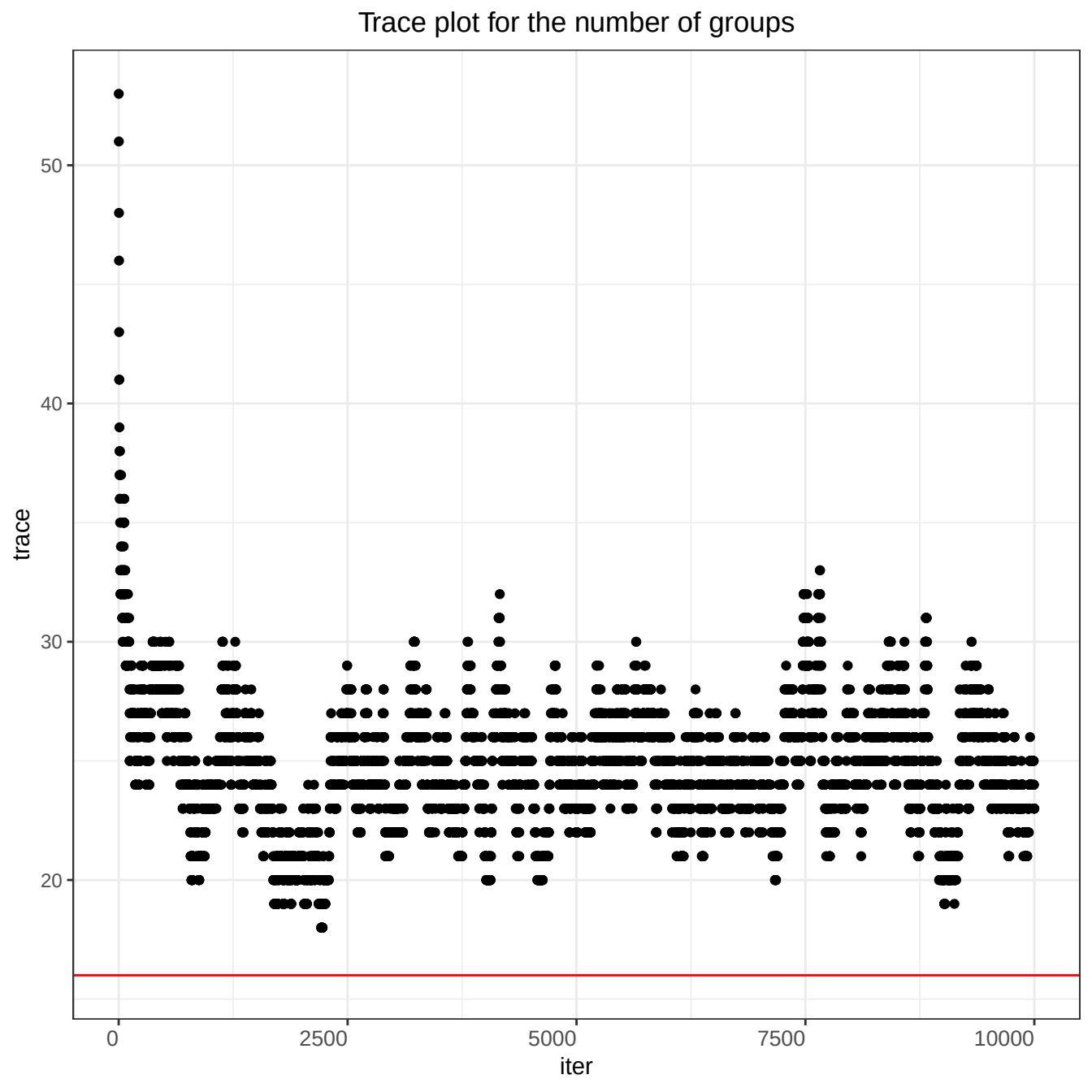
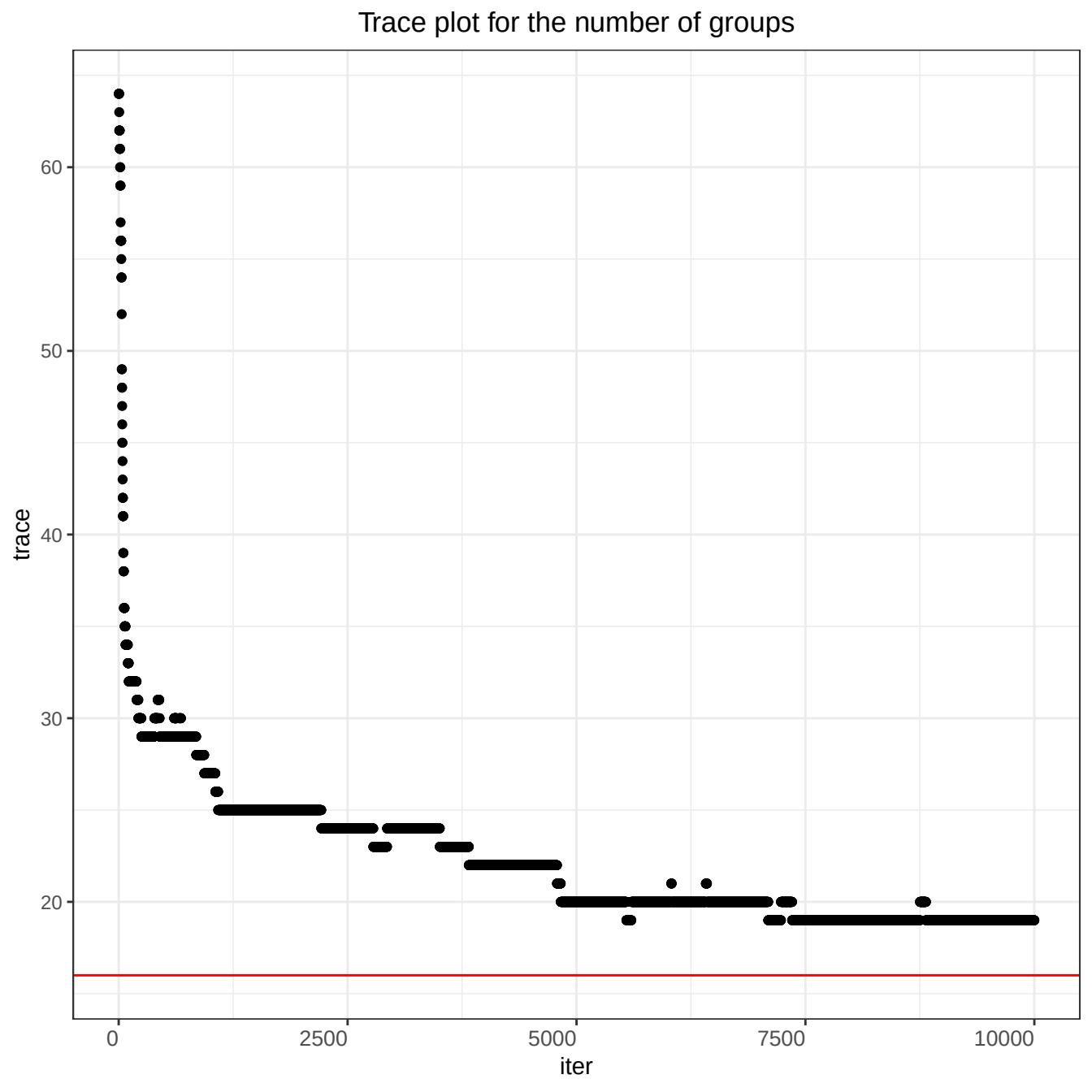
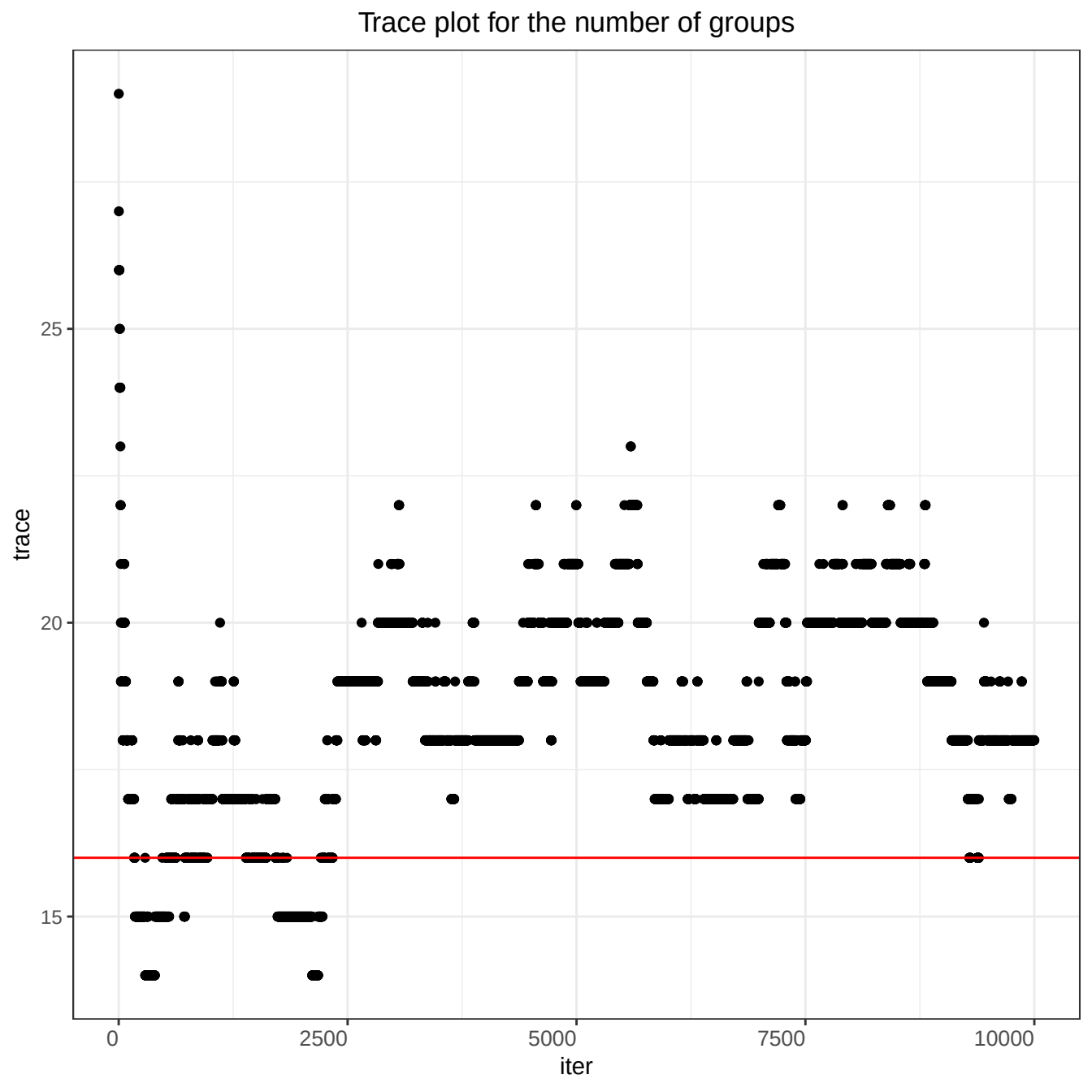
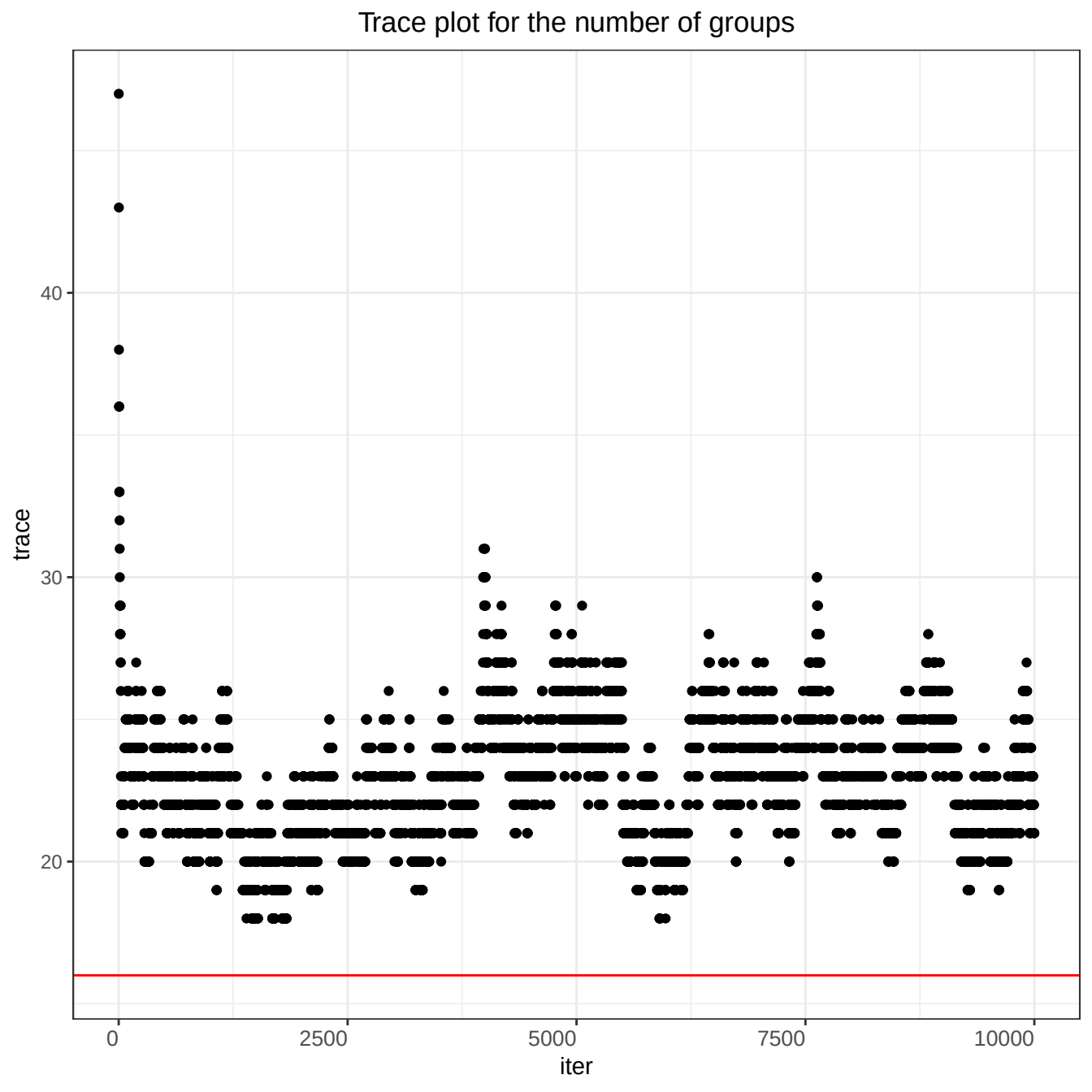
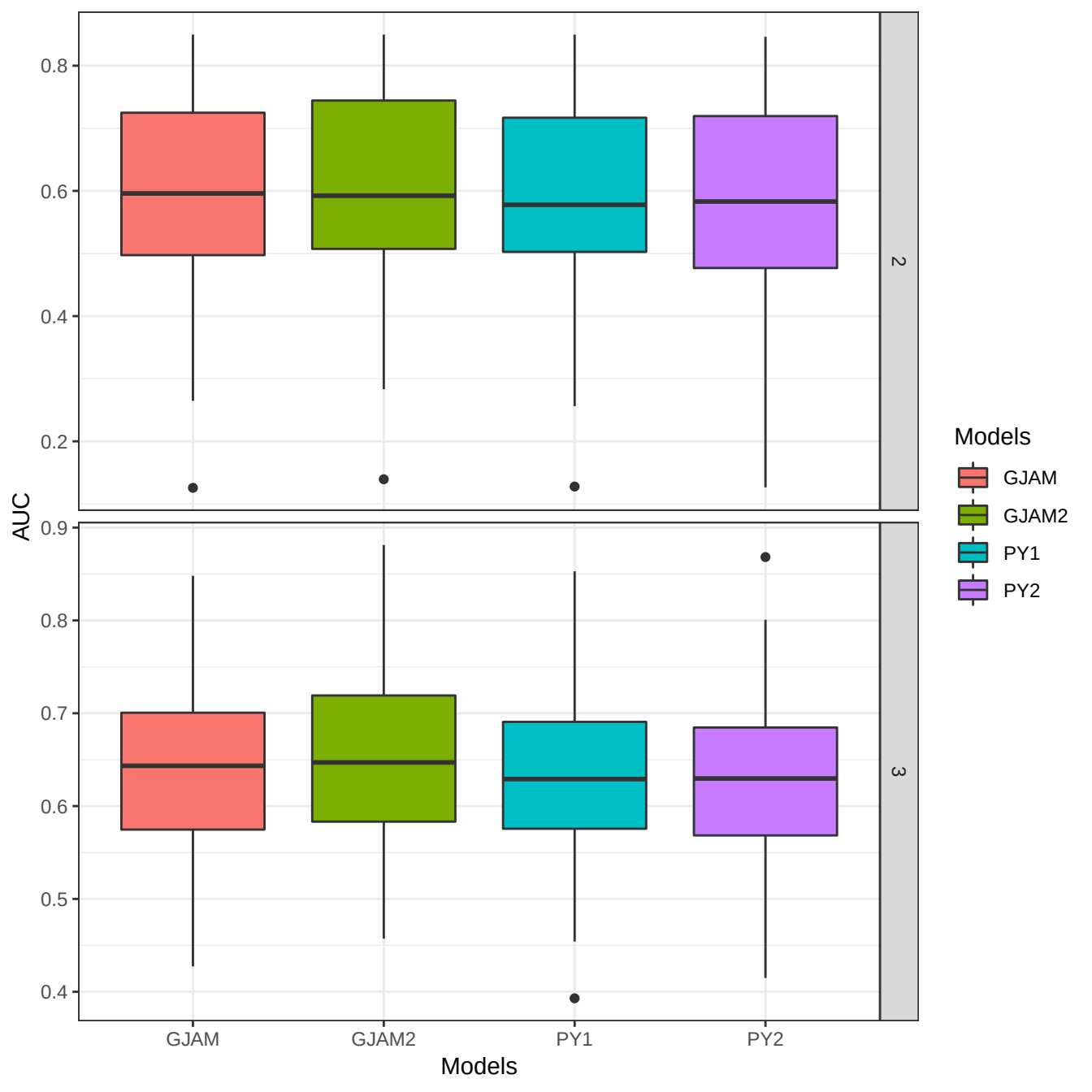
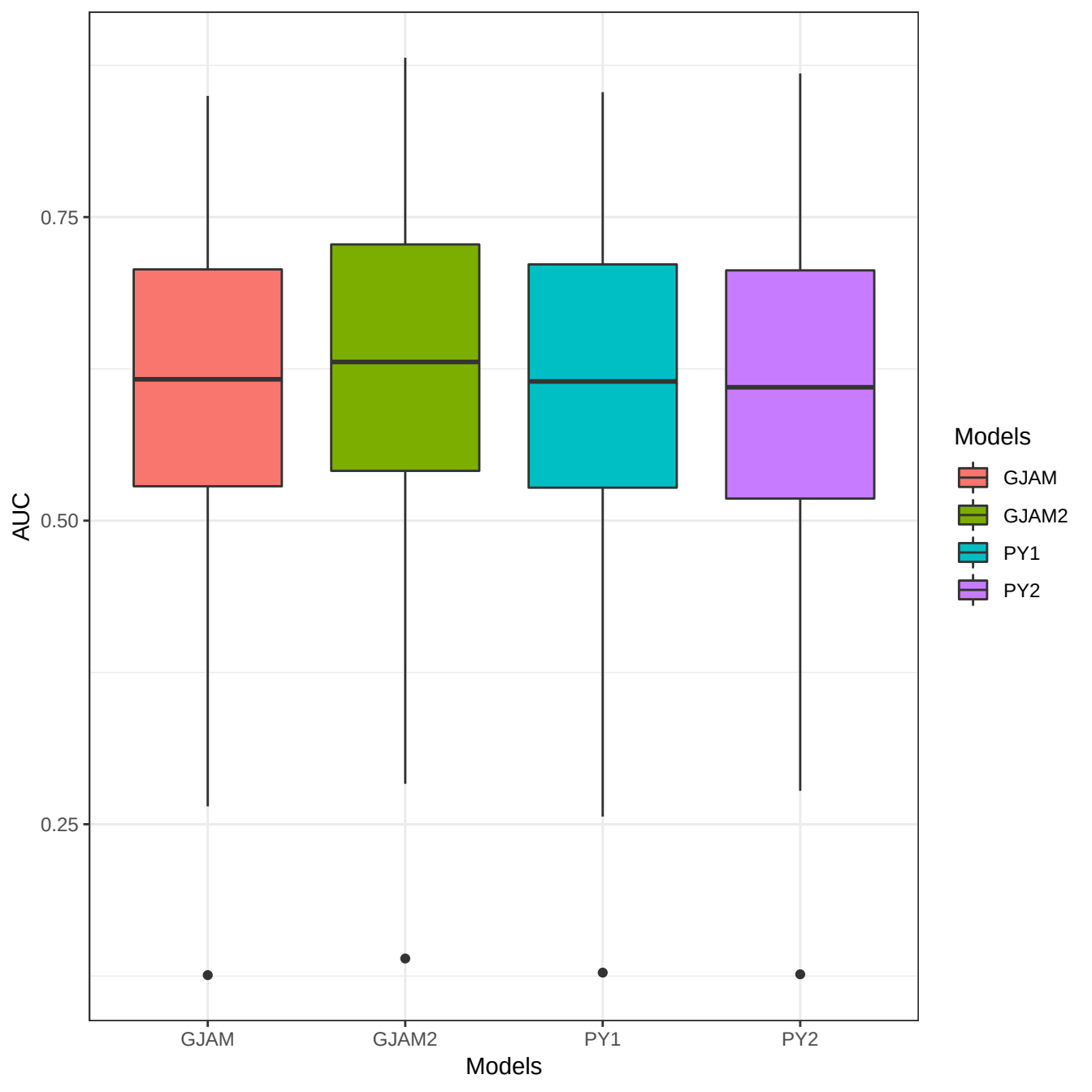

