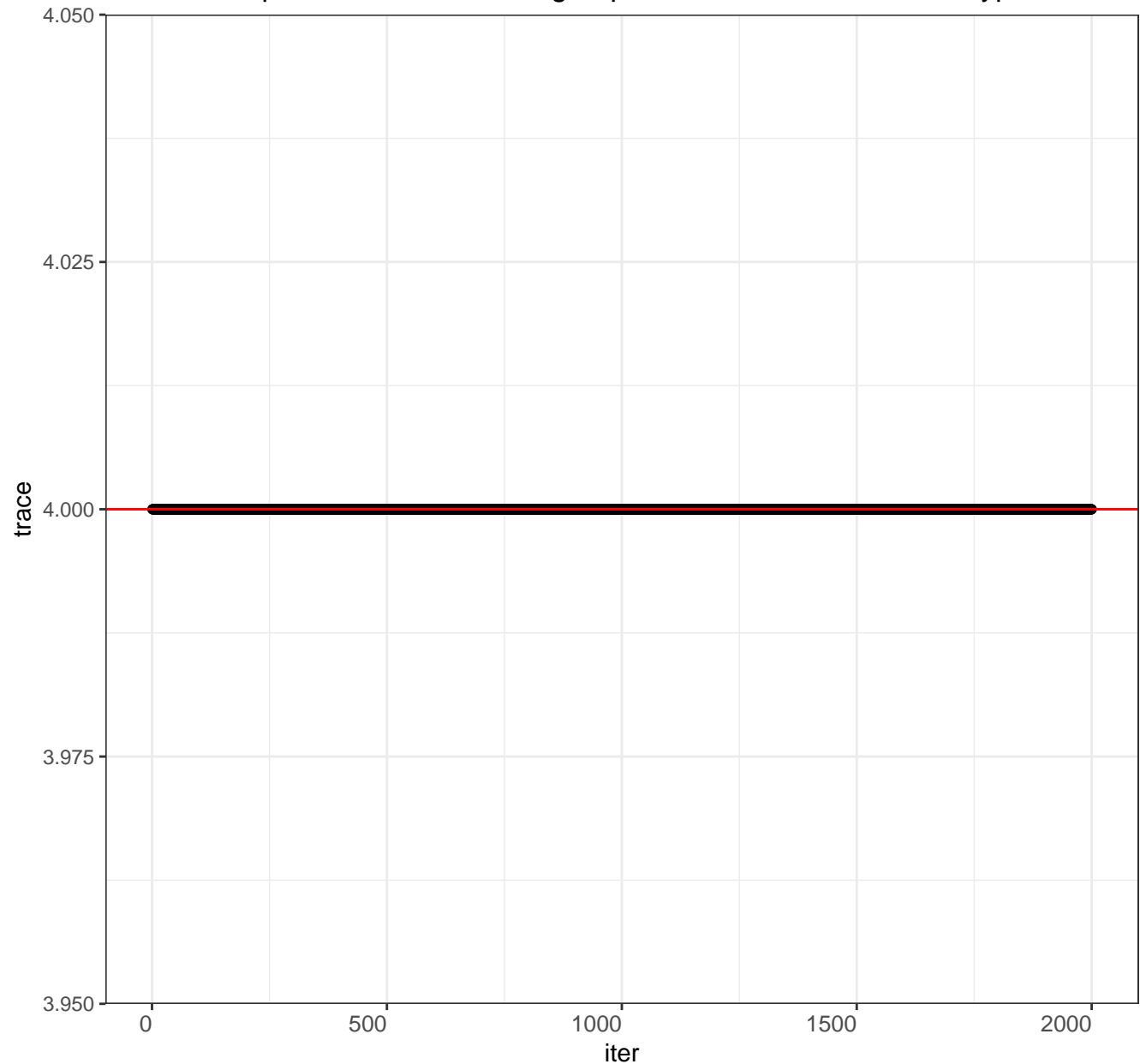




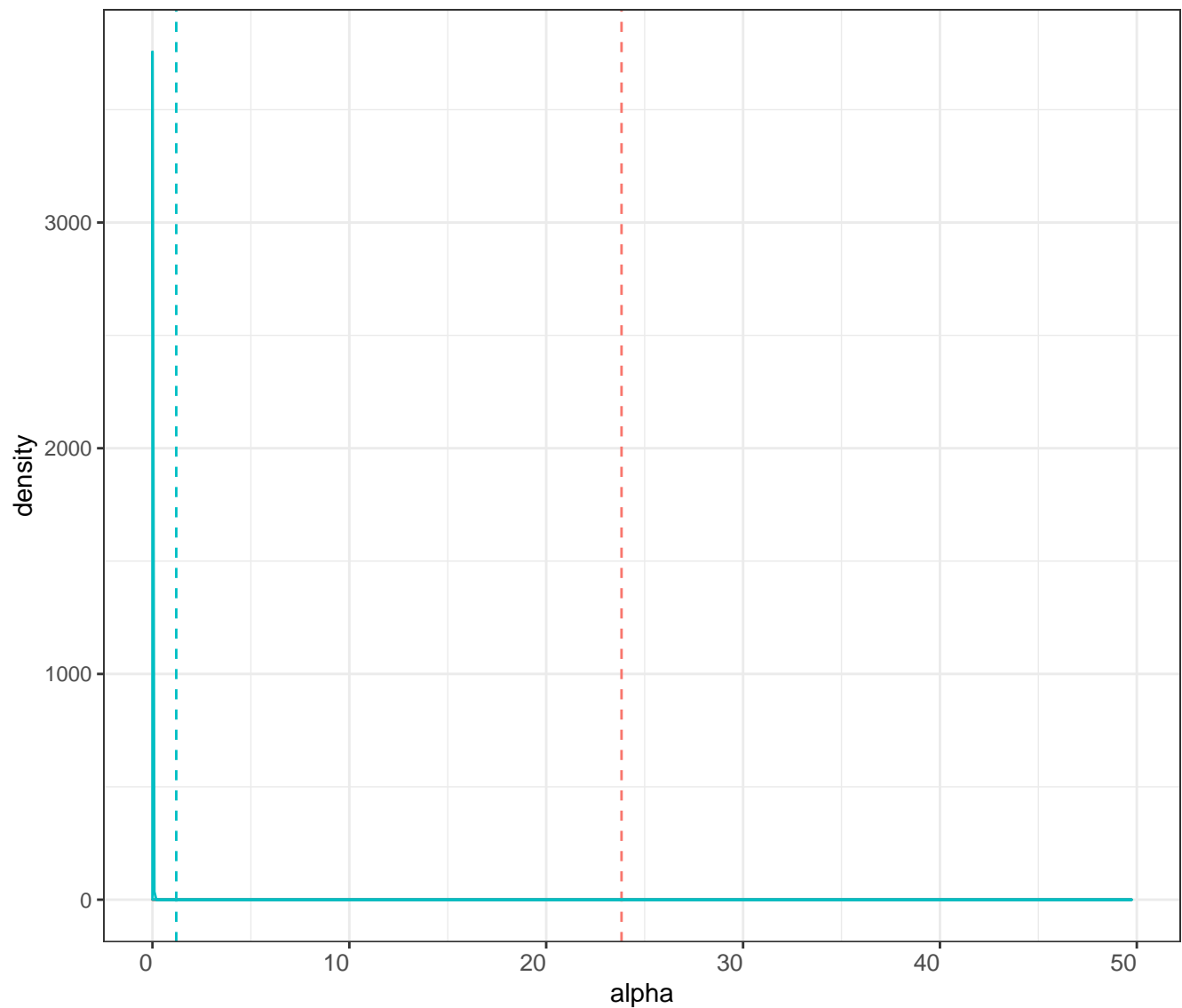
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

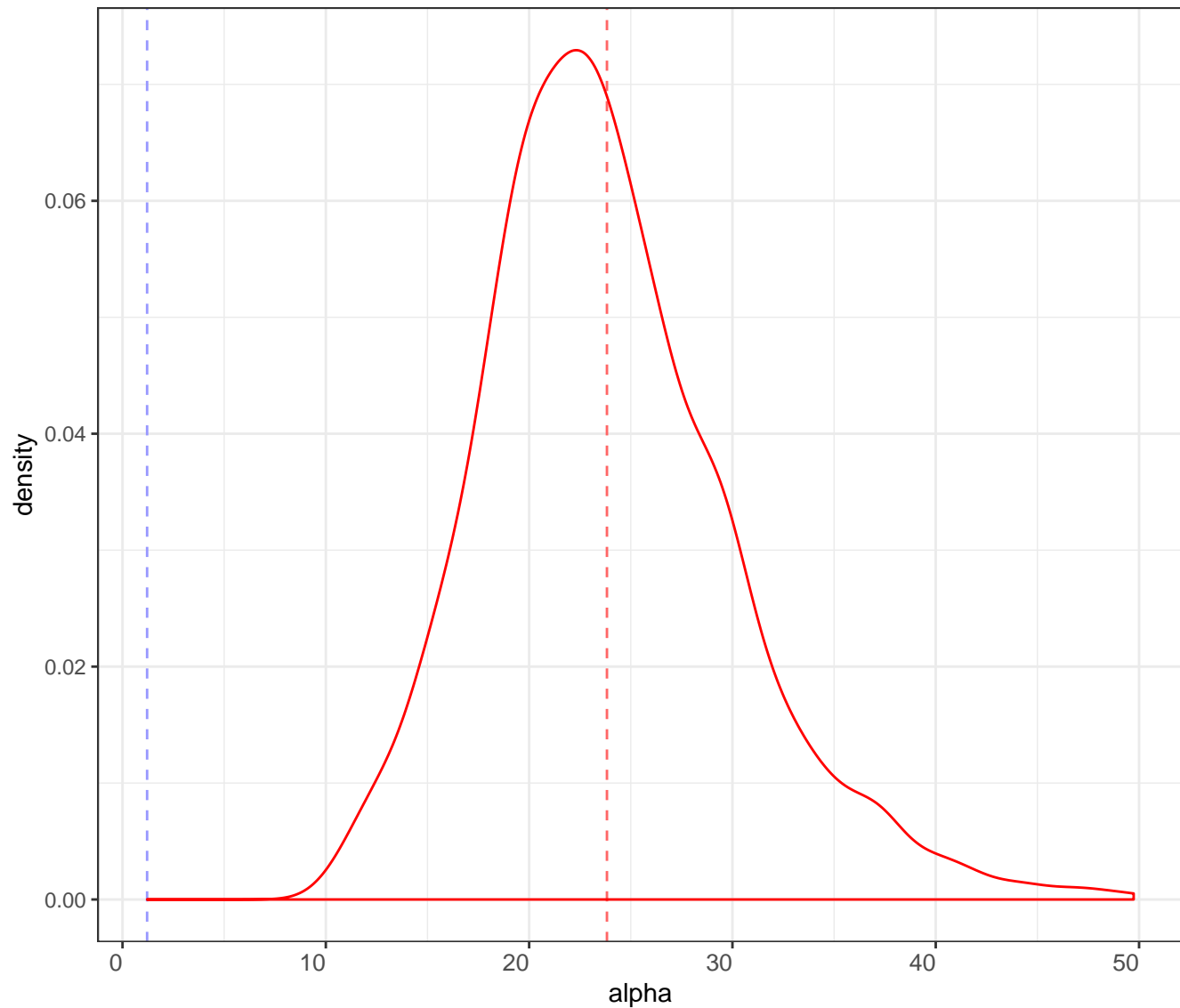
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

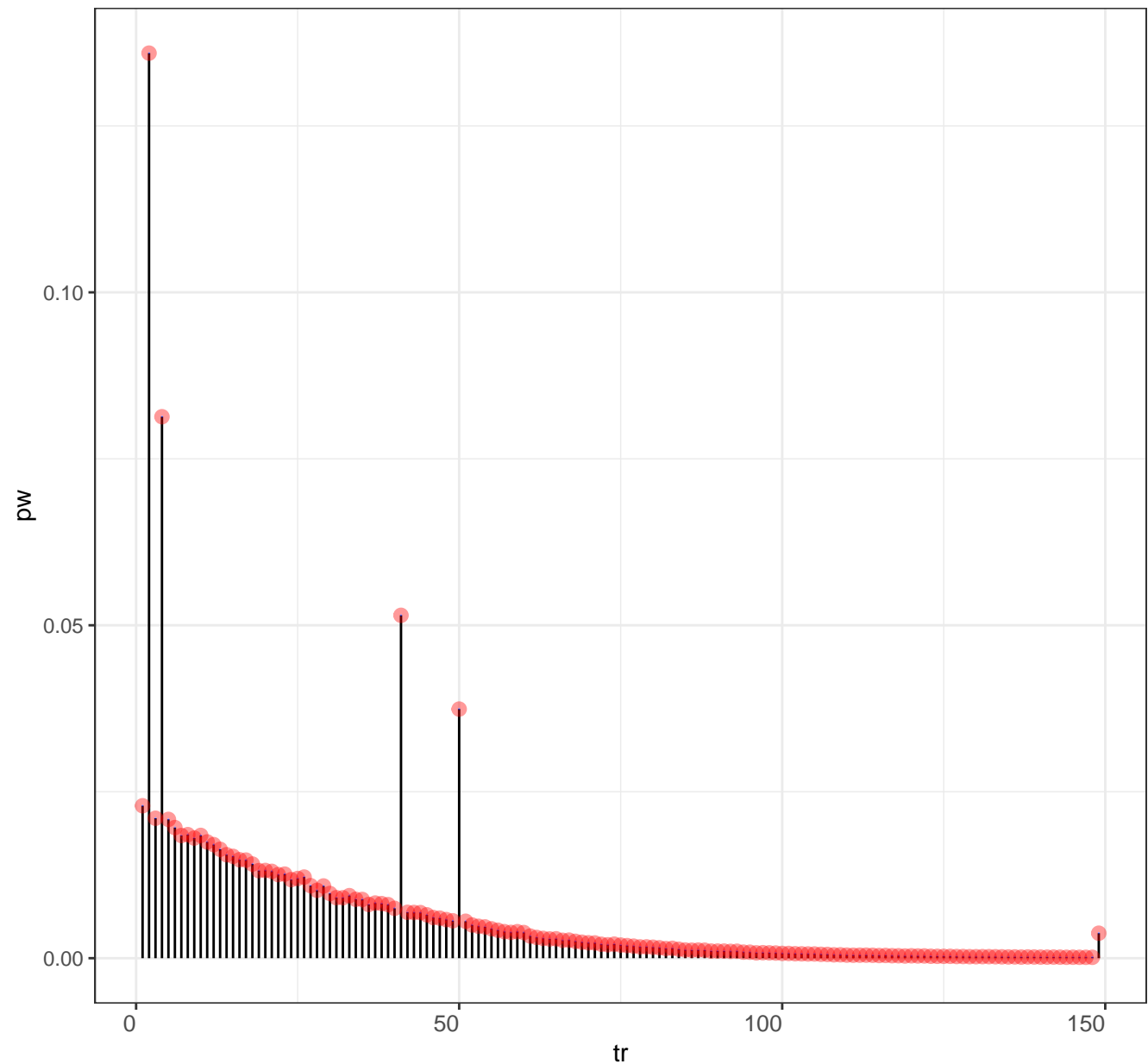
# Posterior distribution for alpha

Legend    posterior mean    prior mean



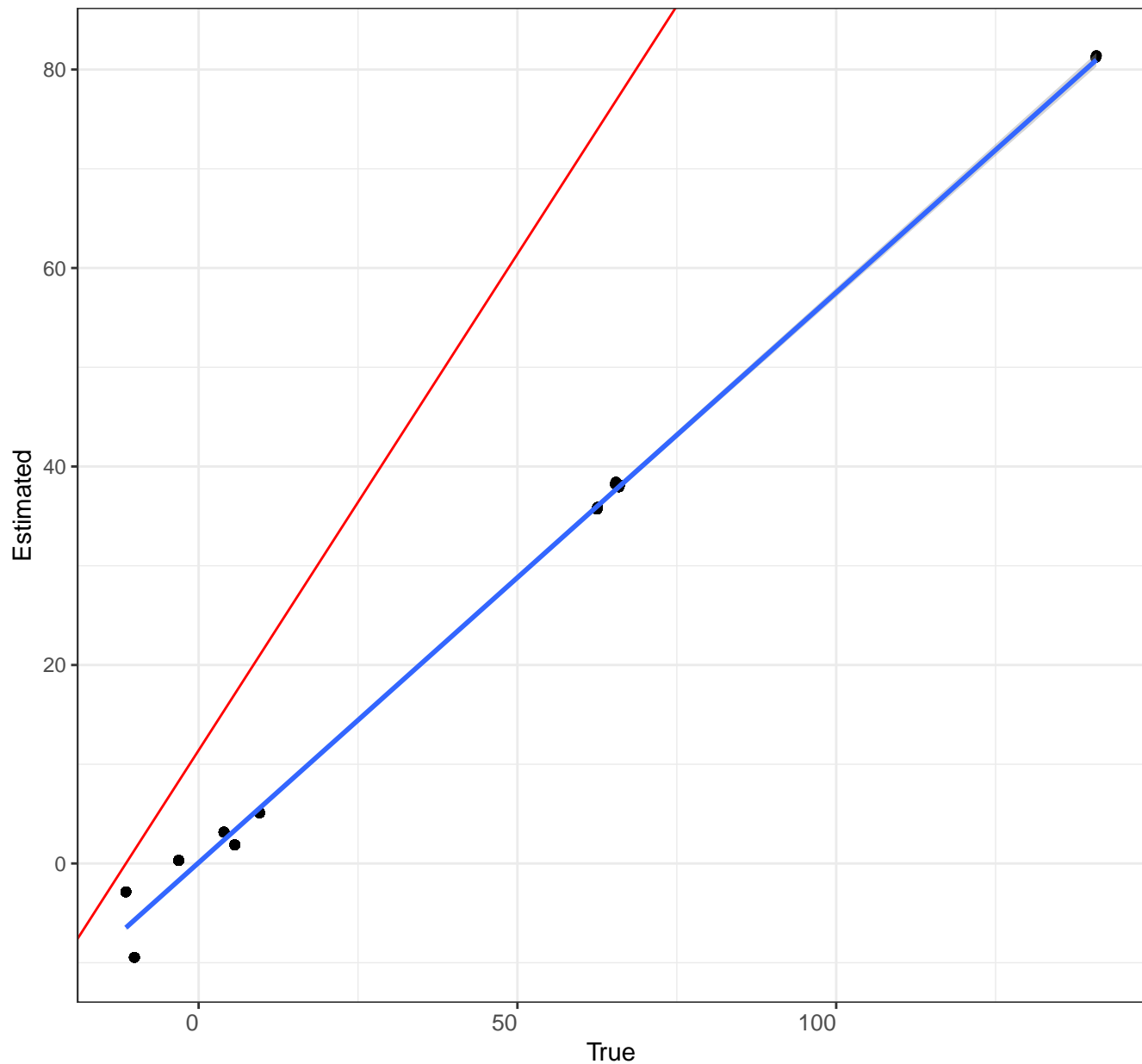
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



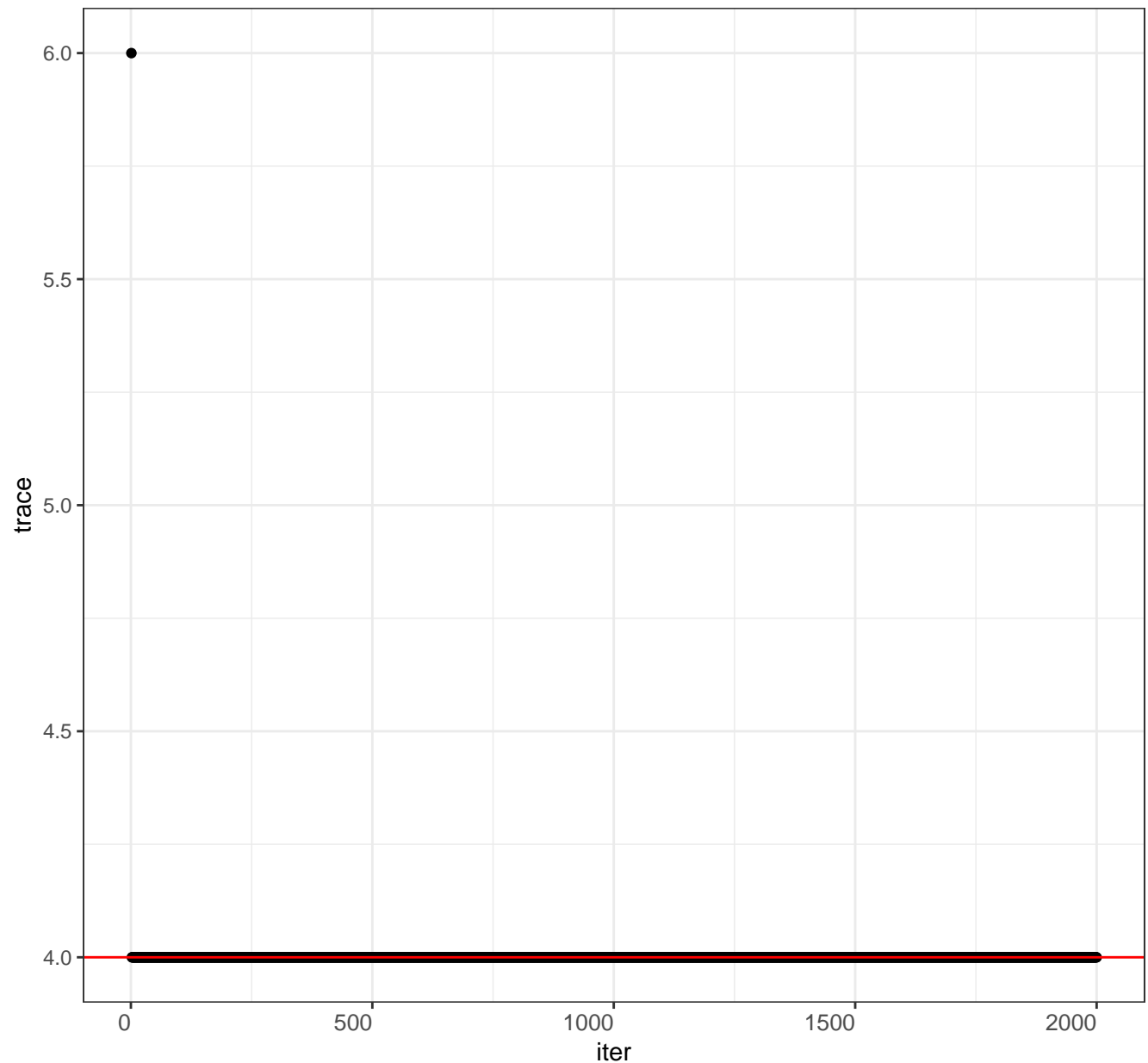
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

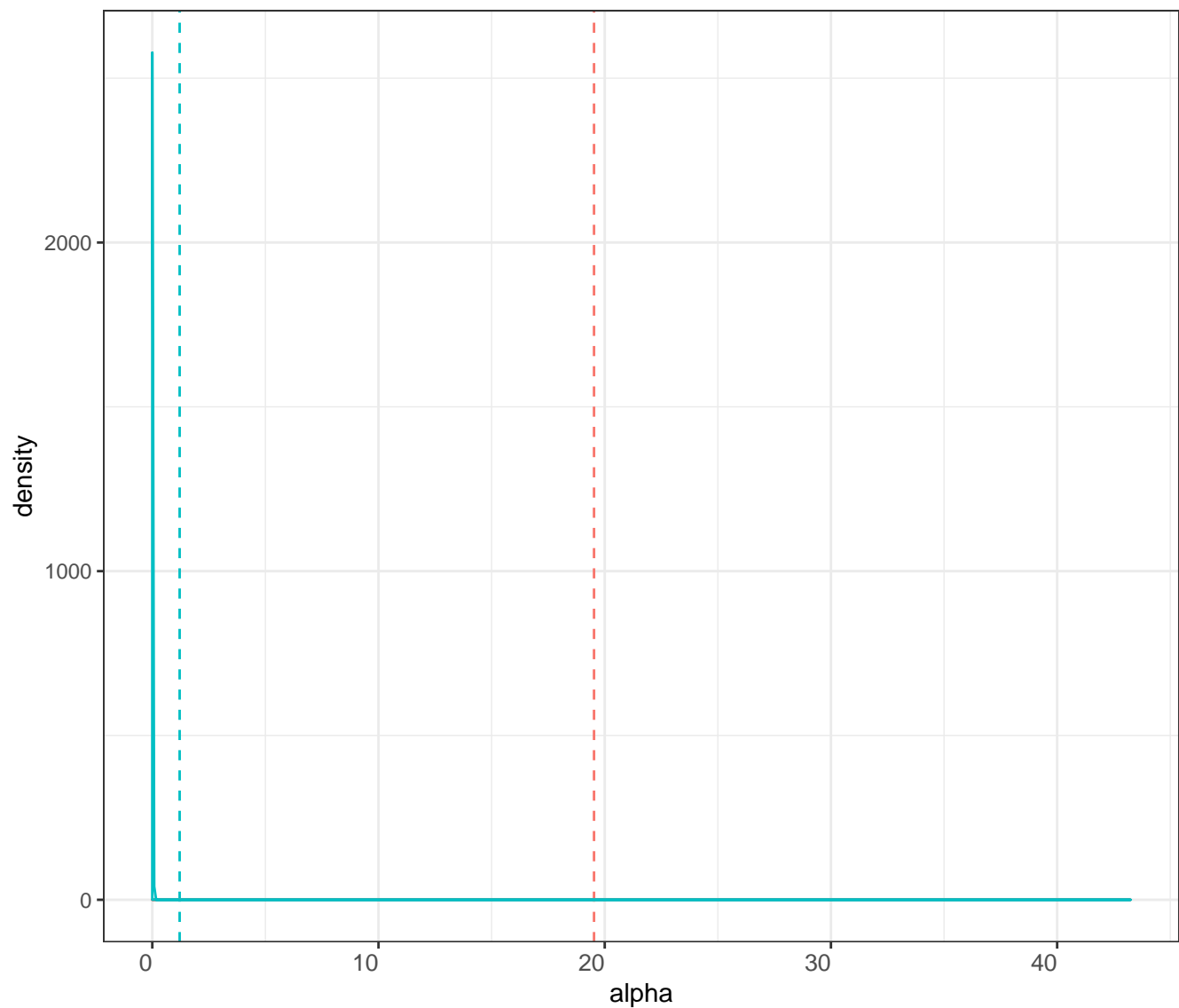
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

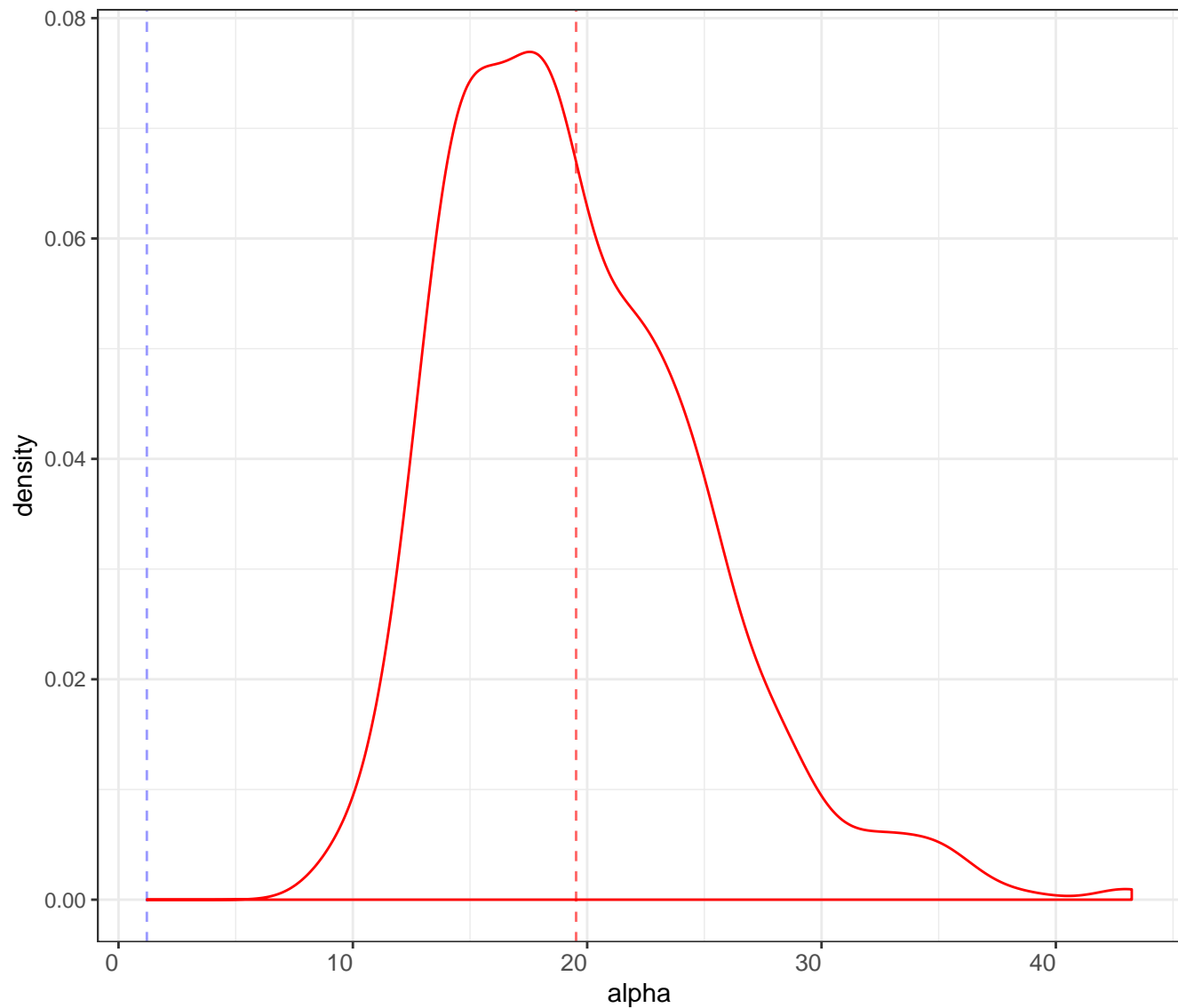
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

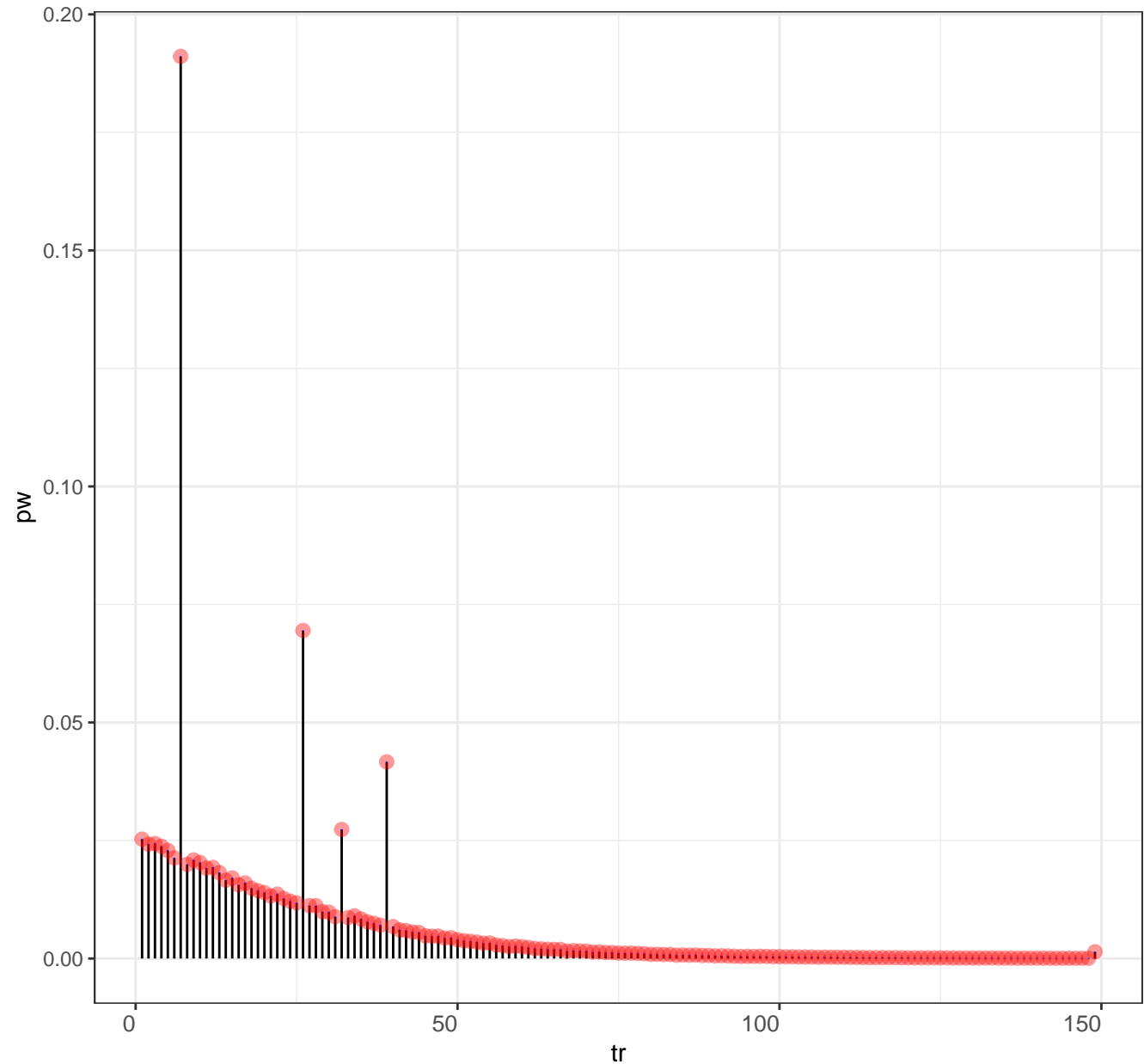
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

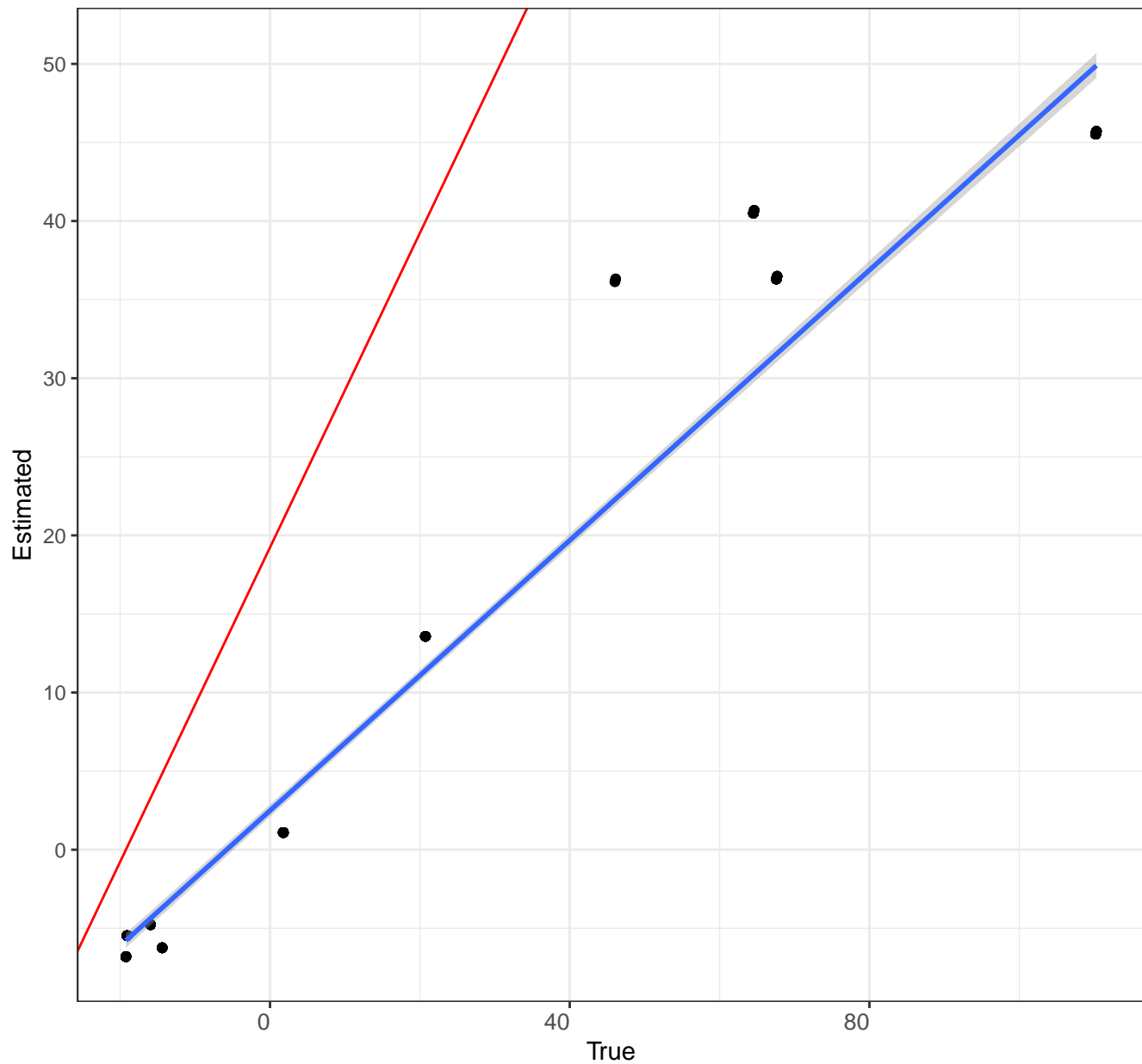


Weights for the case:  $S=20$  ,  $r=5$  true gr  $K=4$  , type=1 ,  $N=150$   $pN=0.001$



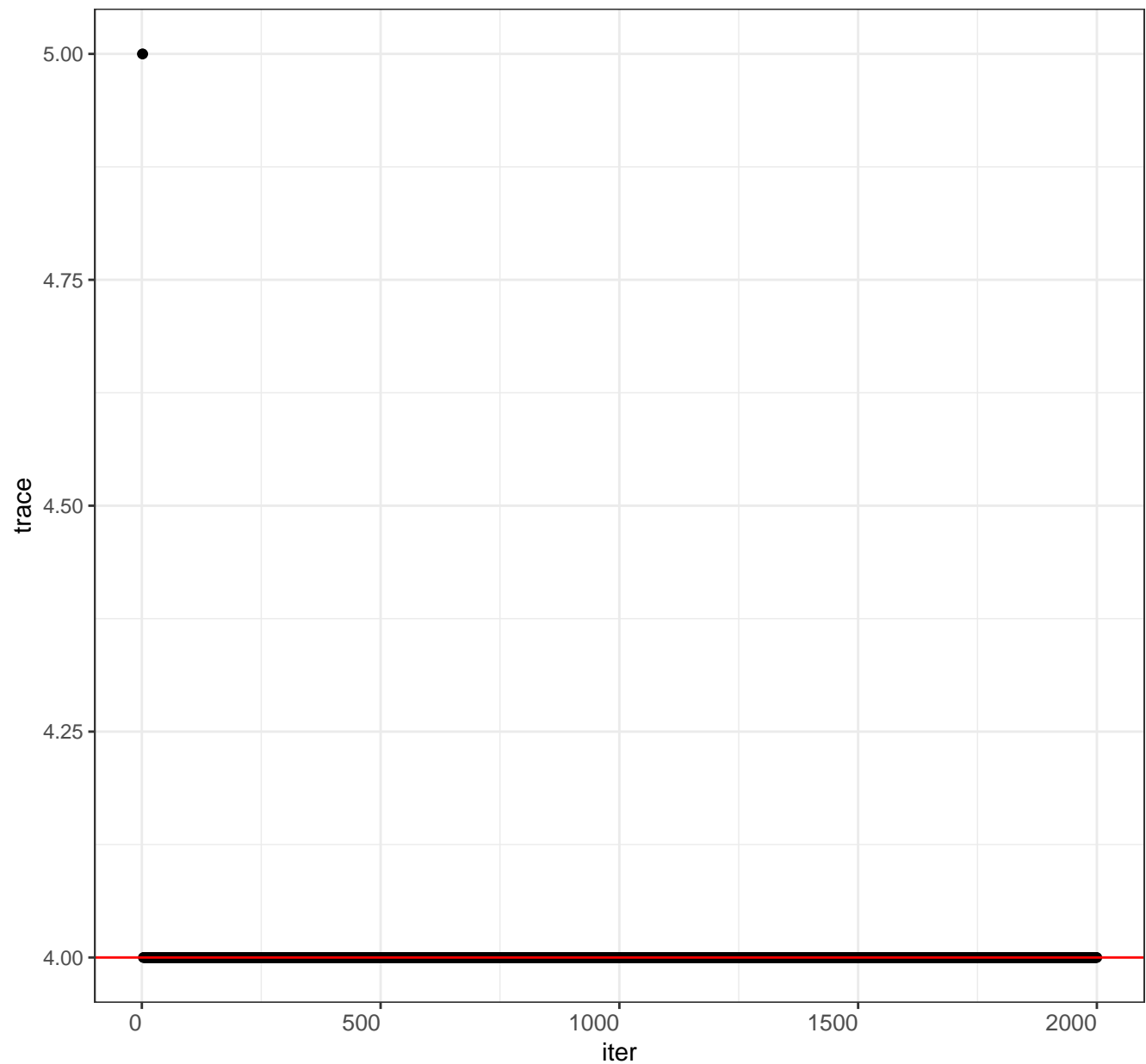
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

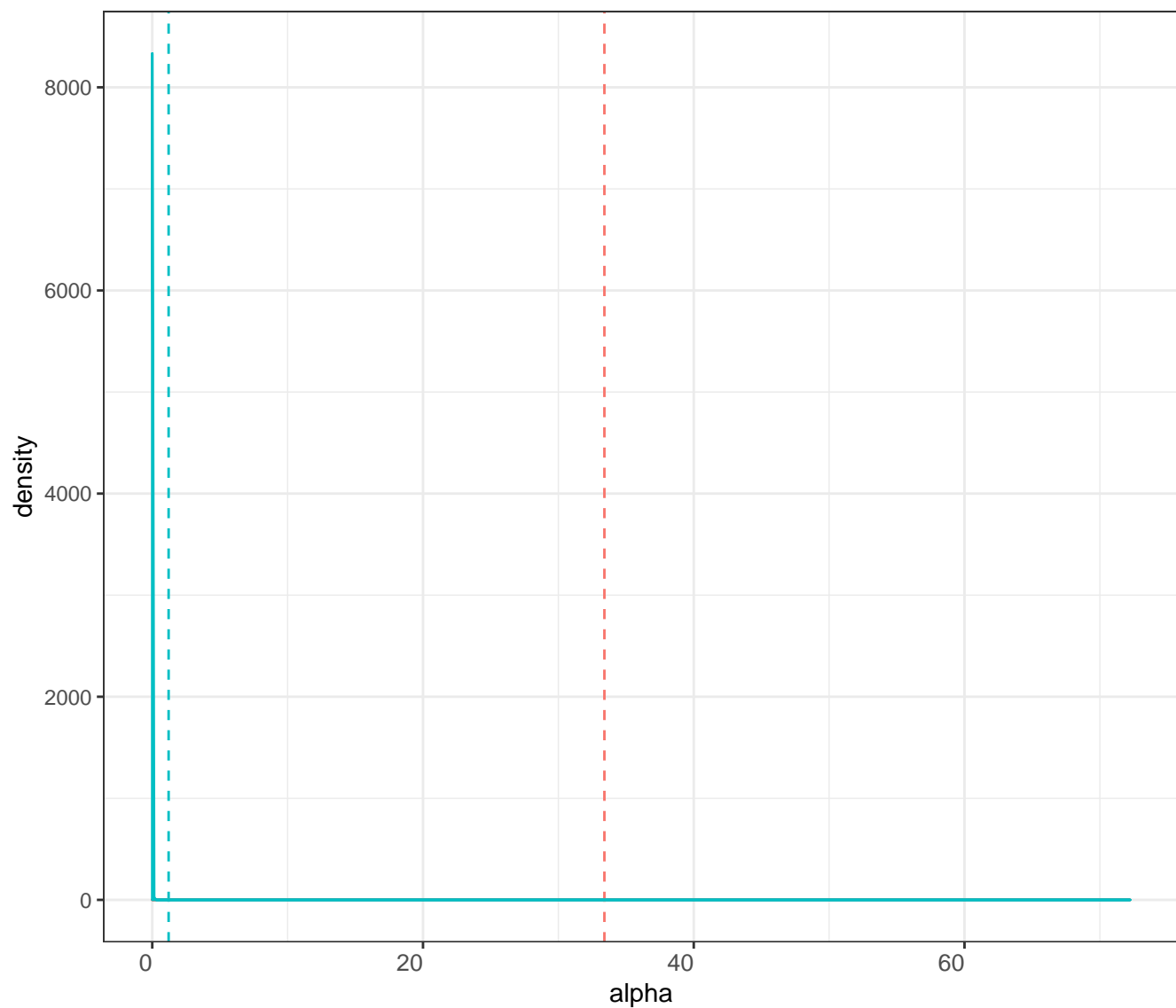
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

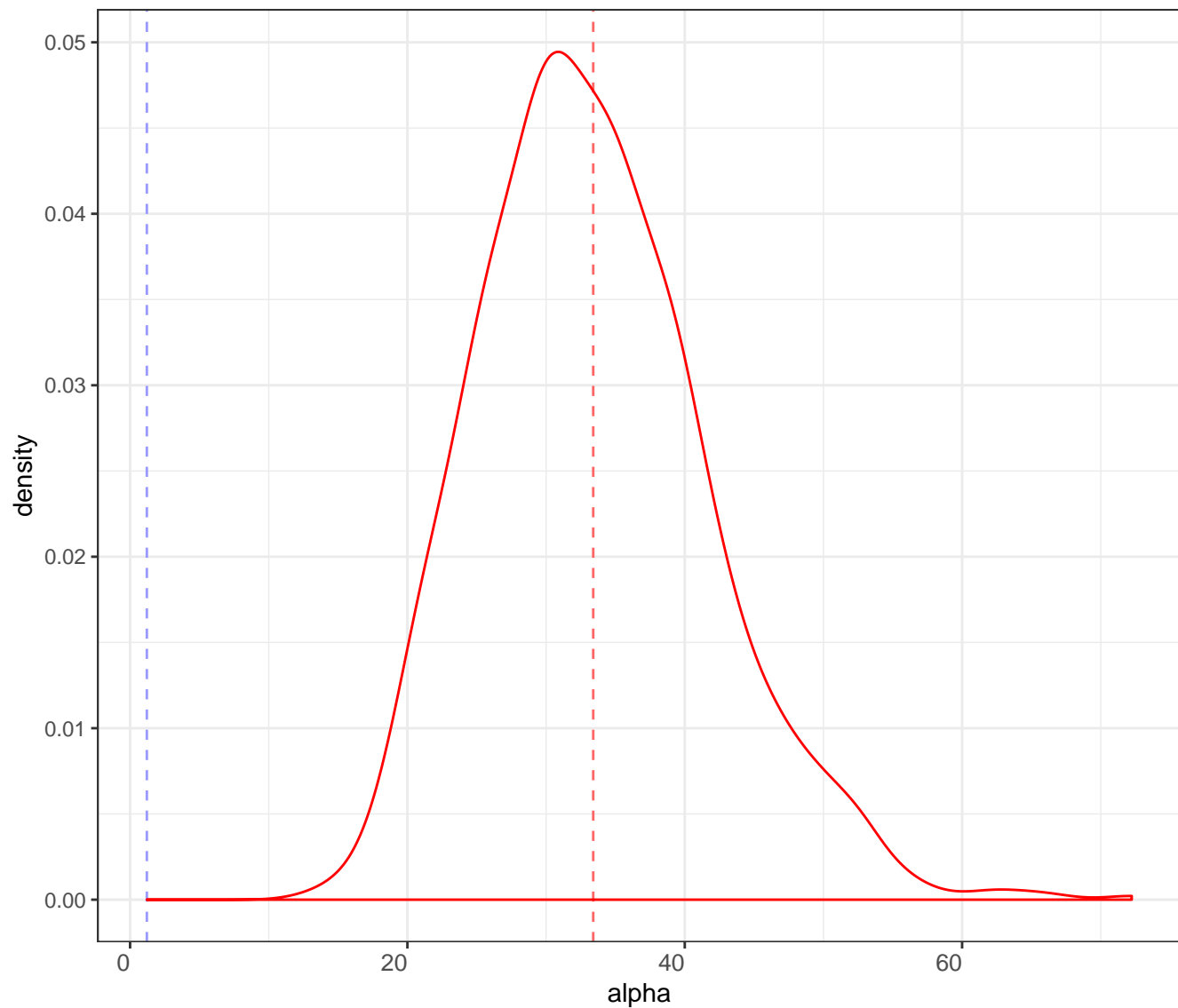
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

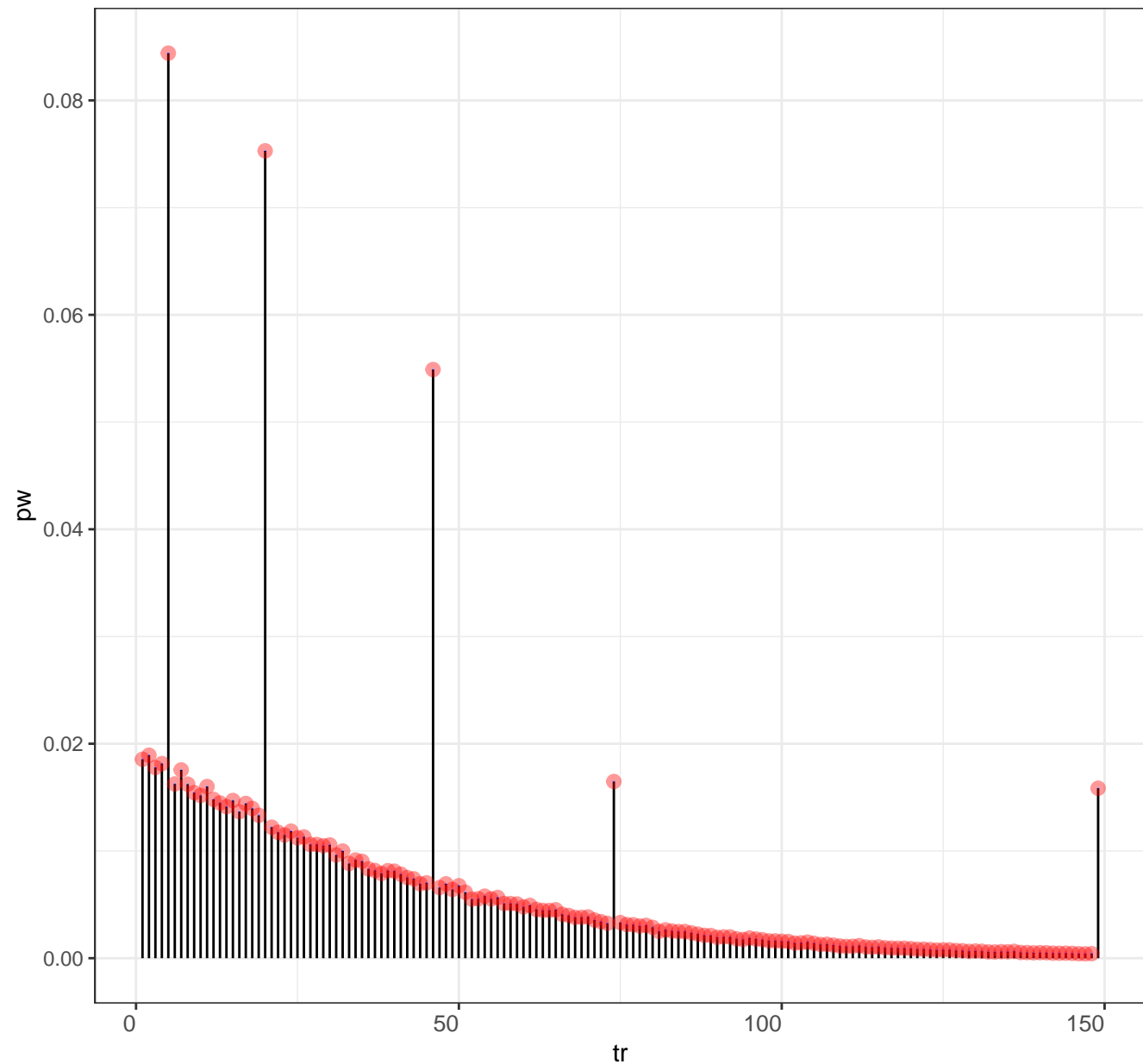
# Posterior distribution for alpha

Legend      posterior mean      prior mean



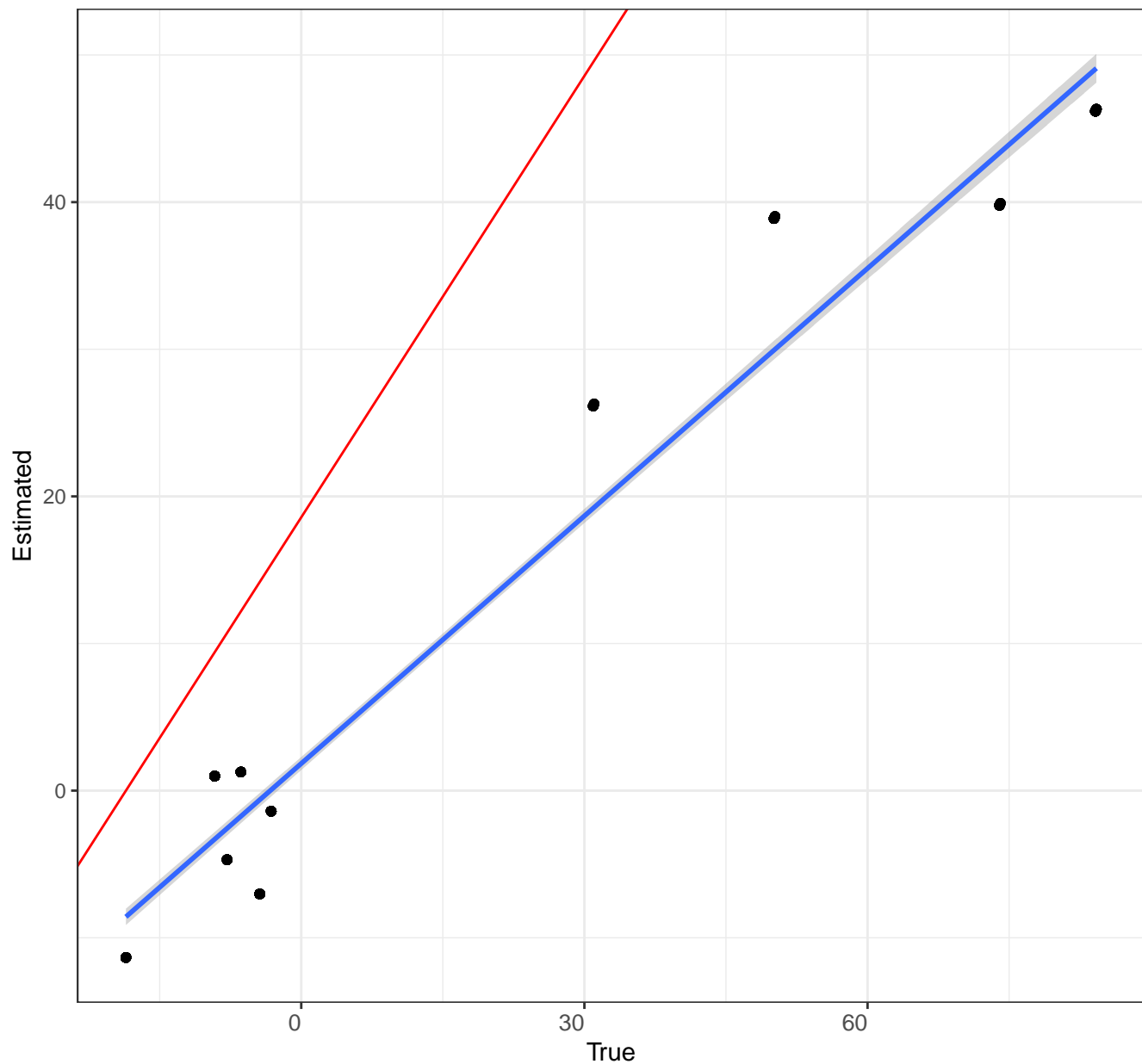
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.016$



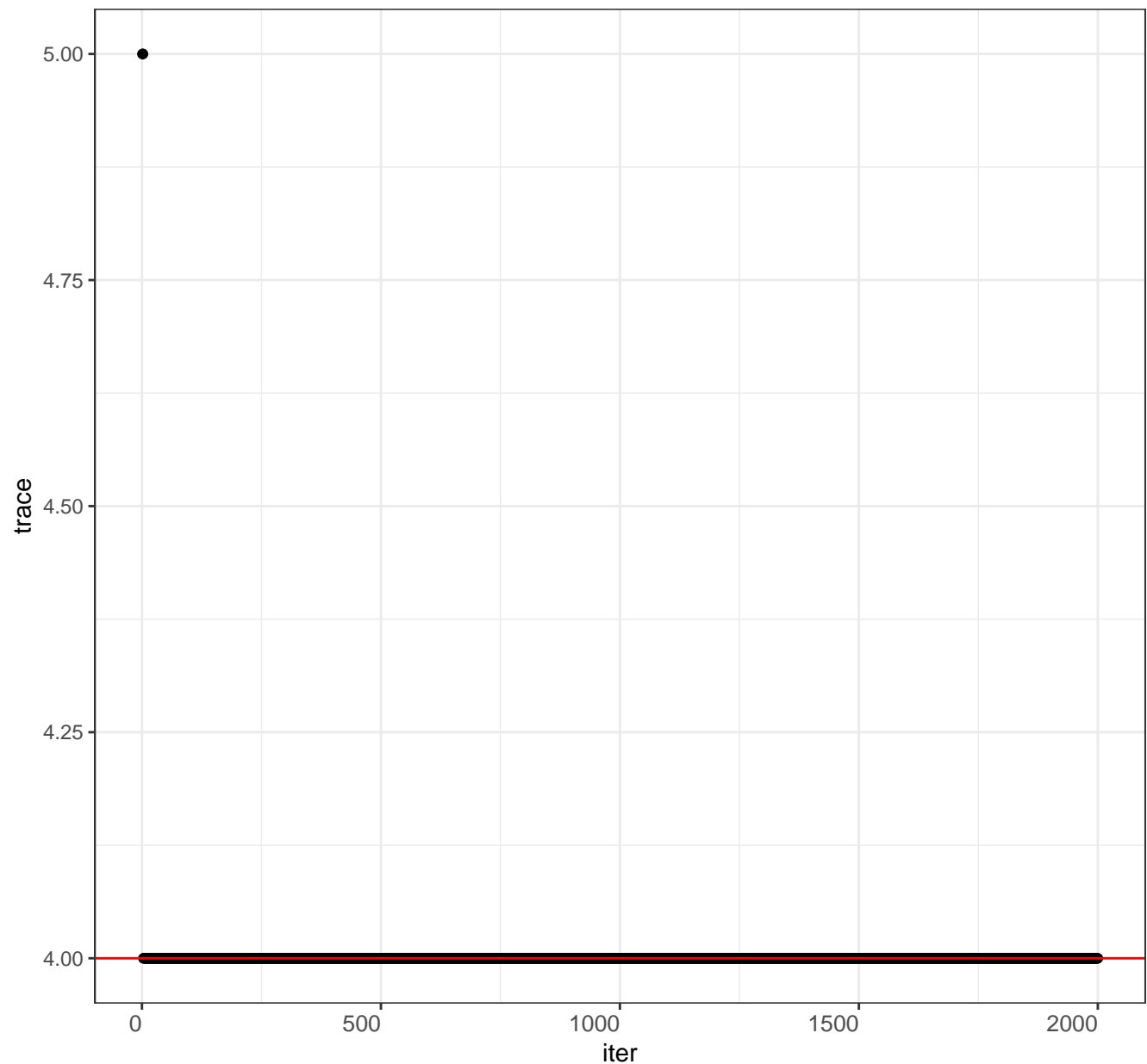
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

Trace plot for the number of groups K for S=20 r=5 true K=4 type=1

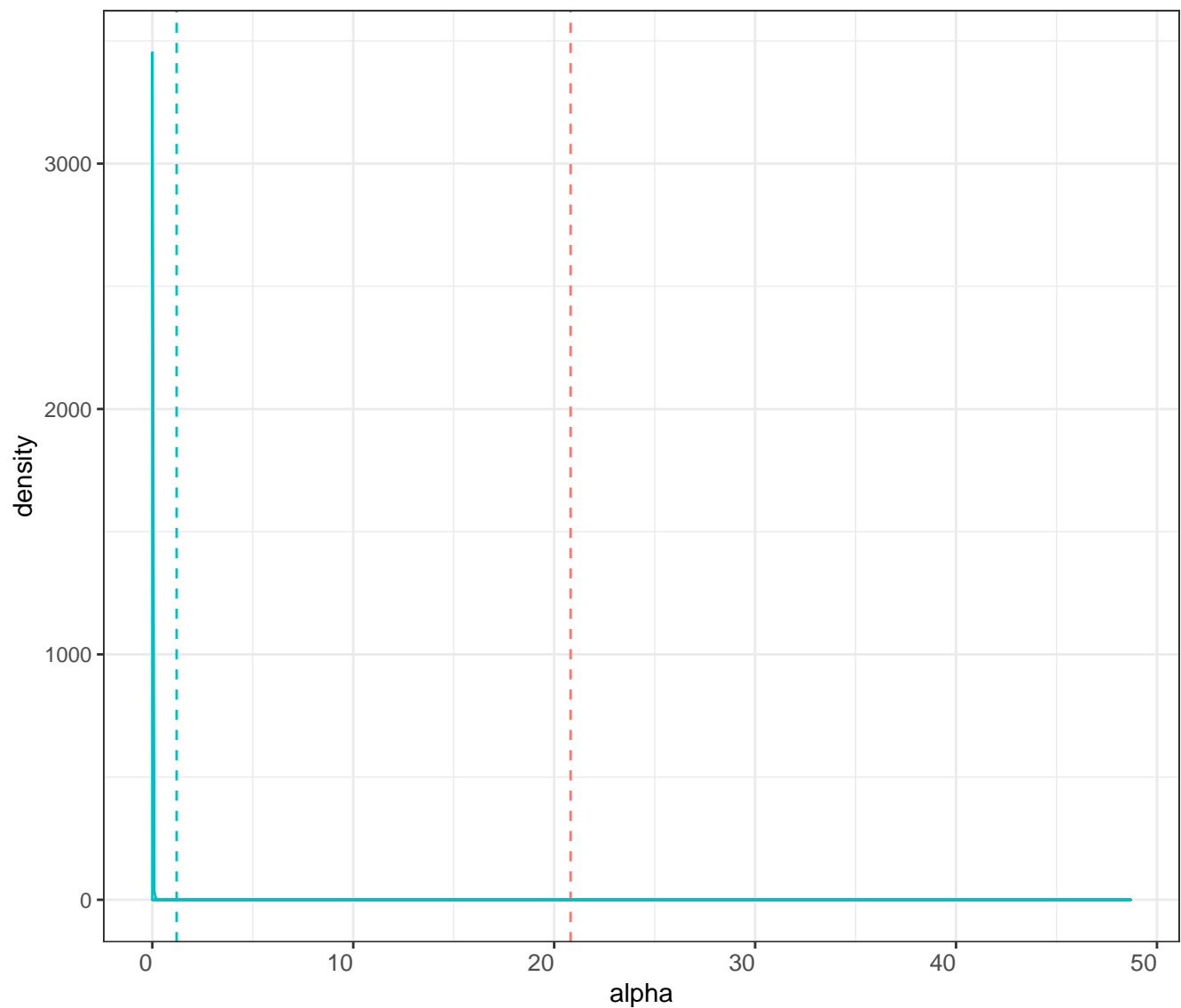


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

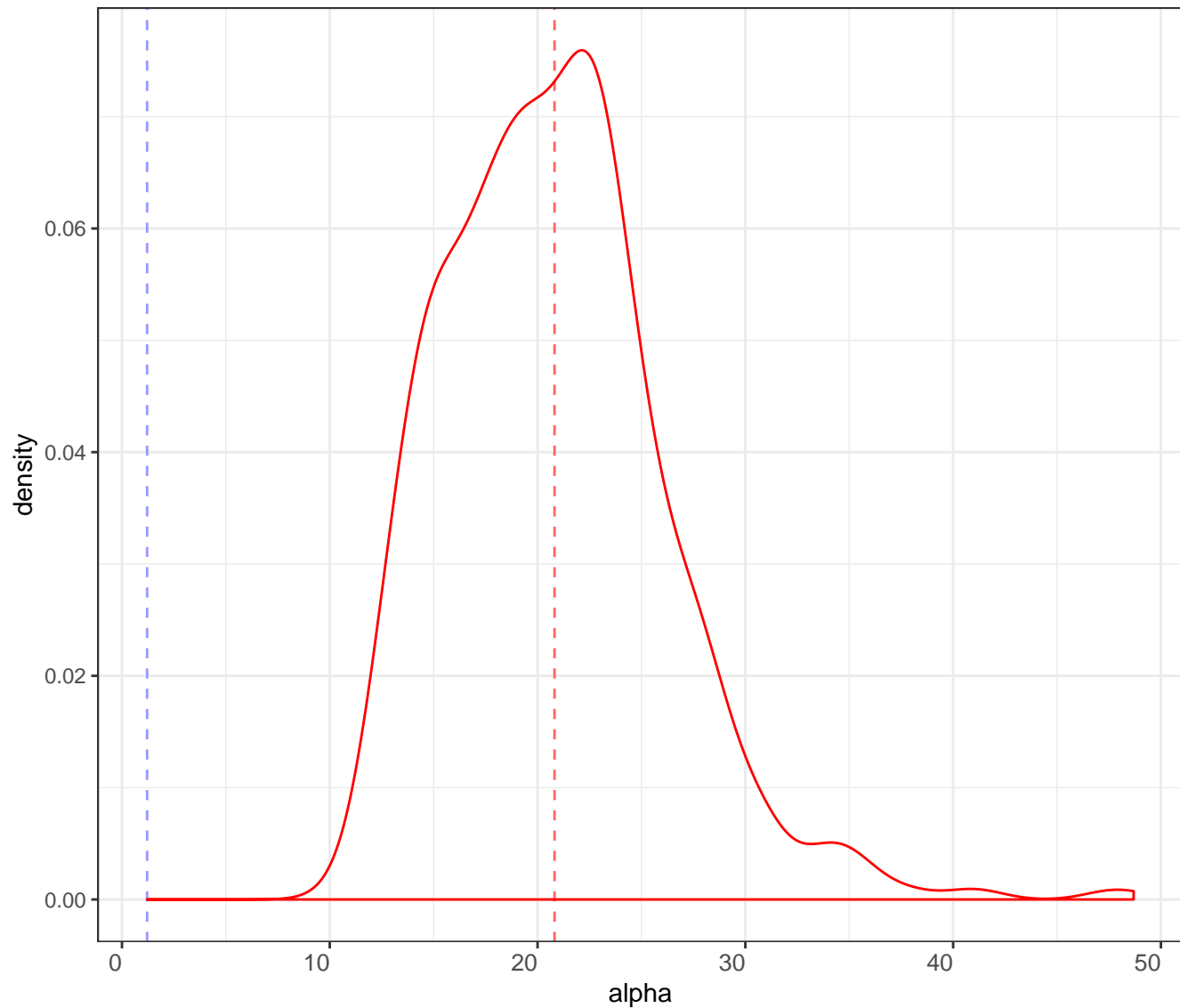
type   posterior   prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

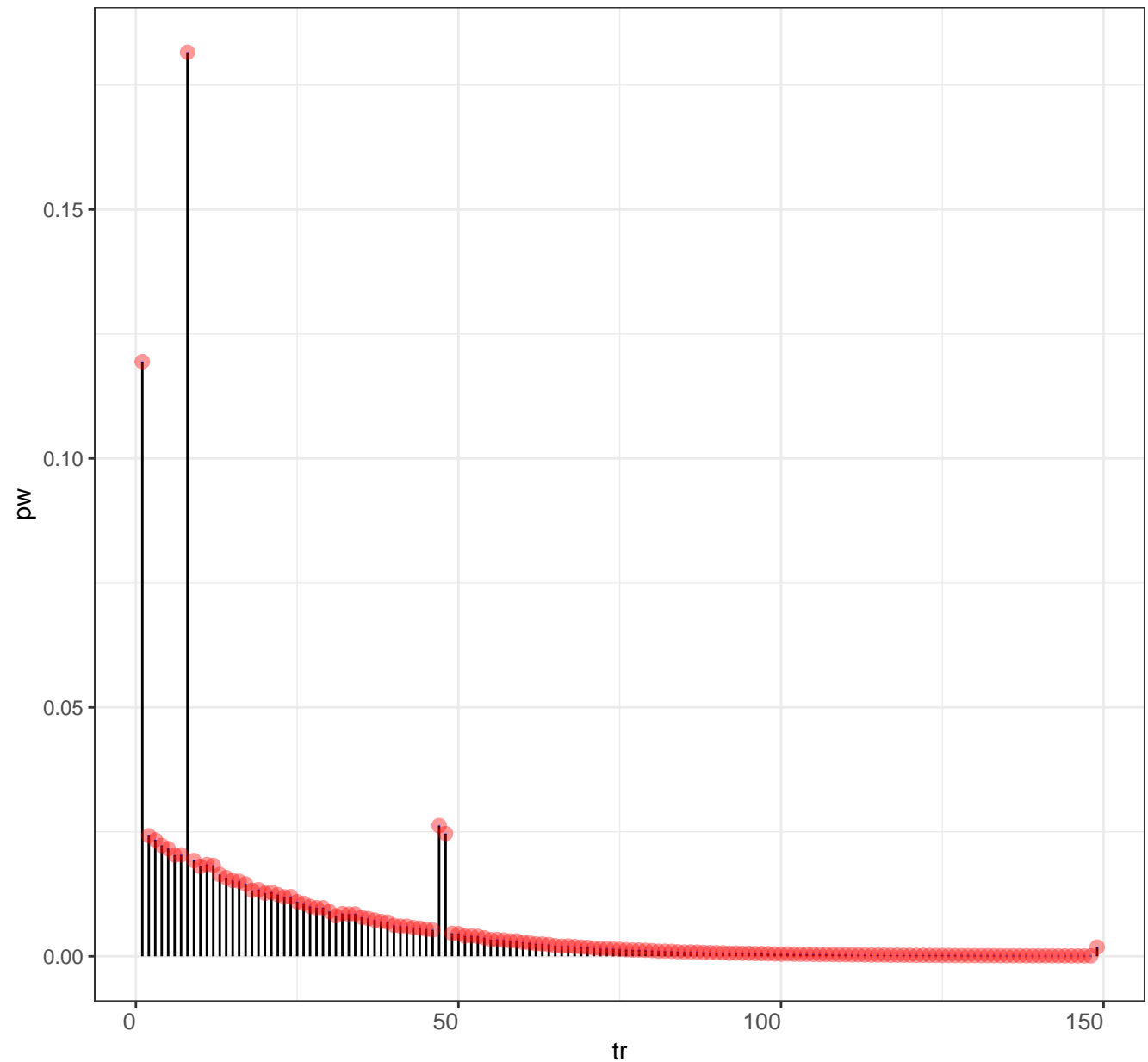
# Posterior distribution for alpha

Legend      posterior mean      prior mean



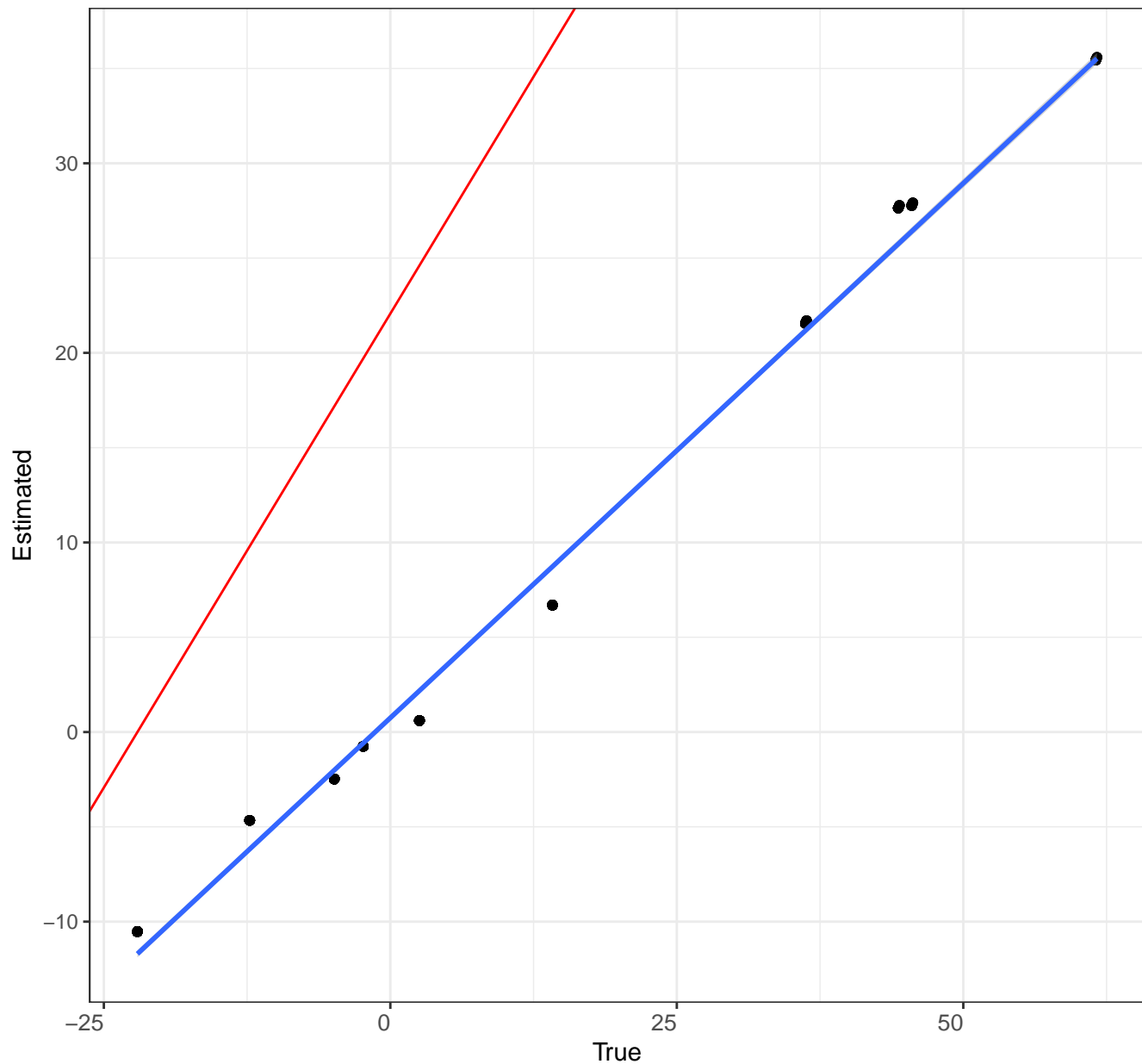
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



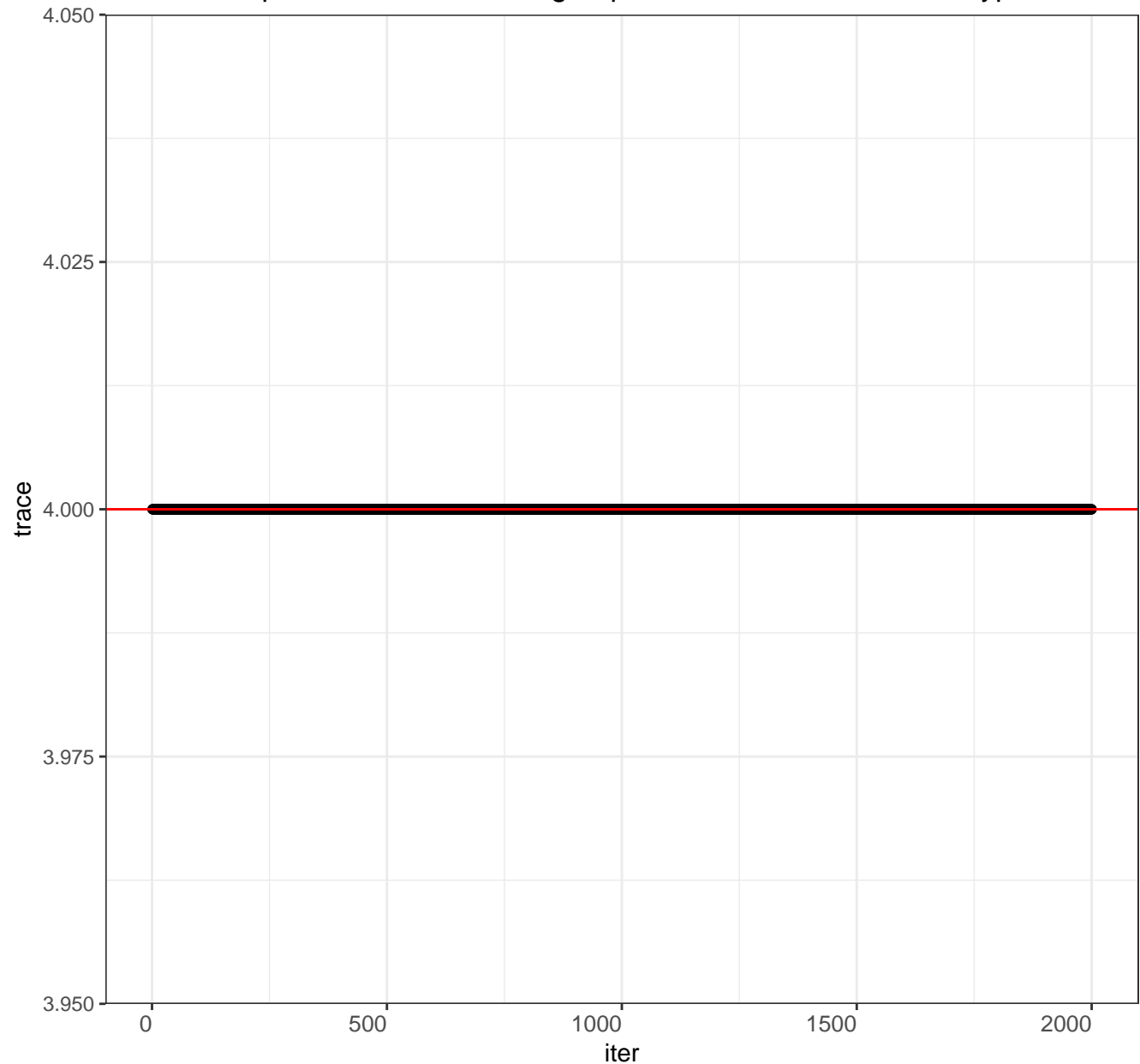
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

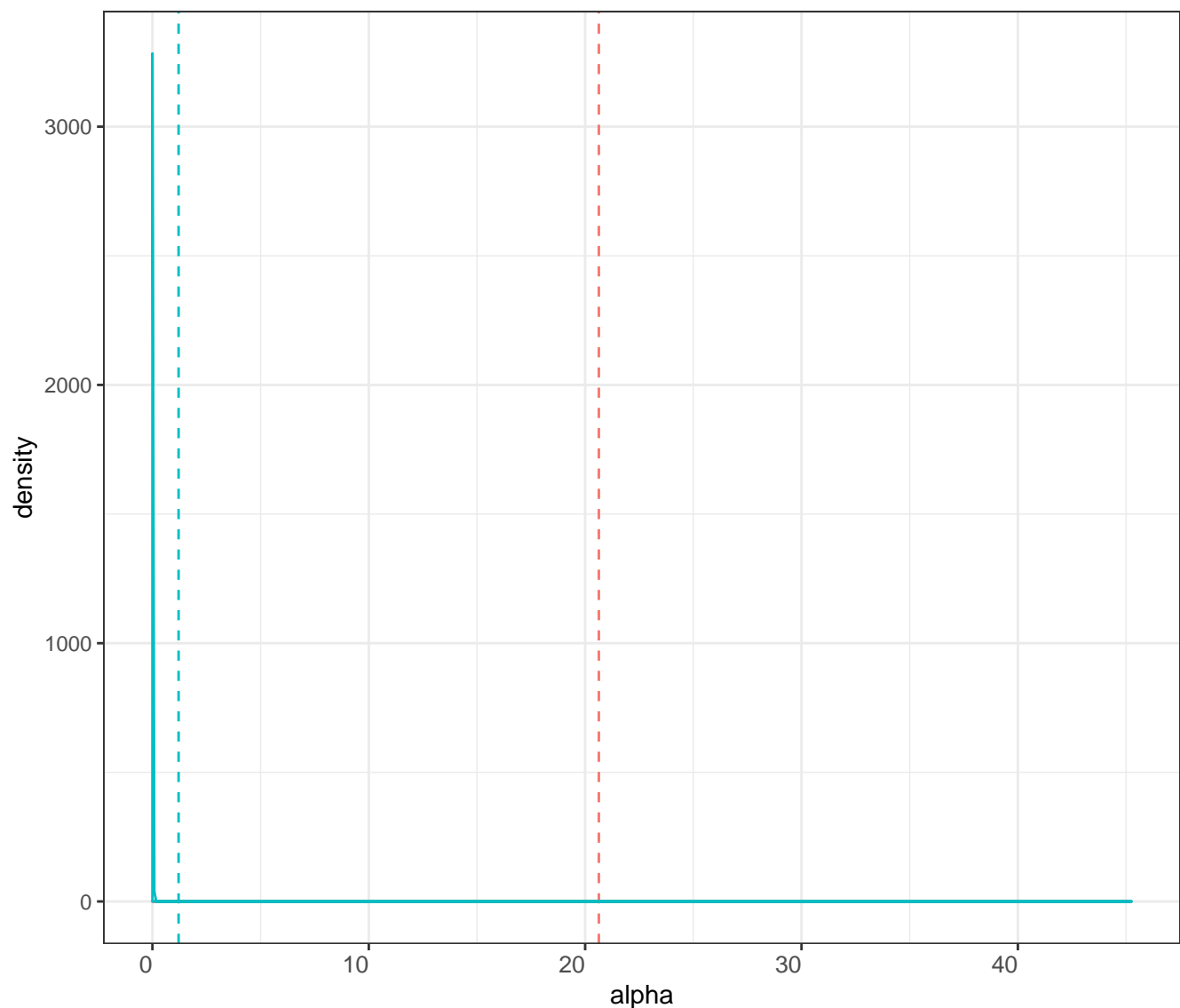
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

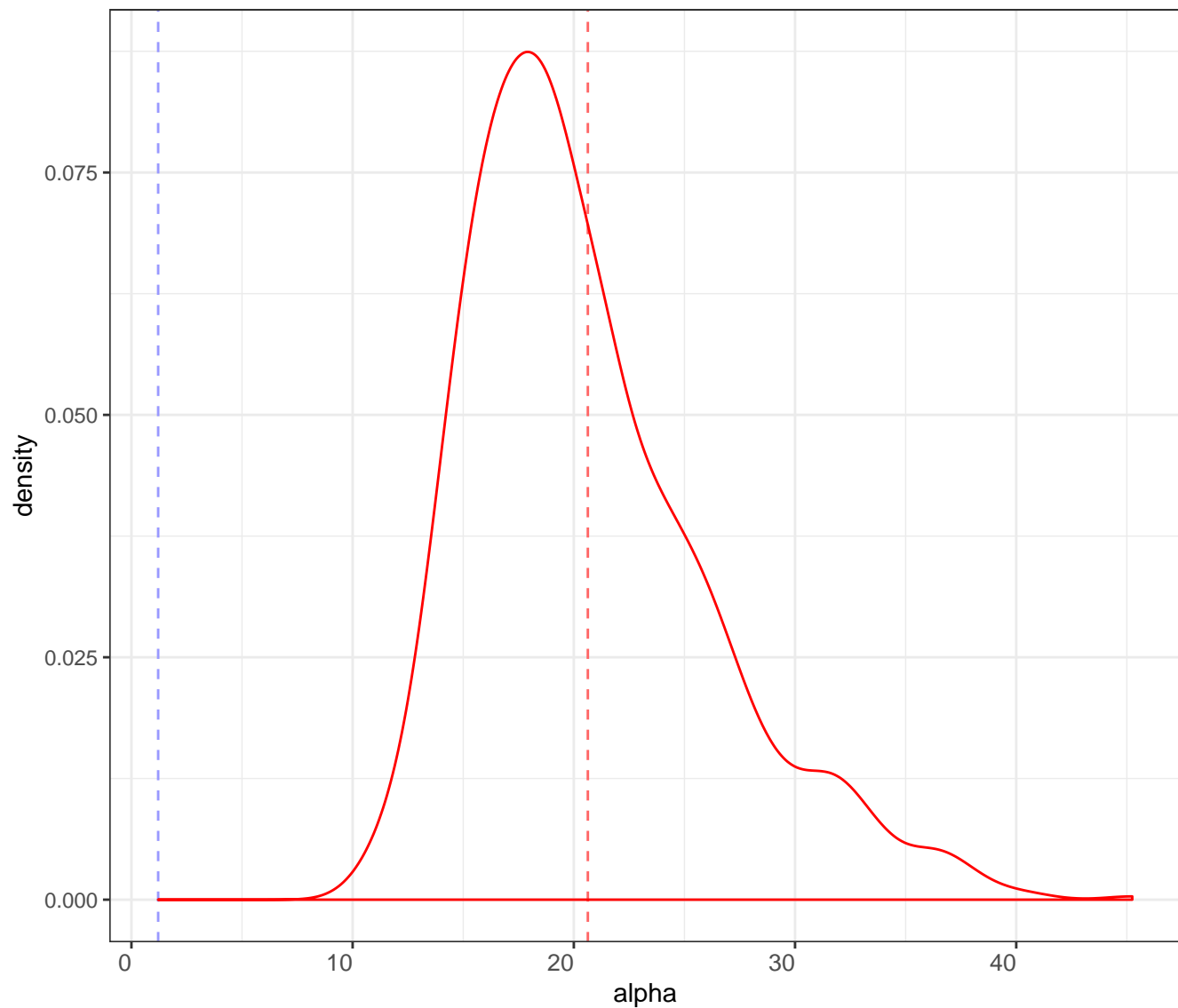
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

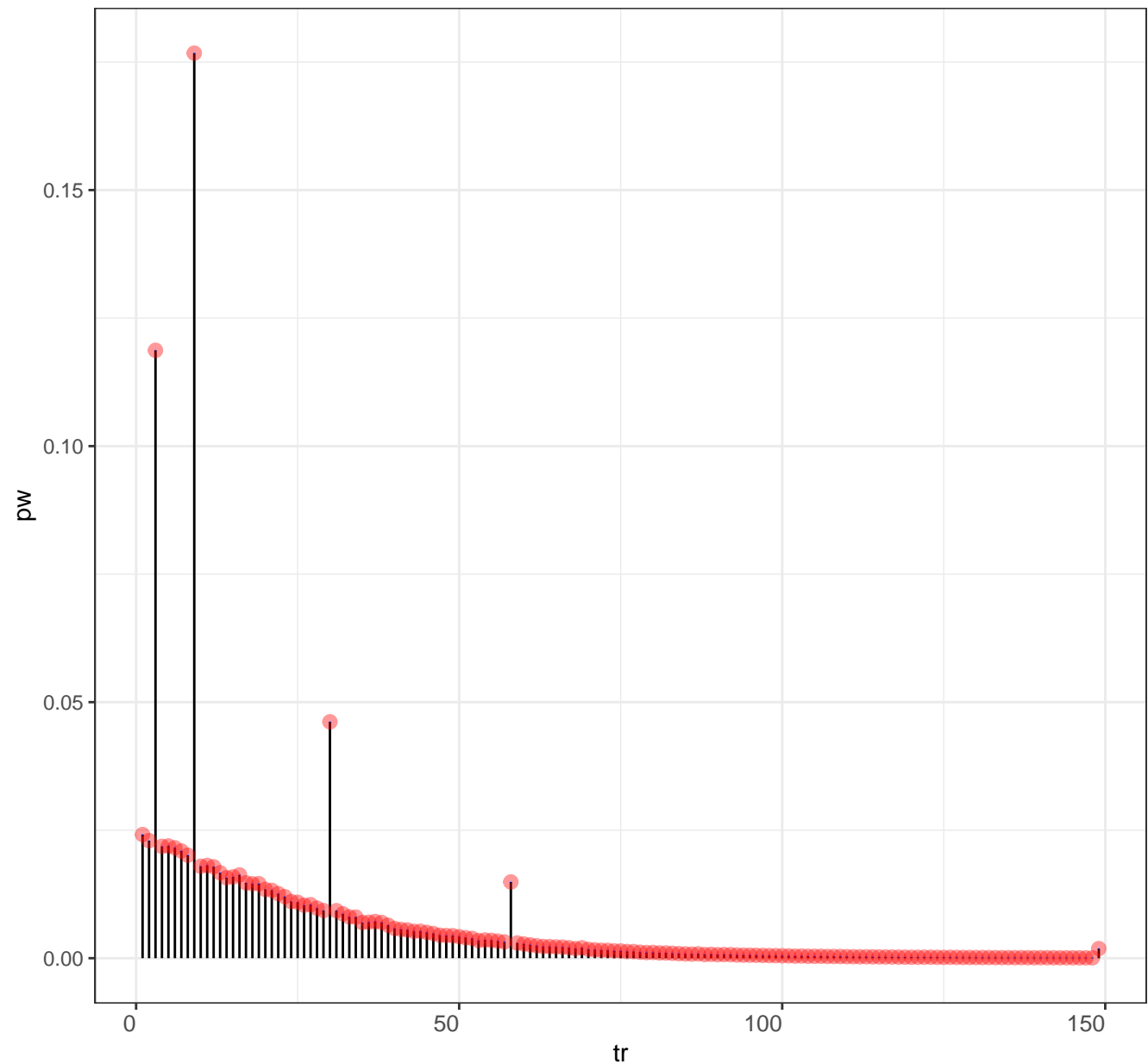
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

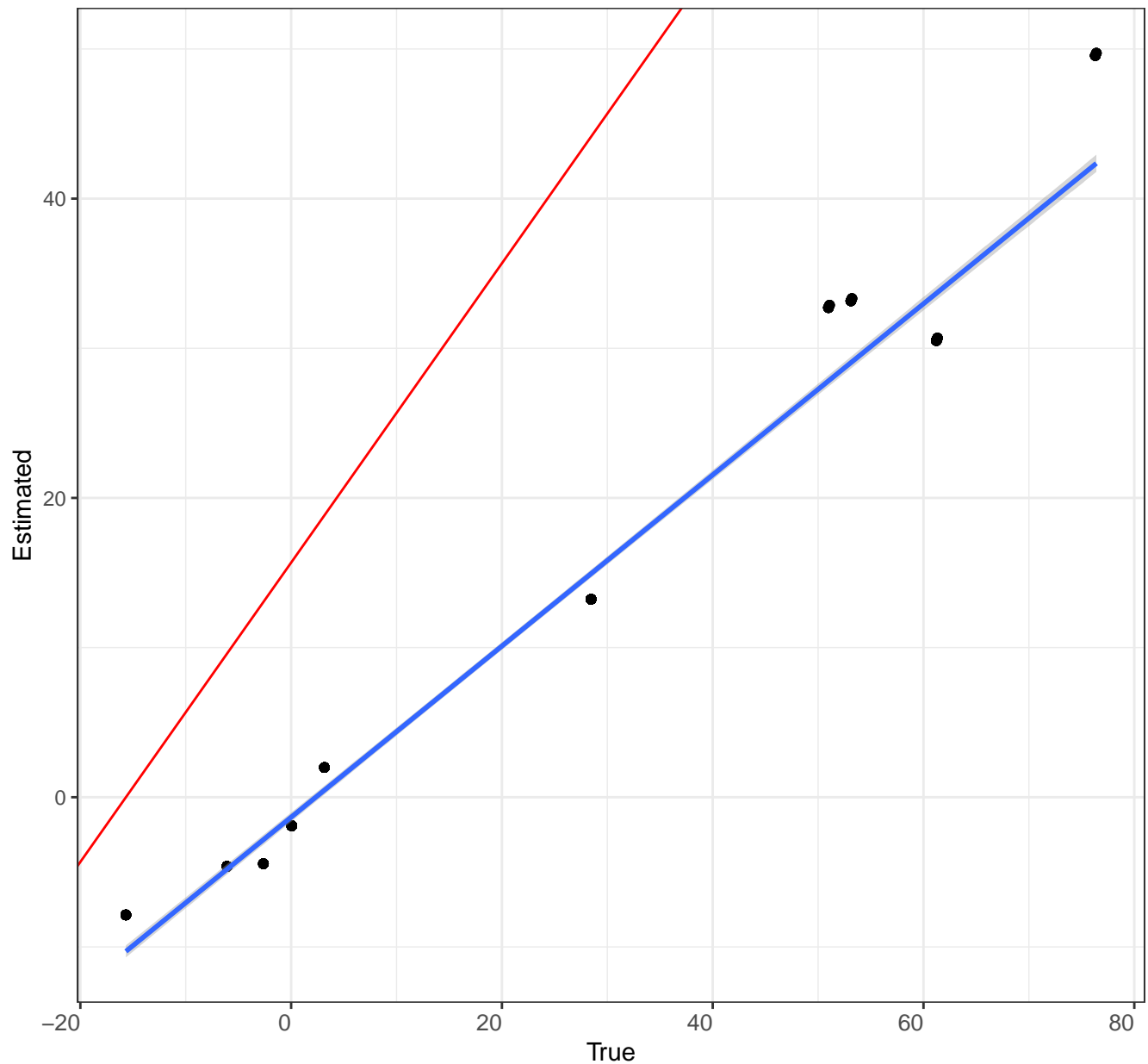
Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



Number of iterations: 2000 burnin: 1000 number of samples: 500

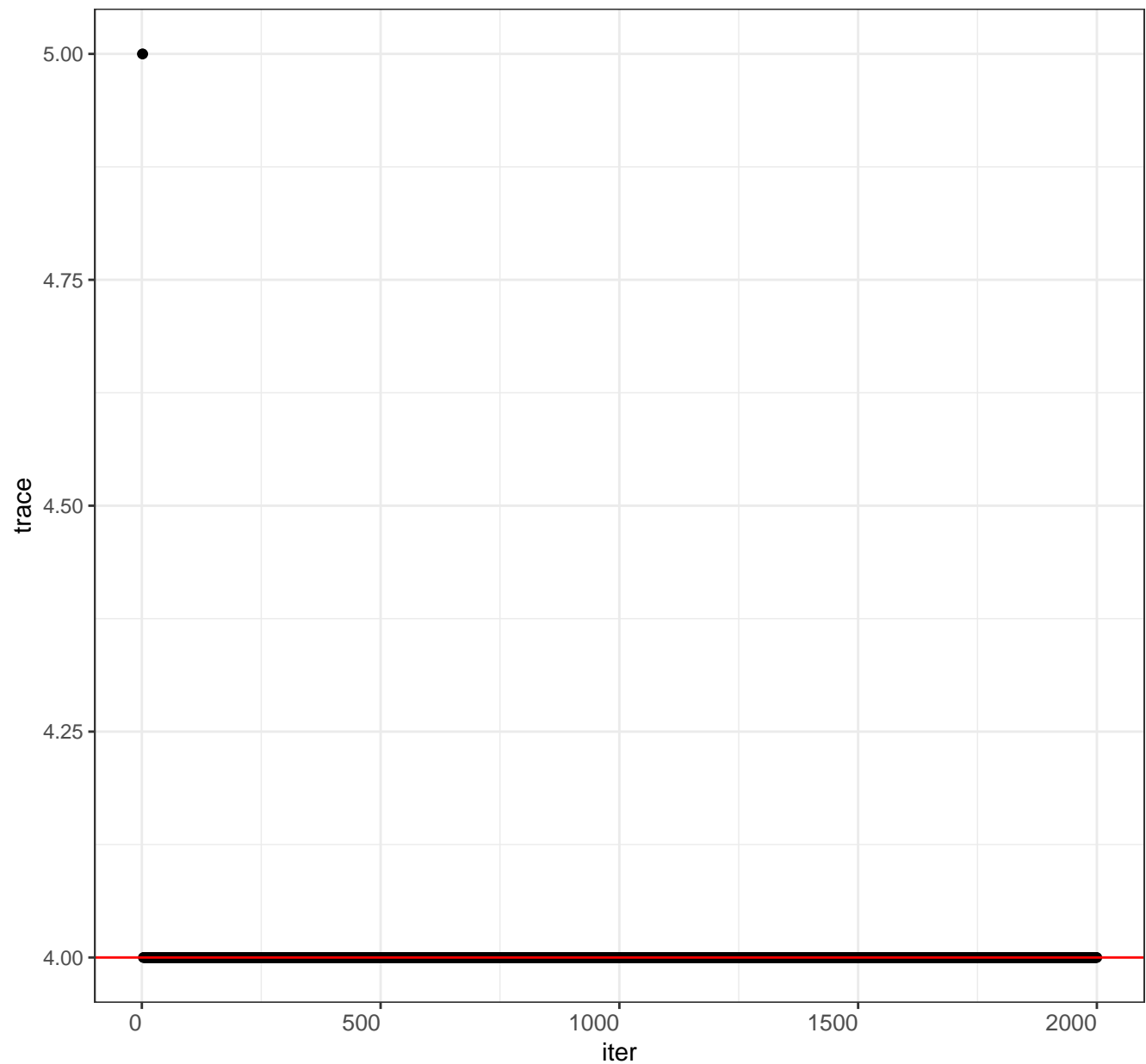


True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

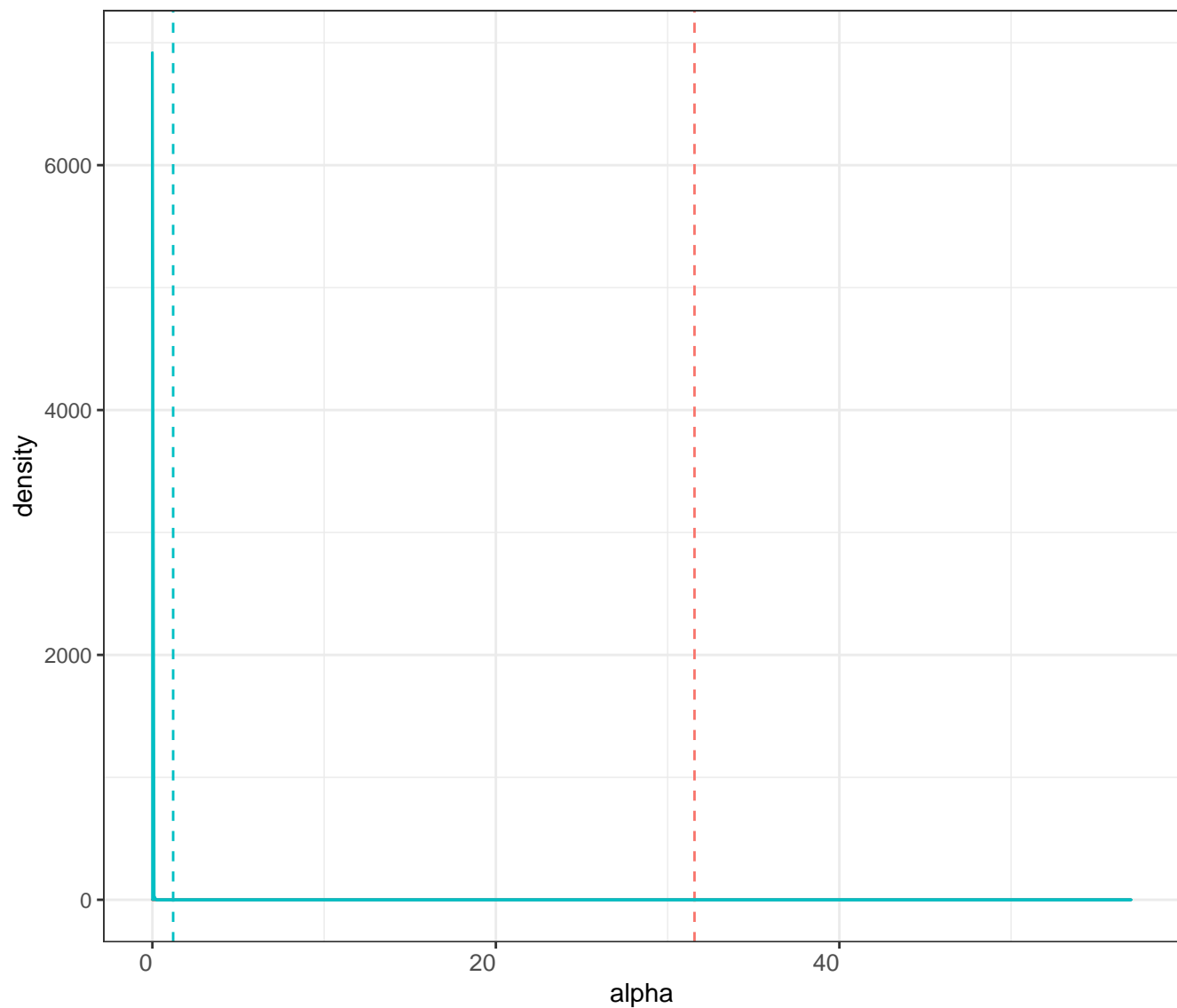
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

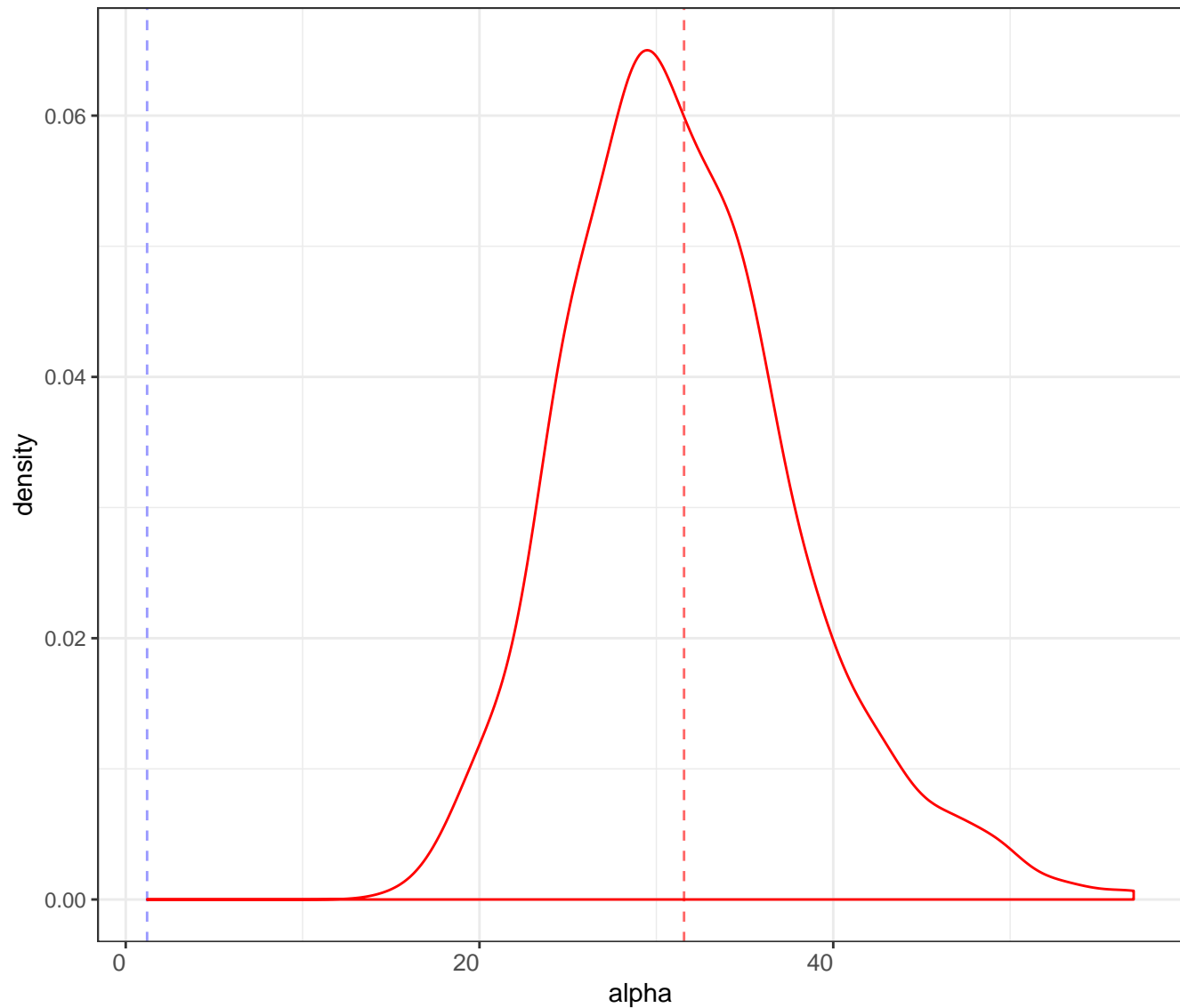
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

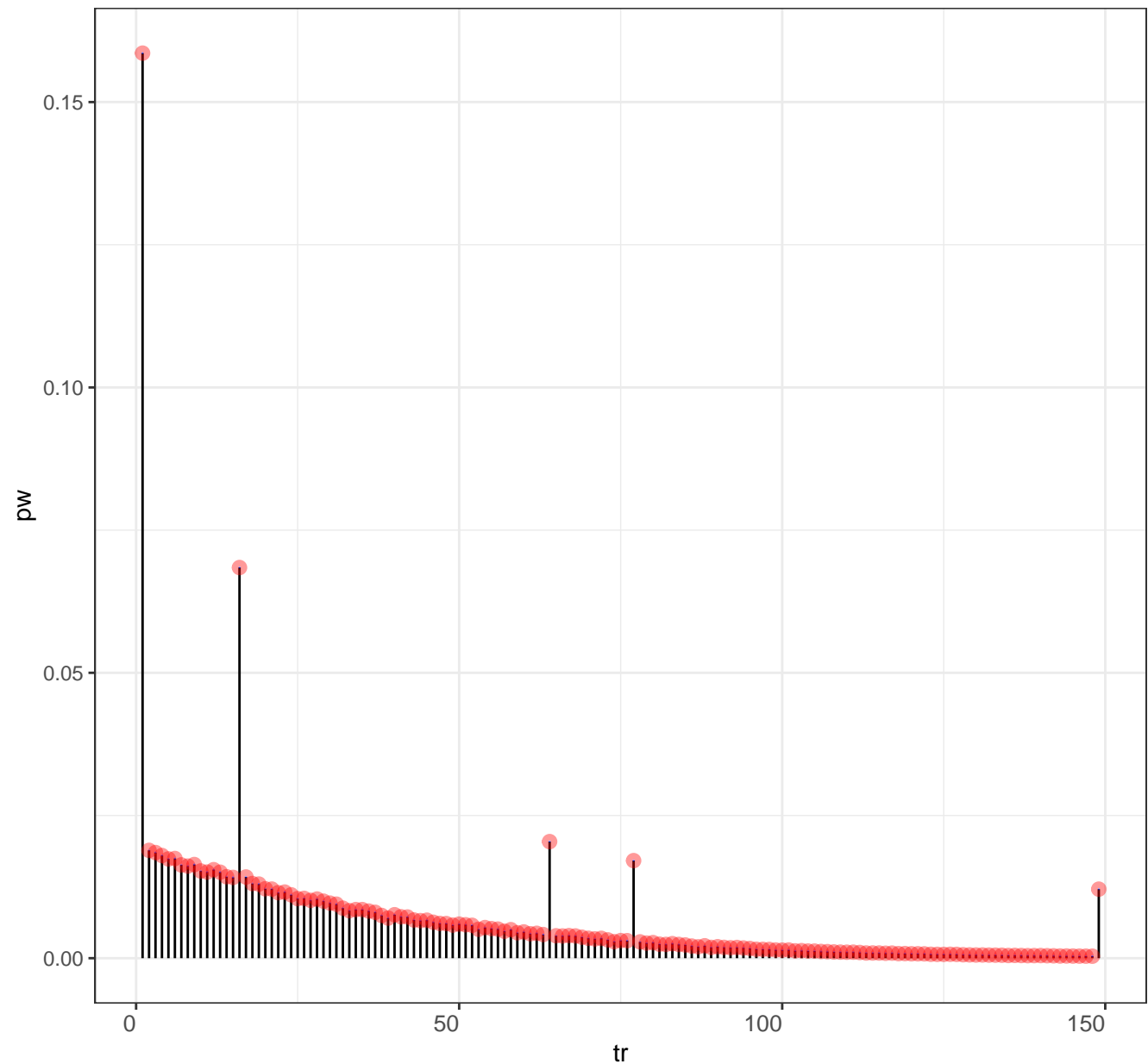
# Posterior distribution for alpha

Legend    posterior mean    prior mean



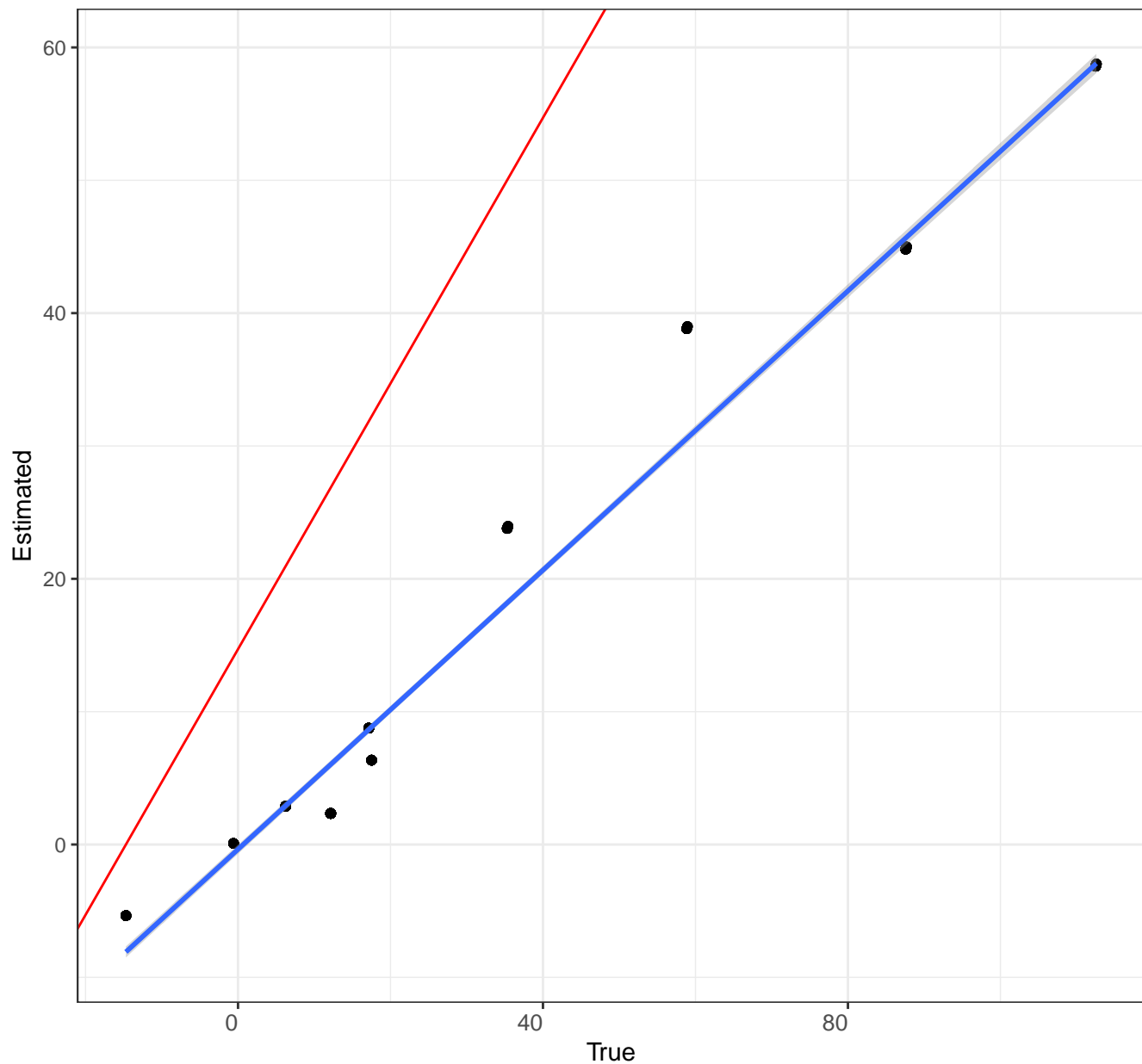
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.012$



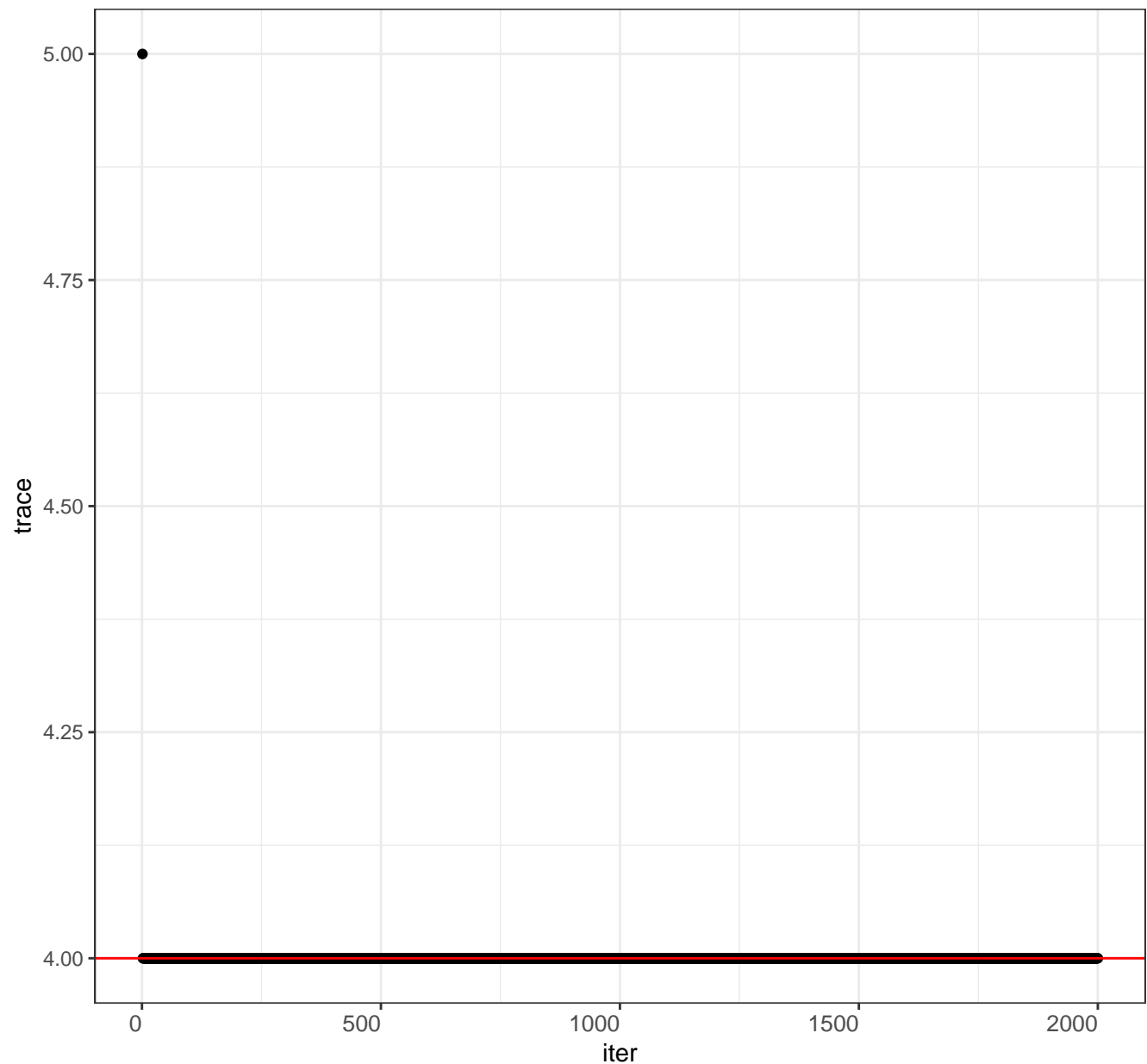
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

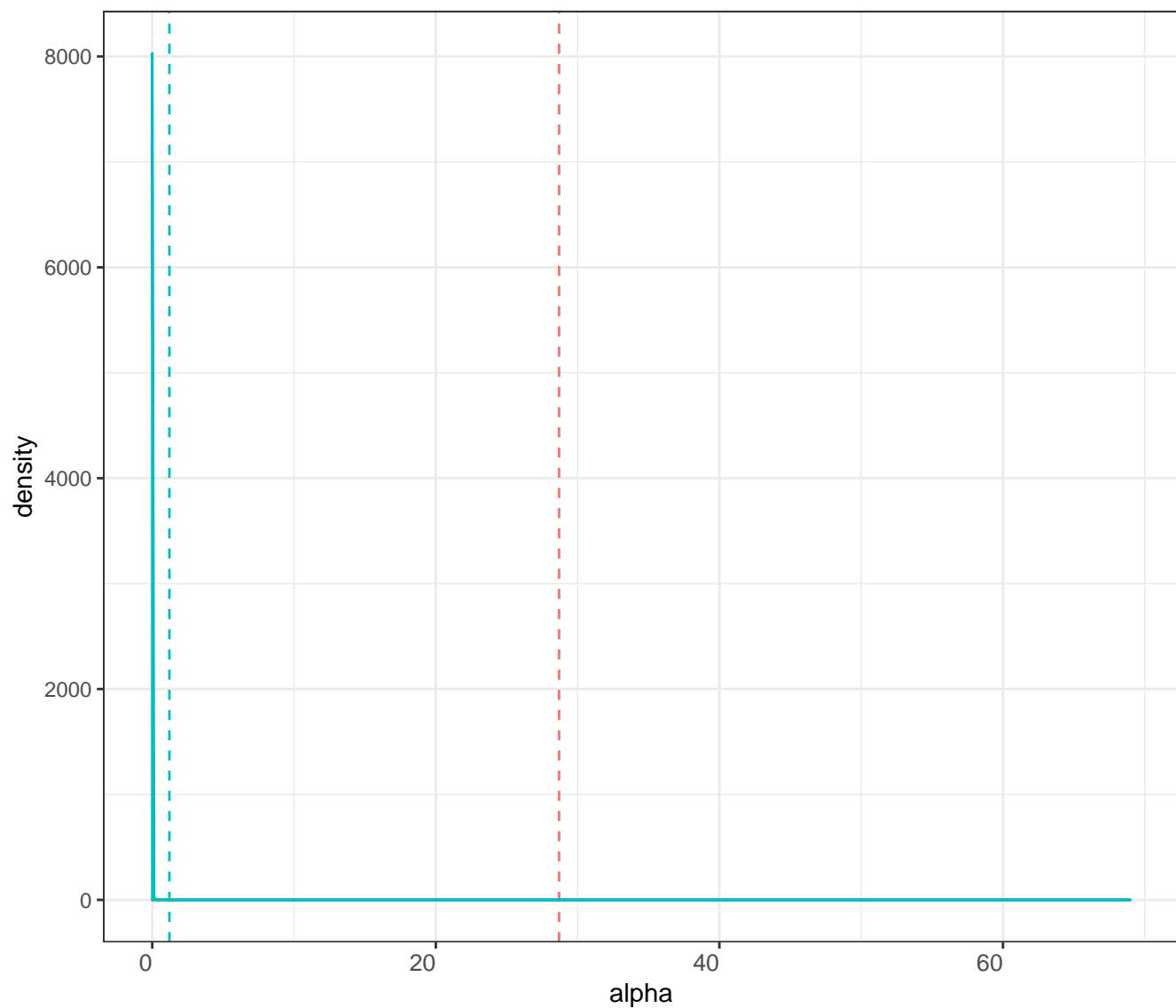
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

type ┆┆┆ posterior ┆┆┆ prior

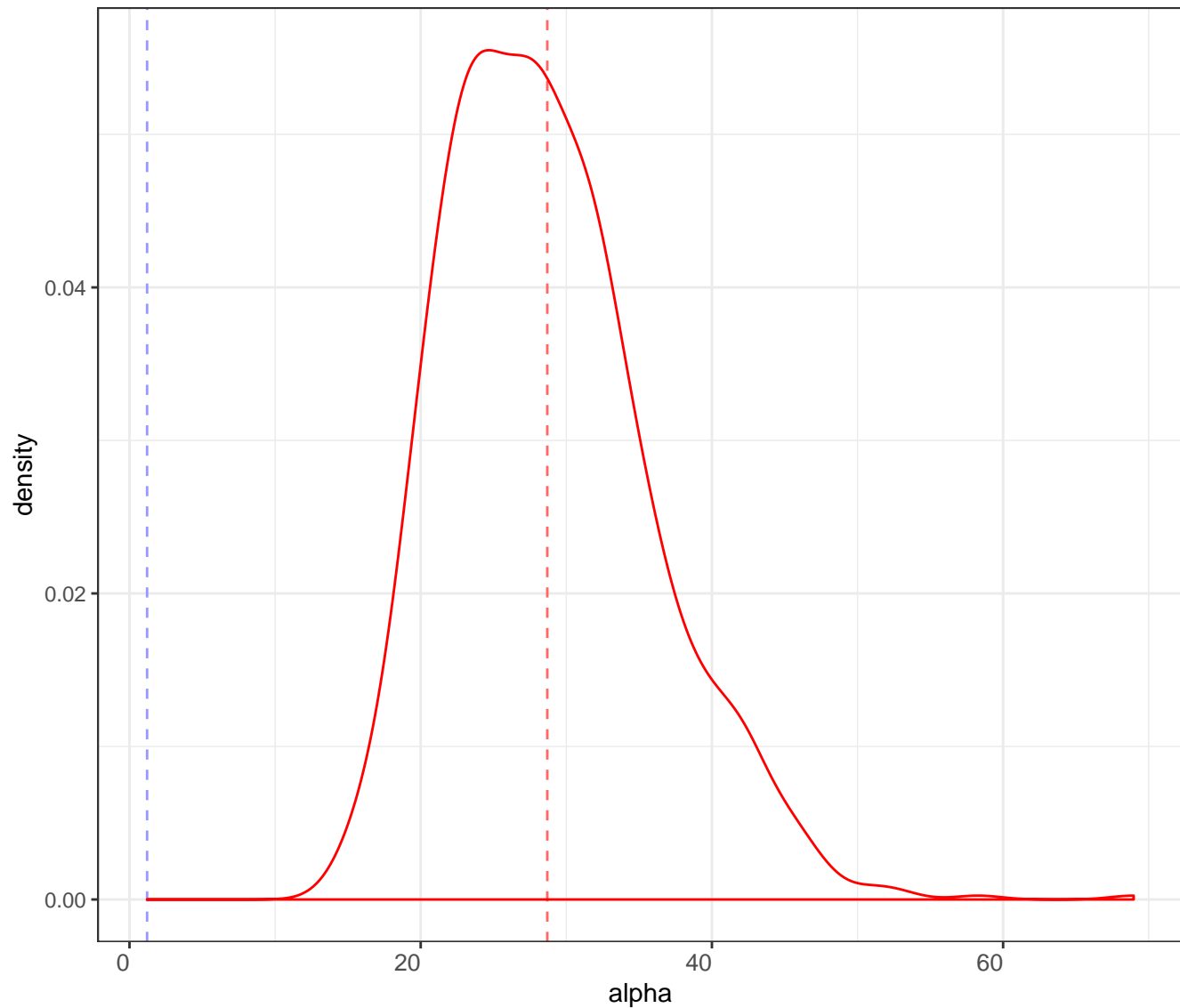


Number of iterations: 2000 burnin: 1000 number of samples: 500



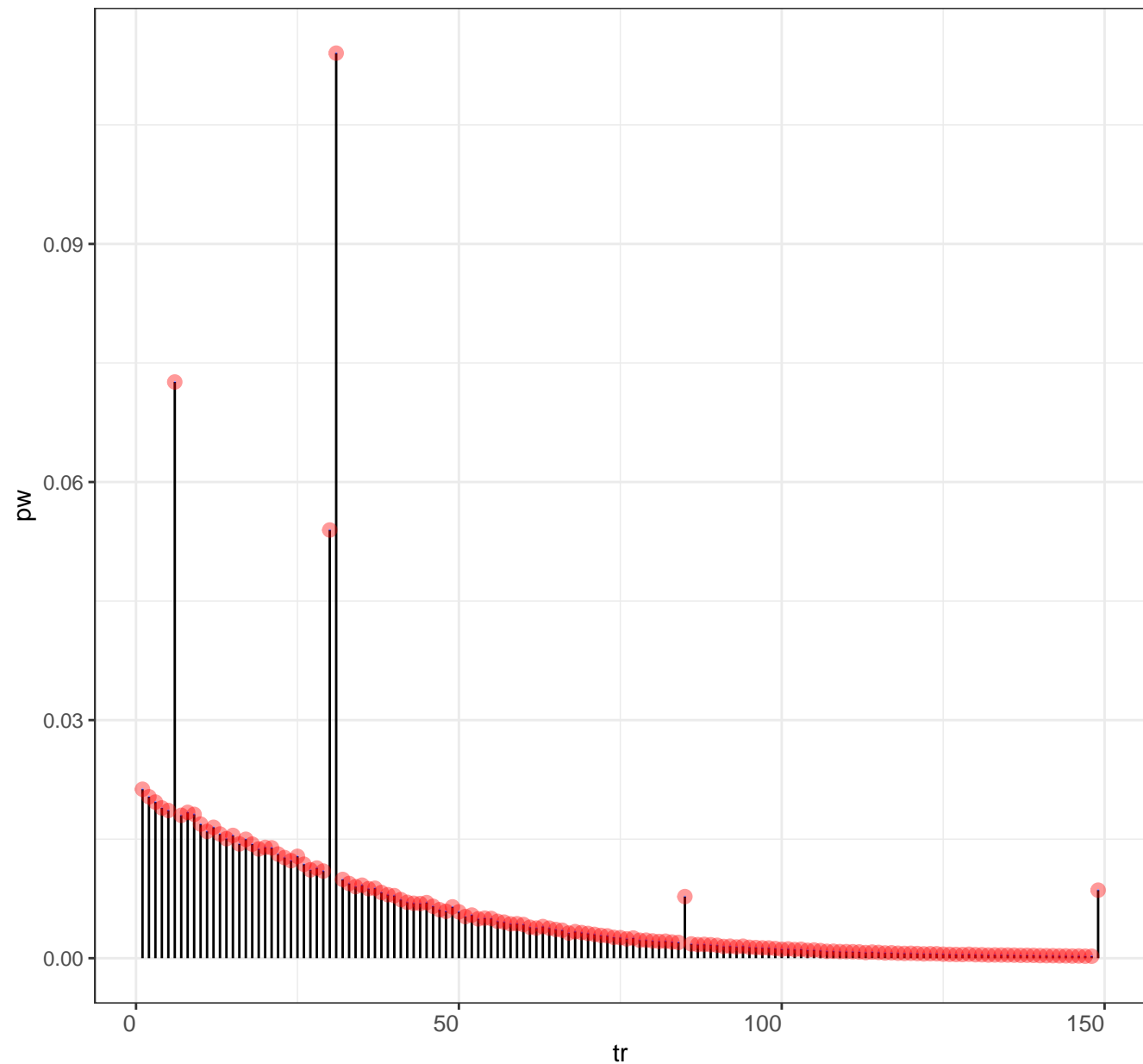
# Posterior distribution for alpha

Legend      posterior mean      prior mean



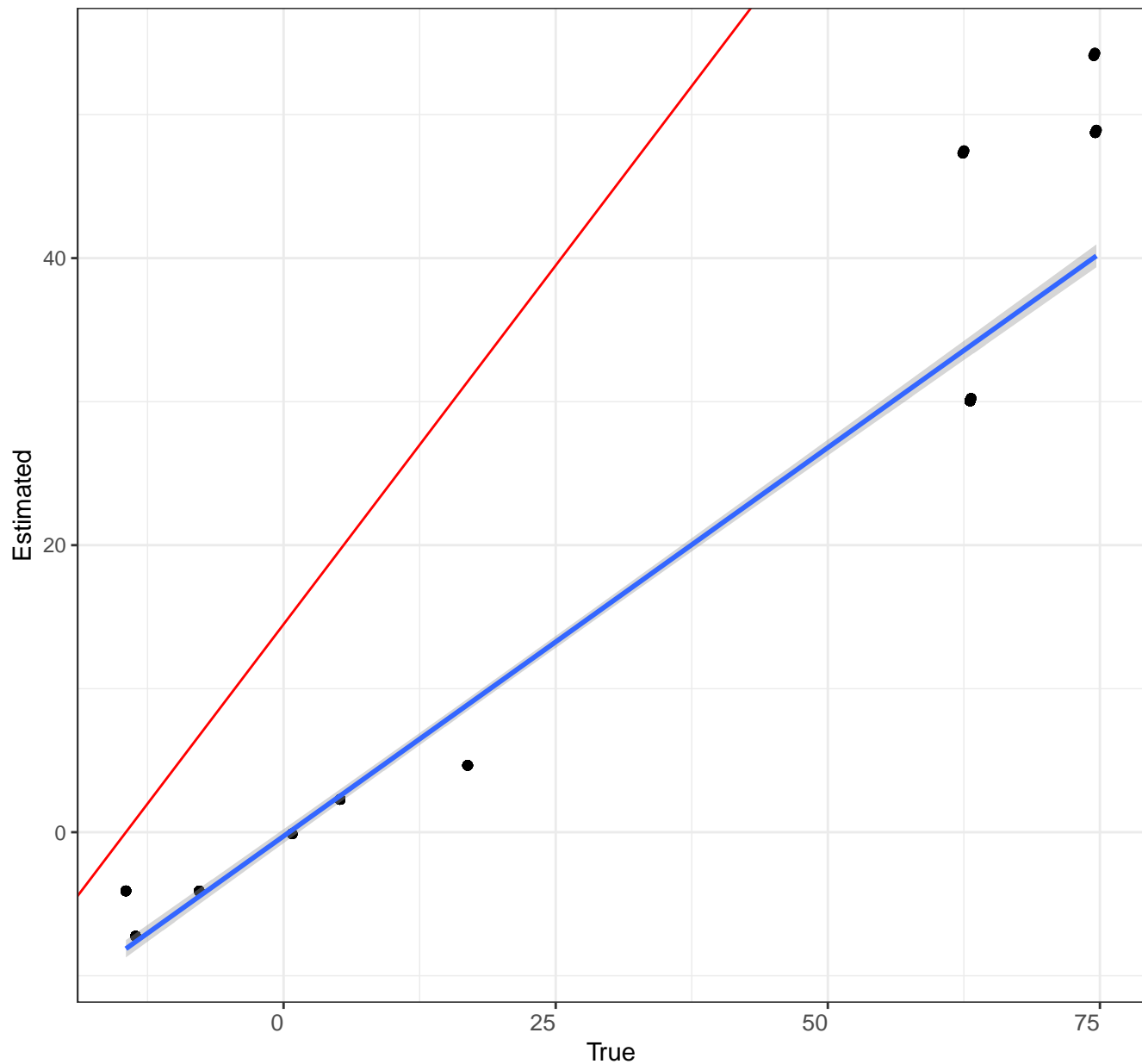
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.009$



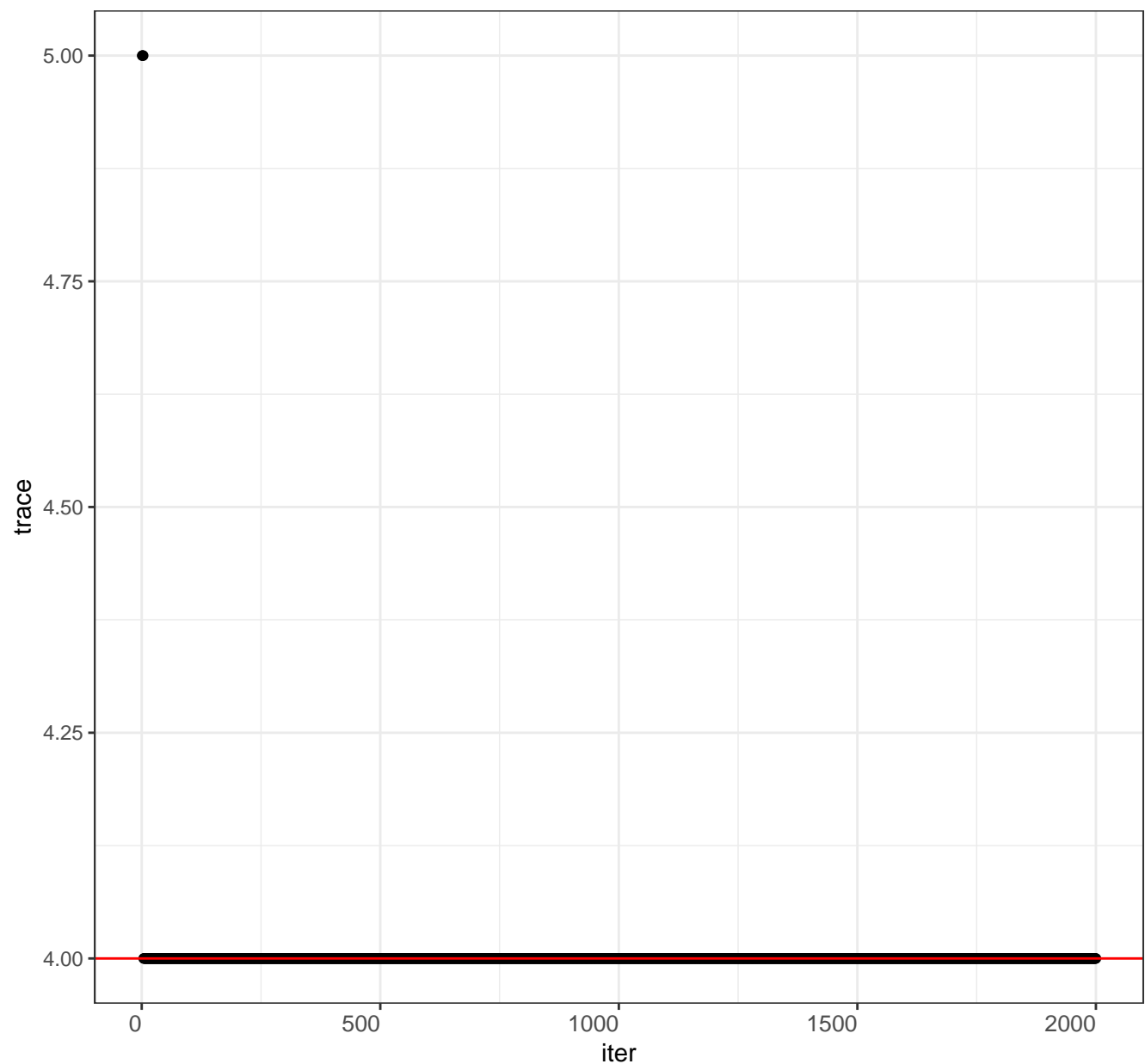
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

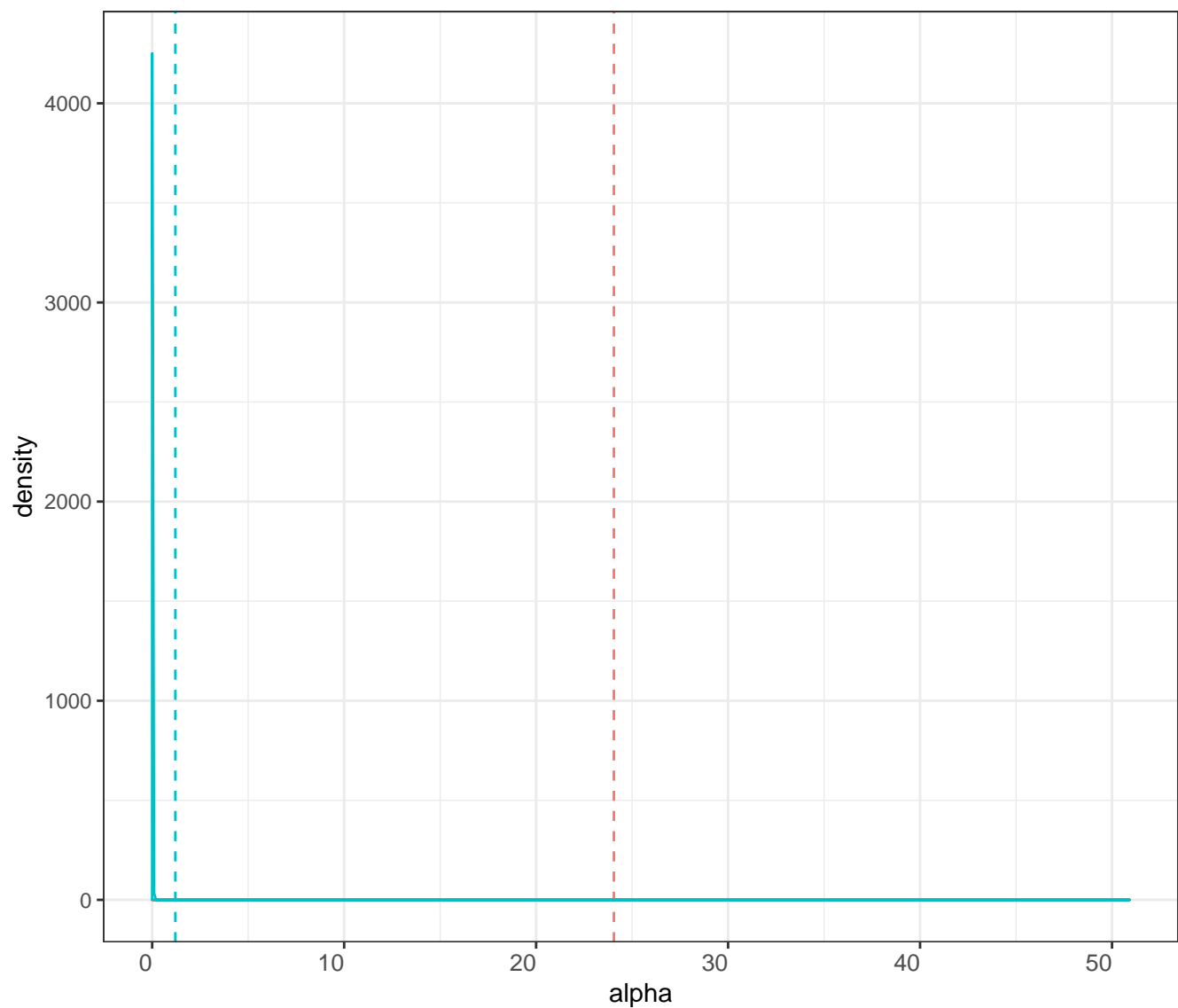
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

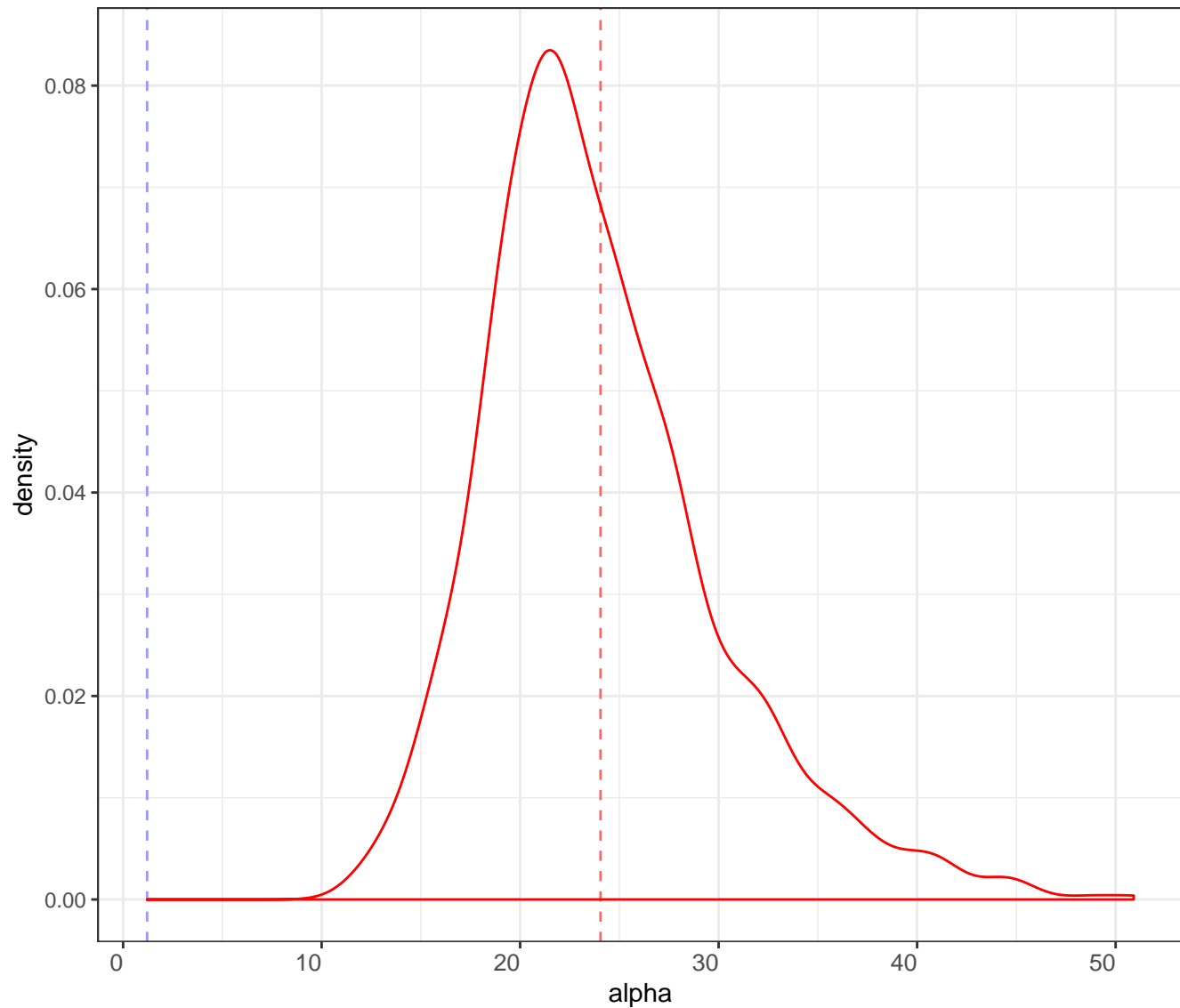
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

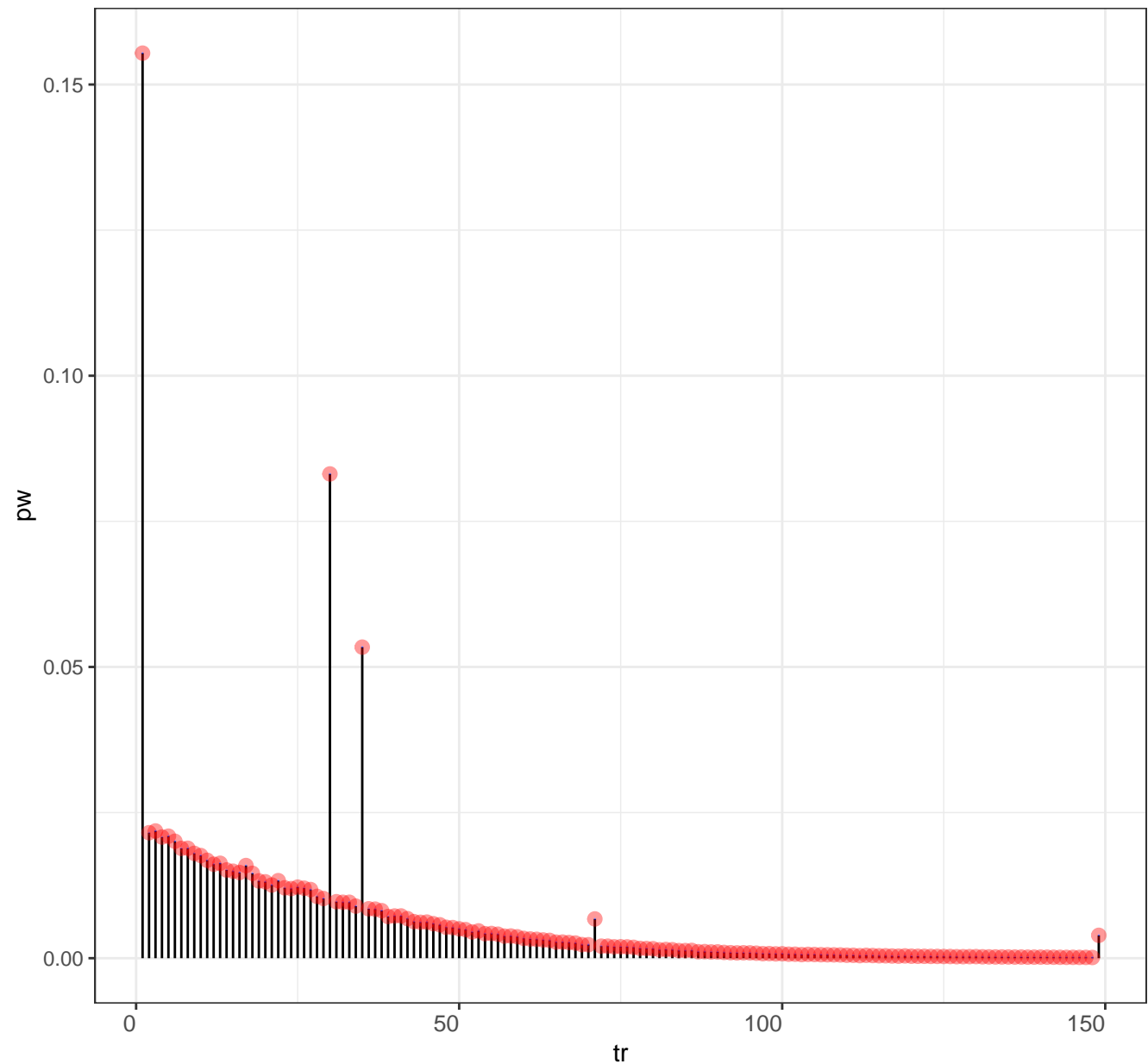
# Posterior distribution for alpha

Legend      posterior mean      prior mean



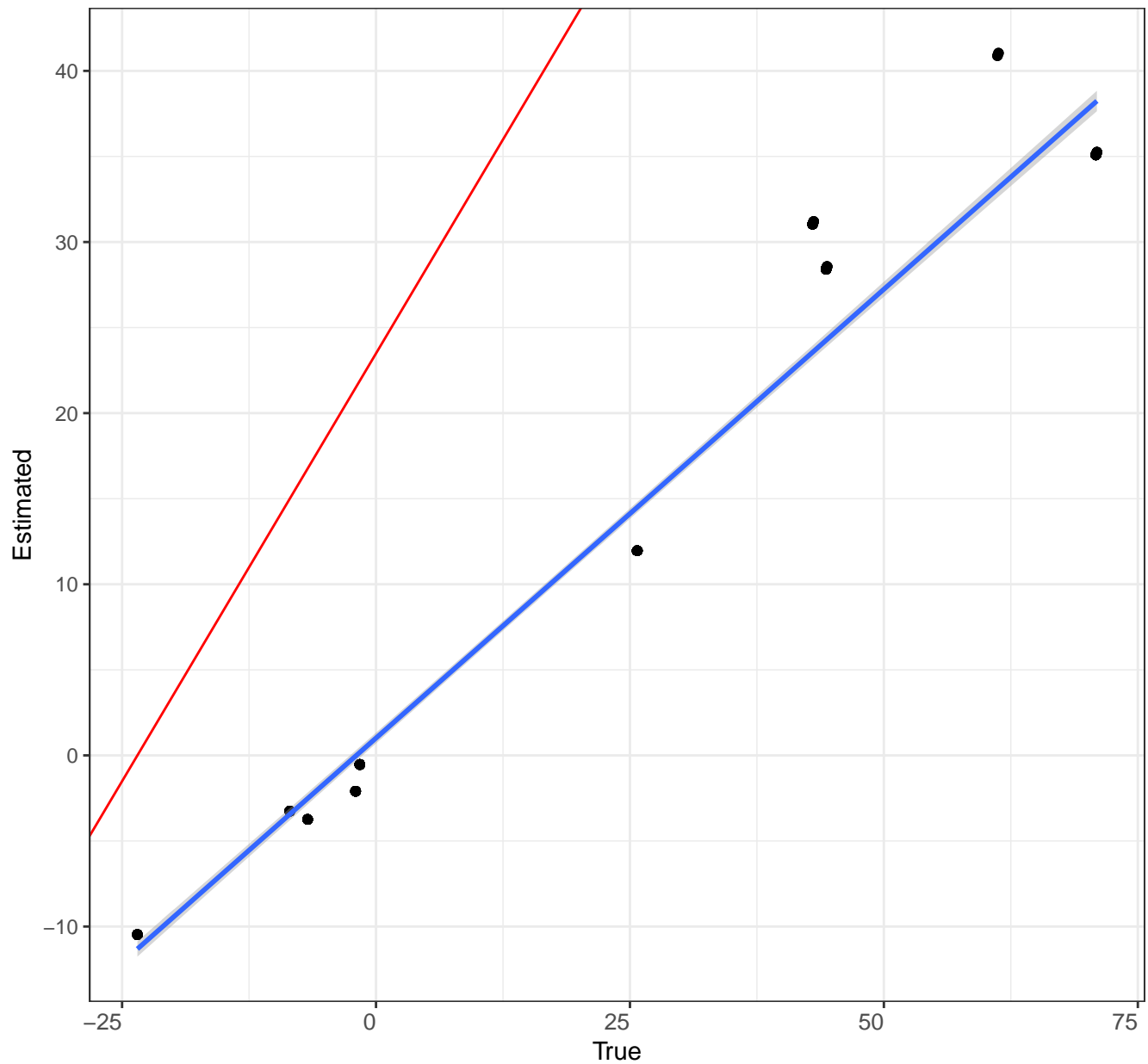
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



Number of iterations: 2000 burnin: 1000 number of samples: 500

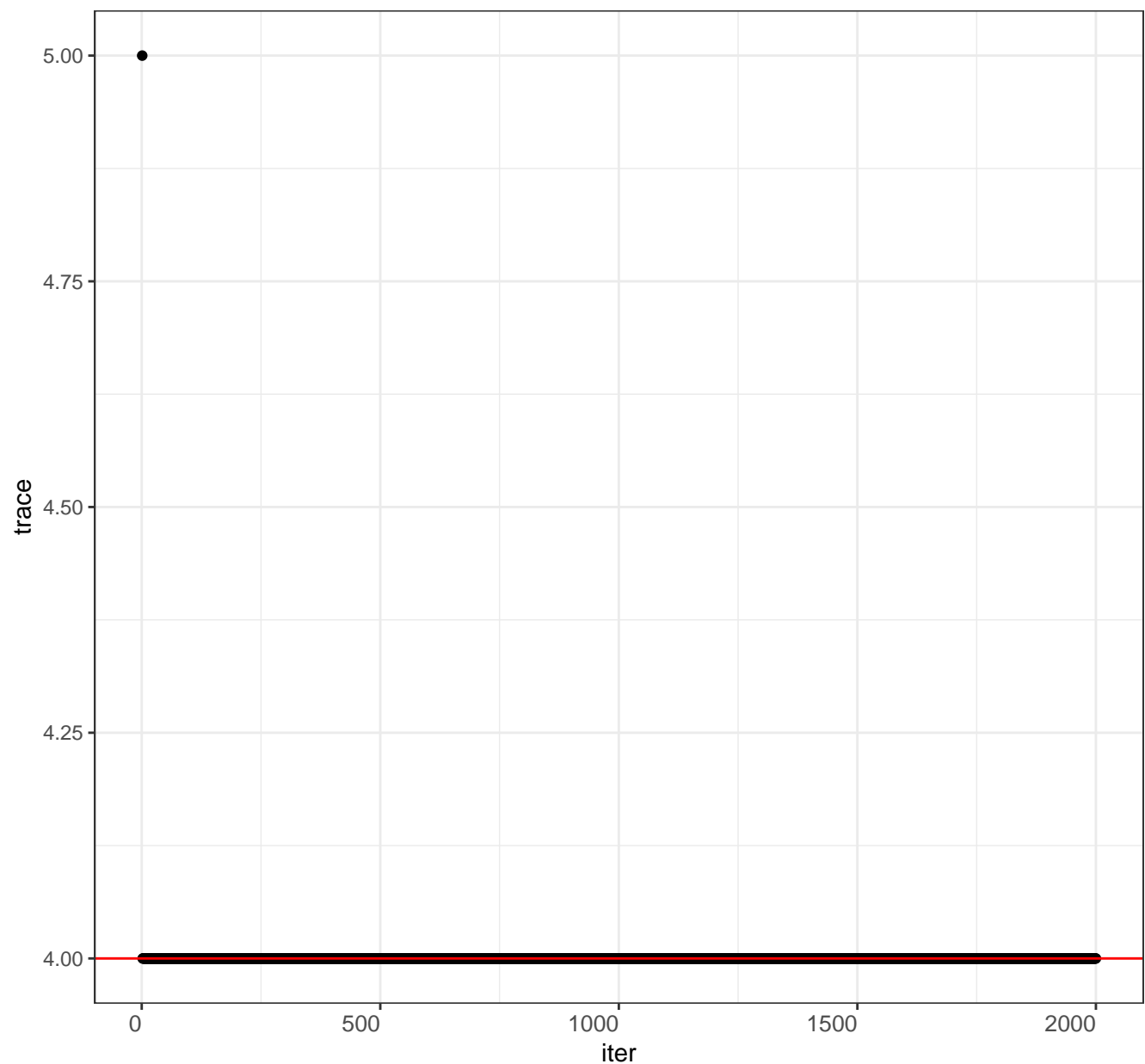
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1





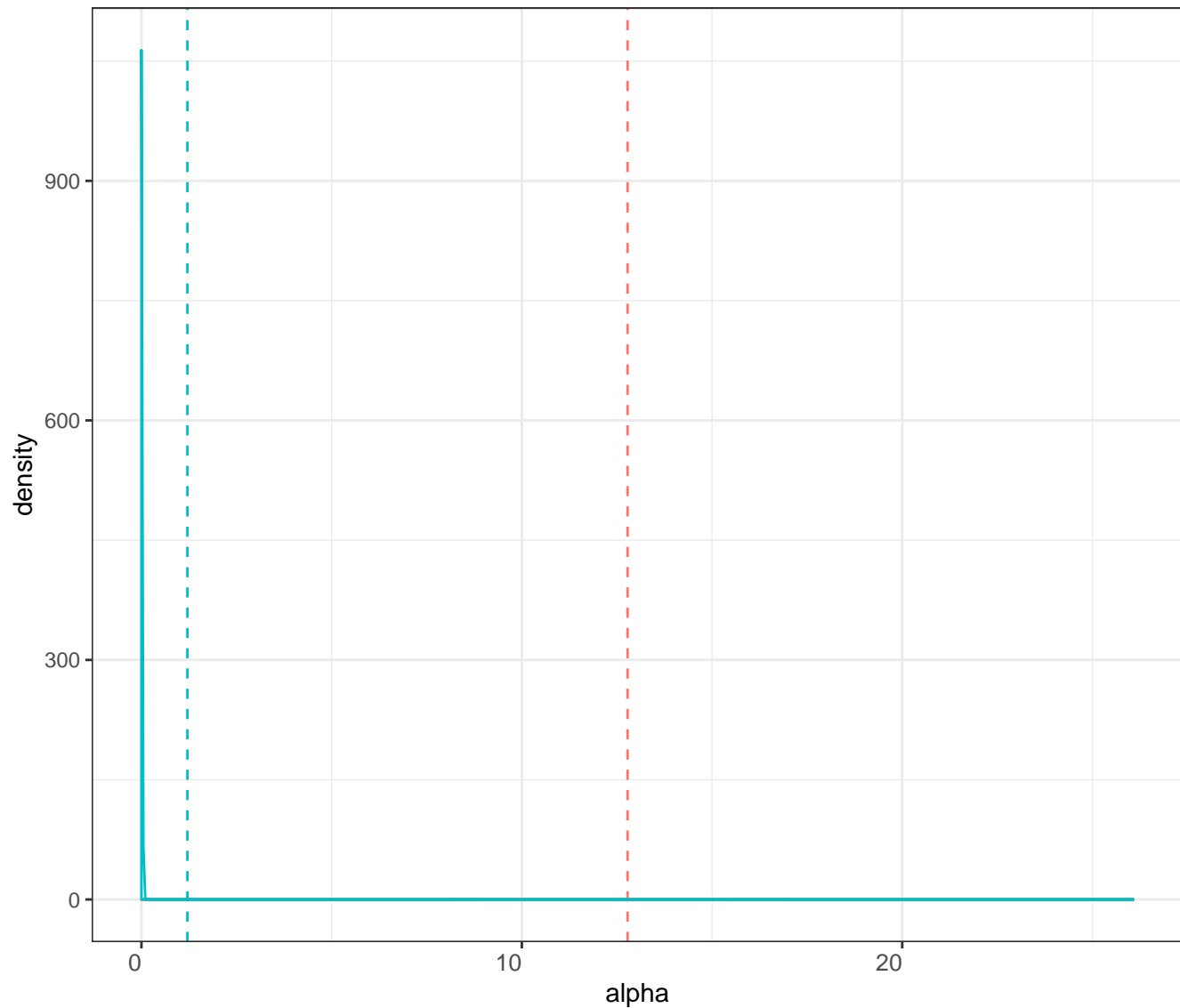
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

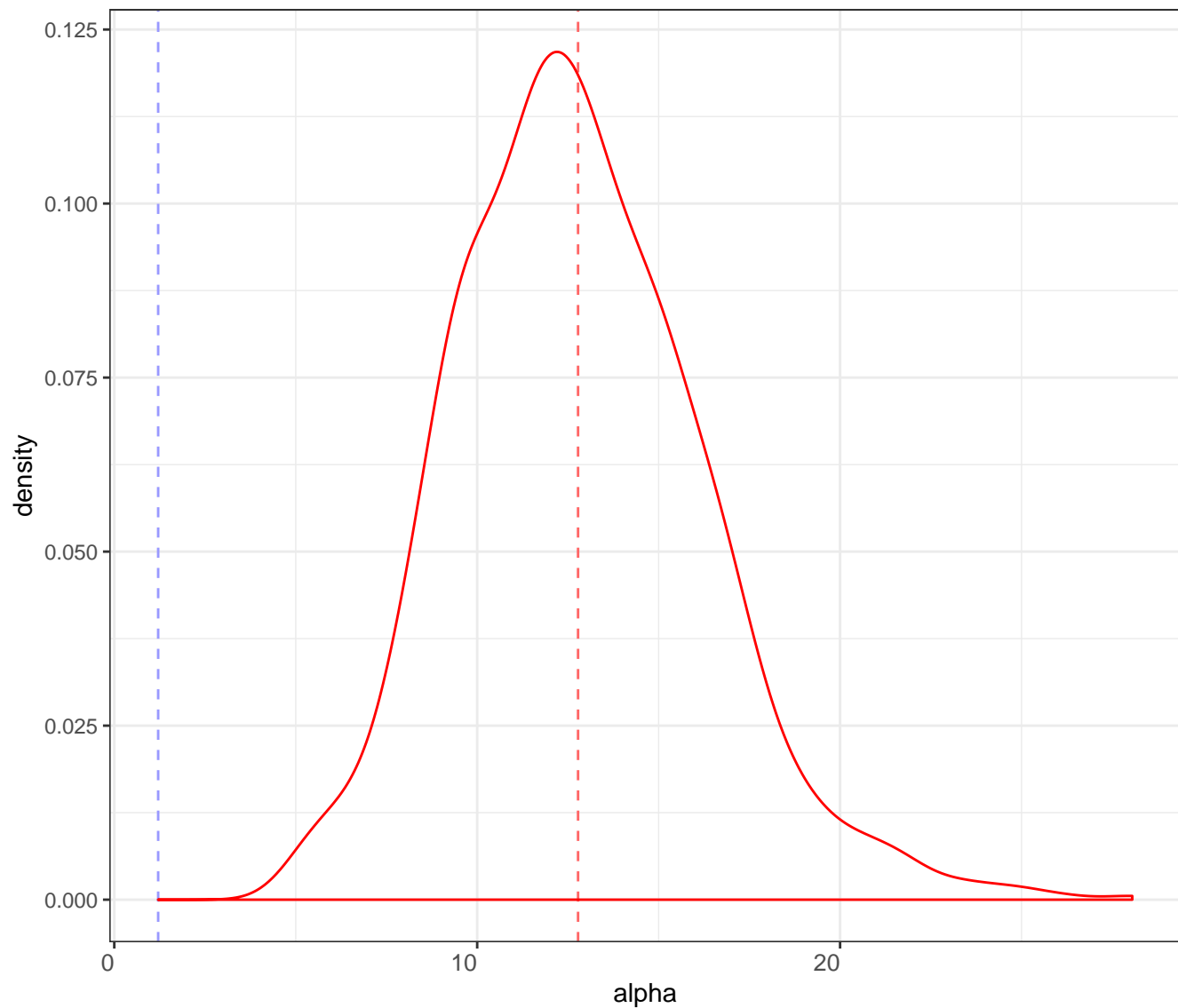
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

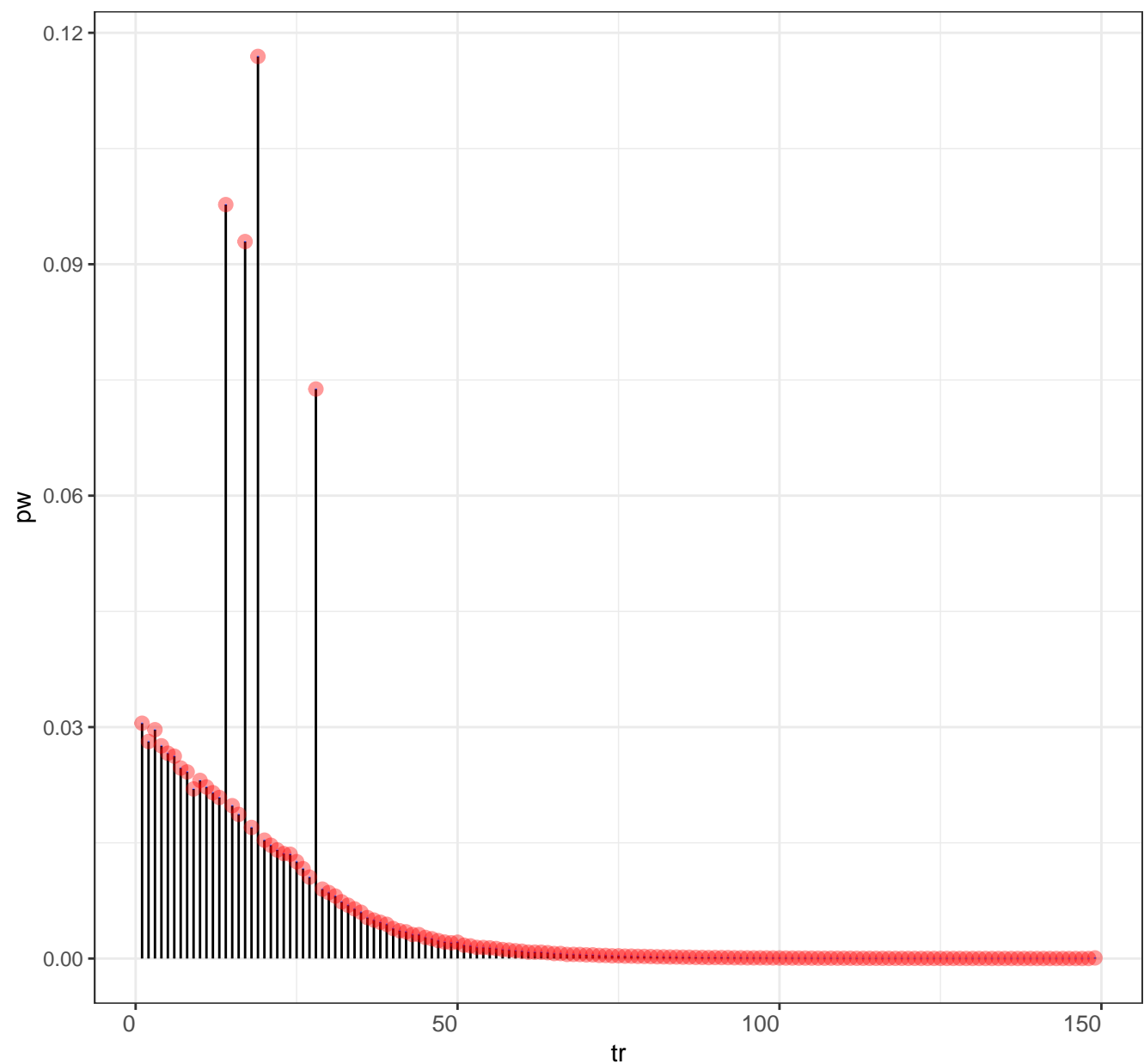
# Posterior distribution for alpha

Legend      posterior mean      prior mean



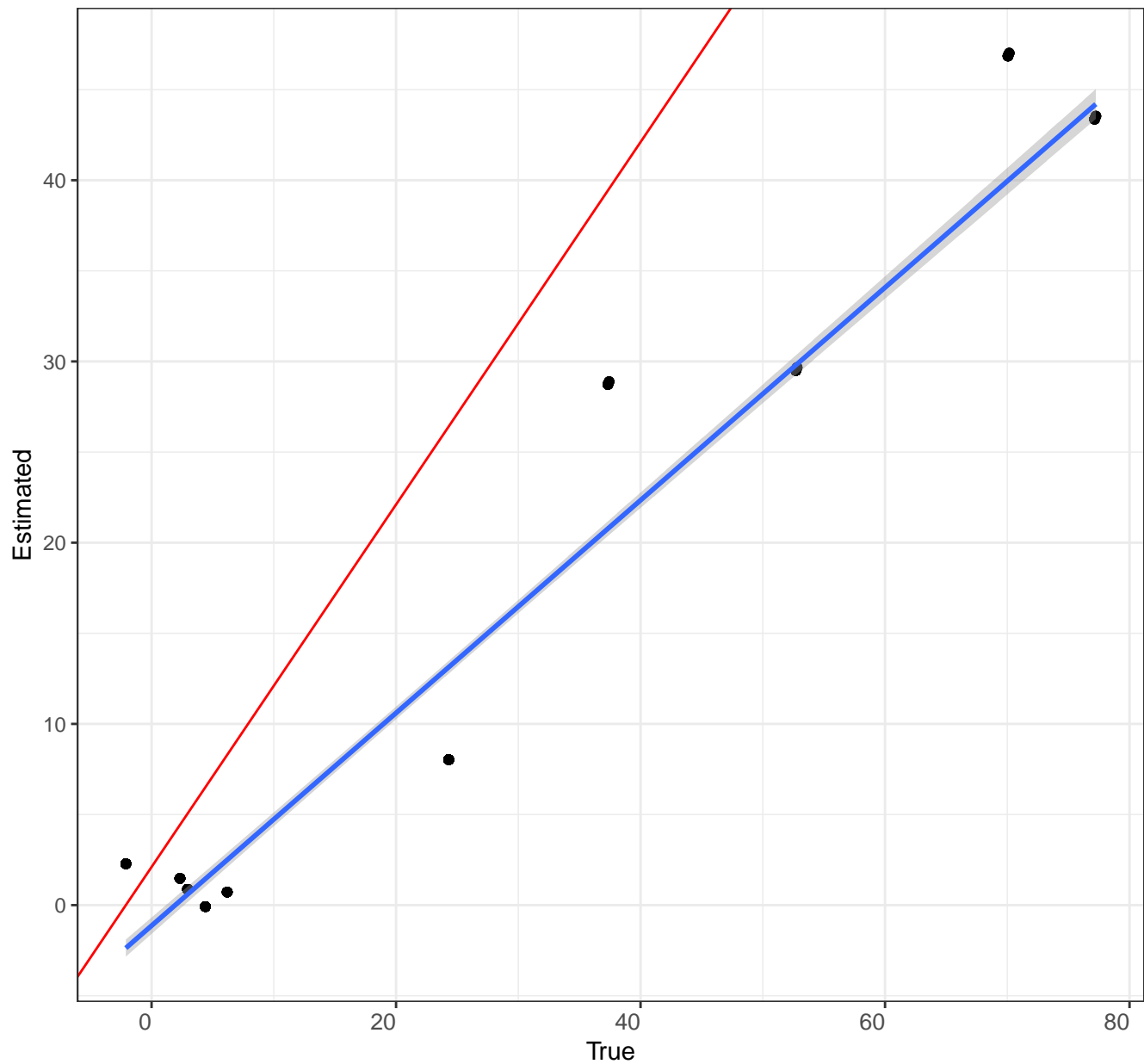
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



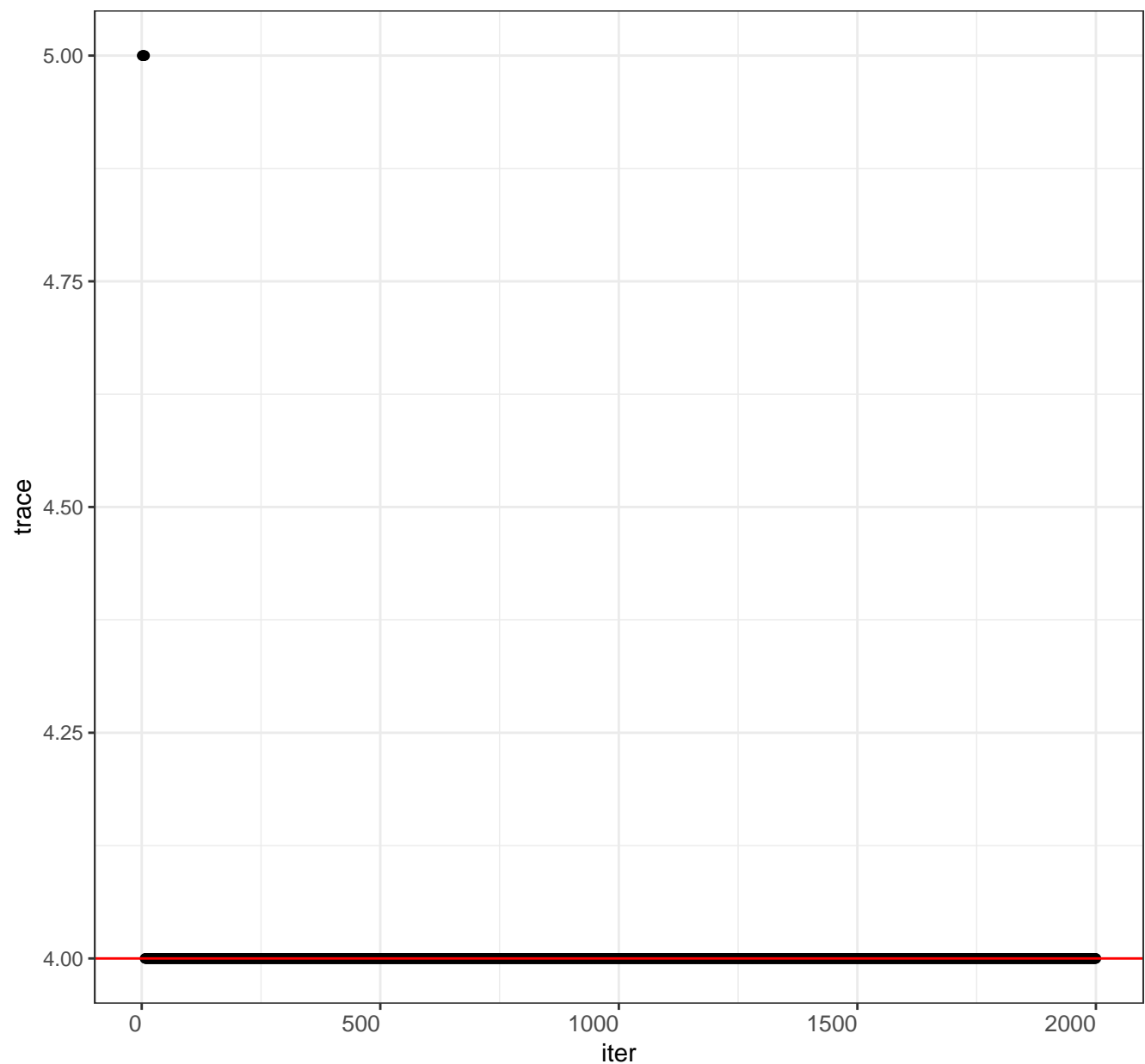
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

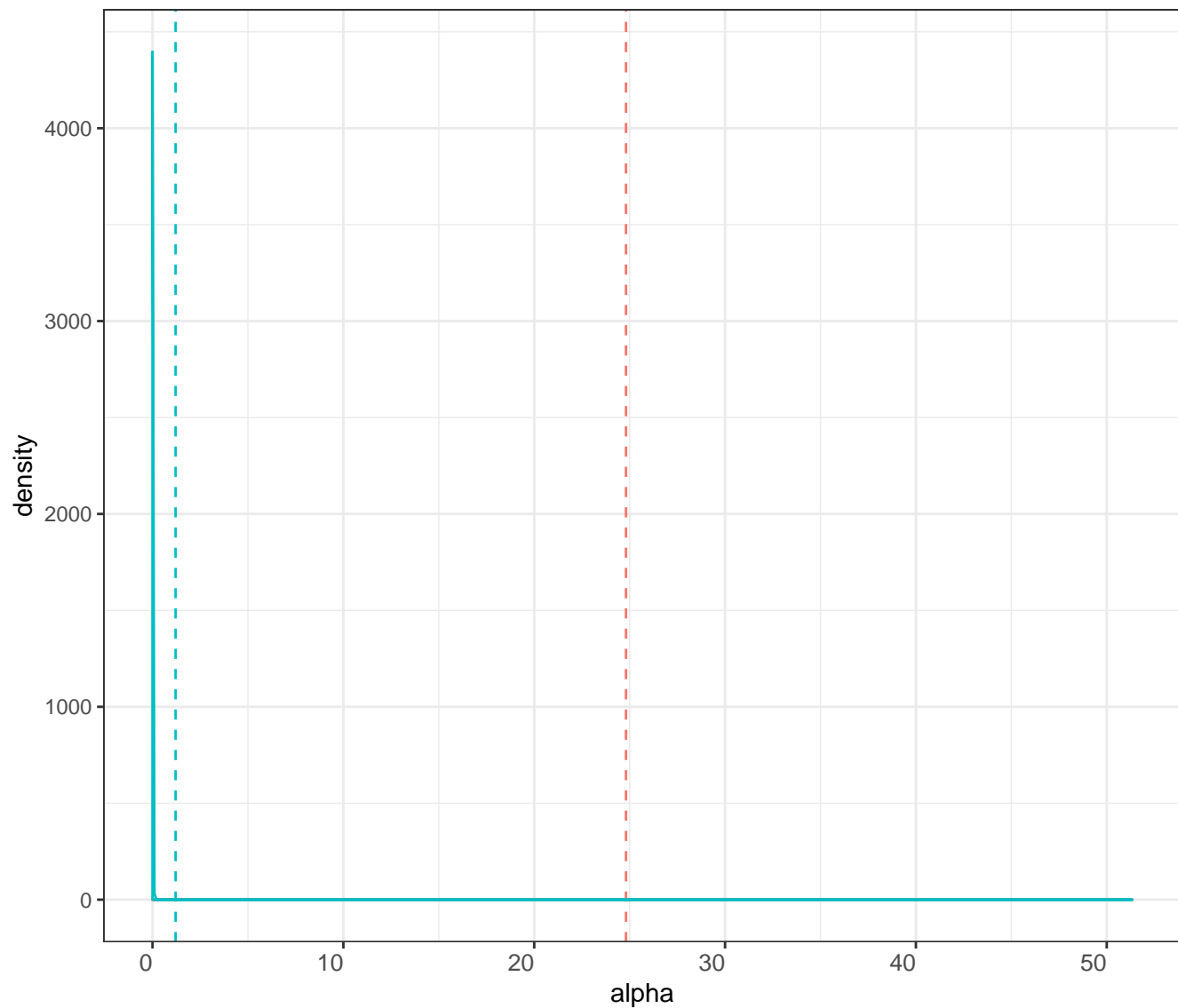
Trace plot for the number of groups K for S=20 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=5 true gr K=4 ,type=1 ,N=150

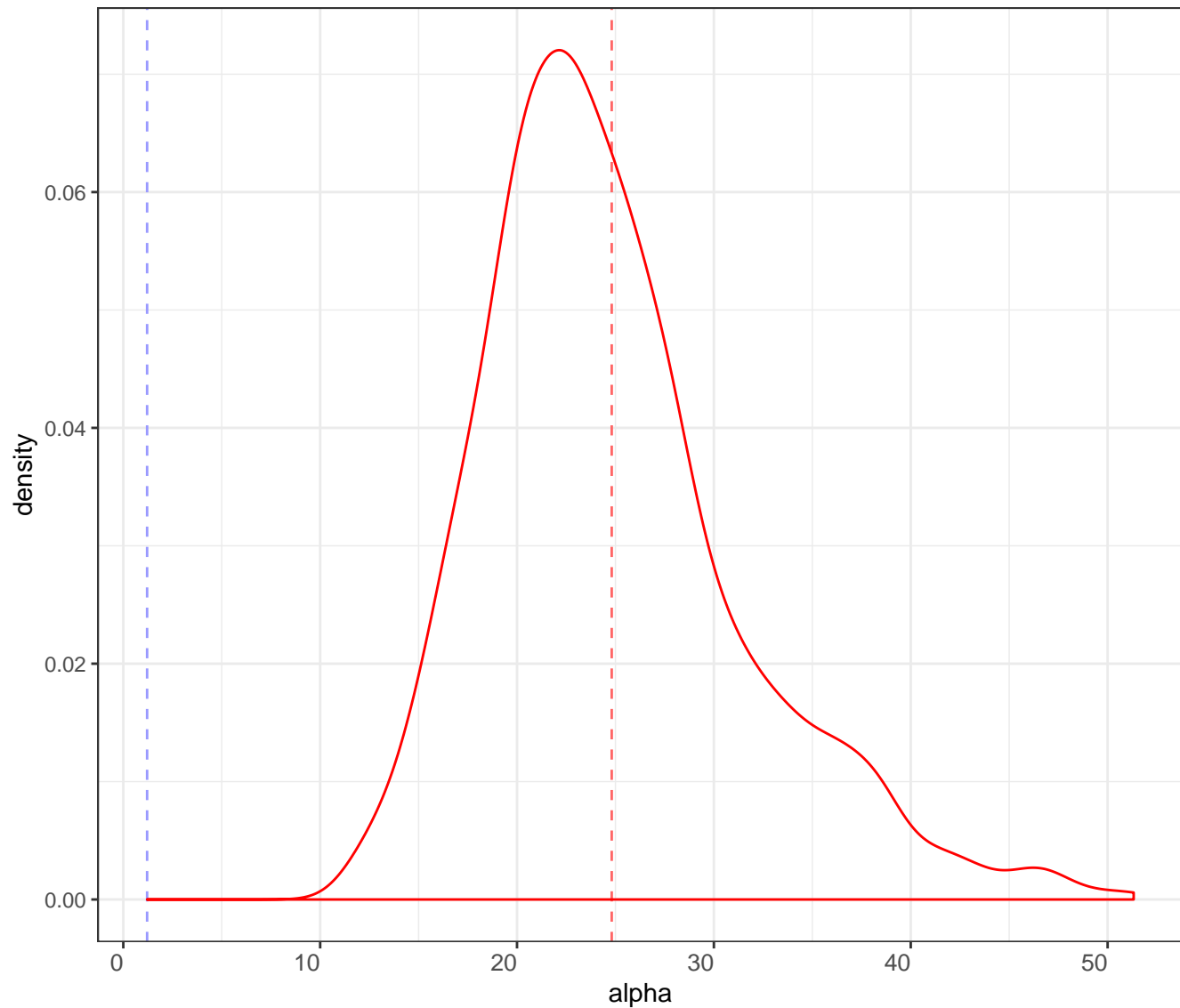
type ┆ posterior ┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

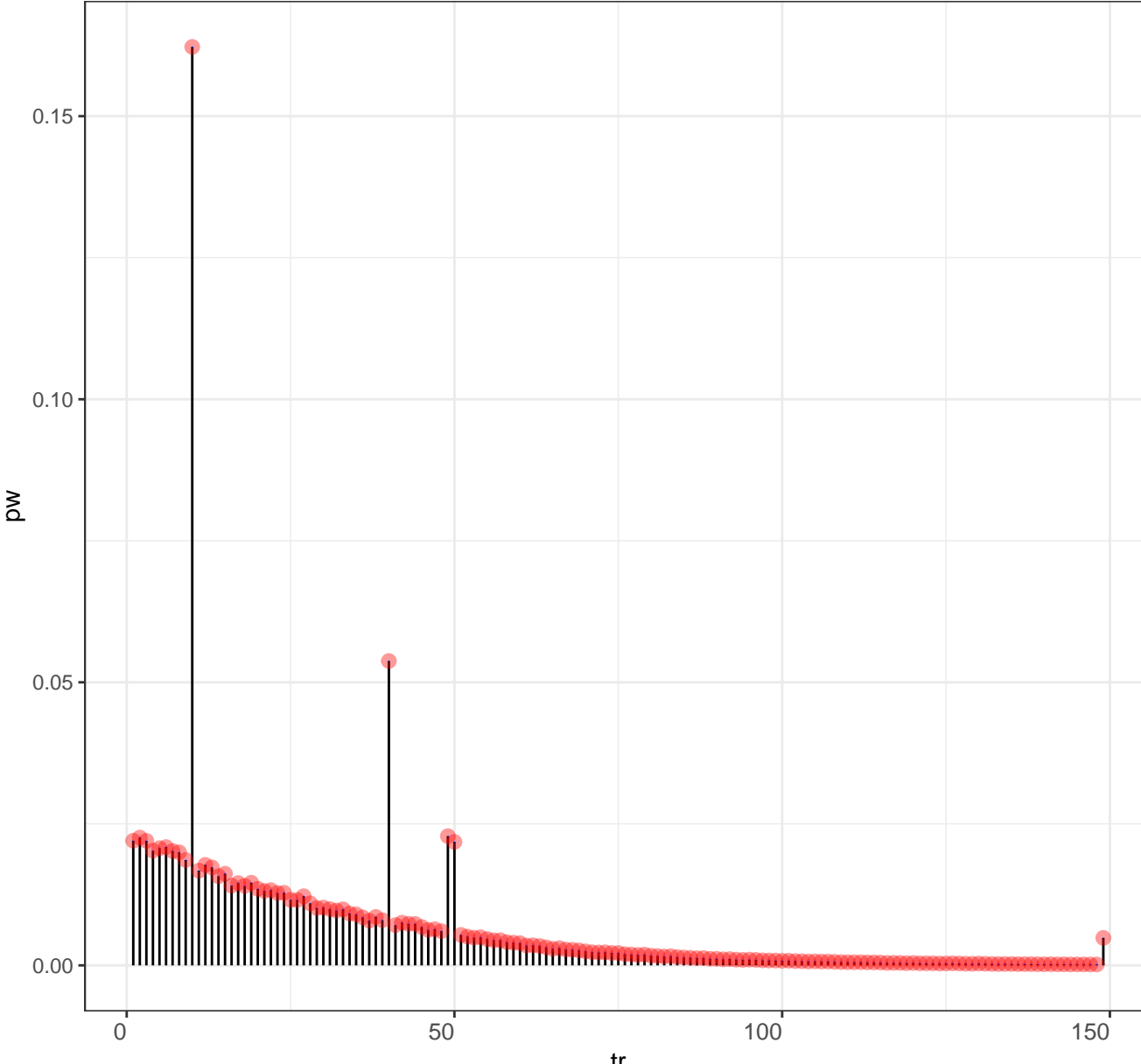
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=5 true gr K=4 ,type=1 ,N=150

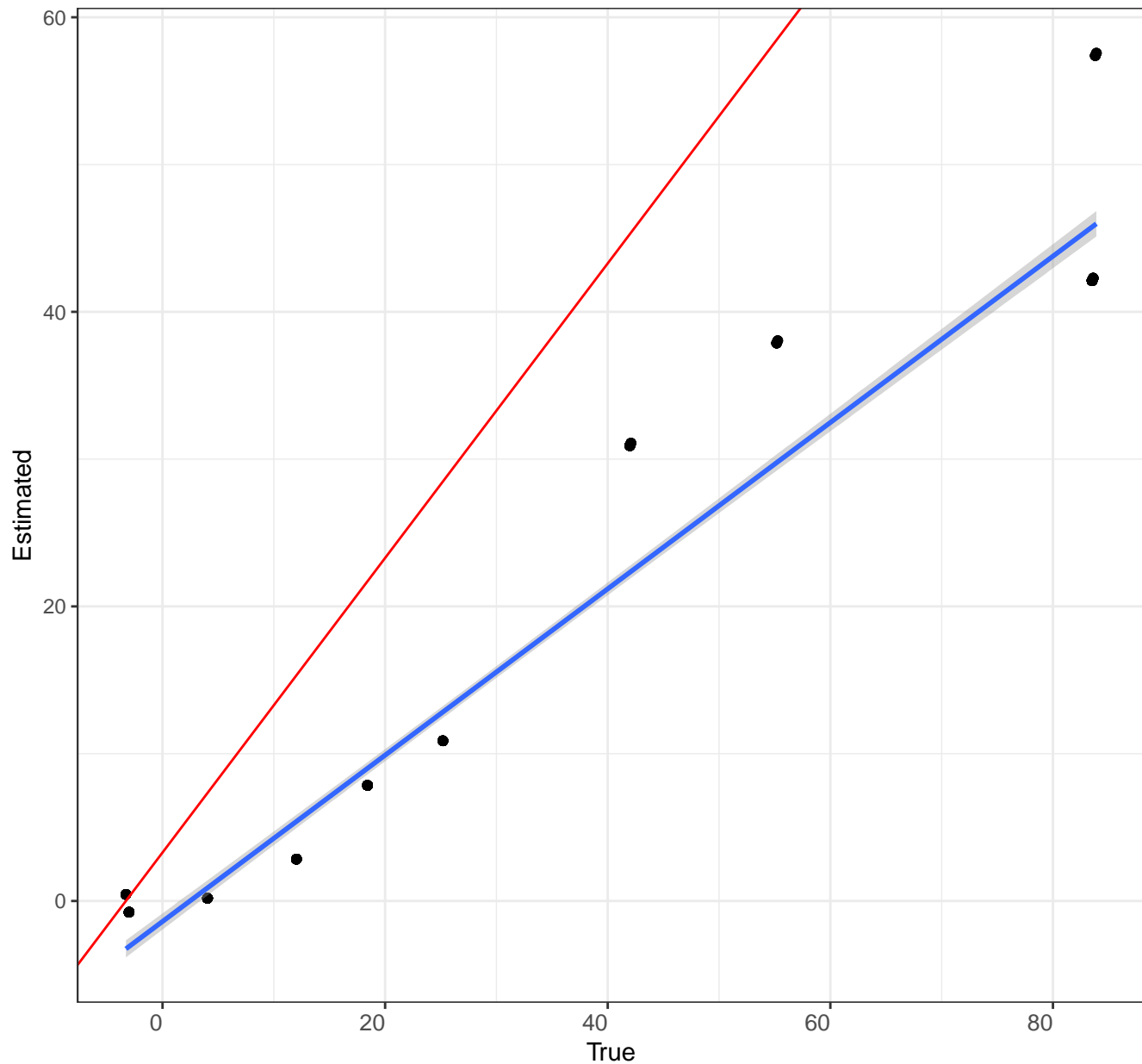


Weights for the case: S=20 ,r=5 true gr K=4 ,type=1 ,N=150 pN=0.005



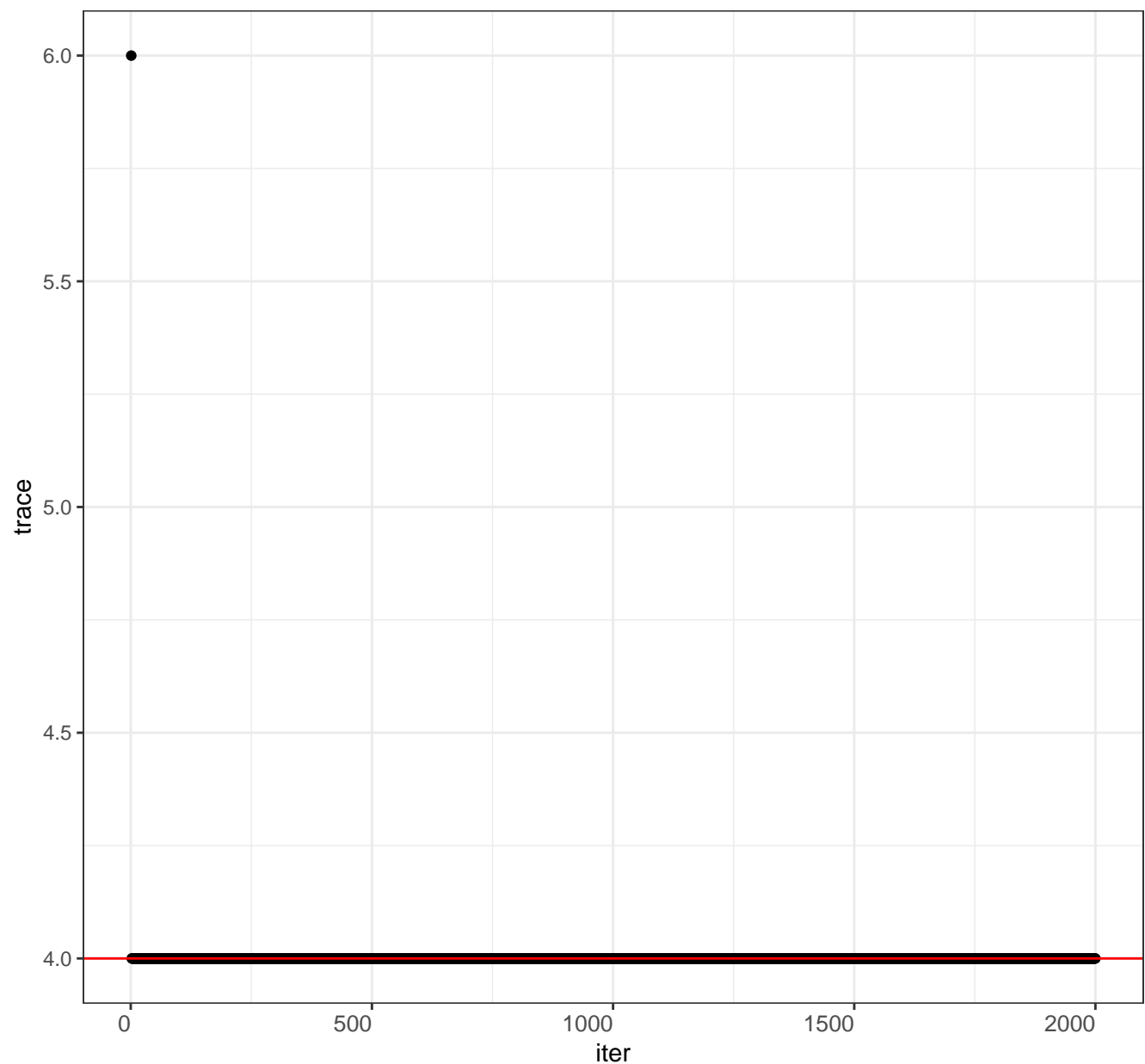
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=5 true K=4 type=1

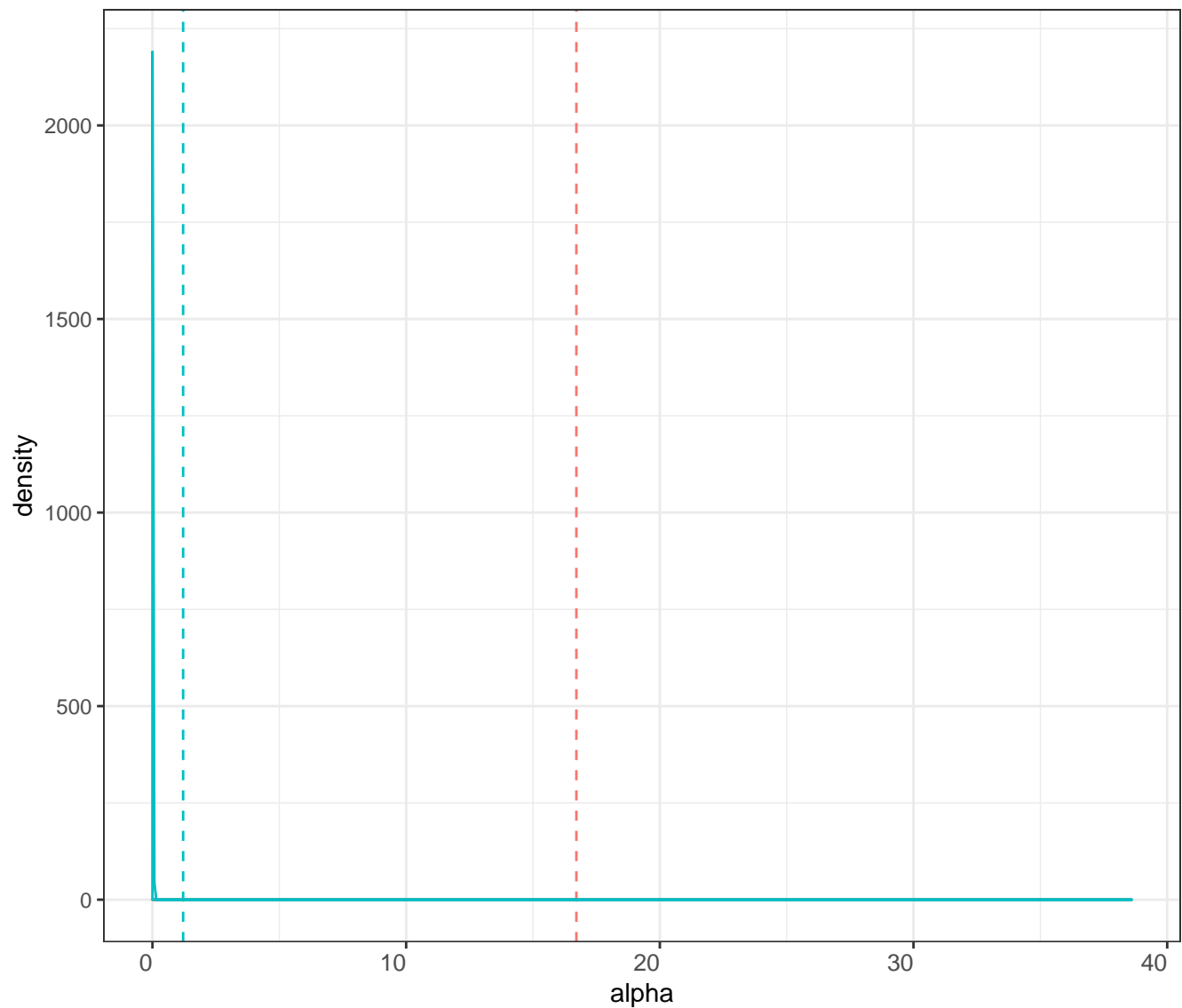
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

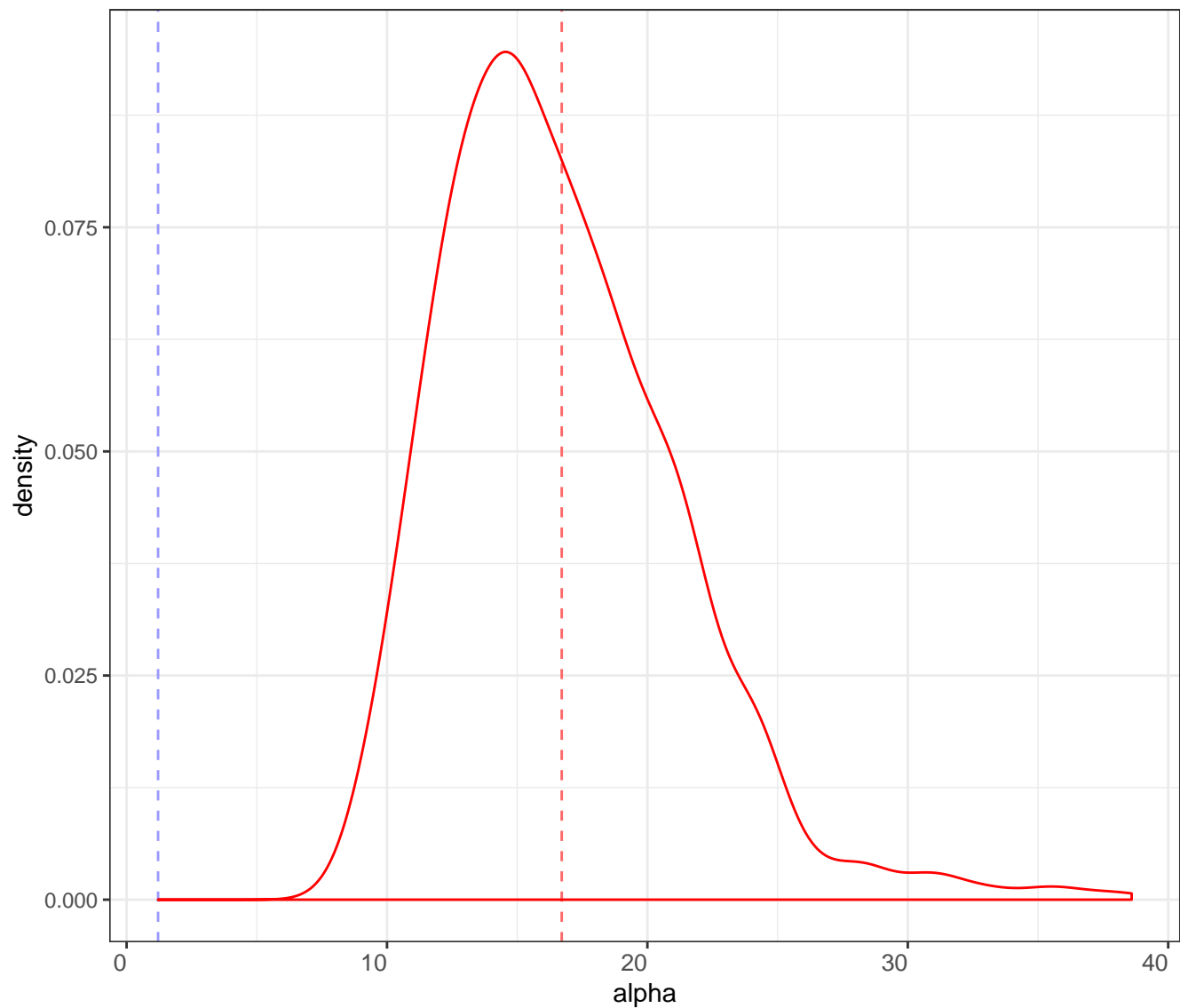
type ┆┆┆ posterior ┆┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

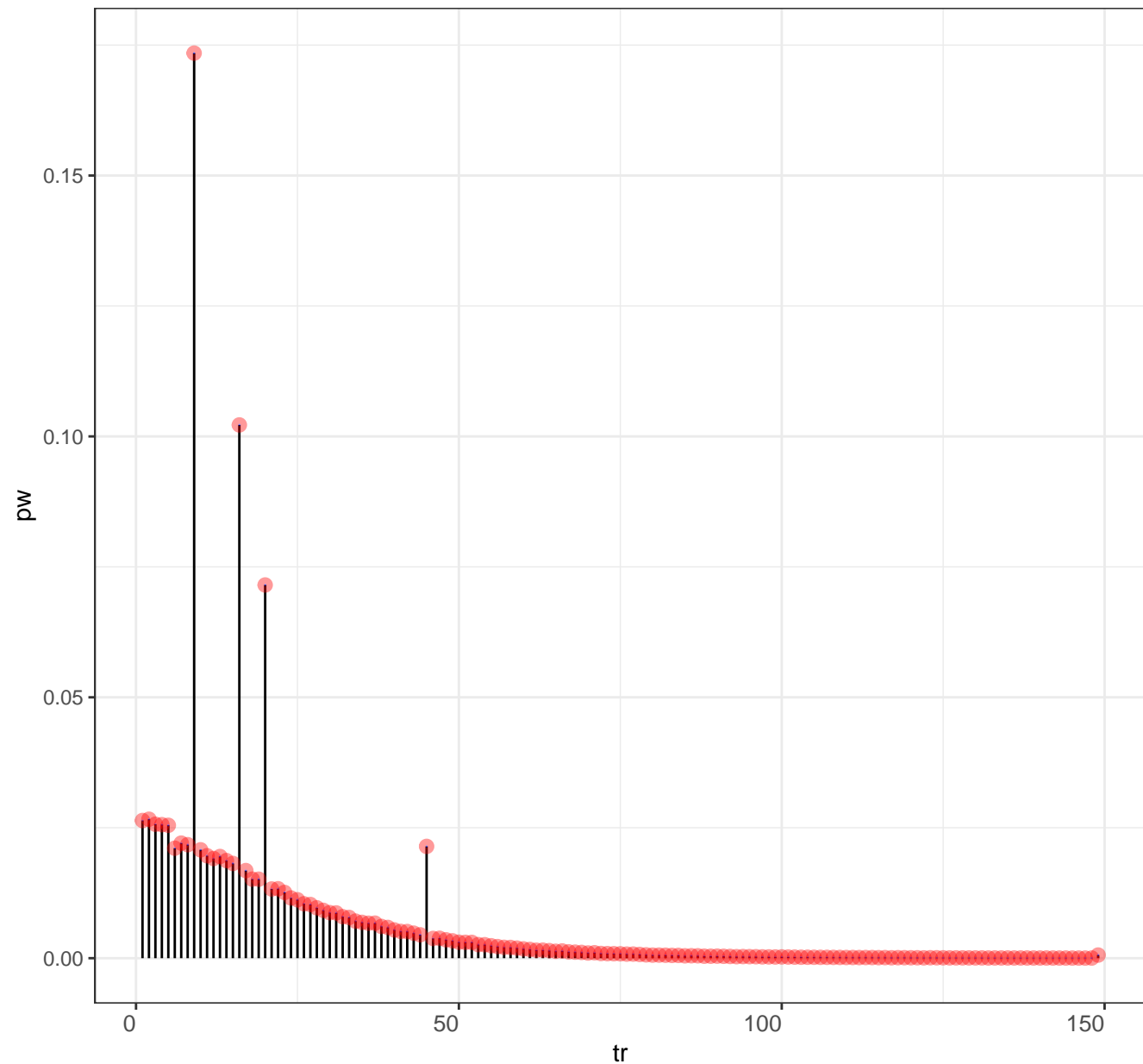
# Posterior distribution for alpha

Legend    posterior mean    prior mean



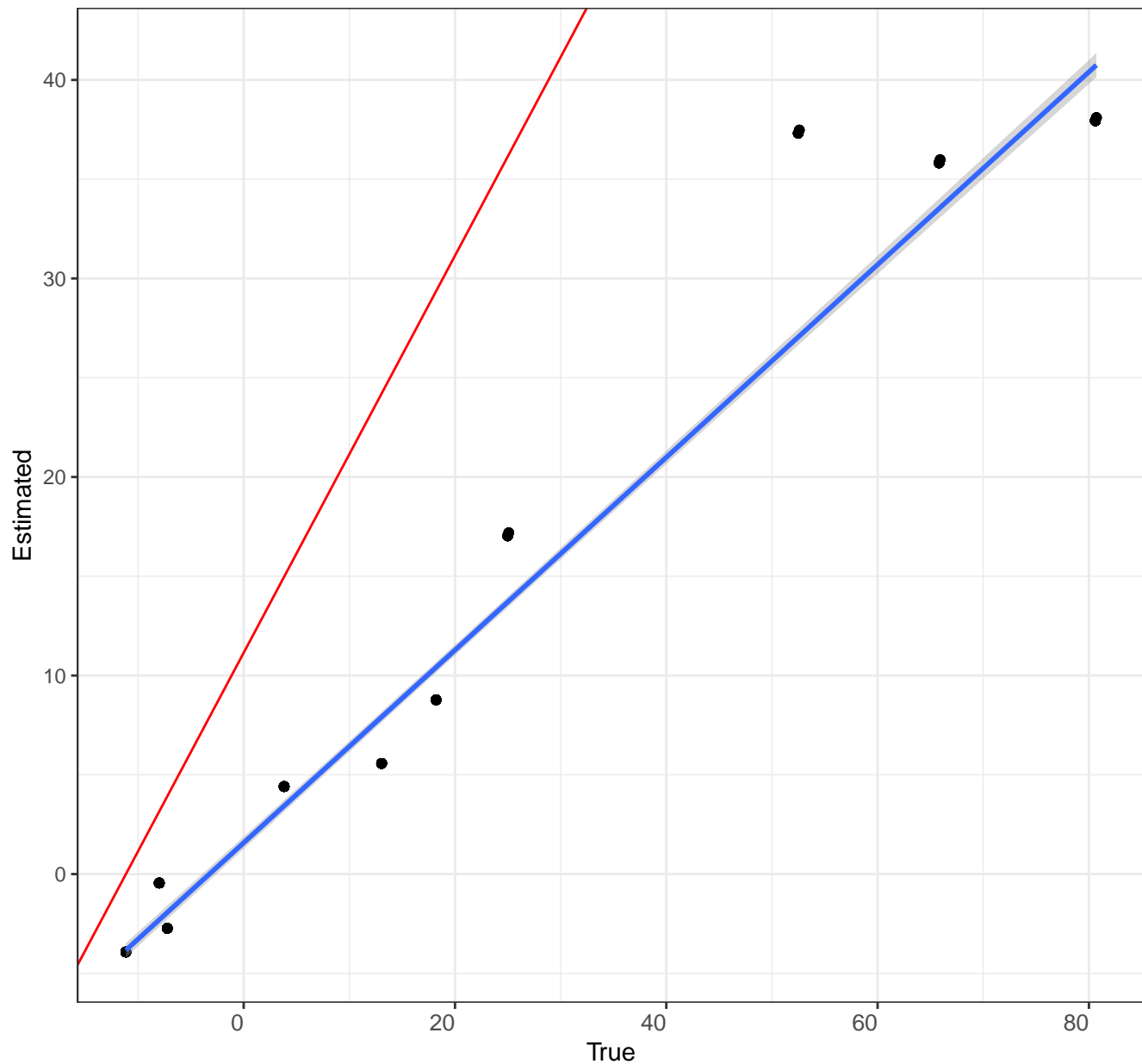
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



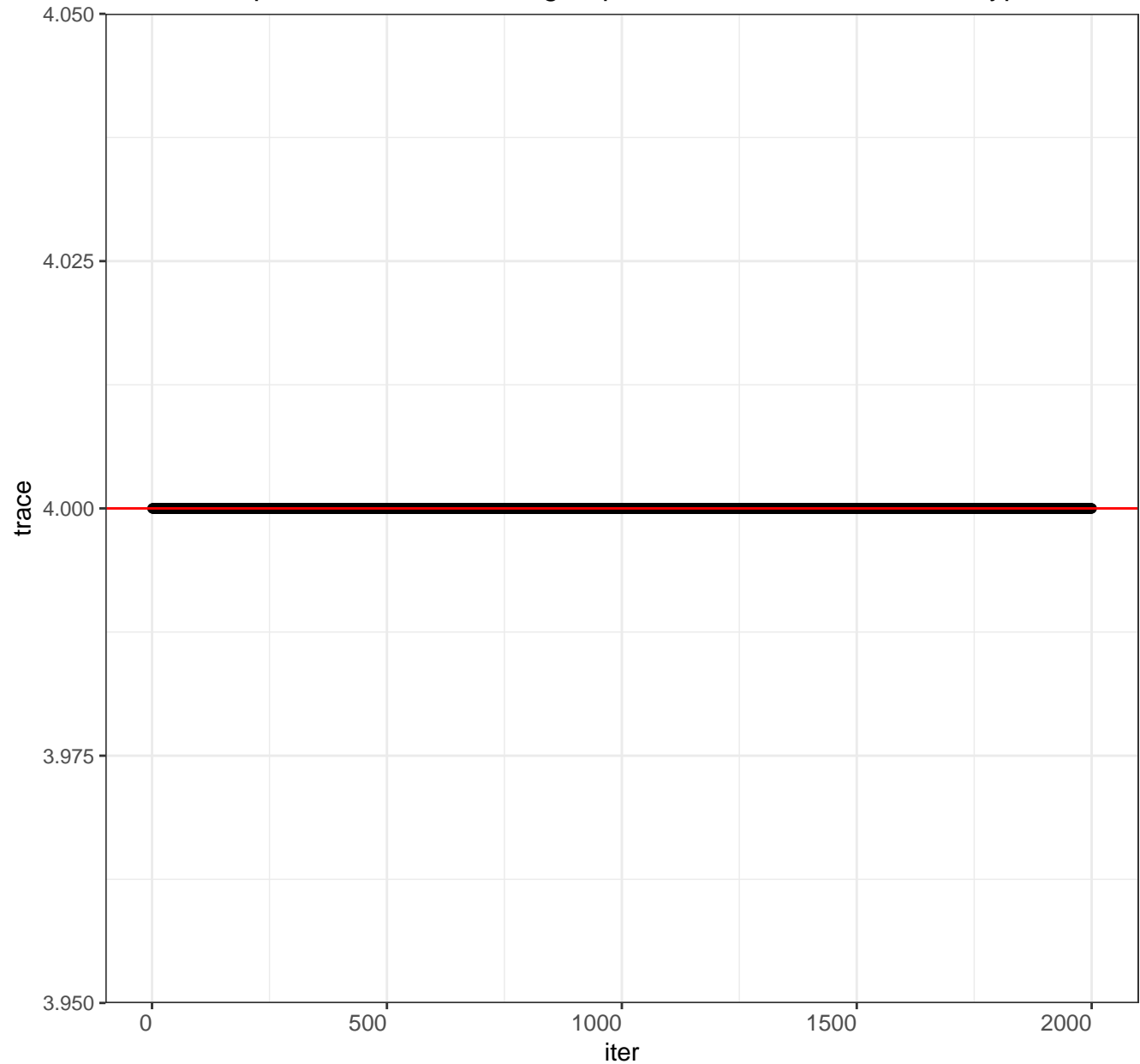
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1



