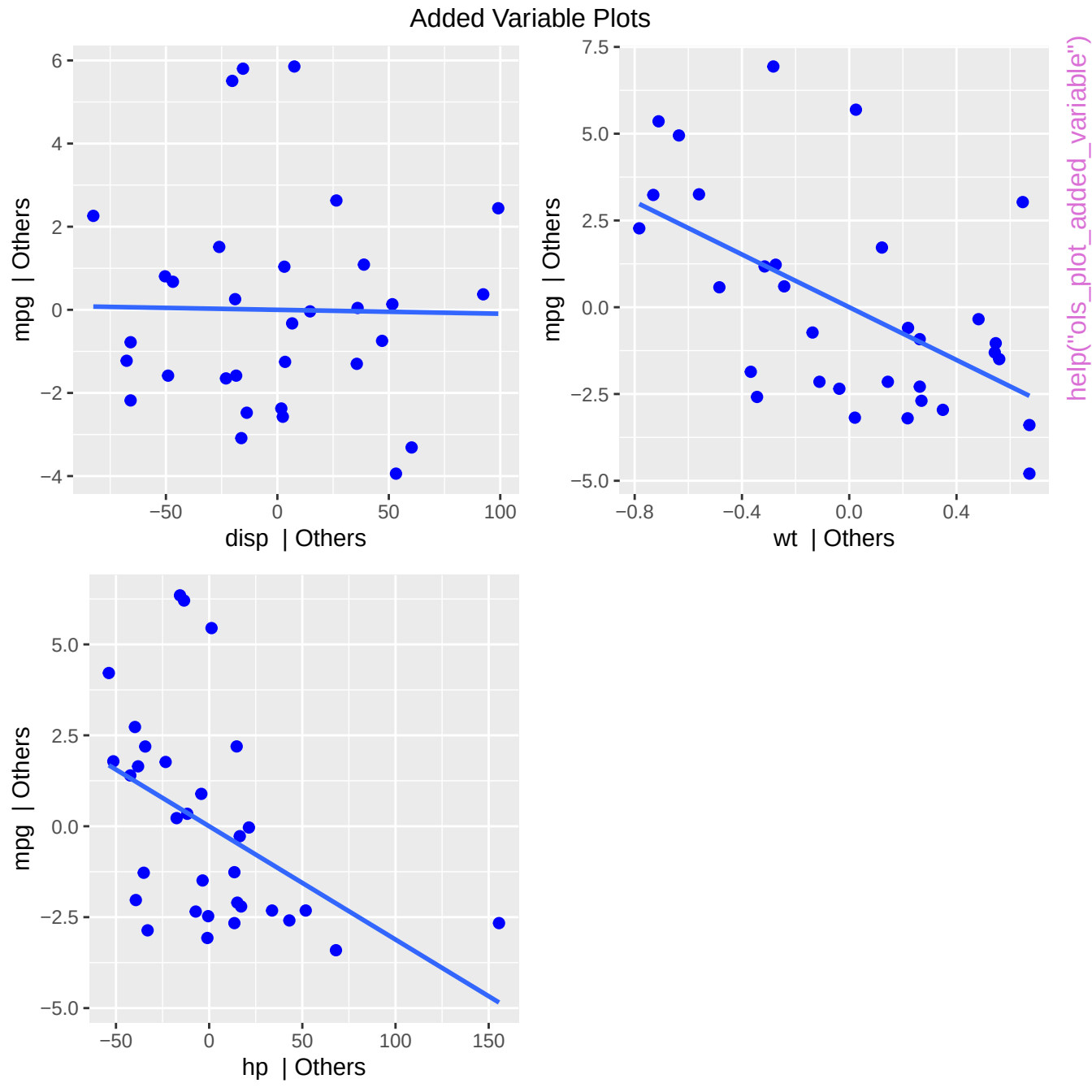
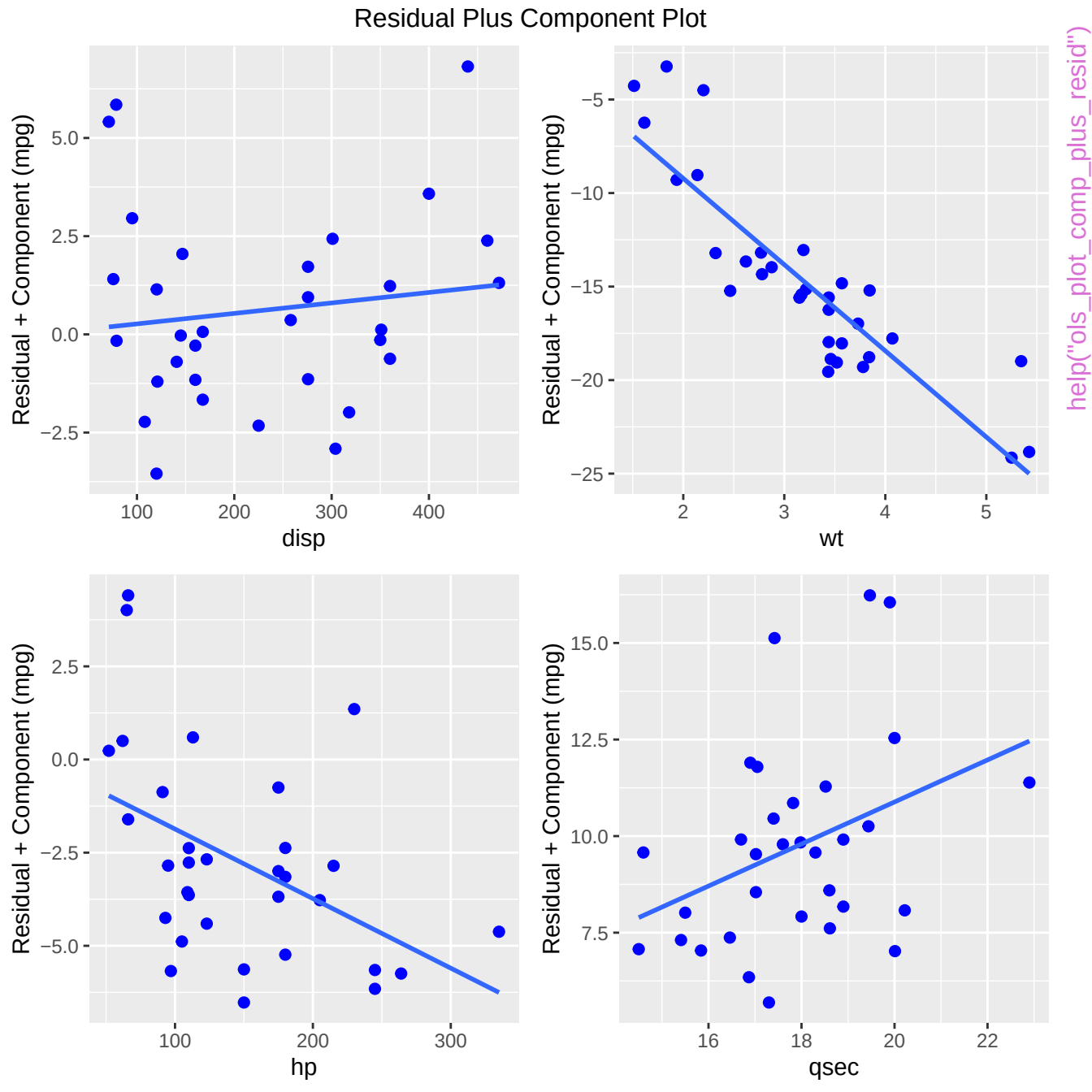
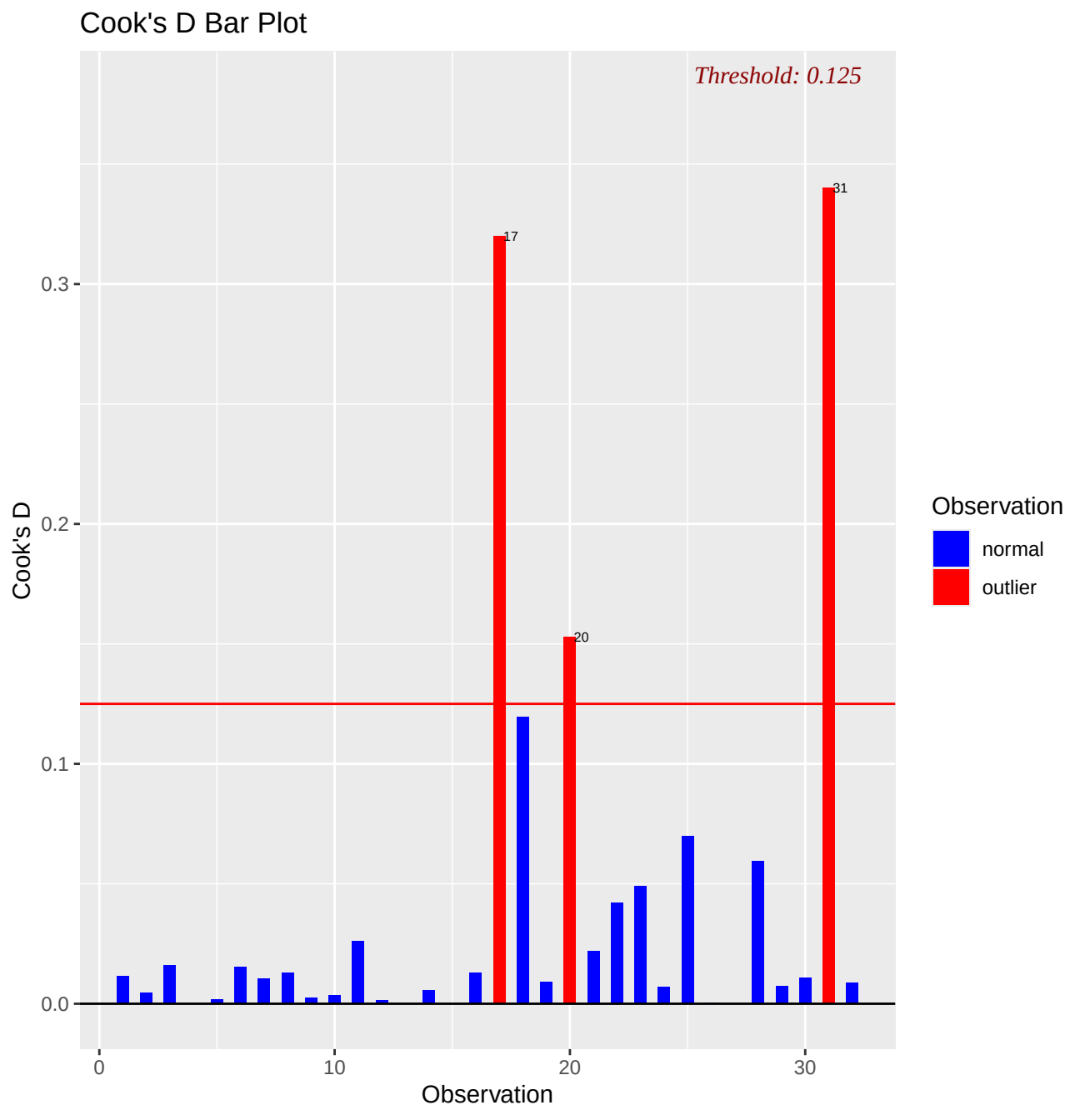
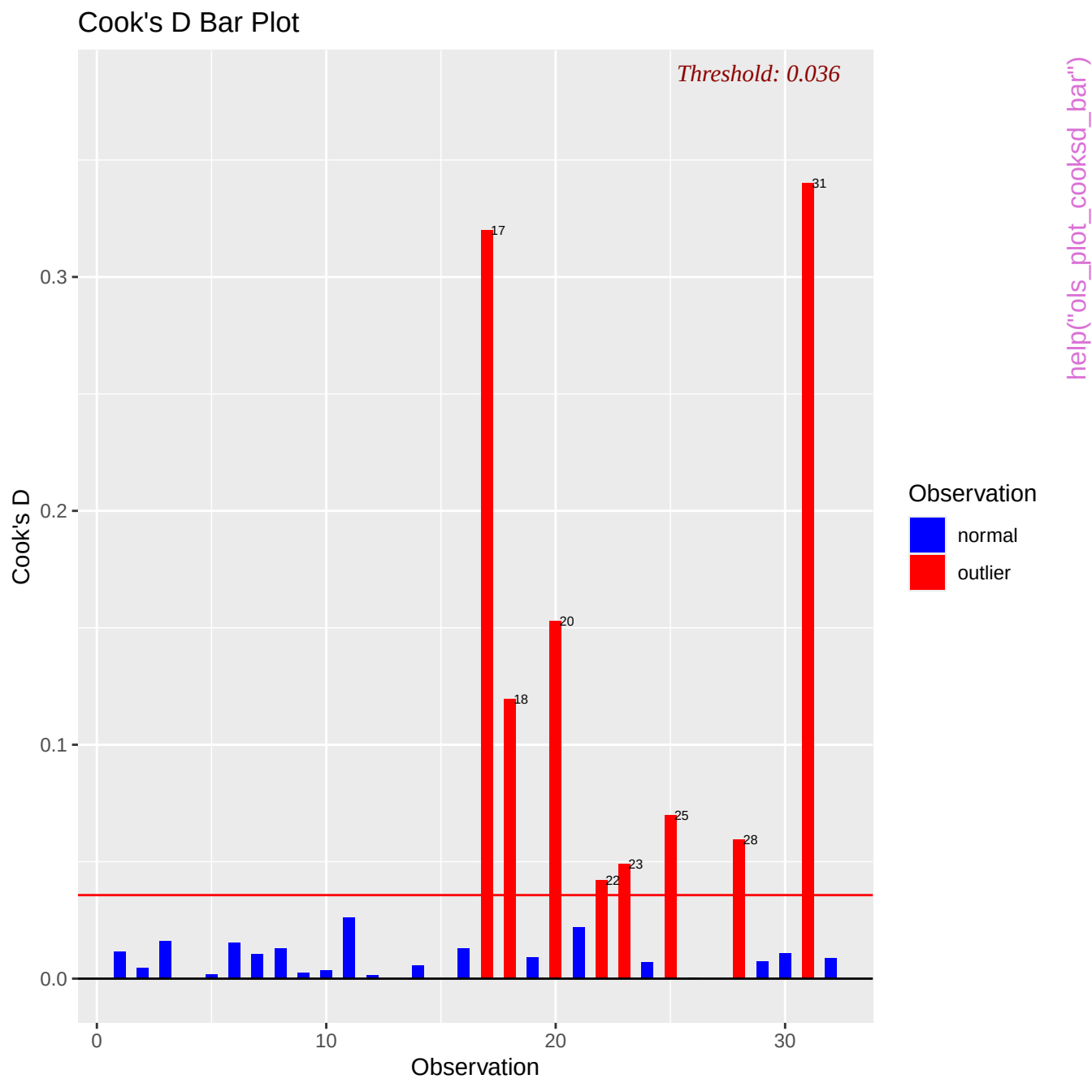
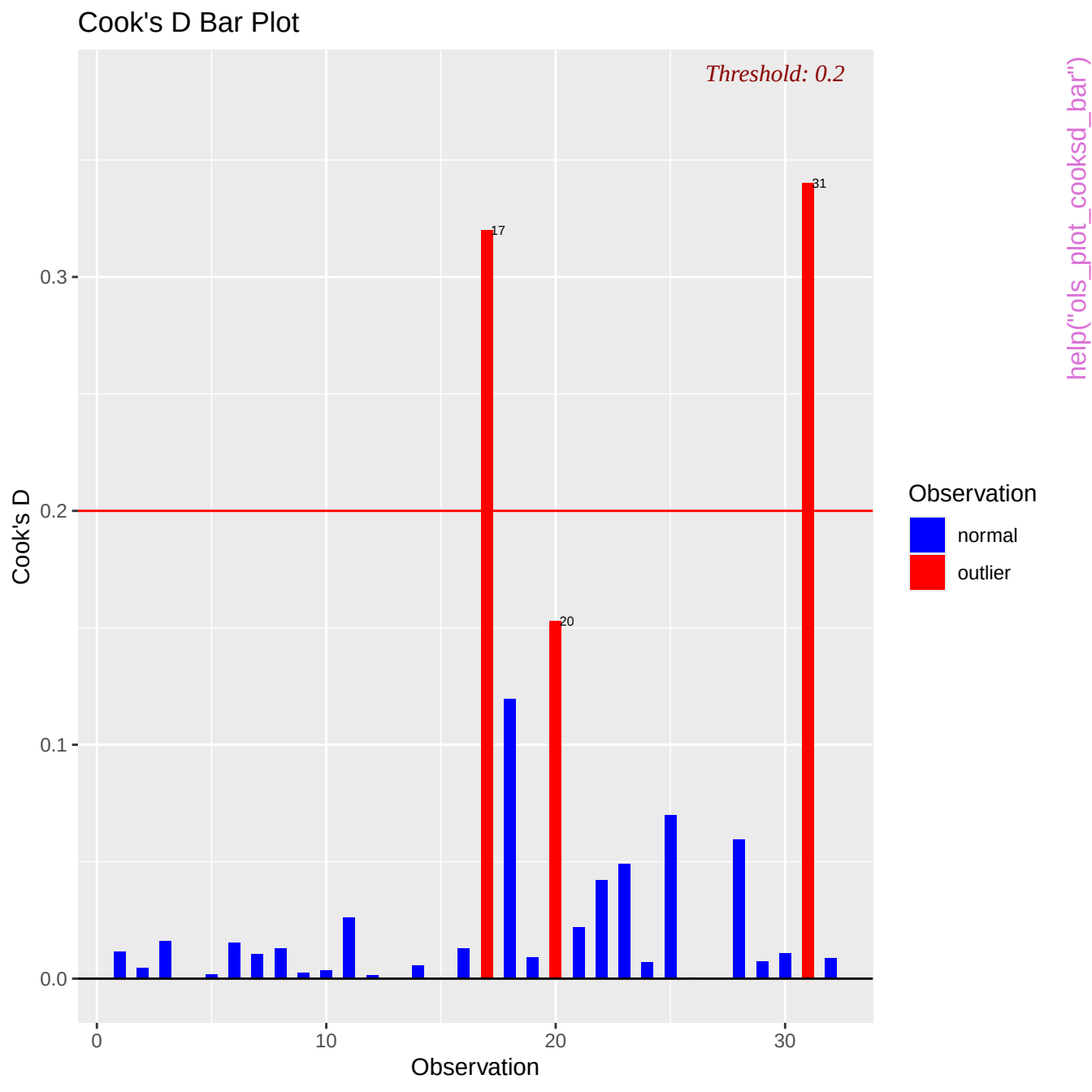
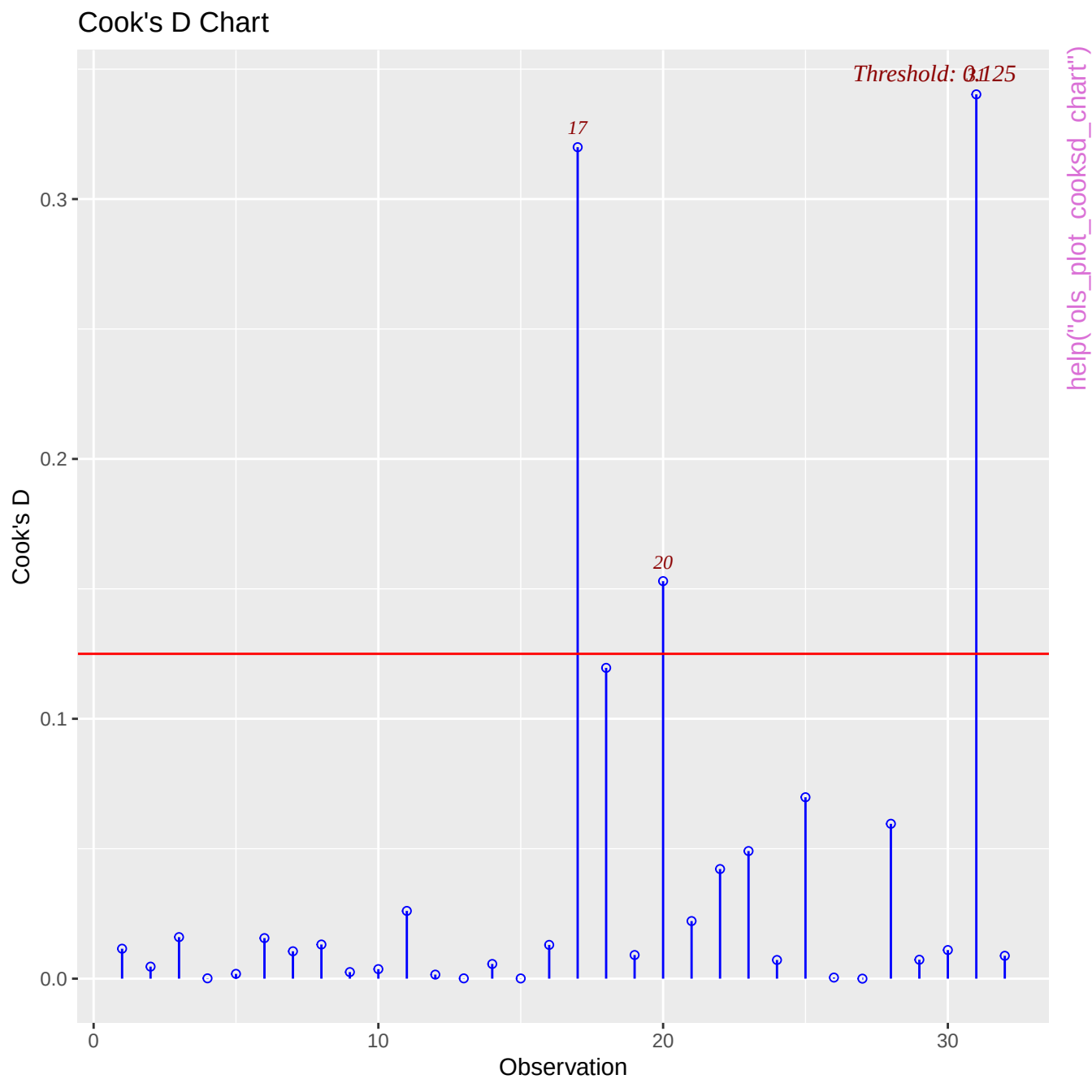

Added Variable Plots
mpg | Others
disp | Others
wt | Others
hp | Others
help("ols_plot_added_variable")

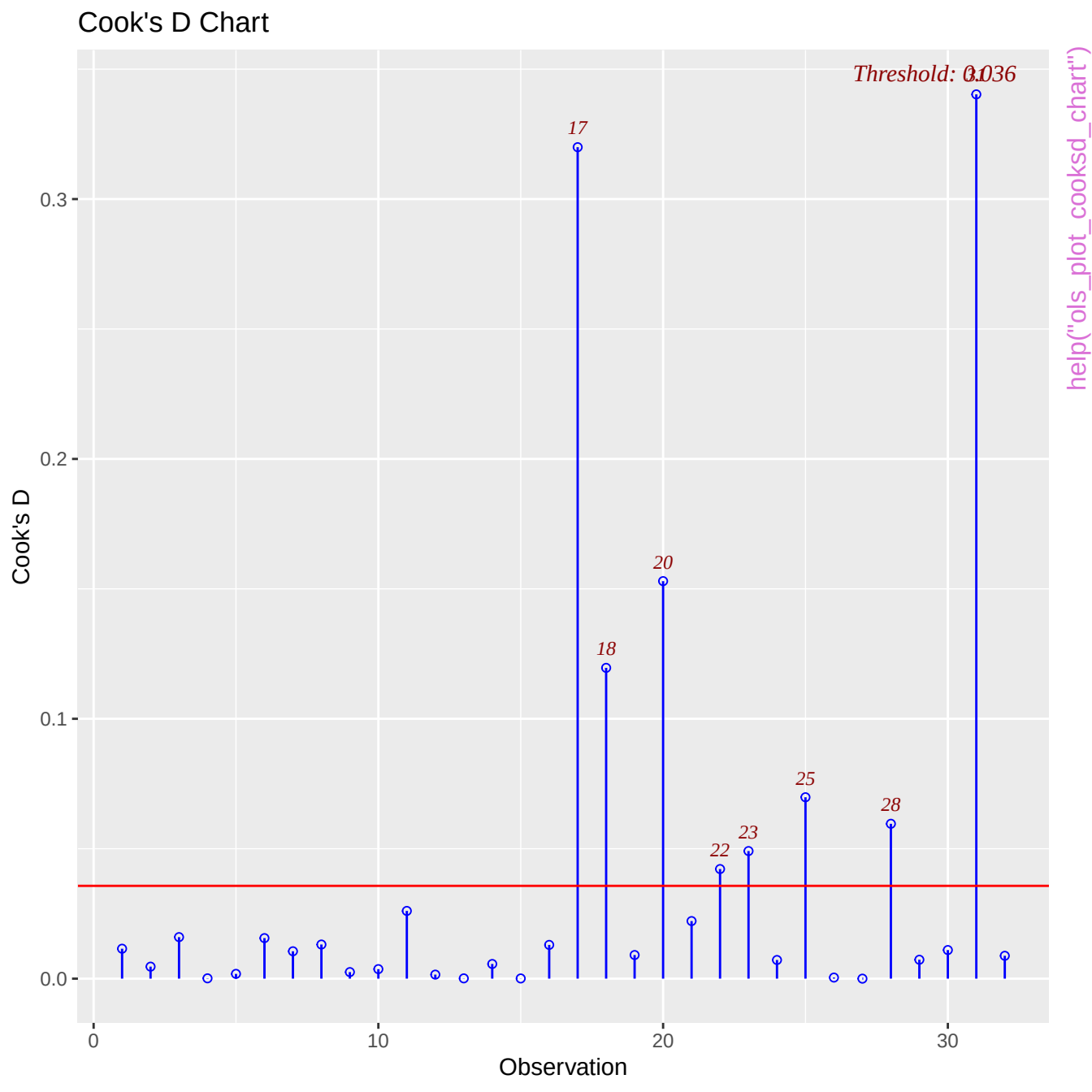

Residual Plus Component Plot
Residual + Component (mpg)
5.0
2.5
0.0
−2.5
100
200
300
400
disp
Residual + Component (mpg)
−5
−10
−15
−20
−25
2
3
4
5
wt
help("ols_plot_comp_plus_resid")
Residual + Component (mpg)
2.5
0.0
−2.5
−5.0
100
200
300
hp
Residual + Component (mpg)
15.0
12.5
10.0
7.5
16
18
20
22
qsec

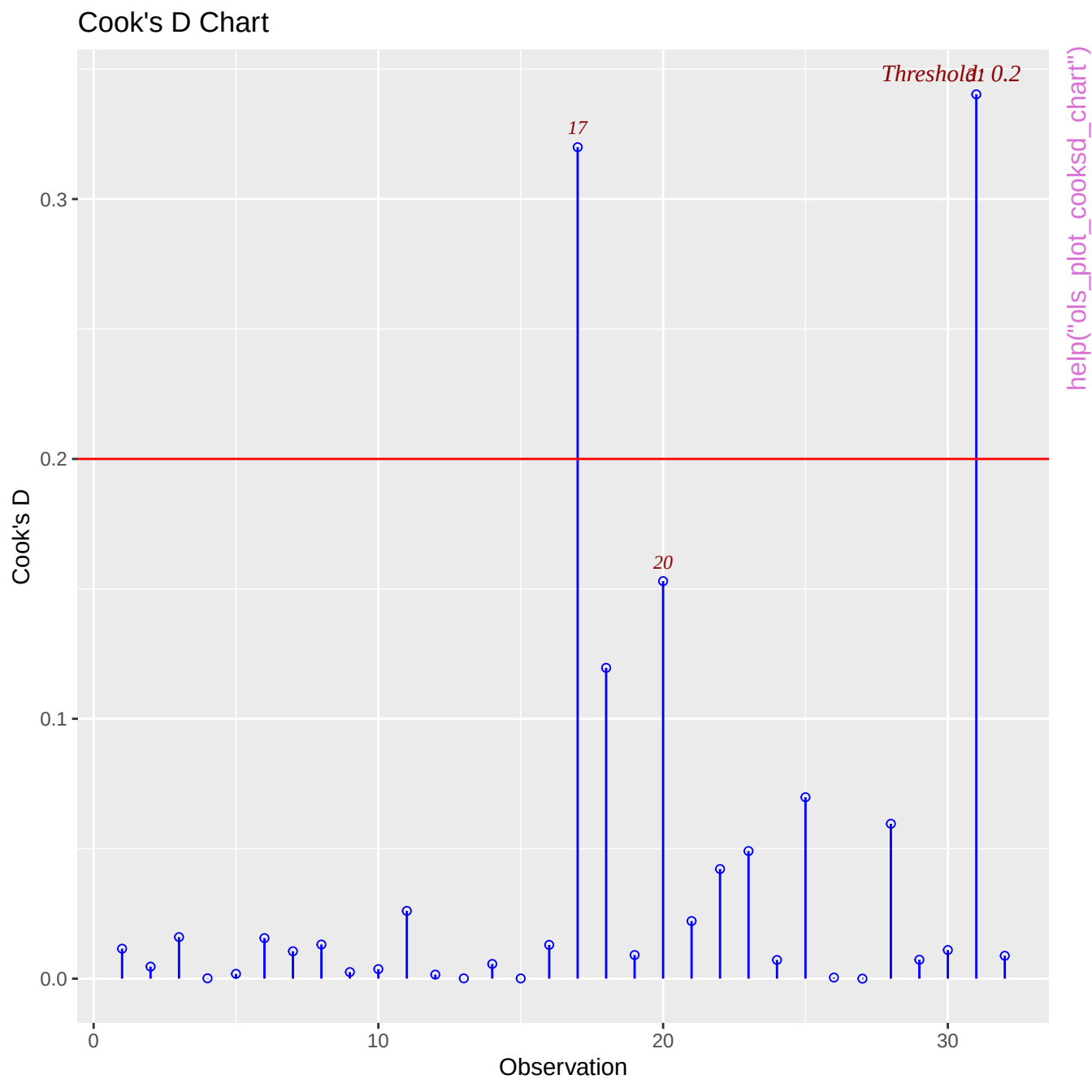

Cook's D Bar Plot
Threshold: 0.125
17
20
31
0.3
0.2
0.1
0.0
Cook's D
0
10
20
30
Observation
Observation
normal
outlier
help("ols_plot_cooksd_bar")

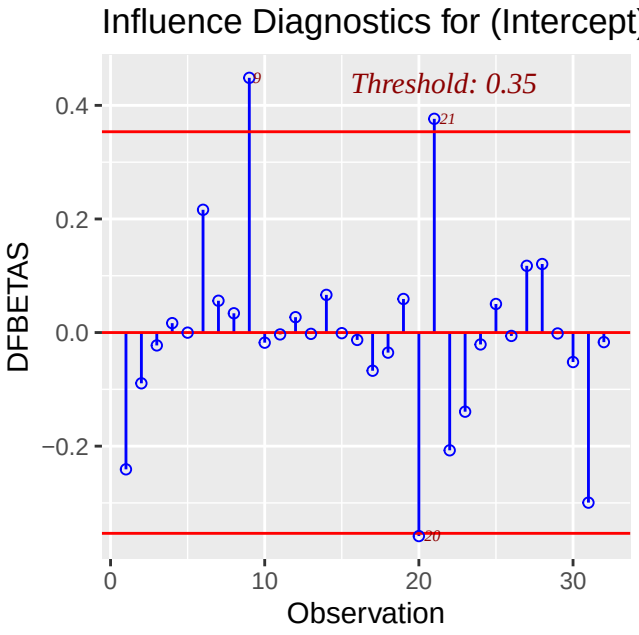

Cook's D Bar Plot
Threshold: 0.036
Cook's D
0.0
0.1
0.2
0.3
0
10
20
30
Observation
17
18
20
22
23
25
28
31
Observation
normal
outlier
help("ols_plot_cooksd_bar")

