Coordination-induced molecular tweezing: ruthenium clusters docked at azuliporphyrinogens.

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Rok wydania

2016

Czasopismo

Inorganic Chemistry

Numer woluminu

55

Strony

12061-12073

DOI

10.1021/acs.inorgchem.6b02228

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

The reaction of [Ru3(CO)12] with a series of conformationally flexible thiaazuliporphyrinogens, namely, dithiadiazuli-, thiatriazuli- and tetraazuliporphyrinogen, yielded a series of complexes with two azulene rings coordinated by either Ru2(CO)5 and Ru4(CO)9 or two Ru4(CO)9 clusters. For dithiadiazuliporphyrinogen, three fundamental arrangements were detected, with two clusters being located at the same side or different sides of the meso plane. Coordination altered the electron density on the rings, allowing for dispersion-promoted interactions between coordinated azulenes. To create this face-to-face arrangement, the ligand framework performs a tweezing movement with coordinated azulenes approaching each other. The tweezer-like arrangement of the coordinated azulene rings assists the formation of azulene inclusion complexes as determined by 1H NMR titration.

Adres publiczny

http://dx.doi.org/10.1021/acs.inorgchem.6b02228

Strona internetowa wydawcy

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