

Characterization of Bisphenol a MIP (BPA-MIP) Synthesizing

S. Shahaidah, Che Ku M. Faizal and M.S. Shareena

Faculty of Chemical and Natural Resources Engineering, Universiti Malaysia Pahang,
Lebuhraya Tun Razak, 26300 Gambang, Pahang, Malaysia

Abstract: Molecular Imprinted Polymer (MIP) has caught the attention of many researches in recent years as a great tool for molecule recognition and other applications. But the main issue in the synthesis of MIP nanoparticles is the identification and optimization of the main factors affecting the material structure and size. This study describe an experimental design approach to synthesis bisphenol A molecular imprinted polymer nanoparticles (BPA-MIP NPs) aimed at analysis of the relationship of four selected parameters: the polymerisation temperature, agitation rate, cross-linker to solvent ratio and percentage of initiator. The results presented demonstrate the importance of keeping the right balance between these various parameters of polymerisation conditions. Generally, it can be concluded that MIPs should be synthesized using enough heating, adequate agitation, low concentration of initiator and with a considerably higher amount of solvent. Such procedure is proven as time and cost effective and also can be used as a general tool in the preparation of MIPs for many different target molecules.