

2-Aza-21-Carbaporphyrin in Construction of Chiral Supramolecular Assemblies

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Rok wydania

2022

Wydawca

Wiley-VCH

Miejsce wydania

Weinheim

Strony

583-621

DOI

10.1002/9783527834204.ch18

bookChapter.title

Chiral Building Blocks in
Asymmetric Synthesis :
Synthesis and Applications

ISBN

978-3-527-34946-3

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Rozdział książki

Streszczenie

This chapter consists of a presentation of chiral derivatives of 2-aza-21-carbaporphyrin, aka N-confused porphyrin (NCP) that have been reported in the literature since the discovery of this prochiral aromatic macrocycle in 1994. Owing to a special reactivity of the *confused* pyrrole, majority of these species can be obtained by a post-annulated derivatization of NCP whose synthesis, in turn, is facile, cheap, and effective. Coordination chemistry of NCP is particularly rich and significantly different than that of the regular porphyrins. The metal or metalloid complexes of NCP can be further derivatized owing to the activation of the internal carbon of the *confused* pyrrole by its coordination as a carbanion. Various types of intrinsic chirality have been recognized for NCP derivatives and their complexes including planar, helical, and topological chiralities. For several systems, enantiomeric resolution and an optical activity have been reported although authors anticipate much higher potential application of the chiral NCP derivatives and their complexes in stereogenic synthesis and catalysis.

Adres publiczny

<https://doi.org/10.1002/9783527834204.ch18>

