Extractants for Separation of Trivalent Minor Actinides from Lanthanides

Reduction of radioactive toxicity of HLW is very important. If long-lived radioactive nuclides containing actinides (An) are removed from HLW and the nuclides can be converted to short-lived ones by transmutation technology using high-energy neutron by fast reactors or accelerators, the environmental load of HLW will be largely reduced. However, lanthanides (Ln), whose total amount corresponds to up to 30 times that of An in HLW, adversely affects on the efficiency of the transmutation of An, because the transmutation target must be minimize and Ln absorb a large proportion of neutron. Therefore, the separation of An from Ln is one of essential subjects to establish the transmutation technology.

Separation Performance of the Derivatives of TPEN

This work is under collaboration with Universities.