# Metalation of Tellurophene: Reactivity of 21,23-Ditelluraporphodimethene toward Palladium(II), Platinum(II), and Rhodium(I)

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Streszczenie

Ditelluraporphodimethene, a nonaromatic porphyrinoid containing two tellurophene rings, reacted with palladium(II), platinum(II), and rhodium(I) following two different paths. Palladium(II) formed bonds to two tellurium donors of the macrocycle, yielding a side-on coordination compound, with a square planar ($Te_2Cl_2$) metal ion environment. An alternative reaction path has been observed for ditelluraporphodimethene with platinum(II) or rhodium(I) in high boiling solvents. These conditions led to the profound transformation, that is, one tellurium atom to a metal atom exchange, resulting in the formation of organometallic species containing metallacyclopentadiene rings, that is, 21-platina-23-telluraporphodimethene and 21-rhoda-23-telluraporphodimethene. The substitution reaction proceeded selectively at the tellurophene ring within the conjugated part of the molecule, that is, the tellurophene ring bound to two $sp^2$*meso*-carbon atoms. In the case of platinum, the exchange was accompanied by one *meso*-aryl ring fusion with the formed platinacyclopentadiene ring, and the platinum(II) macrocycle underwent reversible oxidation with chlorine. The products are stable and represent first nonaromatic examples of metalloporphyrinoids, with a metallacyclopentadiene ring incorporated into a porphodimethene skeleton.

Słowa kluczowe

Ions, Ligands, Macrocycles, Metals, Pyrroles

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