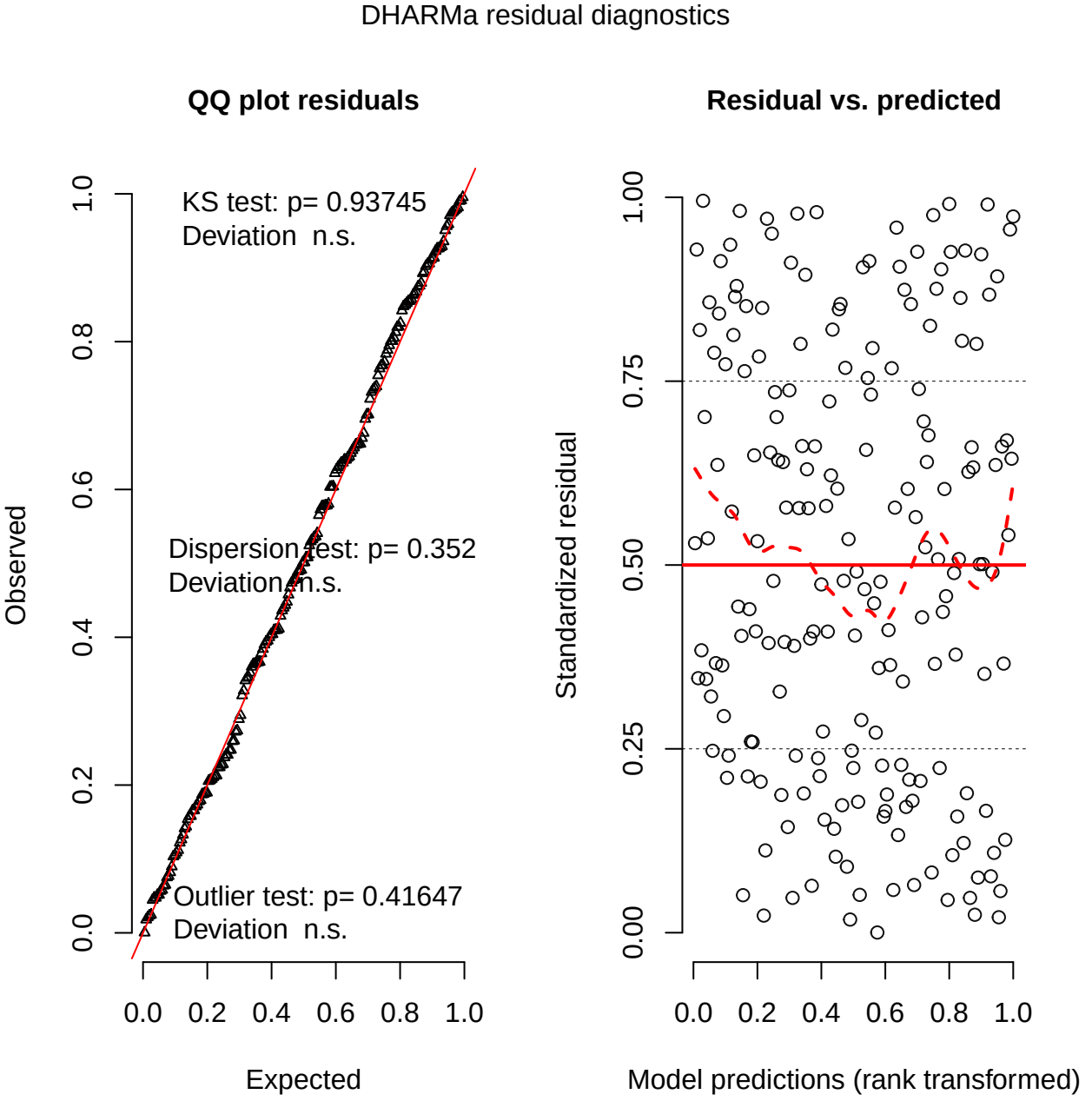
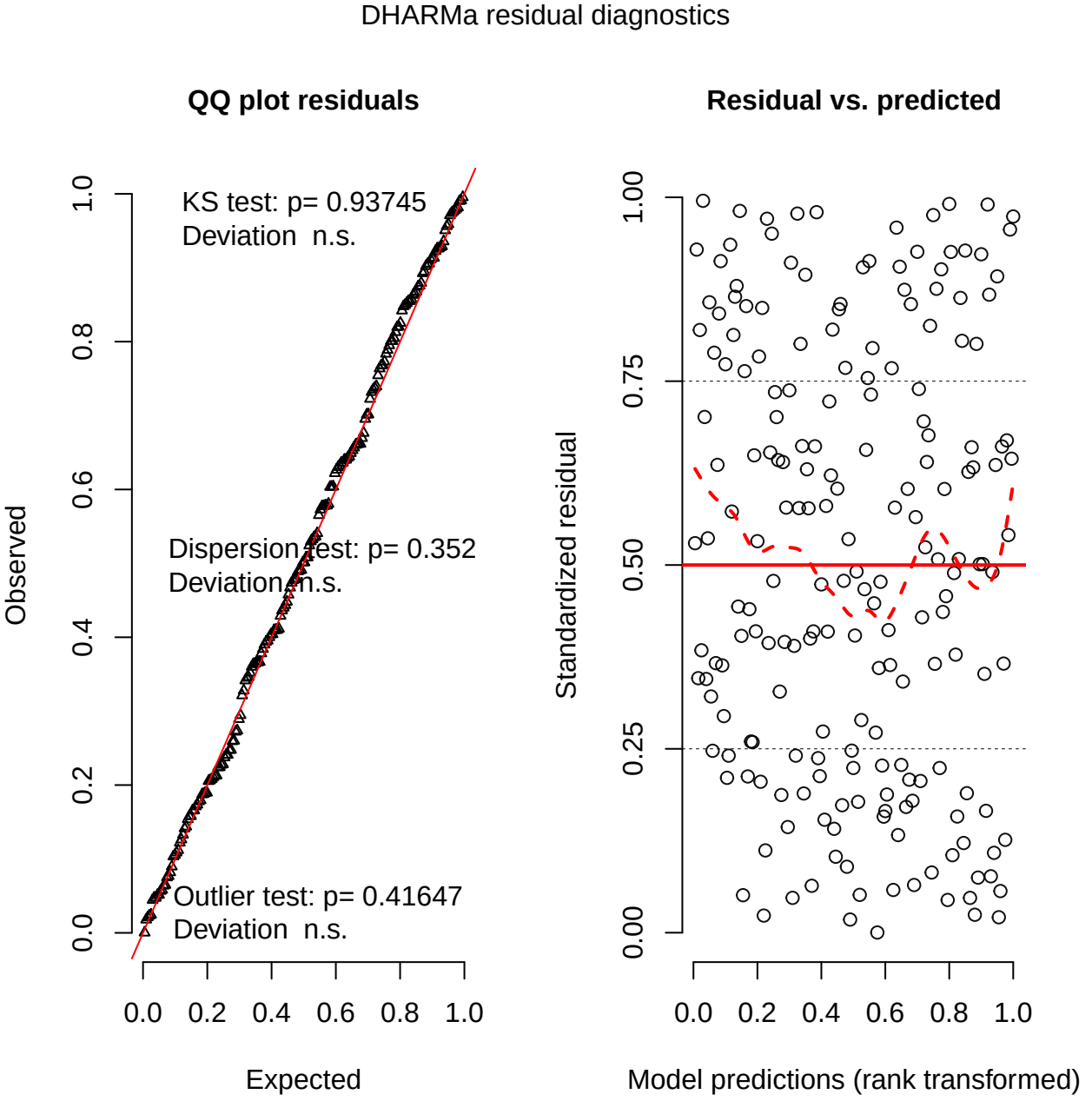
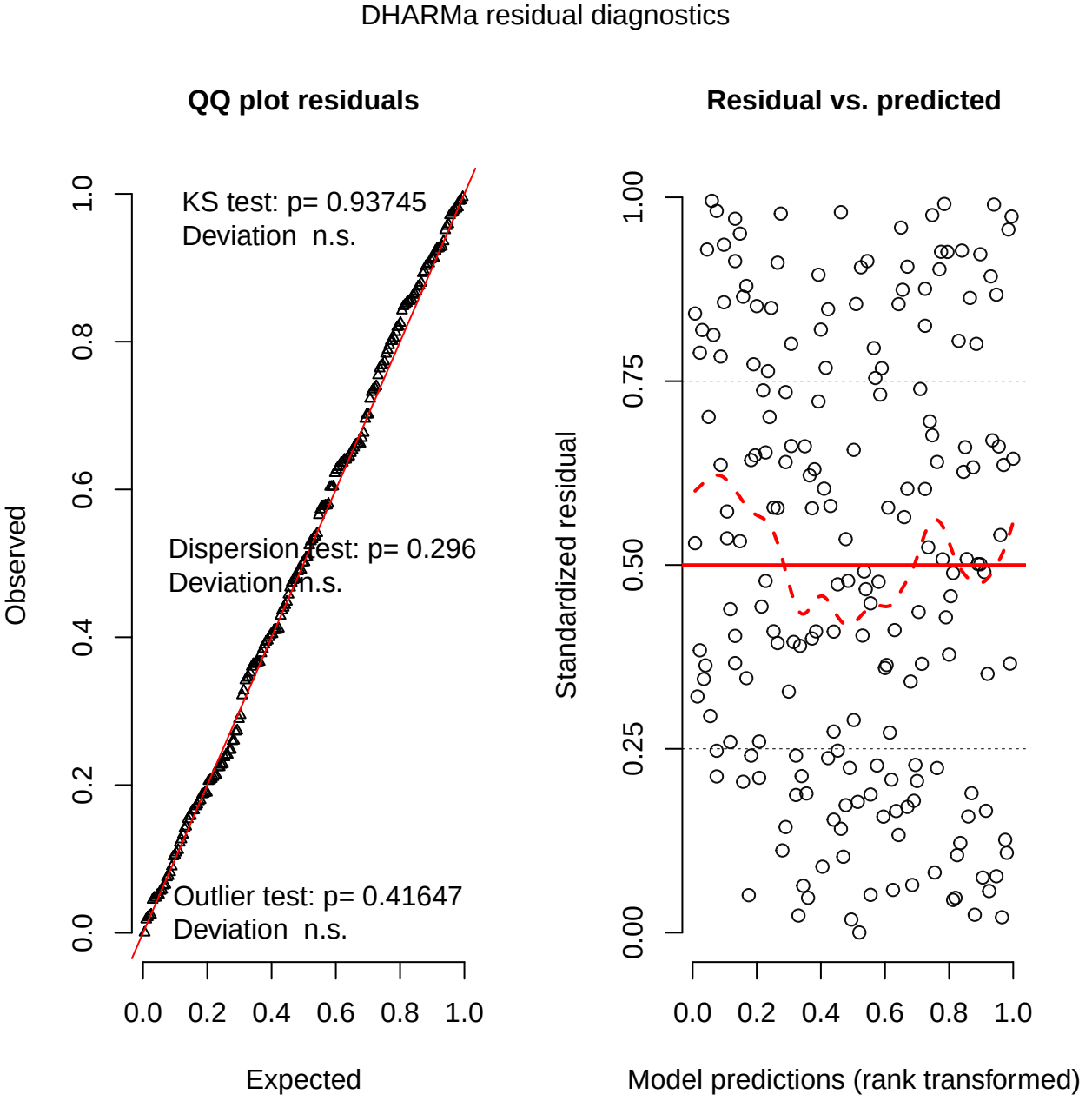
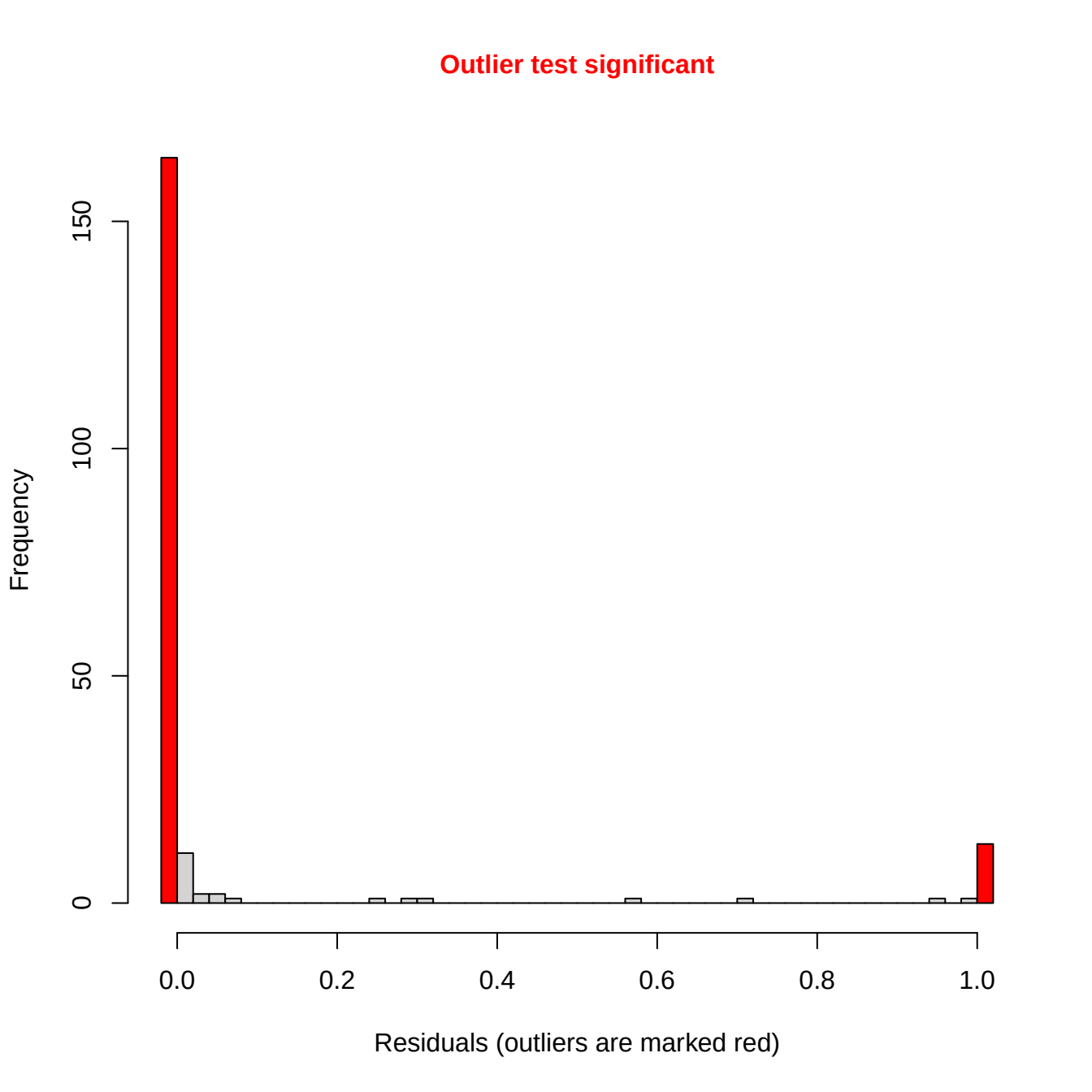
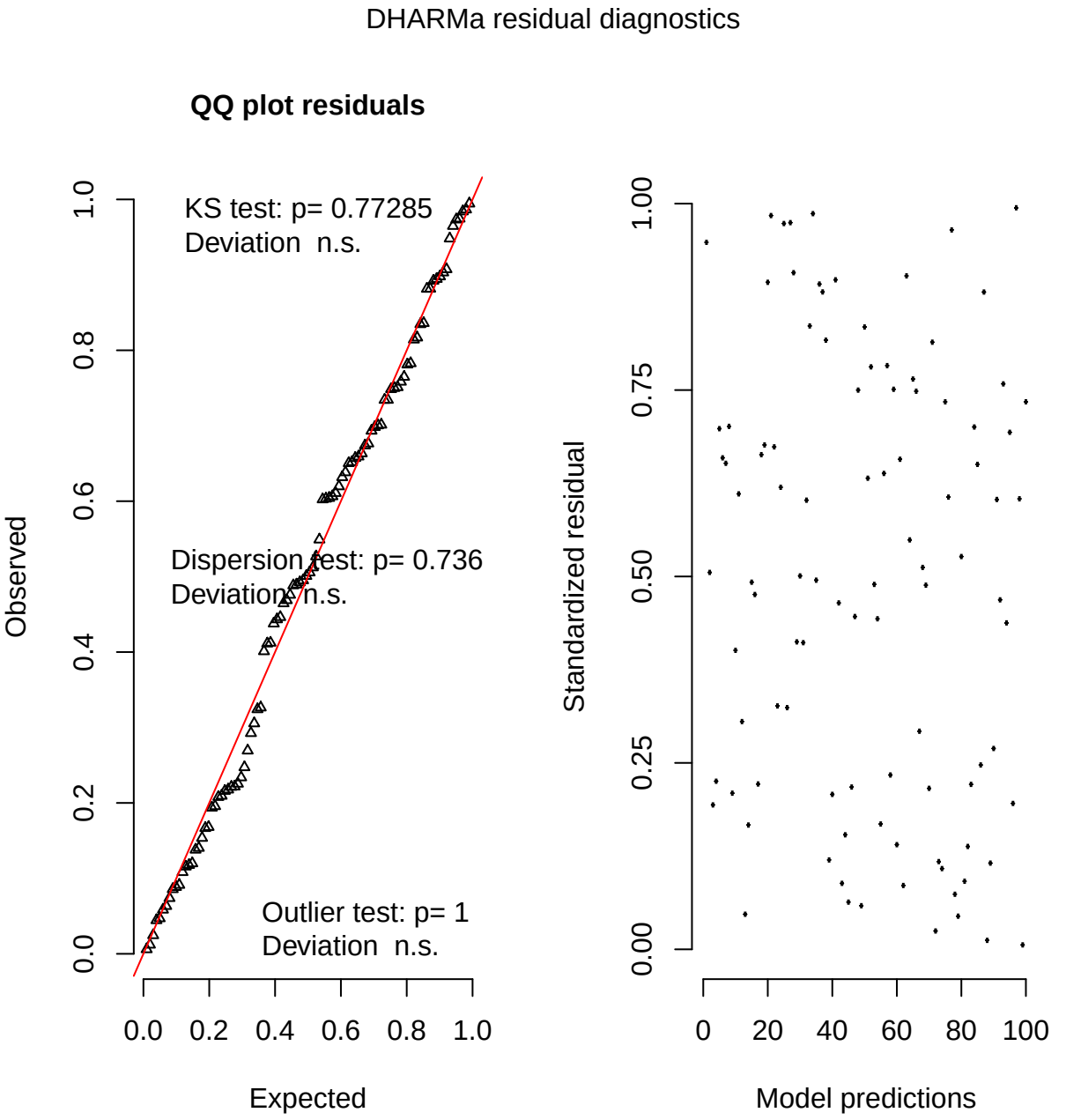
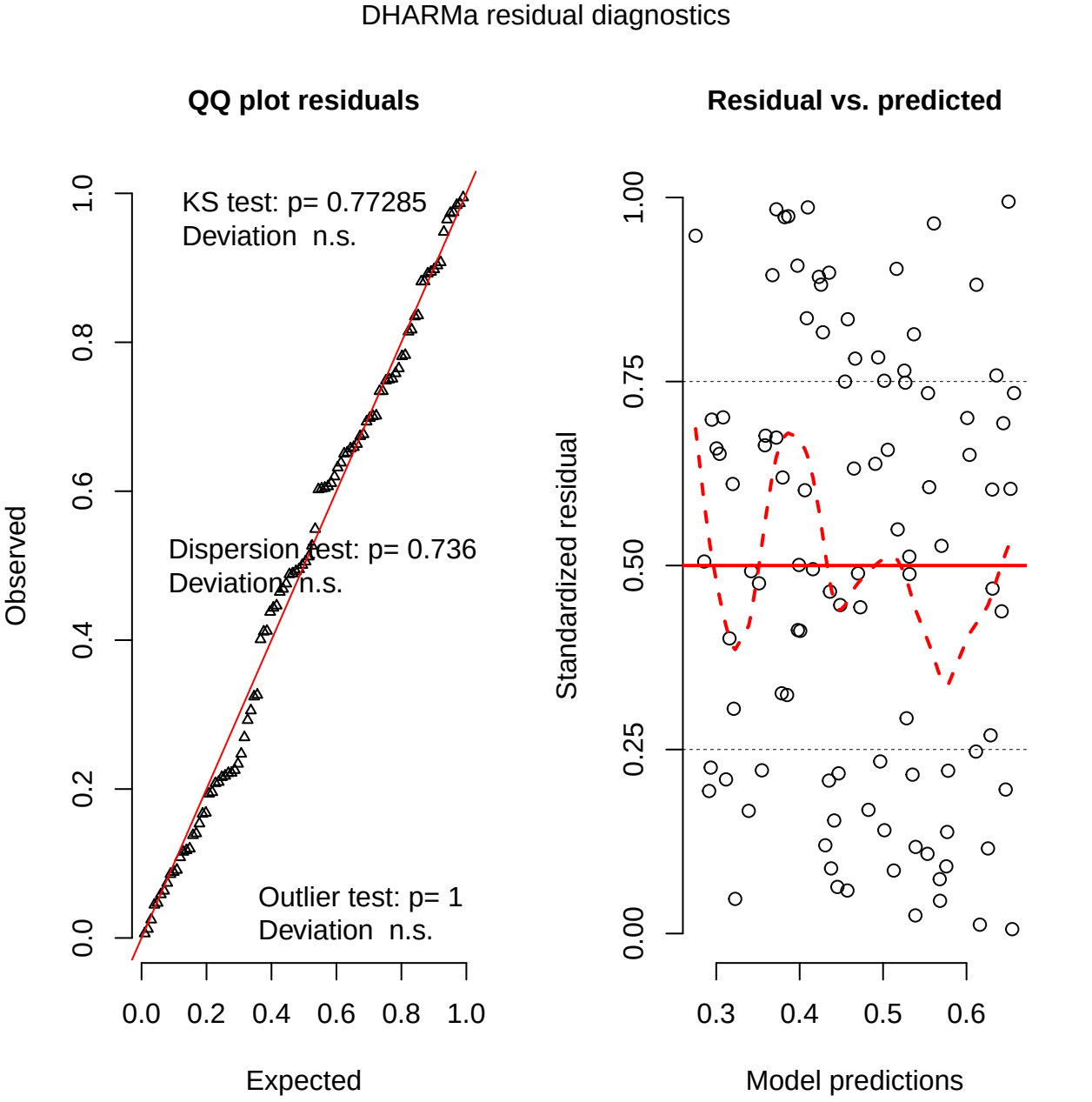

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.93745
Deviation n.s.
Dispersion test: p= 0.352
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

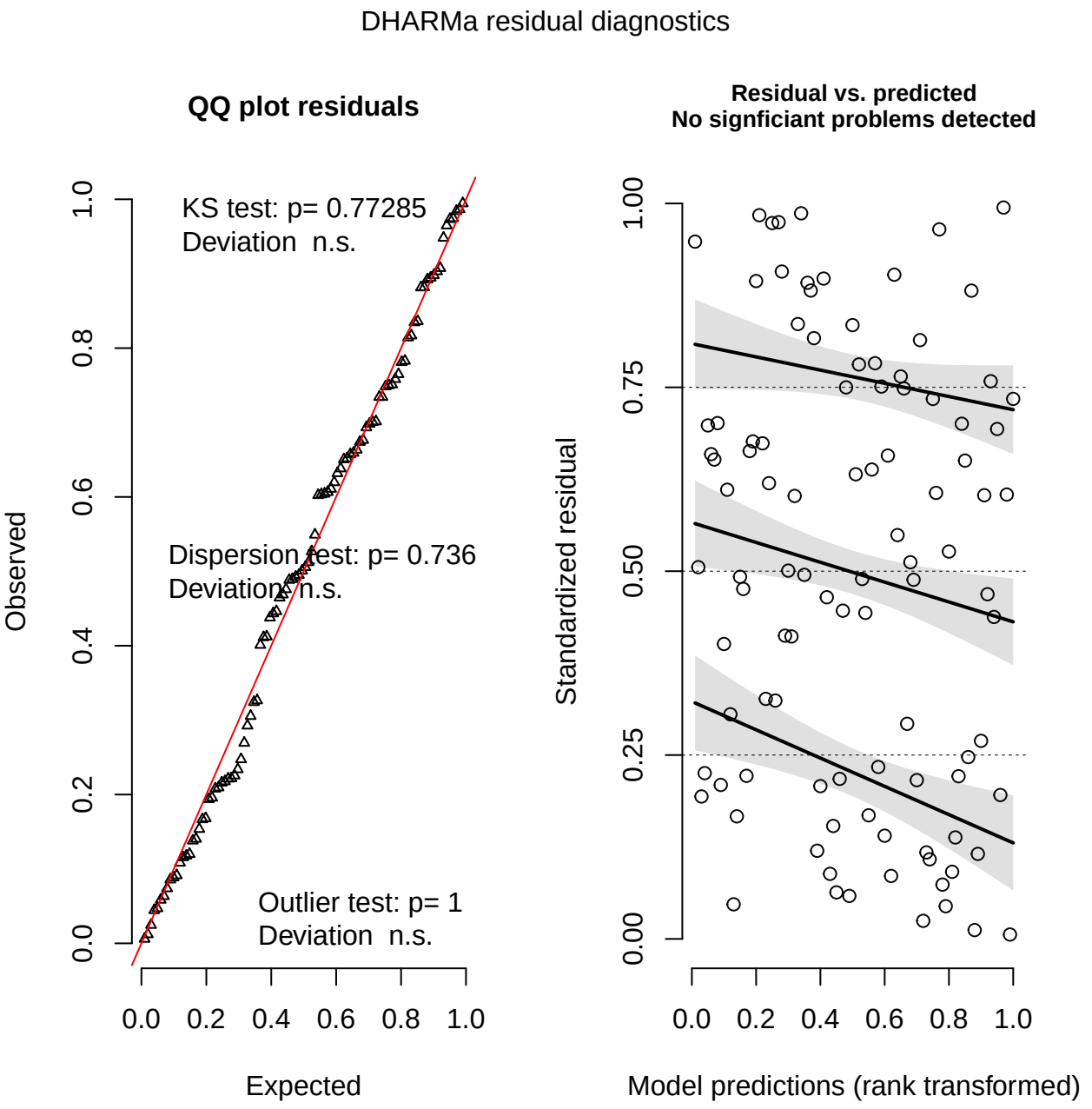

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.93745
Deviation n.s.
Dispersion test: p= 0.352
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

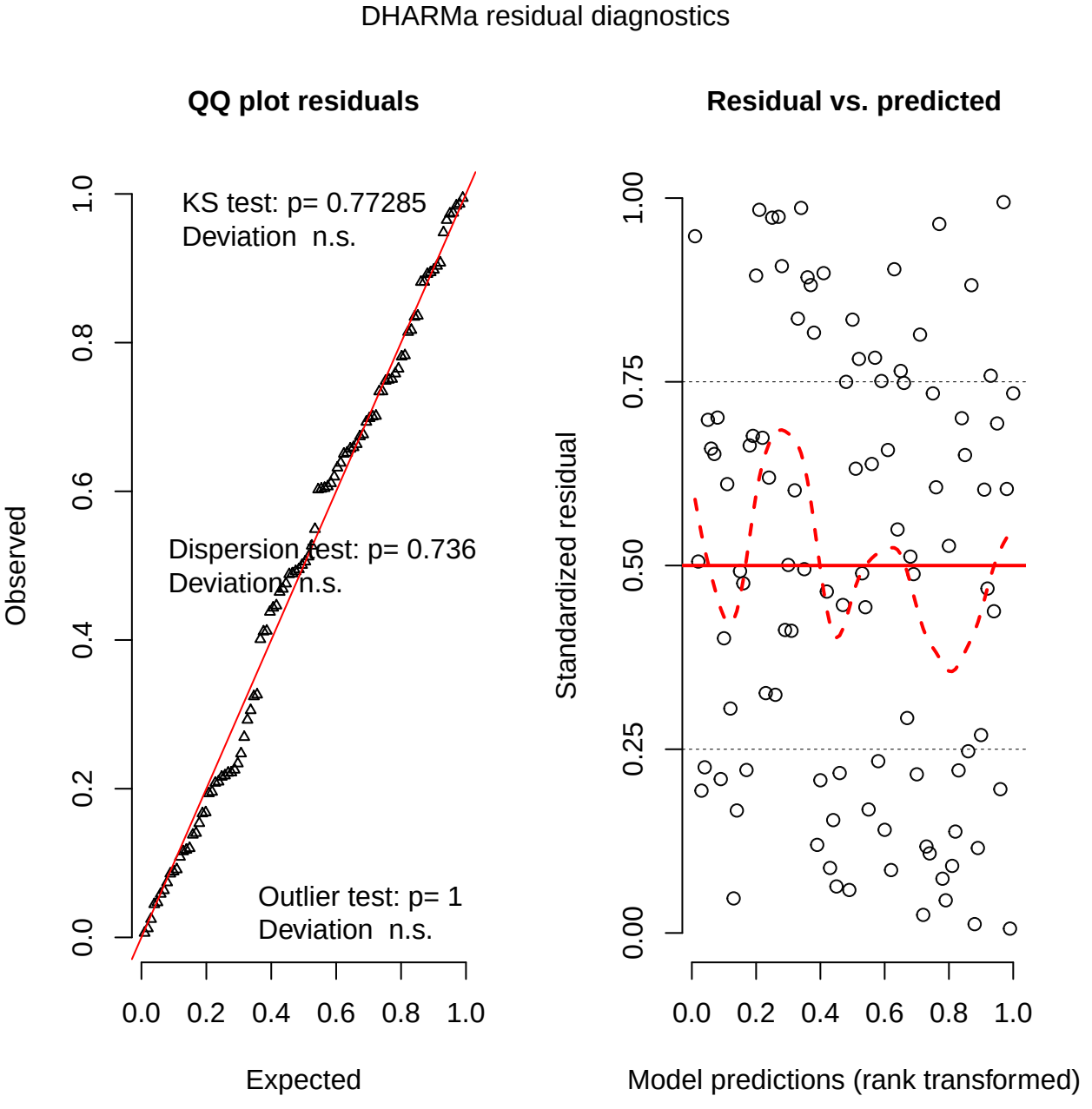

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.93745
Deviation n.s.
Dispersion test: p= 0.296
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

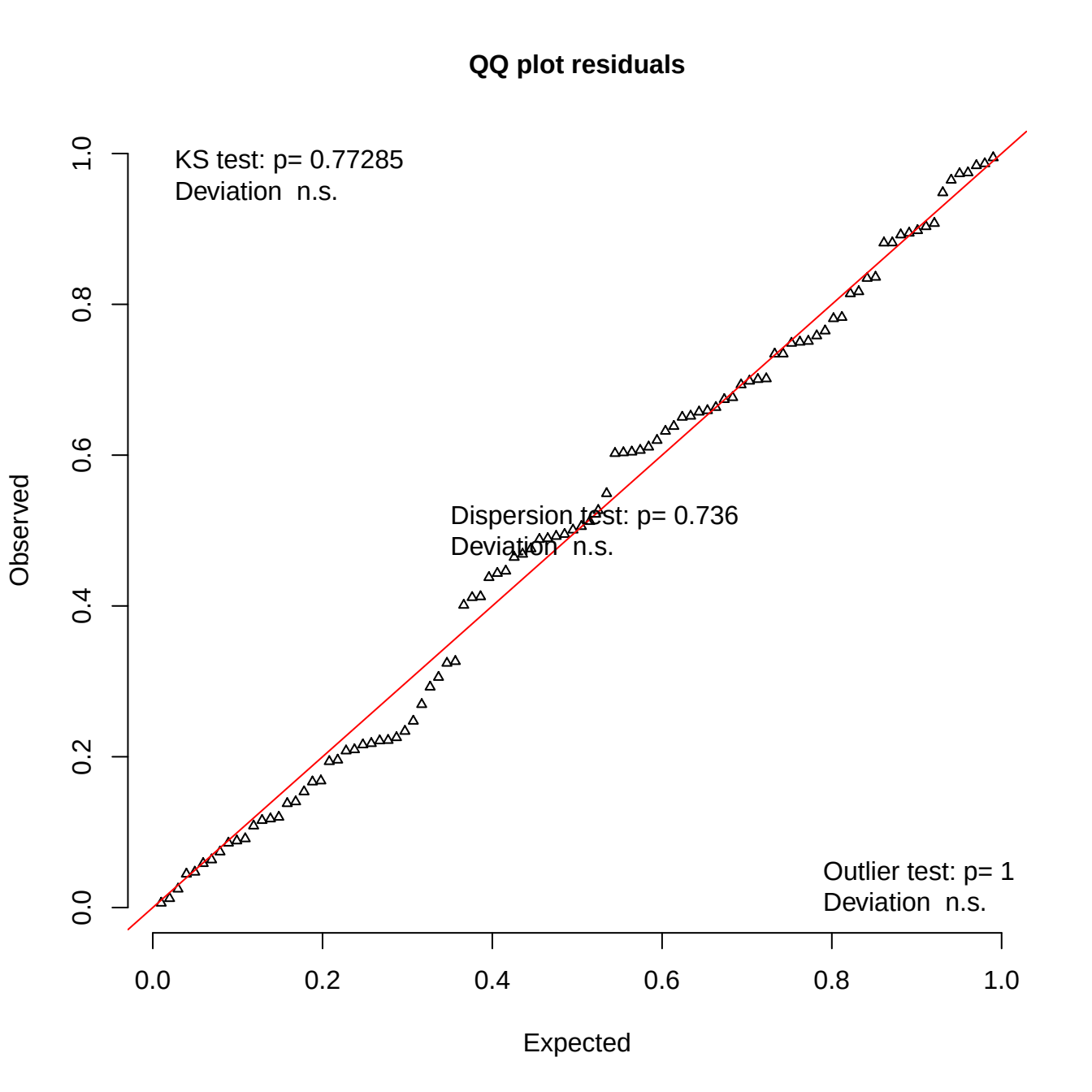

Outlier test significant
Frequency
0
50
100
150
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