Trace plot for the number of groups K for S=20 r=10 true K=4 type=1

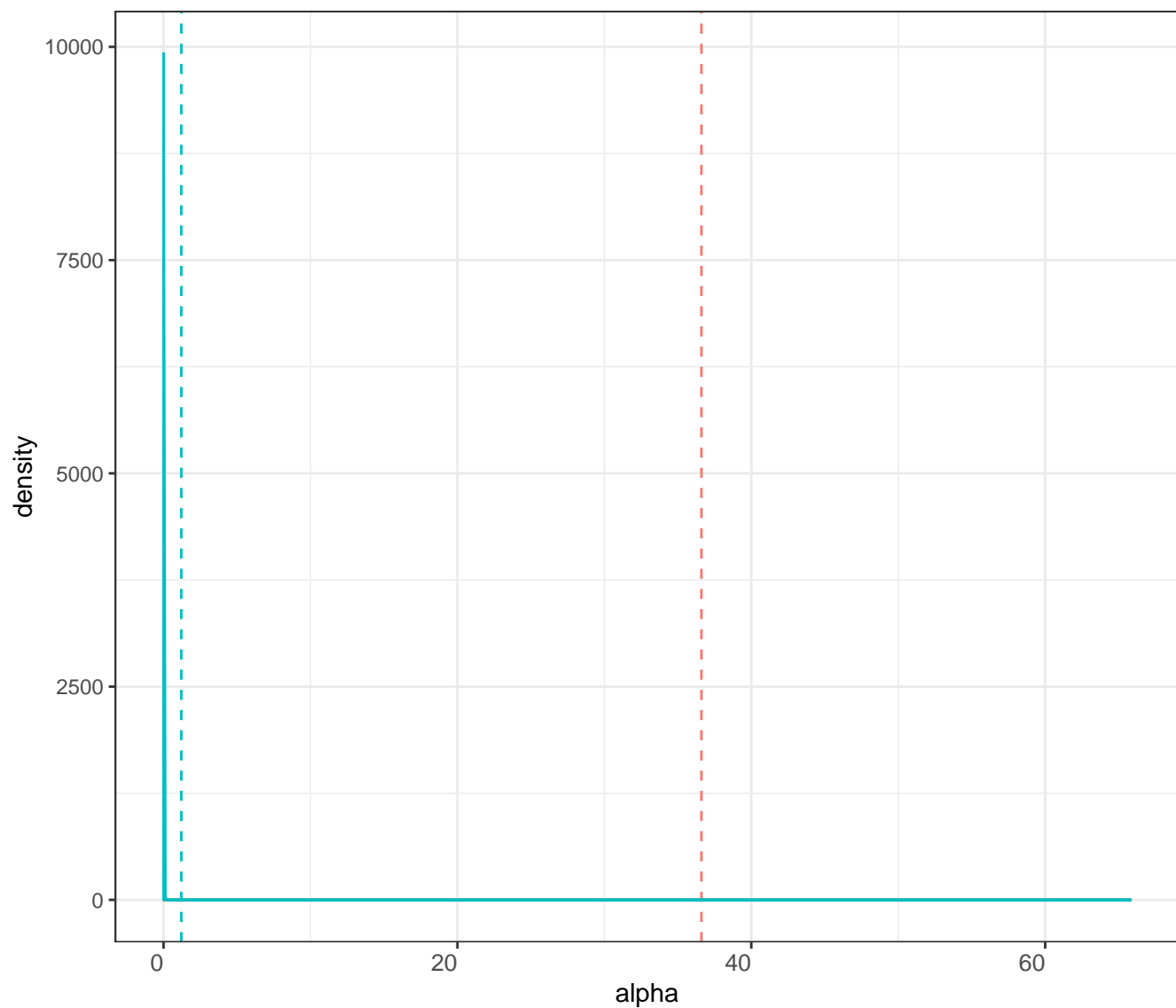


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

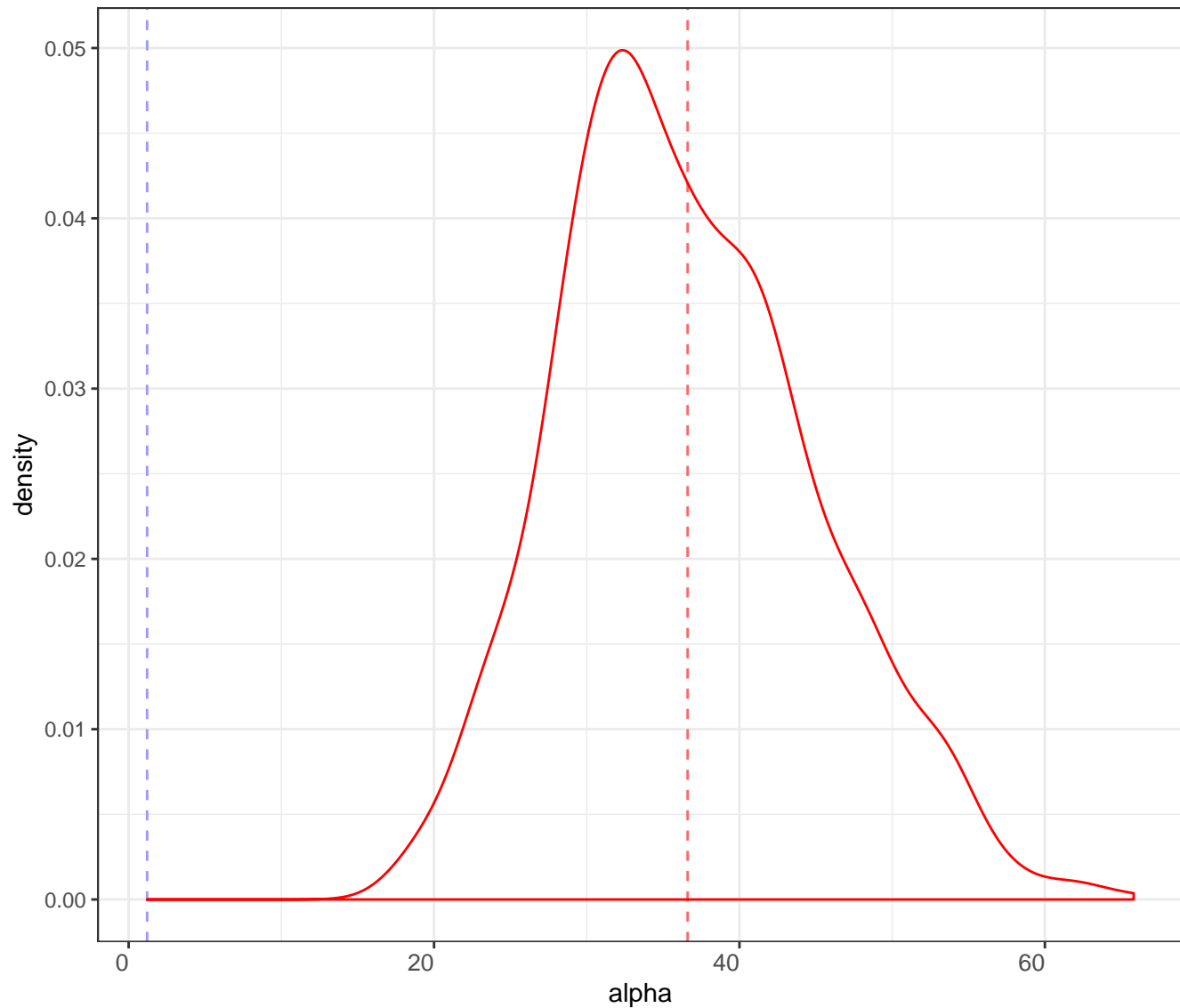
Legend



posterior mean

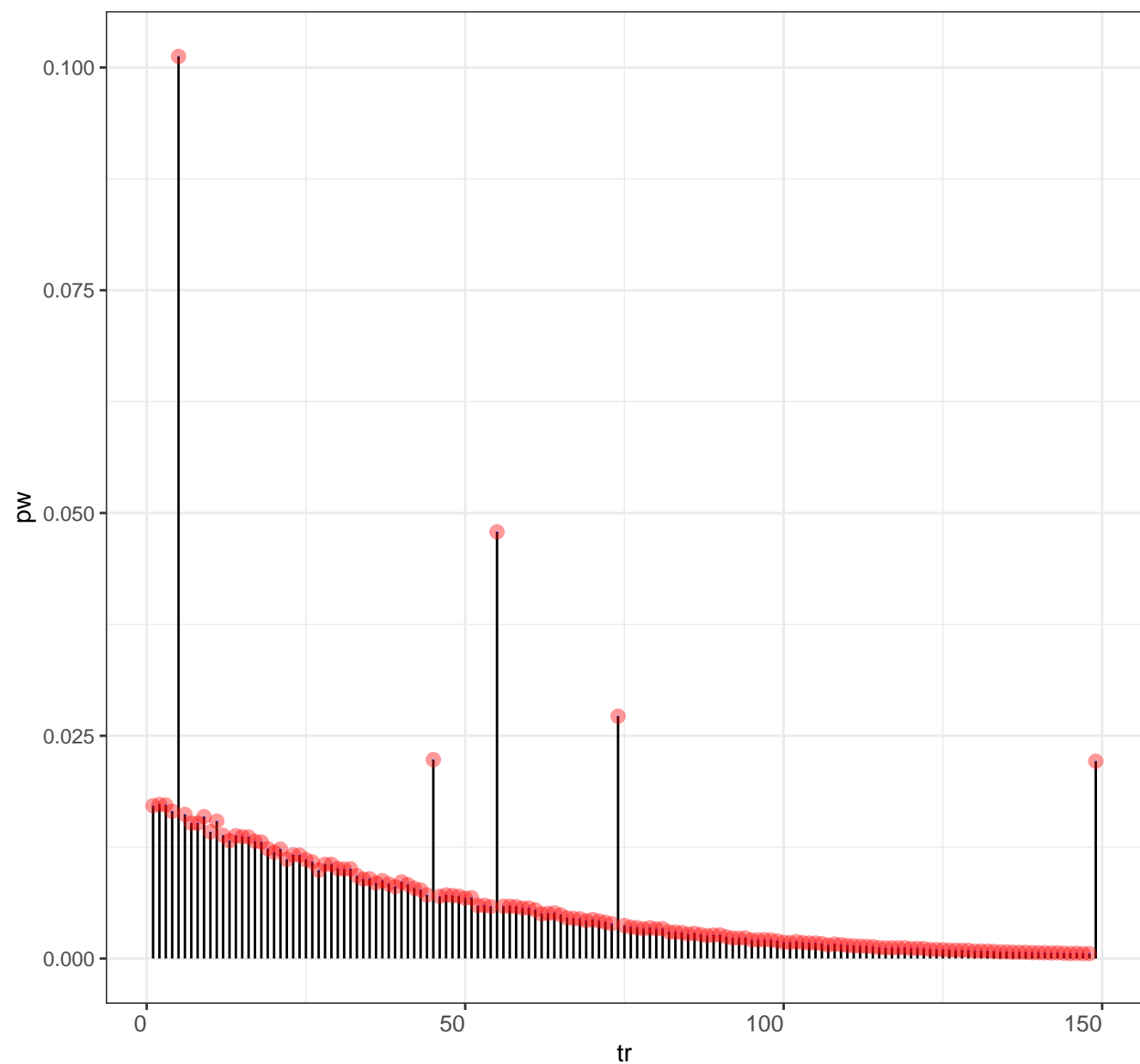


prior mean



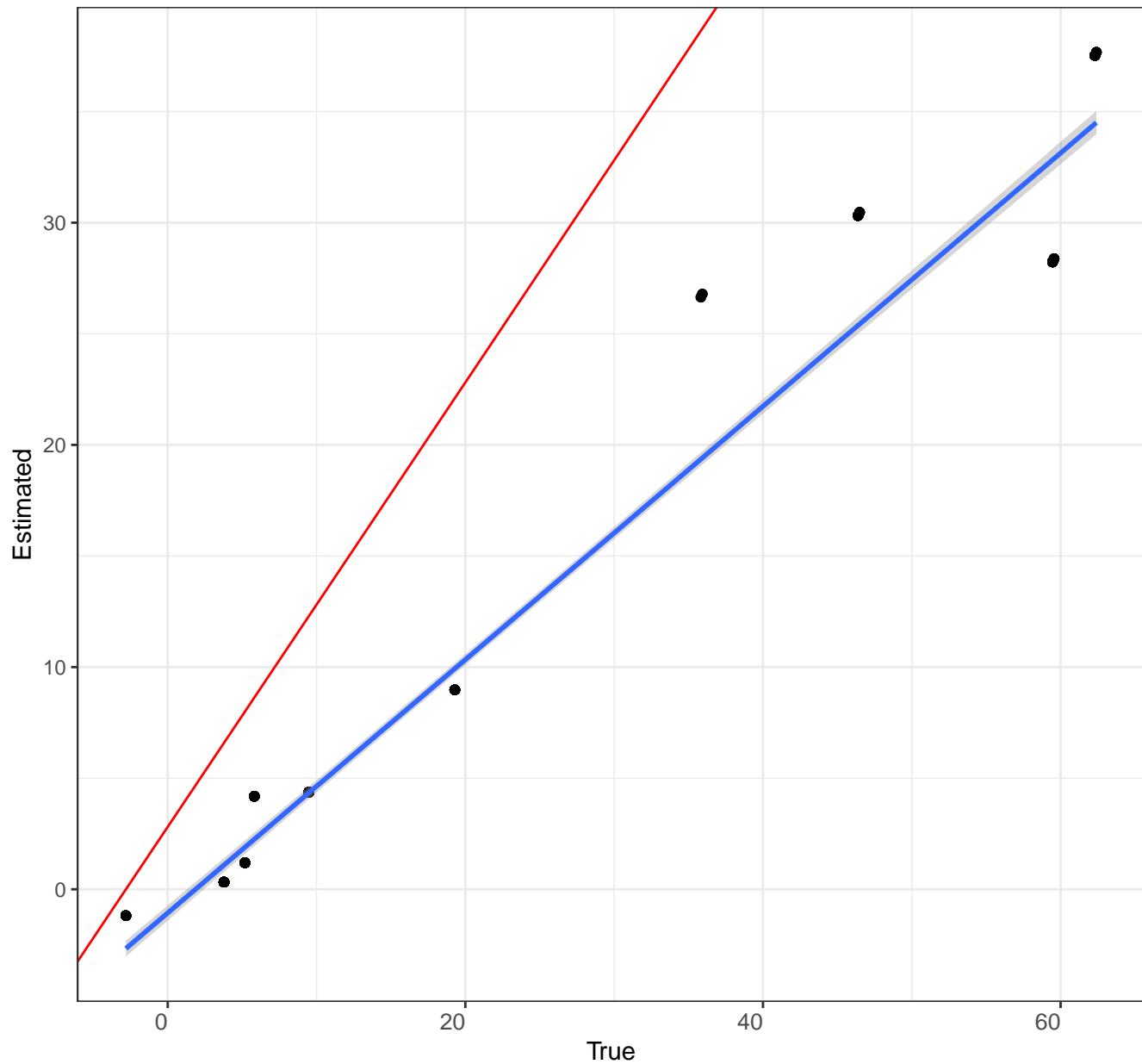
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.022$



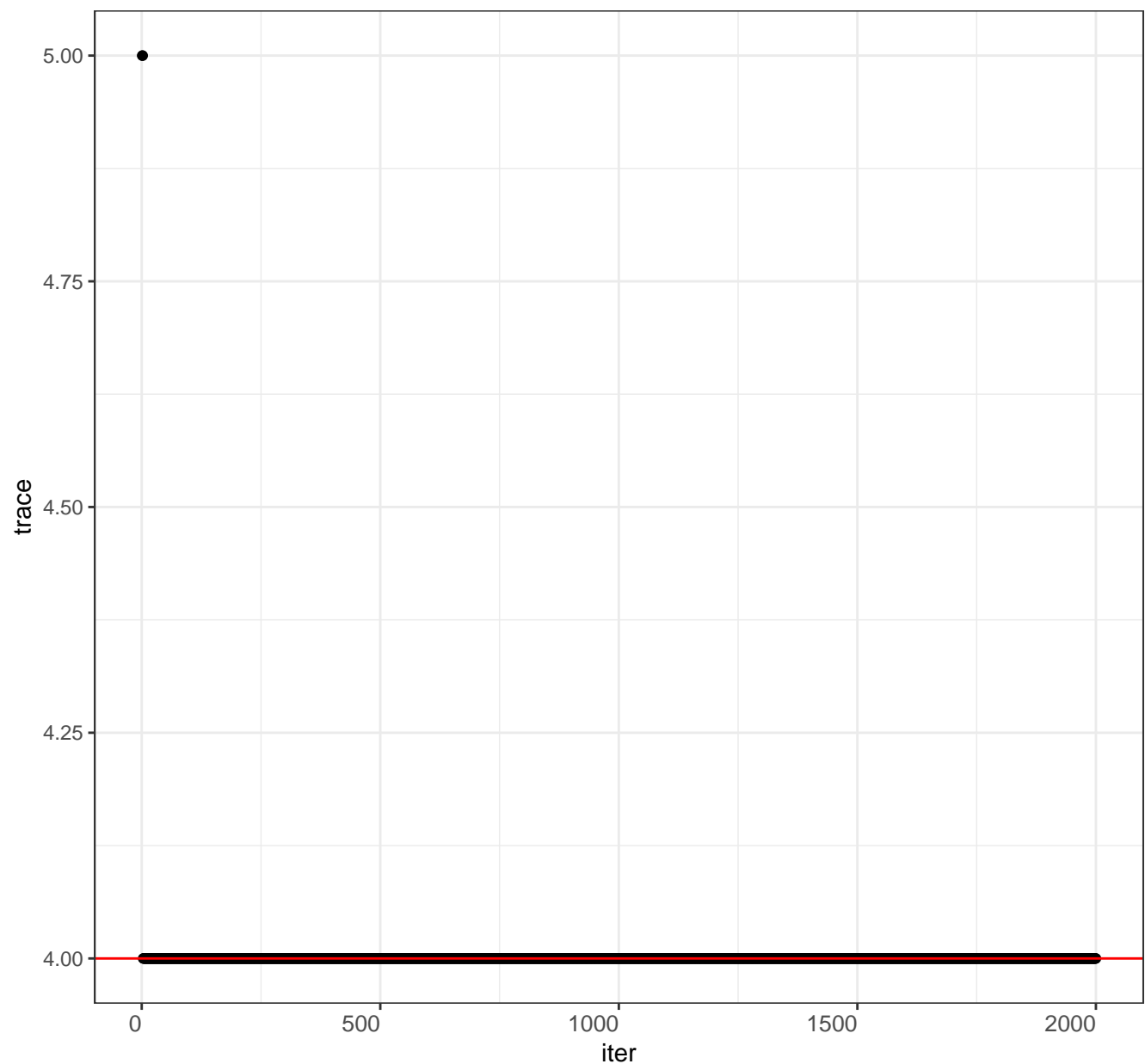
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

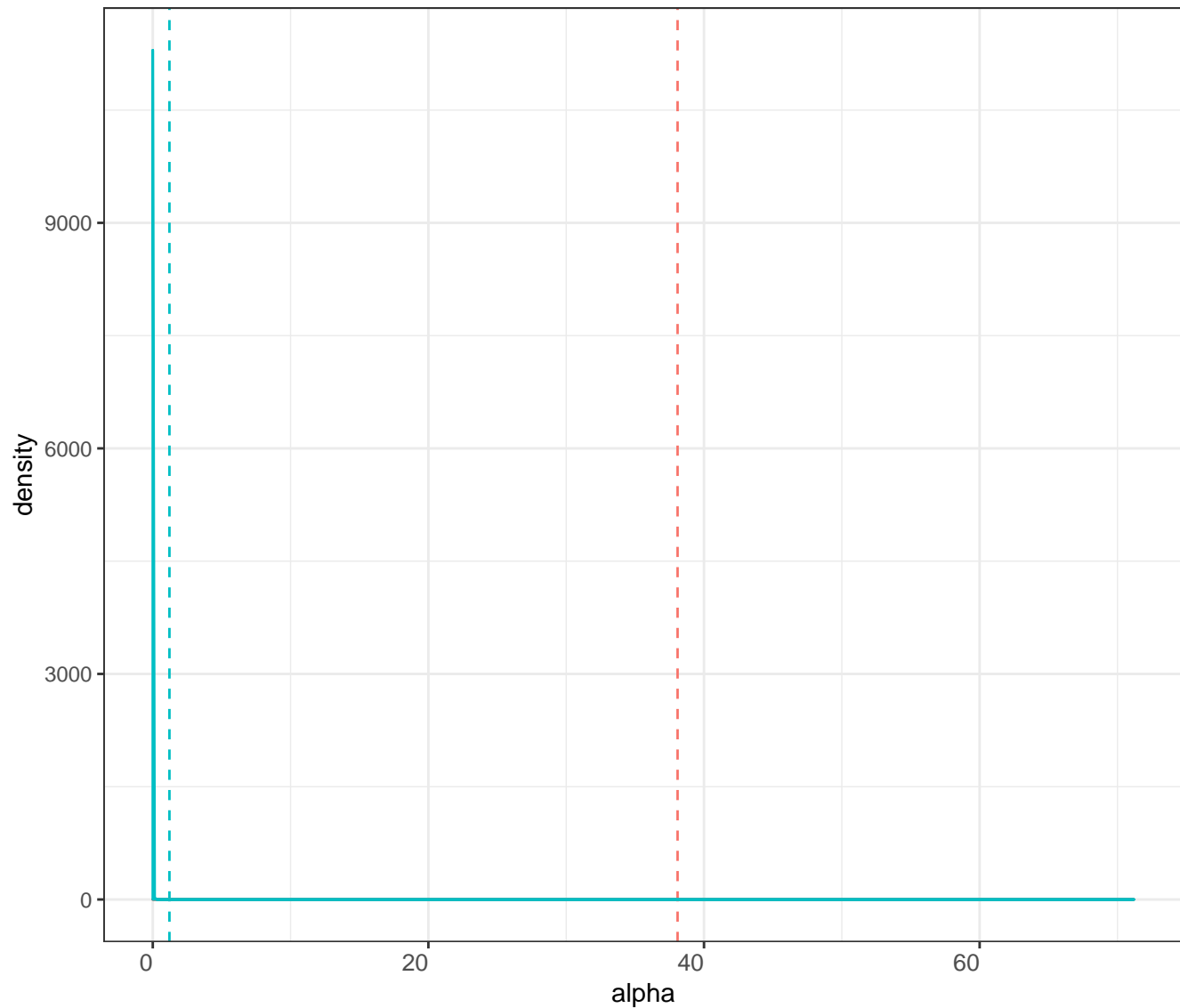
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

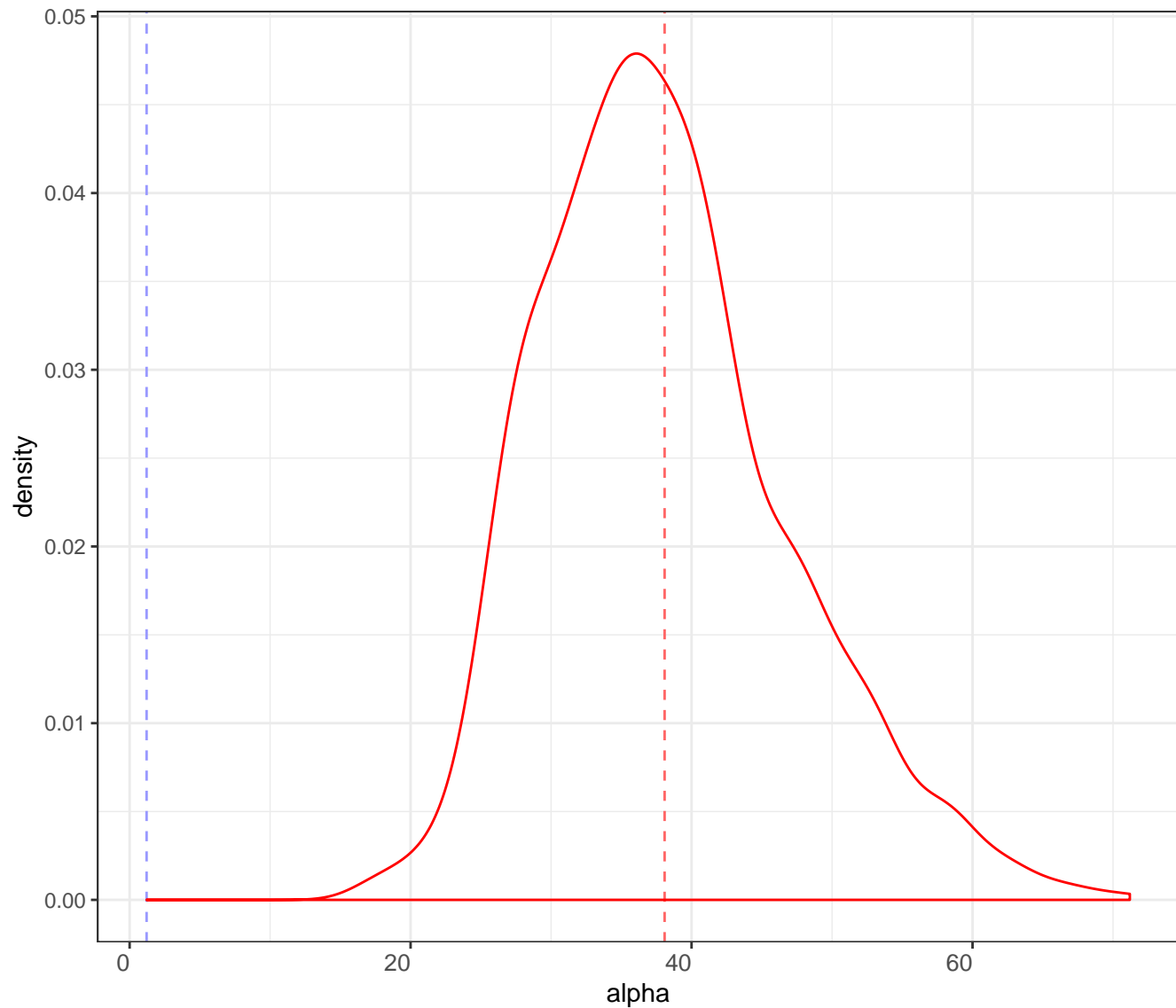
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

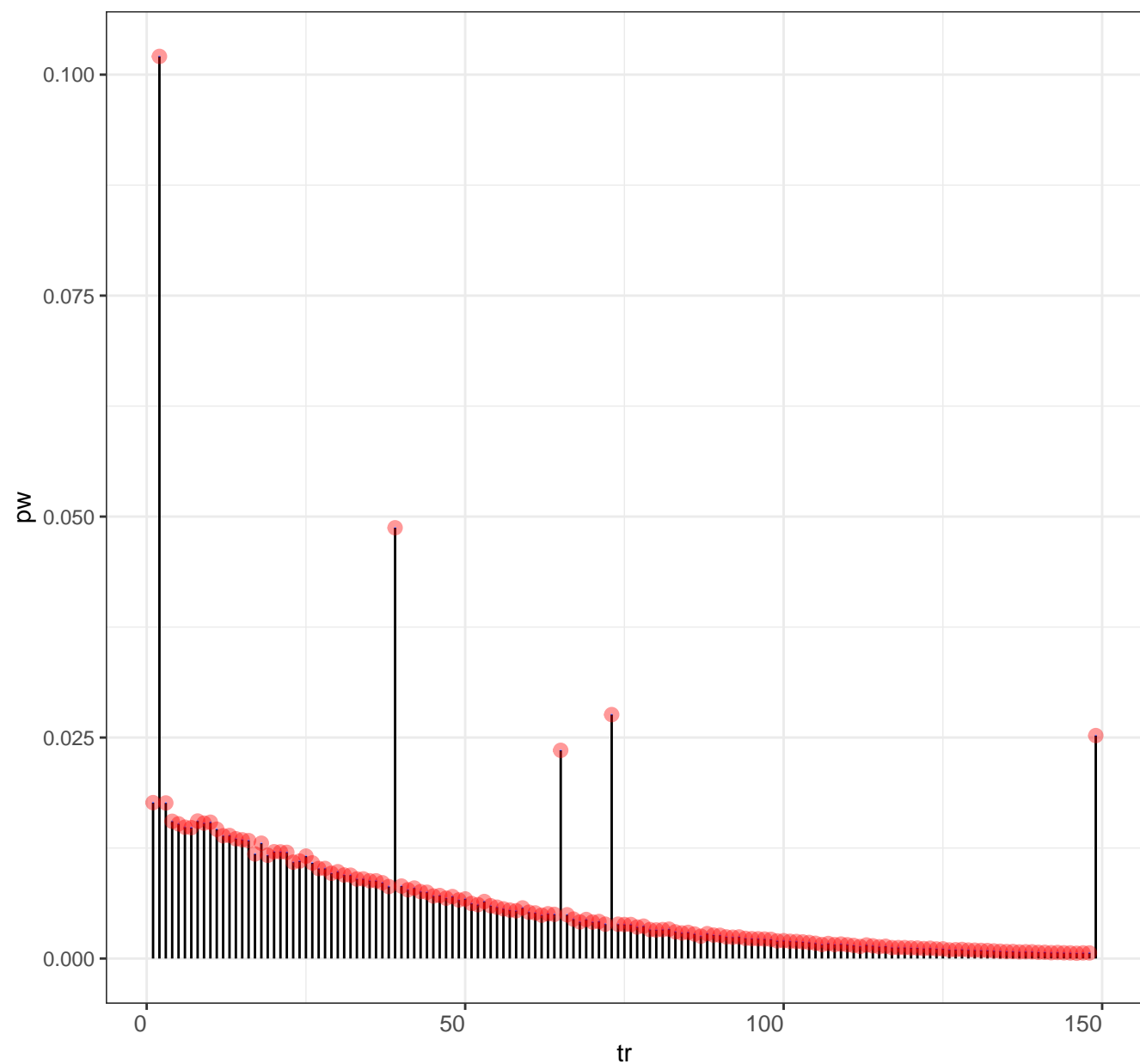
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

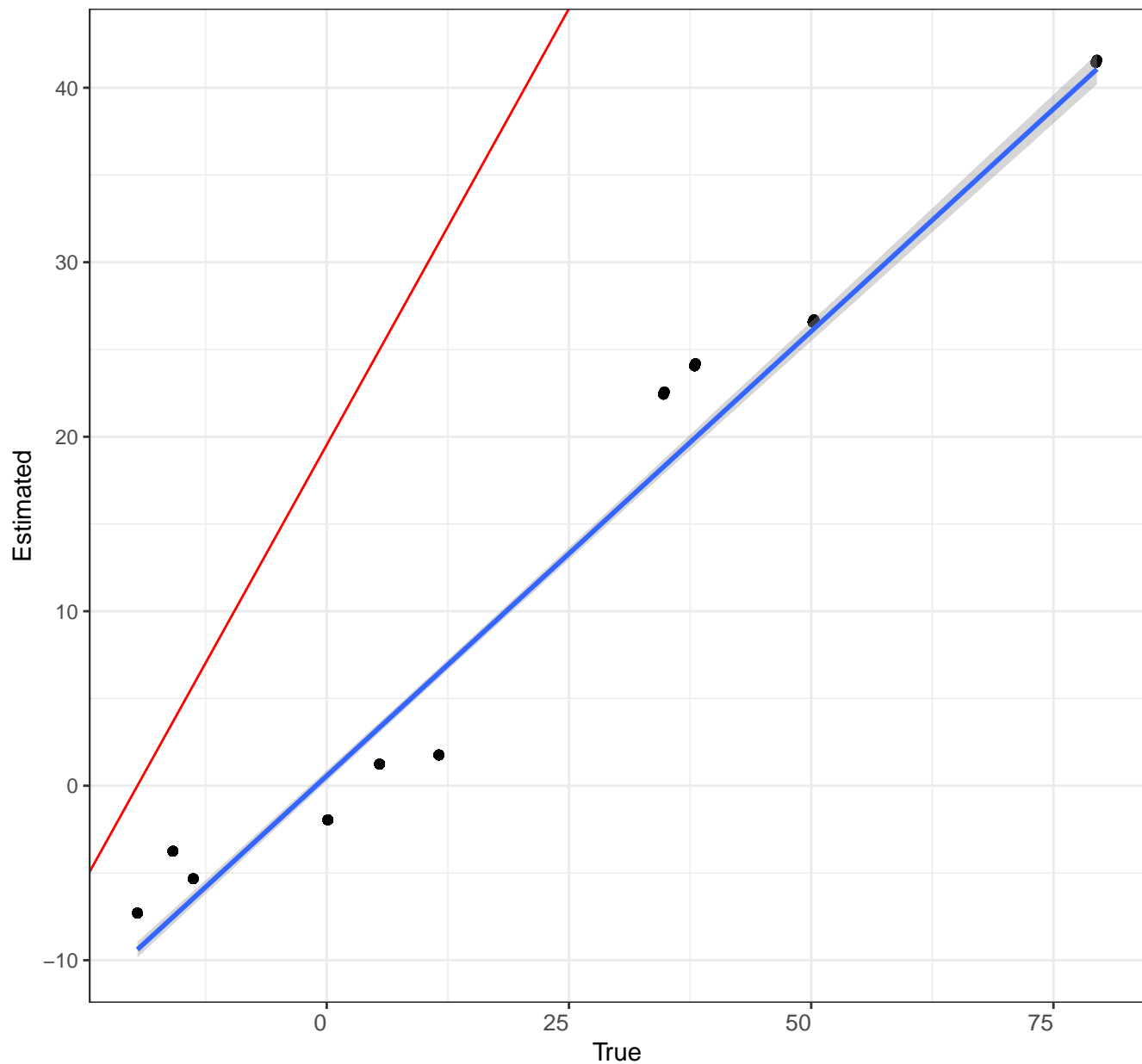
Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.025$



Number of iterations: 2000 burnin: 1000 number of samples: 500

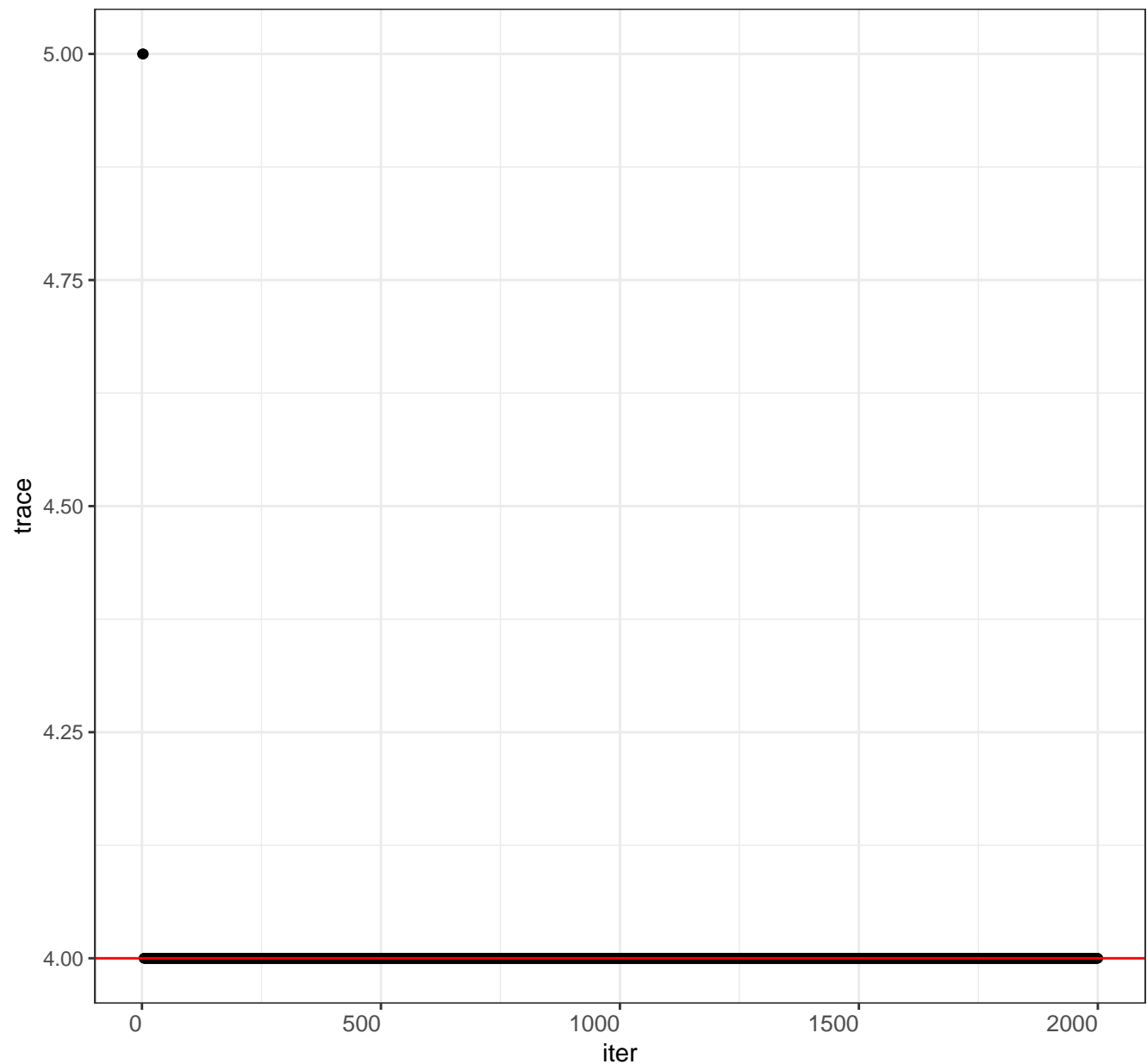


True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

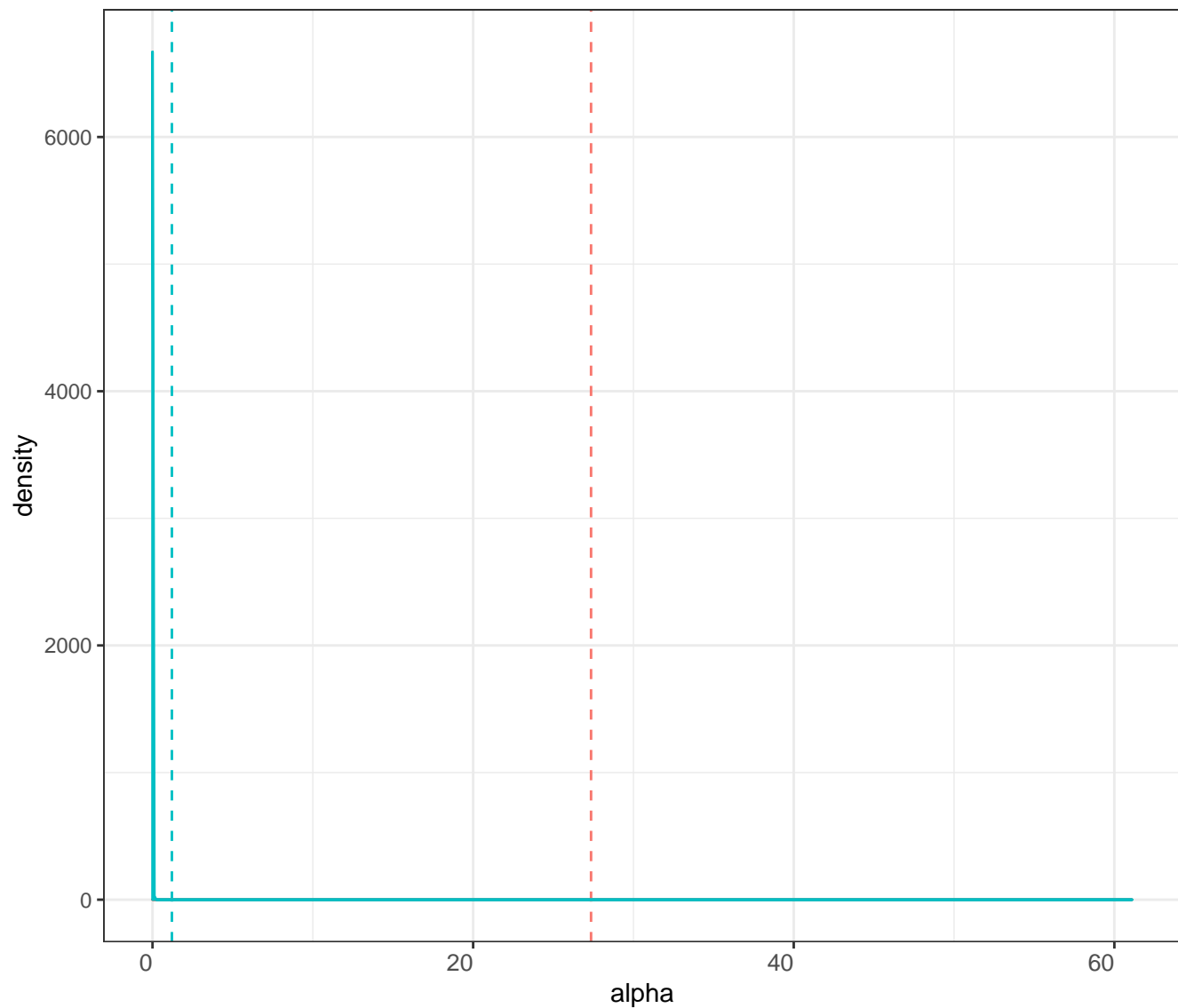
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

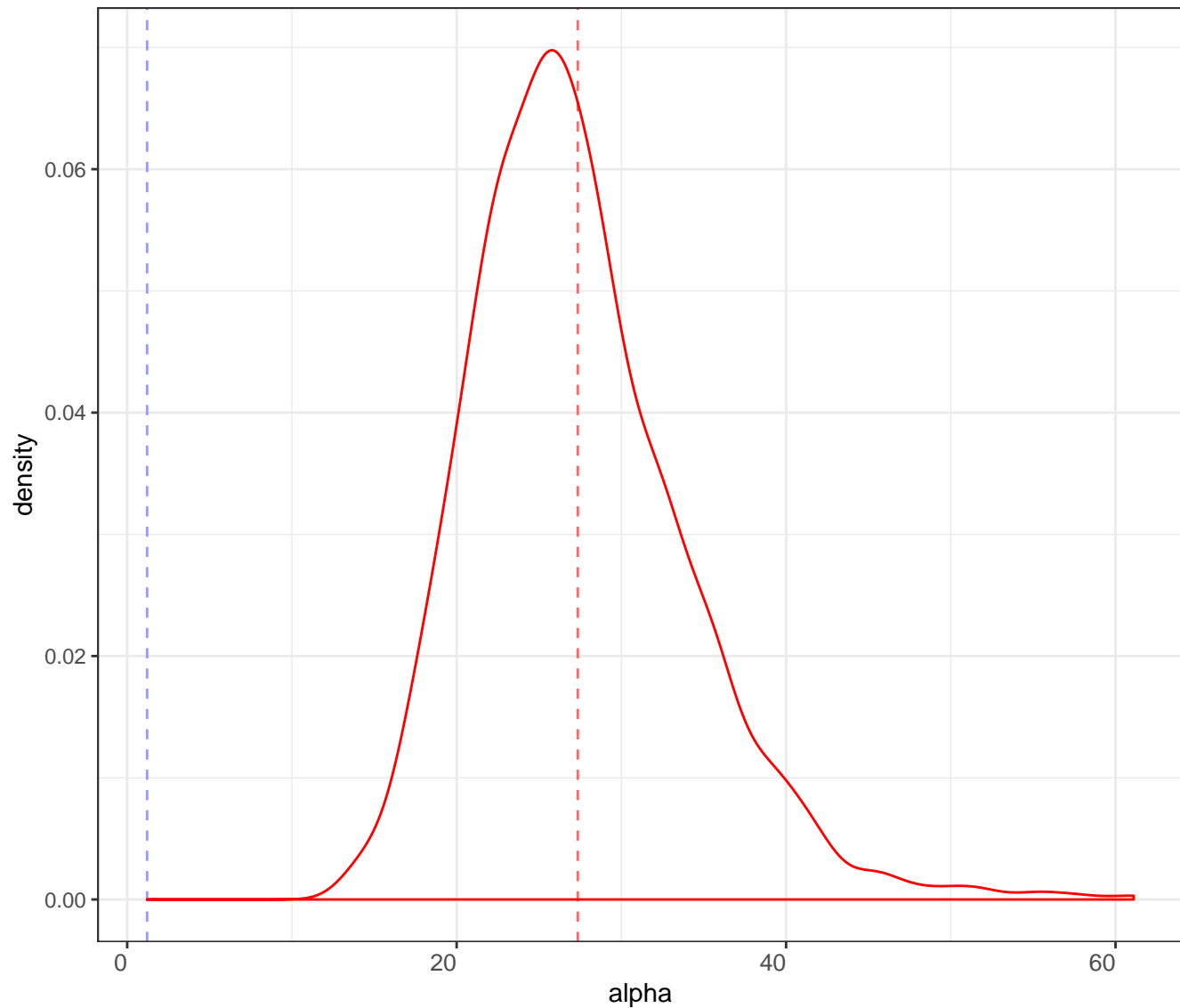
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

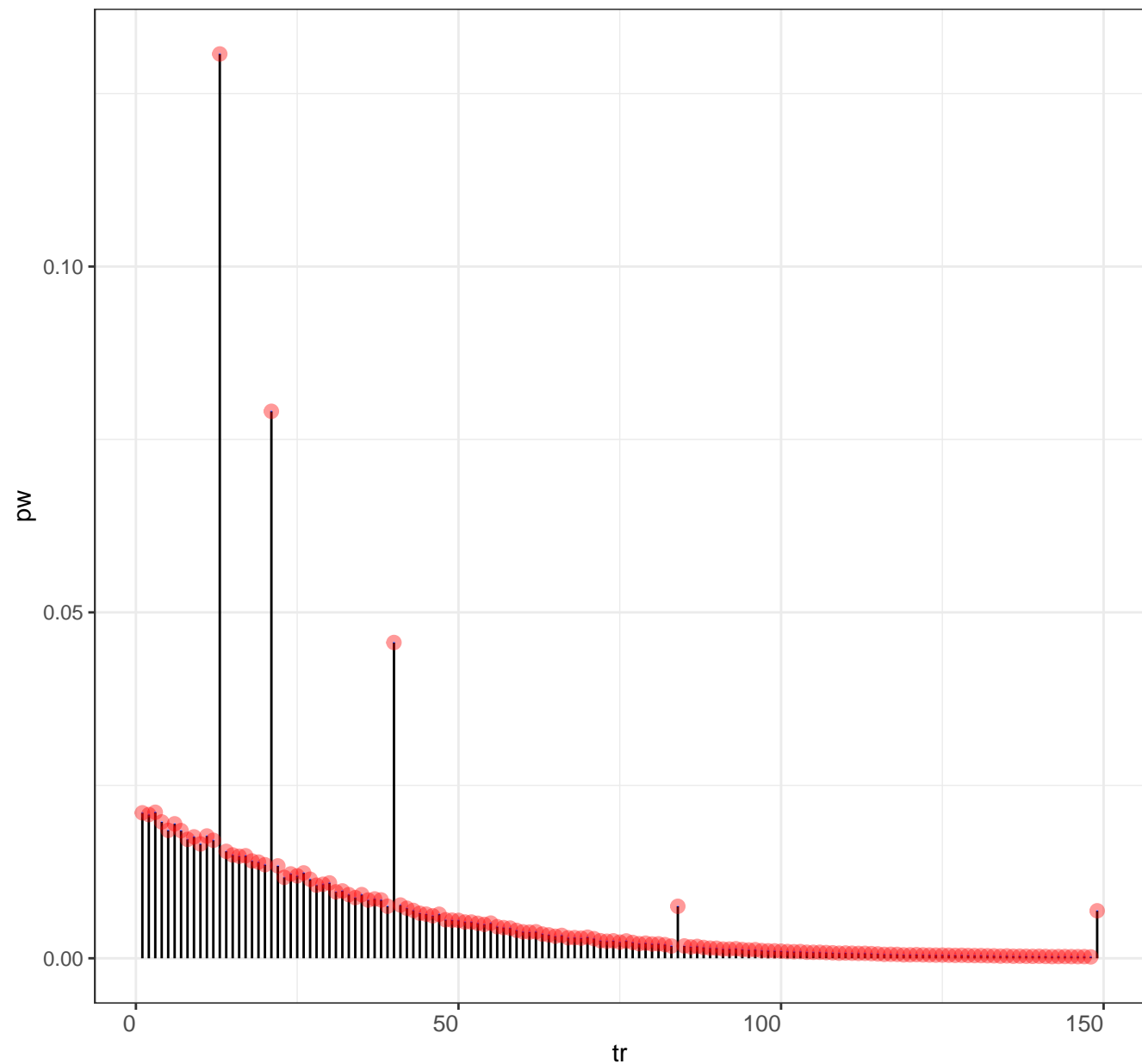
# Posterior distribution for alpha

Legend      posterior mean      prior mean



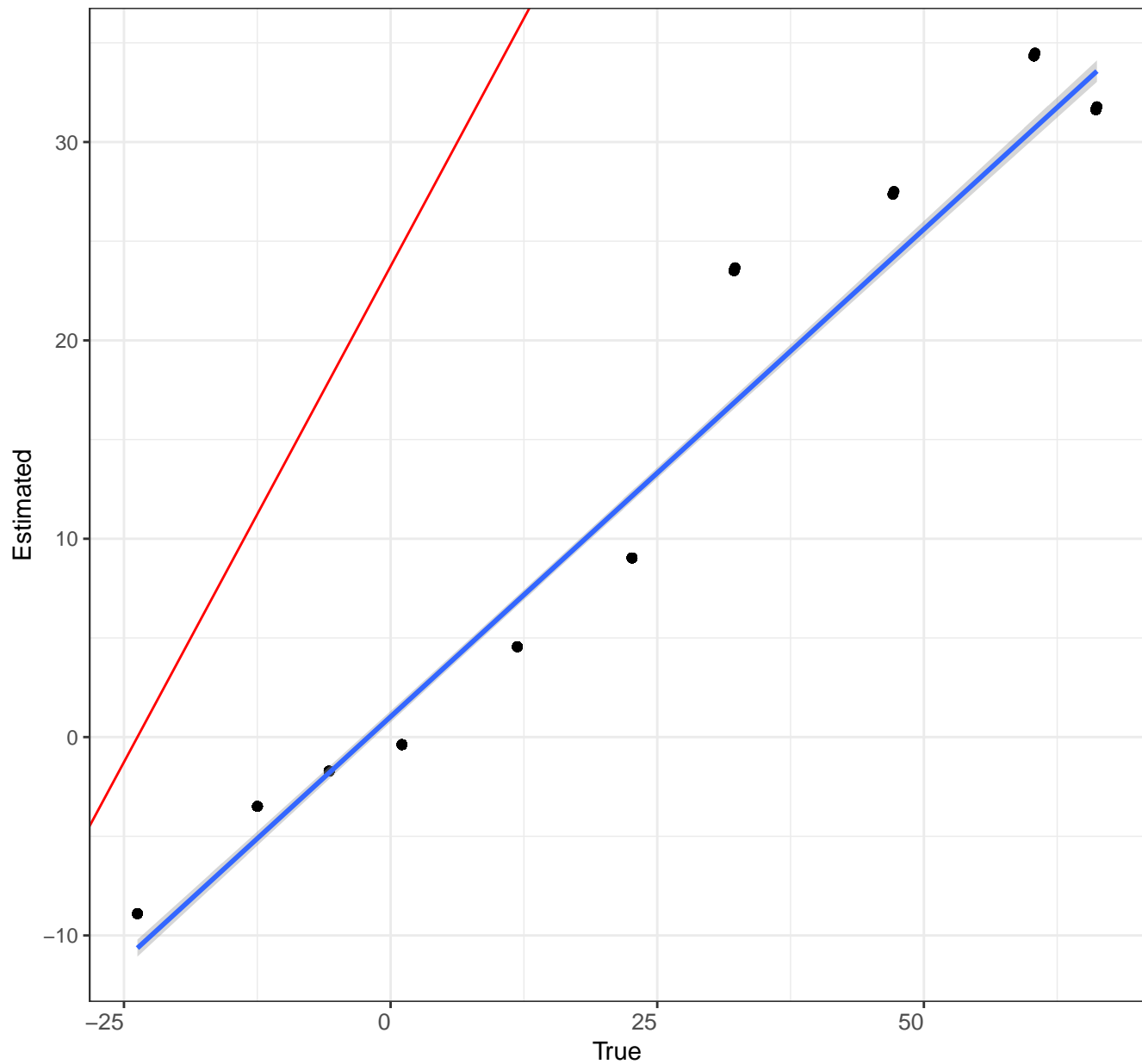
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.007$



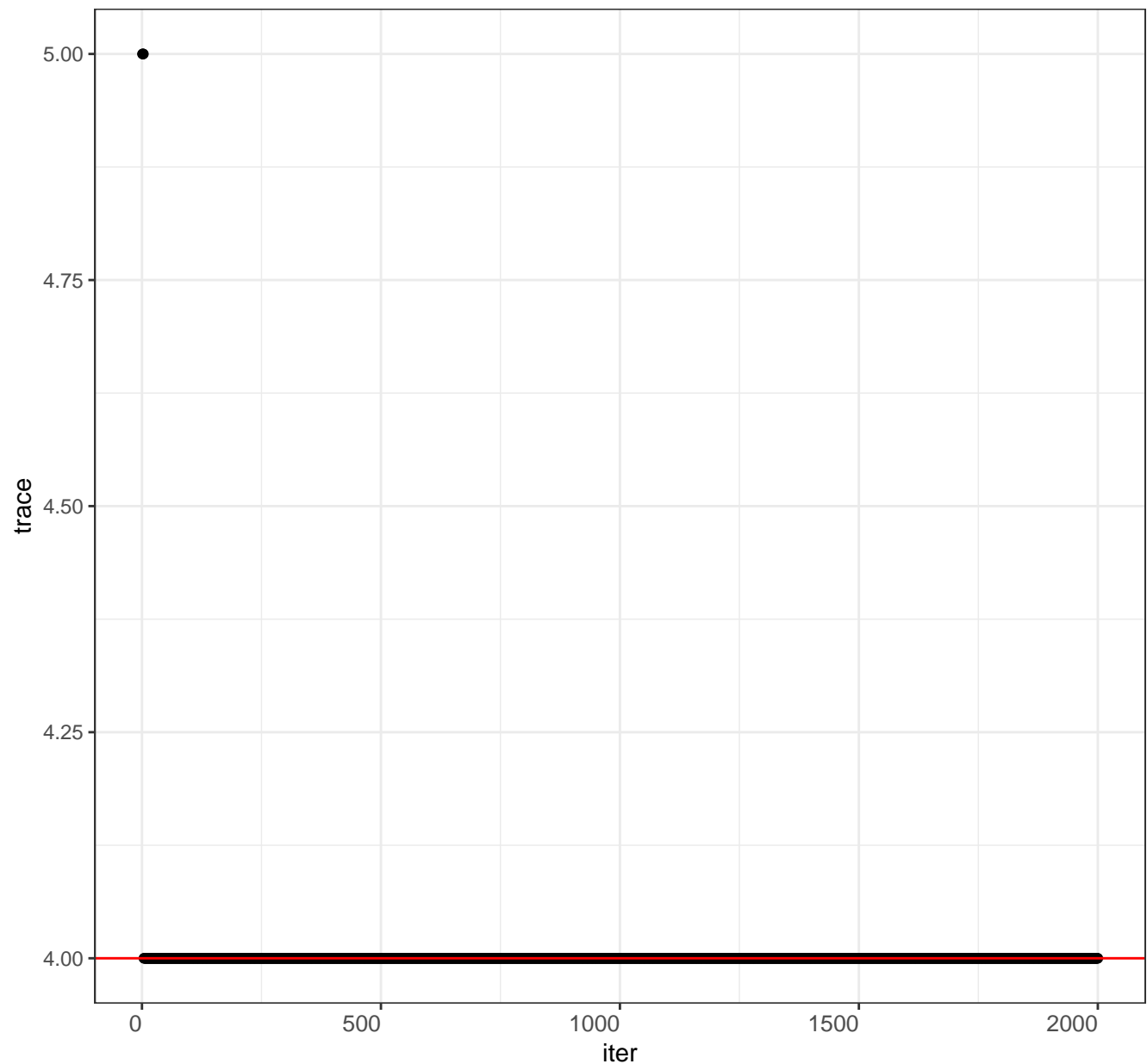
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 r=10 true K=4 type=1

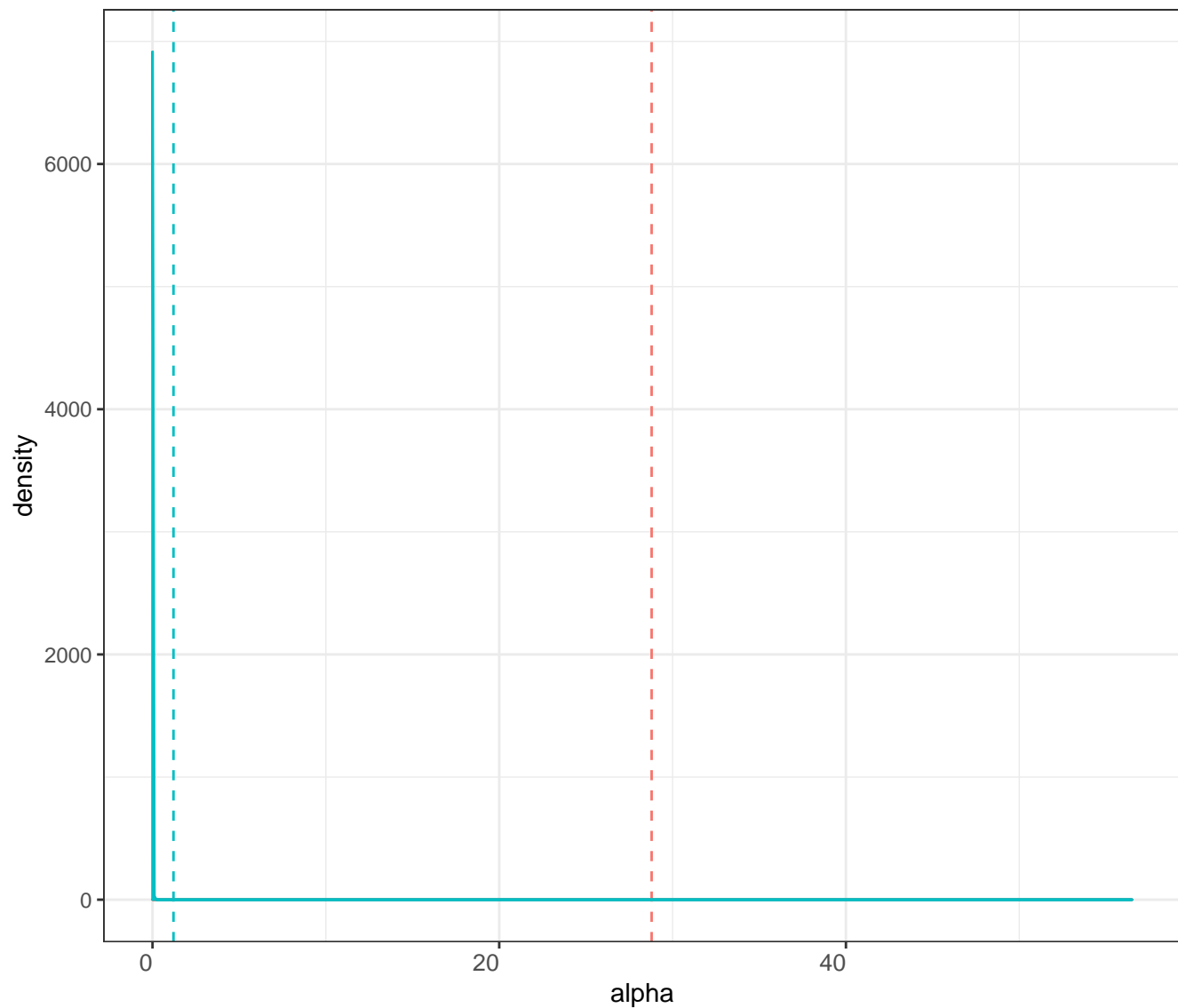
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior

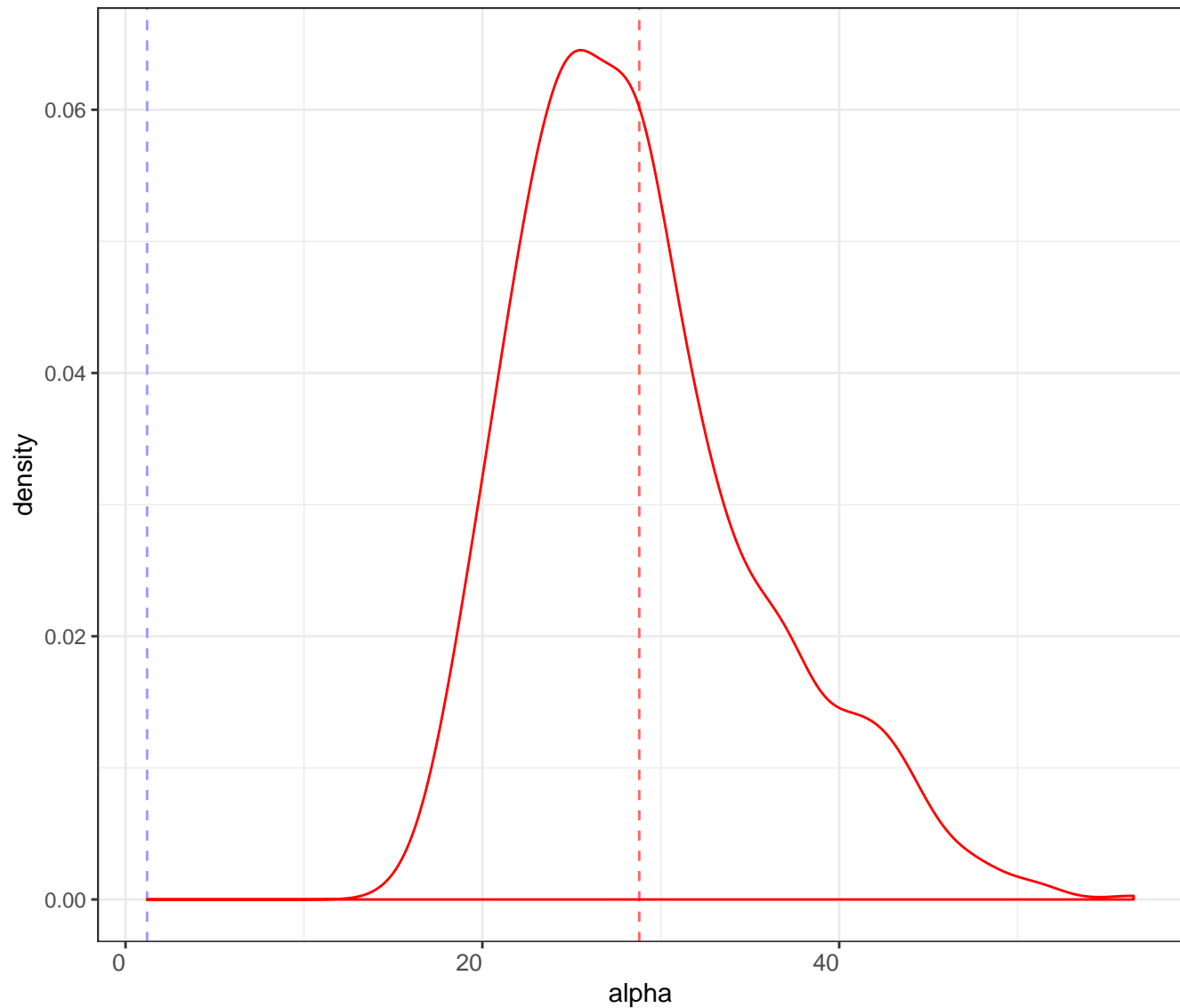


Number of iterations: 2000 burnin: 1000 number of samples: 500



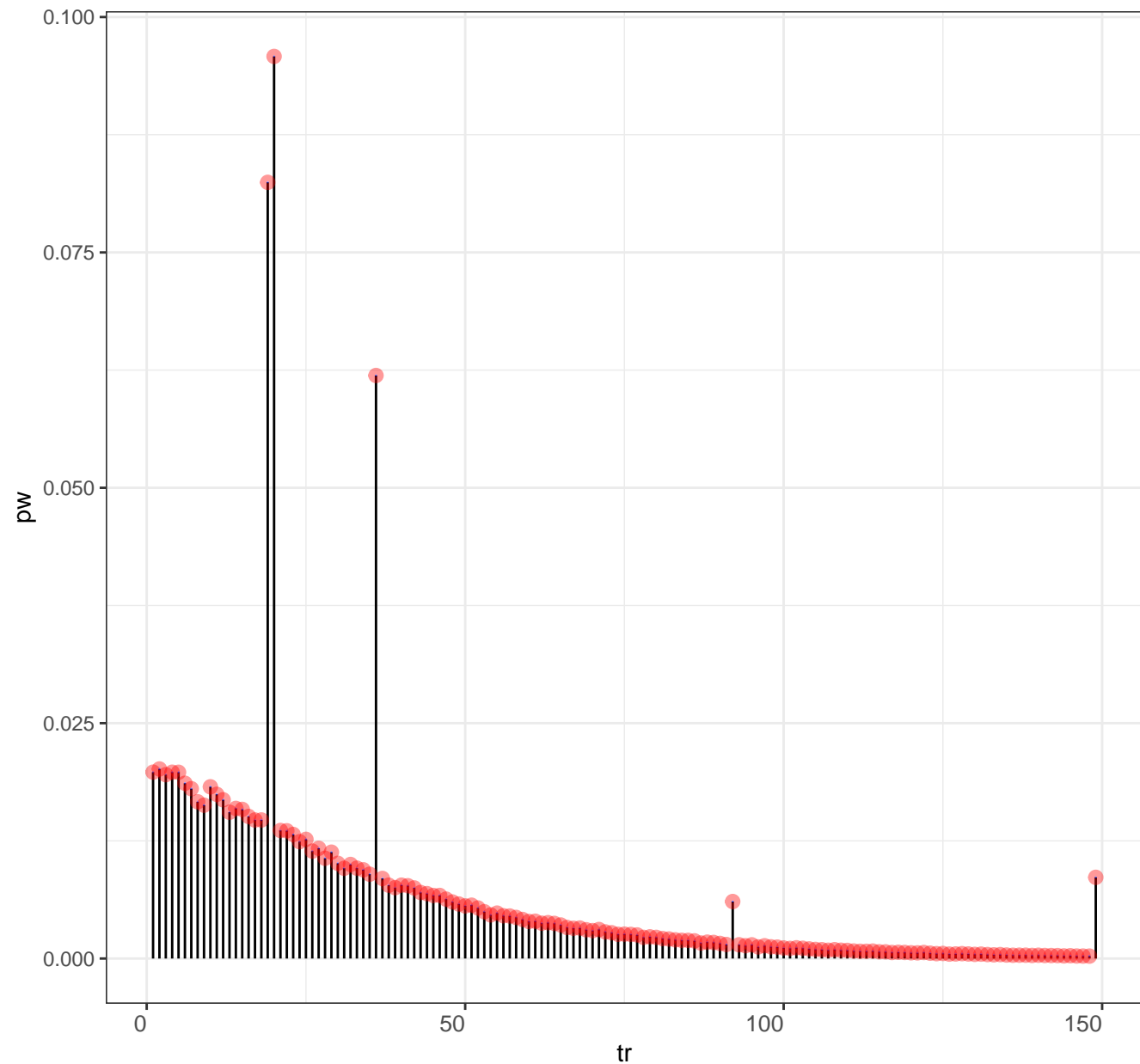
# Posterior distribution for alpha

Legend      posterior mean      prior mean



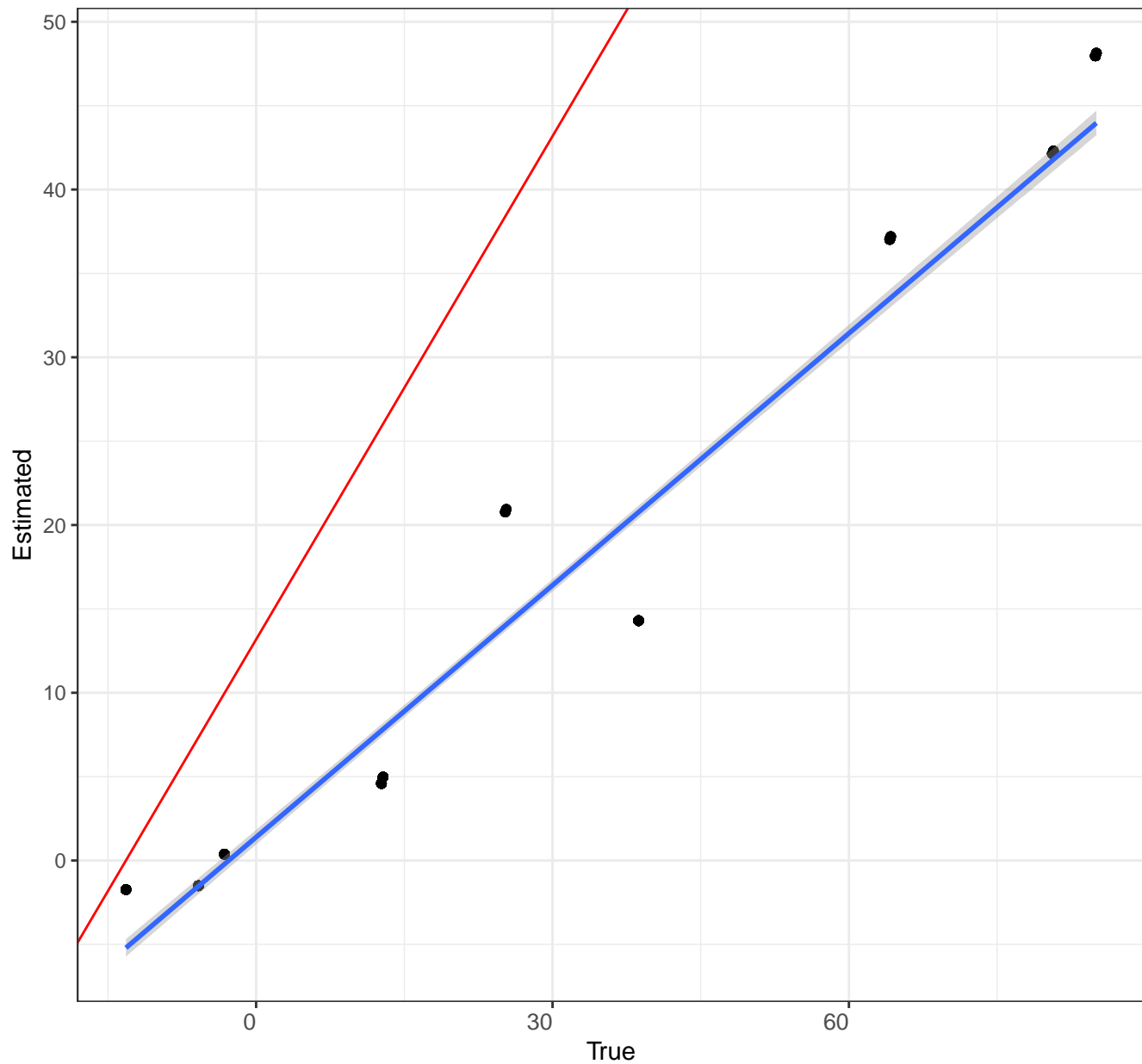
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.009$



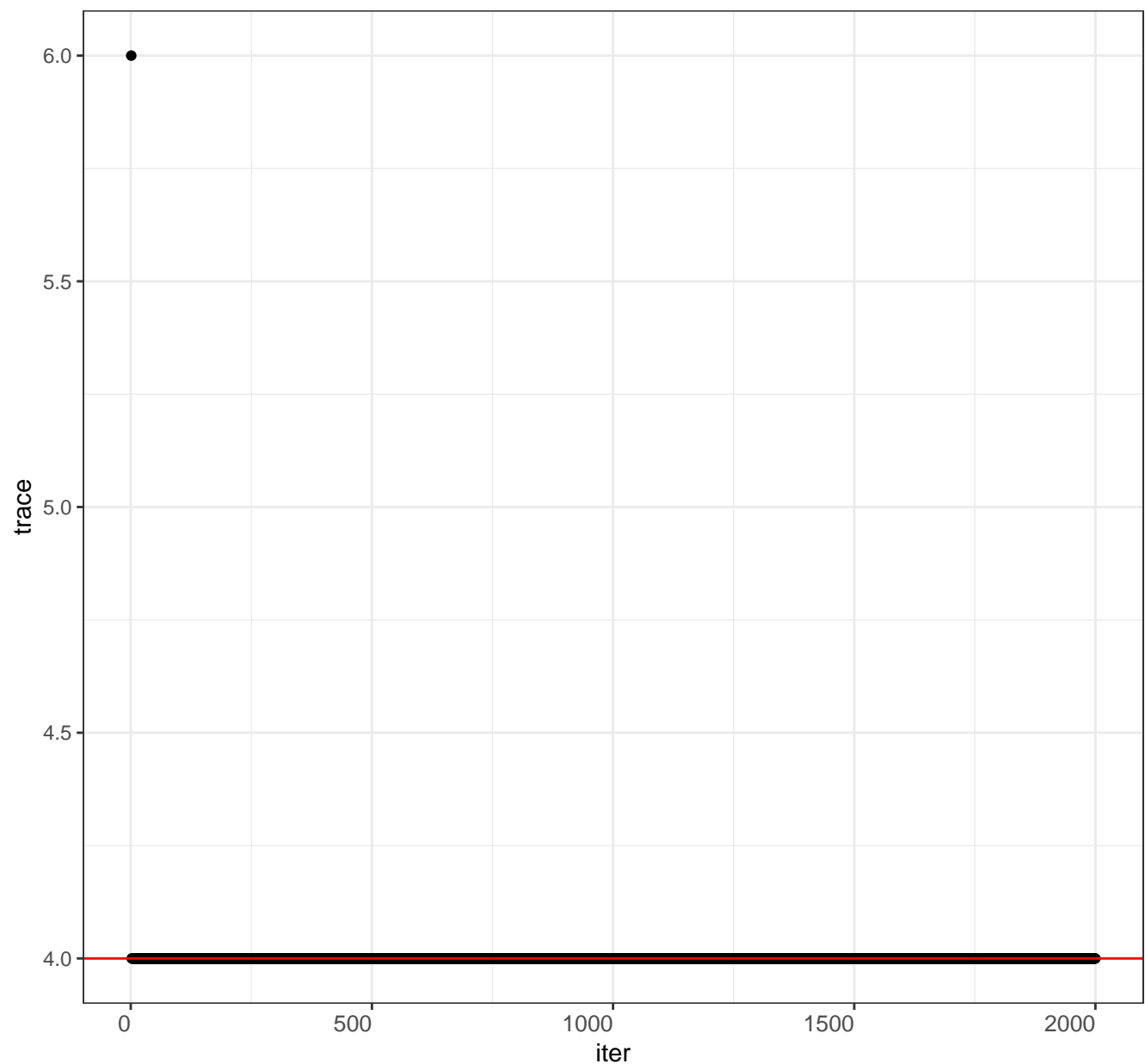
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 r=10 true K=4 type=1

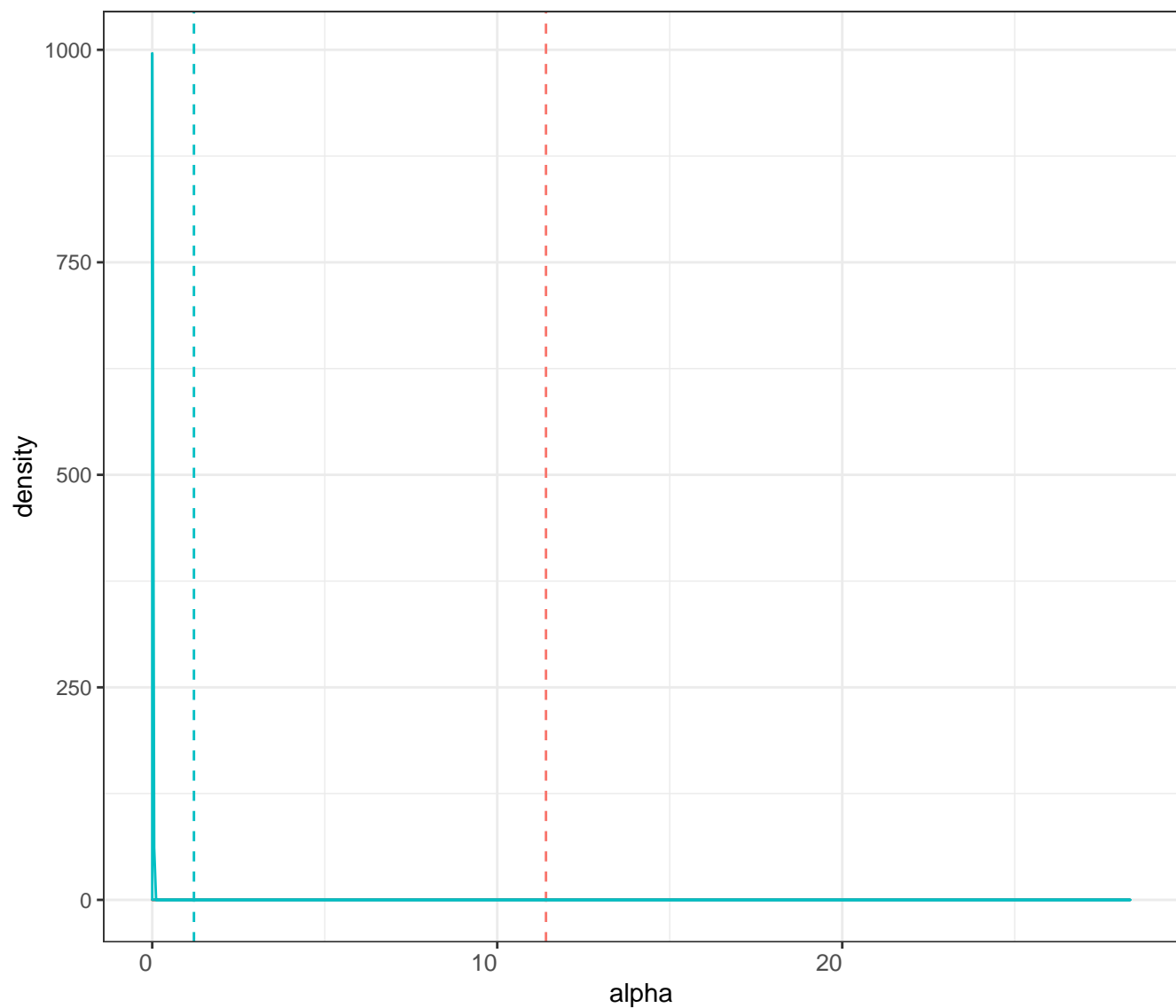
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

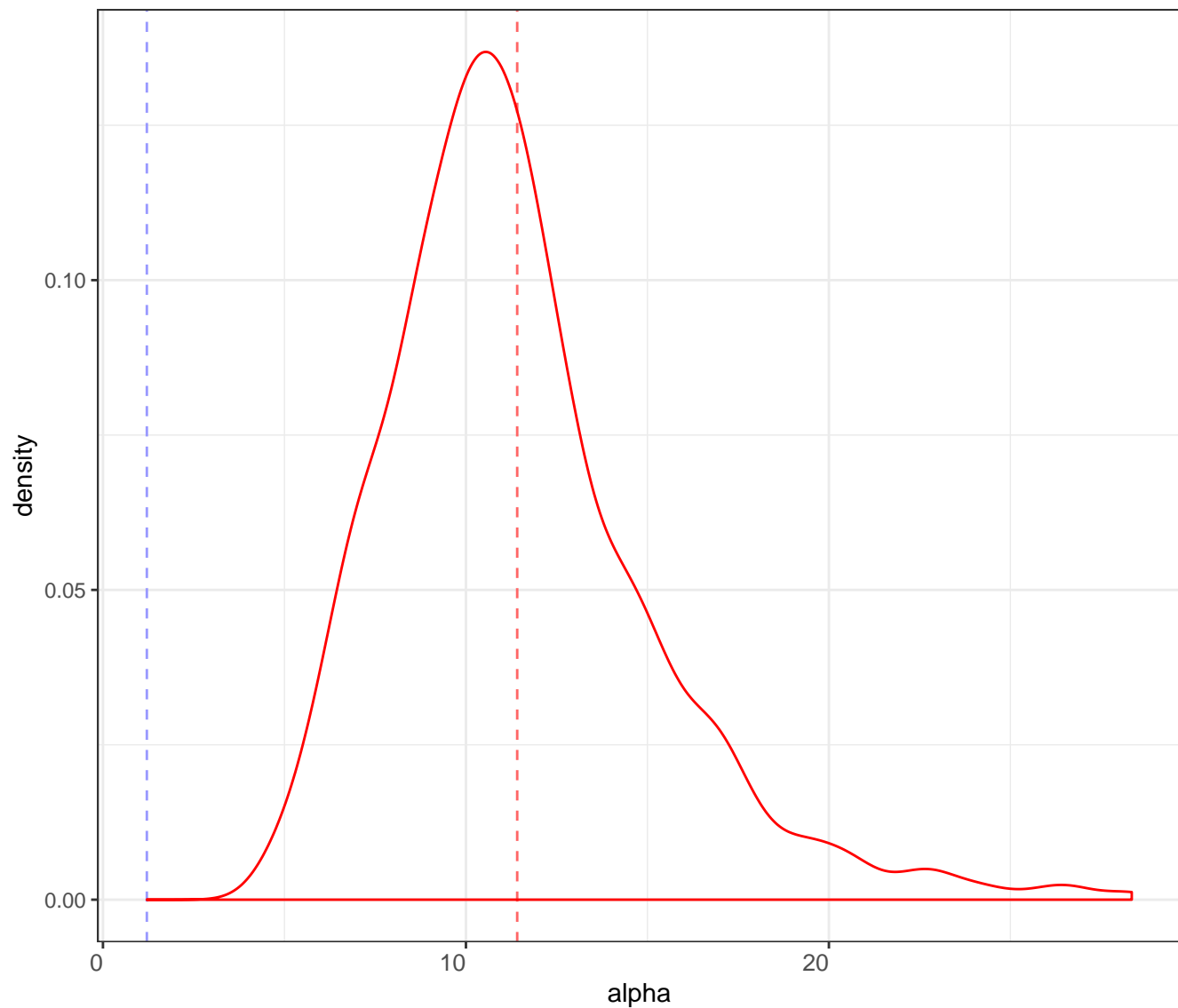
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

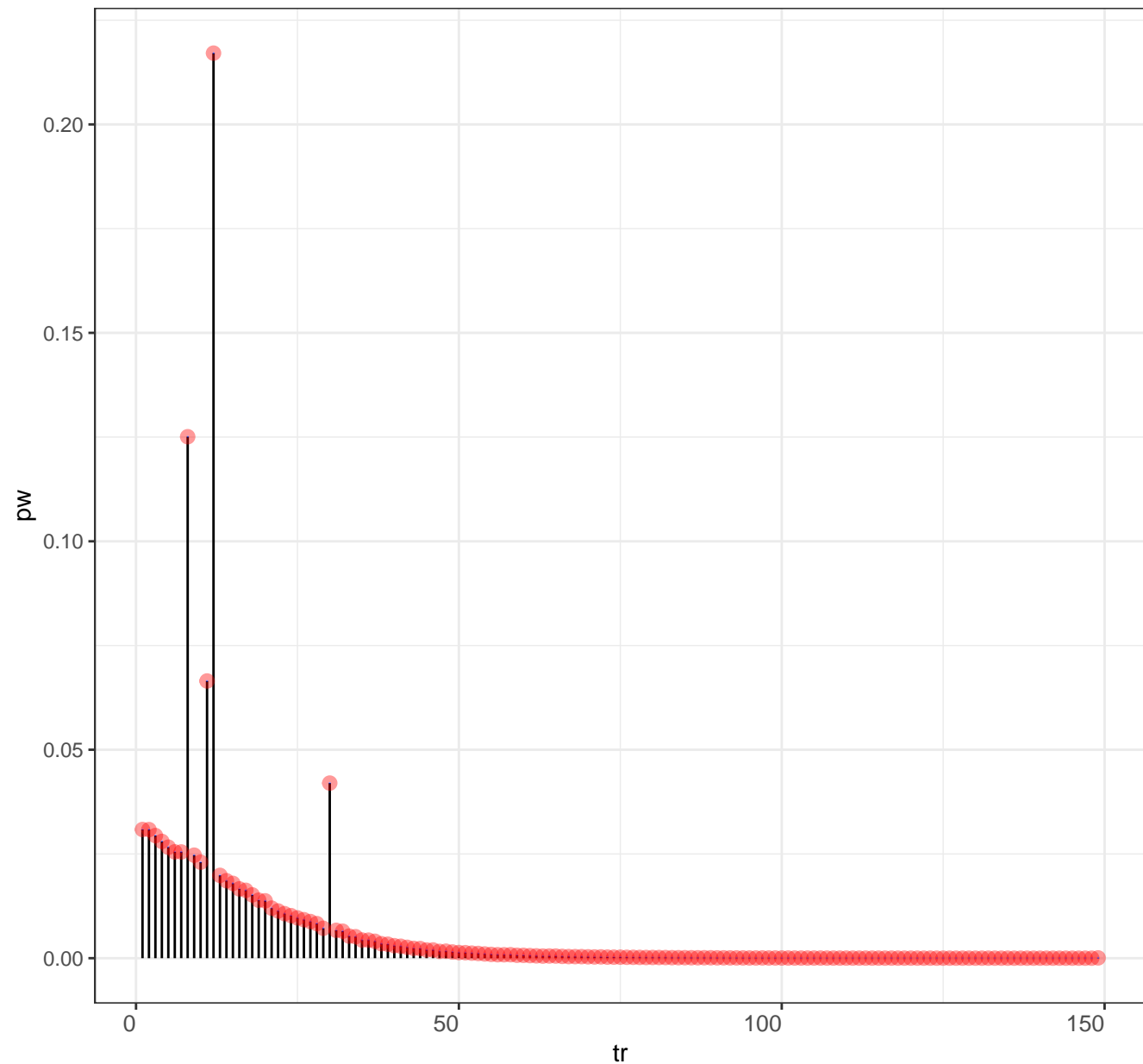
# Posterior distribution for alpha

Legend      posterior mean      prior mean



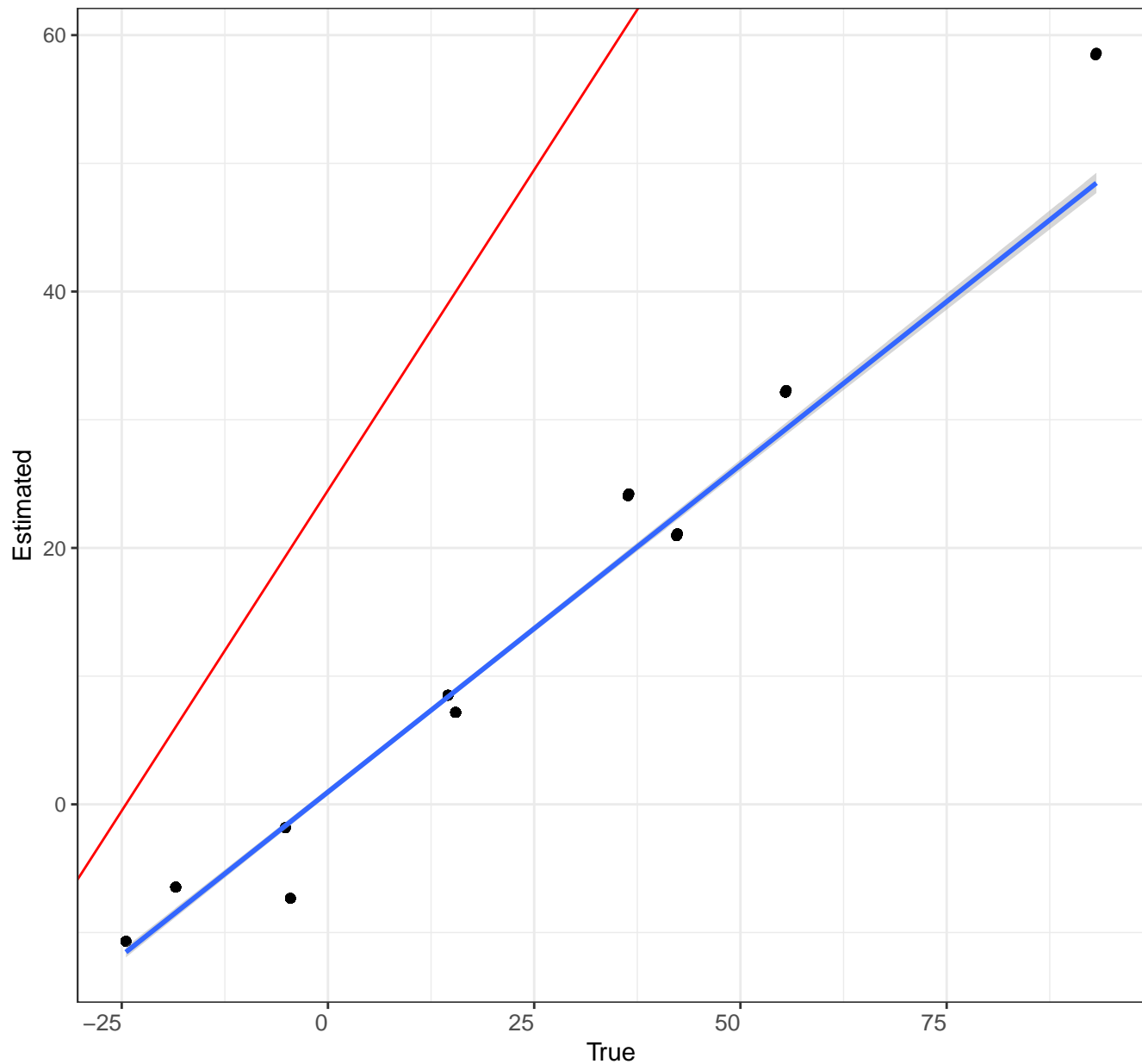
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

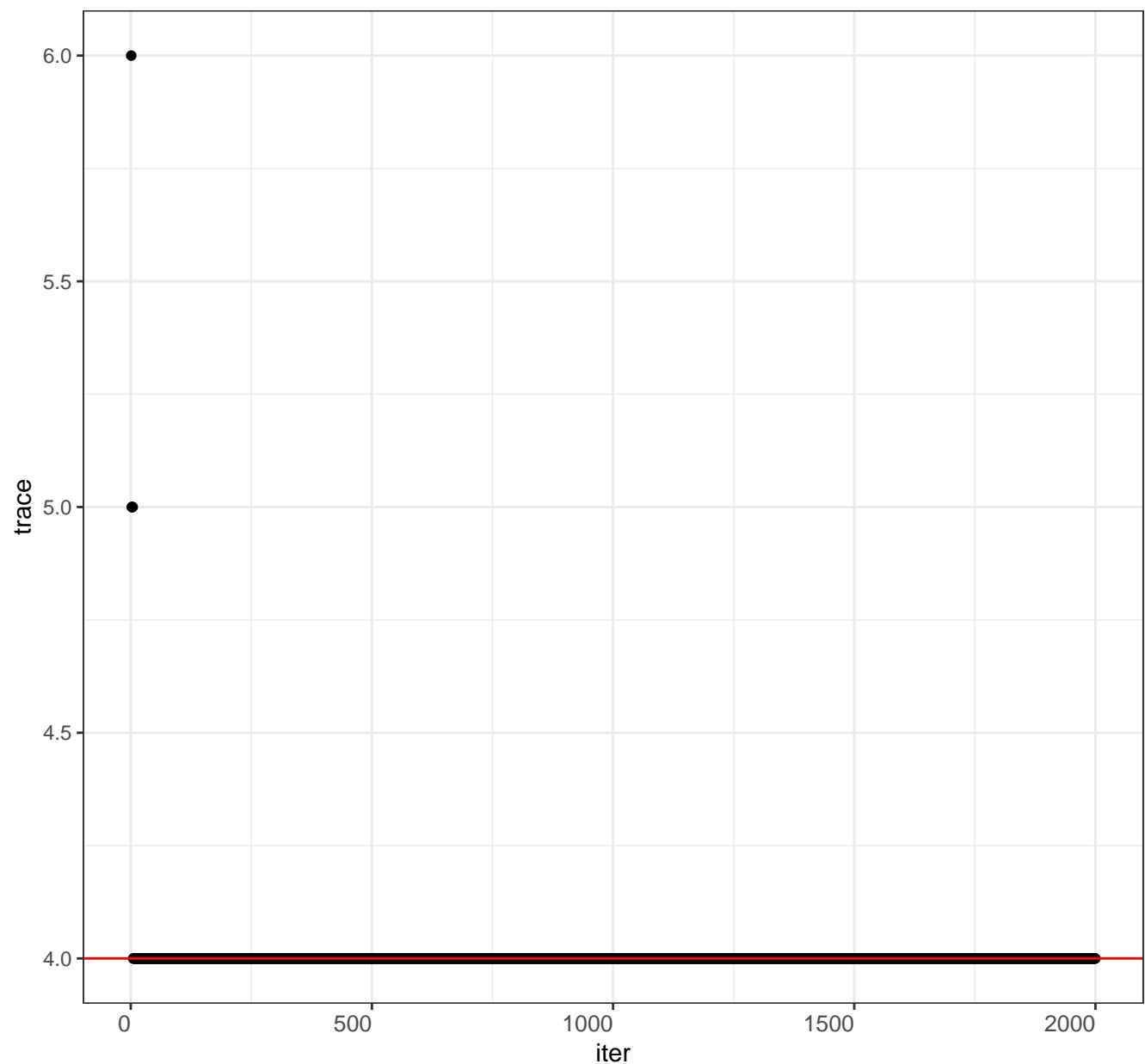
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1



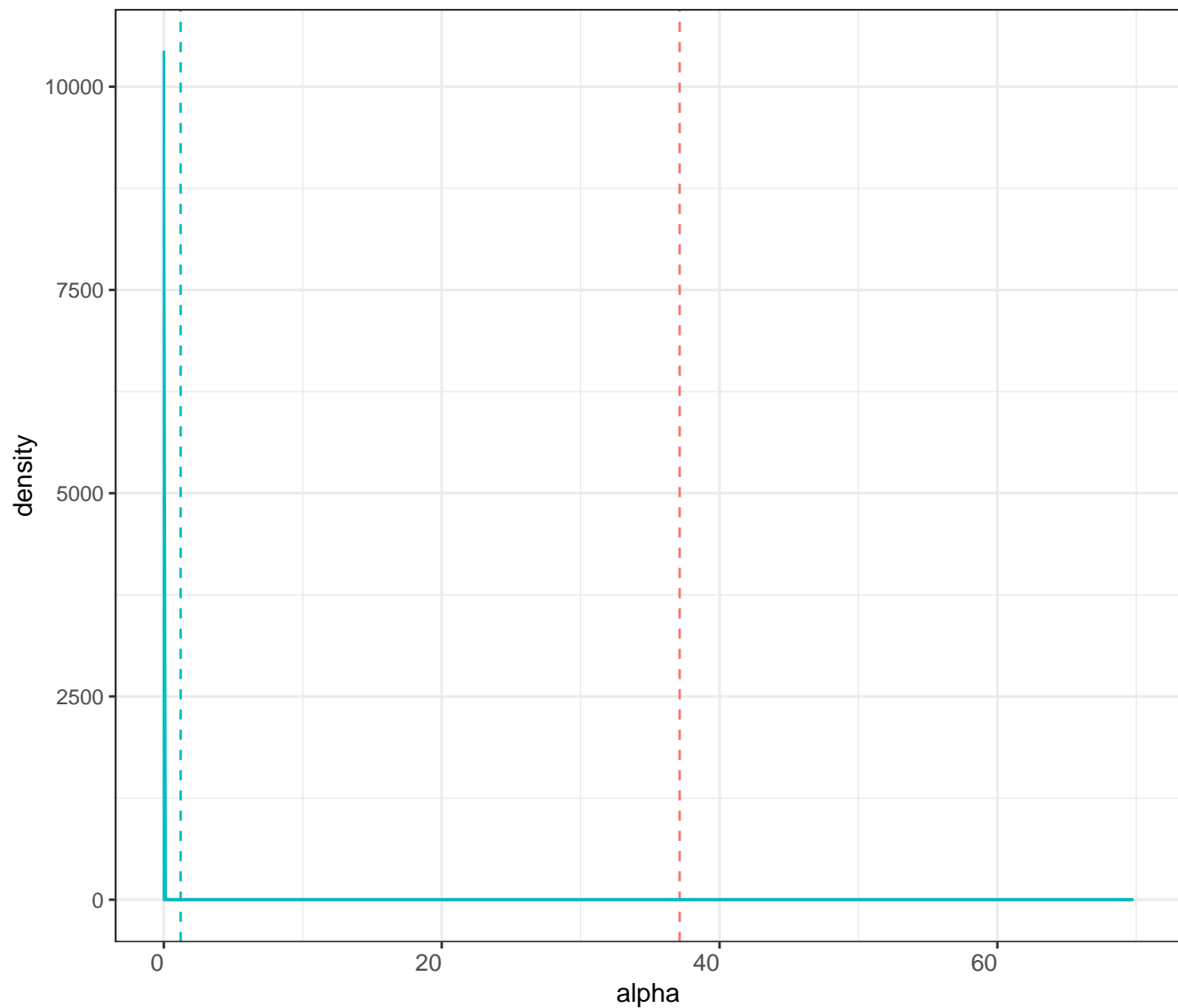
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

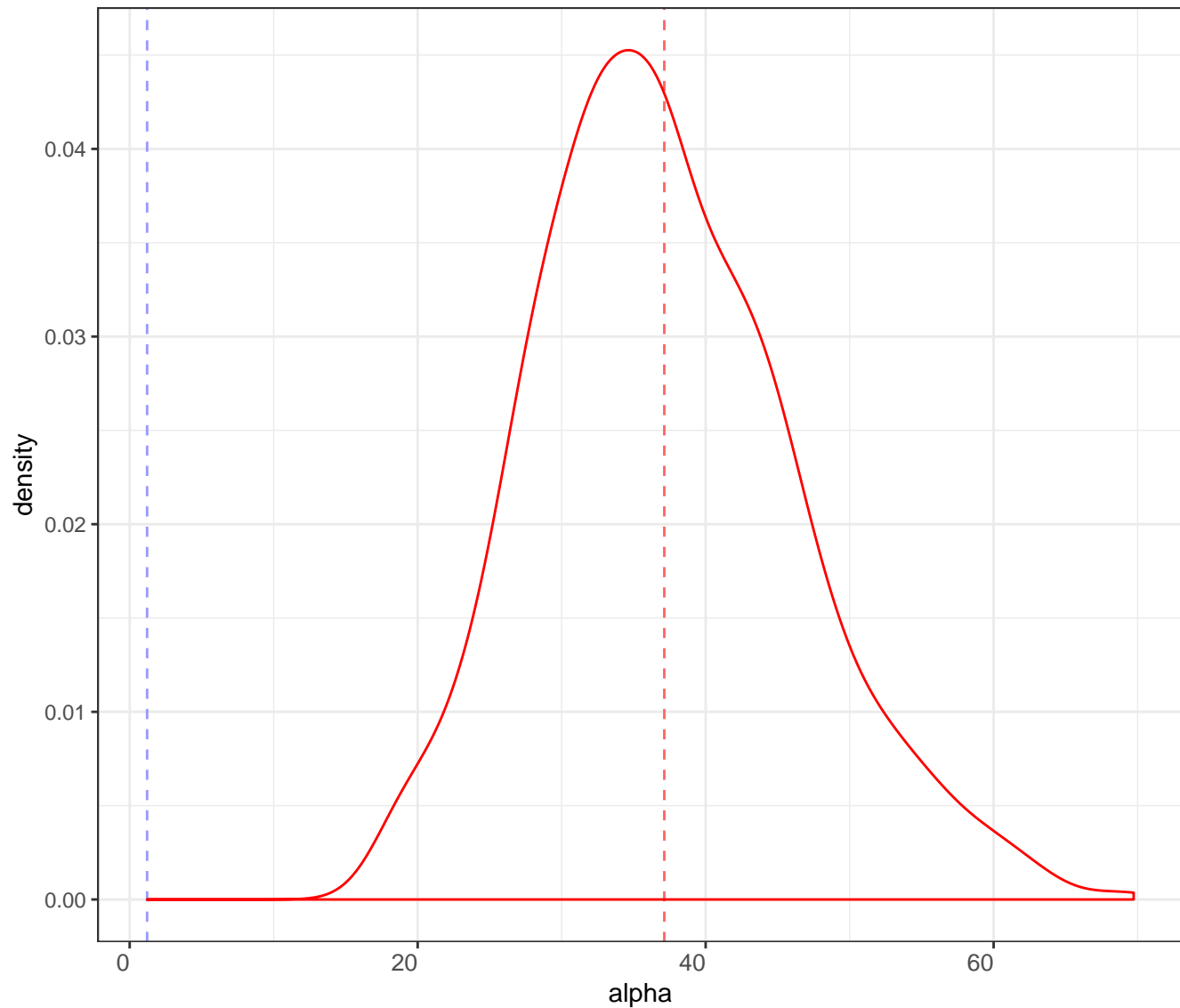
type ┆ posterior ┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

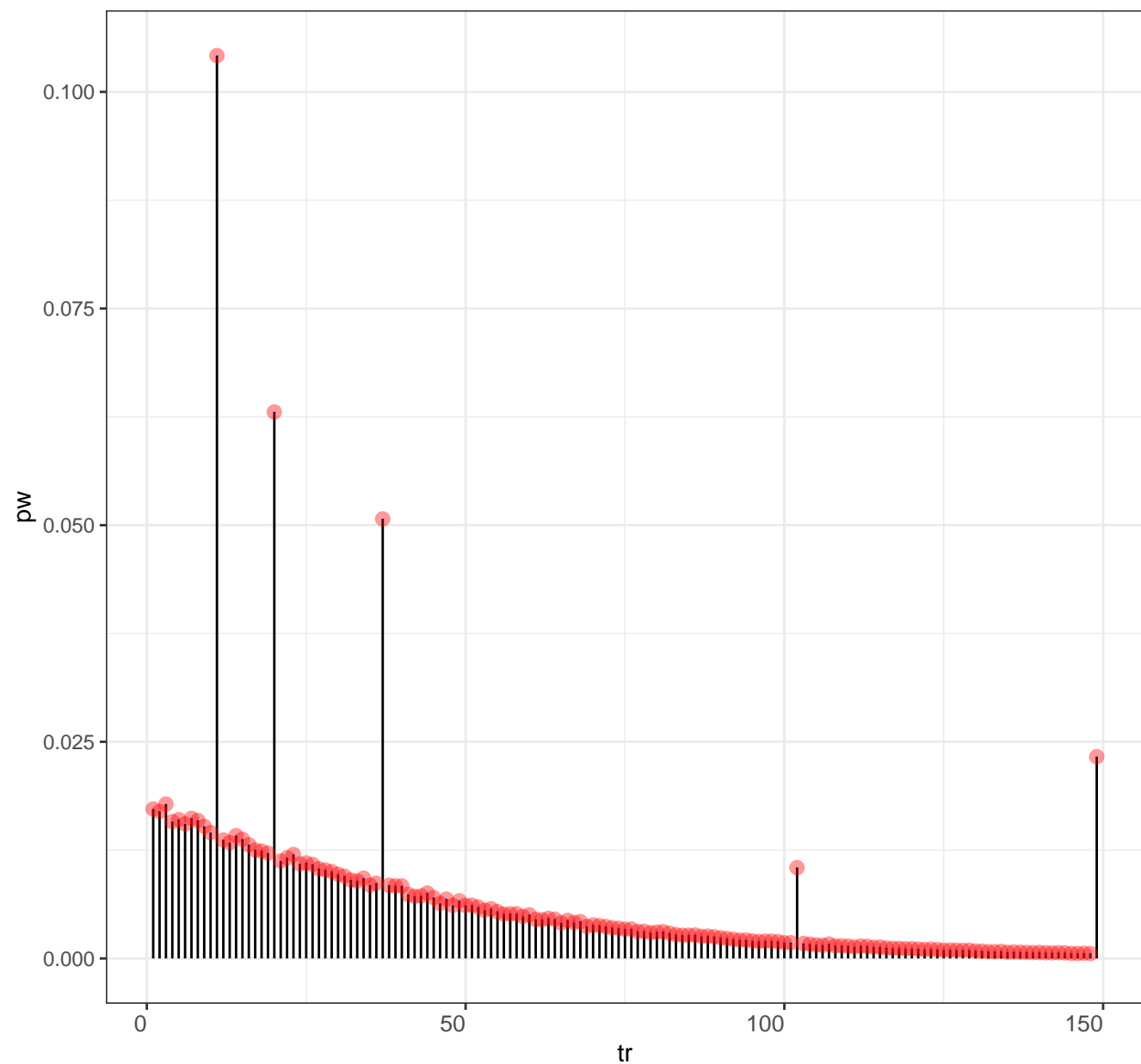
# Posterior distribution for alpha

Legend      posterior mean      prior mean



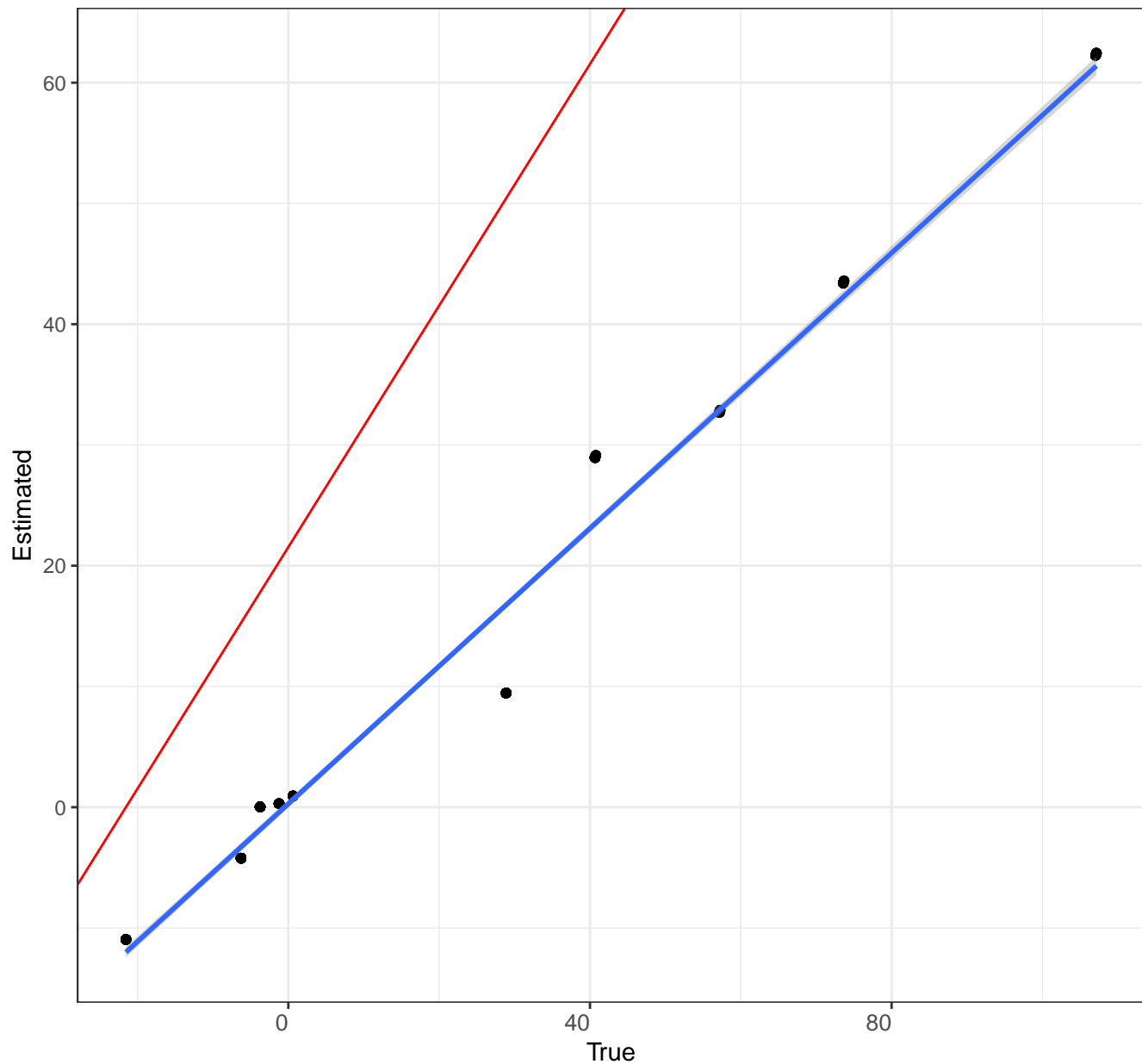
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.023$



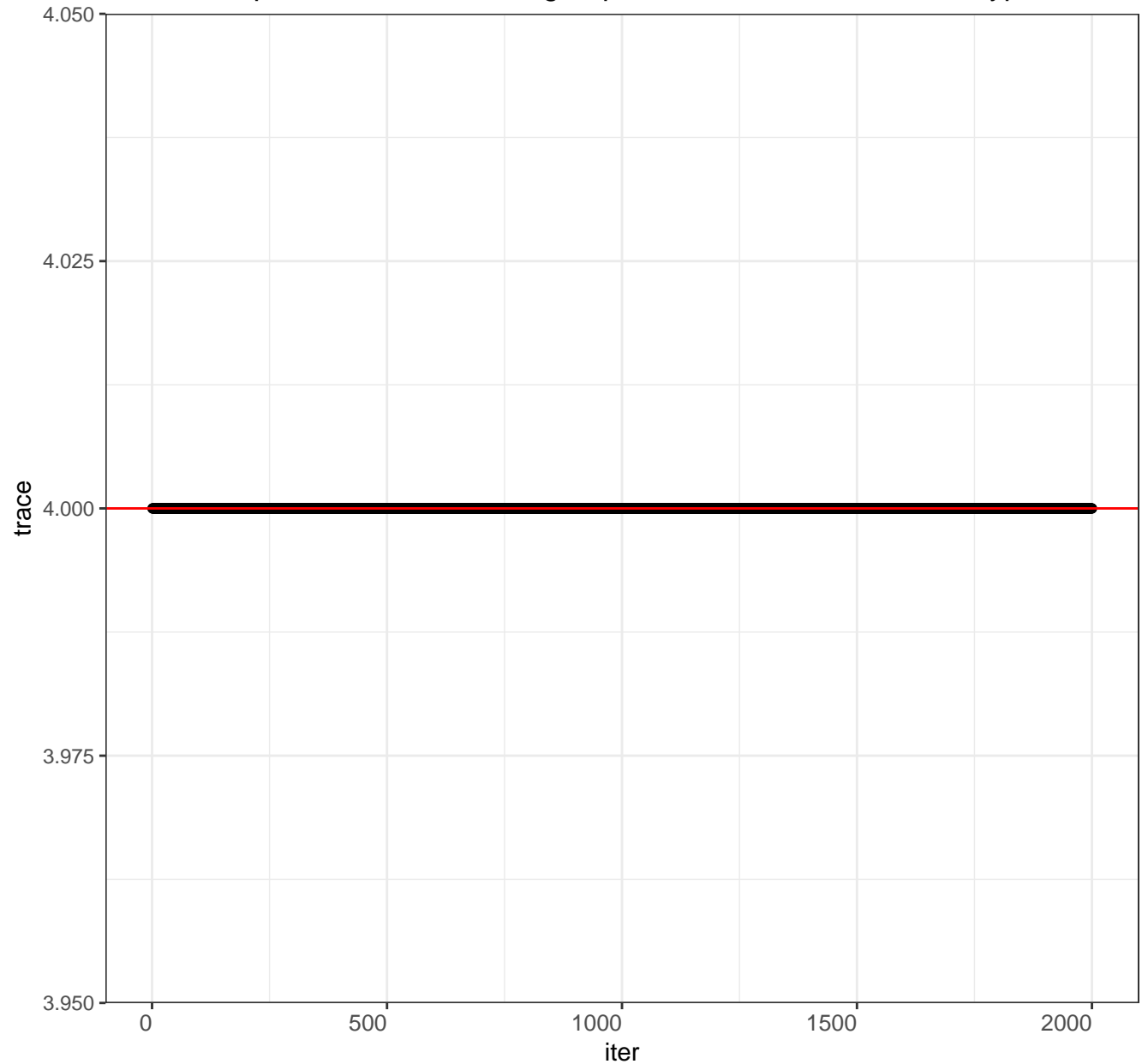
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

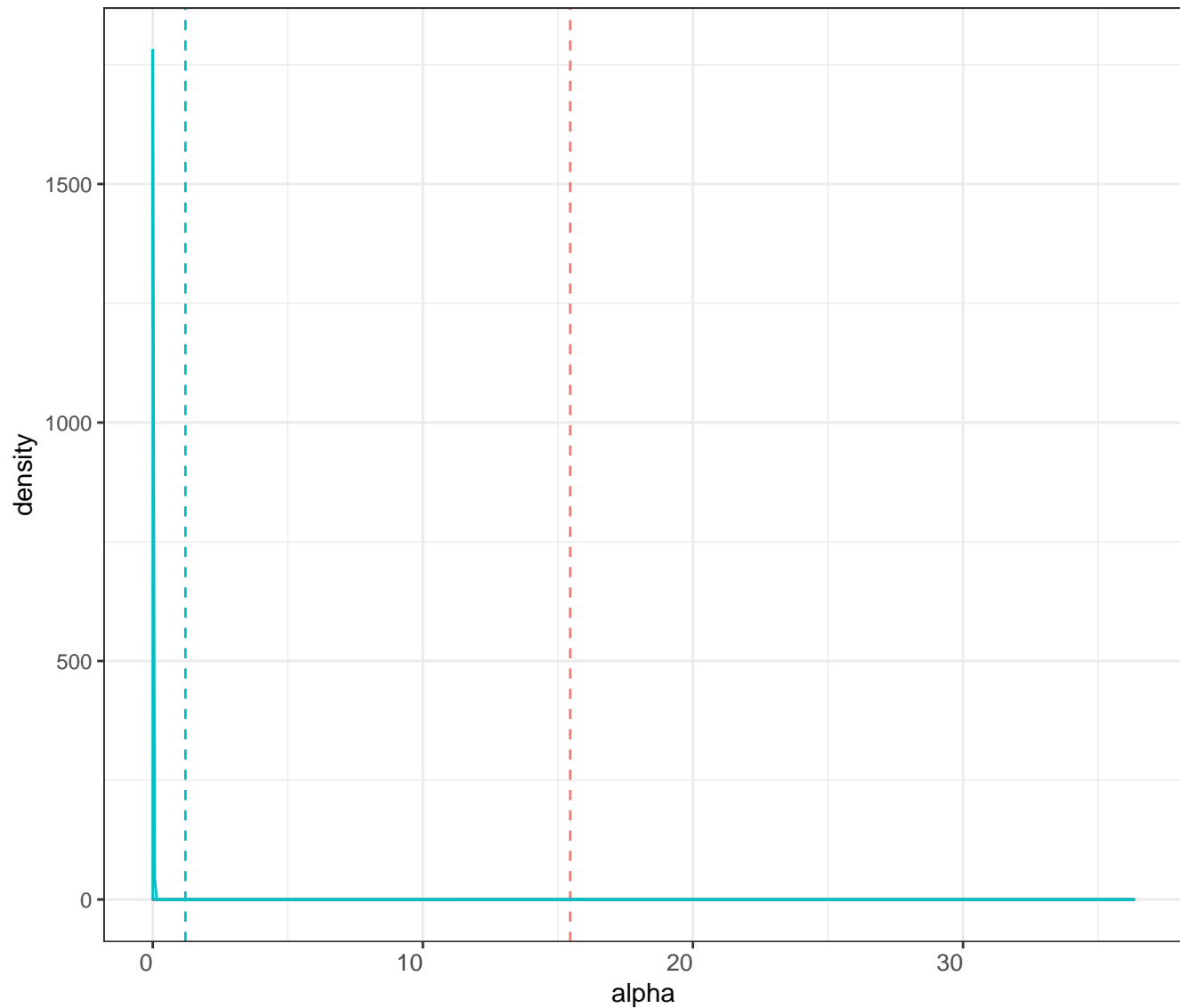
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

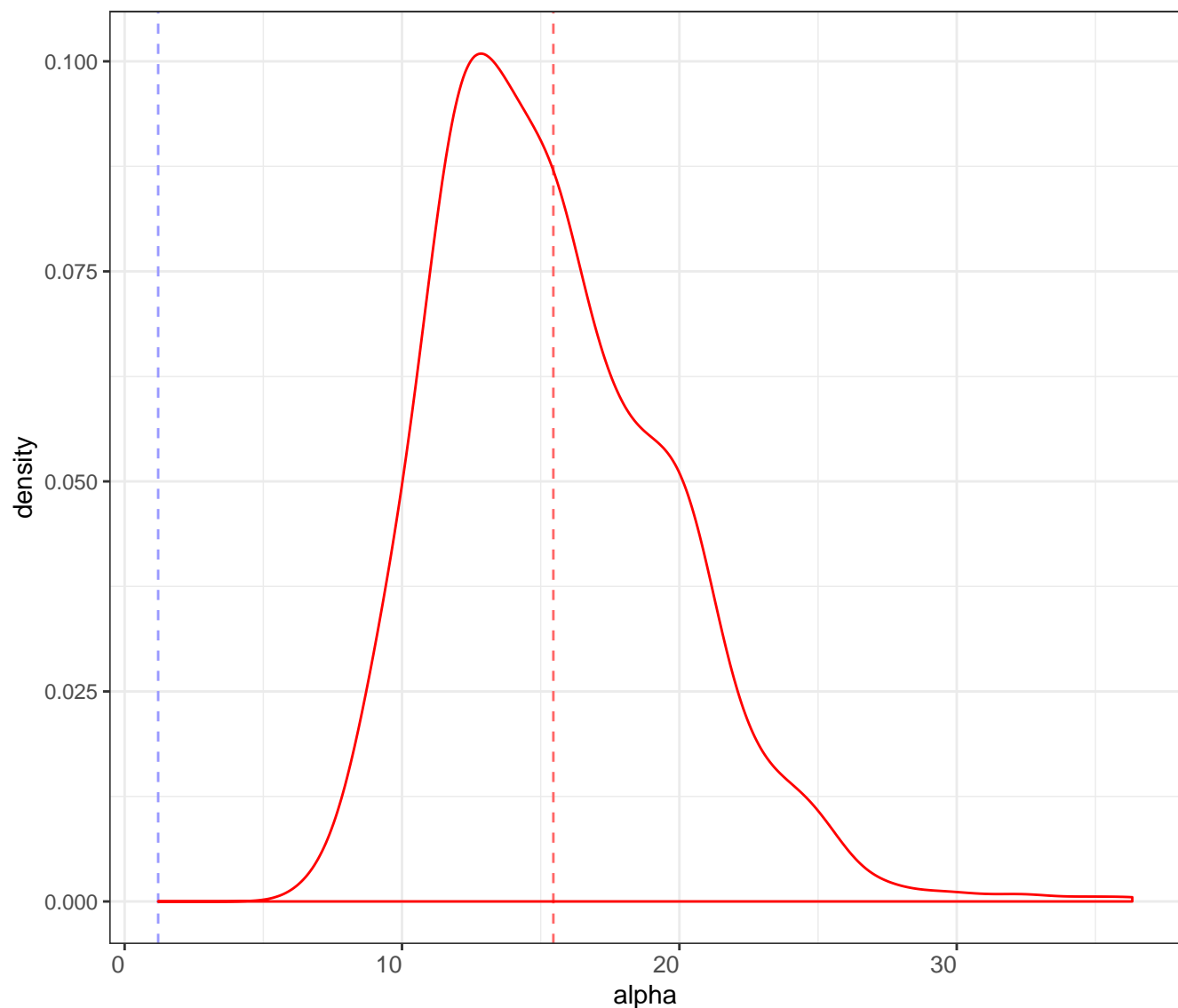
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

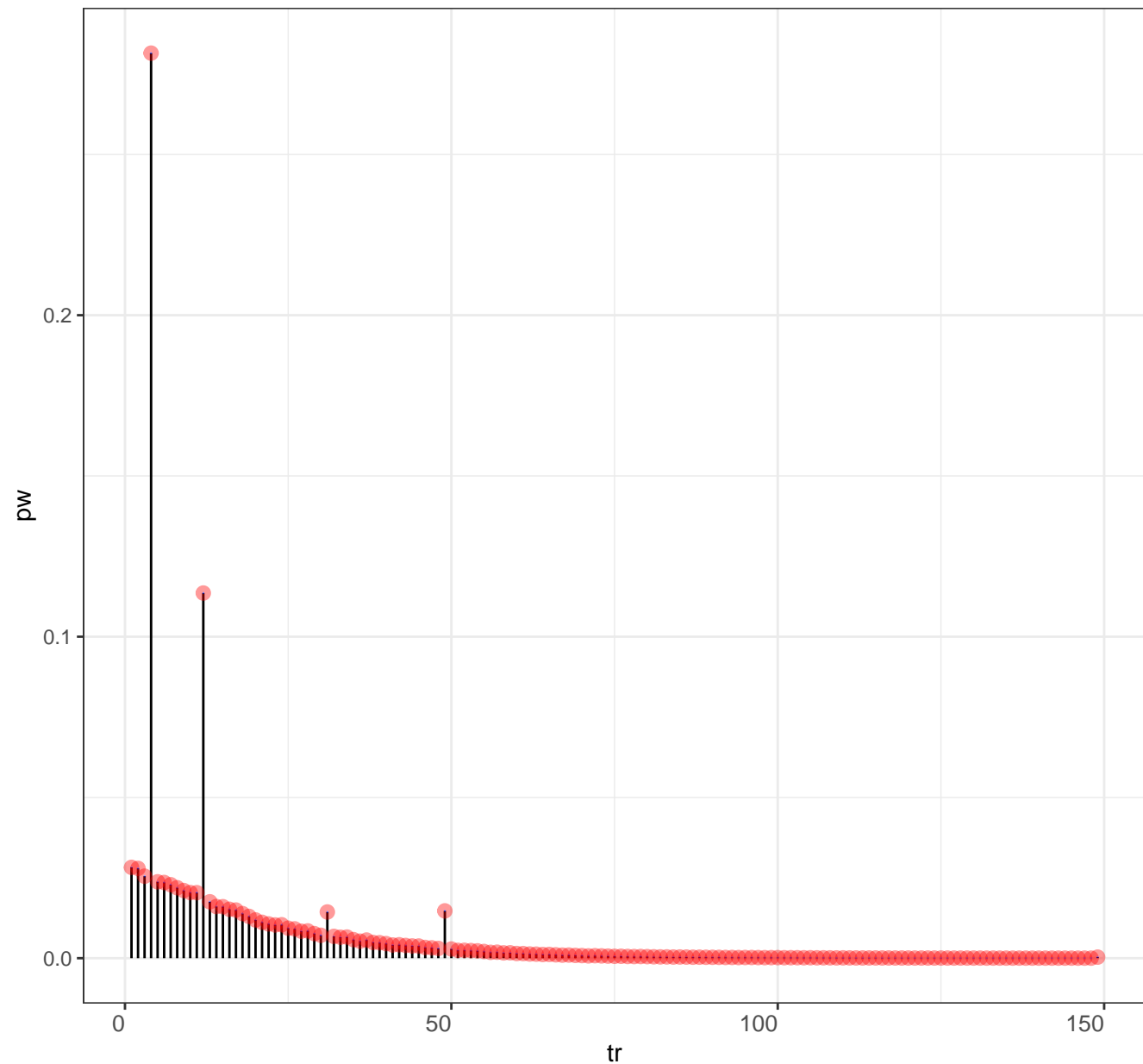
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

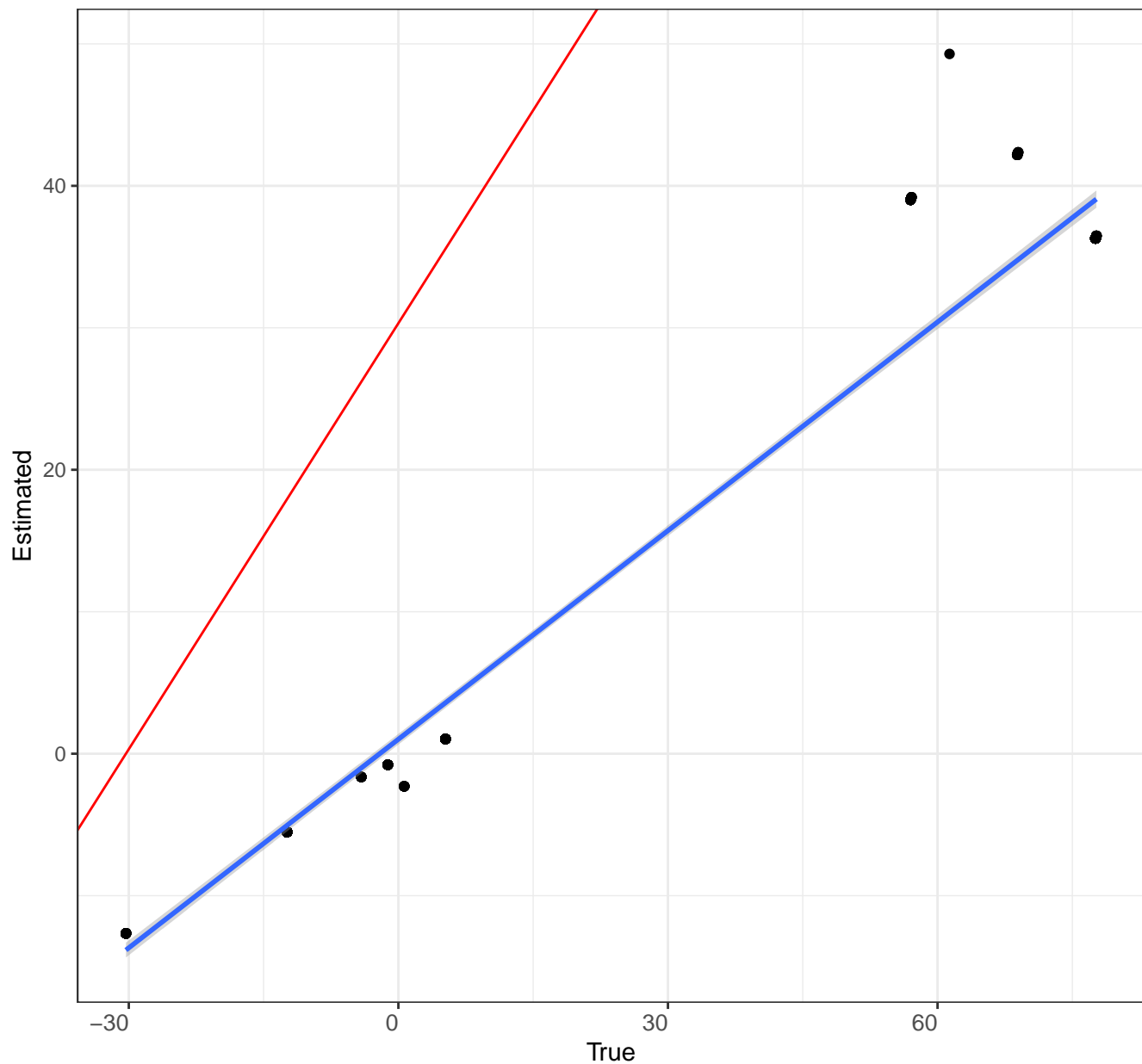


Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



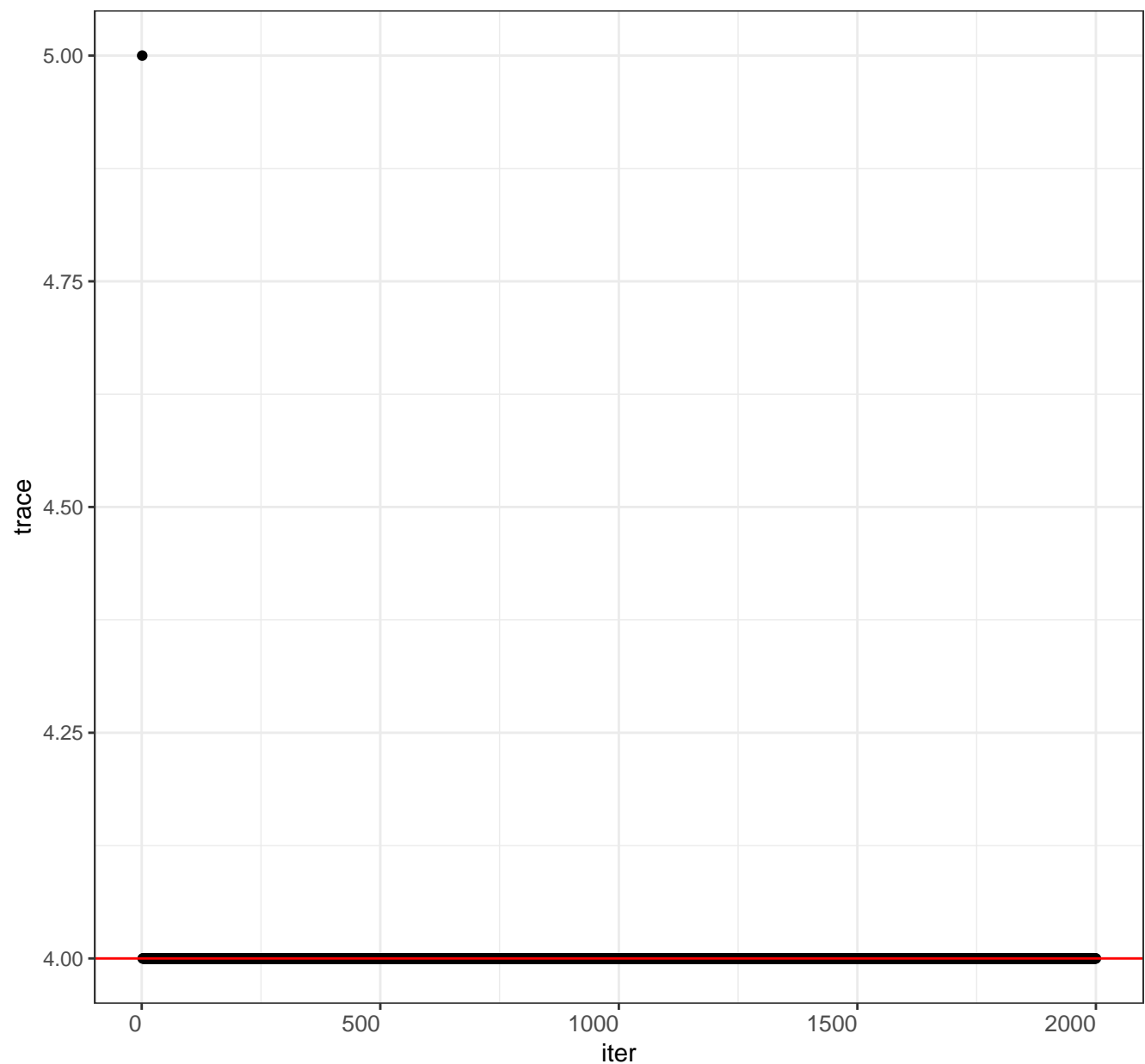
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

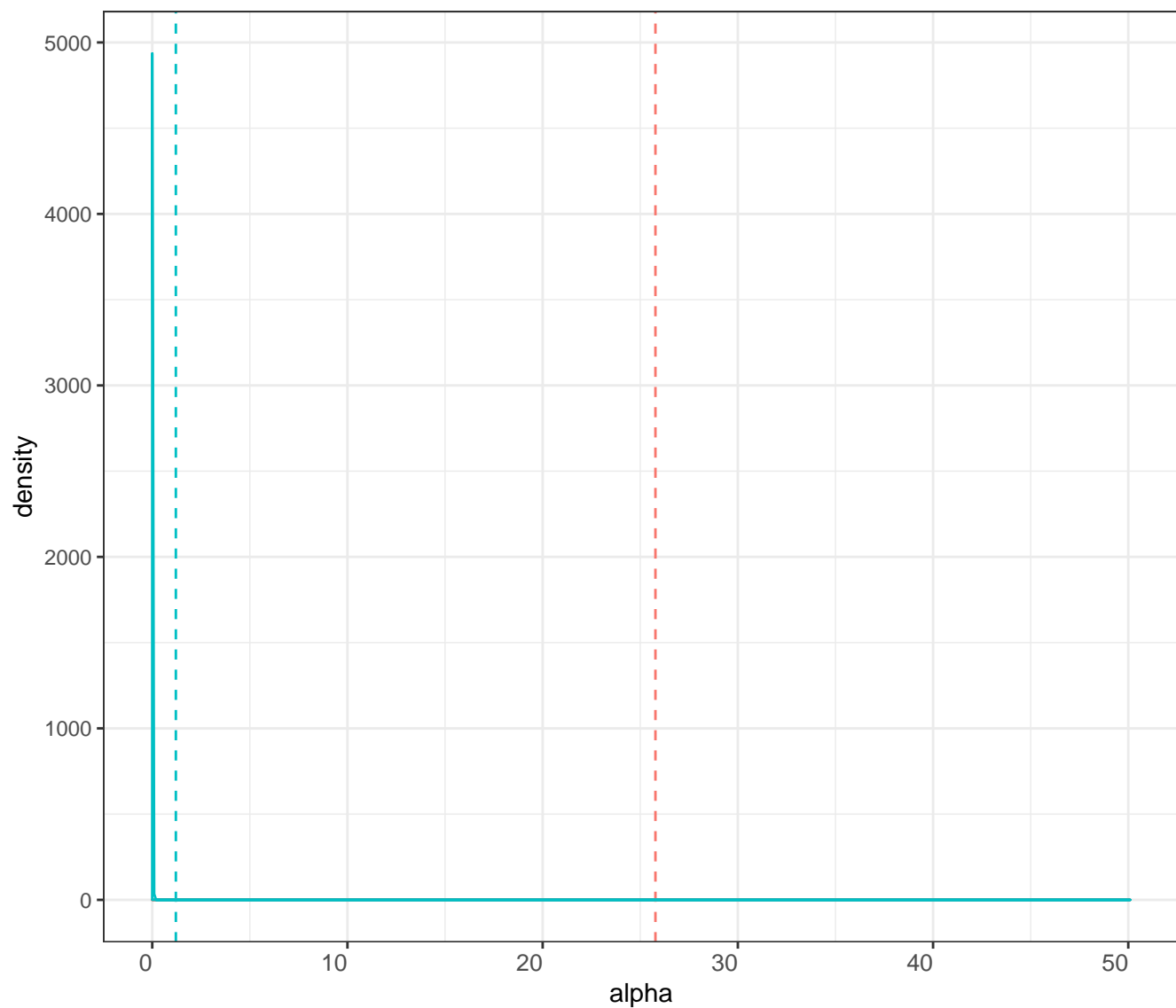
Trace plot for the number of groups K for S=20 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

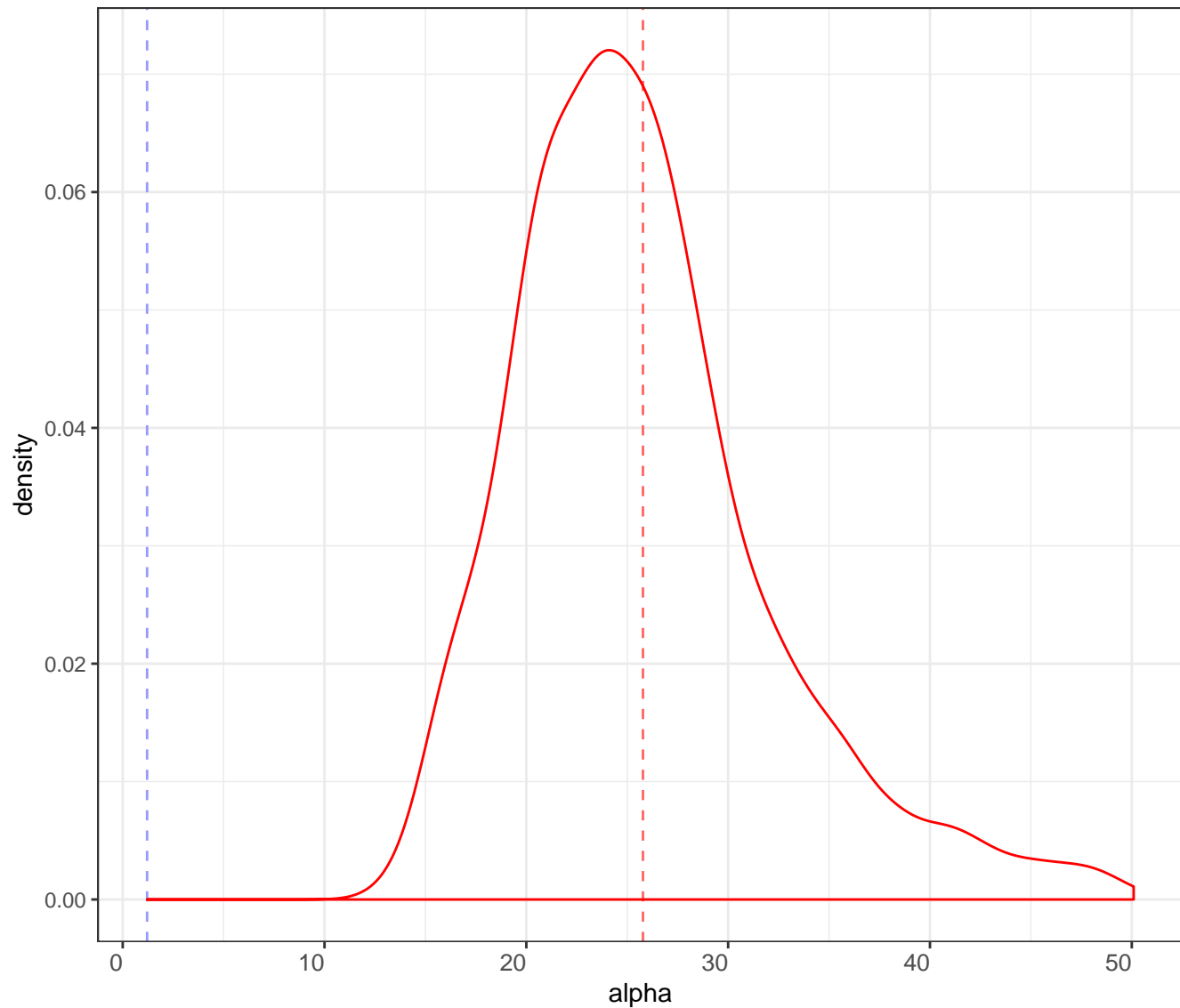
type ┆┆┆ posterior ┆┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

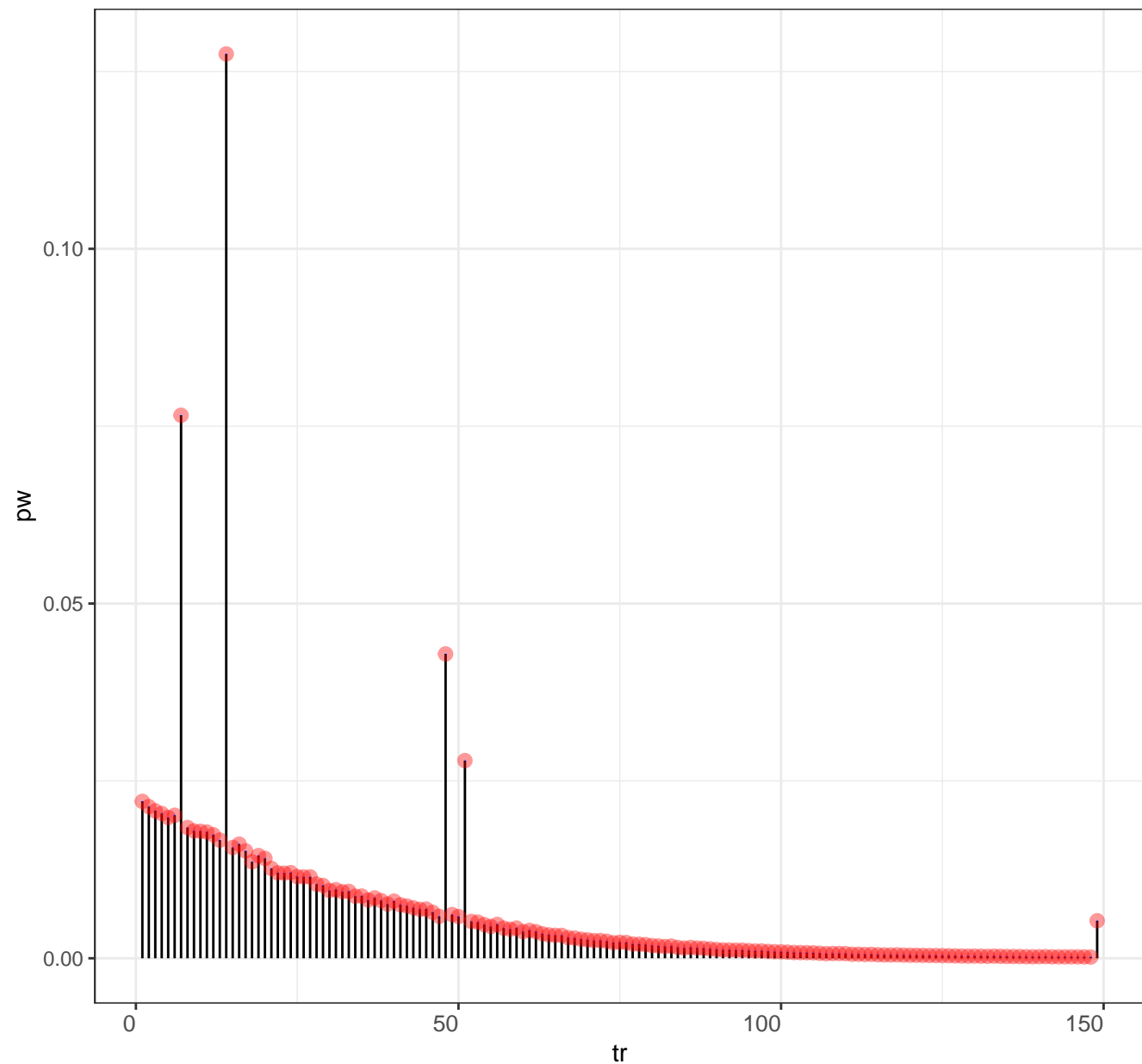
# Posterior distribution for alpha

Legend    posterior mean    prior mean



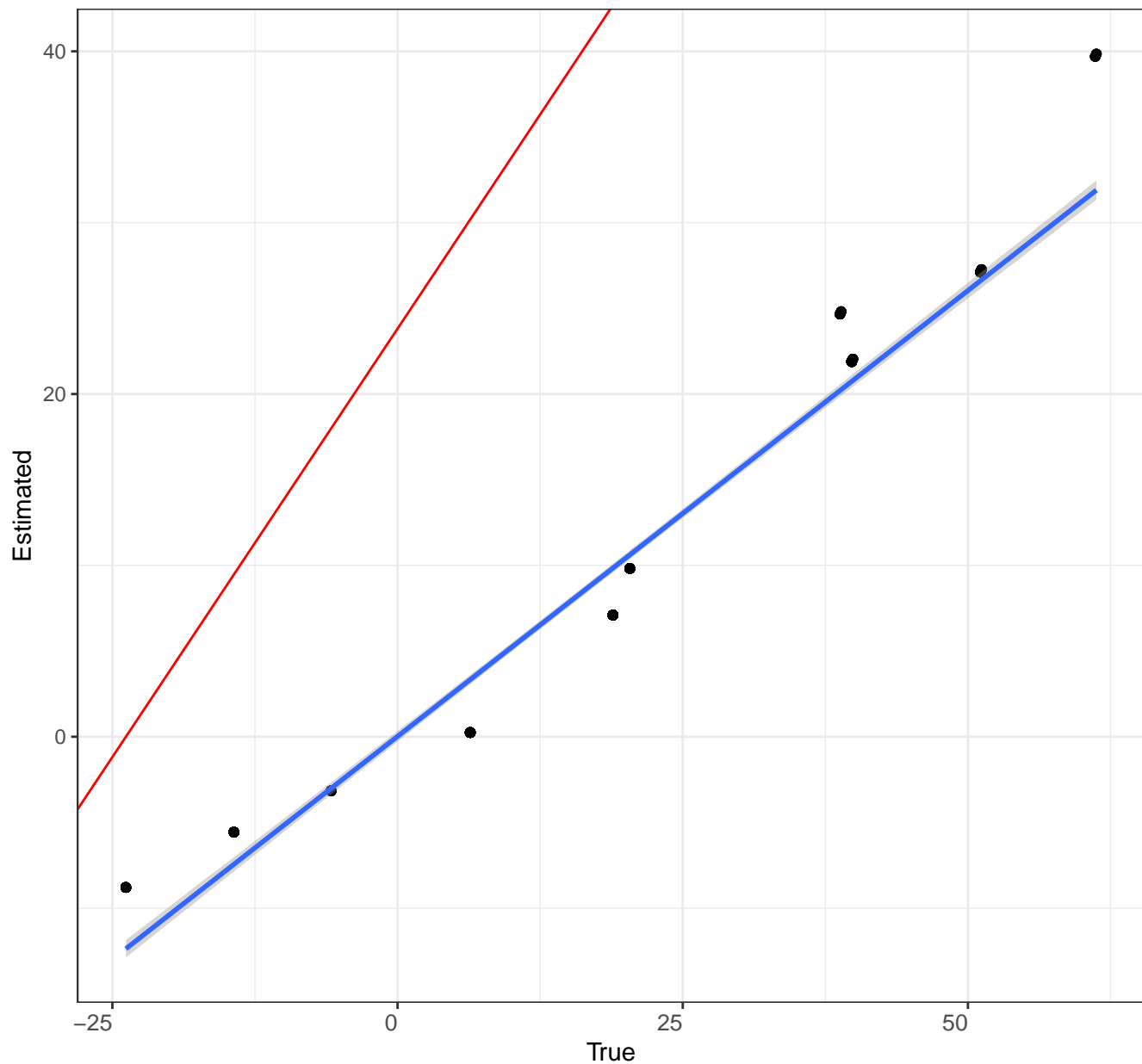
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.005$



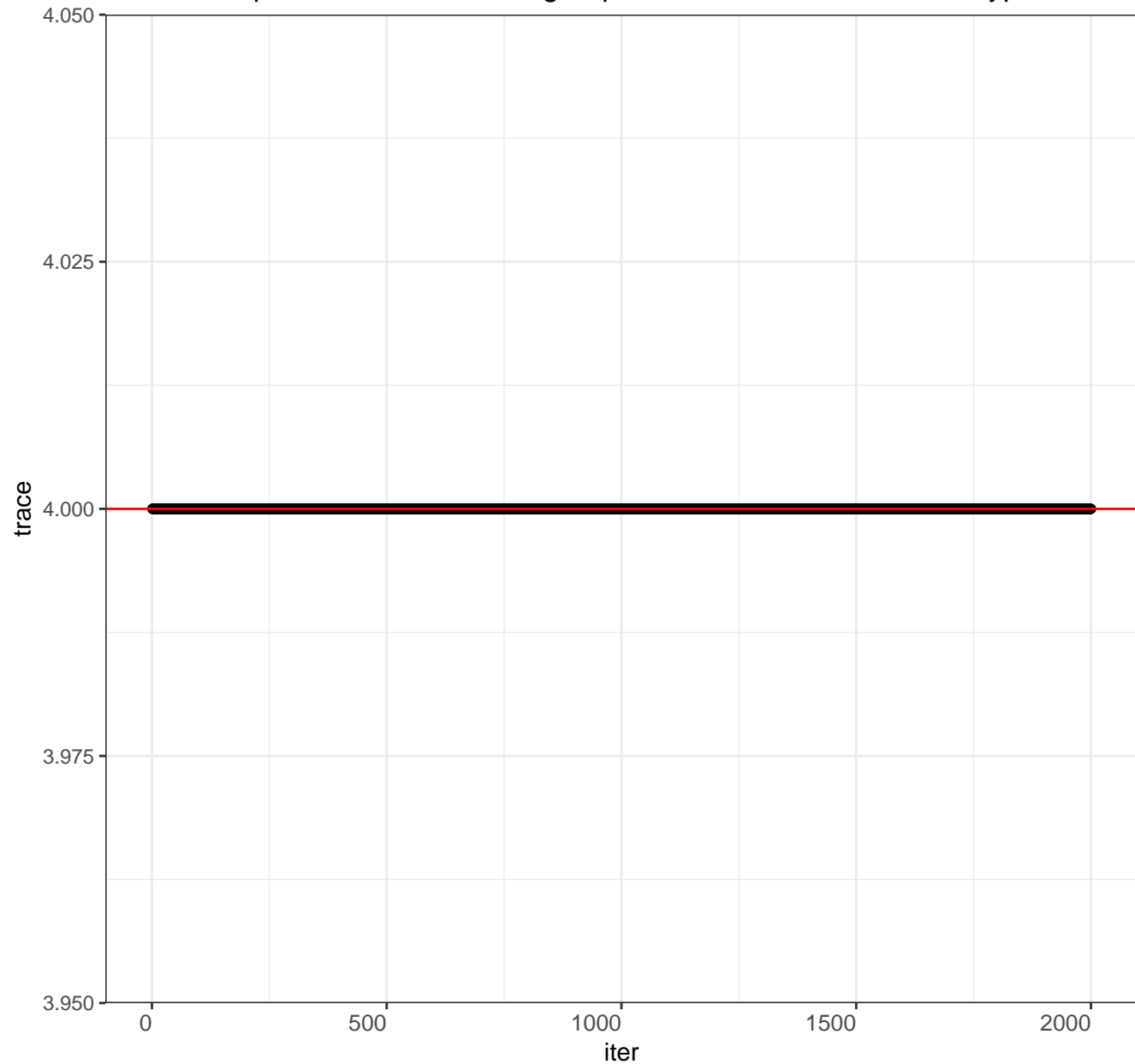
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

Trace plot for the number of groups K for S=20 r=10 true K=4 type=1

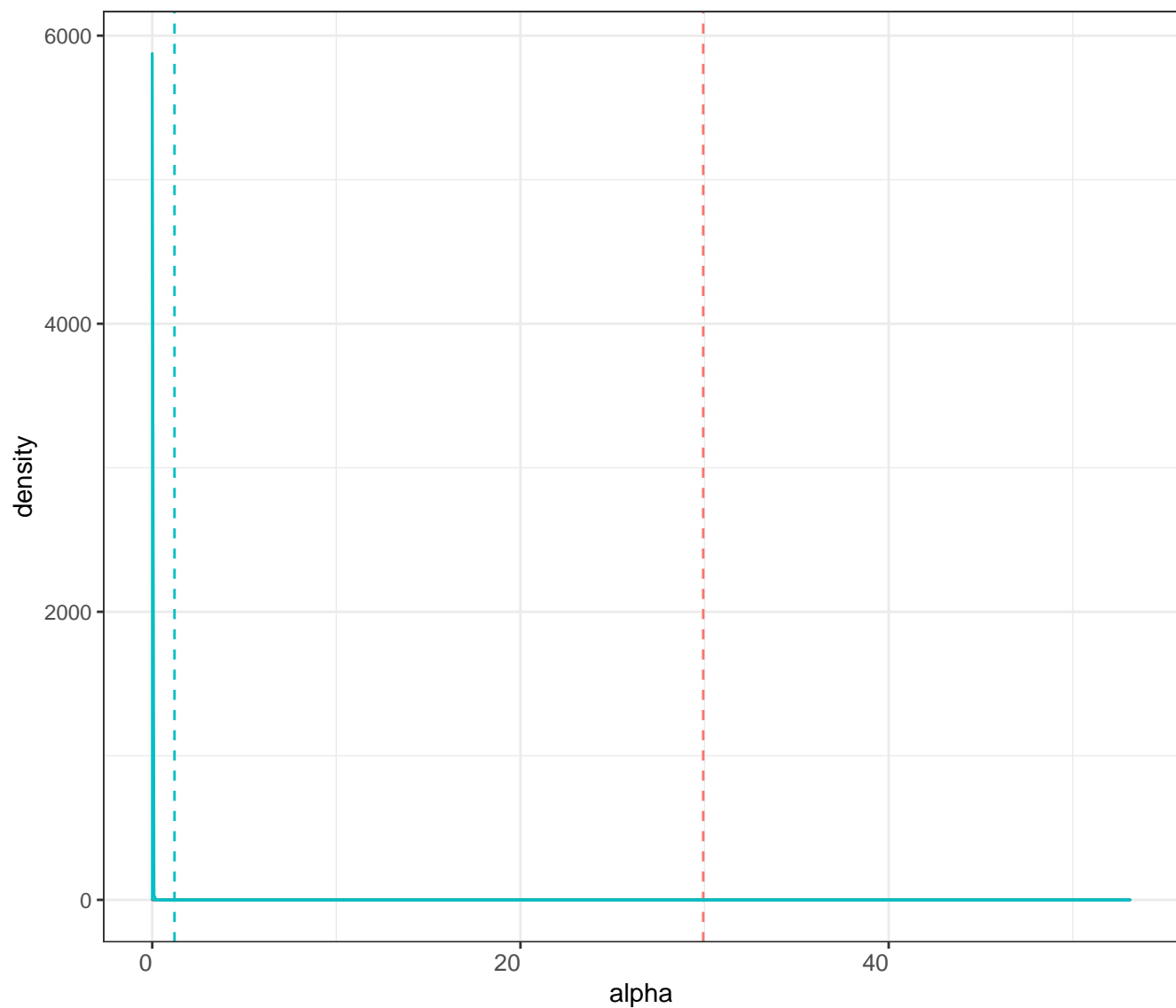


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=20 ,r=10 true gr K=4 ,type=1 ,N=150

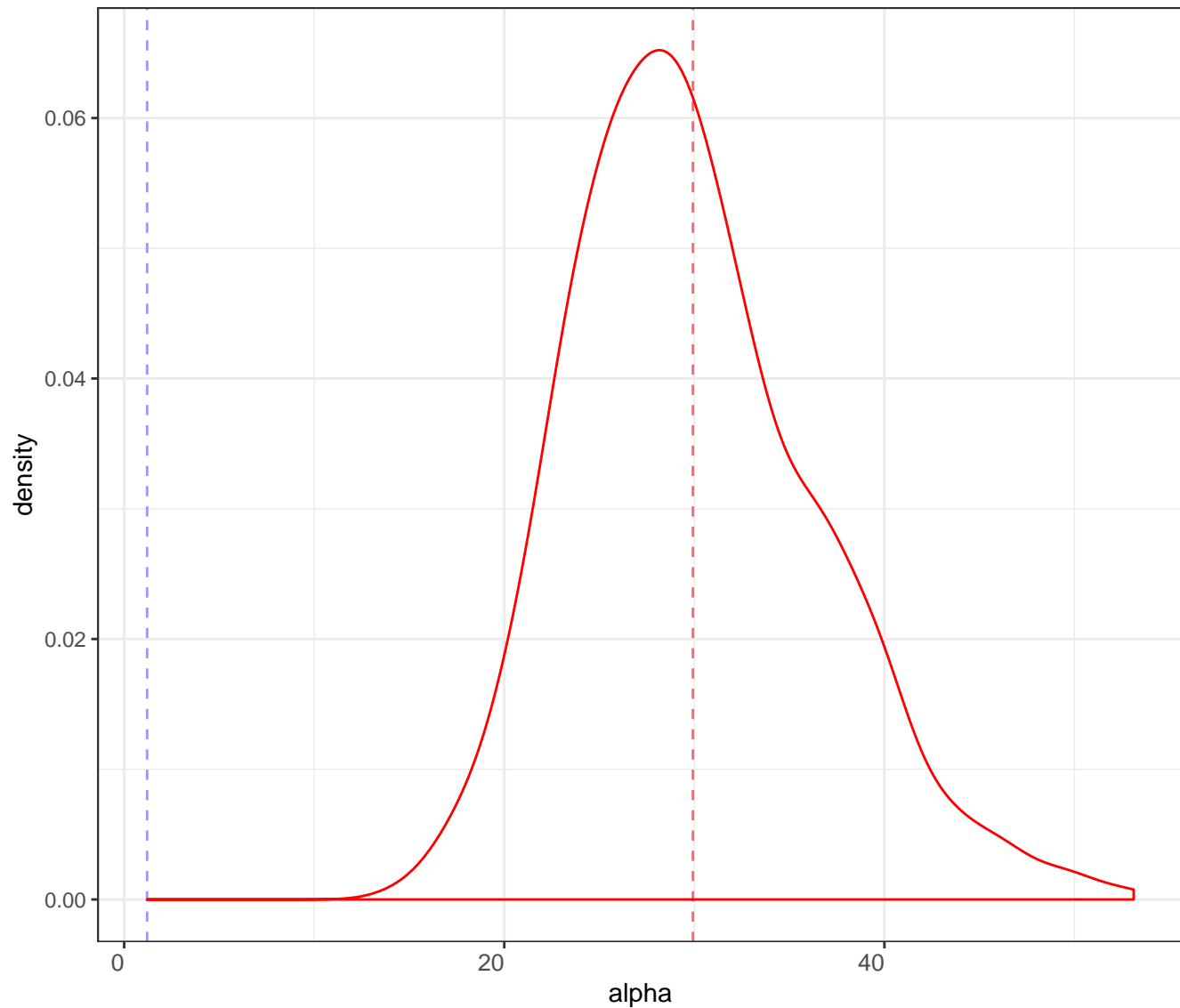
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

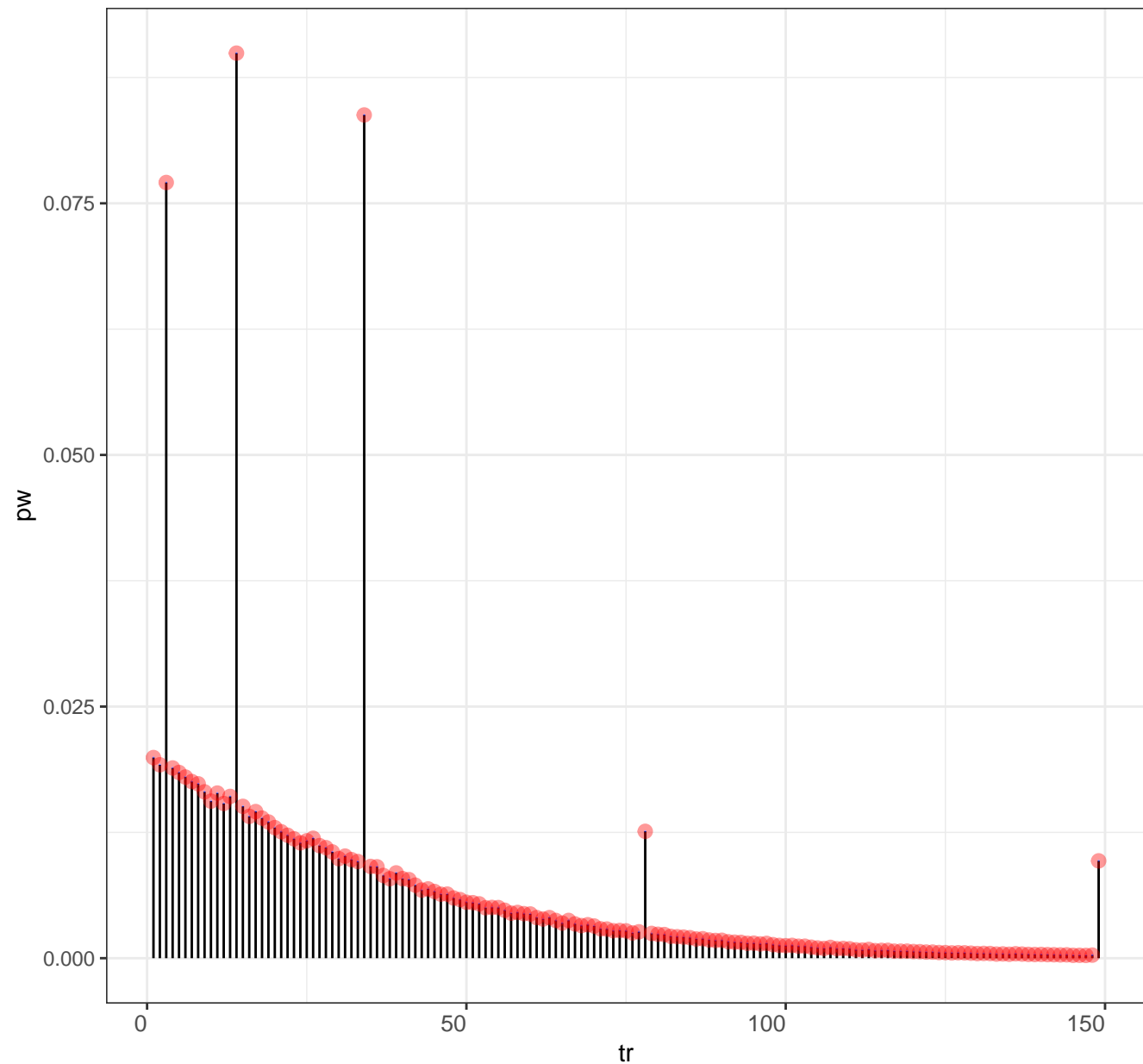
# Posterior distribution for alpha

Legend    posterior mean    prior mean



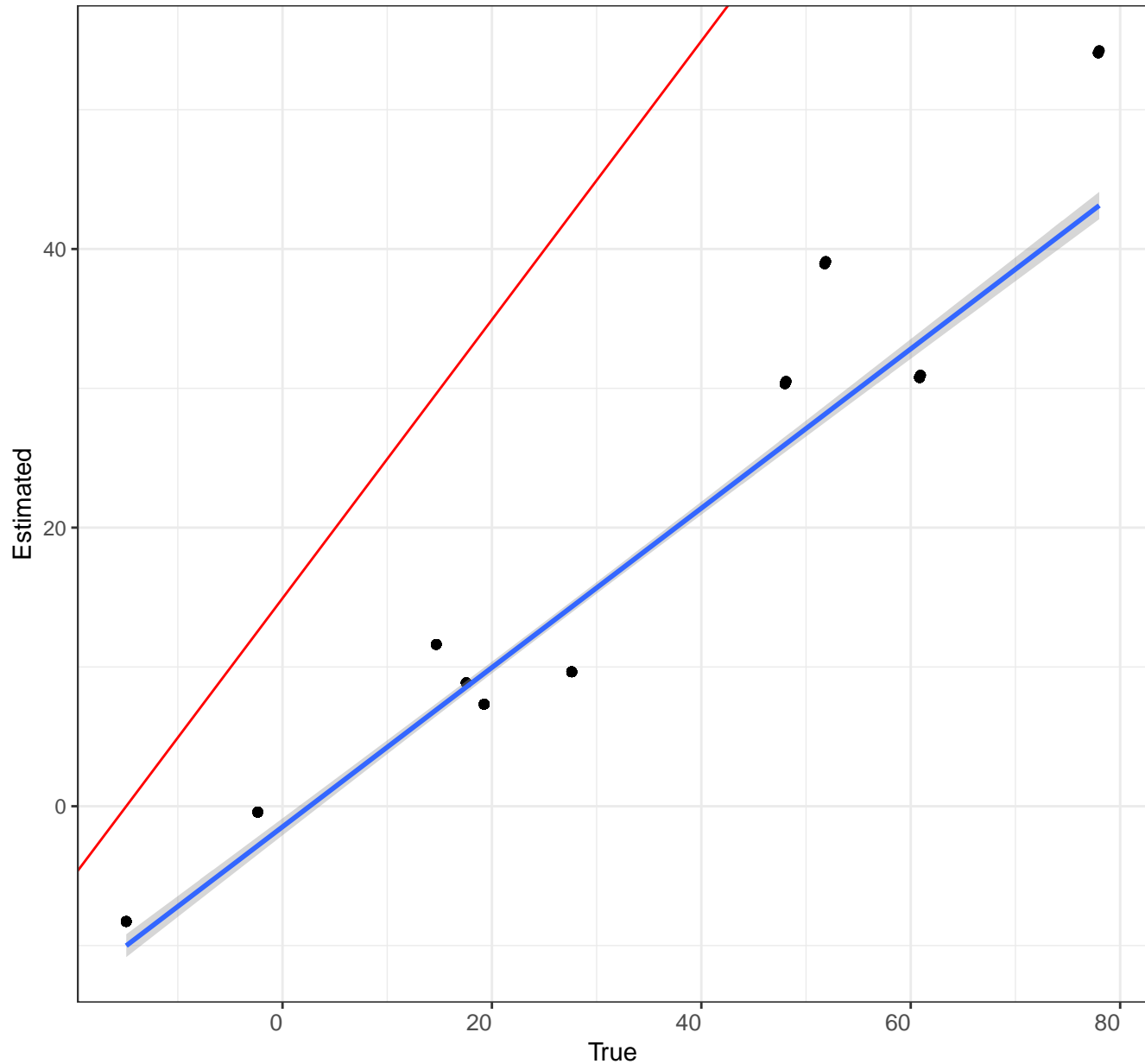
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.01$



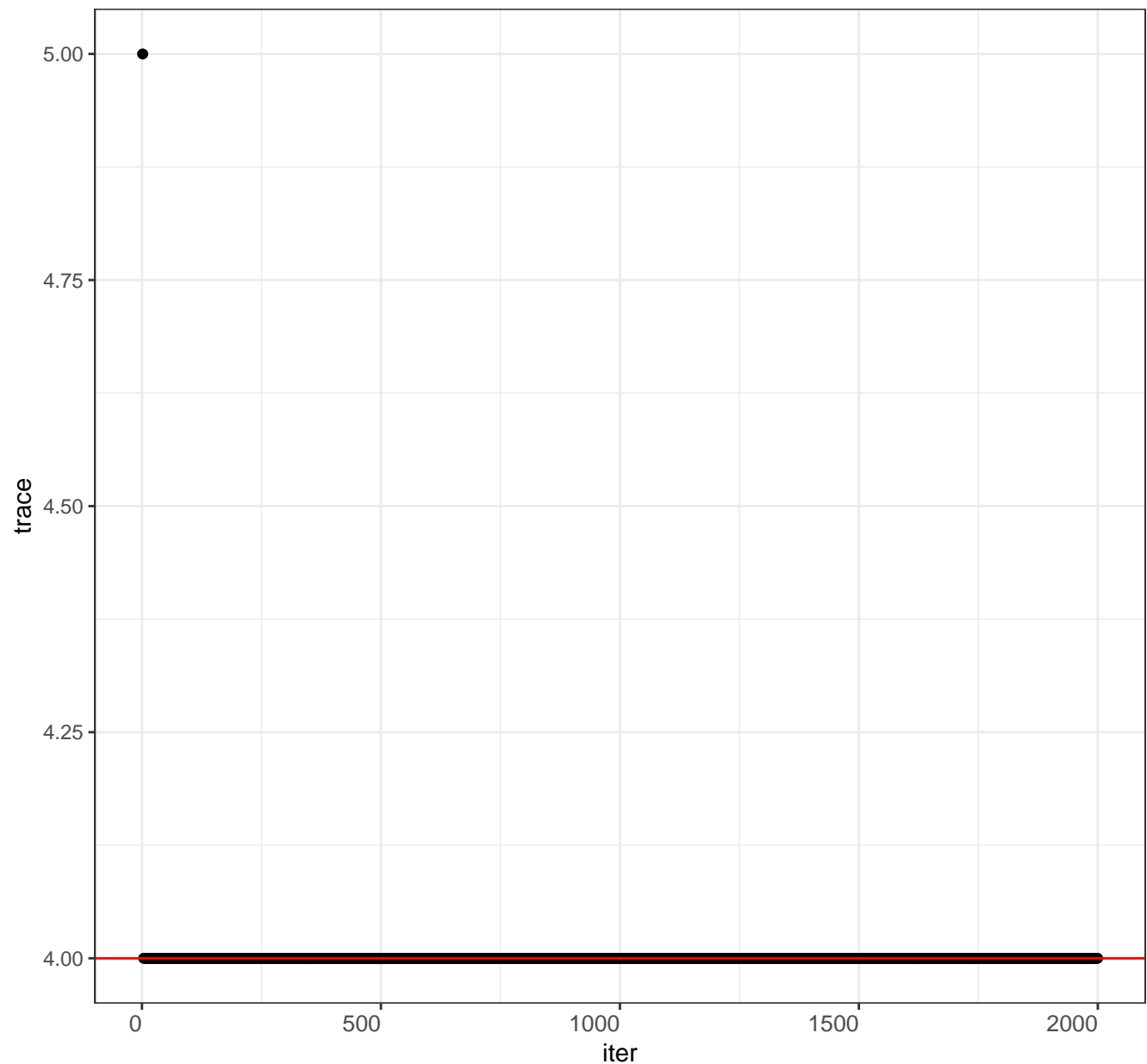
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=10 true K=4 type=1

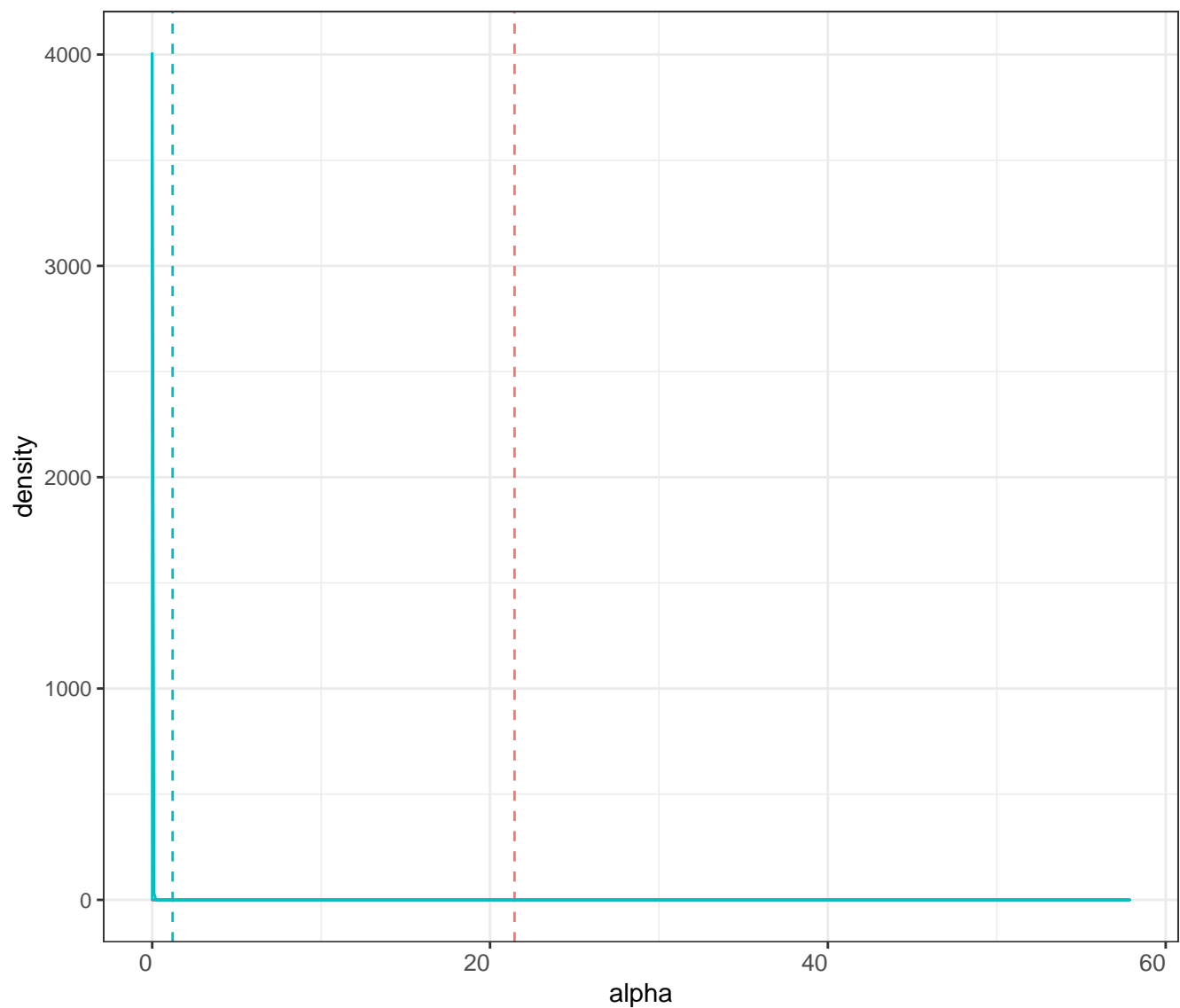
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

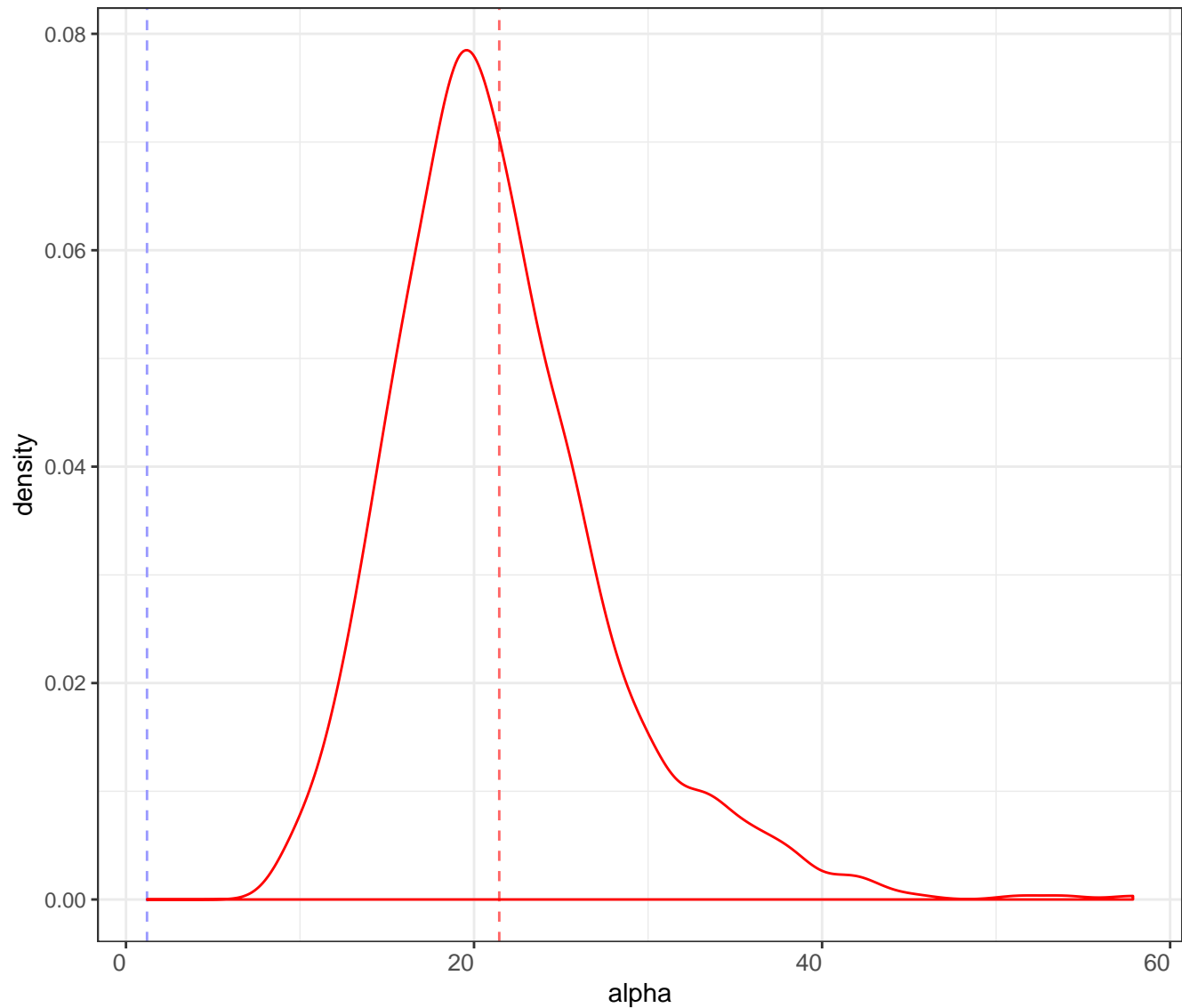
Legend



posterior mean

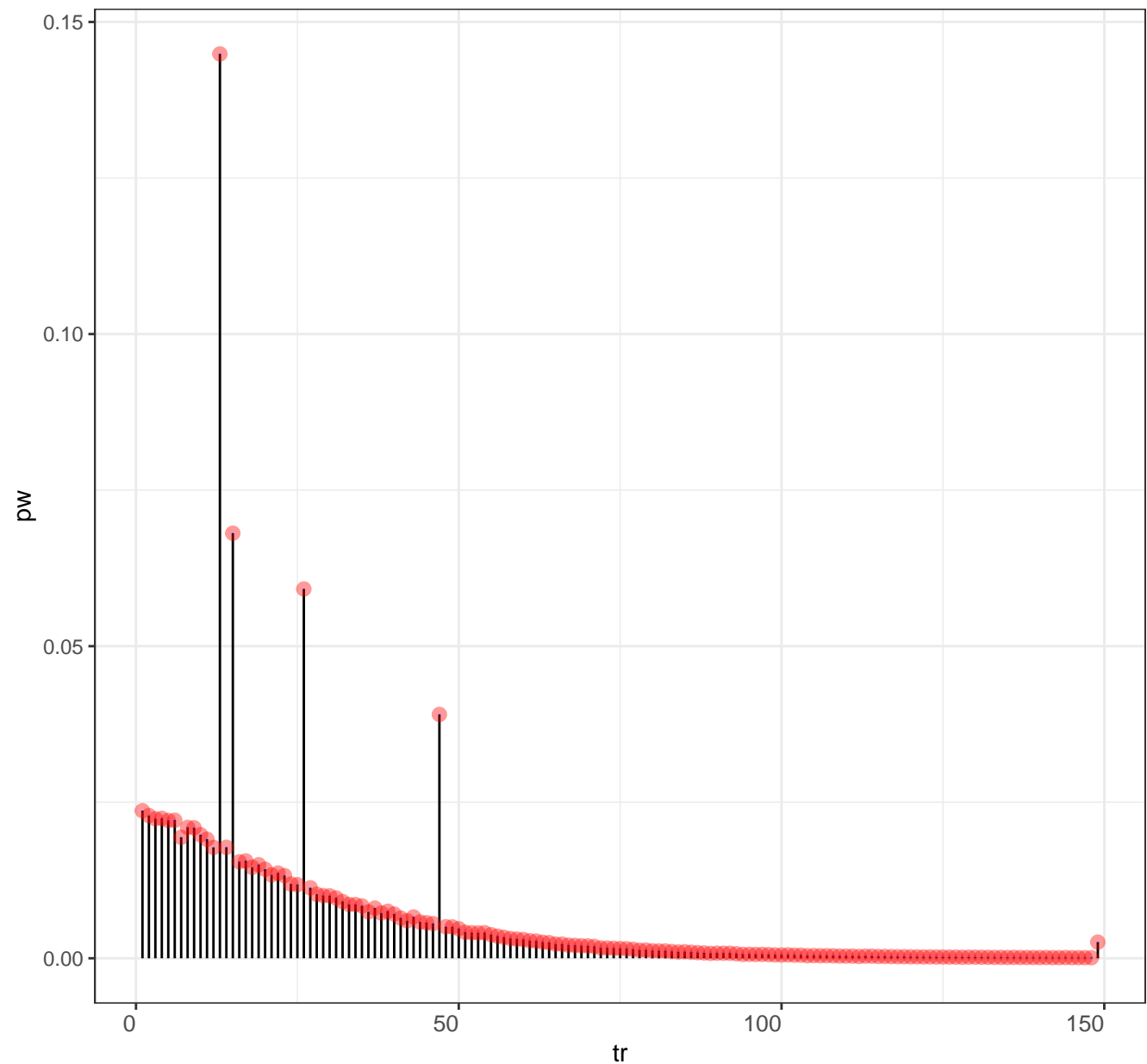


prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

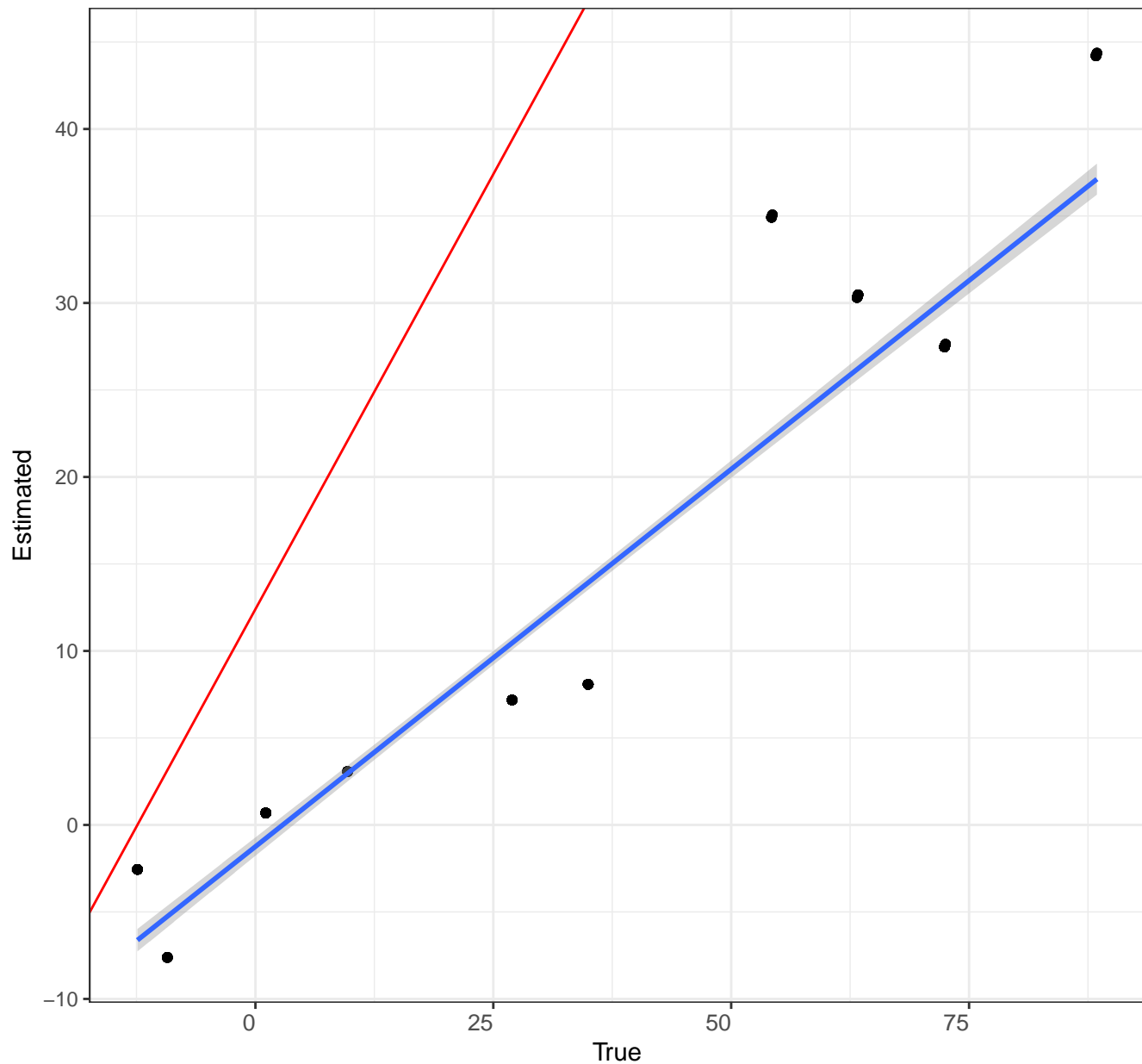
Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.003$



Number of iterations: 2000 burnin: 1000 number of samples: 500

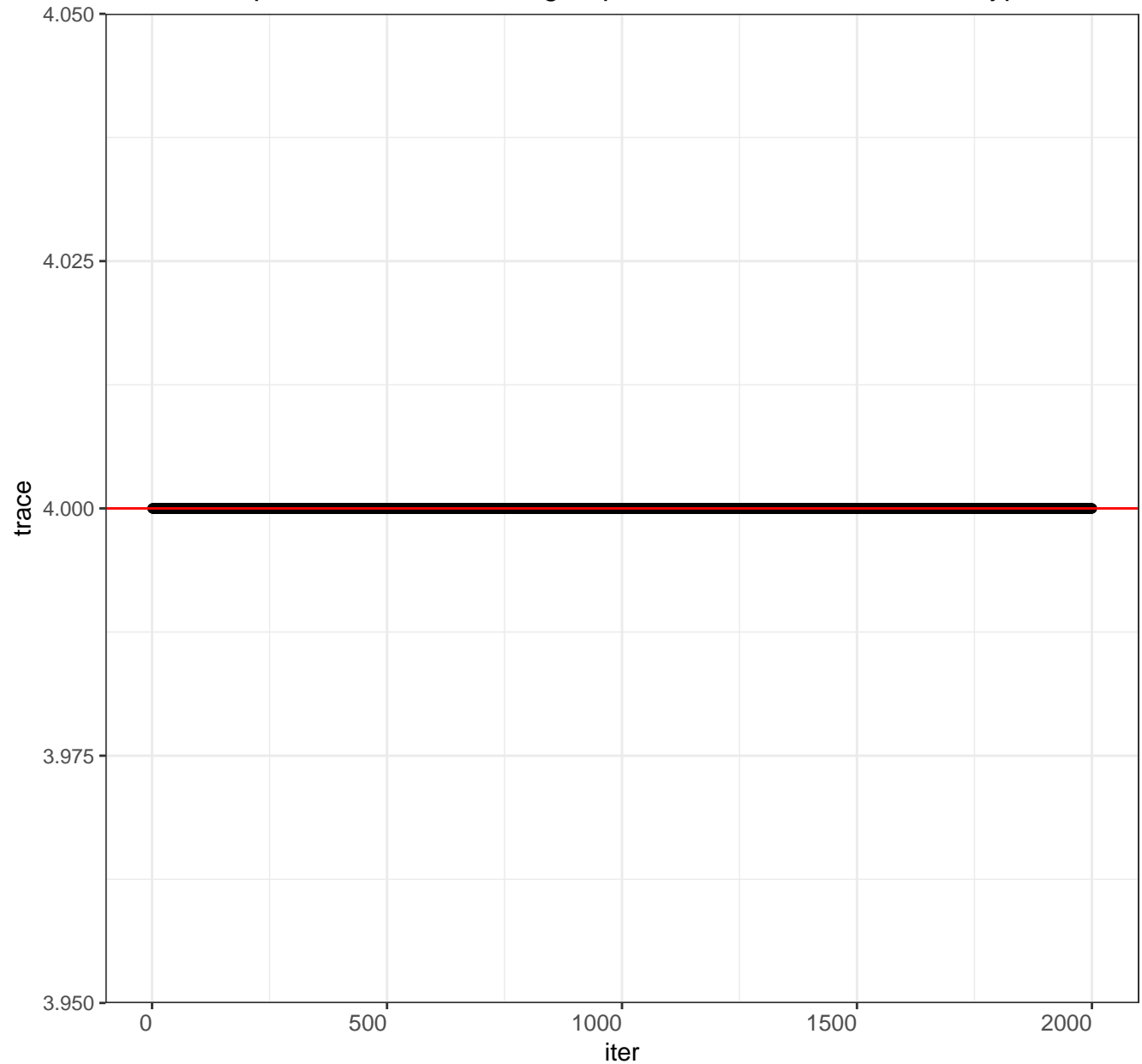


True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

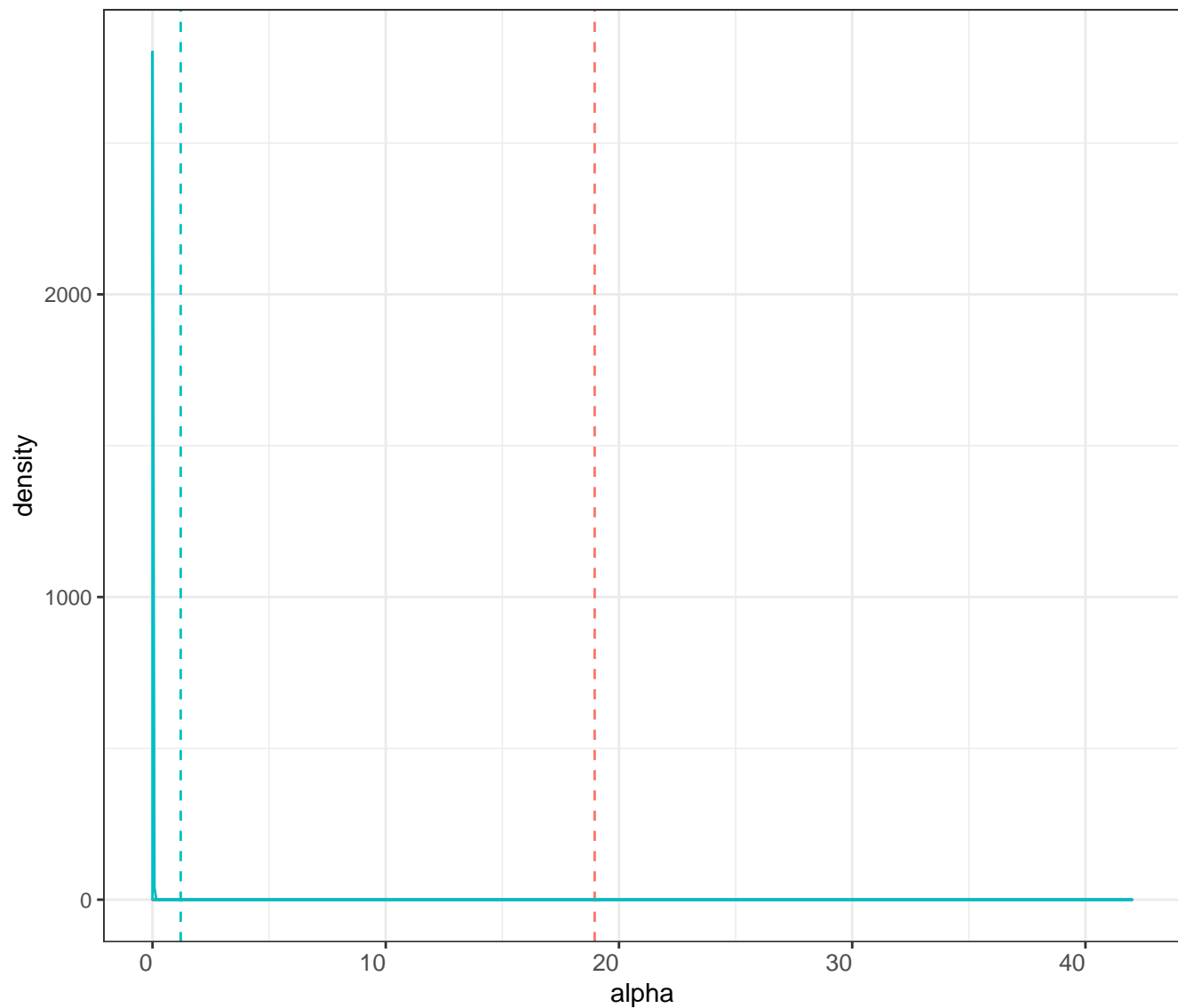
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

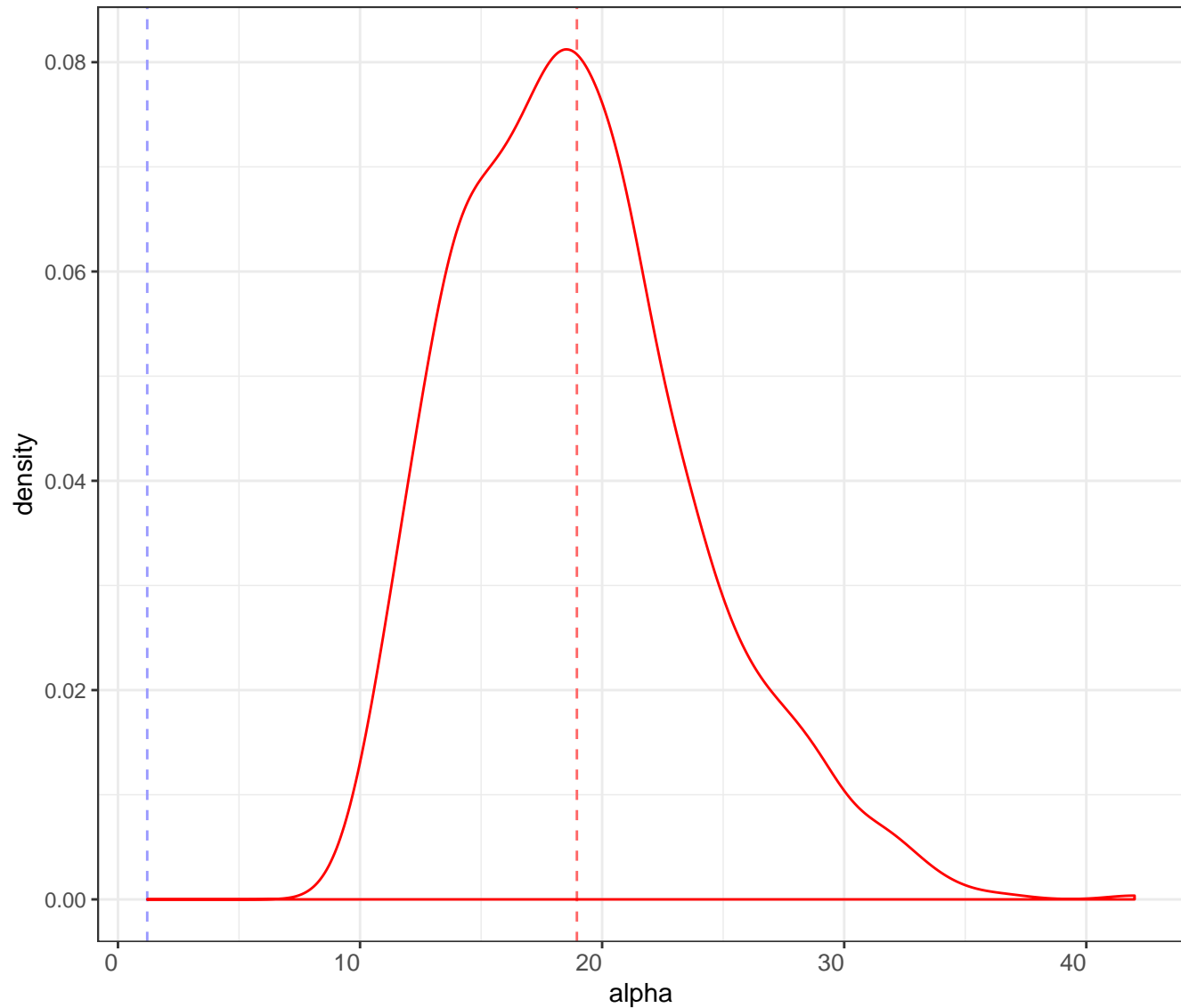
Legend



posterior mean

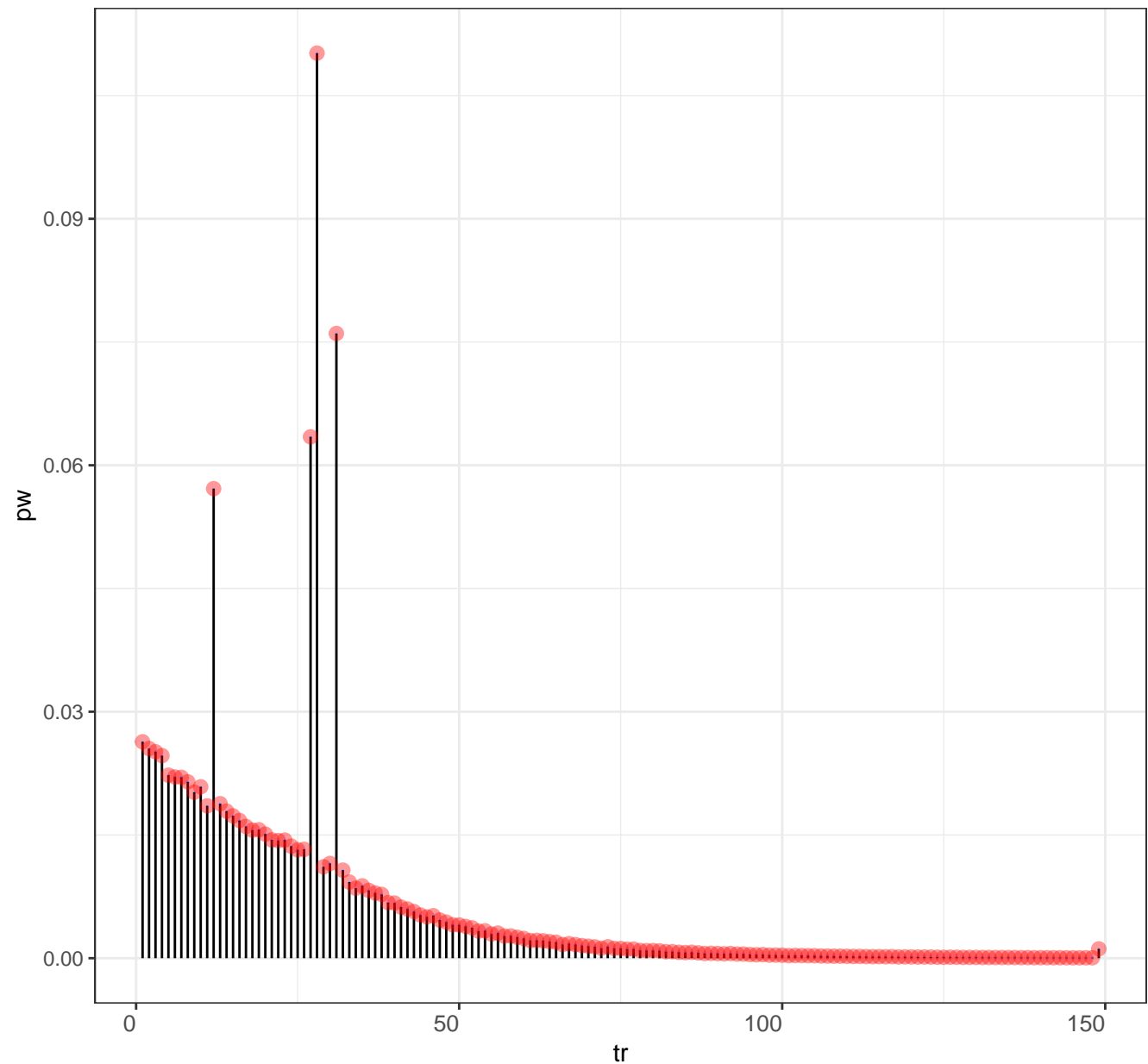


prior mean



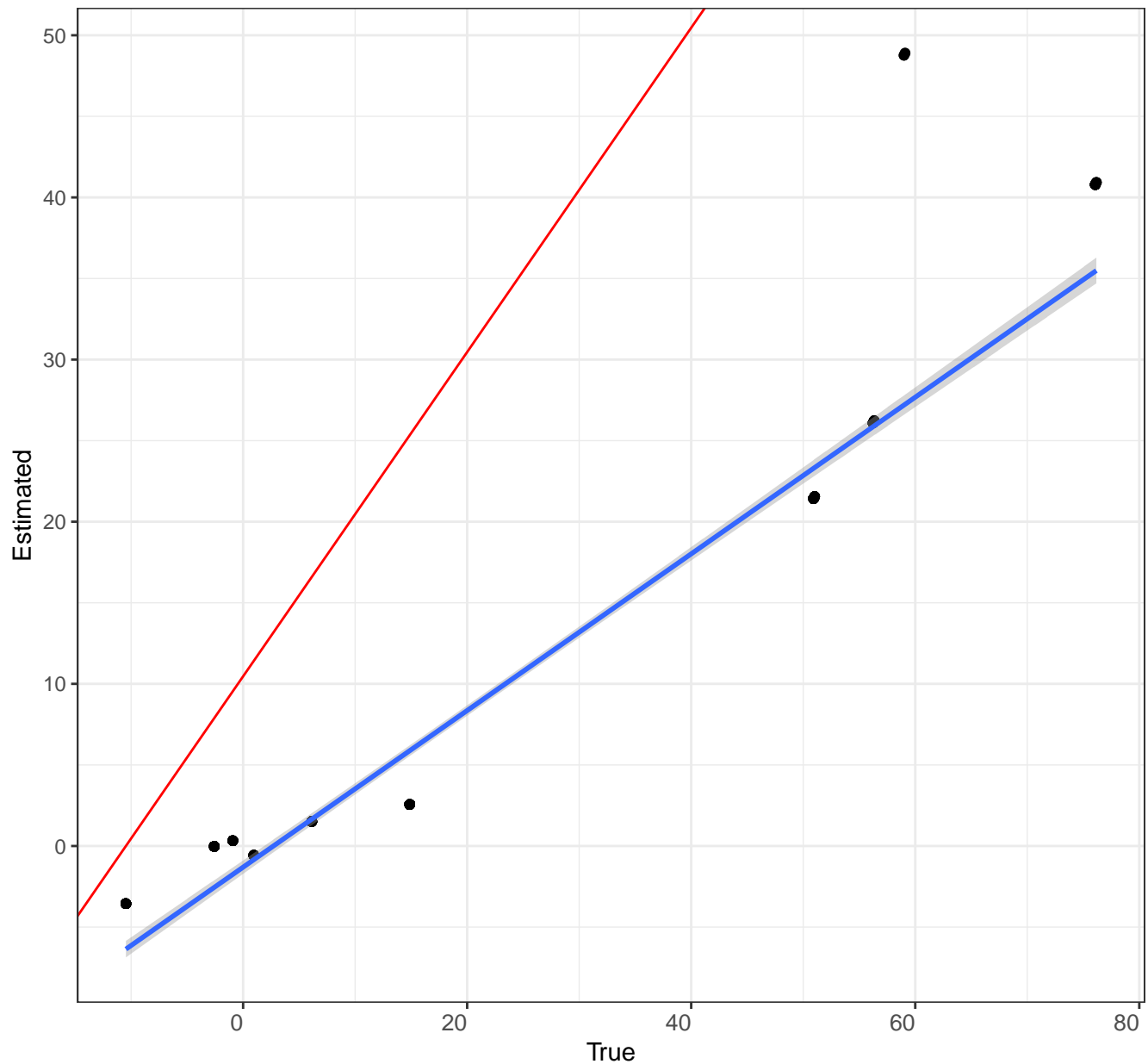
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



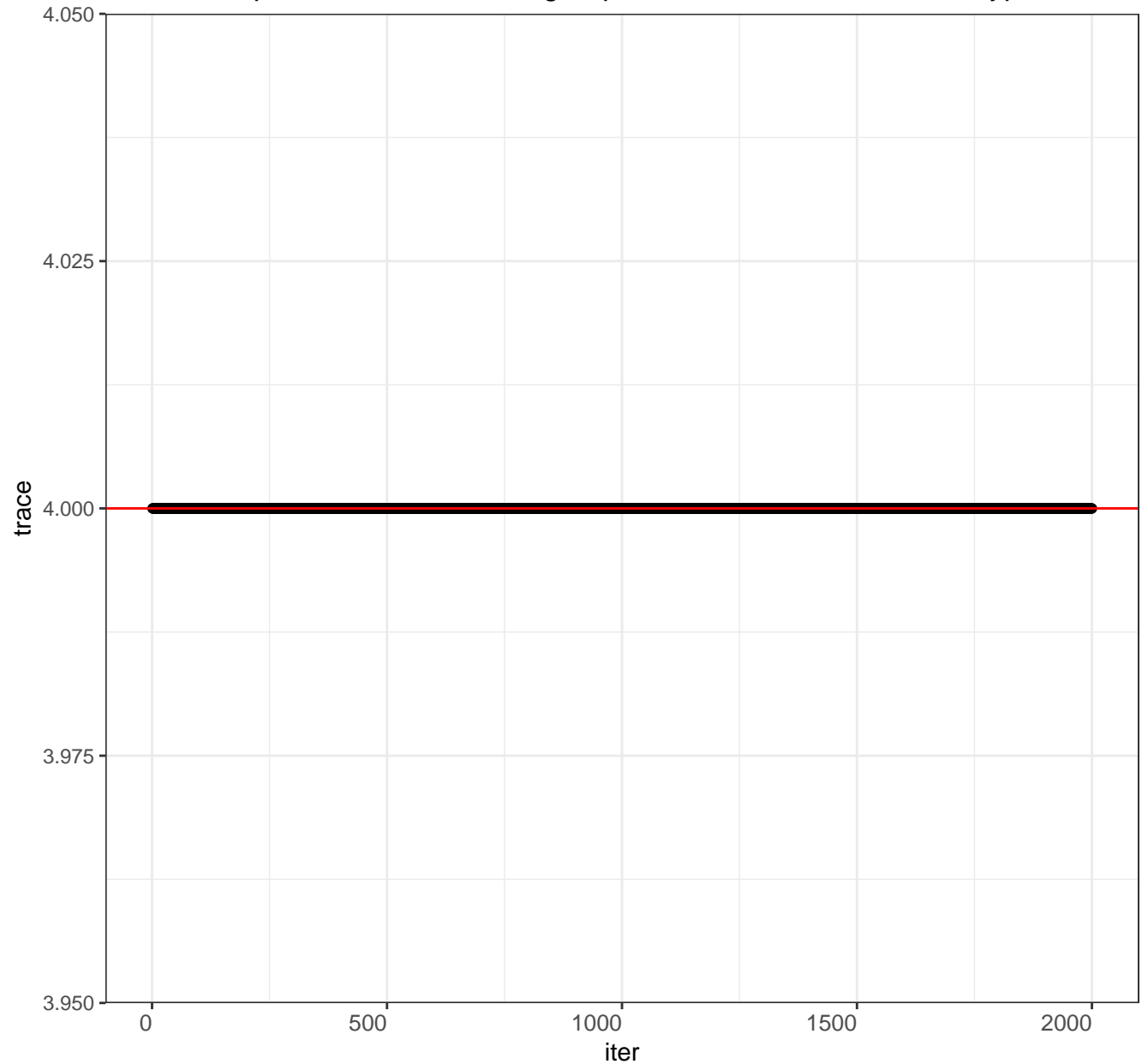
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

