Aggregated sampling output

November 20, 2020

Dataset: experimental_data_eGFP, model type: SDE

Trajectories without pathologies

e.g. no divergent transitions, no max_treedepth exceeded, no Rhat > 1.1, no n_eff < 100

```
number of trajectories without pathologies (out of 100):
[1] 11


indices of trajectories without pathologies:
 [1]  6 27 33 56 68 69 71 72 78 84 92
```

no pathologies for a subset of the parameters

```
parameters considered:
[1] "theta[1]"             "theta[3]"             "sigma"
[4] "scale"                "offset"               "prod_theta2_m0"
[7] "prod_theta2_m0_scale"
number of trajectories without pathologies (out of 100):
[1] 15


indices of trajectories without pathologies:
 [1]  6 13 18 19 27 33 56 68 69 71 72 78 84 86 92
```

Divergent transitions

num..of.div..transitions	Freq
0	93
1	1
3	1
7	2
15	1
24	1
39	1

```
total number of trajectories with div. transitions: 7
indices of trajectories with div. transitions:
16 26 39 41 42 62 88
```

Maximum tree depth exceeded

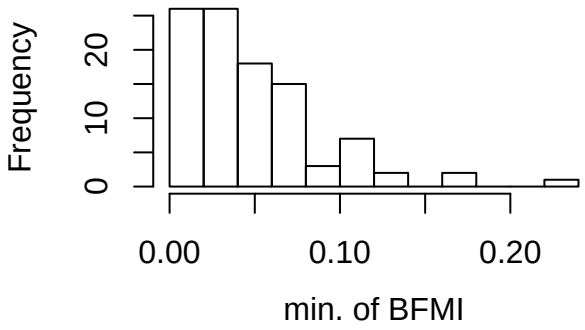
num..of.max.t.d..exceeded	Freq
0	25
1	6
2	3
3	2
4	3
5	1
7	1
8	1
9	1
10	1
11	1
12	1
16	2
17	1
18	1
19	2
20	1
21	1
22	1
23	2
28	1
30	2
34	1
35	1
40	1
41	1
45	2
47	1
61	1
68	2
77	1
81	3
83	1
101	1
105	1
106	1
107	1
109	1
128	1
131	1
150	1
164	1
174	1
187	1
198	1
214	1
240	1
294	1
311	1
316	1
317	1
326	1
369	1
436	1
572	1

num..of.max.t.d..exceeded	Freq
654	1
1782	1
1976	1

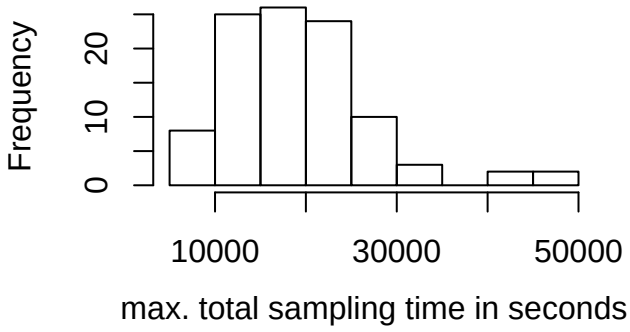
```
total number of trajectories were max. tree depth was exceeded: 75
indices of trajectories were max. tree depth was exceeded:
1 2 3 4 5 7 8 9 10 12 14 15 16 17 20 21 22 28 29 30 31 32 34 35 36 37 38 42 43 45 46 47 48 49 50 51 52 5
```

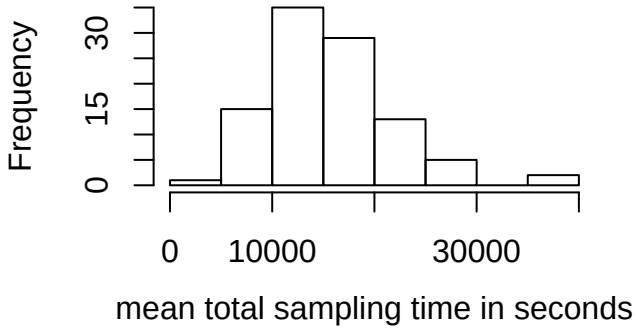
Bayesian fraction of missing information (BFMI)

num..of.low.BFMI	Freq
0	1
2	1
4	1
5	1
7	2
8	94



Total sampling time





R-hat

total number of trajectories with very high Rhat (> 1.1) (out of 100)

```
[1] 54
```

number of trajectories with high Rhat per parameter (out of 100)

	Rhat > 1.02	Rhat > 1.1
theta[1]	61	32

	Rhat > 1.02	Rhat > 1.1
theta[2]	70	8
theta[3]	74	39
m0	89	26
sigma	2	0
scale	59	3
offset	0	0
prod_theta2_m0	58	6
prod_theta2_scale	83	19
prod_m0_scale	81	13
prod_theta2_m0_scale	8	1
x[180,1]	82	51
x[180,2]	62	6

number of parameters with high Rhat per trajectory (out of 13)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Rhat > 1.02	10	10	8	7	5	10	8	4	10	9	10	10	7	6	10	10	8	8	8	10
Rhat > 1.1	5	5	1	0	0	5	0	0	8	7	3	1	0	0	3	3	0	1	3	3

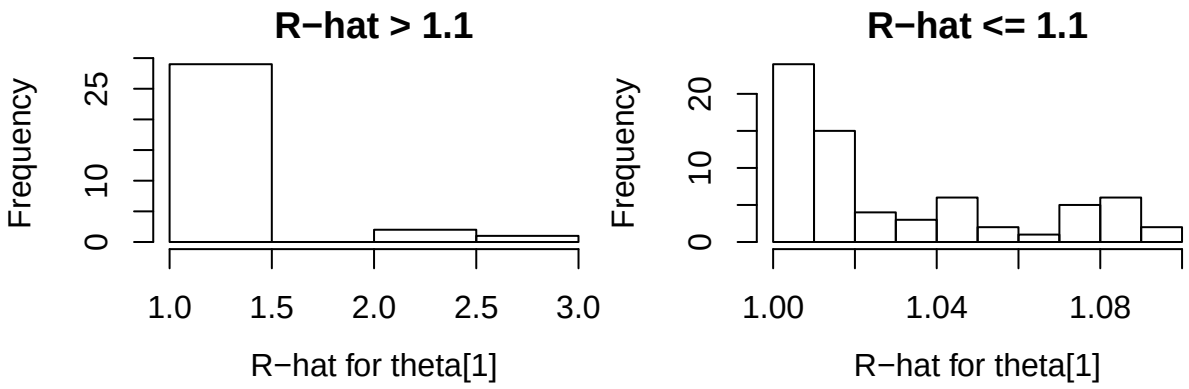
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Rhat > 1.02	10	10	10	11	11	5	10	4	10	8	10	8	8	8	3	8	10	10	8	11
Rhat > 1.1	3	3	4	5	6	0	5	0	4	0	3	0	3	2	0	3	1	8	5	4

	42	43	44	45	46	47	48	49	50	51	52	53	55	56	57	59	60	61	62	63
Rhat > 1.02	10	5	10	4	9	7	10	7	7	10	7	6	11	6	10	7	2	2	10	10
Rhat > 1.1	3	0	3	0	3	1	2	1	0	7	3	0	6	0	6	3	0	0	5	1

	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Rhat > 1.02	10	9	4	4	5	10	3	4	4	9	8	2	5	2	7	10	5	11	10	3
Rhat > 1.1	4	1	0	0	0	1	0	0	0	0	1	0	0	0	0	7	0	7	7	0

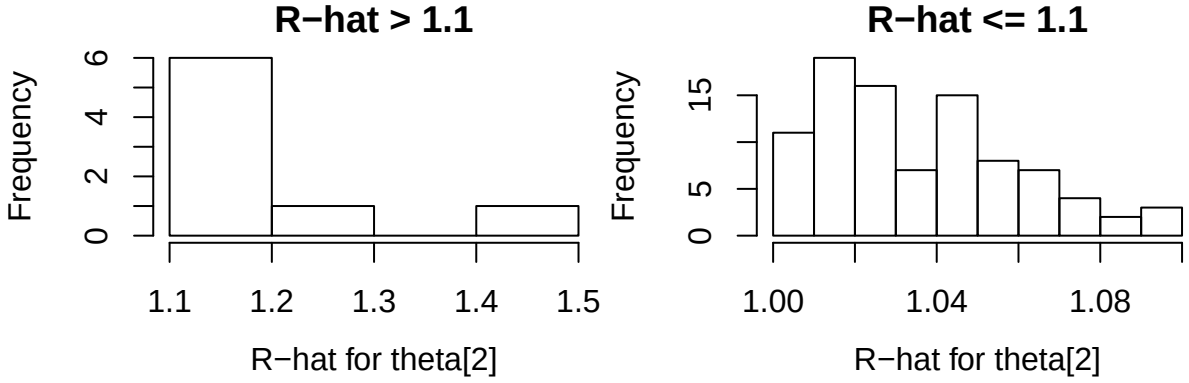
theta[1]

```
number of trajectories with Rhat > 1.02:    61

indizes of trajectories with Rhat > 1.02:
2 3 4 7 8 10 11 12 13 17 18 20 21 22 23 24 25 26 28 30 31 32 33 34 35 37 38 39 40 41 42 44 46 47 48 49 5

number of trajectories with Rhat > 1.1: 32

indices of trajectories with Rhat > 1.1:
2 3 7 10 11 12 17 20 21 24 25 28 30 32 34 37 39 42 44 51 52 57 62 65 80 82 83 87 91 93 96 99
```



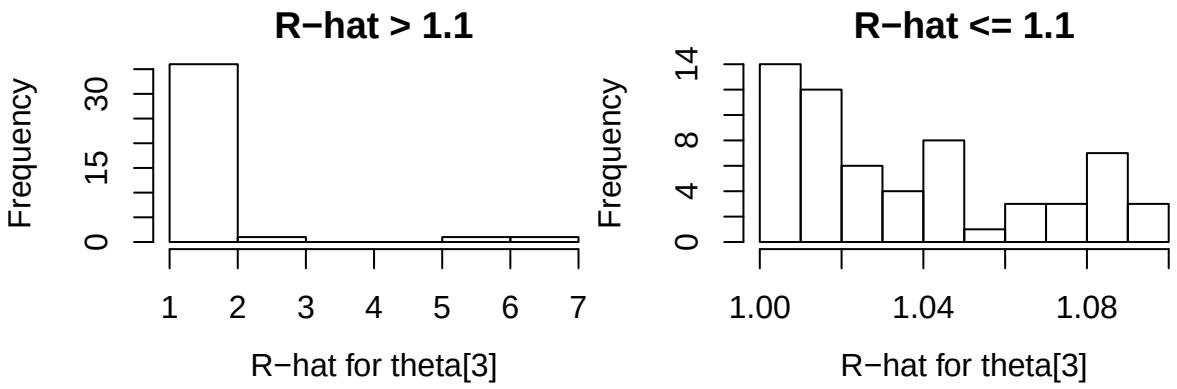
theta[2]

```
number of trajectories with Rhat > 1.02:    70

indizes of trajectories with Rhat > 1.02:
2 3 5 6 7 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 30 32 36 38 39 40 41 42 44 46 47 48

number of trajectories with Rhat > 1.1: 8

indices of trajectories with Rhat > 1.1:
11 26 39 51 55 82 83 96
```



