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Porphyrin and Their Derivatives Synthesis, Characterization, and Applications

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Message from the Guest Editors

Porphyrins represent a widely investigated class of macrocyclic coordination compounds with applications in multidisciplinary fields. They exhibit a strong absorption in the visible spectral region and near-infrared, while ordered aggregates consisting of self-assembled porphyrin molecules may enable ultra-fast energy and electron transfer because of the delocalized excited states present in the aggregates as compared to the localized $\pi-\pi^*$ transitions within the monomer. Porphyrins and their derivatives, such as porphyrin triads, liquid-crystalline porphyrins have been widely used as photosensitizers in photodynamic, photothermal therapy (PTT and PDT) and dye-sensitized solar cells (DSSCs), as fluorescent materials in chemical sensors as light harvesting elements in organic solar cells (OSCs), and as charge transport materials in both OSCs and perovskite solar cells (PSCs). The aim of this Special Issue is to highlight the various aspects of their synthesis, functionalization, structural modification and potential applications, with emphasis on photodynamic therapy, photovoltaics, and sensors. Articles reporting novel results or reviews are welcome.



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Special Issue



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Message from the Editor-in-Chief

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