

Formation and isolation of an iron-tripyrrole complex from heme degradation.

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Rok wydania

2003

Czasopismo

Journal of the American
Chemical Society

Numer woluminu

125

Strony

12678-12679

DOI

10.1021/ja036656k

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Addition of dioxygen to a solution of $(\text{py})_2\text{Fe}(\text{OEPO})$ (**1**) (where OEPO is the trianion of octaethyloxophlorin) in pyridine- d_5 at 23 °C results in a series of oxidative changes that have been followed by ^1H NMR spectroscopy. After 4 h, the resonances of **1** have vanished, while several sets of new resonances have developed. The most intense of these are identified as belonging to $(\text{py})_2\text{Fe}^{\text{III}}(\text{OEB})$ (**2**) by comparison with the previously obtained spectrum of this species, which contains a ring-opened tetrapyrrole. After the sample was left standing for 1 day, further changes occur which produce a sample that is stable, because ^1H NMR spectroscopic examination reveals no further changes on continued exposure to dioxygen or air. The product, $(\text{py})_2\text{Fe}^{\text{III}}(\text{HETP})$ (**3**), where HETP is the dianion of a hexaethyltripyrrole, has been converted into $(n\text{-Bu}_4\text{N})[\text{ClFe}^{\text{III}}(\text{HETP})]$ by treatment with tetra(n -butyl)ammonium chloride. Red $(n\text{-Bu}_4\text{N})[\text{ClFe}^{\text{III}}(\text{HETP})]$ has been isolated and characterized by single-crystal X-ray diffraction.

Słowa kluczowe

Anions, Bioinorganic chemistry, Carbene compounds, Nuclear magnetic resonance spectroscopy, Pyridines

Adres publiczny

<https://doi.org/10.1021/ja036656k>

Strona internetowa wydawcy

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