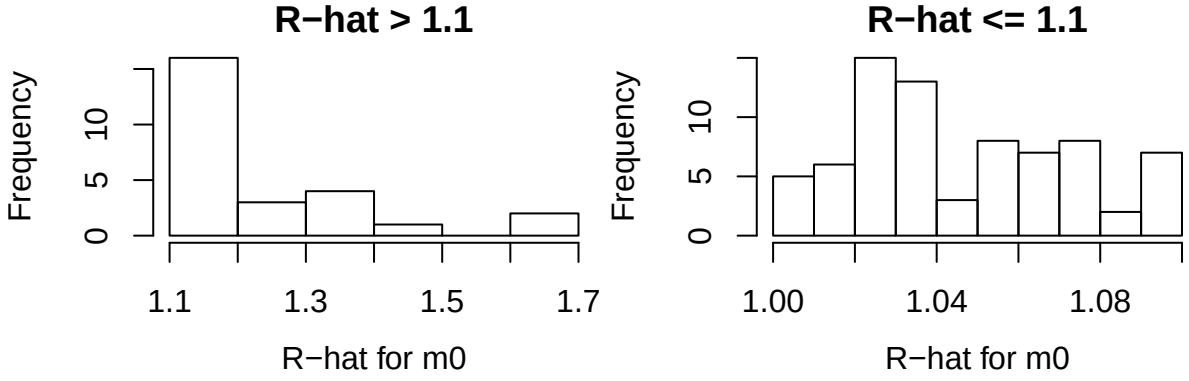
theta[3]

```
number of trajectories with Rhat > 1.02:    74

indizes of trajectories with Rhat > 1.02:
2 3 4 7 8 10 11 12 13 16 17 18 20 21 22 23 24 25 26 28 29 30 31 32 33 34 35 37 38 39 40 41 42 43 44 45 4

number of trajectories with Rhat > 1.1: 39

indices of trajectories with Rhat > 1.1:
2 3 7 10 11 12 17 20 21 23 24 25 26 28 30 32 34 35 37 39 40 42 44 48 49 51 52 55 57 59 62 70 80 82 83 87
```



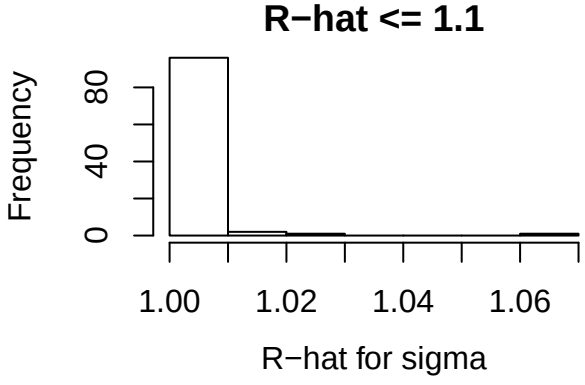
m0

```
number of trajectories with Rhat > 1.02:    89

indizes of trajectories with Rhat > 1.02:
2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 4

number of trajectories with Rhat > 1.1: 26

indices of trajectories with Rhat > 1.1:
3 10 11 16 22 24 25 26 28 30 39 40 41 46 51 55 59 62 65 80 82 83 86 87 91 96
```



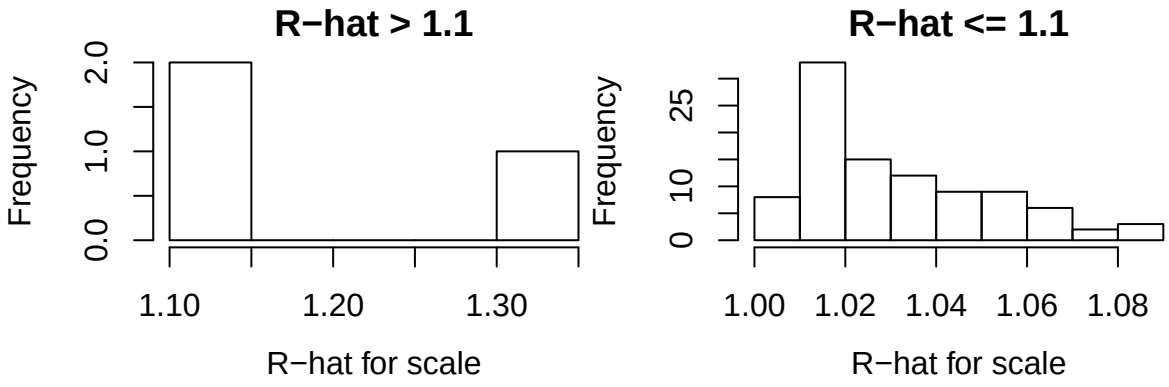
sigma

```
number of trajectories with Rhat > 1.02:    2

indizes of trajectories with Rhat > 1.02:
74 82
```



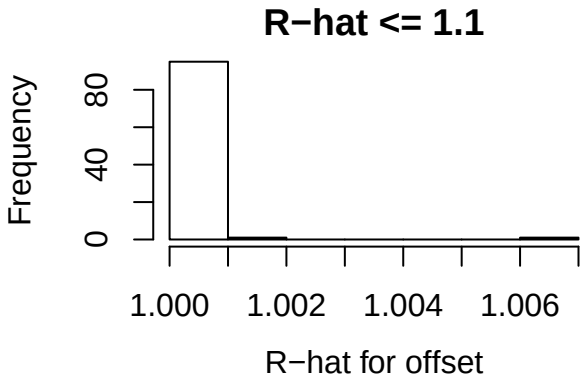
scale

```
number of trajectories with Rhat > 1.02:    59

indizes of trajectories with Rhat > 1.02:
2 3 4 7 8 10 12 13 14 15 16 17 19 20 21 22 23 24 25 26 28 30 31 32 33 34 35 37 38 39 41 42 44 48 50 51 5

number of trajectories with Rhat > 1.1: 3

indices of trajectories with Rhat > 1.1:
10 57 87
```



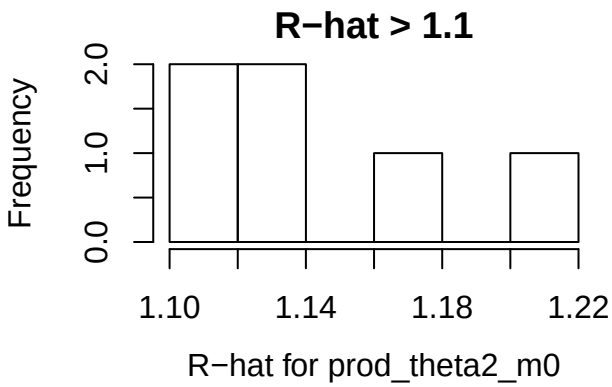
offset

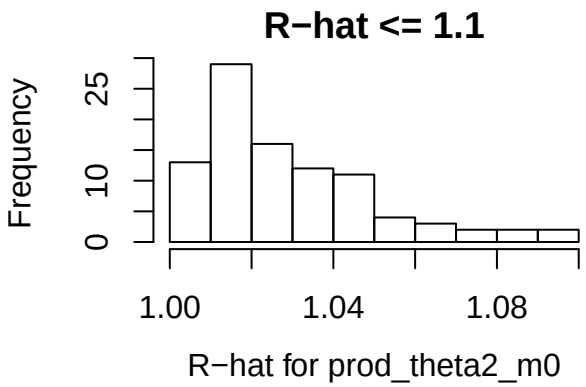
```
no Rhat > 1.02
```



prod_theta2_m0

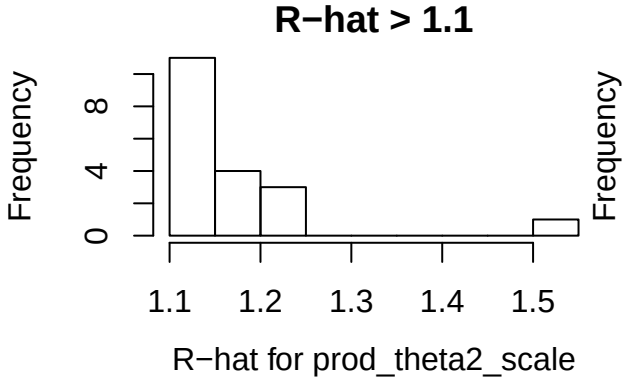
```
number of trajectories with Rhat > 1.02:    58

indizes of trajectories with Rhat > 1.02:
2 3 4 5 7 8 10 11 12 13 14 15 16 17 18 19 21 22 23 24 25 26 28 30 31 32 33 34 37 38 41 42 44 46 48 50 51

number of trajectories with Rhat > 1.1: 6

indices of trajectories with Rhat > 1.1:
2 7 10 57 80 87
```

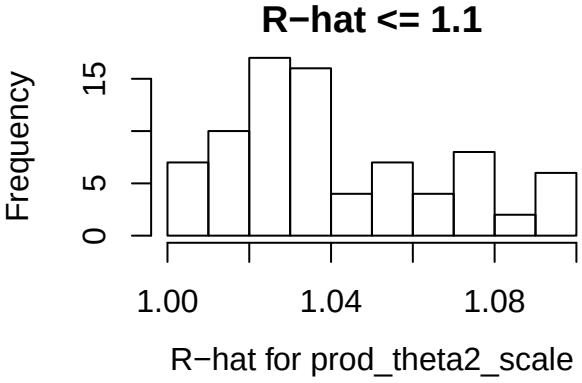




prod_theta2_scale

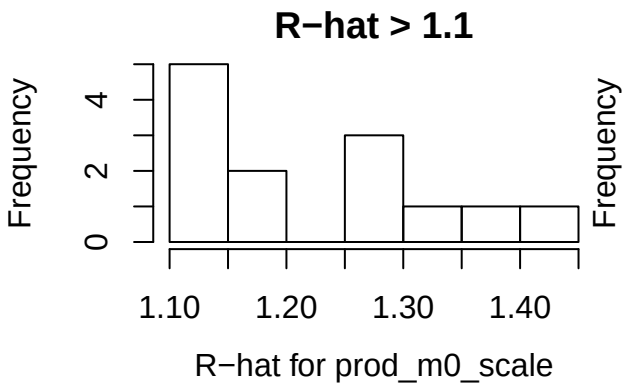
```
number of trajectories with Rhat > 1.02:    83

indizes of trajectories with Rhat > 1.02:
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 3

number of trajectories with Rhat > 1.1: 19

indices of trajectories with Rhat > 1.1:
3 10 11 23 26 28 39 40 41 46 51 55 62 65 80 82 83 87 96
```

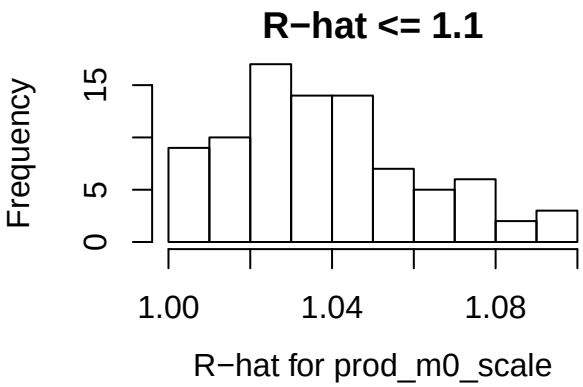




prod_m0_scale

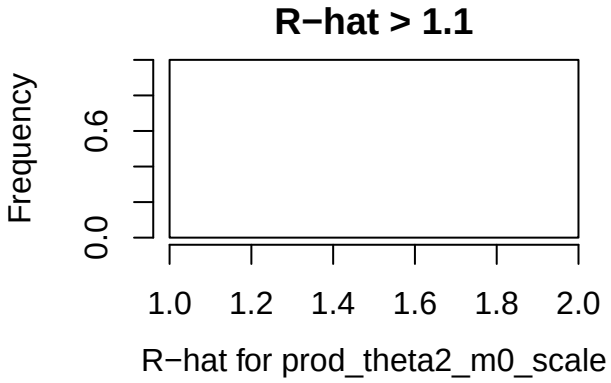
```
number of trajectories with Rhat > 1.02:    81

indizes of trajectories with Rhat > 1.02:
2 3 5 6 7 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 30 32 35 38 39 40 41 42 43 44 45 46

number of trajectories with Rhat > 1.1: 13

indices of trajectories with Rhat > 1.1:
11 16 22 25 26 39 40 41 51 55 82 83 96
```

