,] 0.08397615 0.11622263 0.10382899    0.9926
## [28,] 0.13688450 0.16642488 0.16519738    0.9998
## [29,] 0.06148870 0.09296973 0.10332334    1.0000
## [30,] 0.05603205 0.08760287 0.02016669    0.0140
## [31,] 0.04991369 0.08712512 0.07171502    0.9942
## [32,] 0.10221440 0.14813433 0.12479077    0.9952
## [33,] 0.13992189 0.16594016 0.16047566    0.9982
## [34,] 0.14454596 0.17458502 0.16202399    0.9890
## [35,] 0.10904764 0.13963593 0.14933045    1.0000
## [36,] 0.13992189 0.16594016 0.16047566    0.9982
## [37,] 0.15012380 0.17653090 0.17581253    0.9998
## [38,] 0.13777985 0.17054680 0.15524480    0.9904
## [39,] 0.14526956 0.17428512 0.17660762    1.0000
## [40,] 0.08052030 0.11457316 0.10325708    0.9950
## [41,] 0.09245275 0.12214744 0.11531246    0.9972
## [42,] 0.09004655 0.12610545 0.11384084    0.9964
## [43,] 0.08913726 0.12419096 0.10201562    0.9780
## [44,] 0.08662645 0.13027619 0.10919933    0.9954
```

```
## [45,] 0.09245275 0.12214744 0.11531246    0.9972
## [46,] 0.09722416 0.13873623 0.12652044    0.9994
## [47,] 0.13688450 0.16642488 0.16519738    0.9998
## [48,] 0.08397615 0.11622263 0.10382899    0.9926
## [49,] 0.09004655 0.12610545 0.11384084    0.9964
## [50,] 0.09722416 0.13873623 0.12652044    0.9994
## [51,] 0.10935974 0.14884921 0.13365881    0.9970
## [52,] 0.15012380 0.17653090 0.17581253    0.9998
## [53,] 0.14155566 0.17014228 0.15580974    0.9836
## [54,] 0.15201214 0.18350886 0.17776538    0.9990
## [55,] 0.13777985 0.17054680 0.15524480    0.9904
## [56,] 0.14155566 0.17014228 0.15580974    0.9836
## [57,] 0.09585019 0.12740968 0.11094295    0.9882
## [58,] 0.13736749 0.16634817 0.10255266    0.0094
## [59,] 0.10545491 0.14481448 0.13107128    0.9988
## [60,] 0.14454596 0.17458502 0.16202399    0.9890
## [61,] 0.14526956 0.17428512 0.17660762    1.0000
## [62,] 0.15201214 0.18350886 0.17776538    0.9990
```

Creating Standardized Estimates

Our previous example used a standardized mean/marker item variance scale identification technique. We will see with multivariate IRT models, this will be a common method of identification. But, we can convert these results to one where the theta variance is set to one with a bit of math:

First, the kernel of the model must be the same after standardization. That is, $\mu_i + \lambda_i\theta_p = \mu_i^S + \lambda_i^S\theta_i^S$ – meaning that item response probabilities are invariant after transformation. As θ_p has mean 0 and variance σ_θ^2, to standardize it, we can divide by σ_θ:

$$\theta_p^S = \frac{\theta_p}{\sigma_\theta}$$

Now, θ_p^S has variance 1. To make the item response probabilities correspond, we must transform λ_i similarly. We can do so by taking:

$$\lambda^S = \sigma_\theta\lambda_p$$

As this term cancels the variance transformation for θ_p, we are left with:

$$\mu_i^S = \mu_i$$

In the model syntax above, you can see how this is computed for `lambdaS` and `thetaS`.

Transforming from Slope/Intercept to Discrimination/Difficulty

The IRT model core $a_i\left(\theta_p - b_i\right)$ can be reparameterized as

$$\mu_i + \lambda_i\theta_i,$$

Which comes from multiplying a_i through $(\theta_p - b_i)$:

$$a_i\left(\theta_p - b_i\right) = -a_i b_i + a_i\theta_i = \mu_i + \lambda_i\theta_i$$

Where,

- $\lambda_i = a_i$
- $\mu_i = -a_i b_i$, leading to $b_i = -\frac{\mu_i}{a_i} = -\frac{\mu_i}{\lambda_i}$

Finally, we can transform our standardized parameters to values are in the Discrimination/Difficulty parameterization (which often uses standardized θ_p). To do this, all we need to create is the difficulty parameter as the discrimination parameter is equal to the standardized loading. This is not in the model syntax as JAGS has an issue with running this code. So, we can do this with the posterior distribution:

```
muCols = grep(x = colnames(model01.Posterior.all), pattern = "mu")
lambdaCols = grep(x = colnames(model01.Posterior.all), pattern = "lambda\\[")
varCol = grep(x = colnames(model01.Posterior.all), pattern = "theta.variance")

b = matrix(data = NA, nrow = nrow(model01.Posterior.all), ncol = nItems)

for (rep in 1:nrow(model01.Posterior.all)){
  mu = matrix(data = model01.Posterior.all[rep, muCols], ncol = 1)
  lambda = matrix(data = model01.Posterior.all[rep, lambdaCols], ncol = 1)
  varTheta = model01.Posterior.all[rep, varCol]
  for (item in 1:nItems){
    b[rep,item] = -1*mu[item]/(lambda[item]*sqrt(varTheta))
  }
}

summary(mcmc(b))
```

```
##
## Iterations = 1:4000
## Thinning interval = 1
## Number of chains = 1
## Sample size per chain = 4000
##
## 1. Empirical mean and standard deviation for each variable,
##    plus standard error of the mean:
##
##           Mean      SD  Naive SE Time-series SE
##  [1,] -0.05218 0.07199 0.0011383      0.0011132
##  [2,] -0.16902 0.06357 0.0010052      0.0010052
##  [3,]  0.01885 0.06556 0.0010366      0.0010376
##  [4,] -0.10501 0.08105 0.0012816      0.0013165
##  [5,] -0.34942 0.09586 0.0015157      0.0015157
##  [6,] -1.01216 0.09168 0.0014496      0.0013835
##  [7,]  0.36023 0.06328 0.0010006      0.0010475
##  [8,] -1.10609 0.13329 0.0021074      0.0021074
##  [9,] -0.83120 0.15492 0.0024495      0.0024495
## [10,]  0.40876 0.06269 0.0009912      0.0009912
## [11,]  0.12038 0.06329 0.0010006      0.0010006
## [12,] -0.77419 0.08734 0.0013810      0.0013810
## [13,]  0.68032 0.06821 0.0010784      0.0010526
## [14,] -0.70147 0.07937 0.0012550      0.0012550
## [15,]  0.19866 0.06368 0.0010069      0.0010069
## [16,] -0.63553 0.08135 0.0012862      0.0012862
```

```
## [17,]  0.25288 0.05990 0.0009470      0.0010078
## [18,]  0.15997 0.06555 0.0010364      0.0010312
## [19,]  0.60971 0.06185 0.0009779      0.0009779
## [20,]  0.37654 0.06093 0.0009634      0.0009643
##
## 2. Quantiles for each variable:
##
##            2.5%      25%      50%       75%    97.5%
## var1  -0.191067 -0.10066 -0.05182 -0.004798  0.08822
## var2  -0.298795 -0.21087 -0.16781 -0.126442 -0.04582
## var3  -0.108836 -0.02494  0.01834  0.062867  0.14782
## var4  -0.266316 -0.15835 -0.10481 -0.049637  0.05337
## var5  -0.549300 -0.41121 -0.34791 -0.286375 -0.16280
## var6  -1.198866 -1.07274 -1.00941 -0.949161 -0.83992
## var7   0.234358  0.31770  0.35924  0.403542  0.48610
## var8  -1.385015 -1.18987 -1.09556 -1.014163 -0.86606
## var9  -1.158443 -0.93227 -0.81933 -0.723043 -0.55723
## var10  0.284776  0.36623  0.41014  0.451681  0.52968
## var11 -0.004849  0.07787  0.12059  0.163863  0.24210
## var12 -0.950184 -0.83055 -0.77190 -0.713136 -0.60633
## var13  0.550789  0.63504  0.68003  0.725419  0.81430
## var14 -0.864681 -0.75314 -0.69843 -0.648384 -0.55479
## var15  0.073170  0.15607  0.19909  0.242881  0.31964
## var16 -0.795797 -0.69062 -0.63207 -0.579399 -0.48134
## var17  0.136305  0.21243  0.25299  0.292523  0.36952
## var18  0.028539  0.11752  0.15950  0.203733  0.28940
## var19  0.492291  0.56704  0.60861  0.652753  0.72830
## var20  0.252415  0.33661  0.37699  0.417727  0.49275
```

Of note, one can always convert one model parameterization to the other. Depending on prior selection, it is not guaranteed that the posterior distributions will be identical. Model 2 shows this same analysis in discrimination/difficulty form with a standardized factor variance:

Model 2: 2PNO/Standardized Theta/Discrimination/Difficulty Parameterization

```
# marker item:
model02.function = function(){

  # measurement model specification
    for (person in 1:N){
      for (item in 1:I){
        X[person, item] ~ dbern(phi(a[item]*(theta[person]-b[item])))
      }
    }

  # prior distributions for the factor:
    for (person in 1:N){
      theta[person] ~ dnorm(0, 1)
    }

  # prior distributions for the measurement model parameters
    for (item in 1:I){
```

```
      a[item] ~ dlnorm(a.mean.0, a.precision.0)
      b[item] ~ dnorm(b.mean.0, b.precision.0)
      mu[item] <- -1*a[item]*b[item]
    }

}
```

```
# specification of prior values for measurement model parameters:
#   item intercepts
a.mean.0 = 0
a.variance.0 = 100
a.precision.0 = 1 / a.variance.0

#   Factor loadings -- these are the discriminations
b.mean.0 = 0
b.variance.0 = 100
b.precision.0 = 1 / b.variance.0

# next, create data for JAGS to use:
model02.data = list(
  N = nrow(FSdata),
  X = FSdata,
  I = nItems,
  a.mean.0 = a.mean.0,
  a.precision.0 = a.precision.0,
  b.mean.0 = b.mean.0,
  b.precision.0 = b.precision.0
)

model02.parameters = c("mu", "a", "theta", "b")
```

```
# for reproducable analyses
model02.seed = 06042019+1
```

Here, we will use the R2jags `jags.parallel()` function, which will run somewhat faster (one chain per core):

```
model02.r2jags =  jags.parallel(
  data = model02.data,
  parameters.to.save = model02.parameters,
  model.file = model02.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  n.cluster = 4,
  jags.seed = model02.seed
)
model02.r2jags
```

```
## Inference for Bugs model at "model02.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##             mu.vect sd.vect     2.5%      25%      50%      75%    97.5%
## a[1]          1.433   0.131    1.188    1.344    1.427    1.519    1.704
## a[2]          1.873   0.174    1.557    1.752    1.864    1.986    2.233
```

```
## a[3]          1.561   0.146    1.297    1.461    1.554    1.653    1.865
## a[4]          0.891   0.085    0.735    0.831    0.890    0.948    1.066
## a[5]          0.725   0.076    0.575    0.673    0.724    0.778    0.873
## a[6]          1.352   0.139    1.084    1.259    1.346    1.441    1.628
## a[7]          1.655   0.164    1.355    1.540    1.650    1.762    2.008
## a[8]          0.741   0.081    0.588    0.685    0.739    0.796    0.905
## a[9]          0.499   0.070    0.366    0.452    0.498    0.544    0.641
## a[10]         1.865   0.189    1.521    1.734    1.857    1.984    2.259
## a[11]         1.774   0.160    1.479    1.664    1.765    1.880    2.101
## a[12]         1.177   0.115    0.957    1.102    1.173    1.248    1.422
## a[13]         1.810   0.210    1.442    1.663    1.797    1.940    2.256
## a[14]         1.381   0.134    1.135    1.287    1.373    1.467    1.663
## a[15]         1.733   0.170    1.418    1.615    1.723    1.843    2.089
## a[16]         1.211   0.114    0.990    1.133    1.209    1.291    1.430
## a[17]         2.073   0.211    1.691    1.927    2.064    2.209    2.506
## a[18]         1.482   0.142    1.225    1.382    1.477    1.576    1.770
## a[19]         2.366   0.298    1.835    2.165    2.339    2.548    3.002
## a[20]         2.095   0.227    1.680    1.937    2.084    2.242    2.578
## b[1]         -0.040   0.067   -0.172   -0.084   -0.040    0.005    0.093
## b[2]         -0.174   0.062   -0.299   -0.214   -0.173   -0.132   -0.054
## b[3]          0.019   0.064   -0.107   -0.025    0.018    0.061    0.147
## b[4]         -0.110   0.082   -0.271   -0.164   -0.109   -0.056    0.050
## b[5]         -0.362   0.099   -0.559   -0.428   -0.360   -0.294   -0.179
## b[6]         -1.038   0.092   -1.237   -1.096   -1.033   -0.975   -0.871
## b[7]          0.371   0.065    0.245    0.326    0.371    0.414    0.497
## b[8]         -1.141   0.134   -1.430   -1.226   -1.133   -1.047   -0.896
## b[9]         -0.864   0.168   -1.227   -0.964   -0.851   -0.747   -0.570
## b[10]         0.417   0.061    0.294    0.376    0.418    0.458    0.534
## b[11]         0.121   0.062    0.001    0.080    0.121    0.163    0.242
## b[12]        -0.796   0.089   -0.980   -0.854   -0.792   -0.737   -0.631
## b[13]         0.696   0.067    0.567    0.651    0.695    0.739    0.829
## b[14]        -0.721   0.079   -0.884   -0.772   -0.719   -0.668   -0.571
## b[15]         0.207   0.061    0.091    0.165    0.207    0.249    0.325
## b[16]        -0.651   0.081   -0.817   -0.705   -0.649   -0.595   -0.497
## b[17]         0.258   0.058    0.143    0.219    0.258    0.297    0.373
## b[18]         0.162   0.065    0.032    0.118    0.162    0.208    0.287
## b[19]         0.626   0.061    0.507    0.586    0.626    0.666    0.748
## b[20]         0.384   0.060    0.265    0.344    0.385    0.425    0.502
## mu[1]         0.055   0.095   -0.134   -0.007    0.057    0.118    0.242
## mu[2]         0.324   0.116    0.099    0.246    0.323    0.399    0.564
## mu[3]        -0.030   0.101   -0.240   -0.096   -0.028    0.038    0.159
## mu[4]         0.097   0.072   -0.045    0.050    0.097    0.145    0.238
## mu[5]         0.260   0.067    0.130    0.214    0.260    0.306    0.389
## mu[6]         1.396   0.130    1.147    1.307    1.392    1.483    1.656
## mu[7]        -0.613   0.116   -0.843   -0.690   -0.611   -0.533   -0.391
## mu[8]         0.838   0.076    0.687    0.786    0.838    0.890    0.989
## mu[9]         0.424   0.064    0.301    0.380    0.424    0.467    0.548
## mu[10]       -0.777   0.135   -1.057   -0.865   -0.775   -0.686   -0.525
## mu[11]       -0.215   0.112   -0.440   -0.289   -0.213   -0.139   -0.002
## mu[12]        0.931   0.095    0.754    0.867    0.930    0.994    1.118
## mu[13]       -1.256   0.167   -1.609   -1.364   -1.245   -1.138   -0.961
## mu[14]        0.991   0.112    0.780    0.916    0.988    1.066    1.219
## mu[15]       -0.358   0.111   -0.583   -0.430   -0.358   -0.281   -0.154
## mu[16]        0.784   0.094    0.607    0.719    0.782    0.846    0.973
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## mu[17]       -0.535   0.132   -0.808   -0.621   -0.532   -0.444   -0.282
## mu[18]       -0.241   0.100   -0.437   -0.305   -0.239   -0.173   -0.047
## mu[19]       -1.479   0.213   -1.930   -1.613   -1.464   -1.332   -1.095
## mu[20]       -0.804   0.150   -1.118   -0.898   -0.798   -0.701   -0.523
## theta[1]      0.297   0.187   -0.061    0.173    0.297    0.421    0.665
## theta[2]      1.048   0.270    0.559    0.858    1.035    1.219    1.606
## theta[3]     -0.053   0.205   -0.448   -0.193   -0.054    0.083    0.351
## theta[4]      0.415   0.198    0.033    0.277    0.419    0.547    0.797
## theta[5]     -0.894   0.307   -1.541   -1.093   -0.879   -0.683   -0.336
## theta[6]     -0.934   0.317   -1.631   -1.135   -0.915   -0.711   -0.365
## theta[7]     -1.535   0.453   -2.482   -1.835   -1.504   -1.218   -0.740
## theta[8]     -1.357   0.374   -2.159   -1.602   -1.340   -1.092   -0.690
## theta[9]     -1.056   0.328   -1.738   -1.271   -1.036   -0.822   -0.473
## theta[10]    -1.078   0.324   -1.745   -1.287   -1.064   -0.858   -0.472
## theta[11]     0.233   0.204   -0.159    0.096    0.229    0.369    0.636
## theta[12]     0.425   0.196    0.042    0.293    0.427    0.557    0.806
## theta[13]    -0.398   0.229   -0.877   -0.547   -0.394   -0.241    0.037
## theta[14]    -1.112   0.332   -1.806   -1.322   -1.096   -0.883   -0.494
## theta[15]    -1.046   0.332   -1.729   -1.259   -1.039   -0.808   -0.440
## theta[16]    -0.525   0.240   -1.013   -0.679   -0.521   -0.359   -0.077
## theta[17]    -0.738   0.269   -1.284   -0.919   -0.728   -0.549   -0.244
## theta[18]    -1.059   0.328   -1.760   -1.269   -1.045   -0.824   -0.475
## theta[19]    -0.850   0.303   -1.470   -1.048   -0.836   -0.637   -0.301
## theta[20]    -1.692   0.490   -2.736   -2.010   -1.654   -1.343   -0.835
## theta[21]     0.708   0.210    0.298    0.568    0.706    0.849    1.123
## theta[22]     0.411   0.205    0.008    0.275    0.412    0.548    0.818
## theta[23]     1.691   0.491    0.890    1.340    1.627    1.991    2.797
## theta[24]     0.012   0.194   -0.377   -0.121    0.016    0.146    0.384
## theta[25]     0.129   0.200   -0.269   -0.005    0.132    0.268    0.519
## theta[26]    -1.767   0.494   -2.810   -2.077   -1.731   -1.417   -0.906
## theta[27]    -0.821   0.290   -1.424   -1.018   -0.808   -0.613   -0.297
## theta[28]    -2.007   0.533   -3.146   -2.340   -1.972   -1.629   -1.085
## theta[29]    -0.751   0.283   -1.332   -0.933   -0.736   -0.563   -0.218
## theta[30]     1.700   0.521    0.885    1.329    1.637    1.992    2.941
## theta[31]     0.450   0.195    0.075    0.320    0.453    0.580    0.833
## theta[32]     1.673   0.502    0.894    1.304    1.607    1.960    2.845
## theta[33]     1.026   0.266    0.536    0.849    1.014    1.190    1.581
## theta[34]     0.446   0.196    0.063    0.312    0.446    0.581    0.826
## theta[35]     0.816   0.227    0.383    0.661    0.808    0.961    1.284
## theta[36]     0.234   0.199   -0.154    0.102    0.231    0.365    0.624
## theta[37]    -0.120   0.201   -0.512   -0.253   -0.120    0.013    0.273
## theta[38]     0.081   0.203   -0.330   -0.060    0.081    0.220    0.480
## theta[39]     0.885   0.238    0.449    0.720    0.879    1.037    1.377
## theta[40]    -0.770   0.286   -1.374   -0.953   -0.757   -0.573   -0.252
## theta[41]    -1.760   0.495   -2.815   -2.076   -1.722   -1.406   -0.908
## theta[42]     1.724   0.513    0.914    1.350    1.647    2.025    2.897
## theta[43]     1.048   0.261    0.578    0.868    1.035    1.213    1.602
## theta[44]    -1.174   0.348   -1.923   -1.399   -1.152   -0.934   -0.563
## theta[45]     0.868   0.240    0.421    0.706    0.856    1.023    1.364
## theta[46]     0.502   0.202    0.125    0.366    0.496    0.631    0.910
## theta[47]    -0.855   0.301   -1.490   -1.049   -0.840   -0.648   -0.292
## theta[48]    -0.266   0.211   -0.690   -0.407   -0.263   -0.124    0.138
## theta[49]    -1.527   0.438   -2.464   -1.794   -1.485   -1.216   -0.796
## theta[50]     0.462   0.195    0.073    0.336    0.461    0.592    0.838
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## theta[51]    -1.672   0.468   -2.706   -1.974   -1.636   -1.338   -0.851
## theta[52]    -0.398   0.240   -0.893   -0.552   -0.395   -0.234    0.054
## theta[53]    -0.503   0.245   -1.002   -0.667   -0.494   -0.333   -0.048
## theta[54]     0.938   0.258    0.458    0.759    0.931    1.108    1.475
## theta[55]     0.012   0.199   -0.378   -0.121    0.012    0.144    0.398
## theta[56]     1.703   0.506    0.909    1.342    1.637    1.994    2.898
## theta[57]     1.171   0.301    0.628    0.961    1.149    1.356    1.813
## theta[58]    -1.811   0.507   -2.937   -2.109   -1.768   -1.463   -0.927
## theta[59]    -0.780   0.285   -1.357   -0.971   -0.767   -0.584   -0.247
## theta[60]     0.673   0.217    0.256    0.523    0.671    0.821    1.115
## theta[61]    -1.052   0.332   -1.765   -1.260   -1.031   -0.826   -0.459
## theta[62]    -1.674   0.453   -2.659   -1.960   -1.637   -1.358   -0.866
## theta[63]     0.360   0.201   -0.042    0.225    0.364    0.495    0.748
## theta[64]     0.687   0.219    0.276    0.538    0.680    0.827    1.137
## theta[65]     0.219   0.203   -0.180    0.082    0.223    0.354    0.610
## theta[66]    -0.037   0.200   -0.433   -0.164   -0.036    0.097    0.348
## theta[67]     0.340   0.198   -0.045    0.205    0.339    0.474    0.724
## theta[68]    -1.823   0.534   -3.017   -2.133   -1.766   -1.450   -0.921
## theta[69]    -2.059   0.588   -3.408   -2.399   -2.005   -1.632   -1.081
## theta[70]    -0.361   0.222   -0.815   -0.509   -0.355   -0.211    0.057
## theta[71]    -0.764   0.291   -1.363   -0.950   -0.750   -0.566   -0.237
## theta[72]    -0.815   0.291   -1.423   -1.003   -0.802   -0.611   -0.297
## theta[73]    -1.689   0.468   -2.683   -1.988   -1.669   -1.357   -0.846
## theta[74]     0.565   0.207    0.170    0.424    0.556    0.706    0.985
## theta[75]    -0.851   0.298   -1.489   -1.044   -0.837   -0.648   -0.295
## theta[76]    -2.000   0.553   -3.286   -2.335   -1.938   -1.617   -1.078
## theta[77]    -0.451   0.249   -0.966   -0.611   -0.442   -0.282    0.013
## theta[78]     0.553   0.208    0.146    0.411    0.550    0.692    0.969
## theta[79]     1.741   0.547    0.891    1.343    1.655    2.064    3.014
## theta[80]     0.414   0.194    0.043    0.281    0.412    0.542    0.794
## theta[81]    -0.885   0.308   -1.551   -1.086   -0.867   -0.666   -0.334
## theta[82]     0.702   0.226    0.283    0.542    0.698    0.852    1.158
## theta[83]    -1.735   0.484   -2.824   -2.038   -1.700   -1.396   -0.914
## theta[84]    -0.346   0.224   -0.786   -0.489   -0.345   -0.192    0.073
## theta[85]    -0.058   0.209   -0.487   -0.198   -0.052    0.085    0.335
## theta[86]     0.403   0.200    0.015    0.271    0.400    0.536    0.792
## theta[87]     0.470   0.196    0.084    0.340    0.472    0.596    0.860
## theta[88]     0.811   0.223    0.396    0.656    0.802    0.959    1.263
## theta[89]     1.721   0.529    0.881    1.339    1.642    2.029    2.943
## theta[90]     1.050   0.274    0.557    0.866    1.036    1.220    1.634
## theta[91]     0.313   0.200   -0.080    0.181    0.313    0.448    0.695
## theta[92]    -1.045   0.321   -1.710   -1.256   -1.034   -0.821   -0.459
## theta[93]     0.999   0.261    0.533    0.814    0.984    1.171    1.539
## theta[94]     1.172   0.303    0.642    0.963    1.148    1.356    1.836
## theta[95]     1.644   0.479    0.875    1.290    1.590    1.943    2.703
## theta[96]     1.058   0.277    0.557    0.867    1.041    1.238    1.655
## theta[97]    -0.029   0.202   -0.434   -0.162   -0.027    0.112    0.361
## theta[98]    -1.090   0.325   -1.770   -1.294   -1.076   -0.866   -0.491
## theta[99]     0.984   0.255    0.519    0.806    0.969    1.145    1.535
## theta[100]   -1.065   0.328   -1.772   -1.273   -1.047   -0.835   -0.480
## theta[101]   -0.726   0.276   -1.269   -0.908   -0.718   -0.541   -0.202
## theta[102]    1.359   0.378    0.731    1.090    1.326    1.578    2.209
## theta[103]   -0.737   0.285   -1.313   -0.930   -0.727   -0.535   -0.218
## theta[104]    1.161   0.302    0.616    0.949    1.138    1.357    1.815
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## theta[105]    0.488   0.202    0.088    0.353    0.489    0.623    0.888
## theta[106]   -0.154   0.219   -0.599   -0.296   -0.152   -0.007    0.270
## theta[107]   -0.420   0.231   -0.910   -0.566   -0.412   -0.262    0.003
## theta[108]    1.664   0.523    0.862    1.296    1.585    1.945    2.910
## theta[109]    0.191   0.199   -0.198    0.055    0.188    0.328    0.581
## theta[110]    0.408   0.200    0.015    0.277    0.409    0.542    0.816
## theta[111]   -1.060   0.336   -1.755   -1.282   -1.052   -0.824   -0.430
## theta[112]   -1.965   0.530   -3.098   -2.303   -1.928   -1.590   -1.054
## theta[113]    0.016   0.203   -0.394   -0.119    0.016    0.153    0.413
## theta[114]    0.086   0.197   -0.304   -0.045    0.087    0.221    0.479
## theta[115]    0.355   0.192   -0.016    0.227    0.353    0.484    0.735
## theta[116]    1.175   0.309    0.635    0.958    1.155    1.370    1.834
## theta[117]   -1.813   0.515   -2.942   -2.121   -1.773   -1.451   -0.939
## theta[118]   -0.063   0.203   -0.462   -0.200   -0.065    0.074    0.332
## theta[119]    0.429   0.191    0.063    0.302    0.428    0.556    0.810
## theta[120]   -2.026   0.567   -3.243   -2.370   -1.975   -1.620   -1.063
## theta[121]   -1.194   0.357   -1.939   -1.425   -1.178   -0.945   -0.545
## theta[122]   -0.647   0.269   -1.193   -0.823   -0.640   -0.461   -0.146
## theta[123]   -0.947   0.307   -1.578   -1.153   -0.939   -0.734   -0.374
## theta[124]    1.702   0.518    0.881    1.323    1.634    1.998    2.896
## theta[125]    0.608   0.209    0.211    0.462    0.605    0.750    1.036
## theta[126]    0.876   0.243    0.431    0.709    0.867    1.030    1.396
## theta[127]    1.130   0.291    0.619    0.927    1.105    1.313    1.752
## theta[128]    0.720   0.212    0.334    0.576    0.711    0.854    1.166
## theta[129]   -0.039   0.204   -0.440   -0.179   -0.035    0.105    0.352
## theta[130]    0.859   0.232    0.437    0.701    0.852    1.005    1.343
## theta[131]   -0.572   0.245   -1.070   -0.735   -0.561   -0.404   -0.108
## theta[132]    0.369   0.199   -0.028    0.236    0.365    0.502    0.763
## theta[133]   -0.390   0.226   -0.836   -0.540   -0.384   -0.233    0.048
## theta[134]   -1.690   0.468   -2.646   -2.000   -1.661   -1.357   -0.865
## theta[135]   -1.452   0.393   -2.265   -1.711   -1.441   -1.174   -0.744
## theta[136]    1.194   0.305    0.647    0.982    1.179    1.384    1.844
## theta[137]    0.252   0.199   -0.140    0.122    0.253    0.385    0.645
## theta[138]    1.118   0.284    0.594    0.920    1.106    1.297    1.725
## theta[139]   -1.506   0.439   -2.465   -1.787   -1.471   -1.191   -0.750
## theta[140]    1.086   0.277    0.595    0.894    1.072    1.258    1.670
## theta[141]    0.204   0.196   -0.180    0.077    0.203    0.334    0.589
## theta[142]    0.934   0.246    0.479    0.762    0.925    1.093    1.451
## theta[143]   -1.034   0.334   -1.727   -1.245   -1.019   -0.794   -0.427
## theta[144]   -0.733   0.269   -1.291   -0.910   -0.724   -0.549   -0.216
## theta[145]   -0.645   0.266   -1.183   -0.820   -0.634   -0.457   -0.155
## theta[146]    0.724   0.216    0.316    0.577    0.719    0.860    1.178
## theta[147]    1.000   0.256    0.533    0.821    0.984    1.166    1.528
## theta[148]   -1.995   0.546   -3.143   -2.337   -1.974   -1.610   -0.989
## theta[149]    0.480   0.199    0.090    0.347    0.479    0.614    0.875
## theta[150]    1.684   0.525    0.872    1.310    1.610    1.978    2.943
## theta[151]    0.825   0.226    0.411    0.665    0.818    0.974    1.284
## theta[152]    1.014   0.250    0.556    0.841    1.009    1.169    1.547
## theta[153]    0.842   0.229    0.416    0.680    0.833    0.992    1.311
## theta[154]    1.042   0.280    0.547    0.844    1.021    1.219    1.659
## theta[155]    0.710   0.213    0.315    0.562    0.705    0.846    1.147
## theta[156]    1.052   0.275    0.556    0.866    1.035    1.226    1.620
## theta[157]    0.703   0.208    0.307    0.565    0.698    0.838    1.127
## theta[158]    0.067   0.193   -0.323   -0.060    0.065    0.196    0.453
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## theta[159]    0.228   0.193   -0.145    0.096    0.230    0.358    0.612
## theta[160]    0.849   0.233    0.400    0.692    0.840    1.001    1.329
## theta[161]    0.690   0.216    0.278    0.546    0.687    0.832    1.130
## theta[162]    0.987   0.272    0.505    0.800    0.968    1.149    1.558
## theta[163]    1.185   0.309    0.642    0.966    1.159    1.377    1.856
## theta[164]    1.068   0.269    0.591    0.879    1.054    1.237    1.646
## theta[165]   -2.003   0.567   -3.182   -2.348   -1.961   -1.610   -1.052
## theta[166]   -1.492   0.437   -2.422   -1.751   -1.458   -1.186   -0.749
## theta[167]   -1.332   0.379   -2.154   -1.565   -1.317   -1.064   -0.656
## theta[168]    1.683   0.502    0.876    1.325    1.625    1.997    2.784
## theta[169]    0.955   0.251    0.491    0.781    0.937    1.114    1.474
## theta[170]   -2.028   0.545   -3.228   -2.359   -1.978   -1.645   -1.089
## theta[171]   -0.330   0.212   -0.751   -0.470   -0.323   -0.190    0.072
## theta[172]    0.602   0.209    0.197    0.460    0.599    0.741    1.025
## theta[173]    1.667   0.472    0.891    1.327    1.617    1.951    2.709
## theta[174]   -0.008   0.200   -0.421   -0.140   -0.010    0.130    0.379
## theta[175]   -0.529   0.248   -1.024   -0.695   -0.528   -0.358   -0.065
## theta[176]   -0.065   0.206   -0.474   -0.201   -0.061    0.073    0.326
## theta[177]    0.293   0.199   -0.096    0.160    0.295    0.422    0.676
## theta[178]   -0.516   0.242   -1.009   -0.674   -0.509   -0.354   -0.049
## theta[179]    0.465   0.199    0.082    0.328    0.463    0.593    0.854
## theta[180]    0.913   0.247    0.469    0.741    0.902    1.060    1.447
## theta[181]   -1.376   0.391   -2.199   -1.625   -1.359   -1.099   -0.664
## theta[182]    0.323   0.205   -0.088    0.188    0.325    0.461    0.728
## theta[183]    0.200   0.203   -0.201    0.065    0.201    0.337    0.597
## theta[184]    1.355   0.375    0.723    1.085    1.319    1.586    2.170
## theta[185]    1.159   0.296    0.625    0.951    1.139    1.345    1.801
## theta[186]    0.853   0.232    0.418    0.696    0.844    1.004    1.334
## theta[187]   -0.619   0.253   -1.142   -0.781   -0.612   -0.449   -0.146
## theta[188]   -0.552   0.256   -1.076   -0.719   -0.542   -0.379   -0.064
## theta[189]    1.697   0.494    0.887    1.336    1.639    1.999    2.786
## theta[190]    1.698   0.506    0.876    1.335    1.623    1.993    2.827
## theta[191]    0.953   0.249    0.493    0.780    0.945    1.111    1.476
## theta[192]    1.155   0.303    0.628    0.943    1.132    1.343    1.820
## theta[193]    1.159   0.306    0.624    0.947    1.133    1.343    1.828
## theta[194]   -0.240   0.204   -0.652   -0.375   -0.232   -0.098    0.145
## theta[195]   -1.063   0.332   -1.777   -1.267   -1.044   -0.841   -0.459
## theta[196]    1.162   0.298    0.628    0.951    1.146    1.356    1.789
## theta[197]    1.130   0.297    0.616    0.925    1.108    1.315    1.762
## theta[198]    1.670   0.488    0.864    1.314    1.622    1.973    2.741
## theta[199]    1.411   0.389    0.778    1.131    1.369    1.645    2.293
## theta[200]   -0.464   0.234   -0.943   -0.614   -0.454   -0.304   -0.019
## theta[201]    1.695   0.491    0.908    1.326    1.646    2.008    2.792
## theta[202]    0.954   0.248    0.507    0.780    0.941    1.113    1.494
## theta[203]    0.624   0.209    0.221    0.482    0.622    0.761    1.047
## theta[204]    1.116   0.288    0.607    0.920    1.099    1.292    1.742
## theta[205]   -0.075   0.210   -0.496   -0.218   -0.075    0.068    0.326
## theta[206]    0.304   0.198   -0.078    0.170    0.302    0.435    0.694
## theta[207]    0.473   0.199    0.090    0.340    0.471    0.605    0.872
## theta[208]   -0.191   0.214   -0.612   -0.332   -0.190   -0.044    0.224
## theta[209]    0.949   0.248    0.498    0.775    0.939    1.112    1.470
## theta[210]    1.724   0.502    0.906    1.355    1.675    2.032    2.897
## theta[211]   -0.797   0.284   -1.372   -0.990   -0.780   -0.600   -0.276
## theta[212]    0.146   0.197   -0.246    0.017    0.146    0.276    0.537
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## theta[213]    1.728   0.528    0.888    1.340    1.653    2.034    2.939
## theta[214]    1.165   0.303    0.624    0.950    1.141    1.353    1.808
## theta[215]   -0.621   0.260   -1.145   -0.790   -0.617   -0.441   -0.136
## theta[216]    1.693   0.482    0.905    1.342    1.637    1.988    2.729
## theta[217]   -1.662   0.450   -2.623   -1.947   -1.649   -1.348   -0.857
## theta[218]    0.926   0.248    0.468    0.755    0.919    1.088    1.431
## theta[219]    0.140   0.191   -0.228    0.013    0.136    0.269    0.515
## theta[220]    0.365   0.189   -0.010    0.242    0.365    0.486    0.737
## theta[221]    0.143   0.201   -0.263    0.010    0.142    0.276    0.532
## theta[222]    0.560   0.207    0.168    0.417    0.553    0.698    0.977
## theta[223]    1.704   0.500    0.895    1.346    1.648    1.999    2.844
## theta[224]   -1.826   0.520   -3.000   -2.138   -1.780   -1.458   -0.932
## theta[225]    0.845   0.228    0.421    0.692    0.836    0.993    1.314
## theta[226]   -0.486   0.238   -0.972   -0.638   -0.477   -0.321   -0.042
## theta[227]   -1.983   0.533   -3.159   -2.320   -1.932   -1.599   -1.080
## theta[228]   -0.848   0.285   -1.439   -1.032   -0.838   -0.647   -0.320
## theta[229]    1.000   0.262    0.512    0.819    0.989    1.169    1.541
## theta[230]    0.173   0.199   -0.227    0.042    0.176    0.307    0.567
## theta[231]   -1.997   0.557   -3.163   -2.360   -1.951   -1.590   -1.050
## theta[232]    0.370   0.201   -0.027    0.237    0.371    0.505    0.764
## theta[233]   -0.690   0.274   -1.258   -0.878   -0.680   -0.497   -0.184
## theta[234]    0.820   0.232    0.391    0.662    0.812    0.967    1.300
## theta[235]   -0.580   0.255   -1.106   -0.745   -0.572   -0.402   -0.116
## theta[236]   -0.130   0.203   -0.546   -0.263   -0.129    0.007    0.271
## theta[237]   -0.005   0.209   -0.420   -0.149   -0.005    0.141    0.387
## theta[238]    1.137   0.286    0.622    0.936    1.119    1.326    1.727
## theta[239]   -0.031   0.192   -0.417   -0.155   -0.026    0.097    0.335
## theta[240]   -0.515   0.245   -1.036   -0.670   -0.507   -0.351   -0.054
## theta[241]    0.737   0.221    0.324    0.591    0.730    0.880    1.187
## theta[242]    0.283   0.201   -0.111    0.149    0.285    0.414    0.675
## theta[243]    0.500   0.207    0.098    0.358    0.500    0.637    0.917
## theta[244]   -0.605   0.274   -1.189   -0.783   -0.591   -0.415   -0.102
## theta[245]    1.483   0.405    0.810    1.187    1.446    1.736    2.365
## theta[246]   -1.704   0.463   -2.677   -2.001   -1.660   -1.379   -0.880
## theta[247]    0.752   0.219    0.344    0.601    0.744    0.896    1.196
## theta[248]    0.888   0.242    0.445    0.720    0.879    1.044    1.382
## theta[249]   -1.302   0.376   -2.064   -1.545   -1.286   -1.041   -0.610
## theta[250]   -0.942   0.317   -1.577   -1.153   -0.935   -0.727   -0.358
## theta[251]   -1.361   0.385   -2.190   -1.599   -1.341   -1.090   -0.673
## theta[252]    0.180   0.197   -0.202    0.043    0.182    0.315    0.574
## theta[253]   -0.884   0.288   -1.481   -1.071   -0.873   -0.680   -0.362
## theta[254]    0.877   0.235    0.441    0.718    0.867    1.022    1.367
## theta[255]   -0.600   0.248   -1.102   -0.763   -0.592   -0.430   -0.137
## theta[256]    0.715   0.215    0.304    0.571    0.712    0.851    1.149
## theta[257]    1.679   0.466    0.899    1.342    1.636    1.968    2.715
## theta[258]    0.955   0.255    0.495    0.777    0.939    1.116    1.493
## theta[259]    0.286   0.202   -0.103    0.148    0.287    0.422    0.683
## theta[260]    0.490   0.205    0.099    0.353    0.486    0.624    0.901
## theta[261]   -1.034   0.333   -1.746   -1.242   -1.018   -0.803   -0.438
## theta[262]    0.618   0.202    0.242    0.483    0.611    0.750    1.026
## theta[263]   -0.504   0.255   -1.031   -0.675   -0.494   -0.329   -0.023
## theta[264]   -1.153   0.341   -1.875   -1.373   -1.131   -0.916   -0.527
## theta[265]   -0.697   0.264   -1.256   -0.863   -0.683   -0.518   -0.218
## theta[266]    0.871   0.246    0.416    0.704    0.860    1.027    1.376
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## theta[267]    1.169   0.313    0.595    0.949    1.156    1.372    1.802
## theta[268]   -0.126   0.208   -0.543   -0.261   -0.122    0.018    0.270
## theta[269]    0.365   0.198   -0.024    0.230    0.362    0.498    0.754
## theta[270]    0.762   0.225    0.338    0.608    0.755    0.908    1.220
## theta[271]   -0.679   0.282   -1.273   -0.858   -0.663   -0.488   -0.155
## theta[272]    0.299   0.192   -0.077    0.168    0.300    0.432    0.663
## theta[273]    1.055   0.269    0.573    0.860    1.038    1.224    1.634
## theta[274]   -0.315   0.220   -0.760   -0.459   -0.308   -0.165    0.098
## theta[275]    1.730   0.549    0.922    1.346    1.652    2.019    3.005
## theta[276]   -0.050   0.209   -0.463   -0.187   -0.051    0.095    0.359
## theta[277]    0.683   0.214    0.265    0.536    0.677    0.829    1.103
## theta[278]    1.652   0.485    0.877    1.306    1.592    1.937    2.730
## theta[279]    1.156   0.300    0.623    0.952    1.141    1.340    1.817
## theta[280]    1.683   0.486    0.875    1.339    1.625    1.970    2.776
## theta[281]    1.048   0.268    0.552    0.866    1.033    1.222    1.607
## theta[282]    1.724   0.532    0.887    1.335    1.661    2.027    3.014
## theta[283]    0.426   0.189    0.065    0.297    0.421    0.552    0.809
## theta[284]    1.179   0.305    0.642    0.963    1.158    1.363    1.836
## theta[285]    0.446   0.187    0.084    0.319    0.443    0.570    0.825
## theta[286]   -0.755   0.271   -1.307   -0.926   -0.744   -0.568   -0.254
## theta[287]    0.638   0.217    0.233    0.489    0.635    0.776    1.079
## theta[288]    0.864   0.234    0.432    0.707    0.857    1.008    1.354
## theta[289]    0.442   0.202    0.053    0.305    0.439    0.576    0.844
## theta[290]    1.049   0.274    0.561    0.862    1.026    1.226    1.635
## theta[291]   -1.987   0.538   -3.166   -2.332   -1.939   -1.610   -1.059
## theta[292]   -0.295   0.226   -0.748   -0.447   -0.292   -0.137    0.124
## theta[293]   -0.057   0.204   -0.464   -0.191   -0.056    0.083    0.340
## theta[294]   -0.690   0.273   -1.258   -0.871   -0.684   -0.505   -0.176
## theta[295]    1.162   0.293    0.646    0.953    1.144    1.352    1.790
## theta[296]   -1.078   0.339   -1.794   -1.290   -1.055   -0.844   -0.481
## theta[297]   -0.909   0.283   -1.492   -1.099   -0.897   -0.709   -0.388
## theta[298]    0.307   0.189   -0.065    0.179    0.307    0.433    0.686
## theta[299]   -0.822   0.281   -1.389   -1.006   -0.810   -0.623   -0.306
## theta[300]    0.936   0.253    0.476    0.757    0.927    1.097    1.469
## theta[301]    1.156   0.292    0.639    0.953    1.136    1.340    1.760
## theta[302]    1.123   0.287    0.604    0.927    1.104    1.299    1.736
## theta[303]    0.367   0.199   -0.023    0.237    0.368    0.501    0.767
## theta[304]   -0.280   0.215   -0.707   -0.428   -0.277   -0.129    0.126
## theta[305]    1.098   0.299    0.589    0.889    1.074    1.285    1.749
## theta[306]    0.481   0.202    0.102    0.342    0.476    0.615    0.883
## theta[307]   -0.424   0.240   -0.924   -0.578   -0.416   -0.263    0.029
## theta[308]   -0.406   0.237   -0.907   -0.562   -0.397   -0.242    0.031
## theta[309]   -1.333   0.398   -2.222   -1.575   -1.298   -1.056   -0.622
## theta[310]   -0.548   0.254   -1.065   -0.714   -0.543   -0.368   -0.074
## theta[311]    0.145   0.201   -0.260    0.011    0.145    0.280    0.539
## theta[312]   -1.493   0.434   -2.407   -1.754   -1.459   -1.198   -0.739
## theta[313]    0.508   0.208    0.106    0.370    0.506    0.646    0.906
## theta[314]   -0.467   0.248   -0.983   -0.629   -0.459   -0.294   -0.011
## theta[315]    0.832   0.231    0.399    0.676    0.827    0.980    1.309
## theta[316]   -0.245   0.226   -0.703   -0.395   -0.237   -0.093    0.185
## theta[317]   -0.345   0.231   -0.823   -0.496   -0.339   -0.191    0.095
## theta[318]    0.543   0.208    0.144    0.402    0.545    0.682    0.951
## theta[319]    0.754   0.222    0.340    0.605    0.744    0.899    1.215
## theta[320]   -0.622   0.269   -1.175   -0.795   -0.611   -0.443   -0.121
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## theta[321]   -0.245   0.223   -0.705   -0.386   -0.241   -0.092    0.176
## theta[322]    0.904   0.238    0.474    0.736    0.890    1.056    1.399
## theta[323]    1.151   0.297    0.629    0.944    1.129    1.334    1.780
## theta[324]    0.618   0.209    0.228    0.473    0.613    0.757    1.034
## theta[325]    0.868   0.242    0.422    0.702    0.854    1.025    1.371
## theta[326]   -0.496   0.247   -1.014   -0.657   -0.487   -0.322   -0.046
## theta[327]   -1.374   0.389   -2.179   -1.618   -1.351   -1.100   -0.664
## theta[328]    0.480   0.209    0.067    0.339    0.478    0.623    0.892
## theta[329]   -0.044   0.207   -0.466   -0.176   -0.039    0.095    0.345
## theta[330]   -0.340   0.239   -0.832   -0.495   -0.334   -0.178    0.116
## theta[331]   -0.204   0.223   -0.646   -0.354   -0.194   -0.049    0.211
## theta[332]    0.075   0.198   -0.304   -0.058    0.073    0.209    0.474
## theta[333]   -0.608   0.265   -1.145   -0.789   -0.600   -0.422   -0.113
## theta[334]   -1.759   0.483   -2.794   -2.058   -1.727   -1.421   -0.907
## theta[335]    0.585   0.206    0.195    0.439    0.582    0.724    0.992
## theta[336]    0.022   0.208   -0.386   -0.114    0.025    0.163    0.418
## theta[337]   -0.825   0.291   -1.419   -1.018   -0.812   -0.627   -0.285
## theta[338]   -0.742   0.290   -1.361   -0.926   -0.732   -0.542   -0.207
## theta[339]    0.232   0.202   -0.158    0.094    0.233    0.367    0.620
## theta[340]    1.164   0.295    0.624    0.961    1.145    1.351    1.804
## theta[341]    1.164   0.310    0.600    0.943    1.149    1.359    1.822
## theta[342]   -1.771   0.493   -2.848   -2.074   -1.731   -1.422   -0.925
## theta[343]   -1.300   0.386   -2.125   -1.538   -1.266   -1.032   -0.627
## theta[344]    0.869   0.240    0.419    0.707    0.860    1.022    1.358
## theta[345]   -1.321   0.393   -2.144   -1.568   -1.295   -1.041   -0.627
## theta[346]    0.915   0.246    0.482    0.744    0.900    1.075    1.418
## theta[347]   -0.257   0.215   -0.692   -0.402   -0.257   -0.110    0.160
## theta[348]    0.111   0.201   -0.302   -0.018    0.112    0.246    0.503
## theta[349]   -0.260   0.230   -0.731   -0.414   -0.260   -0.099    0.174
## theta[350]    0.709   0.214    0.305    0.561    0.702    0.855    1.143
## theta[351]    1.365   0.375    0.749    1.103    1.333    1.590    2.203
## theta[352]   -0.610   0.270   -1.164   -0.785   -0.604   -0.429   -0.102
## theta[353]   -1.316   0.377   -2.122   -1.549   -1.293   -1.051   -0.648
## theta[354]    1.161   0.309    0.637    0.935    1.135    1.359    1.827
## theta[355]   -0.182   0.224   -0.642   -0.324   -0.179   -0.026    0.236
## theta[356]    0.769   0.227    0.340    0.617    0.758    0.919    1.240
## theta[357]   -0.067   0.213   -0.498   -0.204   -0.063    0.081    0.333
## theta[358]    1.676   0.492    0.874    1.322    1.623    1.969    2.784
## theta[359]    0.927   0.247    0.458    0.761    0.921    1.085    1.433
## theta[360]    0.092   0.204   -0.318   -0.041    0.090    0.227    0.490
## theta[361]    0.748   0.219    0.344    0.602    0.742    0.891    1.196
## theta[362]    0.364   0.196   -0.021    0.229    0.362    0.498    0.749
## theta[363]    0.858   0.238    0.410    0.698    0.850    1.012    1.342
## theta[364]   -0.677   0.274   -1.247   -0.853   -0.666   -0.488   -0.177
## theta[365]    0.689   0.219    0.280    0.539    0.678    0.837    1.143
## theta[366]    0.234   0.202   -0.165    0.099    0.234    0.370    0.631
## theta[367]   -0.694   0.282   -1.277   -0.878   -0.681   -0.501   -0.163
## theta[368]    0.887   0.242    0.441    0.717    0.879    1.047    1.366
## theta[369]    1.061   0.264    0.579    0.879    1.049    1.234    1.624
## theta[370]    1.156   0.306    0.616    0.941    1.142    1.344    1.802
## theta[371]   -0.423   0.247   -0.930   -0.582   -0.419   -0.246    0.043
## theta[372]   -0.609   0.279   -1.210   -0.784   -0.598   -0.416   -0.104
## theta[373]   -0.235   0.227   -0.688   -0.387   -0.232   -0.082    0.195
## theta[374]    0.733   0.224    0.296    0.581    0.732    0.883    1.183
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## theta[375]    0.793   0.239    0.349    0.628    0.785    0.945    1.294
## theta[376]    0.706   0.218    0.290    0.556    0.702    0.851    1.141
## theta[377]   -0.606   0.273   -1.177   -0.778   -0.597   -0.416   -0.097
## theta[378]    0.072   0.204   -0.324   -0.066    0.074    0.211    0.468
## theta[379]    0.132   0.210   -0.298   -0.006    0.138    0.271    0.550
## theta[380]   -0.568   0.256   -1.100   -0.737   -0.558   -0.387   -0.098
## theta[381]   -0.244   0.225   -0.705   -0.383   -0.240   -0.089    0.184
## theta[382]   -0.205   0.222   -0.645   -0.352   -0.206   -0.056    0.215
## theta[383]    0.911   0.252    0.443    0.740    0.896    1.074    1.443
## theta[384]    0.668   0.215    0.252    0.522    0.666    0.809    1.083
## theta[385]    0.865   0.239    0.420    0.703    0.853    1.018    1.363
## theta[386]   -0.006   0.208   -0.410   -0.147    0.004    0.136    0.390
## theta[387]   -0.609   0.269   -1.159   -0.784   -0.599   -0.422   -0.115
## theta[388]   -0.135   0.222   -0.587   -0.279   -0.132    0.014    0.294
## theta[389]    1.173   0.301    0.644    0.963    1.153    1.358    1.822
## theta[390]   -0.367   0.244   -0.863   -0.523   -0.353   -0.198    0.087
## theta[391]   -0.250   0.226   -0.704   -0.399   -0.248   -0.097    0.179
## theta[392]   -0.759   0.291   -1.352   -0.943   -0.747   -0.561   -0.228
## theta[393]   -0.666   0.275   -1.225   -0.853   -0.658   -0.474   -0.160
## theta[394]    1.676   0.483    0.897    1.333    1.611    1.967    2.768
## theta[395]   -1.318   0.377   -2.075   -1.570   -1.304   -1.054   -0.616
## theta[396]    1.704   0.506    0.888    1.345    1.641    2.004    2.835
## theta[397]   -1.319   0.390   -2.151   -1.553   -1.288   -1.044   -0.652
## theta[398]   -0.099   0.217   -0.545   -0.242   -0.096    0.052    0.307
## theta[399]   -1.708   0.482   -2.784   -2.005   -1.673   -1.365   -0.873
## theta[400]    1.049   0.271    0.557    0.862    1.037    1.216    1.635
## theta[401]   -0.017   0.210   -0.426   -0.160   -0.017    0.124    0.394
## theta[402]    0.468   0.200    0.077    0.333    0.465    0.603    0.867
## theta[403]    0.833   0.230    0.408    0.677    0.824    0.981    1.308
## theta[404]   -0.318   0.233   -0.799   -0.470   -0.310   -0.157    0.116
## theta[405]    0.715   0.223    0.308    0.563    0.699    0.865    1.160
## theta[406]   -1.351   0.381   -2.157   -1.600   -1.339   -1.084   -0.657
## theta[407]   -0.399   0.243   -0.896   -0.559   -0.391   -0.231    0.045
## theta[408]   -1.362   0.383   -2.152   -1.611   -1.347   -1.089   -0.666
## theta[409]    0.695   0.216    0.288    0.546    0.693    0.838    1.128
## theta[410]    0.975   0.262    0.495    0.790    0.959    1.145    1.533
## theta[411]   -0.297   0.234   -0.758   -0.455   -0.293   -0.135    0.134
## theta[412]   -0.607   0.270   -1.159   -0.782   -0.595   -0.418   -0.111
## theta[413]    1.358   0.383    0.719    1.084    1.324    1.585    2.183
## theta[414]   -0.951   0.311   -1.607   -1.159   -0.937   -0.740   -0.376
## theta[415]   -1.516   0.412   -2.384   -1.771   -1.507   -1.223   -0.766
## theta[416]   -0.346   0.232   -0.821   -0.495   -0.338   -0.189    0.097
## theta[417]   -0.439   0.245   -0.949   -0.596   -0.429   -0.270    0.011
## theta[418]   -0.628   0.275   -1.194   -0.802   -0.618   -0.438   -0.121
## theta[419]   -0.091   0.215   -0.507   -0.235   -0.088    0.052    0.329
## theta[420]   -0.360   0.229   -0.832   -0.508   -0.353   -0.206    0.061
## theta[421]   -1.488   0.435   -2.442   -1.753   -1.456   -1.183   -0.730
## theta[422]    0.609   0.210    0.213    0.467    0.602    0.745    1.047
## theta[423]   -1.452   0.421   -2.345   -1.721   -1.434   -1.158   -0.706
## theta[424]   -0.530   0.262   -1.078   -0.696   -0.523   -0.354   -0.043
## theta[425]   -0.537   0.261   -1.076   -0.709   -0.530   -0.356   -0.051
## theta[426]   -1.376   0.398   -2.205   -1.628   -1.357   -1.103   -0.647
## theta[427]   -0.523   0.255   -1.033   -0.693   -0.517   -0.352   -0.046
## theta[428]    0.715   0.216    0.308    0.573    0.708    0.854    1.151
```

```
## theta[429]    0.865   0.241    0.429    0.696    0.853    1.016    1.374
## theta[430]   -0.511   0.263   -1.041   -0.688   -0.502   -0.329   -0.023
## theta[431]    1.676   0.513    0.868    1.305    1.616    1.968    2.899
## theta[432]    0.800   0.234    0.363    0.638    0.793    0.954    1.283
## theta[433]    0.803   0.239    0.361    0.639    0.796    0.958    1.295
## theta[434]    0.867   0.242    0.414    0.703    0.856    1.022    1.362
## theta[435]   -1.516   0.447   -2.473   -1.803   -1.481   -1.201   -0.754
## theta[436]   -1.388   0.397   -2.251   -1.641   -1.356   -1.113   -0.697
## theta[437]   -0.611   0.272   -1.167   -0.787   -0.604   -0.419   -0.115
## theta[438]    0.093   0.206   -0.322   -0.045    0.096    0.233    0.487
## theta[439]    0.675   0.216    0.272    0.529    0.672    0.817    1.115
## theta[440]    0.719   0.223    0.297    0.569    0.712    0.863    1.172
## theta[441]   -1.306   0.382   -2.119   -1.554   -1.286   -1.030   -0.636
## theta[442]   -1.376   0.383   -2.195   -1.628   -1.357   -1.110   -0.666
## theta[443]    0.686   0.216    0.279    0.539    0.682    0.827    1.113
## theta[444]    0.237   0.204   -0.168    0.102    0.236    0.376    0.617
## theta[445]    1.133   0.288    0.600    0.934    1.118    1.315    1.742
## theta[446]   -1.377   0.387   -2.222   -1.628   -1.351   -1.101   -0.682
## theta[447]    0.564   0.206    0.159    0.423    0.565    0.701    0.985
## theta[448]    0.311   0.202   -0.075    0.172    0.306    0.445    0.710
## theta[449]    0.033   0.202   -0.358   -0.101    0.038    0.167    0.429
## theta[450]   -0.458   0.248   -0.962   -0.619   -0.449   -0.288    0.007
## theta[451]   -0.766   0.291   -1.361   -0.957   -0.754   -0.562   -0.229
## theta[452]   -0.437   0.238   -0.932   -0.593   -0.431   -0.269    0.006
## theta[453]    1.070   0.282    0.571    0.876    1.055    1.240    1.693
## theta[454]   -1.367   0.382   -2.170   -1.611   -1.354   -1.103   -0.670
## theta[455]   -0.356   0.222   -0.808   -0.502   -0.347   -0.208    0.078
## theta[456]    0.954   0.263    0.486    0.777    0.939    1.111    1.540
## theta[457]   -0.064   0.214   -0.490   -0.204   -0.060    0.083    0.343
## theta[458]    0.904   0.242    0.457    0.740    0.893    1.061    1.412
## theta[459]    0.896   0.252    0.432    0.724    0.885    1.060    1.420
## theta[460]    0.115   0.207   -0.288   -0.025    0.118    0.256    0.511
## theta[461]    0.235   0.203   -0.162    0.094    0.238    0.372    0.634
## theta[462]   -0.759   0.286   -1.363   -0.935   -0.741   -0.563   -0.231
## theta[463]   -0.427   0.242   -0.917   -0.587   -0.420   -0.263    0.032
## theta[464]    0.561   0.206    0.171    0.421    0.555    0.696    0.971
## theta[465]    0.069   0.208   -0.343   -0.070    0.068    0.208    0.479
## theta[466]    0.720   0.228    0.284    0.562    0.716    0.868    1.180
## theta[467]   -0.402   0.243   -0.901   -0.563   -0.395   -0.238    0.041
## theta[468]    1.160   0.298    0.623    0.952    1.144    1.350    1.799
## theta[469]    0.161   0.205   -0.235    0.021    0.161    0.304    0.560
## theta[470]    0.470   0.205    0.072    0.331    0.466    0.612    0.873
## theta[471]    0.238   0.205   -0.171    0.105    0.234    0.378    0.632
## theta[472]    0.870   0.243    0.412    0.702    0.866    1.028    1.372
## theta[473]    0.771   0.231    0.343    0.612    0.765    0.916    1.261
## theta[474]    0.767   0.226    0.350    0.611    0.756    0.912    1.236
## theta[475]   -1.716   0.471   -2.687   -2.014   -1.685   -1.385   -0.889
## theta[476]    1.047   0.269    0.570    0.861    1.034    1.214    1.634
## theta[477]    0.107   0.206   -0.306   -0.028    0.110    0.245    0.504
## theta[478]    0.576   0.209    0.166    0.435    0.580    0.715    0.994
## theta[479]   -0.268   0.226   -0.723   -0.414   -0.261   -0.116    0.157
## theta[480]    0.637   0.210    0.238    0.493    0.632    0.778    1.058
## theta[481]    0.703   0.222    0.274    0.556    0.697    0.851    1.138
## theta[482]   -0.639   0.273   -1.199   -0.823   -0.627   -0.446   -0.144
```

```
## theta[483]   -0.080   0.218   -0.519   -0.224   -0.080    0.063    0.358
## theta[484]   -0.096   0.218   -0.543   -0.240   -0.092    0.055    0.309
## theta[485]   -0.094   0.216   -0.524   -0.242   -0.090    0.056    0.312
## theta[486]   -0.067   0.212   -0.487   -0.205   -0.065    0.079    0.335
## theta[487]    0.472   0.208    0.064    0.330    0.469    0.612    0.877
## theta[488]   -0.532   0.259   -1.064   -0.702   -0.529   -0.352   -0.046
## theta[489]    0.692   0.220    0.278    0.540    0.691    0.839    1.126
## theta[490]   -0.464   0.243   -0.962   -0.622   -0.453   -0.295   -0.015
## theta[491]   -1.364   0.384   -2.190   -1.607   -1.335   -1.095   -0.692
## theta[492]    0.155   0.198   -0.233    0.025    0.157    0.287    0.548
## theta[493]   -1.768   0.505   -2.937   -2.064   -1.720   -1.418   -0.912
## theta[494]    0.881   0.249    0.435    0.711    0.862    1.043    1.385
## theta[495]   -1.220   0.356   -1.962   -1.459   -1.207   -0.965   -0.571
## theta[496]    0.523   0.208    0.128    0.384    0.521    0.663    0.939
## theta[497]   -1.422   0.397   -2.267   -1.682   -1.398   -1.146   -0.714
## theta[498]   -1.636   0.461   -2.623   -1.935   -1.596   -1.305   -0.839
## theta[499]   -1.561   0.436   -2.469   -1.832   -1.533   -1.253   -0.802
## theta[500]   -0.765   0.284   -1.346   -0.949   -0.754   -0.565   -0.251
## theta[501]    0.029   0.213   -0.384   -0.114    0.033    0.174    0.440
## theta[502]   -0.499   0.249   -1.015   -0.662   -0.486   -0.330   -0.051
## theta[503]   -1.651   0.458   -2.678   -1.932   -1.620   -1.330   -0.861
## theta[504]   -0.663   0.282   -1.270   -0.844   -0.652   -0.470   -0.143
## theta[505]   -1.239   0.358   -1.979   -1.463   -1.221   -0.990   -0.575
## theta[506]   -1.559   0.432   -2.470   -1.830   -1.535   -1.263   -0.781
## theta[507]   -0.767   0.282   -1.339   -0.955   -0.753   -0.565   -0.255
## theta[508]   -0.680   0.287   -1.275   -0.864   -0.672   -0.489   -0.143
## theta[509]   -1.569   0.432   -2.518   -1.827   -1.534   -1.273   -0.805
## theta[510]   -1.012   0.296   -1.623   -1.205   -1.004   -0.811   -0.462
## theta[511]   -0.524   0.269   -1.071   -0.701   -0.513   -0.340   -0.030
## theta[512]   -0.613   0.274   -1.176   -0.792   -0.599   -0.427   -0.111
## theta[513]    0.529   0.205    0.138    0.388    0.522    0.667    0.947
## theta[514]   -0.613   0.277   -1.188   -0.789   -0.601   -0.433   -0.091
## theta[515]   -0.661   0.277   -1.227   -0.849   -0.652   -0.466   -0.150
## theta[516]   -0.569   0.262   -1.103   -0.742   -0.560   -0.385   -0.083
## theta[517]   -1.113   0.336   -1.813   -1.337   -1.101   -0.872   -0.509
## theta[518]    0.038   0.213   -0.384   -0.105    0.039    0.185    0.451
## theta[519]   -1.546   0.415   -2.454   -1.793   -1.521   -1.250   -0.822
## theta[520]    0.411   0.202    0.019    0.275    0.409    0.548    0.814
## theta[521]   -0.955   0.294   -1.559   -1.146   -0.946   -0.759   -0.405
## theta[522]   -1.446   0.403   -2.296   -1.696   -1.420   -1.163   -0.737
## theta[523]   -1.469   0.413   -2.343   -1.746   -1.437   -1.180   -0.713
## theta[524]   -1.384   0.398   -2.228   -1.636   -1.351   -1.103   -0.683
## theta[525]   -1.121   0.310   -1.743   -1.320   -1.111   -0.906   -0.555
## theta[526]   -1.457   0.403   -2.303   -1.720   -1.433   -1.176   -0.722
## theta[527]    0.041   0.210   -0.373   -0.093    0.043    0.183    0.452
## theta[528]    0.033   0.211   -0.401   -0.104    0.038    0.174    0.434
## theta[529]   -1.419   0.388   -2.234   -1.668   -1.406   -1.138   -0.723
## theta[530]   -1.110   0.315   -1.762   -1.314   -1.098   -0.885   -0.541
## theta[531]   -1.001   0.297   -1.606   -1.196   -0.995   -0.791   -0.450
## theta[532]   -2.019   0.567   -3.261   -2.375   -1.973   -1.610   -1.060
## theta[533]    0.635   0.210    0.230    0.494    0.629    0.772    1.052
## theta[534]   -1.978   0.530   -3.131   -2.311   -1.943   -1.607   -1.041
## theta[535]    0.602   0.210    0.204    0.457    0.595    0.739    1.019
## theta[536]    0.058   0.203   -0.341   -0.077    0.062    0.194    0.453
```

```
## deviance   7912.126  35.314 7845.416 7888.057 7911.740 7935.642 7982.101
##             Rhat n.eff
## a[1]       1.007   480
## a[2]       1.004   700
## a[3]       1.002  1400
## a[4]       1.004   820
## a[5]       1.001  4000
## a[6]       1.001  4000
## a[7]       1.002  1400
## a[8]       1.001  3000
## a[9]       1.012   240
## a[10]      1.003  1000
## a[11]      1.005   590
## a[12]      1.004   650
## a[13]      1.006   490
## a[14]      1.002  2200
## a[15]      1.004   720
## a[16]      1.002  1400
## a[17]      1.003  1000
## a[18]      1.003   890
## a[19]      1.005   580
## a[20]      1.005   580
## b[1]       1.002  2200
## b[2]       1.002  1400
## b[3]       1.002  1300
## b[4]       1.001  4000
## b[5]       1.001  3100
## b[6]       1.001  4000
## b[7]       1.002  2300
## b[8]       1.002  2000
## b[9]       1.005   530
## b[10]      1.001  3000
## b[11]      1.001  3400
## b[12]      1.002  1300
## b[13]      1.002  1900
## b[14]      1.001  3200
## b[15]      1.001  4000
## b[16]      1.002  2200
## b[17]      1.001  4000
## b[18]      1.001  3400
## b[19]      1.001  4000
## b[20]      1.001  4000
## mu[1]      1.002  2500
## mu[2]      1.001  3000
## mu[3]      1.003  1200
## mu[4]      1.001  4000
## mu[5]      1.001  4000
## mu[6]      1.002  1600
## mu[7]      1.001  2900
## mu[8]      1.001  4000
## mu[9]      1.001  4000
## mu[10]     1.003  1300
## mu[11]     1.001  3500
## mu[12]     1.001  4000
```

```
## mu[13]     1.002  1500
## mu[14]     1.001  4000
## mu[15]     1.002  1900
## mu[16]     1.001  4000
## mu[17]     1.001  4000
## mu[18]     1.002  1600
## mu[19]     1.004   720
## mu[20]     1.002  1500
## theta[1]   1.001  4000
## theta[2]   1.003   950
## theta[3]   1.002  1400
## theta[4]   1.001  4000
## theta[5]   1.001  4000
## theta[6]   1.005   620
## theta[7]   1.007   390
## theta[8]   1.001  3900
## theta[9]   1.003  1100
## theta[10]  1.002  1700
## theta[11]  1.001  4000
## theta[12]  1.002  2300
## theta[13]  1.001  3300
## theta[14]  1.004   960
## theta[15]  1.002  1800
## theta[16]  1.001  4000
## theta[17]  1.002  2100
## theta[18]  1.004   980
## theta[19]  1.001  4000
## theta[20]  1.009   360
## theta[21]  1.001  4000
## theta[22]  1.001  4000
## theta[23]  1.004   760
## theta[24]  1.001  3900
## theta[25]  1.002  2100
## theta[26]  1.010   310
## theta[27]  1.001  4000
## theta[28]  1.004   830
## theta[29]  1.001  2600
## theta[30]  1.007   490
## theta[31]  1.002  1600
## theta[32]  1.010   270
## theta[33]  1.007   440
## theta[34]  1.001  4000
## theta[35]  1.003   890
## theta[36]  1.001  3800
## theta[37]  1.001  4000
## theta[38]  1.002  1300
## theta[39]  1.001  4000
## theta[40]  1.006   480
## theta[41]  1.005   610
## theta[42]  1.005   540
## theta[43]  1.004   680
## theta[44]  1.004   830
## theta[45]  1.001  2600
## theta[46]  1.001  2800
```

```
## theta[47]  1.001  3700
## theta[48]  1.002  2400
## theta[49]  1.008   320
## theta[50]  1.002  2200
## theta[51]  1.001  2800
## theta[52]  1.001  3700
## theta[53]  1.001  3100
## theta[54]  1.001  4000
## theta[55]  1.002  2100
## theta[56]  1.009   310
## theta[57]  1.001  3000
## theta[58]  1.012   370
## theta[59]  1.001  4000
## theta[60]  1.001  4000
## theta[61]  1.005   580
## theta[62]  1.005   600
## theta[63]  1.001  4000
## theta[64]  1.001  4000
## theta[65]  1.002  2000
## theta[66]  1.002  2000
## theta[67]  1.001  4000
## theta[68]  1.004   850
## theta[69]  1.006   590
## theta[70]  1.002  1800
## theta[71]  1.001  3700
## theta[72]  1.008   320
## theta[73]  1.005   570
## theta[74]  1.001  4000
## theta[75]  1.001  4000
## theta[76]  1.007   900
## theta[77]  1.004   680
## theta[78]  1.002  1500
## theta[79]  1.011   250
## theta[80]  1.001  4000
## theta[81]  1.002  2400
## theta[82]  1.001  4000
## theta[83]  1.008   370
## theta[84]  1.002  1800
## theta[85]  1.001  2600
## theta[86]  1.001  4000
## theta[87]  1.001  4000
## theta[88]  1.002  2100
## theta[89]  1.003  2300
## theta[90]  1.001  4000
## theta[91]  1.002  1400
## theta[92]  1.004   650
## theta[93]  1.002  1300
## theta[94]  1.001  4000
## theta[95]  1.010   280
## theta[96]  1.003  1600
## theta[97]  1.001  4000
## theta[98]  1.001  3100
## theta[99]  1.002  1700
## theta[100] 1.007   380
```

```
## theta[101] 1.003  1100
## theta[102] 1.001  3000
## theta[103] 1.002  1600
## theta[104] 1.001  4000
## theta[105] 1.002  1800
## theta[106] 1.002  1300
## theta[107] 1.003  1000
## theta[108] 1.005  1600
## theta[109] 1.001  3600
## theta[110] 1.001  4000
## theta[111] 1.004   630
## theta[112] 1.006   430
## theta[113] 1.001  4000
## theta[114] 1.002  2100
## theta[115] 1.002  2400
## theta[116] 1.007   410
## theta[117] 1.014   200
## theta[118] 1.001  4000
## theta[119] 1.001  4000
## theta[120] 1.007   420
## theta[121] 1.001  2700
## theta[122] 1.002  1400
## theta[123] 1.001  3300
## theta[124] 1.001  2800
## theta[125] 1.001  4000
## theta[126] 1.004   810
## theta[127] 1.003   870
## theta[128] 1.002  2000
## theta[129] 1.001  4000
## theta[130] 1.003  1000
## theta[131] 1.001  4000
## theta[132] 1.002  1400
## theta[133] 1.001  4000
## theta[134] 1.004   630
## theta[135] 1.003  1200
## theta[136] 1.001  4000
## theta[137] 1.002  2000
## theta[138] 1.003  1200
## theta[139] 1.002  1400
## theta[140] 1.002  1300
## theta[141] 1.001  4000
## theta[142] 1.001  4000
## theta[143] 1.002  1700
## theta[144] 1.001  2700
## theta[145] 1.002  2200
## theta[146] 1.001  4000
## theta[147] 1.002  2300
## theta[148] 1.013   200
## theta[149] 1.004   700
## theta[150] 1.015   190
## theta[151] 1.001  4000
## theta[152] 1.002  2300
## theta[153] 1.002  2000
## theta[154] 1.004   830
```

```
## theta[155] 1.002  2100
## theta[156] 1.001  3100
## theta[157] 1.001  2800
## theta[158] 1.001  4000
## theta[159] 1.001  4000
## theta[160] 1.004   650
## theta[161] 1.002  1500
## theta[162] 1.004   770
## theta[163] 1.001  3500
## theta[164] 1.004   650
## theta[165] 1.015   210
## theta[166] 1.003  1200
## theta[167] 1.004   700
## theta[168] 1.004   640
## theta[169] 1.004   860
## theta[170] 1.006   570
## theta[171] 1.002  1600
## theta[172] 1.001  4000
## theta[173] 1.001  4000
## theta[174] 1.001  4000
## theta[175] 1.002  1500
## theta[176] 1.001  4000
## theta[177] 1.001  4000
## theta[178] 1.001  3100
## theta[179] 1.001  3600
## theta[180] 1.001  2900
## theta[181] 1.003  1200
## theta[182] 1.001  3300
## theta[183] 1.001  4000
## theta[184] 1.002  2100
## theta[185] 1.002  4000
## theta[186] 1.002  4000
## theta[187] 1.003   950
## theta[188] 1.001  4000
## theta[189] 1.004  1700
## theta[190] 1.004   680
## theta[191] 1.001  3900
## theta[192] 1.003  1000
## theta[193] 1.005   610
## theta[194] 1.005   600
## theta[195] 1.002  1300
## theta[196] 1.007   380
## theta[197] 1.002  1900
## theta[198] 1.001  4000
## theta[199] 1.003  1000
## theta[200] 1.001  4000
## theta[201] 1.006   450
## theta[202] 1.006   480
## theta[203] 1.001  4000
## theta[204] 1.001  2600
## theta[205] 1.001  4000
## theta[206] 1.001  4000
## theta[207] 1.001  4000
## theta[208] 1.002  1700
```

```
## theta[209] 1.001  3500
## theta[210] 1.007   360
## theta[211] 1.004   730
## theta[212] 1.001  3400
## theta[213] 1.001  2900
## theta[214] 1.001  2900
## theta[215] 1.002  2300
## theta[216] 1.003  1000
## theta[217] 1.010   270
## theta[218] 1.001  4000
## theta[219] 1.001  4000
## theta[220] 1.002  1300
## theta[221] 1.001  4000
## theta[222] 1.002  2100
## theta[223] 1.003  1300
## theta[224] 1.008   410
## theta[225] 1.003  1500
## theta[226] 1.001  4000
## theta[227] 1.004   770
## theta[228] 1.003   980
## theta[229] 1.001  4000
## theta[230] 1.001  4000
## theta[231] 1.011   280
## theta[232] 1.002  2100
## theta[233] 1.001  4000
## theta[234] 1.002  1800
## theta[235] 1.001  3000
## theta[236] 1.001  4000
## theta[237] 1.002  2300
## theta[238] 1.002  2400
## theta[239] 1.001  2900
## theta[240] 1.001  4000
## theta[241] 1.004   720
## theta[242] 1.002  2300
## theta[243] 1.002  2400
## theta[244] 1.001  3000
## theta[245] 1.002  1500
## theta[246] 1.002  1900
## theta[247] 1.001  4000
## theta[248] 1.002  1800
## theta[249] 1.009   330
## theta[250] 1.001  2900
## theta[251] 1.008   410
## theta[252] 1.001  4000
## theta[253] 1.001  4000
## theta[254] 1.002  2300
## theta[255] 1.002  2300
## theta[256] 1.001  4000
## theta[257] 1.007   410
## theta[258] 1.002  2200
## theta[259] 1.001  4000
## theta[260] 1.001  2700
## theta[261] 1.003  1200
## theta[262] 1.002  1600
```

```
## theta[263] 1.001  4000
## theta[264] 1.004   660
## theta[265] 1.002  2000
## theta[266] 1.002  4000
## theta[267] 1.004   830
## theta[268] 1.001  3100
## theta[269] 1.001  3900
## theta[270] 1.002  2300
## theta[271] 1.001  4000
## theta[272] 1.001  4000
## theta[273] 1.002  1400
## theta[274] 1.002  2000
## theta[275] 1.005  3400
## theta[276] 1.001  4000
## theta[277] 1.001  4000
## theta[278] 1.007   380
## theta[279] 1.001  2900
## theta[280] 1.002  1300
## theta[281] 1.001  4000
## theta[282] 1.006   480
## theta[283] 1.001  4000
## theta[284] 1.001  4000
## theta[285] 1.001  4000
## theta[286] 1.004   720
## theta[287] 1.001  4000
## theta[288] 1.002  2300
## theta[289] 1.001  4000
## theta[290] 1.001  2700
## theta[291] 1.001  3700
## theta[292] 1.001  4000
## theta[293] 1.002  2400
## theta[294] 1.004   840
## theta[295] 1.004   710
## theta[296] 1.005   570
## theta[297] 1.004   790
## theta[298] 1.001  4000
## theta[299] 1.001  4000
## theta[300] 1.001  3900
## theta[301] 1.002  1700
## theta[302] 1.001  2900
## theta[303] 1.001  3000
## theta[304] 1.002  2500
## theta[305] 1.003   840
## theta[306] 1.001  4000
## theta[307] 1.002  2200
## theta[308] 1.001  4000
## theta[309] 1.001  4000
## theta[310] 1.001  4000
## theta[311] 1.002  1300
## theta[312] 1.002  3100
## theta[313] 1.001  4000
## theta[314] 1.002  1600
## theta[315] 1.002  1500
## theta[316] 1.001  2900
```

```
## theta[317] 1.001  4000
## theta[318] 1.001  4000
## theta[319] 1.004  1500
## theta[320] 1.001  4000
## theta[321] 1.003  1200
## theta[322] 1.001  4000
## theta[323] 1.005   600
## theta[324] 1.001  4000
## theta[325] 1.001  4000
## theta[326] 1.002  1700
## theta[327] 1.003  1200
## theta[328] 1.002  1500
## theta[329] 1.001  4000
## theta[330] 1.002  2400
## theta[331] 1.002  2100
## theta[332] 1.001  4000
## theta[333] 1.001  2700
## theta[334] 1.006   500
## theta[335] 1.002  1300
## theta[336] 1.001  4000
## theta[337] 1.001  4000
## theta[338] 1.001  4000
## theta[339] 1.001  4000
## theta[340] 1.001  3400
## theta[341] 1.001  4000
## theta[342] 1.004   730
## theta[343] 1.001  2700
## theta[344] 1.001  4000
## theta[345] 1.005   590
## theta[346] 1.002  1300
## theta[347] 1.001  4000
## theta[348] 1.001  3200
## theta[349] 1.001  3200
## theta[350] 1.005   870
## theta[351] 1.009   300
## theta[352] 1.003  1200
## theta[353] 1.007   380
## theta[354] 1.003   920
## theta[355] 1.001  4000
## theta[356] 1.002  1700
## theta[357] 1.002  1500
## theta[358] 1.007   440
## theta[359] 1.001  4000
## theta[360] 1.002  1500
## theta[361] 1.001  3100
## theta[362] 1.002  2300
## theta[363] 1.001  4000
## theta[364] 1.001  4000
## theta[365] 1.002  1800
## theta[366] 1.001  4000
## theta[367] 1.005   540
## theta[368] 1.003  1100
## theta[369] 1.001  3700
## theta[370] 1.002  2100
```

```
## theta[371] 1.002  2400
## theta[372] 1.002  1400
## theta[373] 1.003   980
## theta[374] 1.001  2600
## theta[375] 1.001  3300
## theta[376] 1.001  4000
## theta[377] 1.001  4000
## theta[378] 1.002  1600
## theta[379] 1.001  4000
## theta[380] 1.002  1300
## theta[381] 1.002  2100
## theta[382] 1.001  4000
## theta[383] 1.003  1100
## theta[384] 1.001  3700
## theta[385] 1.003   950
## theta[386] 1.001  4000
## theta[387] 1.002  2200
## theta[388] 1.002  1900
## theta[389] 1.003   860
## theta[390] 1.001  4000
## theta[391] 1.001  2900
## theta[392] 1.003   940
## theta[393] 1.001  4000
## theta[394] 1.002  1900
## theta[395] 1.001  4000
## theta[396] 1.006   450
## theta[397] 1.005   580
## theta[398] 1.001  2900
## theta[399] 1.003  1500
## theta[400] 1.001  4000
## theta[401] 1.001  3800
## theta[402] 1.002  2300
## theta[403] 1.002  1400
## theta[404] 1.001  4000
## theta[405] 1.001  4000
## theta[406] 1.003  1000
## theta[407] 1.001  2700
## theta[408] 1.001  4000
## theta[409] 1.001  4000
## theta[410] 1.002  1500
## theta[411] 1.001  4000
## theta[412] 1.001  4000
## theta[413] 1.015   180
## theta[414] 1.002  1400
## theta[415] 1.002  2200
## theta[416] 1.001  3700
## theta[417] 1.002  1400
## theta[418] 1.001  2700
## theta[419] 1.001  4000
## theta[420] 1.002  1400
## theta[421] 1.001  4000
## theta[422] 1.002  2500
## theta[423] 1.003  1300
## theta[424] 1.002  1300
```

```
## theta[425] 1.001  2500
## theta[426] 1.007   390
## theta[427] 1.001  4000
## theta[428] 1.003   940
## theta[429] 1.005   780
## theta[430] 1.001  3100
## theta[431] 1.003   870
## theta[432] 1.003  1200
## theta[433] 1.001  3500
## theta[434] 1.001  4000
## theta[435] 1.004   780
## theta[436] 1.002  1500
## theta[437] 1.004   760
## theta[438] 1.001  4000
## theta[439] 1.001  3100
## theta[440] 1.001  2800
## theta[441] 1.002  1700
## theta[442] 1.007   680
## theta[443] 1.001  2900
## theta[444] 1.002  2500
## theta[445] 1.002  2400
## theta[446] 1.003   850
## theta[447] 1.001  4000
## theta[448] 1.001  4000
## theta[449] 1.001  4000
## theta[450] 1.001  3000
## theta[451] 1.001  2600
## theta[452] 1.002  1400
## theta[453] 1.002  2100
## theta[454] 1.003  1200
## theta[455] 1.001  4000
## theta[456] 1.001  4000
## theta[457] 1.002  2400
## theta[458] 1.004   670
## theta[459] 1.003  1100
## theta[460] 1.001  4000
## theta[461] 1.001  3500
## theta[462] 1.001  2900
## theta[463] 1.001  2500
## theta[464] 1.002  1900
## theta[465] 1.002  2100
## theta[466] 1.001  4000
## theta[467] 1.002  1500
## theta[468] 1.002  2000
## theta[469] 1.002  2100
## theta[470] 1.001  2700
## theta[471] 1.001  4000
## theta[472] 1.001  3100
## theta[473] 1.002  2100
## theta[474] 1.001  4000
## theta[475] 1.001  3200
## theta[476] 1.002  2400
## theta[477] 1.001  3200
## theta[478] 1.001  3200
```

```
## theta[479] 1.001  4000
## theta[480] 1.001  4000
## theta[481] 1.001  2800
## theta[482] 1.002  1700
## theta[483] 1.002  2100
## theta[484] 1.002  1900
## theta[485] 1.001  4000
## theta[486] 1.001  4000
## theta[487] 1.003   850
## theta[488] 1.003   880
## theta[489] 1.001  3900
## theta[490] 1.001  4000
## theta[491] 1.003   890
## theta[492] 1.002  1500
## theta[493] 1.008   350
## theta[494] 1.003  1200
## theta[495] 1.002  1900
## theta[496] 1.001  4000
## theta[497] 1.007   410
## theta[498] 1.005   840
## theta[499] 1.008   420
## theta[500] 1.007   410
## theta[501] 1.001  3400
## theta[502] 1.001  4000
## theta[503] 1.004   970
## theta[504] 1.005   550
## theta[505] 1.003  1300
## theta[506] 1.019   140
## theta[507] 1.002  2100
## theta[508] 1.002  1700
## theta[509] 1.002  2200
## theta[510] 1.004   790
## theta[511] 1.001  2600
## theta[512] 1.003  1100
## theta[513] 1.001  2800
## theta[514] 1.003   980
## theta[515] 1.002  1700
## theta[516] 1.002  2100
## theta[517] 1.003  1200
## theta[518] 1.001  4000
## theta[519] 1.009   310
## theta[520] 1.002  1900
## theta[521] 1.002  4000
## theta[522] 1.004   970
## theta[523] 1.004   790
## theta[524] 1.001  3700
## theta[525] 1.002  1700
## theta[526] 1.004  1100
## theta[527] 1.001  4000
## theta[528] 1.001  4000
## theta[529] 1.003  1100
## theta[530] 1.005   500
## theta[531] 1.004   830
## theta[532] 1.004   740
```

```
## theta[533] 1.001  4000
## theta[534] 1.005   860
## theta[535] 1.001  4000
## theta[536] 1.001  2500
## deviance   1.001  4000
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 623.9 and DIC = 8536.0
## DIC is an estimate of expected predictive error (lower deviance is better).
```

As Model 2 has a different posterior distribution than Model 1 (even only slightly), Model 2 needs its own goodness of fit statistics:

```
# list number of simulated data sets
nSimulatedDataSets = 5000

# create one large matrix of posterior values
model02.Posterior.all = model02.r2jags$BUGSoutput$sims.matrix
dim(model02.Posterior.all)
```

```
## [1] 4000  597
```

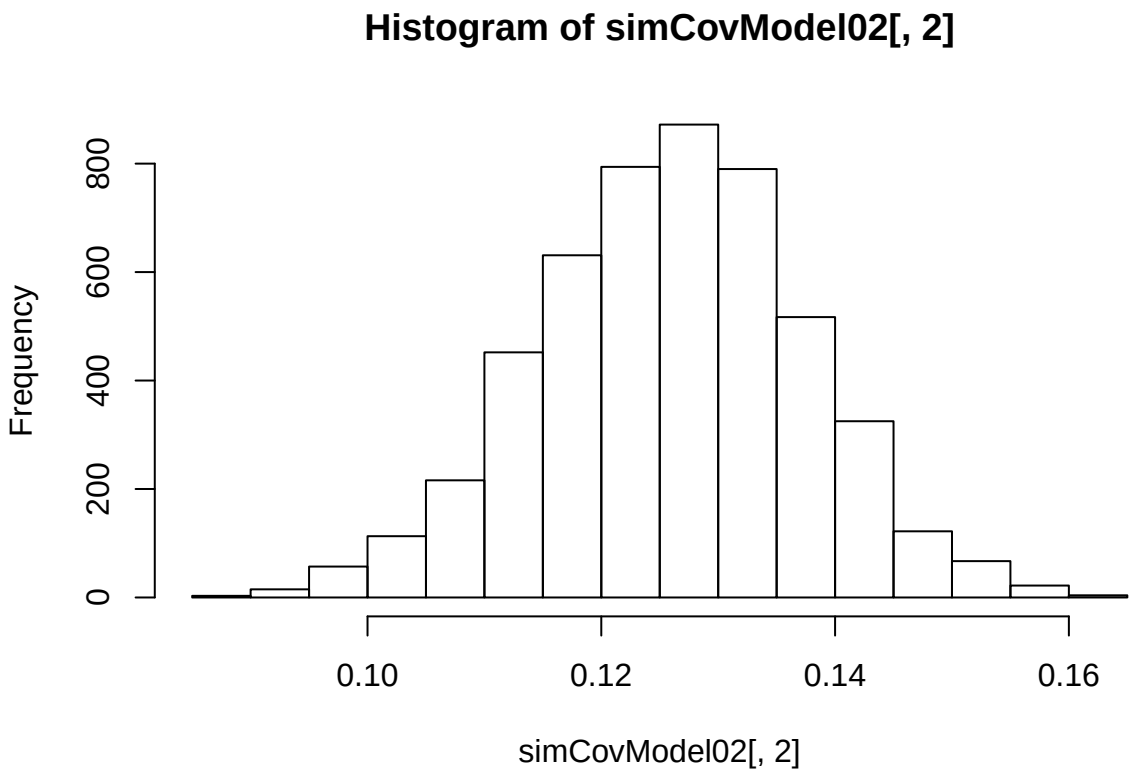
```
# determine columns of posterior that go into each model matrix

aCols = 1:20
bCols = grep(x = colnames(model02.Posterior.all), pattern = "b\\[")

# save simulated covariances:
simCovModel02 = matrix(data = NA, nrow = nSimulatedDataSets, ncol = nItems*nItems)

# loop through data sets (can be sped up with functions and lapply)
pb = txtProgressBar()
sim = 1
for (sim in 1:nSimulatedDataSets){

  # draw sample from one iteration of posterior chain
  iternum = sample(x = 1:nrow(model02.Posterior.all), size = 1, replace = TRUE)

  # get parameters for that sample: put into factor model matrices for easier generation of data
  a = matrix(data = model02.Posterior.all[iternum, aCols], ncol = 1)
  b = matrix(data = model02.Posterior.all[iternum, bCols], ncol = 1)
  mu = -1*a*b

  # generate sample of thetas from theta distribution
  theta = matrix(data = rnorm(n = nrow(FSdata), mean = 0, sd = 1), nrow = nrow(FSdata), ncol = 1)

  # calculate predicted probits:
  probits = matrix(data = 1, nrow = nrow(FSdata), ncol = 1) %*% t(mu) + theta %*% t(a)

  simData = probits
  i=1
  for (i in 1:ncol(probits)){
    simData[,i] = rbinom(n = nrow(probits), size = 1, prob = pnorm(q = probits[,i]) )
```

```
  }

  # calculate the value of SRMR using simulated data's covariance matrix and observed covariance matrix
  simCov = cov(simData)
  simCovModel02[sim,] = c(cov(simData))

  setTxtProgressBar(pb = pb, value = sim/nSimulatedDataSets)
}
```

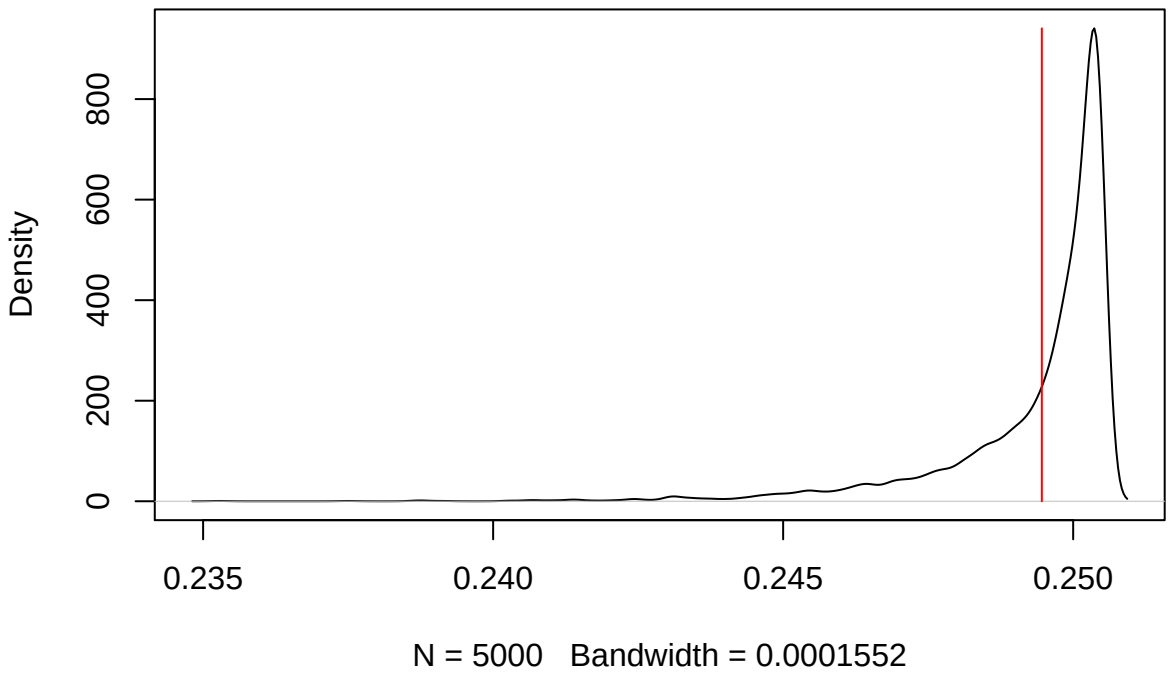
```
## ============================================================================
```

```
close(pb)
```

```
# label values of simCor to ensure we have the right comparison
covNames = NULL
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    covNames = c(covNames, paste0("cov", i, "." , j))
  }
}
colnames(simCovModel02) = covNames

# show how one correlation compares to distribution of simulated correlations
dataCov = cov(FSdata)
hist(simCovModel02[,2])
```




```
plot(density(simCovModel02[,1]))
lines(x = c(dataCov[1,1], dataCov[1,1]), y = c(0, max(density(simCovModel02[,1])$y)), col = 2)
```




```
quantile(simCovModel02[,1])
```

```
##        0%       25%       50%       75%      100%
## 0.2352769 0.2490724 0.2499651 0.2503417 0.2504673
```

```
mean(simCovModel02[,1])
```

```
## [1] 0.2493916
```

```
dataCov[1,1]
```

```
## [1] 0.2494595
```

```
# create quantiles of correlations to see where each observed correlation falls
covQuantiles02 = NULL

# compute the quantiles of the observed correlations:

col = 1
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    # get empirical CDF of simulated correlation distribution
    covEcdf = ecdf(simCovModel02[,col])
    covQuantiles02 = rbind(covQuantiles02, c(i, j, summary(covEcdf), dataCov[i,j], covEcdf(dataCov[i,j]))

    col = col + 1
  }
}
colnames(covQuantiles02)[1:2] = c("Item 1", "Item 2")
colnames(covQuantiles02)[9:10] = c("ObsCor", "CorPctile")
covQuantiles02[which(covQuantiles02[,10] > .975 | covQuantiles02[,10] < .025),]
```

```
##       Item 1 Item 2         Min.    1st Qu.     Median       Mean
##  [1,]      1      2  0.088066676 0.11736295 0.12597991 0.12578243
##  [2,]      1      3  0.075512624 0.11104757 0.12022249 0.12009010
##  [3,]      1      5  0.035423351 0.06780060 0.07692844 0.07698263
##  [4,]      2      1  0.088066676 0.11736295 0.12597991 0.12578243
##  [5,]      2      3  0.083376343 0.12141163 0.13012101 0.12980650
##  [6,]      2      5  0.031583903 0.07414911 0.08341470 0.08322945
##  [7,]      3      1  0.075512624 0.11104757 0.12022249 0.12009010
##  [8,]      3      2  0.083376343 0.12141163 0.13012101 0.12980650
##  [9,]      3      5  0.033644860 0.07028264 0.07911494 0.07917246
## [10,]      3     20  0.087069326 0.11777096 0.12568699 0.12588767
## [11,]      4      8  0.014848654 0.04299763 0.05099038 0.05104881
## [12,]      4      9  0.008285674 0.03579648 0.04438555 0.04419611
## [13,]      4     10  0.040078812 0.08148713 0.09036476 0.09013652
## [14,]      4     11  0.057127912 0.08765605 0.09644651 0.09632372
## [15,]      4     13  0.039998605 0.07008474 0.07793800 0.07792262
## [16,]      4     17  0.054439252 0.08900997 0.09764437 0.09754506
## [17,]      4     19  0.044556423 0.07616387 0.08423420 0.08428038
## [18,]      4     20  0.049183987 0.08485319 0.09377877 0.09344727
## [19,]      5      1  0.035423351 0.06780060 0.07692844 0.07698263
## [20,]      5      2  0.031583903 0.07414911 0.08341470 0.08322945
## [21,]      5      3  0.033644860 0.07028264 0.07911494 0.07917246
## [22,]      5      9 -0.004620589 0.02958572 0.03832822 0.03827353
## [23,]      6     12  0.027866509 0.06002232 0.06858000 0.06863233
## [24,]      6     14  0.037097224 0.06568036 0.07430255 0.07458696
## [25,]      6     16  0.029850746 0.06327068 0.07210908 0.07211957
## [26,]      7      8  0.021558097 0.05084042 0.05845306 0.05840774
## [27,]      7     15  0.083386804 0.11588611 0.12466523 0.12456944
## [28,]      7     19  0.078581392 0.11063607 0.11973427 0.11955825
## [29,]      8      4  0.014848654 0.04299763 0.05099038 0.05104881
## [30,]      8      7  0.021558097 0.05084042 0.05845306 0.05840774
## [31,]      9      4  0.008285674 0.03579648 0.04438555 0.04419611
## [32,]      9      5 -0.004620589 0.02958572 0.03832822 0.03827353
## [33,]      9     14  0.010116474 0.03887397 0.04713872 0.04737196
## [34,]      9     16  0.004798438 0.03825586 0.04658251 0.04672906
## [35,]     10      4  0.040078812 0.08148713 0.09036476 0.09013652
## [36,]     10     11  0.087421537 0.11986330 0.12813503 0.12811178
## [37,]     10     20  0.088701353 0.12303756 0.13199888 0.13185718
## [38,]     11      4  0.057127912 0.08765605 0.09644651 0.09632372
## [39,]     11     10  0.087421537 0.11986330 0.12813503 0.12811178
## [40,]     11     17  0.086333519 0.13050635 0.13851653 0.13849718
## [41,]     11     18  0.082242991 0.11751552 0.12590494 0.12584491
## [42,]     11     20  0.091002929 0.12490149 0.13336414 0.13308983
## [43,]     12      6  0.027866509 0.06002232 0.06858000 0.06863233
## [44,]     12     14  0.037100711 0.07137327 0.08029014 0.08028586
## [45,]     12     16  0.040099735 0.06905775 0.07805482 0.07798313
## [46,]     13      4  0.039998605 0.07008474 0.07793800 0.07792262
## [47,]     14      6  0.037097224 0.06568036 0.07430255 0.07458696
## [48,]     14      9  0.010116474 0.03887397 0.04713872 0.04737196
## [49,]     14     12  0.037100711 0.07137327 0.08029014 0.08028586
## [50,]     14     16  0.039060538 0.07573842 0.08497873 0.08485116
## [51,]     15      7  0.083386804 0.11588611 0.12466523 0.12456944
## [52,]     16      6  0.029850746 0.06327068 0.07210908 0.07211957
## [53,]     16      9  0.004798438 0.03825586 0.04658251 0.04672906
```

```
## [54,]     16     12  0.040099735 0.06905775 0.07805482 0.07798313
## [55,]     16     14  0.039060538 0.07573842 0.08497873 0.08485116
## [56,]     17      4  0.054439252 0.08900997 0.09764437 0.09754506
## [57,]     17     11  0.086333519 0.13050635 0.13851653 0.13849718
## [58,]     17     18  0.089137258 0.12072116 0.12927884 0.12913521
## [59,]     17     20  0.099850049 0.13126569 0.13987830 0.13974624
## [60,]     18     11  0.082242991 0.11751552 0.12590494 0.12584491
## [61,]     18     17  0.089137258 0.12072116 0.12927884 0.12913521
## [62,]     19      4  0.044556423 0.07616387 0.08423420 0.08428038
## [63,]     19      7  0.078581392 0.11063607 0.11973427 0.11955825
## [64,]     20      3  0.087069326 0.11777096 0.12568699 0.12588767
## [65,]     20      4  0.049183987 0.08485319 0.09377877 0.09344727
## [66,]     20     10  0.088701353 0.12303756 0.13199888 0.13185718
## [67,]     20     11  0.091002929 0.12490149 0.13336414 0.13308983
## [68,]     20     17  0.099850049 0.13126569 0.13987830 0.13974624
##          3rd Qu.       Max.     ObsCor CorPctile
##  [1,] 0.13423420 0.16492886 0.19196192    1.0000
##  [2,] 0.12897894 0.16204492 0.18363789    1.0000
##  [3,] 0.08620798 0.11885200 0.10948180    0.9968
##  [4,] 0.13423420 0.16492886 0.19196192    1.0000
##  [5,] 0.13830904 0.16982145 0.20165992    1.0000
##  [6,] 0.09259485 0.12586135 0.11506138    0.9948
##  [7,] 0.12897894 0.16204492 0.18363789    1.0000
##  [8,] 0.13830904 0.16982145 0.20165992    1.0000
##  [9,] 0.08813816 0.12690752 0.10435207    0.9800
## [10,] 0.13430743 0.16649812 0.10255266    0.0186
## [11,] 0.05908948 0.09645697 0.10332334    1.0000
## [12,] 0.05261543 0.09106570 0.02016669    0.0194
## [13,] 0.09879865 0.13443995 0.12479077    0.9986
## [14,] 0.10513234 0.14147022 0.14933045    1.0000
## [15,] 0.08586187 0.11556702 0.10201562    0.9884
## [16,] 0.10625436 0.14373692 0.13365881    0.9988
## [17,] 0.09251726 0.12799554 0.11094295    0.9920
## [18,] 0.10196419 0.13596736 0.13107128    0.9998
## [19,] 0.08620798 0.11885200 0.10948180    0.9968
## [20,] 0.09259485 0.12586135 0.11506138    0.9948
## [21,] 0.08813816 0.12690752 0.10435207    0.9800
## [22,] 0.04680569 0.07874180 0.07171502    0.9970
## [23,] 0.07722137 0.11104059 0.10325708    0.9988
## [24,] 0.08317408 0.11789650 0.10919933    0.9978
## [25,] 0.08085856 0.10981308 0.10382899    0.9982
## [26,] 0.06577277 0.09591296 0.07831636    0.9798
## [27,] 0.13344434 0.16177640 0.16519738    1.0000
## [28,] 0.12861626 0.16112777 0.14340912    0.9782
## [29,] 0.05908948 0.09645697 0.10332334    1.0000
## [30,] 0.06577277 0.09591296 0.07831636    0.9798
## [31,] 0.05261543 0.09106570 0.02016669    0.0194
## [32,] 0.04680569 0.07874180 0.07171502    0.9970
## [33,] 0.05566153 0.09295578 0.07188938    0.9818
## [34,] 0.05528839 0.08494909 0.07013879    0.9766
## [35,] 0.09879865 0.13443995 0.12479077    0.9986
## [36,] 0.13637537 0.16655391 0.16047566    0.9984
## [37,] 0.14067862 0.17857442 0.16202399    0.9966
## [38,] 0.10513234 0.14147022 0.14933045    1.0000
```

```
## [39,] 0.13637537 0.16655391 0.16047566    0.9984
## [40,] 0.14670107 0.17482215 0.17581253    1.0000
## [41,] 0.13447221 0.17171154 0.15524480    0.9970
## [42,] 0.14133334 0.17352490 0.17660762    1.0000
## [43,] 0.07722137 0.11104059 0.10325708    0.9988
## [44,] 0.08918608 0.12424327 0.11531246    0.9986
## [45,] 0.08665870 0.12482913 0.11384084    0.9988
## [46,] 0.08586187 0.11556702 0.10201562    0.9884
## [47,] 0.08317408 0.11789650 0.10919933    0.9978
## [48,] 0.05566153 0.09295578 0.07188938    0.9818
## [49,] 0.08918608 0.12424327 0.11531246    0.9986
## [50,] 0.09380754 0.12535221 0.12652044    1.0000
## [51,] 0.13344434 0.16177640 0.16519738    1.0000
## [52,] 0.08085856 0.10981308 0.10382899    0.9982
## [53,] 0.05528839 0.08494909 0.07013879    0.9766
## [54,] 0.08665870 0.12482913 0.11384084    0.9988
## [55,] 0.09380754 0.12535221 0.12652044    1.0000
## [56,] 0.10625436 0.14373692 0.13365881    0.9988
## [57,] 0.14670107 0.17482215 0.17581253    1.0000
## [58,] 0.13783303 0.17275073 0.15580974    0.9928
## [59,] 0.14846997 0.17733994 0.17776538    1.0000
## [60,] 0.13447221 0.17171154 0.15524480    0.9970
## [61,] 0.13783303 0.17275073 0.15580974    0.9928
## [62,] 0.09251726 0.12799554 0.11094295    0.9920
## [63,] 0.12861626 0.16112777 0.14340912    0.9782
## [64,] 0.13430743 0.16649812 0.10255266    0.0186
## [65,] 0.10196419 0.13596736 0.13107128    0.9998
## [66,] 0.14067862 0.17857442 0.16202399    0.9966
## [67,] 0.14133334 0.17352490 0.17660762    1.0000
## [68,] 0.14846997 0.17733994 0.17776538    1.0000
```

Estimation of the 3PNO Model

We can now estimate a 3PNO model to compare model fit with that of the 2PNO:

```
# marker item:
model03.function = function(){

  # measurement model specification
    for (person in 1:N){
      for (item in 1:I){
        X[person, item] ~ dbern(c[item]+(1-c[item])*phi(a[item]*(theta[person]-b[item])))
      }
    }

  # prior distributions for the factor:
    for (person in 1:N){
      theta[person] ~ dnorm(0, 1)
    }

  # prior distributions for the measurement model parameters
    for (item in 1:I){
      a[item] ~ dlnorm(a.mean.0, a.precision.0)
      b[item] ~ dnorm(b.mean.0, b.precision.0)
```

```
      c[item] ~ dbeta(c.a.0, c.b.0)
    }

}
```

```
# specification of prior values for measurement model parameters:
a.mean.0 = 0
a.variance.0 = 100
a.precision.0 = 1 / a.variance.0

b.mean.0 = 0
b.variance.0 = 100
b.precision.0 = 1 / b.variance.0

c.a.0 = 1
c.b.0 = 1

# next, create data for JAGS to use:
model03.data = list(
  N = nrow(FSdata),
  X = FSdata,
  I = nItems,
  a.mean.0 = a.mean.0,
  a.precision.0 = a.precision.0,
  b.mean.0 = b.mean.0,
  b.precision.0 = b.precision.0,
  c.a.0 = c.a.0,
  c.b.0 = c.b.0
)

model03.parameters = c("a", "theta", "b", "c")
```

```
# for reproducable analyses
model03.seed = 06042019+3
```

Here, we will use the R2jags `jags.parallel()` function, which will run somewhat faster (one chain per core):

```
model03.r2jags =  jags.parallel(
  data = model03.data,
  parameters.to.save = model03.parameters,
  model.file = model03.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  n.cluster = 4,
  jags.seed = model03.seed
)
model03.r2jags
```

```
## Inference for Bugs model at "model03.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##             mu.vect sd.vect     2.5%      25%      50%      75%    97.5%
## a[1]          1.490   0.136    1.237    1.394    1.485    1.580    1.767
```

```
## a[2]          1.930   0.192    1.577    1.797    1.922    2.052    2.331
## a[3]          1.631   0.155    1.342    1.522    1.625    1.737    1.939
## a[4]          2.541   0.394    1.875    2.270    2.504    2.757    3.418
## a[5]          1.331   0.315    0.843    1.105    1.288    1.514    2.032
## a[6]          1.364   0.139    1.109    1.266    1.355    1.457    1.647
## a[7]          1.828   0.190    1.478    1.696    1.820    1.954    2.223
## a[8]          1.643   0.378    0.979    1.372    1.614    1.883    2.461
## a[9]          0.807   0.334    0.455    0.593    0.722    0.919    1.806
## a[10]         2.276   0.265    1.805    2.087    2.271    2.445    2.839
## a[11]         3.575   0.657    2.529    3.120    3.500    3.916    5.102
## a[12]         1.197   0.117    0.983    1.115    1.193    1.276    1.440
## a[13]         1.994   0.249    1.552    1.820    1.975    2.155    2.503
## a[14]         1.402   0.131    1.159    1.311    1.398    1.488    1.675
## a[15]         2.066   0.238    1.644    1.901    2.052    2.218    2.577
## a[16]         1.226   0.117    1.009    1.144    1.223    1.303    1.468
## a[17]         2.778   0.464    2.081    2.460    2.713    3.018    3.878
## a[18]         1.624   0.162    1.327    1.511    1.615    1.730    1.952
## a[19]         2.705   0.360    2.079    2.463    2.670    2.919    3.499
## a[20]         2.720   0.416    2.013    2.429    2.675    2.966    3.669
## b[1]          0.020   0.067   -0.115   -0.026    0.021    0.065    0.151
## b[2]         -0.094   0.064   -0.216   -0.138   -0.095   -0.051    0.036
## b[3]          0.078   0.067   -0.050    0.032    0.077    0.124    0.207
## b[4]          0.367   0.068    0.239    0.322    0.365    0.409    0.510
## b[5]          0.242   0.159   -0.104    0.144    0.254    0.352    0.527
## b[6]         -0.985   0.099   -1.195   -1.048   -0.984   -0.922   -0.789
## b[7]          0.409   0.062    0.293    0.368    0.406    0.449    0.537
## b[8]         -0.043   0.188   -0.484   -0.140   -0.019    0.084    0.249
## b[9]         -0.096   0.427   -0.890   -0.437   -0.074    0.245    0.642
## b[10]         0.466   0.059    0.355    0.425    0.465    0.505    0.583
## b[11]         0.317   0.061    0.198    0.278    0.318    0.359    0.433
## b[12]        -0.726   0.097   -0.917   -0.792   -0.729   -0.660   -0.536
## b[13]         0.703   0.064    0.583    0.659    0.701    0.745    0.834
## b[14]        -0.655   0.084   -0.818   -0.711   -0.656   -0.600   -0.489
## b[15]         0.290   0.063    0.166    0.249    0.289    0.331    0.414
## b[16]        -0.585   0.089   -0.769   -0.643   -0.585   -0.524   -0.414
## b[17]         0.351   0.064    0.229    0.307    0.349    0.394    0.479
## b[18]         0.217   0.064    0.093    0.174    0.215    0.260    0.346
## b[19]         0.638   0.058    0.528    0.599    0.637    0.676    0.753
## b[20]         0.445   0.061    0.329    0.405    0.444    0.486    0.571
## c[1]          0.011   0.011    0.000    0.003    0.008    0.016    0.043
## c[2]          0.013   0.013    0.000    0.004    0.010    0.018    0.047
## c[3]          0.009   0.009    0.000    0.003    0.006    0.013    0.032
## c[4]          0.194   0.028    0.140    0.176    0.194    0.212    0.250
## c[5]          0.245   0.061    0.113    0.207    0.249    0.288    0.352
## c[6]          0.032   0.029    0.001    0.010    0.024    0.046    0.109
## c[7]          0.008   0.007    0.000    0.002    0.006    0.011    0.028
## c[8]          0.444   0.066    0.294    0.409    0.452    0.489    0.551
## c[9]          0.249   0.133    0.016    0.140    0.257    0.356    0.482
## c[10]         0.011   0.008    0.001    0.005    0.009    0.015    0.030
## c[11]         0.067   0.019    0.032    0.054    0.066    0.079    0.109
## c[12]         0.034   0.032    0.001    0.010    0.024    0.048    0.119
## c[13]         0.005   0.004    0.000    0.001    0.003    0.006    0.016
## c[14]         0.022   0.021    0.001    0.007    0.016    0.031    0.081
## c[15]         0.023   0.014    0.004    0.013    0.020    0.030    0.056
```

```
## c[16]          0.025   0.022    0.001    0.008    0.019    0.035    0.081
## c[17]          0.026   0.016    0.003    0.014    0.023    0.036    0.066
## c[18]          0.010   0.010    0.000    0.003    0.007    0.014    0.038
## c[19]          0.005   0.005    0.000    0.001    0.003    0.006    0.017
## c[20]          0.015   0.011    0.001    0.007    0.013    0.022    0.043
## theta[1]       0.411   0.162    0.094    0.305    0.412    0.521    0.729
## theta[2]       0.997   0.229    0.594    0.845    0.982    1.138    1.512
## theta[3]       0.036   0.194   -0.361   -0.087    0.050    0.172    0.374
## theta[4]       0.475   0.167    0.148    0.365    0.475    0.586    0.795
## theta[5]      -0.945   0.374   -1.753   -1.180   -0.921   -0.682   -0.293
## theta[6]      -0.836   0.361   -1.610   -1.057   -0.804   -0.589   -0.224
## theta[7]      -1.586   0.542   -2.783   -1.914   -1.533   -1.194   -0.677
## theta[8]      -1.732   0.552   -2.947   -2.076   -1.681   -1.341   -0.803
## theta[9]      -0.925   0.347   -1.695   -1.134   -0.895   -0.684   -0.327
## theta[10]     -1.123   0.432   -2.054   -1.388   -1.072   -0.825   -0.399
## theta[11]      0.242   0.167   -0.099    0.130    0.244    0.357    0.560
## theta[12]      0.490   0.165    0.169    0.377    0.489    0.601    0.814
## theta[13]     -0.432   0.329   -1.151   -0.635   -0.395   -0.193    0.100
## theta[14]     -1.296   0.454   -2.298   -1.566   -1.271   -0.979   -0.517
## theta[15]     -0.898   0.359   -1.697   -1.123   -0.866   -0.648   -0.275
## theta[16]     -0.622   0.351   -1.380   -0.853   -0.592   -0.354   -0.041
## theta[17]     -0.813   0.422   -1.791   -1.020   -0.758   -0.532   -0.161
## theta[18]     -0.972   0.366   -1.780   -1.194   -0.942   -0.722   -0.346
## theta[19]     -0.710   0.305   -1.371   -0.905   -0.685   -0.495   -0.180
## theta[20]     -1.738   0.565   -2.992   -2.078   -1.685   -1.341   -0.760
## theta[21]      0.702   0.172    0.368    0.588    0.698    0.815    1.048
## theta[22]      0.479   0.169    0.136    0.368    0.478    0.593    0.808
## theta[23]      1.636   0.493    0.880    1.287    1.554    1.911    2.787
## theta[24]      0.136   0.185   -0.273    0.024    0.152    0.262    0.461
## theta[25]      0.266   0.175   -0.096    0.156    0.271    0.385    0.598
## theta[26]     -1.634   0.528   -2.817   -1.961   -1.584   -1.261   -0.739
## theta[27]     -0.706   0.310   -1.367   -0.902   -0.684   -0.492   -0.158
## theta[28]     -1.740   0.534   -2.917   -2.060   -1.684   -1.367   -0.840
## theta[29]     -0.638   0.305   -1.300   -0.835   -0.617   -0.420   -0.093
## theta[30]      1.644   0.511    0.853    1.274    1.574    1.928    2.828
## theta[31]      0.526   0.167    0.193    0.416    0.526    0.634    0.864
## theta[32]      1.628   0.490    0.869    1.272    1.557    1.909    2.797
## theta[33]      1.029   0.249    0.579    0.859    1.015    1.179    1.555
## theta[34]      0.479   0.156    0.175    0.373    0.481    0.584    0.786
## theta[35]      0.789   0.185    0.444    0.662    0.782    0.906    1.174
## theta[36]      0.237   0.163   -0.082    0.129    0.238    0.348    0.544
## theta[37]     -0.012   0.241   -0.587   -0.136    0.014    0.145    0.388
## theta[38]      0.170   0.177   -0.185    0.056    0.174    0.293    0.502
## theta[39]      0.830   0.196    0.472    0.693    0.817    0.954    1.238
## theta[40]     -0.674   0.306   -1.333   -0.873   -0.648   -0.465   -0.136
## theta[41]     -1.660   0.533   -2.829   -1.989   -1.603   -1.281   -0.769
## theta[42]      1.631   0.491    0.876    1.278    1.560    1.901    2.794
## theta[43]      1.018   0.238    0.598    0.851    1.003    1.164    1.559
## theta[44]     -1.018   0.377   -1.803   -1.248   -0.986   -0.756   -0.375
## theta[45]      0.859   0.200    0.496    0.715    0.853    0.986    1.279
## theta[46]      0.570   0.171    0.238    0.457    0.569    0.684    0.914
## theta[47]     -0.712   0.309   -1.403   -0.901   -0.696   -0.495   -0.170
## theta[48]     -0.270   0.310   -0.967   -0.457   -0.224   -0.051    0.222
## theta[49]     -1.576   0.535   -2.708   -1.922   -1.539   -1.187   -0.657
```

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## theta[50]     0.550   0.162    0.239    0.437    0.548    0.659    0.862
## theta[51]    -1.698   0.536   -2.886   -2.038   -1.661   -1.310   -0.791
## theta[52]    -0.300   0.224   -0.778   -0.438   -0.290   -0.145    0.106
## theta[53]    -0.424   0.288   -1.082   -0.576   -0.388   -0.231    0.057
## theta[54]     0.939   0.220    0.548    0.782    0.929    1.079    1.410
## theta[55]     0.168   0.215   -0.289    0.041    0.187    0.318    0.526
## theta[56]     1.644   0.499    0.890    1.285    1.565    1.920    2.821
## theta[57]     1.137   0.279    0.674    0.943    1.110    1.299    1.770
## theta[58]    -1.630   0.521   -2.780   -1.953   -1.582   -1.262   -0.735
## theta[59]    -0.669   0.317   -1.337   -0.873   -0.644   -0.441   -0.113
## theta[60]     0.591   0.168    0.268    0.474    0.593    0.704    0.917
## theta[61]    -0.949   0.357   -1.727   -1.177   -0.927   -0.695   -0.332
## theta[62]    -1.715   0.561   -2.963   -2.057   -1.672   -1.317   -0.765
## theta[63]     0.382   0.160    0.064    0.279    0.382    0.487    0.694
## theta[64]     0.705   0.189    0.355    0.570    0.700    0.831    1.081
## theta[65]     0.269   0.167   -0.065    0.159    0.273    0.385    0.579
## theta[66]     0.124   0.191   -0.300    0.011    0.138    0.251    0.464
## theta[67]     0.302   0.159   -0.015    0.200    0.307    0.409    0.616
## theta[68]    -1.634   0.527   -2.816   -1.956   -1.585   -1.258   -0.758
## theta[69]    -1.756   0.526   -2.970   -2.067   -1.711   -1.384   -0.863
## theta[70]    -0.259   0.230   -0.755   -0.396   -0.247   -0.103    0.136
## theta[71]    -0.644   0.299   -1.318   -0.824   -0.619   -0.436   -0.134
## theta[72]    -0.749   0.336   -1.455   -0.971   -0.721   -0.512   -0.165
## theta[73]    -1.714   0.557   -2.953   -2.063   -1.665   -1.324   -0.759
## theta[74]     0.527   0.163    0.204    0.419    0.524    0.633    0.855
## theta[75]    -0.745   0.330   -1.465   -0.953   -0.722   -0.511   -0.166
## theta[76]    -1.759   0.549   -3.002   -2.095   -1.705   -1.367   -0.831
## theta[77]    -0.334   0.249   -0.877   -0.487   -0.316   -0.153    0.093
## theta[78]     0.536   0.168    0.205    0.424    0.534    0.650    0.861
## theta[79]     1.642   0.502    0.877    1.278    1.557    1.930    2.864
## theta[80]     0.517   0.165    0.195    0.408    0.517    0.627    0.838
## theta[81]    -0.916   0.372   -1.718   -1.155   -0.889   -0.650   -0.269
## theta[82]     0.716   0.183    0.376    0.589    0.713    0.837    1.083
## theta[83]    -1.643   0.528   -2.813   -1.955   -1.589   -1.263   -0.776
## theta[84]    -0.249   0.216   -0.713   -0.389   -0.236   -0.102    0.146
## theta[85]     0.022   0.187   -0.371   -0.098    0.028    0.151    0.366
## theta[86]     0.484   0.171    0.155    0.368    0.482    0.598    0.817
## theta[87]     0.558   0.167    0.243    0.446    0.554    0.665    0.905
## theta[88]     0.859   0.199    0.497    0.723    0.847    0.983    1.286
## theta[89]     1.650   0.481    0.923    1.296    1.579    1.938    2.798
## theta[90]     0.996   0.239    0.577    0.833    0.972    1.148    1.507
## theta[91]     0.331   0.166   -0.003    0.222    0.333    0.444    0.660
## theta[92]    -0.990   0.384   -1.824   -1.234   -0.965   -0.717   -0.322
## theta[93]     0.965   0.226    0.546    0.809    0.953    1.108    1.439
## theta[94]     1.144   0.279    0.675    0.948    1.118    1.307    1.768
## theta[95]     1.628   0.482    0.872    1.282    1.564    1.901    2.737
## theta[96]     1.005   0.241    0.588    0.838    0.987    1.154    1.519
## theta[97]     0.103   0.207   -0.352   -0.015    0.124    0.244    0.446
## theta[98]    -0.968   0.368   -1.805   -1.185   -0.939   -0.712   -0.343
## theta[99]     0.898   0.210    0.511    0.760    0.886    1.027    1.348
## theta[100]   -1.245   0.450   -2.248   -1.509   -1.213   -0.924   -0.489
## theta[101]   -0.605   0.288   -1.214   -0.788   -0.580   -0.403   -0.094
## theta[102]    0.992   0.225    0.591    0.836    0.982    1.131    1.479
## theta[103]   -0.641   0.297   -1.293   -0.827   -0.618   -0.429   -0.128
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## theta[104]    1.154   0.278    0.682    0.961    1.126    1.307    1.791
## theta[105]    0.565   0.168    0.242    0.453    0.563    0.674    0.902
## theta[106]   -0.082   0.200   -0.491   -0.211   -0.078    0.059    0.289
## theta[107]   -0.336   0.252   -0.868   -0.493   -0.321   -0.159    0.109
## theta[108]    1.626   0.494    0.889    1.266    1.558    1.912    2.762
## theta[109]    0.210   0.169   -0.124    0.096    0.214    0.327    0.518
## theta[110]    0.488   0.168    0.174    0.373    0.488    0.598    0.822
## theta[111]   -0.966   0.386   -1.821   -1.191   -0.935   -0.703   -0.310
## theta[112]   -1.739   0.528   -2.936   -2.058   -1.697   -1.367   -0.841
## theta[113]    0.094   0.171   -0.262   -0.014    0.097    0.211    0.411
## theta[114]    0.191   0.180   -0.178    0.078    0.198    0.316    0.510
## theta[115]    0.374   0.161    0.063    0.265    0.375    0.484    0.682
## theta[116]    1.154   0.276    0.675    0.955    1.126    1.325    1.769
## theta[117]   -1.635   0.539   -2.813   -1.962   -1.588   -1.259   -0.704
## theta[118]    0.072   0.227   -0.444   -0.054    0.094    0.224    0.465
## theta[119]    0.509   0.163    0.179    0.403    0.509    0.616    0.839
## theta[120]   -1.760   0.540   -2.951   -2.082   -1.715   -1.380   -0.846
## theta[121]   -1.661   0.589   -2.959   -2.018   -1.602   -1.241   -0.694
## theta[122]   -0.499   0.261   -1.052   -0.666   -0.478   -0.318   -0.039
## theta[123]   -0.766   0.307   -1.422   -0.965   -0.741   -0.553   -0.220
## theta[124]    1.661   0.516    0.889    1.284    1.584    1.961    2.877
## theta[125]    0.557   0.165    0.229    0.446    0.557    0.667    0.883
## theta[126]    0.873   0.207    0.488    0.731    0.867    1.005    1.303
## theta[127]    1.116   0.263    0.660    0.931    1.098    1.277    1.689
## theta[128]    0.770   0.183    0.419    0.649    0.767    0.885    1.145
## theta[129]    0.113   0.220   -0.387   -0.011    0.130    0.265    0.476
## theta[130]    0.872   0.211    0.490    0.725    0.861    1.003    1.316
## theta[131]   -0.662   0.352   -1.419   -0.884   -0.640   -0.404   -0.068
## theta[132]    0.461   0.168    0.138    0.351    0.460    0.573    0.802
## theta[133]   -0.287   0.262   -0.883   -0.437   -0.257   -0.106    0.144
## theta[134]   -1.705   0.540   -2.913   -2.050   -1.669   -1.314   -0.774
## theta[135]   -1.653   0.547   -2.858   -1.972   -1.601   -1.278   -0.723
## theta[136]    1.143   0.286    0.648    0.940    1.121    1.317    1.769
## theta[137]    0.330   0.165   -0.013    0.225    0.333    0.438    0.651
## theta[138]    1.054   0.245    0.624    0.881    1.034    1.204    1.598
## theta[139]   -1.565   0.531   -2.733   -1.889   -1.522   -1.180   -0.665
## theta[140]    0.845   0.197    0.477    0.710    0.836    0.967    1.271
## theta[141]    0.320   0.168   -0.015    0.211    0.322    0.432    0.649
## theta[142]    0.945   0.218    0.549    0.795    0.935    1.081    1.408
## theta[143]   -0.980   0.380   -1.816   -1.211   -0.953   -0.716   -0.313
## theta[144]   -1.144   0.470   -2.094   -1.435   -1.109   -0.813   -0.340
## theta[145]   -0.732   0.340   -1.447   -0.957   -0.721   -0.489   -0.116
## theta[146]    0.649   0.165    0.332    0.536    0.645    0.763    0.981
## theta[147]    0.930   0.213    0.543    0.788    0.920    1.061    1.380
## theta[148]   -1.751   0.519   -2.906   -2.068   -1.698   -1.384   -0.860
## theta[149]    0.492   0.160    0.181    0.389    0.491    0.598    0.808
## theta[150]    1.656   0.502    0.875    1.296    1.584    1.942    2.817
## theta[151]    0.795   0.191    0.441    0.665    0.789    0.921    1.184
## theta[152]    1.029   0.240    0.602    0.868    1.015    1.175    1.564
## theta[153]    0.760   0.180    0.426    0.636    0.758    0.878    1.126
## theta[154]    0.869   0.204    0.478    0.730    0.862    1.001    1.277
## theta[155]    0.726   0.180    0.396    0.604    0.722    0.842    1.091
## theta[156]    0.979   0.229    0.582    0.817    0.963    1.126    1.475
## theta[157]    0.696   0.174    0.371    0.578    0.691    0.805    1.057
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## theta[158]    0.207   0.180   -0.164    0.097    0.214    0.330    0.543
## theta[159]    0.277   0.160   -0.046    0.169    0.280    0.386    0.586
## theta[160]    0.834   0.202    0.447    0.692    0.824    0.973    1.238
## theta[161]    0.692   0.175    0.364    0.576    0.687    0.804    1.050
## theta[162]    0.953   0.230    0.535    0.794    0.939    1.093    1.455
## theta[163]    1.141   0.281    0.659    0.944    1.119    1.316    1.757
## theta[164]    0.984   0.217    0.595    0.836    0.972    1.118    1.451
## theta[165]   -1.753   0.553   -2.981   -2.088   -1.703   -1.363   -0.810
## theta[166]   -1.565   0.532   -2.763   -1.889   -1.514   -1.190   -0.653
## theta[167]   -1.251   0.448   -2.259   -1.515   -1.213   -0.936   -0.506
## theta[168]    1.643   0.505    0.879    1.285    1.564    1.908    2.827
## theta[169]    0.896   0.215    0.503    0.756    0.884    1.023    1.361
## theta[170]   -1.757   0.533   -2.966   -2.085   -1.702   -1.379   -0.848
## theta[171]   -0.417   0.367   -1.272   -0.634   -0.336   -0.149    0.100
## theta[172]    0.652   0.175    0.323    0.534    0.648    0.763    1.014
## theta[173]    1.639   0.487    0.902    1.283    1.564    1.910    2.774
## theta[174]    0.100   0.184   -0.285   -0.019    0.105    0.230    0.434
## theta[175]   -0.601   0.328   -1.281   -0.817   -0.583   -0.368   -0.008
## theta[176]    0.075   0.220   -0.419   -0.053    0.092    0.230    0.456
## theta[177]    0.390   0.171    0.045    0.278    0.389    0.502    0.743
## theta[178]   -0.415   0.250   -0.934   -0.570   -0.402   -0.242    0.039
## theta[179]    0.536   0.168    0.221    0.421    0.537    0.655    0.858
## theta[180]    0.931   0.214    0.537    0.786    0.919    1.063    1.383
## theta[181]   -1.710   0.578   -2.966   -2.067   -1.659   -1.306   -0.712
## theta[182]    0.417   0.173    0.063    0.304    0.422    0.531    0.755
## theta[183]    0.319   0.167   -0.018    0.209    0.321    0.429    0.637
## theta[184]    1.005   0.239    0.580    0.839    0.987    1.157    1.518
## theta[185]    1.133   0.270    0.674    0.946    1.108    1.301    1.730
## theta[186]    0.819   0.190    0.462    0.684    0.816    0.941    1.204
## theta[187]   -0.531   0.277   -1.150   -0.698   -0.507   -0.344   -0.044
## theta[188]   -0.640   0.336   -1.313   -0.863   -0.629   -0.403   -0.024
## theta[189]    1.656   0.516    0.880    1.274    1.574    1.948    2.884
## theta[190]    1.642   0.482    0.879    1.295    1.585    1.918    2.740
## theta[191]    0.960   0.224    0.552    0.802    0.945    1.098    1.448
## theta[192]    1.126   0.273    0.651    0.932    1.105    1.294    1.751
## theta[193]    0.858   0.198    0.505    0.726    0.849    0.980    1.280
## theta[194]   -0.209   0.278   -0.891   -0.349   -0.168   -0.016    0.208
## theta[195]   -1.115   0.437   -2.072   -1.367   -1.073   -0.808   -0.390
## theta[196]    1.126   0.279    0.652    0.927    1.101    1.299    1.730
## theta[197]    1.068   0.264    0.607    0.883    1.047    1.231    1.649
## theta[198]    1.635   0.487    0.879    1.281    1.554    1.915    2.764
## theta[199]    1.222   0.318    0.704    1.001    1.181    1.411    1.916
## theta[200]   -0.351   0.243   -0.868   -0.503   -0.329   -0.178    0.074
## theta[201]    1.629   0.487    0.885    1.277    1.551    1.914    2.763
## theta[202]    0.954   0.226    0.544    0.798    0.936    1.097    1.423
## theta[203]    0.587   0.168    0.259    0.475    0.583    0.697    0.909
## theta[204]    1.133   0.273    0.659    0.943    1.111    1.300    1.733
## theta[205]    0.064   0.228   -0.456   -0.067    0.082    0.224    0.448
## theta[206]    0.392   0.162    0.063    0.284    0.391    0.498    0.712
## theta[207]    0.508   0.170    0.176    0.393    0.508    0.622    0.839
## theta[208]   -0.074   0.209   -0.510   -0.210   -0.062    0.076    0.296
## theta[209]    0.958   0.232    0.548    0.790    0.943    1.106    1.442
## theta[210]    1.644   0.492    0.878    1.287    1.589    1.924    2.763
## theta[211]   -0.833   0.361   -1.613   -1.060   -0.816   -0.579   -0.172
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## theta[212]    0.210   0.174   -0.158    0.103    0.217    0.327    0.536
## theta[213]    1.636   0.488    0.871    1.281    1.569    1.916    2.770
## theta[214]    1.151   0.274    0.658    0.961    1.130    1.321    1.740
## theta[215]   -0.526   0.289   -1.148   -0.687   -0.497   -0.332   -0.050
## theta[216]    1.640   0.503    0.867    1.274    1.578    1.926    2.851
## theta[217]   -1.719   0.553   -2.899   -2.060   -1.674   -1.331   -0.773
## theta[218]    0.930   0.215    0.545    0.784    0.917    1.069    1.373
## theta[219]    0.180   0.162   -0.145    0.073    0.183    0.287    0.489
## theta[220]    0.460   0.167    0.130    0.354    0.465    0.570    0.788
## theta[221]    0.278   0.176   -0.072    0.164    0.278    0.396    0.634
## theta[222]    0.535   0.169    0.217    0.422    0.532    0.641    0.884
## theta[223]    1.644   0.491    0.862    1.283    1.579    1.931    2.773
## theta[224]   -1.630   0.529   -2.833   -1.937   -1.586   -1.261   -0.719
## theta[225]    0.843   0.200    0.471    0.709    0.830    0.972    1.263
## theta[226]   -0.644   0.364   -1.397   -0.886   -0.629   -0.386    0.027
## theta[227]   -1.747   0.535   -2.936   -2.078   -1.702   -1.361   -0.848
## theta[228]   -0.735   0.330   -1.466   -0.926   -0.700   -0.509   -0.183
## theta[229]    0.893   0.213    0.500    0.748    0.881    1.028    1.344
## theta[230]    0.213   0.163   -0.111    0.104    0.216    0.323    0.532
## theta[231]   -1.769   0.537   -2.943   -2.109   -1.723   -1.386   -0.865
## theta[232]    0.429   0.168    0.106    0.313    0.430    0.541    0.764
## theta[233]   -0.552   0.273   -1.125   -0.729   -0.540   -0.360   -0.051
## theta[234]    0.808   0.203    0.427    0.670    0.803    0.937    1.232
## theta[235]   -0.450   0.255   -0.990   -0.603   -0.433   -0.276    0.003
## theta[236]   -0.016   0.195   -0.429   -0.138   -0.011    0.118    0.340
## theta[237]    0.072   0.182   -0.305   -0.050    0.079    0.200    0.405
## theta[238]    1.120   0.261    0.676    0.942    1.101    1.282    1.679
## theta[239]    0.118   0.205   -0.346    0.003    0.134    0.256    0.457
## theta[240]   -0.391   0.253   -0.915   -0.558   -0.372   -0.213    0.063
## theta[241]    0.769   0.190    0.418    0.638    0.757    0.892    1.166
## theta[242]    0.258   0.158   -0.059    0.152    0.257    0.367    0.562
## theta[243]    0.551   0.173    0.221    0.432    0.548    0.664    0.894
## theta[244]   -0.494   0.276   -1.087   -0.659   -0.474   -0.303   -0.013
## theta[245]    1.362   0.377    0.762    1.091    1.312    1.574    2.248
## theta[246]   -1.731   0.542   -2.928   -2.074   -1.693   -1.340   -0.809
## theta[247]    0.775   0.186    0.432    0.646    0.770    0.893    1.164
## theta[248]    0.880   0.205    0.513    0.736    0.865    1.008    1.308
## theta[249]   -1.231   0.431   -2.172   -1.485   -1.200   -0.925   -0.502
## theta[250]   -0.862   0.353   -1.641   -1.073   -0.834   -0.612   -0.262
## theta[251]   -1.716   0.549   -2.904   -2.063   -1.675   -1.309   -0.785
## theta[252]    0.195   0.167   -0.139    0.087    0.201    0.307    0.510
## theta[253]   -1.601   0.569   -2.763   -1.975   -1.590   -1.192   -0.544
## theta[254]    0.877   0.201    0.505    0.737    0.867    1.007    1.300
## theta[255]   -0.483   0.249   -1.003   -0.642   -0.466   -0.304   -0.035
## theta[256]    0.709   0.177    0.376    0.585    0.705    0.825    1.068
## theta[257]    1.639   0.500    0.869    1.273    1.559    1.927    2.834
## theta[258]    0.973   0.231    0.548    0.816    0.959    1.114    1.465
## theta[259]    0.395   0.168    0.060    0.285    0.399    0.503    0.717
## theta[260]    0.525   0.166    0.213    0.412    0.522    0.635    0.858
## theta[261]   -0.898   0.346   -1.643   -1.121   -0.874   -0.660   -0.283
## theta[262]    0.693   0.177    0.360    0.568    0.690    0.806    1.051
## theta[263]   -0.378   0.240   -0.880   -0.532   -0.364   -0.210    0.039
## theta[264]   -1.008   0.370   -1.811   -1.228   -0.982   -0.751   -0.374
## theta[265]   -1.093   0.466   -2.098   -1.383   -1.069   -0.772   -0.256
```

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## theta[266]    0.862   0.211    0.468    0.718    0.854    0.997    1.289
## theta[267]    1.124   0.273    0.662    0.937    1.099    1.286    1.733
## theta[268]   -0.010   0.205   -0.463   -0.131    0.005    0.128    0.349
## theta[269]    0.373   0.164    0.048    0.263    0.375    0.486    0.682
## theta[270]    0.787   0.193    0.411    0.660    0.779    0.907    1.184
## theta[271]   -0.568   0.300   -1.229   -0.758   -0.543   -0.353   -0.050
## theta[272]    0.394   0.159    0.082    0.291    0.395    0.496    0.700
## theta[273]    0.974   0.225    0.565    0.821    0.961    1.115    1.456
## theta[274]   -0.222   0.269   -0.811   -0.374   -0.196   -0.040    0.221
## theta[275]    1.634   0.478    0.878    1.293    1.573    1.904    2.771
## theta[276]    0.014   0.187   -0.378   -0.107    0.021    0.145    0.357
## theta[277]    0.703   0.181    0.376    0.576    0.696    0.826    1.071
## theta[278]    1.631   0.492    0.872    1.271    1.563    1.929    2.825
## theta[279]    1.123   0.276    0.644    0.926    1.095    1.295    1.735
## theta[280]    1.649   0.503    0.884    1.270    1.585    1.939    2.786
## theta[281]    1.020   0.235    0.614    0.857    1.002    1.165    1.520
## theta[282]    1.641   0.492    0.877    1.286    1.579    1.924    2.778
## theta[283]    0.506   0.161    0.195    0.395    0.509    0.613    0.818
## theta[284]    1.156   0.283    0.673    0.959    1.127    1.321    1.815
## theta[285]    0.500   0.159    0.200    0.391    0.498    0.606    0.828
## theta[286]   -0.792   0.385   -1.728   -0.995   -0.740   -0.536   -0.164
## theta[287]    0.629   0.169    0.300    0.515    0.629    0.739    0.978
## theta[288]    0.867   0.203    0.491    0.727    0.858    0.996    1.287
## theta[289]    0.514   0.164    0.191    0.405    0.513    0.625    0.837
## theta[290]    0.985   0.231    0.574    0.828    0.964    1.130    1.495
## theta[291]   -1.757   0.537   -2.922   -2.097   -1.715   -1.382   -0.817
## theta[292]   -0.197   0.215   -0.660   -0.332   -0.183   -0.048    0.196
## theta[293]    0.051   0.187   -0.339   -0.067    0.058    0.180    0.392
## theta[294]   -0.554   0.278   -1.137   -0.732   -0.540   -0.359   -0.053
## theta[295]    1.134   0.273    0.660    0.941    1.113    1.300    1.726
## theta[296]   -1.227   0.441   -2.176   -1.507   -1.197   -0.913   -0.451
## theta[297]   -1.671   0.589   -2.938   -2.038   -1.642   -1.276   -0.560
## theta[298]    0.390   0.156    0.087    0.285    0.388    0.496    0.691
## theta[299]   -0.869   0.383   -1.762   -1.073   -0.829   -0.598   -0.267
## theta[300]    0.947   0.228    0.532    0.788    0.938    1.092    1.443
## theta[301]    1.133   0.279    0.650    0.936    1.113    1.305    1.735
## theta[302]    1.057   0.250    0.601    0.882    1.043    1.215    1.590
## theta[303]    0.416   0.166    0.091    0.307    0.417    0.526    0.731
## theta[304]   -0.177   0.211   -0.627   -0.309   -0.163   -0.025    0.188
## theta[305]    1.053   0.253    0.614    0.880    1.032    1.200    1.619
## theta[306]    0.428   0.155    0.121    0.323    0.425    0.534    0.738
## theta[307]   -0.311   0.238   -0.837   -0.454   -0.300   -0.147    0.124
## theta[308]   -0.281   0.233   -0.769   -0.426   -0.265   -0.120    0.135
## theta[309]   -1.549   0.545   -2.770   -1.877   -1.495   -1.169   -0.616
## theta[310]   -0.430   0.264   -1.006   -0.598   -0.403   -0.248    0.013
## theta[311]    0.174   0.170   -0.165    0.058    0.180    0.293    0.496
## theta[312]   -1.589   0.562   -2.829   -1.927   -1.527   -1.190   -0.651
## theta[313]    0.546   0.169    0.226    0.434    0.544    0.655    0.880
## theta[314]   -0.366   0.256   -0.921   -0.528   -0.350   -0.186    0.080
## theta[315]    0.699   0.173    0.372    0.582    0.696    0.809    1.048
## theta[316]   -0.159   0.211   -0.604   -0.296   -0.151   -0.013    0.230
## theta[317]   -0.301   0.281   -0.917   -0.479   -0.279   -0.100    0.190
## theta[318]    0.514   0.169    0.184    0.404    0.514    0.628    0.847
## theta[319]    0.783   0.192    0.422    0.650    0.777    0.906    1.178
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## theta[320]   -0.493   0.271   -1.066   -0.668   -0.473   -0.305   -0.009
## theta[321]   -0.156   0.215   -0.609   -0.291   -0.145   -0.009    0.230
## theta[322]    0.889   0.217    0.504    0.736    0.877    1.027    1.348
## theta[323]    1.119   0.276    0.655    0.926    1.098    1.285    1.727
## theta[324]    0.645   0.173    0.315    0.526    0.641    0.757    0.996
## theta[325]    0.872   0.209    0.482    0.731    0.864    1.003    1.317
## theta[326]   -0.379   0.243   -0.894   -0.535   -0.365   -0.210    0.067
## theta[327]   -1.726   0.555   -2.899   -2.081   -1.671   -1.328   -0.772
## theta[328]    0.564   0.178    0.214    0.441    0.569    0.686    0.906
## theta[329]    0.017   0.178   -0.359   -0.096    0.023    0.139    0.348
## theta[330]   -0.232   0.227   -0.703   -0.379   -0.215   -0.076    0.182
## theta[331]   -0.111   0.208   -0.543   -0.242   -0.101    0.035    0.271
## theta[332]    0.122   0.176   -0.242    0.011    0.127    0.241    0.449
## theta[333]   -0.497   0.278   -1.082   -0.674   -0.481   -0.302   -0.015
## theta[334]   -1.634   0.520   -2.795   -1.950   -1.578   -1.269   -0.761
## theta[335]    0.628   0.176    0.301    0.508    0.627    0.738    1.001
## theta[336]    0.080   0.183   -0.299   -0.036    0.086    0.206    0.418
## theta[337]   -0.756   0.340   -1.501   -0.968   -0.733   -0.515   -0.179
## theta[338]   -0.646   0.307   -1.307   -0.841   -0.617   -0.429   -0.113
## theta[339]    0.327   0.168   -0.022    0.220    0.333    0.441    0.647
## theta[340]    1.132   0.278    0.659    0.942    1.108    1.291    1.752
## theta[341]    1.135   0.274    0.655    0.945    1.118    1.299    1.734
## theta[342]   -1.634   0.529   -2.803   -1.964   -1.584   -1.256   -0.742
## theta[343]   -1.526   0.541   -2.728   -1.851   -1.468   -1.152   -0.618
## theta[344]    0.879   0.211    0.497    0.733    0.862    1.014    1.329
## theta[345]   -1.536   0.555   -2.795   -1.868   -1.472   -1.143   -0.617
## theta[346]    0.888   0.213    0.511    0.741    0.874    1.020    1.349
## theta[347]   -0.181   0.257   -0.723   -0.349   -0.160    0.006    0.255
## theta[348]    0.159   0.172   -0.179    0.045    0.163    0.273    0.489
## theta[349]   -0.166   0.229   -0.644   -0.310   -0.152   -0.007    0.240
## theta[350]    0.716   0.187    0.361    0.585    0.713    0.837    1.101
## theta[351]    0.994   0.231    0.596    0.831    0.979    1.145    1.477
## theta[352]   -0.494   0.288   -1.102   -0.681   -0.471   -0.293    0.018
## theta[353]   -1.531   0.559   -2.769   -1.868   -1.482   -1.133   -0.608
## theta[354]    1.131   0.283    0.645    0.927    1.111    1.306    1.740
## theta[355]   -0.101   0.202   -0.535   -0.228   -0.092    0.040    0.270
## theta[356]    0.771   0.188    0.422    0.640    0.767    0.891    1.164
## theta[357]    0.002   0.189   -0.388   -0.120    0.010    0.135    0.350
## theta[358]    1.630   0.495    0.875    1.269    1.560    1.912    2.763
## theta[359]    0.895   0.207    0.512    0.752    0.887    1.032    1.312
## theta[360]    0.131   0.177   -0.238    0.016    0.137    0.254    0.456
## theta[361]    0.759   0.185    0.414    0.632    0.752    0.881    1.139
## theta[362]    0.384   0.160    0.064    0.274    0.387    0.494    0.690
## theta[363]    0.832   0.198    0.473    0.700    0.825    0.957    1.247
## theta[364]   -0.596   0.310   -1.243   -0.797   -0.571   -0.372   -0.067
## theta[365]    0.708   0.180    0.374    0.583    0.704    0.818    1.078
## theta[366]    0.247   0.164   -0.088    0.141    0.250    0.355    0.562
## theta[367]   -0.550   0.270   -1.112   -0.730   -0.534   -0.360   -0.064
## theta[368]    0.867   0.203    0.501    0.725    0.856    0.996    1.282
## theta[369]    0.987   0.222    0.593    0.829    0.969    1.129    1.470
## theta[370]    1.134   0.269    0.653    0.944    1.115    1.299    1.735
## theta[371]   -0.299   0.231   -0.775   -0.449   -0.288   -0.137    0.126
## theta[372]   -0.499   0.272   -1.092   -0.664   -0.485   -0.310   -0.013
## theta[373]   -0.140   0.207   -0.570   -0.273   -0.132    0.003    0.234
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## theta[374]    0.759   0.185    0.403    0.633    0.758    0.884    1.128
## theta[375]    0.705   0.183    0.362    0.576    0.700    0.827    1.076
## theta[376]    0.632   0.167    0.322    0.520    0.628    0.739    0.971
## theta[377]   -0.487   0.276   -1.088   -0.660   -0.467   -0.293    0.005
## theta[378]    0.148   0.185   -0.249    0.030    0.160    0.275    0.488
## theta[379]    0.168   0.174   -0.190    0.055    0.175    0.289    0.498
## theta[380]   -0.445   0.267   -1.016   -0.611   -0.430   -0.258    0.029
## theta[381]   -0.157   0.206   -0.590   -0.292   -0.145   -0.013    0.205
## theta[382]   -0.109   0.212   -0.553   -0.247   -0.098    0.043    0.283
## theta[383]    0.885   0.209    0.504    0.739    0.874    1.021    1.326
## theta[384]    0.603   0.173    0.283    0.484    0.599    0.713    0.965
## theta[385]    0.839   0.208    0.460    0.694    0.833    0.968    1.271
## theta[386]    0.045   0.180   -0.320   -0.075    0.052    0.172    0.373
## theta[387]   -0.487   0.277   -1.048   -0.670   -0.468   -0.290   -0.003
## theta[388]   -0.055   0.196   -0.467   -0.176   -0.044    0.078    0.295
## theta[389]    1.132   0.280    0.656    0.926    1.111    1.308    1.720
## theta[390]   -0.252   0.243   -0.767   -0.408   -0.235   -0.085    0.176
## theta[391]   -0.149   0.213   -0.597   -0.282   -0.135   -0.004    0.235
## theta[392]   -0.605   0.280   -1.174   -0.786   -0.594   -0.409   -0.089
## theta[393]   -0.550   0.288   -1.166   -0.729   -0.528   -0.348   -0.056
## theta[394]    1.632   0.472    0.871    1.285    1.575    1.907    2.729
## theta[395]   -1.526   0.551   -2.748   -1.849   -1.481   -1.124   -0.595
## theta[396]    1.644   0.496    0.876    1.288    1.575    1.923    2.776
## theta[397]   -1.514   0.545   -2.700   -1.870   -1.467   -1.126   -0.582
## theta[398]   -0.024   0.198   -0.441   -0.150   -0.015    0.114    0.333
## theta[399]   -1.732   0.554   -2.993   -2.057   -1.667   -1.347   -0.809
## theta[400]    1.007   0.237    0.606    0.844    0.986    1.153    1.519
## theta[401]    0.035   0.179   -0.333   -0.080    0.040    0.155    0.374
## theta[402]    0.528   0.166    0.207    0.420    0.525    0.641    0.852
## theta[403]    0.818   0.199    0.451    0.681    0.812    0.948    1.221
## theta[404]   -0.225   0.256   -0.778   -0.379   -0.201   -0.043    0.201
## theta[405]    0.736   0.178    0.397    0.617    0.733    0.855    1.086
## theta[406]   -1.713   0.547   -2.893   -2.052   -1.669   -1.328   -0.740
## theta[407]   -0.285   0.245   -0.836   -0.434   -0.262   -0.119    0.138
## theta[408]   -1.735   0.571   -2.976   -2.085   -1.684   -1.339   -0.761
## theta[409]    0.695   0.177    0.354    0.575    0.693    0.814    1.042
## theta[410]    0.720   0.178    0.388    0.596    0.716    0.836    1.085
## theta[411]   -0.212   0.217   -0.681   -0.348   -0.192   -0.064    0.181
## theta[412]   -0.490   0.279   -1.095   -0.668   -0.471   -0.296   -0.004
## theta[413]    0.993   0.231    0.592    0.832    0.982    1.139    1.486
## theta[414]   -0.793   0.315   -1.471   -0.992   -0.772   -0.572   -0.230
## theta[415]   -1.586   0.533   -2.808   -1.912   -1.534   -1.199   -0.705
## theta[416]   -0.308   0.283   -0.960   -0.476   -0.275   -0.110    0.147
## theta[417]   -0.465   0.308   -1.133   -0.664   -0.450   -0.246    0.075
## theta[418]   -0.594   0.315   -1.265   -0.794   -0.578   -0.370   -0.043
## theta[419]   -0.016   0.191   -0.414   -0.138   -0.011    0.119    0.340
## theta[420]   -0.392   0.349   -1.113   -0.626   -0.368   -0.131    0.205
## theta[421]   -1.572   0.541   -2.837   -1.903   -1.524   -1.181   -0.663
## theta[422]    0.584   0.173    0.261    0.468    0.578    0.698    0.934
## theta[423]   -1.677   0.566   -2.975   -2.006   -1.616   -1.284   -0.720
## theta[424]   -0.412   0.261   -0.952   -0.583   -0.394   -0.229    0.060
## theta[425]   -0.421   0.273   -1.005   -0.597   -0.398   -0.222    0.052
## theta[426]   -1.712   0.540   -2.894   -2.055   -1.666   -1.336   -0.786
## theta[427]   -0.409   0.254   -0.936   -0.573   -0.397   -0.231    0.069
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## theta[428]    0.741   0.182    0.422    0.613    0.733    0.860    1.121
## theta[429]    0.866   0.204    0.500    0.723    0.855    0.998    1.291
## theta[430]   -0.431   0.288   -1.045   -0.622   -0.410   -0.224    0.088
## theta[431]    1.631   0.480    0.863    1.286    1.564    1.910    2.725
## theta[432]    0.787   0.197    0.429    0.652    0.781    0.914    1.198
## theta[433]    0.785   0.194    0.420    0.655    0.778    0.910    1.187
## theta[434]    0.864   0.205    0.475    0.728    0.857    0.995    1.292
## theta[435]   -1.604   0.540   -2.779   -1.937   -1.560   -1.223   -0.681
## theta[436]   -1.703   0.548   -2.885   -2.040   -1.672   -1.320   -0.763
## theta[437]   -0.489   0.273   -1.067   -0.659   -0.473   -0.299   -0.016
## theta[438]    0.137   0.173   -0.217    0.022    0.145    0.253    0.455
## theta[439]    0.724   0.184    0.384    0.597    0.716    0.842    1.103
## theta[440]    0.751   0.187    0.402    0.623    0.741    0.873    1.134
## theta[441]   -1.523   0.520   -2.670   -1.834   -1.489   -1.153   -0.628
## theta[442]   -1.751   0.572   -3.038   -2.105   -1.701   -1.345   -0.779
## theta[443]    0.686   0.178    0.348    0.568    0.683    0.803    1.048
## theta[444]    0.244   0.166   -0.090    0.131    0.253    0.354    0.560
## theta[445]    1.045   0.243    0.627    0.869    1.025    1.194    1.596
## theta[446]   -1.711   0.541   -2.922   -2.051   -1.662   -1.324   -0.785
## theta[447]    0.598   0.168    0.274    0.484    0.598    0.710    0.935
## theta[448]    0.288   0.160   -0.025    0.180    0.292    0.393    0.596
## theta[449]    0.168   0.180   -0.211    0.055    0.175    0.292    0.500
## theta[450]   -0.470   0.300   -1.088   -0.664   -0.453   -0.256    0.062
## theta[451]   -0.680   0.313   -1.355   -0.872   -0.660   -0.457   -0.127
## theta[452]   -0.325   0.253   -0.872   -0.482   -0.308   -0.148    0.121
## theta[453]    0.996   0.232    0.582    0.834    0.986    1.141    1.499
## theta[454]   -1.736   0.568   -2.983   -2.087   -1.674   -1.336   -0.767
## theta[455]   -0.349   0.336   -1.159   -0.522   -0.294   -0.123    0.155
## theta[456]    0.943   0.221    0.547    0.788    0.930    1.081    1.417
## theta[457]    0.034   0.195   -0.368   -0.096    0.041    0.176    0.394
## theta[458]    0.887   0.217    0.503    0.738    0.873    1.025    1.346
## theta[459]    0.886   0.208    0.510    0.740    0.873    1.012    1.338
## theta[460]    0.146   0.177   -0.220    0.033    0.152    0.272    0.471
## theta[461]    0.242   0.169   -0.113    0.134    0.245    0.358    0.567
## theta[462]   -0.634   0.308   -1.295   -0.827   -0.611   -0.414   -0.097
## theta[463]   -0.360   0.288   -0.971   -0.542   -0.334   -0.157    0.133
## theta[464]    0.593   0.170    0.264    0.479    0.590    0.706    0.930
## theta[465]    0.100   0.173   -0.242   -0.018    0.104    0.225    0.421
## theta[466]    0.754   0.197    0.380    0.620    0.748    0.879    1.159
## theta[467]   -0.297   0.233   -0.783   -0.437   -0.284   -0.136    0.114
## theta[468]    1.124   0.271    0.660    0.937    1.103    1.289    1.715
## theta[469]    0.161   0.173   -0.202    0.048    0.167    0.280    0.482
## theta[470]    0.474   0.164    0.147    0.367    0.476    0.581    0.789
## theta[471]    0.240   0.169   -0.102    0.127    0.245    0.355    0.566
## theta[472]    0.870   0.211    0.486    0.720    0.862    1.009    1.308
## theta[473]    0.664   0.171    0.321    0.550    0.660    0.782    1.002
## theta[474]    0.670   0.168    0.348    0.555    0.662    0.779    1.008
## theta[475]   -1.716   0.538   -2.876   -2.059   -1.677   -1.329   -0.786
## theta[476]    1.022   0.235    0.603    0.860    1.009    1.166    1.510
## theta[477]    0.153   0.176   -0.201    0.042    0.155    0.272    0.485
## theta[478]    0.559   0.171    0.228    0.445    0.558    0.676    0.894
## theta[479]   -0.175   0.215   -0.636   -0.313   -0.164   -0.026    0.204
## theta[480]    0.538   0.159    0.228    0.429    0.541    0.644    0.847
## theta[481]    0.729   0.192    0.363    0.599    0.725    0.851    1.134
```

```
## theta[482]   -0.604   0.324   -1.297   -0.810   -0.586   -0.374   -0.038
## theta[483]    0.005   0.204   -0.420   -0.127    0.017    0.144    0.375
## theta[484]   -0.019   0.188   -0.402   -0.141   -0.014    0.111    0.331
## theta[485]   -0.016   0.195   -0.416   -0.143   -0.010    0.126    0.343
## theta[486]    0.064   0.235   -0.471   -0.064    0.087    0.220    0.462
## theta[487]    0.558   0.171    0.227    0.443    0.556    0.677    0.888
## theta[488]   -0.412   0.266   -0.986   -0.573   -0.393   -0.226    0.053
## theta[489]    0.708   0.183    0.363    0.587    0.700    0.826    1.072
## theta[490]   -0.357   0.260   -0.918   -0.525   -0.341   -0.177    0.112
## theta[491]   -1.719   0.562   -2.951   -2.053   -1.666   -1.323   -0.759
## theta[492]    0.190   0.177   -0.160    0.077    0.193    0.306    0.538
## theta[493]   -1.648   0.537   -2.817   -1.984   -1.603   -1.261   -0.761
## theta[494]    0.918   0.218    0.522    0.773    0.904    1.058    1.395
## theta[495]   -1.294   0.450   -2.269   -1.564   -1.258   -0.981   -0.530
## theta[496]    0.574   0.177    0.229    0.458    0.574    0.686    0.922
## theta[497]   -1.657   0.543   -2.891   -1.956   -1.595   -1.284   -0.747
## theta[498]   -1.701   0.538   -2.901   -2.028   -1.657   -1.322   -0.775
## theta[499]   -1.730   0.520   -2.858   -2.043   -1.690   -1.359   -0.828
## theta[500]   -0.665   0.304   -1.301   -0.851   -0.645   -0.457   -0.131
## theta[501]    0.082   0.183   -0.299   -0.033    0.088    0.210    0.417
## theta[502]   -0.586   0.325   -1.288   -0.786   -0.572   -0.360    0.007
## theta[503]   -1.716   0.552   -2.953   -2.054   -1.666   -1.323   -0.794
## theta[504]   -0.536   0.282   -1.152   -0.713   -0.516   -0.337   -0.039
## theta[505]   -1.340   0.440   -2.292   -1.608   -1.309   -1.033   -0.563
## theta[506]   -1.739   0.527   -2.842   -2.074   -1.692   -1.362   -0.815
## theta[507]   -0.665   0.304   -1.309   -0.860   -0.644   -0.450   -0.109
## theta[508]   -0.548   0.269   -1.114   -0.716   -0.531   -0.365   -0.058
## theta[509]   -1.753   0.552   -3.004   -2.084   -1.707   -1.368   -0.834
## theta[510]   -1.693   0.542   -2.893   -2.018   -1.648   -1.323   -0.750
## theta[511]   -0.422   0.264   -0.978   -0.590   -0.403   -0.234    0.047
## theta[512]   -0.488   0.270   -1.062   -0.663   -0.470   -0.299   -0.017
## theta[513]    0.581   0.173    0.249    0.468    0.577    0.694    0.927
## theta[514]   -0.483   0.274   -1.064   -0.659   -0.467   -0.290    0.005
## theta[515]   -0.537   0.281   -1.141   -0.710   -0.518   -0.339   -0.041
## theta[516]   -0.474   0.281   -1.063   -0.653   -0.455   -0.278    0.026
## theta[517]   -1.169   0.451   -2.152   -1.437   -1.126   -0.846   -0.424
## theta[518]    0.167   0.199   -0.268    0.044    0.182    0.300    0.528
## theta[519]   -1.742   0.547   -2.919   -2.091   -1.682   -1.349   -0.823
## theta[520]    0.474   0.165    0.152    0.366    0.474    0.584    0.806
## theta[521]   -1.342   0.444   -2.353   -1.594   -1.298   -1.035   -0.595
## theta[522]   -1.304   0.447   -2.295   -1.586   -1.261   -0.982   -0.545
## theta[523]   -1.333   0.457   -2.376   -1.590   -1.280   -1.013   -0.591
## theta[524]   -1.721   0.554   -2.907   -2.059   -1.667   -1.322   -0.811
## theta[525]   -1.754   0.554   -3.032   -2.089   -1.701   -1.370   -0.836
## theta[526]   -1.305   0.428   -2.275   -1.565   -1.268   -1.000   -0.595
## theta[527]    0.114   0.187   -0.277   -0.003    0.122    0.239    0.462
## theta[528]    0.113   0.187   -0.272   -0.016    0.122    0.240    0.470
## theta[529]   -1.282   0.441   -2.281   -1.533   -1.232   -0.981   -0.554
## theta[530]   -1.682   0.593   -2.956   -2.041   -1.640   -1.267   -0.624
## theta[531]   -1.718   0.539   -2.931   -2.043   -1.665   -1.345   -0.794
## theta[532]   -1.764   0.534   -2.972   -2.095   -1.715   -1.396   -0.867
## theta[533]    0.650   0.173    0.319    0.537    0.645    0.763    0.998
## theta[534]   -1.746   0.542   -2.947   -2.075   -1.696   -1.364   -0.831
## theta[535]    0.592   0.169    0.275    0.478    0.591    0.701    0.928
```

```
## theta[536]    0.134   0.186   -0.256    0.013    0.143    0.263    0.474
## deviance   7793.376  39.555 7717.655 7766.276 7793.111 7819.930 7873.279
##             Rhat n.eff
## a[1]       1.005   630
## a[2]       1.006   430
## a[3]       1.010   270
## a[4]       1.003  2000
## a[5]       1.005   570
## a[6]       1.001  2700
## a[7]       1.004   740
## a[8]       1.021   140
## a[9]       1.015   260
## a[10]      1.004   750
## a[11]      1.001  4000
## a[12]      1.003  1100
## a[13]      1.011   230
## a[14]      1.004   690
## a[15]      1.007   400
## a[16]      1.003  1000
## a[17]      1.016   200
## a[18]      1.008   360
## a[19]      1.007   390
## a[20]      1.008   410
## b[1]       1.024   120
## b[2]       1.027   100
## b[3]       1.030    89
## b[4]       1.033    87
## b[5]       1.013   210
## b[6]       1.007   390
## b[7]       1.027    98
## b[8]       1.033   120
## b[9]       1.019   160
## b[10]      1.036    74
## b[11]      1.034    89
## b[12]      1.008   430
## b[13]      1.042    64
## b[14]      1.010   270
## b[15]      1.036    81
## b[16]      1.017   160
## b[17]      1.038    76
## b[18]      1.028    95
## b[19]      1.037    74
## b[20]      1.035    77
## c[1]       1.002  1600
## c[2]       1.003  1200
## c[3]       1.004   910
## c[4]       1.001  4000
## c[5]       1.006   510
## c[6]       1.001  2900
## c[7]       1.003  1100
## c[8]       1.040   200
## c[9]       1.036   140
## c[10]      1.001  4000
## c[11]      1.004   800
```

```
## c[12]      1.001  3600
## c[13]      1.004   820
## c[14]      1.002  2200
## c[15]      1.002  4000
## c[16]      1.006   570
## c[17]      1.009   590
## c[18]      1.007   580
## c[19]      1.003  1200
## c[20]      1.006   830
## theta[1]   1.002  1300
## theta[2]   1.002  2000
## theta[3]   1.006   490
## theta[4]   1.008   350
## theta[5]   1.001  2700
## theta[6]   1.001  3700
## theta[7]   1.002  1500
## theta[8]   1.002  2500
## theta[9]   1.002  2000
## theta[10]  1.002  2300
## theta[11]  1.005   590
## theta[12]  1.011   250
## theta[13]  1.002  1500
## theta[14]  1.004   860
## theta[15]  1.002  2000
## theta[16]  1.003  1100
## theta[17]  1.002  2300
## theta[18]  1.003  1200
## theta[19]  1.001  4000
## theta[20]  1.002  1900
## theta[21]  1.006   510
## theta[22]  1.008   350
## theta[23]  1.005   630
## theta[24]  1.005   520
## theta[25]  1.008   320
## theta[26]  1.004   720
## theta[27]  1.003  1100
## theta[28]  1.001  4000
## theta[29]  1.002  1700
## theta[30]  1.002  1500
## theta[31]  1.004   740
## theta[32]  1.003   920
## theta[33]  1.006   660
## theta[34]  1.004   790
## theta[35]  1.004   730
## theta[36]  1.008   350
## theta[37]  1.005   530
## theta[38]  1.004   730
## theta[39]  1.007   360
## theta[40]  1.002  1500
## theta[41]  1.003  1200
## theta[42]  1.001  4000
## theta[43]  1.005   550
## theta[44]  1.003  1800
## theta[45]  1.003   980
```

```
## theta[46]  1.009   420
## theta[47]  1.002  1700
## theta[48]  1.002  2000
## theta[49]  1.006   440
## theta[50]  1.013   210
## theta[51]  1.001  4000
## theta[52]  1.006   500
## theta[53]  1.003  1100
## theta[54]  1.007   410
## theta[55]  1.007   460
## theta[56]  1.004   730
## theta[57]  1.003  1200
## theta[58]  1.004   790
## theta[59]  1.004   880
## theta[60]  1.002  2200
## theta[61]  1.003   970
## theta[62]  1.004   830
## theta[63]  1.003   890
## theta[64]  1.010   380
## theta[65]  1.003  1200
## theta[66]  1.008   340
## theta[67]  1.004   780
## theta[68]  1.002  4000
## theta[69]  1.002  1800
## theta[70]  1.006   480
## theta[71]  1.001  4000
## theta[72]  1.002  1800
## theta[73]  1.001  2900
## theta[74]  1.001  4000
## theta[75]  1.001  3500
## theta[76]  1.001  4000
## theta[77]  1.002  2100
## theta[78]  1.001  4000
## theta[79]  1.004   670
## theta[80]  1.005   570
## theta[81]  1.002  2000
## theta[82]  1.005  1300
## theta[83]  1.001  4000
## theta[84]  1.009   280
## theta[85]  1.005   530
## theta[86]  1.006   420
## theta[87]  1.005   520
## theta[88]  1.003   910
## theta[89]  1.002  1900
## theta[90]  1.004   690
## theta[91]  1.005   530
## theta[92]  1.003  1400
## theta[93]  1.002  1300
## theta[94]  1.004   740
## theta[95]  1.002  1800
## theta[96]  1.004   810
## theta[97]  1.007   390
## theta[98]  1.004   710
## theta[99]  1.008   360
```

```
## theta[100] 1.002  2300
## theta[101] 1.003  1100
## theta[102] 1.001  4000
## theta[103] 1.002  1600
## theta[104] 1.004   760
## theta[105] 1.005   620
## theta[106] 1.003   890
## theta[107] 1.002  1900
## theta[108] 1.002  1900
## theta[109] 1.008   330
## theta[110] 1.005   510
## theta[111] 1.003  1000
## theta[112] 1.004   650
## theta[113] 1.004   790
## theta[114] 1.001  4000
## theta[115] 1.007   390
## theta[116] 1.001  2500
## theta[117] 1.001  3800
## theta[118] 1.004   810
## theta[119] 1.005   680
## theta[120] 1.001  3600
## theta[121] 1.002  2400
## theta[122] 1.006   470
## theta[123] 1.001  4000
## theta[124] 1.003   980
## theta[125] 1.007   410
## theta[126] 1.006   630
## theta[127] 1.004   750
## theta[128] 1.007   450
## theta[129] 1.004   730
## theta[130] 1.005   580
## theta[131] 1.002  1300
## theta[132] 1.006   420
## theta[133] 1.005   650
## theta[134] 1.003  1200
## theta[135] 1.002  2400
## theta[136] 1.010   420
## theta[137] 1.004   780
## theta[138] 1.004   760
## theta[139] 1.002  2400
## theta[140] 1.004   690
## theta[141] 1.005   760
## theta[142] 1.002  1500
## theta[143] 1.003   960
## theta[144] 1.001  4000
## theta[145] 1.004   770
## theta[146] 1.003   960
## theta[147] 1.005   570
## theta[148] 1.005   590
## theta[149] 1.004   760
## theta[150] 1.002  4000
## theta[151] 1.011   260
## theta[152] 1.004   730
## theta[153] 1.006   450
```

```
## theta[154] 1.007   420
## theta[155] 1.009   350
## theta[156] 1.007   380
## theta[157] 1.015   190
## theta[158] 1.006   430
## theta[159] 1.006   440
## theta[160] 1.009   310
## theta[161] 1.005   600
## theta[162] 1.002  1700
## theta[163] 1.001  4000
## theta[164] 1.009   300
## theta[165] 1.003  1100
## theta[166] 1.004   640
## theta[167] 1.005   540
## theta[168] 1.003   960
## theta[169] 1.003   980
## theta[170] 1.003  1100
## theta[171] 1.004   640
## theta[172] 1.005   570
## theta[173] 1.001  4000
## theta[174] 1.001  4000
## theta[175] 1.001  3200
## theta[176] 1.001  4000
## theta[177] 1.007   400
## theta[178] 1.003  1200
## theta[179] 1.007   400
## theta[180] 1.004   720
## theta[181] 1.003  1100
## theta[182] 1.006   530
## theta[183] 1.002  2200
## theta[184] 1.002  1400
## theta[185] 1.002  1400
## theta[186] 1.004   770
## theta[187] 1.003   930
## theta[188] 1.004   790
## theta[189] 1.002  2100
## theta[190] 1.002  2200
## theta[191] 1.008   350
## theta[192] 1.003   970
## theta[193] 1.002  1300
## theta[194] 1.005   530
## theta[195] 1.003   950
## theta[196] 1.005   580
## theta[197] 1.006   440
## theta[198] 1.002  2000
## theta[199] 1.001  2600
## theta[200] 1.006   460
## theta[201] 1.001  3200
## theta[202] 1.010   280
## theta[203] 1.012   340
## theta[204] 1.005   710
## theta[205] 1.003  1200
## theta[206] 1.003   850
## theta[207] 1.009   300
```

```
## theta[208] 1.003   860
## theta[209] 1.006   430
## theta[210] 1.003  1100
## theta[211] 1.003   880
## theta[212] 1.006   470
## theta[213] 1.001  4000
## theta[214] 1.009   290
## theta[215] 1.012   410
## theta[216] 1.001  3200
## theta[217] 1.004   710
## theta[218] 1.005   600
## theta[219] 1.003   870
## theta[220] 1.006   430
## theta[221] 1.005   600
## theta[222] 1.006   470
## theta[223] 1.001  3300
## theta[224] 1.004   770
## theta[225] 1.004   870
## theta[226] 1.003   880
## theta[227] 1.001  4000
## theta[228] 1.005   560
## theta[229] 1.006   490
## theta[230] 1.006   430
## theta[231] 1.002  1500
## theta[232] 1.010   270
## theta[233] 1.002  1300
## theta[234] 1.003  1200
## theta[235] 1.005   620
## theta[236] 1.005   630
## theta[237] 1.009   310
## theta[238] 1.004   820
## theta[239] 1.001  3100
## theta[240] 1.004   770
## theta[241] 1.005   640
## theta[242] 1.006   440
## theta[243] 1.007   390
## theta[244] 1.005   580
## theta[245] 1.002  2100
## theta[246] 1.001  3200
## theta[247] 1.005   520
## theta[248] 1.003  1100
## theta[249] 1.001  4000
## theta[250] 1.001  2800
## theta[251] 1.001  2900
## theta[252] 1.006   490
## theta[253] 1.001  4000
## theta[254] 1.003  1400
## theta[255] 1.001  3100
## theta[256] 1.007   500
## theta[257] 1.004  1100
## theta[258] 1.005   550
## theta[259] 1.005   520
## theta[260] 1.010   280
## theta[261] 1.003  1100
```

```
## theta[262] 1.007   460
## theta[263] 1.011   240
## theta[264] 1.001  3800
## theta[265] 1.003  1100
## theta[266] 1.004   810
## theta[267] 1.004   760
## theta[268] 1.004   720
## theta[269] 1.007   390
## theta[270] 1.007   420
## theta[271] 1.003  1300
## theta[272] 1.008   320
## theta[273] 1.007   420
## theta[274] 1.003  1100
## theta[275] 1.002  1600
## theta[276] 1.007   370
## theta[277] 1.005   610
## theta[278] 1.002  1300
## theta[279] 1.004   770
## theta[280] 1.002  3800
## theta[281] 1.009   290
## theta[282] 1.002  1800
## theta[283] 1.006   490
## theta[284] 1.003  1100
## theta[285] 1.009   300
## theta[286] 1.002  4000
## theta[287] 1.005   650
## theta[288] 1.006   470
## theta[289] 1.007   420
## theta[290] 1.006   490
## theta[291] 1.003  1000
## theta[292] 1.003   920
## theta[293] 1.008   330
## theta[294] 1.003  1100
## theta[295] 1.004   640
## theta[296] 1.001  4000
## theta[297] 1.001  4000
## theta[298] 1.006   440
## theta[299] 1.001  4000
## theta[300] 1.008   370
## theta[301] 1.003  1000
## theta[302] 1.012   240
## theta[303] 1.010   260
## theta[304] 1.005   550
## theta[305] 1.002  2000
## theta[306] 1.006   500
## theta[307] 1.002  1600
## theta[308] 1.002  1600
## theta[309] 1.003   850
## theta[310] 1.006   440
## theta[311] 1.002  1300
## theta[312] 1.002  2500
## theta[313] 1.003  1100
## theta[314] 1.002  1700
## theta[315] 1.003   840
```

```
## theta[316] 1.005   540
## theta[317] 1.001  4000
## theta[318] 1.007   400
## theta[319] 1.005   540
## theta[320] 1.002  1500
## theta[321] 1.003  1000
## theta[322] 1.008   360
## theta[323] 1.004   800
## theta[324] 1.005   560
## theta[325] 1.006   520
## theta[326] 1.002  1800
## theta[327] 1.001  4000
## theta[328] 1.002  1500
## theta[329] 1.007   390
## theta[330] 1.006   440
## theta[331] 1.004  1100
## theta[332] 1.006   490
## theta[333] 1.001  4000
## theta[334] 1.002  2400
## theta[335] 1.007   380
## theta[336] 1.006   510
## theta[337] 1.002  1600
## theta[338] 1.005   620
## theta[339] 1.004   640
## theta[340] 1.002  1800
## theta[341] 1.005   550
## theta[342] 1.001  4000
## theta[343] 1.001  2600
## theta[344] 1.005   620
## theta[345] 1.001  4000
## theta[346] 1.002  1400
## theta[347] 1.006   450
## theta[348] 1.004   750
## theta[349] 1.002  2200
## theta[350] 1.015   190
## theta[351] 1.002  1800
## theta[352] 1.002  1300
## theta[353] 1.002  1700
## theta[354] 1.003  1100
## theta[355] 1.005   750
## theta[356] 1.005   520
## theta[357] 1.002  1600
## theta[358] 1.002  1600
## theta[359] 1.006   500
## theta[360] 1.007   390
## theta[361] 1.005   610
## theta[362] 1.003  1000
## theta[363] 1.006   480
## theta[364] 1.002  1300
## theta[365] 1.021   480
## theta[366] 1.005   580
## theta[367] 1.004   740
## theta[368] 1.004   690
## theta[369] 1.004   690
```

```
## theta[370] 1.006   430
## theta[371] 1.003  1100
## theta[372] 1.003  1100
## theta[373] 1.004  1700
## theta[374] 1.008   330
## theta[375] 1.004   720
## theta[376] 1.010   320
## theta[377] 1.002  1800
## theta[378] 1.005   580
## theta[379] 1.008   320
## theta[380] 1.001  2600
## theta[381] 1.001  4000
## theta[382] 1.004   670
## theta[383] 1.010   360
## theta[384] 1.007   360
## theta[385] 1.002  1800
## theta[386] 1.004   710
## theta[387] 1.003   900
## theta[388] 1.007   410
## theta[389] 1.009   330
## theta[390] 1.005   560
## theta[391] 1.004  1100
## theta[392] 1.003  1200
## theta[393] 1.002  1600
## theta[394] 1.003  1200
## theta[395] 1.001  2900
## theta[396] 1.002  1400
## theta[397] 1.002  1300
## theta[398] 1.003  1200
## theta[399] 1.001  4000
## theta[400] 1.003   990
## theta[401] 1.008   330
## theta[402] 1.008   340
## theta[403] 1.003   850
## theta[404] 1.003  1100
## theta[405] 1.017   200
## theta[406] 1.001  2900
## theta[407] 1.006   490
## theta[408] 1.003  1200
## theta[409] 1.010   270
## theta[410] 1.004   690
## theta[411] 1.004   820
## theta[412] 1.003   990
## theta[413] 1.001  4000
## theta[414] 1.002  2500
## theta[415] 1.002  2800
## theta[416] 1.001  4000
## theta[417] 1.002  2100
## theta[418] 1.003  1000
## theta[419] 1.005   570
## theta[420] 1.004   650
## theta[421] 1.001  4000
## theta[422] 1.006   500
## theta[423] 1.001  4000
```

```
## theta[424] 1.005   560
## theta[425] 1.002  2200
## theta[426] 1.001  4000
## theta[427] 1.002  2400
## theta[428] 1.006   470
## theta[429] 1.002  1300
## theta[430] 1.003  1400
## theta[431] 1.001  4000
## theta[432] 1.012   290
## theta[433] 1.003  1400
## theta[434] 1.007   360
## theta[435] 1.001  4000
## theta[436] 1.003   940
## theta[437] 1.003   870
## theta[438] 1.004   730
## theta[439] 1.006   510
## theta[440] 1.003  1200
## theta[441] 1.003   950
## theta[442] 1.004  1900
## theta[443] 1.010   270
## theta[444] 1.011   240
## theta[445] 1.004  1000
## theta[446] 1.002  1800
## theta[447] 1.007   400
## theta[448] 1.005   590
## theta[449] 1.005   590
## theta[450] 1.004   820
## theta[451] 1.001  4000
## theta[452] 1.003  1700
## theta[453] 1.002  2400
## theta[454] 1.002  1700
## theta[455] 1.004  1200
## theta[456] 1.004   670
## theta[457] 1.002  1700
## theta[458] 1.005   600
## theta[459] 1.004   650
## theta[460] 1.005   520
## theta[461] 1.005   540
## theta[462] 1.003  1200
## theta[463] 1.001  4000
## theta[464] 1.003   860
## theta[465] 1.012   220
## theta[466] 1.007   420
## theta[467] 1.004   790
## theta[468] 1.003  2600
## theta[469] 1.003  1100
## theta[470] 1.003   930
## theta[471] 1.010   270
## theta[472] 1.012   270
## theta[473] 1.007   410
## theta[474] 1.008   500
## theta[475] 1.004   650
## theta[476] 1.008   360
## theta[477] 1.005   530
```

```
## theta[478] 1.010   250
## theta[479] 1.002  1600
## theta[480] 1.005   550
## theta[481] 1.004   670
## theta[482] 1.003  1200
## theta[483] 1.005   570
## theta[484] 1.002  1300
## theta[485] 1.008   340
## theta[486] 1.004   640
## theta[487] 1.005   550
## theta[488] 1.007   460
## theta[489] 1.009   480
## theta[490] 1.004   750
## theta[491] 1.002  1500
## theta[492] 1.003   900
## theta[493] 1.001  4000
## theta[494] 1.006   480
## theta[495] 1.003   920
## theta[496] 1.006   430
## theta[497] 1.003   900
## theta[498] 1.003   910
## theta[499] 1.001  4000
## theta[500] 1.001  3300
## theta[501] 1.004   800
## theta[502] 1.003  1200
## theta[503] 1.001  4000
## theta[504] 1.002  2200
## theta[505] 1.002  1600
## theta[506] 1.001  4000
## theta[507] 1.002  1800
## theta[508] 1.003   840
## theta[509] 1.003   940
## theta[510] 1.001  3400
## theta[511] 1.001  2600
## theta[512] 1.003  1100
## theta[513] 1.008   420
## theta[514] 1.004   750
## theta[515] 1.004   800
## theta[516] 1.001  2600
## theta[517] 1.001  4000
## theta[518] 1.007   400
## theta[519] 1.001  4000
## theta[520] 1.009   290
## theta[521] 1.004  1200
## theta[522] 1.003  1200
## theta[523] 1.002  4000
## theta[524] 1.002  2400
## theta[525] 1.003  1000
## theta[526] 1.003  1100
## theta[527] 1.005   580
## theta[528] 1.003   980
## theta[529] 1.001  4000
## theta[530] 1.001  3900
## theta[531] 1.001  3700
```

```
## theta[532] 1.003  1100
## theta[533] 1.018   230
## theta[534] 1.005  1200
## theta[535] 1.006   430
## theta[536] 1.005   530
## deviance   1.010   280
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 774.4 and DIC = 8567.8
## DIC is an estimate of expected predictive error (lower deviance is better).
```

As Model 3 is very different from Models 1 and 2, we need still more goodness of fit checking:

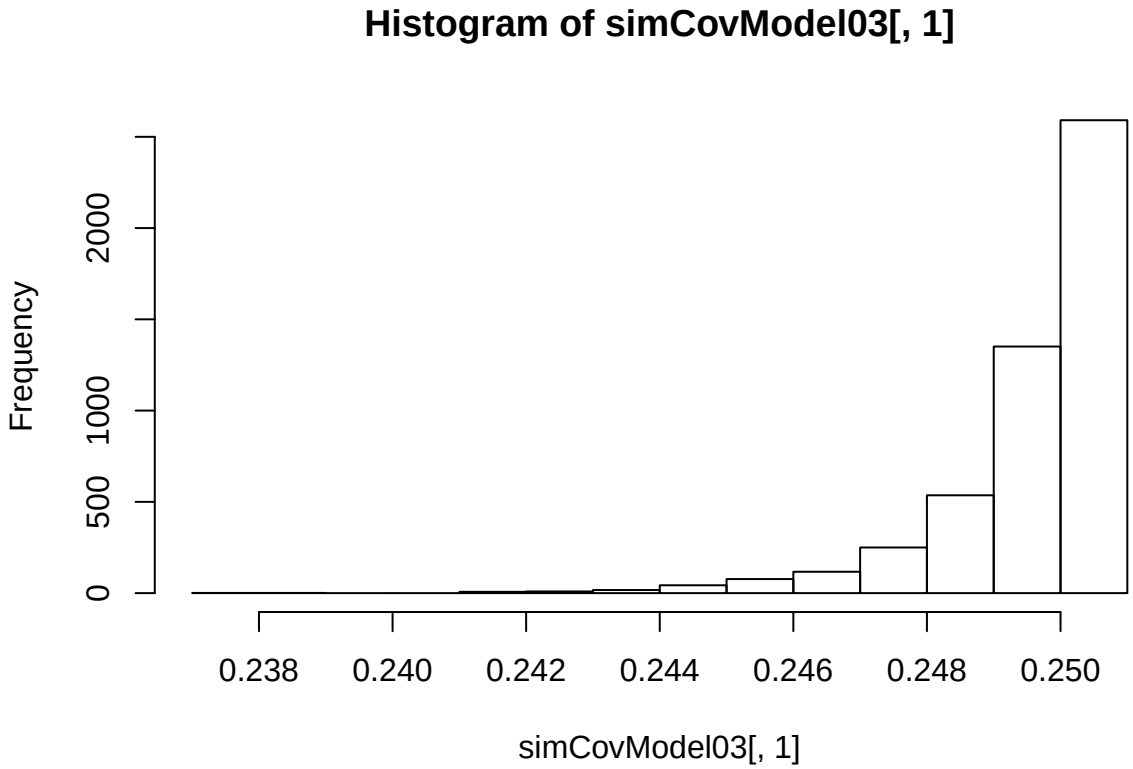
```
# list number of simulated data sets
nSimulatedDataSets = 5000

# create one large matrix of posterior values
model03.Posterior.all = model03.r2jags$BUGSoutput$sims.matrix
dim(model03.Posterior.all)
```

```
## [1] 4000  597
```

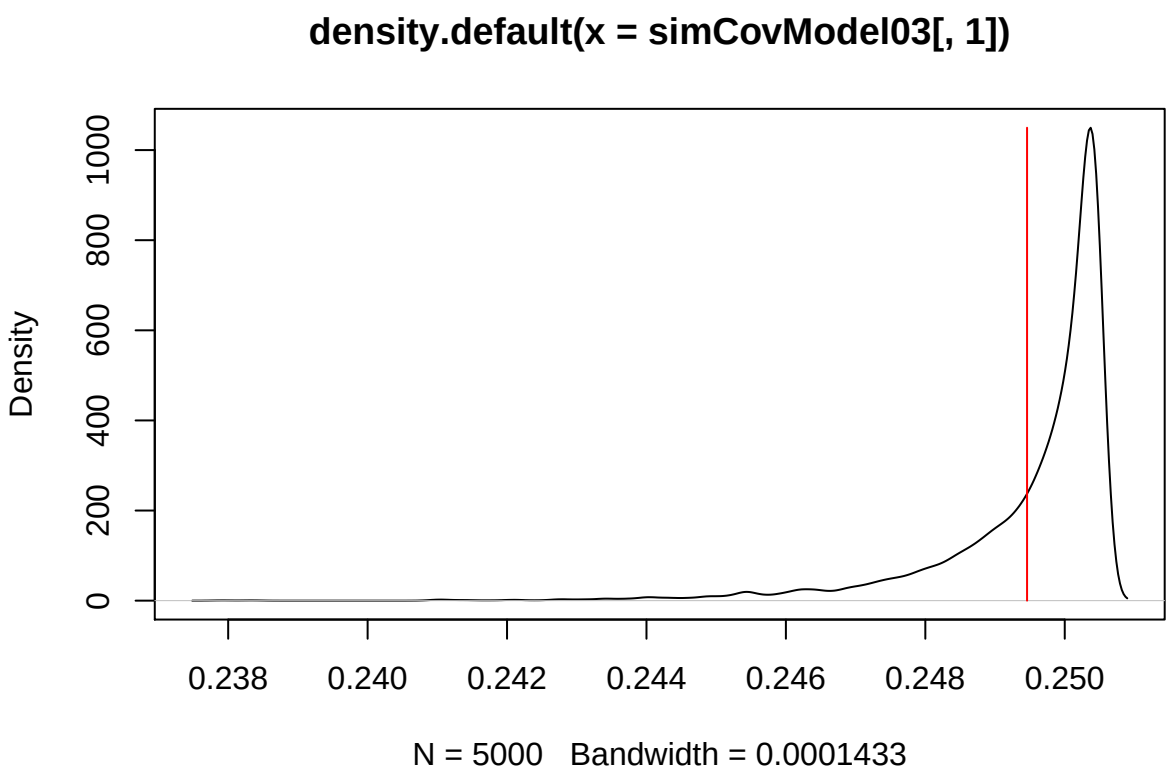
```
# determine columns of posterior that go into each model matrix

aCols = 1:20
bCols = grep(x = colnames(model03.Posterior.all), pattern = "b\\[")
cCols = grep(x = colnames(model03.Posterior.all), pattern = "c\\[")

# save simulated covariances:
simCovModel03 = matrix(data = NA, nrow = nSimulatedDataSets, ncol = nItems*nItems)

# loop through data sets (can be sped up with functions and lapply)
pb = txtProgressBar()
sim = 1
for (sim in 1:nSimulatedDataSets){

  # draw sample from one iteration of posterior chain
  iternum = sample(x = 1:nrow(model03.Posterior.all), size = 1, replace = TRUE)

  # get parameters for that sample: put into factor model matrices for easier generation of data
  a = matrix(data = model03.Posterior.all[iternum, aCols], ncol = 1)
  b = matrix(data = model03.Posterior.all[iternum, bCols], ncol = 1)
  c = matrix(data = model03.Posterior.all[iternum, cCols], ncol = 1)
  mu = -1*a*b

  # generate sample of thetas from theta distribution
  theta = matrix(data = rnorm(n = nrow(FSdata), mean = 0, sd = 1), nrow = nrow(FSdata), ncol = 1)

  # calculate predicted probits:
  probits = matrix(data = 1, nrow = nrow(FSdata), ncol = 1) %*% t(mu) + theta %*% t(a)

  simData = probits
  i=1
```

```
  for (i in 1:ncol(probits)){
    probits[,i] =c[i]+(1-c[i])* pnorm(probits[,i])
    simData[,i] = rbinom(n = nrow(probits), size = 1, prob = probits )
  }

  # calculate the value of SRMR using simulated data's covariance matrix and observed covariance matrix
  simCov = cov(simData)
  simCovModel03[sim,] = c(cov(simData))

  setTxtProgressBar(pb = pb, value = sim/nSimulatedDataSets)
}

## ================================================================================
close(pb)
```

```
# label values of simCor to ensure we have the right comparison
covNames = NULL
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    covNames = c(covNames, paste0("cov", i, "." , j))
  }
}
colnames(simCovModel03) = covNames

# show how one correlation compares to distribution of simulated correlations
dataCov = cov(FSdata)
hist(simCovModel03[,1])
```



```
plot(density(simCovModel03[,1]))
lines(x = c(dataCov[1,1], dataCov[1,1]), y = c(0, max(density(simCovModel03[,1])$y)), col = 2)
```




```
quantile(simCovModel03[,1])
```

```
##        0%       25%       50%       75%      100%
## 0.2379132 0.2492084 0.2500453 0.2503801 0.2504673
```

```
mean(simCovModel03[,1])
```

```
## [1] 0.2495363
```

```
dataCov[1,1]
```

```
## [1] 0.2494595
```

```
# create quantiles of correlations to see where each observed correlation falls
covQuantiles03 = NULL

# compute the quantiles of the observed correlations:

col = 1
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    # get empirical CDF of simulated correlation distribution
    covEcdf = ecdf(simCovModel03[,col])
    covQuantiles03 = rbind(covQuantiles03, c(i, j, summary(covEcdf), dataCov[i,j], covEcdf(dataCov[i,j]))

    col = col + 1
  }
}
colnames(covQuantiles03)[1:2] = c("Item 1", "Item 2")
```

```r
colnames(covQuantiles03)[9:10] = c("ObsCor", "CorPctile")
covQuantiles03[which(covQuantiles03[,10] > .975 | covQuantiles03[,10] < .025),]
```

```
##        Item 1 Item 2       Min.   1st Qu.    Median      Mean   3rd Qu.
##   [1,]      1      2 0.07102804 0.1074976 0.1174118 0.1173331 0.1271028
##   [2,]      1      3 0.07256242 0.1078515 0.1176768 0.1174161 0.1273469
##   [3,]      1      8 0.06904729 0.1078184 0.1176629 0.1174197 0.1271168
##   [4,]      1      9 0.06868810 0.1079962 0.1177152 0.1174541 0.1273539
##   [5,]      1     12 0.07074906 0.1081793 0.1177605 0.1175428 0.1271002
##   [6,]      2      1 0.07102804 0.1074976 0.1174118 0.1173331 0.1271028
##   [7,]      2      2 0.23618357 0.2438677 0.2475345 0.2464448 0.2497332
##   [8,]      2      3 0.06765239 0.1082491 0.1177675 0.1176325 0.1275771
##   [9,]      2      8 0.07292858 0.1078472 0.1177030 0.1175283 0.1273643
##  [10,]      2      9 0.07091645 0.1083563 0.1181040 0.1178914 0.1277819
##  [11,]      3      1 0.07256242 0.1078515 0.1176768 0.1174161 0.1273469
##  [12,]      3      2 0.06765239 0.1082491 0.1177675 0.1176325 0.1275771
##  [13,]      3      8 0.07245432 0.1076292 0.1175251 0.1174279 0.1273024
##  [14,]      3      9 0.07680290 0.1080799 0.1178093 0.1175130 0.1272841
##  [15,]      3     12 0.06915888 0.1072325 0.1175373 0.1171736 0.1270993
##  [16,]      3     15 0.07102804 0.1084810 0.1178302 0.1177543 0.1271551
##  [17,]      4      5 0.06921467 0.1076824 0.1175199 0.1174295 0.1272179
##  [18,]      4      6 0.06934021 0.1076231 0.1175373 0.1174364 0.1271725
##  [19,]      4      9 0.07004464 0.1081322 0.1176733 0.1174388 0.1270400
##  [20,]      4     11 0.06341889 0.1077582 0.1176472 0.1172787 0.1272623
##  [21,]      4     12 0.07457107 0.1076623 0.1176716 0.1173975 0.1272083
##  [22,]      4     14 0.06448598 0.1076754 0.1174153 0.1171040 0.1268369
##  [23,]      4     16 0.06441624 0.1082020 0.1177989 0.1175740 0.1273120
##  [24,]      5      4 0.06921467 0.1076824 0.1175199 0.1174295 0.1272179
##  [25,]      5      5 0.23791324 0.2445329 0.2478292 0.2468764 0.2498073
##  [26,]      5      6 0.07199749 0.1078855 0.1175321 0.1174767 0.1274690
##  [27,]      5      7 0.07018413 0.1073267 0.1172932 0.1170961 0.1269337
##  [28,]      5      8 0.06799414 0.1076702 0.1175774 0.1175138 0.1273234
##  [29,]      5      9 0.07289720 0.1081758 0.1178547 0.1174447 0.1270958
##  [30,]      5     11 0.07460943 0.1078602 0.1175303 0.1174799 0.1272179
##  [31,]      5     12 0.07080485 0.1076336 0.1175373 0.1174626 0.1271621
##  [32,]      5     13 0.06621565 0.1073947 0.1171921 0.1170698 0.1266957
##  [33,]      5     14 0.06465337 0.1075281 0.1177082 0.1174291 0.1273051
##  [34,]      5     16 0.06944134 0.1076440 0.1175617 0.1173443 0.1272179
##  [35,]      5     17 0.07052588 0.1077382 0.1177186 0.1173057 0.1270575
##  [36,]      5     18 0.06923211 0.1078393 0.1174606 0.1173590 0.1271098
##  [37,]      5     19 0.06837076 0.1081497 0.1175896 0.1175075 0.1273016
##  [38,]      5     20 0.06441624 0.1074575 0.1175094 0.1172531 0.1270723
##  [39,]      6      4 0.06934021 0.1076231 0.1175373 0.1174364 0.1271725
##  [40,]      6      5 0.07199749 0.1078855 0.1175321 0.1174767 0.1274690
##  [41,]      6      6 0.23832822 0.2445329 0.2478292 0.2468503 0.2498073
##  [42,]      6      7 0.06741177 0.1074330 0.1174362 0.1171288 0.1269694
##  [43,]      6      8 0.07164877 0.1075917 0.1175443 0.1173347 0.1272998
##  [44,]      6      9 0.05770679 0.1080660 0.1173490 0.1173439 0.1271412
##  [45,]      6     10 0.07467569 0.1080538 0.1179314 0.1175948 0.1275126
##  [46,]      6     11 0.06438136 0.1079858 0.1175059 0.1172081 0.1269250
##  [47,]      6     13 0.06876831 0.1080102 0.1176594 0.1174366 0.1272074
##  [48,]      6     15 0.06770121 0.1076440 0.1174449 0.1172303 0.1271072
##  [49,]      6     17 0.06828009 0.1074941 0.1177710 0.1175170 0.1277009
##  [50,]      6     18 0.07149881 0.1080791 0.1178390 0.1175628 0.1273234
```

```
##  [51,]      6     19 0.06728623 0.1079178 0.1176280 0.1174111 0.1273835
##  [52,]      6     20 0.07102804 0.1079927 0.1178128 0.1175400 0.1273120
##  [53,]      7      5 0.07018413 0.1073267 0.1172932 0.1170961 0.1269337
##  [54,]      7      6 0.06741177 0.1074330 0.1174362 0.1171288 0.1269694
##  [55,]      7      7 0.23618357 0.2440935 0.2476339 0.2465530 0.2497585
##  [56,]      7      8 0.06763844 0.1075603 0.1174222 0.1172622 0.1271970
##  [57,]      7      9 0.07473497 0.1080224 0.1177605 0.1174688 0.1271682
##  [58,]      7     12 0.06447901 0.1078149 0.1176315 0.1173460 0.1271098
##  [59,]      7     14 0.06383736 0.1076414 0.1177518 0.1172560 0.1270950
##  [60,]      7     15 0.07233924 0.1079091 0.1175617 0.1174367 0.1270575
##  [61,]      7     16 0.06523225 0.1080782 0.1177535 0.1175137 0.1270732
##  [62,]      7     19 0.06917631 0.1076126 0.1174606 0.1173621 0.1271359
##  [63,]      8      1 0.06904729 0.1078184 0.1176629 0.1174197 0.1271168
##  [64,]      8      2 0.07292858 0.1078472 0.1177030 0.1175283 0.1273643
##  [65,]      8      3 0.07245432 0.1076292 0.1175251 0.1174279 0.1273024
##  [66,]      8      5 0.06799414 0.1076702 0.1175774 0.1175138 0.1273234
##  [67,]      8      6 0.07164877 0.1075917 0.1175443 0.1173347 0.1272998
##  [68,]      8      7 0.06763844 0.1075603 0.1174222 0.1172622 0.1271970
##  [69,]      8      8 0.23791324 0.2443158 0.2477333 0.2466683 0.2497838
##  [70,]      8      9 0.06904729 0.1080294 0.1175739 0.1175166 0.1271699
##  [71,]      8     10 0.06707351 0.1077626 0.1177675 0.1176193 0.1274568
##  [72,]      8     11 0.07083624 0.1083266 0.1178529 0.1175537 0.1272022
##  [73,]      8     12 0.06656437 0.1081322 0.1175983 0.1174710 0.1273129
##  [74,]      8     13 0.06946576 0.1075255 0.1173769 0.1173151 0.1274097
##  [75,]      8     14 0.06710490 0.1072883 0.1173351 0.1171864 0.1269912
##  [76,]      8     15 0.06839169 0.1079927 0.1176838 0.1175356 0.1272894
##  [77,]      8     16 0.06561933 0.1077399 0.1176245 0.1174702 0.1271168
##  [78,]      8     17 0.06702818 0.1075917 0.1173490 0.1172490 0.1271150
##  [79,]      8     18 0.07392942 0.1081706 0.1175687 0.1173915 0.1271202
##  [80,]      8     19 0.06569954 0.1080276 0.1174780 0.1174397 0.1270889
##  [81,]      8     20 0.07348654 0.1078393 0.1177535 0.1175577 0.1274236
##  [82,]      9      1 0.06868810 0.1079962 0.1177152 0.1174541 0.1273539
##  [83,]      9      2 0.07091645 0.1083563 0.1181040 0.1178914 0.1277819
##  [84,]      9      3 0.07680290 0.1080799 0.1178093 0.1175130 0.1272841
##  [85,]      9      4 0.07004464 0.1081322 0.1176733 0.1174388 0.1270400
##  [86,]      9      5 0.07289720 0.1081758 0.1178547 0.1174447 0.1270958
##  [87,]      9      6 0.05770679 0.1080660 0.1173490 0.1173439 0.1271412
##  [88,]      9      7 0.07473497 0.1080224 0.1177605 0.1174688 0.1271682
##  [89,]      9      8 0.06904729 0.1080294 0.1175739 0.1175166 0.1271699
##  [90,]      9      9 0.23832822 0.2447465 0.2479251 0.2470105 0.2498309
##  [91,]      9     10 0.07443158 0.1084391 0.1179453 0.1175495 0.1271760
##  [92,]      9     11 0.07014228 0.1080451 0.1177849 0.1174116 0.1272981
##  [93,]      9     12 0.06627842 0.1079832 0.1177936 0.1174573 0.1272266
##  [94,]      9     13 0.05942251 0.1080451 0.1177989 0.1174566 0.1270784
##  [95,]      9     14 0.06640396 0.1076370 0.1177605 0.1173495 0.1275091
##  [96,]      9     15 0.07270540 0.1080834 0.1177047 0.1175355 0.1270906
##  [97,]      9     16 0.06476845 0.1080102 0.1177954 0.1176653 0.1277131
##  [98,]      9     17 0.06996094 0.1076806 0.1176908 0.1174291 0.1274864
##  [99,]      9     18 0.07010741 0.1078358 0.1176908 0.1174136 0.1273661
## [100,]      9     19 0.06441275 0.1076266 0.1175861 0.1173177 0.1272423
## [101,]      9     20 0.05761264 0.1078044 0.1177291 0.1173038 0.1269633
## [102,]     10      6 0.07467569 0.1080538 0.1179314 0.1175948 0.1275126
## [103,]     10      8 0.06707351 0.1077626 0.1177675 0.1176193 0.1274568
## [104,]     10      9 0.07443158 0.1084391 0.1179453 0.1175495 0.1271760
```

```
## [105,]     10     10 0.23662645 0.2443158 0.2477333 0.2466917 0.2497838
## [106,]     10     11 0.06717464 0.1082264 0.1176942 0.1175932 0.1276538
## [107,]     10     12 0.07288673 0.1074679 0.1175373 0.1172521 0.1271290
## [108,]     10     14 0.06479286 0.1077731 0.1178215 0.1174164 0.1274899
## [109,]     10     16 0.06795578 0.1081087 0.1177221 0.1173539 0.1270967
## [110,]     10     17 0.06970986 0.1075751 0.1176367 0.1173564 0.1273635
## [111,]     10     20 0.06552518 0.1082334 0.1177570 0.1176597 0.1274515
## [112,]     11      4 0.06341889 0.1077582 0.1176472 0.1172787 0.1272623
## [113,]     11      5 0.07460943 0.1078602 0.1175303 0.1174799 0.1272179
## [114,]     11      6 0.06438136 0.1079858 0.1175059 0.1172081 0.1269250
## [115,]     11      8 0.07083624 0.1083266 0.1178529 0.1175537 0.1272022
## [116,]     11      9 0.07014228 0.1080451 0.1177849 0.1174116 0.1272981
## [117,]     11     10 0.06717464 0.1082264 0.1176942 0.1175932 0.1276538
## [118,]     11     17 0.05594225 0.1075542 0.1177518 0.1174005 0.1275797
## [119,]     11     18 0.06699330 0.1077748 0.1178738 0.1174853 0.1274088
## [120,]     11     20 0.06078254 0.1076030 0.1174449 0.1171566 0.1269746
## [121,]     12      1 0.07074906 0.1081793 0.1177605 0.1175428 0.1271002
## [122,]     12      3 0.06915888 0.1072325 0.1175373 0.1171736 0.1270993
## [123,]     12      4 0.07457107 0.1076623 0.1176716 0.1173975 0.1272083
## [124,]     12      5 0.07080485 0.1076336 0.1175373 0.1174626 0.1271621
## [125,]     12      7 0.06447901 0.1078149 0.1176315 0.1173460 0.1271098
## [126,]     12      8 0.06656437 0.1081322 0.1175983 0.1174710 0.1273129
## [127,]     12      9 0.06627842 0.1079832 0.1177936 0.1174573 0.1272266
## [128,]     12     10 0.07288673 0.1074679 0.1175373 0.1172521 0.1271290
## [129,]     12     12 0.23913726 0.2440935 0.2476339 0.2466575 0.2497585
## [130,]     12     13 0.06697238 0.1075167 0.1174397 0.1171167 0.1268814
## [131,]     12     15 0.07381783 0.1079858 0.1178250 0.1174627 0.1271499
## [132,]     12     17 0.07080485 0.1076231 0.1176315 0.1173859 0.1270749
## [133,]     12     19 0.07098270 0.1076196 0.1177622 0.1173797 0.1270662
## [134,]     12     20 0.07538708 0.1082883 0.1178058 0.1177335 0.1275387
## [135,]     13      5 0.06621565 0.1073947 0.1171921 0.1170698 0.1266957
## [136,]     13      6 0.06876831 0.1080102 0.1176594 0.1174366 0.1272074
## [137,]     13      8 0.06946576 0.1075255 0.1173769 0.1173151 0.1274097
## [138,]     13      9 0.05942251 0.1080451 0.1177989 0.1174566 0.1270784
## [139,]     13     12 0.06697238 0.1075167 0.1174397 0.1171167 0.1268814
## [140,]     13     13 0.23791324 0.2445329 0.2478292 0.2468764 0.2498073
## [141,]     13     14 0.06899149 0.1076405 0.1179017 0.1174432 0.1273914
## [142,]     13     16 0.06851723 0.1074871 0.1174711 0.1172076 0.1270488
## [143,]     14      4 0.06448598 0.1076754 0.1174153 0.1171040 0.1268369
## [144,]     14      5 0.06465337 0.1075281 0.1177082 0.1174291 0.1273051
## [145,]     14      7 0.06383736 0.1076414 0.1177518 0.1172560 0.1270950
## [146,]     14      8 0.06710490 0.1072883 0.1173351 0.1171864 0.1269912
## [147,]     14      9 0.06640396 0.1076370 0.1177605 0.1173495 0.1275091
## [148,]     14     10 0.06479286 0.1077731 0.1178215 0.1174164 0.1274899
## [149,]     14     13 0.06899149 0.1076405 0.1179017 0.1174432 0.1273914
## [150,]     14     14 0.23618357 0.2443158 0.2477333 0.2466277 0.2497838
## [151,]     14     19 0.06172409 0.1074051 0.1175199 0.1172067 0.1272039
## [152,]     15      3 0.07102804 0.1084810 0.1178302 0.1177543 0.1271551
## [153,]     15      6 0.06770121 0.1076440 0.1174449 0.1172303 0.1271072
## [154,]     15      7 0.07233924 0.1079091 0.1175617 0.1174367 0.1270575
## [155,]     15      8 0.06839169 0.1079927 0.1176838 0.1175356 0.1272894
## [156,]     15      9 0.07270540 0.1080834 0.1177047 0.1175355 0.1270906
## [157,]     15     12 0.07381783 0.1079858 0.1178250 0.1174627 0.1271499
## [158,]     15     17 0.07060957 0.1082578 0.1178407 0.1175242 0.1273051
```

```
## [159,]     16      4 0.06441624 0.1082020 0.1177989 0.1175740 0.1273120
## [160,]     16      5 0.06944134 0.1076440 0.1175617 0.1173443 0.1272179
## [161,]     16      7 0.06523225 0.1080782 0.1177535 0.1175137 0.1270732
## [162,]     16      8 0.06561933 0.1077399 0.1176245 0.1174702 0.1271168
## [163,]     16      9 0.06476845 0.1080102 0.1177954 0.1176653 0.1277131
## [164,]     16     10 0.06795578 0.1081087 0.1177221 0.1173539 0.1270967
## [165,]     16     13 0.06851723 0.1074871 0.1174711 0.1172076 0.1270488
## [166,]     16     16 0.23662645 0.2440935 0.2476339 0.2465738 0.2497585
## [167,]     16     19 0.06589482 0.1075237 0.1175704 0.1173371 0.1272458
## [168,]     16     20 0.06903683 0.1079195 0.1178895 0.1175019 0.1275701
## [169,]     17      5 0.07052588 0.1077382 0.1177186 0.1173057 0.1270575
## [170,]     17      6 0.06828009 0.1074941 0.1177710 0.1175170 0.1277009
## [171,]     17      8 0.06702818 0.1075917 0.1173490 0.1172490 0.1271150
## [172,]     17      9 0.06996094 0.1076806 0.1176908 0.1174291 0.1274864
## [173,]     17     10 0.06970986 0.1075751 0.1176367 0.1173564 0.1273635
## [174,]     17     11 0.05594225 0.1075542 0.1177518 0.1174005 0.1275797
## [175,]     17     12 0.07080485 0.1076231 0.1176315 0.1173859 0.1270749
## [176,]     17     15 0.07060957 0.1082578 0.1178407 0.1175242 0.1273051
## [177,]     17     18 0.07009346 0.1078219 0.1176001 0.1175013 0.1276677
## [178,]     17     20 0.05856465 0.1075847 0.1176315 0.1173290 0.1272998
## [179,]     18      5 0.06923211 0.1078393 0.1174606 0.1173590 0.1271098
## [180,]     18      6 0.07149881 0.1080791 0.1178390 0.1175628 0.1273234
## [181,]     18      8 0.07392942 0.1081706 0.1175687 0.1173915 0.1271202
## [182,]     18      9 0.07010741 0.1078358 0.1176908 0.1174136 0.1273661
## [183,]     18     11 0.06699330 0.1077748 0.1178738 0.1174853 0.1274088
## [184,]     18     17 0.07009346 0.1078219 0.1176001 0.1175013 0.1276677
## [185,]     18     20 0.06606221 0.1079282 0.1177588 0.1175446 0.1272946
## [186,]     19      5 0.06837076 0.1081497 0.1175896 0.1175075 0.1273016
## [187,]     19      6 0.06728623 0.1079178 0.1176280 0.1174111 0.1273835
## [188,]     19      7 0.06917631 0.1076126 0.1174606 0.1173621 0.1271359
## [189,]     19      8 0.06569954 0.1080276 0.1174780 0.1174397 0.1270889
## [190,]     19      9 0.06441275 0.1076266 0.1175861 0.1173177 0.1272423
## [191,]     19     12 0.07098270 0.1076196 0.1177622 0.1173797 0.1270662
## [192,]     19     14 0.06172409 0.1074051 0.1175199 0.1172067 0.1272039
## [193,]     19     16 0.06589482 0.1075237 0.1175704 0.1173371 0.1272458
## [194,]     19     19 0.23706235 0.2443158 0.2477333 0.2466913 0.2497838
## [195,]     19     20 0.06539615 0.1075847 0.1175303 0.1172586 0.1271952
## [196,]     20      5 0.06441624 0.1074575 0.1175094 0.1172531 0.1270723
## [197,]     20      6 0.07102804 0.1079927 0.1178128 0.1175400 0.1273120
## [198,]     20      8 0.07348654 0.1078393 0.1177535 0.1175577 0.1274236
## [199,]     20      9 0.05761264 0.1078044 0.1177291 0.1173038 0.1269633
## [200,]     20     10 0.06552518 0.1082334 0.1177570 0.1176597 0.1274515
## [201,]     20     11 0.06078254 0.1076030 0.1174449 0.1171566 0.1269746
## [202,]     20     12 0.07538708 0.1082883 0.1178058 0.1177335 0.1275387
## [203,]     20     16 0.06903683 0.1079195 0.1178895 0.1175019 0.1275701
## [204,]     20     17 0.05856465 0.1075847 0.1176315 0.1173290 0.1272998
## [205,]     20     18 0.06606221 0.1079282 0.1177588 0.1175446 0.1272946
## [206,]     20     19 0.06539615 0.1075847 0.1175303 0.1172586 0.1271952
## [207,]     20     20 0.23749128 0.2443158 0.2477333 0.2467336 0.2497838
##              Max.     ObsCor CorPctile
##    [1,] 0.1559771 0.19196192    1.0000
##    [2,] 0.1685033 0.18363789    1.0000
##    [3,] 0.1634886 0.07062003    0.0004
##    [4,] 0.1596178 0.06260636    0.0000
```

```
##   [5,] 0.1626064 0.09177361    0.0244
##   [6,] 0.1559771 0.19196192    1.0000
##   [7,] 0.2504673 0.24460524    0.0124
##   [8,] 0.1598131 0.20165992    1.0000
##   [9,] 0.1624494 0.08004952    0.0018
##  [10,] 0.1602769 0.06160204    0.0000
##  [11,] 0.1685033 0.18363789    1.0000
##  [12,] 0.1598131 0.20165992    1.0000
##  [13,] 0.1603571 0.07572883    0.0008
##  [14,] 0.1589971 0.05854373    0.0000
##  [15,] 0.1672409 0.08909192    0.0154
##  [16,] 0.1607790 0.14278142    0.9754
##  [17,] 0.1691519 0.04063677    0.0000
##  [18,] 0.1583171 0.04687544    0.0000
##  [19,] 0.1605594 0.02016669    0.0000
##  [20,] 0.1645139 0.14933045    0.9962
##  [21,] 0.1580695 0.06085577    0.0000
##  [22,] 0.1607930 0.05919584    0.0000
##  [23,] 0.1645243 0.06366648    0.0000
##  [24,] 0.1691519 0.04063677    0.0000
##  [25,] 0.2504673 0.24340564    0.0074
##  [26,] 0.1640640 0.06399079    0.0000
##  [27,] 0.1565107 0.08978240    0.0152
##  [28,] 0.1593597 0.04268029    0.0000
##  [29,] 0.1602455 0.07171502    0.0000
##  [30,] 0.1607477 0.07789789    0.0010
##  [31,] 0.1569780 0.05920282    0.0000
##  [32,] 0.1633491 0.08361696    0.0062
##  [33,] 0.1666620 0.06730716    0.0002
##  [34,] 0.1697099 0.08258823    0.0044
##  [35,] 0.1636979 0.07948110    0.0028
##  [36,] 0.1579788 0.07369577    0.0006
##  [37,] 0.1560469 0.07862324    0.0012
##  [38,] 0.1629865 0.07732599    0.0012
##  [39,] 0.1583171 0.04687544    0.0000
##  [40,] 0.1640640 0.06399079    0.0000
##  [41,] 0.2504673 0.16341191    0.0000
##  [42,] 0.1588785 0.06900544    0.0006
##  [43,] 0.1589901 0.05288743    0.0000
##  [44,] 0.1608872 0.05086483    0.0000
##  [45,] 0.1658809 0.05994560    0.0000
##  [46,] 0.1601269 0.07500349    0.0014
##  [47,] 0.1610894 0.04939322    0.0000
##  [48,] 0.1665748 0.07413865    0.0006
##  [49,] 0.1632585 0.07217185    0.0010
##  [50,] 0.1585612 0.07759102    0.0018
##  [51,] 0.1639734 0.05433115    0.0000
##  [52,] 0.1598061 0.06186358    0.0000
##  [53,] 0.1565107 0.08978240    0.0152
##  [54,] 0.1588785 0.06900544    0.0006
##  [55,] 0.2504673 0.24029851    0.0010
##  [56,] 0.1626447 0.07831636    0.0020
##  [57,] 0.1660622 0.06627842    0.0000
##  [58,] 0.1577975 0.07643325    0.0014
```

```
##  [59,] 0.1639524 0.08876412    0.0144
##  [60,] 0.1618706 0.16519738    1.0000
##  [61,] 0.1644476 0.08238945    0.0040
##  [62,] 0.1669654 0.14340912    0.9800
##  [63,] 0.1634886 0.07062003    0.0004
##  [64,] 0.1624494 0.08004952    0.0018
##  [65,] 0.1603571 0.07572883    0.0008
##  [66,] 0.1593597 0.04268029    0.0000
##  [67,] 0.1589901 0.05288743    0.0000
##  [68,] 0.1626447 0.07831636    0.0020
##  [69,] 0.2504673 0.18878156    0.0000
##  [70,] 0.1626098 0.03438764    0.0000
##  [71,] 0.1601583 0.06660273    0.0000
##  [72,] 0.1663691 0.07658669    0.0008
##  [73,] 0.1671851 0.04949435    0.0000
##  [74,] 0.1607198 0.05569117    0.0000
##  [75,] 0.1553494 0.05321872    0.0000
##  [76,] 0.1635026 0.07654485    0.0008
##  [77,] 0.1589064 0.05971195    0.0000
##  [78,] 0.1634468 0.06996792    0.0004
##  [79,] 0.1573964 0.06395941    0.0000
##  [80,] 0.1611592 0.05945739    0.0000
##  [81,] 0.1616753 0.07082578    0.0000
##  [82,] 0.1596178 0.06260636    0.0000
##  [83,] 0.1602769 0.06160204    0.0000
##  [84,] 0.1589971 0.05854373    0.0000
##  [85,] 0.1605594 0.02016669    0.0000
##  [86,] 0.1602455 0.07171502    0.0000
##  [87,] 0.1608872 0.05086483    0.0000
##  [88,] 0.1660622 0.06627842    0.0000
##  [89,] 0.1626098 0.03438764    0.0000
##  [90,] 0.2504673 0.22870345    0.0000
##  [91,] 0.1568524 0.05847747    0.0000
##  [92,] 0.1557958 0.04778212    0.0000
##  [93,] 0.1638025 0.05396499    0.0000
##  [94,] 0.1580067 0.06114521    0.0002
##  [95,] 0.1613475 0.07188938    0.0004
##  [96,] 0.1599107 0.06417213    0.0000
##  [97,] 0.1683185 0.07013879    0.0004
##  [98,] 0.1604861 0.06318873    0.0000
##  [99,] 0.1562282 0.05888897    0.0000
## [100,] 0.1700028 0.05707212    0.0000
## [101,] 0.1597956 0.05055796    0.0000
## [102,] 0.1658809 0.05994560    0.0000
## [103,] 0.1601583 0.06660273    0.0000
## [104,] 0.1568524 0.05847747    0.0000
## [105,] 0.2504673 0.23662645    0.0002
## [106,] 0.1597643 0.16047566    1.0000
## [107,] 0.1642349 0.08122820    0.0034
## [108,] 0.1588506 0.08595690    0.0102
## [109,] 0.1569780 0.08661947    0.0108
## [110,] 0.1672688 0.15003487    0.9956
## [111,] 0.1627110 0.16202399    0.9998
## [112,] 0.1645139 0.14933045    0.9962
```

```
## [113,] 0.1607477 0.07789789    0.0010
## [114,] 0.1601269 0.07500349    0.0014
## [115,] 0.1663691 0.07658669    0.0008
## [116,] 0.1557958 0.04778212    0.0000
## [117,] 0.1597643 0.16047566    1.0000
## [118,] 0.1588541 0.17581253    1.0000
## [119,] 0.1604791 0.15524480    0.9990
## [120,] 0.1620833 0.17660762    1.0000
## [121,] 0.1626064 0.09177361    0.0244
## [122,] 0.1672409 0.08909192    0.0154
## [123,] 0.1580695 0.06085577    0.0000
## [124,] 0.1569780 0.05920282    0.0000
## [125,] 0.1577975 0.07643325    0.0014
## [126,] 0.1671851 0.04949435    0.0000
## [127,] 0.1638025 0.05396499    0.0000
## [128,] 0.1642349 0.08122820    0.0034
## [129,] 0.2504673 0.19770889    0.0000
## [130,] 0.1626587 0.06680848    0.0000
## [131,] 0.1588262 0.09059144    0.0208
## [132,] 0.1646952 0.08927326    0.0188
## [133,] 0.1600223 0.06898452    0.0000
## [134,] 0.1590040 0.08562561    0.0074
## [135,] 0.1633491 0.08361696    0.0062
## [136,] 0.1610894 0.04939322    0.0000
## [137,] 0.1607198 0.05569117    0.0000
## [138,] 0.1580067 0.06114521    0.0002
## [139,] 0.1626587 0.06680848    0.0000
## [140,] 0.2504673 0.20827173    0.0000
## [141,] 0.1579300 0.07088157    0.0006
## [142,] 0.1595760 0.07859534    0.0016
## [143,] 0.1607930 0.05919584    0.0000
## [144,] 0.1666620 0.06730716    0.0002
## [145,] 0.1639524 0.08876412    0.0144
## [146,] 0.1553494 0.05321872    0.0000
## [147,] 0.1613475 0.07188938    0.0004
## [148,] 0.1588506 0.08595690    0.0102
## [149,] 0.1579300 0.07088157    0.0006
## [150,] 0.2504673 0.20108453    0.0000
## [151,] 0.1677117 0.07690752    0.0014
## [152,] 0.1607790 0.14278142    0.9754
## [153,] 0.1665748 0.07413865    0.0006
## [154,] 0.1618706 0.16519738    1.0000
## [155,] 0.1635026 0.07654485    0.0008
## [156,] 0.1599107 0.06417213    0.0000
## [157,] 0.1588262 0.09059144    0.0208
## [158,] 0.1568175 0.14626866    0.9862
## [159,] 0.1645243 0.06366648    0.0000
## [160,] 0.1697099 0.08258823    0.0044
## [161,] 0.1644476 0.08238945    0.0040
## [162,] 0.1589064 0.05971195    0.0000
## [163,] 0.1683185 0.07013879    0.0004
## [164,] 0.1569780 0.08661947    0.0108
## [165,] 0.1595760 0.07859534    0.0016
## [166,] 0.2504673 0.21202050    0.0000
```

```
## [167,] 0.1606570 0.07566606    0.0016
## [168,] 0.1635654 0.08759241    0.0138
## [169,] 0.1636979 0.07948110    0.0028
## [170,] 0.1632585 0.07217185    0.0010
## [171,] 0.1634468 0.06996792    0.0004
## [172,] 0.1604861 0.06318873    0.0000
## [173,] 0.1672688 0.15003487    0.9956
## [174,] 0.1588541 0.17581253    1.0000
## [175,] 0.1646952 0.08927326    0.0188
## [176,] 0.1568175 0.14626866    0.9862
## [177,] 0.1654485 0.15580974    0.9992
## [178,] 0.1577521 0.17776538    1.0000
## [179,] 0.1579788 0.07369577    0.0006
## [180,] 0.1585612 0.07759102    0.0018
## [181,] 0.1573964 0.06395941    0.0000
## [182,] 0.1562282 0.05888897    0.0000
## [183,] 0.1604791 0.15524480    0.9990
## [184,] 0.1654485 0.15580974    0.9992
## [185,] 0.1606361 0.14702887    0.9906
## [186,] 0.1560469 0.07862324    0.0012
## [187,] 0.1639734 0.05433115    0.0000
## [188,] 0.1669654 0.14340912    0.9800
## [189,] 0.1611592 0.05945739    0.0000
## [190,] 0.1700028 0.05707212    0.0000
## [191,] 0.1600223 0.06898452    0.0000
## [192,] 0.1677117 0.07690752    0.0014
## [193,] 0.1606570 0.07566606    0.0016
## [194,] 0.2504673 0.21418608    0.0000
## [195,] 0.1664946 0.14385549    0.9842
## [196,] 0.1629865 0.07732599    0.0012
## [197,] 0.1598061 0.06186358    0.0000
## [198,] 0.1616753 0.07082578    0.0000
## [199,] 0.1597956 0.05055796    0.0000
## [200,] 0.1627110 0.16202399    0.9998
## [201,] 0.1620833 0.17660762    1.0000
## [202,] 0.1590040 0.08562561    0.0074
## [203,] 0.1635654 0.08759241    0.0138
## [204,] 0.1577521 0.17776538    1.0000
## [205,] 0.1606361 0.14702887    0.9906
## [206,] 0.1664946 0.14385549    0.9842
## [207,] 0.2504673 0.23873623    0.0002
```

Multidimensional IRT

The example from this class can be expanded to a confirmatory multidimensional IRT model. These items were from an assessment that purported to measure multiple dimensions, which are denoted in the FSQmatrix object:

```
FSQmatrix
```

```
##        alpha1 alpha2 alpha3 alpha4 alpha5 alpha6 alpha7 alpha8
## Item1       0      0      0      1      0      1      1      0
## Item2       0      0      0      1      0      0      1      0
## Item3       0      0      0      1      0      0      1      0
```

```
## Item4       0      1      1      0      1      0      1      0
## Item5       0      1      0      1      0      0      1      1
## Item6       0      0      0      0      0      0      1      0
## Item7       1      1      0      0      0      0      1      0
## Item8       0      0      0      0      0      0      1      0
## Item9       0      1      0      0      0      0      0      0
## Item10      0      1      0      0      1      0      1      1
## Item11      0      1      0      0      1      0      1      0
## Item12      0      0      0      0      0      0      1      1
## Item13      0      1      0      1      1      0      1      0
## Item14      0      1      0      0      0      0      1      0
## Item15      1      0      0      0      0      0      1      0
## Item16      0      1      0      0      0      0      1      0
## Item17      0      1      0      0      1      0      1      0
## Item18      0      1      0      0      1      1      1      0
## Item19      1      1      1      0      1      0      1      0
## Item20      0      1      1      0      1      0      1      0
```

We will code this into the example and attempt to estimate an eight-dimensional MIRT model. Here, we will use the slope/intercept form as this will allow us to use an inverse wishart distribution for the covariance matrix of the factors (thetas). Here, the loading for the first item for each factor will be set to one to identify the theta variance.

