



Figure eights, Möbius bands, and more : conformation and aromaticity of porphyrinoids.

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Streszczenie

The aromatic character of porphyrins, which has significant chemical and biological consequences, can be substantially altered by judicious modifications of the parent ring system. Expansion of the macrocycle, which is achieved by introducing additional subunits, usually increases the so-called free curvature of the ring, leading to larger angular strain. This strain is reduced by a variety of conformational changes, most notably by subunit inversion and p surface twisting. The latter effect creates a particularly convenient access to Möbius aromatic molecules, whose properties, predicted over 40 years ago, are of considerable theoretical importance. The conformational processes occurring in porphyrin analogues are often coupled to other chemical phenomena, and can thus be exploited as a means of constructing functional molecular devices. In this Review, the structural chemistry of porphyrinoids is discussed in the context of their conformational dynamics and p-electron conjugation.

Słowa kluczowe

Aromaticity, chemical topology, conformational analysis, NMR spectroscopy, porphyrinoids

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