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EXAFS INVESTIGATION OF PHENANTHROLINE-AMIDE LIGANDS WITH TRI- AND TETRA-VALENT ACTINIDES

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The *N*-alkyl-*N*-phenyl-1,10-phenanthroline-2-carboxamide (PTA) was synthesized and their coordination properties were studied using EXAFS method. This ligand recognized selectively Pu⁴⁺, Am³⁺, Ln³⁺, Th⁴⁺. This unique properties of the PTA ligand would be attributed to the significant covalent interaction between PTA nitrogen and itinerant f orbital of actinides [1]. To clarify this mechanism from the viewpoint of structural study, EXAFS method were conducted to the PTA complex with lanthanides and actinides.

[1] T.G. Kobayashi, et al., *Sep. Sci. Tech*, **46**, 298-306 (2010).

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