```
# marker item:
model04.function = function(){

  # measurement model specification
    for (person in 1:N){


      X[person, 1] ~ dbern(phi(mu[1] + lambda[1,4]*theta[person,4] + lambda[1,6]*theta[person,6] +
                               lambda[1,7]*theta[person,7]))
      X[person, 2] ~ dbern(phi(mu[2] + lambda[2,4]*theta[person,4] + lambda[2,7]*theta[person,7]))
      X[person, 3] ~ dbern(phi(mu[3] + lambda[3,4]*theta[person,4] + lambda[3,7]*theta[person,7]))
      X[person, 4] ~ dbern(phi(mu[4] + lambda[4,2]*theta[person,2] + lambda[4,3]*theta[person,3] +
                               lambda[4,5]*theta[person,5] + lambda[4,7]*theta[person,7]))
      X[person, 5] ~ dbern(phi(mu[5] + lambda[5,2]*theta[person,2] + lambda[5,4]*theta[person,4] +
                               lambda[5,7]*theta[person,7] + lambda[5,8]*theta[person,8]))
      X[person, 6] ~ dbern(phi(mu[6] + lambda[6,7]*theta[person,7]))
      X[person, 7] ~ dbern(phi(mu[7] + lambda[7,1]*theta[person,1] + lambda[7,2]*theta[person,2] +
                               lambda[7,7]*theta[person,7]))
      X[person, 8] ~ dbern(phi(mu[8] + lambda[8,7]*theta[person,7]))
      X[person, 9] ~ dbern(phi(mu[9] + lambda[9,2]*theta[person,2]))
      X[person,10] ~ dbern(phi(mu[10] + lambda[10,2]*theta[person,2] + lambda[10,5]*theta[person,5] +
                               lambda[10,7]*theta[person,7] + lambda[10,8]*theta[person,8]))
      X[person,11] ~ dbern(phi(mu[11] + lambda[11,2]*theta[person,2] + lambda[11,5]*theta[person,5] +
                               lambda[11,7]*theta[person,7]))
      X[person,12] ~ dbern(phi(mu[12] + lambda[12,7]*theta[person,7] + lambda[12,8]*theta[person,8]))
      X[person,13] ~ dbern(phi(mu[13] + lambda[13,2]*theta[person,2] + lambda[13,4]*theta[person,4] +
                               lambda[13,5]*theta[person,5] + lambda[13,7]*theta[person,7]))
      X[person,14] ~ dbern(phi(mu[14] + lambda[14,2]*theta[person,2] + lambda[14,7]*theta[person,7]))
      X[person,15] ~ dbern(phi(mu[15] + lambda[15,1]*theta[person,1] + lambda[15,7]*theta[person,7]))
      X[person,16] ~ dbern(phi(mu[16] + lambda[16,2]*theta[person,2] + lambda[16,7]*theta[person,7]))
      X[person,17] ~ dbern(phi(mu[17] + lambda[17,2]*theta[person,2] + lambda[17,5]*theta[person,5] +
                               lambda[17,7]*theta[person,7]))
```

```
    X[person,18] ~ dbern(phi(mu[18] + lambda[18,2]*theta[person,2] + lambda[18,5]*theta[person,5] +
                             lambda[18,6]*theta[person,6] + lambda[18,7]*theta[person,7]))
    X[person,19] ~ dbern(phi(mu[19] + lambda[19,1]*theta[person,1] + lambda[19,2]*theta[person,2] +
                             lambda[19,3]*theta[person,3] + lambda[19,5]*theta[person,5] +
                             lambda[19,7]*theta[person,7]))
    X[person,20] ~ dbern(phi(mu[20] + lambda[20,2]*theta[person,2] + lambda[20,3]*theta[person,3] +
                             lambda[20,5]*theta[person,5] + lambda[20,7]*theta[person,7]))
  }

# prior distributions for the factor:
for (person in 1:N){
  theta[person, 1:8] ~ dmnorm(kappa[1:8], inv.phi[1:8,1:8])
}


# prior distribution for the factor covariance matrix
inv.phi[1:8,1:8] ~ dwish(theta.invcov.0[1:8,1:8], theta.invcov.df.0)
theta.cov[1:8,1:8] <- inverse(inv.phi[1:8,1:8])

# fix factor means
for (theta in 1:8){
  kappa[theta] <- 0
}

# theta.cov <- inverse(inv.phi)

# prior distributions for the measurement model mean/precision parameters
for (item in 1:I){
  mu[item] ~ dnorm(mu.mean.0, mu.precision.0)
}

# prior distributions for the loadings (except the first loading, which is fixed to 1.0)
  lambda[1,4] <- 1
  lambda[1,6] <- 1
  lambda[1,7] <- 1
  lambda[2,4] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[2,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[3,4] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[3,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[4,2] <- 1
  lambda[4,3] <- 1
  lambda[4,5] <- 1
  lambda[4,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[5,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[5,4] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[5,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[5,8] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[6,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[7,1] <- 1
  lambda[7,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[7,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[8,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
  lambda[9,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
```

```
    lambda[10,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[10,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[10,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[10,8] <- 1
    lambda[11,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[11,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[11,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[12,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[12,8] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[13,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[13,4] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[13,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[13,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[14,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[14,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[15,1] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[15,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[16,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[16,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[17,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[17,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[17,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[18,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[18,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[18,6] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[18,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[19,1] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[19,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[19,3] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[19,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[19,7] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[20,2] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[20,3] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[20,5] ~ dnorm(lambda.mean.0, lambda.precision.0)
    lambda[20,7] ~ dnorm(lambda.mean.0, lambda.precision.0)

}
```

```
# specification of prior values for measurement model parameters:
#   item intercepts
mu.mean.0 = 0
mu.variance.0 = 1
mu.precision.0 = 1 / mu.variance.0

#   Factor loadings -- these are the discriminations
lambda.mean.0 = 0
lambda.variance.0 = 1
lambda.precision.0 = 1 / lambda.variance.0

# values for prior for factor variance (based on variance of marker item)
theta.cov.0 = diag(8)
theta.invcov.0 = solve(theta.cov.0)
theta.invcov.df.0 = 10
```

```
# next, create data for JAGS to use:
model04.data = list(
  N = nrow(FSdata),
  X = FSdata,
  I = ncol(FSdata),
  mu.mean.0 = mu.mean.0,
  mu.precision.0 = mu.precision.0,
  lambda.mean.0 = lambda.mean.0,
  lambda.precision.0 = lambda.precision.0,
  theta.invcov.0 = theta.invcov.0,
  theta.invcov.df.0 = theta.invcov.df.0
)

model04.parameters = c("mu", "lambda",  "theta.cov", "theta")
```

```
# for reproducable analyses
model04.seed = 06042019+4
```

Here, we will use the R2jags `jags.parallel()` function, which will run somewhat faster (one chain per core):

```
model04.r2jags =  jags.parallel(
  data = model04.data,
  parameters.to.save = model04.parameters,
  model.file = model04.function,
  n.chains = 4,
  n.iter = 10000,
  n.thin = 5,
  n.burnin = 5000,
  n.cluster = 4,
  jags.seed = model04.seed
)
model04.r2jags
```

```
## Inference for Bugs model at "model04.function", fit using jags,
##  4 chains, each with 10000 iterations (first 5000 discarded), n.thin = 5
##  n.sims = 4000 iterations saved
##                 mu.vect sd.vect     2.5%      25%      50%      75%
## lambda[7,1]       1.000   0.000    1.000    1.000    1.000    1.000
## lambda[15,1]      1.305   0.381    0.746    1.046    1.244    1.490
## lambda[19,1]      1.232   0.392    0.571    0.954    1.184    1.471
## lambda[4,2]       1.000   0.000    1.000    1.000    1.000    1.000
## lambda[5,2]       1.057   0.574   -0.099    0.696    1.053    1.423
## lambda[7,2]      -0.023   0.457   -0.939   -0.313   -0.017    0.260
## lambda[9,2]       1.302   0.421    0.650    0.988    1.239    1.561
## lambda[10,2]      1.006   0.682   -0.332    0.564    1.014    1.464
## lambda[11,2]      0.150   0.630   -1.132   -0.252    0.172    0.577
## lambda[13,2]      1.227   0.586    0.148    0.834    1.200    1.599
## lambda[14,2]      0.938   0.541   -0.070    0.595    0.912    1.249
## lambda[16,2]      1.237   0.529    0.282    0.883    1.212    1.548
## lambda[17,2]      0.557   0.590   -0.620    0.174    0.572    0.944
## lambda[18,2]      0.152   0.533   -0.951   -0.171    0.185    0.512
## lambda[19,2]      0.094   0.715   -1.361   -0.363    0.105    0.548
## lambda[20,2]      0.193   0.755   -1.276   -0.330    0.196    0.726
## lambda[4,3]       1.000   0.000    1.000    1.000    1.000    1.000
## lambda[19,3]     -0.108   0.540   -1.167   -0.451   -0.108    0.243
```

```
## lambda[20,3]    -0.359   0.543   -1.541   -0.687   -0.331    0.011
## lambda[1,4]      1.000   0.000    1.000    1.000    1.000    1.000
## lambda[2,4]      2.113   0.478    1.313    1.777    2.069    2.412
## lambda[3,4]      1.812   0.465    1.060    1.482    1.758    2.091
## lambda[5,4]      0.242   0.229   -0.235    0.102    0.247    0.382
## lambda[13,4]     0.435   0.175    0.140    0.312    0.417    0.537
## lambda[4,5]      1.000   0.000    1.000    1.000    1.000    1.000
## lambda[10,5]     1.334   0.312    0.832    1.116    1.302    1.505
## lambda[11,5]     1.775   0.421    1.099    1.469    1.720    2.011
## lambda[13,5]     0.910   0.256    0.498    0.730    0.880    1.052
## lambda[17,5]     1.323   0.297    0.821    1.114    1.291    1.495
## lambda[18,5]     0.633   0.193    0.291    0.504    0.618    0.743
## lambda[19,5]     0.795   0.296    0.287    0.594    0.769    0.971
## lambda[20,5]     2.115   0.481    1.275    1.775    2.081    2.389
## lambda[1,6]      1.000   0.000    1.000    1.000    1.000    1.000
## lambda[18,6]     0.285   0.604   -0.998   -0.043    0.259    0.629
## lambda[1,7]      1.000   0.000    1.000    1.000    1.000    1.000
## lambda[2,7]      0.931   0.627   -0.427    0.564    0.934    1.332
## lambda[3,7]      0.553   0.541   -0.609    0.231    0.568    0.898
## lambda[4,7]     -0.404   0.606   -1.541   -0.801   -0.424   -0.086
## lambda[5,7]     -0.238   0.484   -1.184   -0.535   -0.235    0.047
## lambda[6,7]      1.823   0.421    1.099    1.523    1.785    2.096
## lambda[7,7]      0.268   0.564   -0.868   -0.074    0.270    0.611
## lambda[8,7]      0.717   0.174    0.430    0.590    0.700    0.828
## lambda[10,7]    -0.232   0.561   -1.415   -0.576   -0.222    0.143
## lambda[11,7]     0.332   0.588   -0.828   -0.058    0.322    0.724
## lambda[12,7]     1.588   0.449    0.764    1.276    1.564    1.880
## lambda[13,7]    -0.477   0.572   -1.648   -0.854   -0.453   -0.095
## lambda[14,7]     1.449   0.428    0.593    1.168    1.440    1.727
## lambda[15,7]     0.235   0.672   -1.080   -0.181    0.225    0.646
## lambda[16,7]     1.117   0.390    0.352    0.868    1.118    1.368
## lambda[17,7]     0.539   0.507   -0.431    0.187    0.536    0.879
## lambda[18,7]     0.905   0.474   -0.026    0.591    0.913    1.206
## lambda[19,7]    -0.166   0.659   -1.469   -0.608   -0.167    0.302
## lambda[20,7]     0.367   0.734   -1.025   -0.144    0.372    0.873
## lambda[5,8]      0.622   0.761   -0.758    0.125    0.559    1.066
## lambda[10,8]     1.000   0.000    1.000    1.000    1.000    1.000
## lambda[12,8]    -0.569   0.454   -1.534   -0.847   -0.546   -0.265
## mu[1]            0.093   0.155   -0.211   -0.012    0.095    0.194
## mu[2]            0.728   0.271    0.226    0.540    0.719    0.903
## mu[3]           -0.105   0.216   -0.550   -0.244   -0.099    0.036
## mu[4]            0.127   0.099   -0.069    0.060    0.128    0.194
## mu[5]            0.319   0.088    0.153    0.258    0.316    0.375
## mu[6]            1.677   0.186    1.344    1.548    1.669    1.791
## mu[7]           -0.695   0.146   -0.998   -0.789   -0.690   -0.594
## mu[8]            0.821   0.078    0.674    0.767    0.819    0.871
## mu[9]            0.483   0.079    0.333    0.431    0.479    0.534
## mu[10]          -0.828   0.149   -1.130   -0.924   -0.825   -0.728
## mu[11]          -0.254   0.158   -0.578   -0.352   -0.246   -0.152
## mu[12]           1.114   0.142    0.862    1.014    1.104    1.204
## mu[13]          -1.314   0.180   -1.695   -1.429   -1.297   -1.185
## mu[14]           1.239   0.164    0.944    1.126    1.228    1.339
## mu[15]          -0.451   0.166   -0.811   -0.555   -0.438   -0.339
## mu[16]           1.008   0.148    0.751    0.907    0.997    1.100
```

```
## mu[17]          -0.555   0.149   -0.863   -0.653   -0.554   -0.454
## mu[18]          -0.228   0.111   -0.458   -0.301   -0.227   -0.151
## mu[19]          -1.794   0.317   -2.500   -1.983   -1.759   -1.570
## mu[20]          -1.148   0.244   -1.666   -1.307   -1.129   -0.973
## theta[1,1]       1.249   0.678    0.038    0.789    1.205    1.660
## theta[2,1]       2.104   1.002    0.390    1.432    2.007    2.686
## theta[3,1]       0.795   0.664   -0.462    0.353    0.776    1.206
## theta[4,1]      -0.132   0.693   -1.580   -0.572   -0.112    0.324
## theta[5,1]      -1.525   1.061   -3.844   -2.183   -1.446   -0.792
## theta[6,1]      -1.933   1.154   -4.492   -2.645   -1.847   -1.093
## theta[7,1]      -2.666   1.460   -5.805   -3.591   -2.563   -1.639
## theta[8,1]      -1.993   1.323   -4.970   -2.765   -1.868   -1.082
## theta[9,1]      -2.125   1.224   -4.762   -2.870   -2.036   -1.274
## theta[10,1]     -1.985   1.219   -4.695   -2.733   -1.878   -1.132
## theta[11,1]      1.012   0.798   -0.422    0.471    0.960    1.492
## theta[12,1]      0.565   0.602   -0.595    0.168    0.562    0.951
## theta[13,1]     -0.970   0.854   -2.903   -1.488   -0.905   -0.372
## theta[14,1]     -1.746   1.154   -4.322   -2.429   -1.675   -0.934
## theta[15,1]     -2.048   1.183   -4.619   -2.800   -1.946   -1.217
## theta[16,1]     -1.285   0.947   -3.357   -1.879   -1.215   -0.628
## theta[17,1]     -1.057   0.965   -3.156   -1.615   -1.006   -0.385
## theta[18,1]     -1.955   1.165   -4.429   -2.712   -1.882   -1.126
## theta[19,1]     -1.890   1.115   -4.440   -2.554   -1.796   -1.127
## theta[20,1]     -2.883   1.560   -6.433   -3.795   -2.750   -1.800
## theta[21,1]      1.069   0.746   -0.273    0.571    1.039    1.515
## theta[22,1]     -0.145   0.700   -1.613   -0.583   -0.118    0.326
## theta[23,1]      3.018   1.488    0.660    1.979    2.832    3.852
## theta[24,1]     -0.811   0.802   -2.599   -1.288   -0.747   -0.257
## theta[25,1]     -0.276   0.704   -1.766   -0.722   -0.227    0.198
## theta[26,1]     -3.006   1.678   -6.865   -3.975   -2.818   -1.853
## theta[27,1]     -1.681   1.064   -4.019   -2.322   -1.592   -0.917
## theta[28,1]     -3.235   1.706   -7.121   -4.188   -3.078   -2.089
## theta[29,1]     -1.769   1.087   -4.209   -2.392   -1.651   -1.013
## theta[30,1]      3.088   1.509    0.628    2.009    2.908    3.961
## theta[31,1]      1.406   0.740    0.118    0.892    1.348    1.853
## theta[32,1]      3.015   1.452    0.665    2.008    2.844    3.827
## theta[33,1]      2.227   0.964    0.663    1.543    2.128    2.783
## theta[34,1]      1.384   0.733    0.123    0.873    1.339    1.825
## theta[35,1]      1.272   0.706    0.043    0.777    1.227    1.721
## theta[36,1]      0.511   0.651   -0.755    0.085    0.503    0.939
## theta[37,1]      0.073   0.645   -1.255   -0.330    0.086    0.499
## theta[38,1]      0.965   0.673   -0.282    0.524    0.918    1.390
## theta[39,1]      2.126   0.946    0.507    1.456    2.031    2.669
## theta[40,1]     -1.707   1.095   -4.134   -2.344   -1.598   -0.941
## theta[41,1]     -3.027   1.585   -6.679   -3.954   -2.911   -1.909
## theta[42,1]      3.097   1.526    0.620    2.035    2.923    4.013
## theta[43,1]      1.415   0.956   -0.274    0.787    1.353    1.973
## theta[44,1]     -2.167   1.230   -4.769   -2.932   -2.088   -1.268
## theta[45,1]      1.918   0.877    0.442    1.306    1.830    2.432
## theta[46,1]      0.942   0.604   -0.190    0.532    0.927    1.335
## theta[47,1]     -1.869   1.116   -4.252   -2.563   -1.780   -1.093
## theta[48,1]     -1.089   0.856   -2.987   -1.603   -1.017   -0.501
## theta[49,1]     -2.541   1.475   -5.765   -3.427   -2.388   -1.543
## theta[50,1]      1.368   0.714    0.085    0.865    1.320    1.818
```

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## theta[51,1]     -2.599   1.492   -5.933   -3.486   -2.444   -1.552
## theta[52,1]     -1.061   0.886   -2.965   -1.609   -1.017   -0.446
## theta[53,1]     -0.060   0.689   -1.491   -0.502   -0.050    0.409
## theta[54,1]      1.952   0.931    0.366    1.343    1.861    2.487
## theta[55,1]     -0.728   0.776   -2.452   -1.197   -0.665   -0.193
## theta[56,1]      3.116   1.513    0.688    2.059    2.948    3.957
## theta[57,1]      2.292   1.113    0.464    1.510    2.170    2.940
## theta[58,1]     -3.002   1.631   -6.609   -3.982   -2.865   -1.859
## theta[59,1]     -1.729   1.086   -4.083   -2.381   -1.627   -0.975
## theta[60,1]      1.043   0.657   -0.212    0.607    1.015    1.463
## theta[61,1]     -2.041   1.198   -4.710   -2.771   -1.944   -1.187
## theta[62,1]     -2.652   1.512   -6.023   -3.572   -2.529   -1.608
## theta[63,1]      0.399   0.717   -0.958   -0.071    0.390    0.835
## theta[64,1]      1.255   0.832   -0.253    0.705    1.203    1.727
## theta[65,1]      0.531   0.666   -0.762    0.082    0.530    0.956
## theta[66,1]     -0.802   0.780   -2.469   -1.294   -0.750   -0.253
## theta[67,1]      1.718   0.817    0.286    1.153    1.664    2.192
## theta[68,1]     -3.063   1.675   -6.885   -4.002   -2.894   -1.914
## theta[69,1]     -3.324   1.836   -7.494   -4.351   -3.152   -2.080
## theta[70,1]      0.399   0.647   -0.846   -0.018    0.380    0.815
## theta[71,1]     -1.649   1.041   -3.976   -2.273   -1.563   -0.922
## theta[72,1]     -1.762   1.104   -4.337   -2.402   -1.632   -0.982
## theta[73,1]     -2.888   1.554   -6.419   -3.789   -2.741   -1.809
## theta[74,1]      0.637   0.719   -0.739    0.173    0.612    1.081
## theta[75,1]     -1.819   1.083   -4.115   -2.488   -1.745   -1.043
## theta[76,1]     -3.227   1.681   -6.940   -4.261   -3.083   -2.069
## theta[77,1]     -1.114   0.888   -3.082   -1.652   -1.043   -0.496
## theta[78,1]     -0.127   0.717   -1.608   -0.582   -0.108    0.348
## theta[79,1]      3.069   1.504    0.593    2.021    2.903    3.949
## theta[80,1]      0.677   0.612   -0.456    0.262    0.642    1.065
## theta[81,1]     -1.521   1.056   -3.843   -2.177   -1.426   -0.777
## theta[82,1]      1.743   0.789    0.374    1.189    1.696    2.221
## theta[83,1]     -3.017   1.657   -6.588   -4.011   -2.848   -1.851
## theta[84,1]     -1.011   0.882   -2.959   -1.555   -0.955   -0.401
## theta[85,1]      0.219   0.639   -1.083   -0.198    0.236    0.626
## theta[86,1]      0.814   0.636   -0.360    0.389    0.788    1.214
## theta[87,1]     -0.235   0.674   -1.673   -0.656   -0.204    0.221
## theta[88,1]      1.716   0.786    0.377    1.168    1.640    2.186
## theta[89,1]      3.060   1.488    0.645    2.014    2.875    3.904
## theta[90,1]      1.138   0.773   -0.264    0.603    1.089    1.618
## theta[91,1]      1.669   0.757    0.316    1.141    1.612    2.129
## theta[92,1]     -2.093   1.176   -4.629   -2.809   -2.006   -1.266
## theta[93,1]      1.317   0.854   -0.170    0.736    1.255    1.792
## theta[94,1]      2.394   1.084    0.606    1.650    2.289    2.991
## theta[95,1]      3.089   1.544    0.616    2.019    2.911    3.968
## theta[96,1]      2.102   1.003    0.419    1.406    2.008    2.681
## theta[97,1]     -0.742   0.771   -2.501   -1.204   -0.683   -0.206
## theta[98,1]     -2.203   1.217   -4.893   -2.966   -2.098   -1.342
## theta[99,1]      2.162   0.967    0.523    1.462    2.077    2.745
## theta[100,1]    -1.706   1.154   -4.193   -2.400   -1.616   -0.926
## theta[101,1]    -1.564   1.039   -3.781   -2.227   -1.488   -0.832
## theta[102,1]     2.483   1.289    0.331    1.592    2.339    3.244
## theta[103,1]    -1.676   1.052   -4.001   -2.330   -1.590   -0.937
## theta[104,1]     2.216   1.076    0.484    1.446    2.118    2.813
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## theta[105,1]      1.038   0.637   -0.089    0.600    0.992    1.433
## theta[106,1]     -0.884   0.814   -2.665   -1.380   -0.832   -0.330
## theta[107,1]     -0.820   0.916   -2.820   -1.386   -0.750   -0.193
## theta[108,1]      3.074   1.533    0.647    1.992    2.866    3.949
## theta[109,1]      0.491   0.643   -0.769    0.071    0.493    0.912
## theta[110,1]      0.524   0.602   -0.648    0.131    0.516    0.917
## theta[111,1]     -2.080   1.189   -4.626   -2.796   -1.975   -1.251
## theta[112,1]     -3.242   1.772   -7.373   -4.268   -3.040   -1.997
## theta[113,1]      0.624   0.641   -0.575    0.199    0.585    1.031
## theta[114,1]     -0.755   0.770   -2.434   -1.221   -0.694   -0.228
## theta[115,1]      0.788   0.600   -0.323    0.386    0.754    1.172
## theta[116,1]      2.238   1.061    0.524    1.506    2.128    2.856
## theta[117,1]     -3.050   1.644   -6.684   -3.981   -2.908   -1.916
## theta[118,1]     -0.789   0.779   -2.542   -1.244   -0.726   -0.248
## theta[119,1]      1.317   0.696    0.068    0.828    1.267    1.745
## theta[120,1]     -3.352   1.735   -7.167   -4.383   -3.188   -2.145
## theta[121,1]     -1.667   1.203   -4.288   -2.399   -1.572   -0.834
## theta[122,1]     -1.587   0.984   -3.835   -2.193   -1.507   -0.893
## theta[123,1]     -1.919   1.138   -4.407   -2.618   -1.786   -1.114
## theta[124,1]      3.047   1.492    0.640    2.018    2.876    3.847
## theta[125,1]      0.513   0.603   -0.659    0.109    0.518    0.899
## theta[126,1]      1.097   0.697   -0.197    0.623    1.052    1.542
## theta[127,1]      1.455   0.868   -0.102    0.896    1.402    1.949
## theta[128,1]      1.716   0.880    0.211    1.101    1.631    2.239
## theta[129,1]     -0.745   0.788   -2.452   -1.217   -0.678   -0.199
## theta[130,1]      1.041   0.661   -0.175    0.589    1.014    1.441
## theta[131,1]     -1.348   0.944   -3.424   -1.921   -1.264   -0.676
## theta[132,1]     -0.278   0.695   -1.731   -0.714   -0.228    0.196
## theta[133,1]      0.434   0.682   -0.875   -0.009    0.427    0.854
## theta[134,1]     -2.887   1.571   -6.468   -3.822   -2.744   -1.787
## theta[135,1]     -2.404   1.427   -5.506   -3.273   -2.289   -1.404
## theta[136,1]      2.377   1.072    0.592    1.641    2.261    2.993
## theta[137,1]      0.343   0.603   -0.852   -0.050    0.353    0.726
## theta[138,1]      2.305   1.141    0.410    1.506    2.203    2.970
## theta[139,1]     -2.525   1.460   -5.659   -3.394   -2.381   -1.517
## theta[140,1]      2.378   1.123    0.412    1.616    2.281    3.038
## theta[141,1]      0.974   0.657   -0.219    0.524    0.939    1.386
## theta[142,1]      1.832   0.849    0.380    1.246    1.758    2.334
## theta[143,1]     -2.052   1.189   -4.665   -2.802   -1.955   -1.214
## theta[144,1]     -1.316   0.990   -3.480   -1.935   -1.239   -0.623
## theta[145,1]     -1.339   0.940   -3.286   -1.939   -1.267   -0.680
## theta[146,1]      1.142   0.647   -0.050    0.714    1.120    1.543
## theta[147,1]      2.237   1.008    0.543    1.520    2.156    2.831
## theta[148,1]     -3.243   1.722   -7.038   -4.240   -3.083   -2.035
## theta[149,1]     -0.123   0.706   -1.569   -0.559   -0.106    0.336
## theta[150,1]      3.095   1.509    0.677    2.028    2.900    3.949
## theta[151,1]      2.052   0.891    0.513    1.415    1.987    2.586
## theta[152,1]      1.897   0.937    0.284    1.257    1.821    2.447
## theta[153,1]      1.666   0.832    0.191    1.097    1.600    2.178
## theta[154,1]      2.047   0.929    0.514    1.412    1.951    2.590
## theta[155,1]      1.736   0.788    0.428    1.175    1.664    2.202
## theta[156,1]      2.220   1.046    0.454    1.471    2.131    2.823
## theta[157,1]      1.766   0.821    0.351    1.204    1.688    2.250
## theta[158,1]     -0.670   0.768   -2.363   -1.111   -0.604   -0.160
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## theta[159,1]      1.509   0.705    0.292    1.015    1.447    1.950
## theta[160,1]      1.304   0.915   -0.310    0.707    1.238    1.817
## theta[161,1]      0.707   0.725   -0.656    0.230    0.690    1.160
## theta[162,1]      2.043   0.887    0.513    1.420    1.958    2.570
## theta[163,1]      2.389   1.078    0.604    1.640    2.292    3.035
## theta[164,1]      2.364   1.124    0.516    1.581    2.274    2.997
## theta[165,1]     -3.323   1.812   -7.425   -4.383   -3.122   -2.054
## theta[166,1]     -2.474   1.465   -5.763   -3.350   -2.328   -1.457
## theta[167,1]     -2.553   1.375   -5.587   -3.366   -2.415   -1.583
## theta[168,1]      3.055   1.522    0.591    2.025    2.864    3.852
## theta[169,1]      2.132   0.937    0.572    1.472    2.037    2.721
## theta[170,1]     -3.247   1.722   -7.114   -4.256   -3.080   -2.050
## theta[171,1]     -1.223   0.940   -3.196   -1.798   -1.148   -0.569
## theta[172,1]     -0.029   0.692   -1.433   -0.474   -0.018    0.419
## theta[173,1]      3.014   1.465    0.624    1.998    2.846    3.868
## theta[174,1]      0.600   0.616   -0.573    0.198    0.581    0.993
## theta[175,1]     -1.151   0.908   -3.146   -1.714   -1.079   -0.507
## theta[176,1]     -0.781   0.770   -2.437   -1.231   -0.726   -0.254
## theta[177,1]     -0.262   0.701   -1.751   -0.692   -0.229    0.203
## theta[178,1]     -1.074   0.929   -3.026   -1.675   -1.004   -0.441
## theta[179,1]     -0.136   0.698   -1.549   -0.584   -0.121    0.312
## theta[180,1]      1.814   0.930    0.176    1.185    1.744    2.380
## theta[181,1]     -2.046   1.327   -4.919   -2.834   -1.942   -1.141
## theta[182,1]     -0.187   0.747   -1.740   -0.651   -0.151    0.310
## theta[183,1]      0.304   0.603   -0.888   -0.092    0.299    0.701
## theta[184,1]      2.468   1.256    0.341    1.580    2.377    3.204
## theta[185,1]      1.443   0.883   -0.174    0.868    1.408    1.956
## theta[186,1]      2.170   1.028    0.362    1.468    2.090    2.781
## theta[187,1]     -1.391   1.004   -3.551   -2.005   -1.313   -0.684
## theta[188,1]     -1.301   0.925   -3.316   -1.849   -1.228   -0.653
## theta[189,1]      3.128   1.540    0.686    2.031    2.920    3.976
## theta[190,1]      3.107   1.570    0.681    2.004    2.888    3.979
## theta[191,1]      2.114   0.894    0.628    1.487    2.009    2.647
## theta[192,1]      2.299   1.091    0.400    1.575    2.200    2.954
## theta[193,1]      2.221   1.100    0.428    1.459    2.104    2.841
## theta[194,1]     -1.085   0.878   -3.060   -1.605   -1.017   -0.476
## theta[195,1]     -2.027   1.227   -4.654   -2.784   -1.901   -1.150
## theta[196,1]      2.329   1.124    0.458    1.545    2.207    2.987
## theta[197,1]      1.178   0.824   -0.332    0.644    1.138    1.670
## theta[198,1]      3.059   1.511    0.598    2.008    2.875    3.882
## theta[199,1]      2.578   1.282    0.498    1.710    2.401    3.276
## theta[200,1]     -0.120   0.715   -1.623   -0.552   -0.093    0.357
## theta[201,1]      3.024   1.449    0.621    2.011    2.865    3.870
## theta[202,1]      1.998   0.909    0.501    1.368    1.891    2.528
## theta[203,1]      1.818   0.817    0.432    1.256    1.734    2.288
## theta[204,1]      2.004   0.988    0.309    1.327    1.913    2.584
## theta[205,1]     -0.816   0.787   -2.541   -1.286   -0.752   -0.269
## theta[206,1]      0.247   0.654   -1.054   -0.169    0.243    0.662
## theta[207,1]      0.522   0.649   -0.764    0.114    0.515    0.940
## theta[208,1]      0.141   0.687   -1.193   -0.287    0.121    0.571
## theta[209,1]      2.030   0.915    0.490    1.392    1.935    2.561
## theta[210,1]      3.042   1.454    0.644    2.012    2.907    3.884
## theta[211,1]     -1.434   1.038   -3.644   -2.074   -1.352   -0.710
## theta[212,1]      0.997   0.589   -0.105    0.608    0.963    1.374
```

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## theta[213,1]      3.026   1.528    0.610    1.983    2.833    3.868
## theta[214,1]      2.198   1.039    0.451    1.491    2.101    2.791
## theta[215,1]     -1.389   1.001   -3.587   -1.993   -1.317   -0.687
## theta[216,1]      3.095   1.474    0.736    2.055    2.948    3.955
## theta[217,1]     -2.888   1.646   -6.648   -3.871   -2.717   -1.724
## theta[218,1]      1.800   0.902    0.248    1.165    1.718    2.344
## theta[219,1]      0.968   0.692   -0.329    0.505    0.922    1.413
## theta[220,1]      0.314   0.615   -0.907   -0.078    0.323    0.710
## theta[221,1]      0.640   0.631   -0.524    0.220    0.614    1.030
## theta[222,1]      1.064   0.804   -0.359    0.530    1.009    1.549
## theta[223,1]      3.124   1.541    0.687    2.072    2.919    3.973
## theta[224,1]     -3.018   1.662   -6.826   -3.940   -2.845   -1.912
## theta[225,1]      0.619   0.771   -0.848    0.130    0.585    1.078
## theta[226,1]     -1.123   0.911   -3.176   -1.642   -1.031   -0.490
## theta[227,1]     -3.318   1.759   -7.344   -4.313   -3.135   -2.108
## theta[228,1]     -1.735   1.076   -4.122   -2.370   -1.667   -0.981
## theta[229,1]      2.156   1.012    0.444    1.457    2.052    2.756
## theta[230,1]      0.251   0.644   -1.005   -0.184    0.246    0.679
## theta[231,1]     -3.245   1.740   -7.235   -4.278   -3.120   -2.031
## theta[232,1]      0.342   0.666   -0.941   -0.094    0.344    0.762
## theta[233,1]     -1.693   1.044   -3.932   -2.340   -1.637   -0.949
## theta[234,1]      1.819   0.877    0.281    1.210    1.745    2.329
## theta[235,1]     -1.333   0.974   -3.419   -1.926   -1.265   -0.656
## theta[236,1]      0.169   0.688   -1.193   -0.267    0.165    0.601
## theta[237,1]      0.836   0.662   -0.365    0.380    0.796    1.249
## theta[238,1]      1.971   0.976    0.281    1.298    1.899    2.539
## theta[239,1]     -0.776   0.832   -2.634   -1.270   -0.699   -0.201
## theta[240,1]     -1.289   0.909   -3.219   -1.862   -1.215   -0.666
## theta[241,1]      0.696   0.639   -0.519    0.271    0.674    1.102
## theta[242,1]      0.279   0.665   -0.986   -0.160    0.254    0.699
## theta[243,1]     -0.137   0.713   -1.615   -0.579   -0.107    0.332
## theta[244,1]     -1.610   1.015   -3.869   -2.216   -1.516   -0.909
## theta[245,1]      2.805   1.317    0.662    1.902    2.643    3.544
## theta[246,1]     -2.884   1.621   -6.453   -3.813   -2.739   -1.747
## theta[247,1]      1.037   0.707   -0.287    0.567    0.995    1.467
## theta[248,1]      1.312   0.816   -0.118    0.756    1.246    1.779
## theta[249,1]     -2.324   1.292   -5.205   -3.107   -2.197   -1.406
## theta[250,1]     -1.980   1.122   -4.399   -2.679   -1.913   -1.208
## theta[251,1]     -2.005   1.318   -4.904   -2.791   -1.891   -1.076
## theta[252,1]      1.062   0.623   -0.103    0.641    1.034    1.455
## theta[253,1]     -0.238   0.888   -2.177   -0.762   -0.189    0.353
## theta[254,1]      1.941   0.854    0.486    1.329    1.885    2.471
## theta[255,1]     -1.378   0.952   -3.425   -1.965   -1.297   -0.696
## theta[256,1]      0.848   0.645   -0.381    0.427    0.818    1.263
## theta[257,1]      3.055   1.519    0.657    1.991    2.846    3.910
## theta[258,1]      2.173   0.954    0.586    1.500    2.081    2.741
## theta[259,1]     -0.277   0.698   -1.759   -0.718   -0.240    0.203
## theta[260,1]      0.802   0.732   -0.545    0.330    0.766    1.250
## theta[261,1]     -2.043   1.206   -4.745   -2.760   -1.941   -1.215
## theta[262,1]      1.603   0.789    0.243    1.078    1.542    2.057
## theta[263,1]     -1.432   0.941   -3.439   -2.026   -1.347   -0.771
## theta[264,1]     -2.189   1.234   -4.969   -2.919   -2.103   -1.336
## theta[265,1]     -1.462   1.024   -3.700   -2.101   -1.369   -0.753
## theta[266,1]      1.263   0.861   -0.305    0.700    1.210    1.789
```

```
## theta[267,1]      2.341   1.134    0.434    1.555    2.225    2.999
## theta[268,1]     -0.516   0.754   -2.092   -0.996   -0.487    0.009
## theta[269,1]      0.475   0.647   -0.805    0.064    0.468    0.876
## theta[270,1]      1.850   0.821    0.474    1.284    1.773    2.330
## theta[271,1]     -1.575   1.011   -3.767   -2.178   -1.474   -0.865
## theta[272,1]     -0.361   0.665   -1.772   -0.767   -0.330    0.085
## theta[273,1]      2.367   1.107    0.527    1.601    2.269    3.016
## theta[274,1]     -0.741   0.849   -2.501   -1.259   -0.688   -0.169
## theta[275,1]      3.058   1.477    0.701    2.035    2.866    3.893
## theta[276,1]      0.617   0.624   -0.571    0.182    0.599    1.034
## theta[277,1]      0.749   0.766   -0.688    0.249    0.740    1.213
## theta[278,1]      3.096   1.558    0.661    2.040    2.881    3.905
## theta[279,1]      2.299   1.110    0.444    1.546    2.191    2.908
## theta[280,1]      3.029   1.498    0.656    1.976    2.872    3.855
## theta[281,1]      1.376   0.937   -0.323    0.761    1.322    1.915
## theta[282,1]      3.023   1.445    0.685    2.017    2.828    3.824
## theta[283,1]      1.334   0.711    0.092    0.842    1.283    1.761
## theta[284,1]      2.408   1.101    0.593    1.651    2.294    3.012
## theta[285,1]      1.528   0.746    0.204    1.028    1.479    1.974
## theta[286,1]     -1.243   1.069   -3.610   -1.907   -1.153   -0.506
## theta[287,1]      1.693   0.768    0.394    1.152    1.632    2.141
## theta[288,1]      1.048   0.774   -0.349    0.523    1.005    1.515
## theta[289,1]     -0.278   0.694   -1.752   -0.707   -0.250    0.184
## theta[290,1]      1.328   0.802   -0.130    0.801    1.284    1.823
## theta[291,1]     -3.263   1.732   -7.016   -4.257   -3.103   -2.058
## theta[292,1]     -0.886   0.866   -2.808   -1.397   -0.809   -0.292
## theta[293,1]      0.648   0.629   -0.556    0.216    0.627    1.045
## theta[294,1]     -1.682   1.031   -3.973   -2.298   -1.604   -0.967
## theta[295,1]      1.463   0.881   -0.148    0.870    1.415    2.004
## theta[296,1]     -1.684   1.147   -4.131   -2.393   -1.586   -0.883
## theta[297,1]     -1.631   1.184   -4.208   -2.348   -1.540   -0.815
## theta[298,1]      1.209   0.668    0.029    0.747    1.172    1.619
## theta[299,1]     -1.098   0.984   -3.182   -1.696   -1.033   -0.435
## theta[300,1]      2.037   0.896    0.503    1.413    1.955    2.558
## theta[301,1]      2.300   1.121    0.360    1.514    2.205    2.986
## theta[302,1]      1.182   0.835   -0.413    0.650    1.142    1.671
## theta[303,1]      0.373   0.672   -0.884   -0.071    0.357    0.789
## theta[304,1]     -0.052   0.722   -1.498   -0.506   -0.046    0.419
## theta[305,1]      2.301   1.040    0.632    1.571    2.191    2.899
## theta[306,1]      0.600   0.666   -0.679    0.166    0.584    1.015
## theta[307,1]     -1.176   0.890   -3.126   -1.735   -1.092   -0.558
## theta[308,1]     -1.235   0.878   -3.127   -1.778   -1.160   -0.624
## theta[309,1]     -2.298   1.333   -5.273   -3.102   -2.210   -1.376
## theta[310,1]     -1.461   0.954   -3.576   -2.034   -1.381   -0.802
## theta[311,1]      0.937   0.751   -0.414    0.426    0.885    1.399
## theta[312,1]     -2.507   1.470   -5.598   -3.403   -2.378   -1.492
## theta[313,1]      0.575   0.709   -0.800    0.113    0.562    1.006
## theta[314,1]     -1.110   0.879   -3.036   -1.651   -1.048   -0.509
## theta[315,1]      1.901   0.915    0.369    1.259    1.805    2.472
## theta[316,1]     -0.930   0.863   -2.804   -1.442   -0.846   -0.323
## theta[317,1]     -1.134   0.874   -3.063   -1.642   -1.064   -0.528
## theta[318,1]      1.892   0.864    0.381    1.283    1.823    2.409
## theta[319,1]      1.848   0.828    0.418    1.267    1.768    2.355
## theta[320,1]     -1.525   0.995   -3.707   -2.144   -1.437   -0.815
```

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## theta[321,1]    -0.875   0.838   -2.690   -1.371   -0.808   -0.302
## theta[322,1]     1.305   0.801   -0.211    0.788    1.274    1.800
## theta[323,1]     2.311   1.093    0.404    1.557    2.214    2.966
## theta[324,1]     0.579   0.684   -0.738    0.143    0.568    0.995
## theta[325,1]     0.777   0.781   -0.713    0.279    0.746    1.236
## theta[326,1]    -1.392   0.942   -3.426   -1.953   -1.292   -0.739
## theta[327,1]    -2.027   1.358   -4.933   -2.841   -1.906   -1.098
## theta[328,1]     0.533   0.627   -0.665    0.120    0.529    0.943
## theta[329,1]     0.236   0.635   -1.013   -0.162    0.237    0.655
## theta[330,1]    -1.155   0.895   -3.161   -1.670   -1.082   -0.528
## theta[331,1]    -0.837   0.802   -2.554   -1.336   -0.783   -0.304
## theta[332,1]     0.787   0.663   -0.464    0.332    0.770    1.201
## theta[333,1]    -1.577   1.029   -3.842   -2.199   -1.492   -0.847
## theta[334,1]    -2.994   1.621   -6.534   -4.005   -2.852   -1.863
## theta[335,1]     0.512   0.658   -0.784    0.081    0.500    0.935
## theta[336,1]    -0.548   0.759   -2.200   -1.002   -0.501   -0.037
## theta[337,1]    -1.723   1.076   -4.128   -2.355   -1.609   -1.000
## theta[338,1]    -1.748   1.060   -4.064   -2.418   -1.653   -0.984
## theta[339,1]    -0.294   0.720   -1.826   -0.748   -0.256    0.189
## theta[340,1]     2.305   1.105    0.425    1.541    2.208    2.946
## theta[341,1]     2.328   1.121    0.394    1.551    2.240    2.997
## theta[342,1]    -2.984   1.616   -6.551   -3.942   -2.847   -1.876
## theta[343,1]    -2.281   1.317   -5.029   -3.078   -2.194   -1.360
## theta[344,1]     1.734   0.855    0.252    1.158    1.656    2.255
## theta[345,1]    -2.321   1.343   -5.187   -3.127   -2.223   -1.374
## theta[346,1]     2.046   1.003    0.311    1.369    1.965    2.620
## theta[347,1]     0.077   0.680   -1.269   -0.369    0.094    0.512
## theta[348,1]     0.913   0.686   -0.316    0.454    0.878    1.346
## theta[349,1]    -0.878   0.808   -2.594   -1.389   -0.840   -0.326
## theta[350,1]     1.975   0.953    0.336    1.331    1.876    2.520
## theta[351,1]     2.468   1.287    0.352    1.574    2.317    3.184
## theta[352,1]    -1.577   1.004   -3.788   -2.180   -1.470   -0.877
## theta[353,1]    -2.327   1.385   -5.362   -3.189   -2.210   -1.336
## theta[354,1]     2.304   1.115    0.363    1.538    2.222    2.929
## theta[355,1]    -0.860   0.848   -2.715   -1.356   -0.791   -0.270
## theta[356,1]     1.912   0.899    0.367    1.290    1.822    2.452
## theta[357,1]    -0.058   0.628   -1.323   -0.469   -0.055    0.371
## theta[358,1]     3.088   1.491    0.728    2.035    2.881    3.971
## theta[359,1]     2.106   0.971    0.490    1.421    2.007    2.685
## theta[360,1]     0.173   0.682   -1.106   -0.274    0.159    0.600
## theta[361,1]     1.802   0.817    0.415    1.254    1.721    2.274
## theta[362,1]     1.177   0.632   -0.028    0.747    1.155    1.573
## theta[363,1]     1.321   0.901   -0.257    0.717    1.254    1.842
## theta[364,1]    -1.622   1.023   -3.917   -2.248   -1.533   -0.885
## theta[365,1]     1.605   0.822    0.148    1.041    1.536    2.113
## theta[366,1]     0.446   0.710   -0.960   -0.004    0.448    0.888
## theta[367,1]    -1.713   1.004   -3.889   -2.342   -1.630   -1.007
## theta[368,1]     2.181   0.984    0.495    1.483    2.100    2.744
## theta[369,1]     2.353   1.095    0.486    1.573    2.264    3.018
## theta[370,1]     2.312   1.091    0.481    1.575    2.206    2.924
## theta[371,1]    -1.240   0.908   -3.244   -1.792   -1.162   -0.601
## theta[372,1]    -1.508   0.982   -3.694   -2.087   -1.428   -0.823
## theta[373,1]    -0.831   0.808   -2.588   -1.319   -0.786   -0.270
## theta[374,1]     0.702   0.695   -0.604    0.250    0.667    1.116
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## theta[375,1]      1.223   0.905   -0.363    0.628    1.155    1.742
## theta[376,1]      0.737   0.774   -0.767    0.244    0.724    1.213
## theta[377,1]     -1.504   0.976   -3.649   -2.089   -1.429   -0.819
## theta[378,1]     -0.408   0.737   -2.012   -0.853   -0.368    0.088
## theta[379,1]      0.350   0.734   -1.101   -0.130    0.352    0.827
## theta[380,1]     -1.467   0.947   -3.535   -2.061   -1.391   -0.811
## theta[381,1]     -0.888   0.838   -2.744   -1.393   -0.835   -0.322
## theta[382,1]     -0.825   0.832   -2.640   -1.333   -0.772   -0.253
## theta[383,1]      2.062   1.018    0.307    1.362    1.975    2.655
## theta[384,1]      1.368   0.891   -0.199    0.770    1.305    1.886
## theta[385,1]      1.262   0.743   -0.088    0.757    1.241    1.712
## theta[386,1]     -0.459   0.755   -2.054   -0.919   -0.417    0.063
## theta[387,1]     -1.489   0.989   -3.678   -2.099   -1.408   -0.784
## theta[388,1]     -0.748   0.820   -2.502   -1.244   -0.700   -0.184
## theta[389,1]      2.306   1.103    0.464    1.562    2.180    2.946
## theta[390,1]     -1.193   0.882   -3.144   -1.732   -1.129   -0.597
## theta[391,1]     -0.859   0.854   -2.728   -1.364   -0.775   -0.265
## theta[392,1]     -1.753   1.031   -4.007   -2.367   -1.678   -1.018
## theta[393,1]     -1.577   0.994   -3.787   -2.167   -1.490   -0.885
## theta[394,1]      3.046   1.433    0.690    2.040    2.893    3.860
## theta[395,1]     -2.291   1.341   -5.212   -3.096   -2.172   -1.363
## theta[396,1]      3.072   1.472    0.714    2.039    2.875    3.890
## theta[397,1]     -2.346   1.391   -5.423   -3.186   -2.225   -1.376
## theta[398,1]     -0.707   0.836   -2.509   -1.208   -0.672   -0.156
## theta[399,1]     -2.899   1.574   -6.476   -3.835   -2.724   -1.799
## theta[400,1]      2.106   1.015    0.379    1.428    2.002    2.678
## theta[401,1]      0.733   0.649   -0.468    0.300    0.709    1.144
## theta[402,1]     -0.075   0.673   -1.519   -0.489   -0.043    0.379
## theta[403,1]      1.041   0.734   -0.310    0.564    0.992    1.496
## theta[404,1]     -0.027   0.657   -1.380   -0.435   -0.003    0.398
## theta[405,1]      0.089   0.786   -1.415   -0.400    0.073    0.579
## theta[406,1]     -2.030   1.338   -4.982   -2.866   -1.936   -1.111
## theta[407,1]     -0.168   0.678   -1.582   -0.604   -0.136    0.284
## theta[408,1]     -2.004   1.360   -5.125   -2.782   -1.867   -1.048
## theta[409,1]      1.979   0.888    0.479    1.375    1.887    2.477
## theta[410,1]      2.245   1.115    0.364    1.475    2.144    2.886
## theta[411,1]     -1.125   0.871   -3.013   -1.669   -1.050   -0.528
## theta[412,1]     -1.581   1.010   -3.789   -2.197   -1.482   -0.879
## theta[413,1]      2.433   1.261    0.349    1.591    2.318    3.147
## theta[414,1]     -1.988   1.145   -4.521   -2.697   -1.883   -1.184
## theta[415,1]     -2.504   1.415   -5.650   -3.387   -2.419   -1.544
## theta[416,1]     -1.143   0.868   -3.044   -1.679   -1.070   -0.531
## theta[417,1]     -1.087   0.851   -2.957   -1.579   -1.044   -0.506
## theta[418,1]     -1.267   0.942   -3.384   -1.820   -1.194   -0.608
## theta[419,1]     -0.708   0.821   -2.428   -1.221   -0.659   -0.143
## theta[420,1]     -0.878   0.818   -2.648   -1.383   -0.821   -0.300
## theta[421,1]     -2.431   1.413   -5.449   -3.275   -2.309   -1.439
## theta[422,1]      1.130   0.660   -0.063    0.678    1.107    1.546
## theta[423,1]     -2.386   1.410   -5.489   -3.252   -2.299   -1.378
## theta[424,1]     -1.432   0.993   -3.659   -2.028   -1.313   -0.737
## theta[425,1]     -1.439   0.960   -3.498   -2.023   -1.366   -0.760
## theta[426,1]     -2.023   1.342   -4.942   -2.835   -1.919   -1.097
## theta[427,1]     -1.172   0.906   -3.161   -1.728   -1.099   -0.545
## theta[428,1]      0.058   0.759   -1.444   -0.431    0.075    0.549
```

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## theta[429,1]      1.272   0.846   -0.252    0.717    1.205    1.771
## theta[430,1]     -1.167   0.882   -3.106   -1.711   -1.097   -0.550
## theta[431,1]      3.076   1.498    0.704    1.989    2.891    3.926
## theta[432,1]      1.158   0.835   -0.356    0.595    1.104    1.648
## theta[433,1]      1.149   0.810   -0.312    0.621    1.110    1.611
## theta[434,1]      0.758   0.804   -0.761    0.230    0.743    1.261
## theta[435,1]     -2.705   1.498   -6.110   -3.581   -2.556   -1.685
## theta[436,1]     -2.029   1.377   -5.198   -2.793   -1.893   -1.085
## theta[437,1]     -1.586   0.991   -3.748   -2.204   -1.509   -0.883
## theta[438,1]      0.836   0.721   -0.459    0.356    0.789    1.276
## theta[439,1]      0.960   0.680   -0.261    0.514    0.901    1.357
## theta[440,1]      0.991   0.737   -0.342    0.498    0.948    1.447
## theta[441,1]     -2.305   1.361   -5.286   -3.157   -2.188   -1.350
## theta[442,1]     -1.999   1.341   -4.833   -2.823   -1.890   -1.062
## theta[443,1]      0.937   0.716   -0.400    0.483    0.895    1.356
## theta[444,1]      1.035   0.818   -0.460    0.491    0.996    1.541
## theta[445,1]      2.326   1.121    0.419    1.545    2.196    2.992
## theta[446,1]     -2.022   1.349   -4.960   -2.865   -1.888   -1.066
## theta[447,1]     -0.012   0.730   -1.509   -0.460    0.013    0.445
## theta[448,1]      1.008   0.786   -0.380    0.499    0.971    1.480
## theta[449,1]     -0.390   0.725   -1.941   -0.819   -0.347    0.088
## theta[450,1]     -1.207   0.883   -3.078   -1.742   -1.123   -0.612
## theta[451,1]     -1.815   1.079   -4.194   -2.458   -1.716   -1.071
## theta[452,1]     -0.326   0.668   -1.688   -0.759   -0.320    0.109
## theta[453,1]      2.138   0.994    0.460    1.434    2.048    2.744
## theta[454,1]     -2.012   1.346   -5.010   -2.814   -1.892   -1.081
## theta[455,1]     -0.007   0.669   -1.378   -0.437    0.007    0.432
## theta[456,1]      2.086   0.940    0.446    1.437    1.996    2.643
## theta[457,1]     -0.506   0.724   -2.047   -0.950   -0.461   -0.016
## theta[458,1]      2.059   1.018    0.314    1.360    1.973    2.659
## theta[459,1]      2.037   0.917    0.491    1.407    1.948    2.574
## theta[460,1]      0.910   0.730   -0.429    0.419    0.880    1.356
## theta[461,1]      1.006   0.820   -0.465    0.456    0.971    1.487
## theta[462,1]     -1.670   1.034   -3.905   -2.317   -1.582   -0.919
## theta[463,1]     -1.063   0.874   -2.954   -1.581   -1.008   -0.457
## theta[464,1]      1.065   0.704   -0.217    0.594    1.025    1.500
## theta[465,1]      0.176   0.680   -1.176   -0.265    0.165    0.601
## theta[466,1]      0.680   0.752   -0.785    0.205    0.669    1.144
## theta[467,1]     -1.051   0.865   -2.924   -1.579   -0.972   -0.468
## theta[468,1]      2.290   1.105    0.415    1.524    2.197    2.962
## theta[469,1]      0.902   0.711   -0.385    0.421    0.848    1.340
## theta[470,1]      0.464   0.678   -0.796    0.021    0.436    0.899
## theta[471,1]      1.007   0.803   -0.419    0.483    0.966    1.467
## theta[472,1]      1.283   0.865   -0.268    0.692    1.230    1.799
## theta[473,1]      1.166   0.727   -0.135    0.668    1.129    1.608
## theta[474,1]      1.178   0.730   -0.131    0.686    1.142    1.628
## theta[475,1]     -2.899   1.608   -6.486   -3.864   -2.748   -1.784
## theta[476,1]      1.397   0.932   -0.224    0.783    1.333    1.943
## theta[477,1]      0.917   0.736   -0.428    0.422    0.871    1.372
## theta[478,1]      0.966   0.702   -0.291    0.496    0.920    1.383
## theta[479,1]     -0.867   0.830   -2.657   -1.365   -0.807   -0.301
## theta[480,1]      0.677   0.819   -0.861    0.169    0.643    1.170
## theta[481,1]      1.216   0.853   -0.292    0.650    1.168    1.710
## theta[482,1]     -1.326   0.954   -3.477   -1.891   -1.235   -0.678
```

```
## theta[483,1]    -0.539   0.770   -2.233   -0.996   -0.508   -0.012
## theta[484,1]    -0.724   0.817   -2.541   -1.223   -0.663   -0.181
## theta[485,1]    -0.701   0.821   -2.506   -1.198   -0.639   -0.153
## theta[486,1]    -0.813   0.799   -2.598   -1.293   -0.741   -0.256
## theta[487,1]    -0.234   0.719   -1.716   -0.687   -0.224    0.228
## theta[488,1]    -1.414   0.976   -3.603   -2.003   -1.332   -0.725
## theta[489,1]     0.750   0.768   -0.724    0.244    0.730    1.224
## theta[490,1]    -1.137   0.892   -3.024   -1.692   -1.064   -0.500
## theta[491,1]    -2.021   1.317   -4.877   -2.857   -1.938   -1.100
## theta[492,1]     0.287   0.674   -0.978   -0.167    0.267    0.722
## theta[493,1]    -3.009   1.644   -6.594   -3.994   -2.846   -1.855
## theta[494,1]     1.981   0.873    0.511    1.378    1.884    2.490
## theta[495,1]    -1.751   1.209   -4.526   -2.461   -1.646   -0.908
## theta[496,1]     0.597   0.681   -0.743    0.144    0.582    1.033
## theta[497,1]    -2.084   1.364   -5.171   -2.849   -2.003   -1.152
## theta[498,1]    -2.588   1.508   -5.922   -3.511   -2.481   -1.566
## theta[499,1]    -2.188   1.433   -5.495   -3.012   -2.032   -1.217
## theta[500,1]    -1.782   1.085   -4.094   -2.451   -1.687   -0.993
## theta[501,1]     0.284   0.698   -1.104   -0.162    0.291    0.718
## theta[502,1]    -1.266   0.930   -3.233   -1.831   -1.181   -0.623
## theta[503,1]    -2.641   1.529   -5.896   -3.606   -2.535   -1.573
## theta[504,1]    -1.545   1.008   -3.818   -2.170   -1.459   -0.826
## theta[505,1]    -1.845   1.236   -4.692   -2.580   -1.726   -0.987
## theta[506,1]    -2.236   1.484   -5.610   -3.073   -2.081   -1.219
## theta[507,1]    -1.797   1.069   -4.124   -2.463   -1.694   -1.043
## theta[508,1]    -1.683   1.035   -3.950   -2.323   -1.584   -0.932
## theta[509,1]    -2.241   1.474   -5.620   -3.055   -2.109   -1.239
## theta[510,1]    -1.528   1.168   -3.993   -2.255   -1.436   -0.722
## theta[511,1]    -1.426   0.971   -3.526   -2.016   -1.364   -0.747
## theta[512,1]    -1.510   0.989   -3.646   -2.128   -1.418   -0.817
## theta[513,1]     1.135   0.712   -0.139    0.650    1.086    1.551
## theta[514,1]    -1.590   0.981   -3.753   -2.201   -1.517   -0.893
## theta[515,1]    -1.660   1.040   -3.944   -2.303   -1.574   -0.930
## theta[516,1]    -1.442   0.974   -3.572   -2.035   -1.370   -0.738
## theta[517,1]    -2.014   1.225   -4.660   -2.759   -1.909   -1.153
## theta[518,1]    -0.405   0.714   -1.915   -0.858   -0.374    0.095
## theta[519,1]    -2.232   1.432   -5.334   -3.071   -2.112   -1.236
## theta[520,1]     0.440   0.689   -0.863   -0.026    0.413    0.870
## theta[521,1]    -1.705   1.158   -4.269   -2.372   -1.616   -0.914
## theta[522,1]    -2.430   1.365   -5.381   -3.238   -2.334   -1.488
## theta[523,1]    -2.442   1.358   -5.404   -3.259   -2.362   -1.516
## theta[524,1]    -2.010   1.333   -4.935   -2.793   -1.865   -1.099
## theta[525,1]    -1.890   1.254   -4.634   -2.645   -1.807   -1.030
## theta[526,1]    -2.425   1.345   -5.323   -3.246   -2.315   -1.497
## theta[527,1]     0.330   0.651   -0.948   -0.086    0.321    0.762
## theta[528,1]     0.349   0.660   -0.980   -0.083    0.349    0.779
## theta[529,1]    -2.434   1.341   -5.307   -3.272   -2.374   -1.478
## theta[530,1]    -0.446   0.964   -2.513   -1.037   -0.410    0.198
## theta[531,1]    -1.800   1.192   -4.410   -2.539   -1.738   -0.945
## theta[532,1]    -3.263   1.784   -7.244   -4.315   -3.096   -2.007
## theta[533,1]     0.532   0.684   -0.746    0.085    0.505    0.956
## theta[534,1]    -3.254   1.725   -7.149   -4.254   -3.098   -2.058
## theta[535,1]     1.151   0.767   -0.196    0.624    1.106    1.628
## theta[536,1]     0.405   0.656   -0.885   -0.019    0.409    0.830
```

