Optimization of the synthesis of monolithic sorbent by a Box–Behnken Design

이초하, 당보곤, 노경호[†]

인하대학교

(rowkho@inha.ac.kr[†])

A 17-run Box–Behnken Design (BBD) was introduced to optimize synthesis conditions of a monolithic sorbent. Effects of monomer, crosslink, and porogen, were investigated. The experimental data were fitted to a second-order polynomial equation by multiple regression analysis, which was examined using statistical methods. The adjusted coefficient of determination was measured in this model. The probability value demonstrated high significance of the regression model. A mean amount of polymer was produced under the following optimum synthesis conditions: a certain amount of monomer, a certain amount of crosslink, and a certain amount of porogen. The actual experimental result was in good agreement with the predicted model value.