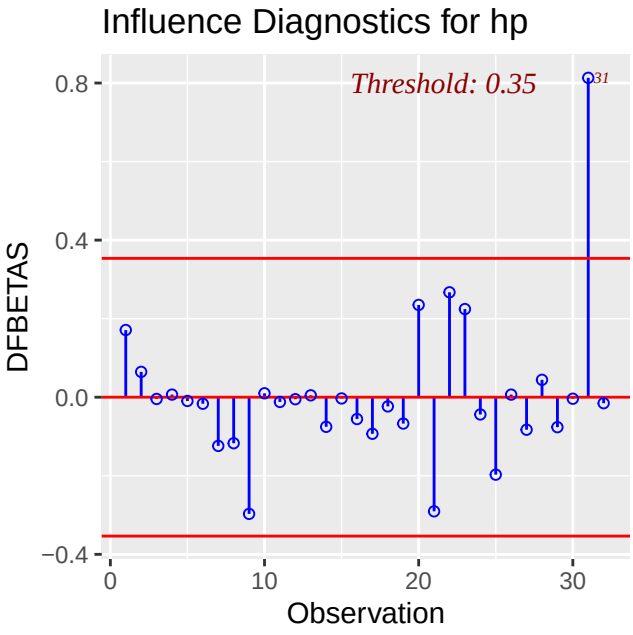

Cook's D Bar Plot
Threshold: 0.2
17
20
31
0.3
0.2
0.1
0.0
Cook's D
0
10
20
30
Observation
Observation
normal
outlier
help("ols_plot_cooksd_bar")

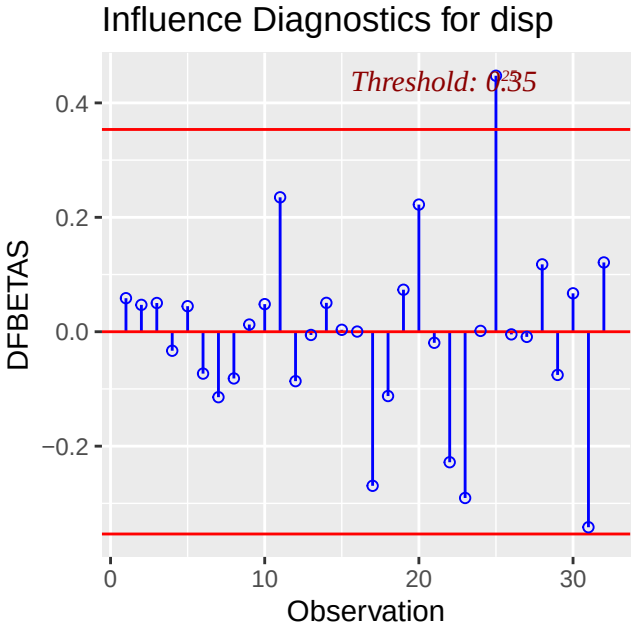

Cook's D Chart
Threshold: 0.125
17
20
31
Cook's D
0.0
0.1
0.2
0.3
0
10
20
30
Observation
help("ols_plot_cooksd_chart")

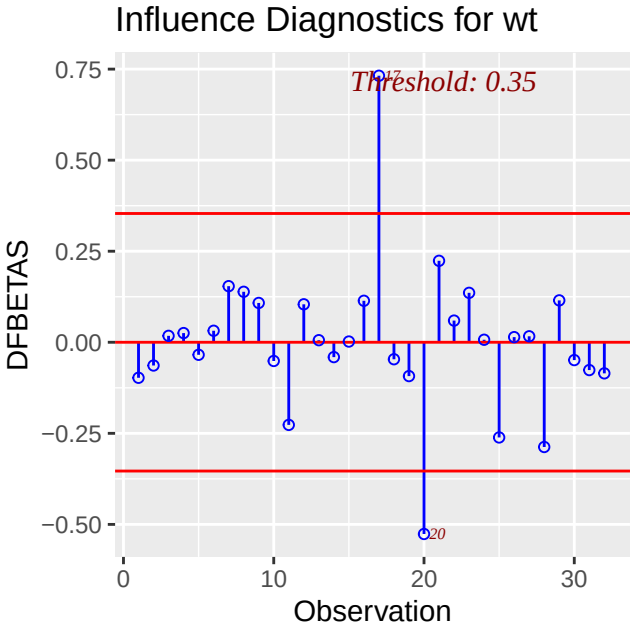

Cook's D Chart
Threshold: 0.036
17
18
20
22
23
25
28
31
0.3
0.2
0.1
0.0
Cook's D
0
10
20
30
Observation
help("ols_plot_cooksd_chart")


Cook's D Chart
Threshold 0.2
17
20
31
0.3
0.2
0.1
0.0
Cook's D
0
10
20
30
Observation
help("ols_plot_cooksd_chart")

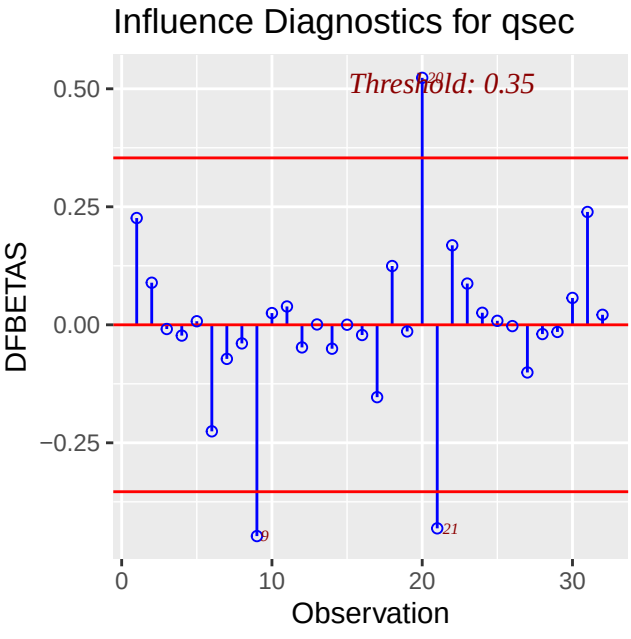




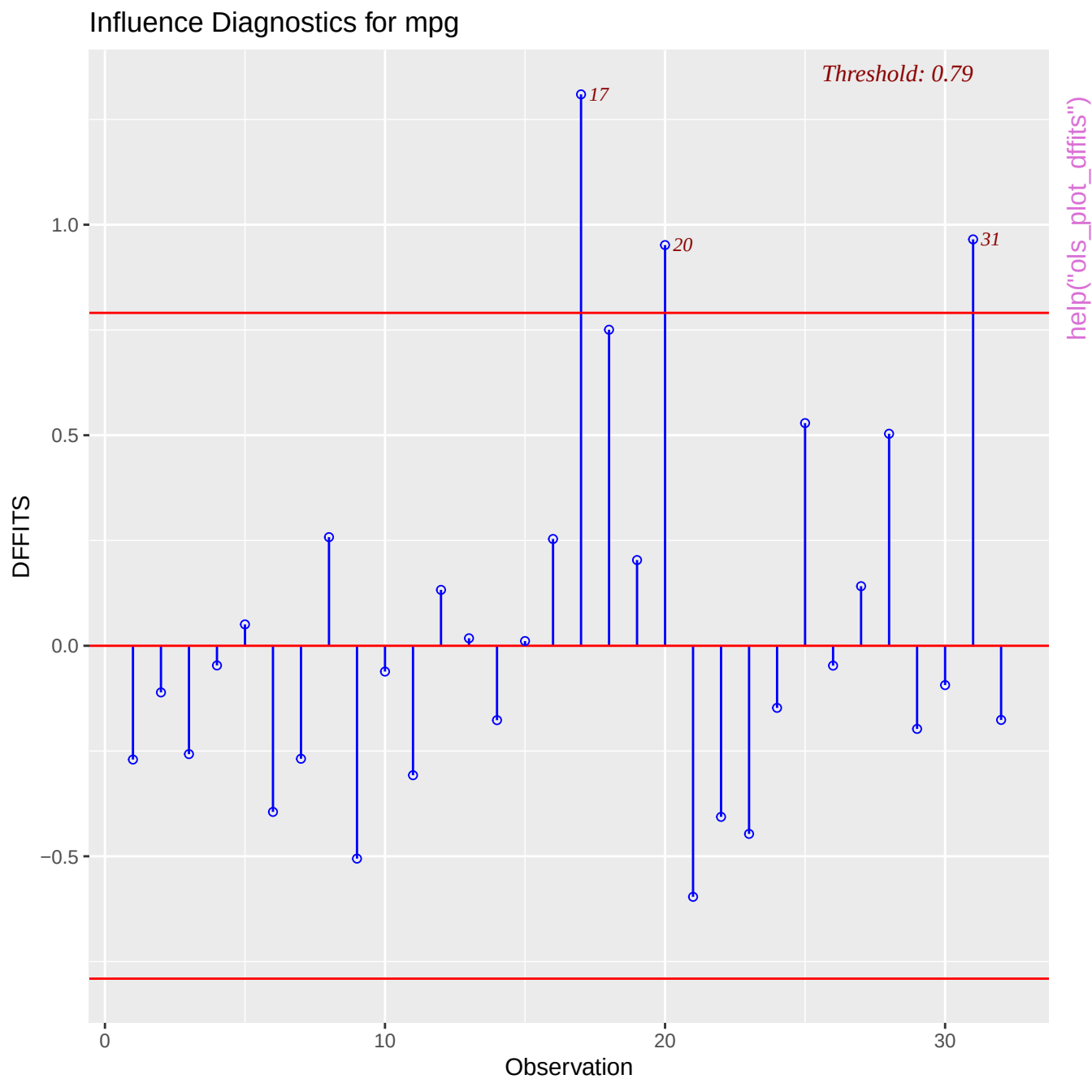


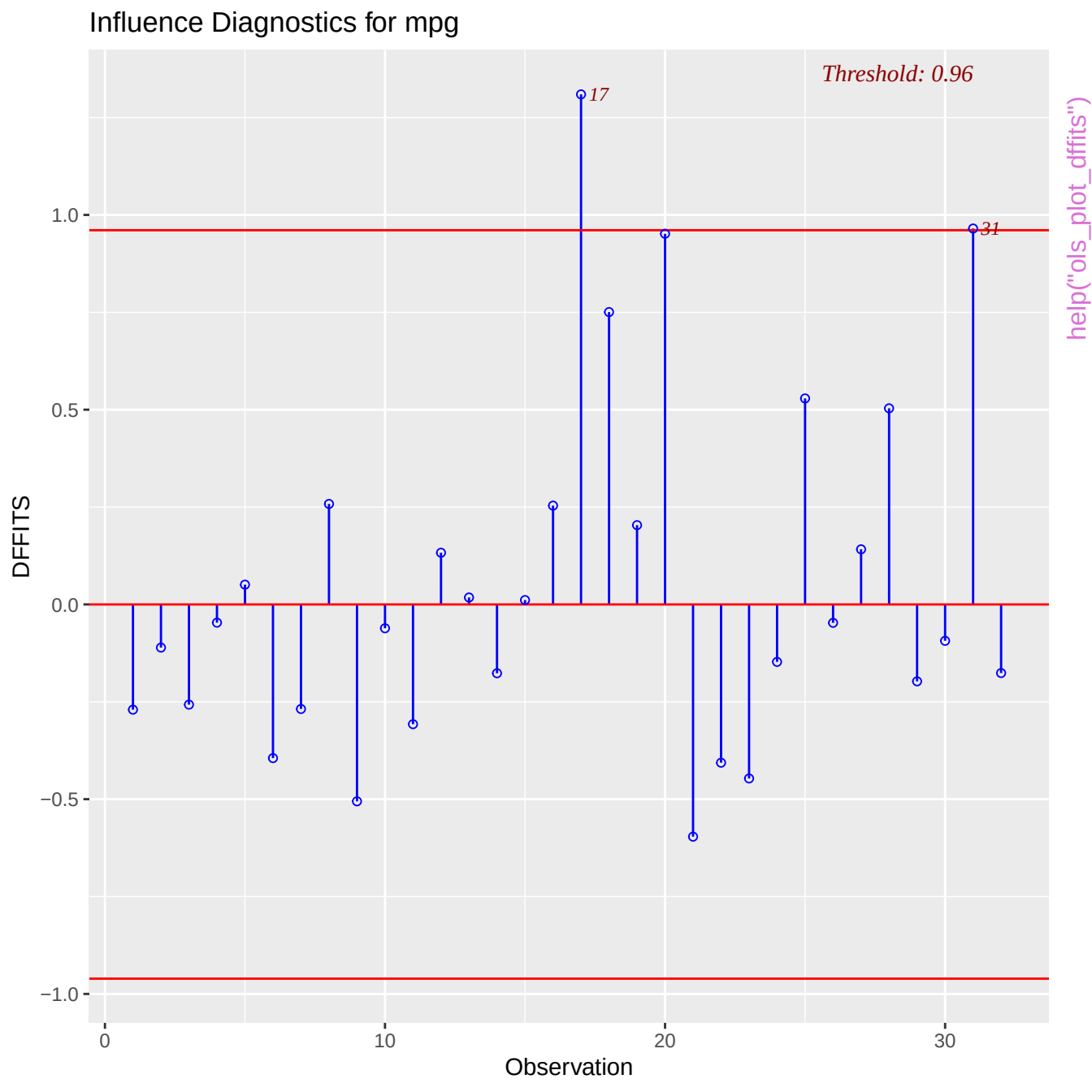


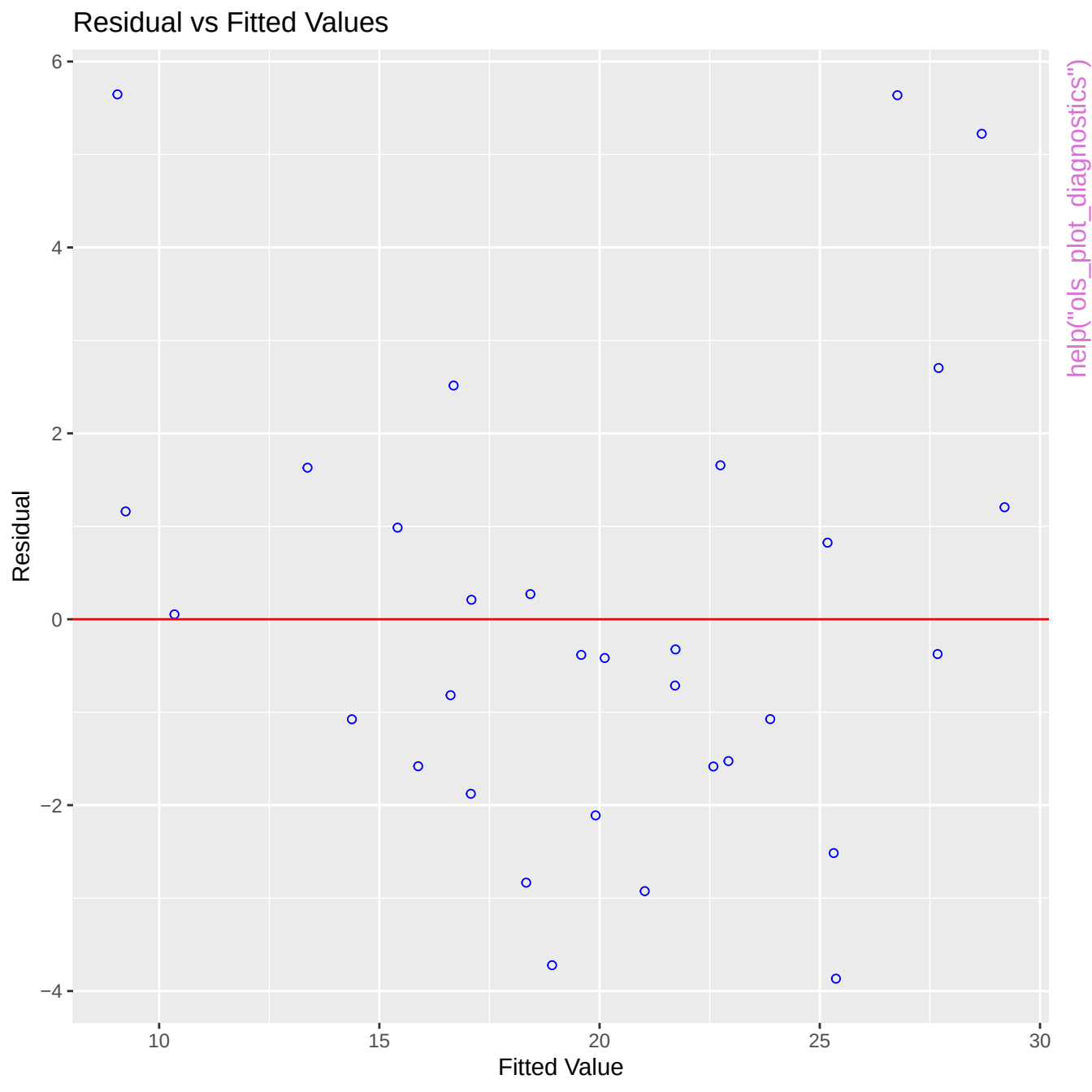
help("ols_plot_dfbetas")

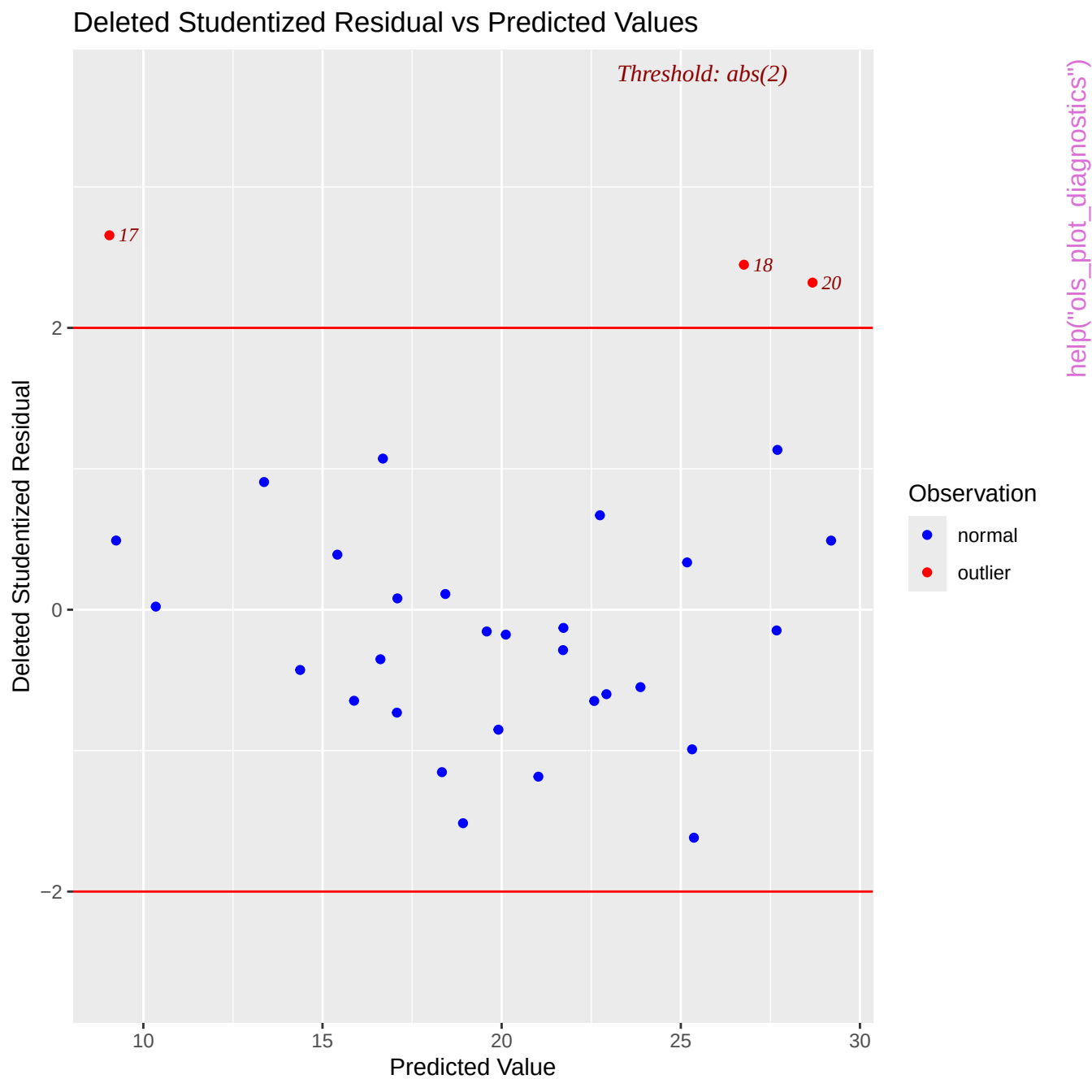


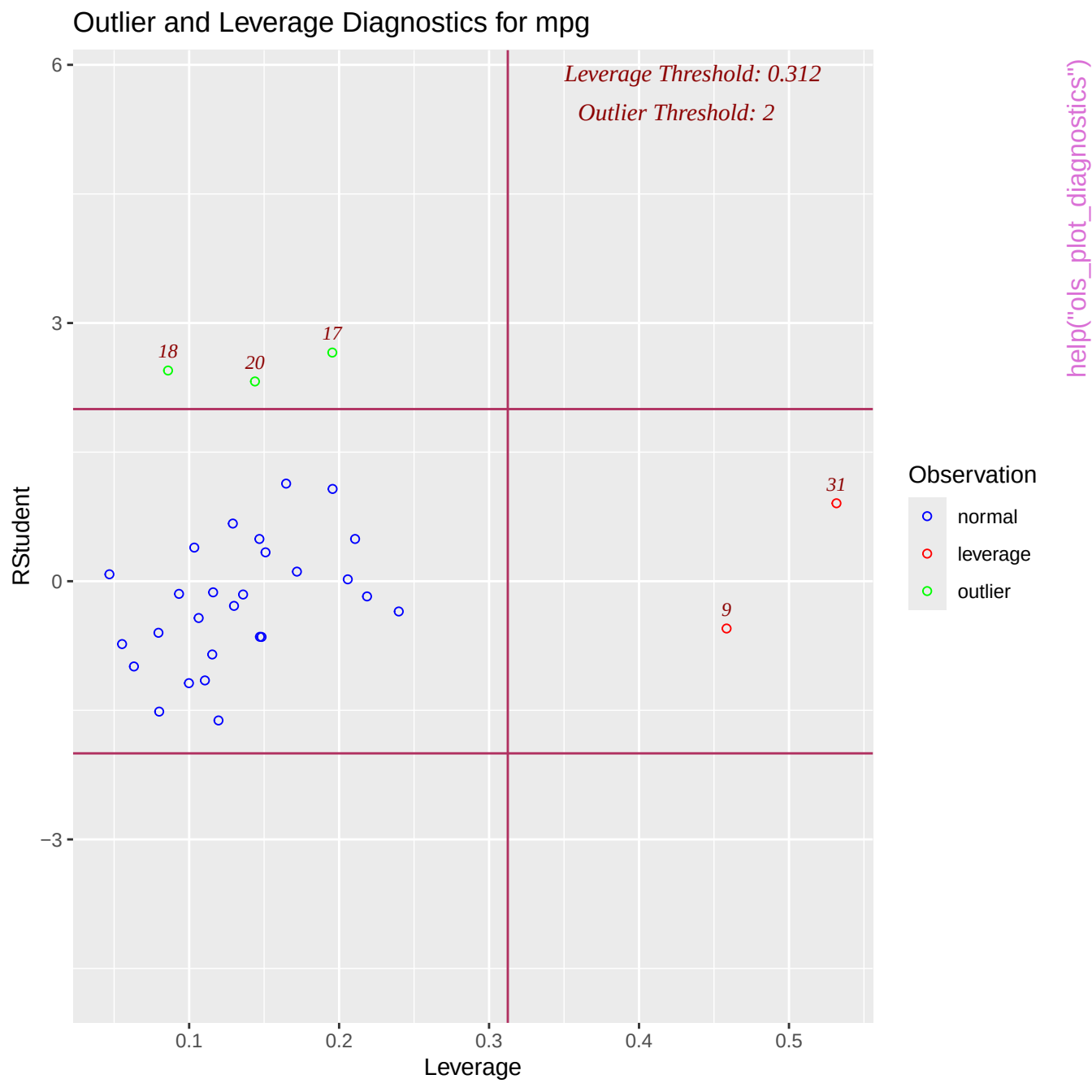
help("ols_plot_dfbetas")

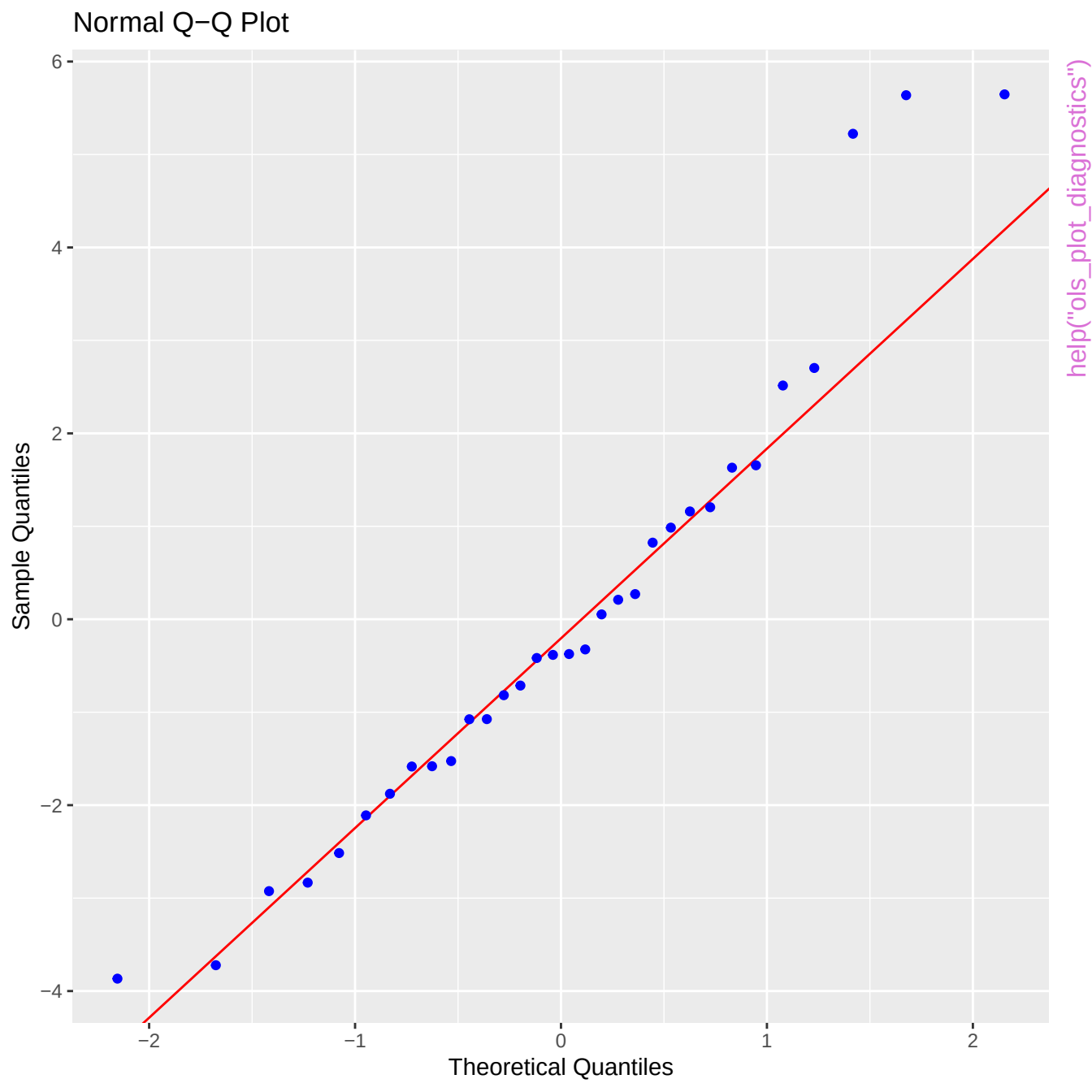

Influence Diagnostics for mpg
Threshold: 0.79
17
20
31
1.0
0.5
0.0
−0.5
DFFITS
0
10
20
30
Observation
help("ols_plot_dffits")

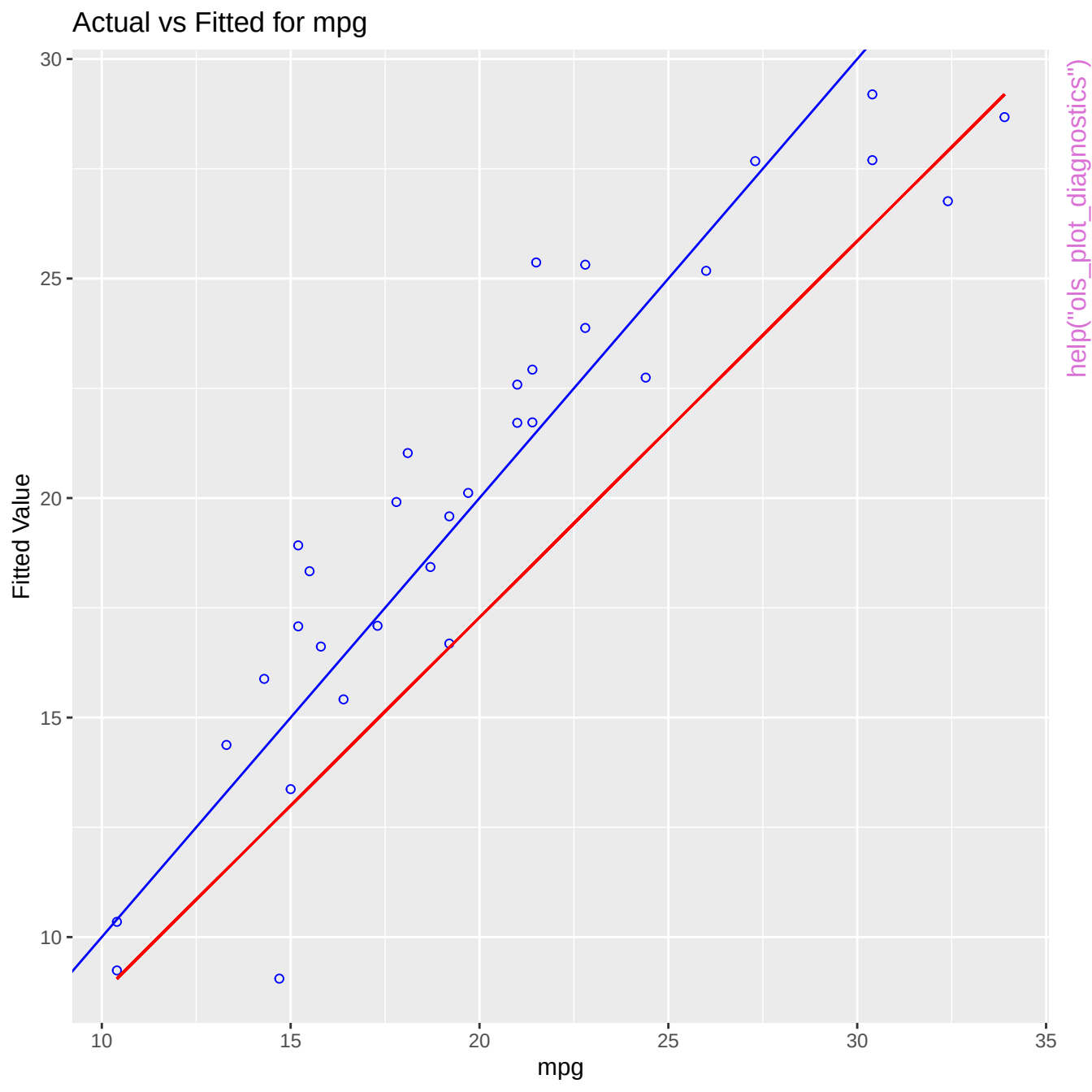

Influence Diagnostics for mpg
Threshold: 0.96
17
31
1.0
0.5
0.0
−0.5
−1.0
DFFITS
0
10
20
30
Observation
help("ols_plot_dffits")

