CFA\_Children\_Blavaan

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# Describing the model and reporting results

We fit the following models:

* 9-factor model: This model treated all tasks as independent factors. This was used as the baseline model.
* MF2012: The “Miyake and Friedman (2012)” model consisted of 3 factors:
  + WM (all WM tasks loaded on this factor)
  + Shifting (all Shifting tasks loaded on this factor)
  + Common factor (all tasks loaded on this factor)
* 3-factor model: This model consisted of:
  + WM (all WM tasks loaded on this factor)
  + Shifting (all Shifting tasks loaded on this factor)
  + Inhibition (all Inhibition tasks loaded on this factor)
* 3 independent factor model:
  + WM (all WM tasks loaded on this factor)
  + Shifting (all Shifting tasks loaded on this factor)
  + Inhibition (all Inhibition tasks loaded on this factor)
* 2 factor model 1:
  + WM+Shifting (all WM and Shifting tasks loaded on this factor)
  + Inhibition (all Inhibition tasks loaded on this factor)
* 2 factor model 2:
  + WM+Inhibition (all WM and Inhibition tasks loaded on this factor)
  + Shifting (all Shifting tasks loaded on this factor)
* 2 factor model 3:
  + Inhibition+Shifting (all Inhibition and Shifting tasks loaded on this factor)
  + WM (all WM tasks loaded on this factor)

When fitting the models, we received the following warnings. First, we received divergent transition warnings for all but the 9-factor model. [describe here what that warning means]. The divergent transitions occurred for between 0.36% and 22.5% of the samples. These percentages were deemed as very low and thus negligible (we had set 70% of samples as a threshold).

Furthermore, we received warnings that the Bulk/Tail Effective sample sizes were too low for the 3-factor, MF2012, and the 2factor1 models (in run 2 for the MF2012, 1-factor, 2factor1 and 2factor2 models).

We also received a warning about small effective sample sizes for the 2factor 1 model (in run 1 for the MF2012, 1-factor and 2factor3 models) [in a previous run we also got warnings for the 1-factor and MF2012 models].

[In previous runs, but not now, we received warnings about too large R hats for the 1-factor and the 2factor1 models.]

[In previous runs, but not now we received the warning that at least one parameter had a psrf > 1.2 for the 1-factor and the 2factor1 models]

When comparing the models to the 9-factor model, we found that the comparison could not be reliably made for the 3 independent factors model due to a too large SE. The rest of the models fit the data better than the 9-factor model as indicated by lower WAIC values. (in run 2, we found that the comparison could not be reliably made for the 3-independent factor, 2factor1, 2factor2, and 2factor3 models due to a too large SE. The MF2012, 1 factor and 3 factor models fit the data better than the 9-factor model as indicated by lower WAIC values). So both runs overlap in the result that the MF2012, 1 factor and 3 independent factor models fit the data better than the 9-factor model.

When comparing the 1-factor model against all other models, we found that the comparison could not be reliably made due to a too large SE – apart from the comparison between the 1-factor and the MF2012 model (the 1-factor model was better) (in run 2, no comparisons could be made).

## [1] "R version 3.6.1 (2019-07-05)"

# Selection of task DVs

* All DVs have been scaled to values between 0 and 1 with higher values indicating better performance.
* Inhibition tasks: proportion correct searches in *first trial*. First trial performance shows signature of prepotent response. Comparability to chimpanzees with first session.
* Shifting tasks: Shifting Boxes: Proportion correct in the CD phase (as measure of susceptibility to interference from anonther stimulus dimension); Shifting Shelf task: proportion of platform switches; Shifting Trays task: proportion correct.
* Working memory: WM Boxes and WM Updating (both platforms): proportion of correct choices; WM Grid: proximity of first choice to the baited compartment (ranging between 0 and 1). DVs capture the test performance (in the presence of a secondary task).

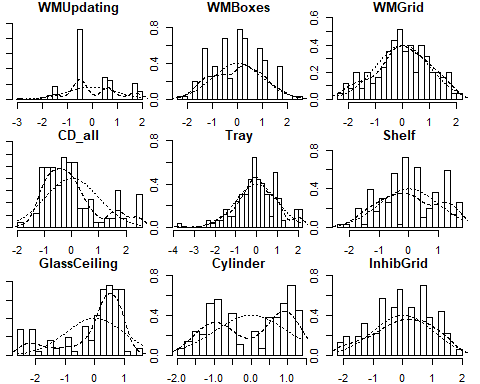
# We scale the variables according to testing location

Edi <- subset(CFA, TestingLocation == "Edinburgh")  
Fife <- subset(CFA, TestingLocation == "Fife")  
Edi$WMUpdating <- scale(Edi$WMUpdating)  
Edi$WMBoxes <- scale(Edi$WMBoxes)  
Edi$WMGrid <- scale(Edi$WMGrid)  
Edi$CD\_all <- scale(Edi$CD\_all)  
Edi$Tray <- scale(Edi$Tray)  
Edi$Shelf <- scale(Edi$Shelf)  
Edi$GlassCeiling <- scale(Edi$GlassCeiling)  
Edi$Cylinder <- scale(Edi$Cylinder)  
Edi$InhibGrid <- scale(Edi$InhibGrid)

Fife$WMUpdating <- scale(Fife$WMUpdating)  
Fife$WMBoxes <- scale(Fife$WMBoxes)  
Fife$WMGrid <- scale(Fife$WMGrid)  
Fife$CD\_all <- scale(Fife$CD\_all)  
Fife$Tray <- scale(Fife$Tray)  
Fife$Shelf <- scale(Fife$Shelf)  
Fife$GlassCeiling <- scale(Fife$GlassCeiling)  
Fife$Cylinder <- scale(Fife$Cylinder)  
Fife$InhibGrid <- scale(Fife$InhibGrid)  
  
CFA\_new <- rbind(Fife, Edi)

# Assumptions

library(psych)  
multi.hist(CFA\_new[-1: -6])



# Fit the models

model.3factors <- 'F1\_WM =~ WMUpdating + WMBoxes + WMGrid  
 F2\_Shifting =~ CD\_all + Shelf + Tray  
 F3\_Inhibition =~ Cylinder + InhibGrid + GlassCeiling'  
  
bfit.3factors = bcfa(model.3factors, data = CFA\_new, orthogonal=FALSE, adapt = 500, burnin = 2500, sample = 5000, n.chains = 4, control=list(adapt\_delta=0.95), bcontrol=list(cores=4))

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 115 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup

## Warning: Examine the pairs() plot to diagnose sampling problems

## Warning: Bulk Effective Samples Size (ESS) is too low, indicating posterior means and medians may be unreliable.  
## Running the chains for more iterations may help. See  
## http://mc-stan.org/misc/warnings.html#bulk-ess

## Computing posterior predictives...

## Warning in lav\_object\_post\_check(object): lavaan WARNING: covariance matrix of latent variables  
## is not positive definite;  
## use lavInspect(fit, "cov.lv") to investigate.

return(bfit.3factors)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1957.497 0.218

fit\_model = function(model) {  
 fit = bcfa(model, data = CFA\_new, orthogonal=TRUE, adapt = 500, burnin = 2500, sample = 5000, n.chains = 4, control=list(adapt\_delta=0.95), bcontrol=list(cores=4))  
 return(fit)  
}  
  
  
model.9factors <- 'F1 =~ WMUpdating  
 F2 =~ WMBoxes  
 F3 =~ WMGrid  
 F4 =~ CD\_all  
 F5 =~ Shelf  
 F6 =~ Tray  
 F7 =~ InhibGrid  
 F8 =~ Cylinder  
 F9 =~ GlassCeiling'  
  
model.MF2012 <- 'F1\_WM =~ WMUpdating + WMBoxes + WMGrid  
 F2\_Shifting =~ CD\_all + Shelf + Tray  
 F3\_CommonEF =~ Cylinder + InhibGrid + GlassCeiling + Shelf + CD\_all + Tray + WMUpdating+ WMBoxes + WMGrid'  
  
model.1factor <- 'F1\_CommonEF =~ Cylinder + GlassCeiling + InhibGrid + Shelf + CD\_all + Tray + WMUpdating+ WMBoxes + WMGrid'  
  
model.3factors\_ind <- 'F1\_WM =~ WMUpdating + WMBoxes + WMGrid  
 F2\_Shifting =~ CD\_all + Shelf + Tray  
 F3\_Inhibition =~ Cylinder + InhibGrid + GlassCeiling'  
  
model.2factors1 <- 'F1\_2\_WM\_Shifting =~ WMUpdating + WMBoxes + WMGrid+ CD\_all + Shelf + Tray  
 F3\_Inhibition =~ Cylinder + InhibGrid + GlassCeiling'  
  
model.2factors2 <- 'F1\_3\_WM\_Inh =~ WMUpdating + WMBoxes + WMGrid + InhibGrid + Cylinder + GlassCeiling  
 F2\_Shifting =~ CD\_all + Shelf + Tray'  
  
model.2factors3 <- 'F1\_WM =~ WMUpdating + WMBoxes + WMGrid  
 F2\_3\_Shifting\_Inh=~ CD\_all + Shelf + Tray + InhibGrid + Cylinder + GlassCeiling'  
  
  
  
  
  
  
# Fit each of the models  
bfit.9factors = fit\_model(model.9factors)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".  
##   
## Computing posterior predictives...

bfit.MF2012 = fit\_model(model.MF2012)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 172 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup

## Warning: Examine the pairs() plot to diagnose sampling problems

## Warning: Bulk Effective Samples Size (ESS) is too low, indicating posterior means and medians may be unreliable.  
## Running the chains for more iterations may help. See  
## http://mc-stan.org/misc/warnings.html#bulk-ess

## Warning: Tail Effective Samples Size (ESS) is too low, indicating posterior variances and tail quantiles may be unreliable.  
## Running the chains for more iterations may help. See  
## http://mc-stan.org/misc/warnings.html#tail-ess

## Computing posterior predictives...

bfit.1factor = fit\_model(model.1factor)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 18 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup

## Warning: Examine the pairs() plot to diagnose sampling problems

## Computing posterior predictives...

bfit.3factors\_ind = fit\_model(model.3factors\_ind)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 26 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup  
  
## Warning: Examine the pairs() plot to diagnose sampling problems

## Computing posterior predictives...

bfit.2factors1 = fit\_model(model.2factors1)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 1124 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup  
  
## Warning: Examine the pairs() plot to diagnose sampling problems

## Warning: Bulk Effective Samples Size (ESS) is too low, indicating posterior means and medians may be unreliable.  
## Running the chains for more iterations may help. See  
## http://mc-stan.org/misc/warnings.html#bulk-ess

## Warning: Tail Effective Samples Size (ESS) is too low, indicating posterior variances and tail quantiles may be unreliable.  
## Running the chains for more iterations may help. See  
## http://mc-stan.org/misc/warnings.html#tail-ess

## Computing posterior predictives...

## Warning in blavaan(model, data = CFA\_new, orthogonal = TRUE, control =  
## list(adapt\_delta = 0.95), : blavaan WARNING: Small effective sample sizes  
## (< 100) for some parameters.

bfit.2factors2 = fit\_model(model.2factors2)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 17 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup

## Warning: Examine the pairs() plot to diagnose sampling problems

## Computing posterior predictives...

bfit.2factors3 = fit\_model(model.2factors3)

## blavaan NOTE: Posterior predictives with missing data are currently very slow.  
## Consider setting test="none".

## Warning: There were 343 divergent transitions after warmup. Increasing adapt\_delta above 0.8 may help. See  
## http://mc-stan.org/misc/warnings.html#divergent-transitions-after-warmup  
  
## Warning: Examine the pairs() plot to diagnose sampling problems

## Computing posterior predictives...

# Compare models to the 9 factor model

## MF2012

blavCompare(bfit.9factors, bfit.MF2012)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 12 (6.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3741.661   
##   
## WAIC difference & SE:   
## -12.052 5.773   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3741.779   
##   
## LOO difference & SE:   
## -12.007 5.775   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): -1.914

## 3 factors

blavCompare(bfit.9factors, bfit.3factors)

## Warning in lav\_object\_post\_check(object): lavaan WARNING: covariance matrix of latent variables  
## is not positive definite;  
## use lavInspect(fit, "cov.lv") to investigate.  
## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 13 (7.0%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3739.503   
##   
## WAIC difference & SE:   
## -13.131 5.773   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3739.639   
##   
## LOO difference & SE:   
## -13.077 5.776   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 16.913

## 1 factor

blavCompare(bfit.9factors, bfit.1factor)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3737.555   
##   
## WAIC difference & SE:   
## -14.105 6.029   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3737.621   
##   
## LOO difference & SE:   
## -14.085 6.029   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): -3.060

## 3 independent factors

blavCompare(bfit.9factors, bfit.3factors\_ind)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 4 (2.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3752.803   
##   
## WAIC difference & SE:   
## -6.481 4.445   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3752.876   
##   
## LOO difference & SE:   
## -6.458 4.445   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 8.910

## 2 factors (WM+Shifting, Inhibition)

blavCompare(bfit.9factors, bfit.2factors1)

## Warning: Some Pareto k diagnostic values are too high. See help('pareto-k-diagnostic') for details.

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 7 (3.8%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3745.045   
##   
## WAIC difference & SE:   
## -10.360 5.642   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3745.325   
##   
## LOO difference & SE:   
## -10.234 5.664   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 0.111

## 2 factors (WM+Inhibition, Shifting)

blavCompare(bfit.9factors, bfit.2factors2)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 5 (2.7%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3749.04   
##   
## WAIC difference & SE:   
## -8.362 4.831   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3749.097   
##   
## LOO difference & SE:   
## -8.347 4.833   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 11.937

## 2 factors (Inhibition + Shifting, WM)

blavCompare(bfit.9factors, bfit.2factors3)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3765.764   
## object2: 3740.205   
##   
## WAIC difference & SE:   
## -12.780 5.381   
##   
## LOO estimates:   
## object1: 3765.792   
## object2: 3740.315   
##   
## LOO difference & SE:   
## -12.739 5.380   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 12.883

# Calculate WAIC values for the models

get\_waic = function(object1) {  
 lavopt1 <- object1@Options  
 lavopt1$estimator <- "ML"  
 ll1 = case\_lls(object1@external$mcmcout, object1@Model,   
 object1@ParTable, object1@SampleStats, lavopt1, object1@Cache,   
 object1@Data, make\_mcmc(object1@external$mcmcout))  
 return(waic(ll1))  
}  
environment(get\_waic) <- asNamespace('blavaan')  
get\_waic(bfit.9factors)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1882.9 56.8  
## p\_waic 16.4 1.1  
## waic 3765.8 113.5

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.MF2012)

## Warning: 12 (6.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1870.8 56.1  
## p\_waic 27.9 2.1  
## waic 3741.7 112.3

## Warning: 12 (6.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.3factors)

## Warning in lav\_object\_post\_check(object): lavaan WARNING: covariance matrix of latent variables  
## is not positive definite;  
## use lavInspect(fit, "cov.lv") to investigate.

## Warning: 13 (7.0%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1869.8 56.0  
## p\_waic 29.4 2.1  
## waic 3739.5 112.0

## Warning: 13 (7.0%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.1factor)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1868.8 56.1  
## p\_waic 24.9 1.9  
## waic 3737.6 112.2

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.3factors\_ind)

## Warning: 4 (2.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1876.4 56.2  
## p\_waic 21.9 1.6  
## waic 3752.8 112.3

## Warning: 4 (2.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.2factors1)

## Warning: 7 (3.8%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1872.5 56.1  
## p\_waic 22.8 1.7  
## waic 3745.0 112.2

## Warning: 7 (3.8%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.2factors2)

## Warning: 5 (2.7%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1874.5 56.1  
## p\_waic 23.3 1.6  
## waic 3749.0 112.2

## Warning: 5 (2.7%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

get\_waic(bfit.2factors3)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## Computed from 20000 by 185 log-likelihood matrix  
##   
## Estimate SE  
## elpd\_waic -1870.1 56.1  
## p\_waic 24.3 1.8  
## waic 3740.2 112.1

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

# Get fit measures

fm.MF2012<-fitMeasures(bfit.MF2012)

## Warning: 12 (6.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.3factors<-fitMeasures(bfit.3factors)

## Warning in lav\_object\_post\_check(object): lavaan WARNING: covariance matrix of latent variables  
## is not positive definite;  
## use lavInspect(fit, "cov.lv") to investigate.

## Warning: 13 (7.0%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.1factor<-fitMeasures(bfit.1factor)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.3factors\_ind<-fitMeasures(bfit.3factors\_ind)

## Warning: 4 (2.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.2factors1<-fitMeasures(bfit.2factors1)

## Warning: 7 (3.8%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: Some Pareto k diagnostic values are too high. See help('pareto-k-diagnostic') for details.

fm.2factors2<-fitMeasures(bfit.2factors2)

## Warning: 5 (2.7%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.2factors3<-fitMeasures(bfit.2factors3)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

fm.9factors<-fitMeasures(bfit.9factors)

## Warning: 1 (0.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

# Put fit measures into a table

rbind(fm.MF2012, fm.3factors, fm.3factors\_ind, fm.1factor, fm.2factors1, fm.2factors2, fm.2factors3, fm.9factors)

## npar logl ppp bic dic p\_dic  
## fm.MF2012 33 -1846.922 0.15175 3865.937 3732.175 19.165577  
## fm.3factors 30 -1860.496 0.21795 3877.440 3697.580 -11.706218  
## fm.3factors\_ind 27 -1867.112 0.01015 3875.027 3726.434 -3.895038  
## fm.1factor 27 -1845.265 0.15500 3831.334 3733.551 21.510136  
## fm.2factors1 27 -1851.282 0.04200 3843.368 3740.580 19.007678  
## fm.2factors2 27 -1867.388 0.02445 3875.579 3715.643 -9.566438  
## fm.2factors3 27 -1865.506 0.10375 3871.815 3699.525 -15.743215  
## fm.9factors 18 -1865.555 0.00035 3824.979 3767.042 17.965557  
## waic p\_waic se\_waic looic p\_loo se\_loo  
## fm.MF2012 3741.661 27.86599 112.2561 3741.778 27.92488 112.2661  
## fm.3factors 3739.503 29.36384 111.9827 3739.639 29.43184 111.9944  
## fm.3factors\_ind 3752.803 21.94870 112.3137 3752.876 21.98531 112.3198  
## fm.1factor 3737.555 24.89479 112.2080 3737.621 24.92803 112.2125  
## fm.2factors1 3745.045 22.75761 112.2266 3745.306 22.88829 112.2619  
## fm.2factors2 3749.040 23.25578 112.1695 3749.097 23.28423 112.1744  
## fm.2factors3 3740.205 24.32794 112.1394 3740.314 24.38251 112.1490  
## fm.9factors 3765.764 16.37751 113.5196 3765.792 16.39131 113.5221  
## margloglik  
## fm.MF2012 -1938.670  
## fm.3factors -1957.497  
## fm.3factors\_ind -1949.494  
## fm.1factor -1937.525  
## fm.2factors1 -1940.696  
## fm.2factors2 -1952.521  
## fm.2factors3 -1953.468  
## fm.9factors -1940.584

# Summaries for all models

## MF 2012

summary(bfit.MF2012, neff=TRUE)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1938.670 0.152  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## F1\_WM =~   
## WMUpdating 1.000 NA NA  
## WMBoxes -2.100 6.674 -16.406 12.154 1.001 5179.372  
## WMGrid 1.660 6.399 -12.387 15.53 1.000 5169.818  
## F2\_Shifting =~   
## CD\_all 1.000 NA NA  
## Shelf 0.939 7.511 -15.682 16.111 1.000 7830.360  
## Tray 1.157 7.691 -15.751 16.718 1.000 4619.197  
## F3\_CommonEF =~   
## Cylinder 1.000 NA NA  
## InhibGrid -3.014 4.903 -11.597 8.862 1.005 279.615  
## GlassCeiling 3.928 5.249 -9.651 13.097 1.005 218.522  
## Shelf 11.249 11.034 -20.025 26.598 1.009 139.077  
## CD\_all 4.769 6.056 -11.245 15.179 1.009 197.649  
## Tray 6.621 7.455 -13.265 18.538 1.009 171.511  
## WMUpdating 2.076 4.412 -8.209 11.083 1.004 405.456  
## WMBoxes 2.651 4.437 -8.228 11.027 1.005 337.599  
## WMGrid 5.797 6.918 -12.504 17.579 1.007 189.690  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## F1\_WM ~~   
## F2\_Shifting 0.000 NA NA  
## F3\_CommonEF 0.000 NA NA  
## F2\_Shifting ~~   
## F3\_CommonEF 0.000 NA NA  
## Prior   
##   
##   
##   
##   
##   
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .WMUpdating -0.001 0.075 -0.147 0.145 1.000 16604.502  
## .WMBoxes 0.001 0.083 -0.162 0.163 1.000 18177.579  
## .WMGrid -0.019 0.089 -0.193 0.156 1.000 18090.575  
## .CD\_all -0.008 0.088 -0.179 0.167 1.000 18135.863  
## .Shelf -0.011 0.080 -0.172 0.145 1.000 16372.867  
## .Tray -0.005 0.082 -0.166 0.156 1.000 16902.276  
## .Cylinder -0.001 0.084 -0.167 0.165 1.000 20058.784  
## .InhibGrid 0.000 0.080 -0.157 0.156 1.000 18634.344  
## .GlassCeiling -0.009 0.091 -0.187 0.171 1.000 16841.581  
## F1\_WM 0.000 NA NA  
## F2\_Shifting 0.000 NA NA  
## F3\_CommonEF 0.000 NA NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .WMUpdating 0.963 0.119 0.738 1.205 1.000 9188.665  
## .WMBoxes 0.753 0.340 0.006 1.201 1.003 2672.308  
## .WMGrid 0.702 0.312 0.008 1.138 1.001 3360.705  
## .CD\_all 0.919 0.130 0.685 1.191 1.000 12725.937  
## .Shelf 0.435 0.245 0.005 0.875 1.001 6015.121  
## .Tray 0.699 0.253 0.031 1.06 1.003 3086.419  
## .Cylinder 0.994 0.122 0.782 1.266 1.000 13255.723  
## .InhibGrid 0.974 0.116 0.768 1.223 1.000 17374.174  
## .GlassCeiling 0.960 0.132 0.735 1.249 1.000 15095.166  
## F1\_WM 0.026 0.052 0 0.17 1.000 4459.813  
## F2\_Shifting 0.013 0.030 0 0.094 1.001 3731.340  
## F3\_CommonEF 0.003 0.004 0 0.011 1.001 3482.021  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 3 factors

summary(bfit.3factors, neff=TRUE)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1957.497 0.218  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## F1\_WM =~   
## WMUpdating 1.000 NA NA  
## WMBoxes 0.620 4.786 -11.038 9.821 1.019 223.885  
## WMGrid 3.332 8.558 -17.059 17.889 1.029 152.537  
## F2\_Shifting =~   
## CD\_all 1.000 NA NA  
## Shelf 5.069 3.563 1.388 14.859 1.001 2928.922  
## Tray 2.680 2.163 0.697 8.645 1.002 2737.448  
## F3\_Inhibition =~   
## Cylinder 1.000 NA NA  
## InhibGrid -1.130 6.432 -15.01 14.752 1.004 963.591  
## GlassCeiling 1.581 3.882 -6.758 11.028 1.002 2118.789  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## F1\_WM ~~   
## F2\_Shifting 0.008 0.014 -0.013 0.044 1.011 330.924  
## F3\_Inhibition 0.006 0.016 -0.011 0.053 1.003 1459.388  
## F2\_Shifting ~~   
## F3\_Inhibition 0.027 0.037 -0.01 0.129 1.002 1562.834  
## Prior   
##   
## beta(1,1)  
## beta(1,1)  
##   
## beta(1,1)  
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .WMUpdating -0.000 0.074 -0.147 0.146 1.000 16492.243  
## .WMBoxes -0.004 0.083 -0.166 0.157 1.000 15465.402  
## .WMGrid -0.018 0.091 -0.198 0.158 1.000 15195.180  
## .CD\_all -0.004 0.088 -0.175 0.169 1.000 17780.530  
## .Shelf -0.015 0.081 -0.175 0.144 1.000 15246.519  
## .Tray -0.002 0.083 -0.164 0.163 1.000 16557.884  
## .Cylinder -0.004 0.083 -0.168 0.157 1.000 17891.313  
## .InhibGrid -0.000 0.080 -0.158 0.157 1.000 17466.539  
## .GlassCeiling -0.008 0.091 -0.184 0.17 1.000 17488.697  
## F1\_WM 0.000 NA NA  
## F2\_Shifting 0.000 NA NA  
## F3\_Inhibition 0.000 NA NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .WMUpdating 0.990 0.108 0.801 1.223 1.000 13092.910  
## .WMBoxes 0.958 0.145 0.712 1.232 1.004 1129.886  
## .WMGrid 0.592 0.321 0.005 1.106 1.008 553.043  
## .CD\_all 0.949 0.126 0.73 1.218 1.000 15573.965  
## .Shelf 0.398 0.236 0.003 0.834 1.001 5663.948  
## .Tray 0.842 0.141 0.571 1.116 1.000 3680.719  
## .Cylinder 0.947 0.147 0.657 1.236 1.002 1873.192  
## .InhibGrid 0.911 0.193 0.316 1.207 1.007 983.269  
## .GlassCeiling 0.955 0.151 0.69 1.253 1.002 2190.590  
## F1\_WM 0.019 0.028 0 0.101 1.002 1608.115  
## F2\_Shifting 0.053 0.052 0.003 0.191 1.000 7870.470  
## F3\_Inhibition 0.060 0.099 0 0.326 1.005 917.940  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 1 factor

summary(bfit.1factor, neff=TRUE)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1937.525 0.155  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## F1\_CommonEF =~   
## Cylinder 1.000 NA NA  
## GlassCeiling 4.953 3.049 0.033 11.881 1.000 9115.848  
## InhibGrid -4.251 2.873 -10.8 0.401 1.000 10455.094  
## Shelf 14.891 5.490 5.499 27.009 1.001 5588.126  
## CD\_all 6.387 3.334 1.273 14.11 1.000 6994.077  
## Tray 9.059 4.051 2.732 18.282 1.000 5228.972  
## WMUpdating 2.488 2.599 -1.991 8.358 1.000 11636.681  
## WMBoxes 3.606 2.853 -1.123 10.14 1.000 11776.085  
## WMGrid 7.177 3.602 1.612 15.544 1.000 6793.483  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .Cylinder -0.002 0.083 -0.162 0.158 1.000 25163.895  
## .GlassCeiling -0.011 0.092 -0.192 0.169 1.000 25409.762  
## .InhibGrid -0.000 0.079 -0.154 0.157 1.000 24907.679  
## .Shelf -0.013 0.081 -0.173 0.146 1.000 19788.114  
## .CD\_all -0.008 0.087 -0.179 0.162 1.000 26474.026  
## .Tray -0.005 0.082 -0.167 0.158 1.000 24725.276  
## .WMUpdating -0.000 0.075 -0.147 0.145 1.000 29024.626  
## .WMBoxes -0.003 0.083 -0.166 0.16 1.000 28084.103  
## .WMGrid -0.016 0.091 -0.194 0.161 1.000 24726.050  
## F1\_CommonEF 0.000 NA NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat neff   
## .Cylinder 0.989 0.118 0.782 1.243 1.000 25386.345  
## .GlassCeiling 0.960 0.130 0.736 1.24 1.000 25933.310  
## .InhibGrid 0.970 0.115 0.764 1.218 1.000 25676.435  
## .Shelf 0.513 0.195 0.068 0.86 1.001 6953.276  
## .CD\_all 0.922 0.127 0.698 1.194 1.000 24314.076  
## .Tray 0.834 0.123 0.603 1.091 1.000 19740.017  
## .WMUpdating 0.995 0.108 0.804 1.226 1.000 26201.269  
## .WMBoxes 0.981 0.119 0.773 1.24 1.000 26663.012  
## .WMGrid 0.897 0.132 0.662 1.177 1.000 22409.271  
## F1\_CommonEF 0.003 0.004 0.001 0.014 1.001 2748.939  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 3 independent factors

summary(bfit.3factors\_ind)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1949.494 0.010  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_WM =~   
## WMUpdating 1.000 NA  
## WMBoxes -1.228 6.682 -16.377 12.575 1.001  
## WMGrid 2.677 6.881 -12.53 16.95 1.001  
## F2\_Shifting =~   
## CD\_all 1.000 NA  
## Shelf 4.516 3.851 0.853 14.308 1.004  
## Tray 3.732 3.930 0.607 14.228 1.006  
## F3\_Inhibition =~   
## Cylinder 1.000 NA  
## InhibGrid 1.695 7.387 -14.907 16.938 1.000  
## GlassCeiling 1.599 7.274 -15.155 16.556 1.000  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_WM ~~   
## F2\_Shifting 0.000 NA  
## F3\_Inhibition 0.000 NA  
## F2\_Shifting ~~   
## F3\_Inhibition 0.000 NA  
## Prior   
##   
##   
##   
##   
##   
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating -0.000 0.074 -0.147 0.145 1.000  
## .WMBoxes 0.001 0.083 -0.163 0.162 1.000  
## .WMGrid -0.009 0.090 -0.188 0.166 1.000  
## .CD\_all -0.005 0.087 -0.174 0.167 1.000  
## .Shelf -0.007 0.081 -0.165 0.152 1.000  
## .Tray -0.005 0.083 -0.167 0.159 1.000  
## .Cylinder -0.000 0.084 -0.164 0.164 1.000  
## .InhibGrid -0.000 0.080 -0.157 0.154 1.000  
## .GlassCeiling 0.002 0.091 -0.176 0.183 1.000  
## F1\_WM 0.000 NA  
## F2\_Shifting 0.000 NA  
## F3\_Inhibition 0.000 NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.980 0.117 0.768 1.212 1.001  
## .WMBoxes 0.823 0.317 0.017 1.224 1.001  
## .WMGrid 0.695 0.382 0.004 1.226 1.001  
## .CD\_all 0.960 0.129 0.733 1.237 1.000  
## .Shelf 0.524 0.322 0.003 1.039 1.001  
## .Tray 0.706 0.287 0.017 1.108 1.001  
## .Cylinder 0.998 0.127 0.774 1.269 1.000  
## .InhibGrid 0.863 0.278 0.036 1.221 1.001  
## .GlassCeiling 0.872 0.273 0.066 1.252 1.000  
## F1\_WM 0.026 0.057 0 0.152 1.004  
## F2\_Shifting 0.046 0.051 0.002 0.185 1.001  
## F3\_Inhibition 0.015 0.039 0 0.115 1.001  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 2 factors (WM+Shifting, Inhibition)

summary(bfit.2factors1)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1940.696 0.042  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_2\_WM\_Shifting =~   
## WMUpdating 1.000 NA  
## WMBoxes 3.837 2.820 -0.617 10.398 1.002  
## WMGrid 7.002 3.577 1.797 15.478 1.001  
## CD\_all 5.499 3.131 0.844 12.959 1.000  
## Shelf 12.143 5.145 4.022 23.517 1.004  
## Tray 8.356 4.024 2.487 18.04 1.001  
## F3\_Inhibition =~   
## Cylinder 1.000 NA  
## InhibGrid 1.559 7.208 -14.671 16.691 1.005  
## GlassCeiling 1.930 7.580 -15.062 17.644 1.009  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_2\_WM\_Shifting ~~   
## F3\_Inhibition 0.000 NA  
## Prior   
##   
##   
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.000 0.075 -0.146 0.145 1.000  
## .WMBoxes -0.004 0.082 -0.167 0.158 1.002  
## .WMGrid -0.015 0.090 -0.193 0.158 1.000  
## .CD\_all -0.013 0.087 -0.183 0.159 1.001  
## .Shelf -0.017 0.081 -0.179 0.135 1.001  
## .Tray -0.003 0.082 -0.164 0.157 1.002  
## .Cylinder -0.001 0.083 -0.162 0.162 1.000  
## .InhibGrid -0.001 0.080 -0.159 0.157 1.001  
## .GlassCeiling 0.002 0.090 -0.175 0.18 1.001  
## F1\_2\_WM\_Shftng 0.000 NA  
## F3\_Inhibition 0.000 NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 1.002 0.106 0.817 1.226 1.001  
## .WMBoxes 0.969 0.120 0.759 1.233 1.001  
## .WMGrid 0.871 0.136 0.621 1.152 1.000  
## .CD\_all 0.928 0.130 0.696 1.208 1.000  
## .Shelf 0.582 0.215 0.016 0.941 1.013  
## .Tray 0.810 0.144 0.539 1.088 1.003  
## .Cylinder 1.000 0.125 0.779 1.266 1.002  
## .InhibGrid 0.874 0.270 0.025 1.227 1.045  
## .GlassCeiling 0.845 0.310 0.005 1.253 1.036  
## F1\_2\_WM\_Shftng 0.004 0.005 0.001 0.018 1.002  
## F3\_Inhibition 0.014 0.029 0 0.096 1.001  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 2 factors (WM+Inhibition, Shifting)

summary(bfit.2factors2)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1952.521 0.024  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_3\_WM\_Inh =~   
## WMUpdating 1.000 NA  
## WMBoxes 0.982 6.591 -13.472 13.396 1.001  
## WMGrid 3.703 11.160 -18.849 21.939 1.003  
## InhibGrid 1.464 7.203 -14.08 14.935 1.002  
## Cylinder 2.678 10.292 -18.256 20.184 1.004  
## GlassCeiling 1.289 6.498 -12.752 14.075 1.002  
## F2\_Shifting =~   
## CD\_all 1.000 NA  
## Shelf 4.719 3.565 0.974 14.695 1.001  
## Tray 3.782 3.301 0.698 13.103 1.001  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
##   
##   
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_3\_WM\_Inh ~~   
## F2\_Shifting 0.000 NA  
## Prior   
##   
##   
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating -0.000 0.075 -0.147 0.149 1.000  
## .WMBoxes -0.001 0.082 -0.162 0.16 1.000  
## .WMGrid 0.004 0.088 -0.17 0.178 1.000  
## .InhibGrid 0.000 0.080 -0.158 0.159 1.000  
## .Cylinder -0.001 0.083 -0.162 0.163 1.000  
## .GlassCeiling 0.003 0.088 -0.172 0.176 1.000  
## .CD\_all -0.004 0.086 -0.173 0.164 1.000  
## .Shelf -0.006 0.082 -0.165 0.152 1.000  
## .Tray -0.005 0.083 -0.168 0.157 1.000  
## F1\_3\_WM\_Inh 0.000 NA  
## F2\_Shifting 0.000 NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
##   
##   
##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 1.006 0.108 0.814 1.237 1.000  
## .WMBoxes 0.973 0.130 0.738 1.246 1.000  
## .WMGrid 0.804 0.226 0.21 1.179 1.003  
## .InhibGrid 0.957 0.129 0.721 1.22 1.000  
## .Cylinder 0.866 0.176 0.473 1.184 1.000  
## .GlassCeiling 0.978 0.137 0.733 1.266 1.000  
## .CD\_all 0.956 0.131 0.724 1.235 1.000  
## .Shelf 0.518 0.320 0.002 1.036 1.000  
## .Tray 0.711 0.283 0.017 1.107 1.000  
## F1\_3\_WM\_Inh 0.003 0.006 0 0.013 1.002  
## F2\_Shifting 0.048 0.054 0.002 0.196 1.001  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

