**Design of Experiments**

**Table 1**: Selected factors and levels for experimental design

|  |  |  |  |
| --- | --- | --- | --- |
| **Factors** | **Levels** | | |
| **-1** | **0** | **+1** |
| Temperature (°C) | 350 | 450 | 550 |
| Residence time (min) | 30 | 60 | 90 |
| Auger speed (rpm) | 5 | 10 | 15 |

**Table 2:** Experimental design

|  |  |  |  |
| --- | --- | --- | --- |
| **DOE #** | **Factors** | | |
| **Temperature (°C)** | **Residence time (min)** | **stirring speed (rpm)** |
| 1 | 450 | 30 | 15 |
| 2 | 350 | 30 | 10 |
| 3 | 350 | 60 | 5 |
| 4 | 550 | 30 | 10 |
| 5 | 450 | 60 | 10 |
| 6 | 550 | 90 | 10 |
| 7 | 450 | 90 | 15 |
| 8 | 450 | 60 | 10 |
| 9 | 450 | 60 | 10 |
| 10 | 450 | 30 | 5 |
| 11 | 450 | 90 | 5 |
| 12 | 350 | 60 | 15 |
| 13 | 550 | 60 | 5 |
| 14 | 350 | 90 | 10 |
| 15 | 550 | 60 | 15 |