**Table 4.** Experimental design results for the Propargyl Alcohol model.

|  |  |  |
| --- | --- | --- |
| Run | Input factors | Response(DE) |
| **A** | **B** | **C** | **D** | **E** |
| 1 | 0 | 0 | 0 | 0 | 0 | 28.67 |
| 2 | -1 | -1 | 1 | -1 | 1 | 0.00 |
| 3 | 1 | 1 | 1 | -1 | -1 | 0.00 |
| 4 | 0 | 0 | 0 | 0 | 0 | 25.33 |
| 5 | -1 | -1 | -1 | -1 | -1 | 0.00 |
| 6 | 0 | 0 | 0 | 1 | 0 | 63.47 |
| 7 | 1 | 1 | -1 | 1 | 1 | 99.97 |
| 8 | -1 | 1 | 1 | 1 | 1 | 4.10 |
| 9 | 0 | 1 | 0 | 0 | 0 | 34.20 |
| 10 | -1 | -1 | -1 | 1 | 1 | 4.00 |
| 11 | -1 | 0 | 0 | 0 | 0 | 3.47 |
| 12 | 0 | 0 | 0 | 0 | -1 | 9.33 |
| 13 | -1 | 1 | -1 | -1 | 1 | 1.33 |
| 14 | 1 | 1 | 1 | 1 | -1 | 14.67 |
| 15 | 1 | -1 | 1 | -1 | 1 | 4.40 |
| 16 | 1 | -1 | -1 | 1 | 1 | 90.67 |
| 17 | 1 | -1 | -1 | 1 | -1 | 25.33 |
| 18 | 1 | -1 | -1 | -1 | 1 | 7.33 |
| 19 | 0 | 0 | 0 | 0 | 0 | 22.00 |
| 20 | -1 | 1 | 1 | -1 | 1 | 0.00 |
| 21 | -1 | 1 | 1 | 1 | -1 | 0.00 |
| 22 | -1 | -1 | 1 | 1 | -1 | 0.00 |
| 23 | -1 | -1 | 1 | -1 | -1 | 0.00 |
| 24 | 1 | 0 | 0 | 0 | 0 | 54.67 |
| 25 | 1 | -1 | 1 | 1 | 1 | 83.33 |
| 26 | 1 | -1 | 1 | 1 | -1 | 5.33 |
| 27 | -1 | 1 | -1 | 1 | 1 | 16.00 |
| 28 | -1 | -1 | -1 | 1 | -1 | 0.00 |
| 29 | 1 | 1 | -1 | 1 | -1 | 35.47 |
| 30 | 1 | 1 | 1 | 1 | 1 | 93.33 |
| 31 | 0 | 0 | -1 | 0 | 0 | 30.67 |
| 32 | 1 | 1 | -1 | -1 | 1 | 19.47 |
| 33 | 1 | -1 | -1 | -1 | -1 | 0.00 |
| 34 | 1 | -1 | 1 | -1 | -1 | 0.00 |
| 35 | 0 | 0 | 0 | 0 | 1 | 52.27 |
| 36 | 0 | 0 | 0 | 0 | 0 | 24.00 |
| 37 | 0 | -1 | 0 | 0 | 0 | 9.33 |
| 38 | -1 | 1 | -1 | -1 | -1 | 0.00 |
| 39 | -1 | 1 | -1 | 1 | -1 | 0.00 |
| 40 | 0 | 0 | 1 | 0 | 0 | 16.93 |
| 41 | -1 | -1 | -1 | -1 | 1 | 0.00 |
| 42 | 1 | 1 | -1 | -1 | -1 | 2.27 |
| 43 | -1 | 1 | 1 | -1 | -1 | 0.00 |
| 44 | 1 | 1 | 1 | -1 | 1 | 11.33 |
| 45 | 0 | 0 | 0 | -1 | 0 | 5.33 |
| 46 | -1 | -1 | 1 | 1 | 1 | 3.47 |