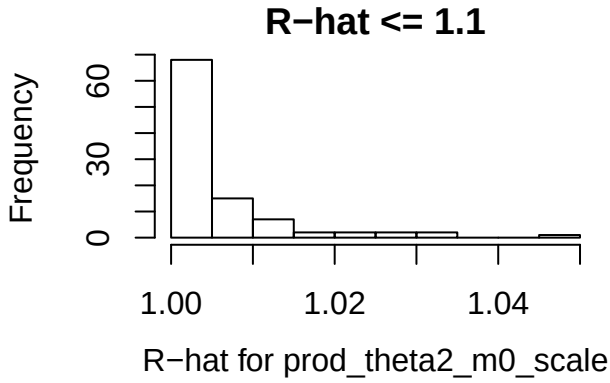




prod__theta2__m0__scale

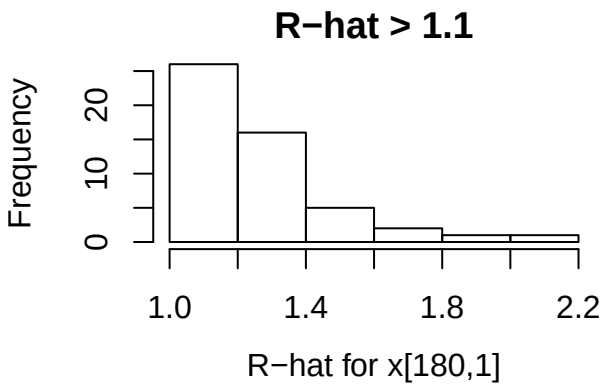
```
number of trajectories with Rhat > 1.02:    8

indizes of trajectories with Rhat > 1.02:
16 25 26 39 40 41 55 96

number of trajectories with Rhat > 1.1: 1

indices of trajectories with Rhat > 1.1:
39
```

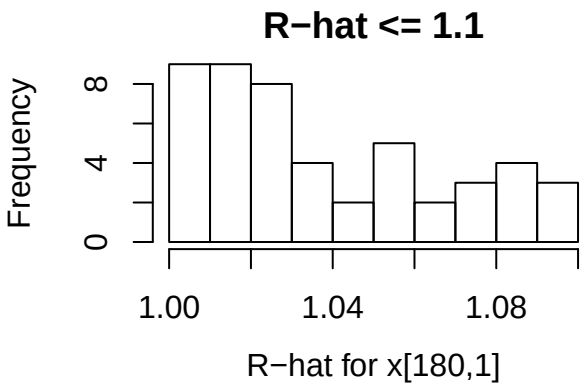




x[180,1]

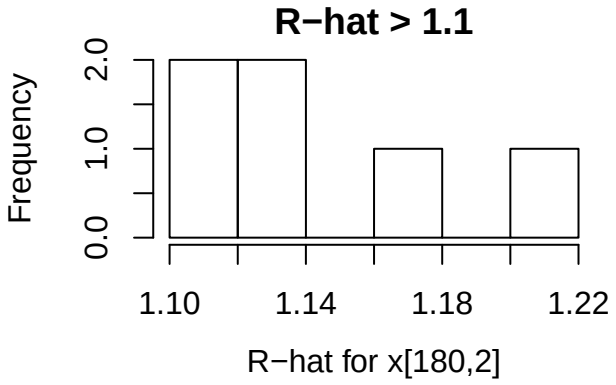
```
number of trajectories with Rhat > 1.02:    82

indizes of trajectories with Rhat > 1.02:
2 3 4 5 6 7 8 10 11 12 13 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 37 38 39 40 41 42

number of trajectories with Rhat > 1.1: 51

indices of trajectories with Rhat > 1.1:
2 3 4 7 10 11 12 13 16 17 19 20 21 22 23 24 25 26 28 30 32 34 35 37 38 39 40 41 42 44 46 47 48 51 52 55
```

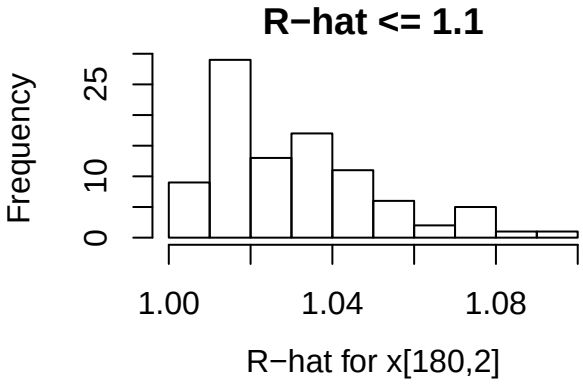




x[180,2]

```
number of trajectories with Rhat > 1.02:    62

indizes of trajectories with Rhat > 1.02:
2 3 4 5 7 8 10 11 12 13 14 15 16 17 19 21 22 23 24 25 26 28 30 31 32 33 34 35 37 38 39 41 42 44 46 48 50

number of trajectories with Rhat > 1.1: 6

indices of trajectories with Rhat > 1.1:
2 7 10 57 80 87
```





Effective sample size (ESS)

total number of trajectories with low ESS (< 100) (out of 100)

```
[1] 58
```

number of trajectories with low ESS (< 100) per parameter (out of 100)

	n_eff < 100
theta[1]	39
theta[2]	14
theta[3]	46
m0	31
sigma	0
scale	5
offset	0
prod_theta2_m0	9
prod_theta2_scale	26
prod_m0_scale	16

	n_eff < 100
prod_theta2_m0_scale	1
x[180,1]	57
x[180,2]	9

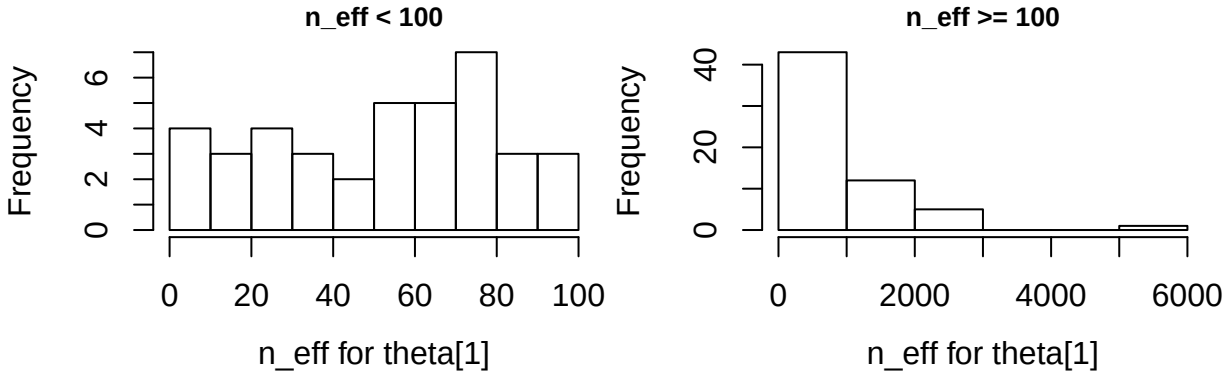
number of parameters with low ESS (< 300) per trajectory (out of 13)

	2	3	4	7	8	10	11	12	13	16	17	18	19	20	21	22	23	24	25	26
n_eff < 100	6	6	2	5	2	8	7	3	2	3	3	3	2	4	3	7	5	5	7	7

	28	30	32	34	35	37	38	39	40	41	42	44	46	47	48	49	51	52	53	55
n_eff < 100	5	4	3	3	3	3	1	8	6	5	3	3	3	2	2	2	7	4	1	7

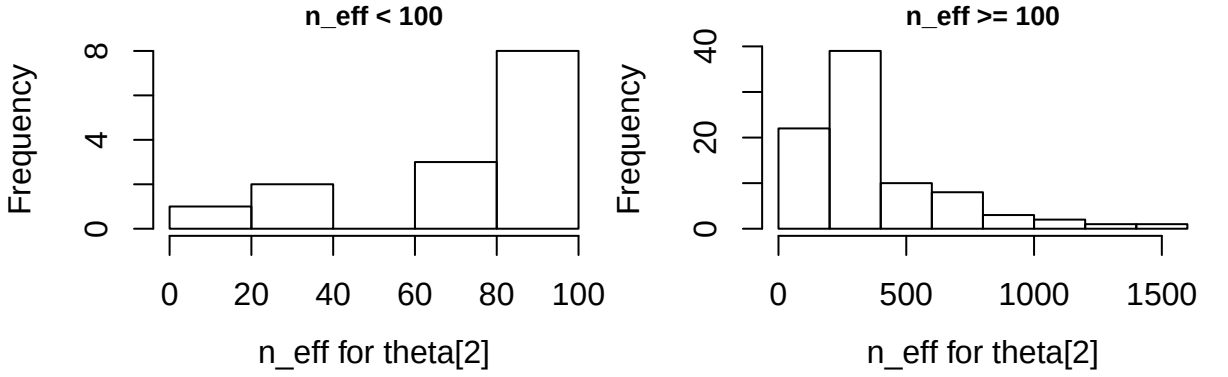
theta[1]

```
number of trajectories with n_eff < 100:    39

indices of trajectories with n_eff < 100:
2 3 7 10 11 12 17 20 21 22 23 24 25 26 28 30 32 34 35 37 39 42 44 51 52 55 57 62 63 65 66 80 82 83 87 91
```



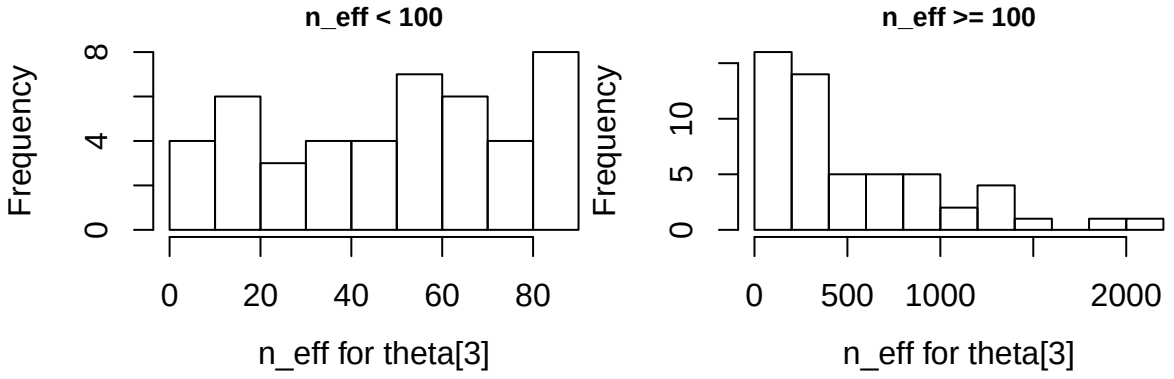
theta[2]

```
number of trajectories with n_eff < 100:    14

indices of trajectories with n_eff < 100:
11 22 25 26 39 40 41 51 55 65 82 83 87 96
```