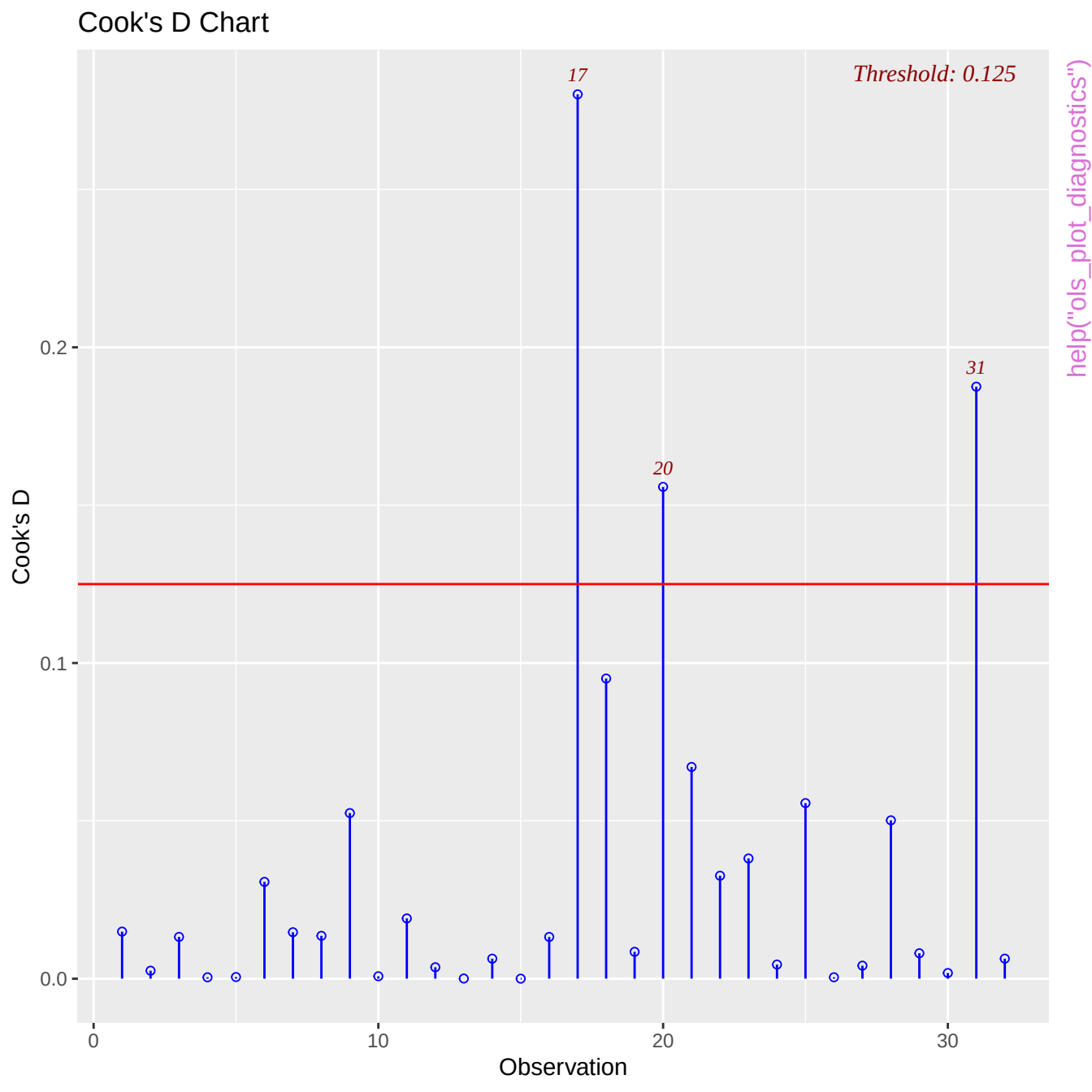

Residual vs Fitted Values
help("ols_plot_diagnostics")
Residual
Fitted Value
6
4
2
0
−2
−4
10
15
20
25
30

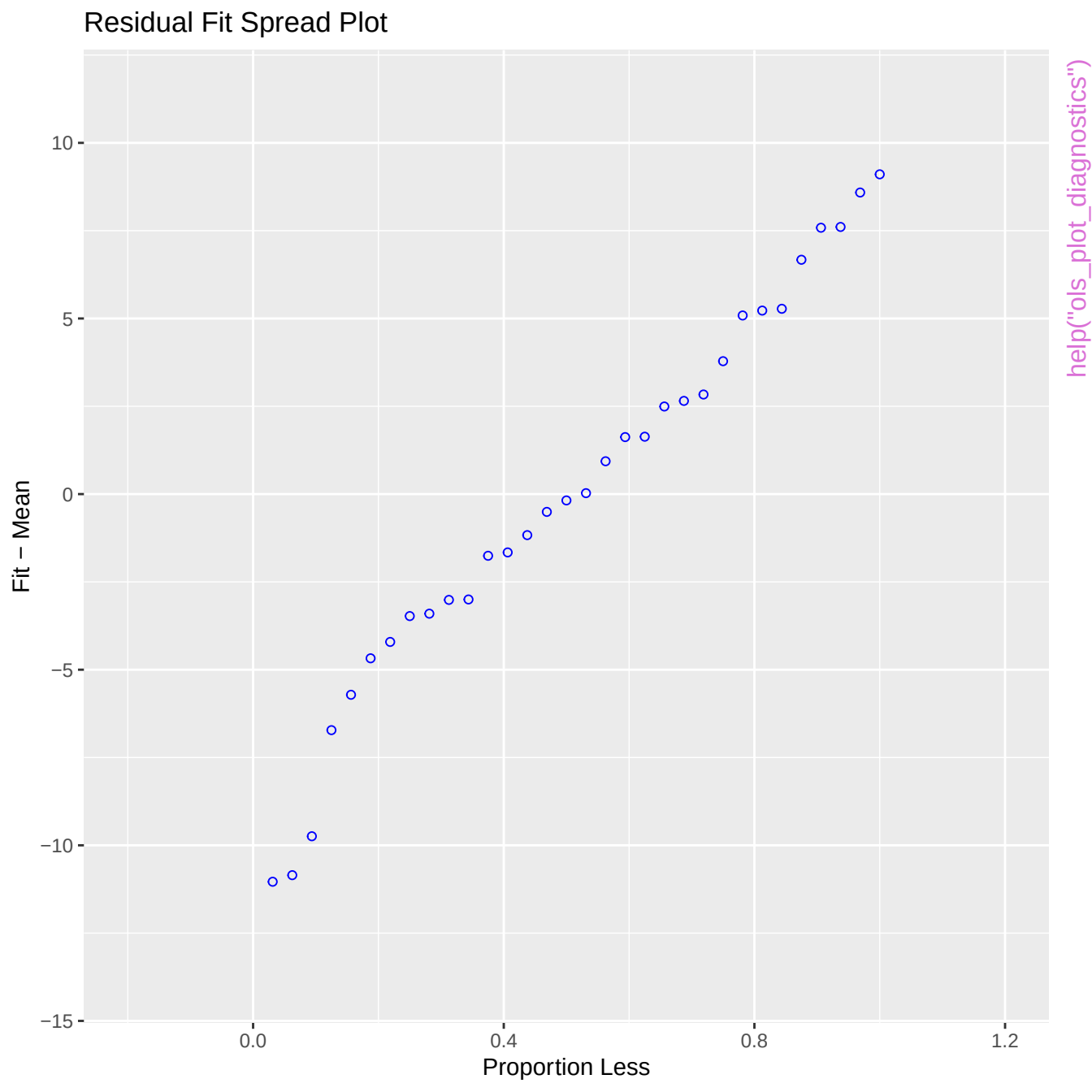

Deleted Studentized Residual vs Predicted Values
Threshold: abs(2)
17
18
20
2
0
−2
Deleted Studentized Residual
10
15
20
25
30
Predicted Value
Observation
normal
outlier
help("ols_plot_diagnostics")

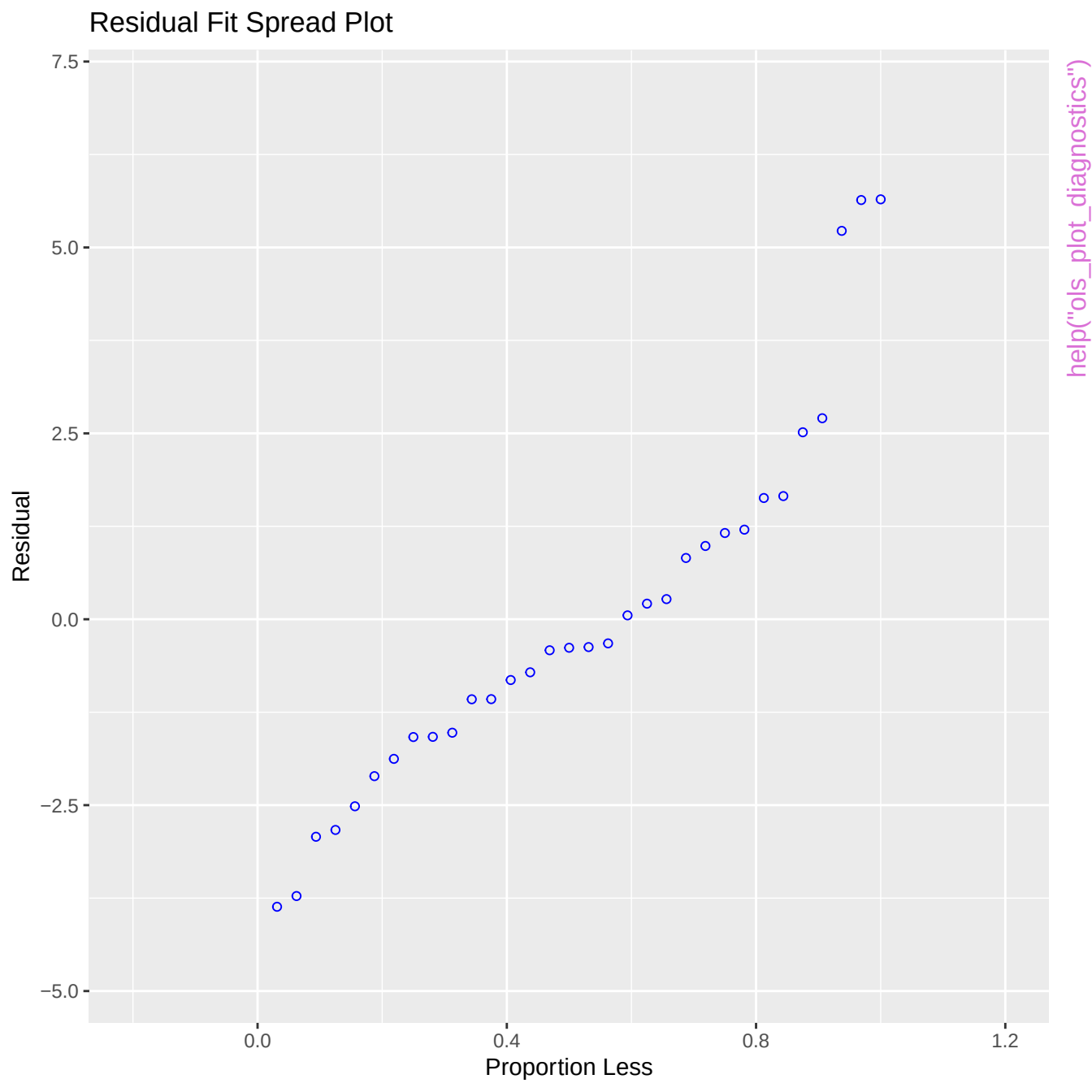

Outlier and Leverage Diagnostics for mpg
Leverage Threshold: 0.312
Outlier Threshold: 2
help("ols_plot_diagnostics")
RStudent
Leverage
6
3
0
−3
0.1
0.2
0.3
0.4
0.5
18
20
17
31
9
Observation
normal
leverage
outlier

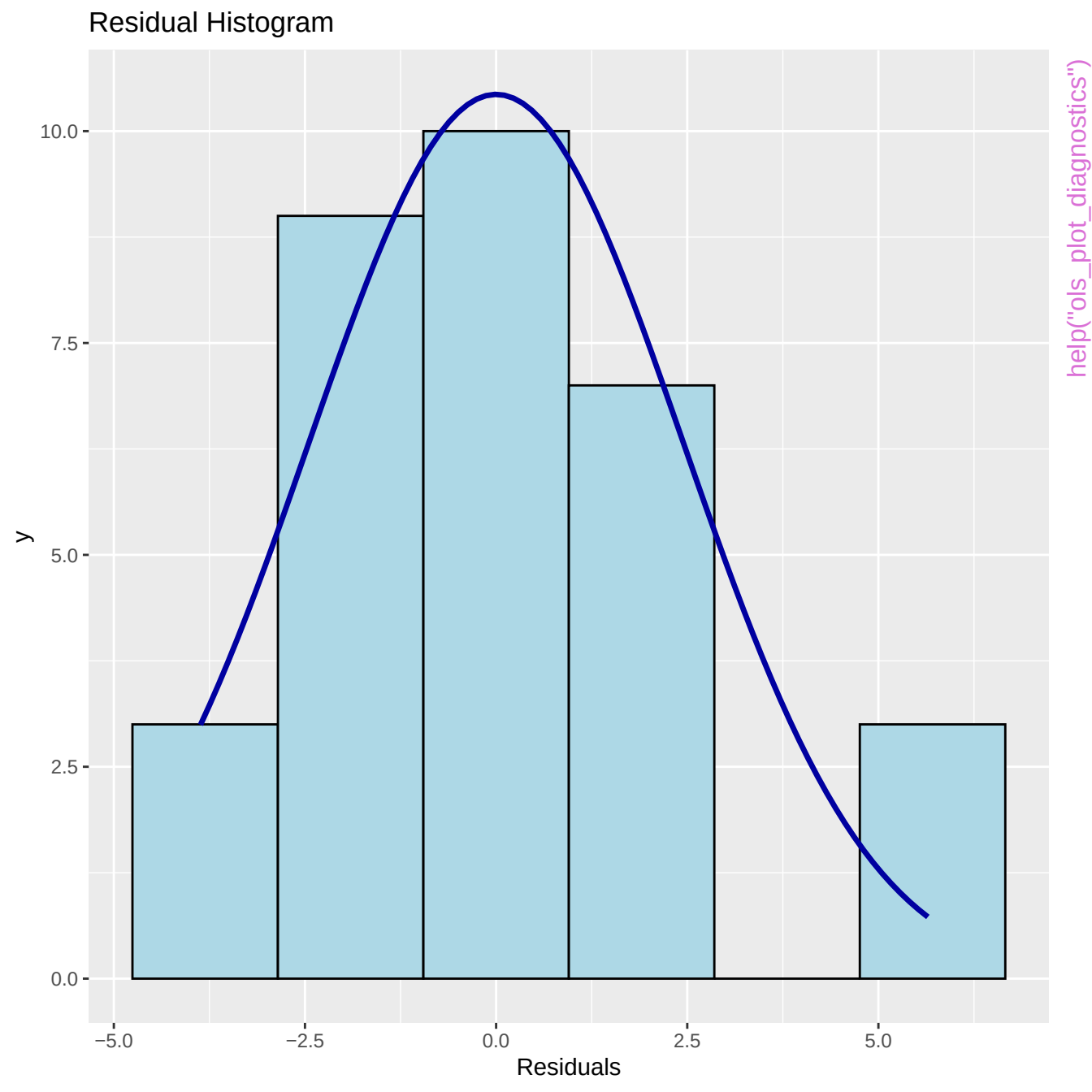

Normal Q−Q Plot
Sample Quantiles
Theoretical Quantiles
6
4
2
0
−2
−4
−2
−1
0
1
2
help("ols_plot_diagnostics")

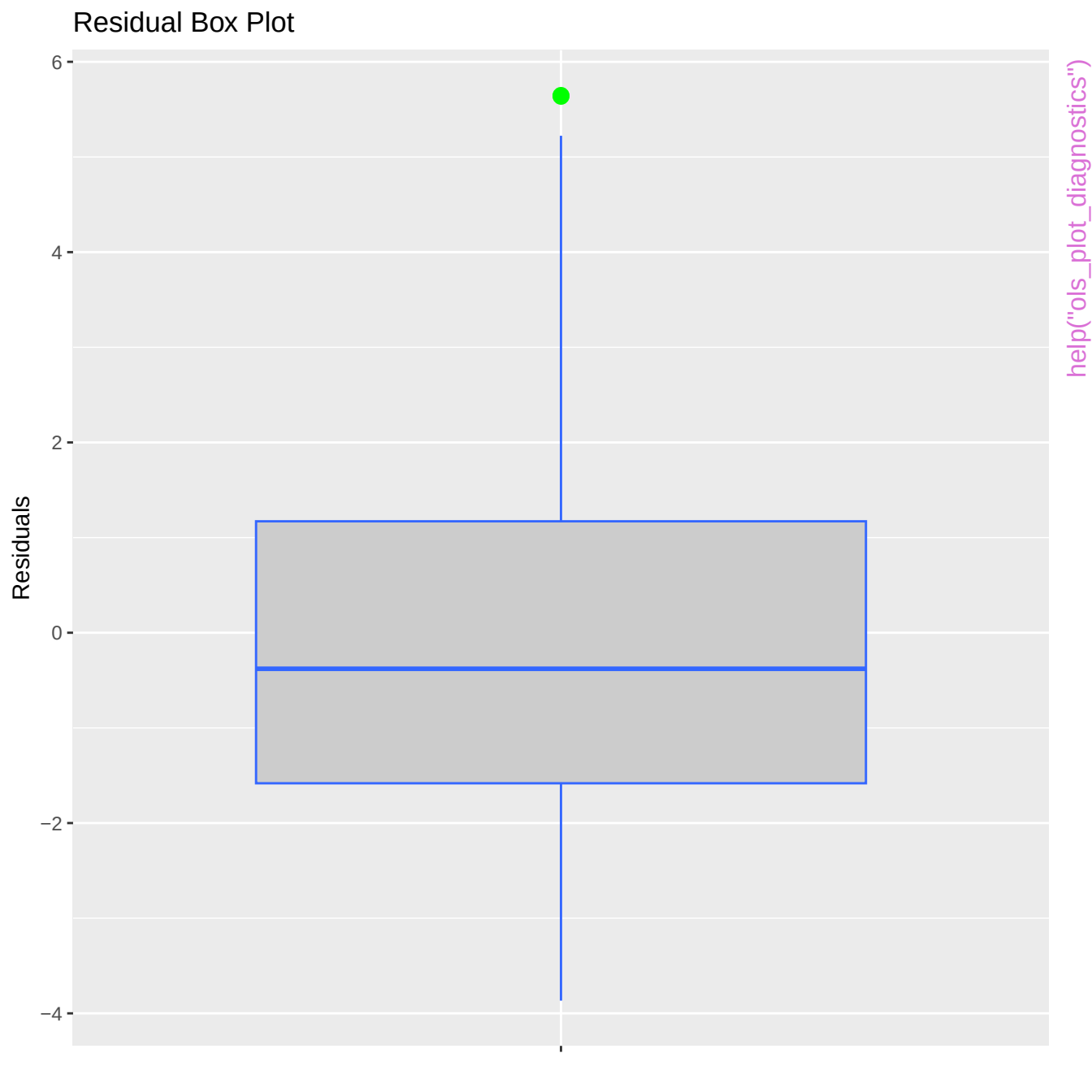

Actual vs Fitted for mpg
Fitted Value
mpg
30
25
20
15
10
10
15
20
25
30
35
help("ols_plot_diagnostics")


Cook's D Chart
Threshold: 0.125
17
20
31
Cook's D
0.0
0.1
0.2
0
10
20
30
Observation
help("ols_plot_diagnostics")

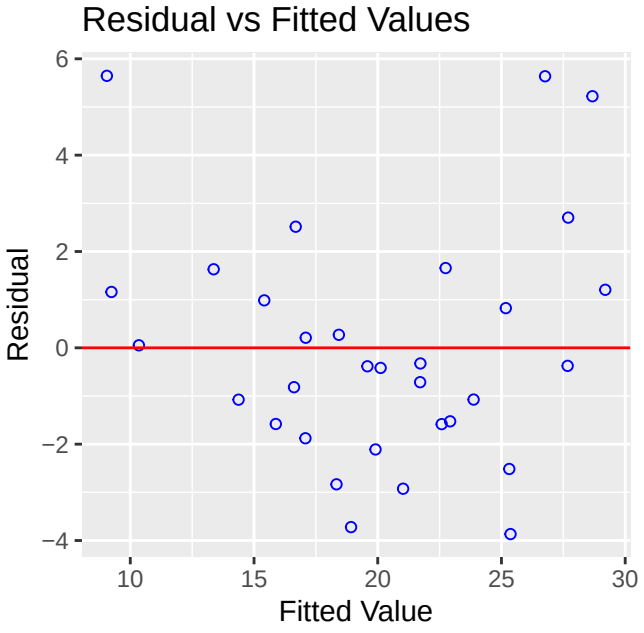

Residual Fit Spread Plot
10
5
0
−5
−10
−15
Fit − Mean
0.0
0.4
0.8
1.2
Proportion Less
help("ols_plot_diagnostics")

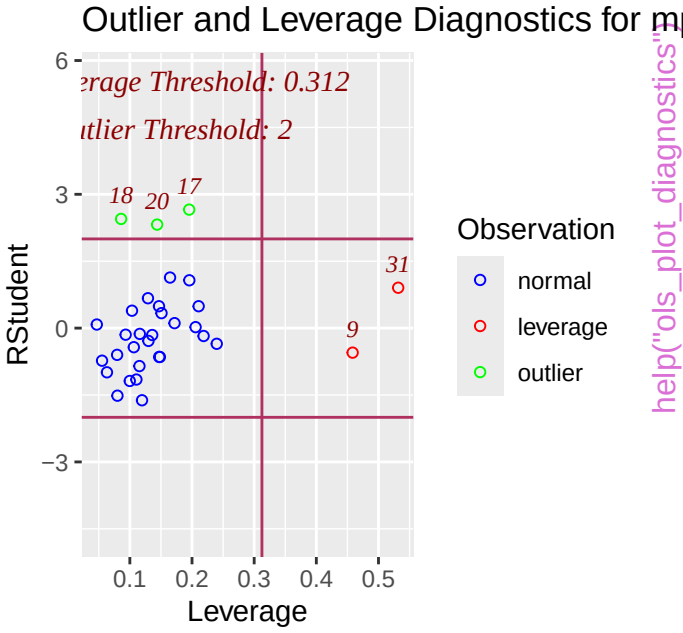

Residual Fit Spread Plot
7.5
5.0
2.5
0.0
−2.5
−5.0
Residual
0.0
0.4
0.8
1.2
Proportion Less
help("ols_plot_diagnostics")

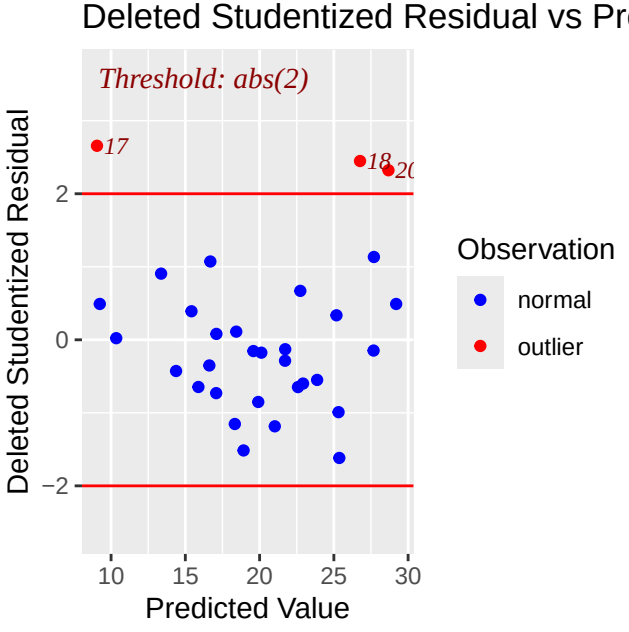

Residual Histogram
10.0
7.5
5.0
2.5
0.0
y
−5.0
−2.5
0.0
2.5
5.0
Residuals
help("ols_plot_diagnostics")

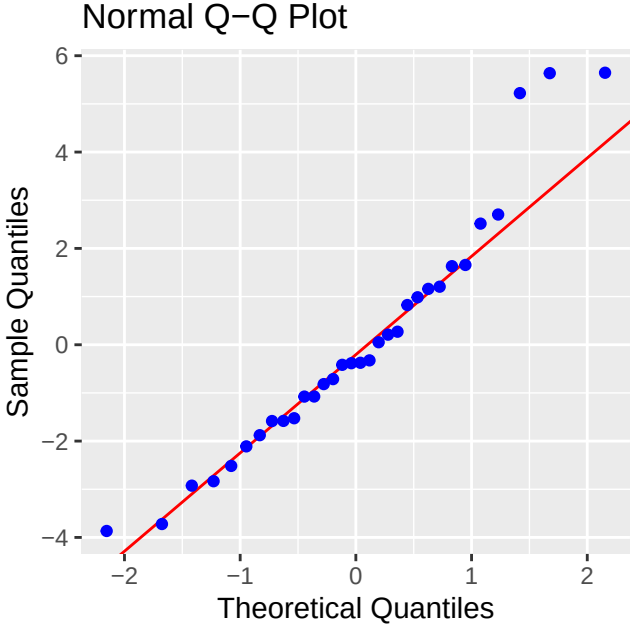

Residual Box Plot
Residuals
6
4
2
0
−2
−4
help("ols_plot_diagnostics")

Regression Diagnostics

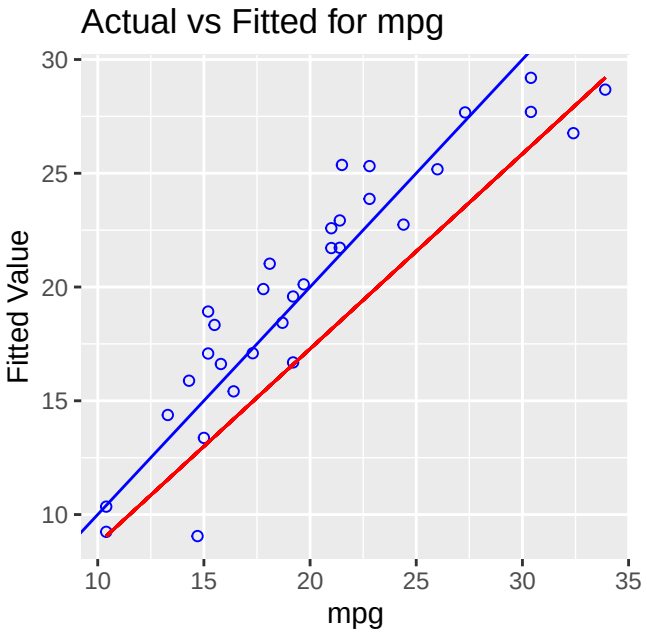


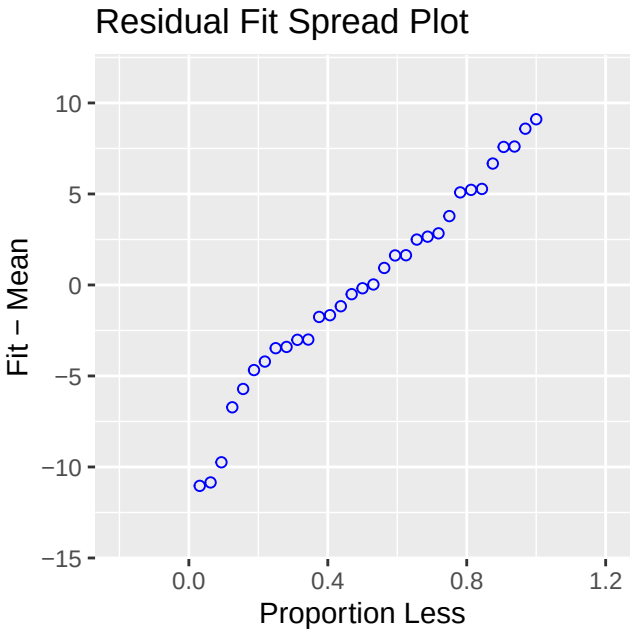




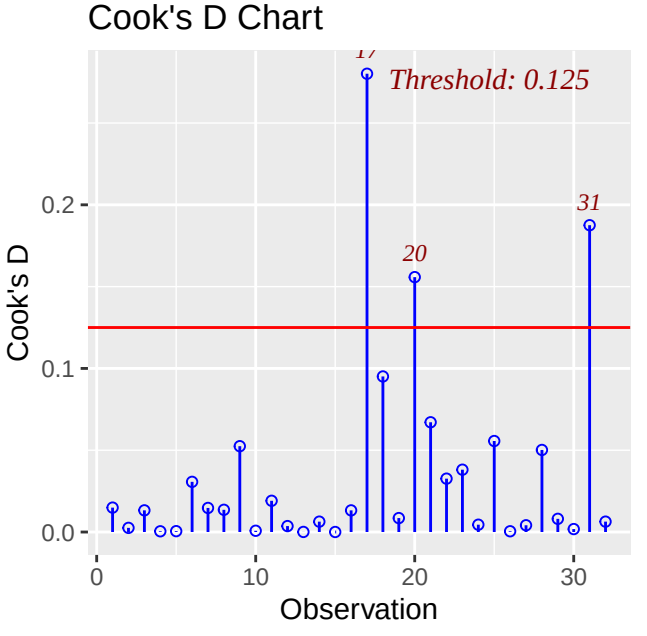


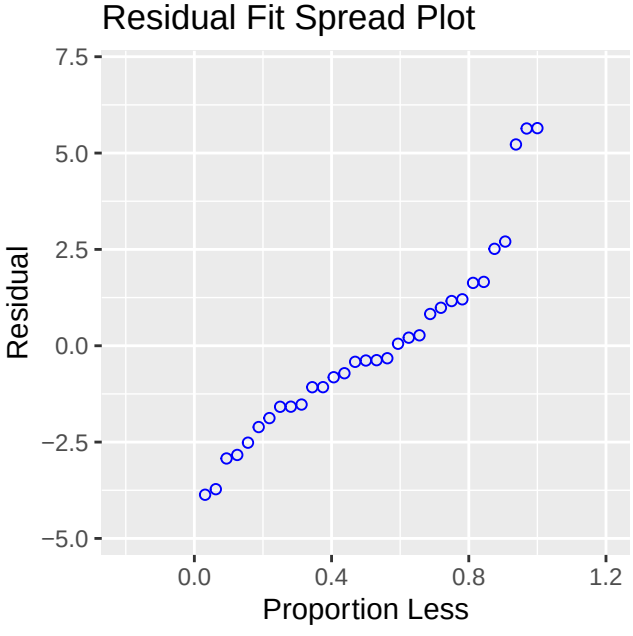
Regression Diagnostics





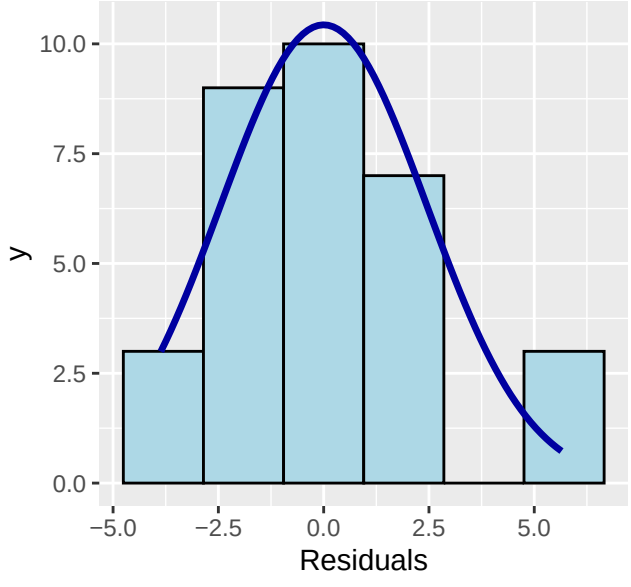
help("ols_plot_diagnostics")



