

IN THIS ISSUE

ISSN 1144-0546 CODEN NJCHES 49(8) 2987-3400 (2025)



Cover

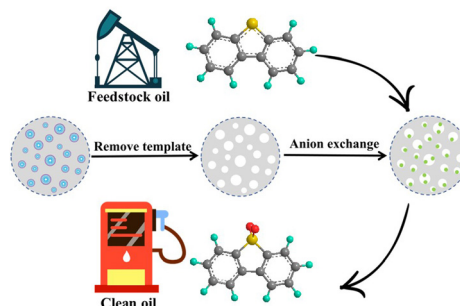
See Lei Zhou *et al.*,
pp. 3025–3033.
Image reproduced
by permission
of Lei Zhou from
New J. Chem.,
2025, 49, 3025.

COMMUNICATIONS

3002

Engineering porous poly-ionic liquids *via* a soft template approach: novel carrier for robust incorporation of phosphomolybdic acid for oxidative desulfurization

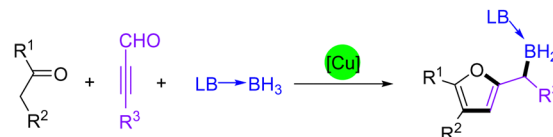
Shuang Tong, Yongkang Gao, Tianqi Huang,
Mengyue Chen, Zidan Zhu, Hongping Li, Chao Wang,*
Huaming Li and Ming Zhang*



3006

Highly efficient synthesis of furan-2-ylmethylboranes by a copper-catalyzed three-component cascade strategy

Chengrui Hang, Fei Lu, Daan Song, Guanghui Wang* and
Ximei Zhao*



- In situ generation of enynes
- Highly efficient cascade reaction
- Cost- and labor-effective synthesis
- Easy gram-scale synthesis



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit rsc.li/cpd-training

**SAVE
10%**

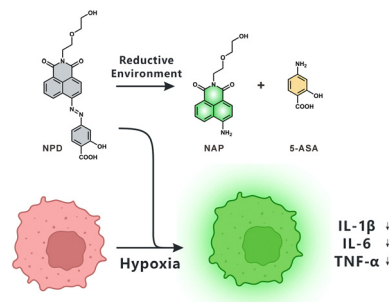


COMMUNICATIONS

3010

A reduction-responsive self-reporting fluorescent prodrug for real-time monitoring of 5-ASA release

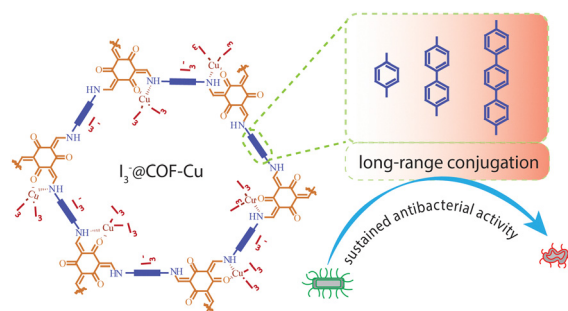
Yuan Wang, Yingjie Chen, Wenchao Wang, Ruhui Yang, Yuhao Gao, Yanlong Liu* and Sicheng Tang*



3015

A CuCl₂-loaded covalent organic framework membrane with a long degree of conjugation for iodine adsorption to achieve sustained antibacterial activity

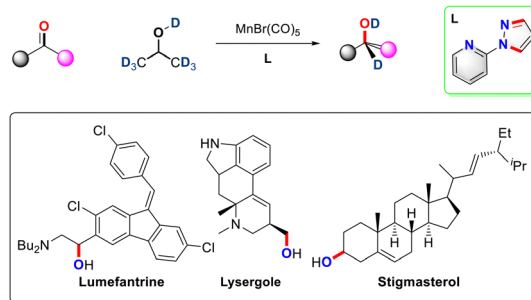
Liping Jing, Xi Chen, Ying Wang, Huishu Zhang, Guohua Dong, Renjiang Lv, Shijie Chen, Lu Sun, Yichen Zhou and Qi Tao*



3020

A pyrazole ligand improves the efficiency of Mn-catalysts for transfer hydrogenation

Yan Cai, Xiulin Li, Zhengguo Zhang,* Ali Ramezani, Ali Morsali and Guoying Zhang*