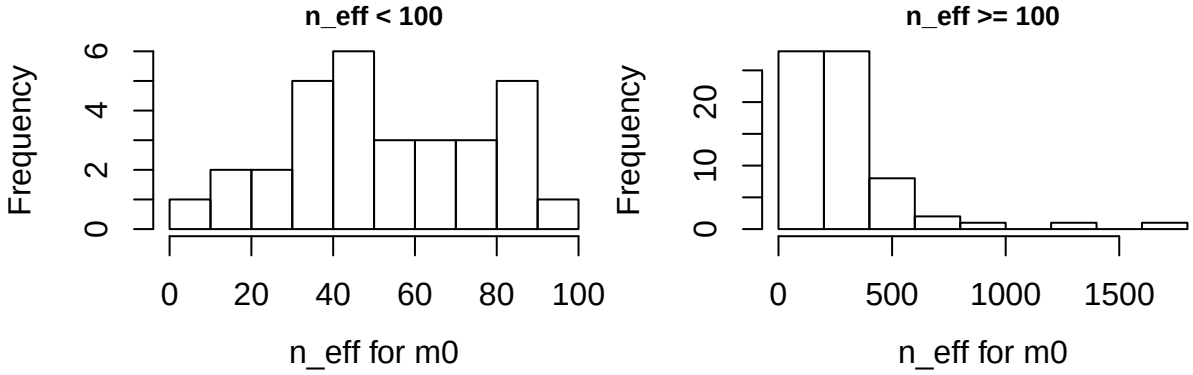
theta[3]

```
number of trajectories with n_eff < 100:    46

indices of trajectories with n_eff < 100:
2 3 4 7 8 10 11 12 17 20 21 22 23 24 25 26 28 30 32 34 35 37 39 40 42 44 47 48 49 51 52 55 57 59 62 63 6
```



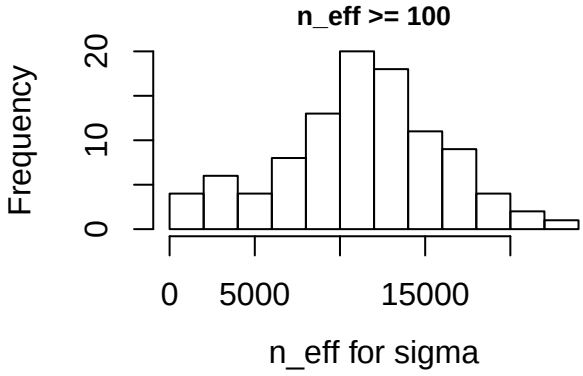
m0

```
number of trajectories with n_eff < 100:    31

indices of trajectories with n_eff < 100:
3 10 11 16 18 19 20 22 23 24 25 26 28 30 39 40 41 46 51 55 59 62 63 65 80 82 83 86 87 91 96
```



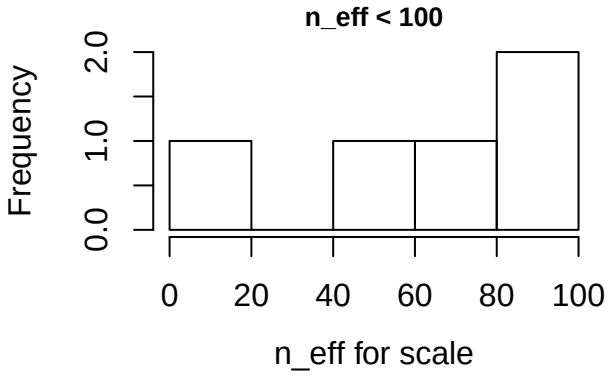
sigma

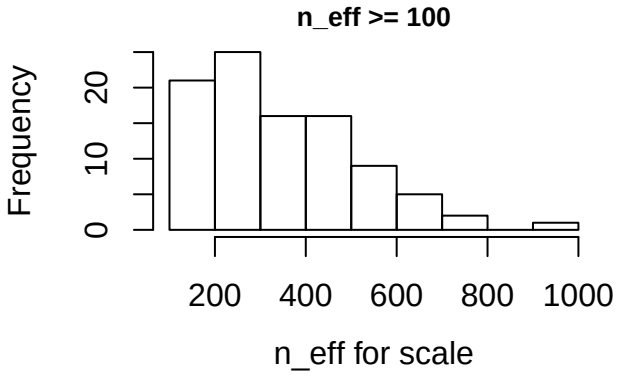
```
no n_eff < 100
```



scale

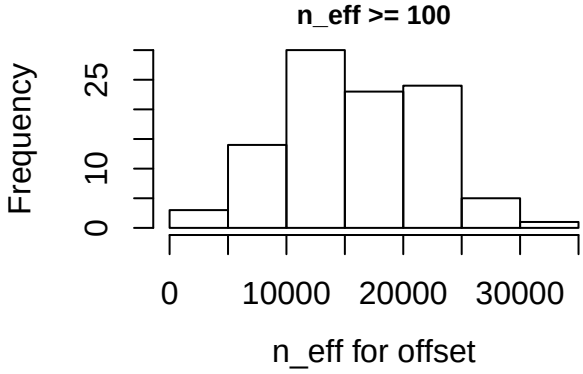
```
number of trajectories with n_eff < 100:    5

indices of trajectories with n_eff < 100:
10 57 80 87 96
```





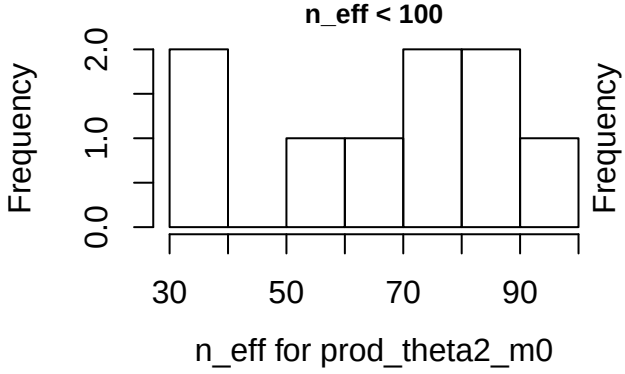
offset

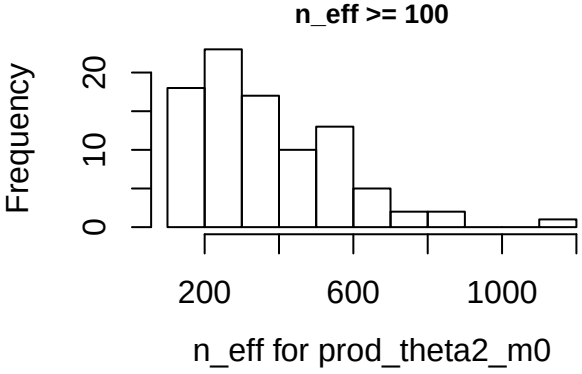
```
no n_eff < 100
```



prod_theta2_m0

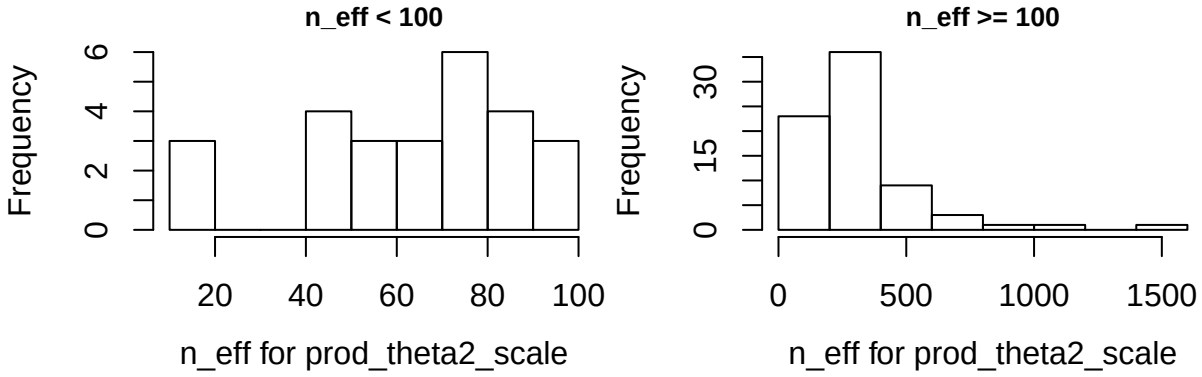
```
number of trajectories with n_eff < 100:    9

indices of trajectories with n_eff < 100:
2 7 10 57 80 82 87 91 96
```





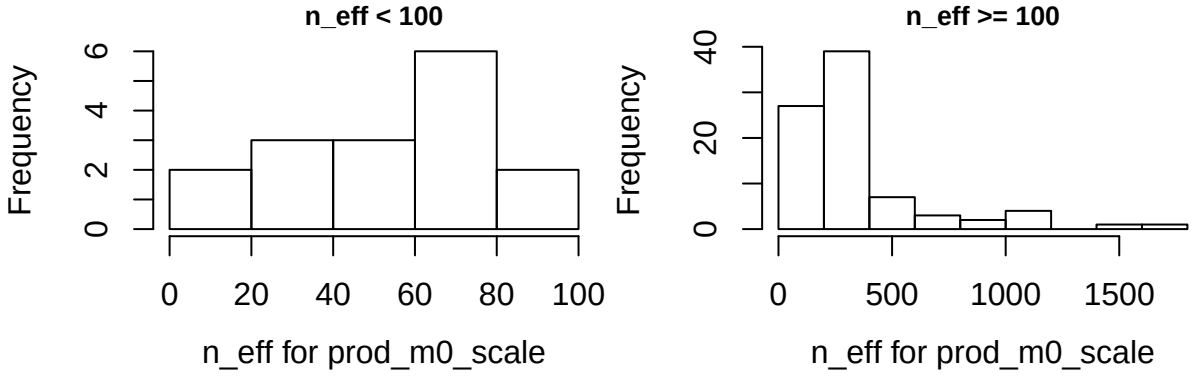
prod_theta2_scale

```
number of trajectories with n_eff < 100:    26

indices of trajectories with n_eff < 100:
2 3 10 11 13 18 22 23 24 25 26 28 39 40 41 46 51 52 55 62 65 80 82 83 87 96
```



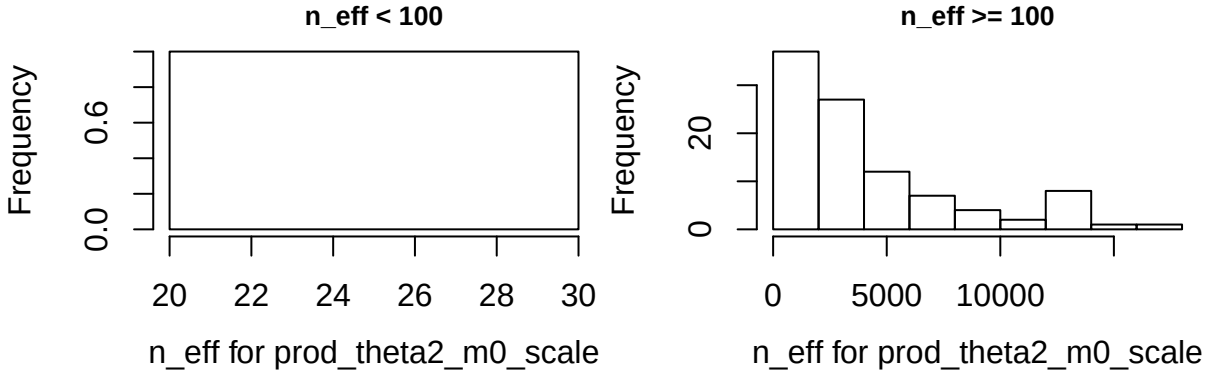
prod_m0_scale

```
number of trajectories with n_eff < 100:    16

indices of trajectories with n_eff < 100:
3 11 16 22 25 26 39 40 41 51 55 65 82 83 86 96
```