## 2 factors (Inhibition + Shifting, WM)

summary(bfit.2factors3)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1953.468 0.104  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_WM =~   
## WMUpdating 1.000 NA  
## WMBoxes -1.520 6.649 -16.429 12.054 1.001  
## WMGrid 2.381 6.793 -12.364 16.578 1.001  
## F2\_3\_Shifting\_Inh =~   
## CD\_all 1.000 NA  
## Shelf 11.276 5.759 2.605 24.433 1.001  
## Tray 5.648 3.513 1.161 14.28 1.001  
## InhibGrid -3.144 2.294 -8.73 -0.052 1.000  
## Cylinder 4.390 2.852 0.784 11.508 1.000  
## GlassCeiling 3.462 2.505 0.156 9.648 1.000  
## Prior   
##   
##   
## normal(0,10)  
## normal(0,10)  
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## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
## normal(0,10)  
##   
## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1\_WM ~~   
## F2\_3\_Shftng\_In 0.000 NA  
## Prior   
##   
##   
##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.001 0.074 -0.142 0.146 1.000  
## .WMBoxes 0.002 0.083 -0.158 0.165 1.000  
## .WMGrid -0.009 0.091 -0.187 0.171 1.000  
## .CD\_all -0.002 0.087 -0.172 0.169 1.000  
## .Shelf -0.010 0.080 -0.168 0.148 1.000  
## .Tray -0.004 0.083 -0.168 0.16 1.000  
## .InhibGrid -0.001 0.080 -0.156 0.156 1.000  
## .Cylinder -0.010 0.083 -0.177 0.152 1.000  
## .GlassCeiling -0.011 0.091 -0.187 0.168 1.000  
## F1\_WM 0.000 NA  
## F2\_3\_Shftng\_In 0.000 NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
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## normal(0,32)  
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## normal(0,32)  
## normal(0,32)  
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##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.983 0.114 0.772 1.212 1.001  
## .WMBoxes 0.807 0.327 0.011 1.22 1.002  
## .WMGrid 0.699 0.384 0.002 1.221 1.002  
## .CD\_all 0.977 0.123 0.76 1.247 1.000  
## .Shelf 0.384 0.235 0.002 0.829 1.000  
## .Tray 0.861 0.131 0.611 1.128 1.000  
## .InhibGrid 0.964 0.112 0.765 1.205 1.000  
## .Cylinder 0.918 0.123 0.692 1.179 1.000  
## .GlassCeiling 0.957 0.129 0.736 1.236 1.000  
## F1\_WM 0.026 0.051 0 0.151 1.003  
## F2\_3\_Shftng\_In 0.012 0.020 0.001 0.069 1.002  
## Prior   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
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## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
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## gamma(1,.5)[sd]

## 9 factors

summary(bfit.9factors)

## blavaan (0.3-10) results of 5000 samples after 2500 adapt/burnin iterations  
##   
## Number of observations 185  
##   
## Number of missing patterns 26  
##   
## Statistic MargLogLik PPP  
## Value -1940.584 0.000  
##   
## Latent Variables:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1 =~   
## WMUpdating 1.000 NA  
## F2 =~   
## WMBoxes 1.000 NA  
## F3 =~   
## WMGrid 1.000 NA  
## F4 =~   
## CD\_all 1.000 NA  
## F5 =~   
## Shelf 1.000 NA  
## F6 =~   
## Tray 1.000 NA  
## F7 =~   
## InhibGrid 1.000 NA  
## F8 =~   
## Cylinder 1.000 NA  
## F9 =~   
## GlassCeiling 1.000 NA  
## Prior   
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## Covariances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## F1 ~~   
## F2 0.000 NA  
## F3 0.000 NA  
## F4 0.000 NA  
## F5 0.000 NA  
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F2 ~~   
## F3 0.000 NA  
## F4 0.000 NA  
## F5 0.000 NA  
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F3 ~~   
## F4 0.000 NA  
## F5 0.000 NA  
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F4 ~~   
## F5 0.000 NA  
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F5 ~~   
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F6 ~~   
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## F7 ~~   
## F8 0.000 NA  
## F9 0.000 NA  
## F8 ~~   
## F9 0.000 NA  
## Prior   
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##   
## Intercepts:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.001 0.074 -0.143 0.144 1.000  
## .WMBoxes -0.000 0.083 -0.164 0.165 1.000  
## .WMGrid -0.000 0.090 -0.178 0.177 1.000  
## .CD\_all -0.000 0.088 -0.173 0.172 1.000  
## .Shelf -0.000 0.082 -0.162 0.161 1.000  
## .Tray 0.000 0.083 -0.162 0.163 1.000  
## .InhibGrid -0.000 0.081 -0.16 0.159 1.000  
## .Cylinder -0.000 0.085 -0.167 0.167 1.000  
## .GlassCeiling 0.000 0.090 -0.177 0.177 1.000  
## F1 0.000 NA  
## F2 0.000 NA  
## F3 0.000 NA  
## F4 0.000 NA  
## F5 0.000 NA  
## F6 0.000 NA  
## F7 0.000 NA  
## F8 0.000 NA  
## F9 0.000 NA  
## Prior   
## normal(0,32)  
## normal(0,32)  
## normal(0,32)  
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## normal(0,32)  
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## normal(0,32)  
## normal(0,32)  
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##   
## Variances:  
## Estimate Post.SD pi.lower pi.upper Rhat  
## .WMUpdating 0.000 NA  
## .WMBoxes 0.000 NA  
## .WMGrid 0.000 NA  
## .CD\_all 0.000 NA  
## .Shelf 0.000 NA  
## .Tray 0.000 NA  
## .InhibGrid 0.000 NA  
## .Cylinder 0.000 NA  
## .GlassCeiling 0.000 NA  
## F1 1.008 0.107 0.821 1.239 1.000  
## F2 1.011 0.120 0.802 1.278 1.000  
## F3 1.013 0.131 0.788 1.299 1.000  
## F4 1.012 0.128 0.793 1.293 1.000  
## F5 1.009 0.117 0.805 1.264 1.000  
## F6 1.011 0.120 0.804 1.275 1.000  
## F7 1.010 0.115 0.808 1.26 1.000  
## F8 1.011 0.122 0.802 1.271 1.000  
## F9 1.014 0.132 0.789 1.306 1.000  
## Prior   
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##   
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
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## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]  
## gamma(1,.5)[sd]

# Take a look at the effective sample sizes by looking at the underlying stan object

highlights which parameters have a small effective sample size (and how small it is)

## bfit.MF2012

tmp1 = blavInspect(bfit.MF2012, "mcobj")  
summary(tmp1)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] -2.100289e+00 9.273338e-02 6.673822244 -1.640590e+01  
## ly\_sign[2] 1.660252e+00 8.900265e-02 6.399419152 -1.238666e+01  
## ly\_sign[3] 9.393592e-01 8.488287e-02 7.511227925 -1.568195e+01  
## ly\_sign[4] 1.157031e+00 1.131552e-01 7.690556096 -1.575058e+01  
## ly\_sign[5] 2.076109e+00 2.190865e-01 4.411513379 -8.209150e+00  
## ly\_sign[6] 2.651373e+00 2.415072e-01 4.437422472 -8.227964e+00  
## ly\_sign[7] 5.796735e+00 5.022602e-01 6.917524648 -1.250370e+01  
## ly\_sign[8] 4.768625e+00 4.307674e-01 6.056054157 -1.124459e+01  
## ly\_sign[9] 1.124948e+01 9.356348e-01 11.034015527 -2.002492e+01  
## ly\_sign[10] 6.621232e+00 5.692461e-01 7.454975844 -1.326545e+01  
## ly\_sign[11] -3.013963e+00 2.932168e-01 4.903077352 -1.159670e+01  
## ly\_sign[12] 3.928420e+00 3.551046e-01 5.249324853 -9.650799e+00  
## Theta\_var[1] 9.627623e-01 1.236339e-03 0.118512389 7.375189e-01  
## Theta\_var[2] 7.534338e-01 6.580043e-03 0.340151214 6.472262e-03  
## Theta\_var[3] 7.021834e-01 5.378789e-03 0.311816937 7.937755e-03  
## Theta\_var[4] 9.185887e-01 1.152787e-03 0.130045136 6.852580e-01  
## Theta\_var[5] 4.352472e-01 3.163747e-03 0.245371367 5.477879e-03  
## Theta\_var[6] 6.986638e-01 4.560038e-03 0.253335437 3.093746e-02  
## Theta\_var[7] 9.944026e-01 1.062207e-03 0.122295661 7.821467e-01  
## Theta\_var[8] 9.737222e-01 8.836138e-04 0.116470132 7.675869e-01  
## Theta\_var[9] 9.603493e-01 1.072680e-03 0.131792050 7.345723e-01  
## Psi\_var[1] 2.635230e-02 7.757182e-04 0.051803881 2.163501e-05  
## Psi\_var[2] 1.308300e-02 4.874973e-04 0.029778622 8.673325e-06  
## Psi\_var[3] 2.685493e-03 7.305058e-05 0.004310616 1.506207e-04  
## Nu\_free[1] -1.073086e-03 5.792924e-04 0.074646725 -1.467646e-01  
## Nu\_free[2] 1.475566e-03 6.155069e-04 0.082985252 -1.622402e-01  
## Nu\_free[3] -1.889932e-02 6.626516e-04 0.089127444 -1.929441e-01  
## Nu\_free[4] -7.914581e-03 6.559723e-04 0.088339433 -1.788207e-01  
## Nu\_free[5] -1.131833e-02 6.280631e-04 0.080364760 -1.718497e-01  
## Nu\_free[6] -4.512474e-03 6.345590e-04 0.082498225 -1.658145e-01  
## Nu\_free[7] -8.890295e-04 5.913645e-04 0.083754381 -1.668020e-01  
## Nu\_free[8] 3.158874e-04 5.840752e-04 0.079730739 -1.565290e-01  
## Nu\_free[9] -9.039474e-03 7.030320e-04 0.091236055 -1.873604e-01  
## lp\_\_ -1.961641e+03 2.070732e-01 5.823530697 -1.974037e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] -5.632689e+00 -1.125052e+00 1.048628e+00 1.215374e+01  
## ly\_sign[2] -1.206059e+00 5.931106e-01 5.077365e+00 1.553038e+01  
## ly\_sign[3] -2.845985e+00 1.313206e+00 4.950928e+00 1.611054e+01  
## ly\_sign[4] -2.697565e+00 1.398052e+00 5.444725e+00 1.671785e+01  
## ly\_sign[5] 1.727428e-01 2.040440e+00 4.233086e+00 1.108290e+01  
## ly\_sign[6] 7.591857e-01 2.788832e+00 5.075120e+00 1.102685e+01  
## ly\_sign[7] 3.674990e+00 6.418458e+00 9.491050e+00 1.757949e+01  
## ly\_sign[8] 2.764495e+00 5.313905e+00 8.109512e+00 1.517898e+01  
## ly\_sign[9] 8.712193e+00 1.328294e+01 1.759777e+01 2.659818e+01  
## ly\_sign[10] 4.337936e+00 7.546777e+00 1.085414e+01 1.853830e+01  
## ly\_sign[11] -5.673032e+00 -3.389495e+00 -1.225796e+00 8.862230e+00  
## ly\_sign[12] 2.068208e+00 4.320190e+00 6.812707e+00 1.309682e+01  
## Theta\_var[1] 8.854137e-01 9.599826e-01 1.037837e+00 1.204579e+00  
## Theta\_var[2] 5.928381e-01 8.693464e-01 9.860413e-01 1.201163e+00  
## Theta\_var[3] 5.615288e-01 7.910570e-01 9.167306e-01 1.137804e+00  
## Theta\_var[4] 8.304961e-01 9.112940e-01 9.997851e-01 1.190870e+00  
## Theta\_var[5] 2.468188e-01 4.565803e-01 6.165298e-01 8.748434e-01  
## Theta\_var[6] 6.040351e-01 7.574875e-01 8.642677e-01 1.060014e+00  
## Theta\_var[7] 9.093054e-01 9.845706e-01 1.069226e+00 1.265789e+00  
## Theta\_var[8] 8.926099e-01 9.656942e-01 1.045436e+00 1.222917e+00  
## Theta\_var[9] 8.680923e-01 9.497827e-01 1.041816e+00 1.249448e+00  
## Psi\_var[1] 1.919434e-03 8.306453e-03 2.763959e-02 1.703932e-01  
## Psi\_var[2] 7.857818e-04 3.078759e-03 1.127324e-02 9.397463e-02  
## Psi\_var[3] 1.029425e-03 1.715144e-03 2.959051e-03 1.094404e-02  
## Nu\_free[1] -5.190838e-02 -8.080089e-04 5.042057e-02 1.449408e-01  
## Nu\_free[2] -5.344872e-02 2.375234e-03 5.680713e-02 1.633777e-01  
## Nu\_free[3] -7.890422e-02 -1.942799e-02 4.054065e-02 1.562652e-01  
## Nu\_free[4] -6.767485e-02 -8.650297e-03 5.165184e-02 1.668657e-01  
## Nu\_free[5] -6.425712e-02 -1.090736e-02 4.233493e-02 1.451539e-01  
## Nu\_free[6] -6.051400e-02 -4.485596e-03 5.155419e-02 1.562164e-01  
## Nu\_free[7] -5.665616e-02 -8.224125e-04 5.421905e-02 1.653449e-01  
## Nu\_free[8] -5.278204e-02 2.699692e-04 5.346877e-02 1.559372e-01  
## Nu\_free[9] -7.036313e-02 -8.567656e-03 5.208627e-02 1.707016e-01  
## lp\_\_ -1.965277e+03 -1.961262e+03 -1.957526e+03 -1.951347e+03  
## n\_eff Rhat  
## ly\_sign[1] 5179.3722 1.0011224  
## ly\_sign[2] 5169.8180 1.0000559  
## ly\_sign[3] 7830.3601 1.0002902  
## ly\_sign[4] 4619.1970 1.0004606  
## ly\_sign[5] 405.4562 1.0035637  
## ly\_sign[6] 337.5992 1.0052897  
## ly\_sign[7] 189.6897 1.0073474  
## ly\_sign[8] 197.6487 1.0086735  
## ly\_sign[9] 139.0767 1.0092138  
## ly\_sign[10] 171.5112 1.0089256  
## ly\_sign[11] 279.6146 1.0050339  
## ly\_sign[12] 218.5216 1.0045141  
## Theta\_var[1] 9188.6654 1.0003623  
## Theta\_var[2] 2672.3083 1.0026508  
## Theta\_var[3] 3360.7050 1.0010949  
## Theta\_var[4] 12725.9369 1.0000565  
## Theta\_var[5] 6015.1214 1.0006329  
## Theta\_var[6] 3086.4194 1.0026405  
## Theta\_var[7] 13255.7227 1.0001234  
## Theta\_var[8] 17374.1741 0.9998428  
## Theta\_var[9] 15095.1663 0.9999261  
## Psi\_var[1] 4459.8132 1.0003506  
## Psi\_var[2] 3731.3396 1.0014944  
## Psi\_var[3] 3482.0210 1.0013284  
## Nu\_free[1] 16604.5015 1.0000045  
## Nu\_free[2] 18177.5792 0.9998860  
## Nu\_free[3] 18090.5751 0.9998719  
## Nu\_free[4] 18135.8628 1.0002072  
## Nu\_free[5] 16372.8674 1.0000455  
## Nu\_free[6] 16902.2759 0.9999734  
## Nu\_free[7] 20058.7845 1.0000172  
## Nu\_free[8] 18634.3442 1.0002068  
## Nu\_free[9] 16841.5814 0.9999007  
## lp\_\_ 790.9058 1.0029600  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -2.347924e+00 6.529155049 -1.640352e+01 -5.883800e+00  
## ly\_sign[2] 1.723019e+00 6.333055146 -1.180084e+01 -1.163162e+00  
## ly\_sign[3] 9.536080e-01 7.592463009 -1.581988e+01 -2.916814e+00  
## ly\_sign[4] 8.986819e-01 7.812578403 -1.641054e+01 -3.148461e+00  
## ly\_sign[5] 1.890732e+00 4.353010419 -8.281105e+00 2.087141e-02  
## ly\_sign[6] 2.499741e+00 4.598616821 -8.733352e+00 6.131352e-01  
## ly\_sign[7] 5.433541e+00 7.201666644 -1.291830e+01 3.470132e+00  
## ly\_sign[8] 4.384804e+00 6.186574076 -1.151134e+01 2.422111e+00  
## ly\_sign[9] 1.043038e+01 11.700777117 -2.131541e+01 8.316957e+00  
## ly\_sign[10] 6.147871e+00 7.770523730 -1.463922e+01 4.078191e+00  
## ly\_sign[11] -2.778495e+00 4.786616007 -1.092597e+01 -5.531938e+00  
## ly\_sign[12] 3.672455e+00 5.487424573 -9.936211e+00 1.865397e+00  
## Theta\_var[1] 9.615259e-01 0.120767978 7.325724e-01 8.825673e-01  
## Theta\_var[2] 7.452722e-01 0.348347548 5.801043e-03 5.713825e-01  
## Theta\_var[3] 6.967288e-01 0.316288240 3.321355e-03 5.515923e-01  
## Theta\_var[4] 9.179312e-01 0.129483666 6.798826e-01 8.295876e-01  
## Theta\_var[5] 4.319153e-01 0.241566722 5.084141e-03 2.468073e-01  
## Theta\_var[6] 7.063392e-01 0.246212183 4.068101e-02 6.191107e-01  
## Theta\_var[7] 9.953339e-01 0.122504823 7.849705e-01 9.099006e-01  
## Theta\_var[8] 9.739439e-01 0.116264518 7.680914e-01 8.940503e-01  
## Theta\_var[9] 9.584309e-01 0.129595092 7.376044e-01 8.684017e-01  
## Psi\_var[1] 2.827325e-02 0.057647556 2.764952e-05 2.160932e-03  
## Psi\_var[2] 1.358446e-02 0.034465053 1.210520e-05 7.417220e-04  
## Psi\_var[3] 2.765419e-03 0.004289011 1.995984e-04 1.054737e-03  
## Nu\_free[1] -1.016365e-03 0.075585039 -1.475086e-01 -5.238888e-02  
## Nu\_free[2] 2.197750e-03 0.083059324 -1.608421e-01 -5.413577e-02  
## Nu\_free[3] -1.919657e-02 0.089578685 -1.964395e-01 -7.892811e-02  
## Nu\_free[4] -8.010408e-03 0.085766793 -1.747773e-01 -6.479212e-02  
## Nu\_free[5] -1.338545e-02 0.080910539 -1.721189e-01 -6.783920e-02  
## Nu\_free[6] -4.333970e-03 0.083218230 -1.667398e-01 -6.091626e-02  
## Nu\_free[7] -1.617792e-03 0.083963455 -1.666955e-01 -5.783232e-02  
## Nu\_free[8] 2.027199e-03 0.077652087 -1.521876e-01 -4.924793e-02  
## Nu\_free[9] -9.453252e-03 0.092126406 -1.930933e-01 -7.181075e-02  
## lp\_\_ -1.961499e+03 5.631735178 -1.973453e+03 -1.964961e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -1.293016e+00 8.668202e-01 1.102872e+01  
## ly\_sign[2] 5.857877e-01 5.104053e+00 1.559536e+01  
## ly\_sign[3] 1.247334e+00 5.052089e+00 1.601201e+01  
## ly\_sign[4] 1.189995e+00 5.015336e+00 1.697794e+01  
## ly\_sign[5] 1.943123e+00 4.079642e+00 1.056246e+01  
## ly\_sign[6] 2.685867e+00 5.013469e+00 1.114949e+01  
## ly\_sign[7] 6.263936e+00 9.303995e+00 1.770532e+01  
## ly\_sign[8] 5.089173e+00 7.923312e+00 1.463114e+01  
## ly\_sign[9] 1.299114e+01 1.733725e+01 2.633863e+01  
## ly\_sign[10] 7.345746e+00 1.068234e+01 1.814795e+01  
## ly\_sign[11] -3.274666e+00 -9.997692e-01 8.856119e+00  
## ly\_sign[12] 4.155133e+00 6.691853e+00 1.313761e+01  
## Theta\_var[1] 9.593021e-01 1.037074e+00 1.203600e+00  
## Theta\_var[2] 8.690007e-01 9.873543e-01 1.197604e+00  
## Theta\_var[3] 7.895412e-01 9.133758e-01 1.138431e+00  
## Theta\_var[4] 9.103923e-01 1.000759e+00 1.184826e+00  
## Theta\_var[5] 4.524762e-01 6.096536e-01 8.641037e-01  
## Theta\_var[6] 7.581244e-01 8.668285e-01 1.056486e+00  
## Theta\_var[7] 9.867580e-01 1.073457e+00 1.256318e+00  
## Theta\_var[8] 9.649665e-01 1.043206e+00 1.227967e+00  
## Theta\_var[9] 9.482797e-01 1.036944e+00 1.246506e+00  
## Psi\_var[1] 9.089042e-03 2.972141e-02 1.886845e-01  
## Psi\_var[2] 2.885244e-03 1.088529e-02 9.655980e-02  
## Psi\_var[3] 1.725007e-03 2.997969e-03 1.122181e-02  
## Nu\_free[1] -9.213864e-04 5.043947e-02 1.456906e-01  
## Nu\_free[2] 3.288662e-03 5.768965e-02 1.662947e-01  
## Nu\_free[3] -1.950011e-02 3.882751e-02 1.600411e-01  
## Nu\_free[4] -8.260467e-03 4.871134e-02 1.620538e-01  
## Nu\_free[5] -1.271686e-02 3.925383e-02 1.453892e-01  
## Nu\_free[6] -5.744054e-03 5.131540e-02 1.606854e-01  
## Nu\_free[7] -2.724452e-03 5.604608e-02 1.643464e-01  
## Nu\_free[8] 1.808688e-03 5.444549e-02 1.514404e-01  
## Nu\_free[9] -9.041420e-03 5.251671e-02 1.688997e-01  
## lp\_\_ -1.961103e+03 -1.957595e+03 -1.951589e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.724716e+00 6.859806133 -1.613654e+01 -5.228607e+00  
## ly\_sign[2] 1.733718e+00 6.622957006 -1.332057e+01 -1.244603e+00  
## ly\_sign[3] 1.091198e+00 7.371141864 -1.566061e+01 -2.513461e+00  
## ly\_sign[4] 1.460110e+00 7.375854974 -1.516735e+01 -2.124266e+00  
## ly\_sign[5] 1.898436e+00 4.878427600 -9.785364e+00 -1.296731e-01  
## ly\_sign[6] 2.579717e+00 4.807977441 -9.649409e+00 6.187885e-01  
## ly\_sign[7] 5.598483e+00 7.589660747 -1.473871e+01 3.580436e+00  
## ly\_sign[8] 4.391774e+00 6.536969946 -1.250183e+01 2.468027e+00  
## ly\_sign[9] 1.110594e+01 11.515864415 -2.024070e+01 8.456537e+00  
## ly\_sign[10] 6.311709e+00 7.811130766 -1.374792e+01 3.984070e+00  
## ly\_sign[11] -2.766032e+00 5.690739855 -1.214525e+01 -5.850941e+00  
## ly\_sign[12] 3.842559e+00 5.629736318 -1.045699e+01 1.903351e+00  
## Theta\_var[1] 9.603302e-01 0.120593760 7.312801e-01 8.817823e-01  
## Theta\_var[2] 7.831908e-01 0.321648516 2.281195e-02 6.570219e-01  
## Theta\_var[3] 6.913878e-01 0.312528615 9.148258e-03 5.353033e-01  
## Theta\_var[4] 9.214251e-01 0.128579825 6.940048e-01 8.332238e-01  
## Theta\_var[5] 4.423119e-01 0.250791250 5.508998e-03 2.475237e-01  
## Theta\_var[6] 6.934530e-01 0.255859008 3.081959e-02 5.886233e-01  
## Theta\_var[7] 9.961306e-01 0.123466856 7.842698e-01 9.094271e-01  
## Theta\_var[8] 9.729825e-01 0.114567870 7.667470e-01 8.931364e-01  
## Theta\_var[9] 9.631943e-01 0.132237736 7.340169e-01 8.699230e-01  
## Psi\_var[1] 2.680484e-02 0.053342838 1.208737e-05 1.660149e-03  
## Psi\_var[2] 1.464189e-02 0.030397027 9.387677e-06 9.469358e-04  
## Psi\_var[3] 2.363716e-03 0.003730536 5.010354e-05 9.042174e-04  
## Nu\_free[1] -2.986008e-03 0.075628723 -1.516909e-01 -5.333406e-02  
## Nu\_free[2] 1.877505e-03 0.081487863 -1.562963e-01 -5.346700e-02  
## Nu\_free[3] -1.948665e-02 0.086976737 -1.909336e-01 -7.594557e-02  
## Nu\_free[4] -8.039710e-03 0.088657507 -1.749469e-01 -6.983339e-02  
## Nu\_free[5] -1.053042e-02 0.078384958 -1.662670e-01 -6.240219e-02  
## Nu\_free[6] -5.955272e-03 0.082677107 -1.692858e-01 -6.304018e-02  
## Nu\_free[7] -2.878177e-03 0.082536445 -1.679366e-01 -5.840911e-02  
## Nu\_free[8] -3.974549e-04 0.079796033 -1.606946e-01 -5.163602e-02  
## Nu\_free[9] -8.748863e-03 0.092354948 -1.889806e-01 -7.253342e-02  
## lp\_\_ -1.962159e+03 6.078682004 -1.975379e+03 -1.965896e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -7.525642e-01 1.270450e+00 1.332608e+01  
## ly\_sign[2] 8.839435e-01 5.465413e+00 1.513353e+01  
## ly\_sign[3] 1.520205e+00 4.890773e+00 1.614665e+01  
## ly\_sign[4] 1.661782e+00 5.542228e+00 1.616549e+01  
## ly\_sign[5] 2.005812e+00 4.428545e+00 1.180157e+01  
## ly\_sign[6] 2.829963e+00 5.133836e+00 1.191695e+01  
## ly\_sign[7] 6.466219e+00 9.739022e+00 1.801555e+01  
## ly\_sign[8] 5.191834e+00 8.080820e+00 1.536864e+01  
## ly\_sign[9] 1.347114e+01 1.772511e+01 2.793440e+01  
## ly\_sign[10] 7.567456e+00 1.093715e+01 1.842263e+01  
## ly\_sign[11] -3.357209e+00 -8.954185e-01 1.082748e+01  
## ly\_sign[12] 4.441633e+00 6.972049e+00 1.309839e+01  
## Theta\_var[1] 9.583939e-01 1.037786e+00 1.202687e+00  
## Theta\_var[2] 8.793428e-01 9.977806e-01 1.216930e+00  
## Theta\_var[3] 7.798404e-01 9.098986e-01 1.137832e+00  
## Theta\_var[4] 9.141123e-01 1.000243e+00 1.196030e+00  
## Theta\_var[5] 4.666531e-01 6.287720e-01 8.944414e-01  
## Theta\_var[6] 7.553930e-01 8.611632e-01 1.062749e+00  
## Theta\_var[7] 9.842605e-01 1.070809e+00 1.272644e+00  
## Theta\_var[8] 9.686365e-01 1.044293e+00 1.212415e+00  
## Theta\_var[9] 9.519394e-01 1.045563e+00 1.254301e+00  
## Psi\_var[1] 7.666034e-03 2.721689e-02 1.842722e-01  
## Psi\_var[2] 3.623407e-03 1.318175e-02 1.107867e-01  
## Psi\_var[3] 1.557240e-03 2.660715e-03 8.434775e-03  
## Nu\_free[1] -2.774786e-03 4.788305e-02 1.454352e-01  
## Nu\_free[2] 3.179456e-03 5.865464e-02 1.543718e-01  
## Nu\_free[3] -1.846041e-02 3.976665e-02 1.468512e-01  
## Nu\_free[4] -7.894549e-03 5.244311e-02 1.665142e-01  
## Nu\_free[5] -1.036696e-02 4.307010e-02 1.399786e-01  
## Nu\_free[6] -4.784477e-03 5.272099e-02 1.508485e-01  
## Nu\_free[7] -1.706165e-03 5.085766e-02 1.594377e-01  
## Nu\_free[8] -7.660602e-04 5.161541e-02 1.580070e-01  
## Nu\_free[9] -7.933300e-03 5.337787e-02 1.738400e-01  
## lp\_\_ -1.961750e+03 -1.957803e+03 -1.951378e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -2.409062e+00 6.796642714 -1.708510e+01 -6.073423e+00  
## ly\_sign[2] 1.587305e+00 6.098352271 -1.117192e+01 -1.158588e+00  
## ly\_sign[3] 9.096882e-01 7.717631276 -1.596907e+01 -3.068133e+00  
## ly\_sign[4] 1.087252e+00 7.913874370 -1.524004e+01 -3.037386e+00  
## ly\_sign[5] 2.471659e+00 3.923102988 -5.667608e+00 5.647358e-01  
## ly\_sign[6] 2.905142e+00 4.024619038 -6.751982e+00 1.011991e+00  
## ly\_sign[7] 6.617661e+00 5.898897251 -9.865532e+00 4.150426e+00  
## ly\_sign[8] 5.568127e+00 5.224206550 -8.600418e+00 3.375884e+00  
## ly\_sign[9] 1.250473e+01 9.649348889 -1.810660e+01 9.689945e+00  
## ly\_sign[10] 7.621853e+00 6.621340668 -1.102587e+01 5.006182e+00  
## ly\_sign[11] -3.461470e+00 4.247123488 -1.138659e+01 -5.779911e+00  
## ly\_sign[12] 4.427312e+00 4.575599429 -7.415497e+00 2.447686e+00  
## Theta\_var[1] 9.665225e-01 0.115006305 7.555661e-01 8.884167e-01  
## Theta\_var[2] 7.208570e-01 0.356015011 1.780964e-03 4.930736e-01  
## Theta\_var[3] 7.250127e-01 0.297210507 2.226904e-02 6.078056e-01  
## Theta\_var[4] 9.155703e-01 0.129003512 6.828827e-01 8.255821e-01  
## Theta\_var[5] 4.337160e-01 0.242913912 6.002337e-03 2.499393e-01  
## Theta\_var[6] 6.968838e-01 0.252154085 3.079293e-02 6.014200e-01  
## Theta\_var[7] 9.919655e-01 0.118944994 7.818423e-01 9.097380e-01  
## Theta\_var[8] 9.736216e-01 0.117651959 7.673575e-01 8.913924e-01  
## Theta\_var[9] 9.595393e-01 0.133302193 7.306857e-01 8.670350e-01  
## Psi\_var[1] 2.493307e-02 0.045270171 2.858222e-05 1.932783e-03  
## Psi\_var[2] 1.088854e-02 0.023773354 5.524464e-06 6.539285e-04  
## Psi\_var[3] 2.773470e-03 0.003444004 3.511901e-04 1.115751e-03  
## Nu\_free[1] 3.737630e-04 0.073968118 -1.453768e-01 -4.959341e-02  
## Nu\_free[2] 1.564872e-04 0.083696383 -1.675261e-01 -5.381090e-02  
## Nu\_free[3] -1.964974e-02 0.091302941 -1.912875e-01 -8.187464e-02  
## Nu\_free[4] -9.084708e-03 0.088279952 -1.814949e-01 -6.913987e-02  
## Nu\_free[5] -1.075485e-02 0.079889745 -1.708165e-01 -6.176118e-02  
## Nu\_free[6] -3.175740e-03 0.082208024 -1.622983e-01 -5.828783e-02  
## Nu\_free[7] 3.083141e-04 0.082746492 -1.598837e-01 -5.503860e-02  
## Nu\_free[8] -6.402738e-04 0.081115859 -1.527645e-01 -5.695474e-02  
## Nu\_free[9] -9.723484e-03 0.090874098 -1.829887e-01 -7.055449e-02  
## lp\_\_ -1.961310e+03 5.712284320 -1.973173e+03 -1.964899e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -1.535649e+00 9.764460e-01 1.173408e+01  
## ly\_sign[2] 4.239682e-01 4.617150e+00 1.589913e+01  
## ly\_sign[3] 1.204294e+00 5.016452e+00 1.657676e+01  
## ly\_sign[4] 1.272204e+00 5.627738e+00 1.713618e+01  
## ly\_sign[5] 2.229665e+00 4.286219e+00 1.095312e+01  
## ly\_sign[6] 2.919708e+00 5.153620e+00 1.039935e+01  
## ly\_sign[7] 6.787315e+00 9.706200e+00 1.745841e+01  
## ly\_sign[8] 5.661719e+00 8.384859e+00 1.505537e+01  
## ly\_sign[9] 1.369844e+01 1.787582e+01 2.602519e+01  
## ly\_sign[10] 8.036377e+00 1.123539e+01 1.927986e+01  
## ly\_sign[11] -3.558567e+00 -1.594581e+00 6.795507e+00  
## ly\_sign[12] 4.478888e+00 7.015843e+00 1.283104e+01  
## Theta\_var[1] 9.608435e-01 1.039227e+00 1.207235e+00  
## Theta\_var[2] 8.527046e-01 9.720146e-01 1.182115e+00  
## Theta\_var[3] 8.071665e-01 9.234128e-01 1.137807e+00  
## Theta\_var[4] 9.069340e-01 9.966101e-01 1.188107e+00  
## Theta\_var[5] 4.538489e-01 6.151938e-01 8.612915e-01  
## Theta\_var[6] 7.549472e-01 8.613864e-01 1.062257e+00  
## Theta\_var[7] 9.846024e-01 1.064073e+00 1.264616e+00  
## Theta\_var[8] 9.636279e-01 1.046621e+00 1.221110e+00  
## Theta\_var[9] 9.492189e-01 1.039259e+00 1.253107e+00  
## Psi\_var[1] 8.402470e-03 2.803461e-02 1.566566e-01  
## Psi\_var[2] 2.742291e-03 9.999075e-03 7.315584e-02  
## Psi\_var[3] 1.804993e-03 3.085130e-03 1.153727e-02  
## Nu\_free[1] 2.107539e-04 5.301326e-02 1.439257e-01  
## Nu\_free[2] 5.891560e-04 5.469318e-02 1.659004e-01  
## Nu\_free[3] -2.121511e-02 4.015994e-02 1.651693e-01  
## Nu\_free[4] -9.219226e-03 5.142161e-02 1.613008e-01  
## Nu\_free[5] -9.942265e-03 4.339206e-02 1.449736e-01  
## Nu\_free[6] -3.467752e-03 5.071329e-02 1.569291e-01  
## Nu\_free[7] 8.834416e-04 5.414828e-02 1.658748e-01  
## Nu\_free[8] -4.655418e-05 5.371872e-02 1.545927e-01  
## Nu\_free[9] -9.539944e-03 5.006801e-02 1.712846e-01  
## lp\_\_ -1.961026e+03 -1.957307e+03 -1.950948e+03  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.919455e+00 6.47878841 -1.545796e+01 -5.353399e+00  
## ly\_sign[2] 1.596966e+00 6.53108903 -1.320762e+01 -1.257176e+00  
## ly\_sign[3] 8.029431e-01 7.35691661 -1.539215e+01 -2.880217e+00  
## ly\_sign[4] 1.182079e+00 7.64074279 -1.596574e+01 -2.546342e+00  
## ly\_sign[5] 2.043611e+00 4.41537027 -7.936364e+00 1.547687e-01  
## ly\_sign[6] 2.620893e+00 4.26845803 -7.599591e+00 7.451489e-01  
## ly\_sign[7] 5.537256e+00 6.80152335 -1.220861e+01 3.444363e+00  
## ly\_sign[8] 4.729797e+00 6.12347420 -1.132683e+01 2.633212e+00  
## ly\_sign[9] 1.095689e+01 11.04918787 -2.000286e+01 8.341184e+00  
## ly\_sign[10] 6.403492e+00 7.46553780 -1.332699e+01 4.088222e+00  
## ly\_sign[11] -3.049855e+00 4.74576620 -1.175766e+01 -5.608532e+00  
## ly\_sign[12] 3.771356e+00 5.21054616 -9.419794e+00 1.960268e+00  
## Theta\_var[1] 9.626705e-01 0.11753029 7.275306e-01 8.896403e-01  
## Theta\_var[2] 7.644155e-01 0.33044817 8.642389e-03 6.230241e-01  
## Theta\_var[3] 6.956042e-01 0.31971891 7.140042e-03 5.401083e-01  
## Theta\_var[4] 9.194283e-01 0.13303422 6.843665e-01 8.328613e-01  
## Theta\_var[5] 4.330456e-01 0.24604562 5.477879e-03 2.407573e-01  
## Theta\_var[6] 6.979793e-01 0.25884014 2.518149e-02 6.070190e-01  
## Theta\_var[7] 9.941806e-01 0.12419597 7.785727e-01 9.074845e-01  
## Theta\_var[8] 9.743408e-01 0.11740145 7.687457e-01 8.926948e-01  
## Theta\_var[9] 9.602326e-01 0.13199763 7.378065e-01 8.669236e-01  
## Psi\_var[1] 2.539804e-02 0.05011258 1.813991e-05 1.920578e-03  
## Psi\_var[2] 1.321712e-02 0.02937838 1.131862e-05 8.117721e-04  
## Psi\_var[3] 2.839368e-03 0.00547921 1.931764e-04 1.052839e-03  
## Nu\_free[1] -6.637359e-04 0.07336122 -1.438611e-01 -5.124987e-02  
## Nu\_free[2] 1.670520e-03 0.08368794 -1.653732e-01 -5.215124e-02  
## Nu\_free[3] -1.726433e-02 0.08860238 -1.919847e-01 -7.850942e-02  
## Nu\_free[4] -6.523497e-03 0.09059431 -1.817470e-01 -6.596581e-02  
## Nu\_free[5] -1.060259e-02 0.08221339 -1.759733e-01 -6.458478e-02  
## Nu\_free[6] -4.584913e-03 0.08188449 -1.635971e-01 -5.896746e-02  
## Nu\_free[7] 6.315363e-04 0.08570911 -1.703595e-01 -5.432506e-02  
## Nu\_free[8] 2.740794e-04 0.08031430 -1.571284e-01 -5.358282e-02  
## Nu\_free[9] -8.232297e-03 0.08958169 -1.827270e-01 -6.702574e-02  
## lp\_\_ -1.961596e+03 5.82901655 -1.973883e+03 -1.965295e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -1.019374e+00 1.124325e+00 1.242008e+01  
## ly\_sign[2] 5.972786e-01 5.140189e+00 1.559827e+01  
## ly\_sign[3] 1.264378e+00 4.871871e+00 1.573605e+01  
## ly\_sign[4] 1.386969e+00 5.532931e+00 1.646423e+01  
## ly\_sign[5] 1.972948e+00 4.157840e+00 1.105239e+01  
## ly\_sign[6] 2.754423e+00 4.959023e+00 1.081793e+01  
## ly\_sign[7] 6.165820e+00 9.175238e+00 1.722446e+01  
## ly\_sign[8] 5.257064e+00 8.017138e+00 1.541481e+01  
## ly\_sign[9] 1.291718e+01 1.745858e+01 2.615982e+01  
## ly\_sign[10] 7.320418e+00 1.060902e+01 1.858147e+01  
## ly\_sign[11] -3.370039e+00 -1.251835e+00 8.629776e+00  
## ly\_sign[12] 4.208172e+00 6.577358e+00 1.322983e+01  
## Theta\_var[1] 9.608927e-01 1.037274e+00 1.205801e+00  
## Theta\_var[2] 8.720392e-01 9.851645e-01 1.204231e+00  
## Theta\_var[3] 7.857315e-01 9.194675e-01 1.136425e+00  
## Theta\_var[4] 9.143513e-01 1.001431e+00 1.191877e+00  
## Theta\_var[5] 4.498357e-01 6.158535e-01 8.768120e-01  
## Theta\_var[6] 7.603410e-01 8.669211e-01 1.055752e+00  
## Theta\_var[7] 9.824100e-01 1.069057e+00 1.269494e+00  
## Theta\_var[8] 9.647587e-01 1.047808e+00 1.228113e+00  
## Theta\_var[9] 9.493011e-01 1.046127e+00 1.248552e+00  
## Psi\_var[1] 8.191238e-03 2.562482e-02 1.547627e-01  
## Psi\_var[2] 3.153653e-03 1.127384e-02 9.612787e-02  
## Psi\_var[3] 1.777386e-03 3.080922e-03 1.226895e-02  
## Nu\_free[1] 4.478997e-05 5.054845e-02 1.428092e-01  
## Nu\_free[2] 2.431247e-03 5.672581e-02 1.665479e-01  
## Nu\_free[3] -1.843278e-02 4.261316e-02 1.560822e-01  
## Nu\_free[4] -9.069361e-03 5.401136e-02 1.801563e-01  
## Nu\_free[5] -1.040590e-02 4.334675e-02 1.486186e-01  
## Nu\_free[6] -3.660039e-03 5.141794e-02 1.532382e-01  
## Nu\_free[7] 3.411533e-04 5.610197e-02 1.710694e-01  
## Nu\_free[8] -1.010828e-05 5.404180e-02 1.583655e-01  
## Nu\_free[9] -7.733233e-03 5.161765e-02 1.680625e-01  
## lp\_\_ -1.961207e+03 -1.957393e+03 -1.951441e+03

