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Synthesis of tetrathioesters and tetrathioamides based p-tert- butylthiacalix[4]arene and studying their recognition abilities towards different metals by extraction

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Abstract

p-tert-Butylthiacalix[4]arene tetrathioesters 2a-c and tetrathioamides 4a-c in three different conformers (cone, partial cone and 1,3-alternate respectively) have been synthesized. The later were characterized by different physical methods IR, 1H NMR, 13C NMR and X-ray crystallography. Their recognition abilities towards different alkali, earth alkaline and transition metals such as (Na+, K+, Cs +, Ba2+, Pb2+, Ag+, Cd2+, Hg2+ and Co2+) cations have been examined by metal picrate extraction from aqueous solutions into dichloromethane. Graphical Abstract: [Figure not available: see fulltext.] © 2013 Springer Science+Business Media Dordrecht.

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Keywords

Extraction, Lawesson's reagent, p-tert-Butylthiacalix[4]arene, Thioamide, Thioester