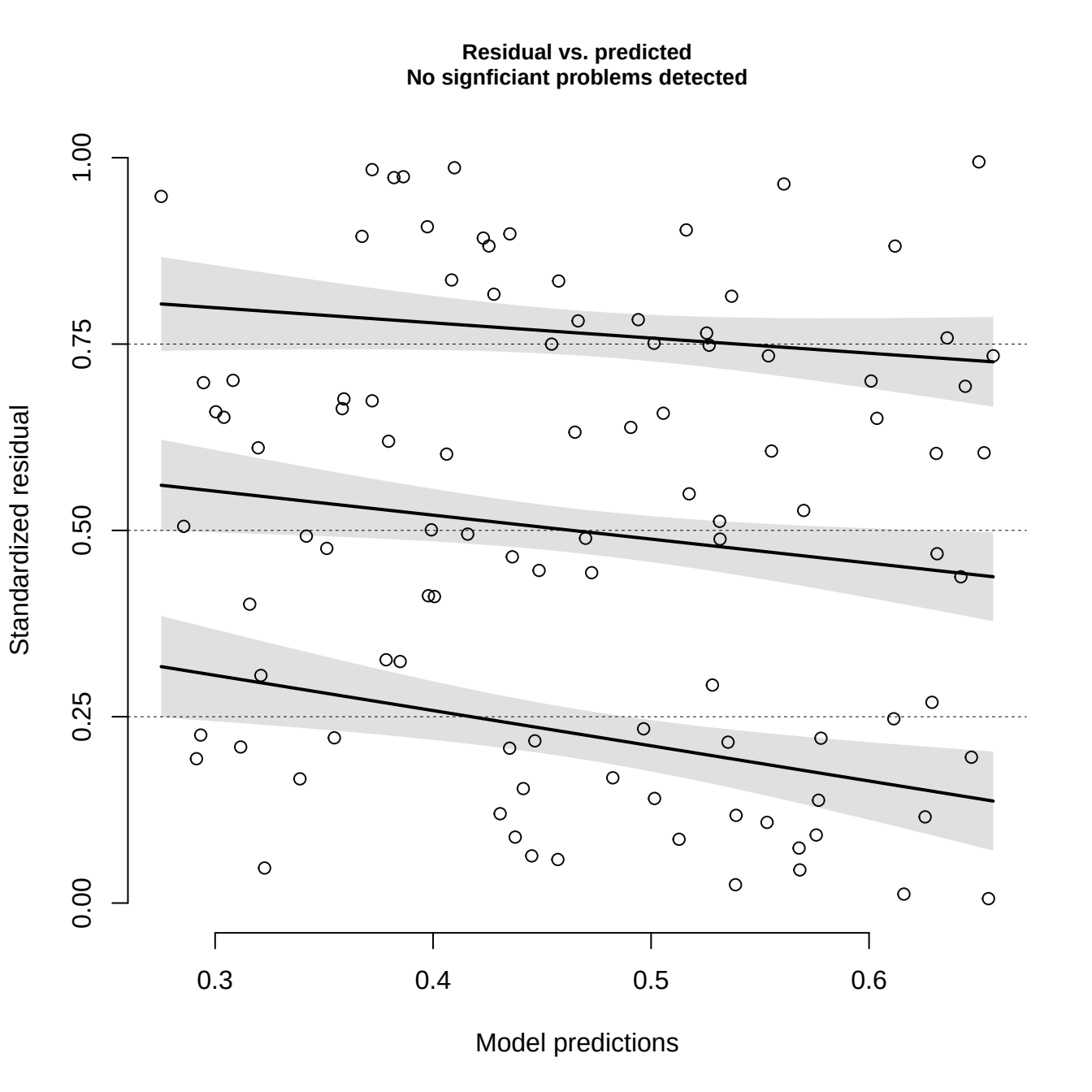

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.77285
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 1
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Standardized residual
Model predictions
0.00
0.25
0.50
0.75
1.00
0
20
40
60
80
100

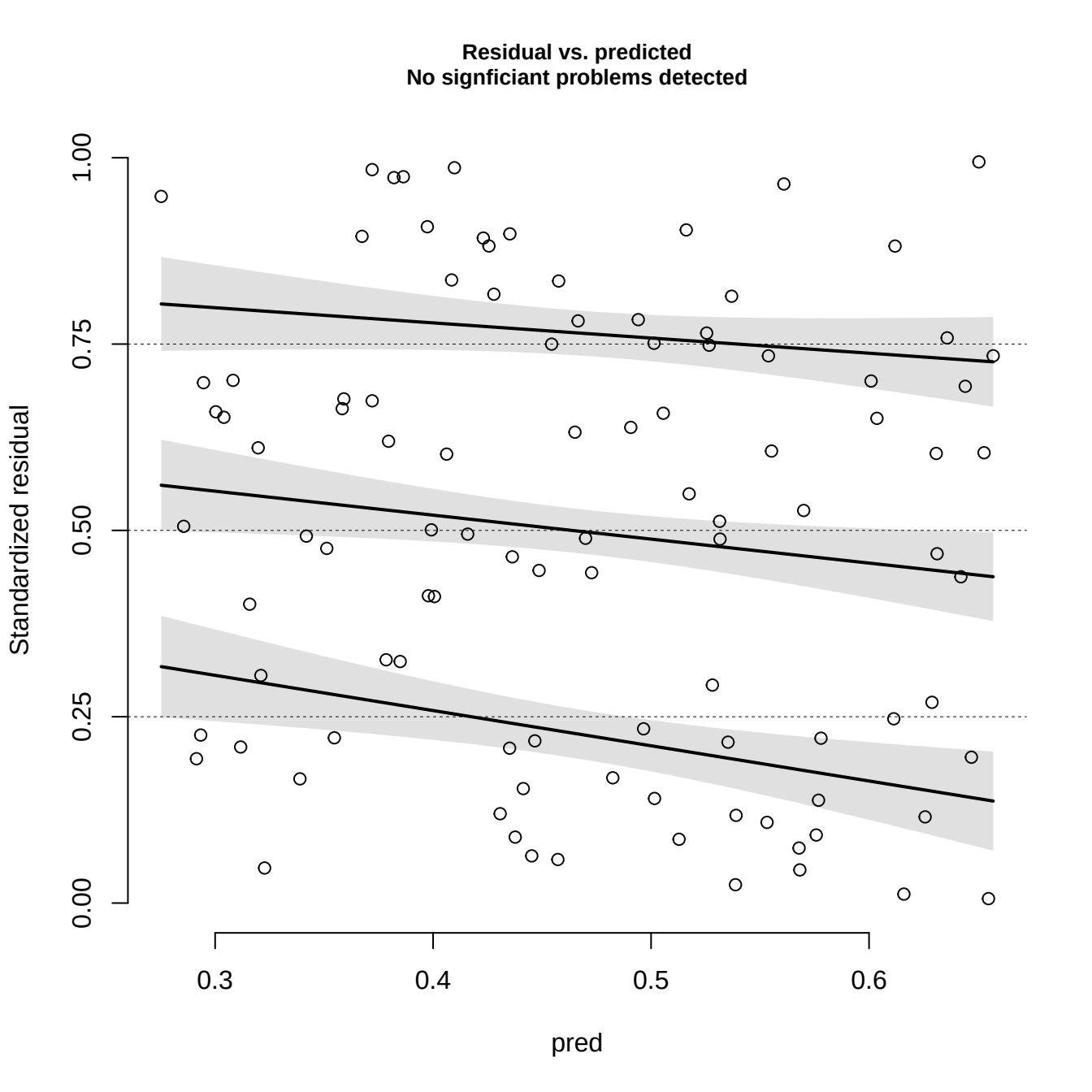

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.77285
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 1
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Standardized residual
Model predictions
0.00
0.25
0.50
0.75
1.00
0.3
0.4
0.5
0.6

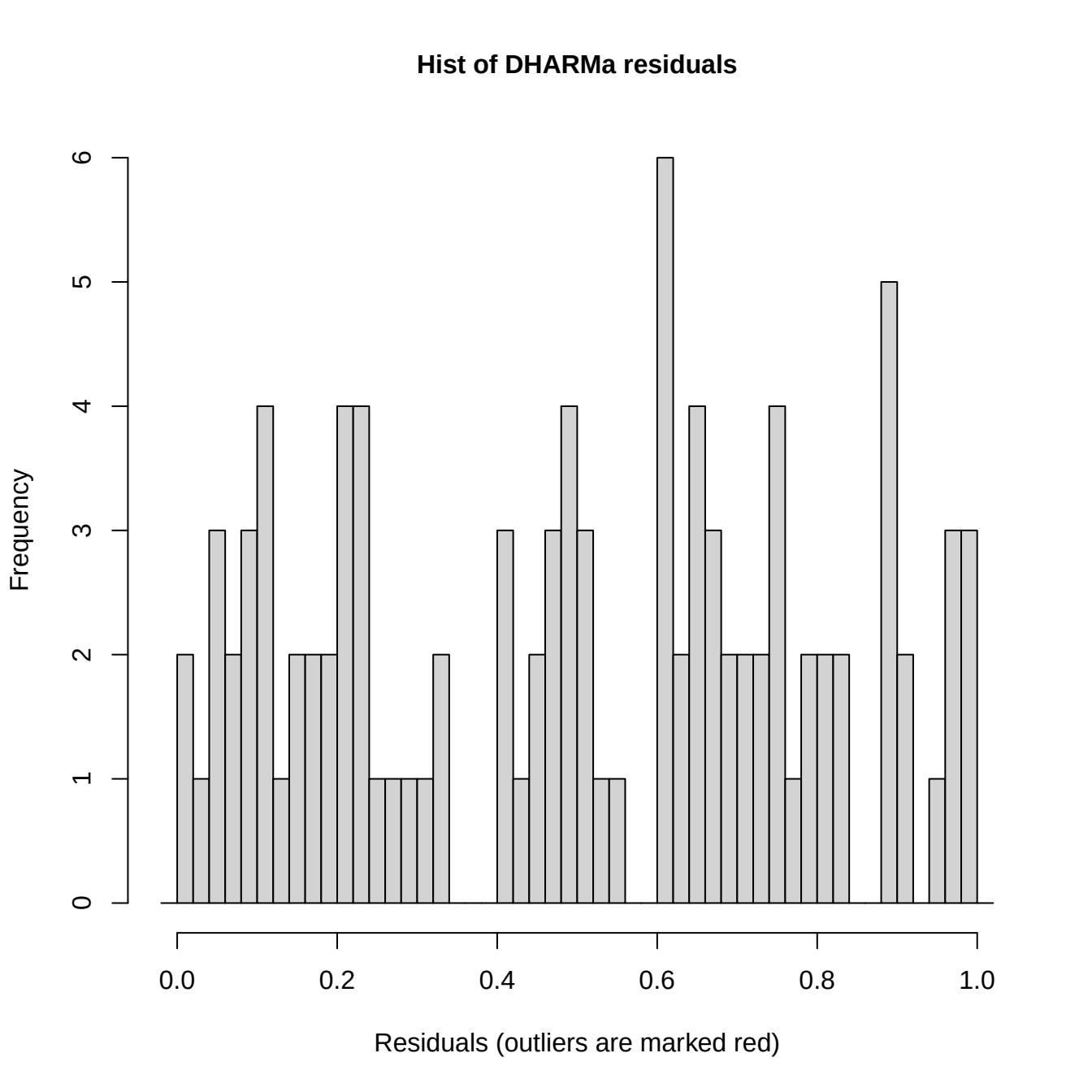

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.77285
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 1
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
No signficiant problems detected
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

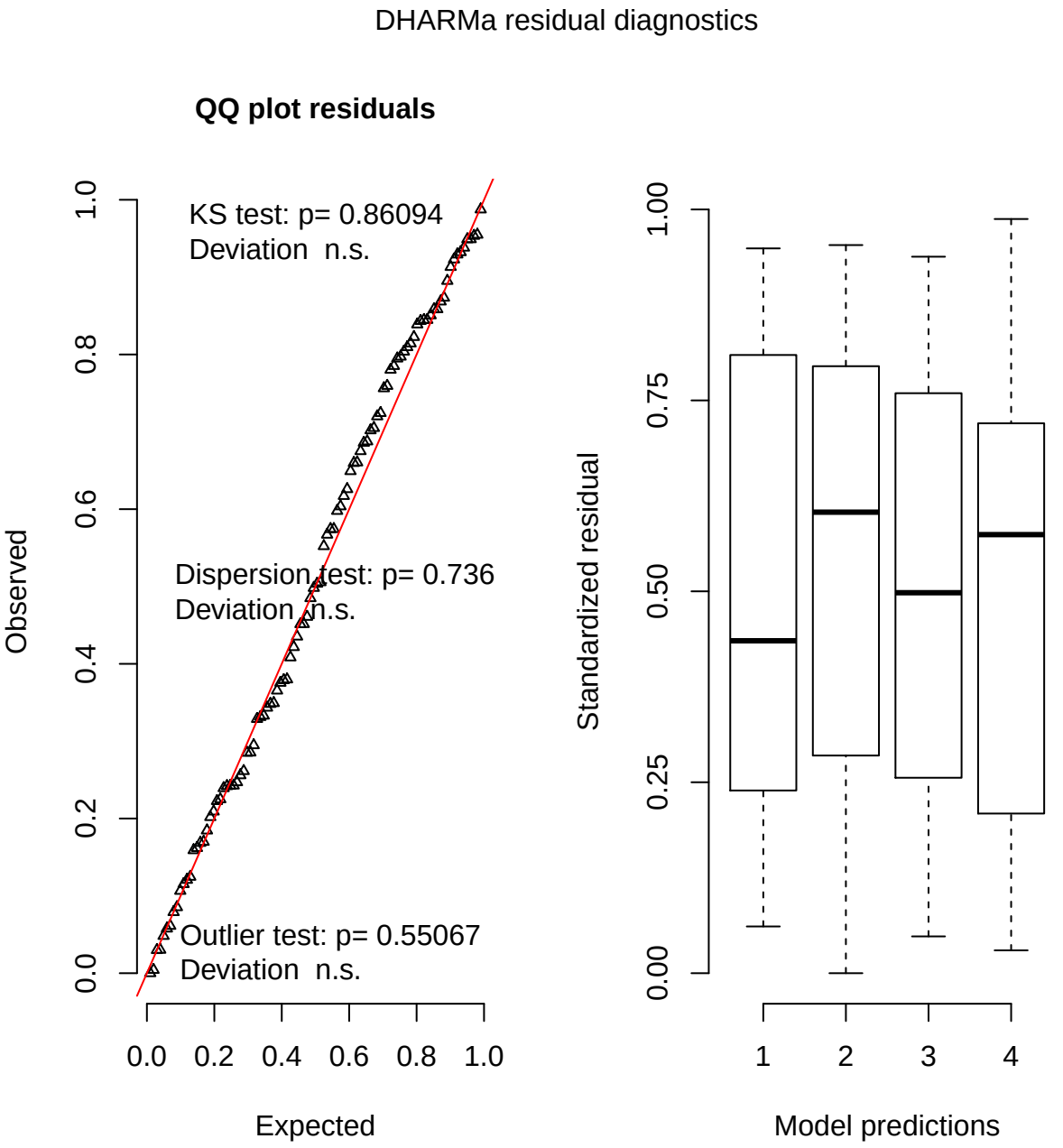

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.77285
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 1
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

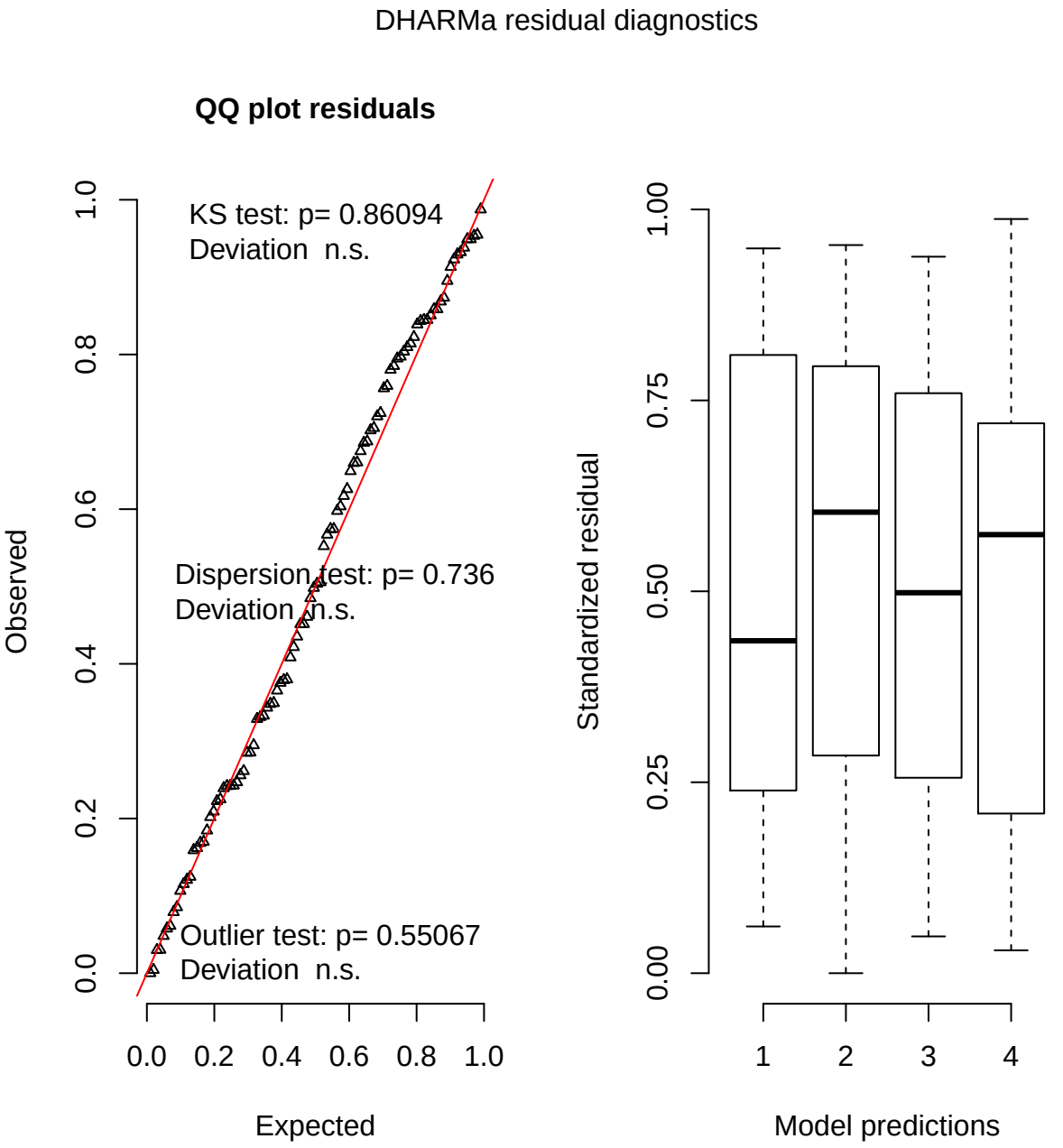

QQ plot residuals
KS test: p= 0.77285
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 1
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0

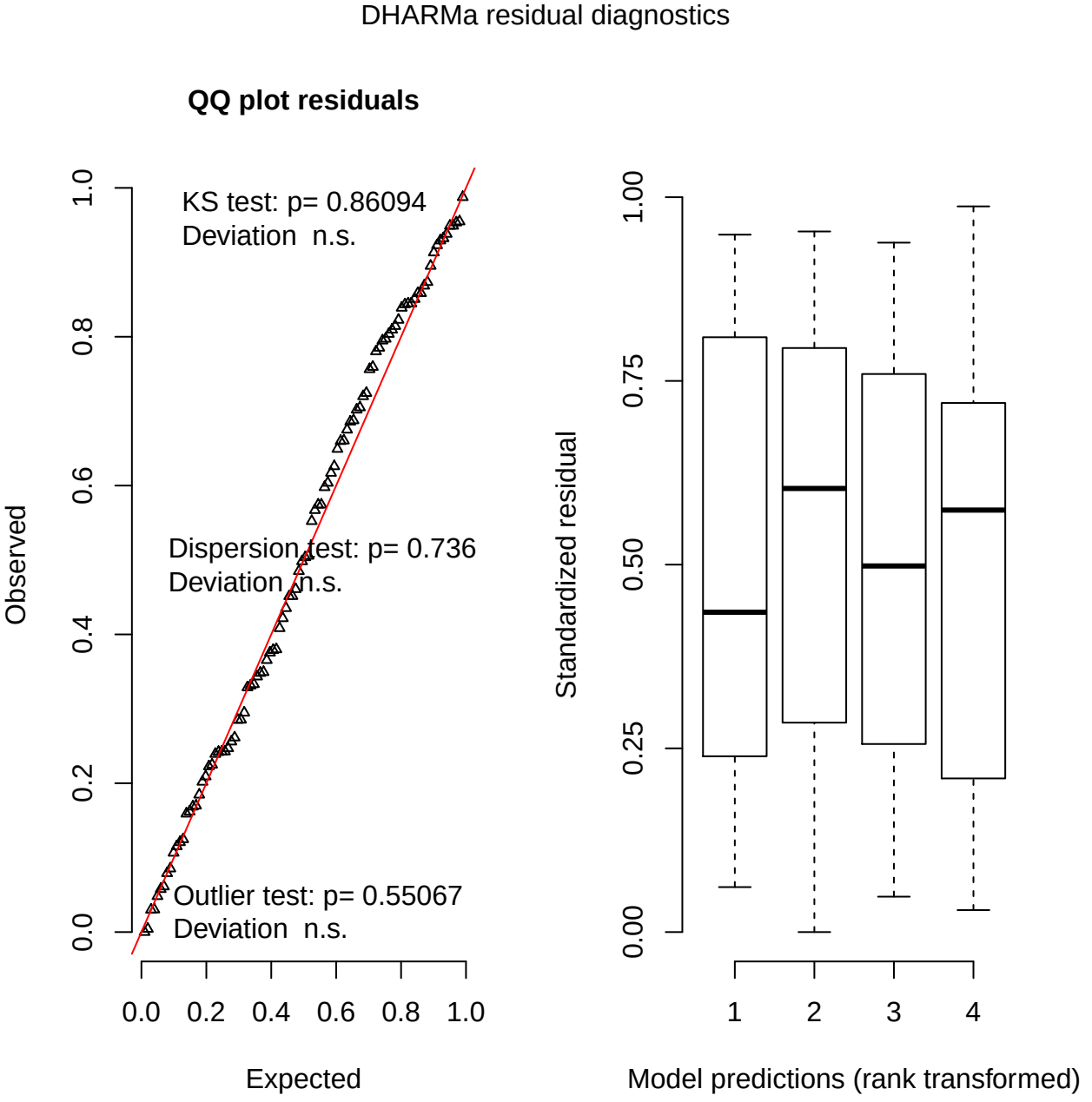

Residual vs. predicted
No signficiant problems detected
Standardized residual
1.00
0.75
0.50
0.25
0.00
0.3
0.4
0.5
0.6
Model predictions

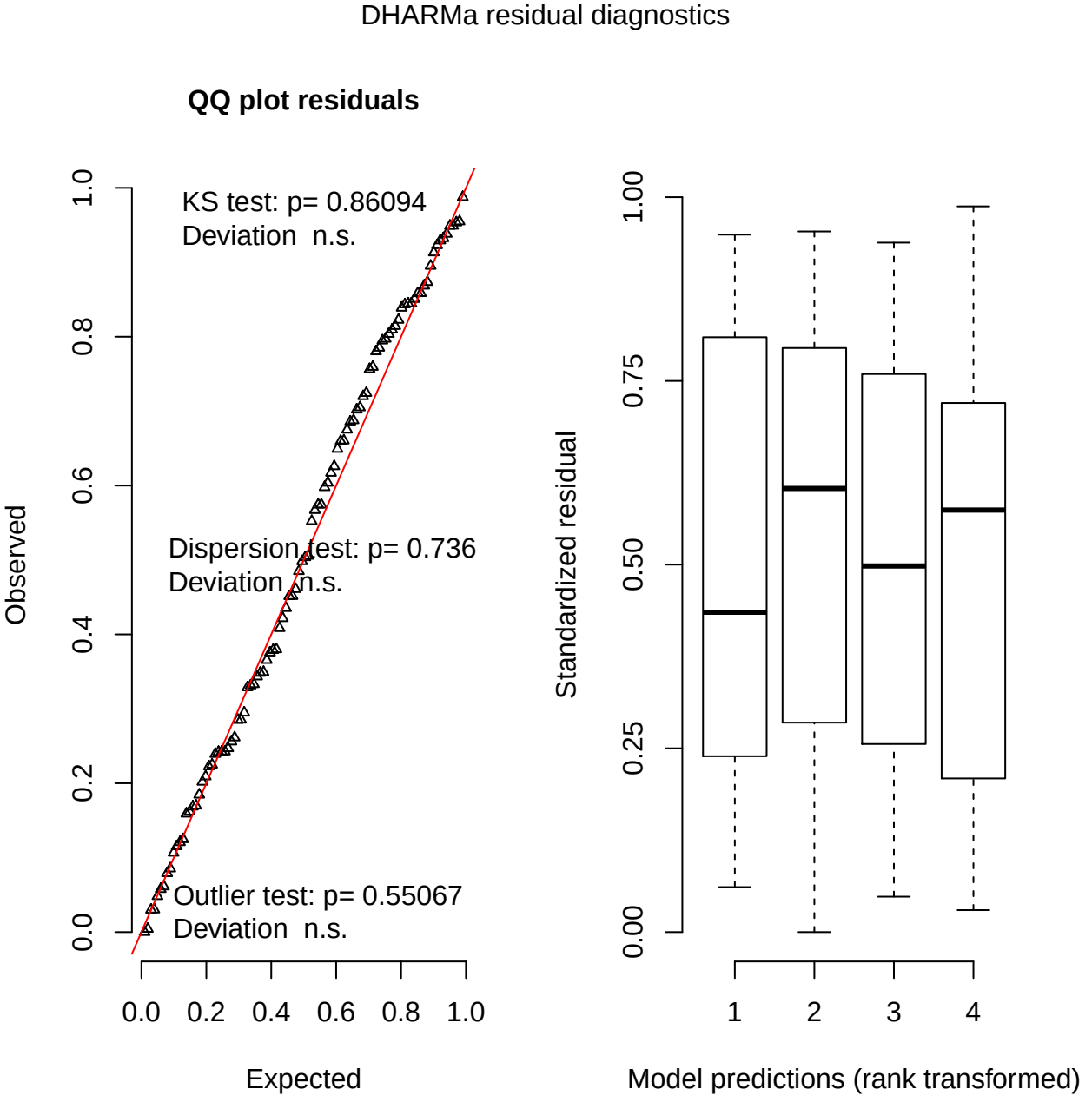

Residual vs. predicted
No signficiant problems detected
Standardized residual
1.00
0.75
0.50
0.25
0.00
0.3
0.4
0.5
0.6
pred

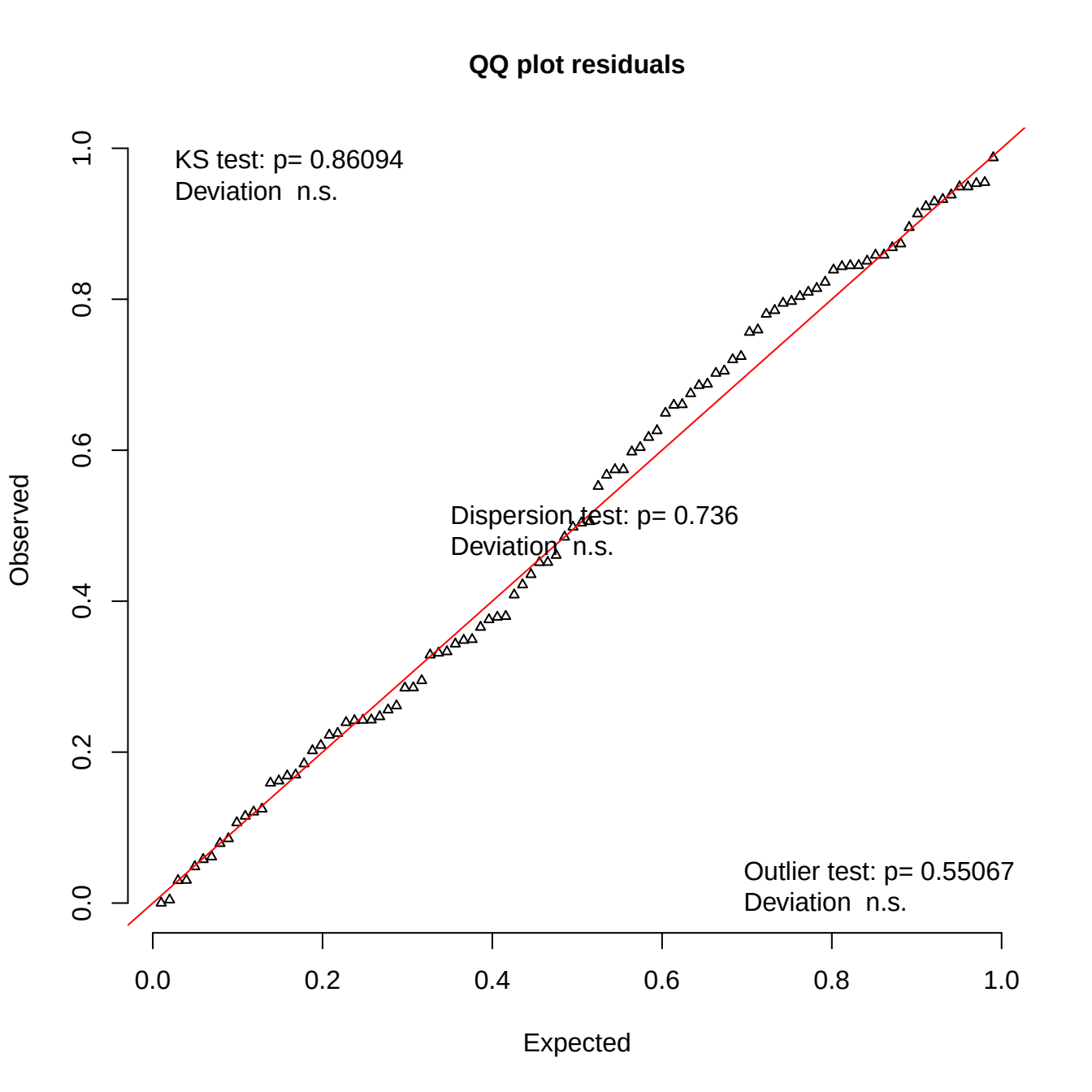

Hist of DHARMa residuals
Frequency
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

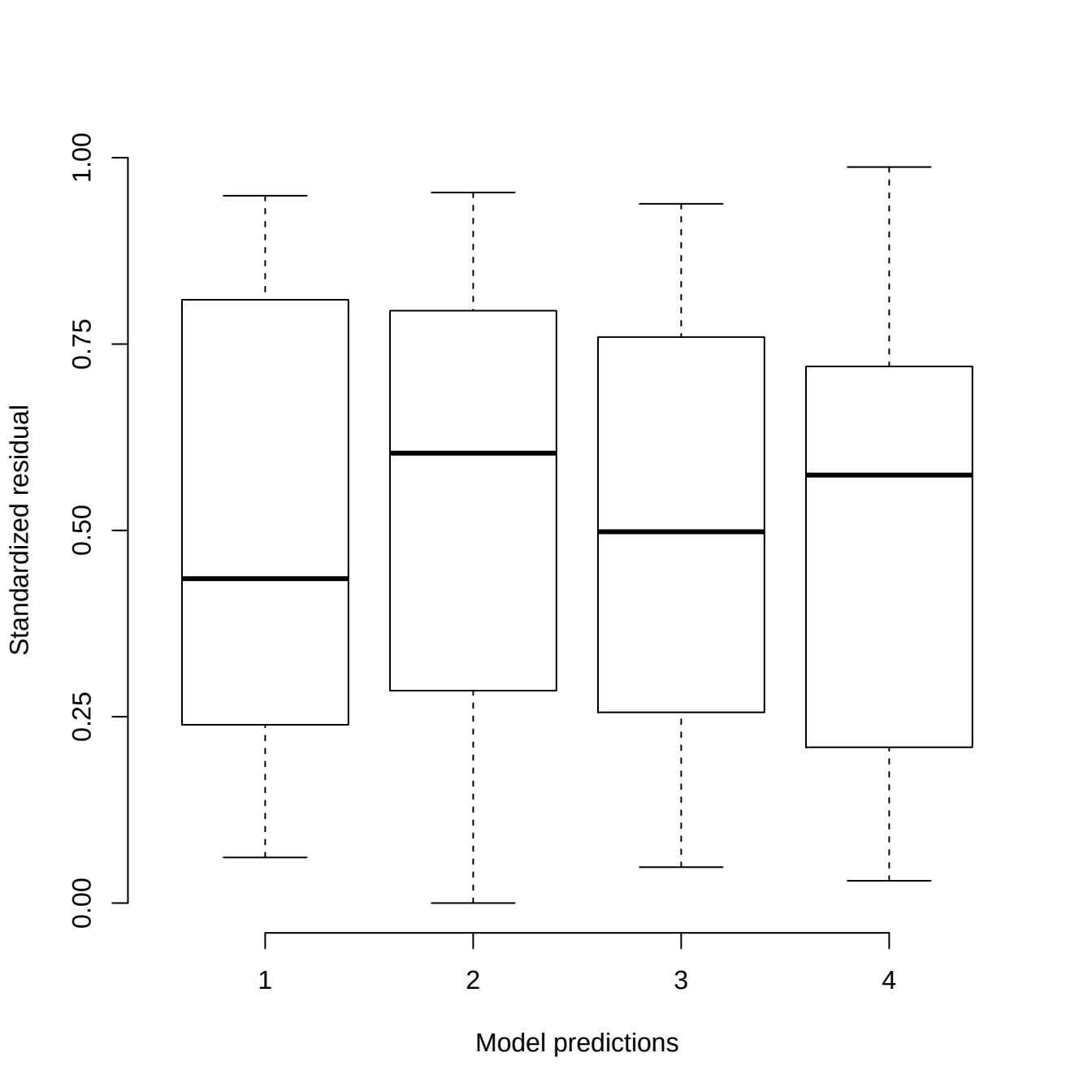

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.86094
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 0.55067
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Standardized residual
Model predictions
0.00
0.25
0.50
0.75
1.00
1
2
3
4

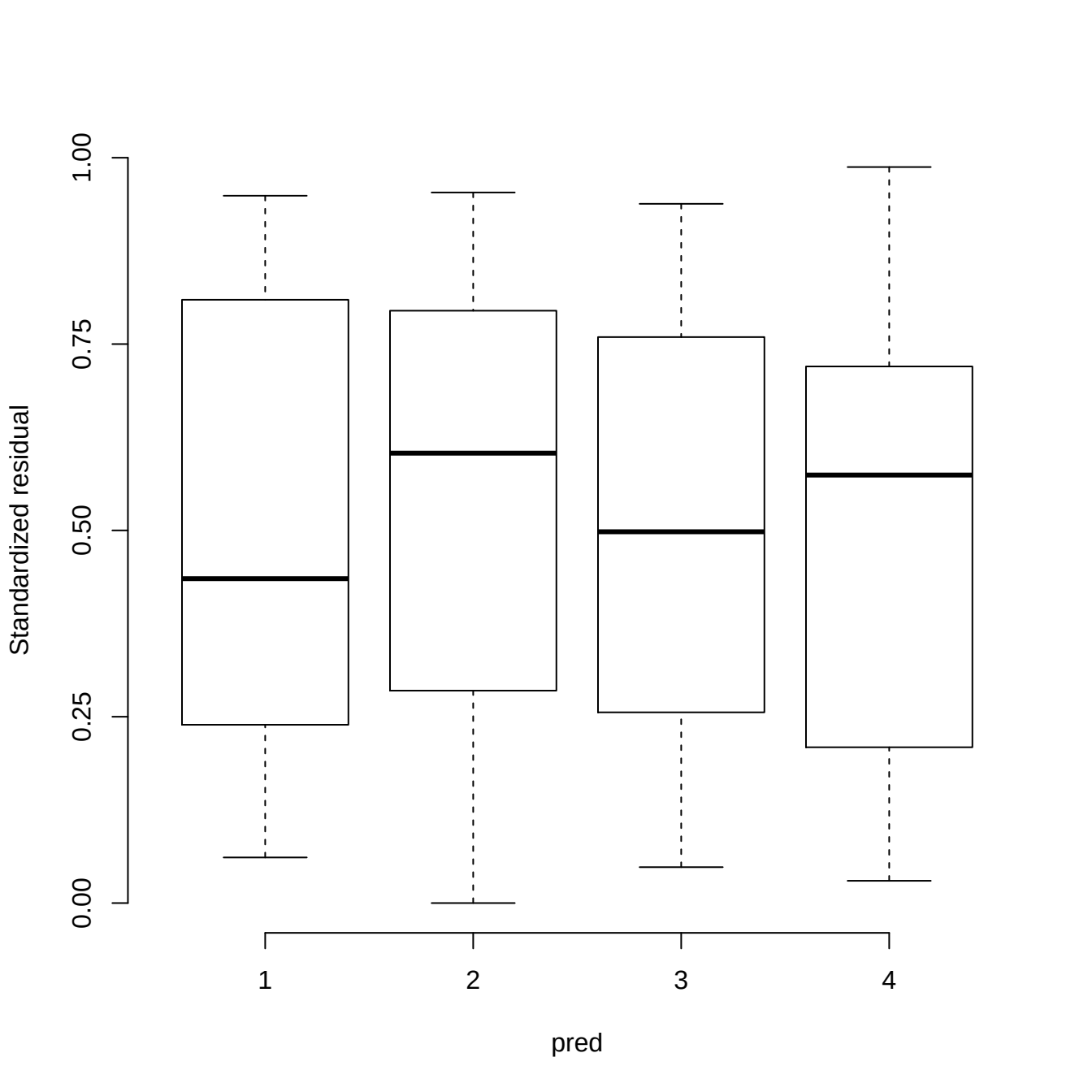

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.86094
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 0.55067
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Standardized residual
Model predictions
0.00
0.25
0.50
0.75
1.00
1
2
3
4

