Supramolecular Approach to Generation and Stabilization of Labile Organic Anions

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Urea and its derivatives interact with various anions to generate hydrogen-bonded host lattices that may incorporate water or other uncharged hydrophilic molecules, forming crystalline inclusion compounds with bulky hydrophobic organic cations as the guest species.^[1] Some elusive anions such as dihydrogen borate,^[2] allophanate,^[3] and 3-thioallophanate^[4] have been generated *in situ* and stabilized as a host component. This strategy has led to successful isolation of the non-benzenoid aromatic D_{nh} and enediolate C_{2v} valence tautomers of rhodizonate $C_6O_6^{2-[5]}$ and croconate $C_5O_5^{-2-[6]}$

Our recent studies in the supramolecular assembly of hydrogenbonded infinte arrays based on preconceived cogwheel, rosette-tape,^[7] and rosette-layer structural motifs will also be presented.

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