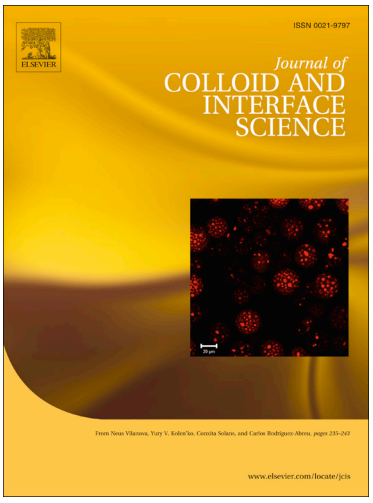

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Tuning electronic properties of boron nitride nanoplate via doping carbon for enhanced adsorptive performance

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Abstract

In this paper, the carbon-doped boron nitride nanoplate (C-BNNP) was prepared by pyrolyzing the precursor under N_2 and served as an excellent adsorbent for removal of Rhodamine B (RhB). The structure and composition of C-BNNP were characterized and its adsorption behavior for RhB was investigated. Compared with boron nitride nanoplate (BNNP) which was synthesized under NH_3, C-BNNP displayed an enhancement of the adsorption capacity for RhB (833 mg/g). The adsorption activity was comprehensibly studied by kinetics, isotherm and thermodynamics. The adsorption kinetics followed pseudo-second-order model. The adsorption activity was comprehensibly studied by kinetics, isotherm and thermodynamics. The adsorption