

Diphenanthriooctaphyrin(1.1.1.0.1.1.1.0): conformational switching controls the stereochemical dynamics of the topologically chiral system.

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Streszczenie

The analogue of octaphyrin(1.1.1.0.1.1.1.0) bearing two dimethoxyphenanthrene units was synthesized and characterized in solution and solid state. The macrocycle was demonstrated to exist as two locked conformers that can be easily separated and handled individually. The conversion of conformers was proven to be facilitated by the presence of hydrogen-bond acceptors, such as amines. The bis-boron(III) complex of diphenanthriooctaphyrin has been obtained, proving that the metalloid center acts as the topology selector stabilizing only one conformation of the macrocycle, irrespective of the stereoisomer used for the insertion. Both conformers of diphenanthriooctaphyrin, as well as the boron complex formed from them, have been separated into enantiomers using HPLC with a chiral stationary phase. All of these systems have shown strikingly different stereodynamic behavior.

Adres publiczny

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