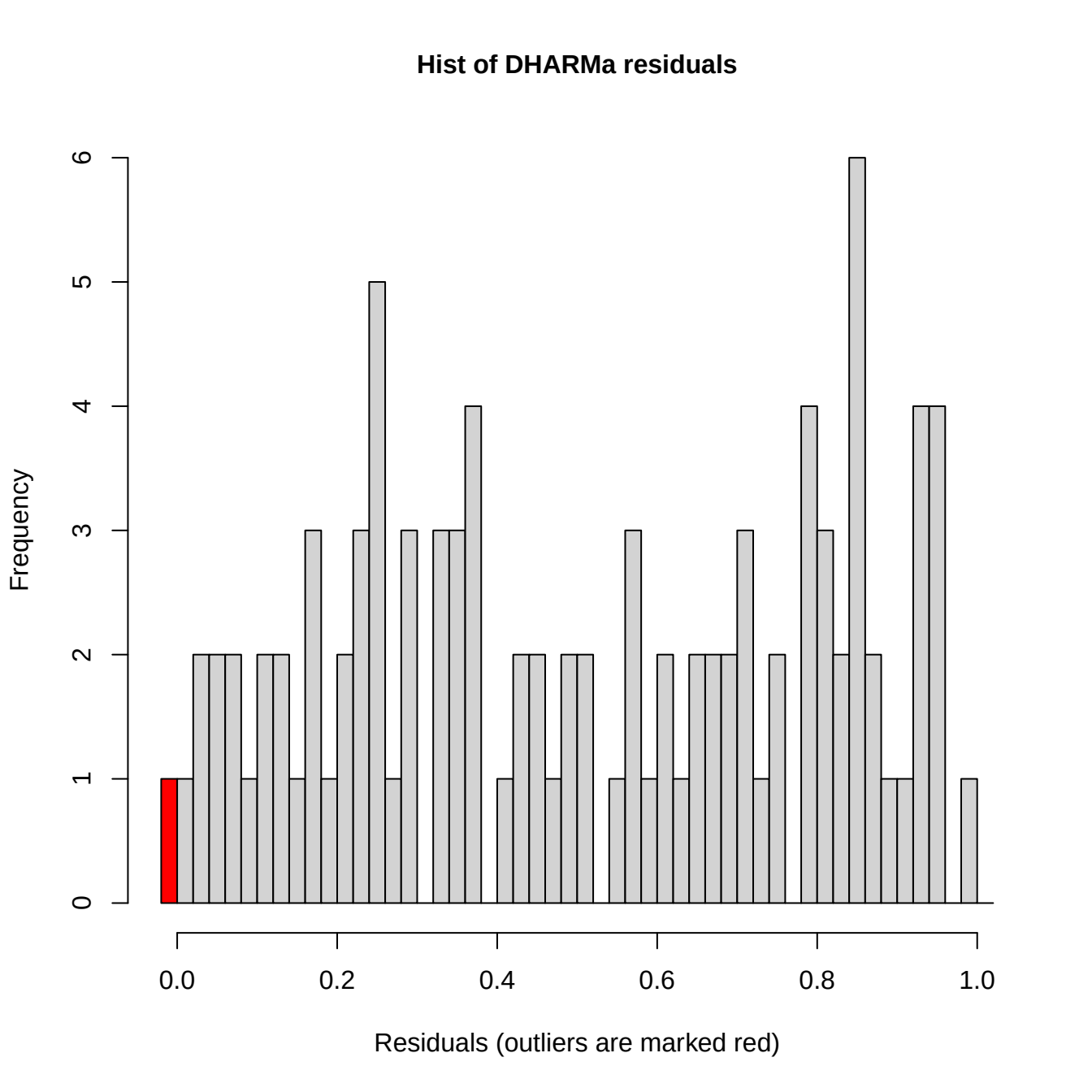

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.86094
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 0.55067
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00
1
2
3
4

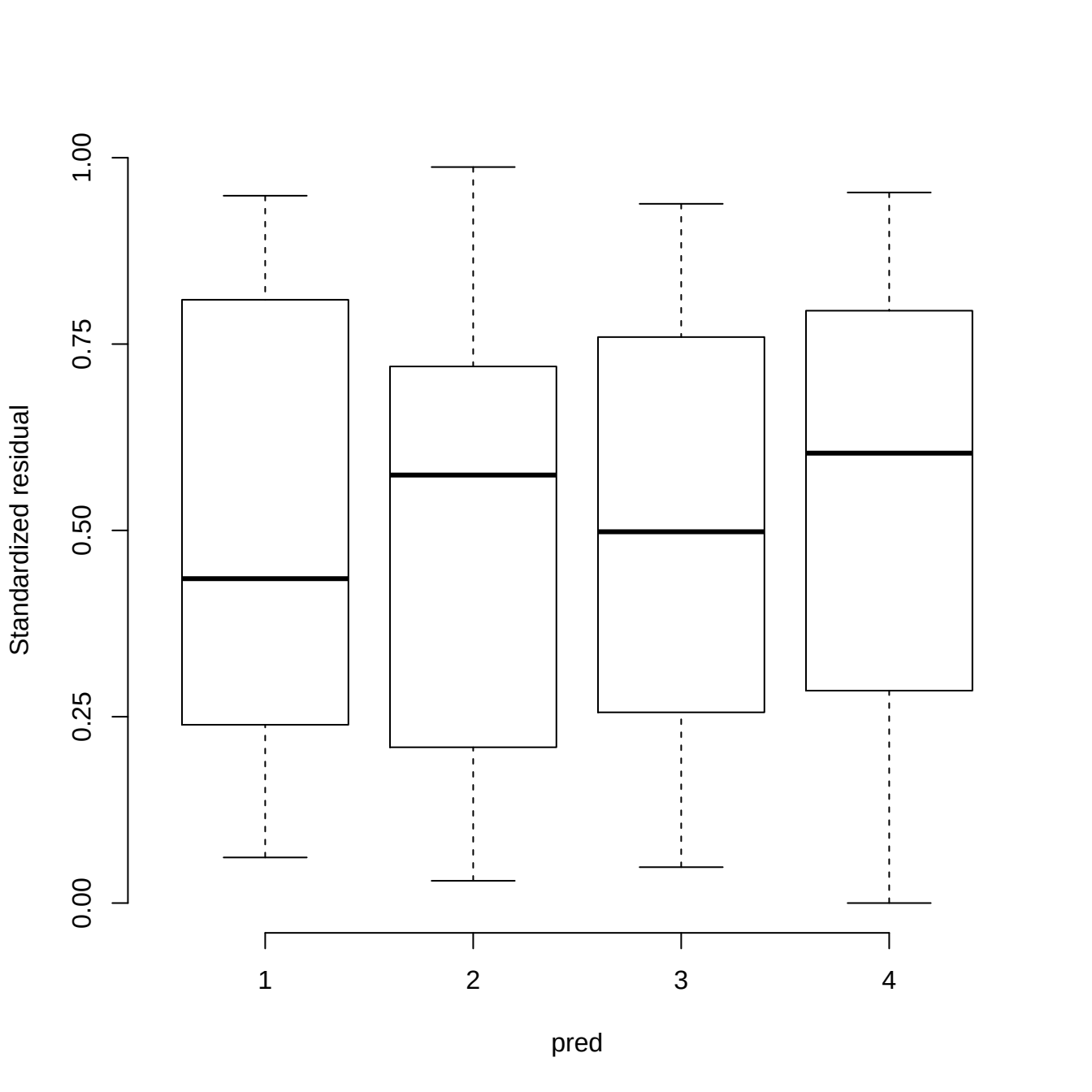

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0.86094
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 0.55067
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00
1
2
3
4

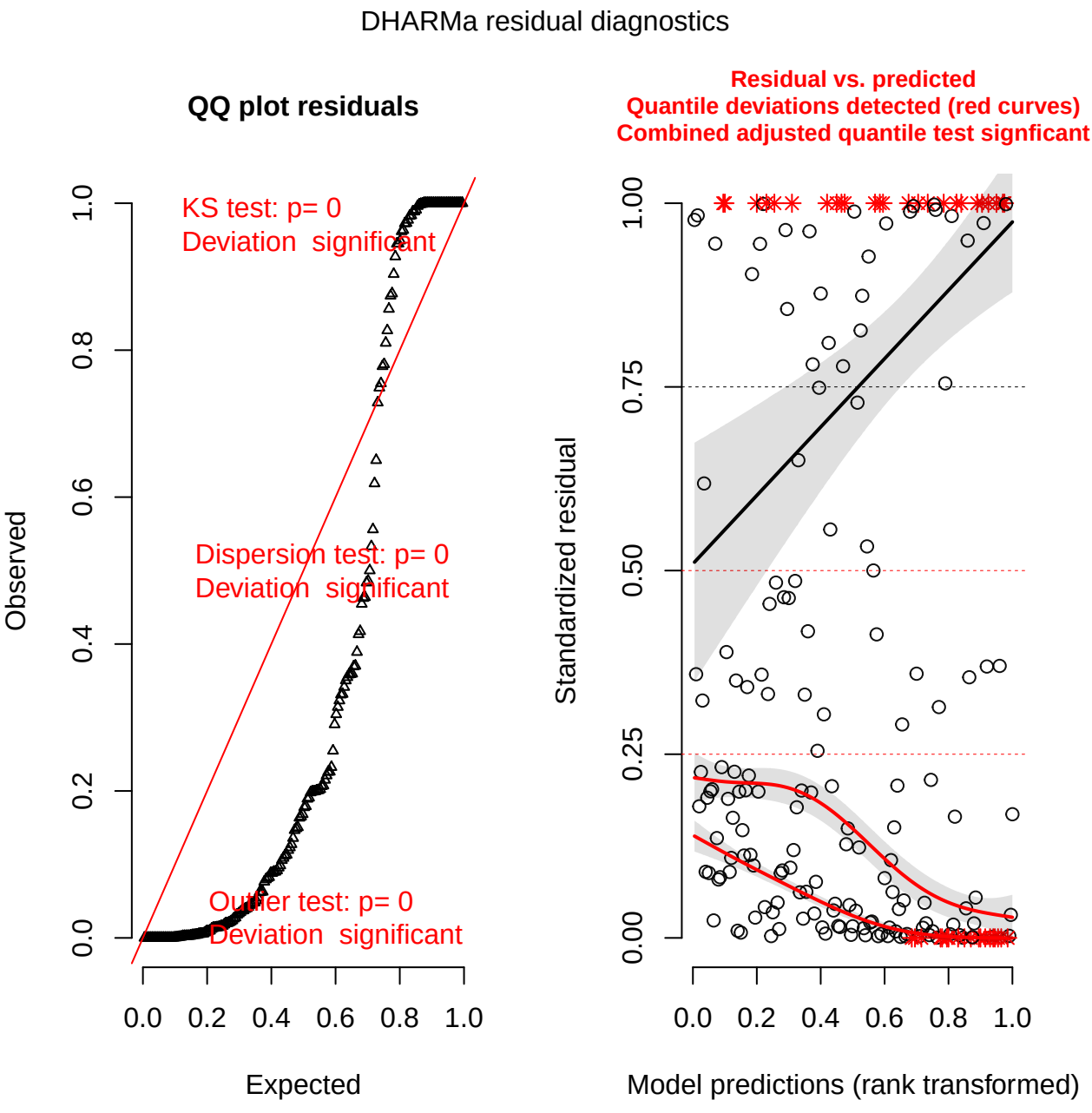

QQ plot residuals
KS test: p= 0.86094
Deviation n.s.
Dispersion test: p= 0.736
Deviation n.s.
Outlier test: p= 0.55067
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0

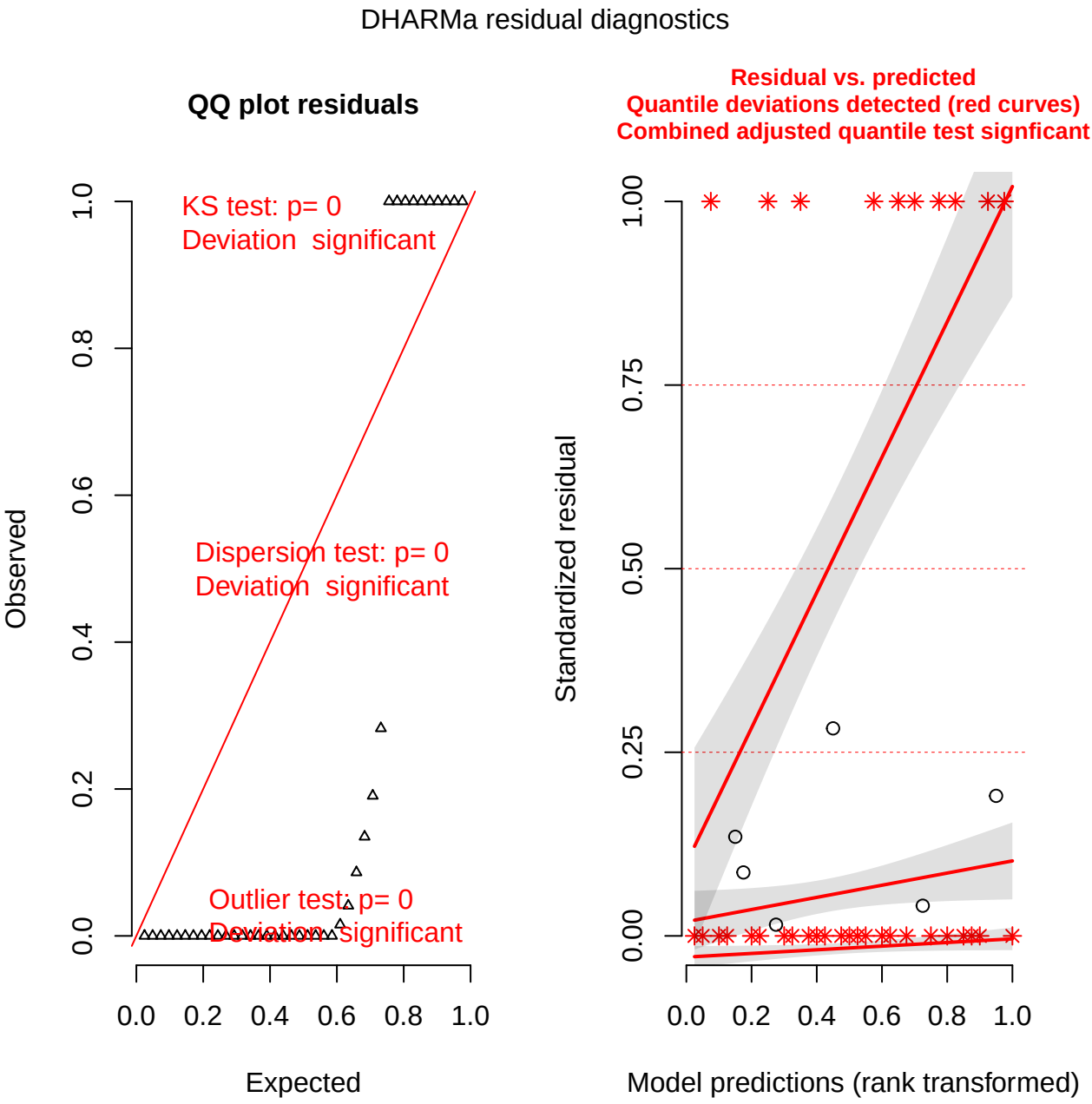

Standardized residual
0.00
0.25
0.50
0.75
1.00
1
2
3
4
Model predictions

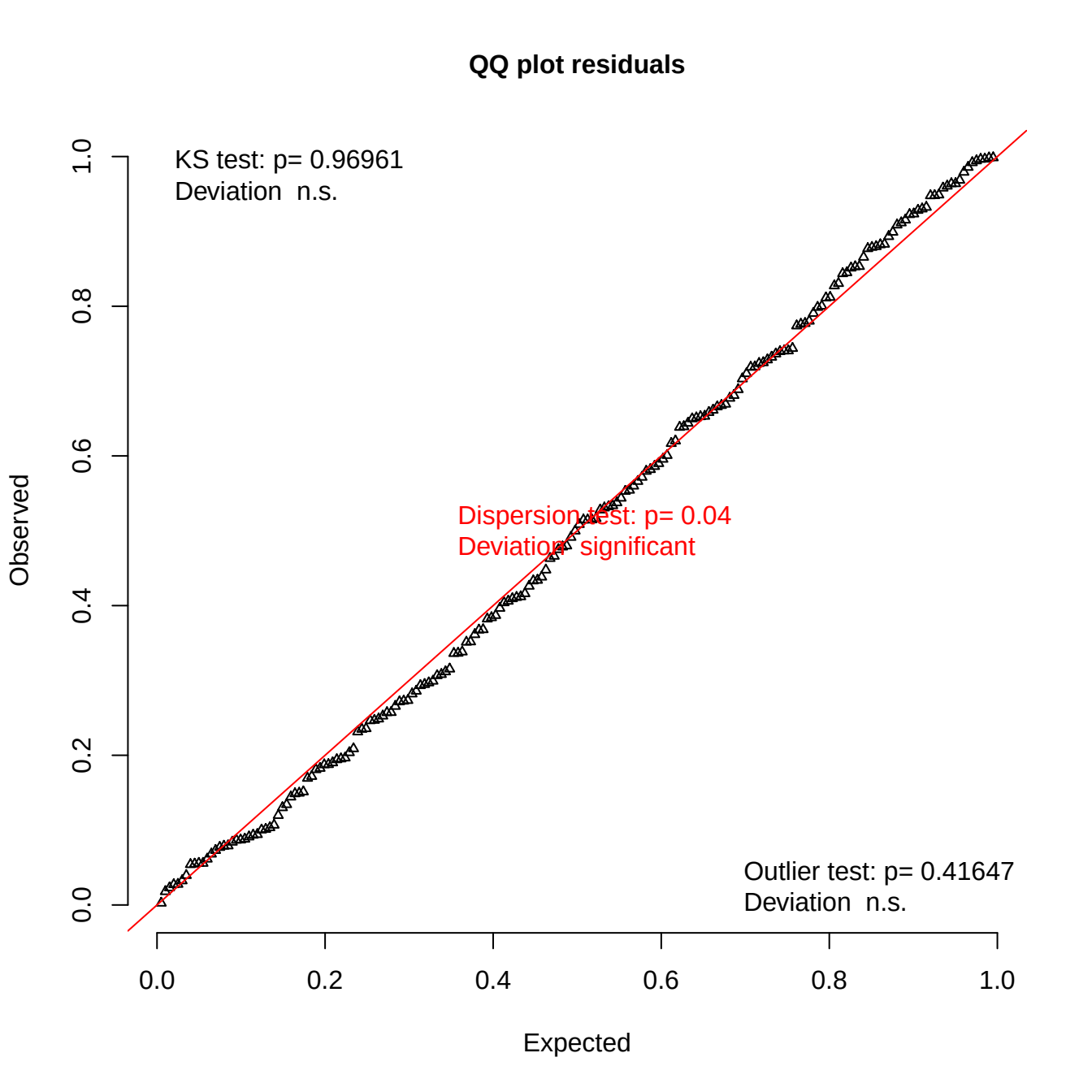

Standardized residual
0.00
0.25
0.50
0.75
1.00
1
2
3
4
pred

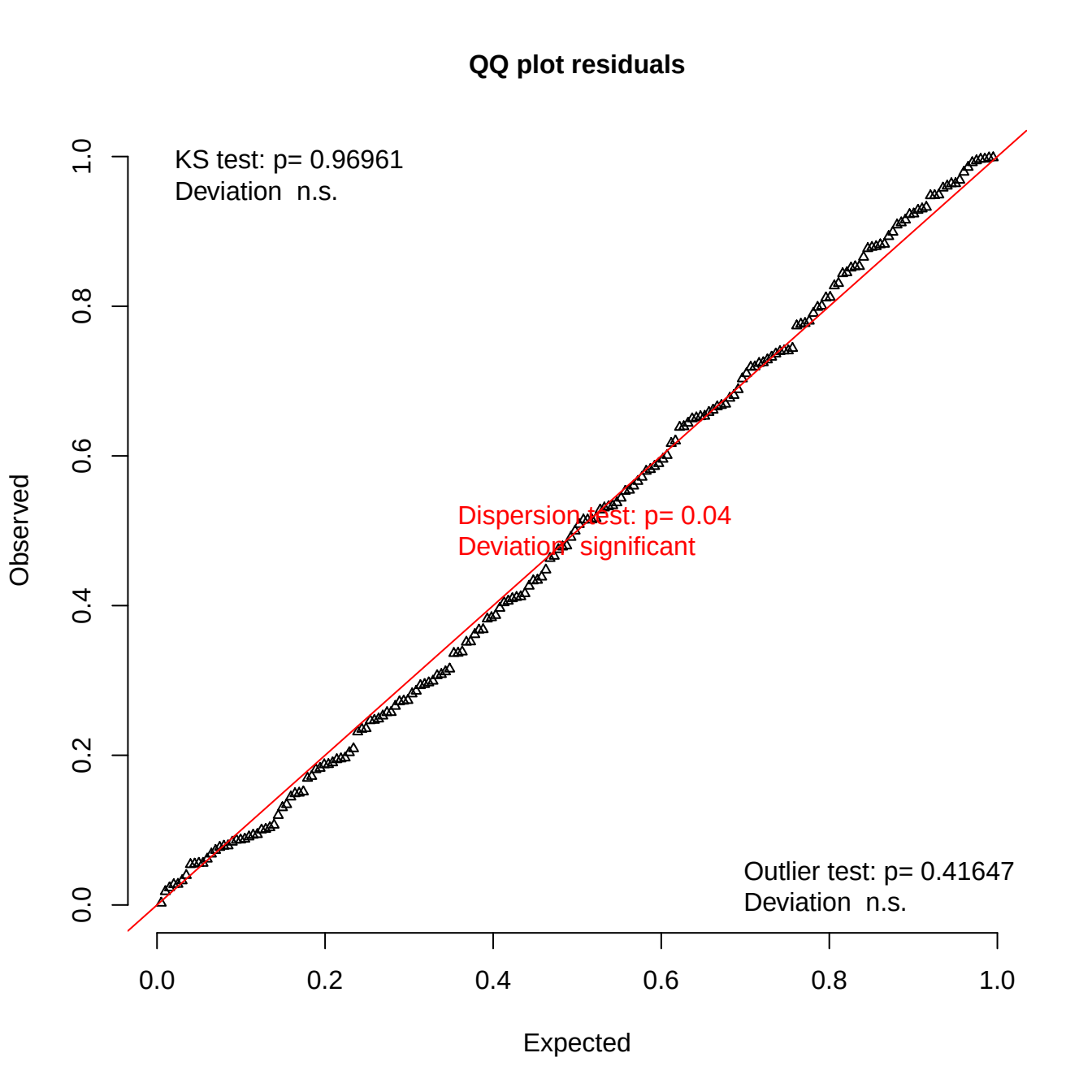

Hist of DHARMa residuals
Frequency
0
1
2
3
4
5
6
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

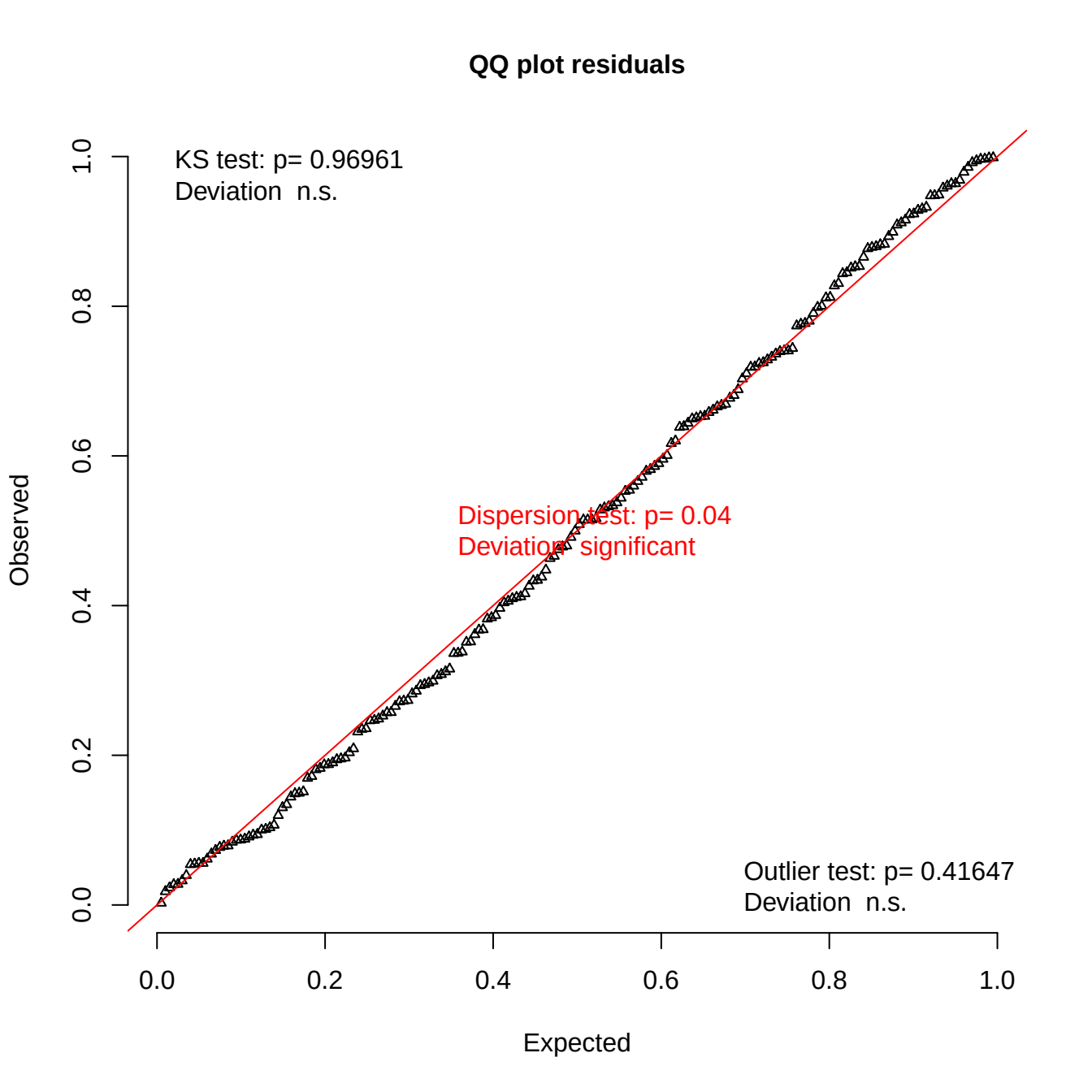

Standardized residual
0.00
0.25
0.50
0.75
1.00
1
2
3
4
pred

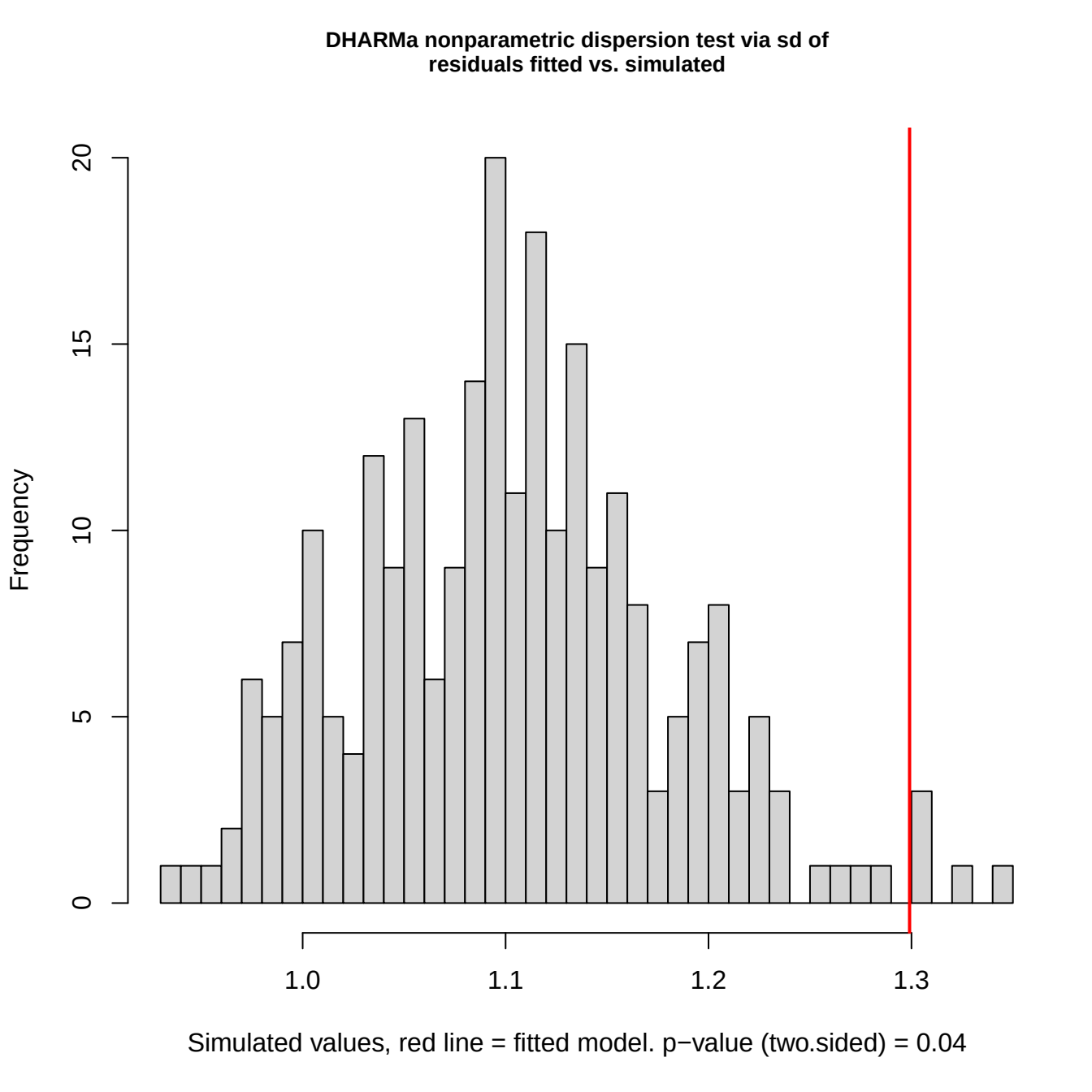

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0
Deviation significant
Dispersion test: p= 0
Deviation significant
Outlier test: p= 0
Deviation significant
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Quantile deviations detected (red curves)
Combined adjusted quantile test signficant
Standardized residual
0.00
0.25
0.50
0.75
1.00
Model predictions (rank transformed)

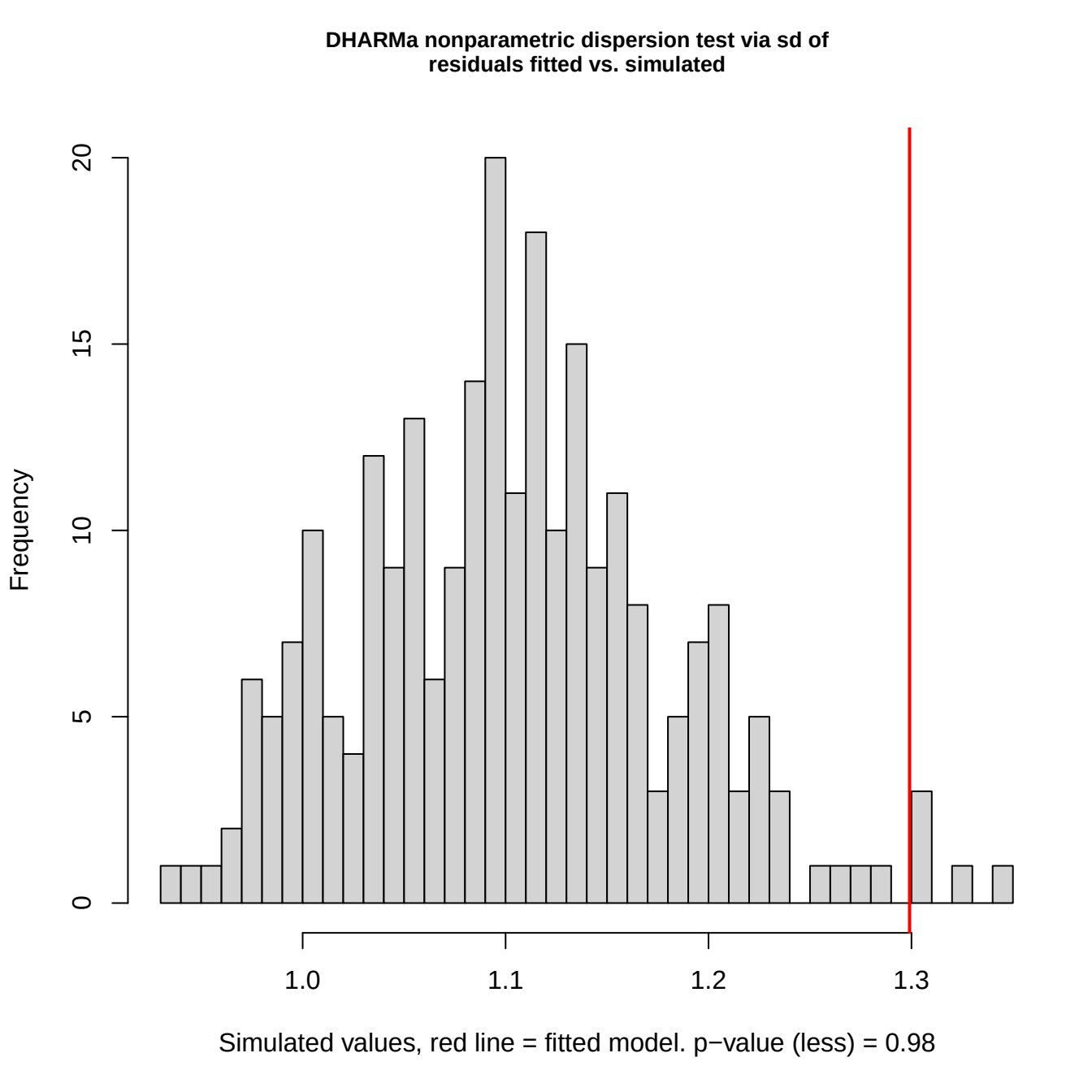

DHARMa residual diagnostics
QQ plot residuals
KS test: p= 0
Deviation significant
Dispersion test: p= 0
Deviation significant
Outlier test: p= 0
Deviation significant
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
Residual vs. predicted
Quantile deviations detected (red curves)
Combined adjusted quantile test signficant
Standardized residual
Model predictions (rank transformed)
0.00
0.25
0.50
0.75
1.00

