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Nitrocellulose membrane, modified by RC(S)NHP(X)(OiPr)₂ (X = S, R = PhNH; X = O, R = PhNH, Ph), for sorption extraction of cobalt cations

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Abstract

The complexation and extraction properties of RC(S)NHP(X)(OiPr)₂ [X = S, R = PhNH (HLI); X = O, R = PhNH (HLII), Ph (HLIII)] towards cobalt cations were studied. The nitrocellulose membrane was used as a carrier for HLI-III. The maximal degree of extraction of cobalt cations from an aqueous solution is observed at pH = 7.8-8.4. It was established that complexes formed are kept in a water solution on a surface of the carrier and washed away in 96% aqueous ethanol. The membrane modified by HLI allows extraction and concentration of Co(II) selectively, while the modification by HLIII leads to the selective extraction of Co(III). Copyright © 2010 Taylor & Francis Group, LLC.

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Keywords

Cobalt, complex, membrane extraction, thioamide, thiourea