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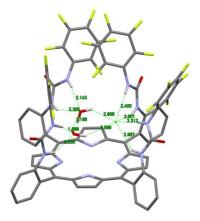
Anion recognition with porphyrin-bottomed tetraurea receptors

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Graphical Abstract



Three tetraurea-appended porphyrin-derived anion receptors were synthesized and were found to efficiently encapsulate various anions with high association constants of up to 1.1×10^8 L/mol.

ABSTRACT

Three tetraurea-appended porphyrin derivatives were synthesized and applied as anion receptors to complex with various anions, including F⁻, Cl⁻, Br⁻, I⁻, NO₃⁻, HSO₄⁻, and AcO⁻. The binding stoichiometries were all measured to be 1:1 and high binding abilities of these receptors toward the anions were demonstrated with the association constants of up to 1.1×10^8 L/mol. The complexation of the receptors with anions was further unambiguously confirmed by single-crystal X-ray analysis

Keywords Host-guest chemistry Anion receptors

Porphyrins Molecular recognition

Ureas

Supramolecular chemistry

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