Bispalladium(II) Complexes of di-p-Pyrirubyrin Derivatives as Promising Near-Infrared Photoacoustic Dyes

Autorzy

Karolina Hurej

Weronika Oszczęda

Ewelina Opas

Szymon J. Zelewski

Miłosz Pawlicki

Michał J. Białek

Łukasz Orzeł

Lechosław Latos-Grażyński

Rok wydania

2023

Czasopismo

Angewandte Chemie - International Edition

Numer woluminu

62

Strony

e202303394/1-e202303394/6

DOI

10.1002/anie.202303394

Kolekcja

Naukowa

Język

Angielski

Streszczenie

Incorporation of α,β'-pyridine moiety into expanded porphyrins opens a highly interesting area of research due to created the molecules' attractive optical and coordination properties. The insertion of palladium(II) into di-p-pyrirubyrin, results in mutually convertible bimetallic complexes. Post-synthetic functionalization of one of them yielded bispalladium(II) dioxo-di-p-pyrirubyrin and, after demetallation, dioxo-di-p-pyrirubyrin, introducing for the first time, the α,β'-pyridin-2-one unit into the macrocyclic frame. Bispalladium(II) di-p-pyrirubyrin 6, bispalladium(II) dioxo-di-p-pyrirubyrin 9, and dioxo-di-p-pyrirubyrin 10 absorb and emit light around 1000 nm and are characterized by high photostability. Thus, they are promising candidates for near-infrared photoacoustic dyes, ideally targeting (9) the wavelength of Yb-based fiber lasers.

Słowa kluczowe

expanded porphyrins, palladium, rubyrin, photoacoustic dyes, near-infrared II

Adres publiczny

http://dx.doi.org/10.1002/anie.202303394

Strona internetowa wydawcy

onlinelibrary.wiley.com

Typ publikacji

Artykuł