## bfit.3factors

tmp2 = blavInspect(bfit.3factors, "mcobj")  
summary(tmp2)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] 6.196668e-01 0.3198336137 4.78560628 -1.103847e+01  
## ly\_sign[2] 3.332090e+00 0.6929028195 8.55775814 -1.705859e+01  
## ly\_sign[3] 5.068589e+00 0.0658348981 3.56295282 1.388347e+00  
## ly\_sign[4] 2.679595e+00 0.0413450185 2.16319714 6.968367e-01  
## ly\_sign[5] -1.129805e+00 0.2072056254 6.43202681 -1.500972e+01  
## ly\_sign[6] 1.581057e+00 0.0843413865 3.88225989 -6.758455e+00  
## Theta\_var[1] 9.896726e-01 0.0009395072 0.10750241 8.014710e-01  
## Theta\_var[2] 9.580254e-01 0.0043138987 0.14500644 7.124149e-01  
## Theta\_var[3] 5.924516e-01 0.0136399681 0.32076945 4.733102e-03  
## Theta\_var[4] 9.489586e-01 0.0010057246 0.12551009 7.299532e-01  
## Theta\_var[5] 3.983787e-01 0.0031327420 0.23576766 2.975462e-03  
## Theta\_var[6] 8.423532e-01 0.0023208627 0.14080425 5.707613e-01  
## Theta\_var[7] 9.466011e-01 0.0034034679 0.14730342 6.566183e-01  
## Theta\_var[8] 9.108927e-01 0.0061692045 0.19344846 3.159853e-01  
## Theta\_var[9] 9.550310e-01 0.0032353895 0.15142833 6.895156e-01  
## Psi\_cov[1] 8.213083e-03 0.0007693440 0.01399538 -1.256138e-02  
## Psi\_cov[2] 6.145095e-03 0.0004298470 0.01642098 -1.136409e-02  
## Psi\_cov[3] 2.695912e-02 0.0009372038 0.03705020 -1.022347e-02  
## Psi\_var[1] 1.892977e-02 0.0007071121 0.02835613 2.435873e-04  
## Psi\_var[2] 5.346807e-02 0.0005842825 0.05183501 2.681795e-03  
## Psi\_var[3] 5.965575e-02 0.0032516686 0.09851753 1.730421e-04  
## Nu\_free[1] -4.961494e-04 0.0005785150 0.07429413 -1.469784e-01  
## Nu\_free[2] -3.540948e-03 0.0006641255 0.08259063 -1.658503e-01  
## Nu\_free[3] -1.841320e-02 0.0007364981 0.09078718 -1.982272e-01  
## Nu\_free[4] -3.658446e-03 0.0006597653 0.08797552 -1.752597e-01  
## Nu\_free[5] -1.461573e-02 0.0006565856 0.08107308 -1.747984e-01  
## Nu\_free[6] -2.071035e-03 0.0006447098 0.08295960 -1.635086e-01  
## Nu\_free[7] -4.358050e-03 0.0006226070 0.08327892 -1.681913e-01  
## Nu\_free[8] -4.884154e-04 0.0006082610 0.08038841 -1.576104e-01  
## Nu\_free[9] -7.836133e-03 0.0006853406 0.09063276 -1.838632e-01  
## lp\_\_ -1.941313e+03 0.1712366358 5.63747306 -1.953190e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] -1.995846e-01 1.061585e+00 2.653575e+00 9.821024e+00  
## ly\_sign[2] 1.632417e+00 4.657557e+00 8.169086e+00 1.788862e+01  
## ly\_sign[3] 2.647511e+00 3.972054e+00 6.306602e+00 1.485908e+01  
## ly\_sign[4] 1.375534e+00 2.023104e+00 3.195030e+00 8.645463e+00  
## ly\_sign[5] -3.274738e+00 -8.526731e-01 -2.237322e-02 1.475159e+01  
## ly\_sign[6] 4.157861e-01 1.049389e+00 2.484538e+00 1.102825e+01  
## Theta\_var[1] 9.142511e-01 9.821195e-01 1.057360e+00 1.223144e+00  
## Theta\_var[2] 8.775239e-01 9.564853e-01 1.043084e+00 1.232041e+00  
## Theta\_var[3] 3.411503e-01 6.597011e-01 8.374802e-01 1.105870e+00  
## Theta\_var[4] 8.607168e-01 9.402725e-01 1.027800e+00 1.217713e+00  
## Theta\_var[5] 2.066282e-01 4.149298e-01 5.765607e-01 8.335549e-01  
## Theta\_var[6] 7.557054e-01 8.438959e-01 9.296838e-01 1.116238e+00  
## Theta\_var[7] 8.600624e-01 9.467483e-01 1.037971e+00 1.236438e+00  
## Theta\_var[8] 8.436095e-01 9.313932e-01 1.019213e+00 1.207136e+00  
## Theta\_var[9] 8.629001e-01 9.510524e-01 1.045148e+00 1.252795e+00  
## Psi\_cov[1] 8.797986e-04 5.869789e-03 1.329251e-02 4.377131e-02  
## Psi\_cov[2] -9.366708e-04 8.775434e-04 7.375732e-03 5.348544e-02  
## Psi\_cov[3] 2.909518e-03 1.388628e-02 3.983004e-02 1.285378e-01  
## Psi\_var[1] 2.228246e-03 7.435609e-03 2.345260e-02 1.014340e-01  
## Psi\_var[2] 1.547459e-02 3.762669e-02 7.509467e-02 1.911274e-01  
## Psi\_var[3] 2.440413e-03 1.606466e-02 7.857402e-02 3.261087e-01  
## Nu\_free[1] -4.963288e-02 -6.635710e-04 4.885733e-02 1.464824e-01  
## Nu\_free[2] -5.875049e-02 -2.643543e-03 5.190272e-02 1.573526e-01  
## Nu\_free[3] -7.969246e-02 -1.880375e-02 4.395664e-02 1.583122e-01  
## Nu\_free[4] -6.300513e-02 -3.672087e-03 5.600584e-02 1.686306e-01  
## Nu\_free[5] -6.899042e-02 -1.381678e-02 4.007943e-02 1.439979e-01  
## Nu\_free[6] -5.819078e-02 -3.516022e-03 5.303425e-02 1.625664e-01  
## Nu\_free[7] -6.005084e-02 -3.897881e-03 5.146766e-02 1.574299e-01  
## Nu\_free[8] -5.434846e-02 -3.378679e-04 5.391946e-02 1.573665e-01  
## Nu\_free[9] -6.909094e-02 -7.190385e-03 5.346054e-02 1.699830e-01  
## lp\_\_ -1.944894e+03 -1.941097e+03 -1.937341e+03 -1.931043e+03  
## n\_eff Rhat  
## ly\_sign[1] 223.8854 1.0193721  
## ly\_sign[2] 152.5371 1.0288436  
## ly\_sign[3] 2928.9220 1.0010554  
## ly\_sign[4] 2737.4476 1.0015647  
## ly\_sign[5] 963.5907 1.0041753  
## ly\_sign[6] 2118.7891 1.0016264  
## Theta\_var[1] 13092.9096 1.0001047  
## Theta\_var[2] 1129.8861 1.0037655  
## Theta\_var[3] 553.0435 1.0082454  
## Theta\_var[4] 15573.9646 1.0000153  
## Theta\_var[5] 5663.9476 1.0005691  
## Theta\_var[6] 3680.7189 1.0003030  
## Theta\_var[7] 1873.1921 1.0019934  
## Theta\_var[8] 983.2687 1.0065308  
## Theta\_var[9] 2190.5903 1.0018215  
## Psi\_cov[1] 330.9240 1.0107472  
## Psi\_cov[2] 1459.3876 1.0026547  
## Psi\_cov[3] 1562.8343 1.0021109  
## Psi\_var[1] 1608.1154 1.0024627  
## Psi\_var[2] 7870.4697 1.0001579  
## Psi\_var[3] 917.9403 1.0045768  
## Nu\_free[1] 16492.2430 0.9999747  
## Nu\_free[2] 15465.4022 0.9999497  
## Nu\_free[3] 15195.1801 1.0003368  
## Nu\_free[4] 17780.5304 0.9999375  
## Nu\_free[5] 15246.5192 1.0001881  
## Nu\_free[6] 16557.8836 1.0000284  
## Nu\_free[7] 17891.3133 0.9999726  
## Nu\_free[8] 17466.5392 1.0002206  
## Nu\_free[9] 17488.6967 0.9998968  
## lp\_\_ 1083.8660 1.0037660  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -4.322928e-01 5.26067572 -1.256873e+01 -3.169691e+00  
## ly\_sign[2] 9.479208e-01 9.34023205 -1.931986e+01 -5.831568e+00  
## ly\_sign[3] 5.037530e+00 3.58186374 1.382995e+00 2.635130e+00  
## ly\_sign[4] 2.714143e+00 2.31544614 6.873085e-01 1.384770e+00  
## ly\_sign[5] -1.300630e+00 6.15119689 -1.458217e+01 -3.327804e+00  
## ly\_sign[6] 1.726080e+00 3.72921120 -5.977189e+00 4.562496e-01  
## Theta\_var[1] 9.915729e-01 0.10739656 8.046594e-01 9.146046e-01  
## Theta\_var[2] 9.562130e-01 0.14536830 6.993930e-01 8.739240e-01  
## Theta\_var[3] 6.320222e-01 0.31599107 4.892396e-03 4.135797e-01  
## Theta\_var[4] 9.489742e-01 0.12555770 7.291224e-01 8.609221e-01  
## Theta\_var[5] 4.003216e-01 0.24283368 3.475697e-03 1.990792e-01  
## Theta\_var[6] 8.363172e-01 0.15837120 5.047129e-01 7.545396e-01  
## Theta\_var[7] 9.501127e-01 0.13717882 6.794889e-01 8.594428e-01  
## Theta\_var[8] 9.223555e-01 0.16833186 4.746627e-01 8.497958e-01  
## Theta\_var[9] 9.498364e-01 0.15088207 6.686131e-01 8.634295e-01  
## Psi\_cov[1] 6.293268e-03 0.01439106 -1.386914e-02 -2.683718e-03  
## Psi\_cov[2] 4.929863e-03 0.01568746 -1.250836e-02 -1.286528e-03  
## Psi\_cov[3] 2.720456e-02 0.03681608 -9.421941e-03 3.323355e-03  
## Psi\_var[1] 1.724340e-02 0.02711835 1.642355e-04 1.780517e-03  
## Psi\_var[2] 5.316666e-02 0.05059838 2.651255e-03 1.581010e-02  
## Psi\_var[3] 5.541270e-02 0.08329276 1.772915e-04 2.496108e-03  
## Nu\_free[1] -5.014734e-04 0.07327822 -1.429449e-01 -4.936866e-02  
## Nu\_free[2] -3.171370e-03 0.08266891 -1.659169e-01 -5.875505e-02  
## Nu\_free[3] -1.846111e-02 0.08902735 -1.938277e-01 -7.941472e-02  
## Nu\_free[4] -3.188917e-03 0.08645032 -1.739604e-01 -6.105411e-02  
## Nu\_free[5] -1.699211e-02 0.08197457 -1.772587e-01 -7.272798e-02  
## Nu\_free[6] -3.634232e-03 0.08447532 -1.655849e-01 -6.100363e-02  
## Nu\_free[7] -5.288012e-03 0.08238132 -1.686605e-01 -6.063690e-02  
## Nu\_free[8] 3.746779e-04 0.07996765 -1.634252e-01 -5.098441e-02  
## Nu\_free[9] -9.487090e-03 0.08979940 -1.831817e-01 -6.997876e-02  
## lp\_\_ -1.941700e+03 5.84070970 -1.954269e+03 -1.945407e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 7.334310e-01 2.127545e+00 9.226506e+00  
## ly\_sign[2] 3.500185e+00 6.866978e+00 1.613641e+01  
## ly\_sign[3] 3.906127e+00 6.214902e+00 1.474679e+01  
## ly\_sign[4] 2.043474e+00 3.207340e+00 8.712782e+00  
## ly\_sign[5] -9.349217e-01 -1.203673e-01 1.378235e+01  
## ly\_sign[6] 1.108814e+00 2.601916e+00 1.082278e+01  
## Theta\_var[1] 9.840751e-01 1.059504e+00 1.223638e+00  
## Theta\_var[2] 9.550754e-01 1.042953e+00 1.234525e+00  
## Theta\_var[3] 7.050623e-01 8.681649e-01 1.121736e+00  
## Theta\_var[4] 9.419856e-01 1.027729e+00 1.224342e+00  
## Theta\_var[5] 4.159665e-01 5.806433e-01 8.551472e-01  
## Theta\_var[6] 8.436672e-01 9.306975e-01 1.121189e+00  
## Theta\_var[7] 9.476591e-01 1.039441e+00 1.229904e+00  
## Theta\_var[8] 9.322049e-01 1.016037e+00 1.205514e+00  
## Theta\_var[9] 9.493496e-01 1.037287e+00 1.245361e+00  
## Psi\_cov[1] 4.158039e-03 1.202970e-02 4.185539e-02  
## Psi\_cov[2] 4.824150e-04 5.778884e-03 4.944722e-02  
## Psi\_cov[3] 1.425477e-02 4.002267e-02 1.279627e-01  
## Psi\_var[1] 6.104059e-03 2.078733e-02 9.348867e-02  
## Psi\_var[2] 3.814620e-02 7.439078e-02 1.896092e-01  
## Psi\_var[3] 1.597844e-02 7.764906e-02 2.884638e-01  
## Nu\_free[1] -1.477958e-03 4.769139e-02 1.450052e-01  
## Nu\_free[2] -3.339585e-03 5.300933e-02 1.597426e-01  
## Nu\_free[3] -1.953114e-02 4.284564e-02 1.565545e-01  
## Nu\_free[4] -3.163892e-03 5.548598e-02 1.659120e-01  
## Nu\_free[5] -1.733373e-02 3.718165e-02 1.447400e-01  
## Nu\_free[6] -4.923172e-03 5.182909e-02 1.635986e-01  
## Nu\_free[7] -4.951914e-03 5.001665e-02 1.557726e-01  
## Nu\_free[8] 1.109001e-03 5.441052e-02 1.581455e-01  
## Nu\_free[9] -8.321552e-03 5.439951e-02 1.625785e-01  
## lp\_\_ -1.941437e+03 -1.937461e+03 -1.931272e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 1.271997e+00 4.26445120 -9.895453e+00 3.600014e-01  
## ly\_sign[2] 4.573355e+00 7.62772141 -1.552707e+01 2.908910e+00  
## ly\_sign[3] 5.024160e+00 3.55327737 1.384182e+00 2.615661e+00  
## ly\_sign[4] 2.641518e+00 2.09551156 6.867508e-01 1.351786e+00  
## ly\_sign[5] -9.096292e-01 6.63671206 -1.547335e+01 -3.143659e+00  
## ly\_sign[6] 1.437604e+00 4.38819029 -8.286518e+00 3.083042e-01  
## Theta\_var[1] 9.876657e-01 0.10727379 7.997579e-01 9.123851e-01  
## Theta\_var[2] 9.649927e-01 0.12815115 7.374439e-01 8.808592e-01  
## Theta\_var[3] 5.675336e-01 0.31812323 4.656965e-03 3.028967e-01  
## Theta\_var[4] 9.472612e-01 0.12414035 7.238295e-01 8.598069e-01  
## Theta\_var[5] 4.054967e-01 0.23316059 3.806123e-03 2.180026e-01  
## Theta\_var[6] 8.449728e-01 0.13635253 5.848537e-01 7.549374e-01  
## Theta\_var[7] 9.417035e-01 0.16616195 5.506070e-01 8.603587e-01  
## Theta\_var[8] 9.136030e-01 0.18888169 3.594039e-01 8.442151e-01  
## Theta\_var[9] 9.490890e-01 0.17196194 6.697451e-01 8.598261e-01  
## Psi\_cov[1] 9.780380e-03 0.01355470 -1.093628e-02 2.824610e-03  
## Psi\_cov[2] 6.836188e-03 0.01663462 -9.767111e-03 -6.627217e-04  
## Psi\_cov[3] 2.620989e-02 0.03815847 -1.162601e-02 1.981757e-03  
## Psi\_var[1] 1.996809e-02 0.02908754 3.039936e-04 2.698799e-03  
## Psi\_var[2] 5.420274e-02 0.05348287 2.902192e-03 1.546345e-02  
## Psi\_var[3] 6.549524e-02 0.12404646 1.564330e-04 2.037795e-03  
## Nu\_free[1] -1.523139e-03 0.07594219 -1.493939e-01 -5.226289e-02  
## Nu\_free[2] -3.925964e-03 0.08217606 -1.648194e-01 -5.929145e-02  
## Nu\_free[3] -1.901551e-02 0.09133861 -1.983110e-01 -8.236154e-02  
## Nu\_free[4] -5.167604e-03 0.08819867 -1.750343e-01 -6.555232e-02  
## Nu\_free[5] -1.413354e-02 0.07988358 -1.734321e-01 -6.666993e-02  
## Nu\_free[6] -1.829677e-03 0.08404114 -1.640854e-01 -5.941874e-02  
## Nu\_free[7] -4.255024e-03 0.08317550 -1.703184e-01 -5.925254e-02  
## Nu\_free[8] -2.952992e-03 0.07940405 -1.585258e-01 -5.583461e-02  
## Nu\_free[9] -6.494908e-03 0.09036074 -1.875049e-01 -6.545655e-02  
## lp\_\_ -1.941139e+03 5.57684296 -1.952631e+03 -1.944799e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.305714e+00 2.949721e+00 9.537934e+00  
## ly\_sign[2] 5.149411e+00 8.581623e+00 1.758358e+01  
## ly\_sign[3] 3.926544e+00 6.259656e+00 1.486472e+01  
## ly\_sign[4] 2.004152e+00 3.154084e+00 8.290048e+00  
## ly\_sign[5] -7.330611e-01 1.102735e-01 1.525421e+01  
## ly\_sign[6] 1.005151e+00 2.514058e+00 1.187601e+01  
## Theta\_var[1] 9.821440e-01 1.055023e+00 1.212980e+00  
## Theta\_var[2] 9.575582e-01 1.046421e+00 1.238799e+00  
## Theta\_var[3] 6.248741e-01 8.211129e-01 1.078040e+00  
## Theta\_var[4] 9.396373e-01 1.025679e+00 1.208670e+00  
## Theta\_var[5] 4.273930e-01 5.816838e-01 8.232786e-01  
## Theta\_var[6] 8.451830e-01 9.297161e-01 1.116238e+00  
## Theta\_var[7] 9.493011e-01 1.039202e+00 1.237809e+00  
## Theta\_var[8] 9.319993e-01 1.021581e+00 1.208118e+00  
## Theta\_var[9] 9.503594e-01 1.044783e+00 1.264585e+00  
## Psi\_cov[1] 6.972101e-03 1.463382e-02 4.512975e-02  
## Psi\_cov[2] 1.155158e-03 8.463752e-03 5.422829e-02  
## Psi\_cov[3] 1.228410e-02 3.855702e-02 1.311447e-01  
## Psi\_var[1] 8.658360e-03 2.517280e-02 1.022541e-01  
## Psi\_var[2] 3.799789e-02 7.743028e-02 1.927895e-01  
## Psi\_var[3] 1.378106e-02 7.738098e-02 4.103891e-01  
## Nu\_free[1] -7.161674e-04 4.933083e-02 1.499142e-01  
## Nu\_free[2] -1.505486e-03 5.208822e-02 1.542312e-01  
## Nu\_free[3] -1.892654e-02 4.400840e-02 1.608745e-01  
## Nu\_free[4] -5.744243e-03 5.458779e-02 1.669122e-01  
## Nu\_free[5] -1.253372e-02 3.892727e-02 1.393255e-01  
## Nu\_free[6] -1.841172e-03 5.538528e-02 1.625664e-01  
## Nu\_free[7] -3.686935e-03 5.327169e-02 1.497351e-01  
## Nu\_free[8] -2.630897e-03 5.086721e-02 1.486538e-01  
## Nu\_free[9] -5.628941e-03 5.501675e-02 1.706512e-01  
## lp\_\_ -1.940893e+03 -1.937150e+03 -1.931129e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 3.296302e-01 5.03418037 -1.125532e+01 -1.505391e+00  
## ly\_sign[2] 3.089030e+00 8.82283257 -1.633170e+01 -1.512887e+00  
## ly\_sign[3] 5.177600e+00 3.64041391 1.346518e+00 2.700001e+00  
## ly\_sign[4] 2.721870e+00 2.14817838 6.945155e-01 1.381737e+00  
## ly\_sign[5] -1.305158e+00 6.57601158 -1.579961e+01 -3.389768e+00  
## ly\_sign[6] 1.683129e+00 3.88266312 -6.366424e+00 4.595897e-01  
## Theta\_var[1] 9.923393e-01 0.10827076 8.015877e-01 9.166508e-01  
## Theta\_var[2] 9.461152e-01 0.17487155 6.356727e-01 8.736817e-01  
## Theta\_var[3] 6.124735e-01 0.32178257 4.440903e-03 3.792486e-01  
## Theta\_var[4] 9.509887e-01 0.12657533 7.320615e-01 8.634407e-01  
## Theta\_var[5] 3.907544e-01 0.23428517 2.107641e-03 2.001224e-01  
## Theta\_var[6] 8.433679e-01 0.13255247 5.759737e-01 7.565307e-01  
## Theta\_var[7] 9.474129e-01 0.14422535 6.540478e-01 8.616422e-01  
## Theta\_var[8] 9.145414e-01 0.18426999 3.660571e-01 8.461034e-01  
## Theta\_var[9] 9.602476e-01 0.13924295 7.114869e-01 8.646785e-01  
## Psi\_cov[1] 7.020044e-03 0.01386813 -1.429357e-02 -1.039048e-03  
## Psi\_cov[2] 5.628651e-03 0.01629396 -1.263235e-02 -9.596779e-04  
## Psi\_cov[3] 2.758941e-02 0.03738985 -9.684305e-03 3.206282e-03  
## Psi\_var[1] 1.779443e-02 0.02717338 2.378943e-04 2.045658e-03  
## Psi\_var[2] 5.318037e-02 0.05241415 2.510800e-03 1.491500e-02  
## Psi\_var[3] 5.896143e-02 0.09245117 1.534936e-04 2.335517e-03  
## Nu\_free[1] 1.142536e-03 0.07448822 -1.459801e-01 -4.784839e-02  
## Nu\_free[2] -5.026707e-03 0.08211694 -1.684010e-01 -5.882196e-02  
## Nu\_free[3] -1.782951e-02 0.09031834 -1.990560e-01 -7.606792e-02  
## Nu\_free[4] -3.436763e-03 0.08792714 -1.772775e-01 -6.189301e-02  
## Nu\_free[5] -1.402828e-02 0.08082587 -1.715268e-01 -6.918134e-02  
## Nu\_free[6] -1.915250e-03 0.08151639 -1.636853e-01 -5.663163e-02  
## Nu\_free[7] -4.397992e-03 0.08184456 -1.616338e-01 -6.031383e-02  
## Nu\_free[8] -1.418858e-03 0.08181664 -1.607818e-01 -5.600221e-02  
## Nu\_free[9] -7.883536e-03 0.08949889 -1.801011e-01 -6.900953e-02  
## lp\_\_ -1.941494e+03 5.54865716 -1.953190e+03 -1.944986e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 9.467279e-01 2.562251e+00 1.018487e+01  
## ly\_sign[2] 4.500670e+00 8.139889e+00 1.891048e+01  
## ly\_sign[3] 4.075613e+00 6.476614e+00 1.522792e+01  
## ly\_sign[4] 2.032297e+00 3.297739e+00 9.272955e+00  
## ly\_sign[5] -9.130072e-01 -7.480621e-02 1.512077e+01  
## ly\_sign[6] 1.088534e+00 2.549268e+00 1.134464e+01  
## Theta\_var[1] 9.845549e-01 1.060935e+00 1.224864e+00  
## Theta\_var[2] 9.539747e-01 1.041215e+00 1.219719e+00  
## Theta\_var[3] 6.839616e-01 8.499623e-01 1.130177e+00  
## Theta\_var[4] 9.413405e-01 1.028231e+00 1.223231e+00  
## Theta\_var[5] 4.043206e-01 5.684784e-01 8.282657e-01  
## Theta\_var[6] 8.419042e-01 9.288421e-01 1.103749e+00  
## Theta\_var[7] 9.448584e-01 1.039571e+00 1.241057e+00  
## Theta\_var[8] 9.319459e-01 1.019428e+00 1.214063e+00  
## Theta\_var[9] 9.530122e-01 1.049425e+00 1.248069e+00  
## Psi\_cov[1] 4.942874e-03 1.195204e-02 4.170684e-02  
## Psi\_cov[2] 7.895014e-04 6.608400e-03 5.303938e-02  
## Psi\_cov[3] 1.446147e-02 3.936087e-02 1.295754e-01  
## Psi\_var[1] 6.625245e-03 2.148319e-02 9.759669e-02  
## Psi\_var[2] 3.677354e-02 7.352059e-02 1.963420e-01  
## Psi\_var[3] 1.659210e-02 7.911629e-02 3.234781e-01  
## Nu\_free[1] 1.227453e-03 5.030213e-02 1.497288e-01  
## Nu\_free[2] -4.931344e-03 5.006249e-02 1.555933e-01  
## Nu\_free[3] -1.811611e-02 4.397235e-02 1.534025e-01  
## Nu\_free[4] -2.740844e-03 5.642302e-02 1.688323e-01  
## Nu\_free[5] -1.377322e-02 4.198858e-02 1.450720e-01  
## Nu\_free[6] -3.370526e-03 5.235199e-02 1.595653e-01  
## Nu\_free[7] -4.308253e-03 5.026497e-02 1.543836e-01  
## Nu\_free[8] -4.080667e-04 5.394592e-02 1.625160e-01  
## Nu\_free[9] -7.899888e-03 5.130008e-02 1.690809e-01  
## lp\_\_ -1.941285e+03 -1.937632e+03 -1.931287e+03  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 1.309332e+00 4.28092238 -9.536092e+00 3.361010e-01  
## ly\_sign[2] 4.718053e+00 7.77904807 -1.583440e+01 2.852226e+00  
## ly\_sign[3] 5.035065e+00 3.47304753 1.435078e+00 2.642606e+00  
## ly\_sign[4] 2.640850e+00 2.08504983 7.202591e-01 1.384523e+00  
## ly\_sign[5] -1.003805e+00 6.34486378 -1.468567e+01 -3.209643e+00  
## ly\_sign[6] 1.477414e+00 3.46348461 -5.588411e+00 4.229676e-01  
## Theta\_var[1] 9.871126e-01 0.10699744 8.011031e-01 9.127439e-01  
## Theta\_var[2] 9.647807e-01 0.12548308 7.341919e-01 8.822145e-01  
## Theta\_var[3] 5.577773e-01 0.32131985 5.023996e-03 2.858086e-01  
## Theta\_var[4] 9.486102e-01 0.12576399 7.354225e-01 8.596448e-01  
## Theta\_var[5] 3.969422e-01 0.23247079 2.601378e-03 2.109546e-01  
## Theta\_var[6] 8.447548e-01 0.13424432 5.814221e-01 7.576361e-01  
## Theta\_var[7] 9.471755e-01 0.13978599 6.802062e-01 8.589542e-01  
## Theta\_var[8] 8.930708e-01 0.22643892 7.590352e-02 8.352081e-01  
## Theta\_var[9] 9.609509e-01 0.14101929 7.067523e-01 8.639562e-01  
## Psi\_cov[1] 9.758641e-03 0.01380169 -1.016522e-02 2.546930e-03  
## Psi\_cov[2] 7.185677e-03 0.01694556 -9.639793e-03 -9.016997e-04  
## Psi\_cov[3] 2.683260e-02 0.03579334 -1.029107e-02 3.263761e-03  
## Psi\_var[1] 2.071317e-02 0.02980748 2.671762e-04 2.590462e-03  
## Psi\_var[2] 5.332250e-02 0.05079857 2.723145e-03 1.578760e-02  
## Psi\_var[3] 5.875363e-02 0.08889769 2.123141e-04 2.902403e-03  
## Nu\_free[1] -1.102520e-03 0.07343203 -1.475025e-01 -4.907405e-02  
## Nu\_free[2] -2.039749e-03 0.08339034 -1.636193e-01 -5.791798e-02  
## Nu\_free[3] -1.834667e-02 0.09245253 -2.007955e-01 -8.056270e-02  
## Nu\_free[4] -2.840499e-03 0.08931042 -1.736562e-01 -6.341567e-02  
## Nu\_free[5] -1.330902e-02 0.08156809 -1.760379e-01 -6.794507e-02  
## Nu\_free[6] -9.049832e-04 0.08176499 -1.565519e-01 -5.598793e-02  
## Nu\_free[7] -3.491172e-03 0.08567772 -1.710109e-01 -6.008137e-02  
## Nu\_free[8] 2.043510e-03 0.08028184 -1.487802e-01 -5.322483e-02  
## Nu\_free[9] -7.478999e-03 0.09283541 -1.852923e-01 -7.159367e-02  
## lp\_\_ -1.940919e+03 5.54731797 -1.952707e+03 -1.944427e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.250676e+00 2.961956e+00 9.957164e+00  
## ly\_sign[2] 5.206125e+00 8.755948e+00 1.865812e+01  
## ly\_sign[3] 3.990964e+00 6.244796e+00 1.434986e+01  
## ly\_sign[4] 2.015364e+00 3.151829e+00 8.247446e+00  
## ly\_sign[5] -8.304118e-01 4.507193e-03 1.465984e+01  
## ly\_sign[6] 1.008515e+00 2.301013e+00 9.411034e+00  
## Theta\_var[1] 9.777326e-01 1.053267e+00 1.232044e+00  
## Theta\_var[2] 9.598859e-01 1.041258e+00 1.231263e+00  
## Theta\_var[3] 6.119099e-01 8.109737e-01 1.081249e+00  
## Theta\_var[4] 9.374109e-01 1.028625e+00 1.216862e+00  
## Theta\_var[5] 4.108044e-01 5.743032e-01 8.154896e-01  
## Theta\_var[6] 8.447656e-01 9.290260e-01 1.122869e+00  
## Theta\_var[7] 9.445929e-01 1.032342e+00 1.239611e+00  
## Theta\_var[8] 9.287167e-01 1.019692e+00 1.202609e+00  
## Theta\_var[9] 9.526776e-01 1.049622e+00 1.251947e+00  
## Psi\_cov[1] 6.821963e-03 1.446730e-02 4.473418e-02  
## Psi\_cov[2] 1.217517e-03 8.967587e-03 5.639144e-02  
## Psi\_cov[3] 1.426952e-02 4.090798e-02 1.254145e-01  
## Psi\_var[1] 8.461106e-03 2.681895e-02 1.130564e-01  
## Psi\_var[2] 3.749959e-02 7.532350e-02 1.868573e-01  
## Psi\_var[3] 1.822330e-02 7.968959e-02 3.101082e-01  
## Nu\_free[1] -2.375596e-03 4.799916e-02 1.413053e-01  
## Nu\_free[2] -6.999555e-04 5.305562e-02 1.611124e-01  
## Nu\_free[3] -1.915681e-02 4.474790e-02 1.617023e-01  
## Nu\_free[4] -3.137598e-03 5.702822e-02 1.732978e-01  
## Nu\_free[5] -1.188848e-02 4.160945e-02 1.460268e-01  
## Nu\_free[6] -3.573272e-03 5.333777e-02 1.629072e-01  
## Nu\_free[7] -2.703047e-03 5.219269e-02 1.676060e-01  
## Nu\_free[8] 1.525169e-04 5.639357e-02 1.585268e-01  
## Nu\_free[9] -6.975995e-03 5.366350e-02 1.774181e-01  
## lp\_\_ -1.940784e+03 -1.937114e+03 -1.930525e+03

