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Extraction of Yttrium (III) from Sodium Acetate and Sodium Succinate Mediums using Cyanex-923

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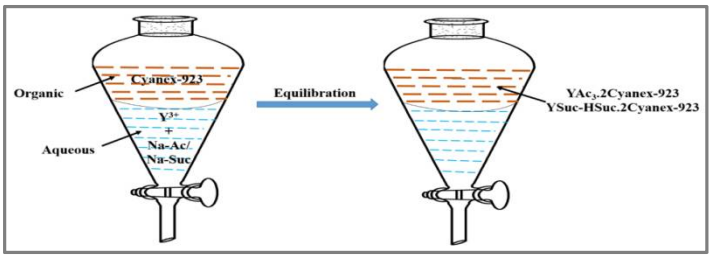
ABSTRACT

The present work deals with solvent extraction of Y(III)using commercial extractant Cyanex-923 in toluene from a solution containing salts of weak organic acids such as sodium acetate and sodium succinate. Effect of pH, effect of extractant concentration, effect of sodium acetate, sodium succinate concentration, effect of diluents, time and stripping agent, effect of temperature, effect of aqueous to organic volume ratio and effect of metal loading capacity has been studied. Slope analysis method and FTIR study was used to determine the probable composition of the extracted complex in the organic phase. The proposed method was extended to separation of Y(III) from synthetic binary mixtures.

Graphical Abstract



Keywords: Yttrium, Acetate, Succinate, Cyanex-923, Stripping.