```
## theta[1,2]      -0.262   0.359   -0.985   -0.490   -0.260   -0.032
## theta[2,2]       0.376   0.454   -0.440    0.066    0.342    0.653
## theta[3,2]      -0.282   0.360   -1.028   -0.502   -0.280   -0.044
## theta[4,2]       0.003   0.385   -0.733   -0.255   -0.009    0.248
## theta[5,2]      -0.742   0.415   -1.655   -0.985   -0.712   -0.451
## theta[6,2]      -0.302   0.372   -1.075   -0.541   -0.288   -0.052
## theta[7,2]      -0.650   0.462   -1.629   -0.924   -0.616   -0.335
## theta[8,2]      -1.002   0.483   -2.081   -1.290   -0.952   -0.665
## theta[9,2]      -0.290   0.369   -1.037   -0.534   -0.277   -0.053
## theta[10,2]     -0.323   0.398   -1.161   -0.570   -0.303   -0.060
## theta[11,2]      0.514   0.431   -0.261    0.219    0.483    0.784
## theta[12,2]      0.048   0.371   -0.703   -0.192    0.045    0.275
## theta[13,2]     -0.501   0.351   -1.244   -0.721   -0.485   -0.265
## theta[14,2]     -0.841   0.434   -1.858   -1.089   -0.799   -0.541
## theta[15,2]     -0.319   0.381   -1.114   -0.559   -0.301   -0.073
## theta[16,2]     -0.461   0.360   -1.216   -0.688   -0.451   -0.220
## theta[17,2]     -0.820   0.430   -1.800   -1.060   -0.787   -0.531
## theta[18,2]     -0.310   0.347   -1.006   -0.530   -0.306   -0.081
## theta[19,2]     -0.243   0.368   -1.013   -0.475   -0.234    0.002
## theta[20,2]     -0.988   0.492   -2.103   -1.268   -0.929   -0.655
## theta[21,2]      0.474   0.436   -0.316    0.182    0.440    0.744
## theta[22,2]     -0.002   0.381   -0.741   -0.251   -0.007    0.237
## theta[23,2]      0.832   0.558   -0.123    0.457    0.777    1.151
## theta[24,2]     -0.213   0.355   -0.917   -0.443   -0.223    0.015
## theta[25,2]     -0.140   0.358   -0.873   -0.366   -0.133    0.090
## theta[26,2]     -0.748   0.508   -1.921   -1.042   -0.687   -0.387
## theta[27,2]     -0.121   0.339   -0.802   -0.342   -0.122    0.097
## theta[28,2]     -1.119   0.557   -2.350   -1.446   -1.067   -0.726
## theta[29,2]     -0.042   0.362   -0.760   -0.275   -0.044    0.188
## theta[30,2]      0.852   0.557   -0.070    0.462    0.790    1.168
## theta[31,2]      0.358   0.409   -0.358    0.084    0.327    0.604
## theta[32,2]      0.836   0.561   -0.117    0.450    0.776    1.148
## theta[33,2]     -0.175   0.368   -0.906   -0.414   -0.172    0.069
## theta[34,2]      0.303   0.423   -0.456    0.022    0.276    0.562
## theta[35,2]      0.143   0.418   -0.624   -0.133    0.121    0.396
## theta[36,2]      0.379   0.391   -0.345    0.111    0.369    0.623
## theta[37,2]     -0.235   0.349   -0.940   -0.467   -0.227   -0.009
## theta[38,2]     -0.126   0.355   -0.848   -0.350   -0.121    0.098
## theta[39,2]      0.442   0.443   -0.347    0.132    0.423    0.718
## theta[40,2]      0.136   0.365   -0.552   -0.105    0.132    0.357
## theta[41,2]     -0.743   0.489   -1.805   -1.036   -0.690   -0.406
## theta[42,2]      0.858   0.559   -0.068    0.470    0.800    1.183
## theta[43,2]      0.697   0.496   -0.135    0.355    0.647    0.983
## theta[44,2]     -0.717   0.397   -1.564   -0.959   -0.693   -0.443
## theta[45,2]     -0.223   0.359   -0.949   -0.456   -0.216    0.014
## theta[46,2]     -0.242   0.343   -0.953   -0.457   -0.223   -0.014
## theta[47,2]     -0.240   0.358   -0.991   -0.462   -0.225   -0.006
## theta[48,2]     -0.415   0.351   -1.147   -0.628   -0.402   -0.187
## theta[49,2]     -0.500   0.450   -1.505   -0.765   -0.465   -0.197
## theta[50,2]     -0.130   0.351   -0.816   -0.358   -0.134    0.095
## theta[51,2]     -0.792   0.472   -1.871   -1.066   -0.746   -0.472
## theta[52,2]     -0.372   0.369   -1.132   -0.607   -0.354   -0.123
## theta[53,2]     -0.634   0.377   -1.439   -0.867   -0.607   -0.379
## theta[54,2]      0.444   0.449   -0.325    0.137    0.402    0.707
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## theta[55,2]       0.020   0.376   -0.722   -0.225    0.014    0.264
## theta[56,2]       0.870   0.582   -0.086    0.471    0.808    1.209
## theta[57,2]       0.515   0.464   -0.288    0.199    0.477    0.794
## theta[58,2]      -0.742   0.498   -1.862   -1.027   -0.695   -0.397
## theta[59,2]      -0.024   0.368   -0.766   -0.255   -0.028    0.208
## theta[60,2]      -0.046   0.387   -0.759   -0.306   -0.061    0.194
## theta[61,2]      -0.491   0.379   -1.310   -0.717   -0.466   -0.230
## theta[62,2]      -0.791   0.476   -1.853   -1.061   -0.736   -0.461
## theta[63,2]       0.518   0.437   -0.256    0.220    0.489    0.788
## theta[64,2]       0.506   0.434   -0.277    0.217    0.485    0.763
## theta[65,2]       0.419   0.416   -0.330    0.129    0.406    0.676
## theta[66,2]      -0.274   0.354   -0.990   -0.501   -0.268   -0.037
## theta[67,2]       0.394   0.424   -0.395    0.121    0.366    0.649
## theta[68,2]      -0.751   0.502   -1.830   -1.050   -0.710   -0.404
## theta[69,2]      -1.117   0.551   -2.400   -1.424   -1.049   -0.735
## theta[70,2]      -0.407   0.355   -1.128   -0.629   -0.398   -0.170
## theta[71,2]       0.113   0.368   -0.595   -0.135    0.105    0.337
## theta[72,2]      -0.133   0.361   -0.875   -0.364   -0.136    0.101
## theta[73,2]      -0.983   0.493   -2.101   -1.277   -0.931   -0.641
## theta[74,2]       0.600   0.443   -0.188    0.301    0.582    0.867
## theta[75,2]      -0.397   0.355   -1.166   -0.616   -0.381   -0.164
## theta[76,2]      -1.108   0.535   -2.319   -1.409   -1.053   -0.740
## theta[77,2]       0.146   0.367   -0.560   -0.092    0.141    0.375
## theta[78,2]       0.115   0.410   -0.637   -0.153    0.097    0.356
## theta[79,2]       0.834   0.537   -0.115    0.476    0.786    1.150
## theta[80,2]      -0.042   0.353   -0.730   -0.268   -0.043    0.187
## theta[81,2]      -0.575   0.367   -1.367   -0.793   -0.549   -0.338
## theta[82,2]      -0.097   0.374   -0.860   -0.333   -0.094    0.141
## theta[83,2]      -0.750   0.506   -1.956   -1.024   -0.699   -0.410
## theta[84,2]      -0.504   0.361   -1.263   -0.731   -0.481   -0.259
## theta[85,2]      -0.257   0.358   -0.994   -0.480   -0.251   -0.019
## theta[86,2]      -0.443   0.359   -1.193   -0.667   -0.425   -0.200
## theta[87,2]       0.049   0.366   -0.666   -0.184    0.044    0.270
## theta[88,2]       0.069   0.377   -0.651   -0.181    0.059    0.302
## theta[89,2]       0.829   0.548   -0.114    0.453    0.774    1.154
## theta[90,2]       0.230   0.425   -0.541   -0.051    0.205    0.491
## theta[91,2]       0.086   0.384   -0.647   -0.169    0.076    0.326
## theta[92,2]      -0.469   0.361   -1.233   -0.695   -0.450   -0.232
## theta[93,2]       0.309   0.444   -0.479    0.009    0.281    0.574
## theta[94,2]       0.563   0.467   -0.270    0.248    0.528    0.840
## theta[95,2]       0.836   0.552   -0.116    0.461    0.789    1.171
## theta[96,2]       0.378   0.460   -0.453    0.073    0.343    0.648
## theta[97,2]       0.033   0.363   -0.626   -0.210    0.015    0.251
## theta[98,2]      -0.269   0.372   -1.039   -0.500   -0.252   -0.019
## theta[99,2]       0.203   0.426   -0.613   -0.077    0.190    0.469
## theta[100,2]     -0.857   0.448   -1.854   -1.124   -0.812   -0.545
## theta[101,2]     -0.146   0.373   -0.913   -0.382   -0.141    0.099
## theta[102,2]      0.935   0.552    0.051    0.539    0.872    1.255
## theta[103,2]      0.123   0.359   -0.545   -0.108    0.111    0.346
## theta[104,2]      0.633   0.479   -0.208    0.306    0.598    0.921
## theta[105,2]      0.095   0.358   -0.608   -0.138    0.092    0.324
## theta[106,2]      0.298   0.396   -0.419    0.033    0.273    0.536
## theta[107,2]     -0.860   0.437   -1.838   -1.116   -0.814   -0.558
## theta[108,2]      0.838   0.547   -0.090    0.460    0.783    1.143
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## theta[109,2]      0.372   0.425   -0.402    0.084    0.347    0.640
## theta[110,2]     -0.227   0.345   -0.933   -0.450   -0.222    0.005
## theta[111,2]     -0.692   0.394   -1.564   -0.938   -0.654   -0.419
## theta[112,2]     -1.100   0.542   -2.387   -1.406   -1.037   -0.720
## theta[113,2]      0.178   0.364   -0.499   -0.069    0.163    0.398
## theta[114,2]     -0.069   0.377   -0.788   -0.316   -0.080    0.162
## theta[115,2]      0.082   0.351   -0.590   -0.148    0.073    0.307
## theta[116,2]      0.628   0.484   -0.224    0.302    0.583    0.921
## theta[117,2]     -0.755   0.490   -1.824   -1.038   -0.722   -0.419
## theta[118,2]     -0.236   0.369   -1.000   -0.466   -0.231    0.001
## theta[119,2]      0.127   0.388   -0.592   -0.130    0.112    0.364
## theta[120,2]     -1.111   0.549   -2.380   -1.415   -1.059   -0.723
## theta[121,2]     -0.767   0.440   -1.748   -1.034   -0.720   -0.468
## theta[122,2]     -0.174   0.355   -0.879   -0.400   -0.171    0.062
## theta[123,2]     -0.285   0.352   -1.006   -0.499   -0.275   -0.055
## theta[124,2]      0.843   0.553   -0.091    0.461    0.782    1.173
## theta[125,2]      0.145   0.389   -0.566   -0.117    0.129    0.390
## theta[126,2]      0.232   0.429   -0.527   -0.066    0.197    0.491
## theta[127,2]      0.626   0.485   -0.217    0.297    0.581    0.912
## theta[128,2]      0.580   0.463   -0.203    0.262    0.525    0.850
## theta[129,2]     -0.130   0.355   -0.841   -0.363   -0.128    0.102
## theta[130,2]      0.238   0.402   -0.504   -0.034    0.220    0.493
## theta[131,2]     -0.362   0.355   -1.121   -0.575   -0.356   -0.129
## theta[132,2]      0.498   0.416   -0.233    0.212    0.463    0.752
## theta[133,2]     -0.217   0.370   -0.966   -0.454   -0.216    0.026
## theta[134,2]     -0.993   0.496   -2.149   -1.282   -0.929   -0.645
## theta[135,2]     -0.723   0.455   -1.729   -0.992   -0.677   -0.412
## theta[136,2]      0.561   0.461   -0.219    0.240    0.523    0.828
## theta[137,2]     -0.226   0.360   -0.931   -0.463   -0.227    0.006
## theta[138,2]      0.595   0.468   -0.227    0.268    0.556    0.898
## theta[139,2]     -0.497   0.457   -1.522   -0.754   -0.466   -0.202
## theta[140,2]      0.816   0.515   -0.087    0.467    0.779    1.119
## theta[141,2]     -0.137   0.363   -0.857   -0.374   -0.124    0.105
## theta[142,2]      0.497   0.441   -0.286    0.203    0.463    0.760
## theta[143,2]     -0.682   0.391   -1.554   -0.924   -0.658   -0.411
## theta[144,2]     -0.625   0.383   -1.463   -0.865   -0.596   -0.362
## theta[145,2]     -0.507   0.361   -1.272   -0.726   -0.484   -0.268
## theta[146,2]      0.291   0.408   -0.446    0.018    0.265    0.539
## theta[147,2]      0.315   0.442   -0.500    0.021    0.292    0.583
## theta[148,2]     -1.110   0.549   -2.377   -1.429   -1.048   -0.720
## theta[149,2]      0.564   0.432   -0.180    0.270    0.529    0.823
## theta[150,2]      0.852   0.550   -0.090    0.475    0.802    1.156
## theta[151,2]      0.127   0.406   -0.639   -0.139    0.107    0.377
## theta[152,2]      0.588   0.461   -0.198    0.275    0.546    0.859
## theta[153,2]      0.645   0.465   -0.146    0.319    0.603    0.923
## theta[154,2]      0.457   0.433   -0.296    0.165    0.430    0.723
## theta[155,2]      0.052   0.365   -0.655   -0.188    0.046    0.291
## theta[156,2]      0.231   0.434   -0.554   -0.068    0.207    0.498
## theta[157,2]      0.500   0.428   -0.275    0.215    0.467    0.759
## theta[158,2]     -0.450   0.359   -1.197   -0.671   -0.439   -0.211
## theta[159,2]      0.073   0.385   -0.654   -0.180    0.061    0.305
## theta[160,2]      0.575   0.467   -0.235    0.266    0.538    0.846
## theta[161,2]      0.479   0.437   -0.303    0.180    0.447    0.747
## theta[162,2]      0.062   0.382   -0.651   -0.195    0.055    0.306
```

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## theta[163,2]      0.558   0.463   -0.246    0.242    0.522    0.833
## theta[164,2]      0.707   0.473   -0.125    0.378    0.676    0.996
## theta[165,2]     -1.110   0.543   -2.352   -1.428   -1.046   -0.726
## theta[166,2]     -0.502   0.451   -1.503   -0.764   -0.464   -0.203
## theta[167,2]     -0.551   0.411   -1.433   -0.803   -0.517   -0.272
## theta[168,2]      0.827   0.557   -0.090    0.437    0.770    1.158
## theta[169,2]      0.232   0.402   -0.508   -0.032    0.214    0.475
## theta[170,2]     -1.112   0.559   -2.400   -1.428   -1.050   -0.719
## theta[171,2]     -0.410   0.369   -1.166   -0.639   -0.401   -0.178
## theta[172,2]      0.485   0.434   -0.285    0.192    0.458    0.747
## theta[173,2]      0.825   0.536   -0.086    0.471    0.772    1.135
## theta[174,2]     -0.125   0.355   -0.838   -0.361   -0.122    0.108
## theta[175,2]     -0.096   0.355   -0.792   -0.327   -0.101    0.130
## theta[176,2]     -0.235   0.373   -0.982   -0.477   -0.241    0.009
## theta[177,2]     -0.189   0.384   -0.921   -0.445   -0.187    0.052
## theta[178,2]     -0.398   0.363   -1.152   -0.627   -0.380   -0.162
## theta[179,2]      0.498   0.425   -0.259    0.207    0.467    0.760
## theta[180,2]      0.470   0.452   -0.315    0.165    0.437    0.731
## theta[181,2]     -1.005   0.484   -2.072   -1.286   -0.946   -0.669
## theta[182,2]      0.297   0.404   -0.422    0.019    0.276    0.550
## theta[183,2]     -0.124   0.360   -0.848   -0.351   -0.119    0.111
## theta[184,2]      0.919   0.541    0.001    0.540    0.869    1.241
## theta[185,2]      0.610   0.486   -0.234    0.275    0.564    0.892
## theta[186,2]      0.596   0.467   -0.233    0.272    0.561    0.876
## theta[187,2]     -0.402   0.393   -1.237   -0.647   -0.389   -0.131
## theta[188,2]     -0.491   0.362   -1.253   -0.719   -0.475   -0.249
## theta[189,2]      0.853   0.555   -0.120    0.474    0.802    1.185
## theta[190,2]      0.844   0.555   -0.097    0.461    0.797    1.184
## theta[191,2]      0.022   0.372   -0.698   -0.220    0.022    0.257
## theta[192,2]      0.519   0.474   -0.320    0.205    0.479    0.803
## theta[193,2]      0.741   0.500   -0.095    0.392    0.690    1.039
## theta[194,2]     -0.344   0.358   -1.073   -0.570   -0.344   -0.114
## theta[195,2]     -0.147   0.374   -0.884   -0.388   -0.129    0.097
## theta[196,2]      0.522   0.467   -0.304    0.206    0.488    0.795
## theta[197,2]      0.588   0.471   -0.234    0.259    0.544    0.870
## theta[198,2]      0.840   0.571   -0.101    0.447    0.777    1.161
## theta[199,2]      0.444   0.469   -0.357    0.127    0.409    0.720
## theta[200,2]     -0.673   0.379   -1.494   -0.900   -0.648   -0.412
## theta[201,2]      0.830   0.561   -0.095    0.445    0.765    1.145
## theta[202,2]      0.478   0.434   -0.292    0.183    0.449    0.747
## theta[203,2]      0.117   0.390   -0.610   -0.140    0.100    0.361
## theta[204,2]      0.640   0.486   -0.178    0.302    0.595    0.924
## theta[205,2]     -0.166   0.367   -0.916   -0.399   -0.161    0.068
## theta[206,2]      0.503   0.438   -0.258    0.196    0.470    0.766
## theta[207,2]     -0.091   0.384   -0.865   -0.333   -0.096    0.148
## theta[208,2]     -0.438   0.396   -1.298   -0.675   -0.417   -0.160
## theta[209,2]     -0.056   0.364   -0.758   -0.293   -0.067    0.177
## theta[210,2]      0.834   0.563   -0.116    0.447    0.772    1.161
## theta[211,2]     -0.164   0.353   -0.896   -0.387   -0.155    0.071
## theta[212,2]     -0.015   0.371   -0.720   -0.255   -0.022    0.208
## theta[213,2]      0.836   0.553   -0.095    0.450    0.780    1.157
## theta[214,2]      0.627   0.475   -0.189    0.309    0.583    0.903
## theta[215,2]     -0.399   0.408   -1.285   -0.646   -0.369   -0.123
## theta[216,2]      0.846   0.561   -0.077    0.452    0.792    1.164
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## theta[217,2]    -0.997   0.494   -2.104   -1.280   -0.938   -0.657
## theta[218,2]     0.478   0.459   -0.308    0.165    0.436    0.751
## theta[219,2]     0.050   0.366   -0.641   -0.189    0.047    0.279
## theta[220,2]    -0.471   0.359   -1.250   -0.690   -0.448   -0.226
## theta[221,2]    -0.079   0.377   -0.818   -0.319   -0.086    0.159
## theta[222,2]     0.365   0.419   -0.379    0.085    0.337    0.608
## theta[223,2]     0.839   0.569   -0.083    0.441    0.763    1.178
## theta[224,2]    -0.746   0.505   -1.885   -1.032   -0.695   -0.404
## theta[225,2]     0.581   0.461   -0.237    0.268    0.549    0.864
## theta[226,2]    -0.501   0.363   -1.272   -0.719   -0.482   -0.253
## theta[227,2]    -1.129   0.551   -2.387   -1.450   -1.068   -0.737
## theta[228,2]    -0.665   0.385   -1.495   -0.900   -0.634   -0.401
## theta[229,2]     0.439   0.447   -0.374    0.137    0.413    0.712
## theta[230,2]     0.036   0.376   -0.701   -0.204    0.033    0.279
## theta[231,2]    -1.109   0.548   -2.363   -1.422   -1.042   -0.732
## theta[232,2]     0.128   0.390   -0.613   -0.129    0.119    0.378
## theta[233,2]     0.052   0.371   -0.622   -0.201    0.040    0.280
## theta[234,2]     0.062   0.412   -0.708   -0.208    0.053    0.324
## theta[235,2]    -0.490   0.376   -1.290   -0.718   -0.478   -0.237
## theta[236,2]    -0.716   0.394   -1.583   -0.955   -0.688   -0.447
## theta[237,2]    -0.263   0.360   -0.998   -0.488   -0.247   -0.029
## theta[238,2]     0.645   0.483   -0.181    0.311    0.606    0.918
## theta[239,2]    -0.515   0.360   -1.276   -0.742   -0.497   -0.279
## theta[240,2]    -0.463   0.382   -1.285   -0.698   -0.434   -0.204
## theta[241,2]     0.292   0.397   -0.448    0.031    0.274    0.539
## theta[242,2]     0.350   0.402   -0.360    0.078    0.323    0.586
## theta[243,2]    -0.126   0.390   -0.898   -0.377   -0.129    0.115
## theta[244,2]     0.096   0.370   -0.616   -0.142    0.079    0.322
## theta[245,2]     0.374   0.488   -0.475    0.047    0.345    0.655
## theta[246,2]    -0.980   0.492   -2.114   -1.257   -0.925   -0.632
## theta[247,2]     0.466   0.436   -0.323    0.176    0.436    0.721
## theta[248,2]     0.545   0.442   -0.239    0.249    0.518    0.797
## theta[249,2]    -0.797   0.428   -1.793   -1.040   -0.756   -0.511
## theta[250,2]    -0.252   0.377   -1.048   -0.485   -0.240   -0.010
## theta[251,2]    -1.014   0.488   -2.141   -1.280   -0.959   -0.683
## theta[252,2]     0.056   0.386   -0.694   -0.194    0.048    0.304
## theta[253,2]    -0.886   0.441   -1.865   -1.152   -0.838   -0.581
## theta[254,2]    -0.013   0.368   -0.760   -0.258   -0.020    0.223
## theta[255,2]    -0.141   0.359   -0.861   -0.371   -0.139    0.089
## theta[256,2]     0.414   0.431   -0.362    0.120    0.390    0.675
## theta[257,2]     0.843   0.549   -0.082    0.461    0.800    1.162
## theta[258,2]    -0.088   0.359   -0.844   -0.320   -0.080    0.147
## theta[259,2]    -0.511   0.374   -1.328   -0.736   -0.486   -0.264
## theta[260,2]     0.562   0.464   -0.233    0.240    0.518    0.843
## theta[261,2]    -0.323   0.378   -1.126   -0.555   -0.306   -0.078
## theta[262,2]     0.467   0.423   -0.274    0.186    0.439    0.719
## theta[263,2]     0.096   0.378   -0.611   -0.153    0.084    0.332
## theta[264,2]    -0.723   0.402   -1.622   -0.961   -0.695   -0.455
## theta[265,2]    -0.257   0.368   -0.973   -0.496   -0.253   -0.020
## theta[266,2]     0.511   0.456   -0.293    0.198    0.473    0.772
## theta[267,2]     0.525   0.465   -0.288    0.214    0.497    0.801
## theta[268,2]    -0.314   0.355   -1.040   -0.542   -0.301   -0.070
## theta[269,2]     0.238   0.403   -0.500   -0.023    0.212    0.479
## theta[270,2]     0.093   0.388   -0.684   -0.169    0.090    0.345
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## theta[271,2]      0.157   0.370   -0.527   -0.085    0.142    0.383
## theta[272,2]      0.020   0.363   -0.676   -0.220    0.013    0.245
## theta[273,2]      0.713   0.486   -0.115    0.378    0.668    0.997
## theta[274,2]     -0.562   0.394   -1.415   -0.797   -0.531   -0.295
## theta[275,2]      0.842   0.563   -0.102    0.453    0.787    1.155
## theta[276,2]      0.044   0.360   -0.650   -0.188    0.033    0.266
## theta[277,2]      0.599   0.443   -0.179    0.306    0.569    0.859
## theta[278,2]      0.857   0.564   -0.055    0.458    0.791    1.174
## theta[279,2]      0.519   0.472   -0.313    0.201    0.478    0.806
## theta[280,2]      0.825   0.550   -0.108    0.444    0.769    1.140
## theta[281,2]      0.685   0.500   -0.171    0.351    0.637    0.969
## theta[282,2]      0.816   0.536   -0.092    0.459    0.760    1.122
## theta[283,2]      0.137   0.390   -0.575   -0.111    0.117    0.373
## theta[284,2]      0.570   0.472   -0.249    0.250    0.528    0.835
## theta[285,2]     -0.217   0.347   -0.907   -0.445   -0.216    0.004
## theta[286,2]     -0.975   0.476   -2.006   -1.257   -0.923   -0.640
## theta[287,2]      0.073   0.379   -0.653   -0.176    0.061    0.305
## theta[288,2]      0.623   0.464   -0.196    0.307    0.580    0.896
## theta[289,2]      0.127   0.391   -0.580   -0.134    0.115    0.360
## theta[290,2]      0.331   0.436   -0.458    0.033    0.302    0.599
## theta[291,2]     -1.108   0.537   -2.310   -1.426   -1.047   -0.734
## theta[292,2]     -0.156   0.358   -0.872   -0.386   -0.150    0.073
## theta[293,2]      0.031   0.351   -0.635   -0.199    0.019    0.251
## theta[294,2]      0.037   0.373   -0.673   -0.203    0.021    0.264
## theta[295,2]      0.622   0.493   -0.226    0.285    0.582    0.915
## theta[296,2]     -0.858   0.438   -1.850   -1.108   -0.813   -0.556
## theta[297,2]     -0.735   0.427   -1.692   -0.989   -0.690   -0.444
## theta[298,2]      0.037   0.375   -0.678   -0.214    0.026    0.271
## theta[299,2]     -0.869   0.445   -1.886   -1.130   -0.827   -0.554
## theta[300,2]      0.178   0.396   -0.604   -0.073    0.169    0.430
## theta[301,2]      0.535   0.467   -0.293    0.210    0.496    0.805
## theta[302,2]      0.590   0.468   -0.261    0.288    0.549    0.858
## theta[303,2]      0.191   0.391   -0.533   -0.065    0.177    0.436
## theta[304,2]     -0.585   0.394   -1.418   -0.823   -0.558   -0.321
## theta[305,2]      0.203   0.428   -0.588   -0.084    0.179    0.472
## theta[306,2]      0.571   0.444   -0.205    0.263    0.533    0.833
## theta[307,2]     -0.313   0.349   -1.020   -0.540   -0.307   -0.083
## theta[308,2]     -0.195   0.349   -0.905   -0.414   -0.189    0.035
## theta[309,2]     -0.450   0.431   -1.357   -0.706   -0.418   -0.156
## theta[310,2]     -0.182   0.362   -0.891   -0.412   -0.178    0.049
## theta[311,2]      0.421   0.417   -0.326    0.139    0.391    0.673
## theta[312,2]     -0.497   0.453   -1.471   -0.760   -0.461   -0.187
## theta[313,2]      0.278   0.408   -0.474    0.004    0.258    0.533
## theta[314,2]      0.145   0.360   -0.538   -0.098    0.142    0.371
## theta[315,2]      0.340   0.436   -0.427    0.037    0.319    0.608
## theta[316,2]     -0.255   0.345   -0.972   -0.476   -0.237   -0.029
## theta[317,2]      0.175   0.389   -0.541   -0.089    0.154    0.417
## theta[318,2]      0.166   0.414   -0.621   -0.109    0.152    0.428
## theta[319,2]     -0.112   0.365   -0.843   -0.345   -0.115    0.123
## theta[320,2]      0.237   0.381   -0.463   -0.017    0.218    0.476
## theta[321,2]     -0.270   0.354   -0.971   -0.496   -0.267   -0.040
## theta[322,2]      0.494   0.461   -0.317    0.170    0.459    0.761
## theta[323,2]      0.526   0.475   -0.289    0.201    0.474    0.795
## theta[324,2]     -0.027   0.409   -0.827   -0.273   -0.035    0.213
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## theta[325,2]      0.606   0.469   -0.212    0.277    0.570    0.878
## theta[326,2]      0.087   0.377   -0.619   -0.162    0.073    0.323
## theta[327,2]     -1.018   0.491   -2.142   -1.288   -0.968   -0.674
## theta[328,2]     -0.117   0.348   -0.809   -0.343   -0.119    0.105
## theta[329,2]     -0.269   0.343   -0.964   -0.493   -0.265   -0.041
## theta[330,2]     -0.064   0.358   -0.771   -0.299   -0.061    0.167
## theta[331,2]      0.346   0.407   -0.365    0.061    0.315    0.596
## theta[332,2]     -0.359   0.356   -1.084   -0.583   -0.348   -0.127
## theta[333,2]      0.083   0.381   -0.643   -0.173    0.072    0.325
## theta[334,2]     -0.747   0.502   -1.911   -1.031   -0.694   -0.411
## theta[335,2]     -0.019   0.401   -0.777   -0.289   -0.029    0.244
## theta[336,2]      0.038   0.373   -0.681   -0.214    0.030    0.282
## theta[337,2]     -0.124   0.367   -0.873   -0.353   -0.126    0.114
## theta[338,2]     -0.206   0.355   -0.909   -0.432   -0.201    0.029
## theta[339,2]     -0.162   0.372   -0.899   -0.399   -0.168    0.075
## theta[340,2]      0.524   0.480   -0.325    0.195    0.479    0.812
## theta[341,2]      0.529   0.464   -0.273    0.215    0.492    0.805
## theta[342,2]     -0.747   0.487   -1.889   -1.017   -0.704   -0.418
## theta[343,2]     -0.447   0.429   -1.329   -0.709   -0.421   -0.169
## theta[344,2]      0.147   0.413   -0.613   -0.131    0.126    0.401
## theta[345,2]     -0.455   0.437   -1.399   -0.715   -0.425   -0.163
## theta[346,2]      0.419   0.450   -0.386    0.115    0.390    0.689
## theta[347,2]     -0.608   0.387   -1.449   -0.842   -0.585   -0.347
## theta[348,2]     -0.020   0.367   -0.741   -0.249   -0.030    0.221
## theta[349,2]     -0.239   0.359   -0.962   -0.470   -0.227   -0.005
## theta[350,2]      0.436   0.434   -0.344    0.139    0.407    0.695
## theta[351,2]      0.938   0.550    0.022    0.552    0.882    1.270
## theta[352,2]      0.087   0.368   -0.614   -0.156    0.073    0.317
## theta[353,2]     -0.450   0.437   -1.401   -0.710   -0.425   -0.157
## theta[354,2]      0.510   0.463   -0.315    0.195    0.477    0.784
## theta[355,2]     -0.163   0.364   -0.877   -0.394   -0.164    0.072
## theta[356,2]      0.304   0.410   -0.444    0.027    0.278    0.557
## theta[357,2]      0.002   0.360   -0.693   -0.239   -0.005    0.236
## theta[358,2]      0.847   0.559   -0.087    0.450    0.785    1.187
## theta[359,2]      0.466   0.439   -0.332    0.171    0.439    0.726
## theta[360,2]      0.119   0.392   -0.617   -0.136    0.101    0.358
## theta[361,2]      0.497   0.425   -0.275    0.208    0.472    0.758
## theta[362,2]      0.336   0.403   -0.396    0.070    0.311    0.576
## theta[363,2]      0.589   0.456   -0.220    0.283    0.553    0.866
## theta[364,2]     -0.004   0.358   -0.710   -0.236   -0.008    0.233
## theta[365,2]      0.178   0.418   -0.579   -0.098    0.149    0.431
## theta[366,2]      0.217   0.411   -0.522   -0.060    0.192    0.474
## theta[367,2]      0.053   0.369   -0.637   -0.192    0.038    0.284
## theta[368,2]      0.573   0.459   -0.226    0.270    0.535    0.846
## theta[369,2]      0.712   0.483   -0.121    0.366    0.675    1.004
## theta[370,2]      0.518   0.469   -0.294    0.199    0.480    0.793
## theta[371,2]     -0.210   0.361   -0.934   -0.446   -0.203    0.027
## theta[372,2]      0.228   0.370   -0.469   -0.010    0.215    0.453
## theta[373,2]     -0.007   0.370   -0.720   -0.258   -0.011    0.235
## theta[374,2]      0.475   0.444   -0.335    0.173    0.442    0.740
## theta[375,2]      0.638   0.472   -0.167    0.314    0.595    0.923
## theta[376,2]      0.673   0.469   -0.151    0.364    0.639    0.953
## theta[377,2]      0.219   0.374   -0.465   -0.034    0.210    0.449
## theta[378,2]      0.236   0.400   -0.517   -0.026    0.220    0.491
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## theta[379,2]      0.456   0.426   -0.314    0.172    0.420    0.721
## theta[380,2]     -0.055   0.359   -0.772   -0.285   -0.049    0.177
## theta[381,2]     -0.216   0.363   -0.948   -0.439   -0.216    0.015
## theta[382,2]      0.290   0.394   -0.459    0.029    0.270    0.535
## theta[383,2]      0.409   0.448   -0.397    0.115    0.379    0.681
## theta[384,2]      0.744   0.465   -0.081    0.421    0.707    1.020
## theta[385,2]      0.150   0.409   -0.616   -0.113    0.139    0.405
## theta[386,2]      0.333   0.402   -0.376    0.064    0.306    0.577
## theta[387,2]      0.235   0.380   -0.472   -0.018    0.214    0.464
## theta[388,2]      0.020   0.370   -0.699   -0.225    0.016    0.251
## theta[389,2]      0.518   0.464   -0.298    0.208    0.488    0.794
## theta[390,2]      0.356   0.404   -0.375    0.089    0.333    0.595
## theta[391,2]      0.015   0.370   -0.685   -0.226    0.000    0.250
## theta[392,2]     -0.204   0.352   -0.919   -0.427   -0.205    0.027
## theta[393,2]     -0.028   0.354   -0.712   -0.260   -0.033    0.194
## theta[394,2]      0.833   0.551   -0.095    0.457    0.777    1.147
## theta[395,2]     -0.446   0.426   -1.348   -0.697   -0.417   -0.166
## theta[396,2]      0.839   0.547   -0.085    0.465    0.788    1.156
## theta[397,2]     -0.446   0.443   -1.400   -0.708   -0.412   -0.161
## theta[398,2]      0.316   0.410   -0.427    0.041    0.301    0.568
## theta[399,2]     -0.985   0.499   -2.099   -1.287   -0.929   -0.629
## theta[400,2]      0.377   0.441   -0.426    0.072    0.345    0.640
## theta[401,2]     -0.239   0.355   -0.974   -0.455   -0.228   -0.006
## theta[402,2]      0.183   0.377   -0.543   -0.060    0.176    0.420
## theta[403,2]      0.137   0.407   -0.626   -0.126    0.119    0.385
## theta[404,2]      0.060   0.363   -0.629   -0.175    0.054    0.293
## theta[405,2]      0.546   0.462   -0.257    0.232    0.513    0.818
## theta[406,2]     -1.023   0.499   -2.188   -1.311   -0.959   -0.676
## theta[407,2]      0.140   0.383   -0.577   -0.108    0.133    0.369
## theta[408,2]     -1.016   0.497   -2.125   -1.310   -0.965   -0.670
## theta[409,2]      0.151   0.402   -0.628   -0.114    0.136    0.403
## theta[410,2]      0.942   0.527    0.078    0.575    0.886    1.248
## theta[411,2]      0.222   0.380   -0.487   -0.036    0.210    0.458
## theta[412,2]      0.075   0.378   -0.629   -0.176    0.066    0.307
## theta[413,2]      0.927   0.550   -0.002    0.547    0.876    1.244
## theta[414,2]     -0.279   0.355   -1.001   -0.507   -0.275   -0.053
## theta[415,2]     -0.497   0.462   -1.523   -0.773   -0.459   -0.191
## theta[416,2]      0.173   0.383   -0.527   -0.079    0.153    0.402
## theta[417,2]     -0.076   0.349   -0.776   -0.305   -0.080    0.148
## theta[418,2]     -0.101   0.361   -0.824   -0.332   -0.100    0.136
## theta[419,2]      0.320   0.407   -0.399    0.046    0.294    0.564
## theta[420,2]     -0.001   0.359   -0.727   -0.231    0.002    0.235
## theta[421,2]     -0.498   0.463   -1.495   -0.777   -0.457   -0.182
## theta[422,2]      0.177   0.393   -0.547   -0.091    0.159    0.425
## theta[423,2]     -0.723   0.440   -1.701   -0.985   -0.687   -0.424
## theta[424,2]      0.288   0.384   -0.440    0.031    0.278    0.527
## theta[425,2]      0.288   0.396   -0.438    0.021    0.264    0.524
## theta[426,2]     -1.028   0.502   -2.182   -1.313   -0.967   -0.672
## theta[427,2]      0.105   0.373   -0.587   -0.141    0.099    0.333
## theta[428,2]      0.538   0.454   -0.252    0.238    0.499    0.809
## theta[429,2]      0.509   0.447   -0.275    0.208    0.482    0.776
## theta[430,2]      0.003   0.370   -0.710   -0.234   -0.002    0.248
## theta[431,2]      0.833   0.560   -0.090    0.442    0.774    1.153
## theta[432,2]      0.268   0.426   -0.517   -0.013    0.239    0.517
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## theta[433,2]      0.264   0.425   -0.507   -0.012    0.236    0.515
## theta[434,2]      0.622   0.481   -0.197    0.294    0.566    0.911
## theta[435,2]     -0.671   0.452   -1.668   -0.927   -0.634   -0.363
## theta[436,2]     -1.029   0.497   -2.148   -1.329   -0.973   -0.677
## theta[437,2]      0.090   0.379   -0.648   -0.155    0.080    0.326
## theta[438,2]      0.170   0.396   -0.567   -0.093    0.159    0.419
## theta[439,2]      0.481   0.422   -0.275    0.189    0.455    0.748
## theta[440,2]      0.473   0.446   -0.299    0.166    0.433    0.733
## theta[441,2]     -0.444   0.447   -1.428   -0.707   -0.399   -0.145
## theta[442,2]     -1.025   0.496   -2.147   -1.314   -0.972   -0.682
## theta[443,2]      0.100   0.399   -0.662   -0.161    0.083    0.348
## theta[444,2]      0.519   0.445   -0.271    0.223    0.486    0.779
## theta[445,2]      0.598   0.489   -0.250    0.266    0.558    0.894
## theta[446,2]     -1.011   0.487   -2.131   -1.297   -0.957   -0.664
## theta[447,2]      0.415   0.419   -0.338    0.128    0.386    0.666
## theta[448,2]      0.407   0.422   -0.352    0.118    0.387    0.662
## theta[449,2]     -0.460   0.357   -1.205   -0.675   -0.445   -0.220
## theta[450,2]     -0.006   0.375   -0.732   -0.241   -0.012    0.222
## theta[451,2]     -0.175   0.359   -0.922   -0.401   -0.163    0.060
## theta[452,2]     -0.124   0.356   -0.834   -0.348   -0.131    0.103
## theta[453,2]      0.275   0.415   -0.484   -0.014    0.260    0.540
## theta[454,2]     -1.016   0.502   -2.151   -1.287   -0.965   -0.668
## theta[455,2]      0.138   0.371   -0.562   -0.106    0.126    0.372
## theta[456,2]      0.379   0.428   -0.407    0.094    0.361    0.638
## theta[457,2]     -0.010   0.365   -0.738   -0.244   -0.006    0.233
## theta[458,2]      0.408   0.454   -0.408    0.101    0.379    0.673
## theta[459,2]      0.071   0.404   -0.686   -0.203    0.051    0.318
## theta[460,2]      0.105   0.384   -0.611   -0.144    0.093    0.333
## theta[461,2]      0.502   0.438   -0.278    0.210    0.476    0.767
## theta[462,2]     -0.062   0.362   -0.789   -0.293   -0.053    0.171
## theta[463,2]     -0.092   0.349   -0.801   -0.320   -0.088    0.133
## theta[464,2]      0.404   0.405   -0.318    0.133    0.379    0.647
## theta[465,2]      0.356   0.414   -0.384    0.070    0.330    0.604
## theta[466,2]      0.437   0.444   -0.324    0.133    0.404    0.698
## theta[467,2]      0.095   0.373   -0.610   -0.150    0.086    0.330
## theta[468,2]      0.525   0.470   -0.310    0.208    0.497    0.804
## theta[469,2]      0.096   0.381   -0.628   -0.148    0.077    0.331
## theta[470,2]      0.410   0.413   -0.349    0.138    0.380    0.661
## theta[471,2]      0.500   0.444   -0.279    0.201    0.469    0.760
## theta[472,2]      0.521   0.461   -0.265    0.215    0.483    0.780
## theta[473,2]      0.445   0.435   -0.314    0.145    0.413    0.705
## theta[474,2]      0.442   0.431   -0.327    0.146    0.417    0.702
## theta[475,2]     -0.978   0.508   -2.151   -1.261   -0.913   -0.635
## theta[476,2]      0.700   0.480   -0.149    0.370    0.662    0.990
## theta[477,2]      0.105   0.389   -0.653   -0.152    0.099    0.353
## theta[478,2]      0.540   0.442   -0.241    0.241    0.513    0.809
## theta[479,2]      0.245   0.385   -0.450   -0.013    0.232    0.483
## theta[480,2]      0.807   0.496   -0.014    0.463    0.756    1.095
## theta[481,2]      0.405   0.436   -0.369    0.117    0.371    0.657
## theta[482,2]     -0.270   0.352   -1.005   -0.482   -0.258   -0.042
## theta[483,2]      0.008   0.371   -0.723   -0.228    0.004    0.242
## theta[484,2]      0.310   0.402   -0.433    0.039    0.299    0.558
## theta[485,2]      0.315   0.397   -0.420    0.047    0.303    0.561
## theta[486,2]     -0.166   0.372   -0.913   -0.403   -0.166    0.066
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## theta[487,2]      0.363   0.420   -0.382    0.079    0.335    0.603
## theta[488,2]      0.276   0.385   -0.410    0.020    0.249    0.514
## theta[489,2]      0.607   0.454   -0.192    0.296    0.576    0.874
## theta[490,2]     -0.011   0.363   -0.732   -0.243   -0.012    0.217
## theta[491,2]     -1.019   0.494   -2.114   -1.300   -0.965   -0.687
## theta[492,2]      0.460   0.424   -0.286    0.171    0.422    0.710
## theta[493,2]     -0.739   0.485   -1.784   -1.037   -0.698   -0.405
## theta[494,2]     -0.051   0.360   -0.760   -0.285   -0.050    0.183
## theta[495,2]     -0.898   0.457   -1.962   -1.156   -0.835   -0.575
## theta[496,2]      0.132   0.398   -0.608   -0.121    0.114    0.378
## theta[497,2]     -0.786   0.485   -1.888   -1.066   -0.733   -0.448
## theta[498,2]     -0.788   0.475   -1.853   -1.074   -0.737   -0.452
## theta[499,2]     -1.105   0.516   -2.277   -1.412   -1.048   -0.736
## theta[500,2]     -0.174   0.359   -0.882   -0.403   -0.169    0.063
## theta[501,2]      0.373   0.413   -0.391    0.102    0.357    0.617
## theta[502,2]     -0.270   0.349   -0.977   -0.498   -0.264   -0.045
## theta[503,2]     -0.779   0.471   -1.868   -1.040   -0.733   -0.460
## theta[504,2]     -0.019   0.355   -0.692   -0.247   -0.025    0.199
## theta[505,2]     -0.888   0.443   -1.875   -1.145   -0.839   -0.581
## theta[506,2]     -1.096   0.523   -2.329   -1.393   -1.043   -0.731
## theta[507,2]     -0.018   0.367   -0.730   -0.259   -0.020    0.212
## theta[508,2]      0.042   0.366   -0.667   -0.201    0.037    0.277
## theta[509,2]     -1.113   0.539   -2.335   -1.404   -1.040   -0.740
## theta[510,2]     -0.765   0.431   -1.718   -1.021   -0.729   -0.476
## theta[511,2]      0.287   0.388   -0.420    0.029    0.270    0.526
## theta[512,2]      0.233   0.375   -0.465   -0.016    0.211    0.464
## theta[513,2]      0.019   0.387   -0.753   -0.236    0.015    0.264
## theta[514,2]      0.094   0.378   -0.600   -0.158    0.078    0.334
## theta[515,2]     -0.162   0.355   -0.871   -0.396   -0.165    0.069
## theta[516,2]      0.015   0.358   -0.667   -0.218    0.008    0.238
## theta[517,2]     -0.594   0.405   -1.456   -0.828   -0.563   -0.319
## theta[518,2]     -0.049   0.376   -0.802   -0.284   -0.057    0.197
## theta[519,2]     -1.115   0.531   -2.347   -1.416   -1.054   -0.747
## theta[520,2]      0.344   0.411   -0.410    0.067    0.316    0.602
## theta[521,2]     -0.856   0.418   -1.753   -1.111   -0.819   -0.568
## theta[522,2]     -0.841   0.450   -1.829   -1.107   -0.797   -0.535
## theta[523,2]     -0.580   0.392   -1.414   -0.820   -0.556   -0.304
## theta[524,2]     -1.010   0.502   -2.189   -1.289   -0.951   -0.655
## theta[525,2]     -1.024   0.471   -2.066   -1.299   -0.969   -0.702
## theta[526,2]     -0.848   0.440   -1.819   -1.100   -0.802   -0.548
## theta[527,2]      0.053   0.374   -0.674   -0.194    0.048    0.291
## theta[528,2]      0.048   0.381   -0.676   -0.207    0.043    0.279
## theta[529,2]     -0.618   0.400   -1.492   -0.857   -0.582   -0.344
## theta[530,2]     -0.872   0.452   -1.845   -1.140   -0.837   -0.560
## theta[531,2]     -0.950   0.464   -2.032   -1.217   -0.899   -0.627
## theta[532,2]     -1.104   0.540   -2.356   -1.403   -1.049   -0.737
## theta[533,2]      0.256   0.409   -0.484   -0.016    0.237    0.505
## theta[534,2]     -1.092   0.530   -2.284   -1.398   -1.031   -0.710
## theta[535,2]      0.293   0.413   -0.490    0.021    0.272    0.547
## theta[536,2]     -0.011   0.377   -0.768   -0.250   -0.017    0.219
## theta[1,3]        0.264   0.722   -1.121   -0.208    0.213    0.702
## theta[2,3]        0.028   1.060   -2.268   -0.587    0.090    0.701
## theta[3,3]        0.631   0.682   -0.505    0.160    0.554    1.029
## theta[4,3]        0.184   0.706   -1.204   -0.251    0.178    0.611
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## theta[5,3]       0.551   0.930   -1.091   -0.054    0.457    1.078
## theta[6,3]      -0.241   0.937   -2.143   -0.809   -0.254    0.334
## theta[7,3]      -0.086   1.312   -2.523   -0.946   -0.145    0.695
## theta[8,3]       0.690   1.222   -1.325   -0.113    0.532    1.374
## theta[9,3]      -0.344   0.946   -2.290   -0.956   -0.319    0.250
## theta[10,3]     -0.267   1.007   -2.266   -0.894   -0.272    0.349
## theta[11,3]     -0.277   0.823   -2.132   -0.708   -0.214    0.260
## theta[12,3]      0.364   0.661   -0.884   -0.039    0.327    0.750
## theta[13,3]     -0.036   0.692   -1.420   -0.458   -0.043    0.372
## theta[14,3]      0.563   1.033   -1.207   -0.130    0.449    1.122
## theta[15,3]     -0.265   0.983   -2.263   -0.882   -0.243    0.350
## theta[16,3]     -0.221   0.707   -1.595   -0.667   -0.215    0.206
## theta[17,3]      0.868   0.943   -0.659    0.208    0.720    1.421
## theta[18,3]     -0.262   0.974   -2.160   -0.853   -0.279    0.314
## theta[19,3]     -0.302   0.867   -2.025   -0.840   -0.300    0.241
## theta[20,3]      0.169   1.407   -2.457   -0.737    0.087    1.007
## theta[21,3]      0.055   0.851   -1.815   -0.431    0.101    0.589
## theta[22,3]      0.171   0.686   -1.239   -0.247    0.172    0.588
## theta[23,3]     -0.039   1.416   -3.161   -0.846    0.023    0.876
## theta[24,3]     -0.410   0.678   -1.854   -0.820   -0.379    0.033
## theta[25,3]      0.382   0.629   -0.815   -0.013    0.352    0.748
## theta[26,3]     -0.109   1.454   -2.915   -1.043   -0.163    0.753
## theta[27,3]     -0.352   0.897   -2.137   -0.879   -0.356    0.208
## theta[28,3]      0.206   1.584   -2.677   -0.882    0.114    1.140
## theta[29,3]     -0.451   0.853   -2.205   -0.977   -0.436    0.070
## theta[30,3]     -0.014   1.422   -3.104   -0.856    0.051    0.888
## theta[31,3]     -0.107   0.750   -1.733   -0.558   -0.075    0.359
## theta[32,3]     -0.059   1.392   -3.054   -0.829    0.016    0.857
## theta[33,3]      0.676   0.896   -1.041    0.100    0.649    1.205
## theta[34,3]     -0.198   0.760   -1.760   -0.650   -0.181    0.279
## theta[35,3]      0.267   0.804   -1.386   -0.219    0.267    0.782
## theta[36,3]     -0.254   0.682   -1.701   -0.660   -0.208    0.186
## theta[37,3]      0.100   0.658   -1.148   -0.318    0.073    0.501
## theta[38,3]      0.604   0.677   -0.561    0.158    0.543    1.002
## theta[39,3]      0.121   0.864   -1.764   -0.384    0.136    0.667
## theta[40,3]     -0.658   0.882   -2.539   -1.177   -0.613   -0.096
## theta[41,3]     -0.106   1.432   -2.797   -1.034   -0.152    0.755
## theta[42,3]     -0.027   1.441   -3.139   -0.859    0.051    0.891
## theta[43,3]     -0.124   1.068   -2.517   -0.709   -0.039    0.539
## theta[44,3]      0.080   1.034   -1.823   -0.585    0.041    0.710
## theta[45,3]      0.620   0.852   -1.018    0.065    0.599    1.132
## theta[46,3]      0.396   0.707   -0.939   -0.050    0.375    0.811
## theta[47,3]     -0.311   0.847   -2.003   -0.849   -0.303    0.208
## theta[48,3]     -0.106   0.651   -1.408   -0.518   -0.110    0.299
## theta[49,3]     -0.196   1.342   -2.842   -1.049   -0.210    0.610
## theta[50,3]      0.205   0.778   -1.341   -0.283    0.183    0.693
## theta[51,3]      0.041   1.413   -2.650   -0.856   -0.029    0.882
## theta[52,3]      0.261   0.807   -1.305   -0.254    0.238    0.760
## theta[53,3]      0.445   0.768   -0.928   -0.060    0.382    0.881
## theta[54,3]     -0.095   0.948   -2.131   -0.648   -0.049    0.508
## theta[55,3]     -0.197   0.664   -1.569   -0.597   -0.192    0.213
## theta[56,3]     -0.027   1.460   -3.322   -0.878    0.043    0.921
## theta[57,3]      0.055   1.111   -2.278   -0.577    0.107    0.754
## theta[58,3]     -0.114   1.481   -3.017   -1.048   -0.123    0.765
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## theta[59,3]      -0.472   0.866   -2.268   -0.970   -0.447    0.055
## theta[60,3]      -0.048   0.766   -1.724   -0.491   -0.006    0.446
## theta[61,3]      -0.074   1.006   -1.923   -0.705   -0.121    0.513
## theta[62,3]       0.031   1.403   -2.597   -0.901   -0.028    0.898
## theta[63,3]      -0.357   0.813   -2.209   -0.802   -0.287    0.160
## theta[64,3]       0.063   0.867   -1.893   -0.407    0.113    0.589
## theta[65,3]       0.087   0.700   -1.418   -0.315    0.108    0.517
## theta[66,3]      -0.005   0.692   -1.373   -0.431   -0.010    0.398
## theta[67,3]      -0.141   0.797   -1.891   -0.585   -0.084    0.374
## theta[68,3]      -0.102   1.475   -2.891   -1.067   -0.159    0.818
## theta[69,3]       0.221   1.603   -2.667   -0.847    0.101    1.186
## theta[70,3]       0.104   0.677   -1.148   -0.322    0.087    0.505
## theta[71,3]      -0.594   0.878   -2.469   -1.130   -0.570   -0.035
## theta[72,3]      -0.364   0.945   -2.252   -0.953   -0.354    0.217
## theta[73,3]       0.164   1.442   -2.450   -0.762    0.085    1.004
## theta[74,3]      -0.438   0.826   -2.447   -0.861   -0.341    0.111
## theta[75,3]      -0.128   0.850   -1.743   -0.674   -0.124    0.373
## theta[76,3]       0.224   1.564   -2.655   -0.824    0.100    1.175
## theta[77,3]      -0.359   0.795   -2.011   -0.833   -0.341    0.130
## theta[78,3]      -0.247   0.799   -2.078   -0.678   -0.181    0.274
## theta[79,3]      -0.020   1.407   -3.180   -0.814    0.049    0.885
## theta[80,3]      -0.039   0.716   -1.529   -0.483   -0.040    0.398
## theta[81,3]       0.383   0.843   -1.140   -0.163    0.314    0.865
## theta[82,3]       0.512   0.767   -0.946    0.015    0.474    0.978
## theta[83,3]      -0.099   1.457   -2.895   -1.037   -0.138    0.791
## theta[84,3]       0.395   0.747   -1.061   -0.079    0.362    0.847
## theta[85,3]       0.265   0.633   -0.978   -0.128    0.258    0.664
## theta[86,3]       0.597   0.718   -0.708    0.122    0.548    1.014
## theta[87,3]       0.002   0.684   -1.437   -0.403    0.025    0.427
## theta[88,3]       0.135   0.843   -1.599   -0.379    0.146    0.671
## theta[89,3]      -0.040   1.431   -3.138   -0.851    0.060    0.901
## theta[90,3]       0.183   0.964   -1.846   -0.391    0.214    0.811
## theta[91,3]       0.462   0.699   -0.865    0.013    0.445    0.882
## theta[92,3]      -0.149   0.963   -2.024   -0.735   -0.164    0.439
## theta[93,3]       0.196   0.956   -1.859   -0.365    0.235    0.809
## theta[94,3]       0.065   1.030   -2.121   -0.533    0.093    0.743
## theta[95,3]      -0.027   1.422   -3.108   -0.862    0.073    0.887
## theta[96,3]       0.018   1.051   -2.242   -0.605    0.069    0.701
## theta[97,3]      -0.558   0.648   -1.978   -0.950   -0.512   -0.129
## theta[98,3]      -0.382   0.999   -2.434   -1.017   -0.358    0.252
## theta[99,3]       0.368   0.932   -1.555   -0.182    0.358    0.962
## theta[100,3]      0.638   1.060   -1.124   -0.068    0.480    1.216
## theta[101,3]     -0.214   0.891   -2.050   -0.766   -0.202    0.342
## theta[102,3]     -0.648   1.309   -3.697   -1.352   -0.510    0.221
## theta[103,3]     -0.579   0.880   -2.440   -1.108   -0.548   -0.024
## theta[104,3]     -0.207   1.085   -2.514   -0.845   -0.149    0.503
## theta[105,3]      0.255   0.626   -0.995   -0.133    0.247    0.631
## theta[106,3]     -0.486   0.694   -2.012   -0.897   -0.429   -0.023
## theta[107,3]      1.062   0.915   -0.472    0.436    0.949    1.576
## theta[108,3]     -0.027   1.405   -3.046   -0.840    0.062    0.889
## theta[109,3]     -0.294   0.760   -2.007   -0.725   -0.229    0.189
## theta[110,3]      0.562   0.638   -0.593    0.155    0.528    0.936
## theta[111,3]      0.081   0.992   -1.819   -0.556    0.044    0.672
## theta[112,3]      0.184   1.547   -2.722   -0.854    0.102    1.077
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## theta[113,3]    -0.335   0.619   -1.679   -0.709   -0.296    0.070
## theta[114,3]    -0.500   0.674   -1.934   -0.913   -0.463   -0.054
## theta[115,3]     0.131   0.614   -1.069   -0.243    0.125    0.498
## theta[116,3]    -0.216   1.067   -2.504   -0.856   -0.161    0.490
## theta[117,3]    -0.095   1.448   -2.869   -1.029   -0.156    0.776
## theta[118,3]     0.032   0.661   -1.264   -0.388    0.015    0.424
## theta[119,3]    -0.065   0.730   -1.549   -0.528   -0.066    0.415
## theta[120,3]     0.176   1.638   -2.872   -0.876    0.079    1.136
## theta[121,3]     0.544   1.136   -1.409   -0.218    0.407    1.173
## theta[122,3]    -0.343   0.754   -1.938   -0.816   -0.312    0.139
## theta[123,3]    -0.230   0.901   -2.034   -0.788   -0.232    0.323
## theta[124,3]    -0.051   1.422   -3.099   -0.890    0.019    0.855
## theta[125,3]    -0.268   0.718   -1.867   -0.698   -0.213    0.202
## theta[126,3]    -0.045   0.895   -1.983   -0.567   -0.005    0.531
## theta[127,3]    -0.115   1.096   -2.481   -0.738   -0.048    0.605
## theta[128,3]    -0.460   1.026   -2.723   -1.044   -0.385    0.208
## theta[129,3]     0.048   0.627   -1.173   -0.366    0.033    0.437
## theta[130,3]     0.072   0.835   -1.729   -0.438    0.105    0.606
## theta[131,3]    -0.183   0.732   -1.681   -0.630   -0.165    0.259
## theta[132,3]    -0.333   0.705   -1.887   -0.733   -0.277    0.133
## theta[133,3]    -0.030   0.728   -1.435   -0.501   -0.034    0.404
## theta[134,3]     0.189   1.405   -2.418   -0.723    0.083    1.051
## theta[135,3]     0.035   1.295   -2.360   -0.810   -0.001    0.817
## theta[136,3]     0.058   1.006   -2.086   -0.545    0.101    0.700
## theta[137,3]     0.037   0.602   -1.217   -0.321    0.046    0.412
## theta[138,3]     0.069   1.128   -2.330   -0.556    0.103    0.781
## theta[139,3]    -0.241   1.332   -2.873   -1.091   -0.266    0.563
## theta[140,3]    -0.118   1.099   -2.608   -0.764   -0.043    0.592
## theta[141,3]     0.555   0.637   -0.589    0.140    0.507    0.935
## theta[142,3]    -0.190   0.899   -2.114   -0.740   -0.133    0.397
## theta[143,3]     0.067   0.963   -1.804   -0.551    0.025    0.654
## theta[144,3]     0.046   0.882   -1.635   -0.476    0.025    0.540
## theta[145,3]    -0.034   0.743   -1.467   -0.507   -0.043    0.419
## theta[146,3]    -0.029   0.724   -1.547   -0.454    0.003    0.428
## theta[147,3]     0.450   0.941   -1.469   -0.110    0.451    1.038
## theta[148,3]     0.174   1.623   -2.824   -0.873    0.065    1.126
## theta[149,3]    -0.405   0.719   -2.027   -0.816   -0.341    0.074
## theta[150,3]    -0.050   1.426   -3.156   -0.877    0.055    0.872
## theta[151,3]     0.404   0.816   -1.205   -0.107    0.387    0.902
## theta[152,3]    -0.341   1.057   -2.578   -0.984   -0.255    0.361
## theta[153,3]    -0.727   0.891   -2.717   -1.236   -0.623   -0.131
## theta[154,3]    -0.329   0.867   -2.243   -0.837   -0.243    0.254
## theta[155,3]     0.258   0.704   -1.113   -0.188    0.233    0.702
## theta[156,3]     0.374   1.041   -1.760   -0.256    0.381    0.988
## theta[157,3]    -0.029   0.749   -1.657   -0.473   -0.008    0.458
## theta[158,3]     0.199   0.721   -1.181   -0.248    0.160    0.620
## theta[159,3]     0.340   0.671   -0.936   -0.094    0.296    0.740
## theta[160,3]    -0.065   1.018   -2.404   -0.624    0.017    0.569
## theta[161,3]    -0.072   0.818   -1.879   -0.521   -0.029    0.440
## theta[162,3]     0.404   0.896   -1.412   -0.167    0.388    0.983
## theta[163,3]     0.054   0.993   -2.051   -0.538    0.088    0.696
## theta[164,3]     0.122   1.038   -2.222   -0.465    0.172    0.782
## theta[165,3]     0.195   1.581   -2.775   -0.851    0.068    1.172
## theta[166,3]    -0.206   1.316   -2.814   -1.052   -0.217    0.608
```

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## theta[167,3]    -0.176   1.139   -2.330   -0.922   -0.221    0.512
## theta[168,3]    -0.024   1.430   -3.151   -0.811    0.052    0.899
## theta[169,3]     0.233   0.908   -1.668   -0.335    0.250    0.823
## theta[170,3]     0.218   1.613   -2.724   -0.818    0.096    1.176
## theta[171,3]    -0.305   0.723   -1.812   -0.740   -0.283    0.155
## theta[172,3]    -0.325   0.811   -2.126   -0.786   -0.254    0.210
## theta[173,3]    -0.053   1.402   -3.109   -0.868    0.045    0.858
## theta[174,3]     0.206   0.625   -0.975   -0.210    0.175    0.589
## theta[175,3]    -0.402   0.715   -1.908   -0.837   -0.369    0.054
## theta[176,3]     0.022   0.668   -1.309   -0.386    0.003    0.421
## theta[177,3]     0.266   0.704   -1.123   -0.168    0.245    0.688
## theta[178,3]     0.214   0.866   -1.434   -0.334    0.172    0.731
## theta[179,3]    -0.231   0.736   -1.877   -0.639   -0.191    0.241
## theta[180,3]    -0.200   0.965   -2.355   -0.758   -0.157    0.432
## theta[181,3]     0.692   1.230   -1.353   -0.095    0.518    1.331
## theta[182,3]     0.027   0.758   -1.624   -0.388    0.062    0.482
## theta[183,3]     0.455   0.638   -0.684    0.045    0.402    0.818
## theta[184,3]    -0.628   1.288   -3.645   -1.314   -0.456    0.197
## theta[185,3]    -0.127   1.082   -2.484   -0.740   -0.052    0.567
## theta[186,3]     0.166   1.003   -2.029   -0.389    0.199    0.800
## theta[187,3]     0.126   0.941   -1.738   -0.473    0.110    0.700
## theta[188,3]    -0.032   0.708   -1.406   -0.490   -0.055    0.400
## theta[189,3]    -0.016   1.425   -3.120   -0.844    0.068    0.908
## theta[190,3]    -0.035   1.465   -3.243   -0.874    0.078    0.875
## theta[191,3]     0.461   0.824   -1.184   -0.072    0.441    1.011
## theta[192,3]     0.035   1.075   -2.317   -0.565    0.090    0.715
## theta[193,3]    -0.559   1.123   -3.198   -1.180   -0.433    0.169
## theta[194,3]    -0.293   0.669   -1.671   -0.691   -0.261    0.139
## theta[195,3]    -0.429   1.053   -2.576   -1.100   -0.415    0.220
## theta[196,3]     0.051   1.105   -2.290   -0.604    0.115    0.755
## theta[197,3]    -0.145   1.062   -2.513   -0.717   -0.066    0.543
## theta[198,3]    -0.038   1.440   -3.188   -0.857    0.043    0.888
## theta[199,3]     0.221   1.258   -2.502   -0.512    0.263    0.979
## theta[200,3]     0.494   0.757   -0.891    0.006    0.437    0.930
## theta[201,3]    -0.051   1.396   -3.131   -0.900    0.047    0.872
## theta[202,3]    -0.087   0.870   -1.910   -0.622   -0.058    0.474
## theta[203,3]    -0.044   0.741   -1.643   -0.471    0.004    0.435
## theta[204,3]    -0.324   1.090   -2.678   -0.987   -0.234    0.386
## theta[205,3]     0.079   0.641   -1.147   -0.334    0.063    0.471
## theta[206,3]    -0.858   0.806   -2.712   -1.306   -0.757   -0.309
## theta[207,3]     0.411   0.738   -1.027   -0.054    0.383    0.869
## theta[208,3]     0.769   0.791   -0.578    0.255    0.682    1.230
## theta[209,3]     0.476   0.825   -1.177   -0.025    0.453    0.980
## theta[210,3]    -0.028   1.419   -3.100   -0.833    0.055    0.892
## theta[211,3]     0.037   0.825   -1.517   -0.492   -0.007    0.512
## theta[212,3]     0.329   0.639   -0.877   -0.072    0.299    0.706
## theta[213,3]    -0.039   1.389   -3.036   -0.860    0.033    0.871
## theta[214,3]    -0.221   1.068   -2.536   -0.831   -0.142    0.464
## theta[215,3]     0.124   0.968   -1.813   -0.493    0.111    0.730
## theta[216,3]    -0.027   1.442   -3.140   -0.840    0.078    0.875
## theta[217,3]     0.191   1.392   -2.399   -0.702    0.090    1.021
## theta[218,3]    -0.206   0.977   -2.323   -0.785   -0.149    0.457
## theta[219,3]     0.063   0.666   -1.376   -0.328    0.086    0.480
## theta[220,3]     0.531   0.712   -0.782    0.065    0.474    0.942
```

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## theta[221,3]      0.192   0.670   -1.061   -0.241    0.156    0.605
## theta[222,3]     -0.183   0.824   -2.085   -0.618   -0.113    0.336
## theta[223,3]     -0.033   1.438   -3.051   -0.856    0.049    0.906
## theta[224,3]     -0.099   1.436   -2.883   -1.014   -0.167    0.756
## theta[225,3]     -0.158   0.953   -2.407   -0.666   -0.070    0.442
## theta[226,3]      0.342   0.750   -0.988   -0.161    0.265    0.770
## theta[227,3]      0.201   1.636   -2.964   -0.829    0.103    1.177
## theta[228,3]      0.076   0.852   -1.515   -0.470    0.031    0.591
## theta[229,3]      0.126   0.991   -2.047   -0.465    0.159    0.736
## theta[230,3]     -0.024   0.644   -1.414   -0.382   -0.005    0.380
## theta[231,3]      0.152   1.614   -2.837   -0.872    0.044    1.135
## theta[232,3]      0.254   0.705   -1.150   -0.168    0.250    0.687
## theta[233,3]     -0.545   0.801   -2.250   -1.017   -0.517   -0.038
## theta[234,3]      0.202   0.956   -1.778   -0.376    0.205    0.802
## theta[235,3]      0.252   0.819   -1.315   -0.275    0.215    0.741
## theta[236,3]      0.972   0.806   -0.315    0.408    0.856    1.429
## theta[237,3]      0.684   0.665   -0.498    0.235    0.635    1.083
## theta[238,3]     -0.341   1.099   -2.758   -0.970   -0.240    0.367
## theta[239,3]      0.214   0.761   -1.306   -0.256    0.206    0.664
## theta[240,3]      0.223   0.788   -1.291   -0.282    0.201    0.712
## theta[241,3]      0.054   0.758   -1.528   -0.399    0.071    0.529
## theta[242,3]     -0.246   0.733   -1.948   -0.625   -0.183    0.223
## theta[243,3]      0.306   0.769   -1.232   -0.164    0.291    0.762
## theta[244,3]     -0.524   0.769   -2.157   -0.977   -0.501   -0.042
## theta[245,3]      0.345   1.240   -2.215   -0.400    0.382    1.133
## theta[246,3]      0.175   1.408   -2.378   -0.733    0.079    1.030
## theta[247,3]     -0.240   0.893   -2.254   -0.751   -0.163    0.321
## theta[248,3]     -0.040   0.902   -1.984   -0.563   -0.003    0.545
## theta[249,3]      0.148   1.161   -2.061   -0.614    0.112    0.826
## theta[250,3]     -0.309   0.945   -2.232   -0.898   -0.299    0.272
## theta[251,3]      0.676   1.223   -1.441   -0.136    0.518    1.364
## theta[252,3]      0.072   0.689   -1.362   -0.342    0.085    0.488
## theta[253,3]      0.782   1.029   -0.871    0.102    0.637    1.342
## theta[254,3]      0.498   0.806   -1.128   -0.012    0.462    1.027
## theta[255,3]     -0.222   0.733   -1.756   -0.667   -0.189    0.234
## theta[256,3]     -0.234   0.786   -1.923   -0.687   -0.187    0.279
## theta[257,3]     -0.025   1.438   -3.184   -0.846    0.073    0.907
## theta[258,3]      0.594   0.847   -0.989    0.051    0.571    1.109
## theta[259,3]      0.628   0.715   -0.676    0.159    0.563    1.039
## theta[260,3]     -0.790   0.866   -2.801   -1.270   -0.688   -0.202
## theta[261,3]     -0.251   0.993   -2.149   -0.886   -0.264    0.344
## theta[262,3]     -0.340   0.847   -2.120   -0.866   -0.305    0.229
## theta[263,3]     -0.546   0.720   -2.054   -0.994   -0.508   -0.075
## theta[264,3]      0.071   1.031   -1.866   -0.598    0.014    0.682
## theta[265,3]     -0.325   0.837   -2.022   -0.853   -0.305    0.206
## theta[266,3]     -0.063   0.963   -2.206   -0.601   -0.017    0.554
## theta[267,3]      0.050   1.115   -2.313   -0.619    0.093    0.755
## theta[268,3]      0.532   0.662   -0.637    0.093    0.475    0.913
## theta[269,3]     -0.160   0.736   -1.828   -0.558   -0.109    0.310
## theta[270,3]      0.338   0.768   -1.201   -0.151    0.343    0.811
## theta[271,3]     -0.593   0.864   -2.389   -1.098   -0.564   -0.058
## theta[272,3]      0.025   0.659   -1.333   -0.370    0.032    0.426
## theta[273,3]      0.119   1.057   -2.209   -0.457    0.176    0.780
## theta[274,3]      0.591   0.828   -0.865    0.054    0.508    1.043
```

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## theta[275,3]    -0.032   1.436   -3.279   -0.843    0.063    0.895
## theta[276,3]    -0.074   0.642   -1.429   -0.449   -0.068    0.320
## theta[277,3]    -0.045   0.850   -1.981   -0.498   -0.002    0.488
## theta[278,3]    -0.034   1.411   -3.116   -0.875    0.061    0.875
## theta[279,3]     0.032   1.104   -2.296   -0.613    0.063    0.733
## theta[280,3]    -0.065   1.389   -3.205   -0.855    0.034    0.850
## theta[281,3]    -0.134   1.092   -2.681   -0.734   -0.024    0.565
## theta[282,3]    -0.026   1.384   -3.077   -0.820    0.064    0.857
## theta[283,3]    -0.083   0.752   -1.636   -0.546   -0.061    0.385
## theta[284,3]     0.065   1.026   -2.151   -0.526    0.109    0.722
## theta[285,3]     0.049   0.648   -1.304   -0.353    0.066    0.474
## theta[286,3]     1.022   1.050   -0.675    0.280    0.874    1.608
## theta[287,3]     0.325   0.700   -1.070   -0.111    0.322    0.758
## theta[288,3]    -0.361   0.934   -2.425   -0.883   -0.288    0.257
## theta[289,3]    -0.056   0.728   -1.669   -0.456   -0.020    0.399
## theta[290,3]     0.123   1.015   -2.060   -0.485    0.158    0.751
## theta[291,3]     0.212   1.568   -2.555   -0.819    0.094    1.154
## theta[292,3]     0.084   0.766   -1.429   -0.408    0.084    0.547
## theta[293,3]     0.073   0.594   -1.092   -0.295    0.055    0.434
## theta[294,3]    -0.519   0.801   -2.215   -1.006   -0.473    0.003
## theta[295,3]    -0.132   1.108   -2.545   -0.753   -0.046    0.578
## theta[296,3]     0.639   1.057   -1.079   -0.071    0.488    1.217
## theta[297,3]     0.068   1.064   -1.886   -0.631    0.021    0.676
## theta[298,3]    -0.346   0.703   -1.837   -0.775   -0.319    0.115
## theta[299,3]     0.904   0.996   -0.710    0.220    0.752    1.464
## theta[300,3]     0.290   0.805   -1.295   -0.204    0.292    0.800
## theta[301,3]     0.012   1.105   -2.413   -0.654    0.074    0.721
## theta[302,3]    -0.140   1.064   -2.530   -0.735   -0.042    0.539
## theta[303,3]     0.251   0.733   -1.231   -0.171    0.263    0.672
## theta[304,3]     0.541   0.834   -0.938   -0.014    0.469    1.038
## theta[305,3]     0.379   0.927   -1.523   -0.179    0.377    0.964
## theta[306,3]    -0.545   0.788   -2.366   -0.974   -0.458   -0.025
## theta[307,3]     0.069   0.754   -1.391   -0.421    0.051    0.525
## theta[308,3]    -0.152   0.669   -1.544   -0.562   -0.156    0.260
## theta[309,3]    -0.210   1.229   -2.641   -0.977   -0.216    0.518
## theta[310,3]    -0.324   0.714   -1.791   -0.761   -0.293    0.131
## theta[311,3]    -0.209   0.768   -1.873   -0.625   -0.181    0.250
## theta[312,3]    -0.210   1.322   -2.838   -1.075   -0.240    0.589
## theta[313,3]     0.207   0.803   -1.592   -0.235    0.228    0.679
## theta[314,3]    -0.389   0.755   -1.944   -0.845   -0.370    0.087
## theta[315,3]     0.145   0.914   -1.849   -0.394    0.163    0.724
## theta[316,3]     0.172   0.720   -1.275   -0.274    0.162    0.621
## theta[317,3]    -0.588   0.684   -2.090   -0.987   -0.551   -0.140
## theta[318,3]     0.431   0.831   -1.262   -0.056    0.403    0.917
## theta[319,3]     0.529   0.806   -1.010    0.008    0.494    1.017
## theta[320,3]    -0.670   0.813   -2.387   -1.160   -0.627   -0.146
## theta[321,3]     0.186   0.727   -1.192   -0.282    0.172    0.625
## theta[322,3]    -0.032   0.964   -2.177   -0.572    0.043    0.574
## theta[323,3]     0.046   1.114   -2.414   -0.579    0.098    0.725
## theta[324,3]     0.366   0.817   -1.302   -0.123    0.357    0.847
## theta[325,3]    -0.180   0.966   -2.361   -0.677   -0.090    0.445
## theta[326,3]    -0.538   0.706   -1.999   -0.955   -0.510   -0.081
## theta[327,3]     0.691   1.235   -1.413   -0.119    0.537    1.349
## theta[328,3]     0.355   0.682   -1.034   -0.067    0.348    0.769
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## theta[329,3]      0.273   0.641   -1.003   -0.129    0.243    0.667
## theta[330,3]     -0.177   0.708   -1.667   -0.607   -0.151    0.268
## theta[331,3]     -0.557   0.703   -2.074   -0.954   -0.499   -0.108
## theta[332,3]      0.447   0.649   -0.812    0.042    0.421    0.838
## theta[333,3]     -0.550   0.754   -2.116   -1.021   -0.513   -0.075
## theta[334,3]     -0.097   1.429   -2.835   -1.022   -0.122    0.756
## theta[335,3]      0.244   0.787   -1.358   -0.233    0.252    0.701
## theta[336,3]     -0.088   0.625   -1.414   -0.449   -0.072    0.310
## theta[337,3]     -0.360   0.913   -2.230   -0.917   -0.364    0.175
## theta[338,3]     -0.294   0.817   -1.949   -0.800   -0.300    0.217
## theta[339,3]      0.418   0.665   -0.840    0.011    0.389    0.796
## theta[340,3]      0.022   1.106   -2.372   -0.618    0.100    0.738
## theta[341,3]      0.039   1.088   -2.312   -0.583    0.087    0.729
## theta[342,3]     -0.080   1.445   -2.973   -1.000   -0.126    0.788
## theta[343,3]     -0.203   1.222   -2.618   -0.968   -0.216    0.516
## theta[344,3]      0.093   0.898   -1.755   -0.462    0.102    0.671
## theta[345,3]     -0.224   1.228   -2.661   -0.999   -0.234    0.531
## theta[346,3]      0.120   1.014   -2.099   -0.453    0.153    0.766
## theta[347,3]      0.447   0.736   -0.856   -0.026    0.386    0.845
## theta[348,3]      0.172   0.666   -1.211   -0.225    0.168    0.585
## theta[349,3]      0.375   0.659   -0.795   -0.050    0.311    0.739
## theta[350,3]      0.199   0.915   -1.738   -0.319    0.208    0.748
## theta[351,3]     -0.650   1.286   -3.626   -1.364   -0.490    0.210
## theta[352,3]     -0.522   0.772   -2.152   -1.002   -0.504   -0.026
## theta[353,3]     -0.214   1.262   -2.668   -1.016   -0.242    0.560
## theta[354,3]      0.038   1.118   -2.430   -0.611    0.107    0.762
## theta[355,3]      0.115   0.702   -1.281   -0.326    0.104    0.542
## theta[356,3]      0.181   0.865   -1.578   -0.348    0.207    0.702
## theta[357,3]     -0.133   0.619   -1.435   -0.493   -0.117    0.250
## theta[358,3]     -0.031   1.407   -3.057   -0.860    0.051    0.864
## theta[359,3]      0.111   0.946   -1.884   -0.458    0.133    0.715
## theta[360,3]     -0.038   0.702   -1.560   -0.443   -0.020    0.390
## theta[361,3]     -0.031   0.754   -1.686   -0.470   -0.014    0.426
## theta[362,3]      0.115   0.695   -1.339   -0.303    0.119    0.545
## theta[363,3]     -0.058   0.996   -2.353   -0.602    0.004    0.588
## theta[364,3]     -0.462   0.820   -2.204   -0.956   -0.437    0.042
## theta[365,3]      0.099   0.893   -1.770   -0.430    0.124    0.653
## theta[366,3]     -0.126   0.737   -1.745   -0.527   -0.075    0.350
## theta[367,3]     -0.545   0.808   -2.267   -1.011   -0.522   -0.054
## theta[368,3]      0.162   0.904   -1.824   -0.344    0.182    0.735
## theta[369,3]      0.105   1.044   -2.229   -0.467    0.140    0.753
## theta[370,3]      0.049   1.097   -2.324   -0.608    0.101    0.731
## theta[371,3]     -0.021   0.735   -1.517   -0.472   -0.033    0.415
## theta[372,3]     -0.675   0.799   -2.415   -1.146   -0.622   -0.156
## theta[373,3]     -0.109   0.664   -1.486   -0.518   -0.108    0.323
## theta[374,3]     -0.095   0.837   -1.959   -0.544   -0.032    0.432
## theta[375,3]     -0.547   1.000   -2.899   -1.057   -0.430    0.121
## theta[376,3]     -0.240   0.930   -2.447   -0.718   -0.160    0.352
## theta[377,3]     -0.665   0.790   -2.381   -1.120   -0.613   -0.153
## theta[378,3]     -0.271   0.681   -1.760   -0.650   -0.219    0.167
## theta[379,3]     -0.320   0.777   -2.072   -0.740   -0.250    0.177
## theta[380,3]     -0.269   0.771   -1.835   -0.733   -0.272    0.208
## theta[381,3]      0.139   0.714   -1.255   -0.301    0.125    0.559
## theta[382,3]     -0.402   0.731   -1.966   -0.835   -0.368    0.057
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## theta[383,3]      0.106   1.009   -2.070   -0.491    0.141    0.724
## theta[384,3]     -0.059   0.925   -2.205   -0.559   -0.010    0.501
## theta[385,3]      0.276   0.887   -1.555   -0.249    0.282    0.841
## theta[386,3]     -0.368   0.706   -1.950   -0.772   -0.328    0.090
## theta[387,3]     -0.666   0.790   -2.314   -1.151   -0.632   -0.157
## theta[388,3]     -0.060   0.716   -1.549   -0.503   -0.040    0.393
## theta[389,3]      0.037   1.103   -2.350   -0.586    0.090    0.749
## theta[390,3]     -0.748   0.733   -2.341   -1.186   -0.688   -0.260
## theta[391,3]     -0.142   0.703   -1.566   -0.579   -0.143    0.289
## theta[392,3]     -0.298   0.798   -1.874   -0.799   -0.299    0.206
## theta[393,3]     -0.440   0.776   -2.037   -0.913   -0.426    0.060
## theta[394,3]     -0.024   1.415   -3.023   -0.859    0.062    0.872
## theta[395,3]     -0.222   1.218   -2.682   -0.996   -0.238    0.542
## theta[396,3]     -0.021   1.428   -3.073   -0.836    0.048    0.870
## theta[397,3]     -0.211   1.221   -2.570   -0.985   -0.203    0.564
## theta[398,3]     -0.329   0.750   -1.936   -0.780   -0.284    0.154
## theta[399,3]      0.163   1.418   -2.495   -0.755    0.058    1.018
## theta[400,3]      0.035   1.035   -2.069   -0.621    0.086    0.700
## theta[401,3]      0.367   0.672   -0.869   -0.065    0.329    0.755
## theta[402,3]      0.043   0.668   -1.317   -0.357    0.046    0.468
## theta[403,3]      0.247   0.868   -1.562   -0.266    0.256    0.791
## theta[404,3]      0.013   0.629   -1.182   -0.389   -0.005    0.401
## theta[405,3]     -0.246   0.941   -2.376   -0.750   -0.169    0.359
## theta[406,3]      0.705   1.274   -1.457   -0.157    0.532    1.408
## theta[407,3]     -0.411   0.690   -1.860   -0.808   -0.388    0.014
## theta[408,3]      0.699   1.259   -1.424   -0.116    0.524    1.359
## theta[409,3]      0.485   0.795   -1.151    0.018    0.467    0.966
## theta[410,3]     -0.590   1.138   -3.145   -1.252   -0.461    0.162
## theta[411,3]     -0.434   0.730   -1.977   -0.887   -0.401    0.039
## theta[412,3]     -0.531   0.766   -2.153   -1.014   -0.492   -0.031
## theta[413,3]     -0.651   1.305   -3.724   -1.345   -0.459    0.209
## theta[414,3]     -0.314   0.902   -2.138   -0.871   -0.318    0.244
## theta[415,3]     -0.214   1.300   -2.760   -1.068   -0.222    0.594
## theta[416,3]     -0.583   0.672   -2.018   -0.977   -0.535   -0.150
## theta[417,3]     -0.395   0.657   -1.786   -0.801   -0.376    0.016
## theta[418,3]      0.037   0.750   -1.388   -0.431    0.004    0.481
## theta[419,3]     -0.327   0.757   -1.973   -0.756   -0.295    0.164
## theta[420,3]     -0.078   0.651   -1.324   -0.486   -0.107    0.310
## theta[421,3]     -0.204   1.314   -2.810   -1.050   -0.217    0.596
## theta[422,3]      0.307   0.781   -1.330   -0.154    0.302    0.782
## theta[423,3]      0.022   1.272   -2.464   -0.806   -0.044    0.831
## theta[424,3]     -0.715   0.773   -2.415   -1.165   -0.673   -0.204
## theta[425,3]     -0.698   0.757   -2.306   -1.165   -0.650   -0.222
## theta[426,3]      0.714   1.236   -1.384   -0.106    0.570    1.393
## theta[427,3]     -0.338   0.798   -1.996   -0.826   -0.320    0.166
## theta[428,3]     -0.243   0.910   -2.269   -0.744   -0.152    0.321
## theta[429,3]     -0.060   0.971   -2.268   -0.604    0.000    0.562
## theta[430,3]     -0.042   0.678   -1.331   -0.483   -0.077    0.358
## theta[431,3]     -0.029   1.443   -3.150   -0.831    0.067    0.905
## theta[432,3]      0.147   0.917   -1.803   -0.399    0.182    0.727
## theta[433,3]      0.119   0.924   -1.993   -0.393    0.157    0.697
## theta[434,3]     -0.198   0.969   -2.384   -0.744   -0.118    0.429
## theta[435,3]     -0.093   1.307   -2.667   -0.934   -0.134    0.698
## theta[436,3]      0.684   1.251   -1.403   -0.150    0.517    1.358
```

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## theta[437,3]    -0.548   0.785   -2.130   -1.045   -0.513   -0.054
## theta[438,3]     0.025   0.709   -1.481   -0.387    0.035    0.461
## theta[439,3]    -0.277   0.780   -2.037   -0.727   -0.209    0.247
## theta[440,3]    -0.258   0.872   -2.171   -0.774   -0.187    0.315
## theta[441,3]    -0.207   1.222   -2.603   -0.975   -0.239    0.530
## theta[442,3]     0.716   1.256   -1.406   -0.109    0.557    1.373
## theta[443,3]     0.205   0.857   -1.623   -0.303    0.225    0.735
## theta[444,3]    -0.270   0.813   -2.218   -0.710   -0.203    0.234
## theta[445,3]     0.064   1.118   -2.351   -0.599    0.117    0.779
## theta[446,3]     0.695   1.248   -1.357   -0.156    0.526    1.391
## theta[447,3]    -0.118   0.775   -1.790   -0.563   -0.087    0.376
## theta[448,3]    -0.153   0.796   -1.918   -0.583   -0.097    0.349
## theta[449,3]     0.659   0.677   -0.481    0.203    0.596    1.046
## theta[450,3]    -0.464   0.690   -1.911   -0.877   -0.442   -0.005
## theta[451,3]    -0.348   0.847   -2.063   -0.881   -0.340    0.169
## theta[452,3]    -0.158   0.671   -1.539   -0.571   -0.167    0.255
## theta[453,3]     0.270   0.961   -1.723   -0.316    0.251    0.866
## theta[454,3]     0.694   1.256   -1.434   -0.112    0.531    1.367
## theta[455,3]    -0.453   0.698   -1.956   -0.851   -0.419    0.006
## theta[456,3]     0.117   0.909   -1.806   -0.413    0.130    0.690
## theta[457,3]     0.214   0.620   -0.947   -0.171    0.174    0.580
## theta[458,3]     0.107   1.027   -2.126   -0.471    0.141    0.742
## theta[459,3]     0.389   0.842   -1.310   -0.112    0.379    0.909
## theta[460,3]     0.103   0.709   -1.350   -0.325    0.094    0.539
## theta[461,3]    -0.250   0.808   -2.097   -0.672   -0.186    0.256
## theta[462,3]    -0.427   0.848   -2.203   -0.942   -0.411    0.115
## theta[463,3]     0.112   0.674   -1.164   -0.324    0.090    0.511
## theta[464,3]    -0.092   0.745   -1.673   -0.505   -0.058    0.364
## theta[465,3]    -0.269   0.729   -1.825   -0.681   -0.219    0.201
## theta[466,3]    -0.104   0.896   -2.157   -0.578   -0.039    0.457
## theta[467,3]    -0.289   0.697   -1.721   -0.712   -0.278    0.141
## theta[468,3]     0.045   1.124   -2.400   -0.601    0.057    0.748
## theta[469,3]     0.063   0.688   -1.348   -0.340    0.081    0.503
## theta[470,3]    -0.107   0.727   -1.728   -0.497   -0.073    0.347
## theta[471,3]    -0.263   0.807   -2.164   -0.699   -0.201    0.261
## theta[472,3]    -0.074   0.976   -2.305   -0.613   -0.007    0.566
## theta[473,3]    -0.462   0.861   -2.453   -0.967   -0.385    0.115
## theta[474,3]    -0.453   0.877   -2.422   -0.938   -0.368    0.117
## theta[475,3]     0.160   1.444   -2.544   -0.787    0.045    1.045
## theta[476,3]    -0.134   1.076   -2.686   -0.705   -0.049    0.558
## theta[477,3]     0.090   0.705   -1.360   -0.333    0.110    0.509
## theta[478,3]    -0.321   0.780   -2.063   -0.768   -0.257    0.188
## theta[479,3]    -0.367   0.731   -1.938   -0.793   -0.338    0.088
## theta[480,3]    -0.688   0.970   -2.977   -1.206   -0.541   -0.060
## theta[481,3]     0.034   0.929   -1.991   -0.493    0.080    0.625
## theta[482,3]     0.162   0.757   -1.238   -0.323    0.118    0.597
## theta[483,3]     0.320   0.666   -0.921   -0.101    0.285    0.707
## theta[484,3]    -0.320   0.746   -1.929   -0.745   -0.292    0.145
## theta[485,3]    -0.317   0.749   -1.912   -0.740   -0.282    0.146
## theta[486,3]     0.086   0.647   -1.186   -0.322    0.064    0.488
## theta[487,3]    -0.310   0.776   -2.034   -0.751   -0.249    0.193
## theta[488,3]    -0.695   0.779   -2.348   -1.160   -0.652   -0.181
## theta[489,3]    -0.061   0.882   -2.060   -0.536   -0.006    0.483
## theta[490,3]    -0.235   0.760   -1.780   -0.700   -0.234    0.234
```

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## theta[491,3]      0.694   1.255   -1.364   -0.138    0.554    1.379
## theta[492,3]     -0.354   0.737   -2.061   -0.752   -0.295    0.118
## theta[493,3]     -0.101   1.438   -2.910   -1.027   -0.156    0.806
## theta[494,3]      0.462   0.803   -1.072   -0.058    0.435    0.968
## theta[495,3]      0.651   1.093   -1.154   -0.078    0.508    1.235
## theta[496,3]      0.290   0.734   -1.167   -0.143    0.289    0.721
## theta[497,3]      0.453   1.241   -1.650   -0.367    0.298    1.154
## theta[498,3]      0.035   1.401   -2.609   -0.886   -0.032    0.857
## theta[499,3]      0.732   1.351   -1.540   -0.160    0.562    1.463
## theta[500,3]     -0.339   0.833   -2.063   -0.856   -0.324    0.170
## theta[501,3]     -0.239   0.733   -1.837   -0.640   -0.190    0.216
## theta[502,3]     -0.243   0.691   -1.636   -0.658   -0.245    0.197
## theta[503,3]      0.032   1.409   -2.596   -0.872   -0.030    0.872
## theta[504,3]     -0.450   0.796   -2.104   -0.920   -0.415    0.052
## theta[505,3]      0.579   1.069   -1.280   -0.131    0.466    1.176
## theta[506,3]      0.716   1.370   -1.610   -0.173    0.542    1.443
## theta[507,3]     -0.508   0.808   -2.138   -1.018   -0.484    0.006
## theta[508,3]     -0.528   0.802   -2.213   -1.006   -0.498   -0.014
## theta[509,3]      0.749   1.372   -1.569   -0.175    0.578    1.518
## theta[510,3]      0.099   1.049   -1.900   -0.555    0.055    0.671
## theta[511,3]     -0.718   0.769   -2.340   -1.192   -0.682   -0.201
## theta[512,3]     -0.684   0.800   -2.496   -1.158   -0.622   -0.180
## theta[513,3]      0.340   0.716   -1.038   -0.112    0.299    0.777
## theta[514,3]     -0.545   0.780   -2.180   -1.010   -0.522   -0.050
## theta[515,3]     -0.307   0.761   -1.868   -0.781   -0.305    0.157
## theta[516,3]     -0.461   0.779   -2.068   -0.939   -0.441    0.010
## theta[517,3]      0.021   1.112   -2.058   -0.694   -0.031    0.667
## theta[518,3]      0.330   0.647   -0.903   -0.081    0.299    0.711
## theta[519,3]      0.727   1.359   -1.544   -0.179    0.522    1.485
## theta[520,3]      0.077   0.722   -1.439   -0.355    0.097    0.499
## theta[521,3]      0.143   0.951   -1.666   -0.466    0.108    0.687
## theta[522,3]      0.157   1.212   -2.066   -0.629    0.086    0.894
## theta[523,3]     -0.114   1.175   -2.329   -0.877   -0.144    0.599
## theta[524,3]      0.706   1.235   -1.376   -0.086    0.535    1.334
## theta[525,3]      0.250   1.121   -1.852   -0.446    0.186    0.876
## theta[526,3]      0.176   1.248   -2.114   -0.612    0.086    0.889
## theta[527,3]      0.363   0.653   -0.870   -0.055    0.323    0.755
## theta[528,3]      0.386   0.657   -0.862   -0.028    0.351    0.772
## theta[529,3]     -0.099   1.133   -2.304   -0.812   -0.123    0.583
## theta[530,3]      0.411   1.099   -1.543   -0.301    0.302    1.009
## theta[531,3]      0.217   1.058   -1.751   -0.450    0.133    0.824
## theta[532,3]      0.155   1.605   -2.976   -0.867    0.077    1.128
## theta[533,3]      0.223   0.769   -1.394   -0.217    0.236    0.684
## theta[534,3]      0.181   1.597   -2.796   -0.836    0.065    1.127
## theta[535,3]      0.279   0.796   -1.383   -0.181    0.291    0.762
## theta[536,3]      0.431   0.667   -0.787   -0.010    0.388    0.823
## theta[1,4]       -1.178   0.741   -2.866   -1.601   -1.082   -0.654
## theta[2,4]        0.393   0.635   -0.811   -0.014    0.368    0.795
## theta[3,4]        0.511   0.561   -0.497    0.128    0.467    0.847
## theta[4,4]        1.118   0.845   -0.216    0.524    1.003    1.599
## theta[5,4]       -1.886   1.104   -4.388   -2.510   -1.739   -1.098
## theta[6,4]       -1.963   1.099   -4.490   -2.576   -1.834   -1.172
## theta[7,4]       -2.699   1.448   -5.996   -3.566   -2.522   -1.666
## theta[8,4]       -2.260   1.304   -5.239   -3.040   -2.101   -1.342
```

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## theta[9,4]      -2.332   1.233   -5.079   -3.078   -2.189   -1.431
## theta[10,4]     -1.786   1.080   -4.230   -2.432   -1.646   -0.993
## theta[11,4]      1.688   1.049   -0.008    0.934    1.570    2.308
## theta[12,4]      1.708   0.935    0.191    1.027    1.609    2.267
## theta[13,4]     -0.625   0.554   -1.827   -0.965   -0.589   -0.244
## theta[14,4]     -2.138   1.206   -4.842   -2.859   -1.995   -1.268
## theta[15,4]     -2.085   1.158   -4.646   -2.774   -1.949   -1.226
## theta[16,4]     -2.056   1.071   -4.494   -2.714   -1.924   -1.269
## theta[17,4]     -0.133   0.529   -1.224   -0.463   -0.141    0.208
## theta[18,4]     -1.767   1.051   -4.118   -2.411   -1.646   -0.991
## theta[19,4]     -2.088   1.114   -4.671   -2.732   -1.933   -1.274
## theta[20,4]     -2.734   1.445   -5.985   -3.610   -2.579   -1.705
## theta[21,4]      1.769   1.041    0.039    1.034    1.651    2.394
## theta[22,4]      1.129   0.843   -0.239    0.550    1.017    1.612
## theta[23,4]      2.762   1.420    0.394    1.743    2.628    3.604
## theta[24,4]     -1.706   0.925   -3.859   -2.236   -1.602   -1.035
## theta[25,4]      1.140   0.783   -0.106    0.584    1.041    1.605
## theta[26,4]     -3.051   1.556   -6.446   -3.963   -2.927   -1.930
## theta[27,4]     -1.469   0.918   -3.608   -1.969   -1.355   -0.824
## theta[28,4]     -3.156   1.588   -6.753   -4.086   -3.014   -2.043
## theta[29,4]     -1.857   1.057   -4.289   -2.462   -1.709   -1.076
## theta[30,4]      2.891   1.556    0.360    1.793    2.722    3.782
## theta[31,4]     -0.568   0.503   -1.648   -0.877   -0.529   -0.231
## theta[32,4]      2.746   1.480    0.342    1.677    2.585    3.645
## theta[33,4]      1.992   1.090    0.213    1.225    1.871    2.656
## theta[34,4]     -1.164   0.676   -2.740   -1.562   -1.089   -0.673
## theta[35,4]      1.854   1.068    0.136    1.101    1.718    2.447
## theta[36,4]      1.796   0.970    0.208    1.087    1.688    2.366
## theta[37,4]     -1.565   0.886   -3.658   -2.079   -1.447   -0.914
## theta[38,4]      1.641   0.924    0.152    0.970    1.527    2.170
## theta[39,4]      2.189   1.164    0.310    1.345    2.059    2.866
## theta[40,4]     -1.719   1.012   -4.054   -2.291   -1.578   -0.972
## theta[41,4]     -3.014   1.505   -6.334   -3.907   -2.894   -1.931
## theta[42,4]      2.899   1.576    0.344    1.765    2.718    3.862
## theta[43,4]      2.048   1.182    0.083    1.230    1.921    2.753
## theta[44,4]     -2.205   1.194   -4.892   -2.916   -2.075   -1.339
## theta[45,4]      1.198   0.862   -0.186    0.597    1.094    1.692
## theta[46,4]      0.062   0.500   -0.864   -0.267    0.054    0.374
## theta[47,4]     -2.068   1.115   -4.556   -2.739   -1.936   -1.248
## theta[48,4]     -1.825   0.966   -4.066   -2.403   -1.693   -1.121
## theta[49,4]     -2.099   1.225   -4.735   -2.875   -1.983   -1.223
## theta[50,4]     -1.053   0.676   -2.596   -1.434   -0.965   -0.587
## theta[51,4]     -2.094   1.304   -5.022   -2.880   -1.949   -1.156
## theta[52,4]      0.845   0.668   -0.260    0.378    0.768    1.236
## theta[53,4]     -0.155   0.492   -1.119   -0.479   -0.155    0.166
## theta[54,4]      0.409   0.623   -0.748   -0.001    0.373    0.802
## theta[55,4]     -1.833   0.925   -3.948   -2.359   -1.722   -1.161
## theta[56,4]      2.914   1.603    0.399    1.770    2.722    3.830
## theta[57,4]      1.808   1.171   -0.047    0.966    1.671    2.466
## theta[58,4]     -2.979   1.520   -6.431   -3.861   -2.854   -1.898
## theta[59,4]     -1.654   0.989   -3.887   -2.242   -1.506   -0.945
## theta[60,4]      0.939   0.782   -0.355    0.404    0.858    1.386
## theta[61,4]     -1.975   1.124   -4.547   -2.675   -1.829   -1.157
## theta[62,4]     -2.174   1.351   -5.183   -2.983   -2.012   -1.210
```

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## theta[63,4]       1.632   1.011   -0.021    0.907    1.507    2.245
## theta[64,4]       1.710   1.070   -0.080    0.916    1.619    2.380
## theta[65,4]       1.739   0.984    0.129    1.031    1.628    2.361
## theta[66,4]      -1.707   0.925   -3.810   -2.255   -1.599   -1.042
## theta[67,4]       1.745   1.019    0.026    1.003    1.646    2.368
## theta[68,4]      -3.036   1.526   -6.470   -3.961   -2.887   -1.954
## theta[69,4]      -3.221   1.614   -6.869   -4.208   -3.081   -2.077
## theta[70,4]      -1.257   0.785   -3.030   -1.732   -1.153   -0.695
## theta[71,4]      -1.535   0.932   -3.634   -2.076   -1.413   -0.866
## theta[72,4]      -1.507   0.957   -3.733   -2.052   -1.362   -0.824
## theta[73,4]      -2.818   1.507   -6.263   -3.710   -2.668   -1.748
## theta[74,4]       1.695   1.049   -0.001    0.946    1.564    2.300
## theta[75,4]      -1.989   1.067   -4.418   -2.638   -1.829   -1.205
## theta[76,4]      -3.129   1.555   -6.597   -4.077   -2.987   -2.027
## theta[77,4]      -0.204   0.482   -1.181   -0.517   -0.194    0.112
## theta[78,4]       0.971   0.803   -0.385    0.417    0.904    1.423
## theta[79,4]       2.841   1.538    0.301    1.749    2.666    3.751
## theta[80,4]      -1.166   0.693   -2.747   -1.568   -1.081   -0.682
## theta[81,4]      -1.962   1.108   -4.516   -2.620   -1.825   -1.164
## theta[82,4]       1.170   0.821   -0.158    0.590    1.072    1.661
## theta[83,4]      -2.985   1.478   -6.245   -3.895   -2.834   -1.943
## theta[84,4]       0.807   0.668   -0.296    0.342    0.730    1.208
## theta[85,4]       1.259   0.819   -0.040    0.673    1.156    1.695
## theta[86,4]       0.037   0.499   -0.921   -0.288    0.025    0.339
## theta[87,4]       0.139   0.489   -0.787   -0.187    0.119    0.446
## theta[88,4]       0.075   0.461   -0.807   -0.224    0.061    0.364
## theta[89,4]       2.807   1.488    0.270    1.794    2.664    3.696
## theta[90,4]       1.726   1.064   -0.002    0.960    1.613    2.384
## theta[91,4]       1.335   0.874   -0.055    0.699    1.243    1.856
## theta[92,4]      -2.214   1.178   -4.942   -2.930   -2.082   -1.359
## theta[93,4]       2.004   1.153    0.135    1.160    1.902    2.717
## theta[94,4]       2.168   1.186    0.236    1.309    2.049    2.916
## theta[95,4]       2.812   1.494    0.399    1.741    2.665    3.702
## theta[96,4]       0.395   0.633   -0.784   -0.017    0.370    0.783
## theta[97,4]      -1.538   0.849   -3.541   -2.028   -1.431   -0.930
## theta[98,4]      -2.427   1.242   -5.180   -3.188   -2.281   -1.520
## theta[99,4]       2.349   1.182    0.411    1.489    2.268    3.063
## theta[100,4]     -1.898   1.095   -4.415   -2.553   -1.798   -1.088
## theta[101,4]     -0.536   0.571   -1.741   -0.889   -0.510   -0.156
## theta[102,4]      2.481   1.388    0.187    1.482    2.366    3.323
## theta[103,4]     -1.522   0.935   -3.750   -2.043   -1.387   -0.867
## theta[104,4]      0.563   0.689   -0.742    0.098    0.533    0.991
## theta[105,4]      0.701   0.591   -0.311    0.291    0.658    1.048
## theta[106,4]      0.008   0.500   -0.975   -0.312    0.002    0.326
## theta[107,4]      0.968   0.704   -0.210    0.486    0.896    1.381
## theta[108,4]      2.838   1.524    0.376    1.764    2.694    3.728
## theta[109,4]      1.271   0.896   -0.202    0.639    1.157    1.801
## theta[110,4]      1.350   0.851   -0.008    0.748    1.248    1.854
## theta[111,4]     -2.082   1.147   -4.701   -2.780   -1.956   -1.246
## theta[112,4]     -3.088   1.556   -6.548   -4.014   -2.942   -2.004
## theta[113,4]     -0.446   0.479   -1.455   -0.752   -0.416   -0.124
## theta[114,4]     -1.734   0.897   -3.828   -2.231   -1.610   -1.096
## theta[115,4]      0.436   0.515   -0.519    0.088    0.407    0.746
## theta[116,4]      0.570   0.699   -0.742    0.104    0.535    1.016
```

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## theta[117,4]    -2.998   1.487   -6.233   -3.941   -2.891   -1.935
## theta[118,4]    -1.689   0.899   -3.821   -2.197   -1.562   -1.036
## theta[119,4]    -1.181   0.671   -2.784   -1.552   -1.104   -0.722
## theta[120,4]    -3.257   1.604   -6.746   -4.211   -3.111   -2.133
## theta[121,4]    -1.549   1.070   -3.947   -2.177   -1.451   -0.774
## theta[122,4]    -1.922   1.036   -4.273   -2.540   -1.780   -1.169
## theta[123,4]    -1.927   1.054   -4.340   -2.537   -1.803   -1.166
## theta[124,4]     2.790   1.507    0.326    1.708    2.657    3.670
## theta[125,4]     1.299   0.863   -0.110    0.683    1.199    1.801
## theta[126,4]     0.134   0.559   -0.961   -0.233    0.118    0.475
## theta[127,4]     1.837   1.137   -0.035    1.031    1.730    2.530
## theta[128,4]    -0.987   0.627   -2.365   -1.376   -0.935   -0.545
## theta[129,4]    -1.507   0.840   -3.448   -1.993   -1.401   -0.896
## theta[130,4]     1.384   0.894   -0.065    0.745    1.265    1.900
## theta[131,4]    -1.957   1.051   -4.405   -2.566   -1.812   -1.197
## theta[132,4]    -0.249   0.501   -1.312   -0.561   -0.243    0.084
## theta[133,4]    -1.029   0.749   -2.772   -1.458   -0.940   -0.513
## theta[134,4]    -2.787   1.439   -5.932   -3.663   -2.667   -1.758
## theta[135,4]    -1.921   1.224   -4.762   -2.610   -1.782   -1.054
## theta[136,4]     2.168   1.219    0.243    1.301    2.026    2.880
## theta[137,4]     0.244   0.508   -0.701   -0.089    0.222    0.558
## theta[138,4]     2.186   1.250    0.136    1.299    2.024    2.951
## theta[139,4]    -2.131   1.276   -5.033   -2.888   -2.008   -1.225
## theta[140,4]     2.643   1.334    0.381    1.696    2.534    3.489
## theta[141,4]     1.370   0.844   -0.008    0.770    1.270    1.866
## theta[142,4]     0.220   0.542   -0.823   -0.128    0.196    0.564
## theta[143,4]    -2.106   1.177   -4.808   -2.828   -1.972   -1.254
## theta[144,4]    -1.517   0.959   -3.706   -2.104   -1.410   -0.821
## theta[145,4]    -1.936   1.047   -4.316   -2.545   -1.797   -1.190
## theta[146,4]     0.608   0.607   -0.468    0.192    0.583    0.985
## theta[147,4]     2.636   1.241    0.483    1.735    2.531    3.400
## theta[148,4]    -3.141   1.602   -6.726   -4.122   -2.988   -1.999
## theta[149,4]     0.389   0.569   -0.671    0.009    0.370    0.736
## theta[150,4]     2.826   1.487    0.391    1.775    2.687    3.730
## theta[151,4]     2.141   1.113    0.335    1.332    2.034    2.822
## theta[152,4]    -0.109   0.524   -1.190   -0.433   -0.097    0.226
## theta[153,4]     0.167   0.571   -0.956   -0.206    0.153    0.531
## theta[154,4]     2.092   1.189    0.200    1.249    1.946    2.783
## theta[155,4]     0.725   0.594   -0.348    0.321    0.678    1.110
## theta[156,4]     2.138   1.212    0.158    1.287    2.005    2.887
## theta[157,4]     0.770   0.653   -0.397    0.317    0.725    1.179
## theta[158,4]    -1.676   0.884   -3.712   -2.181   -1.568   -1.042
## theta[159,4]     0.446   0.566   -0.601    0.065    0.411    0.790
## theta[160,4]     1.833   1.129   -0.014    1.033    1.714    2.532
## theta[161,4]     1.733   1.041    0.054    0.973    1.610    2.366
## theta[162,4]     1.360   0.901   -0.076    0.738    1.257    1.853
## theta[163,4]     2.188   1.190    0.196    1.335    2.080    2.907
## theta[164,4]     2.724   1.348    0.526    1.743    2.608    3.532
## theta[165,4]    -3.161   1.596   -6.732   -4.121   -3.050   -2.052
## theta[166,4]    -2.103   1.282   -4.941   -2.857   -1.951   -1.195
## theta[167,4]    -2.737   1.342   -5.771   -3.592   -2.601   -1.753
## theta[168,4]     2.814   1.504    0.391    1.742    2.643    3.691
## theta[169,4]     1.696   1.021    0.104    0.968    1.559    2.275
## theta[170,4]    -3.085   1.561   -6.516   -4.010   -2.917   -1.992
```

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## theta[171,4]    -2.203   1.106   -4.650   -2.888   -2.095   -1.406
## theta[172,4]     0.305   0.574   -0.793   -0.069    0.276    0.660
## theta[173,4]     2.770   1.471    0.330    1.723    2.642    3.614
## theta[174,4]    -1.214   0.716   -2.856   -1.613   -1.124   -0.713
## theta[175,4]    -1.561   0.916   -3.660   -2.092   -1.433   -0.899
## theta[176,4]    -1.697   0.881   -3.764   -2.203   -1.584   -1.078
## theta[177,4]     0.089   0.525   -0.910   -0.250    0.062    0.425
## theta[178,4]     0.484   0.549   -0.526    0.115    0.452    0.832
## theta[179,4]     0.418   0.576   -0.627    0.028    0.380    0.768
## theta[180,4]     0.067   0.579   -1.069   -0.300    0.052    0.415
## theta[181,4]    -2.275   1.313   -5.207   -3.097   -2.151   -1.320
## theta[182,4]     1.064   0.849   -0.338    0.452    0.968    1.581
## theta[183,4]     0.927   0.721   -0.230    0.432    0.829    1.340
## theta[184,4]     2.499   1.384    0.221    1.501    2.350    3.328
## theta[185,4]     1.808   1.178   -0.134    0.980    1.679    2.504
## theta[186,4]     2.419   1.241    0.363    1.544    2.305    3.159
## theta[187,4]     0.252   0.542   -0.752   -0.109    0.226    0.570
## theta[188,4]    -1.877   1.016   -4.246   -2.437   -1.744   -1.151
## theta[189,4]     2.881   1.524    0.341    1.751    2.759    3.818
## theta[190,4]     2.876   1.536    0.337    1.809    2.710    3.776
## theta[191,4]     1.886   1.050    0.172    1.113    1.798    2.505
## theta[192,4]     1.831   1.190   -0.119    0.971    1.707    2.575
## theta[193,4]     2.121   1.229    0.128    1.222    2.004    2.873
## theta[194,4]    -1.953   0.997   -4.179   -2.534   -1.829   -1.257
## theta[195,4]    -1.783   1.098   -4.300   -2.447   -1.653   -1.011
## theta[196,4]     1.807   1.159   -0.085    0.983    1.682    2.515
## theta[197,4]     1.731   1.077    0.033    0.945    1.619    2.378
## theta[198,4]     2.821   1.494    0.450    1.736    2.633    3.712
## theta[199,4]     1.833   1.203   -0.101    0.991    1.709    2.535
## theta[200,4]     0.060   0.466   -0.835   -0.237    0.047    0.343
## theta[201,4]     2.768   1.458    0.375    1.750    2.635    3.657
## theta[202,4]     0.615   0.631   -0.533    0.188    0.583    0.990
## theta[203,4]     1.619   0.992    0.045    0.899    1.497    2.206
## theta[204,4]     0.157   0.606   -1.014   -0.238    0.142    0.525
## theta[205,4]    -1.617   0.851   -3.634   -2.094   -1.507   -1.016
## theta[206,4]    -1.315   0.732   -3.031   -1.723   -1.220   -0.801
## theta[207,4]     1.233   0.850   -0.163    0.632    1.136    1.737
## theta[208,4]     1.318   0.819    0.032    0.738    1.227    1.793
## theta[209,4]     1.567   0.967   -0.008    0.864    1.464    2.132
## theta[210,4]     2.820   1.469    0.381    1.780    2.667    3.692
## theta[211,4]    -1.862   1.073   -4.313   -2.518   -1.740   -1.089
## theta[212,4]     0.545   0.563   -0.449    0.158    0.510    0.895
## theta[213,4]     2.755   1.471    0.327    1.733    2.579    3.627
## theta[214,4]     0.561   0.684   -0.724    0.110    0.532    0.976
## theta[215,4]     0.260   0.552   -0.774   -0.098    0.230    0.585
## theta[216,4]     2.844   1.486    0.384    1.797    2.681    3.719
## theta[217,4]    -2.796   1.492   -6.051   -3.707   -2.667   -1.734
## theta[218,4]     0.047   0.571   -1.089   -0.315    0.031    0.408
## theta[219,4]     1.723   0.923    0.268    1.070    1.608    2.241
## theta[220,4]     0.032   0.479   -0.891   -0.287    0.020    0.338
## theta[221,4]    -1.238   0.718   -2.881   -1.652   -1.143   -0.742
## theta[222,4]     1.184   0.900   -0.290    0.565    1.073    1.711
## theta[223,4]     2.834   1.502    0.353    1.753    2.709    3.746
## theta[224,4]    -3.013   1.491   -6.346   -3.947   -2.899   -1.936
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## theta[225,4]      1.616   1.051   -0.131    0.869    1.517    2.271
## theta[226,4]     -1.746   0.968   -3.936   -2.307   -1.611   -1.044
## theta[227,4]     -3.231   1.629   -7.019   -4.205   -3.060   -2.061
## theta[228,4]     -1.933   1.078   -4.470   -2.542   -1.784   -1.160
## theta[229,4]      1.896   1.118    0.079    1.104    1.789    2.555
## theta[230,4]      1.193   0.828   -0.131    0.610    1.089    1.651
## theta[231,4]     -3.174   1.667   -7.033   -4.149   -3.023   -2.019
## theta[232,4]      1.045   0.791   -0.260    0.481    0.960    1.512
## theta[233,4]     -1.958   1.028   -4.272   -2.556   -1.814   -1.227
## theta[234,4]     -0.266   0.525   -1.372   -0.595   -0.254    0.069
## theta[235,4]      0.082   0.506   -0.890   -0.246    0.065    0.393
## theta[236,4]      1.187   0.750   -0.038    0.649    1.113    1.634
## theta[237,4]      1.154   0.771   -0.098    0.614    1.048    1.601
## theta[238,4]      0.142   0.607   -1.066   -0.232    0.135    0.515
## theta[239,4]     -1.822   0.987   -4.002   -2.401   -1.723   -1.107
## theta[240,4]      0.049   0.490   -0.909   -0.274    0.030    0.367
## theta[241,4]      1.609   0.965    0.030    0.922    1.494    2.187
## theta[242,4]      1.136   0.847   -0.290    0.533    1.050    1.622
## theta[243,4]      0.806   0.754   -0.440    0.276    0.704    1.244
## theta[244,4]     -1.843   0.979   -4.063   -2.405   -1.713   -1.133
## theta[245,4]      2.632   1.394    0.343    1.642    2.485    3.481
## theta[246,4]     -2.747   1.428   -5.905   -3.669   -2.627   -1.721
## theta[247,4]      0.085   0.555   -0.986   -0.272    0.076    0.429
## theta[248,4]      1.803   1.062    0.064    1.024    1.697    2.437
## theta[249,4]     -2.194   1.242   -5.001   -2.980   -2.045   -1.294
## theta[250,4]     -2.029   1.123   -4.642   -2.721   -1.890   -1.195
## theta[251,4]     -2.299   1.310   -5.247   -3.061   -2.136   -1.373
## theta[252,4]      1.493   0.929    0.035    0.814    1.396    2.032
## theta[253,4]     -1.478   1.042   -3.852   -2.094   -1.369   -0.738
## theta[254,4]      1.729   0.992    0.120    1.024    1.605    2.314
## theta[255,4]     -0.718   0.594   -2.018   -1.099   -0.676   -0.303
## theta[256,4]      0.176   0.531   -0.854   -0.168    0.157    0.504
## theta[257,4]      2.844   1.514    0.353    1.765    2.687    3.754
## theta[258,4]      2.011   1.095    0.266    1.223    1.880    2.652
## theta[259,4]      0.735   0.682   -0.372    0.271    0.646    1.106
## theta[260,4]     -0.720   0.558   -1.942   -1.053   -0.684   -0.345
## theta[261,4]     -2.077   1.151   -4.650   -2.792   -1.941   -1.247
## theta[262,4]     -0.937   0.614   -2.356   -1.284   -0.878   -0.518
## theta[263,4]     -1.819   0.953   -4.043   -2.350   -1.695   -1.139
## theta[264,4]     -2.266   1.209   -4.965   -2.995   -2.118   -1.387
## theta[265,4]     -2.142   1.152   -4.715   -2.849   -1.997   -1.307
## theta[266,4]      1.501   1.048   -0.197    0.756    1.399    2.096
## theta[267,4]      1.812   1.174   -0.116    0.974    1.692    2.474
## theta[268,4]      0.849   0.659   -0.223    0.390    0.769    1.226
## theta[269,4]      1.173   0.845   -0.206    0.569    1.076    1.680
## theta[270,4]      1.498   0.939    0.032    0.818    1.374    2.032
## theta[271,4]     -1.482   0.920   -3.588   -1.974   -1.353   -0.822
## theta[272,4]      0.066   0.474   -0.828   -0.255    0.051    0.372
## theta[273,4]      2.747   1.338    0.521    1.786    2.612    3.575
## theta[274,4]      0.329   0.536   -0.664   -0.028    0.299    0.658
## theta[275,4]      2.808   1.485    0.345    1.759    2.642    3.692
## theta[276,4]      0.219   0.493   -0.723   -0.105    0.192    0.521
## theta[277,4]      1.894   1.096    0.086    1.109    1.797    2.562
## theta[278,4]      2.875   1.531    0.407    1.767    2.714    3.795
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## theta[279,4]      1.759   1.125   -0.067    0.966    1.631    2.457
## theta[280,4]      2.732   1.443    0.359    1.698    2.606    3.577
## theta[281,4]      2.025   1.195    0.037    1.153    1.913    2.746
## theta[282,4]      2.760   1.449    0.372    1.711    2.607    3.628
## theta[283,4]     -1.173   0.691   -2.790   -1.571   -1.084   -0.684
## theta[284,4]      2.212   1.201    0.234    1.356    2.079    2.951
## theta[285,4]      0.575   0.555   -0.376    0.195    0.530    0.910
## theta[286,4]      0.174   0.558   -0.927   -0.179    0.167    0.501
## theta[287,4]      0.595   0.575   -0.452    0.201    0.560    0.942
## theta[288,4]      0.115   0.592   -1.020   -0.263    0.104    0.477
## theta[289,4]      0.040   0.519   -1.003   -0.299    0.032    0.369
## theta[290,4]      1.290   1.003   -0.351    0.579    1.180    1.843
## theta[291,4]     -3.145   1.564   -6.521   -4.109   -3.007   -2.049
## theta[292,4]      1.101   0.763   -0.123    0.569    1.009    1.522
## theta[293,4]     -1.017   0.666   -2.518   -1.408   -0.935   -0.550
## theta[294,4]     -1.956   1.048   -4.323   -2.571   -1.805   -1.203
## theta[295,4]      1.846   1.156   -0.042    0.996    1.721    2.569
## theta[296,4]     -1.888   1.142   -4.431   -2.532   -1.763   -1.070
## theta[297,4]     -1.945   1.180   -4.592   -2.668   -1.837   -1.101
## theta[298,4]     -1.305   0.750   -3.073   -1.723   -1.198   -0.774
## theta[299,4]     -0.116   0.542   -1.206   -0.460   -0.109    0.231
## theta[300,4]      1.670   1.012    0.026    0.942    1.572    2.296
## theta[301,4]      1.782   1.145   -0.083    0.928    1.665    2.480
## theta[302,4]      1.719   1.115   -0.064    0.918    1.593    2.385
## theta[303,4]      1.269   0.889   -0.119    0.651    1.157    1.765
## theta[304,4]      1.296   0.781    0.011    0.744    1.220    1.759
## theta[305,4]      2.135   1.138    0.263    1.297    2.003    2.844
## theta[306,4]      1.498   0.952   -0.038    0.818    1.376    2.065
## theta[307,4]      0.120   0.490   -0.781   -0.202    0.096    0.433
## theta[308,4]     -0.791   0.562   -2.008   -1.135   -0.751   -0.396
## theta[309,4]     -1.913   1.163   -4.490   -2.647   -1.786   -1.091
## theta[310,4]     -1.790   0.944   -3.950   -2.342   -1.661   -1.115
## theta[311,4]      1.538   0.978    0.013    0.833    1.418    2.110
## theta[312,4]     -2.082   1.253   -4.827   -2.873   -1.959   -1.183
## theta[313,4]      1.297   0.902   -0.152    0.674    1.196    1.849
## theta[314,4]     -0.236   0.486   -1.267   -0.544   -0.227    0.093
## theta[315,4]      1.372   0.960   -0.198    0.689    1.275    1.950
## theta[316,4]      0.784   0.665   -0.298    0.323    0.701    1.190
## theta[317,4]     -1.832   0.939   -3.964   -2.383   -1.695   -1.156
## theta[318,4]      1.923   1.089    0.125    1.138    1.818    2.591
## theta[319,4]      1.415   0.924   -0.025    0.746    1.287    1.939
## theta[320,4]     -1.547   0.886   -3.606   -2.052   -1.436   -0.898
## theta[321,4]      1.031   0.759   -0.147    0.500    0.924    1.472
## theta[322,4]      1.628   1.065   -0.140    0.861    1.533    2.262
## theta[323,4]      1.837   1.185   -0.063    0.990    1.709    2.538
## theta[324,4]      1.174   0.868   -0.230    0.559    1.073    1.660
## theta[325,4]      1.675   1.078   -0.084    0.900    1.559    2.323
## theta[326,4]     -1.782   0.931   -3.942   -2.312   -1.651   -1.126
## theta[327,4]     -2.284   1.304   -5.111   -3.109   -2.173   -1.318
## theta[328,4]      1.104   0.805   -0.192    0.522    0.997    1.562
## theta[329,4]      1.287   0.837   -0.055    0.713    1.177    1.759
## theta[330,4]     -0.020   0.450   -0.875   -0.324   -0.032    0.272
## theta[331,4]     -0.358   0.496   -1.390   -0.664   -0.339   -0.039
## theta[332,4]      1.195   0.801   -0.078    0.620    1.098    1.666
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## theta[333,4]    -1.871   0.996   -4.138   -2.456   -1.729   -1.149
## theta[334,4]    -3.012   1.504   -6.293   -3.917   -2.897   -1.951
## theta[335,4]     1.083   0.846   -0.313    0.502    0.979    1.561
## theta[336,4]     0.806   0.693   -0.363    0.315    0.725    1.212
## theta[337,4]    -1.495   0.941   -3.660   -2.032   -1.368   -0.818
## theta[338,4]    -1.927   1.033   -4.234   -2.548   -1.799   -1.171
## theta[339,4]     0.950   0.779   -0.304    0.389    0.854    1.383
## theta[340,4]     1.810   1.139   -0.057    0.995    1.675    2.496
## theta[341,4]     1.849   1.156   -0.054    1.020    1.749    2.537
## theta[342,4]    -2.971   1.519   -6.248   -3.894   -2.842   -1.872
## theta[343,4]    -1.882   1.156   -4.586   -2.588   -1.748   -1.050
## theta[344,4]     0.117   0.555   -0.910   -0.266    0.116    0.472
## theta[345,4]    -1.934   1.175   -4.502   -2.618   -1.800   -1.088
## theta[346,4]     1.627   1.103   -0.148    0.844    1.494    2.266
## theta[347,4]     0.569   0.554   -0.404    0.195    0.530    0.911
## theta[348,4]     1.658   0.969    0.126    0.952    1.540    2.237
## theta[349,4]    -0.111   0.445   -0.974   -0.404   -0.113    0.180
## theta[350,4]     1.836   1.112    0.082    1.032    1.692    2.509
## theta[351,4]     2.487   1.415    0.166    1.462    2.347    3.329
## theta[352,4]    -1.848   0.968   -4.040   -2.437   -1.720   -1.141
## theta[353,4]    -1.942   1.227   -4.601   -2.696   -1.815   -1.053
## theta[354,4]     1.806   1.170   -0.099    0.968    1.684    2.503
## theta[355,4]     0.789   0.708   -0.367    0.306    0.693    1.192
## theta[356,4]     1.466   0.956   -0.100    0.787    1.335    2.004
## theta[357,4]     0.125   0.491   -0.798   -0.197    0.111    0.431
## theta[358,4]     2.791   1.509    0.294    1.717    2.674    3.674
## theta[359,4]     1.929   1.117    0.122    1.128    1.803    2.606
## theta[360,4]     1.348   0.916   -0.139    0.705    1.222    1.889
## theta[361,4]     0.723   0.634   -0.385    0.273    0.677    1.124
## theta[362,4]     1.598   0.956    0.078    0.902    1.480    2.155
## theta[363,4]     1.858   1.118    0.000    1.077    1.735    2.523
## theta[364,4]    -1.550   0.925   -3.675   -2.085   -1.432   -0.889
## theta[365,4]    -0.056   0.548   -1.147   -0.403   -0.063    0.288
## theta[366,4]     1.368   0.929   -0.124    0.702    1.264    1.938
## theta[367,4]    -1.969   1.050   -4.355   -2.583   -1.825   -1.186
## theta[368,4]     2.418   1.222    0.374    1.528    2.296    3.148
## theta[369,4]     2.704   1.297    0.507    1.790    2.608    3.480
## theta[370,4]     1.818   1.156   -0.066    0.988    1.704    2.534
## theta[371,4]    -0.100   0.465   -1.006   -0.415   -0.107    0.201
## theta[372,4]    -1.542   0.881   -3.548   -2.033   -1.403   -0.914
## theta[373,4]     0.248   0.513   -0.720   -0.100    0.240    0.568
## theta[374,4]     1.510   0.965   -0.046    0.804    1.385    2.076
## theta[375,4]     1.487   1.048   -0.184    0.726    1.377    2.112
## theta[376,4]     1.788   1.112   -0.023    0.985    1.668    2.434
## theta[377,4]    -1.522   0.888   -3.550   -2.024   -1.401   -0.888
## theta[378,4]     0.981   0.803   -0.281    0.412    0.870    1.454
## theta[379,4]     1.388   0.964   -0.131    0.706    1.269    1.932
## theta[380,4]    -0.733   0.564   -1.917   -1.077   -0.699   -0.340
## theta[381,4]     0.778   0.669   -0.322    0.309    0.692    1.154
## theta[382,4]     0.302   0.530   -0.663   -0.051    0.276    0.623
## theta[383,4]     1.636   1.097   -0.154    0.867    1.506    2.270
## theta[384,4]     2.393   1.191    0.367    1.533    2.307    3.134
## theta[385,4]     1.669   1.000    0.039    0.952    1.562    2.271
## theta[386,4]     1.116   0.790   -0.164    0.547    1.024    1.583
```

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## theta[387,4]    -1.556   0.912   -3.616   -2.083   -1.430   -0.908
## theta[388,4]     1.088   0.810   -0.201    0.505    0.987    1.567
## theta[389,4]     1.821   1.170   -0.088    1.004    1.687    2.516
## theta[390,4]    -1.434   0.805   -3.260   -1.879   -1.321   -0.873
## theta[391,4]     0.339   0.531   -0.623   -0.025    0.314    0.671
## theta[392,4]    -1.952   1.022   -4.275   -2.546   -1.820   -1.207
## theta[393,4]    -1.494   0.891   -3.569   -1.980   -1.371   -0.864
## theta[394,4]     2.813   1.462    0.345    1.769    2.667    3.681
## theta[395,4]    -1.909   1.200   -4.656   -2.649   -1.759   -1.043
## theta[396,4]     2.836   1.516    0.345    1.781    2.704    3.719
## theta[397,4]    -1.948   1.191   -4.565   -2.661   -1.829   -1.090
## theta[398,4]     1.063   0.801   -0.195    0.487    0.944    1.531
## theta[399,4]    -2.800   1.518   -6.207   -3.692   -2.616   -1.738
## theta[400,4]     0.378   0.634   -0.819   -0.033    0.356    0.756
## theta[401,4]     1.226   0.801   -0.062    0.637    1.125    1.706
## theta[402,4]     1.400   0.890   -0.036    0.754    1.294    1.924
## theta[403,4]     1.550   1.015   -0.072    0.830    1.421    2.112
## theta[404,4]    -1.349   0.781   -3.155   -1.789   -1.240   -0.791
## theta[405,4]     1.340   0.968   -0.230    0.663    1.229    1.921
## theta[406,4]    -2.288   1.319   -5.233   -3.081   -2.153   -1.370
## theta[407,4]    -1.428   0.800   -3.287   -1.894   -1.320   -0.853
## theta[408,4]    -2.270   1.313   -5.229   -3.023   -2.126   -1.341
## theta[409,4]     2.122   1.101    0.316    1.340    2.001    2.795
## theta[410,4]     2.489   1.305    0.290    1.573    2.373    3.260
## theta[411,4]    -0.075   0.453   -1.004   -0.362   -0.067    0.216
## theta[412,4]    -1.861   0.986   -4.123   -2.455   -1.731   -1.136
## theta[413,4]     2.443   1.357    0.170    1.478    2.332    3.255
## theta[414,4]    -2.177   1.124   -4.700   -2.881   -2.068   -1.359
## theta[415,4]    -2.083   1.242   -4.776   -2.838   -1.960   -1.195
## theta[416,4]    -1.811   0.927   -4.027   -2.341   -1.678   -1.139
## theta[417,4]    -1.500   0.865   -3.512   -1.998   -1.380   -0.880
## theta[418,4]    -1.651   0.950   -3.801   -2.219   -1.549   -0.970
## theta[419,4]     1.047   0.790   -0.230    0.490    0.959    1.492
## theta[420,4]    -1.328   0.819   -3.253   -1.778   -1.207   -0.748
## theta[421,4]    -2.057   1.218   -4.758   -2.798   -1.945   -1.170
## theta[422,4]     1.309   0.884   -0.103    0.689    1.208    1.811
## theta[423,4]    -1.909   1.207   -4.620   -2.595   -1.777   -1.052
## theta[424,4]    -1.498   0.835   -3.420   -1.996   -1.380   -0.916
## theta[425,4]    -1.496   0.855   -3.553   -1.961   -1.371   -0.895
## theta[426,4]    -2.265   1.331   -5.201   -3.080   -2.145   -1.303
## theta[427,4]    -0.190   0.494   -1.172   -0.503   -0.186    0.132
## theta[428,4]     1.362   0.989   -0.216    0.681    1.227    1.914
## theta[429,4]     1.506   1.063   -0.193    0.753    1.399    2.126
## theta[430,4]    -1.664   0.912   -3.813   -2.183   -1.535   -1.009
## theta[431,4]     2.840   1.481    0.370    1.781    2.689    3.741
## theta[432,4]     1.090   0.894   -0.388    0.448    0.989    1.620
## theta[433,4]     1.084   0.870   -0.410    0.479    0.996    1.600
## theta[434,4]     1.654   1.078   -0.095    0.901    1.517    2.290
## theta[435,4]    -2.671   1.428   -5.858   -3.565   -2.541   -1.620
## theta[436,4]    -2.293   1.301   -5.208   -3.112   -2.162   -1.366
## theta[437,4]    -1.844   0.981   -4.033   -2.427   -1.698   -1.153
## theta[438,4]     1.152   0.836   -0.213    0.561    1.064    1.621
## theta[439,4]    -0.038   0.472   -1.001   -0.334   -0.036    0.269
## theta[440,4]     0.014   0.570   -1.092   -0.347    0.016    0.363
```

```
## theta[441,4]    -1.892   1.175   -4.508   -2.607   -1.764   -1.043
## theta[442,4]    -2.273   1.327   -5.270   -3.071   -2.120   -1.342
## theta[443,4]     0.869   0.808   -0.448    0.311    0.772    1.340
## theta[444,4]     1.691   1.071   -0.064    0.917    1.582    2.350
## theta[445,4]     2.199   1.265    0.146    1.305    2.033    2.949
## theta[446,4]    -2.310   1.328   -5.354   -3.078   -2.163   -1.363
## theta[447,4]     1.464   0.966   -0.090    0.777    1.349    2.037
## theta[448,4]     1.585   1.006   -0.024    0.878    1.457    2.159
## theta[449,4]     0.911   0.697   -0.231    0.420    0.826    1.333
## theta[450,4]    -1.909   1.000   -4.264   -2.461   -1.772   -1.199
## theta[451,4]    -2.012   1.084   -4.533   -2.642   -1.877   -1.230
## theta[452,4]    -1.409   0.803   -3.264   -1.882   -1.305   -0.824
## theta[453,4]     1.549   1.007   -0.069    0.827    1.415    2.120
## theta[454,4]    -2.284   1.311   -5.182   -3.095   -2.154   -1.347
## theta[455,4]    -1.225   0.806   -3.089   -1.677   -1.122   -0.663
## theta[456,4]     1.625   1.042   -0.075    0.885    1.490    2.234
## theta[457,4]     0.358   0.532   -0.612   -0.002    0.339    0.682
## theta[458,4]     1.601   1.083   -0.103    0.810    1.485    2.265
## theta[459,4]     1.634   1.001   -0.006    0.892    1.509    2.256
## theta[460,4]     1.597   0.978    0.051    0.888    1.487    2.169
## theta[461,4]     1.642   1.020   -0.014    0.912    1.530    2.231
## theta[462,4]    -1.581   0.937   -3.714   -2.107   -1.462   -0.908
## theta[463,4]    -0.588   0.530   -1.755   -0.904   -0.549   -0.234
## theta[464,4]     0.515   0.605   -0.618    0.116    0.492    0.878
## theta[465,4]     1.273   0.902   -0.169    0.638    1.156    1.770
## theta[466,4]     1.249   0.929   -0.264    0.584    1.145    1.798
## theta[467,4]    -0.409   0.493   -1.420   -0.727   -0.396   -0.085
## theta[468,4]     1.798   1.146   -0.016    0.959    1.683    2.472
## theta[469,4]     1.551   0.967    0.004    0.846    1.443    2.120
## theta[470,4]     1.232   0.877   -0.206    0.612    1.128    1.731
## theta[471,4]     1.654   1.037   -0.009    0.896    1.550    2.269
## theta[472,4]     1.523   1.035   -0.140    0.806    1.406    2.119
## theta[473,4]     1.207   0.893   -0.249    0.573    1.115    1.746
## theta[474,4]     1.224   0.933   -0.288    0.563    1.104    1.771
## theta[475,4]    -2.816   1.485   -6.073   -3.743   -2.659   -1.732
## theta[476,4]     2.080   1.203    0.094    1.220    1.948    2.844
## theta[477,4]     1.593   0.961    0.080    0.898    1.461    2.164
## theta[478,4]     0.087   0.553   -0.984   -0.277    0.078    0.438
## theta[479,4]     0.311   0.519   -0.632   -0.044    0.279    0.644
## theta[480,4]     1.756   1.077    0.003    0.985    1.628    2.413
## theta[481,4]     1.393   0.996   -0.216    0.678    1.282    1.979
## theta[482,4]    -1.737   0.982   -3.957   -2.333   -1.607   -1.038
## theta[483,4]     0.850   0.694   -0.275    0.362    0.772    1.264
## theta[484,4]     1.052   0.809   -0.253    0.487    0.944    1.512
## theta[485,4]     1.061   0.818   -0.238    0.483    0.953    1.521
## theta[486,4]    -1.589   0.842   -3.502   -2.100   -1.462   -0.966
## theta[487,4]    -0.075   0.537   -1.176   -0.409   -0.078    0.255
## theta[488,4]    -1.501   0.841   -3.468   -1.967   -1.378   -0.898
## theta[489,4]     1.921   1.090    0.147    1.117    1.815    2.607
## theta[490,4]    -0.222   0.477   -1.189   -0.528   -0.211    0.094
## theta[491,4]    -2.244   1.261   -5.011   -3.057   -2.127   -1.320
## theta[492,4]     1.398   0.922   -0.099    0.742    1.289    1.967
## theta[493,4]    -2.996   1.475   -6.197   -3.883   -2.845   -1.982
## theta[494,4]     1.509   0.955   -0.020    0.825    1.395    2.041
```