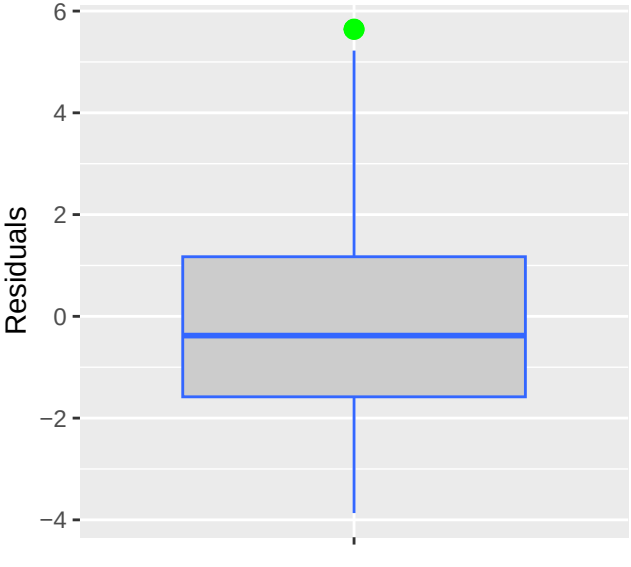


Regression Diagnostics

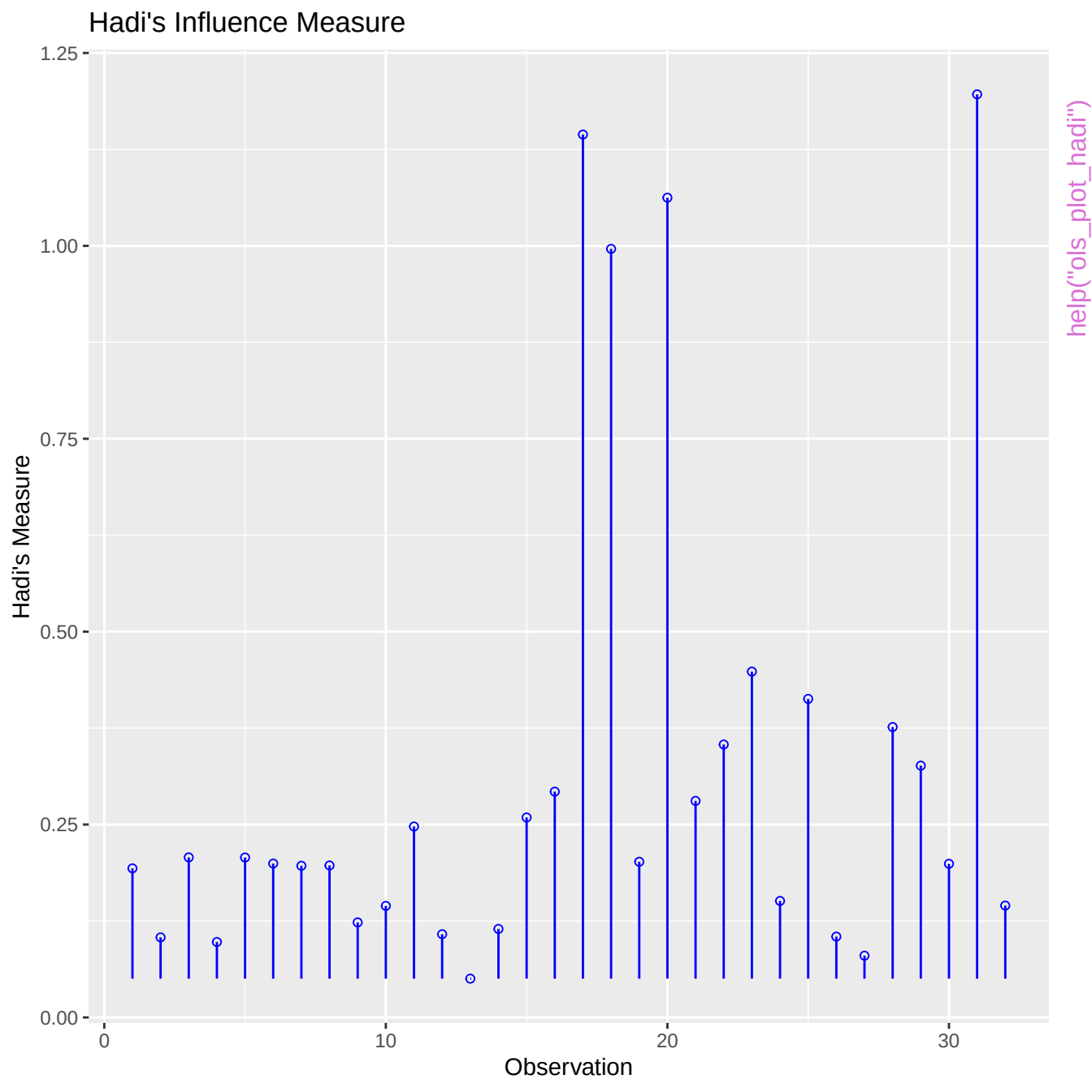
Residual Histogram

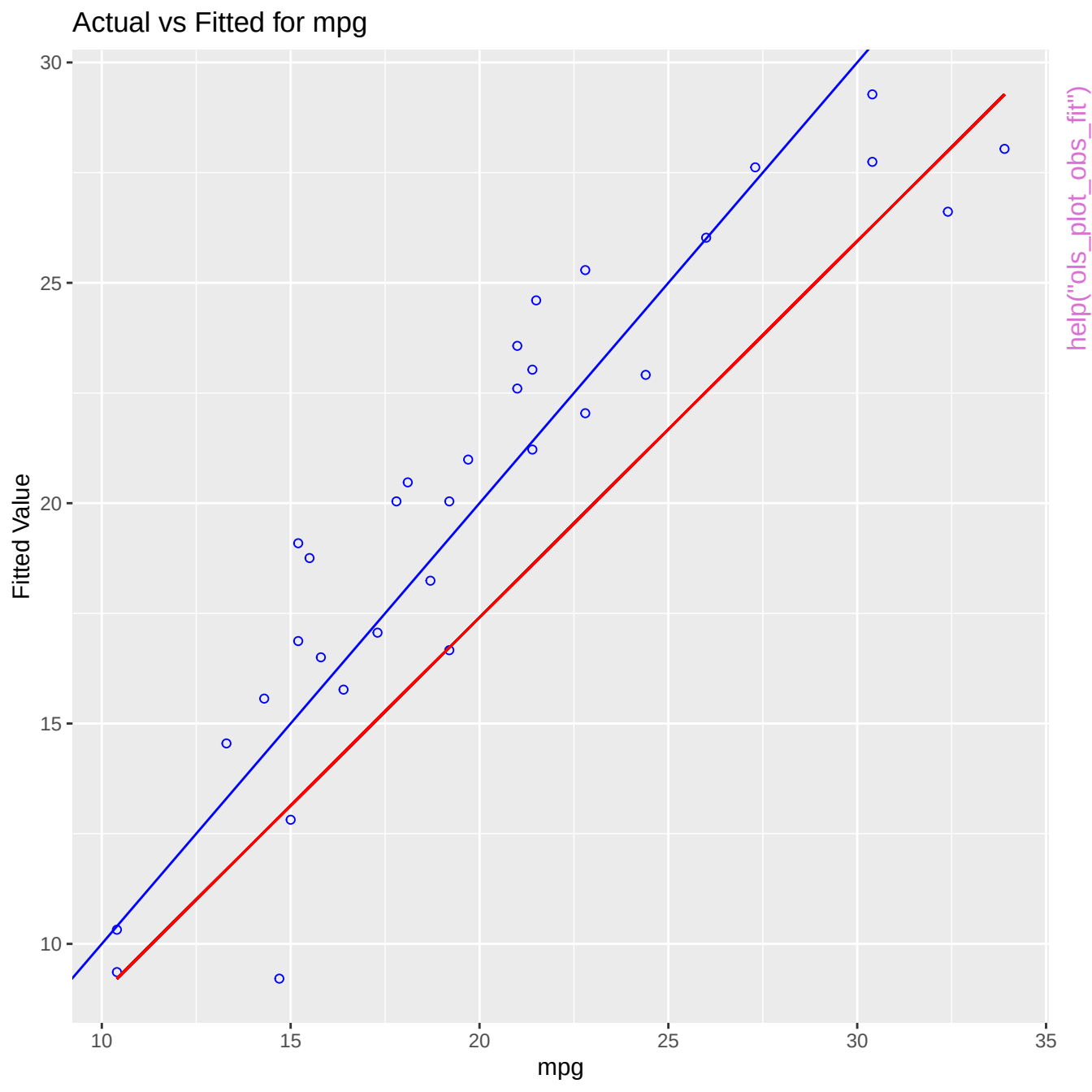


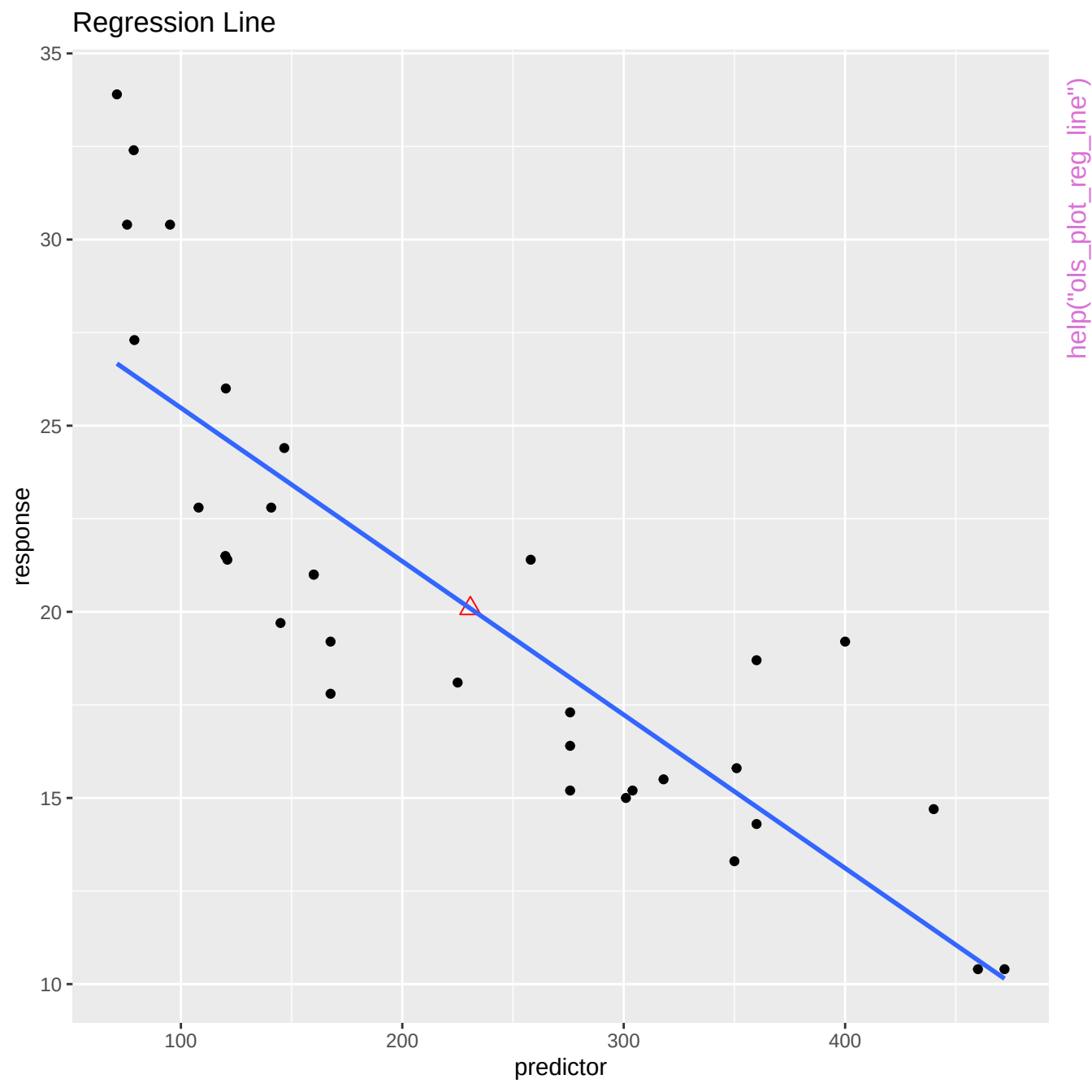
Residual Box Plot

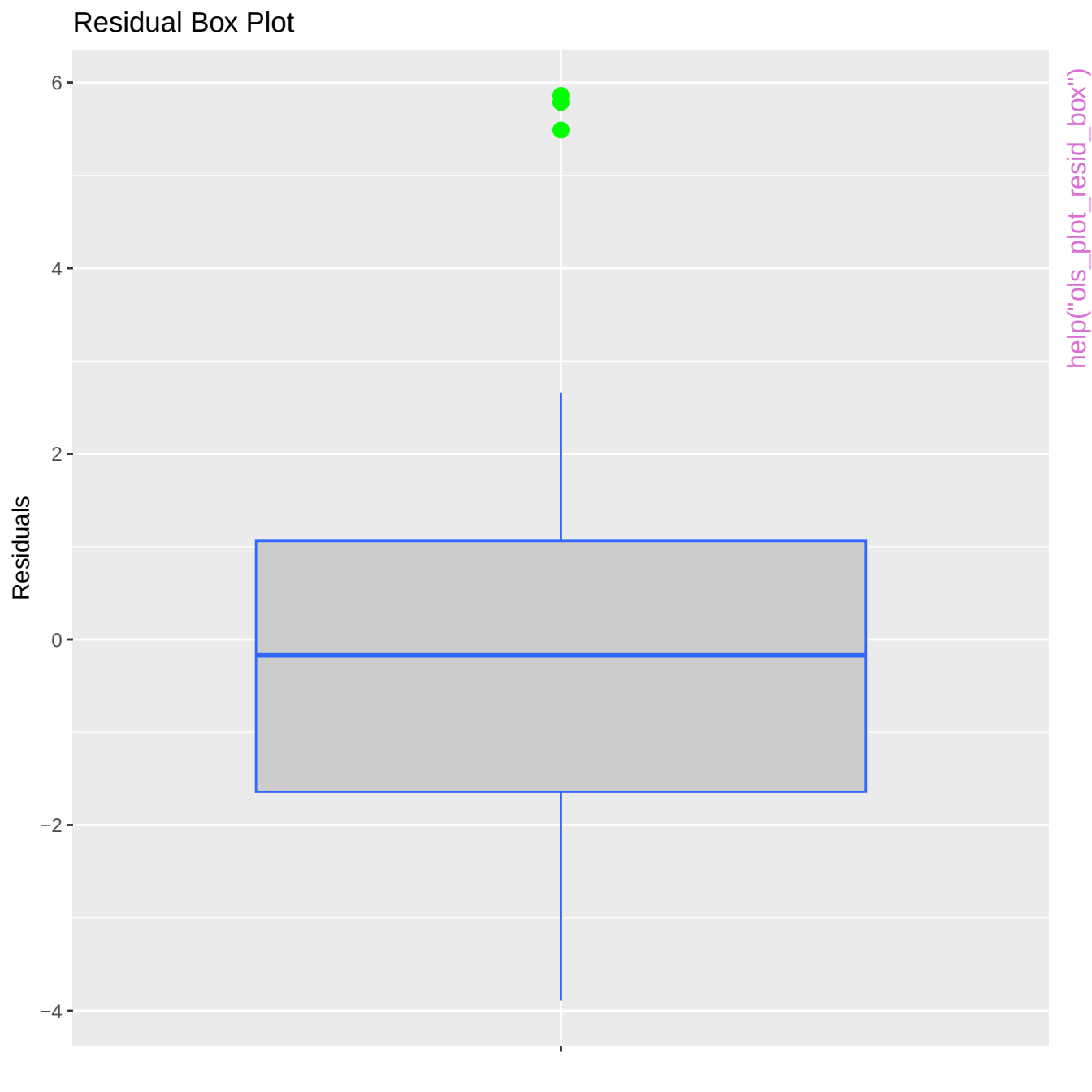


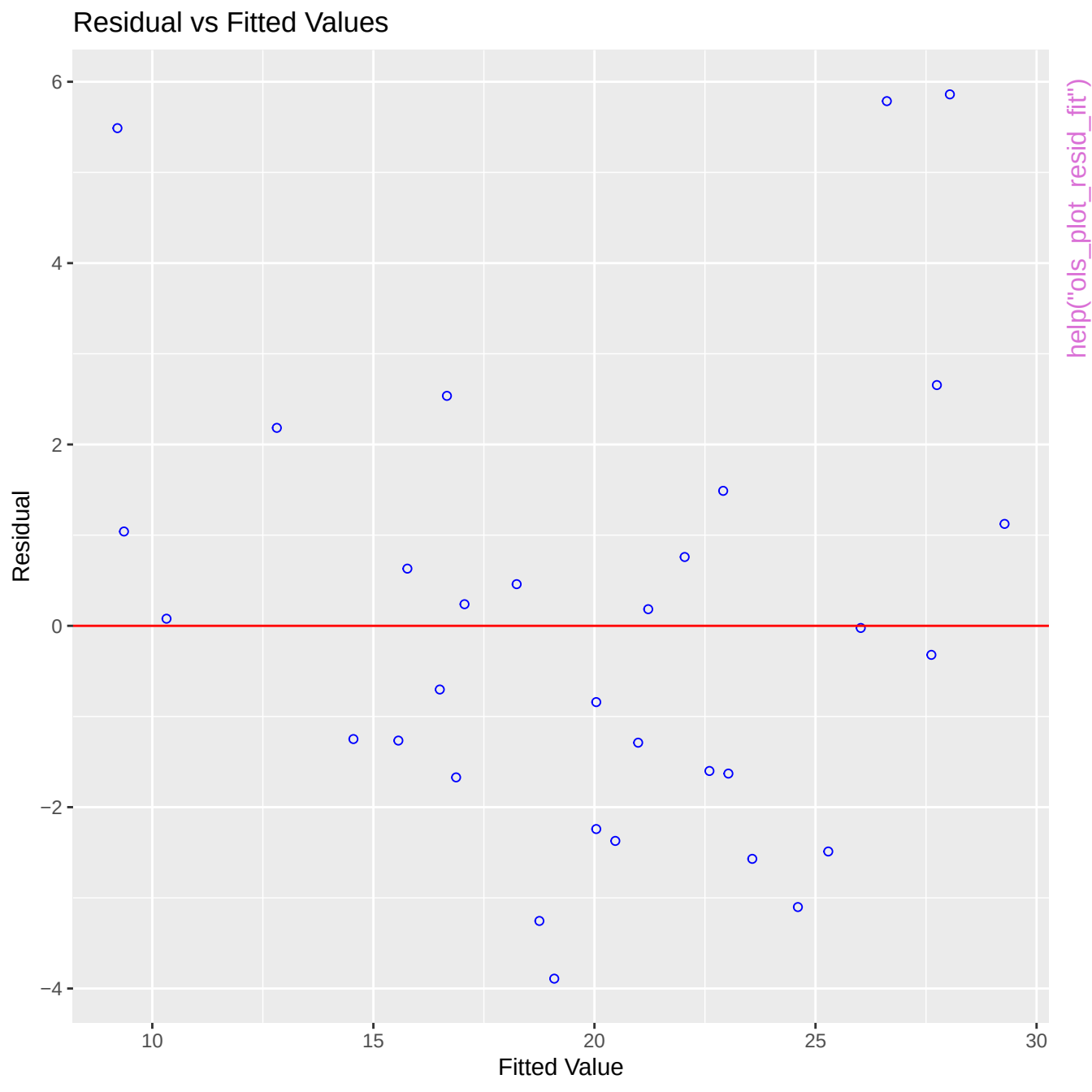
help("ols_plot_diagnostics")


Hadi's Influence Measure
1.25
1.00
0.75
0.50
0.25
0.00
Hadi's Measure
0
10
20
30
Observation
help("ols_plot_hadi")

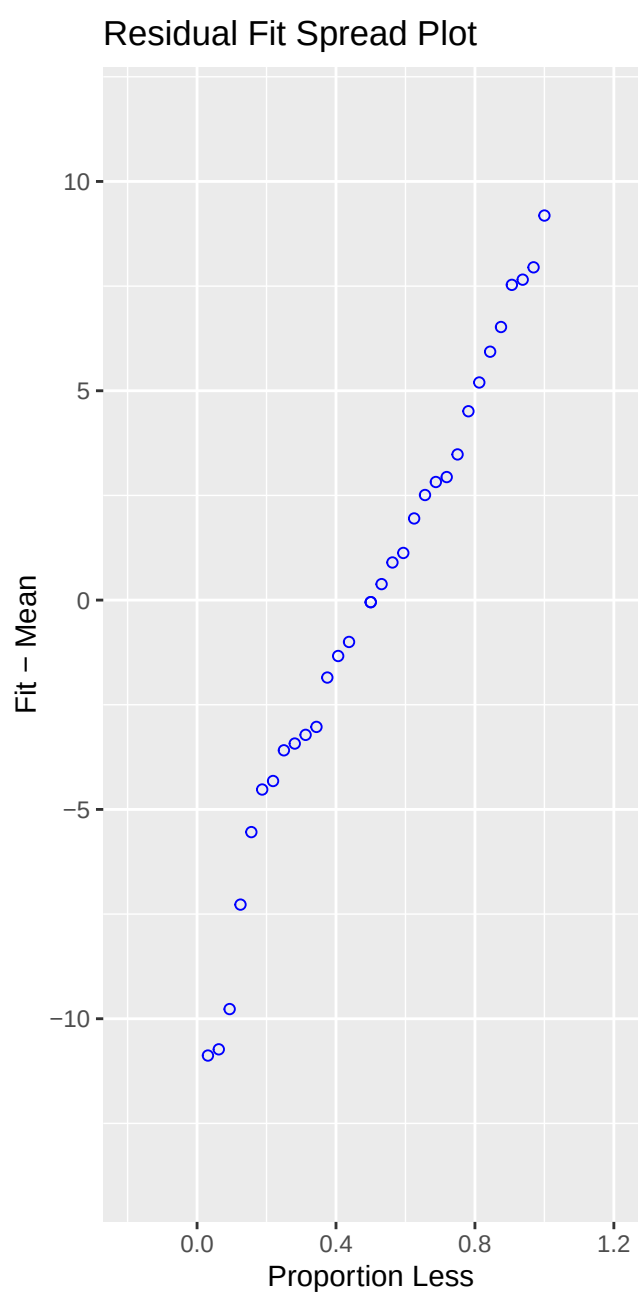

Actual vs Fitted for mpg
Fitted Value
mpg
30
25
20
15
10
10
15
20
25
30
35
help("ols_plot_obs_fit")

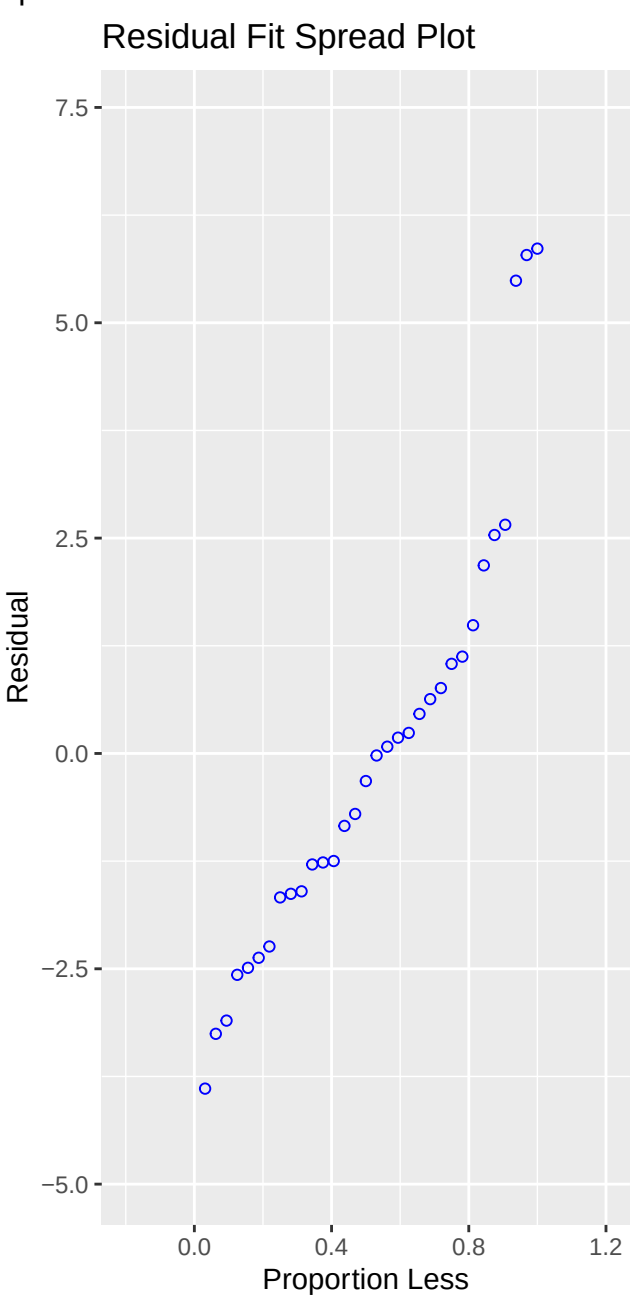

Regression Line
35
30
25
20
15
10
response
100
200
300
400
predictor
help("ols_plot_reg_line")


Residual Box Plot
Residuals
6
4
2
0
−2
−4
help("ols_plot_resid_box")

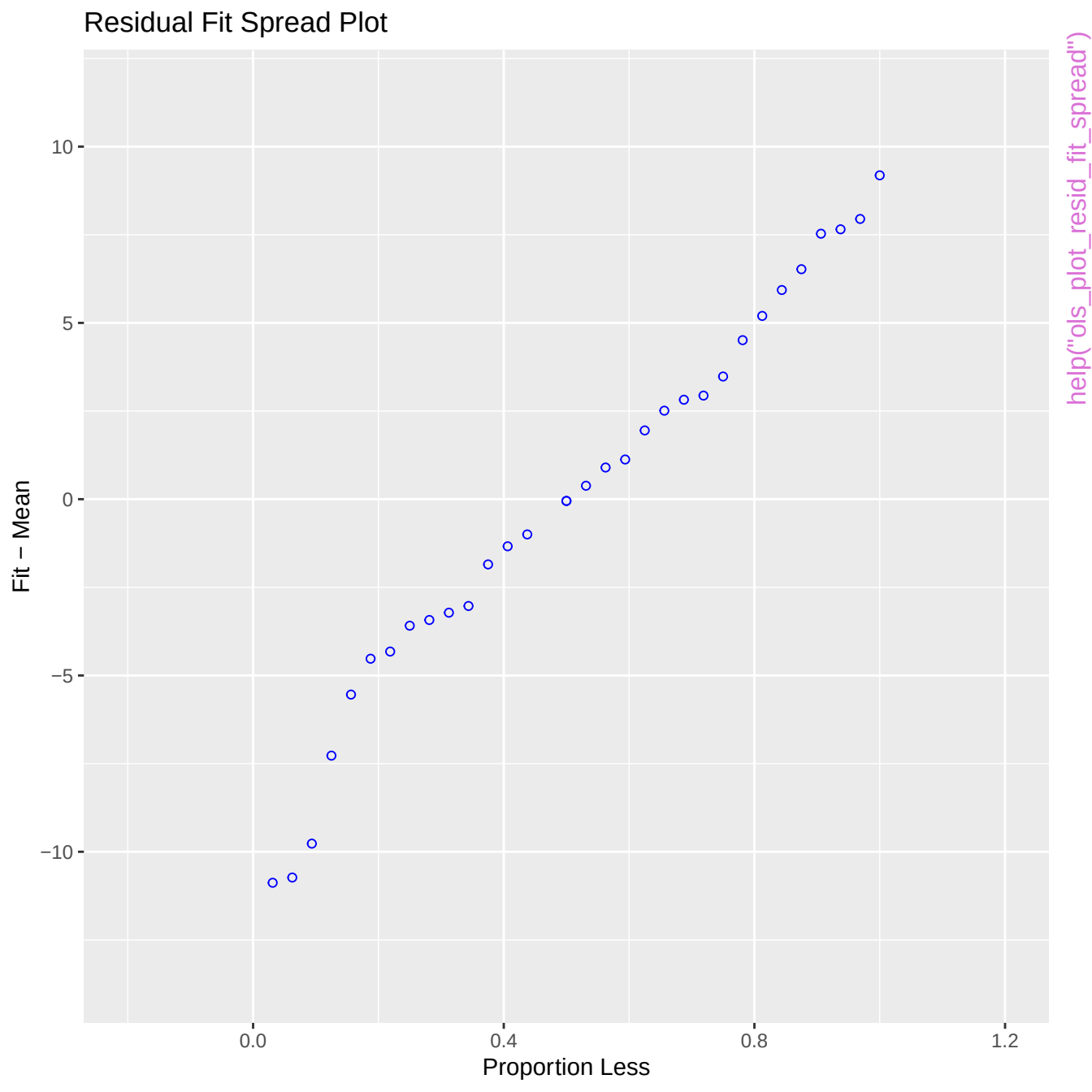

Residual vs Fitted Values
Residual
Fitted Value
help("ols_plot_resid_fit")
6
4
2
0
−2
−4
10
15
20
25
30