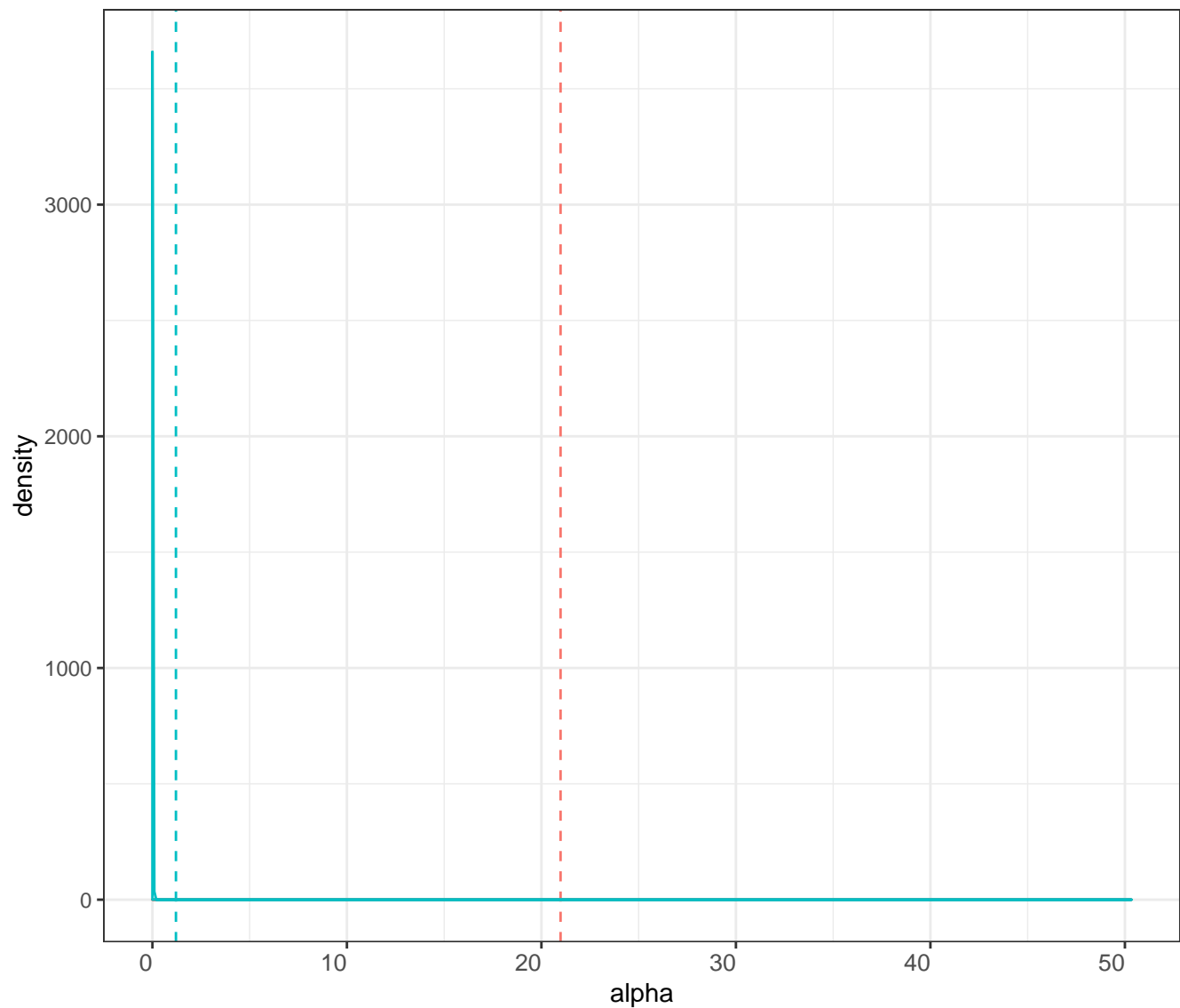
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

type ┆┆┆ posterior ┆┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

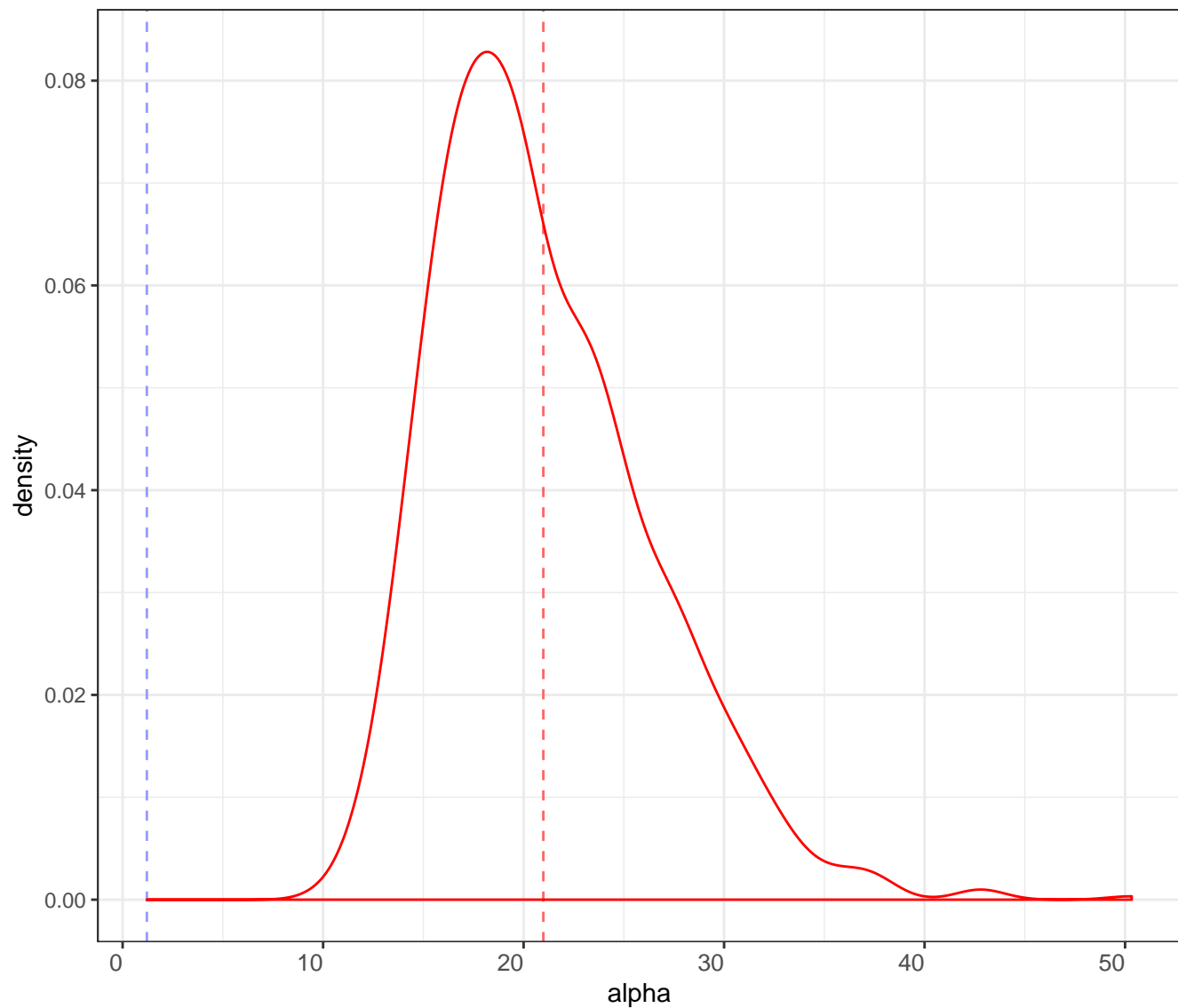


# Posterior distribution for alpha

Legend

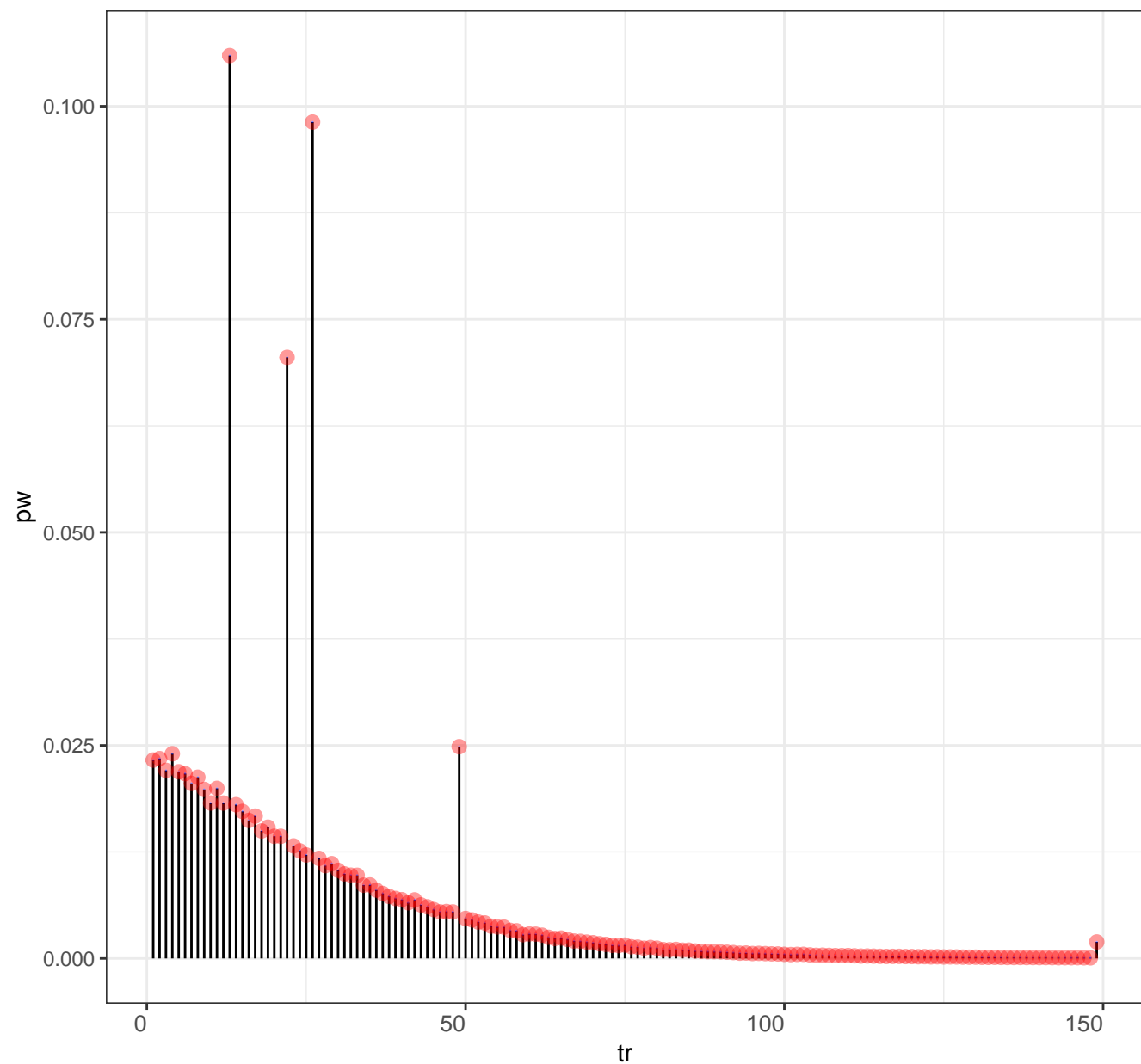
posterior mean

prior mean



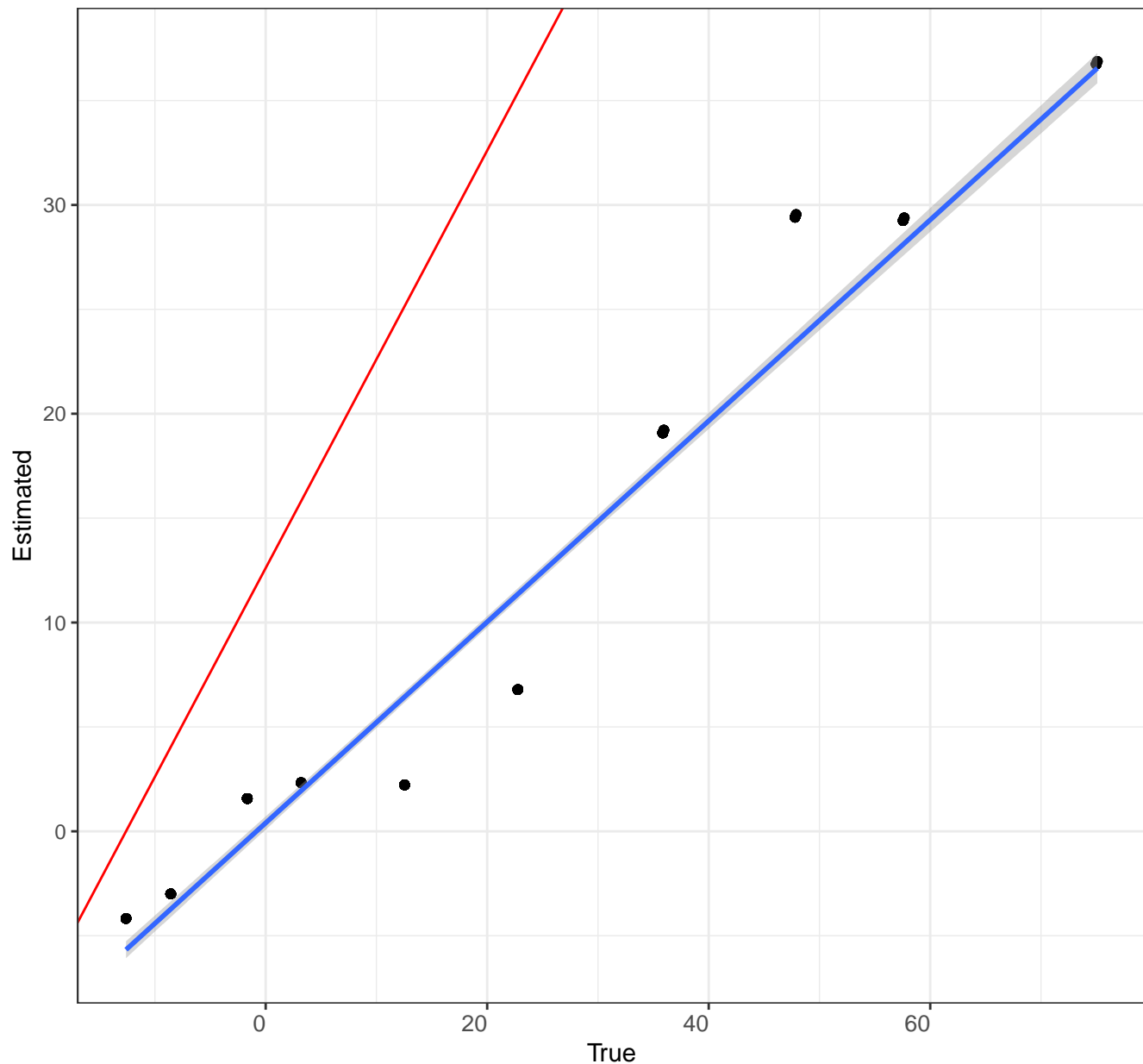
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



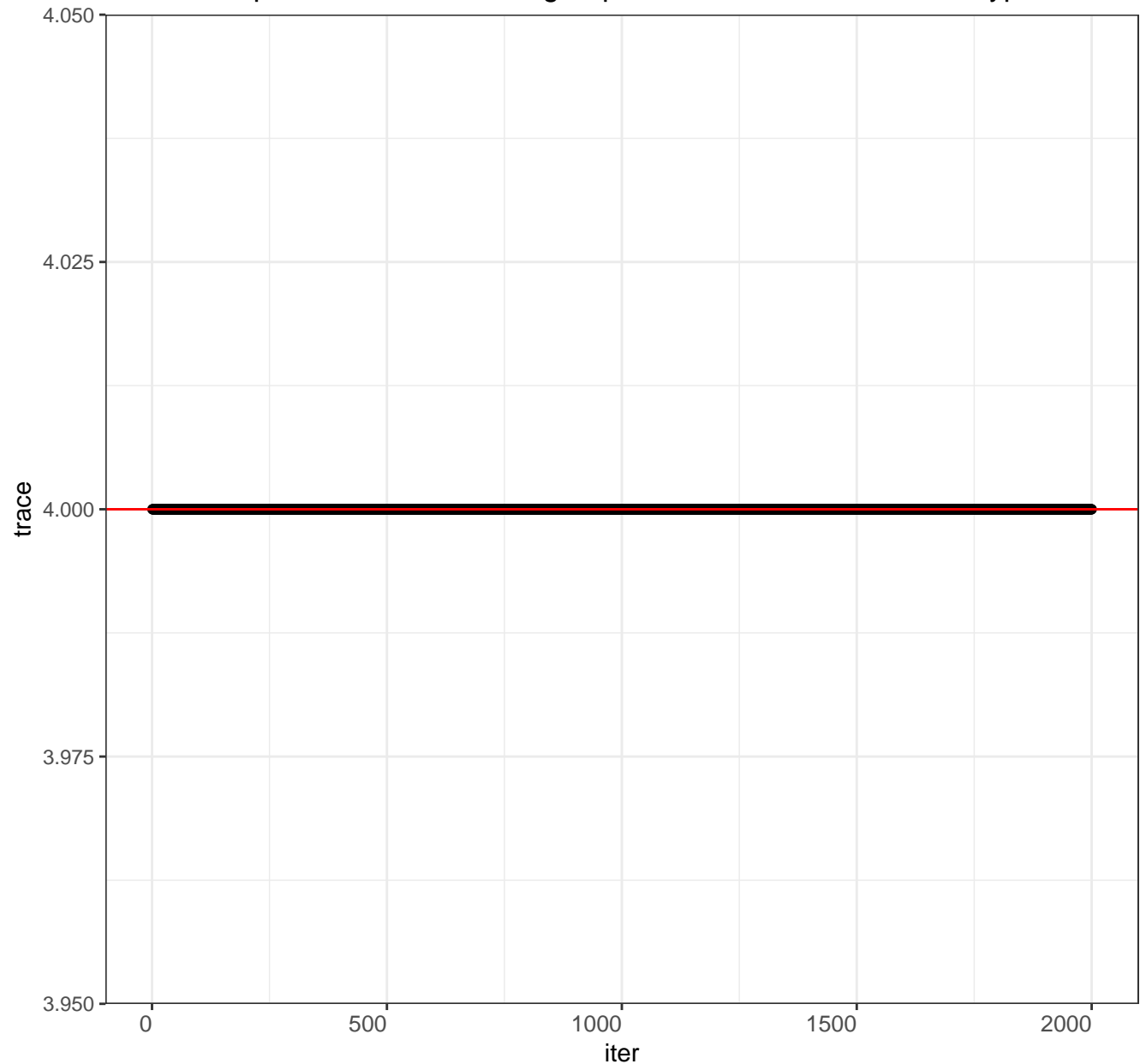
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

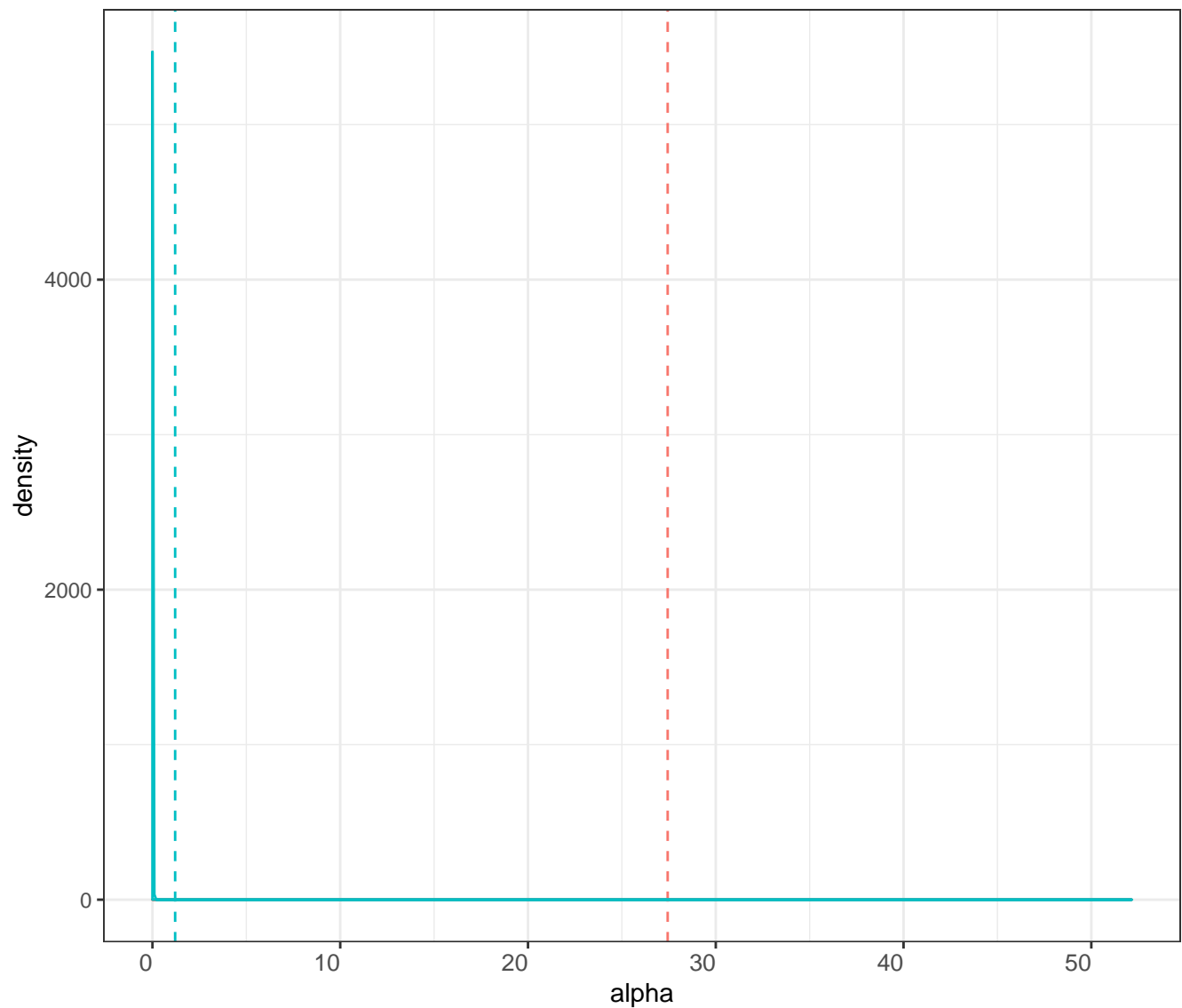
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

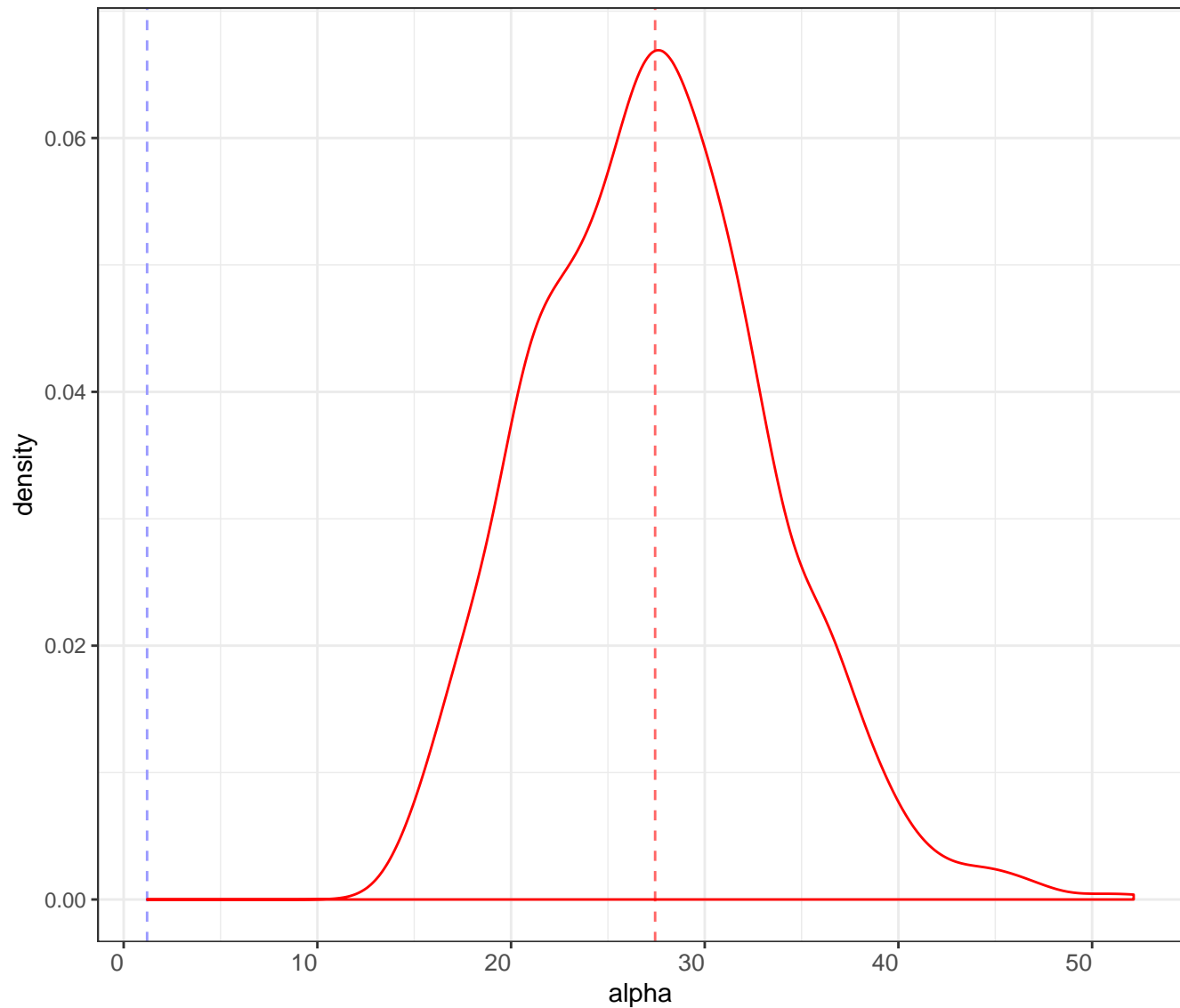
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

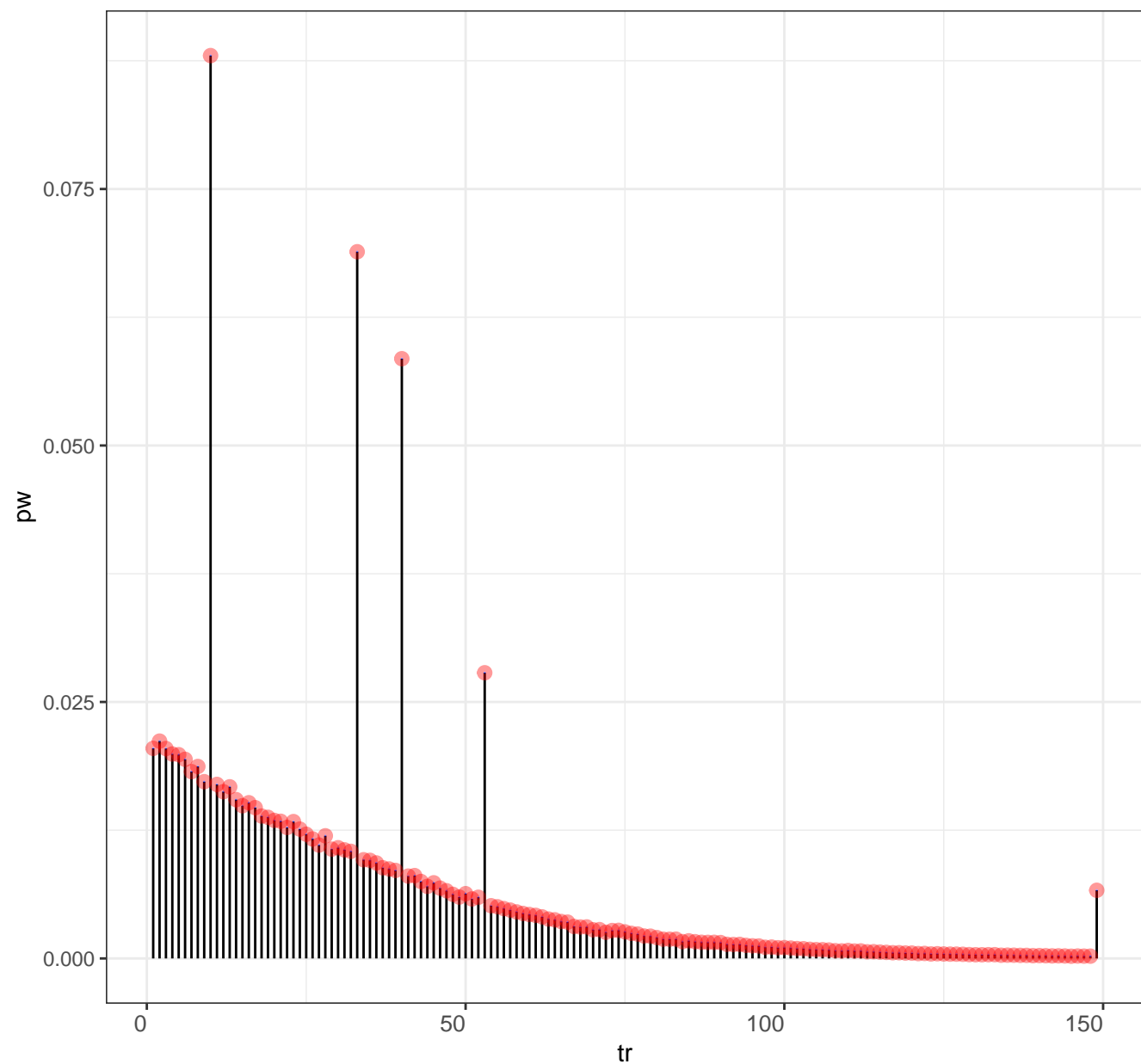
# Posterior distribution for alpha

Legend    posterior mean    prior mean



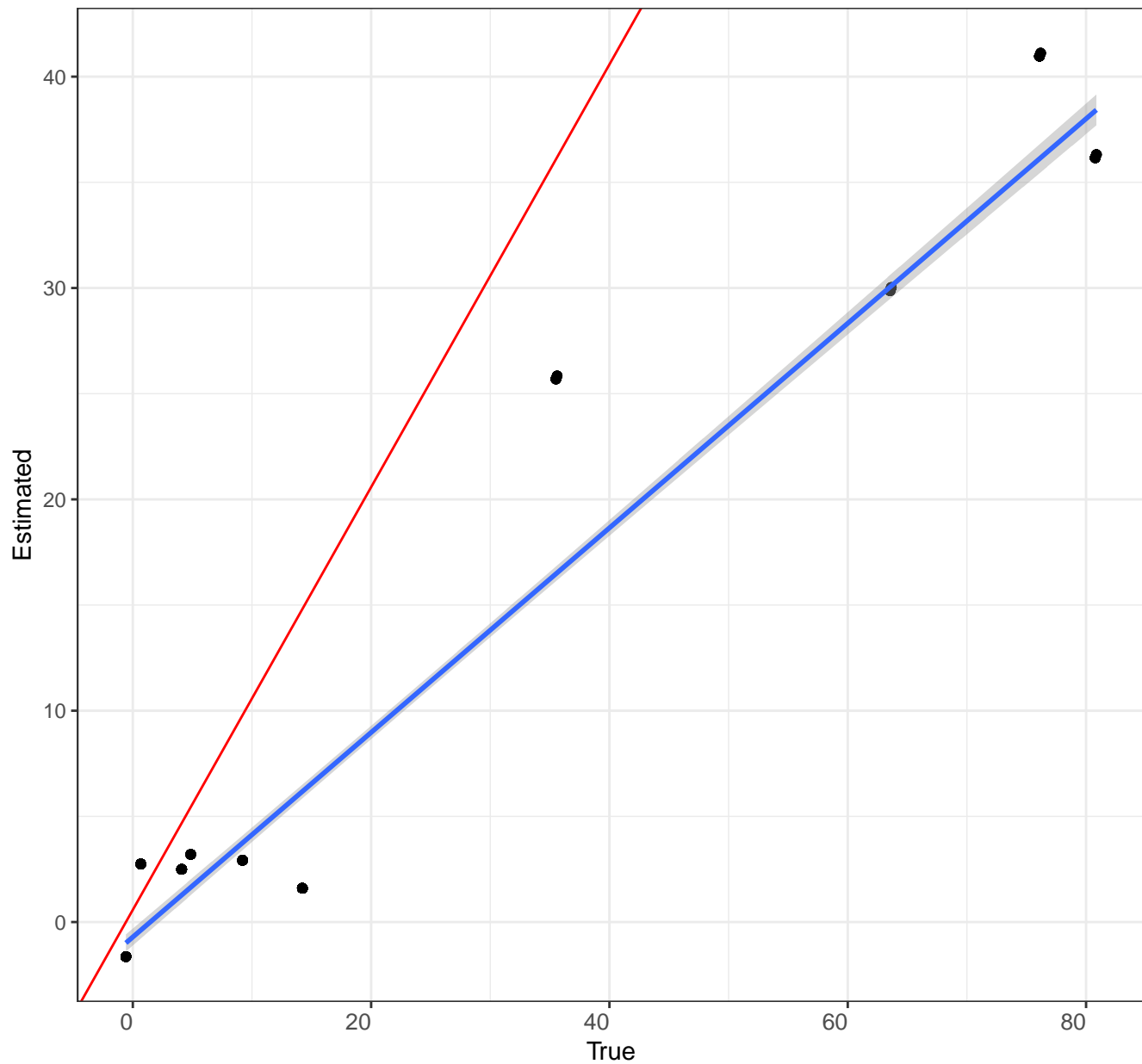
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.007$



Number of iterations: 2000 burnin: 1000 number of samples: 500

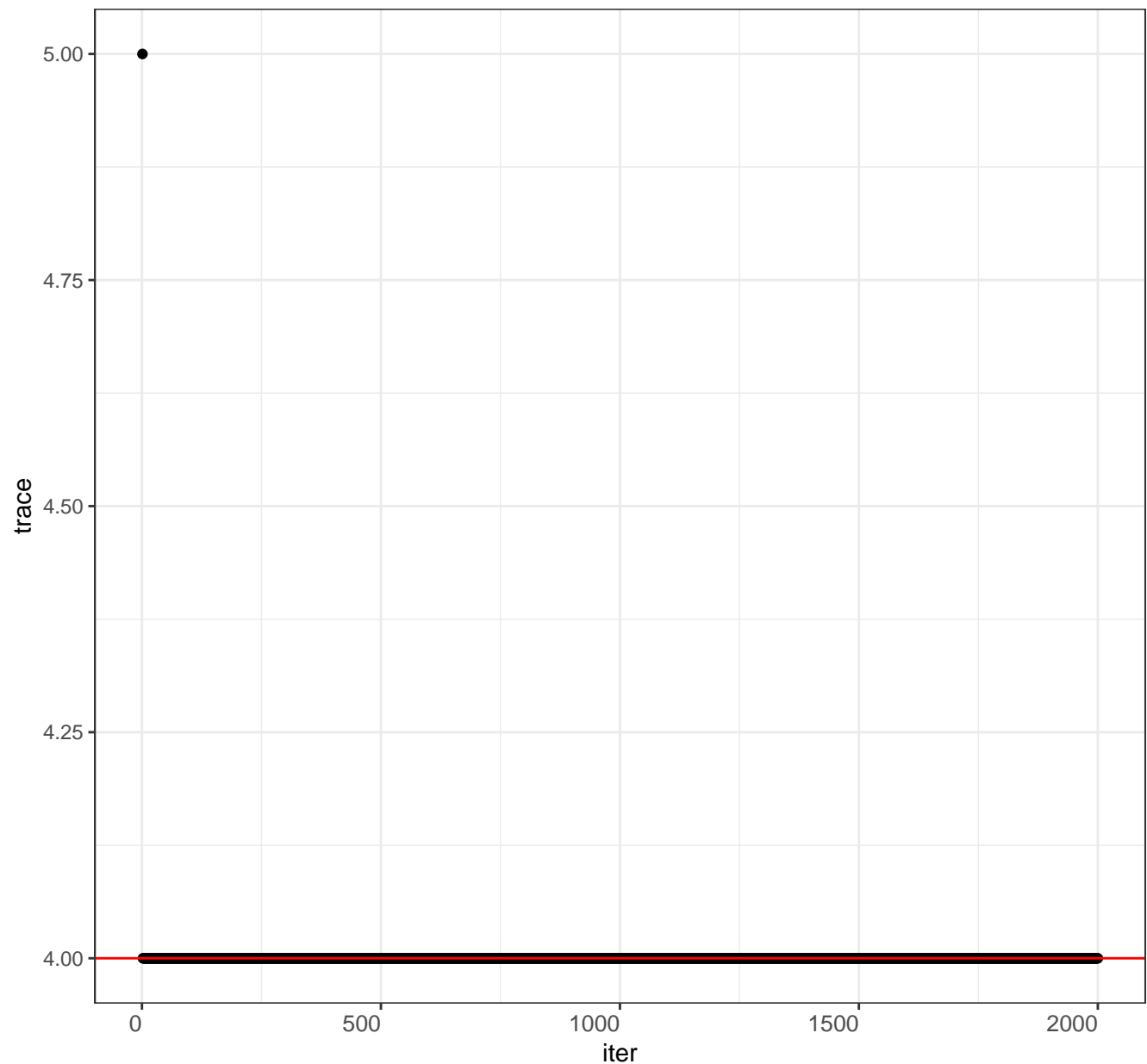
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1



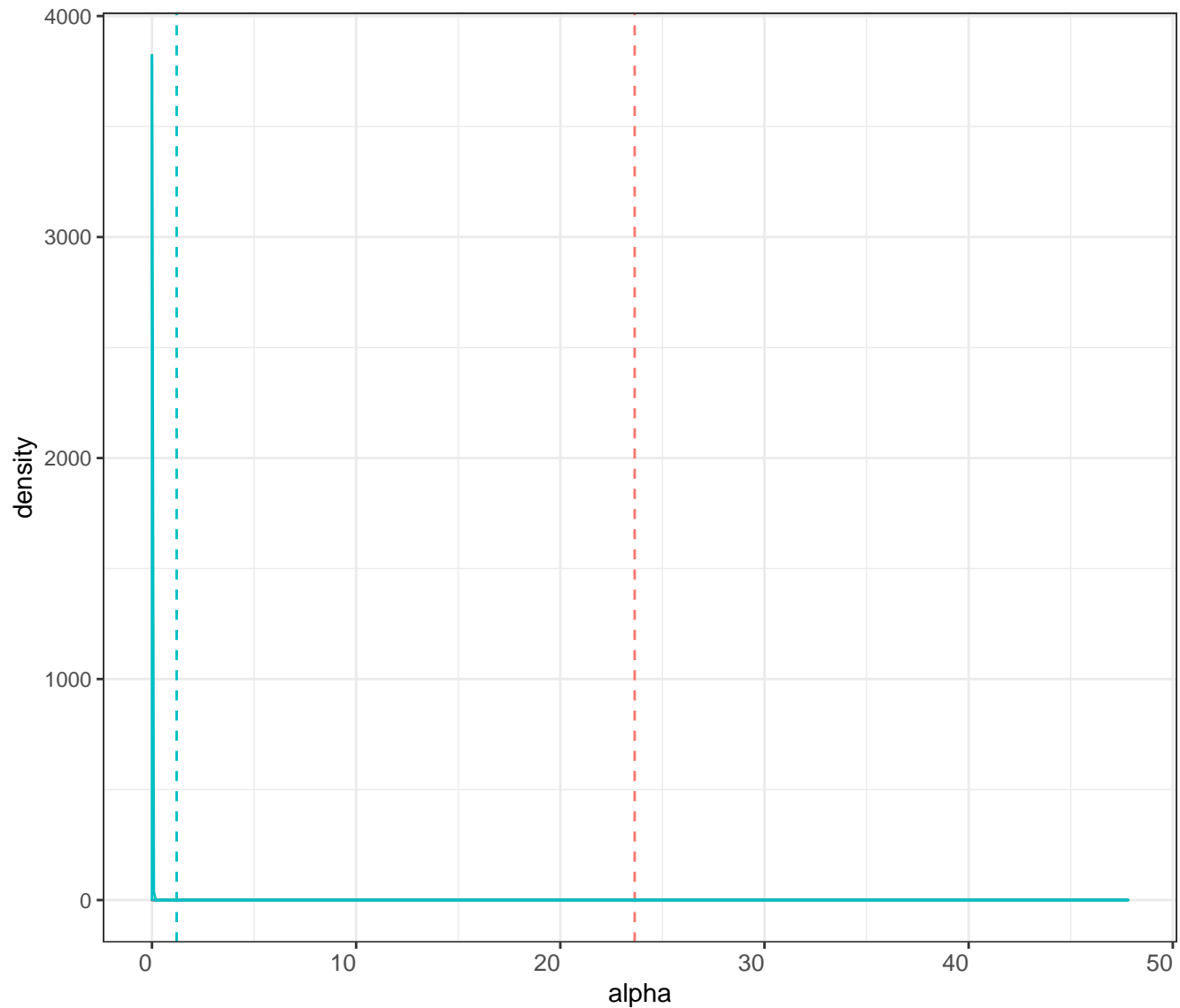
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

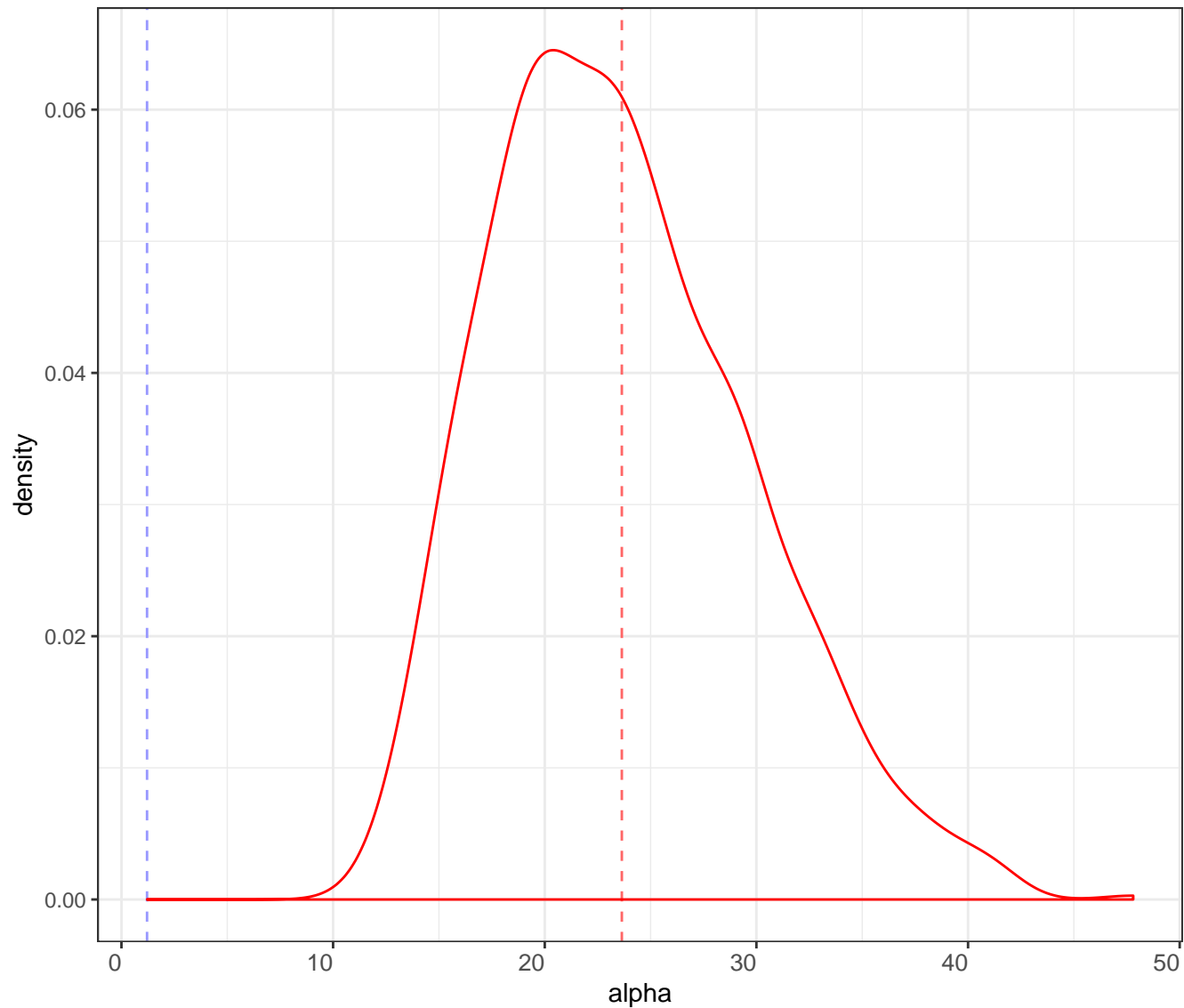
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

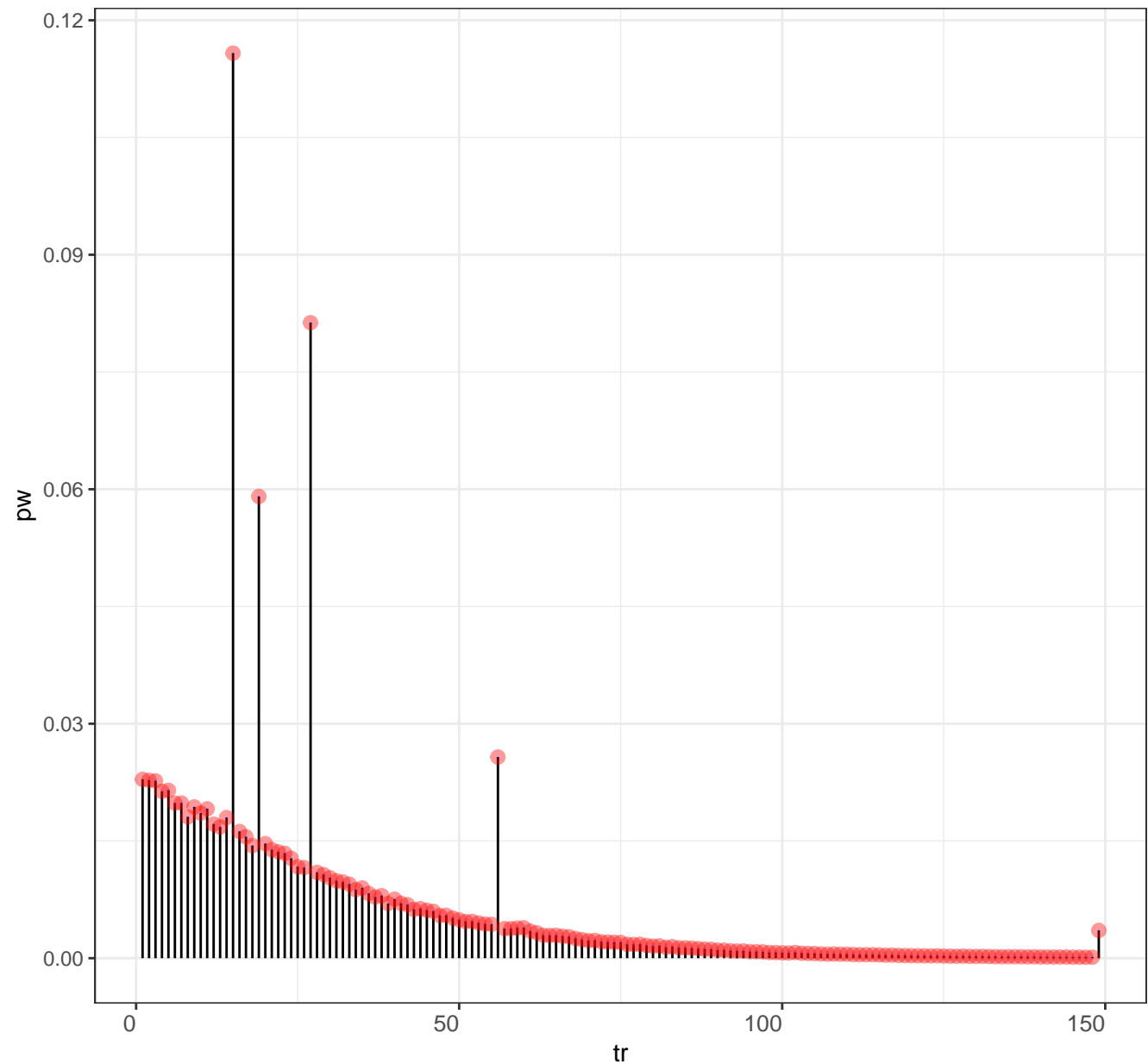
# Posterior distribution for alpha

Legend    posterior mean    prior mean



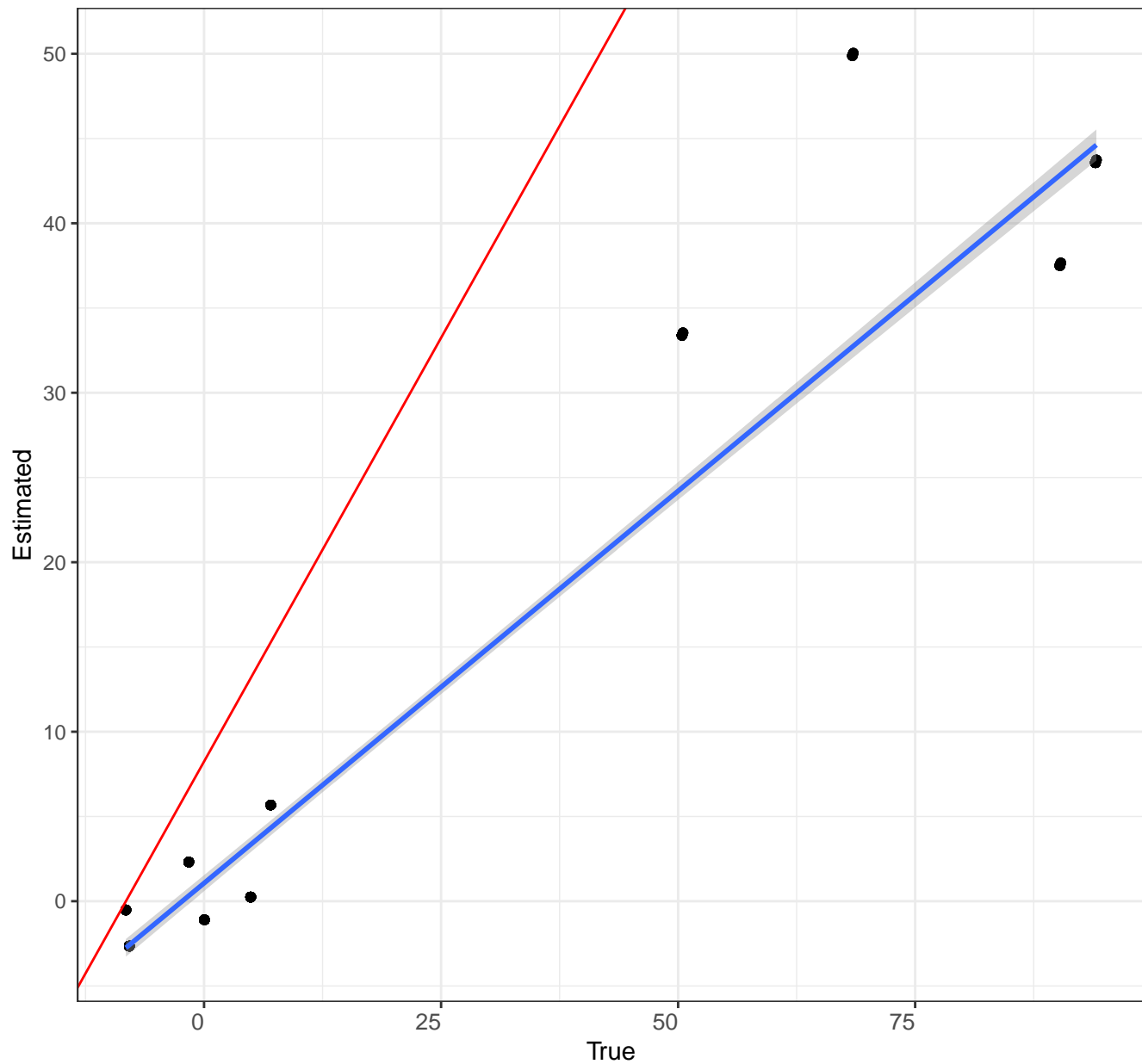
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



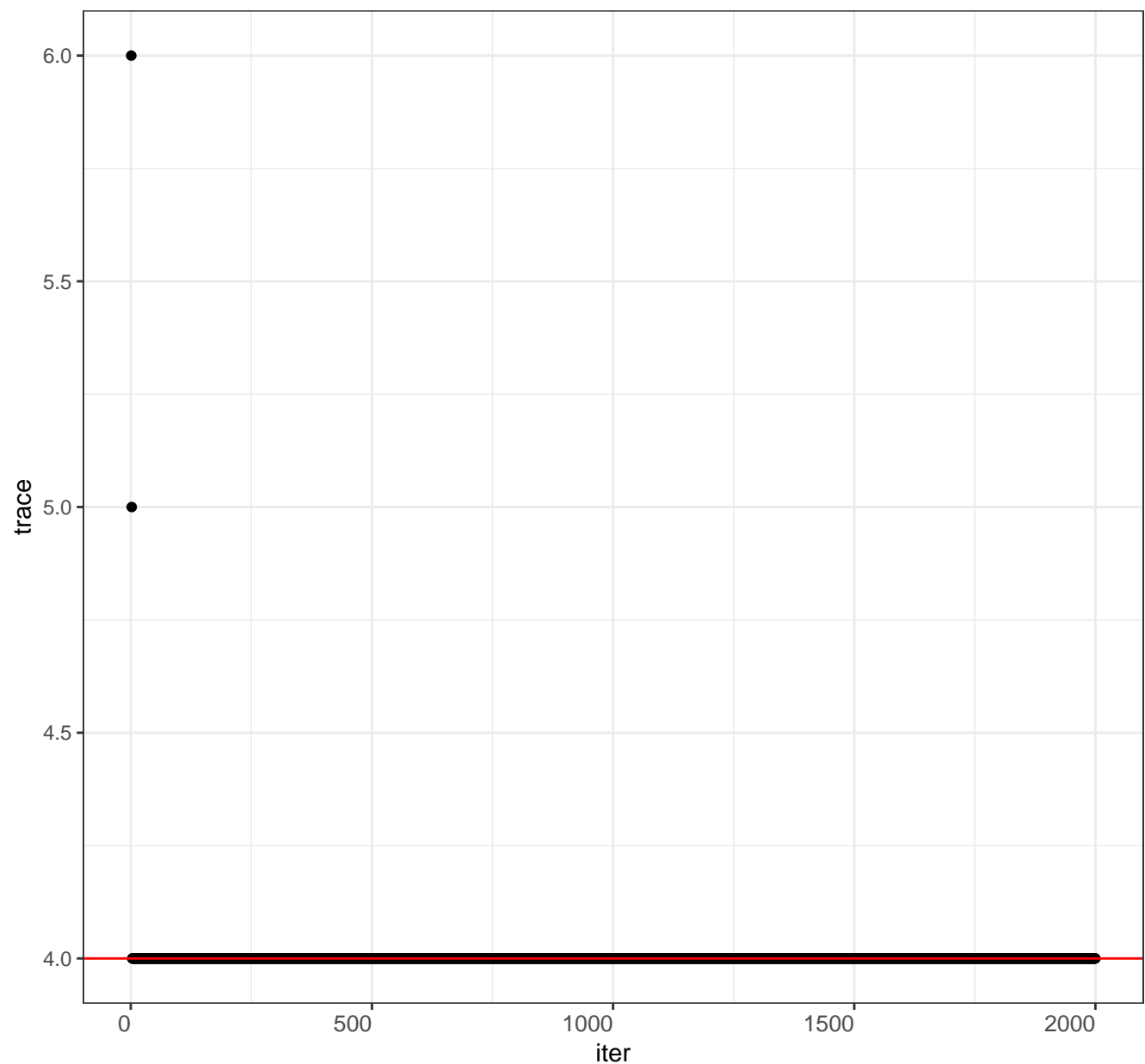
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

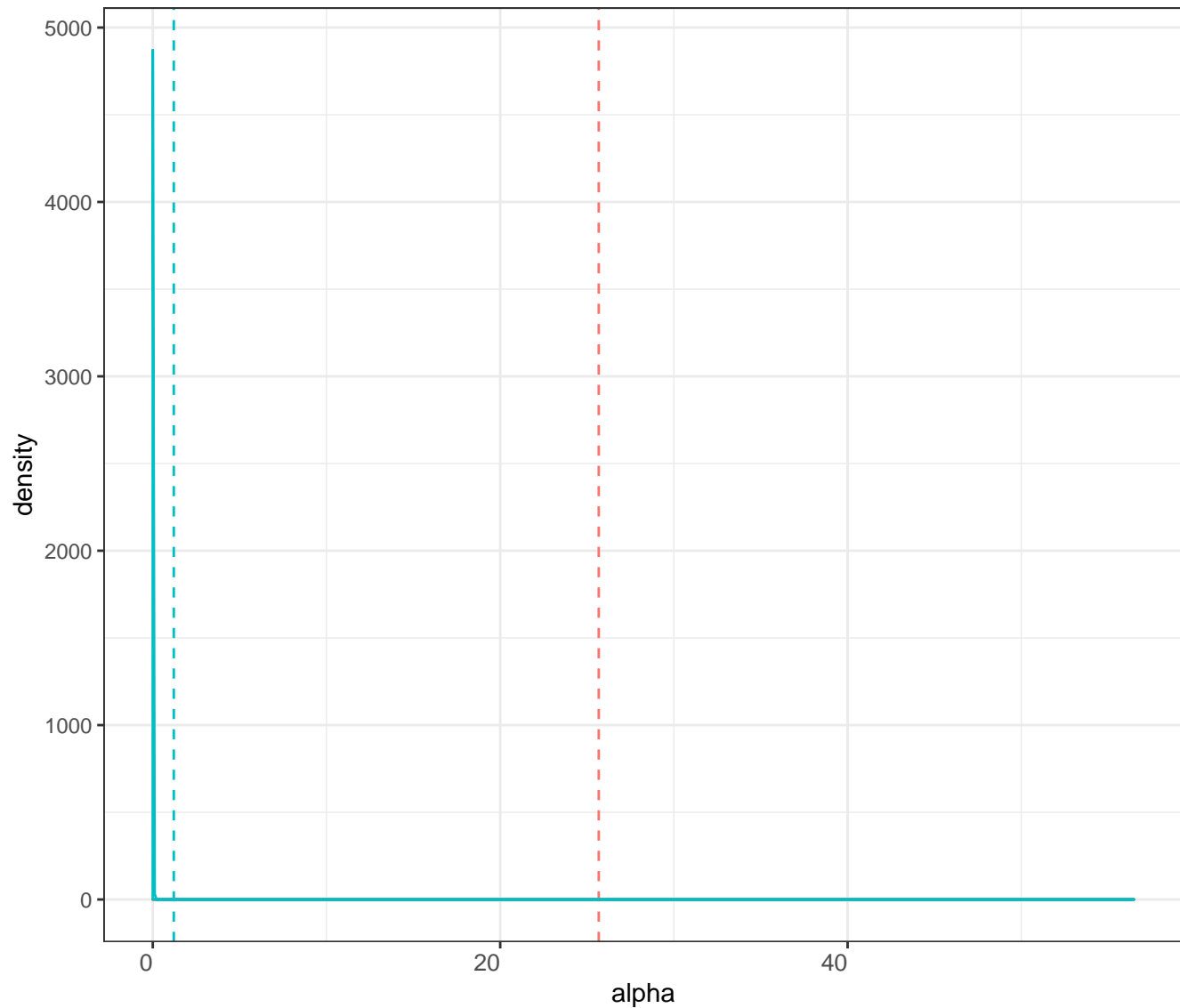
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

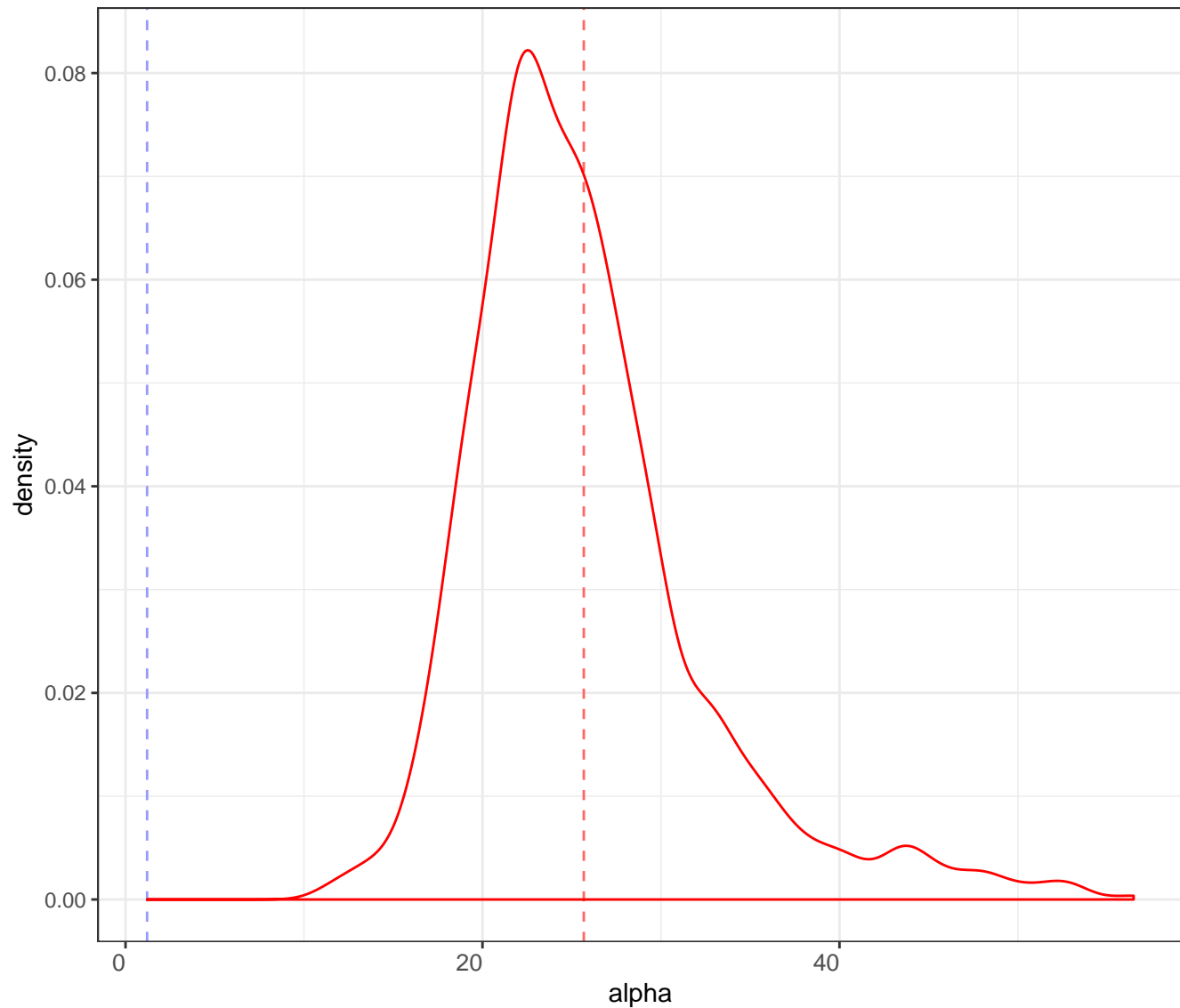
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

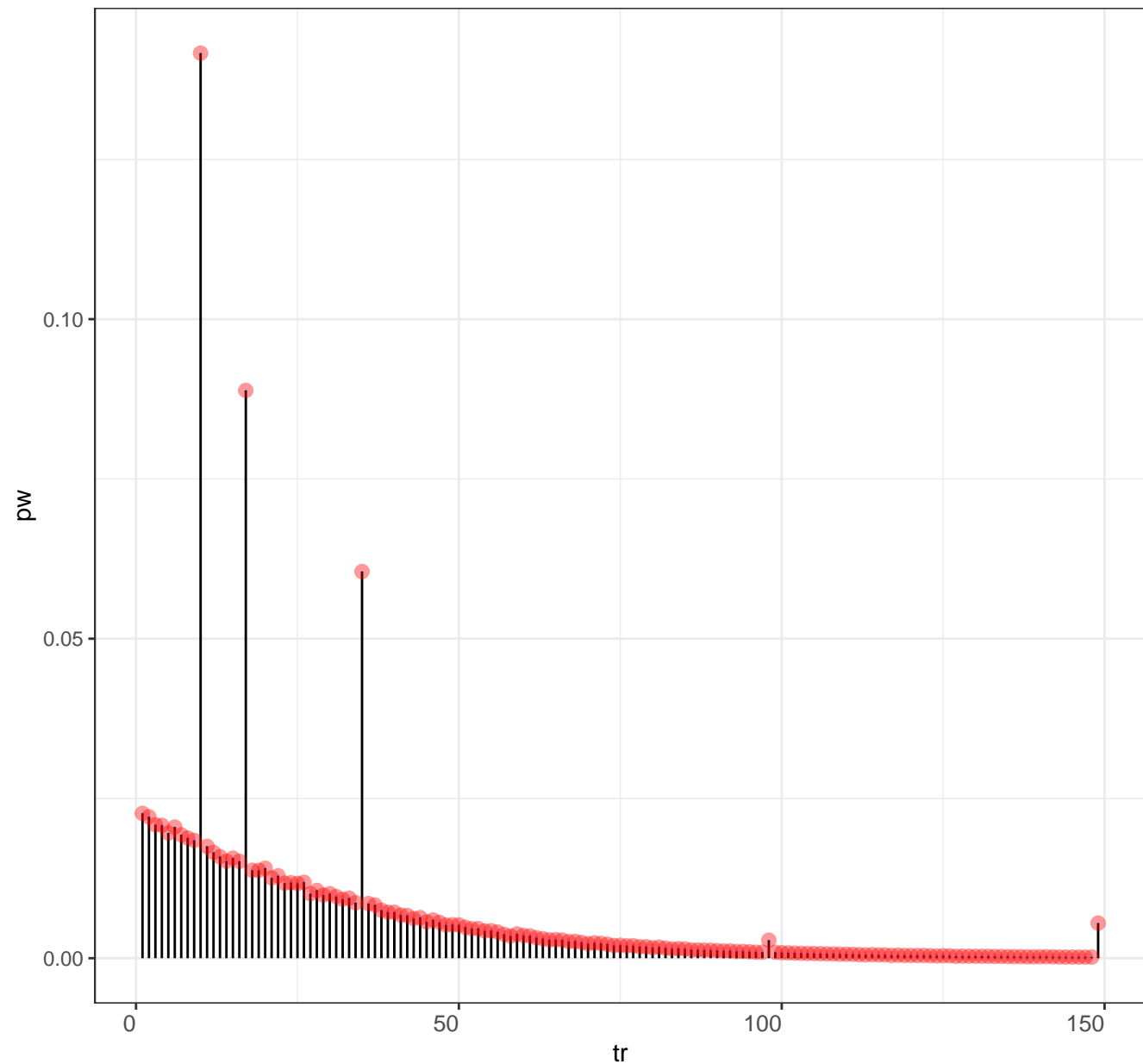
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

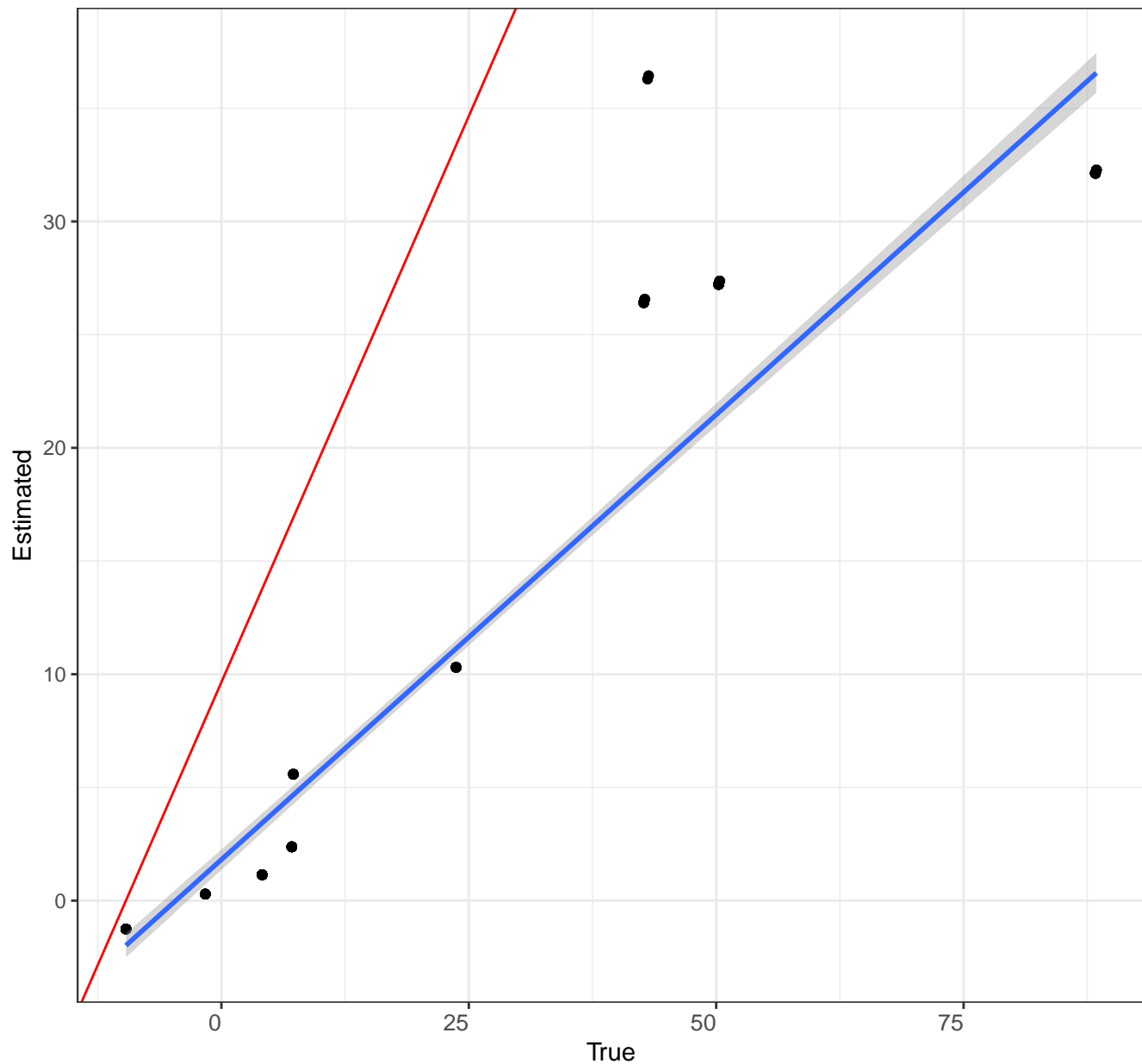


Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.005$



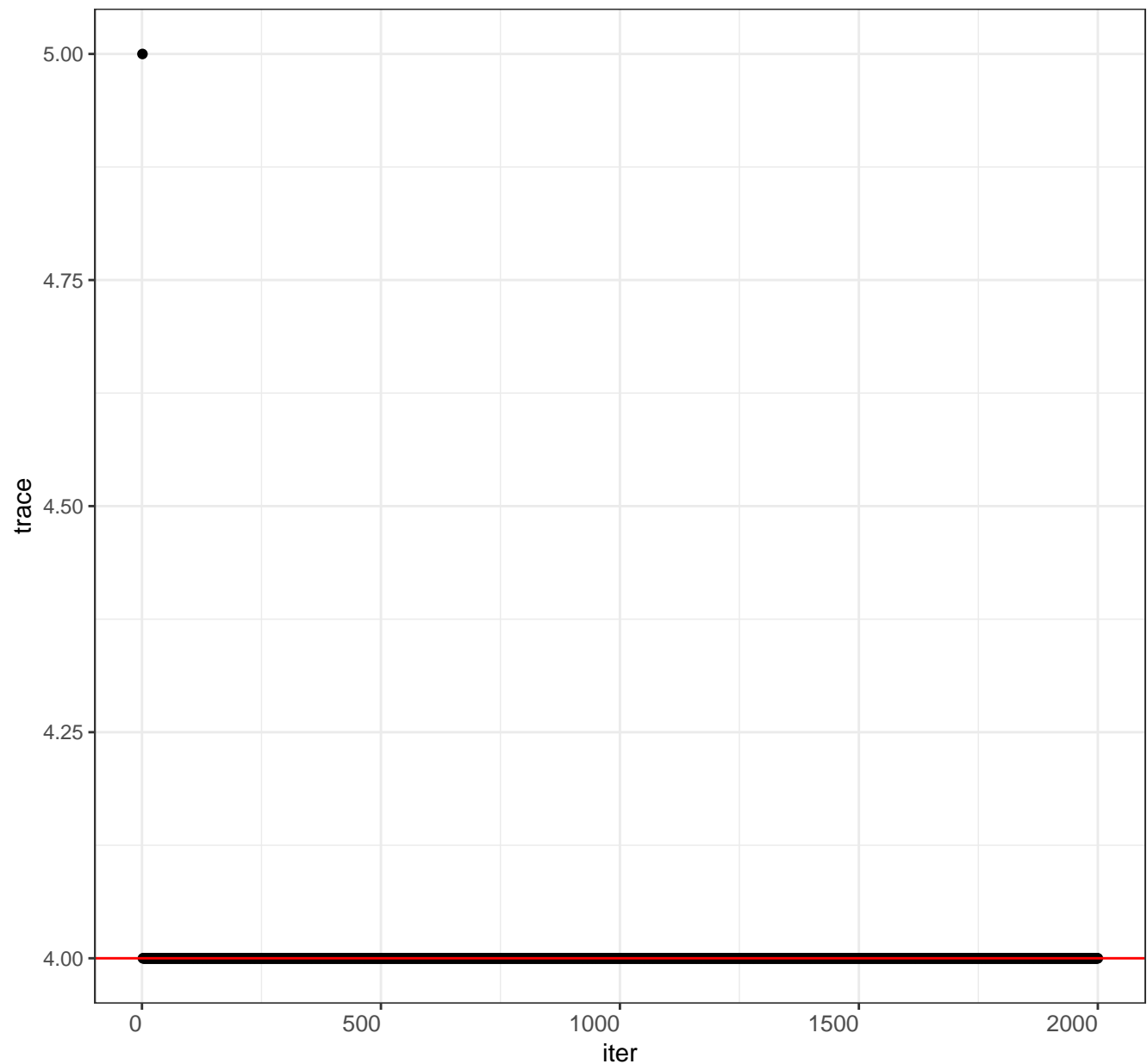
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

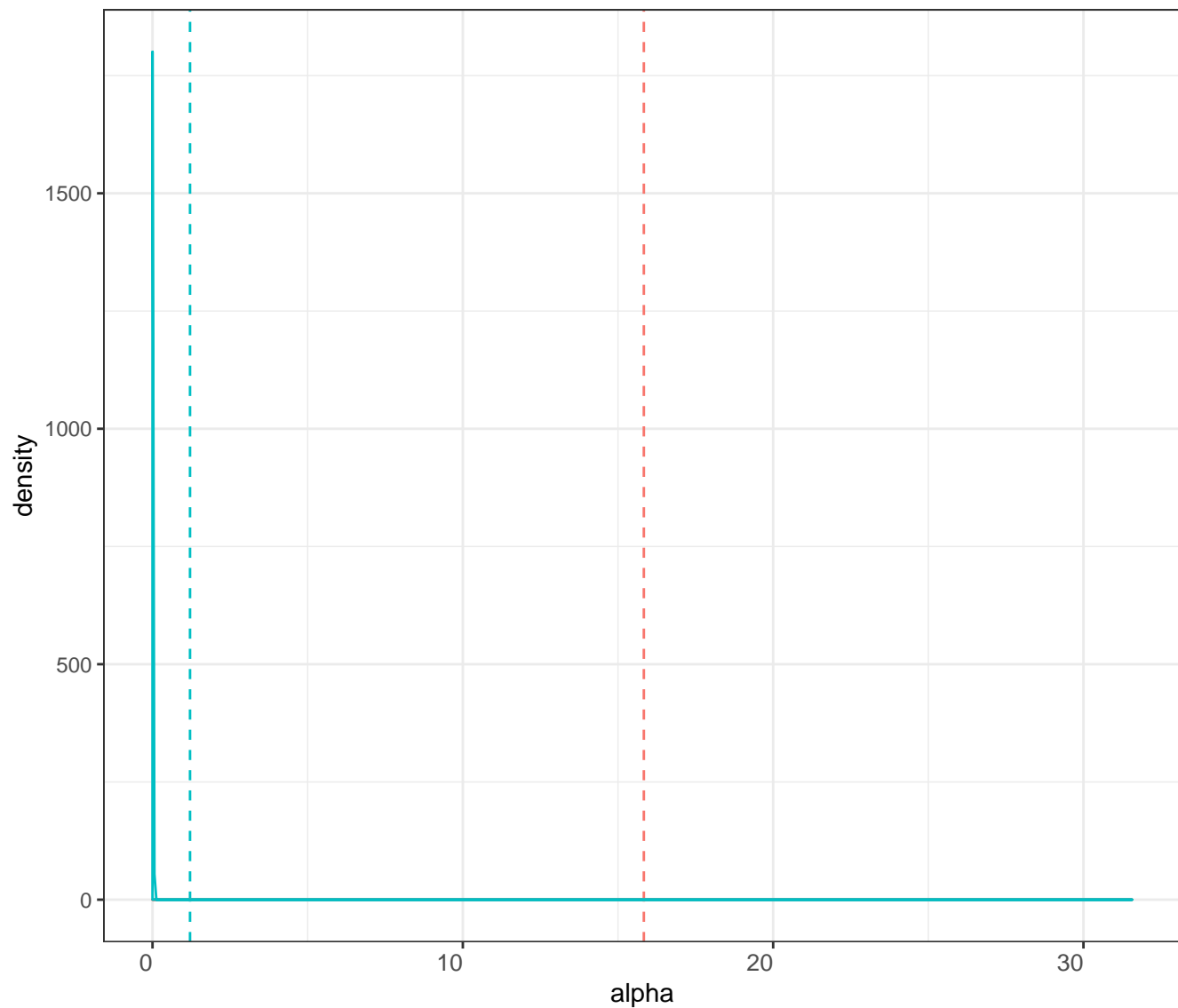
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

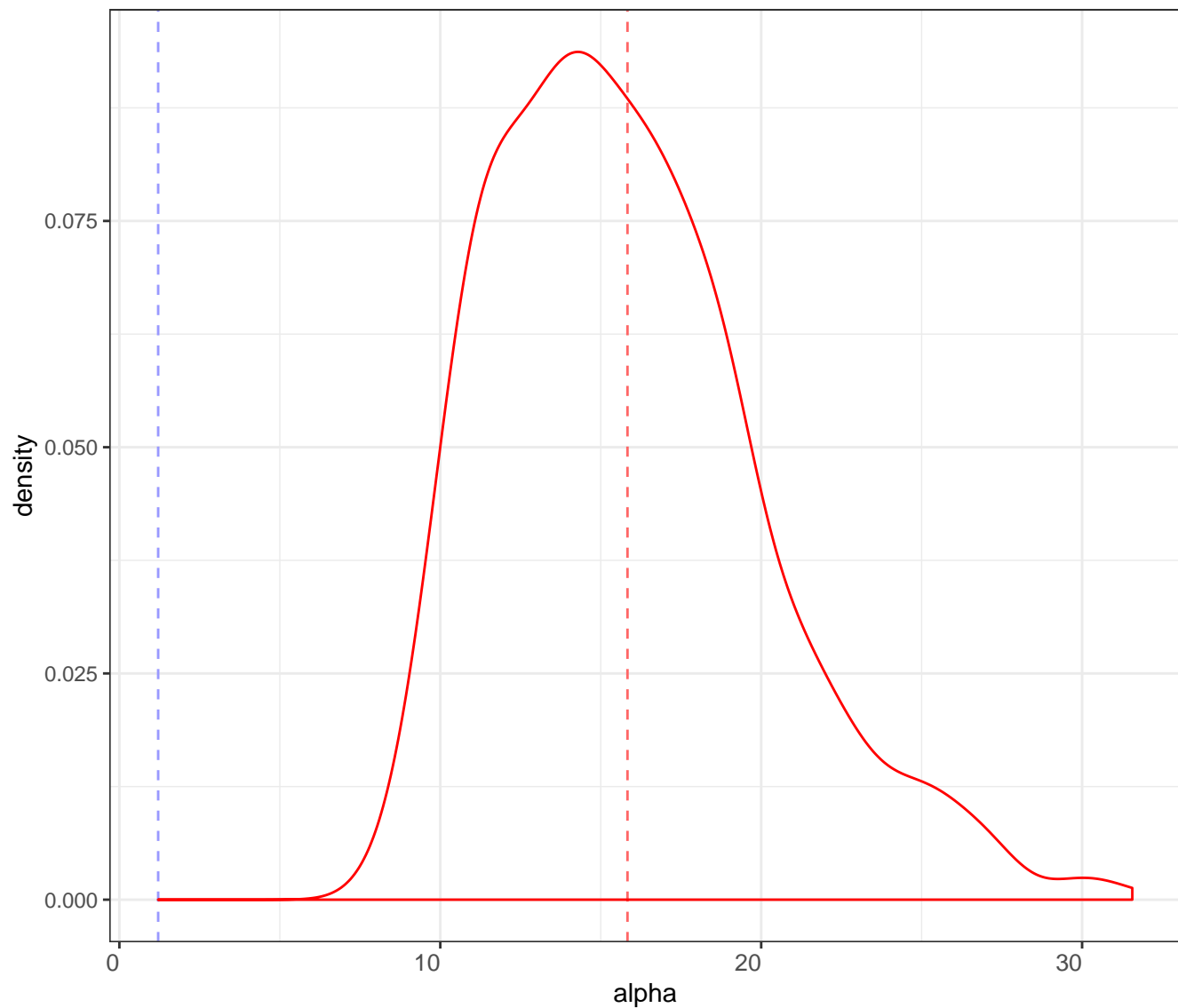
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

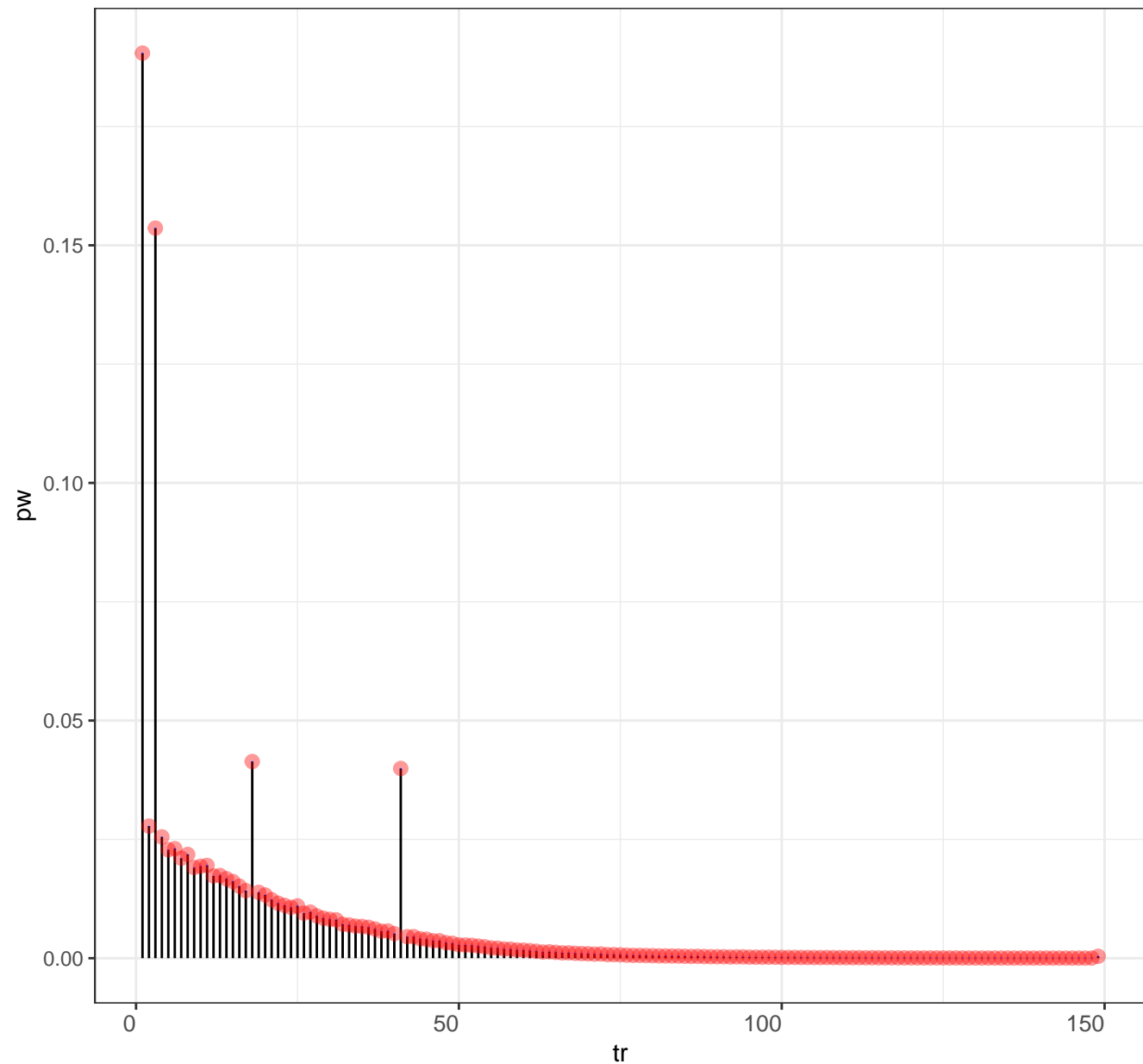
# Posterior distribution for alpha

Legend    posterior mean    prior mean



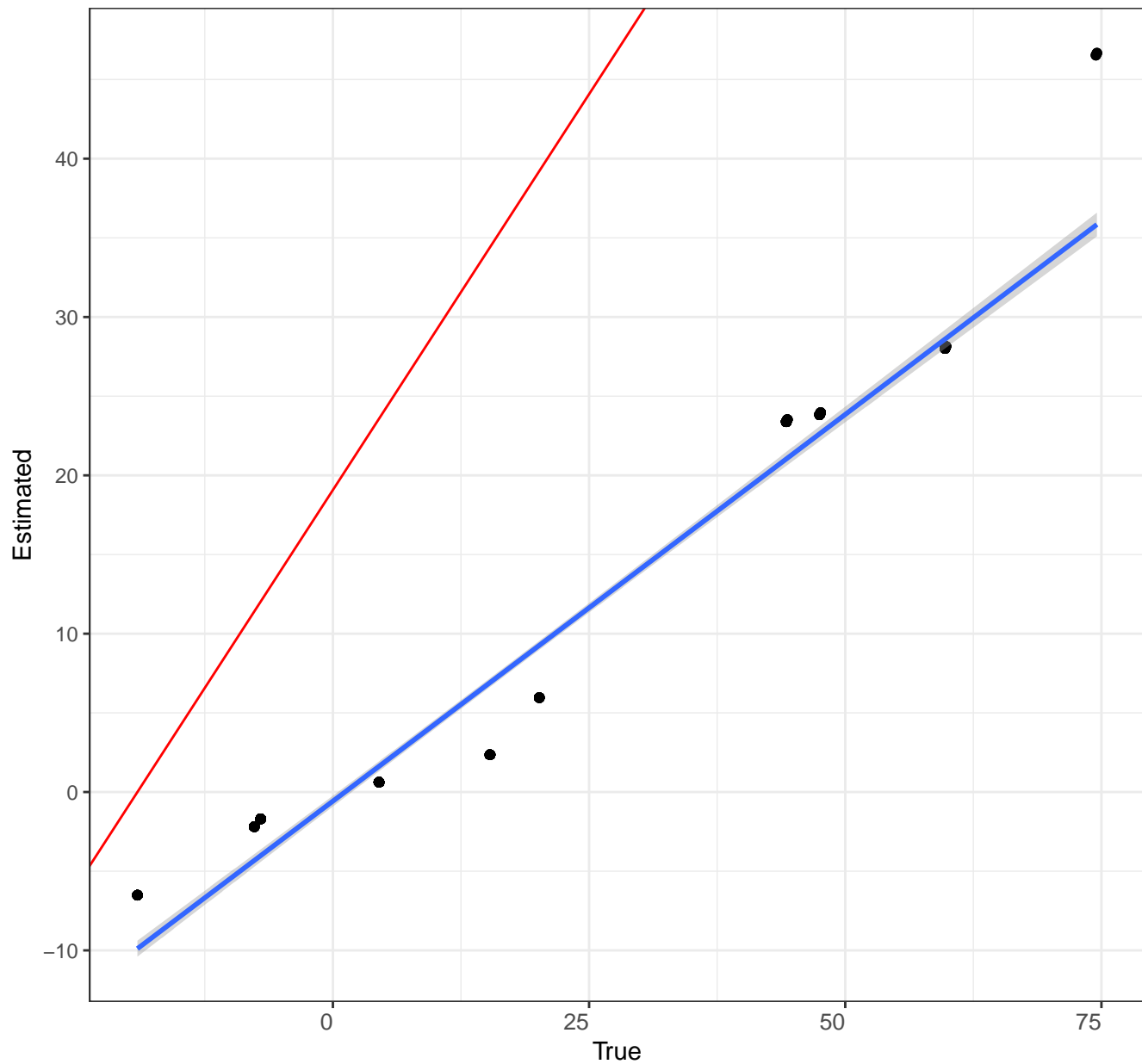
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



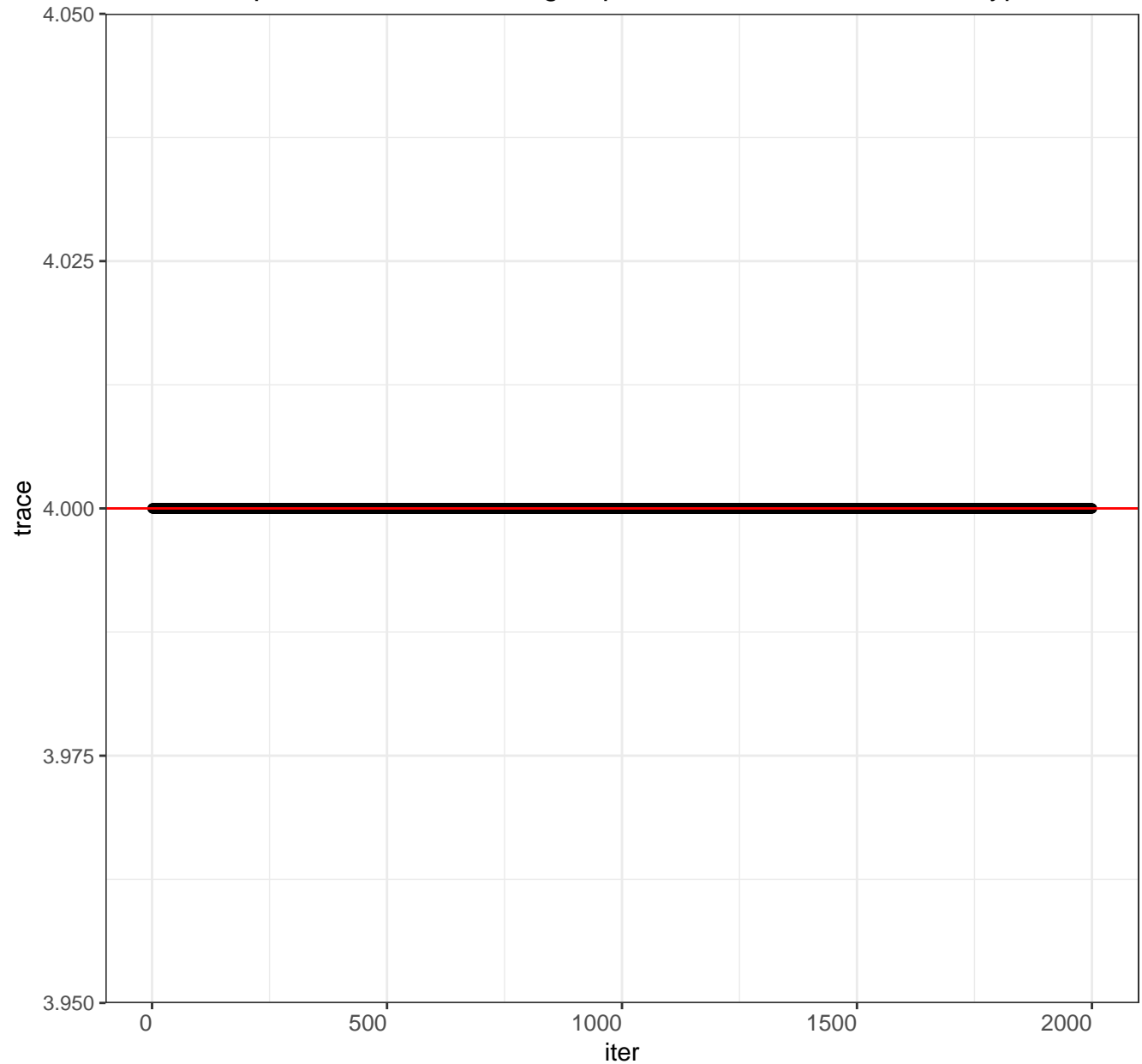
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

Trace plot for the number of groups K for S=20 r=20 true K=4 type=1

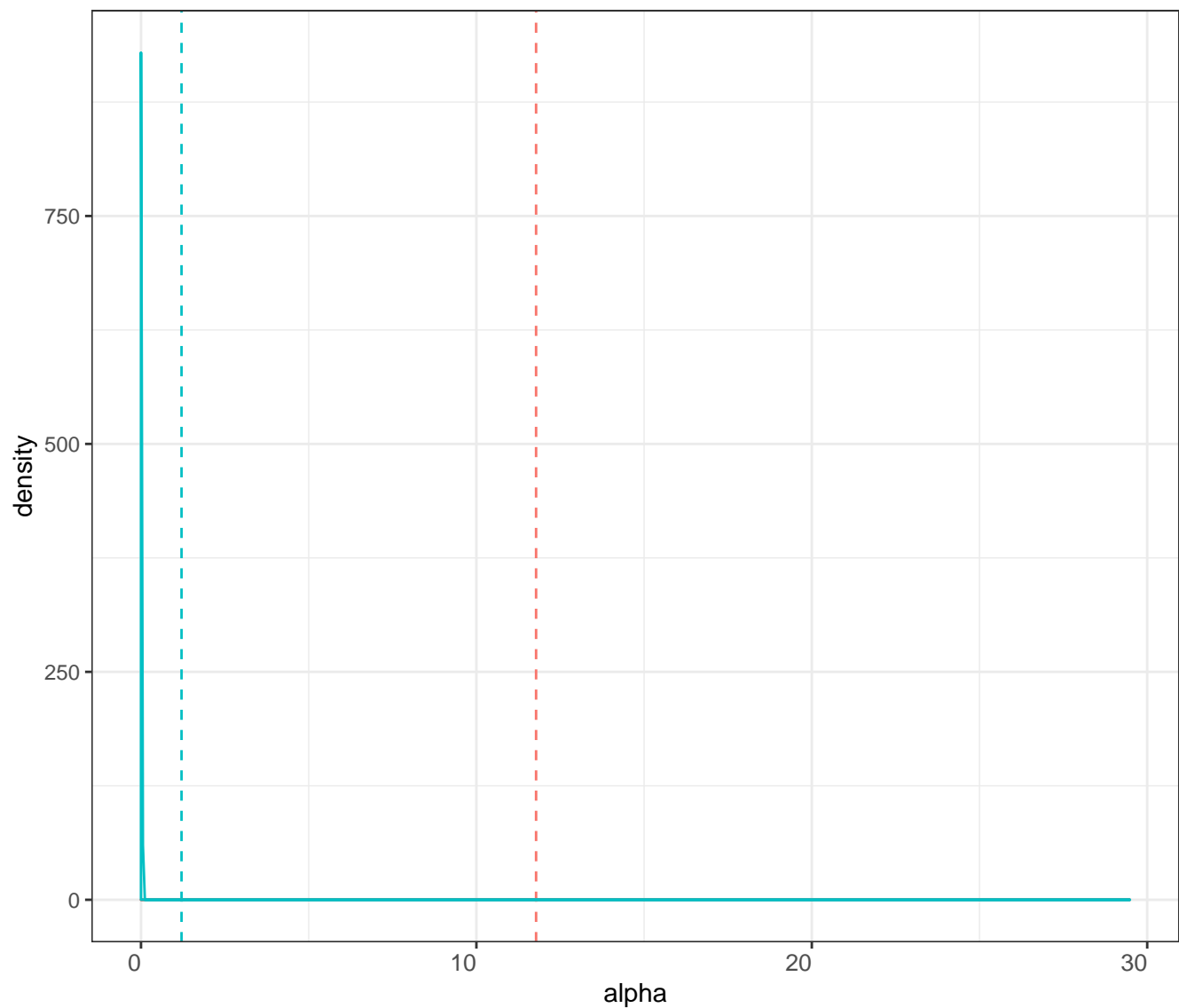


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

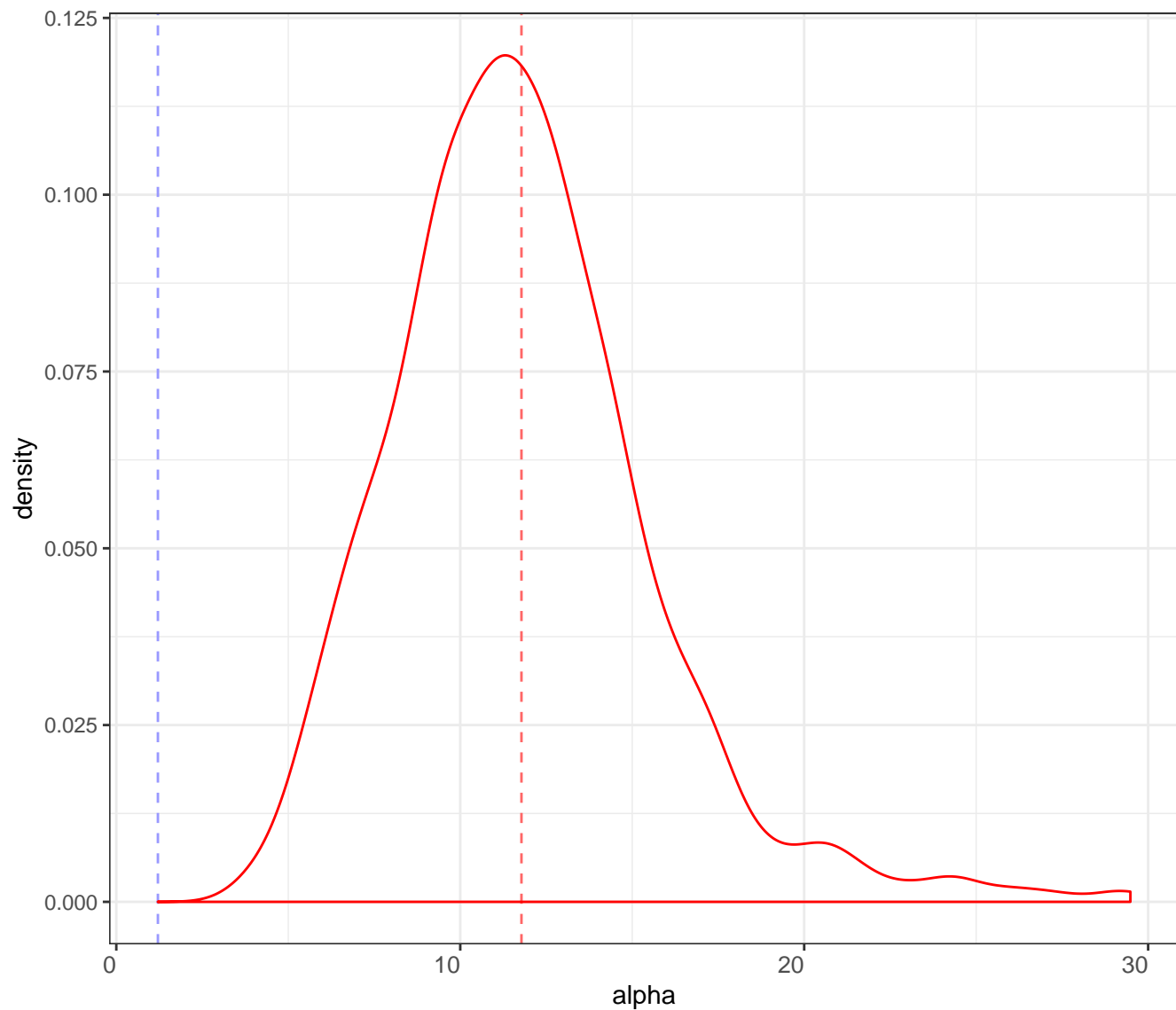
type ┆┆┆ posterior ┆┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

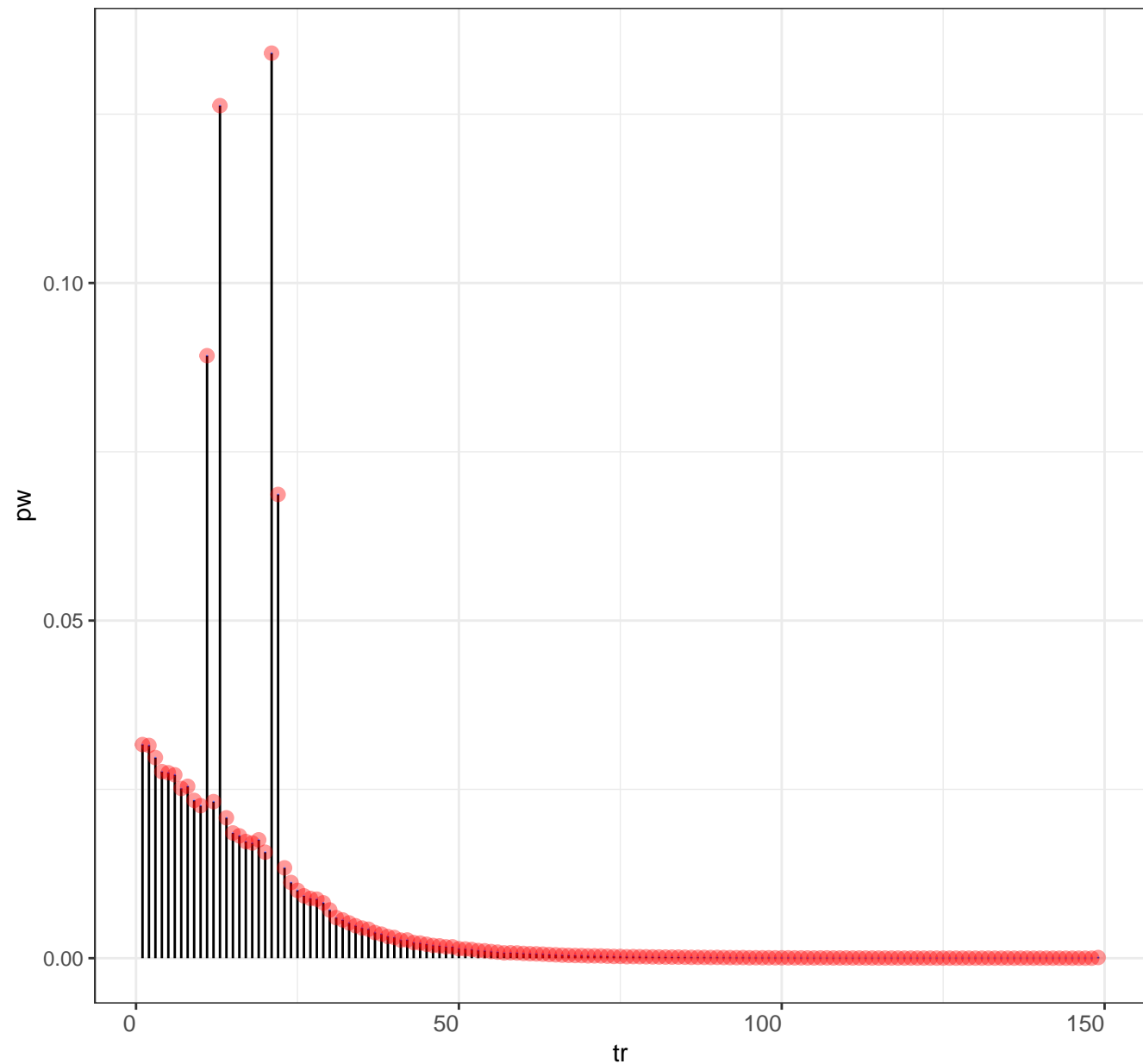
# Posterior distribution for alpha

Legend    posterior mean    prior mean



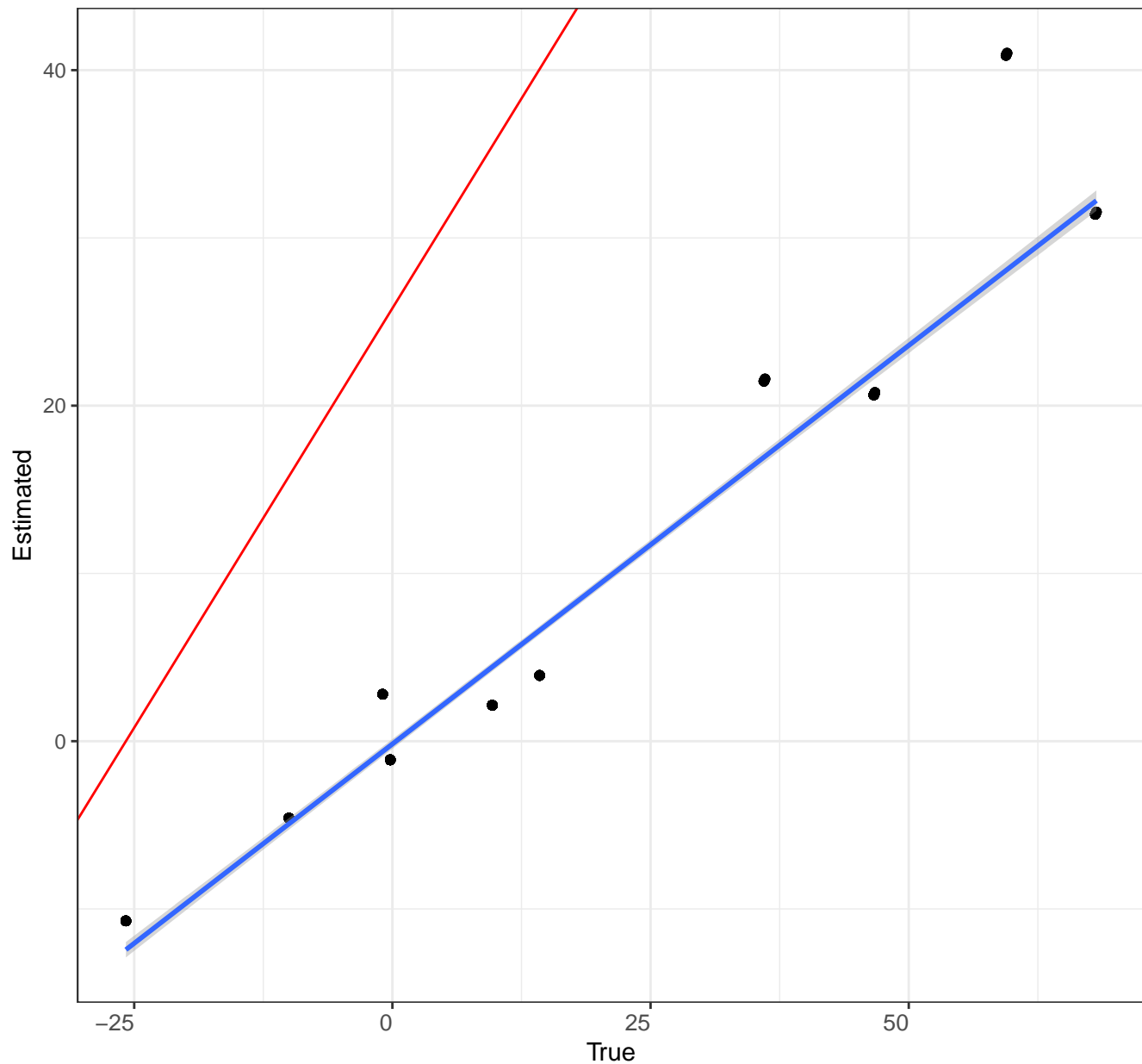
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



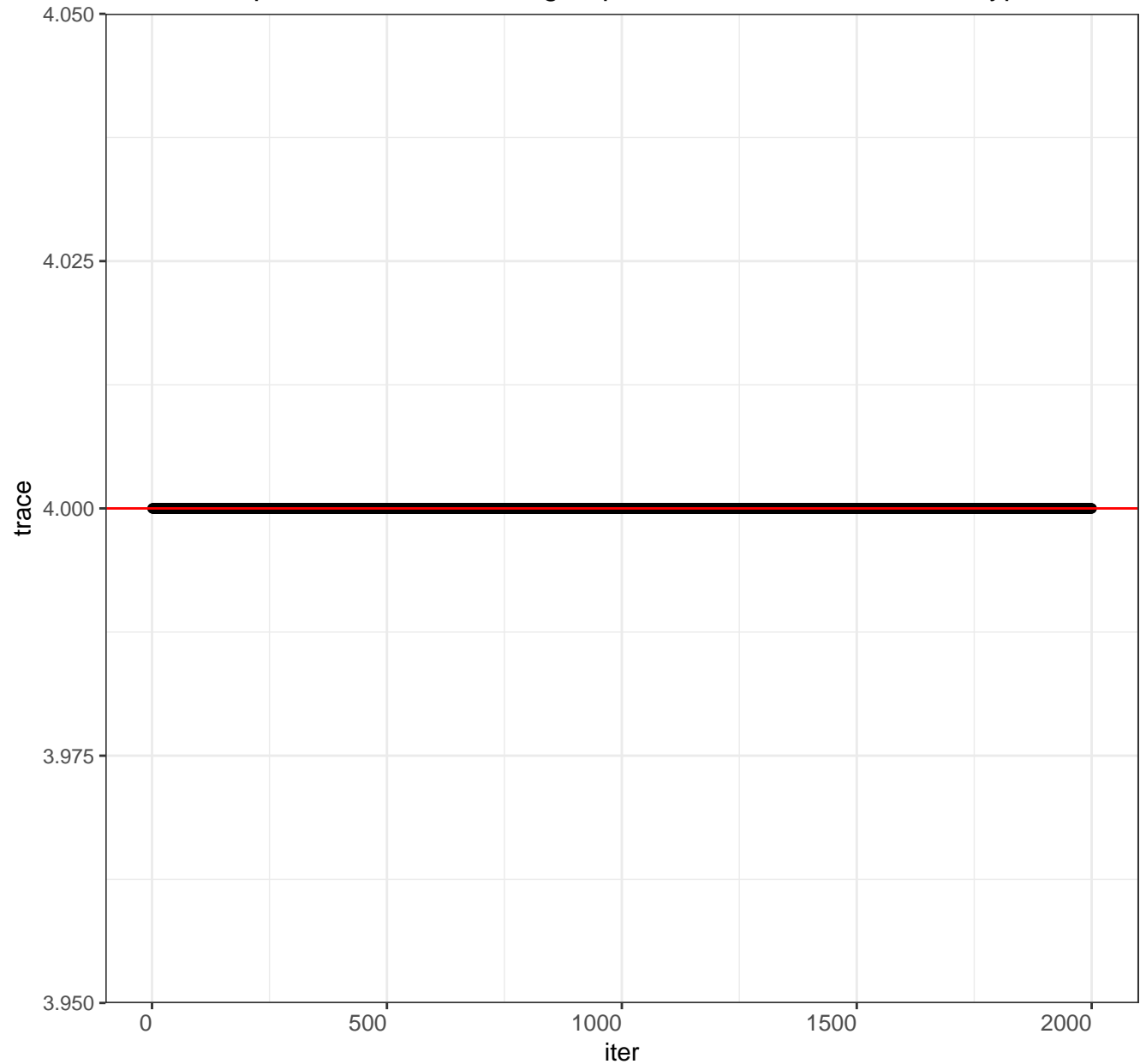
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 r=20 true K=4 type=1

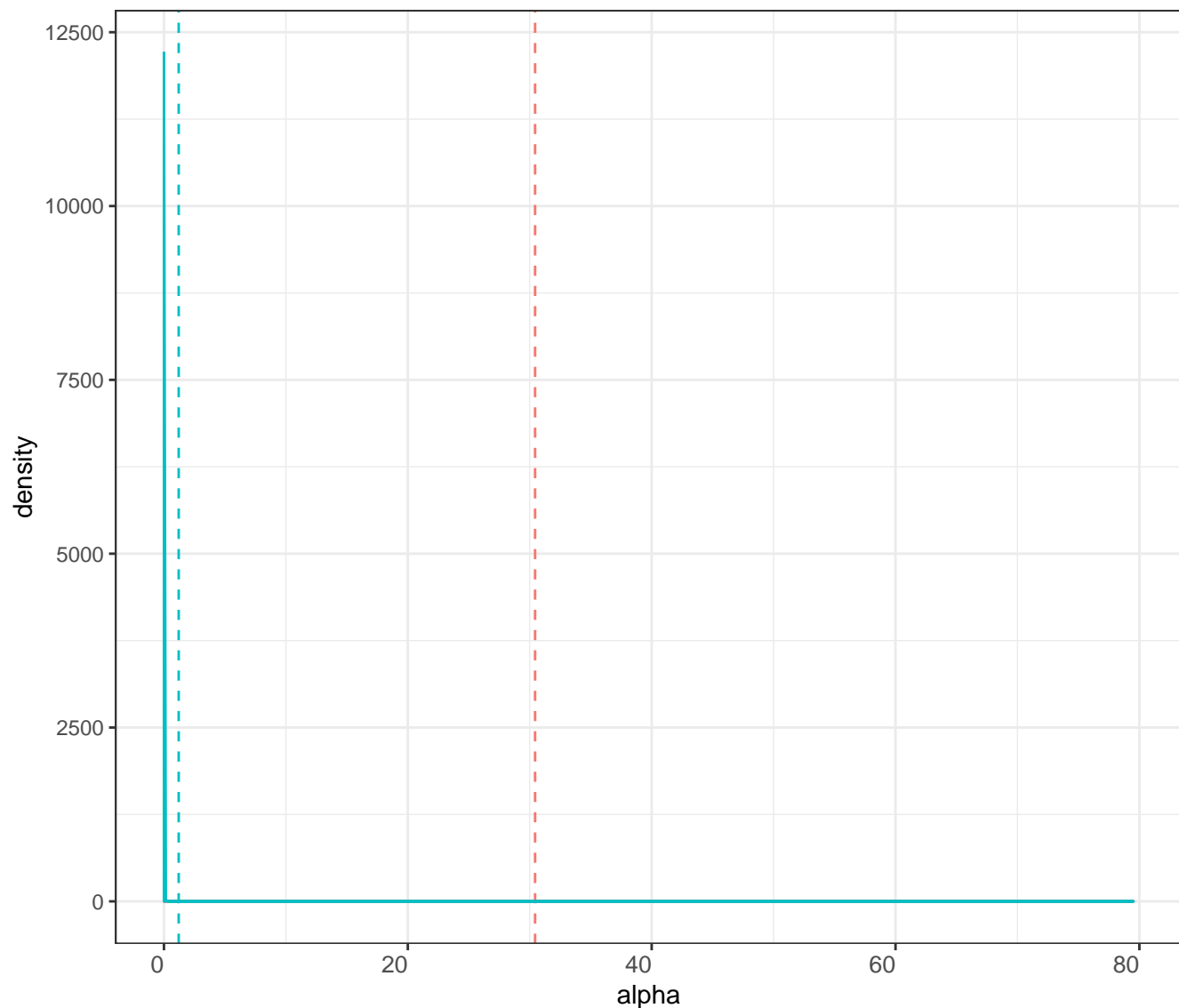
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

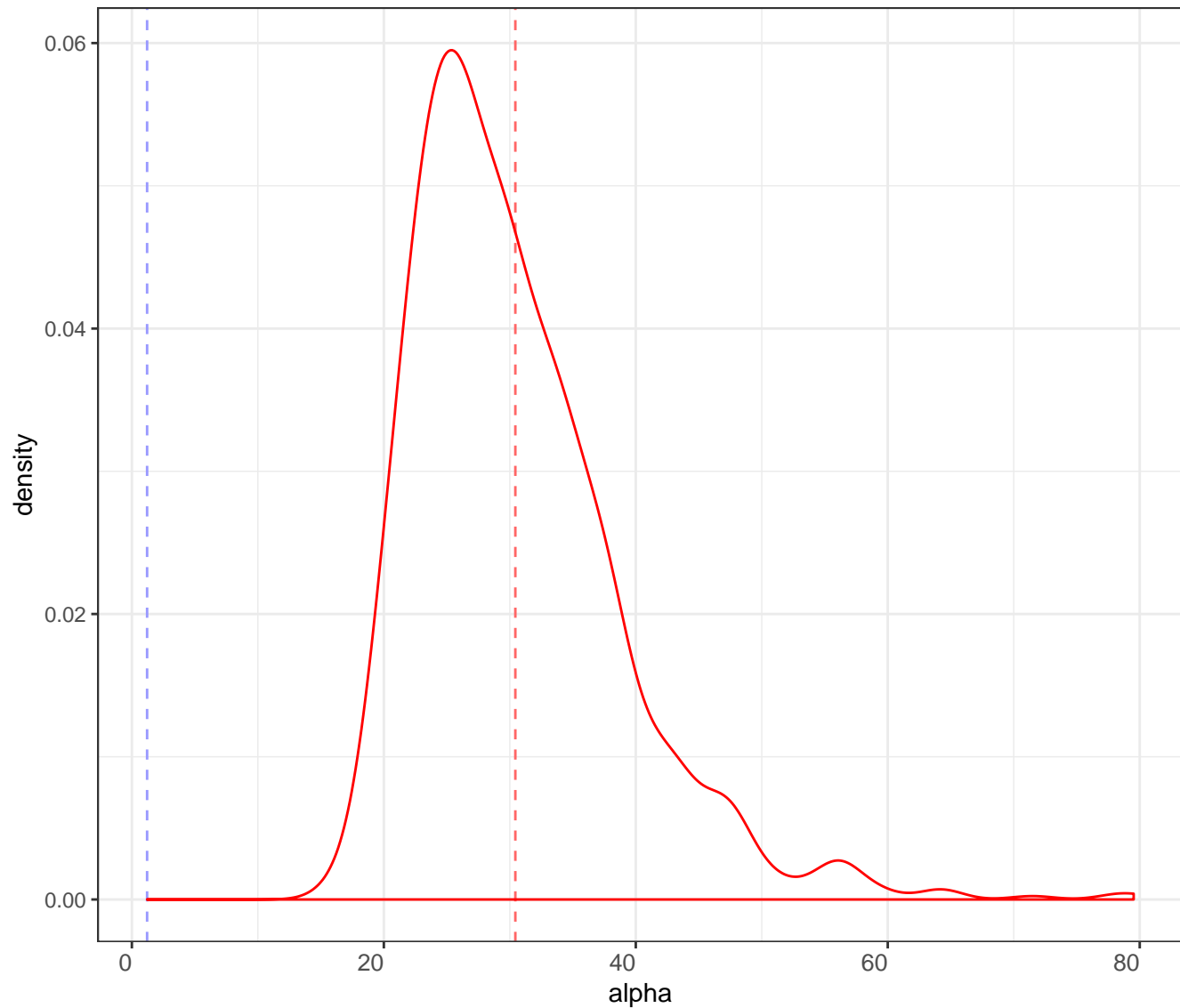
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

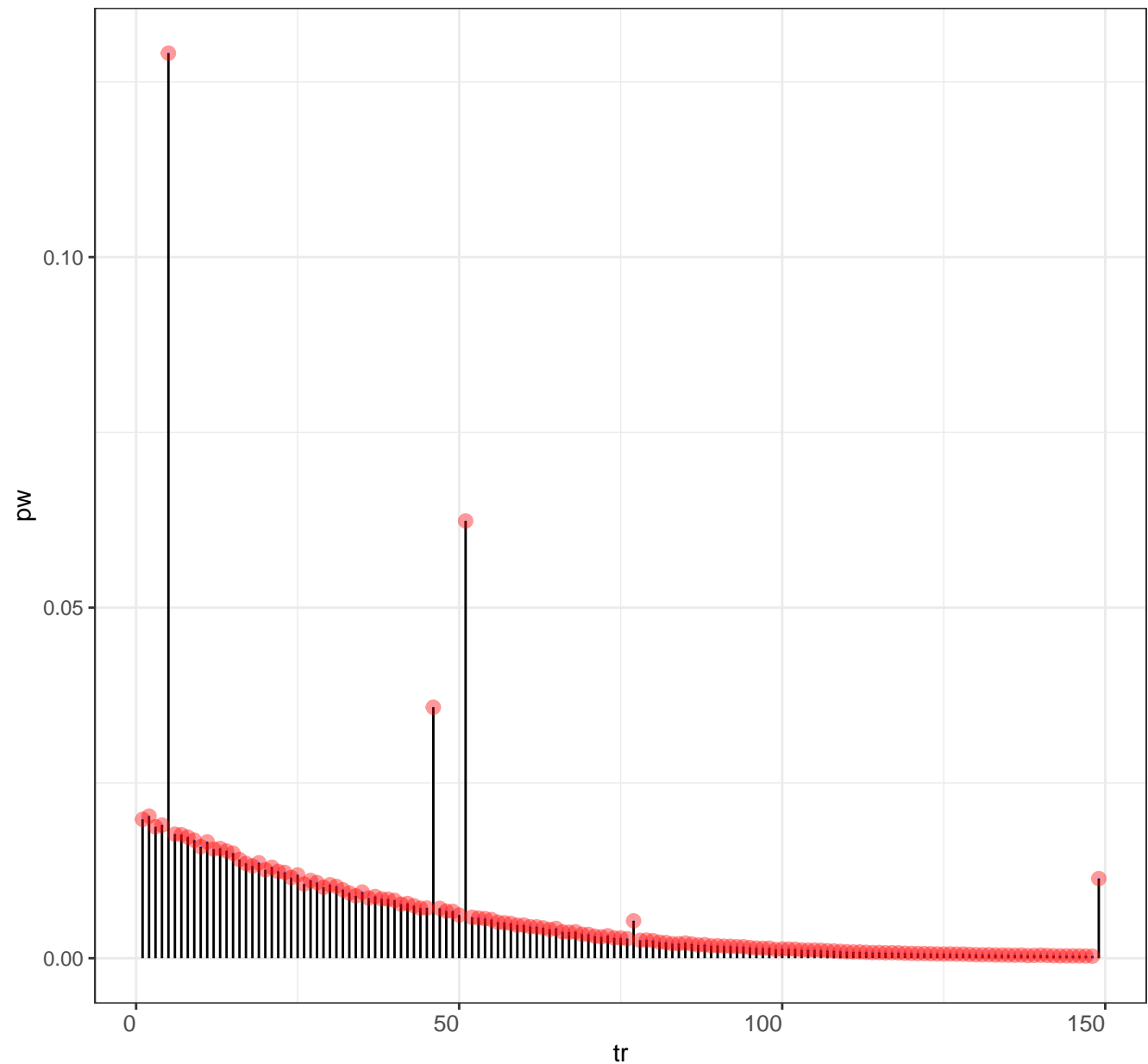
# Posterior distribution for alpha

Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

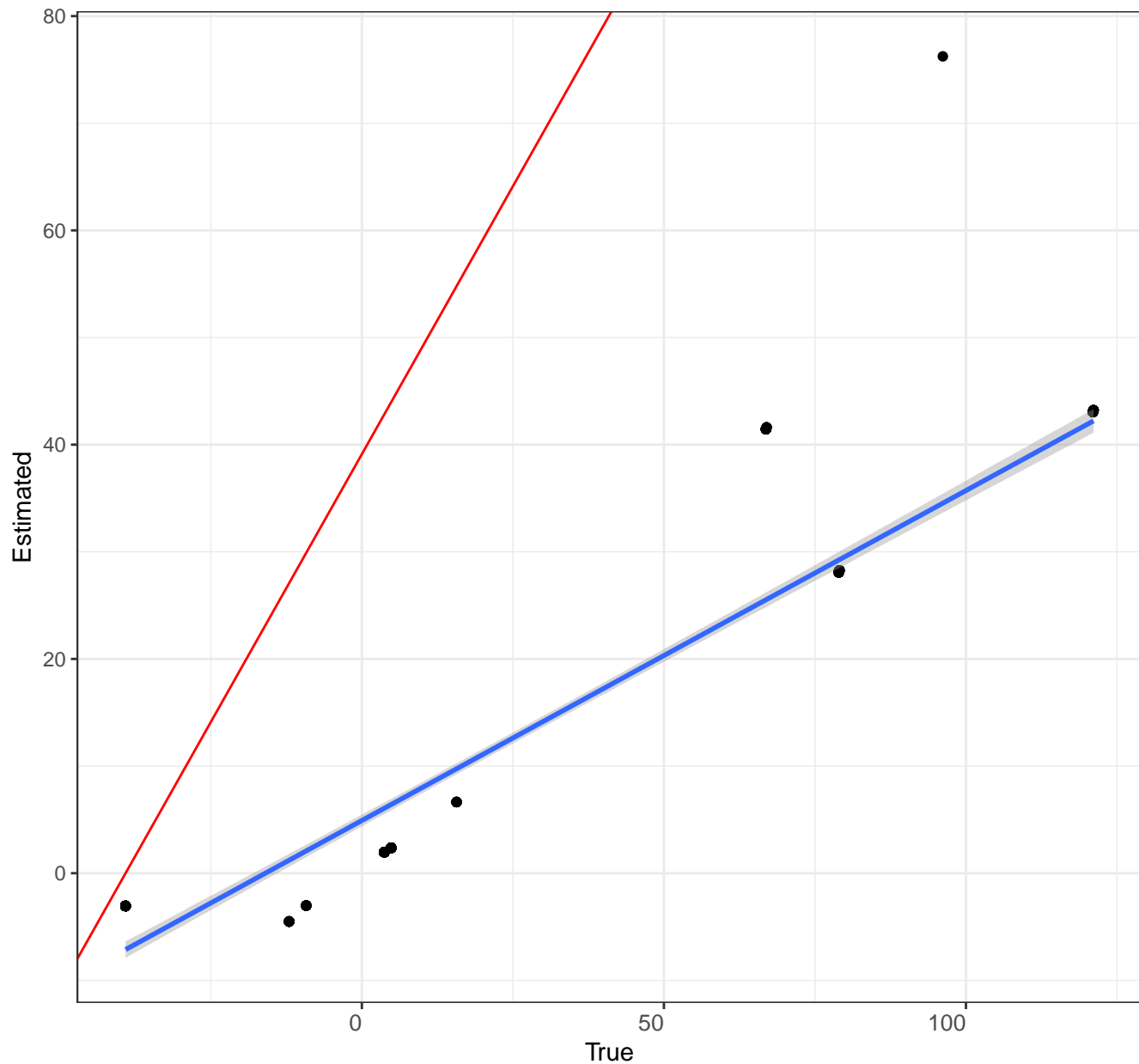
Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.011$



Number of iterations: 2000 burnin: 1000 number of samples: 500

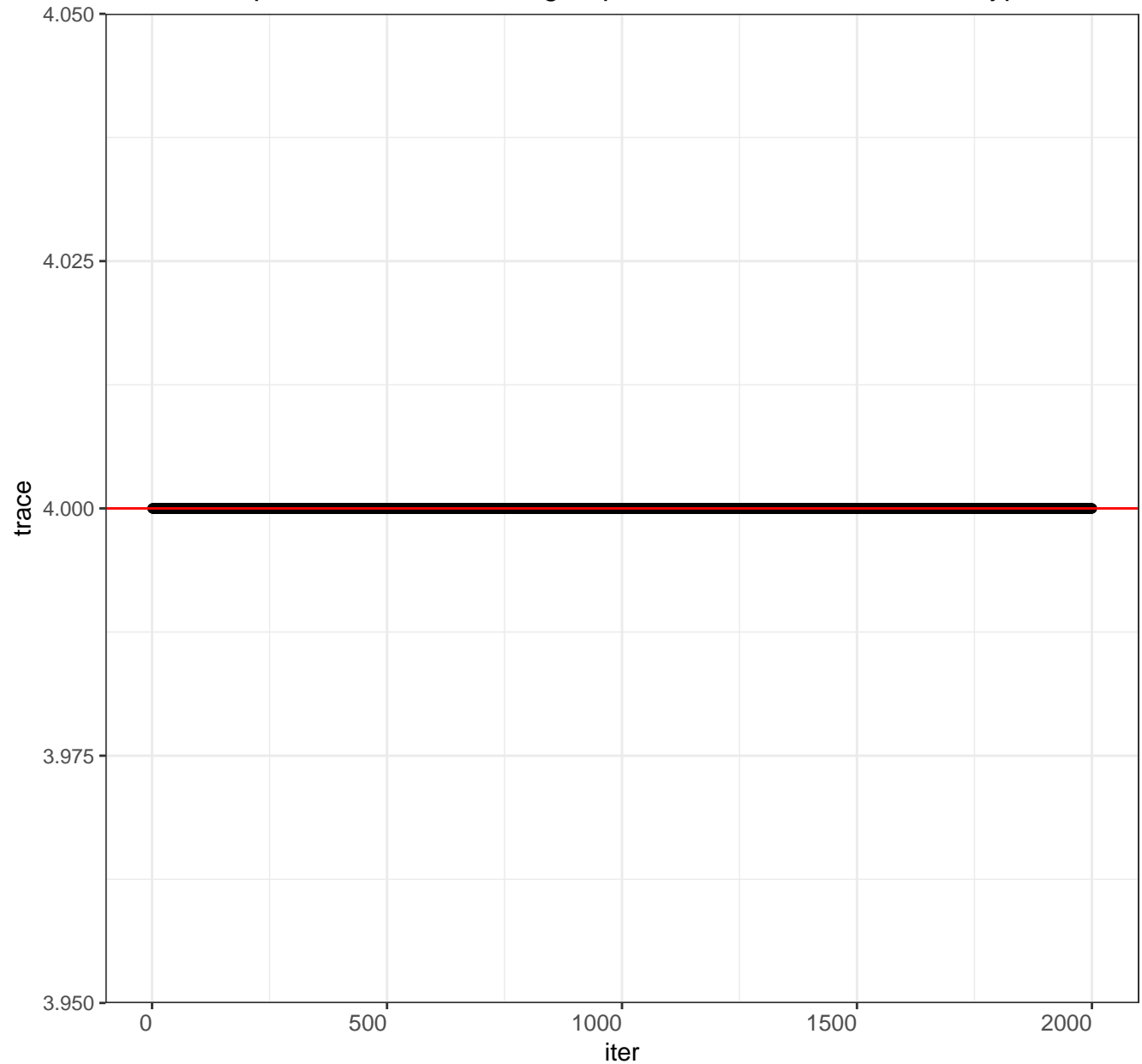


True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

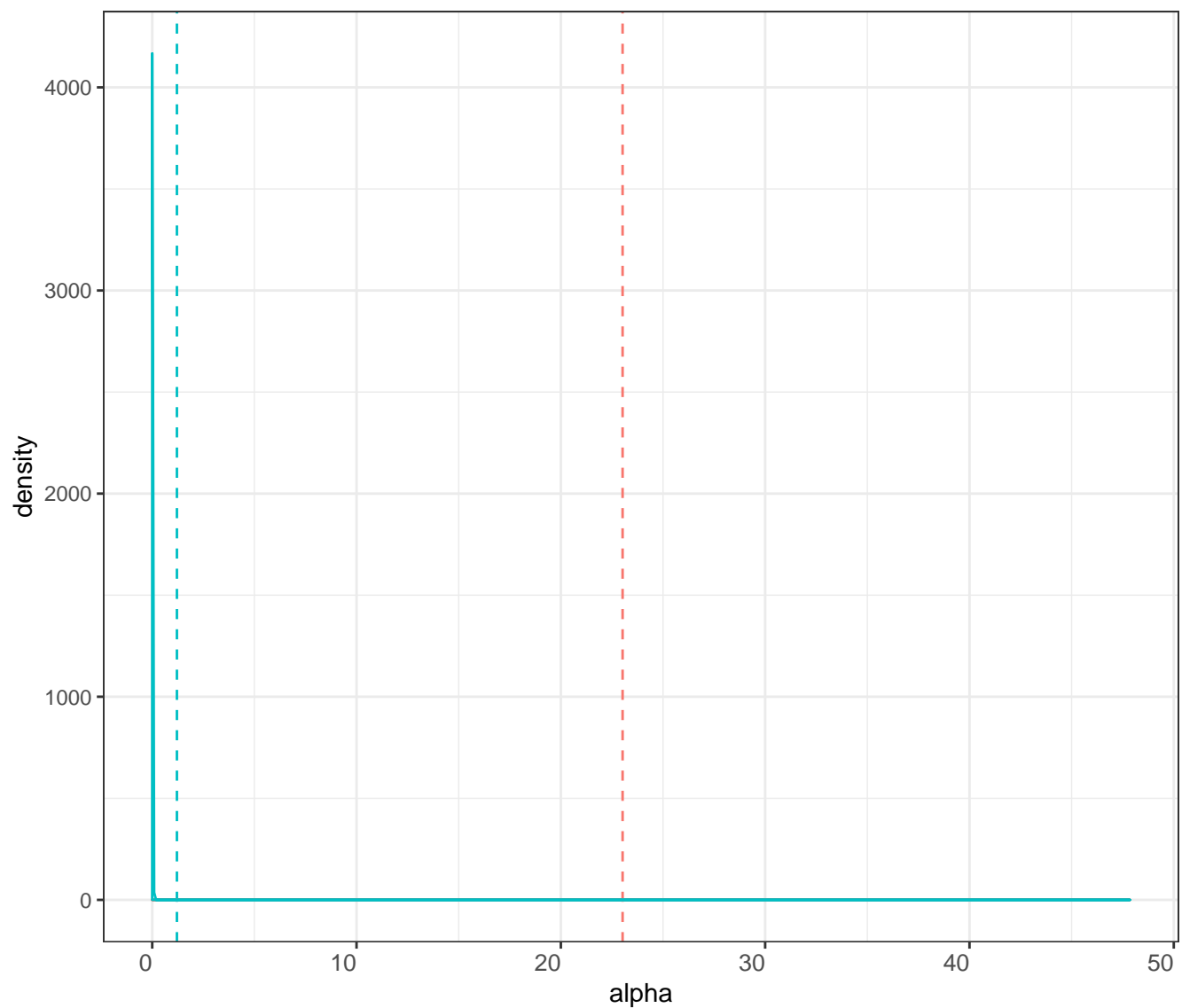
Trace plot for the number of groups K for S=20 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=20 ,r=20 true gr K=4 ,type=1 ,N=150

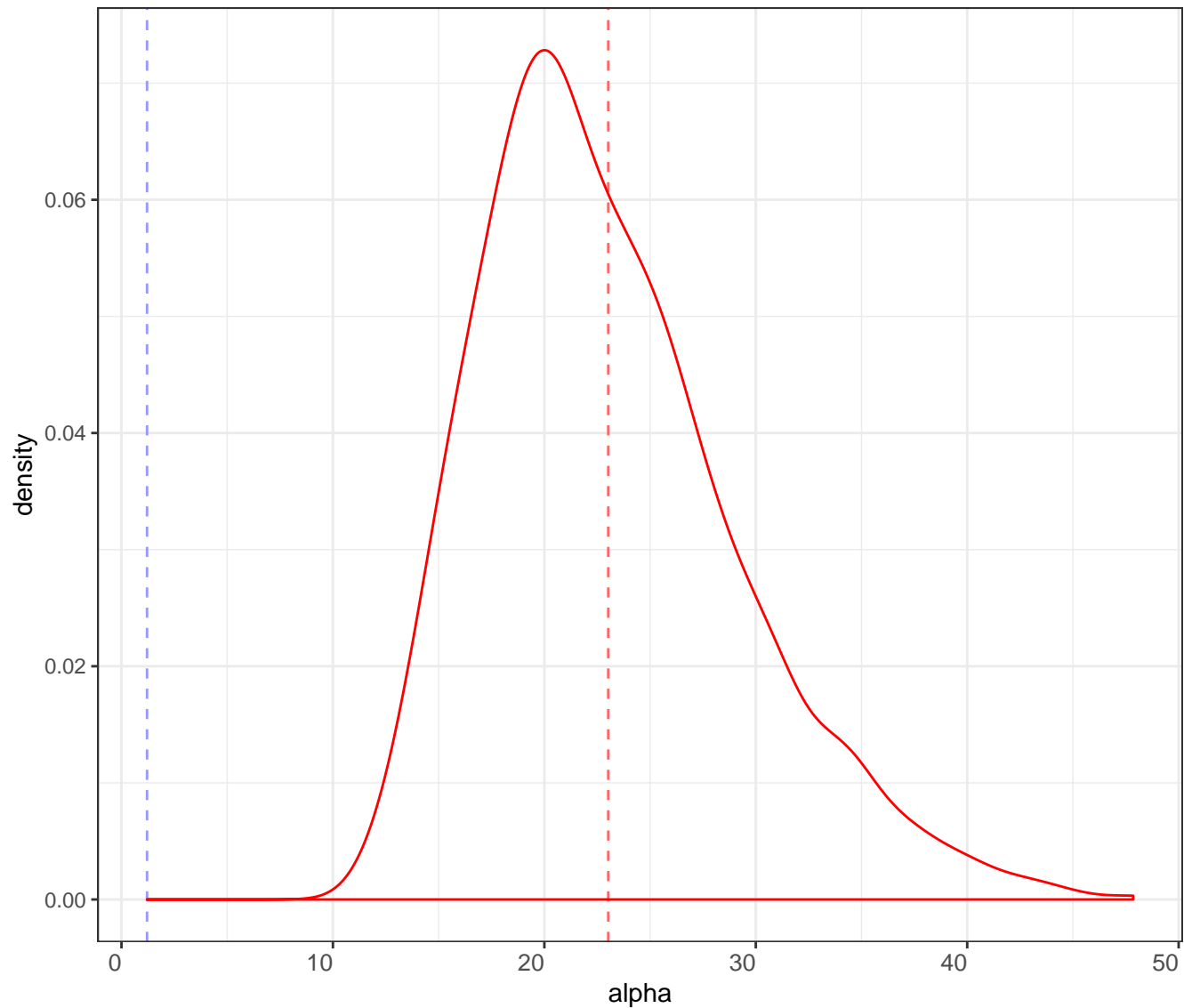
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

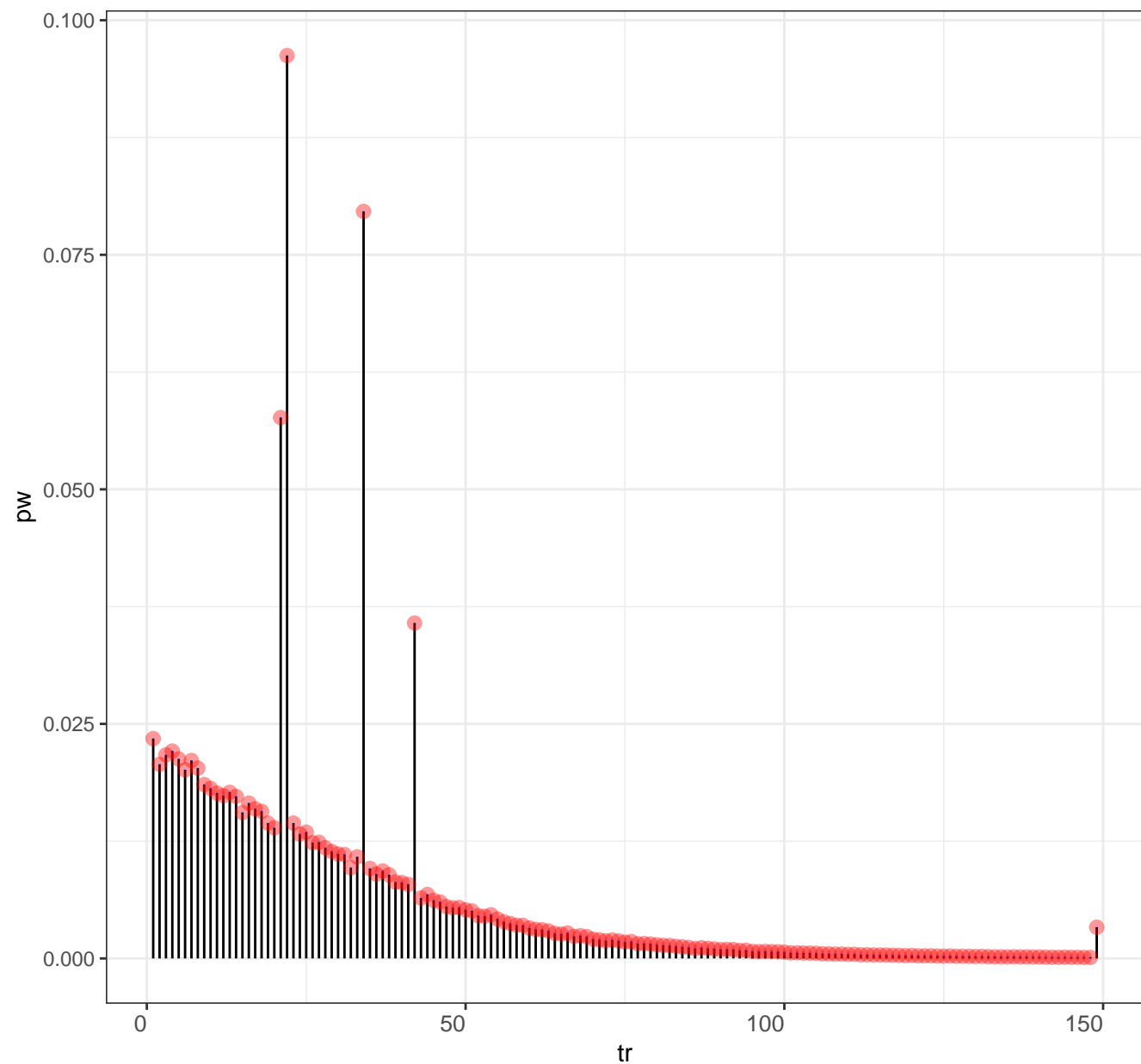
# Posterior distribution for alpha

Legend      posterior mean      prior mean



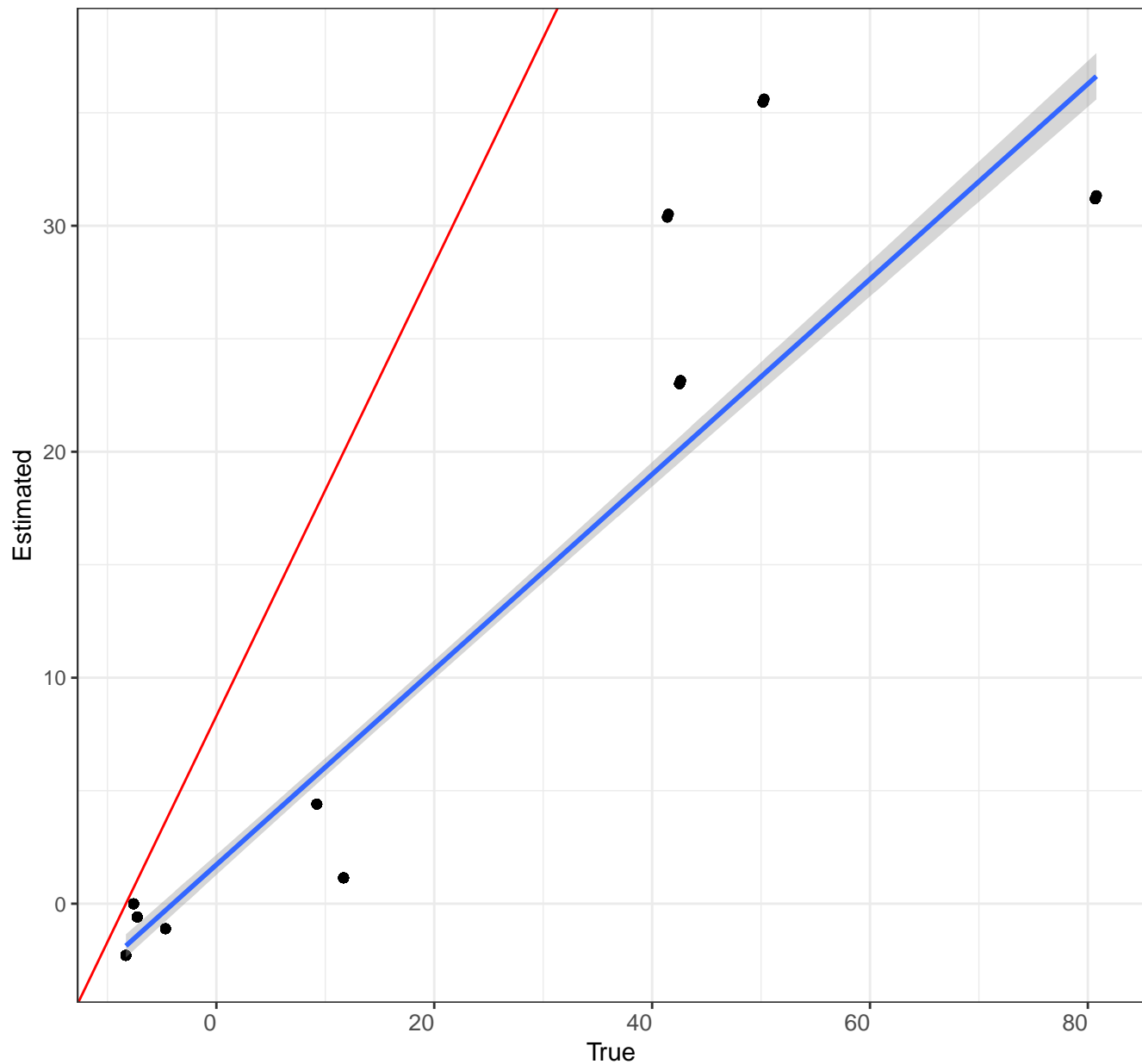
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=20 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=20$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.003$



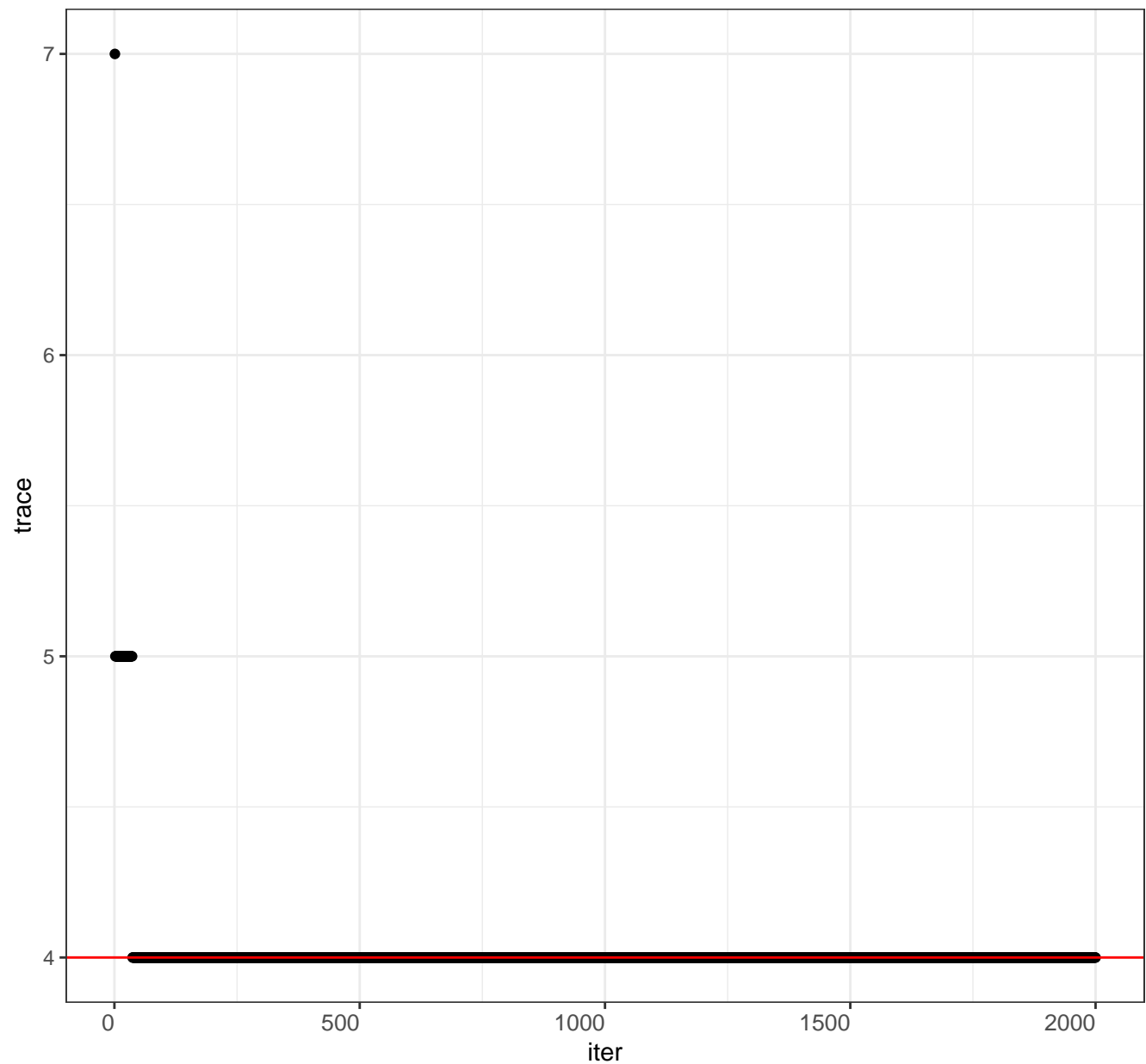
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=20 r=20 true K=4 type=1

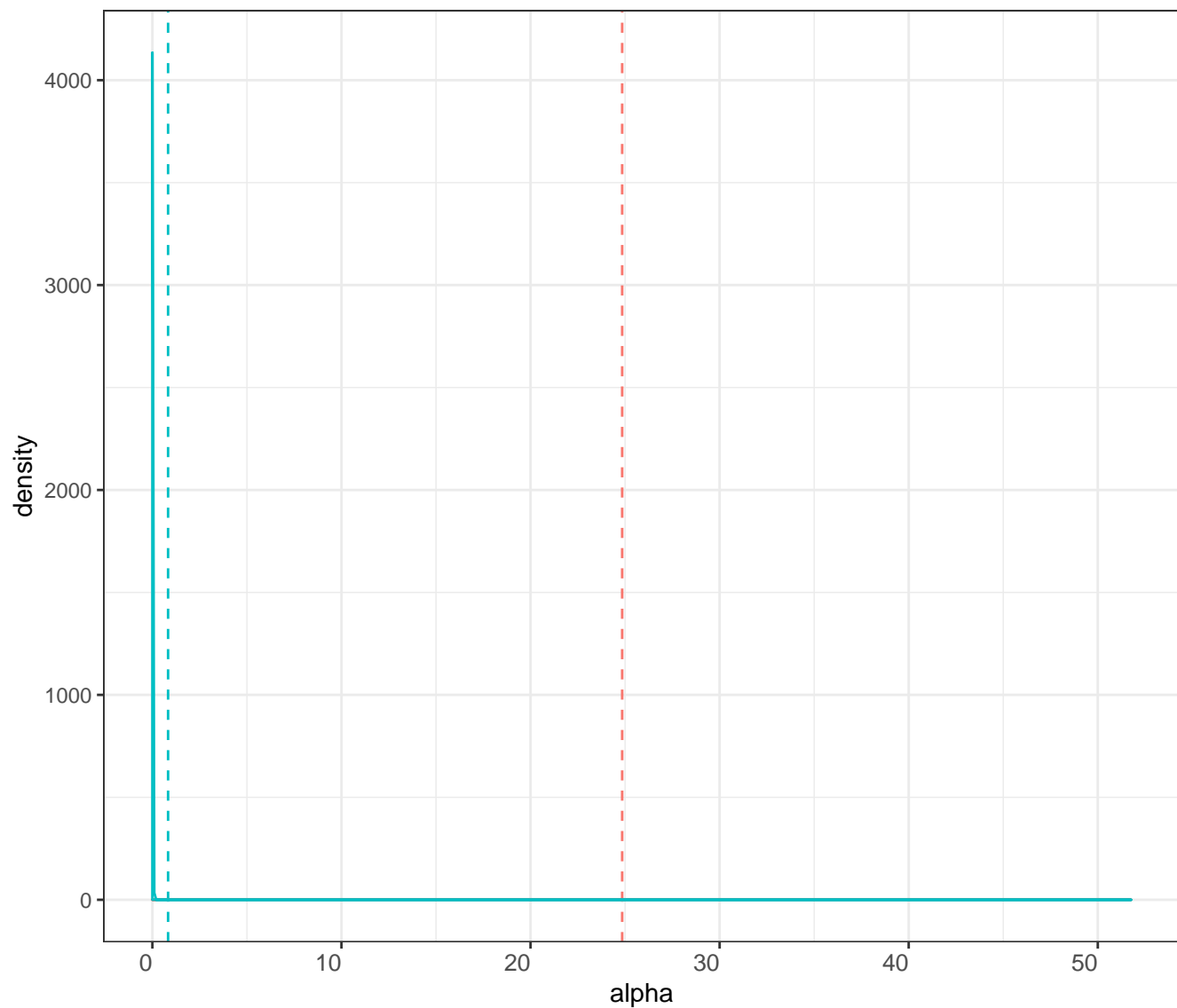
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

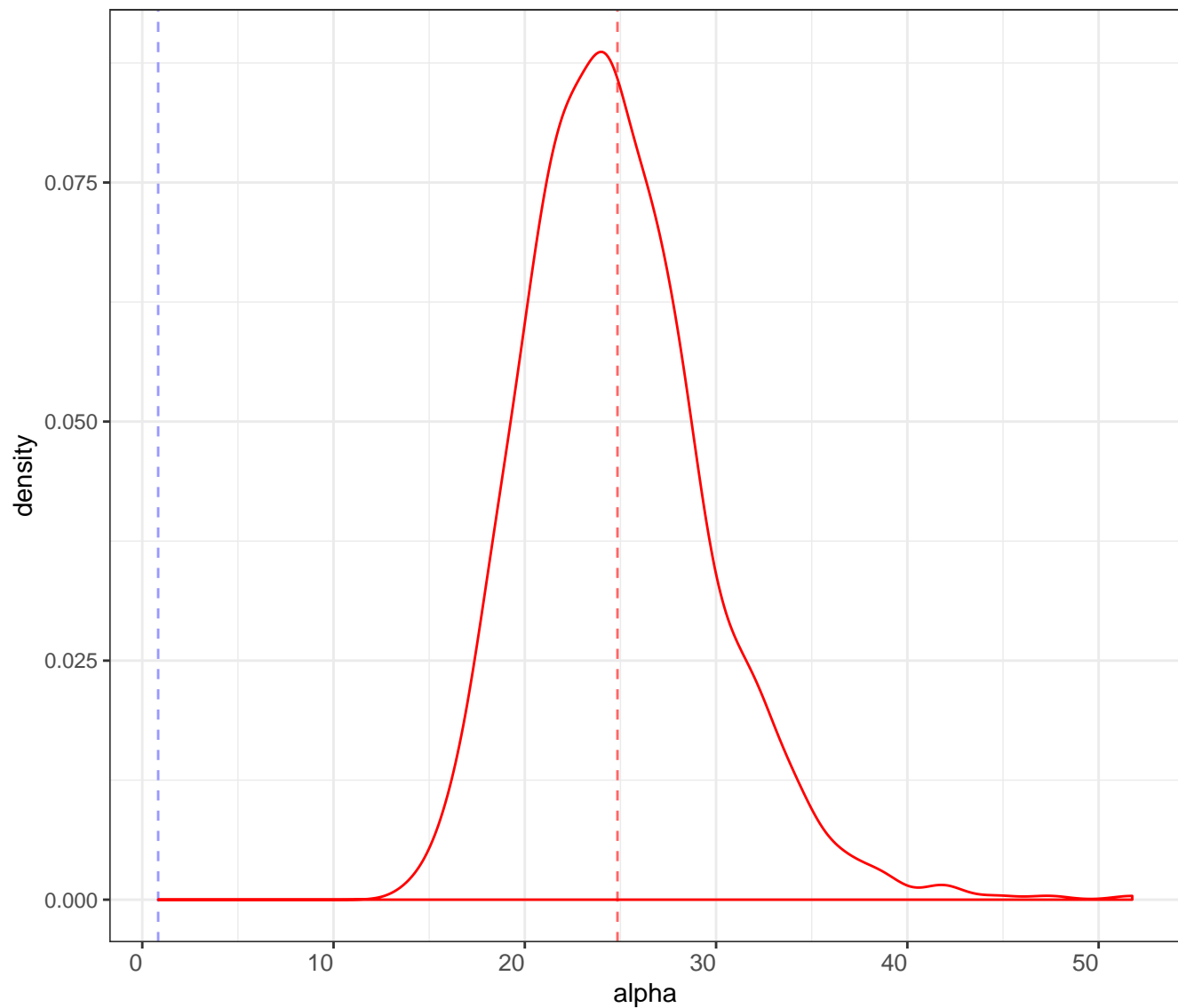


# Posterior distribution for alpha

Legend

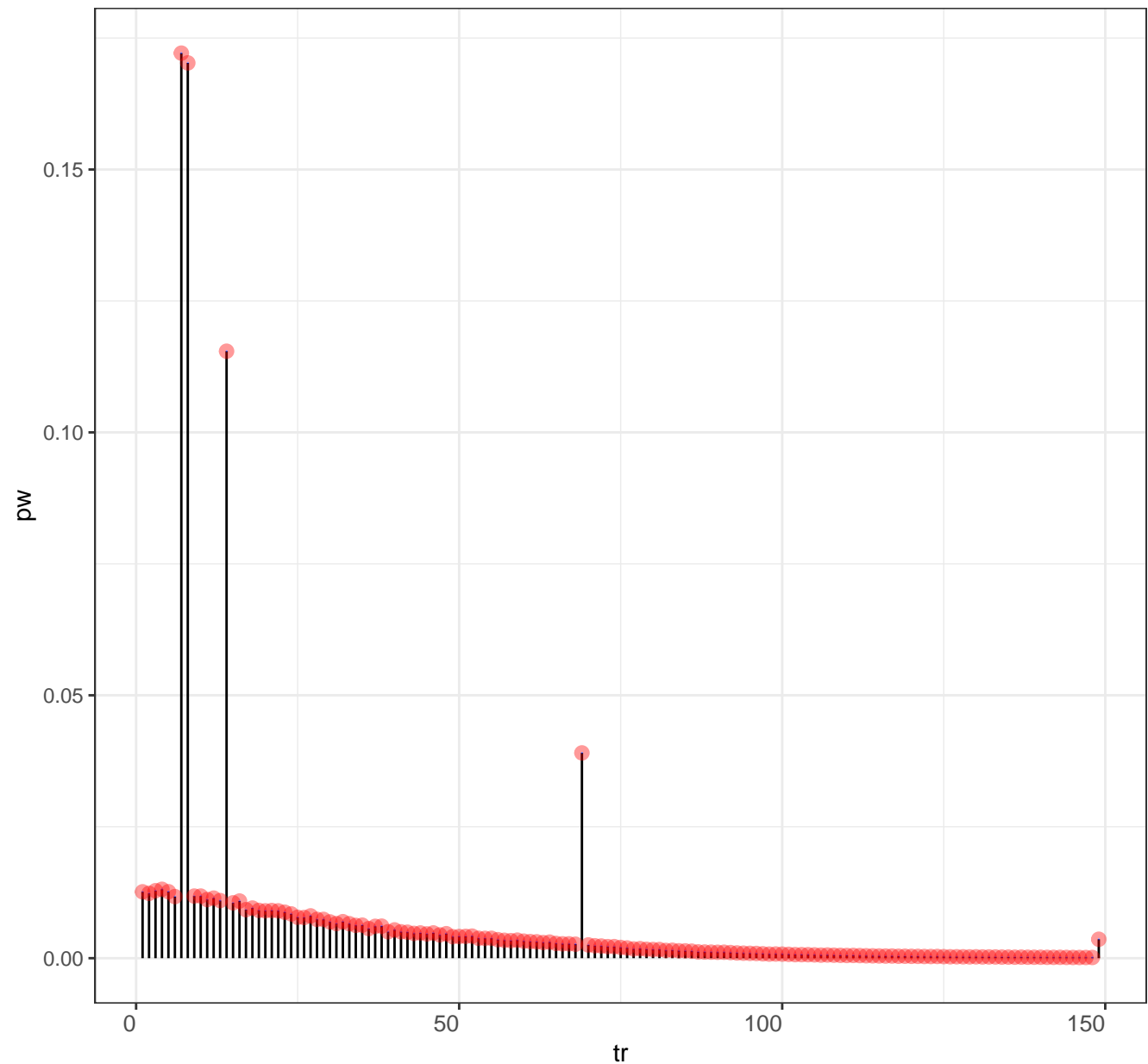
posterior mean

prior mean



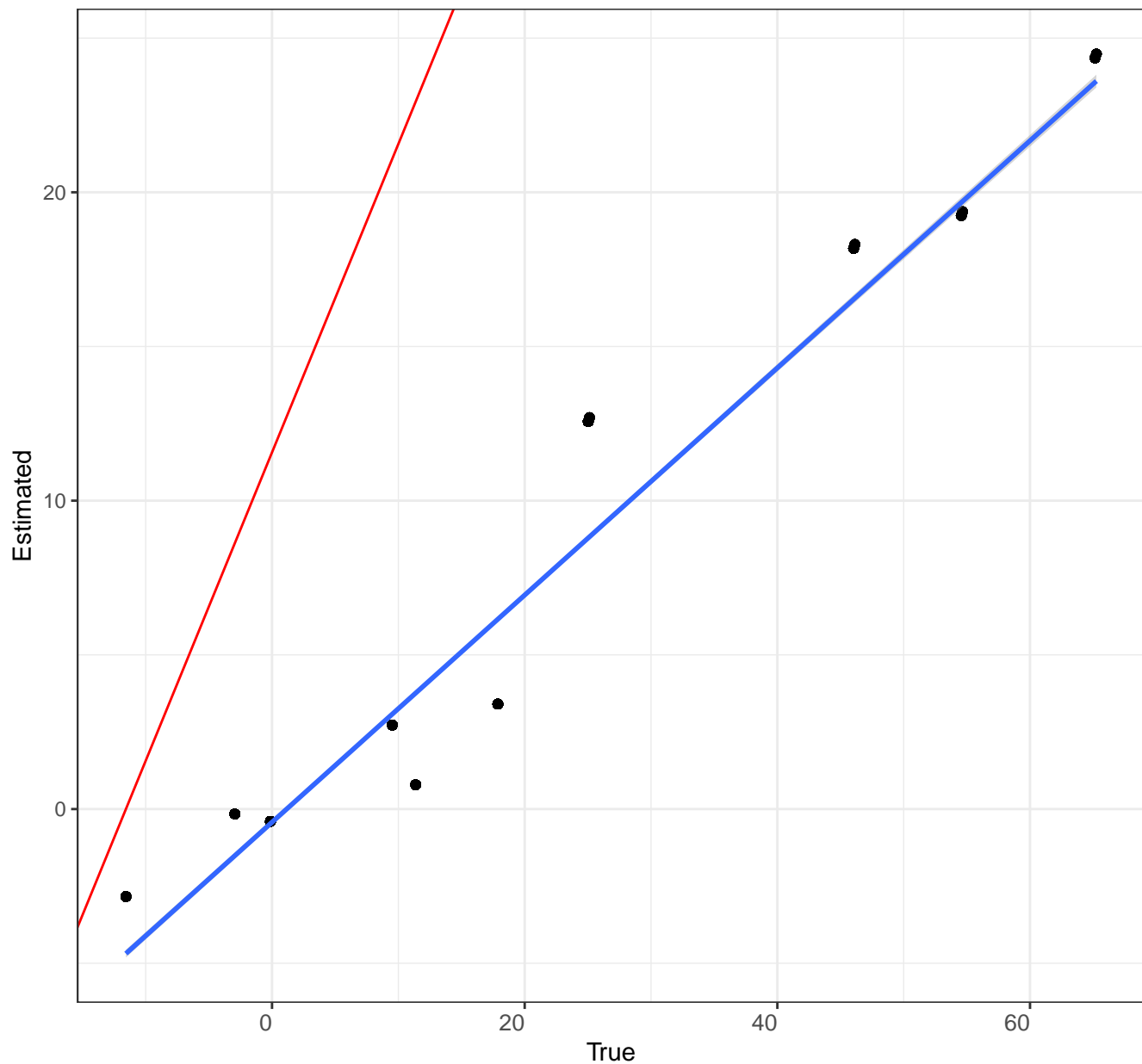
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



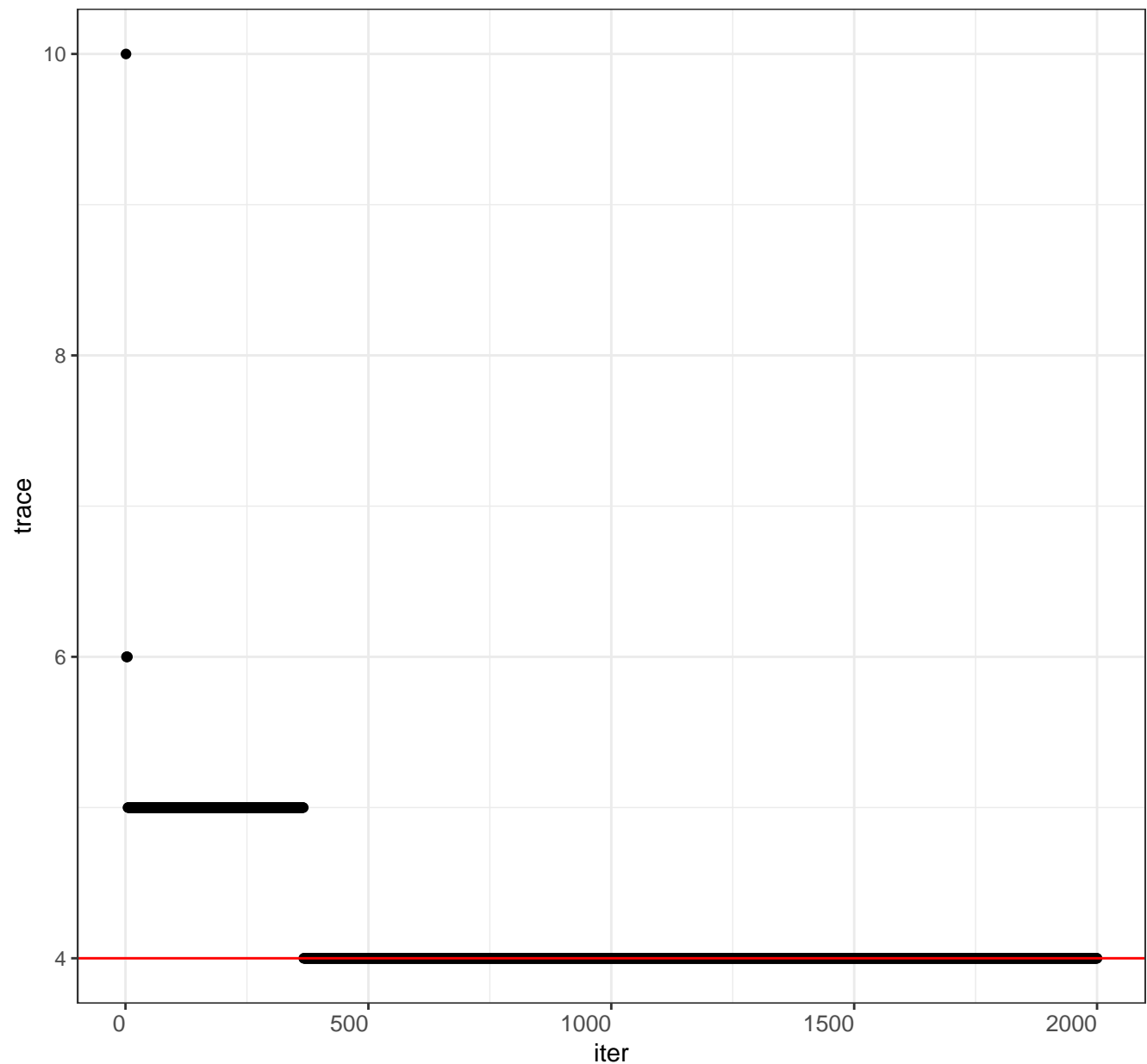
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

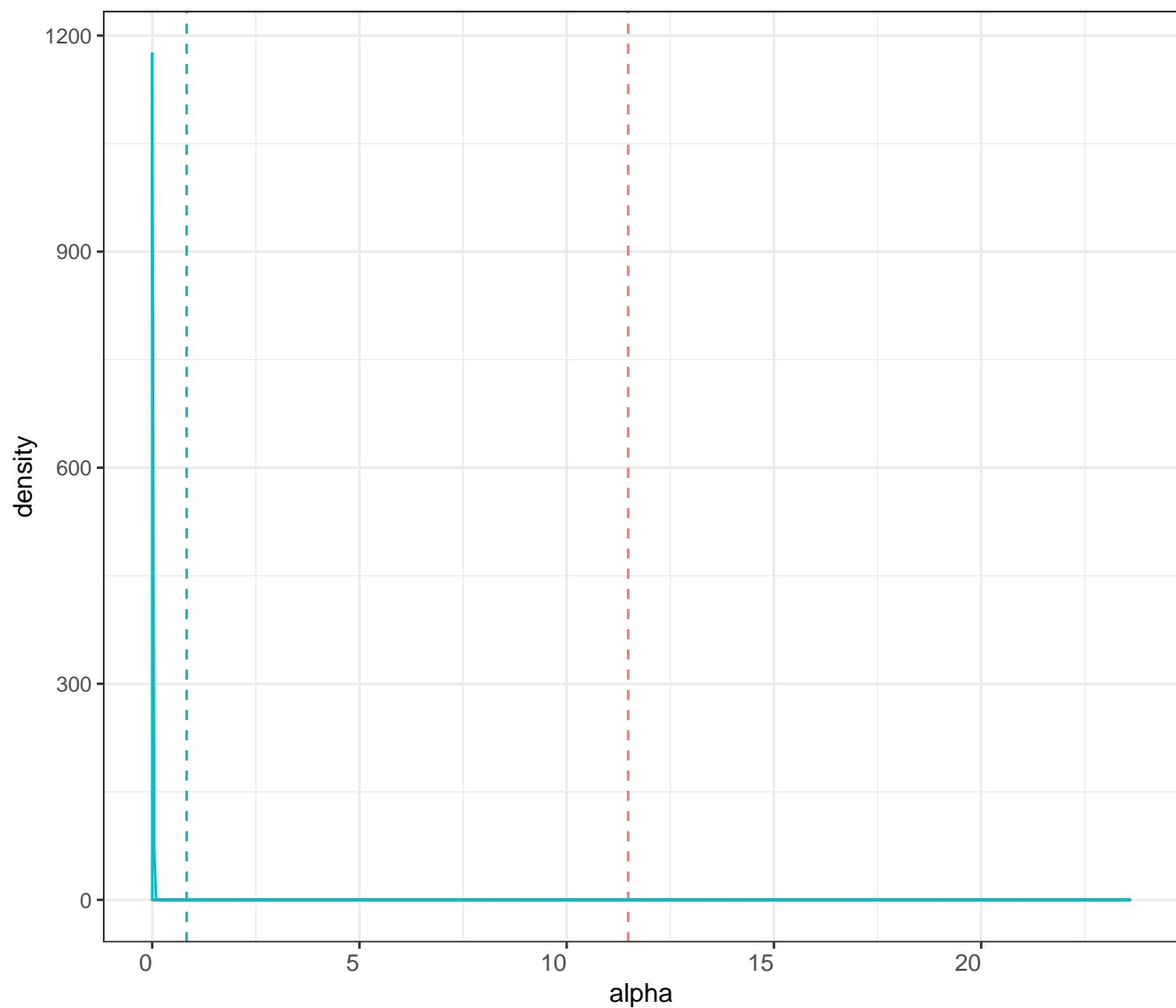
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

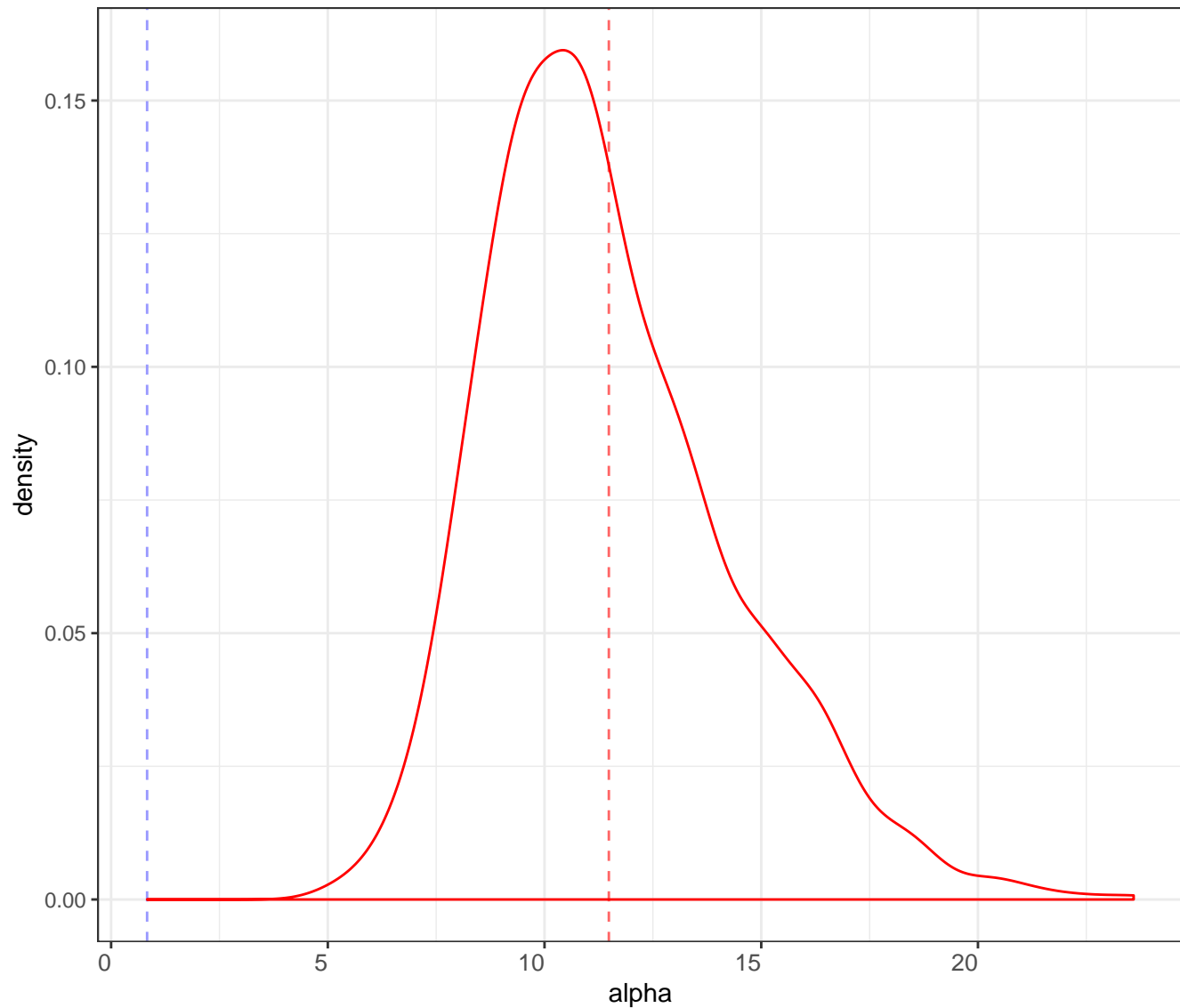
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

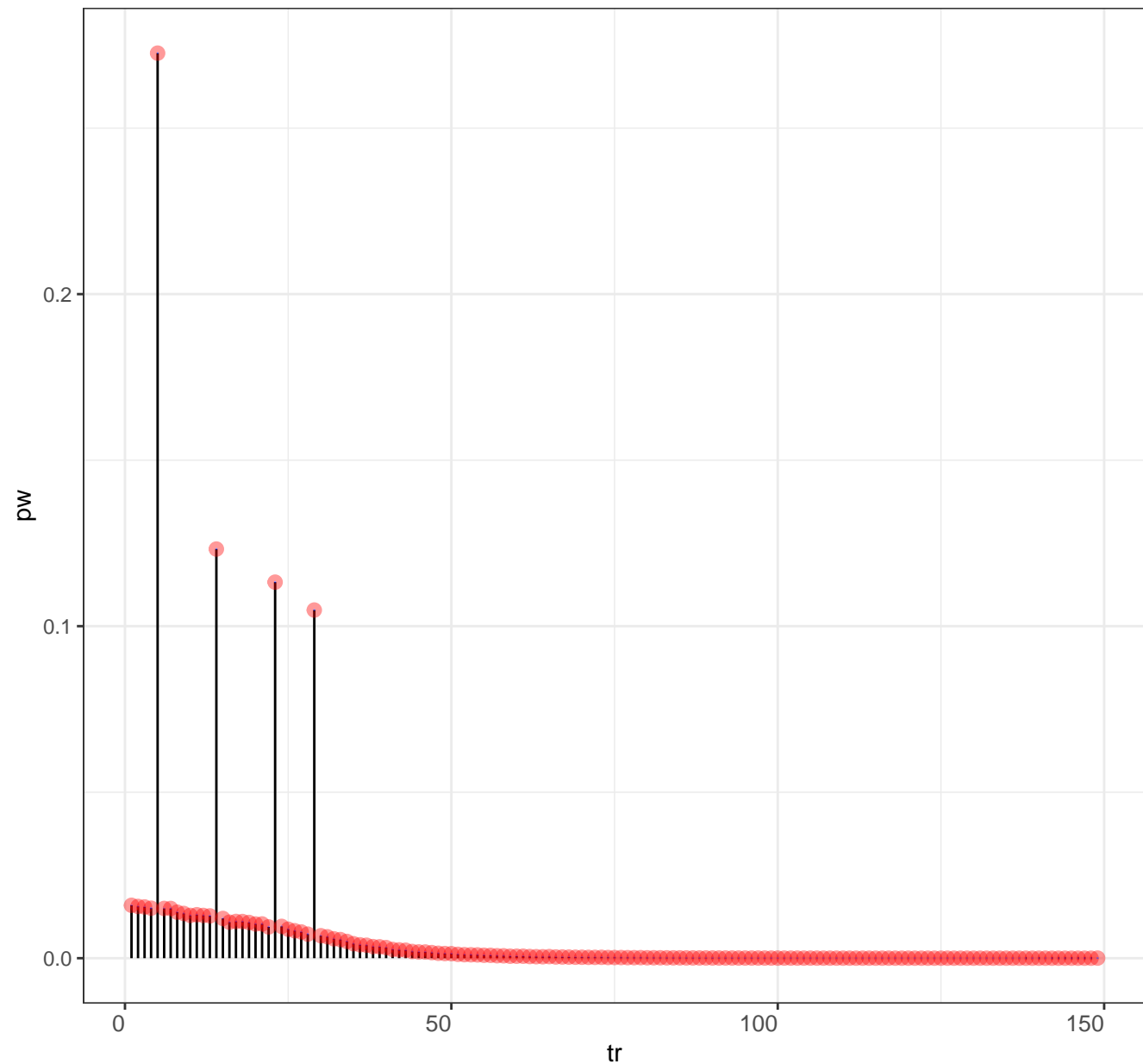
# Posterior distribution for alpha

Legend      posterior mean      prior mean



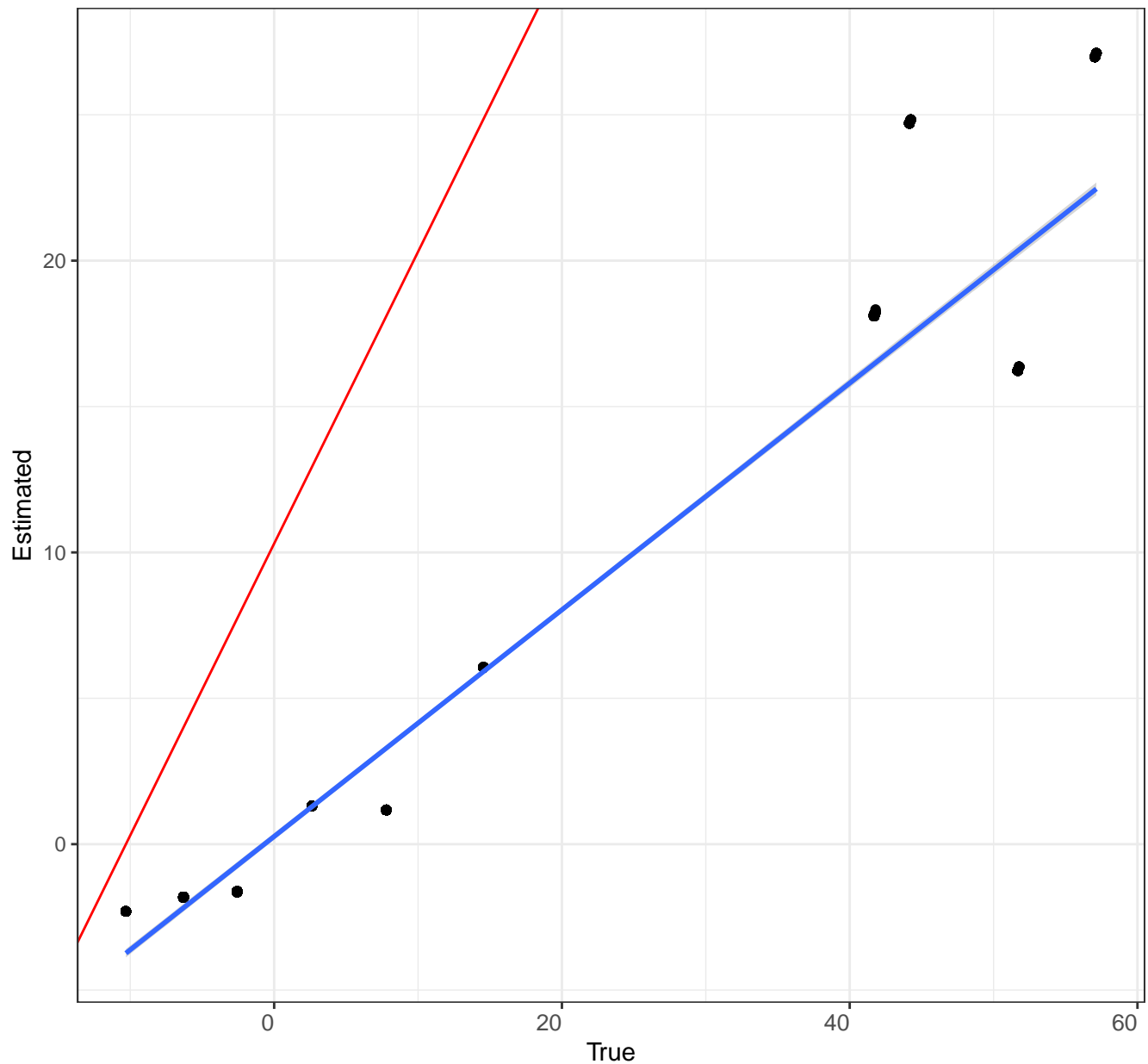
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

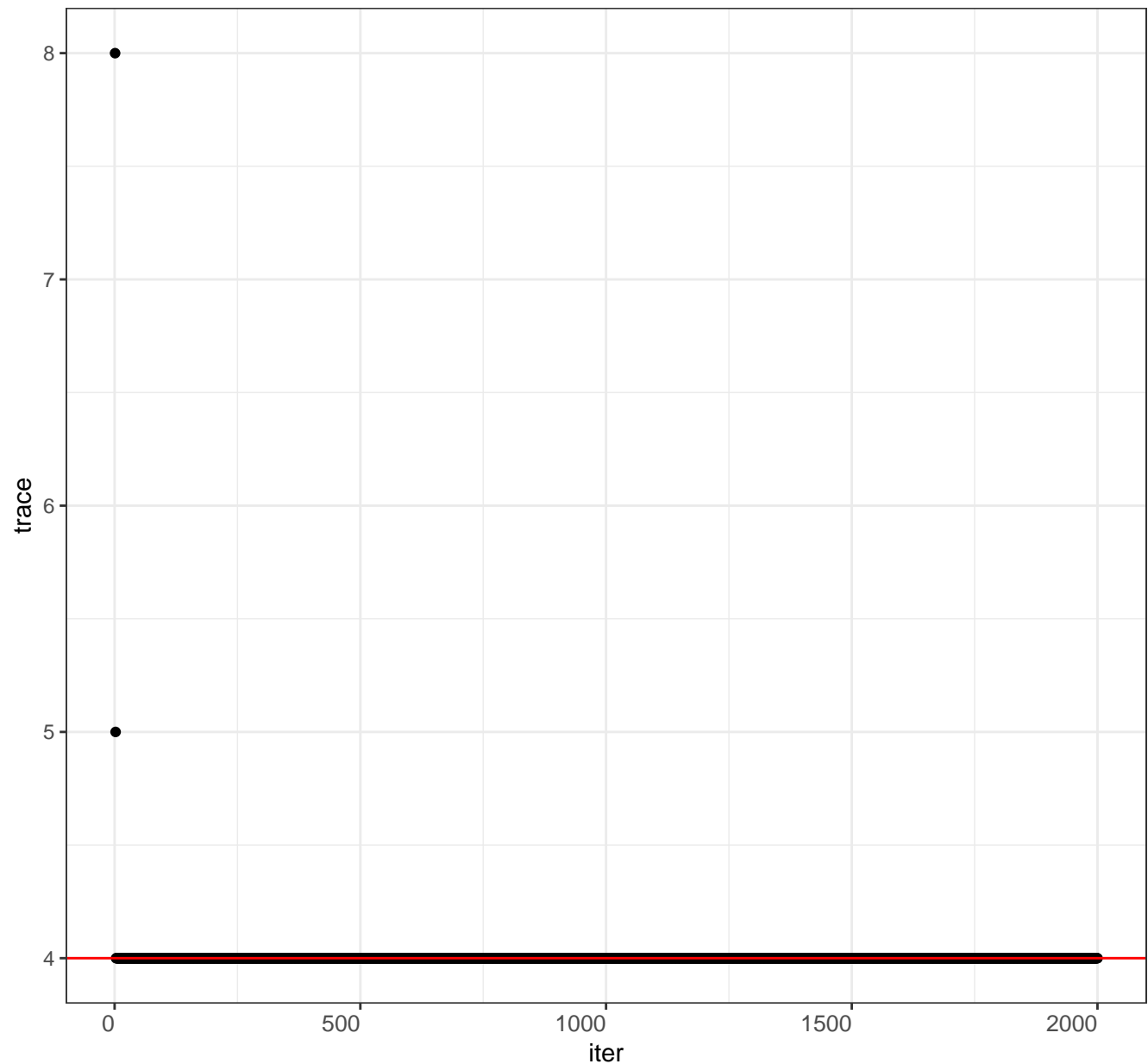
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1





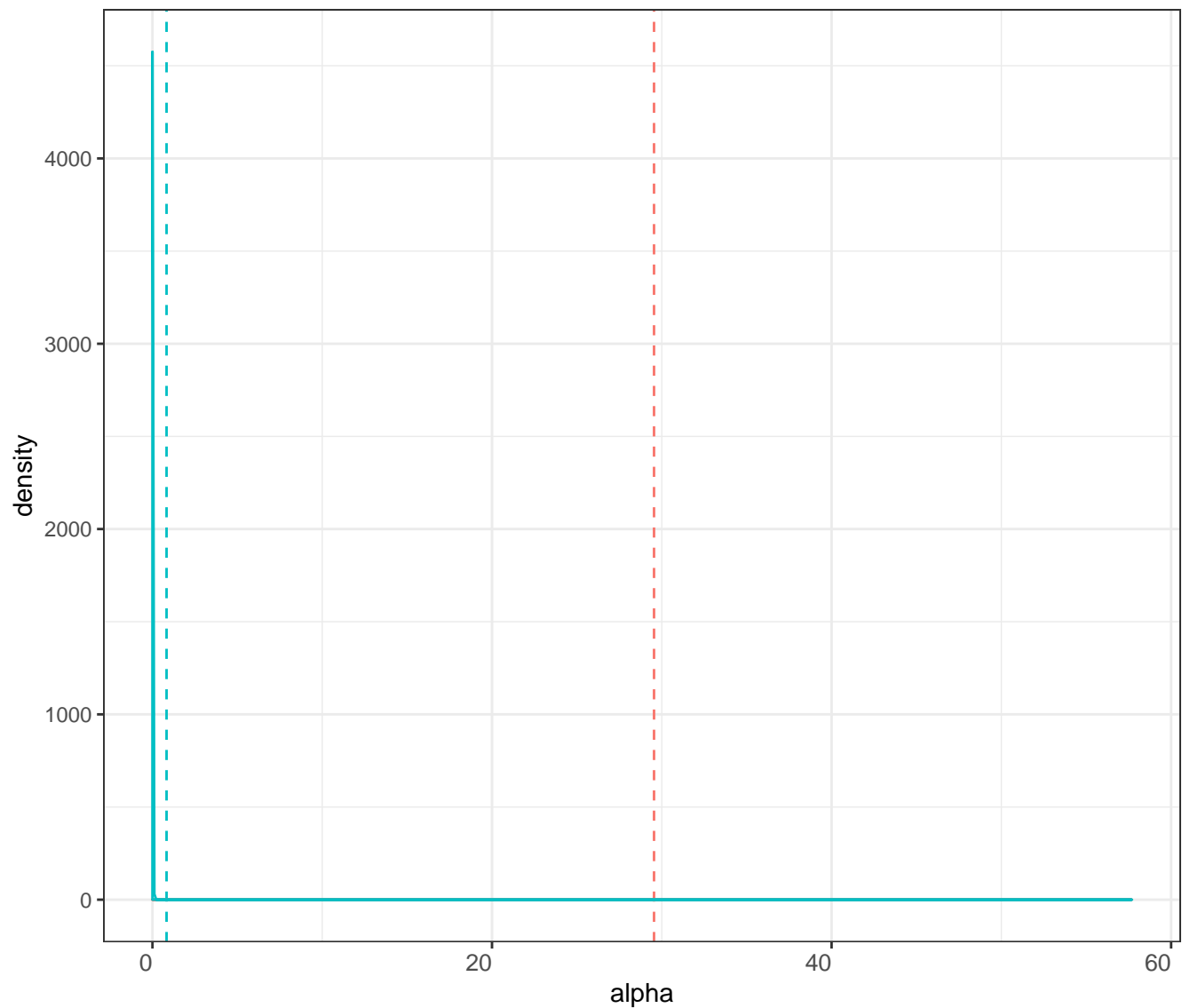
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

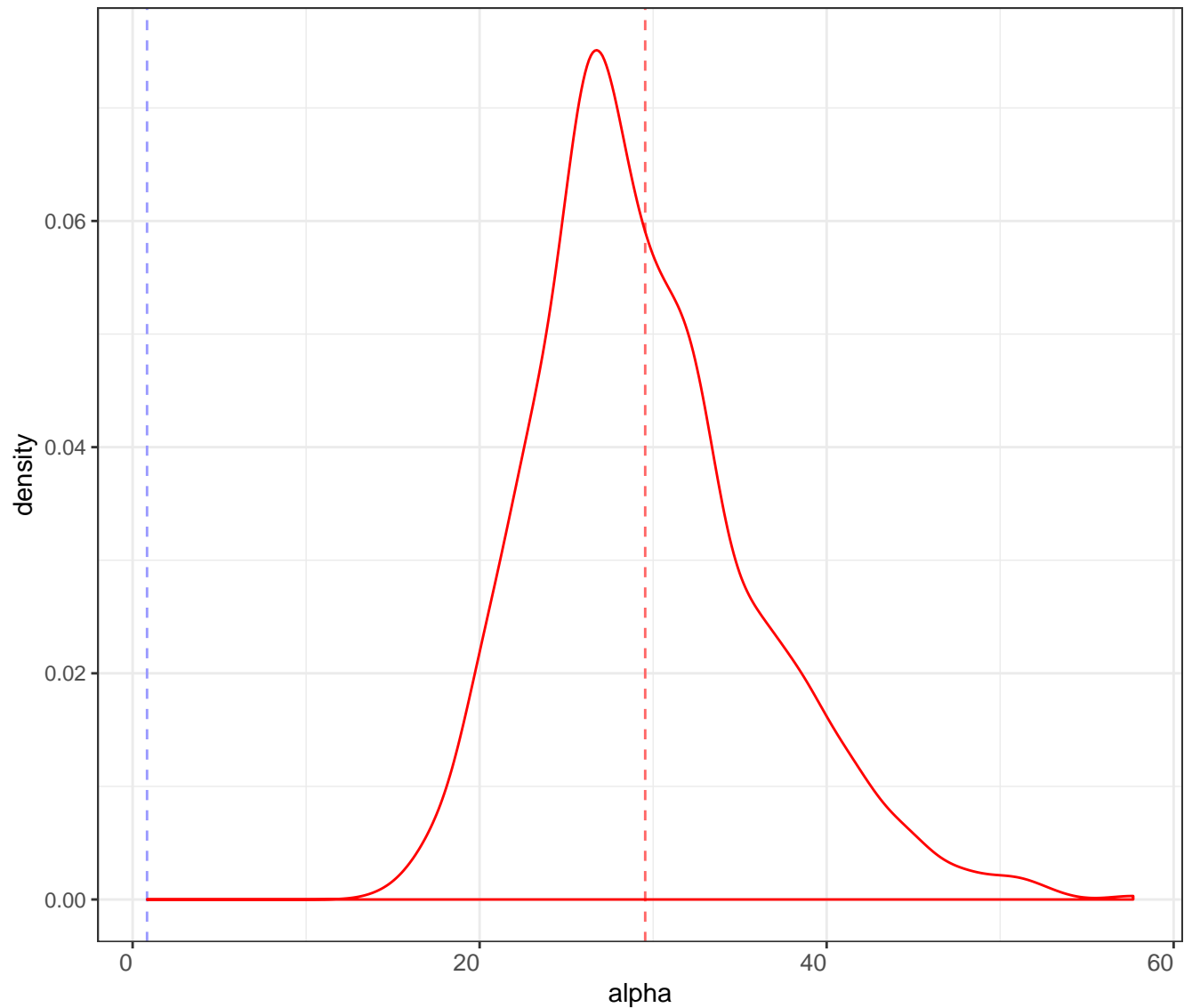
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

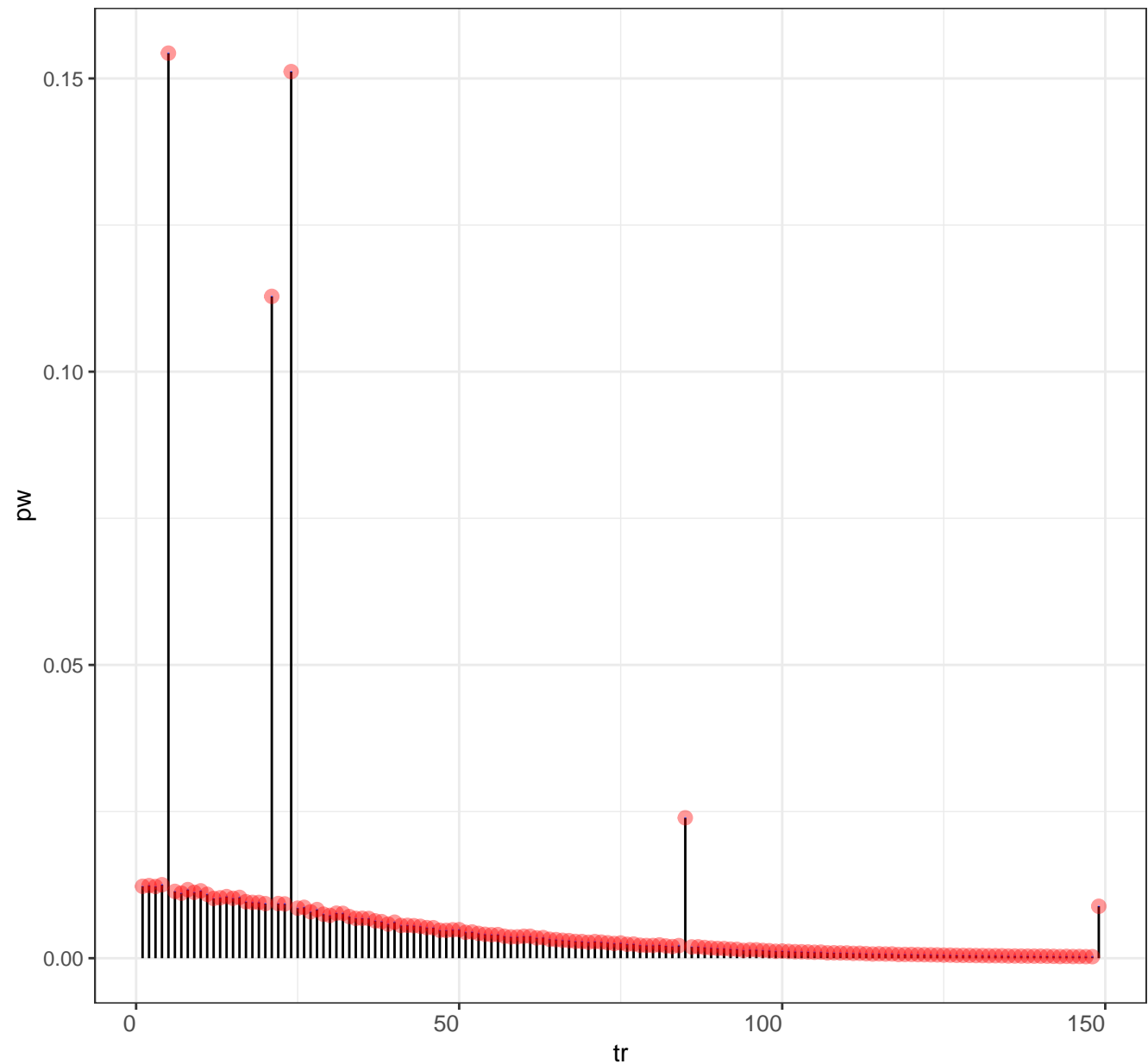
# Posterior distribution for alpha

Legend    posterior mean    prior mean



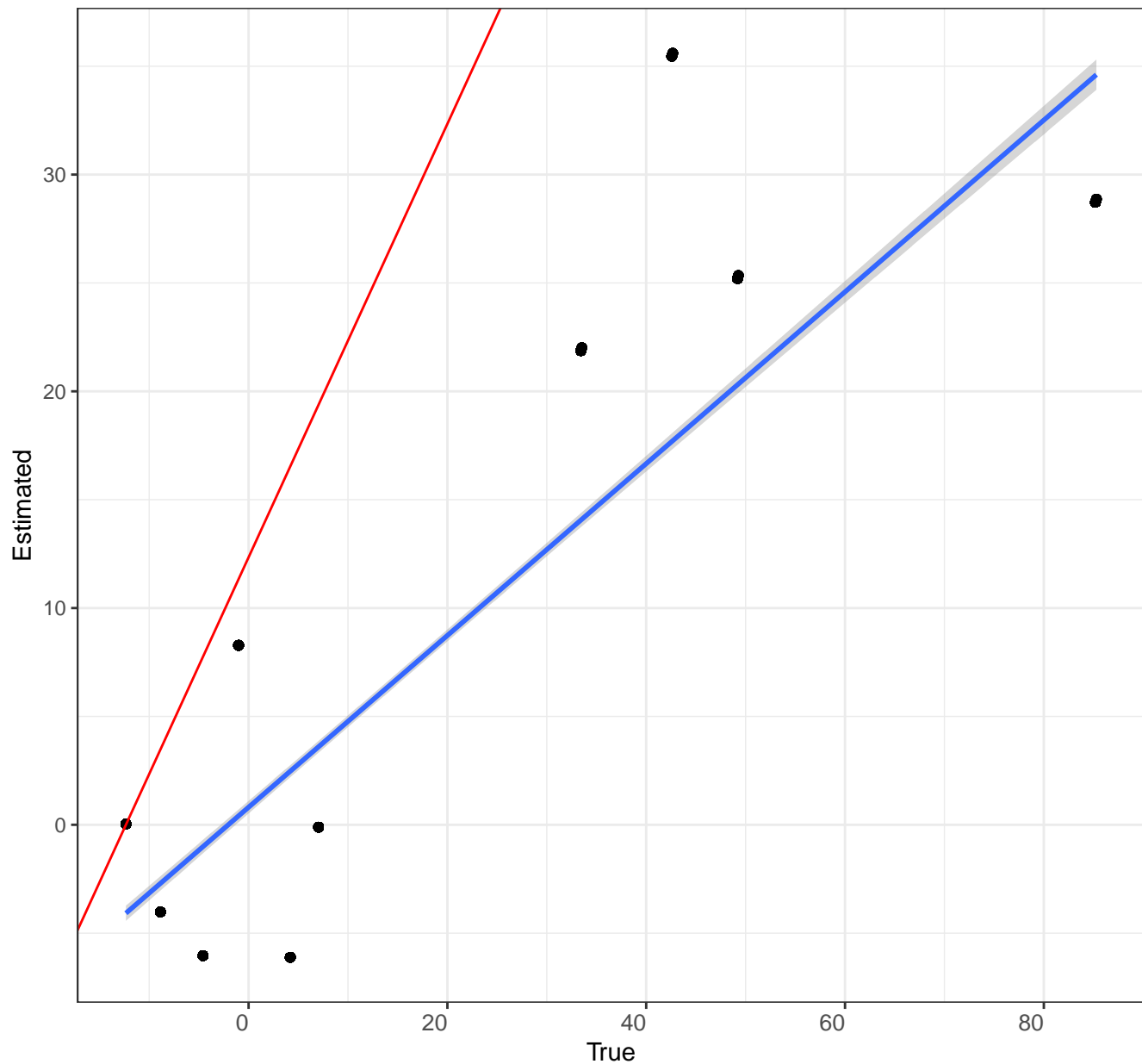
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  ,  $r=5$  true gr  $K=4$  , type=1 ,  $N=150$   $pN=0.009$



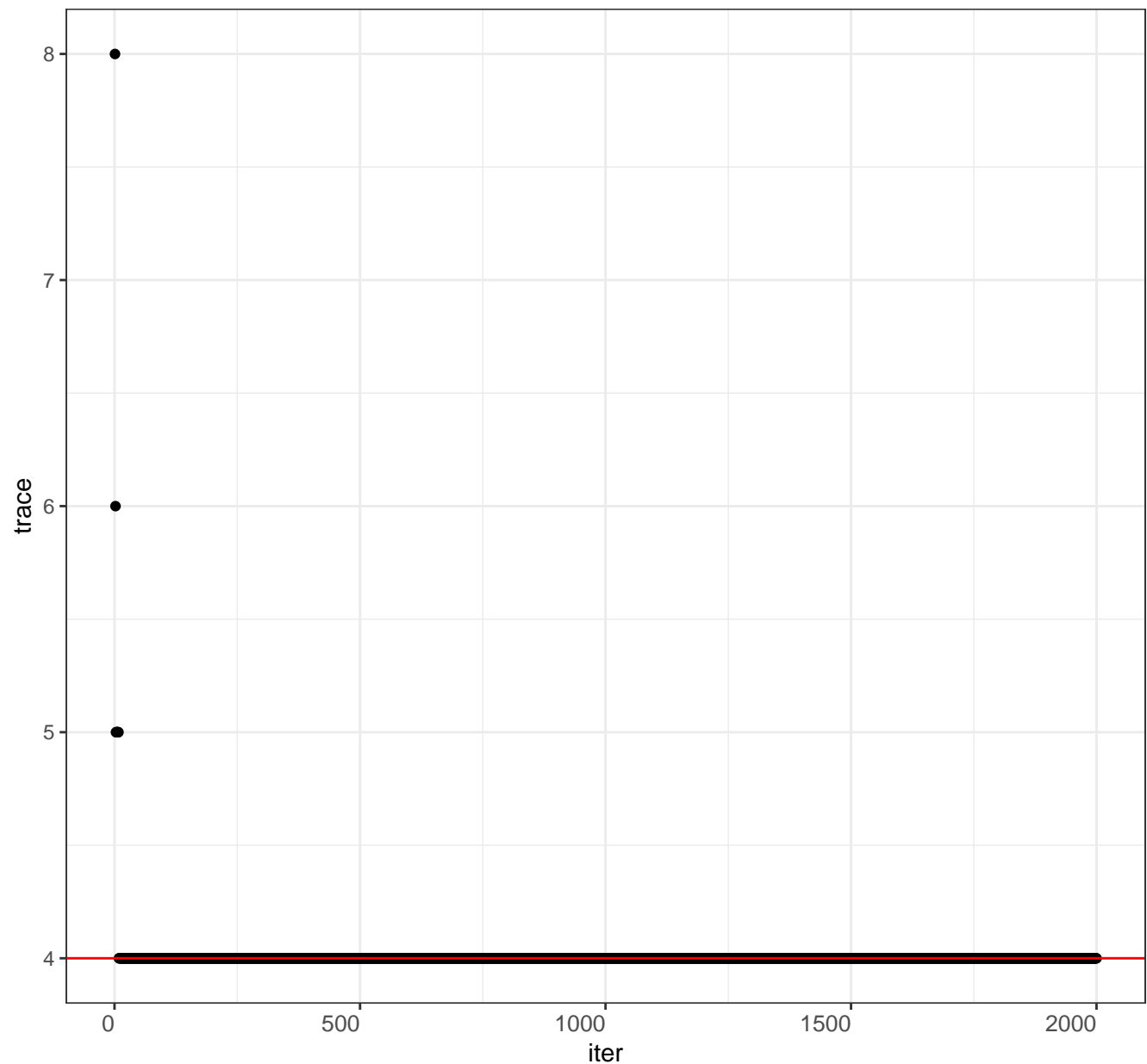
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

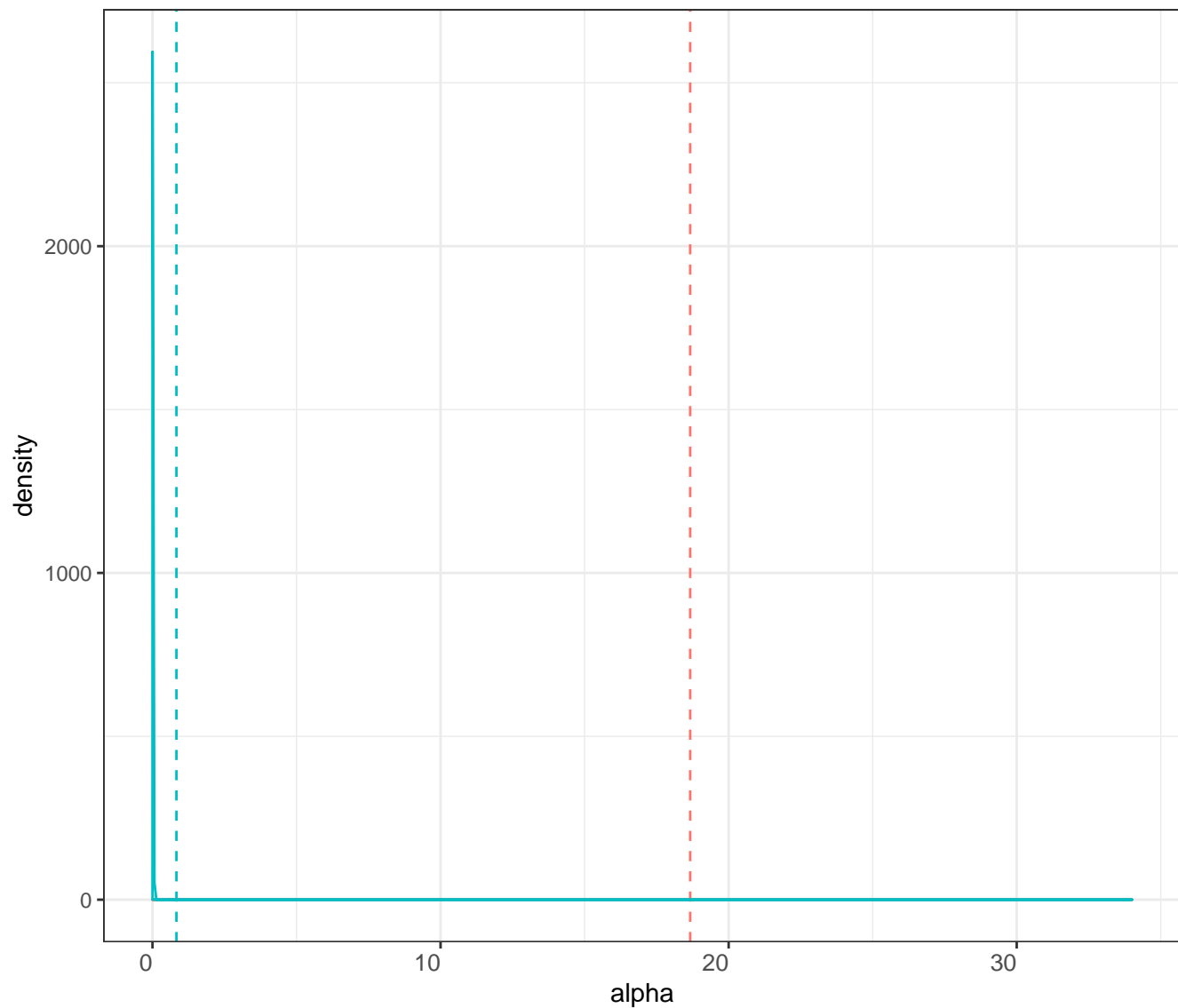
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

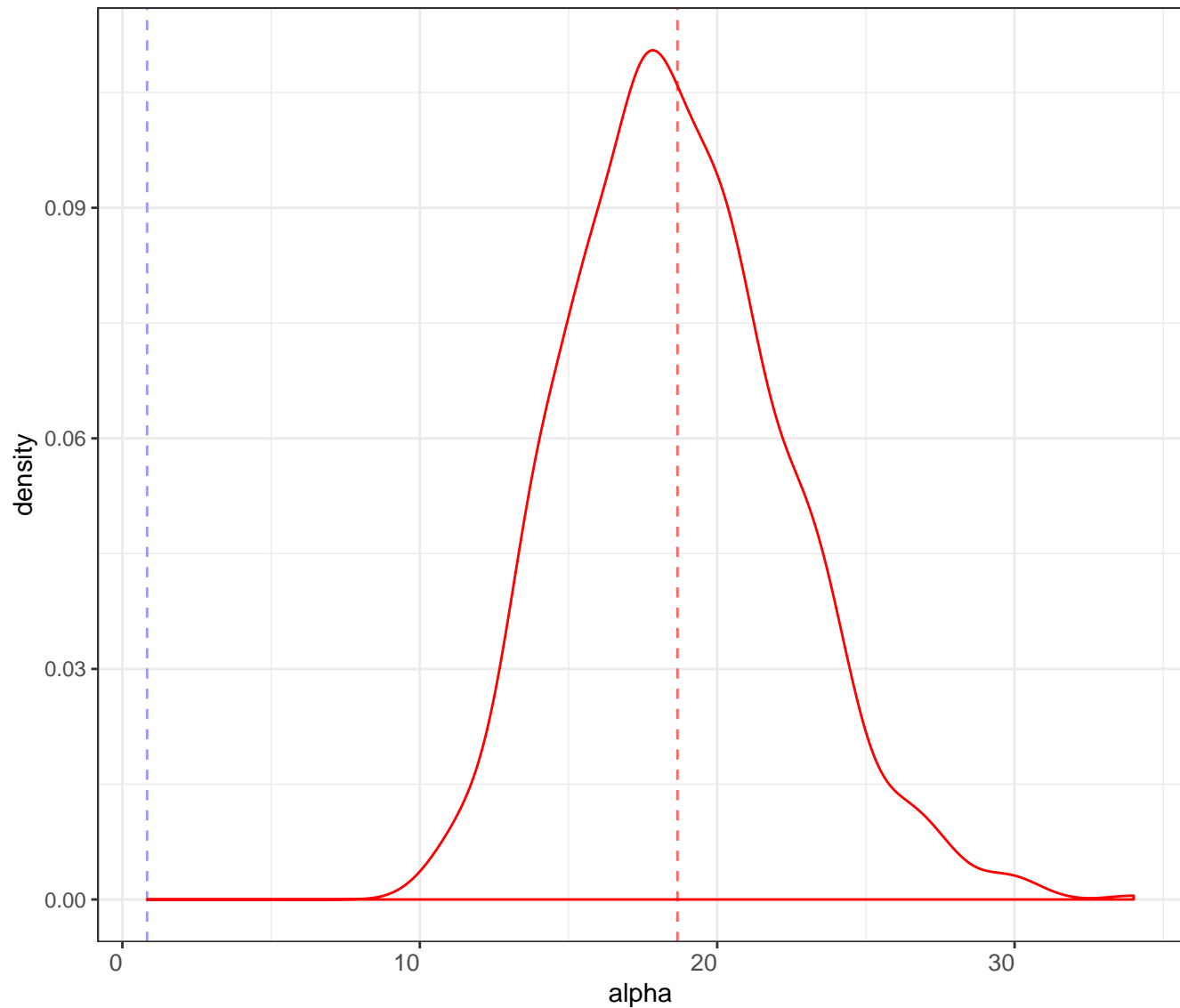
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

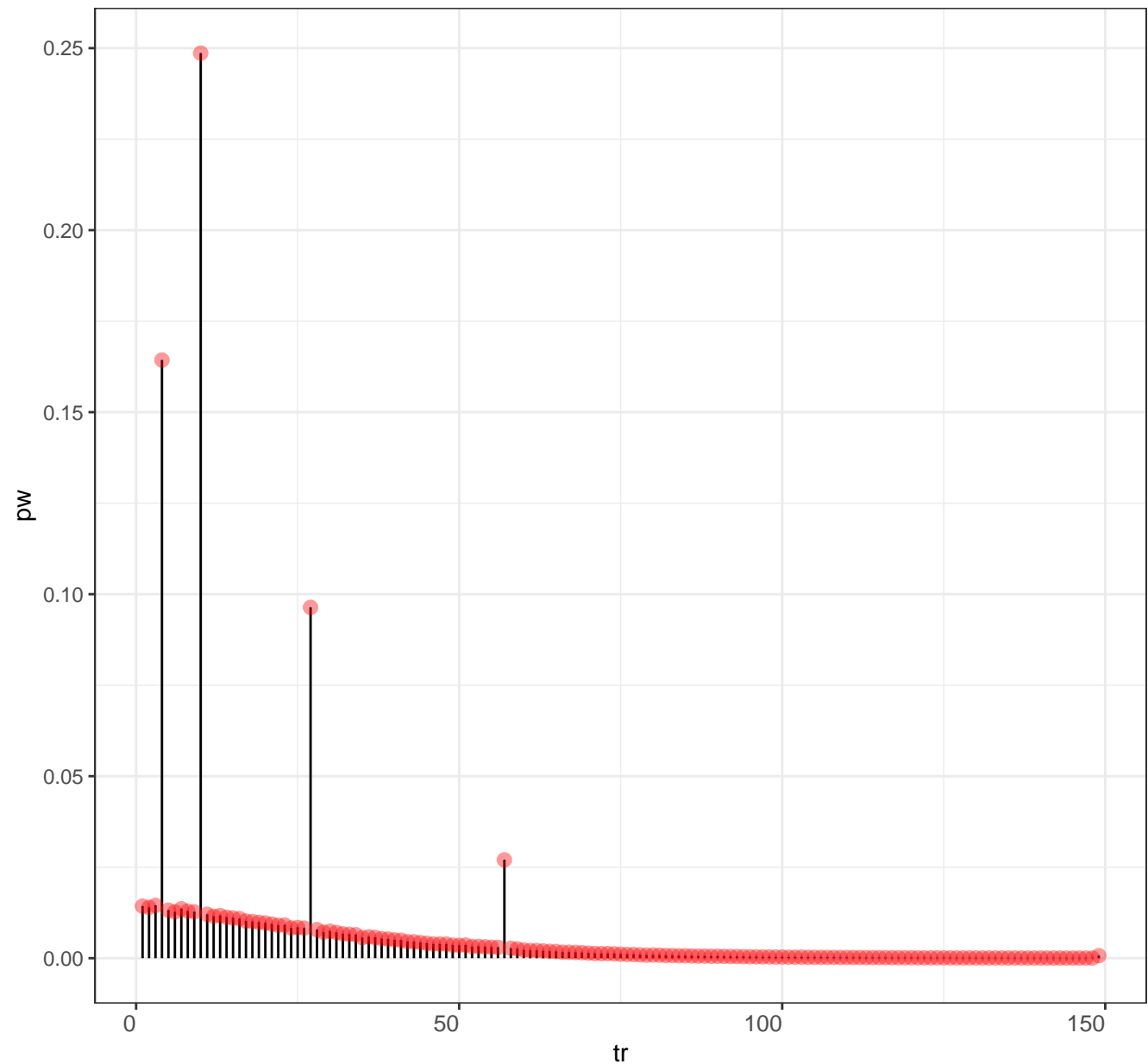
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

