

Expanded hexapyrrolohexaazacoronenes. Near-infrared absorbing chromophores with interrupted peripheral conjugation.

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Rok wydania

2014

Czasopismo

Journal of the American
Chemical Society

Numer woluminu

136

Strony

16399-16410

DOI

10.1021/ja508963v

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

A family of azacoronenes containing up to two saturated bridges at the periphery was synthesized from substituted hexapyrrolylbenzenes using a two-step condensation–aromatization procedure. The introduction of peripheral bridges provides access to nonplanar, sterically crowded systems that display complex reactivity patterns, involving stereospecific aromatization of bridges and nucleophile additions. Despite the interrupted conjugation on the periphery, the new azacoronenes have easily accessible higher oxidation levels, and a quadruply charged species was chemically generated by reaction with SbCl_5 . These oxidized species show extensive π -electron conjugation and are efficient UV–vis–NIR absorbers, active up to ca. 2400 nm. Interruption of peripheral conjugation is shown to induce a tendency toward biradicaloid electron configurations in doubly oxidized species.

Adres publiczny

<http://dx.doi.org/10.1021/ja508963v>

Strona internetowa wydawcy

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