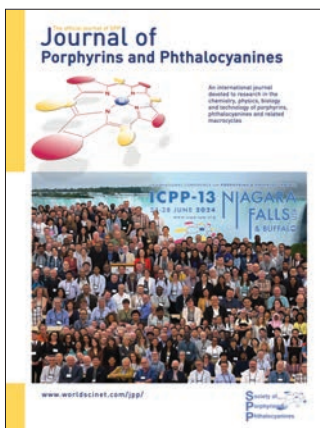


About the Cover



The cover shows the ICPP-13 group photo of participants taken in Niagara Falls in June 2024.

On behalf of the organizing committee, I would like to extend our heartfelt gratitude to participants in the Thirteenth International Conference on Porphyrins and Phthalocyanines (ICPP-13) held in the stunning backdrop of **Niagara Falls**.

The oral and poster contributions, scientific discussions and the delightful camaraderie shared throughout the week were instrumental in making this conference a remarkable success.

The strength of the scientific presentations and the good humor exhibited by all attendees underscores the collaborative spirit of our community. This spirit drives the advancement of our field of porphyrins, phthalocyanines, and related macrocycles — whether in chemistry, physics, biology, biochemistry, or material science — and makes gatherings like ICPP-13 so valuable and memorable.

Karl M. Kadish.

SPP President, JPP Editor-in-Chief and ICPP Organizer.

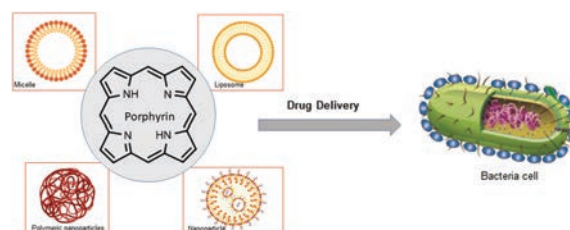
Review

pp. 391–417

Drug delivery strategies for porphyrin-based photosensitizers in photodynamic antimicrobial chemotherapy

Margaret W. Murage, Edith K. Amuhaya*, Betty N. Mbatia, Edward K. Muge and Solomon Derese

Porphyrins have significant potential as photosensitizers in photodynamic antimicrobial chemotherapy (PACT), but their hydrophobic nature and aggregation tendencies limit their clinical applications. Researchers have addressed these issues by employing diverse delivery strategies, including nanoparticle attachment and encapsulation in nanostructures like liposomes and micelles. These approaches enhance porphyrin solubility, stability, and photophysical properties, ultimately improving their effectiveness in PACT, as comprehensively discussed in this review.



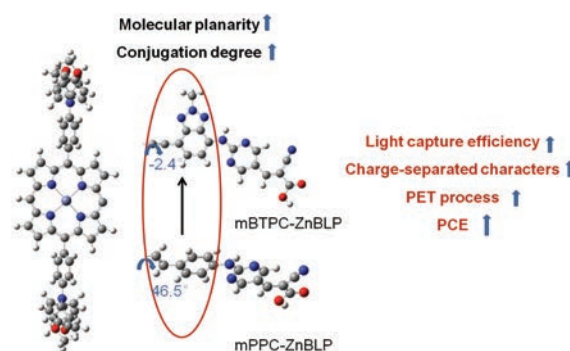
Articles

pp. 418–428

Spectral properties and photophysical processes of triphenylamine-porphyrin-pyrimidine triads

Xinrui Liu, Kun Gong, Shiling Liu, Dongzhi Liu, Wei Li and Xueqin Zhou*

The incorporation of a triple bond linkage delivers a global planar framework for the triphenylamine-porphyrin-pyrimidine sensitizer. The extended molecular conjugation leads to a broad absorption, an enhanced PET process and a long-lived charge-separated states. These contribute to an improved power conversion efficiency of 3.77% for the fabricated dye-sensitized solar cells (DSSCs).



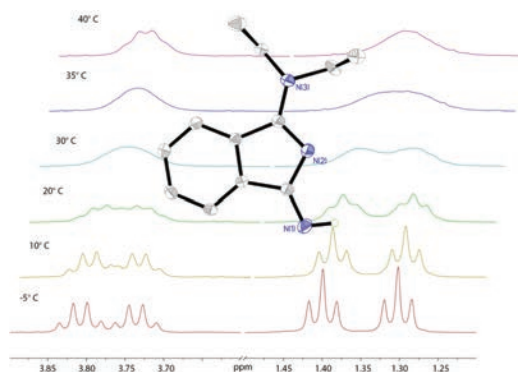
Articles

pp. 429–434

Imino(dialkylamino)isoindolines: Structures and dynamic behavior

Joan Bore, Wei-Yuan Chen, Victor N. Nemykin and Christopher J. Ziegler*

In this report, we revisit the chemistry of imino(dialkylamino)isoindolines, first produced in 1956 but not studied since. These potentially useful chelate precursors were structurally characterized and exhibit dynamic behavior observable by NMR.