 **Table 5.** Experimental design results for the Triethylene Glycol model.

|  |  |  |
| --- | --- | --- |
| Run | Input factors | Response(DE) |
| **A** | **B** | **C** | **D** | **E** |
| 1 | -1 | -1 | -1 | -1 | -1 | 0.00 |
| 2 | 1 | -1 | 1 | 1 | -1 | 7.33 |
| 3 | 0 | 0 | 0 | 0 | 0 | 19.20 |
| 4 | 1 | 1 | 1 | -1 | -1 | 0.00 |
| 5 | -1 | 1 | -1 | -1 | -1 | 0.00 |
| 6 | 0 | 0 | 1 | 0 | 0 | 16.93 |
| 7 | 1 | -1 | 1 | -1 | 1 | 4.27 |
| 8 | 0 | 0 | 0 | 1 | 0 | 43.33 |
| 9 | 1 | -1 | -1 | -1 | -1 | 0.00 |
| 10 | 0 | 0 | 0 | 0 | 0 | 16.67 |
| 11 | -1 | 1 | 1 | -1 | 1 | 0.00 |
| 12 | -1 | -1 | -1 | -1 | 1 | 0.00 |
| 13 | 1 | -1 | -1 | -1 | 1 | 6.00 |
| 14 | -1 | 1 | -1 | -1 | 1 | 1.33 |
| 15 | -1 | -1 | -1 | 1 | -1 | 0.00 |
| 16 | 1 | 1 | 1 | -1 | 1 | 10.93 |
| 17 | 1 | 1 | -1 | -1 | 1 | 15.33 |
| 18 | 1 | 0 | 0 | 0 | 0 | 66.67 |
| 19 | 1 | 1 | -1 | -1 | -1 | 3.33 |
| 20 | -1 | -1 | 1 | 1 | -1 | 0.00 |
| 21 | 0 | 0 | 0 | 0 | 1 | 40.00 |
| 22 | -1 | -1 | -1 | 1 | 1 | 4.00 |
| 23 | -1 | 1 | 1 | 1 | -1 | 0.00 |
| 24 | 1 | -1 | 1 | -1 | -1 | 0.00 |
| 25 | -1 | 1 | -1 | 1 | 1 | 16.00 |
| 26 | -1 | 1 | 1 | -1 | -1 | 0.00 |
| 27 | 1 | 1 | -1 | 1 | 1 | 99.90 |
| 28 | 0 | 0 | 0 | -1 | 0 | 6.67 |
| 29 | 0 | 1 | 0 | 0 | 0 | 30.40 |
| 30 | -1 | -1 | 1 | -1 | 1 | 0.00 |
| 31 | -1 | 1 | 1 | 1 | 1 | 4.10 |
| 32 | 1 | -1 | -1 | 1 | 1 | 81.20 |
| 33 | 0 | 0 | 0 | 0 | -1 | 6.00 |
| 34 | 0 | 0 | -1 | 0 | 0 | 28.27 |
| 35 | -1 | -1 | 1 | -1 | -1 | 0.00 |
| 36 | 1 | 1 | 1 | 1 | 1 | 90.67 |
| 37 | 0 | -1 | 0 | 0 | 0 | 6.67 |
| 38 | 1 | -1 | -1 | 1 | -1 | 26.67 |
| 39 | 1 | 1 | -1 | 1 | -1 | 40.00 |
| 40 | 1 | 1 | 1 | 1 | -1 | 30.67 |
| 41 | -1 | 0 | 0 | 0 | 0 | 3.47 |
| 42 | -1 | -1 | 1 | 1 | 1 | 3.47 |
| 43 | 1 | -1 | 1 | 1 | 1 | 73.33 |
| 44 | 0 | 0 | 0 | 0 | 0 | 22.00 |
| 45 | -1 | 1 | -1 | 1 | -1 | 0.00 |
| 46 | 0 | 0 | 0 | 0 | 0 | 20.27 |