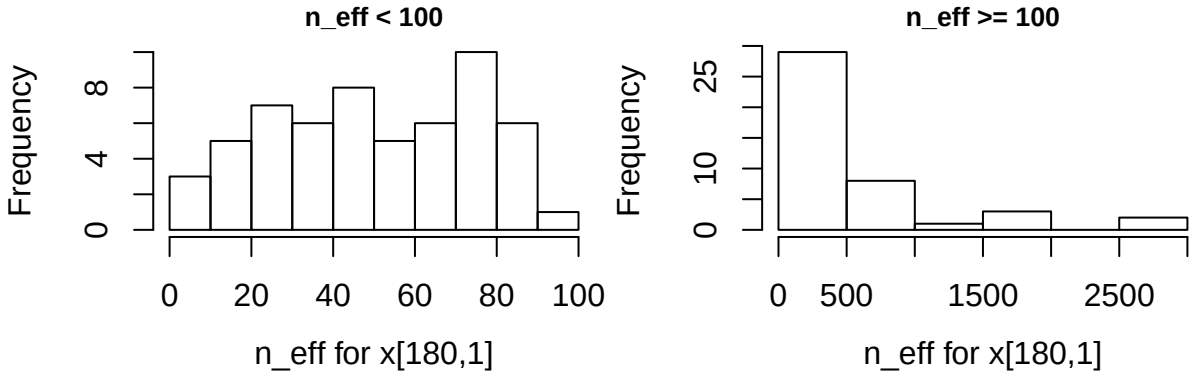
prod_theta2_m0_scale

```
number of trajectories with n_eff < 100:    1

indices of trajectories with n_eff < 100:
39
```



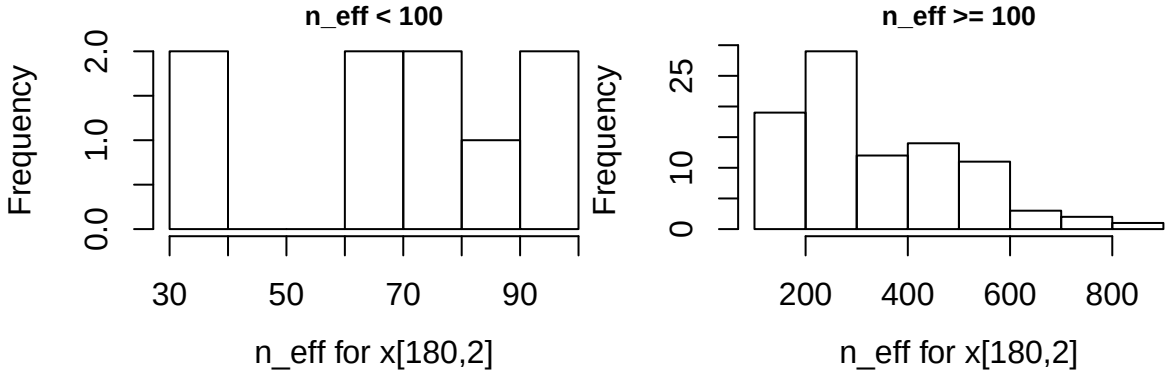
x[180,1]

```
number of trajectories with n_eff < 100:    57

indices of trajectories with n_eff < 100:
2 3 4 7 8 10 11 12 13 16 17 18 19 20 21 22 23 24 25 26 28 30 32 34 35 37 38 39 40 41 42 44 46 47 48 49 5
```



x[180,2]

```
number of trajectories with n_eff < 100:    9

indices of trajectories with n_eff < 100:
2 7 10 57 80 82 87 91 96
```



Find problematic trajectories and parameters

Are there any trajectories and parameters for which n_eff is below the threshold, but Rhat does not exceed the threshold?

```
## [1] FALSE
```

parameters per trajectories with very high Rhat

```
2:   theta[1]  theta[3]  prod_theta2_m0  x[180,1]  x[180,2]
3:   theta[1]  theta[3]  m0  prod_theta2_scale  x[180,1]
4:   x[180,1]
7:   theta[1]  theta[3]  prod_theta2_m0  x[180,1]  x[180,2]
10:   theta[1]  theta[3]  m0  scale  prod_theta2_m0  prod_theta2_scale  x[180,1]  x[180,2]
11:   theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
12:   theta[1]  theta[3]  x[180,1]
13:   x[180,1]
16:   m0  prod_m0_scale  x[180,1]
17:   theta[1]  theta[3]  x[180,1]
```

```
19:   x[180,1]
20:   theta[1]  theta[3]  x[180,1]
21:   theta[1]  theta[3]  x[180,1]
22:   m0  prod_m0_scale  x[180,1]
23:   theta[3]  prod_theta2_scale  x[180,1]
24:   theta[1]  theta[3]  m0  x[180,1]
25:   theta[1]  theta[3]  m0  prod_m0_scale  x[180,1]
26:   theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
28:   theta[1]  theta[3]  m0  prod_theta2_scale  x[180,1]
30:   theta[1]  theta[3]  m0  x[180,1]
32:   theta[1]  theta[3]  x[180,1]
34:   theta[1]  theta[3]  x[180,1]
35:   theta[3]  x[180,1]
37:   theta[1]  theta[3]  x[180,1]
38:   x[180,1]
39:   theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  prod_theta2_m0_scale  x[180,1]
40:   theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
41:   m0  prod_theta2_scale  prod_m0_scale  x[180,1]
42:   theta[1]  theta[3]  x[180,1]
44:   theta[1]  theta[3]  x[180,1]
46:   m0  prod_theta2_scale  x[180,1]
47:   x[180,1]
48:   theta[3]  x[180,1]
49:   theta[3]
51:   theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
52:   theta[1]  theta[3]  x[180,1]
55:   theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
57:   theta[1]  theta[3]  scale  prod_theta2_m0  x[180,1]  x[180,2]
59:   theta[3]  m0  x[180,1]
62:   theta[1]  theta[3]  m0  prod_theta2_scale  x[180,1]
63:   x[180,1]
65:   theta[1]  m0  prod_theta2_scale  x[180,1]
66:   x[180,1]
70:   theta[3]
75:   x[180,1]
80:   theta[1]  theta[3]  m0  prod_theta2_m0  prod_theta2_scale  x[180,1]  x[180,2]
82:   theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
83:   theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
86:   m0  x[180,1]
87:   theta[1]  theta[3]  m0  scale  prod_theta2_m0  prod_theta2_scale  x[180,1]  x[180,2]
91:   theta[1]  theta[3]  m0  x[180,1]
93:   theta[1]  theta[3]
96:   theta[1]  theta[2]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
99:   theta[1]  theta[3]  x[180,1]
```

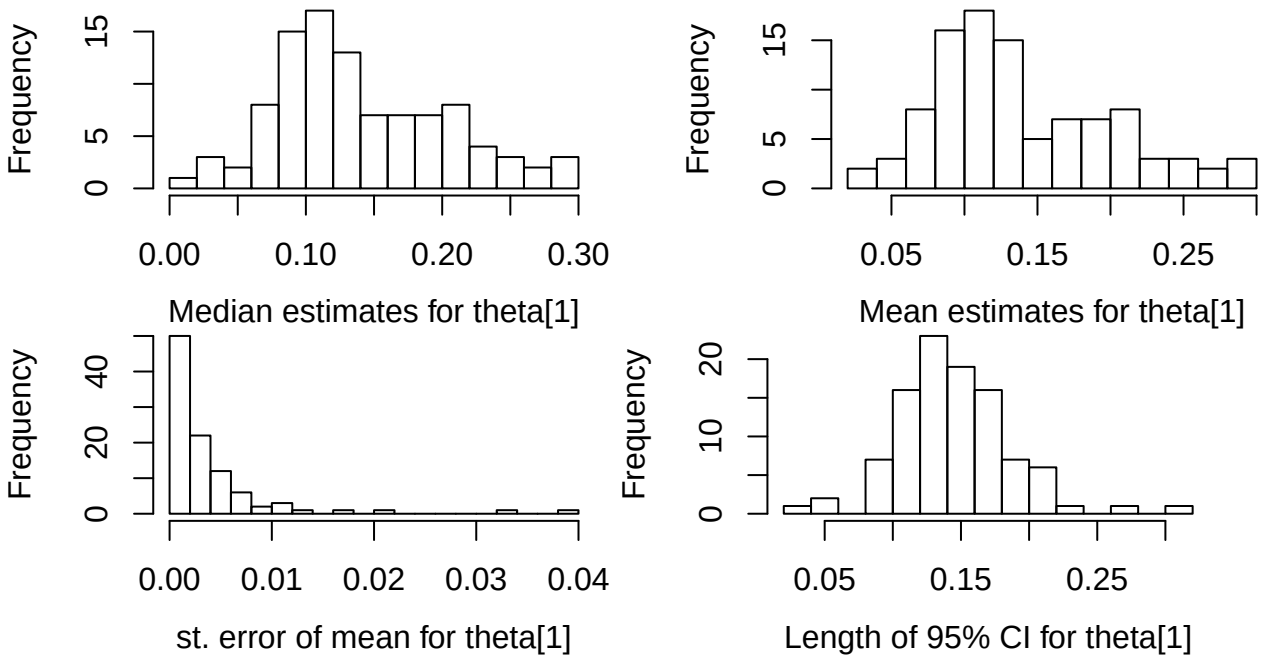
unique combinations:

```
number of unique combinations:  24

combinations and number of their occruence:

2  :  theta[1]  theta[3]  prod_theta2_m0  x[180,1]  x[180,2]
3  :  theta[1]  theta[3]  m0  prod_theta2_scale  x[180,1]
8  :  x[180,1]
2  :  theta[1]  theta[3]  m0  scale  prod_theta2_m0  prod_theta2_scale  x[180,1]  x[180,2]
4  :  theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
11  :  theta[1]  theta[3]  x[180,1]
2  :  m0  prod_m0_scale  x[180,1]
```

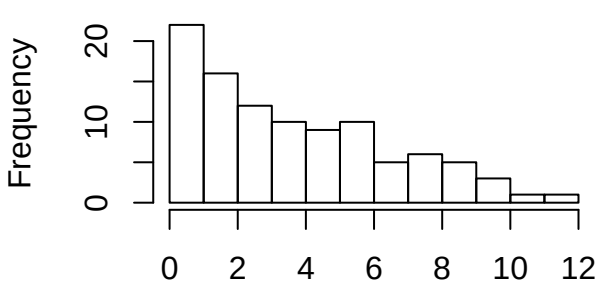
```
1  :  theta[3]  prod_theta2_scale  x[180,1]
3  :  theta[1]  theta[3]  m0  x[180,1]
1  :  theta[1]  theta[3]  m0  prod_m0_scale  x[180,1]
2  :  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
2  :  theta[3]  x[180,1]
1  :  theta[1]  theta[2]  theta[3]  m0  prod_theta2_scale  prod_m0_scale  prod_theta2_m0_scale  x[180,1]
1  :  theta[3]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
1  :  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
1  :  m0  prod_theta2_scale  x[180,1]
2  :  theta[3]
1  :  theta[1]  theta[3]  scale  prod_theta2_m0  x[180,1]  x[180,2]
1  :  theta[3]  m0  x[180,1]
1  :  theta[1]  m0  prod_theta2_scale  x[180,1]
1  :  theta[1]  theta[3]  m0  prod_theta2_m0  prod_theta2_scale  x[180,1]  x[180,2]
1  :  m0  x[180,1]
1  :  theta[1]  theta[3]
1  :  theta[1]  theta[2]  m0  prod_theta2_scale  prod_m0_scale  x[180,1]
```

