

Heme cleavage with remarkable ease: paramagnetic intermediates formed by aerobic oxidation of a meso-amino-substituted iron porphyrin.

Autorzy

Heather Kalish

H. M. Lee

Marylin M. Olmstead

Lechosław Latos-Grażyński

S. P. Rath

Alan L. Balch

Rok wydania

2003

Czasopismo

Journal of the American
Chemical Society

Numer woluminu

125

Strony

4674-4675

DOI

10.1021/ja021253q

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Hemes must be oxidatively stable to carry out their functions as biological oxidants, but introduction of a single amino group at a meso position of octaethylheme renders it extremely sensitive to ring opening by dioxygen. Exposure of a red pyridine (py) solution of diamagnetic (py)₂Fe^{II}(H₂N-OEP) (**1**) (H₂N-OEP is the dianion of meso-amino-octaethylporphyrin) to air results in the immediate formation of a green intermediate which is subsequently converted into a second species that has been crystallized and characterized by X-ray diffraction. This process is distinct from coupled oxidation, a model for biological heme cleavage, because it does not require a sacrificial reducing agent to initiate the process.

Słowa kluczowe

Atmospheric chemistry, Bioinorganic chemistry, Carbene compounds, Iron, Pyrroles

Adres publiczny

<https://doi.org/10.1021/ja021253q>

Strona internetowa wydawcy

<https://www.acs.org/content/acs/en.html>

