

Synthesis of Rod-shape Polysiloxane Modified with Gluconolactone for Boron Adsorption

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A novel sorbent was synthesized by the functionalization of an inorganic support material, polysiloxane with gluconolactone for the adsorption of boron from aqueous solution. A higher-order nanostructured polysiloxane material was prepared by the sol-gel reaction of 3-aminopropyltriethoxysilane catalyzed by a hydrochloric acid. And this rod-shape polysiloxane material was modified with gluconolactone containing many hydroxyl groups. Characterization of the synthesized material was performed using FT-IR and BET. Adsorption behavior of the product for boron was also examined by batch method and the pH effect on adsorption was investigated.