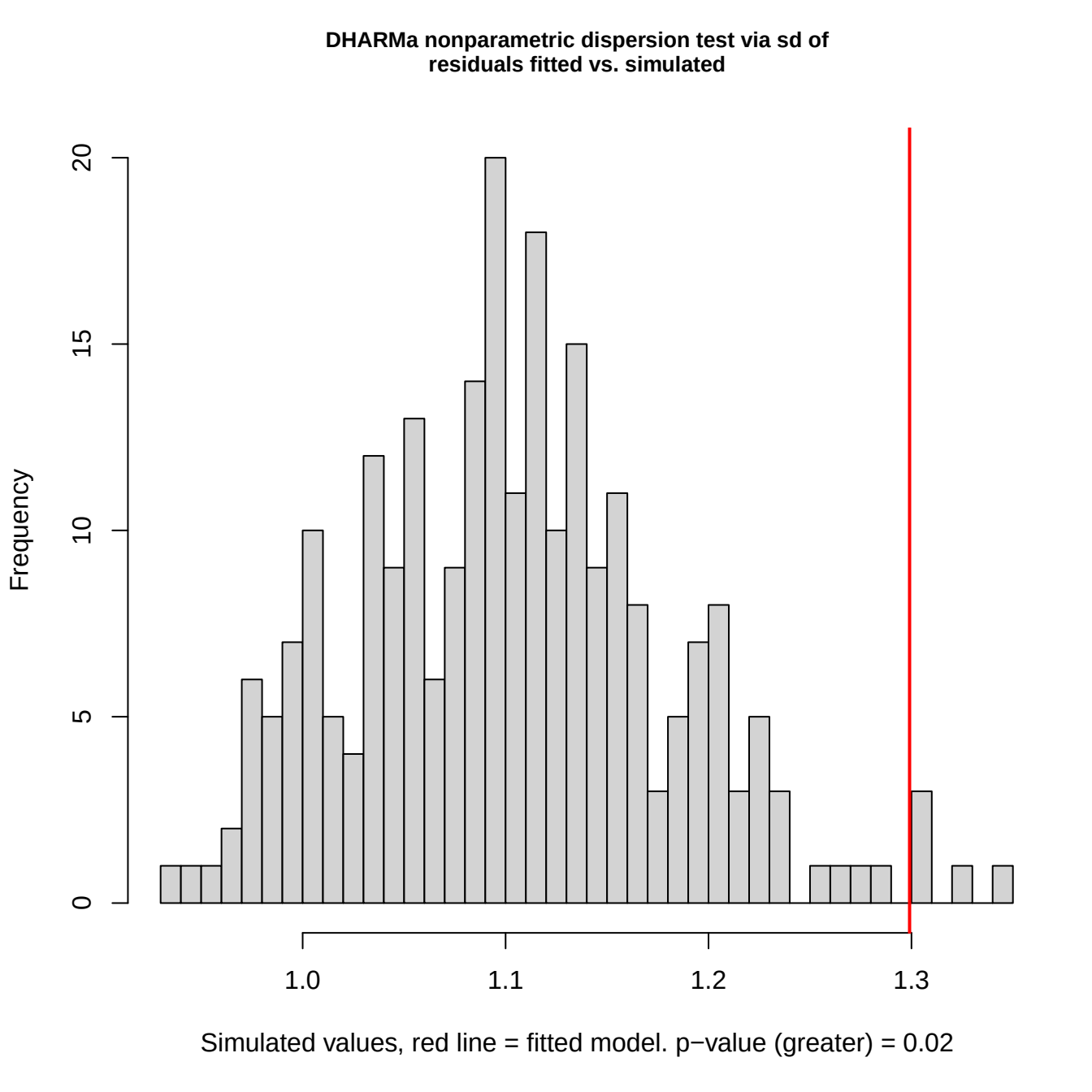

QQ plot residuals
KS test: p= 0.96961
Deviation n.s.
Dispersion test: p= 0.04
Deviation significant
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0

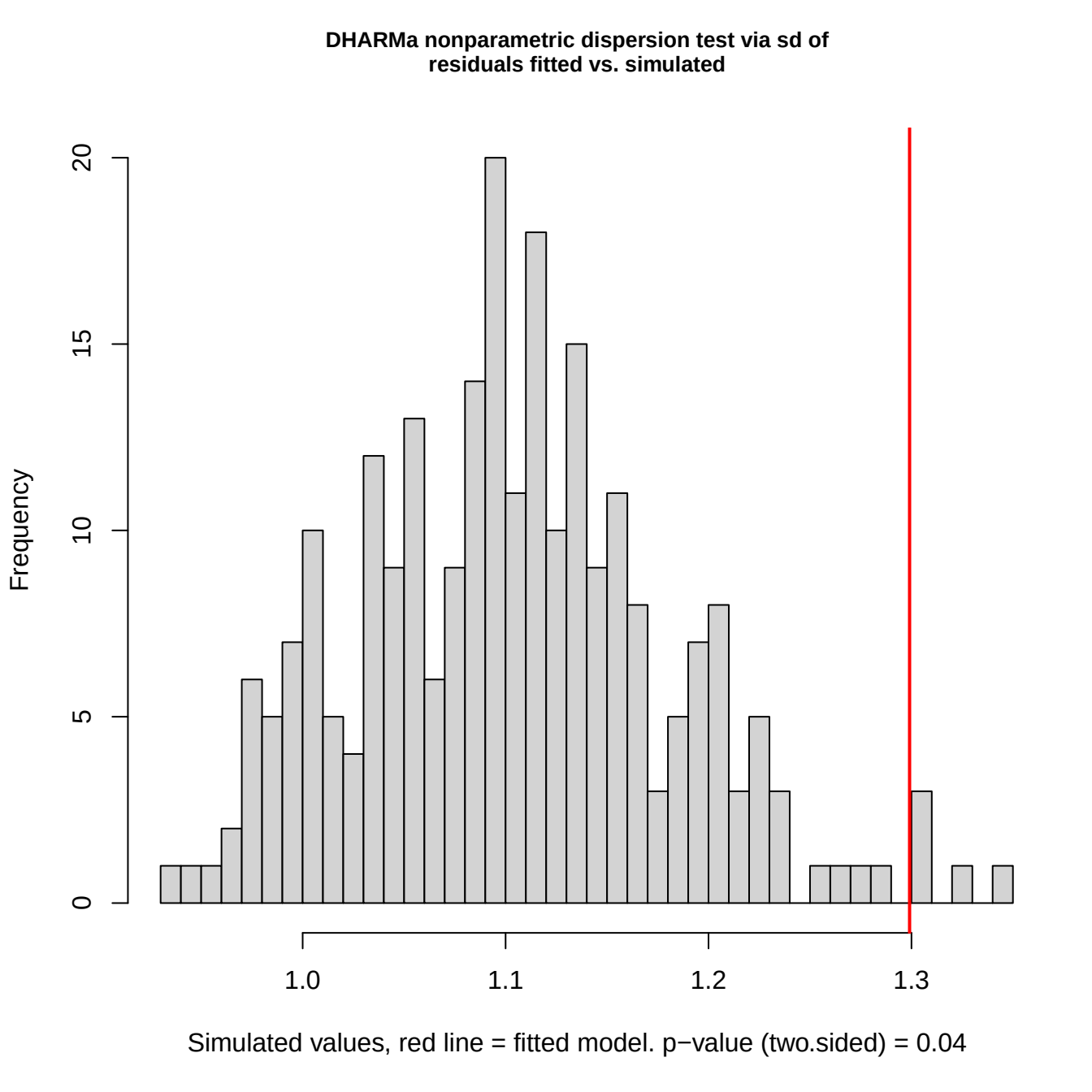

QQ plot residuals
KS test: p= 0.96961
Deviation n.s.
Dispersion test: p= 0.04
Deviation significant
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0

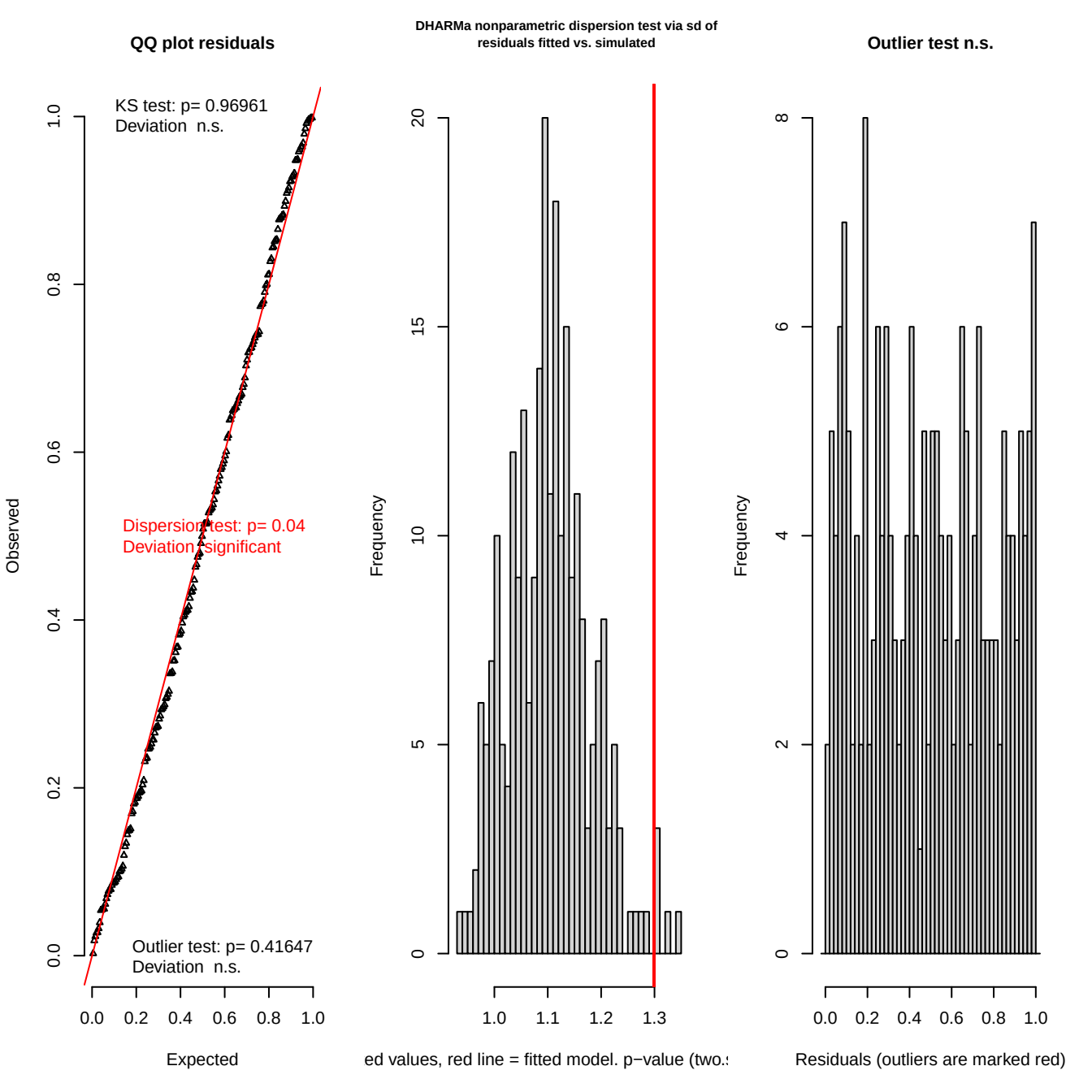

QQ plot residuals
KS test: p= 0.96961
Deviation n.s.
Dispersion test: p= 0.04
Deviation significant
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0

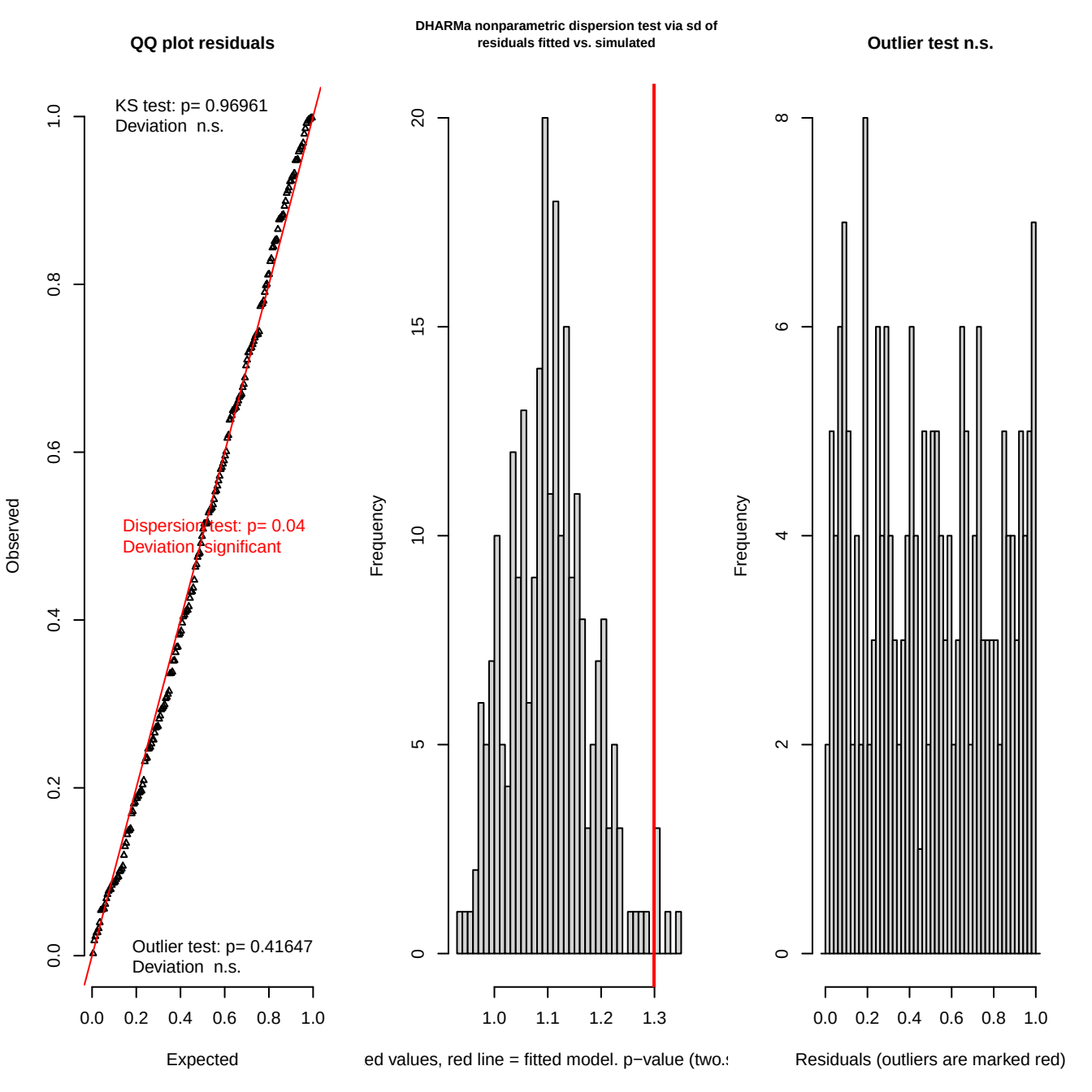

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
Simulated values, red line = fitted model. p−value (two.sided) = 0.04

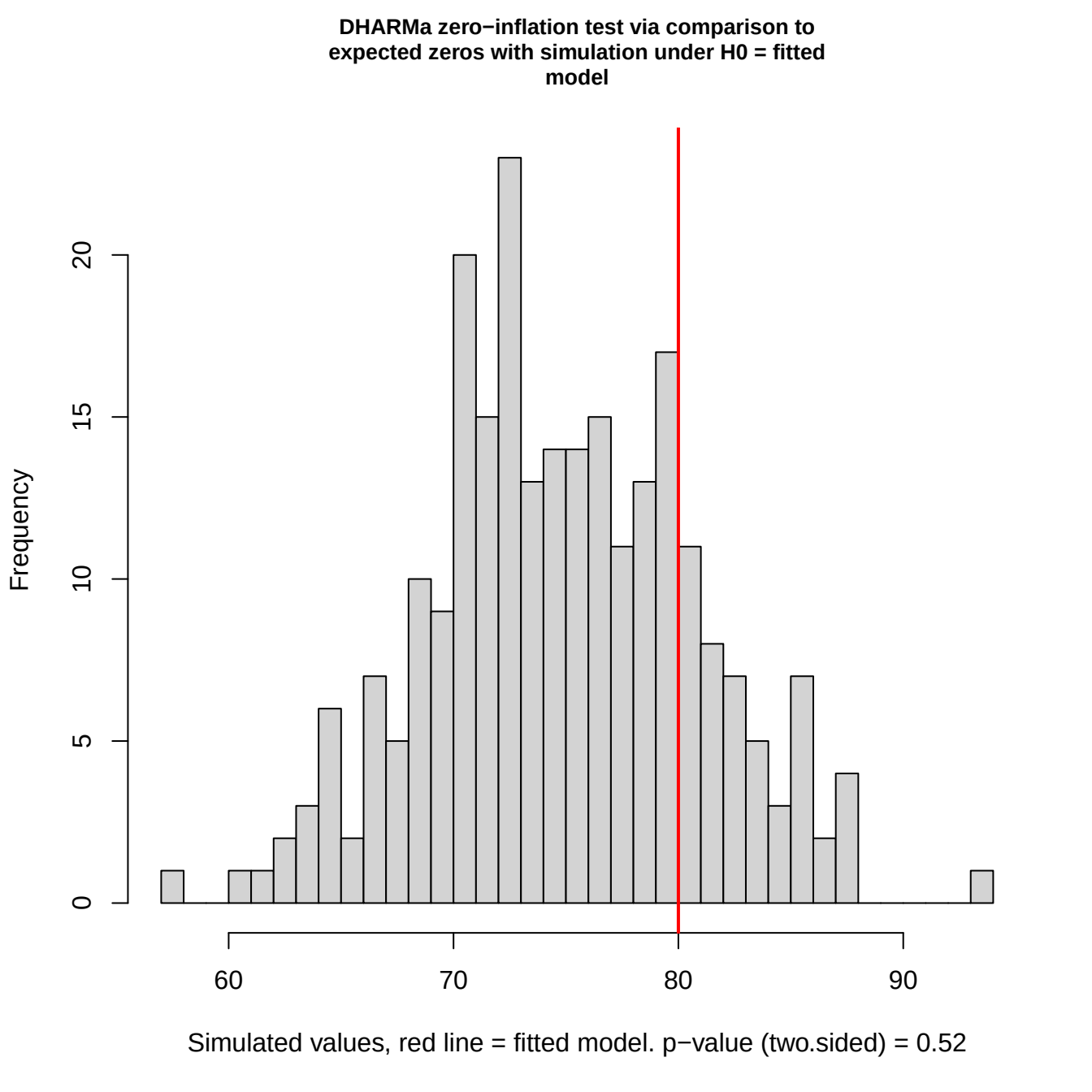

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
Simulated values, red line = fitted model. p−value (less) = 0.98

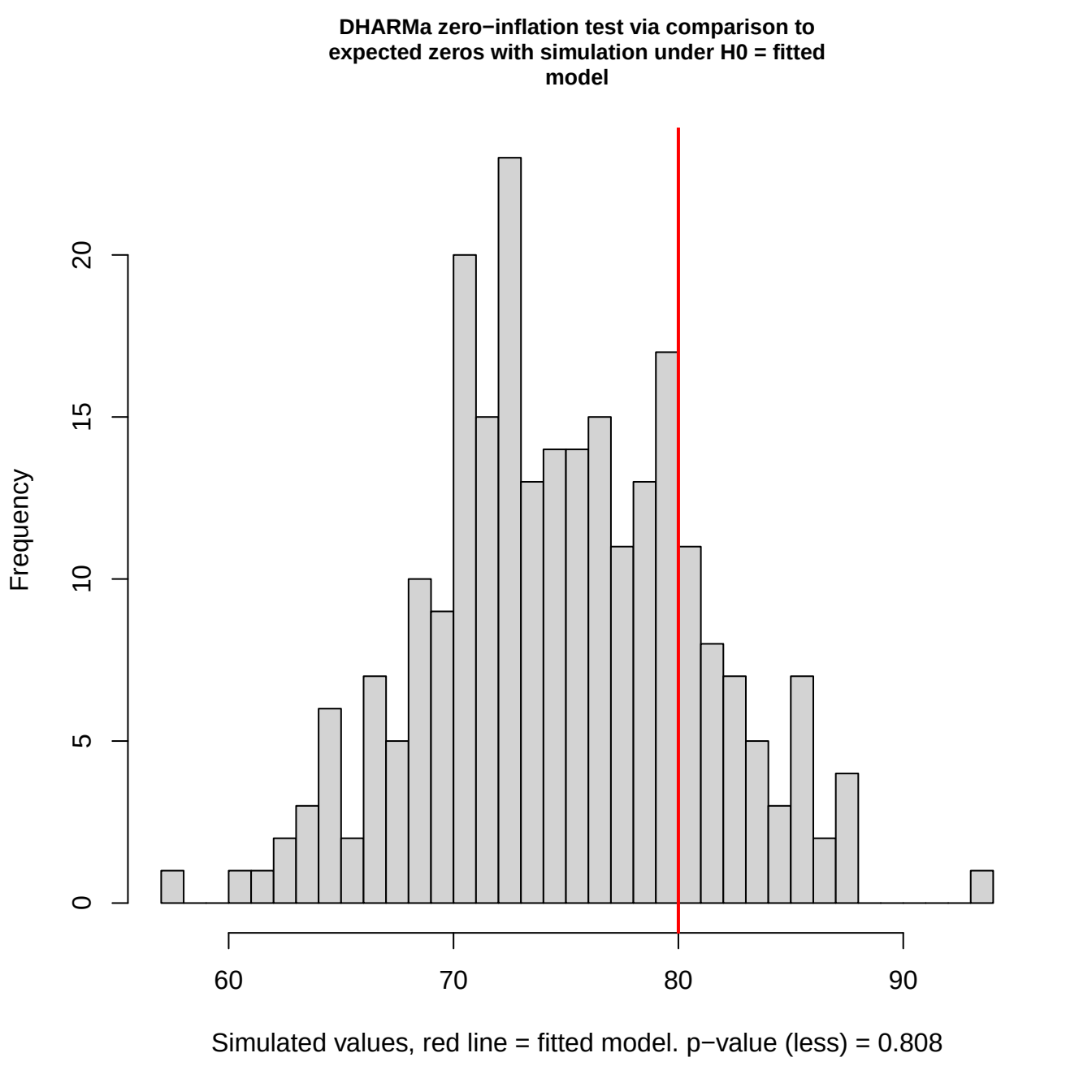

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
Simulated values, red line = fitted model. p−value (greater) = 0.02

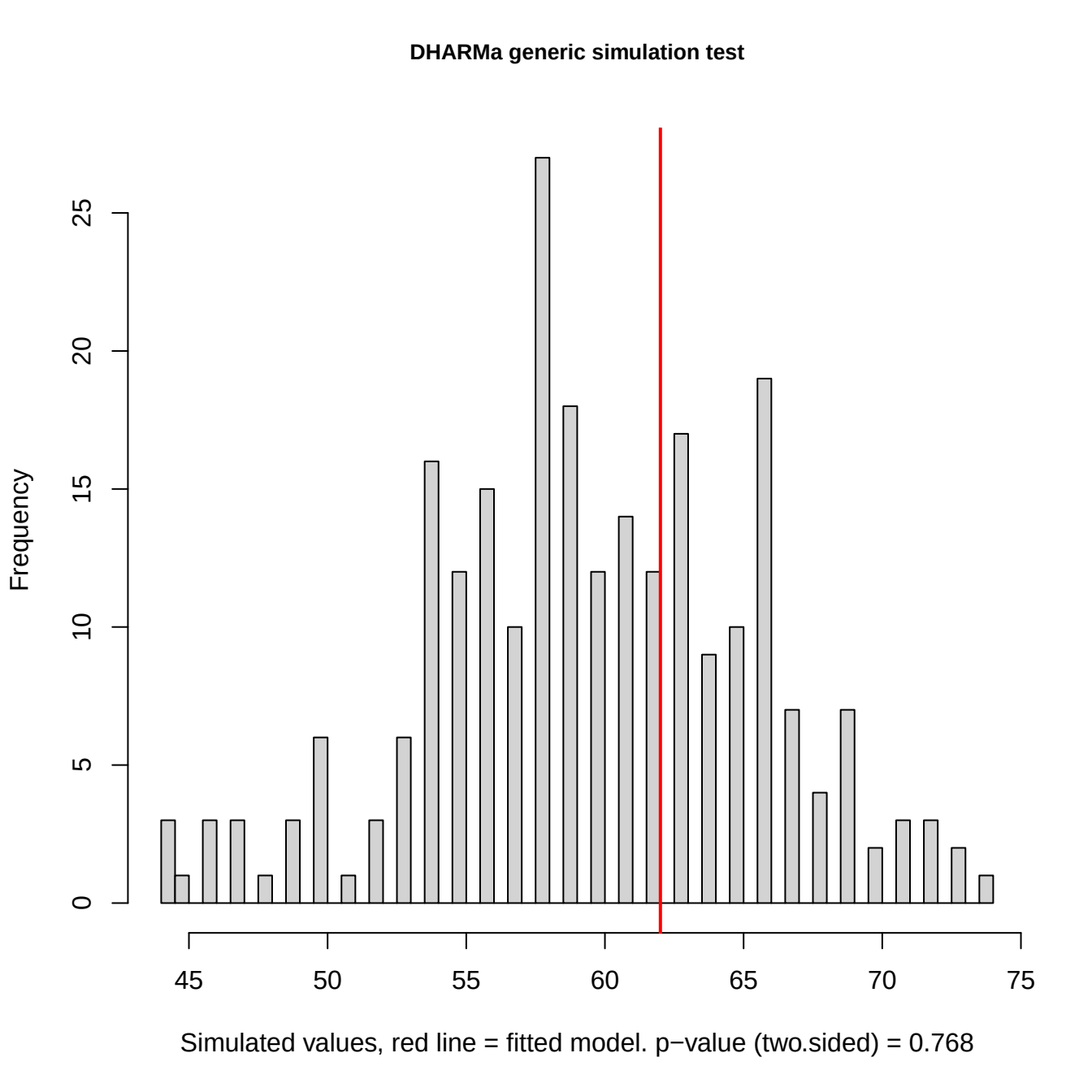

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
Simulated values, red line = fitted model. p−value (two.sided) = 0.04

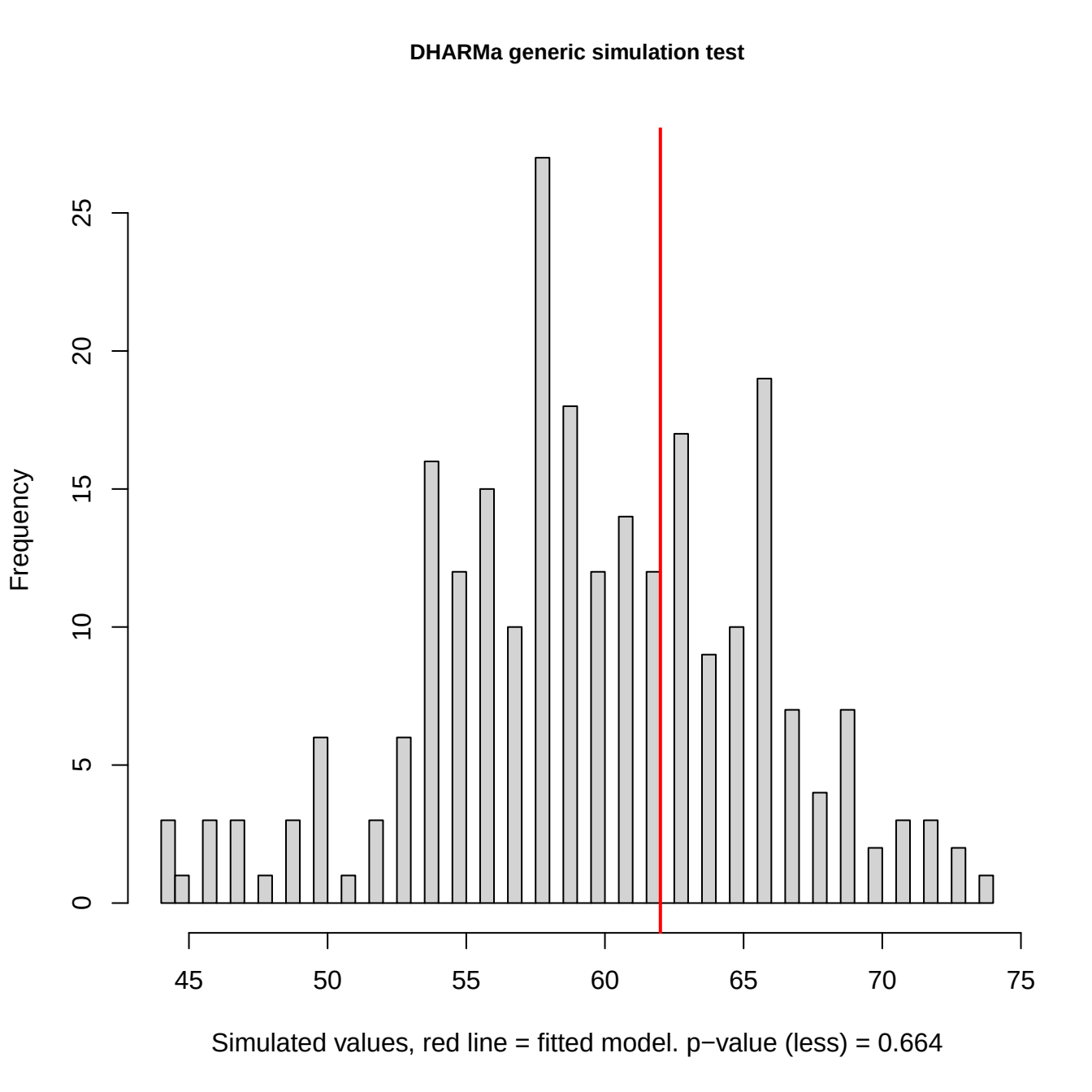

QQ plot residuals
KS test: p= 0.96961
Deviation n.s.
Dispersion test: p= 0.04
Deviation significant
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
ed values, red line = fitted model. p−value (two.
Outlier test n.s.
Frequency
0
2
4
6
8
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

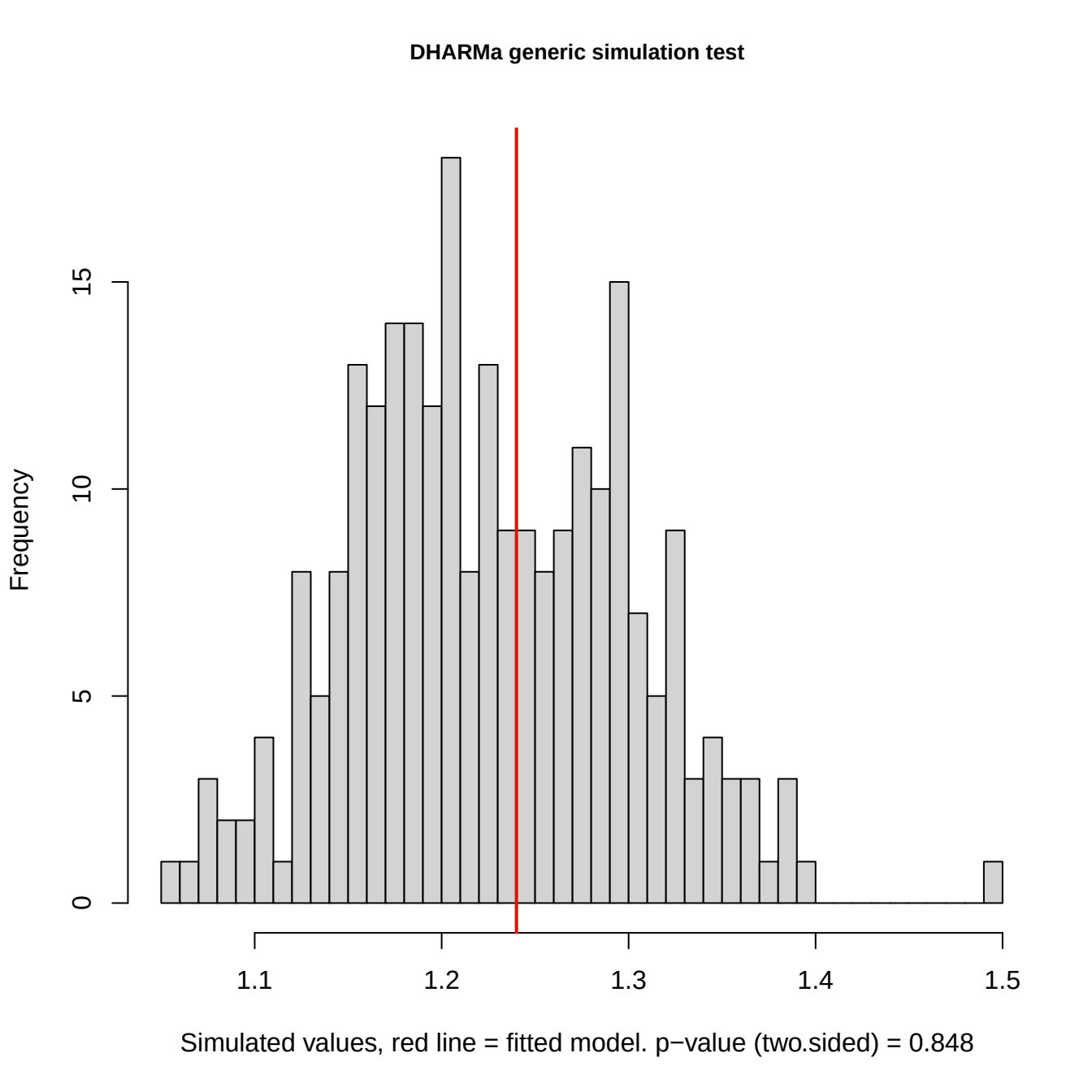

QQ plot residuals
KS test: p= 0.96961
Deviation n.s.
Dispersion test: p= 0.04
Deviation significant
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
1.0
1.1
1.2
1.3
ed values, red line = fitted model. p−value (two.
Outlier test n.s.
Frequency
0
2
4
6
8
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