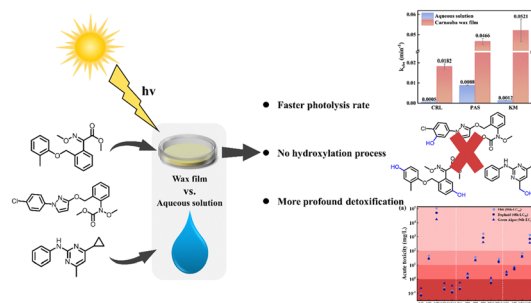


PAPERS

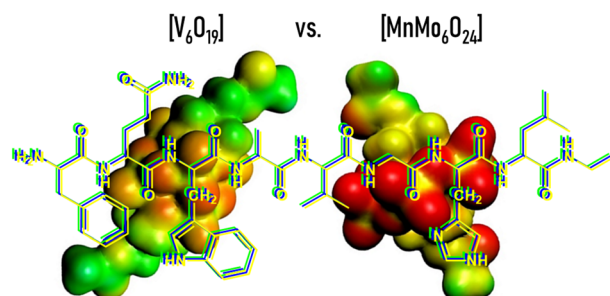
3025

Photolysis of fungicides on simulated leaf surfaces vs. aqueous solutions: pathways, kinetics, and environmental detoxification insights

Chenyang Zhang, Xuwei Zhang, Xuerui Yang, Guangli Xiu, Jean-Marc Chovelon and Lei Zhou*



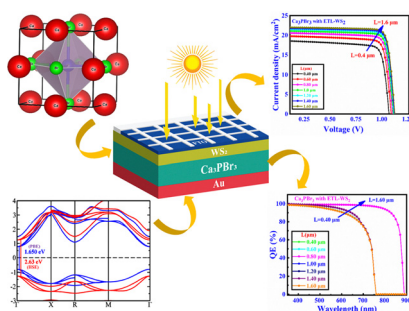
3034



Structural study of Lindqvist polyoxovanadate–peptide conjugates

H. Yu, C. Honisch, M. Frigo, N. Balice, S. Mantovani, F. Cammelli, G. Saielli, V. Cocetta, A. Sacilotto, P. Ruzza* and M. Carraro*

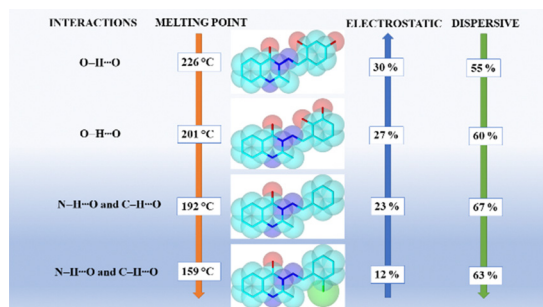
3044



ETL engineering in lead-free new Ca_3PBr_3 perovskite type structure of anti-perovskite derivative material for stable and effective photovoltaic solar cells

Md. Hafizur Rahman, Hosnaara Full, Md. Azizur Rahman, Sheikh Rashel Al Ahmed, Lamia Ben Farhat, Safa Ezzine and Md. Ferdous Rahman*

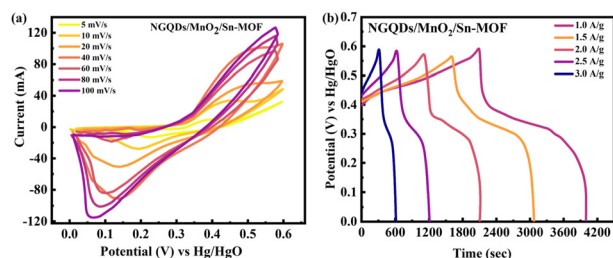
3067



Structural and thermal properties of 3-substituted quinazolinone Schiff base conjugates

Milenko Korica, Mario Komar, Maja Molnar, Vinko Nemec, Dominik Cinčić and Tomislav Balić*

3078



Enhanced supercapacitor performance using a nitrogen doped graphene quantum dots/manganese dioxide/tin-organic framework (NGQDs/MnO₂/Sn-MOF) hybrid electrode

Azhar Saeed,* Haseebul Hassan,* Abdullatif Hakami, M. Musa Saad H.-E., Kashif Masood, Muhammad Waqas Iqbal and Sidra Mumtaz

