Characteristic and application of ofloxacin imprinted polymer

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A novel molecularly imprinted polymer, prepared following a non-covalent approach, was synthesised by an in-situ therm-initiated copolymerization process using ofloxacin as template, methacryclic acid as monomer and trimethylolpropane trimethacrylate as cross-linker. Molecular recognition properties, binding capability, and chromatographic characteristic of the obtained MIP was evaluated and the results revealed that the obtained polymer have high affinity and selectivity for a homologous series of broad-spectrum antibiotic fluoroquinolones both in nonpolar and aqueous system. Effects of molecular recognition were also discussed and the results show that electrostatic action and hydrophobic interactions between the template molecule and the imprinted polymer plays important roles in the recognition process. These behaviors give the MIP the potential for the use in the enrichment, separation and detection of quinolones in environmental and biological fluids.