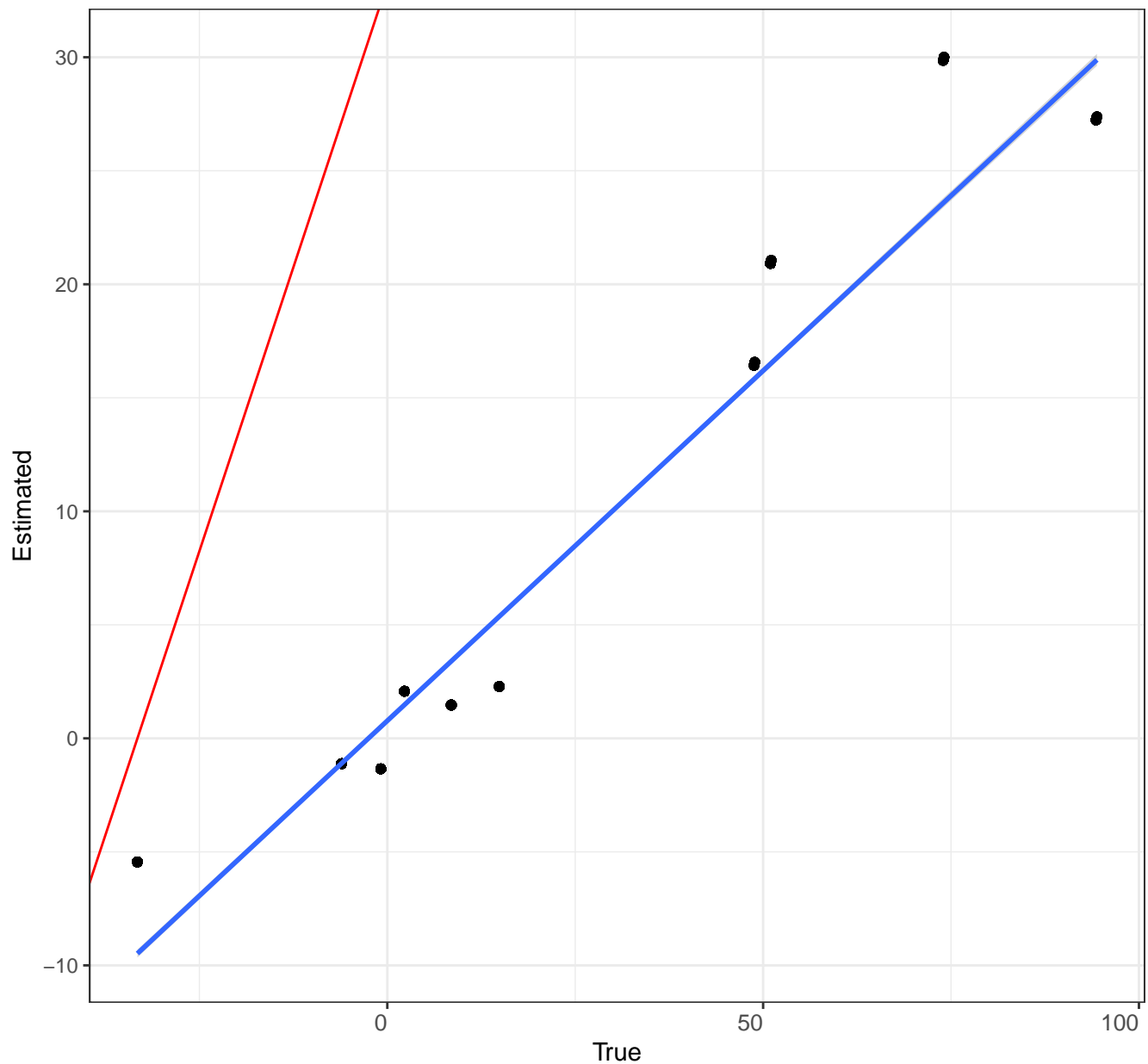


Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



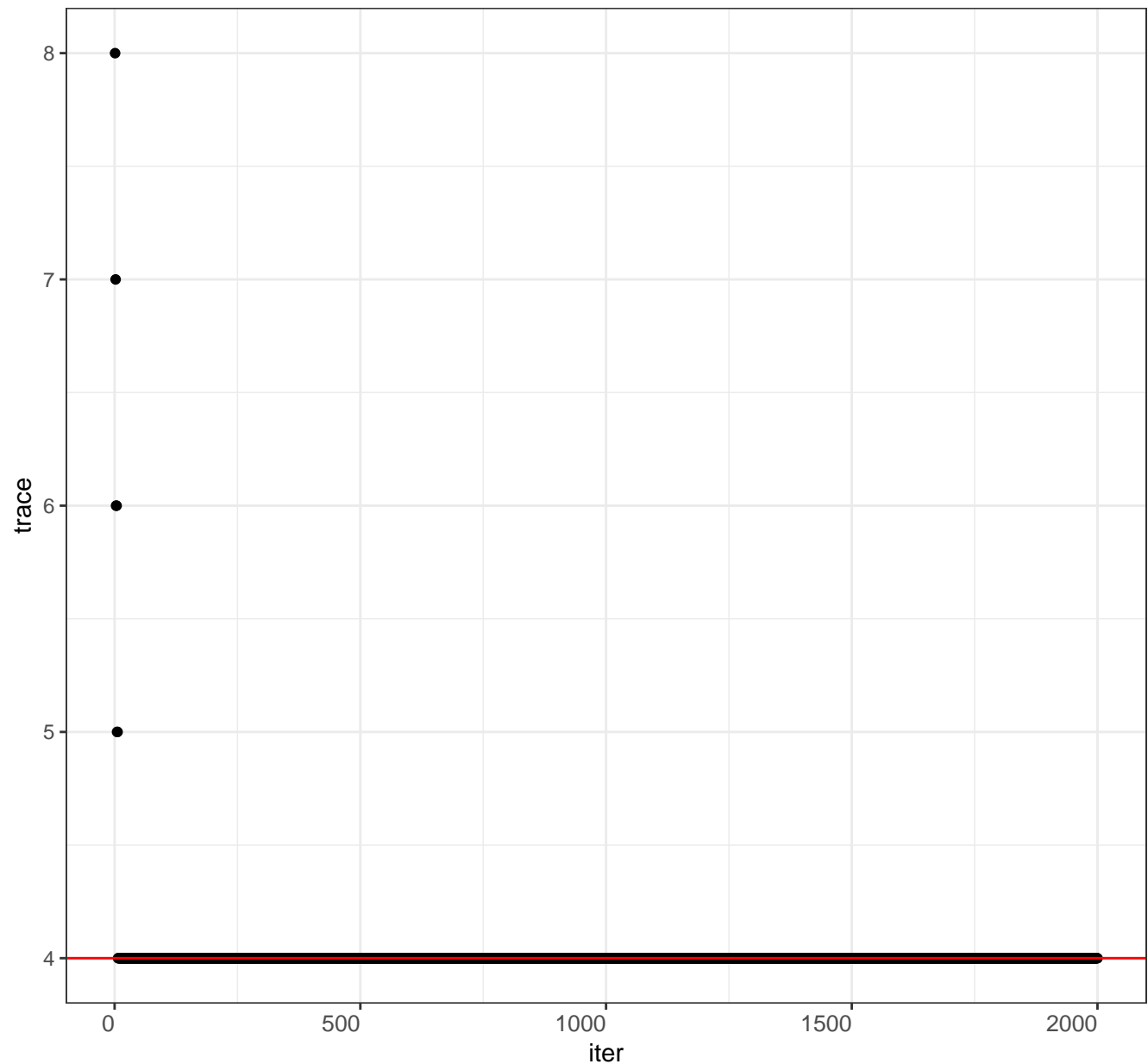
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

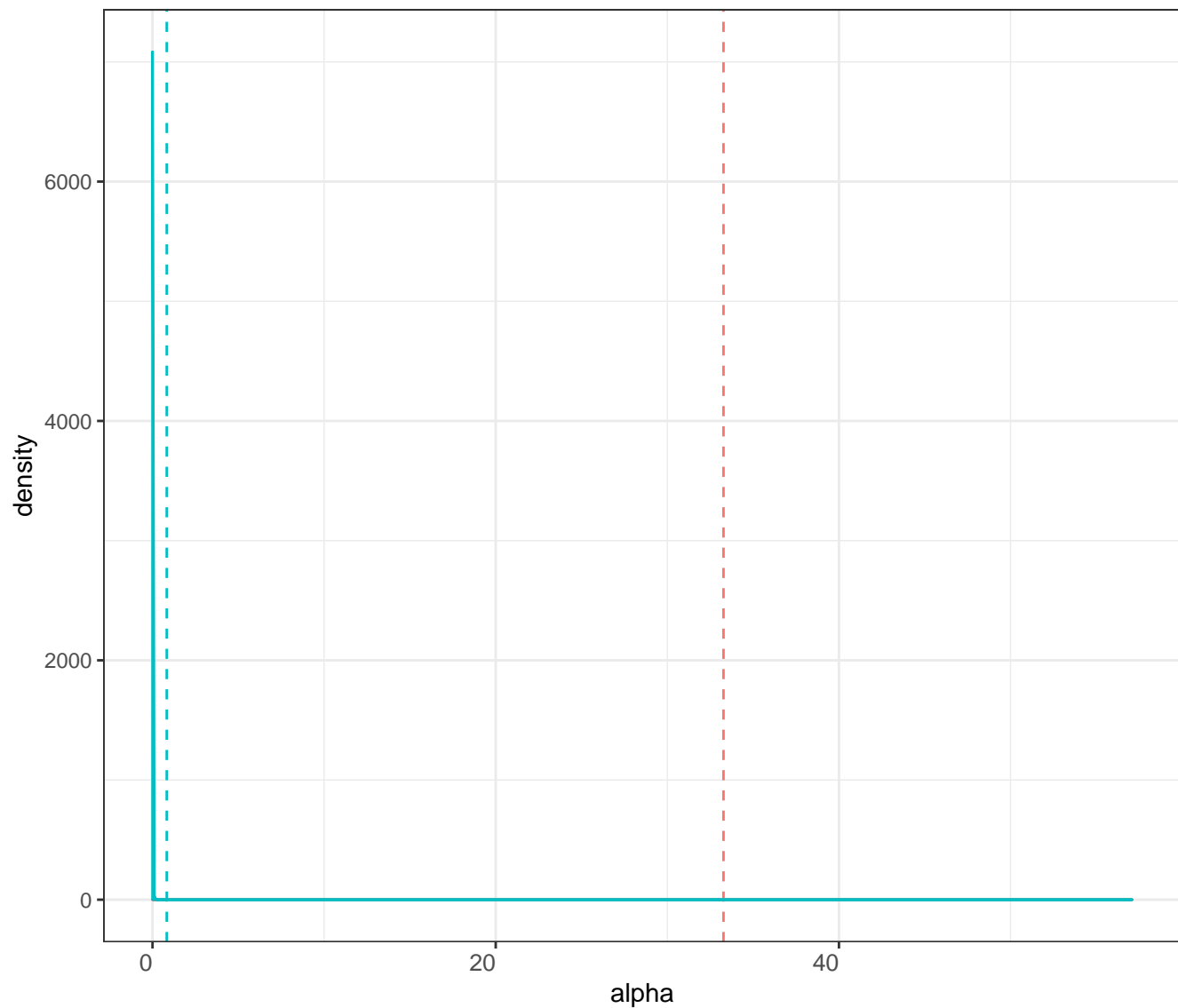
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

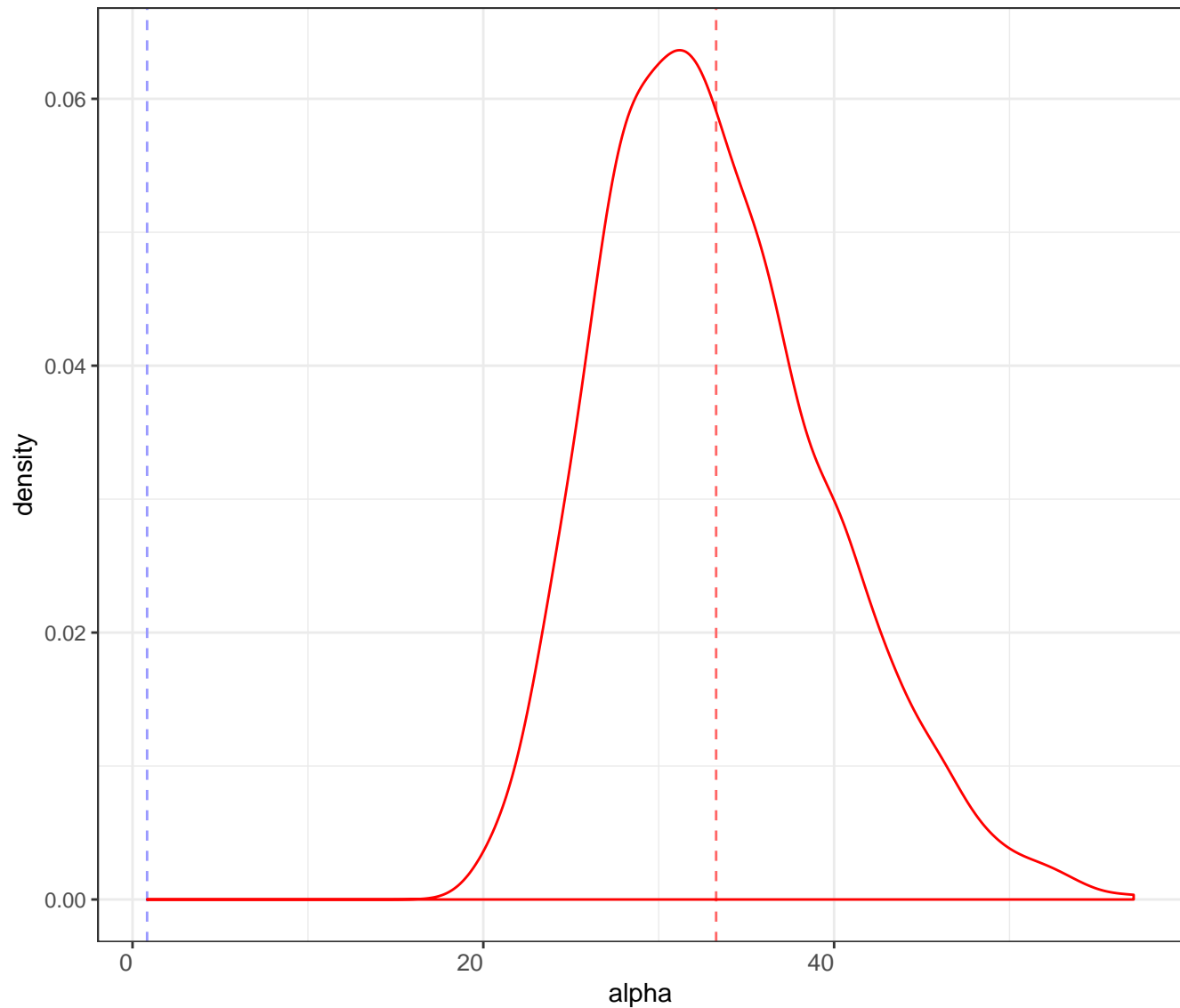
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

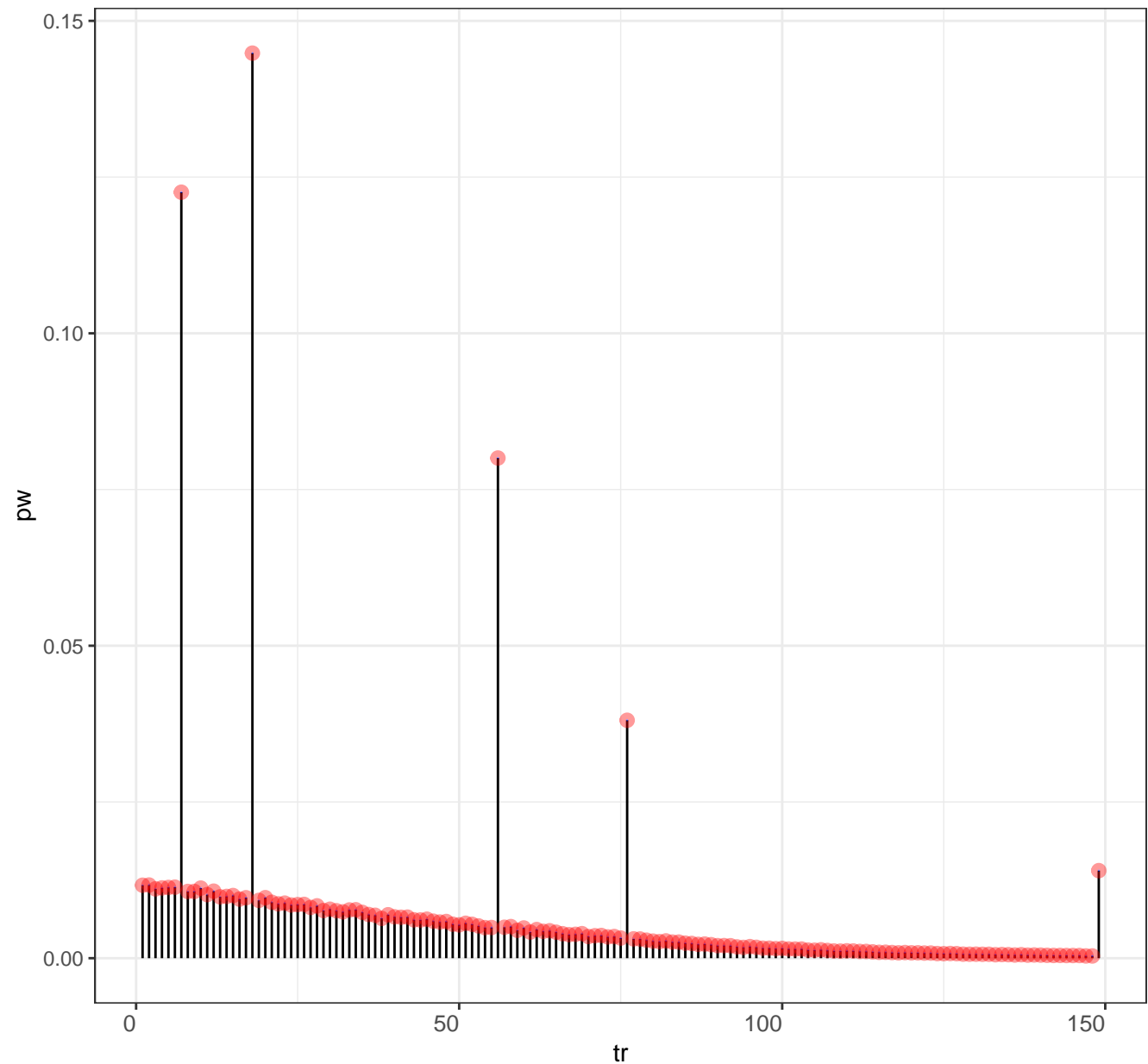
# Posterior distribution for alpha

Legend      posterior mean      prior mean



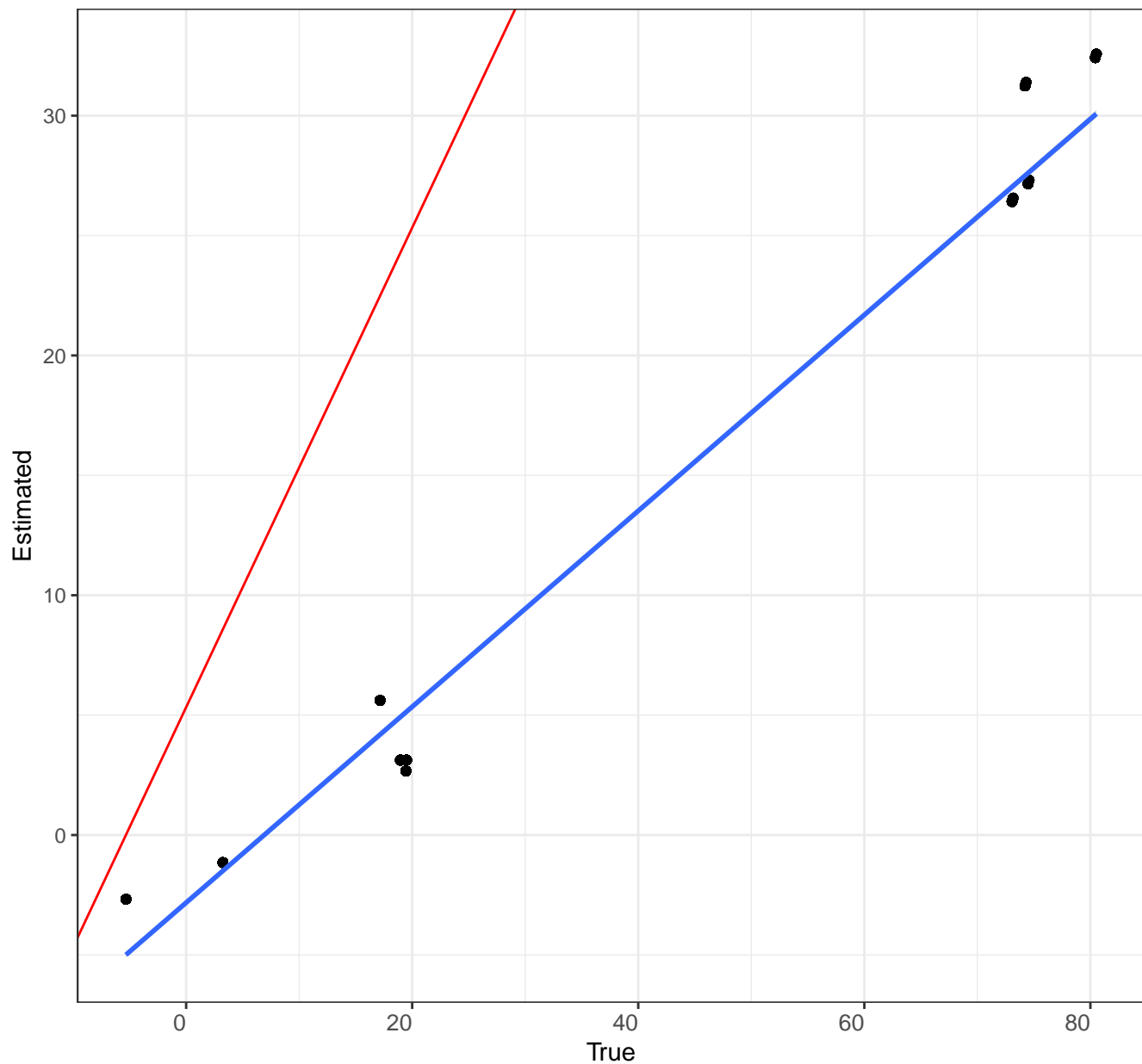
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  ,  $r=5$  true gr  $K=4$  ,type=1 ,  $N=150$   $pN=0.014$



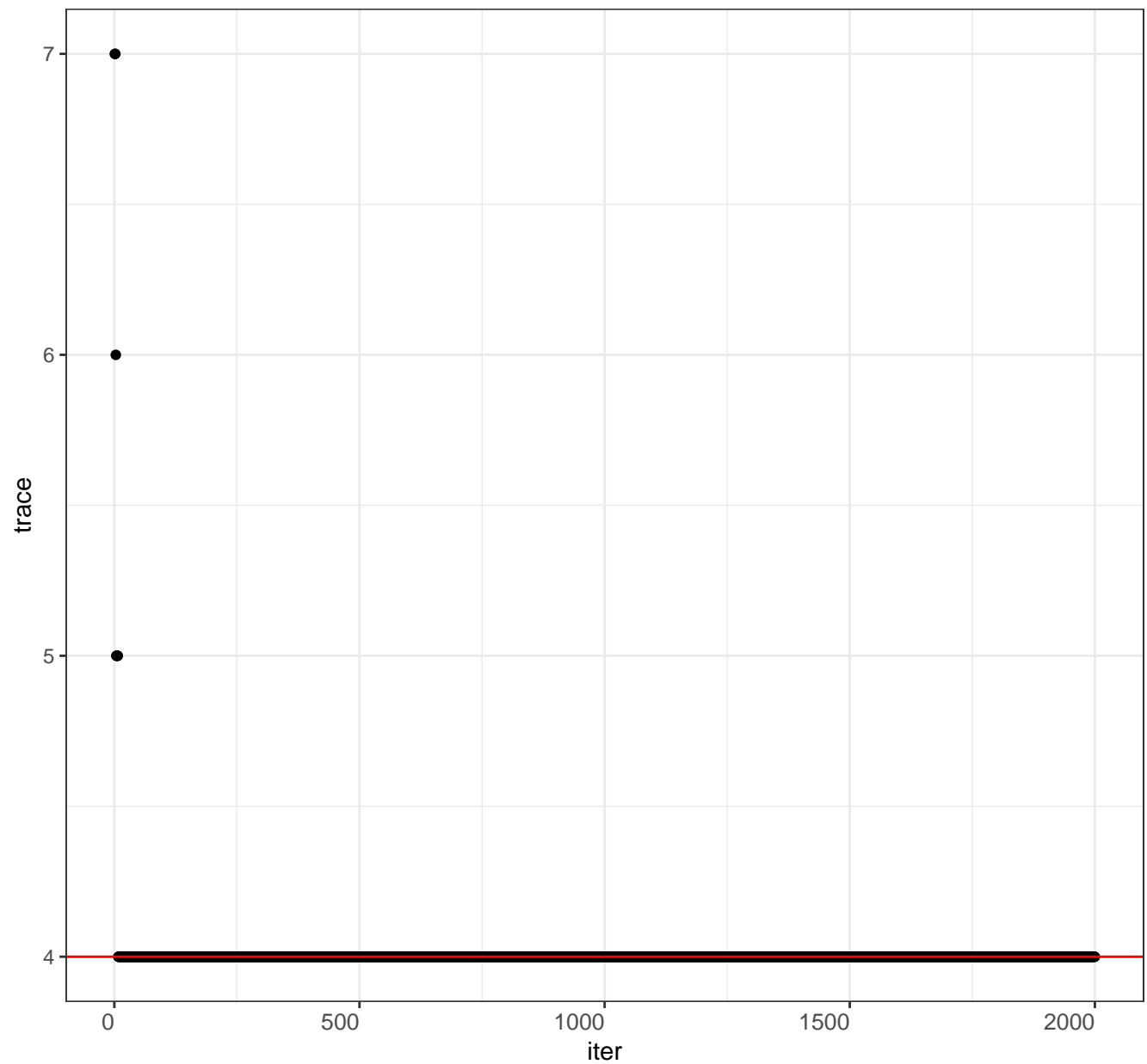
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

Trace plot for the number of groups K for S=50 r=5 true K=4 type=1

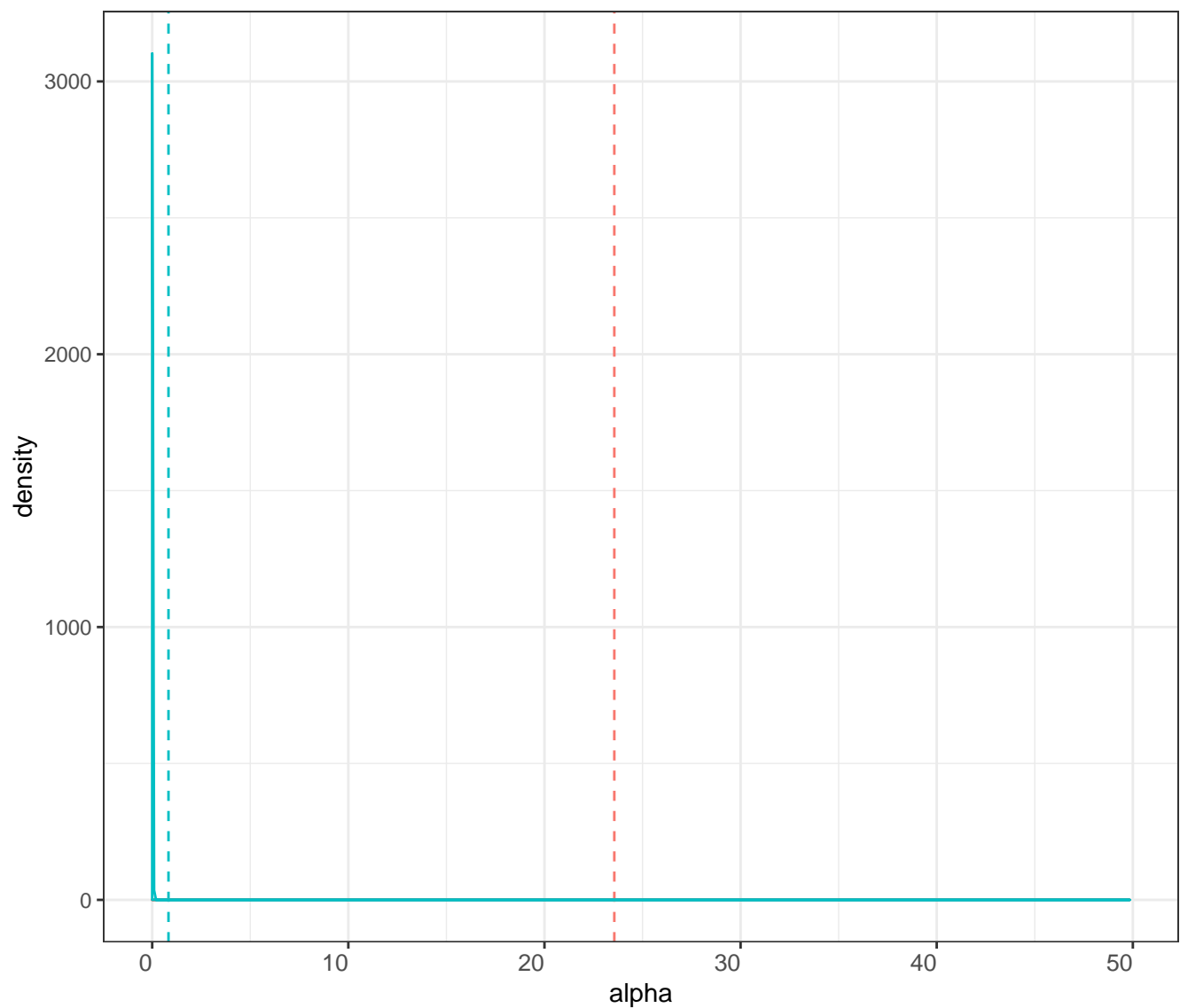


Number of iterations: 2000 burnin: 1000 number of samples: 500



Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

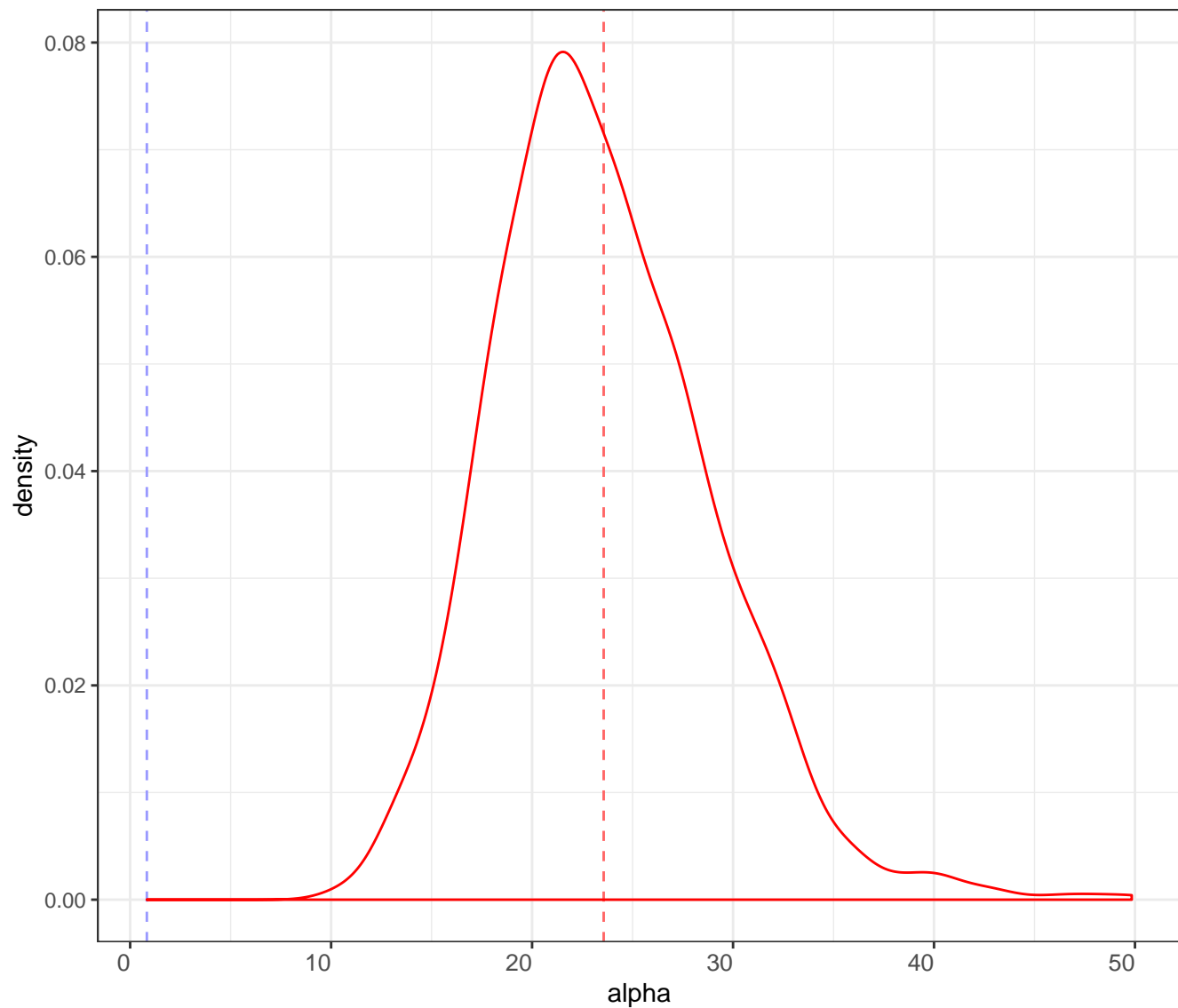
type | posterior | prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

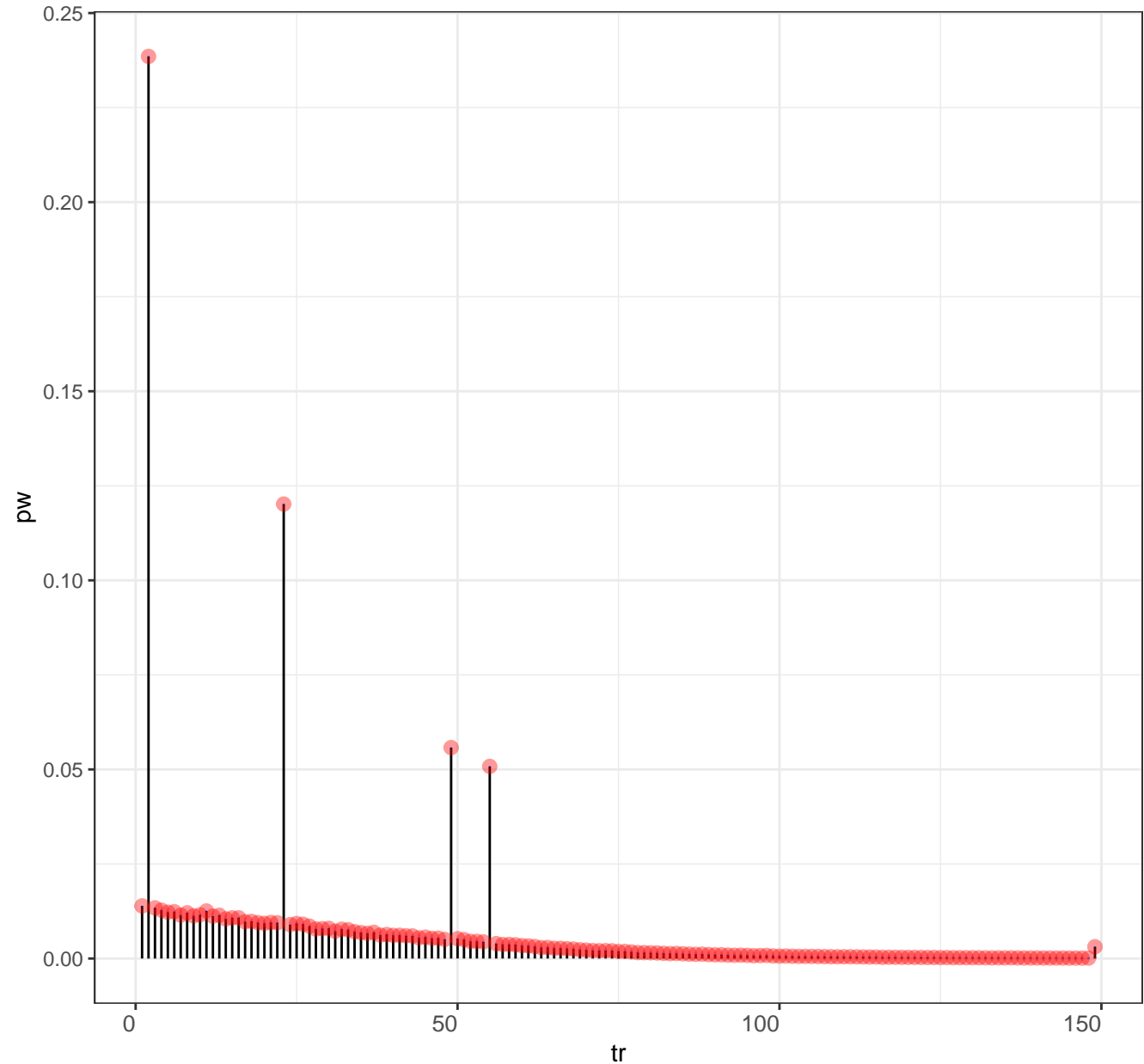
# Posterior distribution for alpha

Legend    posterior mean    prior mean



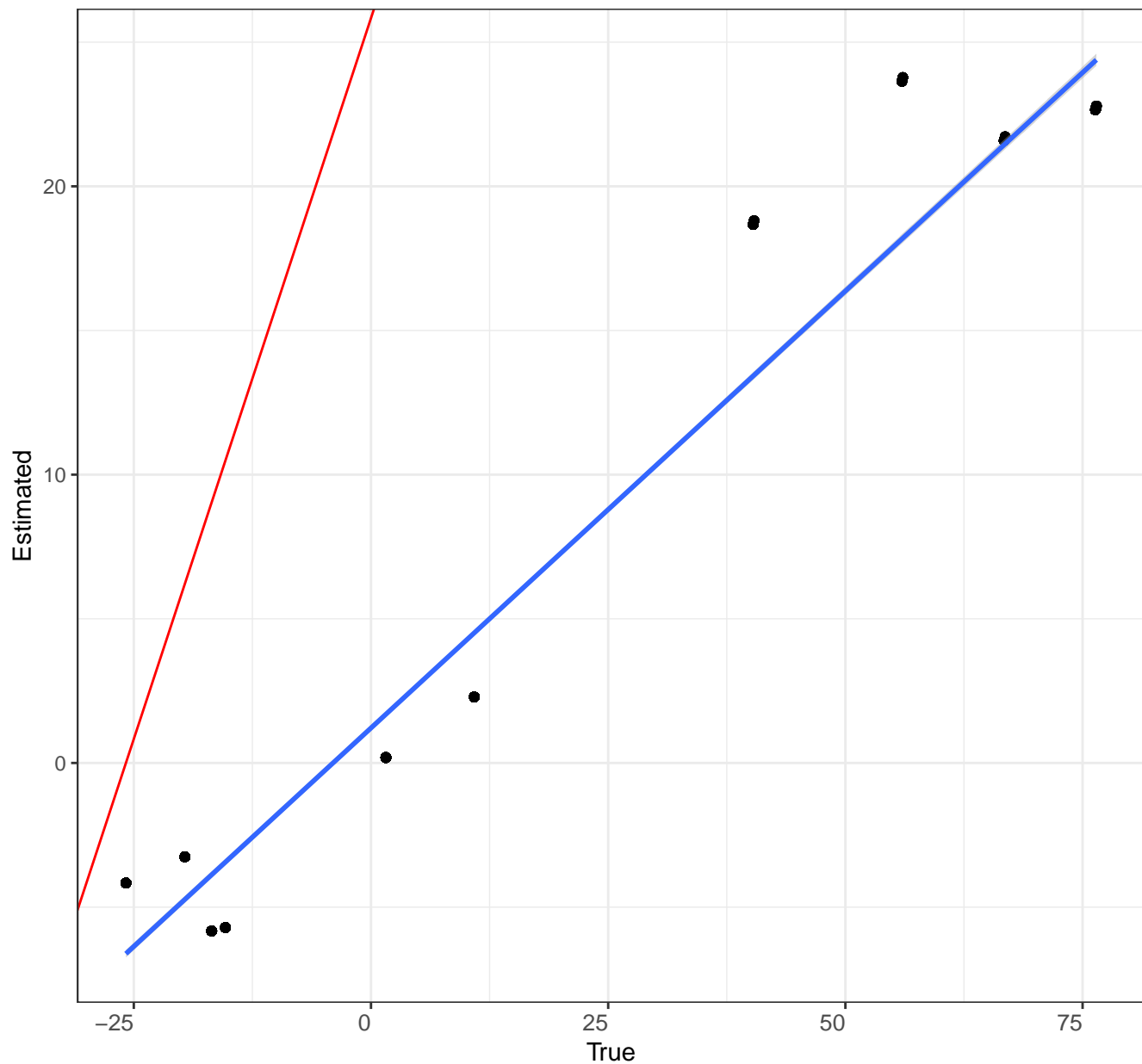
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.003$



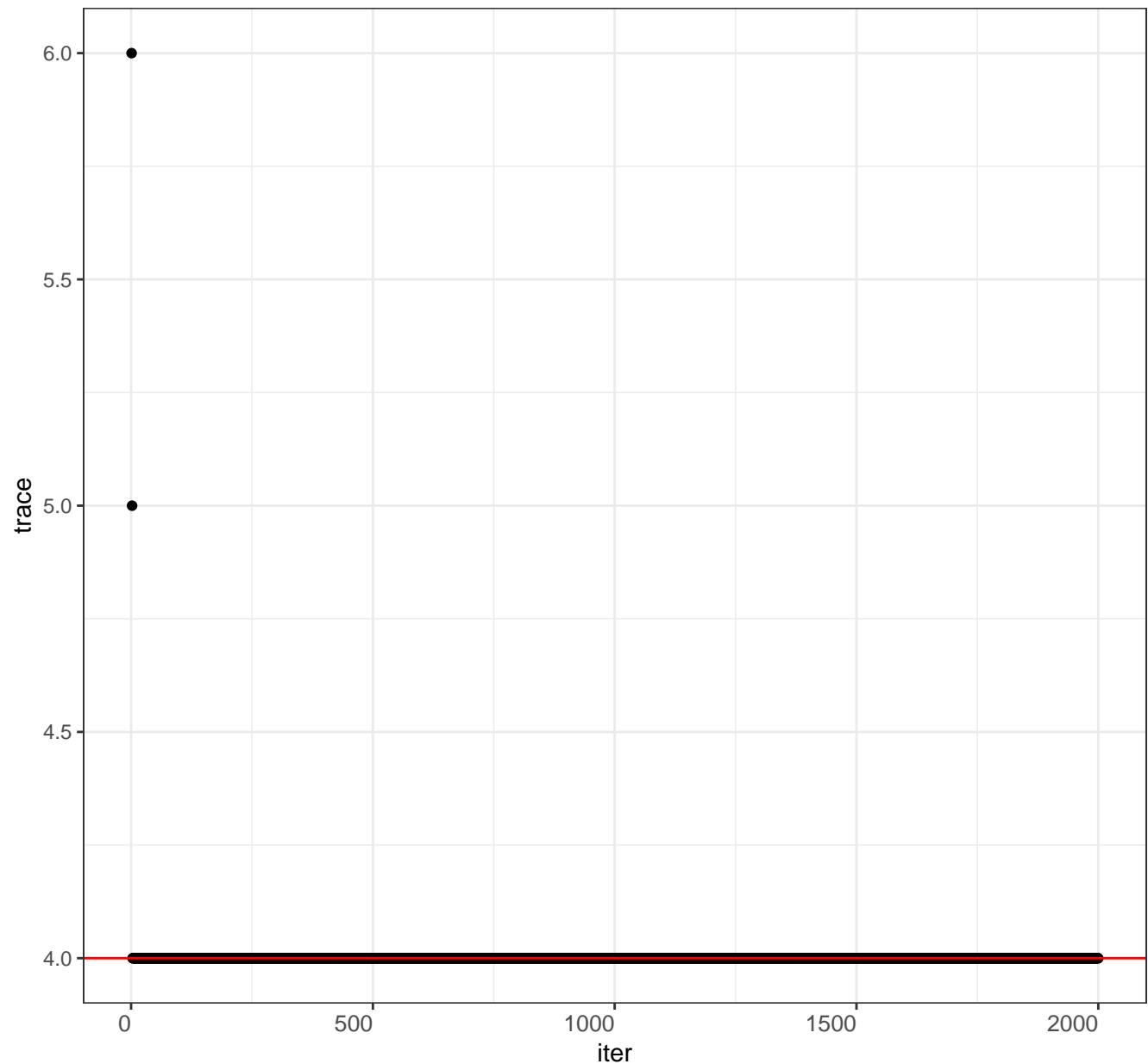
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

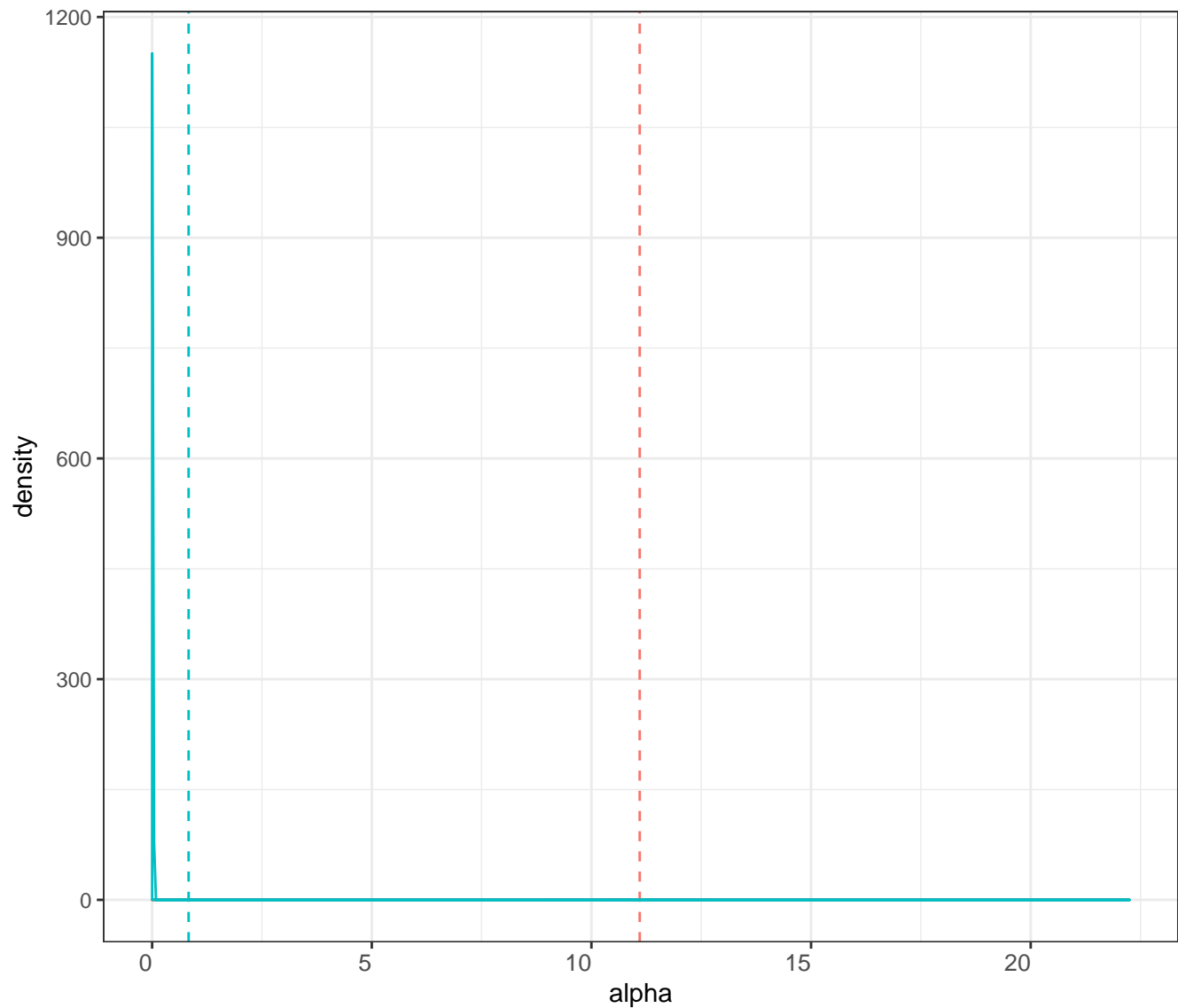
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

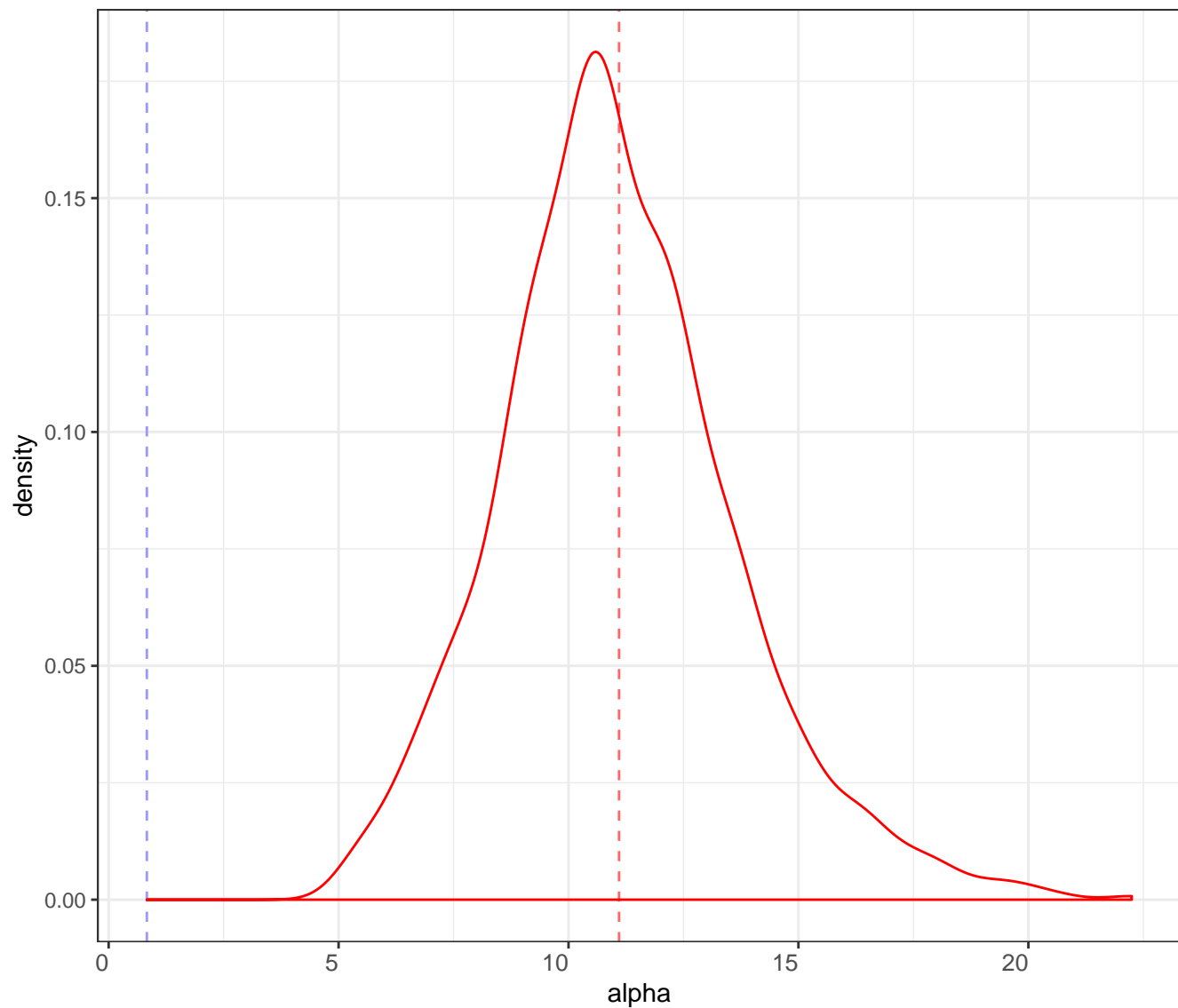
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

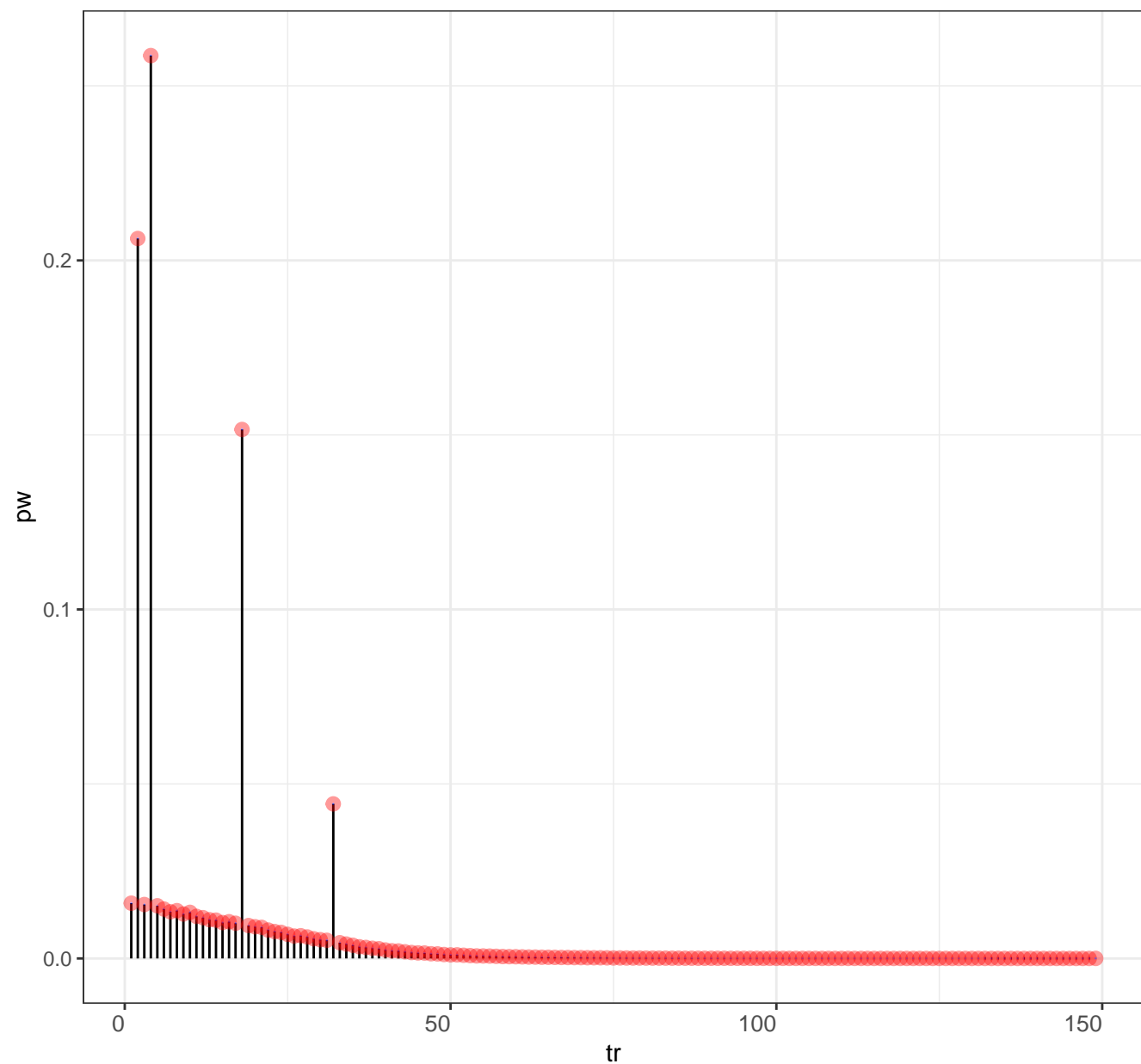
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

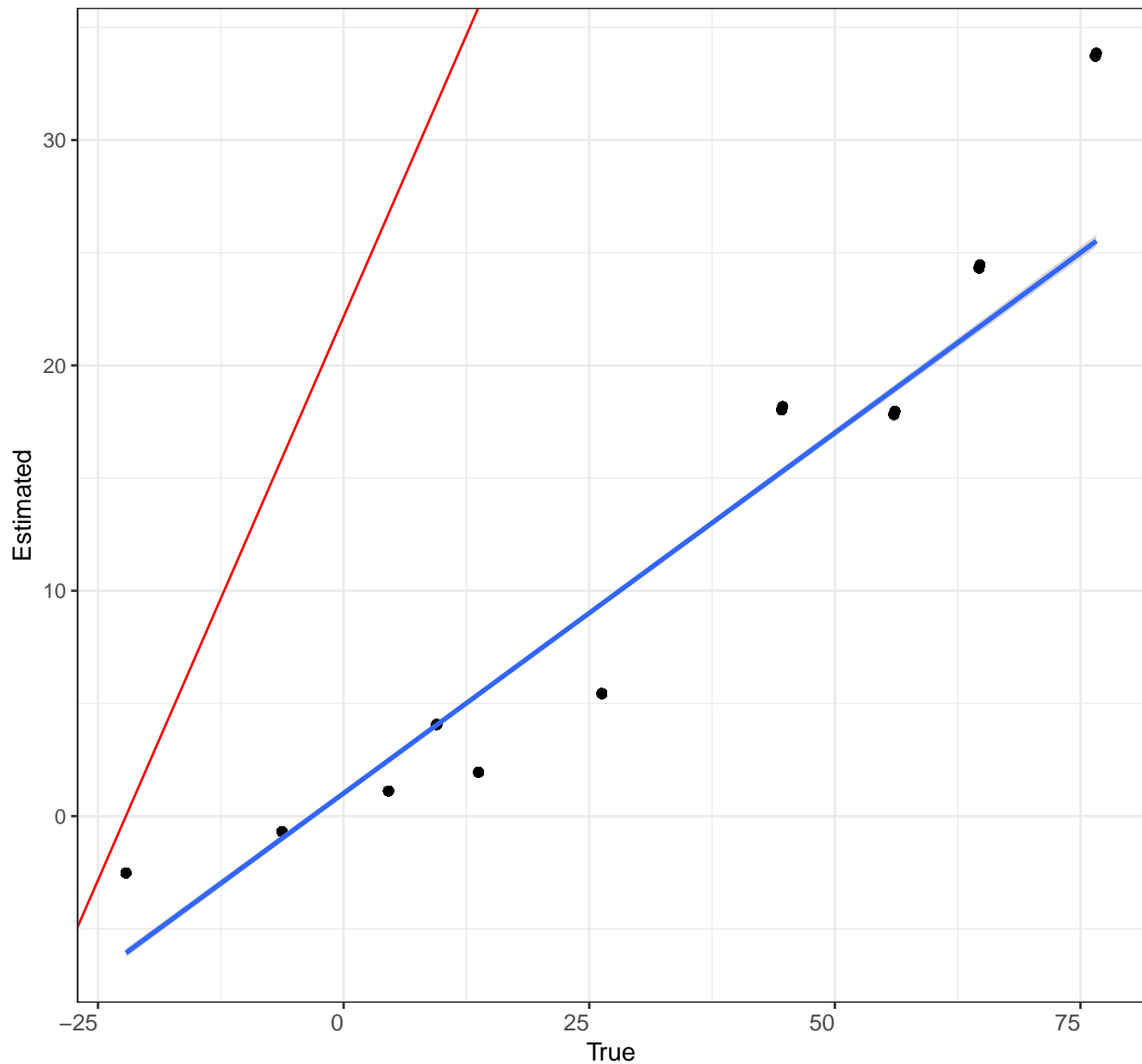
Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

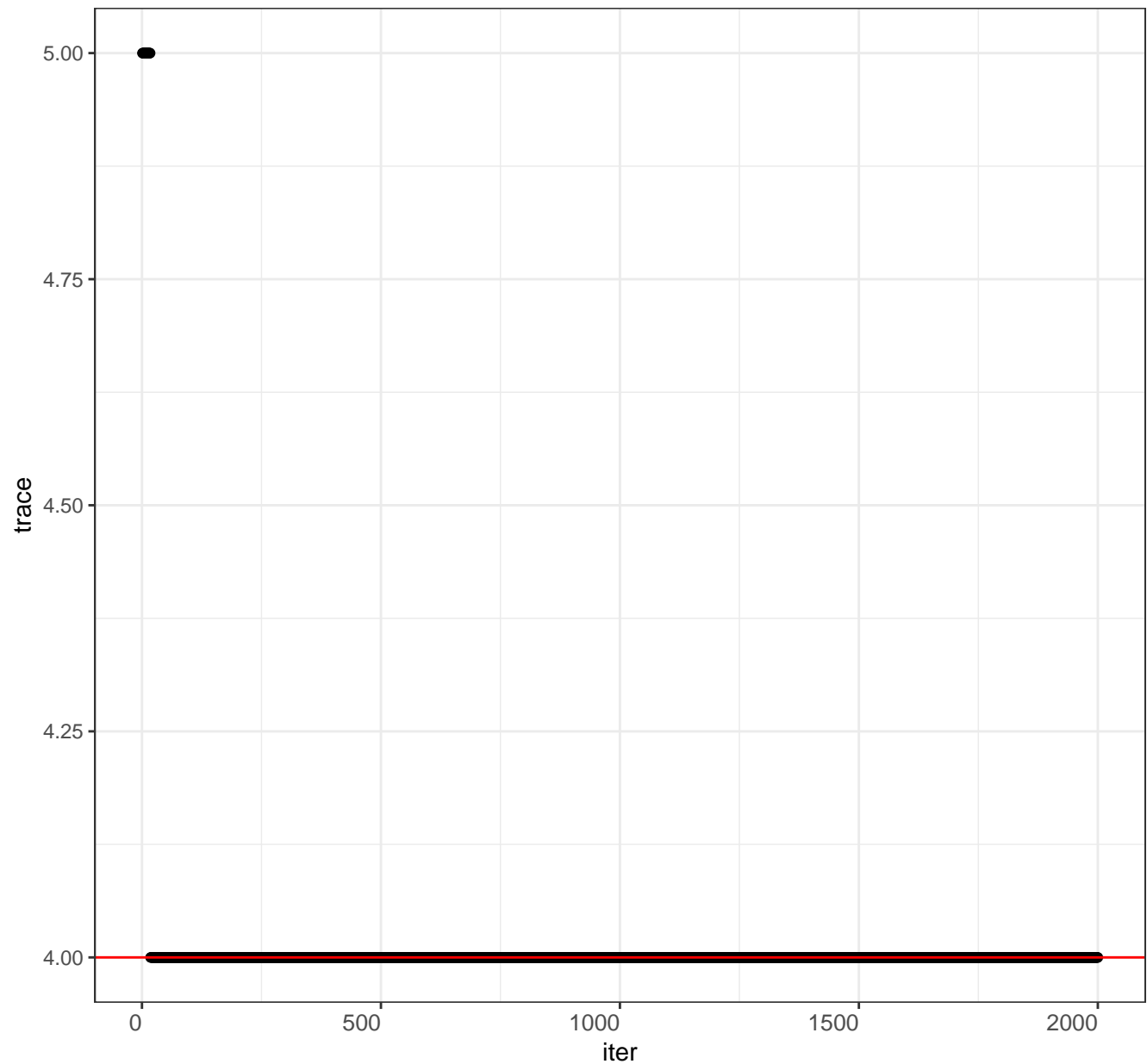


True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

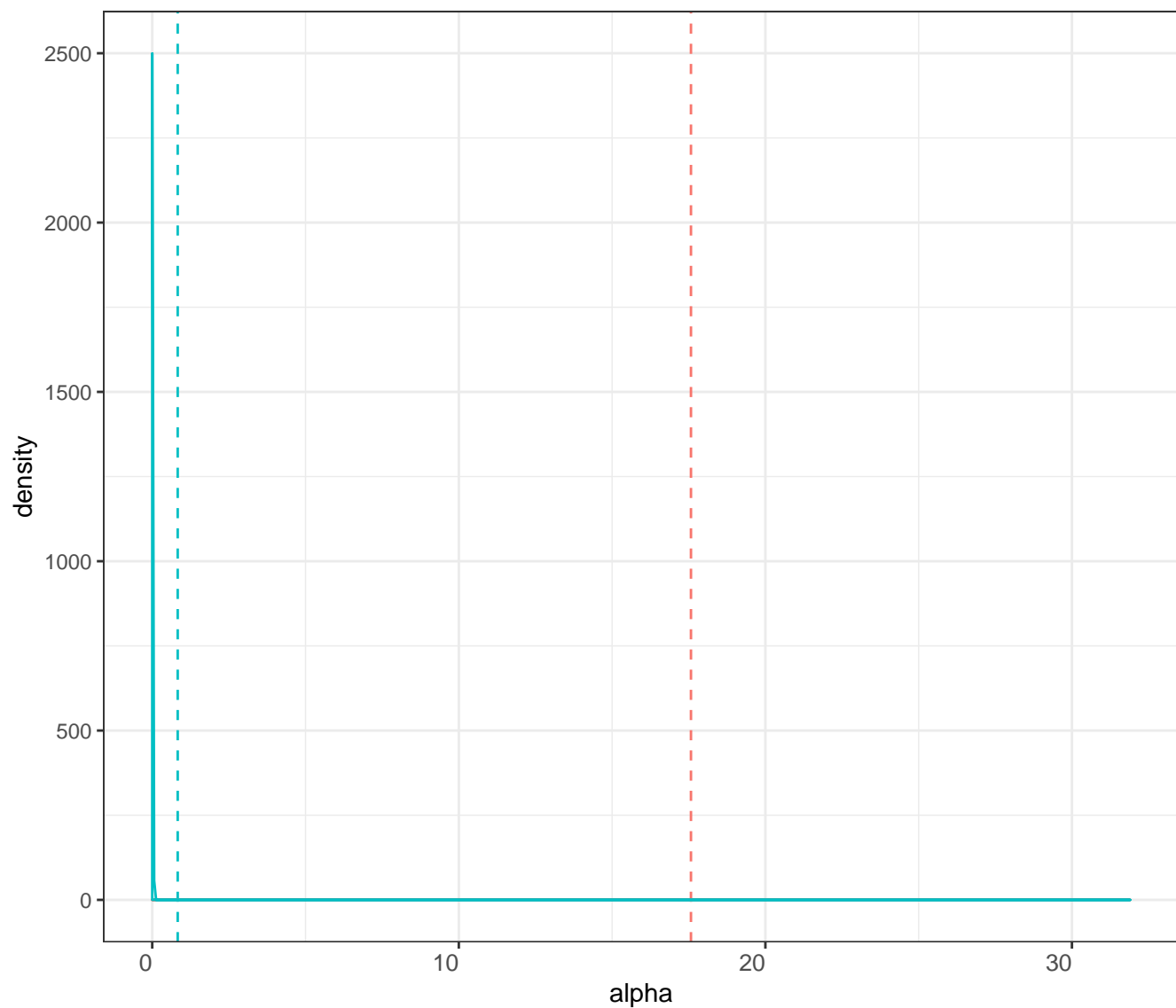
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

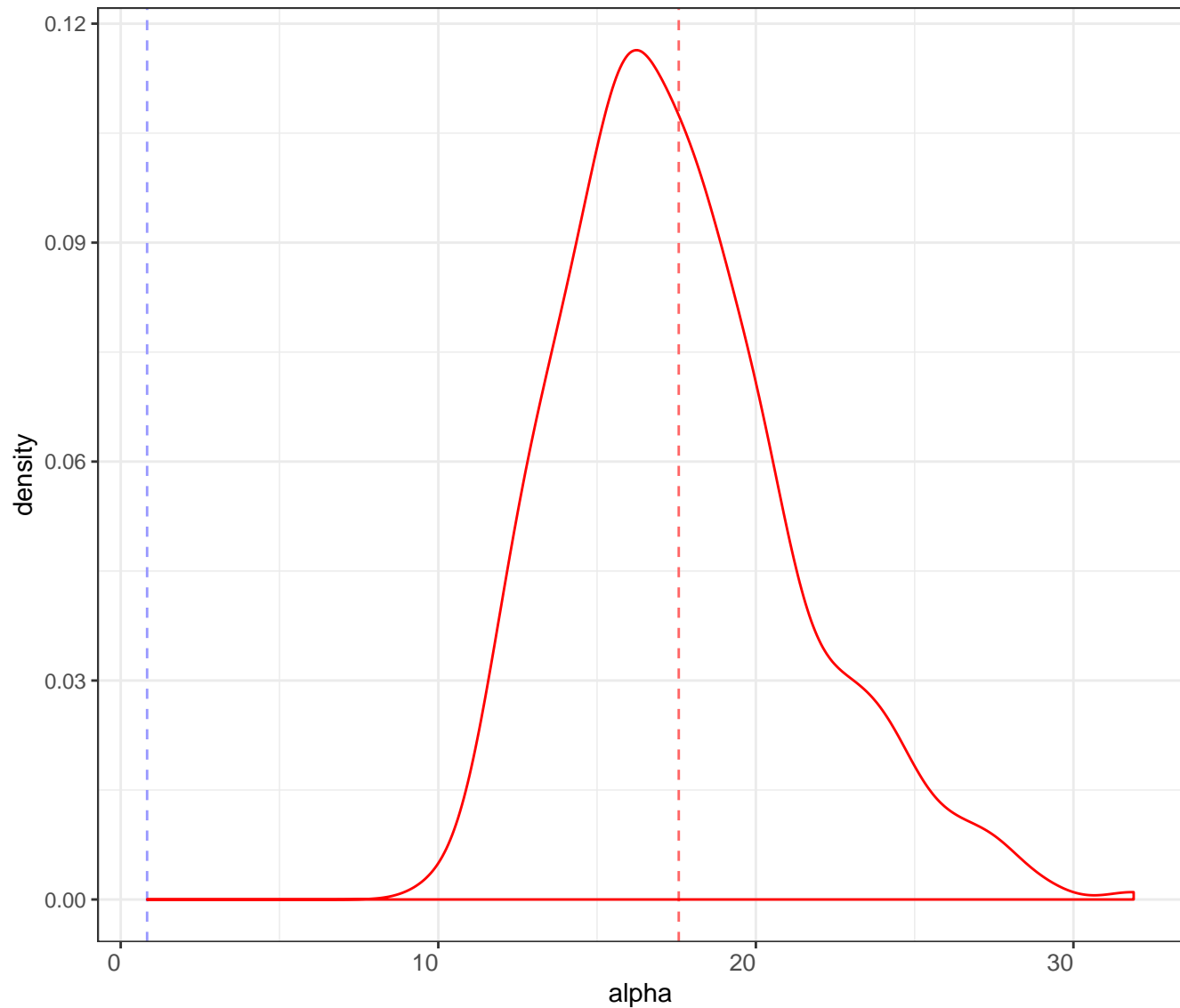
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

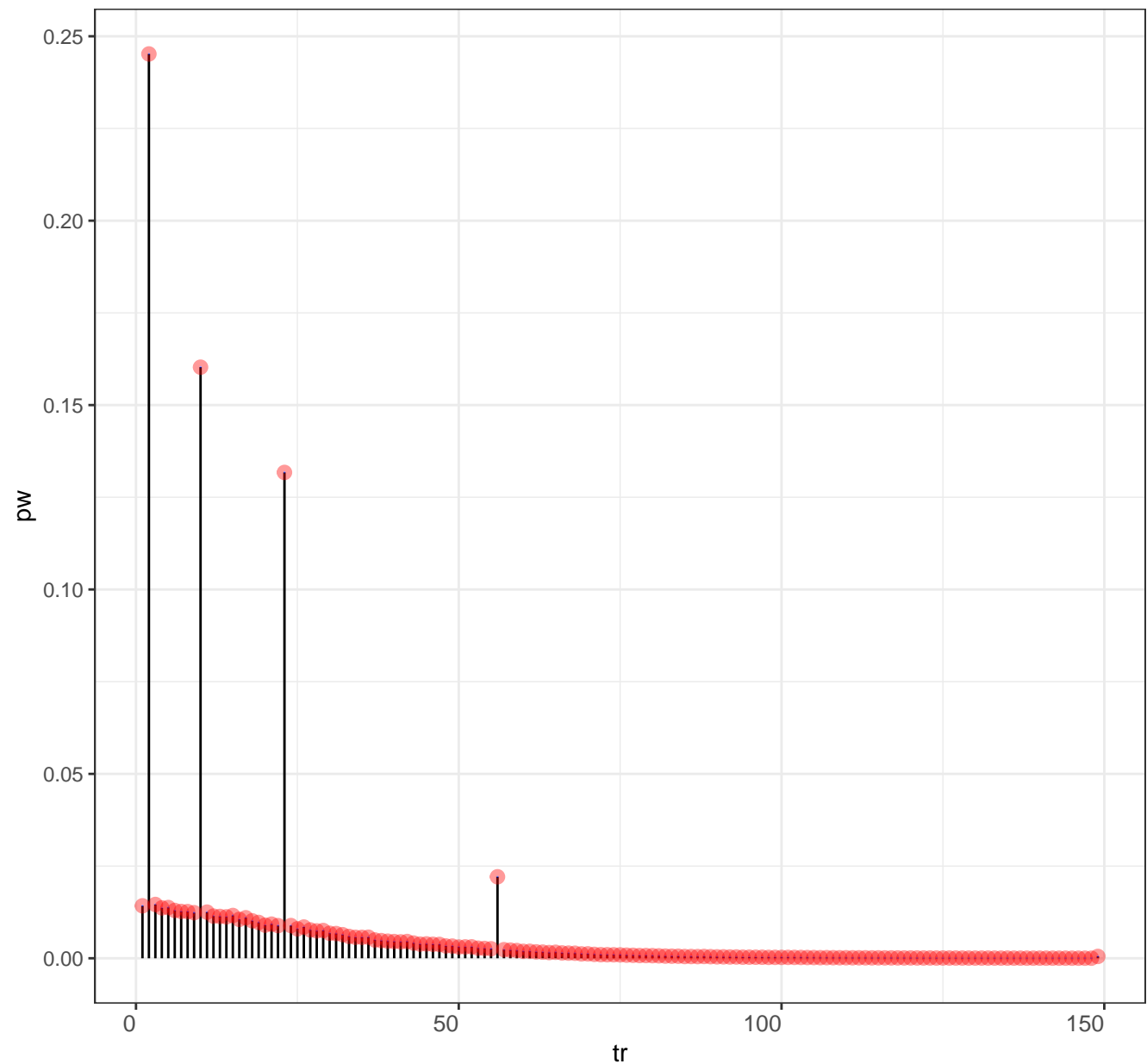
# Posterior distribution for alpha

Legend    posterior mean    prior mean



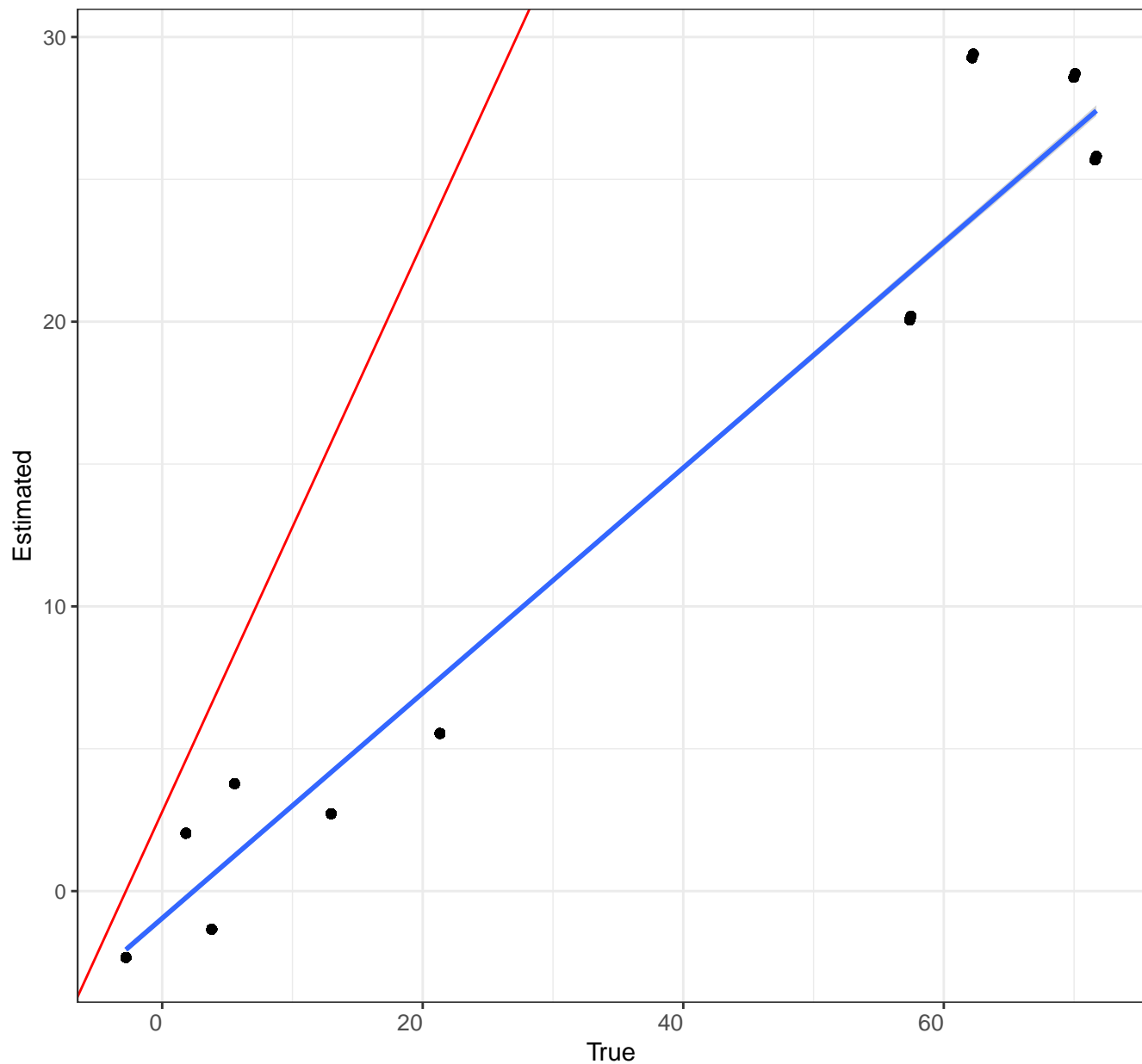
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



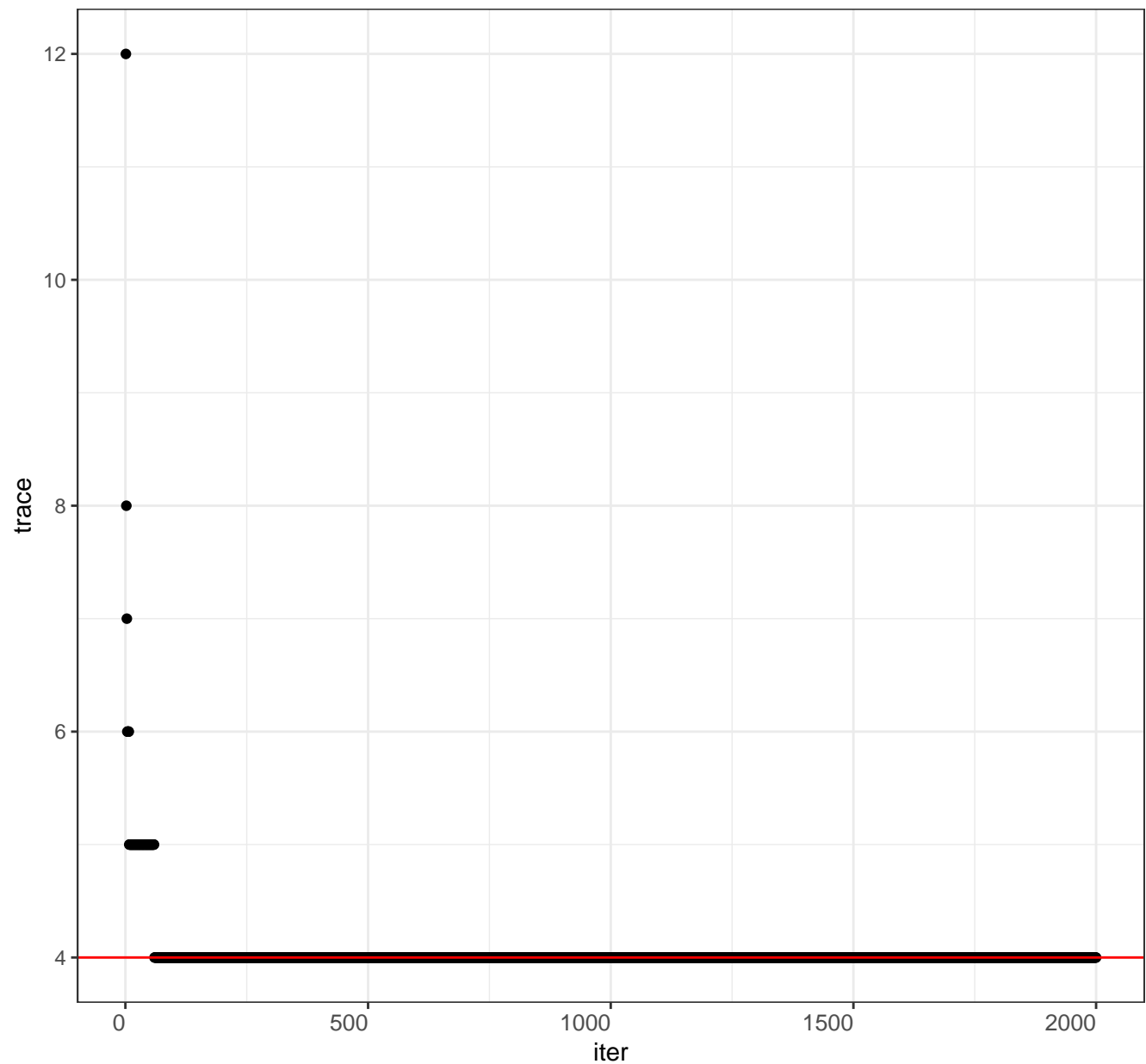
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

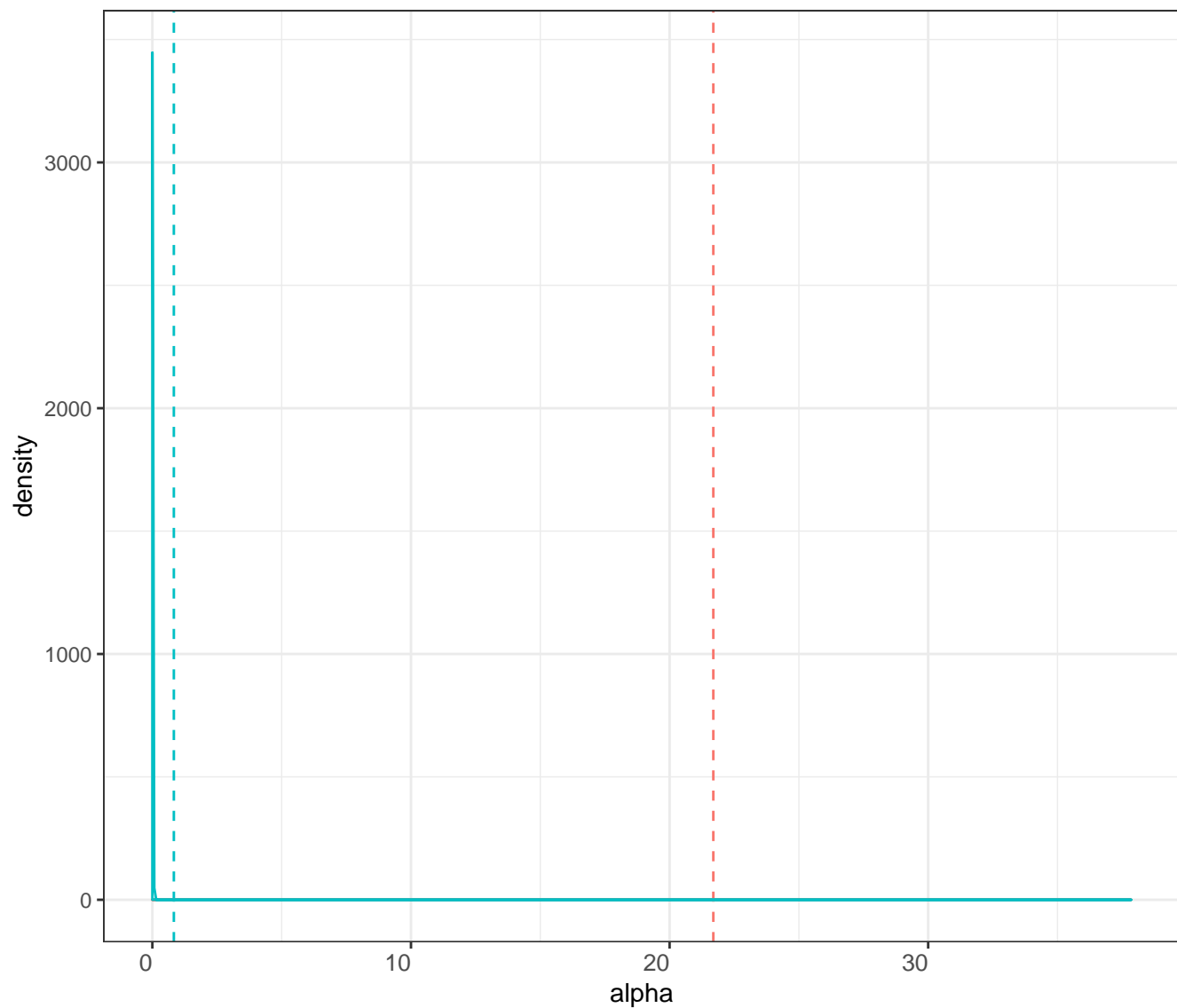
Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

type  posterior  prior

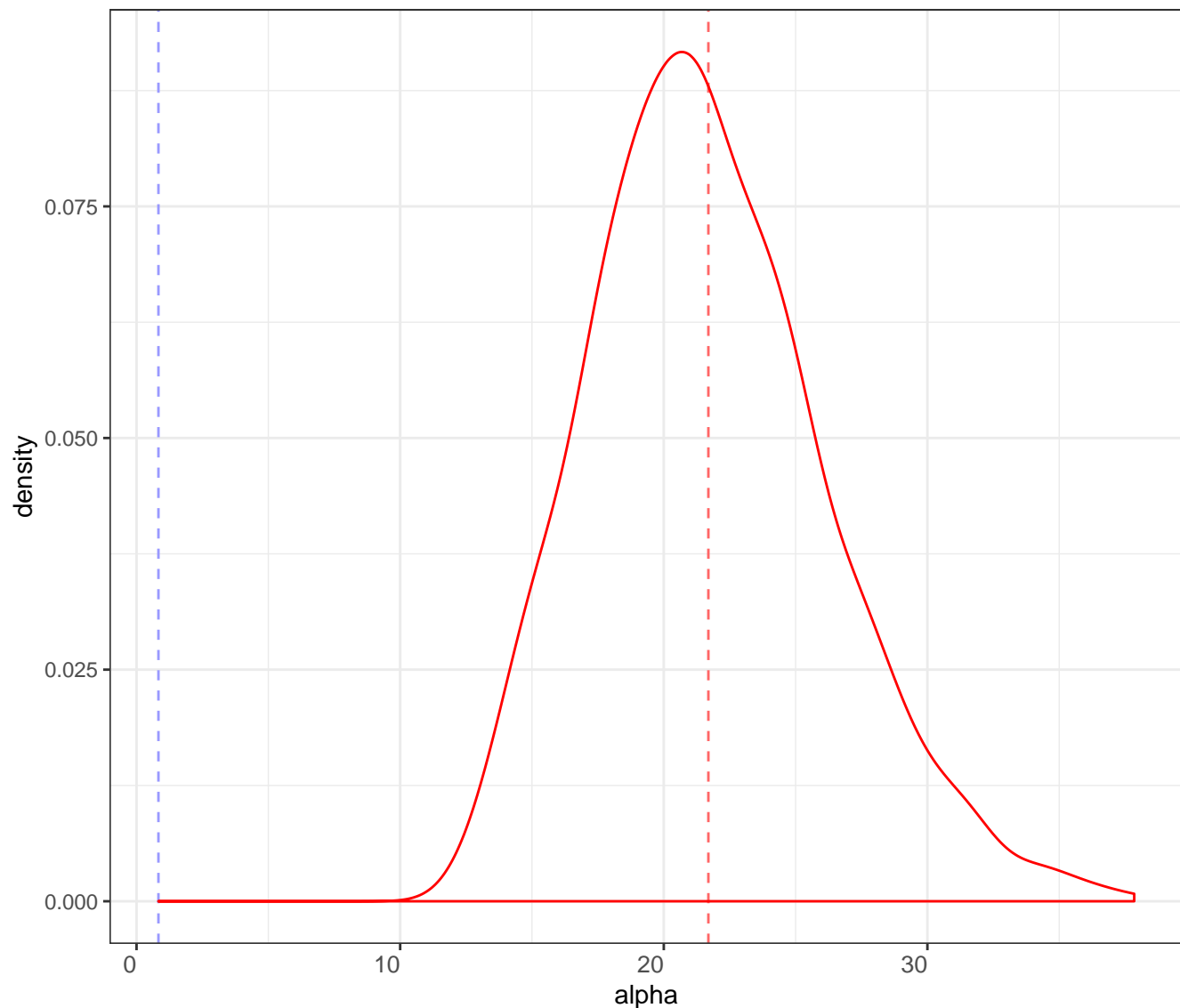


Number of iterations: 2000 burnin: 1000 number of samples: 500



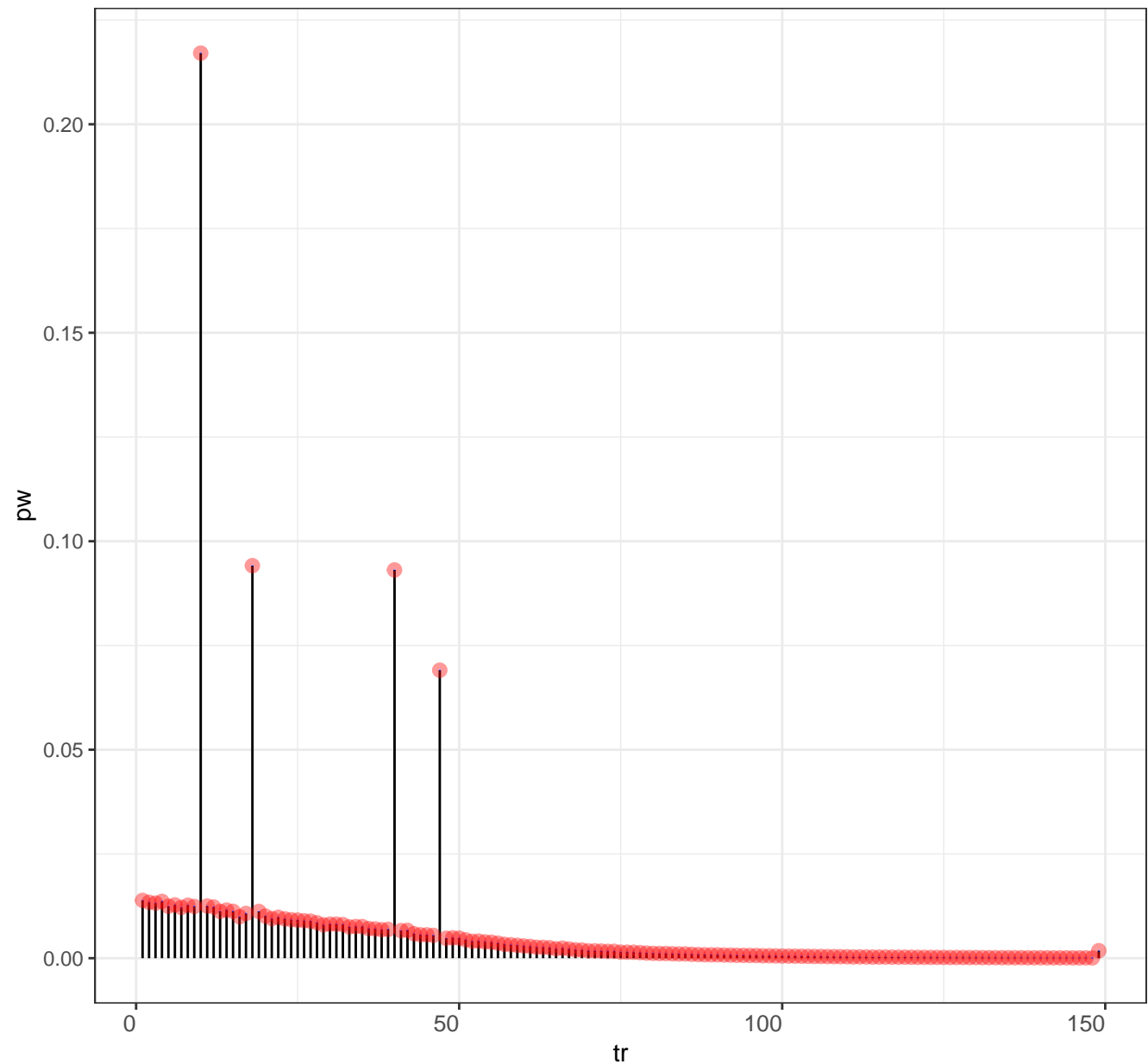
# Posterior distribution for alpha

Legend    posterior mean    prior mean



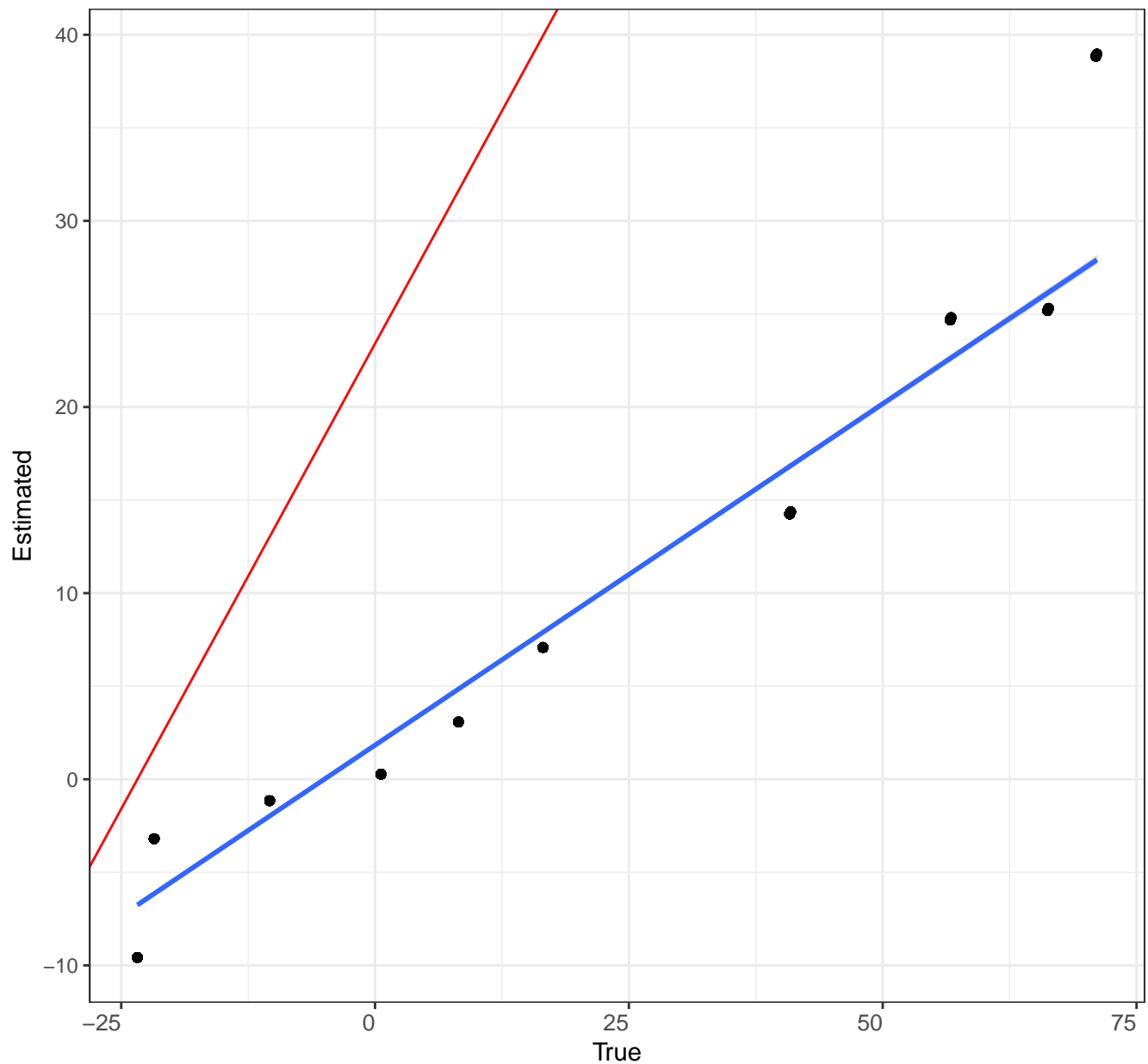
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  ,  $r=5$  true gr  $K=4$  , type=1 ,  $N=150$   $pN=0.002$



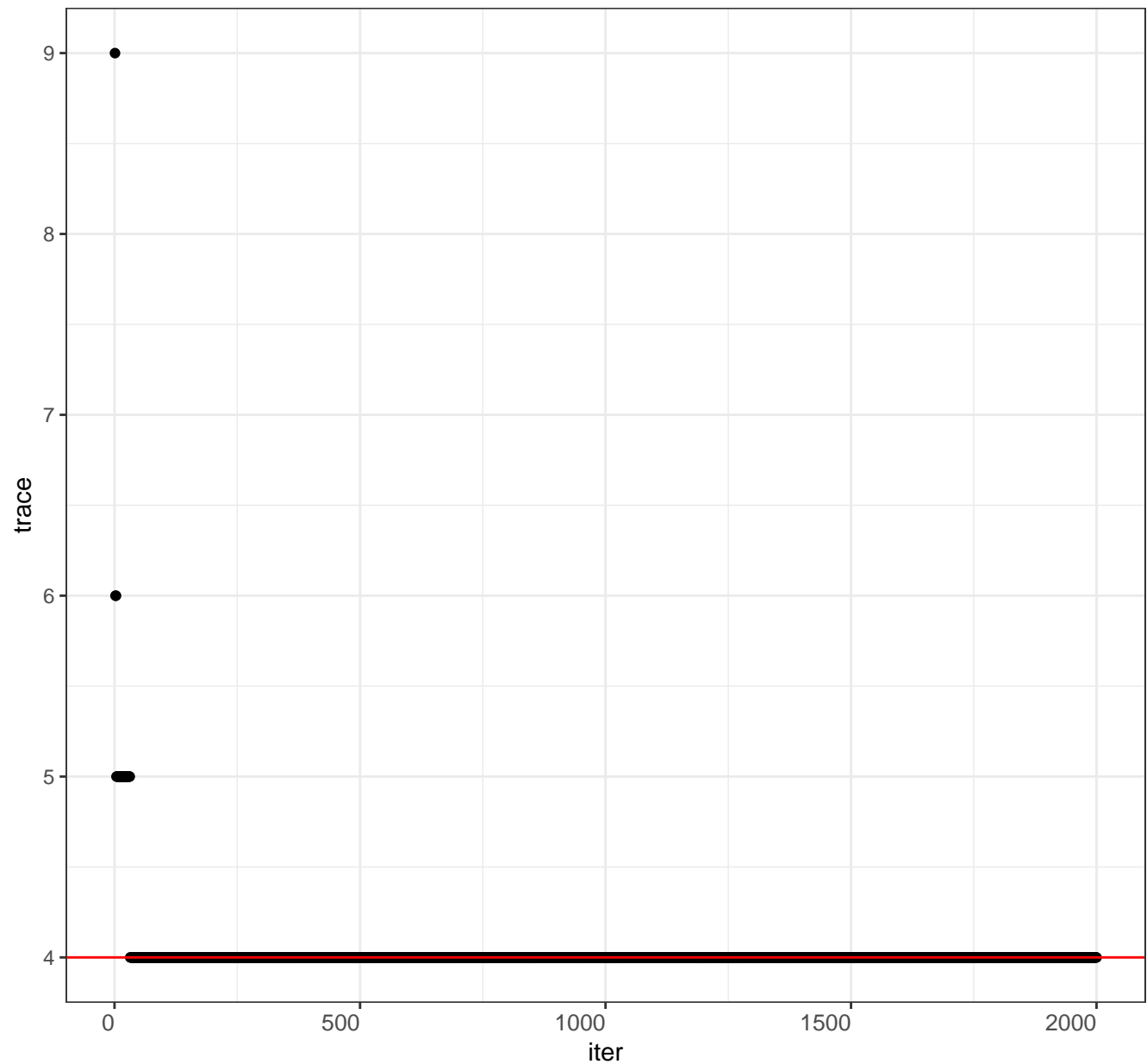
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





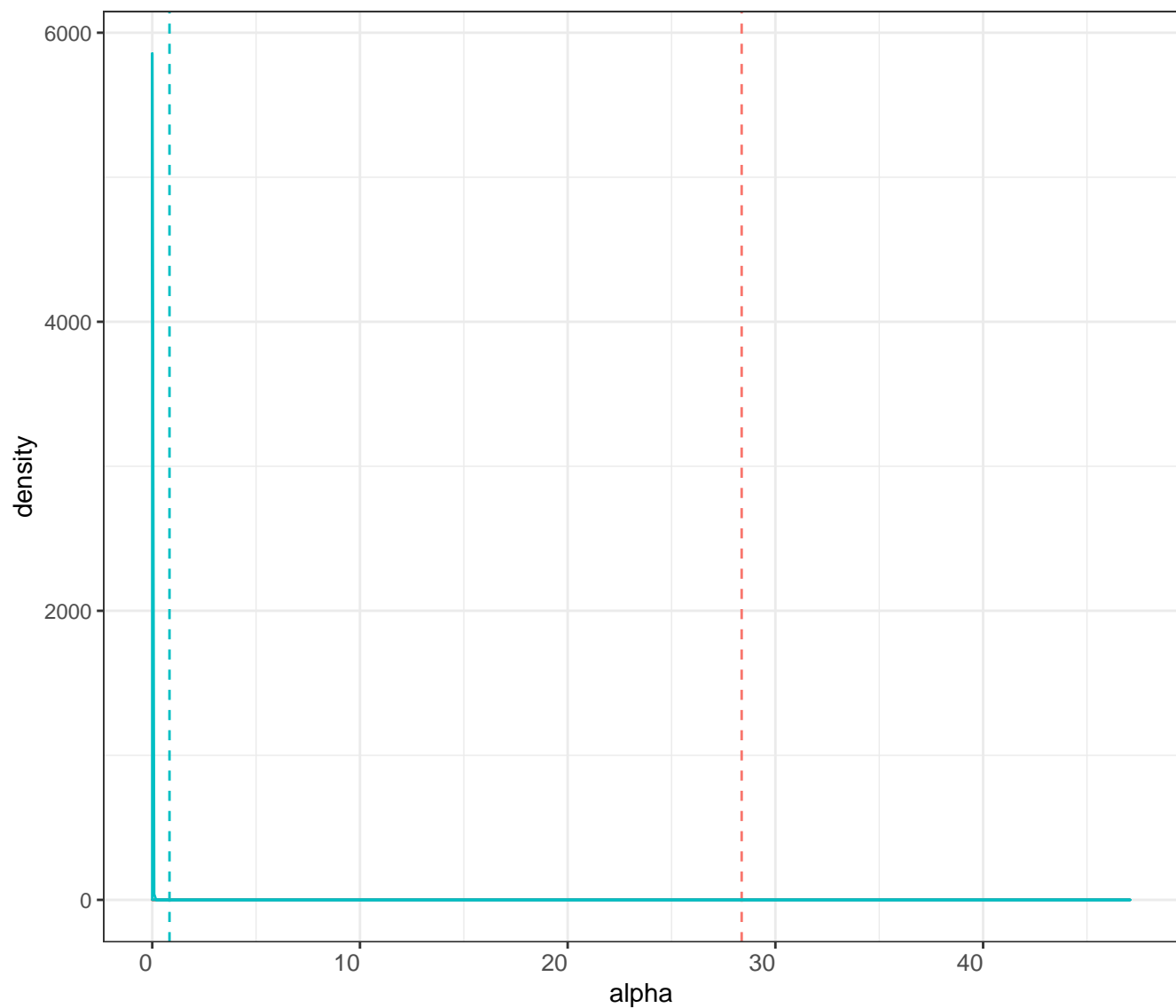
Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1

Trace plot for the number of groups K for S=50 r=5 true K=4 type=1



Distribution alpha: S=50 ,r=5 true gr K=4 ,type=1 ,N=150

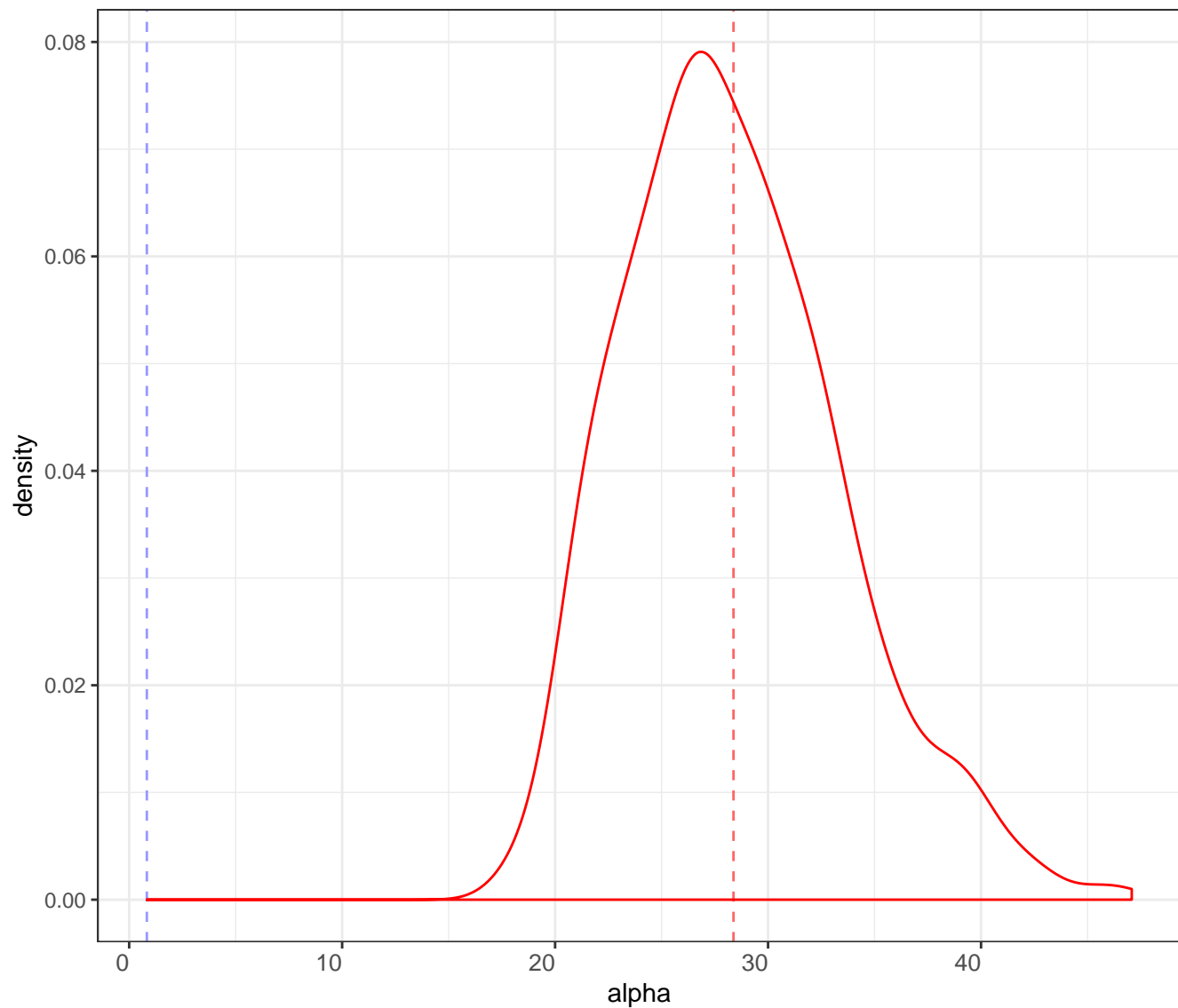
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

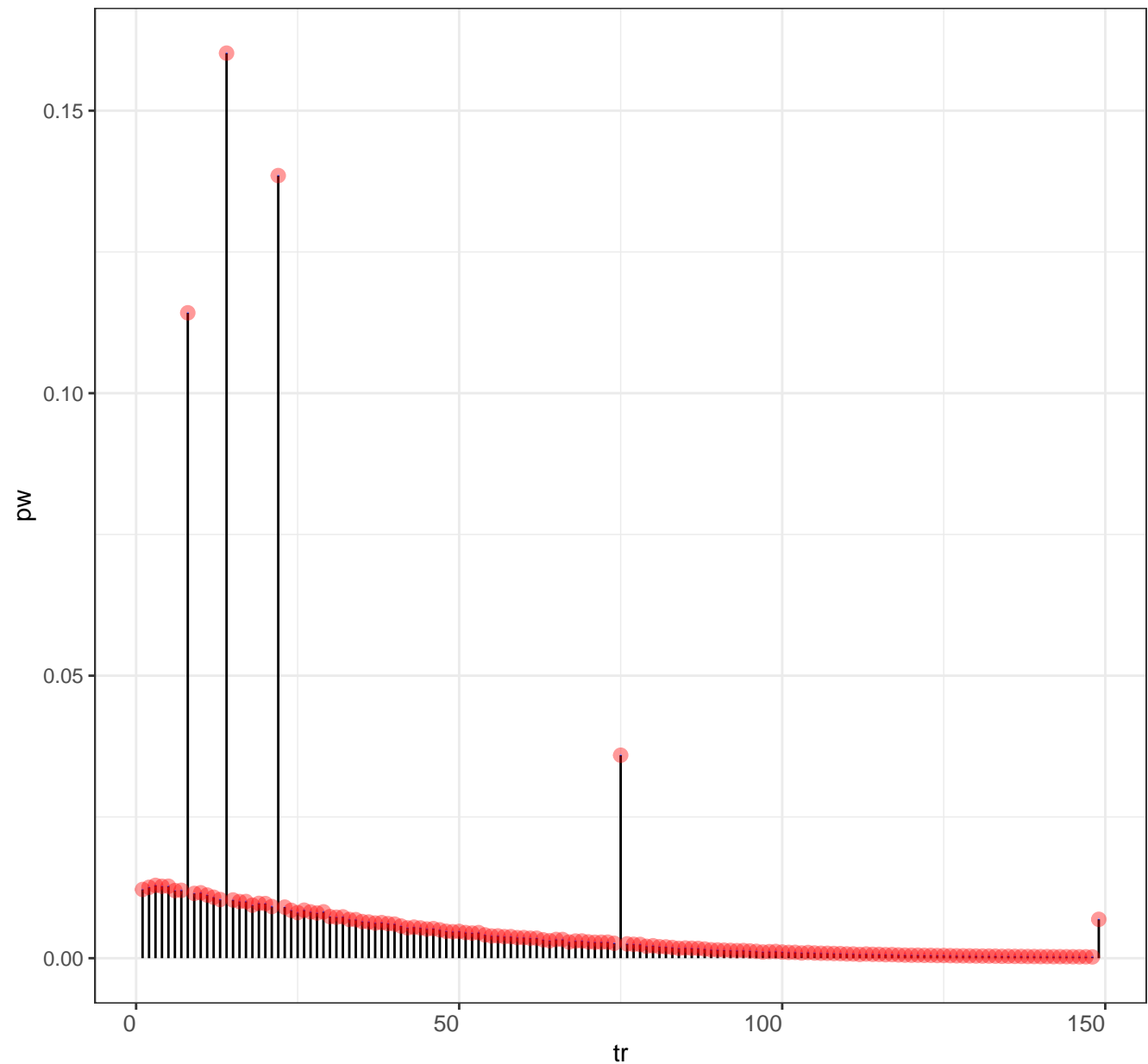
# Posterior distribution for alpha

Legend      posterior mean      prior mean



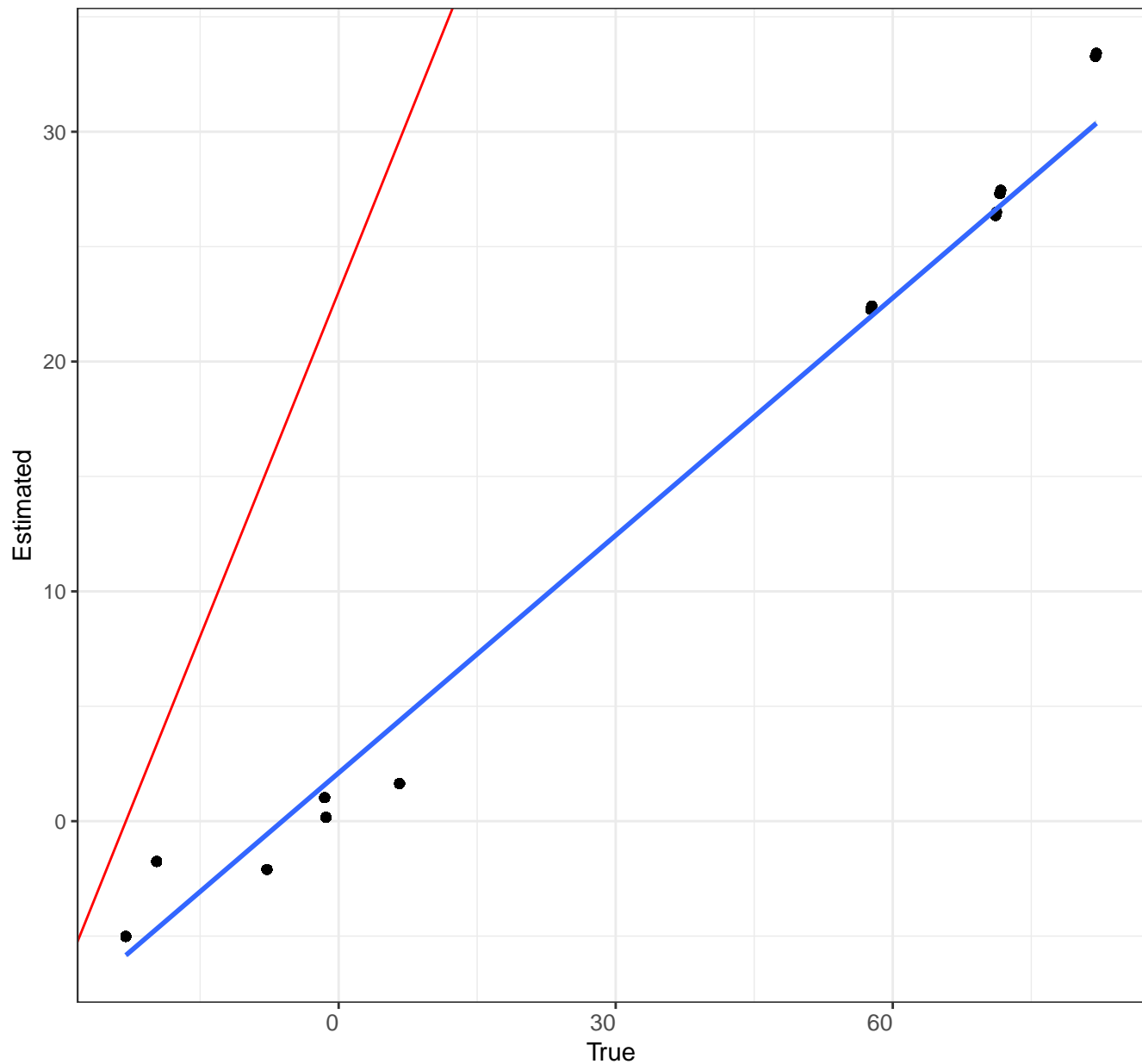
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  ,  $r=5$  true gr  $K=4$  , type=1 ,  $N=150$   $pN=0.007$



Number of iterations: 2000 burnin: 1000 number of samples: 500

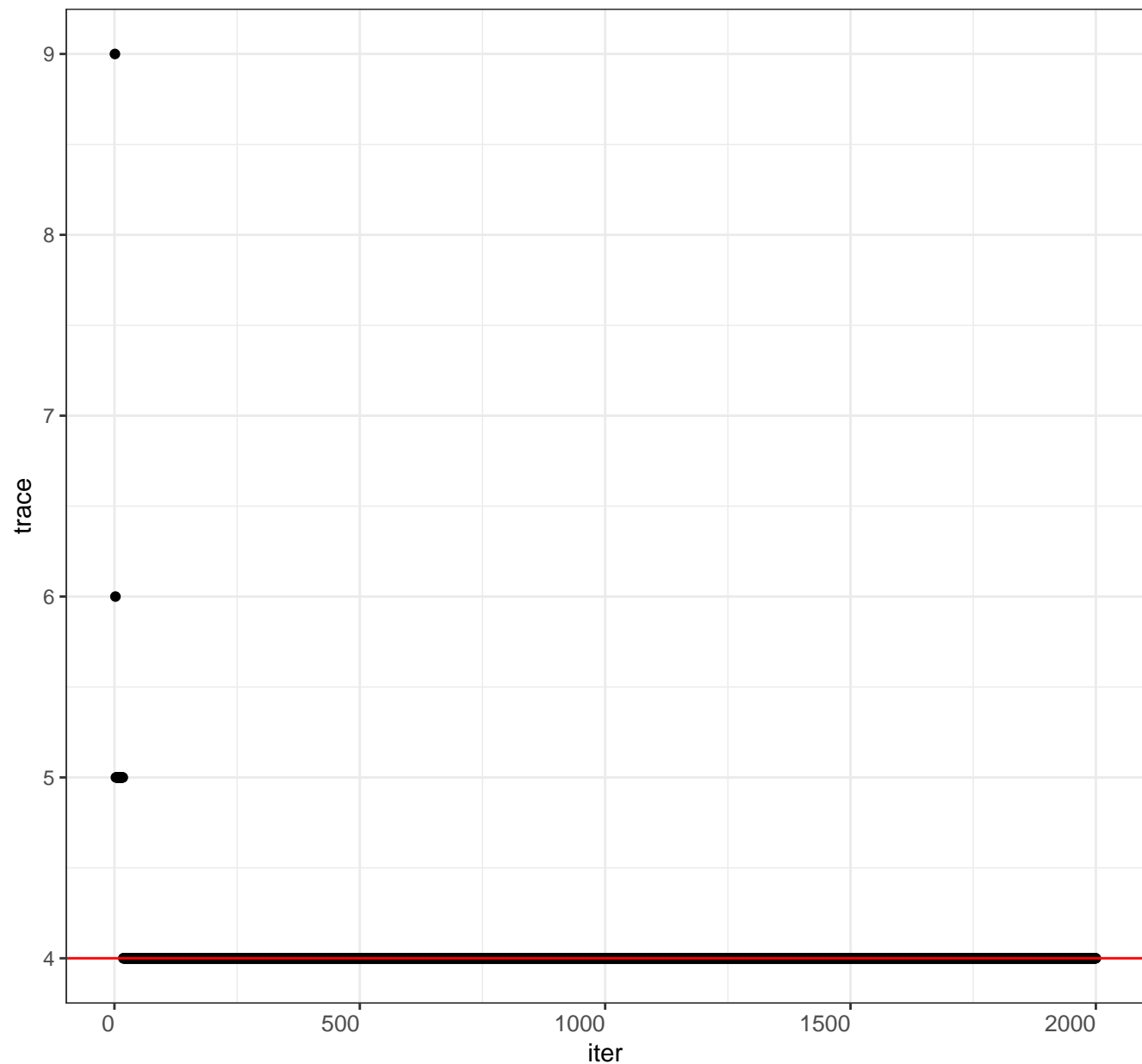
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=5 true K=4 type=1





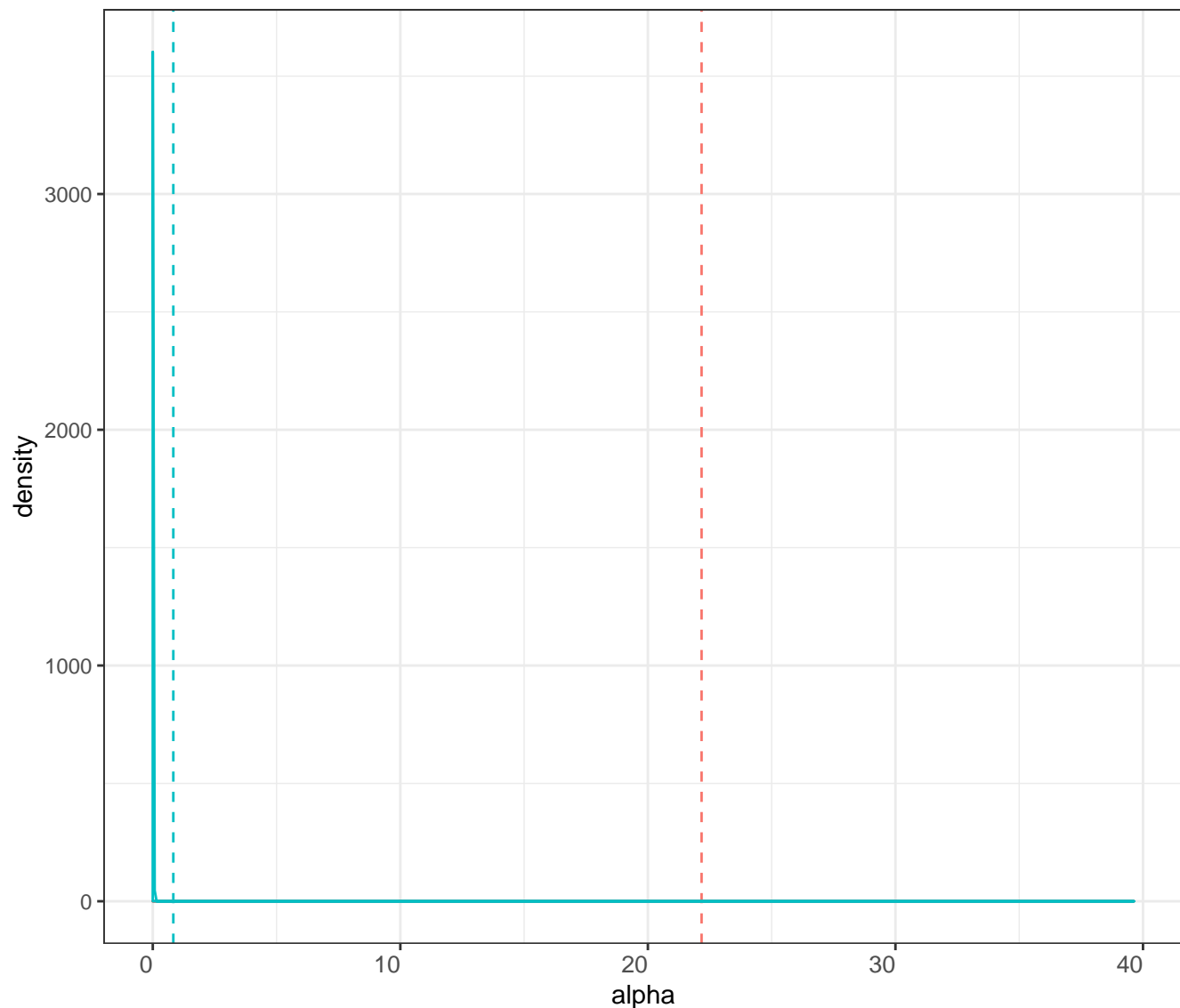
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

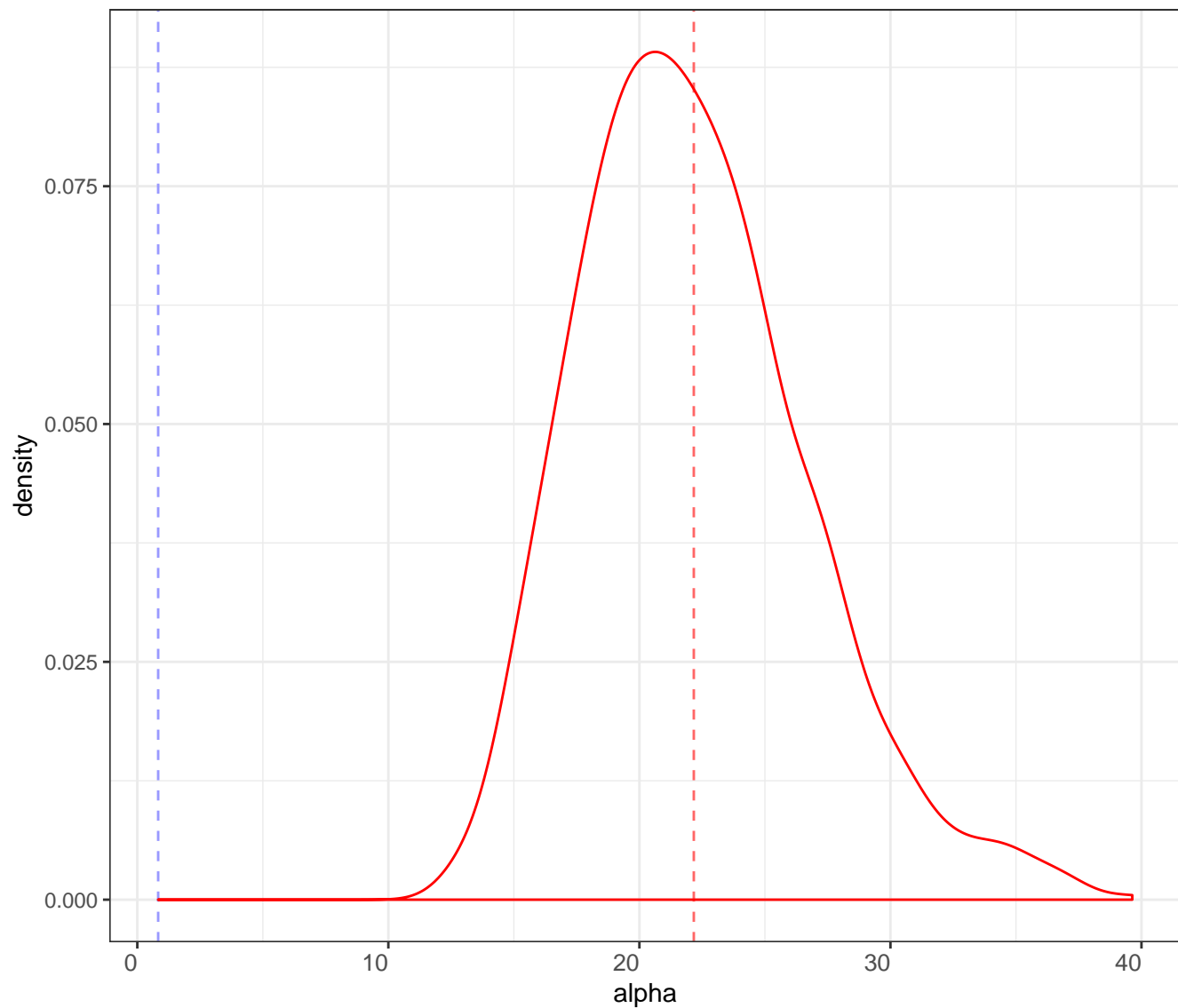
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

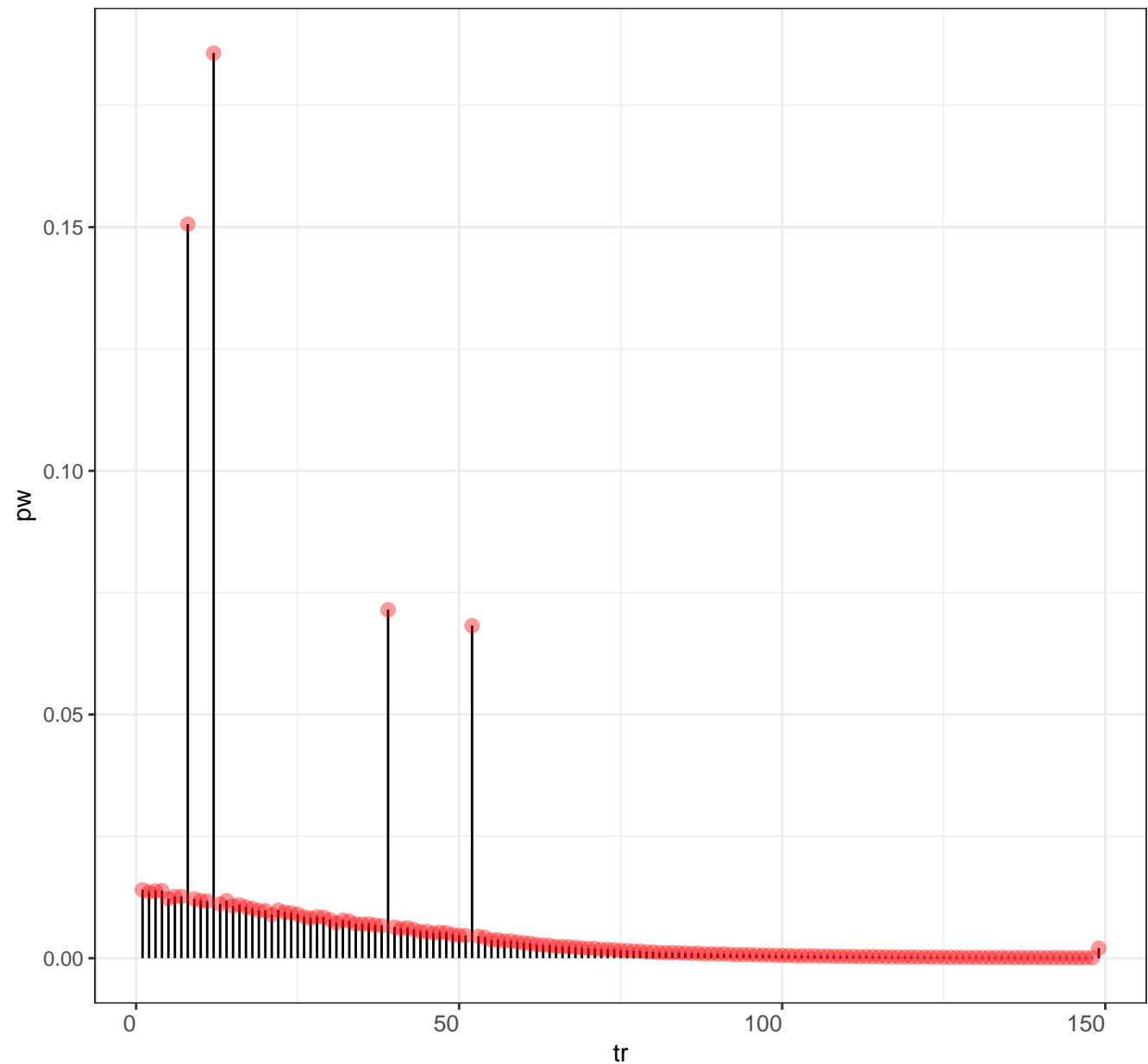
# Posterior distribution for alpha

Legend    posterior mean    prior mean



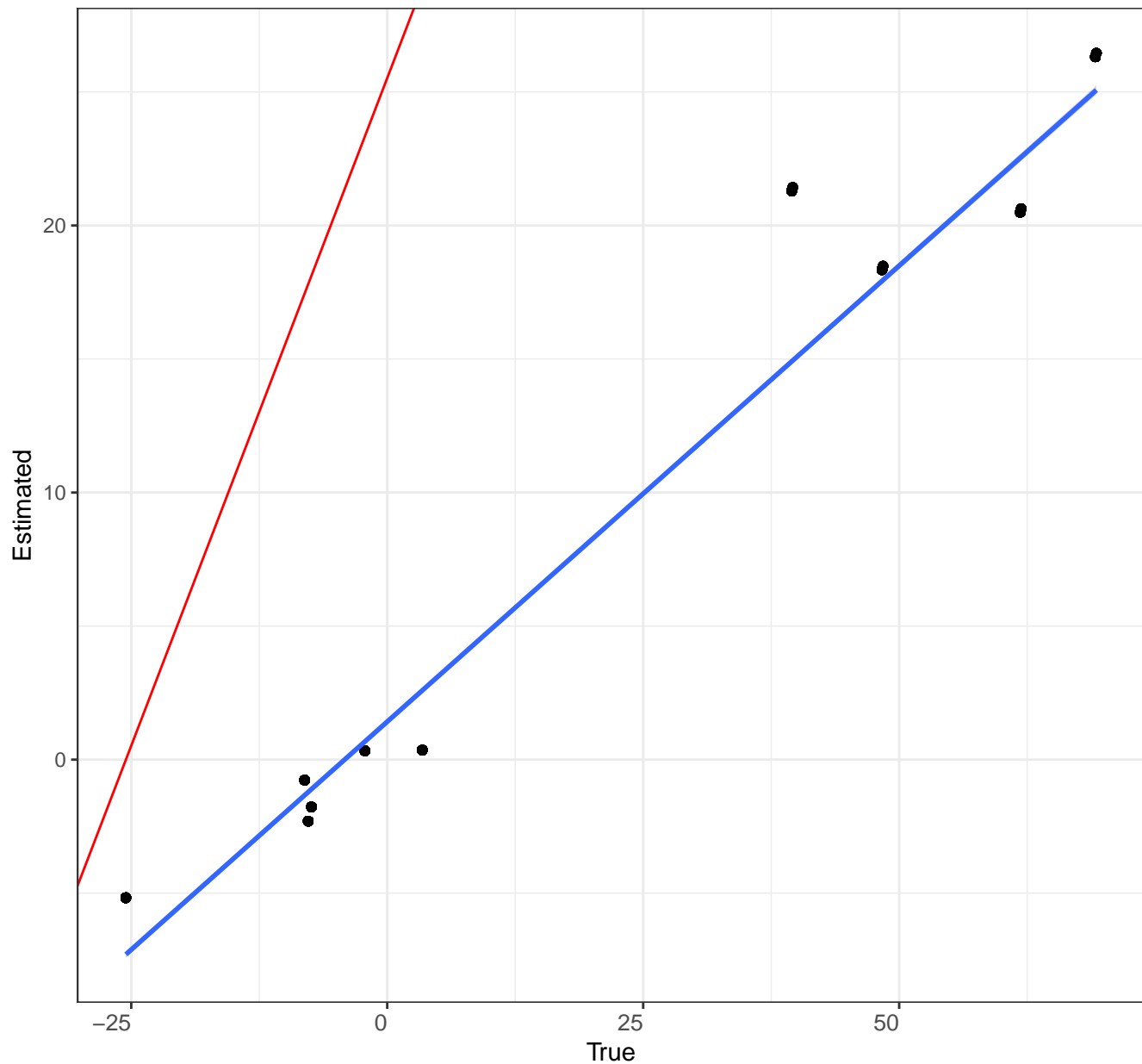
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



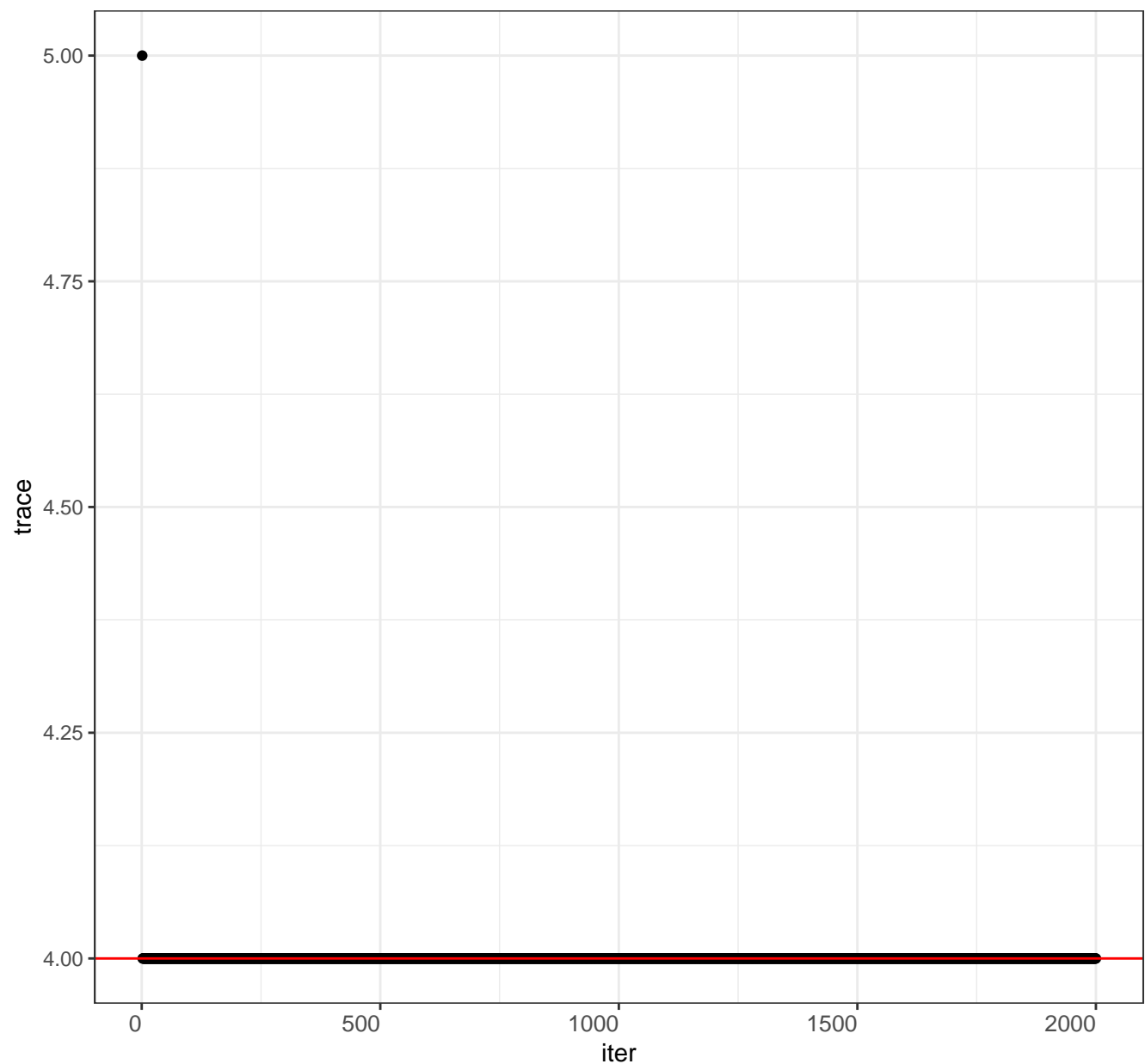
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 r=10 true K=4 type=1

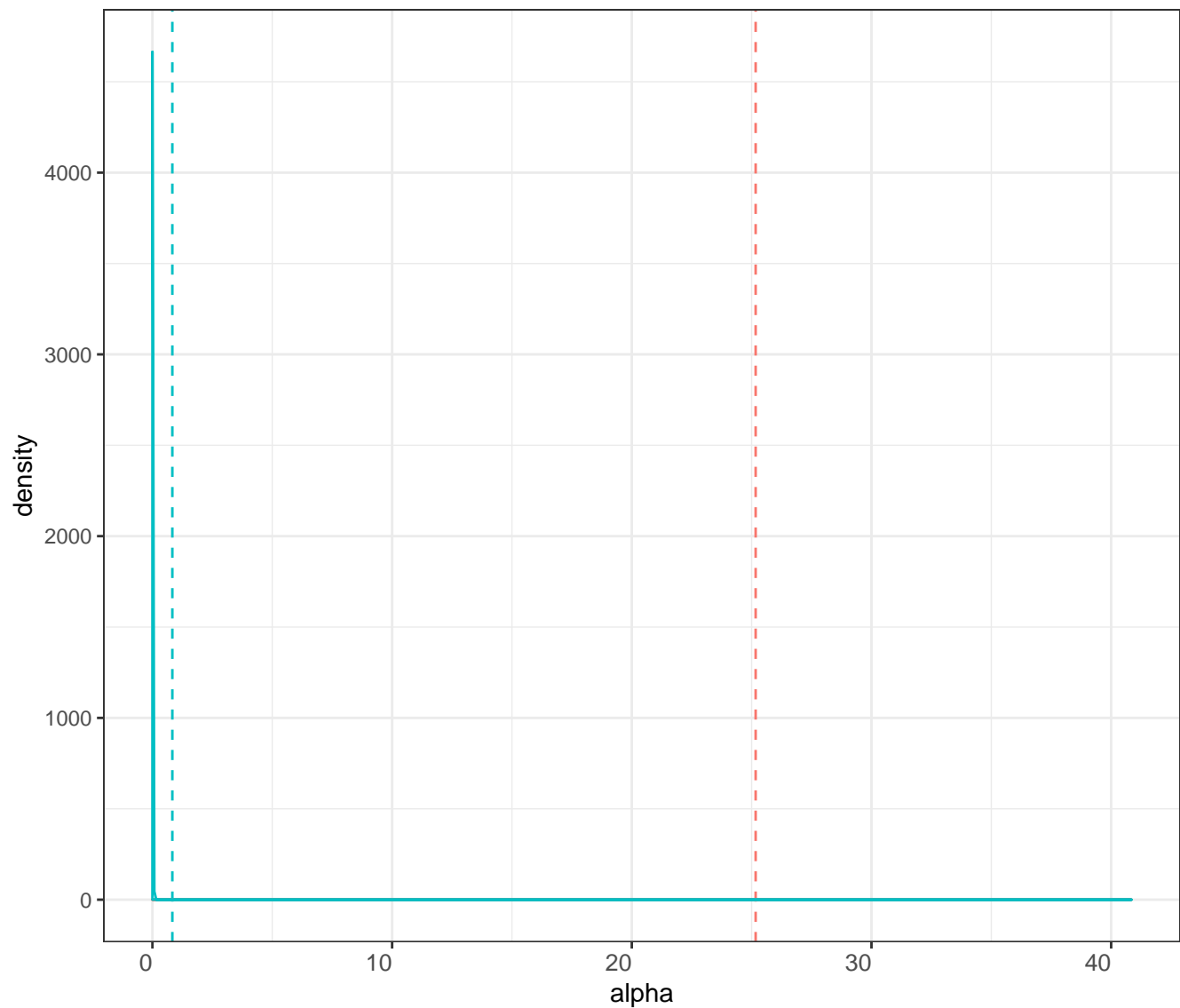
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

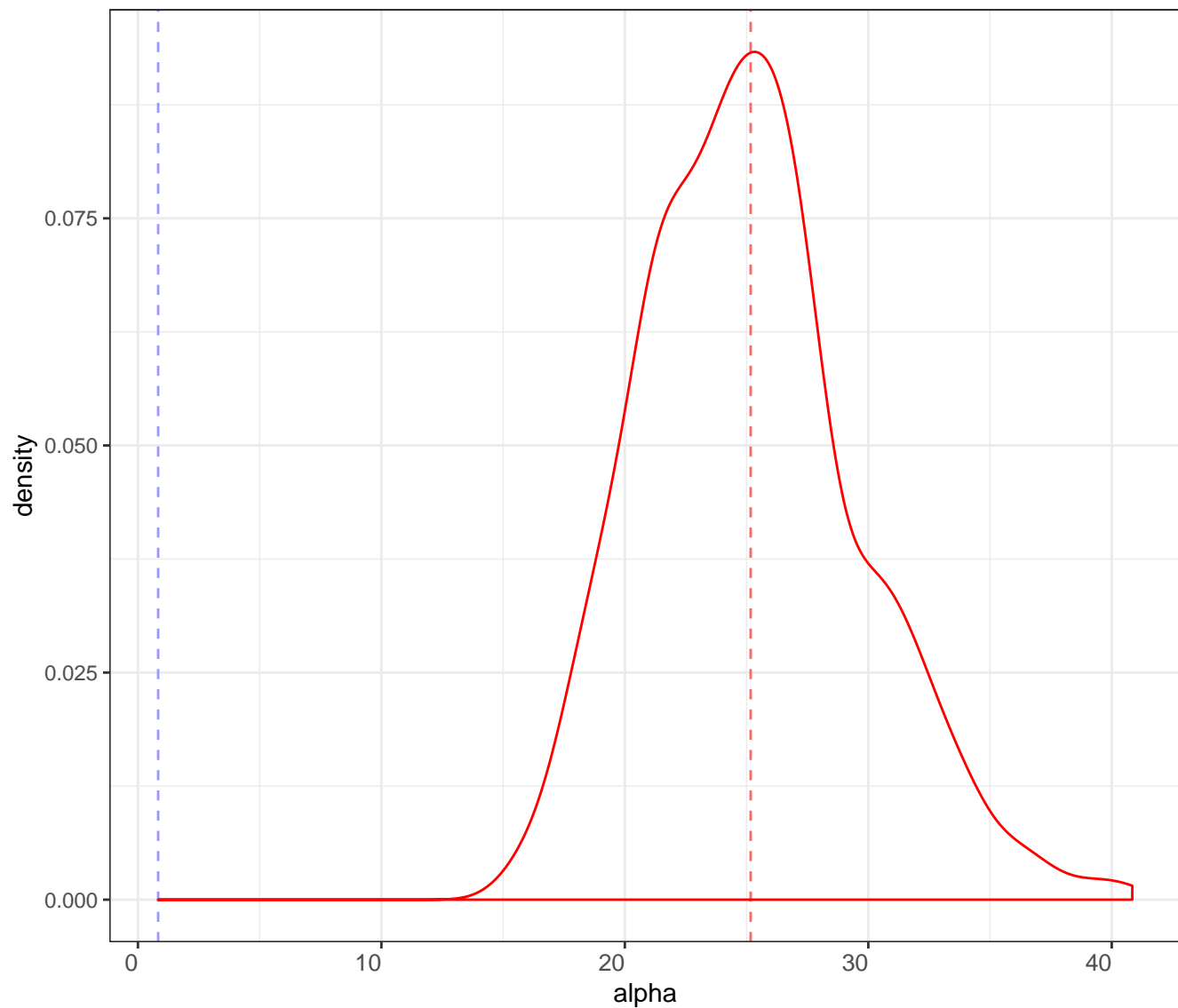
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

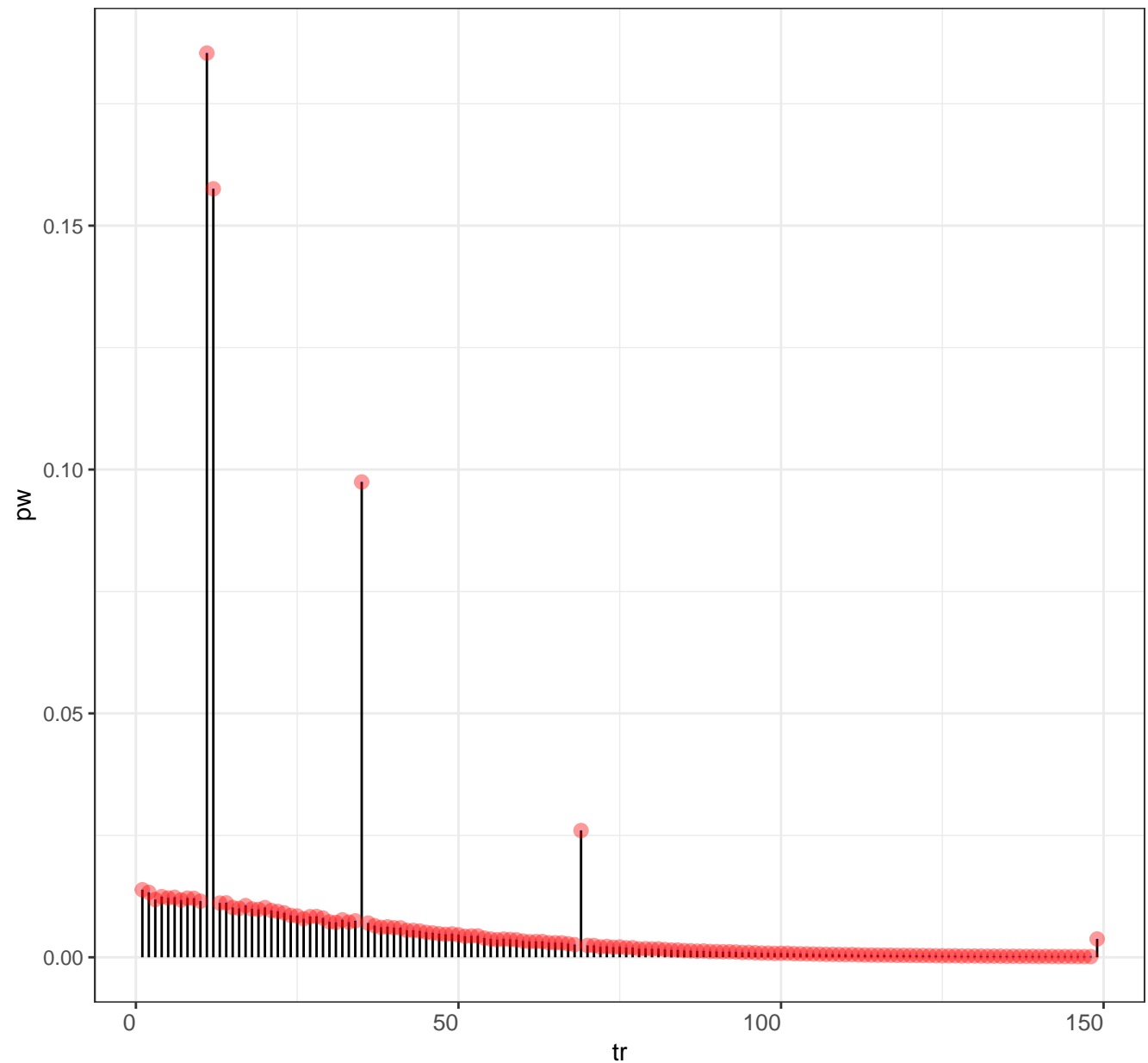
Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

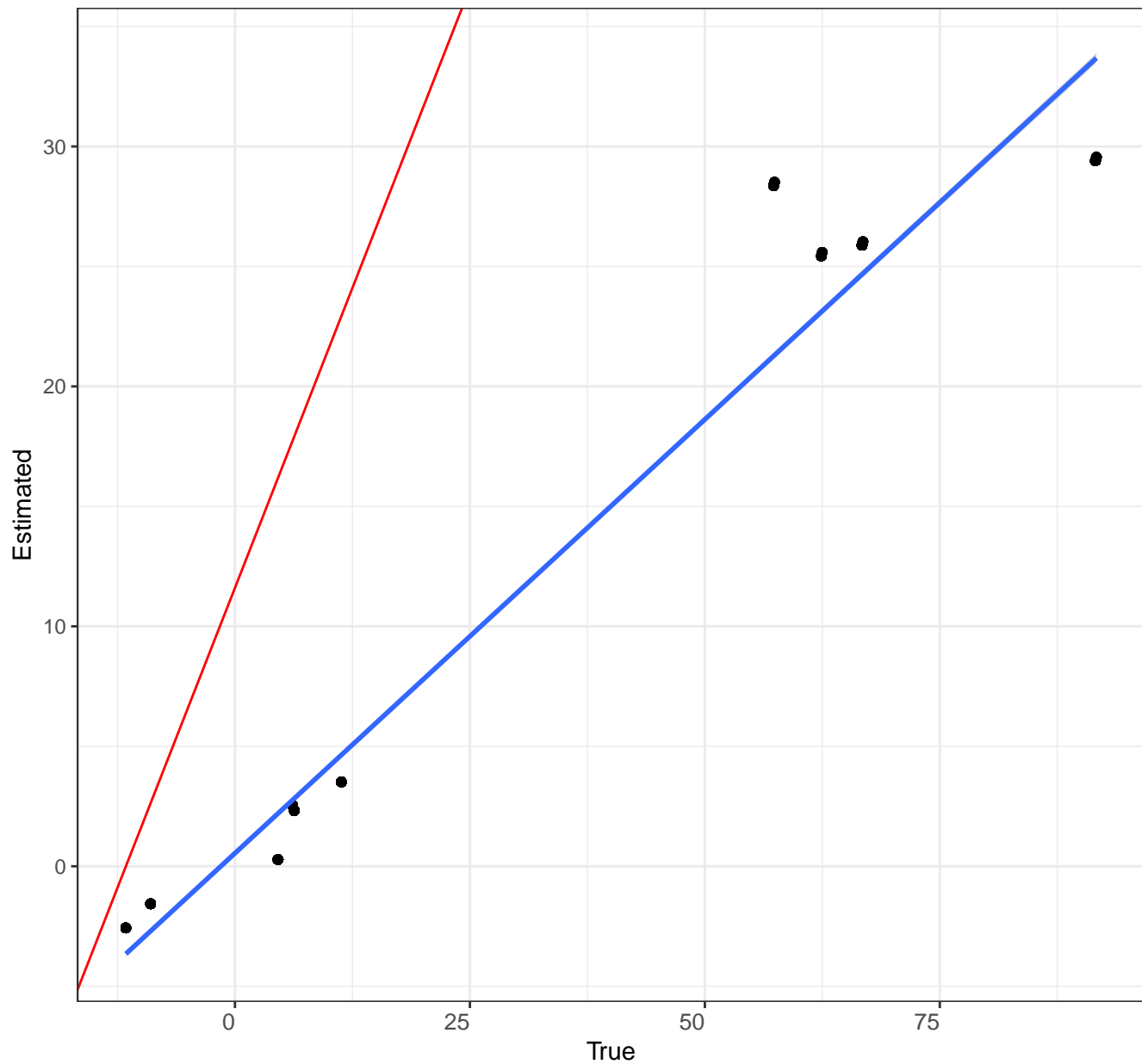


Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



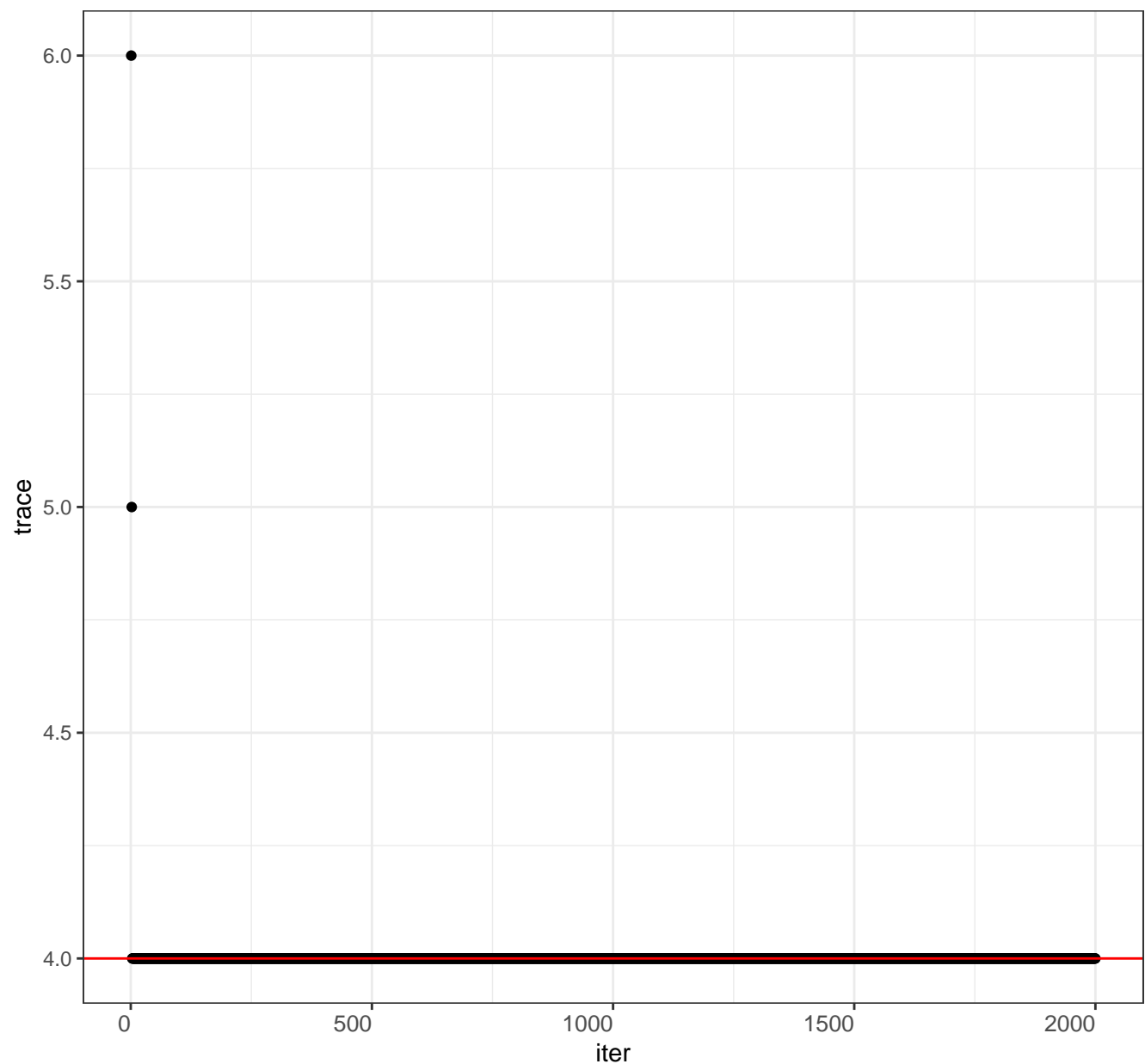
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

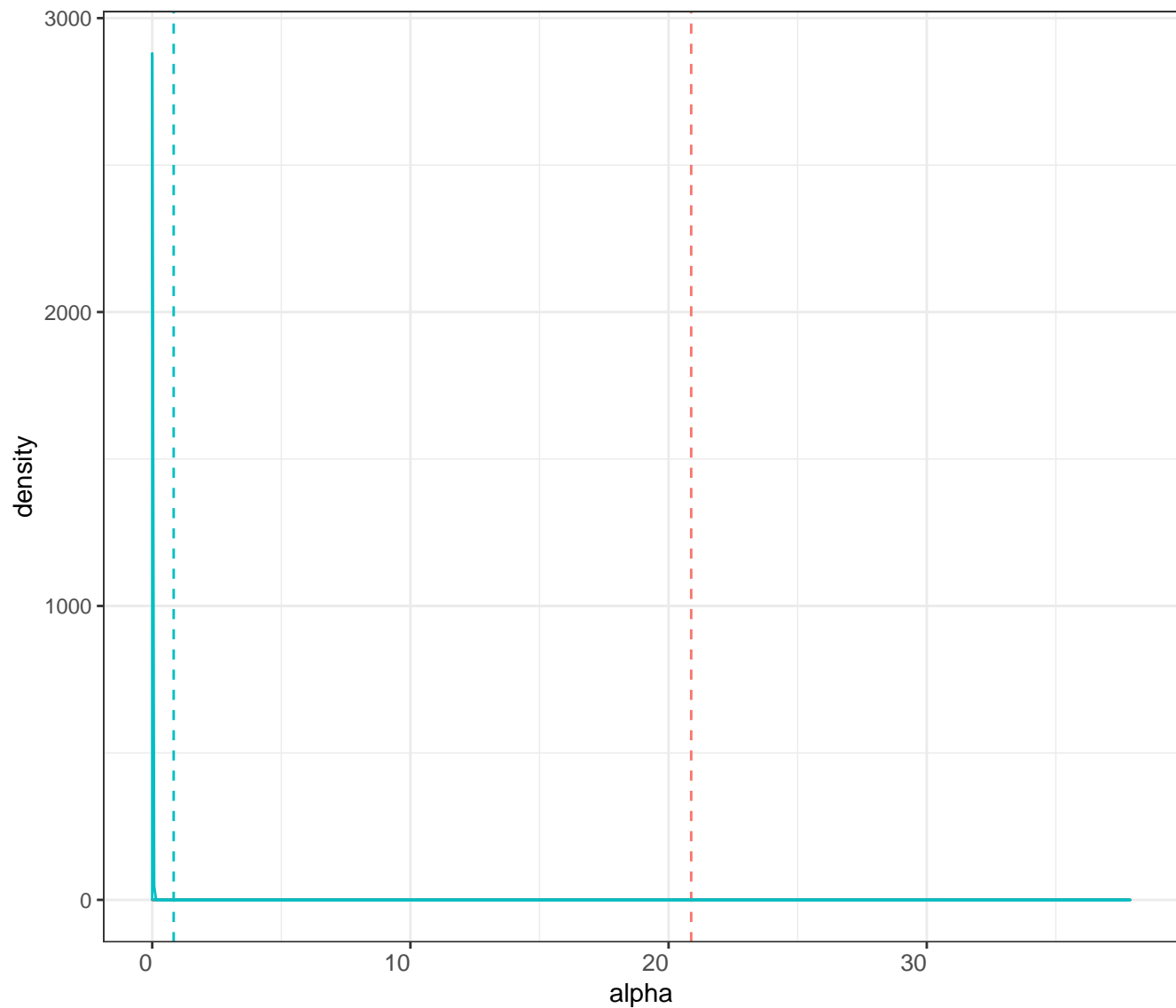
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

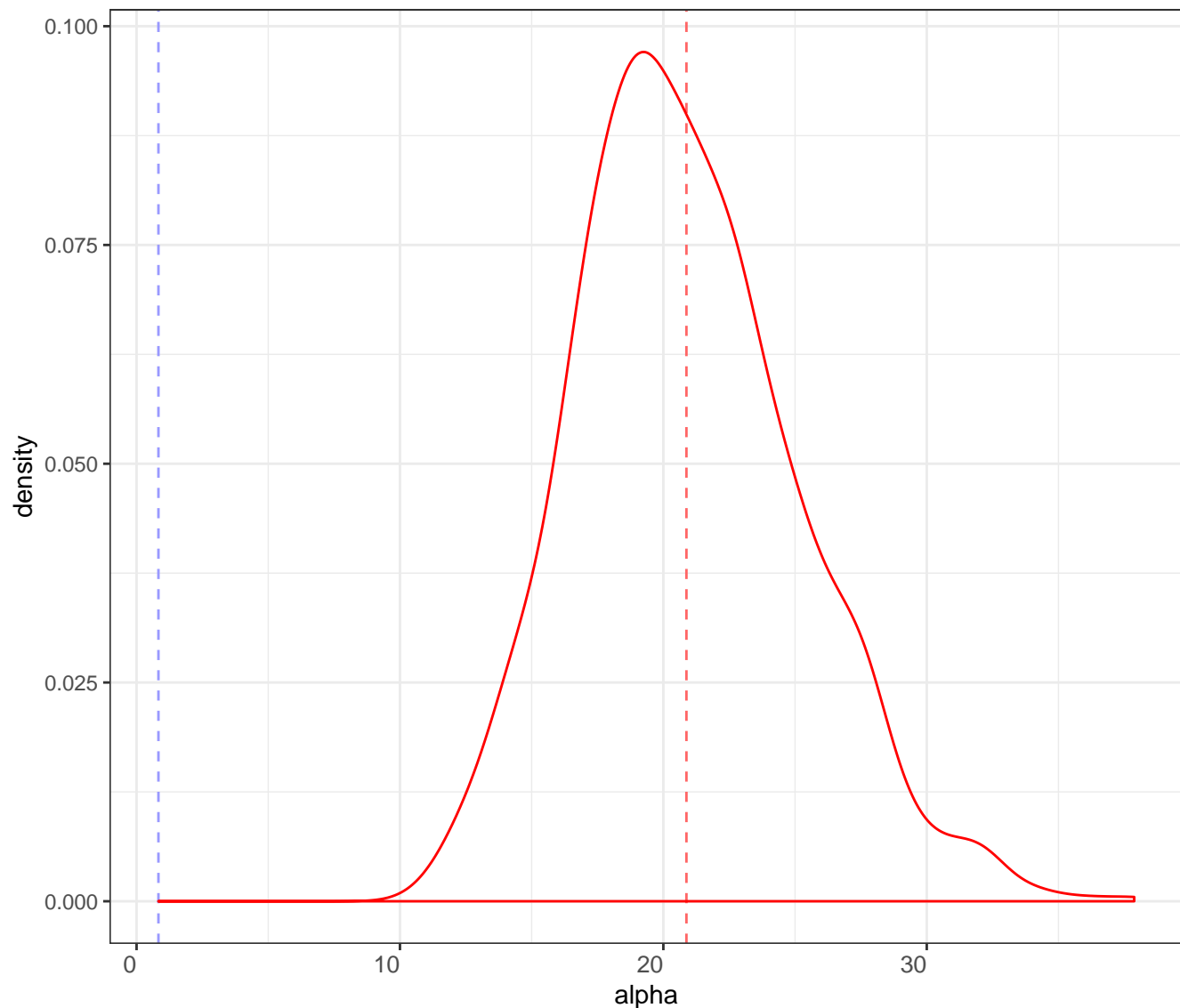
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

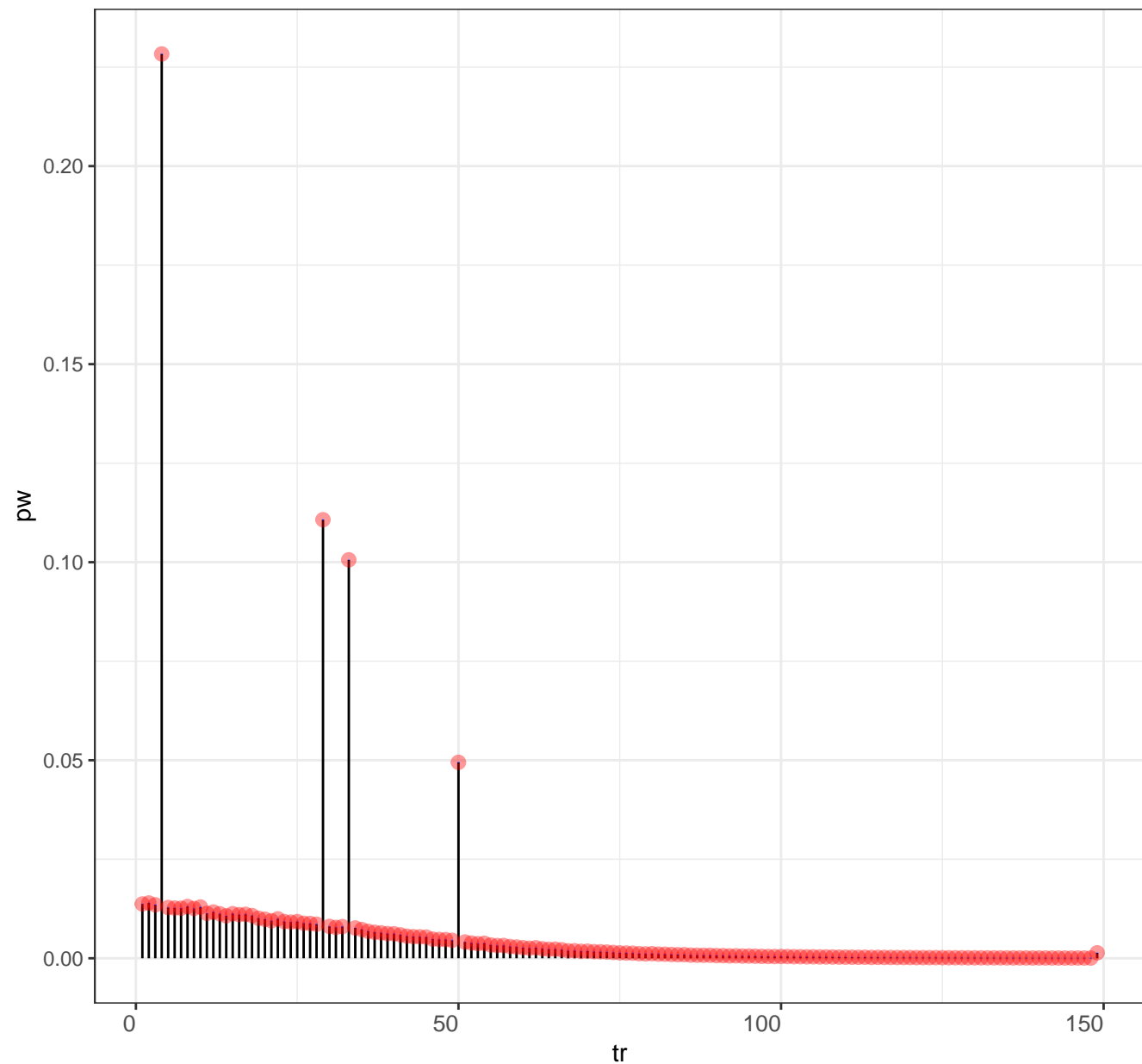
# Posterior distribution for alpha

Legend    posterior mean    prior mean



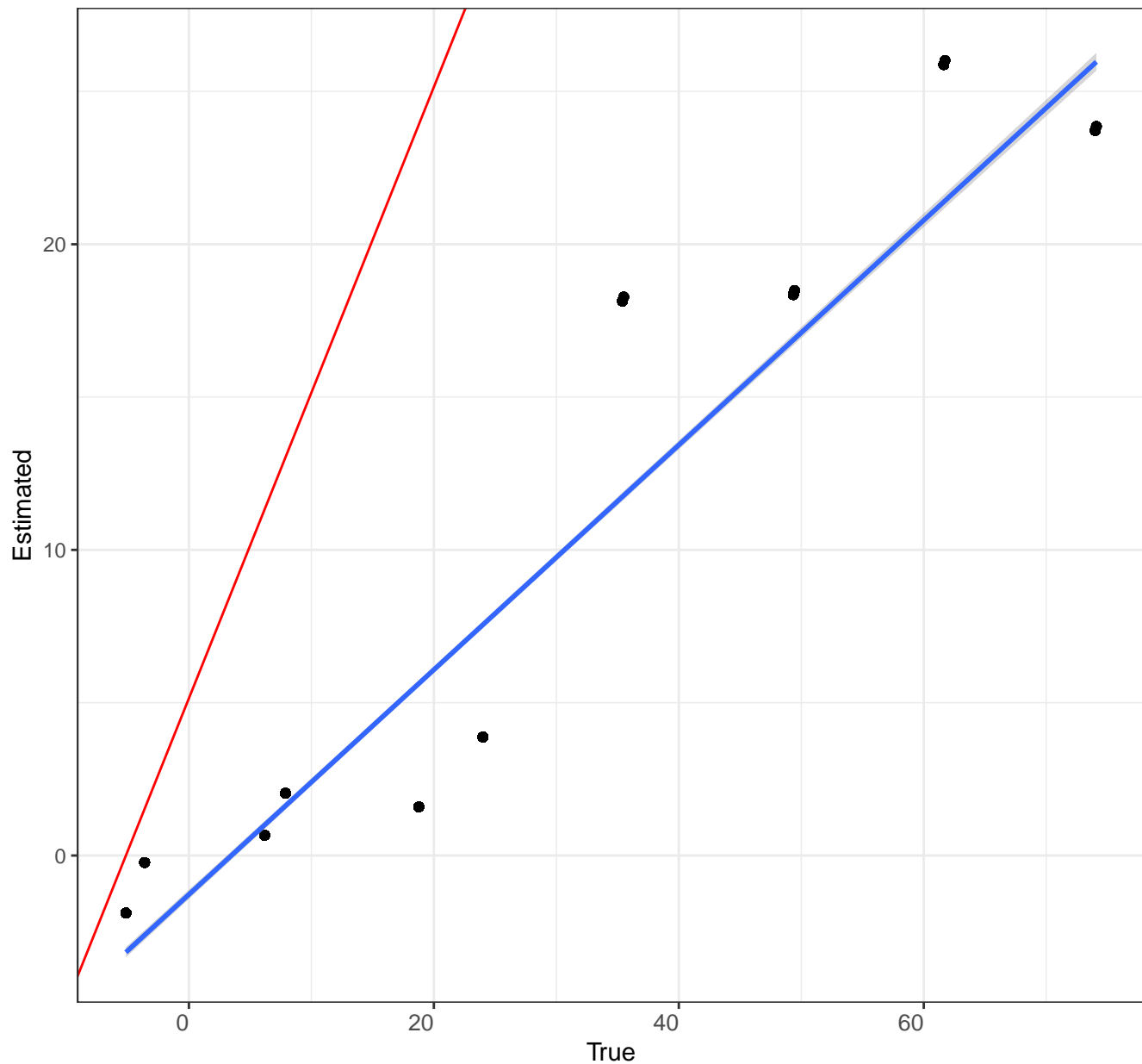
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



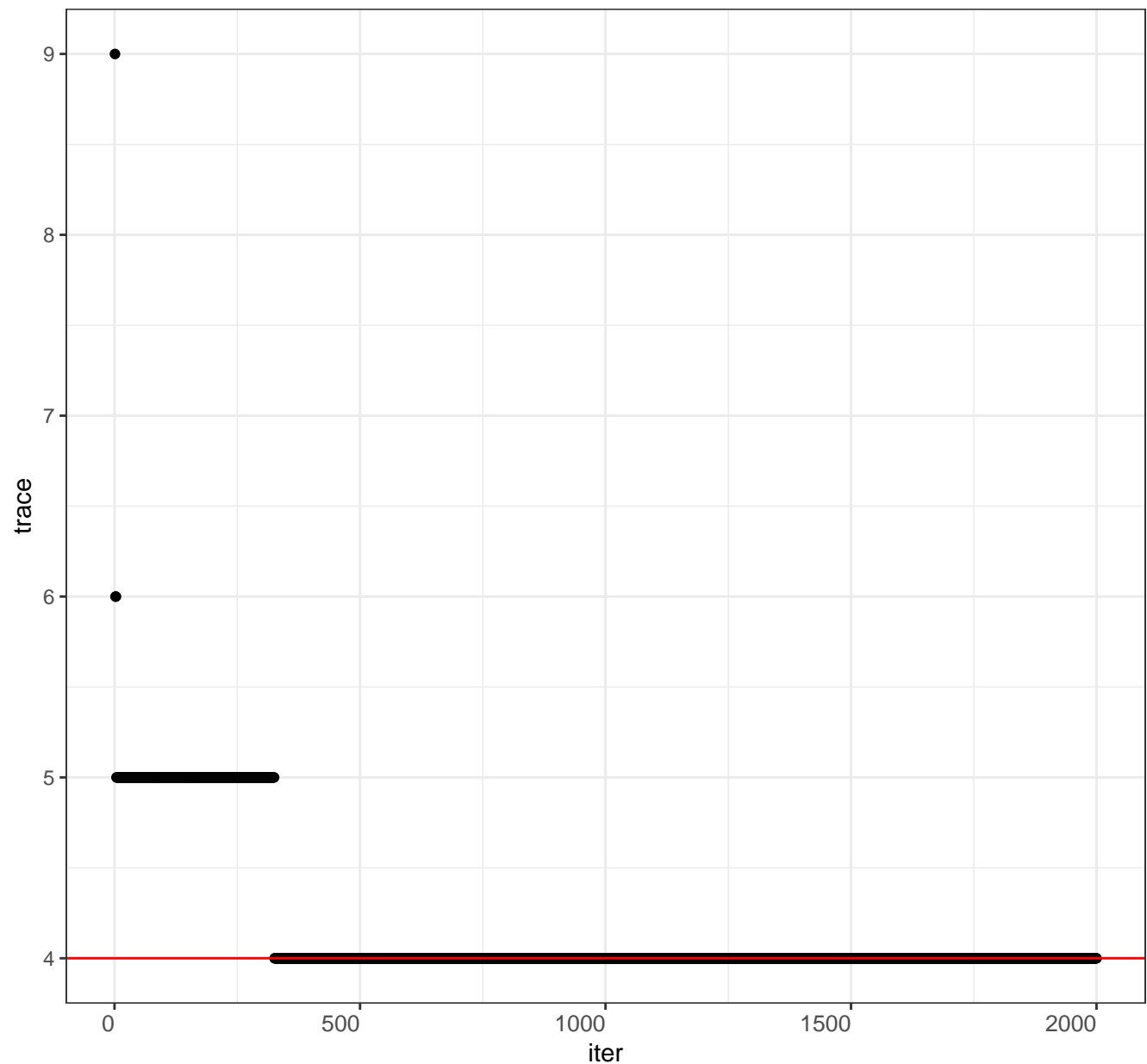
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

Trace plot for the number of groups K for S=50 r=10 true K=4 type=1

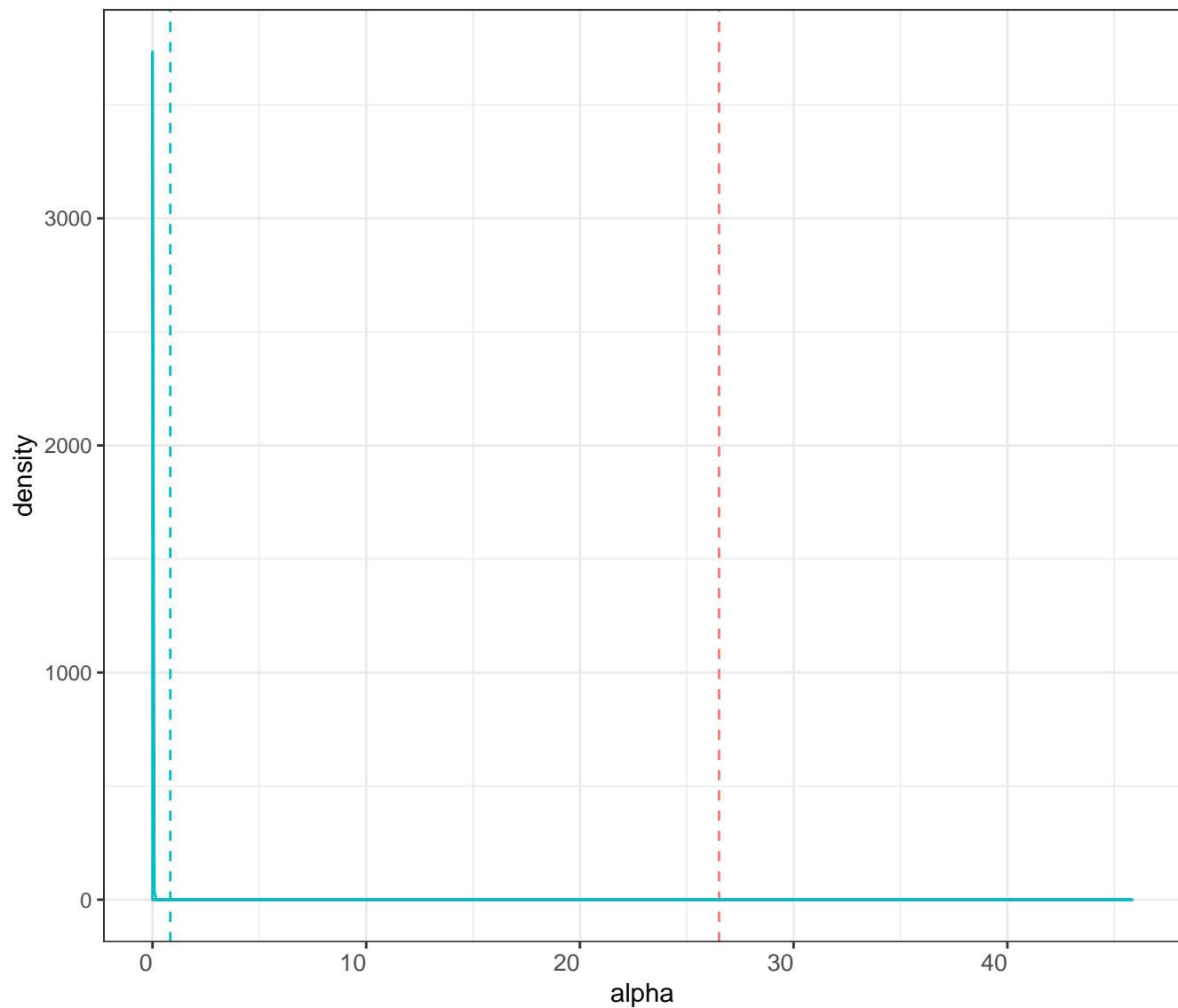


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

type   posterior   prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

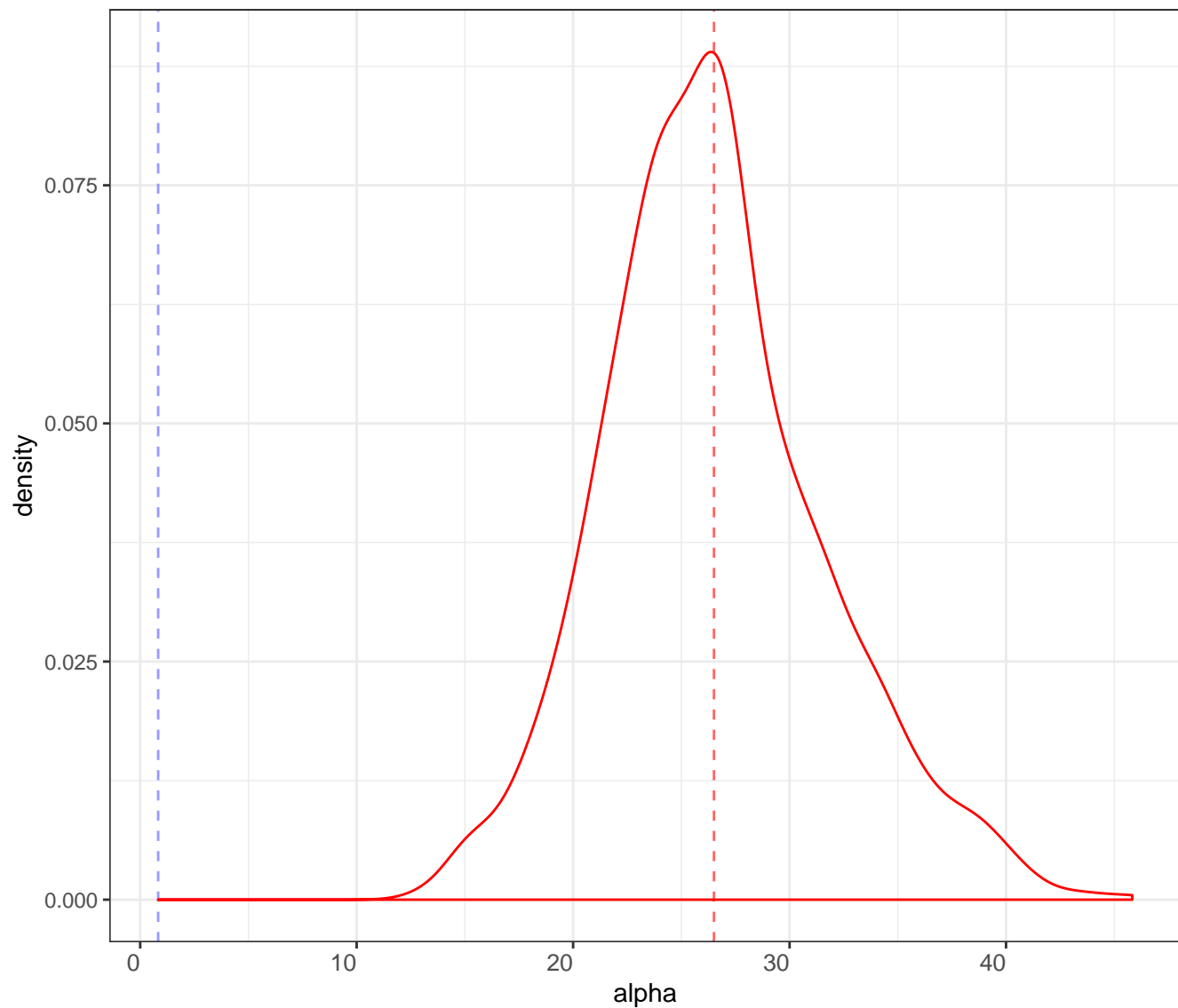
Legend



posterior mean

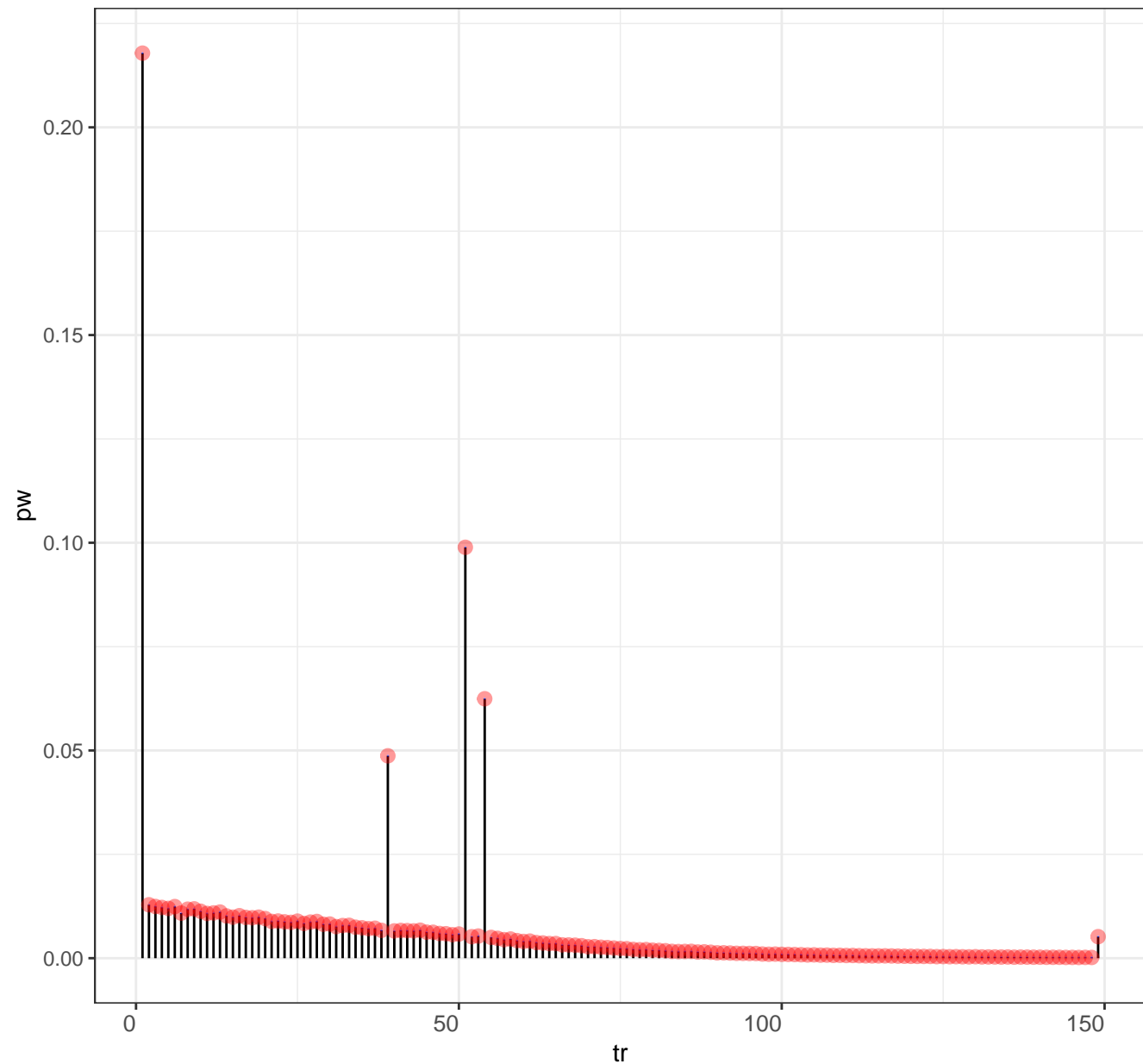


prior mean



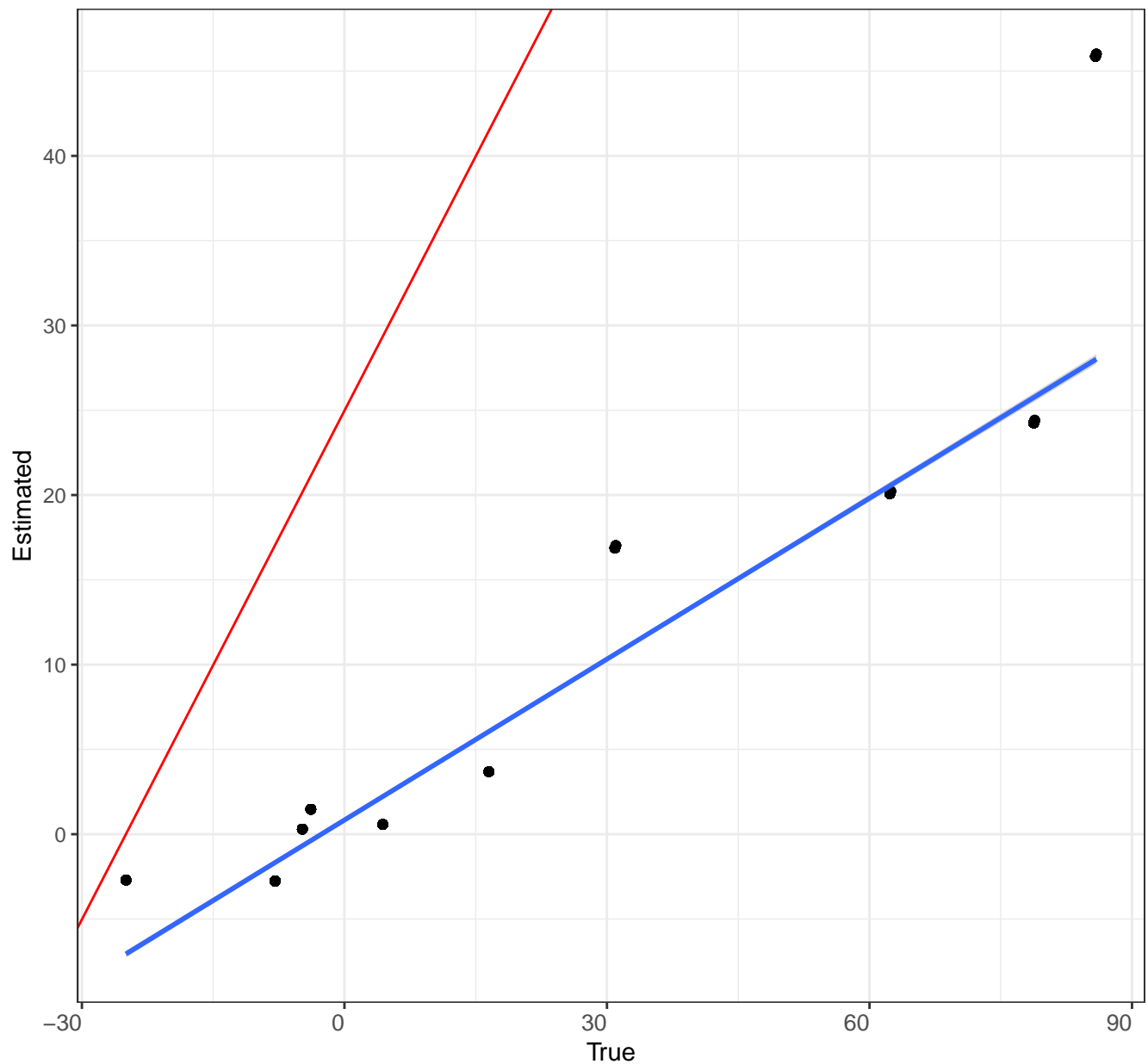
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.005$



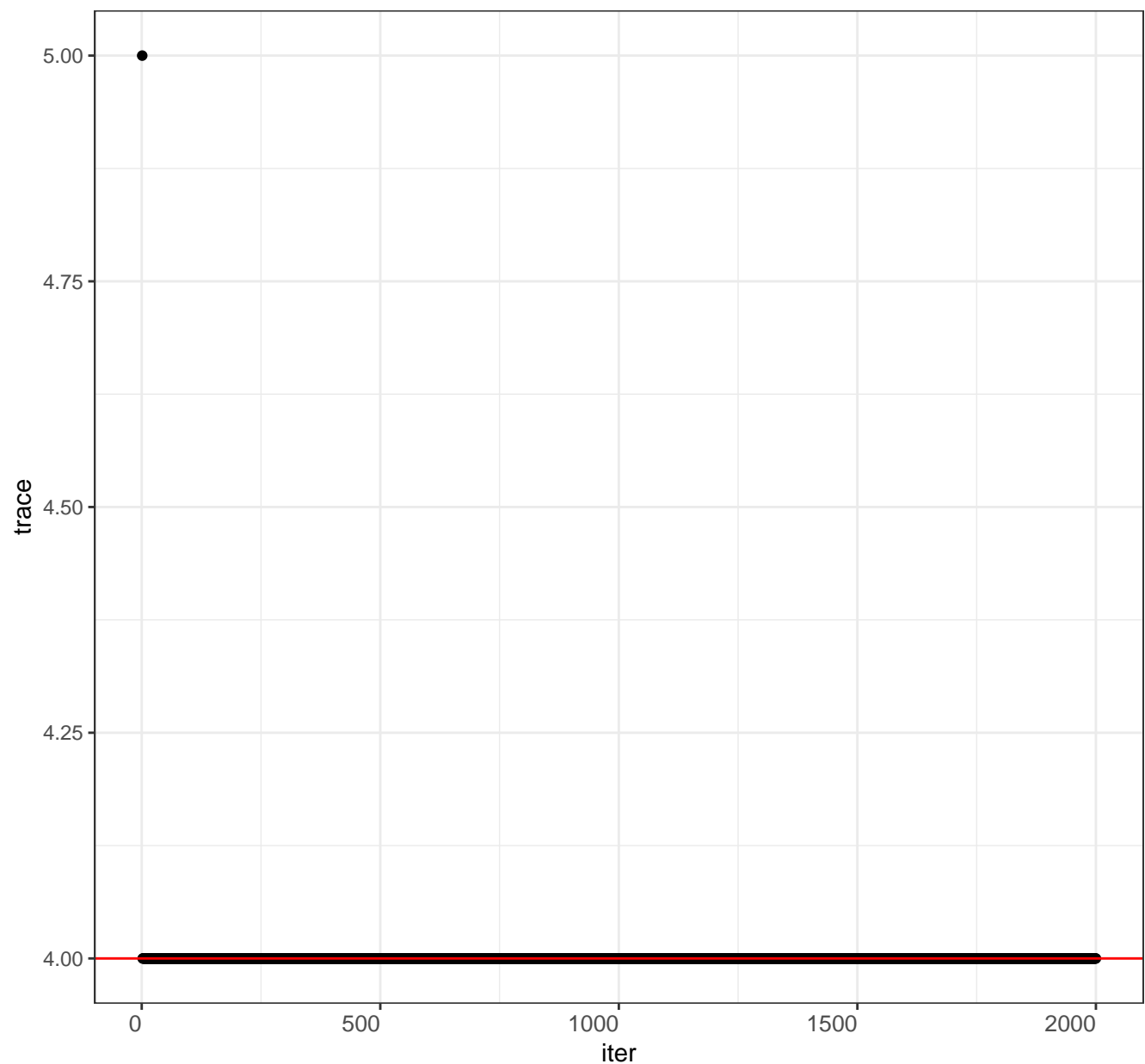
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

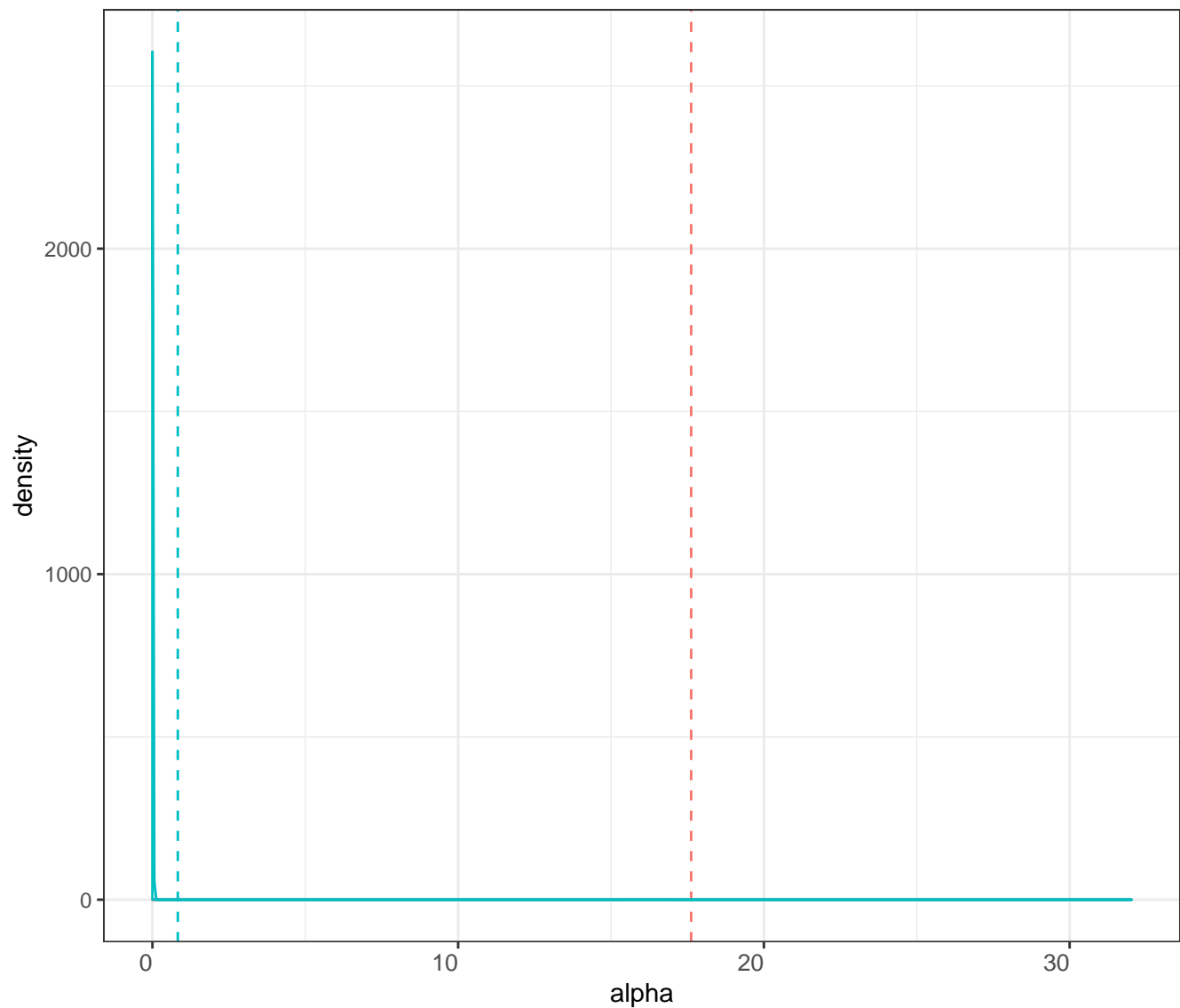
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

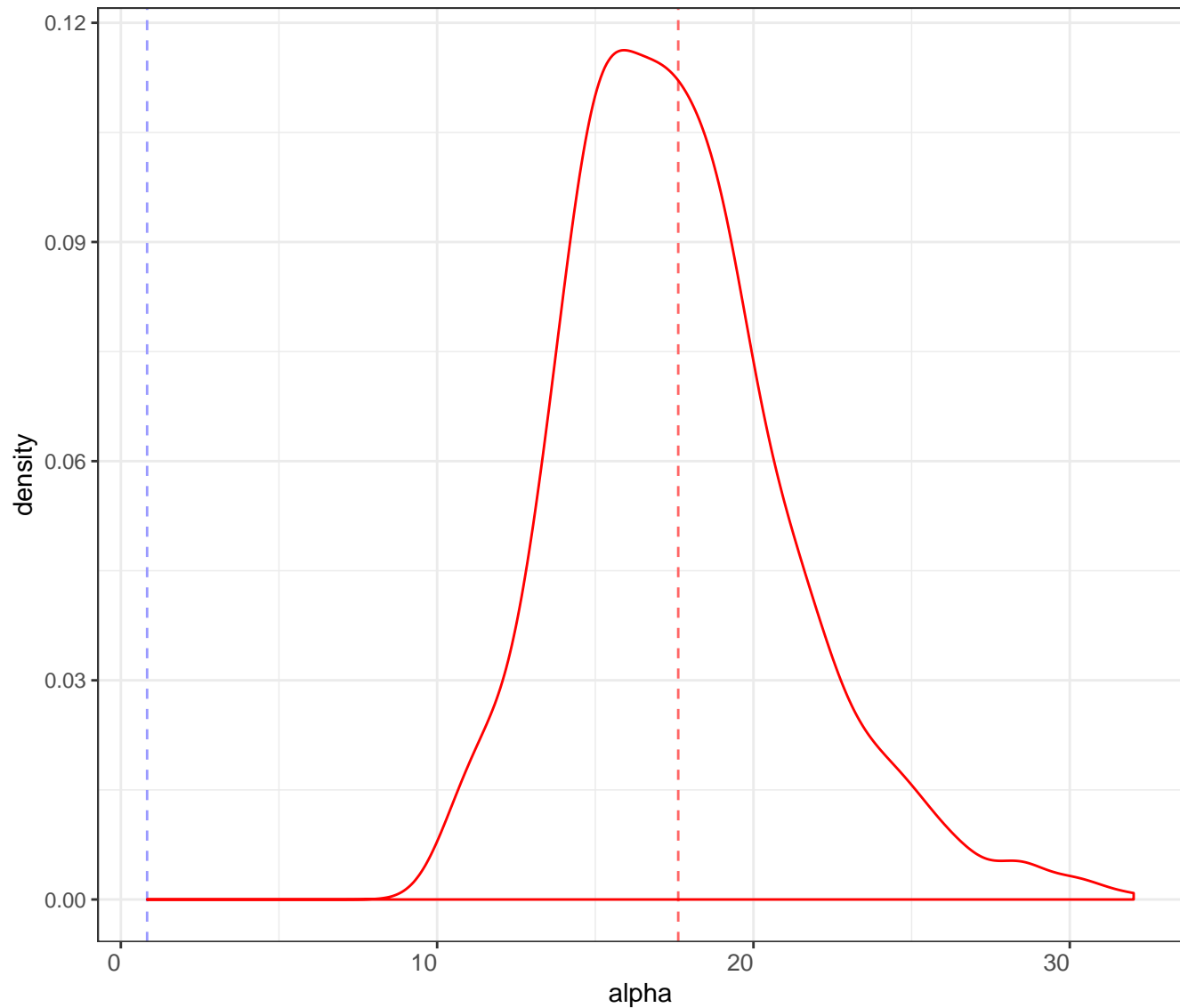
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

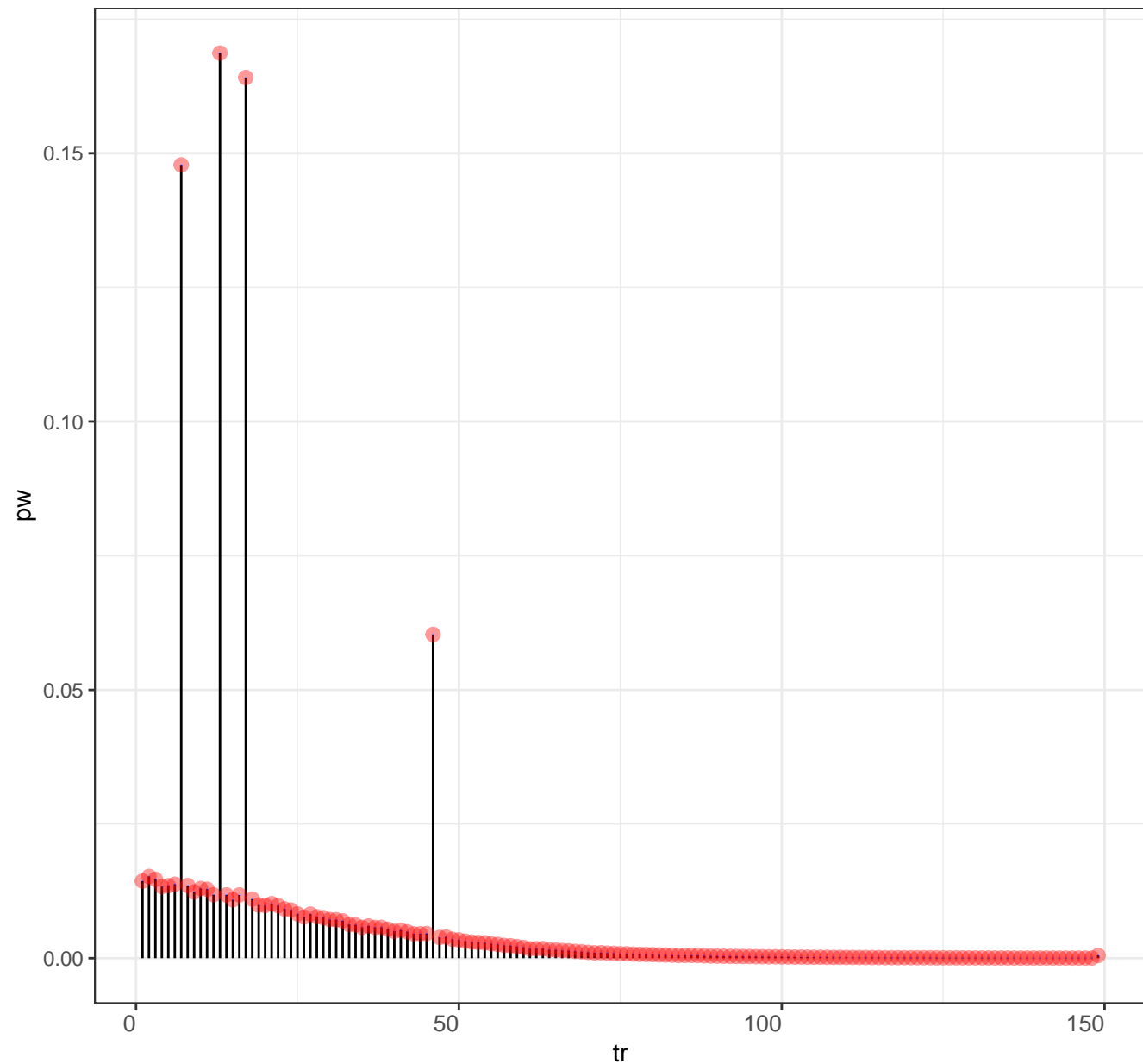
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

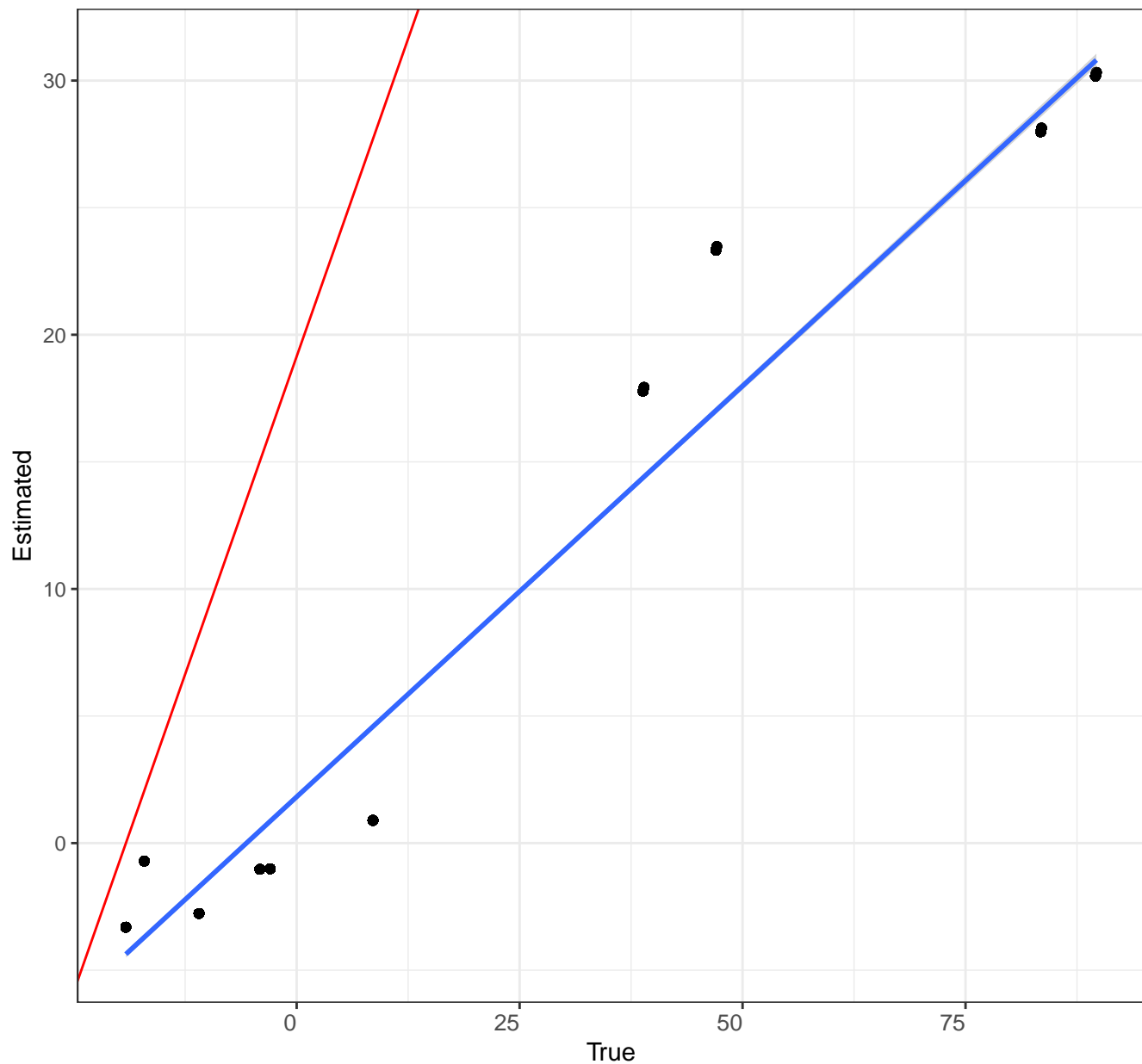
Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