Trace plot for the number of groups
trace
iter
50
40
30
20
0
2500
5000
7500
10000

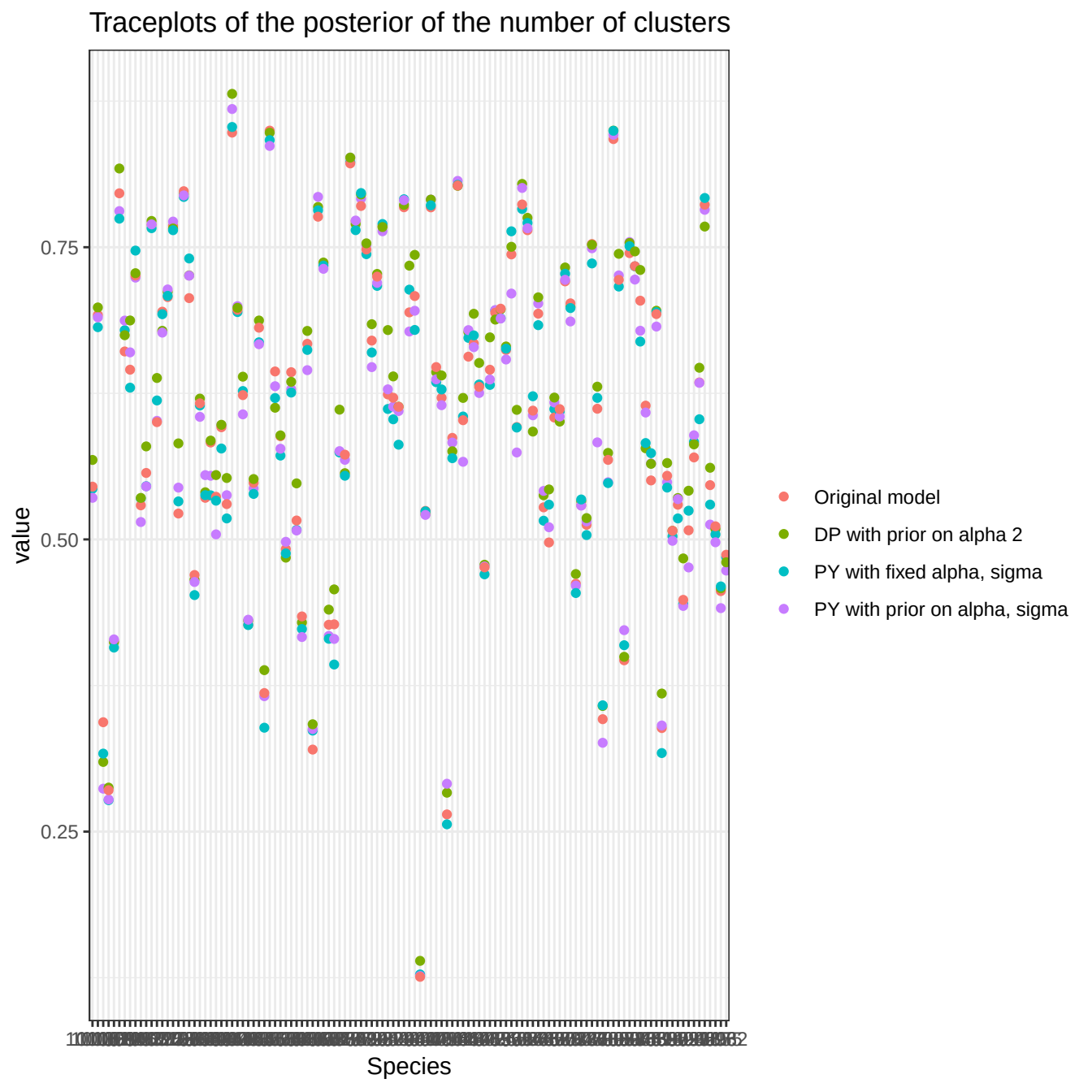

Trace plot for the number of groups
trace
iter
60
50
40
30
20
0
2500
5000
7500
10000

