Synthesis of prednisolone imprinted polymers
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Abstract: The prednisolone imprinted polymer (MIP) and non-imprinted polymer (NIP) were achieved by the precipitation polymerization. The pre-polymerization complex between the template prednisolone and functional monomer methacrylic acid (MAA) was arisen by non-covalent approach. The polymerization was then proceeded using ethylene glycol dimethacrylate (EGDMA) and benzoyl peroxide (BPO) in 25\% (v/v) toluene:acetonitrile. The obtained polymers were characterized using SEM and FT-IR techniques together with a study of the binding ability. The spherical bead particles of the obtained polymers were captured their morphologies with the average size of 0.8 micrometer for MIP and 0.4 micrometer for NIP. A weak band of vinyl group observed from FT-IR spectra on 1630-1640 cm\textsuperscript{-1} was demonstrated as a good polymerization of both MIP and NIP. The kinetic adsorption test of various extraction time intervals indicated that at 6 hours (26.91\% bound) was provided the highest binding capacity in this study.

Keywords: Molecularly imprinted polymer; Prednisolone; Precipitation polymerization; Binding ability