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Solvent extraction of some trace metals and iron with N-octyl-N,N-bis(diethylphosphinylmethyl)amine

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Abstract

The processes were studied of the solvent extraction of the ions of triply-charged trace elements including scandium, indium, gallium, and yttrium, as well as iron, with N-octyl-N,N-bis(diethylphosphinylmethyl)amine solution in toluene, chloroform or methylene chloride from hydrochloric, nitric or perchloric acids aqueous solutions. The metals extraction dependence on the acid concentration showed that the best results were reached using perchloric acid. The calculation of partition coefficients of metals allowed us to reveal a high selectivity of the scandium extraction. The prospects of using the investigated bisphosphinylamine in the technology of extraction, concentration and separation of the trace metals ions was concluded. © Pleiades Publishing, Ltd., 2011.

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