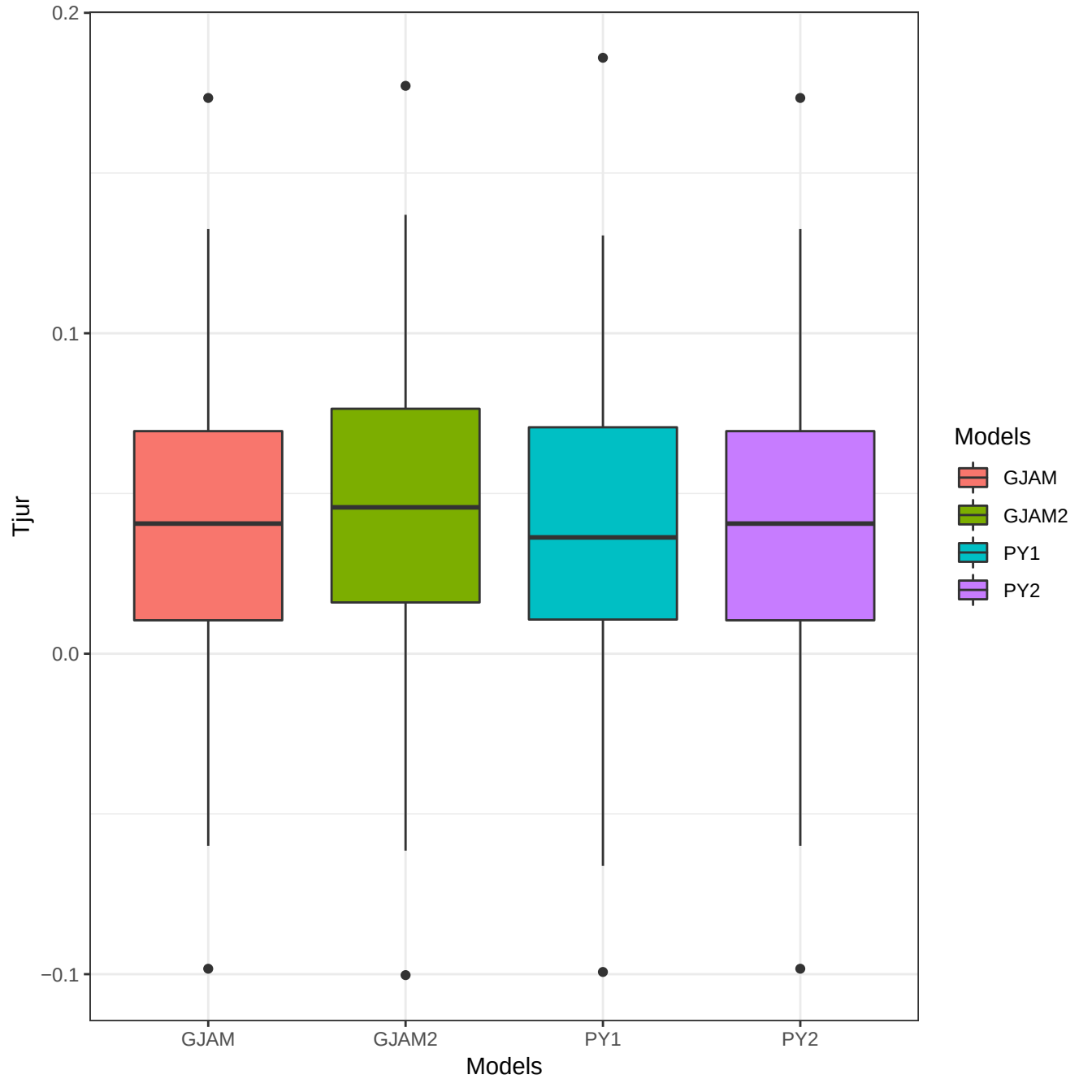

Trace plot for the number of groups
trace
25
20
15
0
2500
5000
7500
10000
iter

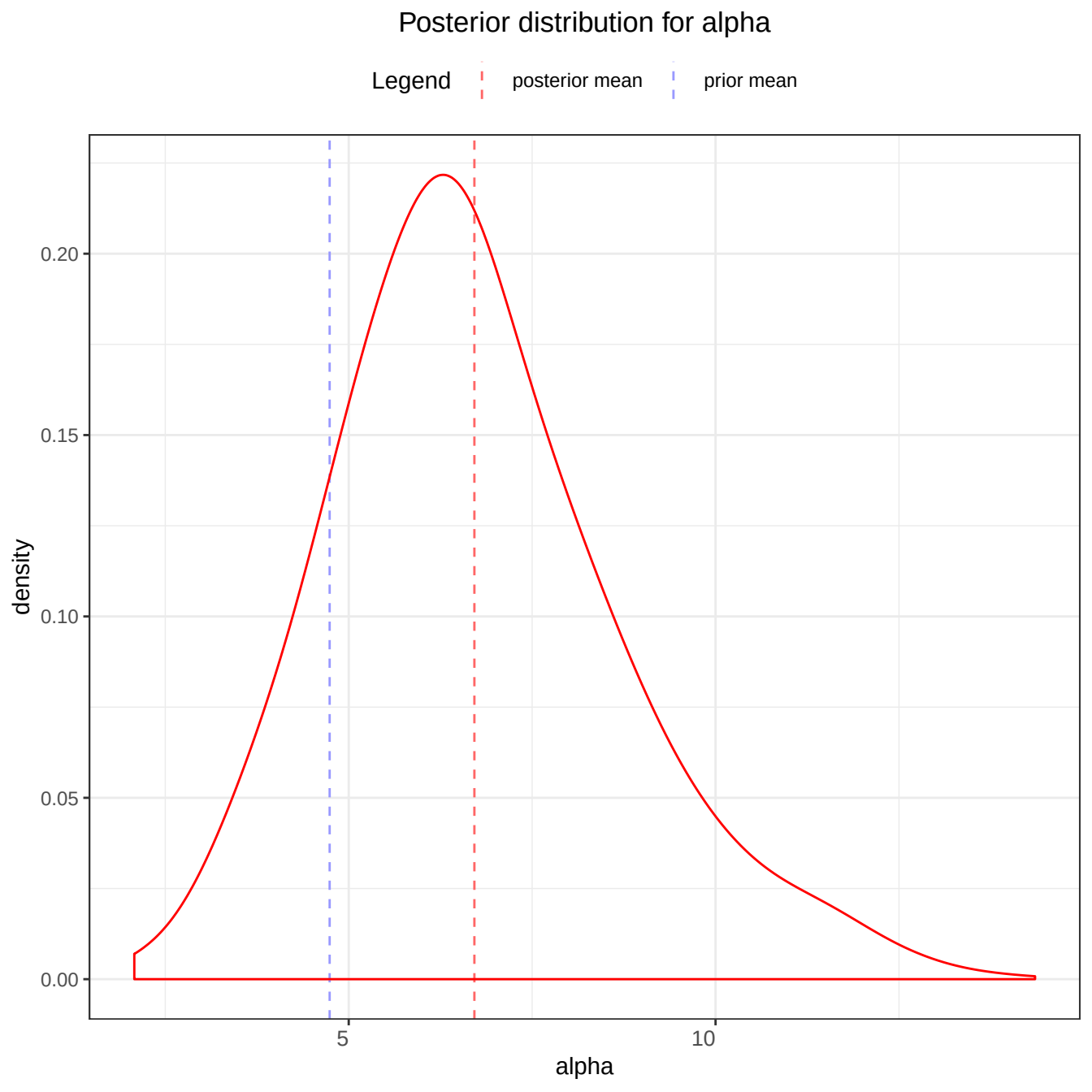

Trace plot for the number of groups
trace
40
30
20
0
2500
5000
7500
10000
iter

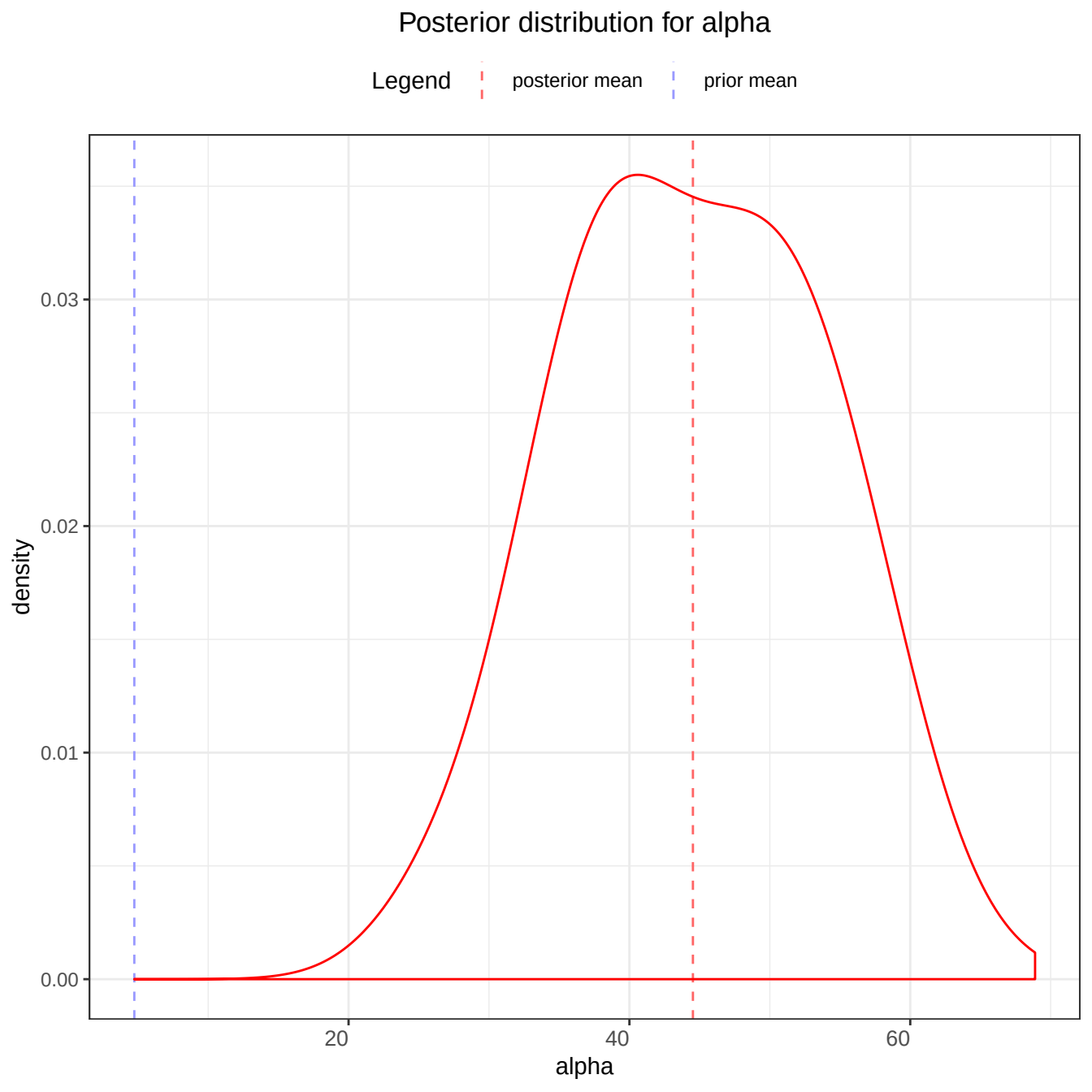

AUC
0.8
0.6
0.4
0.2
2
0.9
0.8
0.7
0.6
0.5
0.4
3
GJAM
GJAM2
PY1
PY2
Models
Models
GJAM
GJAM2
PY1
PY2

