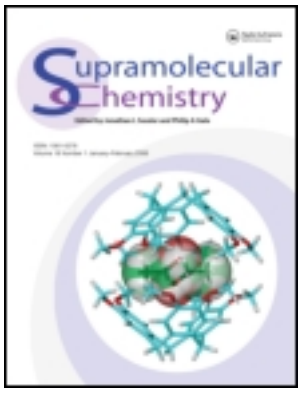


Supramolecular Chemistry
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/gsch20

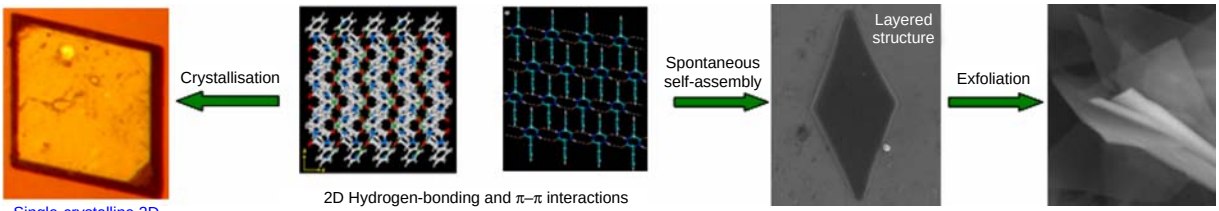
Index Abstracts

Available online: 28 Jun 2011

To cite this article: (2011): Index Abstracts, Supramolecular Chemistry, 23:7, i-v

To link to this article: http://dx.doi.org/10.1080/10610278.2011.597949

Index Abstracts



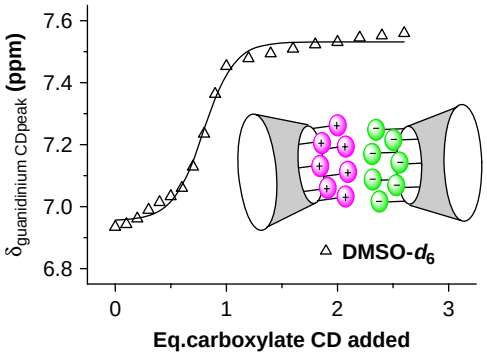
The designed simplest aromatic cyclic dipeptides of (L-Phg-L-Phg) and (D-Phg-L-Phg) self-assembles to form highly stable 2D nano- and mesosheets with large lateral surface area. The morphology of the 2D sheets resembles the hierarchical natural materials with layered structure. NMR and X-ray diffraction studies revealed the presence of strong (N—H—O) hydrogen-bonded molecular chains and molecular layers supported by π–π aromatic interactions.

T. Govindaraju, M. Pandeeswar, K. Jayaramulu, Garima Jaipuria and Hanudatta S. Atreya

Spontaneous self-assembly of designed cyclic dipeptide (Phg-Phg) into two-dimensional nano- and mesosheets

487–492

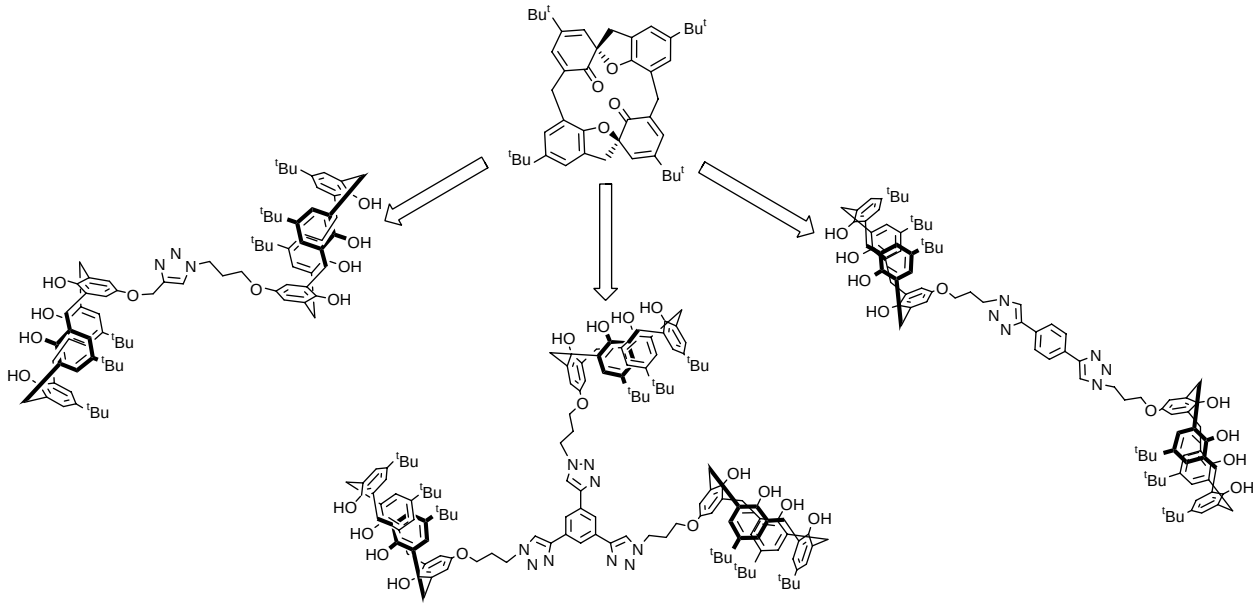
Anionic CDs as triethylammonium salts interact with the picrate salt of a positively charged CD to form stable heterodimers in solution. The association constants, K_a, in DMSO-d_6 and in DMSO-d_6–H_2O (80/20, v/v) range from $\sim 10^5\,M^{-1}$ to $\sim 10^4\,M^{-1}$. Heterodimer formation is more favoured in DMSO than in DMSO–H_2O (80/20 v/v). Multivalency in the interactions is manifested by positive cooperativity, negative enthalpy of formation (ΔH) and sizeable negative entropy (ΔS), in support of the development of well-ordered supramolecular structures in solution.

