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Amphiphilic thiacalixarenes in supramolecular systems

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Abstract

The formation of supramolecular associates based on water-soluble *p-tert*-butylthiacalix[4]arenes with organic acids has been studied. Two approaches have been used to create supramolecular structures due to the formation of hydrogen bonds: self-association of amphiphilic p-*tert*-butylthiacalix[4]arenes and aggregation of macrocycles with organic acids. It was found that the increasing size of the substituents at the ammonium nitrogen atom of *p-tert*-butylthiacalix[4]arenes led to decrease the concentration at which self-associates can be formed. It has been shown by DLS that in most cases self-associates represent the oblate spheroid. It has been shown by UV-spectroscopy that hydroxy acids are able to interact with *p-tert*-butylthiacalix[4]arenes containing small methyl and ethyl substituents at the ammonium nitrogen atom or macrocycles containing phthalimide and ester substrates with additional coordination centers.