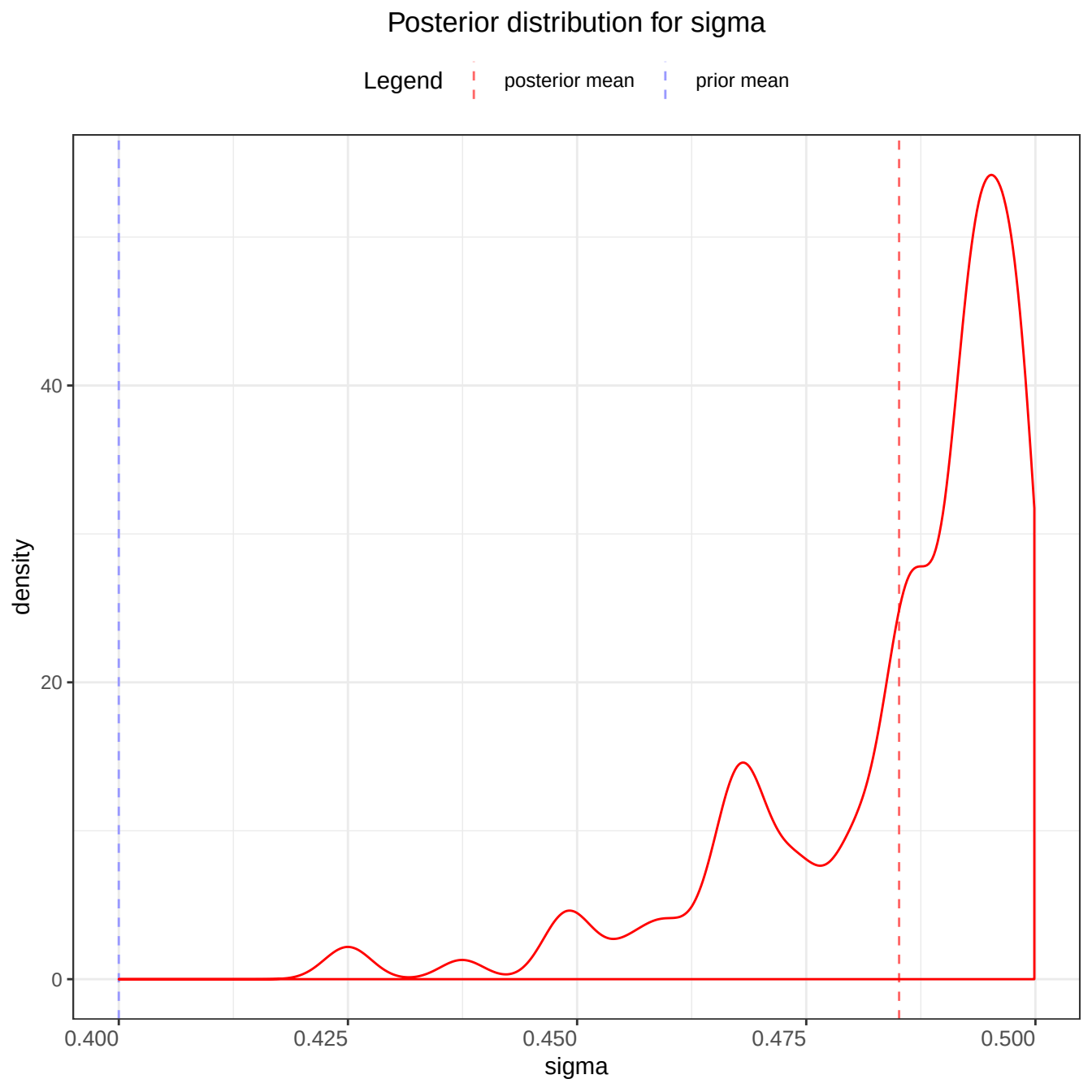

0.75
0.50
0.25
AUC
GJAM
GJAM2
PY1
PY2
Models
Models
GJAM
GJAM2
PY1
PY2

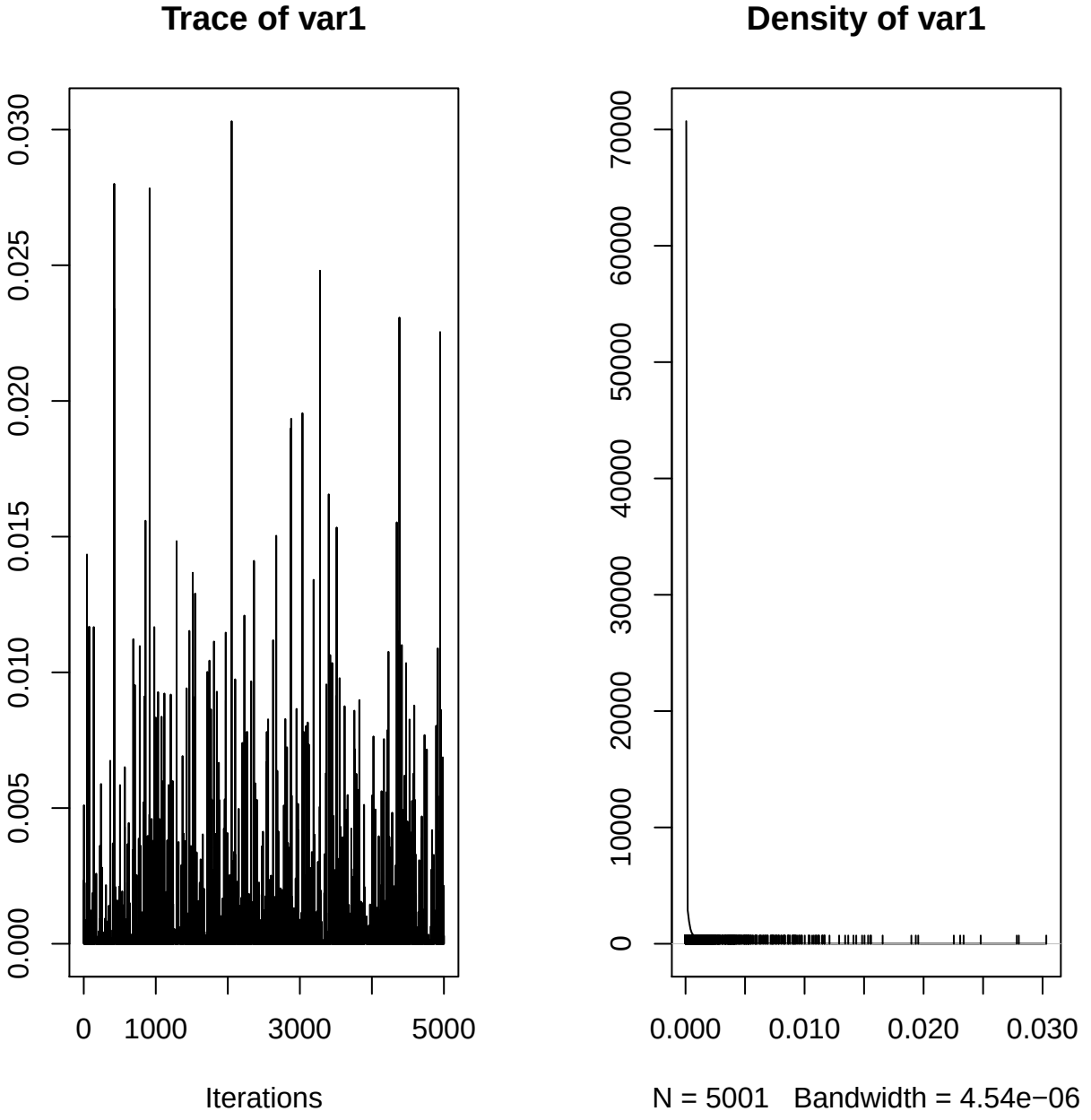

Traceplots of the posterior of the number of clusters
value
0.75
0.50
0.25
Species
Original model
DP with prior on alpha 2
PY with fixed alpha, sigma
PY with prior on alpha, sigma

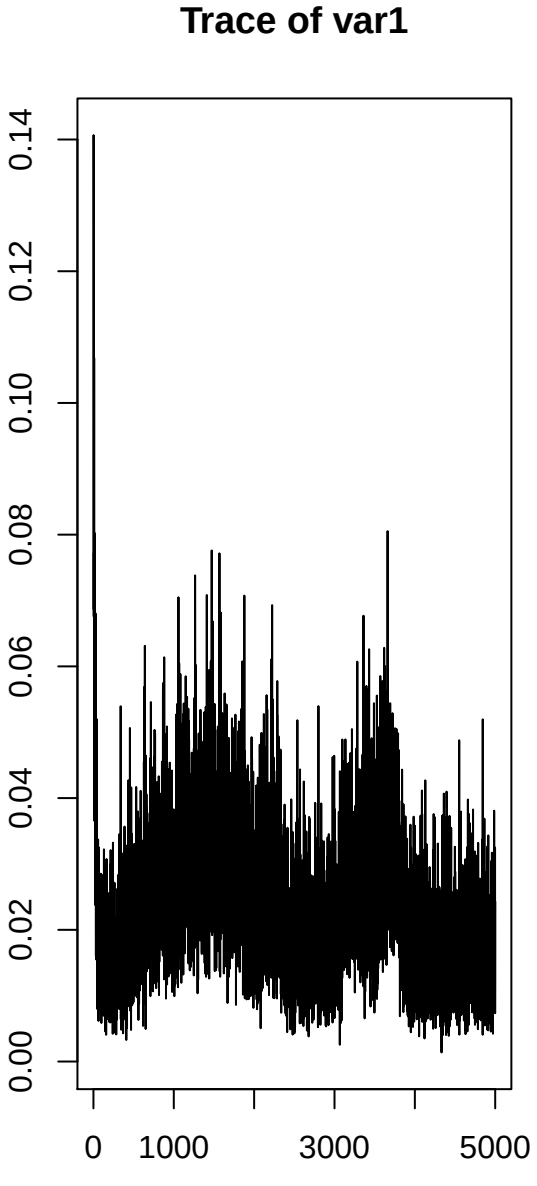

0.2
0.1
0.0
−0.1
Tjur
GJAM
GJAM2
PY1
PY2
Models
Models
GJAM
GJAM2
PY1
PY2

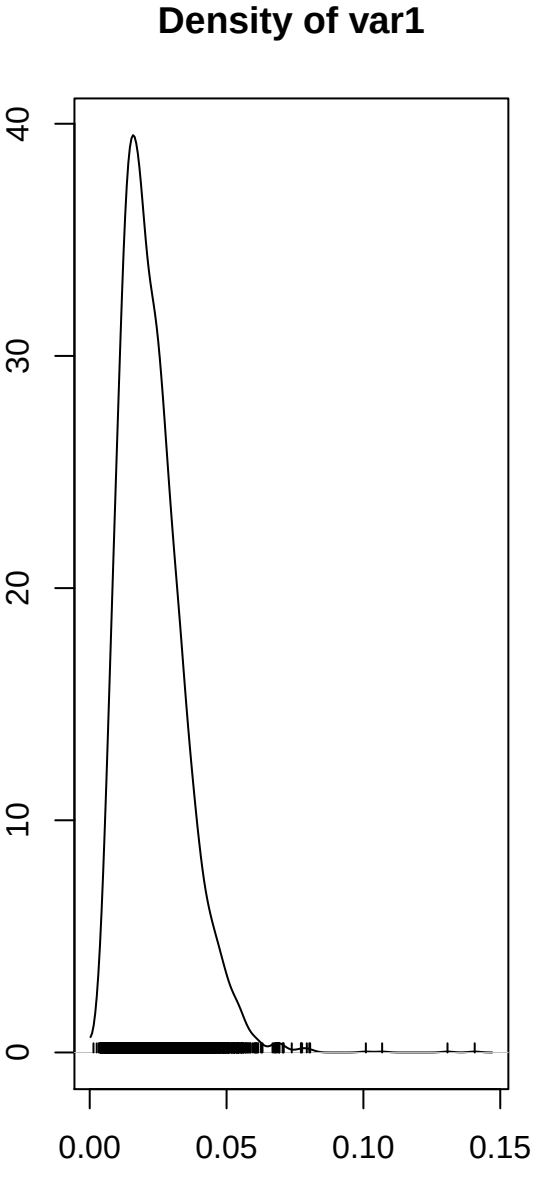

Posterior distribution for alpha
Legend
posterior mean
prior mean
0.20
0.15
0.10
0.05
0.00
density
5
10
alpha

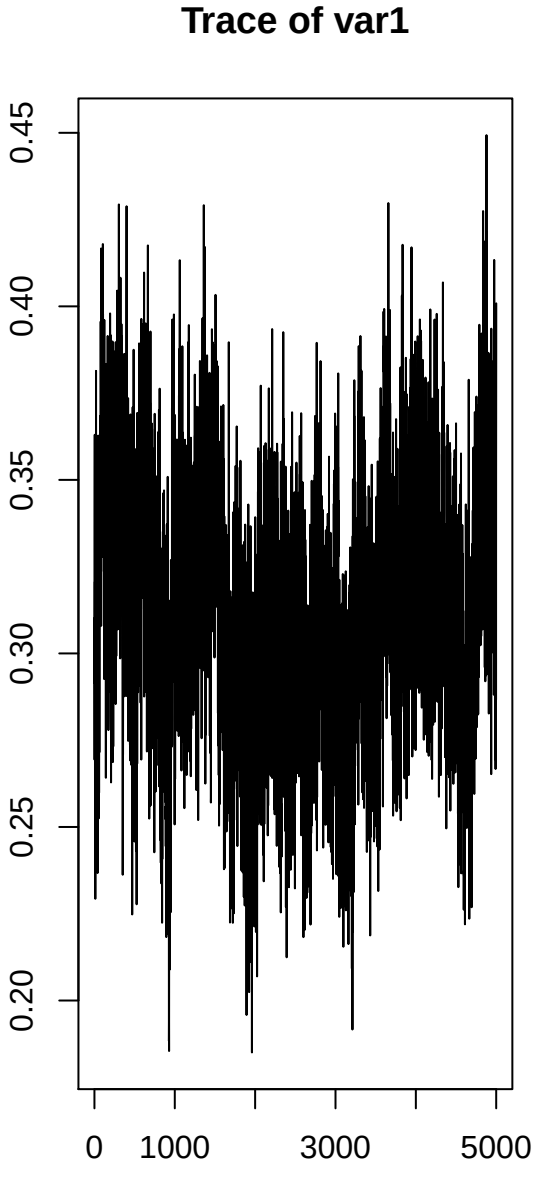

Posterior distribution for alpha
Legend
posterior mean
prior mean
density
0.03
0.02
0.01
0.00
20
40
60
alpha

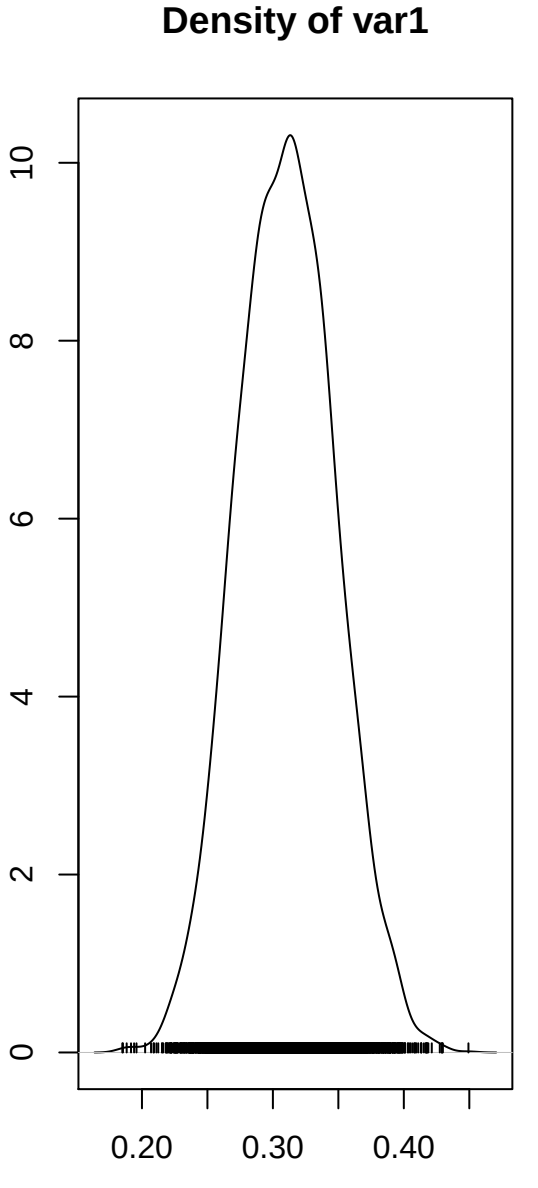

Posterior distribution for sigma
Legend
posterior mean
prior mean
density
40
20
0
0.400
0.425
0.450
0.475
0.500
sigma

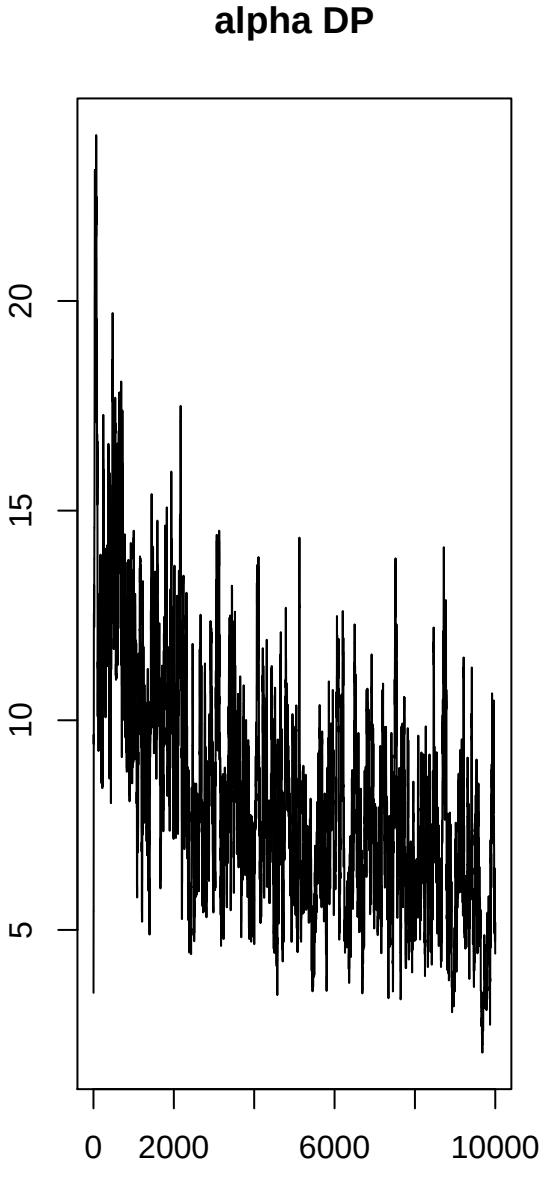

Trace of var1
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0
1000
3000
5000
Iterations
Density of var1
0
10000
20000
30000
40000
50000
60000
70000
0.000
0.010
0.020
0.030
N = 5001 Bandwidth = 4.54e−06

