

Diastereoselective assembling of 21-C-alkylated nickel(II) complexes of inverted porphyrin on a platinum(II) template.

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Streszczenie

Reaction of 21-C-methyl and 21-C-benzyl nickel(II) complexes of inverted *meso*-tetratolylporphyrin with platinum(II) dichloride or its bis(benzonitrile) complex yields a chloroplatinum(II) species containing two nickel(II) carbaporphyrinoids in a *cis* arrangement. One of the carbaporphyrinoids coordinates to the platinum ion with the external nitrogen while the other is bound with the external nitrogen and one *ortho*-carbon of the adjacent *meso*-aryl ring. The reaction is highly chemoselective. ^1H and ^{13}C NMR experiments in solution show the diastereoselectivity of the reaction. Single-crystal X-ray data confirm the presence of the diastereomer with opposite configurations of the Ni(II)-coordinated carbons in the subunits of the dimer. Cyclovoltammetric measurements reveal an anodic shift of the nickel(II) oxidation potentials of dimers with respect to those of the parent monomers and two different reduction couples. Reaction of unsubstituted inverted porphyrin with $\text{Pt}(\text{PhCN})_2\text{Cl}_2$ in chlorobenzene yields a monomeric platinum(II) complex of inverted porphyrin. This complex displays a markedly upfield ^{195}Pt NMR shift compared to tetraphenylporphyrinatoplatinum(II). Under strongly basic conditions deprotonation of the external nitrogen of inverted porphyrin and both electrochemical and chemical oxidation of platinum(II) center are observed.

Słowa kluczowe

Ions, Nitrogen, Oligomers, Platinum, pyrroles

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