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## theta[495,4]    -1.969   1.156   -4.576   -2.690   -1.824   -1.134
## theta[496,4]     1.456   0.953   -0.134    0.779    1.347    2.020
## theta[497,4]    -2.477   1.292   -5.284   -3.283   -2.387   -1.553
## theta[498,4]    -2.077   1.274   -4.908   -2.817   -1.948   -1.174
## theta[499,4]    -2.480   1.367   -5.516   -3.351   -2.385   -1.503
## theta[500,4]    -1.971   1.040   -4.349   -2.595   -1.842   -1.203
## theta[501,4]     1.313   0.891   -0.087    0.688    1.195    1.820
## theta[502,4]    -1.889   0.989   -4.089   -2.490   -1.750   -1.165
## theta[503,4]    -2.119   1.345   -5.192   -2.921   -1.963   -1.160
## theta[504,4]    -1.486   0.871   -3.572   -1.980   -1.366   -0.859
## theta[505,4]    -2.284   1.253   -5.129   -3.075   -2.159   -1.352
## theta[506,4]    -2.534   1.409   -5.622   -3.410   -2.406   -1.515
## theta[507,4]    -2.070   1.065   -4.444   -2.711   -1.949   -1.295
## theta[508,4]    -1.958   1.030   -4.270   -2.569   -1.820   -1.220
## theta[509,4]    -2.498   1.419   -5.714   -3.358   -2.341   -1.485
## theta[510,4]    -1.787   1.163   -4.416   -2.478   -1.638   -0.949
## theta[511,4]    -1.479   0.826   -3.302   -1.977   -1.381   -0.876
## theta[512,4]    -1.554   0.891   -3.608   -2.083   -1.440   -0.913
## theta[513,4]     1.497   0.961    0.002    0.814    1.364    2.044
## theta[514,4]    -1.862   1.003   -4.172   -2.430   -1.721   -1.130
## theta[515,4]    -1.833   1.016   -4.195   -2.432   -1.685   -1.098
## theta[516,4]    -1.455   0.845   -3.439   -1.930   -1.328   -0.846
## theta[517,4]    -1.608   1.074   -4.068   -2.238   -1.466   -0.839
## theta[518,4]     0.774   0.704   -0.393    0.293    0.691    1.176
## theta[519,4]    -2.564   1.461   -5.842   -3.429   -2.401   -1.521
## theta[520,4]     1.439   0.961   -0.109    0.754    1.342    2.022
## theta[521,4]    -2.448   1.257   -5.206   -3.200   -2.345   -1.561
## theta[522,4]    -2.293   1.271   -5.174   -3.028   -2.173   -1.400
## theta[523,4]    -2.452   1.288   -5.308   -3.252   -2.324   -1.528
## theta[524,4]    -2.263   1.319   -5.205   -3.062   -2.098   -1.338
## theta[525,4]    -2.543   1.307   -5.403   -3.364   -2.428   -1.605
## theta[526,4]    -2.352   1.287   -5.167   -3.136   -2.214   -1.421
## theta[527,4]     1.040   0.786   -0.222    0.497    0.950    1.476
## theta[528,4]     1.042   0.783   -0.209    0.507    0.946    1.483
## theta[529,4]    -2.427   1.293   -5.409   -3.190   -2.305   -1.490
## theta[530,4]    -1.628   1.099   -4.068   -2.279   -1.499   -0.863
## theta[531,4]    -2.371   1.255   -5.163   -3.104   -2.241   -1.474
## theta[532,4]    -3.161   1.616   -6.725   -4.149   -3.065   -1.990
## theta[533,4]     1.816   1.027    0.156    1.078    1.710    2.426
## theta[534,4]    -3.133   1.576   -6.704   -4.069   -2.996   -2.012
## theta[535,4]     1.644   0.976    0.016    0.941    1.551    2.231
## theta[536,4]     1.382   0.903   -0.040    0.736    1.270    1.915
## theta[1,5]       1.255   0.539    0.330    0.878    1.201    1.578
## theta[2,5]       2.090   0.896    0.627    1.471    1.980    2.608
## theta[3,5]      -0.417   0.540   -1.595   -0.751   -0.381   -0.051
## theta[4,5]       0.735   0.478   -0.144    0.423    0.704    1.029
## theta[5,5]      -0.498   0.701   -1.977   -0.910   -0.458   -0.051
## theta[6,5]      -1.434   0.904   -3.484   -1.965   -1.322   -0.789
## theta[7,5]      -1.820   1.134   -4.386   -2.477   -1.709   -1.025
## theta[8,5]      -0.740   0.903   -2.710   -1.270   -0.679   -0.143
## theta[9,5]      -1.464   0.900   -3.445   -2.010   -1.383   -0.830
## theta[10,5]     -1.562   0.942   -3.702   -2.102   -1.471   -0.905
## theta[11,5]     -0.833   0.634   -2.244   -1.192   -0.771   -0.412
## theta[12,5]      0.449   0.435   -0.384    0.161    0.431    0.719
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## theta[13,5]       0.032   0.455   -0.889   -0.252    0.036    0.319
## theta[14,5]      -0.566   0.770   -2.178   -1.053   -0.542   -0.065
## theta[15,5]      -1.500   0.940   -3.646   -2.031   -1.392   -0.848
## theta[16,5]       0.066   0.490   -0.909   -0.238    0.065    0.360
## theta[17,5]      -0.598   0.729   -2.178   -1.023   -0.563   -0.109
## theta[18,5]      -1.533   0.943   -3.608   -2.101   -1.433   -0.866
## theta[19,5]      -1.320   0.838   -3.215   -1.808   -1.231   -0.736
## theta[20,5]      -1.810   1.166   -4.395   -2.514   -1.708   -1.001
## theta[21,5]       0.494   0.526   -0.543    0.167    0.500    0.828
## theta[22,5]       0.728   0.475   -0.136    0.413    0.695    1.008
## theta[23,5]       2.041   1.105    0.215    1.290    1.912    2.653
## theta[24,5]       0.982   0.499    0.105    0.654    0.941    1.276
## theta[25,5]       0.196   0.426   -0.658   -0.077    0.188    0.474
## theta[26,5]      -1.995   1.234   -4.806   -2.700   -1.880   -1.160
## theta[27,5]      -1.462   0.864   -3.415   -1.976   -1.370   -0.845
## theta[28,5]      -2.011   1.270   -4.827   -2.744   -1.924   -1.153
## theta[29,5]      -1.406   0.857   -3.321   -1.926   -1.307   -0.802
## theta[30,5]       2.040   1.090    0.168    1.321    1.954    2.641
## theta[31,5]       0.531   0.463   -0.380    0.235    0.527    0.828
## theta[32,5]       2.053   1.136    0.216    1.289    1.906    2.668
## theta[33,5]       1.982   0.790    0.700    1.430    1.900    2.432
## theta[34,5]       0.858   0.492   -0.050    0.529    0.828    1.150
## theta[35,5]       1.077   0.563    0.060    0.707    1.036    1.420
## theta[36,5]      -0.330   0.495   -1.414   -0.610   -0.299    0.002
## theta[37,5]       0.536   0.425   -0.244    0.251    0.507    0.792
## theta[38,5]      -0.581   0.547   -1.771   -0.908   -0.546   -0.215
## theta[39,5]       0.794   0.563   -0.230    0.434    0.771    1.131
## theta[40,5]      -1.526   0.879   -3.496   -2.054   -1.421   -0.903
## theta[41,5]      -2.026   1.238   -4.895   -2.769   -1.923   -1.172
## theta[42,5]       2.070   1.099    0.248    1.313    1.948    2.705
## theta[43,5]       1.197   0.761   -0.230    0.706    1.150    1.643
## theta[44,5]      -1.332   0.944   -3.466   -1.873   -1.227   -0.699
## theta[45,5]       1.670   0.692    0.545    1.185    1.588    2.100
## theta[46,5]       1.375   0.564    0.426    0.978    1.325    1.709
## theta[47,5]      -1.315   0.846   -3.174   -1.831   -1.225   -0.714
## theta[48,5]       0.364   0.449   -0.519    0.075    0.356    0.647
## theta[49,5]      -2.016   1.171   -4.608   -2.720   -1.918   -1.202
## theta[50,5]       1.619   0.630    0.578    1.176    1.561    1.987
## theta[51,5]      -1.954   1.211   -4.699   -2.643   -1.834   -1.123
## theta[52,5]      -1.369   0.803   -3.201   -1.858   -1.284   -0.797
## theta[53,5]      -0.821   0.698   -2.370   -1.250   -0.765   -0.345
## theta[54,5]       1.477   0.726    0.245    0.995    1.402    1.919
## theta[55,5]       0.777   0.472   -0.078    0.464    0.745    1.070
## theta[56,5]       2.079   1.157    0.155    1.300    1.949    2.725
## theta[57,5]       1.406   0.784    0.048    0.897    1.330    1.859
## theta[58,5]      -2.036   1.207   -4.747   -2.756   -1.949   -1.213
## theta[59,5]      -1.457   0.866   -3.421   -1.963   -1.358   -0.836
## theta[60,5]       1.109   0.545    0.162    0.733    1.067    1.441
## theta[61,5]      -1.405   0.915   -3.450   -1.940   -1.316   -0.758
## theta[62,5]      -1.959   1.184   -4.580   -2.666   -1.877   -1.122
## theta[63,5]      -0.155   0.526   -1.292   -0.456   -0.130    0.187
## theta[64,5]       0.405   0.545   -0.709    0.076    0.423    0.750
## theta[65,5]      -0.504   0.533   -1.683   -0.818   -0.454   -0.148
## theta[66,5]       0.987   0.500    0.127    0.641    0.942    1.292
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## theta[67,5]     -0.512   0.528   -1.665   -0.830   -0.477   -0.155
## theta[68,5]     -2.069   1.277   -4.998   -2.837   -1.920   -1.171
## theta[69,5]     -2.083   1.309   -5.070   -2.846   -1.980   -1.174
## theta[70,5]     -0.375   0.569   -1.637   -0.701   -0.327   -0.005
## theta[71,5]     -1.549   0.871   -3.591   -2.045   -1.444   -0.937
## theta[72,5]     -1.532   0.919   -3.641   -2.073   -1.427   -0.904
## theta[73,5]     -1.810   1.202   -4.511   -2.501   -1.690   -0.991
## theta[74,5]      0.288   0.513   -0.779   -0.018    0.299    0.611
## theta[75,5]     -1.212   0.831   -3.061   -1.695   -1.129   -0.631
## theta[76,5]     -2.041   1.299   -5.012   -2.783   -1.946   -1.153
## theta[77,5]     -1.480   0.824   -3.334   -1.958   -1.404   -0.894
## theta[78,5]      1.029   0.556    0.038    0.671    0.990    1.359
## theta[79,5]      2.102   1.140    0.212    1.347    1.972    2.732
## theta[80,5]      1.608   0.619    0.569    1.164    1.552    1.983
## theta[81,5]     -0.555   0.693   -2.077   -0.967   -0.487   -0.095
## theta[82,5]      1.089   0.533    0.166    0.720    1.044    1.402
## theta[83,5]     -2.026   1.264   -4.827   -2.767   -1.911   -1.155
## theta[84,5]     -1.174   0.764   -2.864   -1.642   -1.085   -0.633
## theta[85,5]     -0.683   0.572   -1.971   -1.031   -0.639   -0.286
## theta[86,5]      1.119   0.524    0.212    0.752    1.080    1.428
## theta[87,5]      1.358   0.588    0.368    0.942    1.305    1.713
## theta[88,5]      1.929   0.761    0.685    1.400    1.830    2.387
## theta[89,5]      2.074   1.130    0.238    1.291    1.937    2.712
## theta[90,5]      1.730   0.782    0.422    1.182    1.652    2.190
## theta[91,5]     -0.253   0.483   -1.287   -0.550   -0.219    0.059
## theta[92,5]     -1.361   0.905   -3.375   -1.905   -1.263   -0.724
## theta[93,5]      1.319   0.691    0.097    0.862    1.273    1.733
## theta[94,5]      1.328   0.748    0.061    0.843    1.265    1.736
## theta[95,5]      2.087   1.131    0.204    1.327    1.951    2.718
## theta[96,5]      2.086   0.882    0.628    1.452    1.992    2.618
## theta[97,5]      0.514   0.425   -0.274    0.231    0.497    0.785
## theta[98,5]     -1.511   0.939   -3.630   -2.075   -1.411   -0.843
## theta[99,5]      1.094   0.606    0.028    0.688    1.050    1.460
## theta[100,5]    -0.606   0.777   -2.278   -1.073   -0.558   -0.088
## theta[101,5]    -1.571   0.891   -3.611   -2.096   -1.473   -0.942
## theta[102,5]     1.140   0.855   -0.516    0.625    1.070    1.629
## theta[103,5]    -1.565   0.876   -3.534   -2.085   -1.471   -0.932
## theta[104,5]     1.932   0.887    0.440    1.324    1.851    2.446
## theta[105,5]     0.647   0.429   -0.140    0.356    0.623    0.910
## theta[106,5]    -0.940   0.637   -2.402   -1.306   -0.888   -0.501
## theta[107,5]    -0.619   0.721   -2.208   -1.033   -0.578   -0.146
## theta[108,5]     2.061   1.079    0.198    1.337    1.925    2.696
## theta[109,5]    -0.496   0.518   -1.635   -0.805   -0.458   -0.136
## theta[110,5]     0.669   0.445   -0.130    0.364    0.637    0.941
## theta[111,5]    -1.268   0.922   -3.336   -1.793   -1.175   -0.634
## theta[112,5]    -2.015   1.258   -4.858   -2.721   -1.904   -1.203
## theta[113,5]    -0.368   0.482   -1.424   -0.651   -0.332   -0.035
## theta[114,5]     0.990   0.484    0.119    0.657    0.959    1.294
## theta[115,5]     0.314   0.406   -0.479    0.049    0.313    0.564
## theta[116,5]     1.931   0.901    0.408    1.316    1.835    2.438
## theta[117,5]    -2.038   1.210   -4.661   -2.769   -1.930   -1.224
## theta[118,5]     0.715   0.458   -0.094    0.397    0.680    1.004
## theta[119,5]     1.117   0.528    0.193    0.756    1.079    1.431
## theta[120,5]    -2.094   1.310   -4.936   -2.880   -1.997   -1.191
```

```
## theta[121,5]    -0.791   0.856   -2.653   -1.303   -0.739   -0.207
## theta[122,5]    -0.783   0.644   -2.236   -1.163   -0.717   -0.338
## theta[123,5]    -1.412   0.907   -3.456   -1.945   -1.326   -0.760
## theta[124,5]     2.069   1.121    0.227    1.302    1.944    2.694
## theta[125,5]     0.976   0.509    0.049    0.629    0.944    1.285
## theta[126,5]     1.867   0.759    0.605    1.330    1.780    2.322
## theta[127,5]     1.624   0.843    0.190    1.059    1.539    2.101
## theta[128,5]     1.992   0.828    0.633    1.424    1.911    2.485
## theta[129,5]     0.615   0.432   -0.164    0.323    0.588    0.879
## theta[130,5]     1.569   0.666    0.458    1.104    1.507    1.960
## theta[131,5]    -0.253   0.524   -1.336   -0.577   -0.232    0.079
## theta[132,5]     0.611   0.472   -0.311    0.314    0.612    0.907
## theta[133,5]    -0.807   0.672   -2.310   -1.194   -0.744   -0.356
## theta[134,5]    -1.822   1.186   -4.495   -2.499   -1.726   -1.005
## theta[135,5]    -1.806   1.102   -4.225   -2.475   -1.727   -1.046
## theta[136,5]     1.330   0.727    0.046    0.840    1.270    1.751
## theta[137,5]     0.694   0.439   -0.103    0.395    0.669    0.964
## theta[138,5]     1.104   0.732   -0.279    0.647    1.068    1.529
## theta[139,5]    -1.976   1.138   -4.504   -2.653   -1.871   -1.179
## theta[140,5]     0.670   0.663   -0.647    0.285    0.656    1.059
## theta[141,5]     0.008   0.439   -0.858   -0.272    0.009    0.287
## theta[142,5]     1.438   0.678    0.285    0.978    1.392    1.841
## theta[143,5]    -1.264   0.905   -3.290   -1.790   -1.183   -0.633
## theta[144,5]    -0.152   0.584   -1.327   -0.519   -0.146    0.215
## theta[145,5]    -0.110   0.511   -1.128   -0.434   -0.112    0.217
## theta[146,5]     0.890   0.479    0.001    0.572    0.851    1.183
## theta[147,5]     0.823   0.590   -0.319    0.453    0.802    1.175
## theta[148,5]    -1.998   1.298   -4.970   -2.767   -1.875   -1.132
## theta[149,5]     0.588   0.493   -0.430    0.289    0.579    0.896
## theta[150,5]     2.104   1.136    0.222    1.330    1.975    2.724
## theta[151,5]     0.940   0.548   -0.065    0.577    0.895    1.269
## theta[152,5]     1.960   0.896    0.504    1.352    1.868    2.442
## theta[153,5]     0.964   0.603   -0.160    0.577    0.930    1.324
## theta[154,5]     1.044   0.605   -0.088    0.646    1.007    1.417
## theta[155,5]     1.205   0.519    0.312    0.848    1.164    1.529
## theta[156,5]     1.259   0.690    0.054    0.794    1.192    1.672
## theta[157,5]     0.533   0.480   -0.377    0.224    0.526    0.832
## theta[158,5]     1.458   0.596    0.472    1.024    1.400    1.821
## theta[159,5]    -0.185   0.470   -1.181   -0.468   -0.164    0.127
## theta[160,5]     0.817   0.640   -0.403    0.421    0.801    1.191
## theta[161,5]     0.730   0.548   -0.321    0.397    0.708    1.061
## theta[162,5]     1.876   0.757    0.625    1.337    1.799    2.336
## theta[163,5]     1.330   0.723    0.059    0.852    1.278    1.746
## theta[164,5]     0.683   0.641   -0.581    0.296    0.664    1.056
## theta[165,5]    -2.082   1.317   -4.959   -2.872   -1.981   -1.171
## theta[166,5]    -1.947   1.145   -4.528   -2.627   -1.824   -1.187
## theta[167,5]    -1.665   1.030   -3.943   -2.252   -1.594   -0.953
## theta[168,5]     2.089   1.102    0.224    1.360    1.982    2.709
## theta[169,5]     1.712   0.737    0.532    1.191    1.611    2.155
## theta[170,5]    -2.016   1.296   -4.888   -2.785   -1.886   -1.146
## theta[171,5]     0.446   0.458   -0.426    0.146    0.426    0.731
## theta[172,5]     1.242   0.637    0.143    0.806    1.190    1.622
## theta[173,5]     2.035   1.100    0.225    1.304    1.901    2.619
## theta[174,5]     0.199   0.427   -0.652   -0.070    0.196    0.479
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## theta[175,5]    -0.263   0.495   -1.319   -0.565   -0.244    0.059
## theta[176,5]     0.713   0.462   -0.109    0.405    0.681    0.997
## theta[177,5]     0.959   0.515    0.064    0.606    0.912    1.277
## theta[178,5]    -1.375   0.833   -3.225   -1.887   -1.289   -0.784
## theta[179,5]     0.578   0.496   -0.424    0.281    0.574    0.891
## theta[180,5]     1.508   0.739    0.261    0.996    1.441    1.952
## theta[181,5]    -0.717   0.876   -2.552   -1.253   -0.664   -0.133
## theta[182,5]     0.223   0.485   -0.759   -0.081    0.231    0.536
## theta[183,5]     0.267   0.435   -0.589   -0.012    0.251    0.543
## theta[184,5]     1.144   0.848   -0.424    0.628    1.089    1.624
## theta[185,5]     1.643   0.829    0.233    1.098    1.579    2.111
## theta[186,5]     0.480   0.594   -0.751    0.130    0.478    0.837
## theta[187,5]    -1.528   0.884   -3.465   -2.073   -1.443   -0.916
## theta[188,5]    -0.107   0.505   -1.112   -0.429   -0.100    0.208
## theta[189,5]     2.112   1.130    0.236    1.354    1.971    2.745
## theta[190,5]     2.079   1.119    0.250    1.325    1.960    2.698
## theta[191,5]     1.498   0.660    0.394    1.046    1.432    1.870
## theta[192,5]     1.395   0.785   -0.066    0.891    1.331    1.855
## theta[193,5]     1.102   0.740   -0.238    0.621    1.056    1.520
## theta[194,5]     0.411   0.429   -0.389    0.133    0.397    0.684
## theta[195,5]    -1.737   0.996   -3.957   -2.366   -1.617   -1.038
## theta[196,5]     1.386   0.798   -0.035    0.865    1.309    1.851
## theta[197,5]     1.625   0.807    0.228    1.085    1.556    2.082
## theta[198,5]     2.043   1.097    0.231    1.298    1.903    2.652
## theta[199,5]     2.148   1.015    0.516    1.441    2.032    2.752
## theta[200,5]    -0.863   0.720   -2.451   -1.300   -0.800   -0.359
## theta[201,5]     2.041   1.093    0.240    1.306    1.929    2.677
## theta[202,5]     1.429   0.676    0.249    0.977    1.361    1.846
## theta[203,5]     0.516   0.463   -0.363    0.216    0.499    0.800
## theta[204,5]     1.944   0.859    0.444    1.357    1.867    2.470
## theta[205,5]     0.513   0.430   -0.319    0.234    0.501    0.780
## theta[206,5]     0.827   0.548   -0.213    0.486    0.803    1.150
## theta[207,5]     0.765   0.478   -0.112    0.449    0.734    1.049
## theta[208,5]    -0.621   0.624   -1.979   -1.004   -0.580   -0.209
## theta[209,5]     1.505   0.657    0.396    1.055    1.442    1.891
## theta[210,5]     2.071   1.095    0.252    1.341    1.947    2.716
## theta[211,5]    -0.720   0.687   -2.177   -1.148   -0.677   -0.250
## theta[212,5]    -0.199   0.462   -1.183   -0.485   -0.178    0.110
## theta[213,5]     2.065   1.122    0.204    1.306    1.926    2.730
## theta[214,5]     1.907   0.853    0.444    1.333    1.822    2.405
## theta[215,5]    -1.537   0.903   -3.590   -2.063   -1.435   -0.895
## theta[216,5]     2.068   1.092    0.188    1.334    1.954    2.681
## theta[217,5]    -1.799   1.166   -4.287   -2.482   -1.718   -0.997
## theta[218,5]     1.494   0.735    0.204    1.006    1.428    1.920
## theta[219,5]    -0.324   0.481   -1.351   -0.634   -0.297   -0.001
## theta[220,5]     1.457   0.587    0.488    1.038    1.400    1.800
## theta[221,5]     0.572   0.446   -0.260    0.285    0.554    0.835
## theta[222,5]     0.321   0.512   -0.694    0.003    0.321    0.627
## theta[223,5]     2.075   1.094    0.224    1.323    1.968    2.727
## theta[224,5]    -2.021   1.198   -4.669   -2.749   -1.906   -1.184
## theta[225,5]     1.190   0.690   -0.037    0.741    1.151    1.600
## theta[226,5]     0.159   0.498   -0.822   -0.159    0.153    0.472
## theta[227,5]    -2.076   1.346   -5.056   -2.835   -1.938   -1.166
## theta[228,5]    -0.643   0.698   -2.162   -1.051   -0.601   -0.176
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## theta[229,5]      1.129   0.653   -0.043    0.688    1.087    1.525
## theta[230,5]     -0.270   0.475   -1.245   -0.564   -0.246    0.039
## theta[231,5]     -2.048   1.322   -5.091   -2.779   -1.925   -1.135
## theta[232,5]      0.313   0.446   -0.598    0.035    0.312    0.586
## theta[233,5]     -1.304   0.801   -3.151   -1.778   -1.218   -0.725
## theta[234,5]      2.221   0.845    0.809    1.631    2.119    2.731
## theta[235,5]     -1.288   0.825   -3.114   -1.798   -1.223   -0.706
## theta[236,5]     -0.001   0.547   -1.127   -0.339   -0.001    0.335
## theta[237,5]     -0.461   0.539   -1.636   -0.779   -0.441   -0.091
## theta[238,5]      1.954   0.892    0.466    1.330    1.872    2.457
## theta[239,5]      1.471   0.618    0.444    1.036    1.394    1.842
## theta[240,5]     -1.244   0.806   -3.040   -1.718   -1.174   -0.686
## theta[241,5]      1.169   0.596    0.110    0.760    1.126    1.528
## theta[242,5]     -0.146   0.480   -1.175   -0.434   -0.116    0.177
## theta[243,5]      1.235   0.585    0.242    0.839    1.177    1.574
## theta[244,5]     -1.286   0.790   -3.064   -1.753   -1.212   -0.711
## theta[245,5]      2.118   1.032    0.477    1.427    1.996    2.681
## theta[246,5]     -1.829   1.182   -4.418   -2.542   -1.727   -0.996
## theta[247,5]      1.209   0.617    0.114    0.797    1.166    1.579
## theta[248,5]      0.945   0.617   -0.240    0.555    0.915    1.311
## theta[249,5]     -1.468   1.003   -3.687   -2.053   -1.378   -0.785
## theta[250,5]     -1.473   0.896   -3.457   -2.035   -1.389   -0.823
## theta[251,5]     -0.700   0.886   -2.514   -1.230   -0.664   -0.137
## theta[252,5]     -0.590   0.523   -1.729   -0.890   -0.550   -0.234
## theta[253,5]     -0.385   0.754   -1.932   -0.841   -0.374    0.090
## theta[254,5]      1.269   0.579    0.289    0.876    1.216    1.615
## theta[255,5]     -0.925   0.684   -2.457   -1.325   -0.859   -0.448
## theta[256,5]      1.066   0.568    0.077    0.671    1.020    1.402
## theta[257,5]      2.043   1.108    0.233    1.295    1.915    2.659
## theta[258,5]      1.827   0.733    0.630    1.299    1.746    2.258
## theta[259,5]      1.032   0.521    0.148    0.677    0.978    1.336
## theta[260,5]      0.791   0.578   -0.343    0.430    0.761    1.137
## theta[261,5]     -1.510   0.920   -3.547   -2.046   -1.428   -0.879
## theta[262,5]      1.555   0.660    0.434    1.096    1.505    1.965
## theta[263,5]     -0.806   0.632   -2.252   -1.168   -0.733   -0.366
## theta[264,5]     -1.320   0.912   -3.344   -1.867   -1.249   -0.704
## theta[265,5]     -0.343   0.571   -1.527   -0.684   -0.322    0.036
## theta[266,5]      0.989   0.655   -0.234    0.587    0.956    1.362
## theta[267,5]      1.418   0.792    0.026    0.897    1.352    1.861
## theta[268,5]     -0.136   0.484   -1.148   -0.438   -0.121    0.174
## theta[269,5]      0.169   0.449   -0.745   -0.110    0.181    0.455
## theta[270,5]      0.958   0.530    0.020    0.610    0.912    1.286
## theta[271,5]     -1.491   0.836   -3.440   -1.984   -1.390   -0.902
## theta[272,5]      0.959   0.482    0.090    0.634    0.919    1.255
## theta[273,5]      0.689   0.631   -0.546    0.312    0.677    1.063
## theta[274,5]     -0.126   0.563   -1.321   -0.476   -0.112    0.232
## theta[275,5]      2.106   1.143    0.210    1.320    1.969    2.720
## theta[276,5]     -0.894   0.620   -2.333   -1.250   -0.821   -0.462
## theta[277,5]      0.529   0.546   -0.554    0.193    0.524    0.864
## theta[278,5]      2.052   1.117    0.173    1.300    1.916    2.666
## theta[279,5]      1.412   0.796    0.029    0.889    1.329    1.867
## theta[280,5]      2.058   1.117    0.190    1.297    1.943    2.696
## theta[281,5]      1.199   0.758   -0.236    0.737    1.166    1.629
## theta[282,5]      2.044   1.102    0.251    1.294    1.926    2.674
```

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## theta[283,5]      1.112   0.530    0.144    0.760    1.072    1.428
## theta[284,5]      1.330   0.742    0.013    0.864    1.289    1.763
## theta[285,5]      1.151   0.513    0.260    0.788    1.107    1.470
## theta[286,5]     -0.697   0.808   -2.460   -1.186   -0.655   -0.171
## theta[287,5]      0.815   0.474   -0.020    0.496    0.780    1.107
## theta[288,5]      1.337   0.702    0.105    0.867    1.281    1.761
## theta[289,5]      1.022   0.535    0.095    0.666    0.979    1.339
## theta[290,5]      1.829   0.797    0.475    1.278    1.761    2.304
## theta[291,5]     -2.049   1.302   -5.004   -2.823   -1.932   -1.163
## theta[292,5]     -1.381   0.780   -3.148   -1.839   -1.282   -0.835
## theta[293,5]     -0.016   0.438   -0.908   -0.295   -0.003    0.266
## theta[294,5]     -1.311   0.805   -3.120   -1.789   -1.208   -0.749
## theta[295,5]      1.650   0.837    0.224    1.087    1.579    2.146
## theta[296,5]     -0.579   0.793   -2.319   -1.039   -0.532   -0.061
## theta[297,5]     -0.333   0.713   -1.827   -0.769   -0.317    0.109
## theta[298,5]      0.883   0.472    0.059    0.563    0.849    1.168
## theta[299,5]     -0.614   0.765   -2.249   -1.074   -0.559   -0.112
## theta[300,5]      1.332   0.640    0.241    0.897    1.274    1.696
## theta[301,5]      1.416   0.799    0.029    0.885    1.350    1.877
## theta[302,5]      1.625   0.833    0.169    1.072    1.545    2.103
## theta[303,5]      0.220   0.460   -0.702   -0.070    0.226    0.504
## theta[304,5]     -1.101   0.748   -2.675   -1.565   -1.029   -0.582
## theta[305,5]      1.465   0.697    0.283    0.988    1.405    1.875
## theta[306,5]      0.231   0.480   -0.810   -0.040    0.248    0.531
## theta[307,5]     -1.256   0.781   -3.022   -1.714   -1.171   -0.703
## theta[308,5]     -0.763   0.618   -2.144   -1.124   -0.719   -0.330
## theta[309,5]     -1.829   1.083   -4.293   -2.485   -1.710   -1.076
## theta[310,5]     -0.710   0.621   -2.098   -1.077   -0.651   -0.277
## theta[311,5]     -1.064   0.652   -2.521   -1.458   -0.995   -0.604
## theta[312,5]     -2.012   1.122   -4.451   -2.694   -1.925   -1.240
## theta[313,5]      0.466   0.498   -0.504    0.167    0.462    0.778
## theta[314,5]     -1.414   0.808   -3.316   -1.881   -1.317   -0.833
## theta[315,5]      0.727   0.534   -0.319    0.403    0.714    1.052
## theta[316,5]     -1.213   0.743   -2.913   -1.632   -1.139   -0.689
## theta[317,5]     -0.434   0.512   -1.555   -0.736   -0.391   -0.087
## theta[318,5]      0.113   0.495   -0.934   -0.179    0.127    0.430
## theta[319,5]      1.111   0.564    0.124    0.724    1.061    1.443
## theta[320,5]     -1.406   0.820   -3.304   -1.874   -1.304   -0.831
## theta[321,5]     -1.268   0.766   -2.998   -1.725   -1.190   -0.729
## theta[322,5]      1.077   0.647   -0.153    0.661    1.037    1.482
## theta[323,5]      1.393   0.787    0.011    0.872    1.320    1.844
## theta[324,5]      1.099   0.566    0.071    0.719    1.056    1.439
## theta[325,5]      1.204   0.704   -0.113    0.758    1.160    1.610
## theta[326,5]     -0.804   0.627   -2.233   -1.176   -0.732   -0.369
## theta[327,5]     -0.735   0.910   -2.681   -1.268   -0.676   -0.153
## theta[328,5]      0.852   0.488   -0.009    0.519    0.808    1.146
## theta[329,5]     -0.650   0.574   -1.917   -0.991   -0.607   -0.263
## theta[330,5]     -1.309   0.762   -3.036   -1.770   -1.221   -0.780
## theta[331,5]     -0.898   0.625   -2.264   -1.278   -0.820   -0.464
## theta[332,5]     -0.504   0.553   -1.692   -0.841   -0.454   -0.138
## theta[333,5]     -1.251   0.781   -3.050   -1.701   -1.159   -0.700
## theta[334,5]     -1.989   1.198   -4.686   -2.681   -1.885   -1.176
## theta[335,5]      1.051   0.558    0.059    0.674    1.004    1.382
## theta[336,5]     -0.347   0.484   -1.411   -0.631   -0.311   -0.023
```

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## theta[337,5]    -1.508   0.896   -3.554   -2.041   -1.414   -0.877
## theta[338,5]    -1.267   0.805   -3.082   -1.748   -1.196   -0.701
## theta[339,5]     0.379   0.442   -0.474    0.084    0.363    0.658
## theta[340,5]     1.408   0.798   -0.010    0.894    1.331    1.849
## theta[341,5]     1.409   0.816   -0.015    0.875    1.340    1.868
## theta[342,5]    -2.037   1.214   -4.831   -2.729   -1.910   -1.218
## theta[343,5]    -1.813   1.040   -4.046   -2.455   -1.724   -1.084
## theta[344,5]     1.605   0.711    0.409    1.113    1.526    2.033
## theta[345,5]    -1.862   1.050   -4.191   -2.508   -1.767   -1.130
## theta[346,5]     0.934   0.652   -0.260    0.516    0.903    1.313
## theta[347,5]    -0.126   0.524   -1.207   -0.448   -0.117    0.203
## theta[348,5]    -0.710   0.540   -1.890   -1.039   -0.670   -0.345
## theta[349,5]    -0.564   0.570   -1.824   -0.906   -0.516   -0.182
## theta[350,5]     0.376   0.552   -0.747    0.053    0.381    0.708
## theta[351,5]     1.130   0.846   -0.468    0.606    1.083    1.610
## theta[352,5]    -1.260   0.800   -3.084   -1.714   -1.152   -0.705
## theta[353,5]    -1.873   1.079   -4.339   -2.518   -1.756   -1.126
## theta[354,5]     1.421   0.798    0.005    0.896    1.354    1.882
## theta[355,5]    -1.161   0.696   -2.694   -1.578   -1.104   -0.674
## theta[356,5]     0.754   0.548   -0.278    0.409    0.737    1.097
## theta[357,5]    -0.692   0.569   -1.988   -1.027   -0.636   -0.303
## theta[358,5]     2.102   1.157    0.193    1.329    1.965    2.744
## theta[359,5]     0.884   0.604   -0.227    0.505    0.855    1.239
## theta[360,5]    -0.768   0.604   -2.133   -1.111   -0.715   -0.357
## theta[361,5]     0.685   0.494   -0.248    0.365    0.669    0.993
## theta[362,5]    -0.135   0.469   -1.161   -0.414   -0.107    0.175
## theta[363,5]     0.812   0.642   -0.416    0.405    0.789    1.199
## theta[364,5]    -1.406   0.840   -3.325   -1.894   -1.314   -0.825
## theta[365,5]     1.183   0.595    0.110    0.785    1.129    1.550
## theta[366,5]    -0.335   0.506   -1.452   -0.629   -0.308    0.002
## theta[367,5]    -1.302   0.786   -3.092   -1.760   -1.218   -0.755
## theta[368,5]     0.568   0.562   -0.542    0.239    0.574    0.898
## theta[369,5]     0.686   0.637   -0.674    0.319    0.678    1.064
## theta[370,5]     1.397   0.789    0.022    0.871    1.348    1.848
## theta[371,5]    -1.288   0.777   -3.033   -1.743   -1.210   -0.724
## theta[372,5]    -1.417   0.802   -3.233   -1.891   -1.329   -0.829
## theta[373,5]    -0.867   0.628   -2.278   -1.245   -0.820   -0.425
## theta[374,5]     0.957   0.588   -0.126    0.577    0.933    1.297
## theta[375,5]     0.632   0.629   -0.676    0.244    0.642    1.010
## theta[376,5]     0.507   0.565   -0.640    0.168    0.515    0.858
## theta[377,5]    -1.392   0.810   -3.281   -1.849   -1.297   -0.822
## theta[378,5]    -0.275   0.480   -1.306   -0.559   -0.258    0.041
## theta[379,5]    -0.886   0.612   -2.268   -1.254   -0.836   -0.458
## theta[380,5]    -1.379   0.802   -3.230   -1.850   -1.282   -0.804
## theta[381,5]    -1.166   0.745   -2.804   -1.620   -1.081   -0.646
## theta[382,5]    -1.332   0.744   -3.021   -1.772   -1.265   -0.787
## theta[383,5]     0.939   0.663   -0.294    0.523    0.906    1.323
## theta[384,5]     0.087   0.567   -1.140   -0.231    0.113    0.430
## theta[385,5]     1.196   0.614    0.130    0.782    1.147    1.554
## theta[386,5]    -0.726   0.566   -2.017   -1.070   -0.667   -0.333
## theta[387,5]    -1.407   0.798   -3.214   -1.879   -1.318   -0.846
## theta[388,5]    -1.236   0.704   -2.847   -1.660   -1.154   -0.739
## theta[389,5]     1.395   0.795   -0.017    0.853    1.342    1.862
## theta[390,5]    -0.906   0.631   -2.342   -1.272   -0.853   -0.458
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## theta[391,5]    -1.239   0.719   -2.875   -1.659   -1.173   -0.730
## theta[392,5]    -1.200   0.783   -2.953   -1.651   -1.123   -0.642
## theta[393,5]    -1.314   0.807   -3.108   -1.791   -1.228   -0.737
## theta[394,5]     2.065   1.091    0.243    1.347    1.951    2.674
## theta[395,5]    -1.832   1.049   -4.117   -2.468   -1.745   -1.101
## theta[396,5]     2.045   1.110    0.225    1.306    1.942    2.656
## theta[397,5]    -1.861   1.044   -4.091   -2.532   -1.770   -1.114
## theta[398,5]    -1.359   0.730   -2.985   -1.795   -1.292   -0.826
## theta[399,5]    -1.816   1.188   -4.456   -2.503   -1.718   -1.001
## theta[400,5]     2.081   0.855    0.661    1.481    1.988    2.592
## theta[401,5]    -0.890   0.624   -2.331   -1.257   -0.815   -0.461
## theta[402,5]     0.774   0.466   -0.076    0.461    0.752    1.067
## theta[403,5]     1.228   0.617    0.139    0.814    1.183    1.598
## theta[404,5]    -0.448   0.525   -1.601   -0.769   -0.414   -0.090
## theta[405,5]     1.185   0.669   -0.004    0.733    1.136    1.596
## theta[406,5]    -0.727   0.911   -2.713   -1.258   -0.657   -0.147
## theta[407,5]    -0.910   0.651   -2.386   -1.290   -0.848   -0.452
## theta[408,5]    -0.732   0.914   -2.744   -1.266   -0.687   -0.152
## theta[409,5]     0.510   0.483   -0.417    0.205    0.499    0.814
## theta[410,5]     0.395   0.669   -1.000    0.020    0.405    0.797
## theta[411,5]    -1.383   0.768   -3.151   -1.829   -1.291   -0.839
## theta[412,5]    -1.260   0.774   -3.020   -1.708   -1.172   -0.704
## theta[413,5]     1.123   0.827   -0.380    0.616    1.070    1.579
## theta[414,5]    -1.392   0.869   -3.344   -1.891   -1.295   -0.786
## theta[415,5]    -2.010   1.159   -4.701   -2.681   -1.907   -1.209
## theta[416,5]    -0.442   0.507   -1.536   -0.761   -0.406   -0.097
## theta[417,5]    -0.240   0.468   -1.203   -0.536   -0.215    0.069
## theta[418,5]    -0.675   0.635   -2.083   -1.037   -0.618   -0.252
## theta[419,5]    -1.365   0.742   -3.100   -1.806   -1.289   -0.830
## theta[420,5]    -0.042   0.464   -0.987   -0.341   -0.038    0.266
## theta[421,5]    -1.925   1.114   -4.376   -2.598   -1.823   -1.154
## theta[422,5]     0.670   0.469   -0.212    0.369    0.654    0.950
## theta[423,5]    -1.779   1.060   -4.038   -2.440   -1.674   -1.030
## theta[424,5]    -1.346   0.781   -3.129   -1.798   -1.271   -0.780
## theta[425,5]    -1.363   0.782   -3.153   -1.830   -1.269   -0.809
## theta[426,5]    -0.723   0.897   -2.585   -1.264   -0.663   -0.167
## theta[427,5]    -1.484   0.829   -3.353   -1.958   -1.395   -0.912
## theta[428,5]     1.177   0.682   -0.023    0.732    1.125    1.585
## theta[429,5]     0.989   0.668   -0.241    0.567    0.945    1.388
## theta[430,5]    -0.588   0.567   -1.821   -0.924   -0.556   -0.199
## theta[431,5]     2.087   1.157    0.212    1.293    1.939    2.711
## theta[432,5]     1.157   0.628    0.025    0.747    1.100    1.542
## theta[433,5]     1.155   0.646   -0.022    0.732    1.116    1.539
## theta[434,5]     1.186   0.709   -0.120    0.725    1.135    1.614
## theta[435,5]    -1.816   1.139   -4.275   -2.503   -1.731   -1.048
## theta[436,5]    -0.712   0.903   -2.676   -1.235   -0.667   -0.132
## theta[437,5]    -1.285   0.799   -3.107   -1.756   -1.186   -0.709
## theta[438,5]    -0.937   0.637   -2.355   -1.306   -0.868   -0.487
## theta[439,5]     1.084   0.574    0.043    0.705    1.047    1.437
## theta[440,5]     1.100   0.623   -0.001    0.688    1.056    1.465
## theta[441,5]    -1.868   1.074   -4.258   -2.509   -1.741   -1.098
## theta[442,5]    -0.702   0.897   -2.704   -1.217   -0.642   -0.124
## theta[443,5]     1.066   0.578   -0.007    0.693    1.016    1.403
## theta[444,5]    -0.835   0.639   -2.272   -1.210   -0.774   -0.405
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## theta[445,5]      1.126   0.746   -0.254    0.655    1.070    1.562
## theta[446,5]     -0.717   0.908   -2.704   -1.258   -0.648   -0.141
## theta[447,5]      0.719   0.532   -0.275    0.380    0.703    1.049
## theta[448,5]     -0.464   0.540   -1.666   -0.772   -0.421   -0.097
## theta[449,5]      0.345   0.456   -0.526    0.046    0.336    0.633
## theta[450,5]     -0.251   0.476   -1.289   -0.537   -0.230    0.061
## theta[451,5]     -1.306   0.852   -3.295   -1.798   -1.207   -0.710
## theta[452,5]     -0.854   0.657   -2.314   -1.227   -0.784   -0.403
## theta[453,5]      1.489   0.694    0.266    1.003    1.426    1.913
## theta[454,5]     -0.713   0.902   -2.617   -1.244   -0.671   -0.143
## theta[455,5]     -0.396   0.504   -1.464   -0.710   -0.374   -0.066
## theta[456,5]      1.079   0.639   -0.031    0.665    1.028    1.449
## theta[457,5]     -0.406   0.499   -1.475   -0.703   -0.383   -0.073
## theta[458,5]      0.954   0.636   -0.209    0.547    0.923    1.341
## theta[459,5]      1.202   0.611    0.148    0.787    1.151    1.565
## theta[460,5]     -0.983   0.625   -2.365   -1.348   -0.919   -0.561
## theta[461,5]     -0.825   0.628   -2.200   -1.185   -0.774   -0.408
## theta[462,5]     -1.394   0.830   -3.316   -1.893   -1.314   -0.800
## theta[463,5]     -0.694   0.609   -2.093   -1.038   -0.634   -0.272
## theta[464,5]      0.595   0.484   -0.352    0.282    0.591    0.887
## theta[465,5]     -0.877   0.611   -2.295   -1.236   -0.828   -0.448
## theta[466,5]      0.983   0.633   -0.203    0.589    0.947    1.355
## theta[467,5]     -1.196   0.715   -2.837   -1.630   -1.108   -0.693
## theta[468,5]      1.381   0.770    0.003    0.882    1.314    1.845
## theta[469,5]     -0.698   0.570   -1.983   -1.031   -0.655   -0.313
## theta[470,5]      0.350   0.457   -0.599    0.075    0.356    0.642
## theta[471,5]     -0.845   0.626   -2.226   -1.216   -0.796   -0.396
## theta[472,5]      0.981   0.656   -0.241    0.569    0.931    1.374
## theta[473,5]      0.877   0.582   -0.232    0.506    0.855    1.236
## theta[474,5]      0.884   0.572   -0.227    0.509    0.857    1.249
## theta[475,5]     -1.805   1.181   -4.407   -2.482   -1.693   -1.017
## theta[476,5]      1.208   0.738   -0.153    0.740    1.148    1.646
## theta[477,5]     -0.969   0.625   -2.320   -1.338   -0.911   -0.521
## theta[478,5]      0.517   0.506   -0.486    0.208    0.495    0.819
## theta[479,5]     -1.351   0.753   -3.095   -1.774   -1.273   -0.833
## theta[480,5]      0.266   0.602   -0.994   -0.073    0.292    0.633
## theta[481,5]      0.711   0.599   -0.447    0.347    0.697    1.070
## theta[482,5]     -0.565   0.617   -1.931   -0.924   -0.518   -0.154
## theta[483,5]     -0.674   0.559   -1.901   -1.012   -0.627   -0.278
## theta[484,5]     -1.365   0.739   -3.076   -1.801   -1.276   -0.832
## theta[485,5]     -1.344   0.731   -2.974   -1.771   -1.250   -0.821
## theta[486,5]      0.520   0.444   -0.284    0.227    0.499    0.796
## theta[487,5]      1.045   0.580    0.017    0.657    1.000    1.397
## theta[488,5]     -1.330   0.756   -3.070   -1.783   -1.246   -0.786
## theta[489,5]      0.510   0.558   -0.626    0.177    0.519    0.844
## theta[490,5]     -1.340   0.770   -3.144   -1.785   -1.263   -0.790
## theta[491,5]     -0.729   0.887   -2.629   -1.260   -0.685   -0.156
## theta[492,5]     -0.693   0.576   -1.957   -1.038   -0.636   -0.307
## theta[493,5]     -2.006   1.242   -4.719   -2.707   -1.908   -1.170
## theta[494,5]      1.468   0.644    0.399    1.012    1.392    1.852
## theta[495,5]     -0.631   0.818   -2.431   -1.106   -0.577   -0.119
## theta[496,5]      0.535   0.475   -0.370    0.239    0.527    0.822
## theta[497,5]     -0.834   0.926   -2.806   -1.382   -0.764   -0.240
## theta[498,5]     -1.925   1.145   -4.443   -2.599   -1.822   -1.142
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## theta[499,5]    -0.774   0.953   -2.766   -1.352   -0.722   -0.164
## theta[500,5]    -1.299   0.832   -3.179   -1.807   -1.216   -0.717
## theta[501,5]    -1.149   0.668   -2.652   -1.540   -1.091   -0.670
## theta[502,5]    -0.160   0.482   -1.151   -0.465   -0.150    0.163
## theta[503,5]    -1.981   1.184   -4.642   -2.697   -1.861   -1.157
## theta[504,5]    -1.316   0.802   -3.171   -1.767   -1.213   -0.738
## theta[505,5]    -0.603   0.787   -2.243   -1.086   -0.567   -0.096
## theta[506,5]    -0.794   0.966   -2.824   -1.370   -0.743   -0.174
## theta[507,5]    -1.359   0.821   -3.204   -1.849   -1.284   -0.768
## theta[508,5]    -1.298   0.796   -3.097   -1.785   -1.202   -0.721
## theta[509,5]    -0.821   0.982   -2.995   -1.386   -0.751   -0.189
## theta[510,5]    -0.174   0.676   -1.532   -0.581   -0.173    0.228
## theta[511,5]    -1.336   0.763   -3.082   -1.778   -1.265   -0.788
## theta[512,5]    -1.390   0.795   -3.193   -1.856   -1.301   -0.846
## theta[513,5]     0.617   0.464   -0.233    0.301    0.590    0.914
## theta[514,5]    -1.250   0.783   -3.010   -1.701   -1.158   -0.700
## theta[515,5]    -1.201   0.778   -2.973   -1.661   -1.104   -0.651
## theta[516,5]    -1.263   0.799   -3.101   -1.741   -1.171   -0.697
## theta[517,5]    -1.548   0.989   -3.733   -2.144   -1.453   -0.847
## theta[518,5]    -0.055   0.445   -0.976   -0.327   -0.046    0.227
## theta[519,5]    -0.778   0.975   -2.869   -1.324   -0.717   -0.177
## theta[520,5]     0.182   0.478   -0.820   -0.103    0.191    0.485
## theta[521,5]    -0.065   0.655   -1.379   -0.469   -0.071    0.316
## theta[522,5]    -1.552   1.044   -3.878   -2.182   -1.442   -0.837
## theta[523,5]    -1.684   1.042   -4.020   -2.305   -1.582   -0.960
## theta[524,5]    -0.725   0.904   -2.656   -1.244   -0.663   -0.163
## theta[525,5]    -0.079   0.742   -1.557   -0.527   -0.096    0.353
## theta[526,5]    -1.559   1.072   -4.011   -2.170   -1.460   -0.838
## theta[527,5]    -0.569   0.537   -1.764   -0.888   -0.534   -0.207
## theta[528,5]    -0.566   0.542   -1.785   -0.877   -0.527   -0.203
## theta[529,5]    -1.633   1.014   -3.828   -2.231   -1.567   -0.939
## theta[530,5]    -1.033   0.887   -2.964   -1.561   -0.976   -0.435
## theta[531,5]    -0.088   0.683   -1.514   -0.494   -0.078    0.316
## theta[532,5]    -2.024   1.250   -4.799   -2.772   -1.912   -1.158
## theta[533,5]     0.638   0.510   -0.374    0.324    0.624    0.959
## theta[534,5]    -2.074   1.347   -5.073   -2.874   -1.937   -1.134
## theta[535,5]     0.422   0.488   -0.549    0.127    0.421    0.719
## theta[536,5]    -0.603   0.539   -1.777   -0.934   -0.563   -0.232
## theta[1,6]      -0.280   0.521   -1.429   -0.582   -0.250    0.057
## theta[2,6]      -0.585   0.560   -1.836   -0.902   -0.538   -0.211
## theta[3,6]      -0.126   0.463   -1.057   -0.411   -0.125    0.181
## theta[4,6]       0.171   0.534   -0.798   -0.169    0.151    0.473
## theta[5,6]       0.074   0.625   -1.231   -0.284    0.095    0.462
## theta[6,6]       0.078   0.616   -1.178   -0.291    0.098    0.470
## theta[7,6]       0.220   0.770   -1.348   -0.246    0.226    0.712
## theta[8,6]       0.223   0.756   -1.369   -0.225    0.234    0.679
## theta[9,6]       0.087   0.655   -1.310   -0.306    0.103    0.509
## theta[10,6]      0.155   0.626   -1.143   -0.225    0.174    0.549
## theta[11,6]      0.029   0.606   -1.111   -0.358    0.009    0.379
## theta[12,6]      0.199   0.557   -0.781   -0.153    0.152    0.505
## theta[13,6]      0.357   0.463   -0.475    0.041    0.330    0.643
## theta[14,6]      0.136   0.684   -1.267   -0.279    0.151    0.554
## theta[15,6]      0.079   0.647   -1.249   -0.302    0.107    0.484
## theta[16,6]     -0.045   0.609   -1.376   -0.384   -0.014    0.346
```

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## theta[17,6]       0.240   0.539   -0.809   -0.101    0.225    0.562
## theta[18,6]       0.135   0.600   -1.102   -0.227    0.149    0.507
## theta[19,6]       0.030   0.617   -1.331   -0.331    0.069    0.424
## theta[20,6]       0.298   0.823   -1.327   -0.211    0.287    0.795
## theta[21,6]      -0.014   0.595   -1.189   -0.373   -0.028    0.328
## theta[22,6]       0.177   0.527   -0.832   -0.163    0.164    0.502
## theta[23,6]      -0.291   0.815   -1.962   -0.793   -0.271    0.199
## theta[24,6]      -0.092   0.556   -1.295   -0.422   -0.070    0.270
## theta[25,6]       0.244   0.490   -0.635   -0.073    0.203    0.522
## theta[26,6]       0.253   0.860   -1.596   -0.279    0.278    0.801
## theta[27,6]       0.074   0.567   -1.104   -0.274    0.080    0.436
## theta[28,6]       0.364   0.913   -1.394   -0.224    0.360    0.927
## theta[29,6]      -0.012   0.598   -1.293   -0.353    0.011    0.380
## theta[30,6]      -0.298   0.837   -2.035   -0.794   -0.292    0.219
## theta[31,6]      -0.218   0.485   -1.281   -0.500   -0.199    0.098
## theta[32,6]      -0.283   0.797   -1.823   -0.792   -0.276    0.210
## theta[33,6]       0.018   0.626   -1.139   -0.402   -0.015    0.411
## theta[34,6]      -0.461   0.549   -1.708   -0.764   -0.417   -0.098
## theta[35,6]       0.048   0.576   -1.004   -0.322    0.016    0.389
## theta[36,6]       0.199   0.572   -0.832   -0.159    0.165    0.526
## theta[37,6]      -0.212   0.545   -1.409   -0.514   -0.184    0.132
## theta[38,6]       0.167   0.549   -0.806   -0.190    0.122    0.488
## theta[39,6]      -0.131   0.624   -1.361   -0.516   -0.152    0.226
## theta[40,6]       0.005   0.598   -1.259   -0.343    0.036    0.389
## theta[41,6]       0.271   0.841   -1.425   -0.257    0.278    0.819
## theta[42,6]      -0.268   0.842   -1.964   -0.769   -0.269    0.241
## theta[43,6]      -0.106   0.683   -1.464   -0.540   -0.111    0.314
## theta[44,6]       0.157   0.664   -1.266   -0.246    0.152    0.563
## theta[45,6]      -0.041   0.540   -1.037   -0.383   -0.066    0.276
## theta[46,6]      -0.040   0.440   -0.898   -0.322   -0.050    0.224
## theta[47,6]       0.017   0.613   -1.359   -0.331    0.057    0.416
## theta[48,6]      -0.035   0.571   -1.300   -0.365   -0.004    0.343
## theta[49,6]       0.288   0.732   -1.172   -0.161    0.281    0.743
## theta[50,6]      -0.349   0.520   -1.488   -0.653   -0.320   -0.019
## theta[51,6]       0.349   0.765   -1.158   -0.127    0.339    0.832
## theta[52,6]       0.450   0.519   -0.463    0.104    0.407    0.767
## theta[53,6]       0.073   0.468   -0.848   -0.222    0.072    0.372
## theta[54,6]      -0.557   0.542   -1.754   -0.856   -0.502   -0.203
## theta[55,6]      -0.272   0.555   -1.489   -0.586   -0.230    0.081
## theta[56,6]      -0.301   0.831   -2.038   -0.818   -0.291    0.228
## theta[57,6]      -0.210   0.649   -1.518   -0.614   -0.211    0.177
## theta[58,6]       0.273   0.861   -1.496   -0.256    0.266    0.810
## theta[59,6]       0.045   0.577   -1.166   -0.301    0.056    0.416
## theta[60,6]       0.001   0.501   -0.940   -0.321   -0.019    0.303
## theta[61,6]       0.117   0.605   -1.131   -0.242    0.137    0.499
## theta[62,6]       0.343   0.769   -1.186   -0.150    0.338    0.820
## theta[63,6]       0.071   0.607   -1.069   -0.306    0.041    0.410
## theta[64,6]      -0.063   0.591   -1.221   -0.417   -0.074    0.266
## theta[65,6]       0.069   0.566   -0.953   -0.282    0.040    0.387
## theta[66,6]      -0.074   0.554   -1.274   -0.400   -0.041    0.276
## theta[67,6]      -0.001   0.604   -1.180   -0.369   -0.010    0.351
## theta[68,6]       0.263   0.850   -1.478   -0.258    0.264    0.794
## theta[69,6]       0.325   0.927   -1.604   -0.230    0.329    0.863
## theta[70,6]      -0.076   0.520   -1.172   -0.387   -0.055    0.252
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## theta[71,6]       0.014   0.574   -1.193   -0.324    0.039    0.383
## theta[72,6]       0.084   0.568   -1.107   -0.270    0.107    0.451
## theta[73,6]       0.286   0.824   -1.376   -0.223    0.298    0.780
## theta[74,6]       0.018   0.587   -1.147   -0.355    0.000    0.365
## theta[75,6]       0.047   0.591   -1.225   -0.295    0.071    0.429
## theta[76,6]       0.344   0.915   -1.482   -0.231    0.341    0.898
## theta[77,6]       0.032   0.460   -0.912   -0.252    0.038    0.321
## theta[78,6]       0.091   0.560   -1.002   -0.251    0.080    0.429
## theta[79,6]      -0.295   0.837   -2.049   -0.792   -0.277    0.224
## theta[80,6]      -0.295   0.504   -1.420   -0.587   -0.264    0.030
## theta[81,6]       0.051   0.606   -1.221   -0.298    0.072    0.426
## theta[82,6]      -0.016   0.512   -0.956   -0.347   -0.037    0.293
## theta[83,6]       0.279   0.837   -1.432   -0.242    0.280    0.810
## theta[84,6]       0.411   0.507   -0.469    0.069    0.365    0.716
## theta[85,6]       0.320   0.517   -0.565   -0.022    0.287    0.612
## theta[86,6]       0.040   0.439   -0.800   -0.244    0.036    0.314
## theta[87,6]       0.117   0.472   -0.761   -0.197    0.098    0.404
## theta[88,6]      -0.118   0.482   -1.067   -0.419   -0.129    0.178
## theta[89,6]      -0.274   0.819   -1.976   -0.779   -0.280    0.211
## theta[90,6]      -0.028   0.616   -1.174   -0.424   -0.043    0.349
## theta[91,6]      -0.064   0.536   -1.112   -0.405   -0.074    0.257
## theta[92,6]       0.093   0.662   -1.304   -0.293    0.122    0.503
## theta[93,6]      -0.007   0.634   -1.160   -0.417   -0.047    0.371
## theta[94,6]      -0.229   0.655   -1.553   -0.634   -0.228    0.154
## theta[95,6]      -0.289   0.808   -1.954   -0.769   -0.297    0.230
## theta[96,6]      -0.580   0.564   -1.847   -0.906   -0.524   -0.196
## theta[97,6]      -0.208   0.526   -1.376   -0.495   -0.168    0.129
## theta[98,6]       0.065   0.681   -1.415   -0.324    0.092    0.508
## theta[99,6]      -0.030   0.645   -1.214   -0.430   -0.065    0.347
## theta[100,6]      0.155   0.663   -1.175   -0.253    0.181    0.565
## theta[101,6]      0.446   0.496   -0.466    0.109    0.418    0.744
## theta[102,6]     -0.237   0.792   -1.829   -0.722   -0.247    0.244
## theta[103,6]      0.012   0.562   -1.176   -0.333    0.039    0.368
## theta[104,6]     -0.648   0.585   -1.951   -0.979   -0.601   -0.247
## theta[105,6]     -0.254   0.426   -1.135   -0.520   -0.244    0.030
## theta[106,6]      0.198   0.463   -0.694   -0.103    0.183    0.485
## theta[107,6]      0.505   0.603   -0.563    0.110    0.448    0.853
## theta[108,6]     -0.292   0.815   -1.979   -0.773   -0.301    0.213
## theta[109,6]      0.074   0.533   -0.961   -0.247    0.054    0.386
## theta[110,6]      0.203   0.514   -0.713   -0.137    0.175    0.505
## theta[111,6]      0.117   0.661   -1.236   -0.268    0.140    0.527
## theta[112,6]      0.336   0.910   -1.530   -0.219    0.346    0.895
## theta[113,6]     -0.033   0.445   -0.926   -0.303   -0.031    0.255
## theta[114,6]     -0.171   0.569   -1.377   -0.493   -0.143    0.200
## theta[115,6]      0.067   0.422   -0.720   -0.211    0.051    0.327
## theta[116,6]     -0.630   0.598   -2.030   -0.955   -0.566   -0.228
## theta[117,6]      0.268   0.841   -1.434   -0.267    0.285    0.803
## theta[118,6]     -0.141   0.530   -1.292   -0.437   -0.109    0.192
## theta[119,6]     -0.433   0.526   -1.626   -0.729   -0.394   -0.083
## theta[120,6]      0.356   0.907   -1.438   -0.203    0.361    0.916
## theta[121,6]      0.244   0.667   -1.108   -0.147    0.242    0.646
## theta[122,6]      0.027   0.580   -1.234   -0.309    0.063    0.393
## theta[123,6]      0.061   0.604   -1.200   -0.309    0.077    0.452
## theta[124,6]     -0.280   0.812   -1.888   -0.795   -0.297    0.209
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## theta[125,6]      0.051   0.515   -0.918   -0.272    0.021    0.347
## theta[126,6]     -0.168   0.491   -1.194   -0.463   -0.163    0.134
## theta[127,6]     -0.140   0.653   -1.495   -0.552   -0.148    0.264
## theta[128,6]     -0.590   0.598   -1.956   -0.910   -0.538   -0.200
## theta[129,6]     -0.193   0.524   -1.309   -0.485   -0.169    0.133
## theta[130,6]      0.063   0.558   -0.921   -0.305    0.035    0.381
## theta[131,6]     -0.041   0.576   -1.259   -0.383   -0.019    0.333
## theta[132,6]     -0.248   0.478   -1.298   -0.530   -0.215    0.067
## theta[133,6]     -0.125   0.535   -1.329   -0.447   -0.104    0.220
## theta[134,6]      0.307   0.812   -1.285   -0.213    0.300    0.820
## theta[135,6]      0.313   0.730   -1.124   -0.125    0.294    0.762
## theta[136,6]     -0.227   0.651   -1.517   -0.628   -0.220    0.153
## theta[137,6]     -0.117   0.417   -0.964   -0.369   -0.108    0.155
## theta[138,6]     -0.185   0.690   -1.553   -0.608   -0.193    0.222
## theta[139,6]      0.276   0.732   -1.201   -0.173    0.269    0.722
## theta[140,6]     -0.148   0.736   -1.601   -0.608   -0.161    0.280
## theta[141,6]      0.110   0.505   -0.778   -0.230    0.076    0.397
## theta[142,6]     -0.330   0.514   -1.439   -0.639   -0.313    0.003
## theta[143,6]      0.140   0.643   -1.131   -0.245    0.148    0.540
## theta[144,6]      0.114   0.563   -1.040   -0.244    0.128    0.467
## theta[145,6]     -0.020   0.576   -1.298   -0.365   -0.001    0.341
## theta[146,6]     -0.340   0.458   -1.330   -0.618   -0.311   -0.031
## theta[147,6]     -0.032   0.668   -1.256   -0.458   -0.072    0.362
## theta[148,6]      0.351   0.933   -1.505   -0.212    0.328    0.906
## theta[149,6]     -0.257   0.487   -1.294   -0.542   -0.236    0.067
## theta[150,6]     -0.302   0.824   -2.014   -0.793   -0.287    0.196
## theta[151,6]     -0.040   0.613   -1.183   -0.424   -0.073    0.315
## theta[152,6]     -0.351   0.550   -1.564   -0.663   -0.331    0.004
## theta[153,6]     -0.331   0.530   -1.491   -0.620   -0.295    0.003
## theta[154,6]     -0.041   0.624   -1.266   -0.429   -0.057    0.328
## theta[155,6]     -0.279   0.453   -1.206   -0.556   -0.262    0.016
## theta[156,6]     -0.102   0.657   -1.371   -0.510   -0.125    0.286
## theta[157,6]     -0.455   0.500   -1.544   -0.739   -0.412   -0.130
## theta[158,6]     -0.097   0.576   -1.319   -0.443   -0.068    0.270
## theta[159,6]     -0.342   0.474   -1.350   -0.627   -0.315   -0.027
## theta[160,6]     -0.080   0.653   -1.365   -0.476   -0.103    0.302
## theta[161,6]      0.025   0.594   -1.076   -0.347   -0.003    0.369
## theta[162,6]     -0.052   0.560   -1.149   -0.400   -0.052    0.285
## theta[163,6]     -0.216   0.672   -1.544   -0.627   -0.234    0.181
## theta[164,6]     -0.135   0.722   -1.548   -0.594   -0.158    0.294
## theta[165,6]      0.356   0.908   -1.515   -0.212    0.344    0.918
## theta[166,6]      0.289   0.723   -1.177   -0.156    0.294    0.739
## theta[167,6]      0.156   0.739   -1.438   -0.280    0.196    0.618
## theta[168,6]     -0.279   0.817   -1.892   -0.786   -0.281    0.216
## theta[169,6]     -0.012   0.591   -1.122   -0.402   -0.043    0.337
## theta[170,6]      0.351   0.913   -1.441   -0.213    0.339    0.920
## theta[171,6]      0.000   0.617   -1.356   -0.345    0.028    0.390
## theta[172,6]     -0.298   0.503   -1.412   -0.598   -0.266    0.037
## theta[173,6]     -0.279   0.820   -2.007   -0.765   -0.289    0.237
## theta[174,6]     -0.232   0.485   -1.292   -0.512   -0.203    0.093
## theta[175,6]     -0.046   0.515   -1.149   -0.366   -0.018    0.284
## theta[176,6]     -0.147   0.547   -1.299   -0.465   -0.117    0.202
## theta[177,6]     -0.119   0.458   -1.081   -0.404   -0.099    0.182
## theta[178,6]      0.211   0.486   -0.742   -0.098    0.199    0.513
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## theta[179,6]    -0.249   0.477   -1.282   -0.524   -0.220    0.063
## theta[180,6]    -0.313   0.531   -1.465   -0.632   -0.293    0.033
## theta[181,6]     0.231   0.770   -1.342   -0.254    0.234    0.703
## theta[182,6]     0.098   0.542   -0.882   -0.258    0.069    0.408
## theta[183,6]     0.119   0.473   -0.736   -0.179    0.093    0.378
## theta[184,6]    -0.221   0.788   -1.857   -0.688   -0.227    0.237
## theta[185,6]    -0.141   0.651   -1.417   -0.552   -0.147    0.246
## theta[186,6]    -0.111   0.681   -1.447   -0.526   -0.127    0.286
## theta[187,6]     0.519   0.518   -0.404    0.181    0.481    0.814
## theta[188,6]    -0.034   0.562   -1.240   -0.345   -0.011    0.309
## theta[189,6]    -0.272   0.853   -1.976   -0.778   -0.271    0.267
## theta[190,6]    -0.279   0.837   -1.997   -0.783   -0.277    0.234
## theta[191,6]    -0.067   0.594   -1.165   -0.451   -0.091    0.278
## theta[192,6]    -0.208   0.660   -1.504   -0.609   -0.213    0.164
## theta[193,6]    -0.171   0.689   -1.578   -0.612   -0.178    0.263
## theta[194,6]    -0.036   0.565   -1.251   -0.346   -0.005    0.315
## theta[195,6]     0.140   0.626   -1.176   -0.234    0.158    0.541
## theta[196,6]    -0.221   0.653   -1.497   -0.618   -0.214    0.176
## theta[197,6]    -0.098   0.642   -1.361   -0.502   -0.105    0.284
## theta[198,6]    -0.286   0.827   -1.963   -0.783   -0.272    0.228
## theta[199,6]    -0.267   0.672   -1.626   -0.688   -0.274    0.151
## theta[200,6]     0.333   0.491   -0.546    0.004    0.301    0.628
## theta[201,6]    -0.258   0.805   -1.809   -0.779   -0.272    0.210
## theta[202,6]    -0.565   0.526   -1.724   -0.868   -0.524   -0.220
## theta[203,6]    -0.071   0.551   -1.128   -0.417   -0.082    0.252
## theta[204,6]    -0.374   0.578   -1.618   -0.704   -0.348   -0.009
## theta[205,6]    -0.166   0.538   -1.303   -0.468   -0.142    0.178
## theta[206,6]    -0.397   0.571   -1.660   -0.725   -0.353   -0.016
## theta[207,6]     0.111   0.529   -0.868   -0.226    0.081    0.418
## theta[208,6]     0.369   0.578   -0.668   -0.004    0.323    0.692
## theta[209,6]    -0.022   0.560   -1.079   -0.382   -0.042    0.316
## theta[210,6]    -0.270   0.833   -1.937   -0.757   -0.271    0.229
## theta[211,6]    -0.030   0.591   -1.260   -0.381   -0.017    0.354
## theta[212,6]    -0.253   0.456   -1.245   -0.520   -0.229    0.044
## theta[213,6]    -0.272   0.806   -1.878   -0.751   -0.253    0.223
## theta[214,6]    -0.635   0.580   -2.001   -0.963   -0.578   -0.250
## theta[215,6]     0.514   0.523   -0.421    0.166    0.469    0.816
## theta[216,6]    -0.292   0.842   -2.006   -0.795   -0.302    0.229
## theta[217,6]     0.299   0.833   -1.376   -0.205    0.302    0.809
## theta[218,6]    -0.301   0.524   -1.417   -0.615   -0.286    0.024
## theta[219,6]     0.201   0.548   -0.782   -0.152    0.167    0.505
## theta[220,6]     0.082   0.468   -0.777   -0.220    0.065    0.365
## theta[221,6]    -0.321   0.497   -1.388   -0.605   -0.283    0.001
## theta[222,6]    -0.091   0.542   -1.200   -0.414   -0.088    0.233
## theta[223,6]    -0.285   0.843   -2.032   -0.775   -0.268    0.202
## theta[224,6]     0.264   0.832   -1.468   -0.250    0.283    0.804
## theta[225,6]    -0.022   0.630   -1.224   -0.428   -0.047    0.363
## theta[226,6]    -0.045   0.553   -1.211   -0.372   -0.037    0.304
## theta[227,6]     0.348   0.933   -1.555   -0.223    0.339    0.936
## theta[228,6]     0.167   0.604   -1.063   -0.191    0.173    0.524
## theta[229,6]    -0.137   0.622   -1.386   -0.523   -0.148    0.236
## theta[230,6]     0.180   0.502   -0.716   -0.146    0.152    0.469
## theta[231,6]     0.362   0.921   -1.524   -0.217    0.348    0.918
## theta[232,6]     0.073   0.500   -0.842   -0.253    0.052    0.376
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## theta[233,6]    -0.061   0.605   -1.379   -0.412   -0.031    0.327
## theta[234,6]    -0.473   0.520   -1.628   -0.777   -0.430   -0.127
## theta[235,6]     0.455   0.492   -0.428    0.136    0.417    0.740
## theta[236,6]     0.375   0.587   -0.687   -0.001    0.325    0.712
## theta[237,6]     0.157   0.500   -0.780   -0.174    0.128    0.450
## theta[238,6]    -0.353   0.573   -1.574   -0.683   -0.334    0.007
## theta[239,6]    -0.049   0.608   -1.335   -0.409   -0.020    0.353
## theta[240,6]     0.420   0.472   -0.420    0.101    0.385    0.698
## theta[241,6]     0.098   0.564   -0.939   -0.261    0.071    0.421
## theta[242,6]     0.069   0.521   -0.947   -0.254    0.050    0.382
## theta[243,6]     0.124   0.534   -0.893   -0.221    0.110    0.433
## theta[244,6]    -0.093   0.587   -1.306   -0.454   -0.073    0.289
## theta[245,6]    -0.161   0.746   -1.590   -0.651   -0.179    0.292
## theta[246,6]     0.288   0.835   -1.434   -0.222    0.297    0.807
## theta[247,6]    -0.194   0.507   -1.247   -0.496   -0.194    0.123
## theta[248,6]    -0.128   0.598   -1.287   -0.496   -0.145    0.214
## theta[249,6]     0.195   0.677   -1.244   -0.213    0.201    0.622
## theta[250,6]     0.075   0.625   -1.264   -0.298    0.091    0.469
## theta[251,6]     0.232   0.756   -1.330   -0.233    0.244    0.688
## theta[252,6]     0.060   0.531   -0.981   -0.264    0.030    0.368
## theta[253,6]     0.054   0.668   -1.355   -0.337    0.075    0.477
## theta[254,6]     0.014   0.559   -0.992   -0.353   -0.018    0.347
## theta[255,6]     0.422   0.479   -0.433    0.101    0.388    0.697
## theta[256,6]    -0.134   0.462   -1.057   -0.419   -0.126    0.147
## theta[257,6]    -0.283   0.834   -2.010   -0.787   -0.272    0.233
## theta[258,6]     0.046   0.621   -1.120   -0.355    0.008    0.406
## theta[259,6]     0.248   0.511   -0.696   -0.086    0.218    0.542
## theta[260,6]    -0.218   0.530   -1.344   -0.530   -0.193    0.111
## theta[261,6]     0.100   0.630   -1.228   -0.300    0.125    0.500
## theta[262,6]    -0.564   0.570   -1.825   -0.885   -0.513   -0.195
## theta[263,6]    -0.054   0.570   -1.274   -0.384   -0.016    0.321
## theta[264,6]     0.153   0.665   -1.178   -0.257    0.154    0.573
## theta[265,6]     0.003   0.610   -1.323   -0.343    0.041    0.391
## theta[266,6]    -0.109   0.610   -1.264   -0.490   -0.115    0.231
## theta[267,6]    -0.213   0.659   -1.501   -0.611   -0.218    0.175
## theta[268,6]     0.312   0.491   -0.579   -0.003    0.271    0.611
## theta[269,6]     0.053   0.505   -0.942   -0.272    0.044    0.361
## theta[270,6]    -0.013   0.543   -1.040   -0.357   -0.041    0.311
## theta[271,6]     0.000   0.551   -1.174   -0.322    0.020    0.354
## theta[272,6]     0.163   0.456   -0.686   -0.143    0.152    0.438
## theta[273,6]    -0.131   0.740   -1.574   -0.576   -0.151    0.280
## theta[274,6]     0.410   0.525   -0.515    0.064    0.371    0.704
## theta[275,6]    -0.295   0.851   -1.992   -0.803   -0.295    0.210
## theta[276,6]     0.042   0.448   -0.857   -0.245    0.040    0.326
## theta[277,6]    -0.008   0.624   -1.160   -0.400   -0.031    0.345
## theta[278,6]    -0.282   0.822   -1.936   -0.784   -0.296    0.210
## theta[279,6]    -0.231   0.662   -1.571   -0.615   -0.228    0.176
## theta[280,6]    -0.271   0.807   -1.830   -0.761   -0.284    0.218
## theta[281,6]    -0.104   0.680   -1.473   -0.515   -0.109    0.298
## theta[282,6]    -0.264   0.804   -1.897   -0.750   -0.265    0.228
## theta[283,6]    -0.435   0.533   -1.638   -0.737   -0.392   -0.091
## theta[284,6]    -0.223   0.669   -1.563   -0.624   -0.226    0.167
## theta[285,6]    -0.175   0.485   -1.203   -0.464   -0.171    0.133
## theta[286,6]     0.601   0.629   -0.477    0.181    0.545    0.947
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## theta[287,6]    -0.346   0.467   -1.392   -0.615   -0.325   -0.048
## theta[288,6]    -0.240   0.541   -1.362   -0.548   -0.227    0.101
## theta[289,6]     0.045   0.474   -0.881   -0.251    0.035    0.332
## theta[290,6]    -0.140   0.598   -1.311   -0.509   -0.153    0.231
## theta[291,6]     0.338   0.916   -1.538   -0.235    0.338    0.889
## theta[292,6]     0.383   0.533   -0.590    0.029    0.348    0.681
## theta[293,6]    -0.292   0.498   -1.407   -0.585   -0.264    0.024
## theta[294,6]    -0.070   0.602   -1.338   -0.413   -0.044    0.324
## theta[295,6]    -0.139   0.667   -1.468   -0.555   -0.139    0.280
## theta[296,6]     0.165   0.657   -1.180   -0.244    0.174    0.553
## theta[297,6]     0.164   0.698   -1.319   -0.246    0.177    0.580
## theta[298,6]    -0.367   0.536   -1.609   -0.661   -0.332   -0.012
## theta[299,6]     0.275   0.564   -0.818   -0.077    0.251    0.600
## theta[300,6]    -0.063   0.578   -1.150   -0.425   -0.089    0.268
## theta[301,6]    -0.216   0.650   -1.516   -0.604   -0.214    0.169
## theta[302,6]    -0.106   0.650   -1.388   -0.504   -0.109    0.284
## theta[303,6]     0.069   0.525   -0.917   -0.274    0.045    0.390
## theta[304,6]     0.442   0.575   -0.607    0.062    0.396    0.782
## theta[305,6]    -0.141   0.617   -1.300   -0.533   -0.172    0.216
## theta[306,6]     0.007   0.545   -1.071   -0.323   -0.003    0.325
## theta[307,6]     0.371   0.472   -0.487    0.061    0.343    0.649
## theta[308,6]     0.310   0.457   -0.524    0.013    0.278    0.585
## theta[309,6]     0.252   0.677   -1.119   -0.173    0.253    0.677
## theta[310,6]     0.017   0.554   -1.162   -0.300    0.048    0.381
## theta[311,6]     0.025   0.577   -1.074   -0.338    0.013    0.363
## theta[312,6]     0.273   0.748   -1.257   -0.190    0.276    0.740
## theta[313,6]     0.010   0.548   -1.008   -0.347   -0.011    0.330
## theta[314,6]     0.054   0.454   -0.892   -0.224    0.059    0.338
## theta[315,6]    -0.136   0.560   -1.265   -0.479   -0.146    0.195
## theta[316,6]     0.342   0.491   -0.572    0.025    0.306    0.630
## theta[317,6]    -0.198   0.572   -1.505   -0.529   -0.150    0.167
## theta[318,6]    -0.033   0.601   -1.193   -0.403   -0.049    0.321
## theta[319,6]    -0.005   0.546   -0.997   -0.358   -0.028    0.311
## theta[320,6]    -0.058   0.570   -1.285   -0.388   -0.028    0.313
## theta[321,6]     0.383   0.515   -0.527    0.039    0.345    0.685
## theta[322,6]    -0.104   0.603   -1.267   -0.494   -0.126    0.265
## theta[323,6]    -0.211   0.648   -1.535   -0.597   -0.208    0.173
## theta[324,6]     0.043   0.541   -0.992   -0.303    0.024    0.365
## theta[325,6]    -0.054   0.643   -1.295   -0.453   -0.070    0.331
## theta[326,6]    -0.074   0.578   -1.345   -0.403   -0.034    0.305
## theta[327,6]     0.233   0.766   -1.354   -0.230    0.234    0.711
## theta[328,6]     0.131   0.502   -0.789   -0.195    0.109    0.406
## theta[329,6]     0.301   0.500   -0.608   -0.019    0.264    0.590
## theta[330,6]     0.301   0.442   -0.526    0.012    0.286    0.569
## theta[331,6]    -0.101   0.467   -1.109   -0.379   -0.076    0.203
## theta[332,6]     0.213   0.518   -0.737   -0.118    0.186    0.521
## theta[333,6]    -0.097   0.596   -1.392   -0.448   -0.056    0.286
## theta[334,6]     0.251   0.818   -1.373   -0.271    0.244    0.773
## theta[335,6]     0.068   0.528   -0.909   -0.265    0.053    0.367
## theta[336,6]     0.242   0.479   -0.673   -0.072    0.226    0.532
## theta[337,6]     0.084   0.564   -1.141   -0.254    0.102    0.443
## theta[338,6]    -0.002   0.585   -1.250   -0.346    0.019    0.373
## theta[339,6]     0.196   0.519   -0.769   -0.130    0.164    0.494
## theta[340,6]    -0.212   0.657   -1.504   -0.609   -0.217    0.198
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## theta[341,6]    -0.207   0.665   -1.511   -0.620   -0.219    0.190
## theta[342,6]     0.270   0.837   -1.416   -0.246    0.275    0.777
## theta[343,6]     0.229   0.685   -1.164   -0.198    0.234    0.680
## theta[344,6]    -0.217   0.490   -1.245   -0.516   -0.208    0.084
## theta[345,6]     0.249   0.698   -1.167   -0.176    0.256    0.672
## theta[346,6]    -0.184   0.600   -1.360   -0.552   -0.189    0.192
## theta[347,6]     0.097   0.477   -0.855   -0.204    0.089    0.387
## theta[348,6]     0.213   0.560   -0.790   -0.157    0.179    0.518
## theta[349,6]     0.214   0.442   -0.610   -0.075    0.197    0.478
## theta[350,6]    -0.112   0.613   -1.313   -0.498   -0.114    0.253
## theta[351,6]    -0.246   0.793   -1.853   -0.727   -0.250    0.250
## theta[352,6]    -0.095   0.591   -1.341   -0.445   -0.069    0.295
## theta[353,6]     0.242   0.688   -1.143   -0.203    0.242    0.683
## theta[354,6]    -0.221   0.648   -1.542   -0.608   -0.224    0.171
## theta[355,6]     0.284   0.488   -0.586   -0.037    0.246    0.562
## theta[356,6]    -0.186   0.558   -1.279   -0.524   -0.180    0.149
## theta[357,6]     0.171   0.426   -0.615   -0.107    0.158    0.421
## theta[358,6]    -0.288   0.829   -1.967   -0.791   -0.279    0.225
## theta[359,6]    -0.176   0.607   -1.358   -0.557   -0.178    0.180
## theta[360,6]     0.189   0.538   -0.822   -0.148    0.168    0.497
## theta[361,6]    -0.496   0.515   -1.678   -0.781   -0.459   -0.164
## theta[362,6]    -0.011   0.536   -0.999   -0.342   -0.027    0.284
## theta[363,6]    -0.094   0.645   -1.361   -0.495   -0.108    0.292
## theta[364,6]     0.010   0.559   -1.167   -0.328    0.035    0.374
## theta[365,6]    -0.222   0.485   -1.205   -0.515   -0.212    0.085
## theta[366,6]     0.092   0.542   -0.937   -0.243    0.071    0.397
## theta[367,6]    -0.065   0.589   -1.341   -0.416   -0.039    0.315
## theta[368,6]    -0.141   0.649   -1.377   -0.539   -0.162    0.229
## theta[369,6]    -0.133   0.733   -1.525   -0.584   -0.150    0.293
## theta[370,6]    -0.205   0.645   -1.441   -0.613   -0.219    0.176
## theta[371,6]     0.324   0.451   -0.484    0.030    0.300    0.580
## theta[372,6]    -0.069   0.571   -1.241   -0.420   -0.035    0.284
## theta[373,6]     0.041   0.439   -0.859   -0.224    0.043    0.322
## theta[374,6]    -0.060   0.563   -1.143   -0.412   -0.069    0.279
## theta[375,6]    -0.122   0.625   -1.364   -0.495   -0.136    0.243
## theta[376,6]    -0.005   0.630   -1.208   -0.400   -0.029    0.348
## theta[377,6]    -0.055   0.554   -1.223   -0.392   -0.034    0.312
## theta[378,6]     0.176   0.514   -0.788   -0.142    0.158    0.476
## theta[379,6]     0.090   0.573   -1.037   -0.261    0.078    0.439
## theta[380,6]     0.314   0.460   -0.541    0.008    0.300    0.587
## theta[381,6]     0.305   0.479   -0.554   -0.011    0.275    0.577
## theta[382,6]    -0.082   0.463   -1.056   -0.357   -0.063    0.214
## theta[383,6]    -0.178   0.625   -1.459   -0.563   -0.182    0.197
## theta[384,6]    -0.023   0.680   -1.341   -0.435   -0.057    0.362
## theta[385,6]    -0.010   0.585   -1.063   -0.399   -0.039    0.338
## theta[386,6]     0.190   0.505   -0.747   -0.136    0.175    0.482
## theta[387,6]    -0.069   0.550   -1.244   -0.383   -0.042    0.293
## theta[388,6]     0.266   0.505   -0.678   -0.066    0.244    0.574
## theta[389,6]    -0.197   0.647   -1.471   -0.591   -0.198    0.196
## theta[390,6]    -0.117   0.561   -1.299   -0.451   -0.085    0.244
## theta[391,6]    -0.010   0.446   -0.932   -0.278    0.002    0.276
## theta[392,6]    -0.032   0.599   -1.320   -0.382    0.009    0.359
## theta[393,6]    -0.015   0.537   -1.173   -0.325    0.009    0.330
## theta[394,6]    -0.267   0.831   -1.966   -0.774   -0.256    0.239
```

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## theta[395,6]      0.236   0.691   -1.206   -0.186    0.235    0.667
## theta[396,6]     -0.273   0.836   -1.974   -0.784   -0.271    0.215
## theta[397,6]      0.261   0.697   -1.164   -0.168    0.264    0.694
## theta[398,6]      0.205   0.516   -0.737   -0.126    0.178    0.506
## theta[399,6]      0.295   0.829   -1.391   -0.213    0.305    0.809
## theta[400,6]     -0.591   0.562   -1.840   -0.916   -0.538   -0.225
## theta[401,6]      0.186   0.517   -0.753   -0.150    0.165    0.494
## theta[402,6]      0.215   0.569   -0.801   -0.145    0.171    0.529
## theta[403,6]      0.012   0.575   -1.051   -0.352   -0.006    0.347
## theta[404,6]     -0.251   0.515   -1.385   -0.552   -0.216    0.092
## theta[405,6]      0.006   0.626   -1.216   -0.379   -0.003    0.377
## theta[406,6]      0.219   0.775   -1.340   -0.250    0.231    0.683
## theta[407,6]     -0.248   0.566   -1.488   -0.560   -0.210    0.120
## theta[408,6]      0.231   0.746   -1.245   -0.224    0.242    0.676
## theta[409,6]     -0.058   0.614   -1.181   -0.446   -0.094    0.280
## theta[410,6]     -0.182   0.742   -1.703   -0.625   -0.195    0.260
## theta[411,6]      0.234   0.452   -0.630   -0.049    0.220    0.504
## theta[412,6]     -0.091   0.586   -1.364   -0.431   -0.058    0.283
## theta[413,6]     -0.237   0.795   -1.875   -0.720   -0.224    0.243
## theta[414,6]      0.032   0.639   -1.392   -0.323    0.059    0.442
## theta[415,6]      0.282   0.729   -1.228   -0.167    0.302    0.736
## theta[416,6]     -0.208   0.577   -1.474   -0.529   -0.166    0.156
## theta[417,6]     -0.088   0.521   -1.220   -0.385   -0.064    0.241
## theta[418,6]     -0.056   0.540   -1.232   -0.365   -0.028    0.277
## theta[419,6]      0.208   0.530   -0.768   -0.130    0.180    0.511
## theta[420,6]     -0.106   0.500   -1.209   -0.389   -0.090    0.218
## theta[421,6]      0.280   0.724   -1.184   -0.171    0.272    0.738
## theta[422,6]     -0.017   0.519   -1.002   -0.356   -0.038    0.300
## theta[423,6]      0.295   0.699   -1.134   -0.151    0.306    0.727
## theta[424,6]     -0.116   0.564   -1.317   -0.437   -0.096    0.252
## theta[425,6]     -0.106   0.566   -1.320   -0.443   -0.080    0.263
## theta[426,6]      0.250   0.765   -1.226   -0.206    0.234    0.717
## theta[427,6]      0.080   0.459   -0.852   -0.207    0.080    0.375
## theta[428,6]      0.028   0.610   -1.191   -0.366    0.021    0.407
## theta[429,6]     -0.106   0.606   -1.255   -0.479   -0.121    0.263
## theta[430,6]     -0.140   0.539   -1.298   -0.444   -0.109    0.204
## theta[431,6]     -0.282   0.828   -1.917   -0.790   -0.287    0.233
## theta[432,6]     -0.099   0.547   -1.161   -0.428   -0.107    0.234
## theta[433,6]     -0.110   0.558   -1.214   -0.452   -0.107    0.226
## theta[434,6]     -0.059   0.635   -1.353   -0.448   -0.062    0.320
## theta[435,6]      0.235   0.772   -1.356   -0.247    0.254    0.718
## theta[436,6]      0.228   0.780   -1.378   -0.252    0.231    0.708
## theta[437,6]     -0.093   0.591   -1.382   -0.429   -0.075    0.293
## theta[438,6]      0.029   0.522   -1.013   -0.294    0.022    0.345
## theta[439,6]     -0.221   0.476   -1.243   -0.499   -0.209    0.078
## theta[440,6]     -0.204   0.494   -1.253   -0.498   -0.188    0.096
## theta[441,6]      0.244   0.678   -1.126   -0.182    0.233    0.668
## theta[442,6]      0.230   0.777   -1.320   -0.232    0.249    0.702
## theta[443,6]     -0.059   0.506   -1.028   -0.385   -0.063    0.257
## theta[444,6]      0.023   0.622   -1.172   -0.358    0.011    0.365
## theta[445,6]     -0.191   0.684   -1.527   -0.614   -0.223    0.223
## theta[446,6]      0.213   0.764   -1.388   -0.247    0.235    0.677
## theta[447,6]      0.115   0.590   -1.031   -0.250    0.090    0.451
## theta[448,6]      0.026   0.577   -1.128   -0.320    0.012    0.361
```

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## theta[449,6]      0.283   0.511   -0.619   -0.052    0.237    0.577
## theta[450,6]     -0.153   0.568   -1.400   -0.460   -0.114    0.212
## theta[451,6]      0.004   0.610   -1.288   -0.343    0.030    0.388
## theta[452,6]     -0.172   0.538   -1.350   -0.472   -0.137    0.181
## theta[453,6]     -0.214   0.582   -1.341   -0.584   -0.228    0.146
## theta[454,6]      0.226   0.759   -1.321   -0.226    0.244    0.686
## theta[455,6]     -0.178   0.504   -1.282   -0.475   -0.142    0.153
## theta[456,6]     -0.188   0.587   -1.391   -0.534   -0.190    0.160
## theta[457,6]     -0.037   0.430   -0.924   -0.293   -0.024    0.237
## theta[458,6]     -0.177   0.611   -1.398   -0.534   -0.202    0.176
## theta[459,6]     -0.122   0.574   -1.225   -0.473   -0.136    0.221
## theta[460,6]      0.098   0.546   -0.930   -0.241    0.072    0.418
## theta[461,6]      0.017   0.597   -1.183   -0.343    0.011    0.368
## theta[462,6]      0.042   0.563   -1.171   -0.278    0.058    0.394
## theta[463,6]      0.278   0.442   -0.533   -0.003    0.250    0.535
## theta[464,6]     -0.368   0.465   -1.394   -0.628   -0.337   -0.066
## theta[465,6]      0.145   0.533   -0.849   -0.189    0.124    0.449
## theta[466,6]     -0.039   0.579   -1.192   -0.396   -0.051    0.312
## theta[467,6]     -0.046   0.456   -0.974   -0.332   -0.026    0.253
## theta[468,6]     -0.218   0.655   -1.584   -0.608   -0.217    0.181
## theta[469,6]      0.146   0.532   -0.850   -0.197    0.128    0.463
## theta[470,6]     -0.005   0.515   -1.013   -0.331   -0.026    0.301
## theta[471,6]      0.028   0.600   -1.092   -0.342    0.007    0.372
## theta[472,6]     -0.114   0.608   -1.322   -0.477   -0.114    0.234
## theta[473,6]     -0.077   0.552   -1.145   -0.406   -0.093    0.253
## theta[474,6]     -0.070   0.565   -1.190   -0.418   -0.076    0.274
## theta[475,6]      0.279   0.848   -1.421   -0.232    0.281    0.799
## theta[476,6]     -0.099   0.678   -1.416   -0.517   -0.113    0.313
## theta[477,6]      0.085   0.545   -0.932   -0.260    0.064    0.390
## theta[478,6]     -0.176   0.477   -1.194   -0.461   -0.161    0.125
## theta[479,6]     -0.023   0.451   -0.941   -0.304   -0.007    0.273
## theta[480,6]     -0.030   0.647   -1.299   -0.437   -0.043    0.352
## theta[481,6]     -0.087   0.575   -1.210   -0.445   -0.109    0.253
## theta[482,6]     -0.045   0.559   -1.248   -0.375   -0.012    0.324
## theta[483,6]      0.191   0.482   -0.721   -0.123    0.166    0.480
## theta[484,6]      0.203   0.523   -0.787   -0.131    0.182    0.519
## theta[485,6]      0.215   0.531   -0.775   -0.121    0.188    0.518
## theta[486,6]     -0.163   0.533   -1.345   -0.453   -0.134    0.176
## theta[487,6]     -0.033   0.493   -1.016   -0.335   -0.026    0.276
## theta[488,6]     -0.095   0.565   -1.277   -0.424   -0.077    0.261
## theta[489,6]     -0.013   0.628   -1.228   -0.401   -0.035    0.342
## theta[490,6]      0.057   0.439   -0.839   -0.221    0.070    0.331
## theta[491,6]      0.231   0.754   -1.253   -0.230    0.226    0.690
## theta[492,6]      0.066   0.532   -0.920   -0.283    0.042    0.382
## theta[493,6]      0.245   0.851   -1.564   -0.268    0.263    0.779
## theta[494,6]     -0.008   0.556   -1.013   -0.371   -0.045    0.312
## theta[495,6]      0.173   0.691   -1.258   -0.245    0.171    0.604
## theta[496,6]      0.072   0.534   -0.890   -0.270    0.045    0.381
## theta[497,6]      0.190   0.775   -1.444   -0.269    0.199    0.675
## theta[498,6]      0.350   0.759   -1.151   -0.124    0.337    0.815
## theta[499,6]      0.255   0.812   -1.461   -0.245    0.265    0.758
## theta[500,6]      0.006   0.596   -1.273   -0.344    0.044    0.380
## theta[501,6]      0.072   0.543   -0.998   -0.271    0.065    0.398
## theta[502,6]     -0.092   0.561   -1.285   -0.425   -0.063    0.264
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## theta[503,6]      0.350   0.759   -1.145   -0.119    0.339    0.817
## theta[504,6]     -0.003   0.548   -1.168   -0.324    0.021    0.344
## theta[505,6]      0.143   0.719   -1.345   -0.283    0.149    0.575
## theta[506,6]      0.273   0.834   -1.401   -0.209    0.277    0.757
## theta[507,6]     -0.038   0.619   -1.417   -0.379    0.003    0.366
## theta[508,6]     -0.069   0.609   -1.373   -0.427   -0.035    0.320
## theta[509,6]      0.256   0.823   -1.418   -0.226    0.259    0.755
## theta[510,6]      0.194   0.676   -1.163   -0.219    0.199    0.587
## theta[511,6]     -0.103   0.561   -1.334   -0.427   -0.073    0.259
## theta[512,6]     -0.068   0.559   -1.289   -0.402   -0.030    0.300
## theta[513,6]      0.004   0.527   -0.979   -0.334   -0.030    0.302
## theta[514,6]     -0.097   0.583   -1.415   -0.425   -0.066    0.286
## theta[515,6]     -0.041   0.579   -1.287   -0.367   -0.014    0.323
## theta[516,6]     -0.055   0.544   -1.229   -0.379   -0.032    0.297
## theta[517,6]      0.226   0.626   -1.039   -0.162    0.226    0.619
## theta[518,6]      0.139   0.479   -0.753   -0.167    0.119    0.420
## theta[519,6]      0.254   0.813   -1.428   -0.247    0.265    0.758
## theta[520,6]      0.058   0.545   -0.983   -0.275    0.040    0.363
## theta[521,6]      0.094   0.708   -1.384   -0.311    0.102    0.525
## theta[522,6]      0.230   0.721   -1.211   -0.208    0.249    0.673
## theta[523,6]      0.183   0.734   -1.387   -0.252    0.208    0.643
## theta[524,6]      0.219   0.758   -1.360   -0.242    0.219    0.690
## theta[525,6]      0.169   0.760   -1.408   -0.287    0.190    0.644
## theta[526,6]      0.228   0.734   -1.270   -0.212    0.221    0.701
## theta[527,6]      0.085   0.486   -0.807   -0.222    0.059    0.370
## theta[528,6]      0.096   0.486   -0.791   -0.221    0.075    0.381
## theta[529,6]      0.182   0.718   -1.292   -0.258    0.190    0.632
## theta[530,6]      0.120   0.700   -1.380   -0.317    0.128    0.574
## theta[531,6]      0.164   0.724   -1.381   -0.267    0.175    0.605
## theta[532,6]      0.358   0.912   -1.398   -0.212    0.324    0.917
## theta[533,6]      0.102   0.590   -0.996   -0.275    0.071    0.437
## theta[534,6]      0.365   0.929   -1.539   -0.199    0.366    0.933
## theta[535,6]     -0.009   0.559   -1.085   -0.365   -0.036    0.311
## theta[536,6]      0.142   0.517   -0.789   -0.187    0.115    0.426
## theta[1,7]       -0.244   0.320   -0.897   -0.440   -0.228   -0.032
## theta[2,7]        0.783   0.499   -0.044    0.437    0.741    1.071
## theta[3,7]       -0.211   0.333   -0.874   -0.428   -0.201    0.002
## theta[4,7]        0.425   0.397   -0.267    0.158    0.399    0.664
## theta[5,7]       -0.797   0.390   -1.646   -1.037   -0.763   -0.535
## theta[6,7]       -0.756   0.384   -1.611   -0.979   -0.720   -0.494
## theta[7,7]       -1.503   0.537   -2.721   -1.819   -1.450   -1.113
## theta[8,7]       -1.493   0.535   -2.732   -1.807   -1.429   -1.111
## theta[9,7]       -0.923   0.391   -1.810   -1.153   -0.888   -0.656
## theta[10,7]      -1.012   0.389   -1.889   -1.248   -0.975   -0.740
## theta[11,7]       0.762   0.477   -0.072    0.431    0.720    1.048
## theta[12,7]       0.108   0.356   -0.558   -0.132    0.092    0.325
## theta[13,7]      -0.450   0.325   -1.143   -0.651   -0.435   -0.235
## theta[14,7]      -1.123   0.445   -2.154   -1.366   -1.066   -0.808
## theta[15,7]      -0.878   0.379   -1.738   -1.101   -0.846   -0.616
## theta[16,7]      -0.519   0.355   -1.279   -0.727   -0.508   -0.282
## theta[17,7]      -0.831   0.377   -1.687   -1.054   -0.790   -0.564
## theta[18,7]      -0.961   0.388   -1.827   -1.188   -0.924   -0.691
## theta[19,7]      -0.616   0.368   -1.433   -0.842   -0.591   -0.368
## theta[20,7]      -1.647   0.614   -3.106   -1.990   -1.550   -1.218
```