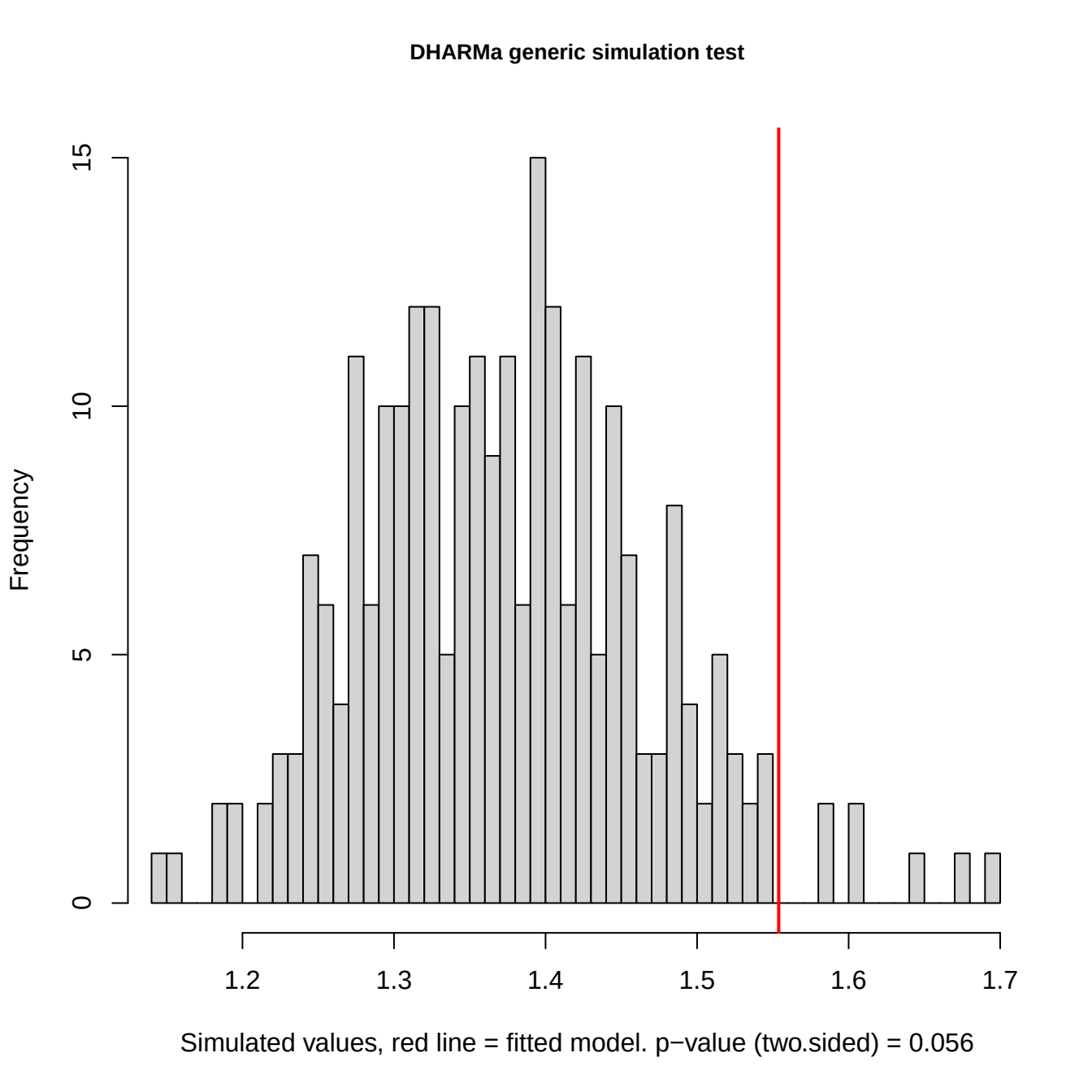

DHARMa zero−inflation test via comparison to expected zeros with simulation under H0 = fitted model
Frequency
0
5
10
15
20
60
70
80
90
Simulated values, red line = fitted model. p−value (two.sided) = 0.52

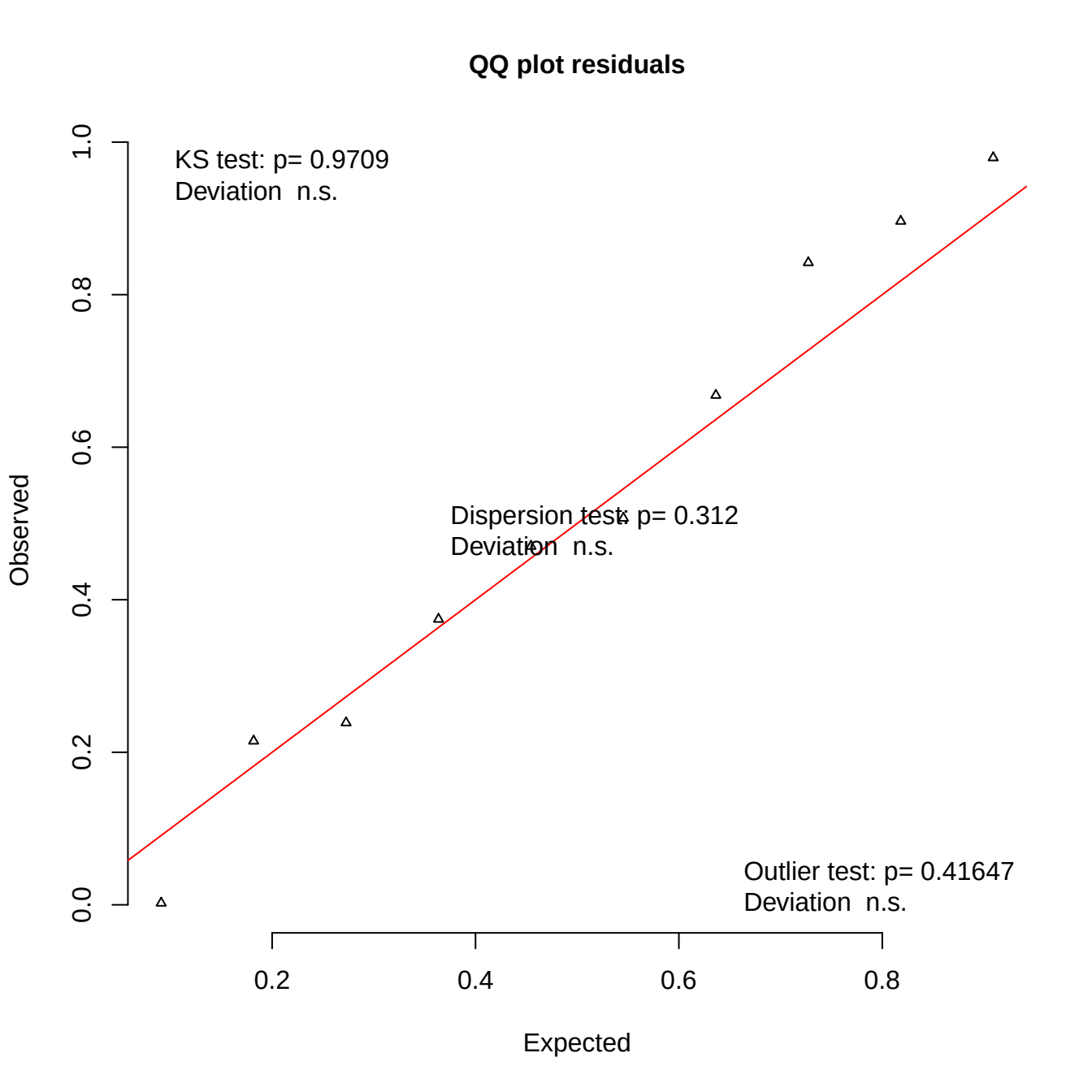

DHARMa zero−inflation test via comparison to expected zeros with simulation under H0 = fitted model
Frequency
0
5
10
15
20
60
70
80
90
Simulated values, red line = fitted model. p−value (less) = 0.808

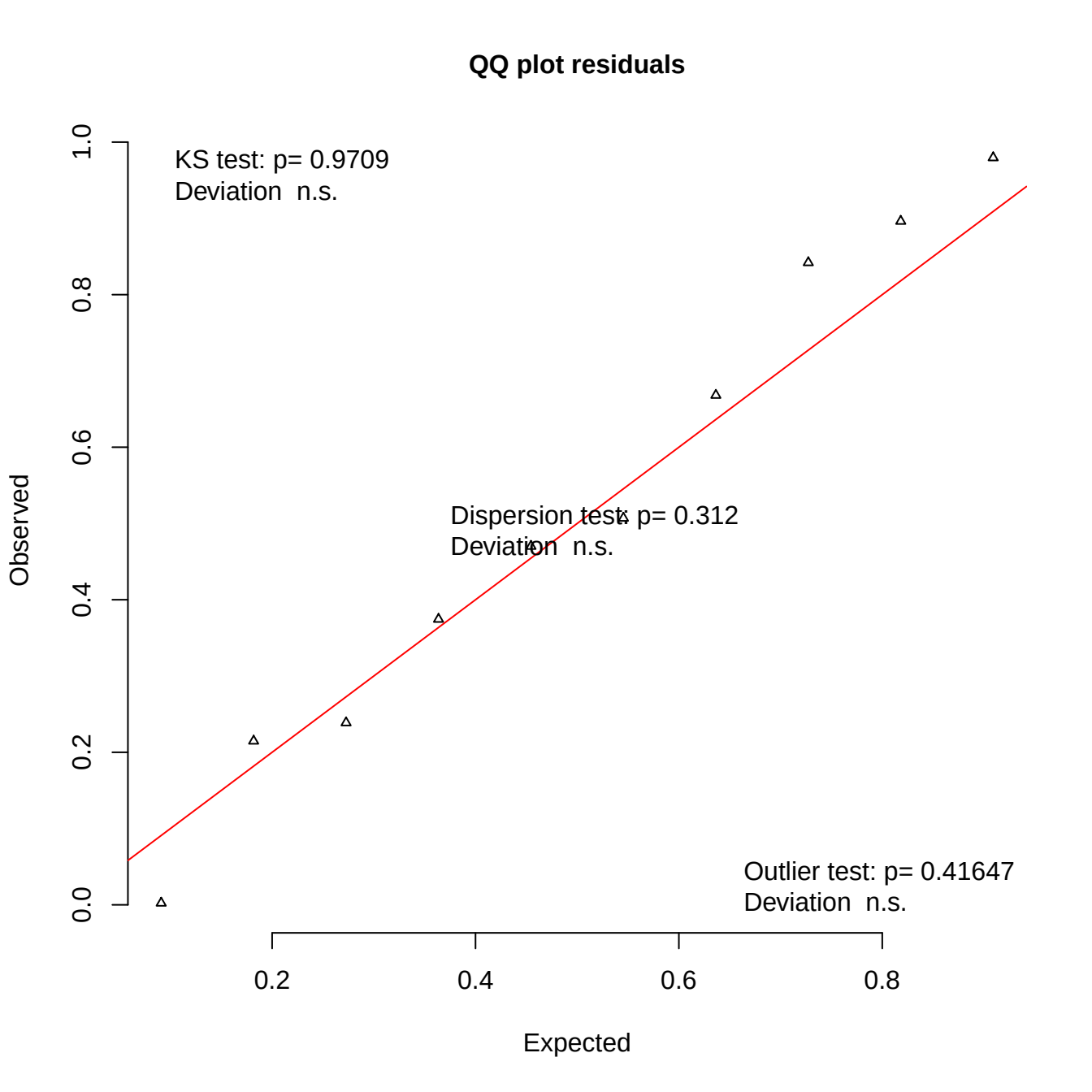

DHARMa generic simulation test
Frequency
0
5
10
15
20
25
45
50
55
60
65
70
75
Simulated values, red line = fitted model. p−value (two.sided) = 0.768

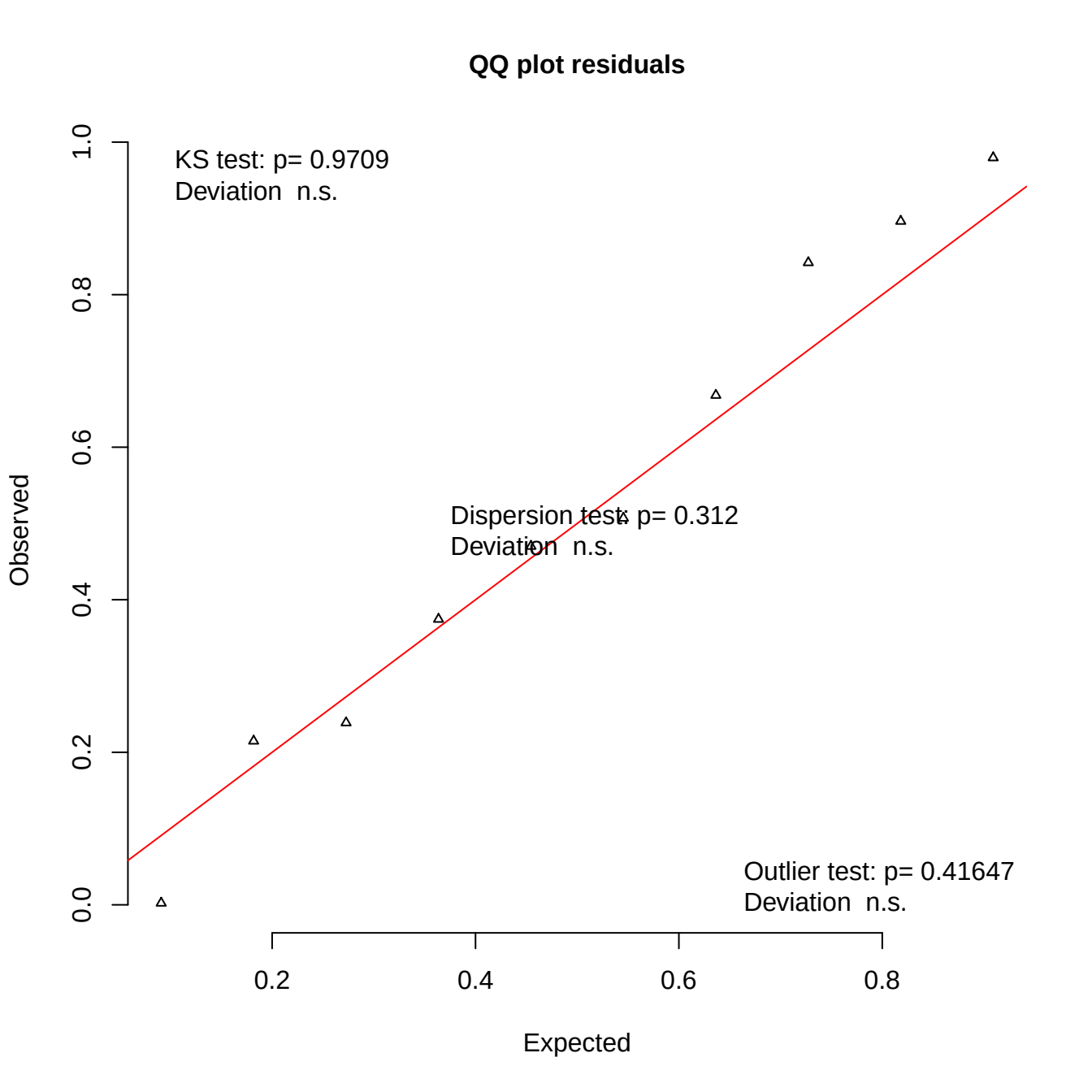

DHARMa generic simulation test
Frequency
0
5
10
15
20
25
45
50
55
60
65
70
75
Simulated values, red line = fitted model. p−value (less) = 0.664

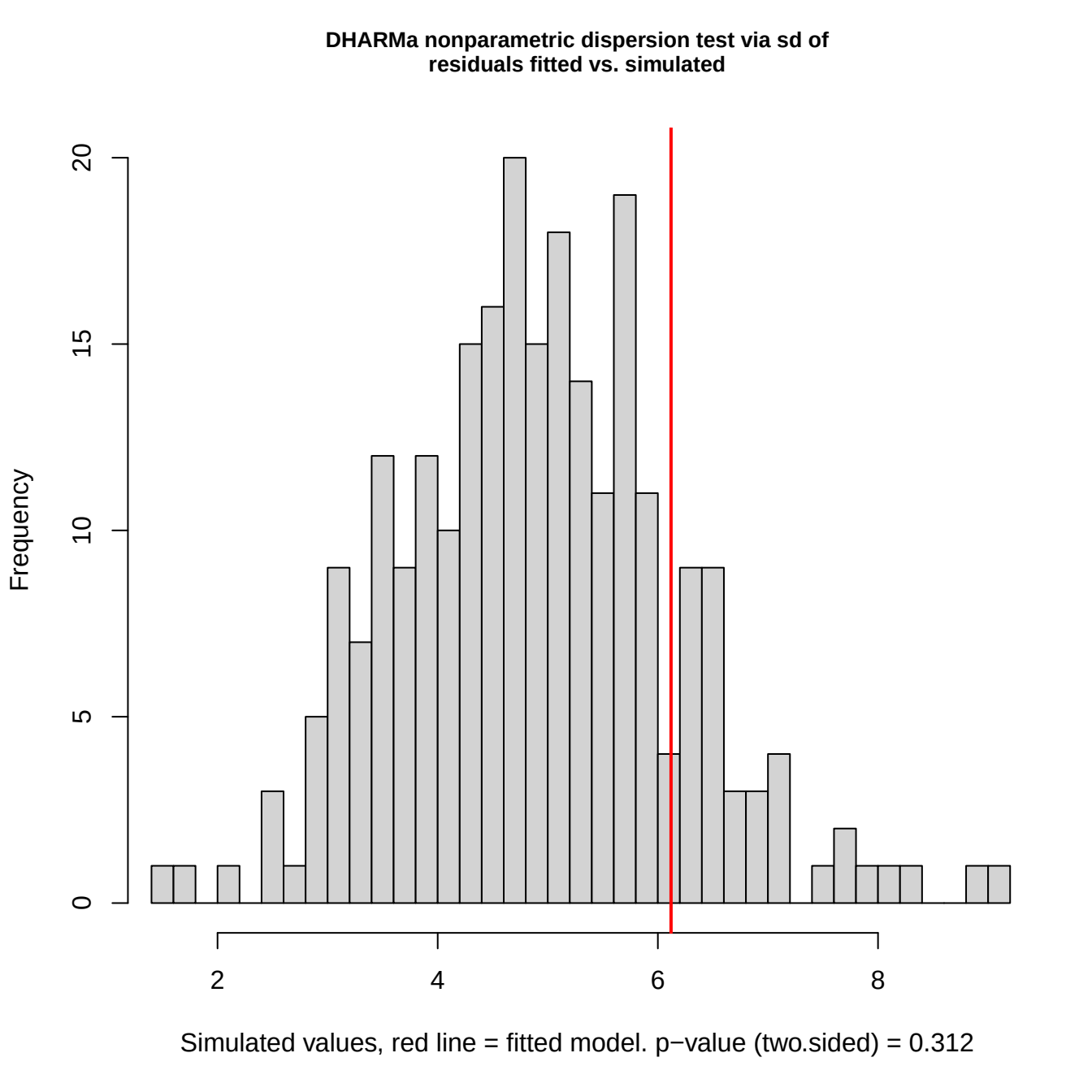

DHARMa generic simulation test
Frequency
0
5
10
15
1.1
1.2
1.3
1.4
1.5
Simulated values, red line = fitted model. p−value (two.sided) = 0.848

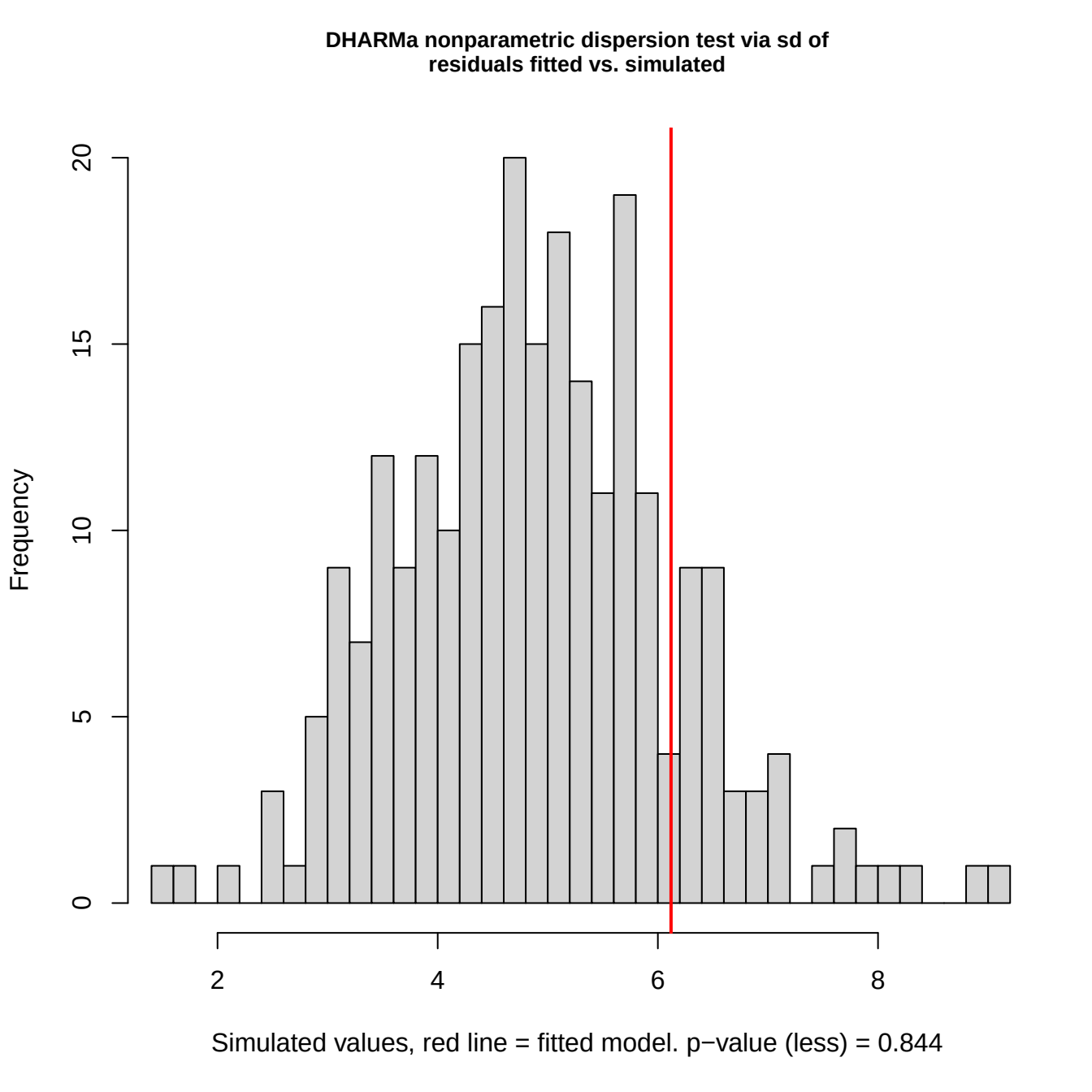

DHARMa generic simulation test
Frequency
0
5
10
15
1.2
1.3
1.4
1.5
1.6
1.7
Simulated values, red line = fitted model. p−value (two.sided) = 0.056

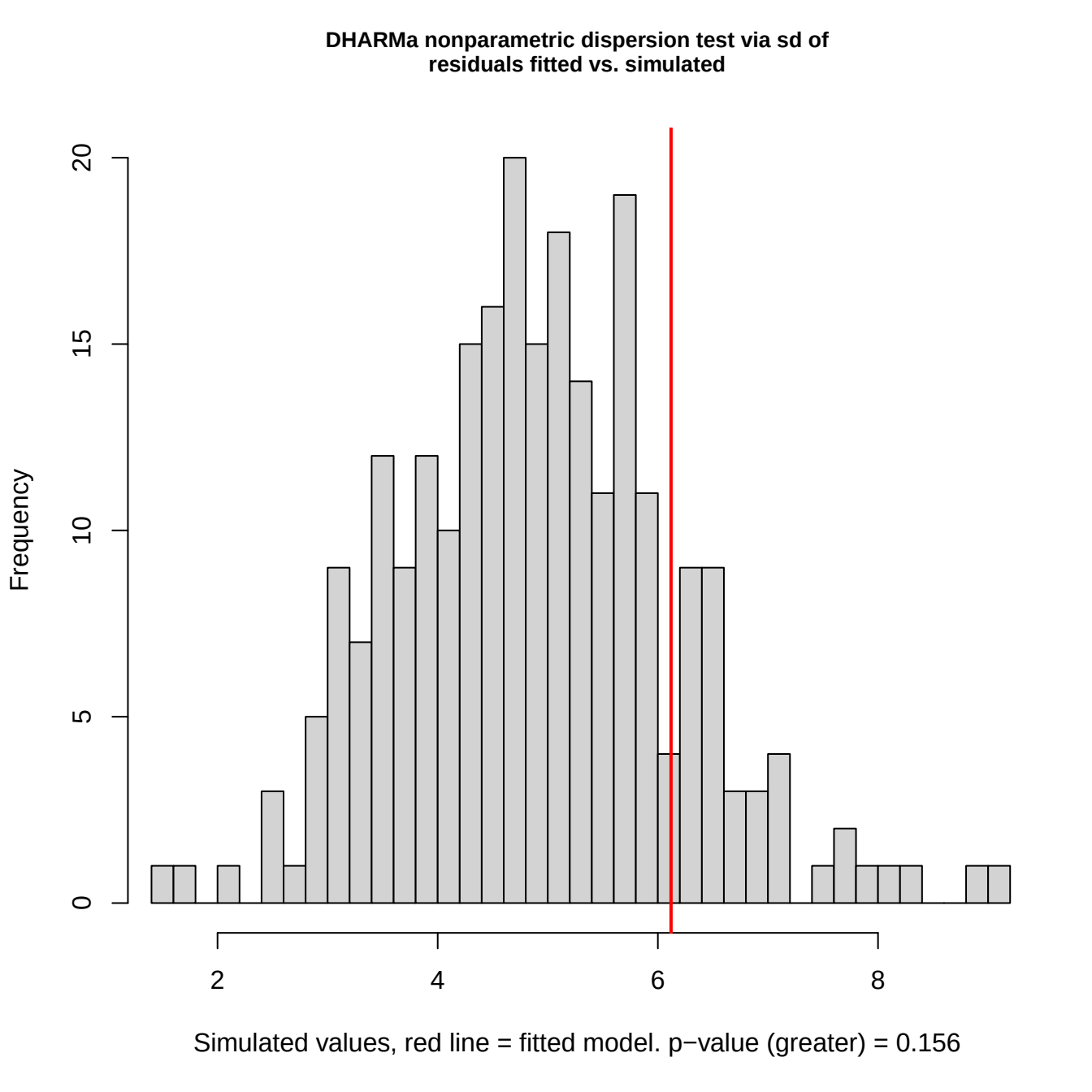

QQ plot residuals
KS test: p= 0.9709
Deviation n.s.
Dispersion test: p= 0.312
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
0.2
0.4
0.6
0.8

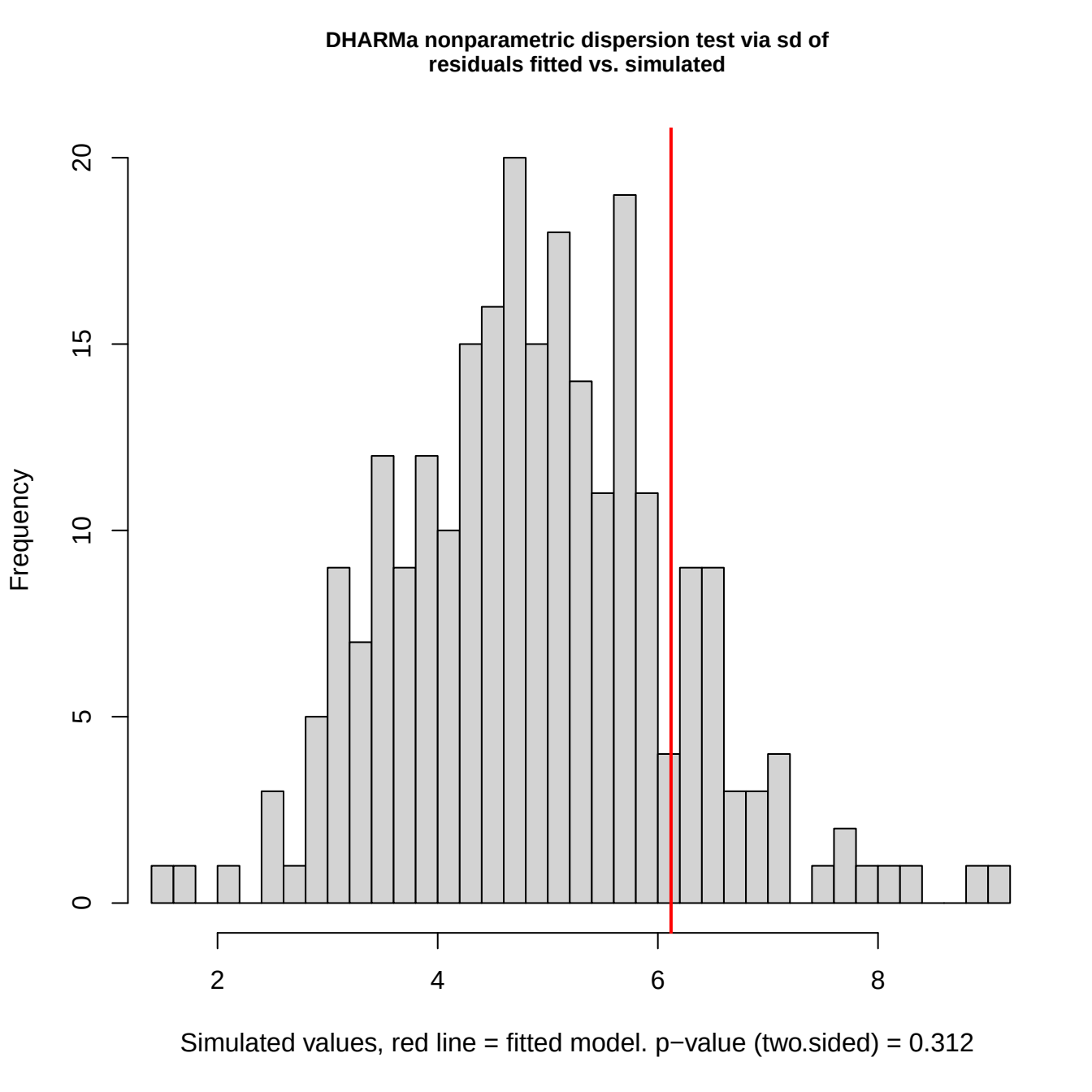

QQ plot residuals
KS test: p= 0.9709
Deviation n.s.
Dispersion test: p= 0.312
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
0.2
0.4
0.6
0.8

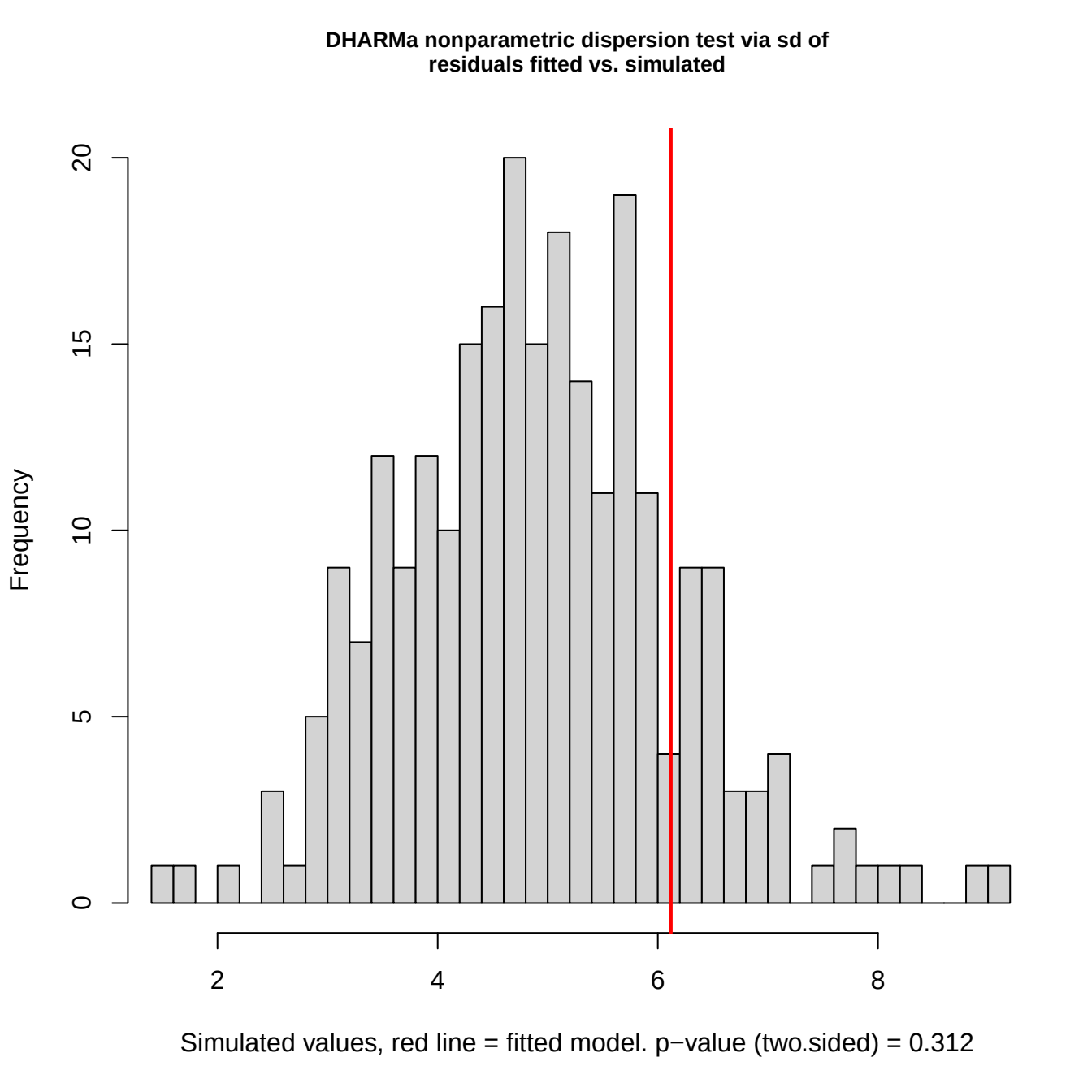

QQ plot residuals
KS test: p= 0.9709
Deviation n.s.
Dispersion test: p= 0.312
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
0.2
0.4
0.6
0.8

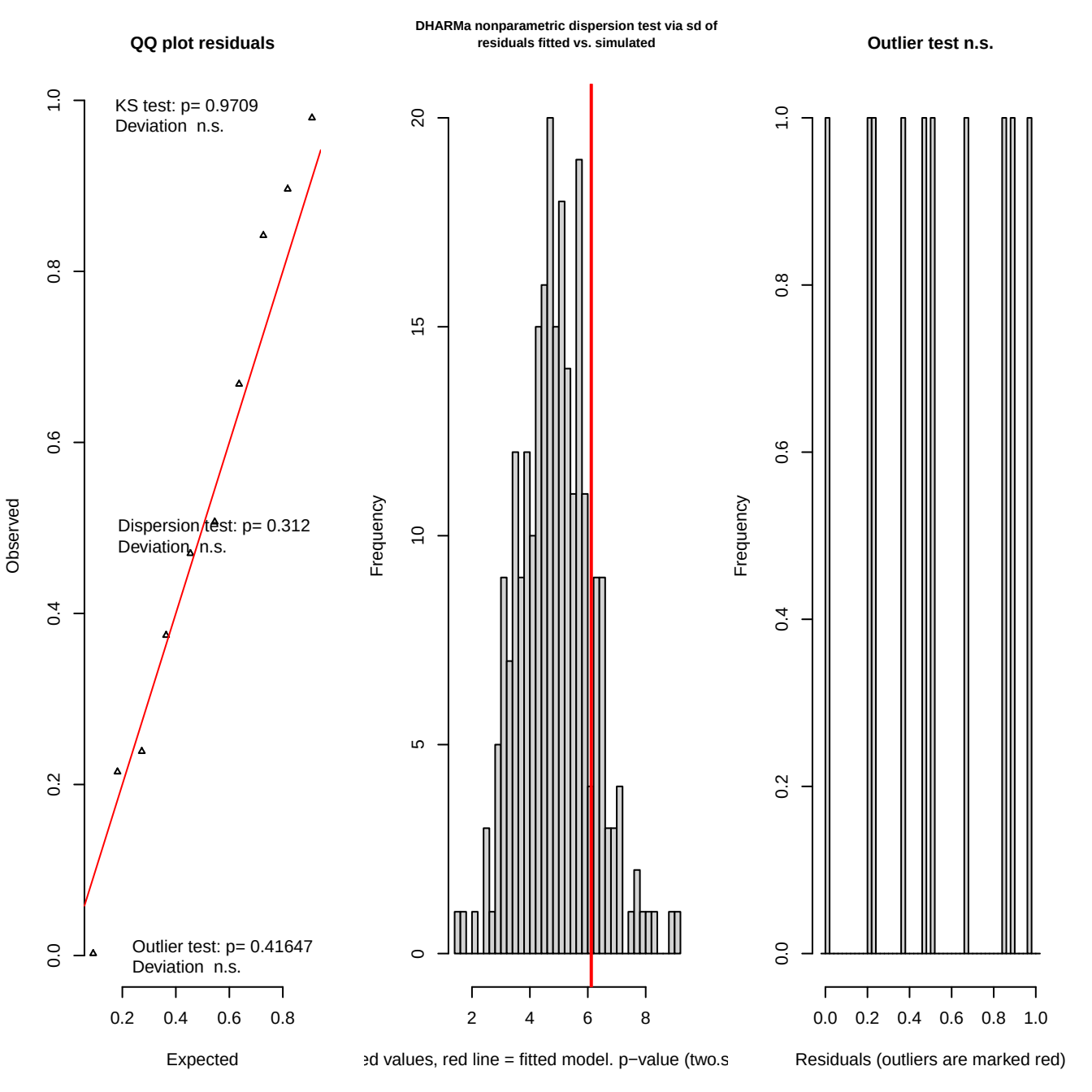

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
Simulated values, red line = fitted model. p−value (two.sided) = 0.312

