Box-Cox Analysis for Real-World CO2 (g/mi)

Terms with Pr F < 0.00001 at the Selected Lambda ——— Real-World MPG

Selected λ = -1
☐ 99.999% CI

Dependent Variable BoxCox(Real-World CO2 (g/mi))
Real-World CO2 (g/mi)

Number of Observations Read	48
Number of Observations Used	48

Model Statement Specification Details				
Type	DF	Variable	Description	Value
Dep	1	BoxCox(Real-World CO2 (g/mi))	Lambda Used	-1
			Lambda	-1
			Log Likelihood	-53.0256
			Conv. Lambda	-1
			Conv. Lambda LL	-53.0256
			CI Limit	-62.7813
			Alpha	0.00001
			Parameter	2
			Options	Convenient Lambda Used
			Label	Real-World CO2 (g/mi)
Ind	1	Identity(Real-World MPG)	Label	Real-World MPG

The TRANSREG Procedure Hypothesis Tests for BoxCox(Real-World CO2 (g/mi))
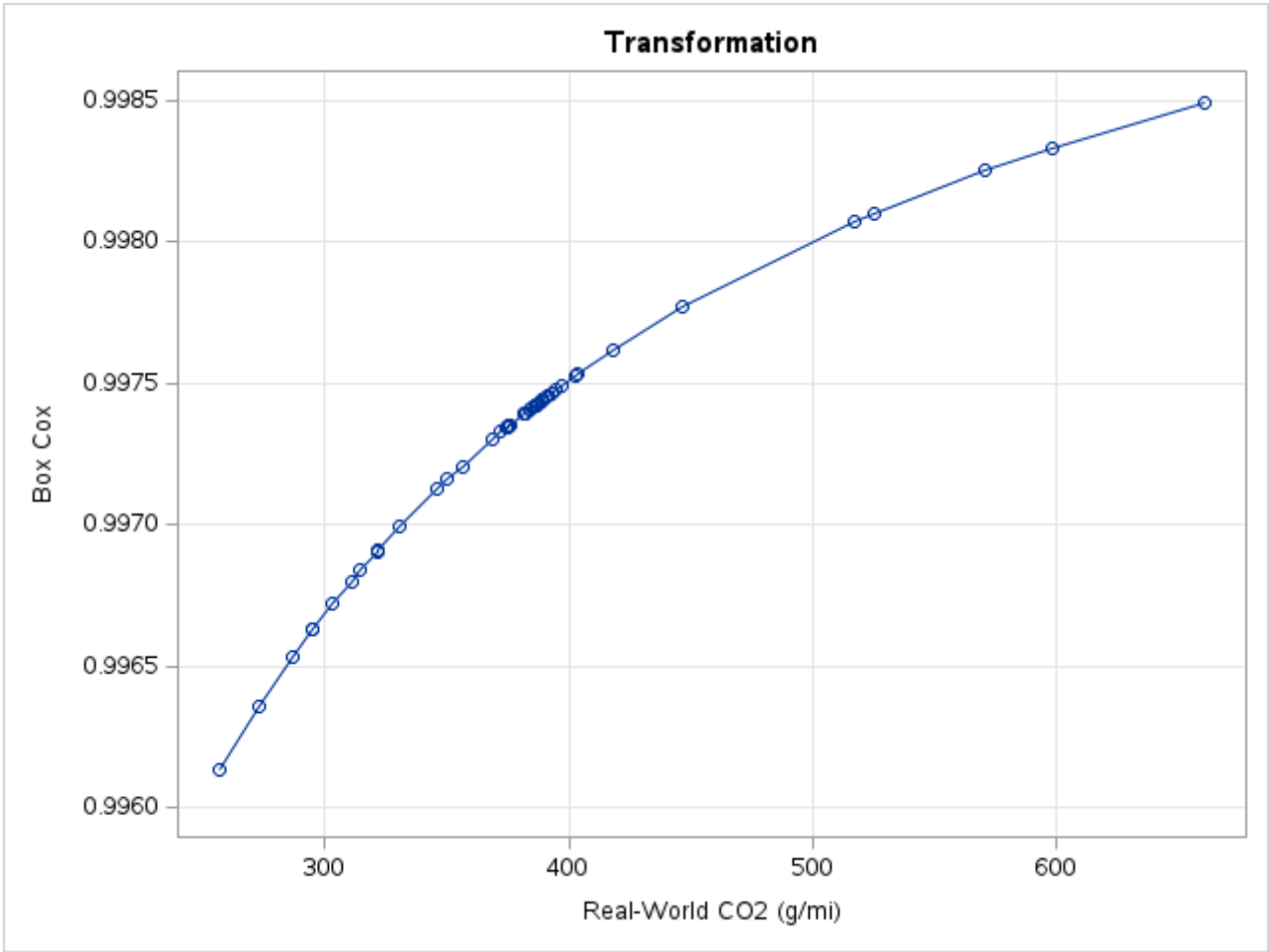**Real-World CO2 (g/mi)**

