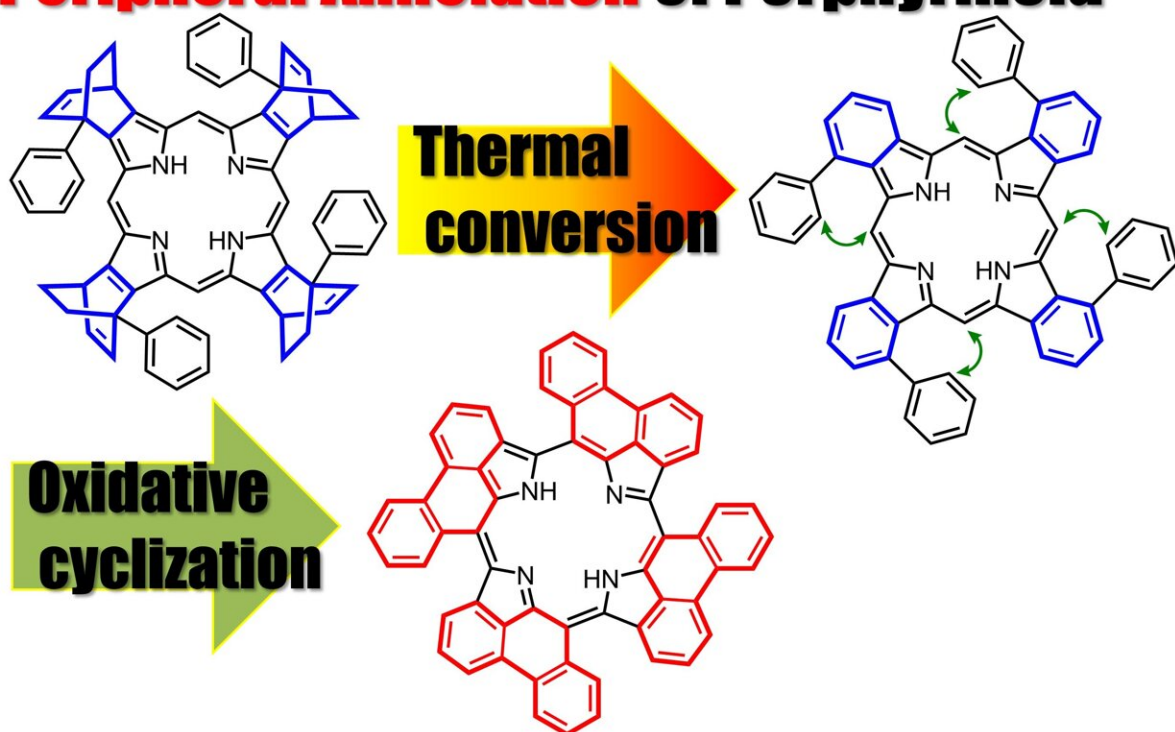


Synthesis of peripherally annulated phenanthroporphyrins

June 27 2023

A New Approach for **Peripheral Annelation** of Porphyrinoid



Unusual phenanthrene-fused porphyrins were successfully synthesized via thermal conversion of precursor porphyrin, followed by intramolecular Scholl reaction. Credit: Ehime University

Prof. Okujima, in collaboration with Prof. Kobayashi at Shinshu University, have reported the synthesis, molecular structure, optical properties and electronic structure of unusual phenanthrene-fused porphyrins in *Organic Letters*.

Precursor porphyrins fused with aryl-substituted bicyclo[2.2.2]octadiene afforded the corresponding arylbenzoporphyrins (arylBPs) by retro Diels–Alder reaction. Unusual phenanthroporphyrins were obtained via the intramolecular Scholl reaction of arylBPs.

The researchers analyzed the optical and electronic structures using magnetic circular dichroism spectroscopy and time-dependent density functional theory calculations.

More information: Kota Muramatsu et al, Synthesis of Peripherally Annulated Phenanthroporphyrins, *Organic Letters* (2023). [DOI: 10.1021/acs.orglett.3c00876](https://doi.org/10.1021/acs.orglett.3c00876)

Provided by Ehime University

Citation: Synthesis of peripherally annulated phenanthroporphyrins (2023, June 27) retrieved 17 July 2024 from <https://phys.org/news/2023-06-synthesis-peripherally-annulated-phenanthroporphyrins.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.