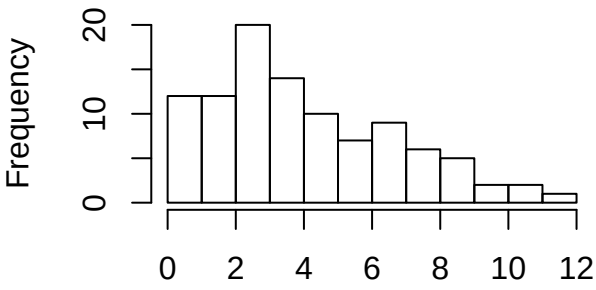
Overview of estimates

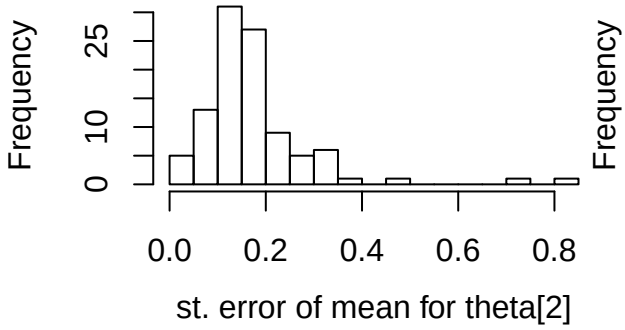
theta[1]

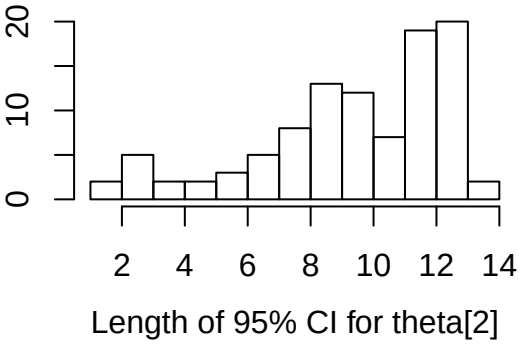


theta[2]

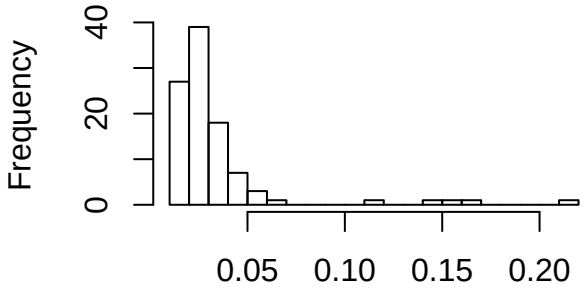


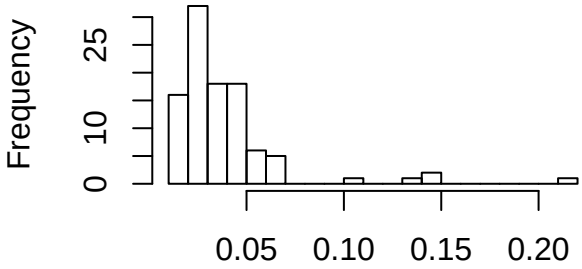


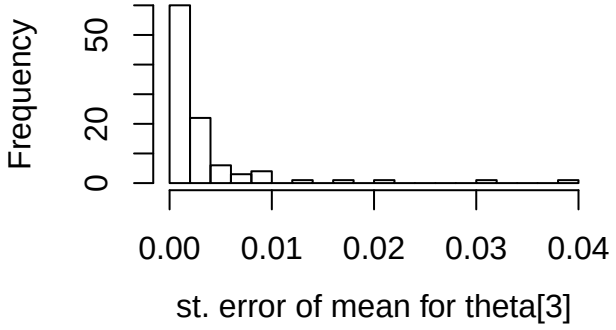


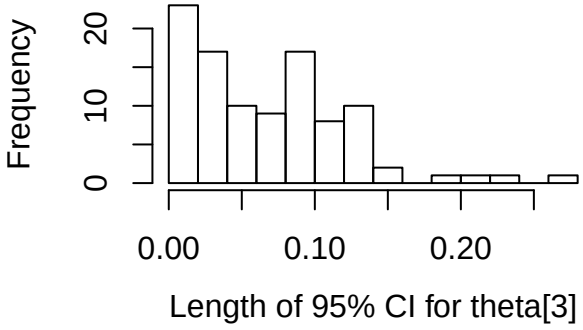


theta[3]