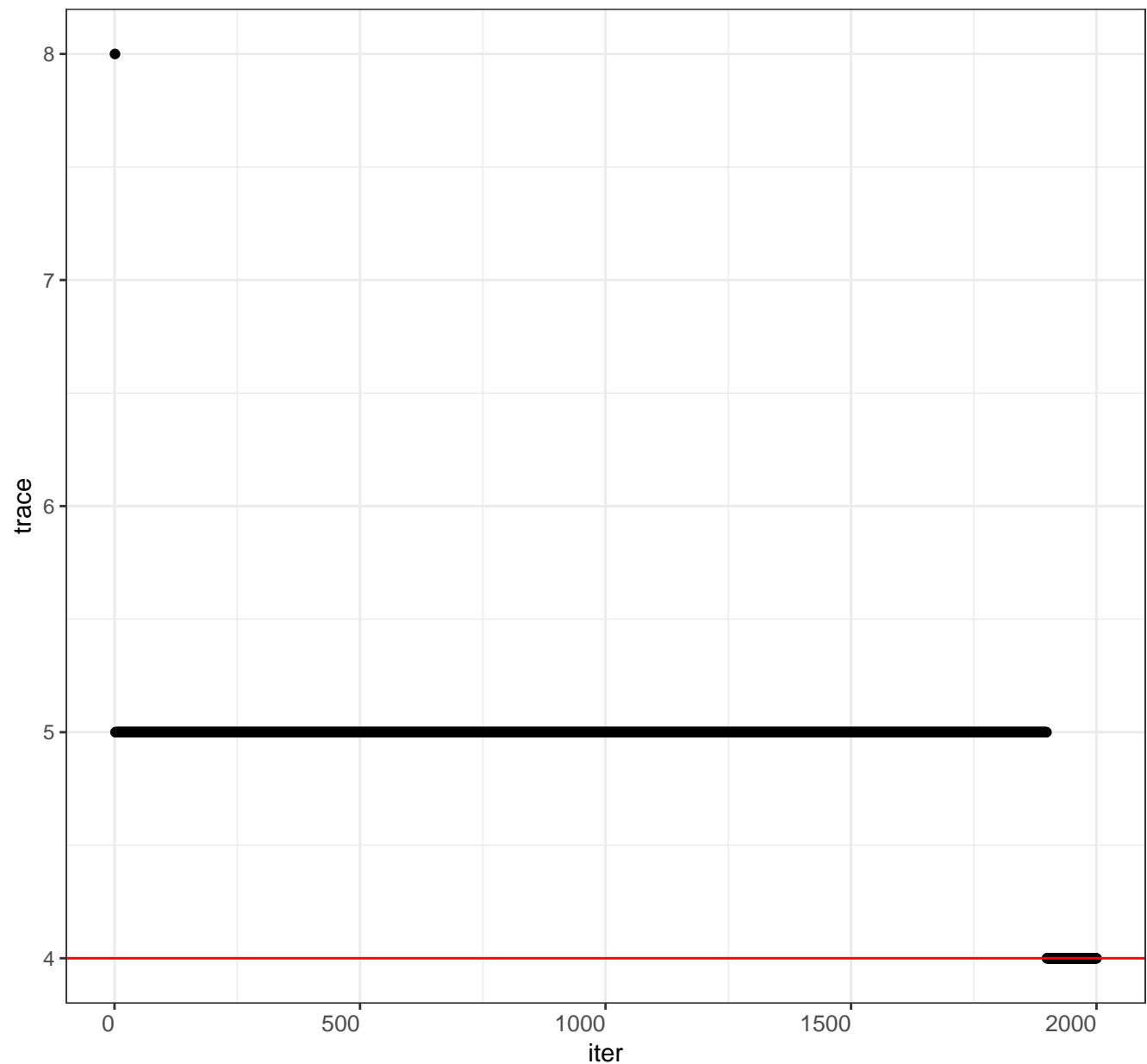


True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

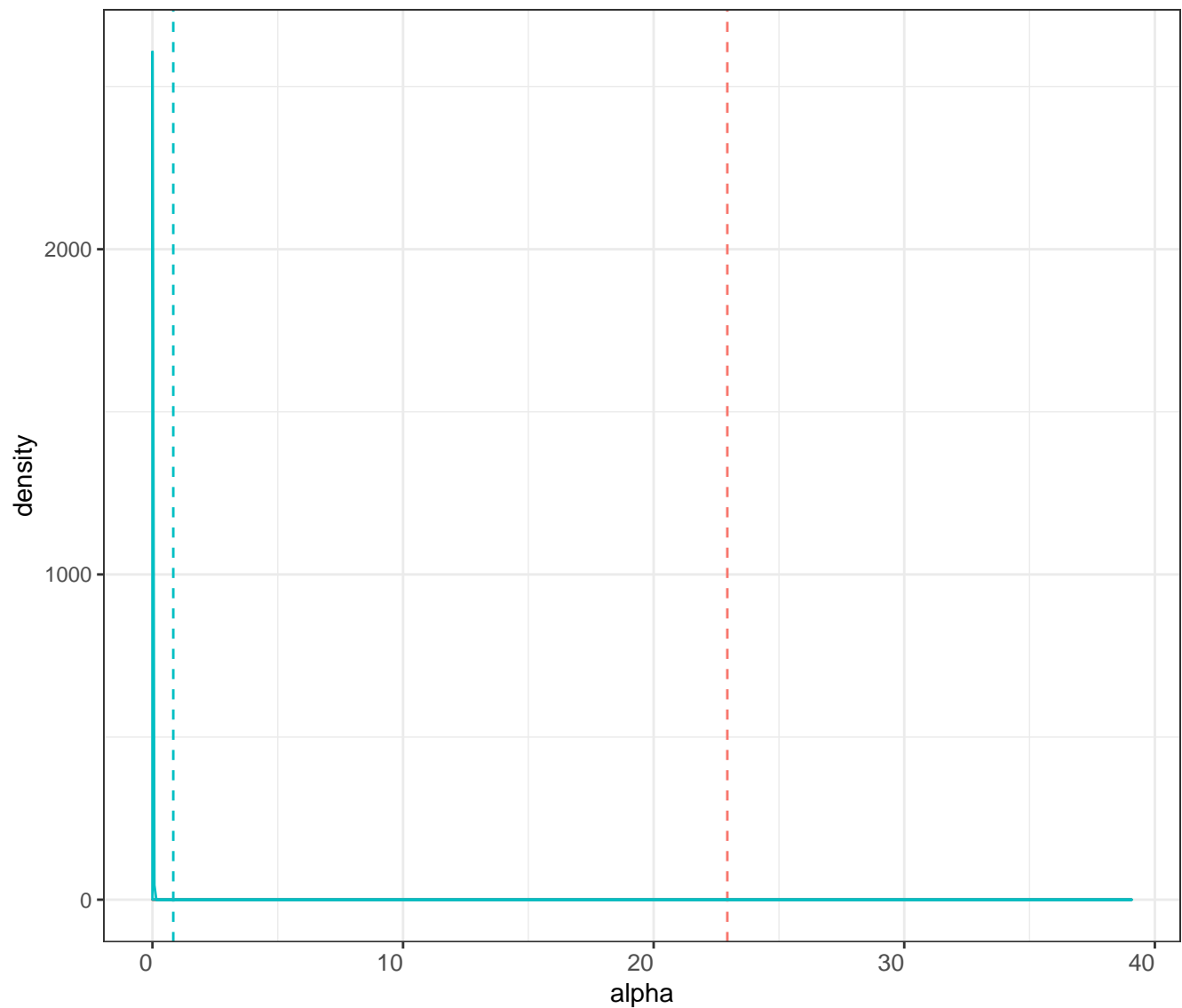
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

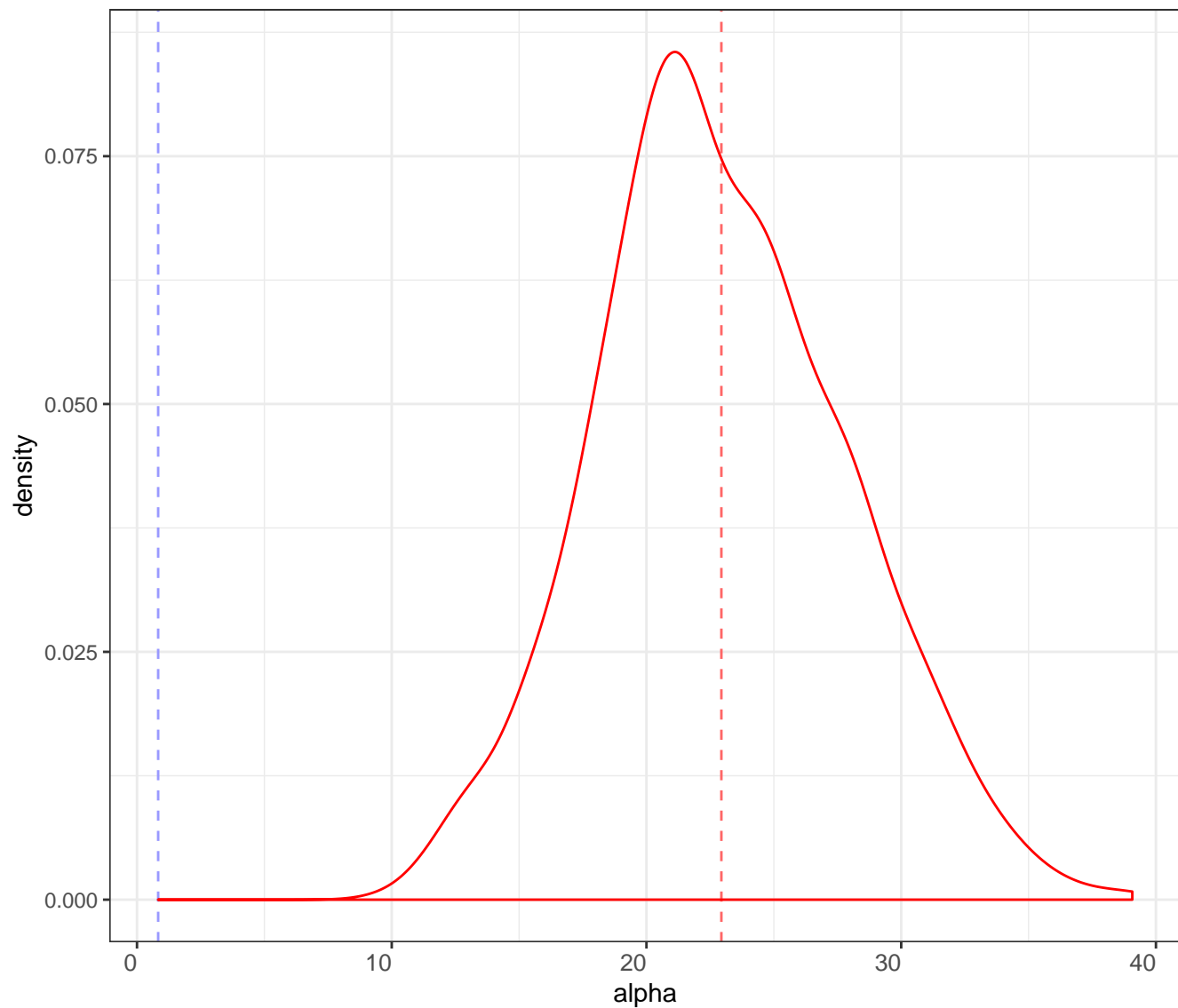
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

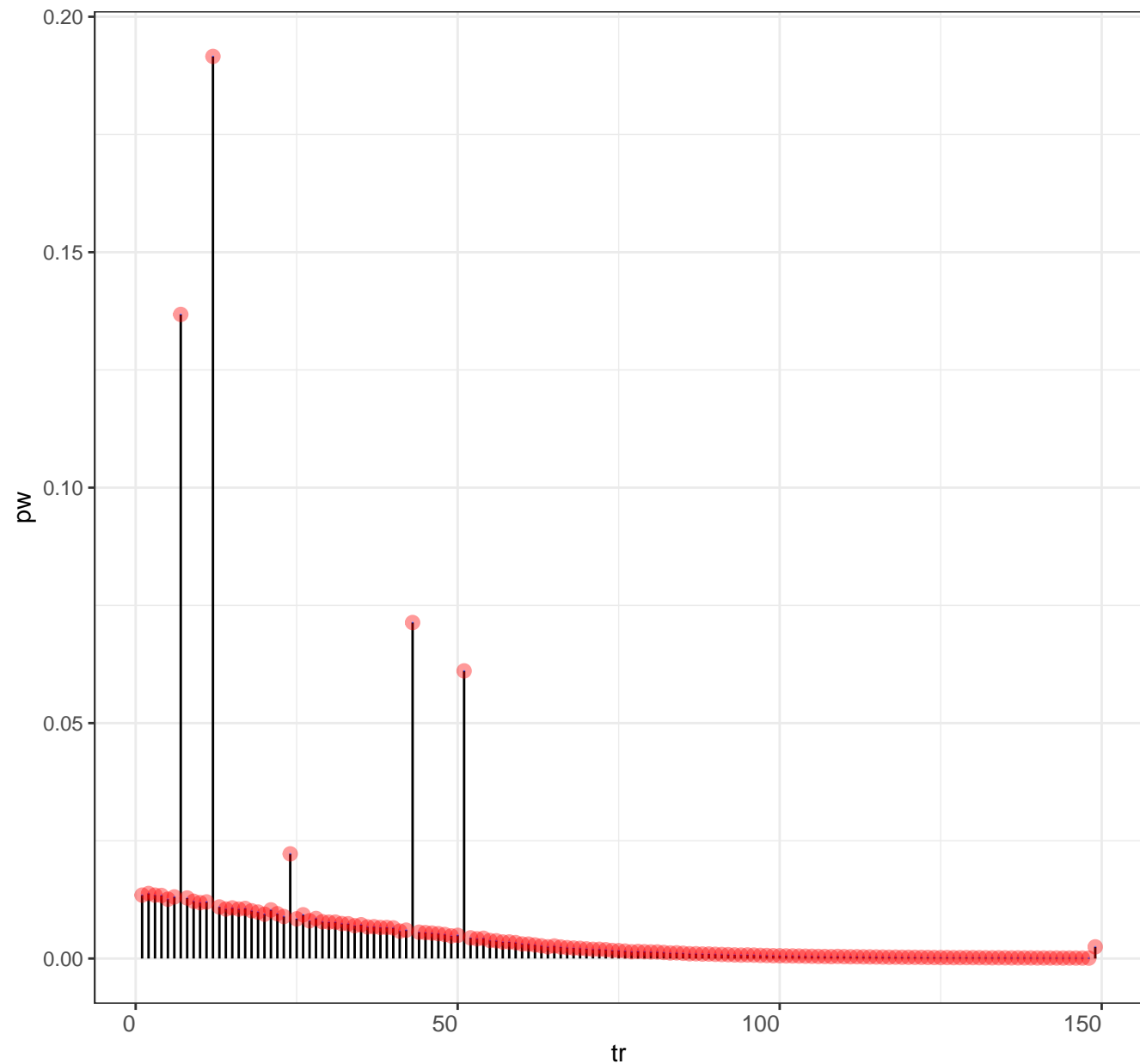
# Posterior distribution for alpha

Legend    posterior mean    prior mean



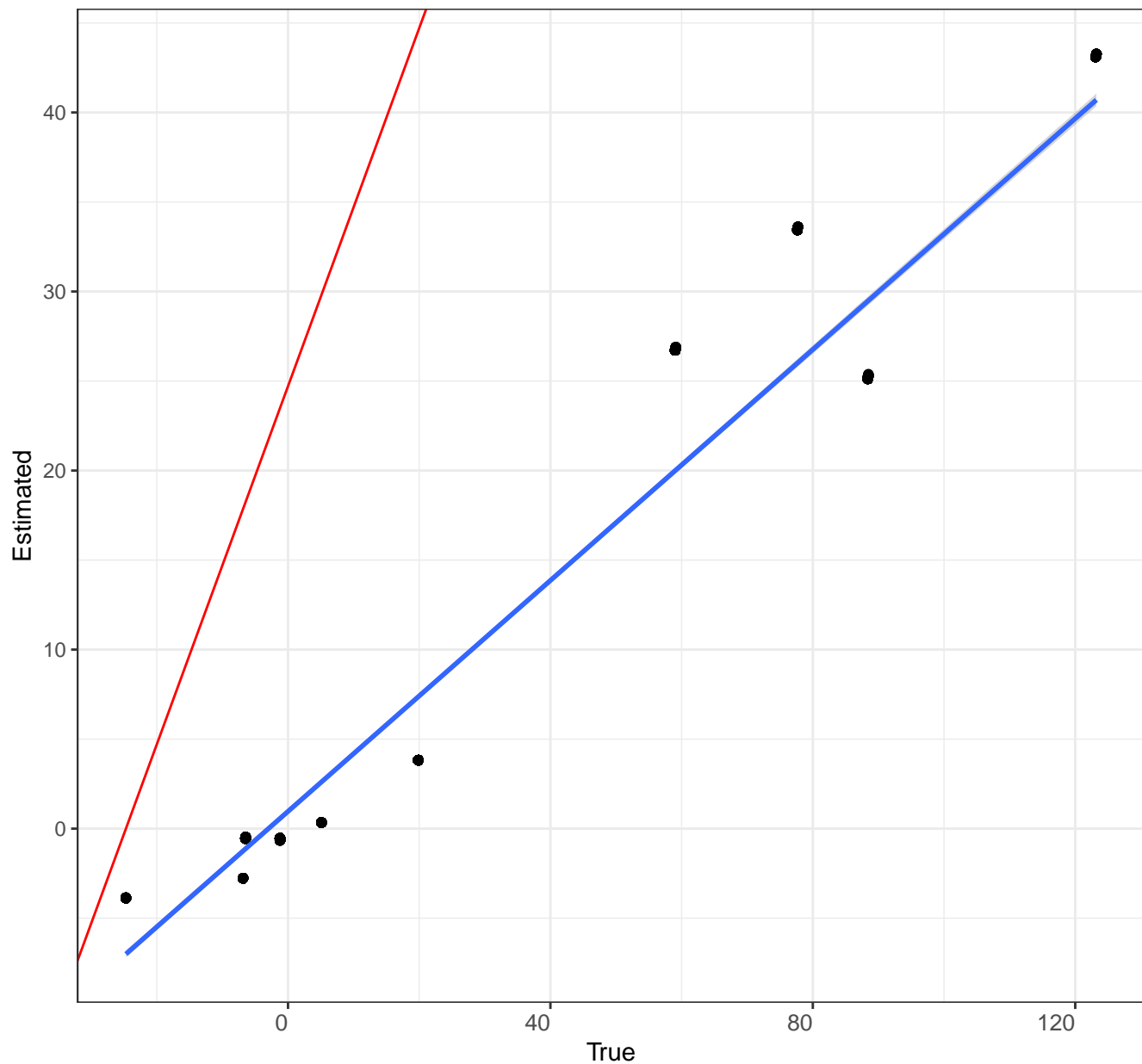
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



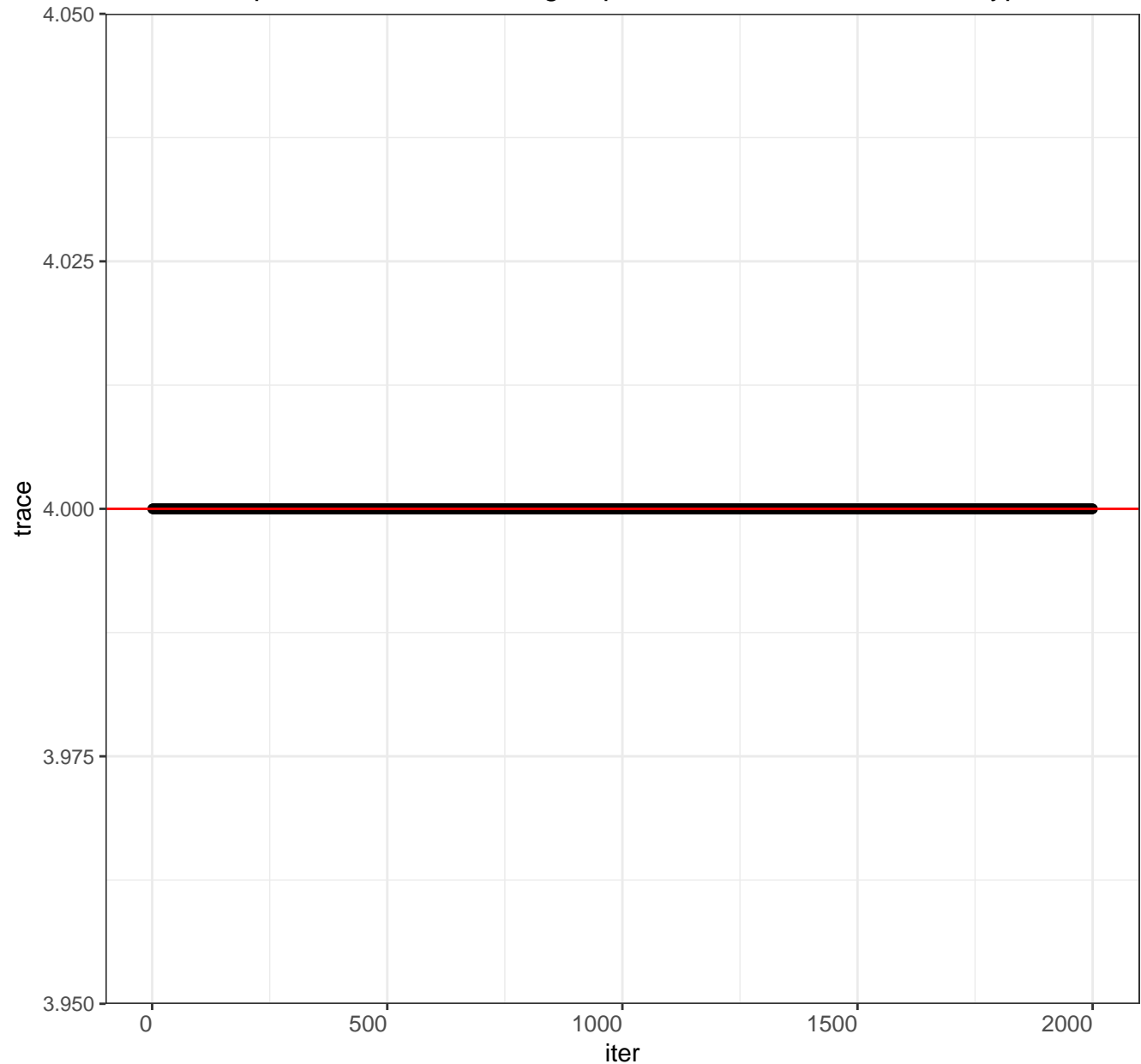
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

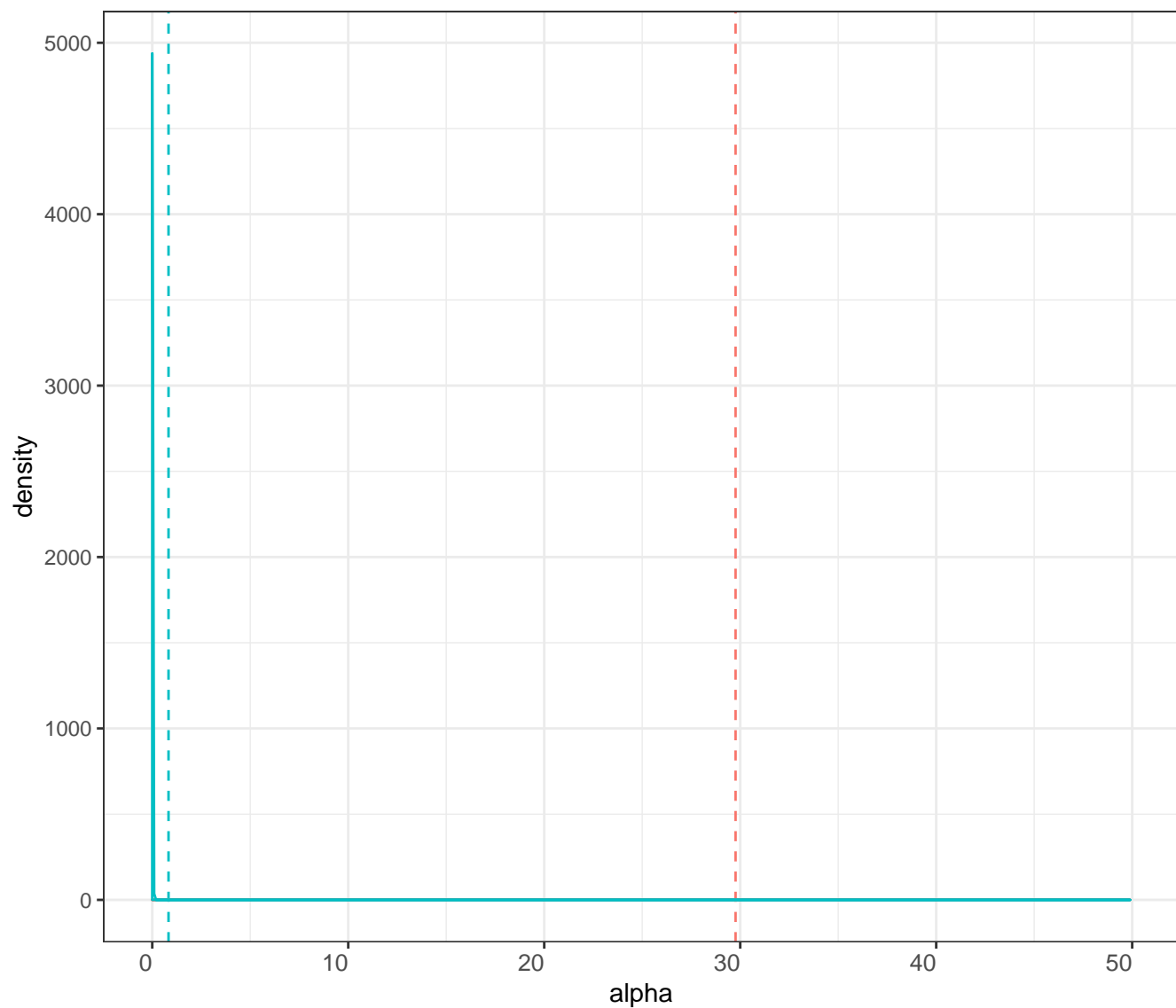
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior

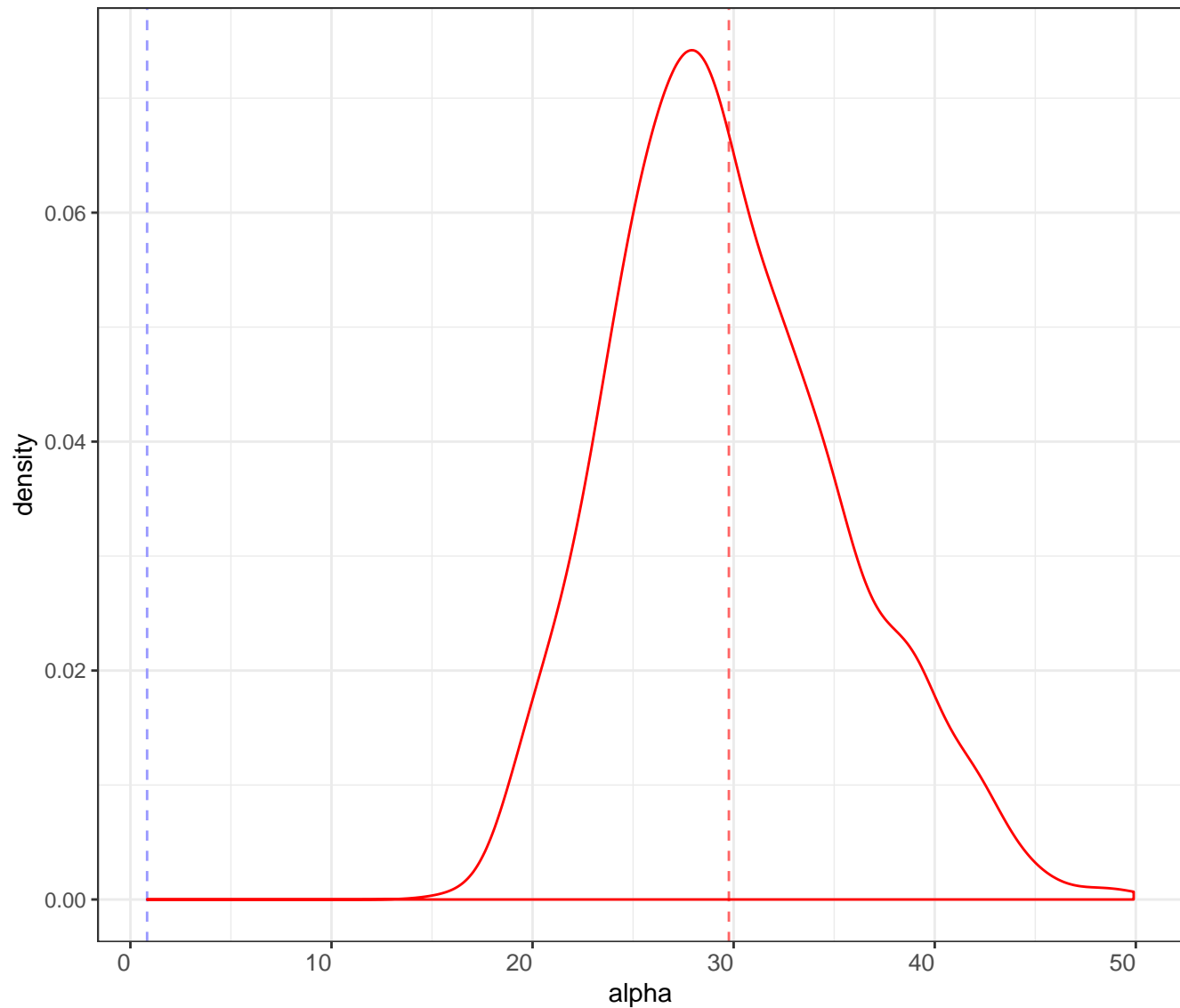


Number of iterations: 2000 burnin: 1000 number of samples: 500



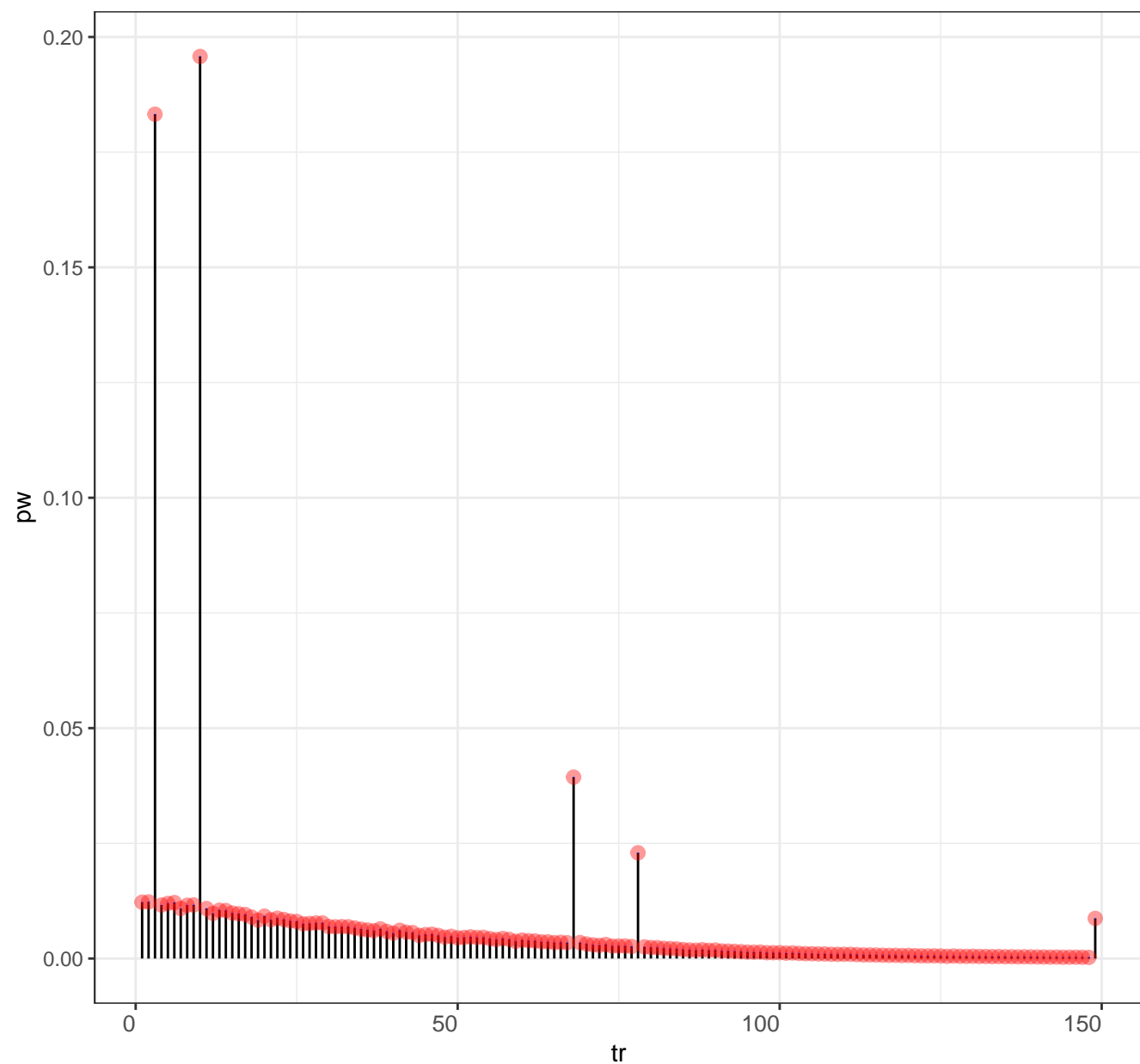
# Posterior distribution for alpha

Legend    posterior mean    prior mean



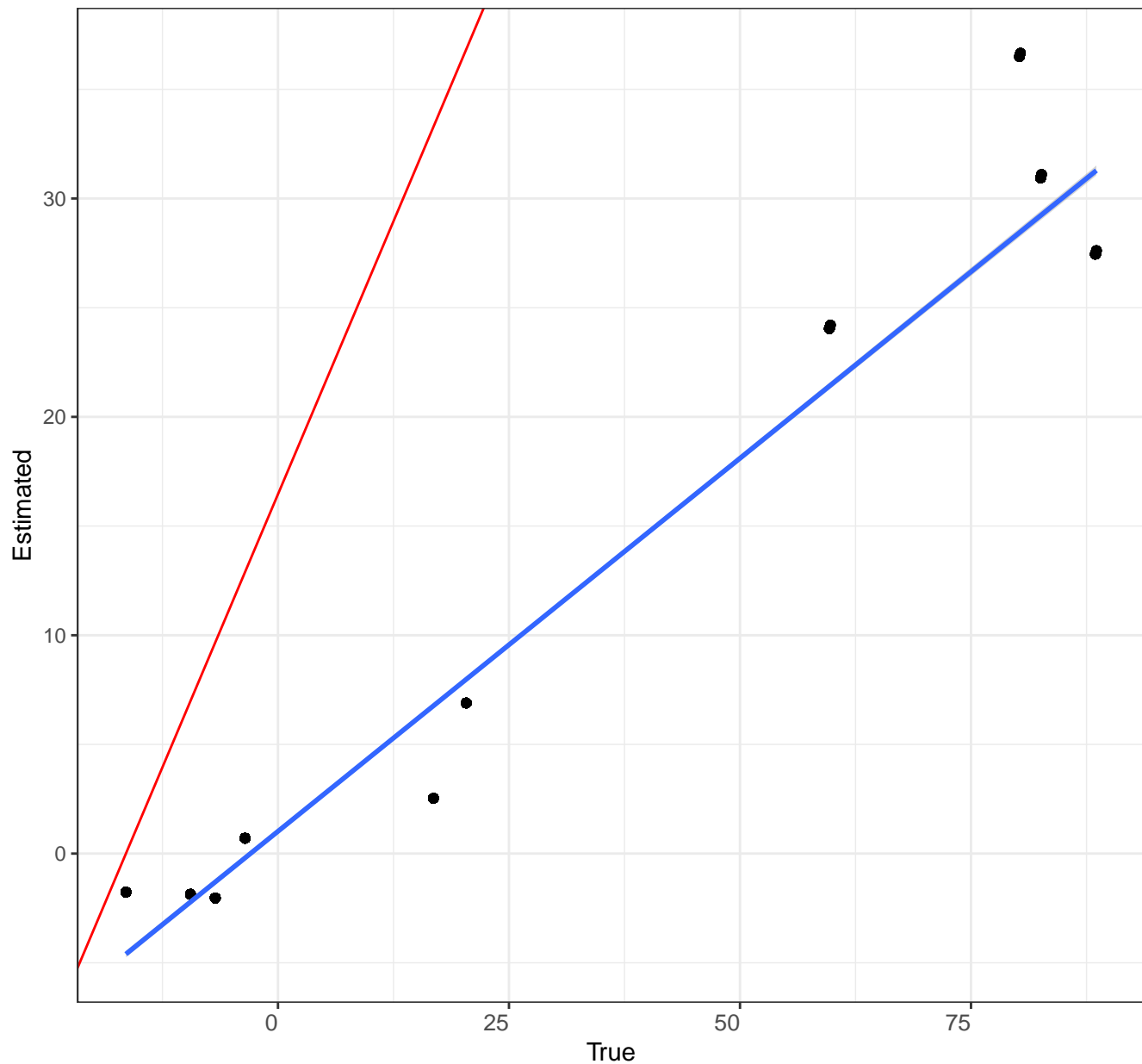
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.009$



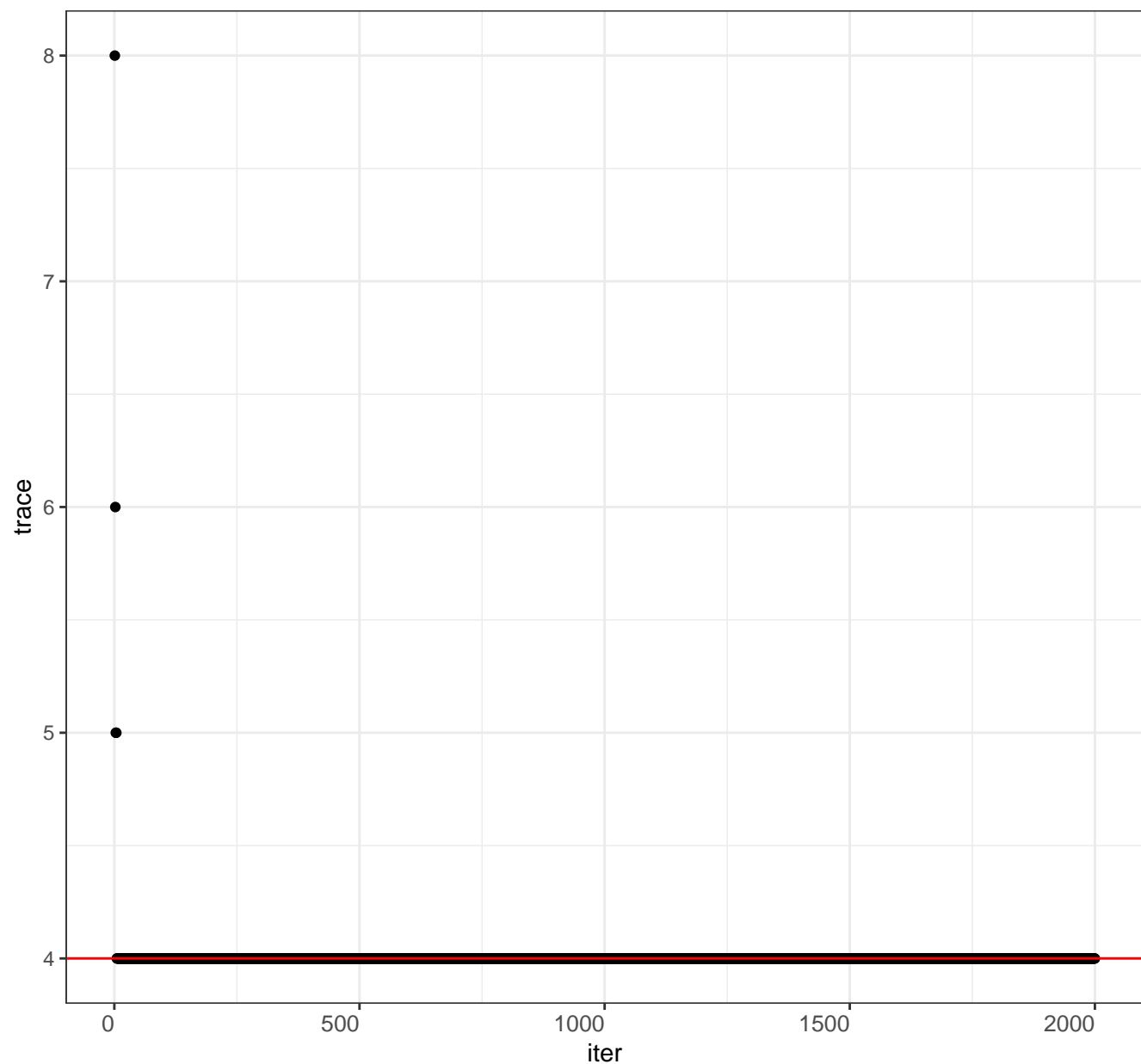
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

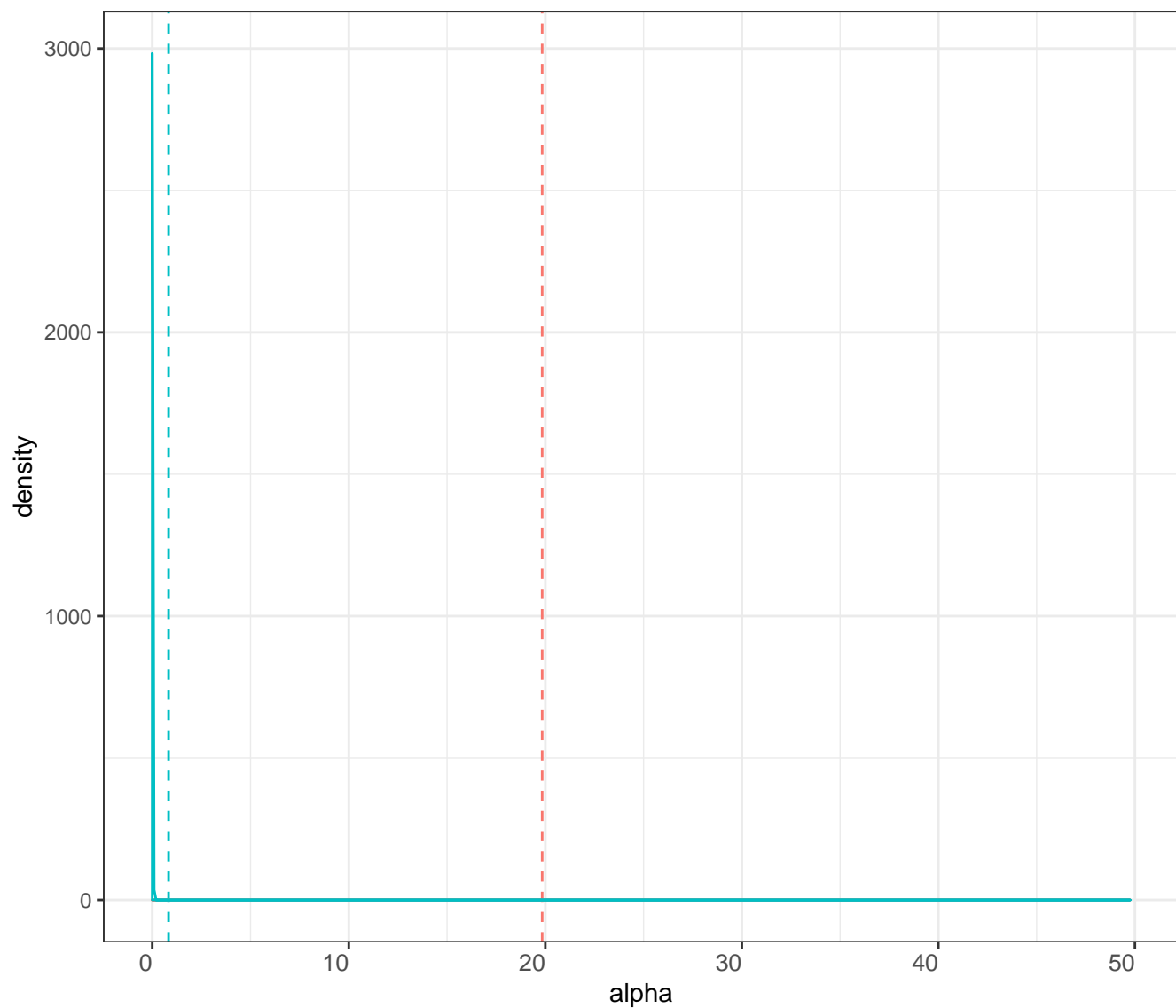
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000 number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

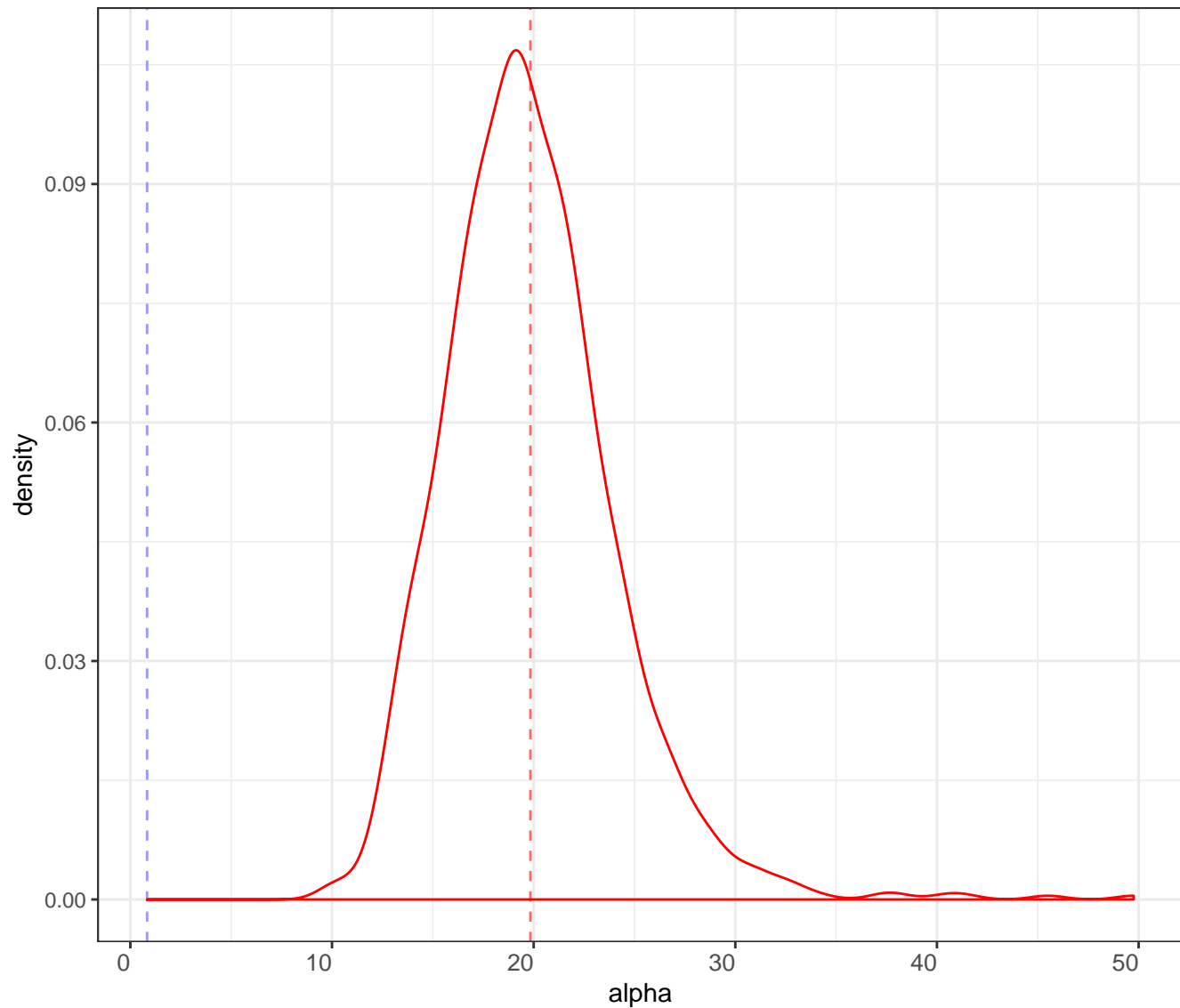
type   posterior   prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

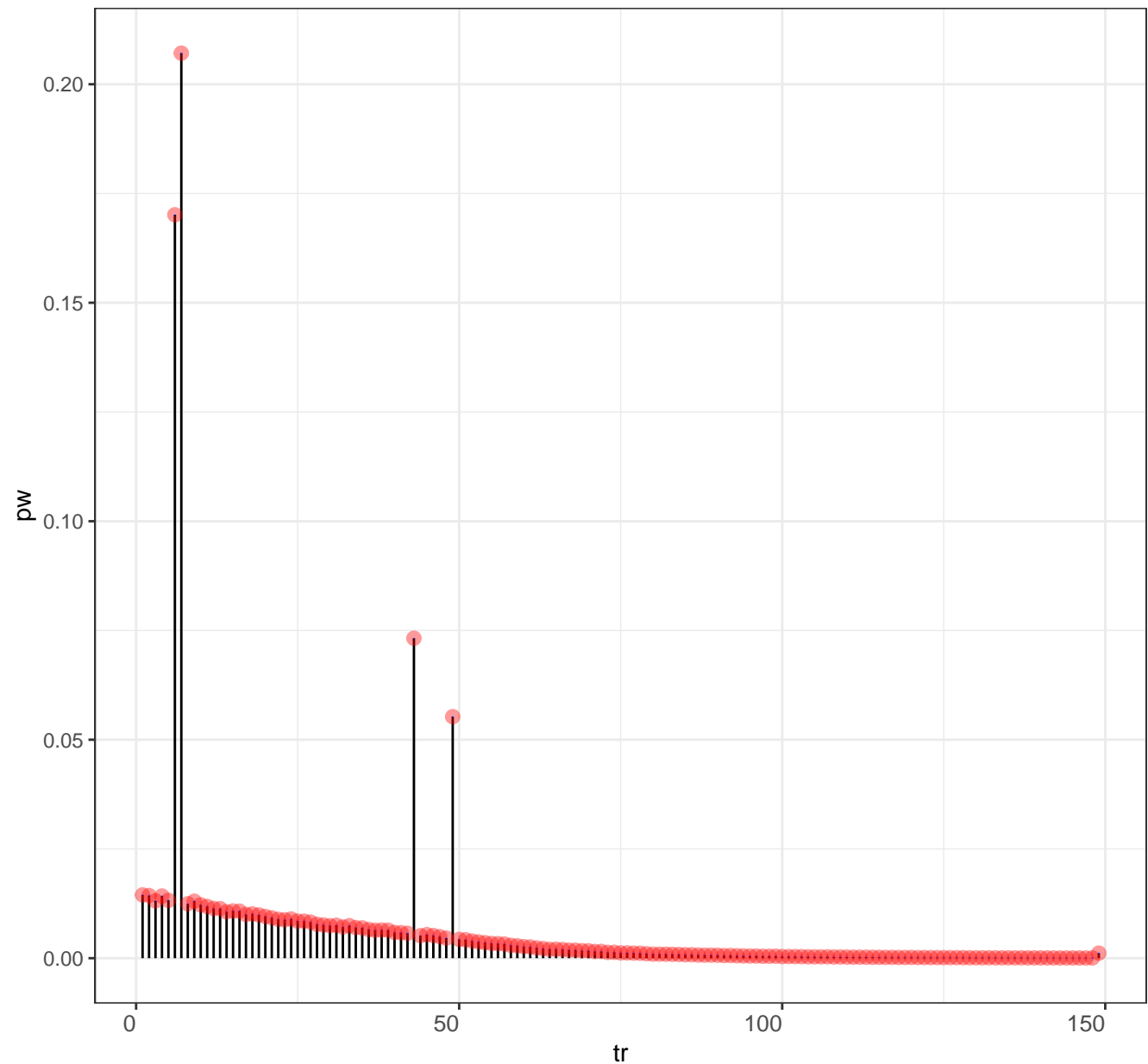
# Posterior distribution for alpha

Legend      posterior mean      prior mean



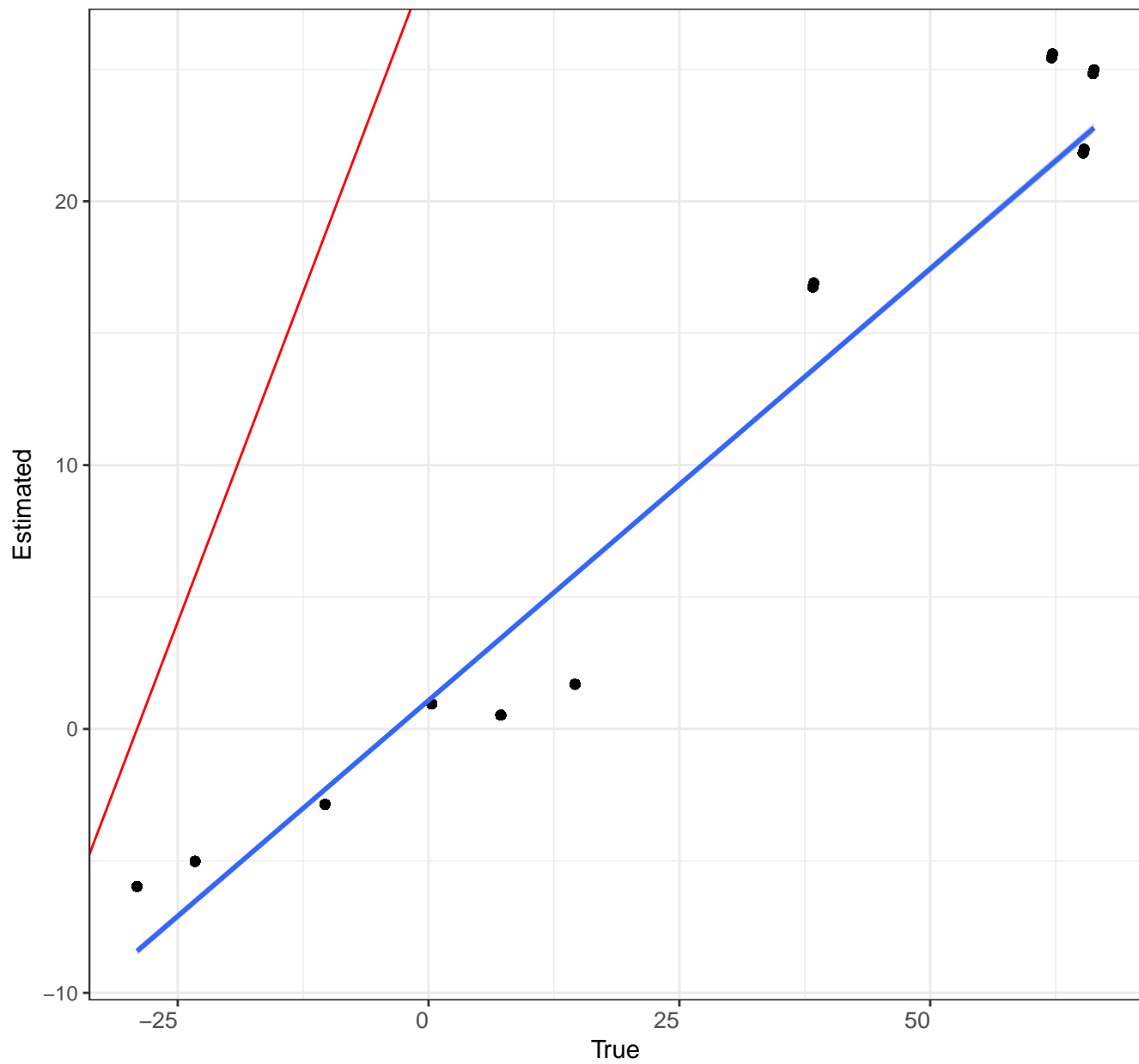
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



Number of iterations: 2000 burnin: 1000 number of samples: 500

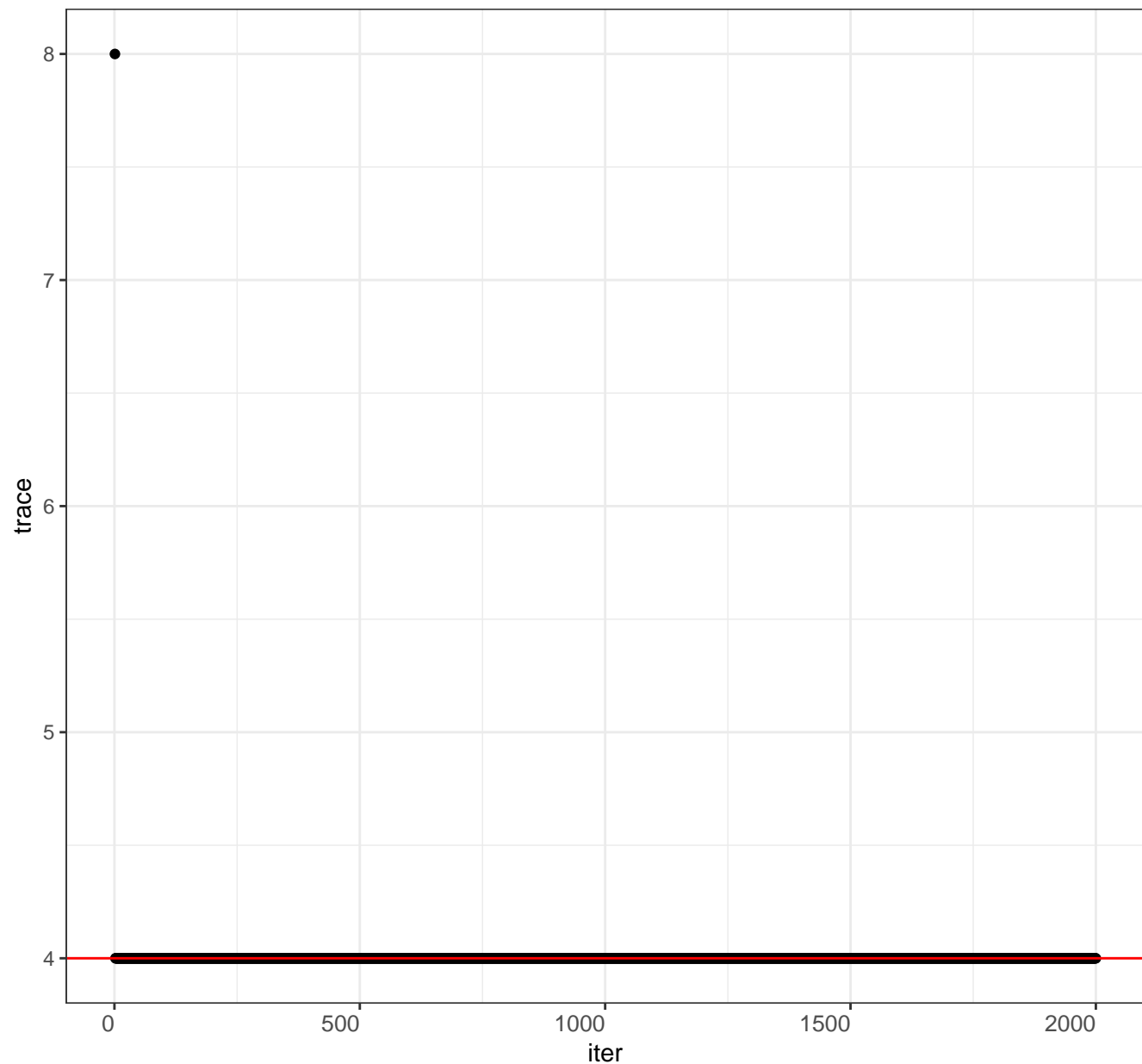
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1



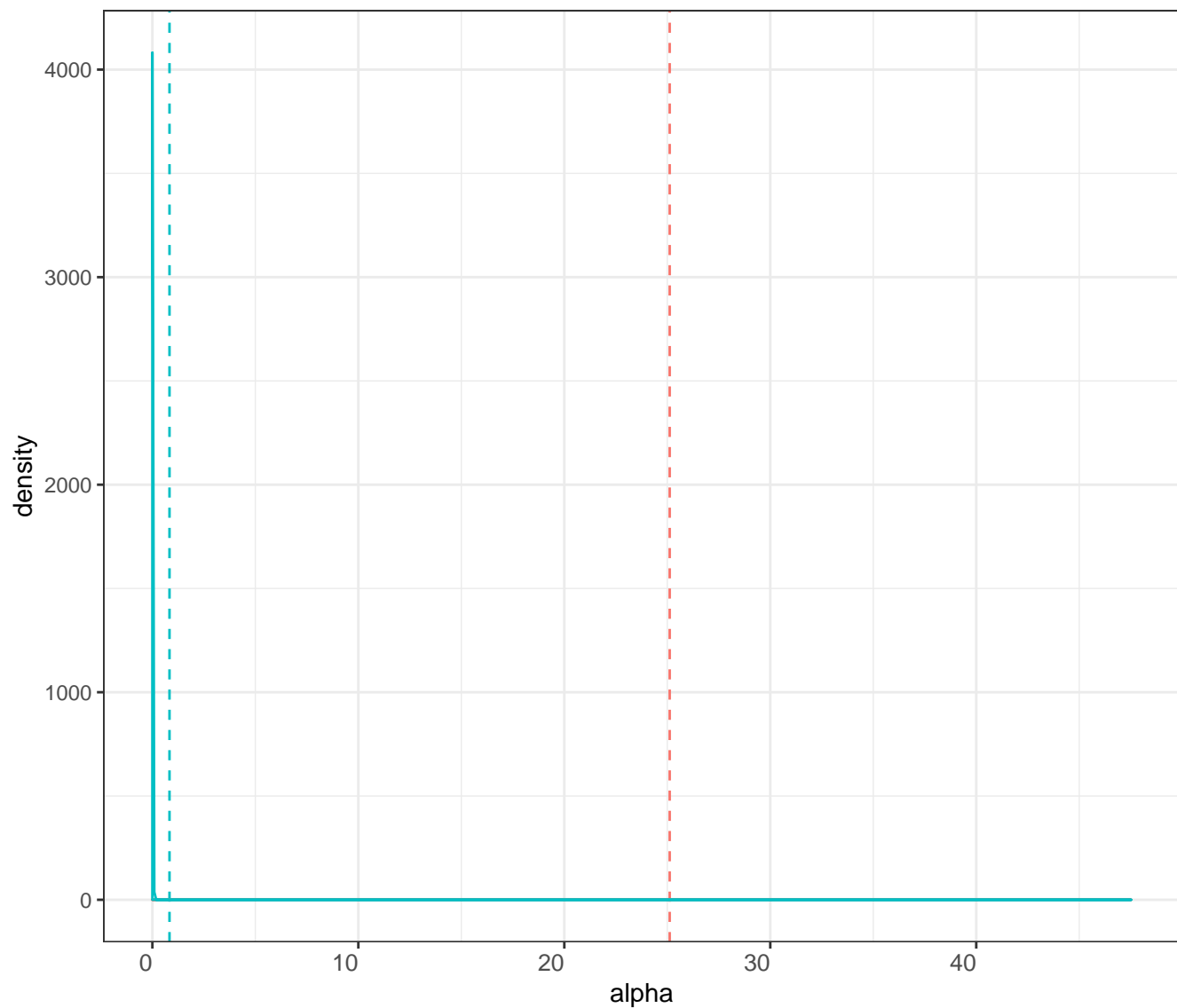
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

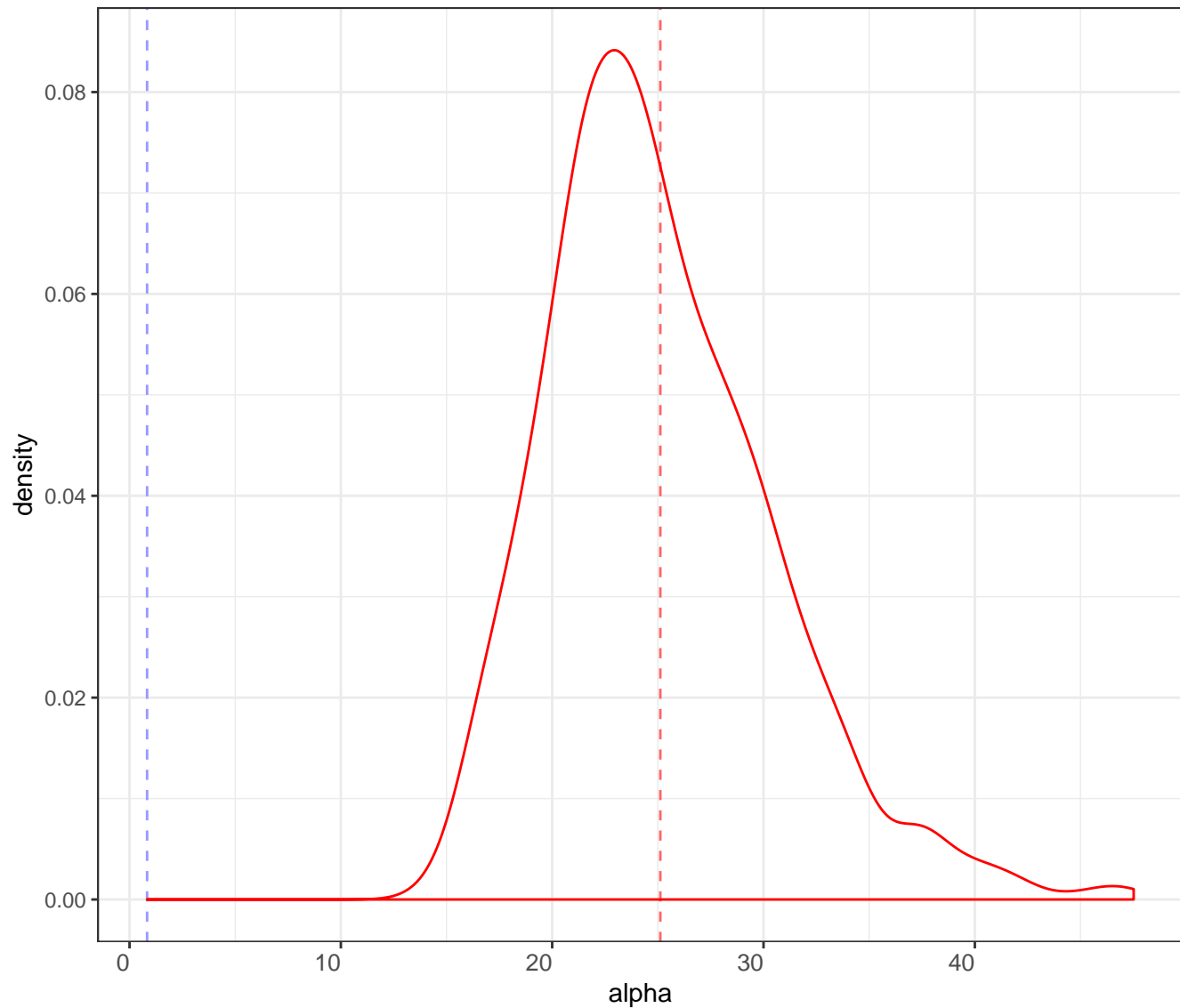
type ┆┆┆ posterior ┆┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

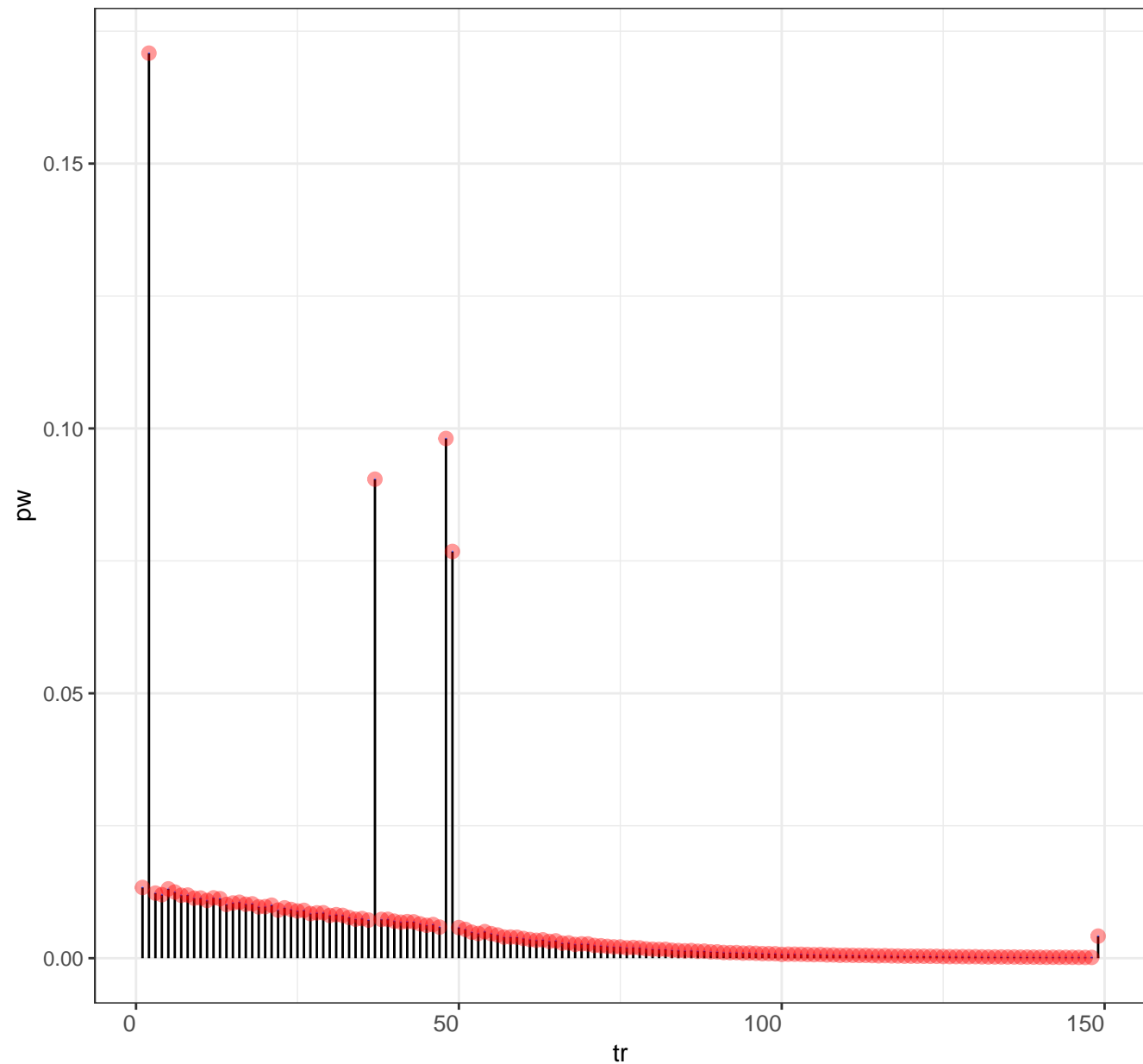
# Posterior distribution for alpha

Legend    posterior mean    prior mean



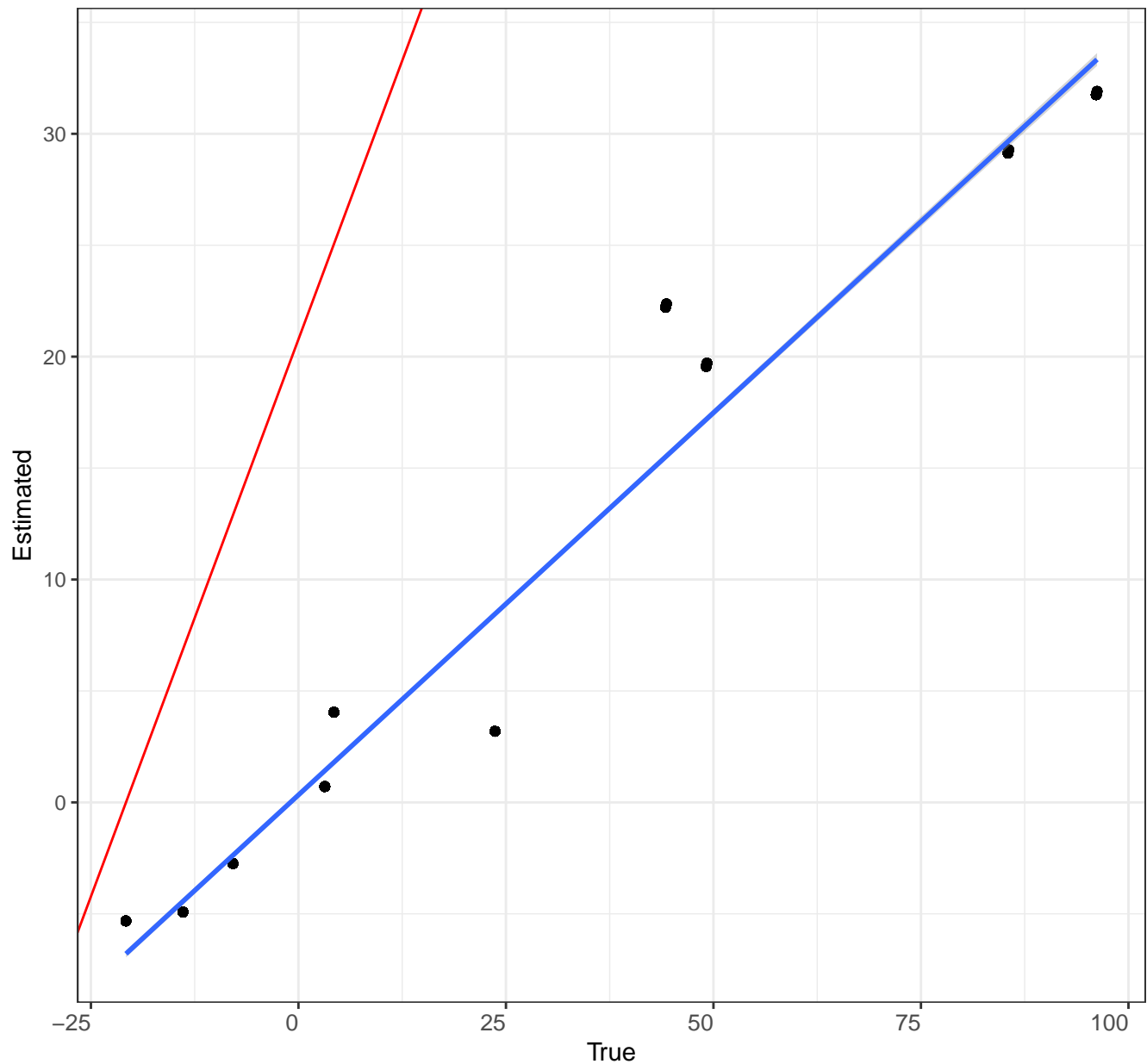
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



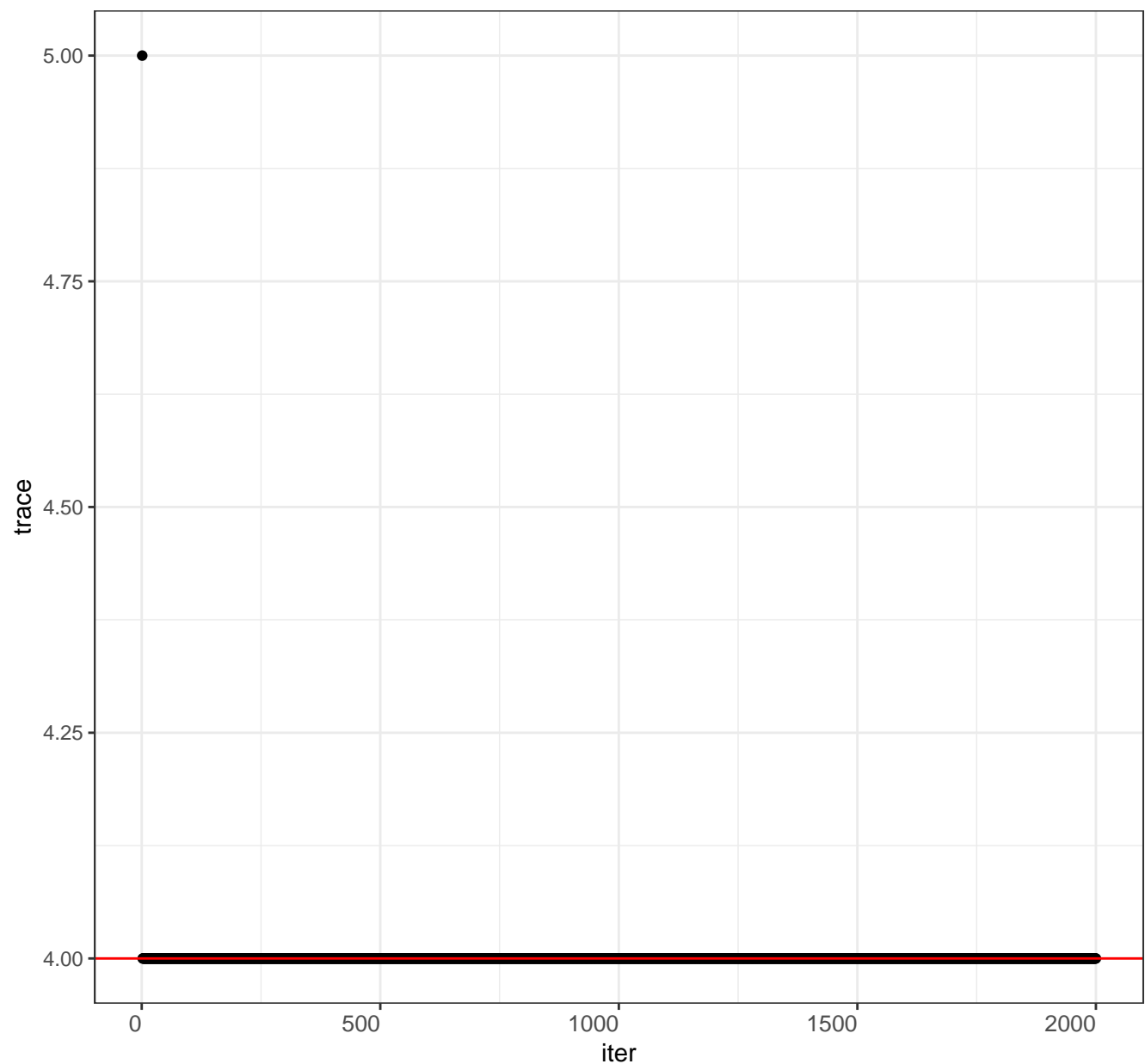
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

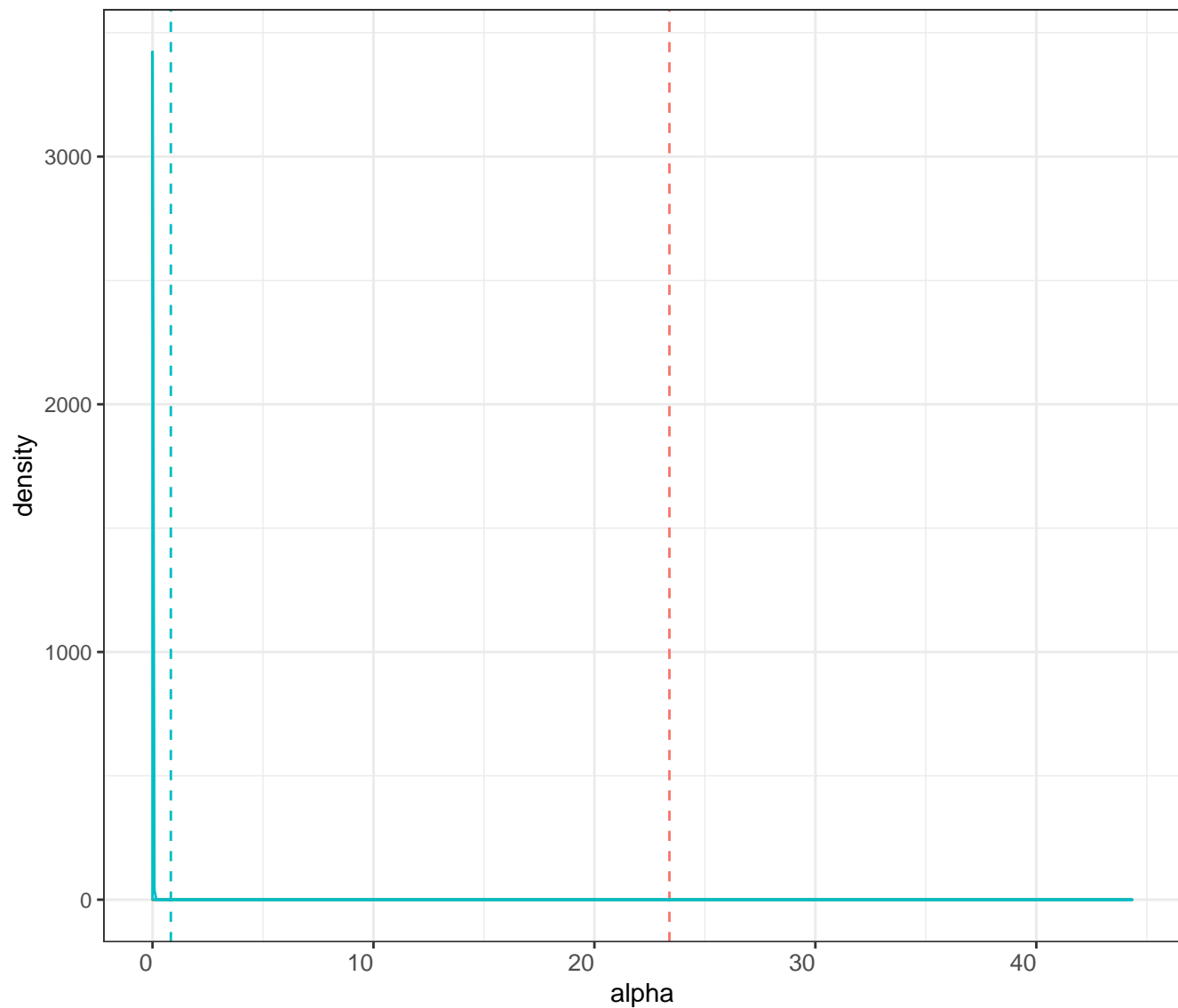
Trace plot for the number of groups K for S=50 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=10 true gr K=4 ,type=1 ,N=150

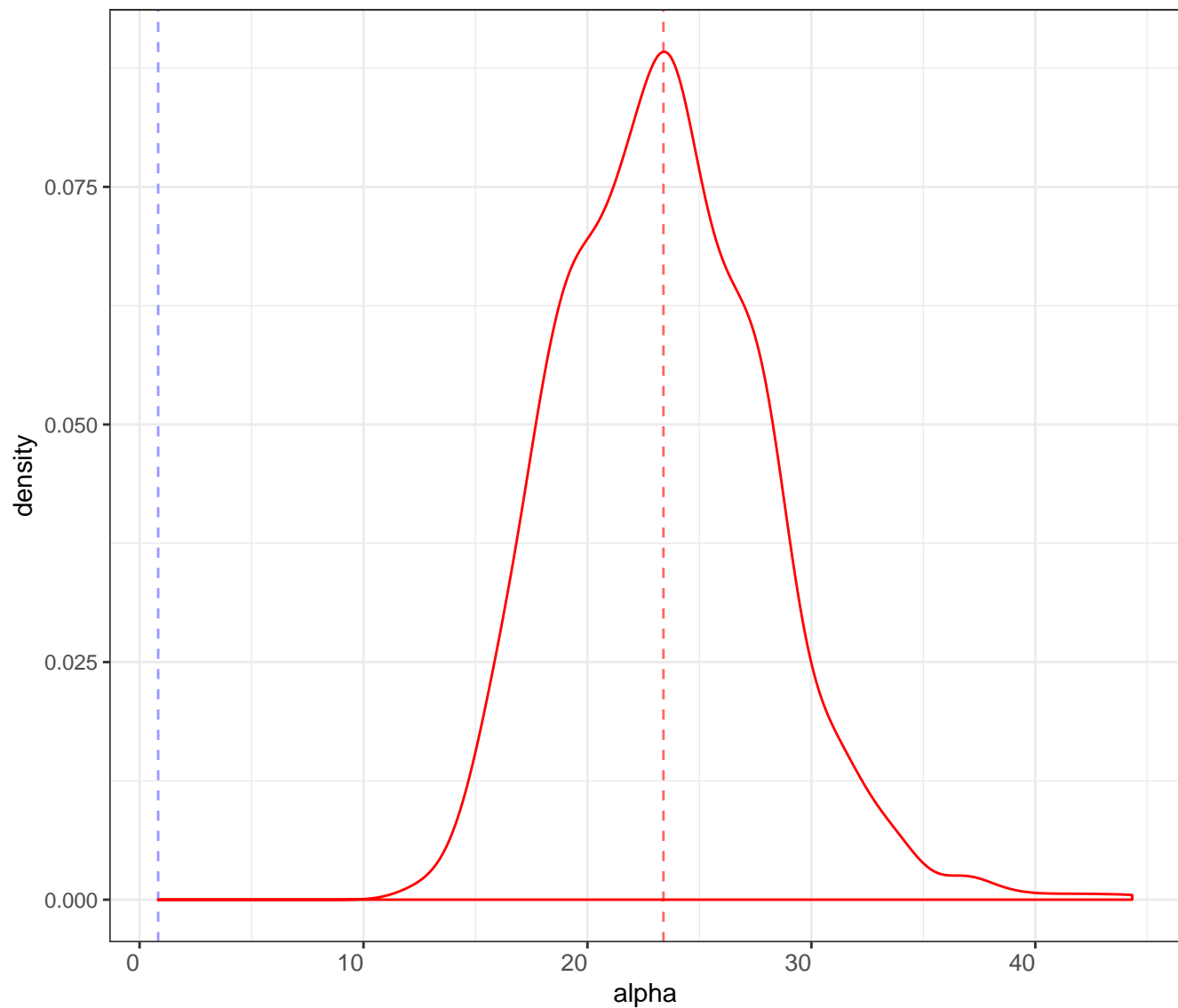
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

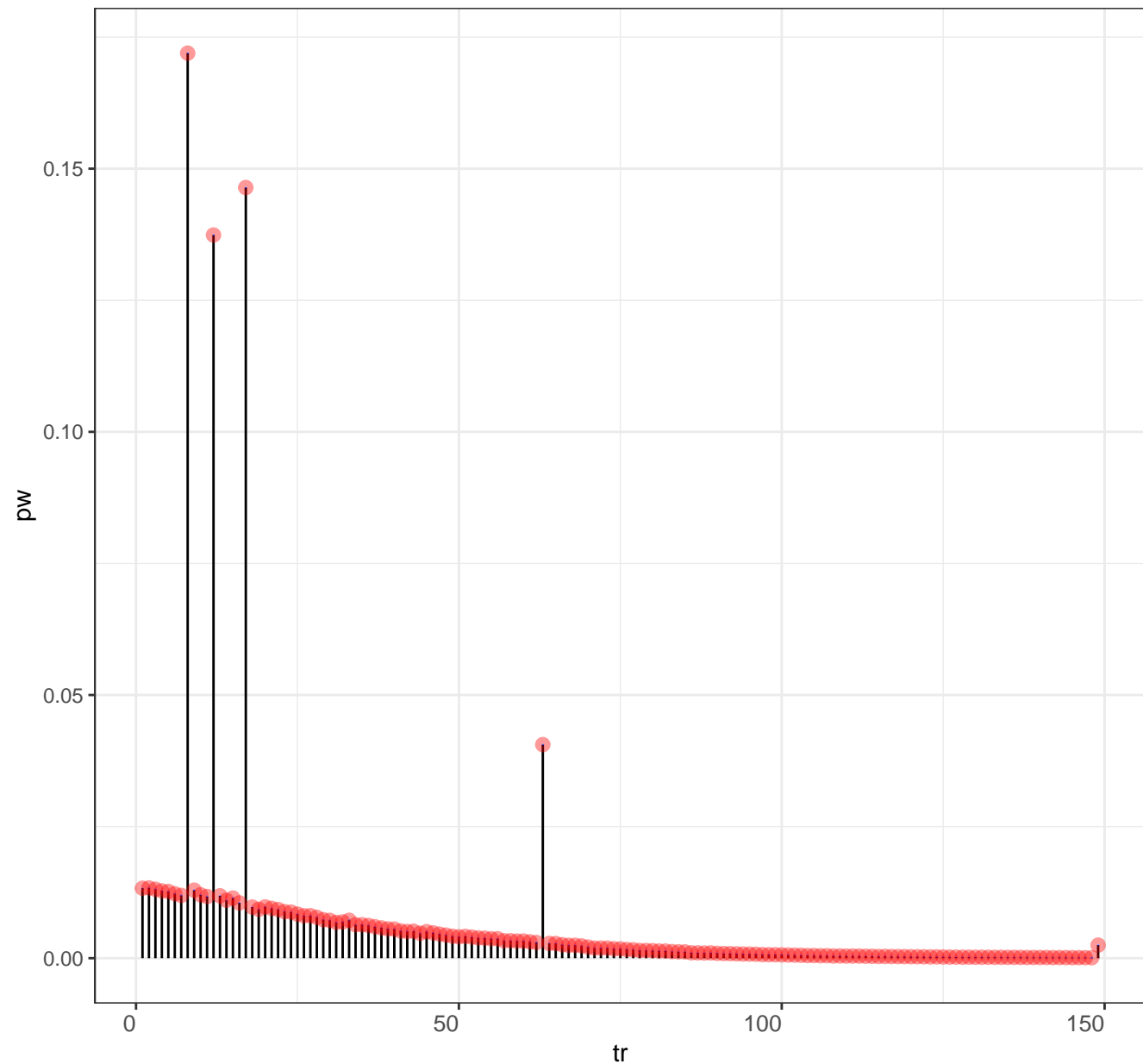
Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=10 true gr K=4 ,type=1 ,N=150

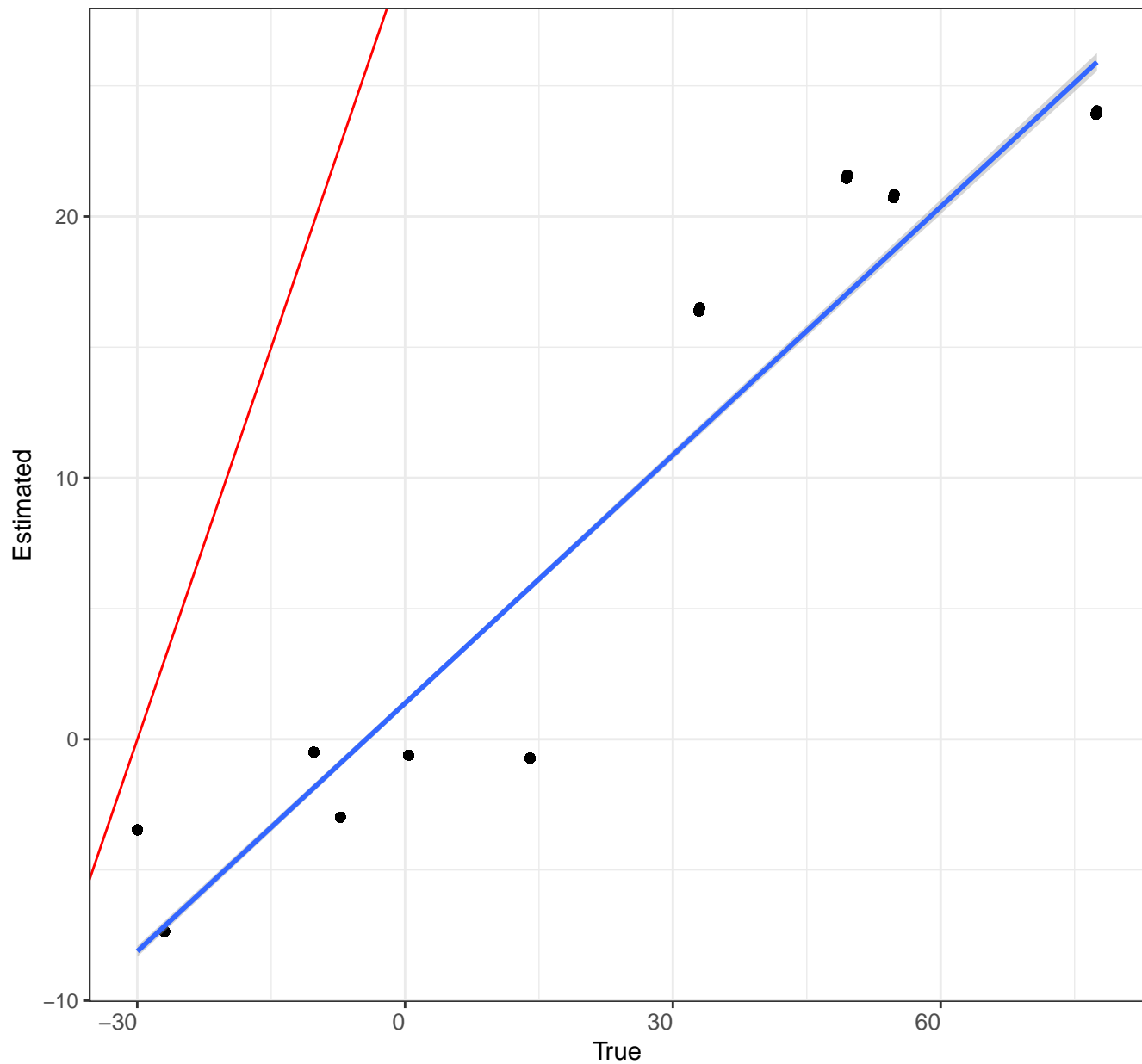


Weights for the case:  $S=50$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



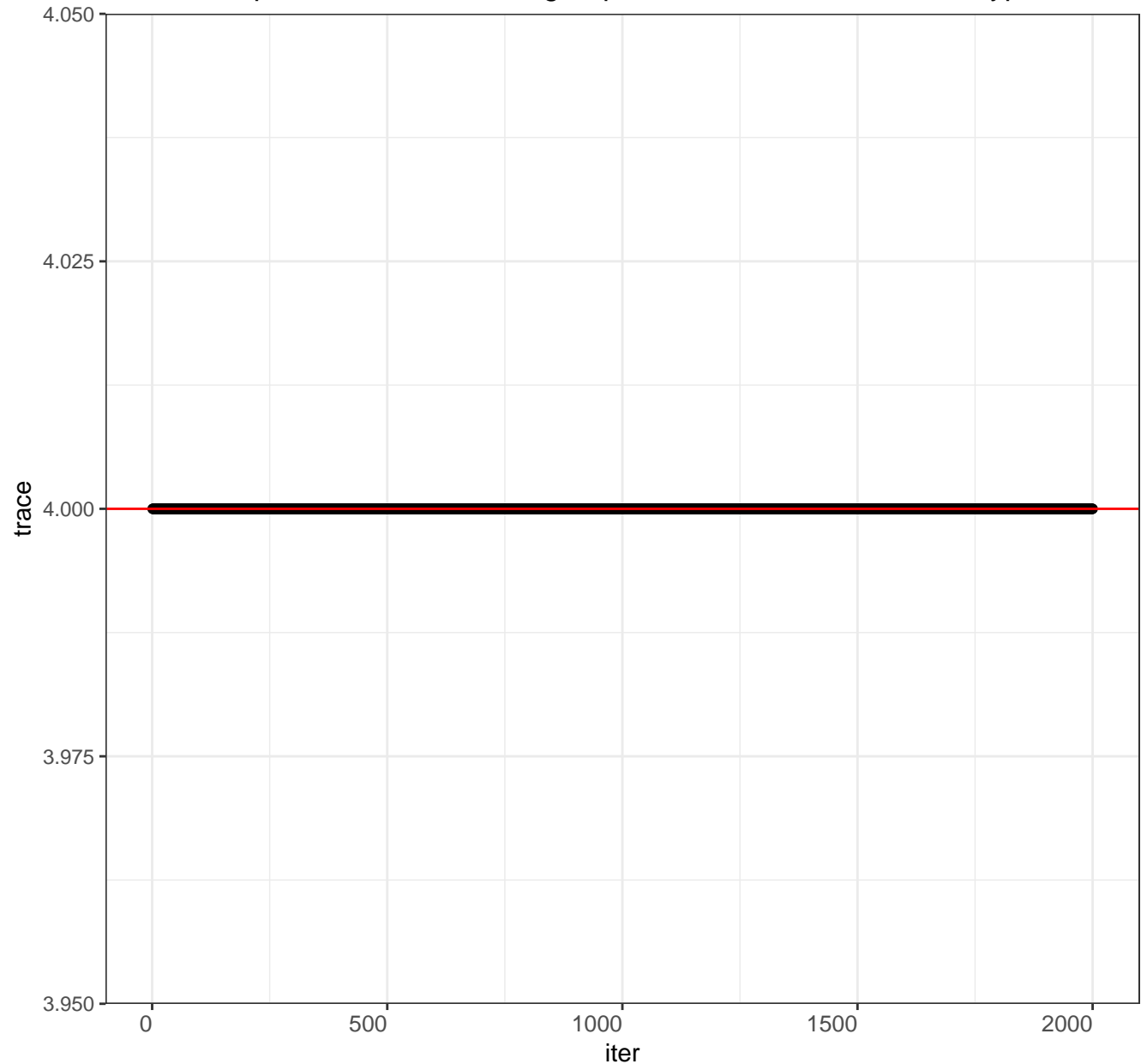
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=10 true K=4 type=1

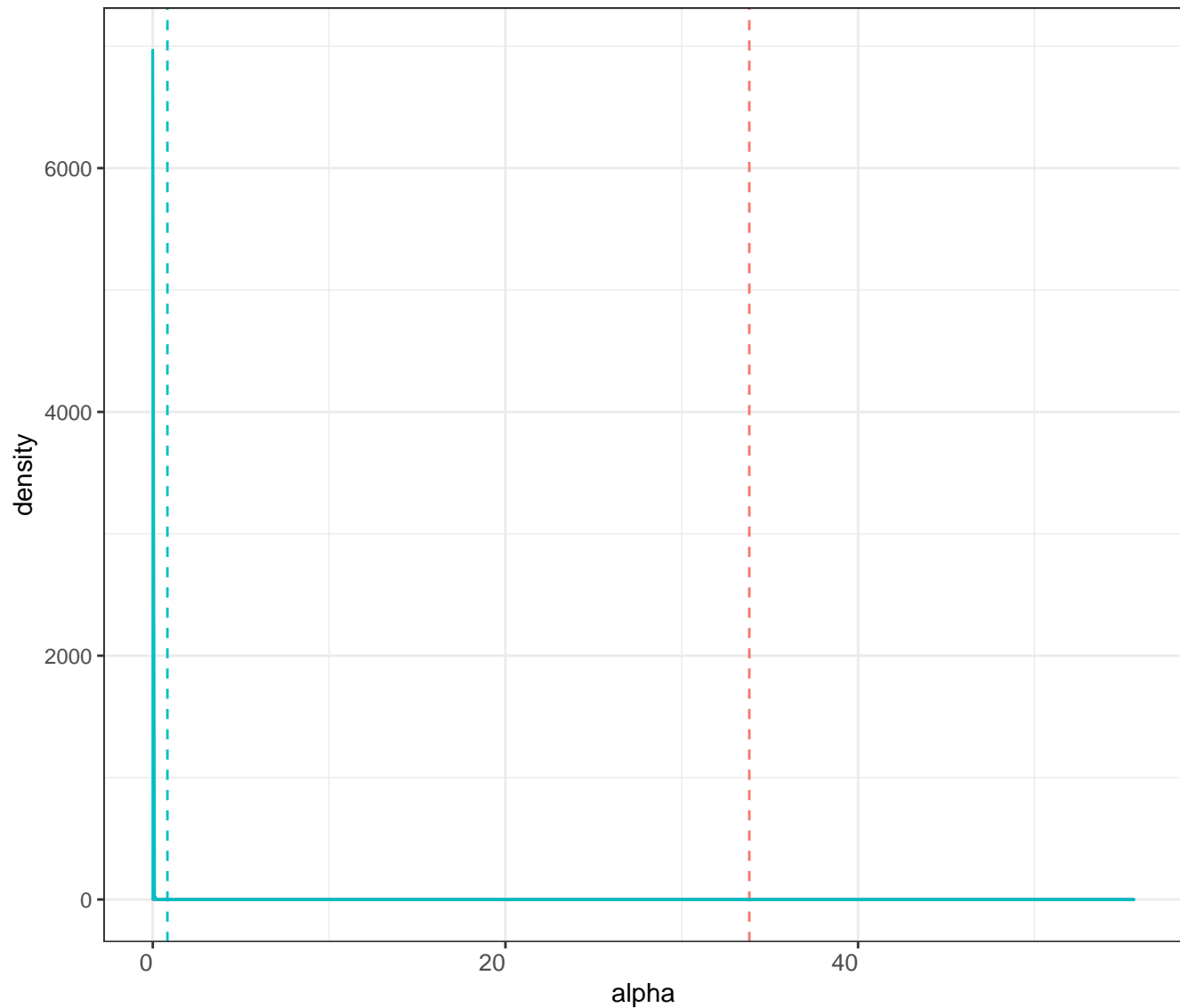
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

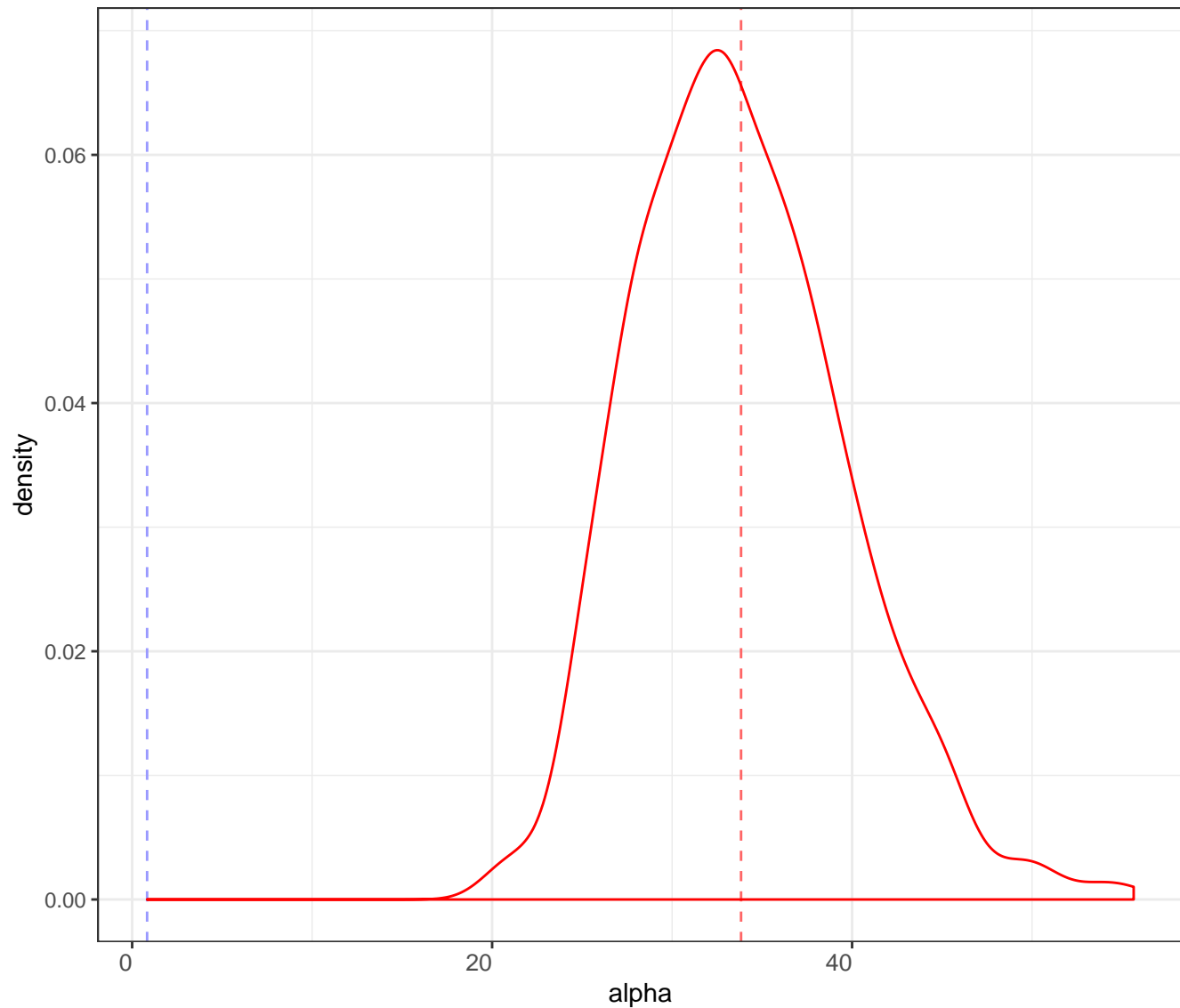
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

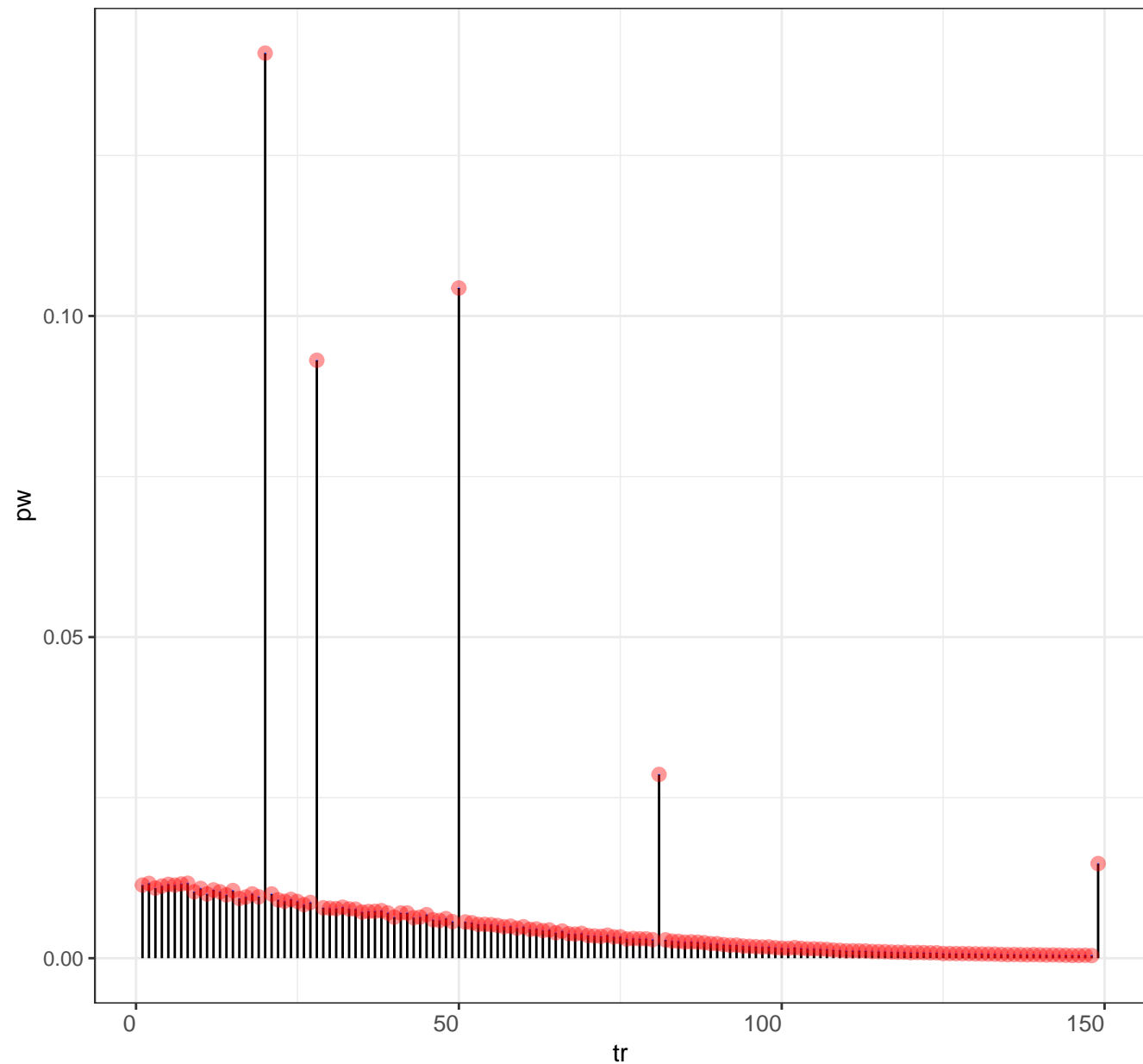
# Posterior distribution for alpha

Legend      posterior mean      prior mean



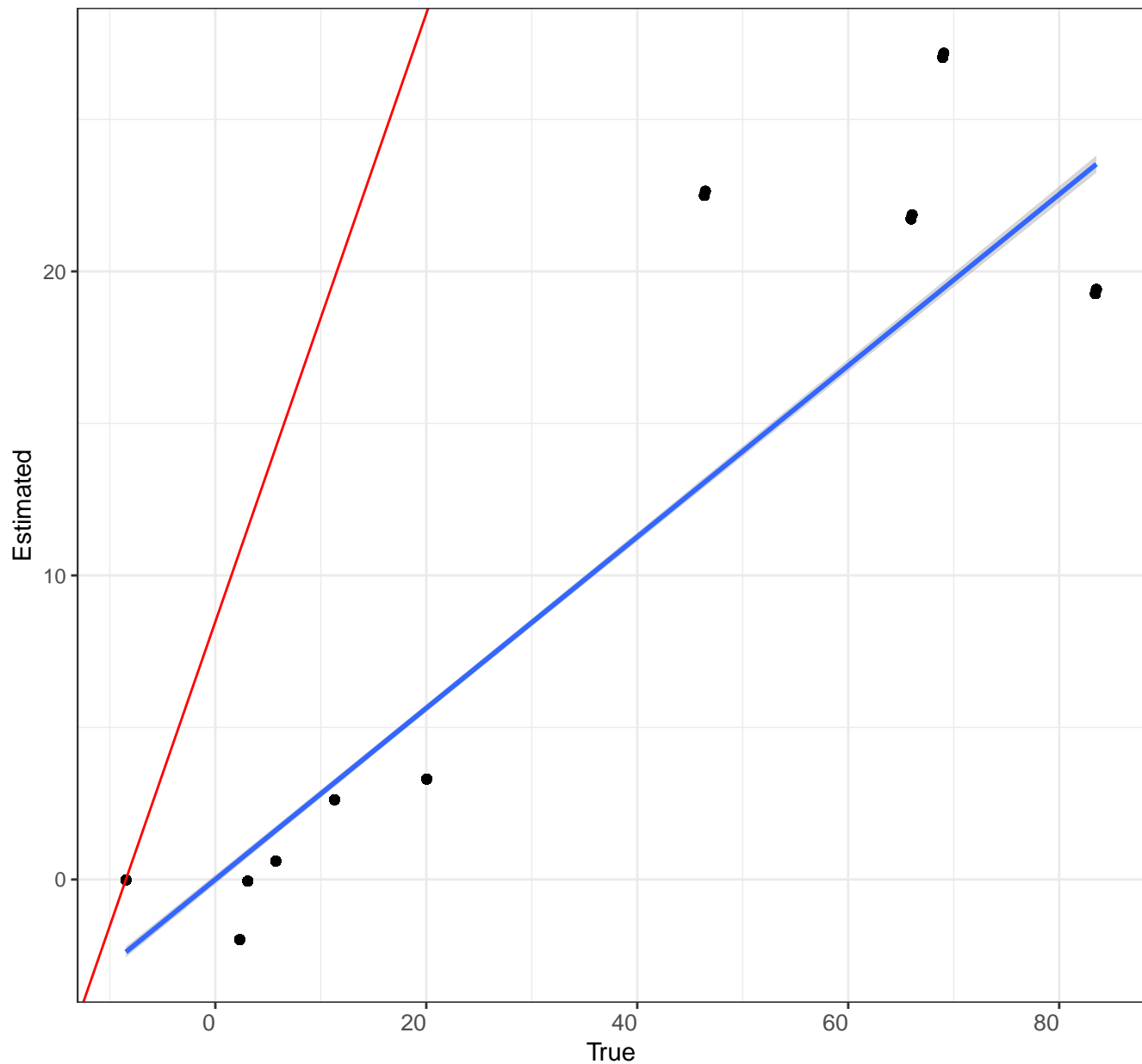
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.015$



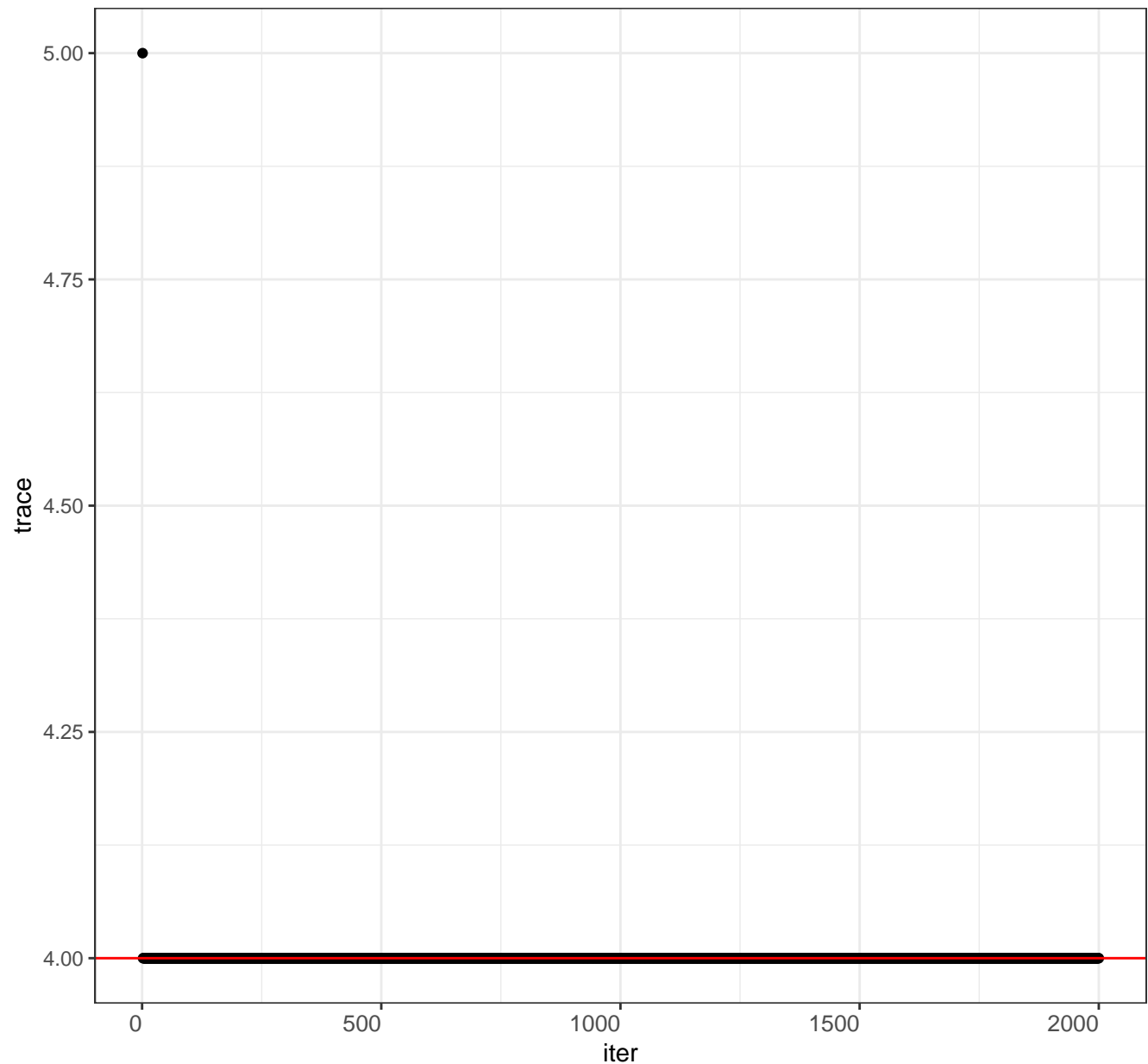
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

Trace plot for the number of groups K for S=50 r=20 true K=4 type=1

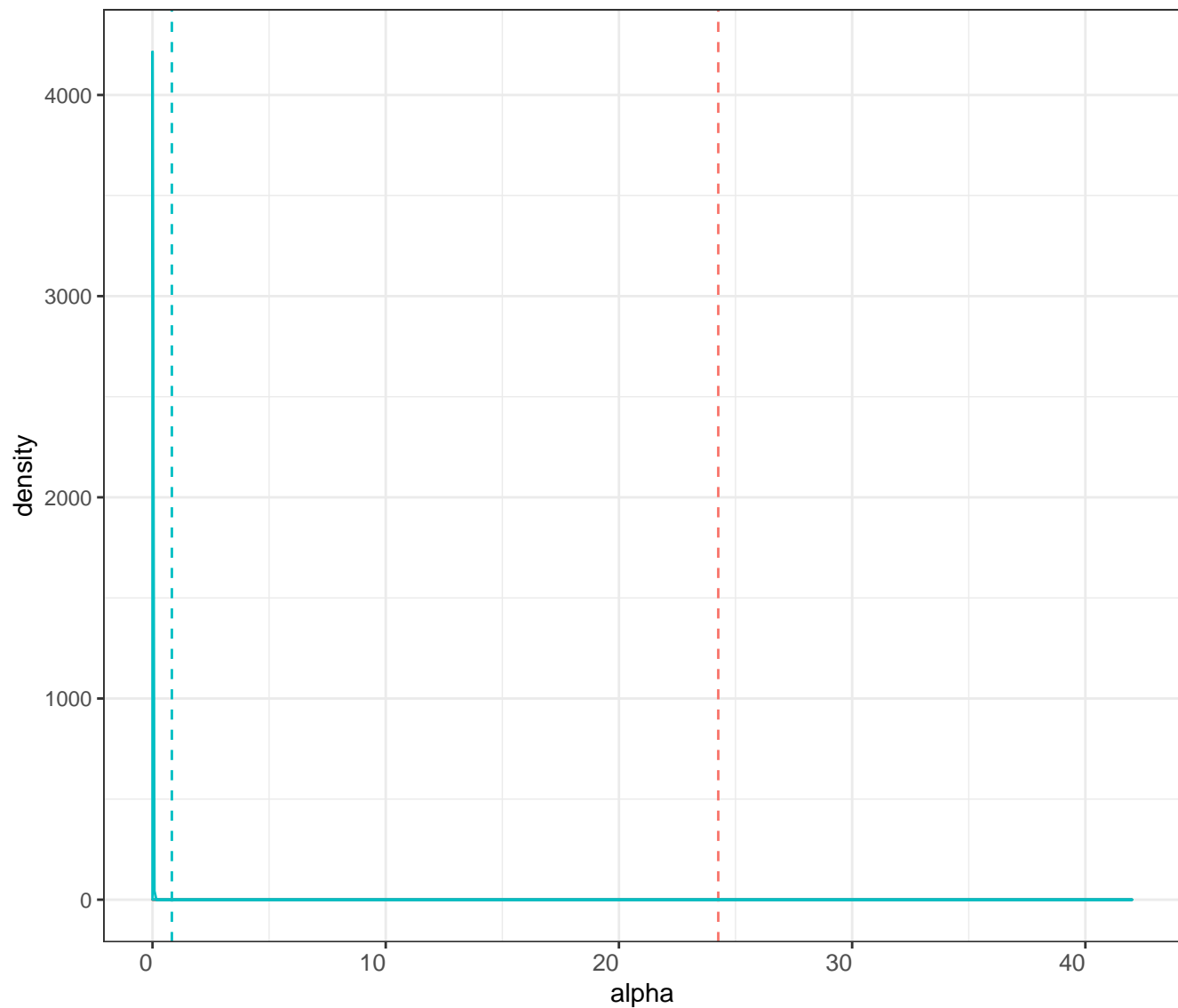


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

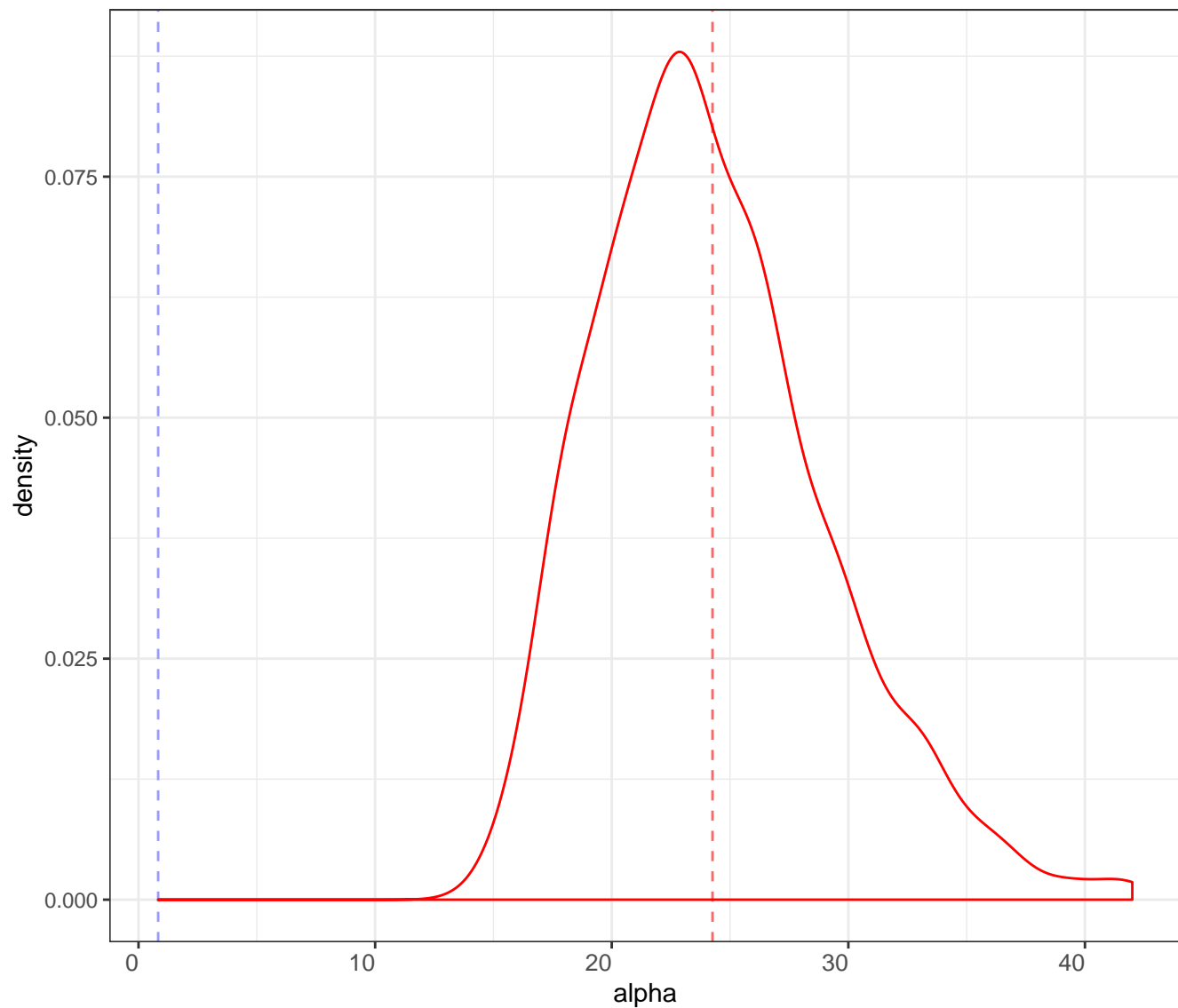
type   posterior   prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

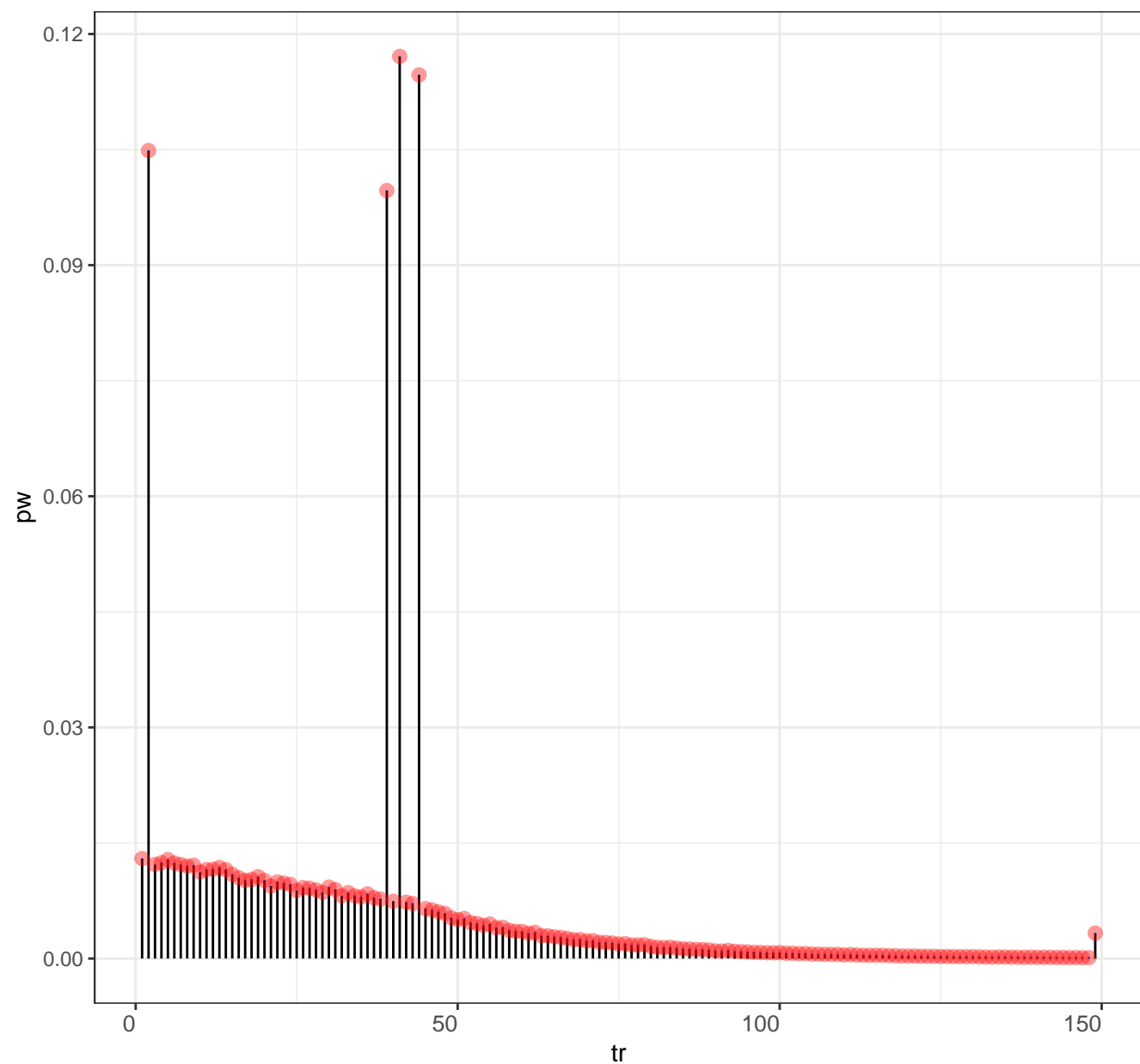
# Posterior distribution for alpha

Legend      posterior mean      prior mean



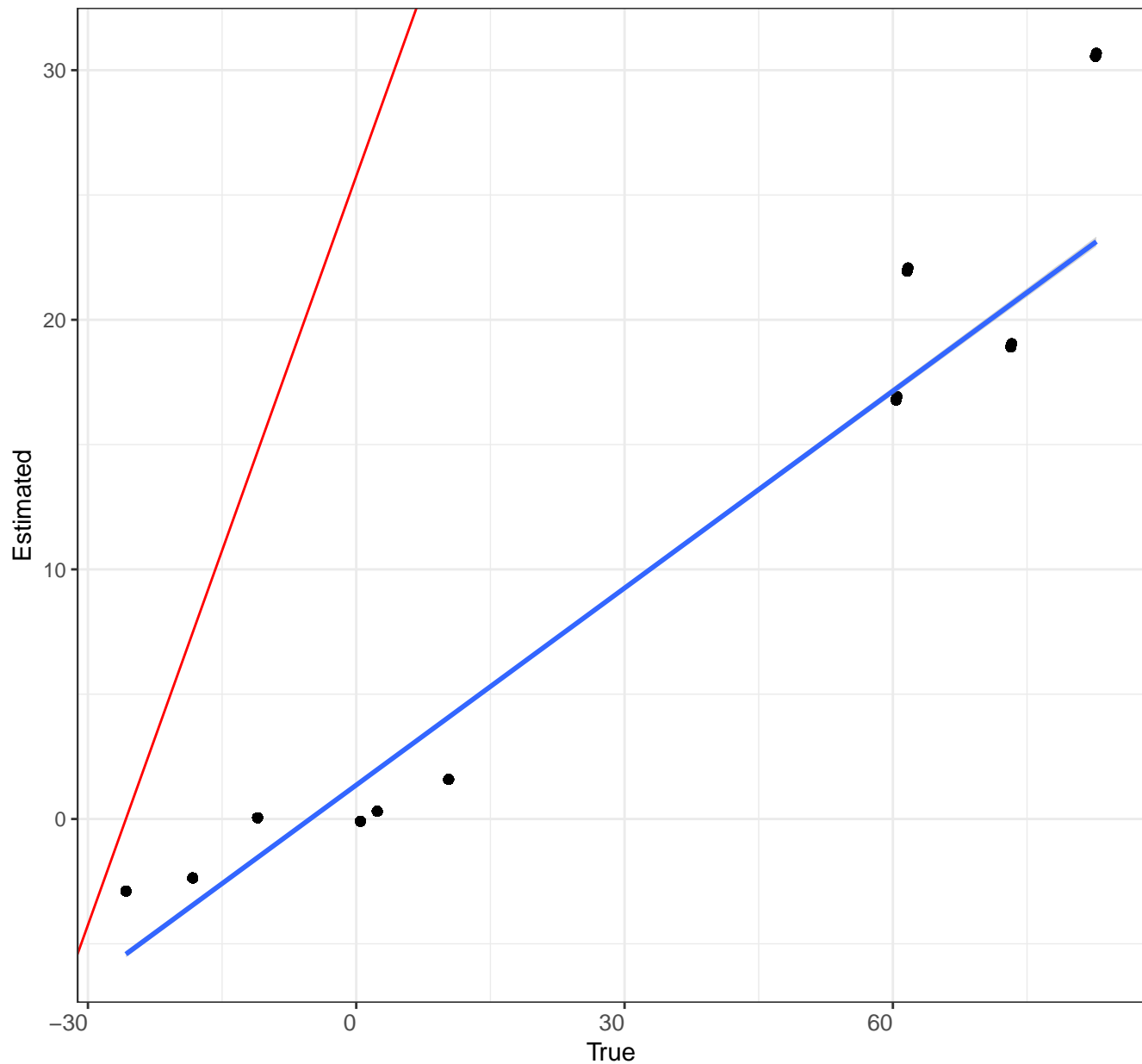
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.003$



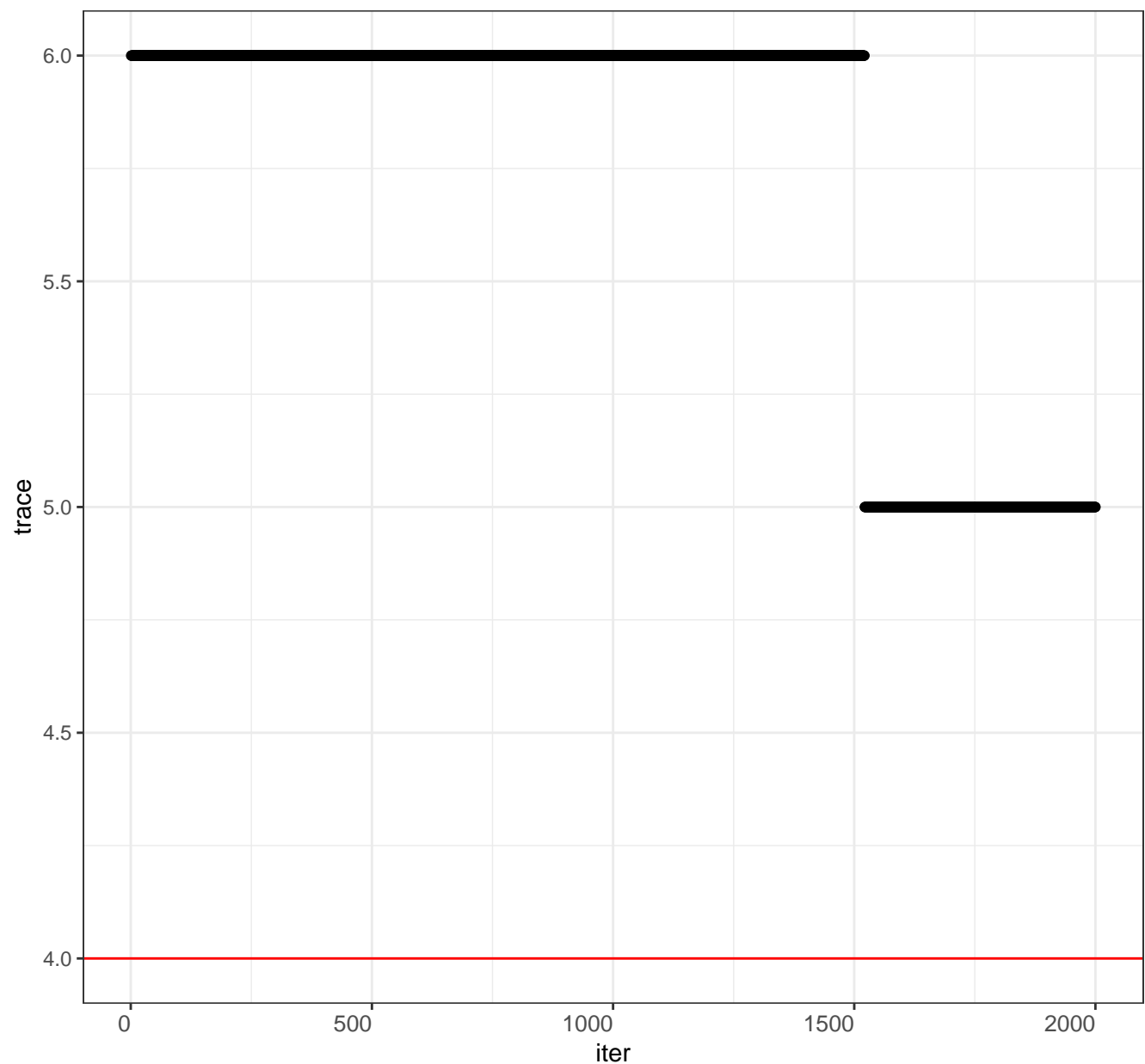
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

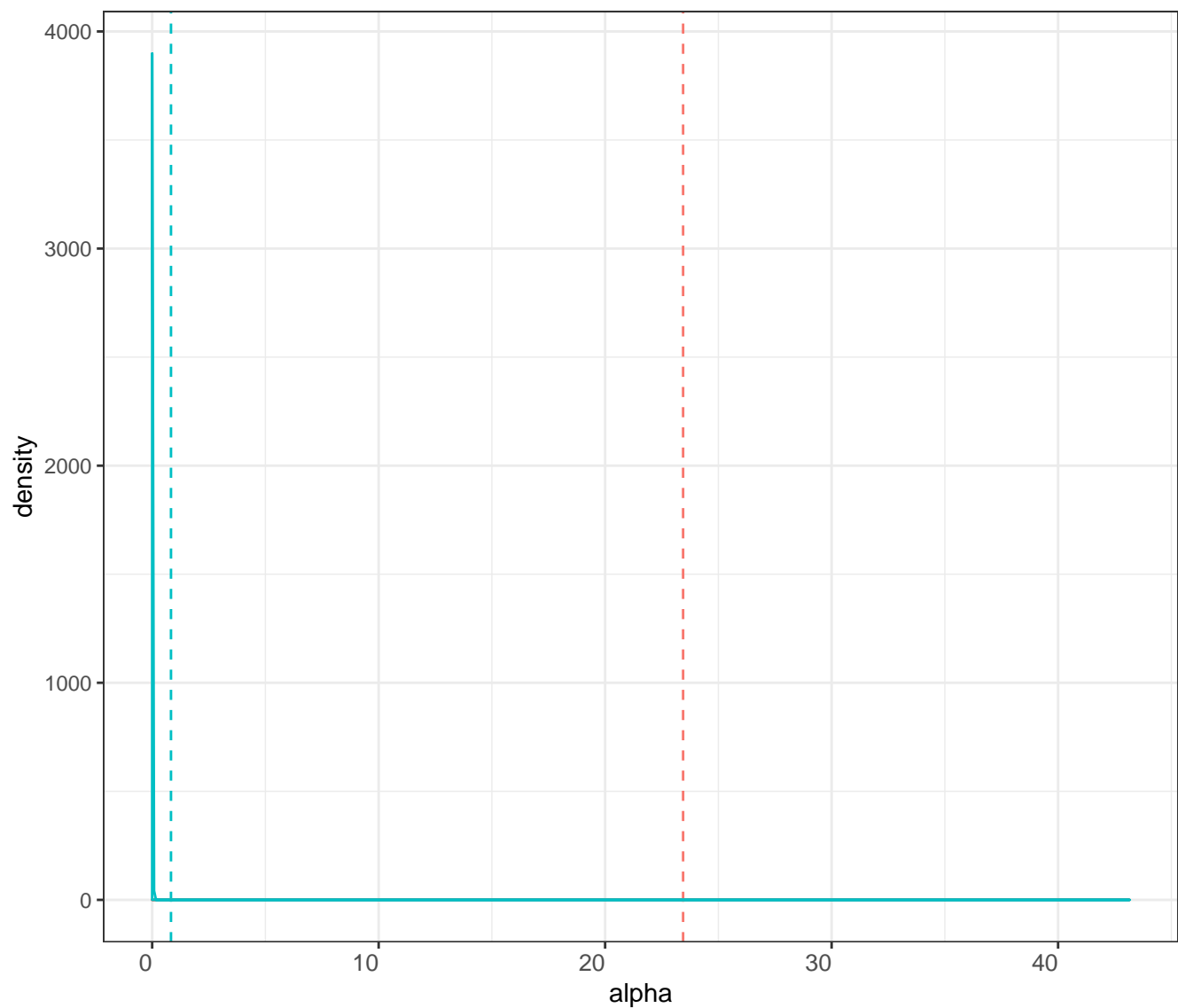
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

type ┆┆ posterior ┆┆ prior



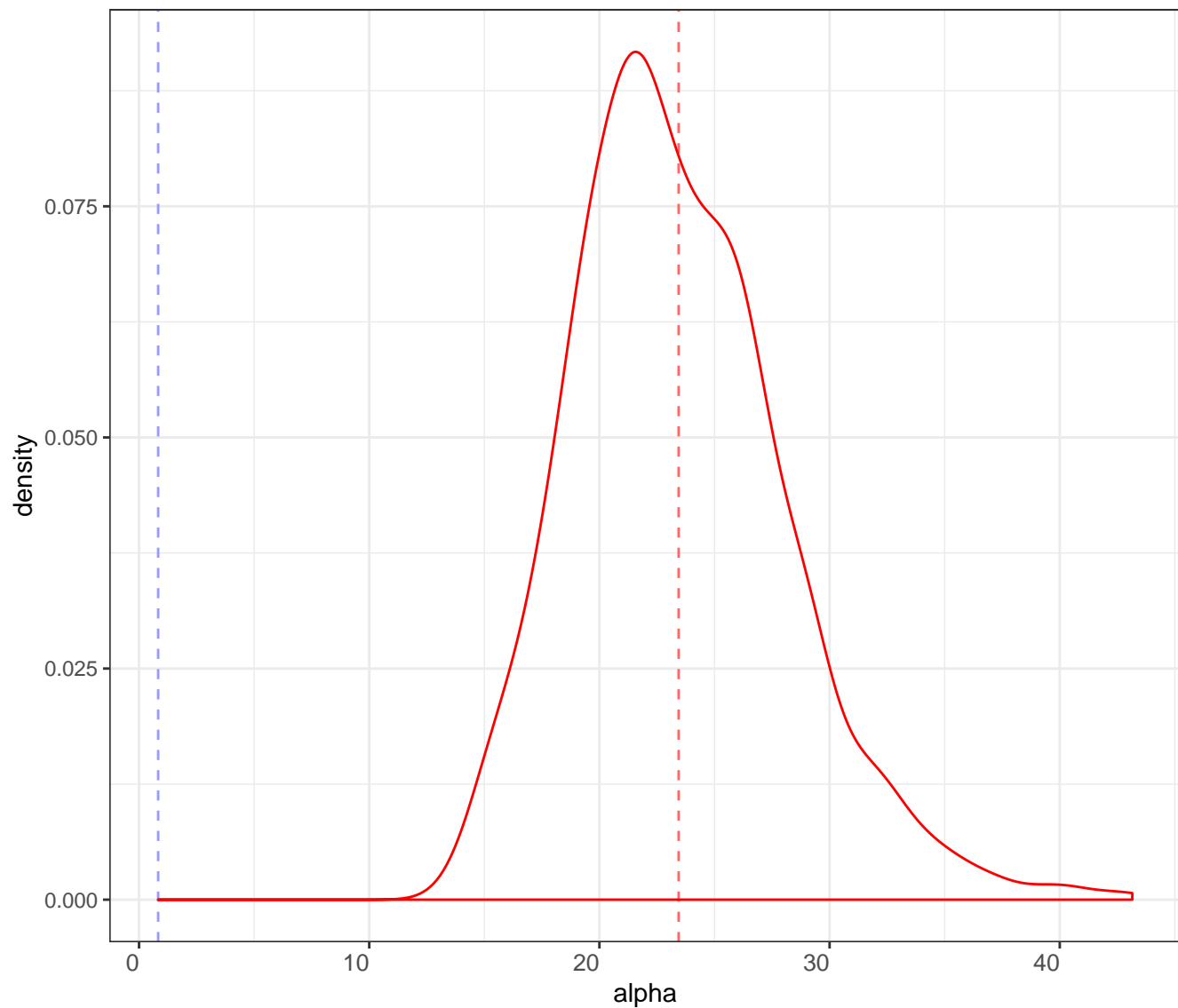
Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

Legend

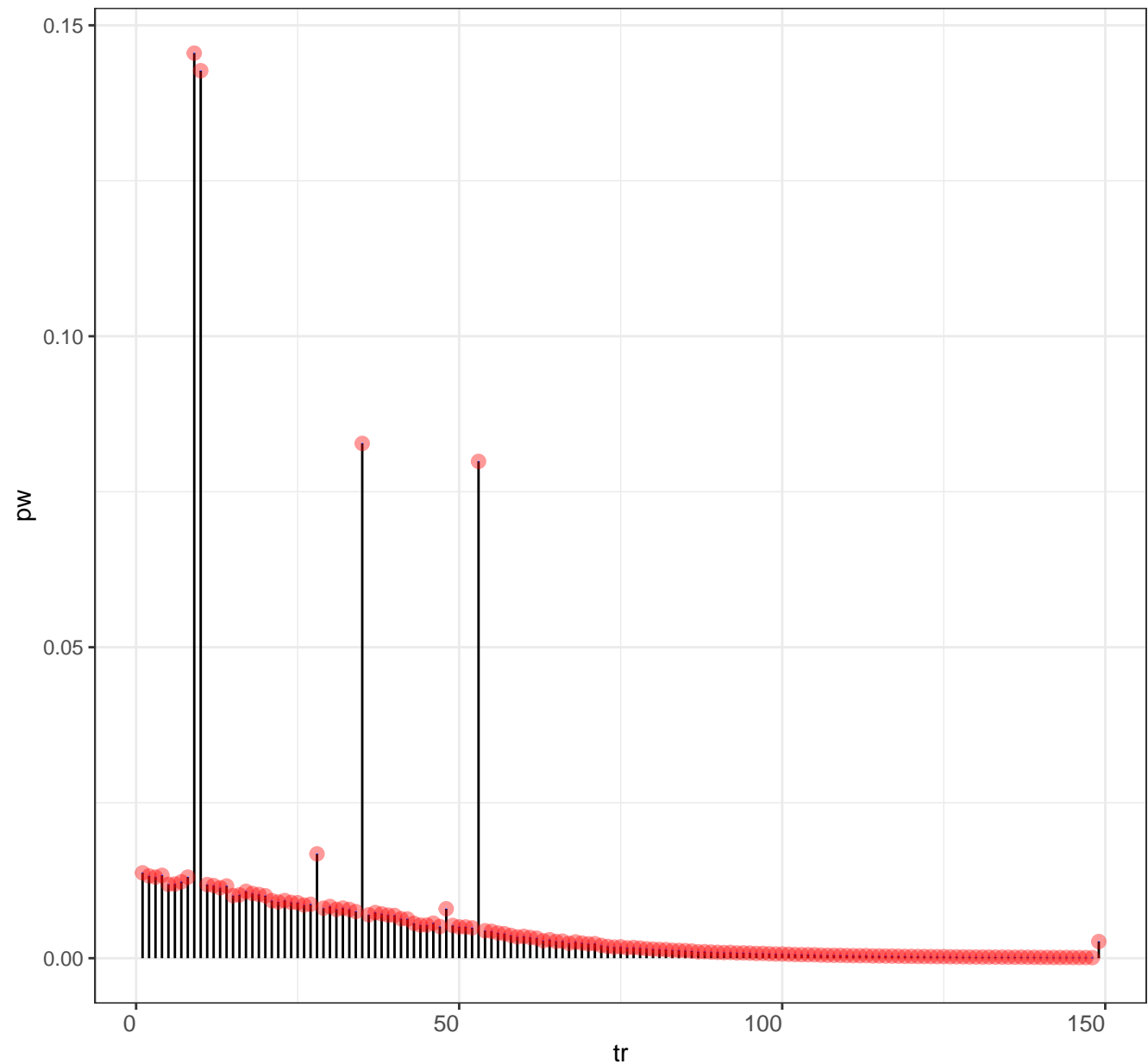
posterior mean

prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

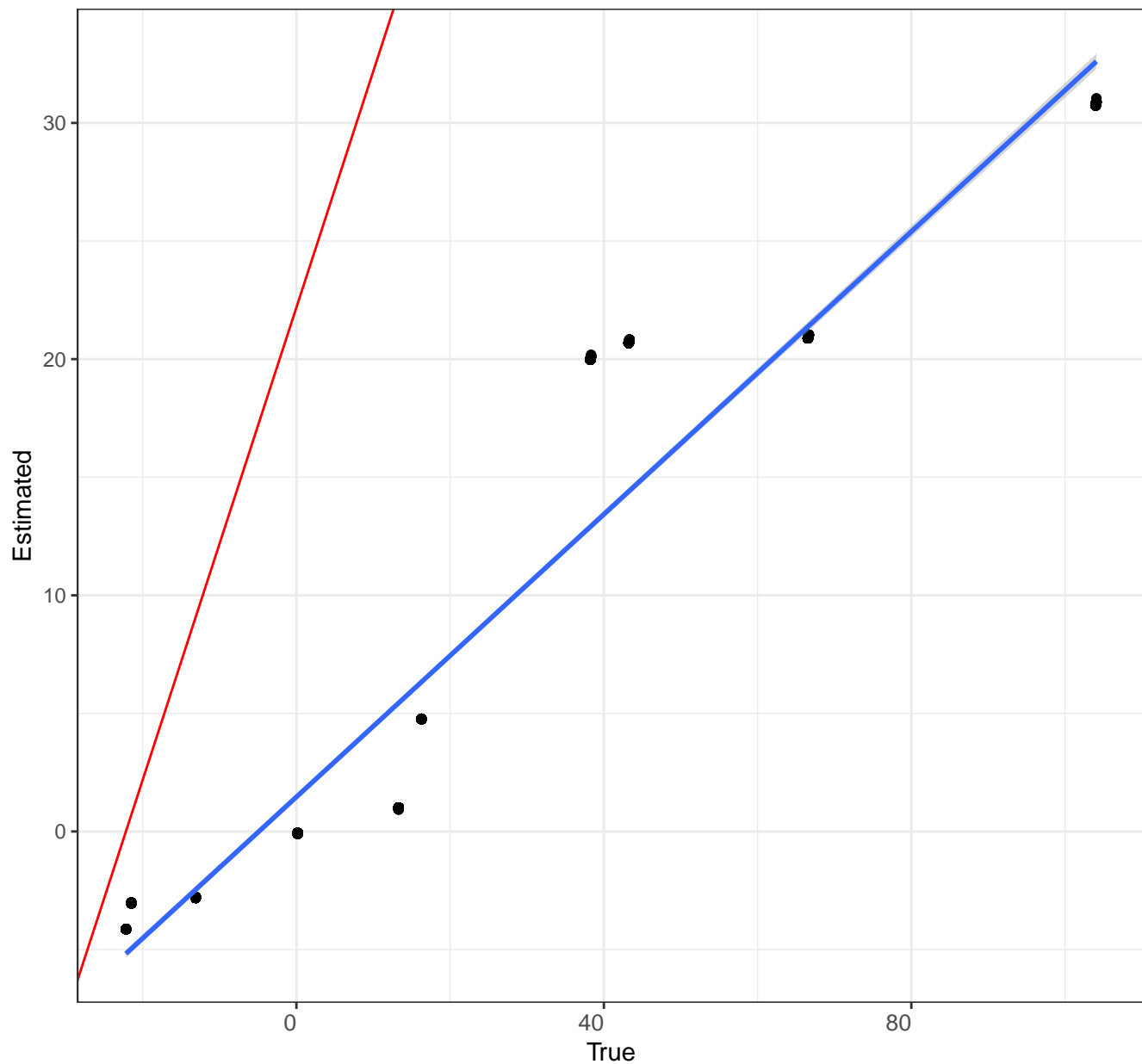
Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.003$



Number of iterations: 2000 burnin: 1000 number of samples: 500

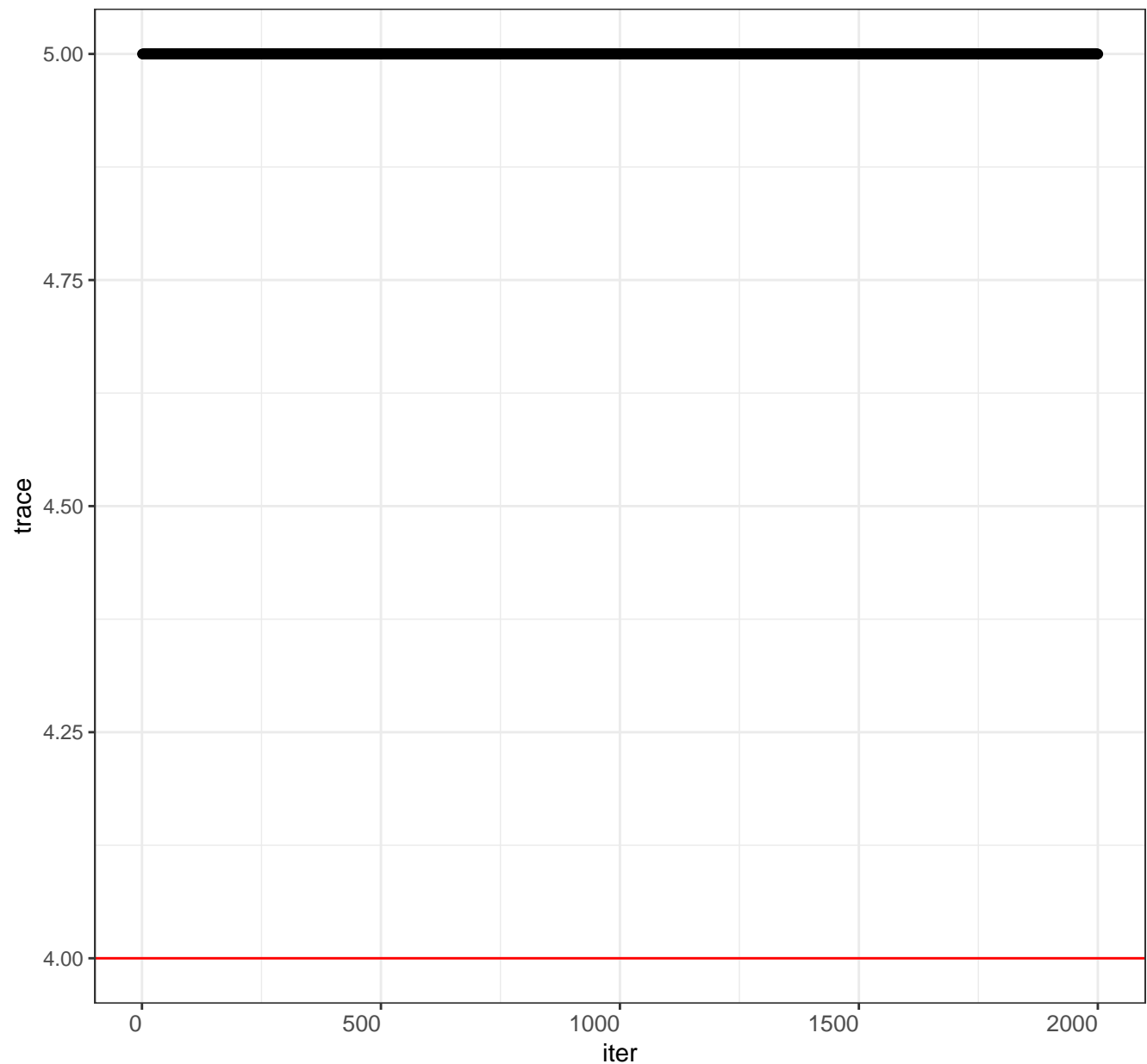


True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

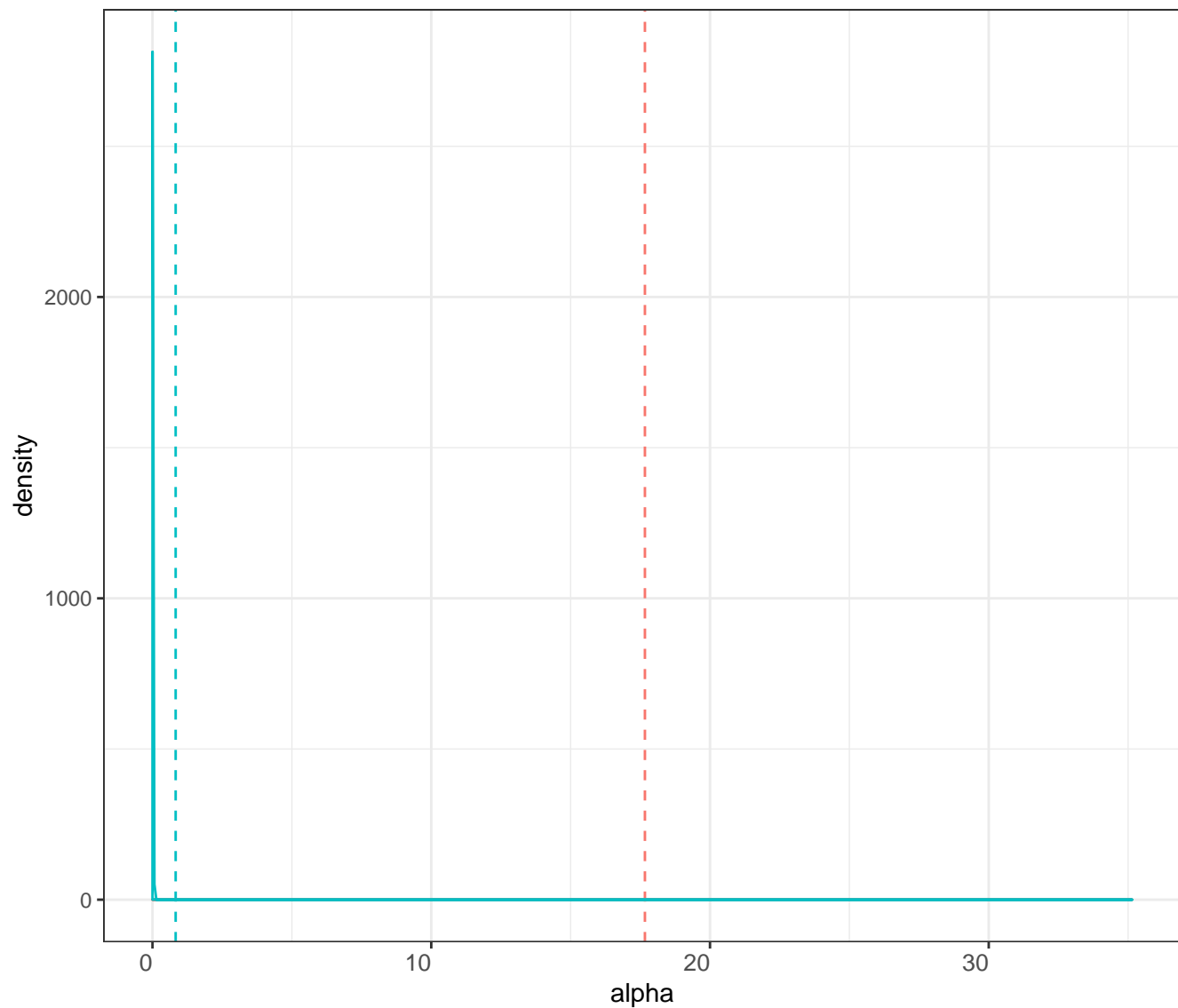
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

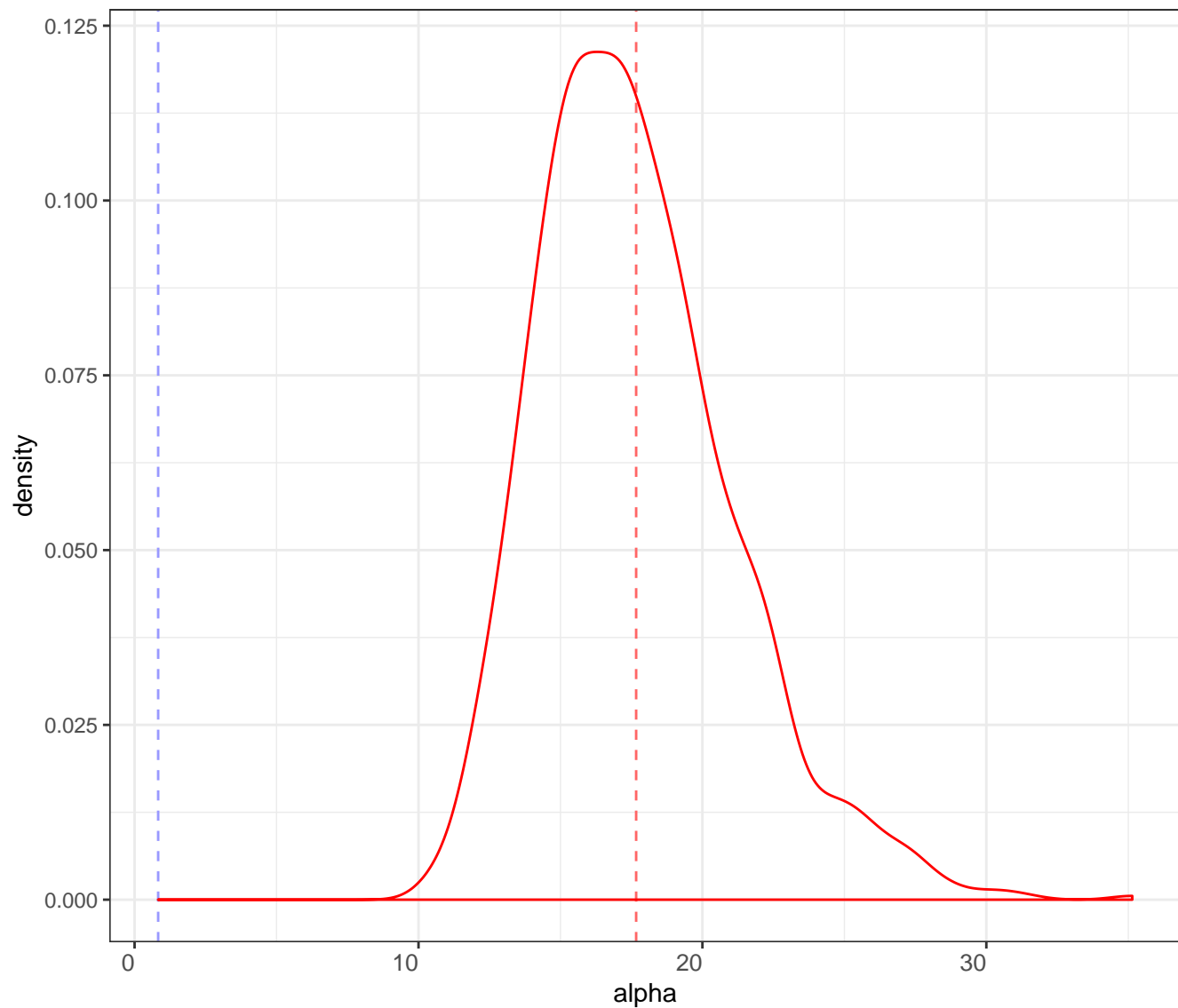
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

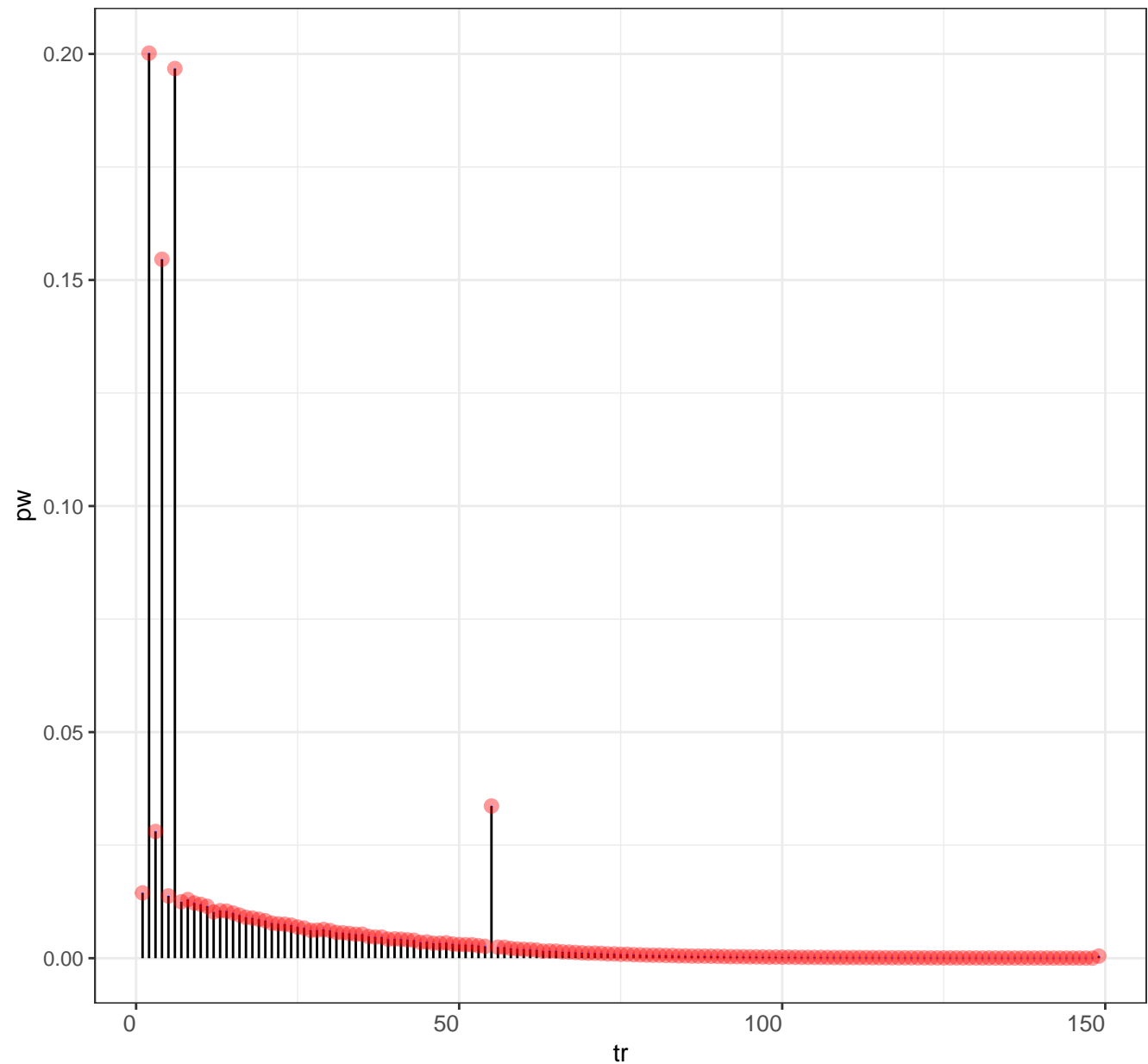
# Posterior distribution for alpha

Legend    posterior mean    prior mean



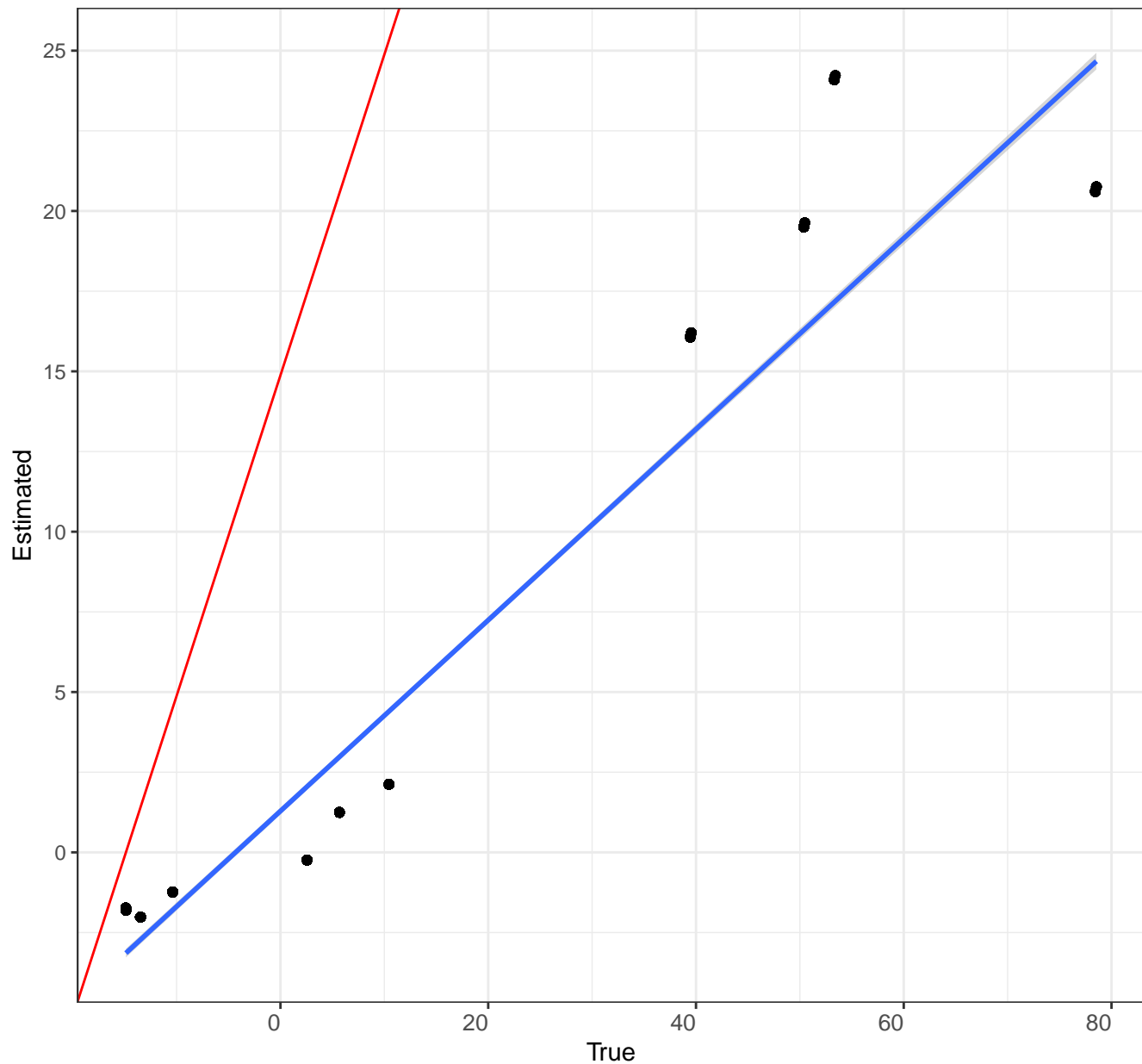
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



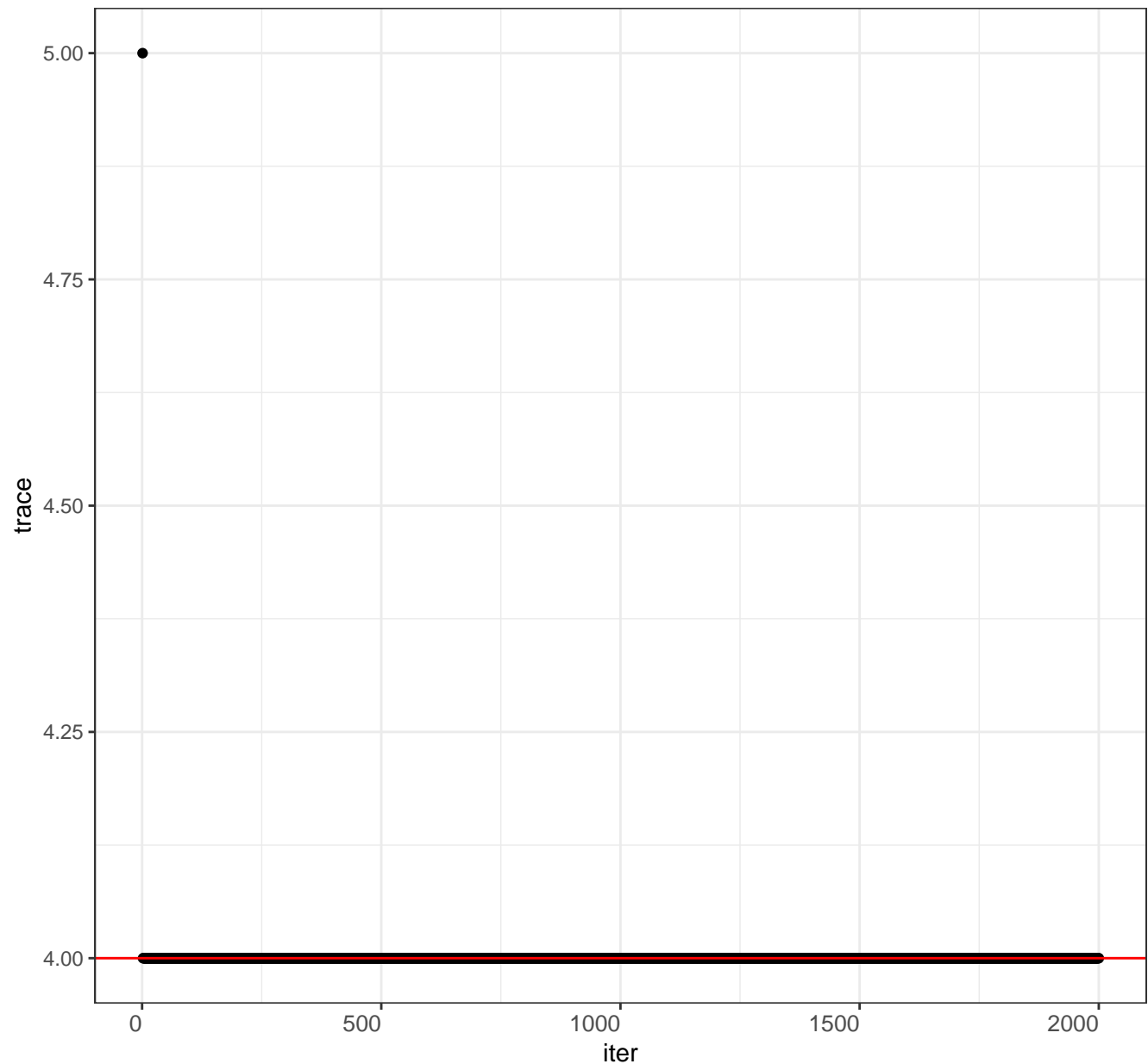
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

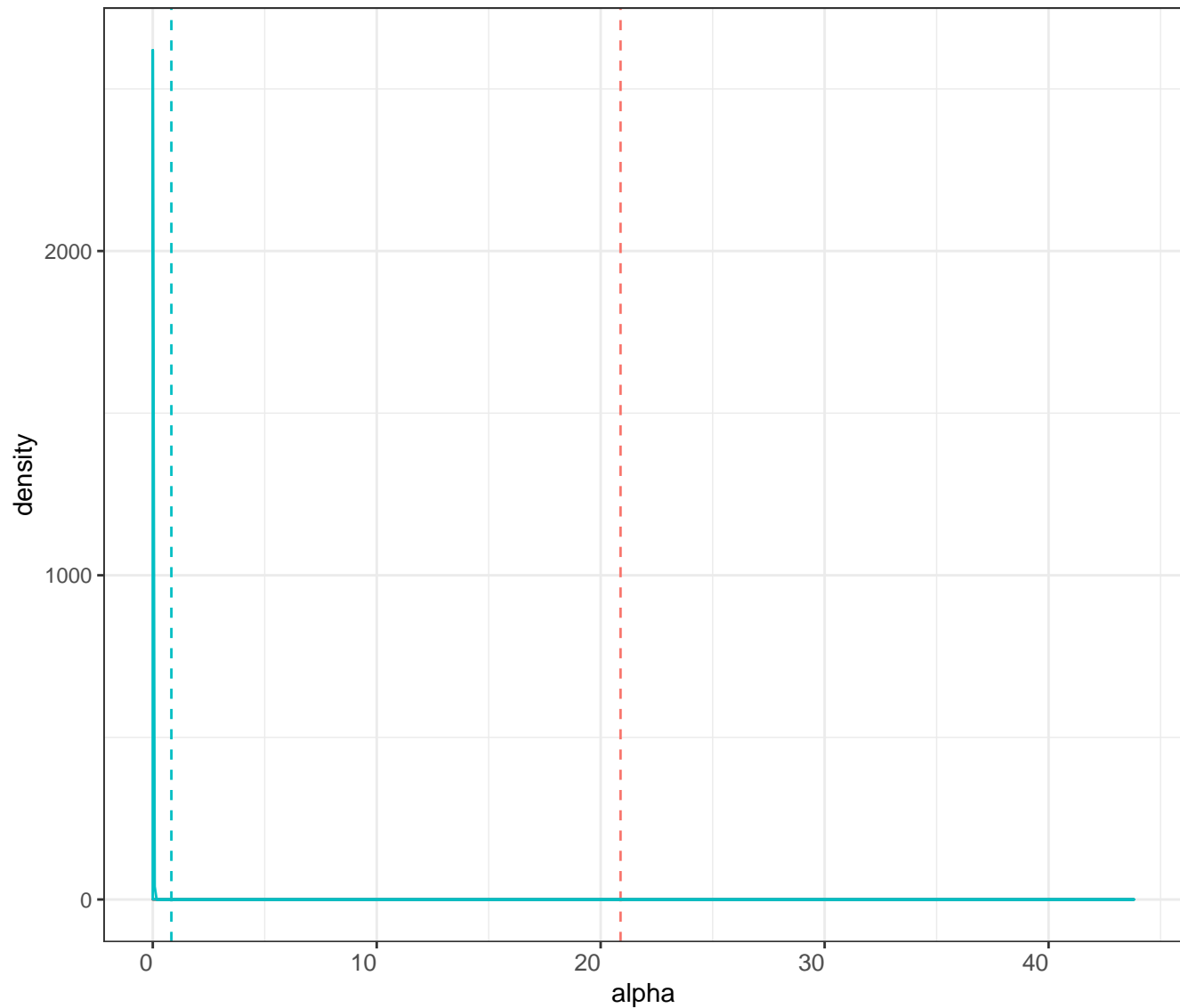
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

type  posterior  prior

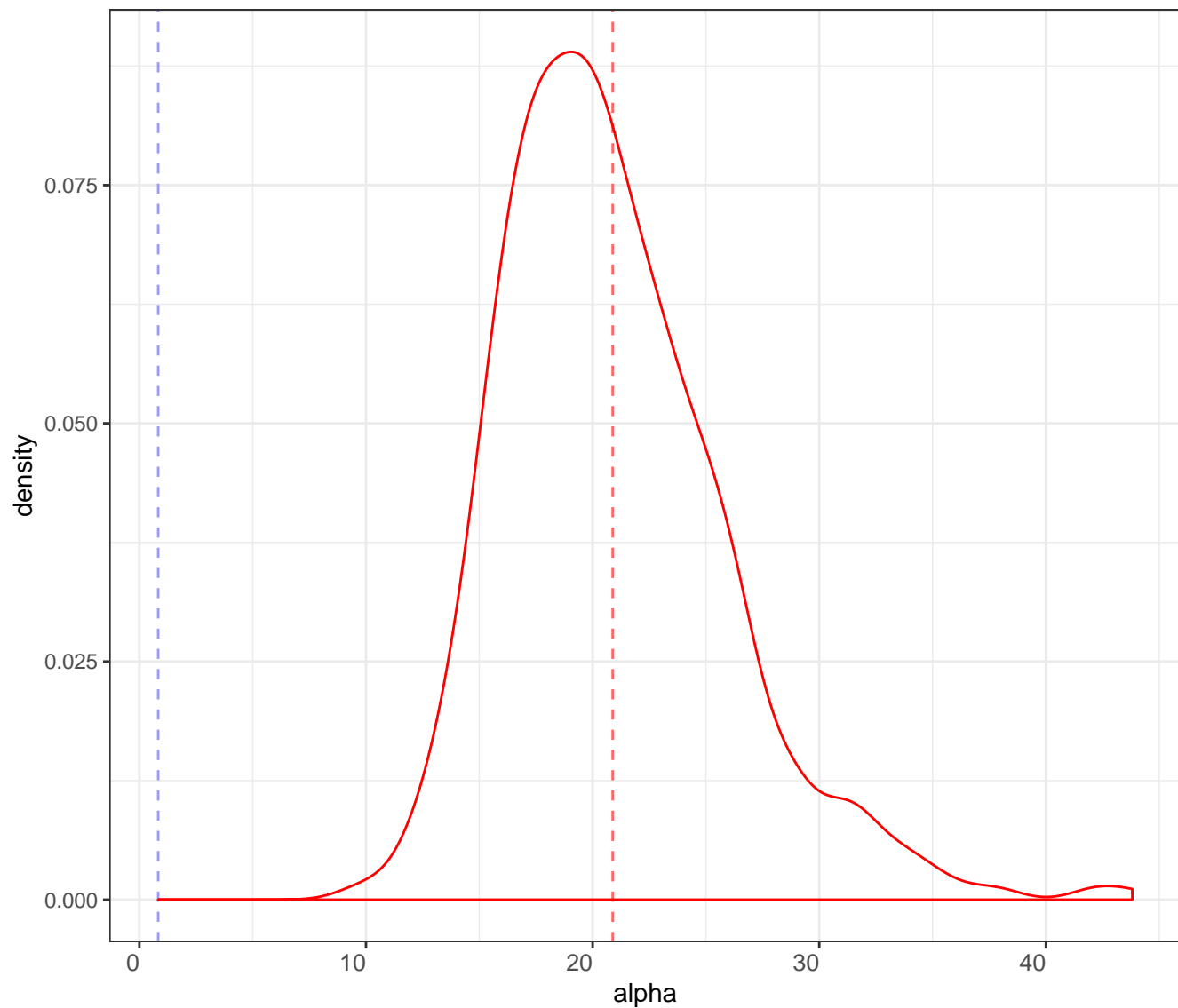


Number of iterations: 2000 burnin: 1000 number of samples: 500



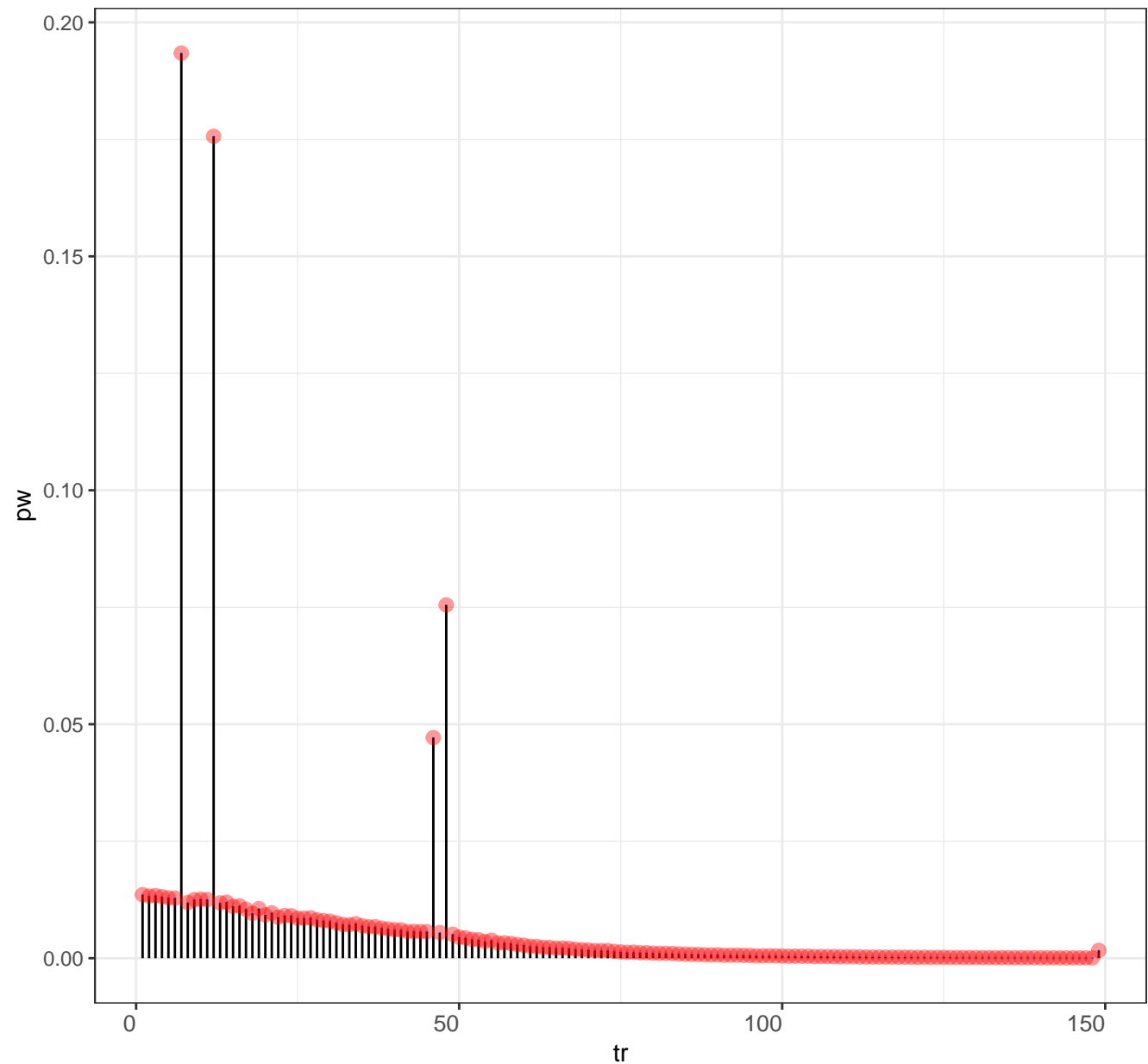
# Posterior distribution for alpha

Legend    posterior mean    prior mean



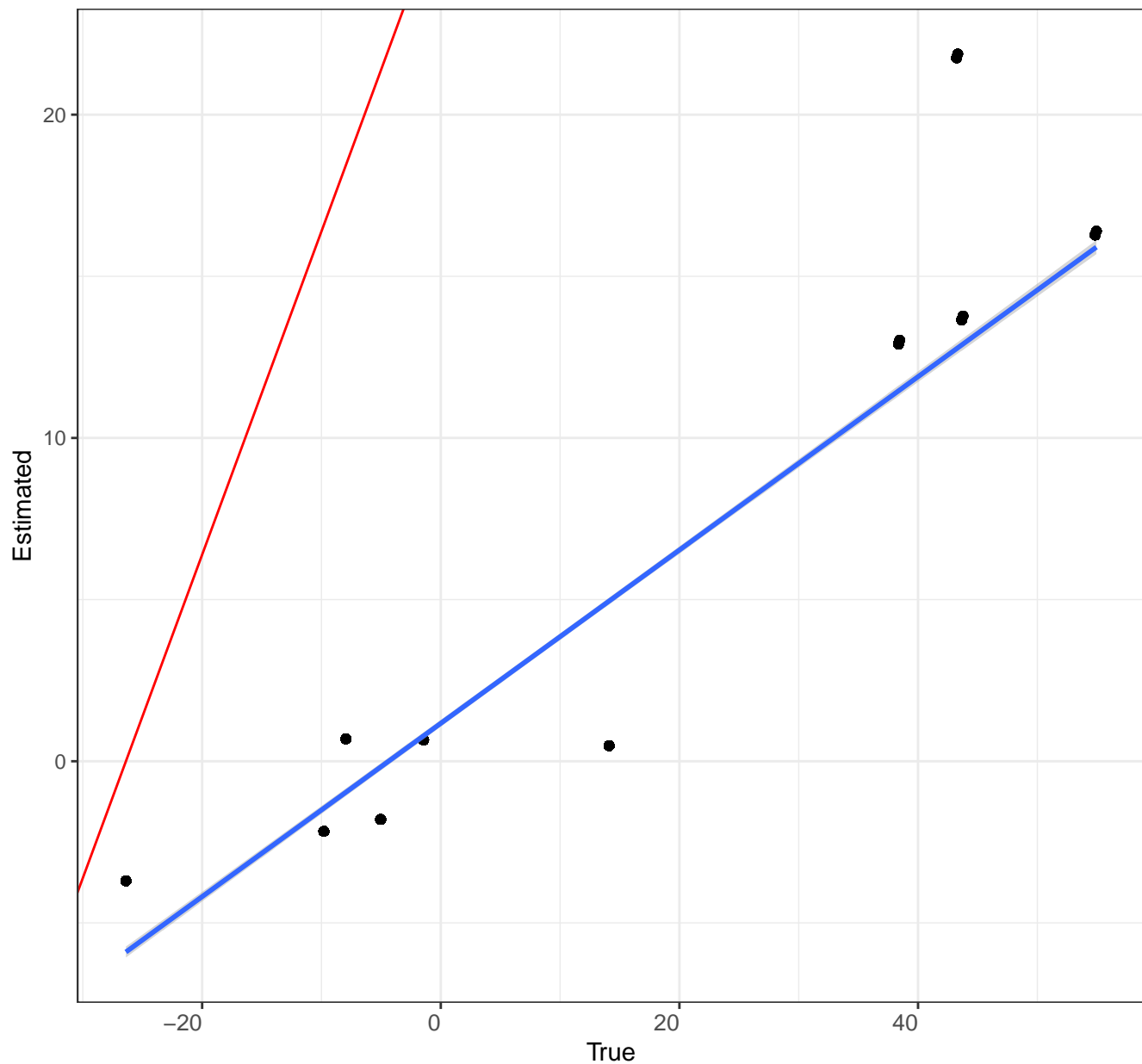
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.002$



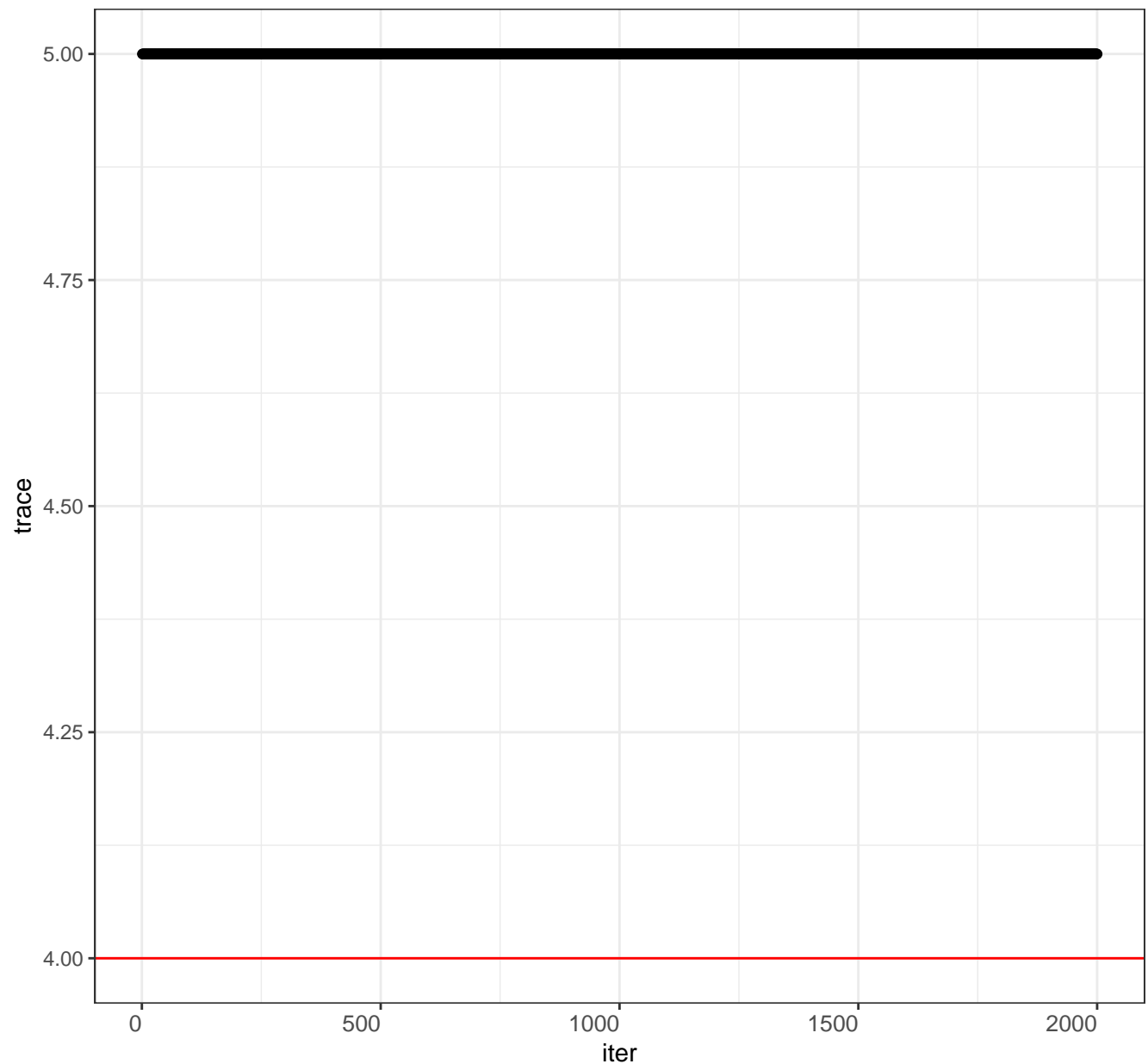
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

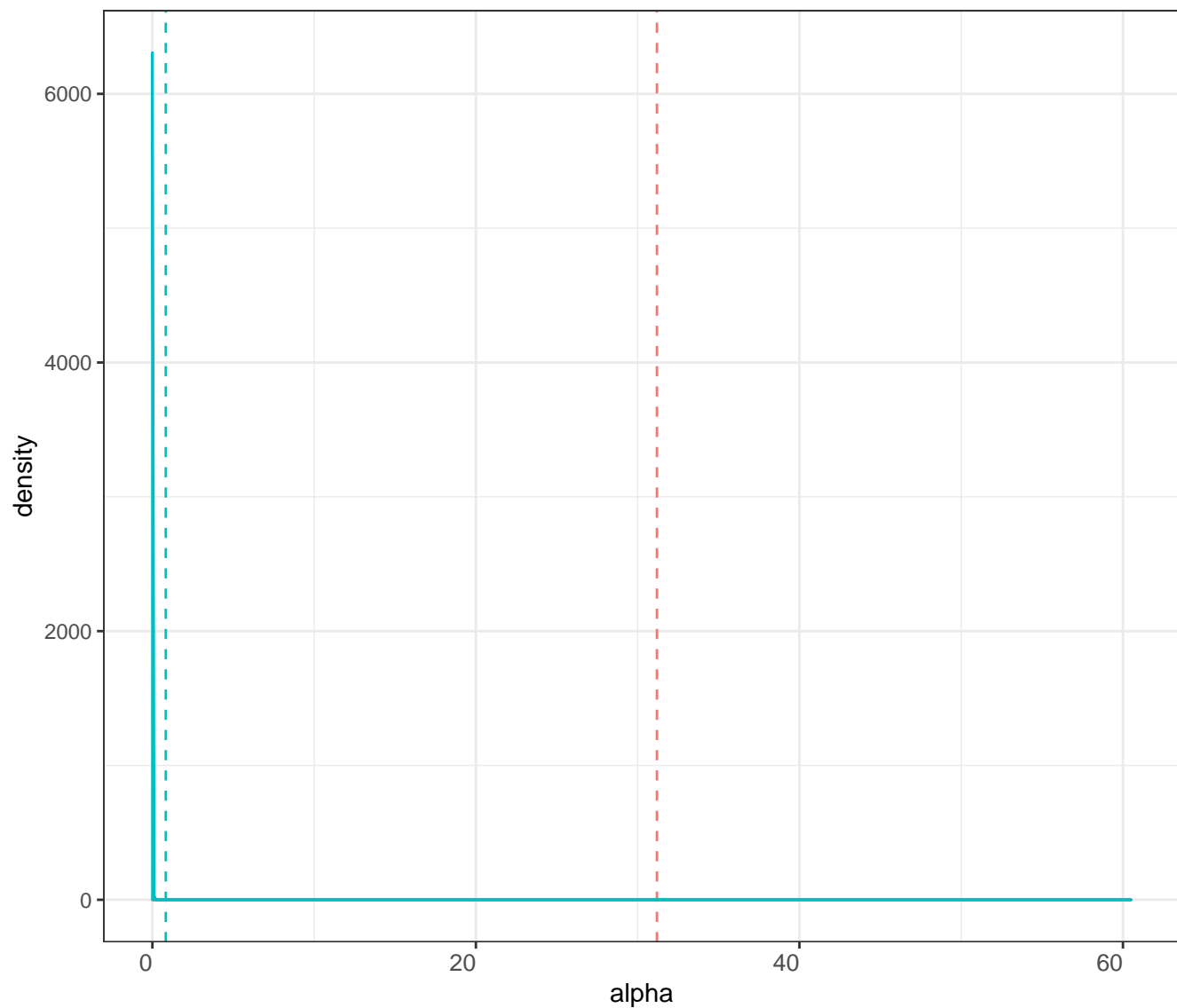
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

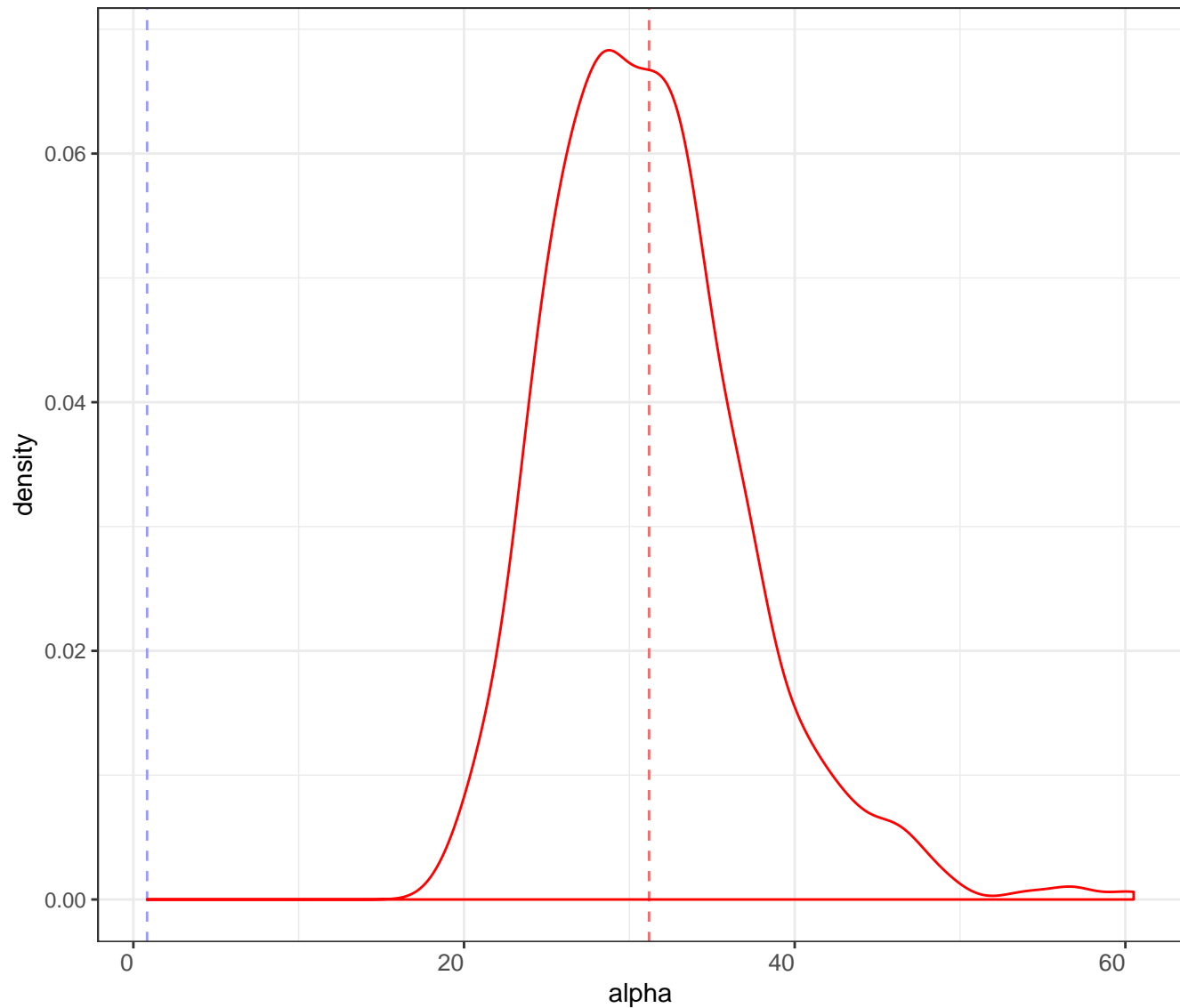
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

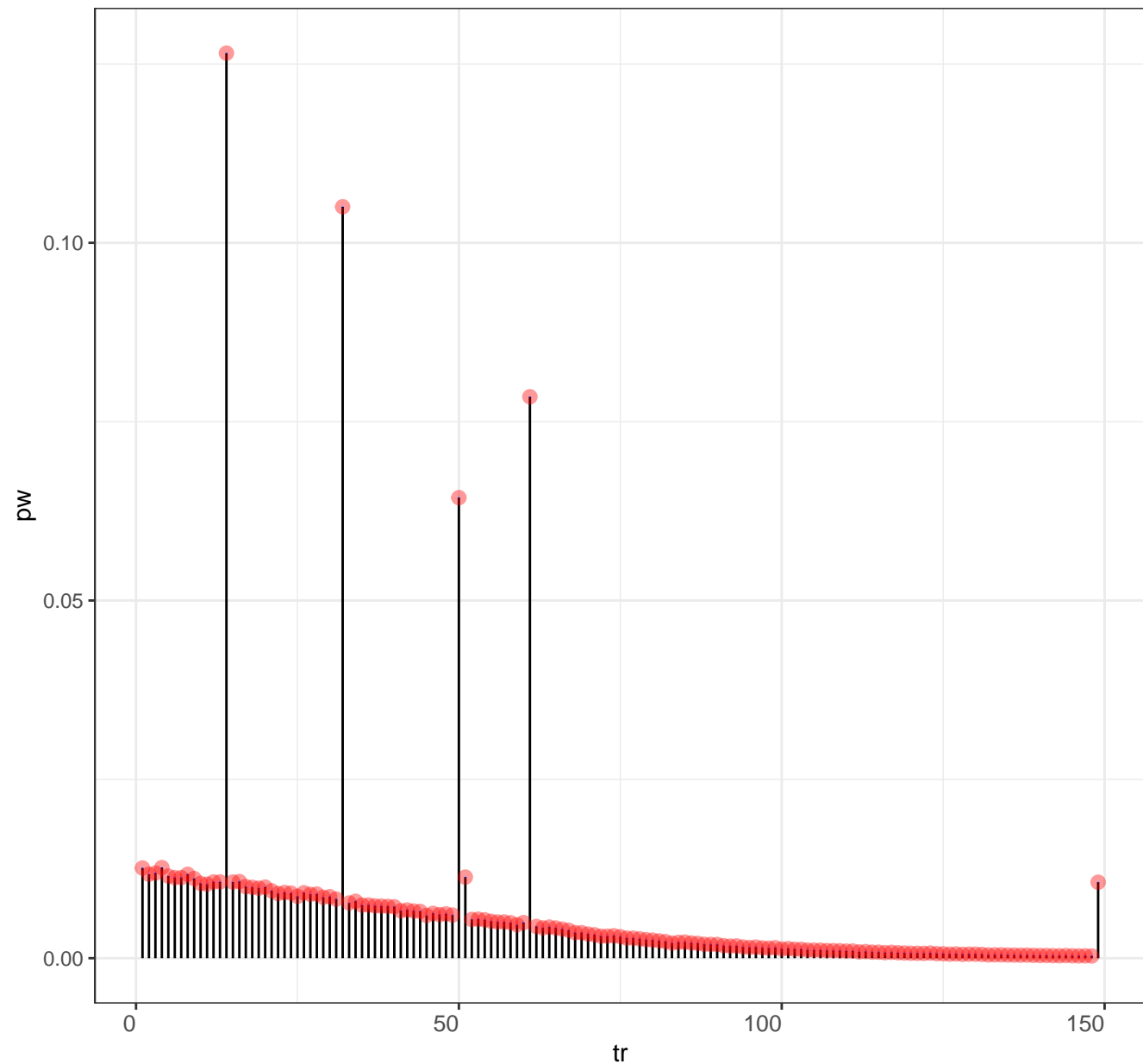
# Posterior distribution for alpha

Legend    posterior mean    prior mean



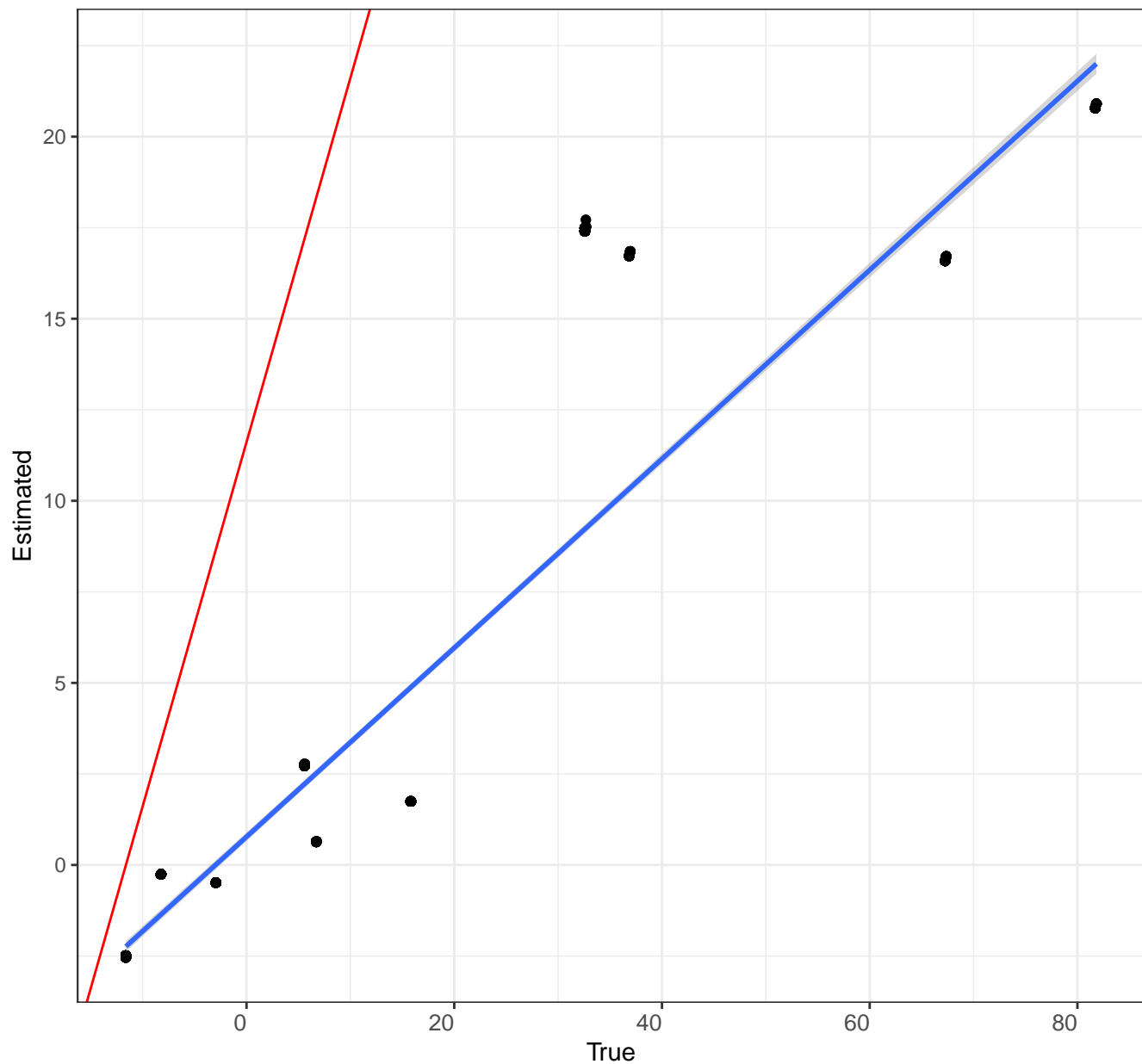
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.011$



Number of iterations: 2000 burnin: 1000 number of samples: 500

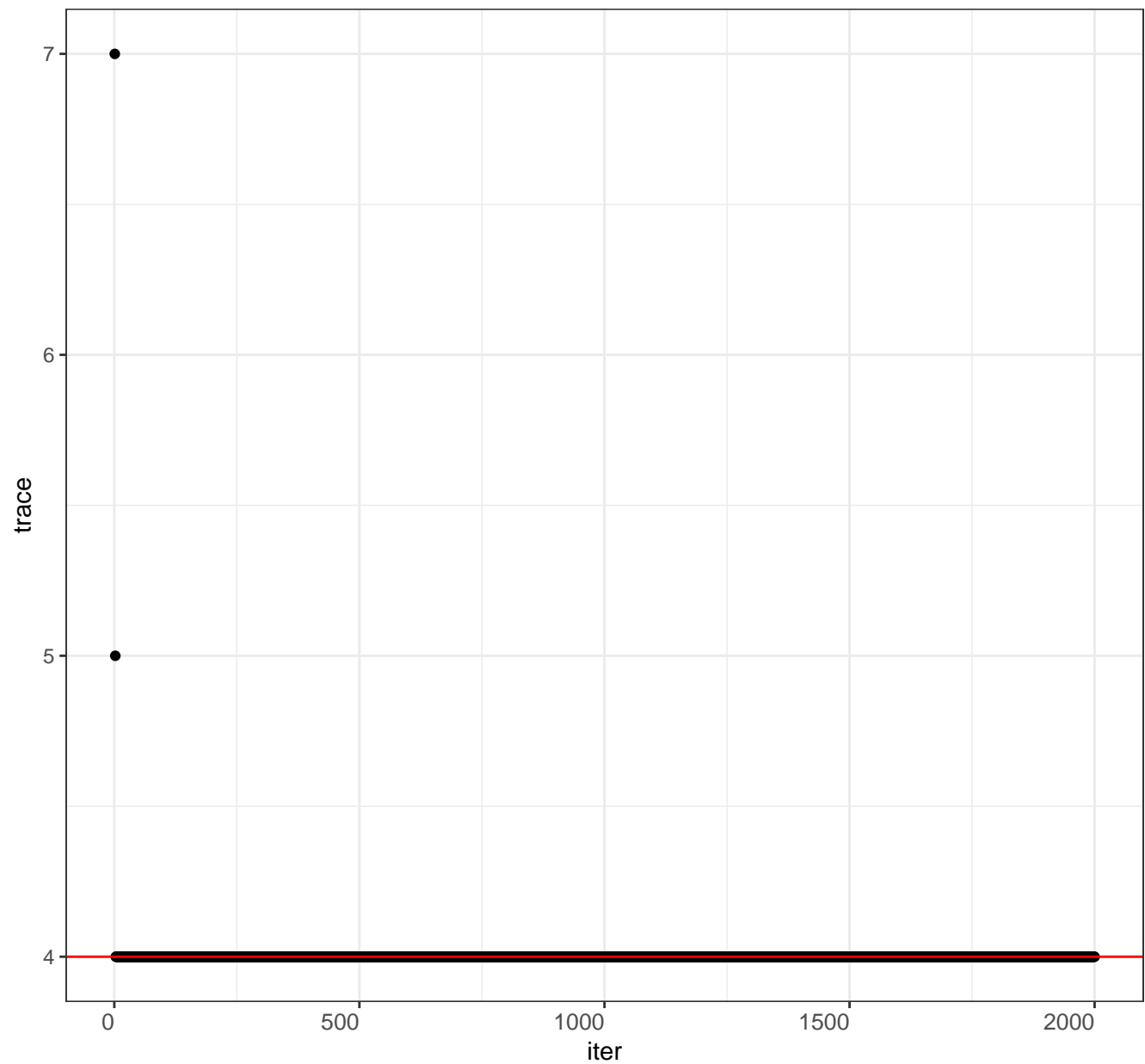
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1