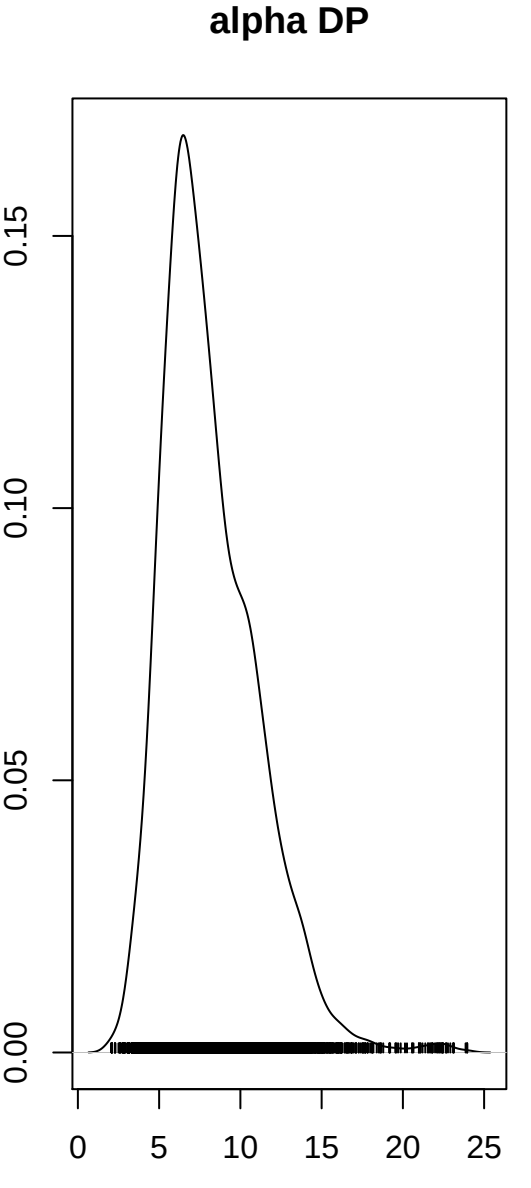

Trace of var1
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0
1000
3000
5000
Iterations

