



Ion exchange study of some new biphenol–thiourea–formaldehyde terpolymer resins

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ABSTRACT

Terpolymer resins, synthesized by reacting 2,2'-dihydroxybiphenyl with thiourea and formaldehyde in presence of HCl as catalyst, proved to be selective chelating ion-exchange resins for certain metal ions. Chelating ion-exchange properties of these terpolymer were studied for Fe³⁺, Cu²⁺, Ni²⁺, Co²⁺, Zn²⁺, Cd²⁺ and Pb²⁺ ions. A batch equilibrium method has been employed in the study of the selectivity of metal ion uptake involving the measurements of the distribution of a given metal ion between the polymer sample and a solution containing the metal ion. The study was carried out over a wide pH range and in media of various ionic strengths. The terpolymer showed higher selectivity for Fe³⁺, Cu²⁺ and Ni²⁺ ions than for Co²⁺, Zn²⁺, Cd²⁺ and Pb²⁺ ions.

Keywords: Terpolymer; Ion exchange resin; Chelating properties; Metal ion uptake

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