| Univariate ANOVA Table Based on the Usual Degrees of Freedom					
Source	DF	Sum of Squares	Mean Square	F Value	Liberal p
Model	1	0.000010	0.000010	23852.2	>= <.0001
The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.					

Univariate ANOVA Table Based on the Usual Degrees of Freedom

Source	DF	Sum of Squares	Mean Square	F Value	Liberal p
Error	46	1.995E-8	4.34E-10		
Corrected Total	47	0.000010			

The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.

Root MSE	0.00002083	R-Square	0.9981
Dependent Mean	0.99733	Adj R-Sq	0.9980
Coeff Var	0.00209	Lambda	-1.0000

Univariate Regression Table Based on the Usual Degrees of Freedom

Variable	DF	Coefficient	Type II Sum of Squares	Mean Square	F Value	Liberal p	Label
Intercept	1	1.0000749	1.33580	1.33580	3.079E9	>= <.0001	Intercept
Identity(Real-World MPG)	1	-0.0001153	0.00001	0.00001	23852.2	>= <.0001	Real-World MPG

The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.


Transformation

Observed Data

Real-World CO2 (g/mi) vs. Real-World MPG

Observed by Predicted
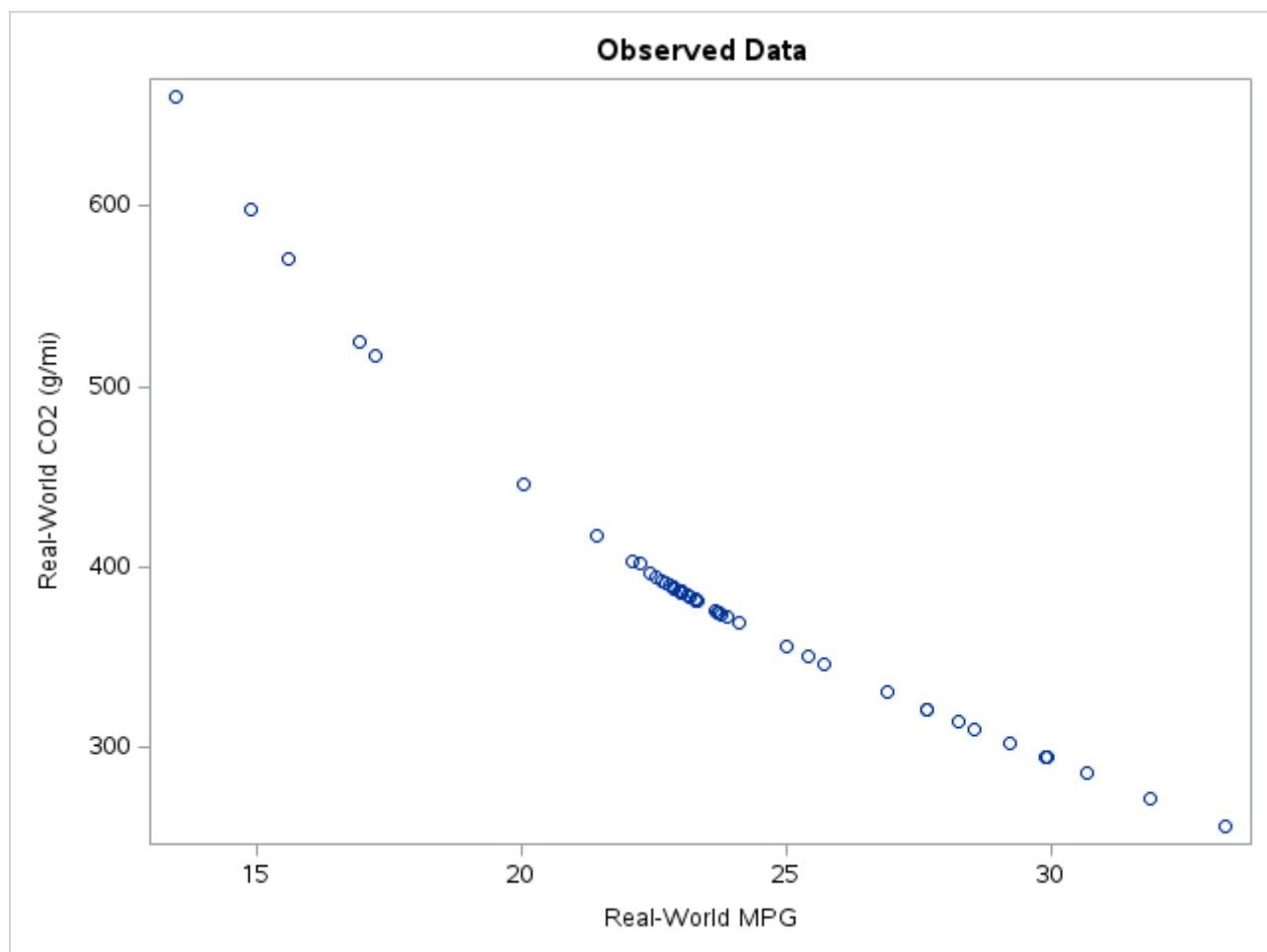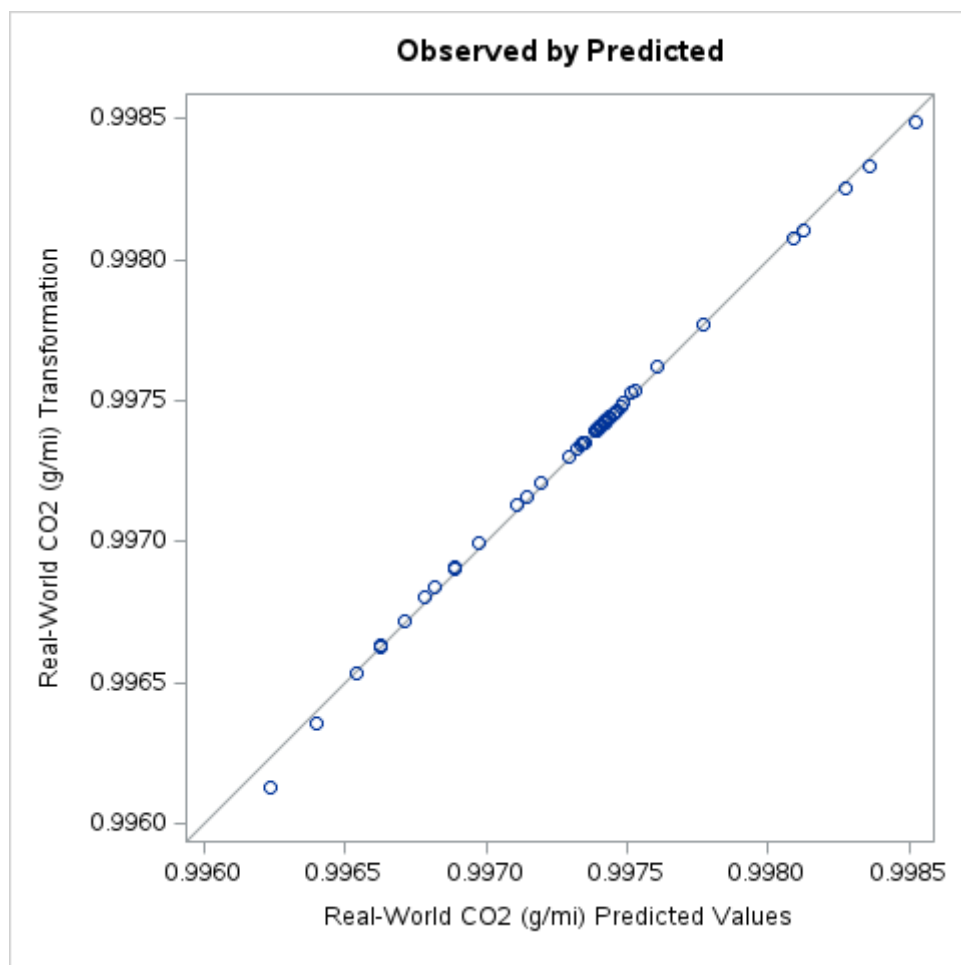
Data Set	WORK.TRANSFORM
Dependent Variable	tr1_Real-World CO2
Selection Method	Stepwise
Select Criterion	SBC
Stop Criterion	SBC
Effect Hierarchy Enforced	None