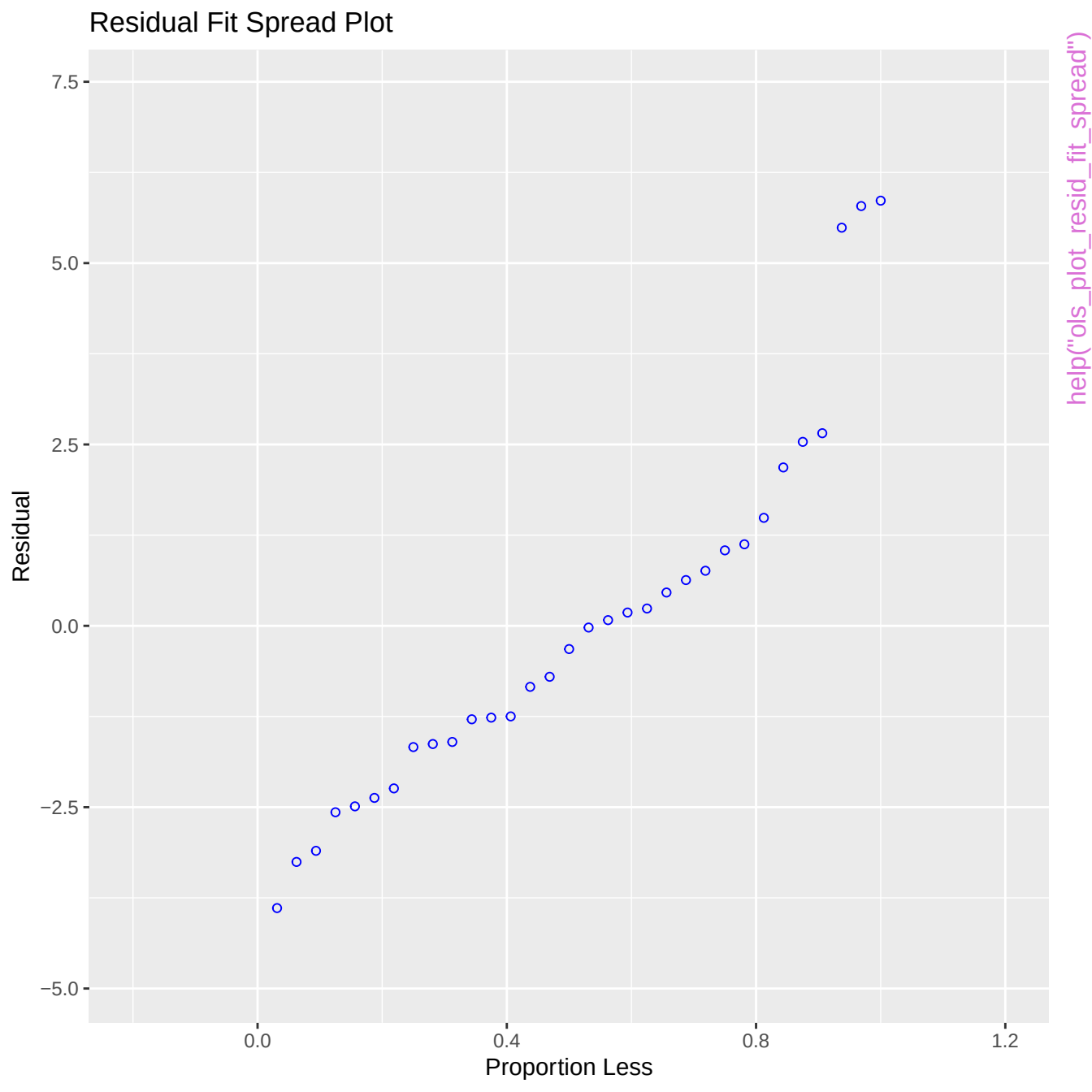
Residual Fit Spread Plot

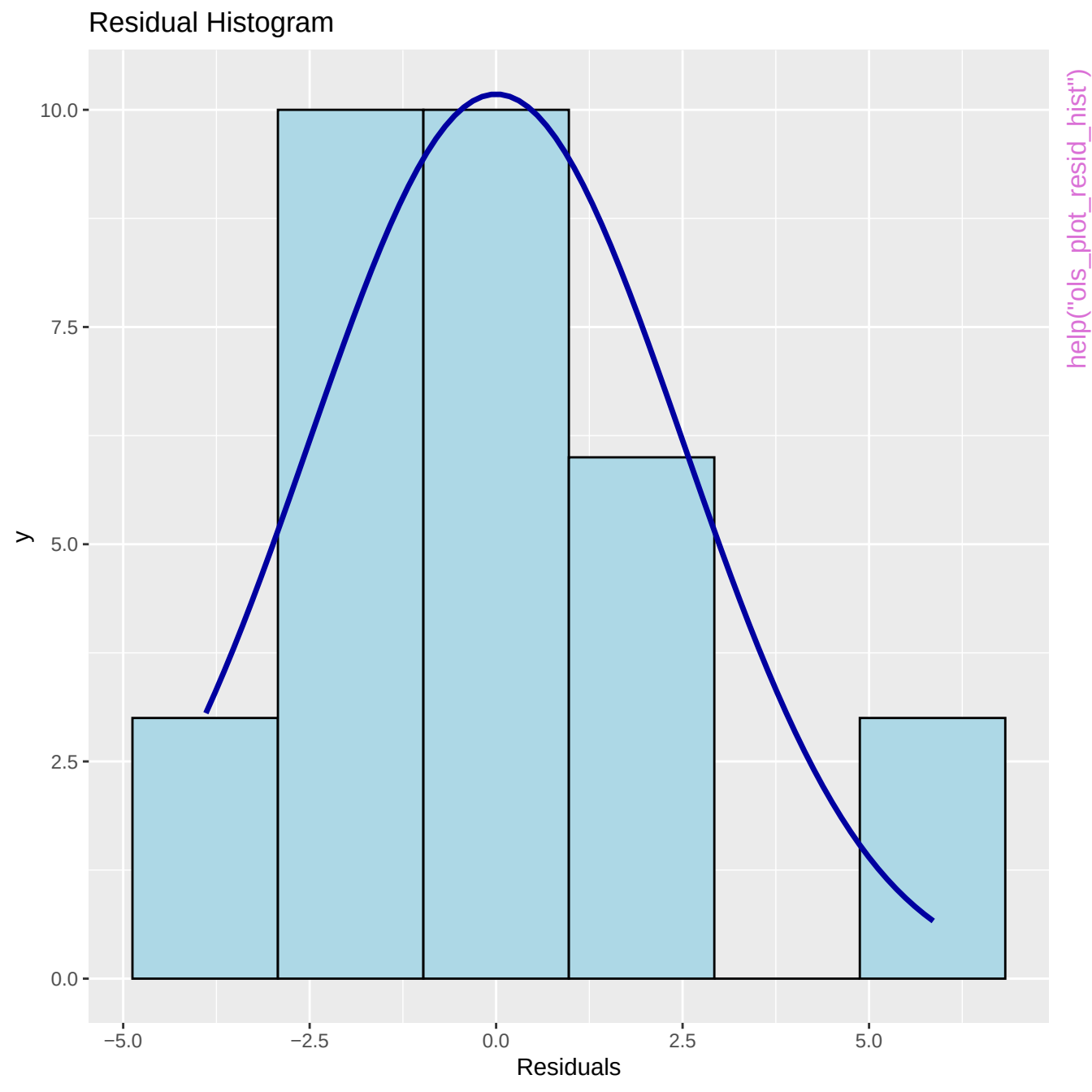


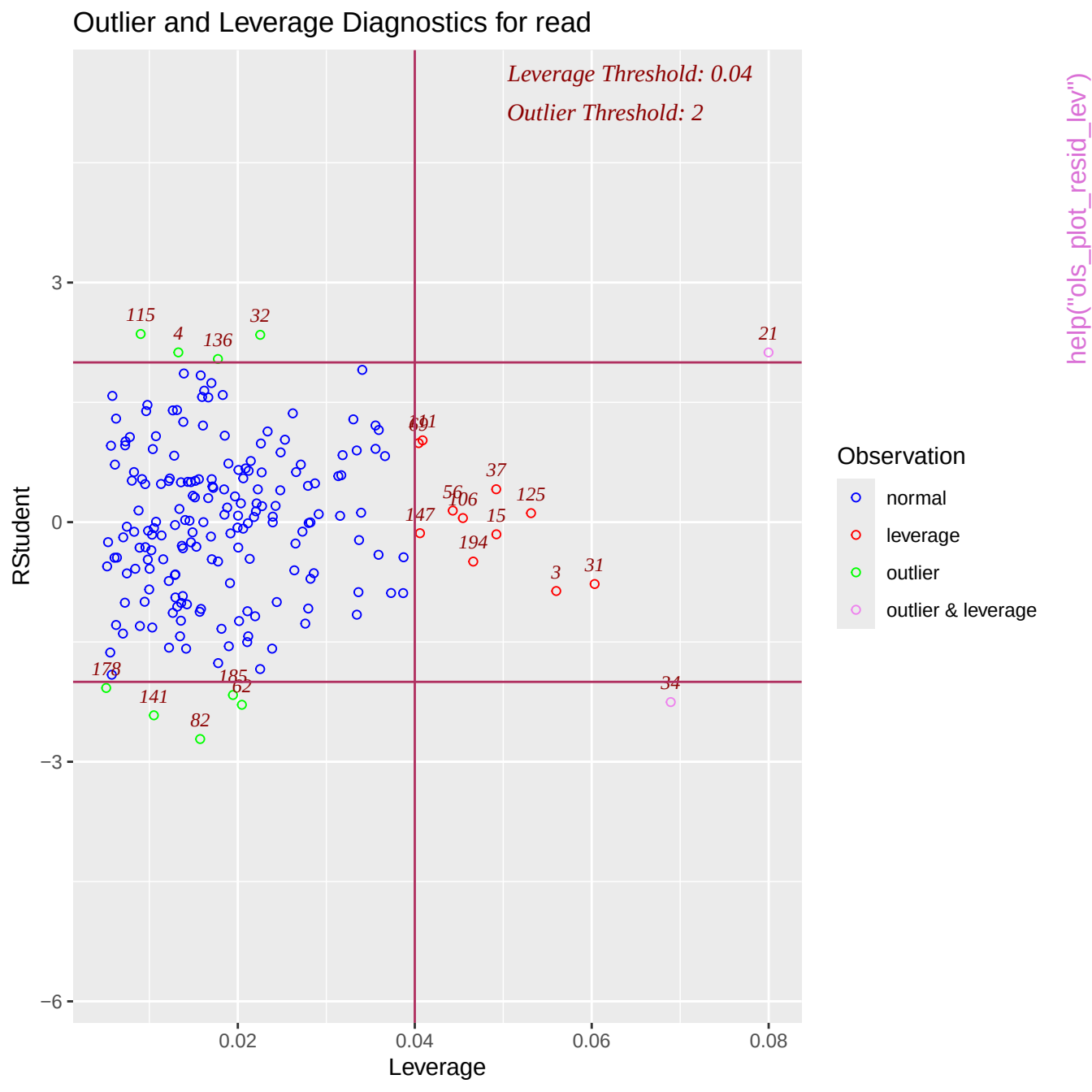


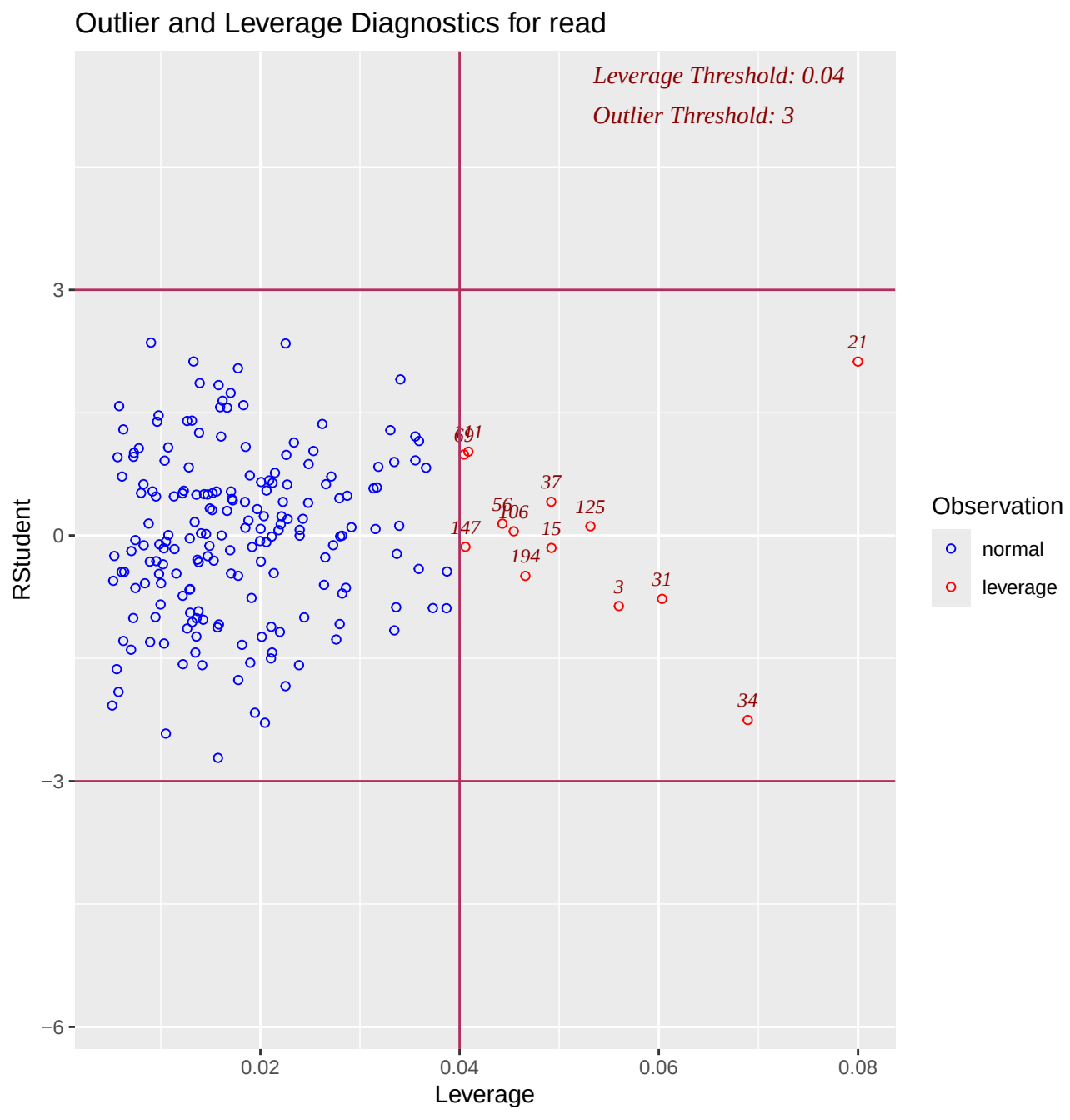
help("ols_plot_resid_fit_spread")

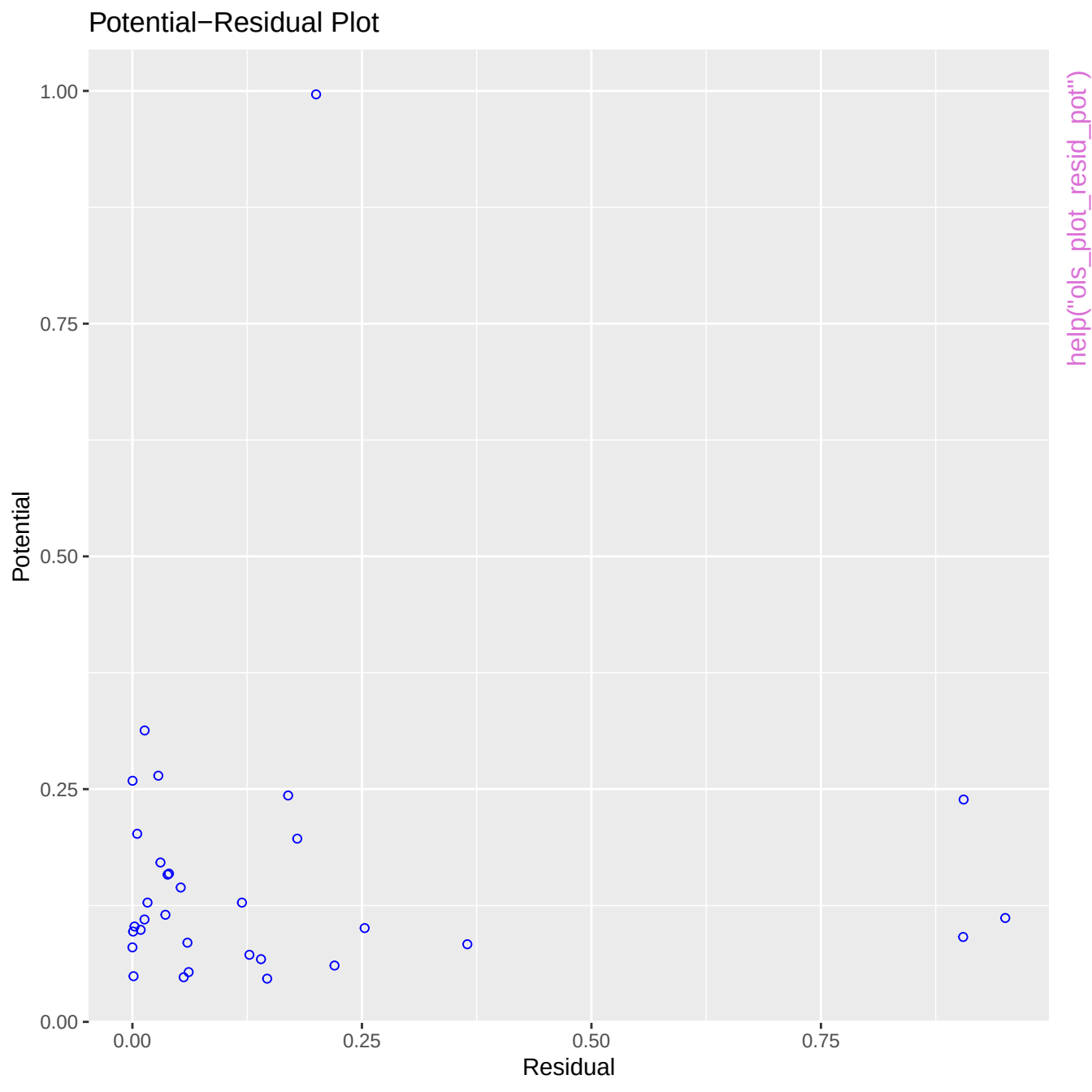

Residual Fit Spread Plot
10
5
0
−5
−10
Fit − Mean
0.0
0.4
0.8
1.2
Proportion Less
help("ols_plot_resid_fit_spread")

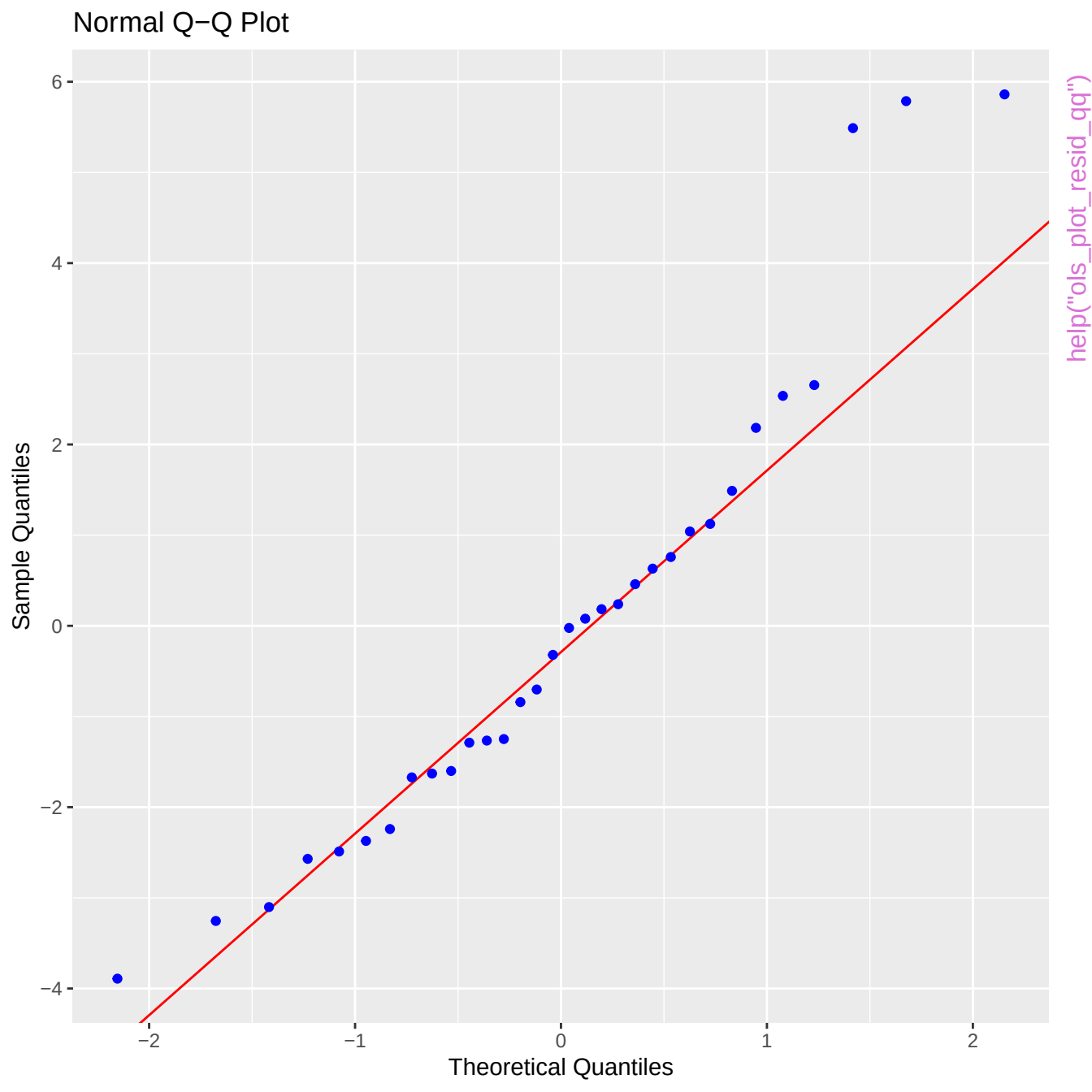

Residual Fit Spread Plot
7.5
5.0
2.5
0.0
−2.5
−5.0
Residual
0.0
0.4
0.8
1.2
Proportion Less
help("ols_plot_resid_fit_spread")

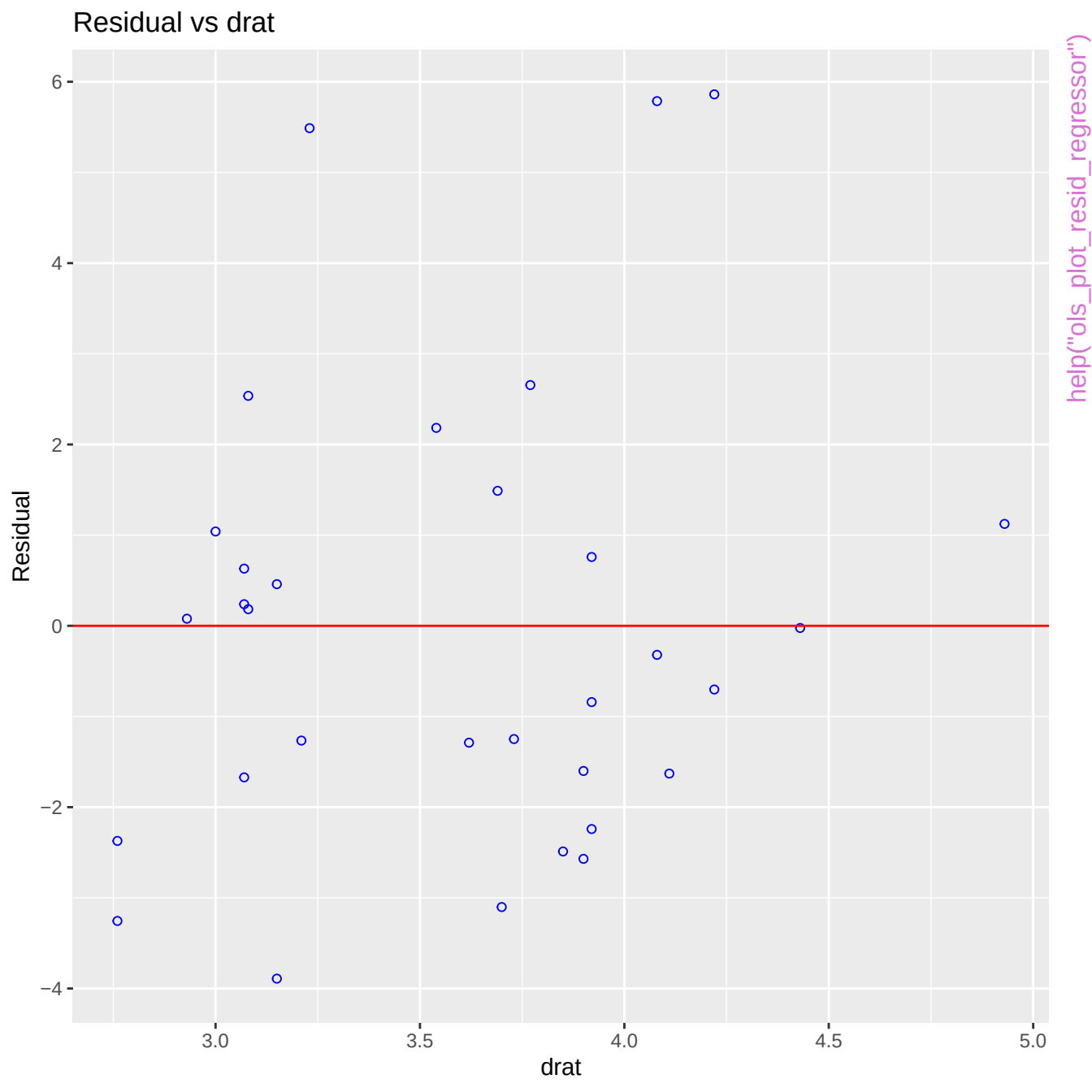

Residual Histogram
10.0
7.5
5.0
2.5
0.0
y
−5.0
−2.5
0.0
2.5
5.0
Residuals
help("ols_plot_resid_hist")

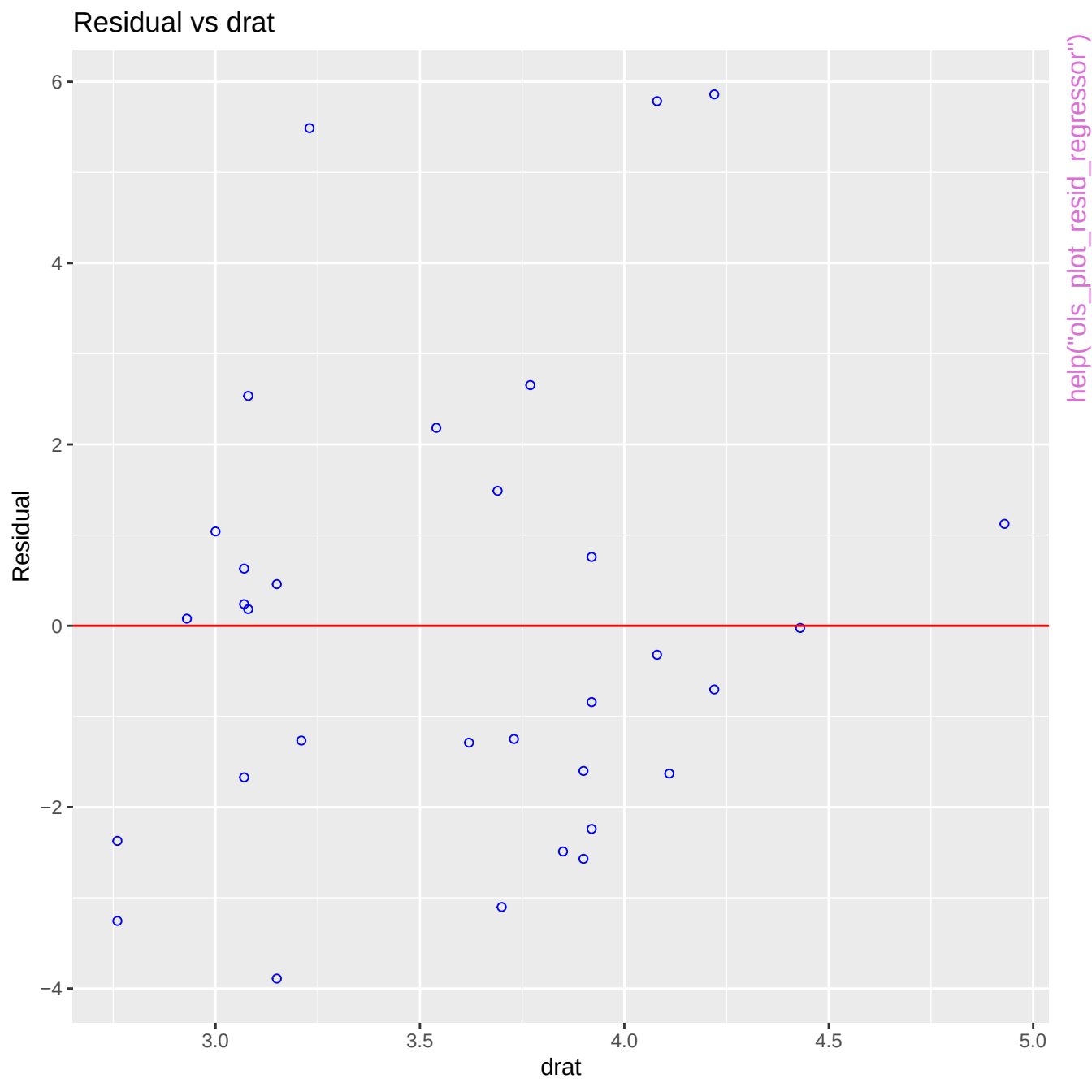

Outlier and Leverage Diagnostics for read
Leverage Threshold: 0.04
Outlier Threshold: 2
help("ols_plot_resid_lev")
RStudent
Leverage
3
0
−3
−6
0.02
0.04
0.06
0.08
115
4
136
32
21
141
37
56
106
125
147
15
194
3
31
178
185
62
141
82
34
Observation
normal
leverage
outlier
outlier & leverage

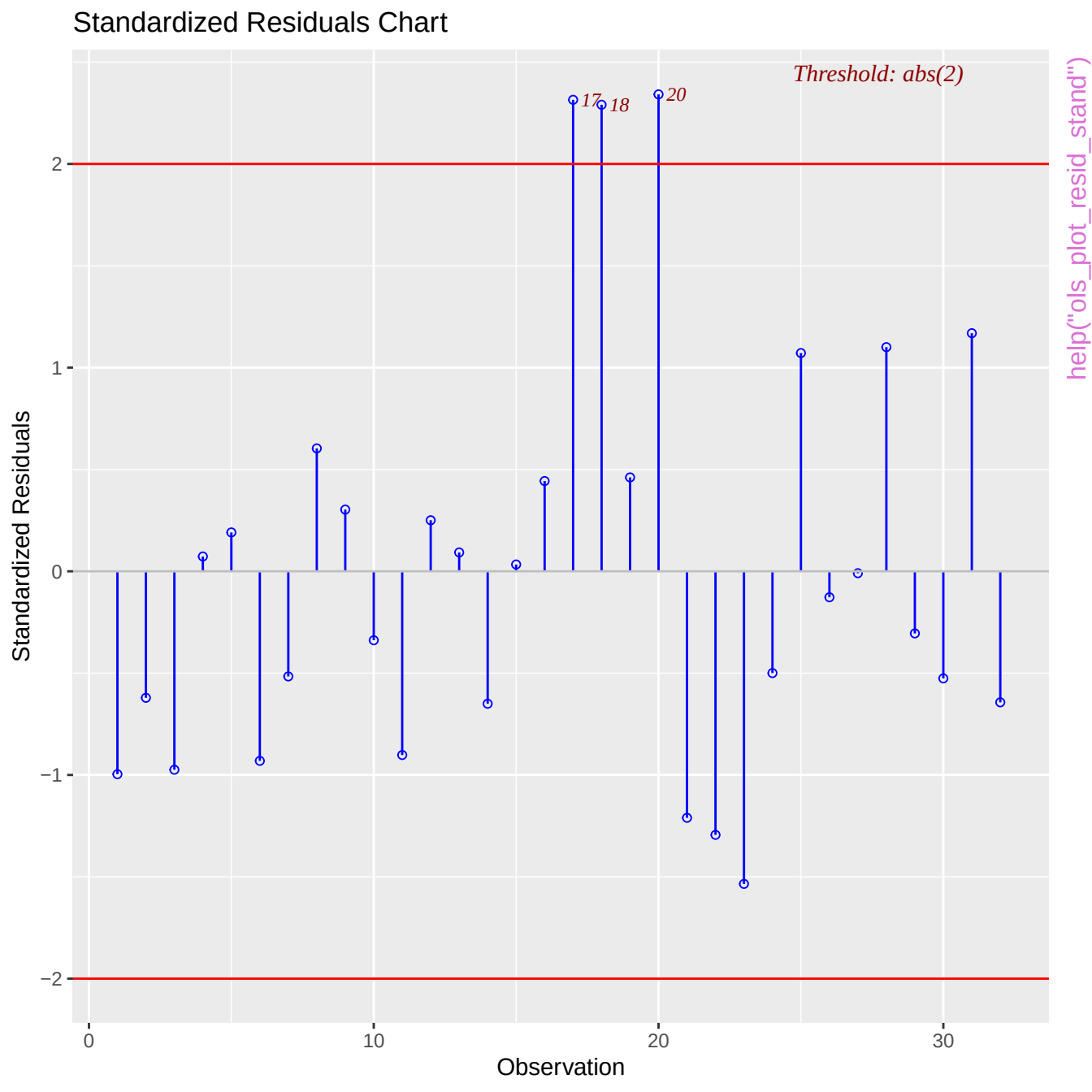

Outlier and Leverage Diagnostics for read
Leverage Threshold: 0.04
Outlier Threshold: 3
RStudent
Leverage
3
0
−3
−6
0.02
0.04
0.06
0.08
21
69
41
37
56
106
125
147
15
194
3
31
34
Observation
normal
leverage
help("ols_plot_resid_lev")

