

How can porphyrins increase the metal content of organic framework materials?

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The prediction of a set of novel porphyrin-based materials for solar cells was performed for the first time. It corresponds to a theoretical study based on DFT computations of the model ...

Moreover, the photocatalytic oxygen evolution [16], production of solar fuels [17], and organic synthesis [18] using porphyrin-based MOFs, were also reviewed. These highly colored ...

Porphyrin-based donor materials have been shown to contribute to many record-high device efficiencies in small molecule, tandem, ternary, flexible, and OSC/perovskite hybrid solar cells. ...

In order to use the photo-responsiveness of porphyrins and increase the metal content of organic framework materials, it is an ideal way to introduce porphyrins into frameworks in the form ...

This article is written to provide an up-to-date review of porphyrin-based materials used in organic solar cells (OSCs). During the past two decades, OSCs have been the subject of extensive research and ...

Conjugated Porphyrin Materials for Solar Fuel Generation Current Organic Chemistry ( IF1.7 ) Pub Date : 2022, DOI: 10.2174/1385272826666220330113959 Yang Bai 1, Reiner Sebastian Sprick 2 Affiliation ...

Photon upconversion enjoys an increasing interest in the last years due to its high potential for solar energy harvesting and in bio-imaging. A challenge for triplet-triplet annihilation upconversion ...

In recent years, porphyrins with a similar structure to chlorophyll are often used as photosensitizers or reaction centers to improve the light absorption capacity or catalytic selectivity of ...

Such stable, crystalline functionalized free-porphyrin materials may play a role in the solar cell development in the future, as candidates for stable long-life devices at a lower cost.

Owing to their excellent photophysical properties, these nanoporous materials are suitable for light harvesting and photocatalysis applications. This review emphasizes the potential of artificial light ...

Conjugated Porphyrin Materials for Solar Fuel Generation Current Organic Chemistry ( IF2.1 ) Pub Date : 2022, DOI: 10.2174/1385272826666220330113959 Yang Bai 1, Reiner Sebastian Sprick 2 Affiliation ...

Porphyrin-based donor materials have been shown to contribute to many record-high device efficiencies in small mole-cule, tandem, ternary, flexible, and OSC/perovskite hybrid solar cells. Specifi-cally, non ...

# Porphyrin material solar container

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Porphyrins and metalloporphyrins have found broad applications as field-responsive materials, particularly for optoelectronic applications. For example, the facile substitution of the periphery of ...

The porphyrin moiety is a very interesting building block for photocatalysts as the large  $\pi$ -conjugated system allows efficient light absorption. Metalation of porphyrins allows for further tuning of the ...

Hole-transport materials (HTMs) contribute an important function in perovskite solar cells (PSCs) for achieving favourable photovoltaic performance with durability. In this work, we ...



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