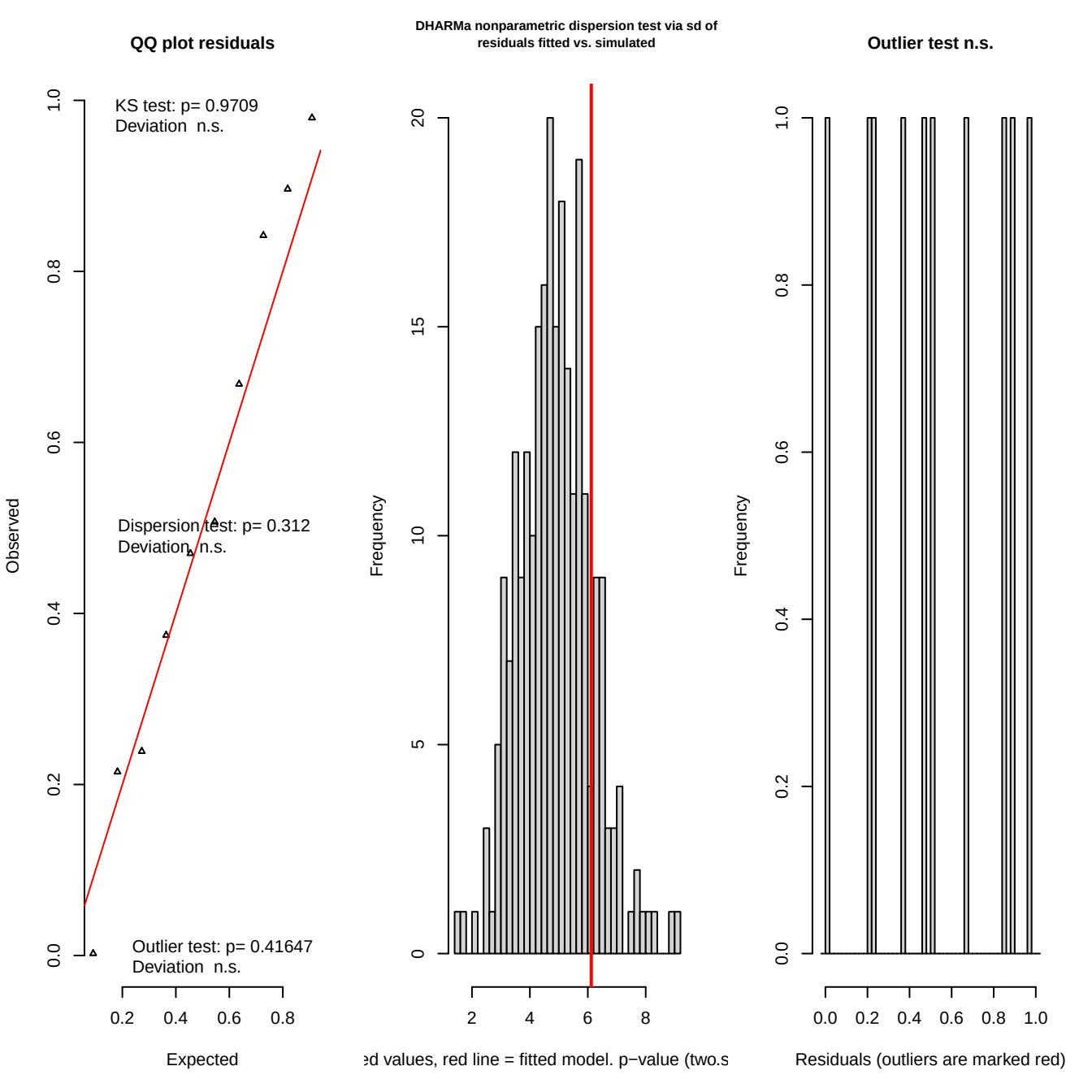

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
Simulated values, red line = fitted model. p−value (less) = 0.844

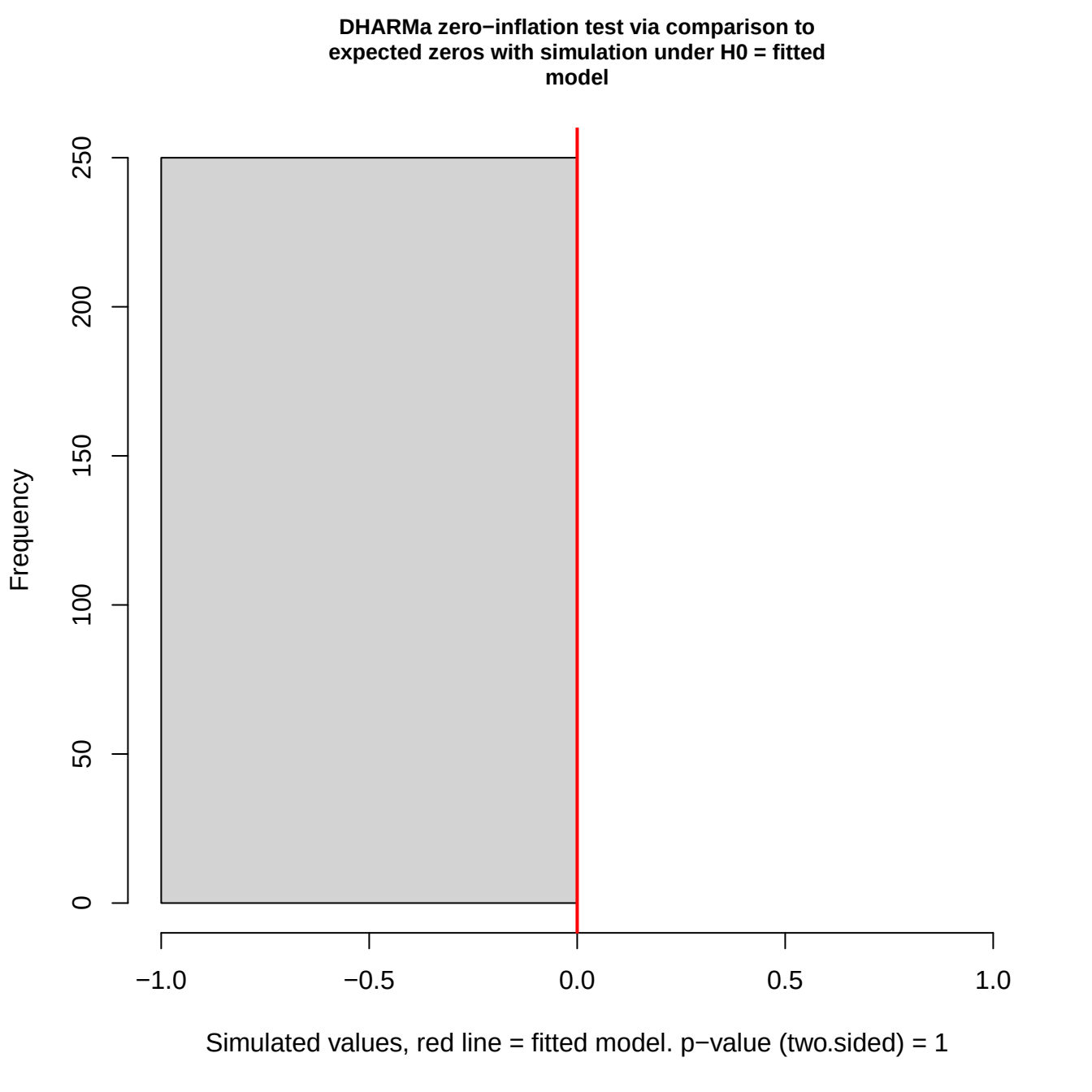

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
Simulated values, red line = fitted model. p−value (greater) = 0.156

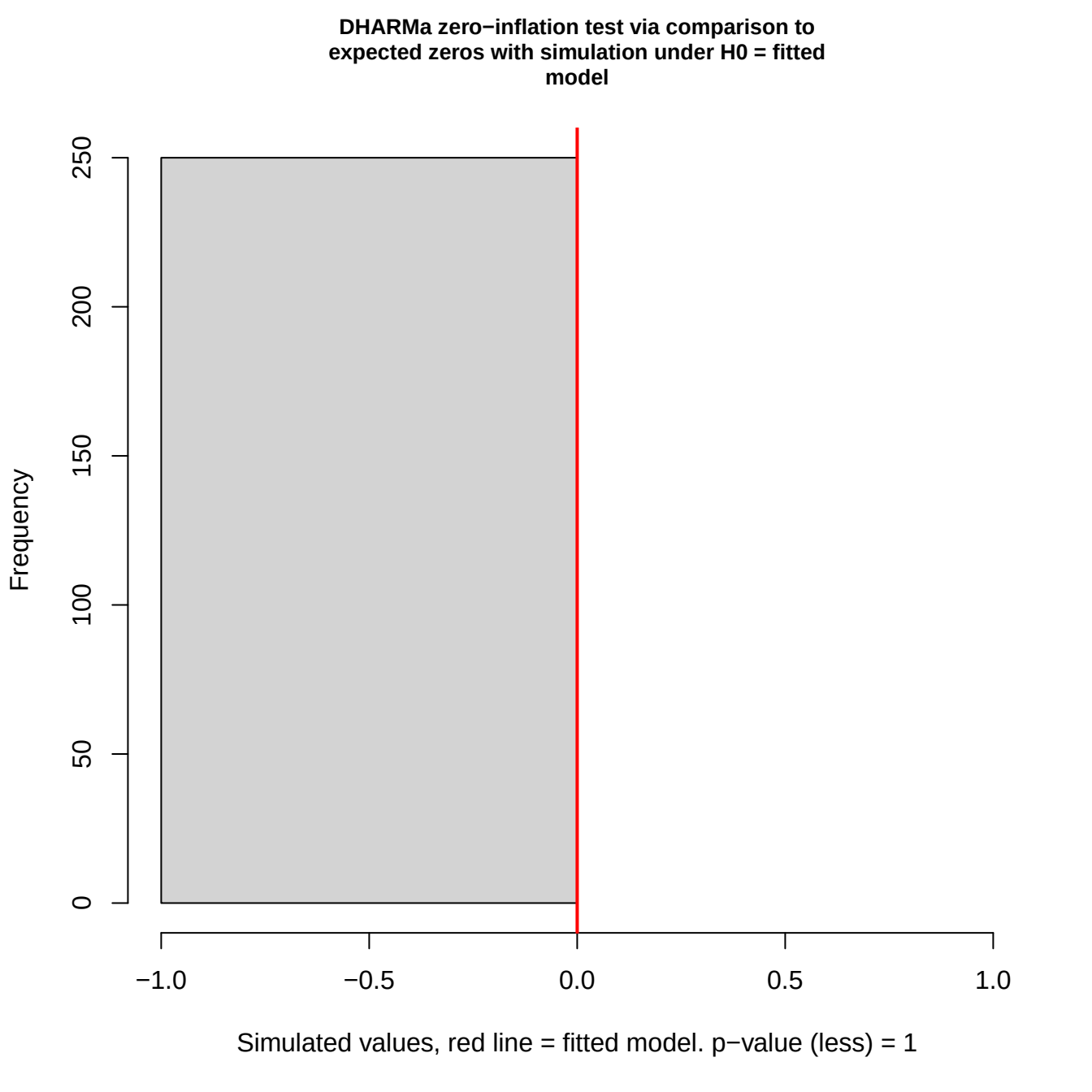

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
Simulated values, red line = fitted model. p−value (two.sided) = 0.312

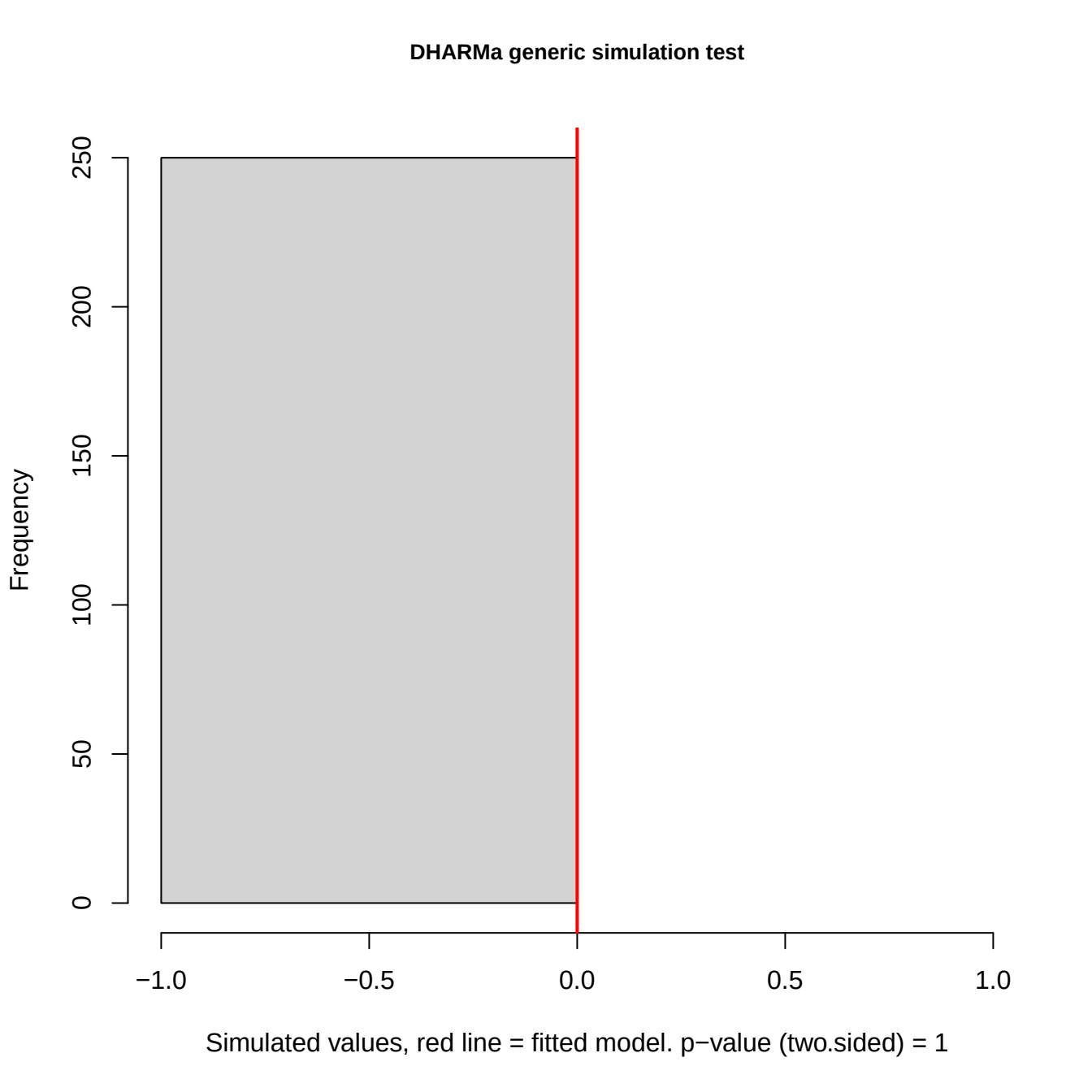

DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
Simulated values, red line = fitted model. p−value (two.sided) = 0.312

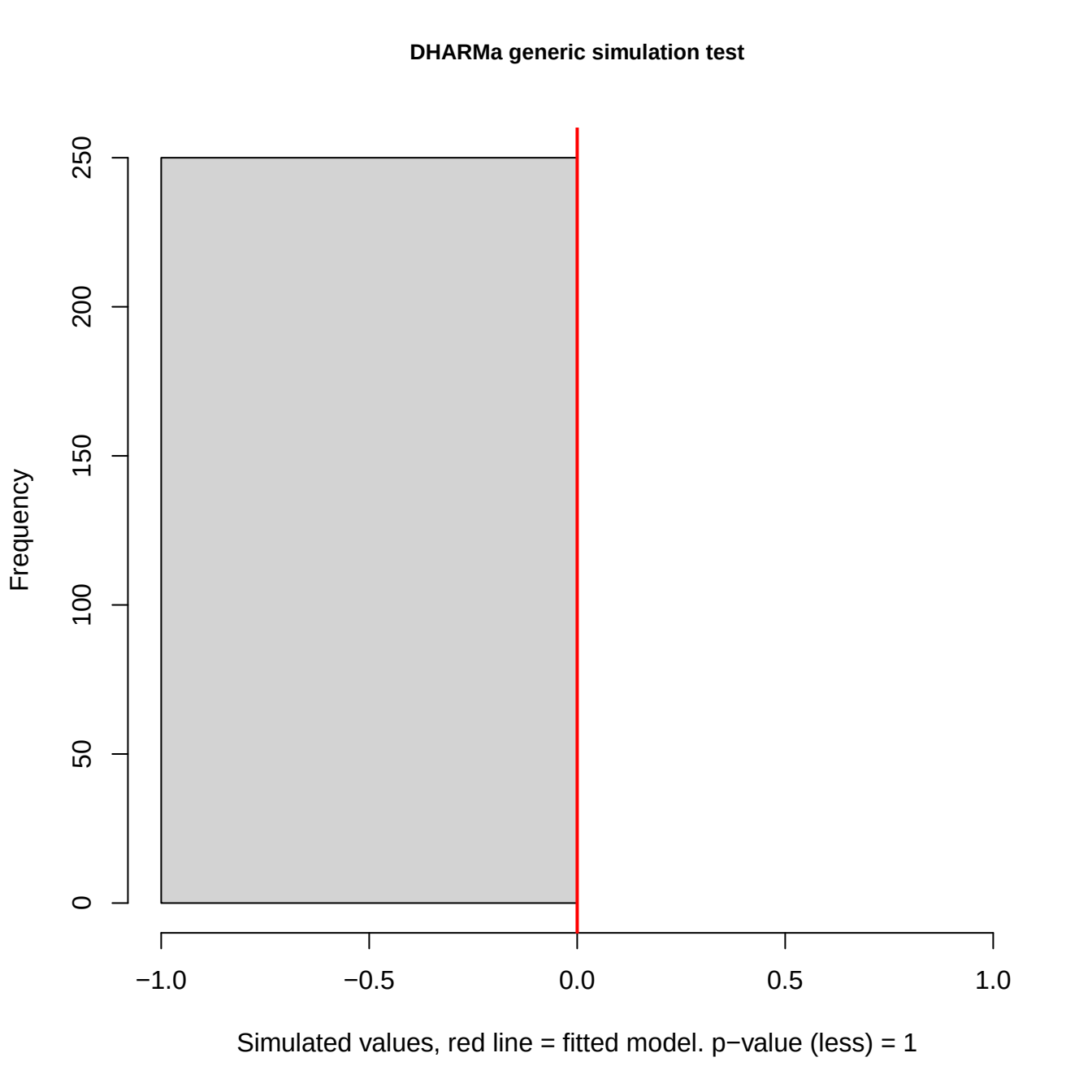

QQ plot residuals
KS test: p= 0.9709
Deviation n.s.
Dispersion test: p= 0.312
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
ed values, red line = fitted model. p−value (two.s
Outlier test n.s.
Frequency
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

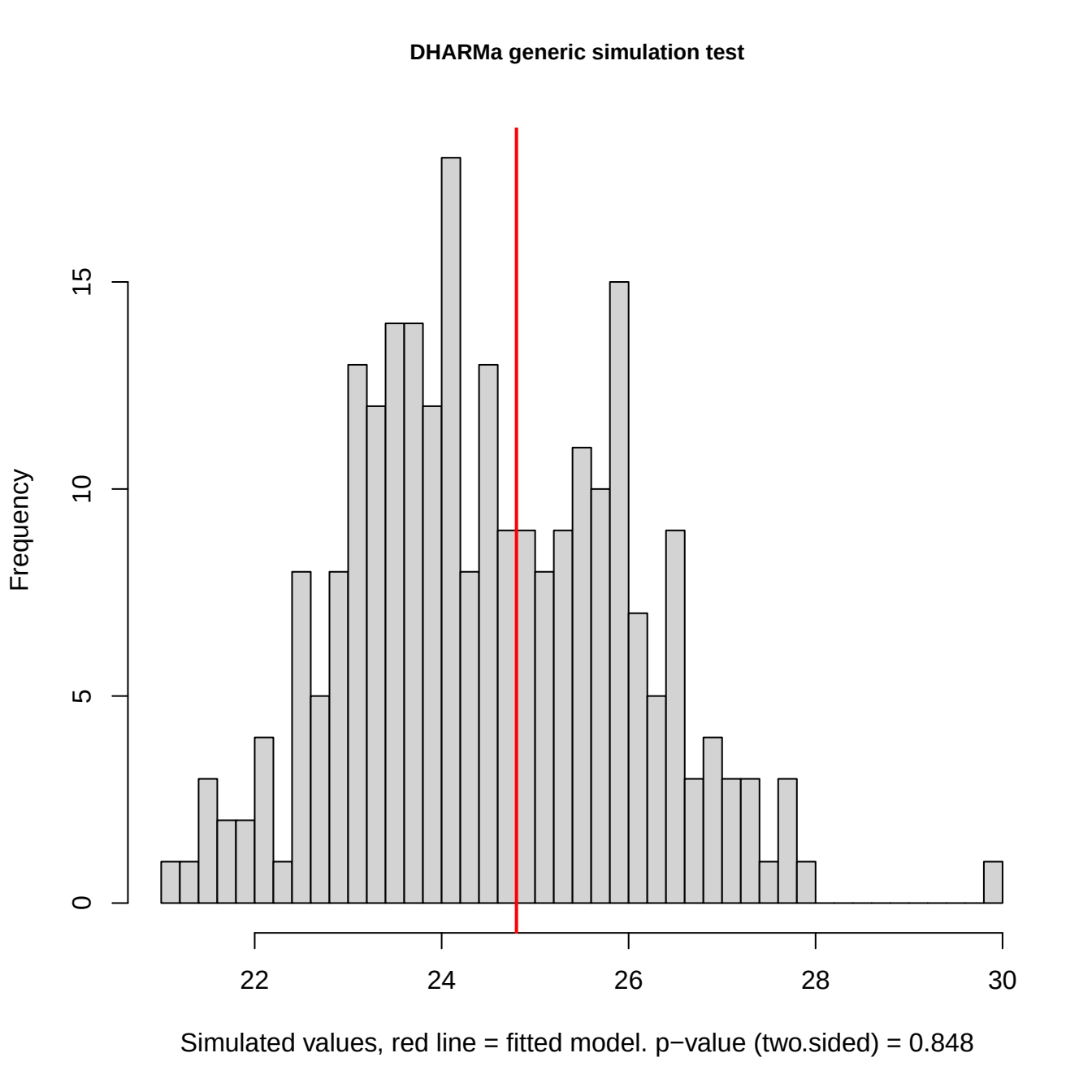

QQ plot residuals
KS test: p= 0.9709
Deviation n.s.
Dispersion test: p= 0.312
Deviation n.s.
Outlier test: p= 0.41647
Deviation n.s.
Observed
Expected
0.0
0.2
0.4
0.6
0.8
1.0
DHARMa nonparametric dispersion test via sd of residuals fitted vs. simulated
Frequency
0
5
10
15
20
2
4
6
8
ed values, red line = fitted model. p−value (two.s
Outlier test n.s.
Frequency
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)

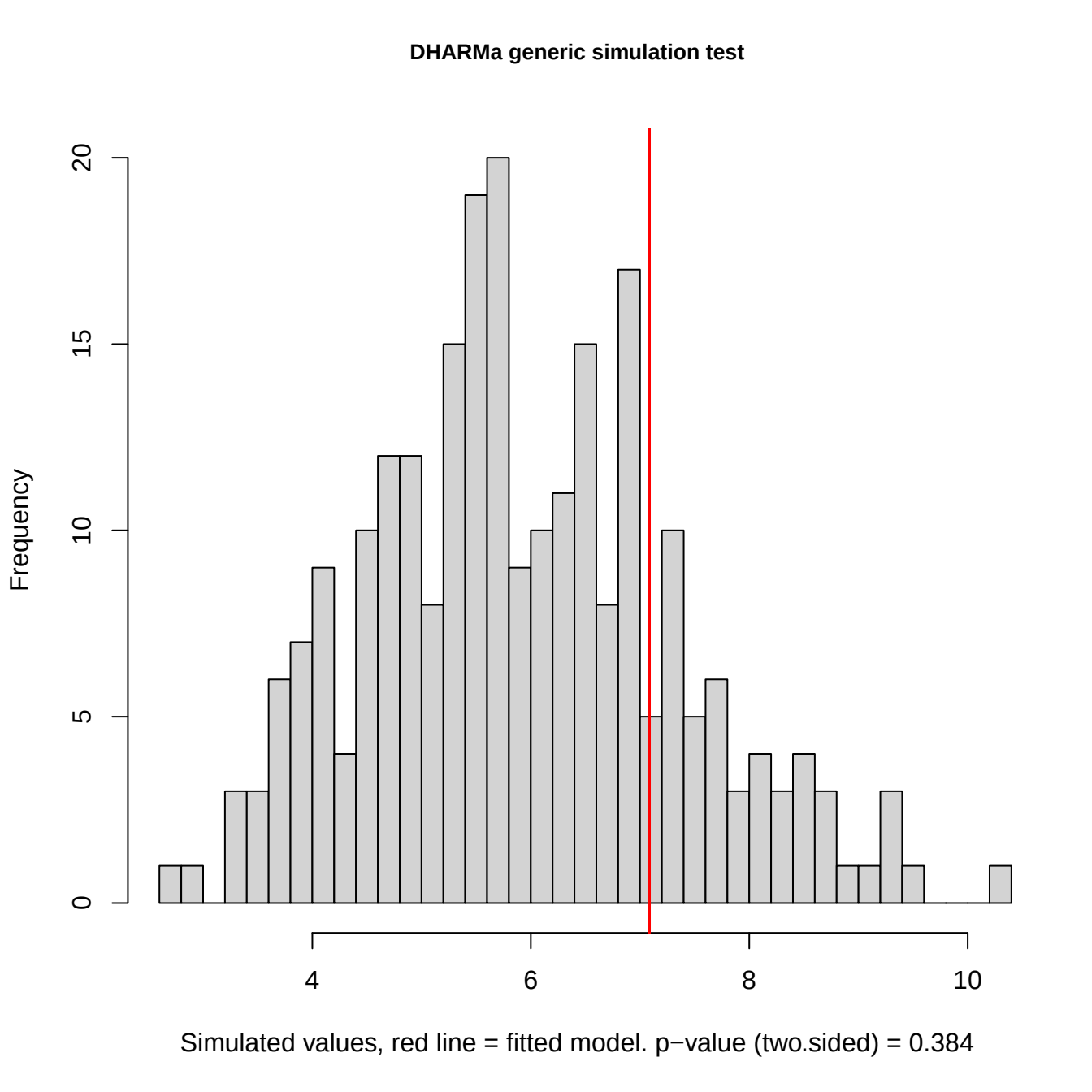

DHARMa zero−inflation test via comparison to expected zeros with simulation under H0 = fitted model
Frequency
0
50
100
150
200
250
−1.0
−0.5
0.0
0.5
1.0
Simulated values, red line = fitted model. p−value (two.sided) = 1

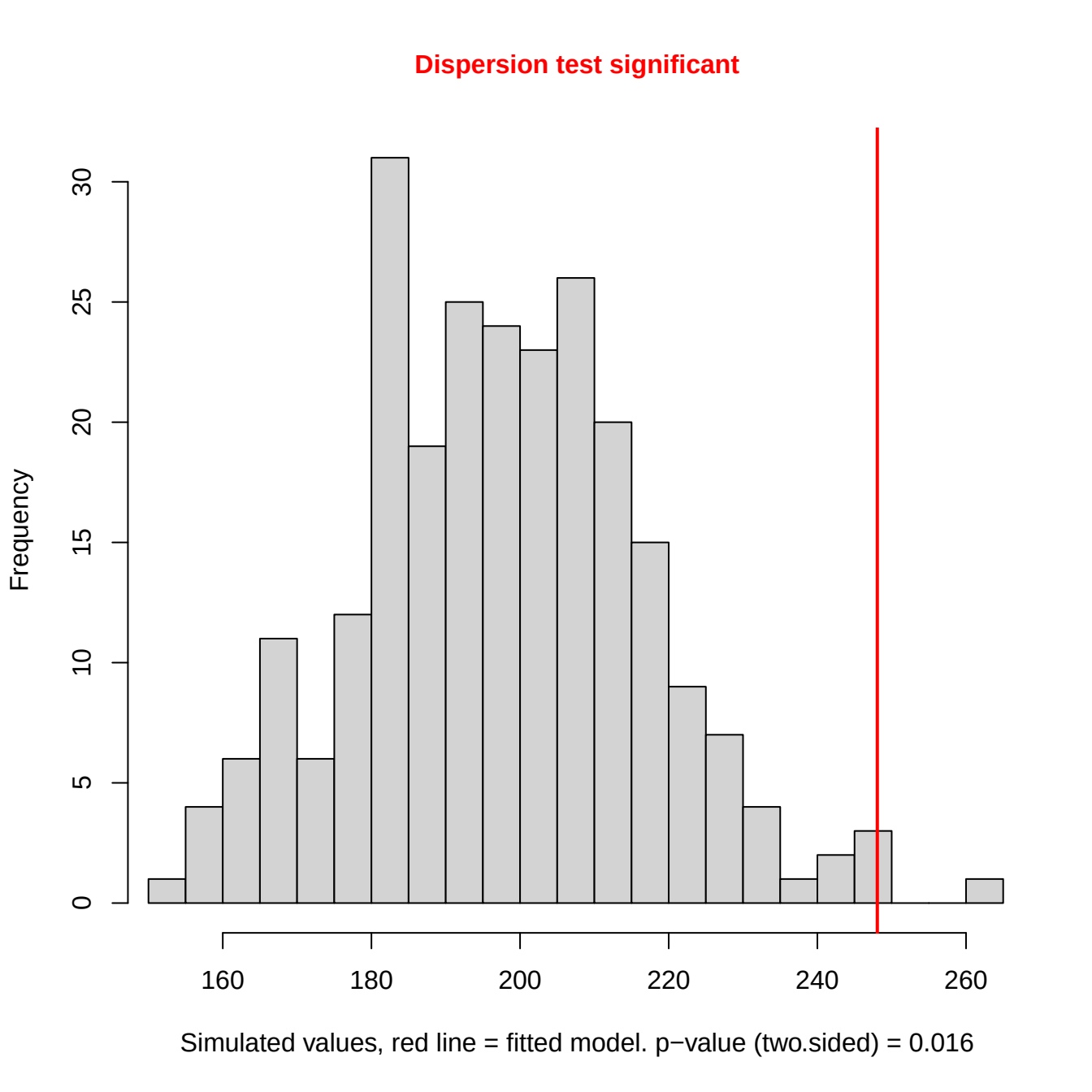

DHARMa zero−inflation test via comparison to expected zeros with simulation under H0 = fitted model
Frequency
0
50
100
150
200
250
−1.0
−0.5
0.0
0.5
1.0
Simulated values, red line = fitted model. p−value (less) = 1

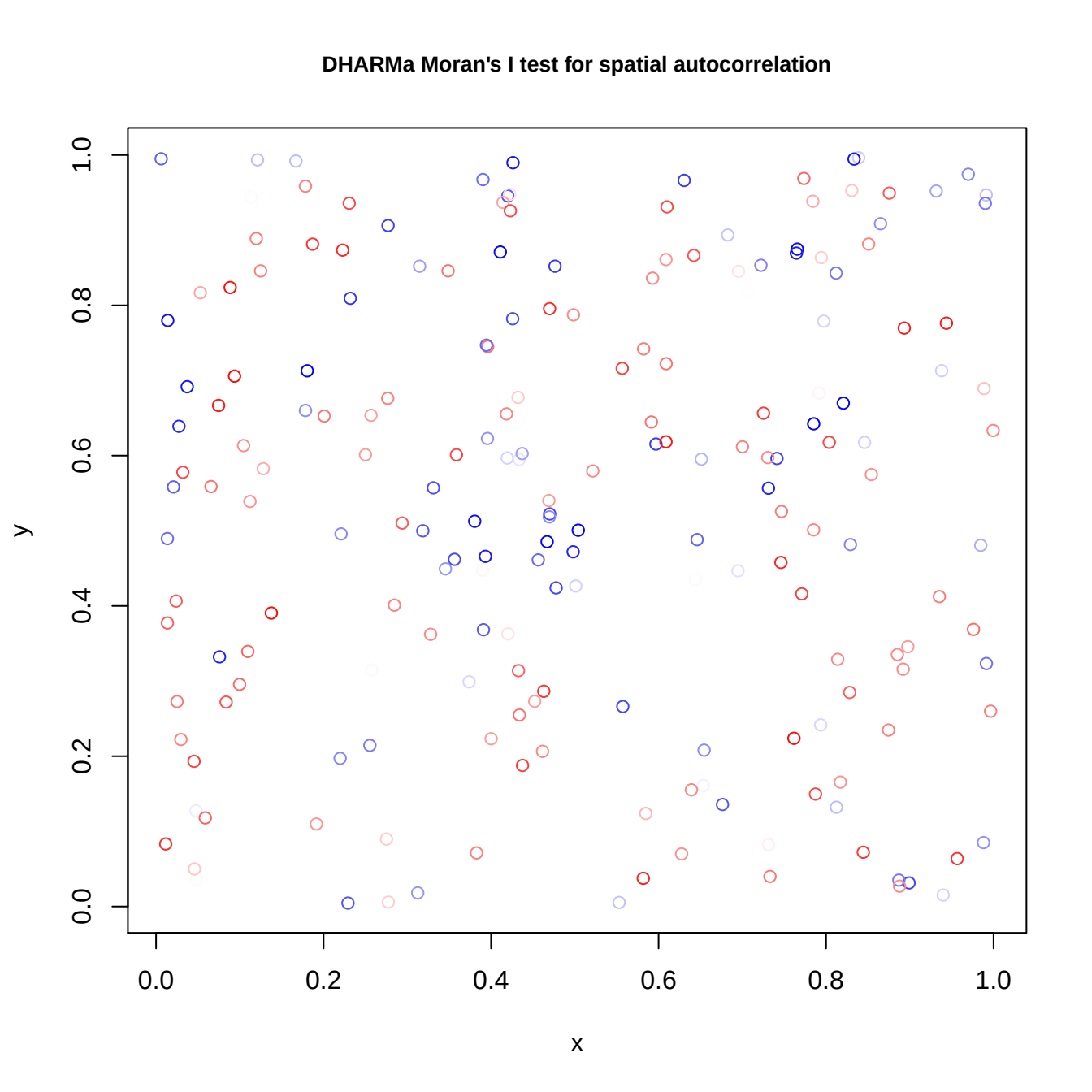

DHARMa generic simulation test
Frequency
0
50
100
150
200
250
−1.0
−0.5
0.0
0.5
1.0
Simulated values, red line = fitted model. p−value (two.sided) = 1