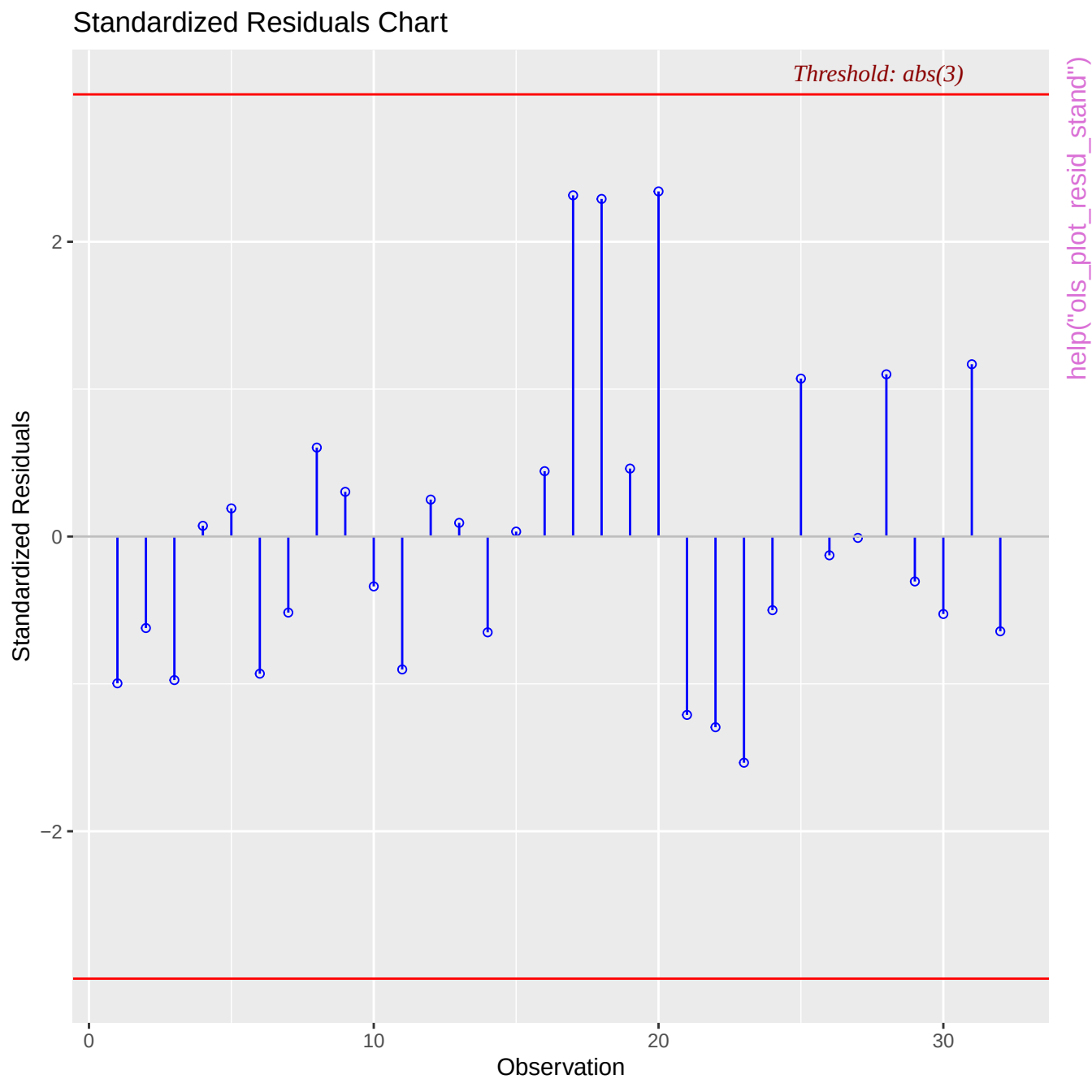

Potential−Residual Plot
1.00
0.75
0.50
0.25
0.00
Potential
0.00
0.25
0.50
0.75
Residual
help("ols_plot_resid_pot")

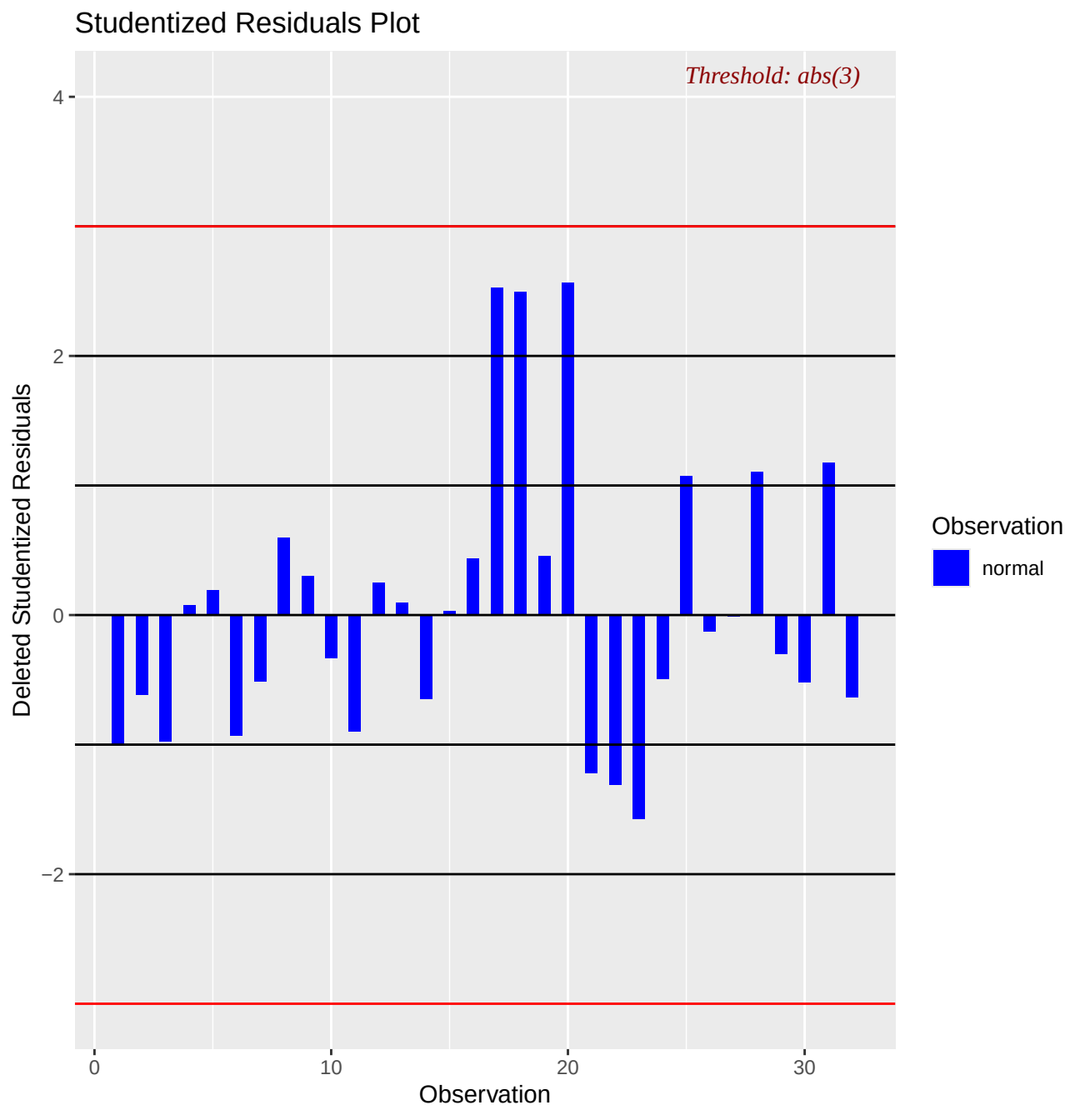

Normal Q−Q Plot
Sample Quantiles
Theoretical Quantiles
6
4
2
0
−2
−4
−2
−1
0
1
2
help("ols_plot_resid_qq")

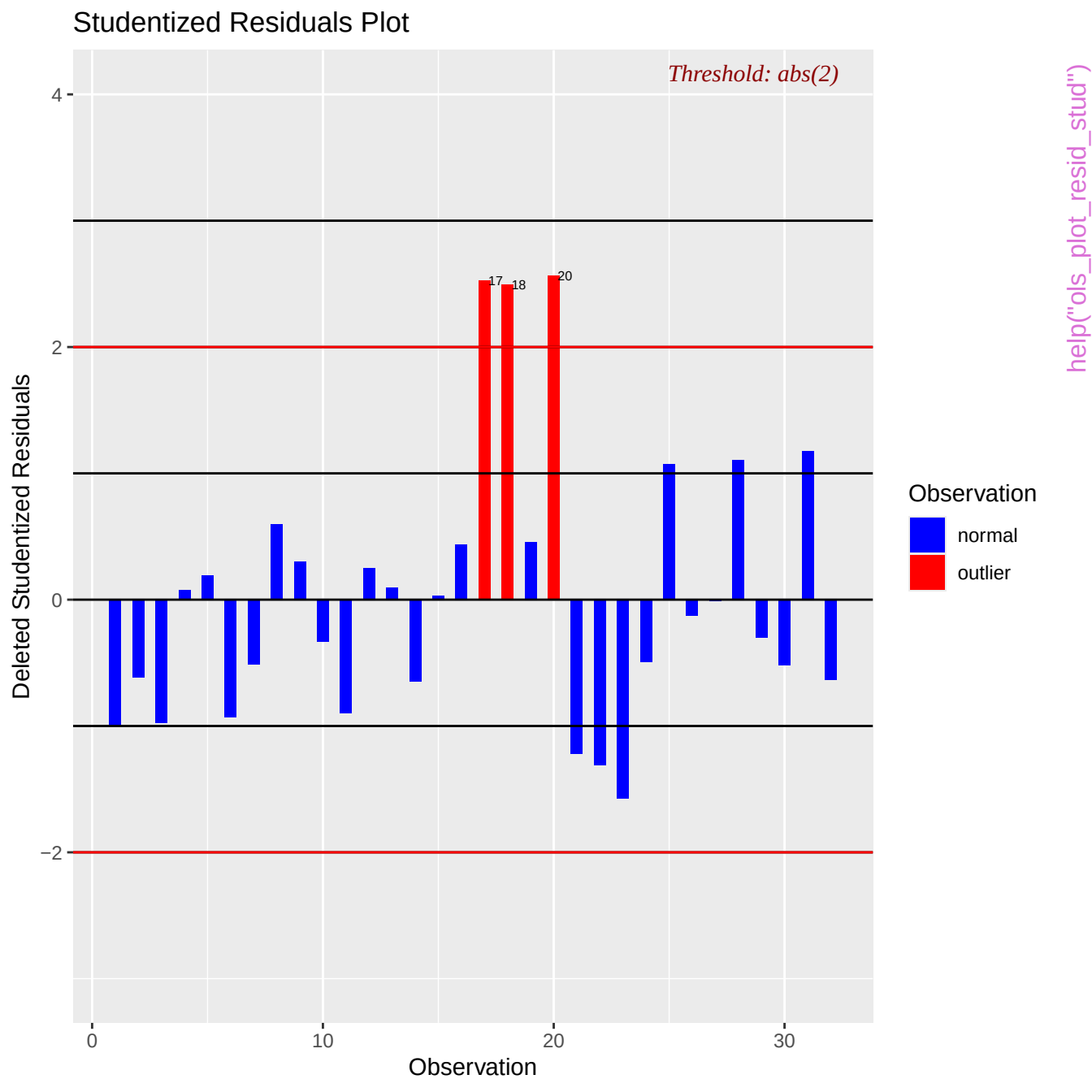

Residual vs drat
help("ols_plot_resid_regressor")
Residual
drat
6
4
2
0
−2
−4
3.0
3.5
4.0
4.5
5.0

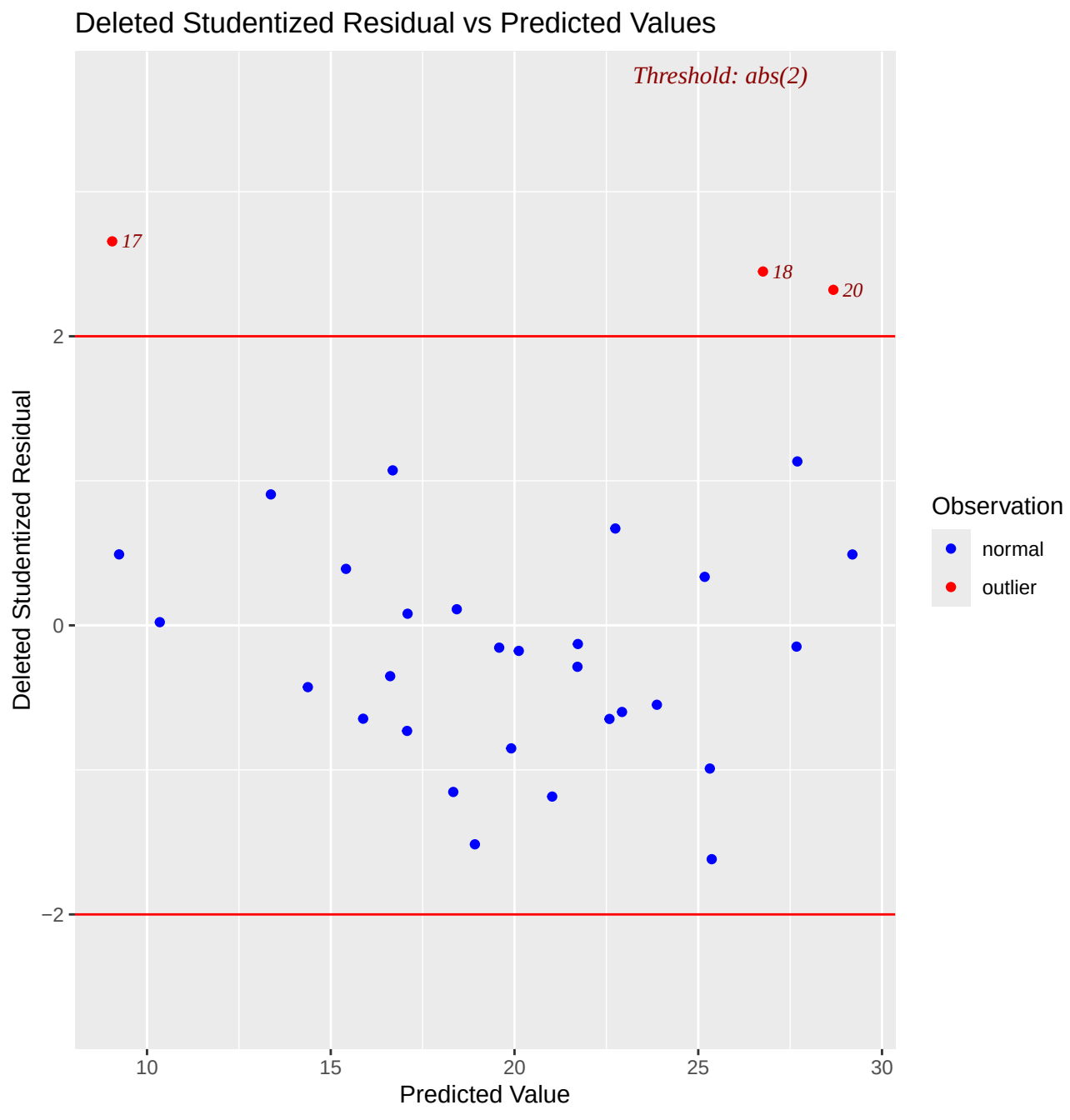

Residual vs drat
help("ols_plot_resid_regressor")
Residual
drat
6
4
2
0
−2
−4
3.0
3.5
4.0
4.5
5.0

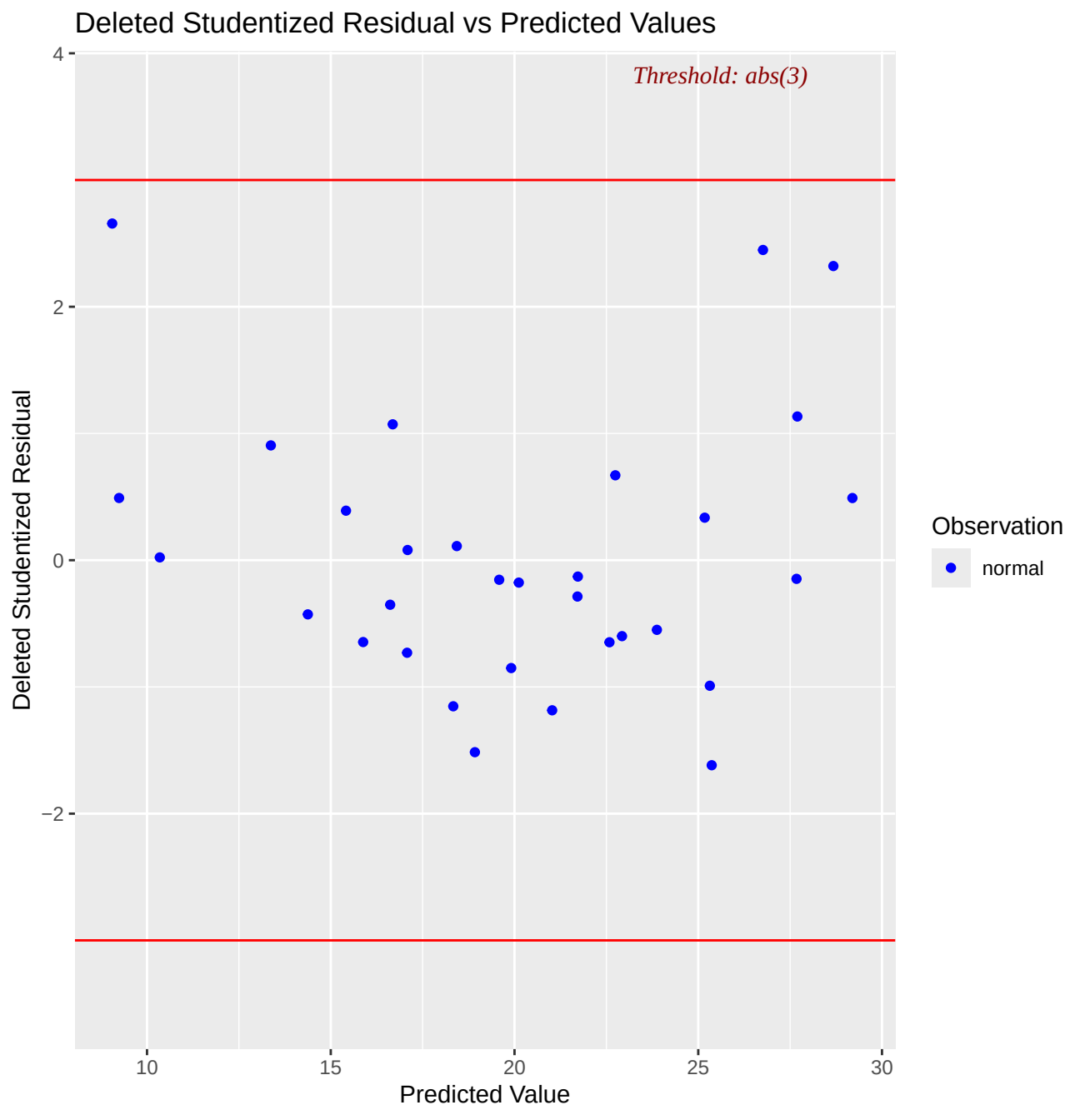

Standardized Residuals Chart
Threshold: abs(2)
17
18
20
2
1
0
−1
−2
Standardized Residuals
0
10
20
30
Observation
help("ols_plot_resid_stand")


Standardized Residuals Chart
Threshold: abs(3)
help("ols_plot_resid_stand")
Standardized Residuals
2
0
−2
0
10
20
30
Observation

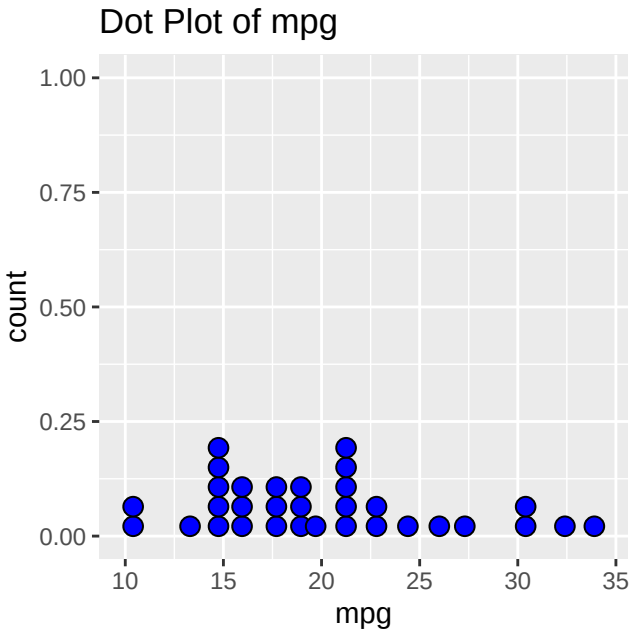

Studentized Residuals Plot
Threshold: abs(3)
Deleted Studentized Residuals
4
2
0
−2
0
10
20
30
Observation
Observation
normal
help("ols_plot_resid_stud")

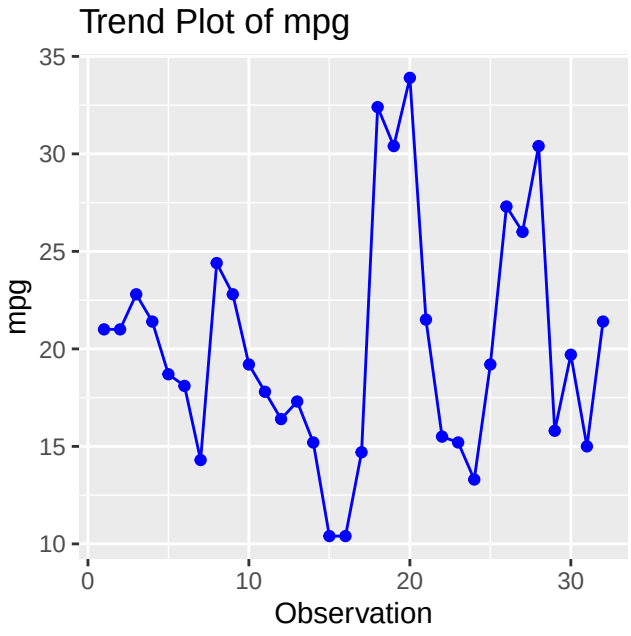

Studentized Residuals Plot
Threshold: abs(2)
Deleted Studentized Residuals
Observation
4
2
0
−2
0
10
20
30
17
18
20
Observation
normal
outlier
help("ols_plot_resid_stud")


Deleted Studentized Residual vs Predicted Values
Threshold: abs(2)
17
18
20
2
0
−2
Deleted Studentized Residual
10
15
20
25
30
Predicted Value
Observation
normal
outlier
help("ols_plot_resid_stud_fit")

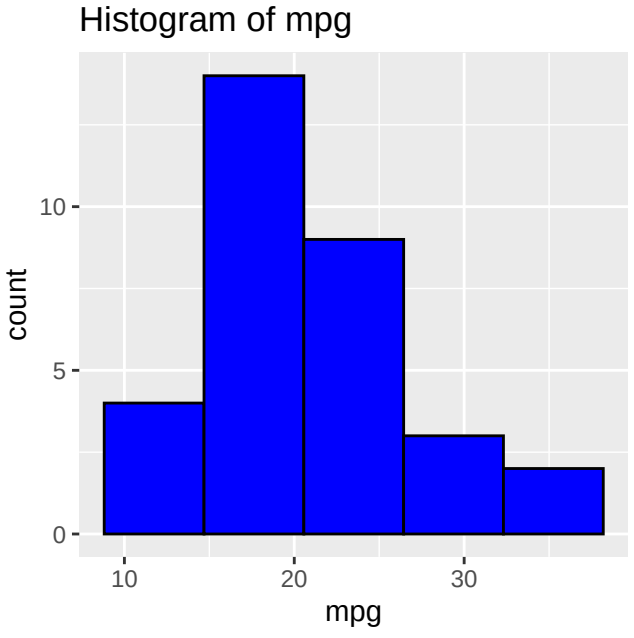

Deleted Studentized Residual vs Predicted Values
Threshold: abs(3)
Deleted Studentized Residual
Predicted Value
4
2
0
−2
10
15
20
25
30
Observation
normal
help("ols_plot_resid_stud_fit")

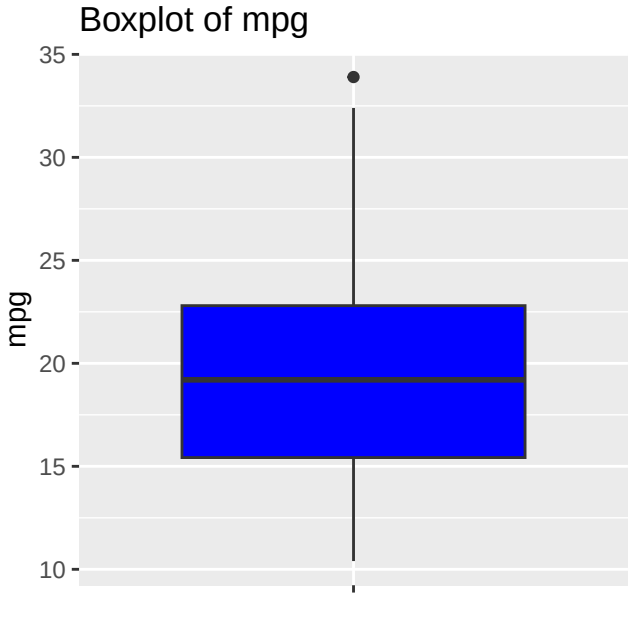
Response Diagnostics



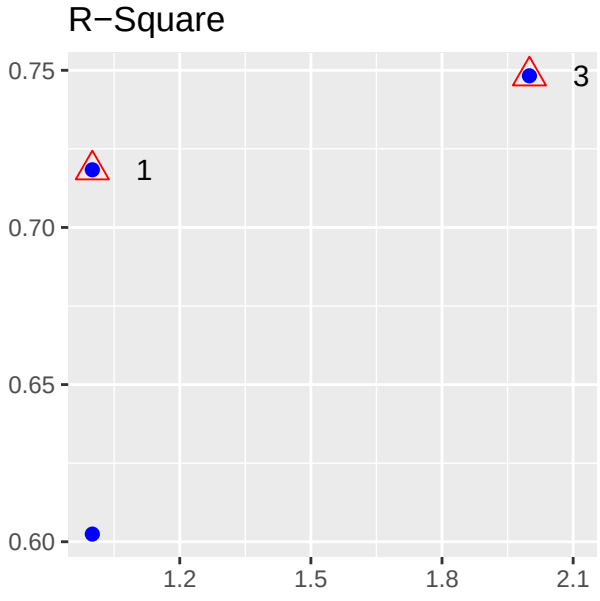


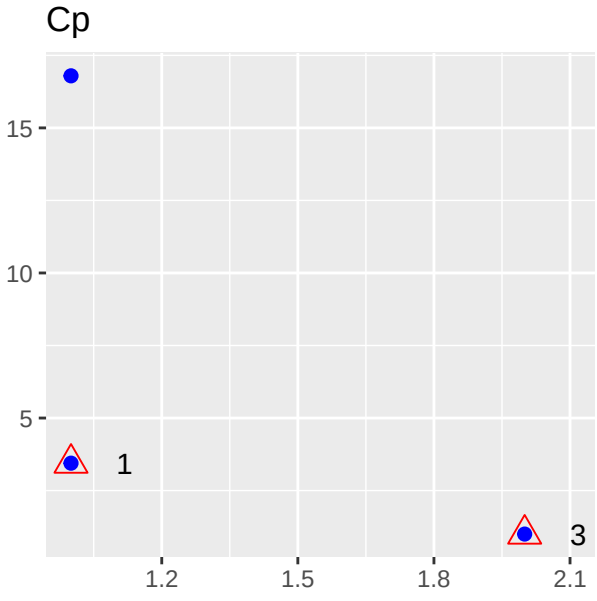
help("ols_plot_response")

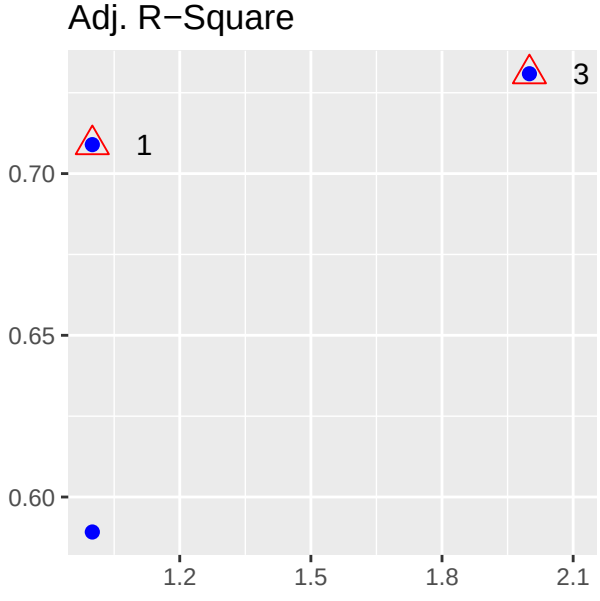


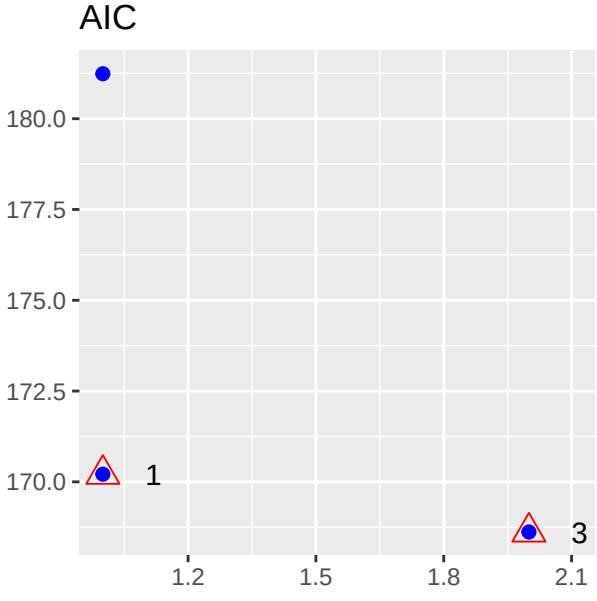


All Possible Regression





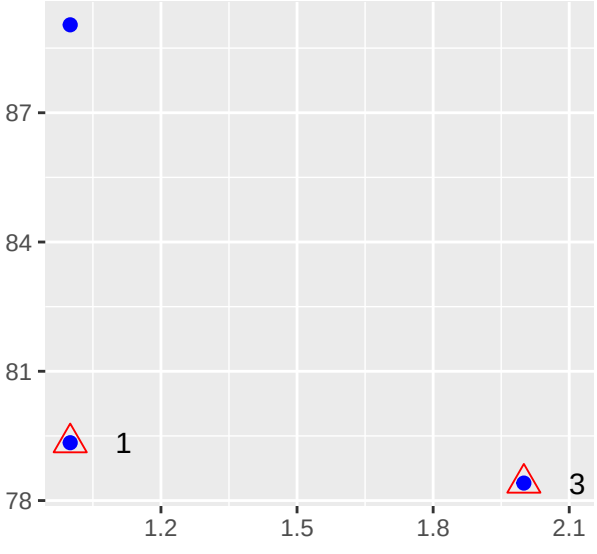




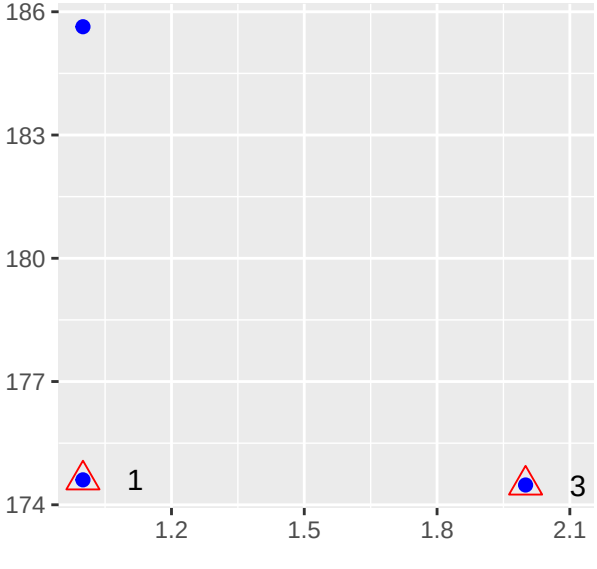
help("ols_step_all_possible")

