

Selective Separation of heavy metal ions using ion-imprinted polymers

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Zinc metal ion imprinted polymer sorbents other manufacturing processes to build and identify the optimum characteristics and a mixture of organic and metal separation and recovery of certain metal ions, only a continuous separation process with the aim is developing the plan. Zinc ion-imprinted porous micro-particles were prepared by two functional monomers, 2,2'-Bipyridyl and 4-vinyl pyridine, formed a complex with the template Zinc ion through ionic interactions. The Zinc/monomer complex was polymerized in the presence of an ethylene glycol dimethacrylate(EGDMA) cross-linker by a suspension polymerization. The micro-particles approximate size 100-1000 μ m. After the imprinting sites were provided through removal of the template, were obtained for batch separation applications. The chemical structure, morphology and adsorption capacity of the Zinc-imprinted micro-porous particles were analyzed using environmental scanning electron microscope(ESEM, XL30 ESEM-FEG, Philips Co., USA), energy dispersive X-ray spectrometer(EDX USL 30) and atomic absorption spectrometer (AAS, 210VGP Flame, Buck Scientific).