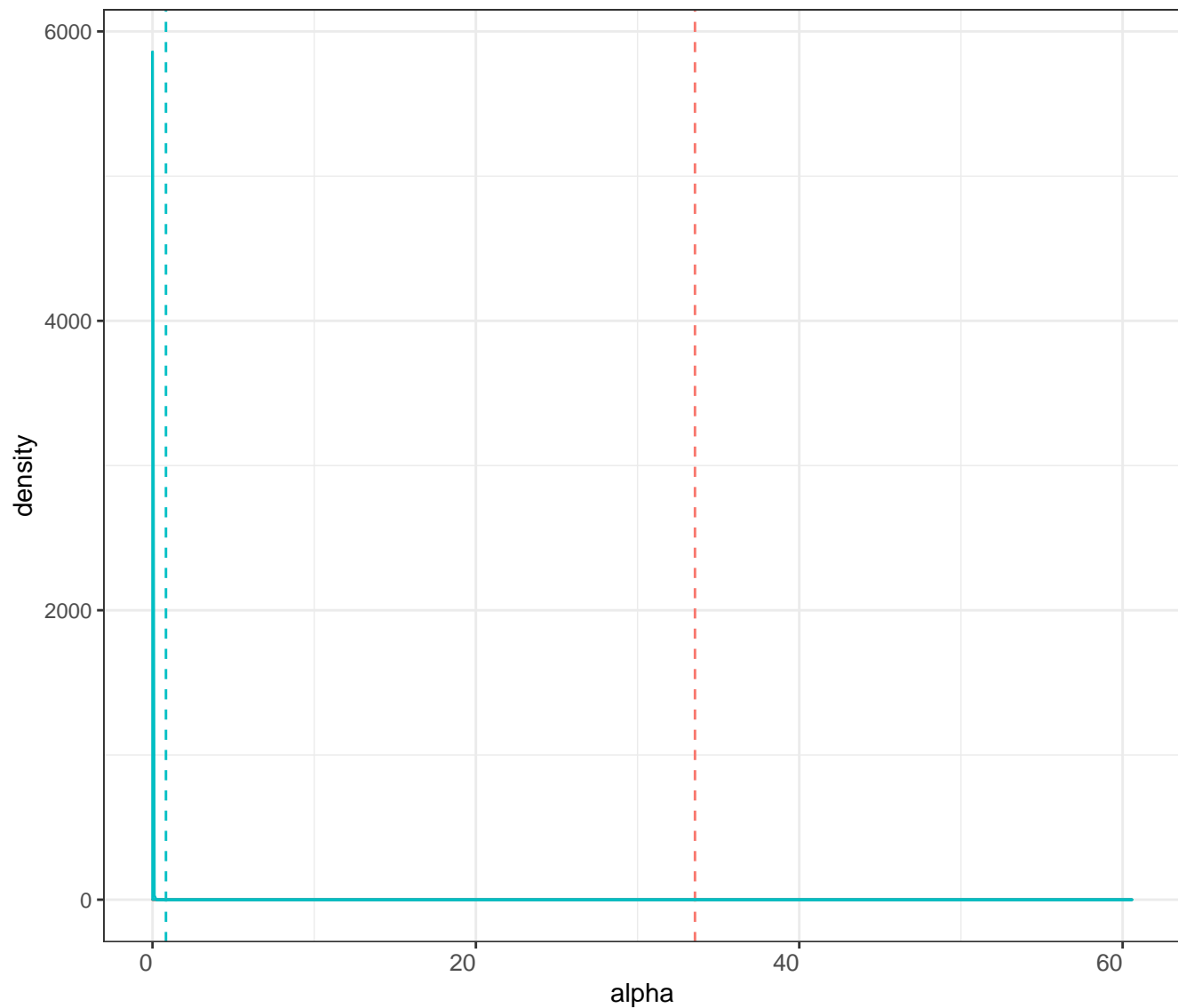
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

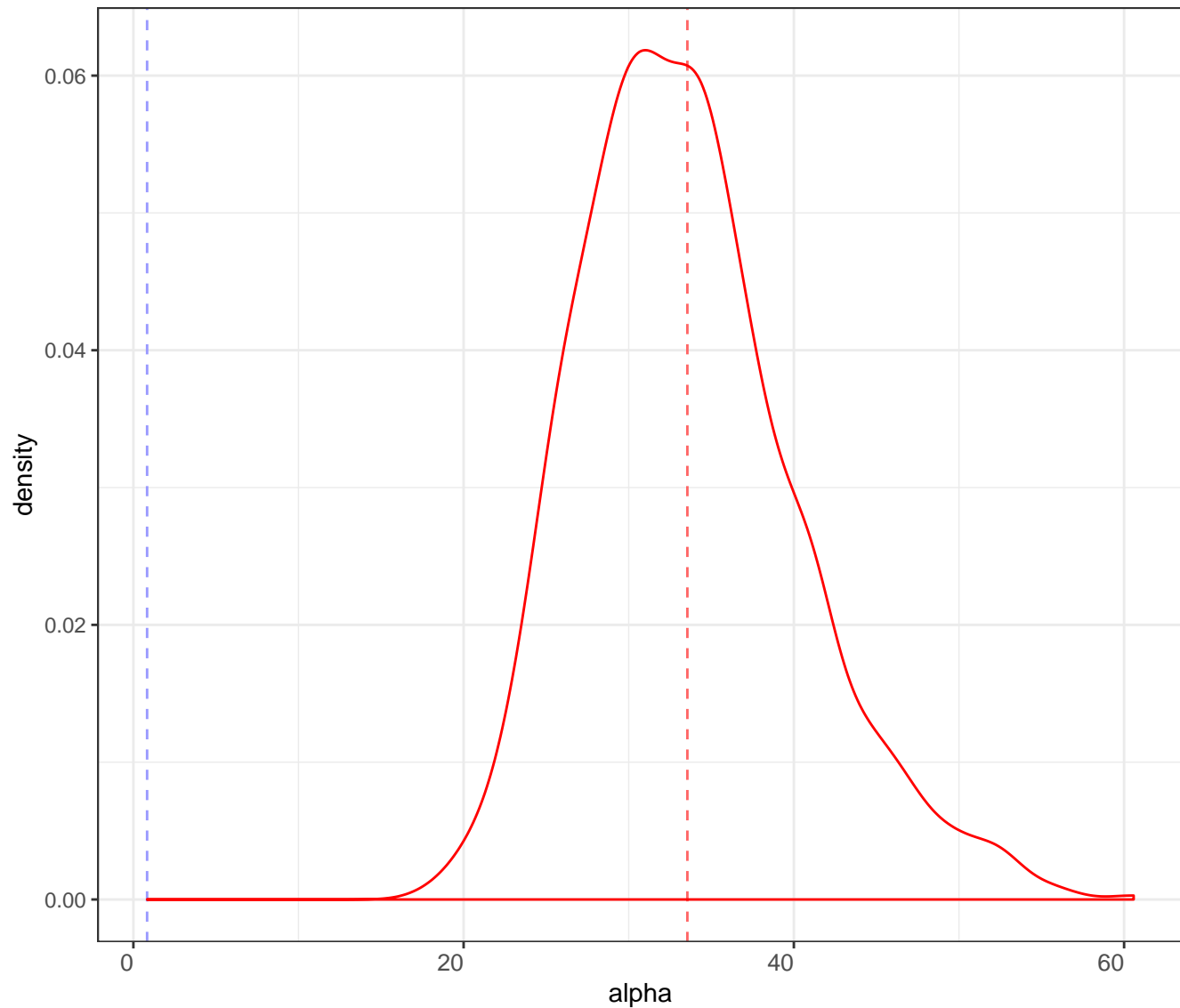
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

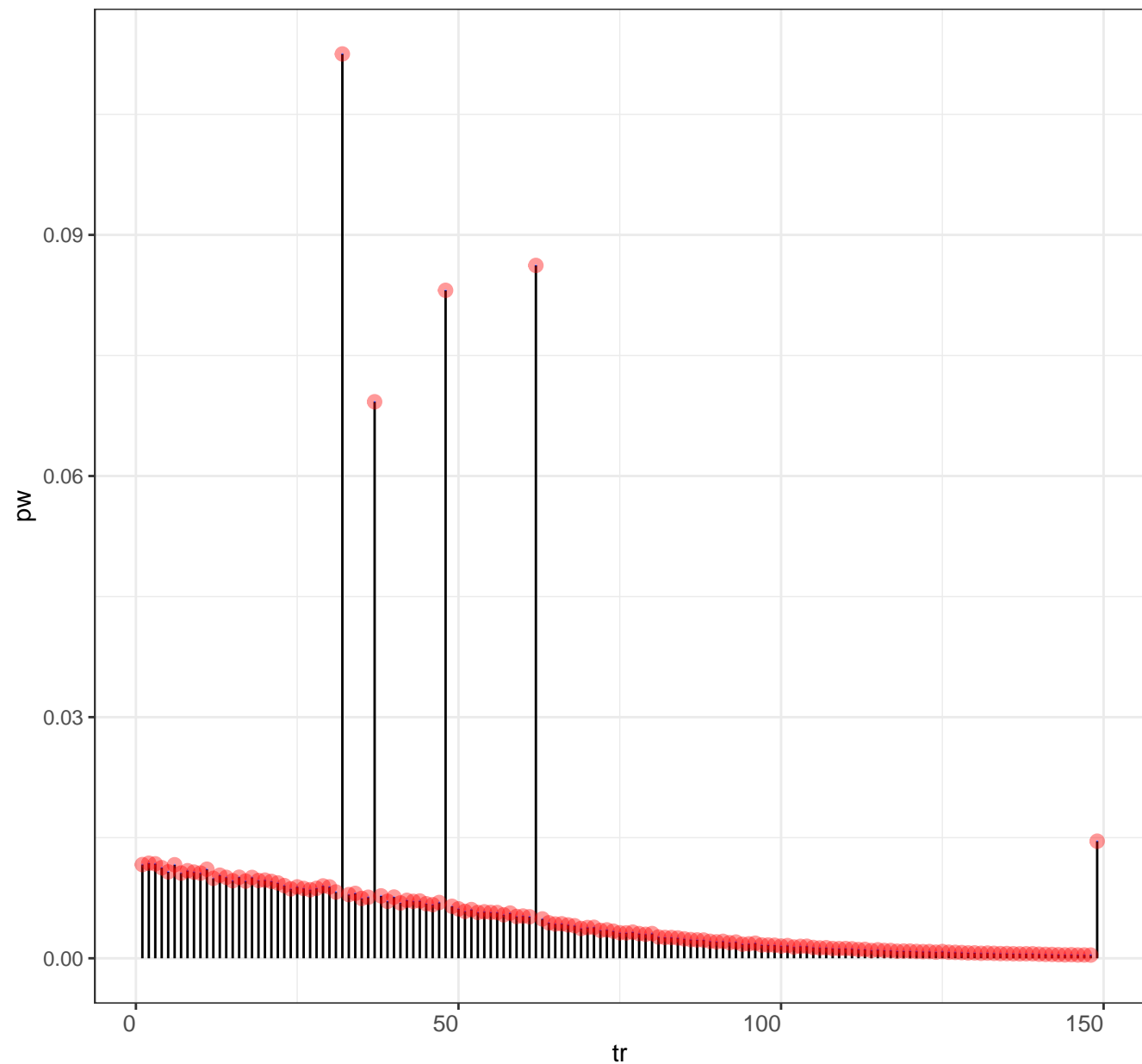
# Posterior distribution for alpha

Legend    posterior mean    prior mean



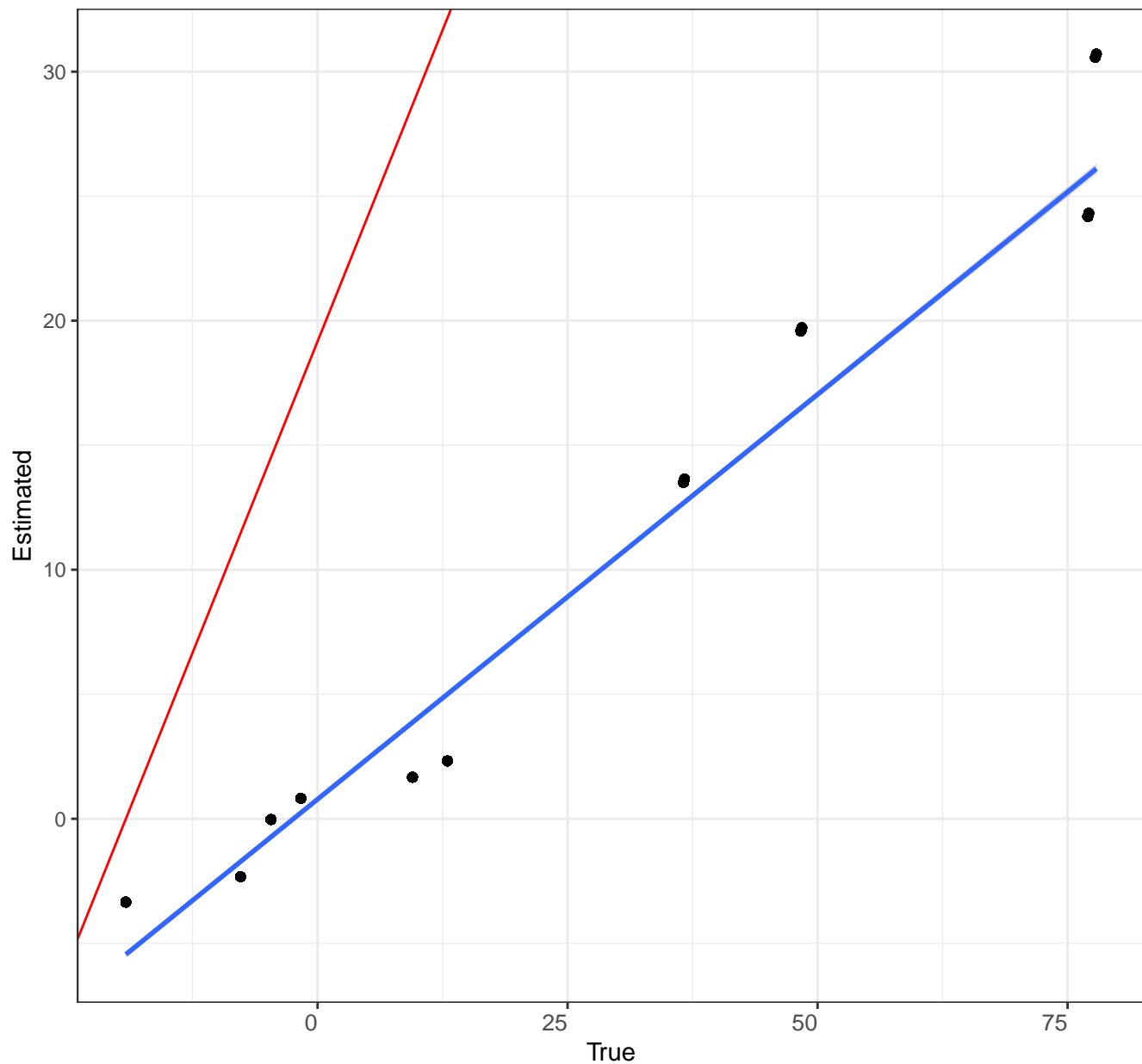
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.015$



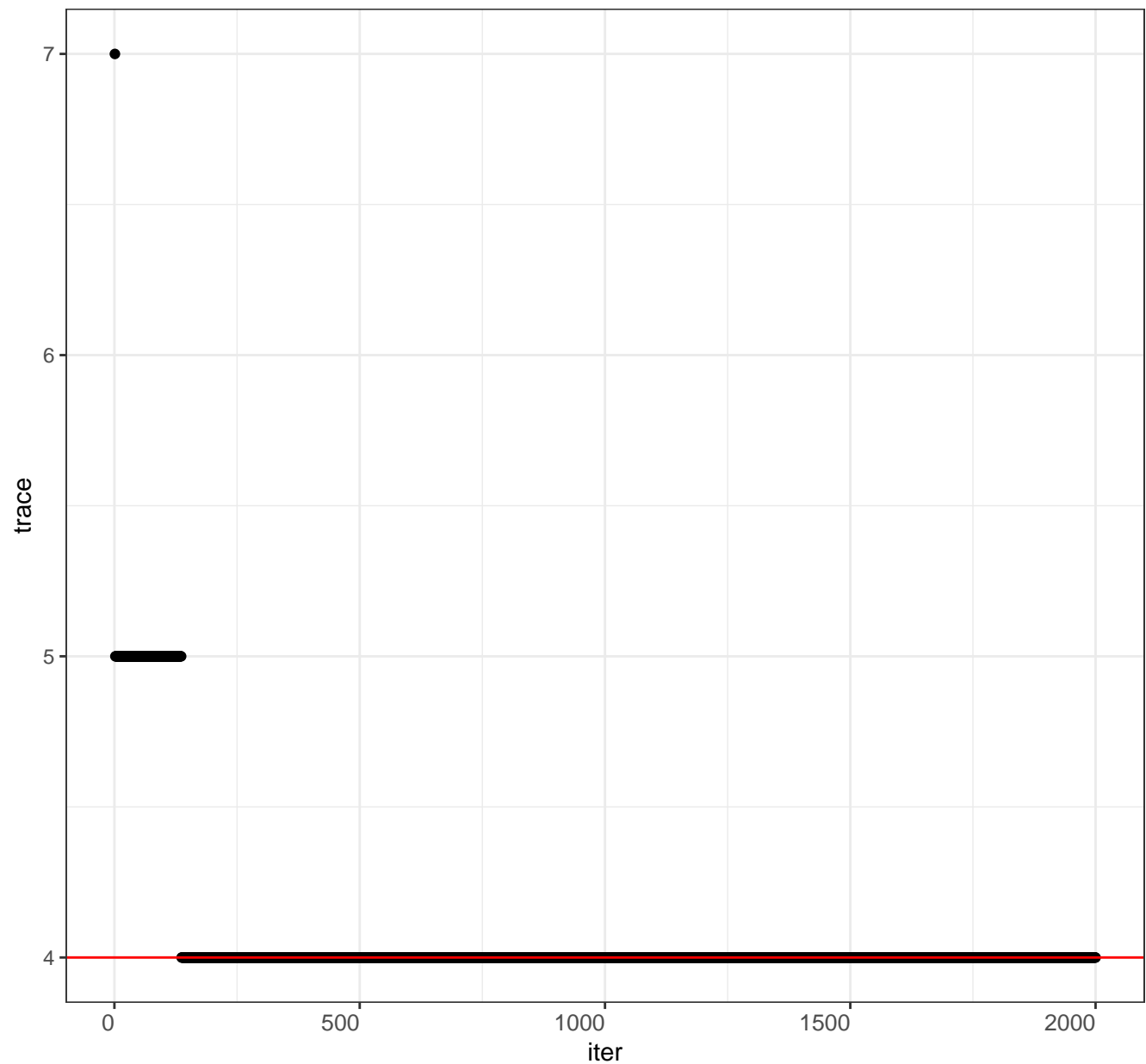
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

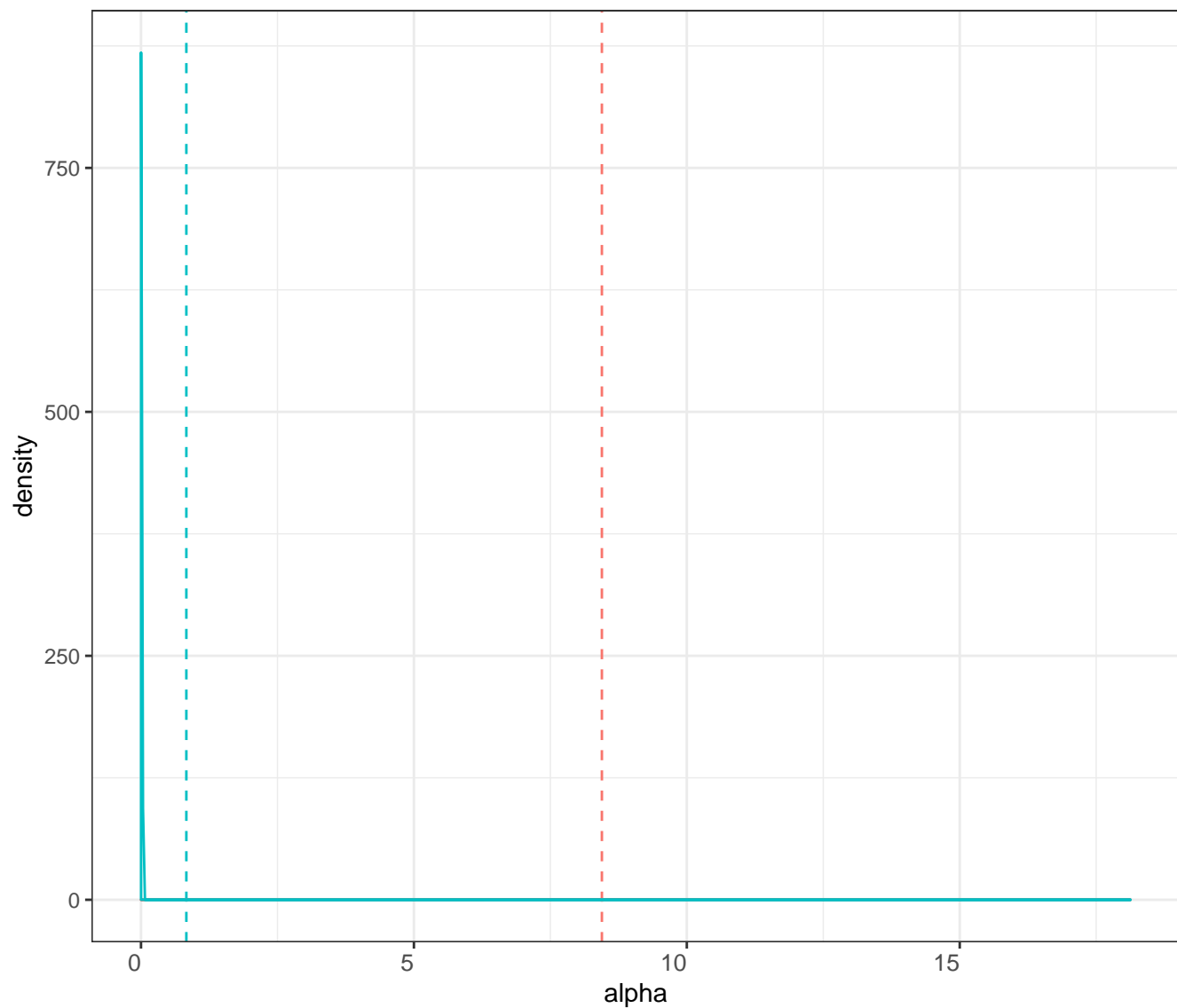
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

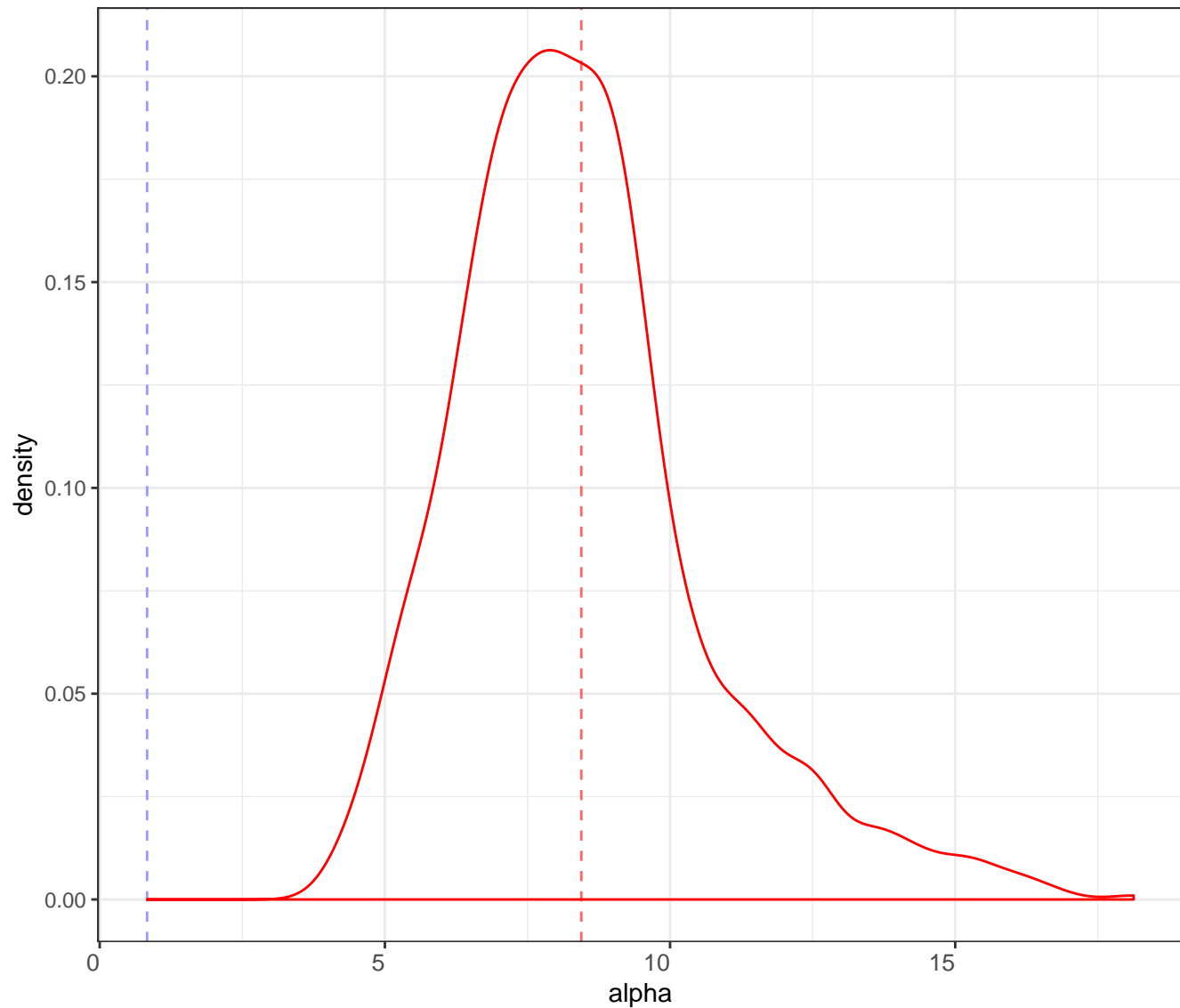
type - - posterior - - prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

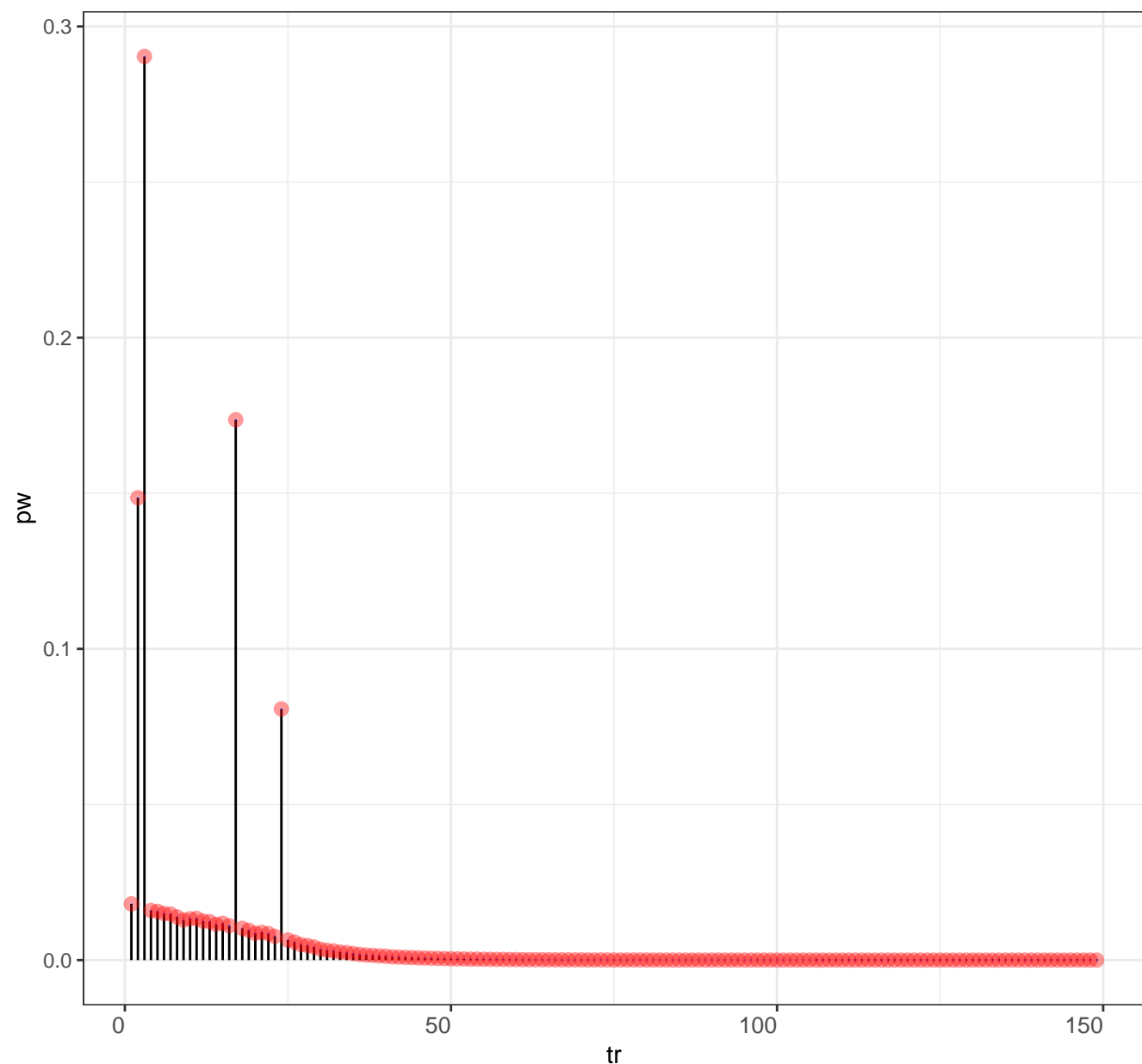
Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

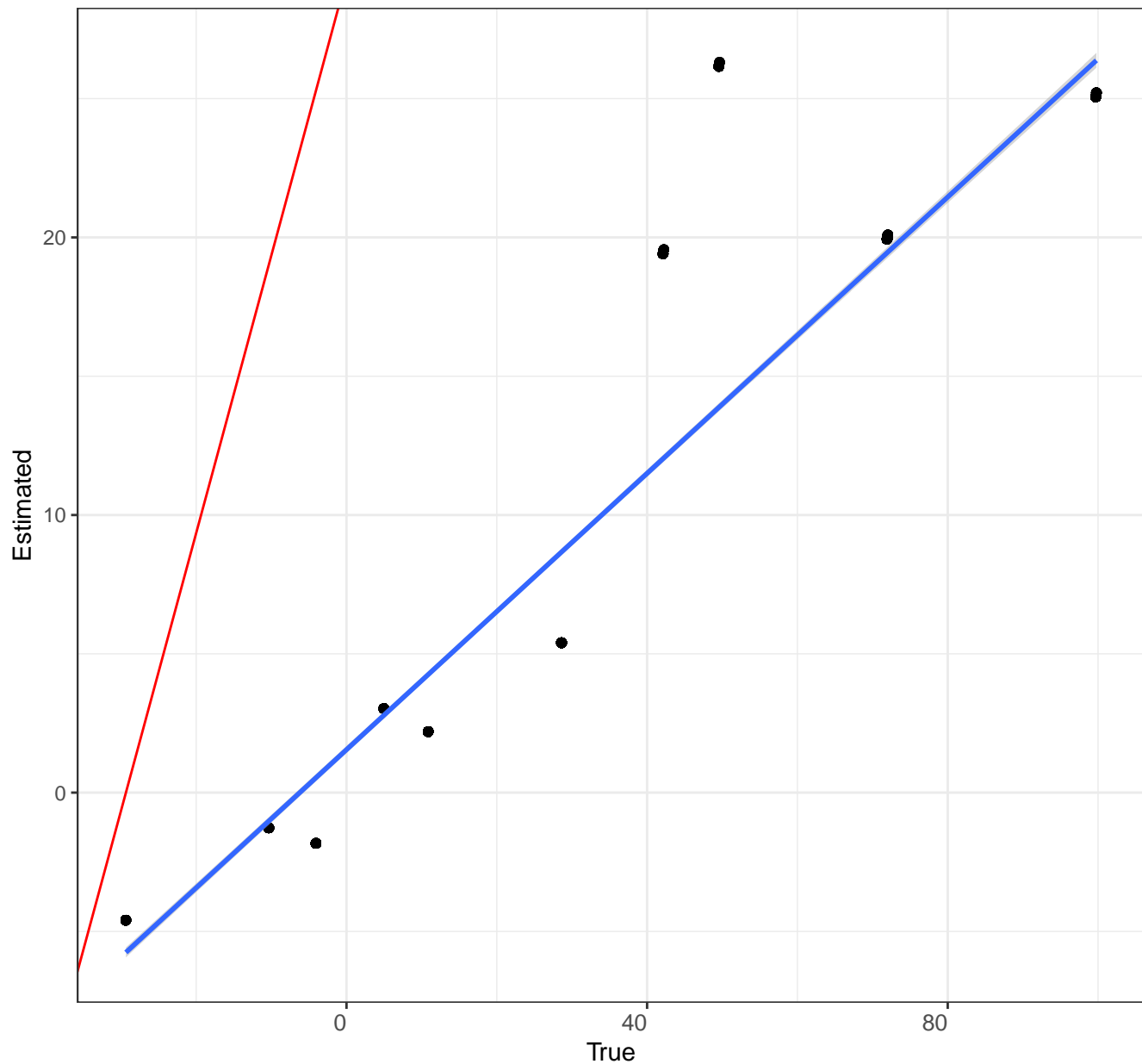


Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



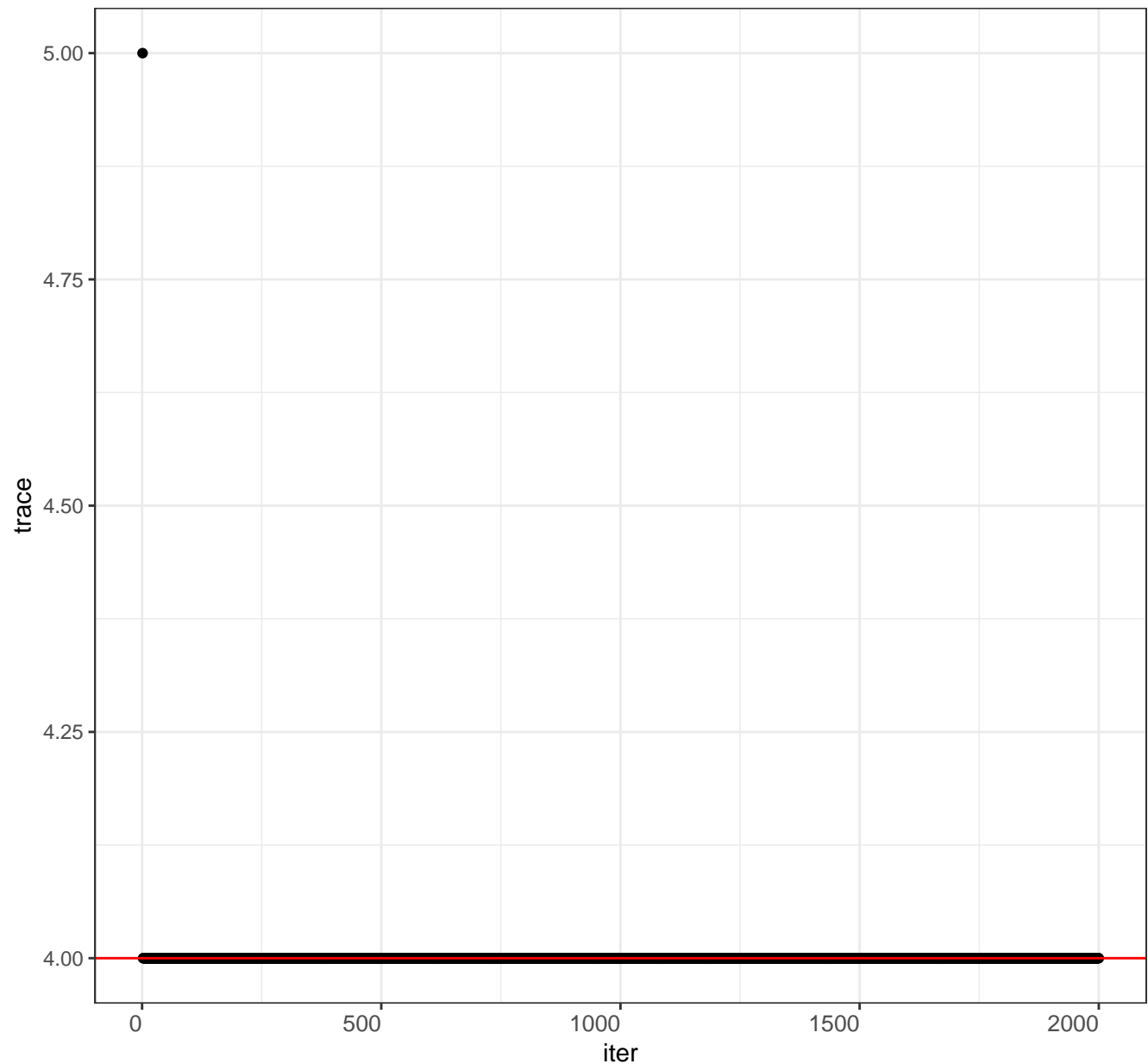
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

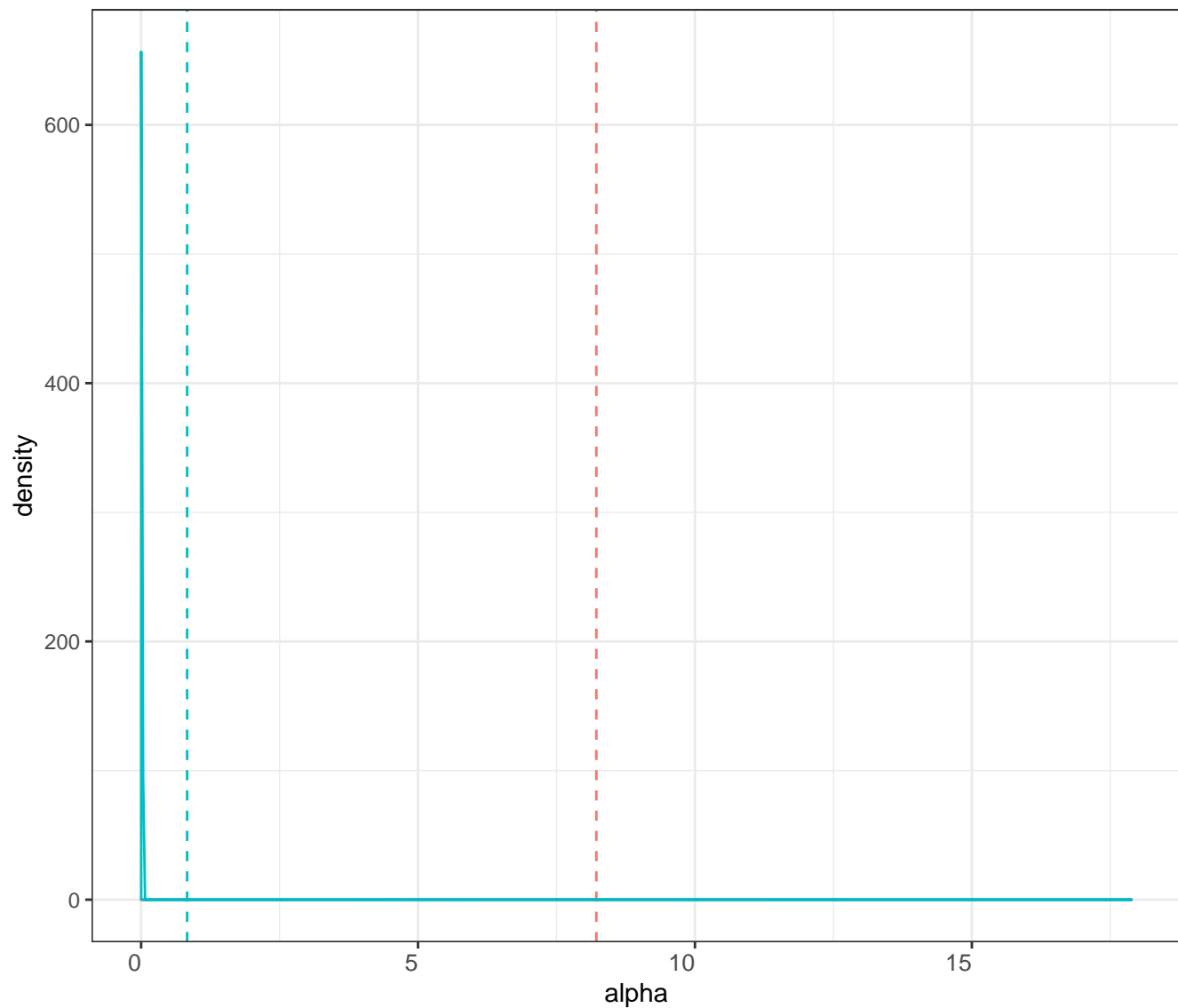
Trace plot for the number of groups K for S=50 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

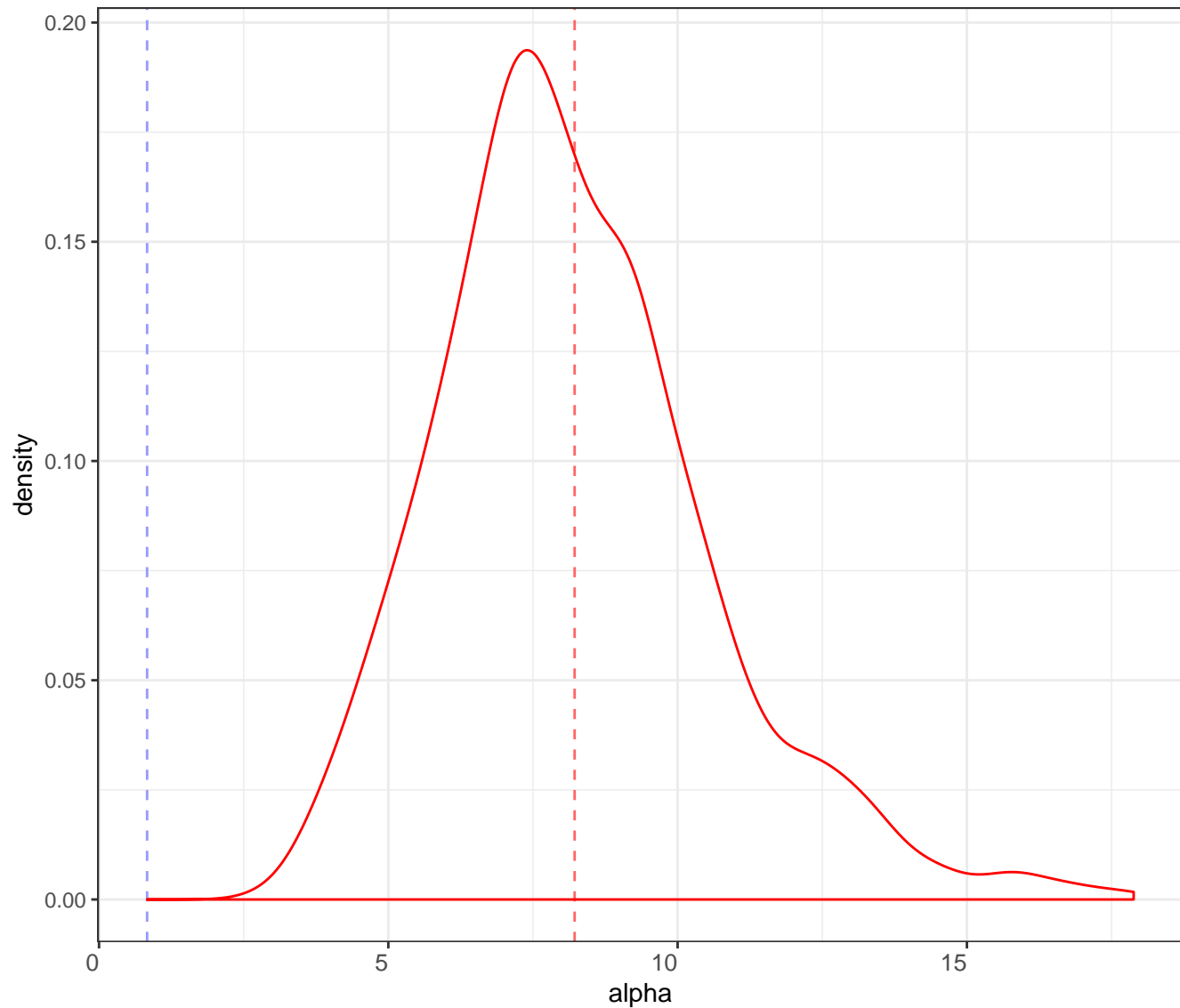
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

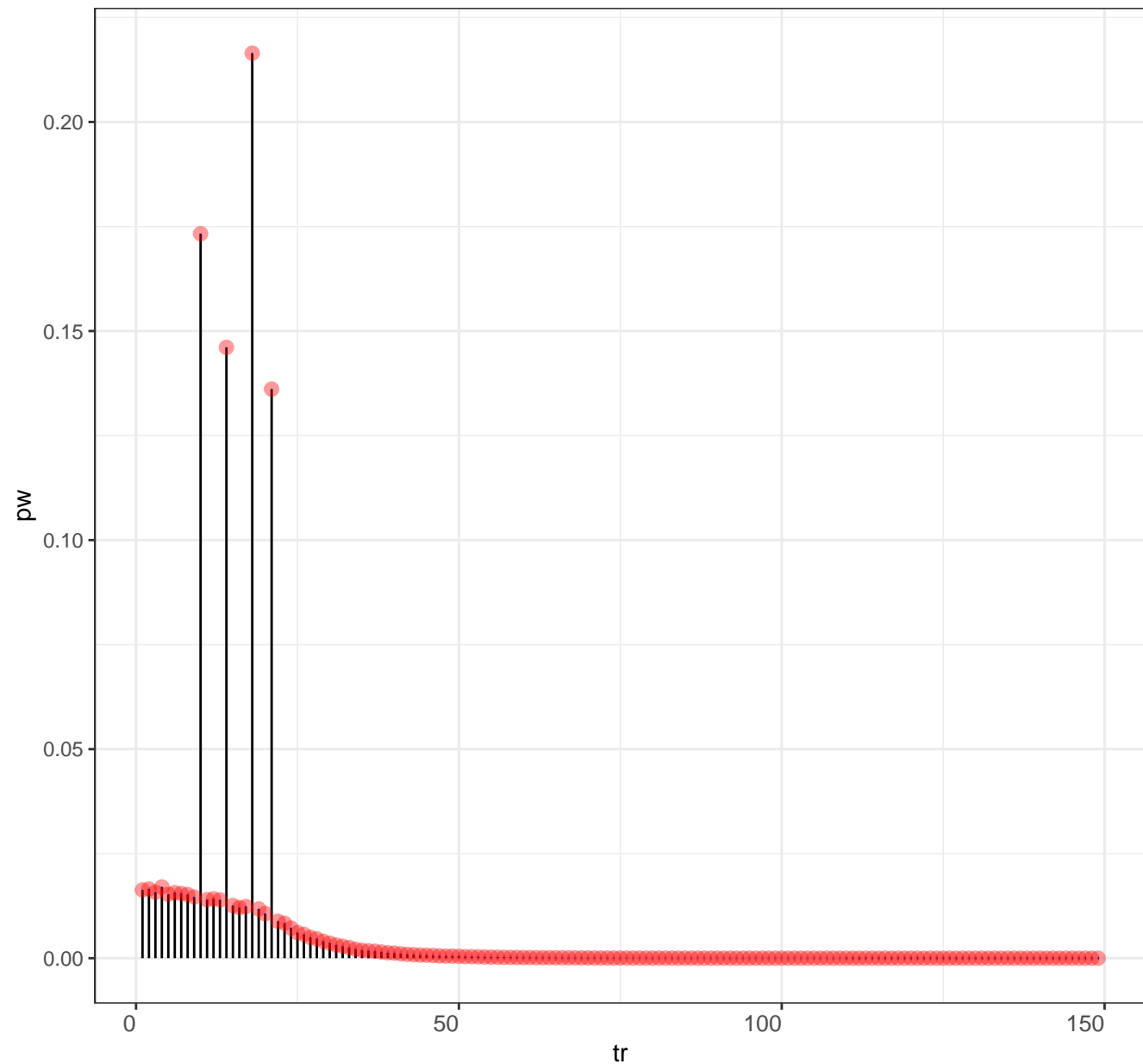
# Posterior distribution for alpha

Legend    posterior mean    prior mean



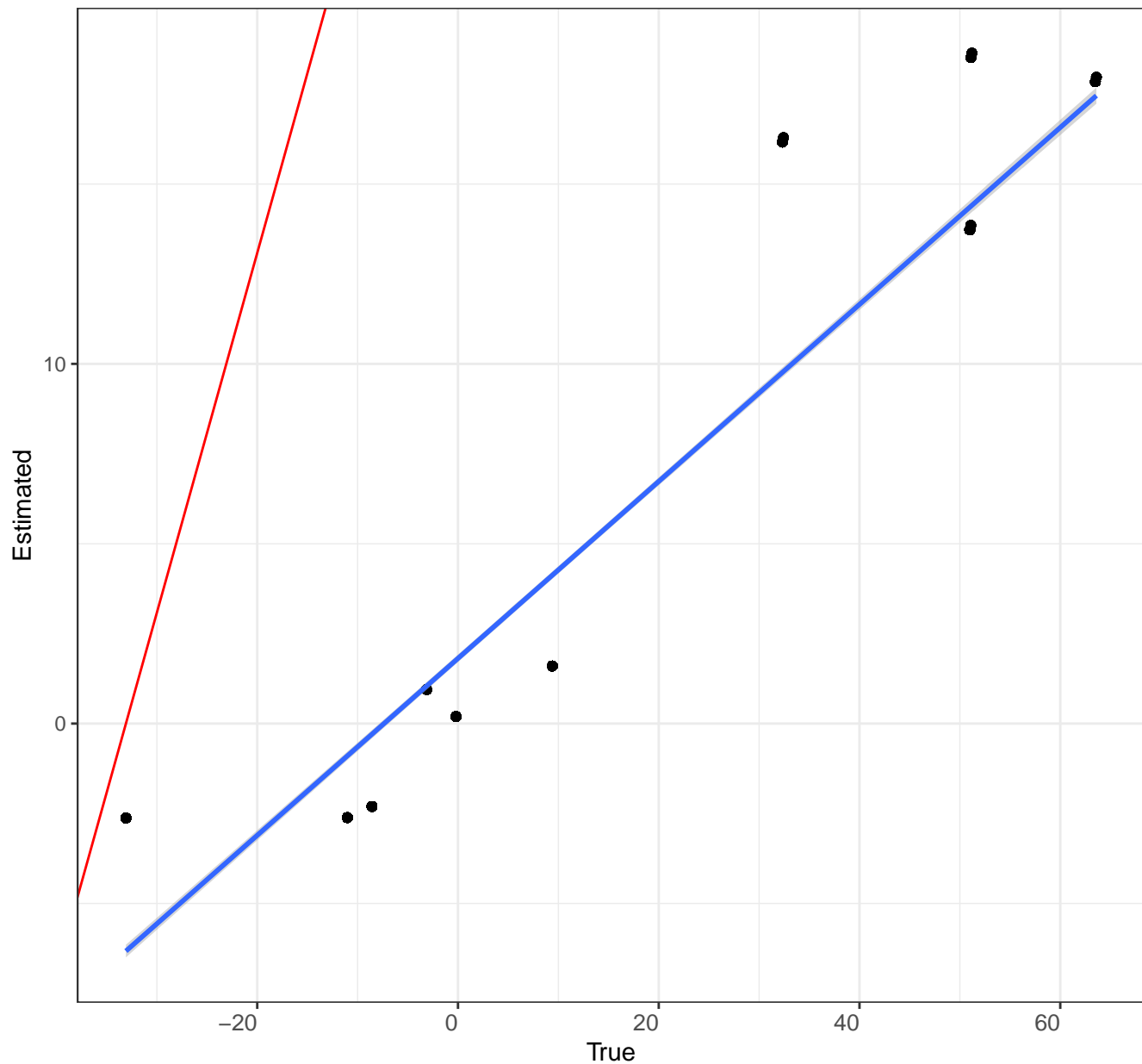
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



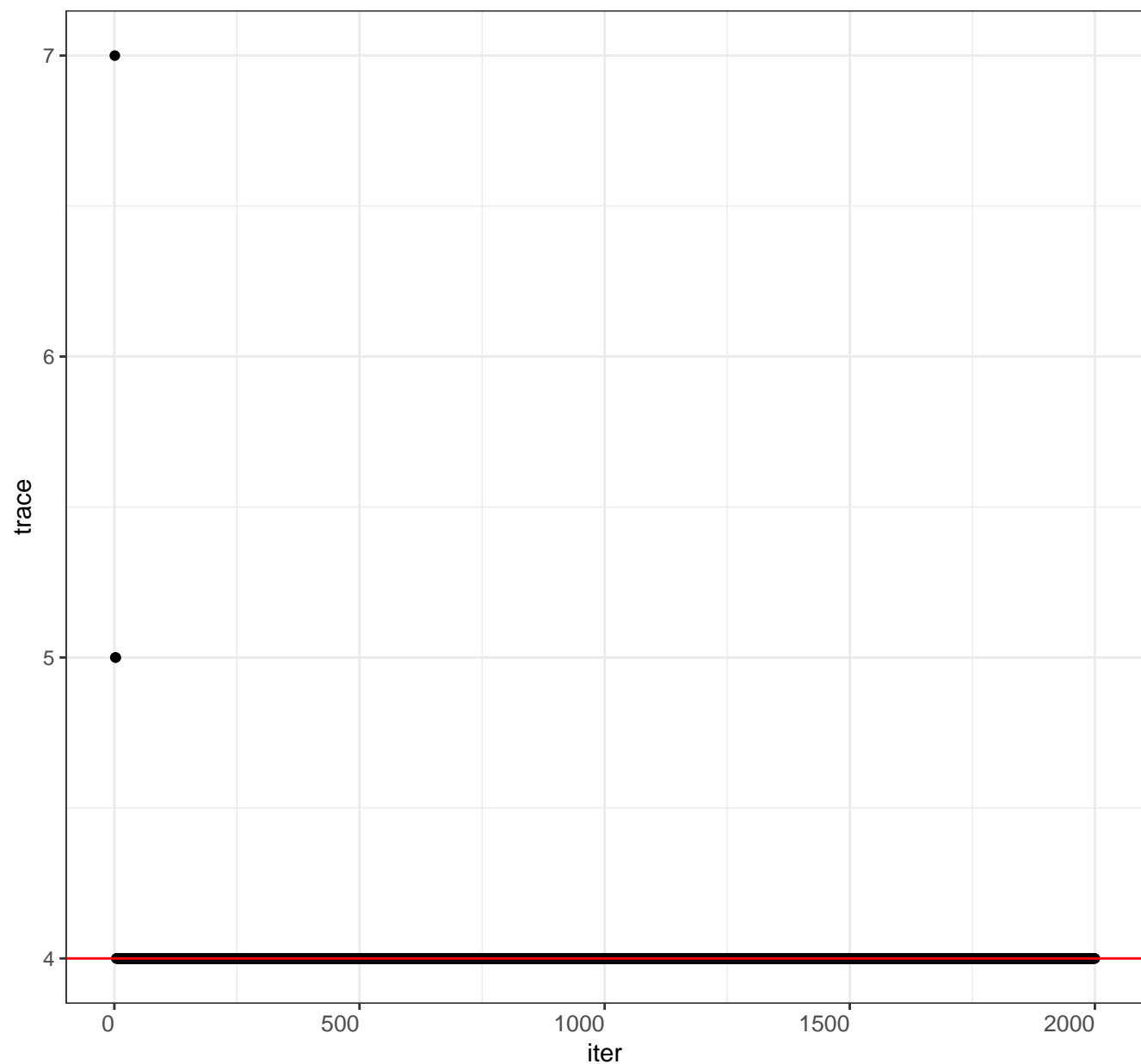
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1



Trace plot for the number of groups K for S=50 r=20 true K=4 type=1

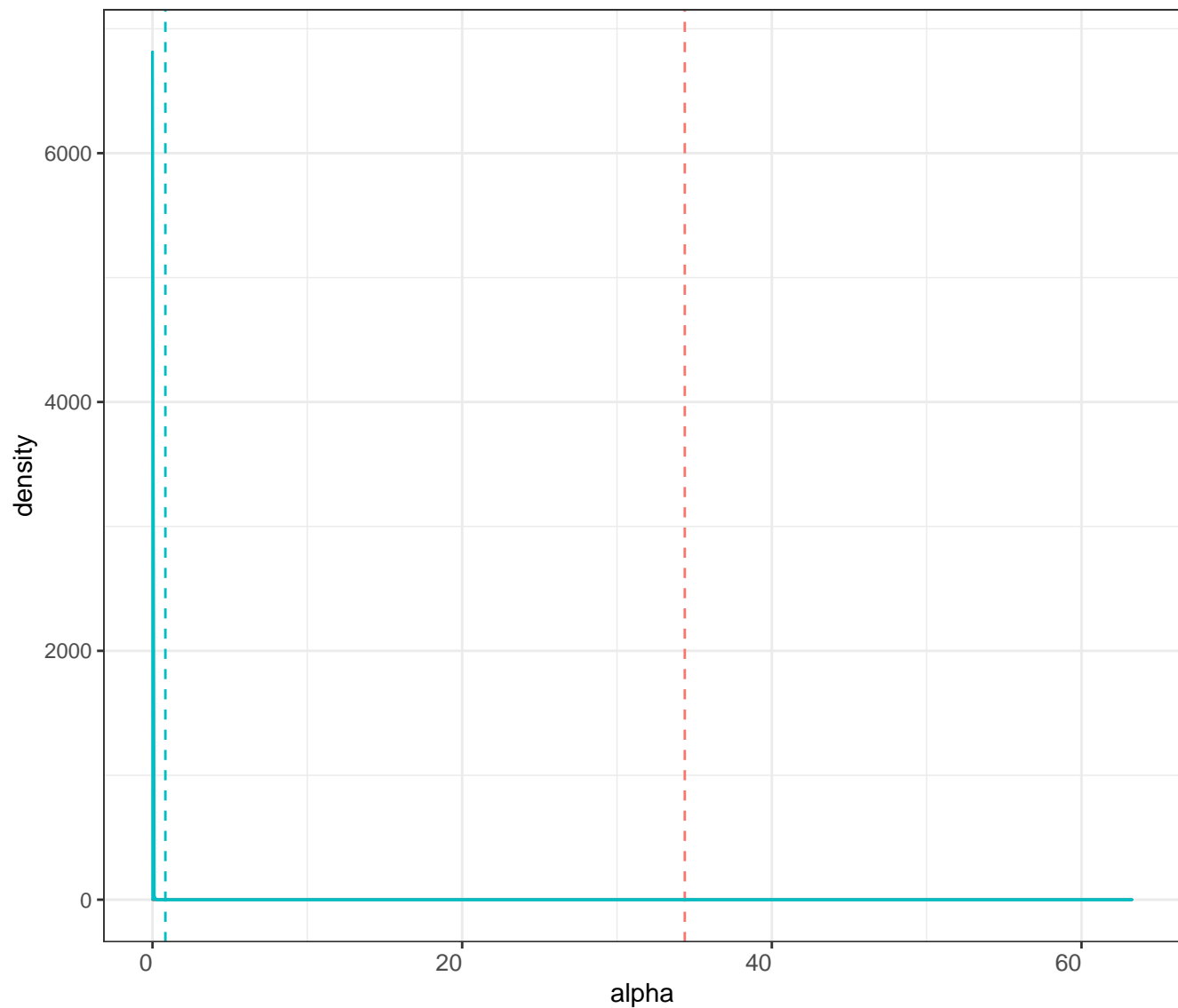


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=50 ,r=20 true gr K=4 ,type=1 ,N=150

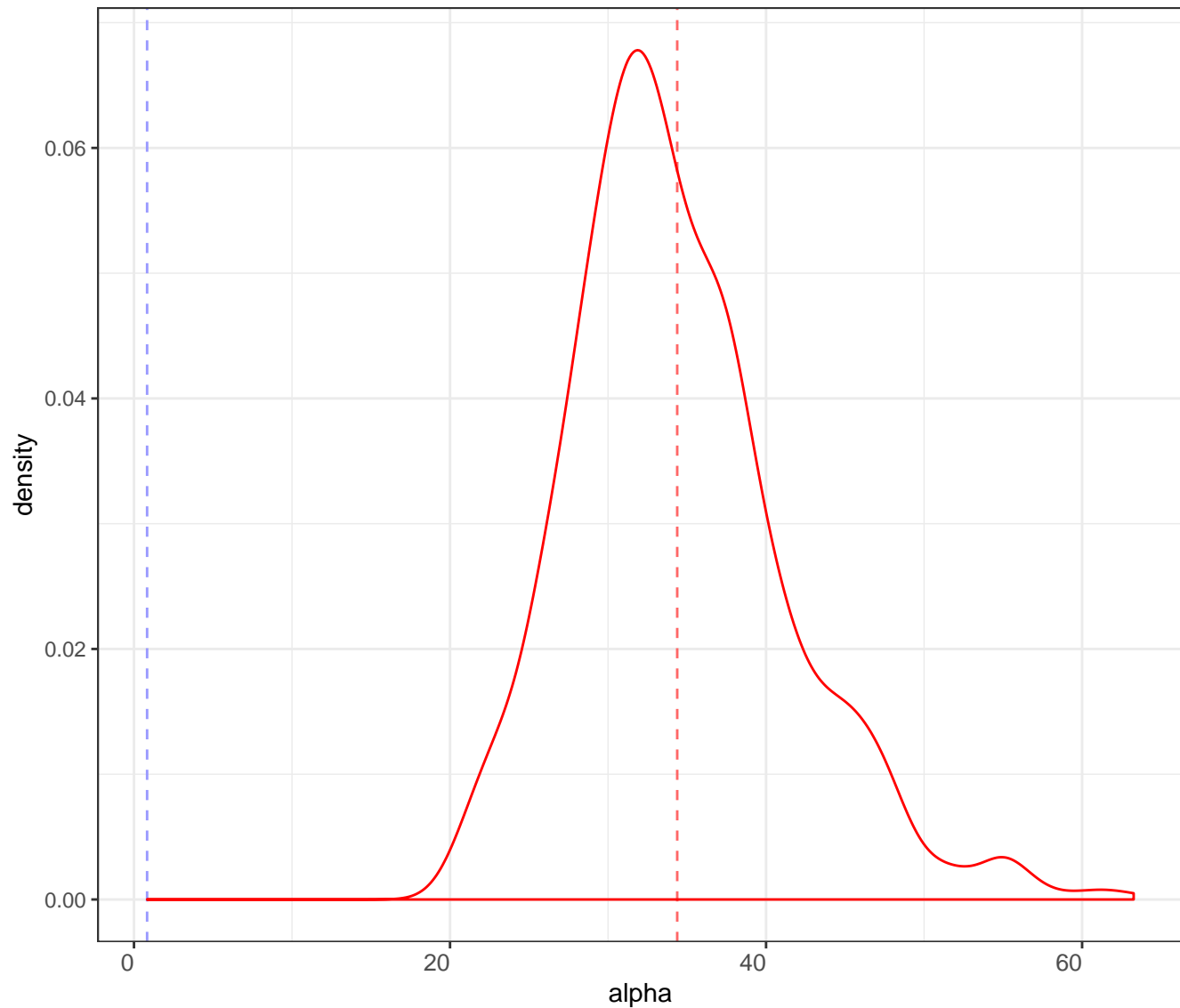
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

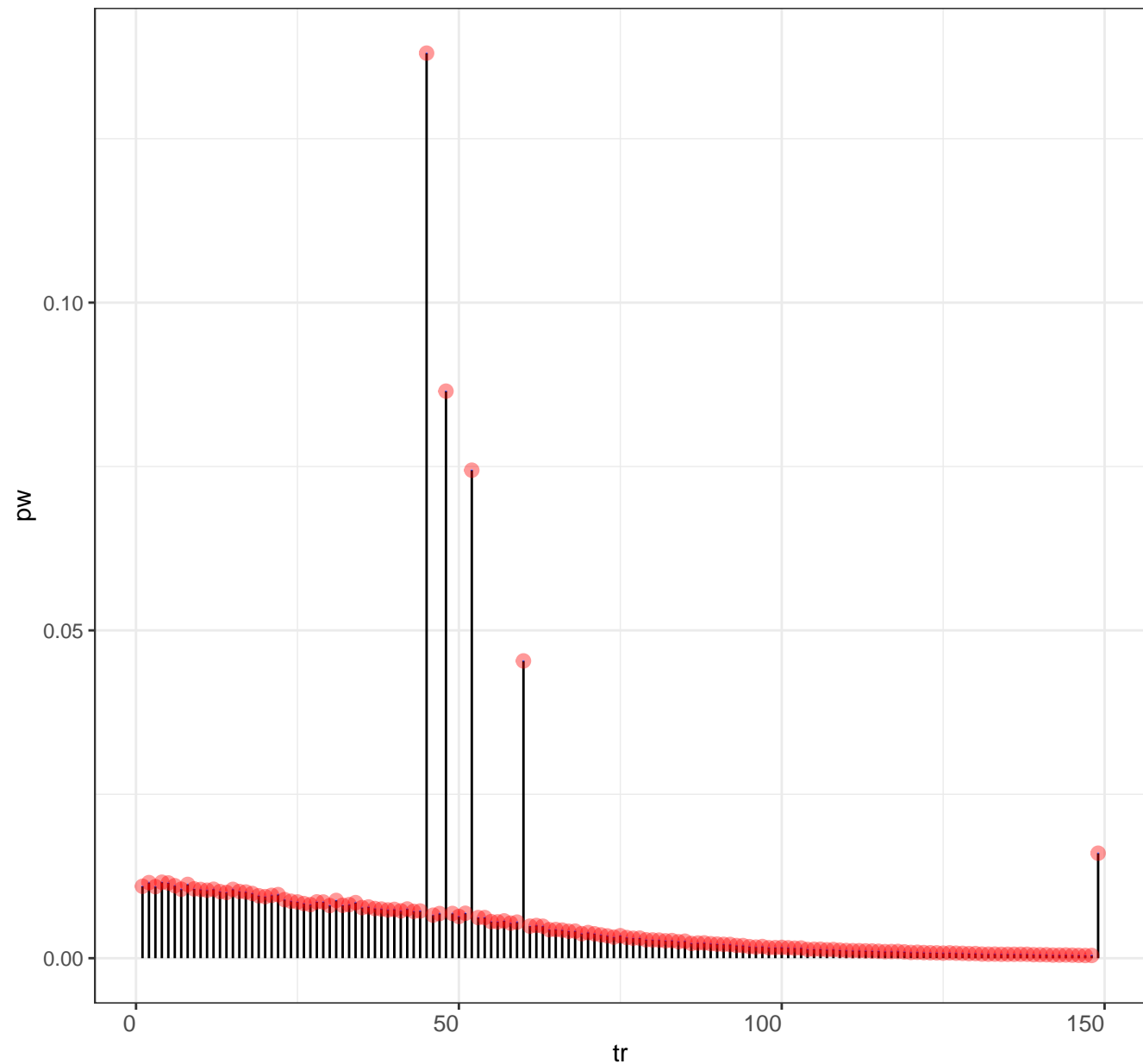
# Posterior distribution for alpha

Legend    posterior mean    prior mean



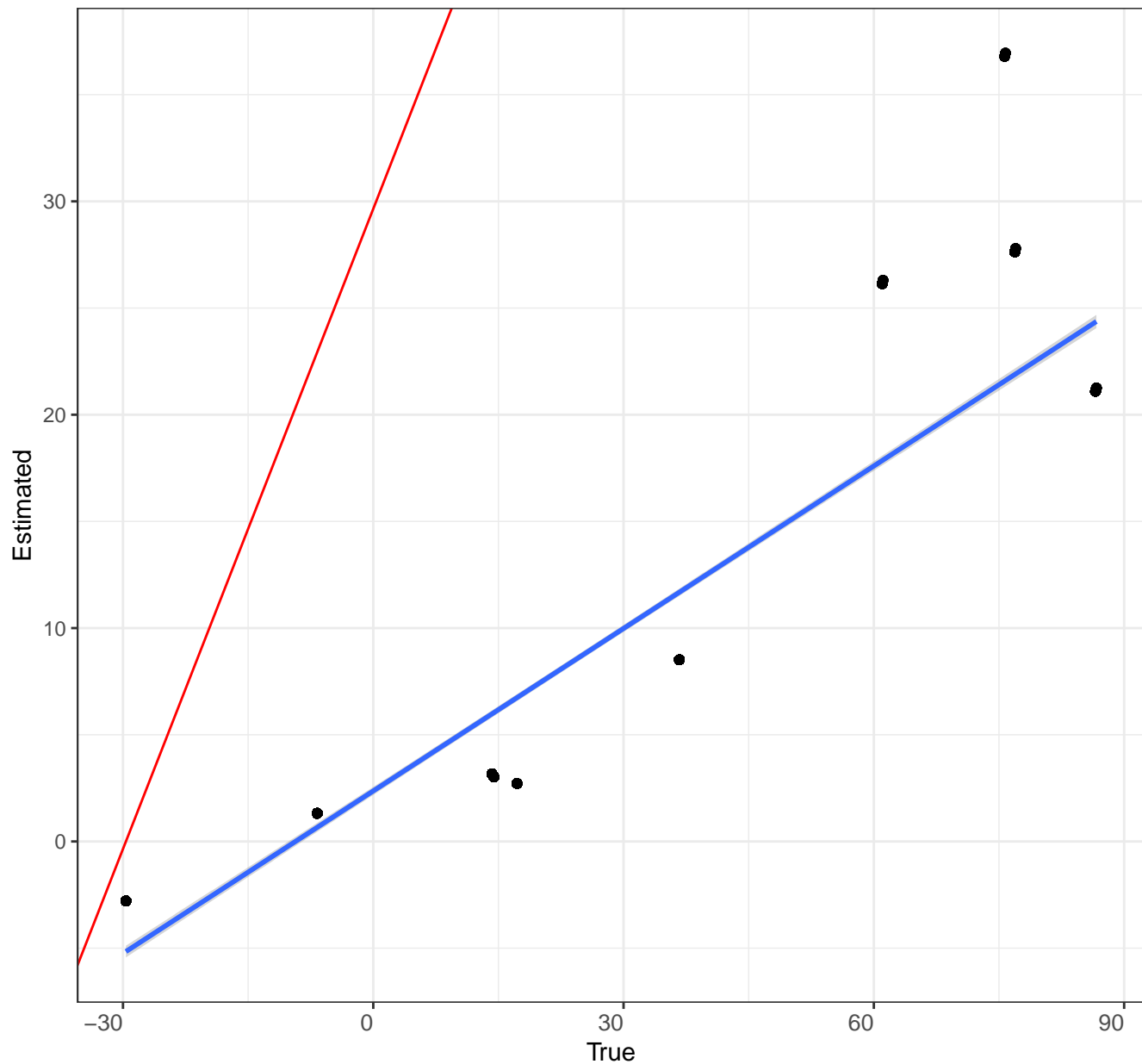
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=50 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=50$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.016$



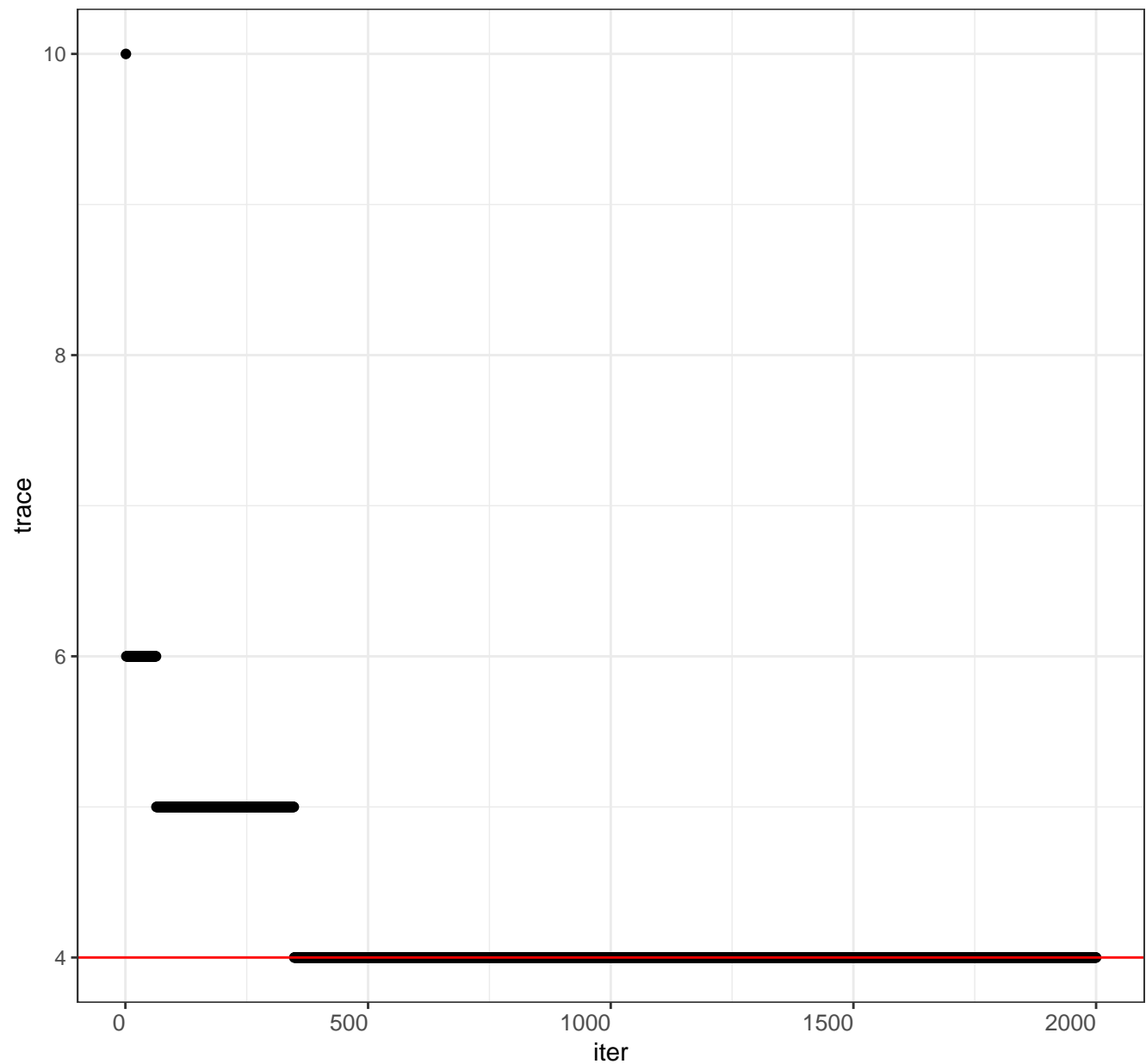
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=50 r=20 true K=4 type=1

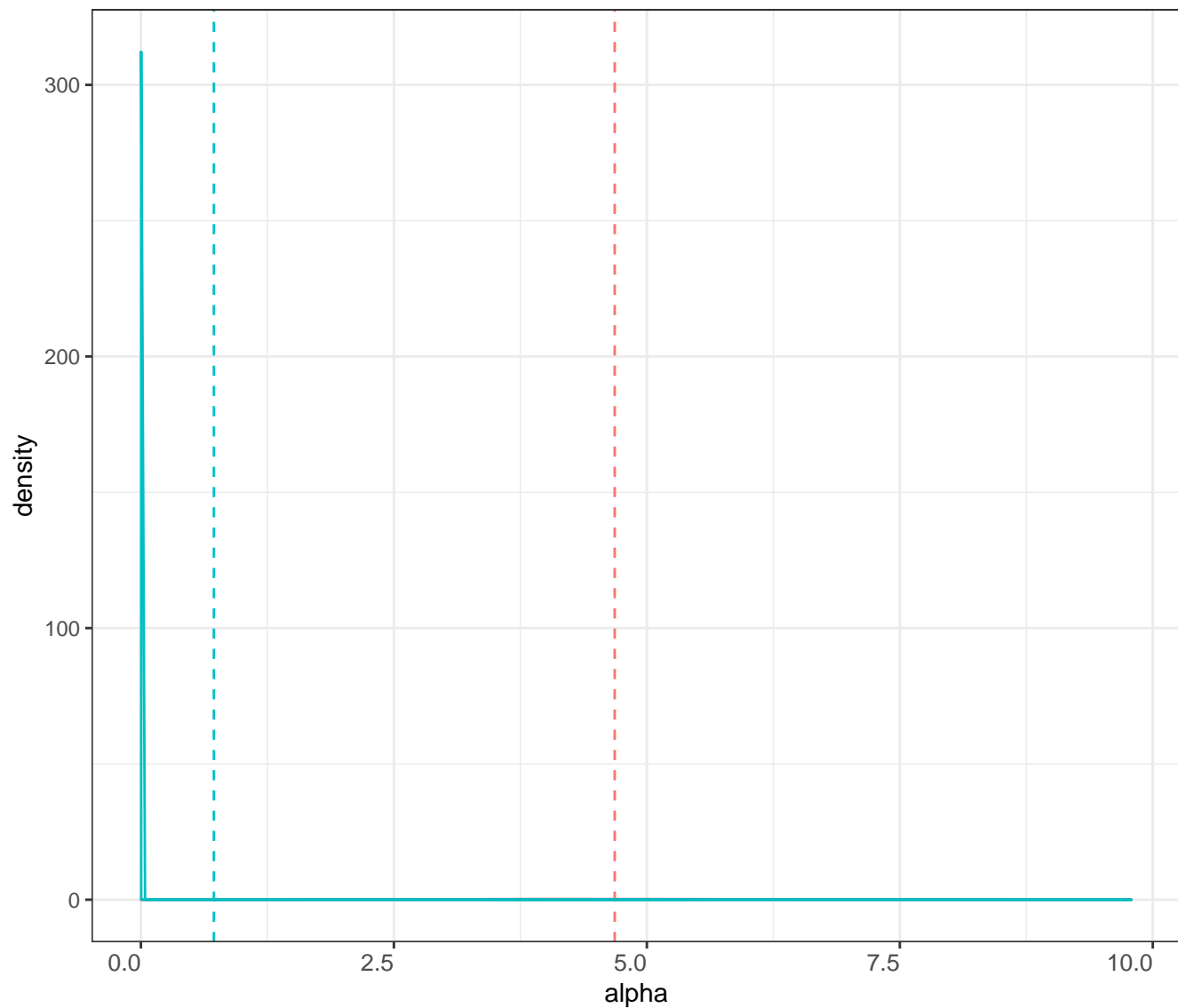
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

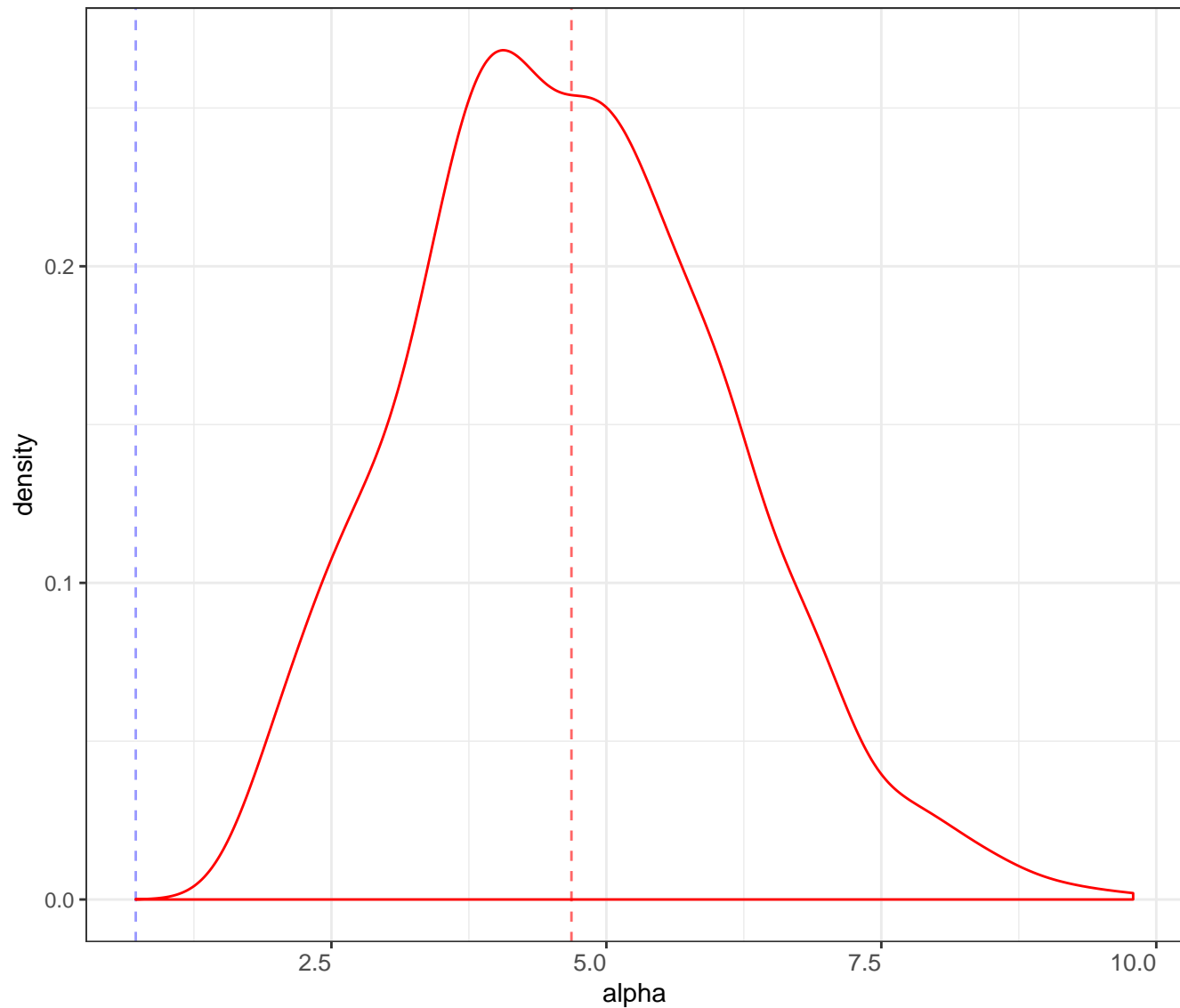
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

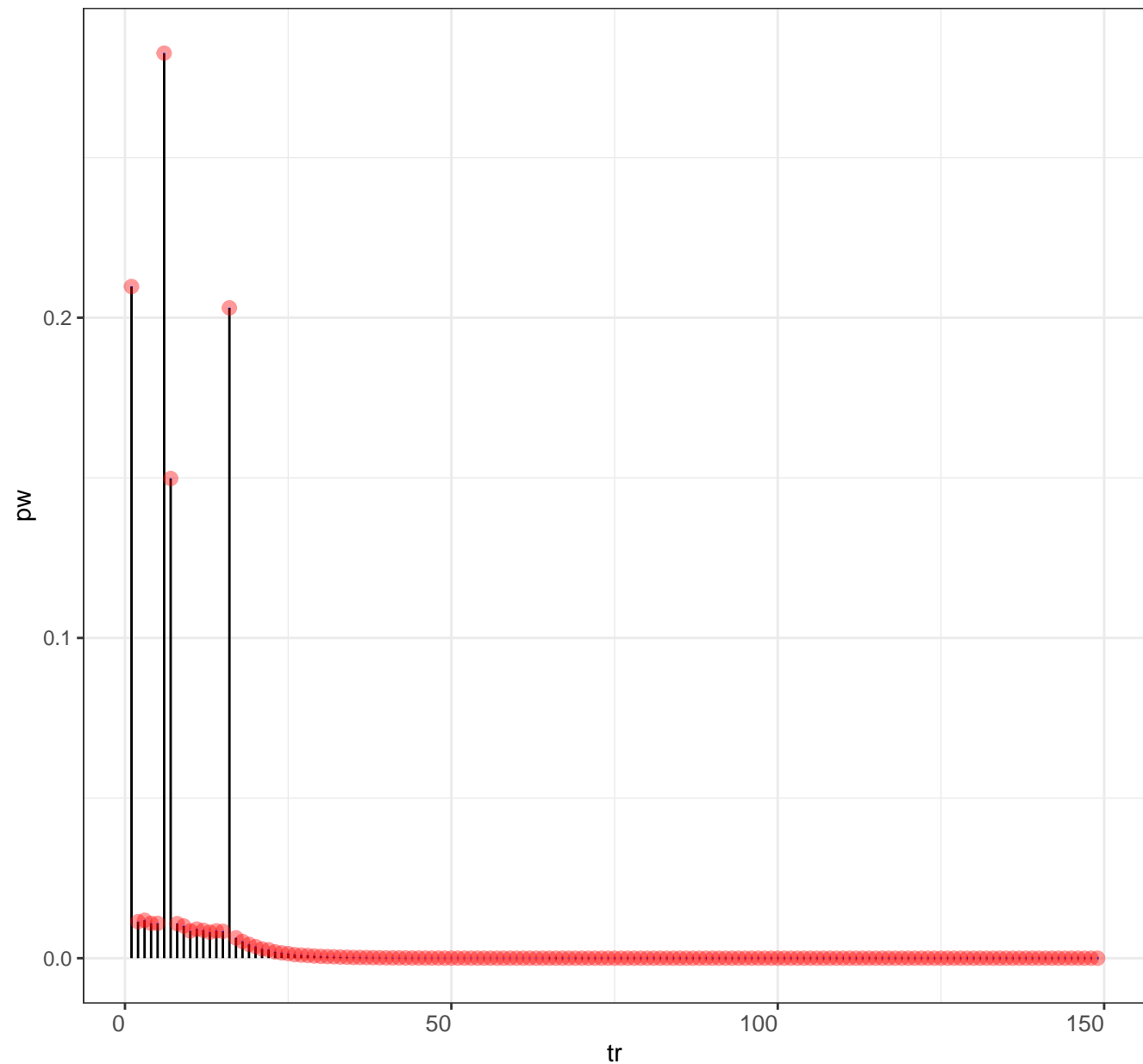
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

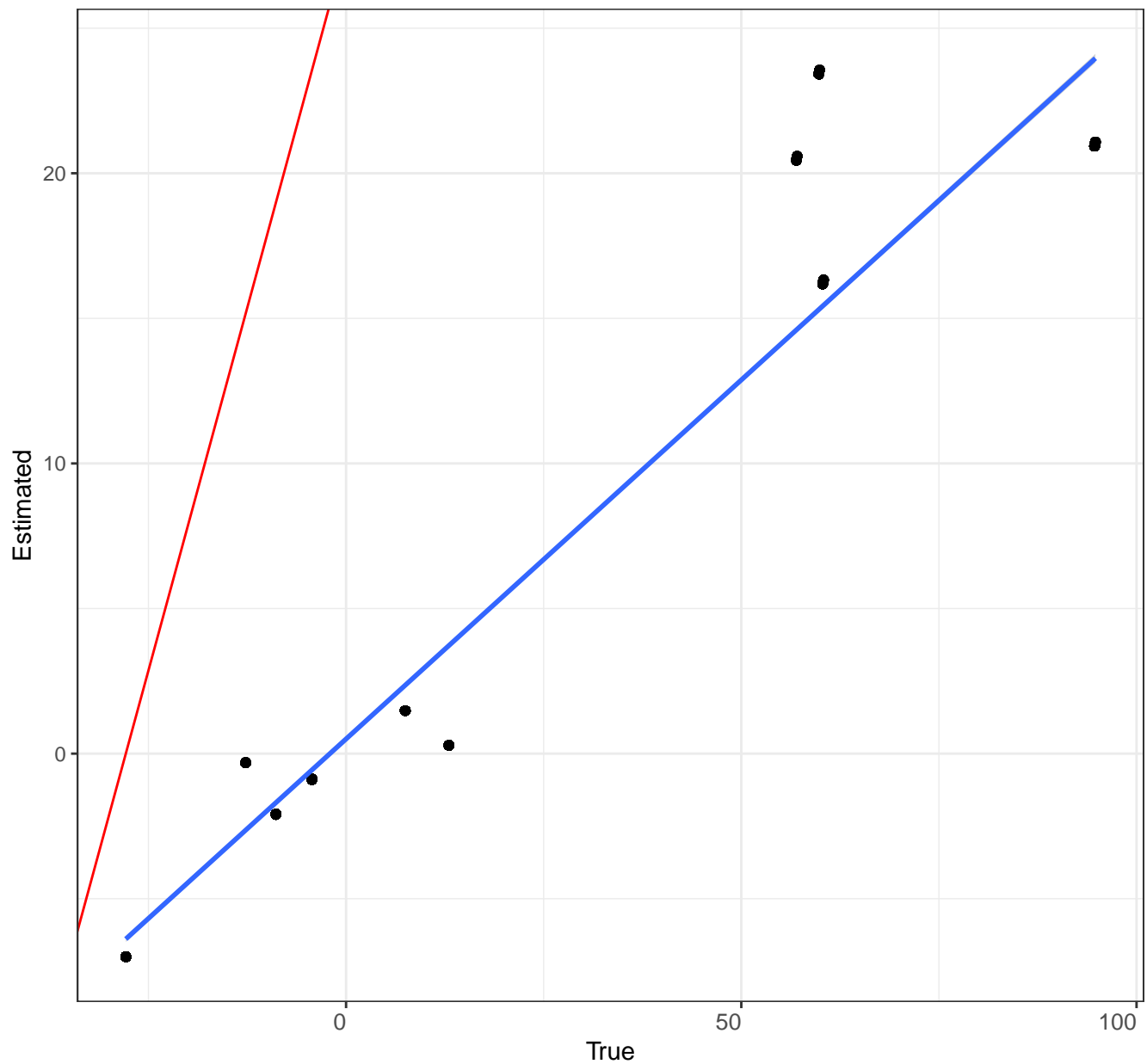
Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

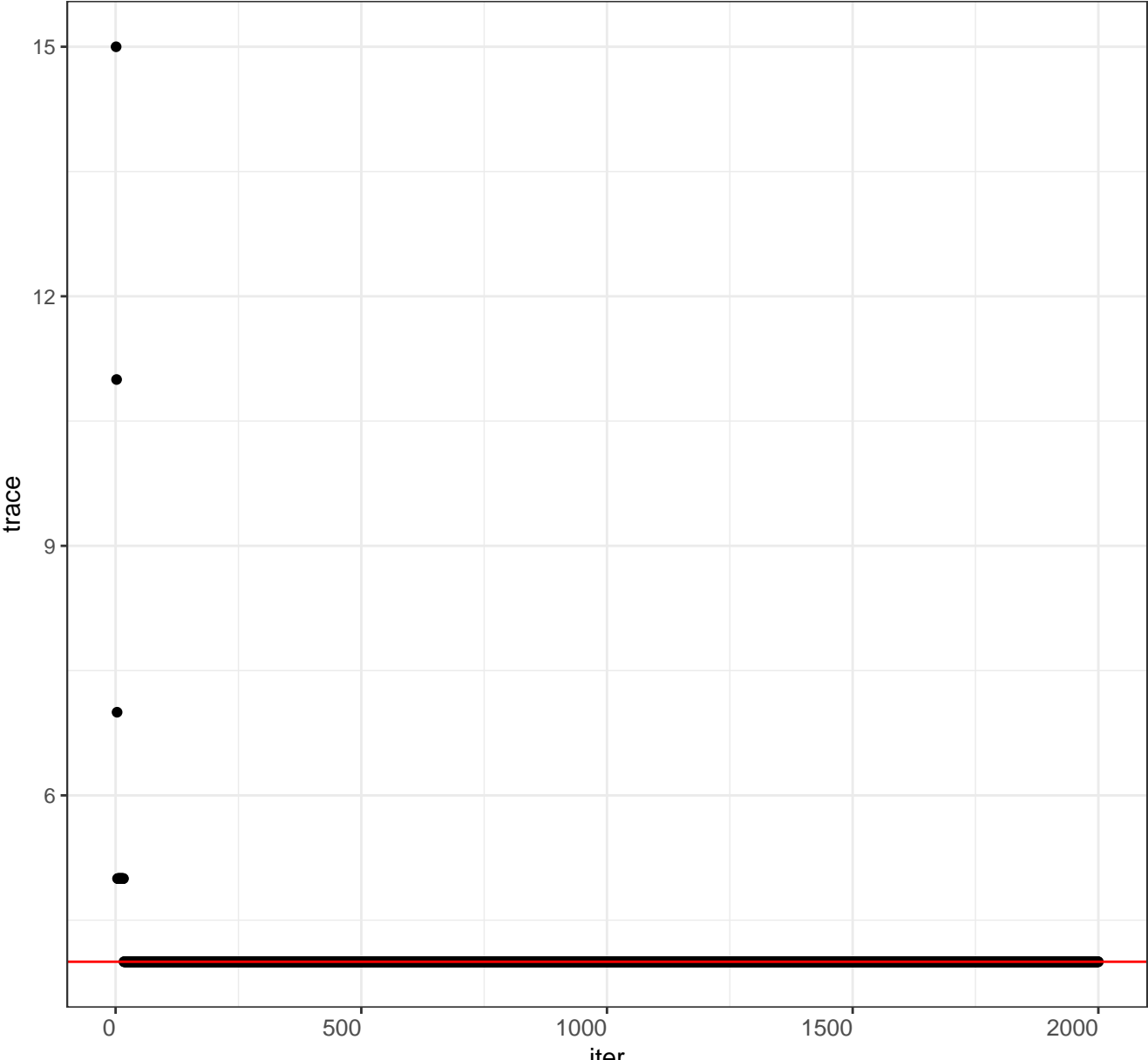


True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

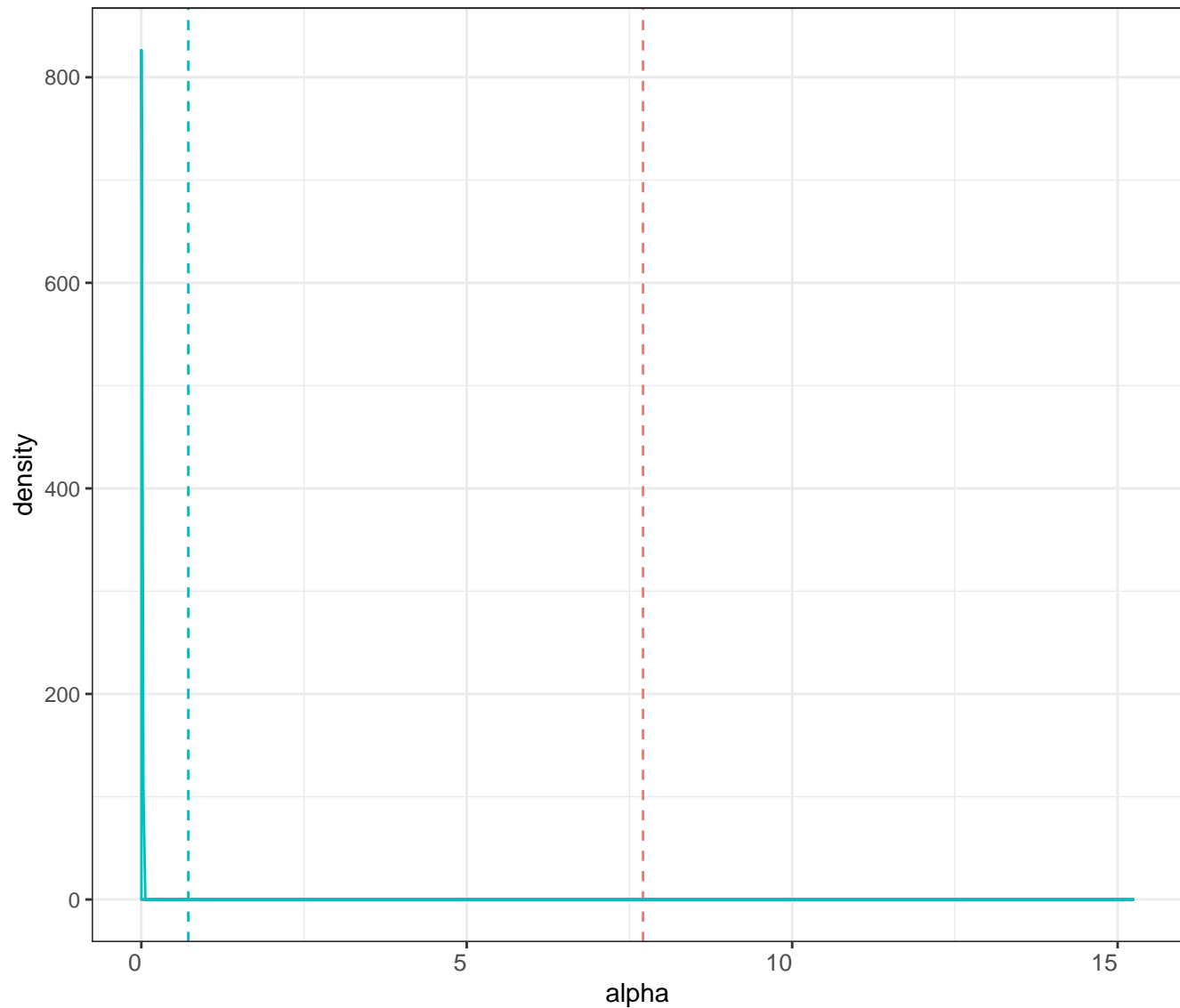
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

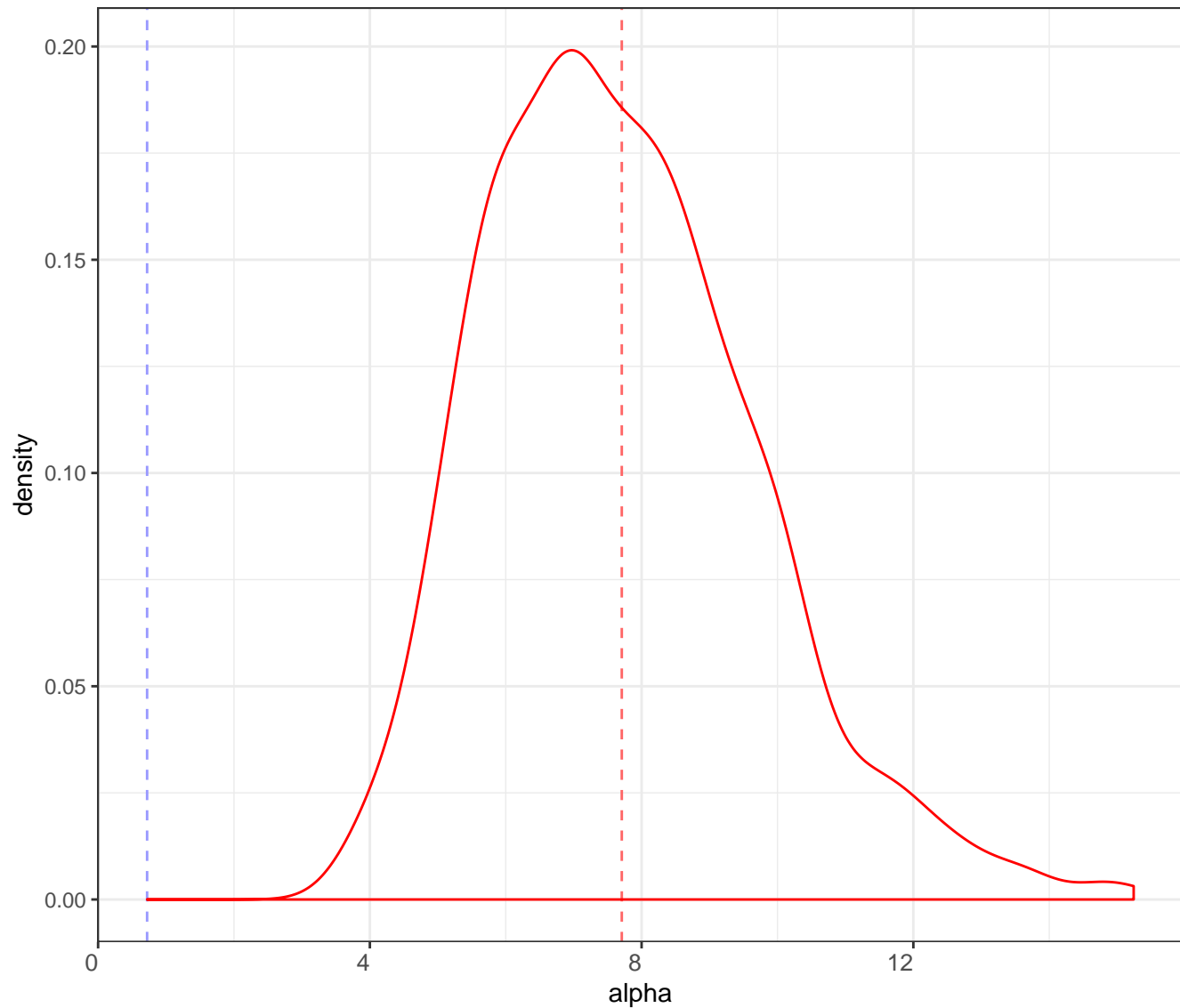
Legend



posterior mean

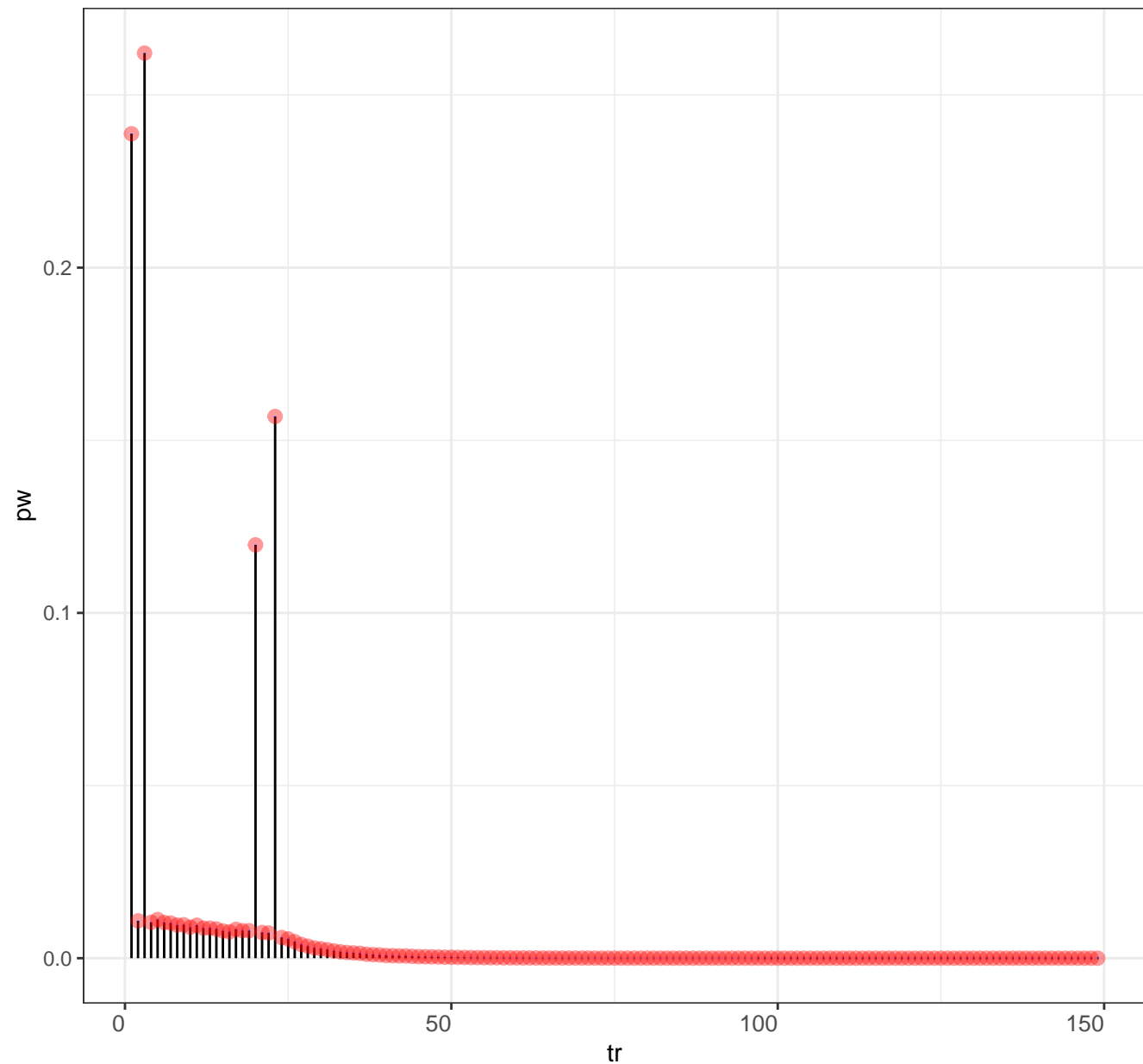


prior mean



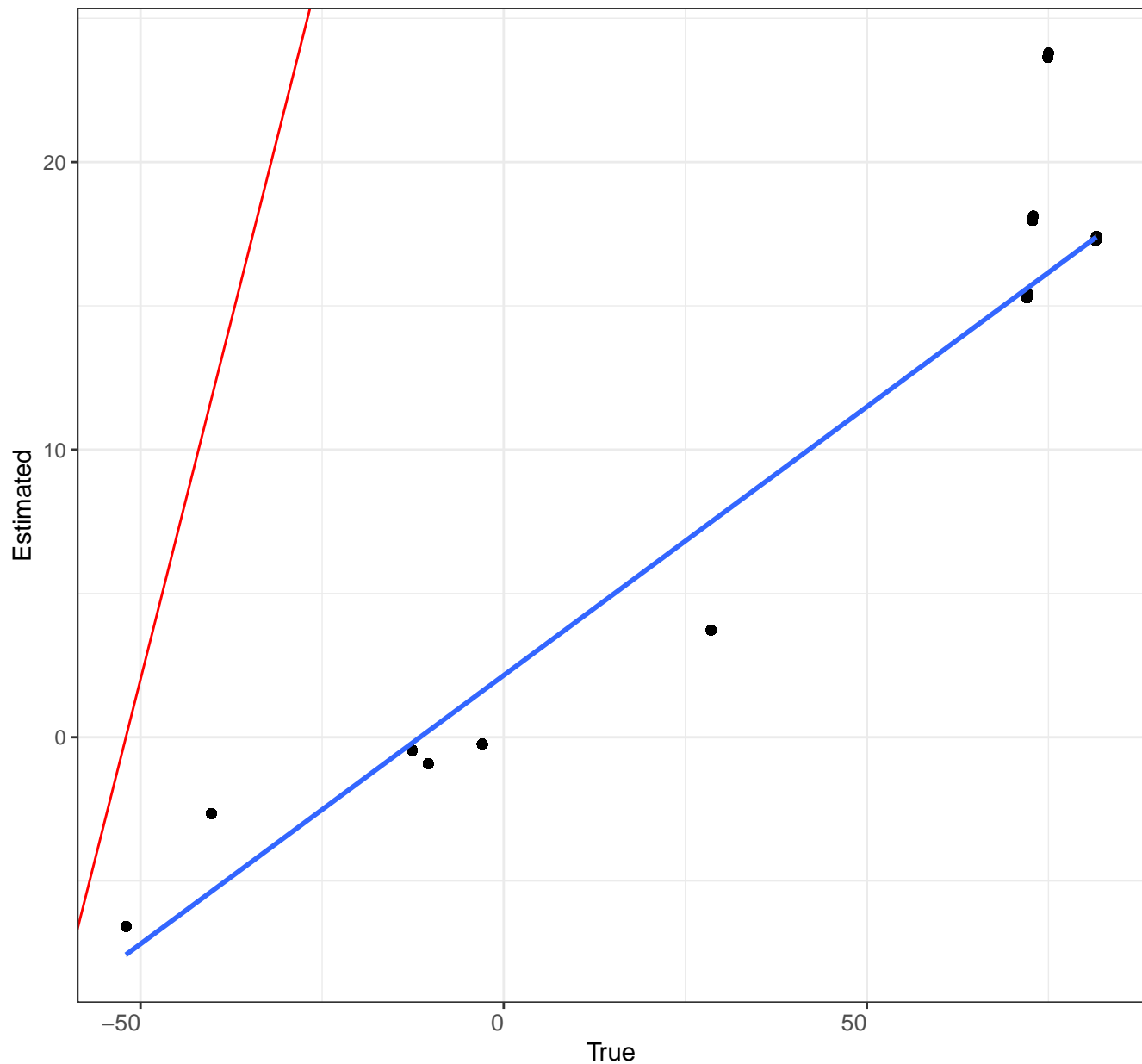
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



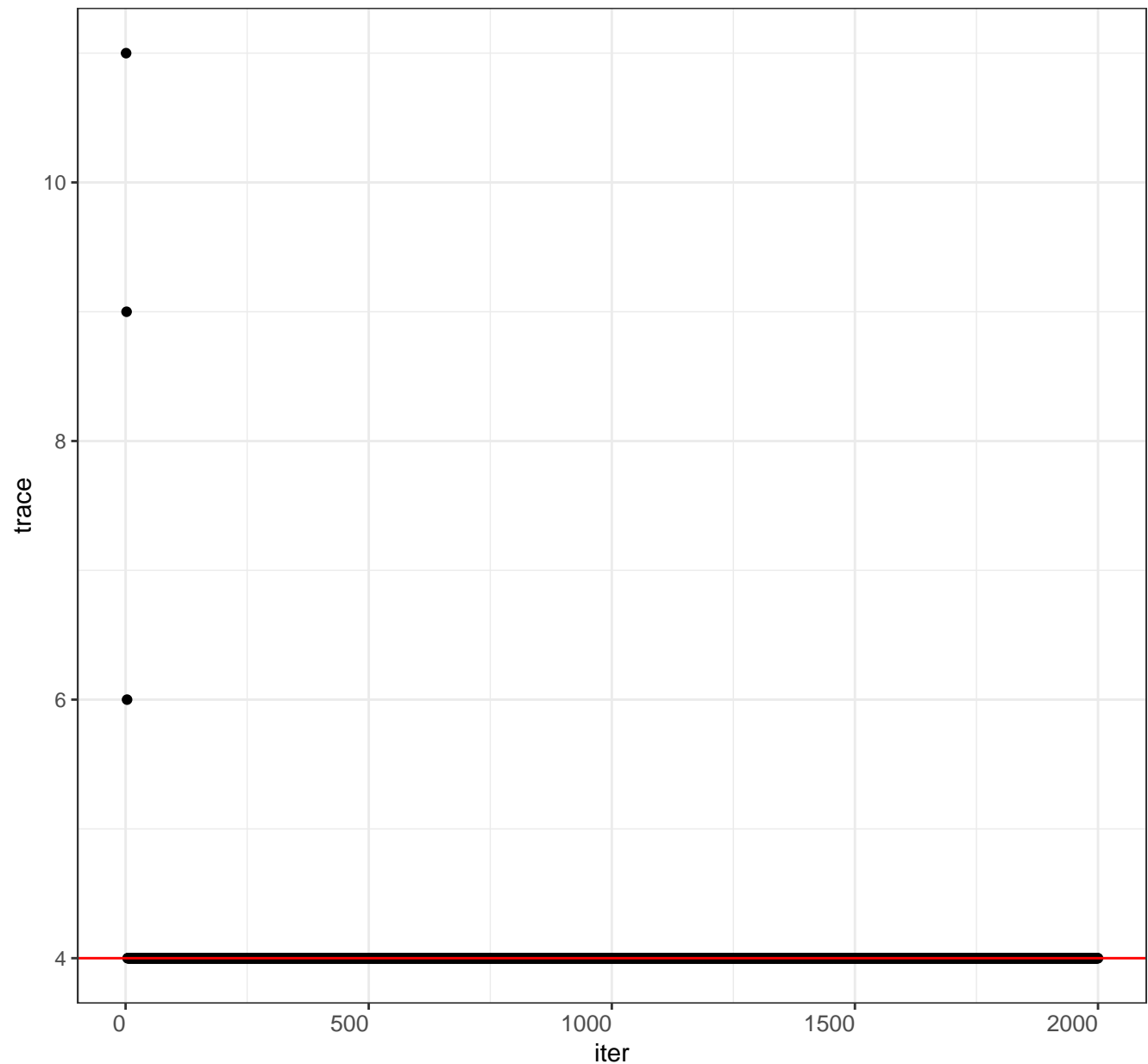
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

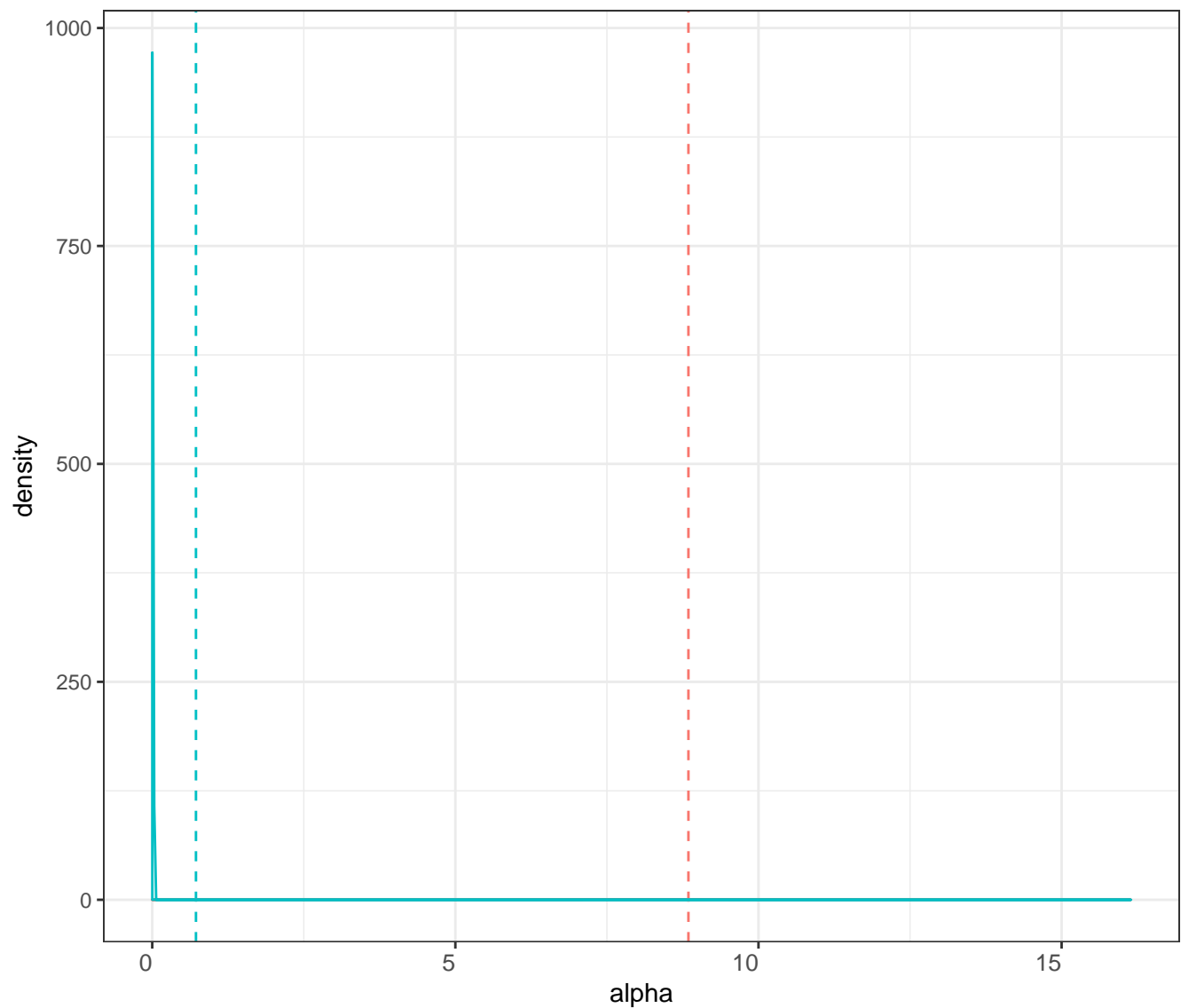
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

type ┆┆ posterior ┆┆ prior

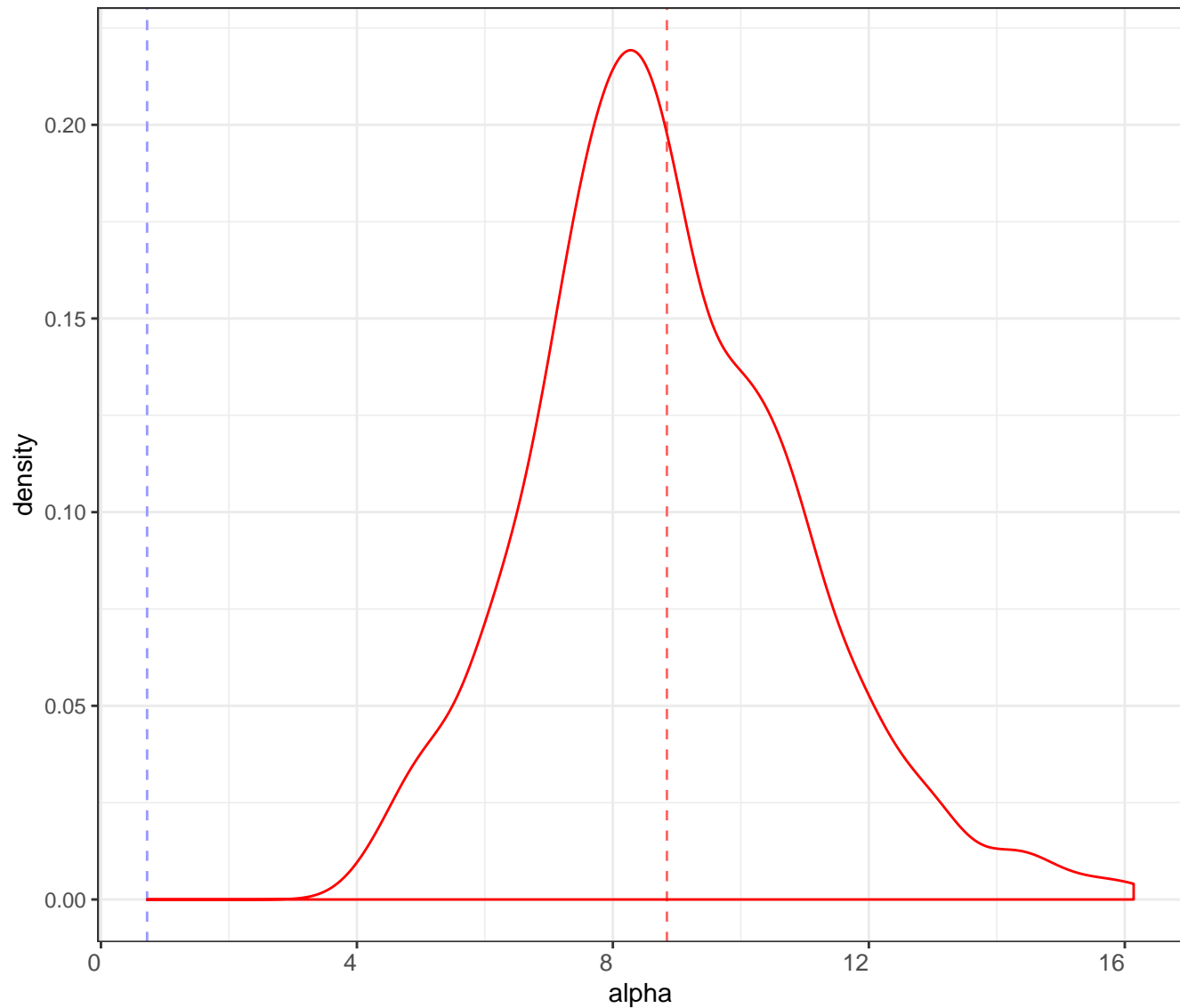


Number of iterations: 2000 burnin: 1000 number of samples: 500



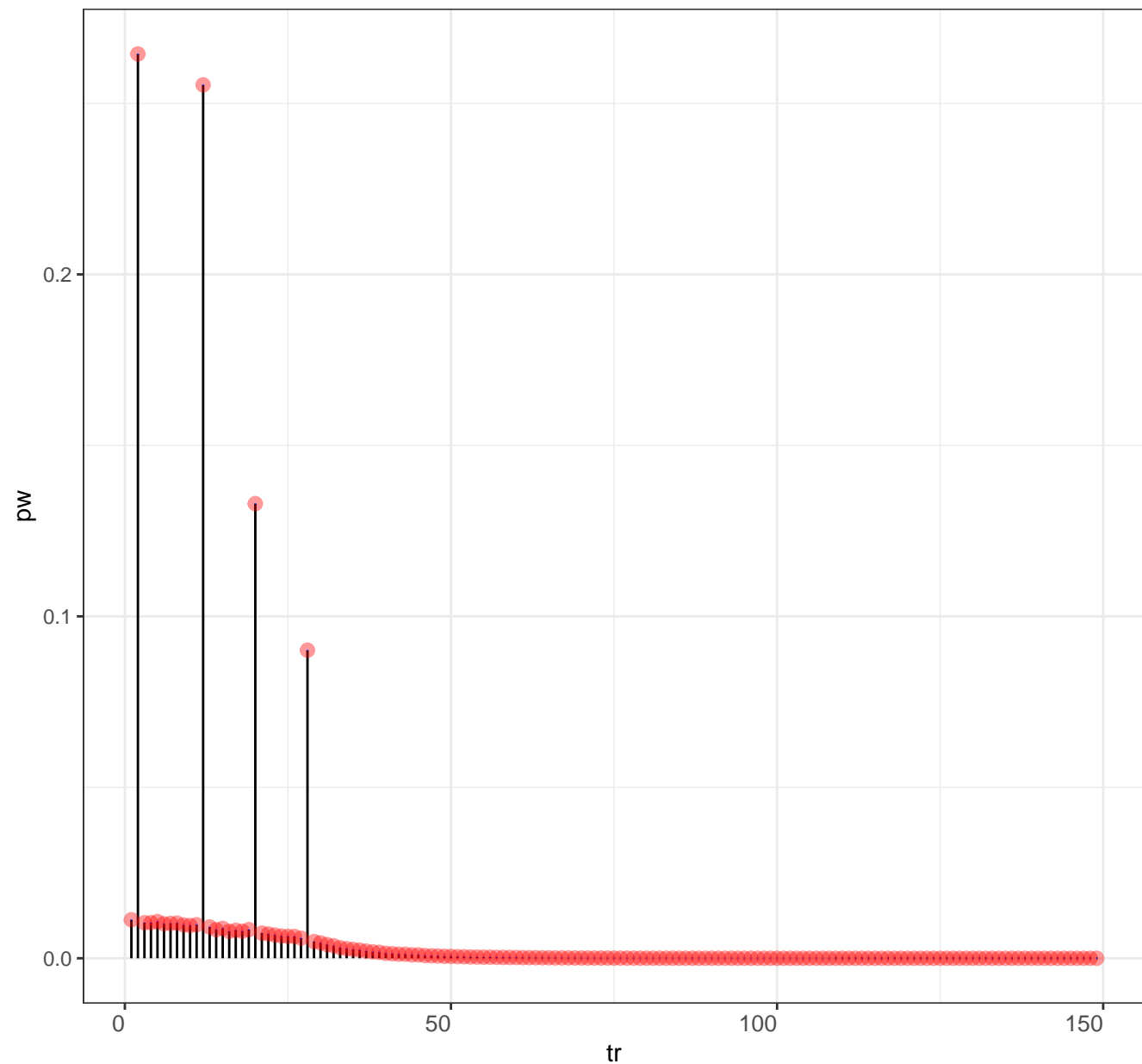
# Posterior distribution for alpha

Legend      posterior mean      prior mean



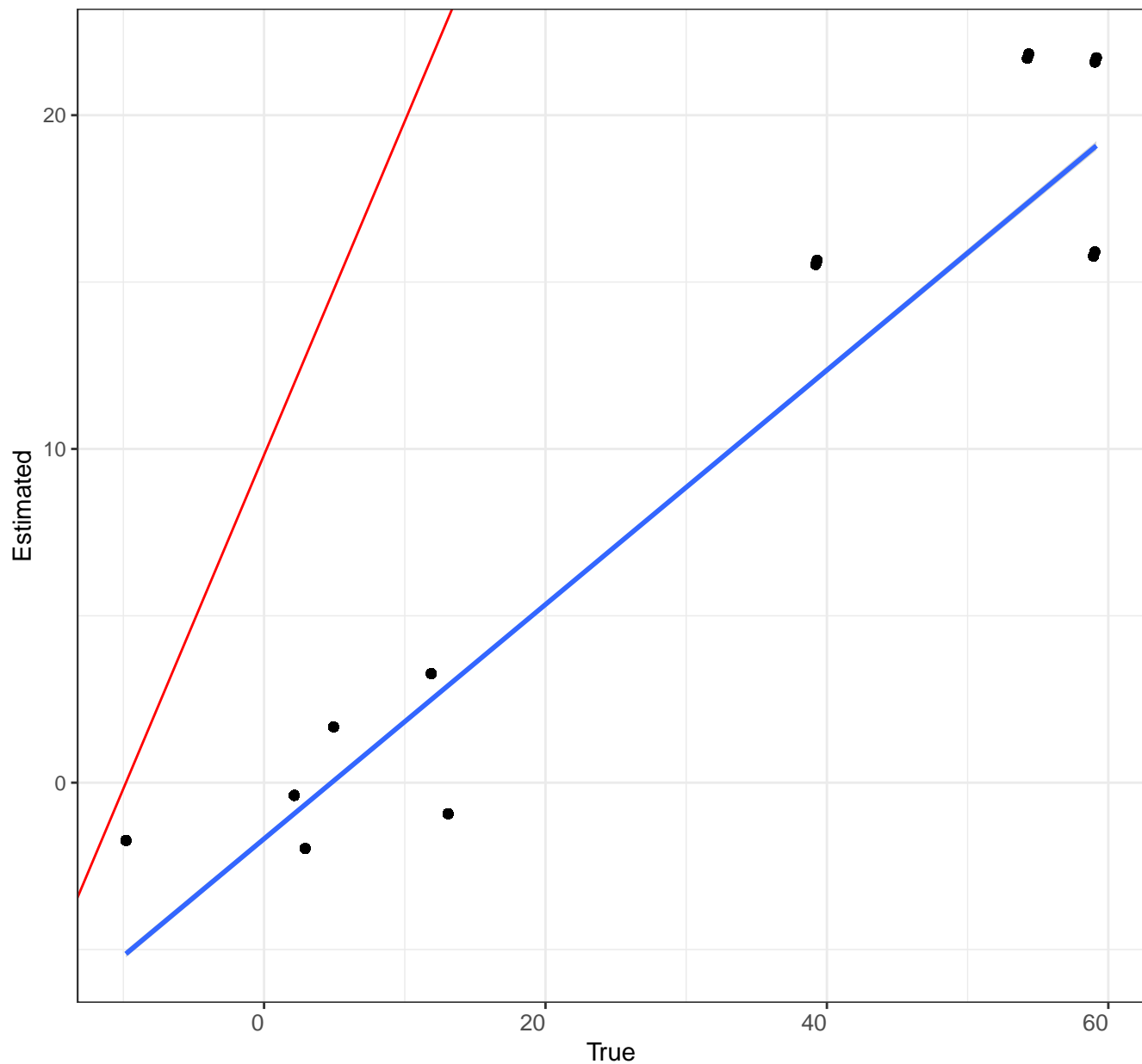
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



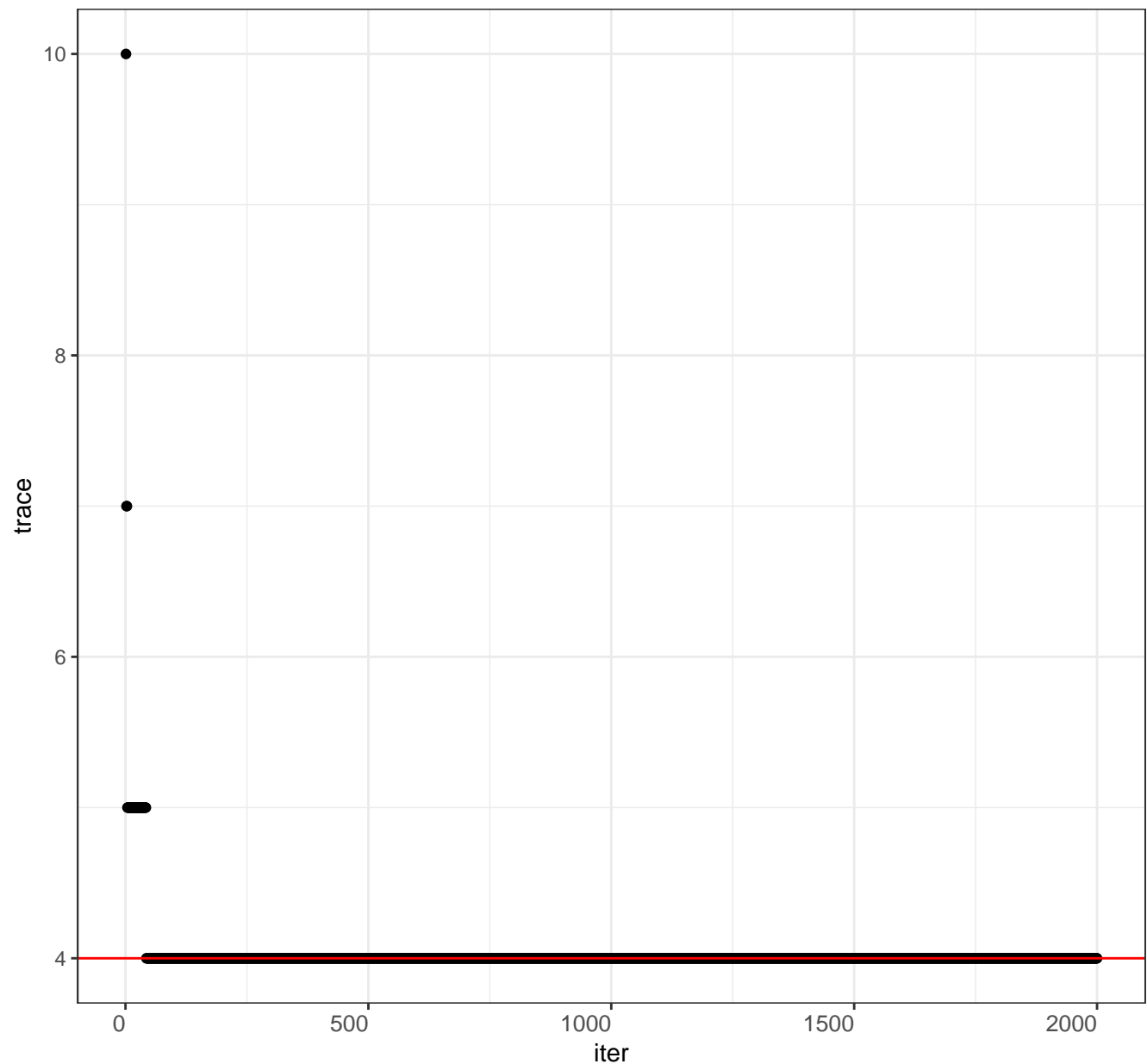
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

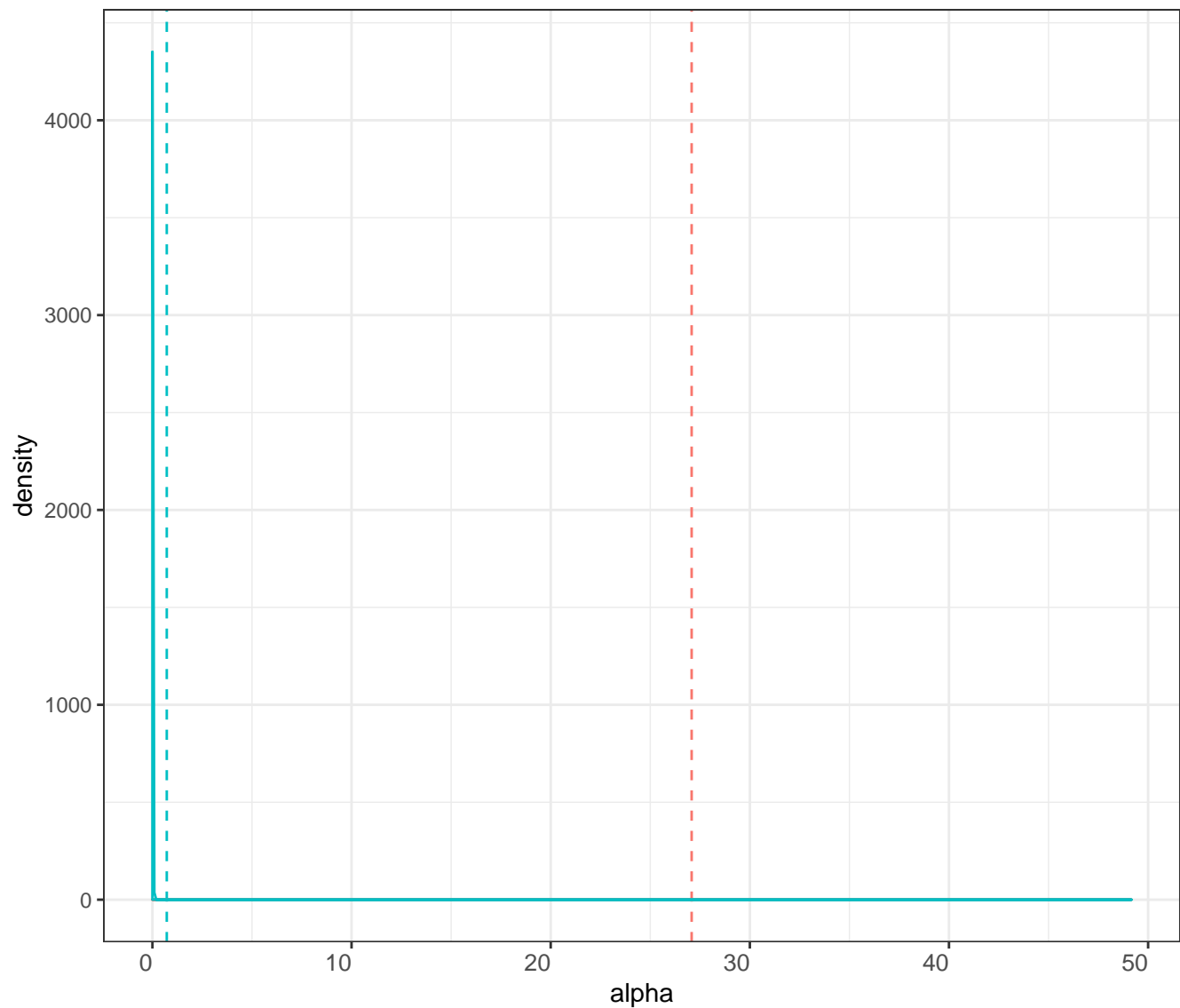
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

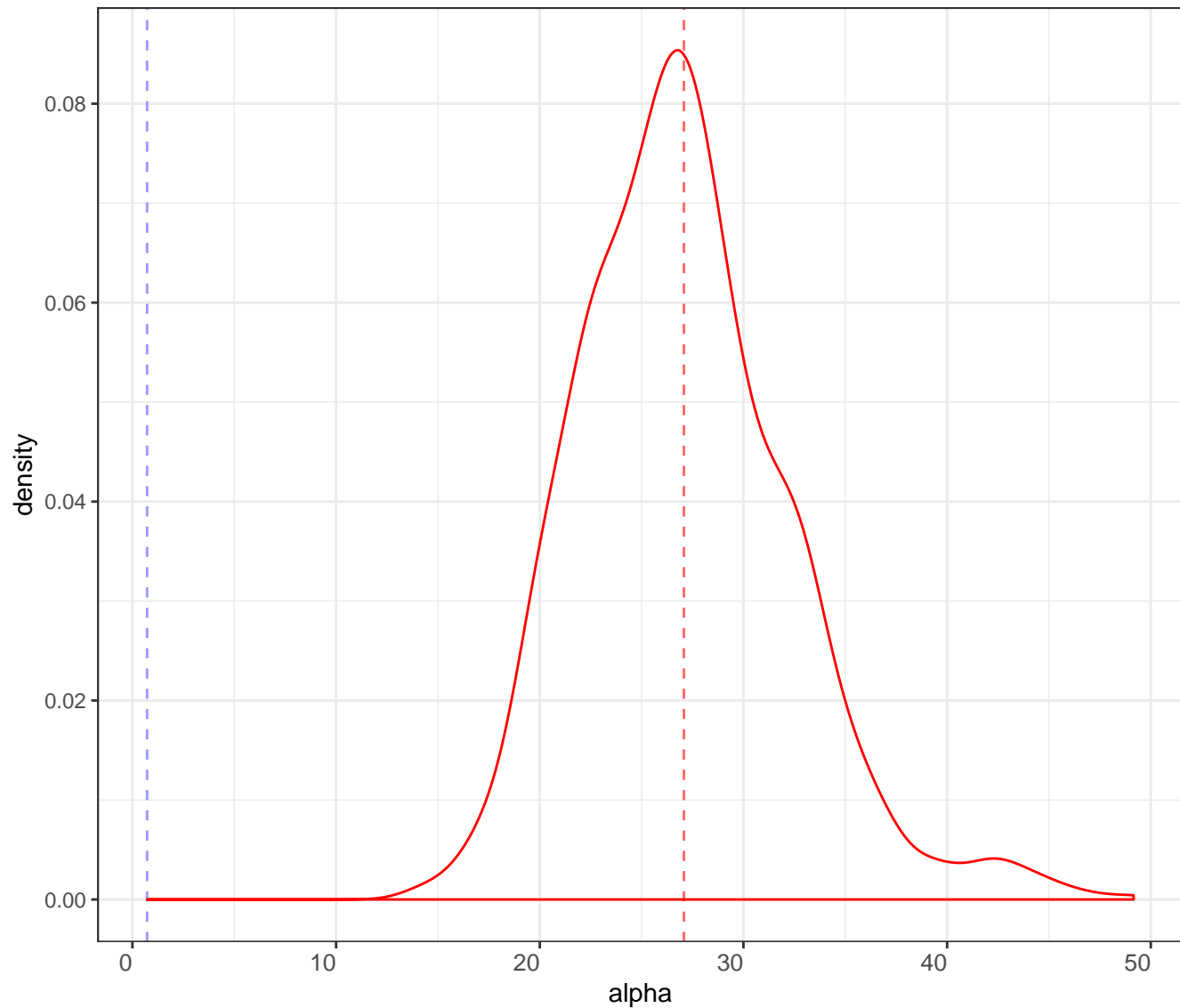
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

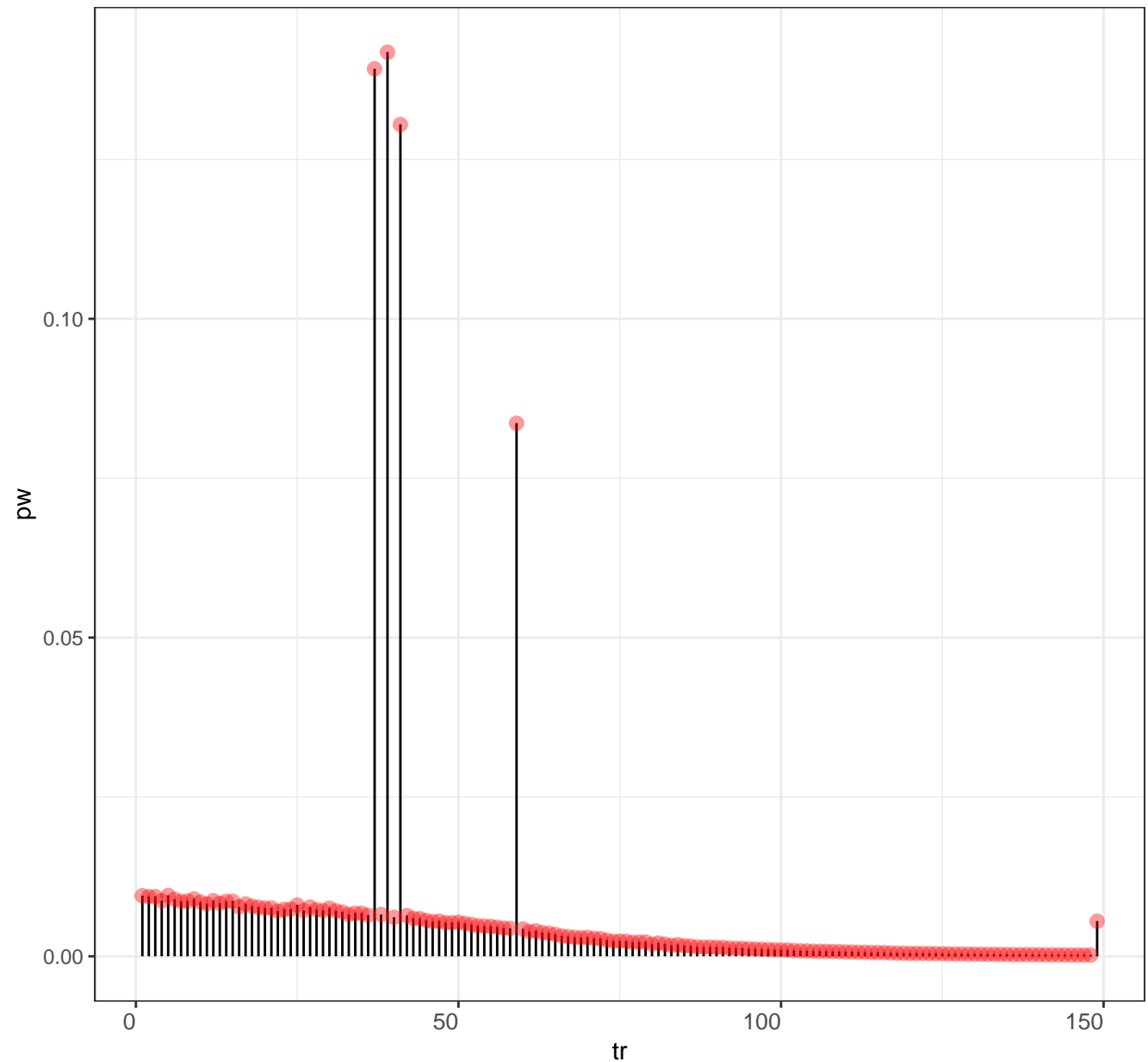
# Posterior distribution for alpha

Legend    posterior mean    prior mean



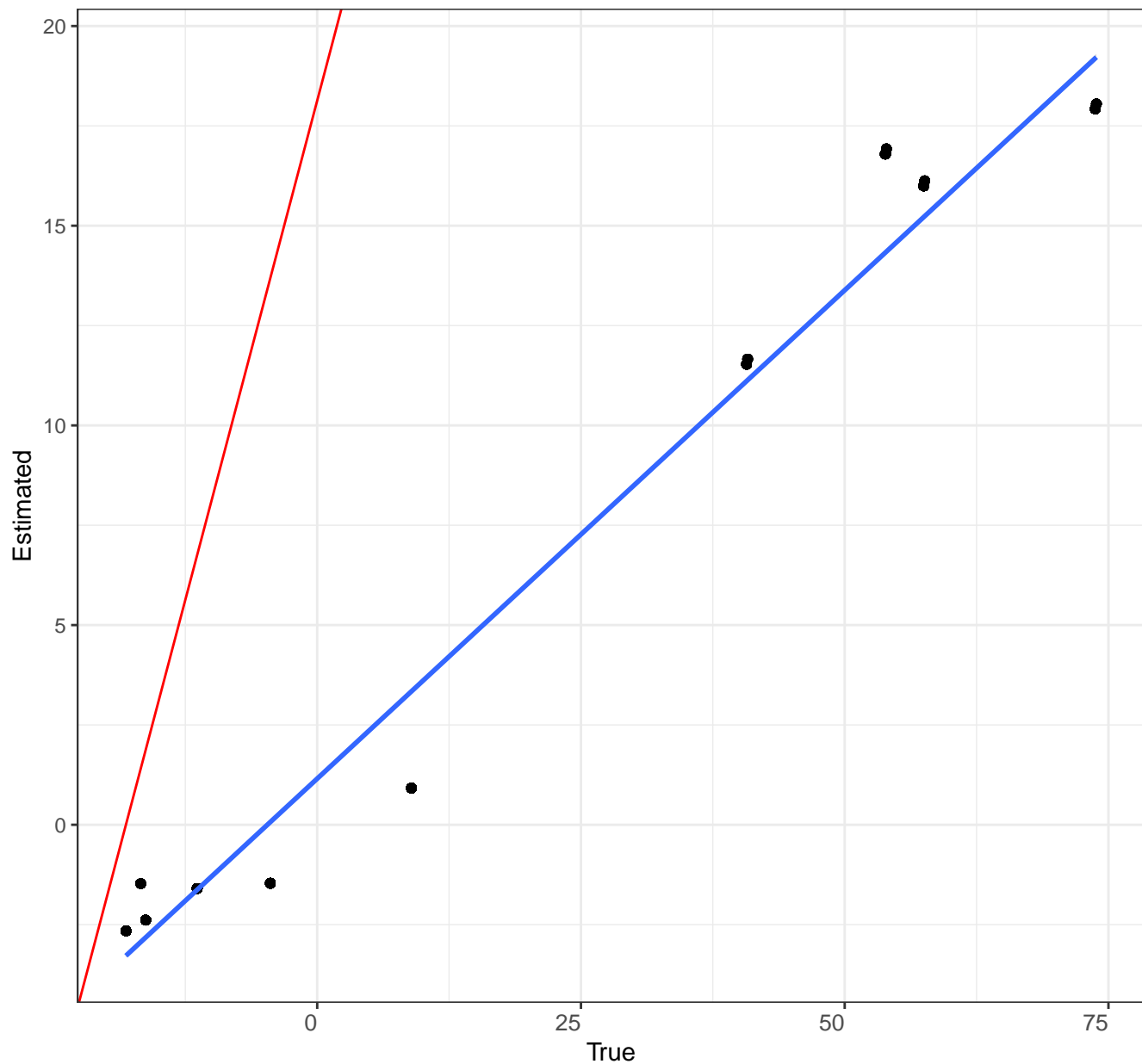
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.006$



Number of iterations: 2000 burnin: 1000 number of samples: 500

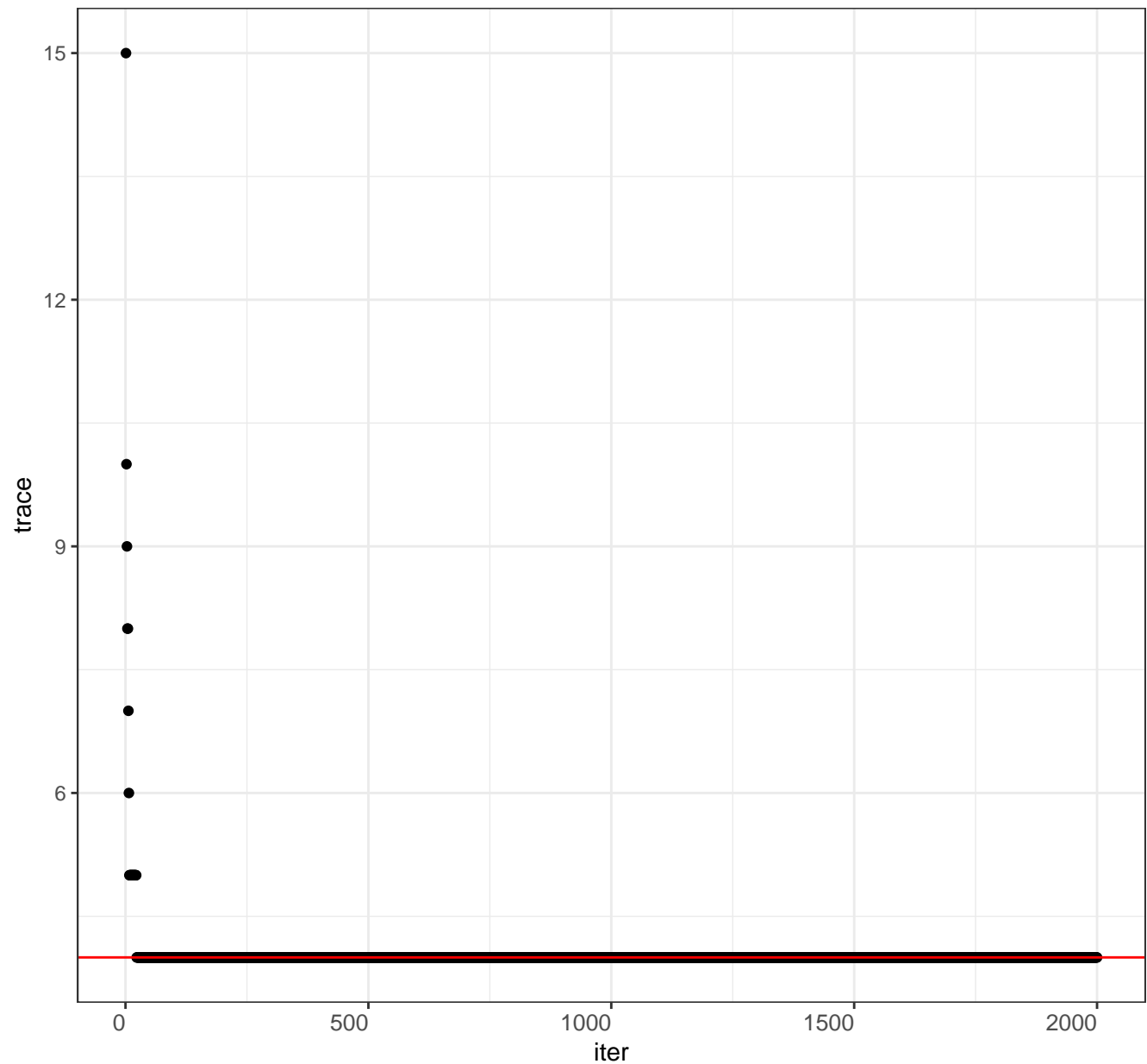
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1



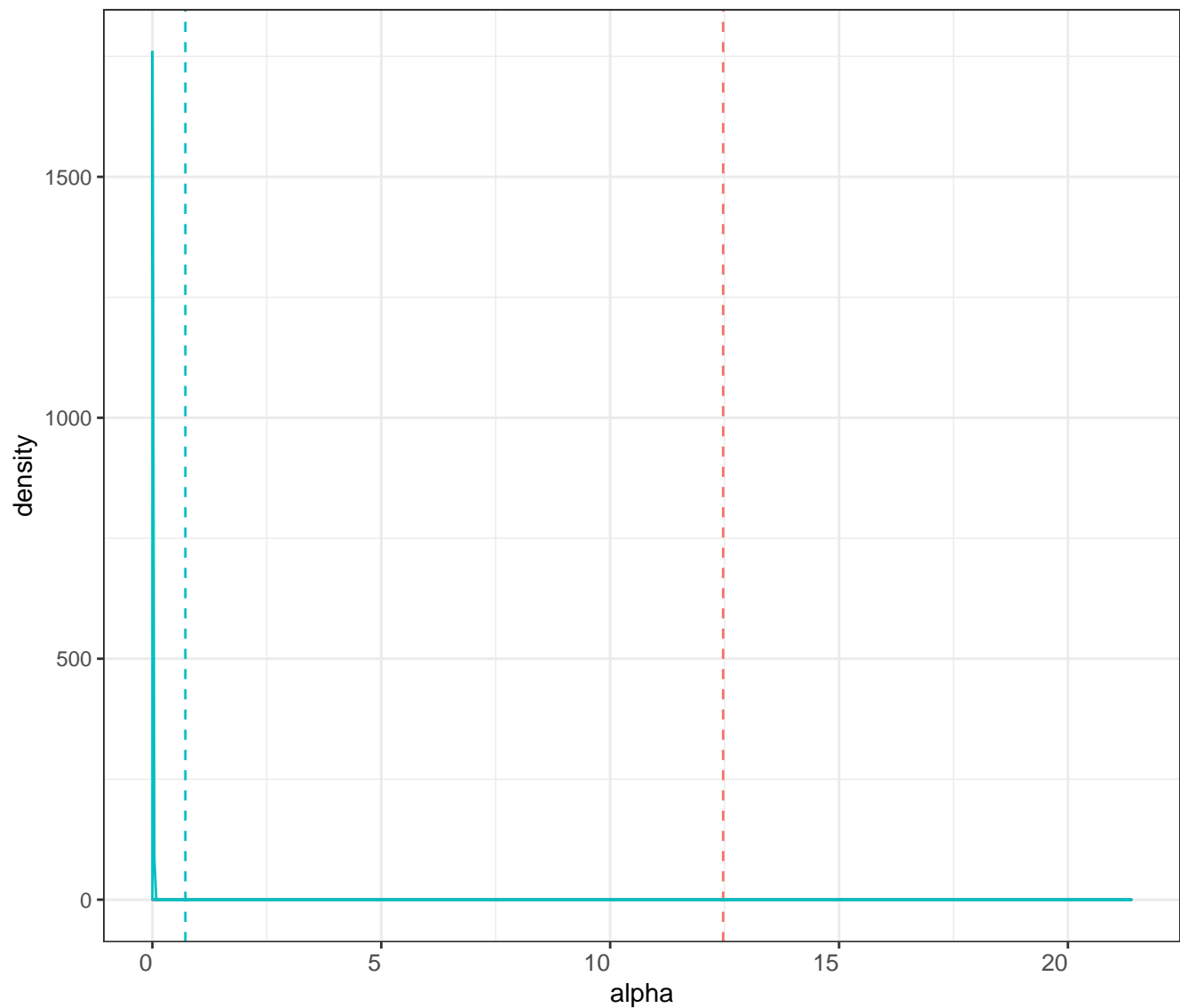
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

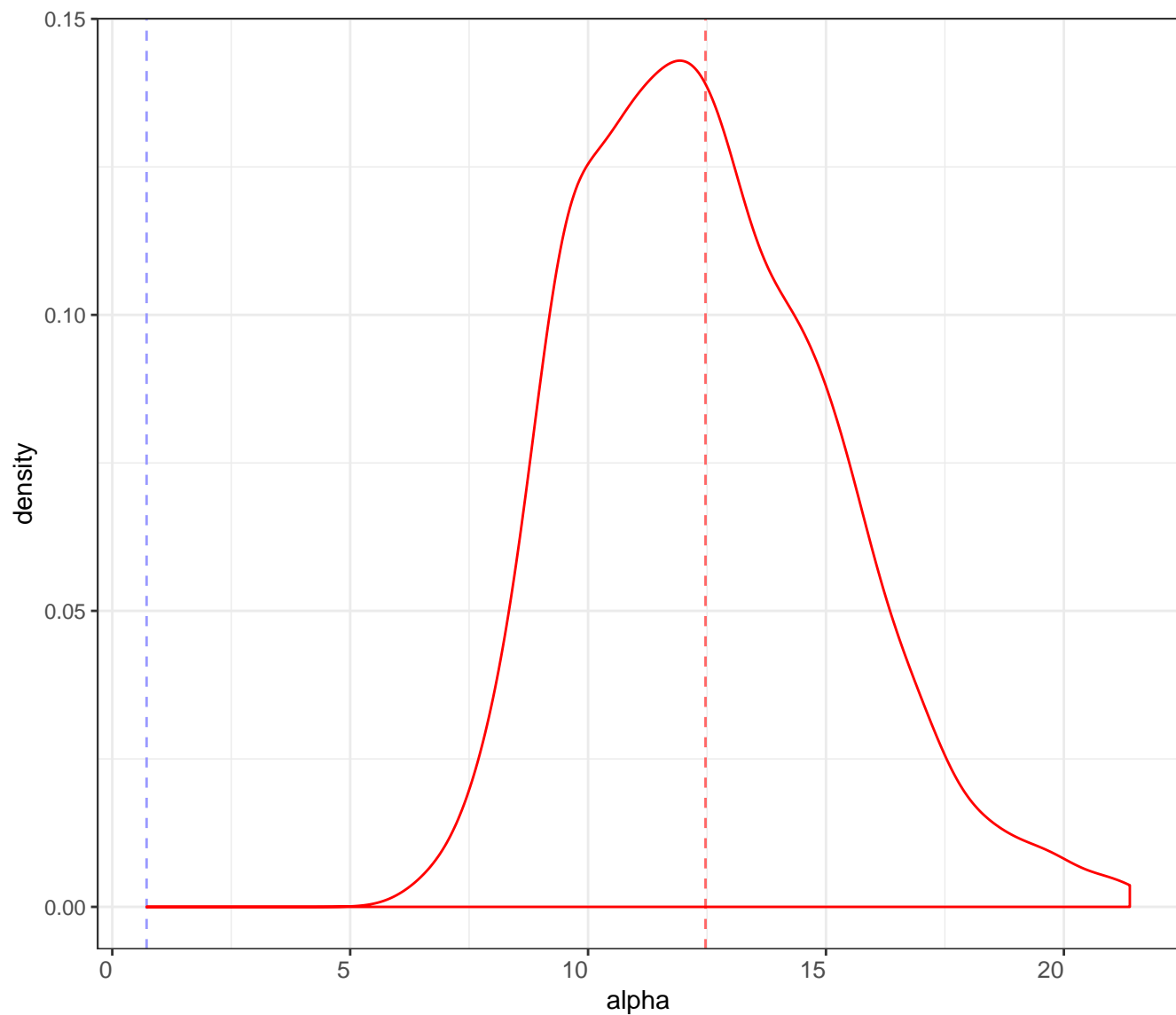
type | | posterior | | prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

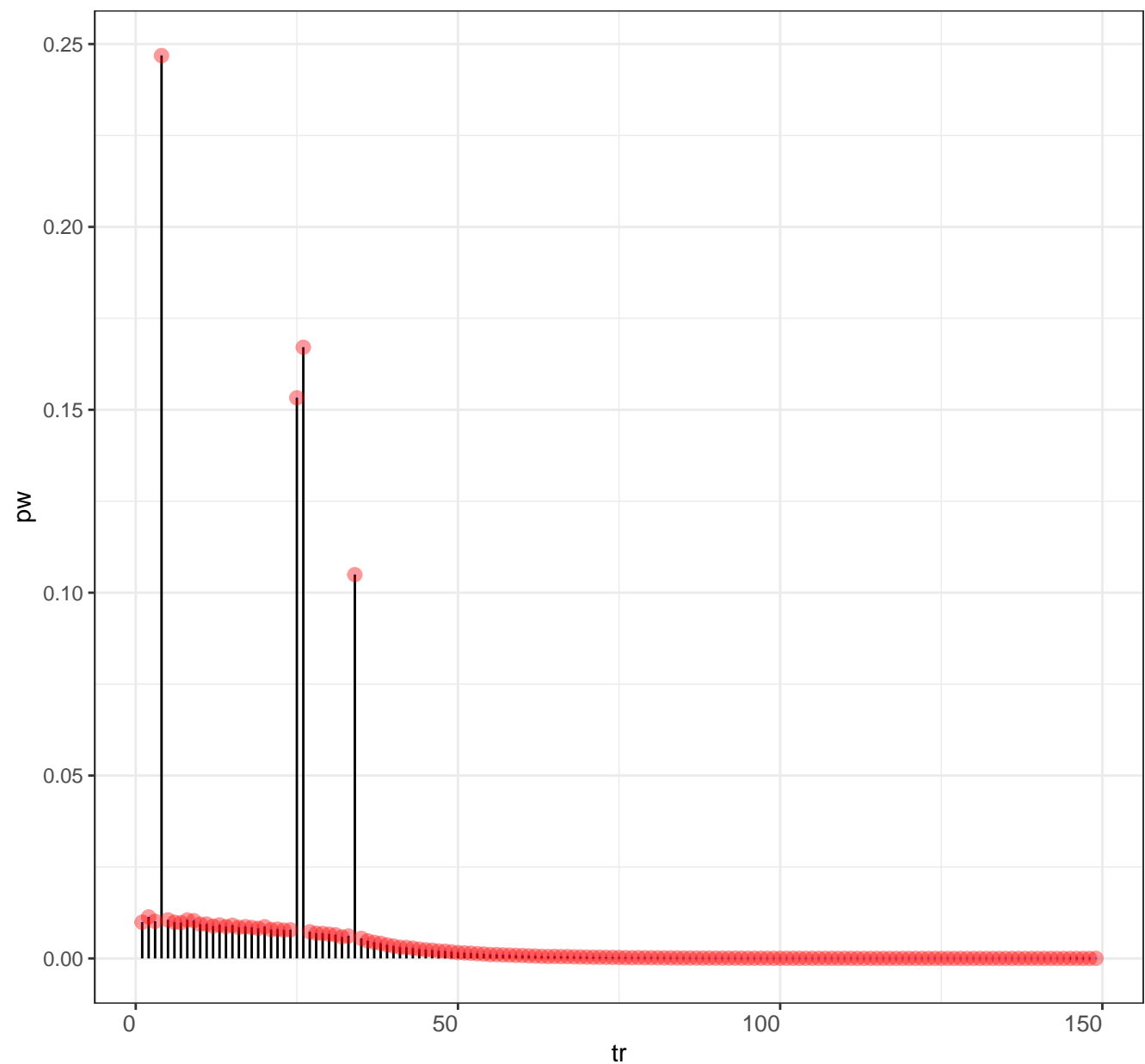
# Posterior distribution for alpha

Legend    posterior mean    prior mean



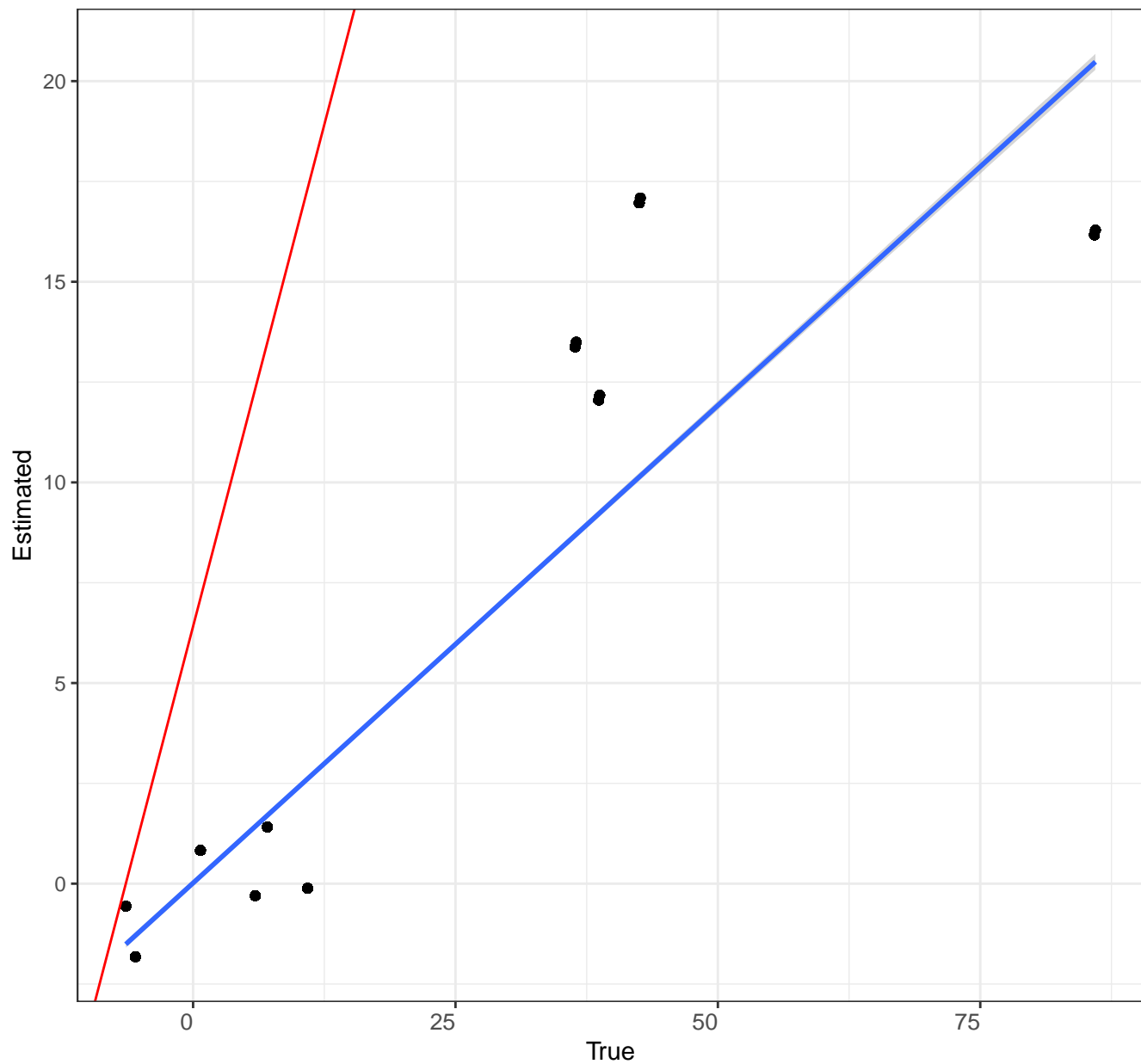
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



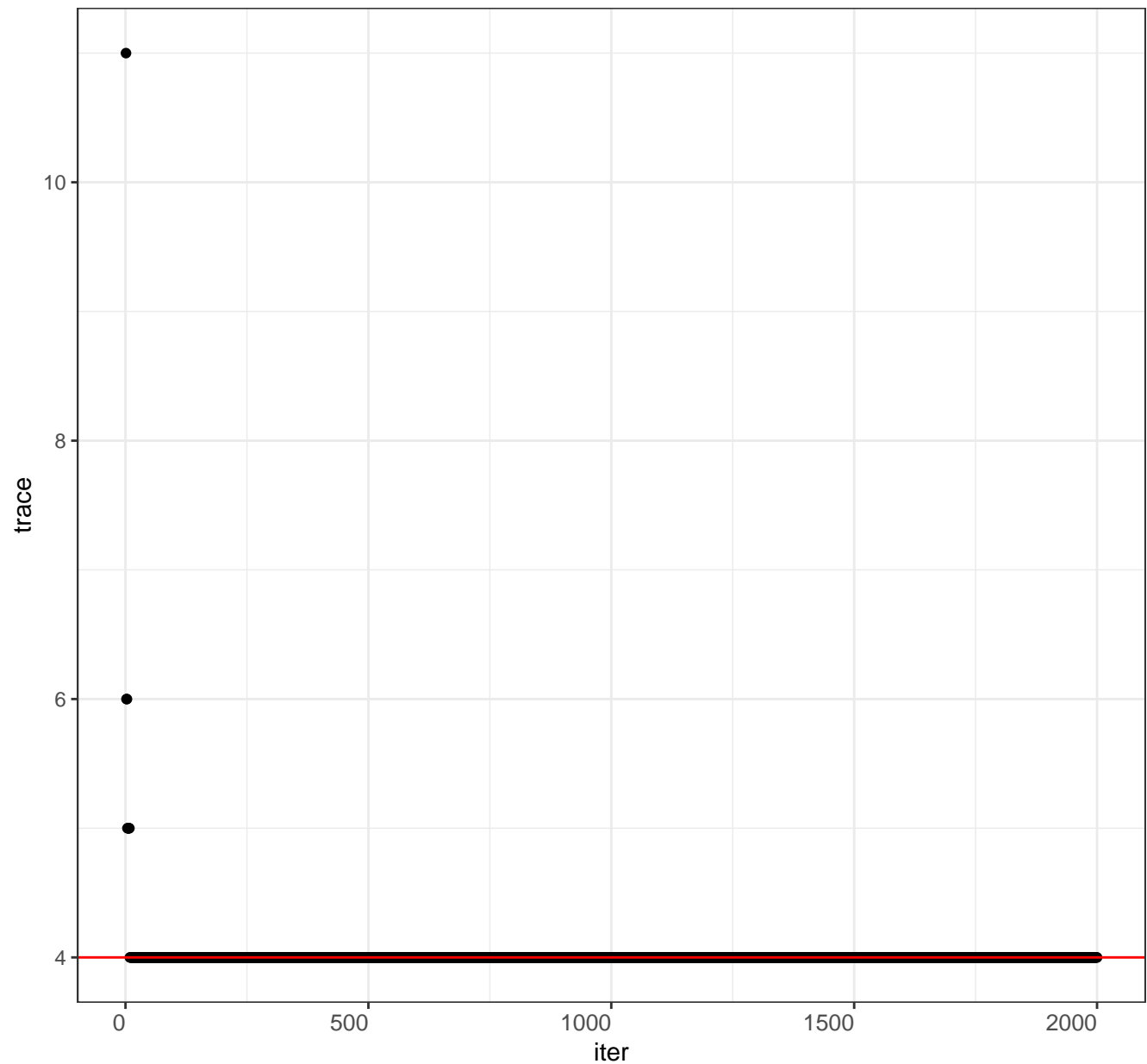
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

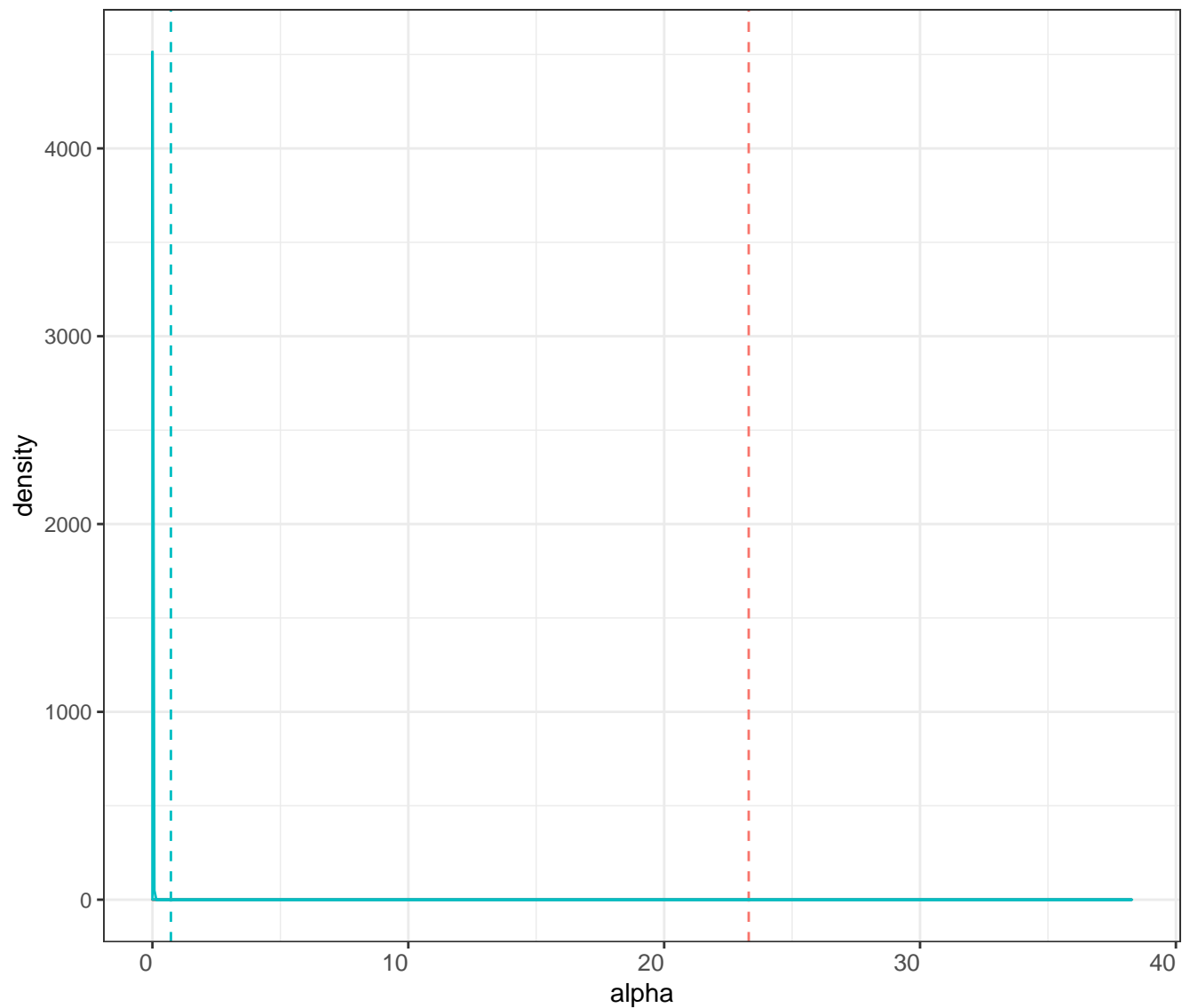
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

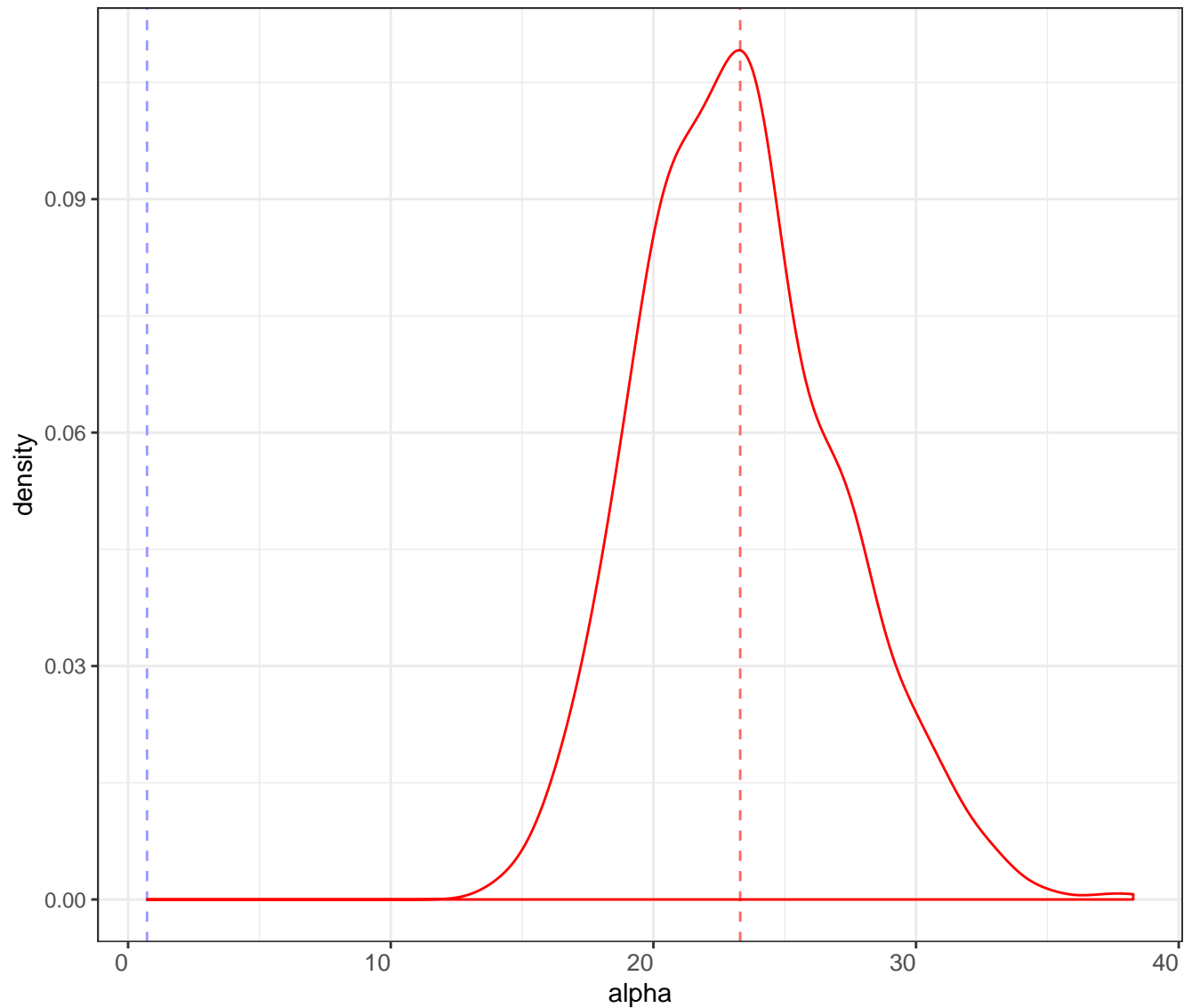
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

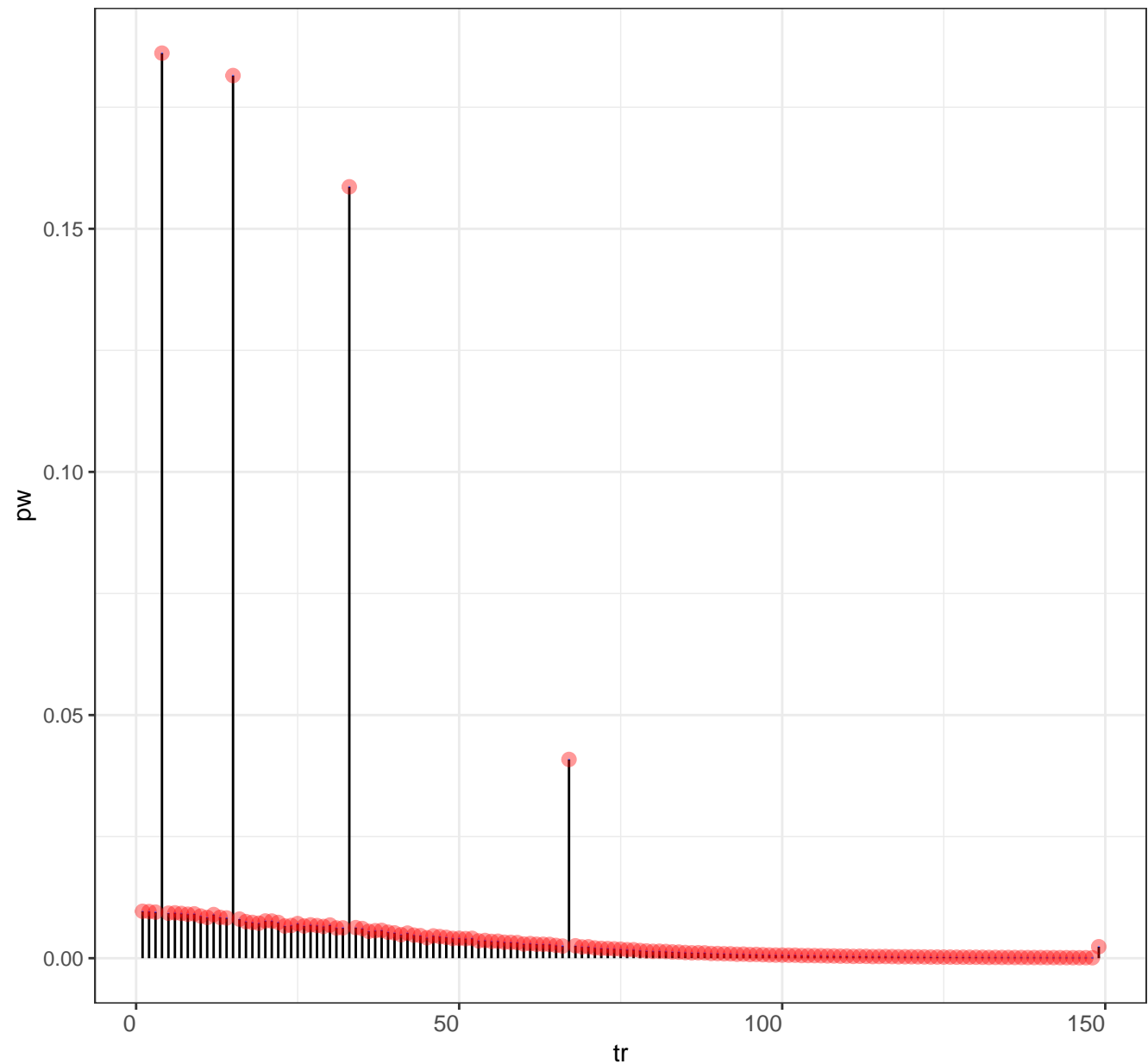
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

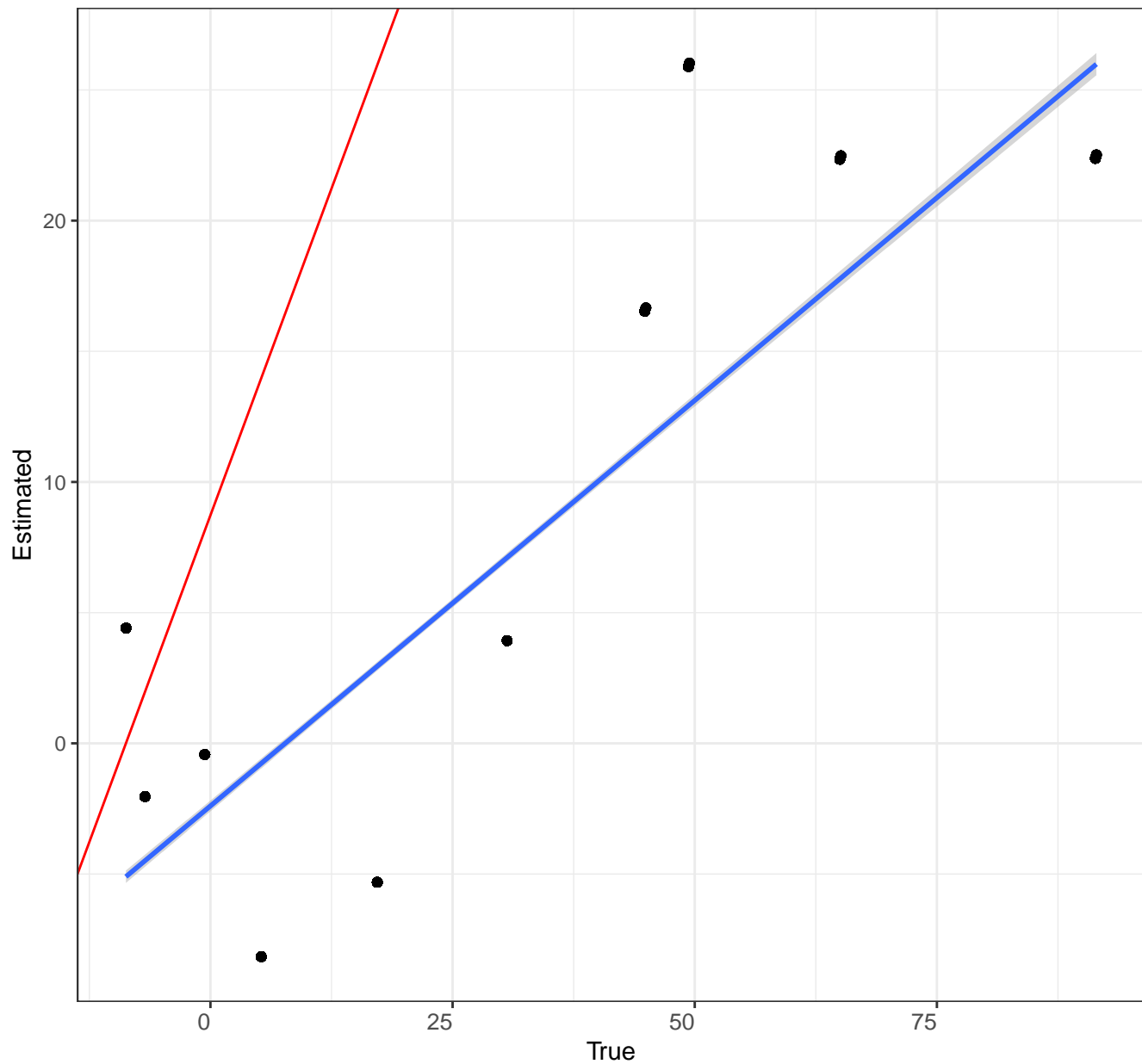


Weights for the case:  $S=80$  ,  $r=5$  true gr  $K=4$  , type=1 ,  $N=150$   $pN=0.002$



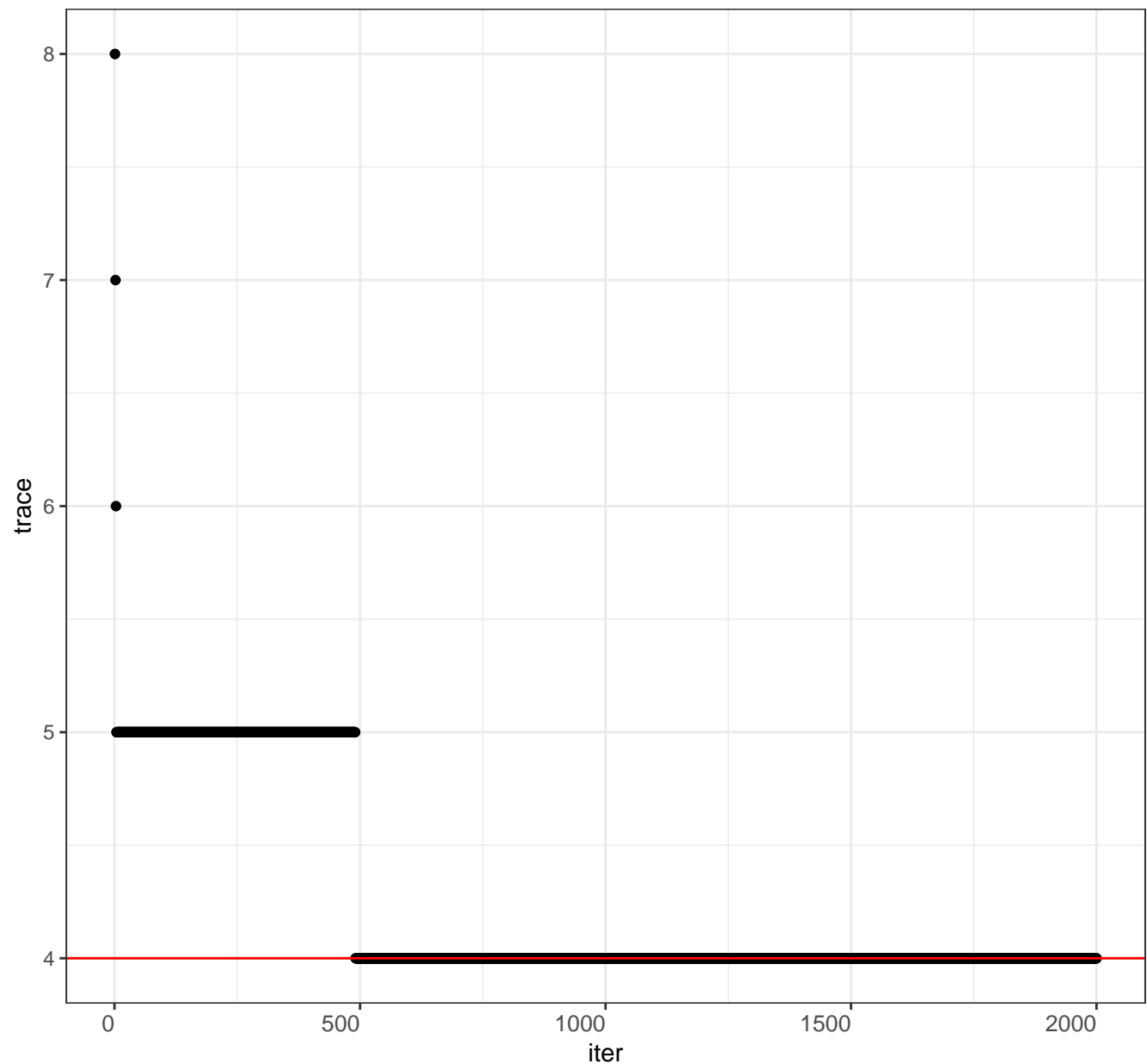
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

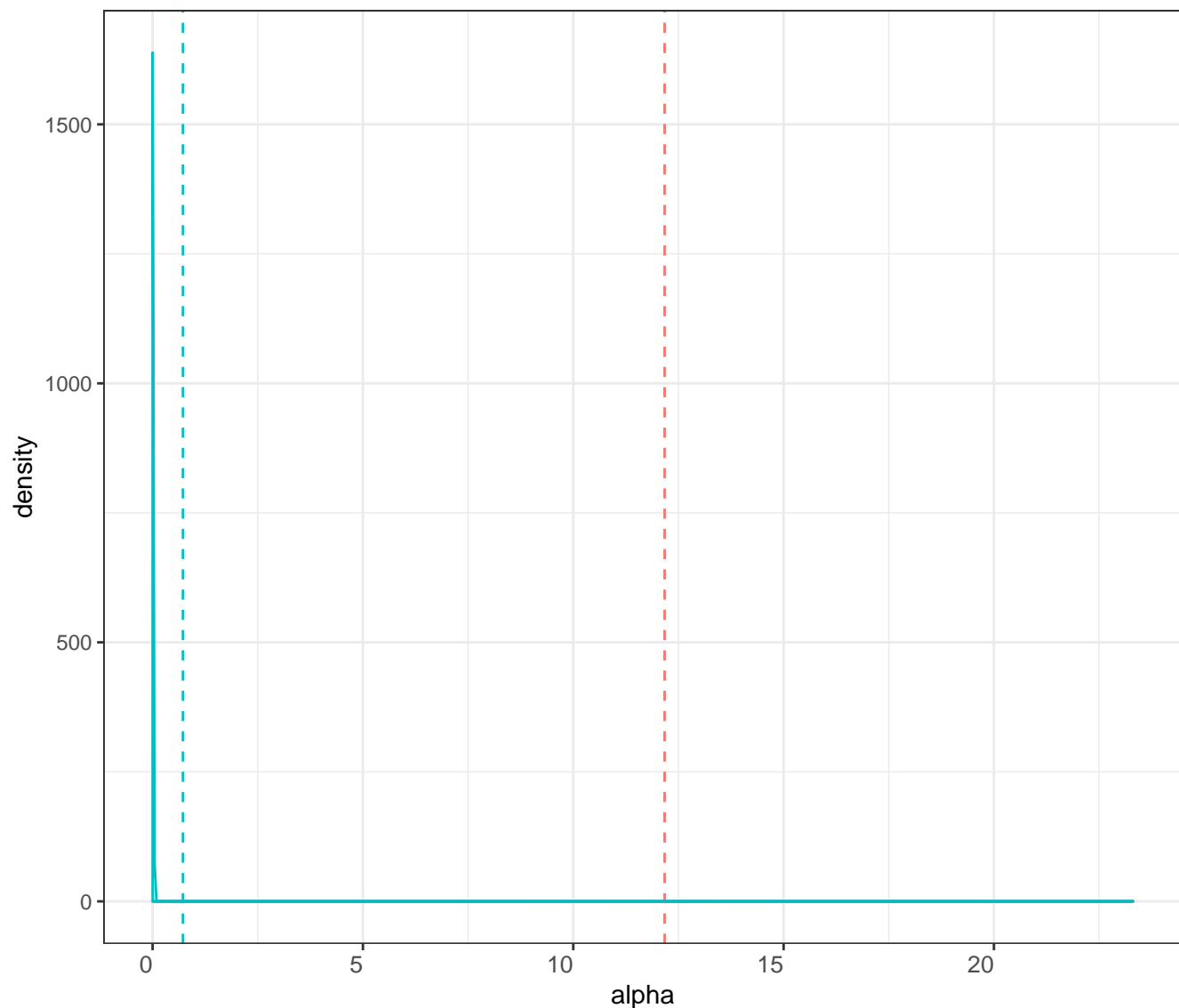
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000 number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

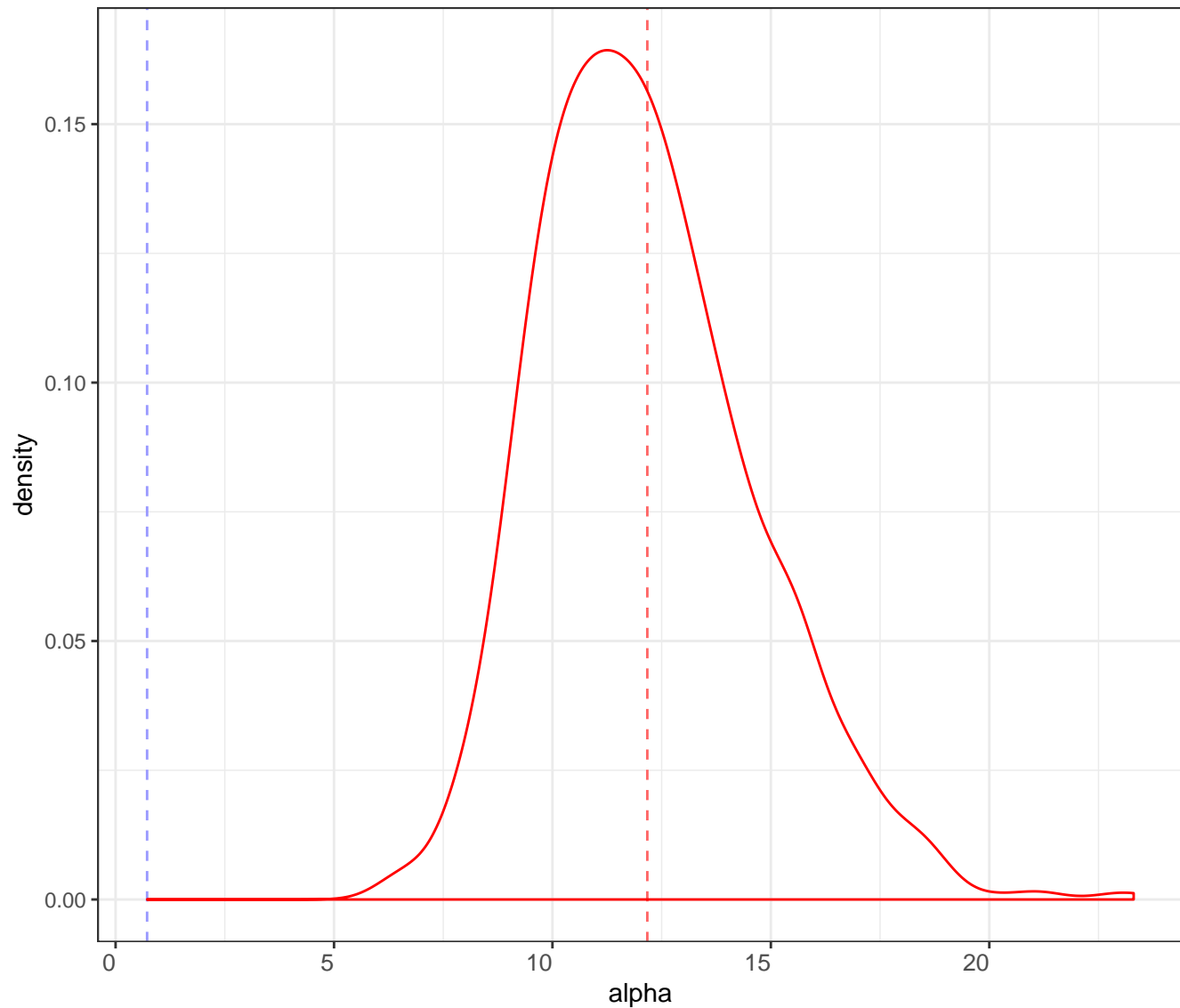
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

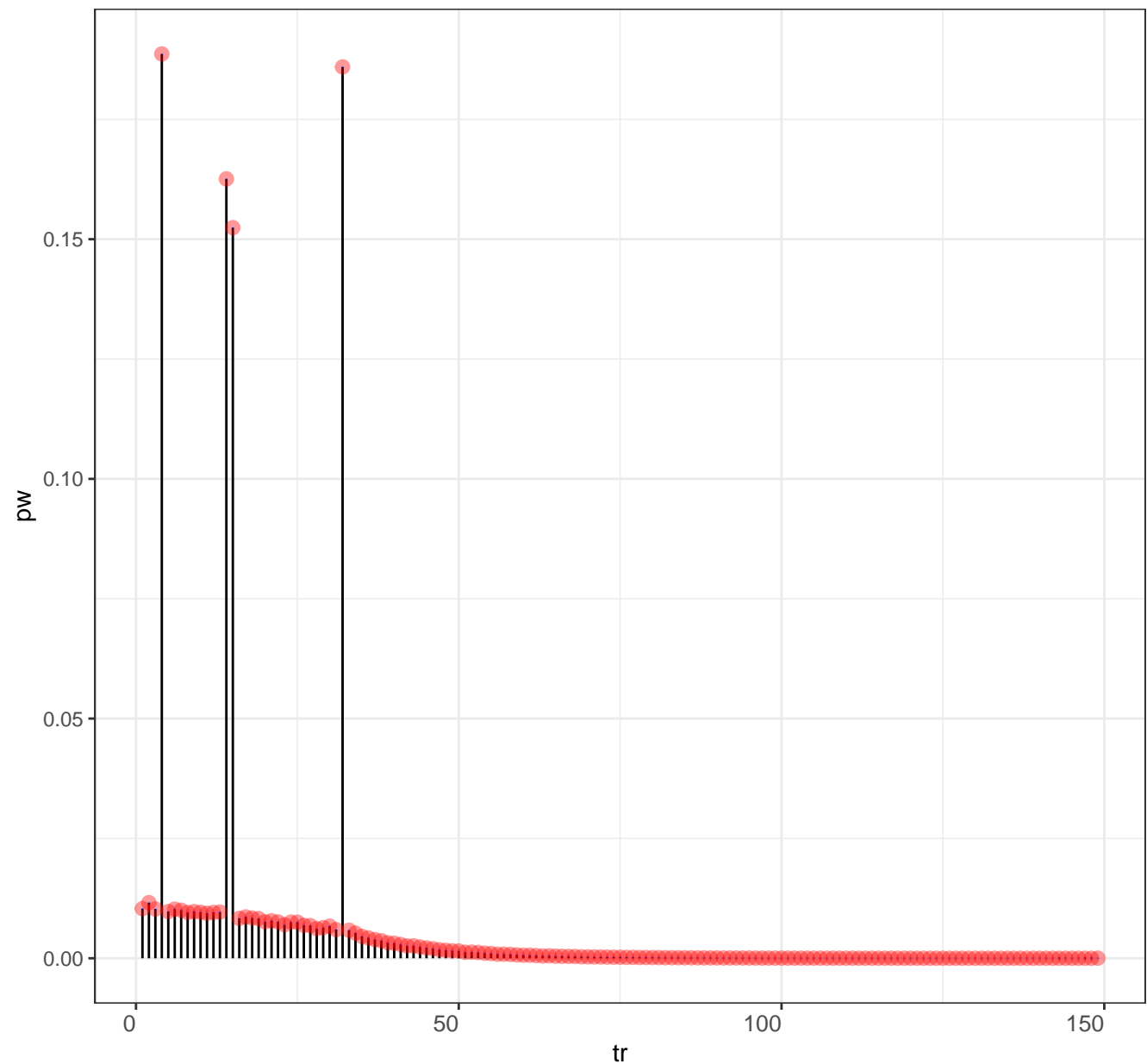
# Posterior distribution for alpha

Legend    posterior mean    prior mean



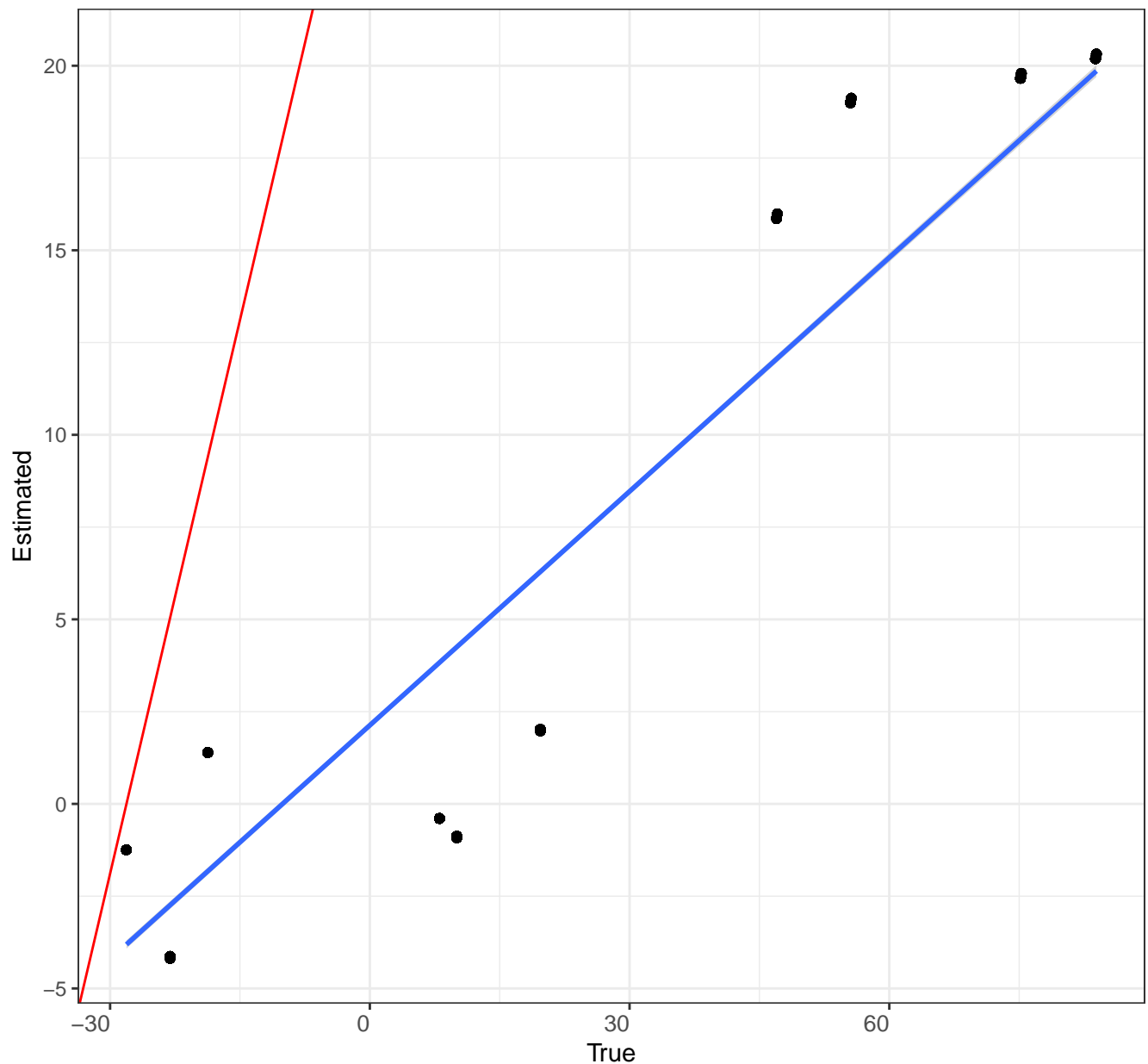
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



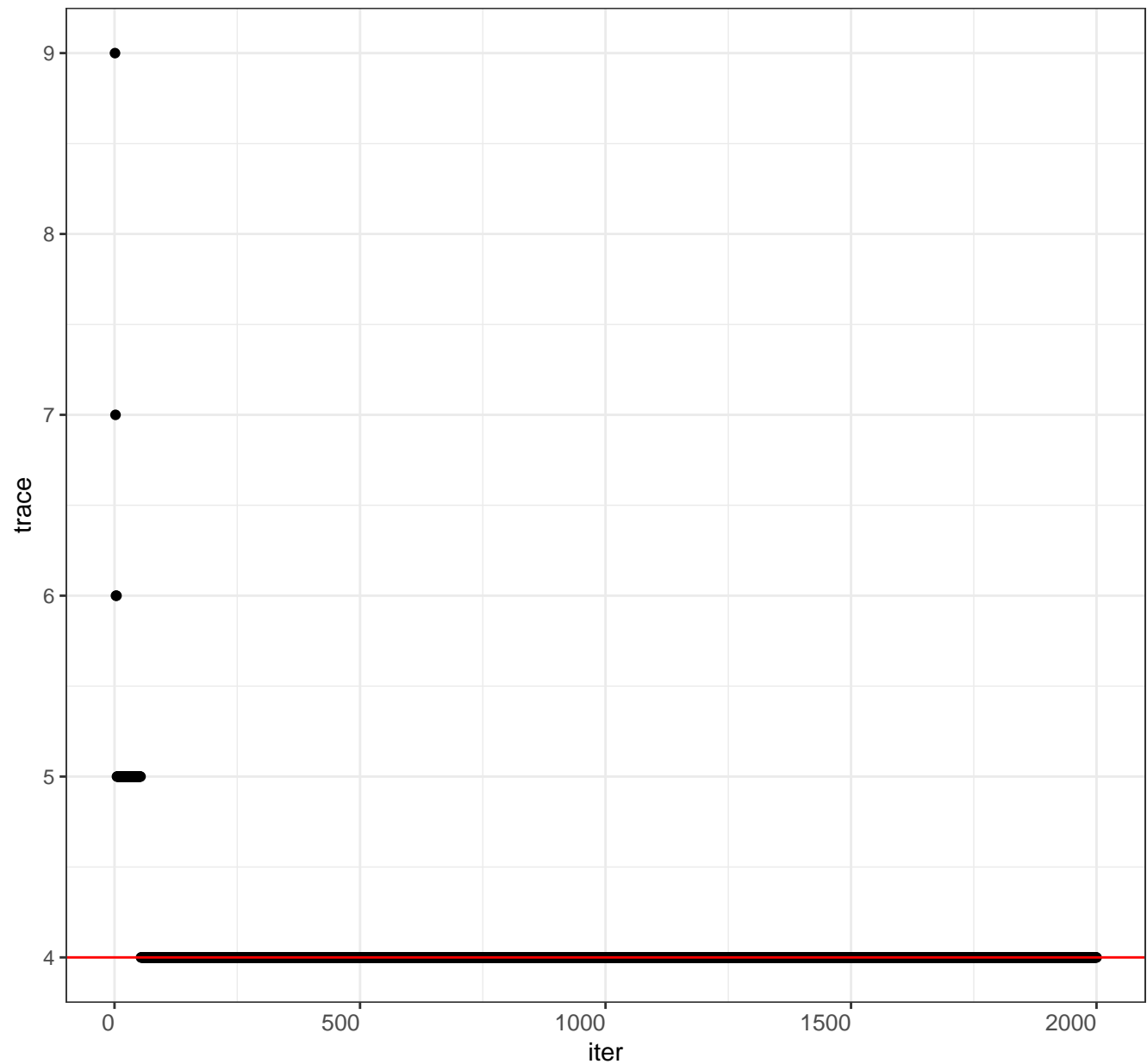
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

