ABSTRACT

TITLE:	Design, Synthesis, and Characterization Of Tetracationic Iodonium Macrocycles
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ABSTRACT: The design and synthesis of mechanically interlocked molecules (e.g., catenated molecular structures) represents a unique challenge to the synthetic chemist. Central to this effort is the chemical generation of shape persistent molecular architectures. In particular, tetracationic iodonium macrocyclic structures have been experimentally shown to contain near perfect rectilinear geometries, making them potentially useful scaffolds for intermolecular catenation reactions. Our current efforts have focused on the expedient synthetic preparation of tetracationic iodonium macrocycles of various sizes. The successful synthesis of the bisphenylene-based macrocycle has allowed for initial studies into dynamic covalent catenation.