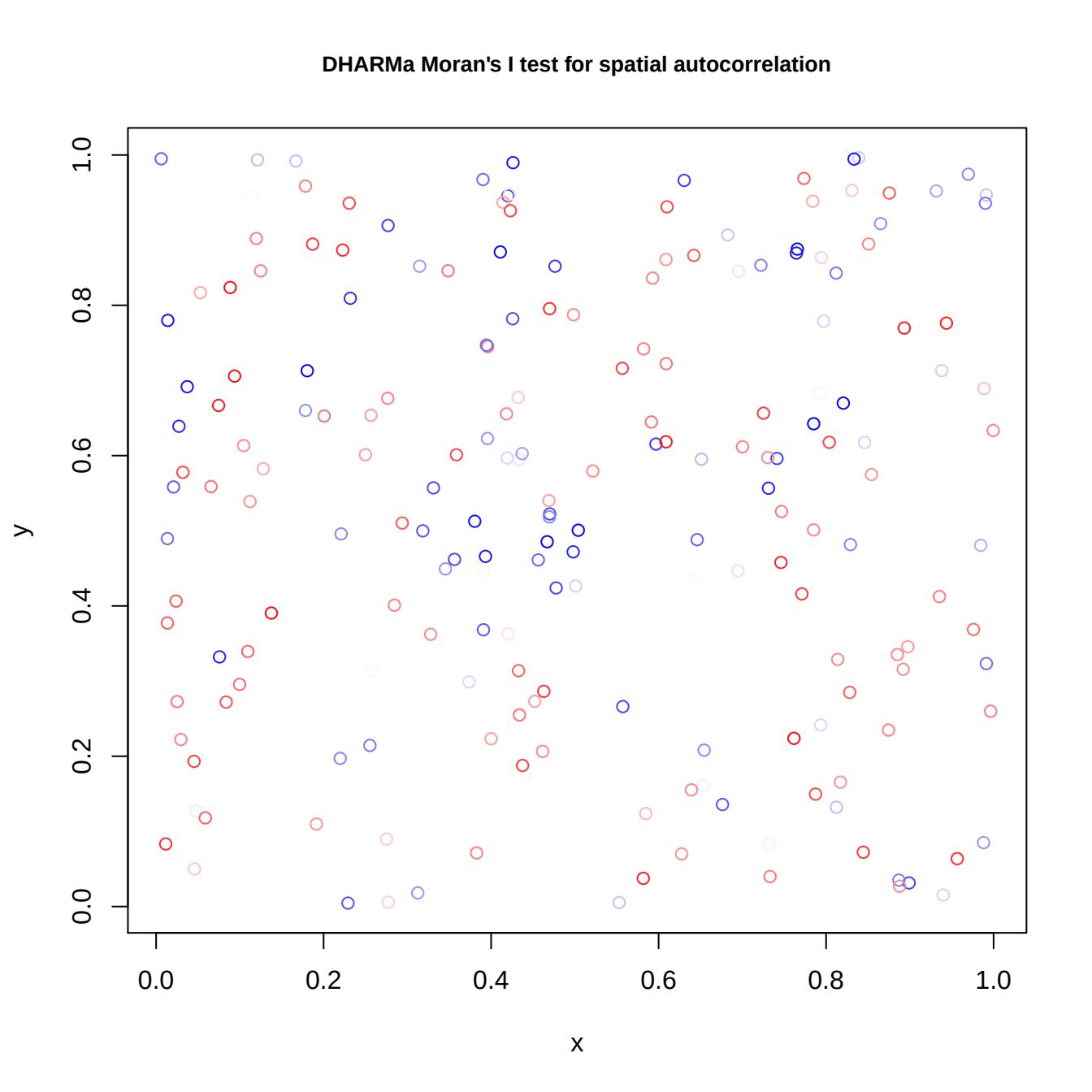

DHARMa generic simulation test
Frequency
0
50
100
150
200
250
−1.0
−0.5
0.0
0.5
1.0
Simulated values, red line = fitted model. p−value (less) = 1

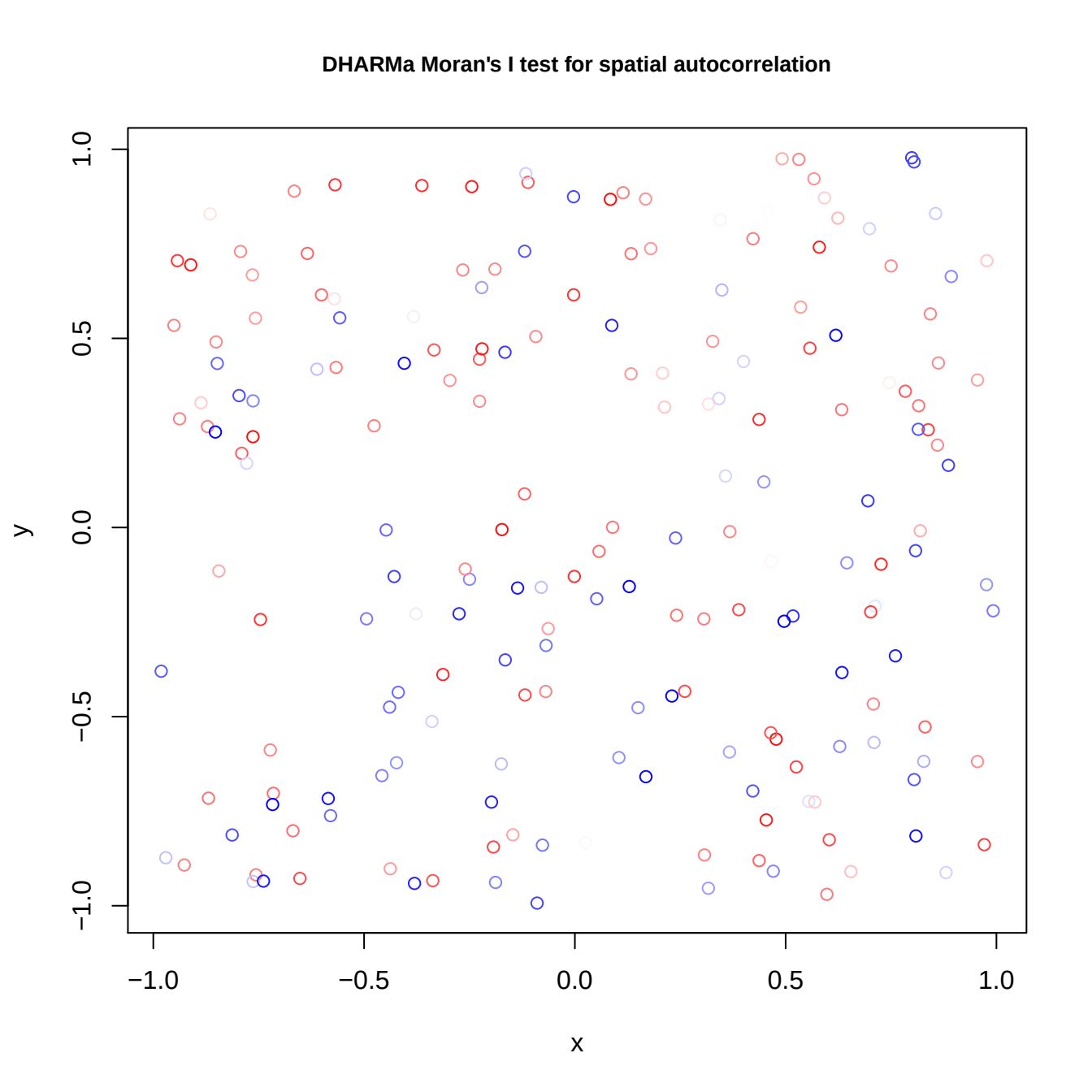

DHARMa generic simulation test
Frequency
0
5
10
15
22
24
26
28
30
Simulated values, red line = fitted model. p−value (two.sided) = 0.848

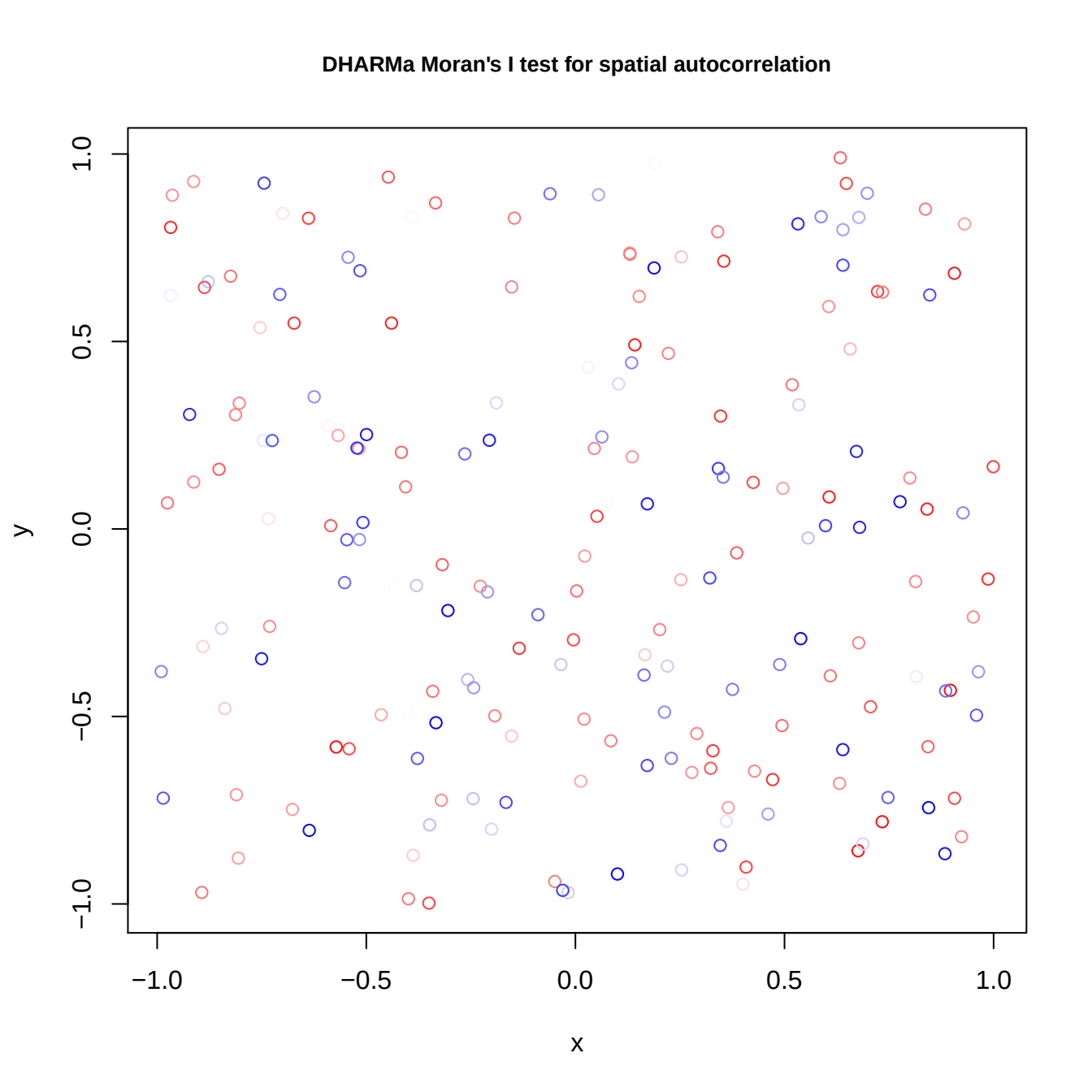

DHARMa generic simulation test
Frequency
0
5
10
15
20
4
6
8
10
Simulated values, red line = fitted model. p−value (two.sided) = 0.384

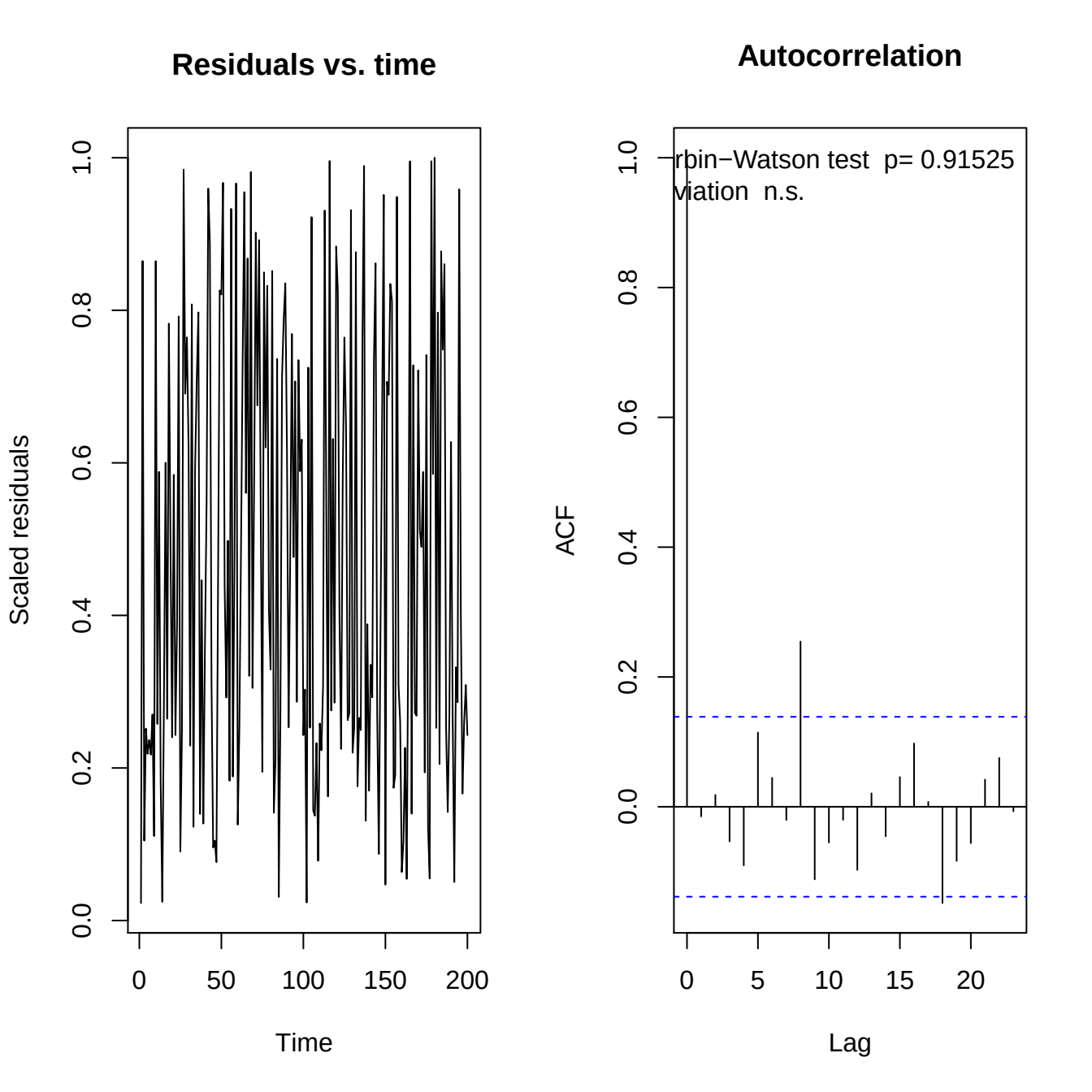

Dispersion test significant
Frequency
0
5
10
15
20
25
30
160
180
200
220
240
260
Simulated values, red line = fitted model. p−value (two.sided) = 0.016

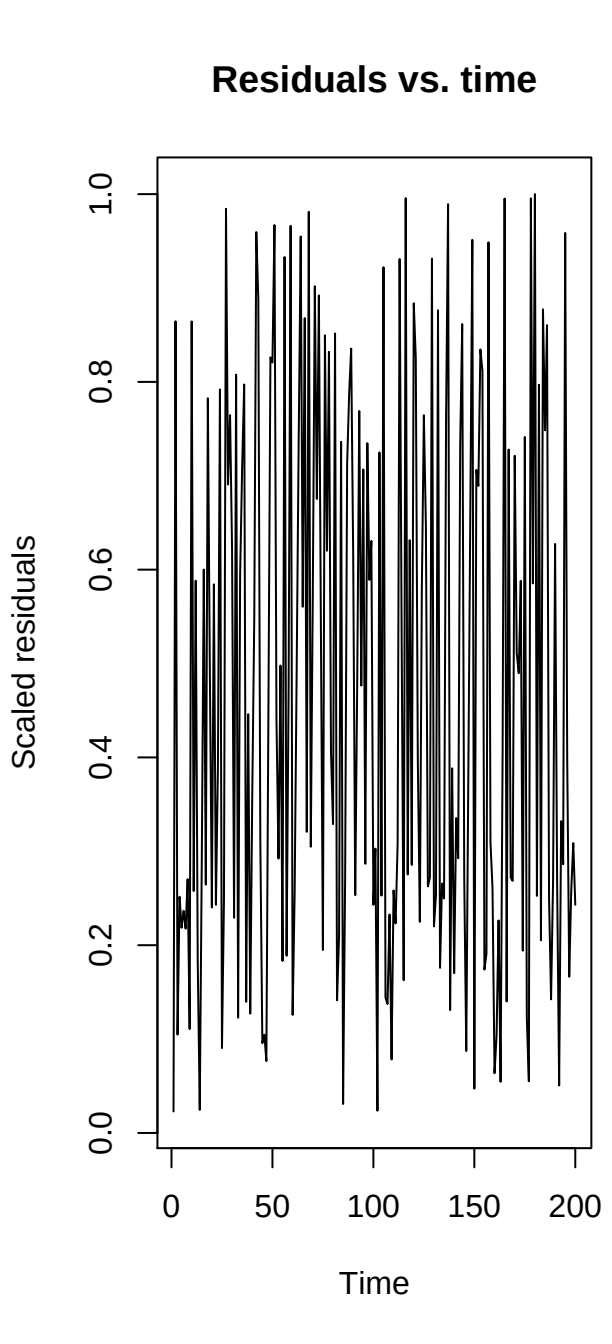

DHARMa Moran's I test for spatial autocorrelation
y
x
0.0
0.2
0.4
0.6
0.8
1.0

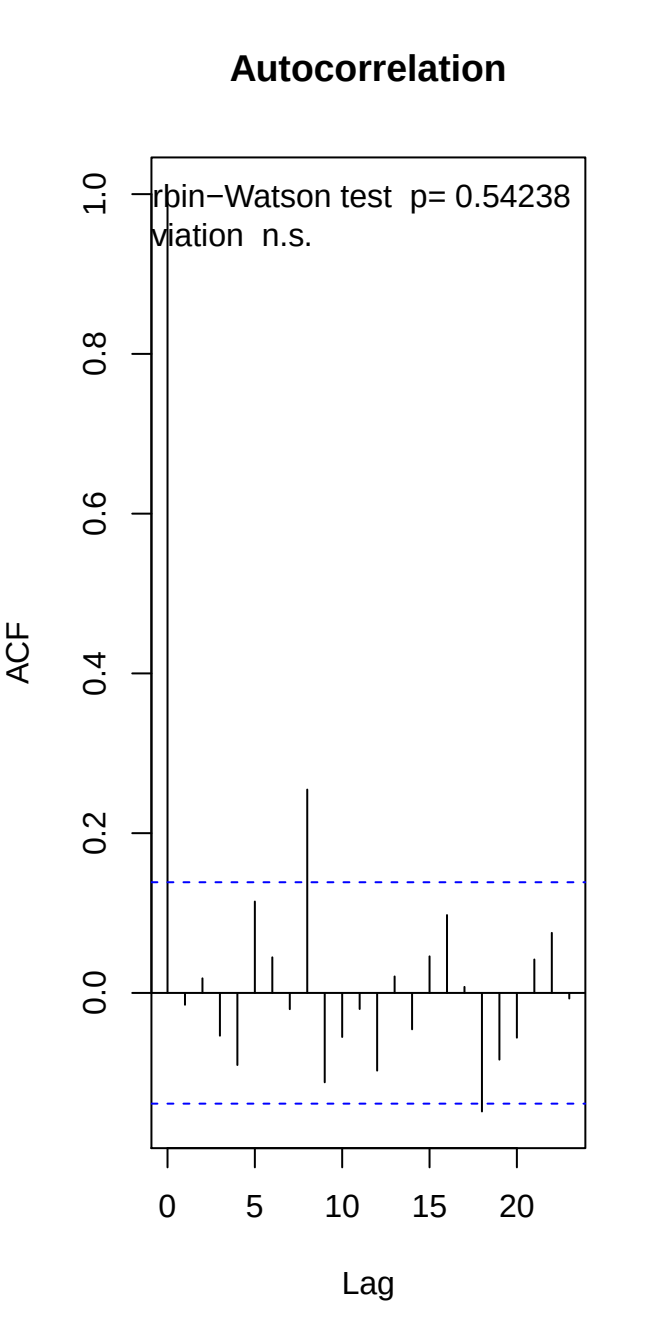

DHARMa Moran's I test for spatial autocorrelation
y
x
0.0
0.2
0.4
0.6
0.8
1.0

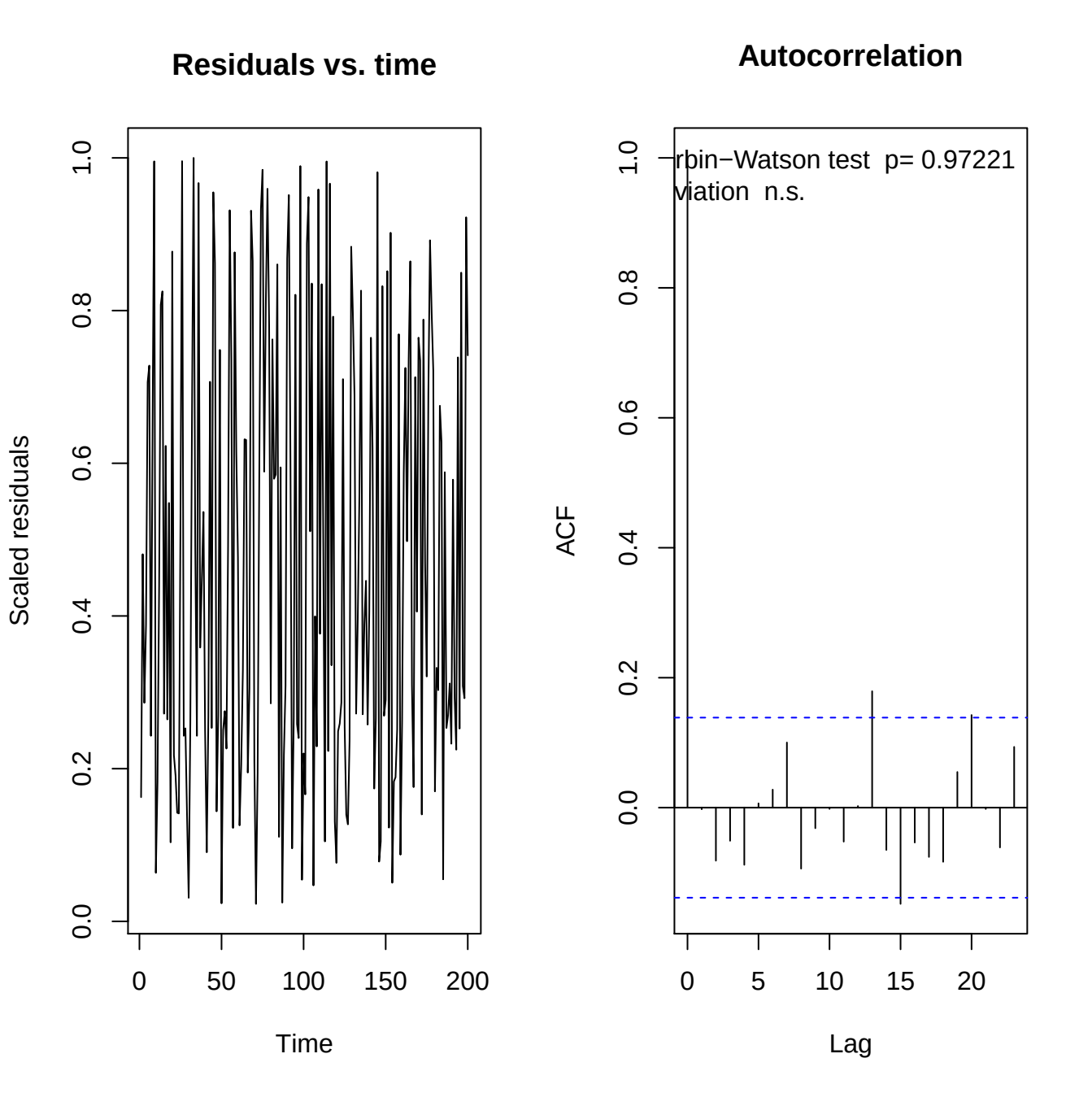

DHARMa Moran's I test for spatial autocorrelation
y
x
1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

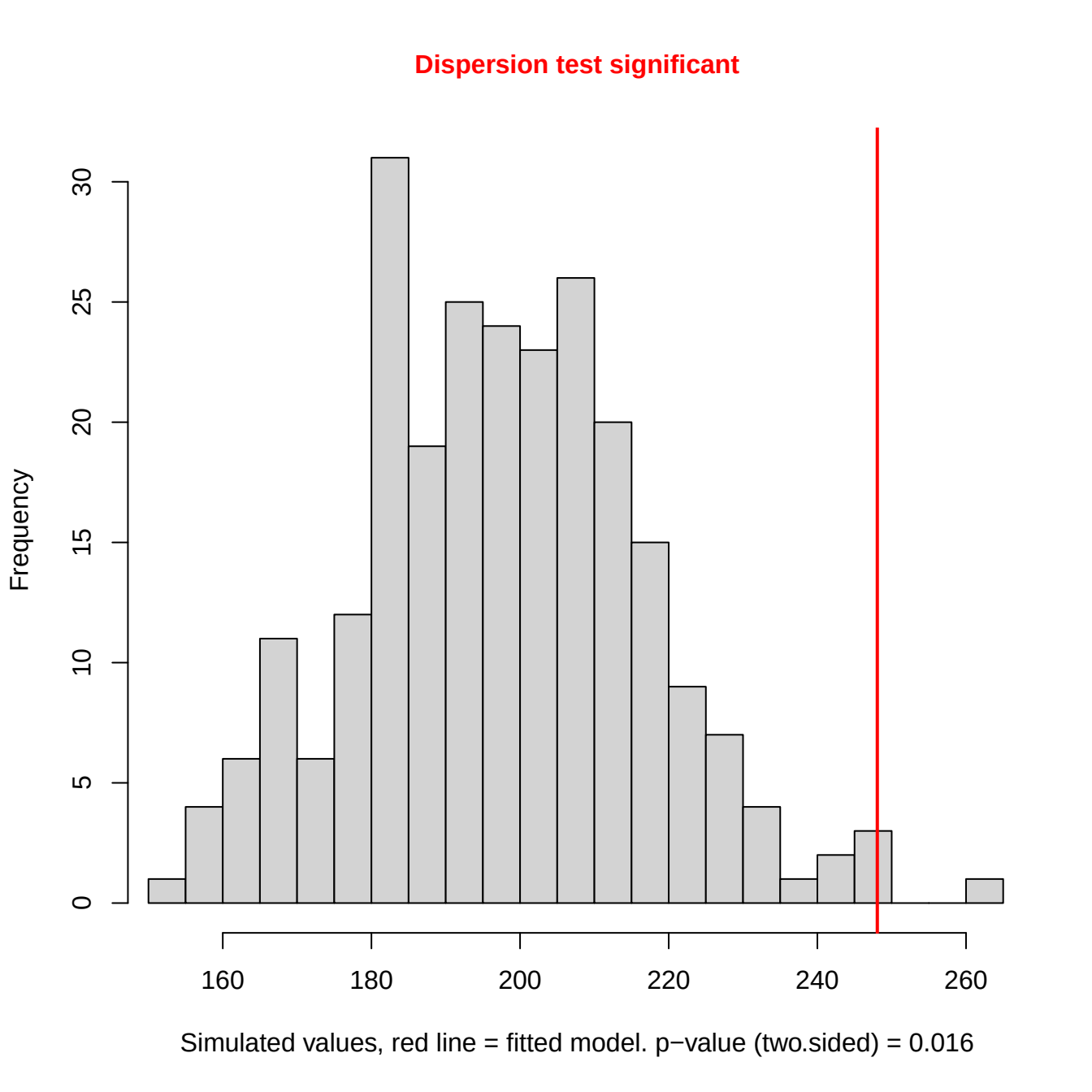

DHARMa Moran's I test for spatial autocorrelation
y
x
1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

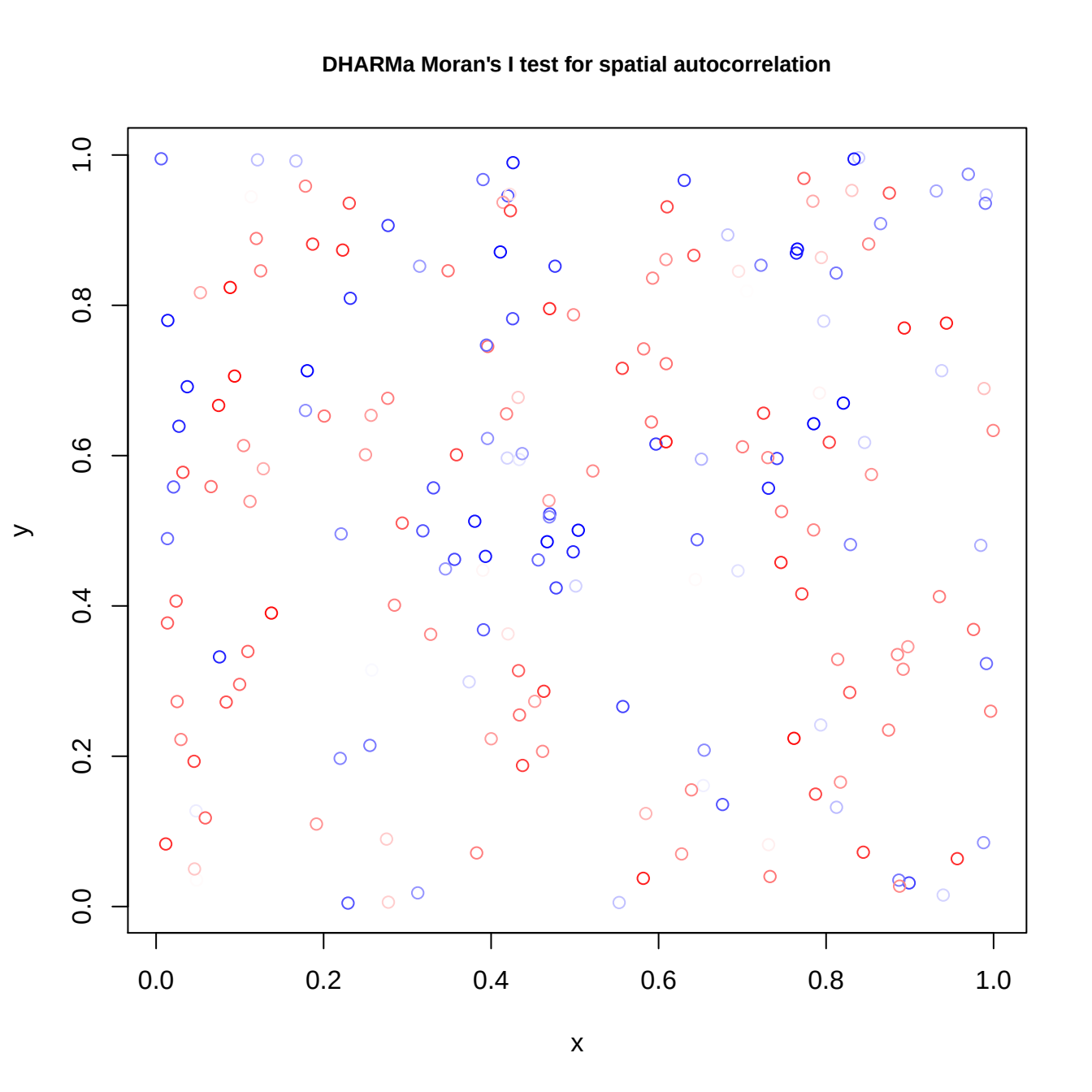

Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time
Autocorrelation
rbin−Watson test p= 0.91525
viation n.s.
ACF
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag

