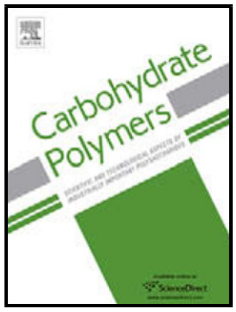

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Fabrication of a new polysaccharide-based adsorbent for water purification

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Highlights:

1. New salecan-based anionic hydrogels were designed for adsorption of dye;
2. Salecan hydrogels were synthesized via free radical polymerization grafting technique;
3. Effect of salecan content on the physical and adsorption properties of the hydrogels were investigated;
4. Adsorption process could be well described by the pseudo-second-order kinetic and Freundlich isotherm models.

Abstract

Expanding the application of polysaccharide material has attracted tremendous attention in the fields of wastewater treatment, agriculture and biomedical engineering, on account of its tunable and unique properties. Herein, we employ a water-soluble, sustainable and low cost bacterial polysaccharide, salecan as a matrix,