Number of Observations Read	48
Number of Observations Used	48

Dimensions	
Number of Effects	2
Number of Parameters	2

Stepwise Selection Summary

Step	Effect Entered	Effect Removed	Number Effects In	SBC
0	Intercept		1	325.2045
1	Real-World MPG		2	205.0066*
	* Optimal Value of Criterion			

Selection stopped because all effects are in the final model.

Fit Criteria for tr1_Real-World CO2
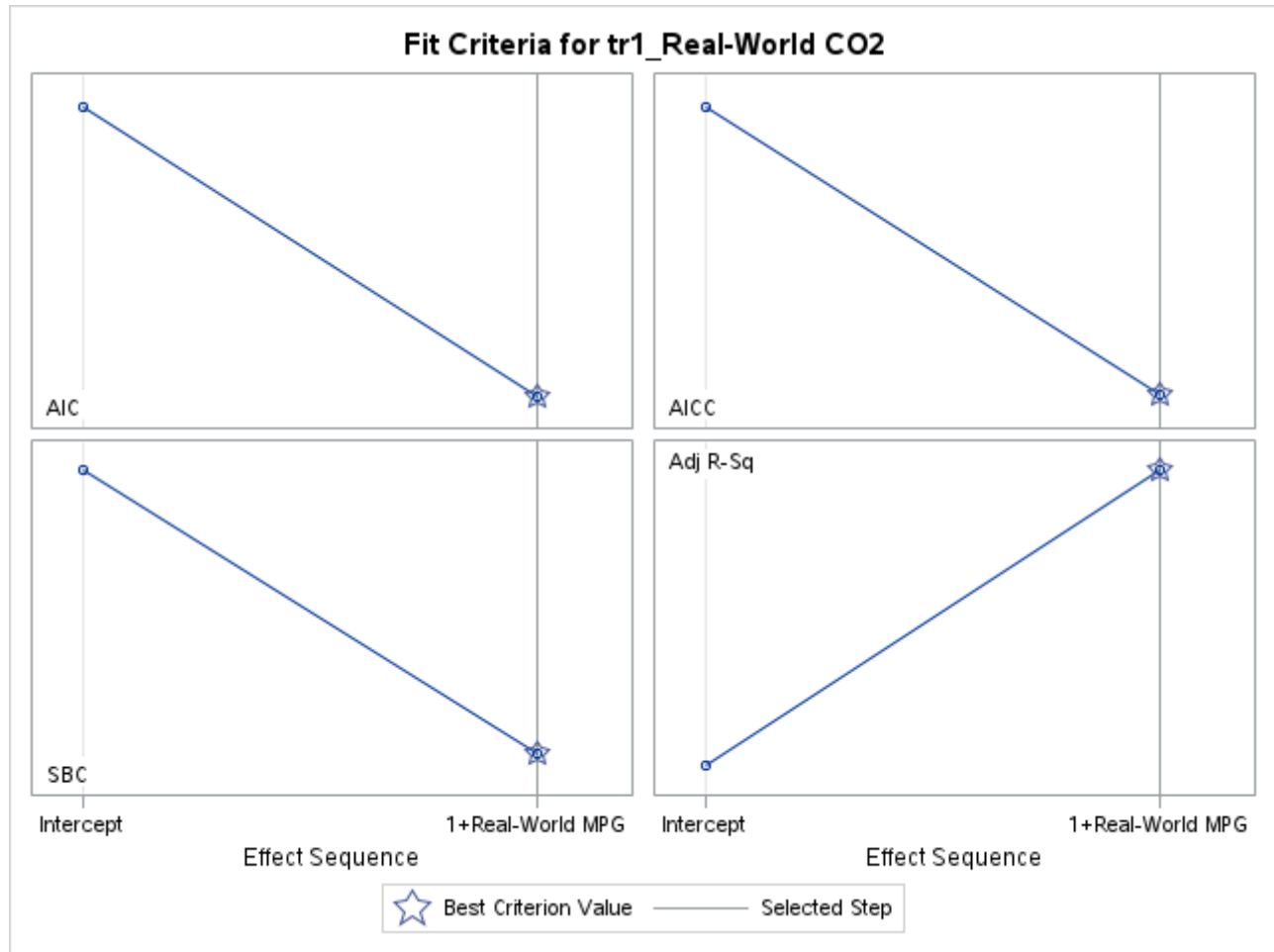
Selected Model