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## theta[21,7]       0.779   0.488   -0.051    0.443    0.736    1.065
## theta[22,7]       0.429   0.397   -0.278    0.158    0.406    0.670
## theta[23,7]       1.527   0.726    0.392    1.008    1.438    1.936
## theta[24,7]      -0.284   0.343   -0.992   -0.494   -0.276   -0.054
## theta[25,7]      -0.043   0.339   -0.716   -0.265   -0.047    0.169
## theta[26,7]      -1.758   0.612   -3.192   -2.110   -1.682   -1.318
## theta[27,7]      -0.649   0.359   -1.420   -0.863   -0.630   -0.404
## theta[28,7]      -1.969   0.698   -3.630   -2.341   -1.869   -1.466
## theta[29,7]      -0.533   0.368   -1.345   -0.750   -0.510   -0.293
## theta[30,7]       1.595   0.768    0.363    1.059    1.493    2.038
## theta[31,7]       0.491   0.411   -0.220    0.207    0.465    0.749
## theta[32,7]       1.536   0.731    0.360    1.013    1.447    1.962
## theta[33,7]       0.368   0.404   -0.354    0.098    0.336    0.612
## theta[34,7]       0.334   0.402   -0.378    0.057    0.304    0.593
## theta[35,7]       0.553   0.442   -0.227    0.248    0.518    0.817
## theta[36,7]       0.095   0.369   -0.580   -0.157    0.077    0.334
## theta[37,7]      -0.345   0.324   -1.028   -0.541   -0.333   -0.128
## theta[38,7]      -0.026   0.350   -0.701   -0.250   -0.030    0.195
## theta[39,7]       0.647   0.470   -0.159    0.318    0.606    0.929
## theta[40,7]      -0.650   0.360   -1.406   -0.867   -0.631   -0.406
## theta[41,7]      -1.743   0.602   -3.189   -2.095   -1.660   -1.310
## theta[42,7]       1.585   0.752    0.383    1.063    1.477    2.013
## theta[43,7]       1.176   0.584    0.199    0.782    1.105    1.501
## theta[44,7]      -0.958   0.407   -1.864   -1.192   -0.923   -0.685
## theta[45,7]       0.437   0.400   -0.290    0.163    0.408    0.683
## theta[46,7]       0.068   0.341   -0.550   -0.161    0.047    0.283
## theta[47,7]      -0.609   0.370   -1.402   -0.825   -0.583   -0.358
## theta[48,7]      -0.289   0.337   -1.000   -0.500   -0.282   -0.069
## theta[49,7]      -1.560   0.529   -2.780   -1.880   -1.492   -1.180
## theta[50,7]       0.045   0.353   -0.657   -0.190    0.048    0.268
## theta[51,7]      -1.676   0.571   -2.967   -2.013   -1.600   -1.268
## theta[52,7]      -0.500   0.338   -1.240   -0.704   -0.485   -0.279
## theta[53,7]      -0.499   0.337   -1.205   -0.703   -0.488   -0.273
## theta[54,7]       0.772   0.484   -0.053    0.428    0.724    1.060
## theta[55,7]       0.024   0.384   -0.712   -0.224    0.015    0.270
## theta[56,7]       1.592   0.762    0.338    1.059    1.489    2.046
## theta[57,7]       1.151   0.566    0.216    0.750    1.087    1.483
## theta[58,7]      -1.747   0.630   -3.216   -2.090   -1.662   -1.301
## theta[59,7]      -0.630   0.363   -1.436   -0.842   -0.611   -0.384
## theta[60,7]       0.516   0.419   -0.232    0.229    0.486    0.790
## theta[61,7]      -0.845   0.391   -1.738   -1.067   -0.803   -0.582
## theta[62,7]      -1.698   0.589   -3.101   -2.031   -1.609   -1.277
## theta[63,7]       0.712   0.466   -0.095    0.391    0.672    1.000
## theta[64,7]       0.907   0.511    0.032    0.547    0.872    1.217
## theta[65,7]       0.388   0.423   -0.370    0.095    0.375    0.649
## theta[66,7]      -0.368   0.330   -1.060   -0.574   -0.351   -0.150
## theta[67,7]       0.557   0.451   -0.237    0.247    0.522    0.832
## theta[68,7]      -1.766   0.617   -3.212   -2.100   -1.686   -1.336
## theta[69,7]      -1.973   0.731   -3.760   -2.363   -1.860   -1.463
## theta[70,7]      -0.462   0.316   -1.144   -0.652   -0.448   -0.250
## theta[71,7]      -0.609   0.372   -1.405   -0.836   -0.586   -0.365
## theta[72,7]      -0.713   0.363   -1.546   -0.914   -0.691   -0.467
## theta[73,7]      -1.654   0.620   -3.126   -2.000   -1.564   -1.211
## theta[74,7]       0.676   0.474   -0.155    0.342    0.633    0.977
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## theta[75,7]      -0.587   0.362   -1.394   -0.810   -0.564   -0.340
## theta[76,7]      -1.944   0.677   -3.564   -2.296   -1.852   -1.458
## theta[77,7]      -0.308   0.326   -0.965   -0.515   -0.301   -0.095
## theta[78,7]       0.633   0.441   -0.146    0.332    0.601    0.907
## theta[79,7]       1.556   0.740    0.371    1.033    1.459    1.981
## theta[80,7]       0.005   0.353   -0.675   -0.230    0.005    0.229
## theta[81,7]      -0.823   0.379   -1.712   -1.044   -0.780   -0.566
## theta[82,7]       0.327   0.376   -0.371    0.075    0.313    0.564
## theta[83,7]      -1.756   0.613   -3.228   -2.088   -1.666   -1.317
## theta[84,7]      -0.289   0.346   -0.981   -0.507   -0.283   -0.063
## theta[85,7]      -0.142   0.327   -0.785   -0.354   -0.148    0.066
## theta[86,7]       0.202   0.344   -0.422   -0.039    0.192    0.425
## theta[87,7]       0.074   0.338   -0.552   -0.150    0.060    0.284
## theta[88,7]       0.159   0.365   -0.528   -0.075    0.136    0.391
## theta[89,7]       1.534   0.706    0.347    1.038    1.463    1.936
## theta[90,7]       0.817   0.493   -0.049    0.481    0.777    1.109
## theta[91,7]       0.370   0.412   -0.389    0.087    0.353    0.613
## theta[92,7]      -0.892   0.394   -1.768   -1.123   -0.853   -0.619
## theta[93,7]       0.935   0.521    0.071    0.575    0.885    1.238
## theta[94,7]       0.884   0.528   -0.012    0.521    0.828    1.182
## theta[95,7]       1.579   0.755    0.373    1.046    1.483    2.006
## theta[96,7]       0.788   0.497   -0.069    0.450    0.744    1.079
## theta[97,7]       0.048   0.359   -0.657   -0.183    0.042    0.276
## theta[98,7]      -0.980   0.406   -1.919   -1.213   -0.941   -0.701
## theta[99,7]       0.738   0.495   -0.117    0.384    0.699    1.023
## theta[100,7]     -1.071   0.429   -1.999   -1.324   -1.023   -0.772
## theta[101,7]     -0.702   0.338   -1.435   -0.910   -0.686   -0.473
## theta[102,7]      1.466   0.677    0.329    0.986    1.395    1.858
## theta[103,7]     -0.596   0.364   -1.402   -0.812   -0.571   -0.362
## theta[104,7]      0.865   0.506    0.000    0.509    0.827    1.173
## theta[105,7]      0.006   0.332   -0.636   -0.209   -0.003    0.217
## theta[106,7]      0.176   0.369   -0.507   -0.065    0.153    0.401
## theta[107,7]     -0.685   0.373   -1.477   -0.909   -0.668   -0.440
## theta[108,7]      1.551   0.713    0.398    1.043    1.454    1.959
## theta[109,7]      0.514   0.425   -0.259    0.226    0.488    0.773
## theta[110,7]      0.141   0.341   -0.511   -0.091    0.130    0.360
## theta[111,7]     -0.837   0.399   -1.697   -1.087   -0.803   -0.556
## theta[112,7]     -1.928   0.672   -3.500   -2.320   -1.833   -1.446
## theta[113,7]      0.099   0.364   -0.564   -0.145    0.077    0.324
## theta[114,7]      0.026   0.377   -0.714   -0.218    0.022    0.259
## theta[115,7]     -0.106   0.329   -0.755   -0.319   -0.106    0.102
## theta[116,7]      0.857   0.520   -0.038    0.501    0.814    1.165
## theta[117,7]     -1.748   0.608   -3.158   -2.088   -1.668   -1.320
## theta[118,7]     -0.005   0.356   -0.716   -0.239   -0.002    0.219
## theta[119,7]      0.239   0.383   -0.457   -0.026    0.231    0.471
## theta[120,7]     -1.984   0.681   -3.578   -2.378   -1.893   -1.489
## theta[121,7]     -1.367   0.480   -2.439   -1.660   -1.320   -1.021
## theta[122,7]     -0.460   0.346   -1.173   -0.680   -0.438   -0.228
## theta[123,7]     -0.692   0.381   -1.520   -0.918   -0.662   -0.437
## theta[124,7]      1.553   0.728    0.375    1.050    1.459    1.984
## theta[125,7]      0.296   0.392   -0.424    0.031    0.272    0.539
## theta[126,7]      0.579   0.446   -0.215    0.278    0.541    0.839
## theta[127,7]      1.062   0.554    0.116    0.669    1.012    1.390
## theta[128,7]      0.580   0.470   -0.256    0.260    0.549    0.865
```

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## theta[129,7]    -0.114   0.349   -0.827   -0.337   -0.117    0.121
## theta[130,7]     0.202   0.374   -0.470   -0.050    0.183    0.431
## theta[131,7]    -0.507   0.342   -1.248   -0.720   -0.481   -0.278
## theta[132,7]     0.341   0.407   -0.388    0.066    0.310    0.590
## theta[133,7]    -0.523   0.331   -1.217   -0.726   -0.508   -0.298
## theta[134,7]    -1.659   0.611   -3.132   -1.991   -1.574   -1.231
## theta[135,7]    -1.478   0.527   -2.692   -1.782   -1.415   -1.103
## theta[136,7]     0.880   0.526   -0.006    0.518    0.824    1.186
## theta[137,7]     0.095   0.336   -0.523   -0.126    0.083    0.304
## theta[138,7]     1.199   0.582    0.235    0.796    1.135    1.539
## theta[139,7]    -1.563   0.538   -2.785   -1.885   -1.496   -1.180
## theta[140,7]     1.159   0.576    0.182    0.761    1.100    1.495
## theta[141,7]     0.047   0.348   -0.620   -0.186    0.035    0.259
## theta[142,7]     0.544   0.440   -0.262    0.241    0.517    0.814
## theta[143,7]    -0.841   0.389   -1.699   -1.075   -0.809   -0.574
## theta[144,7]    -0.874   0.366   -1.690   -1.095   -0.837   -0.609
## theta[145,7]    -0.532   0.346   -1.273   -0.748   -0.517   -0.297
## theta[146,7]     0.370   0.396   -0.348    0.105    0.344    0.611
## theta[147,7]     0.887   0.520   -0.003    0.526    0.842    1.187
## theta[148,7]    -1.947   0.696   -3.516   -2.336   -1.851   -1.443
## theta[149,7]     0.449   0.421   -0.301    0.160    0.420    0.704
## theta[150,7]     1.581   0.763    0.371    1.055    1.478    1.986
## theta[151,7]     0.492   0.436   -0.253    0.192    0.449    0.745
## theta[152,7]     0.767   0.494   -0.087    0.429    0.723    1.049
## theta[153,7]     0.643   0.453   -0.147    0.336    0.601    0.917
## theta[154,7]     0.586   0.446   -0.216    0.285    0.552    0.859
## theta[155,7]     0.035   0.336   -0.587   -0.188    0.016    0.248
## theta[156,7]     0.974   0.523    0.061    0.602    0.928    1.293
## theta[157,7]     0.441   0.408   -0.286    0.160    0.415    0.677
## theta[158,7]    -0.279   0.340   -0.969   -0.493   -0.274   -0.060
## theta[159,7]     0.174   0.375   -0.553   -0.076    0.163    0.414
## theta[160,7]     1.077   0.552    0.155    0.695    1.009    1.403
## theta[161,7]     0.714   0.477   -0.106    0.385    0.679    0.992
## theta[162,7]     0.256   0.382   -0.428    0.005    0.230    0.492
## theta[163,7]     0.876   0.516   -0.023    0.526    0.833    1.176
## theta[164,7]     1.123   0.578    0.162    0.718    1.065    1.473
## theta[165,7]    -1.971   0.715   -3.698   -2.354   -1.861   -1.479
## theta[166,7]    -1.565   0.544   -2.835   -1.880   -1.496   -1.185
## theta[167,7]    -1.271   0.460   -2.318   -1.523   -1.211   -0.956
## theta[168,7]     1.548   0.725    0.386    1.030    1.457    1.978
## theta[169,7]     0.183   0.375   -0.502   -0.069    0.161    0.412
## theta[170,7]    -1.948   0.705   -3.583   -2.338   -1.848   -1.433
## theta[171,7]    -0.622   0.347   -1.382   -0.823   -0.587   -0.385
## theta[172,7]     0.530   0.448   -0.239    0.221    0.495    0.792
## theta[173,7]     1.534   0.723    0.366    1.032    1.436    1.953
## theta[174,7]    -0.059   0.335   -0.706   -0.276   -0.061    0.156
## theta[175,7]    -0.486   0.342   -1.201   -0.697   -0.469   -0.253
## theta[176,7]    -0.006   0.374   -0.732   -0.247   -0.012    0.228
## theta[177,7]     0.350   0.375   -0.337    0.095    0.334    0.578
## theta[178,7]    -0.631   0.351   -1.401   -0.846   -0.600   -0.393
## theta[179,7]     0.417   0.424   -0.319    0.124    0.384    0.676
## theta[180,7]     0.829   0.500   -0.021    0.492    0.781    1.117
## theta[181,7]    -1.488   0.537   -2.734   -1.782   -1.414   -1.100
## theta[182,7]     0.630   0.434   -0.128    0.334    0.590    0.891
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## theta[183,7]      0.072   0.338   -0.585   -0.149    0.071    0.283
## theta[184,7]      1.461   0.661    0.370    0.990    1.391    1.832
## theta[185,7]      1.036   0.559    0.097    0.640    0.985    1.365
## theta[186,7]      1.050   0.545    0.134    0.668    1.003    1.371
## theta[187,7]     -0.812   0.357   -1.588   -1.024   -0.786   -0.564
## theta[188,7]     -0.422   0.351   -1.169   -0.632   -0.406   -0.189
## theta[189,7]      1.588   0.750    0.398    1.047    1.486    2.010
## theta[190,7]      1.580   0.728    0.360    1.060    1.498    2.013
## theta[191,7]      0.300   0.388   -0.411    0.034    0.282    0.525
## theta[192,7]      1.157   0.581    0.215    0.751    1.102    1.487
## theta[193,7]      1.059   0.576    0.097    0.655    1.006    1.403
## theta[194,7]     -0.335   0.344   -1.038   -0.547   -0.321   -0.105
## theta[195,7]     -1.073   0.415   -2.018   -1.306   -1.026   -0.779
## theta[196,7]      1.158   0.580    0.195    0.759    1.098    1.502
## theta[197,7]      1.007   0.543    0.083    0.636    0.952    1.324
## theta[198,7]      1.544   0.729    0.368    1.025    1.461    1.958
## theta[199,7]      1.205   0.592    0.222    0.791    1.146    1.553
## theta[200,7]     -0.571   0.339   -1.299   -0.783   -0.547   -0.344
## theta[201,7]      1.527   0.701    0.350    1.035    1.463    1.940
## theta[202,7]      0.506   0.441   -0.260    0.196    0.474    0.765
## theta[203,7]      0.533   0.420   -0.218    0.243    0.500    0.782
## theta[204,7]      0.909   0.519    0.030    0.551    0.856    1.208
## theta[205,7]      0.051   0.363   -0.637   -0.189    0.042    0.282
## theta[206,7]      0.465   0.436   -0.316    0.175    0.443    0.730
## theta[207,7]      0.469   0.407   -0.244    0.190    0.431    0.719
## theta[208,7]     -0.534   0.343   -1.237   -0.755   -0.520   -0.299
## theta[209,7]      0.489   0.415   -0.240    0.202    0.461    0.737
## theta[210,7]      1.553   0.717    0.393    1.055    1.466    1.957
## theta[211,7]     -0.794   0.354   -1.573   -1.001   -0.756   -0.554
## theta[212,7]      0.042   0.354   -0.607   -0.192    0.028    0.262
## theta[213,7]      1.540   0.716    0.380    1.040    1.453    1.948
## theta[214,7]      0.849   0.513   -0.011    0.479    0.799    1.155
## theta[215,7]     -0.819   0.367   -1.645   -1.028   -0.786   -0.567
## theta[216,7]      1.565   0.751    0.357    1.047    1.467    1.993
## theta[217,7]     -1.663   0.618   -3.111   -1.984   -1.576   -1.230
## theta[218,7]      0.833   0.494    0.002    0.486    0.792    1.126
## theta[219,7]     -0.338   0.317   -0.983   -0.546   -0.336   -0.129
## theta[220,7]     -0.046   0.333   -0.684   -0.260   -0.056    0.167
## theta[221,7]      0.212   0.366   -0.498   -0.026    0.196    0.448
## theta[222,7]      0.858   0.476    0.049    0.533    0.816    1.157
## theta[223,7]      1.583   0.768    0.386    1.050    1.482    2.014
## theta[224,7]     -1.748   0.606   -3.111   -2.090   -1.678   -1.317
## theta[225,7]      0.936   0.504    0.072    0.584    0.891    1.251
## theta[226,7]     -0.481   0.349   -1.234   -0.693   -0.459   -0.248
## theta[227,7]     -1.976   0.715   -3.696   -2.372   -1.868   -1.467
## theta[228,7]     -0.715   0.367   -1.499   -0.942   -0.685   -0.468
## theta[229,7]      0.852   0.516   -0.027    0.500    0.797    1.156
## theta[230,7]      0.297   0.355   -0.354    0.064    0.278    0.509
## theta[231,7]     -1.961   0.725   -3.690   -2.360   -1.855   -1.448
## theta[232,7]      0.500   0.406   -0.229    0.223    0.474    0.750
## theta[233,7]     -0.367   0.371   -1.135   -0.602   -0.352   -0.121
## theta[234,7]      0.532   0.432   -0.250    0.231    0.514    0.796
## theta[235,7]     -0.563   0.339   -1.283   -0.773   -0.541   -0.338
## theta[236,7]     -0.576   0.362   -1.340   -0.795   -0.560   -0.337
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## theta[237,7]    -0.160   0.337   -0.800   -0.379   -0.171    0.058
## theta[238,7]     0.900   0.522    0.015    0.543    0.857    1.196
## theta[239,7]    -0.580   0.341   -1.293   -0.780   -0.552   -0.354
## theta[240,7]    -0.461   0.335   -1.177   -0.663   -0.447   -0.238
## theta[241,7]     0.361   0.386   -0.351    0.096    0.344    0.604
## theta[242,7]     0.509   0.425   -0.221    0.213    0.480    0.764
## theta[243,7]     0.528   0.416   -0.201    0.246    0.496    0.775
## theta[244,7]    -0.215   0.380   -0.963   -0.456   -0.212    0.030
## theta[245,7]     1.215   0.627    0.186    0.762    1.159    1.581
## theta[246,7]    -1.651   0.597   -3.104   -1.996   -1.567   -1.225
## theta[247,7]     0.690   0.469   -0.136    0.359    0.655    0.966
## theta[248,7]     0.780   0.490   -0.056    0.442    0.735    1.066
## theta[249,7]    -1.132   0.450   -2.151   -1.406   -1.077   -0.818
## theta[250,7]    -0.807   0.391   -1.702   -1.029   -0.763   -0.543
## theta[251,7]    -1.486   0.527   -2.739   -1.784   -1.419   -1.120
## theta[252,7]     0.291   0.404   -0.433    0.014    0.265    0.539
## theta[253,7]    -1.229   0.443   -2.232   -1.484   -1.183   -0.921
## theta[254,7]     0.353   0.377   -0.325    0.098    0.329    0.587
## theta[255,7]    -0.541   0.314   -1.202   -0.735   -0.524   -0.336
## theta[256,7]     0.447   0.415   -0.282    0.154    0.416    0.700
## theta[257,7]     1.550   0.726    0.353    1.039    1.473    1.978
## theta[258,7]     0.169   0.372   -0.518   -0.078    0.149    0.397
## theta[259,7]     0.191   0.348   -0.470   -0.033    0.176    0.413
## theta[260,7]     0.706   0.459   -0.085    0.381    0.667    0.983
## theta[261,7]    -0.878   0.387   -1.772   -1.111   -0.847   -0.615
## theta[262,7]     0.284   0.411   -0.455    0.001    0.268    0.532
## theta[263,7]    -0.145   0.369   -0.883   -0.384   -0.145    0.089
## theta[264,7]    -0.966   0.411   -1.874   -1.214   -0.930   -0.682
## theta[265,7]    -0.862   0.360   -1.666   -1.077   -0.830   -0.611
## theta[266,7]     1.034   0.534    0.141    0.666    0.979    1.343
## theta[267,7]     1.167   0.579    0.234    0.757    1.091    1.505
## theta[268,7]    -0.292   0.314   -0.955   -0.488   -0.285   -0.081
## theta[269,7]     0.498   0.428   -0.275    0.208    0.470    0.758
## theta[270,7]     0.407   0.389   -0.308    0.154    0.382    0.635
## theta[271,7]    -0.473   0.356   -1.226   -0.691   -0.456   -0.238
## theta[272,7]    -0.080   0.312   -0.685   -0.284   -0.083    0.115
## theta[273,7]     1.117   0.573    0.165    0.710    1.058    1.446
## theta[274,7]    -0.711   0.350   -1.459   -0.928   -0.683   -0.467
## theta[275,7]     1.571   0.760    0.380    1.044    1.481    1.966
## theta[276,7]     0.040   0.355   -0.632   -0.200    0.026    0.269
## theta[277,7]     0.851   0.492    0.018    0.499    0.813    1.158
## theta[278,7]     1.575   0.746    0.368    1.046    1.480    2.005
## theta[279,7]     1.158   0.580    0.224    0.753    1.097    1.484
## theta[280,7]     1.527   0.701    0.369    1.038    1.453    1.938
## theta[281,7]     1.148   0.581    0.185    0.727    1.089    1.483
## theta[282,7]     1.528   0.712    0.381    1.029    1.437    1.924
## theta[283,7]     0.240   0.378   -0.465   -0.011    0.223    0.473
## theta[284,7]     0.895   0.524    0.013    0.525    0.851    1.196
## theta[285,7]    -0.416   0.310   -1.079   -0.610   -0.401   -0.210
## theta[286,7]    -1.104   0.417   -2.049   -1.358   -1.064   -0.807
## theta[287,7]     0.279   0.381   -0.428    0.026    0.257    0.504
## theta[288,7]     0.797   0.492   -0.049    0.456    0.754    1.091
## theta[289,7]     0.426   0.403   -0.299    0.152    0.407    0.675
## theta[290,7]     0.898   0.504   -0.004    0.557    0.860    1.189
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## theta[291,7]    -1.968   0.692   -3.587   -2.357   -1.876   -1.476
## theta[292,7]    -0.307   0.341   -0.989   -0.517   -0.299   -0.083
## theta[293,7]    -0.086   0.341   -0.744   -0.311   -0.089    0.126
## theta[294,7]    -0.366   0.375   -1.151   -0.601   -0.357   -0.123
## theta[295,7]     1.066   0.566    0.130    0.676    1.001    1.403
## theta[296,7]    -1.076   0.430   -2.051   -1.321   -1.033   -0.777
## theta[297,7]    -1.307   0.460   -2.338   -1.587   -1.254   -0.983
## theta[298,7]     0.036   0.356   -0.639   -0.200    0.029    0.266
## theta[299,7]    -0.941   0.391   -1.830   -1.168   -0.909   -0.679
## theta[300,7]     0.449   0.419   -0.279    0.160    0.420    0.703
## theta[301,7]     1.164   0.578    0.189    0.771    1.100    1.509
## theta[302,7]     1.013   0.554    0.056    0.623    0.962    1.352
## theta[303,7]     0.525   0.420   -0.208    0.232    0.499    0.774
## theta[304,7]    -0.580   0.356   -1.339   -0.796   -0.572   -0.341
## theta[305,7]     0.695   0.480   -0.119    0.358    0.655    0.975
## theta[306,7]     0.485   0.428   -0.256    0.192    0.444    0.740
## theta[307,7]    -0.355   0.331   -1.054   -0.562   -0.337   -0.131
## theta[308,7]    -0.128   0.336   -0.817   -0.348   -0.125    0.094
## theta[309,7]    -1.372   0.484   -2.483   -1.659   -1.318   -1.034
## theta[310,7]    -0.288   0.345   -1.006   -0.502   -0.277   -0.060
## theta[311,7]     0.521   0.451   -0.265    0.212    0.478    0.791
## theta[312,7]    -1.559   0.534   -2.744   -1.887   -1.496   -1.171
## theta[313,7]     0.691   0.460   -0.081    0.365    0.654    0.961
## theta[314,7]    -0.357   0.321   -1.013   -0.558   -0.354   -0.145
## theta[315,7]     0.835   0.485    0.009    0.496    0.790    1.134
## theta[316,7]    -0.129   0.343   -0.803   -0.353   -0.127    0.091
## theta[317,7]    -0.009   0.389   -0.749   -0.262   -0.015    0.242
## theta[318,7]     0.707   0.474   -0.111    0.385    0.675    0.979
## theta[319,7]     0.460   0.409   -0.261    0.186    0.431    0.698
## theta[320,7]    -0.305   0.369   -1.033   -0.532   -0.302   -0.077
## theta[321,7]    -0.212   0.337   -0.892   -0.425   -0.211    0.008
## theta[322,7]     0.941   0.523    0.051    0.578    0.884    1.244
## theta[323,7]     1.171   0.587    0.221    0.757    1.106    1.506
## theta[324,7]     0.641   0.440   -0.134    0.342    0.610    0.900
## theta[325,7]     0.961   0.538    0.049    0.584    0.914    1.285
## theta[326,7]    -0.145   0.373   -0.875   -0.375   -0.146    0.089
## theta[327,7]    -1.498   0.523   -2.731   -1.801   -1.423   -1.133
## theta[328,7]     0.338   0.365   -0.330    0.096    0.318    0.559
## theta[329,7]    -0.019   0.334   -0.664   -0.241   -0.024    0.198
## theta[330,7]    -0.250   0.337   -0.936   -0.468   -0.250   -0.030
## theta[331,7]     0.228   0.387   -0.478   -0.035    0.207    0.465
## theta[332,7]     0.147   0.353   -0.536   -0.086    0.128    0.364
## theta[333,7]    -0.217   0.391   -0.996   -0.464   -0.219    0.032
## theta[334,7]    -1.747   0.623   -3.211   -2.092   -1.659   -1.316
## theta[335,7]     0.578   0.428   -0.178    0.281    0.546    0.840
## theta[336,7]     0.155   0.348   -0.492   -0.080    0.139    0.377
## theta[337,7]    -0.716   0.359   -1.465   -0.945   -0.691   -0.469
## theta[338,7]    -0.482   0.358   -1.245   -0.708   -0.463   -0.241
## theta[339,7]     0.313   0.379   -0.391    0.053    0.297    0.545
## theta[340,7]     1.163   0.581    0.191    0.760    1.106    1.507
## theta[341,7]     1.186   0.593    0.201    0.767    1.115    1.534
## theta[342,7]    -1.742   0.614   -3.169   -2.091   -1.653   -1.308
## theta[343,7]    -1.360   0.477   -2.430   -1.644   -1.311   -1.023
## theta[344,7]     0.656   0.445   -0.133    0.347    0.618    0.935
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## theta[345,7]    -1.374   0.490   -2.499   -1.653   -1.313   -1.030
## theta[346,7]     1.054   0.540    0.155    0.680    0.996    1.381
## theta[347,7]    -0.589   0.336   -1.318   -0.799   -0.565   -0.361
## theta[348,7]     0.163   0.357   -0.507   -0.078    0.148    0.387
## theta[349,7]    -0.062   0.348   -0.719   -0.291   -0.067    0.158
## theta[350,7]     0.940   0.517    0.076    0.569    0.881    1.241
## theta[351,7]     1.472   0.676    0.361    0.992    1.409    1.865
## theta[352,7]    -0.212   0.386   -1.008   -0.456   -0.212    0.034
## theta[353,7]    -1.391   0.489   -2.519   -1.681   -1.335   -1.049
## theta[354,7]     1.159   0.582    0.202    0.749    1.092    1.500
## theta[355,7]     0.094   0.369   -0.623   -0.149    0.081    0.327
## theta[356,7]     0.729   0.467   -0.076    0.397    0.686    1.009
## theta[357,7]     0.057   0.325   -0.550   -0.159    0.051    0.265
## theta[358,7]     1.567   0.747    0.327    1.029    1.487    2.017
## theta[359,7]     0.814   0.502   -0.026    0.462    0.770    1.117
## theta[360,7]     0.468   0.410   -0.250    0.182    0.440    0.722
## theta[361,7]     0.384   0.405   -0.315    0.108    0.358    0.623
## theta[362,7]     0.365   0.412   -0.355    0.085    0.340    0.614
## theta[363,7]     1.082   0.538    0.188    0.712    1.029    1.390
## theta[364,7]    -0.503   0.355   -1.259   -0.719   -0.484   -0.269
## theta[365,7]     0.704   0.440   -0.070    0.400    0.670    0.968
## theta[366,7]     0.649   0.446   -0.139    0.342    0.605    0.927
## theta[367,7]    -0.363   0.378   -1.105   -0.608   -0.361   -0.118
## theta[368,7]     0.791   0.497   -0.056    0.445    0.750    1.092
## theta[369,7]     1.124   0.585    0.168    0.710    1.055    1.463
## theta[370,7]     1.160   0.576    0.222    0.752    1.101    1.502
## theta[371,7]    -0.307   0.331   -1.020   -0.512   -0.296   -0.096
## theta[372,7]    -0.305   0.369   -1.054   -0.536   -0.308   -0.068
## theta[373,7]    -0.101   0.330   -0.765   -0.319   -0.107    0.119
## theta[374,7]     0.649   0.472   -0.141    0.330    0.612    0.917
## theta[375,7]     1.124   0.547    0.229    0.743    1.076    1.446
## theta[376,7]     0.872   0.521    0.020    0.511    0.808    1.165
## theta[377,7]    -0.318   0.370   -1.099   -0.551   -0.310   -0.079
## theta[378,7]     0.377   0.405   -0.346    0.111    0.348    0.619
## theta[379,7]     0.643   0.460   -0.151    0.319    0.609    0.927
## theta[380,7]    -0.341   0.335   -1.032   -0.547   -0.326   -0.128
## theta[381,7]    -0.038   0.361   -0.752   -0.273   -0.043    0.195
## theta[382,7]     0.079   0.384   -0.653   -0.177    0.064    0.324
## theta[383,7]     1.044   0.534    0.122    0.673    0.994    1.355
## theta[384,7]     0.977   0.534    0.068    0.613    0.924    1.292
## theta[385,7]     0.741   0.471   -0.110    0.420    0.713    1.021
## theta[386,7]     0.145   0.386   -0.547   -0.105    0.120    0.380
## theta[387,7]    -0.307   0.375   -1.070   -0.538   -0.302   -0.067
## theta[388,7]     0.150   0.379   -0.546   -0.102    0.142    0.381
## theta[389,7]     1.162   0.584    0.193    0.752    1.109    1.499
## theta[390,7]     0.065   0.401   -0.682   -0.201    0.041    0.312
## theta[391,7]    -0.018   0.362   -0.691   -0.263   -0.031    0.208
## theta[392,7]    -0.422   0.377   -1.247   -0.646   -0.399   -0.184
## theta[393,7]    -0.383   0.372   -1.160   -0.607   -0.372   -0.148
## theta[394,7]     1.541   0.746    0.324    1.014    1.443    1.976
## theta[395,7]    -1.359   0.479   -2.445   -1.640   -1.314   -1.020
## theta[396,7]     1.558   0.726    0.387    1.059    1.472    1.957
## theta[397,7]    -1.384   0.497   -2.507   -1.677   -1.328   -1.026
## theta[398,7]     0.264   0.410   -0.465   -0.014    0.234    0.508
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## theta[399,7]    -1.671   0.601   -3.070   -2.016   -1.588   -1.250
## theta[400,7]     0.785   0.481   -0.053    0.454    0.739    1.077
## theta[401,7]    -0.048   0.344   -0.716   -0.269   -0.058    0.169
## theta[402,7]     0.138   0.362   -0.524   -0.104    0.122    0.361
## theta[403,7]     0.714   0.471   -0.095    0.389    0.676    1.008
## theta[404,7]    -0.105   0.357   -0.795   -0.334   -0.108    0.124
## theta[405,7]     0.822   0.499   -0.025    0.479    0.775    1.112
## theta[406,7]    -1.504   0.549   -2.756   -1.833   -1.434   -1.107
## theta[407,7]    -0.059   0.361   -0.759   -0.297   -0.066    0.166
## theta[408,7]    -1.505   0.543   -2.713   -1.834   -1.442   -1.116
## theta[409,7]     0.580   0.457   -0.219    0.274    0.540    0.845
## theta[410,7]     1.257   0.621    0.214    0.817    1.189    1.633
## theta[411,7]    -0.101   0.353   -0.771   -0.339   -0.114    0.123
## theta[412,7]    -0.219   0.376   -0.983   -0.455   -0.216    0.027
## theta[413,7]     1.455   0.676    0.338    0.990    1.377    1.864
## theta[414,7]    -0.747   0.373   -1.580   -0.961   -0.718   -0.492
## theta[415,7]    -1.558   0.525   -2.774   -1.861   -1.500   -1.187
## theta[416,7]    -0.009   0.389   -0.757   -0.263   -0.020    0.234
## theta[417,7]    -0.260   0.338   -0.954   -0.470   -0.254   -0.044
## theta[418,7]    -0.502   0.355   -1.302   -0.710   -0.482   -0.266
## theta[419,7]     0.263   0.409   -0.495   -0.008    0.238    0.512
## theta[420,7]    -0.395   0.330   -1.048   -0.612   -0.383   -0.184
## theta[421,7]    -1.539   0.527   -2.764   -1.845   -1.479   -1.160
## theta[422,7]     0.475   0.424   -0.269    0.189    0.440    0.725
## theta[423,7]    -1.464   0.519   -2.623   -1.770   -1.395   -1.097
## theta[424,7]    -0.156   0.385   -0.928   -0.397   -0.158    0.080
## theta[425,7]    -0.163   0.379   -0.897   -0.398   -0.171    0.078
## theta[426,7]    -1.515   0.547   -2.744   -1.822   -1.435   -1.132
## theta[427,7]    -0.424   0.341   -1.128   -0.635   -0.414   -0.207
## theta[428,7]     0.826   0.505   -0.023    0.470    0.770    1.125
## theta[429,7]     1.040   0.529    0.138    0.666    0.992    1.356
## theta[430,7]    -0.216   0.359   -0.935   -0.444   -0.215    0.014
## theta[431,7]     1.558   0.752    0.382    1.029    1.458    1.987
## theta[432,7]     0.904   0.491    0.049    0.561    0.867    1.197
## theta[433,7]     0.907   0.493    0.060    0.555    0.868    1.219
## theta[434,7]     0.980   0.552    0.062    0.594    0.921    1.300
## theta[435,7]    -1.500   0.545   -2.760   -1.813   -1.426   -1.112
## theta[436,7]    -1.523   0.551   -2.800   -1.829   -1.449   -1.141
## theta[437,7]    -0.219   0.385   -0.980   -0.457   -0.224    0.030
## theta[438,7]     0.410   0.423   -0.362    0.124    0.387    0.667
## theta[439,7]     0.440   0.415   -0.284    0.162    0.406    0.684
## theta[440,7]     0.780   0.475   -0.035    0.452    0.734    1.059
## theta[441,7]    -1.364   0.478   -2.443   -1.628   -1.306   -1.036
## theta[442,7]    -1.515   0.545   -2.781   -1.841   -1.447   -1.127
## theta[443,7]     0.734   0.451   -0.071    0.420    0.704    1.009
## theta[444,7]     0.771   0.488   -0.063    0.427    0.730    1.068
## theta[445,7]     1.197   0.589    0.213    0.790    1.128    1.530
## theta[446,7]    -1.500   0.531   -2.713   -1.805   -1.435   -1.131
## theta[447,7]     0.588   0.454   -0.203    0.280    0.557    0.855
## theta[448,7]     0.695   0.462   -0.103    0.380    0.652    0.970
## theta[449,7]    -0.162   0.340   -0.839   -0.384   -0.158    0.053
## theta[450,7]    -0.228   0.365   -0.954   -0.463   -0.222    0.015
## theta[451,7]    -0.546   0.370   -1.328   -0.778   -0.516   -0.296
## theta[452,7]    -0.142   0.351   -0.859   -0.363   -0.144    0.075
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## theta[453,7]      0.703   0.465   -0.094    0.383    0.672    0.974
## theta[454,7]     -1.500   0.546   -2.771   -1.806   -1.429   -1.120
## theta[455,7]     -0.483   0.325   -1.171   -0.683   -0.464   -0.265
## theta[456,7]      0.765   0.480   -0.067    0.437    0.720    1.056
## theta[457,7]      0.112   0.360   -0.563   -0.129    0.099    0.340
## theta[458,7]      1.047   0.537    0.134    0.675    0.985    1.358
## theta[459,7]      0.615   0.452   -0.182    0.302    0.582    0.878
## theta[460,7]      0.372   0.414   -0.356    0.099    0.348    0.622
## theta[461,7]      0.750   0.482   -0.078    0.421    0.707    1.038
## theta[462,7]     -0.571   0.356   -1.336   -0.792   -0.544   -0.333
## theta[463,7]     -0.348   0.321   -0.999   -0.550   -0.343   -0.133
## theta[464,7]      0.502   0.418   -0.234    0.217    0.471    0.767
## theta[465,7]      0.412   0.417   -0.338    0.140    0.382    0.655
## theta[466,7]      0.871   0.500    0.047    0.517    0.831    1.158
## theta[467,7]      0.005   0.361   -0.669   -0.239   -0.005    0.242
## theta[468,7]      1.162   0.588    0.175    0.761    1.096    1.492
## theta[469,7]      0.394   0.420   -0.345    0.112    0.350    0.640
## theta[470,7]      0.558   0.434   -0.225    0.268    0.529    0.821
## theta[471,7]      0.754   0.484   -0.063    0.420    0.710    1.042
## theta[472,7]      1.030   0.532    0.123    0.664    0.976    1.331
## theta[473,7]      0.732   0.477   -0.098    0.392    0.696    1.029
## theta[474,7]      0.730   0.464   -0.063    0.402    0.688    1.000
## theta[475,7]     -1.661   0.627   -3.153   -1.999   -1.569   -1.225
## theta[476,7]      1.177   0.578    0.234    0.762    1.114    1.509
## theta[477,7]      0.374   0.412   -0.351    0.099    0.343    0.617
## theta[478,7]      0.668   0.442   -0.084    0.359    0.624    0.941
## theta[479,7]     -0.066   0.359   -0.755   -0.302   -0.080    0.165
## theta[480,7]      0.975   0.534    0.074    0.602    0.928    1.295
## theta[481,7]      0.979   0.512    0.106    0.627    0.923    1.285
## theta[482,7]     -0.475   0.345   -1.181   -0.694   -0.466   -0.246
## theta[483,7]      0.170   0.370   -0.502   -0.082    0.146    0.393
## theta[484,7]      0.258   0.403   -0.478   -0.014    0.233    0.495
## theta[485,7]      0.257   0.412   -0.471   -0.016    0.223    0.498
## theta[486,7]      0.053   0.369   -0.700   -0.175    0.054    0.285
## theta[487,7]      0.580   0.432   -0.176    0.301    0.544    0.844
## theta[488,7]     -0.165   0.386   -0.932   -0.405   -0.171    0.072
## theta[489,7]      0.855   0.504    0.004    0.507    0.804    1.136
## theta[490,7]     -0.331   0.327   -0.992   -0.537   -0.322   -0.117
## theta[491,7]     -1.500   0.543   -2.748   -1.816   -1.428   -1.105
## theta[492,7]      0.433   0.425   -0.313    0.145    0.404    0.691
## theta[493,7]     -1.737   0.619   -3.185   -2.077   -1.646   -1.311
## theta[494,7]      0.372   0.389   -0.330    0.109    0.344    0.608
## theta[495,7]     -1.200   0.462   -2.277   -1.456   -1.144   -0.879
## theta[496,7]      0.610   0.425   -0.141    0.315    0.568    0.872
## theta[497,7]     -1.584   0.550   -2.851   -1.892   -1.508   -1.187
## theta[498,7]     -1.663   0.579   -3.029   -1.979   -1.575   -1.255
## theta[499,7]     -1.721   0.603   -3.128   -2.052   -1.634   -1.297
## theta[500,7]     -0.539   0.368   -1.371   -0.755   -0.512   -0.295
## theta[501,7]      0.399   0.432   -0.363    0.101    0.373    0.654
## theta[502,7]     -0.374   0.343   -1.105   -0.594   -0.366   -0.140
## theta[503,7]     -1.702   0.606   -3.117   -2.033   -1.618   -1.278
## theta[504,7]     -0.378   0.361   -1.127   -0.607   -0.369   -0.137
## theta[505,7]     -1.262   0.461   -2.319   -1.523   -1.208   -0.934
## theta[506,7]     -1.727   0.616   -3.210   -2.073   -1.655   -1.292
```

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## theta[507,7]    -0.582   0.368   -1.368   -0.796   -0.556   -0.339
## theta[508,7]    -0.370   0.379   -1.137   -0.606   -0.358   -0.126
## theta[509,7]    -1.729   0.606   -3.174   -2.067   -1.640   -1.300
## theta[510,7]    -1.323   0.464   -2.428   -1.587   -1.268   -0.996
## theta[511,7]    -0.160   0.379   -0.912   -0.389   -0.161    0.071
## theta[512,7]    -0.309   0.370   -1.073   -0.543   -0.308   -0.064
## theta[513,7]     0.439   0.399   -0.298    0.164    0.422    0.686
## theta[514,7]    -0.217   0.381   -0.977   -0.458   -0.221    0.036
## theta[515,7]    -0.288   0.371   -1.037   -0.518   -0.279   -0.053
## theta[516,7]    -0.239   0.368   -0.973   -0.465   -0.232    0.001
## theta[517,7]    -1.058   0.426   -2.063   -1.297   -1.018   -0.764
## theta[518,7]     0.235   0.368   -0.452   -0.006    0.216    0.464
## theta[519,7]    -1.732   0.600   -3.114   -2.090   -1.653   -1.301
## theta[520,7]     0.599   0.444   -0.172    0.292    0.558    0.868
## theta[521,7]    -1.130   0.429   -2.116   -1.386   -1.077   -0.821
## theta[522,7]    -1.270   0.476   -2.387   -1.532   -1.216   -0.936
## theta[523,7]    -1.304   0.470   -2.381   -1.575   -1.249   -0.968
## theta[524,7]    -1.503   0.544   -2.749   -1.807   -1.436   -1.125
## theta[525,7]    -1.466   0.520   -2.657   -1.755   -1.402   -1.100
## theta[526,7]    -1.281   0.480   -2.378   -1.550   -1.224   -0.942
## theta[527,7]     0.261   0.378   -0.431    0.002    0.242    0.497
## theta[528,7]     0.253   0.389   -0.460   -0.006    0.224    0.488
## theta[529,7]    -1.260   0.465   -2.315   -1.544   -1.207   -0.935
## theta[530,7]    -1.371   0.475   -2.492   -1.641   -1.308   -1.042
## theta[531,7]    -1.292   0.474   -2.377   -1.557   -1.243   -0.952
## theta[532,7]    -1.964   0.711   -3.634   -2.382   -1.858   -1.443
## theta[533,7]     0.639   0.450   -0.153    0.332    0.601    0.906
## theta[534,7]    -1.962   0.727   -3.702   -2.341   -1.853   -1.453
## theta[535,7]     0.642   0.450   -0.142    0.332    0.610    0.909
## theta[536,7]     0.219   0.389   -0.493   -0.030    0.187    0.455
## theta[1,8]      -0.331   0.494   -1.350   -0.630   -0.317   -0.017
## theta[2,8]      -0.232   0.666   -1.574   -0.642   -0.220    0.179
## theta[3,8]       0.173   0.536   -0.919   -0.161    0.165    0.502
## theta[4,8]       0.257   0.514   -0.740   -0.080    0.249    0.579
## theta[5,8]      -0.407   0.720   -1.900   -0.852   -0.393    0.059
## theta[6,8]      -0.249   0.664   -1.624   -0.658   -0.236    0.173
## theta[7,8]      -0.324   0.936   -2.261   -0.920   -0.294    0.270
## theta[8,8]      -0.322   0.964   -2.317   -0.918   -0.284    0.297
## theta[9,8]      -0.456   0.666   -1.821   -0.871   -0.431   -0.021
## theta[10,8]     -0.174   0.658   -1.533   -0.591   -0.158    0.255
## theta[11,8]      0.350   0.616   -0.820   -0.033    0.333    0.710
## theta[12,8]      0.456   0.487   -0.462    0.126    0.442    0.764
## theta[13,8]     -0.082   0.484   -1.056   -0.384   -0.080    0.229
## theta[14,8]     -0.459   0.788   -2.070   -0.949   -0.452    0.057
## theta[15,8]     -0.273   0.694   -1.660   -0.725   -0.265    0.186
## theta[16,8]     -0.510   0.542   -1.631   -0.834   -0.486   -0.147
## theta[17,8]      0.098   0.757   -1.488   -0.362    0.105    0.569
## theta[18,8]     -0.199   0.636   -1.500   -0.594   -0.191    0.208
## theta[19,8]     -0.430   0.618   -1.688   -0.816   -0.415   -0.030
## theta[20,8]     -0.322   1.027   -2.445   -0.951   -0.305    0.359
## theta[21,8]      0.165   0.612   -1.038   -0.227    0.157    0.556
## theta[22,8]      0.266   0.513   -0.714   -0.071    0.259    0.581
## theta[23,8]      0.353   0.989   -1.615   -0.302    0.347    0.958
## theta[24,8]     -0.290   0.488   -1.331   -0.583   -0.270    0.041
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## theta[25,8]       0.408   0.466   -0.465    0.098    0.396    0.689
## theta[26,8]      -0.367   1.021   -2.434   -1.016   -0.361    0.305
## theta[27,8]      -0.022   0.570   -1.172   -0.380   -0.018    0.335
## theta[28,8]      -0.357   1.140   -2.608   -1.103   -0.367    0.423
## theta[29,8]      -0.246   0.595   -1.430   -0.630   -0.231    0.138
## theta[30,8]       0.365   1.032   -1.624   -0.299    0.347    0.996
## theta[31,8]      -0.293   0.536   -1.414   -0.624   -0.278    0.037
## theta[32,8]       0.322   0.963   -1.581   -0.306    0.345    0.909
## theta[33,8]       0.332   0.606   -0.880   -0.055    0.337    0.719
## theta[34,8]      -0.369   0.534   -1.454   -0.698   -0.367   -0.033
## theta[35,8]       0.361   0.578   -0.757   -0.019    0.344    0.706
## theta[36,8]       0.707   0.531   -0.304    0.354    0.680    1.040
## theta[37,8]      -0.498   0.497   -1.533   -0.818   -0.480   -0.166
## theta[38,8]       0.533   0.534   -0.472    0.184    0.516    0.853
## theta[39,8]       0.462   0.662   -0.807    0.027    0.443    0.863
## theta[40,8]      -0.215   0.577   -1.383   -0.574   -0.211    0.146
## theta[41,8]      -0.384   1.014   -2.531   -1.029   -0.359    0.306
## theta[42,8]       0.364   1.024   -1.614   -0.295    0.352    1.002
## theta[43,8]       0.299   0.794   -1.248   -0.210    0.299    0.784
## theta[44,8]      -0.423   0.734   -1.933   -0.890   -0.396    0.063
## theta[45,8]       0.071   0.544   -0.973   -0.277    0.065    0.415
## theta[46,8]      -0.098   0.457   -0.996   -0.395   -0.093    0.197
## theta[47,8]      -0.421   0.617   -1.633   -0.819   -0.402   -0.019
## theta[48,8]      -0.549   0.513   -1.617   -0.869   -0.532   -0.198
## theta[49,8]      -0.028   0.844   -1.712   -0.563   -0.035    0.520
## theta[50,8]      -0.582   0.509   -1.661   -0.895   -0.554   -0.243
## theta[51,8]      -0.029   0.923   -1.951   -0.602   -0.003    0.556
## theta[52,8]       0.340   0.627   -0.923   -0.053    0.336    0.731
## theta[53,8]      -0.001   0.591   -1.217   -0.360   -0.010    0.377
## theta[54,8]      -0.041   0.658   -1.379   -0.439   -0.032    0.360
## theta[55,8]      -0.656   0.510   -1.770   -0.958   -0.631   -0.316
## theta[56,8]       0.358   0.997   -1.664   -0.268    0.361    0.980
## theta[57,8]       0.232   0.771   -1.269   -0.268    0.232    0.737
## theta[58,8]      -0.362   1.005   -2.419   -1.003   -0.363    0.302
## theta[59,8]      -0.200   0.568   -1.368   -0.546   -0.193    0.166
## theta[60,8]       0.046   0.522   -1.019   -0.278    0.052    0.380
## theta[61,8]      -0.249   0.721   -1.707   -0.707   -0.224    0.222
## theta[62,8]      -0.023   0.937   -1.955   -0.626   -0.001    0.616
## theta[63,8]       0.246   0.614   -0.958   -0.145    0.248    0.614
## theta[64,8]       0.356   0.645   -0.888   -0.056    0.342    0.758
## theta[65,8]       0.349   0.540   -0.671   -0.005    0.339    0.677
## theta[66,8]      -0.406   0.498   -1.407   -0.719   -0.385   -0.083
## theta[67,8]       0.359   0.590   -0.782   -0.019    0.347    0.735
## theta[68,8]      -0.357   1.019   -2.424   -1.008   -0.343    0.325
## theta[69,8]      -0.373   1.151   -2.738   -1.086   -0.370    0.400
## theta[70,8]      -0.307   0.528   -1.407   -0.645   -0.299    0.039
## theta[71,8]      -0.055   0.585   -1.232   -0.419   -0.053    0.312
## theta[72,8]      -0.018   0.603   -1.274   -0.385   -0.007    0.374
## theta[73,8]      -0.327   1.047   -2.490   -0.993   -0.298    0.370
## theta[74,8]       0.370   0.660   -0.946   -0.039    0.353    0.774
## theta[75,8]      -0.410   0.626   -1.653   -0.808   -0.408    0.004
## theta[76,8]      -0.384   1.148   -2.716   -1.114   -0.359    0.391
## theta[77,8]       0.226   0.505   -0.757   -0.093    0.223    0.521
## theta[78,8]       0.016   0.565   -1.143   -0.334    0.019    0.376
```

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## theta[79,8]       0.364   1.003   -1.540   -0.288    0.358    0.978
## theta[80,8]      -0.280   0.508   -1.356   -0.599   -0.265    0.041
## theta[81,8]      -0.451   0.679   -1.875   -0.877   -0.423   -0.012
## theta[82,8]       0.070   0.498   -0.905   -0.256    0.063    0.380
## theta[83,8]      -0.367   1.012   -2.461   -1.004   -0.342    0.298
## theta[84,8]       0.195   0.587   -0.955   -0.178    0.193    0.565
## theta[85,8]       0.360   0.488   -0.589    0.040    0.351    0.657
## theta[86,8]      -0.254   0.493   -1.328   -0.551   -0.234    0.065
## theta[87,8]      -0.005   0.489   -1.003   -0.311   -0.009    0.304
## theta[88,8]      -0.060   0.561   -1.203   -0.402   -0.046    0.294
## theta[89,8]       0.350   1.014   -1.533   -0.288    0.330    0.950
## theta[90,8]       0.232   0.682   -1.106   -0.204    0.218    0.671
## theta[91,8]       0.138   0.503   -0.824   -0.193    0.125    0.463
## theta[92,8]      -0.445   0.693   -1.851   -0.875   -0.436    0.005
## theta[93,8]       0.321   0.694   -1.030   -0.129    0.316    0.753
## theta[94,8]       0.368   0.734   -1.092   -0.106    0.359    0.822
## theta[95,8]       0.355   1.018   -1.625   -0.318    0.357    0.986
## theta[96,8]      -0.239   0.685   -1.672   -0.647   -0.218    0.182
## theta[97,8]      -0.410   0.493   -1.450   -0.725   -0.396   -0.090
## theta[98,8]      -0.477   0.688   -1.899   -0.919   -0.465   -0.006
## theta[99,8]       0.452   0.636   -0.781    0.034    0.437    0.848
## theta[100,8]     -0.281   0.833   -1.973   -0.800   -0.264    0.246
## theta[101,8]      0.193   0.568   -0.941   -0.170    0.181    0.545
## theta[102,8]      0.374   0.996   -1.624   -0.244    0.375    0.994
## theta[103,8]     -0.039   0.559   -1.186   -0.387   -0.035    0.318
## theta[104,8]     -0.063   0.767   -1.594   -0.548   -0.058    0.415
## theta[105,8]      0.239   0.451   -0.621   -0.060    0.226    0.527
## theta[106,8]      0.034   0.473   -0.914   -0.267    0.025    0.318
## theta[107,8]      0.339   0.770   -1.254   -0.133    0.351    0.819
## theta[108,8]      0.369   0.993   -1.483   -0.287    0.351    0.970
## theta[109,8]      0.245   0.549   -0.852   -0.107    0.236    0.603
## theta[110,8]      0.353   0.471   -0.557    0.043    0.341    0.645
## theta[111,8]     -0.389   0.711   -1.852   -0.849   -0.388    0.092
## theta[112,8]     -0.366   1.137   -2.758   -1.058   -0.358    0.399
## theta[113,8]      0.140   0.468   -0.727   -0.166    0.129    0.424
## theta[114,8]     -0.449   0.505   -1.488   -0.759   -0.437   -0.120
## theta[115,8]      0.333   0.436   -0.515    0.043    0.323    0.614
## theta[116,8]     -0.070   0.762   -1.626   -0.532   -0.056    0.407
## theta[117,8]     -0.368   1.009   -2.437   -0.995   -0.337    0.296
## theta[118,8]     -0.588   0.506   -1.694   -0.897   -0.564   -0.242
## theta[119,8]     -0.388   0.507   -1.432   -0.704   -0.377   -0.066
## theta[120,8]     -0.392   1.187   -2.881   -1.115   -0.362    0.394
## theta[121,8]     -0.026   0.815   -1.717   -0.521   -0.017    0.508
## theta[122,8]     -0.441   0.553   -1.569   -0.792   -0.422   -0.073
## theta[123,8]     -0.260   0.644   -1.601   -0.661   -0.241    0.149
## theta[124,8]      0.337   1.001   -1.631   -0.300    0.344    0.959
## theta[125,8]      0.294   0.565   -0.835   -0.059    0.292    0.658
## theta[126,8]     -0.120   0.610   -1.378   -0.491   -0.110    0.258
## theta[127,8]      0.208   0.782   -1.345   -0.289    0.213    0.698
## theta[128,8]     -0.378   0.754   -1.896   -0.835   -0.371    0.082
## theta[129,8]     -0.332   0.461   -1.258   -0.630   -0.320   -0.041
## theta[130,8]      0.221   0.598   -0.994   -0.152    0.230    0.596
## theta[131,8]     -0.486   0.538   -1.601   -0.825   -0.468   -0.134
## theta[132,8]     -0.052   0.541   -1.131   -0.380   -0.059    0.273
```

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## theta[133,8]    -0.087   0.516   -1.114   -0.427   -0.078    0.248
## theta[134,8]    -0.333   1.012   -2.381   -0.977   -0.333    0.372
## theta[135,8]    -0.009   0.861   -1.708   -0.551   -0.007    0.557
## theta[136,8]     0.373   0.733   -1.006   -0.107    0.365    0.840
## theta[137,8]    -0.037   0.444   -0.964   -0.315   -0.030    0.248
## theta[138,8]     0.089   0.768   -1.453   -0.390    0.078    0.575
## theta[139,8]    -0.055   0.857   -1.781   -0.606   -0.026    0.501
## theta[140,8]     0.507   0.815   -1.047   -0.021    0.491    1.007
## theta[141,8]     0.286   0.467   -0.609   -0.033    0.272    0.593
## theta[142,8]    -0.036   0.637   -1.299   -0.432   -0.048    0.360
## theta[143,8]    -0.409   0.711   -1.869   -0.845   -0.403    0.050
## theta[144,8]    -0.098   0.625   -1.415   -0.480   -0.081    0.301
## theta[145,8]    -0.483   0.565   -1.715   -0.824   -0.457   -0.101
## theta[146,8]     0.123   0.513   -0.920   -0.208    0.115    0.444
## theta[147,8]     0.514   0.672   -0.764    0.068    0.493    0.934
## theta[148,8]    -0.378   1.121   -2.689   -1.065   -0.370    0.350
## theta[149,8]     0.078   0.566   -0.994   -0.281    0.061    0.429
## theta[150,8]     0.346   1.011   -1.634   -0.276    0.336    0.955
## theta[151,8]     0.463   0.578   -0.653    0.092    0.439    0.830
## theta[152,8]    -0.215   0.756   -1.732   -0.692   -0.209    0.257
## theta[153,8]    -0.022   0.707   -1.433   -0.457   -0.030    0.409
## theta[154,8]     0.587   0.662   -0.687    0.153    0.572    1.012
## theta[155,8]     0.156   0.485   -0.799   -0.158    0.150    0.457
## theta[156,8]     0.117   0.671   -1.209   -0.314    0.129    0.539
## theta[157,8]     0.189   0.564   -0.912   -0.162    0.178    0.526
## theta[158,8]    -0.462   0.527   -1.603   -0.782   -0.438   -0.112
## theta[159,8]    -0.038   0.465   -0.965   -0.341   -0.037    0.262
## theta[160,8]     0.078   0.685   -1.300   -0.342    0.087    0.512
## theta[161,8]     0.348   0.621   -0.809   -0.055    0.335    0.742
## theta[162,8]     0.057   0.565   -1.062   -0.310    0.056    0.397
## theta[163,8]     0.374   0.732   -1.045   -0.105    0.361    0.839
## theta[164,8]     0.520   0.779   -0.981    0.015    0.498    0.994
## theta[165,8]    -0.357   1.134   -2.759   -1.044   -0.351    0.388
## theta[166,8]    -0.034   0.848   -1.694   -0.573   -0.039    0.490
## theta[167,8]    -0.514   0.794   -2.152   -1.020   -0.497    0.004
## theta[168,8]     0.366   1.005   -1.598   -0.273    0.327    0.981
## theta[169,8]     0.268   0.611   -0.931   -0.123    0.270    0.645
## theta[170,8]    -0.346   1.131   -2.597   -1.054   -0.331    0.408
## theta[171,8]    -0.607   0.560   -1.768   -0.962   -0.578   -0.248
## theta[172,8]    -0.036   0.601   -1.277   -0.419   -0.021    0.352
## theta[173,8]     0.339   0.982   -1.525   -0.306    0.318    0.937
## theta[174,8]    -0.415   0.484   -1.381   -0.715   -0.406   -0.099
## theta[175,8]    -0.269   0.497   -1.277   -0.584   -0.254    0.062
## theta[176,8]    -0.595   0.502   -1.639   -0.912   -0.577   -0.263
## theta[177,8]    -0.266   0.482   -1.253   -0.567   -0.253    0.043
## theta[178,8]     0.401   0.603   -0.850    0.035    0.399    0.777
## theta[179,8]     0.097   0.549   -0.984   -0.251    0.095    0.442
## theta[180,8]    -0.134   0.687   -1.551   -0.546   -0.119    0.285
## theta[181,8]    -0.323   0.961   -2.348   -0.931   -0.316    0.286
## theta[182,8]     0.078   0.532   -0.983   -0.253    0.085    0.395
## theta[183,8]     0.150   0.472   -0.775   -0.153    0.144    0.451
## theta[184,8]     0.374   0.977   -1.605   -0.253    0.393    0.991
## theta[185,8]     0.202   0.782   -1.345   -0.312    0.212    0.717
## theta[186,8]     0.271   0.710   -1.105   -0.180    0.256    0.708
```

```
## theta[187,8]      0.375   0.634   -0.953    0.001    0.381    0.760
## theta[188,8]     -0.479   0.543   -1.631   -0.818   -0.455   -0.108
## theta[189,8]      0.369   1.017   -1.608   -0.284    0.329    1.011
## theta[190,8]      0.357   1.003   -1.641   -0.292    0.353    0.967
## theta[191,8]      0.381   0.566   -0.683    0.002    0.363    0.744
## theta[192,8]      0.239   0.770   -1.285   -0.238    0.239    0.720
## theta[193,8]      0.329   0.863   -1.377   -0.239    0.307    0.871
## theta[194,8]     -0.564   0.508   -1.661   -0.875   -0.533   -0.219
## theta[195,8]     -0.044   0.660   -1.388   -0.472   -0.034    0.380
## theta[196,8]      0.243   0.783   -1.285   -0.260    0.249    0.726
## theta[197,8]      0.212   0.773   -1.370   -0.267    0.224    0.692
## theta[198,8]      0.353   1.001   -1.619   -0.292    0.353    0.970
## theta[199,8]      0.016   0.793   -1.599   -0.502    0.033    0.511
## theta[200,8]      0.036   0.588   -1.169   -0.336    0.049    0.416
## theta[201,8]      0.350   0.990   -1.560   -0.302    0.341    0.960
## theta[202,8]      0.054   0.634   -1.223   -0.340    0.053    0.432
## theta[203,8]      0.430   0.564   -0.648    0.070    0.405    0.780
## theta[204,8]     -0.164   0.773   -1.709   -0.618   -0.152    0.307
## theta[205,8]     -0.587   0.509   -1.654   -0.904   -0.570   -0.250
## theta[206,8]     -0.306   0.650   -1.620   -0.694   -0.296    0.080
## theta[207,8]     -0.031   0.500   -1.052   -0.357   -0.027    0.294
## theta[208,8]      0.507   0.611   -0.780    0.139    0.502    0.883
## theta[209,8]      0.282   0.561   -0.820   -0.088    0.280    0.643
## theta[210,8]      0.362   1.006   -1.614   -0.280    0.371    0.986
## theta[211,8]     -0.319   0.627   -1.619   -0.710   -0.302    0.093
## theta[212,8]      0.139   0.450   -0.774   -0.148    0.138    0.413
## theta[213,8]      0.338   0.989   -1.615   -0.313    0.335    0.947
## theta[214,8]     -0.060   0.768   -1.580   -0.552   -0.057    0.423
## theta[215,8]      0.377   0.640   -0.890   -0.019    0.365    0.765
## theta[216,8]      0.377   1.028   -1.593   -0.285    0.361    0.998
## theta[217,8]     -0.322   1.026   -2.496   -0.965   -0.293    0.349
## theta[218,8]     -0.127   0.697   -1.551   -0.562   -0.119    0.293
## theta[219,8]      0.629   0.518   -0.340    0.288    0.598    0.957
## theta[220,8]     -0.107   0.483   -1.089   -0.408   -0.104    0.199
## theta[221,8]     -0.509   0.484   -1.539   -0.808   -0.481   -0.191
## theta[222,8]      0.146   0.580   -0.996   -0.224    0.142    0.511
## theta[223,8]      0.354   1.005   -1.583   -0.300    0.354    0.968
## theta[224,8]     -0.365   1.013   -2.440   -1.002   -0.355    0.284
## theta[225,8]      0.238   0.723   -1.163   -0.226    0.237    0.680
## theta[226,8]     -0.475   0.579   -1.680   -0.836   -0.464   -0.096
## theta[227,8]     -0.382   1.165   -2.795   -1.098   -0.367    0.412
## theta[228,8]     -0.427   0.644   -1.752   -0.832   -0.407   -0.009
## theta[229,8]      0.083   0.657   -1.261   -0.323    0.083    0.498
## theta[230,8]      0.235   0.471   -0.691   -0.073    0.236    0.533
## theta[231,8]     -0.371   1.138   -2.755   -1.077   -0.370    0.389
## theta[232,8]      0.168   0.478   -0.761   -0.139    0.154    0.459
## theta[233,8]     -0.433   0.571   -1.636   -0.788   -0.419   -0.066
## theta[234,8]     -0.332   0.586   -1.528   -0.673   -0.320    0.032
## theta[235,8]      0.061   0.605   -1.144   -0.315    0.058    0.429
## theta[236,8]      0.546   0.663   -0.767    0.136    0.528    0.953
## theta[237,8]      0.188   0.515   -0.806   -0.142    0.182    0.507
## theta[238,8]     -0.169   0.779   -1.734   -0.641   -0.169    0.317
## theta[239,8]     -0.477   0.564   -1.719   -0.830   -0.454   -0.106
## theta[240,8]      0.047   0.566   -1.085   -0.316    0.049    0.408
```

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## theta[241,8]      0.460   0.550   -0.640    0.104    0.453    0.807
## theta[242,8]      0.027   0.511   -1.030   -0.293    0.043    0.354
## theta[243,8]     -0.002   0.525   -1.039   -0.344   -0.004    0.336
## theta[244,8]     -0.410   0.543   -1.495   -0.753   -0.416   -0.044
## theta[245,8]      0.358   0.844   -1.316   -0.176    0.354    0.872
## theta[246,8]     -0.323   1.026   -2.513   -0.968   -0.316    0.368
## theta[247,8]     -0.310   0.618   -1.593   -0.671   -0.281    0.071
## theta[248,8]      0.329   0.655   -0.980   -0.091    0.325    0.730
## theta[249,8]     -0.254   0.846   -1.990   -0.767   -0.247    0.285
## theta[250,8]     -0.256   0.672   -1.608   -0.691   -0.246    0.191
## theta[251,8]     -0.325   0.948   -2.328   -0.886   -0.311    0.289
## theta[252,8]      0.345   0.506   -0.634    0.017    0.345    0.653
## theta[253,8]     -0.172   0.833   -1.822   -0.697   -0.172    0.372
## theta[254,8]      0.127   0.532   -0.909   -0.217    0.115    0.479
## theta[255,8]     -0.081   0.527   -1.185   -0.400   -0.067    0.248
## theta[256,8]     -0.007   0.570   -1.192   -0.358   -0.001    0.336
## theta[257,8]      0.367   1.017   -1.653   -0.285    0.354    0.979
## theta[258,8]      0.520   0.587   -0.626    0.136    0.512    0.891
## theta[259,8]     -0.126   0.533   -1.226   -0.450   -0.128    0.209
## theta[260,8]     -0.208   0.690   -1.631   -0.639   -0.203    0.205
## theta[261,8]     -0.271   0.694   -1.674   -0.703   -0.252    0.181
## theta[262,8]     -0.293   0.633   -1.565   -0.680   -0.283    0.088
## theta[263,8]     -0.466   0.534   -1.614   -0.786   -0.436   -0.111
## theta[264,8]     -0.432   0.762   -1.986   -0.893   -0.419    0.062
## theta[265,8]     -0.380   0.607   -1.635   -0.769   -0.363    0.021
## theta[266,8]      0.225   0.704   -1.166   -0.213    0.221    0.658
## theta[267,8]      0.245   0.772   -1.278   -0.251    0.246    0.732
## theta[268,8]      0.202   0.537   -0.887   -0.122    0.199    0.542
## theta[269,8]      0.013   0.498   -0.996   -0.305    0.021    0.328
## theta[270,8]      0.259   0.511   -0.767   -0.072    0.260    0.589
## theta[271,8]     -0.057   0.544   -1.168   -0.400   -0.051    0.287
## theta[272,8]     -0.088   0.448   -0.999   -0.361   -0.083    0.199
## theta[273,8]      0.524   0.770   -0.938    0.029    0.501    0.989
## theta[274,8]      0.484   0.599   -0.664    0.111    0.464    0.846
## theta[275,8]      0.354   1.025   -1.688   -0.294    0.351    0.979
## theta[276,8]      0.130   0.465   -0.766   -0.169    0.124    0.425
## theta[277,8]      0.370   0.662   -0.898   -0.059    0.348    0.790
## theta[278,8]      0.358   1.006   -1.633   -0.290    0.348    0.988
## theta[279,8]      0.222   0.756   -1.258   -0.253    0.214    0.675
## theta[280,8]      0.342   1.030   -1.702   -0.281    0.335    0.923
## theta[281,8]      0.292   0.792   -1.262   -0.221    0.281    0.784
## theta[282,8]      0.346   0.998   -1.589   -0.294    0.340    0.982
## theta[283,8]     -0.369   0.516   -1.430   -0.689   -0.371   -0.043
## theta[284,8]      0.382   0.737   -1.044   -0.085    0.360    0.830
## theta[285,8]      0.198   0.485   -0.772   -0.112    0.190    0.518
## theta[286,8]      0.205   0.866   -1.623   -0.310    0.212    0.742
## theta[287,8]      0.155   0.484   -0.806   -0.159    0.146    0.469
## theta[288,8]     -0.114   0.694   -1.511   -0.550   -0.105    0.298
## theta[289,8]     -0.230   0.505   -1.298   -0.548   -0.211    0.100
## theta[290,8]     -0.036   0.662   -1.366   -0.454   -0.036    0.399
## theta[291,8]     -0.354   1.140   -2.692   -1.052   -0.342    0.383
## theta[292,8]      0.507   0.547   -0.591    0.162    0.505    0.842
## theta[293,8]     -0.231   0.465   -1.212   -0.516   -0.225    0.074
## theta[294,8]     -0.438   0.573   -1.566   -0.788   -0.424   -0.064
```

```
## theta[295,8]      0.212   0.799   -1.345   -0.310    0.216    0.712
## theta[296,8]     -0.282   0.858   -2.088   -0.800   -0.264    0.274
## theta[297,8]      0.017   0.735   -1.521   -0.441    0.011    0.487
## theta[298,8]     -0.384   0.501   -1.408   -0.699   -0.352   -0.065
## theta[299,8]      0.122   0.801   -1.538   -0.355    0.131    0.631
## theta[300,8]      0.462   0.571   -0.649    0.087    0.439    0.824
## theta[301,8]      0.218   0.773   -1.353   -0.276    0.228    0.700
## theta[302,8]      0.213   0.773   -1.344   -0.280    0.220    0.697
## theta[303,8]      0.008   0.515   -1.007   -0.314   -0.010    0.335
## theta[304,8]      0.576   0.644   -0.727    0.193    0.568    0.965
## theta[305,8]      0.383   0.652   -0.868   -0.038    0.356    0.792
## theta[306,8]      0.376   0.645   -0.895   -0.018    0.367    0.773
## theta[307,8]      0.165   0.500   -0.843   -0.144    0.162    0.481
## theta[308,8]     -0.223   0.477   -1.187   -0.536   -0.224    0.096
## theta[309,8]     -0.033   0.794   -1.637   -0.536   -0.035    0.503
## theta[310,8]     -0.432   0.530   -1.537   -0.760   -0.410   -0.085
## theta[311,8]      0.392   0.573   -0.707    0.030    0.366    0.737
## theta[312,8]     -0.049   0.854   -1.828   -0.558   -0.044    0.502
## theta[313,8]     -0.041   0.546   -1.172   -0.377   -0.021    0.298
## theta[314,8]      0.078   0.480   -0.865   -0.236    0.075    0.386
## theta[315,8]      0.129   0.606   -1.083   -0.254    0.133    0.510
## theta[316,8]      0.172   0.524   -0.888   -0.155    0.167    0.507
## theta[317,8]     -0.517   0.523   -1.626   -0.838   -0.481   -0.165
## theta[318,8]      0.296   0.565   -0.826   -0.066    0.286    0.652
## theta[319,8]      0.088   0.533   -0.965   -0.250    0.087    0.434
## theta[320,8]     -0.218   0.542   -1.324   -0.556   -0.216    0.123
## theta[321,8]      0.360   0.521   -0.678    0.040    0.342    0.686
## theta[322,8]      0.013   0.687   -1.403   -0.406    0.026    0.448
## theta[323,8]      0.256   0.787   -1.277   -0.261    0.248    0.748
## theta[324,8]     -0.124   0.548   -1.214   -0.468   -0.118    0.220
## theta[325,8]      0.217   0.750   -1.328   -0.245    0.212    0.683
## theta[326,8]     -0.467   0.522   -1.537   -0.775   -0.449   -0.129
## theta[327,8]     -0.323   0.969   -2.325   -0.935   -0.305    0.337
## theta[328,8]      0.079   0.473   -0.873   -0.231    0.083    0.393
## theta[329,8]      0.335   0.471   -0.582    0.028    0.313    0.625
## theta[330,8]      0.137   0.473   -0.796   -0.161    0.131    0.438
## theta[331,8]     -0.061   0.491   -1.069   -0.363   -0.060    0.232
## theta[332,8]      0.181   0.489   -0.754   -0.141    0.172    0.481
## theta[333,8]     -0.440   0.554   -1.590   -0.780   -0.436   -0.083
## theta[334,8]     -0.361   1.005   -2.431   -0.998   -0.338    0.283
## theta[335,8]     -0.017   0.536   -1.095   -0.357   -0.012    0.327
## theta[336,8]      0.174   0.462   -0.775   -0.122    0.183    0.470
## theta[337,8]     -0.020   0.591   -1.198   -0.390   -0.030    0.363
## theta[338,8]     -0.406   0.579   -1.613   -0.791   -0.390   -0.018
## theta[339,8]      0.177   0.493   -0.783   -0.148    0.172    0.485
## theta[340,8]      0.228   0.782   -1.283   -0.272    0.225    0.716
## theta[341,8]      0.245   0.777   -1.295   -0.245    0.244    0.722
## theta[342,8]     -0.366   1.009   -2.384   -1.021   -0.377    0.304
## theta[343,8]     -0.026   0.795   -1.665   -0.507   -0.035    0.497
## theta[344,8]     -0.081   0.605   -1.309   -0.440   -0.070    0.291
## theta[345,8]     -0.025   0.791   -1.662   -0.518   -0.032    0.496
## theta[346,8]      0.052   0.681   -1.313   -0.382    0.078    0.484
## theta[347,8]      0.327   0.554   -0.814   -0.001    0.325    0.666
## theta[348,8]      0.541   0.512   -0.402    0.206    0.527    0.859
```