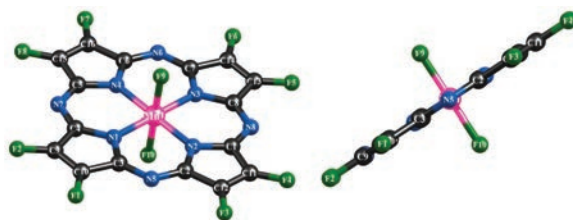


pp. 435–443

3d-metal macrocyclic complexes containing porphyrazine/perfluoroporphyrazine and fluoro ligands: Structural and thermodynamic parameters according to the various DFT model chemistries

Oleg V. Mikhailov* and Denis V. Chachkov

By using three independent variants of density functional theory (DFT) with functionals B3PW91, M06 and OPBE, and the TZVP basis set, combining D3 version of Grimme's dispersion with the original D3 damping function, the molecular structures of three types of 3d element (M) macrocyclic coordination compounds were calculated. These were compounds with a homoligand and porphyrazine (H_2L1), a heteroligand with porphyrazine and two axially oriented fluoro ligands, and a heteroligand with perfluoroporphyrazine (H_2L2) and two axially oriented fluoro ligands having $[ML1]$, $[ML1(F)_2]$ and $[ML2(F)_2]$ compositions, respectively.

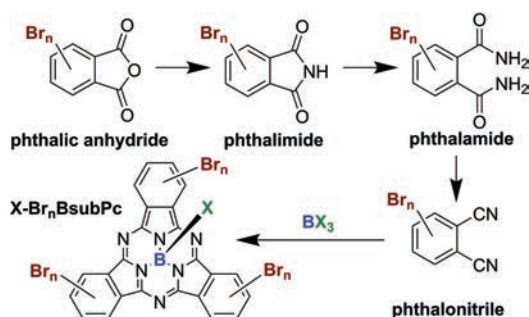


pp. 444–460

Optimizing the preparation of bromo phthalonitriles and piloting them to peripherally brominated boron subphthalocyanines

Lea Wassink and Timothy P. Bender*

The boron subphthalocyanines (BsubPcs) are known to be versatile molecules with a variety of physical properties and potential applications. For this study, we looked into bromine peripheral substitutions to see any difference compared to chlorine, and also optimized the chemical pathway to brominated phthalonitriles, the BsubPc intermediates, from phthalic anhydride to phthalimide.



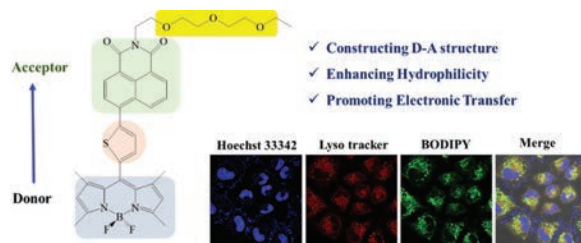
Articles

pp. 461–468

Design and synthesis of fluorescent BODIPY derivatives with D-A structures for cancer cell imaging

Yutong Xiao, Simiao Tong, Mengqian Yang, Xiao Lin, Man Xu and Fengshou Wu*

Three BODIPY derivatives with a D-A structure were designed and synthesized. The good biocompatibility and low cytotoxicity of the synthesized BODIPY compounds were verified by the Cell Counting Kit-8 (CCK-8) assay. Bioimaging experiments demonstrated the localization of these BODIPY derivatives in the lysosomes of cancer cells.



pp. 469–486

Photodynamic antibacterial chemotherapy activities of P(V) and Ga(III) triarylcorroles and their silver nanoparticle conjugates

Rodah C. Soy, Pertunia R. Macigane, John Mack* and Tebello Nyokong

Silver nanoparticle conjugates of two series of P(V) and Ga(III) corroles with 4-thiomethylphenyl-, thien-3-yl-, thien-2-yl- and 5-bromothien-2-yl- *meso*-aryl rings have been synthesized and characterized, so that their *in vitro* photodynamic antimicrobial chemotherapy properties could be investigated against *S. aureus* and *E. coli*.