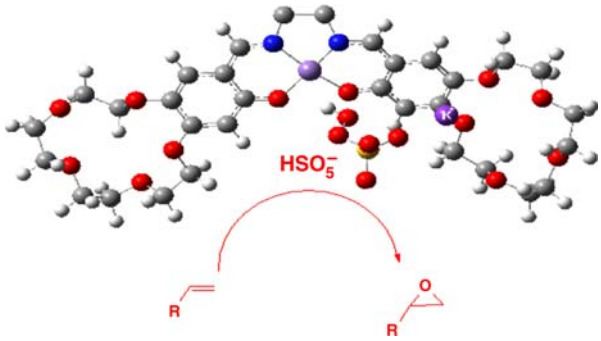


Katerina Fotiadou, Angelos Thanassoulas, George Nounesis and Konstantina Yannakopoulou

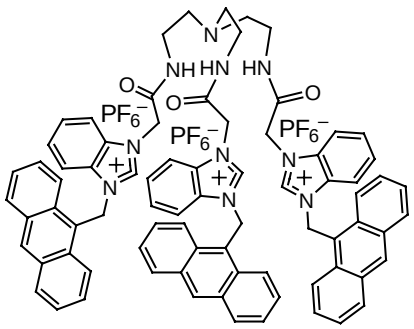
Cooperative heterodimer formation between per-guadinylated and carboxylated or phosphorylated cyclodextrins in DMSO and DMSO–water studied by NMR spectroscopy and microcalorimetry

493–500





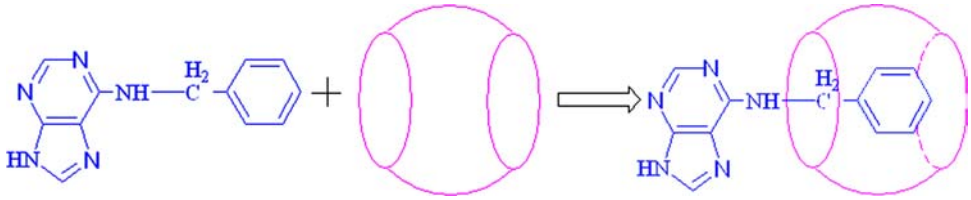
A new anthracene-coupled benzimidazolium-based tripodal, tricationic fluorescent chemosensor **1** was designed and synthesised. Receptor **1** exhibits high degree of selectivity towards $H_2PO_4^-$ in CH_3CN through anion-induced quenching of emission along with the formation of a weak excimer complex in the excited states. Furthermore, receptor **1** shows selective sensing of ATP over ADP and AMP by exhibiting an increase in emission in aqueous CH_3CN ($CH_3CN:H_2O = 3:2$ v/v). The electrostatic charge–charge interaction along with both conventional (N—H···X; X═O, halides) and unconventional (C^+—H···X; X═O, halides) hydrogen bonding between the host and the guest molecule synergistically interplays in the complexation. The anion-binding properties of receptor **1** were understood by ^{1}H NMR, UV–vis and fluorescence spectroscopic methods.