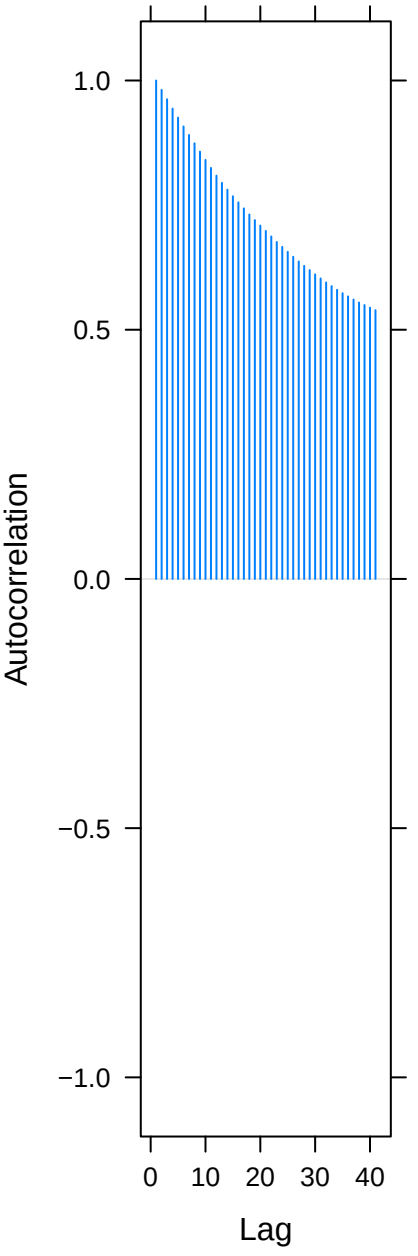

Density of var1
0
10
20
30
40
0.00
0.05
0.10
0.15
N = 5001 Bandwidth = 0.002142

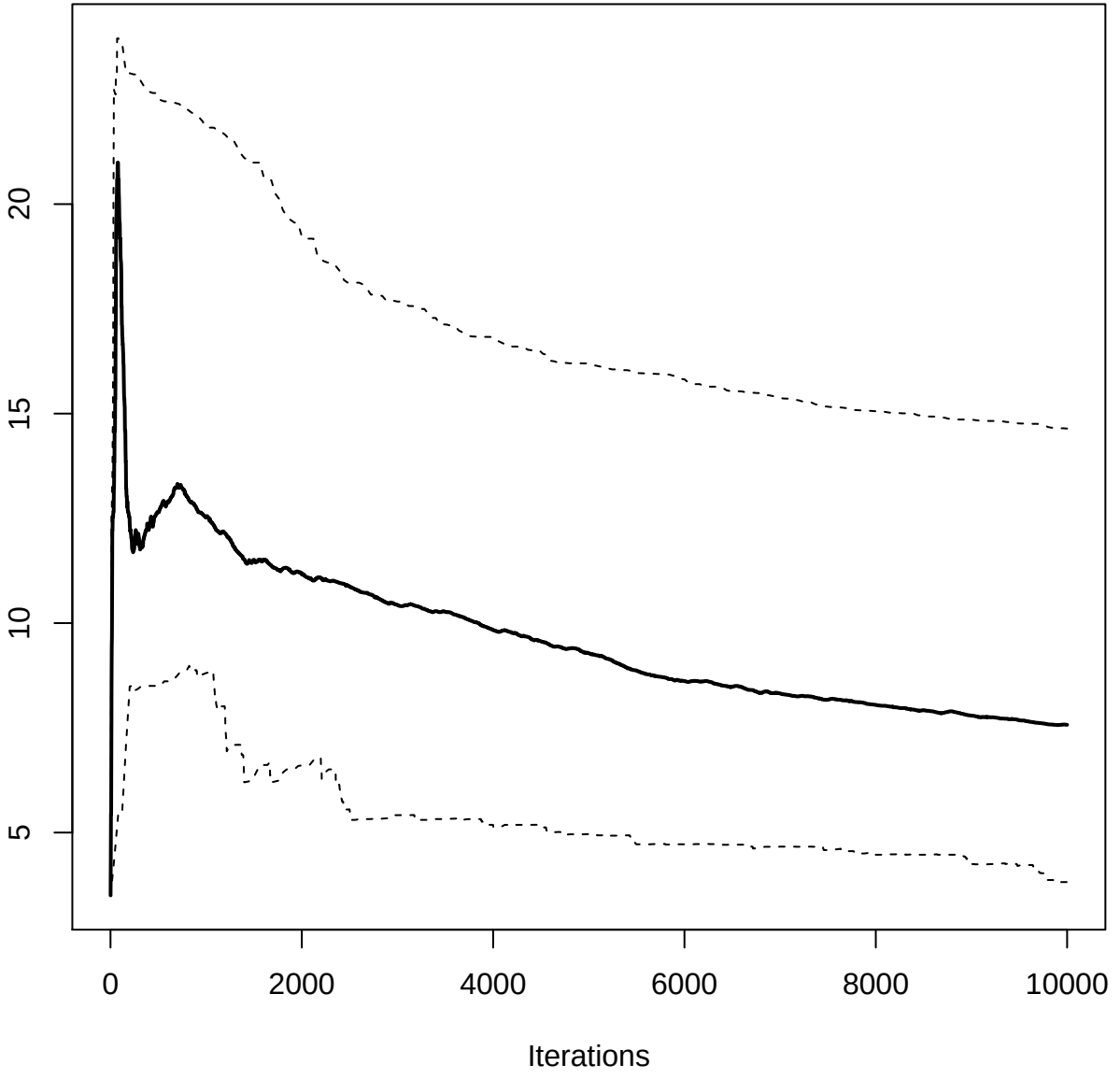

Trace of var1
0.45
0.40
0.35
0.30
0.25
0.20
0
1000
3000
5000
Iterations

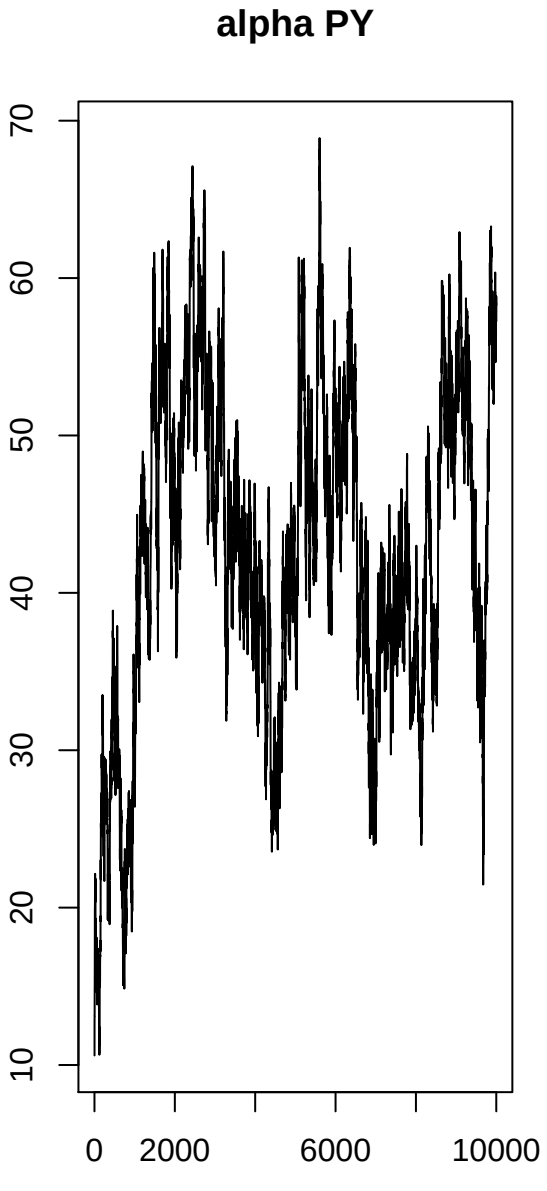

Density of var1
10
8
6
4
2
0
0.20
0.30
0.40
N = 5001 Bandwidth = 0.007092

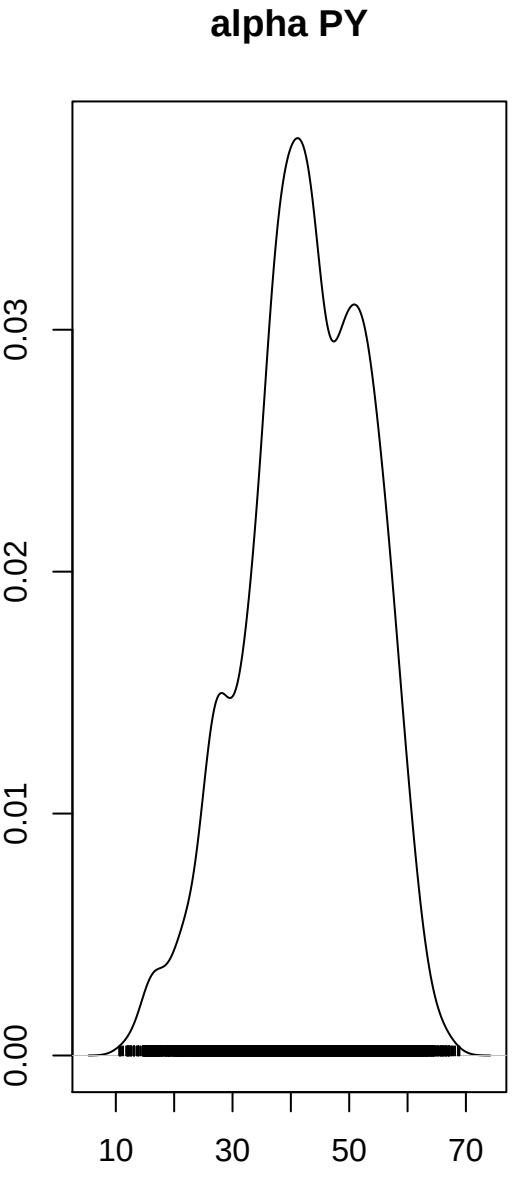

alpha DP
20
15
10
5
0
2000
6000
10000
Iterations

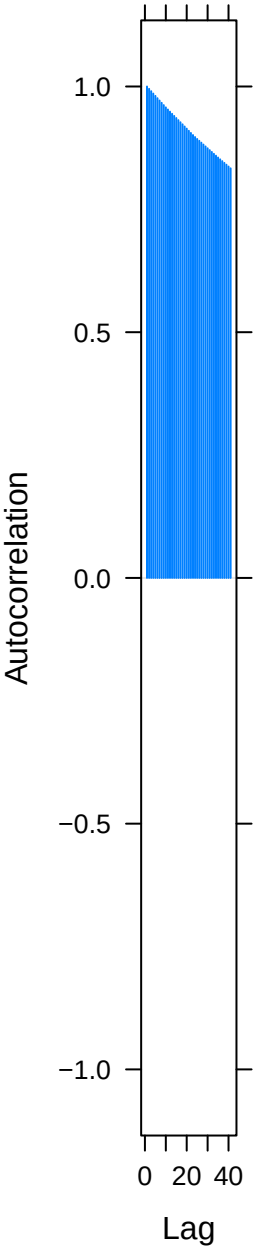

alpha DP
0.15
0.10
0.05
0.00
0
5
10
15
20
25
N = 10000 Bandwidth = 0.4748

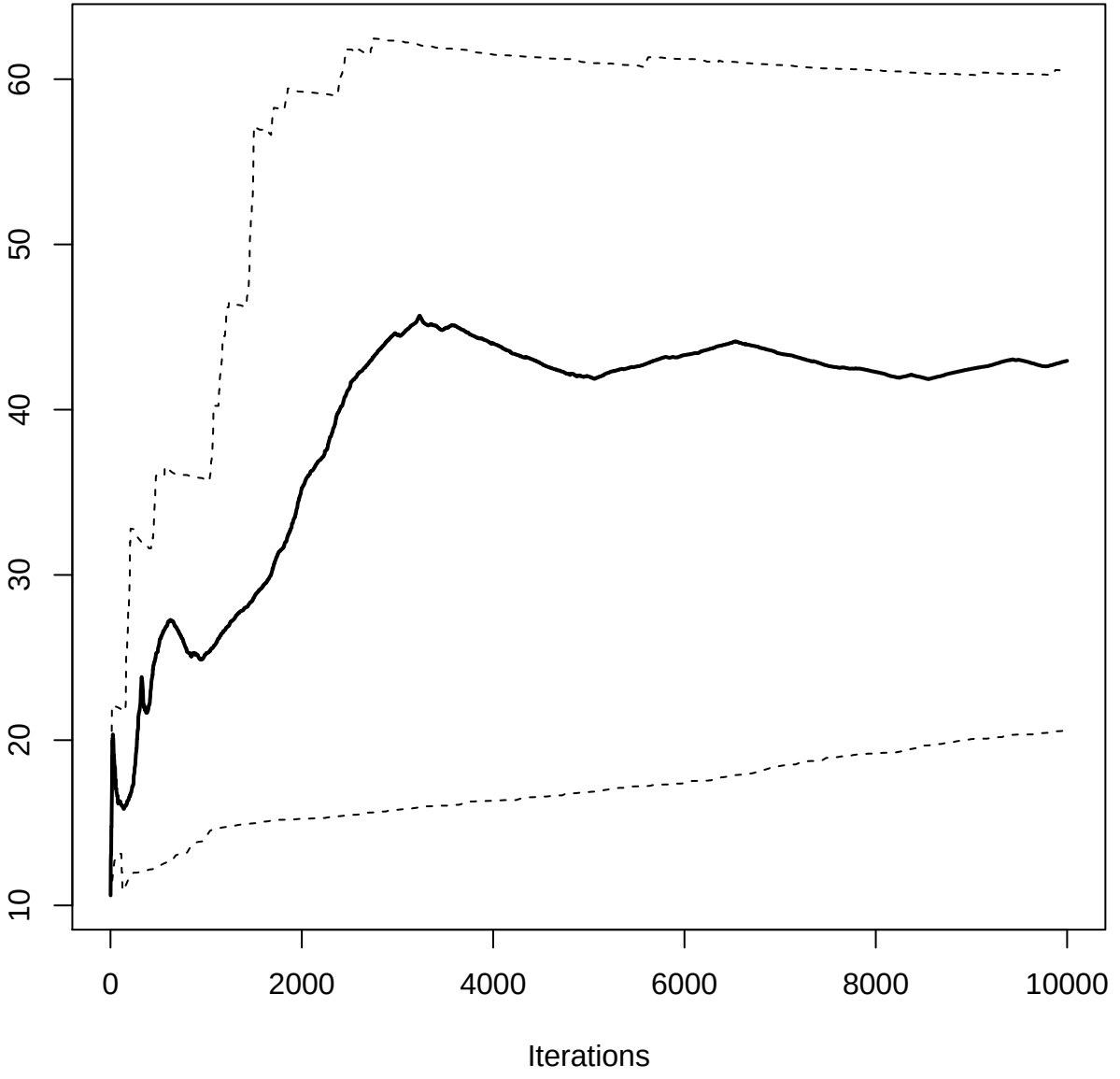

1.0
0.5
0.0
−0.5
−1.0
Autocorrelation
0
10
20
30
40
Lag

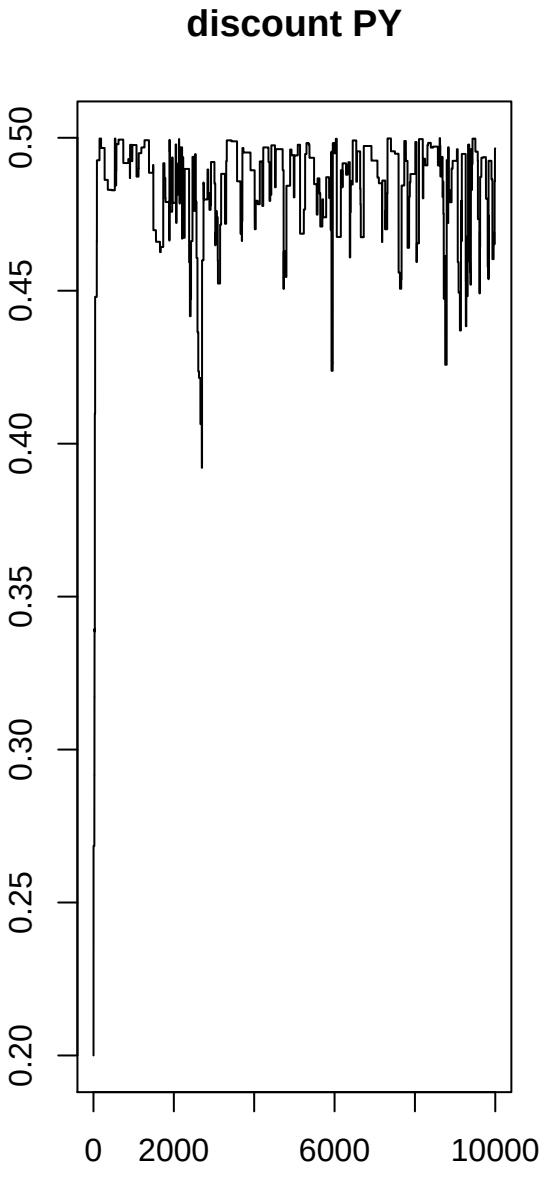

20
15
10
5
0
2000
4000
6000
8000
10000
Iterations

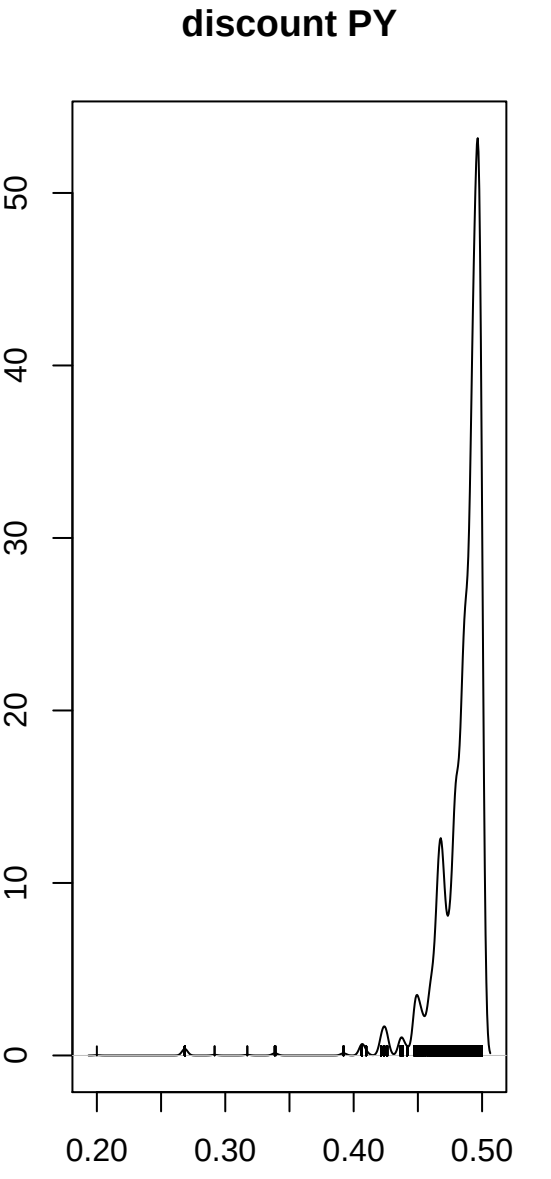

alpha PY
10
20
30
40
50
60
70
0
2000
6000
10000
Iterations

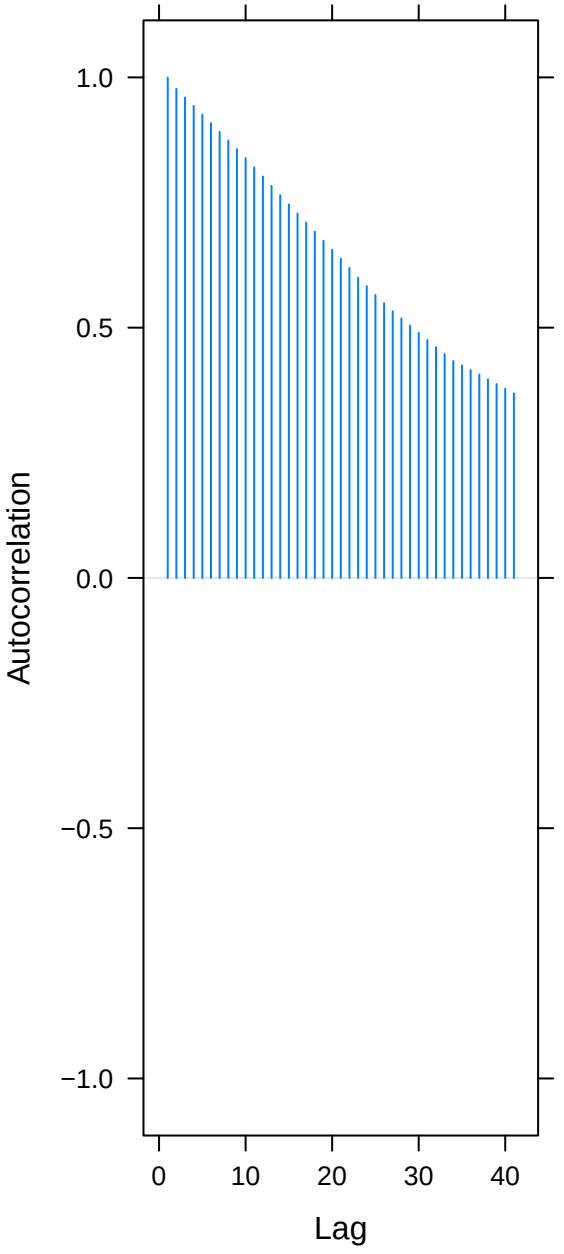

alpha PY
0.00
0.01
0.02
0.03
10
30
50
70
N = 10000 Bandwidth = 1.763

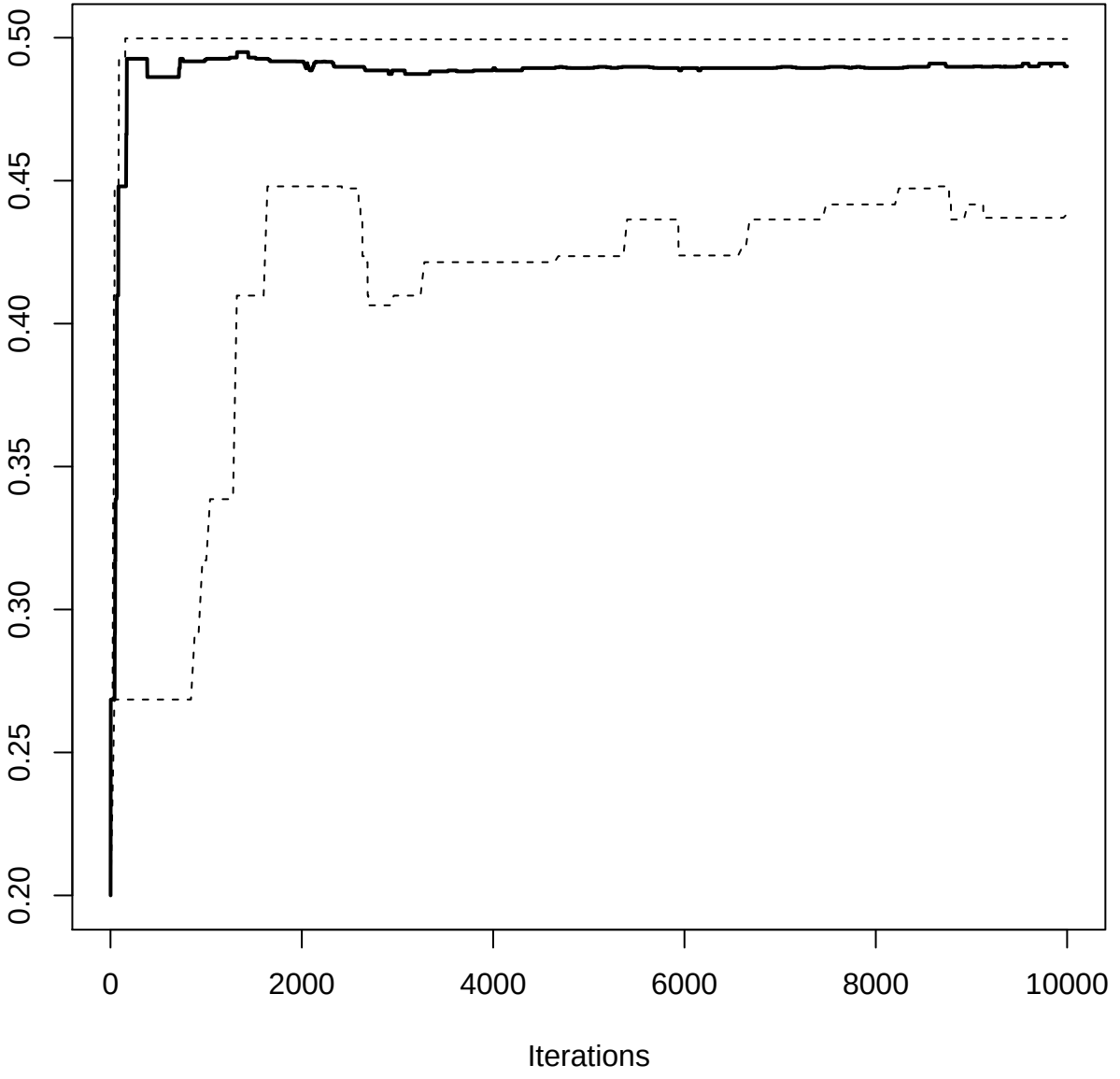

1.0
0.5
0.0
−0.5
−1.0
Autocorrelation
0
20
40
Lag

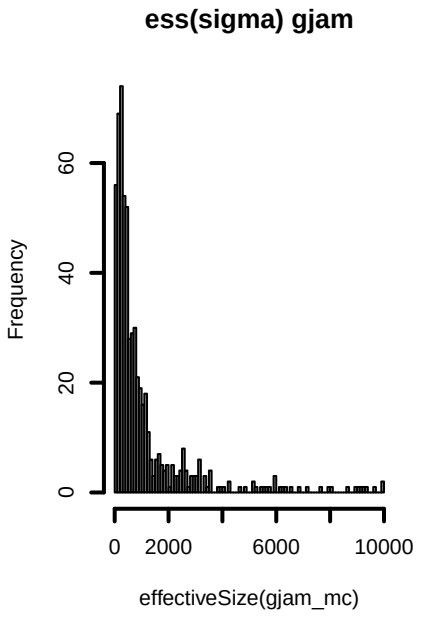

10
20
30
40
50
60
0
2000
4000
6000