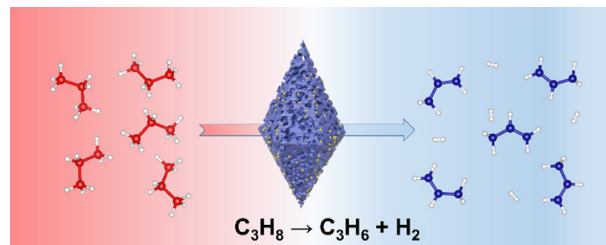


PAPERS

3089

Enhancing propane dehydrogenation by stabilizing the interface systems on porous single-crystalline oxides

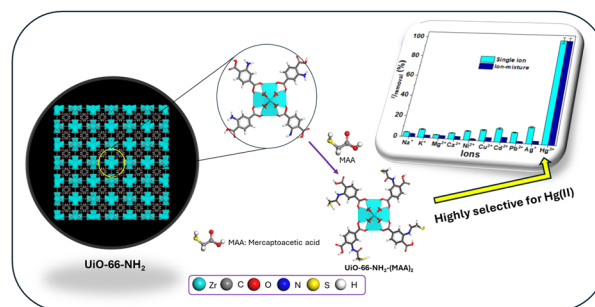
Xun Li, Fangyuan Cheng* and Kui Xie*



3096

Enhanced mercury removal from wastewater using thiol-functionalized UiO-66-NH₂ MOF: experimental and theoretical insights

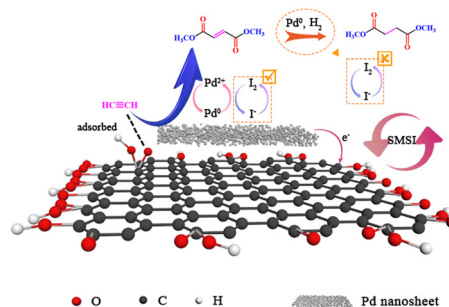
Ismail Abdulazeez, Hamza A. Asmaly, Othman Charles S. Al-Hamouz, Nadeem Baig,* Khaled M. AlAqad, Mukhtar A. Raji and Khaled H. Ahmed*



3109

Effect of acidic functional groups in a carbon-supported Pd catalyst on efficient acetylene dicarbonylation, followed by hydrogenation to dimethyl succinate

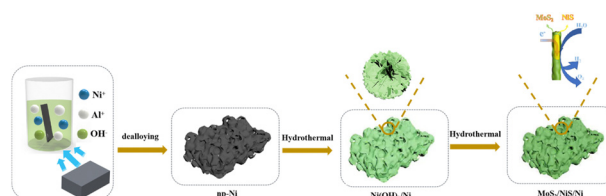
Jing Li, Zhanwei Ma,* Dongwei Wang, Yu Chen, Zhongliao Wang and Bin Hu*



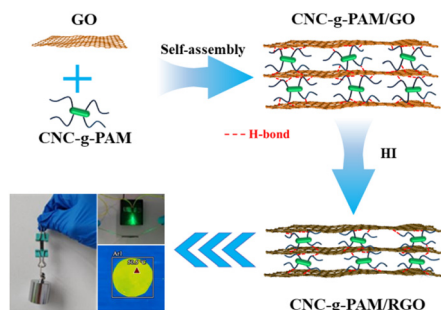
3119

Heterostructure MoS₂/NiS supported on 3D nano-porous Ni as a highly efficient electrocatalyst for overall water splitting

Dekai Ouyang, Haorui Liu, Qi Zhou* and Chenchen Feng



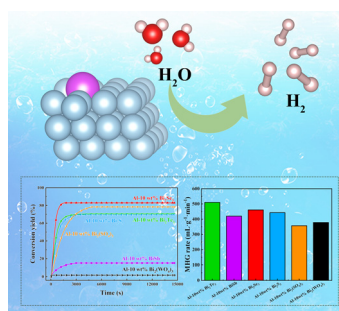
3128



Regulating nacre-like reduced graphene oxide based composites with polymer-grafted cellulose nanocrystals to achieve high strength, toughness and electrical/thermal conductivity