Trace plot for the number of groups K for S=80 r=5 true K=4 type=1

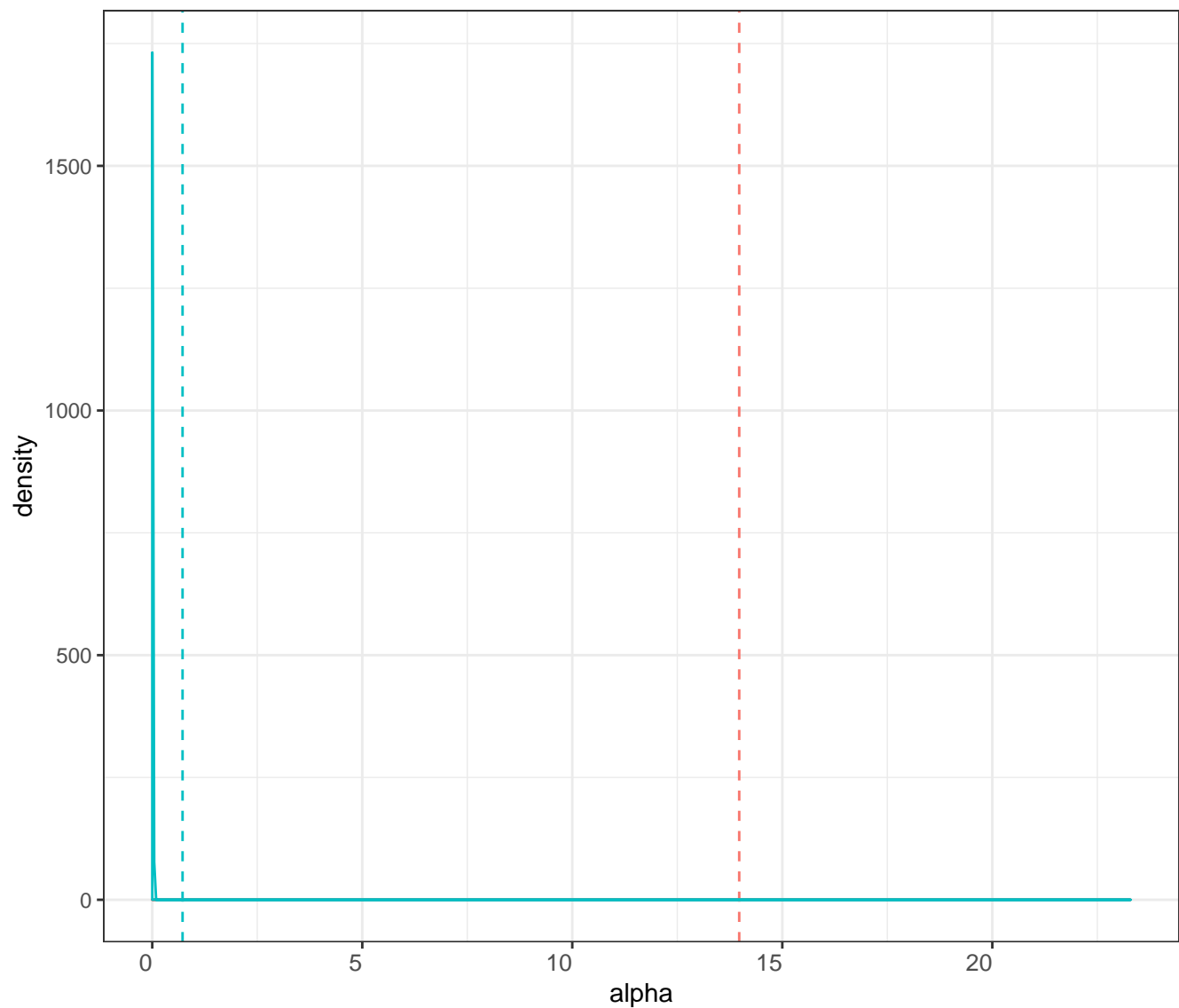


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

type | posterior | prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

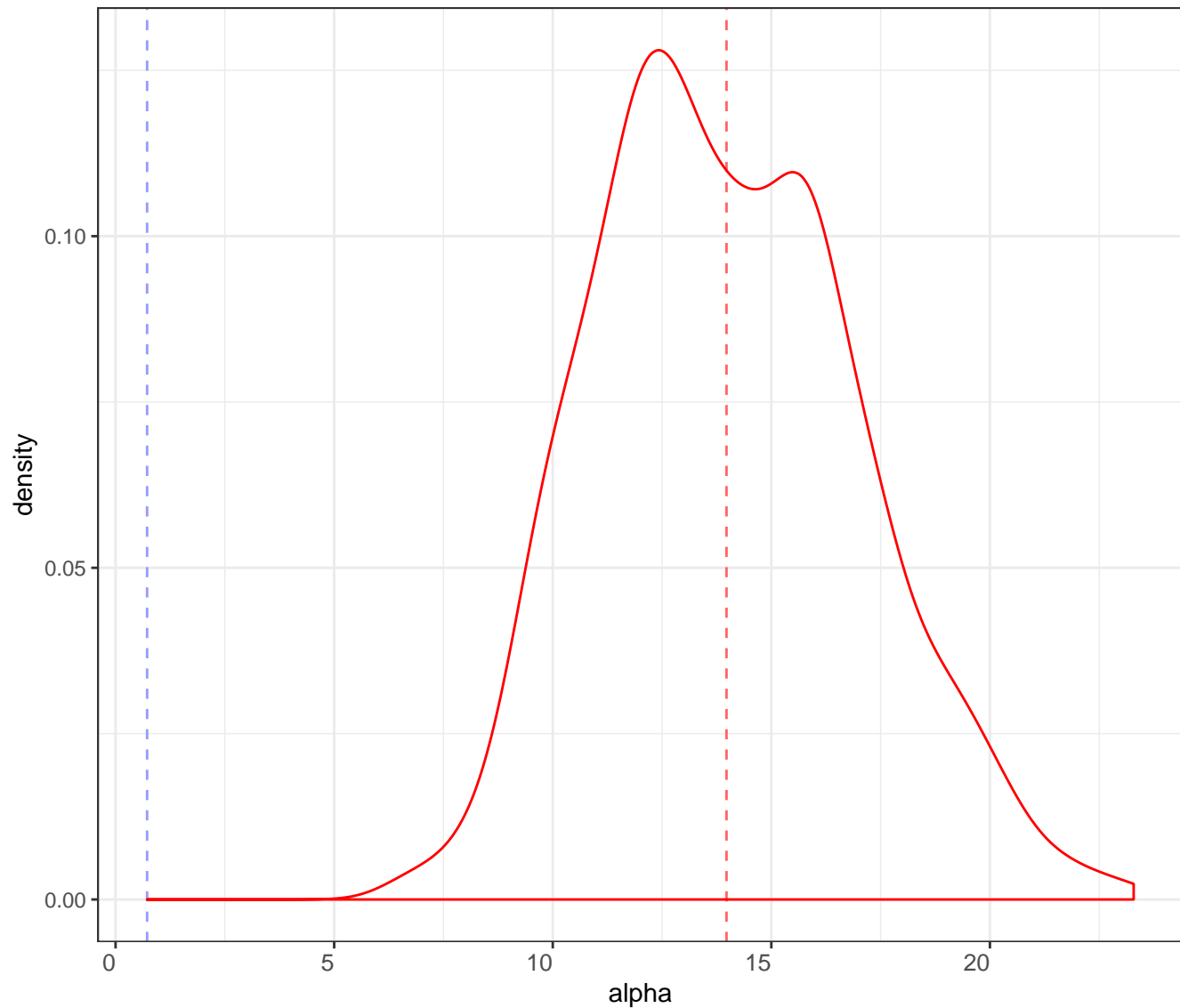
Legend



posterior mean

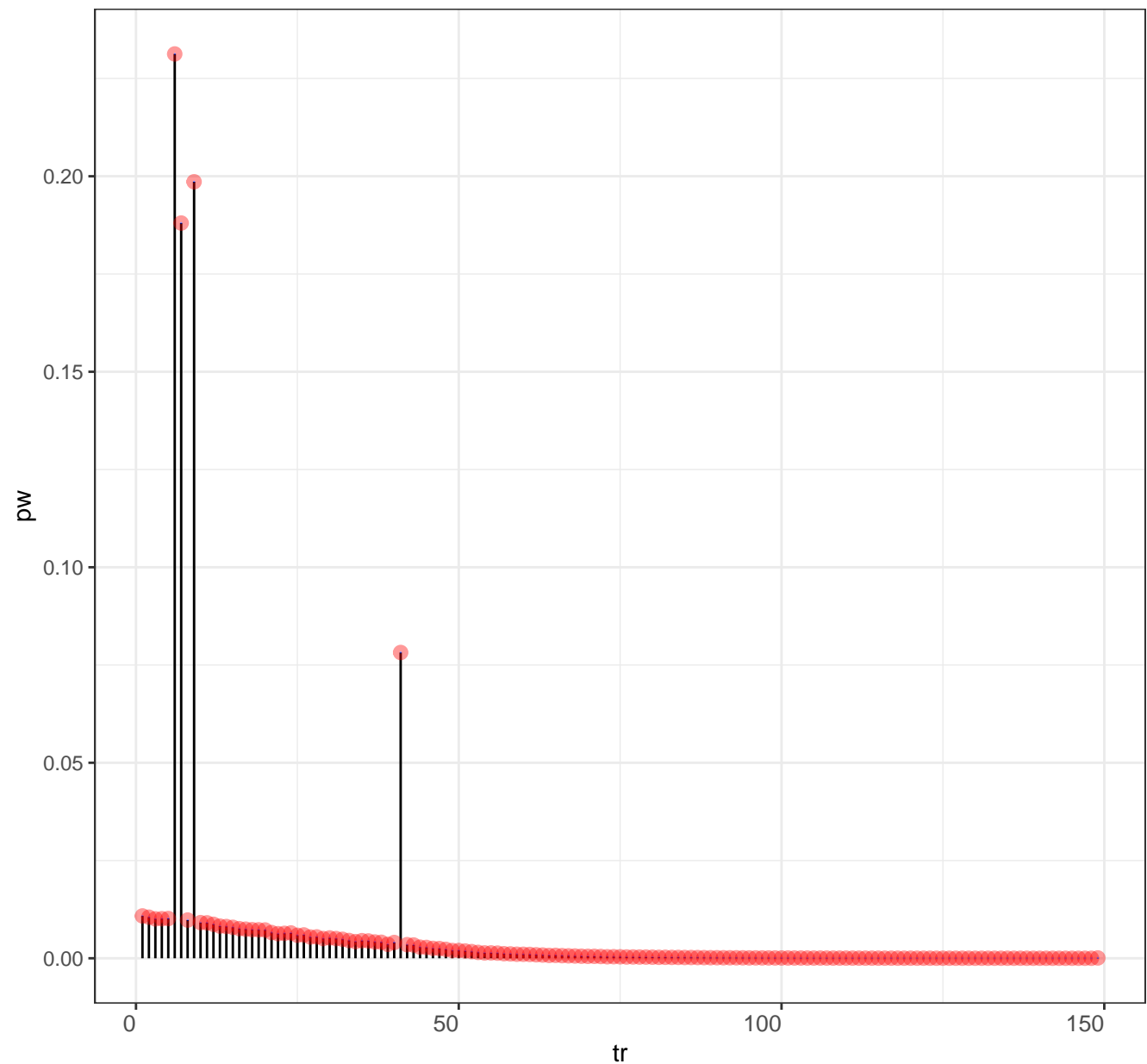


prior mean



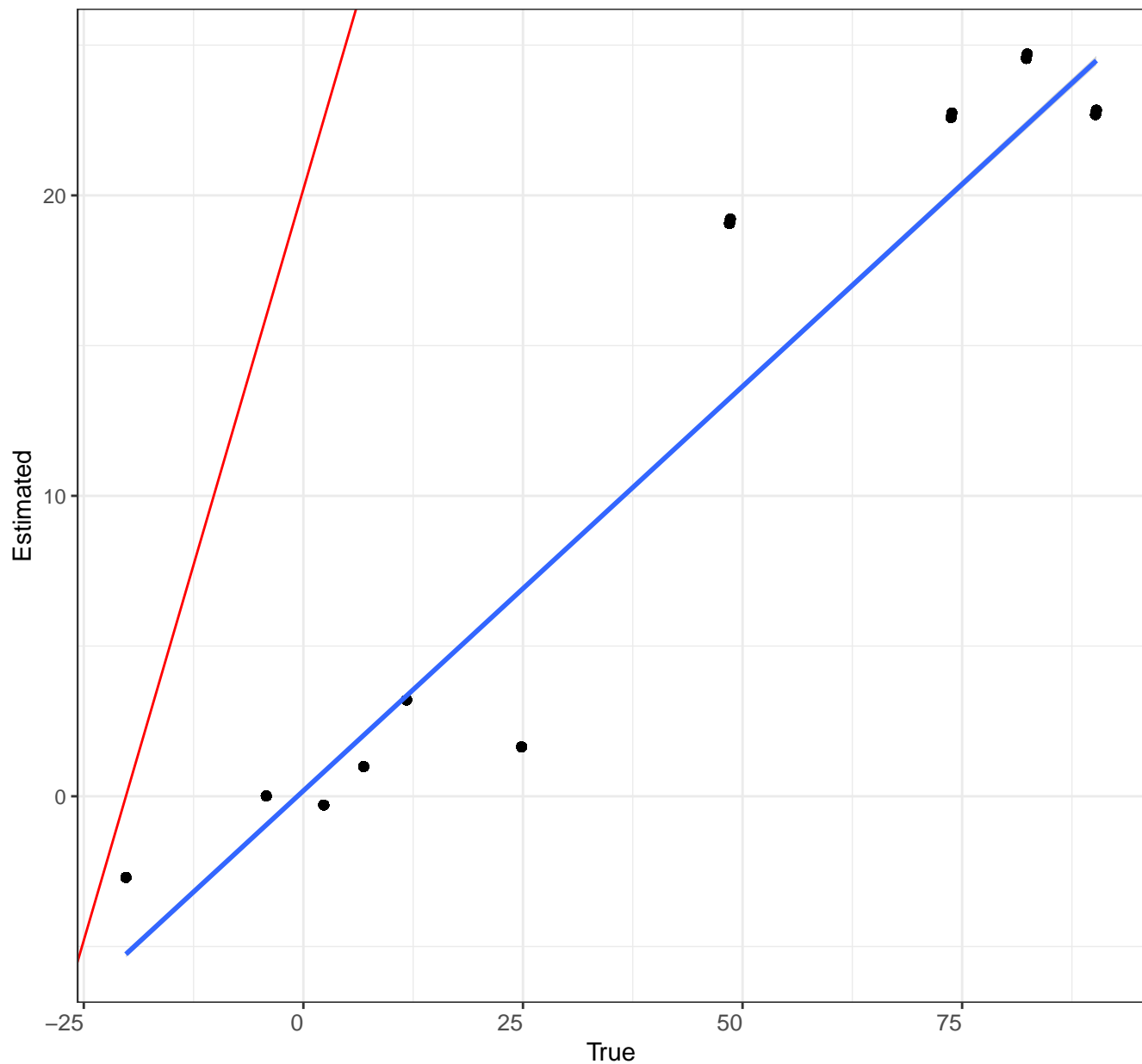
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



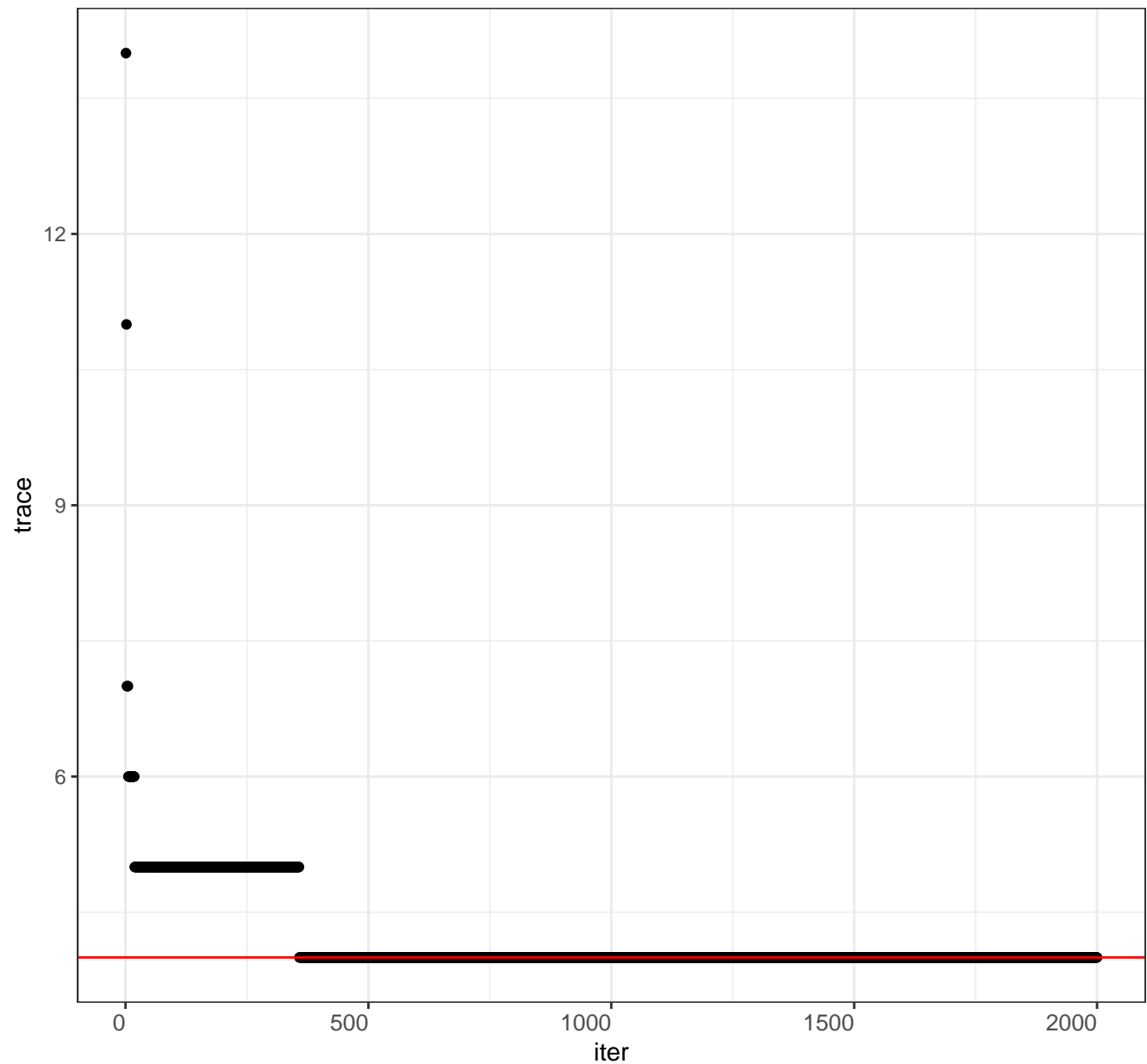
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

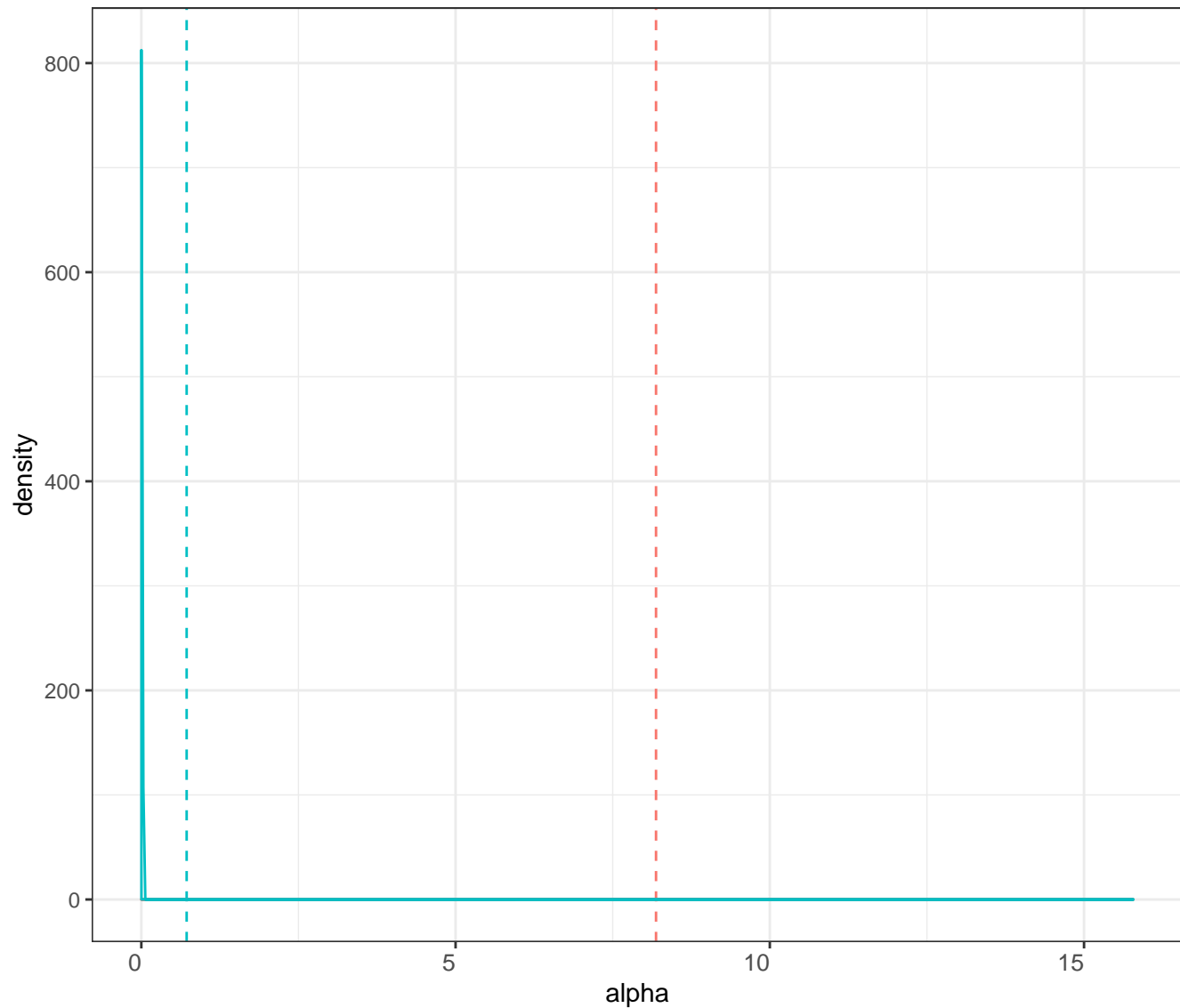
Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

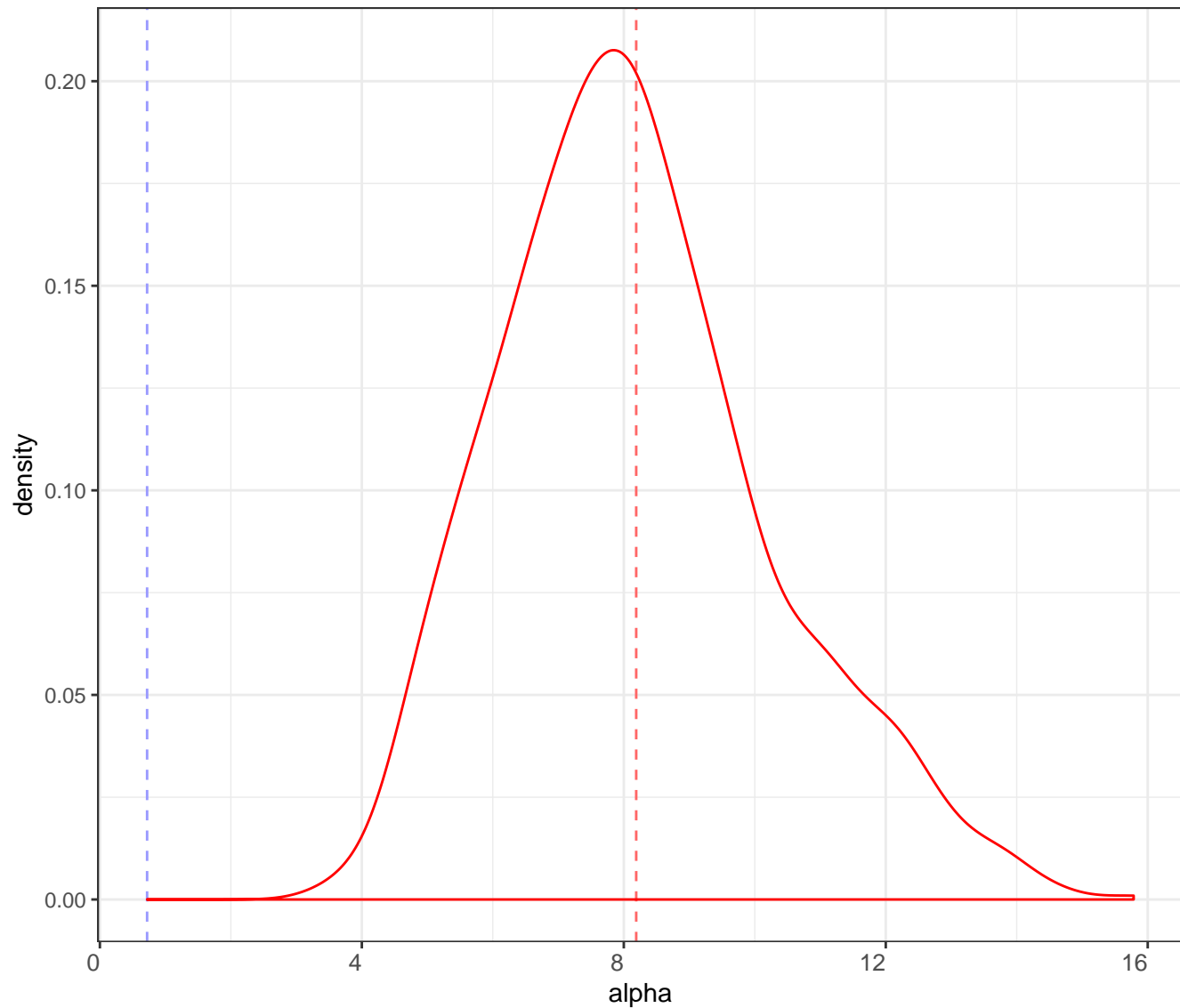
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

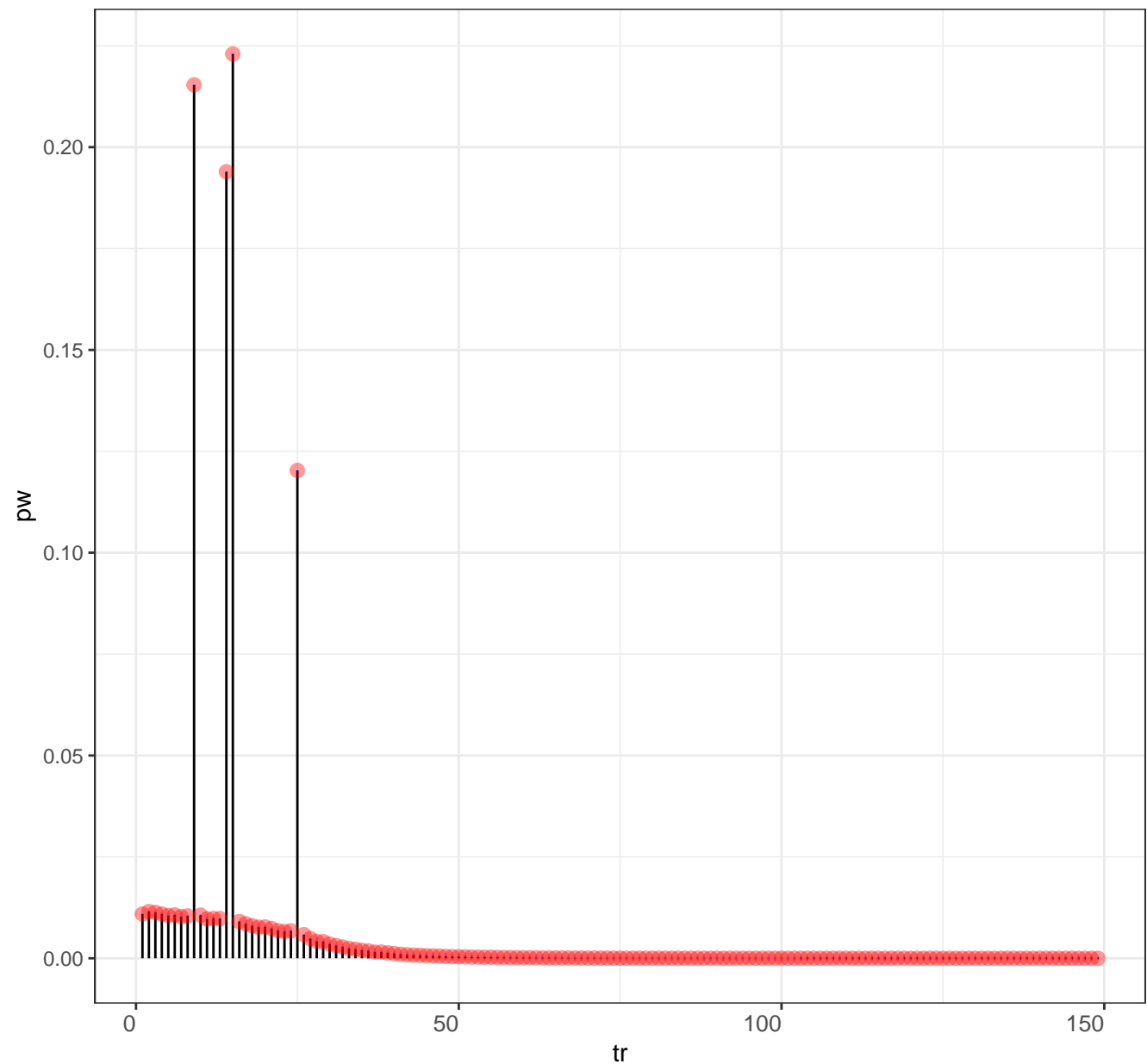
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

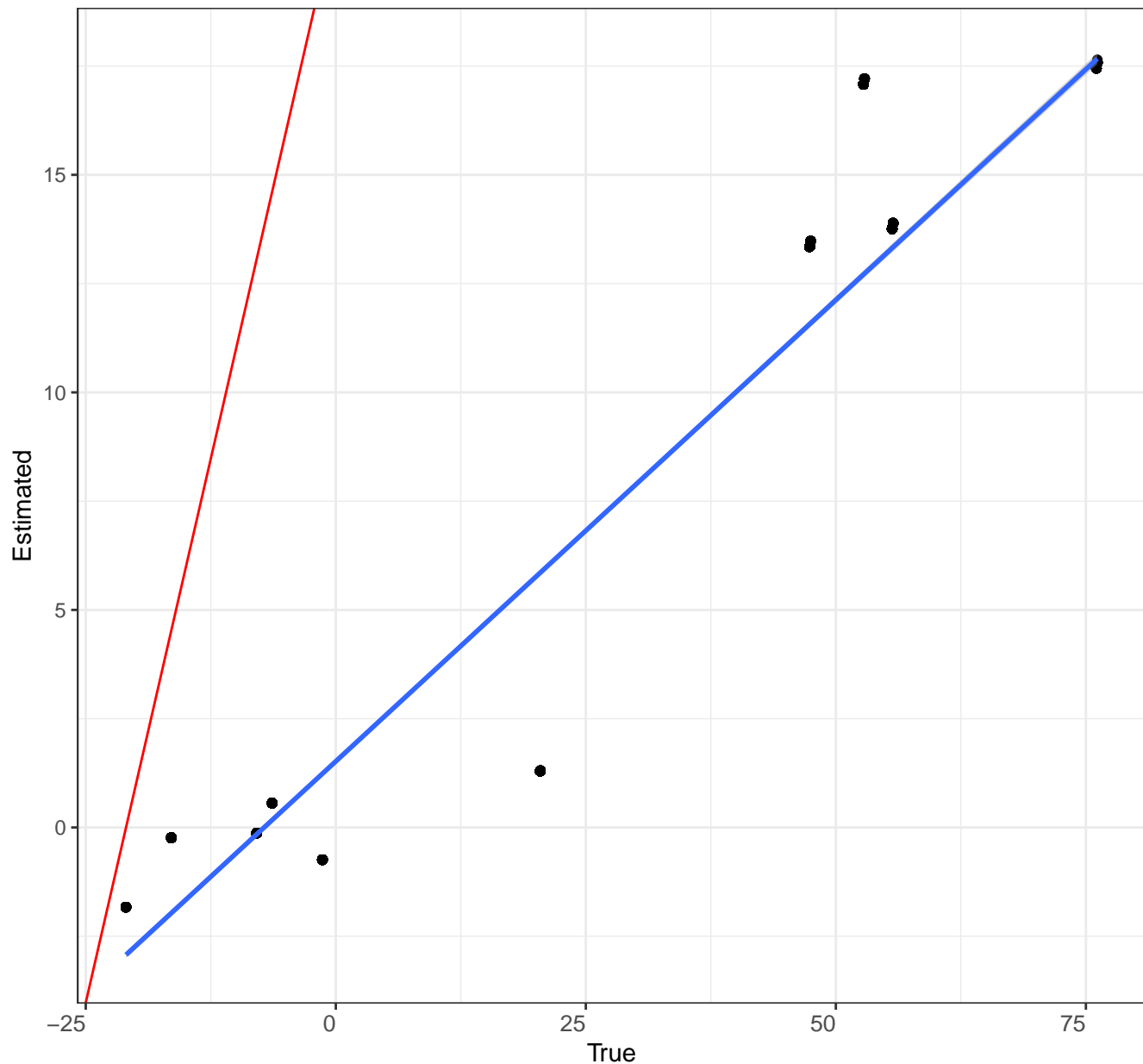
Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

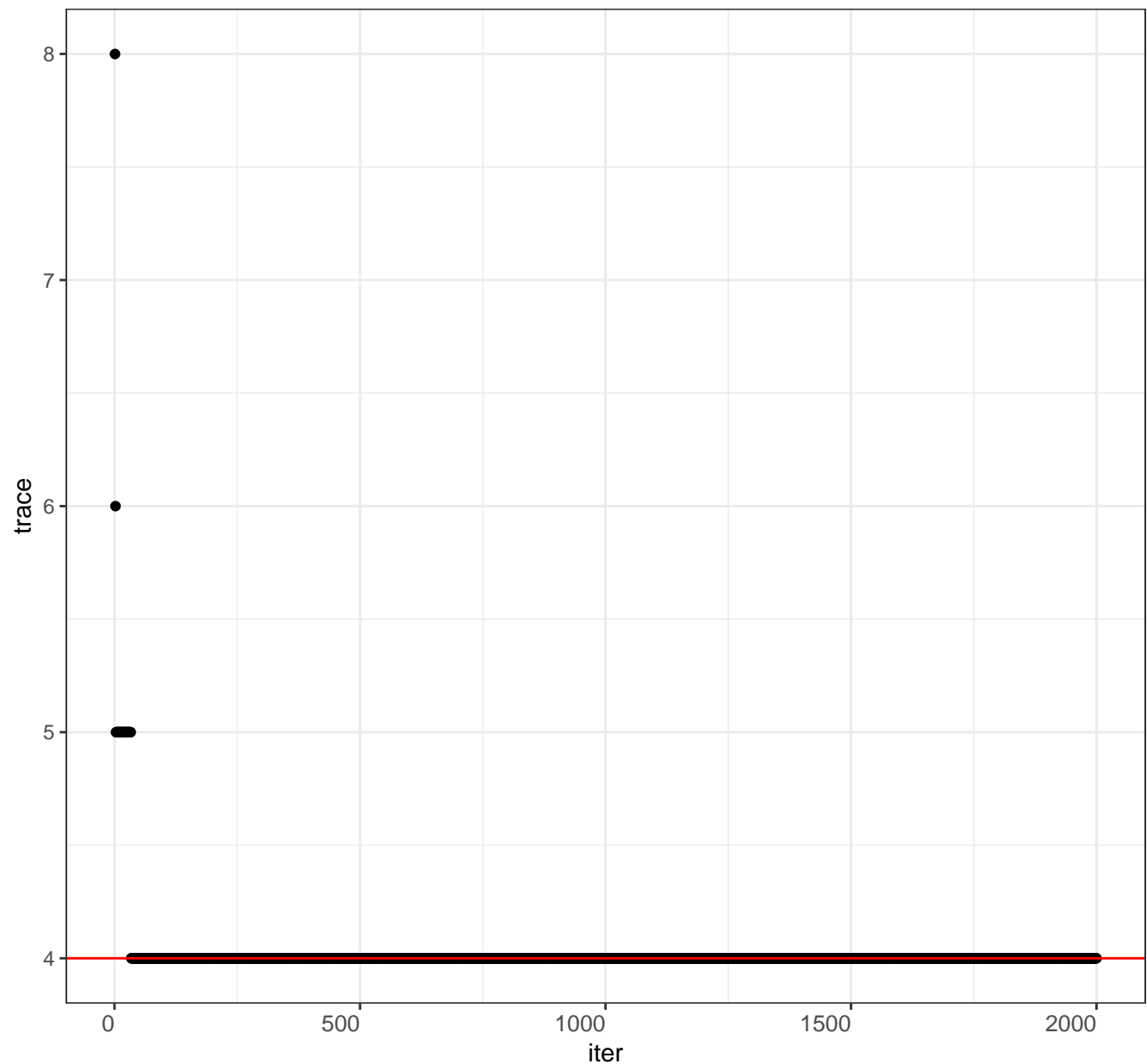


True vs estimated covariance parameters



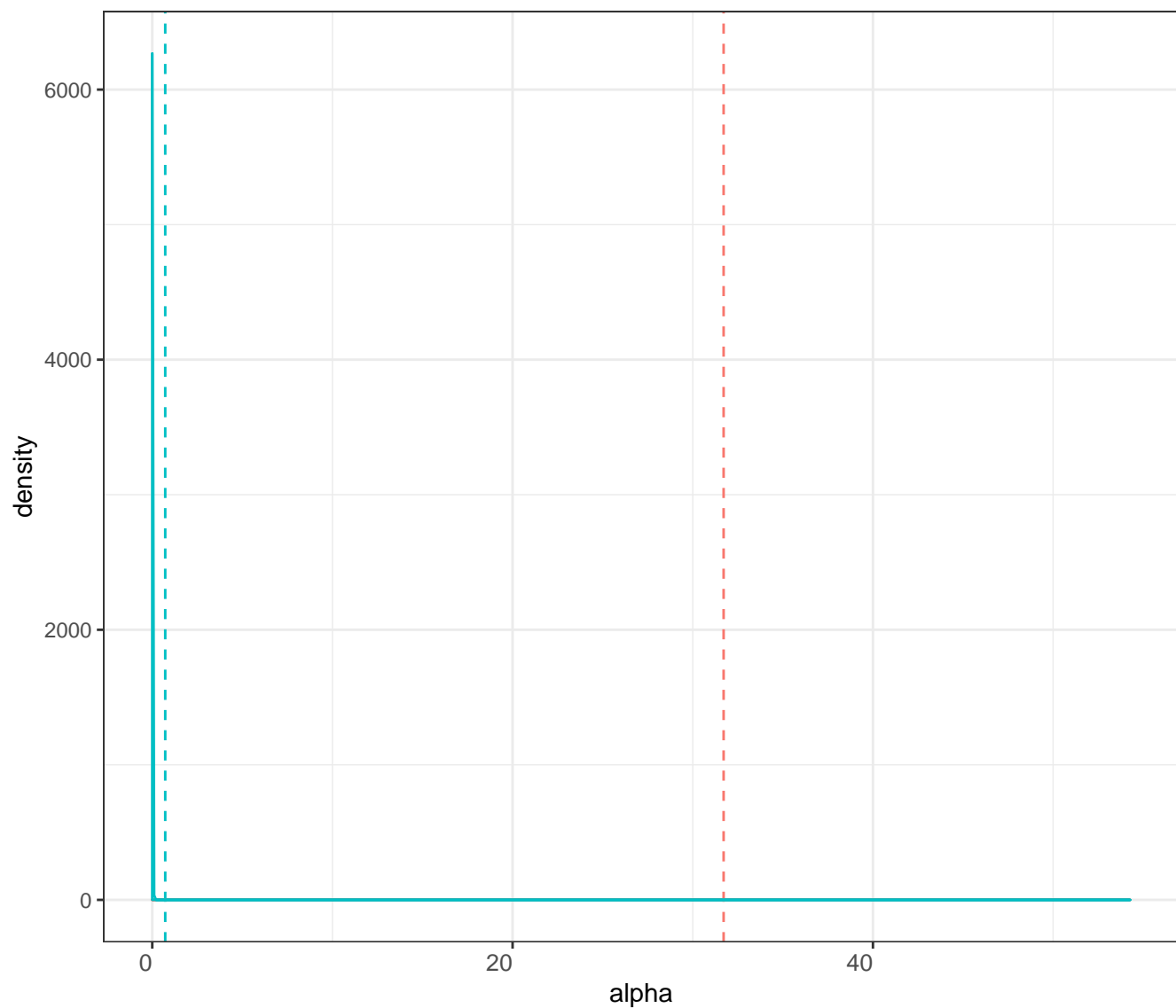
Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

Trace plot for the number of groups K for S=80 r=5 true K=4 type=1



Distribution alpha: S=80 ,r=5 true gr K=4 ,type=1 ,N=150

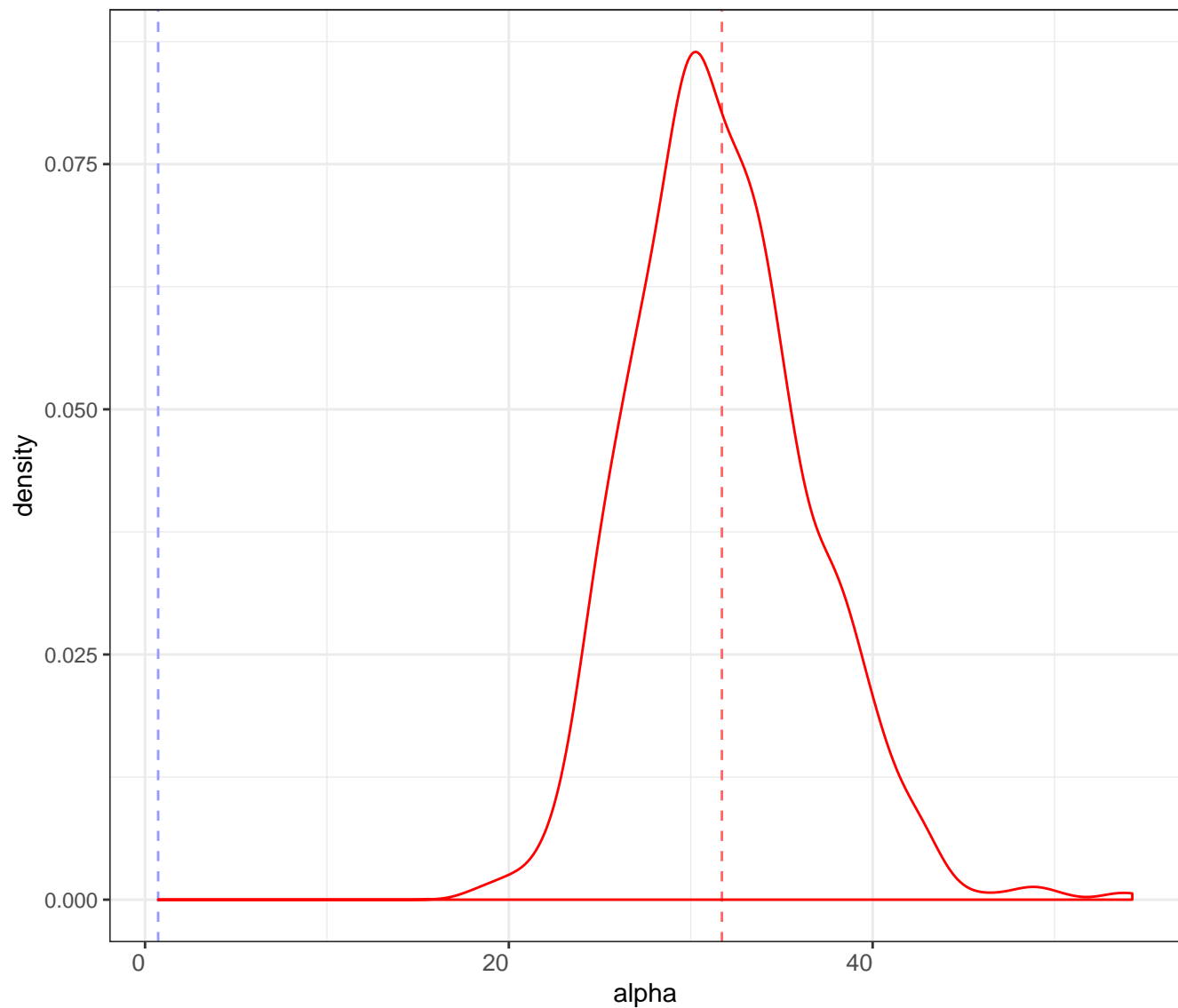
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

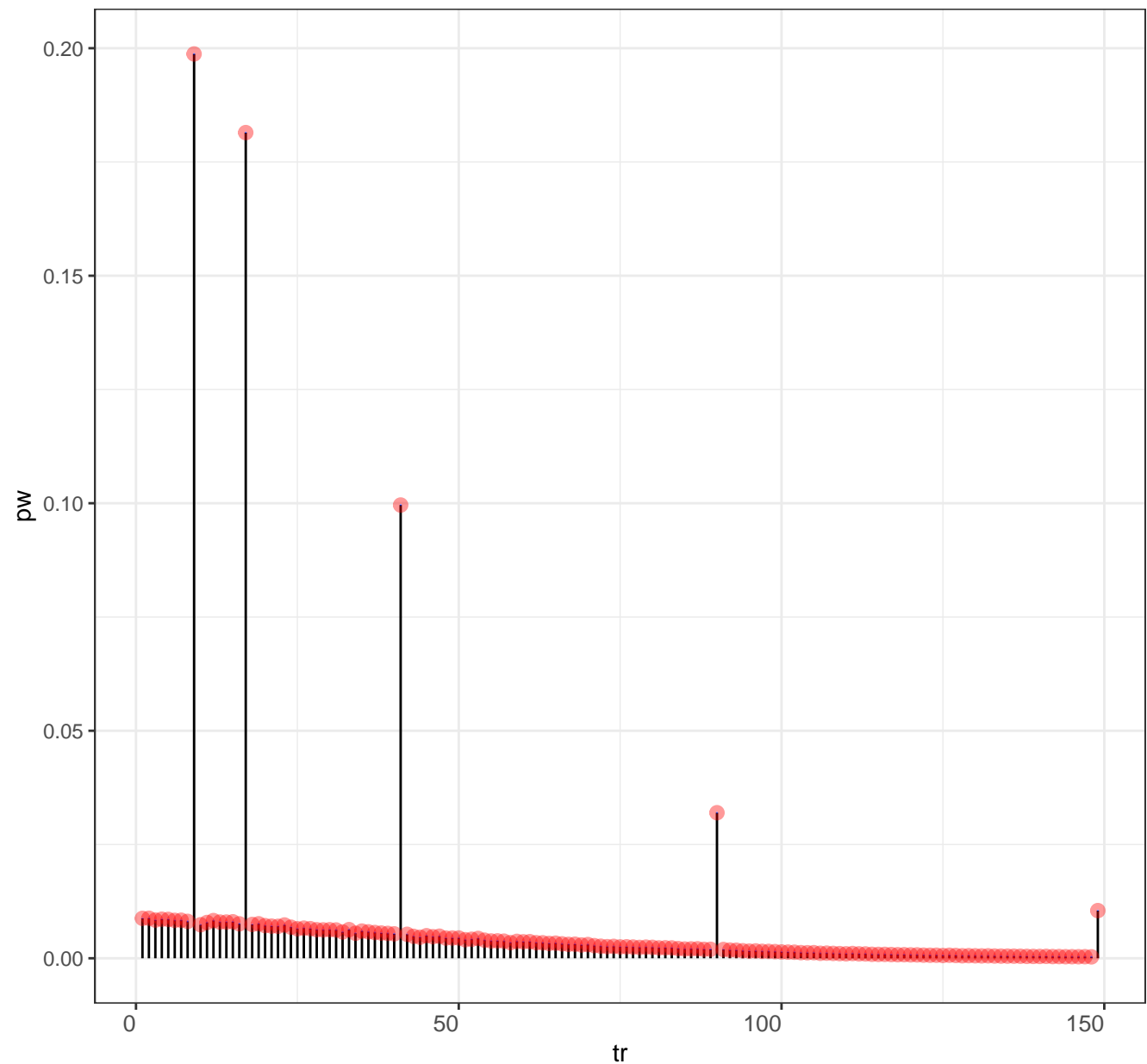
# Posterior distribution for alpha

Legend    posterior mean    prior mean



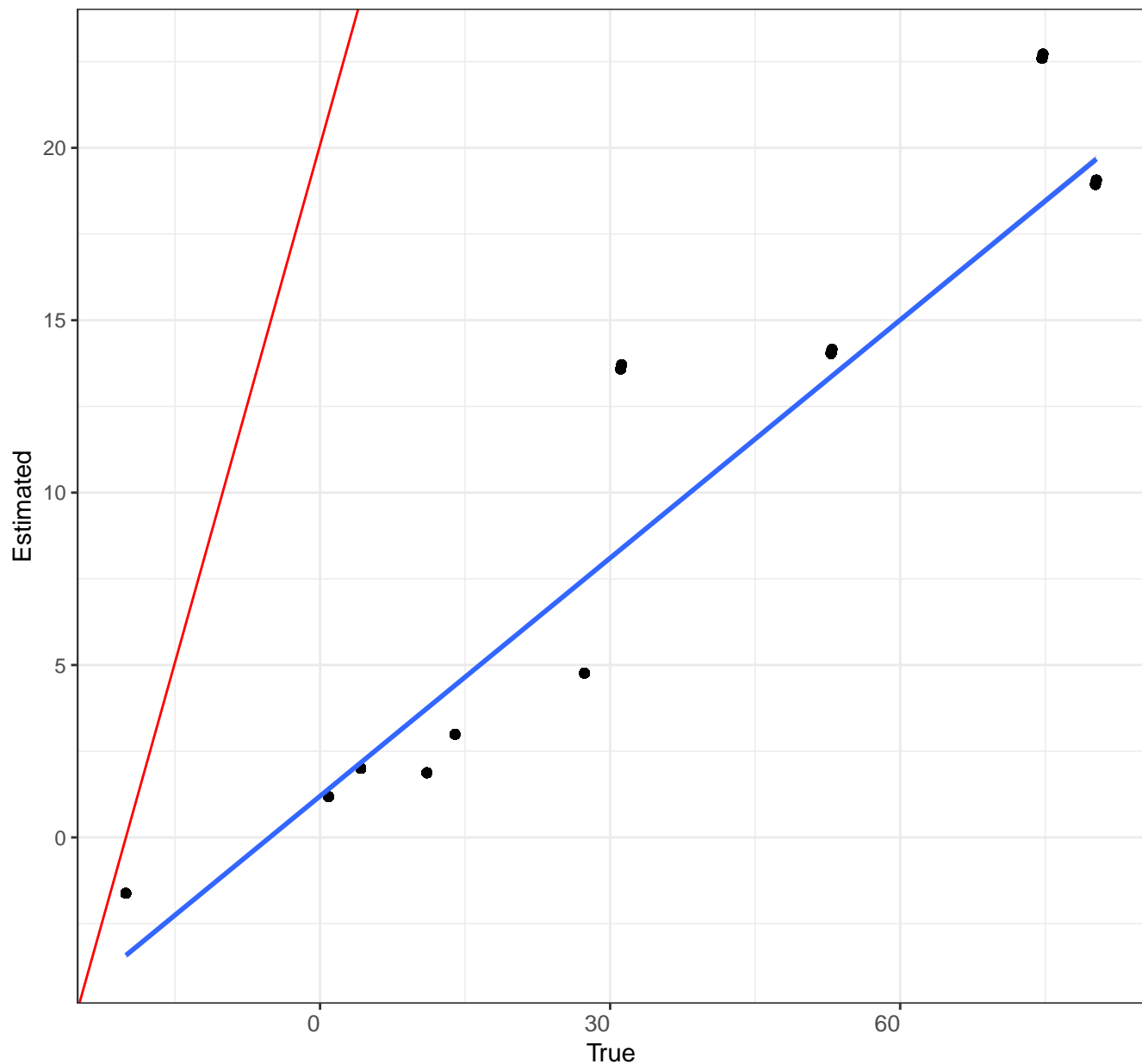
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=5 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=5$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.01$



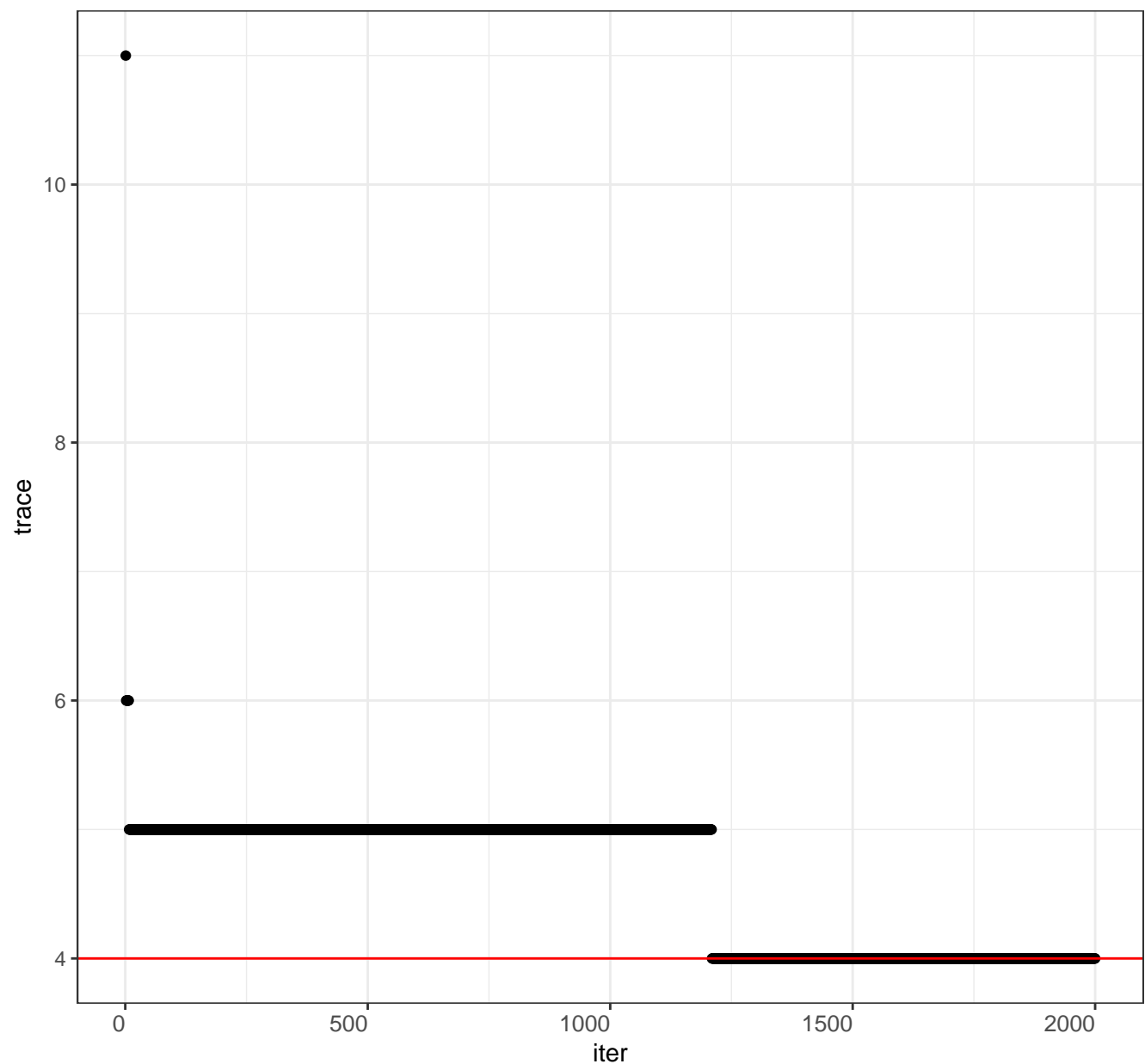
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=5 true K=4 type=1

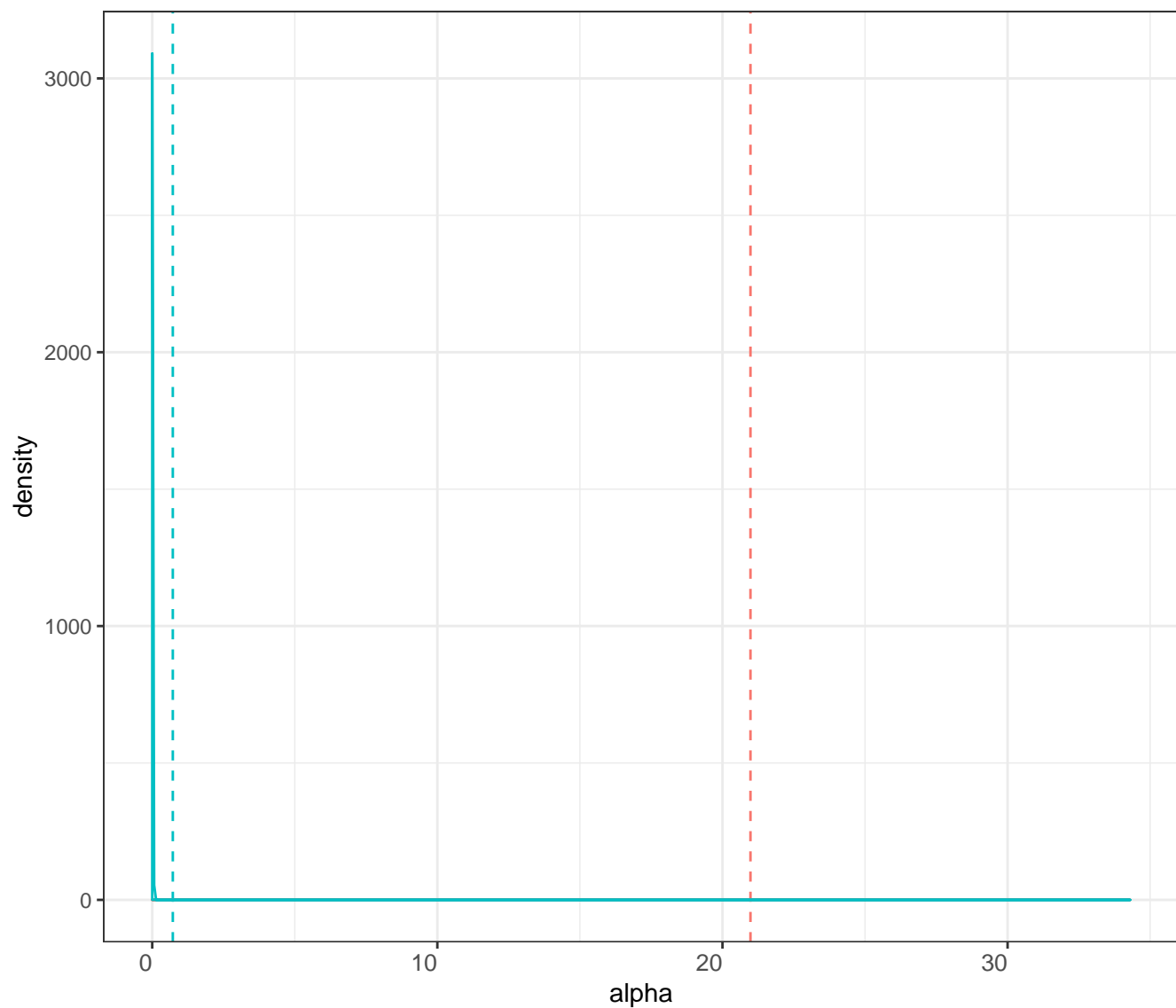
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000 number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior

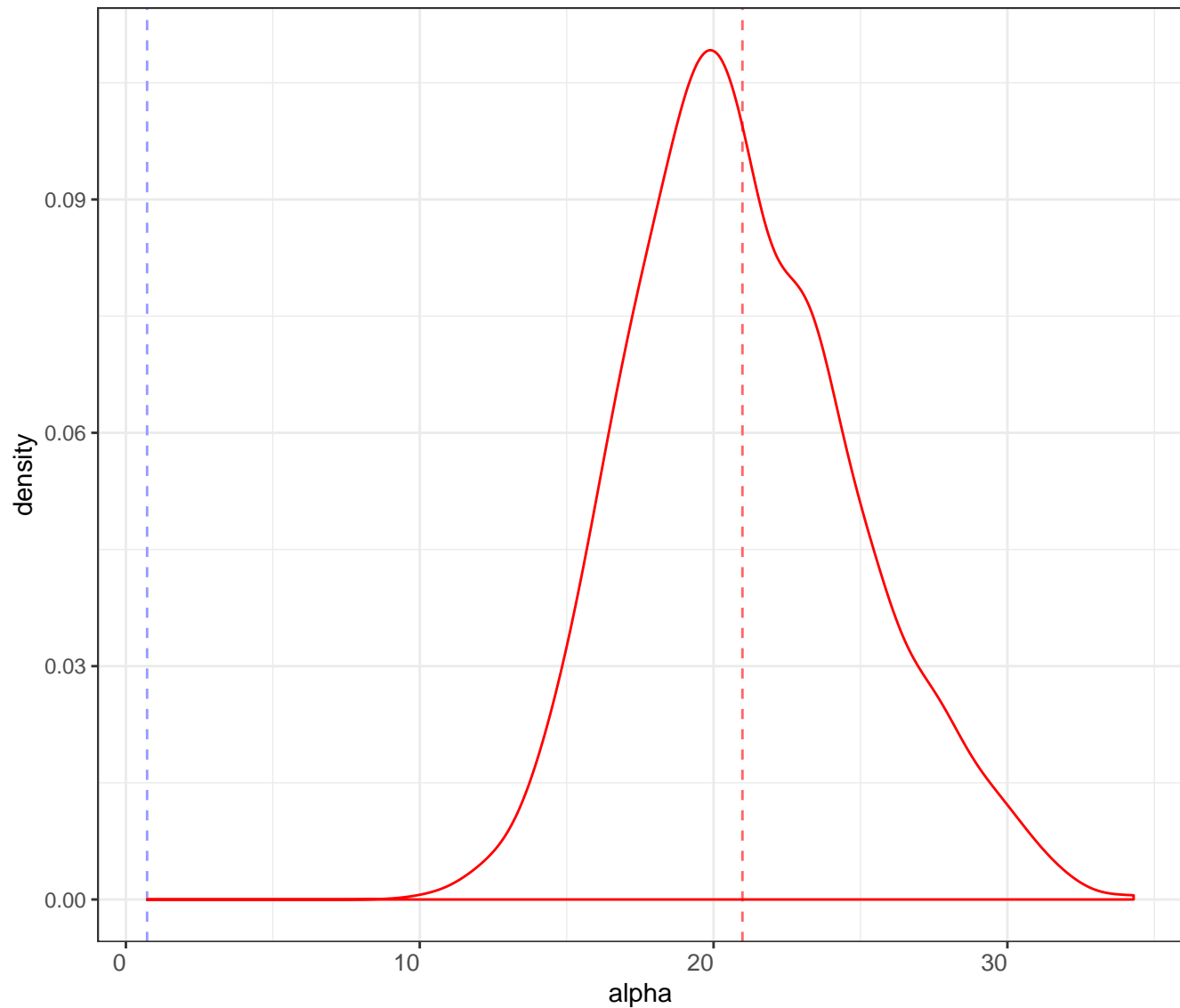


Number of iterations: 2000 burnin: 1000 number of samples: 500



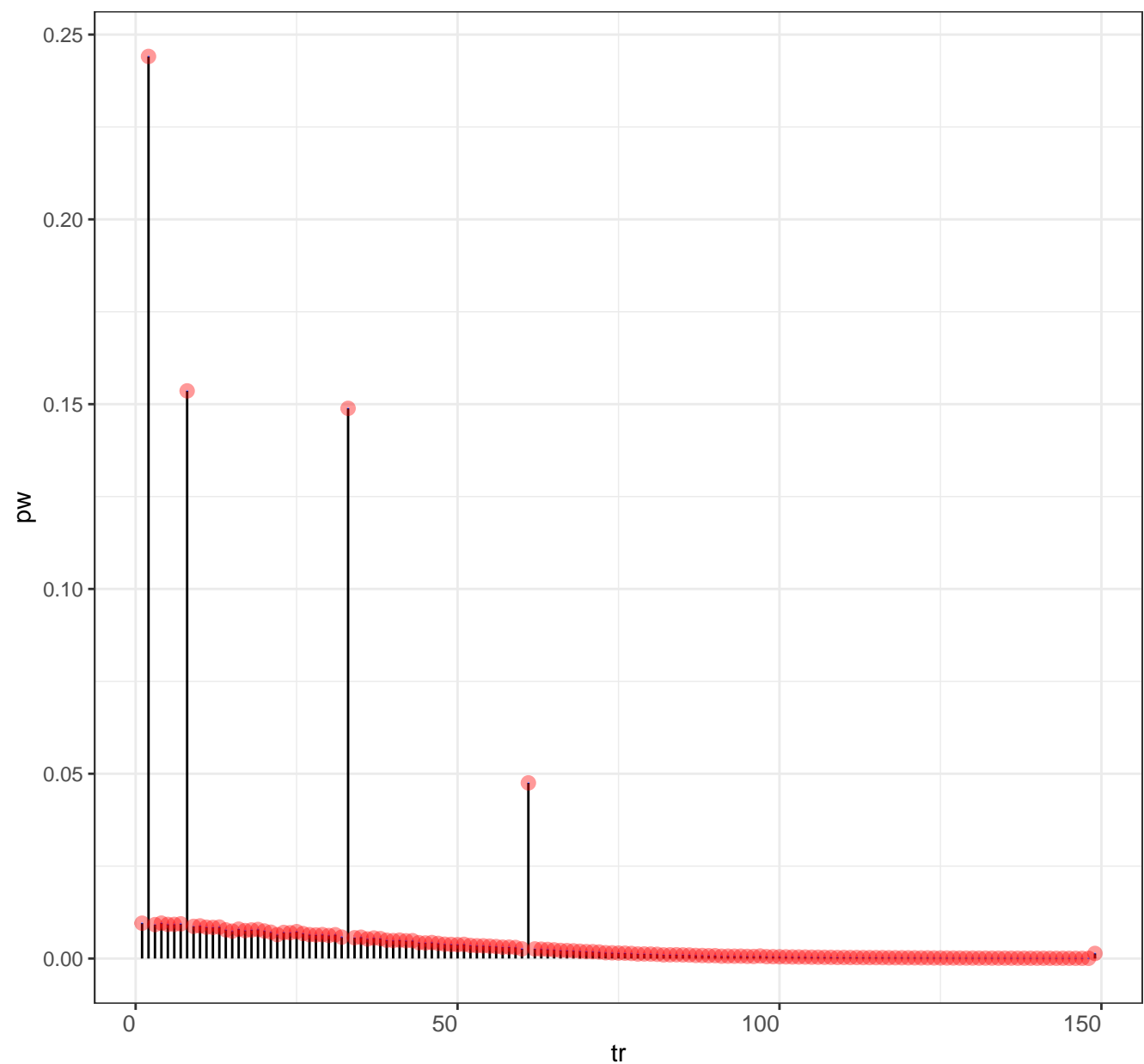
# Posterior distribution for alpha

Legend    posterior mean    prior mean



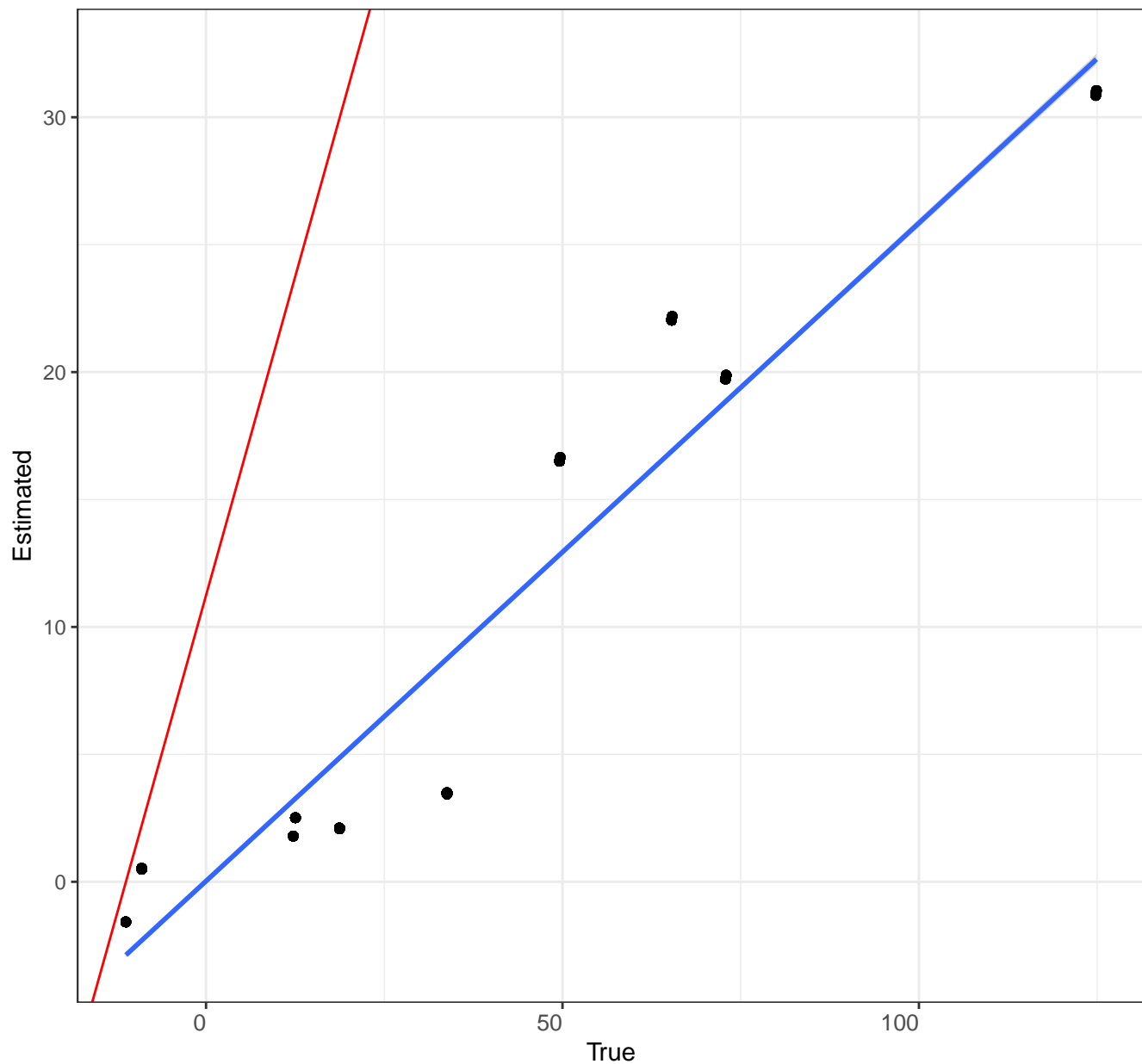
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



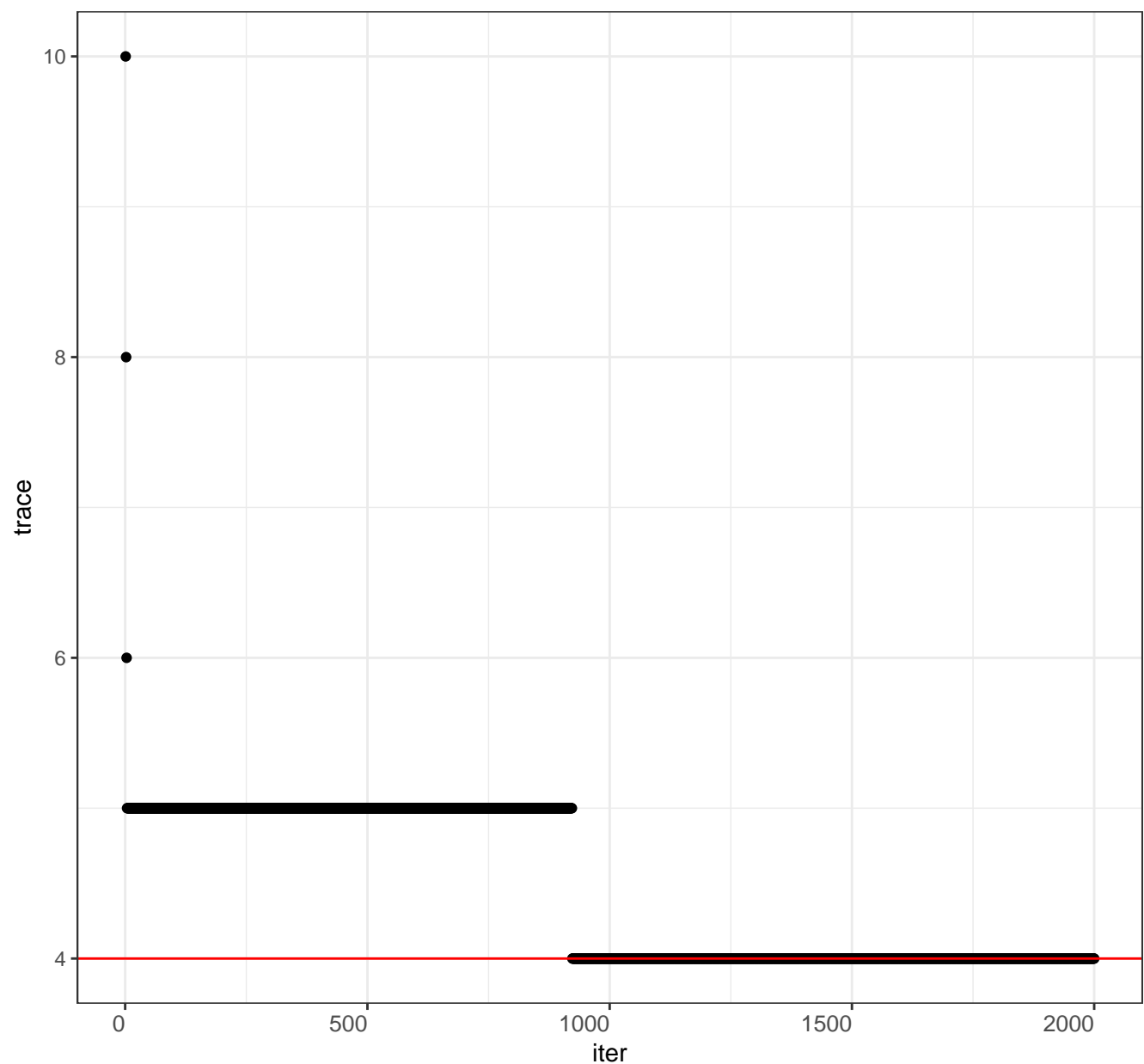
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

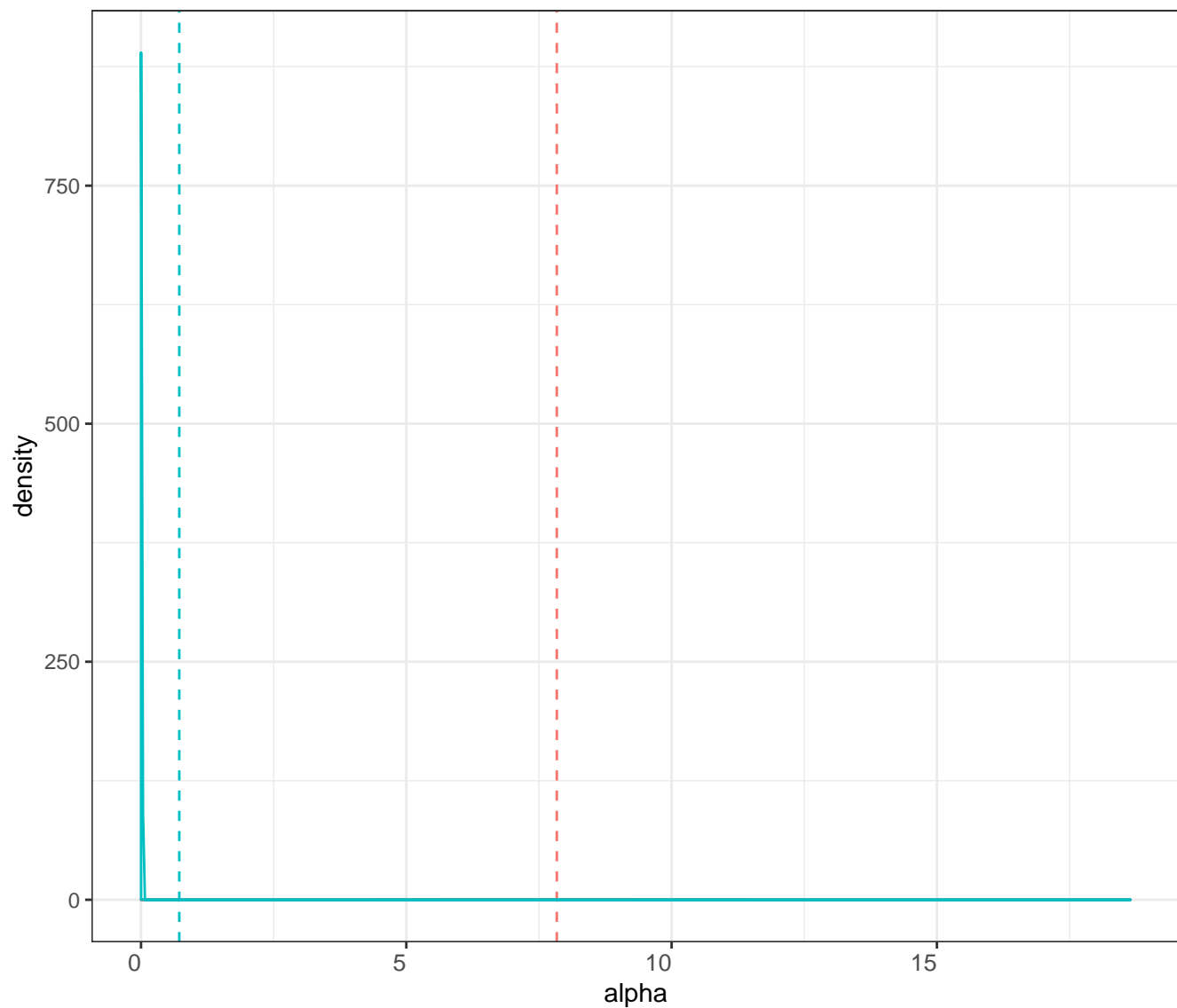
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000 number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

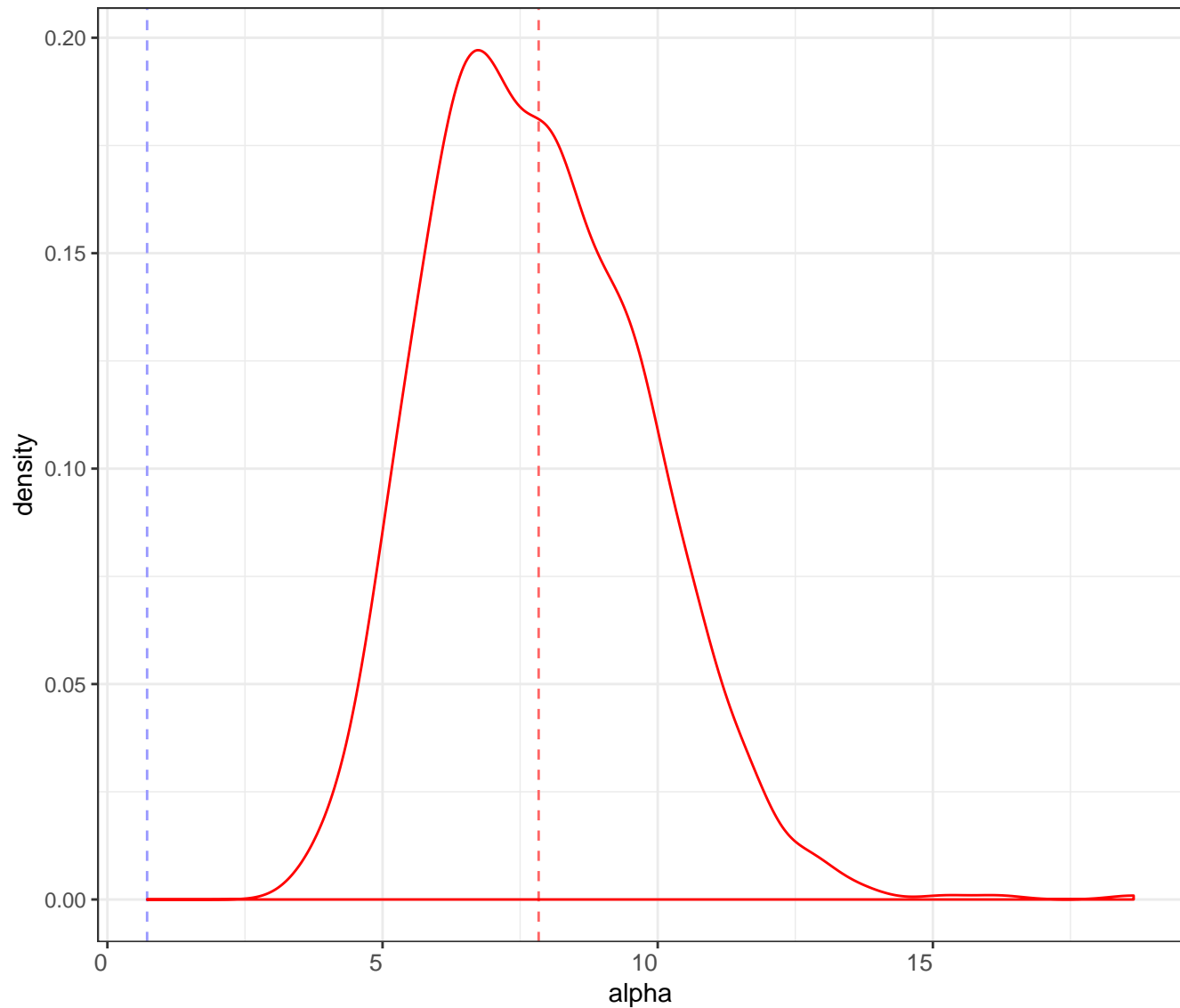
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

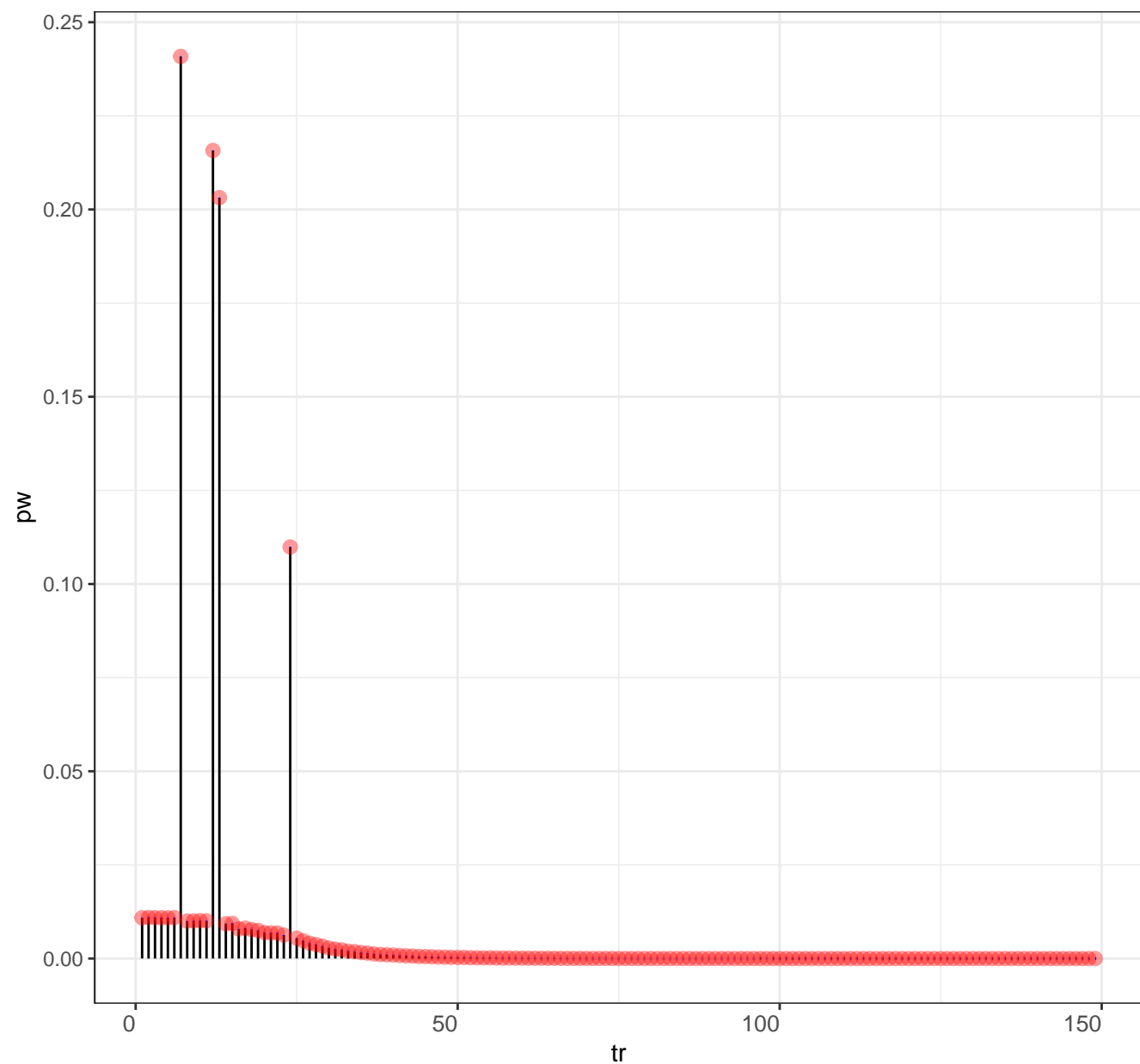
# Posterior distribution for alpha

Legend      posterior mean      prior mean



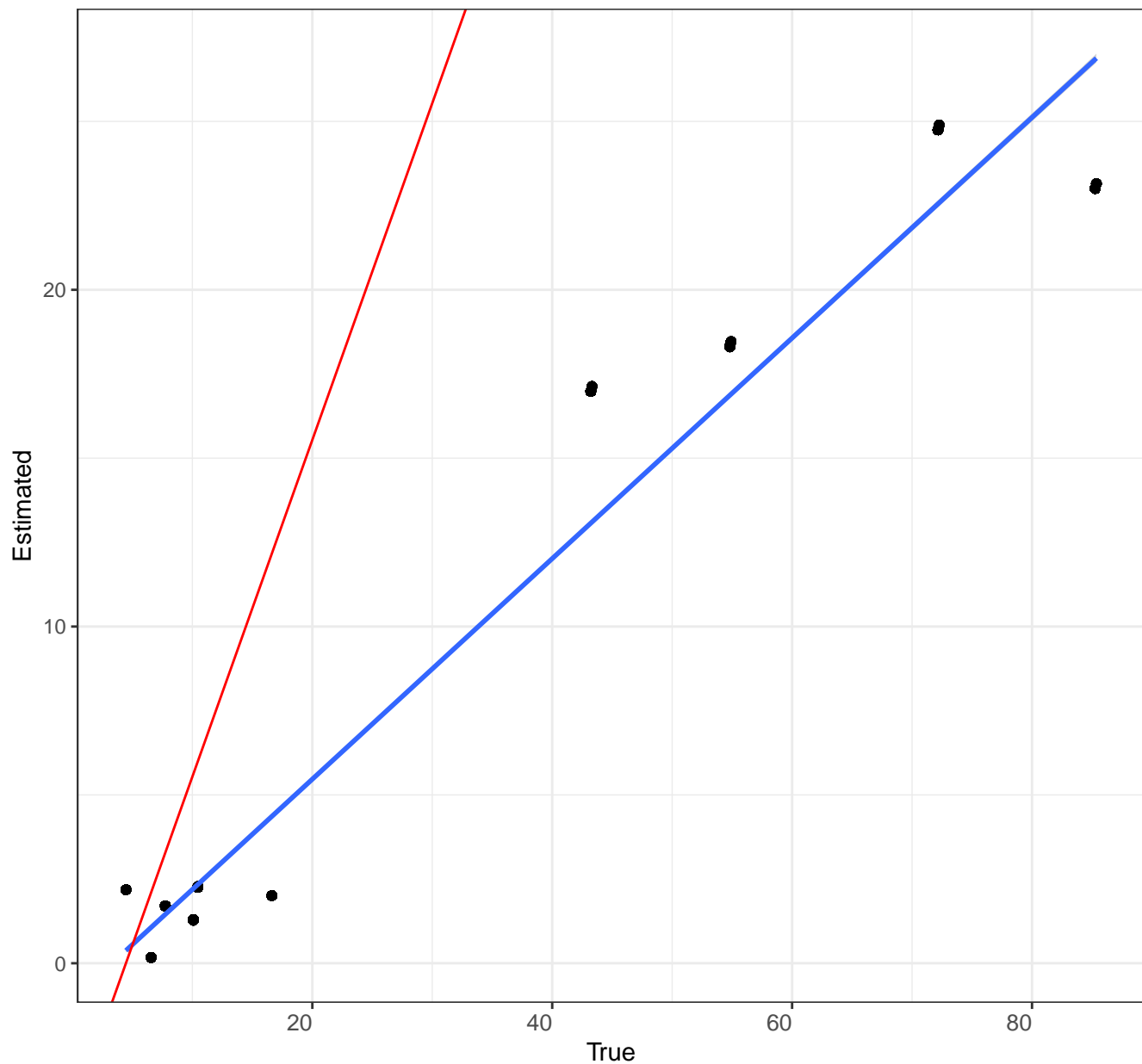
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

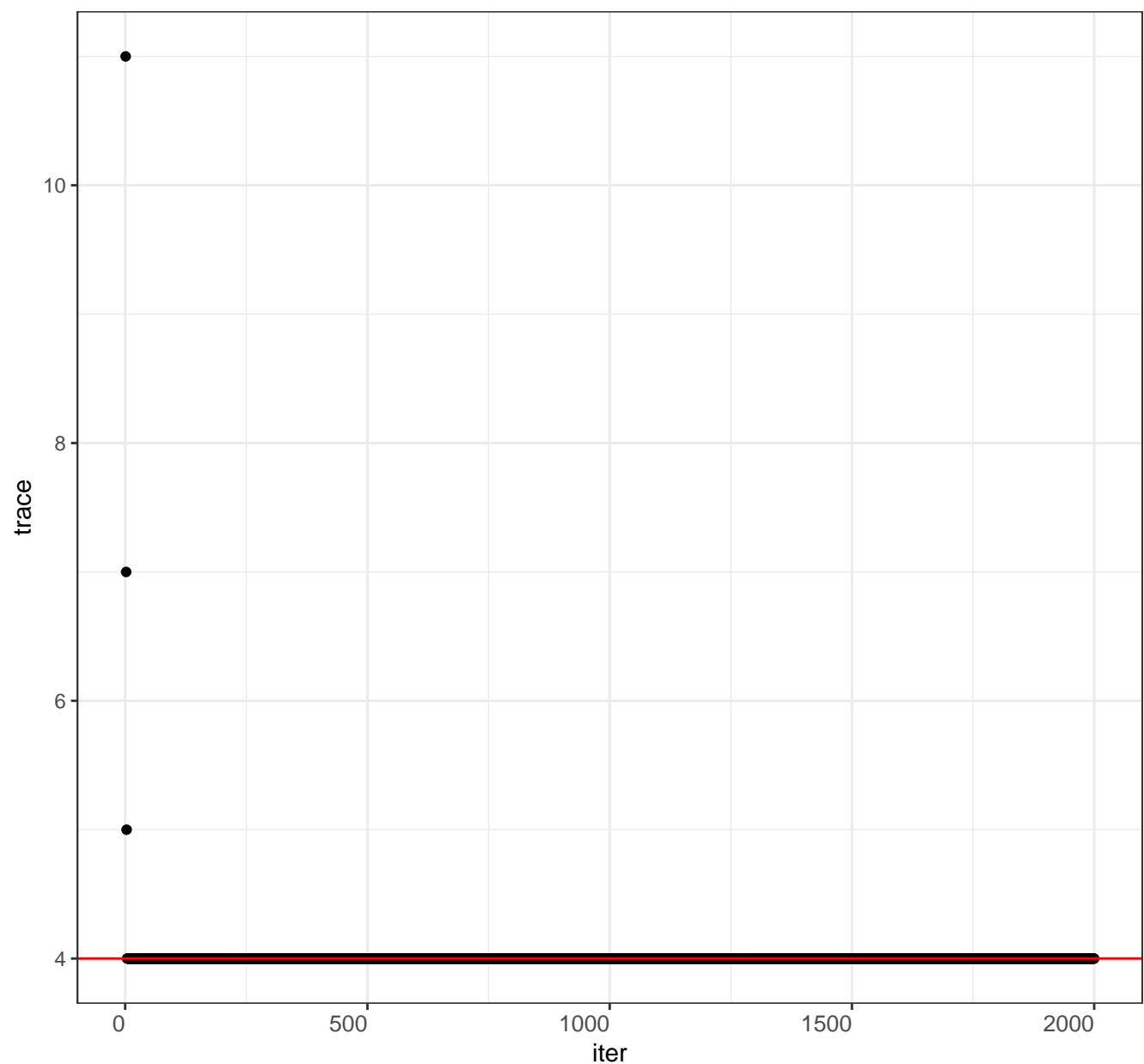
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1



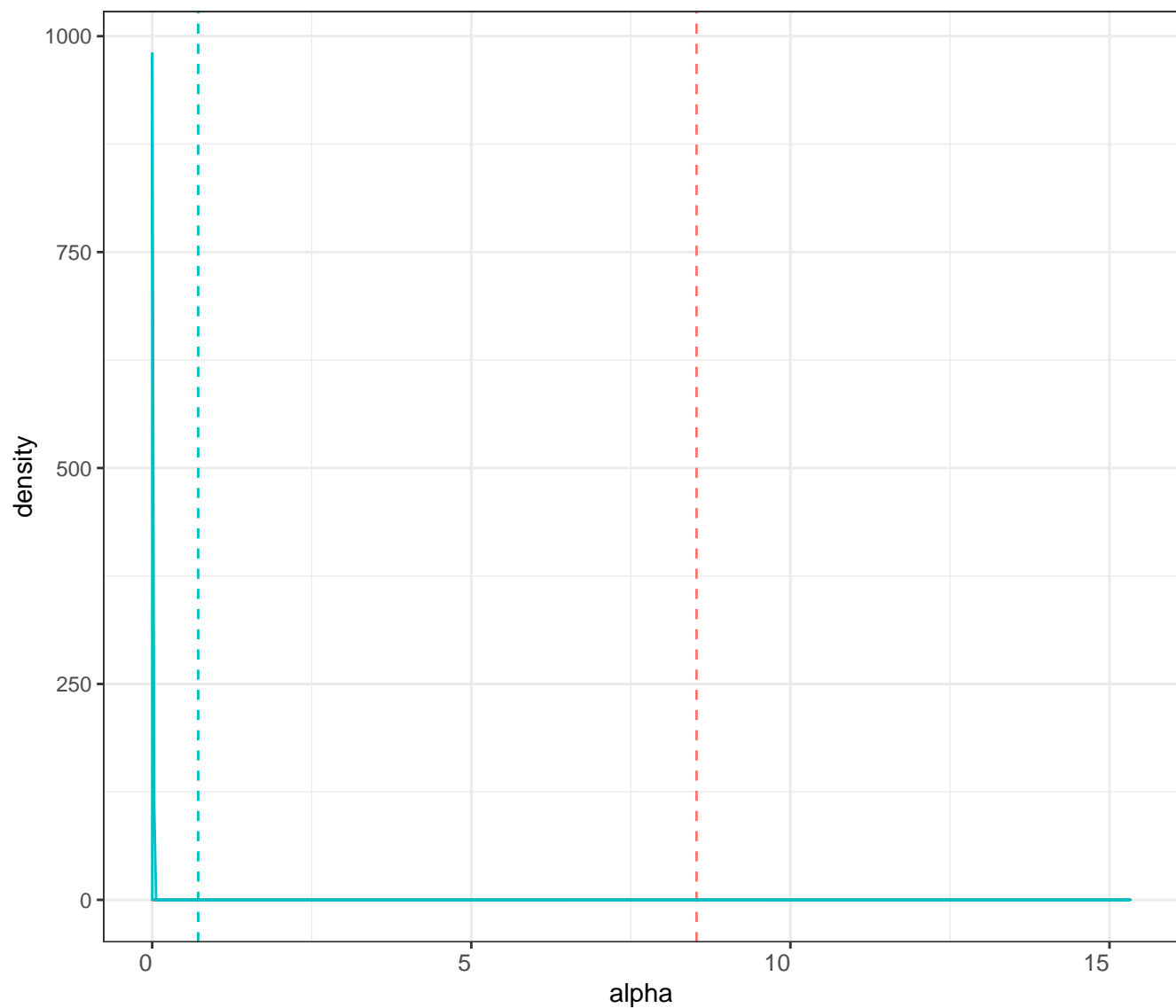
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

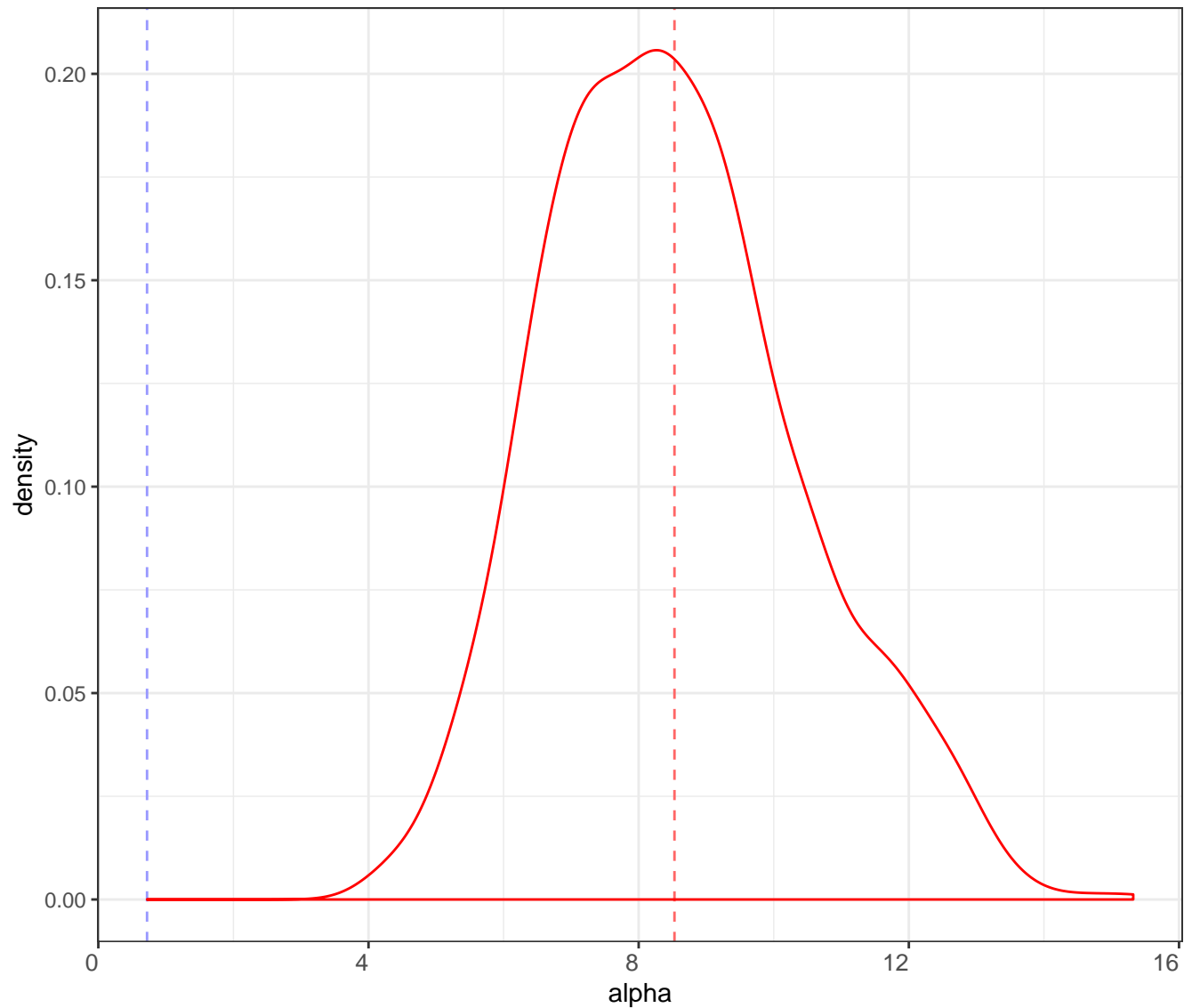
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

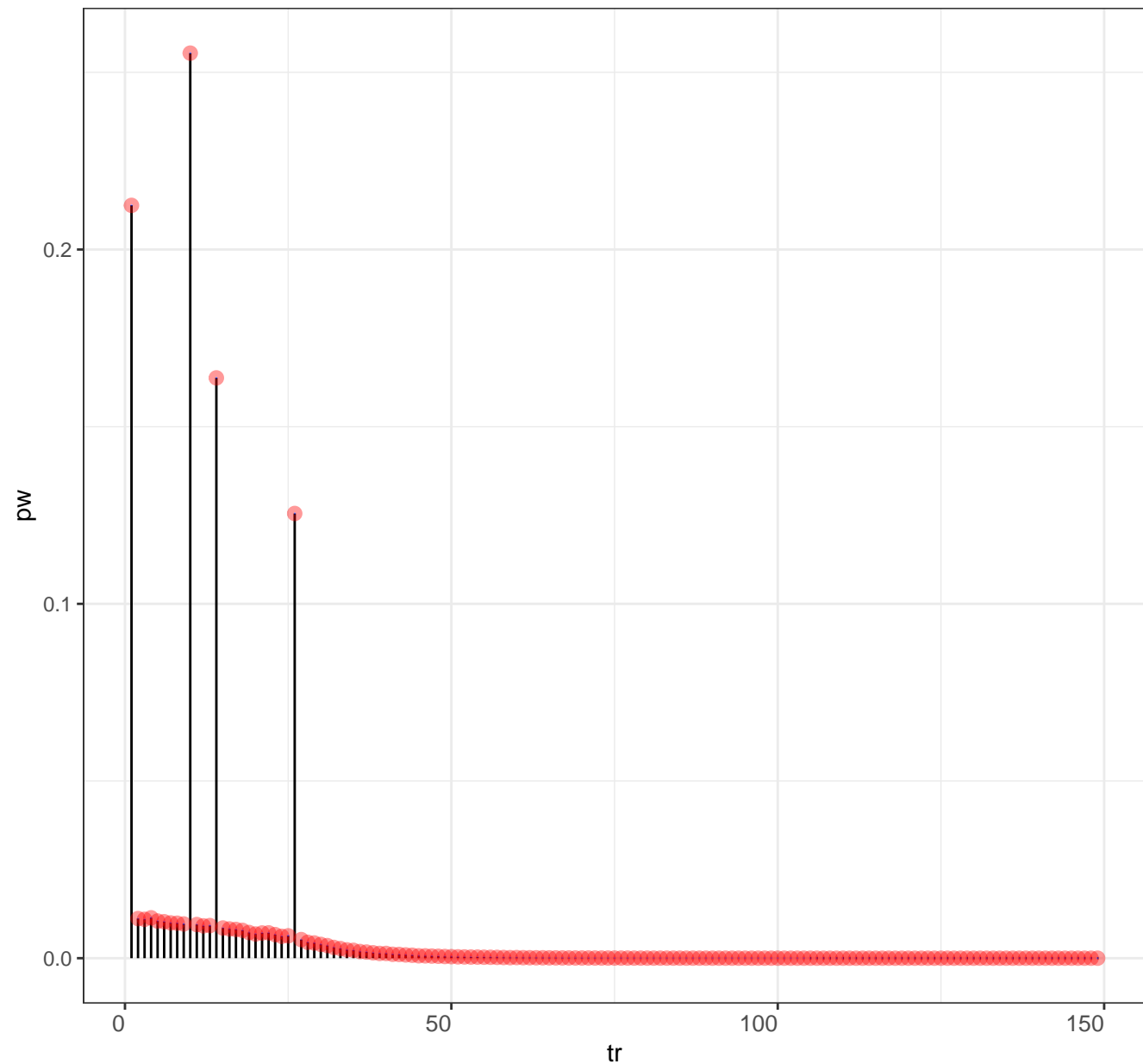
# Posterior distribution for alpha

Legend      posterior mean      prior mean



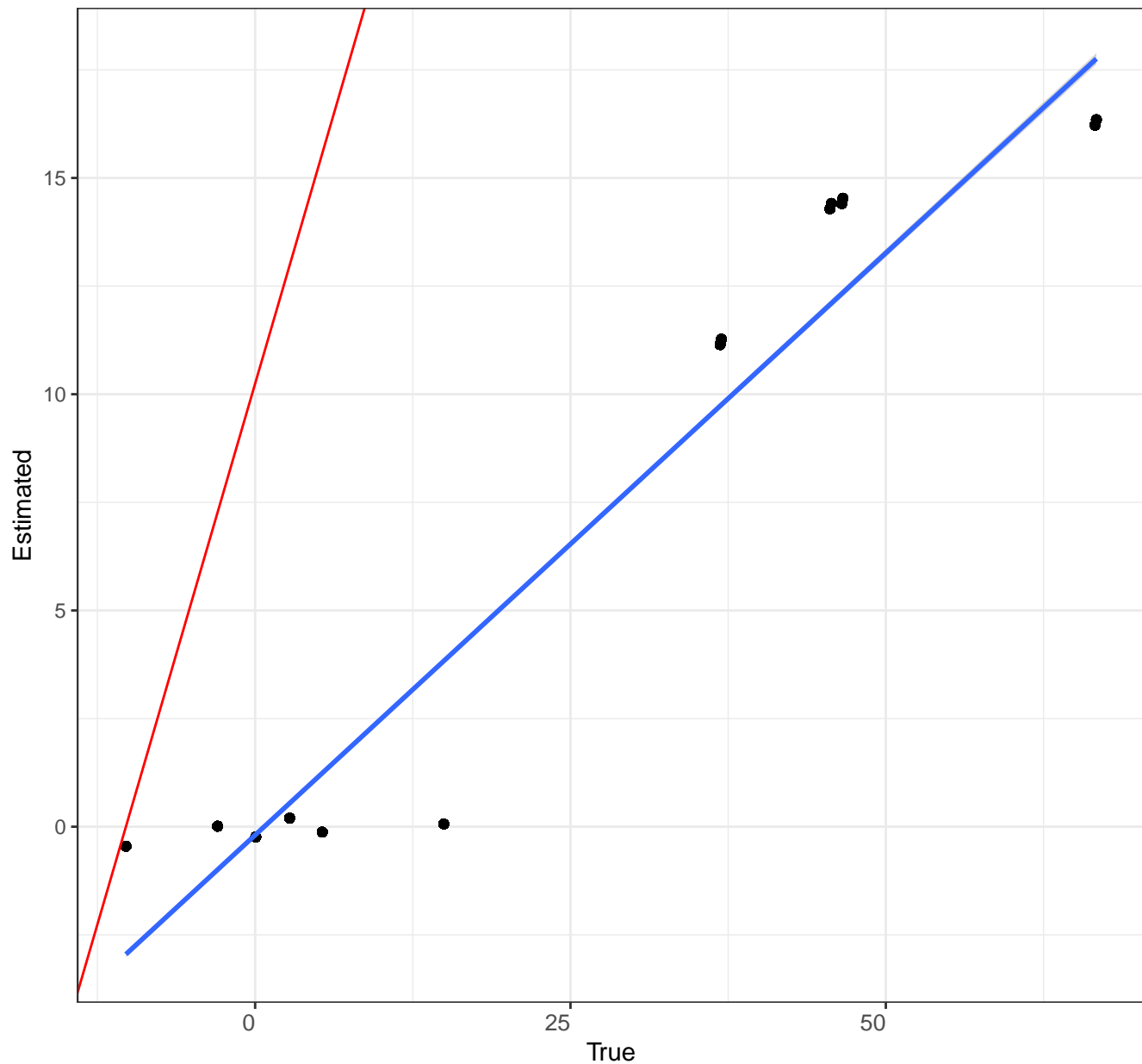
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



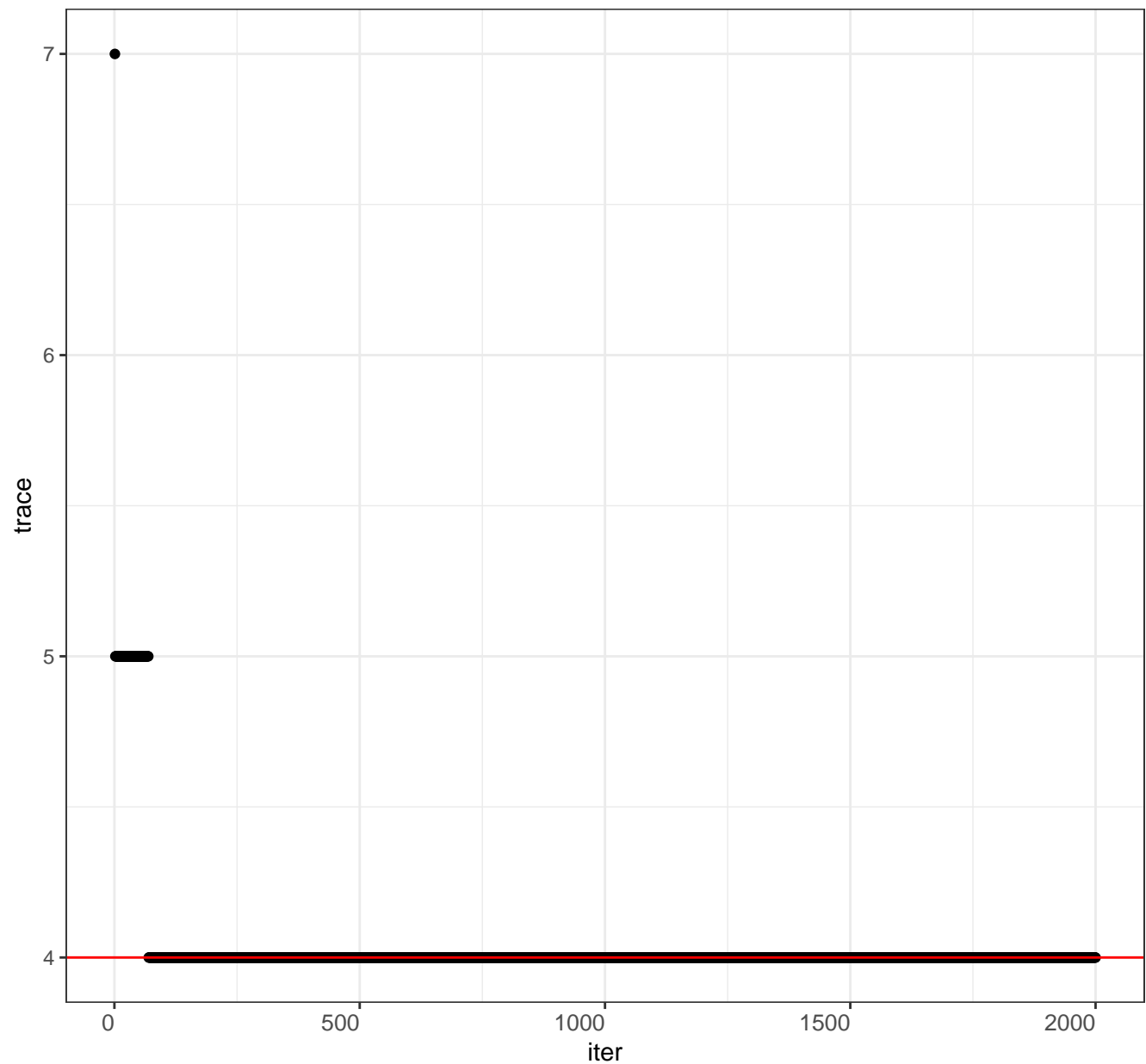
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

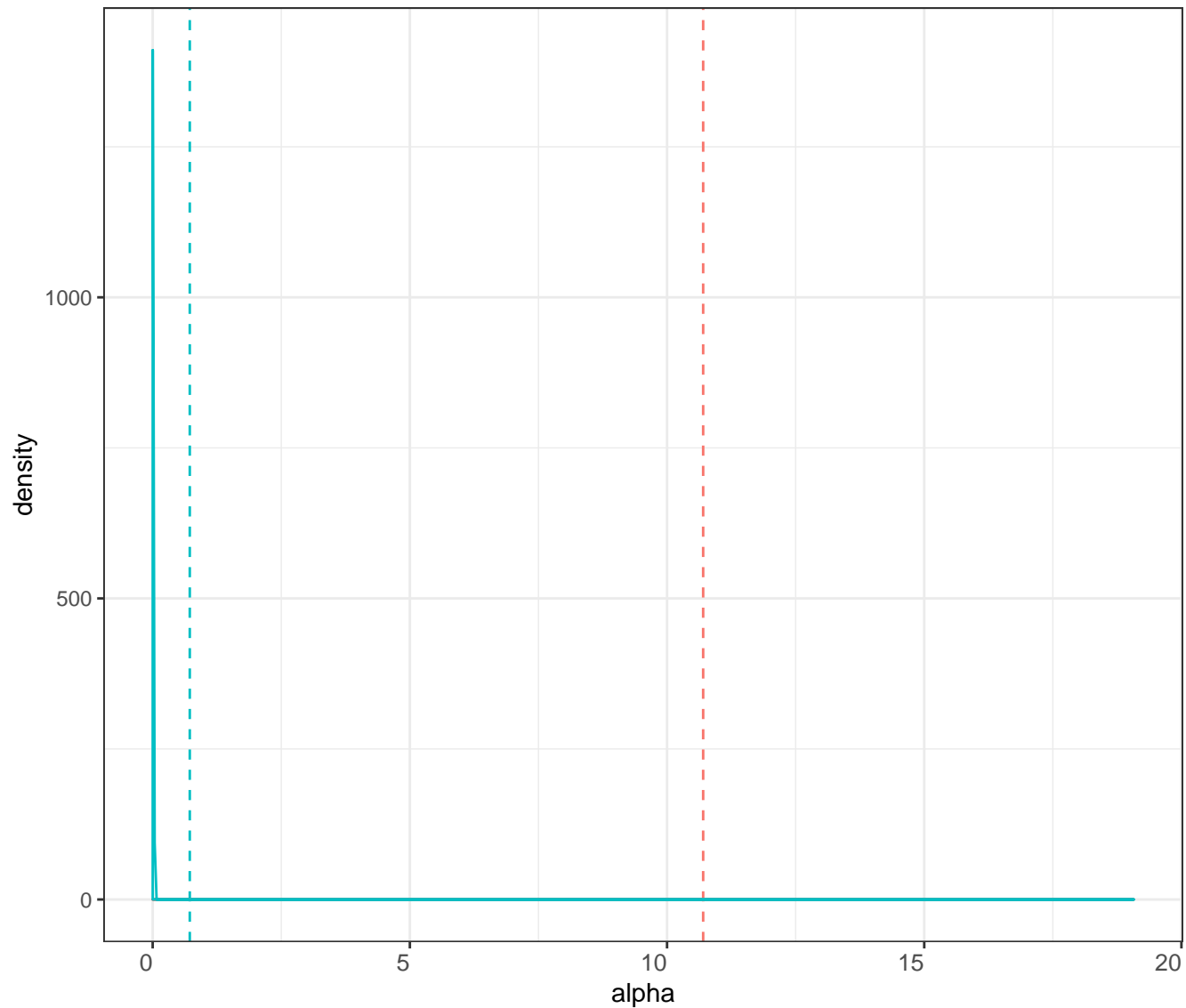
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

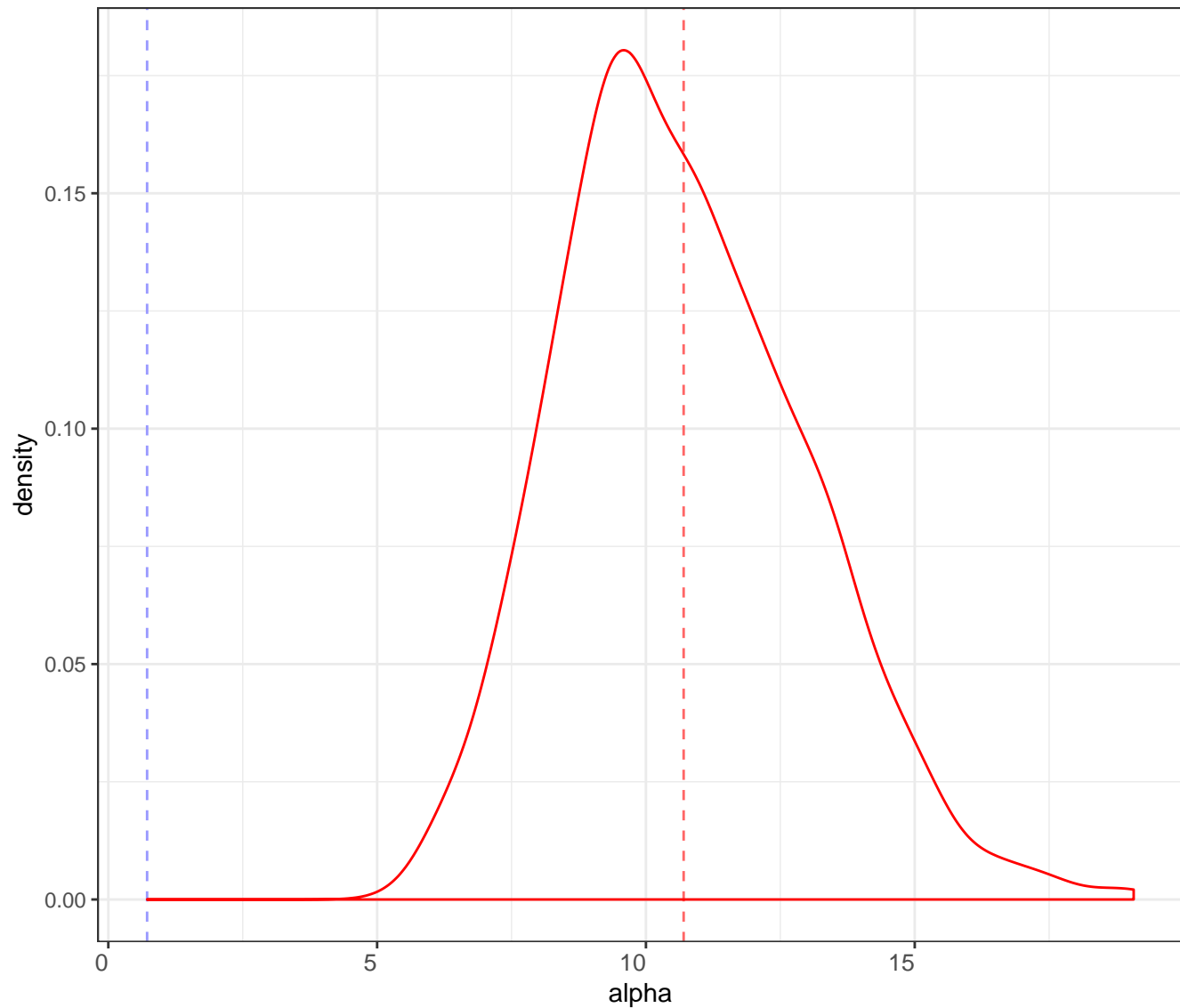
Legend



posterior mean



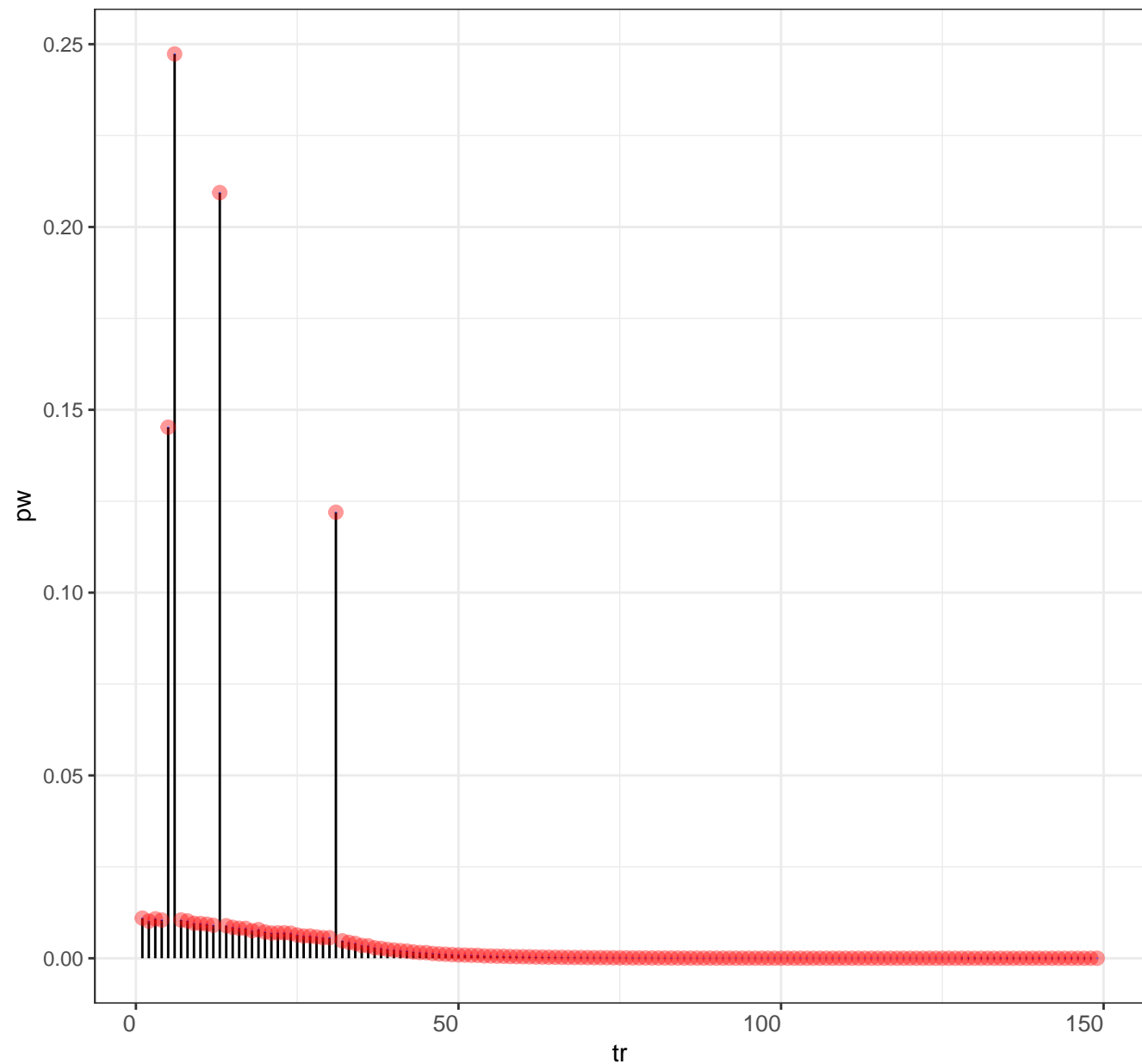
prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

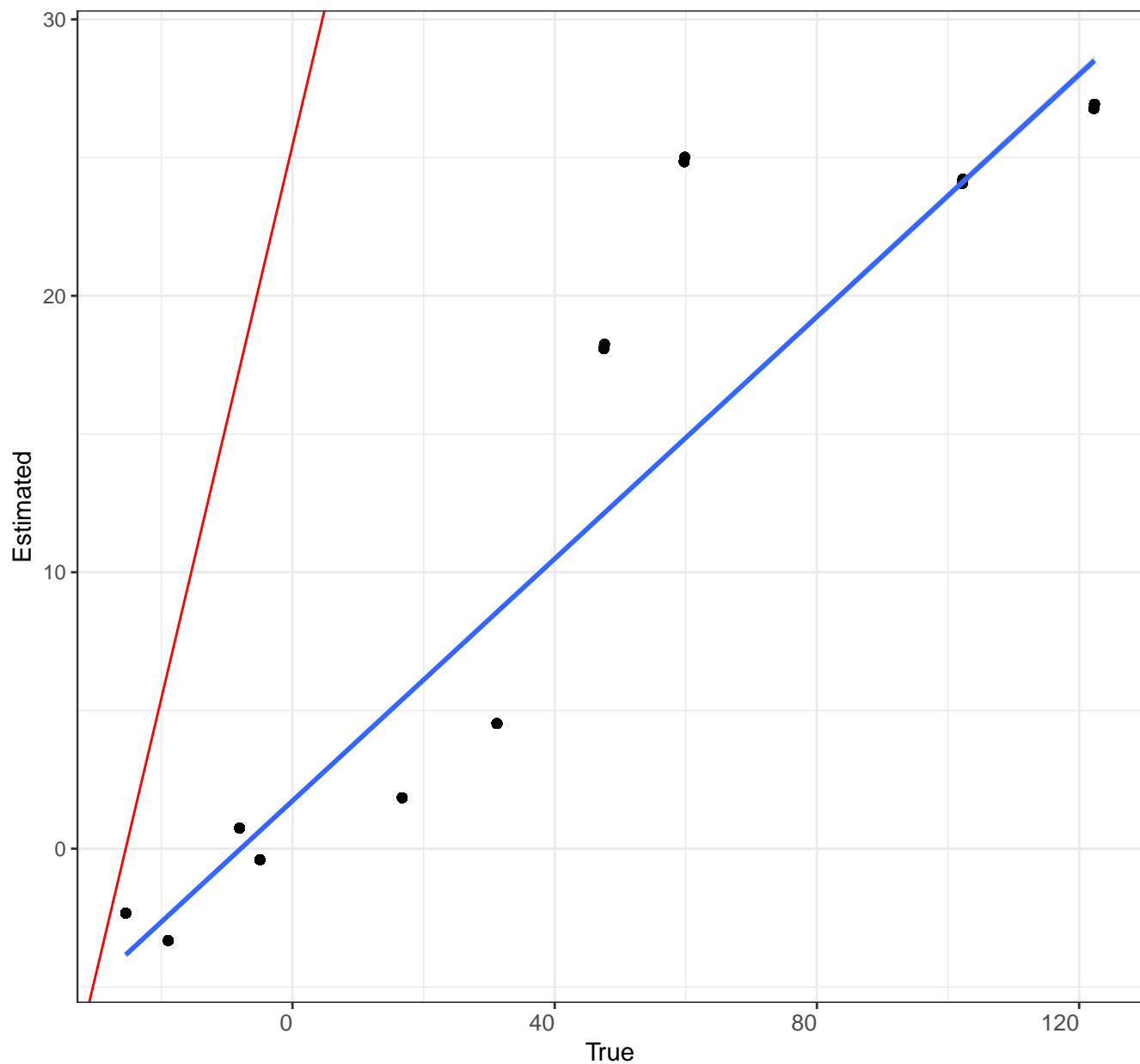


Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



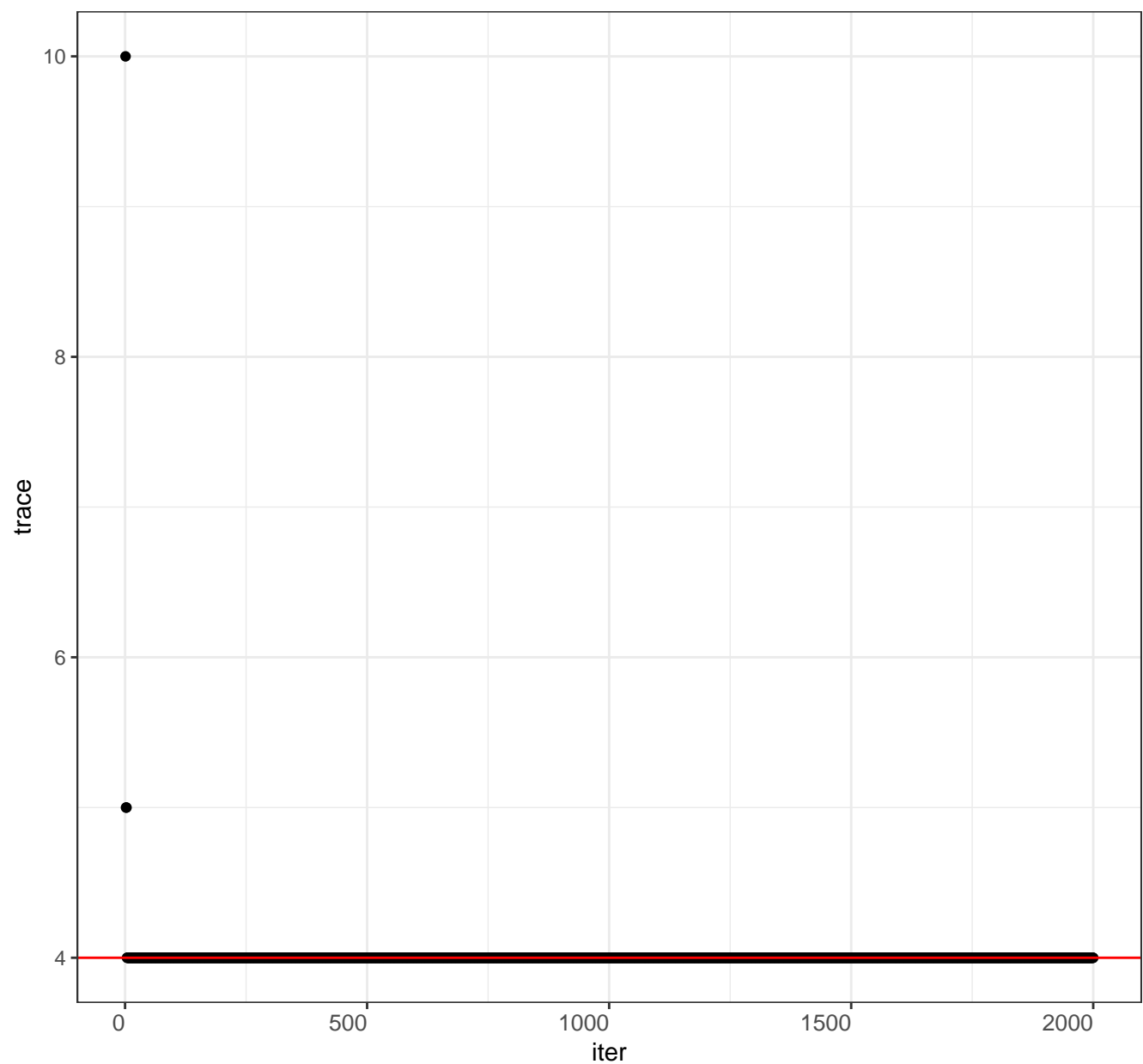
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

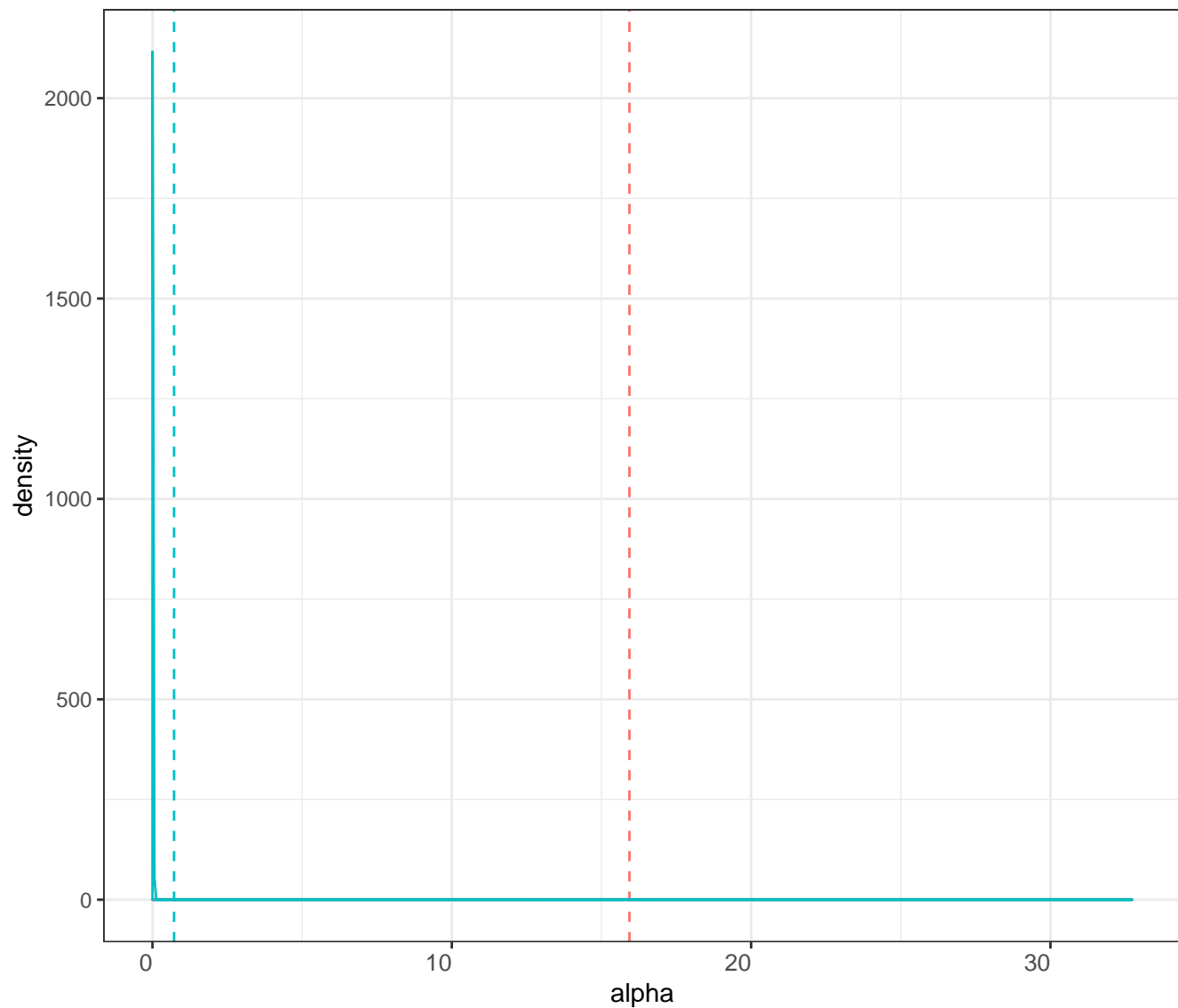
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

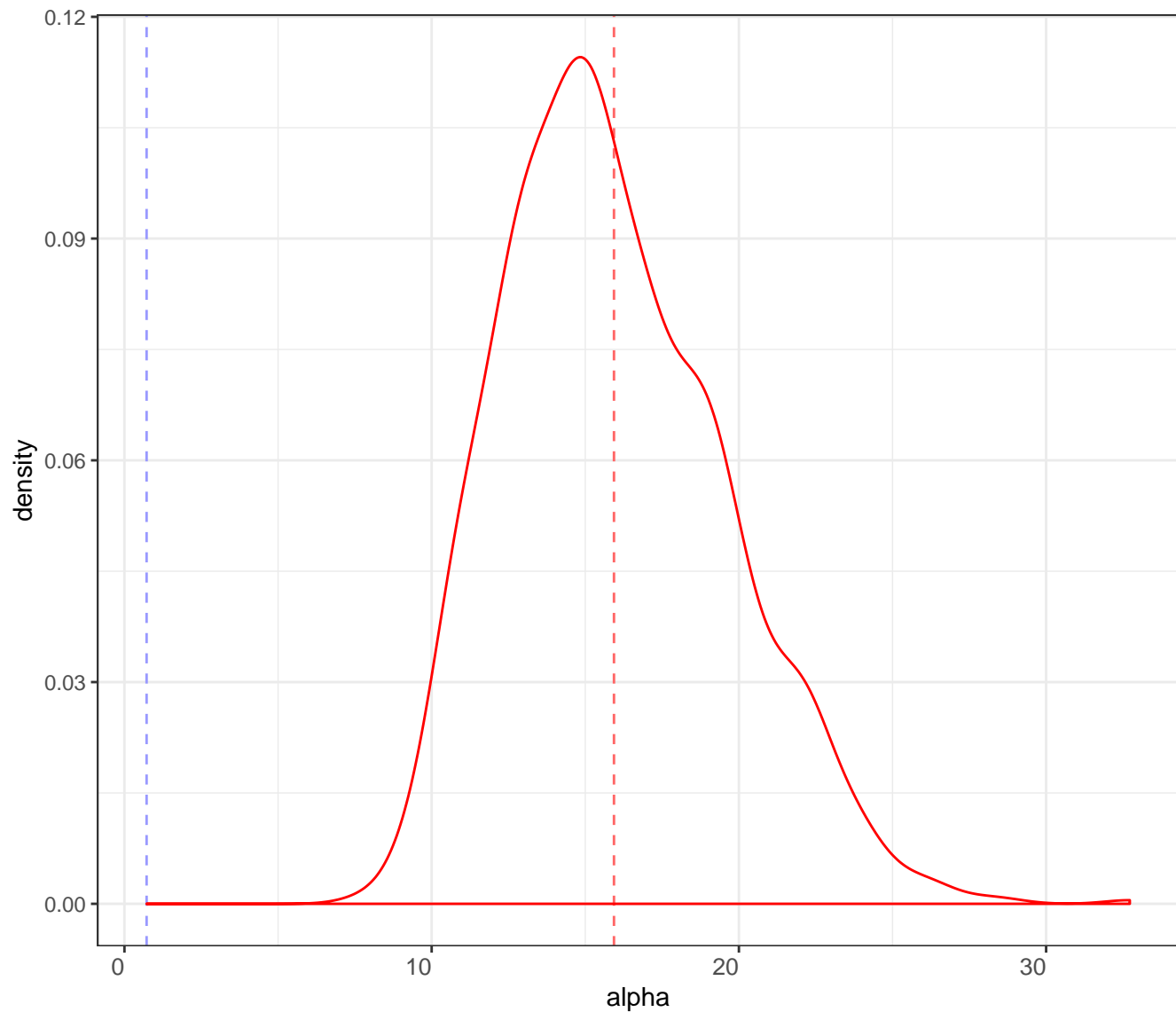
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

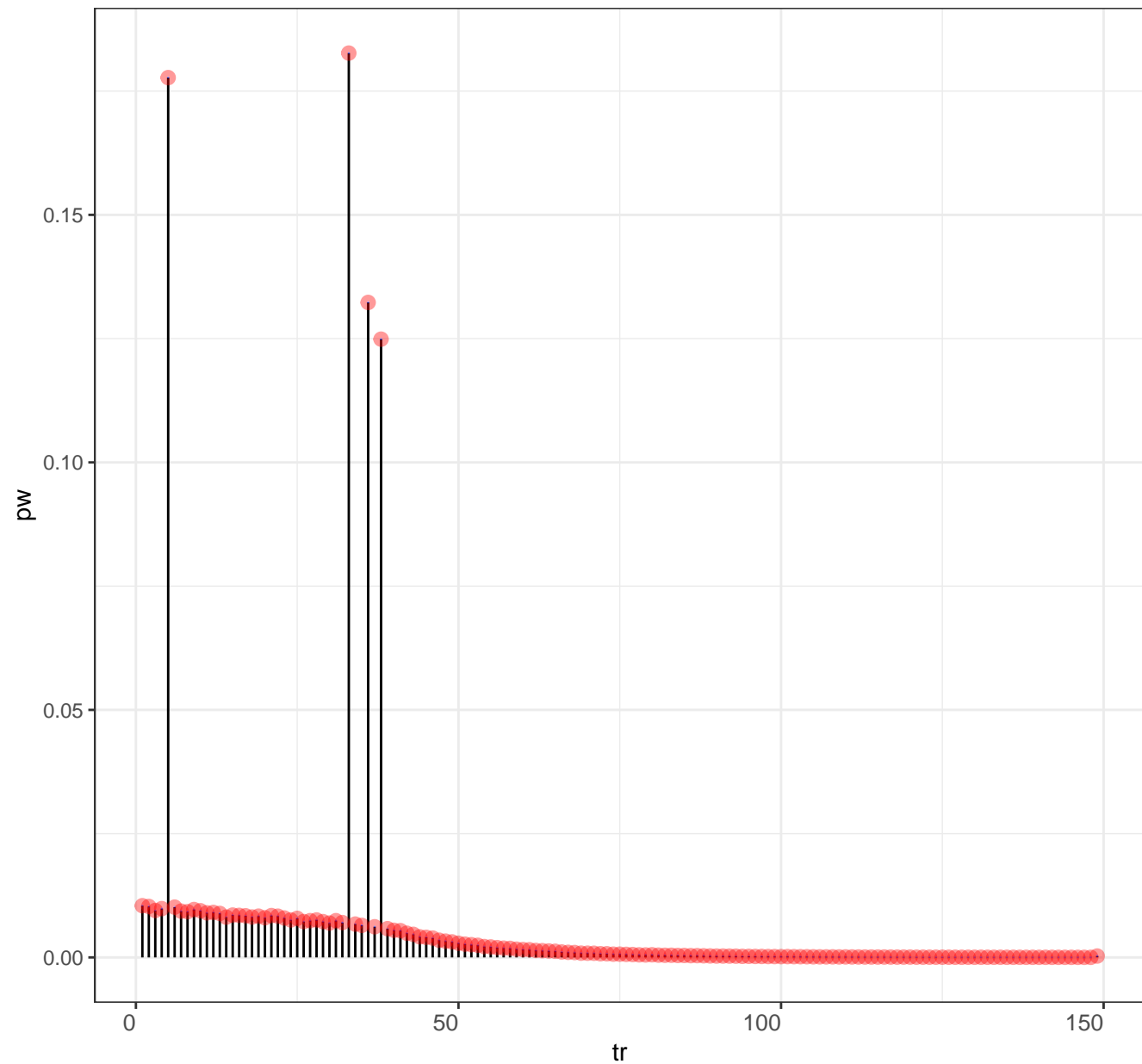
# Posterior distribution for alpha

Legend      posterior mean      prior mean



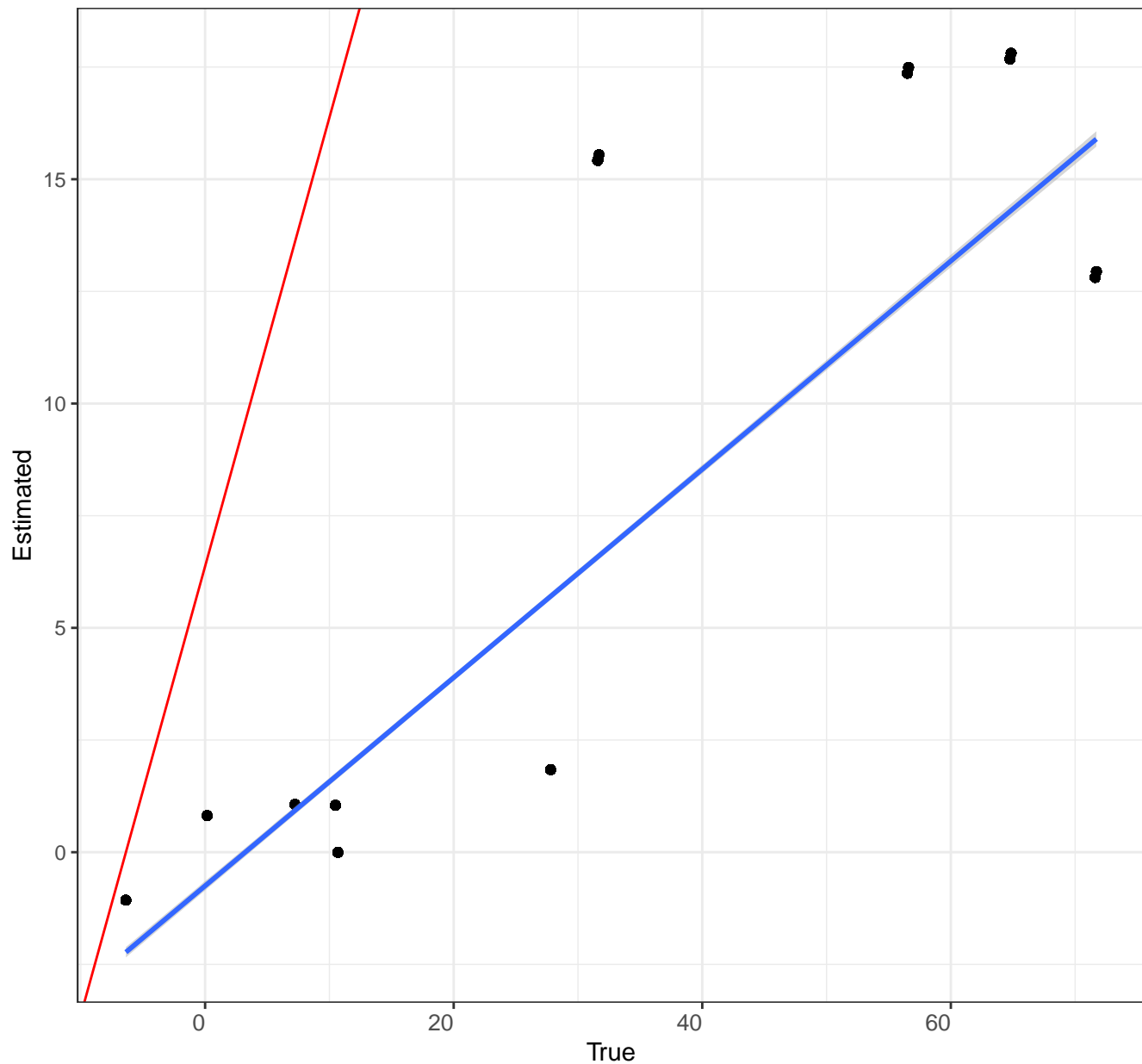
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



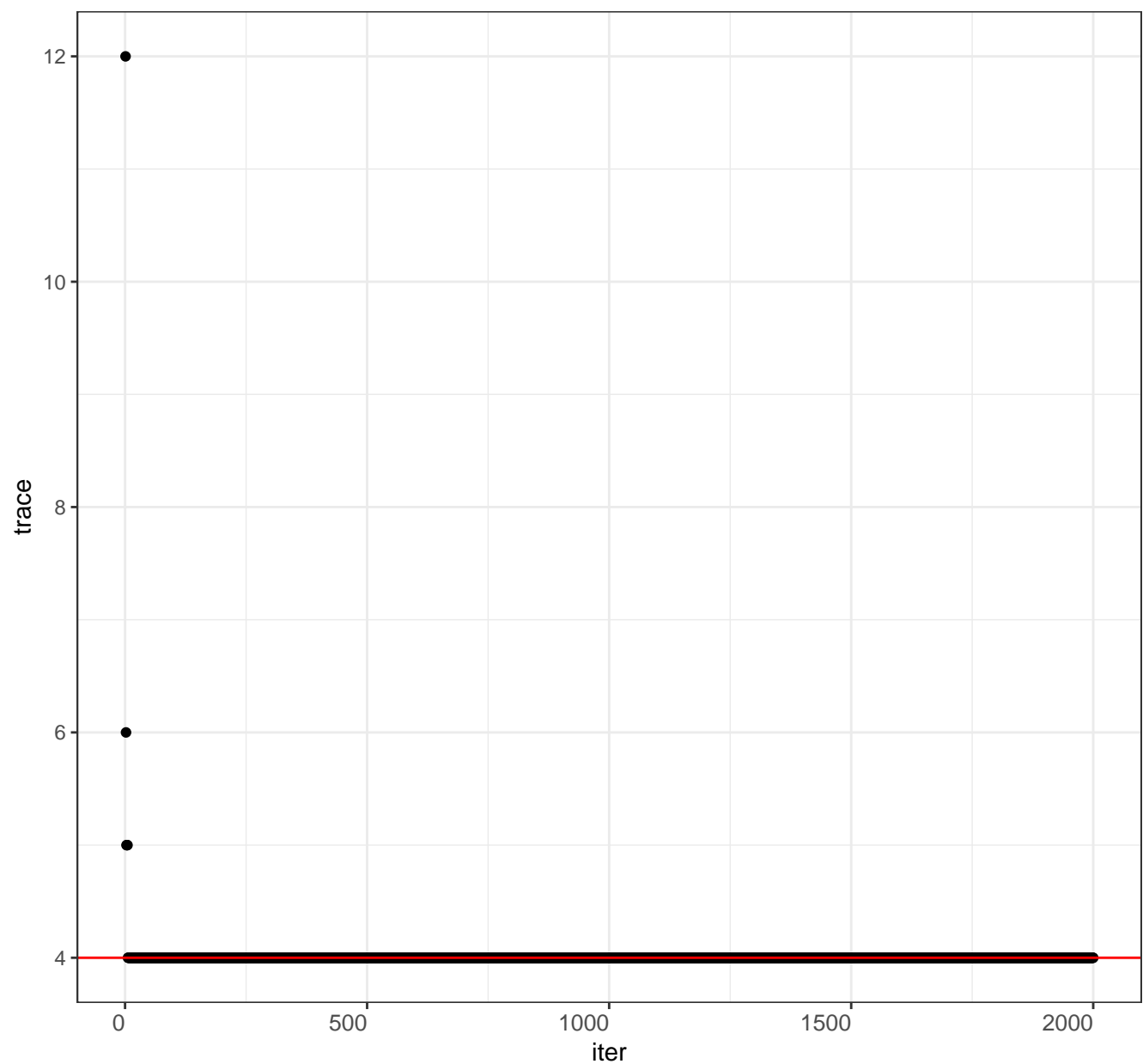
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1



Trace plot for the number of groups K for S=80 r=10 true K=4 type=1

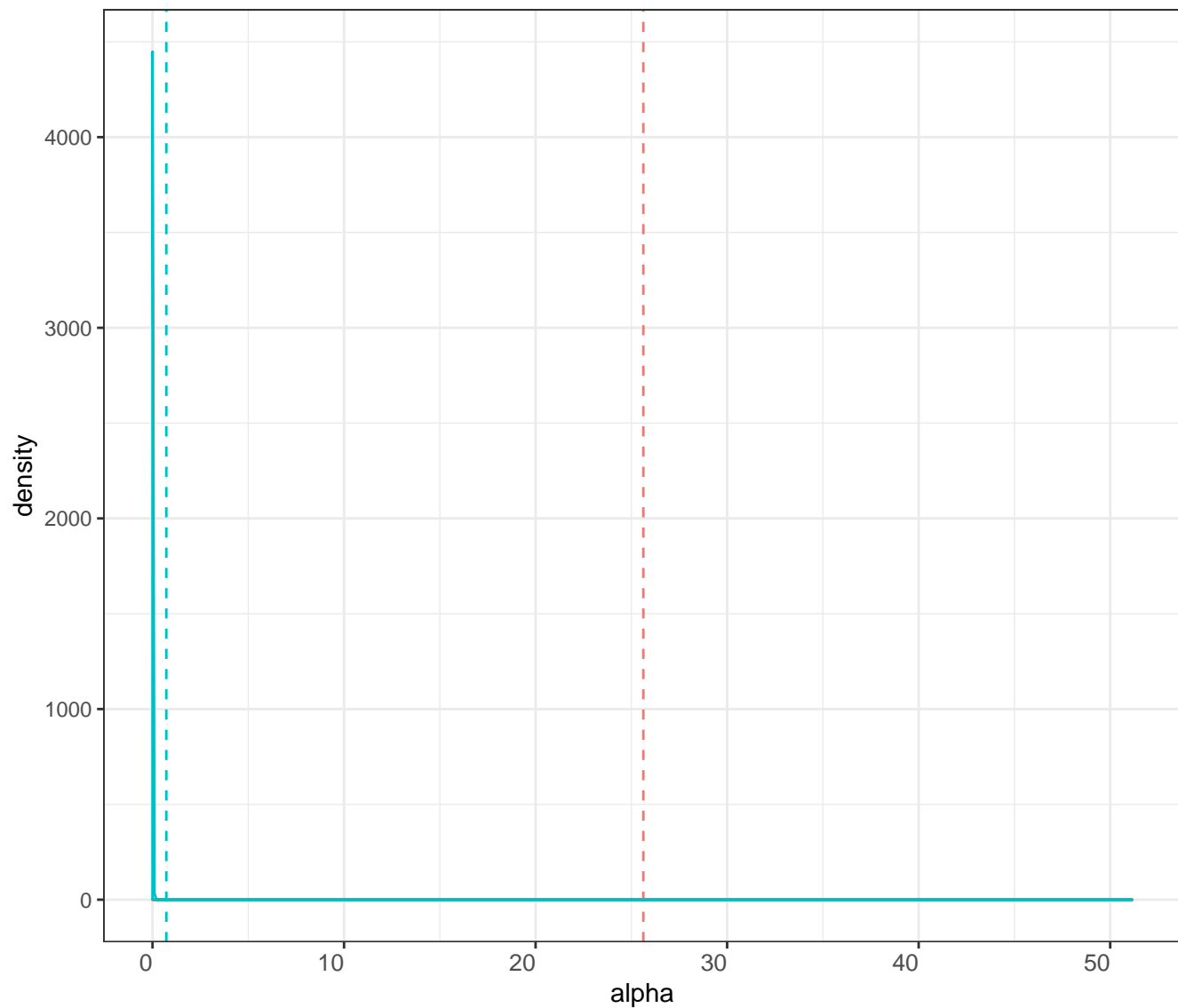


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior



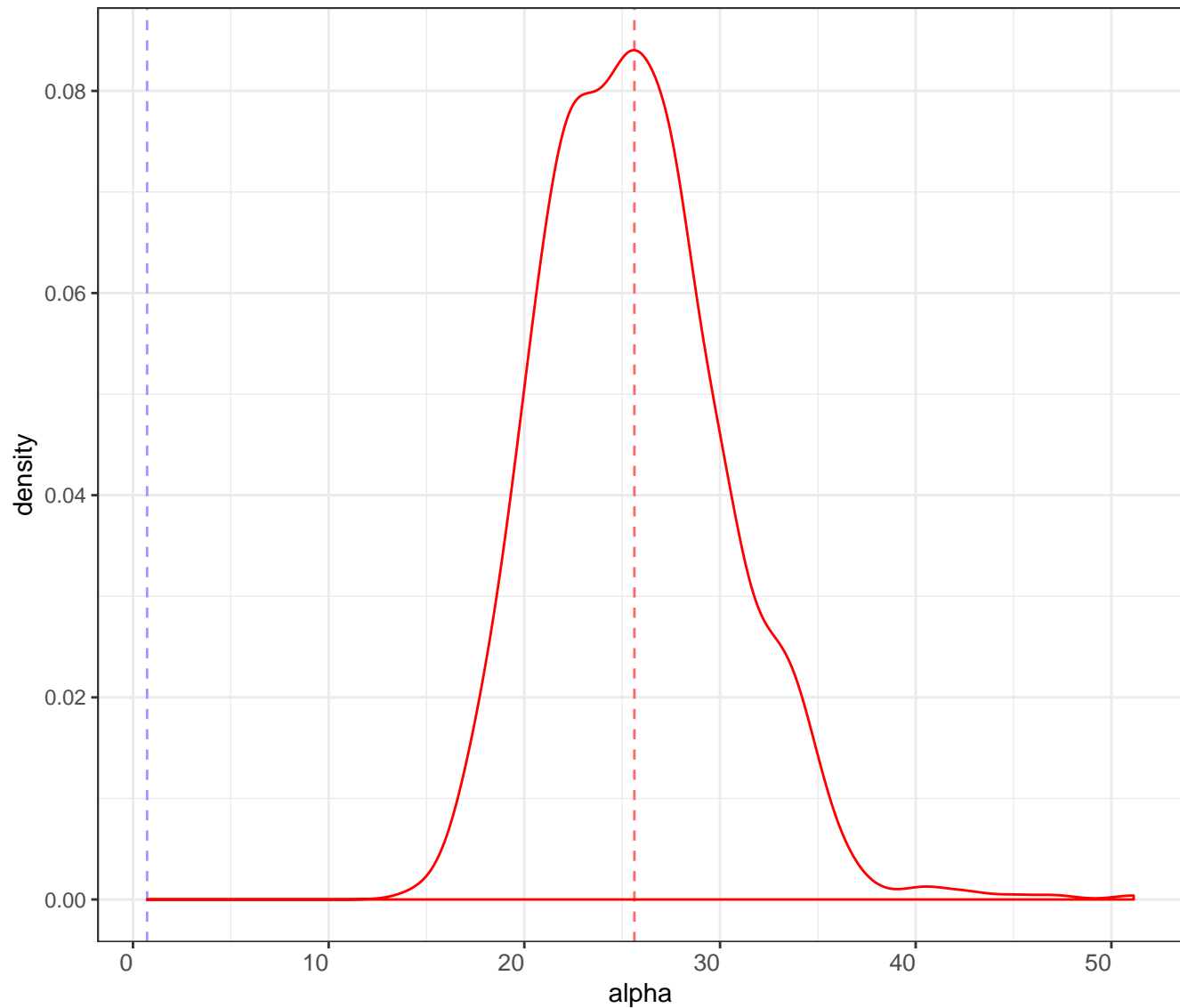
Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

Legend

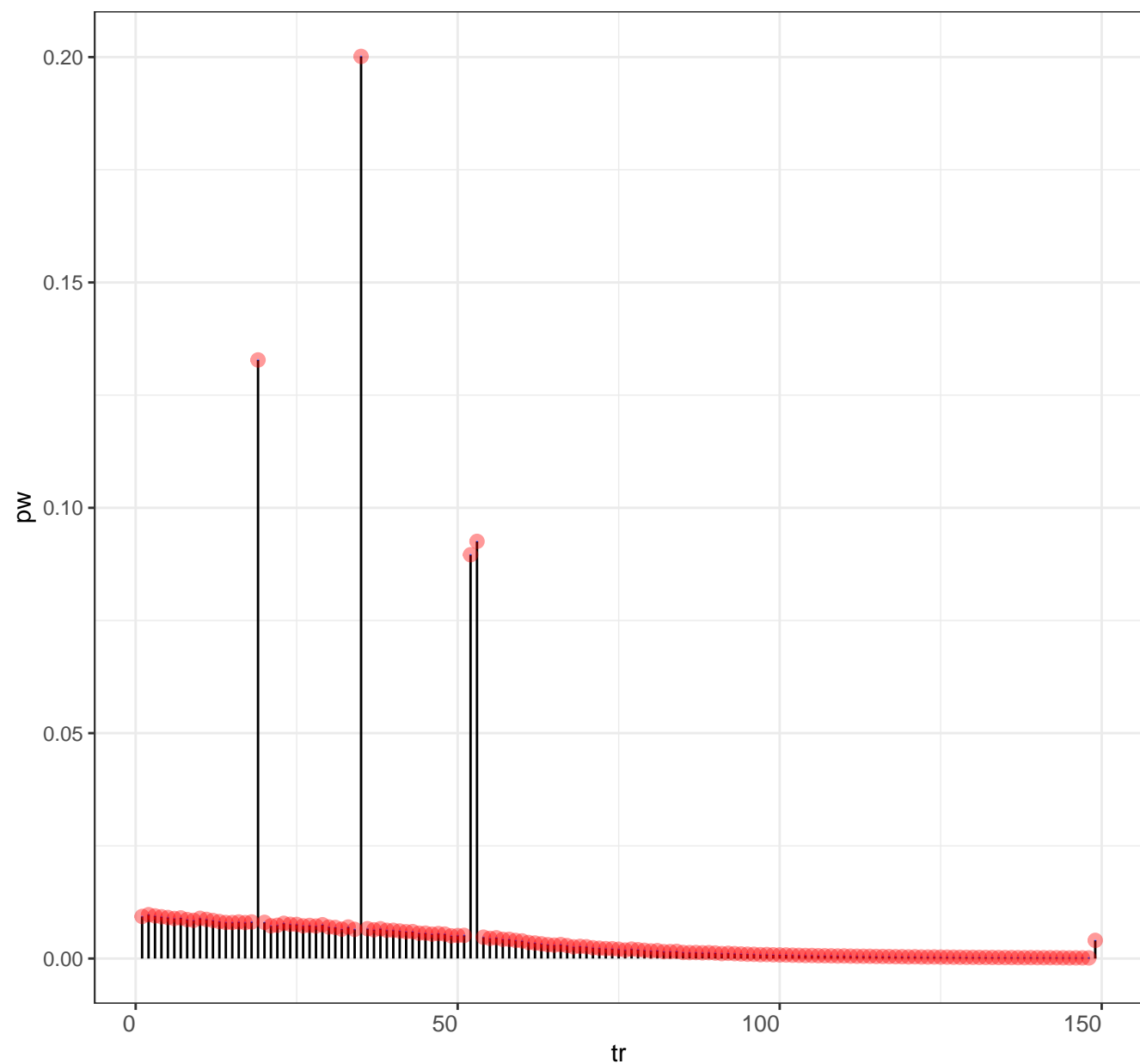
posterior mean

prior mean



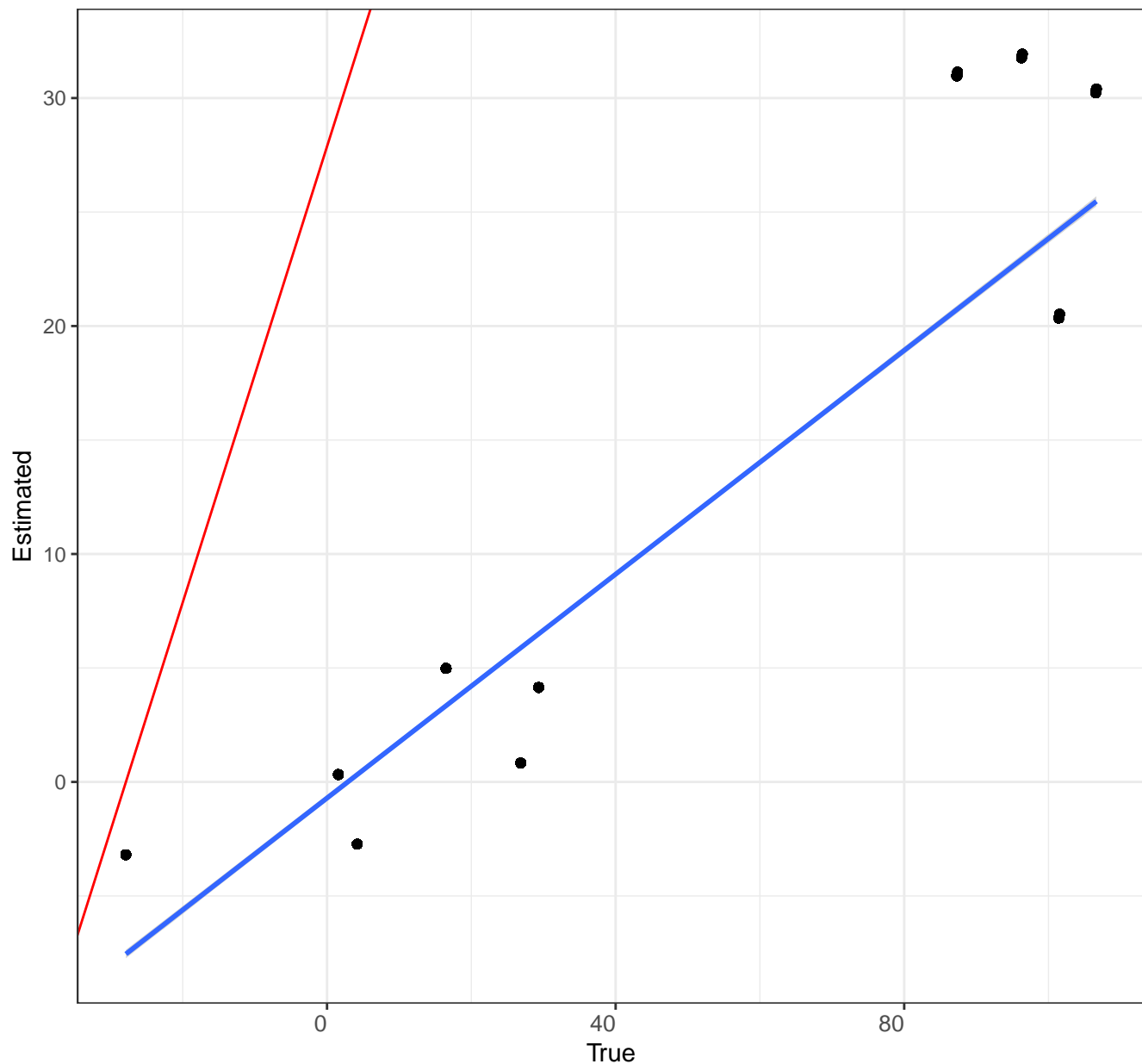
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



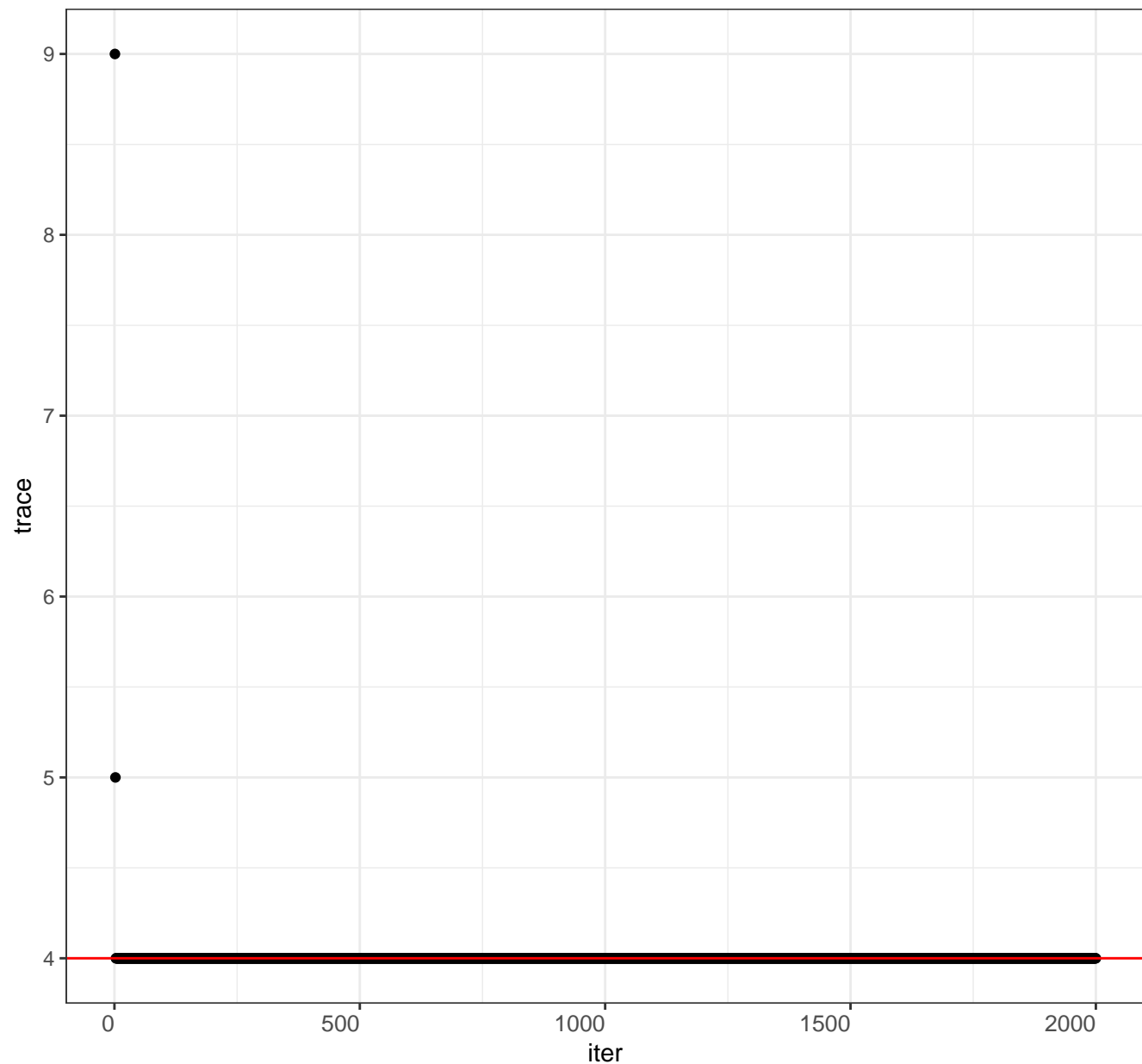
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

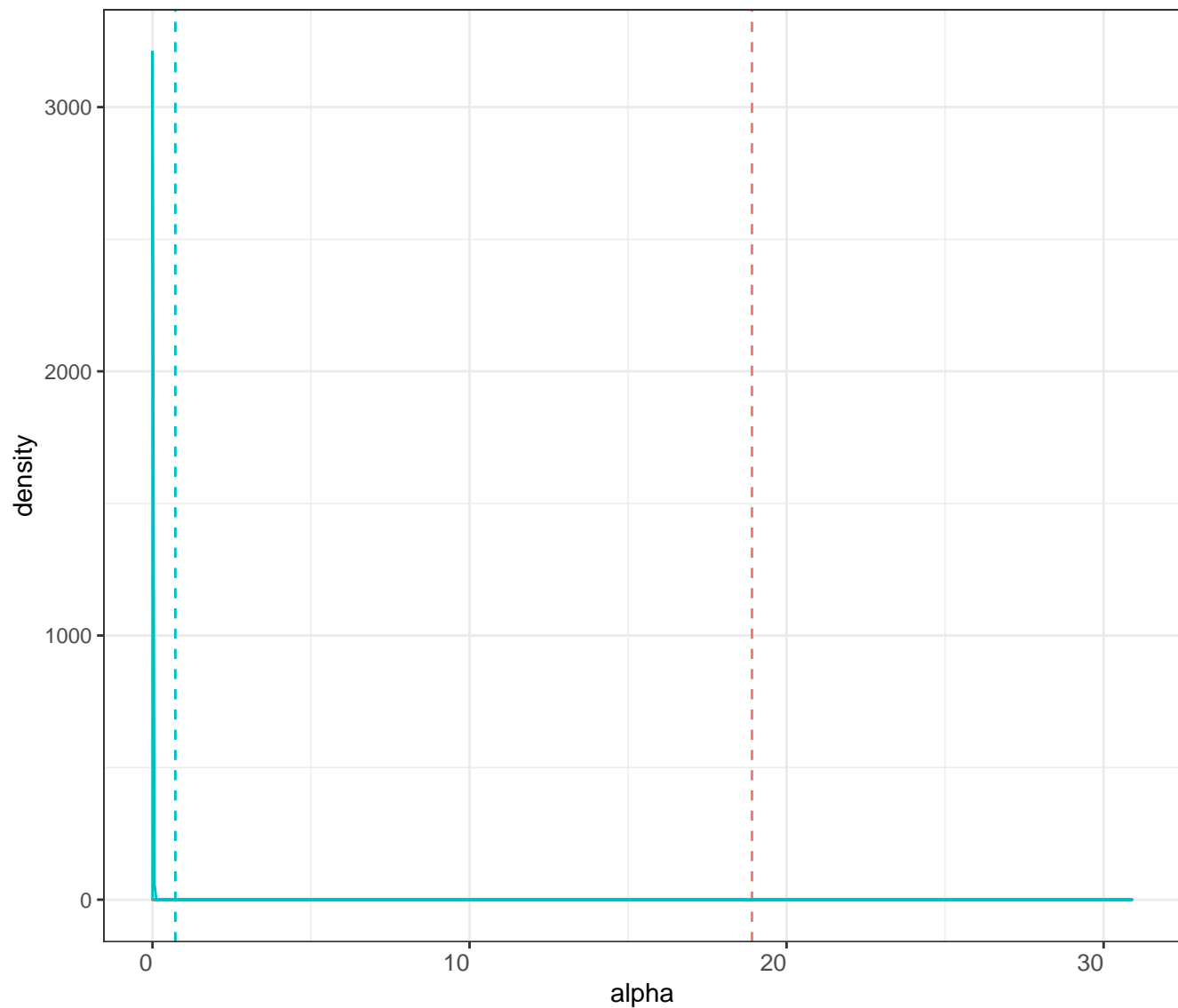
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

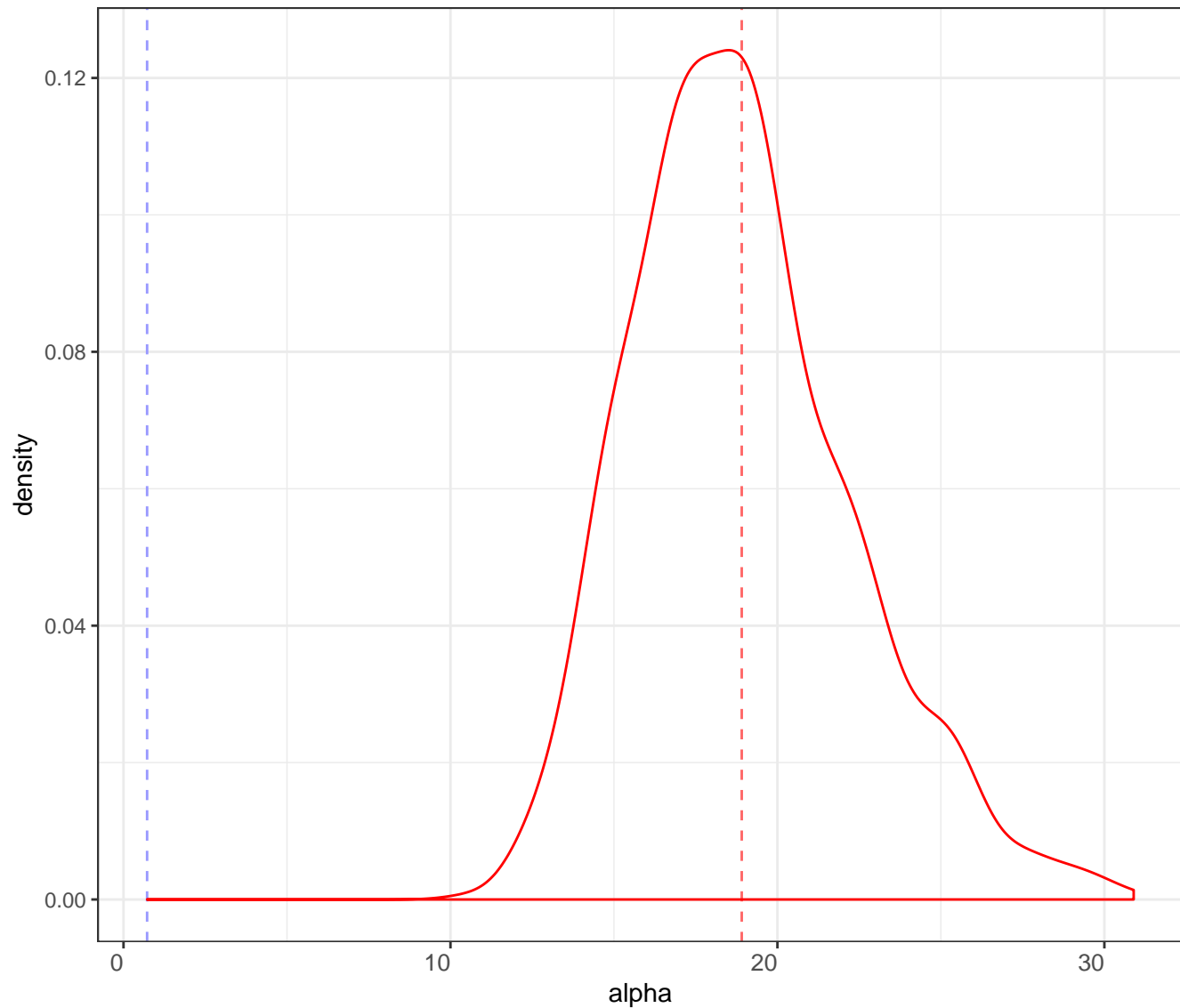
type   posterior   prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

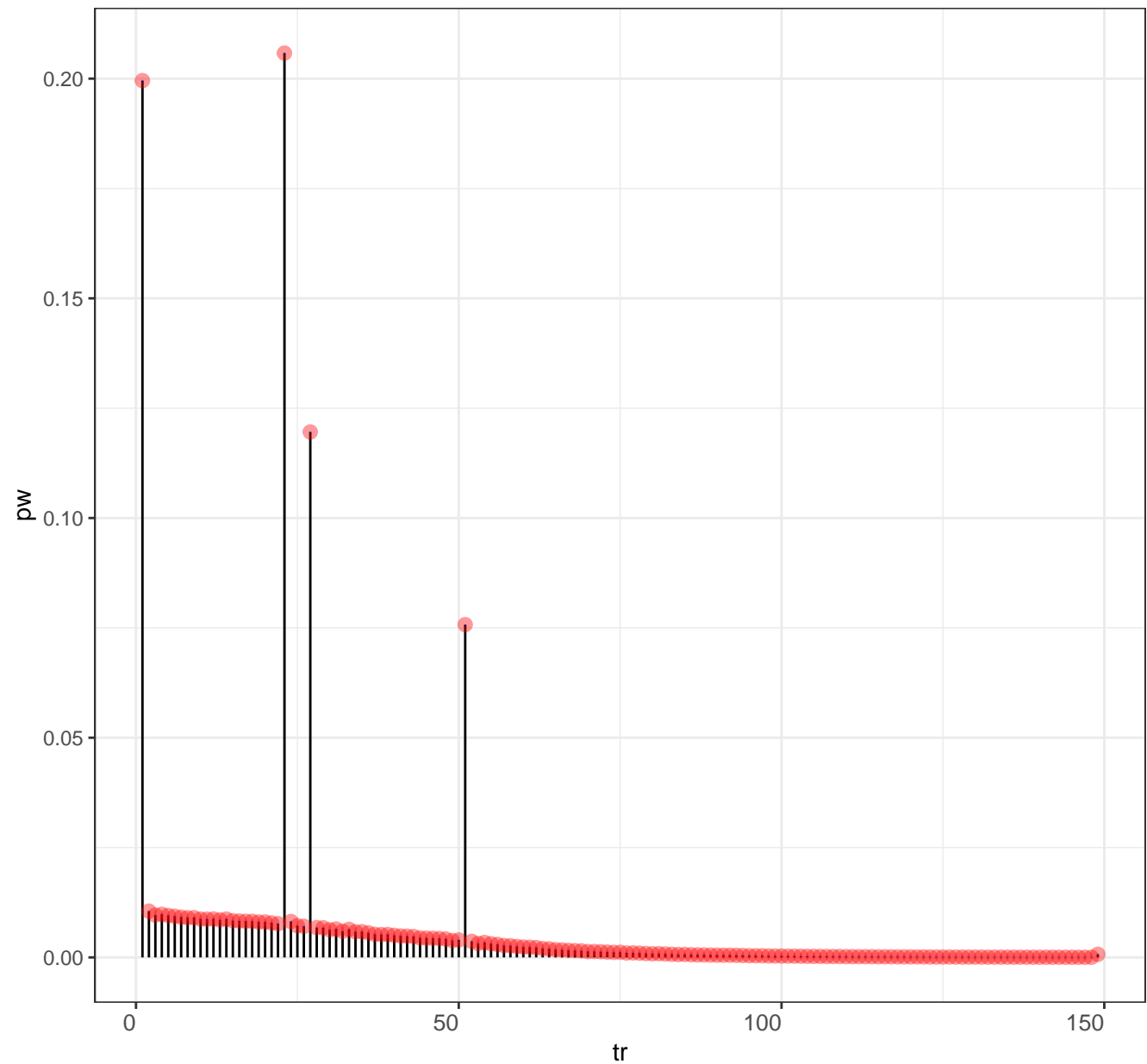
# Posterior distribution for alpha

Legend    posterior mean    prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

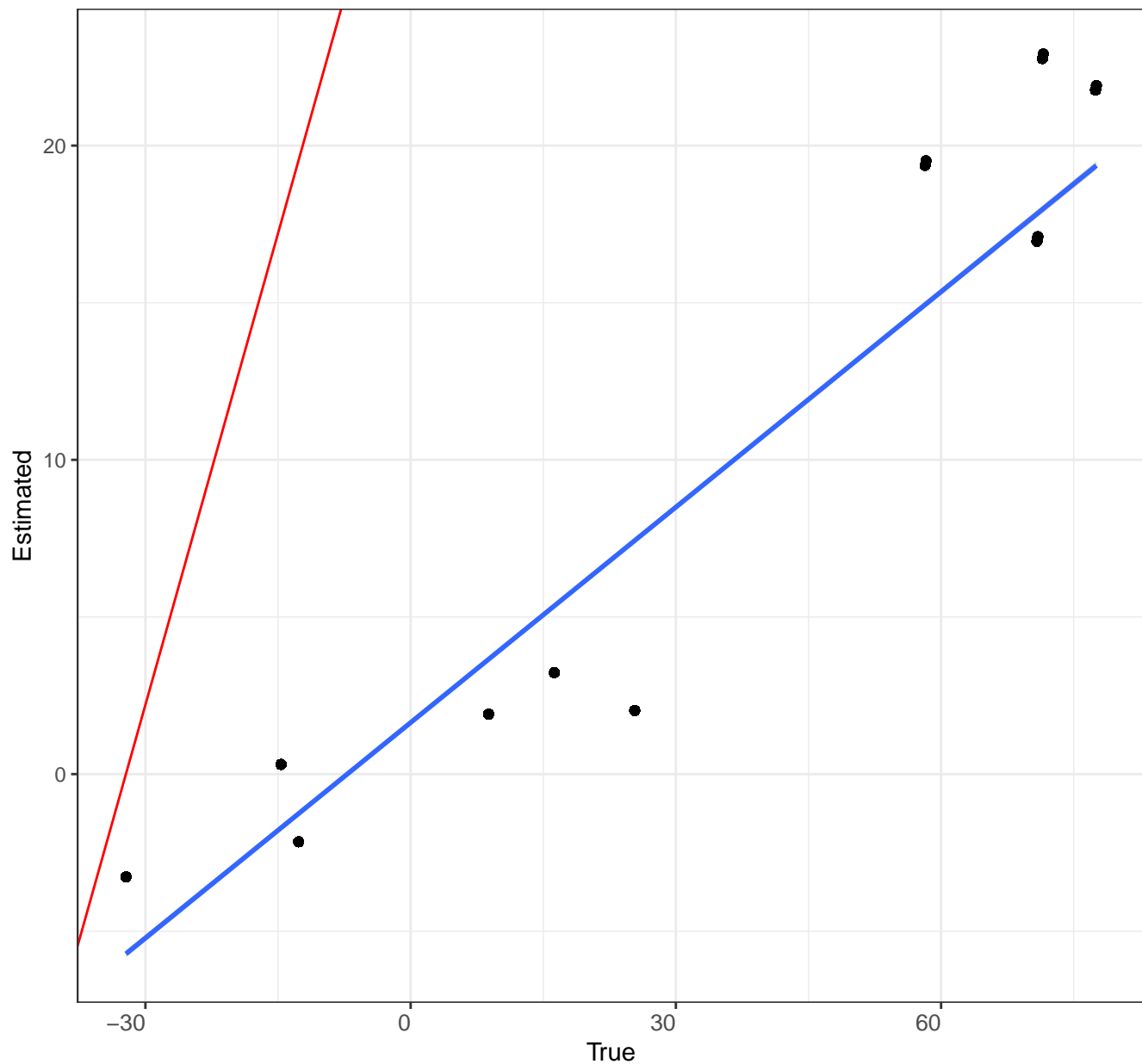
Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



Number of iterations: 2000 burnin: 1000 number of samples: 500

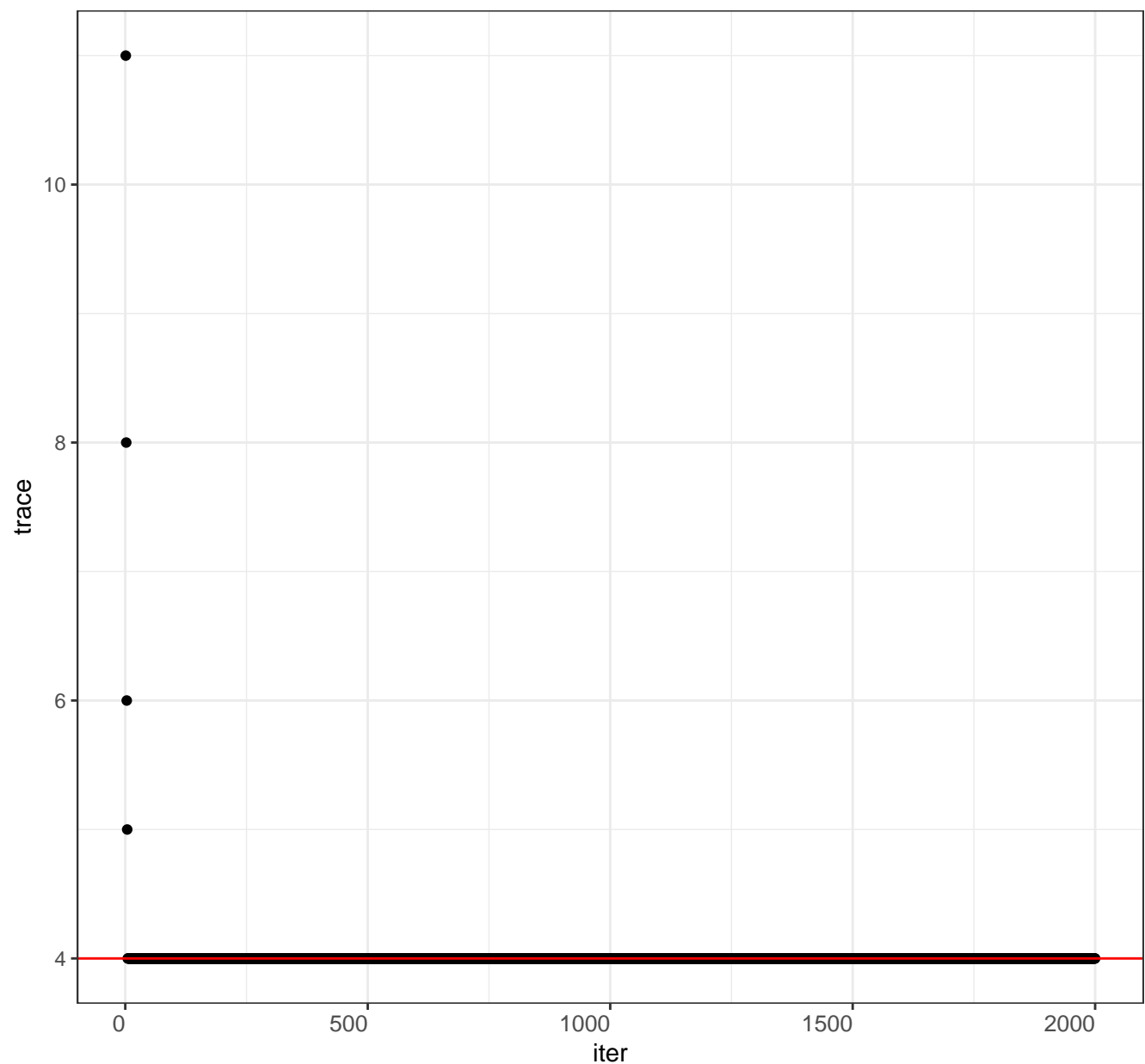


True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

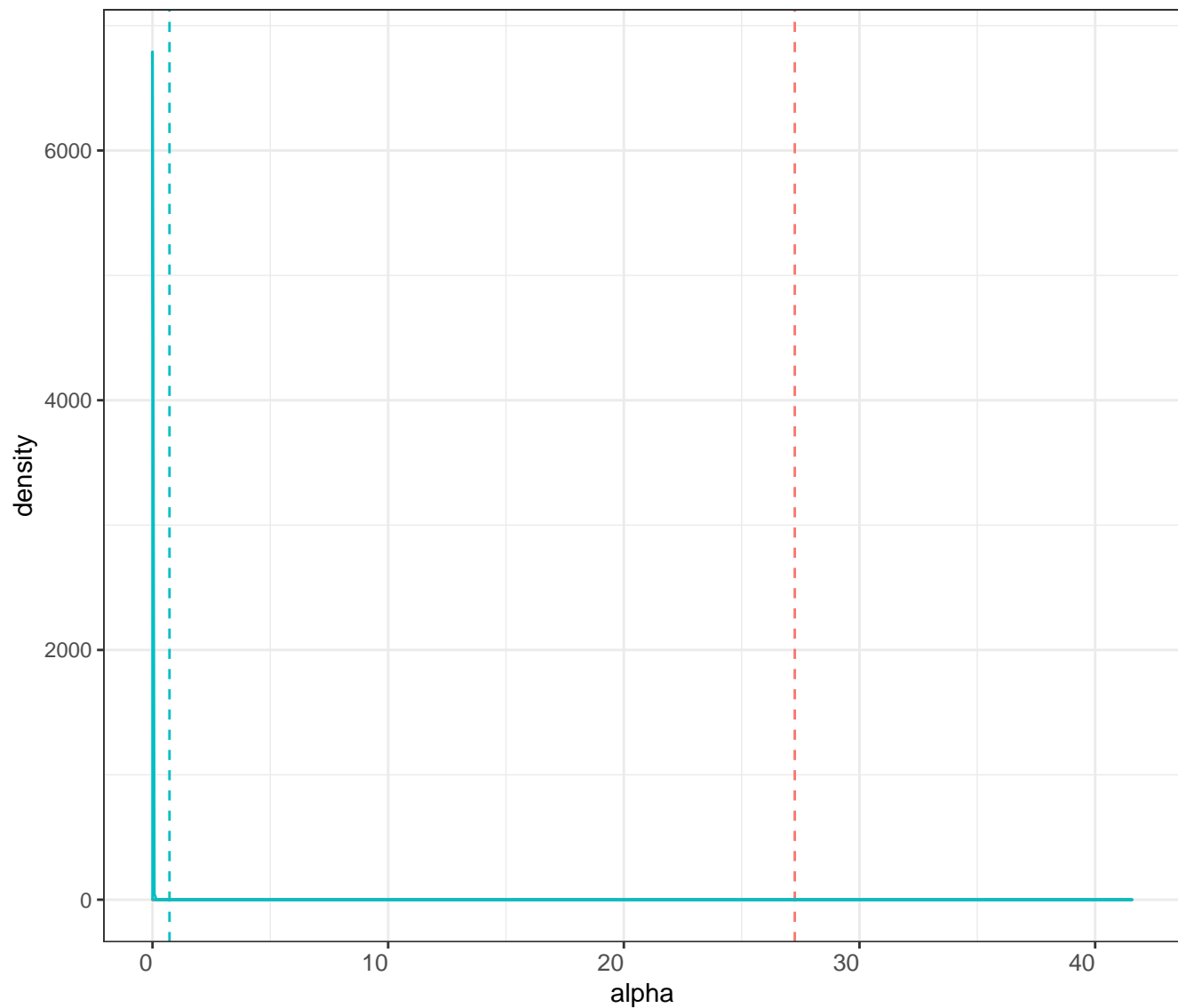
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

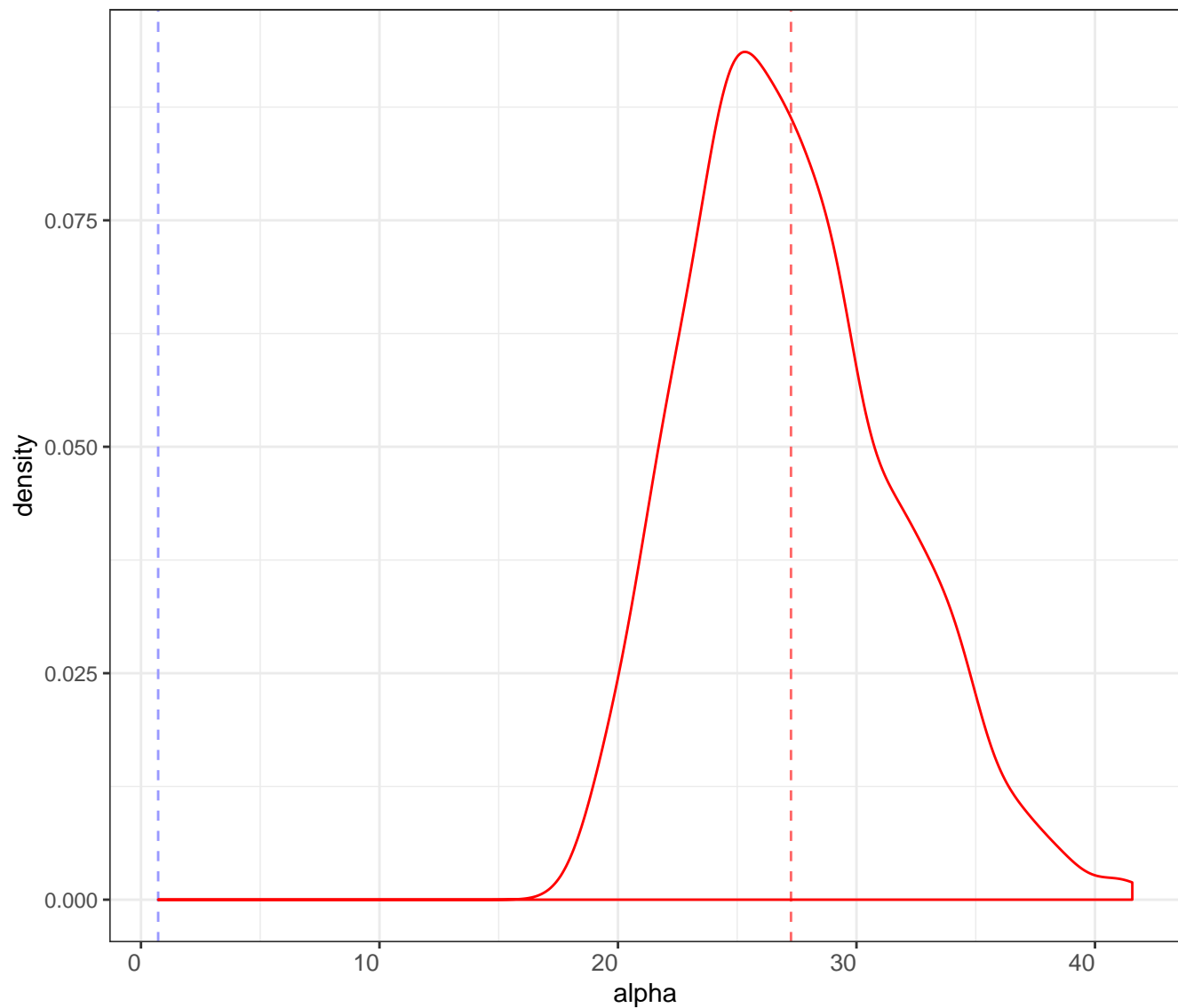
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

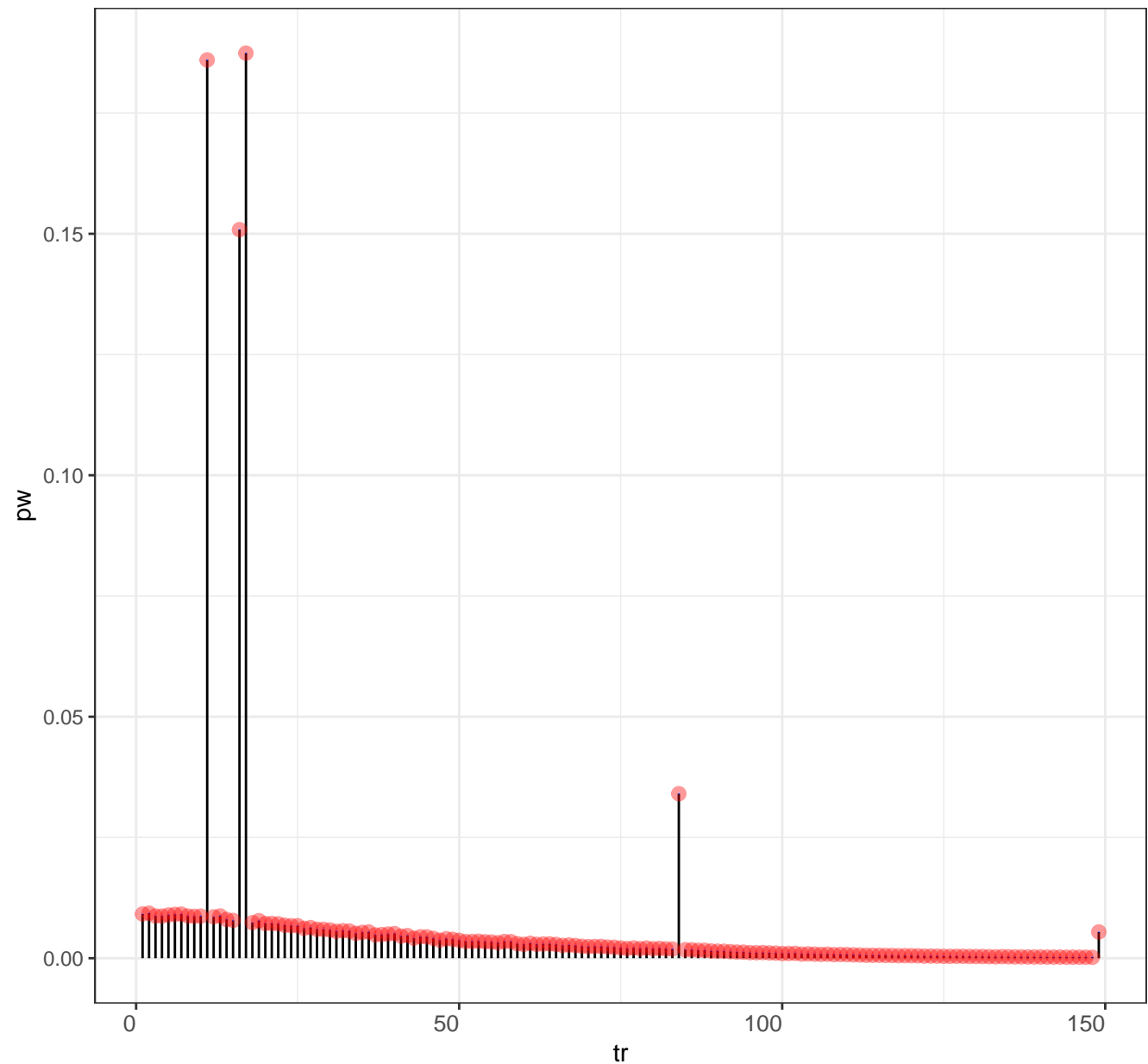
# Posterior distribution for alpha

Legend    posterior mean    prior mean



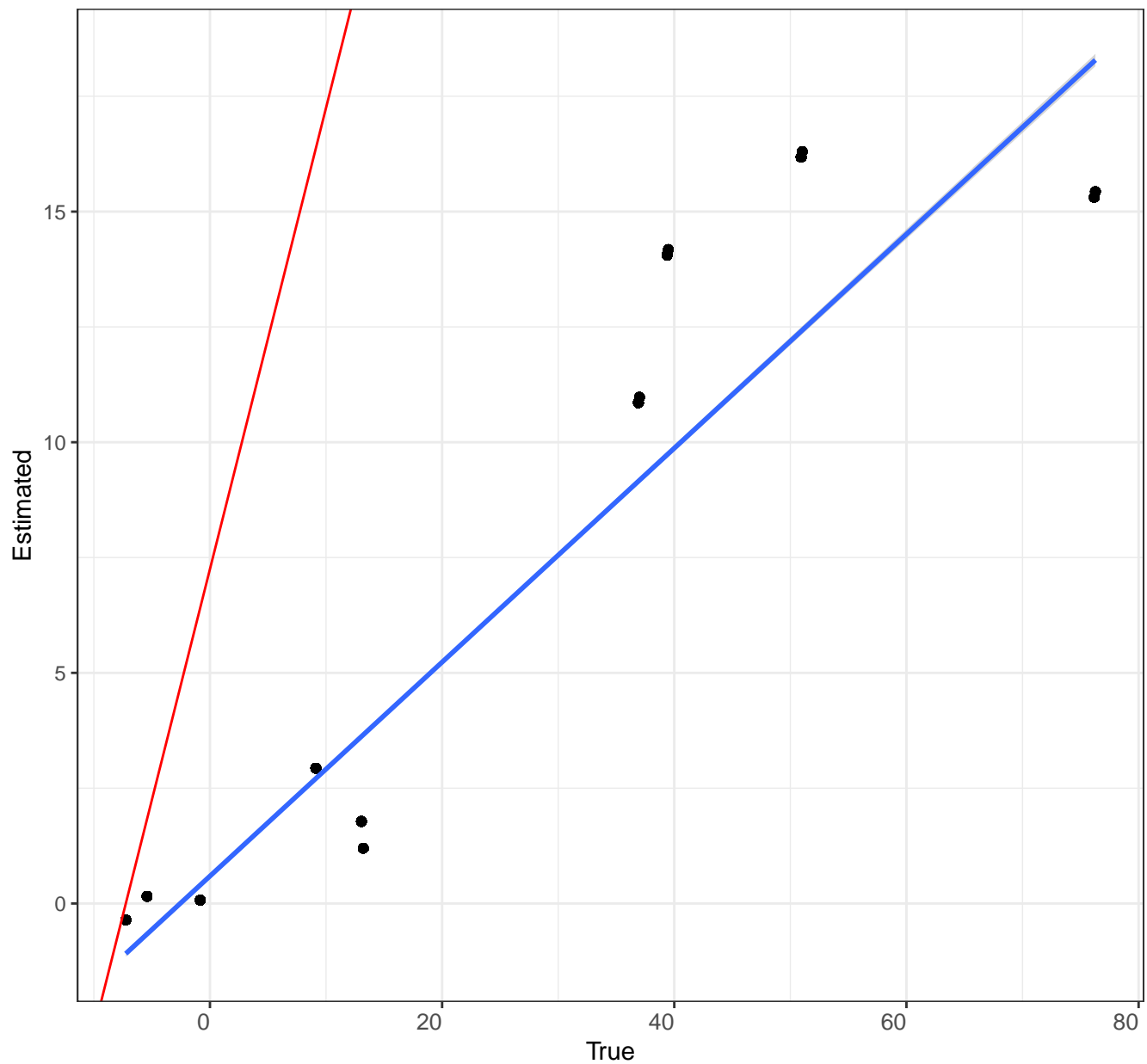
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.005$



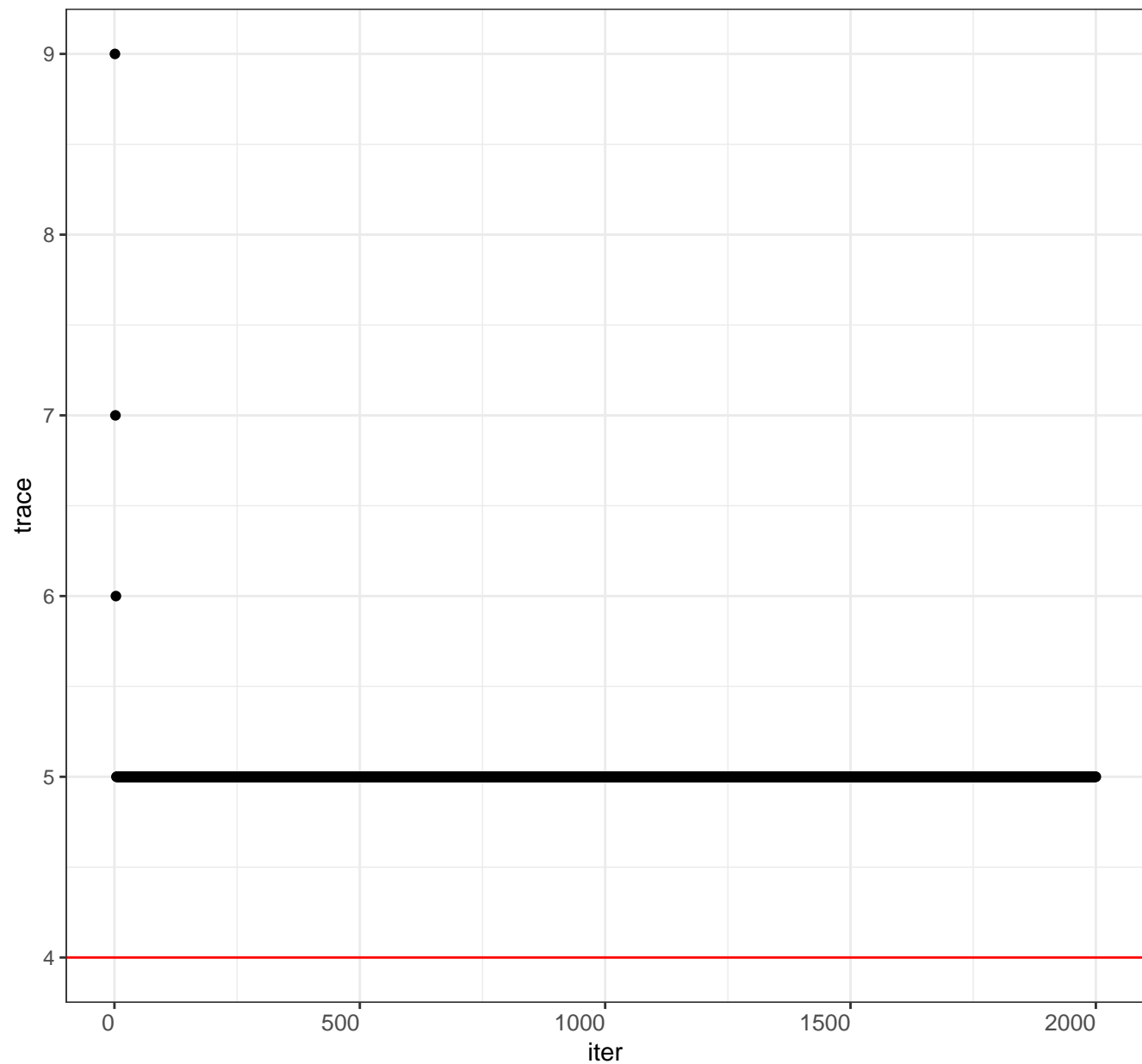
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

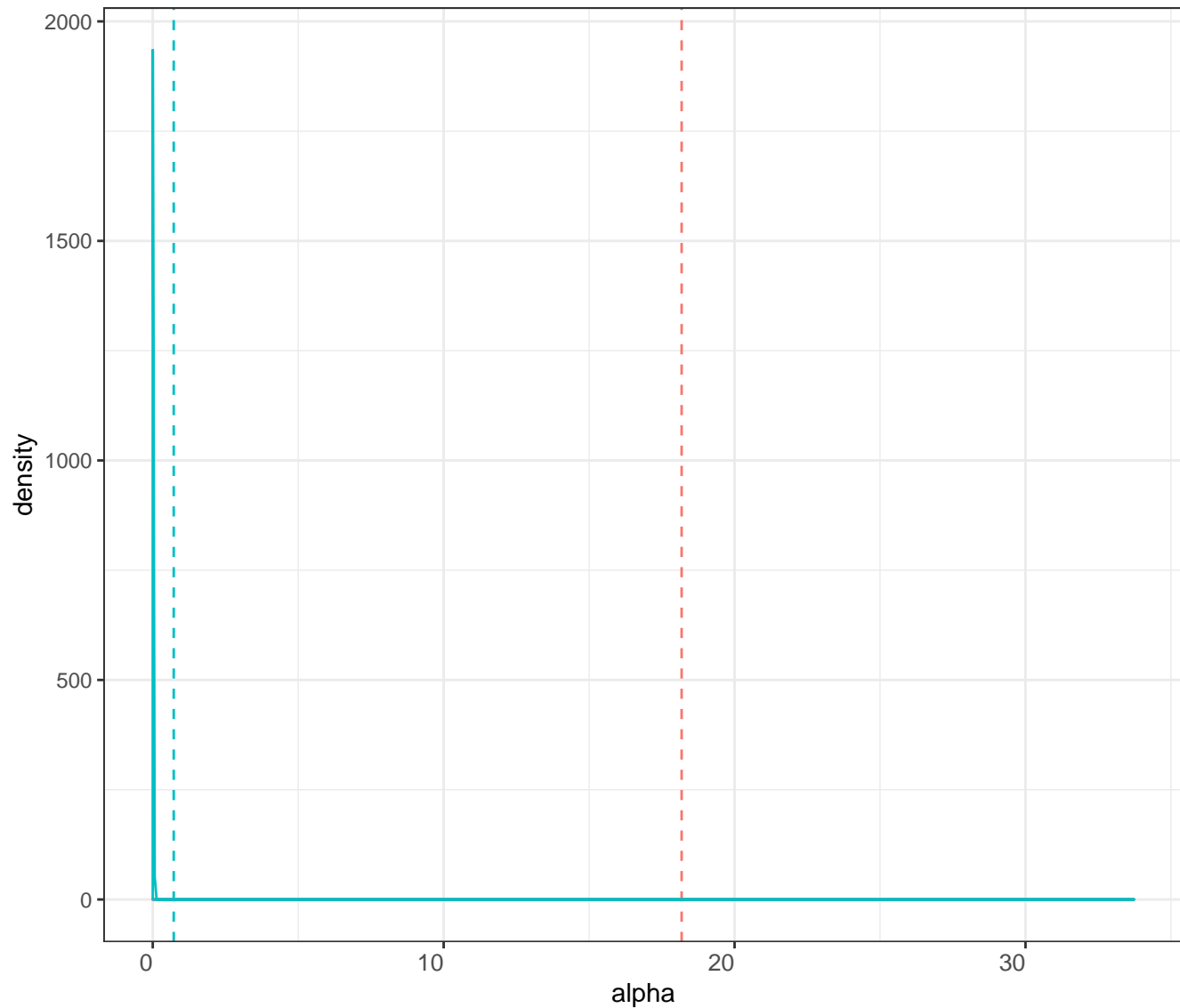
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

type  posterior  prior

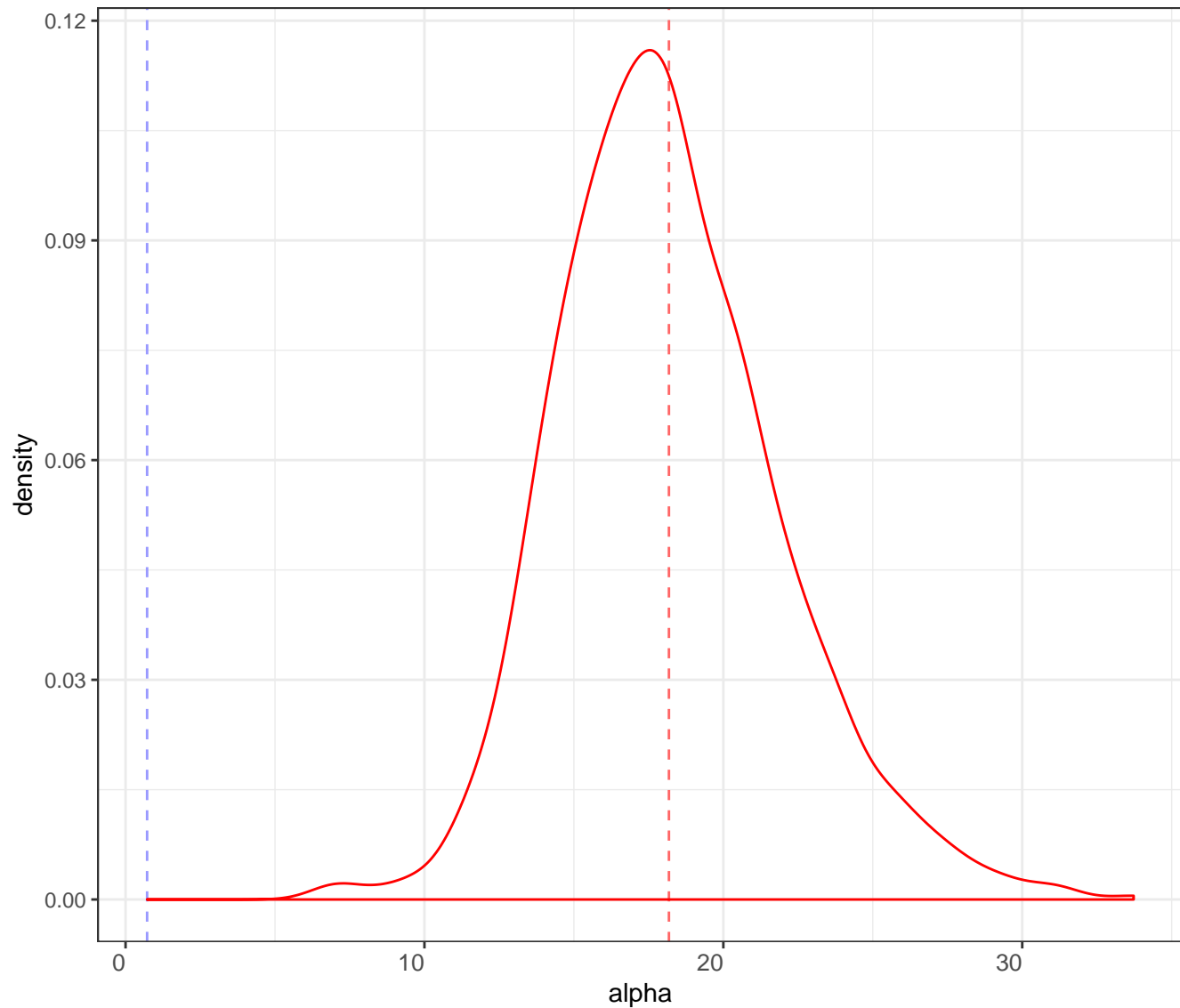


Number of iterations: 2000 burnin: 1000 number of samples: 500



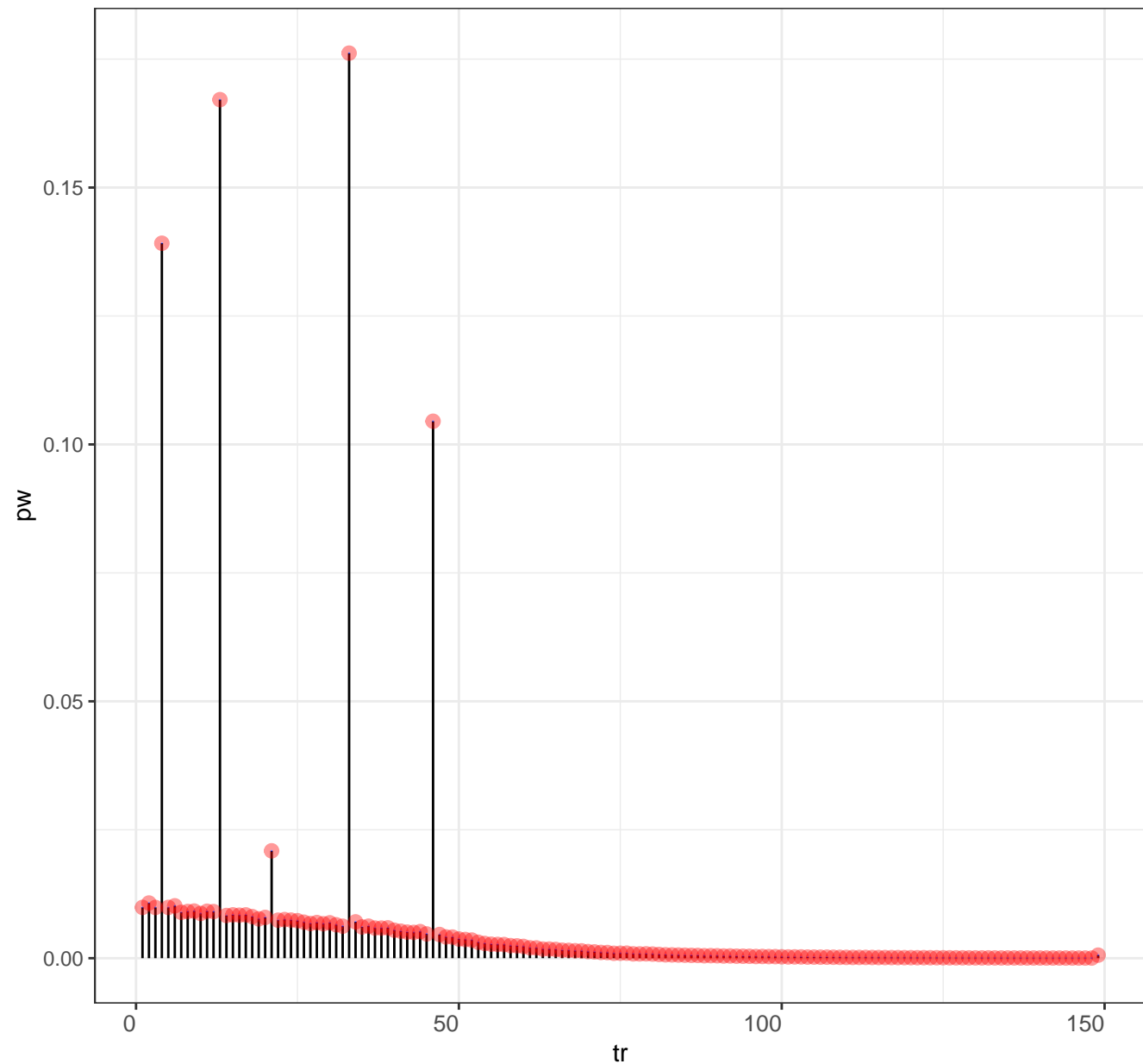
# Posterior distribution for alpha

Legend    posterior mean    prior mean



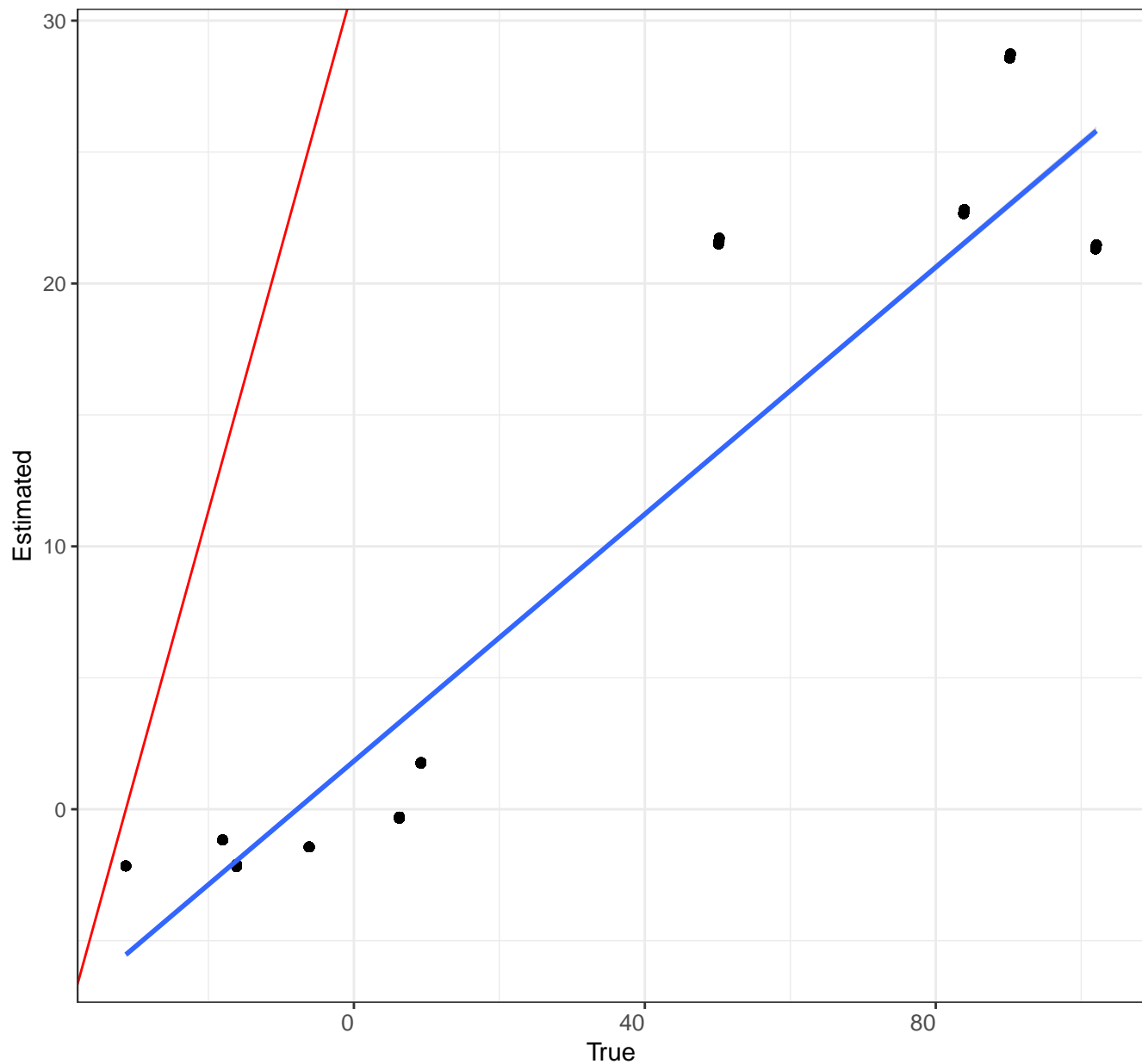
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



