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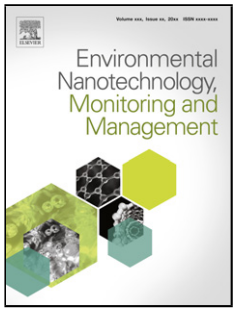

Title: Removal of U(VI) from Aqueous Solution by Adsorption onto Synthesized Silica and Zinc silicate nanotubes: Equilibrium and Kinetic Aspects with Application to Real Samples

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Removal of U(VI) from Aqueous Solution by Adsorption onto Synthesized Silica and Zinc silicate nanotubes : Equilibrium and Kinetic Aspects with Application to Real Samples

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Abstract

Adsorption is an emerging technique in terms of both Uranium removal and pre-concentration. This paper presents the feasibility of adsorption of uranium(VI) from aqueous solutions using hollow amorphous SiO_2 nanotubes (SNTs) and crystalline Zn_2SiO_4 nanotubes (ZnSNTs), synthesised by scalable wet-chemical technique. With quantitative spectroscopy based techniques, we explore various parameters affecting the U(VI) adsorption. Detailed exploration of the kinetics shows that the process follows a Langmuir adsorption process, with a second order kinetics. Furthermore, adsorption isotherm yields a remarkably high ura-

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