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Metal chelation dual-template epitope imprinting polymer via distillation-precipitation polymerization for recognition of porcine serum albumin

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Abstract

A novel dual-template epitope imprinting polymer coated on magnetic carbon nanotubes (MCNTs@D-EMIP) was successfully prepared for specific recognition of porcine serum albumin (PSA) via dual-template epitope imprinting, metal chelation imprinting and distillation-precipitation polymerization (DPP). C-terminal peptides and N-terminal peptides of PSA were selected as templates simultaneously, and zinc acrylate and ethylene glycol dimethacrylate (EGDMA) were used as functional monomer and cross-linker, respectively. The epitope templates were immobilized by metal chelation and six-membered ring formed with zinc acrylate. Finally, MCNTs@D-EMIP was synthesized by DPP in only 30 min, which was much shorter than those of other polymerization methods. The prepared MCNTs@D-EMIP displayed specific recognition ability toward PSA and its adsorption amount and

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