Wei Wu, Yujie He, Qin Zhu, Zhenyang Luo* and Bengang Li*

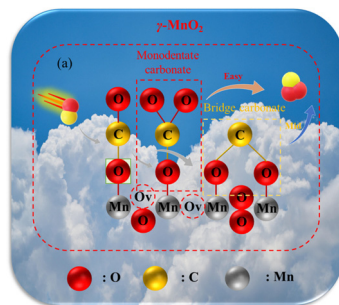
3140



High-performance hydrogen generation via activated Al-Bi₂Se₃ composite materials

Huashuan Li,* Lumin Liao, Tianhao Zhou,* Kaixiang Ren, Shichang Han and Tianyu Zhu

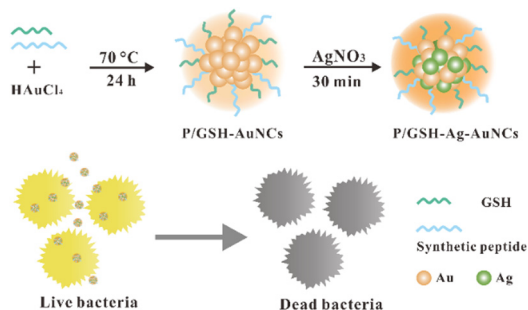
3147



Effects of structural differences between $\gamma\text{-MnO}_2$ and $\gamma\text{-Mn}_2\text{O}_3$ catalysts on CO oxidation: different active oxygen species and carbonate species using *operando* TPR-DRIFTS-MS

Jiacheng Xu,* Peng Weng and Shuiliang Yao*

3157



Customized peptide-encoded antibacterial silver-gold nanoclusters

Mengmeng Yang, Jinliang Ma,* Xiaoyu Si, Hua Gao, Bin Zhang, Jianrui Sun, Jie Zhang and Mingfu Niu*

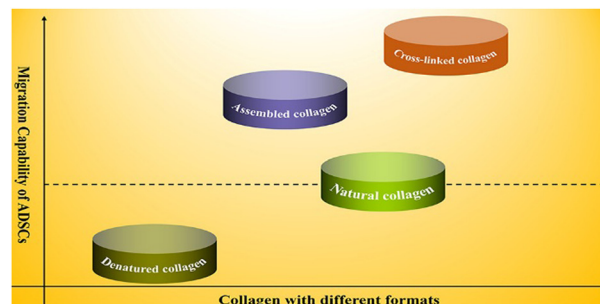


PAPERS

3166

The regulatory effect of grass carp collagen configuration on the migration behavior of stem cells

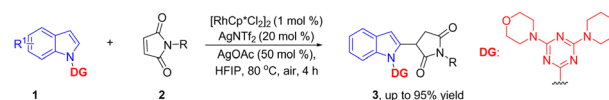
Si-Xian Yang, Shuang Chen, Yu Xu, Zhong-Li Zhu, Xin-Yi Su, Yi-Ting Wang, Yu-Xuan Liu, Jun-Tao Zhang, Ben-Mei Wei, Lian Zhu,* Chu-Bo Qi* and Hai-Bo Wang*



3174

1,3,5-Triazine group-directed Rh(III)-catalyzed C–H alkylation of indoles with maleimides

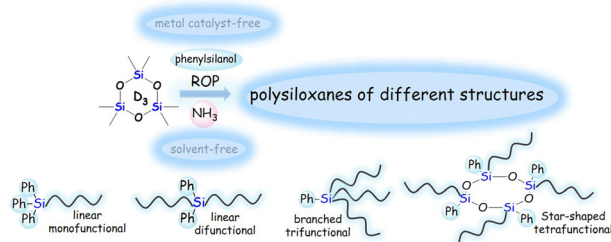
Fuzhong Han,* Lin Chai, Lina Jia and Xiangping Hu*



3183

The use of silanols as initiators for the ROP of hexamethylcyclotrisiloxane in ammonia – from linear functional polymers to silicones of complex structure

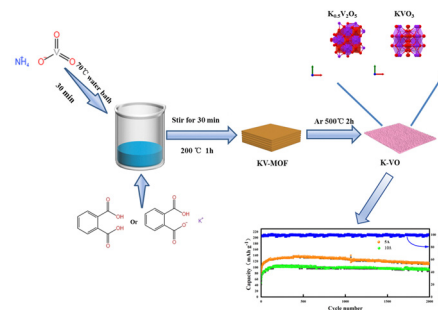
E. O. Minyaylo,* V. Yu. Zubova, E. N. Teplyh, T. O. Ershova, L. A. Alekseeva, I. V. Frank, O. I. Shchegolikhina, A. A. Anisimov and A. M. Muzafarov