All Possible Regression

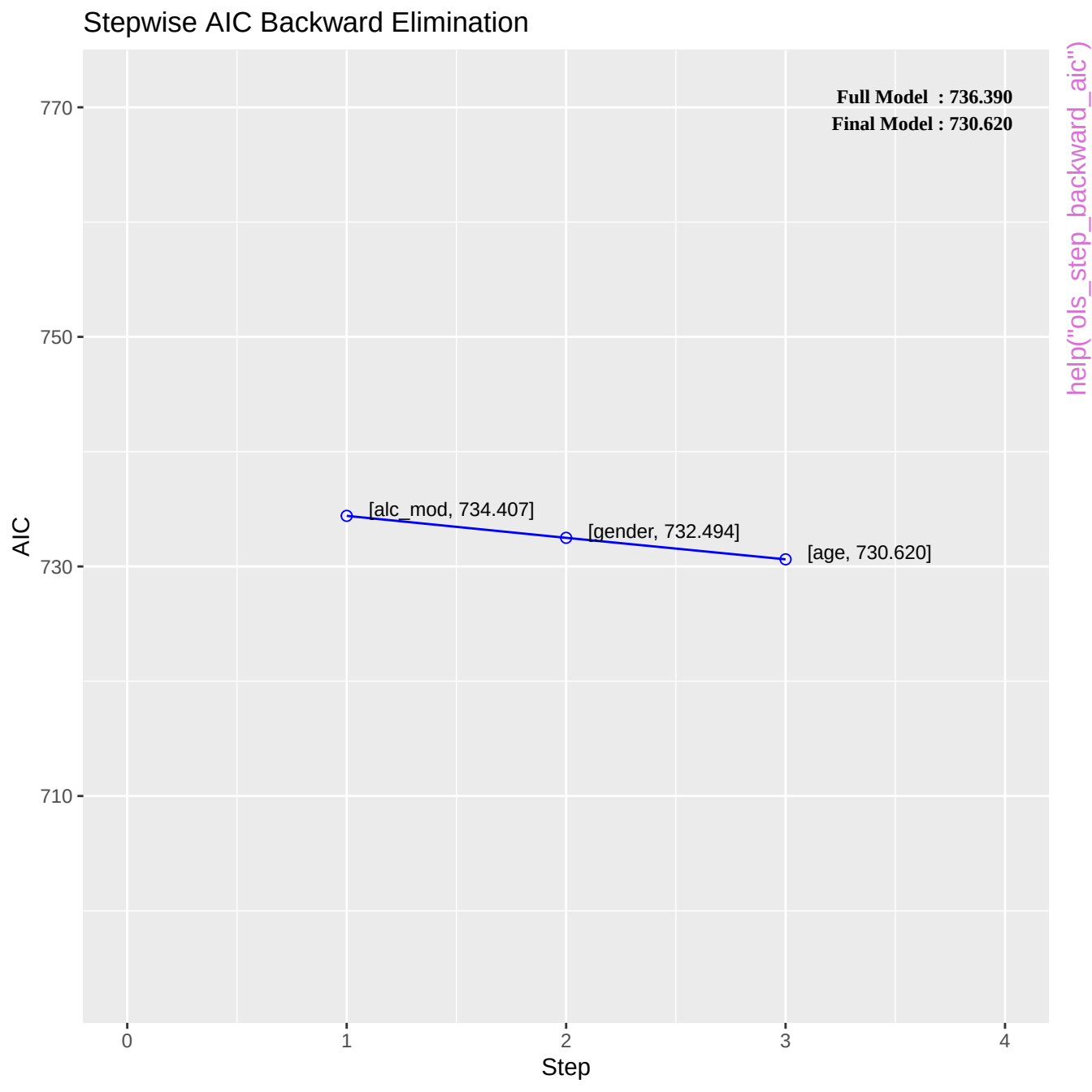
SBIC

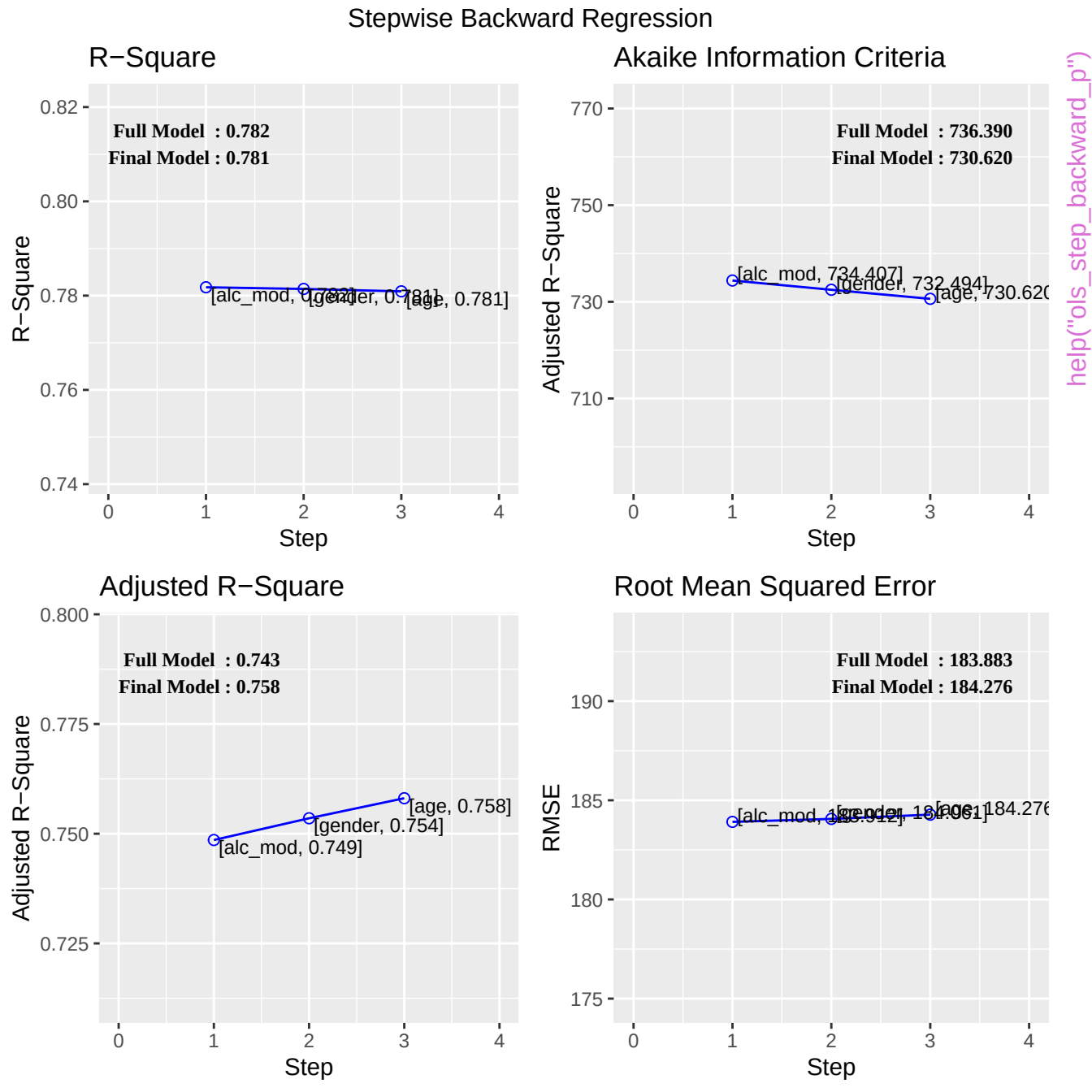


SBC

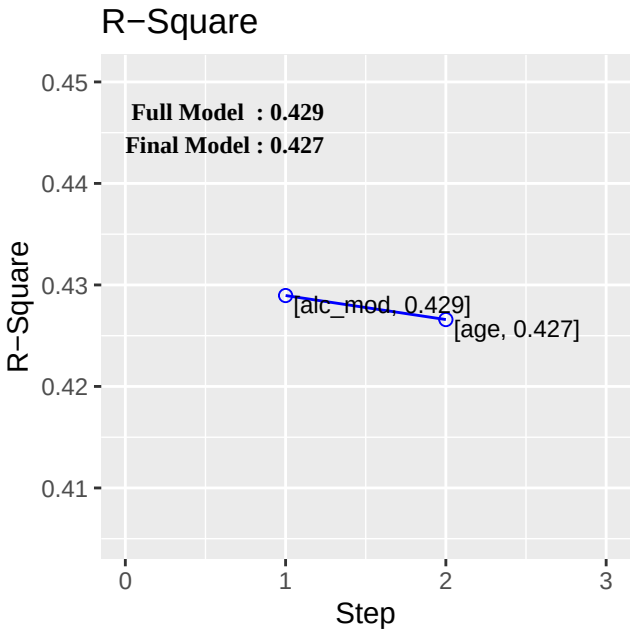


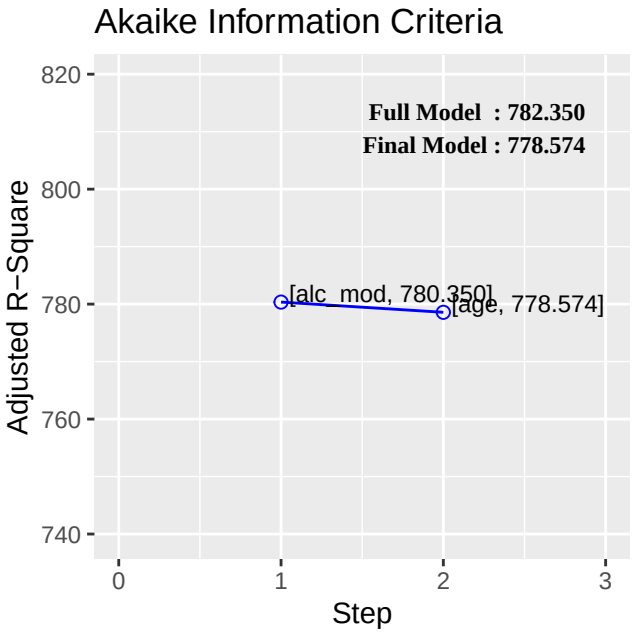
help("ols_step_all_possible")

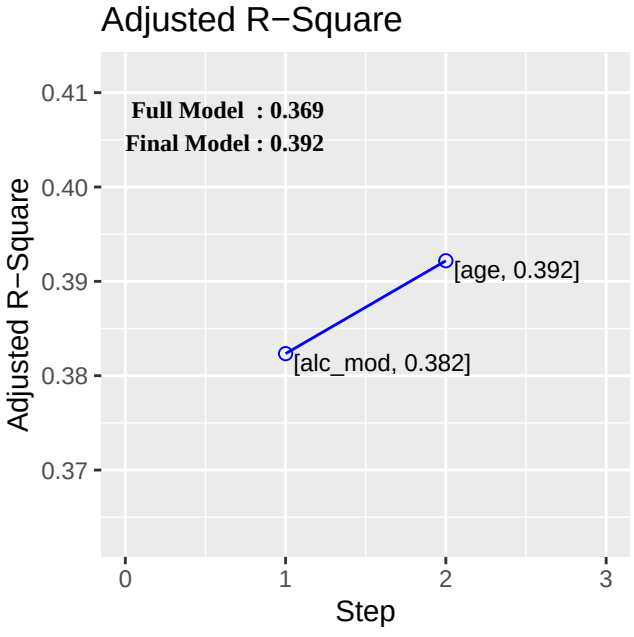

Stepwise AIC Backward Elimination
Full Model : 736.390
Final Model : 730.620
[alc_mod, 734.407]
[gender, 732.494]
[age, 730.620]
AIC
770
750
730
710
0
1
2
3
4
Step
help("ols_step_backward_aic")

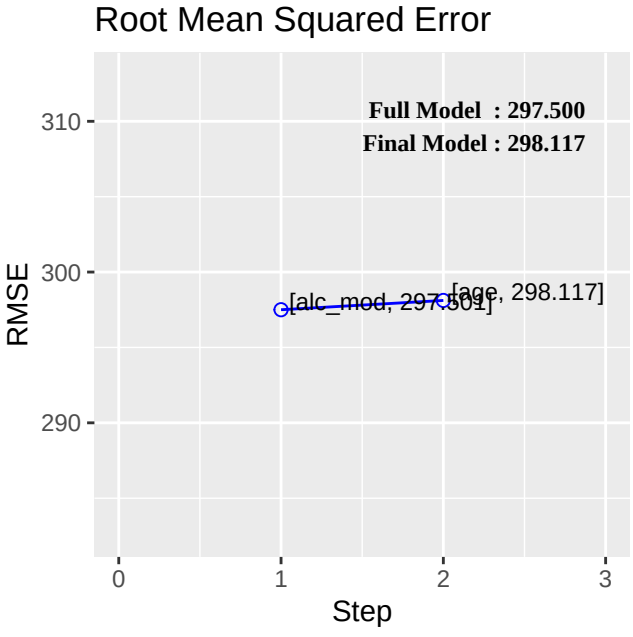

Stepwise Backward Regression
R−Square
Full Model : 0.782
Final Model : 0.781
R−Square
Step
[alc_mod, 0.782]
[gender, 0.781]
[age, 0.781]
Akaike Information Criteria
Full Model : 736.390
Final Model : 730.620
Adjusted R−Square
Step
[alc_mod, 734.407]
[gender, 732.494]
[age, 730.620]
Adjusted R−Square
Full Model : 0.743
Final Model : 0.758
Adjusted R−Square
Step
[alc_mod, 0.749]
[gender, 0.754]
[age, 0.758]
Root Mean Squared Error
Full Model : 183.883
Final Model : 184.276
RMSE
Step
[alc_mod, 183.912]
[gender, 184.061]
[age, 184.276]
help("ols_step_backward_p")

Stepwise Backward Regression

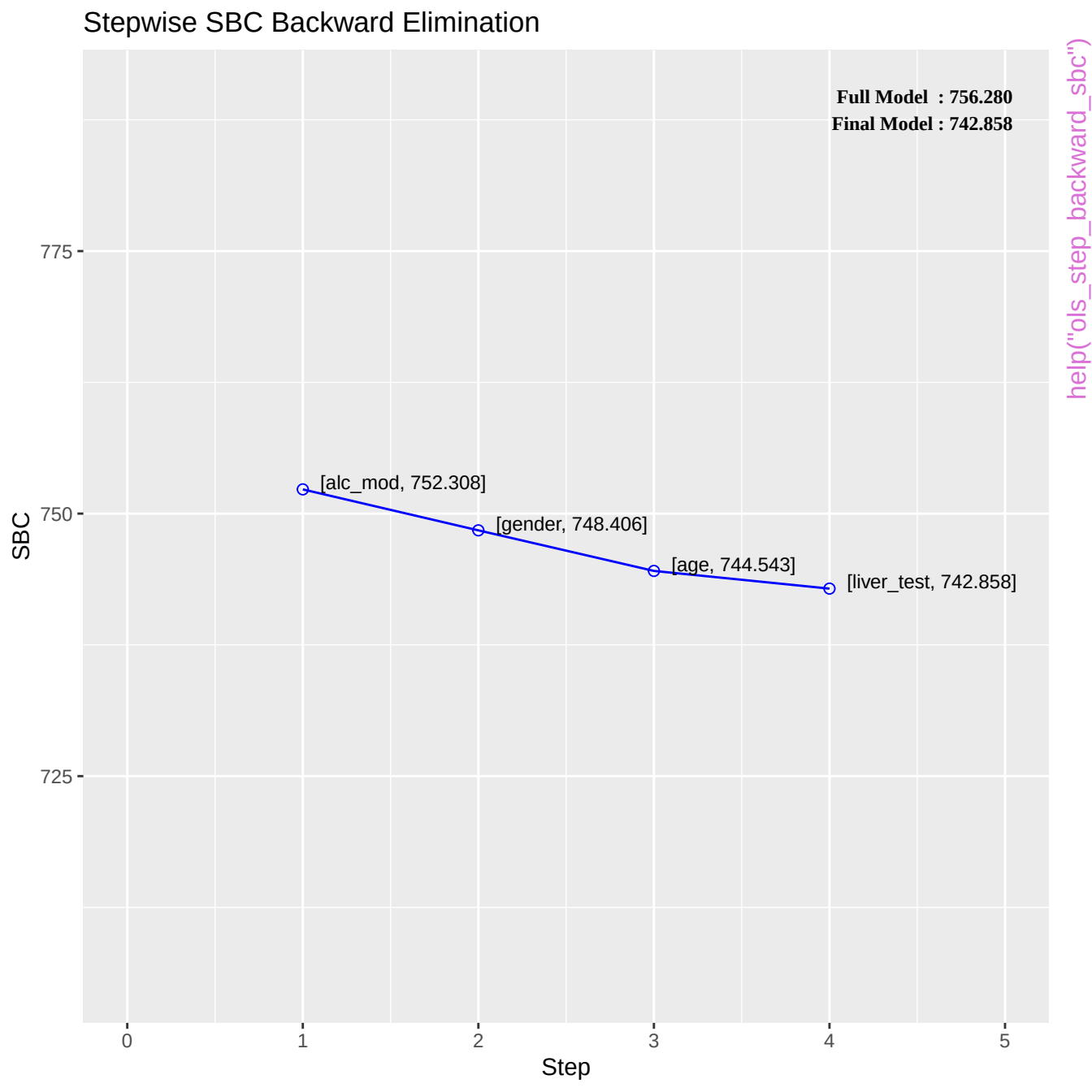


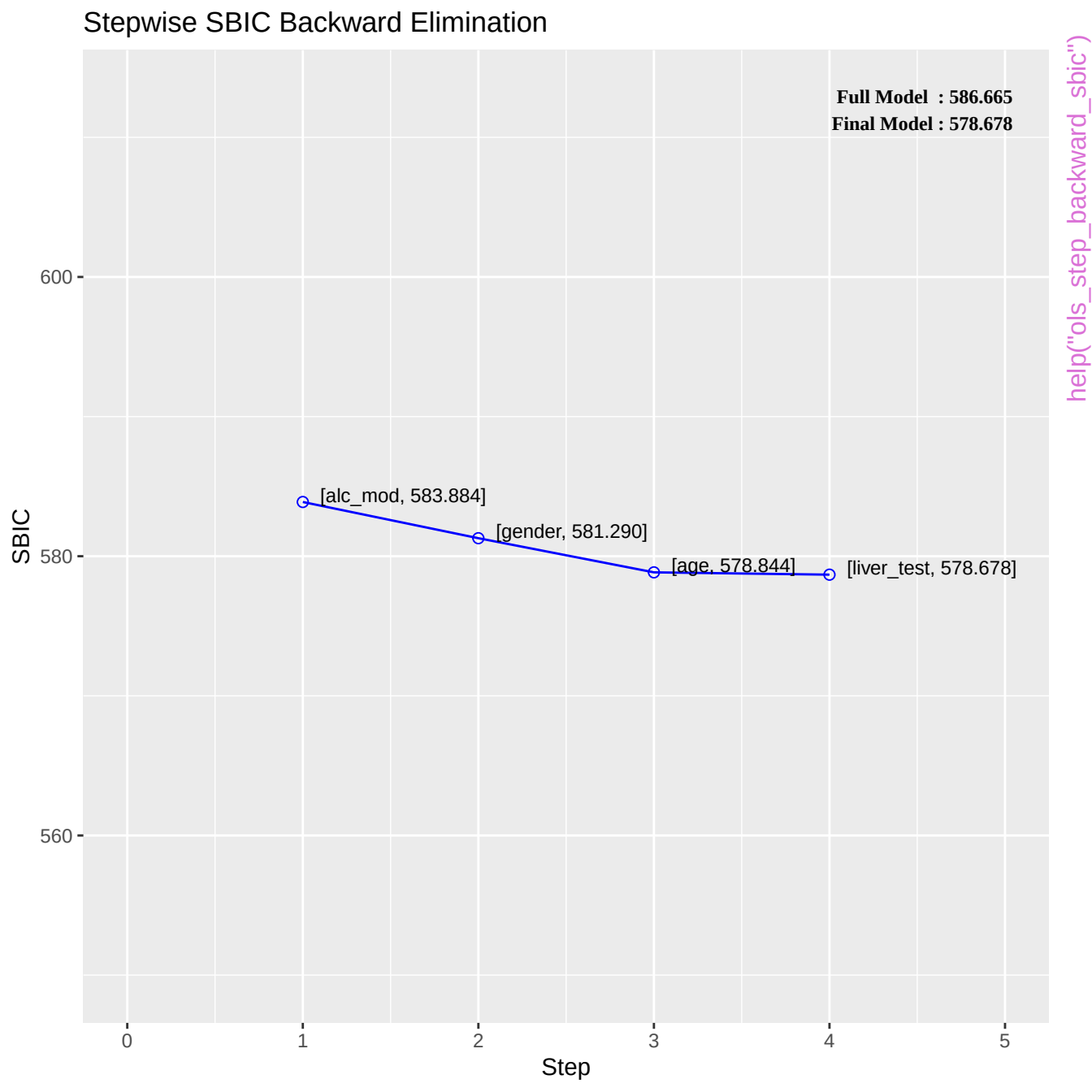


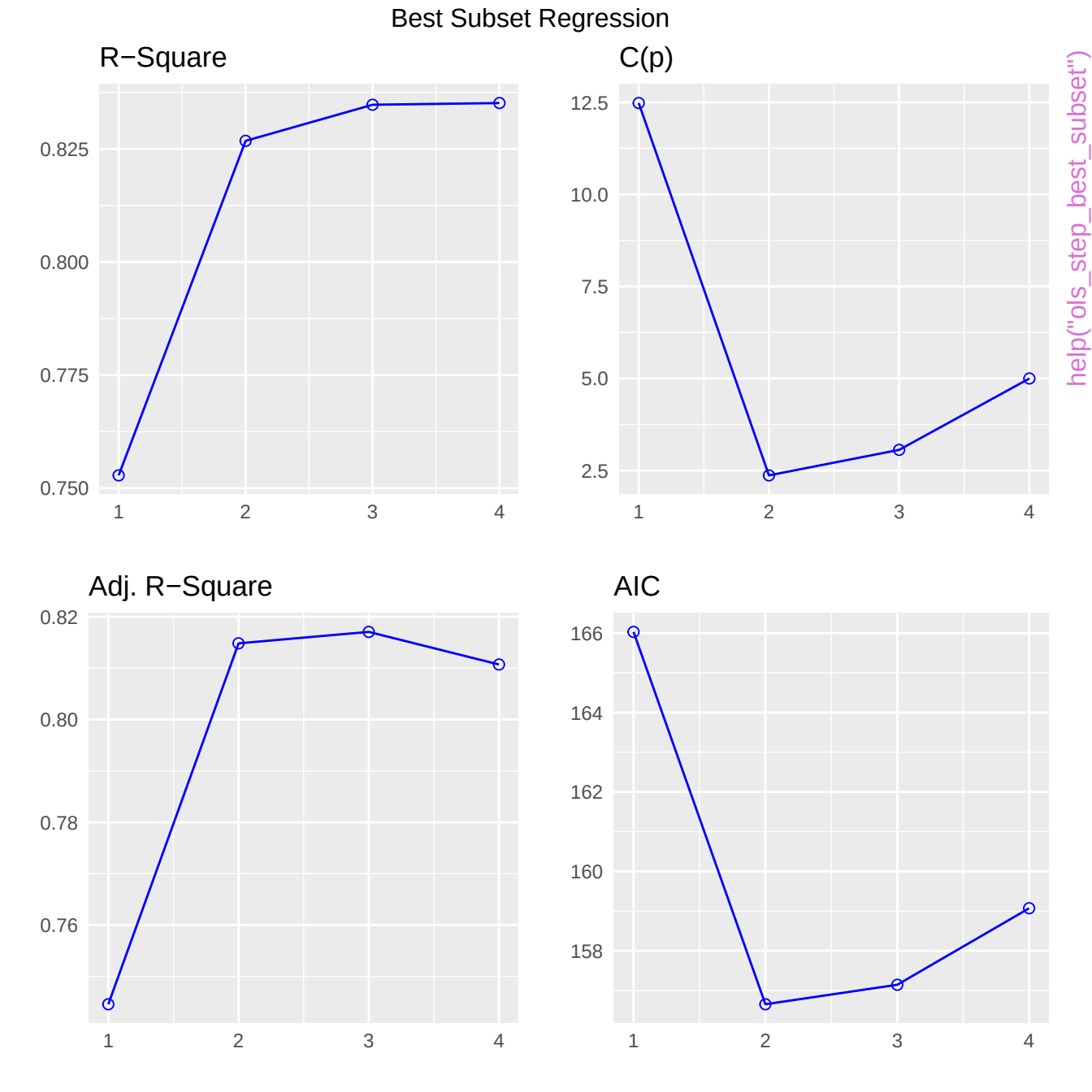




help("ols_step_backward_p")

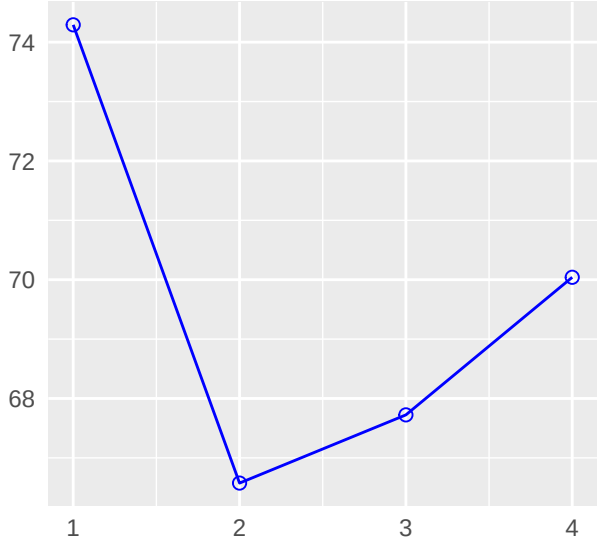

Stepwise SBC Backward Elimination
Full Model : 756.280
Final Model : 742.858
[alc_mod, 752.308]
[gender, 748.406]
[age, 744.543]
[liver_test, 742.858]
SBC
775
750
725
0
1
2
3
4
5
Step
help("ols_step_backward_sbc")


Stepwise SBIC Backward Elimination
Full Model : 586.665
Final Model : 578.678
[alc_mod, 583.884]
[gender, 581.290]
[age, 578.844]
[liver_test, 578.678]
SBIC
600
580
560
0
1
2
3
4
5
Step
help("ols_step_backward_sbic")

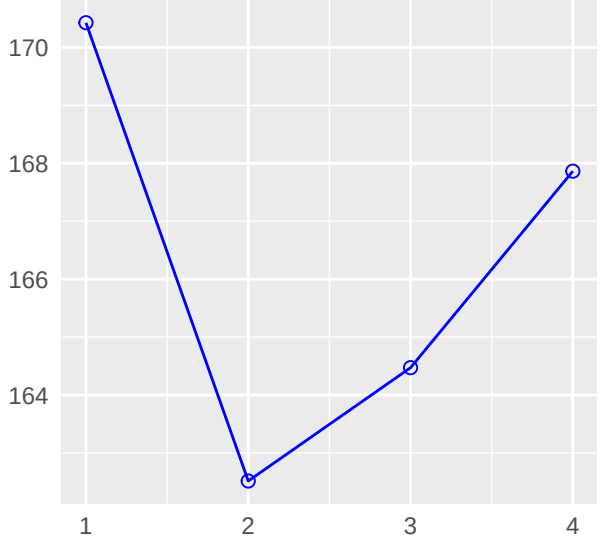

Best Subset Regression
R−Square
0.825
0.800
0.775
0.750
1
2
3
4
C(p)
12.5
10.0
7.5
5.0
2.5
1
2
3
4
help("ols_step_best_subset")
Adj. R−Square
0.82
0.80
0.78
0.76
1
2
3
4
AIC
166
164
162
160
158
1
2
3
4