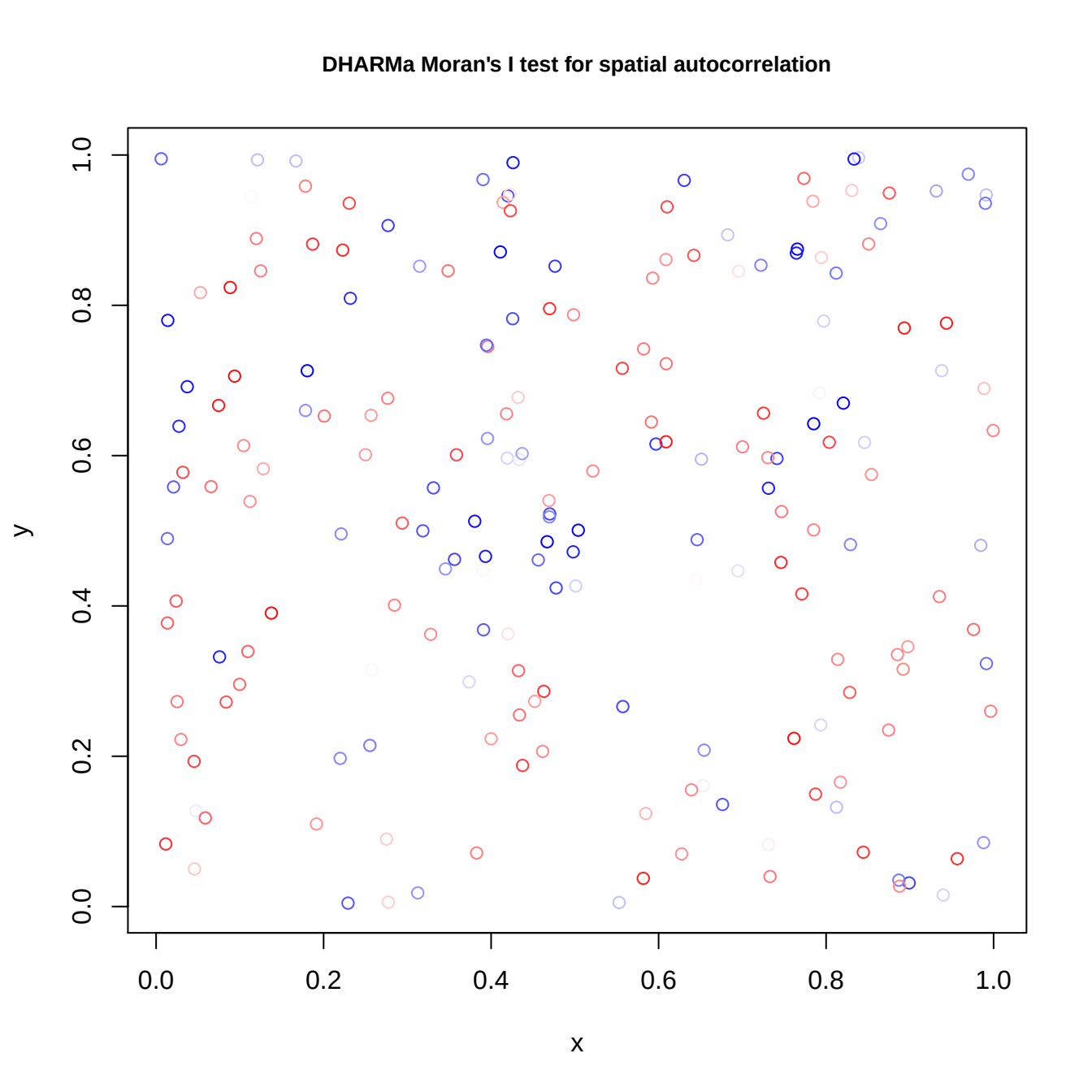

Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time

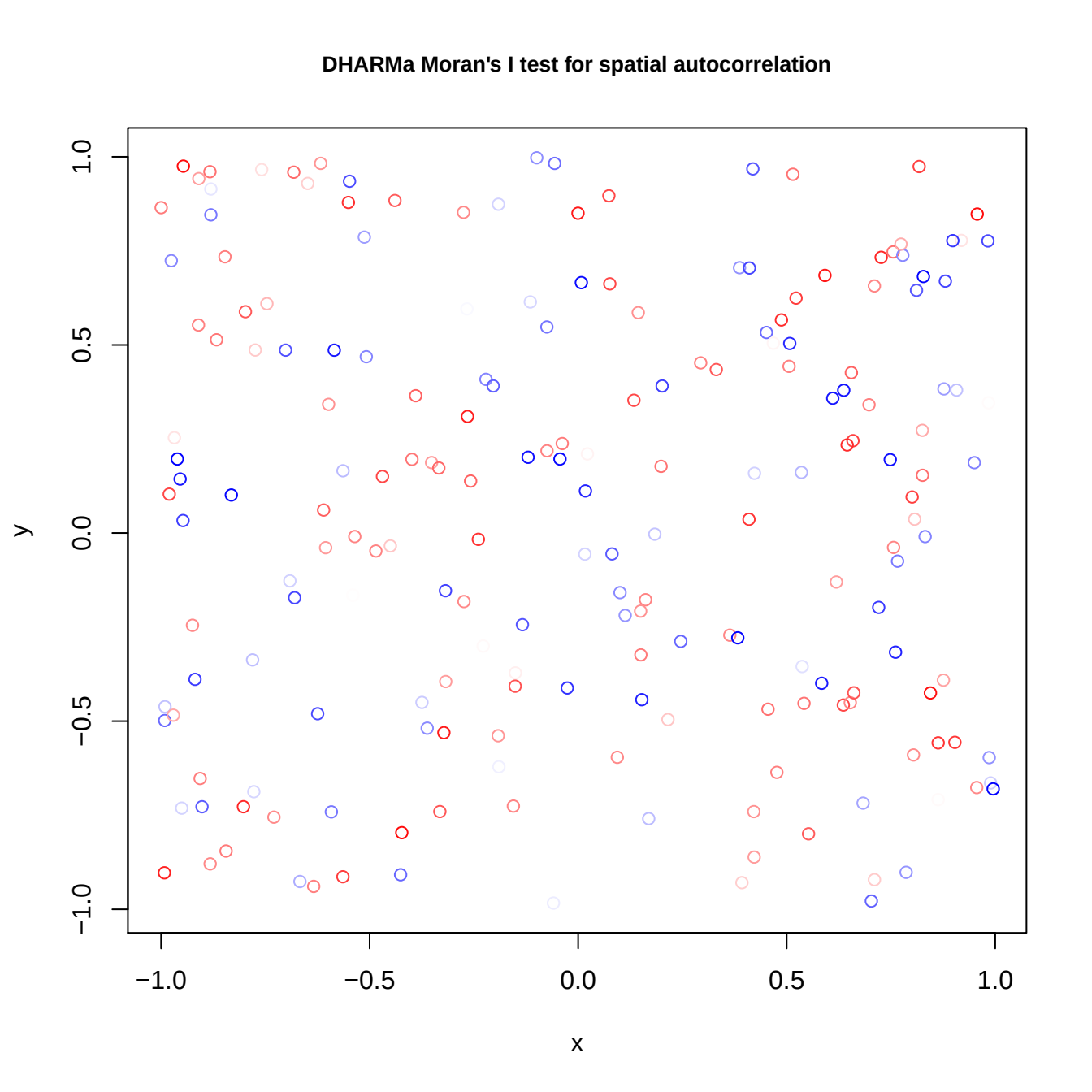

Autocorrelation
rbin−Watson test p= 0.54238
viation n.s.
ACF
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag

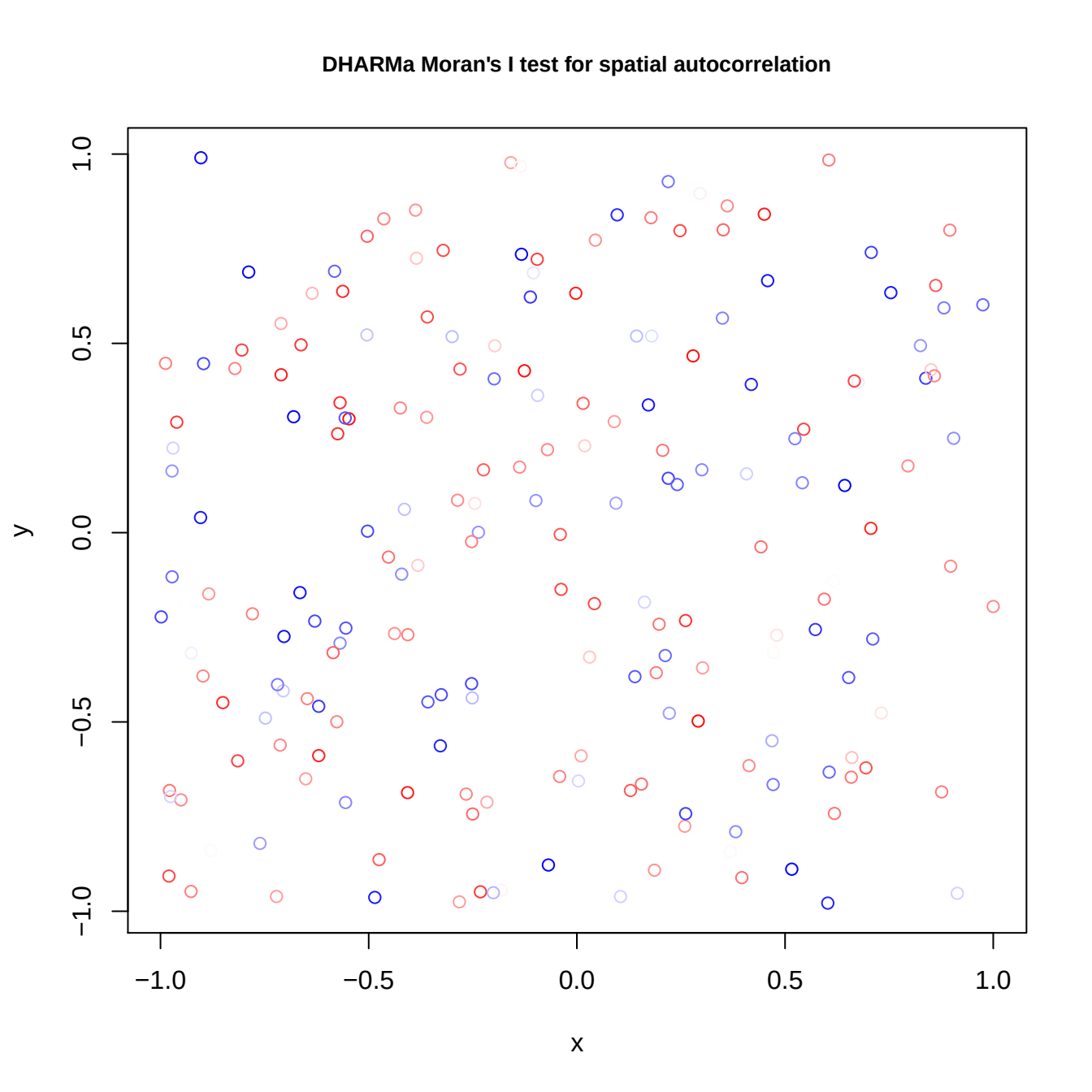

Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time
Autocorrelation
rbin−Watson test p= 0.97221
viation n.s.
ACF
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag

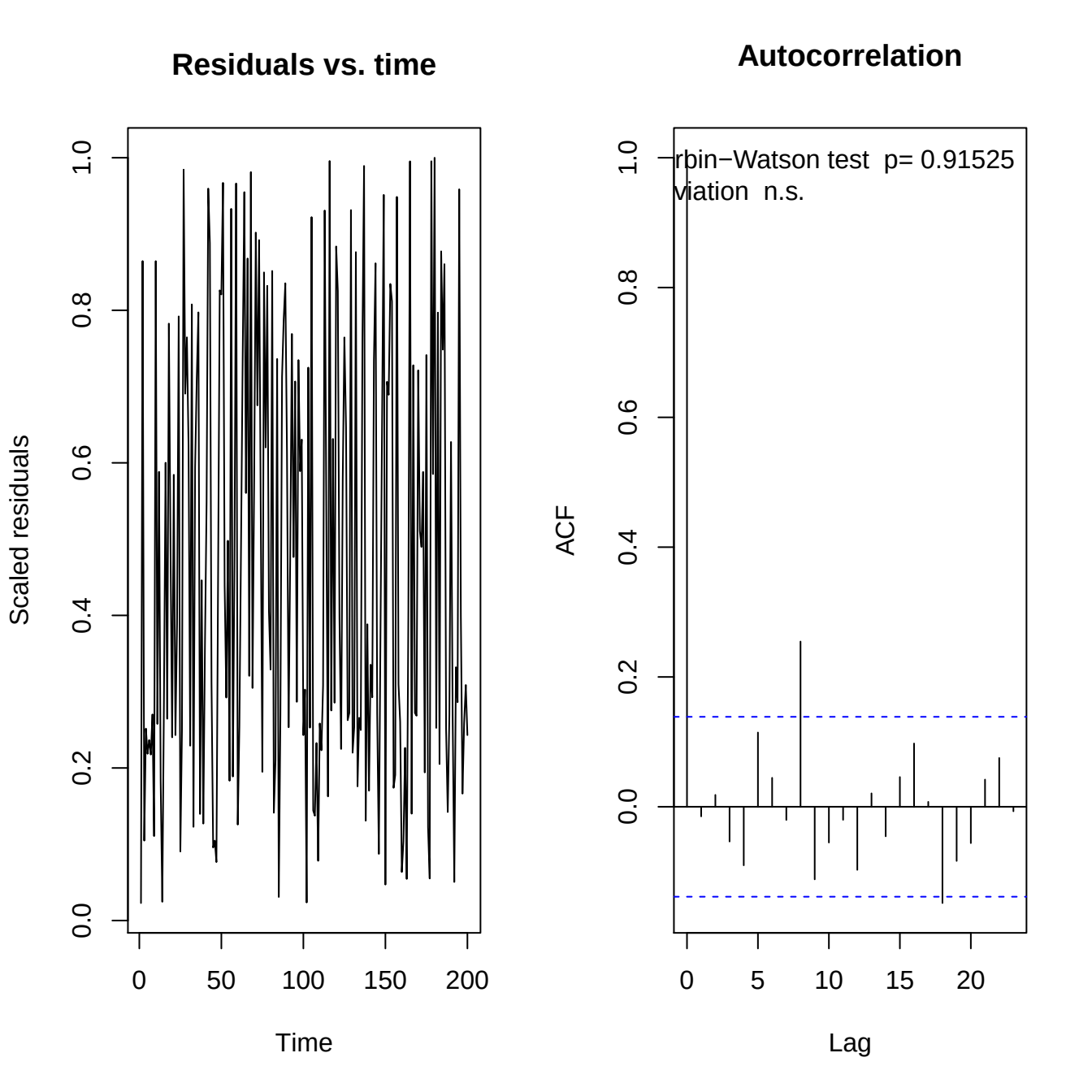

Dispersion test significant
Frequency
0
5
10
15
20
25
30
160
180
200
220
240
260
Simulated values, red line = fitted model. p−value (two.sided) = 0.016

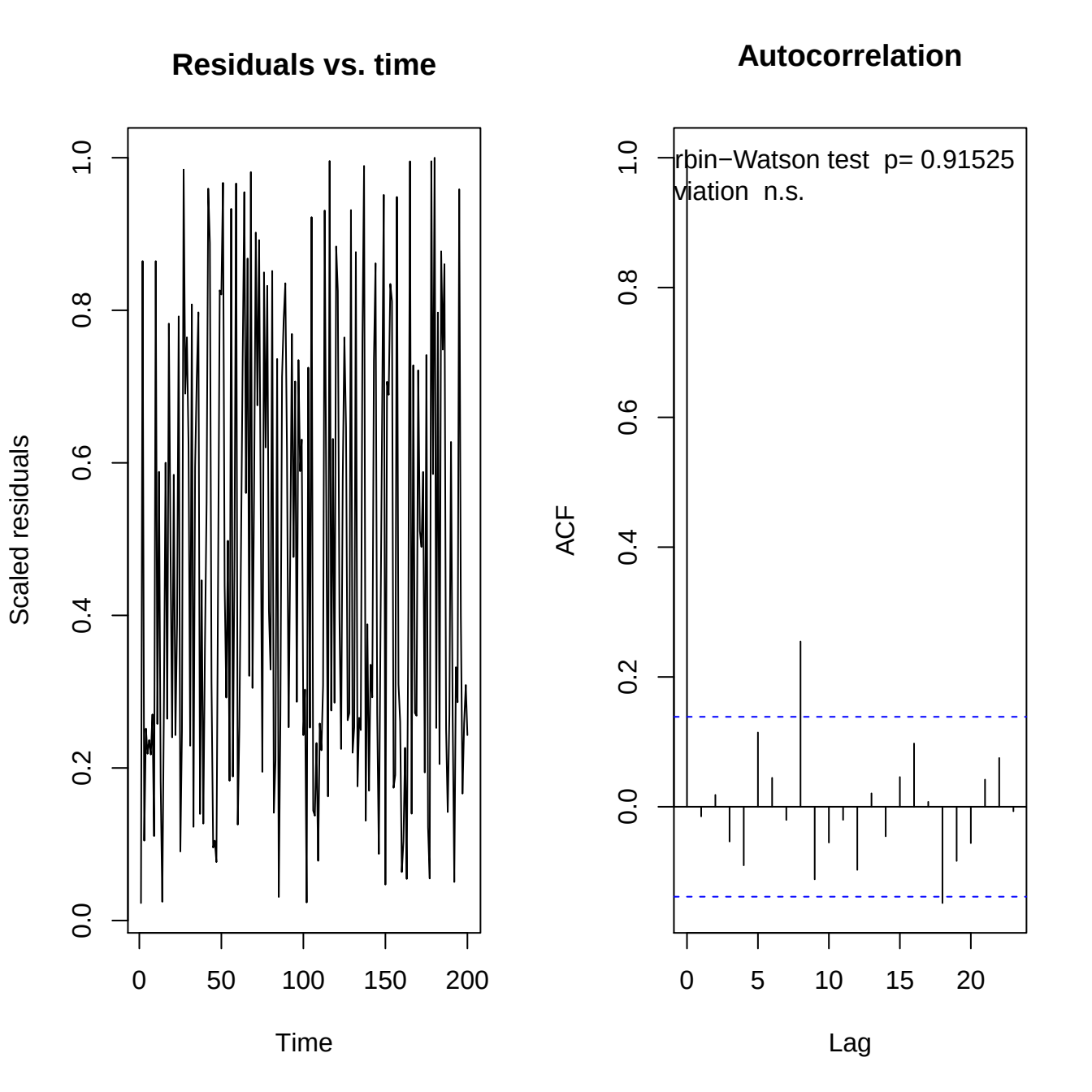

DHARMa Moran's I test for spatial autocorrelation
y
x
0.0
0.2
0.4
0.6
0.8
1.0

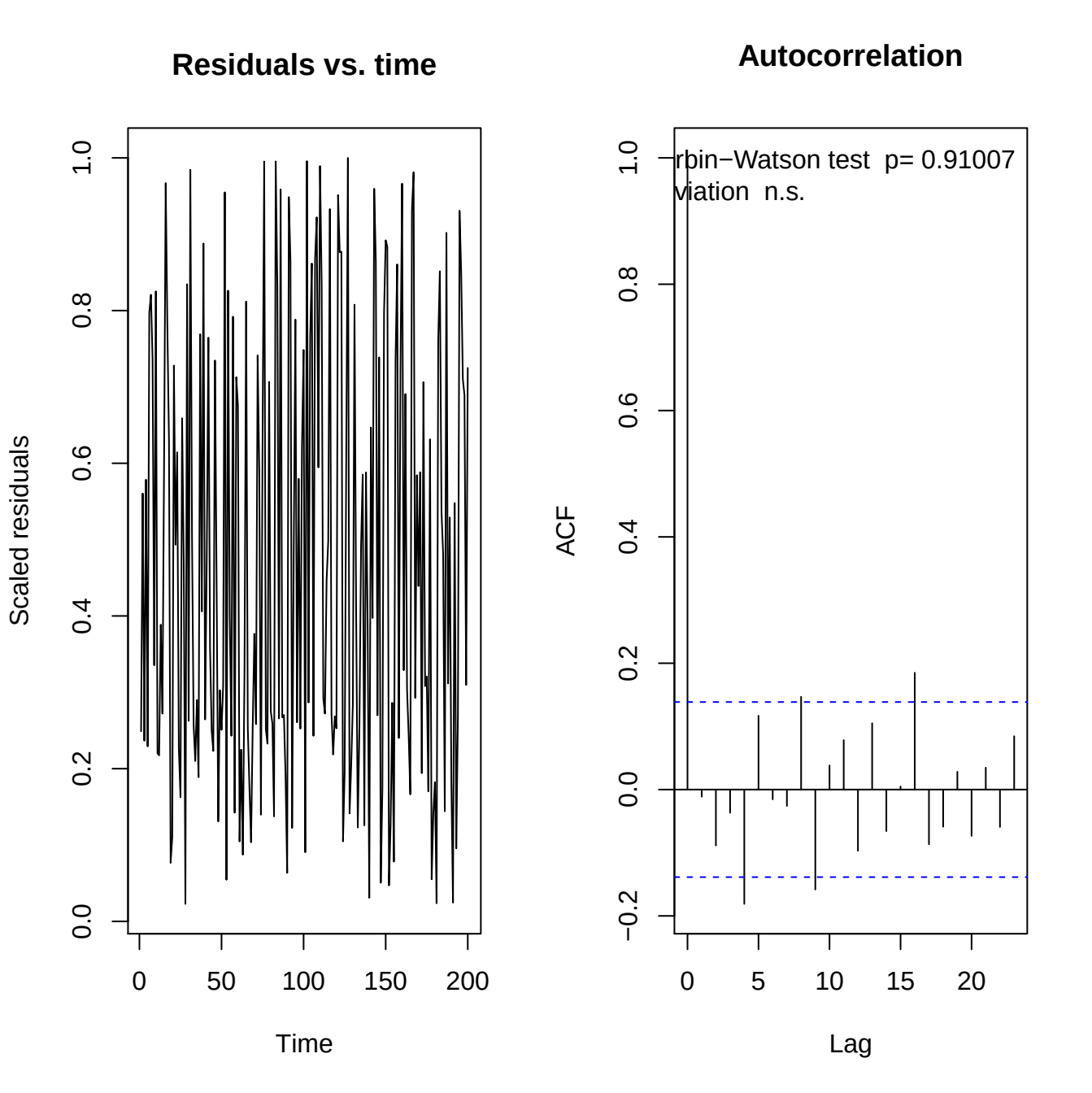

DHARMa Moran's I test for spatial autocorrelation
y
x
0.0
0.2
0.4
0.6
0.8
1.0

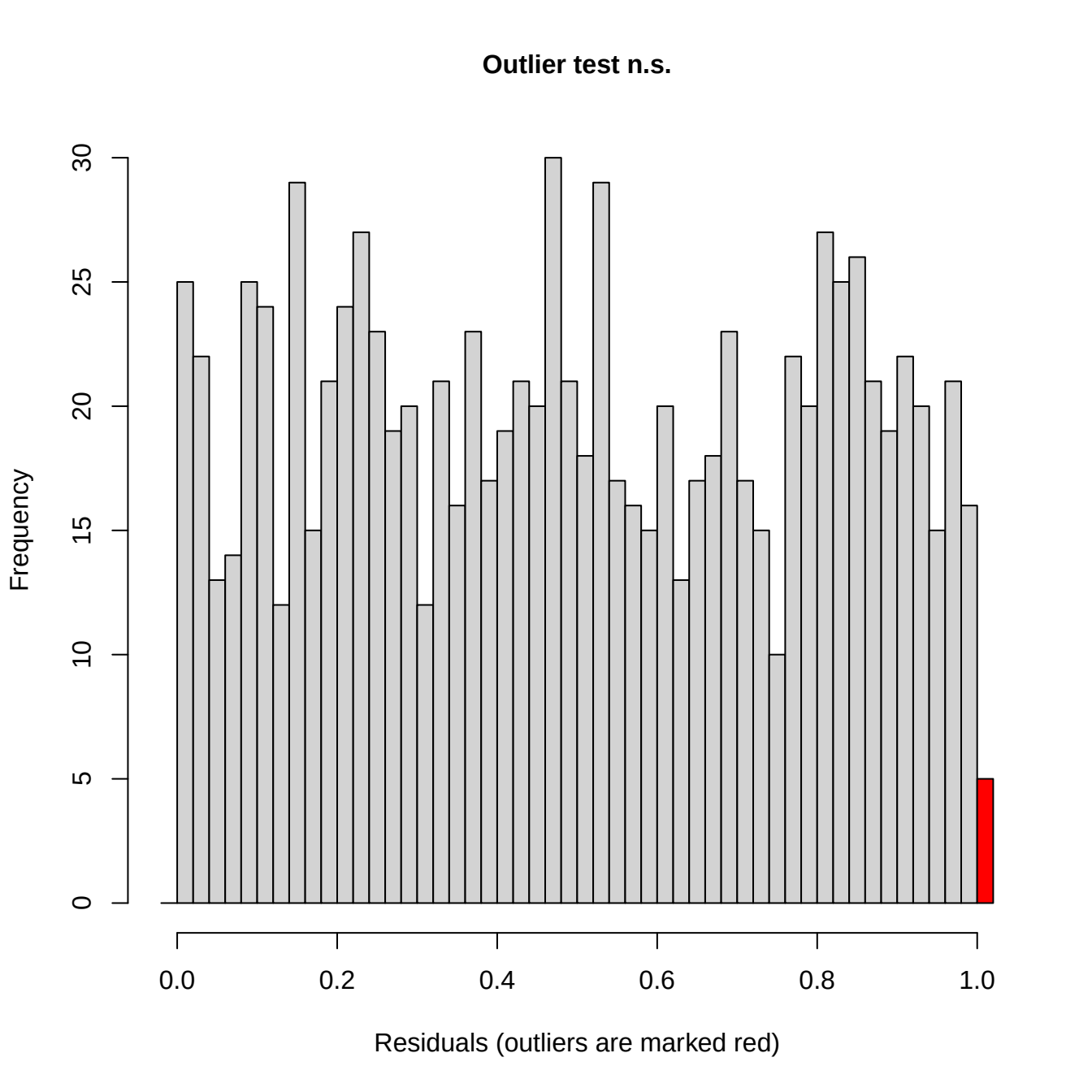

DHARMa Moran's I test for spatial autocorrelation
y
x
1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

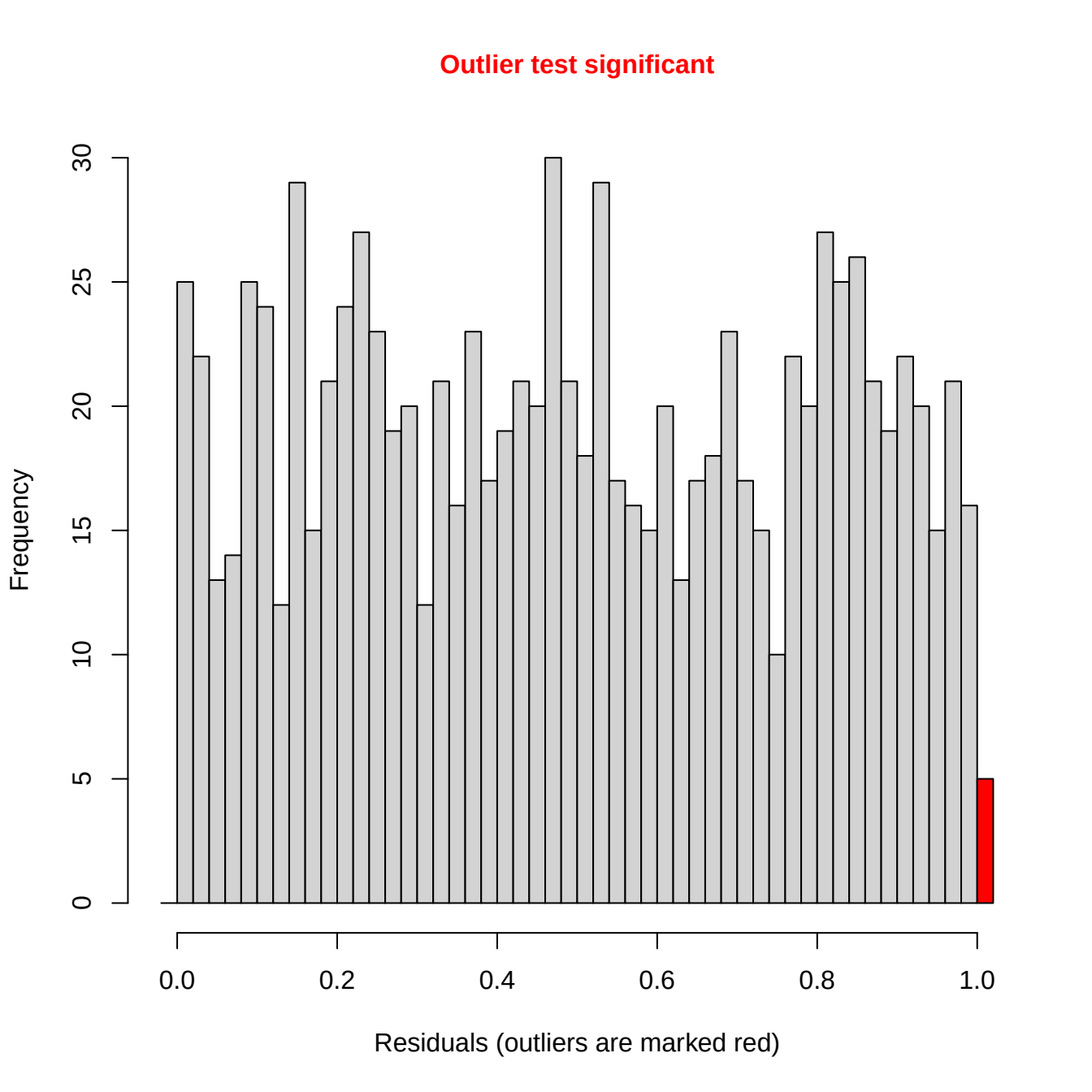

DHARMa Moran's I test for spatial autocorrelation
y
x
1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

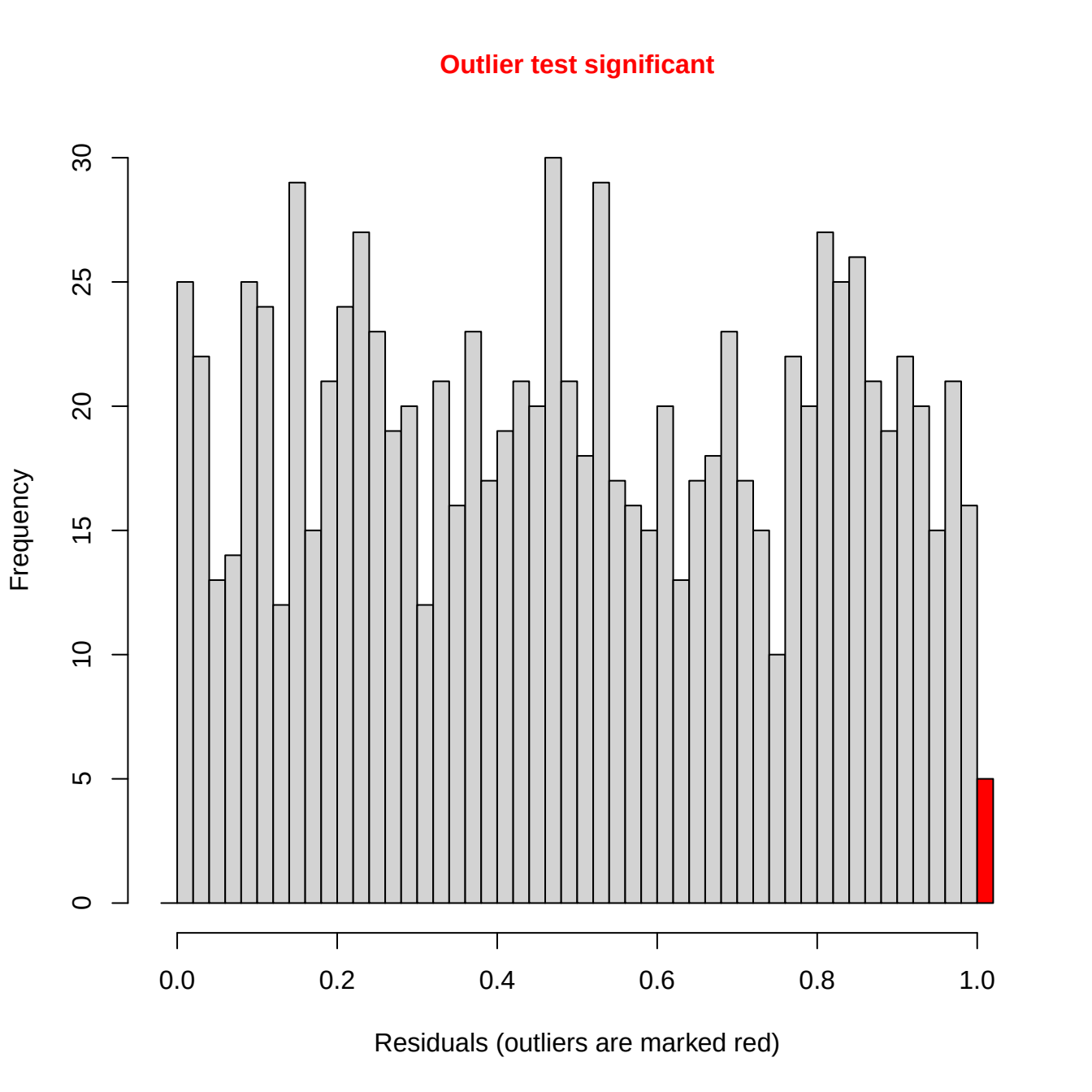

Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time
Autocorrelation
rbin−Watson test p= 0.91525
viation n.s.
ACF
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag

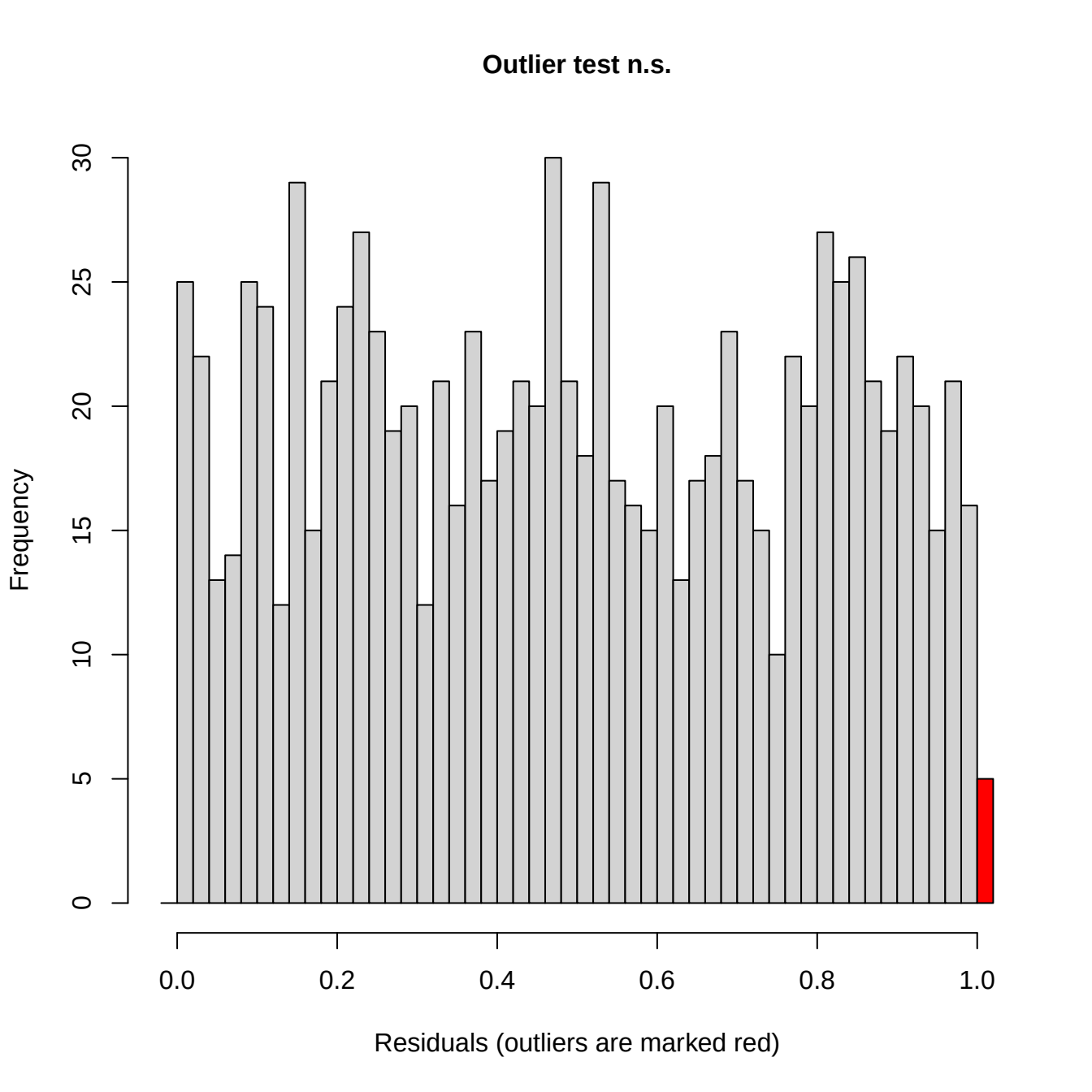

Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time
Autocorrelation
rbin−Watson test p= 0.91525
viation n.s.
ACF
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag


Residuals vs. time
Scaled residuals
0.0
0.2
0.4
0.6
0.8
1.0
0
50
100
150
200
Time
Autocorrelation
rbin−Watson test p= 0.91007
viation n.s.
ACF
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
Lag


Outlier test n.s.
Frequency
0
5
10
15
20
25
30
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)


Outlier test significant
Frequency
0
5
10
15
20
25
30
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)


Outlier test significant
Frequency
0
5
10
15
20
25
30
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)


Outlier test n.s.
Frequency
0
5
10
15
20
25
30
0.0
0.2
0.4
0.6
0.8
1.0
Residuals (outliers are marked red)