1

Kumaresh Ghosh and Indrajit Saha

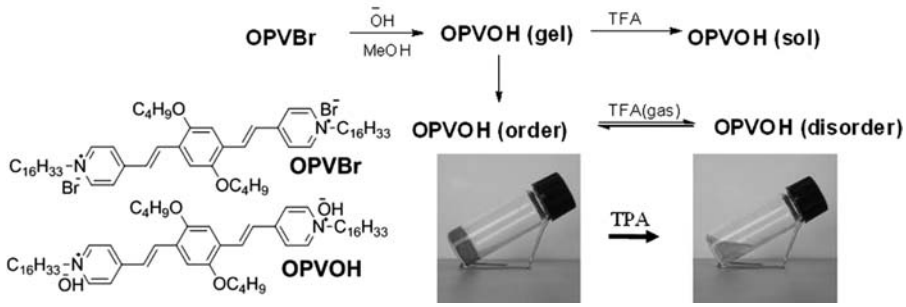
Benzimidazolium-based flexible tripodal fluorescent chemosensor for selective sensing of dihydrogenphosphate and ATP



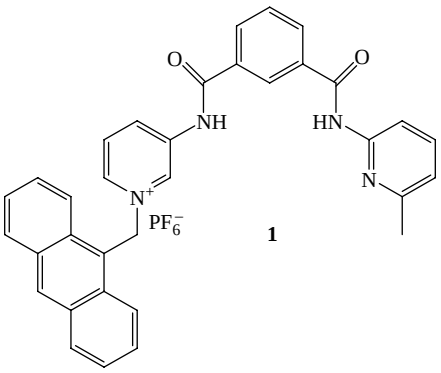
Guest–host inclusion complexes between 6-benzyladenine (6-BA) and cucurbit[*n*]uril derivatives in aqueous solution were investigated by ^{1}H NMR, UV absorption spectroscopy and phase solubility studies. By this analysis and detection technology, our results demonstrated that the complexation of 6-BA with Q[*n*] could be used to improve the solubility of 6-BA in aqueous solution.

Hong Zhang, Ying Huang, Sai-Feng Xue, Zhu Tao and Qiang-Jiang Zhu

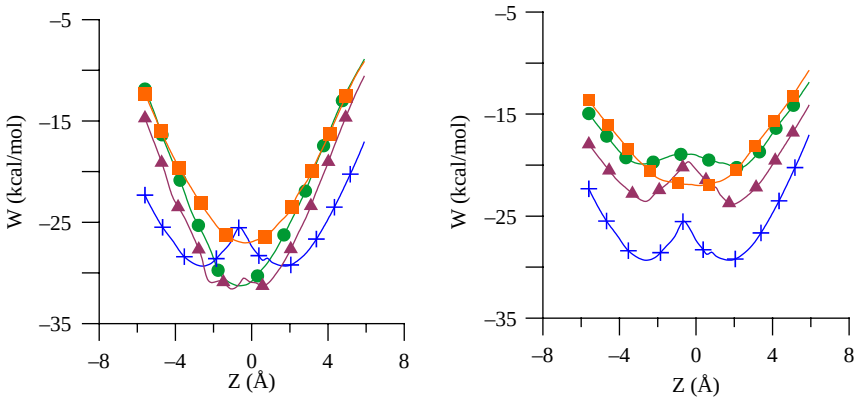
Host–guest interactions of 6-benzyladenine with normal and modified cucurbituril: ^{1}H NMR, UV absorption spectroscopy and phase solubility methods



A fluorescent chemosensor **1** with different amide moieties as recognition elements has been designed and synthesised. The recognition behaviour of the chemosensor towards various monocarboxylates and their conjugate acids has been evaluated. Although the sensor **1** shows significant quenching of emission of anthracene in CH_3CN, it shows an increase in emission in $CHCl_3$ containing 2% CH_3CN upon complexation of aliphatic monocarboxylates. Receptor **1** shows selectivity for acetate, propanoate and dihydrogen phosphate over the other anions studied under different conditions. The binding features have been established by ^1H NMR, UV–vis and fluorescence spectroscopic methods.



1



The aim of the present work is to analyse the dependence of the interaction energy between β-cyclodextrin and linear guest molecules on the atomic distribution of the latter. The shape of the interaction potential does not depend on the symmetry of the molecular configuration, but it is related to the position of the larger atoms in the linear guest.

E. Alvira

Stereochemical features of the physisorption of linear molecules in β-cyclodextrin

550–557