

Mathematical model for the alkylation of 1,3,5- trimethylbenzene with cyclopentene in the presence of sulphuric acid

ABSTRACT

In this research, the individual and interaction effects of three processing variables (reaction temperature, molar ratio of 1,3,5-Trimethylbenzene to cyclopentene, amount of sulphuric acid) on the alkylation of 1,3,5- Trimethylbenzene with cyclopentene in the presence of sulphuric acid were studied based on Central Composite Design with Response Surface Methodology (RSM). The coefficient of determination R^2 was 0.91, showed that the experimental data fitted with the mathematical model. The mathematical model indicated that the significant parameters that affecting the alkylation reaction were the reaction temperature and the amount of acid sulphuric.