See Yuanyuan Fang*, Laihai Huang, Ningchao Liu, Guoliang Zhu, Jian Rong, Zhaoli Xue, Zhongping Ou and Fengxian Qiu*

pp. 1–9

The cover image describes how a series of porphyrins were synthesized and then encapsulated in ZIF-8 by a typical template directed strategy to generate PorM@ZIF-8 metal organic frameworks. These composites were characterized by UV-vis, FTIR, XRD, FESEM and HRTEM methods. The effect of porphyrin central metal ion on morphology of the prepared metal organic frameworks and catalytic oxygen reduction properties is discussed.

---

Effect of porphyrin metal center on synthesis, structure, morphology and oxygen reduction properties of porphyrin encapsulated metal organic frameworks

Yuanyuan Fang*, Laihai Huang, Ningchao Liu, Guoliang Zhu, Jian Rong, Zhaoli Xue, Zhongping Ou and Fengxian Qiu*

A series of PorM@ZIF-8 were prepared and characterized by FTIR, UV-vis, FESEM, HRTEM and oxygen reduction reaction properties in alkaline condition. Effect of porphyrin central metal ion on morphology of porphyrin encapsulated MOF and catalytic properties was discussed.

---

Synthesis of axially dissubstituted silicon phthalocyanines and investigation of their in vitro cytotoxic/phototoxic anticancer activities

Fatma Yurt*, Ece Tugba Saka, Zekeriya Biyiklioglu, Ayça Tunçel, Derya Ozel and Kasim Ocakoglu

An axially 2-decyn-1-oxy dissubstituted Es-SiPc-2 was synthesized by the reaction of SiPcCl2 with 2-decyn-1-ol in the presence of NaH in toluene. The uptake results indicated that Es-SiPc labeled with 131I radionuclide (131I-Es-SiPc) was approximately 2-fold higher in the HT-29 cell line than the WI-38 cell line. In vitro studies showed that both compounds are suitable agents for photodynamic therapy.
pp. 19–23
Saturable absorption behavior of a (5,10,15,20-Tetraphenylporphyrinato) silver crystal thin film at Wavelength 532 nm
Yali Hu and Tingbin Li*
A crystal thin film of (5,10,15,20-tetraphenylporphyrinato) silver was prepared using in situ crystallization methods. Nonlinear saturable absorption behavior was observed in the film.

pp. 24–30
Highly efficient Co(II) porphyrin catalysts for extractive oxidative desulfurization of dibenzothiophene in fuel oils under mild conditions
Deependra Tripathi*, Inderpal Yadav, Himani Negi, Raj K. Singh, Vimal C. Srivasta and Muniappan Sankar*
CoTPP is shown to be an excellent catalyst for the removal of dibenzothiophene (a refractory present in middle oil fuels) by extractive oxidative desulfurization using a green oxidant, H2O2, at 50°C, having a maximum conversion efficiency of 97.5%.

pp. 31–36
Synthesis and ultrasound mediated antibacterial activity of ferrocene-triazole-porphyrin derivative
Elena Yu. Rogatkina*, Alexey N. Rodionov, Svetlana E. Mazina and Alexander A. Simenel
The [3+2]-cycloaddition reaction of azides with ferrocenylmethylpropargyl ester in the presence of copper(I) salt leads to derivatized ferrocenes with linked porphyrins. These ferrocene-modified porphyrins exhibited pronounced cytotoxicity against Escherichia coli under ultrasound irradiation.

pp. 37–46
Modulation of the optical properties of chiral porphyrin dimers by introducing bridged chiral amide-bonds
Mingfeng Qin, Zhen Zhang, Weihua Zhu*, John Mack*, Rodah C. Soy, Tebello Nyokong and Xu Liang*
The D/L-enantiomers of a series of three Zn(II)tetraarylporphyrin dimers were synthesized and isolated by incorporating a bridging amide-bonded xanthene moiety at the para-position of one of the meso-aryl rings. The electronic structures and optical properties were modulated by incorporating chiral amino acid moieties into the amide-bonding moieties of the xanthene bridge that contain methyl, tolyl and 2-methylindole substituents.
pp. 47–55
Photodynamic activity of 2,6-dibrominated dimethylaminophenylbuta-1,3-dienylBODIPY dyes
Gugu Kubheka, Balaji Babu, Earl Prinsloo, Nagao Kobayashi, John Mack* and Tebello Nyokong

Mono- and disubstituted 2,6-dibromo-dimethylaminophenylbuta-1,3-dienyl-BODIPY dyes were successfully prepared, and their in vitro photodynamic activities against MCF-7 breast cancer cells were evaluated with a Thorlabs M660L4 660 nm LED (336 J cm⁻²). The IC50 value of the monophenylbuta-1,3-dienylBODIPY was ca. 2.1 μM, while that of the diphenylbuta-1,3-dienyl-BODIPY was >50 μM. Both dyes exhibited minimal dark toxicity.

pp. 56–65
Synthesis of a new zinc phthalocyanine–benzoquinone rigid dyad
Chi–Hang Lee, Young Ju Yun, Jianchang Guo, Lin X. Chen and Braja. K. Mandal*

A new zinc phthalocyanine–benzoquinone rigid dyad was synthesized as a model compound to study photoinduced charge separation mimicking natural photosynthesis. This rigid structure (i.e. no rotamers) was designed to minimize the unusual electronic perturbation induced by internal motions and resulted in a good lifetime (252 ps) of the charged separated state.

pp. 66–74
Bis-indole substituted phthalocyanines: Photophysical and photochemical properties
Kevser Harmandar, Esra N. Kaya, Mehmet F. Saglam, Ibrahim F. Sengul* and Devrim Atilla*

Tetra substituted peripheral and non-peripheral Zn(II) phthalocyanines were successfully synthesized employing 4-(bis(3-methyl-1H-indol-2-yl)methyl)phenol as a starting material. The photophysical and photochemical properties of all synthesized compounds were investigated.