3191

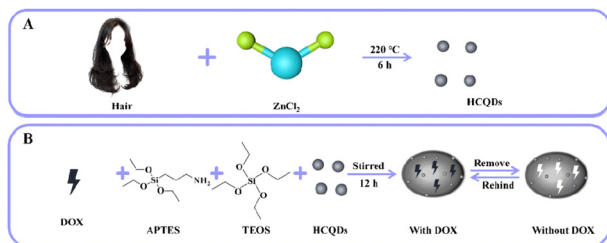
A MOF-derived layered K-VO heterojunction material as a high-performance cathode for aqueous zinc ion batteries

Guohua Chen, Liying Wang,* Qian Liu, Yuan Wang, Zhenzhu Cao and Yongfeng Zhang



PAPERS

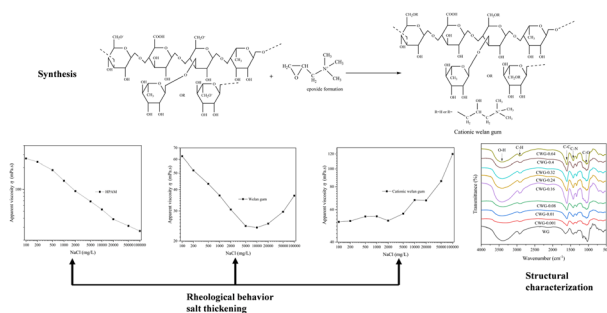
3200



Molecularly imprinted polymer coupled with zinc-doped carbon quantum dots as a fluorescent probe for the determination of doxorubicin hydrochloride

Han Zhang, Fang Fang, Jiangle Yi, Yuanling Sun* and Xueying Wang*

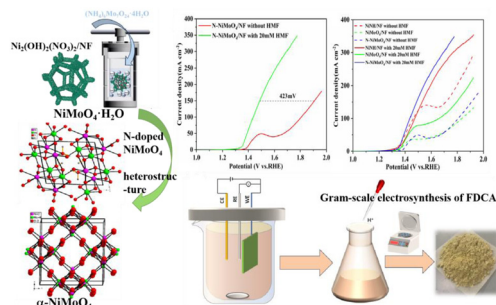
3207



Preparation of a salt-thickening polymer by the quaternization of welan gum

Yuheng Tao, Mingxi Qin, Lingyu Ruan, Hongyan Lin, Qing Qing, Yue Zhang and Liqun Wang*

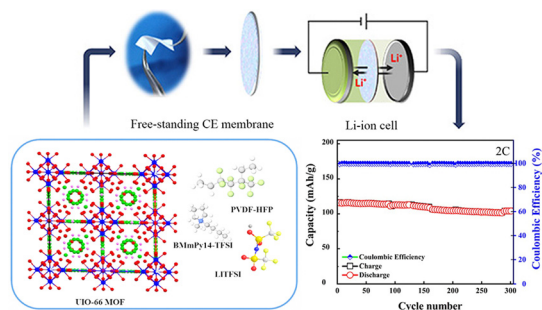
3218



Heterostructure engineering of the N-doped NiMoO₄ two-phase electrocatalyst for industrial large-scale synthesis of 2,5-furan dicarboxylic acid

Ximin Zhang, Ao Wang, Wenbiao Wang, Gang Xu, Shijiao Dong, Meiqing Cai and Jun-Ling Song*

3227



Ionic liquid-metal-organic framework-modified composite electrolyte for high-performing lithium-ion batteries

Aparna S. Potdar, Rushikesh B. Kale, Reshma S. Ballal, Jalindar Ambekar, Ramchandra S. Kalubarme, Nageshwar D. Khupse, Bharat B. Kale* and Milind V. Kulkarni*