## bfit.1factor

tmp3 = blavInspect(bfit.1factor, "mcobj")  
summary(tmp3)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] 4.952717e+00 3.193844e-02 3.04938469 3.271590e-02  
## ly\_sign[2] -4.250621e+00 2.809496e-02 2.87271368 -1.080003e+01  
## ly\_sign[3] 1.489117e+01 7.344369e-02 5.49019283 5.499375e+00  
## ly\_sign[4] 6.386696e+00 3.987057e-02 3.33439967 1.273070e+00  
## ly\_sign[5] 9.058616e+00 5.602486e-02 4.05124869 2.732054e+00  
## ly\_sign[6] 2.488124e+00 2.408920e-02 2.59858517 -1.990653e+00  
## ly\_sign[7] 3.606007e+00 2.628898e-02 2.85281946 -1.122719e+00  
## ly\_sign[8] 7.176827e+00 4.370330e-02 3.60213873 1.611909e+00  
## Theta\_var[1] 9.886188e-01 7.414787e-04 0.11814050 7.822067e-01  
## Theta\_var[2] 9.597791e-01 8.061307e-04 0.12981786 7.362409e-01  
## Theta\_var[3] 9.696072e-01 7.169009e-04 0.11487525 7.637975e-01  
## Theta\_var[4] 5.125011e-01 2.338964e-03 0.19503757 6.787935e-02  
## Theta\_var[5] 9.217008e-01 8.113402e-04 0.12651205 6.978545e-01  
## Theta\_var[6] 8.342735e-01 8.788237e-04 0.12347400 6.032485e-01  
## Theta\_var[7] 9.949423e-01 6.693054e-04 0.10833916 8.039299e-01  
## Theta\_var[8] 9.814961e-01 7.301698e-04 0.11922806 7.727183e-01  
## Theta\_var[9] 8.970859e-01 8.789337e-04 0.13157397 6.617076e-01  
## Psi\_var[1] 3.260562e-03 7.550726e-05 0.00395887 6.405206e-04  
## Nu\_free[1] -2.014568e-03 5.220439e-04 0.08281252 -1.624861e-01  
## Nu\_free[2] -1.050200e-02 5.757862e-04 0.09178286 -1.920853e-01  
## Nu\_free[3] -3.070583e-04 5.025622e-04 0.07931520 -1.536406e-01  
## Nu\_free[4] -1.334445e-02 5.757614e-04 0.08099248 -1.732516e-01  
## Nu\_free[5] -8.281460e-03 5.361608e-04 0.08723787 -1.792949e-01  
## Nu\_free[6] -4.650012e-03 5.222794e-04 0.08212463 -1.669459e-01  
## Nu\_free[7] -2.990422e-04 4.381696e-04 0.07464927 -1.466498e-01  
## Nu\_free[8] -2.747192e-03 4.972475e-04 0.08333030 -1.658895e-01  
## Nu\_free[9] -1.595634e-02 5.771189e-04 0.09074917 -1.937956e-01  
## lp\_\_ -1.938960e+03 6.777486e-02 4.57655351 -1.948691e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] 2.842068e+00 4.577027e+00 6.733339e+00 11.8805505  
## ly\_sign[2] -5.901334e+00 -3.903261e+00 -2.261336e+00 0.4007654  
## ly\_sign[3] 1.093819e+01 1.442655e+01 1.829342e+01 27.0089753  
## ly\_sign[4] 3.957722e+00 5.967044e+00 8.308433e+00 14.1101756  
## ly\_sign[5] 6.079095e+00 8.551900e+00 1.146415e+01 18.2821115  
## ly\_sign[6] 7.608942e-01 2.205844e+00 3.943874e+00 8.3575273  
## ly\_sign[7] 1.690190e+00 3.260487e+00 5.179328e+00 10.1396699  
## ly\_sign[8] 4.564965e+00 6.702148e+00 9.272514e+00 15.5436907  
## Theta\_var[1] 9.060902e-01 9.788087e-01 1.061941e+00 1.2428518  
## Theta\_var[2] 8.676343e-01 9.492615e-01 1.039753e+00 1.2396355  
## Theta\_var[3] 8.888983e-01 9.629842e-01 1.040576e+00 1.2182026  
## Theta\_var[4] 3.939146e-01 5.284670e-01 6.470857e-01 0.8596610  
## Theta\_var[5] 8.336658e-01 9.122940e-01 1.000813e+00 1.1939944  
## Theta\_var[6] 7.517163e-01 8.297682e-01 9.121541e-01 1.0913512  
## Theta\_var[7] 9.180332e-01 9.882431e-01 1.063881e+00 1.2263470  
## Theta\_var[8] 8.968207e-01 9.730091e-01 1.055749e+00 1.2395267  
## Theta\_var[9] 8.068812e-01 8.892653e-01 9.776335e-01 1.1769893  
## Psi\_var[1] 1.332629e-03 2.099769e-03 3.574985e-03 0.0136656  
## Nu\_free[1] -5.841670e-02 -2.019075e-03 5.459487e-02 0.1576869  
## Nu\_free[2] -7.124121e-02 -1.071296e-02 5.100766e-02 0.1692822  
## Nu\_free[3] -5.326271e-02 -4.516454e-04 5.198078e-02 0.1567997  
## Nu\_free[4] -6.758283e-02 -1.299605e-02 4.120870e-02 0.1457814  
## Nu\_free[5] -6.627610e-02 -8.898190e-03 4.990621e-02 0.1623000  
## Nu\_free[6] -5.977432e-02 -4.987615e-03 5.071601e-02 0.1577688  
## Nu\_free[7] -5.010709e-02 -6.182016e-04 4.957144e-02 0.1450172  
## Nu\_free[8] -5.893916e-02 -2.678497e-03 5.372450e-02 0.1596362  
## Nu\_free[9] -7.696300e-02 -1.571234e-02 4.491842e-02 0.1608150  
## lp\_\_ -1.941895e+03 -1.938598e+03 -1.935795e+03 -1930.7025609  
## n\_eff Rhat  
## ly\_sign[1] 9115.848 1.0000228  
## ly\_sign[2] 10455.094 1.0003614  
## ly\_sign[3] 5588.126 1.0005454  
## ly\_sign[4] 6994.077 1.0002975  
## ly\_sign[5] 5228.972 1.0004453  
## ly\_sign[6] 11636.681 1.0000006  
## ly\_sign[7] 11776.085 0.9999993  
## ly\_sign[8] 6793.483 1.0000819  
## Theta\_var[1] 25386.345 0.9999454  
## Theta\_var[2] 25933.310 0.9998566  
## Theta\_var[3] 25676.435 0.9999178  
## Theta\_var[4] 6953.276 1.0010140  
## Theta\_var[5] 24314.076 0.9999364  
## Theta\_var[6] 19740.017 1.0003055  
## Theta\_var[7] 26201.269 0.9998982  
## Theta\_var[8] 26663.012 0.9998901  
## Theta\_var[9] 22409.271 0.9999317  
## Psi\_var[1] 2748.939 1.0010469  
## Nu\_free[1] 25163.895 1.0001003  
## Nu\_free[2] 25409.762 1.0000053  
## Nu\_free[3] 24907.679 0.9999816  
## Nu\_free[4] 19788.114 1.0001377  
## Nu\_free[5] 26474.026 0.9998535  
## Nu\_free[6] 24725.276 0.9999452  
## Nu\_free[7] 29024.626 1.0002071  
## Nu\_free[8] 28084.103 0.9999522  
## Nu\_free[9] 24726.050 0.9999157  
## lp\_\_ 4559.738 1.0009934  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 4.932424e+00 3.064494754 -7.514571e-02 2.850005e+00  
## ly\_sign[2] -4.281710e+00 2.885841694 -1.085645e+01 -5.937019e+00  
## ly\_sign[3] 1.497274e+01 5.421651237 5.825957e+00 1.106951e+01  
## ly\_sign[4] 6.338203e+00 3.257467919 1.310005e+00 4.000156e+00  
## ly\_sign[5] 9.019969e+00 4.000641510 2.736026e+00 6.102096e+00  
## ly\_sign[6] 2.415955e+00 2.597328823 -2.086574e+00 6.963502e-01  
## ly\_sign[7] 3.599182e+00 2.901713878 -1.174896e+00 1.682306e+00  
## ly\_sign[8] 7.110972e+00 3.488550780 1.591631e+00 4.568911e+00  
## Theta\_var[1] 9.885551e-01 0.116468688 7.831121e-01 9.085706e-01  
## Theta\_var[2] 9.583550e-01 0.130141257 7.357898e-01 8.657303e-01  
## Theta\_var[3] 9.703576e-01 0.115368553 7.621068e-01 8.892624e-01  
## Theta\_var[4] 5.066666e-01 0.198793048 5.269035e-02 3.874875e-01  
## Theta\_var[5] 9.227501e-01 0.126026634 6.972766e-01 8.356660e-01  
## Theta\_var[6] 8.338478e-01 0.123076343 5.990695e-01 7.493841e-01  
## Theta\_var[7] 9.953391e-01 0.105120119 8.081617e-01 9.221405e-01  
## Theta\_var[8] 9.795210e-01 0.117151330 7.734854e-01 8.957595e-01  
## Theta\_var[9] 8.997883e-01 0.133610005 6.657659e-01 8.060170e-01  
## Psi\_var[1] 3.146710e-03 0.003575648 6.664264e-04 1.341136e-03  
## Nu\_free[1] -1.873612e-03 0.083402687 -1.650740e-01 -5.853870e-02  
## Nu\_free[2] -9.994808e-03 0.092243453 -1.932383e-01 -7.198847e-02  
## Nu\_free[3] -1.242969e-04 0.079200921 -1.534286e-01 -5.239637e-02  
## Nu\_free[4] -1.137230e-02 0.082182496 -1.738074e-01 -6.574800e-02  
## Nu\_free[5] -7.485308e-03 0.086451325 -1.766255e-01 -6.511837e-02  
## Nu\_free[6] -4.470147e-03 0.082452327 -1.603967e-01 -6.116663e-02  
## Nu\_free[7] 5.057357e-04 0.075639687 -1.495026e-01 -4.856989e-02  
## Nu\_free[8] -2.804415e-03 0.084600542 -1.680400e-01 -5.936128e-02  
## Nu\_free[9] -1.545667e-02 0.092212484 -1.954051e-01 -7.645140e-02  
## lp\_\_ -1.939034e+03 4.484443677 -1.948673e+03 -1.941876e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 4.567717e+00 6.691377e+00 1.184596e+01  
## ly\_sign[2] -3.930096e+00 -2.291554e+00 3.399165e-01  
## ly\_sign[3] 1.453898e+01 1.836617e+01 2.695358e+01  
## ly\_sign[4] 5.933227e+00 8.205647e+00 1.379116e+01  
## ly\_sign[5] 8.590540e+00 1.132005e+01 1.842020e+01  
## ly\_sign[6] 2.173549e+00 3.907213e+00 8.191736e+00  
## ly\_sign[7] 3.205342e+00 5.191865e+00 1.010648e+01  
## ly\_sign[8] 6.693752e+00 9.219291e+00 1.525623e+01  
## Theta\_var[1] 9.794413e-01 1.061678e+00 1.239146e+00  
## Theta\_var[2] 9.459884e-01 1.038350e+00 1.239418e+00  
## Theta\_var[3] 9.638557e-01 1.040470e+00 1.220772e+00  
## Theta\_var[4] 5.284733e-01 6.427831e-01 8.513312e-01  
## Theta\_var[5] 9.101888e-01 1.001801e+00 1.195514e+00  
## Theta\_var[6] 8.291197e-01 9.104082e-01 1.094377e+00  
## Theta\_var[7] 9.883545e-01 1.061628e+00 1.222764e+00  
## Theta\_var[8] 9.709833e-01 1.054700e+00 1.233642e+00  
## Theta\_var[9] 8.902077e-01 9.816257e-01 1.188803e+00  
## Psi\_var[1] 2.106719e-03 3.545535e-03 1.256755e-02  
## Nu\_free[1] -1.641403e-03 5.631177e-02 1.603649e-01  
## Nu\_free[2] -9.392105e-03 5.259060e-02 1.700528e-01  
## Nu\_free[3] 3.240102e-04 5.212943e-02 1.568007e-01  
## Nu\_free[4] -1.022798e-02 4.435464e-02 1.482388e-01  
## Nu\_free[5] -9.081866e-03 5.023682e-02 1.592486e-01  
## Nu\_free[6] -5.593949e-03 5.158245e-02 1.589373e-01  
## Nu\_free[7] 4.956214e-04 5.080012e-02 1.478784e-01  
## Nu\_free[8] -2.904040e-03 5.432247e-02 1.602947e-01  
## Nu\_free[9] -1.511579e-02 4.726908e-02 1.604119e-01  
## lp\_\_ -1.938702e+03 -1.935894e+03 -1.931072e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 5.018390e+00 3.047217427 7.882251e-02 2.897552e+00  
## ly\_sign[2] -4.318775e+00 2.936943360 -1.097083e+01 -6.002222e+00  
## ly\_sign[3] 1.497239e+01 5.535982365 5.412826e+00 1.097993e+01  
## ly\_sign[4] 6.491517e+00 3.402808315 1.273160e+00 4.039614e+00  
## ly\_sign[5] 9.198526e+00 4.149445899 2.697279e+00 6.150670e+00  
## ly\_sign[6] 2.530820e+00 2.631780247 -2.038040e+00 8.027174e-01  
## ly\_sign[7] 3.669029e+00 2.950916684 -1.143994e+00 1.641246e+00  
## ly\_sign[8] 7.269758e+00 3.650933509 1.479947e+00 4.618024e+00  
## Theta\_var[1] 9.885516e-01 0.121113182 7.793924e-01 9.043061e-01  
## Theta\_var[2] 9.594904e-01 0.132721425 7.308833e-01 8.644981e-01  
## Theta\_var[3] 9.695493e-01 0.113125837 7.672158e-01 8.889276e-01  
## Theta\_var[4] 5.194129e-01 0.187554334 1.138129e-01 4.003501e-01  
## Theta\_var[5] 9.227518e-01 0.126624263 6.978545e-01 8.364180e-01  
## Theta\_var[6] 8.315951e-01 0.122505224 6.023295e-01 7.502310e-01  
## Theta\_var[7] 9.959365e-01 0.110698911 8.010069e-01 9.154147e-01  
## Theta\_var[8] 9.820509e-01 0.120661334 7.746109e-01 8.968666e-01  
## Theta\_var[9] 8.957001e-01 0.129381247 6.611531e-01 8.072797e-01  
## Psi\_var[1] 3.262624e-03 0.004128537 6.217159e-04 1.299792e-03  
## Nu\_free[1] -2.698788e-03 0.082075121 -1.609942e-01 -5.863010e-02  
## Nu\_free[2] -1.166964e-02 0.090513282 -1.902290e-01 -7.064018e-02  
## Nu\_free[3] -8.459838e-04 0.080277340 -1.557030e-01 -5.408196e-02  
## Nu\_free[4] -1.390111e-02 0.081094021 -1.744103e-01 -6.887614e-02  
## Nu\_free[5] -8.106528e-03 0.087515030 -1.825426e-01 -6.548825e-02  
## Nu\_free[6] -3.749689e-03 0.080791466 -1.604250e-01 -5.830396e-02  
## Nu\_free[7] 7.358361e-04 0.074245010 -1.455094e-01 -4.837814e-02  
## Nu\_free[8] -1.855011e-03 0.083183658 -1.633701e-01 -5.820835e-02  
## Nu\_free[9] -1.658184e-02 0.088686082 -1.881589e-01 -7.886759e-02  
## lp\_\_ -1.939063e+03 4.609341757 -1.948955e+03 -1.942071e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 4.653359e+00 6.811130e+00 1.198395e+01  
## ly\_sign[2] -3.932127e+00 -2.285590e+00 4.479179e-01  
## ly\_sign[3] 1.447466e+01 1.827986e+01 2.719939e+01  
## ly\_sign[4] 6.040288e+00 8.468839e+00 1.448275e+01  
## ly\_sign[5] 8.646625e+00 1.156891e+01 1.848955e+01  
## ly\_sign[6] 2.248632e+00 3.964861e+00 8.592002e+00  
## ly\_sign[7] 3.299829e+00 5.351704e+00 1.030857e+01  
## ly\_sign[8] 6.859785e+00 9.418867e+00 1.556222e+01  
## Theta\_var[1] 9.769047e-01 1.065769e+00 1.251934e+00  
## Theta\_var[2] 9.498200e-01 1.041089e+00 1.249919e+00  
## Theta\_var[3] 9.647471e-01 1.038781e+00 1.214990e+00  
## Theta\_var[4] 5.280457e-01 6.518415e-01 8.633072e-01  
## Theta\_var[5] 9.155993e-01 1.001667e+00 1.196656e+00  
## Theta\_var[6] 8.283035e-01 9.098229e-01 1.085352e+00  
## Theta\_var[7] 9.881752e-01 1.067375e+00 1.229269e+00  
## Theta\_var[8] 9.732722e-01 1.057646e+00 1.242391e+00  
## Theta\_var[9] 8.885312e-01 9.757615e-01 1.167628e+00  
## Psi\_var[1] 2.024058e-03 3.463375e-03 1.513157e-02  
## Nu\_free[1] -3.758866e-03 5.226435e-02 1.559813e-01  
## Nu\_free[2] -1.159212e-02 5.000320e-02 1.642792e-01  
## Nu\_free[3] -1.022870e-03 5.258842e-02 1.555515e-01  
## Nu\_free[4] -1.336634e-02 4.158133e-02 1.453207e-01  
## Nu\_free[5] -7.581863e-03 4.835753e-02 1.674284e-01  
## Nu\_free[6] -4.633574e-03 5.069186e-02 1.568252e-01  
## Nu\_free[7] -3.737938e-04 5.080649e-02 1.454136e-01  
## Nu\_free[8] -1.089164e-03 5.464520e-02 1.600269e-01  
## Nu\_free[9] -1.641561e-02 4.458643e-02 1.567738e-01  
## lp\_\_ -1.938662e+03 -1.935949e+03 -1.930727e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 4.925354e+00 3.046576875 5.886519e-02 2.826053e+00  
## ly\_sign[2] -4.234570e+00 2.841861030 -1.083881e+01 -5.847935e+00  
## ly\_sign[3] 1.489496e+01 5.380698244 5.491340e+00 1.105847e+01  
## ly\_sign[4] 6.350829e+00 3.347911254 1.320214e+00 3.902276e+00  
## ly\_sign[5] 8.934066e+00 3.986555547 2.731895e+00 5.973701e+00  
## ly\_sign[6] 2.483617e+00 2.562008910 -1.783760e+00 7.208356e-01  
## ly\_sign[7] 3.547384e+00 2.771996881 -1.047696e+00 1.705844e+00  
## ly\_sign[8] 7.140502e+00 3.566626572 1.709030e+00 4.564488e+00  
## Theta\_var[1] 9.910833e-01 0.120557463 7.838013e-01 9.060229e-01  
## Theta\_var[2] 9.597940e-01 0.128869848 7.398680e-01 8.680998e-01  
## Theta\_var[3] 9.674510e-01 0.112927998 7.676070e-01 8.888288e-01  
## Theta\_var[4] 5.039228e-01 0.201538006 3.527409e-02 3.839836e-01  
## Theta\_var[5] 9.210336e-01 0.123751859 7.036283e-01 8.338462e-01  
## Theta\_var[6] 8.395442e-01 0.122852454 6.101460e-01 7.593983e-01  
## Theta\_var[7] 9.947920e-01 0.109523936 7.990655e-01 9.172410e-01  
## Theta\_var[8] 9.827885e-01 0.120599242 7.686181e-01 8.982221e-01  
## Theta\_var[9] 8.967217e-01 0.130073912 6.637974e-01 8.087086e-01  
## Psi\_var[1] 3.229794e-03 0.003558414 6.666693e-04 1.340849e-03  
## Nu\_free[1] -2.174320e-03 0.082943724 -1.624861e-01 -5.892252e-02  
## Nu\_free[2] -8.159723e-03 0.090914285 -1.854159e-01 -6.937712e-02  
## Nu\_free[3] -3.636812e-04 0.079123450 -1.545775e-01 -5.413934e-02  
## Nu\_free[4] -1.252084e-02 0.079317313 -1.687086e-01 -6.642545e-02  
## Nu\_free[5] -8.773700e-03 0.088280912 -1.790418e-01 -6.833442e-02  
## Nu\_free[6] -4.240516e-03 0.081508164 -1.674819e-01 -5.876655e-02  
## Nu\_free[7] -3.225926e-03 0.073106418 -1.438470e-01 -5.315877e-02  
## Nu\_free[8] -3.080763e-03 0.083445286 -1.676399e-01 -5.892528e-02  
## Nu\_free[9] -1.471360e-02 0.091461624 -1.936373e-01 -7.472190e-02  
## lp\_\_ -1.938851e+03 4.543807501 -1.948525e+03 -1.941802e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 4.554398e+00 6.690867e+00 1.188879e+01  
## ly\_sign[2] -3.864216e+00 -2.302014e+00 3.203647e-01  
## ly\_sign[3] 1.451082e+01 1.823521e+01 2.666701e+01  
## ly\_sign[4] 5.898901e+00 8.192936e+00 1.418218e+01  
## ly\_sign[5] 8.454860e+00 1.140155e+01 1.788503e+01  
## ly\_sign[6] 2.167156e+00 3.909435e+00 8.178969e+00  
## ly\_sign[7] 3.233413e+00 5.056347e+00 1.001574e+01  
## ly\_sign[8] 6.640503e+00 9.171677e+00 1.545499e+01  
## Theta\_var[1] 9.817427e-01 1.064047e+00 1.253077e+00  
## Theta\_var[2] 9.493574e-01 1.038465e+00 1.235389e+00  
## Theta\_var[3] 9.600831e-01 1.037087e+00 1.210870e+00  
## Theta\_var[4] 5.218045e-01 6.439116e-01 8.582674e-01  
## Theta\_var[5] 9.130230e-01 1.000115e+00 1.181315e+00  
## Theta\_var[6] 8.326688e-01 9.174418e-01 1.093781e+00  
## Theta\_var[7] 9.894122e-01 1.065464e+00 1.231007e+00  
## Theta\_var[8] 9.741402e-01 1.056023e+00 1.237754e+00  
## Theta\_var[9] 8.887628e-01 9.781307e-01 1.173656e+00  
## Psi\_var[1] 2.124153e-03 3.588255e-03 1.324102e-02  
## Nu\_free[1] -1.589835e-03 5.661804e-02 1.547454e-01  
## Nu\_free[2] -8.454590e-03 5.239469e-02 1.704963e-01  
## Nu\_free[3] -6.527211e-04 5.174734e-02 1.572641e-01  
## Nu\_free[4] -1.324928e-02 4.063839e-02 1.443670e-01  
## Nu\_free[5] -8.927517e-03 5.152985e-02 1.607082e-01  
## Nu\_free[6] -3.902678e-03 5.049363e-02 1.574849e-01  
## Nu\_free[7] -2.959785e-03 4.557469e-02 1.383412e-01  
## Nu\_free[8] -3.980014e-03 5.419373e-02 1.609883e-01  
## Nu\_free[9] -1.484356e-02 4.510133e-02 1.656836e-01  
## lp\_\_ -1.938467e+03 -1.935654e+03 -1.930651e+03  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 4.934700e+00 3.039157161 6.782975e-02 2.786340e+00  
## ly\_sign[2] -4.167428e+00 2.823508882 -1.048920e+01 -5.804760e+00  
## ly\_sign[3] 1.472458e+01 5.617171422 5.439249e+00 1.065600e+01  
## ly\_sign[4] 6.366234e+00 3.326529457 1.248233e+00 3.896363e+00  
## ly\_sign[5] 9.081903e+00 4.062945179 2.786224e+00 6.056797e+00  
## ly\_sign[6] 2.522104e+00 2.601951202 -2.083697e+00 8.243623e-01  
## ly\_sign[7] 3.608432e+00 2.782070784 -1.071875e+00 1.724671e+00  
## ly\_sign[8] 7.186075e+00 3.697957867 1.641431e+00 4.522155e+00  
## Theta\_var[1] 9.862851e-01 0.114272015 7.858578e-01 9.066907e-01  
## Theta\_var[2] 9.614770e-01 0.127501621 7.394345e-01 8.720901e-01  
## Theta\_var[3] 9.710708e-01 0.118007463 7.591367e-01 8.888699e-01  
## Theta\_var[4] 5.200023e-01 0.191459809 8.291661e-02 4.025712e-01  
## Theta\_var[5] 9.202677e-01 0.129596137 6.952972e-01 8.279696e-01  
## Theta\_var[6] 8.321068e-01 0.125317952 6.009547e-01 7.475686e-01  
## Theta\_var[7] 9.937018e-01 0.107953013 8.078646e-01 9.175105e-01  
## Theta\_var[8] 9.816239e-01 0.118474405 7.738144e-01 8.969465e-01  
## Theta\_var[9] 8.961335e-01 0.133178829 6.594371e-01 8.063596e-01  
## Psi\_var[1] 3.403120e-03 0.004491478 6.122163e-04 1.353081e-03  
## Nu\_free[1] -1.311551e-03 0.082841799 -1.615312e-01 -5.763934e-02  
## Nu\_free[2] -1.218383e-02 0.093405435 -1.987327e-01 -7.308578e-02  
## Nu\_free[3] 1.057287e-04 0.078671001 -1.512813e-01 -5.246981e-02  
## Nu\_free[4] -1.558354e-02 0.081312568 -1.750119e-01 -7.004406e-02  
## Nu\_free[5] -8.760304e-03 0.086712062 -1.782926e-01 -6.657130e-02  
## Nu\_free[6] -6.139697e-03 0.083722227 -1.743165e-01 -6.166190e-02  
## Nu\_free[7] 7.881856e-04 0.075522814 -1.473130e-01 -4.891367e-02  
## Nu\_free[8] -3.248578e-03 0.082090618 -1.633835e-01 -5.904173e-02  
## Nu\_free[9] -1.707325e-02 0.090606652 -1.945590e-01 -7.800450e-02  
## lp\_\_ -1.938891e+03 4.664428168 -1.948698e+03 -1.941851e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 4.549426e+00 6.746106e+00 1.185871e+01  
## ly\_sign[2] -3.891860e+00 -2.183658e+00 5.358084e-01  
## ly\_sign[3] 1.415655e+01 1.831922e+01 2.709226e+01  
## ly\_sign[4] 5.989664e+00 8.349382e+00 1.401551e+01  
## ly\_sign[5] 8.550832e+00 1.152146e+01 1.829293e+01  
## ly\_sign[6] 2.235983e+00 3.997290e+00 8.379898e+00  
## ly\_sign[7] 3.325631e+00 5.147248e+00 1.007040e+01  
## ly\_sign[8] 6.627490e+00 9.272514e+00 1.581698e+01  
## Theta\_var[1] 9.775423e-01 1.056487e+00 1.235275e+00  
## Theta\_var[2] 9.519192e-01 1.040924e+00 1.234717e+00  
## Theta\_var[3] 9.632053e-01 1.045600e+00 1.230108e+00  
## Theta\_var[4] 5.362249e-01 6.499743e-01 8.663491e-01  
## Theta\_var[5] 9.103514e-01 9.997672e-01 1.203309e+00  
## Theta\_var[6] 8.294655e-01 9.108830e-01 1.093691e+00  
## Theta\_var[7] 9.871027e-01 1.062048e+00 1.223734e+00  
## Theta\_var[8] 9.734246e-01 1.055515e+00 1.240018e+00  
## Theta\_var[9] 8.894671e-01 9.752393e-01 1.181256e+00  
## Psi\_var[1] 2.134506e-03 3.695738e-03 1.425711e-02  
## Nu\_free[1] -6.569213e-04 5.336028e-02 1.596046e-01  
## Nu\_free[2] -1.315253e-02 4.920485e-02 1.715416e-01  
## Nu\_free[3] -7.150614e-04 5.140250e-02 1.568124e-01  
## Nu\_free[4] -1.515759e-02 3.776519e-02 1.442091e-01  
## Nu\_free[5] -9.574869e-03 4.936855e-02 1.620396e-01  
## Nu\_free[6] -5.986724e-03 4.976016e-02 1.576050e-01  
## Nu\_free[7] 8.965848e-04 5.121231e-02 1.490453e-01  
## Nu\_free[8] -2.646281e-03 5.210425e-02 1.553987e-01  
## Nu\_free[9] -1.677892e-02 4.291423e-02 1.596649e-01  
## lp\_\_ -1.938573e+03 -1.935705e+03 -1.930412e+03

