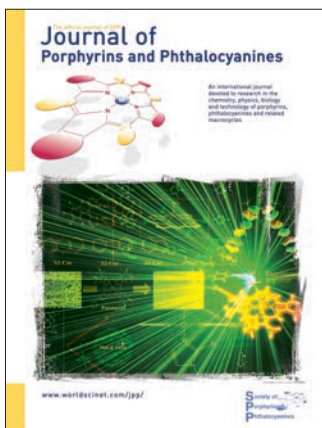


About the Cover



The cover shows a montage of the science presented in the current issue.

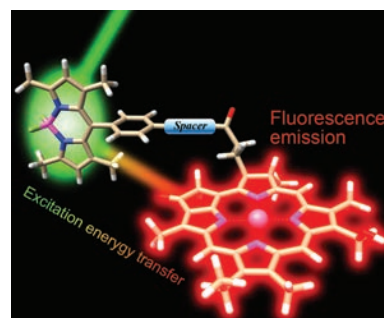
Articles

pp. 1–10

Synthesis of chlorophyll–BODIPY conjugates and their intramolecular excitation energy transfer

Yuna Mori, Yugo Nakamura, Mizuki Yasui and Hitoshi Tamiaki*

Synthetic zinc chlorophyll-*a* derivatives possessing a BODIPY moiety in the 17-substituent in tetrahydrofuran showed that photoinduced singlet excitation energy transfer intramolecularly occurred from the green-light absorbing BODIPY to zinc chlorin chromophores with $\geq 90\%$ efficiency, which was independent of the linkages and spacer length.

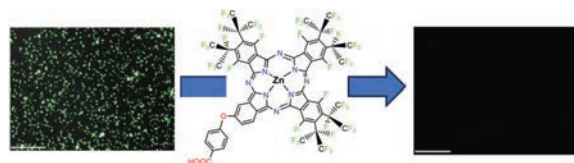


pp. 11–22

Broad photodynamic antibacterial activity of a functionalized, highly fluorinated sensitizer

Mary C. Okorie, Ayuni Yussof, Tinchun Chu* and Sergiu M. Gorun*

A -COOH functionalized fluoroalkyl fluorophthalocyanine inhibits Gram-negative and Gram-positive bacteria in 99% aqueous environments, as shown by microbial cell counter imaging.



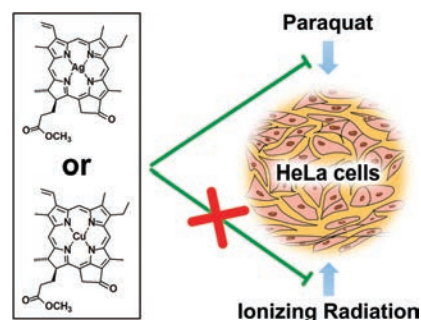
Articles

pp. 23–32

Effect of chemically modified natural porphyrins and copper and silver complexes derived from them on oxidative stress induced by paraquat and radiation

Elena E. Rasova*, Ilya O. Velegzhaninov, Tatyana K. Rocheva, Irina S. Khudyaeva and Dmitry V. Belykh

Among the seven chemically modified natural porphyrins and their metal complexes, we investigated two compounds (Ag-methylpyropheophorbide *a* and Cu-methylpyropheophorbide *a*) that eliminated the toxic effect of paraquat on HeLa cells but showed no radioprotective activity, which can apparently be determined by different localization of oxidative stress targets in the cell.

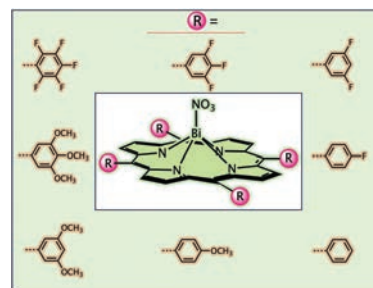


pp. 33–40

Bathochromically shifted absorption and near IR emission in bismuth(III) porphyrins with meso-fluorophenyl and methoxyphenyl substitutions

Noah Holzer, Amanda Brown, Jam Riyan Hamza, Jatan K. Sharma, Francis D'Souza* and Prashanth K. Poddutoori*

A series of bismuth(III) porphyrins with varying degrees of electron-donating and electron-withdrawing groups in their meso-positions have been synthesized. All samples exhibited red-shifted absorption and broad near-IR emission spectra.

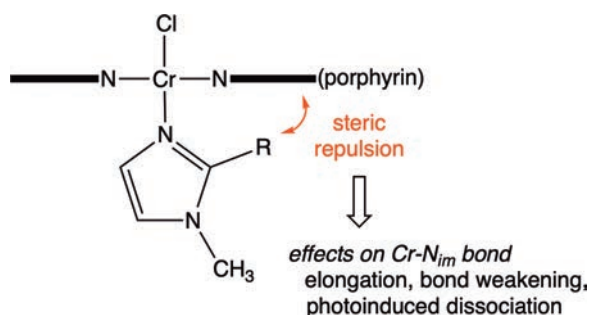


pp. 41–49

Steric effect on the photoreaction of chromium(III) porphyrin complexes with imidazole ligands

Mari Maeda, Kaiki Nakayama, Daiki Uehara, Mikio Hoshino and Masahiko Inamo*

Photoinduced reactions of the chromium(III) tetraphenylporphyrin complex, [Cr(TPP)(Cl)(L)] (L denotes various imidazole ligands), in toluene, were studied using laser flash photolysis technique. The mechanism of the photoreaction was elucidated based on the rate law and the quantum yield for photodissociation of the axial ligand and is discussed from the viewpoint of the steric effect caused by the alkyl groups of the imidazole ligands.



pp. 50–60

Photoinduced energy transfer in sulfur-based heterocyclic compounds and corrole dyads

Swathi Nenavath, B. Shivaprasad Achary and Lingamallu Giribabu*

Donor-acceptor systems based on sulfur-containing heterocyclic compounds and corrole-based dyads were designed and excited with their properties indicating a photoinduced intramolecular energy transfer from the singlet state of the heterocyclic compound to the corrole macrocycle.



Articles

pp. 61–71

Effect of π -extension and halogenation on the optical limiting properties of *meso*-pyrenylBODIPYdyes

Gugu Kubheka, John Mack and Tebello Nyokong

The synthesis and characterization of a series of mono- and di-(4-dimethylamino)-styryl-*meso*-pyrenylBODIPY and mono- and di-(4-dimethylamino)buta-1,3-dienyl-*meso*-pyrenylBODIPY dyes is reported along with an analysis of their photophysical properties. Open aperture Z-scan measurements were carried out at a fixed concentration of 10 μM so that their optical limiting properties can be compared and trends in the structure-property relationships in this context can be identified.