8000
10000
Iterations

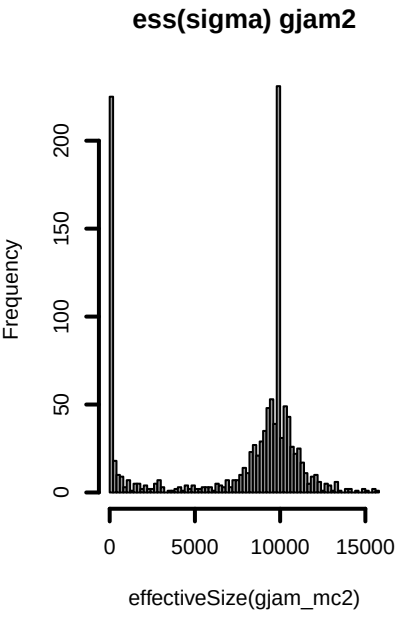

discount PY
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0
2000
6000
10000
Iterations

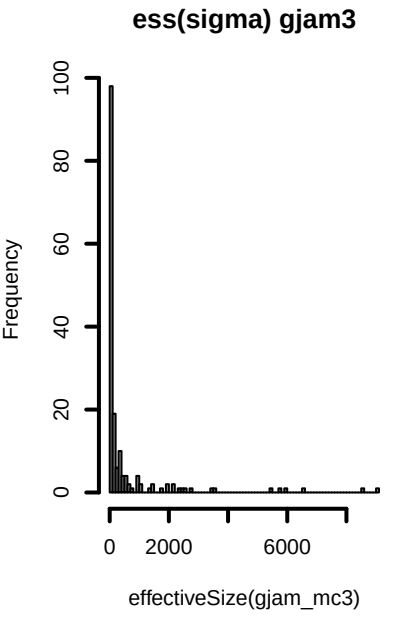

discount PY
0
10
20
30
40
50
0.20
0.30
0.40
0.50
N = 10000 Bandwidth = 0.002169

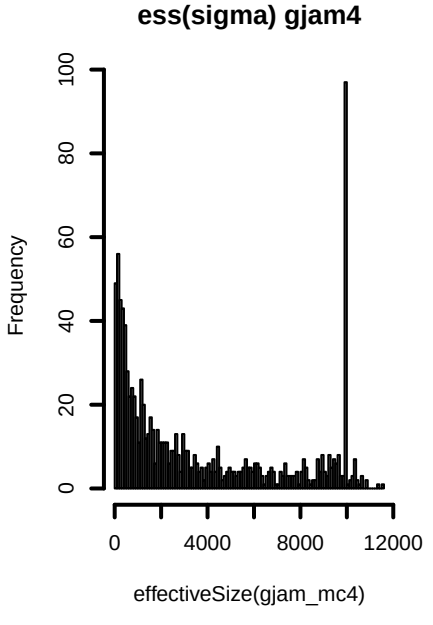

1.0
0.5
0.0
−0.5
−1.0
Autocorrelation
0
10
20
30
40
Lag

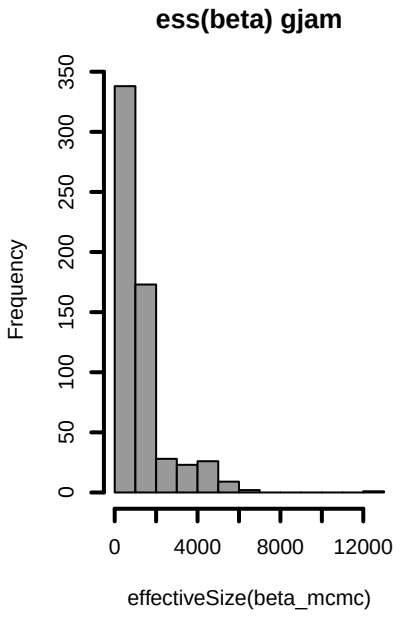

0.20
0.25
0.30
0.35
0.40
0.45
0.50
0
2000
4000
6000
8000
10000
Iterations

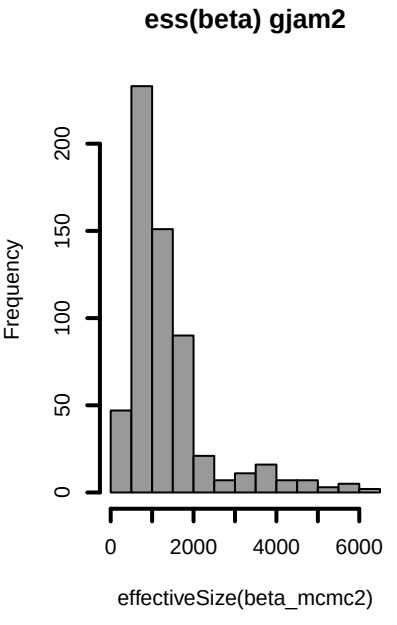

ess(sigma) gjam
Frequency
0
20
40
60
0
2000
6000
10000
effectiveSize(gjam_mc)

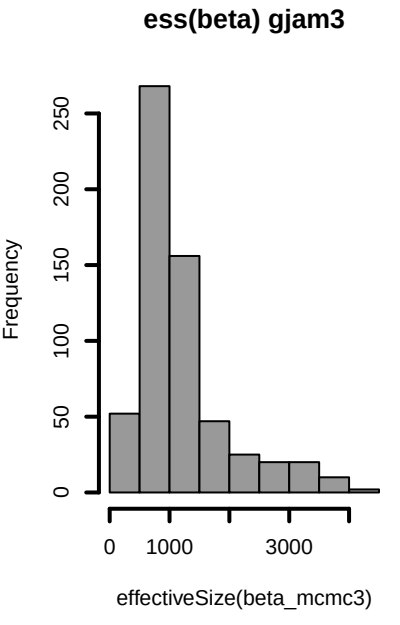

ess(sigma) gjam2
Frequency
0
50
100
150
200
0
5000
10000
15000
effectiveSize(gjam_mc2)

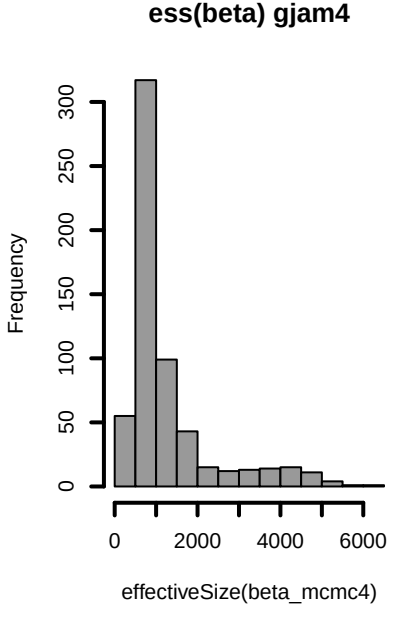

ess(sigma) gjam3
Frequency
0
20
40
60
80
100
0
2000
6000
effectiveSize(gjam_mc3)

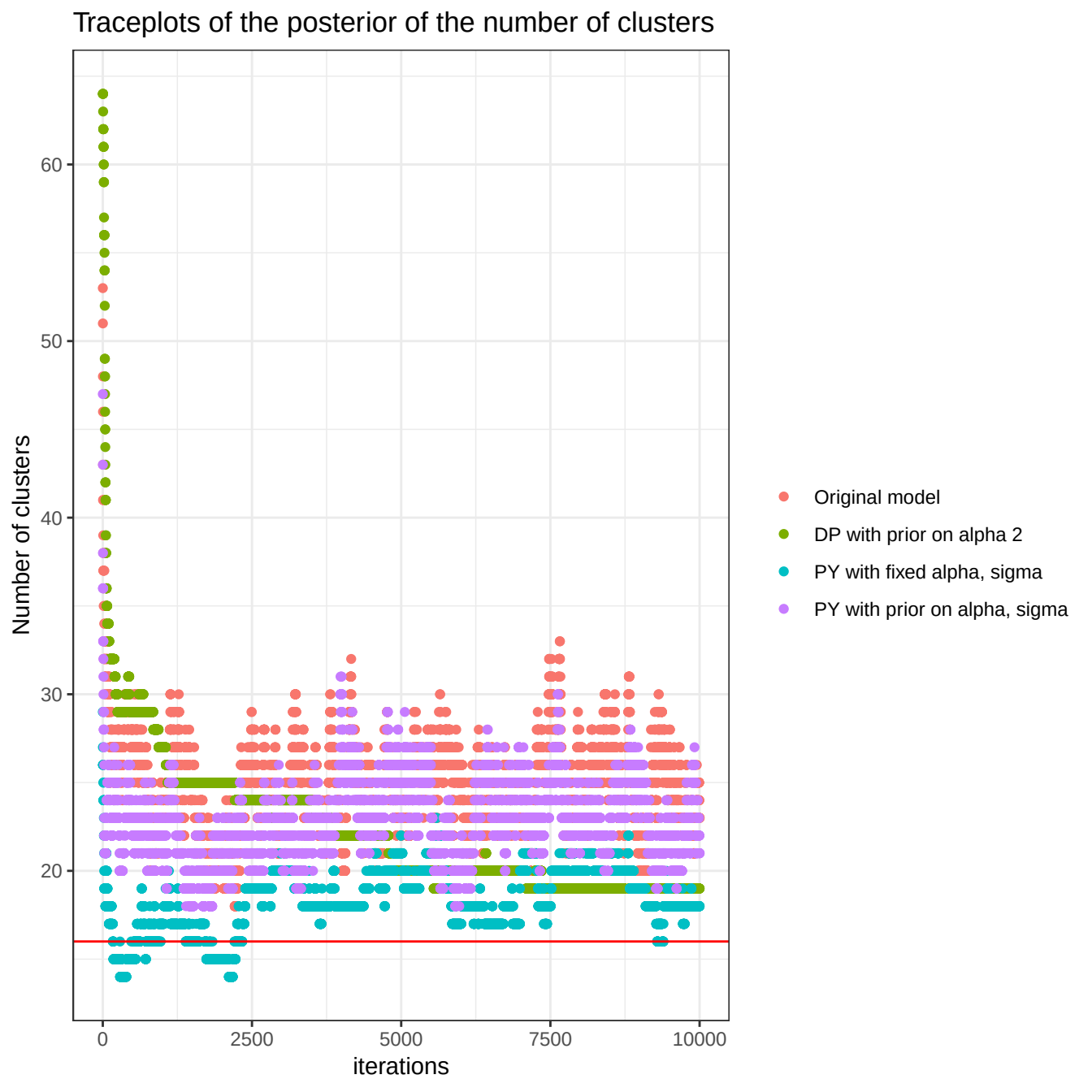

ess(sigma) gjam4
Frequency
0
20
40
60
80
100
0
4000
8000
12000
effectiveSize(gjam_mc4)

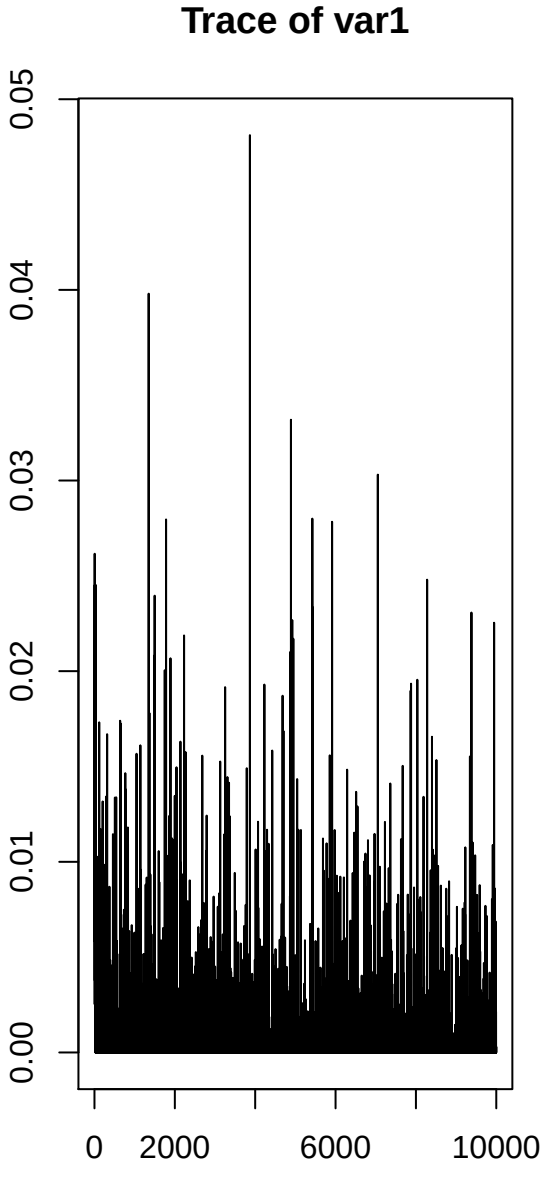

ess(beta) gjam
Frequency
0
50
100
150
200
250
300
350
0
4000
8000
12000
effectiveSize(beta_mcmc)