## bfit.3factors\_ind

tmp4 = blavInspect(bfit.3factors\_ind, "mcobj")  
summary(tmp4)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] -1.227583e+00 0.0944557109 6.68152062 -1.637660e+01  
## ly\_sign[2] 2.676934e+00 0.0906149276 6.88079782 -1.253010e+01  
## ly\_sign[3] 4.516235e+00 0.1284863167 3.85107435 8.525847e-01  
## ly\_sign[4] 3.732196e+00 0.1381049669 3.92988521 6.066852e-01  
## ly\_sign[5] 1.695436e+00 0.0832038219 7.38728452 -1.490711e+01  
## ly\_sign[6] 1.598916e+00 0.0805896413 7.27443703 -1.515480e+01  
## Theta\_var[1] 9.802625e-01 0.0015899989 0.11693241 7.684426e-01  
## Theta\_var[2] 8.228425e-01 0.0053106494 0.31714551 1.699978e-02  
## Theta\_var[3] 6.948663e-01 0.0058348173 0.38203192 3.697022e-03  
## Theta\_var[4] 9.596111e-01 0.0010544690 0.12907009 7.328125e-01  
## Theta\_var[5] 5.242507e-01 0.0037744294 0.32206214 2.664550e-03  
## Theta\_var[6] 7.055634e-01 0.0039049964 0.28704102 1.684757e-02  
## Theta\_var[7] 9.977587e-01 0.0009860590 0.12655816 7.738670e-01  
## Theta\_var[8] 8.627086e-01 0.0046898981 0.27756121 3.568787e-02  
## Theta\_var[9] 8.720576e-01 0.0041771055 0.27277843 6.609456e-02  
## Psi\_var[1] 2.636183e-02 0.0014284585 0.05727773 3.164654e-05  
## Psi\_var[2] 4.613156e-02 0.0005874980 0.05136429 2.066077e-03  
## Psi\_var[3] 1.538095e-02 0.0005176864 0.03897623 7.594181e-06  
## Nu\_free[1] -4.379437e-04 0.0005182240 0.07389959 -1.467471e-01  
## Nu\_free[2] 9.951013e-04 0.0005917867 0.08262742 -1.628178e-01  
## Nu\_free[3] -9.447721e-03 0.0006494648 0.08994808 -1.875615e-01  
## Nu\_free[4] -4.782370e-03 0.0006094249 0.08710008 -1.742579e-01  
## Nu\_free[5] -6.501882e-03 0.0005998939 0.08098929 -1.652316e-01  
## Nu\_free[6] -4.704158e-03 0.0005970465 0.08284009 -1.665606e-01  
## Nu\_free[7] -2.030268e-04 0.0005873466 0.08400337 -1.642957e-01  
## Nu\_free[8] -1.536274e-04 0.0005362133 0.08006794 -1.571684e-01  
## Nu\_free[9] 2.460999e-03 0.0006634601 0.09131352 -1.758166e-01  
## lp\_\_ -1.947091e+03 0.0835732041 4.72407675 -1.957226e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] -4.763889e+00 2.240203e-01 1.725867e+00 12.5746776  
## ly\_sign[2] -1.153629e+00 2.650036e+00 6.556302e+00 16.9498892  
## ly\_sign[3] 2.230728e+00 3.639429e+00 5.906294e+00 14.3084985  
## ly\_sign[4] 1.566296e+00 2.590498e+00 4.816192e+00 14.2277554  
## ly\_sign[5] -1.245643e+00 1.373696e+00 5.500668e+00 16.9376786  
## ly\_sign[6] -1.250026e+00 1.414467e+00 5.281132e+00 16.5558393  
## Theta\_var[1] 9.077285e-01 9.763409e-01 1.053599e+00 1.2120461  
## Theta\_var[2] 7.529564e-01 9.178676e-01 1.023350e+00 1.2243754  
## Theta\_var[3] 3.535056e-01 8.321686e-01 9.880361e-01 1.2258978  
## Theta\_var[4] 8.699502e-01 9.500678e-01 1.040615e+00 1.2371628  
## Theta\_var[5] 2.305599e-01 5.688654e-01 7.938996e-01 1.0391689  
## Theta\_var[6] 5.739987e-01 7.827535e-01 9.026440e-01 1.1083975  
## Theta\_var[7] 9.107916e-01 9.892155e-01 1.075936e+00 1.2693070  
## Theta\_var[8] 8.020210e-01 9.308978e-01 1.027582e+00 1.2212499  
## Theta\_var[9] 7.975088e-01 9.283818e-01 1.038372e+00 1.2518204  
## Psi\_var[1] 2.361151e-03 8.875340e-03 2.733170e-02 0.1522409  
## Psi\_var[2] 1.172503e-02 2.931087e-02 6.203703e-02 0.1849599  
## Psi\_var[3] 6.866748e-04 3.277466e-03 1.274152e-02 0.1146433  
## Nu\_free[1] -5.046550e-02 -1.117223e-04 4.906808e-02 0.1450445  
## Nu\_free[2] -5.408576e-02 8.719534e-04 5.660284e-02 0.1620697  
## Nu\_free[3] -6.941824e-02 -1.005693e-02 5.097638e-02 0.1660050  
## Nu\_free[4] -6.394452e-02 -4.711009e-03 5.369408e-02 0.1673574  
## Nu\_free[5] -6.056882e-02 -6.923912e-03 4.730551e-02 0.1524153  
## Nu\_free[6] -5.956680e-02 -4.871009e-03 5.055890e-02 0.1586005  
## Nu\_free[7] -5.706705e-02 2.736548e-04 5.596108e-02 0.1641831  
## Nu\_free[8] -5.394298e-02 -1.686225e-04 5.448048e-02 0.1541303  
## Nu\_free[9] -5.948263e-02 2.351732e-03 6.428915e-02 0.1827958  
## lp\_\_ -1.950065e+03 -1.946793e+03 -1.943727e+03 -1938.7603414  
## n\_eff Rhat  
## ly\_sign[1] 5003.7337 1.0008093  
## ly\_sign[2] 5766.0459 1.0011417  
## ly\_sign[3] 898.3593 1.0039772  
## ly\_sign[4] 809.7317 1.0055050  
## ly\_sign[5] 7882.8471 1.0000578  
## ly\_sign[6] 8147.7995 1.0000008  
## Theta\_var[1] 5408.4913 1.0011542  
## Theta\_var[2] 3566.3327 1.0009095  
## Theta\_var[3] 4286.9139 1.0009081  
## Theta\_var[4] 14982.4739 1.0000200  
## Theta\_var[5] 7280.7601 1.0005975  
## Theta\_var[6] 5403.1452 1.0013953  
## Theta\_var[7] 16473.0679 1.0000278  
## Theta\_var[8] 3502.6015 1.0009935  
## Theta\_var[9] 4264.5103 1.0003367  
## Psi\_var[1] 1607.8158 1.0041210  
## Psi\_var[2] 7643.8069 1.0006489  
## Psi\_var[3] 5668.4739 1.0006548  
## Nu\_free[1] 20335.2311 0.9999142  
## Nu\_free[2] 19494.7657 0.9999687  
## Nu\_free[3] 19181.0558 1.0002455  
## Nu\_free[4] 20426.6311 0.9999014  
## Nu\_free[5] 18226.6267 0.9998786  
## Nu\_free[6] 19251.5118 0.9998579  
## Nu\_free[7] 20455.2381 1.0000001  
## Nu\_free[8] 22296.7756 0.9999350  
## Nu\_free[9] 18942.6418 1.0003386  
## lp\_\_ 3195.2128 1.0022324  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.384170e+00 6.74566695 -1.666535e+01 -5.131115e+00  
## ly\_sign[2] 2.474217e+00 6.98786981 -1.295841e+01 -1.269094e+00  
## ly\_sign[3] 4.679526e+00 3.38019685 9.863438e-01 2.296262e+00  
## ly\_sign[4] 4.079607e+00 3.77537357 7.114980e-01 1.629548e+00  
## ly\_sign[5] 1.750772e+00 7.44955844 -1.463415e+01 -1.284038e+00  
## ly\_sign[6] 1.601810e+00 7.49620477 -1.537582e+01 -1.411907e+00  
## Theta\_var[1] 9.843010e-01 0.11376600 7.798399e-01 9.090892e-01  
## Theta\_var[2] 8.160015e-01 0.31752524 2.174256e-02 7.324948e-01  
## Theta\_var[3] 7.071839e-01 0.38074541 5.061519e-03 3.936339e-01  
## Theta\_var[4] 9.617574e-01 0.13392976 7.277929e-01 8.677990e-01  
## Theta\_var[5] 5.306864e-01 0.32515574 2.746596e-03 2.306715e-01  
## Theta\_var[6] 6.911597e-01 0.29913863 1.147629e-02 5.435849e-01  
## Theta\_var[7] 9.989253e-01 0.12708651 7.766970e-01 9.133992e-01  
## Theta\_var[8] 8.671960e-01 0.27466369 3.860916e-02 8.062932e-01  
## Theta\_var[9] 8.628641e-01 0.28226157 6.475165e-02 7.839968e-01  
## Psi\_var[1] 2.318955e-02 0.04414521 2.081276e-05 2.148225e-03  
## Psi\_var[2] 4.496044e-02 0.05030425 2.169138e-03 1.158475e-02  
## Psi\_var[3] 1.509478e-02 0.03985707 7.988520e-06 6.717525e-04  
## Nu\_free[1] 4.934479e-04 0.07248978 -1.423961e-01 -4.972608e-02  
## Nu\_free[2] 1.385797e-03 0.08245463 -1.622173e-01 -5.328419e-02  
## Nu\_free[3] -9.823243e-03 0.08751570 -1.792839e-01 -6.832560e-02  
## Nu\_free[4] -3.959133e-03 0.08725020 -1.711526e-01 -6.420897e-02  
## Nu\_free[5] -6.726160e-03 0.08058102 -1.688329e-01 -5.945643e-02  
## Nu\_free[6] -5.663977e-03 0.08130625 -1.662403e-01 -6.019638e-02  
## Nu\_free[7] -1.596466e-03 0.08586268 -1.687573e-01 -6.016332e-02  
## Nu\_free[8] -4.144102e-04 0.08189349 -1.605645e-01 -5.454425e-02  
## Nu\_free[9] 1.622635e-03 0.08921790 -1.724350e-01 -5.731494e-02  
## lp\_\_ -1.947269e+03 4.68804516 -1.957537e+03 -1.950215e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.536281e-01 1.695786e+00 12.2074599  
## ly\_sign[2] 2.405070e+00 6.385335e+00 17.0579161  
## ly\_sign[3] 3.765550e+00 6.072918e+00 13.6294135  
## ly\_sign[4] 2.776699e+00 5.112949e+00 15.2178369  
## ly\_sign[5] 1.368302e+00 5.578398e+00 17.3099580  
## ly\_sign[6] 1.479125e+00 5.466781e+00 16.5425055  
## Theta\_var[1] 9.773709e-01 1.056725e+00 1.2137632  
## Theta\_var[2] 9.148520e-01 1.021552e+00 1.2158491  
## Theta\_var[3] 8.451132e-01 9.941114e-01 1.2350741  
## Theta\_var[4] 9.488242e-01 1.046266e+00 1.2461440  
## Theta\_var[5] 5.747164e-01 8.053108e-01 1.0469364  
## Theta\_var[6] 7.734478e-01 9.023442e-01 1.1043946  
## Theta\_var[7] 9.913293e-01 1.075205e+00 1.2690630  
## Theta\_var[8] 9.346411e-01 1.029540e+00 1.2235333  
## Theta\_var[9] 9.245172e-01 1.036482e+00 1.2605154  
## Psi\_var[1] 8.314710e-03 2.619888e-02 0.1337588  
## Psi\_var[2] 2.794441e-02 5.952093e-02 0.1822634  
## Psi\_var[3] 3.035710e-03 1.228959e-02 0.1134111  
## Nu\_free[1] 1.458723e-03 4.927456e-02 0.1442227  
## Nu\_free[2] 1.470170e-03 5.662829e-02 0.1677674  
## Nu\_free[3] -1.059233e-02 5.017724e-02 0.1607913  
## Nu\_free[4] -4.318511e-03 5.410506e-02 0.1686713  
## Nu\_free[5] -6.371609e-03 4.624500e-02 0.1536543  
## Nu\_free[6] -5.907527e-03 4.776353e-02 0.1548184  
## Nu\_free[7] -1.750951e-03 5.638827e-02 0.1655653  
## Nu\_free[8] -1.105447e-03 5.344570e-02 0.1585386  
## Nu\_free[9] 1.593557e-03 6.163656e-02 0.1755794  
## lp\_\_ -1.946958e+03 -1.943958e+03 -1938.9876311  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.242146e+00 6.88553358 -1.639126e+01 -4.909450e+00  
## ly\_sign[2] 2.638974e+00 6.84014936 -1.196052e+01 -1.206625e+00  
## ly\_sign[3] 4.106665e+00 4.43321328 -5.969521e+00 2.084431e+00  
## ly\_sign[4] 3.323829e+00 4.40541809 -6.574878e+00 1.483384e+00  
## ly\_sign[5] 1.747461e+00 7.57935805 -1.515034e+01 -1.347958e+00  
## ly\_sign[6] 1.474944e+00 7.35239314 -1.578863e+01 -1.418807e+00  
## Theta\_var[1] 9.744253e-01 0.12675923 7.204873e-01 9.074211e-01  
## Theta\_var[2] 8.183029e-01 0.32701482 1.358143e-02 7.381683e-01  
## Theta\_var[3] 6.968422e-01 0.38385256 2.355559e-03 3.472687e-01  
## Theta\_var[4] 9.594612e-01 0.12578332 7.391255e-01 8.705288e-01  
## Theta\_var[5] 5.339864e-01 0.31875899 3.287428e-03 2.562842e-01  
## Theta\_var[6] 7.080461e-01 0.28194269 3.042713e-02 5.763474e-01  
## Theta\_var[7] 9.974768e-01 0.12459674 7.763507e-01 9.113468e-01  
## Theta\_var[8] 8.556582e-01 0.28047002 3.445792e-02 7.938688e-01  
## Theta\_var[9] 8.780609e-01 0.26473271 6.035674e-02 8.109197e-01  
## Psi\_var[1] 3.151279e-02 0.07854562 3.471444e-05 2.457433e-03  
## Psi\_var[2] 4.641964e-02 0.05239774 2.035015e-03 1.092154e-02  
## Psi\_var[3] 1.533820e-02 0.03867607 9.584095e-06 6.718168e-04  
## Nu\_free[1] -4.789279e-04 0.07482668 -1.497780e-01 -5.022774e-02  
## Nu\_free[2] 1.486110e-03 0.08235238 -1.603058e-01 -5.542899e-02  
## Nu\_free[3] -8.258940e-03 0.08961859 -1.900984e-01 -6.727621e-02  
## Nu\_free[4] -5.113103e-03 0.08693880 -1.778252e-01 -6.400897e-02  
## Nu\_free[5] -5.420741e-03 0.08022889 -1.627731e-01 -5.996066e-02  
## Nu\_free[6] -5.182696e-03 0.08375193 -1.676799e-01 -6.118844e-02  
## Nu\_free[7] 3.481687e-04 0.08321810 -1.647713e-01 -5.451640e-02  
## Nu\_free[8] 8.321767e-04 0.07949572 -1.549477e-01 -5.241750e-02  
## Nu\_free[9] -2.844331e-04 0.09055018 -1.787086e-01 -6.249503e-02  
## lp\_\_ -1.947122e+03 4.74961540 -1.957240e+03 -1.950161e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.816516e-01 1.714170e+00 13.5803440  
## ly\_sign[2] 2.530966e+00 6.548807e+00 17.0040892  
## ly\_sign[3] 3.460399e+00 5.722421e+00 13.9781831  
## ly\_sign[4] 2.480213e+00 4.594381e+00 13.6648448  
## ly\_sign[5] 1.393907e+00 5.817261e+00 17.0162169  
## ly\_sign[6] 1.308803e+00 5.350933e+00 16.6492179  
## Theta\_var[1] 9.772417e-01 1.051223e+00 1.1991699  
## Theta\_var[2] 9.174717e-01 1.028254e+00 1.2313621  
## Theta\_var[3] 8.394225e-01 9.902342e-01 1.2087765  
## Theta\_var[4] 9.516502e-01 1.039289e+00 1.2284817  
## Theta\_var[5] 5.808933e-01 7.966927e-01 1.0440228  
## Theta\_var[6] 7.830492e-01 9.012976e-01 1.1114575  
## Theta\_var[7] 9.887610e-01 1.075034e+00 1.2652070  
## Theta\_var[8] 9.244991e-01 1.022756e+00 1.2204722  
## Theta\_var[9] 9.299264e-01 1.037996e+00 1.2506593  
## Psi\_var[1] 9.049642e-03 2.728055e-02 0.2384798  
## Psi\_var[2] 2.968203e-02 6.287928e-02 0.1858154  
## Psi\_var[3] 3.178845e-03 1.198122e-02 0.1158261  
## Nu\_free[1] 6.517217e-05 4.926939e-02 0.1469928  
## Nu\_free[2] 1.712182e-03 5.699386e-02 0.1601118  
## Nu\_free[3] -7.645141e-03 5.096884e-02 0.1717300  
## Nu\_free[4] -3.352628e-03 5.343761e-02 0.1648946  
## Nu\_free[5] -5.610717e-03 4.798990e-02 0.1499396  
## Nu\_free[6] -5.213497e-03 5.164175e-02 0.1583564  
## Nu\_free[7] 3.265941e-04 5.513131e-02 0.1647495  
## Nu\_free[8] 6.167718e-05 5.577758e-02 0.1532903  
## Nu\_free[9] 2.807646e-04 6.257815e-02 0.1731677  
## lp\_\_ -1.946815e+03 -1.943697e+03 -1938.6970190  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.053042e+00 6.61107736 -1.643219e+01 -4.150678e+00  
## ly\_sign[2] 2.957959e+00 6.65242118 -1.193400e+01 -8.383840e-01  
## ly\_sign[3] 4.660177e+00 3.56578316 1.024559e+00 2.296710e+00  
## ly\_sign[4] 3.661045e+00 3.28814532 7.315210e-01 1.565380e+00  
## ly\_sign[5] 1.591660e+00 7.24175009 -1.506677e+01 -1.231124e+00  
## ly\_sign[6] 1.562363e+00 7.28096484 -1.492302e+01 -1.178100e+00  
## Theta\_var[1] 9.790720e-01 0.11595328 7.711934e-01 9.034108e-01  
## Theta\_var[2] 8.330726e-01 0.30850498 1.873758e-02 7.750653e-01  
## Theta\_var[3] 6.825160e-01 0.37882601 3.797379e-03 3.309693e-01  
## Theta\_var[4] 9.564970e-01 0.12736162 7.307221e-01 8.719212e-01  
## Theta\_var[5] 5.102257e-01 0.31712450 2.586553e-03 2.158476e-01  
## Theta\_var[6] 7.227501e-01 0.27041430 3.481824e-02 6.047726e-01  
## Theta\_var[7] 9.993402e-01 0.12805235 7.744847e-01 9.090925e-01  
## Theta\_var[8] 8.594989e-01 0.28768356 2.161061e-02 8.034295e-01  
## Theta\_var[9] 8.765038e-01 0.27651522 6.590727e-02 8.015766e-01  
## Psi\_var[1] 2.720571e-02 0.05468223 3.514506e-05 2.582044e-03  
## Psi\_var[2] 4.777966e-02 0.05074450 2.211111e-03 1.297427e-02  
## Psi\_var[3] 1.557680e-02 0.03973500 4.592410e-06 6.473190e-04  
## Nu\_free[1] 6.334887e-06 0.07486440 -1.491685e-01 -5.088660e-02  
## Nu\_free[2] -6.726743e-04 0.08151146 -1.629634e-01 -5.297276e-02  
## Nu\_free[3] -1.276336e-02 0.09326350 -1.977172e-01 -7.435087e-02  
## Nu\_free[4] -4.667436e-03 0.08600687 -1.710438e-01 -6.256743e-02  
## Nu\_free[5] -7.637345e-03 0.08082164 -1.650634e-01 -6.158516e-02  
## Nu\_free[6] -4.339799e-03 0.08286127 -1.650813e-01 -5.868857e-02  
## Nu\_free[7] 2.884906e-04 0.08338709 -1.638454e-01 -5.666600e-02  
## Nu\_free[8] 6.308626e-05 0.08079328 -1.593287e-01 -5.479716e-02  
## Nu\_free[9] 3.649022e-03 0.09230864 -1.754042e-01 -5.894744e-02  
## lp\_\_ -1.946893e+03 4.77644719 -1.956922e+03 -1.949851e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 3.484594e-01 1.765725e+00 12.2170242  
## ly\_sign[2] 3.031149e+00 6.648233e+00 16.5961870  
## ly\_sign[3] 3.646864e+00 5.829053e+00 14.6017001  
## ly\_sign[4] 2.504022e+00 4.595837e+00 12.8322270  
## ly\_sign[5] 1.376205e+00 5.407174e+00 16.5335291  
## ly\_sign[6] 1.332187e+00 5.091158e+00 16.6243431  
## Theta\_var[1] 9.732057e-01 1.052316e+00 1.2213188  
## Theta\_var[2] 9.219258e-01 1.023273e+00 1.2232115  
## Theta\_var[3] 8.113165e-01 9.783991e-01 1.2234620  
## Theta\_var[4] 9.477849e-01 1.033056e+00 1.2385568  
## Theta\_var[5] 5.536540e-01 7.761938e-01 1.0237842  
## Theta\_var[6] 7.906493e-01 9.032212e-01 1.1003206  
## Theta\_var[7] 9.895416e-01 1.080005e+00 1.2774823  
## Theta\_var[8] 9.307177e-01 1.029863e+00 1.2264169  
## Theta\_var[9] 9.317483e-01 1.044746e+00 1.2516948  
## Psi\_var[1] 9.638980e-03 2.925024e-02 0.1570102  
## Psi\_var[2] 3.106220e-02 6.514043e-02 0.1857515  
## Psi\_var[3] 3.378498e-03 1.313898e-02 0.1097129  
## Nu\_free[1] 2.299424e-04 4.987788e-02 0.1468765  
## Nu\_free[2] -1.019955e-03 5.424438e-02 0.1537482  
## Nu\_free[3] -1.384290e-02 4.946722e-02 0.1689266  
## Nu\_free[4] -4.699966e-03 5.347849e-02 0.1649843  
## Nu\_free[5] -8.608780e-03 4.645996e-02 0.1511586  
## Nu\_free[6] -4.047780e-03 4.974941e-02 0.1621219  
## Nu\_free[7] 8.943173e-04 5.710281e-02 0.1579078  
## Nu\_free[8] 3.843545e-04 5.539391e-02 0.1554975  
## Nu\_free[9] 2.858980e-03 6.430041e-02 0.1864520  
## lp\_\_ -1.946604e+03 -1.943448e+03 -1938.6129305  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.230975e+00 6.47468181 -1.580327e+01 -4.674711e+00  
## ly\_sign[2] 2.636586e+00 7.02951557 -1.297858e+01 -1.240966e+00  
## ly\_sign[3] 4.618572e+00 3.91310950 8.782849e-01 2.254189e+00  
## ly\_sign[4] 3.864305e+00 4.12336878 6.346381e-01 1.569188e+00  
## ly\_sign[5] 1.691851e+00 7.27451388 -1.478514e+01 -1.141029e+00  
## ly\_sign[6] 1.756546e+00 6.95677397 -1.446160e+01 -1.005313e+00  
## Theta\_var[1] 9.832517e-01 0.11038317 7.785015e-01 9.113989e-01  
## Theta\_var[2] 8.239932e-01 0.31508052 1.501618e-02 7.594652e-01  
## Theta\_var[3] 6.929231e-01 0.38438278 3.540808e-03 3.372051e-01  
## Theta\_var[4] 9.607288e-01 0.12903937 7.328289e-01 8.713912e-01  
## Theta\_var[5] 5.221043e-01 0.32667912 2.546078e-03 2.172321e-01  
## Theta\_var[6] 7.002978e-01 0.29492928 1.075124e-02 5.635253e-01  
## Theta\_var[7] 9.952925e-01 0.12647025 7.699580e-01 9.089249e-01  
## Theta\_var[8] 8.684813e-01 0.26688619 5.015487e-02 8.051632e-01  
## Theta\_var[9] 8.708017e-01 0.26705682 8.076089e-02 7.938919e-01  
## Psi\_var[1] 2.353926e-02 0.04439905 3.406496e-05 2.251153e-03  
## Psi\_var[2] 4.536650e-02 0.05195135 1.952246e-03 1.112950e-02  
## Psi\_var[3] 1.551401e-02 0.03760404 1.214754e-05 7.395638e-04  
## Nu\_free[1] -1.772630e-03 0.07339312 -1.440933e-01 -5.151069e-02  
## Nu\_free[2] 1.781173e-03 0.08417045 -1.660798e-01 -5.479895e-02  
## Nu\_free[3] -6.945340e-03 0.08921938 -1.810824e-01 -6.644022e-02  
## Nu\_free[4] -5.389808e-03 0.08820965 -1.740125e-01 -6.479513e-02  
## Nu\_free[5] -6.223284e-03 0.08231827 -1.642041e-01 -6.049479e-02  
## Nu\_free[6] -3.630162e-03 0.08342974 -1.660714e-01 -5.823822e-02  
## Nu\_free[7] 1.476995e-04 0.08352741 -1.601340e-01 -5.701678e-02  
## Nu\_free[8] -1.095362e-03 0.07804938 -1.531701e-01 -5.494333e-02  
## Nu\_free[9] 4.856773e-03 0.09307090 -1.782923e-01 -5.884476e-02  
## lp\_\_ -1.947081e+03 4.67523100 -1.957043e+03 -1.950017e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 2.094489e-01 1.732643e+00 11.9387734  
## ly\_sign[2] 2.606164e+00 6.684077e+00 17.1112997  
## ly\_sign[3] 3.705240e+00 6.050120e+00 14.9594422  
## ly\_sign[4] 2.639793e+00 4.998123e+00 14.9228463  
## ly\_sign[5] 1.352597e+00 5.295210e+00 16.9932653  
## ly\_sign[6] 1.535324e+00 5.211938e+00 16.1287781  
## Theta\_var[1] 9.777582e-01 1.054140e+00 1.2130003  
## Theta\_var[2] 9.173833e-01 1.021018e+00 1.2243986  
## Theta\_var[3] 8.326827e-01 9.906717e-01 1.2306045  
## Theta\_var[4] 9.511986e-01 1.043971e+00 1.2332409  
## Theta\_var[5] 5.644008e-01 7.948489e-01 1.0372214  
## Theta\_var[6] 7.830560e-01 9.030390e-01 1.1174058  
## Theta\_var[7] 9.880722e-01 1.071798e+00 1.2641846  
## Theta\_var[8] 9.325721e-01 1.027486e+00 1.2108663  
## Theta\_var[9] 9.277033e-01 1.034794e+00 1.2435463  
## Psi\_var[1] 8.511028e-03 2.690597e-02 0.1295631  
## Psi\_var[2] 2.832475e-02 6.110048e-02 0.1829878  
## Psi\_var[3] 3.595445e-03 1.331933e-02 0.1137217  
## Nu\_free[1] -1.678844e-03 4.818606e-02 0.1411677  
## Nu\_free[2] 1.655862e-03 5.860761e-02 0.1690288  
## Nu\_free[3] -7.328983e-03 5.325348e-02 0.1676131  
## Nu\_free[4] -6.892872e-03 5.383985e-02 0.1704695  
## Nu\_free[5] -7.199026e-03 4.835670e-02 0.1558003  
## Nu\_free[6] -3.589993e-03 5.321230e-02 0.1602755  
## Nu\_free[7] 1.117897e-03 5.467277e-02 0.1667433  
## Nu\_free[8] 1.922056e-04 5.303240e-02 0.1493860  
## Nu\_free[9] 5.577397e-03 6.945304e-02 0.1871210  
## lp\_\_ -1.946808e+03 -1.943799e+03 -1938.8699693

