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**The Solvent Extraction of Rare Earth Elements
from Nitrate Media with Novel Polyamides
Containing Malonamide Groups**

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Abstract

As a part of our efforts towards better lanthanide recycling three novel polyamides (multicoordinate ligands) bearing tetrabutylmalonamide functional groups have been synthesized and evaluated for use as reagents for the solvent extraction of rare earth elements from nitrate media.

The pronounced improvement in the extraction of the trivalent lanthanides was observed for the tetraamide *2,2'-(1,2-phenylenebis(methylene))bis(N,N,N',N'-tetrabutylmalonamide)*. The influence of nitrate and ligand concentrations on the distribution ratio of ^{152}Eu is described for this tetraamide and potential compositions of the extracted metal complexes are proposed.

Key words: Europium; Rare Earth Elements; Malonamides; Solvent Extraction

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