



Synthesis and characterization of a directly linked N-confused porphyrin dimer.

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Streszczenie

There's nothing confusing about the dimer (see picture) that forms from N-confused porphyrin! The dimer was obtained as a directly β - β -linked structure through a simple acid-catalyzed condensation reaction of the monomeric macrocycles, and the electronic interaction between the porphyrin subunits was studied for both the free-base form and for the bis(nickel(II)) complex. Oligomeric porphyrin arrays¹ are present in molecular devices that are designed for energy- and electron-transfer processes,² multielectron redox catalysis,³ and in organic magnetic materials.⁴ For all such applications, it is important that the individual molecules within the array communicate with each other. Distance, geometry, and orientation have been recognized as important factors for the control of this communication. Among arrays of covalently linked porphyrin units, systems in which the aromatic subunits are *directly* connected to each other by a covalent bond are particularly important. Such a linkage enables interaction between the subunits while the intrinsic structure of the porphyrin is preserved. Considerable progress has been reported recently in the synthesis of oligoporphyrins with direct β - β , *meso*-*meso*, and *meso*- β links⁵ to yield products that range from dimeric species to linear structures, which contain up to 128 porphyrin subunits.⁶

Adres publiczny

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