## bfit.2factors1

tmp4 = blavInspect(bfit.2factors1, "mcobj")  
summary(tmp4)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] 3.836971e+00 0.0480146141 2.819568011 -6.166585e-01  
## ly\_sign[2] 7.001776e+00 0.0633633193 3.577386485 1.796830e+00  
## ly\_sign[3] 5.499117e+00 0.0515801662 3.130658042 8.437406e-01  
## ly\_sign[4] 1.214305e+01 0.1162748178 5.144721745 4.022498e+00  
## ly\_sign[5] 8.356238e+00 0.0750519983 4.023586846 2.487389e+00  
## ly\_sign[6] 1.559151e+00 0.1982859106 7.208066114 -1.467068e+01  
## ly\_sign[7] 1.930359e+00 0.3495460808 7.580471160 -1.506180e+01  
## Theta\_var[1] 1.002464e+00 0.0014567274 0.105588514 8.168766e-01  
## Theta\_var[2] 9.685426e-01 0.0014622755 0.120009470 7.586799e-01  
## Theta\_var[3] 8.713241e-01 0.0015203202 0.135655324 6.212372e-01  
## Theta\_var[4] 9.278443e-01 0.0014483282 0.130281407 6.962512e-01  
## Theta\_var[5] 5.815511e-01 0.0116596180 0.214942230 1.576738e-02  
## Theta\_var[6] 8.100067e-01 0.0034449792 0.143659317 5.391932e-01  
## Theta\_var[7] 9.999718e-01 0.0021297125 0.125105254 7.789314e-01  
## Theta\_var[8] 8.739909e-01 0.0291553543 0.270494815 2.542791e-02  
## Theta\_var[9] 8.453725e-01 0.0316189331 0.309532841 5.442050e-03  
## Psi\_var[1] 4.367118e-03 0.0001101725 0.005075295 7.372000e-04  
## Psi\_var[2] 1.357778e-02 0.0005771116 0.029425350 6.349959e-06  
## Nu\_free[1] 2.182422e-04 0.0009603279 0.075113923 -1.462295e-01  
## Nu\_free[2] -3.656934e-03 0.0008786460 0.082264131 -1.669301e-01  
## Nu\_free[3] -1.546212e-02 0.0009786838 0.089823513 -1.932940e-01  
## Nu\_free[4] -1.264575e-02 0.0009900768 0.087436308 -1.828965e-01  
## Nu\_free[5] -1.663420e-02 0.0014068554 0.080968629 -1.788812e-01  
## Nu\_free[6] -2.876004e-03 0.0015020059 0.082321222 -1.637464e-01  
## Nu\_free[7] -6.711541e-04 0.0008940694 0.083493254 -1.624836e-01  
## Nu\_free[8] -8.054758e-04 0.0008144606 0.079819281 -1.585684e-01  
## Nu\_free[9] 2.250802e-03 0.0010133553 0.089858745 -1.746050e-01  
## lp\_\_ -1.944083e+03 0.0905029599 4.453330528 -1.953610e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] 1.892729e+00 3.425556e+00 5.363931e+00 1.039764e+01  
## ly\_sign[2] 4.397515e+00 6.439492e+00 8.989757e+00 1.547812e+01  
## ly\_sign[3] 3.271791e+00 4.987073e+00 7.228064e+00 1.295865e+01  
## ly\_sign[4] 8.267674e+00 1.149474e+01 1.541045e+01 2.351659e+01  
## ly\_sign[5] 5.443843e+00 7.695411e+00 1.056400e+01 1.804003e+01  
## ly\_sign[6] -1.289540e+00 1.259713e+00 5.054867e+00 1.669063e+01  
## ly\_sign[7] -1.132066e+00 1.541856e+00 6.026987e+00 1.764407e+01  
## Theta\_var[1] 9.277854e-01 9.960403e-01 1.071162e+00 1.226494e+00  
## Theta\_var[2] 8.836065e-01 9.609233e-01 1.044518e+00 1.232525e+00  
## Theta\_var[3] 7.802709e-01 8.652246e-01 9.562661e-01 1.152393e+00  
## Theta\_var[4] 8.391308e-01 9.191057e-01 1.007368e+00 1.208129e+00  
## Theta\_var[5] 4.708558e-01 6.077948e-01 7.254895e-01 9.413030e-01  
## Theta\_var[6] 7.238469e-01 8.109438e-01 8.985433e-01 1.087680e+00  
## Theta\_var[7] 9.117301e-01 9.912621e-01 1.080892e+00 1.265959e+00  
## Theta\_var[8] 8.168193e-01 9.372797e-01 1.034325e+00 1.227056e+00  
## Theta\_var[9] 7.768487e-01 9.234581e-01 1.035409e+00 1.252667e+00  
## Psi\_var[1] 1.713617e-03 2.854474e-03 4.986274e-03 1.770908e-02  
## Psi\_var[2] 6.707372e-04 3.403831e-03 1.227911e-02 9.570498e-02  
## Nu\_free[1] -4.901650e-02 -4.618007e-04 5.065908e-02 1.454769e-01  
## Nu\_free[2] -5.752706e-02 -4.533680e-03 5.220916e-02 1.578571e-01  
## Nu\_free[3] -7.565164e-02 -1.510153e-02 4.507358e-02 1.576268e-01  
## Nu\_free[4] -7.140680e-02 -1.281246e-02 4.591574e-02 1.589012e-01  
## Nu\_free[5] -7.039921e-02 -1.590349e-02 3.825072e-02 1.348701e-01  
## Nu\_free[6] -5.824794e-02 -2.417014e-03 5.296804e-02 1.570841e-01  
## Nu\_free[7] -5.748788e-02 -2.217655e-04 5.533986e-02 1.624371e-01  
## Nu\_free[8] -5.305965e-02 -1.485756e-03 5.188375e-02 1.569592e-01  
## Nu\_free[9] -5.781322e-02 2.024286e-03 6.259303e-02 1.801573e-01  
## lp\_\_ -1.946879e+03 -1.943810e+03 -1.940941e+03 -1.936269e+03  
## n\_eff Rhat  
## ly\_sign[1] 3448.40498 1.0017095  
## ly\_sign[2] 3187.54177 1.0009787  
## ly\_sign[3] 3683.88268 1.0003837  
## ly\_sign[4] 1957.72842 1.0036954  
## ly\_sign[5] 2874.10241 1.0009741  
## ly\_sign[6] 1321.45936 1.0052127  
## ly\_sign[7] 470.30926 1.0086136  
## Theta\_var[1] 5253.83897 1.0007555  
## Theta\_var[2] 6735.54284 1.0005405  
## Theta\_var[3] 7961.65868 1.0004574  
## Theta\_var[4] 8091.53482 1.0000153  
## Theta\_var[5] 339.84029 1.0130748  
## Theta\_var[6] 1738.97917 1.0028469  
## Theta\_var[7] 3450.71531 1.0022072  
## Theta\_var[8] 86.07584 1.0447021  
## Theta\_var[9] 95.83387 1.0364085  
## Psi\_var[1] 2122.15119 1.0018334  
## Psi\_var[2] 2599.70235 1.0005532  
## Nu\_free[1] 6117.89222 0.9999969  
## Nu\_free[2] 8765.83169 1.0015322  
## Nu\_free[3] 8423.55165 1.0000902  
## Nu\_free[4] 7799.12451 1.0006723  
## Nu\_free[5] 3312.33785 1.0007806  
## Nu\_free[6] 3003.86438 1.0019403  
## Nu\_free[7] 8720.88048 1.0004115  
## Nu\_free[8] 9604.51434 1.0005373  
## Nu\_free[9] 7863.16245 1.0005681  
## lp\_\_ 2421.27598 1.0042142  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 3.653417e+00 2.754581984 -8.128389e-01 1.768527e+00  
## ly\_sign[2] 6.780145e+00 3.497063782 1.706990e+00 4.255279e+00  
## ly\_sign[3] 5.355276e+00 3.088402781 8.486590e-01 3.202829e+00  
## ly\_sign[4] 1.235251e+01 5.016345992 4.121567e+00 8.552290e+00  
## ly\_sign[5] 8.401993e+00 4.146394664 2.715990e+00 5.560840e+00  
## ly\_sign[6] 2.363990e+00 7.331340430 -1.380783e+01 -9.771018e-01  
## ly\_sign[7] 1.396468e+00 7.230940082 -1.528426e+01 -1.030046e+00  
## Theta\_var[1] 1.008555e+00 0.104449163 8.197704e-01 9.355817e-01  
## Theta\_var[2] 9.703487e-01 0.120044276 7.566907e-01 8.885603e-01  
## Theta\_var[3] 8.762857e-01 0.132392382 6.310860e-01 7.881794e-01  
## Theta\_var[4] 9.294739e-01 0.130205226 6.912122e-01 8.399244e-01  
## Theta\_var[5] 5.503265e-01 0.251830054 1.612738e-03 4.337083e-01  
## Theta\_var[6] 7.951508e-01 0.164238706 4.920359e-01 7.098961e-01  
## Theta\_var[7] 1.009422e+00 0.128660379 7.799055e-01 9.171593e-01  
## Theta\_var[8] 7.802072e-01 0.365799742 8.846196e-03 7.115875e-01  
## Theta\_var[9] 8.901719e-01 0.260224907 9.329827e-02 8.221246e-01  
## Psi\_var[1] 4.132221e-03 0.004316662 7.540413e-04 1.840157e-03  
## Psi\_var[2] 1.444041e-02 0.028218607 6.003637e-06 7.601204e-04  
## Nu\_free[1] -1.189906e-03 0.072190045 -1.441884e-01 -4.792195e-02  
## Nu\_free[2] -6.398178e-03 0.081120578 -1.659948e-01 -5.735681e-02  
## Nu\_free[3] -1.489454e-02 0.088288255 -1.911849e-01 -7.230150e-02  
## Nu\_free[4] -1.536660e-02 0.087191564 -1.839988e-01 -7.649109e-02  
## Nu\_free[5] -1.360678e-02 0.081620568 -1.780018e-01 -6.849068e-02  
## Nu\_free[6] 1.249416e-03 0.082722024 -1.611775e-01 -5.566007e-02  
## Nu\_free[7] 1.776041e-03 0.080835439 -1.589781e-01 -5.398568e-02  
## Nu\_free[8] -2.514829e-03 0.077324043 -1.622306e-01 -5.229677e-02  
## Nu\_free[9] -2.203127e-04 0.088714499 -1.677722e-01 -6.027317e-02  
## lp\_\_ -1.944315e+03 4.456381844 -1.953846e+03 -1.947095e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 3.248093e+00 5.115807e+00 1.005843e+01  
## ly\_sign[2] 6.246403e+00 8.678402e+00 1.508601e+01  
## ly\_sign[3] 4.719031e+00 7.051802e+00 1.274229e+01  
## ly\_sign[4] 1.172156e+01 1.606442e+01 2.273431e+01  
## ly\_sign[5] 7.464289e+00 1.055019e+01 1.873148e+01  
## ly\_sign[6] 2.063276e+00 6.394774e+00 1.742276e+01  
## ly\_sign[7] 9.888772e-01 4.928197e+00 1.676465e+01  
## Theta\_var[1] 1.005647e+00 1.078958e+00 1.228986e+00  
## Theta\_var[2] 9.620336e-01 1.045244e+00 1.239878e+00  
## Theta\_var[3] 8.750186e-01 9.549569e-01 1.159193e+00  
## Theta\_var[4] 9.226761e-01 1.016438e+00 1.193817e+00  
## Theta\_var[5] 5.936563e-01 7.230995e-01 9.501158e-01  
## Theta\_var[6] 8.034941e-01 8.943872e-01 1.078544e+00  
## Theta\_var[7] 1.000111e+00 1.096194e+00 1.266221e+00  
## Theta\_var[8] 9.143325e-01 1.016080e+00 1.209157e+00  
## Theta\_var[9] 9.429665e-01 1.043015e+00 1.259516e+00  
## Psi\_var[1] 2.987720e-03 4.737613e-03 1.504978e-02  
## Psi\_var[2] 3.903192e-03 1.490906e-02 8.410880e-02  
## Nu\_free[1] -3.664046e-03 4.723087e-02 1.401609e-01  
## Nu\_free[2] -9.247800e-03 4.792532e-02 1.505558e-01  
## Nu\_free[3] -1.373871e-02 4.240994e-02 1.601821e-01  
## Nu\_free[4] -1.481970e-02 4.543039e-02 1.530741e-01  
## Nu\_free[5] -1.366001e-02 4.364838e-02 1.334923e-01  
## Nu\_free[6] 8.946784e-04 6.052364e-02 1.540244e-01  
## Nu\_free[7] 5.914054e-03 5.497878e-02 1.603692e-01  
## Nu\_free[8] -2.038488e-03 4.625929e-02 1.498925e-01  
## Nu\_free[9] -2.776093e-03 6.078171e-02 1.763280e-01  
## lp\_\_ -1.944109e+03 -1.941138e+03 -1.936329e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 3.904372e+00 2.834523864 -5.333872e-01 1.935158e+00  
## ly\_sign[2] 7.049686e+00 3.607646436 1.790343e+00 4.416354e+00  
## ly\_sign[3] 5.527219e+00 3.100293625 8.699065e-01 3.283549e+00  
## ly\_sign[4] 1.207451e+01 5.225122731 4.142983e+00 8.132861e+00  
## ly\_sign[5] 8.308366e+00 3.978373915 2.439832e+00 5.407185e+00  
## ly\_sign[6] 1.012675e+00 7.063704163 -1.510380e+01 -1.952158e+00  
## ly\_sign[7] 1.447755e+00 7.640889925 -1.555814e+01 -1.930157e+00  
## Theta\_var[1] 1.000800e+00 0.106750730 8.121917e-01 9.250447e-01  
## Theta\_var[2] 9.689940e-01 0.115030329 7.684351e-01 8.869410e-01  
## Theta\_var[3] 8.678093e-01 0.138362863 6.101918e-01 7.779035e-01  
## Theta\_var[4] 9.251760e-01 0.129303845 6.939642e-01 8.349867e-01  
## Theta\_var[5] 5.881661e-01 0.203828417 1.103058e-01 4.743409e-01  
## Theta\_var[6] 8.164189e-01 0.137359600 5.467950e-01 7.292102e-01  
## Theta\_var[7] 1.002496e+00 0.123738569 7.839049e-01 9.169420e-01  
## Theta\_var[8] 9.152058e-01 0.200651119 3.462746e-01 8.395871e-01  
## Theta\_var[9] 8.685467e-01 0.273219130 8.444137e-02 7.900422e-01  
## Psi\_var[1] 4.436464e-03 0.005107689 7.256071e-04 1.687280e-03  
## Psi\_var[2] 1.210190e-02 0.029129416 5.205680e-06 5.364720e-04  
## Nu\_free[1] 1.426478e-03 0.074307096 -1.402306e-01 -5.083942e-02  
## Nu\_free[2] -3.730313e-03 0.083656569 -1.642224e-01 -5.971127e-02  
## Nu\_free[3] -1.484718e-02 0.089576702 -1.877351e-01 -7.572275e-02  
## Nu\_free[4] -1.015555e-02 0.087936442 -1.820749e-01 -6.946110e-02  
## Nu\_free[5] -1.766878e-02 0.078888623 -1.718840e-01 -7.012467e-02  
## Nu\_free[6] -4.215707e-03 0.080148500 -1.607659e-01 -5.941897e-02  
## Nu\_free[7] 6.581192e-04 0.085294134 -1.679688e-01 -5.654704e-02  
## Nu\_free[8] -8.347548e-05 0.078579370 -1.515918e-01 -5.152021e-02  
## Nu\_free[9] 9.635943e-04 0.088771078 -1.756666e-01 -5.895940e-02  
## lp\_\_ -1.943921e+03 4.325494179 -1.953175e+03 -1.946673e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 3.470794e+00 5.453652e+00 1.075814e+01  
## ly\_sign[2] 6.438909e+00 9.053302e+00 1.541903e+01  
## ly\_sign[3] 5.035650e+00 7.266692e+00 1.283257e+01  
## ly\_sign[4] 1.131412e+01 1.521578e+01 2.383888e+01  
## ly\_sign[5] 7.726329e+00 1.044216e+01 1.786397e+01  
## ly\_sign[6] 1.041378e+00 4.463153e+00 1.572177e+01  
## ly\_sign[7] 1.473870e+00 5.660195e+00 1.708325e+01  
## Theta\_var[1] 9.930603e-01 1.071363e+00 1.222209e+00  
## Theta\_var[2] 9.620924e-01 1.040009e+00 1.216237e+00  
## Theta\_var[3] 8.630118e-01 9.558524e-01 1.148566e+00  
## Theta\_var[4] 9.179892e-01 1.007920e+00 1.205115e+00  
## Theta\_var[5] 6.075806e-01 7.254455e-01 9.420468e-01  
## Theta\_var[6] 8.143253e-01 9.049264e-01 1.092217e+00  
## Theta\_var[7] 9.942463e-01 1.080014e+00 1.272149e+00  
## Theta\_var[8] 9.475218e-01 1.038394e+00 1.226687e+00  
## Theta\_var[9] 9.245533e-01 1.040164e+00 1.249684e+00  
## Psi\_var[1] 2.848692e-03 5.093322e-03 1.830954e-02  
## Psi\_var[2] 2.785381e-03 1.025777e-02 8.620554e-02  
## Nu\_free[1] 1.155018e-03 5.244799e-02 1.466618e-01  
## Nu\_free[2] -6.061602e-03 5.363705e-02 1.617533e-01  
## Nu\_free[3] -1.524822e-02 4.564090e-02 1.573311e-01  
## Nu\_free[4] -1.146944e-02 4.790734e-02 1.652012e-01  
## Nu\_free[5] -1.855285e-02 3.579217e-02 1.328388e-01  
## Nu\_free[6] -2.833353e-03 5.022105e-02 1.499072e-01  
## Nu\_free[7] 1.133151e-03 5.645072e-02 1.728569e-01  
## Nu\_free[8] -1.421643e-03 5.297198e-02 1.562039e-01  
## Nu\_free[9] 4.298902e-03 6.126904e-02 1.724320e-01  
## lp\_\_ -1.943684e+03 -1.940879e+03 -1.936231e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 3.842476e+00 2.884165202 -7.732500e-01 1.896572e+00  
## ly\_sign[2] 7.051047e+00 3.559721957 1.808217e+00 4.451383e+00  
## ly\_sign[3] 5.544541e+00 3.213862836 8.058287e-01 3.269875e+00  
## ly\_sign[4] 1.202337e+01 5.181406377 3.621434e+00 8.164294e+00  
## ly\_sign[5] 8.274565e+00 4.002116896 2.363555e+00 5.312395e+00  
## ly\_sign[6] 1.669595e+00 7.061352919 -1.434028e+01 -7.525609e-01  
## ly\_sign[7] 3.029080e+00 7.772045248 -1.405711e+01 -4.983406e-01  
## Theta\_var[1] 1.000302e+00 0.107631130 8.152753e-01 9.240890e-01  
## Theta\_var[2] 9.661049e-01 0.125467599 7.531795e-01 8.725200e-01  
## Theta\_var[3] 8.726314e-01 0.132766808 6.310452e-01 7.841441e-01  
## Theta\_var[4] 9.300385e-01 0.134727990 6.961504e-01 8.417382e-01  
## Theta\_var[5] 5.930885e-01 0.197017320 1.076206e-01 4.849872e-01  
## Theta\_var[6] 8.124396e-01 0.132873912 5.543557e-01 7.277611e-01  
## Theta\_var[7] 9.917304e-01 0.122671365 7.775759e-01 9.037457e-01  
## Theta\_var[8] 9.081623e-01 0.223105208 2.928075e-01 8.343812e-01  
## Theta\_var[9] 7.744733e-01 0.384409647 6.934898e-04 6.880109e-01  
## Psi\_var[1] 4.561092e-03 0.005420441 7.153394e-04 1.711188e-03  
## Psi\_var[2] 1.401846e-02 0.029154592 5.457464e-06 8.017550e-04  
## Nu\_free[1] -3.399408e-04 0.078016351 -1.565940e-01 -4.902991e-02  
## Nu\_free[2] 6.209056e-04 0.082242263 -1.649606e-01 -5.318619e-02  
## Nu\_free[3] -1.398146e-02 0.091795244 -1.961634e-01 -7.473645e-02  
## Nu\_free[4] -1.355389e-02 0.086467174 -1.869295e-01 -7.000567e-02  
## Nu\_free[5] -1.569334e-02 0.083032165 -1.878881e-01 -7.044154e-02  
## Nu\_free[6] -1.369272e-03 0.082728647 -1.617028e-01 -5.674839e-02  
## Nu\_free[7] -3.193112e-03 0.084252392 -1.622253e-01 -6.059559e-02  
## Nu\_free[8] -3.216747e-04 0.082618276 -1.639609e-01 -5.317370e-02  
## Nu\_free[9] 5.428610e-03 0.091230928 -1.730279e-01 -5.596588e-02  
## lp\_\_ -1.944266e+03 4.623505886 -1.954217e+03 -1.947142e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 3.425205e+00 5.468705e+00 1.030140e+01  
## ly\_sign[2] 6.494663e+00 9.136981e+00 1.527629e+01  
## ly\_sign[3] 5.069246e+00 7.246827e+00 1.328025e+01  
## ly\_sign[4] 1.143952e+01 1.528917e+01 2.356924e+01  
## ly\_sign[5] 7.679281e+00 1.047681e+01 1.793021e+01  
## ly\_sign[6] 1.149729e+00 4.522530e+00 1.722894e+01  
## ly\_sign[7] 2.289582e+00 7.592120e+00 1.963785e+01  
## Theta\_var[1] 9.921376e-01 1.062639e+00 1.245330e+00  
## Theta\_var[2] 9.599289e-01 1.047386e+00 1.239422e+00  
## Theta\_var[3] 8.625844e-01 9.560992e-01 1.153892e+00  
## Theta\_var[4] 9.193388e-01 1.006291e+00 1.232247e+00  
## Theta\_var[5] 6.141213e-01 7.218264e-01 9.313053e-01  
## Theta\_var[6] 8.136384e-01 8.924203e-01 1.082247e+00  
## Theta\_var[7] 9.843948e-01 1.072876e+00 1.260063e+00  
## Theta\_var[8] 9.464727e-01 1.045307e+00 1.252398e+00  
## Theta\_var[9] 9.073728e-01 1.026146e+00 1.243276e+00  
## Psi\_var[1] 2.839599e-03 5.192395e-03 2.103474e-02  
## Psi\_var[2] 3.828529e-03 1.211819e-02 1.025183e-01  
## Nu\_free[1] 1.058660e-04 5.232181e-02 1.466055e-01  
## Nu\_free[2] 1.639772e-03 5.593514e-02 1.612665e-01  
## Nu\_free[3] -1.266437e-02 4.912612e-02 1.579140e-01  
## Nu\_free[4] -1.259740e-02 4.293804e-02 1.575140e-01  
## Nu\_free[5] -1.121994e-02 3.984816e-02 1.372563e-01  
## Nu\_free[6] -4.098525e-04 5.376415e-02 1.650184e-01  
## Nu\_free[7] -5.083225e-03 5.520003e-02 1.583503e-01  
## Nu\_free[8] -8.541462e-04 5.368265e-02 1.650284e-01  
## Nu\_free[9] 3.623398e-03 6.614949e-02 1.873822e-01  
## lp\_\_ -1.944031e+03 -1.940997e+03 -1.936263e+03  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 3.947619e+00 2.795255158 -4.450148e-01 2.027063e+00  
## ly\_sign[2] 7.126226e+00 3.634958461 1.884808e+00 4.484079e+00  
## ly\_sign[3] 5.569433e+00 3.114883784 8.990612e-01 3.363574e+00  
## ly\_sign[4] 1.212181e+01 5.149035309 4.174878e+00 8.290421e+00  
## ly\_sign[5] 8.440027e+00 3.963792720 2.430098e+00 5.510707e+00  
## ly\_sign[6] 1.190342e+00 7.297536204 -1.563441e+01 -1.568521e+00  
## ly\_sign[7] 1.848132e+00 7.555265318 -1.568464e+01 -1.220863e+00  
## Theta\_var[1] 1.000197e+00 0.103261466 8.217230e-01 9.261146e-01  
## Theta\_var[2] 9.687228e-01 0.119262606 7.594626e-01 8.846416e-01  
## Theta\_var[3] 8.685700e-01 0.138835106 6.131415e-01 7.748734e-01  
## Theta\_var[4] 9.266886e-01 0.126738791 7.053887e-01 8.395345e-01  
## Theta\_var[5] 5.946231e-01 0.199311731 9.797876e-02 4.832675e-01  
## Theta\_var[6] 8.160175e-01 0.136977988 5.557553e-01 7.264385e-01  
## Theta\_var[7] 9.962387e-01 0.124595844 7.787145e-01 9.098989e-01  
## Theta\_var[8] 8.923882e-01 0.238463490 1.727855e-01 8.276432e-01  
## Theta\_var[9] 8.482980e-01 0.292544948 4.907724e-02 7.690723e-01  
## Psi\_var[1] 4.338696e-03 0.005371058 7.454110e-04 1.653222e-03  
## Psi\_var[2] 1.375037e-02 0.031080133 9.085955e-06 6.410715e-04  
## Nu\_free[1] 9.763374e-04 0.075815325 -1.467097e-01 -4.863116e-02  
## Nu\_free[2] -5.120152e-03 0.081871145 -1.710347e-01 -5.907229e-02  
## Nu\_free[3] -1.812530e-02 0.089569753 -1.934856e-01 -7.981989e-02  
## Nu\_free[4] -1.150696e-02 0.088076855 -1.798979e-01 -7.043908e-02  
## Nu\_free[5] -1.956790e-02 0.080176094 -1.798795e-01 -7.243829e-02  
## Nu\_free[6] -7.168451e-03 0.083432246 -1.705285e-01 -6.045450e-02  
## Nu\_free[7] -1.925664e-03 0.083456942 -1.623693e-01 -5.927031e-02  
## Nu\_free[8] -3.019241e-04 0.080652697 -1.591987e-01 -5.506781e-02  
## Nu\_free[9] 2.831316e-03 0.090616614 -1.788639e-01 -5.603845e-02  
## lp\_\_ -1.943829e+03 4.383665371 -1.953123e+03 -1.946542e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 3.539589e+00 5.446854e+00 1.043875e+01  
## ly\_sign[2] 6.604319e+00 9.093757e+00 1.603855e+01  
## ly\_sign[3] 5.104941e+00 7.300460e+00 1.301407e+01  
## ly\_sign[4] 1.148327e+01 1.521648e+01 2.384783e+01  
## ly\_sign[5] 7.888033e+00 1.080388e+01 1.751651e+01  
## ly\_sign[6] 1.073491e+00 4.650912e+00 1.659319e+01  
## ly\_sign[7] 1.622588e+00 5.951202e+00 1.721243e+01  
## Theta\_var[1] 9.935211e-01 1.068503e+00 1.208591e+00  
## Theta\_var[2] 9.599390e-01 1.044578e+00 1.230179e+00  
## Theta\_var[3] 8.609908e-01 9.580407e-01 1.152101e+00  
## Theta\_var[4] 9.164235e-01 1.001122e+00 1.202826e+00  
## Theta\_var[5] 6.128008e-01 7.293600e-01 9.433274e-01  
## Theta\_var[6] 8.135234e-01 9.035031e-01 1.094286e+00  
## Theta\_var[7] 9.875283e-01 1.074472e+00 1.262388e+00  
## Theta\_var[8] 9.395793e-01 1.034256e+00 1.212432e+00  
## Theta\_var[9] 9.167473e-01 1.031081e+00 1.253998e+00  
## Psi\_var[1] 2.726819e-03 4.945548e-03 1.745509e-02  
## Psi\_var[2] 3.238222e-03 1.193192e-02 9.833416e-02  
## Nu\_free[1] 1.411127e-03 5.079251e-02 1.480993e-01  
## Nu\_free[2] -4.669949e-03 5.055960e-02 1.551460e-01  
## Nu\_free[3] -1.794346e-02 4.374490e-02 1.552280e-01  
## Nu\_free[4] -1.235752e-02 4.748271e-02 1.605000e-01  
## Nu\_free[5] -1.975194e-02 3.475993e-02 1.347708e-01  
## Nu\_free[6] -6.429840e-03 4.661511e-02 1.602643e-01  
## Nu\_free[7] -2.121346e-03 5.450276e-02 1.575357e-01  
## Nu\_free[8] -1.098715e-03 5.441070e-02 1.546003e-01  
## Nu\_free[9] 4.559842e-03 6.284802e-02 1.798758e-01  
## lp\_\_ -1.943444e+03 -1.940808e+03 -1.936296e+03