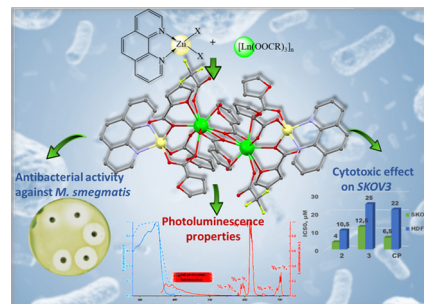


PAPERS

3236

A synthetic approach to heteroleptic Zn_2Ln_2 complexes featuring photoluminescence, antibacterial and anticancer properties

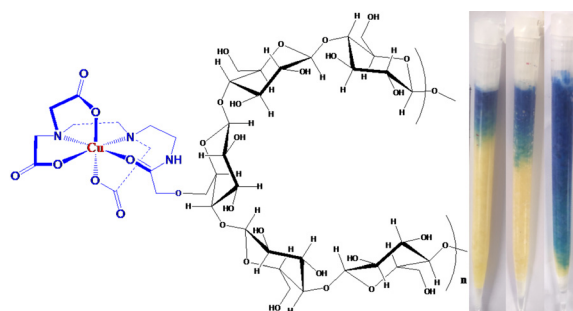
Marina A. Uvarova,* Fedor M. Dolgushin, Victoriya O. Shender, Mikhail T. Metlin, Daria A. Metlina, Ilya V. Taydakov, Olga B. Bekker, Irina A. Lutsenko and Igor L. Eremenko



3248

A cotton-based adsorbent grafted with an EDTA analog and its metal ion-selective absorption properties in aqueous solution

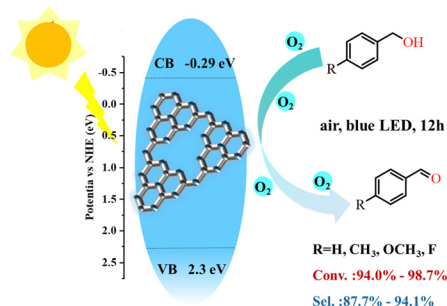
Tao Hu, Chengzhen Du, Xiaoli Hu,* Cheng Tang and Chuntan Chen



3258

Fabrication and synergistic effect of nitrogen defective crystalline carbon nitride for enhanced photocatalytic selective oxidation of benzyl alcohol under blue LED irradiation

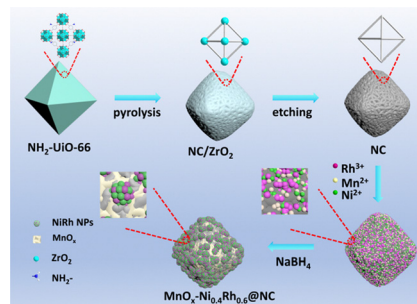
Xiu-Jie Yang,* Kesong Ma, Lunan Wu, Yibei Zhang, Xuekai Qu, Yuchen Lin, Peng Li and Dong Liu*



3266

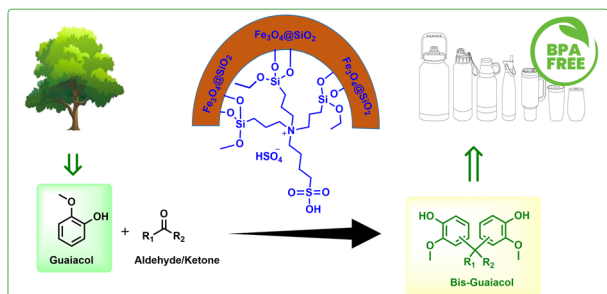
Immobilization of ultrafine bimetallic nanocatalysts on metal-organic framework-derived N-doped nanoporous carbon/manganese oxide for efficient hydrous hydrazine decomposition

Ruoyu Yang, Xiang Ding, Ruqu Han, Linlin Xu,* Tong Liu* and Jun Xiang*



PAPERS

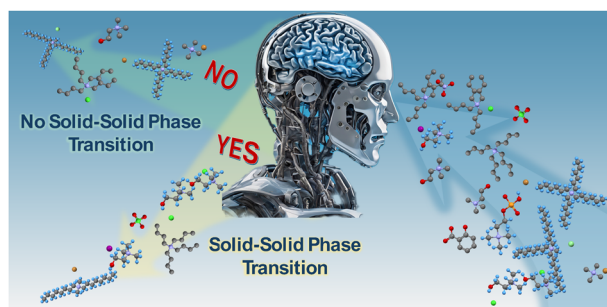
3273



A magnetically separable Brønsted acid catalyst for the synthesis of Bis-Guaiacol-F

