

Warning: The Cubic model is aliased.

Fit Summary

Response 1: Melting point

Source	Sequential p-value	Lack of Fit p-value	Adjusted R ²	Predicted R ²	
Linear	0.0530	0.0059	0.3330	-0.0956	
2FI	0.8298	0.0044	0.2629	-1.0433	
Quadratic	0.0025	0.0566	0.8296	0.1564	Suggested
Cubic	0.0220	0.4087	0.9481	0.5339	Aliased

Sequential Model Sum of Squares [Type I]

Source	Sum of Squares	df	Mean Square	F-value	p-value	
Mean vs Total	18394.68	1	18394.68			
Linear vs Mean	18.10	2	9.05	4.00	0.0530	
2FI vs Linear	0.1225	1	0.1225	0.0490	0.8298	
Quadratic vs 2FI	18.47	2	9.24	15.97	0.0025	Suggested
Cubic vs Quadratic	3.17	2	1.58	9.00	0.0220	Aliased
Residual	0.8804	5	0.1761			
Total	18435.42	13	1418.11			

Select the highest order polynomial where the additional terms are significant and the model is not aliased.

Lack of Fit Tests

Source	Sum of Squares	df	Mean Square	F-value	p-value	
Linear	21.92	6	3.65	20.12	0.0059	
2FI	21.80	5	4.36	24.01	0.0044	
Quadratic	3.32	3	1.11	6.10	0.0566	Suggested
Cubic	0.1543	1	0.1543	0.8500	0.4087	Aliased
Pure Error	0.7261	4	0.1815			

The selected model should have insignificant lack-of-fit.

Model Summary Statistics

Source	Std. Dev.	R ²	Adjusted R ²	Predicted R ²	PRESS	
Linear	1.50	0.4442	0.3330	-0.0956	44.63	
2FI	1.58	0.4472	0.2629	-1.0433	83.25	
Quadratic	0.7605	0.9006	0.8296	0.1564	34.37	Suggested
Cubic	0.4196	0.9784	0.9481	0.5339	18.99	Aliased

Focus on the model maximizing the **Adjusted R²** and the **Predicted R²**.