## bfit.2factors2

tmp5 = blavInspect(bfit.2factors2, "mcobj")  
summary(tmp5)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] 9.816410e-01 0.1985118468 6.591265665 -1.347174e+01  
## ly\_sign[2] 3.702874e+00 0.4451059047 11.159541724 -1.884874e+01  
## ly\_sign[3] 1.463719e+00 0.2301569858 7.202860481 -1.408039e+01  
## ly\_sign[4] 2.678165e+00 0.4082740446 10.291566724 -1.825629e+01  
## ly\_sign[5] 1.288504e+00 0.1850704868 6.497791779 -1.275201e+01  
## ly\_sign[6] 4.719358e+00 0.0515901747 3.564775434 9.740364e-01  
## ly\_sign[7] 3.781973e+00 0.0518723145 3.300679623 6.984855e-01  
## Theta\_var[1] 1.005716e+00 0.0006481878 0.108198269 8.139820e-01  
## Theta\_var[2] 9.728943e-01 0.0010039687 0.129621350 7.383189e-01  
## Theta\_var[3] 8.040010e-01 0.0049169546 0.225653353 2.098451e-01  
## Theta\_var[4] 9.565014e-01 0.0011347220 0.129266148 7.206312e-01  
## Theta\_var[5] 8.664998e-01 0.0027809518 0.176439433 4.726118e-01  
## Theta\_var[6] 9.776558e-01 0.0009079557 0.136560550 7.329745e-01  
## Theta\_var[7] 9.561919e-01 0.0010406535 0.131002059 7.244541e-01  
## Theta\_var[8] 5.184166e-01 0.0038253074 0.319931605 2.230996e-03  
## Theta\_var[9] 7.110555e-01 0.0041672169 0.282796875 1.719770e-02  
## Psi\_var[1] 2.642142e-03 0.0001332115 0.005698413 1.866935e-05  
## Psi\_var[2] 4.766764e-02 0.0006097710 0.054055359 2.350136e-03  
## Nu\_free[1] -1.303266e-04 0.0004777626 0.075258010 -1.465331e-01  
## Nu\_free[2] -1.080741e-03 0.0004943583 0.082138395 -1.617050e-01  
## Nu\_free[3] 3.549524e-03 0.0005236823 0.087795868 -1.702421e-01  
## Nu\_free[4] 2.330886e-04 0.0004866699 0.080237807 -1.581164e-01  
## Nu\_free[5] -6.476820e-04 0.0005044908 0.082980181 -1.615464e-01  
## Nu\_free[6] 3.274397e-03 0.0005321395 0.088381178 -1.720341e-01  
## Nu\_free[7] -4.444004e-03 0.0005256931 0.086039152 -1.727050e-01  
## Nu\_free[8] -6.292845e-03 0.0005043635 0.081501853 -1.652516e-01  
## Nu\_free[9] -5.096855e-03 0.0005084557 0.082688453 -1.679594e-01  
## lp\_\_ -1.945138e+03 0.0896187937 4.817764707 -1.955463e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] -2.816713e+00 1.678423e+00 4.877013e+00 1.339560e+01  
## ly\_sign[2] -5.689646e+00 6.355635e+00 1.170488e+01 2.193882e+01  
## ly\_sign[3] -3.012020e+00 2.203236e+00 5.840001e+00 1.493511e+01  
## ly\_sign[4] -5.488461e+00 4.781424e+00 9.736704e+00 2.018420e+01  
## ly\_sign[5] -2.293616e+00 1.698499e+00 5.008095e+00 1.407547e+01  
## ly\_sign[6] 2.267227e+00 3.685248e+00 5.956930e+00 1.469541e+01  
## ly\_sign[7] 1.583966e+00 2.625916e+00 4.795332e+00 1.310266e+01  
## Theta\_var[1] 9.310783e-01 9.982523e-01 1.073442e+00 1.237374e+00  
## Theta\_var[2] 8.875908e-01 9.660675e-01 1.051591e+00 1.245659e+00  
## Theta\_var[3] 6.947108e-01 8.291514e-01 9.505648e-01 1.178699e+00  
## Theta\_var[4] 8.726244e-01 9.524681e-01 1.037122e+00 1.220492e+00  
## Theta\_var[5] 7.694867e-01 8.742479e-01 9.788783e-01 1.184244e+00  
## Theta\_var[6] 8.845989e-01 9.704686e-01 1.062091e+00 1.265947e+00  
## Theta\_var[7] 8.660057e-01 9.473789e-01 1.036663e+00 1.235337e+00  
## Theta\_var[8] 2.302531e-01 5.585847e-01 7.865938e-01 1.036147e+00  
## Theta\_var[9] 5.914085e-01 7.857437e-01 9.019211e-01 1.106950e+00  
## Psi\_var[1] 6.963961e-04 1.395518e-03 2.740886e-03 1.267052e-02  
## Psi\_var[2] 1.211850e-02 2.965422e-02 6.336584e-02 1.961888e-01  
## Nu\_free[1] -5.097371e-02 -1.710316e-04 4.998241e-02 1.490880e-01  
## Nu\_free[2] -5.636221e-02 -1.033600e-03 5.364523e-02 1.602269e-01  
## Nu\_free[3] -5.524981e-02 3.646375e-03 6.266535e-02 1.777947e-01  
## Nu\_free[4] -5.254296e-02 -2.324288e-05 5.352870e-02 1.593849e-01  
## Nu\_free[5] -5.665714e-02 -1.210552e-03 5.514152e-02 1.631768e-01  
## Nu\_free[6] -5.548694e-02 2.948451e-03 6.311511e-02 1.755326e-01  
## Nu\_free[7] -6.278690e-02 -4.790179e-03 5.350346e-02 1.641883e-01  
## Nu\_free[8] -6.118182e-02 -5.591197e-03 4.932715e-02 1.523498e-01  
## Nu\_free[9] -6.015235e-02 -4.935561e-03 5.141969e-02 1.566117e-01  
## lp\_\_ -1.948239e+03 -1.944827e+03 -1.941669e+03 -1.936670e+03  
## n\_eff Rhat  
## ly\_sign[1] 1102.4649 1.0012276  
## ly\_sign[2] 628.5879 1.0033527  
## ly\_sign[3] 979.4036 1.0024491  
## ly\_sign[4] 635.4179 1.0036880  
## ly\_sign[5] 1232.6996 1.0015009  
## ly\_sign[6] 4774.5270 1.0014560  
## ly\_sign[7] 4048.8855 1.0013462  
## Theta\_var[1] 27863.7058 0.9999716  
## Theta\_var[2] 16669.1216 1.0001051  
## Theta\_var[3] 2106.1592 1.0028895  
## Theta\_var[4] 12977.4898 0.9999785  
## Theta\_var[5] 4025.3568 1.0004593  
## Theta\_var[6] 22621.4897 1.0000248  
## Theta\_var[7] 15846.8865 0.9999550  
## Theta\_var[8] 6994.9015 1.0003495  
## Theta\_var[9] 4605.2902 1.0003886  
## Psi\_var[1] 1829.8875 1.0019463  
## Psi\_var[2] 7858.5774 1.0006461  
## Nu\_free[1] 24813.1036 0.9999111  
## Nu\_free[2] 27606.3358 0.9999831  
## Nu\_free[3] 28106.8609 0.9998841  
## Nu\_free[4] 27182.4862 0.9998852  
## Nu\_free[5] 27054.6710 0.9998710  
## Nu\_free[6] 27584.7160 0.9999463  
## Nu\_free[7] 26787.2223 0.9999388  
## Nu\_free[8] 26112.4556 0.9999035  
## Nu\_free[9] 26447.4347 1.0000289  
## lp\_\_ 2889.9677 1.0011311  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 8.837666e-01 6.711225227 -1.382323e+01 -2.861604e+00  
## ly\_sign[2] 3.671916e+00 11.196100052 -1.874034e+01 -5.826873e+00  
## ly\_sign[3] 1.473474e+00 7.126302743 -1.327343e+01 -3.280034e+00  
## ly\_sign[4] 2.413142e+00 10.140853783 -1.799295e+01 -5.846001e+00  
## ly\_sign[5] 1.229976e+00 6.463985880 -1.211524e+01 -2.526635e+00  
## ly\_sign[6] 4.695475e+00 3.482597552 9.583711e-01 2.274210e+00  
## ly\_sign[7] 3.735831e+00 3.331053002 7.024462e-01 1.558465e+00  
## Theta\_var[1] 1.006920e+00 0.107395196 8.143086e-01 9.324883e-01  
## Theta\_var[2] 9.704925e-01 0.130152250 7.310348e-01 8.838669e-01  
## Theta\_var[3] 8.042410e-01 0.223954927 2.115068e-01 6.972041e-01  
## Theta\_var[4] 9.545334e-01 0.134903115 7.200033e-01 8.688819e-01  
## Theta\_var[5] 8.696276e-01 0.166248418 5.131026e-01 7.753390e-01  
## Theta\_var[6] 9.787146e-01 0.134331014 7.376862e-01 8.857820e-01  
## Theta\_var[7] 9.560461e-01 0.132706291 7.221772e-01 8.633263e-01  
## Theta\_var[8] 5.152869e-01 0.319005313 1.964976e-03 2.241620e-01  
## Theta\_var[9] 7.172793e-01 0.278188888 1.977900e-02 6.093710e-01  
## Psi\_var[1] 2.931944e-03 0.008907031 2.012843e-05 7.243320e-04  
## Psi\_var[2] 4.832838e-02 0.054638343 2.442878e-03 1.225999e-02  
## Nu\_free[1] -1.245756e-04 0.073726138 -1.460006e-01 -5.025247e-02  
## Nu\_free[2] -1.468146e-03 0.082368447 -1.655360e-01 -5.536556e-02  
## Nu\_free[3] 2.697220e-03 0.087477589 -1.725263e-01 -5.587816e-02  
## Nu\_free[4] 5.347785e-05 0.079010375 -1.567864e-01 -5.143995e-02  
## Nu\_free[5] -1.843851e-03 0.082280324 -1.604469e-01 -5.878482e-02  
## Nu\_free[6] 2.500632e-03 0.089597982 -1.729963e-01 -5.718976e-02  
## Nu\_free[7] -5.278965e-03 0.084789568 -1.719959e-01 -6.292794e-02  
## Nu\_free[8] -4.999049e-03 0.082904902 -1.690927e-01 -6.113535e-02  
## Nu\_free[9] -5.852735e-03 0.083522291 -1.702723e-01 -6.228786e-02  
## lp\_\_ -1.944998e+03 4.862012258 -1.955664e+03 -1.948071e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.704058e+00 4.842939e+00 1.339689e+01  
## ly\_sign[2] 6.300176e+00 1.183725e+01 2.235297e+01  
## ly\_sign[3] 2.185944e+00 5.846492e+00 1.548948e+01  
## ly\_sign[4] 4.607195e+00 9.484503e+00 1.929682e+01  
## ly\_sign[5] 1.586164e+00 5.056117e+00 1.399567e+01  
## ly\_sign[6] 3.695832e+00 5.973516e+00 1.446244e+01  
## ly\_sign[7] 2.590810e+00 4.688189e+00 1.334473e+01  
## Theta\_var[1] 9.999066e-01 1.072673e+00 1.232314e+00  
## Theta\_var[2] 9.648556e-01 1.048744e+00 1.248801e+00  
## Theta\_var[3] 8.283710e-01 9.453528e-01 1.180018e+00  
## Theta\_var[4] 9.522962e-01 1.039084e+00 1.213271e+00  
## Theta\_var[5] 8.749662e-01 9.773157e-01 1.176825e+00  
## Theta\_var[6] 9.707549e-01 1.063182e+00 1.262838e+00  
## Theta\_var[7] 9.471749e-01 1.036457e+00 1.235743e+00  
## Theta\_var[8] 5.564814e-01 7.840828e-01 1.027459e+00  
## Theta\_var[9] 7.877147e-01 9.020720e-01 1.106711e+00  
## Psi\_var[1] 1.436466e-03 2.771711e-03 1.242209e-02  
## Psi\_var[2] 3.026066e-02 6.436608e-02 2.030832e-01  
## Nu\_free[1] -3.379337e-04 4.894266e-02 1.450954e-01  
## Nu\_free[2] -8.644302e-04 5.284066e-02 1.593660e-01  
## Nu\_free[3] 3.477764e-03 6.176068e-02 1.724533e-01  
## Nu\_free[4] 1.623112e-04 5.096665e-02 1.568117e-01  
## Nu\_free[5] -6.264067e-04 5.325237e-02 1.585854e-01  
## Nu\_free[6] 2.260295e-03 6.302395e-02 1.753851e-01  
## Nu\_free[7] -5.998342e-03 5.223249e-02 1.599296e-01  
## Nu\_free[8] -5.008122e-03 5.240475e-02 1.550917e-01  
## Nu\_free[9] -4.651530e-03 5.164493e-02 1.522755e-01  
## lp\_\_ -1.944693e+03 -1.941489e+03 -1.936666e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 1.005289e+00 6.492113278 -1.315778e+01 -2.671969e+00  
## ly\_sign[2] 3.784497e+00 11.208472207 -1.920704e+01 -5.485417e+00  
## ly\_sign[3] 1.592300e+00 7.063007373 -1.371789e+01 -2.686687e+00  
## ly\_sign[4] 2.793033e+00 10.415477745 -1.873571e+01 -5.332661e+00  
## ly\_sign[5] 1.252462e+00 6.323770637 -1.282554e+01 -2.191092e+00  
## ly\_sign[6] 4.797050e+00 3.703825482 9.841516e-01 2.267636e+00  
## ly\_sign[7] 3.728172e+00 3.062431986 6.812561e-01 1.597993e+00  
## Theta\_var[1] 1.004026e+00 0.107187175 8.137113e-01 9.316051e-01  
## Theta\_var[2] 9.739581e-01 0.128376802 7.461794e-01 8.895715e-01  
## Theta\_var[3] 8.023529e-01 0.228043779 1.892864e-01 6.927672e-01  
## Theta\_var[4] 9.575056e-01 0.127024379 7.170693e-01 8.722923e-01  
## Theta\_var[5] 8.605913e-01 0.184711479 4.227069e-01 7.600742e-01  
## Theta\_var[6] 9.792589e-01 0.135319413 7.376262e-01 8.861728e-01  
## Theta\_var[7] 9.562176e-01 0.133683308 7.133778e-01 8.659885e-01  
## Theta\_var[8] 5.166550e-01 0.325079076 2.690573e-03 2.171897e-01  
## Theta\_var[9] 7.123237e-01 0.279502089 2.594598e-02 5.865301e-01  
## Psi\_var[1] 2.634705e-03 0.004470435 2.299631e-05 7.077744e-04  
## Psi\_var[2] 4.792892e-02 0.056307981 2.449306e-03 1.173239e-02  
## Nu\_free[1] 3.197439e-05 0.074544484 -1.457264e-01 -4.937039e-02  
## Nu\_free[2] 4.320904e-04 0.081543764 -1.596926e-01 -5.504599e-02  
## Nu\_free[3] 3.954911e-03 0.086604533 -1.658635e-01 -5.324694e-02  
## Nu\_free[4] 4.351627e-04 0.081989619 -1.634811e-01 -5.216013e-02  
## Nu\_free[5] -4.978326e-04 0.083148409 -1.639956e-01 -5.627953e-02  
## Nu\_free[6] 3.649970e-03 0.088683418 -1.741115e-01 -5.557930e-02  
## Nu\_free[7] -4.123322e-03 0.088840413 -1.768759e-01 -6.456996e-02  
## Nu\_free[8] -6.748071e-03 0.080699031 -1.620953e-01 -6.166504e-02  
## Nu\_free[9] -3.533014e-03 0.081370727 -1.630952e-01 -5.790535e-02  
## lp\_\_ -1.945151e+03 4.714614039 -1.955326e+03 -1.948218e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.693288e+00 4.880488e+00 1.298129e+01  
## ly\_sign[2] 6.390560e+00 1.176046e+01 2.223734e+01  
## ly\_sign[3] 2.341558e+00 5.829687e+00 1.485880e+01  
## ly\_sign[4] 4.896465e+00 9.972361e+00 2.025937e+01  
## ly\_sign[5] 1.679958e+00 5.012341e+00 1.337438e+01  
## ly\_sign[6] 3.741443e+00 5.974835e+00 1.511500e+01  
## ly\_sign[7] 2.656487e+00 4.811925e+00 1.231412e+01  
## Theta\_var[1] 9.960646e-01 1.070284e+00 1.237693e+00  
## Theta\_var[2] 9.659888e-01 1.051493e+00 1.243197e+00  
## Theta\_var[3] 8.256378e-01 9.497109e-01 1.182350e+00  
## Theta\_var[4] 9.523403e-01 1.036806e+00 1.224538e+00  
## Theta\_var[5] 8.715978e-01 9.794293e-01 1.197823e+00  
## Theta\_var[6] 9.704395e-01 1.062611e+00 1.267420e+00  
## Theta\_var[7] 9.469215e-01 1.040858e+00 1.246793e+00  
## Theta\_var[8] 5.582551e-01 7.892867e-01 1.055980e+00  
## Theta\_var[9] 7.912490e-01 9.015090e-01 1.101649e+00  
## Psi\_var[1] 1.407166e-03 2.755886e-03 1.404584e-02  
## Psi\_var[2] 2.928748e-02 6.217364e-02 2.014336e-01  
## Nu\_free[1] 4.879107e-04 4.908348e-02 1.458758e-01  
## Nu\_free[2] 2.756466e-04 5.533971e-02 1.618384e-01  
## Nu\_free[3] 3.605659e-03 6.121288e-02 1.795986e-01  
## Nu\_free[4] -9.109423e-05 5.421393e-02 1.640637e-01  
## Nu\_free[5] -8.802503e-04 5.454520e-02 1.659507e-01  
## Nu\_free[6] 2.671645e-03 6.446792e-02 1.778435e-01  
## Nu\_free[7] -3.741036e-03 5.692644e-02 1.689678e-01  
## Nu\_free[8] -5.362738e-03 4.835822e-02 1.486216e-01  
## Nu\_free[9] -3.773888e-03 5.197334e-02 1.568819e-01  
## lp\_\_ -1.944918e+03 -1.941729e+03 -1.936735e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 7.633904e-01 6.657723305 -1.316335e+01 -3.536509e+00  
## ly\_sign[2] 2.766028e+00 11.357130274 -1.917554e+01 -7.090512e+00  
## ly\_sign[3] 9.277806e-01 7.379219141 -1.462494e+01 -3.808471e+00  
## ly\_sign[4] 1.891146e+00 10.461838515 -1.850115e+01 -6.785279e+00  
## ly\_sign[5] 1.031395e+00 6.748206766 -1.322402e+01 -2.935533e+00  
## ly\_sign[6] 4.908012e+00 3.747484400 9.969131e-01 2.317928e+00  
## ly\_sign[7] 4.013082e+00 3.564228906 7.114630e-01 1.633429e+00  
## Theta\_var[1] 1.004439e+00 0.110885896 8.098511e-01 9.278441e-01  
## Theta\_var[2] 9.747022e-01 0.130313718 7.482723e-01 8.875336e-01  
## Theta\_var[3] 8.184883e-01 0.203193198 3.270173e-01 7.093563e-01  
## Theta\_var[4] 9.552480e-01 0.127651892 7.197831e-01 8.730974e-01  
## Theta\_var[5] 8.700934e-01 0.167284162 5.098236e-01 7.702810e-01  
## Theta\_var[6] 9.749380e-01 0.138718641 7.314275e-01 8.811078e-01  
## Theta\_var[7] 9.585200e-01 0.126646995 7.393608e-01 8.706401e-01  
## Theta\_var[8] 5.175968e-01 0.321093243 2.051672e-03 2.274181e-01  
## Theta\_var[9] 7.040489e-01 0.292316829 7.265338e-03 5.765289e-01  
## Psi\_var[1] 2.303382e-03 0.003473631 2.061167e-05 6.767119e-04  
## Psi\_var[2] 4.476445e-02 0.051611131 2.056890e-03 1.108583e-02  
## Nu\_free[1] -9.613154e-04 0.075305921 -1.461747e-01 -5.097307e-02  
## Nu\_free[2] -2.625239e-03 0.083083670 -1.679117e-01 -5.968103e-02  
## Nu\_free[3] 3.525805e-03 0.089627730 -1.722625e-01 -5.763492e-02  
## Nu\_free[4] -9.118544e-04 0.081069429 -1.593657e-01 -5.405696e-02  
## Nu\_free[5] -5.161230e-04 0.082983768 -1.598259e-01 -5.622121e-02  
## Nu\_free[6] 4.839690e-03 0.087970469 -1.662016e-01 -5.293631e-02  
## Nu\_free[7] -3.891790e-03 0.084238660 -1.656581e-01 -6.111396e-02  
## Nu\_free[8] -7.071495e-03 0.080251355 -1.645908e-01 -6.215236e-02  
## Nu\_free[9] -5.846025e-03 0.083892563 -1.696520e-01 -6.164595e-02  
## lp\_\_ -1.945387e+03 4.869229522 -1.955492e+03 -1.948567e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.413033e+00 4.770387e+00 13.5760340  
## ly\_sign[2] 5.626248e+00 1.126677e+01 21.4391948  
## ly\_sign[3] 1.694433e+00 5.555993e+00 14.8734285  
## ly\_sign[4] 4.331525e+00 9.376725e+00 20.0911376  
## ly\_sign[5] 1.415344e+00 4.832541e+00 14.4855553  
## ly\_sign[6] 3.750917e+00 6.220881e+00 15.0744632  
## ly\_sign[7] 2.731282e+00 5.121832e+00 13.8767739  
## Theta\_var[1] 9.957615e-01 1.074375e+00 1.2421945  
## Theta\_var[2] 9.652556e-01 1.054842e+00 1.2472342  
## Theta\_var[3] 8.342307e-01 9.564668e-01 1.1680225  
## Theta\_var[4] 9.507588e-01 1.033930e+00 1.2195533  
## Theta\_var[5] 8.740755e-01 9.785155e-01 1.1794840  
## Theta\_var[6] 9.691053e-01 1.060582e+00 1.2644128  
## Theta\_var[7] 9.494695e-01 1.036652e+00 1.2280451  
## Theta\_var[8] 5.558730e-01 7.902601e-01 1.0334247  
## Theta\_var[9] 7.821699e-01 9.025609e-01 1.1162347  
## Psi\_var[1] 1.325526e-03 2.599209e-03 0.0107246  
## Psi\_var[2] 2.707932e-02 6.055872e-02 0.1922463  
## Nu\_free[1] -9.677460e-04 4.815099e-02 0.1493459  
## Nu\_free[2] -3.146626e-03 5.203059e-02 0.1632600  
## Nu\_free[3] 2.741943e-03 6.439054e-02 0.1819341  
## Nu\_free[4] -1.479293e-03 5.434718e-02 0.1608560  
## Nu\_free[5] -3.015499e-03 5.626029e-02 0.1616726  
## Nu\_free[6] 3.431701e-03 6.307718e-02 0.1829799  
## Nu\_free[7] -3.488998e-03 5.193746e-02 0.1592905  
## Nu\_free[8] -6.785521e-03 4.791388e-02 0.1481242  
## Nu\_free[9] -6.700109e-03 5.226546e-02 0.1596524  
## lp\_\_ -1.945056e+03 -1.941889e+03 -1936.7082150  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] 1.274118e+00 6.492187792 -1.347213e+01 -2.064120e+00  
## ly\_sign[2] 4.589055e+00 10.797145754 -1.804568e+01 -3.553257e+00  
## ly\_sign[3] 1.861322e+00 7.209074398 -1.407485e+01 -1.833601e+00  
## ly\_sign[4] 3.615340e+00 10.068681341 -1.794266e+01 -3.218518e+00  
## ly\_sign[5] 1.640182e+00 6.434632946 -1.278973e+01 -1.369056e+00  
## ly\_sign[6] 4.476896e+00 3.293428080 9.646197e-01 2.192622e+00  
## ly\_sign[7] 3.650807e+00 3.214139968 7.077798e-01 1.548620e+00  
## Theta\_var[1] 1.007481e+00 0.107270382 8.170999e-01 9.314174e-01  
## Theta\_var[2] 9.724243e-01 0.129632530 7.347931e-01 8.887934e-01  
## Theta\_var[3] 7.909218e-01 0.244698289 1.143859e-01 6.780881e-01  
## Theta\_var[4] 9.587187e-01 0.127312826 7.282374e-01 8.760978e-01  
## Theta\_var[5] 8.656870e-01 0.186394847 4.174153e-01 7.732643e-01  
## Theta\_var[6] 9.777116e-01 0.137826766 7.297976e-01 8.846400e-01  
## Theta\_var[7] 9.539838e-01 0.130860571 7.226442e-01 8.637088e-01  
## Theta\_var[8] 5.241278e-01 0.314481302 2.526558e-03 2.507499e-01  
## Theta\_var[9] 7.105702e-01 0.280882521 2.260144e-02 5.923823e-01  
## Psi\_var[1] 2.698539e-03 0.004280069 1.224245e-05 6.832215e-04  
## Psi\_var[2] 4.964880e-02 0.053452538 2.600589e-03 1.365937e-02  
## Nu\_free[1] 5.326102e-04 0.077420342 -1.475591e-01 -5.266415e-02  
## Nu\_free[2] -6.616711e-04 0.081541822 -1.557058e-01 -5.626149e-02  
## Nu\_free[3] 4.020158e-03 0.087465231 -1.717176e-01 -5.388070e-02  
## Nu\_free[4] 1.355568e-03 0.078844483 -1.526019e-01 -5.247297e-02  
## Nu\_free[5] 2.670781e-04 0.083514373 -1.615626e-01 -5.529110e-02  
## Nu\_free[6] 2.107297e-03 0.087256602 -1.728465e-01 -5.679061e-02  
## Nu\_free[7] -4.481940e-03 0.086233617 -1.742366e-01 -6.260754e-02  
## Nu\_free[8] -6.352767e-03 0.082133224 -1.663299e-01 -5.959793e-02  
## Nu\_free[9] -5.155646e-03 0.081944566 -1.689717e-01 -5.967420e-02  
## lp\_\_ -1.945014e+03 4.814952643 -1.955206e+03 -1.948102e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 1.880972e+00 4.980929e+00 1.349136e+01  
## ly\_sign[2] 6.902278e+00 1.193237e+01 2.193952e+01  
## ly\_sign[3] 2.539537e+00 6.089359e+00 1.473158e+01  
## ly\_sign[4] 5.327958e+00 1.020388e+01 2.074174e+01  
## ly\_sign[5] 1.999739e+00 5.157946e+00 1.423915e+01  
## ly\_sign[6] 3.553300e+00 5.690941e+00 1.365441e+01  
## ly\_sign[7] 2.541539e+00 4.586248e+00 1.286759e+01  
## Theta\_var[1] 1.002178e+00 1.077172e+00 1.235181e+00  
## Theta\_var[2] 9.676755e-01 1.051192e+00 1.238828e+00  
## Theta\_var[3] 8.275392e-01 9.501412e-01 1.186373e+00  
## Theta\_var[4] 9.543920e-01 1.037652e+00 1.226913e+00  
## Theta\_var[5] 8.764313e-01 9.801130e-01 1.189984e+00  
## Theta\_var[6] 9.715086e-01 1.062085e+00 1.270317e+00  
## Theta\_var[7] 9.453182e-01 1.033452e+00 1.230022e+00  
## Theta\_var[8] 5.636127e-01 7.832582e-01 1.027249e+00  
## Theta\_var[9] 7.830723e-01 9.012005e-01 1.104728e+00  
## Psi\_var[1] 1.427402e-03 2.866833e-03 1.351436e-02  
## Psi\_var[2] 3.266263e-02 6.682660e-02 1.932373e-01  
## Nu\_free[1] 1.473178e-05 5.315897e-02 1.548780e-01  
## Nu\_free[2] -3.819261e-04 5.411620e-02 1.568454e-01  
## Nu\_free[3] 5.292763e-03 6.304870e-02 1.762083e-01  
## Nu\_free[4] 1.531633e-03 5.422275e-02 1.569800e-01  
## Nu\_free[5] 1.568797e-04 5.642207e-02 1.664731e-01  
## Nu\_free[6] 3.383606e-03 6.121238e-02 1.689227e-01  
## Nu\_free[7] -5.439887e-03 5.298708e-02 1.665881e-01  
## Nu\_free[8] -5.625814e-03 4.841306e-02 1.550526e-01  
## Nu\_free[9] -5.739766e-03 4.954331e-02 1.570082e-01  
## lp\_\_ -1.944669e+03 -1.941594e+03 -1.936623e+03

## bfit.2factors3

tmp6 = blavInspect(bfit.2factors3, "mcobj")  
summary(tmp6)

## $summary  
## mean se\_mean sd 2.5%  
## ly\_sign[1] -1.520055e+00 0.1172020181 6.64935130 -1.642941e+01  
## ly\_sign[2] 2.380570e+00 0.1207921975 6.79332959 -1.236447e+01  
## ly\_sign[3] 1.127642e+01 0.1010993453 5.75928701 2.605038e+00  
## ly\_sign[4] 5.647539e+00 0.0662912141 3.51253071 1.161471e+00  
## ly\_sign[5] -3.143548e+00 0.0348858876 2.29359212 -8.730128e+00  
## ly\_sign[6] 4.390216e+00 0.0486392451 2.85241854 7.836335e-01  
## ly\_sign[7] 3.461984e+00 0.0384870666 2.50504177 1.555503e-01  
## Theta\_var[1] 9.826010e-01 0.0020385309 0.11356691 7.715078e-01  
## Theta\_var[2] 8.067974e-01 0.0073973929 0.32715573 1.050148e-02  
## Theta\_var[3] 6.990267e-01 0.0082991060 0.38360601 2.310585e-03  
## Theta\_var[4] 9.771820e-01 0.0011086311 0.12320384 7.602652e-01  
## Theta\_var[5] 3.840088e-01 0.0032170890 0.23526380 2.332118e-03  
## Theta\_var[6] 8.610342e-01 0.0016409900 0.13100407 6.114523e-01  
## Theta\_var[7] 9.640260e-01 0.0008960406 0.11238132 7.647564e-01  
## Theta\_var[8] 9.177081e-01 0.0011280248 0.12302962 6.919916e-01  
## Theta\_var[9] 9.572269e-01 0.0010765436 0.12852009 7.360126e-01  
## Psi\_var[1] 2.589267e-02 0.0016258403 0.05066826 4.074250e-05  
## Psi\_var[2] 1.184926e-02 0.0003474009 0.02008148 9.305461e-04  
## Nu\_free[1] 9.079344e-04 0.0005805858 0.07363454 -1.417398e-01  
## Nu\_free[2] 2.031410e-03 0.0006948645 0.08311704 -1.576272e-01  
## Nu\_free[3] -9.009388e-03 0.0008178889 0.09071419 -1.867076e-01  
## Nu\_free[4] -1.636409e-03 0.0007613549 0.08651606 -1.719798e-01  
## Nu\_free[5] -9.626894e-03 0.0006923204 0.08037024 -1.678118e-01  
## Nu\_free[6] -4.383753e-03 0.0006901040 0.08299516 -1.677484e-01  
## Nu\_free[7] -7.320836e-04 0.0006513181 0.08007659 -1.560585e-01  
## Nu\_free[8] -1.011551e-02 0.0006701652 0.08278262 -1.771672e-01  
## Nu\_free[9] -1.082319e-02 0.0007562521 0.09079975 -1.866483e-01  
## lp\_\_ -1.939901e+03 0.0827558335 4.80309485 -1.949984e+03  
## 25% 50% 75% 97.5%  
## ly\_sign[1] -5.136668e+00 7.688589e-02 1.567567e+00 1.205362e+01  
## ly\_sign[2] -1.301596e+00 2.175392e+00 6.278852e+00 1.657802e+01  
## ly\_sign[3] 6.880004e+00 1.050720e+01 1.483765e+01 2.443328e+01  
## ly\_sign[4] 3.069050e+00 4.914330e+00 7.401240e+00 1.427994e+01  
## ly\_sign[5] -4.303837e+00 -2.690916e+00 -1.508818e+00 -5.242032e-02  
## ly\_sign[6] 2.310684e+00 3.755850e+00 5.802064e+00 1.150817e+01  
## ly\_sign[7] 1.652131e+00 2.969930e+00 4.716604e+00 9.647866e+00  
## Theta\_var[1] 9.091051e-01 9.802020e-01 1.054001e+00 1.211897e+00  
## Theta\_var[2] 7.218352e-01 9.107060e-01 1.018816e+00 1.219613e+00  
## Theta\_var[3] 3.603229e-01 8.417261e-01 9.924237e-01 1.221002e+00  
## Theta\_var[4] 8.916211e-01 9.677276e-01 1.051955e+00 1.246640e+00  
## Theta\_var[5] 1.931100e-01 3.956021e-01 5.564866e-01 8.286020e-01  
## Theta\_var[6] 7.783061e-01 8.583000e-01 9.418953e-01 1.127617e+00  
## Theta\_var[7] 8.861414e-01 9.558288e-01 1.034049e+00 1.204754e+00  
## Theta\_var[8] 8.347331e-01 9.107153e-01 9.949470e-01 1.179026e+00  
## Theta\_var[9] 8.680460e-01 9.458371e-01 1.036844e+00 1.235824e+00  
## Psi\_var[1] 2.603593e-03 9.296313e-03 2.783779e-02 1.513945e-01  
## Psi\_var[2] 2.615882e-03 5.080773e-03 1.174641e-02 6.948649e-02  
## Nu\_free[1] -4.877731e-02 5.559562e-04 5.054116e-02 1.458386e-01  
## Nu\_free[2] -5.444359e-02 1.869230e-03 5.785889e-02 1.650841e-01  
## Nu\_free[3] -6.856090e-02 -8.894710e-03 5.091490e-02 1.714052e-01  
## Nu\_free[4] -6.023763e-02 -1.479988e-03 5.647936e-02 1.691384e-01  
## Nu\_free[5] -6.384550e-02 -8.796416e-03 4.379779e-02 1.475883e-01  
## Nu\_free[6] -5.958576e-02 -4.479164e-03 5.123384e-02 1.602017e-01  
## Nu\_free[7] -5.452881e-02 -2.418147e-04 5.253143e-02 1.562529e-01  
## Nu\_free[8] -6.504520e-02 -9.448825e-03 4.494577e-02 1.524451e-01  
## Nu\_free[9] -7.347930e-02 -1.081245e-02 4.947895e-02 1.675004e-01  
## lp\_\_ -1.942956e+03 -1.939668e+03 -1.936520e+03 -1.931297e+03  
## n\_eff Rhat  
## ly\_sign[1] 3218.7584 1.0014752  
## ly\_sign[2] 3162.9156 1.0009357  
## ly\_sign[3] 3245.1947 1.0006262  
## ly\_sign[4] 2807.5553 1.0006071  
## ly\_sign[5] 4322.4783 1.0004320  
## ly\_sign[6] 3439.1637 1.0002589  
## ly\_sign[7] 4236.4328 1.0004579  
## Theta\_var[1] 3103.6234 1.0006022  
## Theta\_var[2] 1955.9227 1.0019143  
## Theta\_var[3] 2136.5260 1.0024661  
## Theta\_var[4] 12350.2116 1.0002154  
## Theta\_var[5] 5347.9098 1.0004103  
## Theta\_var[6] 6373.2017 1.0001474  
## Theta\_var[7] 15730.1514 0.9999665  
## Theta\_var[8] 11895.4822 1.0001271  
## Theta\_var[9] 14252.0976 0.9999256  
## Psi\_var[1] 971.2166 1.0026244  
## Psi\_var[2] 3341.4077 1.0019420  
## Nu\_free[1] 16085.3459 1.0003750  
## Nu\_free[2] 14308.0316 1.0000600  
## Nu\_free[3] 12301.6067 1.0000585  
## Nu\_free[4] 12912.7615 1.0003095  
## Nu\_free[5] 13476.4731 0.9999200  
## Nu\_free[6] 14463.6004 1.0002600  
## Nu\_free[7] 15115.5773 0.9998861  
## Nu\_free[8] 15258.5974 1.0000307  
## Nu\_free[9] 14415.7130 1.0004846  
## lp\_\_ 3368.5662 1.0008096  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.826042e+00 6.86865384 -1.741939e+01 -5.623165e+00  
## ly\_sign[2] 2.231297e+00 6.83642917 -1.222727e+01 -1.411339e+00  
## ly\_sign[3] 1.160519e+01 5.73764323 2.899981e+00 7.225312e+00  
## ly\_sign[4] 5.697986e+00 3.39179425 1.258793e+00 3.176872e+00  
## ly\_sign[5] -3.213289e+00 2.31613735 -8.966849e+00 -4.385666e+00  
## ly\_sign[6] 4.491671e+00 2.85720592 8.127861e-01 2.395532e+00  
## ly\_sign[7] 3.583315e+00 2.52545612 2.025261e-01 1.757131e+00  
## Theta\_var[1] 9.822166e-01 0.11085173 7.761645e-01 9.110316e-01  
## Theta\_var[2] 7.883408e-01 0.33673600 7.180990e-03 6.676833e-01  
## Theta\_var[3] 7.227154e-01 0.37073356 1.594883e-03 4.407285e-01  
## Theta\_var[4] 9.762823e-01 0.12233826 7.574061e-01 8.925037e-01  
## Theta\_var[5] 3.790091e-01 0.23400015 1.234518e-03 1.891568e-01  
## Theta\_var[6] 8.624068e-01 0.12794749 6.138108e-01 7.800114e-01  
## Theta\_var[7] 9.656416e-01 0.11081316 7.665716e-01 8.879786e-01  
## Theta\_var[8] 9.166433e-01 0.12118300 6.990795e-01 8.326461e-01  
## Theta\_var[9] 9.566945e-01 0.12813046 7.376529e-01 8.681383e-01  
## Psi\_var[1] 2.484555e-02 0.04908207 3.127489e-05 2.384417e-03  
## Psi\_var[2] 1.057344e-02 0.01741422 9.112620e-04 2.503690e-03  
## Nu\_free[1] -1.142784e-04 0.07291345 -1.425189e-01 -4.955211e-02  
## Nu\_free[2] 1.699091e-03 0.08149156 -1.513384e-01 -5.515076e-02  
## Nu\_free[3] -9.040884e-03 0.08966633 -1.891698e-01 -6.748737e-02  
## Nu\_free[4] -2.291382e-03 0.08630981 -1.748868e-01 -6.103292e-02  
## Nu\_free[5] -1.083637e-02 0.08059748 -1.654851e-01 -6.572799e-02  
## Nu\_free[6] -7.195925e-03 0.08220311 -1.670588e-01 -6.163557e-02  
## Nu\_free[7] -8.712648e-04 0.08046430 -1.582784e-01 -5.514654e-02  
## Nu\_free[8] -1.141732e-02 0.08279819 -1.769750e-01 -6.633011e-02  
## Nu\_free[9] -1.049539e-02 0.08940898 -1.848080e-01 -7.072194e-02  
## lp\_\_ -1.939969e+03 4.78176038 -1.950218e+03 -1.942956e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -3.580248e-02 1.542491e+00 1.158449e+01  
## ly\_sign[2] 1.742737e+00 6.012318e+00 1.694300e+01  
## ly\_sign[3] 1.087567e+01 1.523725e+01 2.449691e+01  
## ly\_sign[4] 4.999013e+00 7.397145e+00 1.433257e+01  
## ly\_sign[5] -2.749849e+00 -1.545965e+00 4.587880e-03  
## ly\_sign[6] 3.851133e+00 5.925541e+00 1.165587e+01  
## ly\_sign[7] 3.070957e+00 4.873758e+00 9.698574e+00  
## Theta\_var[1] 9.825151e-01 1.052497e+00 1.202271e+00  
## Theta\_var[2] 9.015256e-01 1.010052e+00 1.211494e+00  
## Theta\_var[3] 8.553464e-01 9.980959e-01 1.216010e+00  
## Theta\_var[4] 9.667114e-01 1.051548e+00 1.242016e+00  
## Theta\_var[5] 3.886797e-01 5.541014e-01 8.195774e-01  
## Theta\_var[6] 8.594963e-01 9.428563e-01 1.121132e+00  
## Theta\_var[7] 9.603078e-01 1.032525e+00 1.198846e+00  
## Theta\_var[8] 9.075953e-01 9.913705e-01 1.174670e+00  
## Theta\_var[9] 9.450988e-01 1.034388e+00 1.233914e+00  
## Psi\_var[1] 8.975360e-03 2.719736e-02 1.440031e-01  
## Psi\_var[2] 4.853963e-03 1.086273e-02 5.808966e-02  
## Nu\_free[1] 3.568861e-04 4.852781e-02 1.430038e-01  
## Nu\_free[2] 8.914764e-04 5.730151e-02 1.627685e-01  
## Nu\_free[3] -8.374298e-03 5.018998e-02 1.669091e-01  
## Nu\_free[4] -1.222667e-03 5.558831e-02 1.685133e-01  
## Nu\_free[5] -9.929008e-03 4.277850e-02 1.483091e-01  
## Nu\_free[6] -7.010965e-03 4.834213e-02 1.550479e-01  
## Nu\_free[7] 4.201039e-04 5.273977e-02 1.602628e-01  
## Nu\_free[8] -1.035180e-02 4.392436e-02 1.495056e-01  
## Nu\_free[9] -1.023348e-02 4.874913e-02 1.656927e-01  
## lp\_\_ -1.939661e+03 -1.936709e+03 -1.931448e+03  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.744052e+00 6.22467452 -1.582615e+01 -5.218650e+00  
## ly\_sign[2] 2.337319e+00 6.60833154 -1.216307e+01 -1.286605e+00  
## ly\_sign[3] 1.126238e+01 5.79689656 2.504722e+00 6.776004e+00  
## ly\_sign[4] 5.549576e+00 3.41357898 1.071038e+00 3.019553e+00  
## ly\_sign[5] -3.150564e+00 2.28130594 -8.694193e+00 -4.325672e+00  
## ly\_sign[6] 4.391922e+00 2.88804660 7.773087e-01 2.291508e+00  
## ly\_sign[7] 3.413224e+00 2.50170412 1.222561e-01 1.618174e+00  
## Theta\_var[1] 9.827777e-01 0.11111980 7.727997e-01 9.063075e-01  
## Theta\_var[2] 7.967046e-01 0.33899714 3.778296e-03 6.994682e-01  
## Theta\_var[3] 6.868310e-01 0.39242486 2.388337e-03 3.145986e-01  
## Theta\_var[4] 9.779542e-01 0.12449484 7.580735e-01 8.936556e-01  
## Theta\_var[5] 3.815907e-01 0.23312260 1.979996e-03 1.923401e-01  
## Theta\_var[6] 8.647183e-01 0.12680628 6.163961e-01 7.844810e-01  
## Theta\_var[7] 9.629191e-01 0.11147346 7.684334e-01 8.854249e-01  
## Theta\_var[8] 9.173742e-01 0.12331582 6.863997e-01 8.358136e-01  
## Theta\_var[9] 9.580273e-01 0.12949104 7.378296e-01 8.678855e-01  
## Psi\_var[1] 2.562785e-02 0.04517368 7.013318e-05 3.054558e-03  
## Psi\_var[2] 1.234165e-02 0.02162894 9.480609e-04 2.618669e-03  
## Nu\_free[1] -1.849584e-03 0.07223152 -1.426979e-01 -4.953917e-02  
## Nu\_free[2] 2.211391e-03 0.08556960 -1.682515e-01 -5.450501e-02  
## Nu\_free[3] -9.248148e-03 0.09162702 -1.826846e-01 -6.925298e-02  
## Nu\_free[4] 1.374878e-03 0.08623249 -1.685629e-01 -5.728732e-02  
## Nu\_free[5] -8.886825e-03 0.07881969 -1.651692e-01 -6.230414e-02  
## Nu\_free[6] -2.497541e-03 0.08280202 -1.677290e-01 -5.660311e-02  
## Nu\_free[7] -9.911237e-04 0.08081392 -1.552806e-01 -5.472427e-02  
## Nu\_free[8] -1.022442e-02 0.08226451 -1.757210e-01 -6.557362e-02  
## Nu\_free[9] -8.910667e-03 0.08951976 -1.780819e-01 -7.190048e-02  
## lp\_\_ -1.939765e+03 4.79017321 -1.950016e+03 -1.942795e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] -2.159071e-02 1.470101e+00 9.856919e+00  
## ly\_sign[2] 2.075075e+00 6.330782e+00 1.565358e+01  
## ly\_sign[3] 1.050298e+01 1.489266e+01 2.460392e+01  
## ly\_sign[4] 4.970988e+00 7.321236e+00 1.366687e+01  
## ly\_sign[5] -2.709585e+00 -1.510905e+00 -8.834552e-02  
## ly\_sign[6] 3.753232e+00 5.811531e+00 1.179287e+01  
## ly\_sign[7] 2.927066e+00 4.640091e+00 9.683607e+00  
## Theta\_var[1] 9.806487e-01 1.053964e+00 1.209478e+00  
## Theta\_var[2] 9.075431e-01 1.018406e+00 1.226042e+00  
## Theta\_var[3] 8.366498e-01 9.884002e-01 1.218804e+00  
## Theta\_var[4] 9.682316e-01 1.052549e+00 1.242350e+00  
## Theta\_var[5] 3.966041e-01 5.500652e-01 8.179712e-01  
## Theta\_var[6] 8.633345e-01 9.448768e-01 1.125117e+00  
## Theta\_var[7] 9.515726e-01 1.033898e+00 1.200555e+00  
## Theta\_var[8] 9.096456e-01 9.965401e-01 1.185844e+00  
## Theta\_var[9] 9.448574e-01 1.039727e+00 1.243371e+00  
## Psi\_var[1] 1.017643e-02 2.912801e-02 1.470682e-01  
## Psi\_var[2] 5.039887e-03 1.192894e-02 7.701895e-02  
## Nu\_free[1] -1.596627e-03 4.655862e-02 1.411258e-01  
## Nu\_free[2] 2.014091e-03 5.914399e-02 1.686177e-01  
## Nu\_free[3] -1.156819e-02 4.864893e-02 1.724179e-01  
## Nu\_free[4] 1.497163e-03 6.066741e-02 1.682053e-01  
## Nu\_free[5] -7.815114e-03 4.346791e-02 1.408553e-01  
## Nu\_free[6] -3.355980e-03 5.208438e-02 1.631853e-01  
## Nu\_free[7] -1.259865e-04 5.238793e-02 1.557619e-01  
## Nu\_free[8] -9.948397e-03 4.603687e-02 1.488446e-01  
## Nu\_free[9] -1.011618e-02 5.194779e-02 1.667326e-01  
## lp\_\_ -1.939563e+03 -1.936284e+03 -1.931186e+03  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -1.520082e+00 6.91969734 -1.713470e+01 -5.182834e+00  
## ly\_sign[2] 2.296923e+00 6.87169781 -1.264041e+01 -1.389655e+00  
## ly\_sign[3] 1.110370e+01 5.71345251 2.610843e+00 6.711320e+00  
## ly\_sign[4] 5.631015e+00 3.60264039 1.148515e+00 3.042863e+00  
## ly\_sign[5] -3.152651e+00 2.36060453 -8.591770e+00 -4.307904e+00  
## ly\_sign[6] 4.354612e+00 2.88612539 7.693420e-01 2.262834e+00  
## ly\_sign[7] 3.418901e+00 2.47816052 1.559295e-01 1.640237e+00  
## Theta\_var[1] 9.860020e-01 0.11202814 7.847004e-01 9.106883e-01  
## Theta\_var[2] 8.080682e-01 0.32418709 1.394492e-02 7.235709e-01  
## Theta\_var[3] 7.008833e-01 0.37819375 3.890828e-03 3.700890e-01  
## Theta\_var[4] 9.769312e-01 0.12287433 7.620035e-01 8.904765e-01  
## Theta\_var[5] 3.860825e-01 0.23386042 4.133882e-03 1.999662e-01  
## Theta\_var[6] 8.586938e-01 0.13472543 6.097209e-01 7.737124e-01  
## Theta\_var[7] 9.645180e-01 0.11176645 7.642376e-01 8.878816e-01  
## Theta\_var[8] 9.199195e-01 0.12553422 6.903889e-01 8.375984e-01  
## Theta\_var[9] 9.584166e-01 0.12848680 7.332614e-01 8.709152e-01  
## Psi\_var[1] 2.410580e-02 0.04469065 4.732856e-05 2.435665e-03  
## Psi\_var[2] 1.207311e-02 0.01939019 9.169006e-04 2.666634e-03  
## Nu\_free[1] 3.565000e-03 0.07416498 -1.385452e-01 -4.713512e-02  
## Nu\_free[2] 1.986645e-03 0.08081897 -1.543191e-01 -5.252069e-02  
## Nu\_free[3] -7.804880e-03 0.09058398 -1.830429e-01 -6.756165e-02  
## Nu\_free[4] -3.357553e-03 0.08566378 -1.726030e-01 -6.121342e-02  
## Nu\_free[5] -9.304584e-03 0.07991301 -1.668713e-01 -6.261343e-02  
## Nu\_free[6] -2.858896e-03 0.08417216 -1.662849e-01 -5.853290e-02  
## Nu\_free[7] 4.011666e-04 0.08004144 -1.546912e-01 -5.444388e-02  
## Nu\_free[8] -1.042067e-02 0.08196068 -1.705260e-01 -6.559180e-02  
## Nu\_free[9] -1.019100e-02 0.09240165 -1.968543e-01 -7.312958e-02  
## lp\_\_ -1.939841e+03 4.74125403 -1.949786e+03 -1.942880e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 8.172463e-02 1.582995e+00 1.350969e+01  
## ly\_sign[2] 2.030053e+00 6.248735e+00 1.675770e+01  
## ly\_sign[3] 1.035745e+01 1.472738e+01 2.425510e+01  
## ly\_sign[4] 4.800062e+00 7.320226e+00 1.497271e+01  
## ly\_sign[5] -2.690916e+00 -1.501492e+00 -6.514319e-02  
## ly\_sign[6] 3.727565e+00 5.746015e+00 1.144272e+01  
## ly\_sign[7] 2.922270e+00 4.671958e+00 9.433915e+00  
## Theta\_var[1] 9.789938e-01 1.055688e+00 1.226270e+00  
## Theta\_var[2] 9.094614e-01 1.018860e+00 1.220675e+00  
## Theta\_var[3] 8.410689e-01 9.895987e-01 1.222070e+00  
## Theta\_var[4] 9.681022e-01 1.050984e+00 1.253456e+00  
## Theta\_var[5] 3.902880e-01 5.599105e-01 8.281512e-01  
## Theta\_var[6] 8.543841e-01 9.412509e-01 1.134317e+00  
## Theta\_var[7] 9.572791e-01 1.035230e+00 1.204816e+00  
## Theta\_var[8] 9.135229e-01 1.000361e+00 1.183585e+00  
## Theta\_var[9] 9.470656e-01 1.038155e+00 1.233259e+00  
## Psi\_var[1] 8.817596e-03 2.652516e-02 1.394210e-01  
## Psi\_var[2] 5.318796e-03 1.251621e-02 6.779719e-02  
## Nu\_free[1] 2.055119e-03 5.406668e-02 1.489505e-01  
## Nu\_free[2] 1.843102e-03 5.577954e-02 1.617701e-01  
## Nu\_free[3] -7.706450e-03 5.305523e-02 1.744644e-01  
## Nu\_free[4] -3.751119e-03 5.451543e-02 1.681915e-01  
## Nu\_free[5] -8.040292e-03 4.178339e-02 1.488606e-01  
## Nu\_free[6] -2.543782e-03 5.217830e-02 1.660708e-01  
## Nu\_free[7] -2.739882e-04 5.456177e-02 1.573517e-01  
## Nu\_free[8] -1.105559e-02 4.572456e-02 1.535478e-01  
## Nu\_free[9] -8.812053e-03 4.980663e-02 1.706126e-01  
## lp\_\_ -1.939617e+03 -1.936441e+03 -1.931331e+03  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## ly\_sign[1] -9.900455e-01 6.53069959 -1.534057e+01 -4.387244e+00  
## ly\_sign[2] 2.656741e+00 6.84766534 -1.231072e+01 -1.113213e+00  
## ly\_sign[3] 1.113442e+01 5.77676755 2.567556e+00 6.817676e+00  
## ly\_sign[4] 5.711579e+00 3.63408388 1.168291e+00 3.012684e+00  
## ly\_sign[5] -3.057687e+00 2.21172849 -8.600871e+00 -4.228915e+00  
## ly\_sign[6] 4.322661e+00 2.77484408 7.771147e-01 2.277172e+00  
## ly\_sign[7] 3.432498e+00 2.51140261 1.398949e-01 1.587001e+00  
## Theta\_var[1] 9.794076e-01 0.11995642 7.362211e-01 9.065943e-01  
## Theta\_var[2] 8.340762e-01 0.30592772 2.572292e-02 7.682411e-01  
## Theta\_var[3] 6.856771e-01 0.39158616 1.999228e-03 3.194223e-01  
## Theta\_var[4] 9.775601e-01 0.12312808 7.634424e-01 8.901223e-01  
## Theta\_var[5] 3.893527e-01 0.23994336 2.819756e-03 1.920528e-01  
## Theta\_var[6] 8.583178e-01 0.13427178 6.028252e-01 7.760451e-01  
## Theta\_var[7] 9.630253e-01 0.11542579 7.576813e-01 8.839661e-01  
## Theta\_var[8] 9.168956e-01 0.12205114 6.939054e-01 8.315489e-01  
## Theta\_var[9] 9.557691e-01 0.12798790 7.355705e-01 8.646945e-01  
## Psi\_var[1] 2.899150e-02 0.06172277 3.101191e-05 2.512196e-03  
## Psi\_var[2] 1.240884e-02 0.02154124 9.620399e-04 2.670026e-03  
## Nu\_free[1] 2.030600e-03 0.07510166 -1.436286e-01 -4.805392e-02  
## Nu\_free[2] 2.228512e-03 0.08451626 -1.582984e-01 -5.569785e-02  
## Nu\_free[3] -9.943640e-03 0.09098237 -1.911114e-01 -7.011841e-02  
## Nu\_free[4] -2.271578e-03 0.08779540 -1.717207e-01 -6.138079e-02  
## Nu\_free[5] -9.479791e-03 0.08212585 -1.711249e-01 -6.468657e-02  
## Nu\_free[6] -4.982650e-03 0.08273021 -1.696217e-01 -6.060837e-02  
## Nu\_free[7] -1.467112e-03 0.07898702 -1.568444e-01 -5.345490e-02  
## Nu\_free[8] -8.399641e-03 0.08408730 -1.853757e-01 -6.233419e-02  
## Nu\_free[9] -1.369570e-02 0.09178826 -1.923186e-01 -7.797099e-02  
## lp\_\_ -1.940030e+03 4.89477894 -1.949960e+03 -1.943162e+03  
## stats  
## parameter 50% 75% 97.5%  
## ly\_sign[1] 2.542273e-01 1.689293e+00 1.341522e+01  
## ly\_sign[2] 2.724667e+00 6.501774e+00 1.685408e+01  
## ly\_sign[3] 1.023932e+01 1.454027e+01 2.435476e+01  
## ly\_sign[4] 4.911107e+00 7.573920e+00 1.425514e+01  
## ly\_sign[5] -2.615082e+00 -1.472050e+00 -6.940146e-02  
## ly\_sign[6] 3.726116e+00 5.722006e+00 1.110522e+01  
## ly\_sign[7] 2.945265e+00 4.688671e+00 9.677197e+00  
## Theta\_var[1] 9.781441e-01 1.053995e+00 1.219039e+00  
## Theta\_var[2] 9.227383e-01 1.026188e+00 1.220746e+00  
## Theta\_var[3] 8.335350e-01 9.917189e-01 1.229722e+00  
## Theta\_var[4] 9.674437e-01 1.053591e+00 1.248517e+00  
## Theta\_var[5] 4.027148e-01 5.634051e-01 8.470429e-01  
## Theta\_var[6] 8.561722e-01 9.392112e-01 1.127131e+00  
## Theta\_var[7] 9.552232e-01 1.034031e+00 1.218494e+00  
## Theta\_var[8] 9.117771e-01 9.930178e-01 1.172801e+00  
## Theta\_var[9] 9.457449e-01 1.034495e+00 1.235494e+00  
## Psi\_var[1] 9.210623e-03 2.867612e-02 1.973367e-01  
## Psi\_var[2] 5.137007e-03 1.185771e-02 7.096664e-02  
## Nu\_free[1] 1.285372e-03 5.379356e-02 1.475340e-01  
## Nu\_free[2] 2.735450e-03 5.876277e-02 1.713769e-01  
## Nu\_free[3] -7.919266e-03 5.240572e-02 1.693417e-01  
## Nu\_free[4] -2.525047e-03 5.486366e-02 1.706706e-01  
## Nu\_free[5] -9.446689e-03 4.619031e-02 1.494188e-01  
## Nu\_free[6] -4.942067e-03 5.204952e-02 1.548512e-01  
## Nu\_free[7] -7.054444e-04 4.983110e-02 1.515535e-01  
## Nu\_free[8] -6.425550e-03 4.455111e-02 1.569913e-01  
## Nu\_free[9] -1.382870e-02 4.837576e-02 1.672330e-01  
## lp\_\_ -1.939834e+03 -1.936656e+03 -1.931099e+03

