

Synthetic receptors based on calix[4]arene functionalized at the lower rim in molecular recognition of dicarboxylic, α -hydroxycarboxylic, and α -amino acids

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Abstract

New calix[4]arenes, di- and tetrasubstituted at the lower rim, with different functional groups were synthesized. They were studied as carriers of a series of dicarboxylic and α -hydroxycarboxylic acids through a liquid impregnated membrane. The calix[4]arenes under study are capable of molecular recognition of oxalic acid in the series of structurally similar dicarboxylic and α -hydroxycarboxylic acids. The regularities found make it possible to change purposefully the receptor ability of 1,3-disubstituted calix[4]arenes by variation of the nature of substituents.

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Keywords

α -hydroxycarboxylic acids, calix[4]arene, carboxylate anions, dicarboxylic acids, membrane transport, molecular recognition, synthetic receptors, thiocalix[4]arene