

Sinergetic membrane extraction of lithium ions with new organophosphorus carriers

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Abstract

We have studied membrane transport properties towards alkali metal ions of sinergetic mixtures of organophosphorus carries, N,N- bis(dihexylphosphorylmethyl)octylamine and didecylthiophosphorus or didecyldithiophosphorus acids. The influence of main parameters of extraction (pH of the feed phase as well as concentration and ratio of the carriers in the membrane) on the membrane transport rate and selectivity with respect to lithium has been analyzed. Conditions of efficient and selective (to separate K⁺ and Na⁺) membrane extraction of Li⁺ have been established. Advantages of the studied systems in comparison with some previously known ones are demonstrated. © 2014 Pleiades Publishing, Ltd.

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