Glenn T. Seaborg Center Seminar

Molecular Transuranic Coordination Chemistry

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Wednesday, June 8, 2011
4:00 - 5:00 pm
Building 70A, Room 3377

Increasing our understanding of the reactivity, structure, and bonding modes of the early to mid transuranic actinide ions can provide fundamental chemical knowledge to underpin developments in applications such as novel separations for Advanced Nuclear Fuel Cycles. Exploration of transuranic coordination chemistry under non-aqueous inert atmosphere conditions can inform, in depth, upon the basic bonding and reactivity principles of transuranic ions towards a wide range of donor types and ligand architectures. In turn, this information has the potential to be exploited in the applied arena, such as understanding and manipulating the behavior of actinide extractants. We will present the reaction chemistry of Pu(III), Pu(IV), Pu(VI), Np(VI), and Np(IV) towards a range of ligands including dithiophosphinates, phosphine oxides, and β-ketoiminates.

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