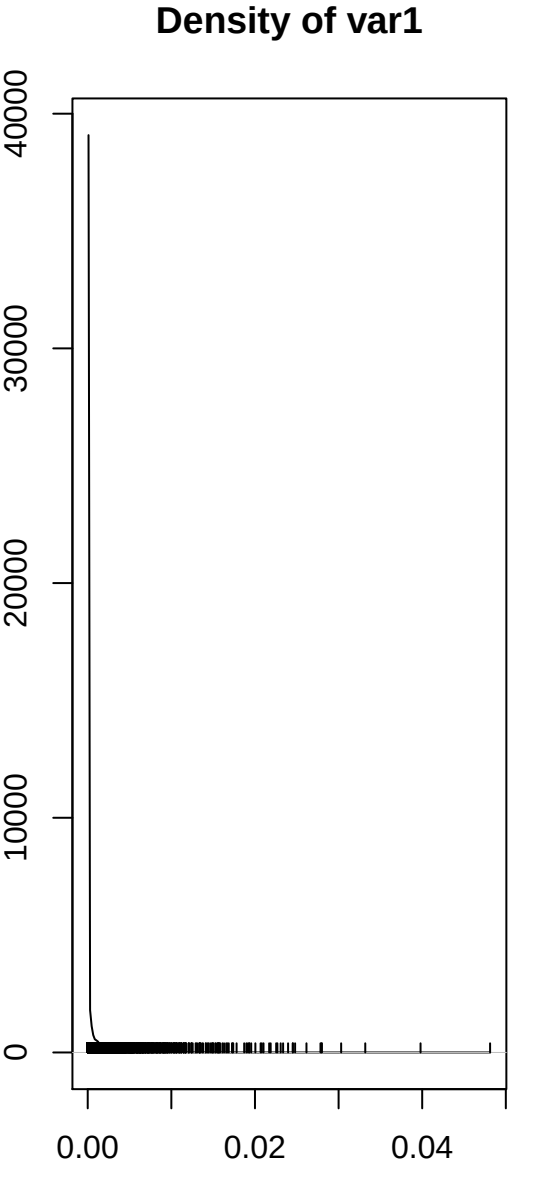

ess(beta) gjam2
Frequency
0
50
100
150
200
0
2000
4000
6000
effectiveSize(beta_mcmc2)

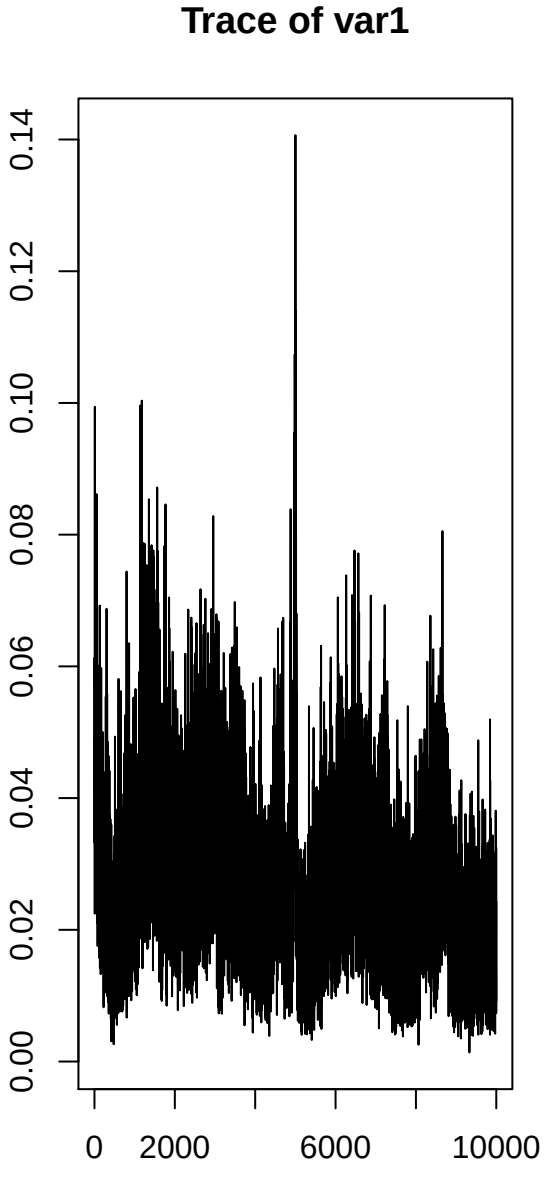

ess(beta) gjam3
Frequency
0
50
100
150
200
250
0
1000
3000
effectiveSize(beta_mcmc3)

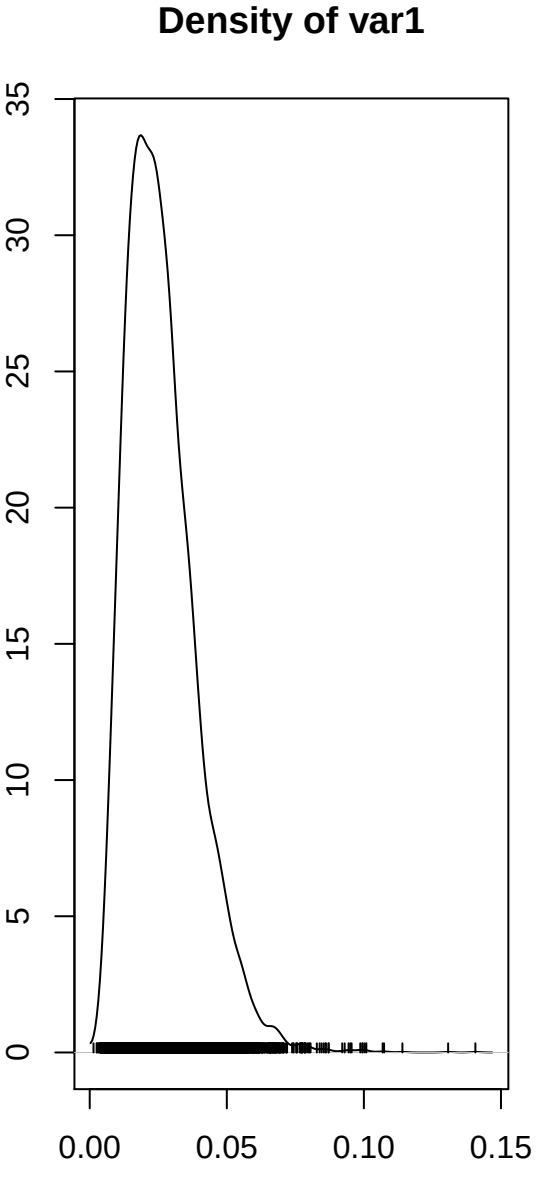

ess(beta) gjam4
Frequency
0
50
100
150
200
250
300
0
2000
4000
6000
effectiveSize(beta_mcmc4)

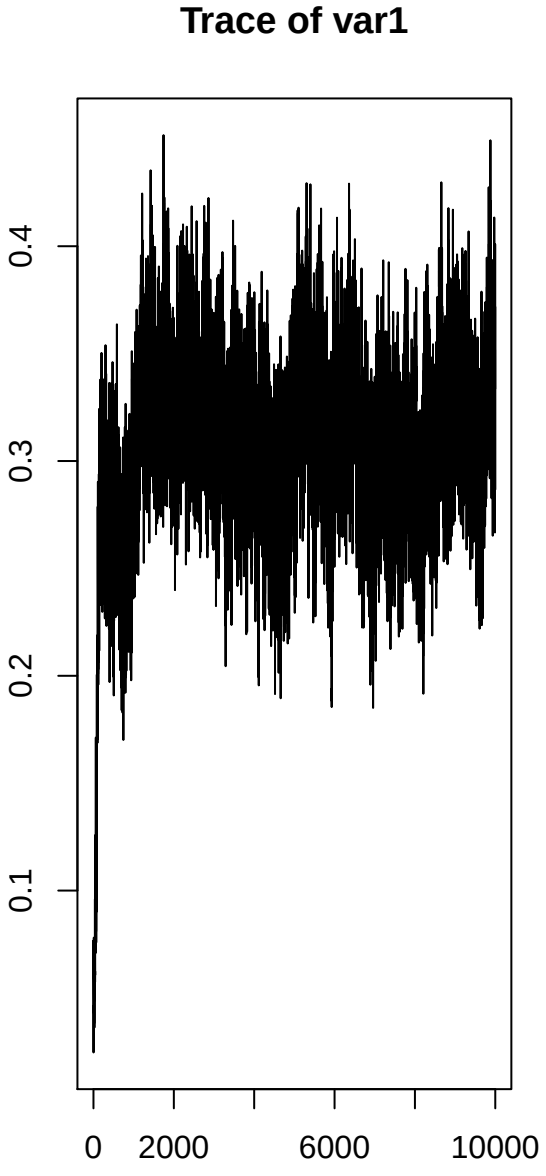

Traceplots of the posterior of the number of clusters
Number of clusters
60
50
40
30
20
0
2500
5000
7500
10000
iterations
Original model
DP with prior on alpha 2
PY with fixed alpha, sigma
PY with prior on alpha, sigma

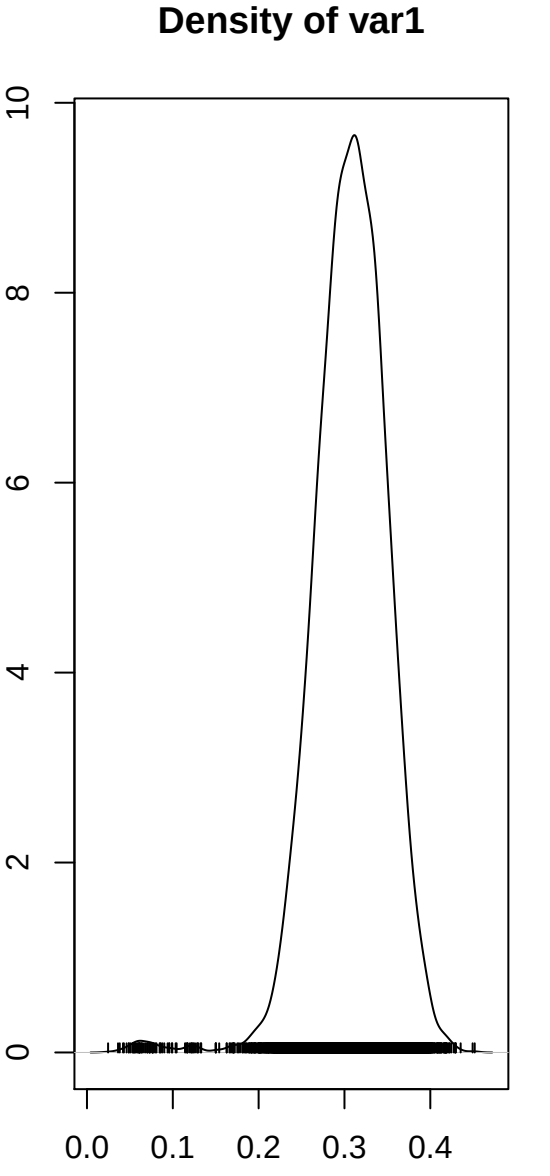

Trace of var1
0.05
0.04
0.03
0.02
0.01
0.00
0
2000
6000
10000
Iterations


Density of var1
40000
30000
20000
10000
0
0.00
0.02
0.04
N = 10000 Bandwidth = 8.168e−06


Trace of var1
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0
2000
6000
10000
Iterations


Density of var1
0
5
10
15
20
25
30
35
0.00
0.05
0.10
0.15
N = 10000 Bandwidth = 0.002056


Trace of var1
0.1
0.2
0.3
0.4
0
2000
6000
10000
Iterations


Density of var1
0
2
4
6
8
10
0.0
0.1
0.2
0.3
0.4
N = 10000 Bandwidth = 0.006833

	Parameter	GJAM	GJAM2	PY1	PY2	r	iter	burn
1	DIC	9.033	9.199	9.032	8.999	5	10000	5000
2	mean AUC	0.609	0.618	0.605	0.605	5	10000	5000
3	mean Tjur	0.041	0.046	0.040	0.041	5	10000	5000
4	mean p_N	0.000	0.000	0.023	0.310	5	10000	5000
5	VI dist	4.039	3.682	3.746	3.634	5	10000	5000
6	AR dist	0.047	0.080	0.074	0.079	5	10000	5000

	Estimate	SE	CI_025	CI_975
PC1	1.53	0.0904	1.37	1.72
PC2	1.05	0.0662	0.927	1.19
I(PC1^2)	1.11	0.0718	0.971	1.25
I(PC2^2)	0.775	0.0521	0.68	0.886

	Estimate	SE	CI_025	CI_975
PC1	1.73	0.0911	1.52	1.88
PC2	1.17	0.0631	1.04	1.29
I(PC1^2)	1.1	0.0538	0.998	1.21
I(PC2^2)	0.768	0.0413	0.686	0.849

	Estimate	SE	CI_025	CI_975
PC1	1.52	0.0771	1.37	1.67
PC2	1.07	0.0545	0.965	1.18
I(PC1^2)	1.11	0.097	0.944	1.3
I(PC2^2)	0.778	0.0586	0.673	0.9

	Estimate	SE	CI_025	CI_975
PC1	1.48	0.083	1.33	1.65
PC2	1.03	0.0646	0.908	1.16
I(PC1^2)	1.11	0.0717	0.972	1.26
I(PC2^2)	0.774	0.0525	0.679	0.885

	PC1	PC2
VIF	1	1
factor	0	0
PC2	−0.03	NA

	PC1	PC2
VIF	1	1
factor	0	0
PC2	−0.03	NA

	PC1	PC2
VIF	1	1
factor	0	0
PC2	−0.03	NA

	PC1	PC2
VIF	1	1
factor	0	0
PC2	−0.03	NA