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## theta[349,8]    -0.092   0.504   -1.123   -0.411   -0.087    0.224
## theta[350,8]     0.186   0.633   -1.055   -0.207    0.179    0.575
## theta[351,8]     0.371   0.982   -1.511   -0.279    0.346    1.008
## theta[352,8]    -0.423   0.562   -1.569   -0.778   -0.415   -0.063
## theta[353,8]    -0.026   0.805   -1.662   -0.541   -0.029    0.497
## theta[354,8]     0.241   0.779   -1.291   -0.261    0.238    0.733
## theta[355,8]     0.129   0.530   -0.910   -0.208    0.118    0.460
## theta[356,8]     0.098   0.588   -1.060   -0.276    0.095    0.467
## theta[357,8]     0.088   0.430   -0.767   -0.179    0.088    0.354
## theta[358,8]     0.361   1.026   -1.559   -0.308    0.343    0.995
## theta[359,8]     0.138   0.639   -1.160   -0.269    0.130    0.546
## theta[360,8]     0.322   0.512   -0.662   -0.001    0.308    0.631
## theta[361,8]     0.187   0.563   -0.909   -0.167    0.172    0.530
## theta[362,8]     0.488   0.520   -0.510    0.151    0.471    0.821
## theta[363,8]     0.094   0.693   -1.277   -0.347    0.084    0.520
## theta[364,8]    -0.179   0.539   -1.276   -0.525   -0.178    0.177
## theta[365,8]    -0.418   0.557   -1.582   -0.757   -0.396   -0.064
## theta[366,8]     0.230   0.525   -0.778   -0.107    0.227    0.559
## theta[367,8]    -0.432   0.562   -1.553   -0.784   -0.424   -0.064
## theta[368,8]     0.510   0.673   -0.744    0.077    0.475    0.913
## theta[369,8]     0.520   0.769   -0.965    0.036    0.480    0.975
## theta[370,8]     0.238   0.762   -1.265   -0.256    0.234    0.707
## theta[371,8]    -0.016   0.520   -1.018   -0.347   -0.027    0.304
## theta[372,8]    -0.210   0.540   -1.297   -0.551   -0.208    0.138
## theta[373,8]     0.121   0.482   -0.853   -0.178    0.124    0.433
## theta[374,8]     0.271   0.634   -0.977   -0.134    0.266    0.654
## theta[375,8]     0.251   0.765   -1.278   -0.222    0.247    0.723
## theta[376,8]     0.339   0.678   -1.021   -0.082    0.335    0.747
## theta[377,8]    -0.201   0.526   -1.232   -0.531   -0.193    0.137
## theta[378,8]     0.157   0.511   -0.869   -0.171    0.156    0.473
## theta[379,8]     0.289   0.568   -0.825   -0.065    0.275    0.629
## theta[380,8]    -0.030   0.533   -1.107   -0.370   -0.033    0.309
## theta[381,8]     0.134   0.528   -0.901   -0.195    0.125    0.458
## theta[382,8]     0.166   0.495   -0.802   -0.147    0.153    0.460
## theta[383,8]     0.036   0.687   -1.355   -0.399    0.033    0.470
## theta[384,8]     0.549   0.701   -0.777    0.087    0.527    0.966
## theta[385,8]     0.054   0.593   -1.142   -0.317    0.055    0.421
## theta[386,8]     0.505   0.520   -0.462    0.166    0.479    0.823
## theta[387,8]    -0.220   0.535   -1.284   -0.570   -0.218    0.126
## theta[388,8]     0.314   0.514   -0.680   -0.021    0.307    0.633
## theta[389,8]     0.240   0.778   -1.350   -0.242    0.241    0.720
## theta[390,8]    -0.275   0.524   -1.335   -0.604   -0.272    0.052
## theta[391,8]     0.186   0.472   -0.728   -0.128    0.174    0.478
## theta[392,8]    -0.424   0.579   -1.637   -0.784   -0.413   -0.055
## theta[393,8]    -0.185   0.527   -1.252   -0.514   -0.176    0.167
## theta[394,8]     0.367   1.013   -1.616   -0.283    0.356    0.978
## theta[395,8]    -0.026   0.793   -1.613   -0.526   -0.030    0.494
## theta[396,8]     0.363   1.003   -1.578   -0.279    0.361    0.970
## theta[397,8]    -0.035   0.787   -1.632   -0.543   -0.027    0.488
## theta[398,8]     0.306   0.535   -0.720   -0.033    0.295    0.638
## theta[399,8]    -0.334   1.043   -2.461   -0.971   -0.307    0.364
## theta[400,8]    -0.234   0.667   -1.613   -0.636   -0.218    0.172
## theta[401,8]     0.360   0.518   -0.665    0.032    0.356    0.695
## theta[402,8]     0.463   0.519   -0.509    0.129    0.438    0.787
```

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## theta[403,8]      0.023   0.579   -1.169   -0.340    0.030    0.393
## theta[404,8]     -0.390   0.499   -1.423   -0.693   -0.376   -0.068
## theta[405,8]      0.161   0.679   -1.199   -0.272    0.182    0.606
## theta[406,8]     -0.331   0.979   -2.422   -0.939   -0.307    0.303
## theta[407,8]     -0.360   0.507   -1.443   -0.670   -0.349   -0.036
## theta[408,8]     -0.315   0.975   -2.379   -0.923   -0.283    0.324
## theta[409,8]      0.296   0.554   -0.740   -0.072    0.283    0.641
## theta[410,8]      0.496   0.900   -1.215   -0.084    0.467    1.026
## theta[411,8]      0.095   0.491   -0.860   -0.219    0.090    0.394
## theta[412,8]     -0.430   0.556   -1.589   -0.780   -0.410   -0.075
## theta[413,8]      0.373   0.984   -1.571   -0.261    0.355    0.986
## theta[414,8]     -0.443   0.618   -1.683   -0.831   -0.422   -0.033
## theta[415,8]     -0.045   0.851   -1.793   -0.573   -0.025    0.496
## theta[416,8]     -0.503   0.513   -1.608   -0.817   -0.484   -0.165
## theta[417,8]     -0.296   0.478   -1.284   -0.599   -0.280    0.013
## theta[418,8]     -0.285   0.578   -1.475   -0.657   -0.266    0.096
## theta[419,8]      0.298   0.535   -0.732   -0.040    0.290    0.635
## theta[420,8]     -0.156   0.478   -1.112   -0.453   -0.151    0.145
## theta[421,8]     -0.039   0.845   -1.774   -0.565   -0.036    0.521
## theta[422,8]     -0.038   0.503   -1.060   -0.351   -0.035    0.281
## theta[423,8]     -0.027   0.864   -1.819   -0.563   -0.027    0.553
## theta[424,8]     -0.230   0.547   -1.348   -0.574   -0.223    0.117
## theta[425,8]     -0.215   0.539   -1.304   -0.557   -0.206    0.141
## theta[426,8]     -0.325   0.983   -2.408   -0.921   -0.287    0.304
## theta[427,8]      0.230   0.509   -0.797   -0.097    0.227    0.540
## theta[428,8]      0.177   0.701   -1.236   -0.277    0.158    0.615
## theta[429,8]      0.228   0.696   -1.158   -0.215    0.222    0.651
## theta[430,8]     -0.444   0.521   -1.498   -0.777   -0.426   -0.108
## theta[431,8]      0.346   1.005   -1.665   -0.307    0.345    0.960
## theta[432,8]     -0.005   0.611   -1.223   -0.394   -0.010    0.384
## theta[433,8]     -0.005   0.615   -1.220   -0.395    0.007    0.376
## theta[434,8]      0.221   0.721   -1.194   -0.248    0.231    0.677
## theta[435,8]     -0.324   0.929   -2.304   -0.895   -0.305    0.317
## theta[436,8]     -0.319   0.948   -2.320   -0.903   -0.300    0.312
## theta[437,8]     -0.415   0.545   -1.502   -0.757   -0.416   -0.057
## theta[438,8]      0.158   0.505   -0.832   -0.167    0.154    0.468
## theta[439,8]     -0.053   0.576   -1.211   -0.418   -0.060    0.302
## theta[440,8]     -0.081   0.643   -1.315   -0.468   -0.088    0.304
## theta[441,8]     -0.015   0.786   -1.618   -0.498   -0.001    0.490
## theta[442,8]     -0.323   0.980   -2.417   -0.917   -0.293    0.300
## theta[443,8]     -0.195   0.544   -1.346   -0.536   -0.178    0.156
## theta[444,8]      0.350   0.629   -0.876   -0.056    0.318    0.733
## theta[445,8]      0.092   0.754   -1.383   -0.385    0.097    0.567
## theta[446,8]     -0.319   0.963   -2.194   -0.940   -0.322    0.311
## theta[447,8]      0.284   0.599   -0.867   -0.117    0.266    0.662
## theta[448,8]      0.143   0.549   -0.923   -0.201    0.135    0.491
## theta[449,8]      0.253   0.517   -0.742   -0.083    0.238    0.563
## theta[450,8]     -0.519   0.512   -1.615   -0.828   -0.494   -0.182
## theta[451,8]     -0.406   0.599   -1.627   -0.787   -0.396   -0.020
## theta[452,8]     -0.333   0.507   -1.365   -0.654   -0.333   -0.006
## theta[453,8]      0.106   0.617   -1.136   -0.289    0.100    0.496
## theta[454,8]     -0.310   0.965   -2.365   -0.896   -0.293    0.315
## theta[455,8]     -0.101   0.486   -1.096   -0.396   -0.095    0.219
## theta[456,8]      0.278   0.645   -0.986   -0.143    0.262    0.687
```

```
## theta[457,8]      0.078   0.439   -0.797   -0.201    0.079    0.354
## theta[458,8]      0.044   0.672   -1.300   -0.375    0.043    0.457
## theta[459,8]      0.315   0.590   -0.804   -0.078    0.302    0.662
## theta[460,8]      0.404   0.539   -0.608    0.055    0.389    0.726
## theta[461,8]      0.328   0.617   -0.894   -0.043    0.317    0.700
## theta[462,8]     -0.196   0.549   -1.301   -0.550   -0.189    0.162
## theta[463,8]     -0.045   0.459   -0.944   -0.342   -0.054    0.247
## theta[464,8]     -0.069   0.524   -1.158   -0.387   -0.058    0.260
## theta[465,8]      0.297   0.546   -0.765   -0.040    0.282    0.627
## theta[466,8]      0.168   0.653   -1.132   -0.249    0.170    0.582
## theta[467,8]     -0.127   0.496   -1.123   -0.435   -0.123    0.178
## theta[468,8]      0.243   0.785   -1.281   -0.262    0.234    0.739
## theta[469,8]      0.356   0.509   -0.615    0.023    0.347    0.671
## theta[470,8]      0.306   0.567   -0.799   -0.058    0.293    0.652
## theta[471,8]      0.350   0.622   -0.860   -0.037    0.318    0.727
## theta[472,8]      0.224   0.711   -1.154   -0.224    0.216    0.652
## theta[473,8]      0.209   0.661   -1.114   -0.223    0.209    0.631
## theta[474,8]      0.210   0.666   -1.134   -0.199    0.209    0.624
## theta[475,8]     -0.333   1.023   -2.376   -0.982   -0.345    0.357
## theta[476,8]      0.294   0.798   -1.314   -0.207    0.279    0.787
## theta[477,8]      0.403   0.525   -0.584    0.063    0.382    0.732
## theta[478,8]      0.013   0.593   -1.097   -0.360   -0.006    0.358
## theta[479,8]      0.167   0.489   -0.790   -0.140    0.169    0.474
## theta[480,8]      0.357   0.759   -1.120   -0.126    0.354    0.826
## theta[481,8]      0.033   0.633   -1.258   -0.363    0.029    0.426
## theta[482,8]     -0.407   0.571   -1.576   -0.776   -0.394   -0.046
## theta[483,8]      0.078   0.493   -0.884   -0.245    0.074    0.396
## theta[484,8]      0.316   0.531   -0.717   -0.036    0.305    0.650
## theta[485,8]      0.302   0.531   -0.727   -0.034    0.289    0.636
## theta[486,8]     -0.565   0.499   -1.568   -0.876   -0.552   -0.244
## theta[487,8]     -0.106   0.577   -1.302   -0.461   -0.096    0.261
## theta[488,8]     -0.223   0.537   -1.327   -0.560   -0.214    0.117
## theta[489,8]      0.375   0.667   -0.944   -0.051    0.374    0.780
## theta[490,8]      0.089   0.479   -0.854   -0.220    0.083    0.397
## theta[491,8]     -0.324   0.972   -2.375   -0.929   -0.303    0.311
## theta[492,8]      0.549   0.577   -0.532    0.179    0.516    0.891
## theta[493,8]     -0.361   0.996   -2.346   -0.969   -0.343    0.317
## theta[494,8]      0.277   0.545   -0.817   -0.071    0.263    0.633
## theta[495,8]     -0.270   0.873   -2.125   -0.827   -0.247    0.296
## theta[496,8]      0.338   0.530   -0.669   -0.001    0.319    0.661
## theta[497,8]     -0.348   0.927   -2.231   -0.923   -0.335    0.258
## theta[498,8]     -0.012   0.959   -2.072   -0.594    0.002    0.596
## theta[499,8]     -0.346   1.028   -2.515   -0.997   -0.306    0.316
## theta[500,8]     -0.402   0.610   -1.669   -0.765   -0.387   -0.011
## theta[501,8]      0.350   0.552   -0.723   -0.002    0.339    0.673
## theta[502,8]     -0.485   0.524   -1.611   -0.807   -0.455   -0.135
## theta[503,8]     -0.016   0.921   -1.941   -0.605   -0.012    0.577
## theta[504,8]     -0.194   0.523   -1.265   -0.528   -0.186    0.155
## theta[505,8]     -0.489   0.828   -2.186   -1.007   -0.478    0.054
## theta[506,8]     -0.348   1.022   -2.364   -1.013   -0.355    0.313
## theta[507,8]     -0.447   0.598   -1.686   -0.820   -0.423   -0.056
## theta[508,8]     -0.428   0.568   -1.581   -0.789   -0.412   -0.061
## theta[509,8]     -0.343   1.051   -2.524   -0.994   -0.318    0.351
## theta[510,8]     -0.124   0.733   -1.685   -0.576   -0.099    0.352
```

```
## theta[511,8]     -0.213   0.529   -1.296   -0.540   -0.214    0.124
## theta[512,8]     -0.220   0.538   -1.303   -0.546   -0.225    0.113
## theta[513,8]      0.378   0.509   -0.585    0.043    0.366    0.682
## theta[514,8]     -0.423   0.550   -1.547   -0.761   -0.421   -0.059
## theta[515,8]     -0.409   0.565   -1.592   -0.763   -0.397   -0.038
## theta[516,8]     -0.198   0.513   -1.232   -0.521   -0.191    0.119
## theta[517,8]      0.019   0.737   -1.519   -0.447    0.023    0.482
## theta[518,8]     -0.001   0.483   -0.980   -0.306   -0.006    0.309
## theta[519,8]     -0.358   1.048   -2.523   -1.027   -0.341    0.326
## theta[520,8]      0.373   0.544   -0.677    0.027    0.357    0.722
## theta[521,8]     -0.551   0.733   -2.095   -1.014   -0.513   -0.071
## theta[522,8]     -0.271   0.891   -2.077   -0.842   -0.266    0.324
## theta[523,8]     -0.312   0.834   -1.959   -0.852   -0.306    0.246
## theta[524,8]     -0.324   0.983   -2.320   -0.924   -0.302    0.312
## theta[525,8]     -0.424   0.869   -2.297   -0.968   -0.390    0.152
## theta[526,8]     -0.260   0.904   -2.122   -0.832   -0.251    0.337
## theta[527,8]      0.113   0.484   -0.841   -0.196    0.104    0.413
## theta[528,8]      0.111   0.496   -0.903   -0.208    0.115    0.425
## theta[529,8]     -0.317   0.825   -2.146   -0.824   -0.301    0.233
## theta[530,8]     -0.134   0.845   -1.839   -0.683   -0.124    0.404
## theta[531,8]     -0.403   0.828   -2.189   -0.915   -0.366    0.145
## theta[532,8]     -0.358   1.123   -2.631   -1.081   -0.361    0.405
## theta[533,8]      0.395   0.585   -0.751    0.021    0.390    0.752
## theta[534,8]     -0.367   1.136   -2.827   -1.053   -0.366    0.391
## theta[535,8]      0.248   0.548   -0.804   -0.102    0.240    0.579
## theta[536,8]      0.331   0.491   -0.609    0.012    0.319    0.633
## theta.cov[1,1]    4.217   2.228    1.123    2.760    3.840    5.136
## theta.cov[2,1]    0.793   0.372    0.215    0.542    0.744    0.984
## theta.cov[3,1]    0.208   1.137   -1.901   -0.612    0.178    1.046
## theta.cov[4,1]    3.139   1.136    1.072    2.322    3.088    3.866
## theta.cov[5,1]    2.108   0.917    0.625    1.528    1.926    2.541
## theta.cov[6,1]   -0.398   0.673   -1.810   -0.856   -0.336    0.100
## theta.cov[7,1]    1.637   0.759    0.481    1.102    1.500    2.059
## theta.cov[8,1]    0.415   0.858   -1.358   -0.158    0.426    0.929
## theta.cov[1,2]    0.793   0.372    0.215    0.542    0.744    0.984
## theta.cov[2,2]    0.467   0.241    0.177    0.294    0.409    0.572
## theta.cov[3,2]   -0.262   0.456   -1.304   -0.528   -0.144    0.045
## theta.cov[4,2]    0.745   0.298    0.301    0.523    0.694    0.922
## theta.cov[5,2]    0.399   0.275   -0.036    0.229    0.358    0.542
## theta.cov[6,2]   -0.118   0.234   -0.685   -0.239   -0.099    0.030
## theta.cov[7,2]    0.534   0.228    0.244    0.373    0.481    0.639
## theta.cov[8,2]    0.062   0.331   -0.567   -0.124    0.083    0.236
## theta.cov[1,3]    0.208   1.137   -1.901   -0.612    0.178    1.046
## theta.cov[2,3]   -0.262   0.456   -1.304   -0.528   -0.144    0.045
## theta.cov[3,3]    1.074   0.838    0.171    0.483    0.849    1.418
## theta.cov[4,3]    0.271   1.243   -2.210   -0.493    0.234    1.037
## theta.cov[5,3]   -0.065   0.966   -2.409   -0.524    0.144    0.582
## theta.cov[6,3]   -0.069   0.394   -1.011   -0.229   -0.025    0.125
## theta.cov[7,3]   -0.066   0.740   -1.743   -0.535   -0.011    0.430
## theta.cov[8,3]    0.182   0.458   -0.823   -0.041    0.131    0.377
## theta.cov[1,4]    3.139   1.136    1.072    2.322    3.088    3.866
## theta.cov[2,4]    0.745   0.298    0.301    0.523    0.694    0.922
## theta.cov[3,4]    0.271   1.243   -2.210   -0.493    0.234    1.037
## theta.cov[4,4]    4.272   1.615    2.045    3.129    3.991    5.014
```

```
## theta.cov[5,4]    1.600   0.718    0.308    1.143    1.513    1.982
## theta.cov[6,4]   -0.169   0.861   -2.076   -0.668   -0.124    0.382
## theta.cov[7,4]    1.585   0.501    0.895    1.200    1.483    1.883
## theta.cov[8,4]    0.710   0.778   -0.680    0.106    0.735    1.250
## theta.cov[1,5]    2.108   0.917    0.625    1.528    1.926    2.541
## theta.cov[2,5]    0.399   0.275   -0.036    0.229    0.358    0.542
## theta.cov[3,5]   -0.065   0.966   -2.409   -0.524    0.144    0.582
## theta.cov[4,5]    1.600   0.718    0.308    1.143    1.513    1.982
## theta.cov[5,5]    2.202   1.084    0.789    1.471    1.931    2.609
## theta.cov[6,5]   -0.203   0.445   -1.122   -0.483   -0.179    0.074
## theta.cov[7,5]    0.990   0.488    0.194    0.667    0.925    1.250
## theta.cov[8,5]    0.059   0.604   -1.368   -0.264    0.099    0.446
## theta.cov[1,6]   -0.398   0.673   -1.810   -0.856   -0.336    0.100
## theta.cov[2,6]   -0.118   0.234   -0.685   -0.239   -0.099    0.030
## theta.cov[3,6]   -0.069   0.394   -1.011   -0.229   -0.025    0.125
## theta.cov[4,6]   -0.169   0.861   -2.076   -0.668   -0.124    0.382
## theta.cov[5,6]   -0.203   0.445   -1.122   -0.483   -0.179    0.074
## theta.cov[6,6]    0.439   0.319    0.109    0.215    0.344    0.552
## theta.cov[7,6]   -0.215   0.429   -1.240   -0.438   -0.176    0.078
## theta.cov[8,6]   -0.043   0.221   -0.538   -0.158   -0.018    0.080
## theta.cov[1,7]    1.637   0.759    0.481    1.102    1.500    2.059
## theta.cov[2,7]    0.534   0.228    0.244    0.373    0.481    0.639
## theta.cov[3,7]   -0.066   0.740   -1.743   -0.535   -0.011    0.430
## theta.cov[4,7]    1.585   0.501    0.895    1.200    1.483    1.883
## theta.cov[5,7]    0.990   0.488    0.194    0.667    0.925    1.250
## theta.cov[6,7]   -0.215   0.429   -1.240   -0.438   -0.176    0.078
## theta.cov[7,7]    1.098   0.481    0.463    0.753    0.981    1.343
## theta.cov[8,7]    0.170   0.493   -0.785   -0.161    0.206    0.497
## theta.cov[1,8]    0.415   0.858   -1.358   -0.158    0.426    0.929
## theta.cov[2,8]    0.062   0.331   -0.567   -0.124    0.083    0.236
## theta.cov[3,8]    0.182   0.458   -0.823   -0.041    0.131    0.377
## theta.cov[4,8]    0.710   0.778   -0.680    0.106    0.735    1.250
## theta.cov[5,8]    0.059   0.604   -1.368   -0.264    0.099    0.446
## theta.cov[6,8]   -0.043   0.221   -0.538   -0.158   -0.018    0.080
## theta.cov[7,8]    0.170   0.493   -0.785   -0.161    0.206    0.497
## theta.cov[8,8]    0.587   0.416    0.163    0.306    0.456    0.740
## deviance       6032.232  95.009 5840.893 5967.747 6034.776 6097.309
##                   97.5%  Rhat n.eff
## lambda[7,1]       1.000 1.000     1
## lambda[15,1]      2.204 1.146    24
## lambda[19,1]      2.085 1.031    93
## lambda[4,2]       1.000 1.000     1
## lambda[5,2]       2.207 1.083    36
## lambda[7,2]       0.901 1.013   240
## lambda[9,2]       2.275 1.043    66
## lambda[10,2]      2.347 1.099    31
## lambda[11,2]      1.339 1.017   170
## lambda[13,2]      2.436 1.014   210
## lambda[14,2]      2.119 1.007   430
## lambda[16,2]      2.408 1.011   310
## lambda[17,2]      1.724 1.023   130
## lambda[18,2]      1.130 1.008   380
## lambda[19,2]      1.486 1.005   530
## lambda[20,2]      1.663 1.017   160
```

```
## lambda[4,3]       1.000 1.000     1
## lambda[19,3]      1.012 1.008   330
## lambda[20,3]      0.614 1.020   150
## lambda[1,4]       1.000 1.000     1
## lambda[2,4]       3.186 1.014   190
## lambda[3,4]       2.871 1.008   390
## lambda[5,4]       0.690 1.164    20
## lambda[13,4]      0.830 1.027   130
## lambda[4,5]       1.000 1.000     1
## lambda[10,5]      2.077 1.053    55
## lambda[11,5]      2.748 1.061    50
## lambda[13,5]      1.518 1.099    31
## lambda[17,5]      2.003 1.073    43
## lambda[18,5]      1.061 1.033   120
## lambda[19,5]      1.462 1.037    88
## lambda[20,5]      3.205 1.100    30
## lambda[1,6]       1.000 1.000     1
## lambda[18,6]      1.586 1.026   130
## lambda[1,7]       1.000 1.000     1
## lambda[2,7]       2.161 1.065    48
## lambda[3,7]       1.575 1.071    42
## lambda[4,7]       1.069 1.277    14
## lambda[5,7]       0.774 1.083    37
## lambda[6,7]       2.722 1.040    70
## lambda[7,7]       1.409 1.341    12
## lambda[8,7]       1.103 1.067    43
## lambda[10,7]      0.831 1.058    50
## lambda[11,7]      1.500 1.081    37
## lambda[12,7]      2.515 1.033   200
## lambda[13,7]      0.583 1.060    49
## lambda[14,7]      2.314 1.016   170
## lambda[15,7]      1.668 1.336    12
## lambda[16,7]      1.879 1.018   150
## lambda[17,7]      1.531 1.082    36
## lambda[18,7]      1.870 1.070    45
## lambda[19,7]      1.097 1.095    31
## lambda[20,7]      1.767 1.087    34
## lambda[5,8]       2.320 1.154    22
## lambda[10,8]      1.000 1.000     1
## lambda[12,8]      0.263 1.073    40
## mu[1]             0.399 1.001  4000
## mu[2]             1.279 1.003  1100
## mu[3]             0.316 1.003  1100
## mu[4]             0.320 1.002  1600
## mu[5]             0.501 1.002  2400
## mu[6]             2.081 1.004   720
## mu[7]            -0.431 1.023   120
## mu[8]             0.983 1.005   530
## mu[9]             0.646 1.001  4000
## mu[10]           -0.551 1.003   940
## mu[11]            0.039 1.004   710
## mu[12]            1.410 1.018   140
## mu[13]           -1.000 1.004   750
## mu[14]            1.598 1.002  1700
```

```
## mu[15]          -0.147 1.010   300
## mu[16]           1.345 1.002  1700
## mu[17]          -0.272 1.003  1200
## mu[18]          -0.019 1.002  1300
## mu[19]          -1.273 1.004   880
## mu[20]          -0.722 1.006   440
## theta[1,1]       2.710 1.005   920
## theta[2,1]       4.413 1.103    31
## theta[3,1]       2.172 1.006   900
## theta[4,1]       1.181 1.019   160
## theta[5,1]       0.310 1.091    35
## theta[6,1]       0.014 1.059    51
## theta[7,1]      -0.189 1.126    26
## theta[8,1]       0.263 1.149    23
## theta[9,1]      -0.014 1.106    30
## theta[10,1]      0.101 1.112    29
## theta[11,1]      2.761 1.113    29
## theta[12,1]      1.786 1.009   460
## theta[13,1]      0.519 1.035    86
## theta[14,1]      0.274 1.102    32
## theta[15,1]     -0.015 1.081    38
## theta[16,1]      0.340 1.058    50
## theta[17,1]      0.602 1.065    47
## theta[18,1]      0.082 1.090    34
## theta[19,1]      0.014 1.073    43
## theta[20,1]     -0.205 1.151    23
## theta[21,1]      2.638 1.148    22
## theta[22,1]      1.169 1.017   180
## theta[23,1]      6.539 1.163    22
## theta[24,1]      0.591 1.021   140
## theta[25,1]      1.019 1.004  1600
## theta[26,1]     -0.279 1.130    27
## theta[27,1]      0.106 1.080    39
## theta[28,1]     -0.333 1.160    22
## theta[29,1]      0.020 1.069    46
## theta[30,1]      6.610 1.148    23
## theta[31,1]      3.002 1.068    44
## theta[32,1]      6.316 1.160    21
## theta[33,1]      4.471 1.061    49
## theta[34,1]      2.961 1.053    59
## theta[35,1]      2.742 1.073    41
## theta[36,1]      1.821 1.009   440
## theta[37,1]      1.294 1.027   110
## theta[38,1]      2.400 1.010   330
## theta[39,1]      4.290 1.096    35
## theta[40,1]      0.129 1.065    47
## theta[41,1]     -0.304 1.135    25
## theta[42,1]      6.544 1.171    20
## theta[43,1]      3.485 1.171    21
## theta[44,1]     -0.007 1.093    34
## theta[45,1]      3.869 1.070    44
## theta[46,1]      2.187 1.010   310
## theta[47,1]      0.031 1.071    44
## theta[48,1]      0.389 1.038    80
```

```
## theta[49,1]      -0.027 1.124    27
## theta[50,1]       2.893 1.025   120
## theta[51,1]      -0.106 1.135    24
## theta[52,1]       0.536 1.036    86
## theta[53,1]       1.234 1.055    52
## theta[54,1]       4.032 1.115    29
## theta[55,1]       0.638 1.003  4000
## theta[56,1]       6.564 1.177    20
## theta[57,1]       4.856 1.151    22
## theta[58,1]      -0.197 1.145    23
## theta[59,1]       0.145 1.051    62
## theta[60,1]       2.415 1.055    52
## theta[61,1]      -0.034 1.084    36
## theta[62,1]      -0.009 1.139    24
## theta[63,1]       1.847 1.089    34
## theta[64,1]       3.078 1.137    24
## theta[65,1]       1.858 1.023   130
## theta[66,1]       0.568 1.032    90
## theta[67,1]       3.487 1.091    36
## theta[68,1]      -0.258 1.149    24
## theta[69,1]      -0.327 1.207    18
## theta[70,1]       1.690 1.021   130
## theta[71,1]       0.163 1.060    49
## theta[72,1]       0.104 1.083    39
## theta[73,1]      -0.248 1.156    21
## theta[74,1]       2.113 1.071    42
## theta[75,1]       0.105 1.065    47
## theta[76,1]      -0.357 1.169    20
## theta[77,1]       0.428 1.024   130
## theta[78,1]       1.236 1.038    76
## theta[79,1]       6.454 1.191    19
## theta[80,1]       1.928 1.018   150
## theta[81,1]       0.325 1.087    37
## theta[82,1]       3.476 1.076    40
## theta[83,1]      -0.288 1.162    21
## theta[84,1]       0.539 1.021   160
## theta[85,1]       1.446 1.005   850
## theta[86,1]       2.179 1.025   120
## theta[87,1]       0.989 1.006  1600
## theta[88,1]       3.491 1.034    88
## theta[89,1]       6.494 1.132    25
## theta[90,1]       2.753 1.136    24
## theta[91,1]       3.309 1.057    51
## theta[92,1]      -0.076 1.090    36
## theta[93,1]       3.216 1.149    23
## theta[94,1]       4.907 1.114    28
## theta[95,1]       6.542 1.177    20
## theta[96,1]       4.355 1.099    34
## theta[97,1]       0.568 1.005   860
## theta[98,1]      -0.092 1.083    37
## theta[99,1]       4.269 1.094    32
## theta[100,1]      0.301 1.111    30
## theta[101,1]      0.243 1.064    48
## theta[102,1]      5.418 1.180    20
```

```
## theta[103,1]      0.125 1.046    66
## theta[104,1]      4.653 1.106    32
## theta[105,1]      2.388 1.023   120
## theta[106,1]      0.608 1.006   680
## theta[107,1]      0.768 1.050    64
## theta[108,1]      6.560 1.163    21
## theta[109,1]      1.770 1.042    68
## theta[110,1]      1.701 1.007   380
## theta[111,1]     -0.029 1.067    46
## theta[112,1]     -0.322 1.184    20
## theta[113,1]      1.977 1.012   300
## theta[114,1]      0.598 1.012   360
## theta[115,1]      2.039 1.006   500
## theta[116,1]      4.613 1.105    32
## theta[117,1]     -0.325 1.165    21
## theta[118,1]      0.547 1.012   330
## theta[119,1]      2.843 1.029   100
## theta[120,1]     -0.403 1.158    22
## theta[121,1]      0.408 1.128    26
## theta[122,1]      0.104 1.059    52
## theta[123,1]     -0.017 1.070    45
## theta[124,1]      6.501 1.164    21
## theta[125,1]      1.685 1.025   120
## theta[126,1]      2.552 1.057    52
## theta[127,1]      3.361 1.135    24
## theta[128,1]      3.661 1.068    45
## theta[129,1]      0.641 1.023   140
## theta[130,1]      2.451 1.060    49
## theta[131,1]      0.239 1.052    60
## theta[132,1]      1.009 1.014   240
## theta[133,1]      1.855 1.017   170
## theta[134,1]     -0.217 1.154    23
## theta[135,1]      0.015 1.140    24
## theta[136,1]      4.818 1.118    28
## theta[137,1]      1.532 1.007   570
## theta[138,1]      4.866 1.172    21
## theta[139,1]     -0.013 1.135    24
## theta[140,1]      4.859 1.176    20
## theta[141,1]      2.350 1.023   140
## theta[142,1]      3.737 1.079    39
## theta[143,1]     -0.005 1.075    41
## theta[144,1]      0.408 1.071    43
## theta[145,1]      0.314 1.052    56
## theta[146,1]      2.447 1.042    71
## theta[147,1]      4.454 1.127    26
## theta[148,1]     -0.342 1.153    22
## theta[149,1]      1.257 1.025   120
## theta[150,1]      6.671 1.146    23
## theta[151,1]      4.081 1.082    38
## theta[152,1]      3.994 1.102    31
## theta[153,1]      3.461 1.120    27
## theta[154,1]      4.101 1.092    34
## theta[155,1]      3.511 1.029   100
## theta[156,1]      4.506 1.144    23
```

```
## theta[157,1]      3.606 1.066    49
## theta[158,1]      0.653 1.030   110
## theta[159,1]      3.064 1.034    83
## theta[160,1]      3.359 1.152    23
## theta[161,1]      2.177 1.066    46
## theta[162,1]      3.999 1.052    56
## theta[163,1]      4.818 1.137    25
## theta[164,1]      4.868 1.154    23
## theta[165,1]     -0.362 1.181    19
## theta[166,1]     -0.011 1.133    26
## theta[167,1]     -0.243 1.135    25
## theta[168,1]      6.654 1.147    24
## theta[169,1]      4.182 1.036    78
## theta[170,1]     -0.406 1.160    22
## theta[171,1]      0.429 1.048    63
## theta[172,1]      1.339 1.031    99
## theta[173,1]      6.368 1.190    19
## theta[174,1]      1.884 1.008   930
## theta[175,1]      0.399 1.055    55
## theta[176,1]      0.577 1.012   330
## theta[177,1]      1.034 1.009   620
## theta[178,1]      0.595 1.049    58
## theta[179,1]      1.210 1.015   190
## theta[180,1]      3.845 1.130    25
## theta[181,1]      0.175 1.148    23
## theta[182,1]      1.186 1.041    68
## theta[183,1]      1.527 1.017   160
## theta[184,1]      5.325 1.181    19
## theta[185,1]      3.302 1.122    26
## theta[186,1]      4.427 1.152    23
## theta[187,1]      0.343 1.061    50
## theta[188,1]      0.269 1.048    66
## theta[189,1]      6.772 1.166    21
## theta[190,1]      6.853 1.157    22
## theta[191,1]      4.075 1.056    53
## theta[192,1]      4.690 1.161    21
## theta[193,1]      4.698 1.136    25
## theta[194,1]      0.435 1.025   110
## theta[195,1]      0.065 1.080    39
## theta[196,1]      4.856 1.152    23
## theta[197,1]      2.978 1.174    20
## theta[198,1]      6.565 1.186    19
## theta[199,1]      5.719 1.155    23
## theta[200,1]      1.188 1.047    62
## theta[201,1]      6.348 1.154    22
## theta[202,1]      4.069 1.091    37
## theta[203,1]      3.721 1.092    34
## theta[204,1]      4.176 1.121    27
## theta[205,1]      0.560 1.006   730
## theta[206,1]      1.583 1.021   140
## theta[207,1]      1.816 1.042    67
## theta[208,1]      1.590 1.009   360
## theta[209,1]      4.045 1.083    38
## theta[210,1]      6.356 1.147    22
```

```
## theta[211,1]      0.340 1.075    43
## theta[212,1]      2.202 1.008   400
## theta[213,1]      6.550 1.189    20
## theta[214,1]      4.574 1.122    28
## theta[215,1]      0.354 1.055    53
## theta[216,1]      6.589 1.178    19
## theta[217,1]     -0.177 1.168    21
## theta[218,1]      3.851 1.125    26
## theta[219,1]      2.469 1.005  1100
## theta[220,1]      1.526 1.005  1300
## theta[221,1]      1.943 1.020   150
## theta[222,1]      2.805 1.127    26
## theta[223,1]      6.785 1.165    21
## theta[224,1]     -0.253 1.156    22
## theta[225,1]      2.270 1.168    20
## theta[226,1]      0.395 1.056    60
## theta[227,1]     -0.377 1.148    23
## theta[228,1]      0.132 1.080    40
## theta[229,1]      4.485 1.123    27
## theta[230,1]      1.541 1.031    87
## theta[231,1]     -0.282 1.148    22
## theta[232,1]      1.646 1.062    48
## theta[233,1]      0.132 1.031    91
## theta[234,1]      3.771 1.076    40
## theta[235,1]      0.400 1.047    63
## theta[236,1]      1.531 1.019   180
## theta[237,1]      2.227 1.007   440
## theta[238,1]      4.196 1.121    27
## theta[239,1]      0.672 1.045    68
## theta[240,1]      0.354 1.032    91
## theta[241,1]      2.010 1.046    69
## theta[242,1]      1.641 1.054    54
## theta[243,1]      1.205 1.032    87
## theta[244,1]      0.080 1.031    99
## theta[245,1]      5.836 1.125    26
## theta[246,1]     -0.250 1.171    21
## theta[247,1]      2.515 1.095    32
## theta[248,1]      3.143 1.122    27
## theta[249,1]     -0.112 1.128    26
## theta[250,1]      0.002 1.055    54
## theta[251,1]      0.234 1.135    25
## theta[252,1]      2.337 1.038    79
## theta[253,1]      1.376 1.143    23
## theta[254,1]      3.844 1.070    43
## theta[255,1]      0.245 1.050    60
## theta[256,1]      2.165 1.084    36
## theta[257,1]      6.668 1.151    23
## theta[258,1]      4.343 1.055    53
## theta[259,1]      0.974 1.005  1000
## theta[260,1]      2.337 1.090    35
## theta[261,1]      0.011 1.088    37
## theta[262,1]      3.368 1.035    84
## theta[263,1]      0.232 1.023   120
## theta[264,1]     -0.038 1.122    27
```

```
## theta[265,1]      0.304 1.070    43
## theta[266,1]      3.094 1.156    22
## theta[267,1]      4.966 1.181    19
## theta[268,1]      0.839 1.013   250
## theta[269,1]      1.743 1.043    70
## theta[270,1]      3.687 1.081    38
## theta[271,1]      0.135 1.052    59
## theta[272,1]      0.842 1.005  1100
## theta[273,1]      4.812 1.163    21
## theta[274,1]      0.776 1.051    60
## theta[275,1]      6.412 1.133    25
## theta[276,1]      1.873 1.009   370
## theta[277,1]      2.365 1.108    29
## theta[278,1]      6.692 1.178    21
## theta[279,1]      4.898 1.141    24
## theta[280,1]      6.495 1.183    20
## theta[281,1]      3.447 1.186    19
## theta[282,1]      6.371 1.185    19
## theta[283,1]      2.888 1.032    97
## theta[284,1]      4.888 1.107    32
## theta[285,1]      3.179 1.013   250
## theta[286,1]      0.582 1.115    30
## theta[287,1]      3.394 1.049    62
## theta[288,1]      2.714 1.120    27
## theta[289,1]      1.000 1.014   230
## theta[290,1]      3.053 1.113    28
## theta[291,1]     -0.333 1.169    21
## theta[292,1]      0.594 1.019   180
## theta[293,1]      1.907 1.005  1200
## theta[294,1]      0.083 1.042    67
## theta[295,1]      3.381 1.122    26
## theta[296,1]      0.289 1.105    31
## theta[297,1]      0.448 1.146    23
## theta[298,1]      2.683 1.010   320
## theta[299,1]      0.645 1.090    34
## theta[300,1]      3.996 1.082    38
## theta[301,1]      4.744 1.165    21
## theta[302,1]      3.051 1.195    18
## theta[303,1]      1.798 1.060    48
## theta[304,1]      1.366 1.016   200
## theta[305,1]      4.636 1.100    35
## theta[306,1]      1.993 1.038    77
## theta[307,1]      0.349 1.031    97
## theta[308,1]      0.283 1.025   120
## theta[309,1]      0.004 1.093    33
## theta[310,1]      0.184 1.034    91
## theta[311,1]      2.560 1.068    48
## theta[312,1]     -0.005 1.143    24
## theta[313,1]      2.032 1.057    51
## theta[314,1]      0.404 1.027   110
## theta[315,1]      3.792 1.120    27
## theta[316,1]      0.546 1.017   180
## theta[317,1]      0.390 1.016   190
## theta[318,1]      3.815 1.080    38
```

```
## theta[319,1]      3.672 1.066    46
## theta[320,1]      0.147 1.032    93
## theta[321,1]      0.576 1.019   170
## theta[322,1]      2.966 1.125    25
## theta[323,1]      4.672 1.127    25
## theta[324,1]      2.014 1.059    50
## theta[325,1]      2.452 1.113    28
## theta[326,1]      0.228 1.018   160
## theta[327,1]      0.364 1.152    22
## theta[328,1]      1.794 1.023   130
## theta[329,1]      1.452 1.006  4000
## theta[330,1]      0.396 1.023   140
## theta[331,1]      0.619 1.004  1400
## theta[332,1]      2.150 1.016   190
## theta[333,1]      0.159 1.029   100
## theta[334,1]     -0.245 1.135    24
## theta[335,1]      1.852 1.073    42
## theta[336,1]      0.828 1.007  1200
## theta[337,1]      0.119 1.076    40
## theta[338,1]      0.049 1.047    61
## theta[339,1]      0.992 1.011   300
## theta[340,1]      4.764 1.163    21
## theta[341,1]      4.800 1.160    21
## theta[342,1]     -0.174 1.135    25
## theta[343,1]      0.059 1.123    26
## theta[344,1]      3.624 1.087    36
## theta[345,1]     -0.026 1.125    26
## theta[346,1]      4.302 1.153    22
## theta[347,1]      1.414 1.033    80
## theta[348,1]      2.365 1.029   110
## theta[349,1]      0.565 1.010   410
## theta[350,1]      4.153 1.148    23
## theta[351,1]      5.438 1.157    22
## theta[352,1]      0.148 1.028   120
## theta[353,1]     -0.035 1.131    25
## theta[354,1]      4.809 1.147    23
## theta[355,1]      0.655 1.005   940
## theta[356,1]      3.894 1.112    29
## theta[357,1]      1.135 1.009   340
## theta[358,1]      6.461 1.147    23
## theta[359,1]      4.250 1.111    30
## theta[360,1]      1.571 1.059    49
## theta[361,1]      3.628 1.059    53
## theta[362,1]      2.467 1.040    71
## theta[363,1]      3.339 1.154    22
## theta[364,1]      0.126 1.057    52
## theta[365,1]      3.364 1.112    29
## theta[366,1]      1.914 1.039    74
## theta[367,1]      0.041 1.034    83
## theta[368,1]      4.425 1.120    27
## theta[369,1]      4.791 1.131    25
## theta[370,1]      4.783 1.151    23
## theta[371,1]      0.316 1.033    91
## theta[372,1]      0.215 1.030   100
```

```
## theta[373,1]      0.604 1.011   310
## theta[374,1]      2.164 1.076    40
## theta[375,1]      3.278 1.182    20
## theta[376,1]      2.259 1.093    33
## theta[377,1]      0.181 1.029    98
## theta[378,1]      0.947 1.016   200
## theta[379,1]      1.810 1.046    67
## theta[380,1]      0.227 1.022   130
## theta[381,1]      0.580 1.005   820
## theta[382,1]      0.654 1.006  1100
## theta[383,1]      4.346 1.148    23
## theta[384,1]      3.361 1.156    22
## theta[385,1]      2.871 1.084    38
## theta[386,1]      0.916 1.004  3800
## theta[387,1]      0.191 1.029   110
## theta[388,1]      0.724 1.010  1100
## theta[389,1]      4.856 1.149    23
## theta[390,1]      0.374 1.010   480
## theta[391,1]      0.611 1.015   210
## theta[392,1]     -0.021 1.054    57
## theta[393,1]      0.143 1.044    72
## theta[394,1]      6.267 1.138    24
## theta[395,1]      0.024 1.103    31
## theta[396,1]      6.452 1.177    20
## theta[397,1]      0.015 1.137    25
## theta[398,1]      0.852 1.005   990
## theta[399,1]     -0.288 1.139    24
## theta[400,1]      4.424 1.108    31
## theta[401,1]      2.099 1.011   330
## theta[402,1]      1.167 1.008   530
## theta[403,1]      2.601 1.134    25
## theta[404,1]      1.231 1.007   550
## theta[405,1]      1.686 1.070    44
## theta[406,1]      0.351 1.145    23
## theta[407,1]      1.105 1.011   370
## theta[408,1]      0.266 1.156    23
## theta[409,1]      4.005 1.093    35
## theta[410,1]      4.796 1.173    20
## theta[411,1]      0.420 1.013   240
## theta[412,1]      0.123 1.036    82
## theta[413,1]      5.273 1.181    20
## theta[414,1]     -0.033 1.081    38
## theta[415,1]      0.014 1.169    21
## theta[416,1]      0.359 1.017   170
## theta[417,1]      0.395 1.027   110
## theta[418,1]      0.380 1.051    63
## theta[419,1]      0.760 1.005  1800
## theta[420,1]      0.523 1.036    83
## theta[421,1]     -0.028 1.114    27
## theta[422,1]      2.532 1.060    48
## theta[423,1]      0.057 1.151    23
## theta[424,1]      0.240 1.019   180
## theta[425,1]      0.175 1.023   120
## theta[426,1]      0.310 1.147    23
```

```
## theta[427,1]      0.396 1.041    75
## theta[428,1]      1.544 1.077    38
## theta[429,1]      3.125 1.148    22
## theta[430,1]      0.384 1.029   110
## theta[431,1]      6.529 1.173    20
## theta[432,1]      3.014 1.150    22
## theta[433,1]      2.928 1.144    24
## theta[434,1]      2.395 1.115    28
## theta[435,1]     -0.133 1.139    25
## theta[436,1]      0.287 1.151    23
## theta[437,1]      0.131 1.029   110
## theta[438,1]      2.404 1.046    67
## theta[439,1]      2.493 1.065    48
## theta[440,1]      2.554 1.116    28
## theta[441,1]      0.021 1.136    24
## theta[442,1]      0.351 1.153    22
## theta[443,1]      2.510 1.146    23
## theta[444,1]      2.815 1.105    31
## theta[445,1]      4.909 1.161    21
## theta[446,1]      0.259 1.168    21
## theta[447,1]      1.395 1.046    64
## theta[448,1]      2.675 1.087    36
## theta[449,1]      0.921 1.008   530
## theta[450,1]      0.323 1.020   160
## theta[451,1]      0.008 1.055    54
## theta[452,1]      1.018 1.004  1000
## theta[453,1]      4.334 1.103    31
## theta[454,1]      0.316 1.137    25
## theta[455,1]      1.265 1.034    82
## theta[456,1]      4.162 1.107    31
## theta[457,1]      0.817 1.008  2700
## theta[458,1]      4.295 1.165    21
## theta[459,1]      4.097 1.083    37
## theta[460,1]      2.443 1.043    69
## theta[461,1]      2.783 1.099    33
## theta[462,1]      0.099 1.063    46
## theta[463,1]      0.476 1.034   100
## theta[464,1]      2.622 1.078    40
## theta[465,1]      1.520 1.044    66
## theta[466,1]      2.221 1.093    34
## theta[467,1]      0.442 1.012   350
## theta[468,1]      4.750 1.136    24
## theta[469,1]      2.431 1.043    71
## theta[470,1]      1.860 1.088    34
## theta[471,1]      2.780 1.118    29
## theta[472,1]      3.139 1.189    19
## theta[473,1]      2.747 1.109    29
## theta[474,1]      2.712 1.098    33
## theta[475,1]     -0.171 1.155    22
## theta[476,1]      3.413 1.178    20
## theta[477,1]      2.543 1.050    62
## theta[478,1]      2.527 1.100    31
## theta[479,1]      0.605 1.012   230
## theta[480,1]      2.450 1.103    31
```

```
## theta[481,1]      3.051 1.156    22
## theta[482,1]      0.288 1.052    60
## theta[483,1]      0.856 1.008   970
## theta[484,1]      0.730 1.006   870
## theta[485,1]      0.798 1.008   650
## theta[486,1]      0.556 1.013   310
## theta[487,1]      1.127 1.033    90
## theta[488,1]      0.276 1.019   170
## theta[489,1]      2.307 1.104    30
## theta[490,1]      0.403 1.030    94
## theta[491,1]      0.339 1.132    25
## theta[492,1]      1.655 1.049    59
## theta[493,1]     -0.232 1.153    23
## theta[494,1]      3.926 1.071    43
## theta[495,1]      0.340 1.127    27
## theta[496,1]      1.981 1.051    58
## theta[497,1]      0.266 1.151    23
## theta[498,1]     -0.023 1.160    21
## theta[499,1]      0.190 1.171    21
## theta[500,1]      0.074 1.048    61
## theta[501,1]      1.701 1.019   160
## theta[502,1]      0.344 1.038    81
## theta[503,1]     -0.002 1.163    21
## theta[504,1]      0.147 1.049    61
## theta[505,1]      0.233 1.135    26
## theta[506,1]      0.178 1.136    26
## theta[507,1]      0.060 1.050    59
## theta[508,1]      0.024 1.033    85
## theta[509,1]      0.221 1.183    20
## theta[510,1]      0.550 1.133    25
## theta[511,1]      0.260 1.029   100
## theta[512,1]      0.174 1.030    98
## theta[513,1]      2.709 1.059    50
## theta[514,1]      0.110 1.022   140
## theta[515,1]      0.132 1.032    96
## theta[516,1]      0.200 1.035    89
## theta[517,1]      0.131 1.123    27
## theta[518,1]      0.886 1.007   590
## theta[519,1]      0.195 1.164    22
## theta[520,1]      1.848 1.087    35
## theta[521,1]      0.314 1.117    29
## theta[522,1]     -0.088 1.119    28
## theta[523,1]     -0.073 1.126    26
## theta[524,1]      0.252 1.164    22
## theta[525,1]      0.309 1.127    26
## theta[526,1]     -0.093 1.094    34
## theta[527,1]      1.613 1.007   610
## theta[528,1]      1.690 1.014   220
## theta[529,1]     -0.107 1.120    27
## theta[530,1]      1.345 1.180    19
## theta[531,1]      0.259 1.110    29
## theta[532,1]     -0.296 1.191    19
## theta[533,1]      1.967 1.091    34
## theta[534,1]     -0.339 1.143    23
```

```
## theta[535,1]      2.778 1.117    28
## theta[536,1]      1.687 1.009   420
## theta[1,2]        0.431 1.004  2500
## theta[2,2]        1.361 1.007   440
## theta[3,2]        0.401 1.020   140
## theta[4,2]        0.796 1.002  3000
## theta[5,2]       -0.022 1.027   120
## theta[6,2]        0.399 1.012   220
## theta[7,2]        0.151 1.020   180
## theta[8,2]       -0.199 1.024   120
## theta[9,2]        0.447 1.003  1200
## theta[10,2]       0.419 1.002  2200
## theta[11,2]       1.439 1.009   420
## theta[12,2]       0.783 1.003  1800
## theta[13,2]       0.149 1.003   880
## theta[14,2]      -0.110 1.021   140
## theta[15,2]       0.416 1.010   340
## theta[16,2]       0.226 1.007   620
## theta[17,2]      -0.079 1.051    60
## theta[18,2]       0.350 1.004  1800
## theta[19,2]       0.455 1.009   310
## theta[20,2]      -0.166 1.016   180
## theta[21,2]       1.400 1.002  1700
## theta[22,2]       0.774 1.002  3100
## theta[23,2]       2.126 1.021   160
## theta[24,2]       0.497 1.008   530
## theta[25,2]       0.549 1.004  1100
## theta[26,2]       0.081 1.021   160
## theta[27,2]       0.542 1.001  4000
## theta[28,2]      -0.200 1.023   130
## theta[29,2]       0.670 1.003  1400
## theta[30,2]       2.130 1.008   390
## theta[31,2]       1.239 1.007   560
## theta[32,2]       2.160 1.012   250
## theta[33,2]       0.563 1.004  1400
## theta[34,2]       1.184 1.004   740
## theta[35,2]       1.015 1.003  1400
## theta[36,2]       1.194 1.007   430
## theta[37,2]       0.430 1.005   690
## theta[38,2]       0.581 1.009   320
## theta[39,2]       1.389 1.010   540
## theta[40,2]       0.880 1.009   410
## theta[41,2]       0.089 1.015   200
## theta[42,2]       2.090 1.011   340
## theta[43,2]       1.831 1.007   490
## theta[44,2]       0.004 1.012   240
## theta[45,2]       0.473 1.007   420
## theta[46,2]       0.400 1.008   440
## theta[47,2]       0.449 1.006   600
## theta[48,2]       0.260 1.004  1300
## theta[49,2]       0.263 1.008   460
## theta[50,2]       0.564 1.005   630
## theta[51,2]       0.014 1.011   240
## theta[52,2]       0.307 1.018   160
```

```
## theta[53,2]       0.029 1.024   120
## theta[54,2]       1.463 1.009   360
## theta[55,2]       0.791 1.003  2300
## theta[56,2]       2.195 1.007   430
## theta[57,2]       1.517 1.008   450
## theta[58,2]       0.094 1.013   260
## theta[59,2]       0.714 1.002  4000
## theta[60,2]       0.776 1.008   430
## theta[61,2]       0.182 1.015   260
## theta[62,2]      -0.007 1.007   480
## theta[63,2]       1.440 1.009   330
## theta[64,2]       1.453 1.008   500
## theta[65,2]       1.308 1.002  1700
## theta[66,2]       0.395 1.005   950
## theta[67,2]       1.316 1.007   560
## theta[68,2]       0.108 1.019   190
## theta[69,2]      -0.214 1.026   130
## theta[70,2]       0.263 1.005   550
## theta[71,2]       0.904 1.003  1400
## theta[72,2]       0.587 1.004   780
## theta[73,2]      -0.166 1.017   180
## theta[74,2]       1.550 1.011   280
## theta[75,2]       0.262 1.007   710
## theta[76,2]      -0.233 1.022   150
## theta[77,2]       0.893 1.007   720
## theta[78,2]       0.989 1.010   330
## theta[79,2]       2.021 1.005   550
## theta[80,2]       0.668 1.002  2300
## theta[81,2]       0.093 1.012   240
## theta[82,2]       0.634 1.009   350
## theta[83,2]       0.084 1.017   200
## theta[84,2]       0.146 1.011   270
## theta[85,2]       0.432 1.002  1500
## theta[86,2]       0.232 1.008   350
## theta[87,2]       0.821 1.004  1100
## theta[88,2]       0.850 1.007   720
## theta[89,2]       2.057 1.025   150
## theta[90,2]       1.132 1.006   570
## theta[91,2]       0.874 1.003   870
## theta[92,2]       0.218 1.006   760
## theta[93,2]       1.301 1.007   700
## theta[94,2]       1.610 1.007   480
## theta[95,2]       2.048 1.007   510
## theta[96,2]       1.400 1.006   770
## theta[97,2]       0.804 1.014   210
## theta[98,2]       0.437 1.003  4000
## theta[99,2]       1.098 1.005   710
## theta[100,2]     -0.094 1.034    89
## theta[101,2]      0.566 1.003  1500
## theta[102,2]      2.213 1.025   130
## theta[103,2]      0.875 1.003  4000
## theta[104,2]      1.632 1.009   400
## theta[105,2]      0.804 1.004  1700
## theta[106,2]      1.150 1.005   740
```

```
## theta[107,2]     -0.115 1.037    89
## theta[108,2]      2.040 1.014   270
## theta[109,2]      1.265 1.008   500
## theta[110,2]      0.435 1.001  4000
## theta[111,2]     -0.012 1.014   210
## theta[112,2]     -0.220 1.017   190
## theta[113,2]      0.956 1.017   160
## theta[114,2]      0.713 1.015   240
## theta[115,2]      0.781 1.005   750
## theta[116,2]      1.692 1.012   270
## theta[117,2]      0.119 1.011   260
## theta[118,2]      0.465 1.001  4000
## theta[119,2]      0.934 1.002  1700
## theta[120,2]     -0.214 1.025   130
## theta[121,2]     -0.015 1.017   190
## theta[122,2]      0.524 1.005  1000
## theta[123,2]      0.394 1.009   390
## theta[124,2]      2.076 1.018   170
## theta[125,2]      0.938 1.011   300
## theta[126,2]      1.164 1.010   320
## theta[127,2]      1.715 1.010   300
## theta[128,2]      1.632 1.014   240
## theta[129,2]      0.586 1.002  4000
## theta[130,2]      1.103 1.024   120
## theta[131,2]      0.314 1.008   540
## theta[132,2]      1.399 1.005   540
## theta[133,2]      0.503 1.006   470
## theta[134,2]     -0.195 1.023   130
## theta[135,2]      0.039 1.005   590
## theta[136,2]      1.592 1.006   680
## theta[137,2]      0.514 1.005   720
## theta[138,2]      1.584 1.004   810
## theta[139,2]      0.320 1.007   450
## theta[140,2]      1.973 1.015   240
## theta[141,2]      0.572 1.009   400
## theta[142,2]      1.446 1.015   220
## theta[143,2]      0.012 1.015   210
## theta[144,2]      0.058 1.013   210
## theta[145,2]      0.147 1.011   380
## theta[146,2]      1.193 1.005   700
## theta[147,2]      1.256 1.004  1100
## theta[148,2]     -0.229 1.028   120
## theta[149,2]      1.527 1.006   590
## theta[150,2]      2.115 1.009   430
## theta[151,2]      0.979 1.005  1300
## theta[152,2]      1.616 1.023   150
## theta[153,2]      1.682 1.022   150
## theta[154,2]      1.408 1.012   330
## theta[155,2]      0.771 1.003  4000
## theta[156,2]      1.136 1.002  4000
## theta[157,2]      1.423 1.005   660
## theta[158,2]      0.224 1.002  1500
## theta[159,2]      0.869 1.006   750
## theta[160,2]      1.577 1.006   620
```

```
## theta[161,2]      1.426 1.008   340
## theta[162,2]      0.852 1.003  4000
## theta[163,2]      1.571 1.009   470
## theta[164,2]      1.765 1.009   360
## theta[165,2]     -0.241 1.016   170
## theta[166,2]      0.304 1.006   530
## theta[167,2]      0.174 1.007   470
## theta[168,2]      2.089 1.014   240
## theta[169,2]      1.101 1.019   180
## theta[170,2]     -0.242 1.030   110
## theta[171,2]      0.307 1.011   290
## theta[172,2]      1.405 1.011   300
## theta[173,2]      2.009 1.008   420
## theta[174,2]      0.560 1.007   570
## theta[175,2]      0.625 1.003  2200
## theta[176,2]      0.517 1.002  2900
## theta[177,2]      0.577 1.006   630
## theta[178,2]      0.268 1.014   250
## theta[179,2]      1.432 1.002  1900
## theta[180,2]      1.471 1.012   240
## theta[181,2]     -0.212 1.044    77
## theta[182,2]      1.154 1.005  1500
## theta[183,2]      0.575 1.013   260
## theta[184,2]      2.099 1.032    99
## theta[185,2]      1.684 1.006   470
## theta[186,2]      1.621 1.006  1400
## theta[187,2]      0.319 1.010   290
## theta[188,2]      0.159 1.005   770
## theta[189,2]      2.085 1.013   290
## theta[190,2]      2.060 1.016   200
## theta[191,2]      0.749 1.005  3900
## theta[192,2]      1.572 1.009   510
## theta[193,2]      1.841 1.023   140
## theta[194,2]      0.373 1.008   320
## theta[195,2]      0.568 1.002  2800
## theta[196,2]      1.581 1.008   500
## theta[197,2]      1.631 1.017   190
## theta[198,2]      2.149 1.010   460
## theta[199,2]      1.491 1.005   840
## theta[200,2]     -0.001 1.015   220
## theta[201,2]      2.141 1.021   150
## theta[202,2]      1.423 1.006   690
## theta[203,2]      0.920 1.015   220
## theta[204,2]      1.701 1.015   210
## theta[205,2]      0.561 1.004  1700
## theta[206,2]      1.443 1.028   120
## theta[207,2]      0.701 1.005   740
## theta[208,2]      0.278 1.020   160
## theta[209,2]      0.673 1.003  2700
## theta[210,2]      2.100 1.011   290
## theta[211,2]      0.505 1.012   260
## theta[212,2]      0.751 1.002  1700
## theta[213,2]      2.092 1.014   220
## theta[214,2]      1.655 1.006   650
```

```
## theta[215,2]      0.342 1.009   320
## theta[216,2]      2.123 1.019   240
## theta[217,2]     -0.169 1.013   220
## theta[218,2]      1.494 1.012   280
## theta[219,2]      0.805 1.006   810
## theta[220,2]      0.184 1.006   480
## theta[221,2]      0.686 1.003  4000
## theta[222,2]      1.271 1.005   640
## theta[223,2]      2.158 1.014   230
## theta[224,2]      0.085 1.013   220
## theta[225,2]      1.594 1.011   400
## theta[226,2]      0.166 1.018   190
## theta[227,2]     -0.207 1.020   160
## theta[228,2]      0.012 1.011   270
## theta[229,2]      1.409 1.003  2400
## theta[230,2]      0.778 1.003  3500
## theta[231,2]     -0.218 1.019   160
## theta[232,2]      0.904 1.001  4000
## theta[233,2]      0.839 1.003  1800
## theta[234,2]      0.915 1.003  3000
## theta[235,2]      0.212 1.017   160
## theta[236,2]     -0.018 1.023   130
## theta[237,2]      0.440 1.013   220
## theta[238,2]      1.748 1.023   150
## theta[239,2]      0.149 1.003  1700
## theta[240,2]      0.228 1.015   220
## theta[241,2]      1.127 1.004  1400
## theta[242,2]      1.219 1.007   480
## theta[243,2]      0.651 1.002  3300
## theta[244,2]      0.869 1.004  1900
## theta[245,2]      1.433 1.009   340
## theta[246,2]     -0.182 1.026   120
## theta[247,2]      1.457 1.005   670
## theta[248,2]      1.510 1.012   260
## theta[249,2]     -0.071 1.018   170
## theta[250,2]      0.462 1.010   340
## theta[251,2]     -0.211 1.034    95
## theta[252,2]      0.828 1.005  1600
## theta[253,2]     -0.144 1.033    93
## theta[254,2]      0.745 1.002  3000
## theta[255,2]      0.565 1.001  4000
## theta[256,2]      1.339 1.012   250
## theta[257,2]      2.058 1.011   310
## theta[258,2]      0.592 1.009   590
## theta[259,2]      0.173 1.011   290
## theta[260,2]      1.582 1.030   100
## theta[261,2]      0.374 1.013   240
## theta[262,2]      1.390 1.019   170
## theta[263,2]      0.867 1.001  2800
## theta[264,2]     -0.009 1.012   260
## theta[265,2]      0.481 1.004   900
## theta[266,2]      1.532 1.011   270
## theta[267,2]      1.559 1.008   520
## theta[268,2]      0.353 1.019   160
```

```
## theta[269,2]      1.122 1.004  1200
## theta[270,2]      0.853 1.001  4000
## theta[271,2]      0.927 1.003  2000
## theta[272,2]      0.757 1.004   950
## theta[273,2]      1.774 1.009   340
## theta[274,2]      0.128 1.011   310
## theta[275,2]      2.112 1.015   220
## theta[276,2]      0.792 1.002  1700
## theta[277,2]      1.579 1.004   810
## theta[278,2]      2.130 1.013   270
## theta[279,2]      1.518 1.009   370
## theta[280,2]      2.071 1.008   330
## theta[281,2]      1.804 1.014   230
## theta[282,2]      2.010 1.010   320
## theta[283,2]      0.976 1.004  1100
## theta[284,2]      1.613 1.011   340
## theta[285,2]      0.482 1.004   720
## theta[286,2]     -0.189 1.032   100
## theta[287,2]      0.863 1.003  4000
## theta[288,2]      1.670 1.008   420
## theta[289,2]      0.947 1.003  2100
## theta[290,2]      1.256 1.003  1500
## theta[291,2]     -0.227 1.026   130
## theta[292,2]      0.531 1.005   690
## theta[293,2]      0.757 1.002  4000
## theta[294,2]      0.801 1.001  4000
## theta[295,2]      1.725 1.012   240
## theta[296,2]     -0.131 1.039    85
## theta[297,2]     -0.017 1.009   440
## theta[298,2]      0.819 1.002  4000
## theta[299,2]     -0.143 1.047    71
## theta[300,2]      0.980 1.002  4000
## theta[301,2]      1.561 1.015   210
## theta[302,2]      1.641 1.011   300
## theta[303,2]      0.989 1.005   720
## theta[304,2]      0.124 1.019   150
## theta[305,2]      1.114 1.005   960
## theta[306,2]      1.530 1.023   140
## theta[307,2]      0.355 1.001  4000
## theta[308,2]      0.483 1.004  1200
## theta[309,2]      0.320 1.013   230
## theta[310,2]      0.527 1.003  3800
## theta[311,2]      1.338 1.005   910
## theta[312,2]      0.291 1.004   680
## theta[313,2]      1.141 1.005   680
## theta[314,2]      0.895 1.002  4000
## theta[315,2]      1.273 1.009   500
## theta[316,2]      0.399 1.005   590
## theta[317,2]      0.994 1.004  1600
## theta[318,2]      1.009 1.003  1300
## theta[319,2]      0.627 1.002  2000
## theta[320,2]      1.039 1.009   370
## theta[321,2]      0.420 1.002  3900
## theta[322,2]      1.513 1.004  1100
```

```
## theta[323,2]      1.586 1.015   240
## theta[324,2]      0.832 1.004  1200
## theta[325,2]      1.605 1.008   370
## theta[326,2]      0.882 1.001  3800
## theta[327,2]     -0.203 1.033    96
## theta[328,2]      0.598 1.002  1500
## theta[329,2]      0.396 1.002  2000
## theta[330,2]      0.639 1.002  4000
## theta[331,2]      1.235 1.007   820
## theta[332,2]      0.293 1.005   590
## theta[333,2]      0.897 1.002  2200
## theta[334,2]      0.098 1.020   200
## theta[335,2]      0.795 1.004  2000
## theta[336,2]      0.788 1.003  1700
## theta[337,2]      0.605 1.004   980
## theta[338,2]      0.477 1.006   650
## theta[339,2]      0.581 1.001  3600
## theta[340,2]      1.612 1.014   300
## theta[341,2]      1.553 1.006   590
## theta[342,2]      0.075 1.017   190
## theta[343,2]      0.359 1.007   920
## theta[344,2]      1.009 1.019   210
## theta[345,2]      0.349 1.006   520
## theta[346,2]      1.409 1.006  1100
## theta[347,2]      0.081 1.019   150
## theta[348,2]      0.721 1.002  4000
## theta[349,2]      0.444 1.008   510
## theta[350,2]      1.381 1.003  1500
## theta[351,2]      2.182 1.022   140
## theta[352,2]      0.855 1.003  3500
## theta[353,2]      0.323 1.009   440
## theta[354,2]      1.550 1.011   320
## theta[355,2]      0.557 1.004  3100
## theta[356,2]      1.174 1.002  4000
## theta[357,2]      0.730 1.001  4000
## theta[358,2]      2.119 1.013   250
## theta[359,2]      1.461 1.003  1200
## theta[360,2]      0.937 1.007  1100
## theta[361,2]      1.403 1.005  1400
## theta[362,2]      1.195 1.005  1300
## theta[363,2]      1.585 1.009   330
## theta[364,2]      0.684 1.002  2800
## theta[365,2]      1.090 1.005   670
## theta[366,2]      1.101 1.006   830
## theta[367,2]      0.824 1.002  4000
## theta[368,2]      1.598 1.008   440
## theta[369,2]      1.809 1.007   400
## theta[370,2]      1.570 1.008   530
## theta[371,2]      0.479 1.010   480
## theta[372,2]      1.010 1.003  1200
## theta[373,2]      0.733 1.008   420
## theta[374,2]      1.450 1.006   910
## theta[375,2]      1.683 1.025   130
## theta[376,2]      1.704 1.009   370
```

```
## theta[377,2]      0.995 1.006   430
## theta[378,2]      1.058 1.010   300
## theta[379,2]      1.363 1.007   470
## theta[380,2]      0.663 1.003  2500
## theta[381,2]      0.500 1.007  1900
## theta[382,2]      1.119 1.003  1500
## theta[383,2]      1.379 1.004  1300
## theta[384,2]      1.774 1.007   610
## theta[385,2]      1.006 1.003  1900
## theta[386,2]      1.199 1.012   220
## theta[387,2]      1.048 1.004   800
## theta[388,2]      0.765 1.003  1300
## theta[389,2]      1.542 1.010   330
## theta[390,2]      1.243 1.006   670
## theta[391,2]      0.772 1.001  4000
## theta[392,2]      0.486 1.001  4000
## theta[393,2]      0.720 1.002  2600
## theta[394,2]      2.061 1.014   210
## theta[395,2]      0.328 1.007   510
## theta[396,2]      2.076 1.009   400
## theta[397,2]      0.338 1.008   520
## theta[398,2]      1.151 1.003  1700
## theta[399,2]     -0.156 1.021   140
## theta[400,2]      1.332 1.004   660
## theta[401,2]      0.445 1.016   220
## theta[402,2]      0.960 1.003  1200
## theta[403,2]      0.994 1.005   550
## theta[404,2]      0.784 1.009   530
## theta[405,2]      1.562 1.015   210
## theta[406,2]     -0.200 1.028   120
## theta[407,2]      0.929 1.003  2300
## theta[408,2]     -0.199 1.027   110
## theta[409,2]      0.987 1.003  4000
## theta[410,2]      2.138 1.014   200
## theta[411,2]      1.020 1.010   370
## theta[412,2]      0.868 1.005  1500
## theta[413,2]      2.189 1.020   150
## theta[414,2]      0.408 1.007  1400
## theta[415,2]      0.311 1.004   860
## theta[416,2]      0.980 1.004  1100
## theta[417,2]      0.635 1.004   720
## theta[418,2]      0.616 1.012   230
## theta[419,2]      1.203 1.003  1100
## theta[420,2]      0.695 1.005   580
## theta[421,2]      0.321 1.010   300
## theta[422,2]      0.981 1.002  3100
## theta[423,2]      0.063 1.010   340
## theta[424,2]      1.083 1.006   590
## theta[425,2]      1.138 1.008   400
## theta[426,2]     -0.204 1.030   110
## theta[427,2]      0.875 1.005   690
## theta[428,2]      1.508 1.008   400
## theta[429,2]      1.491 1.014   280
## theta[430,2]      0.763 1.006  1100
```

```
## theta[431,2]      2.074 1.023   160
## theta[432,2]      1.201 1.005  1300
## theta[433,2]      1.162 1.006   870
## theta[434,2]      1.681 1.007   400
## theta[435,2]      0.122 1.016   190
## theta[436,2]     -0.215 1.032    96
## theta[437,2]      0.861 1.001  4000
## theta[438,2]      0.994 1.005  2400
## theta[439,2]      1.371 1.010   300
## theta[440,2]      1.486 1.012   270
## theta[441,2]      0.334 1.009   530
## theta[442,2]     -0.209 1.028   110
## theta[443,2]      0.908 1.002  2500
## theta[444,2]      1.485 1.005   750
## theta[445,2]      1.678 1.006   450
## theta[446,2]     -0.214 1.033    99
## theta[447,2]      1.324 1.005   530
## theta[448,2]      1.318 1.004  1100
## theta[449,2]      0.203 1.008   570
## theta[450,2]      0.760 1.004  2500
## theta[451,2]      0.524 1.007   560
## theta[452,2]      0.597 1.003  2500
## theta[453,2]      1.129 1.004  2800
## theta[454,2]     -0.203 1.036    93
## theta[455,2]      0.927 1.004  1100
## theta[456,2]      1.270 1.012   320
## theta[457,2]      0.703 1.002  2400
## theta[458,2]      1.394 1.007   510
## theta[459,2]      0.949 1.003  2100
## theta[460,2]      0.911 1.004  2000
## theta[461,2]      1.429 1.006   630
## theta[462,2]      0.653 1.001  3000
## theta[463,2]      0.599 1.003  1600
## theta[464,2]      1.286 1.005   710
## theta[465,2]      1.237 1.009   350
## theta[466,2]      1.403 1.008   410
## theta[467,2]      0.872 1.003  2700
## theta[468,2]      1.558 1.007   430
## theta[469,2]      0.879 1.003  3100
## theta[470,2]      1.319 1.013   270
## theta[471,2]      1.476 1.006  1200
## theta[472,2]      1.543 1.009   360
## theta[473,2]      1.396 1.017   180
## theta[474,2]      1.368 1.017   160
## theta[475,2]     -0.131 1.022   140
## theta[476,2]      1.771 1.011   260
## theta[477,2]      0.893 1.004  1300
## theta[478,2]      1.506 1.010   280
## theta[479,2]      1.059 1.005  1000
## theta[480,2]      1.948 1.019   160
## theta[481,2]      1.373 1.003  1300
## theta[482,2]      0.407 1.012   300
## theta[483,2]      0.754 1.006   460
## theta[484,2]      1.147 1.002  3100
```

```
## theta[485,2]      1.151 1.003  1300
## theta[486,2]      0.587 1.003  2300
## theta[487,2]      1.292 1.011   240
## theta[488,2]      1.112 1.003  1400
## theta[489,2]      1.585 1.005   520
## theta[490,2]      0.708 1.004  1900
## theta[491,2]     -0.201 1.029   110
## theta[492,2]      1.391 1.017   200
## theta[493,2]      0.076 1.016   180
## theta[494,2]      0.667 1.002  1600
## theta[495,2]     -0.156 1.036    93
## theta[496,2]      0.941 1.004  4000
## theta[497,2]      0.013 1.035    85
## theta[498,2]     -0.006 1.005   600
## theta[499,2]     -0.274 1.028   110
## theta[500,2]      0.516 1.005   950
## theta[501,2]      1.236 1.004  3200
## theta[502,2]      0.396 1.006   610
## theta[503,2]      0.005 1.004   840
## theta[504,2]      0.703 1.005   700
## theta[505,2]     -0.131 1.019   180
## theta[506,2]     -0.250 1.026   110
## theta[507,2]      0.720 1.003  2600
## theta[508,2]      0.805 1.002  4000
## theta[509,2]     -0.255 1.034    90
## theta[510,2]     -0.009 1.006   530
## theta[511,2]      1.097 1.002  2700
## theta[512,2]      1.023 1.006   590
## theta[513,2]      0.821 1.003  4000
## theta[514,2]      0.876 1.002  3100
## theta[515,2]      0.546 1.001  4000
## theta[516,2]      0.749 1.004  1600
## theta[517,2]      0.099 1.013   280
## theta[518,2]      0.705 1.008   520
## theta[519,2]     -0.235 1.033   100
## theta[520,2]      1.214 1.004   830
## theta[521,2]     -0.138 1.009   400
## theta[522,2]     -0.071 1.023   140
## theta[523,2]      0.119 1.012   280
## theta[524,2]     -0.203 1.024   130
## theta[525,2]     -0.232 1.010   290
## theta[526,2]     -0.101 1.034    94
## theta[527,2]      0.811 1.008   420
## theta[528,2]      0.823 1.010   280
## theta[529,2]      0.090 1.015   210
## theta[530,2]     -0.096 1.021   130
## theta[531,2]     -0.172 1.012   230
## theta[532,2]     -0.206 1.019   170
## theta[533,2]      1.136 1.007   760
## theta[534,2]     -0.237 1.022   150
## theta[535,2]      1.159 1.004   950
## theta[536,2]      0.743 1.006   580
## theta[1,3]        1.804 1.041    72
## theta[2,3]        2.083 1.194    18
```

```
## theta[3,3]        2.162 1.043    71
## theta[4,3]        1.657 1.040    84
## theta[5,3]        2.687 1.170    21
## theta[6,3]        1.682 1.189    19
## theta[7,3]        2.765 1.275    14
## theta[8,3]        3.558 1.268    15
## theta[9,3]        1.518 1.156    21
## theta[10,3]       1.828 1.200    18
## theta[11,3]       1.163 1.097    35
## theta[12,3]       1.786 1.009   630
## theta[13,3]       1.399 1.049    63
## theta[14,3]       3.044 1.192    20
## theta[15,3]       1.763 1.202    18
## theta[16,3]       1.232 1.062    52
## theta[17,3]       3.059 1.207    19
## theta[18,3]       1.715 1.163    21
## theta[19,3]       1.436 1.138    24
## theta[20,3]       3.114 1.285    14
## theta[21,3]       1.665 1.144    25
## theta[22,3]       1.596 1.032   100
## theta[23,3]       2.613 1.306    13
## theta[24,3]       0.852 1.016   190
## theta[25,3]       1.727 1.018   220
## theta[26,3]       2.999 1.282    14
## theta[27,3]       1.502 1.172    20
## theta[28,3]       3.652 1.309    13
## theta[29,3]       1.276 1.135    24
## theta[30,3]       2.662 1.289    14
## theta[31,3]       1.307 1.098    33
## theta[32,3]       2.472 1.276    14
## theta[33,3]       2.574 1.124    26
## theta[34,3]       1.267 1.100    32
## theta[35,3]       1.852 1.102    32
## theta[36,3]       0.984 1.023   160
## theta[37,3]       1.460 1.028   110
## theta[38,3]       2.118 1.013   250
## theta[39,3]       1.786 1.139    25
## theta[40,3]       1.029 1.106    30
## theta[41,3]       2.949 1.280    14
## theta[42,3]       2.726 1.280    14
## theta[43,3]       1.792 1.185    19
## theta[44,3]       2.237 1.203    18
## theta[45,3]       2.440 1.106    29
## theta[46,3]       1.876 1.038    79
## theta[47,3]       1.414 1.127    25
## theta[48,3]       1.244 1.034    87
## theta[49,3]       2.613 1.269    14
## theta[50,3]       1.781 1.083    36
## theta[51,3]       3.019 1.291    14
## theta[52,3]       1.890 1.137    24
## theta[53,3]       2.164 1.108    31
## theta[54,3]       1.745 1.198    18
## theta[55,3]       1.162 1.019   150
## theta[56,3]       2.673 1.253    15
```

```
## theta[57,3]       2.161 1.223    17
## theta[58,3]       3.040 1.298    13
## theta[59,3]       1.243 1.131    25
## theta[60,3]       1.367 1.131    26
## theta[61,3]       2.084 1.202    18
## theta[62,3]       2.976 1.277    14
## theta[63,3]       1.140 1.109    34
## theta[64,3]       1.742 1.127    27
## theta[65,3]       1.427 1.041    78
## theta[66,3]       1.460 1.024   140
## theta[67,3]       1.318 1.086    39
## theta[68,3]       2.965 1.274    14
## theta[69,3]       3.780 1.315    13
## theta[70,3]       1.567 1.032    95
## theta[71,3]       1.110 1.133    25
## theta[72,3]       1.549 1.188    19
## theta[73,3]       3.274 1.294    14
## theta[74,3]       0.947 1.116    33
## theta[75,3]       1.637 1.152    23
## theta[76,3]       3.648 1.290    14
## theta[77,3]       1.223 1.096    33
## theta[78,3]       1.127 1.108    32
## theta[79,3]       2.591 1.271    14
## theta[80,3]       1.389 1.055    54
## theta[81,3]       2.225 1.156    23
## theta[82,3]       2.150 1.091    34
## theta[83,3]       2.940 1.290    14
## theta[84,3]       1.945 1.085    37
## theta[85,3]       1.589 1.031    91
## theta[86,3]       2.189 1.041    69
## theta[87,3]       1.332 1.030   120
## theta[88,3]       1.782 1.090    35
## theta[89,3]       2.545 1.310    13
## theta[90,3]       2.032 1.162    21
## theta[91,3]       1.907 1.049    59
## theta[92,3]       1.822 1.189    19
## theta[93,3]       2.011 1.144    24
## theta[94,3]       1.988 1.192    19
## theta[95,3]       2.663 1.261    15
## theta[96,3]       1.998 1.200    18
## theta[97,3]       0.600 1.016   220
## theta[98,3]       1.625 1.174    20
## theta[99,3]       2.233 1.148    23
## theta[100,3]      3.189 1.248    16
## theta[101,3]      1.599 1.171    20
## theta[102,3]      1.550 1.278    15
## theta[103,3]      1.158 1.128    25
## theta[104,3]      1.786 1.200    18
## theta[105,3]      1.521 1.010   470
## theta[106,3]      0.743 1.021   150
## theta[107,3]      3.177 1.157    23
## theta[108,3]      2.526 1.264    15
## theta[109,3]      1.112 1.061    55
## theta[110,3]      1.977 1.010   380
```

```
## theta[111,3]      2.177 1.201    18
## theta[112,3]      3.515 1.299    14
## theta[113,3]      0.795 1.011   500
## theta[114,3]      0.758 1.019   190
## theta[115,3]      1.377 1.014   940
## theta[116,3]      1.718 1.208    17
## theta[117,3]      2.899 1.311    13
## theta[118,3]      1.435 1.011   310
## theta[119,3]      1.357 1.084    36
## theta[120,3]      3.748 1.306    13
## theta[121,3]      3.108 1.262    15
## theta[122,3]      1.121 1.074    40
## theta[123,3]      1.597 1.190    19
## theta[124,3]      2.626 1.272    14
## theta[125,3]      1.056 1.073    44
## theta[126,3]      1.693 1.114    28
## theta[127,3]      1.869 1.199    19
## theta[128,3]      1.367 1.164    21
## theta[129,3]      1.358 1.016   250
## theta[130,3]      1.625 1.129    26
## theta[131,3]      1.270 1.078    41
## theta[132,3]      0.897 1.036   110
## theta[133,3]      1.494 1.065    47
## theta[134,3]      3.153 1.309    13
## theta[135,3]      2.813 1.270    14
## theta[136,3]      1.968 1.180    20
## theta[137,3]      1.219 1.023   140
## theta[138,3]      2.220 1.245    16
## theta[139,3]      2.519 1.279    14
## theta[140,3]      1.890 1.234    16
## theta[141,3]      1.948 1.007   620
## theta[142,3]      1.488 1.151    23
## theta[143,3]      2.090 1.186    19
## theta[144,3]      1.896 1.199    19
## theta[145,3]      1.491 1.111    30
## theta[146,3]      1.360 1.092    36
## theta[147,3]      2.353 1.152    22
## theta[148,3]      3.625 1.316    13
## theta[149,3]      0.837 1.063    51
## theta[150,3]      2.630 1.287    14
## theta[151,3]      2.036 1.102    31
## theta[152,3]      1.568 1.206    18
## theta[153,3]      0.763 1.184    20
## theta[154,3]      1.179 1.124    28
## theta[155,3]      1.687 1.053    55
## theta[156,3]      2.432 1.217    17
## theta[157,3]      1.359 1.082    39
## theta[158,3]      1.734 1.020   140
## theta[159,3]      1.810 1.025   120
## theta[160,3]      1.802 1.200    19
## theta[161,3]      1.449 1.111    31
## theta[162,3]      2.202 1.124    26
## theta[163,3]      1.901 1.191    19
## theta[164,3]      2.021 1.201    19
```

```
## theta[165,3]      3.596 1.308    13
## theta[166,3]      2.539 1.274    14
## theta[167,3]      2.274 1.218    17
## theta[168,3]      2.543 1.272    14
## theta[169,3]      1.983 1.155    22
## theta[170,3]      3.739 1.319    13
## theta[171,3]      1.100 1.035    80
## theta[172,3]      1.138 1.092    36
## theta[173,3]      2.543 1.292    14
## theta[174,3]      1.523 1.014   240
## theta[175,3]      0.974 1.068    45
## theta[176,3]      1.414 1.016   240
## theta[177,3]      1.735 1.040    81
## theta[178,3]      2.037 1.150    22
## theta[179,3]      1.121 1.028   120
## theta[180,3]      1.563 1.179    20
## theta[181,3]      3.585 1.279    15
## theta[182,3]      1.510 1.069    55
## theta[183,3]      1.873 1.009   720
## theta[184,3]      1.519 1.293    14
## theta[185,3]      1.865 1.204    18
## theta[186,3]      2.016 1.215    18
## theta[187,3]      2.024 1.208    17
## theta[188,3]      1.450 1.079    41
## theta[189,3]      2.570 1.284    14
## theta[190,3]      2.666 1.298    13
## theta[191,3]      2.099 1.088    35
## theta[192,3]      1.988 1.217    17
## theta[193,3]      1.372 1.239    16
## theta[194,3]      0.984 1.016   180
## theta[195,3]      1.684 1.201    18
## theta[196,3]      2.124 1.203    18
## theta[197,3]      1.782 1.200    19
## theta[198,3]      2.602 1.281    14
## theta[199,3]      2.664 1.236    16
## theta[200,3]      2.233 1.091    35
## theta[201,3]      2.512 1.279    14
## theta[202,3]      1.553 1.155    22
## theta[203,3]      1.348 1.103    31
## theta[204,3]      1.662 1.226    16
## theta[205,3]      1.376 1.007   670
## theta[206,3]      0.460 1.094    36
## theta[207,3]      1.941 1.070    44
## theta[208,3]      2.520 1.105    31
## theta[209,3]      2.155 1.092    34
## theta[210,3]      2.627 1.280    14
## theta[211,3]      1.818 1.153    23
## theta[212,3]      1.662 1.015   320
## theta[213,3]      2.531 1.268    14
## theta[214,3]      1.750 1.202    18
## theta[215,3]      2.111 1.210    17
## theta[216,3]      2.637 1.270    14
## theta[217,3]      3.160 1.303    13
## theta[218,3]      1.535 1.174    20
```

```
## theta[219,3]      1.356 1.017   190
## theta[220,3]      2.083 1.025   120
## theta[221,3]      1.603 1.034    89
## theta[222,3]      1.274 1.138    26
## theta[223,3]      2.711 1.272    14
## theta[224,3]      2.919 1.285    14
## theta[225,3]      1.509 1.151    23
## theta[226,3]      1.975 1.083    42
## theta[227,3]      3.659 1.326    13
## theta[228,3]      1.836 1.145    23
## theta[229,3]      2.047 1.211    18
## theta[230,3]      1.204 1.031   140
## theta[231,3]      3.557 1.307    13
## theta[232,3]      1.690 1.044    76
## theta[233,3]      0.999 1.060    50
## theta[234,3]      2.063 1.149    22
## theta[235,3]      1.961 1.151    23
## theta[236,3]      2.810 1.131    27
## theta[237,3]      2.127 1.016   200
## theta[238,3]      1.657 1.219    17
## theta[239,3]      1.789 1.038    82
## theta[240,3]      1.827 1.146    23
## theta[241,3]      1.513 1.049    64
## theta[242,3]      1.023 1.101    37
## theta[243,3]      1.898 1.064    48
## theta[244,3]      0.983 1.051    58
## theta[245,3]      2.636 1.239    16
## theta[246,3]      3.188 1.305    13
## theta[247,3]      1.389 1.180    20
## theta[248,3]      1.636 1.147    24
## theta[249,3]      2.668 1.289    14
## theta[250,3]      1.553 1.187    19
## theta[251,3]      3.489 1.289    14
## theta[252,3]      1.430 1.037    96
## theta[253,3]      3.198 1.221    18
## theta[254,3]      2.137 1.104    30
## theta[255,3]      1.206 1.070    42
## theta[256,3]      1.215 1.111    30
## theta[257,3]      2.569 1.248    16
## theta[258,3]      2.350 1.061    48
## theta[259,3]      2.208 1.016   320
## theta[260,3]      0.665 1.135    26
## theta[261,3]      1.762 1.186    19
## theta[262,3]      1.264 1.134    25
## theta[263,3]      0.806 1.021   140
## theta[264,3]      2.313 1.187    19
## theta[265,3]      1.386 1.143    24
## theta[266,3]      1.694 1.173    21
## theta[267,3]      2.257 1.223    17
## theta[268,3]      1.965 1.043    75
## theta[269,3]      1.170 1.090    42
## theta[270,3]      1.874 1.095    33
## theta[271,3]      1.064 1.119    27
## theta[272,3]      1.367 1.013   290
```

```
## theta[273,3]      2.083 1.200    19
## theta[274,3]      2.513 1.161    22
## theta[275,3]      2.710 1.284    14
## theta[276,3]      1.199 1.008   870
## theta[277,3]      1.581 1.101    34
## theta[278,3]      2.530 1.296    14
## theta[279,3]      2.171 1.213    17
## theta[280,3]      2.426 1.264    15
## theta[281,3]      1.714 1.201    18
## theta[282,3]      2.578 1.282    14
## theta[283,3]      1.401 1.074    41
## theta[284,3]      1.967 1.213    17
## theta[285,3]      1.293 1.022   130
## theta[286,3]      3.416 1.215    18
## theta[287,3]      1.743 1.048    64
## theta[288,3]      1.276 1.151    23
## theta[289,3]      1.334 1.062    54
## theta[290,3]      2.093 1.175    20
## theta[291,3]      3.587 1.322    13
## theta[292,3]      1.631 1.110    29
## theta[293,3]      1.332 1.009   940
## theta[294,3]      0.985 1.061    48
## theta[295,3]      1.910 1.217    17
## theta[296,3]      3.096 1.230    17
## theta[297,3]      2.423 1.261    15
## theta[298,3]      0.949 1.049    60
## theta[299,3]      3.270 1.229    17
## theta[300,3]      1.878 1.079    37
## theta[301,3]      2.019 1.222    17
## theta[302,3]      1.797 1.183    20
## theta[303,3]      1.754 1.068    49
## theta[304,3]      2.354 1.144    24
## theta[305,3]      2.186 1.147    23
## theta[306,3]      0.762 1.101    34
## theta[307,3]      1.645 1.095    33
## theta[308,3]      1.245 1.037    79
## theta[309,3]      2.365 1.279    14
## theta[310,3]      1.074 1.056    54
## theta[311,3]      1.254 1.043    83
## theta[312,3]      2.504 1.261    15
## theta[313,3]      1.781 1.107    33
## theta[314,3]      1.065 1.063    47
## theta[315,3]      1.901 1.175    20
## theta[316,3]      1.603 1.067    45
## theta[317,3]      0.651 1.009   340
## theta[318,3]      2.140 1.112    29
## theta[319,3]      2.190 1.102    31
## theta[320,3]      0.852 1.061    48
## theta[321,3]      1.674 1.075    41
## theta[322,3]      1.691 1.211    18
## theta[323,3]      2.219 1.213    17
## theta[324,3]      2.035 1.106    30
## theta[325,3]      1.528 1.158    23
## theta[326,3]      0.773 1.020   140
```

```
## theta[327,3]      3.581 1.278    15
## theta[328,3]      1.829 1.055    57
## theta[329,3]      1.602 1.013   230
## theta[330,3]      1.194 1.078    39
## theta[331,3]      0.720 1.022   210
## theta[332,3]      1.866 1.018   180
## theta[333,3]      0.894 1.050    59
## theta[334,3]      2.817 1.287    14
## theta[335,3]      1.883 1.097    33
## theta[336,3]      1.119 1.010   410
## theta[337,3]      1.493 1.177    20
## theta[338,3]      1.365 1.102    31
## theta[339,3]      1.843 1.012   320
## theta[340,3]      2.087 1.221    17
## theta[341,3]      2.085 1.214    17
## theta[342,3]      2.952 1.287    14
## theta[343,3]      2.297 1.251    15
## theta[344,3]      1.786 1.146    23
## theta[345,3]      2.245 1.289    14
## theta[346,3]      2.024 1.237    16
## theta[347,3]      2.121 1.116    30
## theta[348,3]      1.472 1.012   300
## theta[349,3]      1.849 1.028   120
## theta[350,3]      1.983 1.170    21
## theta[351,3]      1.539 1.283    14
## theta[352,3]      0.946 1.046    64
## theta[353,3]      2.376 1.261    15
## theta[354,3]      2.055 1.223    17
## theta[355,3]      1.560 1.029   110
## theta[356,3]      1.912 1.162    21
## theta[357,3]      1.090 1.020   160
## theta[358,3]      2.614 1.278    14
## theta[359,3]      1.917 1.203    18
## theta[360,3]      1.292 1.044    79
## theta[361,3]      1.459 1.076    42
## theta[362,3]      1.479 1.045    77
## theta[363,3]      1.723 1.211    18
## theta[364,3]      1.162 1.107    30
## theta[365,3]      1.857 1.189    19
## theta[366,3]      1.142 1.073    47
## theta[367,3]      1.026 1.079    39
## theta[368,3]      1.857 1.140    25
## theta[369,3]      2.060 1.189    19
## theta[370,3]      2.191 1.195    18
## theta[371,3]      1.473 1.099    31
## theta[372,3]      0.849 1.074    42
## theta[373,3]      1.190 1.039    76
## theta[374,3]      1.417 1.100    35
## theta[375,3]      1.142 1.224    17
## theta[376,3]      1.421 1.151    24
## theta[377,3]      0.788 1.068    44
## theta[378,3]      0.971 1.052    69
## theta[379,3]      1.060 1.059    61
## theta[380,3]      1.270 1.091    35
```

```
## theta[381,3]      1.675 1.044    68
## theta[382,3]      0.996 1.029   110
## theta[383,3]      2.027 1.221    17
## theta[384,3]      1.657 1.137    27
## theta[385,3]      2.035 1.158    21
## theta[386,3]      0.914 1.032    88
## theta[387,3]      0.873 1.079    39
## theta[388,3]      1.290 1.037    80
## theta[389,3]      2.108 1.216    17
## theta[390,3]      0.514 1.017   200
## theta[391,3]      1.274 1.037    80
## theta[392,3]      1.272 1.080    38
## theta[393,3]      1.032 1.100    31
## theta[394,3]      2.616 1.262    15
## theta[395,3]      2.294 1.251    15
## theta[396,3]      2.711 1.302    13
## theta[397,3]      2.322 1.219    17
## theta[398,3]      1.062 1.028   110
## theta[399,3]      3.164 1.298    13
## theta[400,3]      2.091 1.197    18
## theta[401,3]      1.782 1.024   160
## theta[402,3]      1.323 1.013   230
## theta[403,3]      1.890 1.171    21
## theta[404,3]      1.314 1.016   250
## theta[405,3]      1.426 1.139    26
## theta[406,3]      3.677 1.263    15
## theta[407,3]      0.907 1.016   310
## theta[408,3]      3.658 1.262    15
## theta[409,3]      2.137 1.108    30
## theta[410,3]      1.390 1.251    16
## theta[411,3]      0.999 1.051    58
## theta[412,3]      0.910 1.050    58
## theta[413,3]      1.487 1.274    15
## theta[414,3]      1.513 1.120    27
## theta[415,3]      2.467 1.259    15
## theta[416,3]      0.648 1.008   350
## theta[417,3]      0.875 1.046    65
## theta[418,3]      1.688 1.126    27
## theta[419,3]      1.085 1.034    88
## theta[420,3]      1.299 1.073    44
## theta[421,3]      2.479 1.283    14
## theta[422,3]      1.931 1.107    31
## theta[423,3]      2.708 1.272    14
## theta[424,3]      0.714 1.051    58
## theta[425,3]      0.762 1.044    64
## theta[426,3]      3.555 1.267    15
## theta[427,3]      1.214 1.100    31
## theta[428,3]      1.385 1.117    30
## theta[429,3]      1.681 1.173    21
## theta[430,3]      1.414 1.042    73
## theta[431,3]      2.661 1.278    14
## theta[432,3]      1.923 1.162    21
## theta[433,3]      1.834 1.157    22
## theta[434,3]      1.556 1.163    22
```

```
## theta[435,3]      2.658 1.262    15
## theta[436,3]      3.585 1.276    15
## theta[437,3]      0.940 1.053    56
## theta[438,3]      1.382 1.033   110
## theta[439,3]      1.109 1.108    30
## theta[440,3]      1.293 1.125    26
## theta[441,3]      2.293 1.241    15
## theta[442,3]      3.659 1.269    15
## theta[443,3]      1.890 1.131    26
## theta[444,3]      1.166 1.097    36
## theta[445,3]      2.205 1.263    15
## theta[446,3]      3.622 1.251    16
## theta[447,3]      1.353 1.083    39
## theta[448,3]      1.295 1.117    30
## theta[449,3]      2.207 1.034   110
## theta[450,3]      0.811 1.033    90
## theta[451,3]      1.328 1.131    25
## theta[452,3]      1.205 1.025   170
## theta[453,3]      2.210 1.181    20
## theta[454,3]      3.661 1.285    14
## theta[455,3]      0.895 1.032   100
## theta[456,3]      1.898 1.154    22
## theta[457,3]      1.549 1.010   590
## theta[458,3]      2.090 1.236    16
## theta[459,3]      2.101 1.099    32
## theta[460,3]      1.522 1.029   110
## theta[461,3]      1.235 1.092    40
## theta[462,3]      1.220 1.140    24
## theta[463,3]      1.544 1.070    45
## theta[464,3]      1.319 1.107    32
## theta[465,3]      1.020 1.045    71
## theta[466,3]      1.513 1.145    25
## theta[467,3]      1.114 1.028   120
## theta[468,3]      2.243 1.221    17
## theta[469,3]      1.390 1.041    83
## theta[470,3]      1.220 1.102    34
## theta[471,3]      1.180 1.077    46
## theta[472,3]      1.653 1.166    22
## theta[473,3]      1.032 1.192    19
## theta[474,3]      1.070 1.187    20
## theta[475,3]      3.237 1.303    13
## theta[476,3]      1.764 1.189    19
## theta[477,3]      1.469 1.029   130
## theta[478,3]      1.098 1.120    28
## theta[479,3]      1.028 1.041    71
## theta[480,3]      0.897 1.155    24
## theta[481,3]      1.811 1.159    22
## theta[482,3]      1.875 1.086    37
## theta[483,3]      1.759 1.012   330
## theta[484,3]      1.098 1.026   120
## theta[485,3]      1.073 1.038    83
## theta[486,3]      1.450 1.012   280
## theta[487,3]      1.107 1.076    41
## theta[488,3]      0.736 1.054    55
```