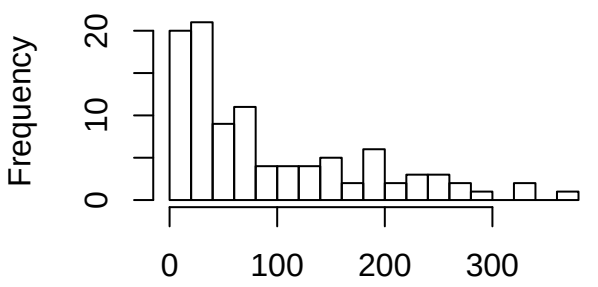


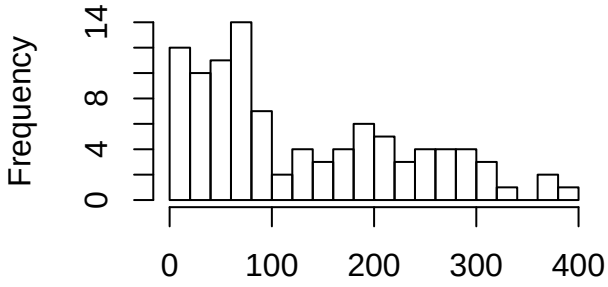


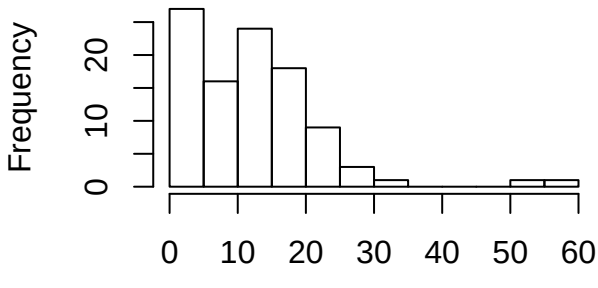


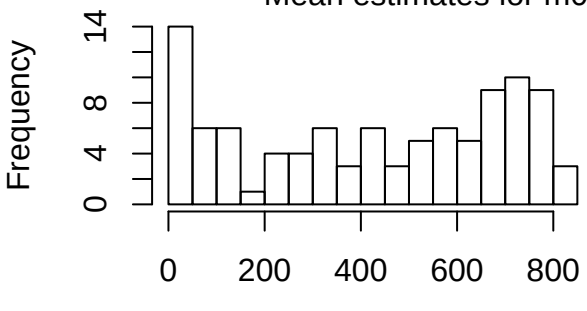


m0

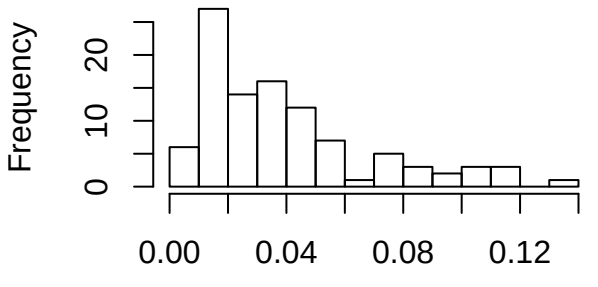

Frequency
0
10
20
0
100
200
300
Median estimates for m0

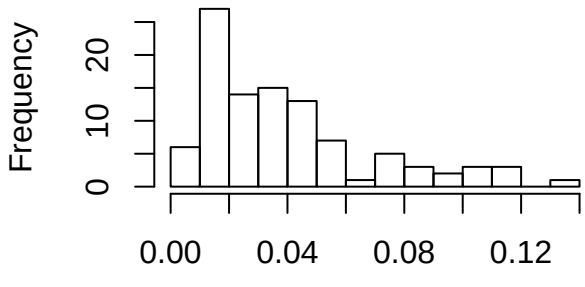

Frequency
0
4
8
14
0
100
200
300
400
Mean estimates for m0

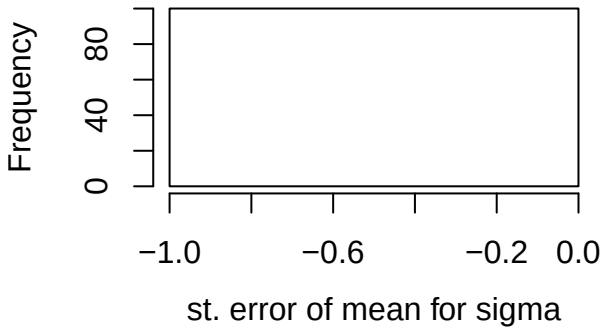

Frequency
0
10
20
0
10
20
30
40
50
60
st. error of mean for m0

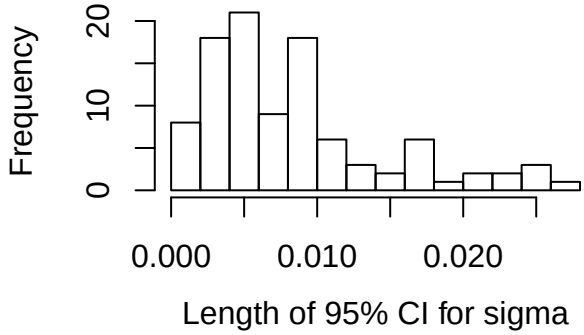

Frequency
0
4
8
14
0
200
400
600
800
Length of 95% CI for m0

sigma

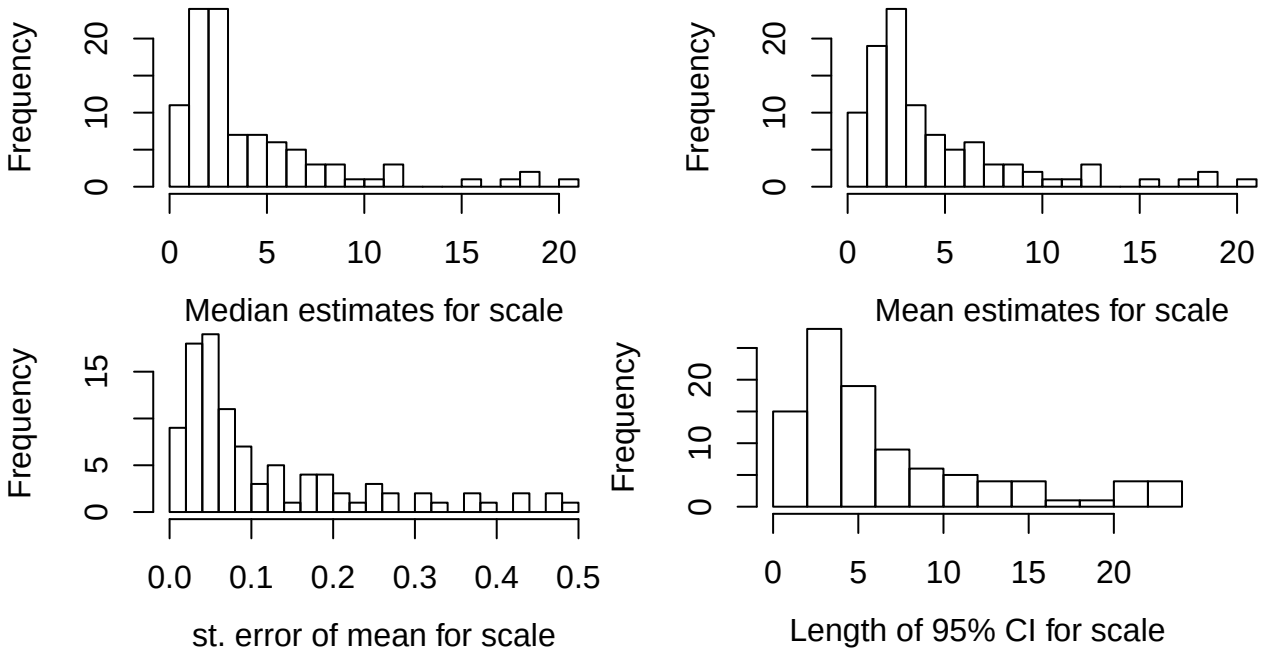

Frequency
0
10
20
0.00
0.04
0.08
0.12
Median estimates for sigma


Frequency
0
10
20
0.00
0.04
0.08
0.12
Mean estimates for sigma

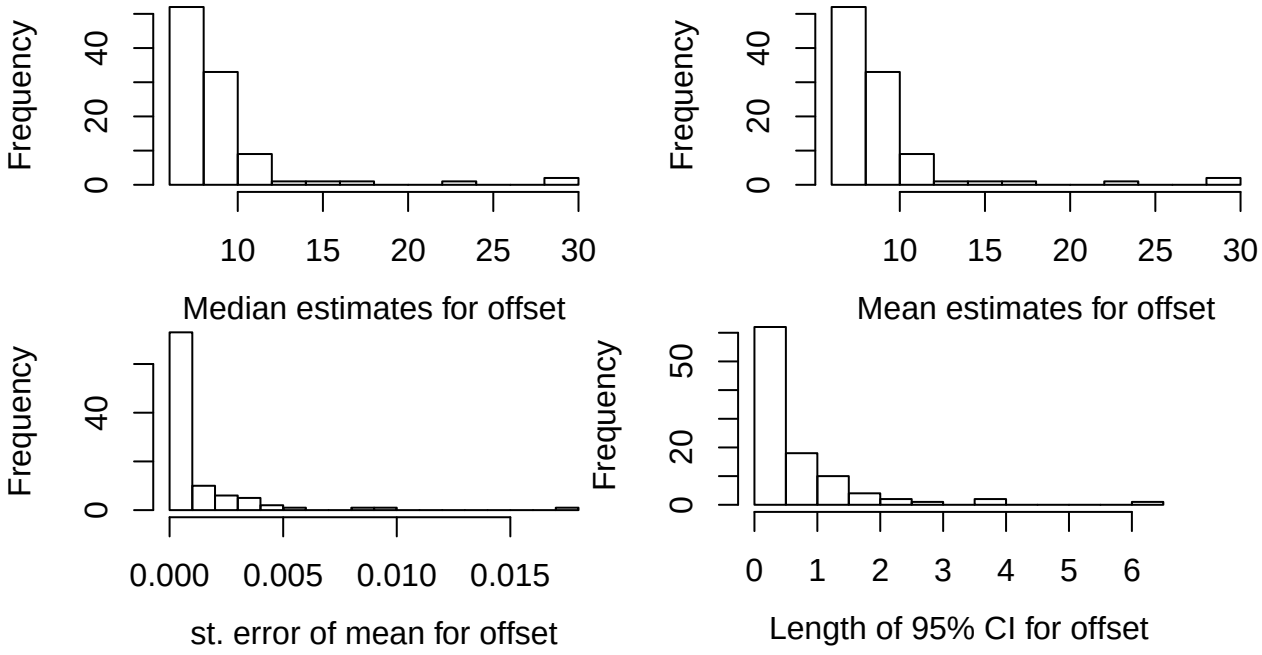

Frequency
0
40
80
−1.0
−0.6
−0.2
0.0
st. error of mean for sigma


Frequency
0
10
20
0.000
0.010
0.020
Length of 95% CI for sigma

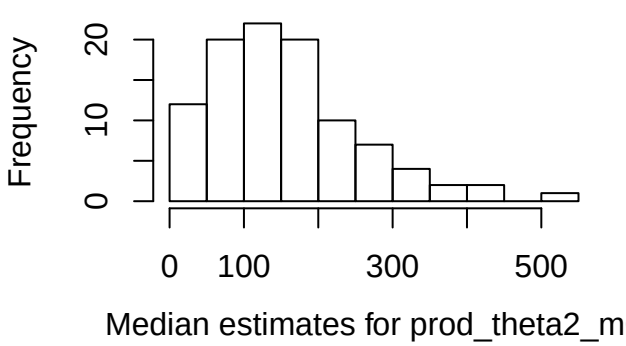
scale

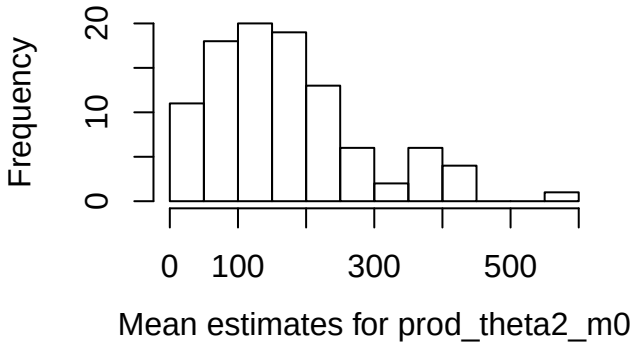


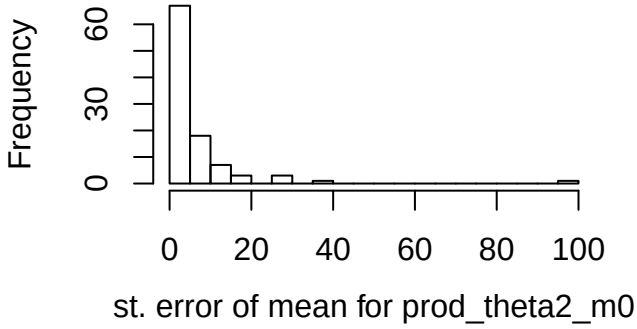
offset

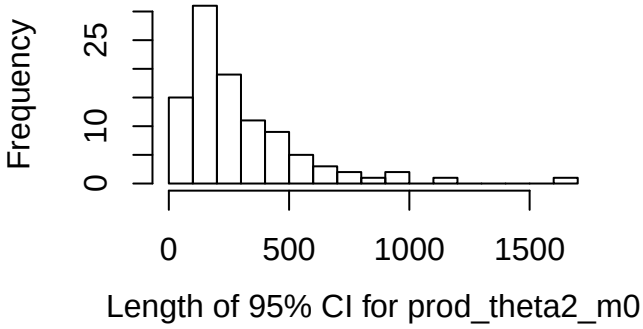


prod_theta2_m0

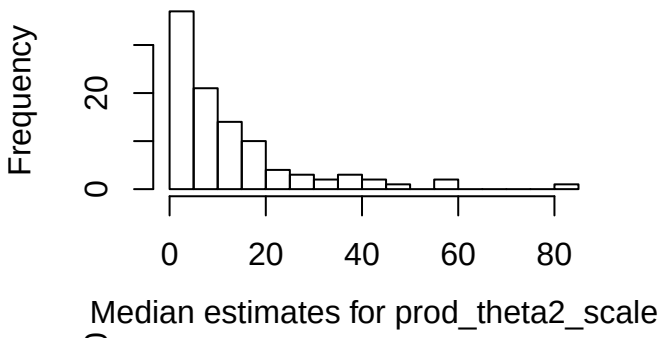


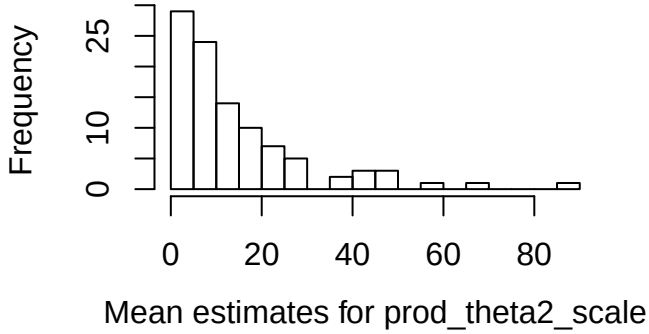


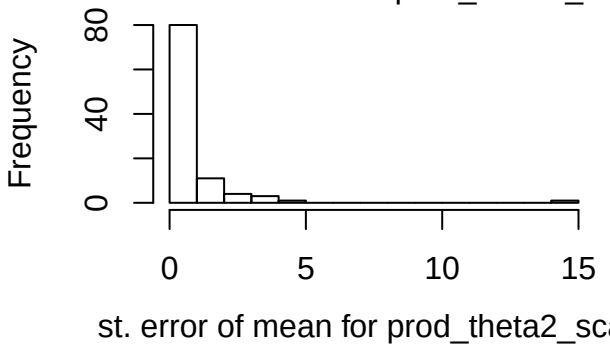


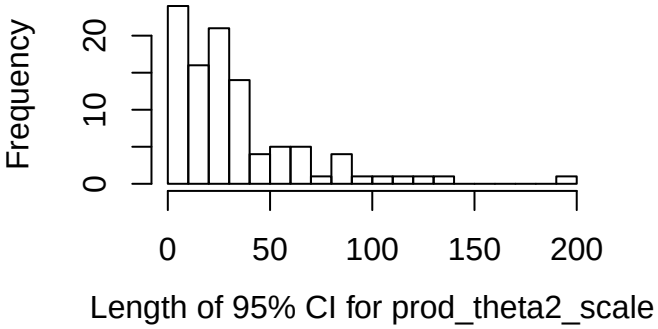


prod_theta2_scale

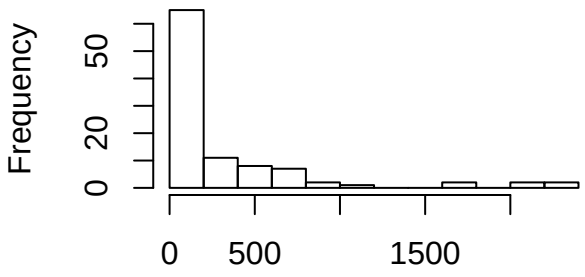




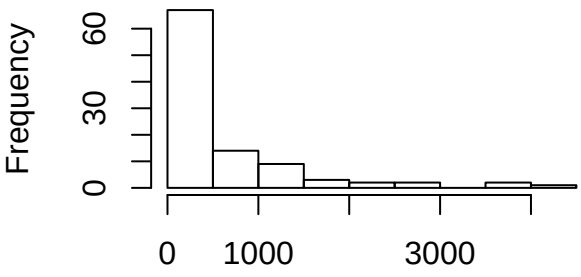




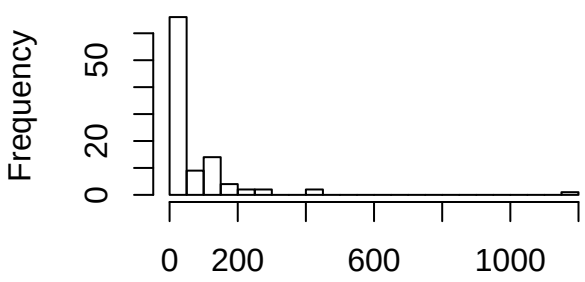
prod_m0_scale



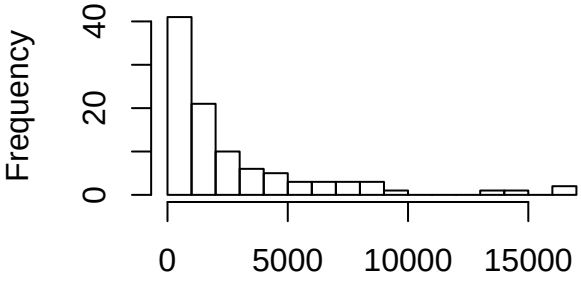
Median estimates for prod_m0_scale



Mean estimates for prod_m0_scale

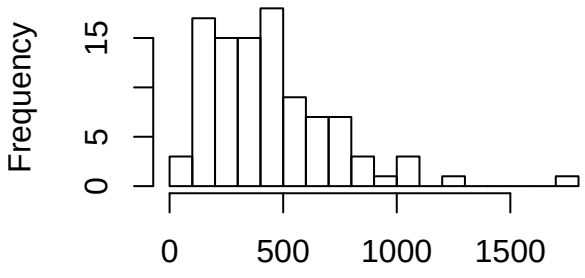


st. error of mean for prod_m0_scale

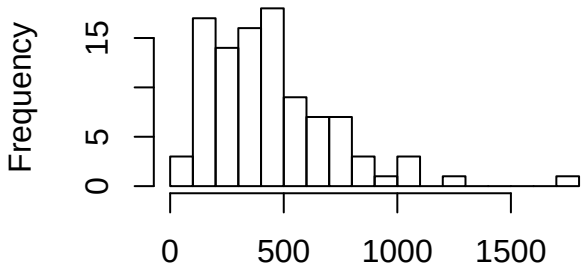


Length of 95% CI for prod_m0_scale

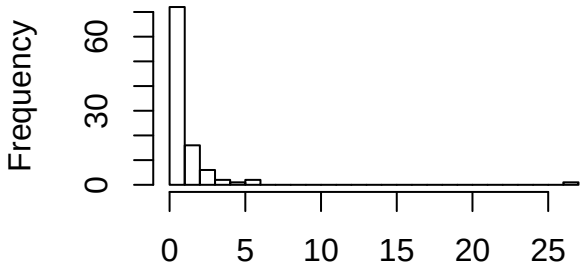
prod_theta2_m0_scale



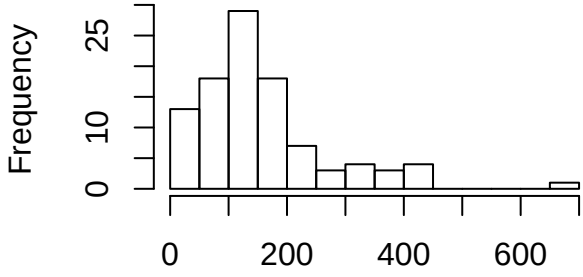
Median estimates for prod_theta2_m0_scal



Mean estimates for prod_theta2_m0_scale

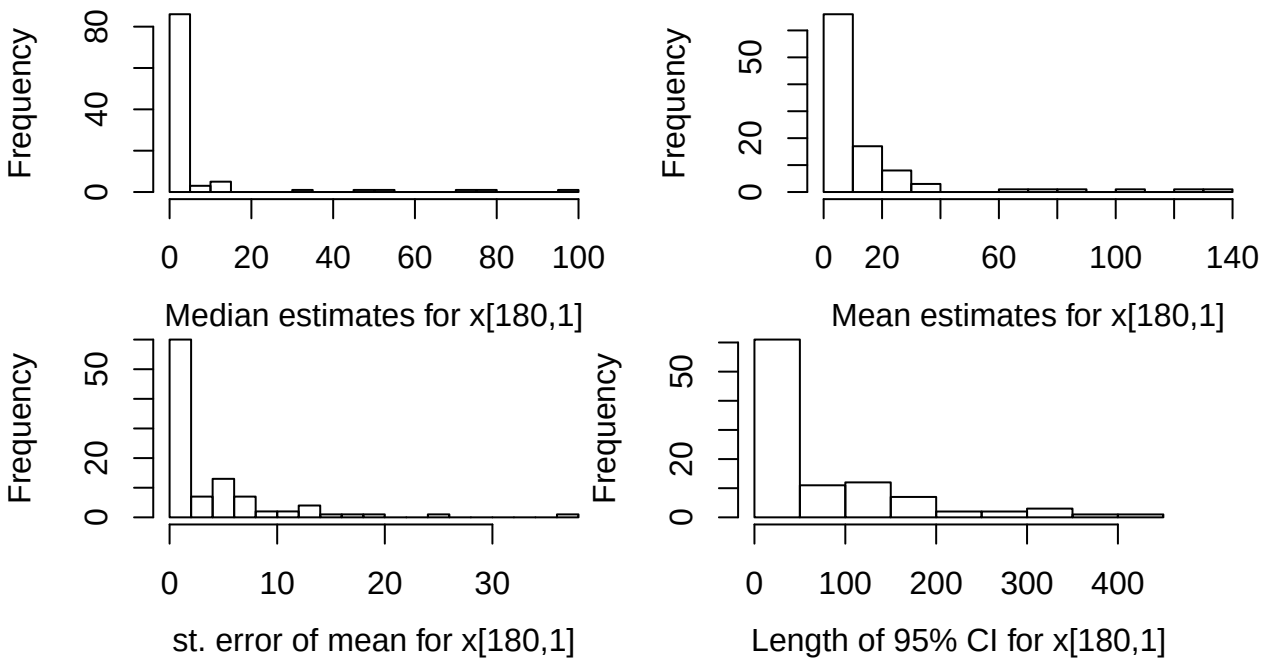


st. error of mean for prod_theta2_m0_scale

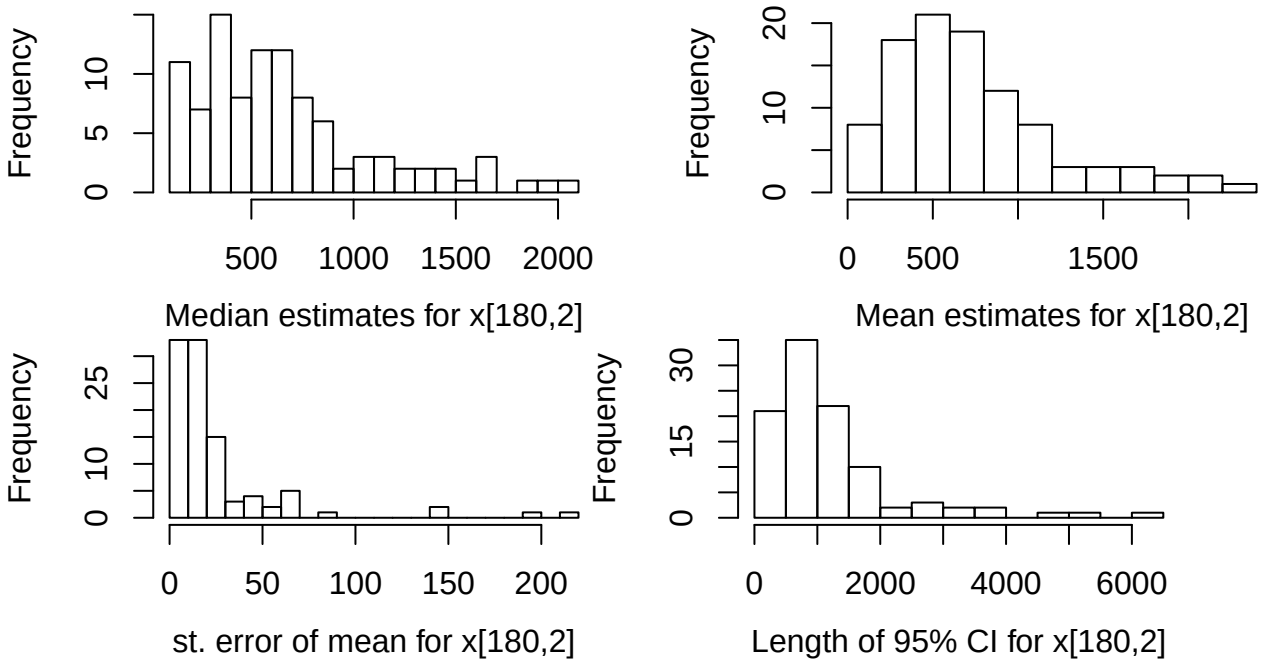


Length of 95% CI for prod_theta2_m0_scal

x[180,1]


Frequency
0
40
80
0
20
40
60
80
100
Median estimates for x[180,1]
Frequency
0
20
50
0
20
60
100
140
Mean estimates for x[180,1]