Komal Tarade, Chandrashekhar Rode* and Sanjay Kamble*

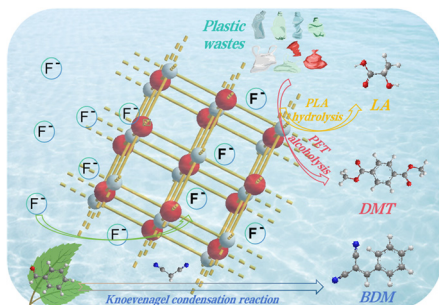
3285



Predicting solid–solid phase transition of quaternary ammonium salts by machine learning

Xiao Li, Ruonan Li, Luoming Hu, Lianjing Mao, Tianyu Zheng, Chunsen Ye, Wei Sun, Pengrui Zhang and Jinhe Sun*

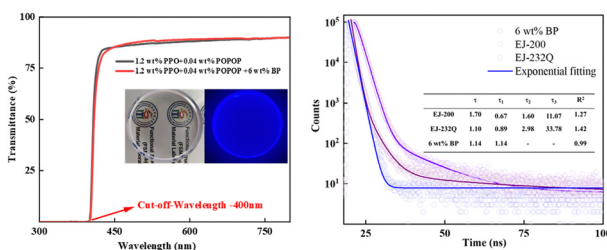
3293



Layered magnesium oxide for efficient removal of fluoride from groundwater

Ling Shi, Shiling Zhao,* Xixi Wang, Jiali He, Yu Zhao and Kaizhi Wang*

3305



Theoretical and experimental investigation of blue-emitting plastic scintillators with fast-timing properties

Hang Yang, Yutie Bi, Yan Gao, Jiayi Zhu, Ting Lei* and Hongbo Ren

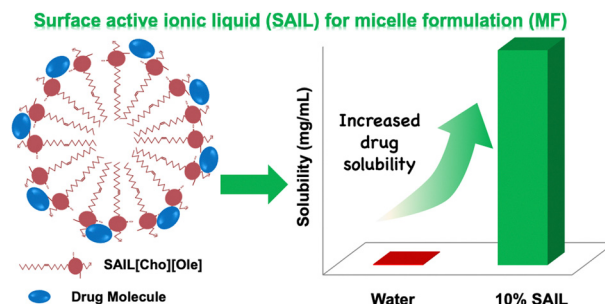


PAPERS

3318

Biocompatible ionic liquid-based aqueous micellar formulation to enhance solubility, stability and controlled release of sparingly soluble drugs

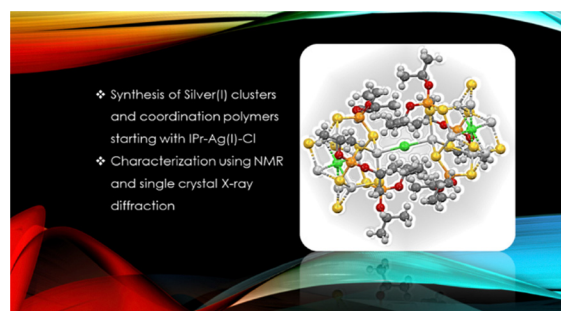
Md. Atikul Islam, Nishat Anjum, Md. Ataullah, Md. Abdul Muktedir Islam, Md. Nazmul Kayes, Muhammad Moniruzzaman and Md. Korban Ali*



3328

Generation of high nuclearity silver(i) and gold(i) species using simple N-heterocyclic carbene complexes

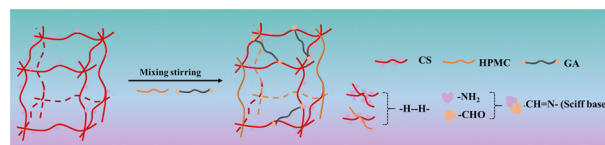
Mohammad Reza Yousefshahi, Abdollah Neshat,* Elham Tahmasebi, Vaclav Eigner, Michal Dusek and Farzaneh Osanlou



3334

A chitosan/hydroxypropylmethyl cellulose composite sponge with shape memory for rapid hemostasis

