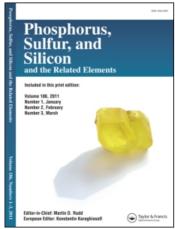
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Immobilization of Macrocyclic Compounds with the Purpose of Development of Ion-Selective Electrode for Definition of Rare-Earths Metals

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IMMOBILIZATION OF MACROCYCLIC COMPOUNDS WITH THE PURPOSE OF DEVELOPMENT OF ION-SELECTIVE ELECTRODE FOR DEFINITION OF RARE-EARTHS METALS

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The chemistry of macrocyclic compounds is one of the fastest developing areas of chemical researches. Objects of research served calix[4]resorcinarene (n = 4, R = CH_2 - $N(CH_3)$ - CH_3 - $(O)P(OC_2H_5)_2$; $R_1 = CH_3$) — one of representatives the class of macrocyclic receptors formed by para-substituted phenolic units linked ortho by methylene groups¹ N,N'-bis-(diisopropoxythiophosphoryl carbonyl)-1,10-diaza-18-crown-6 — one of representatives of crown containing thiophosphorylated elementoorganic compounds.² The methods of immobilization calix[4]resorcinarene on nitrocellulose film and N,N'-bis-(diisopropoxythiophosphoryl amidothiocarbonyl)-1,10-diaza-18-crown-6 on acetylcellulose film was developed. Their methods were based on mechanical incorporation of organoelement compounds into nitro- or acetylcellulose film with usage of organic solvents and covalently binding glutaraldehyde. The concentrations for immobilization were 1×10^{-5} and 1×10^{-4} M. The data of spectrophotometry at 250-300 nm at the presence of different buffer solutions with pH 4.1-9.7 were showed, that both of this compounds retained cellulose matrix strongly. These results can be used for development ion-selective electrode for definition of metal ions.

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