Frequency
0
20
50
0
10
20
30
st. error of mean for x[180,1]
Frequency
0
20
50
0
100
200
300
400
Length of 95% CI for x[180,1]

x[180,2]


Frequency
0
5
10
500
1000
1500
2000
Median estimates for x[180,2]
Frequency
0
10
20
0
500
1500
Mean estimates for x[180,2]
Frequency
0
10
25
0
50
100
150
200
st. error of mean for x[180,2]
Frequency
0
15
30
0
2000
4000
6000
Length of 95% CI for x[180,2]

Summary of length of 95% credible intervals (CIs)

Here we give the median, standard deviation (sd), and coefficient of variation (cv) of the length of the 95% CIs.

For simulated data (where the true parameter values are known), we also give the number of times that the CI covers the true value and median, sd, and cv of the length of those 95% CIs that cover the true value.

	median_l_CI	sd_l_CI	cv_l_CI
theta[1]	0.142	0.041	0.284
theta[2]	9.915	3.051	0.327
theta[3]	0.060	0.052	0.756
m0	456.803	271.562	0.635
sigma	0.007	0.006	0.711
scale	4.611	6.028	0.877
offset	0.379	0.869	1.250
prod_theta2_m0	230.890	255.471	0.857
prod_theta2_scale	22.007	33.278	0.996
prod_m0_scale	1392.456	3519.427	1.307
prod_theta2_m0_scale	138.025	111.321	0.707
x[180,1]	20.682	94.520	1.356
x[180,2]	917.799	1059.408	0.870

The following table shows the values of the median of *the length of the CIs divided by the median of each sample*

$$m_1 = \text{median}\left(\frac{q_i(0.975) - q_i(0.025)}{q_i(0.5)}\right),$$

the median of *the length of the CIs divided by the mean of each sample*

$$m_1 = \text{median}\left(\frac{q_i(0.975) - q_i(0.025)}{sample\_mean}\right),$$

as well as the median of the length of the CIs divided by *the median of the medians of the sample*

$$m_3 = \frac{\text{median}(q_i(0.975) - q_i(0.025))}{\text{median}(q_i(0.5))}.$$

and (if applicable) the median of *the length of the CIs divided by the true value*

$$m_4 = \frac{\text{median}(q_i(0.975) - q_i(0.025))}{\text{true value}}.$$

	m_1	m_2	m_3
theta[1]	1.21	1.27	1.12
theta[2]	3.43	2.86	3.33
theta[3]	1.81	1.61	2.42
m0	4.44	3.16	7.74
sigma	0.22	0.22	0.22
scale	1.71	1.56	1.71
offset	0.05	0.05	0.05
prod_theta2_m0	1.66	1.54	1.72
prod_theta2_scale	3.26	2.75	2.84
prod_m0_scale	6.51	3.98	10.53
prod_theta2_m0_scale	0.33	0.33	0.35
x[180,1]	9.27	4.75	17.91
x[180,2]	1.65	1.53	1.60