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Water-soluble pillar[5]arenes: Synthesis and characterization of the inclusion complexes with p-toluenesulfonic acid

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Abstract

© ISUCT Publishing. Novel symmetric cationic water-soluble pillar[5]arenes bearing trimethylammonium/methyldiethylammonium groups at both of two rims were synthesized by step-by-step functionalization of the perhydroxylated pillar[5]arene. The recognition ability of water-soluble pillar[5]arenes toward p-toluenesulfoacid was studied. The information on binding mode of the guest inclusion was studied by 1H and 2D NMR spectroscopy. The interaction of synthesized pillar[5]arenas with the substrate and the formation of the 1:1 complexes was shown by UV spectroscopy.

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Keywords

Heterocycle, Macrocycle, Molecular recognition, Synthesis, Water-soluble pillar[5]arene