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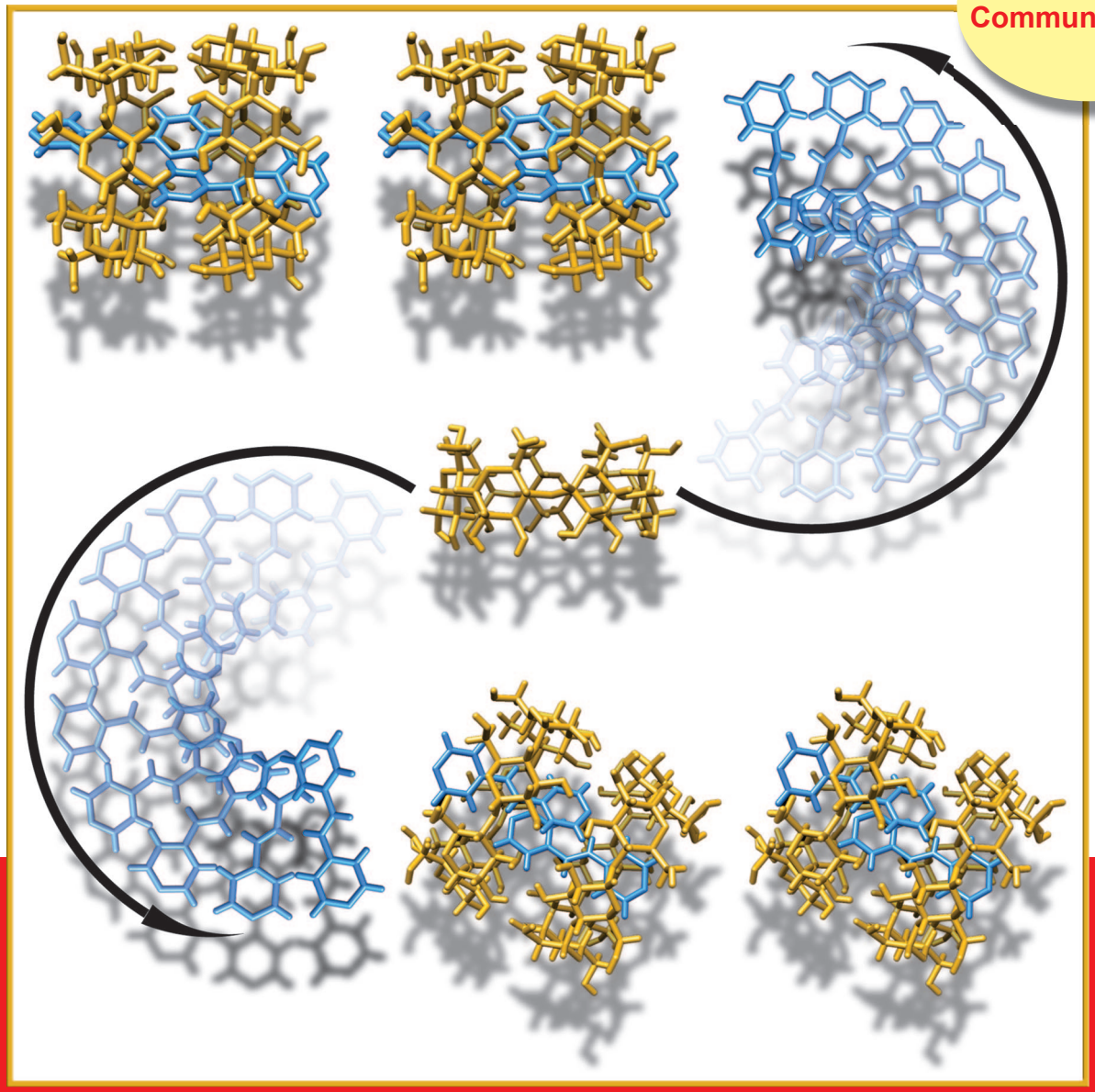

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2009

Focus Reviews

pH-Controllable Supramolecular Systems
K. C.-F. Leung et al.

A Retrospective on the Design and Synthesis of Novel Molecules through a Strategic Consideration of Metathesis and Suzuki–Miyaura Cross-Coupling
S. Kotha and K. Mandal

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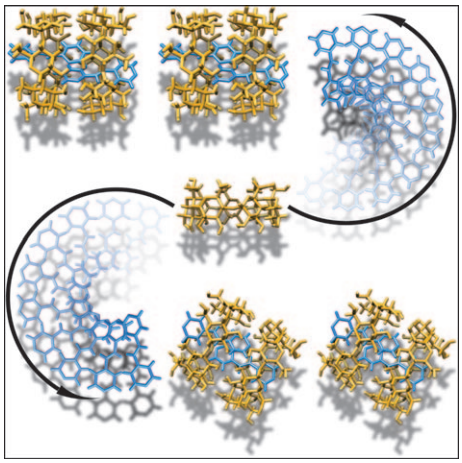
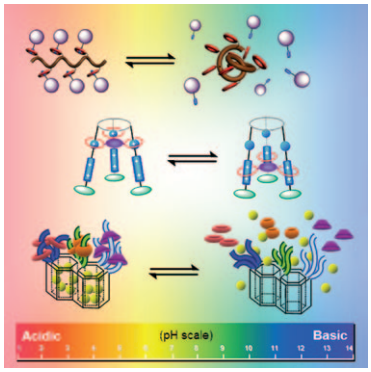
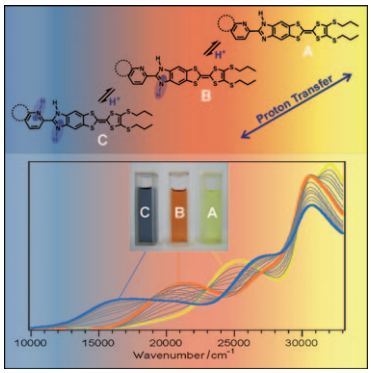
A sytematic investigation…

… of the molecular inclusion behavior by β-cyclodextrin (gold) towards constitutionally different yet structurally similar bipyridine guests, demonstrates that differences of the nitrogen atom positions and the bridge bond linking the two pyridine rings of the bipyridine guests can significantly affect the binding abilities, inclusion geometries, and self-assembly behavior of β-cyclodextrin in both the solution and solid states. J. F. Stoddart and co-workers suggest that these new superstructural and quantitative observations, with judicious constitutional design, allow highly ordered supramolecular arrays to be achieved conveniently in a controllable way. For more information, see their Full Paper on page 446 ff.





Supramolecular Systems
Certain pH-responsive supramolecular systems can be switched, on demand, by a variety of acids and bases. Recent examples demonstrate the ability of acid–base changes to facilitate the control of molecular and polymeric structural conformations (motion, movement) as well as the flow regulation in nanovalves, including an increasing number of fascinating supramolecular systems that have been designed and synthesized for use in molecular electronics, sensors, and drug delivery applications. To read more, turn to the Focus Review by K. C.-F. Leung et al. on page 364 ff.



Charge Transfer
Three imidazole-annulated tetrathiafulvalene (TTF) derivatives have been prepared and fully characterized. S.-X. Liu et al. discuss the influence of the TTF unit on the pK_a values of the acceptor units as determined by photometric titration. The novel feature of these D–A molecules is that they contain 2-(2-pyridyl)benzimidazole (PB) ancillary functionality, which facilitates direct annulation of PB to the TFF core and offers excellent chelating ability for complexation of a wide range of transition metals to the donor system. This gives rise to diverse structural chemistry and appealing photophysics. Turn to their Full Paper on page 392 ff. to find out more.

