A β-naphthol-modified hyper-cross-linked resin for adsorption of p-aminobenzoic acid from aqueous solutions

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ABSTRACT

A β-naphthol-modified hyper-cross-linked resin HJ-G10 was synthesized, characterized, and evaluated for adsorption of p-aminobenzoic acid from aqueous solutions. The adsorption was effective and a higher temperature was more favorable. The Freundlich equation characterized the equilibrium data better, the calculated isosteric enthalpy was positive and decreased with increasing of the equilibrium adsorption amount. The molecular form of p-aminobenzoic acid was favorable for the adsorption and the adsorption in acidic solution was relatively more effective. The pseudo-second-order rate equation fitted the kinetic curves better than the pseudo-first-order rate equation.

Keywords: Hyper-cross-linked resin; Adsorption; Isotherms; Kinetics