

## Solvent extraction of lanthanum(III) by N-*n*-octylaniline from salicylate media

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### ABSTRACT

In this paper, solvent extraction of lanthanum(III) using N-*n*-octylaniline in salicylate media has been systematically investigated. The effect of various parameters, such as equilibrium time, aqueous pH, extractant concentration, weak acid concentration, aqueous to organic volume ratio, back strip-pant and organic solvent, on the extraction have been discussed. Lanthanum(III) is quantitatively extracted at pH 5.3–6.5 from 0.04 M sodium salicylate with 0.065 M N-*n*-octylaniline dissolved in xylene. Experimental data have been analysed graphically to determine the stoichiometry of extracted species  $[RR'NH_2^+La(sal)_2]_{(org)}$ . The extracted metal ion was separated by using selective strippant and estimated spectrophotometrically with arsenazo I. The method is applicable for binary separation of lanthanum(III) from yttrium(III) and associated metal ions.

*Keywords:* Solvent extraction; Lanthanum(III); N-*n*-octylaniline; Salicylate media

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