

NEW GUESTS FOR DIMERIC BINDING INSIDE CB[8] – FORMATION OF HG₂ TERNARY COMPLEXES.

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Cucurbit[8]uril (CB8), a member of cucurbituril family is characterized by its ability to bind two aromatic guests inside its cavity. After the discovery of 1:2 host-guest complexes with a π -donor and a π -acceptor in 2001, 1:2 homo-pair host-guest complex has been obtained upon one electron reduction of methyl viologen. Having the same overall stability, we used monocationic guests in order to form 1:2 homo-pair host-guest complexes without any need for a reduction reaction. 4-phenylpyridinium derivatives: 1(octaethyleneglycol)-4-phenyl-pyridinium chloride, and 4-[4-(methoxymethoxy)phenyl] pyridinium iodide, and a structurally related phenyl-vinylidene-pyridinium compound have been used. In order to prove the formation of 1:2 homo-pair host-guest complexes, ¹H-NMR, UV-Vis Spectroscopy and Mass Spectrometry have been used. Furthermore, the stoichiometries of the complexes have been verified by a continuous variation method - Job Plots, and also high-resolution ESI-MS data. The diffusion coefficients of the free compounds, obtained by PGSE-NMR, were persistent with the diffusion coefficients of the expected inclusion complexes.