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ALGINATE AND CARRAGEENAN-NANOCELLULOSE COMPOSITE BEADS FOR EFFICIENT REMOVAL OF METAL CATIONS

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Different modified bio-polymeric matrices of carrageenan and alginate with cellulosic nonmaterial were prepared in the form of beads. The nanocellulosic materials were prepared from dissolved bagasse pulp and include cellulose nanocrystals (CNC), cellulose nanofibers (CNF) and tricarboxy cellulose nanofibers (TPC-CNFs). The prepared bio-polymeric matrixes were characterized by transmission electron microscopy (TEM), FT-IR (Fourier transform infrared spectroscopy), X-ray diffraction (XRD) and scanning electron microscope (SEM). The capabilities of the modified bio-polymeric matrixes beads

to chelate several metal cations were evaluated and showed high removal efficiency towards removing Ca^{2+} , Mg^{2+} , Fe^{2+} , Pb^{2+} , Cu^{2+} metal cations.

Biography

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