Best Subset Regression

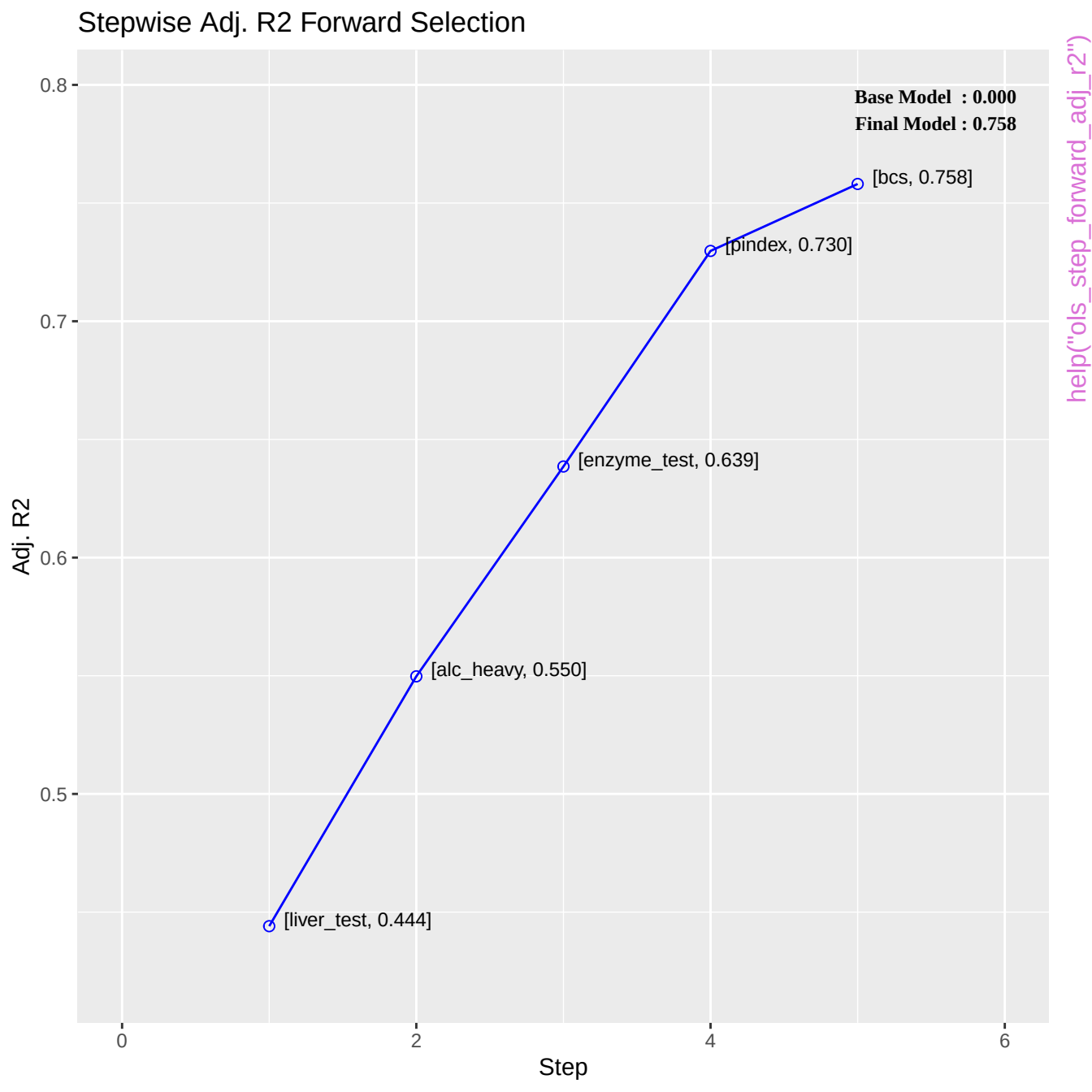
SBIC

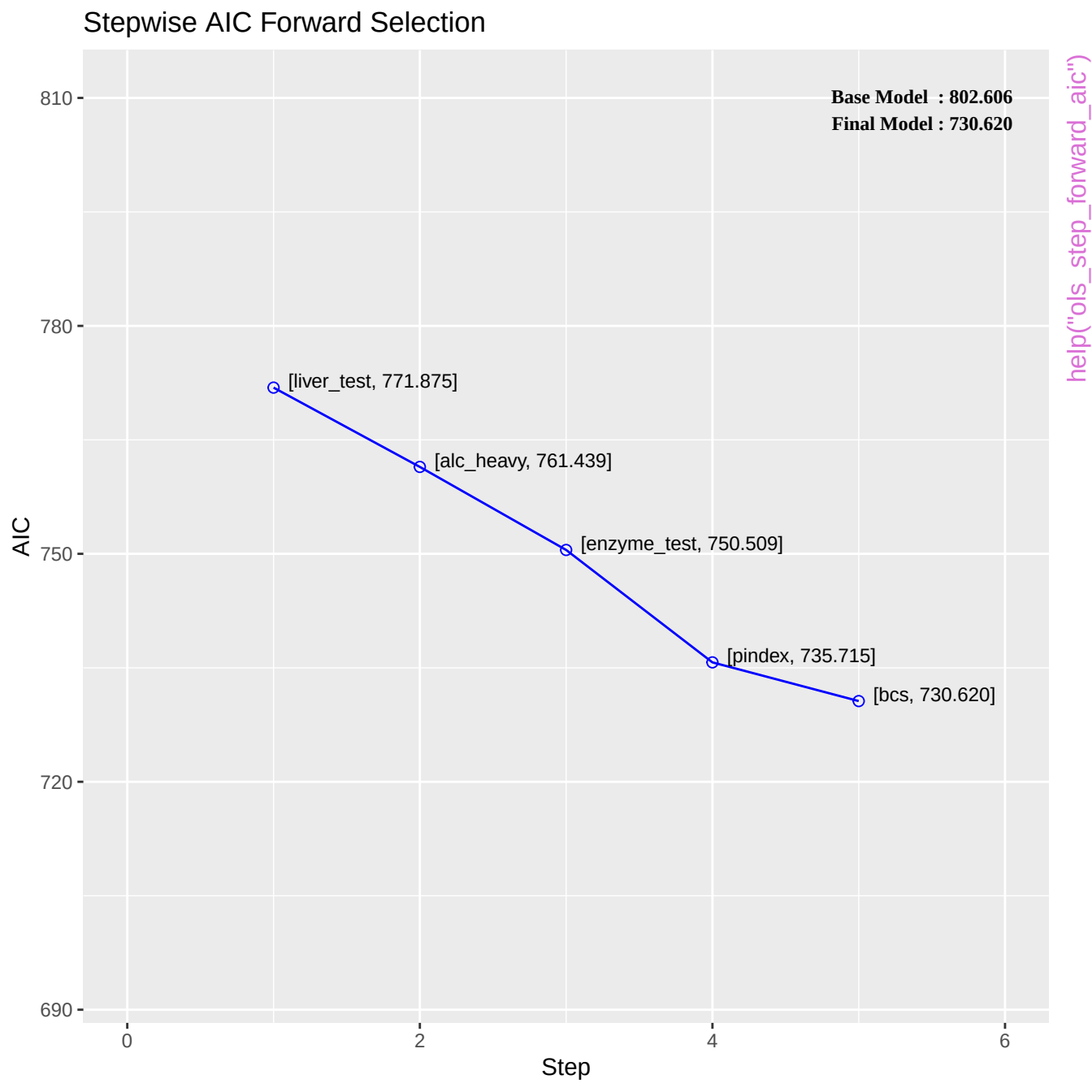


SBC

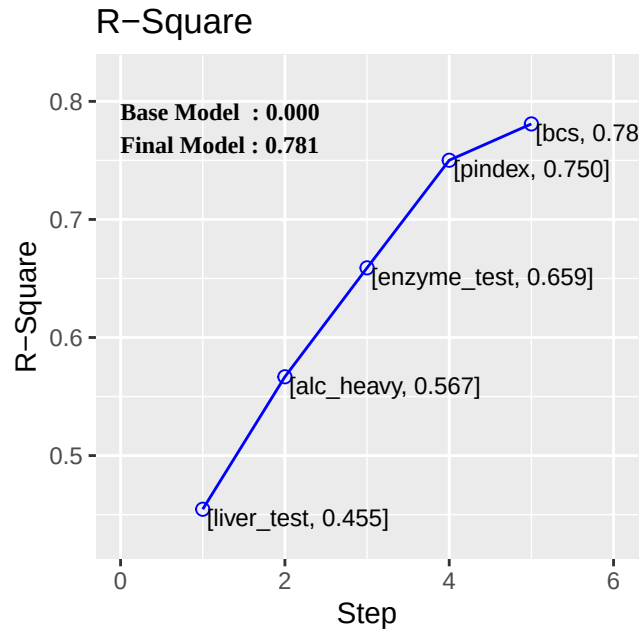


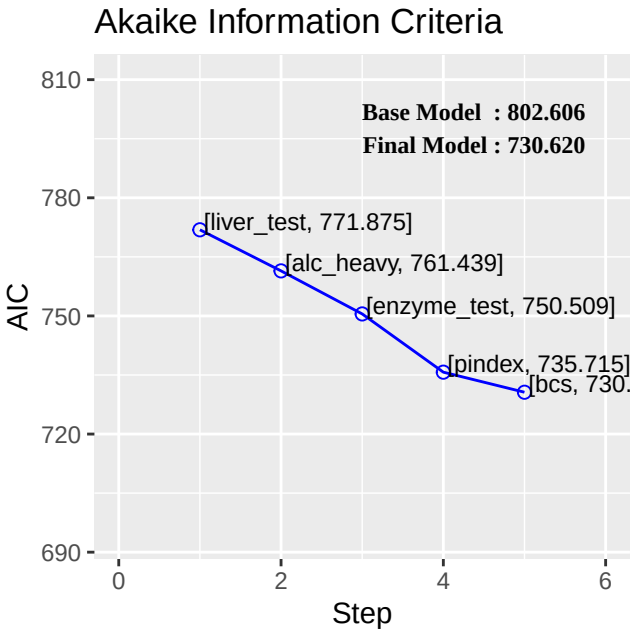
help("ols_step_best_subset")


Stepwise Adj. R2 Forward Selection
Base Model : 0.000
Final Model : 0.758
[bcs, 0.758]
[pindex, 0.730]
[enzyme_test, 0.639]
[alc_heavy, 0.550]
[liver_test, 0.444]
Adj. R2
Step
0.8
0.7
0.6
0.5
0
2
4
6
help("ols_step_forward_adj_r2")

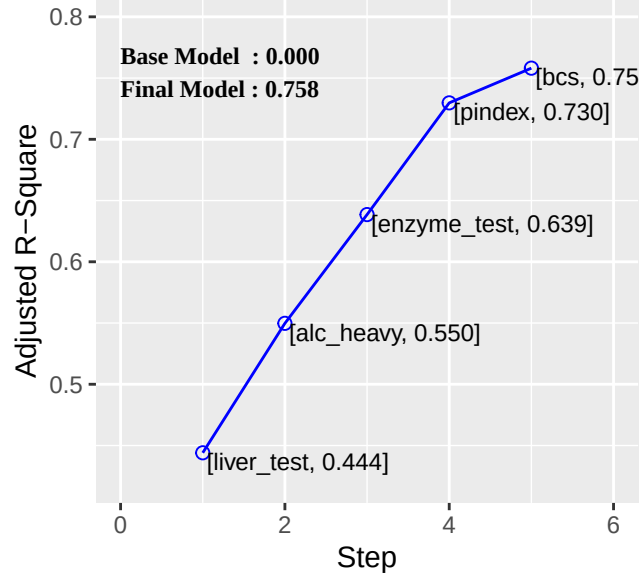

Stepwise AIC Forward Selection
Base Model : 802.606
Final Model : 730.620
[liver_test, 771.875]
[alc_heavy, 761.439]
[enzyme_test, 750.509]
[pindex, 735.715]
[bcs, 730.620]
AIC
Step
810
780
750
720
690
0
2
4
6
help("ols_step_forward_aic")

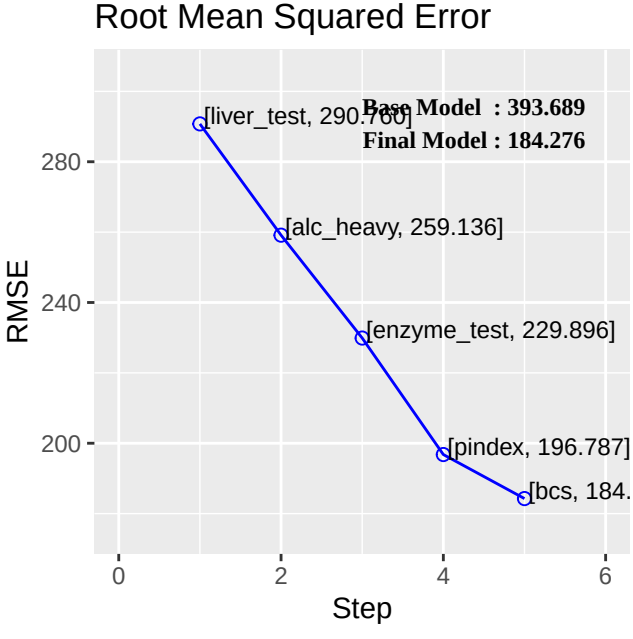
Stepwise Forward Regression



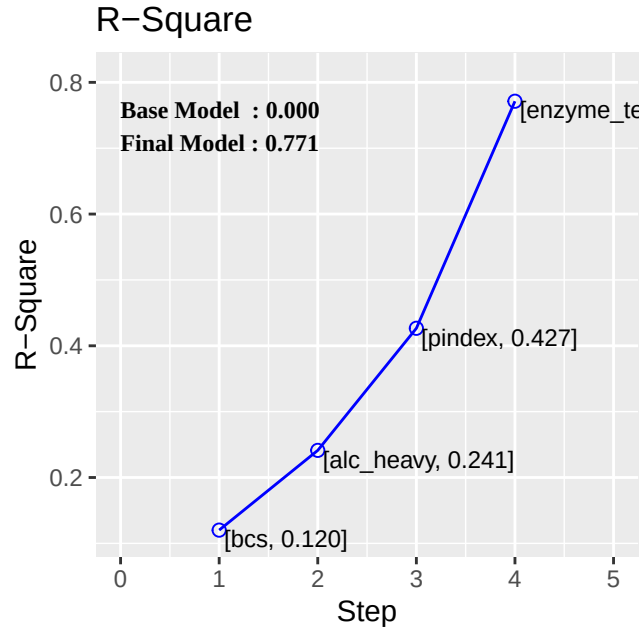


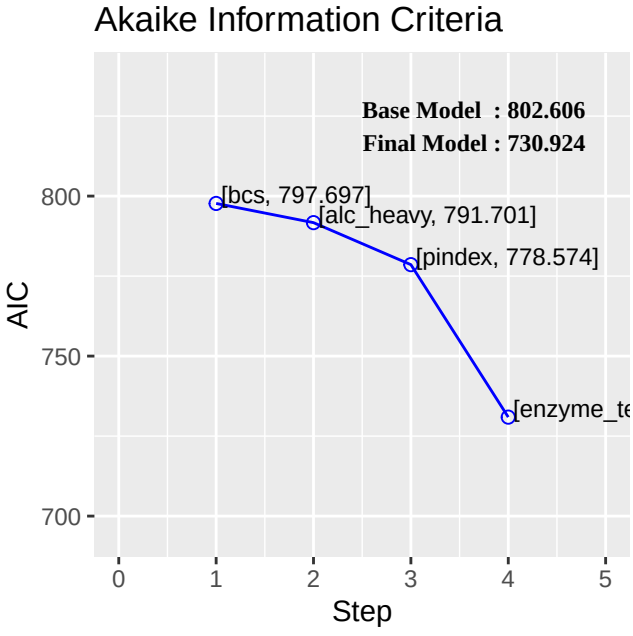
help("ols_step_forward_p")

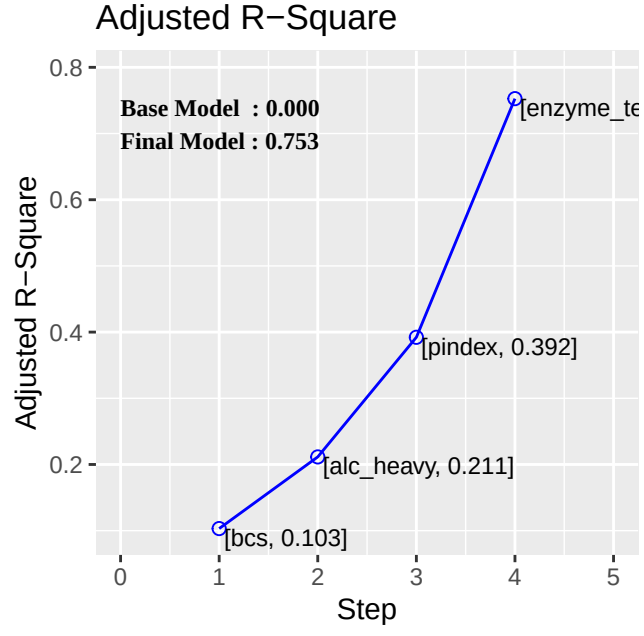


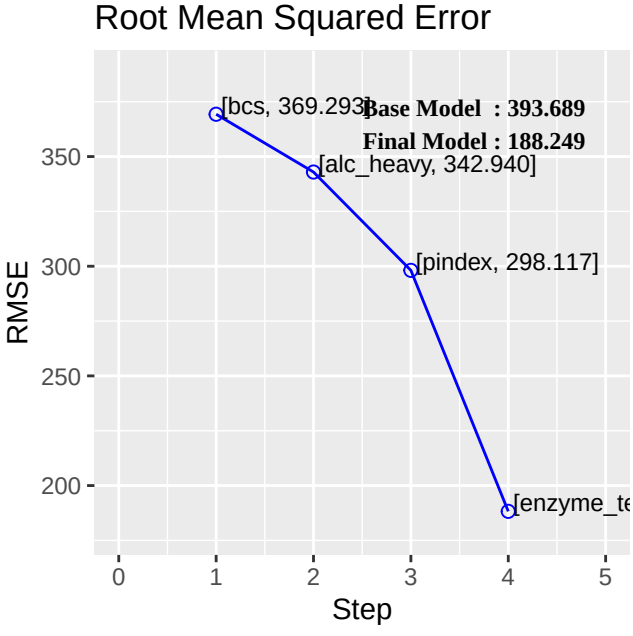


Stepwise Forward Regression

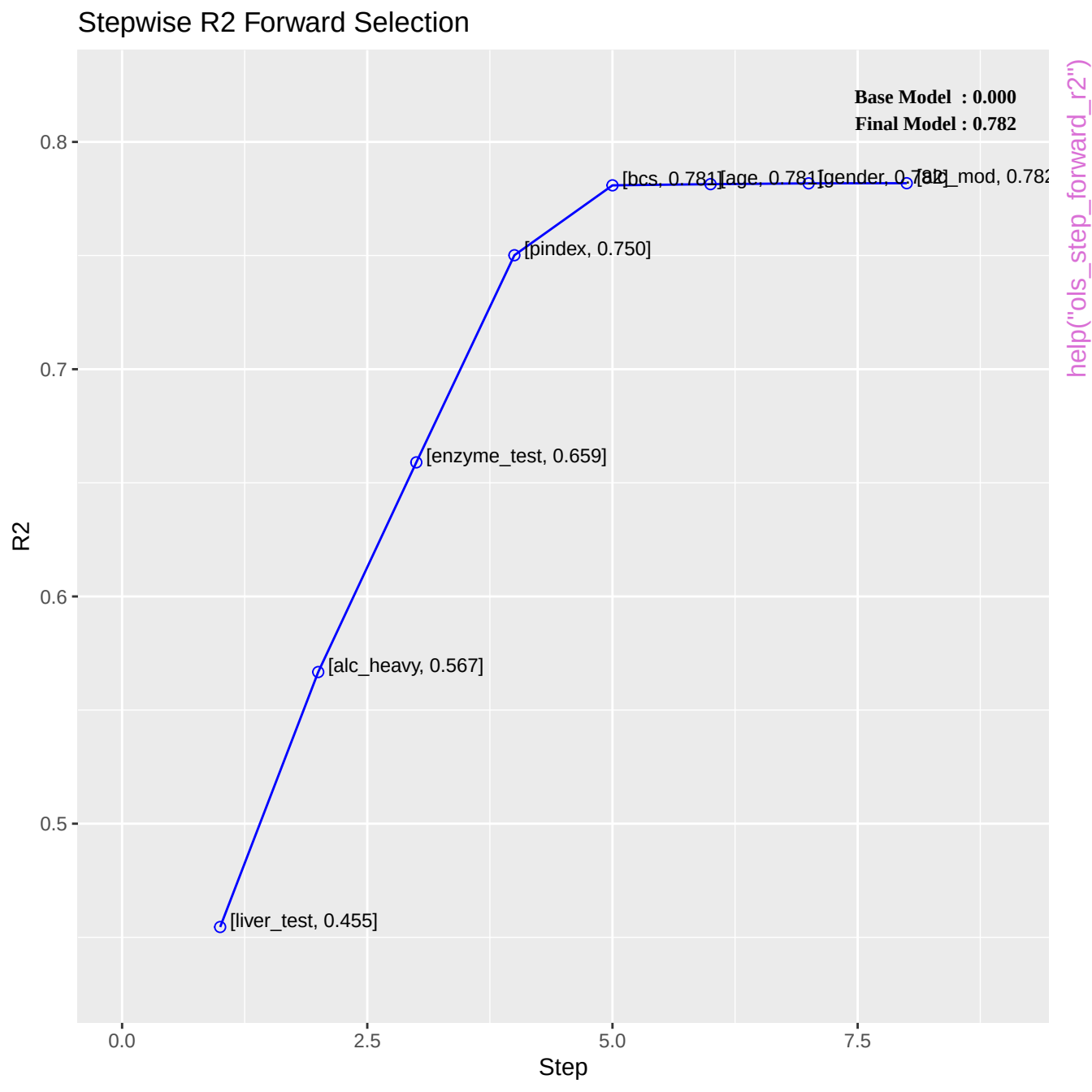


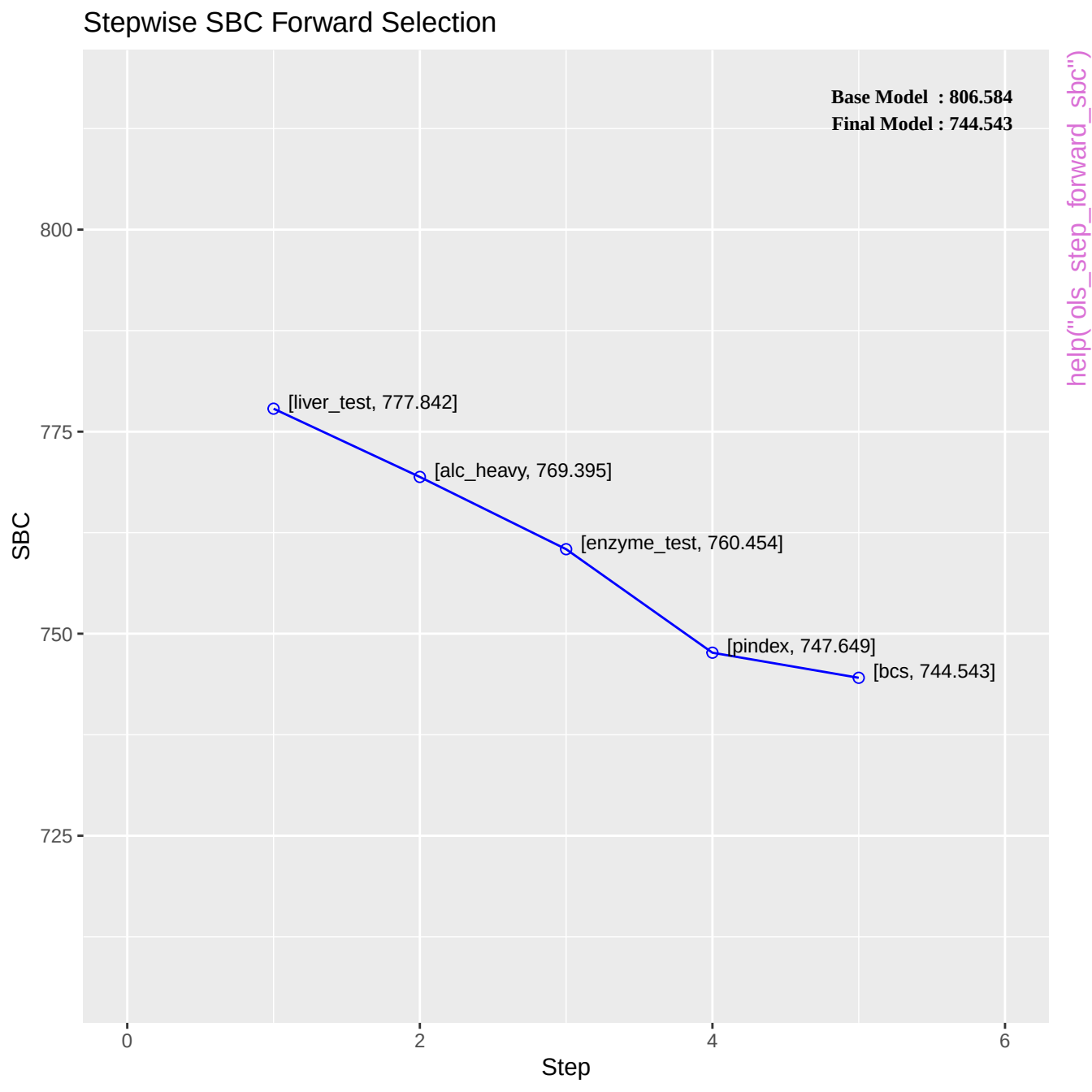


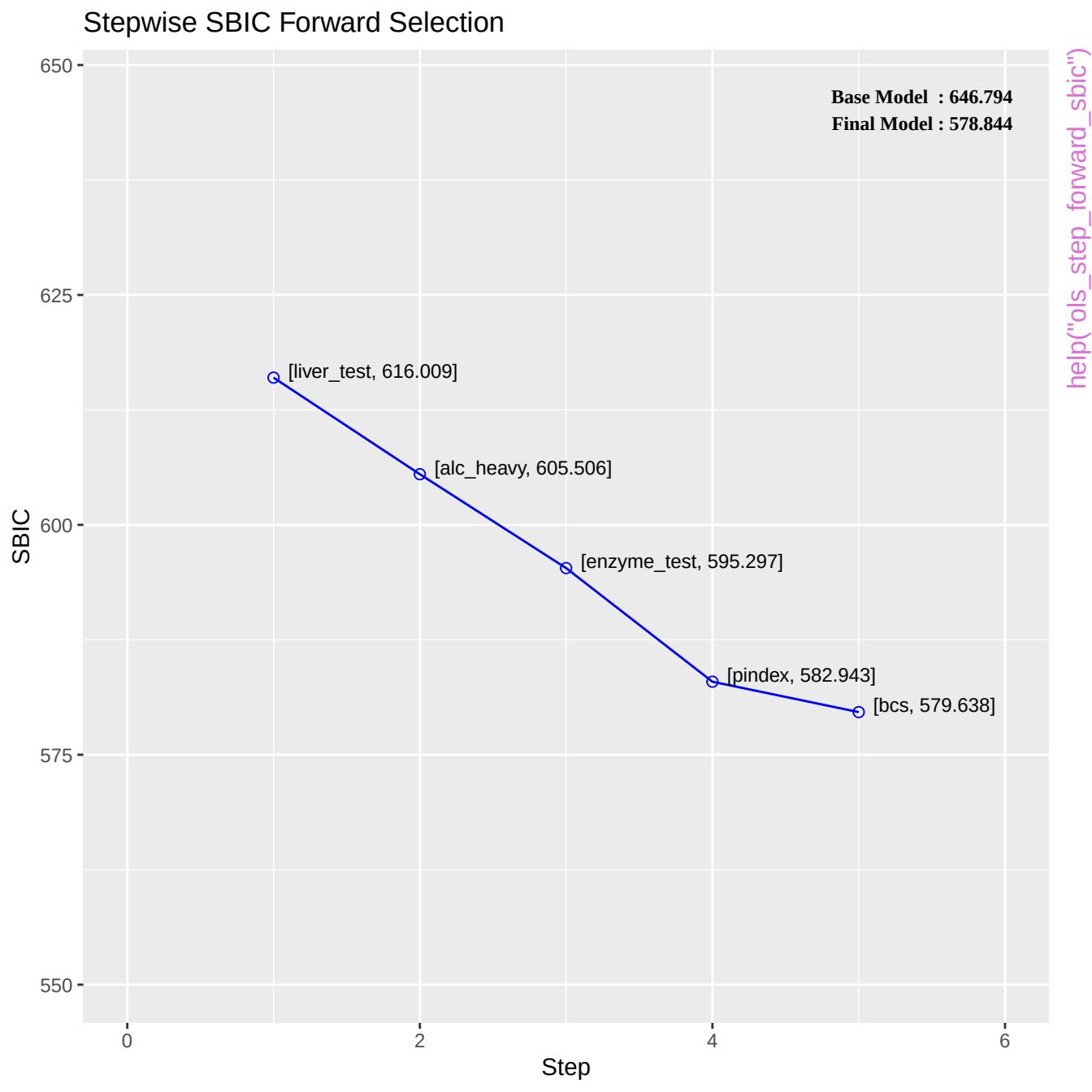


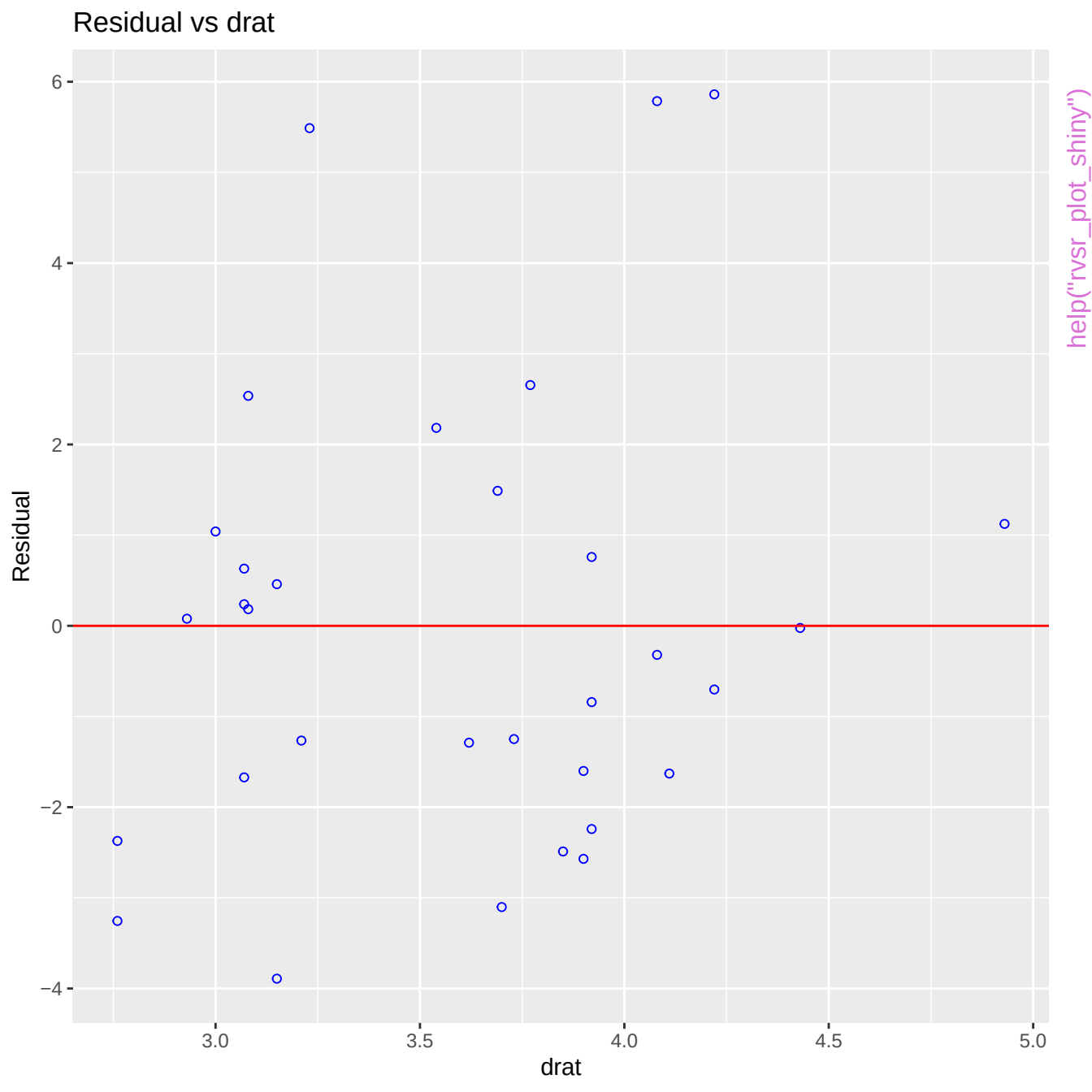


help("ols_step_forward_p")


Stepwise R2 Forward Selection
Base Model : 0.000
Final Model : 0.782
[liver_test, 0.455]
[alc_heavy, 0.567]
[enzyme_test, 0.659]
[pindex, 0.750]
[hcs, 0.781]
[age, 0.781]
[gender, 0.782]
[alc_mod, 0.782
R2
Step
0.0
2.5
5.0
7.5
0.5
0.6
0.7
0.8
help("ols_step_forward_r2")


Stepwise SBC Forward Selection
Base Model : 806.584
Final Model : 744.543
[liver_test, 777.842]
[alc_heavy, 769.395]
[enzyme_test, 760.454]
[pindex, 747.649]
[bcs, 744.543]
800
775
750
725
SBC
0
2
4
6
Step
help("ols_step_forward_sbc")


Stepwise SBIC Forward Selection
Base Model : 646.794
Final Model : 578.844
[liver_test, 616.009]
[alc_heavy, 605.506]
[enzyme_test, 595.297]
[pindex, 582.943]
[bcs, 579.638]
SBIC
650
625
600
575
550
0
2
4
6
Step
help("ols_step_forward_sbic")


Residual vs drat
help("rvsr_plot_shiny")
Residual
drat
6
4
2
0
−2
−4
3.0
3.5
4.0
4.5
5.0