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Chitosan/waste coffee-grounds composite: An efficient and eco-friendly adsorbent for removal of pharmaceutical contaminants from water

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Graphical abstract



Highlights

- >Composite films based on chitosan and waste coffee grounds (WCG) were developed;
- >WCG-containing composites enhanced the adsorption of pharmaceuticals from water;
- >Maximum removal of pharmaceuticals was verified under mild experimental conditions;
- >The composite shows acceptable reusability in consecutive adsorption processes.

Abstract

Waste coffee-grounds (WCG), a poorly explored source of biocompounds, were combined with chitosan (Cs) and poly(vinyl alcohol) (PVA) in order to obtain composites. Overall, WCG showed a good interaction with the polymeric matrix and good dispersibility up to 10 wt-%. At 5 wt-% WCG, the composite exhibited a

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