



P-13-294

THE SYNTHESSES AND CHARACTERIZATION OF MOLECULARLY IMPRINTED POLYMERS FOR THE CONTROLLED RELEASE OF BROMHEXINE

Majid Abdouss^a, Saman Azodi Deilami^a

^a *Department of Chemistry, Amirkabir University of Technology, Tehran, Iran*

In this work, the feasibility of preparing bromhexine imprinted polymer by a bulk polymerization technique was investigated by the preparation of bromhexine as the template, MAA as the functional monomers, and EGDMA as the cross-linker in chloroform as solvent. This functionalized material was characterized by FT-IR, TGA, SEM and the results showed that this imprinted sorbent exhibited a good recognition and high affinity for bromhexine. The MIP selectivity was evaluated by checking several substances with similar molecular structures to that of bromhexine. The controlled release of bromhexine from the prepared imprinted polymers was investigated through an in vitro dissolution tests by measuring the absorbance at λ_{max} of 310 nm by HPLC-UV. The dissolution media employed were hydrochloric acid pH 3.0 and phosphate buffers, pH 6.0 and 8.0, maintained at 37 and 25 ± 0.5 °C. Results from analyses showed the ability of MIP polymers to control bromhexine release and in all cases the release of MIPs was deferred for a longer time as compared to NMIP. at pH of 3.0 and 25 °C slower release of bromhexine imprinted polymer occurred.