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## theta[489,3]      1.583 1.111    32
## theta[490,3]      1.340 1.086    36
## theta[491,3]      3.640 1.280    15
## theta[492,3]      0.910 1.046    72
## theta[493,3]      2.976 1.278    14
## theta[494,3]      2.147 1.092    34
## theta[495,3]      3.199 1.248    16
## theta[496,3]      1.785 1.054    60
## theta[497,3]      3.384 1.284    14
## theta[498,3]      3.000 1.278    14
## theta[499,3]      3.886 1.291    14
## theta[500,3]      1.359 1.108    29
## theta[501,3]      1.146 1.025   150
## theta[502,3]      1.133 1.073    42
## theta[503,3]      3.026 1.265    14
## theta[504,3]      1.125 1.083    38
## theta[505,3]      3.004 1.204    19
## theta[506,3]      3.919 1.285    14
## theta[507,3]      1.071 1.078    38
## theta[508,3]      1.026 1.078    40
## theta[509,3]      3.963 1.292    14
## theta[510,3]      2.370 1.230    17
## theta[511,3]      0.707 1.043    67
## theta[512,3]      0.787 1.067    45
## theta[513,3]      1.827 1.052    59
## theta[514,3]      0.966 1.043    68
## theta[515,3]      1.224 1.078    41
## theta[516,3]      1.144 1.078    40
## theta[517,3]      2.460 1.271    14
## theta[518,3]      1.684 1.013   380
## theta[519,3]      3.967 1.301    14
## theta[520,3]      1.559 1.051    62
## theta[521,3]      2.237 1.196    19
## theta[522,3]      2.728 1.281    14
## theta[523,3]      2.314 1.249    15
## theta[524,3]      3.701 1.243    16
## theta[525,3]      2.723 1.246    16
## theta[526,3]      2.837 1.309    13
## theta[527,3]      1.734 1.007   630
## theta[528,3]      1.755 1.007   500
## theta[529,3]      2.242 1.249    15
## theta[530,3]      2.953 1.225    17
## theta[531,3]      2.552 1.203    18
## theta[532,3]      3.599 1.351    12
## theta[533,3]      1.770 1.070    48
## theta[534,3]      3.607 1.296    14
## theta[535,3]      1.869 1.089    38
## theta[536,3]      1.885 1.009   450
## theta[1,4]        0.009 1.007   470
## theta[2,4]        1.702 1.018   160
## theta[3,4]        1.695 1.002  2000
## theta[4,4]        3.073 1.011   360
## theta[5,4]       -0.188 1.013   260
## theta[6,4]       -0.227 1.031   100
```

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## theta[7,4]       -0.307 1.025   130
## theta[8,4]       -0.153 1.028   120
## theta[9,4]       -0.366 1.015   210
## theta[10,4]      -0.057 1.014   210
## theta[11,4]       4.114 1.019   190
## theta[12,4]       3.815 1.009   370
## theta[13,4]       0.350 1.017   150
## theta[14,4]      -0.217 1.014   230
## theta[15,4]      -0.256 1.021   160
## theta[16,4]      -0.349 1.011   240
## theta[17,4]       0.894 1.008   400
## theta[18,4]      -0.101 1.010   290
## theta[19,4]      -0.336 1.022   170
## theta[20,4]      -0.358 1.029   120
## theta[21,4]       4.135 1.012   290
## theta[22,4]       3.075 1.014   200
## theta[23,4]       5.899 1.045    69
## theta[24,4]      -0.270 1.010   300
## theta[25,4]       2.922 1.006   500
## theta[26,4]      -0.495 1.029   140
## theta[27,4]       0.001 1.027   120
## theta[28,4]      -0.490 1.038   100
## theta[29,4]      -0.251 1.021   160
## theta[30,4]       6.546 1.042    78
## theta[31,4]       0.347 1.006   560
## theta[32,4]       6.058 1.017   180
## theta[33,4]       4.510 1.015   230
## theta[34,4]      -0.071 1.004   770
## theta[35,4]       4.319 1.014   240
## theta[36,4]       3.972 1.002  1500
## theta[37,4]      -0.175 1.006   450
## theta[38,4]       3.771 1.002  1600
## theta[39,4]       4.782 1.011   250
## theta[40,4]      -0.154 1.010   300
## theta[41,4]      -0.495 1.016   180
## theta[42,4]       6.348 1.036    90
## theta[43,4]       4.689 1.027   120
## theta[44,4]      -0.303 1.023   160
## theta[45,4]       3.172 1.009   370
## theta[46,4]       1.134 1.002  3900
## theta[47,4]      -0.316 1.012   250
## theta[48,4]      -0.309 1.021   150
## theta[49,4]      -0.060 1.020   150
## theta[50,4]       0.043 1.009   390
## theta[51,4]       0.033 1.029   100
## theta[52,4]       2.360 1.004  1600
## theta[53,4]       0.828 1.004   910
## theta[54,4]       1.686 1.016   180
## theta[55,4]      -0.405 1.009   390
## theta[56,4]       6.715 1.034    91
## theta[57,4]       4.365 1.021   190
## theta[58,4]      -0.469 1.044    87
## theta[59,4]      -0.093 1.016   250
## theta[60,4]       2.693 1.011   280
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## theta[61,4]      -0.175 1.023   140
## theta[62,4]       0.032 1.029   100
## theta[63,4]       3.906 1.020   150
## theta[64,4]       4.019 1.011   240
## theta[65,4]       3.891 1.008   470
## theta[66,4]      -0.224 1.011   310
## theta[67,4]       4.025 1.007   470
## theta[68,4]      -0.513 1.022   170
## theta[69,4]      -0.509 1.023   140
## theta[70,4]       0.026 1.015   190
## theta[71,4]      -0.061 1.023   130
## theta[72,4]      -0.001 1.025   120
## theta[73,4]      -0.337 1.050    64
## theta[74,4]       4.127 1.031   120
## theta[75,4]      -0.323 1.025   130
## theta[76,4]      -0.492 1.025   130
## theta[77,4]       0.740 1.005   550
## theta[78,4]       2.819 1.014   270
## theta[79,4]       6.210 1.039    76
## theta[80,4]      -0.055 1.011   320
## theta[81,4]      -0.207 1.008   500
## theta[82,4]       3.010 1.011   400
## theta[83,4]      -0.501 1.027   120
## theta[84,4]       2.371 1.005  1200
## theta[85,4]       3.199 1.004   890
## theta[86,4]       1.076 1.004  3000
## theta[87,4]       1.156 1.001  4000
## theta[88,4]       1.021 1.001  4000
## theta[89,4]       6.118 1.033   100
## theta[90,4]       4.058 1.020   180
## theta[91,4]       3.331 1.013   230
## theta[92,4]      -0.334 1.013   220
## theta[93,4]       4.585 1.016   220
## theta[94,4]       4.773 1.012   230
## theta[95,4]       6.229 1.021   140
## theta[96,4]       1.763 1.019   140
## theta[97,4]      -0.189 1.013   360
## theta[98,4]      -0.410 1.013   250
## theta[99,4]       4.901 1.016   210
## theta[100,4]     -0.105 1.015   190
## theta[101,4]      0.511 1.020   140
## theta[102,4]      5.445 1.028   120
## theta[103,4]     -0.072 1.014   220
## theta[104,4]      2.012 1.031    95
## theta[105,4]      2.039 1.008   460
## theta[106,4]      1.028 1.002  4000
## theta[107,4]      2.535 1.002  4000
## theta[108,4]      6.334 1.038   110
## theta[109,4]      3.311 1.014   190
## theta[110,4]      3.238 1.004  1200
## theta[111,4]     -0.271 1.014   240
## theta[112,4]     -0.467 1.030   110
## theta[113,4]      0.441 1.007   400
## theta[114,4]     -0.324 1.015   240
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## theta[115,4]      1.532 1.002  2100
## theta[116,4]      2.043 1.014   190
## theta[117,4]     -0.463 1.034    92
## theta[118,4]     -0.293 1.012   280
## theta[119,4]     -0.085 1.006   810
## theta[120,4]     -0.515 1.027   120
## theta[121,4]      0.190 1.020   150
## theta[122,4]     -0.307 1.010   270
## theta[123,4]     -0.246 1.022   130
## theta[124,4]      6.223 1.021   170
## theta[125,4]      3.234 1.015   260
## theta[126,4]      1.272 1.001  4000
## theta[127,4]      4.463 1.018   180
## theta[128,4]      0.082 1.001  2700
## theta[129,4]     -0.168 1.006   560
## theta[130,4]      3.436 1.020   140
## theta[131,4]     -0.331 1.016   240
## theta[132,4]      0.732 1.003  1100
## theta[133,4]      0.195 1.021   150
## theta[134,4]     -0.331 1.025   120
## theta[135,4]      0.013 1.029   120
## theta[136,4]      4.989 1.021   160
## theta[137,4]      1.344 1.005   560
## theta[138,4]      4.990 1.016   220
## theta[139,4]     -0.008 1.031   100
## theta[140,4]      5.573 1.018   180
## theta[141,4]      3.321 1.010   420
## theta[142,4]      1.331 1.005   540
## theta[143,4]     -0.227 1.020   160
## theta[144,4]      0.018 1.037    84
## theta[145,4]     -0.280 1.022   170
## theta[146,4]      1.863 1.012   220
## theta[147,4]      5.424 1.016   230
## theta[148,4]     -0.505 1.029   110
## theta[149,4]      1.575 1.014   240
## theta[150,4]      6.116 1.029   120
## theta[151,4]      4.640 1.013   230
## theta[152,4]      0.912 1.003  1100
## theta[153,4]      1.341 1.004  1000
## theta[154,4]      4.819 1.019   240
## theta[155,4]      2.013 1.008   340
## theta[156,4]      4.807 1.024   140
## theta[157,4]      2.171 1.015   200
## theta[158,4]     -0.279 1.014   200
## theta[159,4]      1.672 1.008   410
## theta[160,4]      4.366 1.013   270
## theta[161,4]      4.071 1.009   480
## theta[162,4]      3.454 1.023   190
## theta[163,4]      4.880 1.011   310
## theta[164,4]      5.783 1.019   160
## theta[165,4]     -0.473 1.027   120
## theta[166,4]     -0.017 1.021   150
## theta[167,4]     -0.492 1.013   280
## theta[168,4]      6.176 1.016   180
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## theta[169,4]      3.936 1.027   170
## theta[170,4]     -0.438 1.021   130
## theta[171,4]     -0.365 1.013   220
## theta[172,4]      1.519 1.018   160
## theta[173,4]      6.169 1.031   110
## theta[174,4]     -0.034 1.011   270
## theta[175,4]     -0.116 1.012   260
## theta[176,4]     -0.292 1.012   270
## theta[177,4]      1.157 1.008   370
## theta[178,4]      1.644 1.003  1800
## theta[179,4]      1.685 1.014   230
## theta[180,4]      1.247 1.008   360
## theta[181,4]     -0.066 1.021   150
## theta[182,4]      3.013 1.011   280
## theta[183,4]      2.612 1.007   610
## theta[184,4]      5.572 1.020   190
## theta[185,4]      4.393 1.029   120
## theta[186,4]      5.212 1.019   180
## theta[187,4]      1.432 1.006   510
## theta[188,4]     -0.320 1.016   230
## theta[189,4]      6.330 1.028   110
## theta[190,4]      6.519 1.033   110
## theta[191,4]      4.260 1.016   220
## theta[192,4]      4.435 1.015   200
## theta[193,4]      4.887 1.025   130
## theta[194,4]     -0.364 1.009   310
## theta[195,4]     -0.014 1.017   170
## theta[196,4]      4.379 1.020   170
## theta[197,4]      4.186 1.021   170
## theta[198,4]      6.203 1.036   100
## theta[199,4]      4.613 1.033   110
## theta[200,4]      1.038 1.007   360
## theta[201,4]      5.966 1.008   380
## theta[202,4]      1.953 1.018   170
## theta[203,4]      3.892 1.010   390
## theta[204,4]      1.412 1.006   530
## theta[205,4]     -0.308 1.011   370
## theta[206,4]     -0.161 1.007   540
## theta[207,4]      3.148 1.015   220
## theta[208,4]      3.157 1.005   720
## theta[209,4]      3.734 1.006   460
## theta[210,4]      6.076 1.031   110
## theta[211,4]     -0.149 1.007   400
## theta[212,4]      1.752 1.007   400
## theta[213,4]      6.094 1.025   130
## theta[214,4]      2.030 1.020   160
## theta[215,4]      1.428 1.013   210
## theta[216,4]      6.172 1.024   150
## theta[217,4]     -0.290 1.029   100
## theta[218,4]      1.188 1.004   700
## theta[219,4]      3.856 1.012   360
## theta[220,4]      1.037 1.004   920
## theta[221,4]     -0.104 1.007   570
## theta[222,4]      3.306 1.016   220
```

```
## theta[223,4]      6.079 1.022   150
## theta[224,4]     -0.475 1.019   160
## theta[225,4]      3.893 1.022   150
## theta[226,4]     -0.218 1.011   330
## theta[227,4]     -0.583 1.036    89
## theta[228,4]     -0.241 1.027   130
## theta[229,4]      4.385 1.020   190
## theta[230,4]      3.096 1.013   250
## theta[231,4]     -0.354 1.044    77
## theta[232,4]      2.803 1.012   240
## theta[233,4]     -0.320 1.015   250
## theta[234,4]      0.763 1.003  1200
## theta[235,4]      1.130 1.004   840
## theta[236,4]      2.847 1.003  4000
## theta[237,4]      2.944 1.007   500
## theta[238,4]      1.367 1.008   400
## theta[239,4]     -0.226 1.009   420
## theta[240,4]      1.034 1.004   820
## theta[241,4]      3.763 1.005  1000
## theta[242,4]      3.006 1.022   150
## theta[243,4]      2.557 1.014   230
## theta[244,4]     -0.341 1.008   390
## theta[245,4]      5.715 1.011   340
## theta[246,4]     -0.372 1.023   140
## theta[247,4]      1.215 1.004   870
## theta[248,4]      4.246 1.016   180
## theta[249,4]     -0.211 1.028   110
## theta[250,4]     -0.251 1.014   210
## theta[251,4]     -0.174 1.031   110
## theta[252,4]      3.660 1.015   240
## theta[253,4]      0.217 1.020   150
## theta[254,4]      3.953 1.011   390
## theta[255,4]      0.321 1.020   150
## theta[256,4]      1.286 1.003  1400
## theta[257,4]      6.223 1.018   180
## theta[258,4]      4.438 1.005   660
## theta[259,4]      2.376 1.008   390
## theta[260,4]      0.305 1.004   900
## theta[261,4]     -0.220 1.024   160
## theta[262,4]      0.102 1.003  1100
## theta[263,4]     -0.329 1.018   250
## theta[264,4]     -0.364 1.019   160
## theta[265,4]     -0.258 1.020   170
## theta[266,4]      3.949 1.023   150
## theta[267,4]      4.435 1.011   330
## theta[268,4]      2.384 1.003  1500
## theta[269,4]      3.064 1.010   330
## theta[270,4]      3.610 1.006   640
## theta[271,4]     -0.053 1.033    99
## theta[272,4]      1.048 1.002  2300
## theta[273,4]      5.674 1.015   200
## theta[274,4]      1.474 1.005   690
## theta[275,4]      6.166 1.027   130
## theta[276,4]      1.236 1.001  4000
```

```
## theta[277,4]      4.365 1.017   190
## theta[278,4]      6.334 1.029   130
## theta[279,4]      4.290 1.013   230
## theta[280,4]      5.930 1.032   110
## theta[281,4]      4.599 1.021   150
## theta[282,4]      6.037 1.017   210
## theta[283,4]     -0.081 1.009   350
## theta[284,4]      4.788 1.013   270
## theta[285,4]      1.796 1.002  1700
## theta[286,4]      1.356 1.010   330
## theta[287,4]      1.846 1.011   280
## theta[288,4]      1.333 1.006   620
## theta[289,4]      1.076 1.002  2600
## theta[290,4]      3.549 1.027   120
## theta[291,4]     -0.495 1.017   200
## theta[292,4]      2.845 1.003  1300
## theta[293,4]      0.078 1.015   220
## theta[294,4]     -0.331 1.010   290
## theta[295,4]      4.392 1.022   140
## theta[296,4]     -0.047 1.034   100
## theta[297,4]     -0.030 1.027   130
## theta[298,4]     -0.113 1.022   150
## theta[299,4]      0.944 1.007   400
## theta[300,4]      3.905 1.006   630
## theta[301,4]      4.277 1.012   220
## theta[302,4]      4.244 1.025   130
## theta[303,4]      3.341 1.028   140
## theta[304,4]      3.032 1.001  4000
## theta[305,4]      4.640 1.016   180
## theta[306,4]      3.680 1.027   120
## theta[307,4]      1.153 1.003  1100
## theta[308,4]      0.162 1.012   250
## theta[309,4]     -0.016 1.036    87
## theta[310,4]     -0.329 1.017   190
## theta[311,4]      3.708 1.010   320
## theta[312,4]      0.051 1.026   120
## theta[313,4]      3.387 1.025   160
## theta[314,4]      0.711 1.003  1300
## theta[315,4]      3.535 1.017   180
## theta[316,4]      2.324 1.004   930
## theta[317,4]     -0.350 1.013   230
## theta[318,4]      4.374 1.010   300
## theta[319,4]      3.527 1.011   290
## theta[320,4]     -0.158 1.012   250
## theta[321,4]      2.808 1.007   680
## theta[322,4]      4.039 1.012   250
## theta[323,4]      4.427 1.016   200
## theta[324,4]      3.201 1.011   290
## theta[325,4]      4.109 1.031   130
## theta[326,4]     -0.321 1.013   280
## theta[327,4]     -0.156 1.027   120
## theta[328,4]      2.972 1.012   290
## theta[329,4]      3.225 1.007   800
## theta[330,4]      0.905 1.006   540
```

```
## theta[331,4]      0.581 1.002  4000
## theta[332,4]      3.030 1.003  1700
## theta[333,4]     -0.300 1.009   340
## theta[334,4]     -0.485 1.027   140
## theta[335,4]      3.025 1.013   240
## theta[336,4]      2.398 1.005  1000
## theta[337,4]     -0.009 1.025   120
## theta[338,4]     -0.325 1.013   240
## theta[339,4]      2.726 1.006   480
## theta[340,4]      4.348 1.021   140
## theta[341,4]      4.438 1.015   190
## theta[342,4]     -0.423 1.032   100
## theta[343,4]     -0.037 1.023   130
## theta[344,4]      1.235 1.005   620
## theta[345,4]     -0.035 1.027   110
## theta[346,4]      4.145 1.029   110
## theta[347,4]      1.781 1.004  1000
## theta[348,4]      3.876 1.003  1700
## theta[349,4]      0.789 1.002  1700
## theta[350,4]      4.376 1.017   220
## theta[351,4]      5.624 1.030   120
## theta[352,4]     -0.313 1.008   440
## theta[353,4]      0.060 1.027   110
## theta[354,4]      4.475 1.016   180
## theta[355,4]      2.409 1.009   450
## theta[356,4]      3.643 1.015   240
## theta[357,4]      1.151 1.004   950
## theta[358,4]      6.161 1.040    85
## theta[359,4]      4.496 1.018   170
## theta[360,4]      3.393 1.009   370
## theta[361,4]      2.090 1.015   200
## theta[362,4]      3.782 1.011   300
## theta[363,4]      4.290 1.022   150
## theta[364,4]     -0.089 1.011   310
## theta[365,4]      1.027 1.004   720
## theta[366,4]      3.456 1.016   200
## theta[367,4]     -0.349 1.011   320
## theta[368,4]      5.161 1.013   220
## theta[369,4]      5.628 1.018   200
## theta[370,4]      4.386 1.012   230
## theta[371,4]      0.843 1.002  1900
## theta[372,4]     -0.200 1.012   240
## theta[373,4]      1.326 1.007   500
## theta[374,4]      3.679 1.011   270
## theta[375,4]      3.854 1.021   170
## theta[376,4]      4.247 1.011   260
## theta[377,4]     -0.150 1.009   360
## theta[378,4]      2.898 1.008   370
## theta[379,4]      3.515 1.012   330
## theta[380,4]      0.252 1.021   140
## theta[381,4]      2.318 1.006   710
## theta[382,4]      1.416 1.004   760
## theta[383,4]      4.211 1.021   160
## theta[384,4]      5.022 1.013   220
```

```
## theta[385,4]      3.947 1.017   200
## theta[386,4]      2.895 1.008   470
## theta[387,4]     -0.154 1.014   230
## theta[388,4]      2.899 1.009   500
## theta[389,4]      4.448 1.012   270
## theta[390,4]     -0.148 1.019   240
## theta[391,4]      1.447 1.007   450
## theta[392,4]     -0.351 1.014   240
## theta[393,4]     -0.092 1.015   230
## theta[394,4]      6.093 1.024   130
## theta[395,4]      0.035 1.024   130
## theta[396,4]      6.245 1.033   110
## theta[397,4]      0.035 1.014   190
## theta[398,4]      2.942 1.008   410
## theta[399,4]     -0.326 1.036    97
## theta[400,4]      1.682 1.016   190
## theta[401,4]      3.094 1.006   650
## theta[402,4]      3.483 1.012   350
## theta[403,4]      3.891 1.014   260
## theta[404,4]     -0.135 1.011   500
## theta[405,4]      3.494 1.019   160
## theta[406,4]     -0.046 1.012   250
## theta[407,4]     -0.183 1.006   500
## theta[408,4]     -0.127 1.030   110
## theta[409,4]      4.620 1.012   320
## theta[410,4]      5.371 1.035   100
## theta[411,4]      0.821 1.003  1100
## theta[412,4]     -0.322 1.007   390
## theta[413,4]      5.494 1.024   150
## theta[414,4]     -0.351 1.010   310
## theta[415,4]     -0.044 1.019   150
## theta[416,4]     -0.398 1.014   240
## theta[417,4]     -0.167 1.020   160
## theta[418,4]     -0.091 1.027   120
## theta[419,4]      2.910 1.007   450
## theta[420,4]     -0.049 1.021   150
## theta[421,4]     -0.009 1.029   110
## theta[422,4]      3.328 1.019   170
## theta[423,4]      0.084 1.034    83
## theta[424,4]     -0.159 1.015   220
## theta[425,4]     -0.180 1.012   270
## theta[426,4]     -0.075 1.026   120
## theta[427,4]      0.769 1.005   610
## theta[428,4]      3.697 1.024   170
## theta[429,4]      3.955 1.020   170
## theta[430,4]     -0.233 1.010   310
## theta[431,4]      6.235 1.029   110
## theta[432,4]      3.051 1.018   200
## theta[433,4]      3.003 1.017   180
## theta[434,4]      4.140 1.021   160
## theta[435,4]     -0.299 1.031    99
## theta[436,4]     -0.133 1.020   150
## theta[437,4]     -0.278 1.011   390
## theta[438,4]      3.075 1.006   520
```

```
## theta[439,4]      0.895 1.002  1500
## theta[440,4]      1.167 1.005   820
## theta[441,4]      0.052 1.021   180
## theta[442,4]     -0.101 1.032   110
## theta[443,4]      2.682 1.015   240
## theta[444,4]      4.099 1.010   410
## theta[445,4]      5.075 1.019   200
## theta[446,4]     -0.148 1.029   100
## theta[447,4]      3.668 1.021   180
## theta[448,4]      3.869 1.024   140
## theta[449,4]      2.443 1.002  1400
## theta[450,4]     -0.354 1.019   180
## theta[451,4]     -0.301 1.024   150
## theta[452,4]     -0.131 1.016   170
## theta[453,4]      3.809 1.018   180
## theta[454,4]     -0.136 1.023   140
## theta[455,4]      0.034 1.019   170
## theta[456,4]      4.060 1.013   250
## theta[457,4]      1.507 1.006   520
## theta[458,4]      4.025 1.023   160
## theta[459,4]      3.869 1.006   600
## theta[460,4]      3.783 1.016   220
## theta[461,4]      3.963 1.013   260
## theta[462,4]     -0.109 1.013   290
## theta[463,4]      0.366 1.012   270
## theta[464,4]      1.804 1.018   170
## theta[465,4]      3.305 1.013   290
## theta[466,4]      3.445 1.017   190
## theta[467,4]      0.528 1.005   630
## theta[468,4]      4.340 1.035   110
## theta[469,4]      3.815 1.014   290
## theta[470,4]      3.323 1.015   230
## theta[471,4]      3.983 1.008   440
## theta[472,4]      3.875 1.011   340
## theta[473,4]      3.215 1.014   260
## theta[474,4]      3.361 1.021   140
## theta[475,4]     -0.380 1.044    77
## theta[476,4]      4.786 1.017   210
## theta[477,4]      3.786 1.007   490
## theta[478,4]      1.200 1.005   830
## theta[479,4]      1.414 1.002  1800
## theta[480,4]      4.181 1.015   190
## theta[481,4]      3.671 1.007   390
## theta[482,4]     -0.135 1.008   500
## theta[483,4]      2.405 1.007   420
## theta[484,4]      2.911 1.009   420
## theta[485,4]      2.935 1.009   340
## theta[486,4]     -0.275 1.007   440
## theta[487,4]      1.014 1.003  1200
## theta[488,4]     -0.192 1.010   280
## theta[489,4]      4.333 1.021   160
## theta[490,4]      0.688 1.005   610
## theta[491,4]     -0.195 1.028   110
## theta[492,4]      3.377 1.007   460
```

```
## theta[493,4]     -0.473 1.013   270
## theta[494,4]      3.798 1.015   260
## theta[495,4]     -0.052 1.026   120
## theta[496,4]      3.615 1.019   190
## theta[497,4]     -0.230 1.016   190
## theta[498,4]      0.003 1.027   110
## theta[499,4]     -0.200 1.010   300
## theta[500,4]     -0.353 1.017   210
## theta[501,4]      3.376 1.009   390
## theta[502,4]     -0.345 1.020   170
## theta[503,4]      0.056 1.036    94
## theta[504,4]     -0.130 1.013   300
## theta[505,4]     -0.255 1.010   420
## theta[506,4]     -0.218 1.030   100
## theta[507,4]     -0.351 1.005   720
## theta[508,4]     -0.296 1.009   350
## theta[509,4]     -0.144 1.018   170
## theta[510,4]      0.042 1.030   100
## theta[511,4]     -0.169 1.017   200
## theta[512,4]     -0.147 1.016   190
## theta[513,4]      3.727 1.005   530
## theta[514,4]     -0.339 1.011   310
## theta[515,4]     -0.262 1.017   220
## theta[516,4]     -0.156 1.014   220
## theta[517,4]      0.115 1.049    68
## theta[518,4]      2.363 1.012   240
## theta[519,4]     -0.195 1.024   140
## theta[520,4]      3.613 1.014   240
## theta[521,4]     -0.330 1.020   140
## theta[522,4]     -0.213 1.023   140
## theta[523,4]     -0.320 1.020   160
## theta[524,4]     -0.084 1.015   180
## theta[525,4]     -0.341 1.022   130
## theta[526,4]     -0.257 1.028   110
## theta[527,4]      2.837 1.010   500
## theta[528,4]      2.909 1.008   520
## theta[529,4]     -0.350 1.027   130
## theta[530,4]      0.207 1.031    96
## theta[531,4]     -0.318 1.025   140
## theta[532,4]     -0.488 1.056    59
## theta[533,4]      4.089 1.015   220
## theta[534,4]     -0.434 1.032   100
## theta[535,4]      3.868 1.014   250
## theta[536,4]      3.445 1.015   220
## theta[1,5]        2.434 1.015   180
## theta[2,5]        4.153 1.081    39
## theta[3,5]        0.547 1.015   210
## theta[4,5]        1.756 1.030    91
## theta[5,5]        0.795 1.037    77
## theta[6,5]        0.045 1.046    63
## theta[7,5]        0.102 1.087    36
## theta[8,5]        0.852 1.068    45
## theta[9,5]        0.052 1.039    72
## theta[10,5]       0.033 1.050    60
```

```
## theta[11,5]       0.263 1.008   360
## theta[12,5]       1.381 1.016   180
## theta[13,5]       0.955 1.016   170
## theta[14,5]       0.877 1.046    62
## theta[15,5]       0.057 1.038    81
## theta[16,5]       1.035 1.016   170
## theta[17,5]       0.712 1.043    68
## theta[18,5]       0.055 1.058    52
## theta[19,5]       0.072 1.021   130
## theta[20,5]       0.190 1.054    53
## theta[21,5]       1.521 1.050    55
## theta[22,5]       1.738 1.034    82
## theta[23,5]       4.613 1.086    36
## theta[24,5]       2.089 1.009   350
## theta[25,5]       1.056 1.005   920
## theta[26,5]       0.108 1.075    40
## theta[27,5]      -0.032 1.050    57
## theta[28,5]       0.158 1.083    37
## theta[29,5]       0.013 1.026   110
## theta[30,5]       4.503 1.068    44
## theta[31,5]       1.427 1.057    50
## theta[32,5]       4.746 1.124    27
## theta[33,5]       3.820 1.041    71
## theta[34,5]       1.909 1.044    65
## theta[35,5]       2.289 1.054    52
## theta[36,5]       0.548 1.003  2900
## theta[37,5]       1.446 1.003  1100
## theta[38,5]       0.388 1.007   630
## theta[39,5]       1.937 1.060    48
## theta[40,5]      -0.119 1.033    91
## theta[41,5]       0.107 1.081    37
## theta[42,5]       4.522 1.111    29
## theta[43,5]       2.789 1.101    31
## theta[44,5]       0.261 1.044    68
## theta[45,5]       3.193 1.058    50
## theta[46,5]       2.627 1.021   130
## theta[47,5]       0.067 1.022   140
## theta[48,5]       1.262 1.010   270
## theta[49,5]      -0.047 1.081    38
## theta[50,5]       3.022 1.036    82
## theta[51,5]       0.094 1.112    29
## theta[52,5]      -0.053 1.048    62
## theta[53,5]       0.422 1.032    91
## theta[54,5]       3.105 1.074    41
## theta[55,5]       1.832 1.010   270
## theta[56,5]       4.695 1.129    26
## theta[57,5]       3.125 1.086    35
## theta[58,5]       0.103 1.065    46
## theta[59,5]      -0.077 1.028   100
## theta[60,5]       2.312 1.058    51
## theta[61,5]       0.131 1.058    51
## theta[62,5]       0.032 1.087    35
## theta[63,5]       0.809 1.023   120
## theta[64,5]       1.492 1.059    49
```

```
## theta[65,5]       0.439 1.006   460
## theta[66,5]       2.139 1.006   460
## theta[67,5]       0.423 1.007   400
## theta[68,5]       0.057 1.085    36
## theta[69,5]       0.129 1.105    30
## theta[70,5]       0.646 1.020   130
## theta[71,5]      -0.130 1.036    81
## theta[72,5]      -0.019 1.040    74
## theta[73,5]       0.220 1.067    45
## theta[74,5]       1.272 1.041    68
## theta[75,5]       0.185 1.033    86
## theta[76,5]       0.195 1.114    28
## theta[77,5]      -0.138 1.027   110
## theta[78,5]       2.236 1.057    51
## theta[79,5]       4.730 1.080    39
## theta[80,5]       2.987 1.027   110
## theta[81,5]       0.677 1.047    65
## theta[82,5]       2.257 1.030    91
## theta[83,5]       0.132 1.078    39
## theta[84,5]       0.083 1.019   170
## theta[85,5]       0.346 1.011   270
## theta[86,5]       2.266 1.029    99
## theta[87,5]       2.618 1.032    90
## theta[88,5]       3.690 1.050    58
## theta[89,5]       4.649 1.080    39
## theta[90,5]       3.481 1.070    44
## theta[91,5]       0.632 1.007   370
## theta[92,5]       0.121 1.048    62
## theta[93,5]       2.788 1.086    35
## theta[94,5]       3.005 1.082    37
## theta[95,5]       4.736 1.092    33
## theta[96,5]       4.042 1.081    37
## theta[97,5]       1.393 1.012   230
## theta[98,5]       0.061 1.055    54
## theta[99,5]       2.406 1.066    44
## theta[100,5]      0.795 1.054    56
## theta[101,5]     -0.112 1.046    64
## theta[102,5]      2.953 1.106    30
## theta[103,5]     -0.148 1.047    66
## theta[104,5]      3.975 1.071    43
## theta[105,5]      1.556 1.013   220
## theta[106,5]      0.152 1.007   440
## theta[107,5]      0.734 1.050    57
## theta[108,5]      4.479 1.073    42
## theta[109,5]      0.410 1.006   430
## theta[110,5]      1.641 1.025   110
## theta[111,5]      0.284 1.061    50
## theta[112,5]      0.143 1.080    39
## theta[113,5]      0.475 1.005   690
## theta[114,5]      2.027 1.024   120
## theta[115,5]      1.143 1.002  4000
## theta[116,5]      3.976 1.090    34
## theta[117,5]      0.015 1.065    46
## theta[118,5]      1.715 1.007   410
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```
## theta[119,5]      2.292 1.047    62
## theta[120,5]      0.168 1.070    44
## theta[121,5]      0.774 1.074    41
## theta[122,5]      0.326 1.017   150
## theta[123,5]      0.091 1.041    72
## theta[124,5]      4.680 1.106    31
## theta[125,5]      2.101 1.040    72
## theta[126,5]      3.588 1.074    42
## theta[127,5]      3.526 1.073    42
## theta[128,5]      3.825 1.070    45
## theta[129,5]      1.540 1.006   510
## theta[130,5]      3.056 1.028    99
## theta[131,5]      0.771 1.024   120
## theta[132,5]      1.552 1.029    91
## theta[133,5]      0.348 1.029   110
## theta[134,5]      0.179 1.086    36
## theta[135,5]      0.109 1.075    41
## theta[136,5]      2.933 1.083    36
## theta[137,5]      1.633 1.013   240
## theta[138,5]      2.648 1.105    29
## theta[139,5]     -0.017 1.081    38
## theta[140,5]      2.027 1.091    33
## theta[141,5]      0.885 1.005   740
## theta[142,5]      2.959 1.062    48
## theta[143,5]      0.239 1.037    78
## theta[144,5]      1.008 1.036    76
## theta[145,5]      0.880 1.020   130
## theta[146,5]      1.932 1.042    68
## theta[147,5]      2.032 1.073    41
## theta[148,5]      0.218 1.082    36
## theta[149,5]      1.599 1.060    47
## theta[150,5]      4.747 1.080    38
## theta[151,5]      2.105 1.044    64
## theta[152,5]      4.041 1.072    44
## theta[153,5]      2.253 1.078    39
## theta[154,5]      2.348 1.055    52
## theta[155,5]      2.318 1.026   100
## theta[156,5]      2.738 1.092    33
## theta[157,5]      1.525 1.039    71
## theta[158,5]      2.767 1.011   250
## theta[159,5]      0.666 1.003  1300
## theta[160,5]      2.154 1.084    35
## theta[161,5]      1.855 1.059    48
## theta[162,5]      3.562 1.050    56
## theta[163,5]      2.971 1.077    38
## theta[164,5]      1.979 1.095    33
## theta[165,5]      0.232 1.117    27
## theta[166,5]      0.030 1.073    42
## theta[167,5]      0.092 1.056    56
## theta[168,5]      4.514 1.087    36
## theta[169,5]      3.391 1.042    71
## theta[170,5]      0.290 1.084    36
## theta[171,5]      1.388 1.015   180
## theta[172,5]      2.637 1.059    50
```

```
## theta[173,5]      4.558 1.086    35
## theta[174,5]      1.053 1.003  1300
## theta[175,5]      0.653 1.016   180
## theta[176,5]      1.678 1.007   410
## theta[177,5]      2.078 1.031    89
## theta[178,5]      0.045 1.060    49
## theta[179,5]      1.549 1.036    75
## theta[180,5]      3.140 1.076    40
## theta[181,5]      0.931 1.078    39
## theta[182,5]      1.174 1.029    91
## theta[183,5]      1.158 1.004   720
## theta[184,5]      2.993 1.106    30
## theta[185,5]      3.416 1.068    44
## theta[186,5]      1.641 1.069    43
## theta[187,5]     -0.029 1.053    56
## theta[188,5]      0.936 1.018   140
## theta[189,5]      4.671 1.082    37
## theta[190,5]      4.722 1.088    35
## theta[191,5]      2.997 1.043    68
## theta[192,5]      3.082 1.104    30
## theta[193,5]      2.720 1.082    38
## theta[194,5]      1.306 1.003  1100
## theta[195,5]     -0.109 1.063    48
## theta[196,5]      3.187 1.095    32
## theta[197,5]      3.404 1.080    38
## theta[198,5]      4.500 1.091    34
## theta[199,5]      4.481 1.072    41
## theta[200,5]      0.360 1.034    83
## theta[201,5]      4.409 1.098    32
## theta[202,5]      2.888 1.053    54
## theta[203,5]      1.464 1.046    62
## theta[204,5]      3.867 1.064    46
## theta[205,5]      1.390 1.005   640
## theta[206,5]      2.028 1.054    54
## theta[207,5]      1.788 1.034    82
## theta[208,5]      0.510 1.041    74
## theta[209,5]      2.975 1.070    43
## theta[210,5]      4.510 1.082    38
## theta[211,5]      0.524 1.034    83
## theta[212,5]      0.639 1.002  3300
## theta[213,5]      4.650 1.089    35
## theta[214,5]      3.813 1.074    41
## theta[215,5]     -0.047 1.051    61
## theta[216,5]      4.586 1.091    34
## theta[217,5]      0.207 1.081    38
## theta[218,5]      3.084 1.082    37
## theta[219,5]      0.546 1.009   360
## theta[220,5]      2.802 1.022   130
## theta[221,5]      1.532 1.015   180
## theta[222,5]      1.386 1.056    51
## theta[223,5]      4.415 1.105    30
## theta[224,5]     -0.008 1.082    36
## theta[225,5]      2.683 1.066    44
## theta[226,5]      1.155 1.012   260
```

```
## theta[227,5]      0.163 1.080    40
## theta[228,5]      0.595 1.021   130
## theta[229,5]      2.527 1.075    40
## theta[230,5]      0.623 1.003  1200
## theta[231,5]      0.200 1.101    31
## theta[232,5]      1.212 1.022   120
## theta[233,5]     -0.004 1.024   120
## theta[234,5]      4.168 1.062    50
## theta[235,5]      0.104 1.042    69
## theta[236,5]      1.101 1.027   100
## theta[237,5]      0.518 1.013   280
## theta[238,5]      3.990 1.085    37
## theta[239,5]      2.878 1.011   240
## theta[240,5]      0.131 1.036    80
## theta[241,5]      2.445 1.031    89
## theta[242,5]      0.712 1.011   250
## theta[243,5]      2.587 1.046    62
## theta[244,5]     -0.027 1.023   120
## theta[245,5]      4.510 1.070    46
## theta[246,5]      0.255 1.072    42
## theta[247,5]      2.597 1.065    45
## theta[248,5]      2.266 1.063    46
## theta[249,5]      0.243 1.054    54
## theta[250,5]      0.024 1.052    56
## theta[251,5]      0.977 1.071    43
## theta[252,5]      0.323 1.003  3100
## theta[253,5]      1.081 1.050    57
## theta[254,5]      2.543 1.040    69
## theta[255,5]      0.233 1.030    93
## theta[256,5]      2.330 1.057    53
## theta[257,5]      4.606 1.091    34
## theta[258,5]      3.488 1.030    93
## theta[259,5]      2.184 1.031    88
## theta[260,5]      2.000 1.067    44
## theta[261,5]      0.042 1.051    58
## theta[262,5]      2.982 1.047    60
## theta[263,5]      0.230 1.013   210
## theta[264,5]      0.249 1.050    57
## theta[265,5]      0.736 1.041    68
## theta[266,5]      2.384 1.093    33
## theta[267,5]      3.207 1.086    35
## theta[268,5]      0.783 1.016   170
## theta[269,5]      1.060 1.020   130
## theta[270,5]      2.080 1.040    69
## theta[271,5]     -0.126 1.034    89
## theta[272,5]      2.013 1.016   170
## theta[273,5]      1.983 1.076    40
## theta[274,5]      0.995 1.031    90
## theta[275,5]      4.838 1.082    39
## theta[276,5]      0.129 1.010   300
## theta[277,5]      1.639 1.054    52
## theta[278,5]      4.634 1.074    40
## theta[279,5]      3.171 1.079    38
## theta[280,5]      4.585 1.097    32
```

```
## theta[281,5]      2.856 1.081    37
## theta[282,5]      4.513 1.090    35
## theta[283,5]      2.269 1.038    74
## theta[284,5]      2.956 1.073    41
## theta[285,5]      2.259 1.009   310
## theta[286,5]      0.818 1.057    52
## theta[287,5]      1.820 1.037    79
## theta[288,5]      2.844 1.081    37
## theta[289,5]      2.185 1.042    67
## theta[290,5]      3.589 1.077    40
## theta[291,5]      0.176 1.108    30
## theta[292,5]     -0.124 1.039    79
## theta[293,5]      0.832 1.003  4000
## theta[294,5]     -0.020 1.030   100
## theta[295,5]      3.474 1.074    40
## theta[296,5]      0.919 1.049    61
## theta[297,5]      1.092 1.067    43
## theta[298,5]      1.892 1.020   140
## theta[299,5]      0.779 1.060    50
## theta[300,5]      2.757 1.054    55
## theta[301,5]      3.180 1.093    33
## theta[302,5]      3.485 1.096    33
## theta[303,5]      1.140 1.022   120
## theta[304,5]      0.162 1.045    66
## theta[305,5]      3.041 1.057    50
## theta[306,5]      1.122 1.036    76
## theta[307,5]      0.043 1.032    90
## theta[308,5]      0.290 1.007   450
## theta[309,5]     -0.045 1.073    43
## theta[310,5]      0.369 1.014   190
## theta[311,5]      0.047 1.002  1300
## theta[312,5]     -0.076 1.061    49
## theta[313,5]      1.468 1.049    58
## theta[314,5]     -0.114 1.030    98
## theta[315,5]      1.841 1.069    42
## theta[316,5]      0.029 1.019   170
## theta[317,5]      0.464 1.005   640
## theta[318,5]      1.051 1.031    85
## theta[319,5]      2.375 1.055    52
## theta[320,5]     -0.079 1.021   170
## theta[321,5]     -0.016 1.030    94
## theta[322,5]      2.429 1.082    36
## theta[323,5]      3.106 1.087    35
## theta[324,5]      2.343 1.049    57
## theta[325,5]      2.775 1.078    39
## theta[326,5]      0.256 1.013   230
## theta[327,5]      0.963 1.067    44
## theta[328,5]      1.922 1.030    96
## theta[329,5]      0.334 1.015   210
## theta[330,5]     -0.042 1.020   150
## theta[331,5]      0.131 1.005   580
## theta[332,5]      0.495 1.009   360
## theta[333,5]      0.031 1.016   200
## theta[334,5]      0.089 1.086    36
```

```
## theta[335,5]      2.276 1.051    56
## theta[336,5]      0.501 1.003  1200
## theta[337,5]     -0.010 1.058    49
## theta[338,5]      0.102 1.025   110
## theta[339,5]      1.326 1.007   360
## theta[340,5]      3.175 1.100    31
## theta[341,5]      3.256 1.092    33
## theta[342,5]      0.061 1.075    40
## theta[343,5]     -0.025 1.079    38
## theta[344,5]      3.188 1.069    43
## theta[345,5]     -0.115 1.050    59
## theta[346,5]      2.314 1.101    30
## theta[347,5]      0.877 1.032    85
## theta[348,5]      0.242 1.003   910
## theta[349,5]      0.454 1.010   360
## theta[350,5]      1.464 1.064    45
## theta[351,5]      2.945 1.115    28
## theta[352,5]      0.007 1.026   110
## theta[353,5]     -0.050 1.059    50
## theta[354,5]      3.187 1.093    33
## theta[355,5]     -0.003 1.014   220
## theta[356,5]      1.932 1.069    42
## theta[357,5]      0.274 1.009   460
## theta[358,5]      4.767 1.090    34
## theta[359,5]      2.156 1.083    36
## theta[360,5]      0.263 1.007   480
## theta[361,5]      1.673 1.035    77
## theta[362,5]      0.726 1.010   290
## theta[363,5]      2.158 1.083    36
## theta[364,5]     -0.015 1.031    94
## theta[365,5]      2.459 1.086    35
## theta[366,5]      0.588 1.014   190
## theta[367,5]     -0.016 1.019   150
## theta[368,5]      1.658 1.058    50
## theta[369,5]      1.976 1.093    34
## theta[370,5]      3.218 1.089    34
## theta[371,5]     -0.004 1.014   210
## theta[372,5]     -0.135 1.023   120
## theta[373,5]      0.207 1.016   190
## theta[374,5]      2.236 1.057    51
## theta[375,5]      1.877 1.084    36
## theta[376,5]      1.624 1.064    44
## theta[377,5]     -0.084 1.025   130
## theta[378,5]      0.588 1.003   980
## theta[379,5]      0.152 1.005   620
## theta[380,5]     -0.085 1.035    91
## theta[381,5]      0.063 1.017   190
## theta[382,5]     -0.131 1.015   180
## theta[383,5]      2.321 1.087    35
## theta[384,5]      1.157 1.072    41
## theta[385,5]      2.550 1.068    44
## theta[386,5]      0.247 1.007   470
## theta[387,5]     -0.100 1.030   100
## theta[388,5]     -0.059 1.011   290
```

```
## theta[389,5]      3.116 1.093    32
## theta[390,5]      0.146 1.009   360
## theta[391,5]     -0.045 1.019   150
## theta[392,5]      0.076 1.026   110
## theta[393,5]     -0.013 1.026   120
## theta[394,5]      4.567 1.103    32
## theta[395,5]     -0.054 1.060    50
## theta[396,5]      4.576 1.086    37
## theta[397,5]     -0.086 1.075    39
## theta[398,5]     -0.142 1.009   330
## theta[399,5]      0.196 1.083    38
## theta[400,5]      4.056 1.058    50
## theta[401,5]      0.146 1.020   150
## theta[402,5]      1.761 1.018   150
## theta[403,5]      2.546 1.064    46
## theta[404,5]      0.502 1.006   540
## theta[405,5]      2.586 1.070    42
## theta[406,5]      0.979 1.076    40
## theta[407,5]      0.177 1.009   350
## theta[408,5]      0.997 1.070    43
## theta[409,5]      1.499 1.046    62
## theta[410,5]      1.740 1.086    35
## theta[411,5]     -0.144 1.019   180
## theta[412,5]      0.009 1.014   210
## theta[413,5]      2.967 1.091    34
## theta[414,5]      0.045 1.045    65
## theta[415,5]     -0.035 1.087    36
## theta[416,5]      0.453 1.005   510
## theta[417,5]      0.652 1.008   340
## theta[418,5]      0.427 1.032    95
## theta[419,5]     -0.171 1.010   290
## theta[420,5]      0.871 1.009   320
## theta[421,5]     -0.042 1.065    47
## theta[422,5]      1.679 1.034    81
## theta[423,5]      0.024 1.056    50
## theta[424,5]     -0.095 1.014   250
## theta[425,5]     -0.105 1.021   150
## theta[426,5]      0.987 1.076    40
## theta[427,5]     -0.127 1.038    74
## theta[428,5]      2.687 1.063    47
## theta[429,5]      2.391 1.092    33
## theta[430,5]      0.403 1.013   200
## theta[431,5]      4.822 1.095    34
## theta[432,5]      2.529 1.072    40
## theta[433,5]      2.539 1.074    40
## theta[434,5]      2.711 1.088    35
## theta[435,5]      0.223 1.087    35
## theta[436,5]      0.990 1.065    45
## theta[437,5]      0.010 1.029   100
## theta[438,5]      0.102 1.002  1900
## theta[439,5]      2.279 1.055    53
## theta[440,5]      2.447 1.079    39
## theta[441,5]     -0.126 1.083    38
## theta[442,5]      0.943 1.063    47
```

```
## theta[443,5]      2.334 1.077    39
## theta[444,5]      0.253 1.006   420
## theta[445,5]      2.740 1.093    33
## theta[446,5]      0.993 1.084    36
## theta[447,5]      1.807 1.058    49
## theta[448,5]      0.491 1.010   290
## theta[449,5]      1.284 1.006   510
## theta[450,5]      0.656 1.007   460
## theta[451,5]      0.111 1.037    78
## theta[452,5]      0.245 1.024   130
## theta[453,5]      2.993 1.069    43
## theta[454,5]      0.956 1.085    36
## theta[455,5]      0.546 1.015   180
## theta[456,5]      2.479 1.068    43
## theta[457,5]      0.497 1.003  3200
## theta[458,5]      2.253 1.083    36
## theta[459,5]      2.570 1.054    53
## theta[460,5]      0.060 1.002  3600
## theta[461,5]      0.260 1.009   300
## theta[462,5]     -0.011 1.034    85
## theta[463,5]      0.329 1.020   170
## theta[464,5]      1.550 1.045    60
## theta[465,5]      0.171 1.004  1100
## theta[466,5]      2.313 1.081    37
## theta[467,5]     -0.001 1.014   210
## theta[468,5]      3.027 1.089    34
## theta[469,5]      0.308 1.002  3200
## theta[470,5]      1.216 1.041    67
## theta[471,5]      0.218 1.012   220
## theta[472,5]      2.422 1.083    36
## theta[473,5]      2.085 1.069    42
## theta[474,5]      2.076 1.072    41
## theta[475,5]      0.243 1.088    35
## theta[476,5]      2.837 1.096    32
## theta[477,5]      0.063 1.005  1400
## theta[478,5]      1.537 1.067    43
## theta[479,5]     -0.105 1.012   260
## theta[480,5]      1.431 1.063    46
## theta[481,5]      1.910 1.086    35
## theta[482,5]      0.521 1.023   130
## theta[483,5]      0.293 1.005   950
## theta[484,5]     -0.175 1.015   210
## theta[485,5]     -0.154 1.008   410
## theta[486,5]      1.494 1.004   670
## theta[487,5]      2.298 1.054    54
## theta[488,5]     -0.085 1.018   160
## theta[489,5]      1.624 1.061    48
## theta[490,5]     -0.054 1.018   180
## theta[491,5]      0.920 1.071    43
## theta[492,5]      0.288 1.005   650
## theta[493,5]      0.091 1.084    38
## theta[494,5]      2.912 1.050    55
## theta[495,5]      0.936 1.070    42
## theta[496,5]      1.495 1.040    68
```

```
## theta[497,5]      0.930 1.092    34
## theta[498,5]      0.004 1.074    41
## theta[499,5]      1.002 1.084    37
## theta[500,5]      0.105 1.034    85
## theta[501,5]     -0.007 1.004   730
## theta[502,5]      0.738 1.010   270
## theta[503,5]      0.055 1.090    34
## theta[504,5]     -0.047 1.029   100
## theta[505,5]      0.881 1.049    58
## theta[506,5]      1.026 1.075    40
## theta[507,5]     -0.002 1.026   110
## theta[508,5]     -0.016 1.018   160
## theta[509,5]      0.994 1.076    40
## theta[510,5]      1.170 1.066    44
## theta[511,5]     -0.091 1.017   190
## theta[512,5]     -0.088 1.019   140
## theta[513,5]      1.600 1.056    51
## theta[514,5]      0.045 1.018   170
## theta[515,5]      0.072 1.015   180
## theta[516,5]      0.026 1.022   150
## theta[517,5]      0.118 1.051    56
## theta[518,5]      0.817 1.004   950
## theta[519,5]      1.105 1.097    32
## theta[520,5]      1.107 1.028    94
## theta[521,5]      1.285 1.050    56
## theta[522,5]      0.247 1.060    49
## theta[523,5]      0.039 1.075    42
## theta[524,5]      0.978 1.084    37
## theta[525,5]      1.452 1.081    37
## theta[526,5]      0.221 1.085    37
## theta[527,5]      0.398 1.004   990
## theta[528,5]      0.374 1.001  4000
## theta[529,5]      0.067 1.059    50
## theta[530,5]      0.524 1.063    46
## theta[531,5]      1.298 1.072    40
## theta[532,5]      0.163 1.071    43
## theta[533,5]      1.681 1.050    56
## theta[534,5]      0.236 1.108    30
## theta[535,5]      1.394 1.047    59
## theta[536,5]      0.347 1.003  1100
## theta[1,6]        0.686 1.066    47
## theta[2,6]        0.393 1.024   110
## theta[3,6]        0.761 1.019   140
## theta[4,6]        1.357 1.097    32
## theta[5,6]        1.284 1.150    22
## theta[6,6]        1.258 1.169    20
## theta[7,6]        1.727 1.263    14
## theta[8,6]        1.741 1.209    17
## theta[9,6]        1.359 1.184    19
## theta[10,6]       1.338 1.168    20
## theta[11,6]       1.323 1.094    34
## theta[12,6]       1.454 1.105    30
## theta[13,6]       1.342 1.030    90
## theta[14,6]       1.535 1.192    18
```

```
## theta[15,6]       1.292 1.184    19
## theta[16,6]       1.058 1.135    25
## theta[17,6]       1.342 1.054    52
## theta[18,6]       1.295 1.161    21
## theta[19,6]       1.150 1.159    21
## theta[20,6]       1.955 1.282    14
## theta[21,6]       1.234 1.170    20
## theta[22,6]       1.306 1.093    32
## theta[23,6]       1.322 1.234    16
## theta[24,6]       0.938 1.053    55
## theta[25,6]       1.338 1.044    75
## theta[26,6]       1.940 1.281    14
## theta[27,6]       1.158 1.112    28
## theta[28,6]       2.328 1.301    13
## theta[29,6]       1.087 1.122    26
## theta[30,6]       1.349 1.233    16
## theta[31,6]       0.670 1.016   220
## theta[32,6]       1.335 1.257    14
## theta[33,6]       1.357 1.116    27
## theta[34,6]       0.537 1.023   140
## theta[35,6]       1.283 1.117    27
## theta[36,6]       1.515 1.105    30
## theta[37,6]       0.781 1.103    31
## theta[38,6]       1.363 1.022   150
## theta[39,6]       1.167 1.121    26
## theta[40,6]       1.092 1.108    29
## theta[41,6]       1.911 1.292    13
## theta[42,6]       1.415 1.276    14
## theta[43,6]       1.264 1.224    16
## theta[44,6]       1.478 1.196    18
## theta[45,6]       1.146 1.073    42
## theta[46,6]       0.859 1.004   950
## theta[47,6]       1.128 1.147    22
## theta[48,6]       0.993 1.073    43
## theta[49,6]       1.772 1.203    17
## theta[50,6]       0.627 1.026   120
## theta[51,6]       1.937 1.221    16
## theta[52,6]       1.584 1.009   540
## theta[53,6]       0.986 1.059    48
## theta[54,6]       0.351 1.030    93
## theta[55,6]       0.761 1.040    74
## theta[56,6]       1.333 1.267    14
## theta[57,6]       1.154 1.176    19
## theta[58,6]       2.083 1.282    14
## theta[59,6]       1.136 1.133    24
## theta[60,6]       1.015 1.059    49
## theta[61,6]       1.282 1.174    20
## theta[62,6]       1.927 1.213    17
## theta[63,6]       1.362 1.151    23
## theta[64,6]       1.175 1.135    24
## theta[65,6]       1.282 1.093    34
## theta[66,6]       0.939 1.047    65
## theta[67,6]       1.230 1.080    38
## theta[68,6]       1.908 1.262    14
```

```
## theta[69,6]       2.200 1.314    13
## theta[70,6]       0.946 1.121    26
## theta[71,6]       1.096 1.102    30
## theta[72,6]       1.190 1.131    25
## theta[73,6]       1.997 1.281    14
## theta[74,6]       1.246 1.140    23
## theta[75,6]       1.151 1.162    21
## theta[76,6]       2.191 1.305    13
## theta[77,6]       0.928 1.017   160
## theta[78,6]       1.246 1.112    28
## theta[79,6]       1.285 1.278    14
## theta[80,6]       0.634 1.025   140
## theta[81,6]       1.247 1.145    22
## theta[82,6]       1.066 1.055    53
## theta[83,6]       1.910 1.300    13
## theta[84,6]       1.543 1.017   240
## theta[85,6]       1.454 1.031    96
## theta[86,6]       0.959 1.008   400
## theta[87,6]       1.135 1.030    95
## theta[88,6]       0.850 1.009   310
## theta[89,6]       1.388 1.281    14
## theta[90,6]       1.283 1.167    20
## theta[91,6]       1.057 1.030    95
## theta[92,6]       1.365 1.193    18
## theta[93,6]       1.370 1.214    17
## theta[94,6]       1.136 1.145    22
## theta[95,6]       1.265 1.247    15
## theta[96,6]       0.388 1.030    96
## theta[97,6]       0.720 1.051    59
## theta[98,6]       1.348 1.189    18
## theta[99,6]       1.326 1.159    21
## theta[100,6]      1.480 1.170    20
## theta[101,6]      1.518 1.040    73
## theta[102,6]      1.405 1.215    17
## theta[103,6]      1.067 1.107    29
## theta[104,6]      0.327 1.054    54
## theta[105,6]      0.544 1.006   490
## theta[106,6]      1.141 1.016   210
## theta[107,6]      1.878 1.026   140
## theta[108,6]      1.388 1.261    14
## theta[109,6]      1.199 1.076    40
## theta[110,6]      1.342 1.073    41
## theta[111,6]      1.365 1.176    19
## theta[112,6]      2.176 1.292    13
## theta[113,6]      0.850 1.015   190
## theta[114,6]      0.860 1.037    84
## theta[115,6]      0.924 1.009   340
## theta[116,6]      0.371 1.051    56
## theta[117,6]      1.953 1.294    13
## theta[118,6]      0.851 1.040    76
## theta[119,6]      0.481 1.028   120
## theta[120,6]      2.205 1.322    12
## theta[121,6]      1.590 1.148    22
## theta[122,6]      1.110 1.085    35
```

```
## theta[123,6]      1.217 1.152    22
## theta[124,6]      1.374 1.272    14
## theta[125,6]      1.150 1.087    35
## theta[126,6]      0.811 1.037    76
## theta[127,6]      1.170 1.208    17
## theta[128,6]      0.423 1.014   410
## theta[129,6]      0.760 1.063    48
## theta[130,6]      1.283 1.124    26
## theta[131,6]      1.053 1.136    24
## theta[132,6]      0.611 1.020   180
## theta[133,6]      0.856 1.125    26
## theta[134,6]      1.959 1.291    13
## theta[135,6]      1.853 1.221    16
## theta[136,6]      1.107 1.134    24
## theta[137,6]      0.665 1.002  3200
## theta[138,6]      1.235 1.209    17
## theta[139,6]      1.768 1.211    17
## theta[140,6]      1.384 1.206    17
## theta[141,6]      1.195 1.028   120
## theta[142,6]      0.636 1.024   110
## theta[143,6]      1.408 1.201    17
## theta[144,6]      1.224 1.154    21
## theta[145,6]      1.053 1.122    26
## theta[146,6]      0.476 1.024   120
## theta[147,6]      1.361 1.167    20
## theta[148,6]      2.268 1.308    13
## theta[149,6]      0.649 1.046    60
## theta[150,6]      1.332 1.264    14
## theta[151,6]      1.271 1.075    39
## theta[152,6]      0.653 1.034    80
## theta[153,6]      0.619 1.027   100
## theta[154,6]      1.272 1.147    22
## theta[155,6]      0.599 1.015   190
## theta[156,6]      1.258 1.173    20
## theta[157,6]      0.407 1.021   150
## theta[158,6]      0.956 1.053    60
## theta[159,6]      0.526 1.010   290
## theta[160,6]      1.297 1.223    16
## theta[161,6]      1.301 1.180    19
## theta[162,6]      1.138 1.092    33
## theta[163,6]      1.149 1.143    23
## theta[164,6]      1.402 1.213    17
## theta[165,6]      2.226 1.302    13
## theta[166,6]      1.735 1.203    17
## theta[167,6]      1.563 1.246    15
## theta[168,6]      1.371 1.237    15
## theta[169,6]      1.278 1.118    27
## theta[170,6]      2.166 1.293    13
## theta[171,6]      1.163 1.096    32
## theta[172,6]      0.609 1.051    54
## theta[173,6]      1.331 1.243    15
## theta[174,6]      0.648 1.063    48
## theta[175,6]      0.924 1.071    42
## theta[176,6]      0.859 1.042    75
```

```
## theta[177,6]      0.772 1.018   150
## theta[178,6]      1.164 1.017   180
## theta[179,6]      0.597 1.036    79
## theta[180,6]      0.699 1.043    66
## theta[181,6]      1.789 1.233    16
## theta[182,6]      1.286 1.129    25
## theta[183,6]      1.168 1.034   100
## theta[184,6]      1.391 1.235    16
## theta[185,6]      1.165 1.178    19
## theta[186,6]      1.300 1.180    19
## theta[187,6]      1.664 1.027   110
## theta[188,6]      1.016 1.127    25
## theta[189,6]      1.441 1.260    14
## theta[190,6]      1.388 1.252    15
## theta[191,6]      1.168 1.094    32
## theta[192,6]      1.188 1.165    20
## theta[193,6]      1.216 1.183    19
## theta[194,6]      1.045 1.078    39
## theta[195,6]      1.361 1.168    20
## theta[196,6]      1.102 1.154    21
## theta[197,6]      1.218 1.193    18
## theta[198,6]      1.346 1.263    14
## theta[199,6]      1.101 1.191    18
## theta[200,6]      1.400 1.034    79
## theta[201,6]      1.460 1.248    15
## theta[202,6]      0.349 1.023   120
## theta[203,6]      1.100 1.072    41
## theta[204,6]      0.708 1.057    50
## theta[205,6]      0.833 1.039    82
## theta[206,6]      0.602 1.024   170
## theta[207,6]      1.289 1.099    31
## theta[208,6]      1.645 1.021   200
## theta[209,6]      1.162 1.089    34
## theta[210,6]      1.471 1.261    14
## theta[211,6]      1.102 1.147    22
## theta[212,6]      0.568 1.008   370
## theta[213,6]      1.331 1.262    14
## theta[214,6]      0.370 1.050    59
## theta[215,6]      1.669 1.021   160
## theta[216,6]      1.318 1.268    14
## theta[217,6]      2.014 1.283    14
## theta[218,6]      0.697 1.038    73
## theta[219,6]      1.436 1.045    74
## theta[220,6]      1.092 1.006   450
## theta[221,6]      0.568 1.031    95
## theta[222,6]      0.998 1.084    36
## theta[223,6]      1.435 1.274    14
## theta[224,6]      1.880 1.322    12
## theta[225,6]      1.263 1.197    18
## theta[226,6]      1.045 1.115    27
## theta[227,6]      2.213 1.315    13
## theta[228,6]      1.357 1.120    26
## theta[229,6]      1.136 1.171    20
## theta[230,6]      1.294 1.072    43
```

```
## theta[231,6]      2.232 1.322    12
## theta[232,6]      1.145 1.078    39
## theta[233,6]      1.065 1.108    29
## theta[234,6]      0.455 1.008   570
## theta[235,6]      1.564 1.018   160
## theta[236,6]      1.688 1.033   110
## theta[237,6]      1.250 1.016   250
## theta[238,6]      0.728 1.064    45
## theta[239,6]      1.068 1.072    43
## theta[240,6]      1.430 1.013   220
## theta[241,6]      1.306 1.166    20
## theta[242,6]      1.139 1.095    33
## theta[243,6]      1.290 1.081    37
## theta[244,6]      0.992 1.098    31
## theta[245,6]      1.428 1.231    16
## theta[246,6]      1.938 1.277    14
## theta[247,6]      0.809 1.046    60
## theta[248,6]      1.142 1.142    23
## theta[249,6]      1.495 1.215    17
## theta[250,6]      1.299 1.163    20
## theta[251,6]      1.766 1.224    16
## theta[252,6]      1.195 1.032    88
## theta[253,6]      1.348 1.209    17
## theta[254,6]      1.223 1.092    33
## theta[255,6]      1.509 1.021   130
## theta[256,6]      0.775 1.044    63
## theta[257,6]      1.333 1.243    15
## theta[258,6]      1.414 1.112    28
## theta[259,6]      1.380 1.048    58
## theta[260,6]      0.798 1.013   230
## theta[261,6]      1.298 1.166    20
## theta[262,6]      0.426 1.017   190
## theta[263,6]      0.988 1.059    50
## theta[264,6]      1.473 1.206    17
## theta[265,6]      1.143 1.160    21
## theta[266,6]      1.176 1.163    21
## theta[267,6]      1.121 1.175    19
## theta[268,6]      1.397 1.023   140
## theta[269,6]      1.084 1.095    32
## theta[270,6]      1.162 1.085    36
## theta[271,6]      1.064 1.082    37
## theta[272,6]      1.100 1.023   120
## theta[273,6]      1.426 1.214    17
## theta[274,6]      1.637 1.036    97
## theta[275,6]      1.482 1.250    15
## theta[276,6]      0.931 1.005   840
## theta[277,6]      1.308 1.179    19
## theta[278,6]      1.416 1.245    15
## theta[279,6]      1.065 1.145    22
## theta[280,6]      1.344 1.249    15
## theta[281,6]      1.326 1.218    16
## theta[282,6]      1.346 1.255    15
## theta[283,6]      0.488 1.032    93
## theta[284,6]      1.143 1.132    24
```

```
## theta[285,6]      0.768 1.009   320
## theta[286,6]      2.013 1.053    60
## theta[287,6]      0.521 1.014   230
## theta[288,6]      0.784 1.061    47
## theta[289,6]      0.997 1.034    85
## theta[290,6]      1.102 1.169    20
## theta[291,6]      2.196 1.309    13
## theta[292,6]      1.559 1.017   220
## theta[293,6]      0.625 1.081    37
## theta[294,6]      1.037 1.100    31
## theta[295,6]      1.242 1.196    18
## theta[296,6]      1.498 1.188    18
## theta[297,6]      1.542 1.200    18
## theta[298,6]      0.569 1.040    75
## theta[299,6]      1.496 1.053    54
## theta[300,6]      1.207 1.103    30
## theta[301,6]      1.079 1.163    20
## theta[302,6]      1.276 1.195    18
## theta[303,6]      1.167 1.109    29
## theta[304,6]      1.687 1.016   270
## theta[305,6]      1.156 1.101    31
## theta[306,6]      1.145 1.103    30
## theta[307,6]      1.379 1.013   310
## theta[308,6]      1.277 1.008   340
## theta[309,6]      1.613 1.203    17
## theta[310,6]      1.031 1.073    42
## theta[311,6]      1.260 1.066    45
## theta[312,6]      1.775 1.207    17
## theta[313,6]      1.193 1.136    24
## theta[314,6]      0.946 1.017   160
## theta[315,6]      1.017 1.095    32
## theta[316,6]      1.394 1.008   460
## theta[317,6]      0.861 1.057    53
## theta[318,6]      1.246 1.092    33
## theta[319,6]      1.154 1.083    36
## theta[320,6]      1.011 1.076    39
## theta[321,6]      1.532 1.015   260
## theta[322,6]      1.128 1.192    18
## theta[323,6]      1.065 1.137    23
## theta[324,6]      1.211 1.090    33
## theta[325,6]      1.313 1.214    17
## theta[326,6]      0.976 1.064    46
## theta[327,6]      1.804 1.207    17
## theta[328,6]      1.229 1.076    39
## theta[329,6]      1.384 1.027   110
## theta[330,6]      1.217 1.005   610
## theta[331,6]      0.746 1.014   190
## theta[332,6]      1.320 1.022   140
## theta[333,6]      0.993 1.097    32
## theta[334,6]      1.925 1.278    14
## theta[335,6]      1.219 1.088    35
## theta[336,6]      1.227 1.050    56
## theta[337,6]      1.153 1.124    26
## theta[338,6]      1.098 1.133    24
```

```
## theta[339,6]      1.343 1.060    50
## theta[340,6]      1.086 1.164    20
## theta[341,6]      1.138 1.171    20
## theta[342,6]      1.949 1.286    13
## theta[343,6]      1.600 1.186    19
## theta[344,6]      0.763 1.022   120
## theta[345,6]      1.713 1.211    17
## theta[346,6]      1.038 1.156    21
## theta[347,6]      1.100 1.023   120
## theta[348,6]      1.440 1.051    62
## theta[349,6]      1.162 1.003  1900
## theta[350,6]      1.124 1.131    24
## theta[351,6]      1.332 1.202    17
## theta[352,6]      1.000 1.086    35
## theta[353,6]      1.619 1.199    18
## theta[354,6]      1.055 1.150    22
## theta[355,6]      1.352 1.017   190
## theta[356,6]      0.960 1.081    37
## theta[357,6]      1.062 1.005   990
## theta[358,6]      1.376 1.270    14
## theta[359,6]      1.105 1.117    27
## theta[360,6]      1.352 1.065    46
## theta[361,6]      0.410 1.017   180
## theta[362,6]      1.117 1.057    53
## theta[363,6]      1.274 1.206    17
## theta[364,6]      1.059 1.118    27
## theta[365,6]      0.714 1.022   130
## theta[366,6]      1.225 1.089    34
## theta[367,6]      1.074 1.115    27
## theta[368,6]      1.314 1.136    24
## theta[369,6]      1.452 1.207    17
## theta[370,6]      1.137 1.170    20
## theta[371,6]      1.300 1.012   250
## theta[372,6]      1.031 1.087    35
## theta[373,6]      0.909 1.003  2700
## theta[374,6]      1.105 1.114    27
## theta[375,6]      1.168 1.171    20
## theta[376,6]      1.381 1.206    17
## theta[377,6]      0.998 1.070    41
## theta[378,6]      1.271 1.073    41
## theta[379,6]      1.271 1.076    39
## theta[380,6]      1.329 1.030    91
## theta[381,6]      1.367 1.013   240
## theta[382,6]      0.789 1.008   450
## theta[383,6]      1.087 1.147    22
## theta[384,6]      1.415 1.191    18
## theta[385,6]      1.296 1.143    23
## theta[386,6]      1.273 1.054    55
## theta[387,6]      0.959 1.075    39
## theta[388,6]      1.352 1.034    86
## theta[389,6]      1.122 1.163    21
## theta[390,6]      0.894 1.030   100
## theta[391,6]      0.827 1.006   750
## theta[392,6]      1.073 1.139    23
```

```
## theta[393,6]      0.987 1.092    33
## theta[394,6]      1.390 1.261    14
## theta[395,6]      1.598 1.185    19
## theta[396,6]      1.418 1.249    15
## theta[397,6]      1.656 1.195    18
## theta[398,6]      1.317 1.045    69
## theta[399,6]      1.965 1.278    14
## theta[400,6]      0.402 1.035    88
## theta[401,6]      1.325 1.011   330
## theta[402,6]      1.487 1.131    25
## theta[403,6]      1.193 1.147    22
## theta[404,6]      0.669 1.091    34
## theta[405,6]      1.284 1.194    18
## theta[406,6]      1.774 1.235    16
## theta[407,6]      0.768 1.077    39
## theta[408,6]      1.734 1.218    16
## theta[409,6]      1.284 1.093    33
## theta[410,6]      1.284 1.186    19
## theta[411,6]      1.182 1.004  1100
## theta[412,6]      0.972 1.089    34
## theta[413,6]      1.317 1.227    16
## theta[414,6]      1.250 1.160    21
## theta[415,6]      1.699 1.200    17
## theta[416,6]      0.817 1.068    45
## theta[417,6]      0.877 1.078    39
## theta[418,6]      0.956 1.110    28
## theta[419,6]      1.370 1.046    64
## theta[420,6]      0.812 1.060    49
## theta[421,6]      1.713 1.190    18
## theta[422,6]      1.049 1.112    28
## theta[423,6]      1.653 1.204    17
## theta[424,6]      0.923 1.062    46
## theta[425,6]      0.945 1.080    37
## theta[426,6]      1.811 1.238    15
## theta[427,6]      0.960 1.021   130
## theta[428,6]      1.243 1.183    19
## theta[429,6]      1.158 1.179    19
## theta[430,6]      0.855 1.094    33
## theta[431,6]      1.373 1.248    15
## theta[432,6]      1.040 1.107    29
## theta[433,6]      0.997 1.117    27
## theta[434,6]      1.270 1.206    17
## theta[435,6]      1.728 1.253    15
## theta[436,6]      1.800 1.213    17
## theta[437,6]      0.976 1.089    34
## theta[438,6]      1.091 1.028   100
## theta[439,6]      0.680 1.017   150
## theta[440,6]      0.742 1.043    65
## theta[441,6]      1.628 1.186    18
## theta[442,6]      1.744 1.237    15
## theta[443,6]      0.956 1.081    37
## theta[444,6]      1.356 1.097    33
## theta[445,6]      1.270 1.204    17
## theta[446,6]      1.729 1.219    16
```

```
## theta[447,6]      1.384 1.191    18
## theta[448,6]      1.229 1.096    32
## theta[449,6]      1.392 1.029   110
## theta[450,6]      0.863 1.083    36
## theta[451,6]      1.148 1.157    21
## theta[452,6]      0.792 1.133    24
## theta[453,6]      0.936 1.104    30
## theta[454,6]      1.762 1.197    18
## theta[455,6]      0.742 1.091    34
## theta[456,6]      1.006 1.084    36
## theta[457,6]      0.761 1.008   520
## theta[458,6]      1.075 1.147    22
## theta[459,6]      1.073 1.080    37
## theta[460,6]      1.258 1.038    75
## theta[461,6]      1.279 1.096    33
## theta[462,6]      1.092 1.114    28
## theta[463,6]      1.236 1.024   120
## theta[464,6]      0.452 1.029    98
## theta[465,6]      1.303 1.063    48
## theta[466,6]      1.175 1.154    22
## theta[467,6]      0.819 1.016   170
## theta[468,6]      1.109 1.146    22
## theta[469,6]      1.238 1.054    55
## theta[470,6]      1.082 1.102    30
## theta[471,6]      1.283 1.095    33
## theta[472,6]      1.137 1.172    20
## theta[473,6]      1.062 1.115    27
## theta[474,6]      1.072 1.121    26
## theta[475,6]      2.009 1.276    14
## theta[476,6]      1.325 1.248    15
## theta[477,6]      1.271 1.041    72
## theta[478,6]      0.759 1.039    69
## theta[479,6]      0.825 1.007   490
## theta[480,6]      1.331 1.204    17
## theta[481,6]      1.115 1.142    23
## theta[482,6]      0.969 1.119    27
## theta[483,6]      1.187 1.030    96
## theta[484,6]      1.286 1.050    61
## theta[485,6]      1.384 1.036    87
## theta[486,6]      0.797 1.035    86
## theta[487,6]      0.946 1.045    61
## theta[488,6]      0.953 1.067    44
## theta[489,6]      1.316 1.201    17
## theta[490,6]      0.906 1.021   140
## theta[491,6]      1.776 1.224    16
## theta[492,6]      1.249 1.066    45
## theta[493,6]      1.919 1.288    13
## theta[494,6]      1.192 1.084    37
## theta[495,6]      1.544 1.183    19
## theta[496,6]      1.207 1.107    29
## theta[497,6]      1.725 1.227    16
## theta[498,6]      1.910 1.212    17
## theta[499,6]      1.895 1.226    16
## theta[500,6]      1.105 1.132    25
```

```
## theta[501,6]      1.192 1.036    83
## theta[502,6]      0.946 1.101    31
## theta[503,6]      1.932 1.226    16
## theta[504,6]      1.030 1.110    28
## theta[505,6]      1.613 1.206    17
## theta[506,6]      1.934 1.250    15
## theta[507,6]      1.101 1.149    22
## theta[508,6]      1.083 1.101    31
## theta[509,6]      1.915 1.236    15
## theta[510,6]      1.584 1.186    18
## theta[511,6]      0.927 1.060    49
## theta[512,6]      0.942 1.067    44
## theta[513,6]      1.182 1.063    47
## theta[514,6]      0.948 1.092    34
## theta[515,6]      1.016 1.112    28
## theta[516,6]      0.964 1.079    37
## theta[517,6]      1.466 1.151    22
## theta[518,6]      1.119 1.047    61
## theta[519,6]      1.868 1.244    15
## theta[520,6]      1.199 1.111    28
## theta[521,6]      1.488 1.202    17
## theta[522,6]      1.648 1.228    16
## theta[523,6]      1.600 1.246    15
## theta[524,6]      1.710 1.240    15
## theta[525,6]      1.676 1.270    14
## theta[526,6]      1.662 1.243    15
## theta[527,6]      1.175 1.035    86
## theta[528,6]      1.128 1.028   100
## theta[529,6]      1.610 1.213    17
## theta[530,6]      1.454 1.263    14
## theta[531,6]      1.595 1.220    16
## theta[532,6]      2.243 1.277    14
## theta[533,6]      1.415 1.161    21
## theta[534,6]      2.237 1.298    13
## theta[535,6]      1.207 1.109    29
## theta[536,6]      1.241 1.030    99
## theta[1,7]        0.340 1.004   750
## theta[2,7]        1.881 1.003  1200
## theta[3,7]        0.446 1.022   120
## theta[4,7]        1.290 1.002  1400
## theta[5,7]       -0.117 1.018   140
## theta[6,7]       -0.085 1.015   200
## theta[7,7]       -0.627 1.014   190
## theta[8,7]       -0.640 1.030    90
## theta[9,7]       -0.252 1.007   450
## theta[10,7]      -0.345 1.007   390
## theta[11,7]       1.789 1.004   970
## theta[12,7]       0.854 1.003   890
## theta[13,7]       0.150 1.005   600
## theta[14,7]      -0.406 1.021   130
## theta[15,7]      -0.217 1.009   320
## theta[16,7]       0.150 1.002  2300
## theta[17,7]      -0.196 1.029    90
## theta[18,7]      -0.299 1.005   560
```

```
## theta[19,7]       0.042 1.005   580
## theta[20,7]      -0.694 1.022   130
## theta[21,7]       1.854 1.007   410
## theta[22,7]       1.300 1.004  1100
## theta[23,7]       3.211 1.012   240
## theta[24,7]       0.356 1.007   490
## theta[25,7]       0.638 1.008   340
## theta[26,7]      -0.790 1.010   300
## theta[27,7]      -0.008 1.008   370
## theta[28,7]      -0.916 1.013   210
## theta[29,7]       0.127 1.009   300
## theta[30,7]       3.405 1.016   180
## theta[31,7]       1.377 1.015   190
## theta[32,7]       3.175 1.012   210
## theta[33,7]       1.259 1.008   340
## theta[34,7]       1.179 1.006   490
## theta[35,7]       1.505 1.002  4000
## theta[36,7]       0.870 1.002  1500
## theta[37,7]       0.272 1.005   710
## theta[38,7]       0.697 1.011   240
## theta[39,7]       1.668 1.001  4000
## theta[40,7]      -0.011 1.005   800
## theta[41,7]      -0.811 1.012   220
## theta[42,7]       3.297 1.026   110
## theta[43,7]       2.555 1.012   260
## theta[44,7]      -0.253 1.013   200
## theta[45,7]       1.315 1.009   290
## theta[46,7]       0.783 1.006   480
## theta[47,7]       0.053 1.013   210
## theta[48,7]       0.341 1.003  1500
## theta[49,7]      -0.702 1.009   310
## theta[50,7]       0.748 1.004   710
## theta[51,7]      -0.755 1.010   260
## theta[52,7]       0.119 1.012   210
## theta[53,7]       0.137 1.019   140
## theta[54,7]       1.841 1.009   280
## theta[55,7]       0.793 1.002  2500
## theta[56,7]       3.356 1.024   120
## theta[57,7]       2.450 1.013   250
## theta[58,7]      -0.754 1.017   160
## theta[59,7]       0.005 1.002  2000
## theta[60,7]       1.408 1.009   290
## theta[61,7]      -0.185 1.019   140
## theta[62,7]      -0.783 1.015   180
## theta[63,7]       1.758 1.011   230
## theta[64,7]       2.007 1.008   390
## theta[65,7]       1.284 1.002  1400
## theta[66,7]       0.241 1.004   760
## theta[67,7]       1.546 1.009   310
## theta[68,7]      -0.808 1.013   210
## theta[69,7]      -0.898 1.015   190
## theta[70,7]       0.128 1.006   440
## theta[71,7]       0.056 1.007   390
## theta[72,7]      -0.088 1.006   610
```

```
## theta[73,7]      -0.721 1.021   130
## theta[74,7]       1.700 1.021   120
## theta[75,7]       0.065 1.007   400
## theta[76,7]      -0.908 1.016   180
## theta[77,7]       0.313 1.003  1200
## theta[78,7]       1.595 1.007   400
## theta[79,7]       3.261 1.020   150
## theta[80,7]       0.722 1.004   750
## theta[81,7]      -0.178 1.014   200
## theta[82,7]       1.106 1.005   510
## theta[83,7]      -0.814 1.015   190
## theta[84,7]       0.353 1.014   190
## theta[85,7]       0.521 1.006   450
## theta[86,7]       0.914 1.008   360
## theta[87,7]       0.770 1.004   850
## theta[88,7]       0.935 1.003  1200
## theta[89,7]       3.136 1.009   310
## theta[90,7]       1.885 1.013   220
## theta[91,7]       1.258 1.007   400
## theta[92,7]      -0.222 1.013   230
## theta[93,7]       2.080 1.008   510
## theta[94,7]       2.085 1.004   790
## theta[95,7]       3.326 1.013   200
## theta[96,7]       1.908 1.003   980
## theta[97,7]       0.785 1.010   280
## theta[98,7]      -0.289 1.007   450
## theta[99,7]       1.852 1.004   960
## theta[100,7]     -0.353 1.025   110
## theta[101,7]     -0.097 1.005   630
## theta[102,7]      3.020 1.016   170
## theta[103,7]      0.052 1.008   320
## theta[104,7]      1.996 1.012   230
## theta[105,7]      0.700 1.002  2200
## theta[106,7]      0.976 1.009   290
## theta[107,7]     -0.003 1.048    58
## theta[108,7]      3.136 1.011   250
## theta[109,7]      1.436 1.010   270
## theta[110,7]      0.860 1.003  1100
## theta[111,7]     -0.132 1.007   380
## theta[112,7]     -0.876 1.023   120
## theta[113,7]      0.883 1.002  1700
## theta[114,7]      0.793 1.009   280
## theta[115,7]      0.565 1.002  2400
## theta[116,7]      2.007 1.014   200
## theta[117,7]     -0.777 1.021   140
## theta[118,7]      0.700 1.002  1800
## theta[119,7]      1.040 1.005   530
## theta[120,7]     -0.902 1.015   180
## theta[121,7]     -0.586 1.021   130
## theta[122,7]      0.187 1.003  1100
## theta[123,7]     -0.029 1.010   290
## theta[124,7]      3.214 1.009   280
## theta[125,7]      1.127 1.012   220
## theta[126,7]      1.559 1.010   270
```

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## theta[127,7]      2.280 1.013   200
## theta[128,7]      1.600 1.013   210
## theta[129,7]      0.578 1.005   800
## theta[130,7]      1.013 1.013   200
## theta[131,7]      0.117 1.002  1900
## theta[132,7]      1.228 1.012   240
## theta[133,7]      0.103 1.006   490
## theta[134,7]     -0.704 1.016   160
## theta[135,7]     -0.647 1.016   160
## theta[136,7]      2.031 1.002  2000
## theta[137,7]      0.785 1.003   840
## theta[138,7]      2.544 1.009   300
## theta[139,7]     -0.693 1.015   180
## theta[140,7]      2.471 1.007   420
## theta[141,7]      0.775 1.010   270
## theta[142,7]      1.501 1.007   380
## theta[143,7]     -0.163 1.021   130
## theta[144,7]     -0.258 1.009   300
## theta[145,7]      0.097 1.006   560
## theta[146,7]      1.222 1.006   430
## theta[147,7]      2.066 1.004   760
## theta[148,7]     -0.869 1.021   140
## theta[149,7]      1.363 1.011   240
## theta[150,7]      3.406 1.014   200
## theta[151,7]      1.488 1.003   940
## theta[152,7]      1.855 1.010   260
## theta[153,7]      1.658 1.020   130
## theta[154,7]      1.567 1.012   210
## theta[155,7]      0.735 1.001  4000
## theta[156,7]      2.112 1.005   770
## theta[157,7]      1.343 1.004  1200
## theta[158,7]      0.373 1.003  1300
## theta[159,7]      0.950 1.005   600
## theta[160,7]      2.407 1.007   460
## theta[161,7]      1.782 1.002  2100
## theta[162,7]      1.082 1.009   330
## theta[163,7]      2.051 1.007   480
## theta[164,7]      2.428 1.004   680
## theta[165,7]     -0.879 1.023   140
## theta[166,7]     -0.708 1.009   340
## theta[167,7]     -0.522 1.013   210
## theta[168,7]      3.201 1.006   470
## theta[169,7]      0.978 1.012   220
## theta[170,7]     -0.886 1.013   200
## theta[171,7]     -0.009 1.002  1400
## theta[172,7]      1.496 1.008   340
## theta[173,7]      3.226 1.012   250
## theta[174,7]      0.618 1.006   520
## theta[175,7]      0.144 1.001  4000
## theta[176,7]      0.749 1.005   610
## theta[177,7]      1.127 1.003  1500
## theta[178,7]     -0.019 1.012   240
## theta[179,7]      1.323 1.009   300
## theta[180,7]      1.997 1.012   250
```

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## theta[181,7]     -0.633 1.030    89
## theta[182,7]      1.586 1.005   600
## theta[183,7]      0.760 1.005   510
## theta[184,7]      2.977 1.011   240
## theta[185,7]      2.345 1.015   180
## theta[186,7]      2.309 1.003   960
## theta[187,7]     -0.205 1.012   230
## theta[188,7]      0.211 1.006   450
## theta[189,7]      3.365 1.015   180
## theta[190,7]      3.218 1.008   330
## theta[191,7]      1.140 1.005   520
## theta[192,7]      2.480 1.011   300
## theta[193,7]      2.313 1.024   110
## theta[194,7]      0.301 1.004   920
## theta[195,7]     -0.379 1.009   370
## theta[196,7]      2.489 1.008   340
## theta[197,7]      2.236 1.015   190
## theta[198,7]      3.178 1.010   250
## theta[199,7]      2.571 1.012   220
## theta[200,7]      0.046 1.016   170
## theta[201,7]      3.166 1.004   820
## theta[202,7]      1.442 1.006   470
## theta[203,7]      1.436 1.002  2000
## theta[204,7]      2.043 1.014   200
## theta[205,7]      0.799 1.001  3200
## theta[206,7]      1.407 1.030    87
## theta[207,7]      1.385 1.002  1400
## theta[208,7]      0.089 1.030    89
## theta[209,7]      1.388 1.006   480
## theta[210,7]      3.211 1.012   240
## theta[211,7]     -0.170 1.020   140
## theta[212,7]      0.782 1.002  1500
## theta[213,7]      3.205 1.006   440
## theta[214,7]      1.999 1.016   170
## theta[215,7]     -0.207 1.014   240
## theta[216,7]      3.372 1.013   240
## theta[217,7]     -0.729 1.031    94
## theta[218,7]      1.958 1.013   210
## theta[219,7]      0.279 1.005   720
## theta[220,7]      0.630 1.004   640
## theta[221,7]      0.966 1.005   620
## theta[222,7]      1.889 1.010   280
## theta[223,7]      3.366 1.013   250
## theta[224,7]     -0.796 1.015   170
## theta[225,7]      2.033 1.014   200
## theta[226,7]      0.146 1.011   240
## theta[227,7]     -0.888 1.022   150
## theta[228,7]     -0.062 1.008   320
## theta[229,7]      1.971 1.011   260
## theta[230,7]      1.034 1.007   370
## theta[231,7]     -0.853 1.032    92
## theta[232,7]      1.366 1.002  1500
## theta[233,7]      0.325 1.007   420
## theta[234,7]      1.463 1.006   480
```

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## theta[235,7]      0.066 1.013   200
## theta[236,7]      0.097 1.039    71
## theta[237,7]      0.539 1.023   110
## theta[238,7]      2.080 1.015   180
## theta[239,7]      0.043 1.001  2700
## theta[240,7]      0.142 1.012   220
## theta[241,7]      1.187 1.002  1600
## theta[242,7]      1.416 1.006   490
## theta[243,7]      1.448 1.001  2500
## theta[244,7]      0.547 1.003  1000
## theta[245,7]      2.618 1.006   510
## theta[246,7]     -0.719 1.016   170
## theta[247,7]      1.705 1.015   180
## theta[248,7]      1.913 1.003   960
## theta[249,7]     -0.392 1.025   110
## theta[250,7]     -0.145 1.010   270
## theta[251,7]     -0.646 1.034    79
## theta[252,7]      1.173 1.002  2100
## theta[253,7]     -0.499 1.034    78
## theta[254,7]      1.155 1.008   330
## theta[255,7]      0.031 1.002  2100
## theta[256,7]      1.367 1.006   480
## theta[257,7]      3.174 1.011   280
## theta[258,7]      0.943 1.006   450
## theta[259,7]      0.906 1.005   590
## theta[260,7]      1.712 1.022   120
## theta[261,7]     -0.190 1.006   440
## theta[262,7]      1.159 1.008   360
## theta[263,7]      0.586 1.004   650
## theta[264,7]     -0.255 1.014   190
## theta[265,7]     -0.250 1.003  1400
## theta[266,7]      2.246 1.009   310
## theta[267,7]      2.490 1.011   260
## theta[268,7]      0.306 1.012   230
## theta[269,7]      1.414 1.004   680
## theta[270,7]      1.245 1.005   530
## theta[271,7]      0.195 1.005   520
## theta[272,7]      0.550 1.001  4000
## theta[273,7]      2.430 1.004   820
## theta[274,7]     -0.106 1.020   140
## theta[275,7]      3.334 1.012   270
## theta[276,7]      0.757 1.002  1800
## theta[277,7]      1.924 1.006   430
## theta[278,7]      3.290 1.011   290
## theta[279,7]      2.524 1.011   290
## theta[280,7]      3.138 1.009   310
## theta[281,7]      2.473 1.011   260
## theta[282,7]      3.193 1.006   470
## theta[283,7]      1.012 1.008   400
## theta[284,7]      2.087 1.001  3000
## theta[285,7]      0.158 1.003  1200
## theta[286,7]     -0.409 1.039    68
## theta[287,7]      1.088 1.003  2200
## theta[288,7]      1.887 1.017   150
```

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## theta[289,7]      1.290 1.011   250
## theta[290,7]      1.969 1.010   270
## theta[291,7]     -0.891 1.011   260
## theta[292,7]      0.346 1.009   360
## theta[293,7]      0.603 1.004   770
## theta[294,7]      0.361 1.005   540
## theta[295,7]      2.343 1.013   210
## theta[296,7]     -0.365 1.033    80
## theta[297,7]     -0.531 1.014   190
## theta[298,7]      0.790 1.019   140
## theta[299,7]     -0.262 1.036    77
## theta[300,7]      1.365 1.005   570
## theta[301,7]      2.466 1.011   300
## theta[302,7]      2.225 1.012   230
## theta[303,7]      1.452 1.001  4000
## theta[304,7]      0.076 1.020   130
## theta[305,7]      1.760 1.001  4000
## theta[306,7]      1.447 1.012   220
## theta[307,7]      0.252 1.008   340
## theta[308,7]      0.539 1.001  4000
## theta[309,7]     -0.574 1.011   240
## theta[310,7]      0.365 1.002  1400
## theta[311,7]      1.484 1.002  1800
## theta[312,7]     -0.702 1.012   210
## theta[313,7]      1.764 1.004   700
## theta[314,7]      0.274 1.004   740
## theta[315,7]      1.914 1.003   870
## theta[316,7]      0.566 1.008   340
## theta[317,7]      0.753 1.004   710
## theta[318,7]      1.770 1.008   390
## theta[319,7]      1.372 1.013   210
## theta[320,7]      0.422 1.003  1300
## theta[321,7]      0.448 1.007   410
## theta[322,7]      2.131 1.015   180
## theta[323,7]      2.523 1.010   310
## theta[324,7]      1.602 1.002  1400
## theta[325,7]      2.154 1.014   190
## theta[326,7]      0.599 1.006   580
## theta[327,7]     -0.659 1.032    85
## theta[328,7]      1.118 1.007   470
## theta[329,7]      0.664 1.002  2000
## theta[330,7]      0.424 1.003  1300
## theta[331,7]      1.068 1.009   300
## theta[332,7]      0.873 1.009   310
## theta[333,7]      0.544 1.003  2300
## theta[334,7]     -0.795 1.015   180
## theta[335,7]      1.495 1.005   540
## theta[336,7]      0.881 1.002  1800
## theta[337,7]     -0.071 1.007   410
## theta[338,7]      0.160 1.004   670
## theta[339,7]      1.143 1.004   720
## theta[340,7]      2.460 1.016   180
## theta[341,7]      2.491 1.011   230
## theta[342,7]     -0.768 1.018   150
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## theta[343,7]     -0.578 1.014   190
## theta[344,7]      1.625 1.005   510
## theta[345,7]     -0.593 1.015   180
## theta[346,7]      2.265 1.013   220
## theta[347,7]      0.023 1.013   210
## theta[348,7]      0.904 1.003  1200
## theta[349,7]      0.657 1.010   270
## theta[350,7]      2.107 1.006   520
## theta[351,7]      2.985 1.022   120
## theta[352,7]      0.536 1.007   540
## theta[353,7]     -0.605 1.010   280
## theta[354,7]      2.525 1.007   400
## theta[355,7]      0.842 1.003   900
## theta[356,7]      1.765 1.002  1700
## theta[357,7]      0.733 1.003  2100
## theta[358,7]      3.225 1.018   170
## theta[359,7]      1.911 1.002  2400
## theta[360,7]      1.377 1.003  1200
## theta[361,7]      1.269 1.003  1200
## theta[362,7]      1.221 1.002  4000
## theta[363,7]      2.285 1.007   410
## theta[364,7]      0.159 1.003  1200
## theta[365,7]      1.666 1.005   520
## theta[366,7]      1.651 1.009   320
## theta[367,7]      0.353 1.006   490
## theta[368,7]      1.891 1.003  1800
## theta[369,7]      2.453 1.008   370
## theta[370,7]      2.510 1.008   320
## theta[371,7]      0.323 1.009   300
## theta[372,7]      0.402 1.005   600
## theta[373,7]      0.548 1.001  4000
## theta[374,7]      1.720 1.005   570
## theta[375,7]      2.352 1.015   180
## theta[376,7]      2.056 1.008   340
## theta[377,7]      0.391 1.006   470
## theta[378,7]      1.287 1.011   240
## theta[379,7]      1.632 1.009   310
## theta[380,7]      0.304 1.007   390
## theta[381,7]      0.701 1.003   960
## theta[382,7]      0.865 1.007   430
## theta[383,7]      2.227 1.008   320
## theta[384,7]      2.176 1.006   490
## theta[385,7]      1.770 1.007   390
## theta[386,7]      0.968 1.003   940
## theta[387,7]      0.411 1.009   280
## theta[388,7]      0.946 1.001  3100
## theta[389,7]      2.508 1.007   410
## theta[390,7]      0.914 1.014   200
## theta[391,7]      0.719 1.001  3500
## theta[392,7]      0.282 1.003  1200
## theta[393,7]      0.343 1.008   320
## theta[394,7]      3.269 1.012   220
## theta[395,7]     -0.563 1.010   270
## theta[396,7]      3.204 1.017   210
```

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## theta[397,7]     -0.592 1.018   150
## theta[398,7]      1.143 1.006   540
## theta[399,7]     -0.753 1.019   140
## theta[400,7]      1.836 1.005   620
## theta[401,7]      0.659 1.009   290
## theta[402,7]      0.907 1.003   860
## theta[403,7]      1.733 1.004   770
## theta[404,7]      0.598 1.004   790
## theta[405,7]      2.003 1.008   340
## theta[406,7]     -0.644 1.024   110
## theta[407,7]      0.673 1.002  1900
## theta[408,7]     -0.629 1.021   120
## theta[409,7]      1.573 1.001  4000
## theta[410,7]      2.636 1.020   130
## theta[411,7]      0.619 1.002  3000
## theta[412,7]      0.515 1.004   800
## theta[413,7]      2.989 1.015   180
## theta[414,7]     -0.103 1.008   390
## theta[415,7]     -0.700 1.015   180
## theta[416,7]      0.788 1.004   770
## theta[417,7]      0.394 1.008   380
## theta[418,7]      0.135 1.017   150
## theta[419,7]      1.128 1.003   870
## theta[420,7]      0.232 1.006   460
## theta[421,7]     -0.691 1.010   260
## theta[422,7]      1.405 1.008   370
## theta[423,7]     -0.647 1.016   170
## theta[424,7]      0.616 1.003   850
## theta[425,7]      0.609 1.007   390
## theta[426,7]     -0.659 1.028   100
## theta[427,7]      0.227 1.003  1200
## theta[428,7]      1.975 1.007   370
## theta[429,7]      2.240 1.008   380
## theta[430,7]      0.484 1.006   440
## theta[431,7]      3.281 1.013   210
## theta[432,7]      1.989 1.005   690
## theta[433,7]      1.976 1.002  1500
## theta[434,7]      2.229 1.011   300
## theta[435,7]     -0.643 1.020   140
## theta[436,7]     -0.643 1.020   130
## theta[437,7]      0.548 1.002  1700
## theta[438,7]      1.331 1.003  1100
## theta[439,7]      1.349 1.003   890
## theta[440,7]      1.852 1.014   210
## theta[441,7]     -0.588 1.010   280
## theta[442,7]     -0.653 1.024   110
## theta[443,7]      1.691 1.006   480
## theta[444,7]      1.851 1.005   530
## theta[445,7]      2.549 1.011   280
## theta[446,7]     -0.638 1.024   110
## theta[447,7]      1.576 1.007   370
## theta[448,7]      1.741 1.002  1800
## theta[449,7]      0.526 1.019   140
## theta[450,7]      0.470 1.002  1500
```

```
## theta[451,7]      0.114 1.004   760
## theta[452,7]      0.567 1.003   870
## theta[453,7]      1.726 1.001  2700
## theta[454,7]     -0.652 1.022   130
## theta[455,7]      0.103 1.006   610
## theta[456,7]      1.809 1.003   980
## theta[457,7]      0.863 1.002  2600
## theta[458,7]      2.246 1.004   720
## theta[459,7]      1.598 1.002  2000
## theta[460,7]      1.311 1.003   990
## theta[461,7]      1.831 1.006   430
## theta[462,7]      0.084 1.007   460
## theta[463,7]      0.256 1.005   600
## theta[464,7]      1.410 1.008   340
## theta[465,7]      1.357 1.005   510
## theta[466,7]      1.994 1.010   270
## theta[467,7]      0.721 1.001  2500
## theta[468,7]      2.527 1.015   180
## theta[469,7]      1.307 1.006   450
## theta[470,7]      1.492 1.005   760
## theta[471,7]      1.853 1.003  1000
## theta[472,7]      2.253 1.009   380
## theta[473,7]      1.773 1.024   110
## theta[474,7]      1.770 1.025   100
## theta[475,7]     -0.698 1.022   140
## theta[476,7]      2.488 1.010   300
## theta[477,7]      1.277 1.002  2300
## theta[478,7]      1.642 1.006   440
## theta[479,7]      0.666 1.003  1100
## theta[480,7]      2.186 1.020   130
## theta[481,7]      2.120 1.005   550
## theta[482,7]      0.157 1.011   280
## theta[483,7]      0.983 1.005   540
## theta[484,7]      1.129 1.005   550
## theta[485,7]      1.163 1.002  1600
## theta[486,7]      0.799 1.003   870
## theta[487,7]      1.540 1.007   370
## theta[488,7]      0.612 1.005   550
## theta[489,7]      2.030 1.009   300
## theta[490,7]      0.324 1.005   600
## theta[491,7]     -0.624 1.028   100
## theta[492,7]      1.372 1.002  1700
## theta[493,7]     -0.771 1.008   380
## theta[494,7]      1.203 1.005   530
## theta[495,7]     -0.469 1.029    95
## theta[496,7]      1.553 1.005   640
## theta[497,7]     -0.736 1.022   120
## theta[498,7]     -0.753 1.009   320
## theta[499,7]     -0.791 1.026   100
## theta[500,7]      0.114 1.008   420
## theta[501,7]      1.371 1.002  2300
## theta[502,7]      0.280 1.003  1200
## theta[503,7]     -0.770 1.017   170
## theta[504,7]      0.313 1.007   450
```

```
## theta[505,7]     -0.528 1.013   200
## theta[506,7]     -0.756 1.028   100
## theta[507,7]      0.085 1.004   850
## theta[508,7]      0.357 1.005   540
## theta[509,7]     -0.786 1.024   110
## theta[510,7]     -0.576 1.005   530
## theta[511,7]      0.589 1.005   600
## theta[512,7]      0.385 1.005   620
## theta[513,7]      1.263 1.003   850
## theta[514,7]      0.511 1.010   290
## theta[515,7]      0.454 1.007   410
## theta[516,7]      0.471 1.003  1500
## theta[517,7]     -0.342 1.017   180
## theta[518,7]      1.018 1.003   980
## theta[519,7]     -0.782 1.023   120
## theta[520,7]      1.566 1.005   790
## theta[521,7]     -0.427 1.011   240
## theta[522,7]     -0.490 1.017   170
## theta[523,7]     -0.549 1.014   220
## theta[524,7]     -0.626 1.025   110
## theta[525,7]     -0.636 1.010   270
## theta[526,7]     -0.508 1.019   150
## theta[527,7]      1.077 1.005   560
## theta[528,7]      1.088 1.004   820
## theta[529,7]     -0.511 1.014   210
## theta[530,7]     -0.597 1.017   170
## theta[531,7]     -0.540 1.015   190
## theta[532,7]     -0.884 1.027   100
## theta[533,7]      1.630 1.003   970
## theta[534,7]     -0.842 1.020   150
## theta[535,7]      1.610 1.002  1300
## theta[536,7]      1.049 1.003  1100
## theta[1,8]        0.648 1.022   130
## theta[2,8]        1.122 1.105    32
## theta[3,8]        1.246 1.100    31
## theta[4,8]        1.323 1.018   150
## theta[5,8]        0.982 1.177    20
## theta[6,8]        1.016 1.126    26
## theta[7,8]        1.511 1.163    22
## theta[8,8]        1.515 1.254    15
## theta[9,8]        0.785 1.086    36
## theta[10,8]       1.094 1.073    42
## theta[11,8]       1.646 1.087    36
## theta[12,8]       1.455 1.008   420
## theta[13,8]       0.862 1.027   110
## theta[14,8]       1.032 1.208    17
## theta[15,8]       1.099 1.138    24
## theta[16,8]       0.512 1.043    66
## theta[17,8]       1.585 1.254    15
## theta[18,8]       1.032 1.069    44
## theta[19,8]       0.782 1.079    39
## theta[20,8]       1.608 1.212    18
## theta[21,8]       1.416 1.078    41
## theta[22,8]       1.354 1.025   120
```

```
## theta[23,8]       2.405 1.217    17
## theta[24,8]       0.584 1.009   560
## theta[25,8]       1.399 1.011   260
## theta[26,8]       1.648 1.189    19
## theta[27,8]       1.136 1.067    45
## theta[28,8]       1.874 1.239    16
## theta[29,8]       0.911 1.081    38
## theta[30,8]       2.563 1.193    19
## theta[31,8]       0.769 1.079    38
## theta[32,8]       2.330 1.164    22
## theta[33,8]       1.551 1.067    47
## theta[34,8]       0.712 1.044    68
## theta[35,8]       1.545 1.046    66
## theta[36,8]       1.859 1.023   130
## theta[37,8]       0.423 1.024   120
## theta[38,8]       1.646 1.042    69
## theta[39,8]       1.807 1.093    35
## theta[40,8]       0.952 1.041    69
## theta[41,8]       1.543 1.170    21
## theta[42,8]       2.456 1.185    19
## theta[43,8]       1.918 1.159    22
## theta[44,8]       0.992 1.158    22
## theta[45,8]       1.166 1.035    83
## theta[46,8]       0.808 1.038    75
## theta[47,8]       0.777 1.077    41
## theta[48,8]       0.383 1.028   100
## theta[49,8]       1.646 1.141    24
## theta[50,8]       0.358 1.040    75
## theta[51,8]       1.775 1.171    21
## theta[52,8]       1.630 1.129    26
## theta[53,8]       1.198 1.119    28
## theta[54,8]       1.243 1.148    23
## theta[55,8]       0.275 1.008   420
## theta[56,8]       2.380 1.201    18
## theta[57,8]       1.819 1.135    25
## theta[58,8]       1.595 1.212    17
## theta[59,8]       0.913 1.045    64
## theta[60,8]       1.069 1.053    58
## theta[61,8]       1.169 1.154    22
## theta[62,8]       1.768 1.154    22
## theta[63,8]       1.504 1.115    29
## theta[64,8]       1.731 1.095    34
## theta[65,8]       1.475 1.020   150
## theta[66,8]       0.565 1.024   120
## theta[67,8]       1.549 1.069    44
## theta[68,8]       1.567 1.177    20
## theta[69,8]       1.876 1.214    18
## theta[70,8]       0.711 1.048    63
## theta[71,8]       1.076 1.061    50
## theta[72,8]       1.150 1.076    40
## theta[73,8]       1.650 1.231    16
## theta[74,8]       1.729 1.148    23
## theta[75,8]       0.818 1.114    29
## theta[76,8]       1.796 1.200    18
```

```
## theta[77,8]       1.283 1.035    83
## theta[78,8]       1.108 1.052    60
## theta[79,8]       2.474 1.201    18
## theta[80,8]       0.726 1.046    63
## theta[81,8]       0.825 1.129    26
## theta[82,8]       1.072 1.037    73
## theta[83,8]       1.599 1.182    20
## theta[84,8]       1.392 1.114    28
## theta[85,8]       1.357 1.015   190
## theta[86,8]       0.680 1.058    52
## theta[87,8]       0.971 1.035    86
## theta[88,8]       1.049 1.081    39
## theta[89,8]       2.561 1.188    19
## theta[90,8]       1.573 1.094    34
## theta[91,8]       1.152 1.002  2200
## theta[92,8]       0.944 1.128    26
## theta[93,8]       1.742 1.087    37
## theta[94,8]       1.892 1.135    25
## theta[95,8]       2.416 1.187    19
## theta[96,8]       1.153 1.124    27
## theta[97,8]       0.512 1.042    64
## theta[98,8]       0.818 1.082    40
## theta[99,8]       1.780 1.066    46
## theta[100,8]      1.335 1.233    16
## theta[101,8]      1.350 1.092    34
## theta[102,8]      2.387 1.234    16
## theta[103,8]      1.067 1.042    68
## theta[104,8]      1.483 1.186    19
## theta[105,8]      1.185 1.013   250
## theta[106,8]      1.016 1.034    84
## theta[107,8]      1.853 1.232    16
## theta[108,8]      2.442 1.194    19
## theta[109,8]      1.335 1.069    45
## theta[110,8]      1.324 1.017   170
## theta[111,8]      0.977 1.145    24
## theta[112,8]      1.836 1.212    18
## theta[113,8]      1.102 1.043    65
## theta[114,8]      0.507 1.013   210
## theta[115,8]      1.213 1.003  2700
## theta[116,8]      1.426 1.181    20
## theta[117,8]      1.575 1.199    18
## theta[118,8]      0.345 1.013   210
## theta[119,8]      0.611 1.035    85
## theta[120,8]      1.835 1.217    17
## theta[121,8]      1.561 1.154    23
## theta[122,8]      0.622 1.050    61
## theta[123,8]      1.032 1.115    28
## theta[124,8]      2.416 1.183    20
## theta[125,8]      1.409 1.080    40
## theta[126,8]      1.092 1.103    32
## theta[127,8]      1.766 1.152    23
## theta[128,8]      1.124 1.163    21
## theta[129,8]      0.579 1.023   130
## theta[130,8]      1.431 1.098    34
```

```
## theta[131,8]      0.537 1.037    80
## theta[132,8]      1.080 1.080    40
## theta[133,8]      0.912 1.019   150
## theta[134,8]      1.604 1.207    18
## theta[135,8]      1.670 1.150    23
## theta[136,8]      1.883 1.123    27
## theta[137,8]      0.827 1.027   100
## theta[138,8]      1.675 1.147    23
## theta[139,8]      1.616 1.133    25
## theta[140,8]      2.186 1.153    23
## theta[141,8]      1.208 1.005   540
## theta[142,8]      1.282 1.140    24
## theta[143,8]      0.988 1.155    22
## theta[144,8]      1.100 1.088    36
## theta[145,8]      0.556 1.068    44
## theta[146,8]      1.180 1.063    48
## theta[147,8]      1.929 1.059    50
## theta[148,8]      1.836 1.222    17
## theta[149,8]      1.247 1.094    34
## theta[150,8]      2.414 1.211    18
## theta[151,8]      1.640 1.049    61
## theta[152,8]      1.305 1.202    18
## theta[153,8]      1.409 1.215    17
## theta[154,8]      1.959 1.128    26
## theta[155,8]      1.136 1.051    59
## theta[156,8]      1.451 1.109    30
## theta[157,8]      1.371 1.089    35
## theta[158,8]      0.503 1.050    58
## theta[159,8]      0.883 1.008   480
## theta[160,8]      1.436 1.133    25
## theta[161,8]      1.628 1.084    39
## theta[162,8]      1.213 1.046    64
## theta[163,8]      1.850 1.119    28
## theta[164,8]      2.156 1.129    26
## theta[165,8]      1.817 1.227    17
## theta[166,8]      1.696 1.133    26
## theta[167,8]      1.014 1.120    27
## theta[168,8]      2.460 1.173    21
## theta[169,8]      1.504 1.096    34
## theta[170,8]      1.836 1.225    17
## theta[171,8]      0.460 1.023   140
## theta[172,8]      1.142 1.105    32
## theta[173,8]      2.422 1.192    19
## theta[174,8]      0.523 1.019   160
## theta[175,8]      0.686 1.007   490
## theta[176,8]      0.348 1.021   140
## theta[177,8]      0.655 1.026   110
## theta[178,8]      1.632 1.107    31
## theta[179,8]      1.200 1.063    49
## theta[180,8]      1.235 1.158    22
## theta[181,8]      1.598 1.236    16
## theta[182,8]      1.151 1.038    76
## theta[183,8]      1.105 1.040    69
## theta[184,8]      2.305 1.234    16
```

```
## theta[185,8]      1.780 1.156    22
## theta[186,8]      1.719 1.106    30
## theta[187,8]      1.654 1.121    28
## theta[188,8]      0.536 1.054    56
## theta[189,8]      2.457 1.186    19
## theta[190,8]      2.458 1.195    19
## theta[191,8]      1.543 1.047    63
## theta[192,8]      1.777 1.157    22
## theta[193,8]      2.070 1.217    17
## theta[194,8]      0.351 1.011   340
## theta[195,8]      1.246 1.083    37
## theta[196,8]      1.850 1.147    24
## theta[197,8]      1.704 1.152    23
## theta[198,8]      2.381 1.192    19
## theta[199,8]      1.569 1.135    25
## theta[200,8]      1.175 1.133    25
## theta[201,8]      2.405 1.176    21
## theta[202,8]      1.389 1.117    28
## theta[203,8]      1.597 1.082    37
## theta[204,8]      1.425 1.174    20
## theta[205,8]      0.354 1.022   140
## theta[206,8]      1.029 1.145    23
## theta[207,8]      0.939 1.014   200
## theta[208,8]      1.740 1.103    31
## theta[209,8]      1.412 1.055    53
## theta[210,8]      2.422 1.186    19
## theta[211,8]      0.877 1.115    28
## theta[212,8]      1.055 1.005  1400
## theta[213,8]      2.349 1.185    19
## theta[214,8]      1.505 1.159    22
## theta[215,8]      1.678 1.113    29
## theta[216,8]      2.552 1.188    19
## theta[217,8]      1.681 1.214    17
## theta[218,8]      1.310 1.162    21
## theta[219,8]      1.730 1.011   280
## theta[220,8]      0.861 1.051    58
## theta[221,8]      0.384 1.011   260
## theta[222,8]      1.336 1.072    43
## theta[223,8]      2.442 1.195    19
## theta[224,8]      1.624 1.185    19
## theta[225,8]      1.713 1.125    27
## theta[226,8]      0.645 1.108    30
## theta[227,8]      1.816 1.225    17
## theta[228,8]      0.819 1.126    27
## theta[229,8]      1.375 1.127    27
## theta[230,8]      1.193 1.017   180
## theta[231,8]      1.828 1.232    16
## theta[232,8]      1.135 1.008   540
## theta[233,8]      0.680 1.040    73
## theta[234,8]      0.825 1.075    42
## theta[235,8]      1.274 1.125    26
## theta[236,8]      1.935 1.180    19
## theta[237,8]      1.225 1.056    51
## theta[238,8]      1.369 1.187    19
```

```
## theta[239,8]      0.593 1.047    63
## theta[240,8]      1.183 1.128    26
## theta[241,8]      1.552 1.041    75
## theta[242,8]      1.031 1.041    74
## theta[243,8]      1.031 1.025   110
## theta[244,8]      0.633 1.036    85
## theta[245,8]      2.090 1.119    29
## theta[246,8]      1.682 1.199    19
## theta[247,8]      0.859 1.127    26
## theta[248,8]      1.646 1.109    31
## theta[249,8]      1.387 1.188    19
## theta[250,8]      1.054 1.101    32
## theta[251,8]      1.450 1.246    15
## theta[252,8]      1.360 1.015   230
## theta[253,8]      1.407 1.209    18
## theta[254,8]      1.183 1.047    61
## theta[255,8]      0.952 1.071    43
## theta[256,8]      1.140 1.111    30
## theta[257,8]      2.554 1.181    20
## theta[258,8]      1.724 1.033    86
## theta[259,8]      0.932 1.059    48
## theta[260,8]      1.221 1.177    20
## theta[261,8]      1.068 1.130    26
## theta[262,8]      1.009 1.122    26
## theta[263,8]      0.533 1.018   170
## theta[264,8]      1.043 1.139    25
## theta[265,8]      0.789 1.067    46
## theta[266,8]      1.652 1.149    23
## theta[267,8]      1.825 1.143    24
## theta[268,8]      1.236 1.124    26
## theta[269,8]      0.992 1.029   110
## theta[270,8]      1.279 1.030   100
## theta[271,8]      1.041 1.043    65
## theta[272,8]      0.759 1.009   350
## theta[273,8]      2.193 1.123    28
## theta[274,8]      1.723 1.123    27
## theta[275,8]      2.465 1.204    18
## theta[276,8]      1.098 1.008   450
## theta[277,8]      1.714 1.083    38
## theta[278,8]      2.442 1.187    20
## theta[279,8]      1.757 1.140    25
## theta[280,8]      2.508 1.201    18
## theta[281,8]      1.905 1.145    24
## theta[282,8]      2.298 1.185    20
## theta[283,8]      0.646 1.028   110
## theta[284,8]      1.943 1.127    26
## theta[285,8]      1.153 1.016   180
## theta[286,8]      1.904 1.249    15
## theta[287,8]      1.102 1.044    65
## theta[288,8]      1.316 1.165    21
## theta[289,8]      0.702 1.047    65
## theta[290,8]      1.265 1.086    37
## theta[291,8]      1.895 1.211    18
## theta[292,8]      1.629 1.053    56
```

```
## theta[293,8]      0.643 1.005   780
## theta[294,8]      0.643 1.047    64
## theta[295,8]      1.787 1.152    23
## theta[296,8]      1.352 1.218    17
## theta[297,8]      1.464 1.152    23
## theta[298,8]      0.574 1.020   140
## theta[299,8]      1.713 1.266    15
## theta[300,8]      1.610 1.051    58
## theta[301,8]      1.760 1.144    24
## theta[302,8]      1.772 1.152    23
## theta[303,8]      1.059 1.005   510
## theta[304,8]      1.843 1.107    30
## theta[305,8]      1.761 1.080    40
## theta[306,8]      1.736 1.133    25
## theta[307,8]      1.165 1.056    54
## theta[308,8]      0.707 1.035    88
## theta[309,8]      1.504 1.134    25
## theta[310,8]      0.552 1.030    96
## theta[311,8]      1.614 1.055    53
## theta[312,8]      1.592 1.130    26
## theta[313,8]      0.999 1.022   130
## theta[314,8]      1.029 1.040    73
## theta[315,8]      1.322 1.054    56
## theta[316,8]      1.229 1.058    51
## theta[317,8]      0.429 1.009   310
## theta[318,8]      1.432 1.026   110
## theta[319,8]      1.127 1.038    77
## theta[320,8]      0.827 1.034    81
## theta[321,8]      1.426 1.049    60
## theta[322,8]      1.340 1.124    27
## theta[323,8]      1.841 1.150    23
## theta[324,8]      0.941 1.036    81
## theta[325,8]      1.720 1.146    24
## theta[326,8]      0.517 1.019   170
## theta[327,8]      1.532 1.253    15
## theta[328,8]      1.016 1.028   100
## theta[329,8]      1.314 1.010   260
## theta[330,8]      1.104 1.038    84
## theta[331,8]      0.929 1.039    78
## theta[332,8]      1.175 1.030    92
## theta[333,8]      0.646 1.032    98
## theta[334,8]      1.592 1.182    20
## theta[335,8]      1.058 1.053    57
## theta[336,8]      1.083 1.011   230
## theta[337,8]      1.151 1.071    44
## theta[338,8]      0.706 1.074    41
## theta[339,8]      1.194 1.015   180
## theta[340,8]      1.865 1.164    21
## theta[341,8]      1.831 1.143    24
## theta[342,8]      1.607 1.186    19
## theta[343,8]      1.502 1.136    25
## theta[344,8]      1.102 1.106    30
## theta[345,8]      1.524 1.145    23
## theta[346,8]      1.363 1.126    26
```

```
## theta[347,8]      1.435 1.075    41
## theta[348,8]      1.598 1.006   430
## theta[349,8]      0.885 1.080    39
## theta[350,8]      1.515 1.085    37
## theta[351,8]      2.420 1.222    17
## theta[352,8]      0.694 1.035    88
## theta[353,8]      1.607 1.141    24
## theta[354,8]      1.847 1.158    22
## theta[355,8]      1.218 1.041    67
## theta[356,8]      1.317 1.086    36
## theta[357,8]      0.951 1.005  1100
## theta[358,8]      2.576 1.225    17
## theta[359,8]      1.421 1.107    30
## theta[360,8]      1.365 1.020   150
## theta[361,8]      1.331 1.091    35
## theta[362,8]      1.543 1.031   110
## theta[363,8]      1.496 1.140    24
## theta[364,8]      0.848 1.041    69
## theta[365,8]      0.645 1.065    47
## theta[366,8]      1.271 1.044    66
## theta[367,8]      0.650 1.036    89
## theta[368,8]      1.904 1.085    37
## theta[369,8]      2.164 1.121    28
## theta[370,8]      1.777 1.130    26
## theta[371,8]      1.055 1.074    42
## theta[372,8]      0.838 1.043    69
## theta[373,8]      1.057 1.054    53
## theta[374,8]      1.571 1.085    37
## theta[375,8]      1.796 1.197    18
## theta[376,8]      1.718 1.115    30
## theta[377,8]      0.830 1.039    71
## theta[378,8]      1.185 1.044    68
## theta[379,8]      1.490 1.071    42
## theta[380,8]      1.025 1.091    34
## theta[381,8]      1.196 1.048    59
## theta[382,8]      1.207 1.037    90
## theta[383,8]      1.401 1.138    24
## theta[384,8]      2.041 1.107    30
## theta[385,8]      1.208 1.075    43
## theta[386,8]      1.615 1.041    74
## theta[387,8]      0.831 1.036    80
## theta[388,8]      1.372 1.014   210
## theta[389,8]      1.821 1.134    26
## theta[390,8]      0.782 1.047    63
## theta[391,8]      1.156 1.016   190
## theta[392,8]      0.691 1.066    46
## theta[393,8]      0.837 1.038    75
## theta[394,8]      2.446 1.194    19
## theta[395,8]      1.527 1.133    26
## theta[396,8]      2.383 1.198    18
## theta[397,8]      1.460 1.124    27
## theta[398,8]      1.400 1.033    91
## theta[399,8]      1.626 1.211    17
## theta[400,8]      1.110 1.113    30
```

```
## theta[401,8]      1.420 1.052    56
## theta[402,8]      1.546 1.016   200
## theta[403,8]      1.128 1.073    42
## theta[404,8]      0.580 1.028   110
## theta[405,8]      1.456 1.119    28
## theta[406,8]      1.533 1.211    17
## theta[407,8]      0.608 1.013   300
## theta[408,8]      1.525 1.241    16
## theta[409,8]      1.440 1.042    67
## theta[410,8]      2.441 1.222    17
## theta[411,8]      1.094 1.034    86
## theta[412,8]      0.603 1.035   100
## theta[413,8]      2.352 1.232    16
## theta[414,8]      0.747 1.083    38
## theta[415,8]      1.605 1.119    28
## theta[416,8]      0.454 1.009   340
## theta[417,8]      0.594 1.004   880
## theta[418,8]      0.844 1.111    29
## theta[419,8]      1.352 1.040    76
## theta[420,8]      0.795 1.020   150
## theta[421,8]      1.616 1.130    26
## theta[422,8]      0.984 1.019   140
## theta[423,8]      1.639 1.158    22
## theta[424,8]      0.845 1.045    64
## theta[425,8]      0.859 1.034    80
## theta[426,8]      1.510 1.238    16
## theta[427,8]      1.284 1.048    62
## theta[428,8]      1.633 1.105    31
## theta[429,8]      1.655 1.125    27
## theta[430,8]      0.556 1.044    66
## theta[431,8]      2.416 1.198    18
## theta[432,8]      1.210 1.059    52
## theta[433,8]      1.216 1.071    45
## theta[434,8]      1.690 1.130    26
## theta[435,8]      1.420 1.182    20
## theta[436,8]      1.461 1.232    16
## theta[437,8]      0.639 1.029   100
## theta[438,8]      1.181 1.006   540
## theta[439,8]      1.149 1.115    29
## theta[440,8]      1.258 1.132    26
## theta[441,8]      1.506 1.116    28
## theta[442,8]      1.577 1.241    16
## theta[443,8]      0.834 1.037    81
## theta[444,8]      1.695 1.072    42
## theta[445,8]      1.592 1.146    23
## theta[446,8]      1.556 1.235    16
## theta[447,8]      1.504 1.075    42
## theta[448,8]      1.246 1.033    90
## theta[449,8]      1.322 1.097    32
## theta[450,8]      0.432 1.012   240
## theta[451,8]      0.782 1.073    43
## theta[452,8]      0.669 1.029   110
## theta[453,8]      1.327 1.072    42
## theta[454,8]      1.545 1.240    16
```

```
## theta[455,8]      0.824 1.006   430
## theta[456,8]      1.615 1.108    30
## theta[457,8]      0.946 1.007   640
## theta[458,8]      1.402 1.135    24
## theta[459,8]      1.542 1.064    47
## theta[460,8]      1.521 1.014   210
## theta[461,8]      1.607 1.081    39
## theta[462,8]      0.860 1.032    89
## theta[463,8]      0.875 1.033    86
## theta[464,8]      0.972 1.080    40
## theta[465,8]      1.444 1.062    50
## theta[466,8]      1.498 1.111    30
## theta[467,8]      0.864 1.029   100
## theta[468,8]      1.836 1.157    22
## theta[469,8]      1.372 1.023   120
## theta[470,8]      1.460 1.074    43
## theta[471,8]      1.619 1.078    40
## theta[472,8]      1.687 1.112    30
## theta[473,8]      1.529 1.159    22
## theta[474,8]      1.553 1.165    21
## theta[475,8]      1.683 1.234    16
## theta[476,8]      1.905 1.135    25
## theta[477,8]      1.481 1.013   230
## theta[478,8]      1.290 1.135    25
## theta[479,8]      1.167 1.035    86
## theta[480,8]      1.930 1.153    23
## theta[481,8]      1.277 1.095    34
## theta[482,8]      0.691 1.095    33
## theta[483,8]      1.049 1.022   120
## theta[484,8]      1.421 1.037    80
## theta[485,8]      1.400 1.029   100
## theta[486,8]      0.412 1.020   180
## theta[487,8]      1.014 1.096    33
## theta[488,8]      0.808 1.036    80
## theta[489,8]      1.748 1.108    30
## theta[490,8]      1.043 1.035    86
## theta[491,8]      1.523 1.241    16
## theta[492,8]      1.811 1.080    40
## theta[493,8]      1.520 1.161    22
## theta[494,8]      1.369 1.054    55
## theta[495,8]      1.402 1.243    16
## theta[496,8]      1.465 1.027   110
## theta[497,8]      1.434 1.200    18
## theta[498,8]      1.852 1.161    22
## theta[499,8]      1.640 1.219    17
## theta[500,8]      0.757 1.064    47
## theta[501,8]      1.496 1.040    76
## theta[502,8]      0.475 1.033    87
## theta[503,8]      1.739 1.171    21
## theta[504,8]      0.800 1.029    99
## theta[505,8]      1.132 1.189    19
## theta[506,8]      1.696 1.245    16
## theta[507,8]      0.704 1.045    69
## theta[508,8]      0.674 1.040    81
```

```
## theta[509,8]      1.623 1.244    16
## theta[510,8]      1.248 1.098    33
## theta[511,8]      0.828 1.030    95
## theta[512,8]      0.816 1.032    88
## theta[513,8]      1.458 1.020   150
## theta[514,8]      0.615 1.035    90
## theta[515,8]      0.674 1.067    46
## theta[516,8]      0.833 1.031    98
## theta[517,8]      1.494 1.156    22
## theta[518,8]      0.948 1.016   160
## theta[519,8]      1.683 1.241    16
## theta[520,8]      1.474 1.047    63
## theta[521,8]      0.813 1.125    26
## theta[522,8]      1.430 1.204    18
## theta[523,8]      1.311 1.173    21
## theta[524,8]      1.582 1.231    16
## theta[525,8]      1.183 1.160    22
## theta[526,8]      1.468 1.203    18
## theta[527,8]      1.090 1.014   190
## theta[528,8]      1.099 1.014   200
## theta[529,8]      1.245 1.172    21
## theta[530,8]      1.582 1.181    20
## theta[531,8]      1.086 1.150    23
## theta[532,8]      1.825 1.229    16
## theta[533,8]      1.616 1.047    67
## theta[534,8]      1.820 1.212    18
## theta[535,8]      1.357 1.015   190
## theta[536,8]      1.344 1.009   390
## theta.cov[1,1]   10.211 1.590     9
## theta.cov[2,1]    1.645 1.141    24
## theta.cov[3,1]    2.417 1.357    12
## theta.cov[4,1]    5.496 1.518    10
## theta.cov[5,1]    4.413 1.354    12
## theta.cov[6,1]    0.703 1.347    12
## theta.cov[7,1]    3.467 1.497    10
## theta.cov[8,1]    2.319 1.262    16
## theta.cov[1,2]    1.645 1.141    24
## theta.cov[2,2]    1.060 1.082    39
## theta.cov[3,2]    0.405 1.427    11
## theta.cov[4,2]    1.446 1.048    64
## theta.cov[5,2]    1.070 1.232    16
## theta.cov[6,2]    0.303 1.387    11
## theta.cov[7,2]    1.127 1.022   150
## theta.cov[8,2]    0.757 1.319    13
## theta.cov[1,3]    2.417 1.357    12
## theta.cov[2,3]    0.405 1.427    11
## theta.cov[3,3]    3.424 1.165    22
## theta.cov[4,3]    2.811 1.442    10
## theta.cov[5,3]    1.392 1.298    14
## theta.cov[6,3]    0.705 1.307    13
## theta.cov[7,3]    1.322 1.415    11
## theta.cov[8,3]    1.352 1.304    14
## theta.cov[1,4]    5.496 1.518    10
## theta.cov[2,4]    1.446 1.048    64
```

```
## theta.cov[3,4]    2.811 1.442    10
## theta.cov[4,4]    8.309 1.163    23
## theta.cov[5,4]    3.297 1.193    21
## theta.cov[6,4]    1.421 1.547     9
## theta.cov[7,4]    2.827 1.179    19
## theta.cov[8,4]    2.232 1.325    12
## theta.cov[1,5]    4.413 1.354    12
## theta.cov[2,5]    1.070 1.232    16
## theta.cov[3,5]    1.392 1.298    14
## theta.cov[4,5]    3.297 1.193    21
## theta.cov[5,5]    5.193 1.286    14
## theta.cov[6,5]    0.676 1.439    10
## theta.cov[7,5]    2.273 1.216    17
## theta.cov[8,5]    1.215 1.330    13
## theta.cov[1,6]    0.703 1.347    12
## theta.cov[2,6]    0.303 1.387    11
## theta.cov[3,6]    0.705 1.307    13
## theta.cov[4,6]    1.421 1.547     9
## theta.cov[5,6]    0.676 1.439    10
## theta.cov[6,6]    1.295 1.028   140
## theta.cov[7,6]    0.509 1.427    10
## theta.cov[8,6]    0.386 1.377    11
## theta.cov[1,7]    3.467 1.497    10
## theta.cov[2,7]    1.127 1.022   150
## theta.cov[3,7]    1.322 1.415    11
## theta.cov[4,7]    2.827 1.179    19
## theta.cov[5,7]    2.273 1.216    17
## theta.cov[6,7]    0.509 1.427    10
## theta.cov[7,7]    2.308 1.047    59
## theta.cov[8,7]    1.105 1.322    13
## theta.cov[1,8]    2.319 1.262    16
## theta.cov[2,8]    0.757 1.319    13
## theta.cov[3,8]    1.352 1.304    14
## theta.cov[4,8]    2.232 1.325    12
## theta.cov[5,8]    1.215 1.330    13
## theta.cov[6,8]    0.386 1.377    11
## theta.cov[7,8]    1.105 1.322    13
## theta.cov[8,8]    1.661 1.095    33
## deviance       6210.693 1.002  2300
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 4510.7 and DIC = 10543.0
## DIC is an estimate of expected predictive error (lower deviance is better).
```

Up next are posterior predictive model checks for Model 4:

```
# list number of simulated data sets
nSimulatedDataSets = 5000

# create one large matrix of posterior values
model04.Posterior.all = model04.r2jags$BUGSoutput$sims.matrix
dim(model04.Posterior.all)
```

```
## [1] 4000 4429
```

```
# determine columns of posterior that go into each model matrix
# colnames(model01.Posterior.all)
muCols = grep(x = colnames(model04.Posterior.all), pattern = "mu")
lambdaCols = grep(x = colnames(model04.Posterior.all), pattern = "lambda\\[")
lambdaText = colnames(model04.Posterior.all)[lambdaCols]
lambdaCall = paste(lambdaText, "= lambdaVec[", 1:56, "]")
lambda = matrix(data = 0, nrow = 20, ncol = 8)
covCol = grep(x = colnames(model04.Posterior.all), pattern = "theta.cov")


# save simulated covariances:
simCovModel04 = matrix(data = NA, nrow = nSimulatedDataSets, ncol = nItems*nItems)

# loop through data sets (can be sped up with functions and lapply)
pb = txtProgressBar()
sim = 1
for (sim in 1:nSimulatedDataSets){

  # draw sample from one iteration of posterior chain
  iternum = sample(x = 1:nrow(model04.Posterior.all), size = 1, replace = TRUE)

  # get parameters for that sample: put into factor model matrices for easier generation of data
# get parameters for that sample: put into factor model matrices for easier generation of data
  mu = matrix(data = model04.Posterior.all[iternum, muCols], ncol = 1)
  lambdaVec = model04.Posterior.all[iternum, lambdaCols]
  eval(parse(text = lambdaCall))
  varTheta = matrix(data = model04.Posterior.all[iternum, covCol], nrow = 8, ncol = 8)

  # generate sample of thetas from theta distribution
  theta = rmvnorm(n = nrow(FSdata), mean = rep(0,8), sigma = varTheta)

  # calculate predicted probits:
  probits = matrix(data = 1, nrow = nrow(FSdata), ncol = 1) %*% t(mu) + theta %*% t(lambda)

  simData = probits
  i=1
  for (i in 1:ncol(probits)){
    simData[,i] = rbinom(n = nrow(probits), size = 1, prob = pnorm(q = probits[,i]) )
  }

  # calculate the value of SRMR using simulated data's covariance matrix and observed covariance matrix
  simCov = cov(simData)
  simCovModel04[sim,] = c(cov(simData))

  setTxtProgressBar(pb = pb, value = sim/nSimulatedDataSets)
}
```

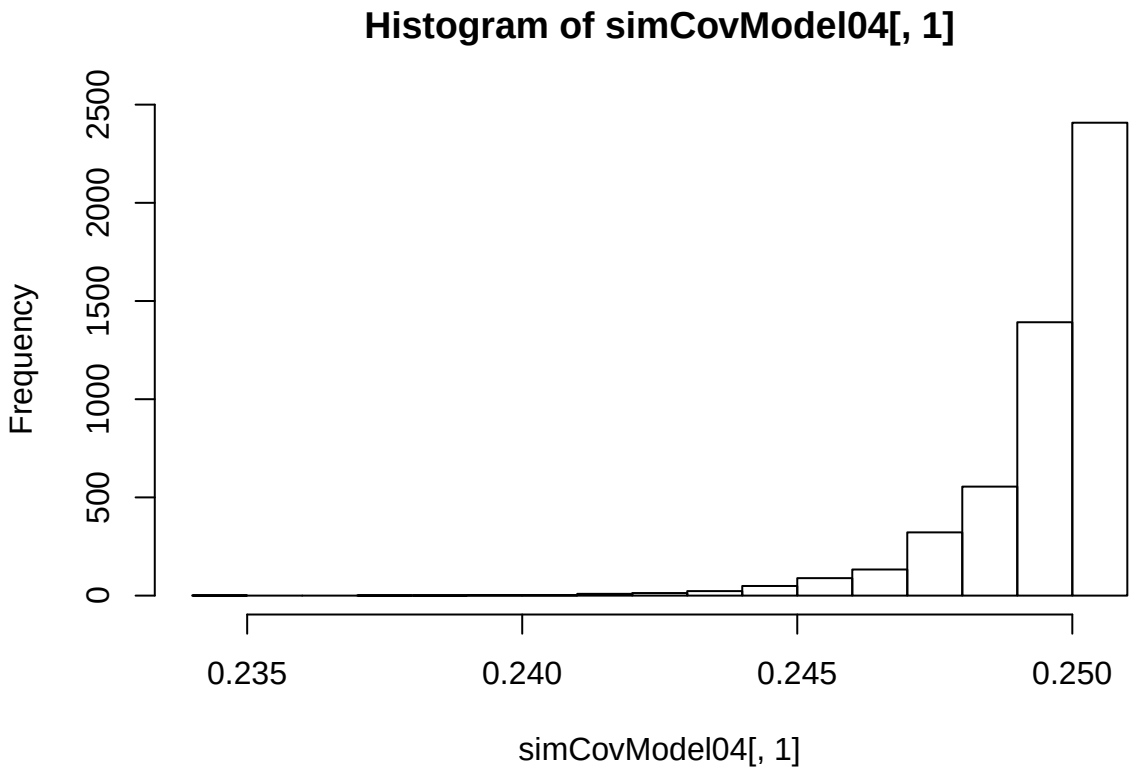
```
## ================================================================================
```

```
close(pb)
```

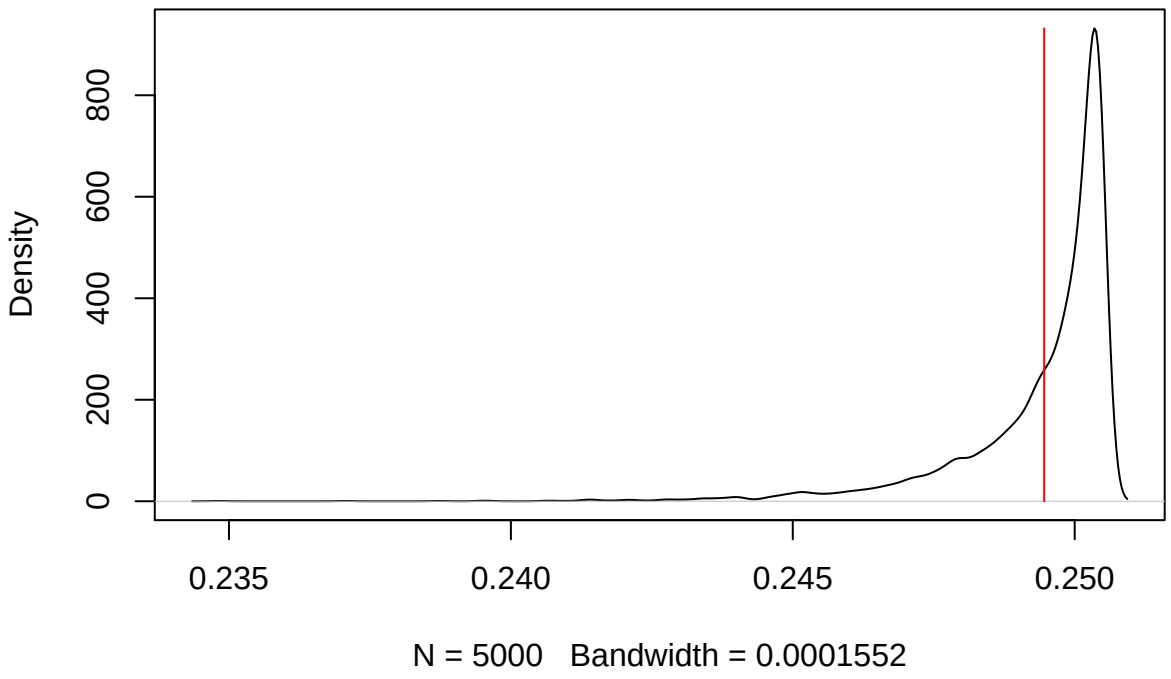
```
# label values of simCor to ensure we have the right comparison
covNames = NULL
for (i in 1:ncol(simData)){
```

```
  for (j in 1:ncol(simData)){
    covNames = c(covNames, paste0("cov", i, "." , j))
  }
}
colnames(simCovModel04) = covNames

# show how one correlation compares to distribution of simulated correlations
dataCov = cov(FSdata)
hist(simCovModel04[,1])
```




```
plot(density(simCovModel04[,1]))
lines(x = c(dataCov[1,1], dataCov[1,1]), y = c(0, max(density(simCovModel04[,1])$y)), col = 2)
```




```
quantile(simCovModel04[,1])
```

```
##        0%       25%       50%       75%      100%
## 0.2348131 0.2490724 0.2499651 0.2503417 0.2504673
```

```
mean(simCovModel04[,1])
```

```
## [1] 0.249423
```

```
dataCov[1,1]
```

```
## [1] 0.2494595
```

```
# create quantiles of correlations to see where each observed correlation falls
covQuantiles04 = NULL

# compute the quantiles of the observed correlations:

col = 1
for (i in 1:ncol(simData)){
  for (j in 1:ncol(simData)){
    # get empirical CDF of simulated correlation distribution
    covEcdf = ecdf(simCovModel04[,col])
    covQuantiles04 = rbind(covQuantiles04, c(i, j, summary(covEcdf), dataCov[i,j], covEcdf(dataCov[i,j]))

    col = col + 1
  }
}
colnames(covQuantiles04)[1:2] = c("Item 1", "Item 2")
colnames(covQuantiles04)[9:10] = c("ObsCor", "CorPctile")
covQuantiles04[which(covQuantiles04[,10] > .975 | covQuantiles04[,10] < .025),]
```

```
##       Item 1 Item 2          Min.    1st Qu.     Median       Mean
##  [1,]      4      8 -0.0006834984 0.03071558 0.03920352 0.03940074
##  [2,]      7      8  0.0149393221 0.04340389 0.05126761 0.05135580
##  [3,]      8      4 -0.0006834984 0.03071558 0.03920352 0.03940074
##  [4,]      8      7  0.0149393221 0.04340389 0.05126761 0.05135580
##  [5,]      8     11  0.0155530757 0.04418155 0.05232947 0.05249394
##  [6,]      8     15  0.0073371460 0.04639071 0.05474962 0.05485664
##  [7,]      8     20  0.0097224160 0.04161843 0.04921537 0.04921224
##  [8,]     11      8  0.0155530757 0.04418155 0.05232947 0.05249394
##  [9,]     15      8  0.0073371460 0.04639071 0.05474962 0.05485664
## [10,]     20      8  0.0097224160 0.04161843 0.04921537 0.04921224
##          3rd Qu.       Max.     ObsCor CorPctile
##  [1,] 0.04787279 0.07732599 0.10332334    1.0000
##  [2,] 0.05922200 0.09125750 0.07831636    0.9946
##  [3,] 0.04787279 0.07732599 0.10332334    1.0000
##  [4,] 0.05922200 0.09125750 0.07831636    0.9946
##  [5,] 0.06081218 0.09093318 0.07658669    0.9858
##  [6,] 0.06323406 0.09670805 0.07654485    0.9762
##  [7,] 0.05687945 0.08810155 0.07082578    0.9852
##  [8,] 0.06081218 0.09093318 0.07658669    0.9858
##  [9,] 0.06323406 0.09670805 0.07654485    0.9762
## [10,] 0.05687945 0.08810155 0.07082578    0.9852
```