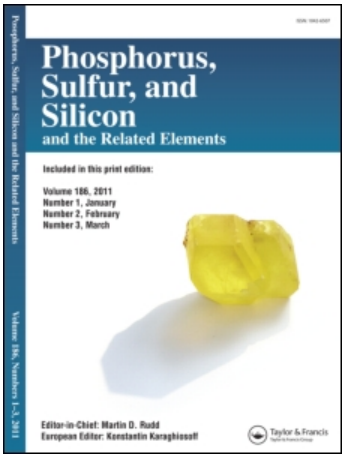

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The Reactivity of Associates of Aminomethylated Calix [4] Resorcinolarenes towards P-Nitrophenyl Esters of Phosphorus Acids

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The Reactivity of Associates of Aminomethylated Calix[4]Resorcinolarenes towards P-Nitrophenyl Esters of Phosphorus Acids

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The kinetics of reactions of aminomethylated calixarenes (AMC) of different structure (substituents at nitrogen atom as well as on the "lower" rim of cavity are varied) with esters of phosphorus acids has been studied under pseudofirst order conditions in water-DMF and water-alcohol (i-PrOH) solutions by spectrophotometry. The dependences of the observed rate constants of the reactions on the concentrations of AMC reach a plateaus at the investigated values of pH 8 - 11. This indicates binding of the substrates by the aggregates of AMC and allows to calculate the parameters of the reactions: CCA, k_a, K_b. It was shown by NMR ^{31}P method, that AMC are the catalysts of hydrolysis of esters of phosphorus acids in water-DMF solutions. The higher reactivity of AMC as compared with the one of calix[4]resorcinolarenes and o-aminomethylphenols was found. It was revealed AMC preceeds in both media, however the reactivity of the aggregates is considerably less in the water - alcohol solutions than those in the water - DMF solutions.