

The application of unclosed cryptand type receptors
in anion recognition studies
using combinatorial chemistry techniques

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In my PhD research I have focused attention on the synthesis of macrocyclic polyamides, using the ICHOPAN II method which was successfully applied in our Research Group. The subsequent post-functionalization, carried out with the use of combinatorial chemistry techniques, gives the possibility of receiving a wide range of new anion receptors. Moreover, the addition of appropriate tetrabutylammonium salt as a template to the combinatorial mixture gives the possibility of modulating composition of the reaction mixtures in the combinatorial systems.

Received macrocyclic compounds are capable of effective binding of anions, such as carboxylates and dihydrogen phosphates, important in many biological processes.

The composition analysis of templated combinatorial mixtures, gave the possibility of selection of the most effective receptors which binding properties were examined using the ^1H NMR titrations technique.