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A paradigm shift design of functional monomers for developing molecularly imprinted polymers

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Abstract:

Functional monomers play a key role in preparing molecularly imprinted polymers (MIPs) by forming complex with templates to create recognition sites in the polymers. In this paper, a new strategy was proposed to design functional monomers for efficient MIPs synthesis. This strategy dated from the investigations on previously developed MIPs. In propranolol imprinting process, methacrylic acid has always been used as a functional monomer, due to the efficient hydrogen bonding interactions between the carboxyl group in methacrylic acid and the 2-hydroxyethylamine group in propranolol. Given this, we assumed that a functional monomer having a 2-hydroxyethylamine moiety may be used to imprint carboxylic acid molecules e.g. naproxen. To demonstrate this idea, a new monomer

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