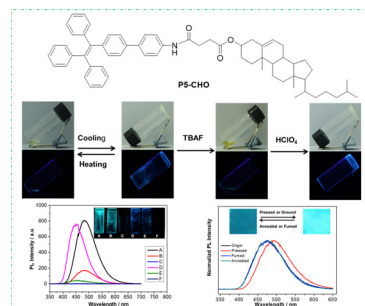
Chunyan Yu, Kai Wang, Shuang Wang, Huihui Zhang, Kehui Qi and Lu Li*



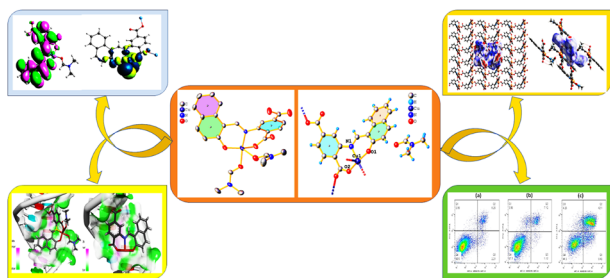
3344

Synthesis and properties of a novel fluorescent organogel: AIE, GO hybrid functional gel, and multi-stimuli responsiveness

Miao Luo, Chengpeng Li, Qing Yan and Sheng Wang*



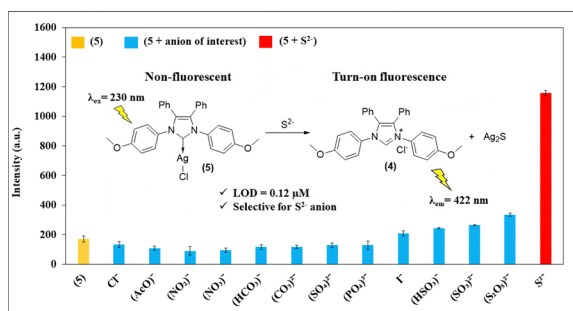
3351



Evaluation of biomolecular interactions and *in vitro* cytotoxic activity of mononuclear and polymeric copper(II)-based complexes against triple-negative breast cancer cells

Imtiyaz Ahmad Mantoo, Chandra Prakash Prasad and Imtiyaz Yousuf*

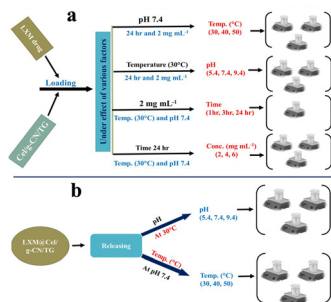
3365



Silver–NHC complex as a fluorophore for the selective detection of sulphide (S^{2-}) anions

Bony Pariyadan Joy, Sneha Kannilakkandi, Keerthana Vallithoduvil Kodakkadan, Siva Kumar Srinivasan and Vittal Babu Gudimetla*

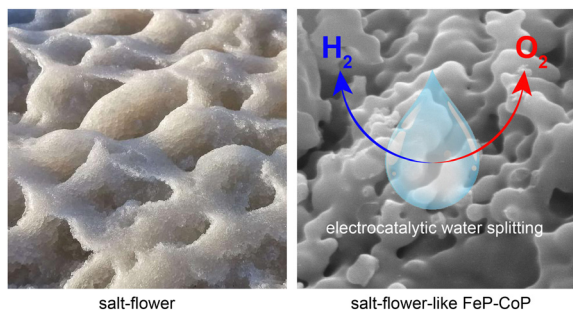
3370



A tragacanth gum-infused graphitic carbon nitride/cellulose nanohydrogel for controlled lornoxicam release kinetics

Aamir Nawaz, Muhammad Babar Taj,* Muhammad Imran Khan,* Abeer M. Beagan, Antoniadou Maria and Abdallah Shanableh

3387



Salt-flower-shaped FeP–CoP catalyst for highly efficient bifunctional hydrogen and oxygen evolution

Ze-Feng Xu, Jia Xue, Lei-Lei Li,* Xing-Liang Yin,* Chuan-Wu Chen, Ya-Nan Jing and Da-Qiang Liu



CORRECTION

3397

Correction: One-pot synthesis of ordered mesoporous transition metal–zirconium oxophosphate composites with excellent textural and catalytic properties

Zhichao Miao, Huahua Zhao, Jian Yang, Jun Zhao, Huanling Song and Lingjun Chou*

