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Kateryna Omelchuk, Moncef Stambouli, Alexandre Chagnes

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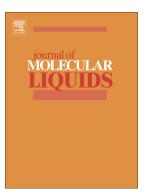
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Investigation of aggregation and acid dissociation of new cationic exchangers for liquid-liquid extraction

Kateryna Omelchuk ^a, Moncef Stambouli ^b, Alexandre Chagnes, ^{c*}

^a PSL Research University, Chimie ParisTech-CNRS, Institut de Recherche de Chimie Paris, 11 rue Pierre et Marie Curie, 75005 Paris, France

^b Centralesupelec, Paris-Saclay University, 3 Rue Joliot Curie 91192 Gif-sur-Yvette

^c Université de Lorraine, CNRS, GeoRessources, F- 54000 Nancy, France

Abstract

Potentiometric titration and Vapour Pressure Osmometry were used to characterise the acidic properties in an acidic chloride solution and the aggregation behaviour in n-heptane of a series of four extractants synthesized in the present work and derived from bis-(2-ethyl-hexyl-phosphoric) acid, a commercial extractant noted D2EHPA. Four other commercial organophosphorus extractants (D2EHPA, Cyanex 272, Cyanex301, Ionquest 801) were also characterized by these techniques. Their hydrophobicity was also investigated by determining the partition coefficient of the monomeric form between an acidic chloride solution and n-dodecane. The pka values, the dimerization and trimerisation constants were deduced from experimental results by means of appropriate physicochemical models.

Keywords: Acidic dissociation constant; cationic exchanger; dimerisation; physicochemistry; trimerisation; solvent extraction.

TO WHOM CORRESPONDENCE SHOULD BE ADDRESSED (ALEXANDRE.CHAGNES@UNIV-LORRAINE.FR)

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