

Cationic complexes of nonylphenoxypoly(ethyleneoxy)ethanol. Extraction into dichloromethane and ion-selective electrode properties. Jaber, A. M. Y.; Moody, G. J.; Thomas, J. D. R. Chem. Dep., Univ. Wales Inst. Sci. Technol., Cardiff, UK. Journal of Inorganic and Nuclear Chemistry (1977), 39(9), 1689-96. CODEN: JINCAO ISSN: 0022-1902. Journal written in English. CAN 88:111230 AN 1978:111230 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Ca, Sr, and Ba tetraphenylborate complexes of nonylphenoxypoly(ethyleneoxy)ethanol were prepd. from com. available Antarox-850, -880, and -890 and screened for their suitability as cation-selective electrode sensors. For selectivity and general ion-selective electrode response behavior, the best systems were those involving the Ba complexes for Ba²⁺ response. Ca and Ba tetraphenylborate complexes of dicyclohexyl-18-crown-6 were also prepd. The complexing tendency of the Antarox nonylphenoxypoly(ethyleneoxy)ethanols and dicyclohexyl-18-crown-6 towards alkali and alk. earth metal cations was described in terms of partitioning the metal ion picrate complex from aq. Cl⁻ solns. between H₂O and CH₂Cl₂. The bulk extn. consts. and the percentage picrate extn. showed the affinity of dicyclohexyl-18-crown-6 for alkali and alk. earth cations to vary in the order K > Rb > Cs > Na > Li and Ba > Sr > Be > Ca > Mg, resp., and for the Antarox nonylphenoxypoly(ethyleneoxy)ethanols the order Rb > K > Cs > Na > Li and Be >> Ba > Sr > Ca > Mg, resp.