### Fit Summary

**Response 1: GLU**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **Sequential p-value** | **Lack of Fit p-value** | **Adjusted R²** | **Predicted R²** |  |
| Linear | 0.8699 |  | -0.1372 | -0.6301 |  |
| 2FI | 0.9653 |  | -0.3717 | -5.1985 |  |
| **Quadratic** | **< 0.0001** |  | **0.8932** | **0.6588** | **Suggested** |
| Cubic | 0.3869 |  | 0.9025 | -36.8149 | **Aliased** |

### Sequential Model Sum of Squares [Type I]

**Response 1: GLU**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Sum of Squares** | **df** | **Mean Square** | **F-value** | **p-value** |  |
| Mean vs Total | 286.22 | 1 | 286.22 |  |  |  |
| Linear vs Mean | 1.52 | 3 | 0.5057 | 0.2361 | 0.8699 |  |
| 2FI vs Linear | 0.6832 | 3 | 0.2277 | 0.0881 | 0.9653 |  |
| **Quadratic vs 2FI** | **31.58** | **3** | **10.53** | **52.32** | **< 0.0001** | **Suggested** |
| Cubic vs Quadratic | 0.9103 | 4 | 0.2276 | 1.24 | 0.3869 | Aliased |
| Residual | 1.10 | 6 | 0.1836 |  |  |  |
| Total | 322.01 | 20 | 16.10 |  |  |  |

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

### ANOVA for Quadratic model

**Response 1: GLU**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Sum of Squares** | **df** | **Mean Square** | **F-value** | **p-value** |  |
| **Model** | 33.78 | 9 | 3.75 | 18.66 | < 0.0001 | significant |
| A-Temp | 0.0090 | 1 | 0.0090 | 0.0447 | 0.8367 |  |
| B-Time | 0.0640 | 1 | 0.0640 | 0.3181 | 0.5852 |  |
| C-Conc | 1.44 | 1 | 1.44 | 7.18 | 0.0231 |  |
| AB | 0.1176 | 1 | 0.1176 | 0.5846 | 0.4622 |  |
| AC | 0.1378 | 1 | 0.1378 | 0.6850 | 0.4272 |  |
| BC | 0.4278 | 1 | 0.4278 | 2.13 | 0.1754 |  |
| A² | 1.19 | 1 | 1.19 | 5.91 | 0.0354 |  |
| B² | 2.26 | 1 | 2.26 | 11.25 | 0.0073 |  |
| C² | 4.99 | 1 | 4.99 | 24.81 | 0.0006 |  |
| **Residual** | 2.01 | 10 | 0.2012 |  |  |  |
| Lack of Fit | 2.01 | 5 | 0.4023 |  |  |  |
| Pure Error | 0.0000 | 5 | 0.0000 |  |  |  |
| **Cor Total** | 35.79 | 19 |  |  |  |  |

Factor coding is **Coded**.  
Sum of squares is **Type III - Partial**

The **Model F-value** of 18.66 implies the model is significant. There is only a 0.01% chance that an F-value this large could occur due to noise.

**P-values** less than 0.0500 indicate model terms are significant. In this case C, A², B², C² are significant model terms. Values greater than 0.1000 indicate the model terms are not significant. If there are many insignificant model terms (not counting those required to support hierarchy), model reduction may improve your model.

