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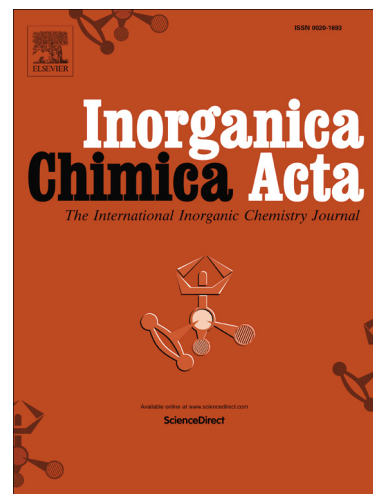
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Synthesis and Extraction behavior of Alkyl and Cyclic Aminophosphonates towards Actinides

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Abstract

Alkyl and cyclic substituted aminophosphonates (AmPs) were synthesized and characterized with various spectroscopic techniques. The molecular structures of diphenyl phenyl aminophosphonate (DPhPhAmP) and diphenyl cyclohexyl aminophosphonate (DPhCyAmP) were elucidated based on the single crystal XRD analysis. Extraction behavior of these synthesized AmPs were investigated with some actinides [U(VI), Th(IV), and Am(III)] and also studied their acid uptake as a function of nitric acid concentration. Here we have compared the extraction behavior of aminophosphonates (AmPs) towards actinides as a function of alkyl, cyclic and alicyclic substituents.

Keywords: Aminophosphonates; Solvent extraction; Actinides; Uranium; Thorium

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