## bfit.9factors

tmp7 = blavInspect(bfit.9factors, "mcobj")  
summary(tmp7)

## $summary  
## mean se\_mean sd 2.5%  
## Psi\_var[1] 1.008111e+00 0.0004824416 0.10663057 0.8205023  
## Psi\_var[2] 1.011037e+00 0.0005571240 0.12016025 0.8019687  
## Psi\_var[3] 1.012734e+00 0.0006408004 0.13062191 0.7884657  
## Psi\_var[4] 1.011826e+00 0.0005831138 0.12755834 0.7925550  
## Psi\_var[5] 1.009313e+00 0.0005463262 0.11730888 0.8053896  
## Psi\_var[6] 1.011404e+00 0.0005793544 0.12028683 0.8044460  
## Psi\_var[7] 1.010260e+00 0.0005494496 0.11476445 0.8077297  
## Psi\_var[8] 1.010890e+00 0.0006090045 0.12163487 0.8017616  
## Psi\_var[9] 1.013682e+00 0.0006307594 0.13194900 0.7890409  
## Nu\_free[1] 5.209758e-04 0.0003501260 0.07402410 -0.1429560  
## Nu\_free[2] -1.115586e-04 0.0003715623 0.08322248 -0.1640529  
## Nu\_free[3] -2.620180e-04 0.0004091892 0.09016695 -0.1781994  
## Nu\_free[4] -2.224684e-04 0.0004169830 0.08807807 -0.1729604  
## Nu\_free[5] -2.492853e-04 0.0003623198 0.08214400 -0.1615804  
## Nu\_free[6] 2.283912e-04 0.0003809286 0.08349492 -0.1624580  
## Nu\_free[7] -4.440693e-04 0.0003757818 0.08053684 -0.1598200  
## Nu\_free[8] -4.171303e-05 0.0003918886 0.08505806 -0.1674593  
## Nu\_free[9] 1.261992e-04 0.0004212579 0.08983377 -0.1767348  
## lp\_\_ -1.924738e+03 0.0362079158 3.03733626 -1931.5694263  
## 25% 50% 75% 97.5%  
## Psi\_var[1] 9.326041e-01 1.000791e+00 1.074567e+00 1.2391959  
## Psi\_var[2] 9.272068e-01 1.001929e+00 1.084275e+00 1.2776624  
## Psi\_var[3] 9.208198e-01 1.000937e+00 1.093670e+00 1.2986811  
## Psi\_var[4] 9.211748e-01 1.001067e+00 1.090367e+00 1.2930275  
## Psi\_var[5] 9.261393e-01 9.999400e-01 1.082991e+00 1.2641629  
## Psi\_var[6] 9.260481e-01 1.002102e+00 1.086704e+00 1.2748797  
## Psi\_var[7] 9.301321e-01 1.001706e+00 1.079881e+00 1.2598169  
## Psi\_var[8] 9.250556e-01 1.001928e+00 1.085920e+00 1.2708150  
## Psi\_var[9] 9.203468e-01 1.001830e+00 1.094486e+00 1.3057632  
## Nu\_free[1] -4.985510e-02 7.447506e-04 5.043797e-02 0.1436490  
## Nu\_free[2] -5.523430e-02 -2.844422e-04 5.584669e-02 0.1647539  
## Nu\_free[3] -6.098973e-02 -1.121873e-05 6.054655e-02 0.1768894  
## Nu\_free[4] -5.866210e-02 1.896986e-05 5.909917e-02 0.1719159  
## Nu\_free[5] -5.492270e-02 -7.166082e-04 5.484160e-02 0.1606440  
## Nu\_free[6] -5.620200e-02 2.907449e-04 5.676207e-02 0.1630666  
## Nu\_free[7] -5.430220e-02 -5.463883e-04 5.435154e-02 0.1586985  
## Nu\_free[8] -5.734185e-02 2.358344e-04 5.698931e-02 0.1670682  
## Nu\_free[9] -5.970184e-02 -8.263192e-05 5.913118e-02 0.1773915  
## lp\_\_ -1.926576e+03 -1.924402e+03 -1.922571e+03 -1919.7493018  
## n\_eff Rhat  
## Psi\_var[1] 48851.050 0.9998673  
## Psi\_var[2] 46517.676 0.9998996  
## Psi\_var[3] 41551.480 0.9998943  
## Psi\_var[4] 47853.207 0.9998066  
## Psi\_var[5] 46106.030 0.9998398  
## Psi\_var[6] 43106.970 0.9998894  
## Psi\_var[7] 43627.376 0.9998649  
## Psi\_var[8] 39891.025 0.9999805  
## Psi\_var[9] 43760.750 0.9998699  
## Nu\_free[1] 44698.977 0.9998658  
## Nu\_free[2] 50166.990 0.9998892  
## Nu\_free[3] 48556.402 0.9998734  
## Nu\_free[4] 44616.854 0.9998947  
## Nu\_free[5] 51400.527 0.9998097  
## Nu\_free[6] 48043.314 0.9998756  
## Nu\_free[7] 45932.257 0.9998481  
## Nu\_free[8] 47109.187 0.9999026  
## Nu\_free[9] 45476.092 0.9998570  
## lp\_\_ 7036.857 1.0006998  
##   
## $c\_summary  
## , , chains = chain:1  
##   
## stats  
## parameter mean sd 2.5% 25%  
## Psi\_var[1] 1.008872e+00 0.10820558 0.8193103 9.324483e-01  
## Psi\_var[2] 1.011443e+00 0.11945155 0.8043082 9.299534e-01  
## Psi\_var[3] 1.014107e+00 0.13232302 0.7880119 9.195392e-01  
## Psi\_var[4] 1.011662e+00 0.12523669 0.7942858 9.230409e-01  
## Psi\_var[5] 1.010000e+00 0.11746351 0.8058215 9.263907e-01  
## Psi\_var[6] 1.011257e+00 0.11861570 0.8068324 9.252077e-01  
## Psi\_var[7] 1.009657e+00 0.11405793 0.8062066 9.300542e-01  
## Psi\_var[8] 1.008575e+00 0.12007730 0.8006580 9.240102e-01  
## Psi\_var[9] 1.012305e+00 0.13095859 0.7938991 9.193974e-01  
## Nu\_free[1] 6.304516e-04 0.07341166 -0.1401233 -5.011573e-02  
## Nu\_free[2] -7.714270e-04 0.08217535 -0.1629948 -5.531143e-02  
## Nu\_free[3] -1.624184e-03 0.09239809 -0.1863712 -6.267652e-02  
## Nu\_free[4] -5.016345e-04 0.08927113 -0.1748334 -5.990031e-02  
## Nu\_free[5] -2.004809e-04 0.08274630 -0.1579391 -5.474513e-02  
## Nu\_free[6] -5.826763e-05 0.08381743 -0.1661551 -5.545408e-02  
## Nu\_free[7] -1.150413e-03 0.07870258 -0.1571400 -5.334150e-02  
## Nu\_free[8] -4.531964e-05 0.08594650 -0.1713477 -5.823080e-02  
## Nu\_free[9] 1.030522e-03 0.09190382 -0.1839356 -5.887101e-02  
## lp\_\_ -1.924743e+03 3.01763829 -1931.4167546 -1.926646e+03  
## stats  
## parameter 50% 75% 97.5%  
## Psi\_var[1] 1.000877e+00 1.074863e+00 1.2401186  
## Psi\_var[2] 1.001153e+00 1.083025e+00 1.2807399  
## Psi\_var[3] 1.001190e+00 1.098005e+00 1.3015203  
## Psi\_var[4] 1.000162e+00 1.090119e+00 1.2909958  
## Psi\_var[5] 1.000498e+00 1.084104e+00 1.2649221  
## Psi\_var[6] 1.002692e+00 1.087999e+00 1.2658248  
## Psi\_var[7] 1.000930e+00 1.080221e+00 1.2587924  
## Psi\_var[8] 1.000320e+00 1.083491e+00 1.2667078  
## Psi\_var[9] 9.996117e-01 1.092133e+00 1.2958532  
## Nu\_free[1] 8.193379e-04 4.993833e-02 0.1458327  
## Nu\_free[2] -3.423613e-04 5.471102e-02 0.1609275  
## Nu\_free[3] -2.120377e-03 6.022467e-02 0.1830998  
## Nu\_free[4] -2.774608e-04 5.992488e-02 0.1744881  
## Nu\_free[5] -1.427092e-03 5.563020e-02 0.1627367  
## Nu\_free[6] 7.188642e-05 5.611257e-02 0.1608406  
## Nu\_free[7] -1.245567e-03 5.237668e-02 0.1559248  
## Nu\_free[8] 1.110960e-03 5.823721e-02 0.1691169  
## Nu\_free[9] 9.038077e-04 6.163334e-02 0.1832690  
## lp\_\_ -1.924427e+03 -1.922557e+03 -1919.8275500  
##   
## , , chains = chain:2  
##   
## stats  
## parameter mean sd 2.5% 25%  
## Psi\_var[1] 1.008566e+00 0.10600068 0.8202699 9.327706e-01  
## Psi\_var[2] 1.010691e+00 0.11871414 0.8053883 9.279886e-01  
## Psi\_var[3] 1.013578e+00 0.12901747 0.7891590 9.258247e-01  
## Psi\_var[4] 1.011843e+00 0.12888946 0.7884478 9.193441e-01  
## Psi\_var[5] 1.009693e+00 0.11482078 0.8066328 9.287135e-01  
## Psi\_var[6] 1.010762e+00 0.11832600 0.8068775 9.274604e-01  
## Psi\_var[7] 1.008955e+00 0.11403759 0.8081571 9.297611e-01  
## Psi\_var[8] 1.011778e+00 0.12135832 0.8056514 9.229070e-01  
## Psi\_var[9] 1.014767e+00 0.13532490 0.7862122 9.202703e-01  
## Nu\_free[1] 7.052031e-04 0.07492416 -0.1453182 -4.972435e-02  
## Nu\_free[2] 1.038826e-04 0.08352828 -0.1639392 -5.540718e-02  
## Nu\_free[3] 1.561236e-04 0.08975761 -0.1755477 -5.987069e-02  
## Nu\_free[4] 5.849310e-04 0.08770380 -0.1730596 -5.752508e-02  
## Nu\_free[5] -1.872009e-04 0.08368531 -0.1606384 -5.652106e-02  
## Nu\_free[6] 1.077942e-03 0.08491240 -0.1614201 -5.611126e-02  
## Nu\_free[7] -6.986409e-04 0.08002796 -0.1613274 -5.309619e-02  
## Nu\_free[8] -9.184027e-04 0.08563302 -0.1623463 -6.092804e-02  
## Nu\_free[9] -5.003872e-04 0.08882971 -0.1745503 -6.059549e-02  
## lp\_\_ -1.924729e+03 3.07240248 -1931.6772520 -1.926556e+03  
## stats  
## parameter 50% 75% 97.5%  
## Psi\_var[1] 1.001944e+00 1.075468e+00 1.2317804  
## Psi\_var[2] 1.002549e+00 1.084319e+00 1.2706324  
## Psi\_var[3] 1.002778e+00 1.088571e+00 1.3052634  
## Psi\_var[4] 1.001647e+00 1.090015e+00 1.2949464  
## Psi\_var[5] 1.000038e+00 1.082330e+00 1.2562188  
## Psi\_var[6] 1.002312e+00 1.082971e+00 1.2772252  
## Psi\_var[7] 1.000039e+00 1.078121e+00 1.2521595  
## Psi\_var[8] 1.003787e+00 1.086498e+00 1.2692188  
## Psi\_var[9] 1.002771e+00 1.096474e+00 1.3110104  
## Nu\_free[1] 5.360203e-04 5.154838e-02 0.1420349  
## Nu\_free[2] 1.529882e-04 5.613153e-02 0.1674225  
## Nu\_free[3] 6.041303e-04 6.058609e-02 0.1758904  
## Nu\_free[4] -6.389783e-04 6.006904e-02 0.1736953  
## Nu\_free[5] -1.833997e-03 5.549081e-02 0.1663013  
## Nu\_free[6] 1.452943e-03 5.779768e-02 0.1665905  
## Nu\_free[7] -6.090424e-04 5.315852e-02 0.1587480  
## Nu\_free[8] -2.741005e-03 5.688445e-02 0.1657639  
## Nu\_free[9] -4.094664e-04 5.797643e-02 0.1710250  
## lp\_\_ -1.924359e+03 -1.922552e+03 -1919.6960211  
##   
## , , chains = chain:3  
##   
## stats  
## parameter mean sd 2.5% 25%  
## Psi\_var[1] 1.007311e+00 0.10392305 0.8229140 9.336944e-01  
## Psi\_var[2] 1.011135e+00 0.12261001 0.8011238 9.255119e-01  
## Psi\_var[3] 1.012388e+00 0.13189046 0.7873588 9.182417e-01  
## Psi\_var[4] 1.011967e+00 0.12890557 0.7940595 9.192398e-01  
## Psi\_var[5] 1.008998e+00 0.11715337 0.8078003 9.263239e-01  
## Psi\_var[6] 1.011033e+00 0.12030431 0.8022791 9.266766e-01  
## Psi\_var[7] 1.010970e+00 0.11429441 0.8103193 9.304853e-01  
## Psi\_var[8] 1.012246e+00 0.12201522 0.7999238 9.289425e-01  
## Psi\_var[9] 1.014384e+00 0.12973773 0.7904555 9.202447e-01  
## Nu\_free[1] 1.430536e-03 0.07338662 -0.1391107 -4.921236e-02  
## Nu\_free[2] -3.731329e-04 0.08191401 -0.1624700 -5.489834e-02  
## Nu\_free[3] -2.725626e-04 0.08946053 -0.1714199 -6.241195e-02  
## Nu\_free[4] -1.358191e-03 0.08707672 -0.1690303 -5.965904e-02  
## Nu\_free[5] -5.237759e-04 0.08091246 -0.1663271 -5.372220e-02  
## Nu\_free[6] 4.866605e-04 0.08066999 -0.1560949 -5.468297e-02  
## Nu\_free[7] -1.210012e-04 0.08125494 -0.1592942 -5.539688e-02  
## Nu\_free[8] 9.223385e-04 0.08415781 -0.1674206 -5.429402e-02  
## Nu\_free[9] 2.671693e-04 0.09010969 -0.1803308 -5.838533e-02  
## lp\_\_ -1.924636e+03 2.97601810 -1931.4127038 -1.926441e+03  
## stats  
## parameter 50% 75% 97.5%  
## Psi\_var[1] 1.001615e+00 1.072390e+00 1.2354364  
## Psi\_var[2] 1.000985e+00 1.084509e+00 1.2815010  
## Psi\_var[3] 1.001776e+00 1.095714e+00 1.2888225  
## Psi\_var[4] 1.000603e+00 1.090526e+00 1.2989215  
## Psi\_var[5] 9.997535e-01 1.081569e+00 1.2704388  
## Psi\_var[6] 1.000385e+00 1.083817e+00 1.2833759  
## Psi\_var[7] 1.001908e+00 1.078481e+00 1.2667108  
## Psi\_var[8] 1.004156e+00 1.084833e+00 1.2739227  
## Psi\_var[9] 1.004330e+00 1.097068e+00 1.2994223  
## Nu\_free[1] 1.409827e-03 5.055615e-02 0.1438008  
## Nu\_free[2] -1.306346e-03 5.552445e-02 0.1616756  
## Nu\_free[3] 3.820913e-04 5.925913e-02 0.1763740  
## Nu\_free[4] -8.003868e-04 5.639341e-02 0.1681423  
## Nu\_free[5] -5.778505e-04 5.341223e-02 0.1559032  
## Nu\_free[6] 6.482346e-05 5.518149e-02 0.1577851  
## Nu\_free[7] -5.493442e-04 5.691860e-02 0.1588573  
## Nu\_free[8] 1.345693e-03 5.727899e-02 0.1652668  
## Nu\_free[9] 6.403598e-04 5.818139e-02 0.1826530  
## lp\_\_ -1.924324e+03 -1.922449e+03 -1919.7067378  
##   
## , , chains = chain:4  
##   
## stats  
## parameter mean sd 2.5% 25%  
## Psi\_var[1] 1.007697e+00 0.10835565 0.8207466 9.316314e-01  
## Psi\_var[2] 1.010878e+00 0.11986392 0.8011801 9.265457e-01  
## Psi\_var[3] 1.010864e+00 0.12923767 0.7891727 9.198310e-01  
## Psi\_var[4] 1.011831e+00 0.12720406 0.7932063 9.224706e-01  
## Psi\_var[5] 1.008562e+00 0.11977509 0.8030013 9.231748e-01  
## Psi\_var[6] 1.012563e+00 0.12384908 0.8008584 9.251391e-01  
## Psi\_var[7] 1.011457e+00 0.11666371 0.8072936 9.305071e-01  
## Psi\_var[8] 1.010960e+00 0.12307290 0.8009734 9.244574e-01  
## Psi\_var[9] 1.013272e+00 0.13173463 0.7829993 9.219880e-01  
## Nu\_free[1] -6.822879e-04 0.07436895 -0.1456763 -5.024671e-02  
## Nu\_free[2] 5.944430e-04 0.08524884 -0.1665589 -5.540595e-02  
## Nu\_free[3] 6.925509e-04 0.08902377 -0.1770865 -5.879603e-02  
## Nu\_free[4] 3.850205e-04 0.08825874 -0.1746887 -5.778254e-02  
## Nu\_free[5] -8.568340e-05 0.08122488 -0.1618826 -5.543390e-02  
## Nu\_free[6] -5.927706e-04 0.08452881 -0.1641833 -5.850040e-02  
## Nu\_free[7] 1.937779e-04 0.08213778 -0.1605229 -5.503790e-02  
## Nu\_free[8] -1.254682e-04 0.08449721 -0.1688764 -5.585113e-02  
## Nu\_free[9] -2.925077e-04 0.08847076 -0.1701022 -6.087542e-02  
## lp\_\_ -1.924843e+03 3.07947794 -1931.8087645 -1.926653e+03  
## stats  
## parameter 50% 75% 97.5%  
## Psi\_var[1] 9.989353e-01 1.074771e+00 1.2513252  
## Psi\_var[2] 1.003416e+00 1.085417e+00 1.2781076  
## Psi\_var[3] 9.973963e-01 1.091420e+00 1.2950131  
## Psi\_var[4] 1.001370e+00 1.090709e+00 1.2916449  
## Psi\_var[5] 9.991151e-01 1.083404e+00 1.2676710  
## Psi\_var[6] 1.002527e+00 1.092699e+00 1.2762178  
## Psi\_var[7] 1.003499e+00 1.082688e+00 1.2646274  
## Psi\_var[8] 9.987669e-01 1.087832e+00 1.2761583  
## Psi\_var[9] 1.001850e+00 1.092924e+00 1.3122129  
## Nu\_free[1] -2.148921e-04 4.912892e-02 0.1443322  
## Nu\_free[2] 4.732608e-04 5.673194e-02 0.1656968  
## Nu\_free[3] 1.129678e-03 6.182520e-02 0.1730741  
## Nu\_free[4] 1.399145e-03 6.011928e-02 0.1729334  
## Nu\_free[5] 7.046897e-04 5.480919e-02 0.1577760  
## Nu\_free[6] -3.958359e-04 5.766378e-02 0.1653453  
## Nu\_free[7] 1.553993e-04 5.537292e-02 0.1600991  
## Nu\_free[8] 7.361744e-04 5.547693e-02 0.1661345  
## Nu\_free[9] -9.828597e-04 5.789086e-02 0.1754051  
## lp\_\_ -1.924457e+03 -1.922696e+03 -1919.7930907

# Compare models to the 1 factor model

## MF2012

blavCompare(bfit.1factor, bfit.MF2012)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 12 (6.5%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3741.661   
##   
## WAIC difference & SE:   
## -2.053 0.898   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3741.779   
##   
## LOO difference & SE:   
## -2.079 0.898   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 1.146

## 3 factors

blavCompare(bfit.1factor, bfit.3factors)

## Warning in lav\_object\_post\_check(object): lavaan WARNING: covariance matrix of latent variables  
## is not positive definite;  
## use lavInspect(fit, "cov.lv") to investigate.  
  
## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 13 (7.0%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3739.503   
##   
## WAIC difference & SE:   
## -0.974 1.798   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3739.639   
##   
## LOO difference & SE:   
## -1.009 1.799   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 19.973

## 3 independent factors

blavCompare(bfit.1factor, bfit.3factors\_ind)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 4 (2.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3752.803   
##   
## WAIC difference & SE:   
## -7.624 4.089   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3752.876   
##   
## LOO difference & SE:   
## -7.628 4.088   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 11.970

## 2 factors (WM+Shifting, Inhibition)

blavCompare(bfit.1factor, bfit.2factors1)

## Warning: Some Pareto k diagnostic values are too high. See help('pareto-k-diagnostic') for details.

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 7 (3.8%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3745.045   
##   
## WAIC difference & SE:   
## -3.745 2.864   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3745.325   
##   
## LOO difference & SE:   
## -3.852 2.879   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 3.171

## 2 factors (WM+Inhibition, Shifting)

blavCompare(bfit.1factor, bfit.2factors2)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

## Warning: 5 (2.7%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3749.04   
##   
## WAIC difference & SE:   
## -5.743 4.277   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3749.097   
##   
## LOO difference & SE:   
## -5.738 4.277   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 14.997

## 2 factors (Inhibition + Shifting, WM)

blavCompare(bfit.1factor, bfit.2factors3)

## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.  
  
## Warning: 6 (3.2%) p\_waic estimates greater than 0.4. We recommend trying  
## loo instead.

##   
## WAIC estimates:   
## object1: 3737.555   
## object2: 3740.205   
##   
## WAIC difference & SE:   
## -1.325 4.074   
##   
## LOO estimates:   
## object1: 3737.621   
## object2: 3740.315   
##   
## LOO difference & SE:   
## -1.347 4.077   
##   
## Laplace approximation to the log-Bayes factor  
## (experimental; positive values favor object1): 15.943