The selected model is the model at the last step (Step 1).
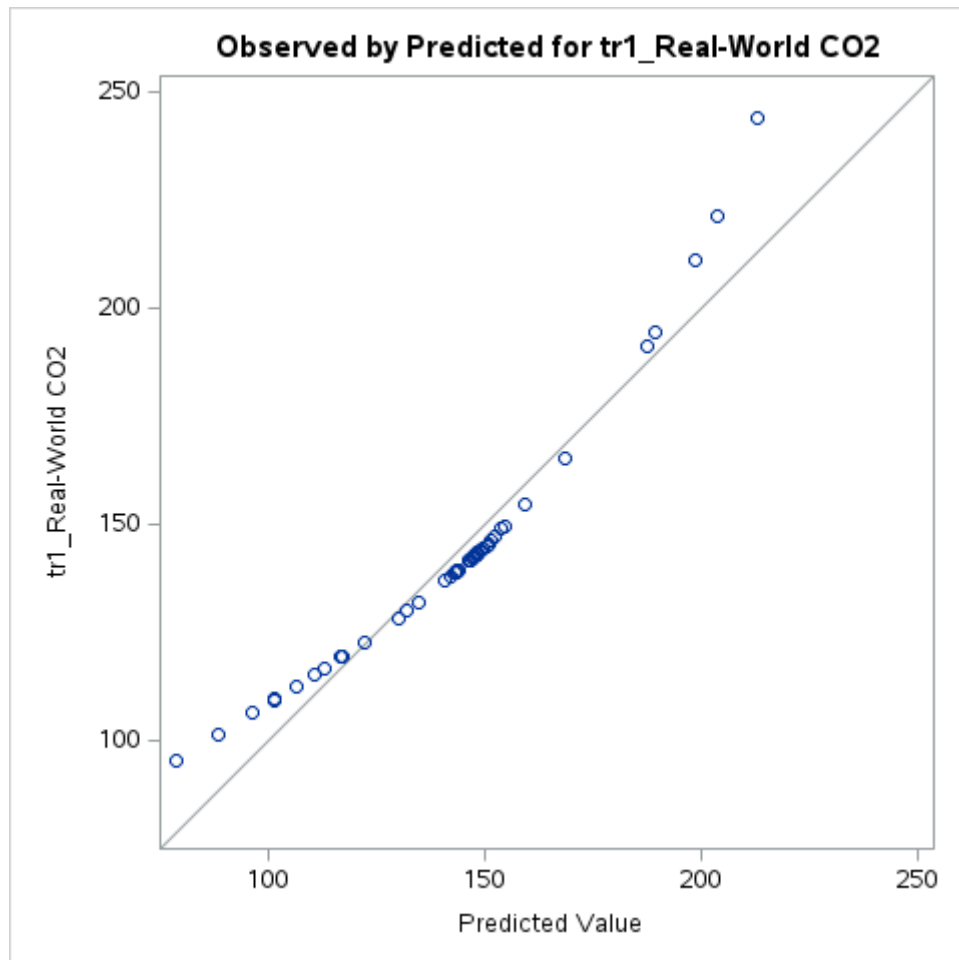
Effects: Intercept Real-World MPG

Note: The p-values for parameters and effects are not adjusted for the fact that the terms in the model have been selected and so are generally liberal.