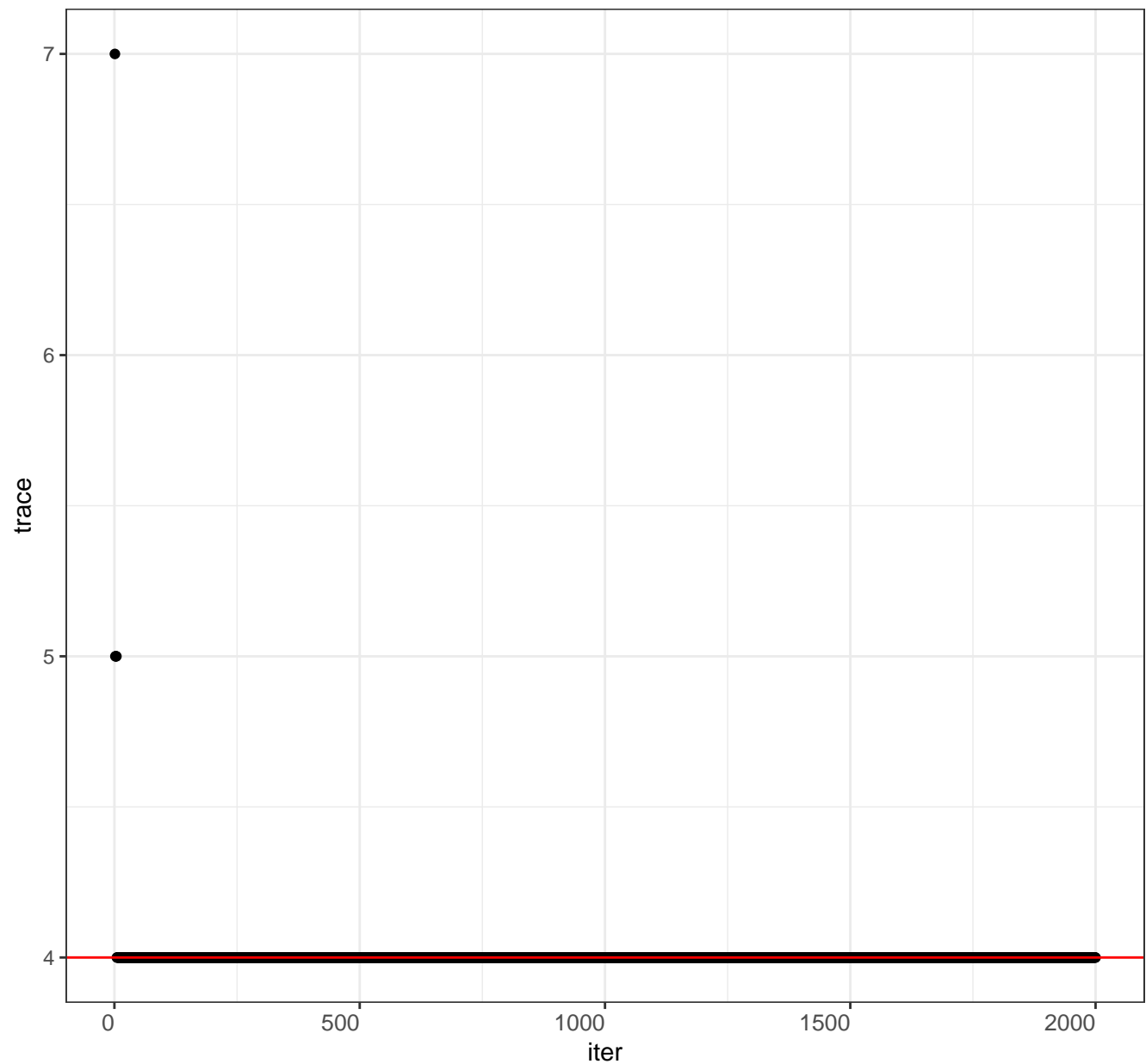
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=10 true K=4 type=1

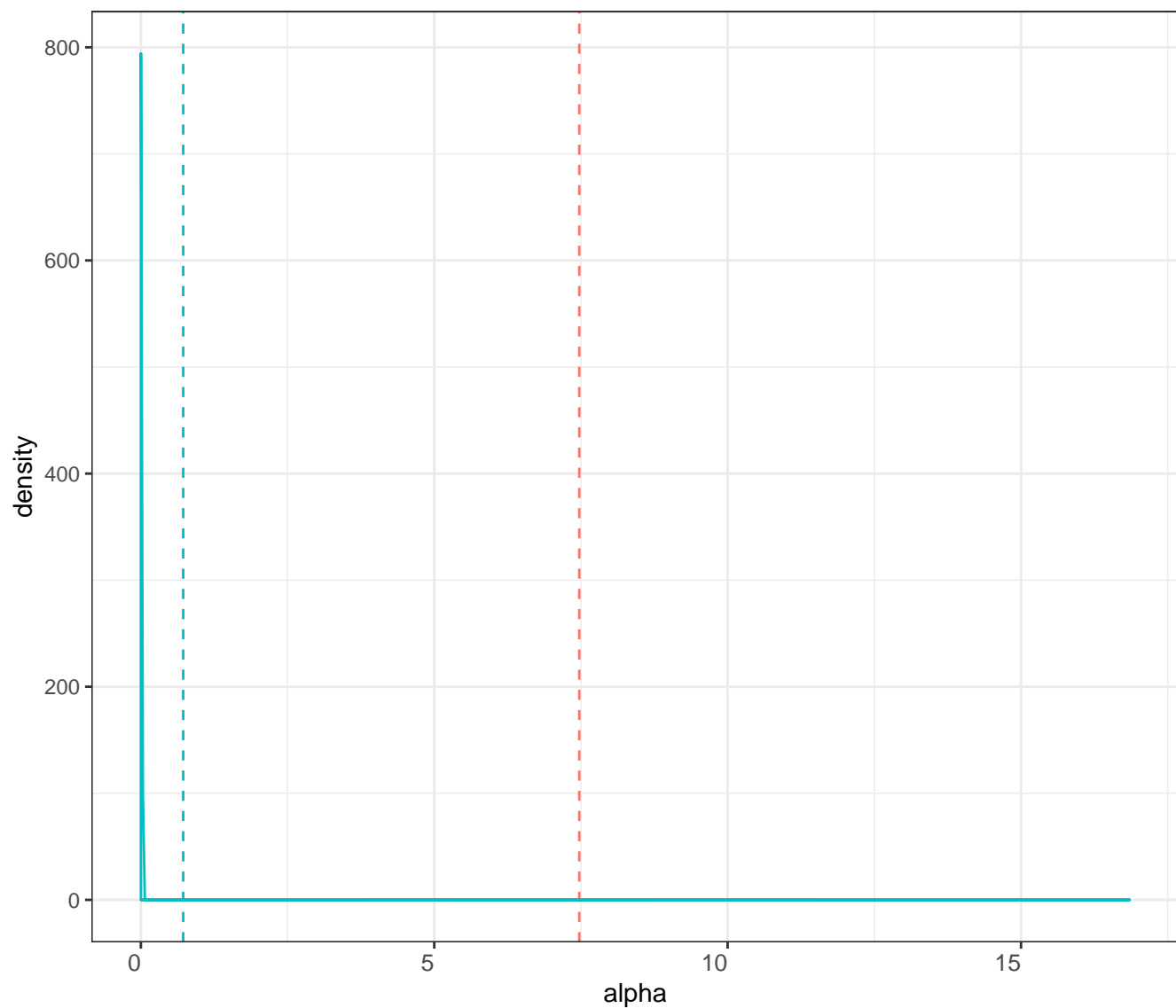
Trace plot for the number of groups K for S=80 r=10 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=10 true gr K=4 ,type=1 ,N=150

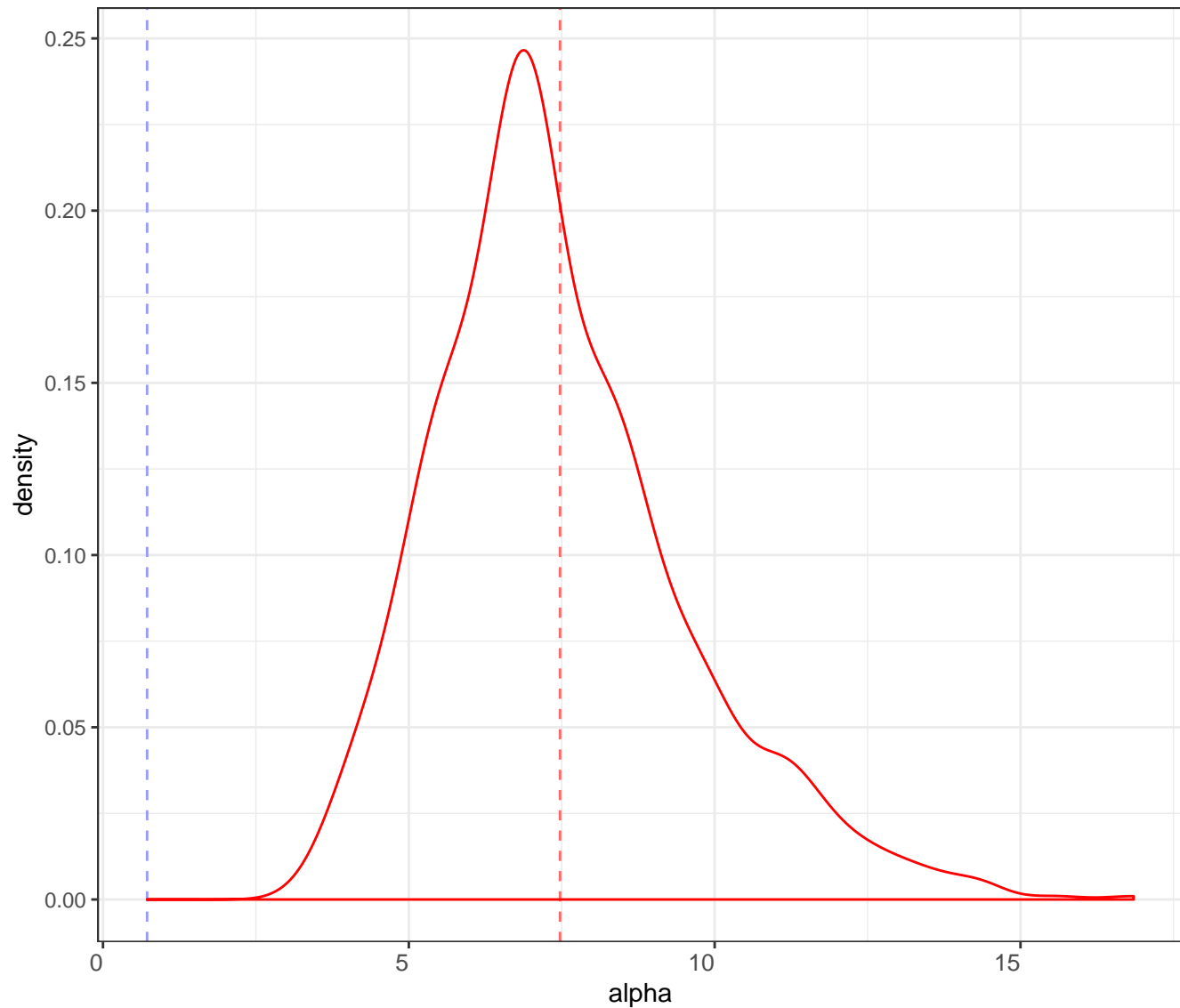
type    - - posterior    - - prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

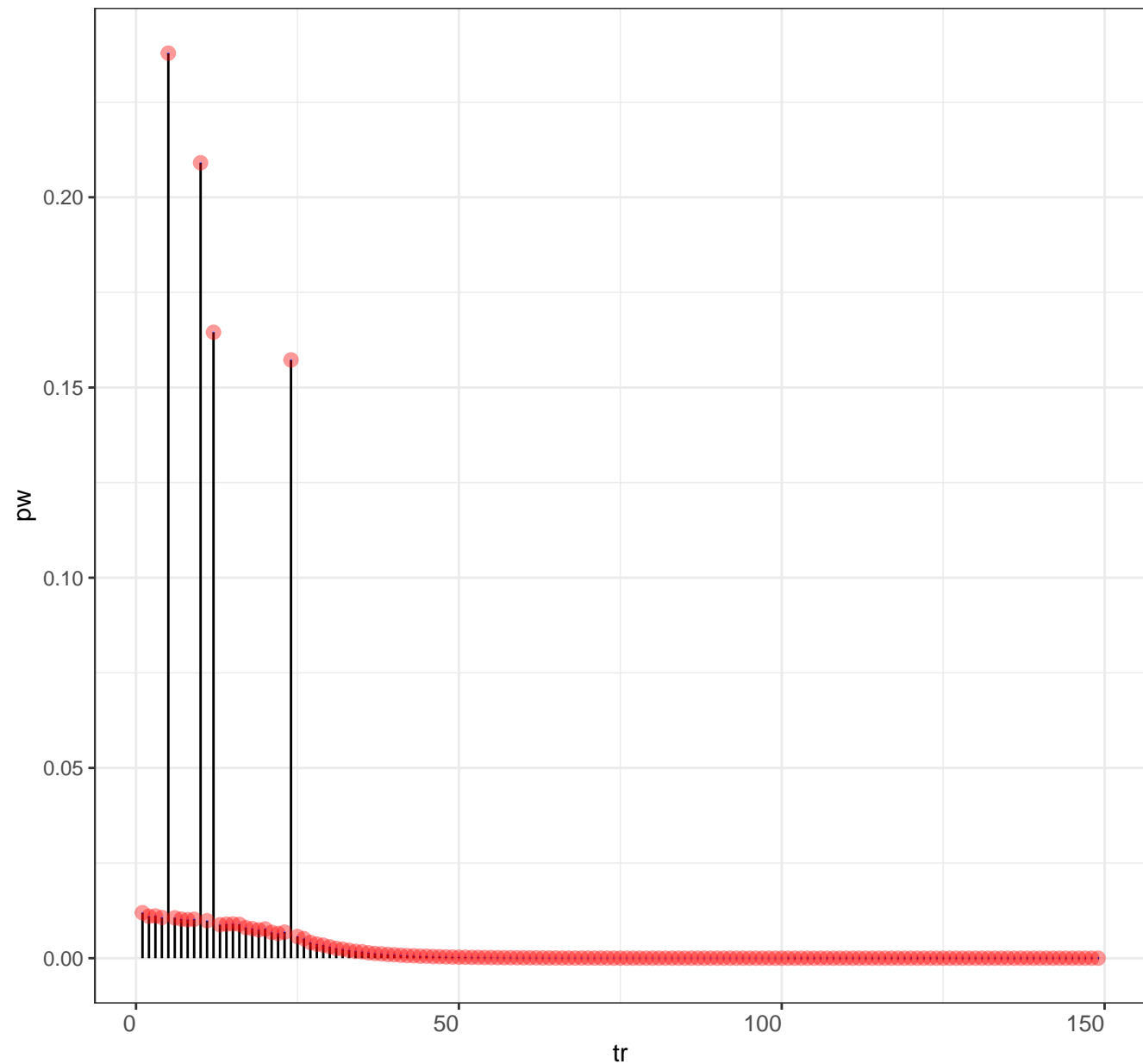
# Posterior distribution for alpha

Legend      posterior mean      prior mean



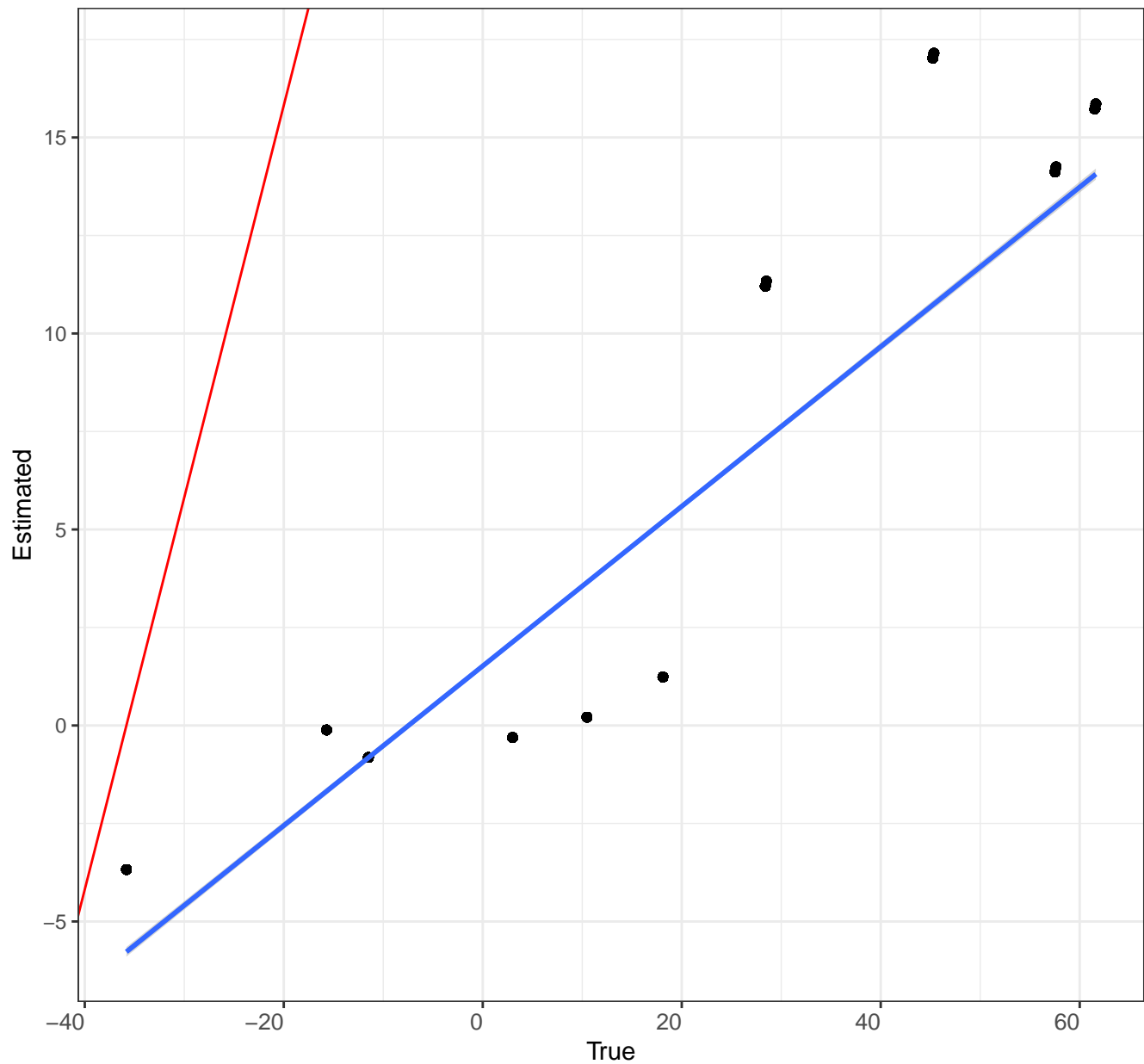
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=10 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=10$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

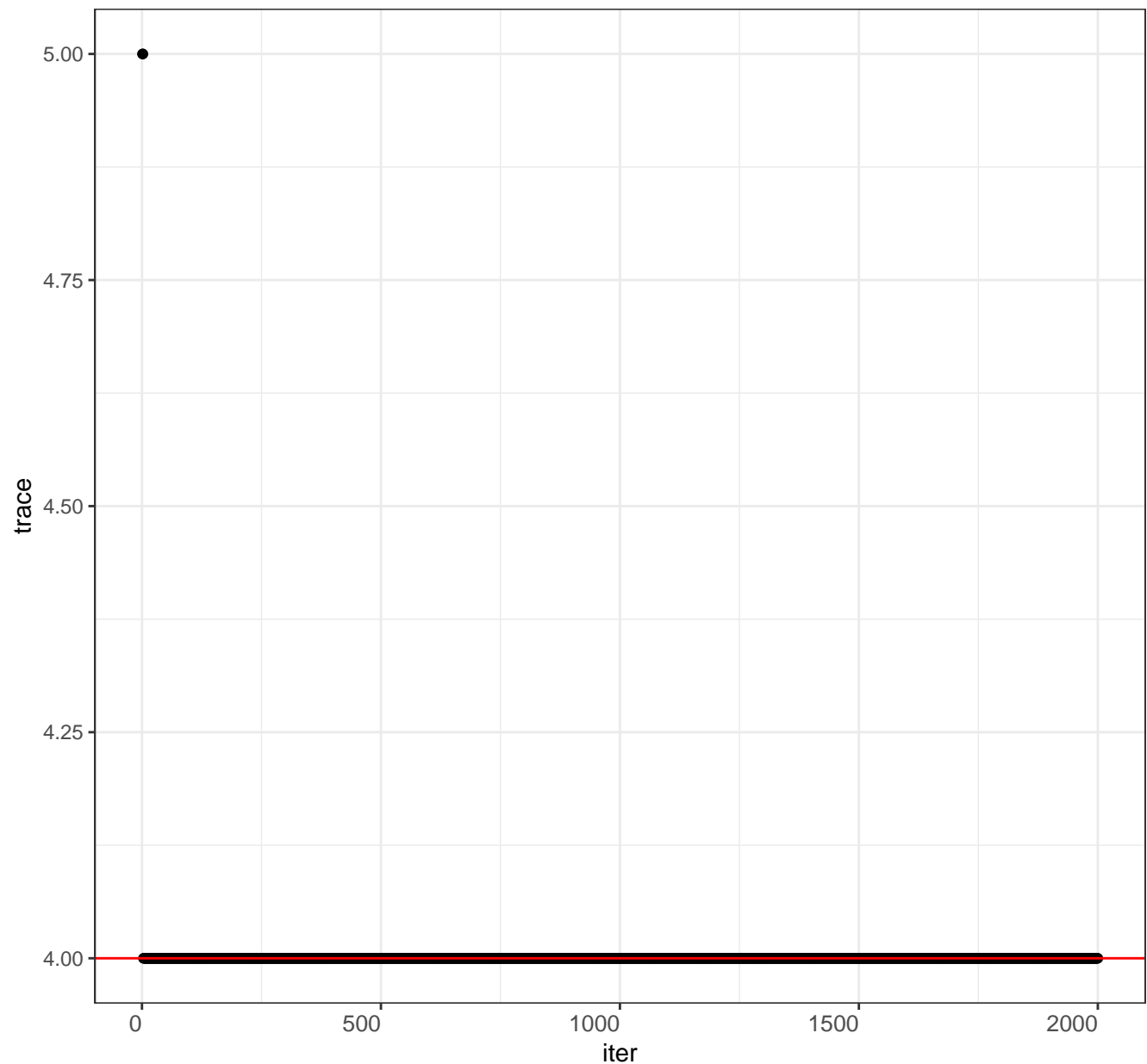
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 r=10 true K=4 type=1



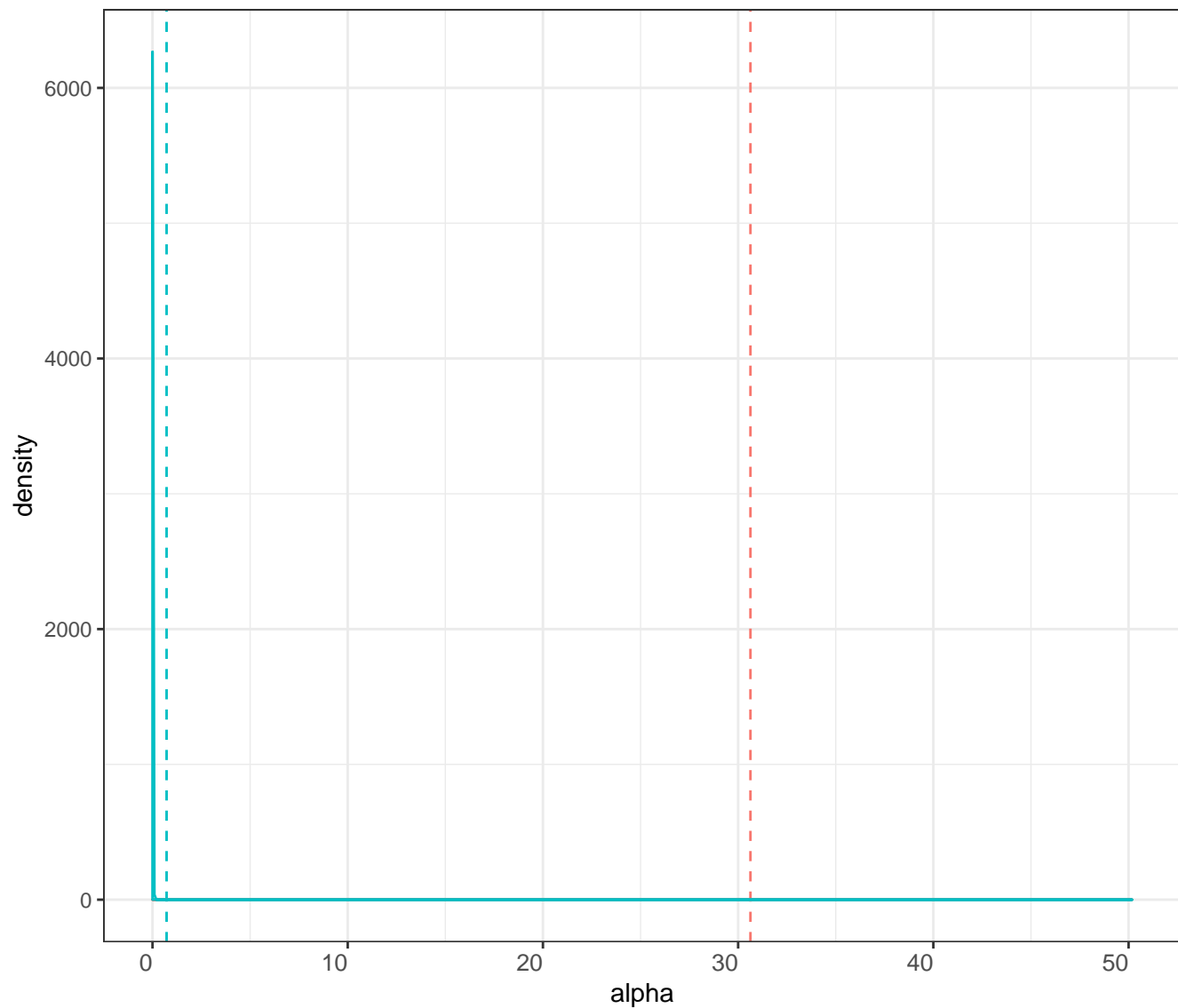
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

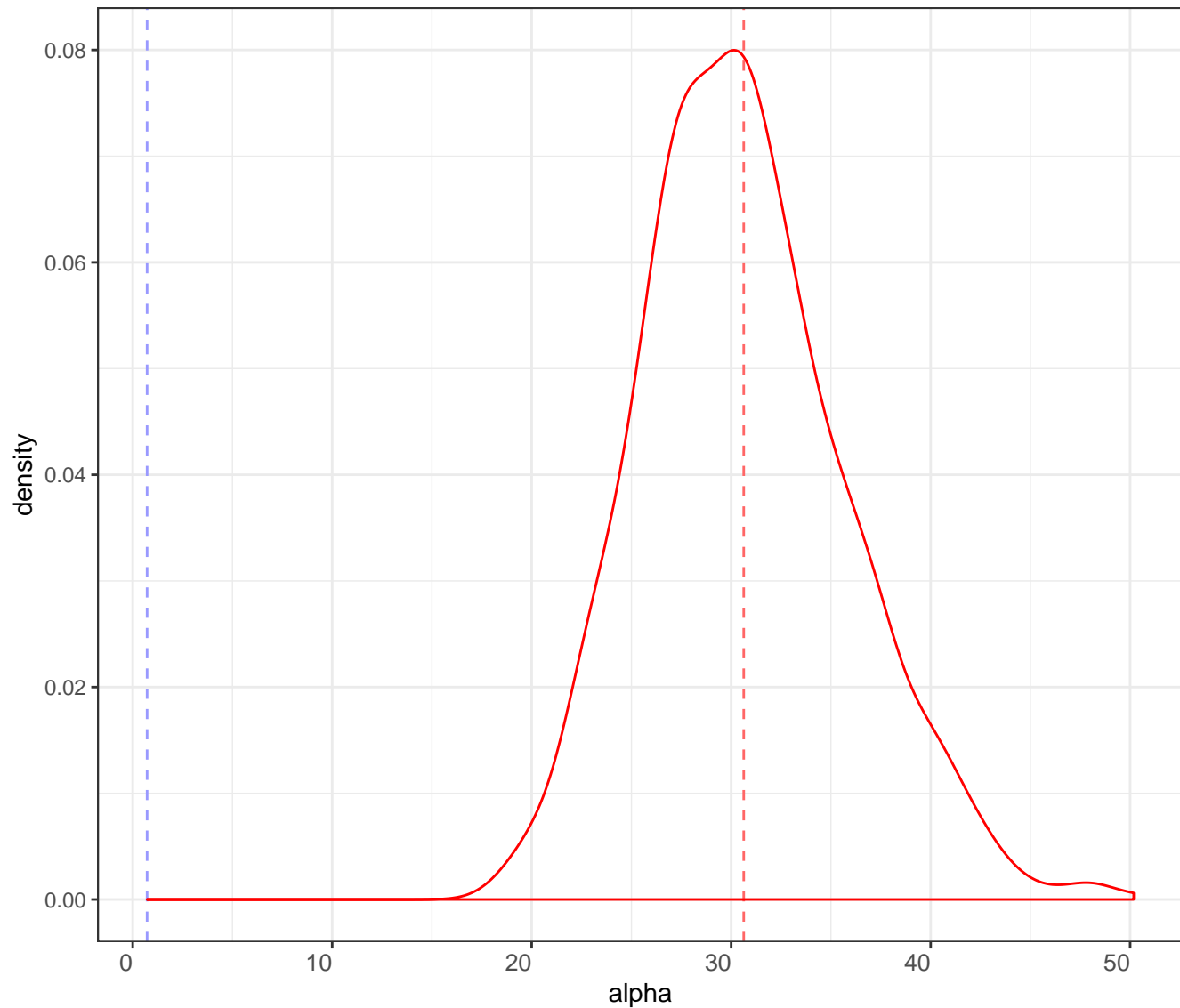
type | posterior | prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

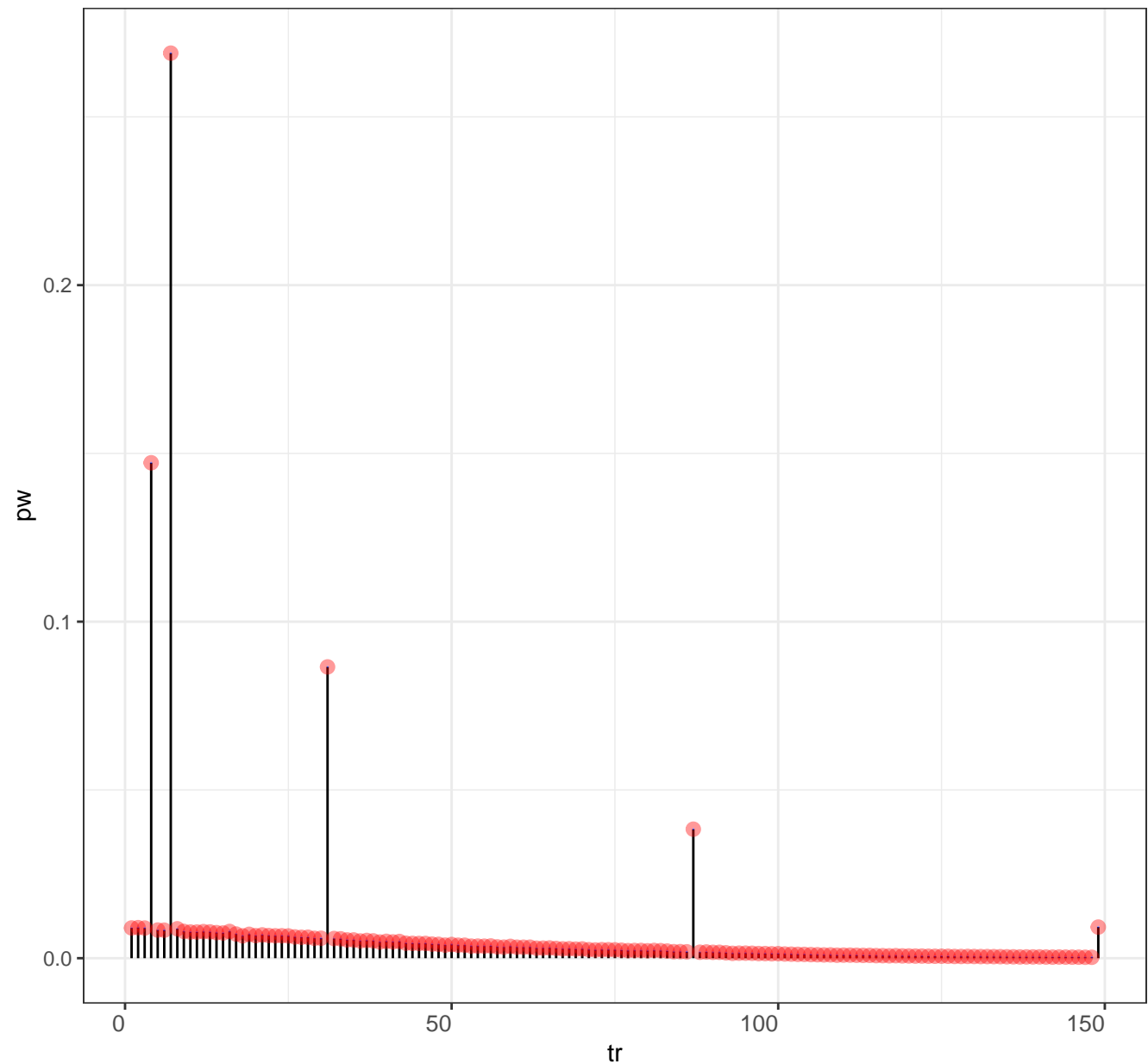
# Posterior distribution for alpha

Legend    posterior mean    prior mean



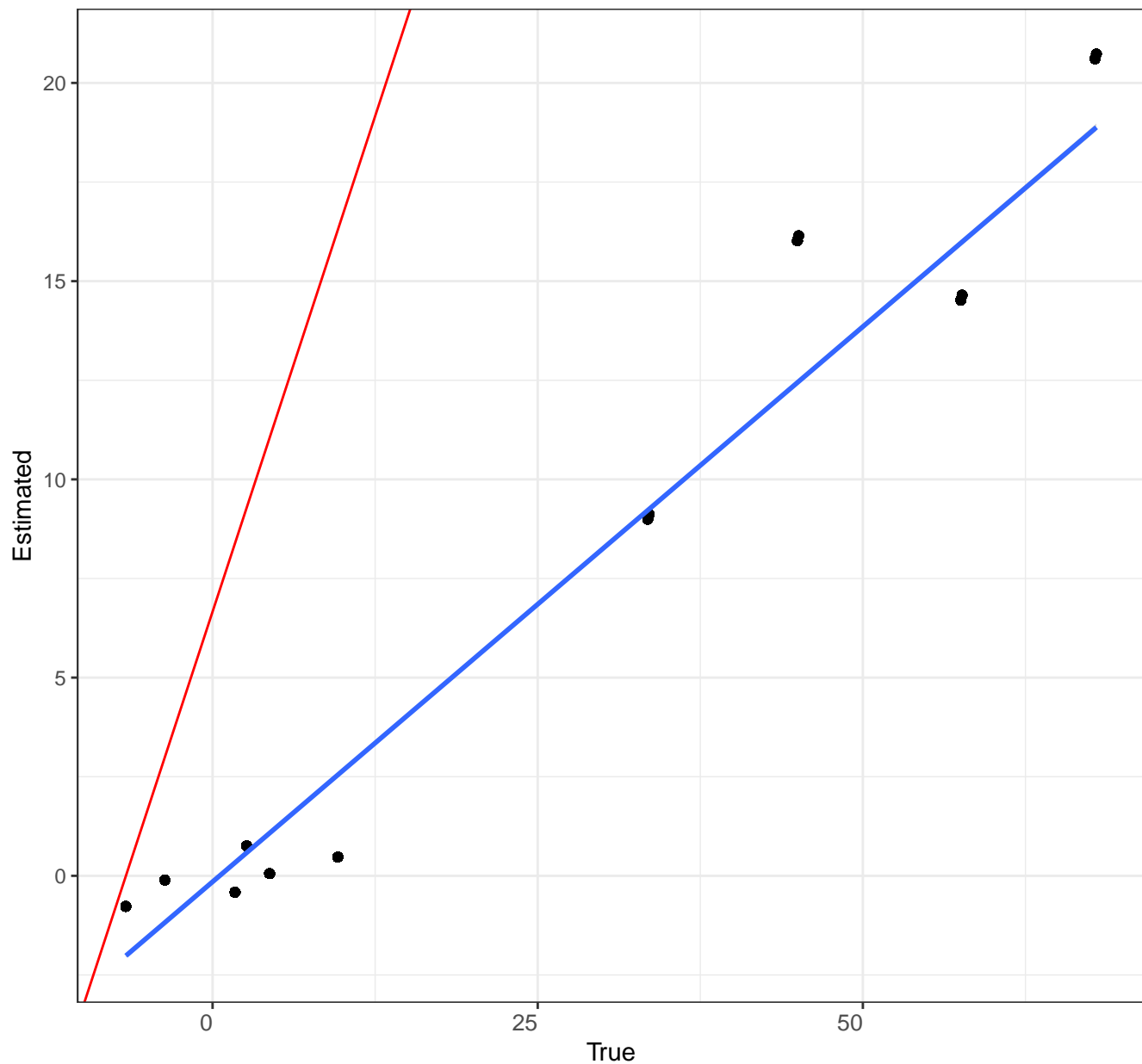
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.009$



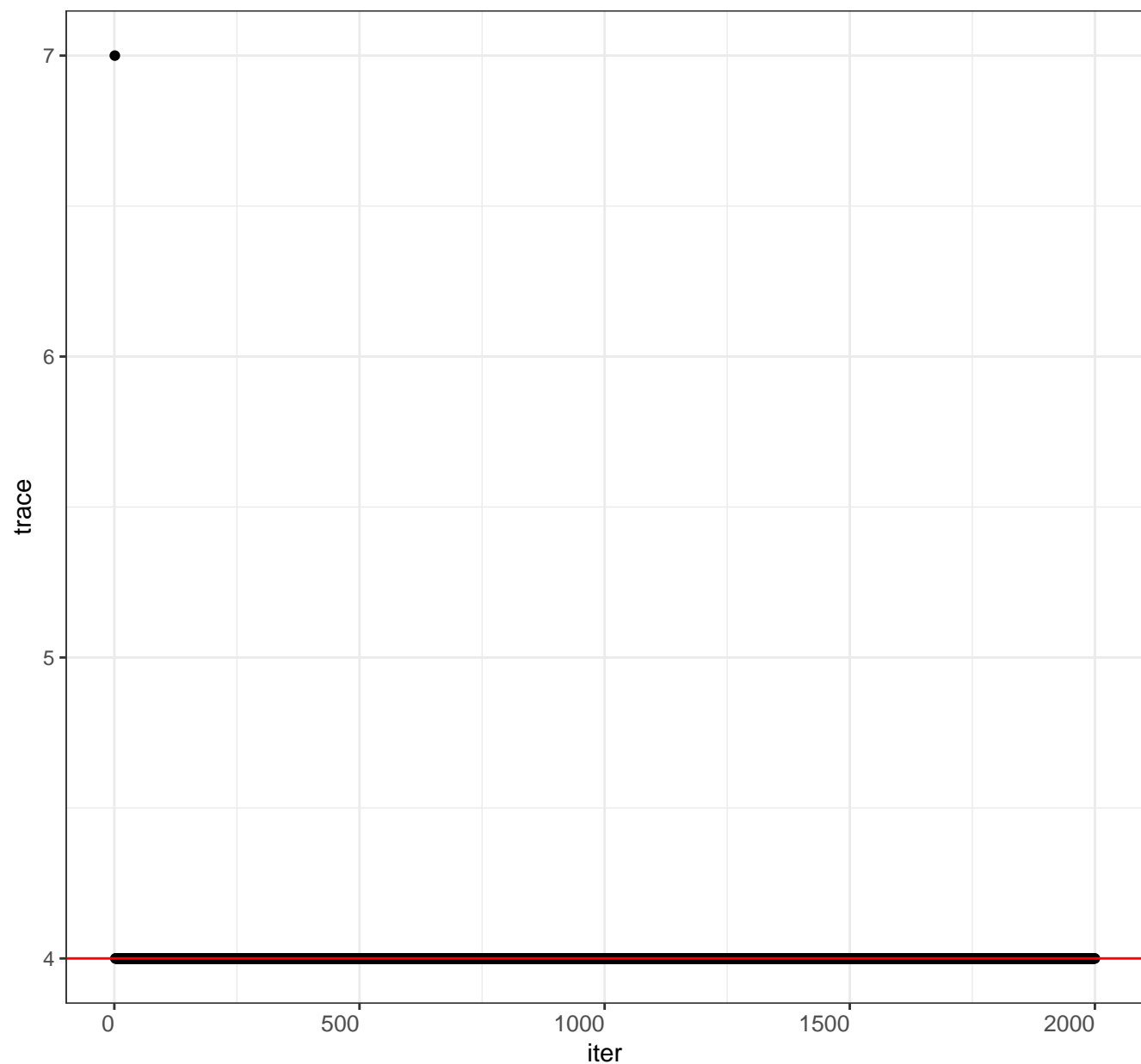
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

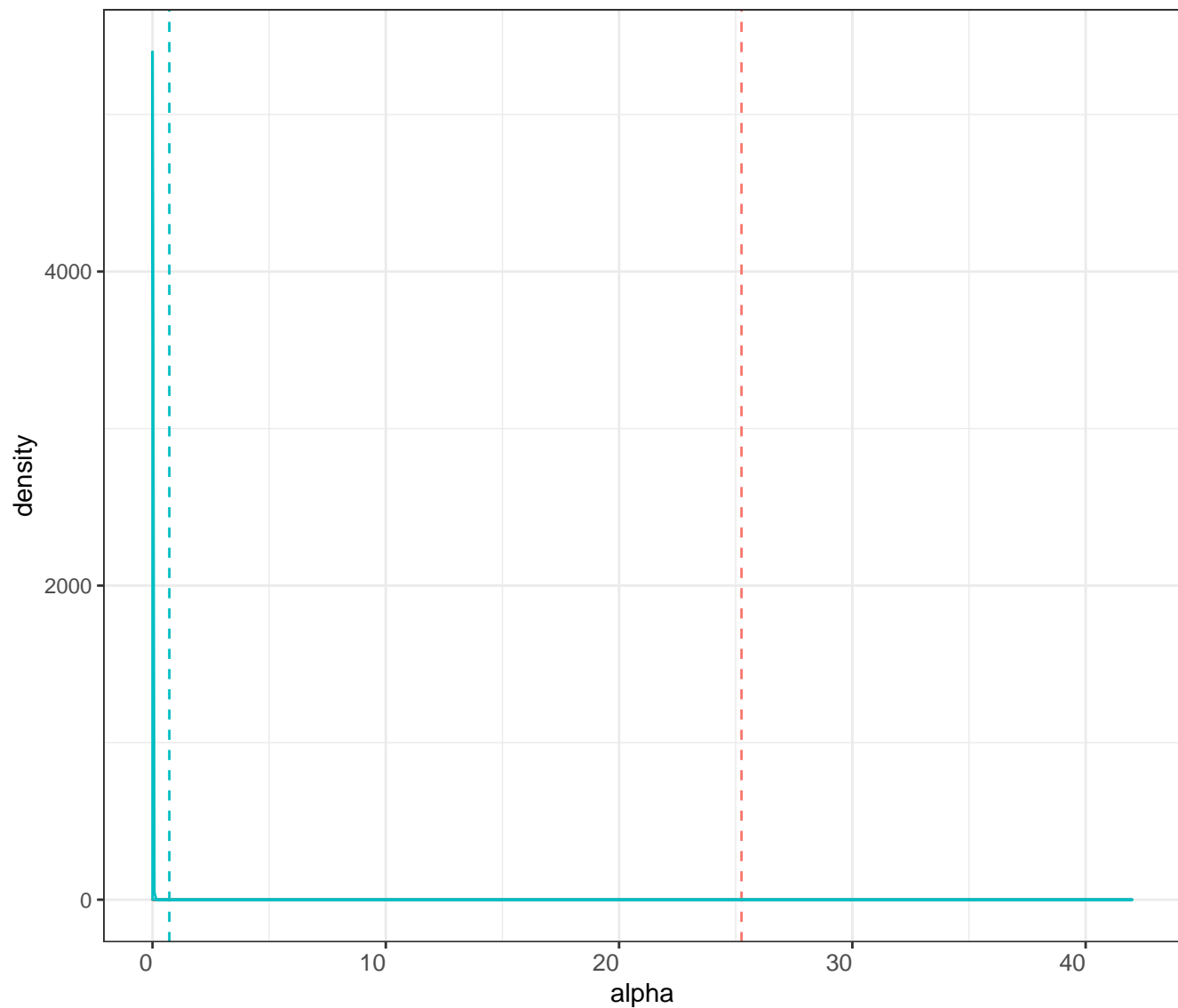
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

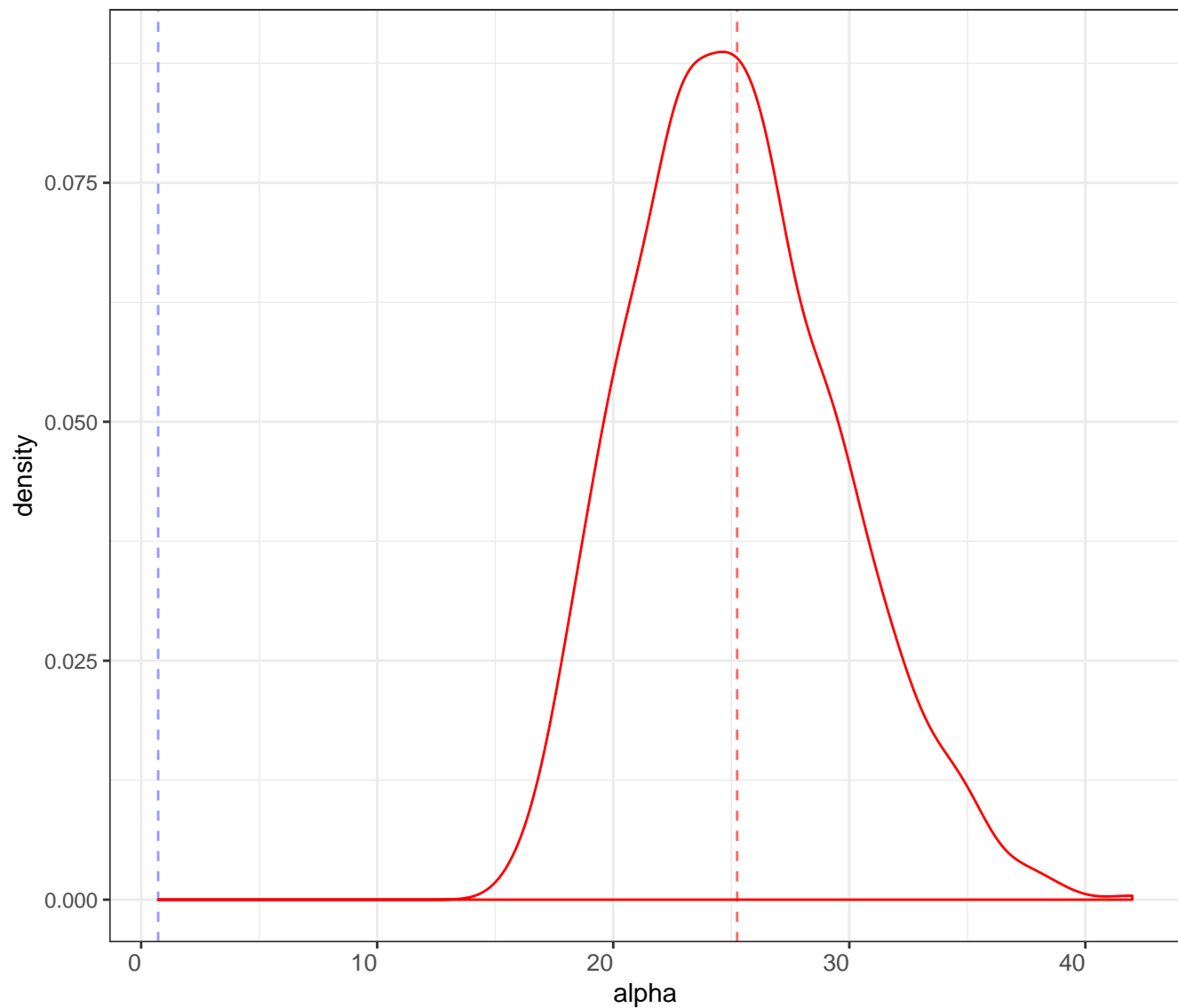
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

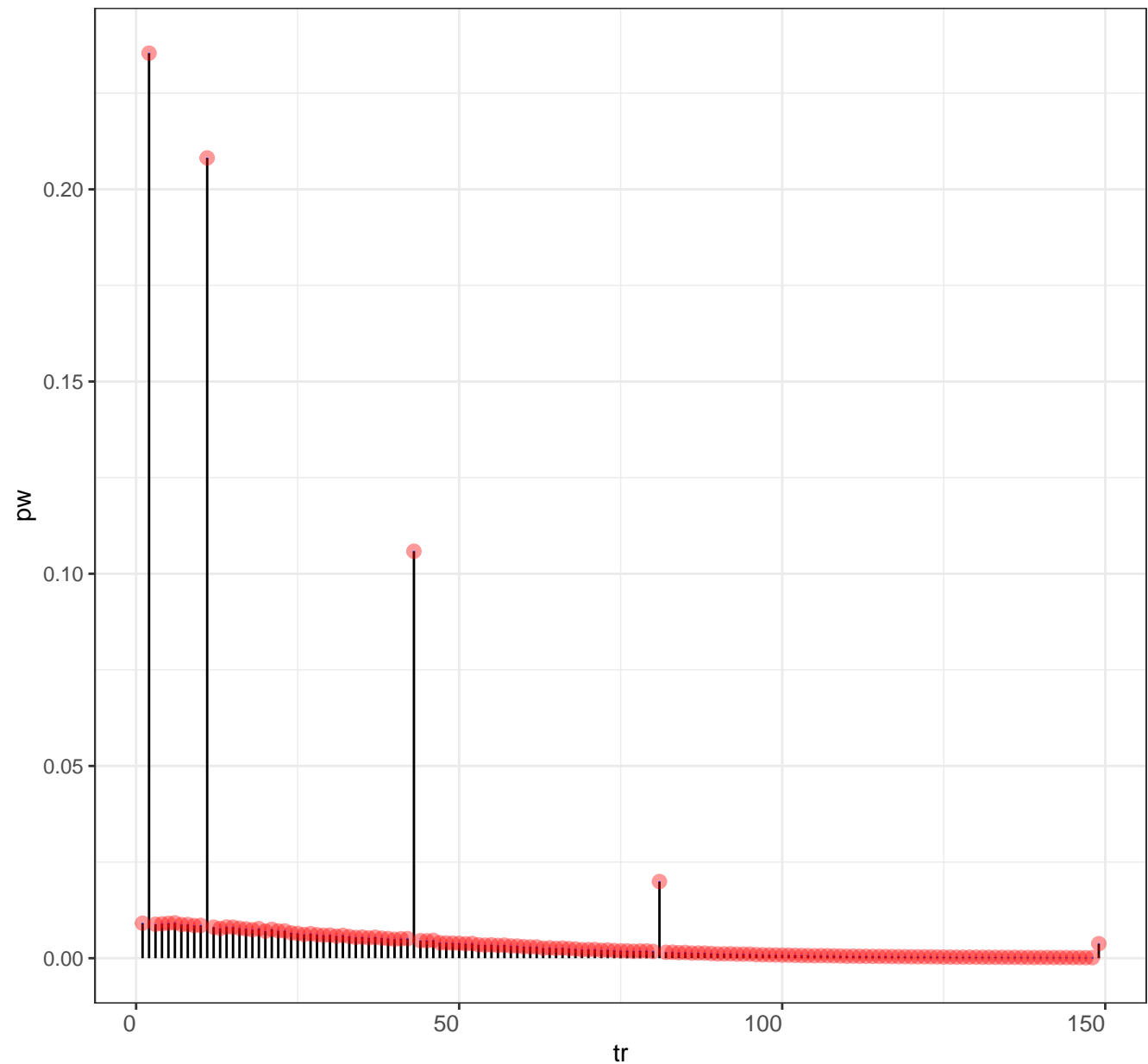
Legend      posterior mean      prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

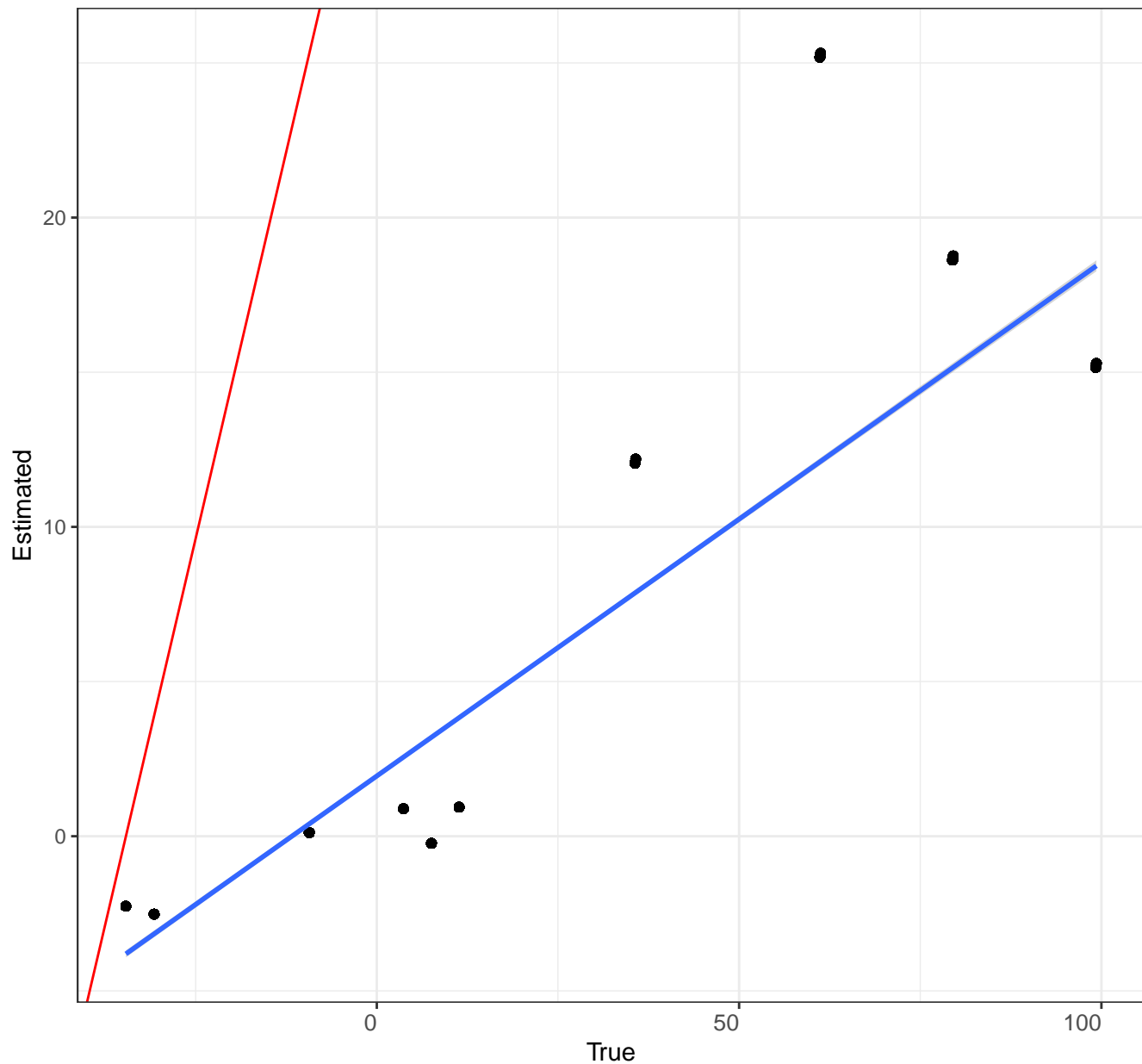


Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.004$



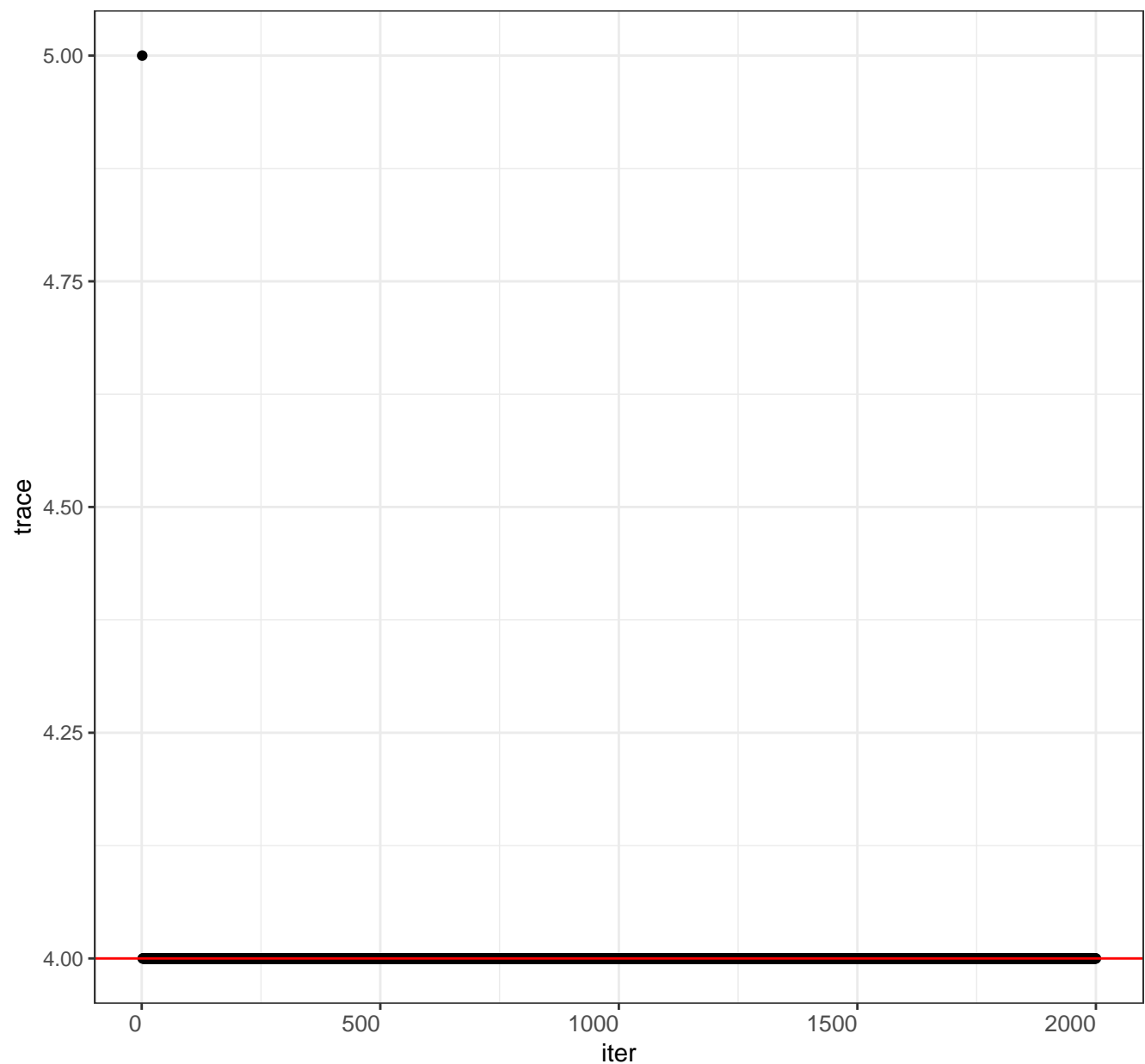
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

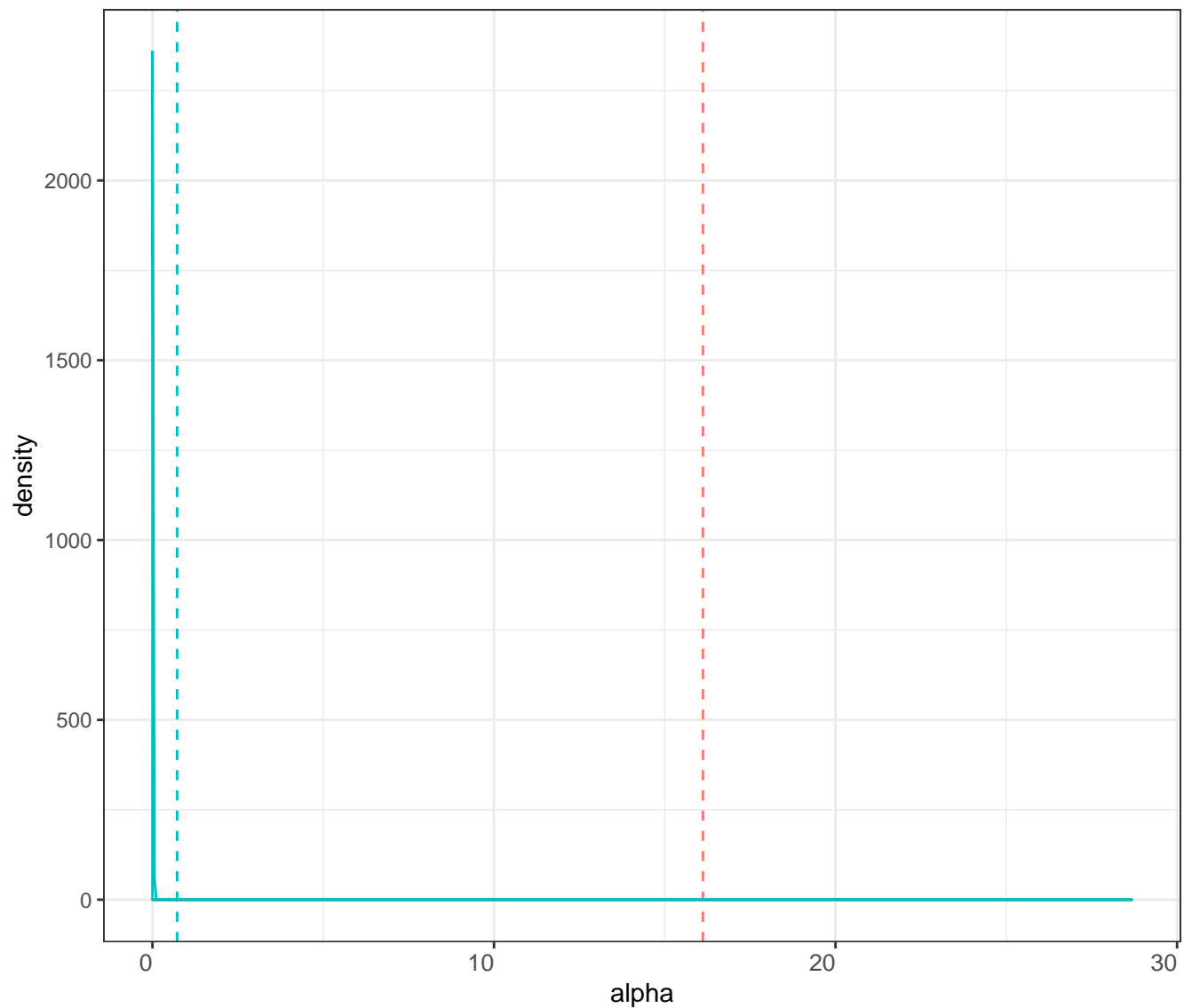
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

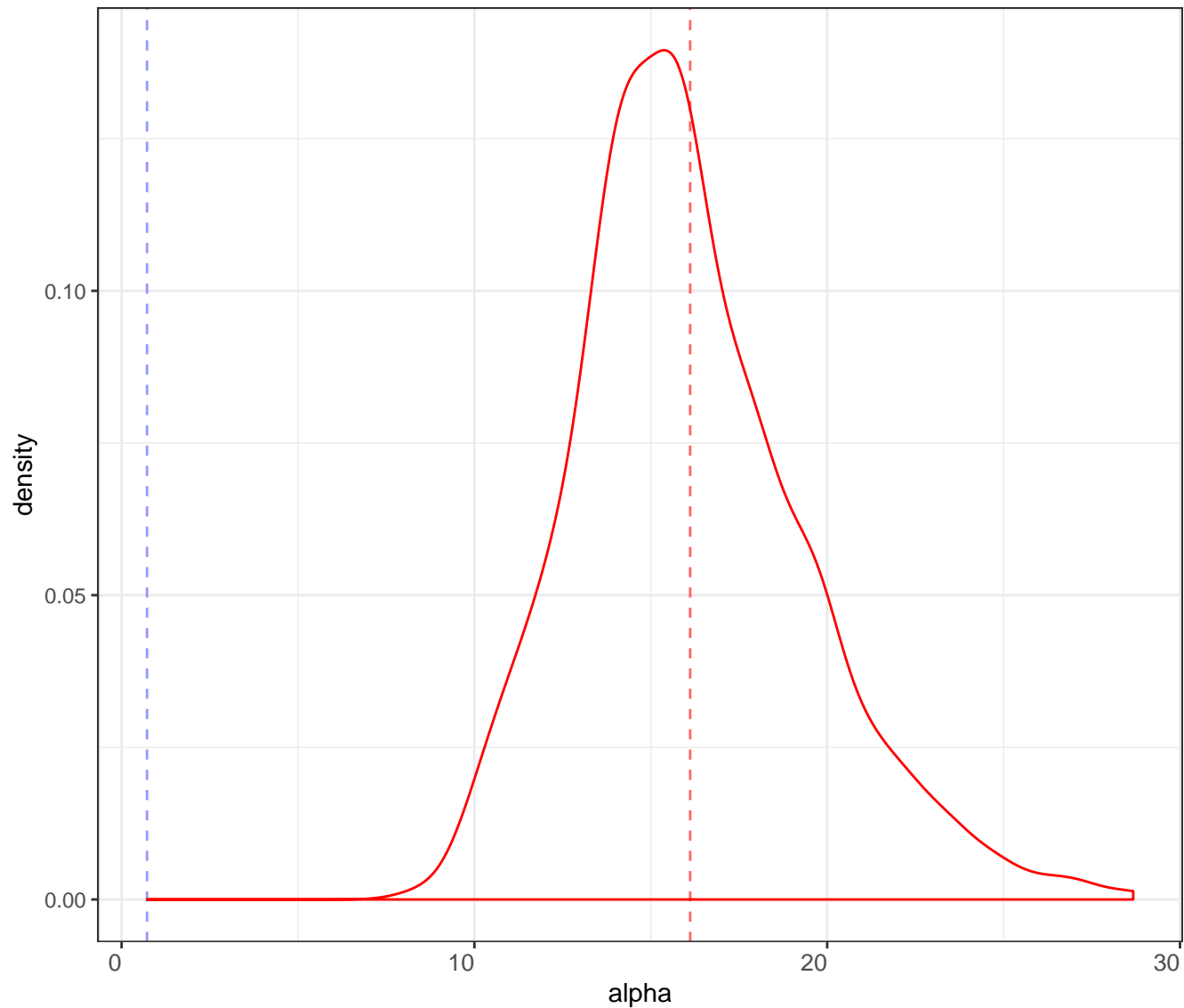
Legend



posterior mean

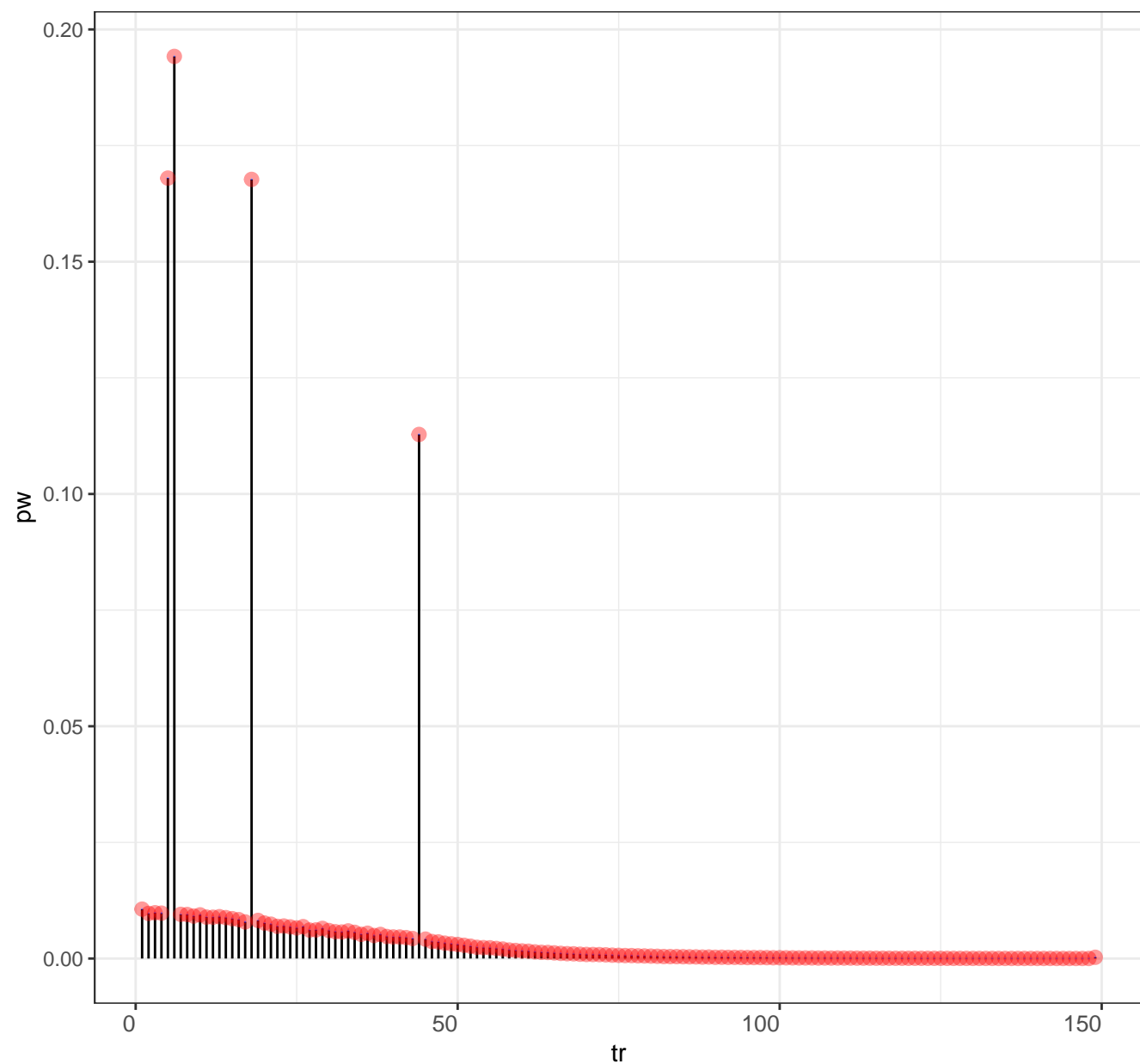


prior mean



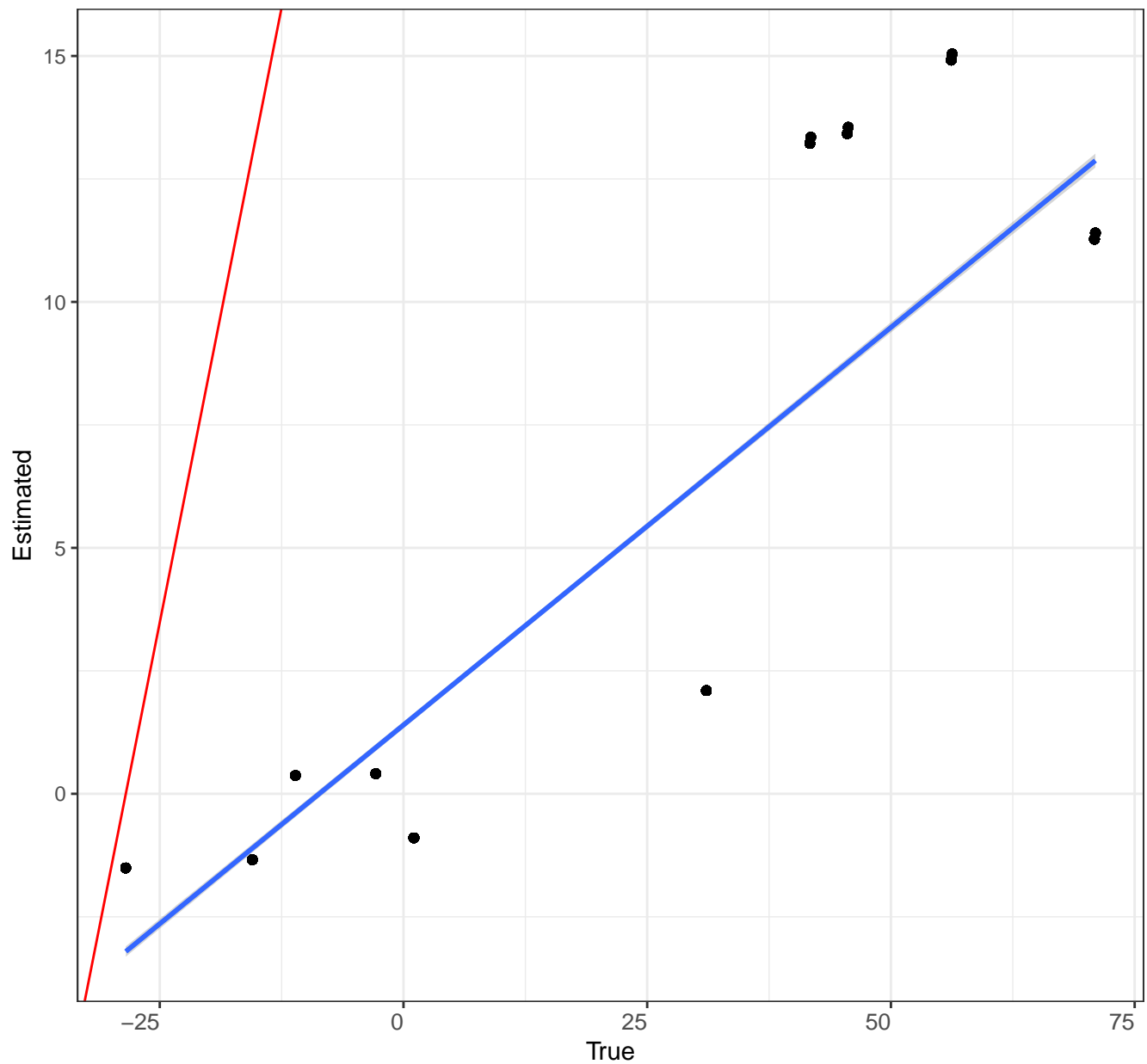
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



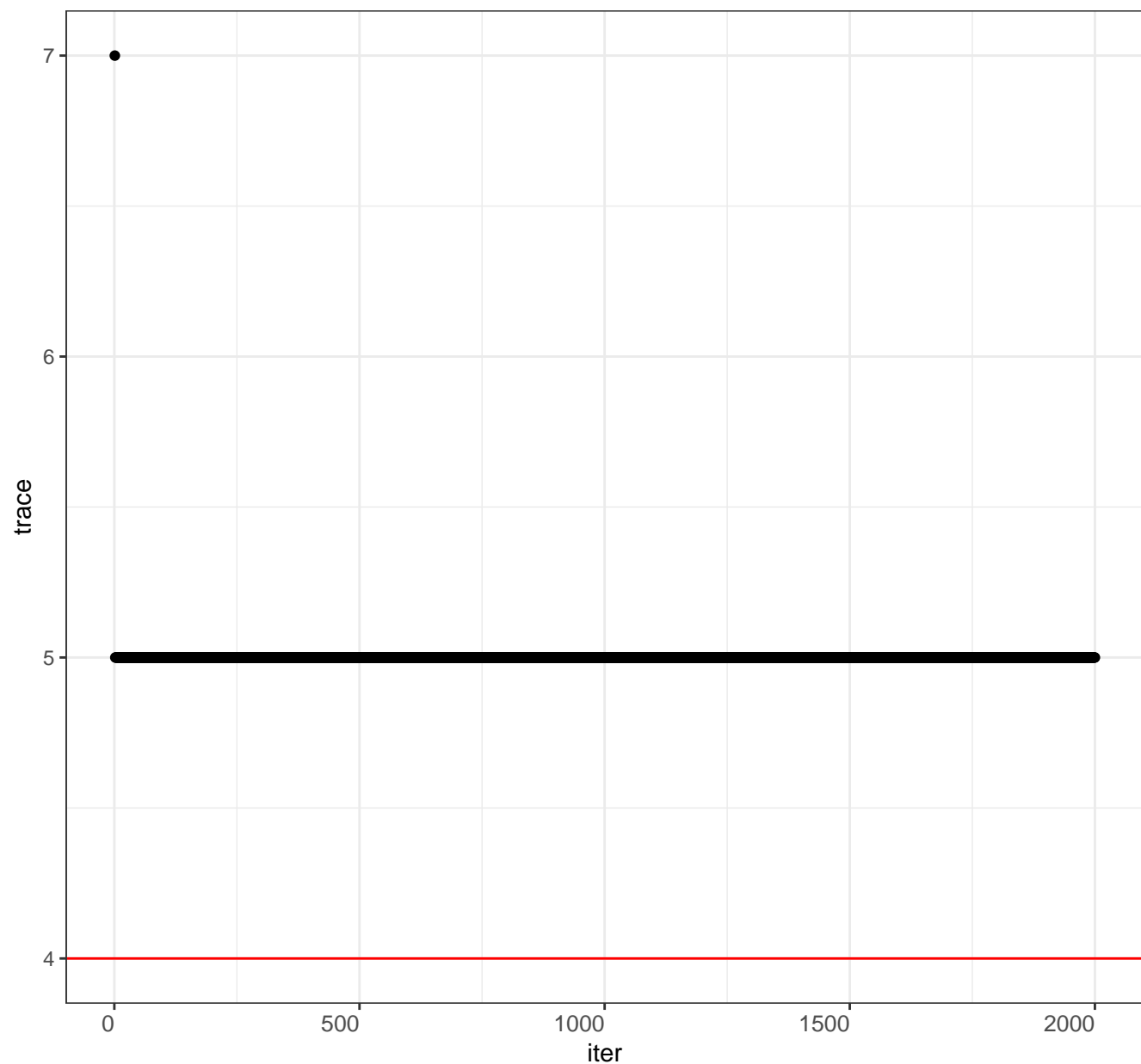
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1



Trace plot for the number of groups K for S=80 r=20 true K=4 type=1

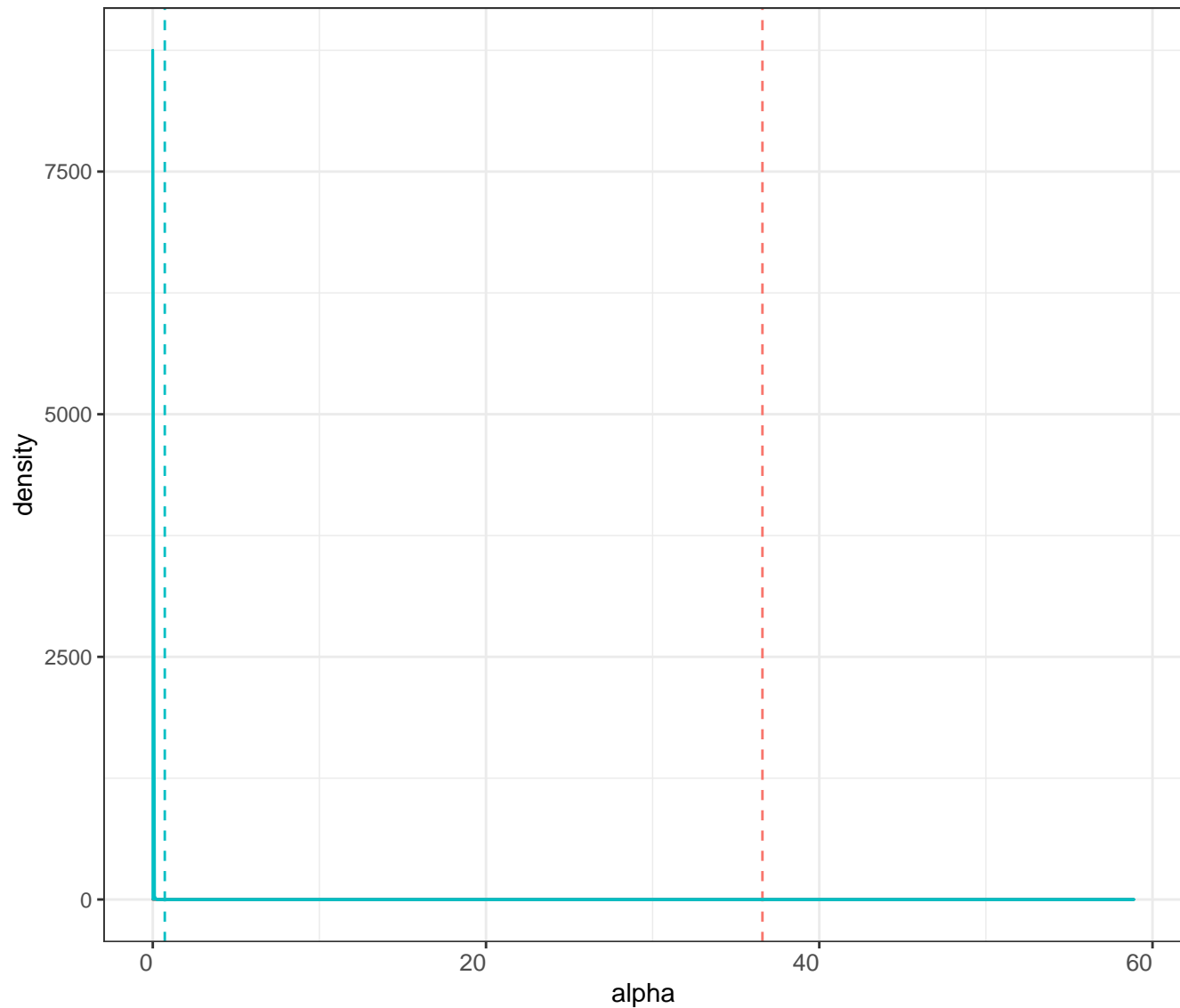


Number of iterations: 2000 burnin: 1000number of samples: 500



Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

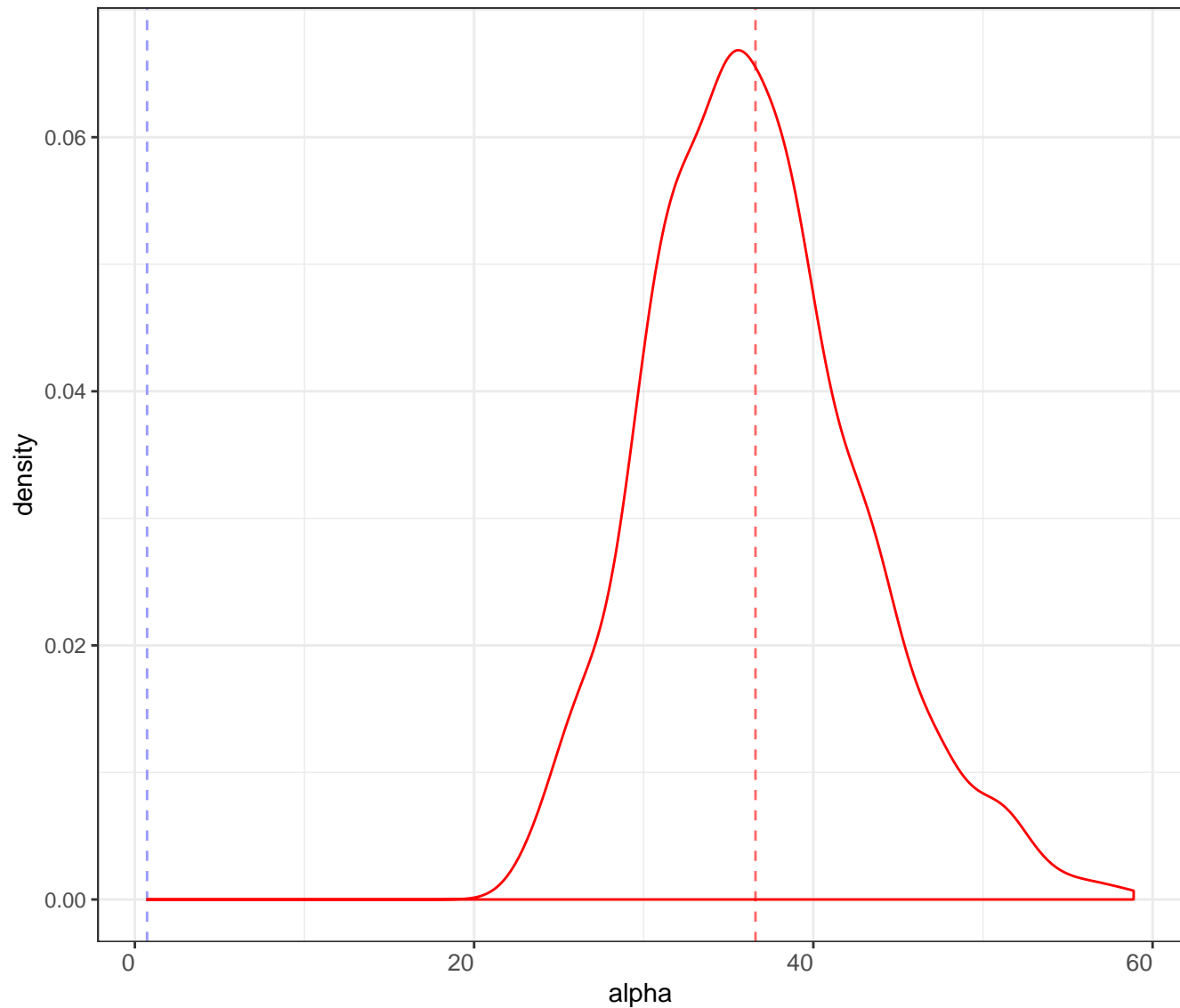
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

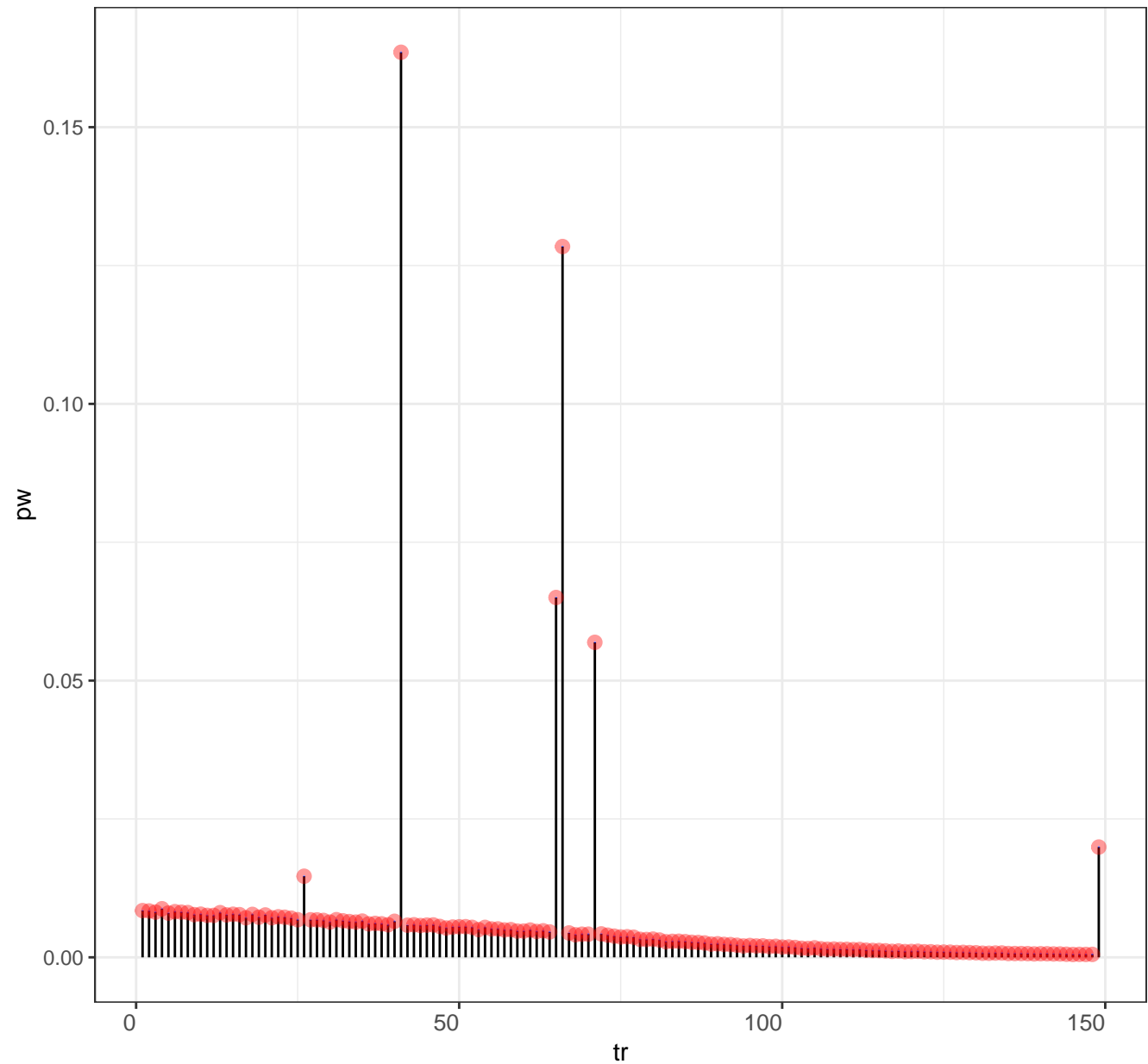
# Posterior distribution for alpha

Legend    posterior mean    prior mean



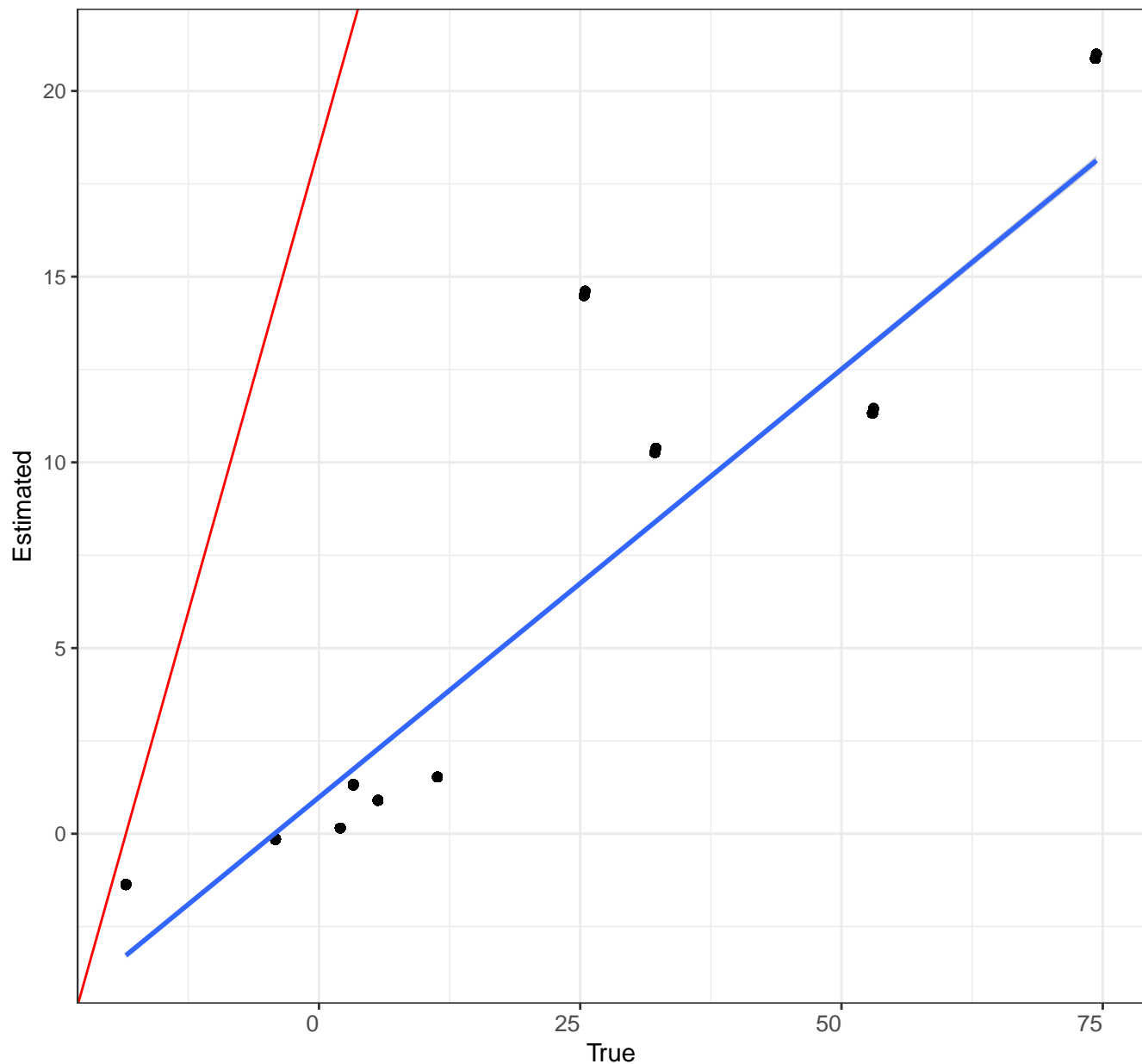
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.02$



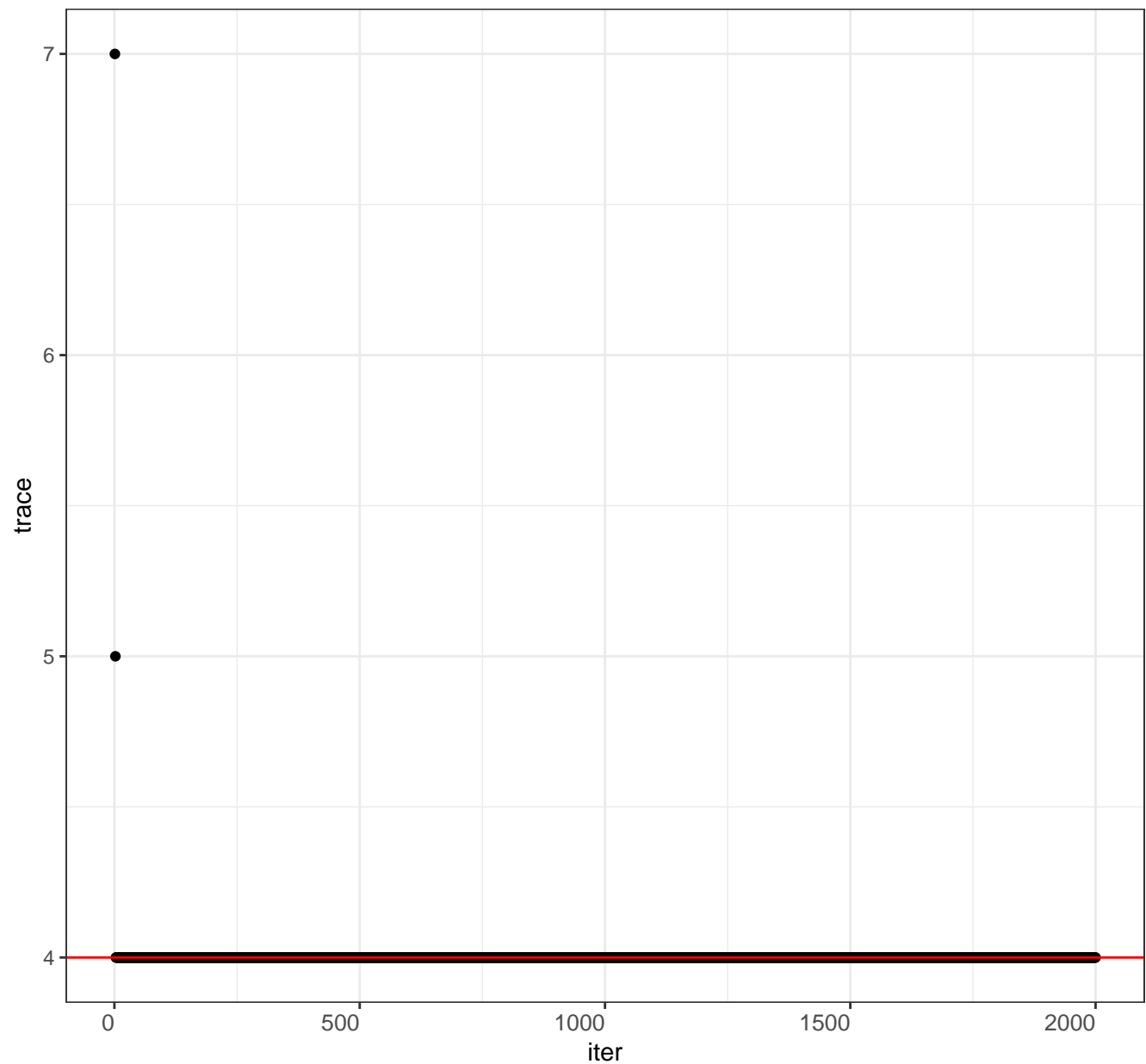
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

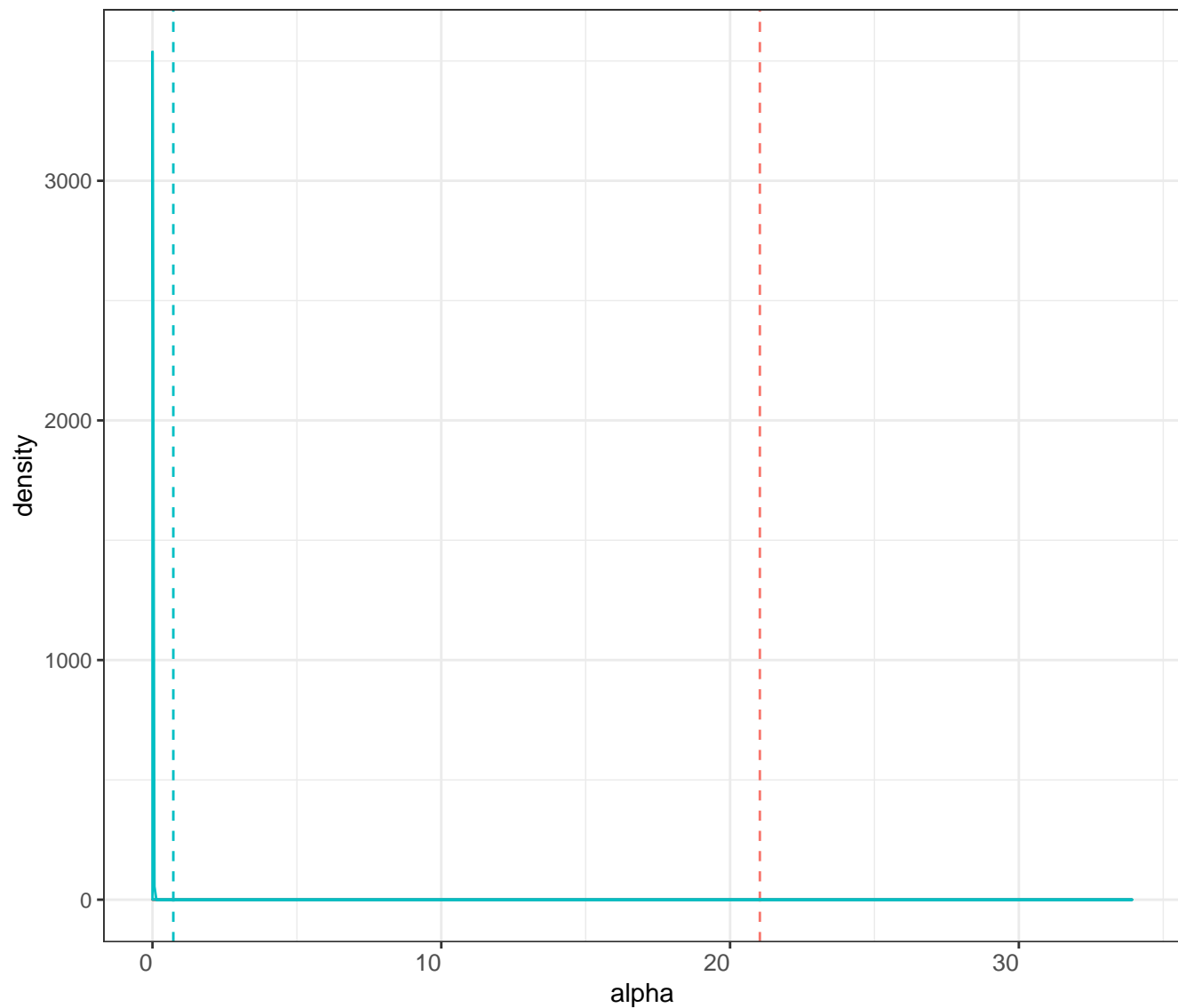
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

type | posterior | prior



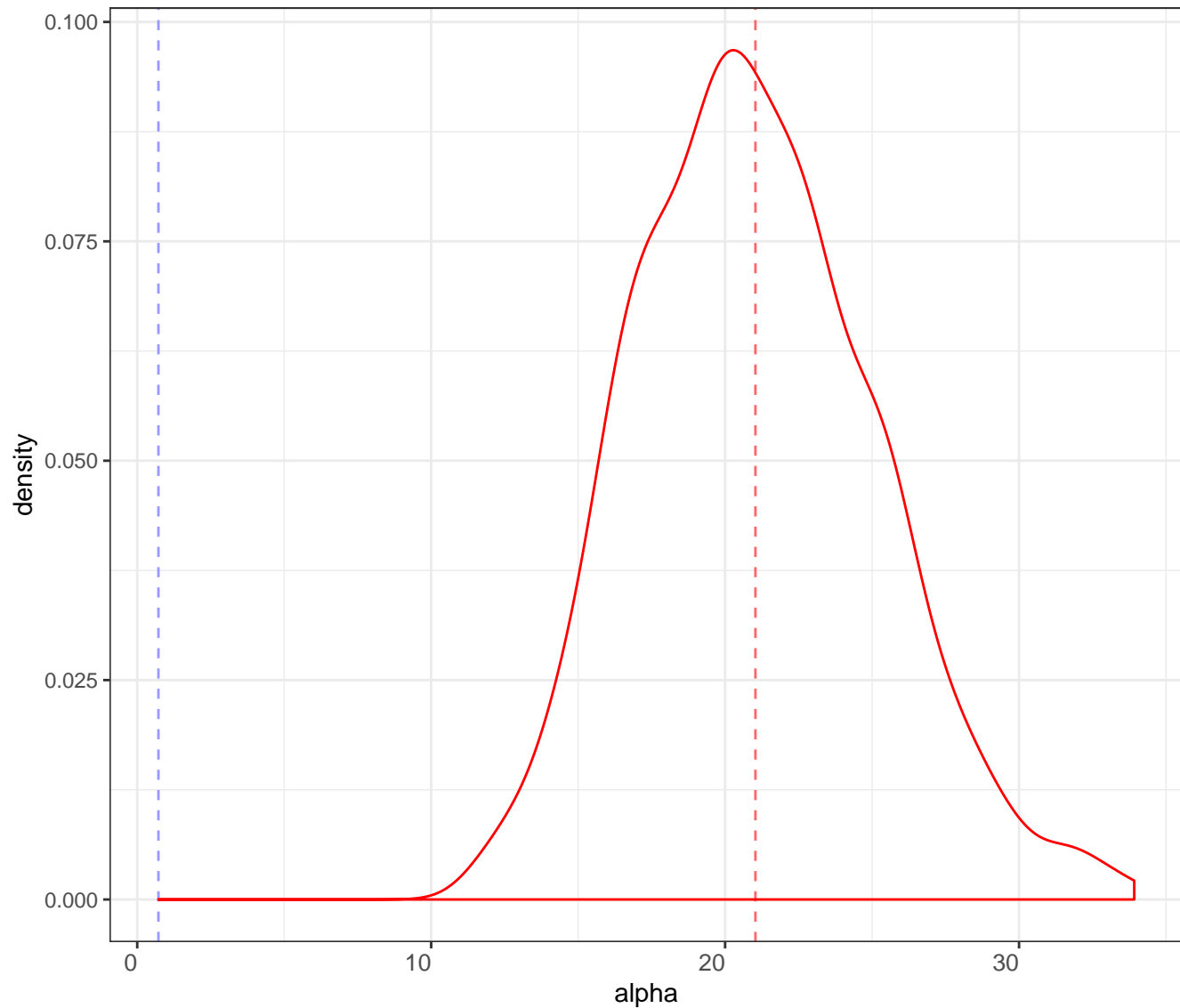
Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

Legend

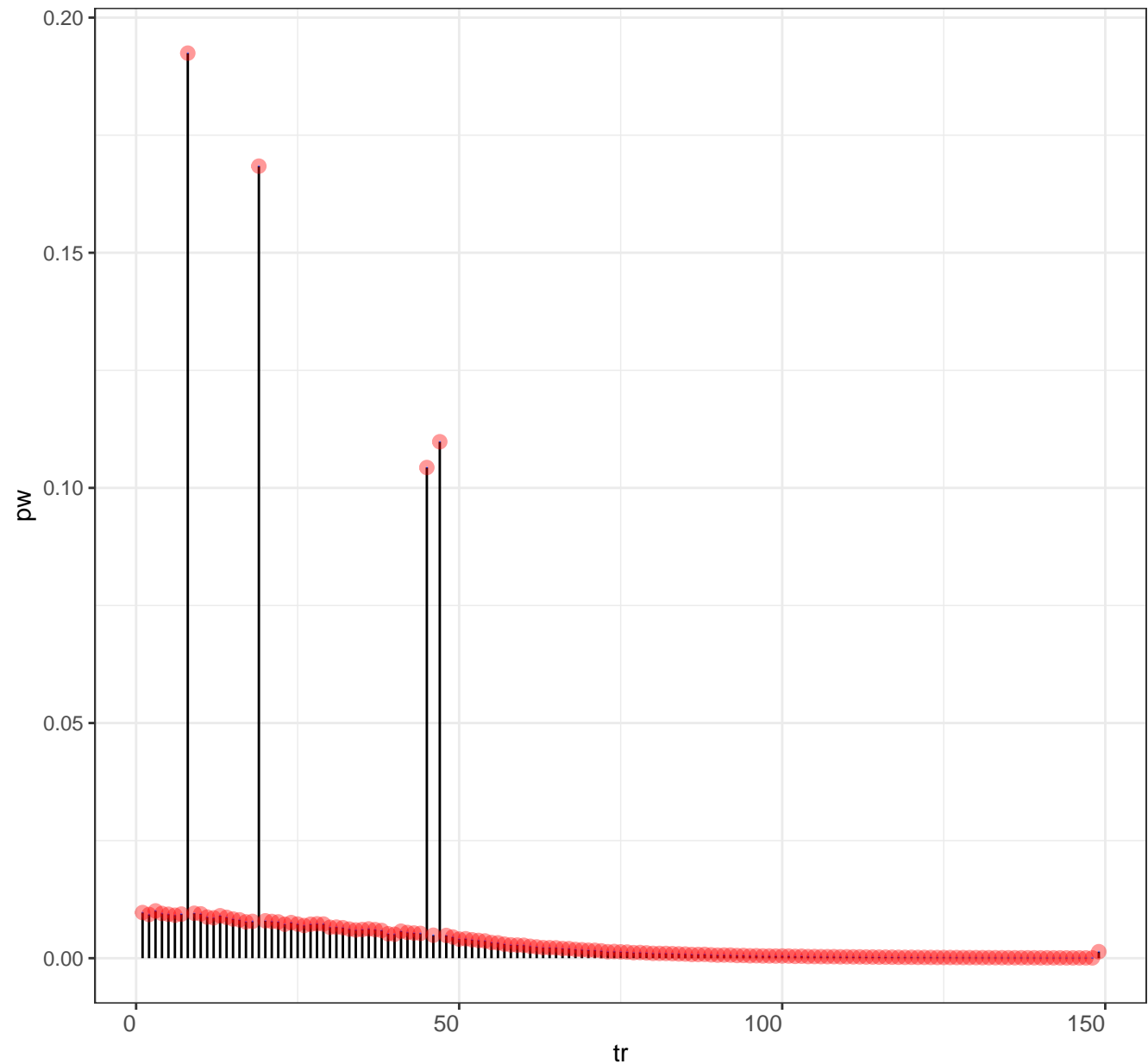
posterior mean

prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

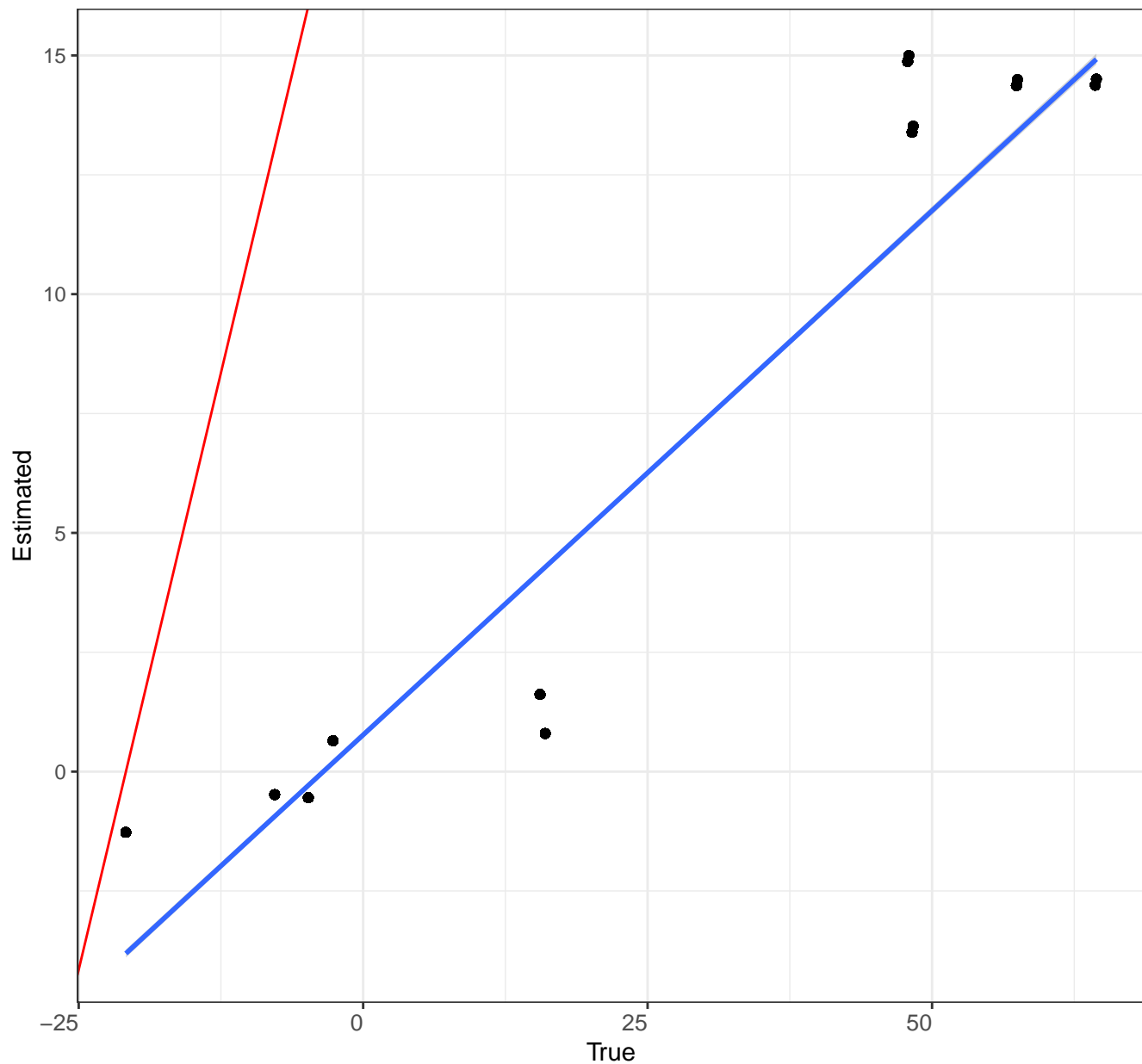
Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



Number of iterations: 2000 burnin: 1000 number of samples: 500

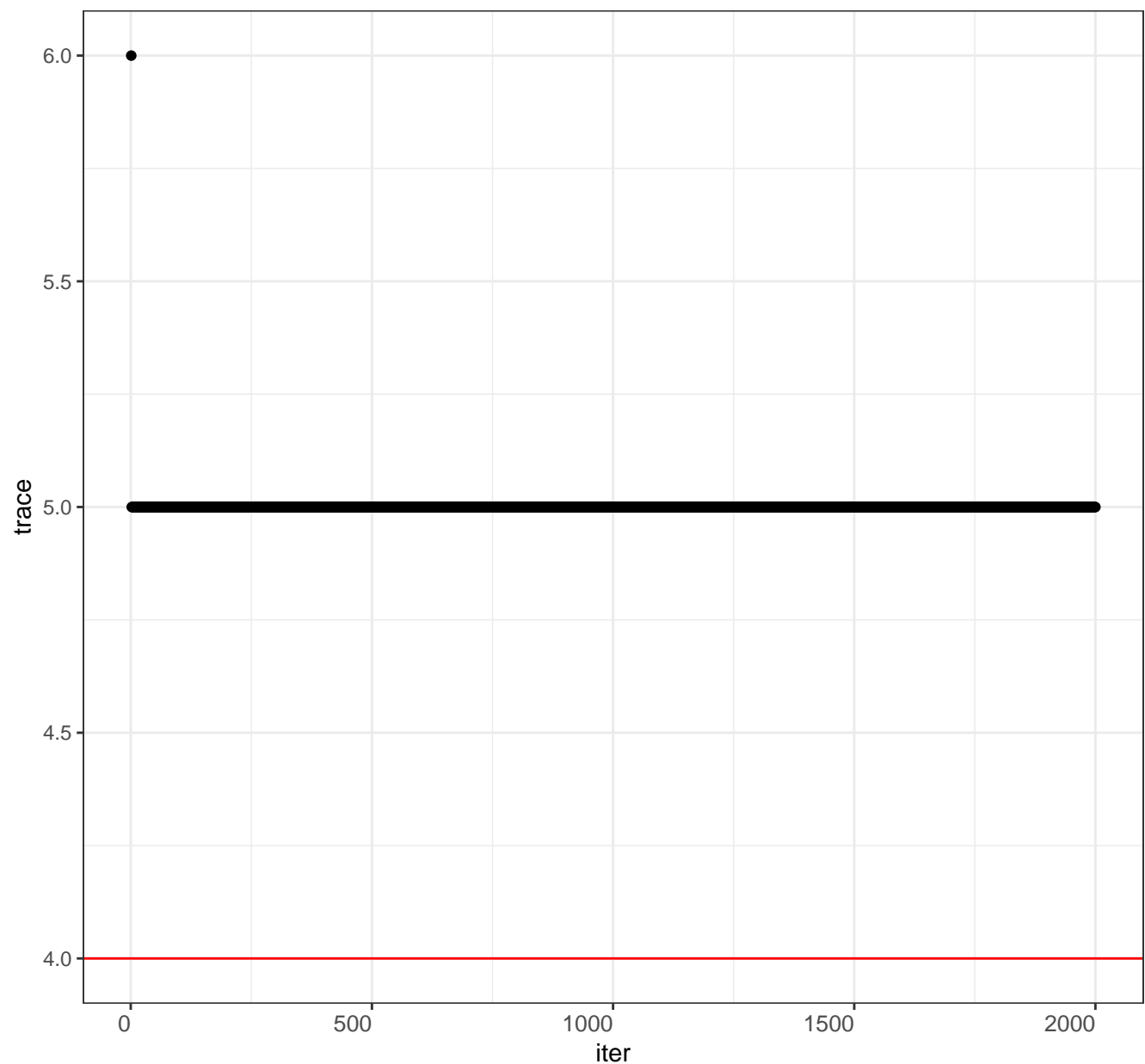


True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

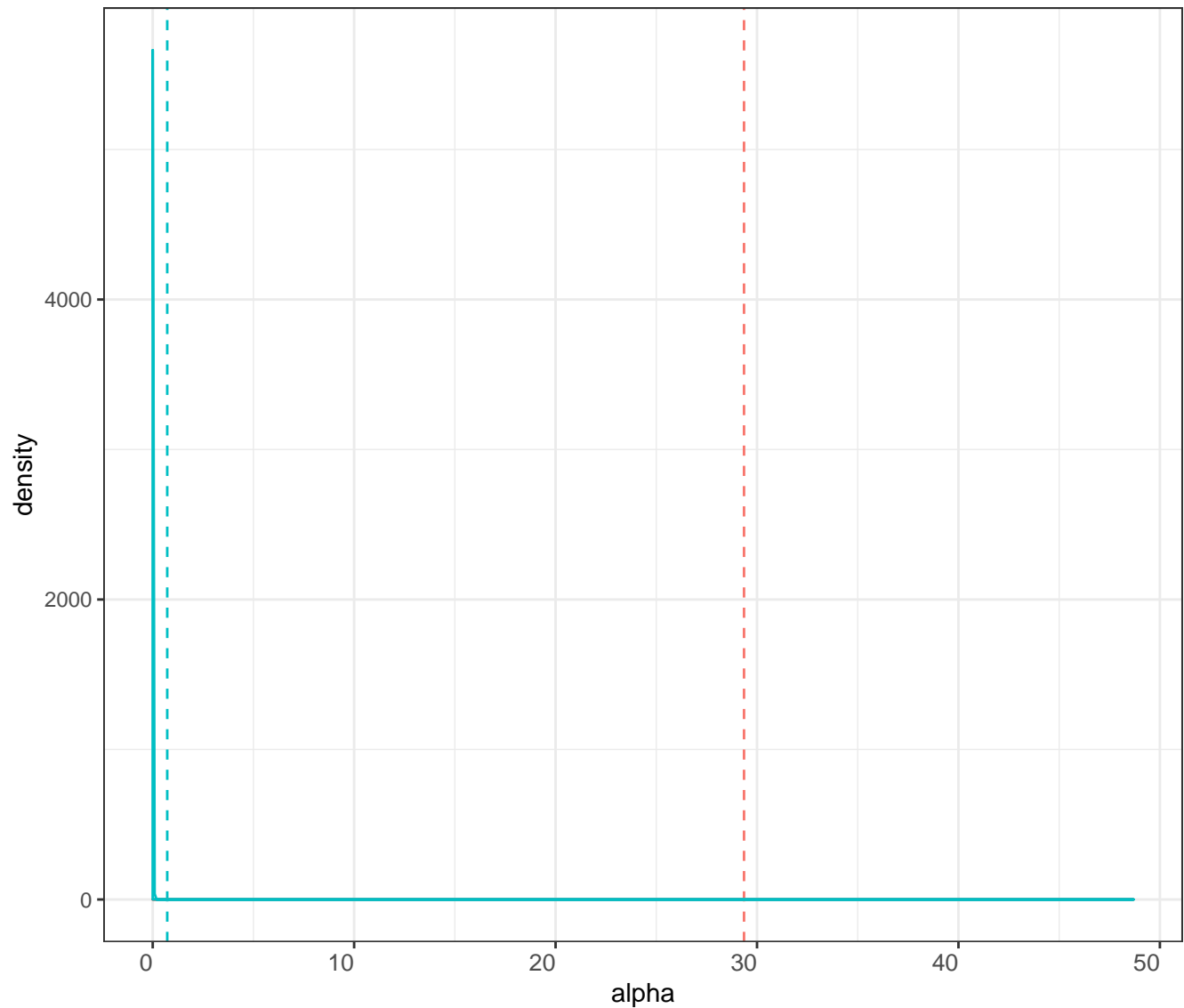
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

type | posterior | prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

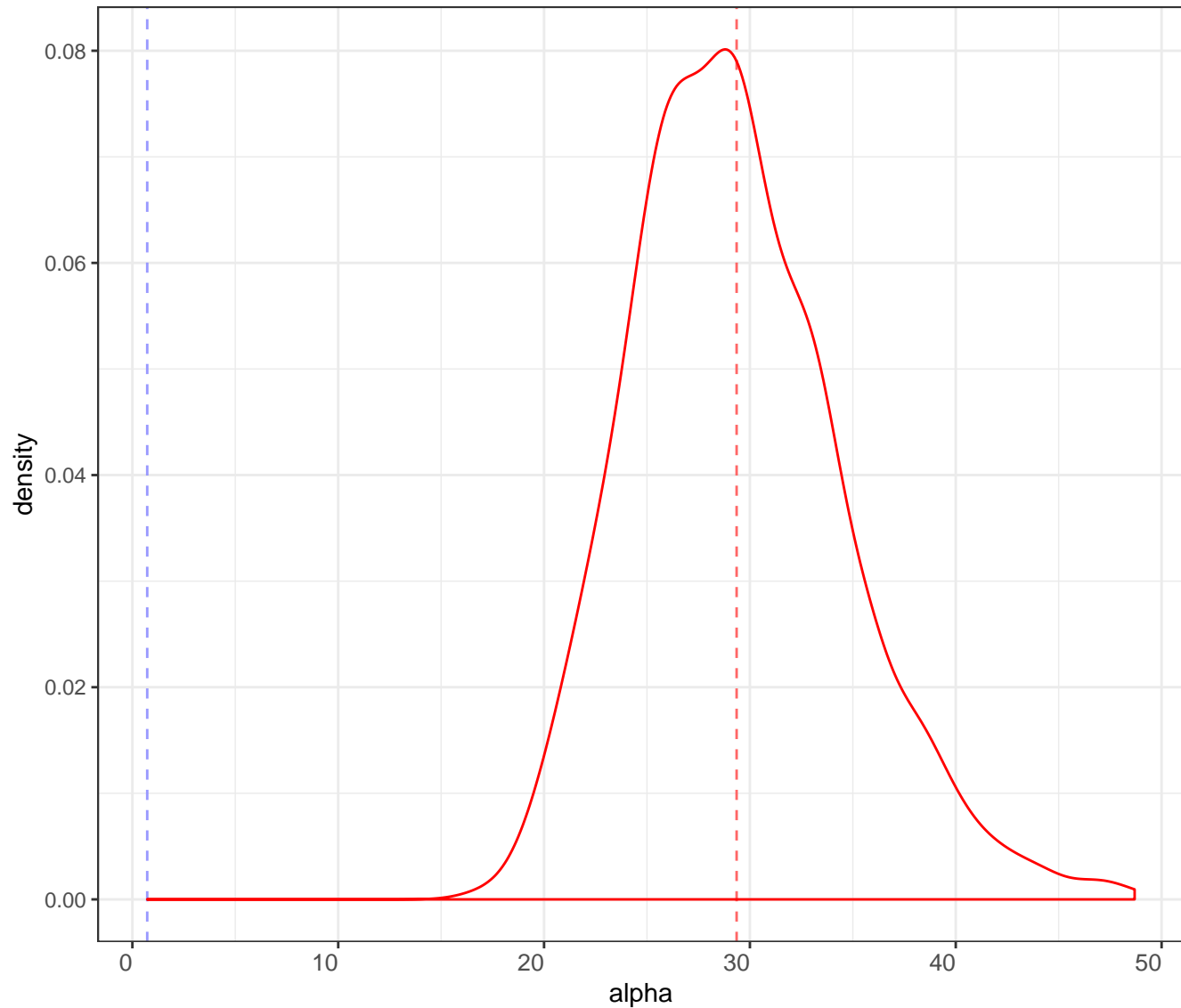
Legend



posterior mean

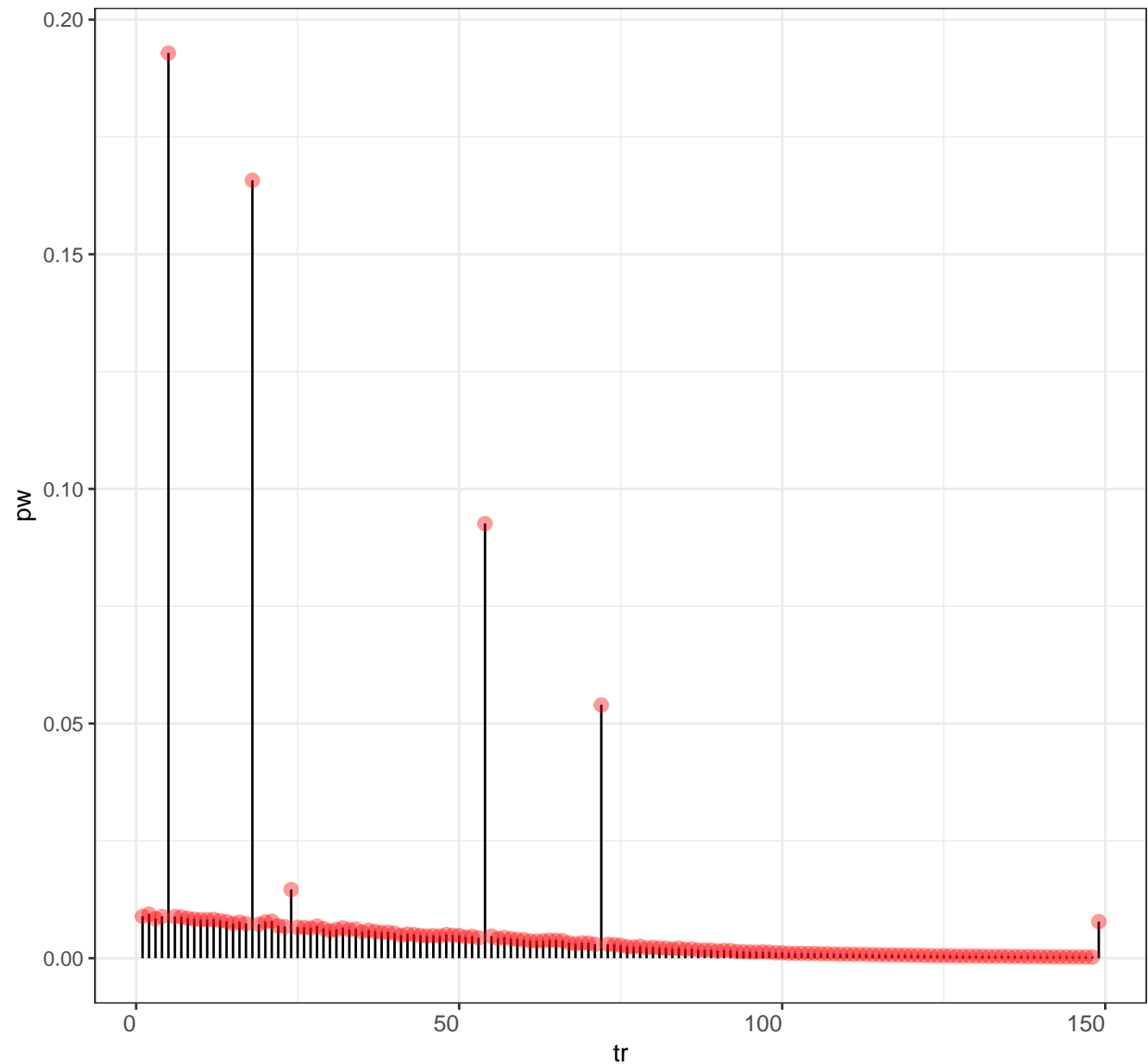


prior mean



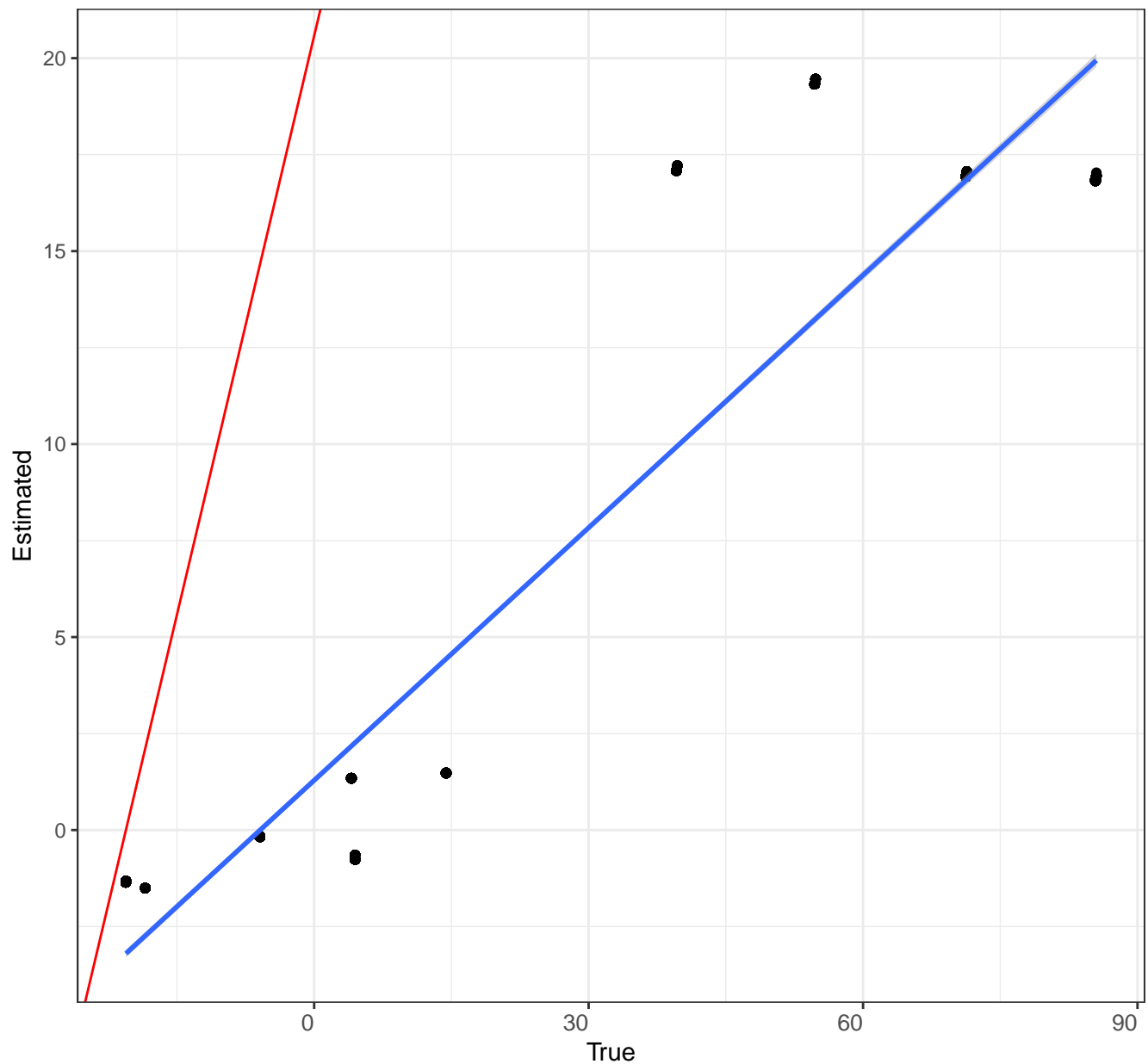
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.008$



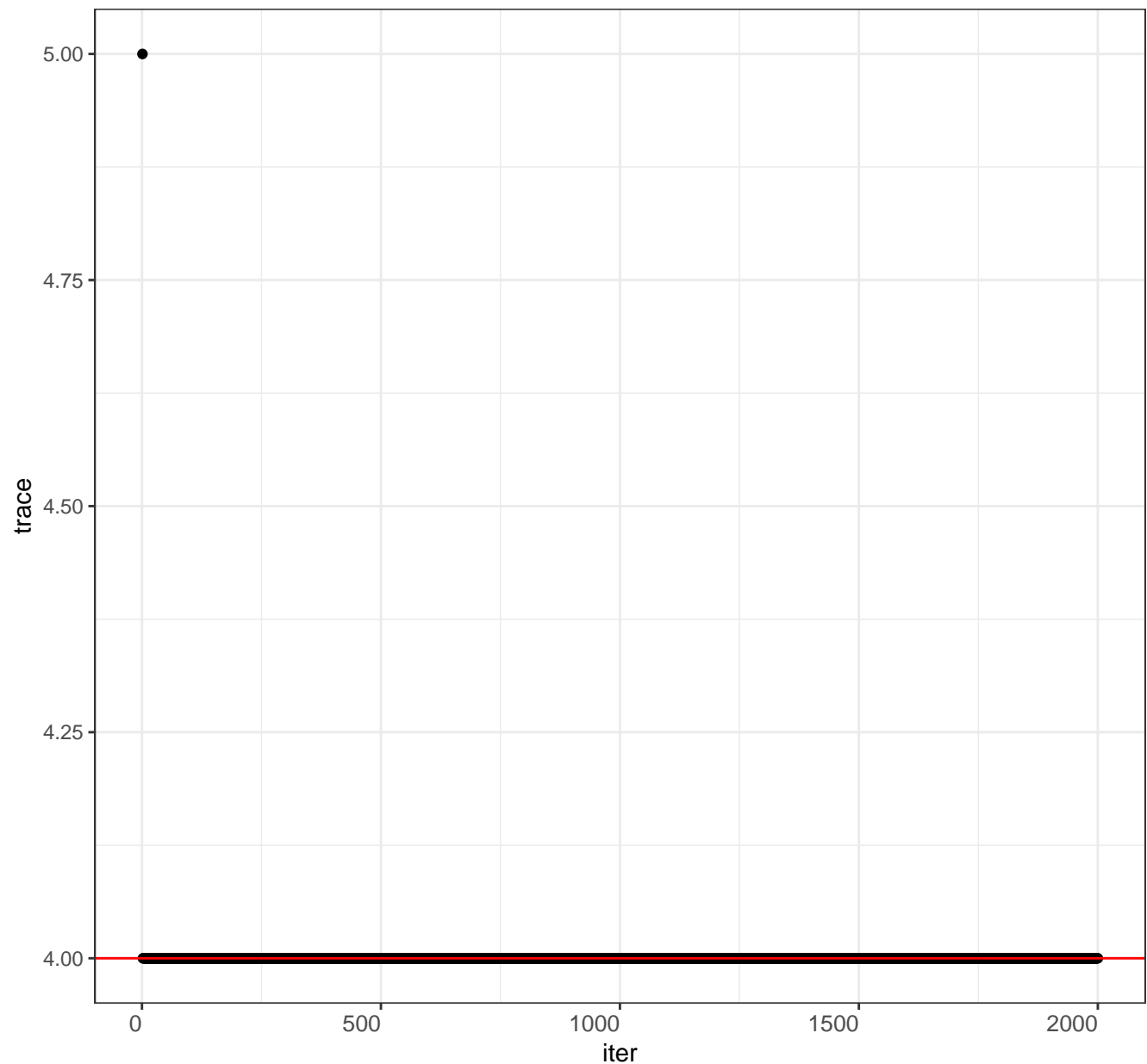
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

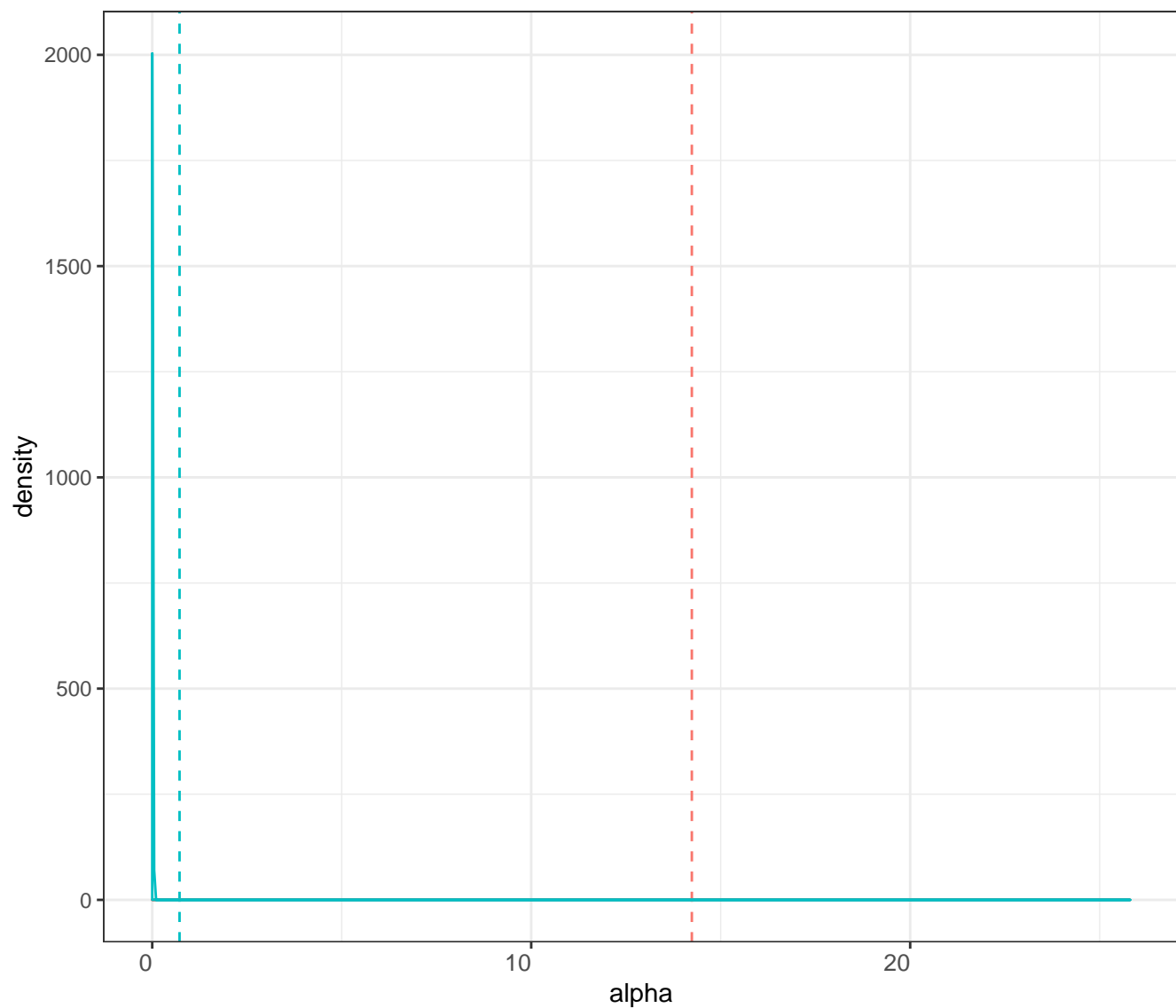
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

type ┆┆ posterior ┆┆ prior

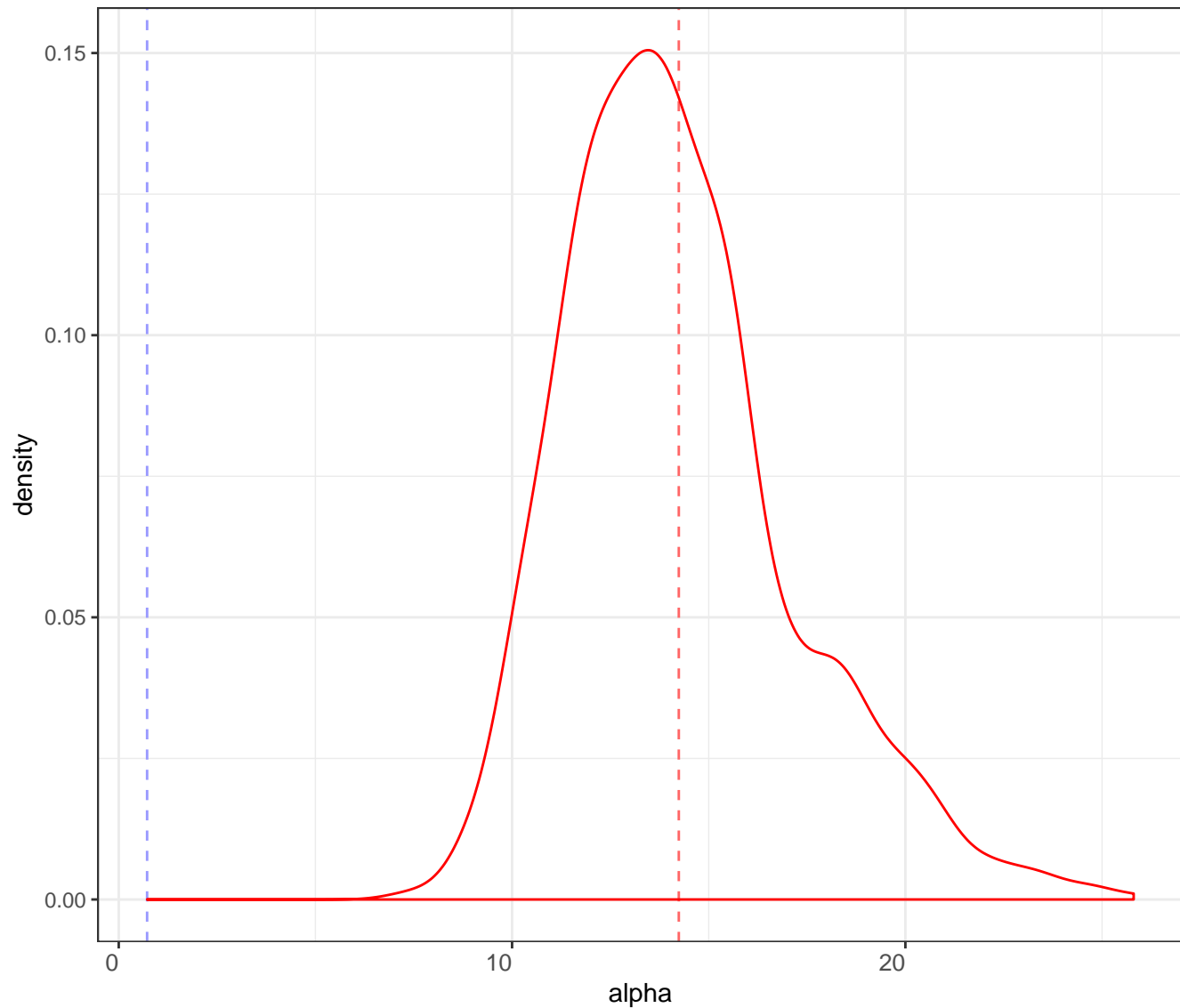


Number of iterations: 2000 burnin: 1000 number of samples: 500



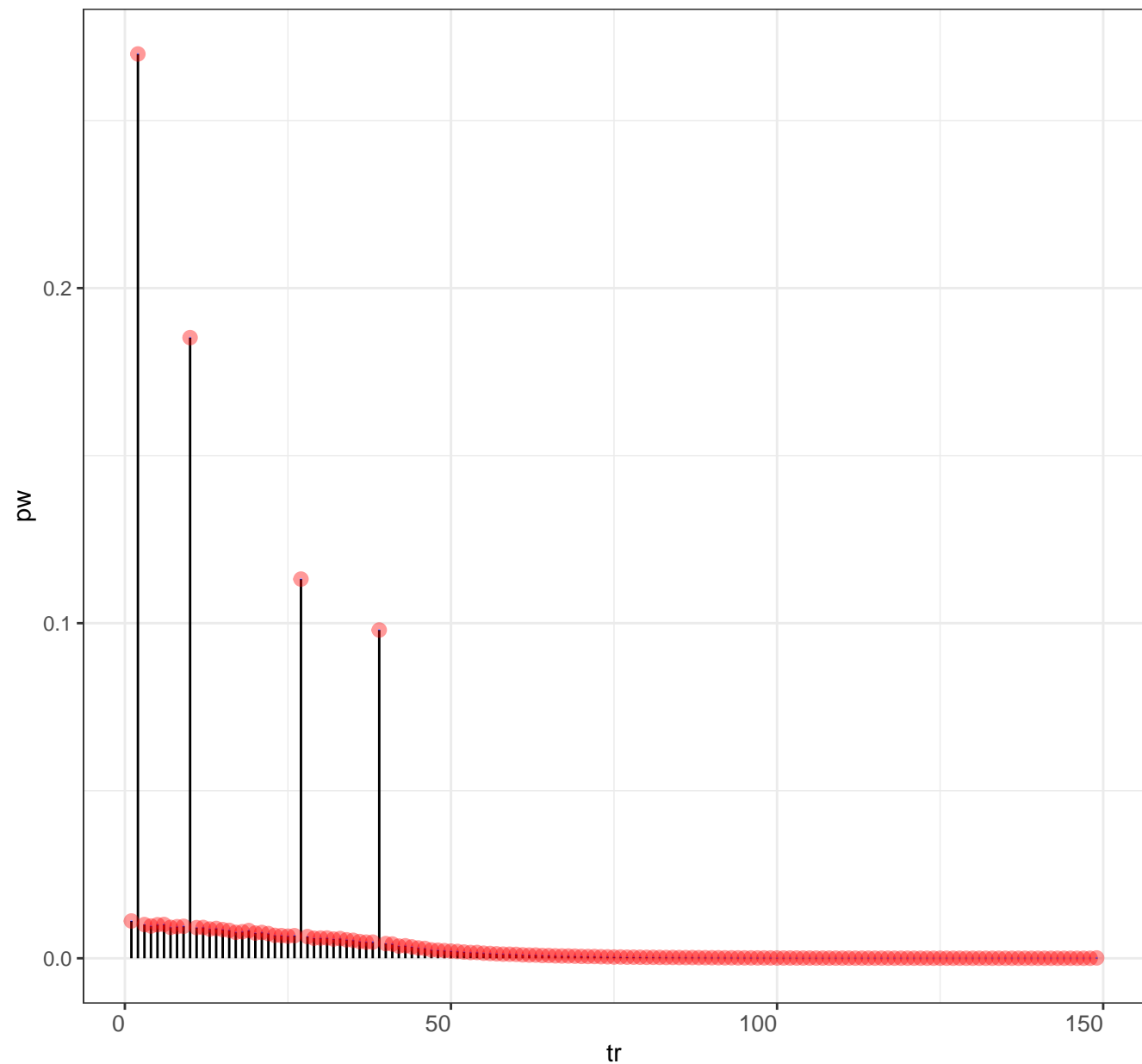
# Posterior distribution for alpha

Legend    posterior mean    prior mean



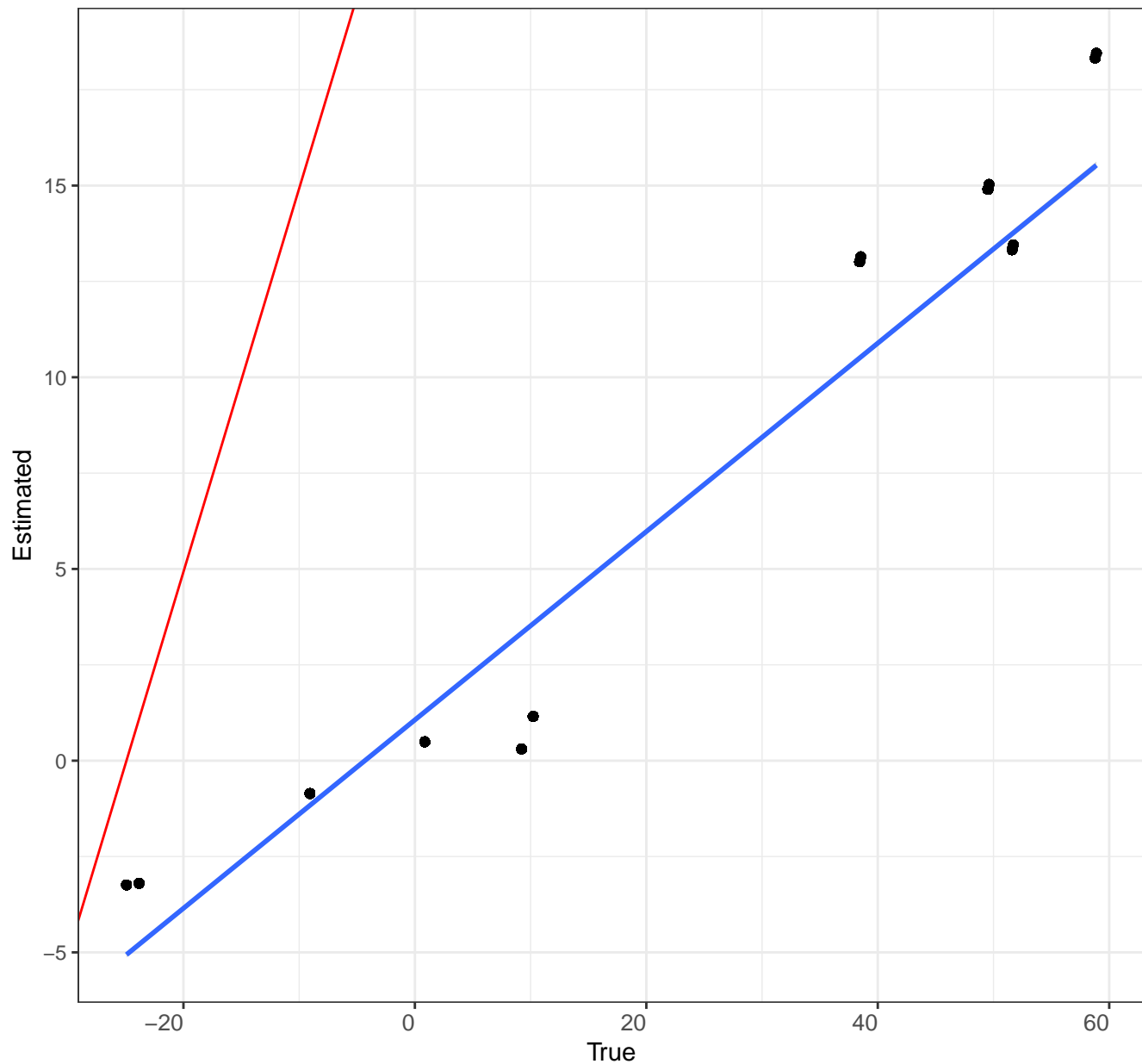
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



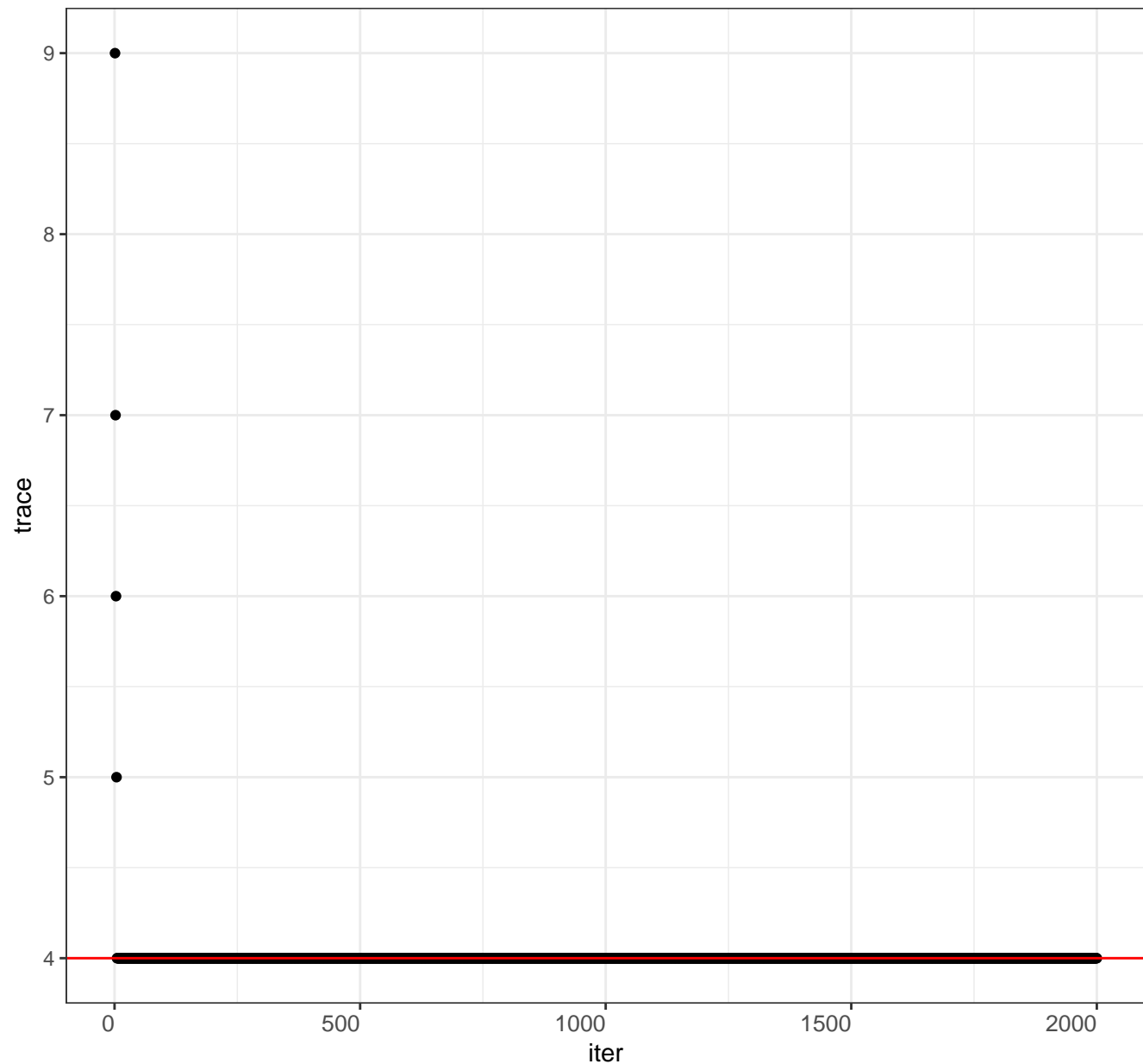
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters





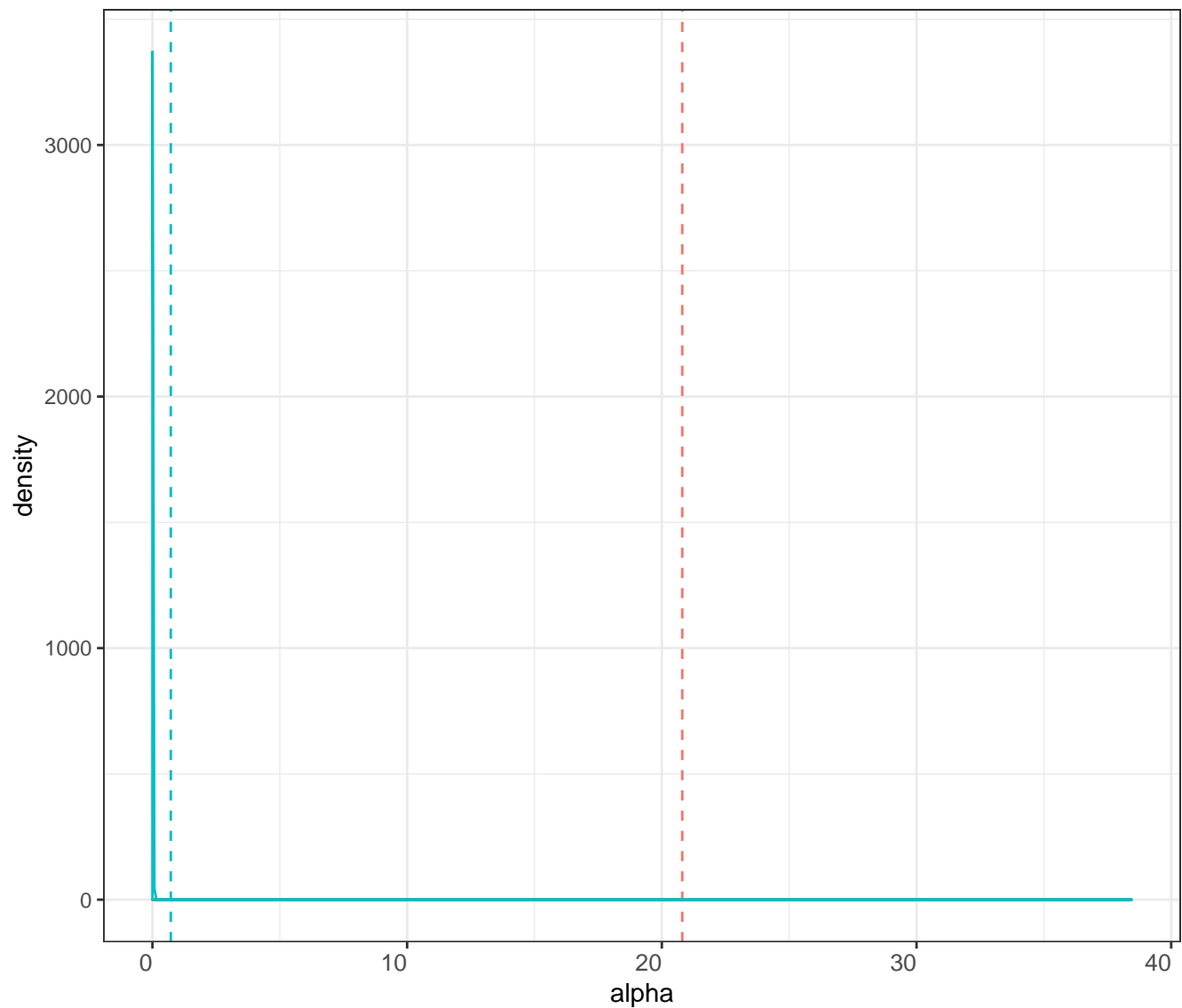
Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

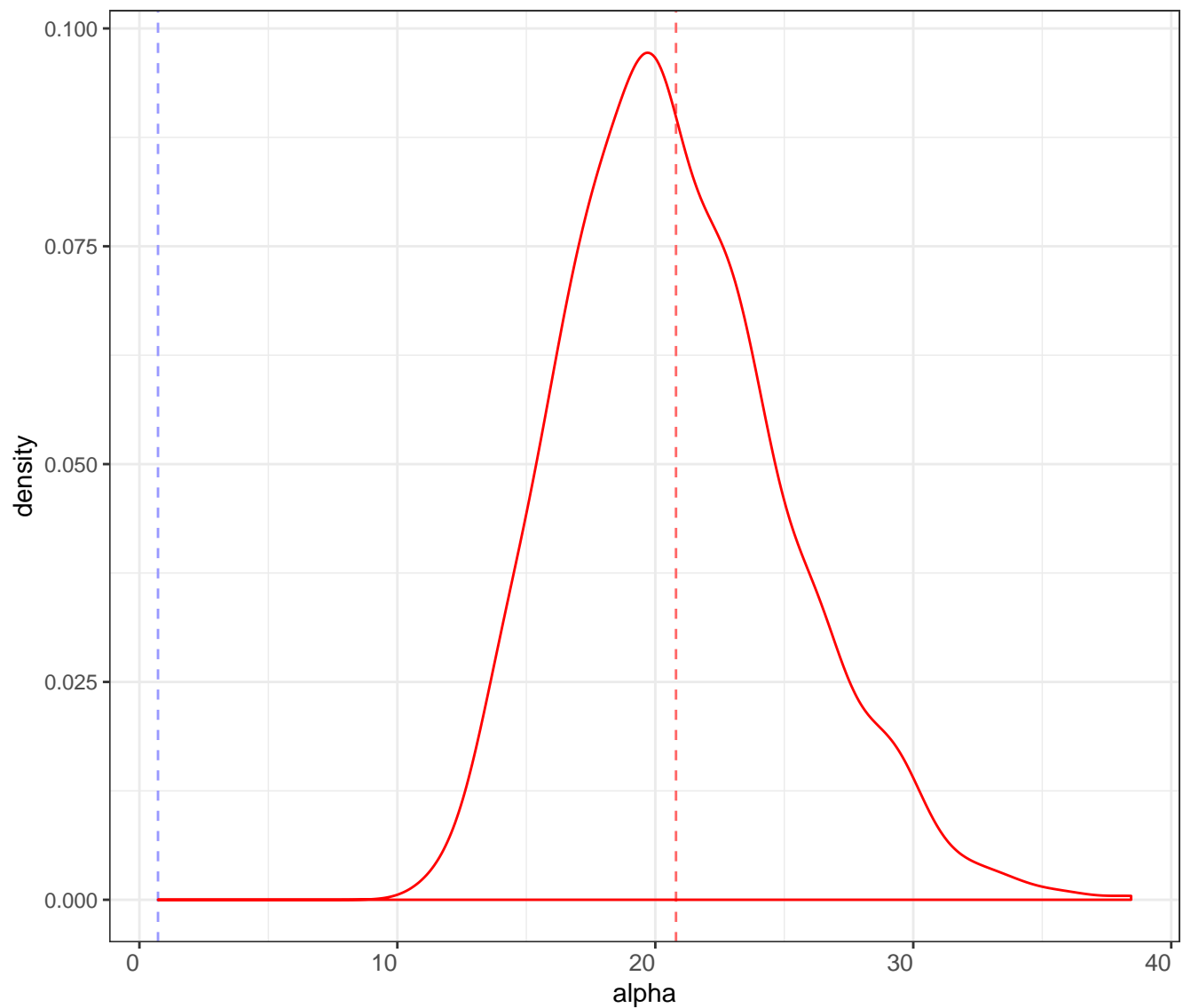
type  posterior  prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

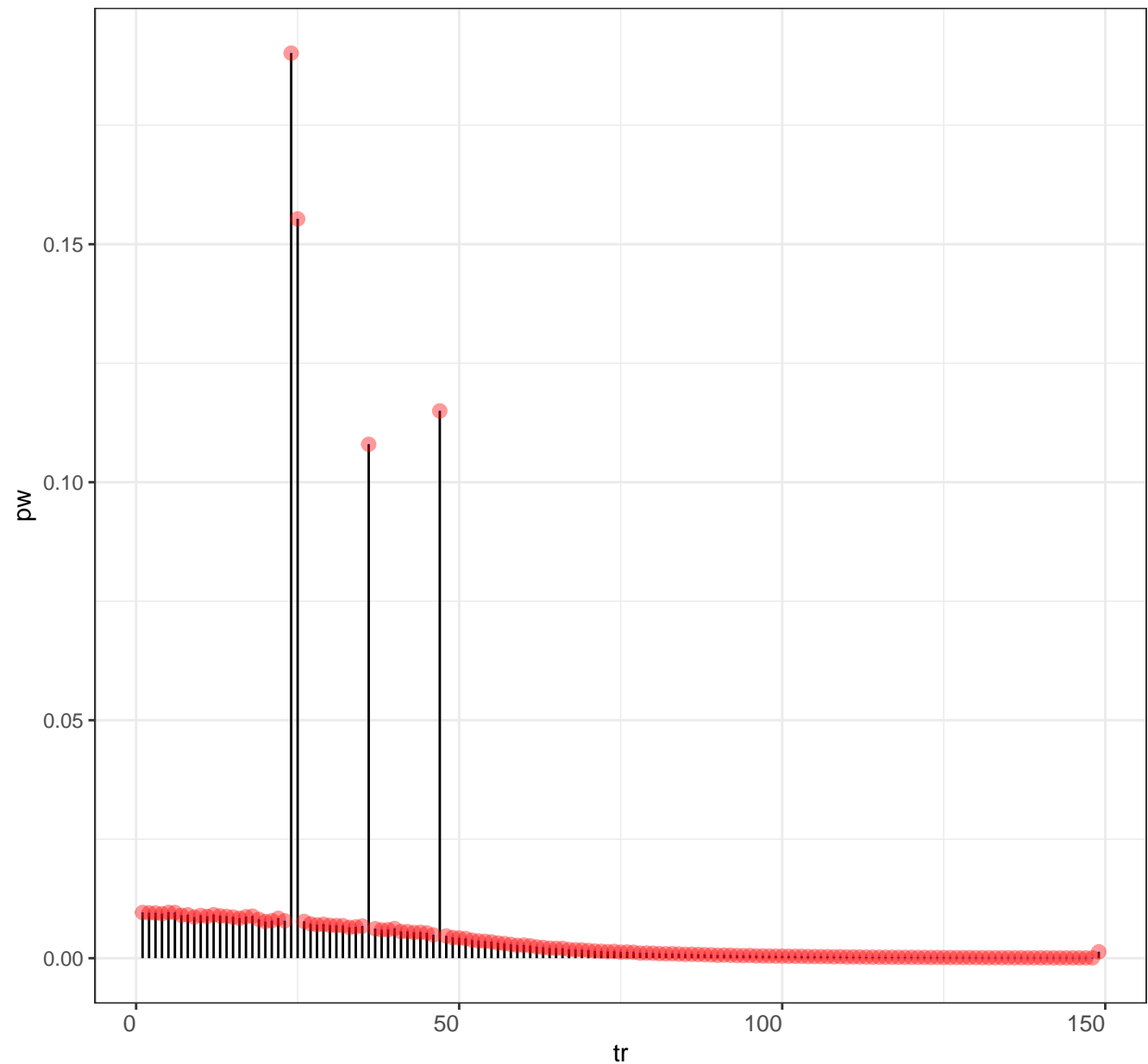
# Posterior distribution for alpha

Legend      posterior mean      prior mean



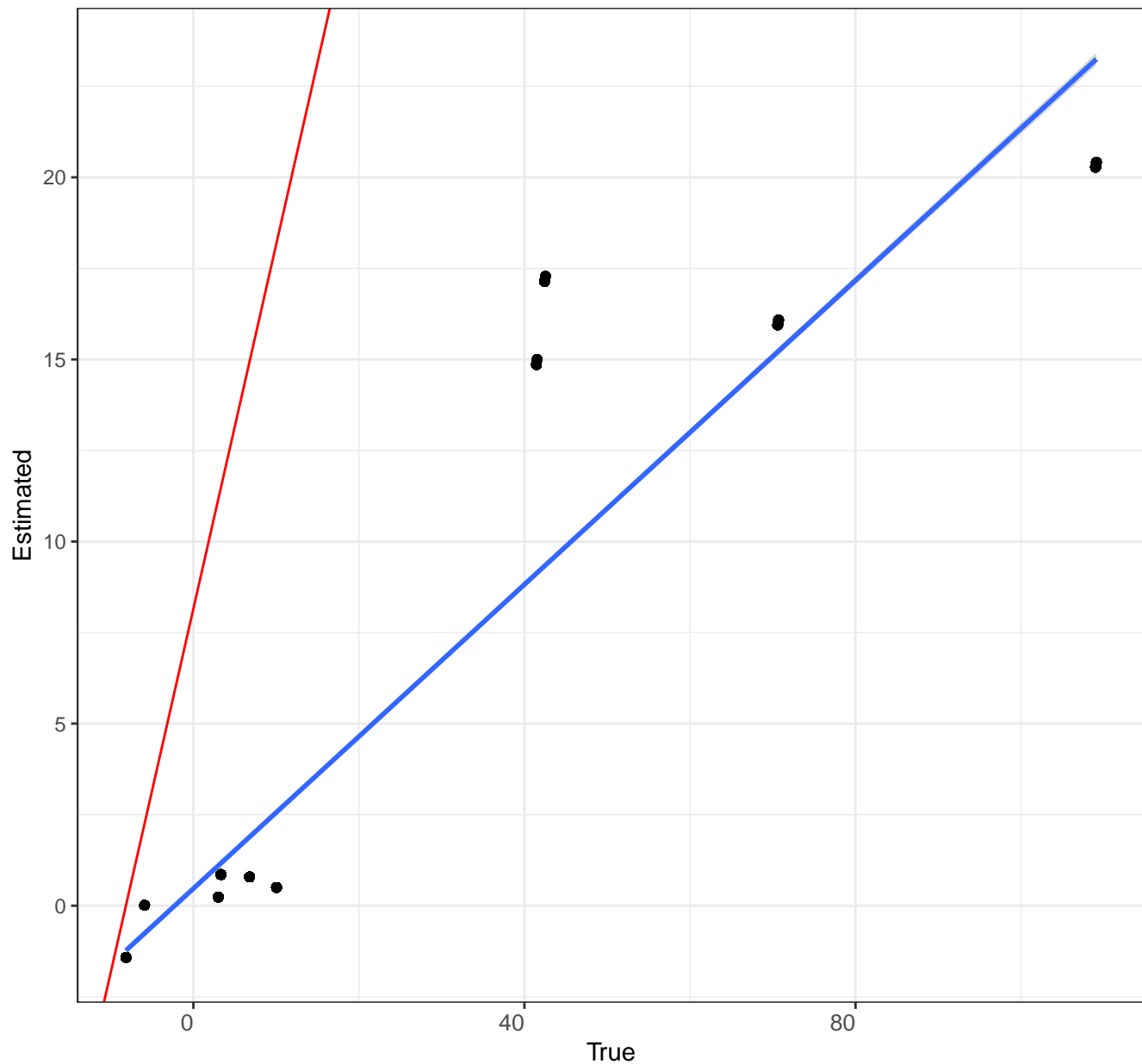
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0.001$



Number of iterations: 2000 burnin: 1000 number of samples: 500

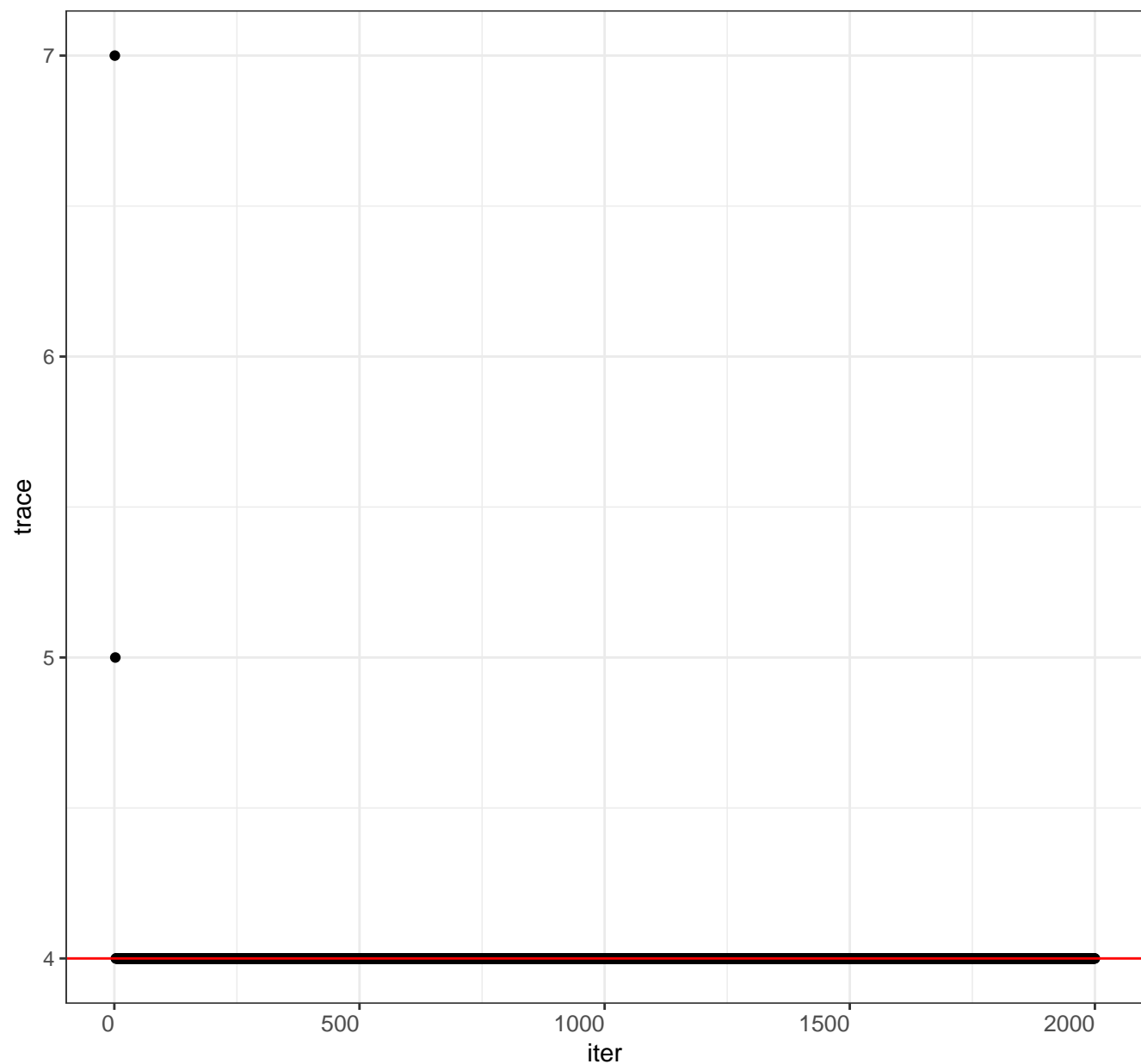
True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1



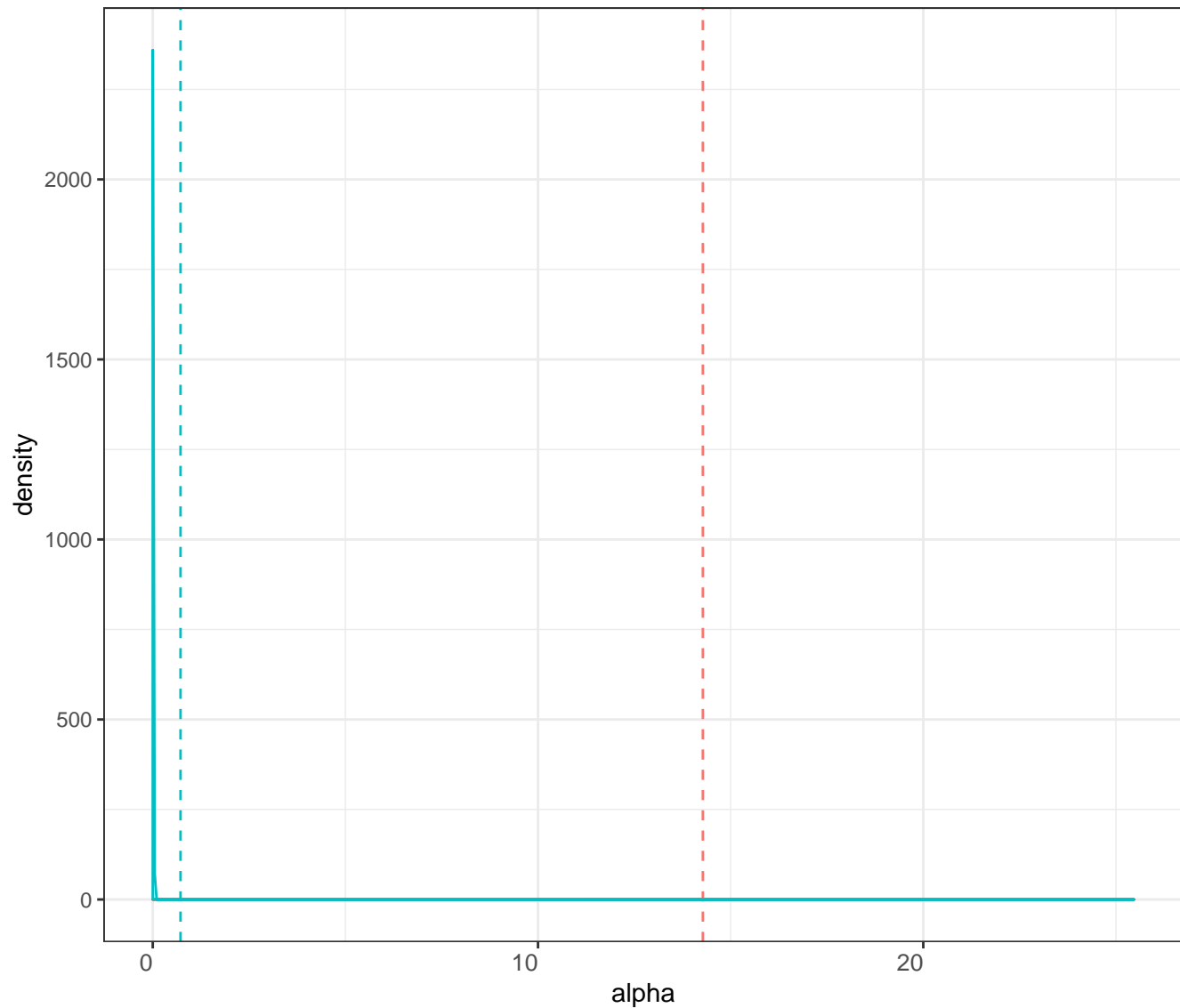
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

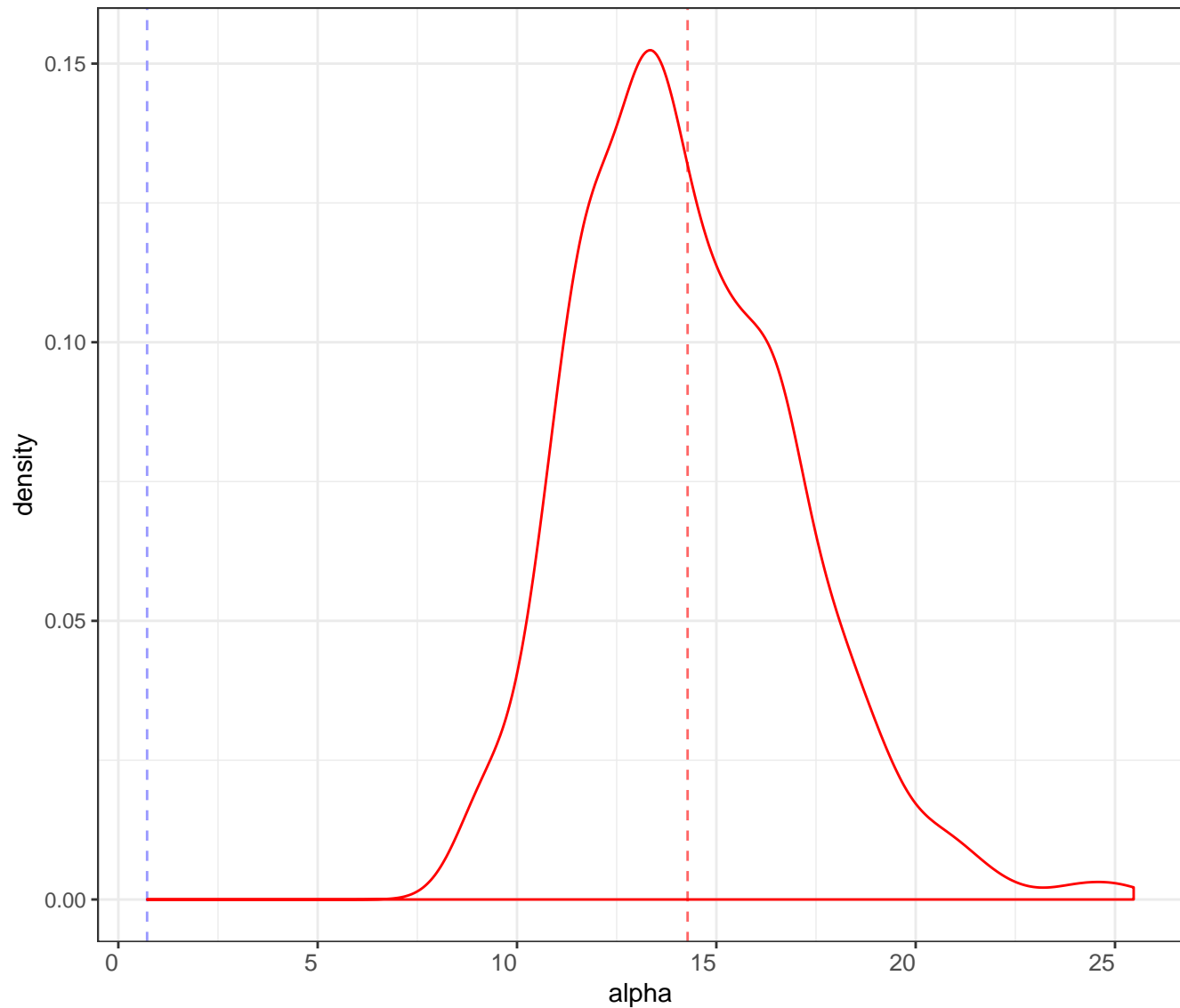
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

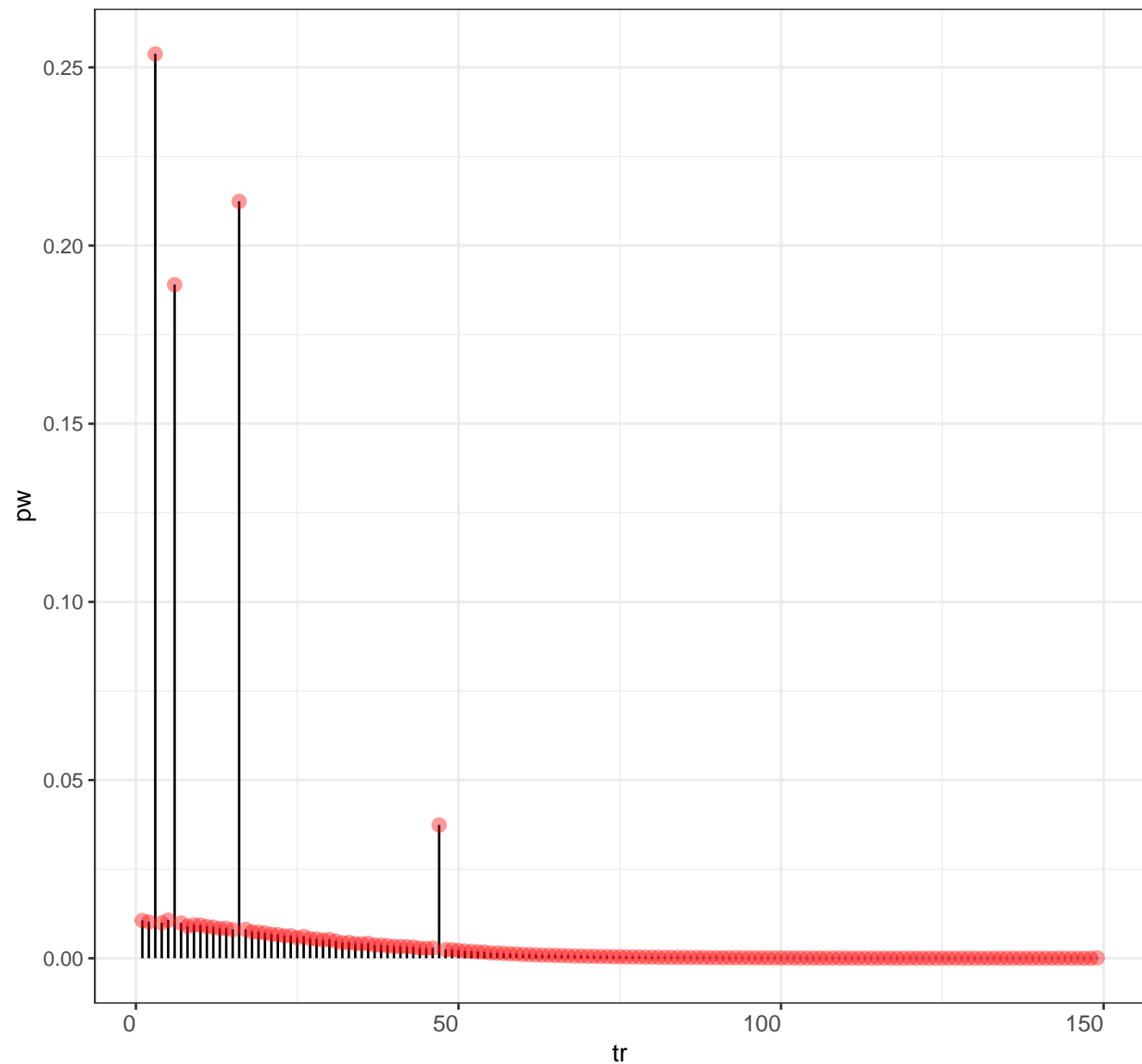
# Posterior distribution for alpha

Legend      posterior mean      prior mean



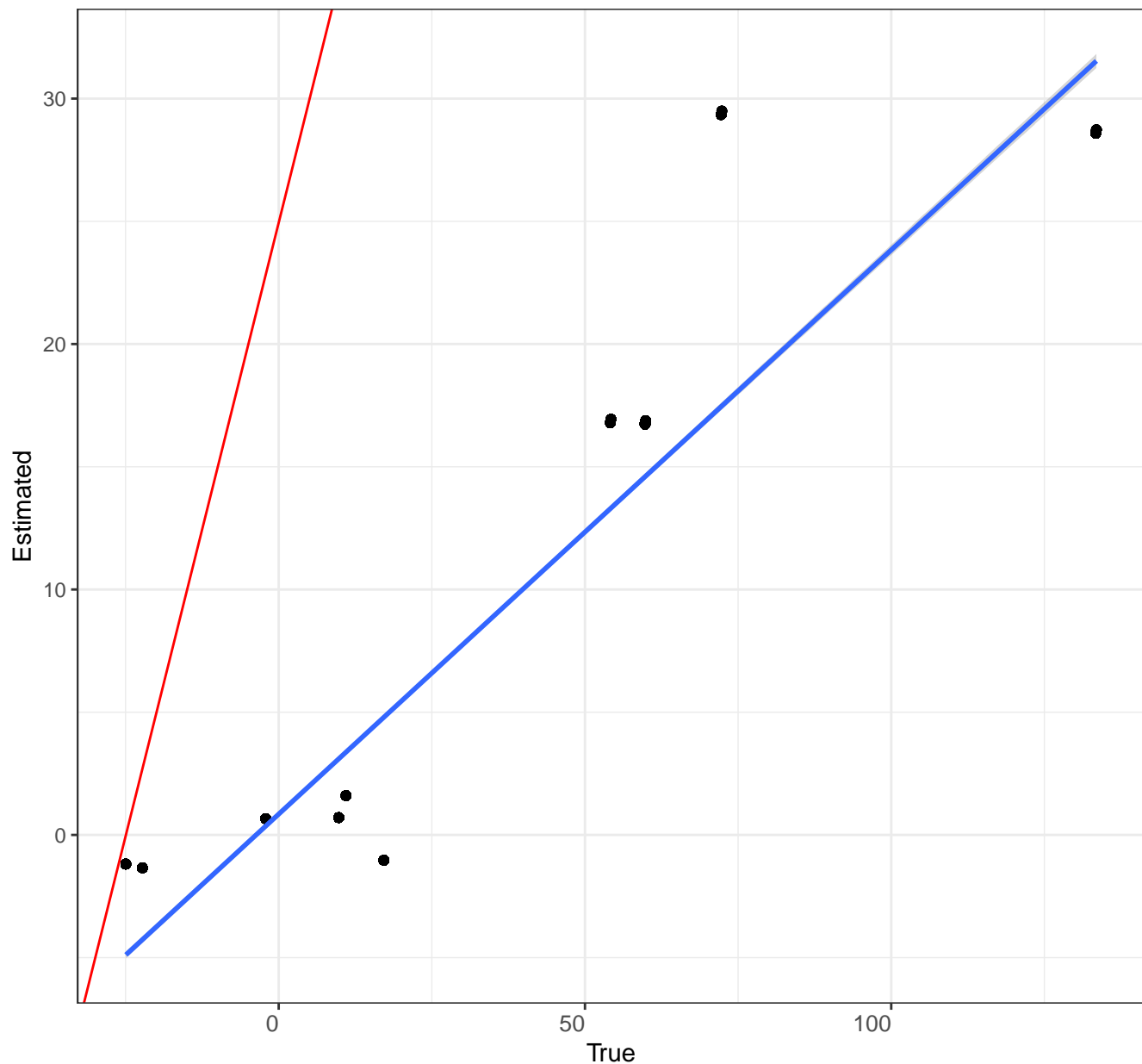
Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



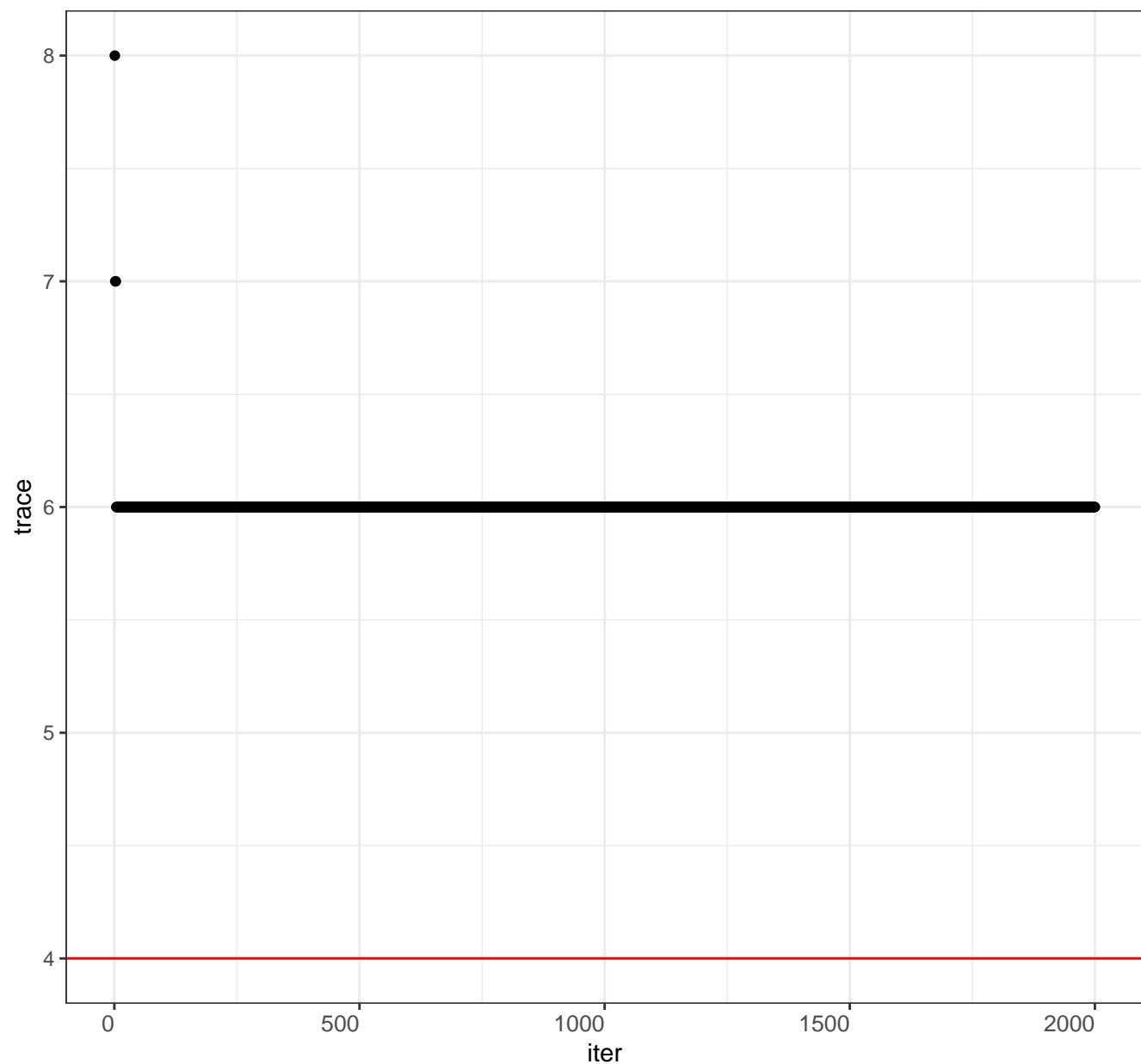
Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1

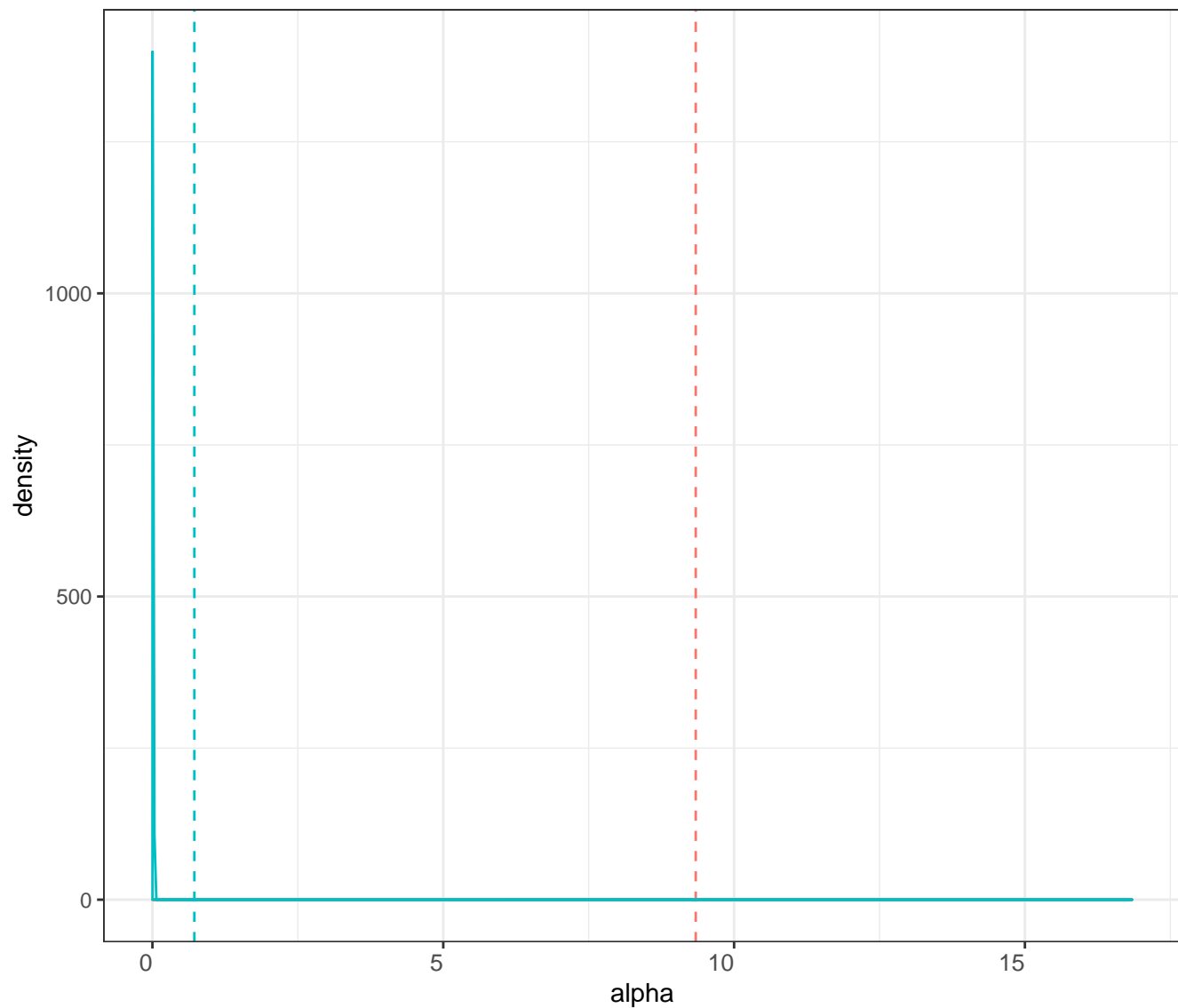
Trace plot for the number of groups K for S=80 r=20 true K=4 type=1



Number of iterations: 2000 burnin: 1000number of samples: 500

Distribution alpha: S=80 ,r=20 true gr K=4 ,type=1 ,N=150

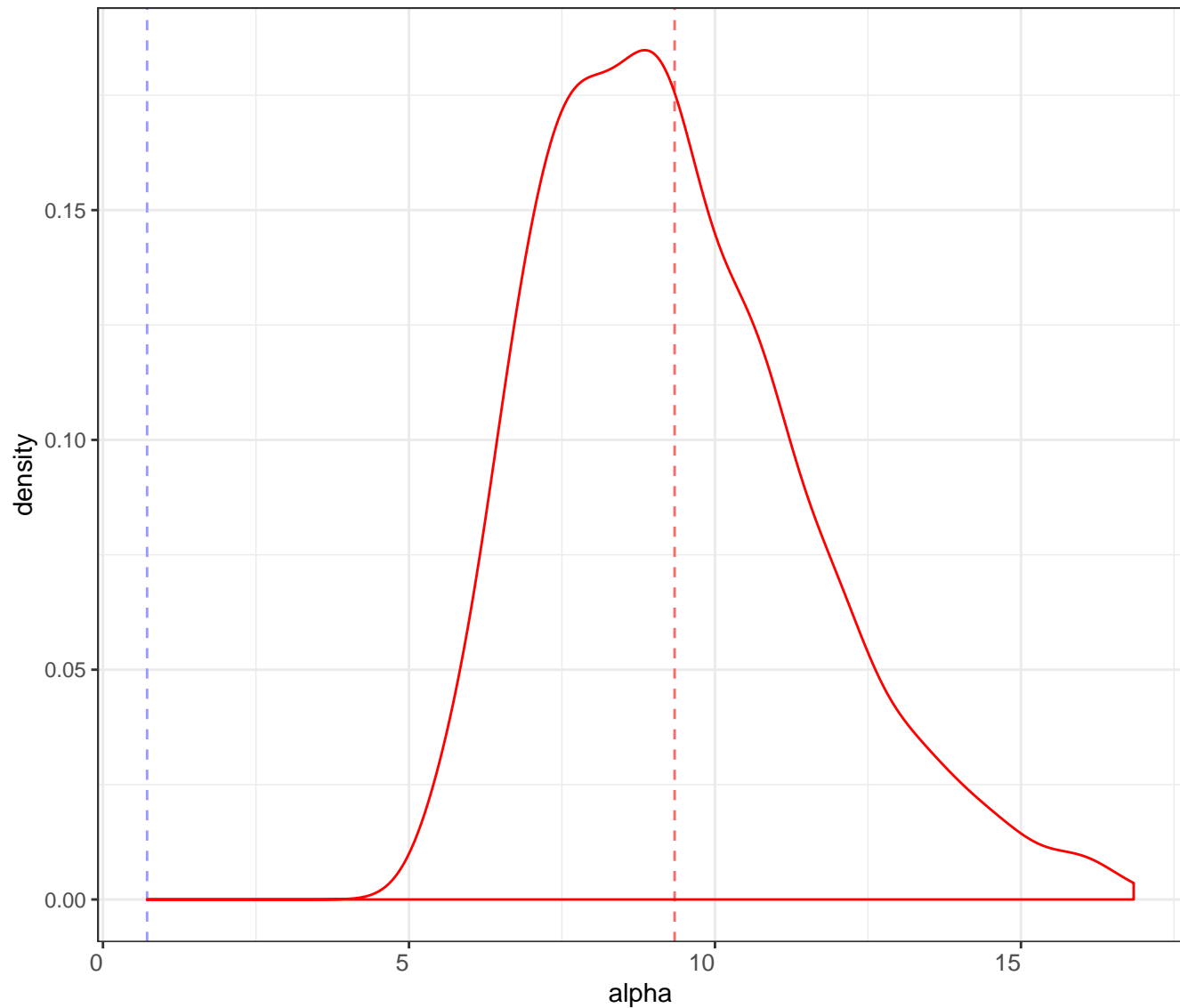
type ┆┆ posterior ┆┆ prior



Number of iterations: 2000 burnin: 1000 number of samples: 500

# Posterior distribution for alpha

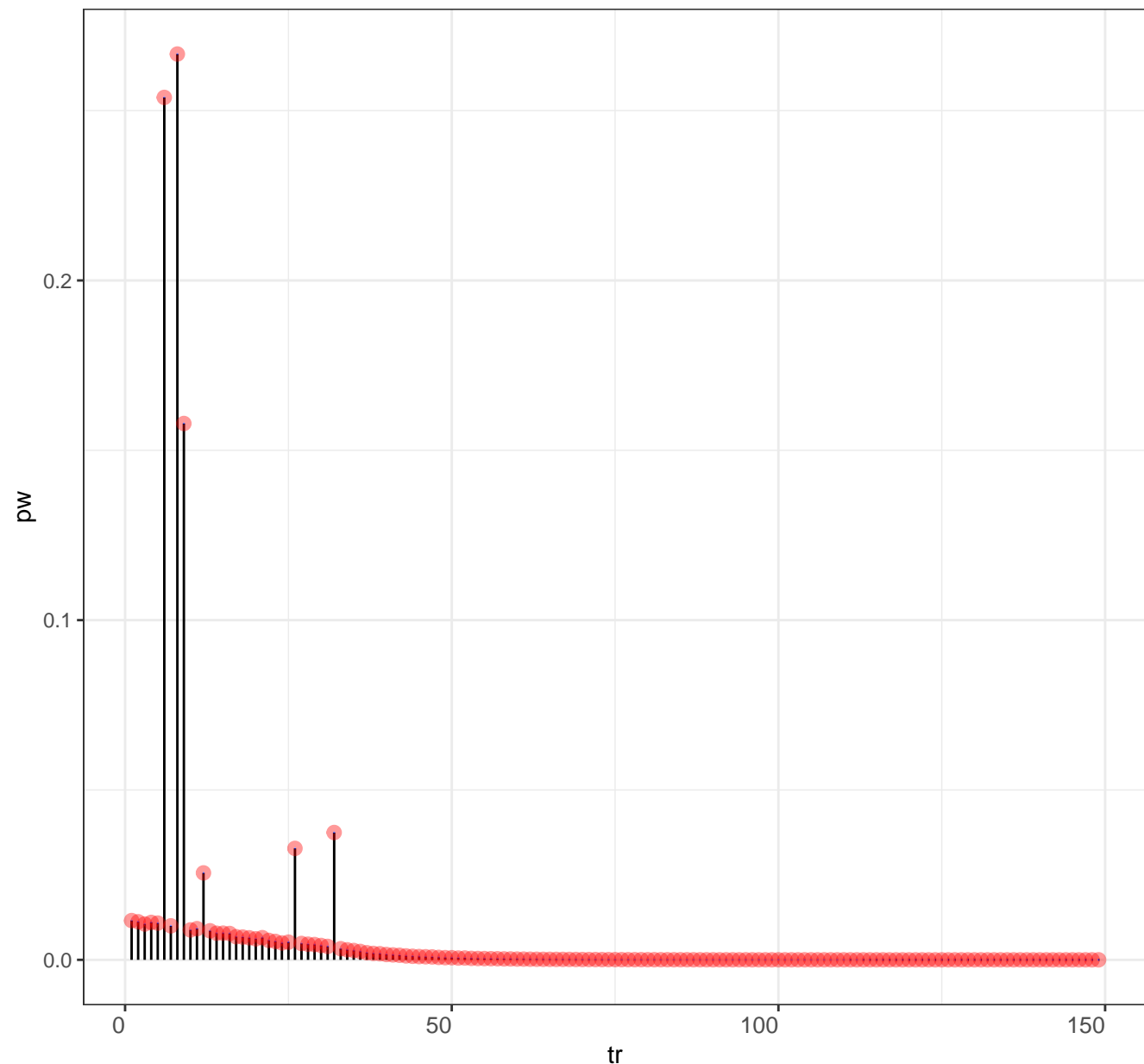
Legend    - - - posterior mean    - - - prior mean



Number of iterations: 2000 burnin: 1000 number of samples: 500 S=80 ,r=20 true gr K=4 ,type=1 ,N=150

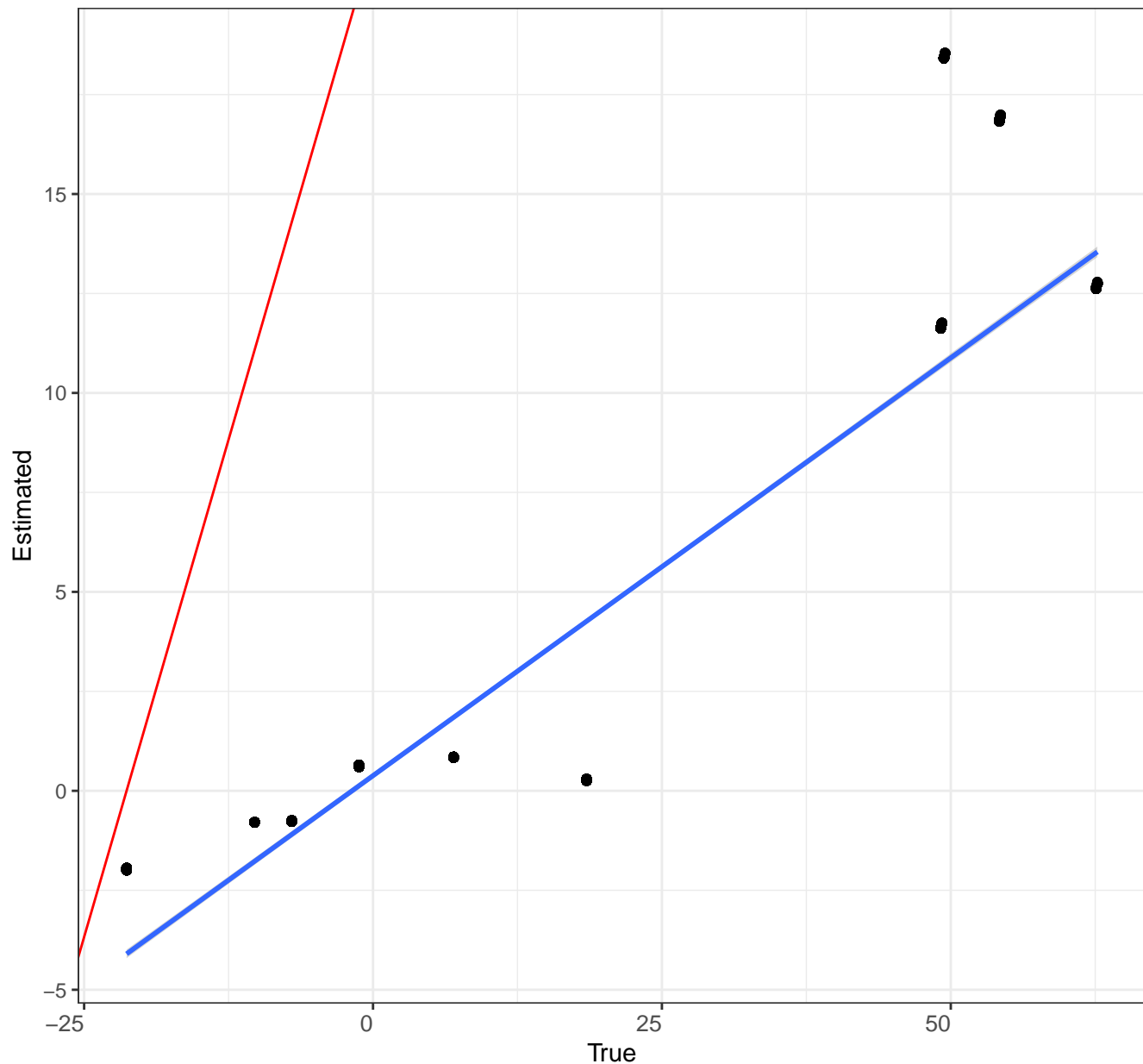


Weights for the case:  $S=80$  , $r=20$  true gr  $K=4$  ,type=1 , $N=150$   $pN=0$



Number of iterations: 2000 burnin: 1000 number of samples: 500

True vs estimated covariance parameters



Number of iterations: 2000 burnin: 1000number of samples: 500S=80 r=20 true K=4 type=1