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	35855	35855	563.97	<.0001
Error	46	2924.47692	63.57559		
Corrected Total	47	38779			

Root MSE	7.97343
Dependent Mean	142.79421
R-Square	0.9246
Adj R-Sq	0.9229
AIC	251.26416
AICC	251.80961
SBC	205.00656

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	304.344584	6.899321	44.11	<.0001
Real-World MPG	1	-6.787758	0.285823	-23.75	<.0001

Model: MODEL1
Dependent Variable: tr1_Real-World CO2

Observed by Predicted for tr1_Real-World CO2

Fit Diagnostics for tr1_Real-World CO2

Residuals for tr1_Real-World CO2
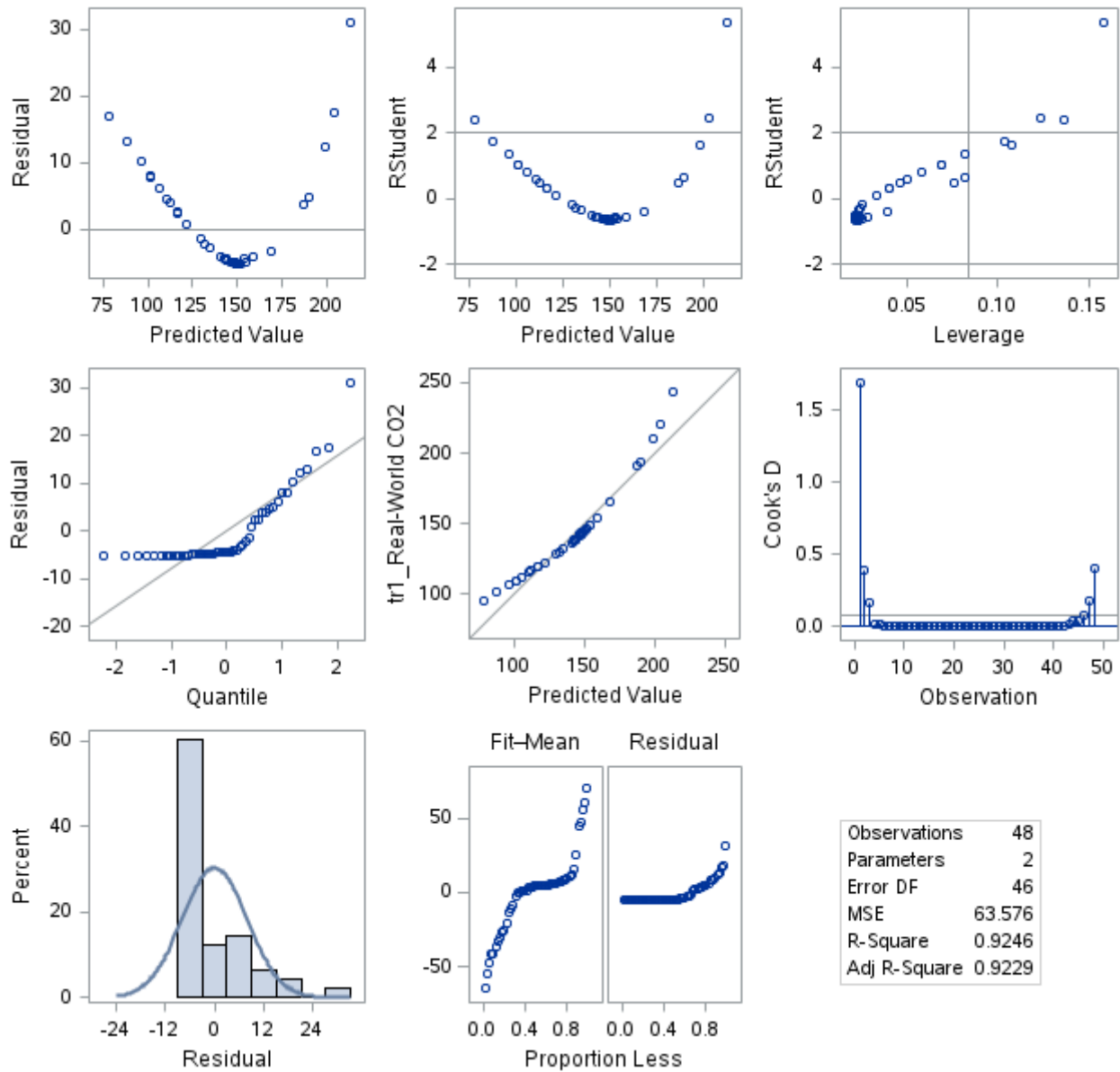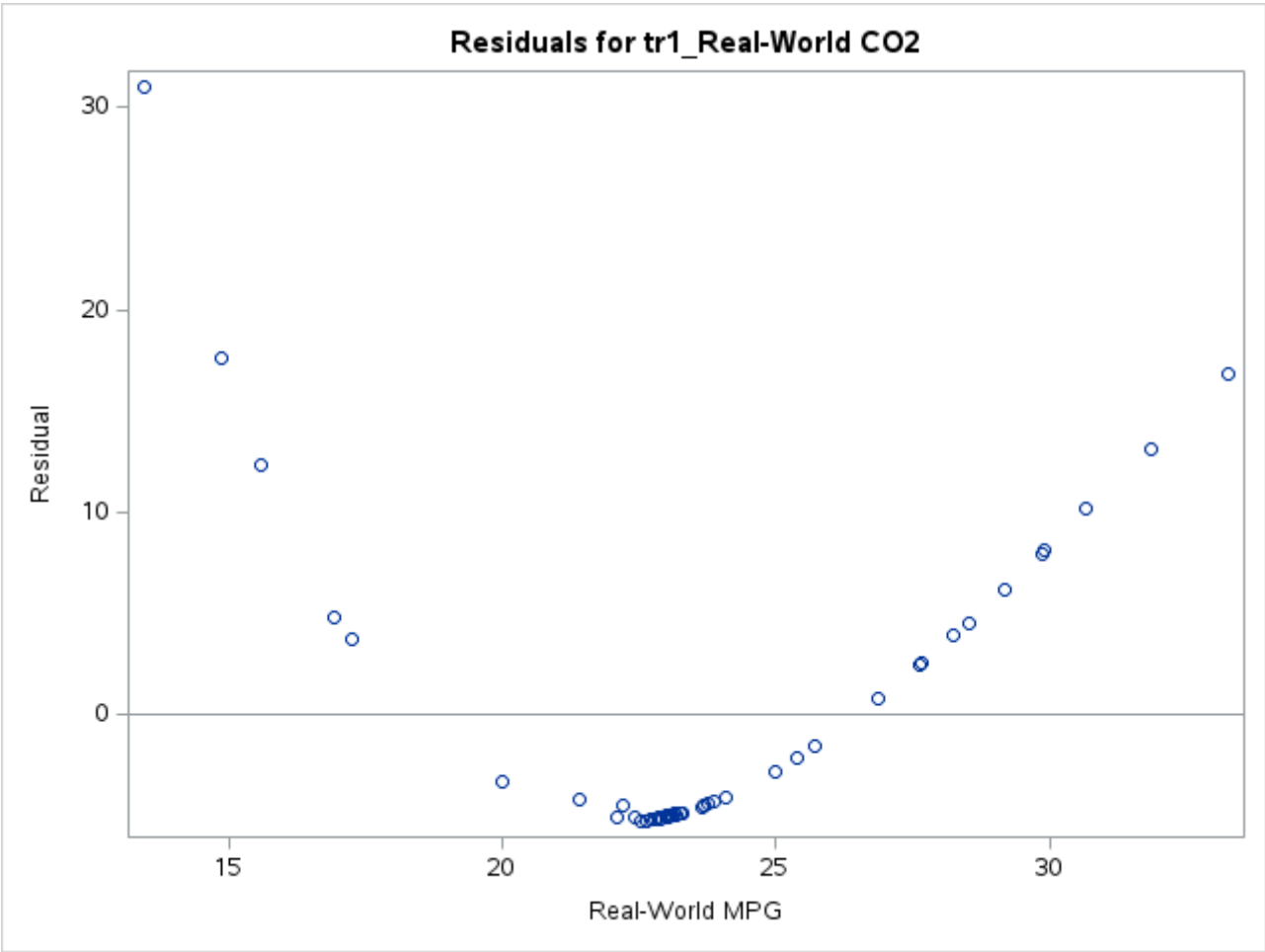
Fit Plot for tr1_Real-World CO2

Observations	48
Parameters	2
Error DF	46
MSE	63.576
R-Square	0.9246
Adj R-Square	0.9229

—— Fit □ 95% Confidence Limits - - - - - 95% Prediction Limits