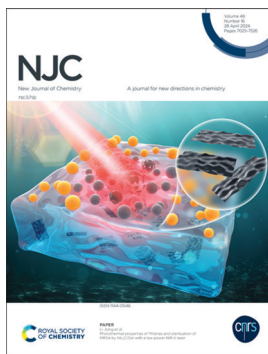


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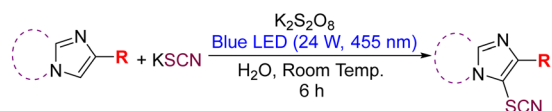
Inside cover
See Ahmad Mehdi *et al.*,
pp. 7052–7069.
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COMMUNICATION

7041

Persulfate promoted regioselective C-1 thiocyanation of imidazo[1,5-a]pyridines under visible light irradiation in water

Pallavi Saha, Samarpita Das, Harish K. Indurthi, Rohit Kumar and Deepak K Sharma*



R = aryl, heteroaryl and alkyl

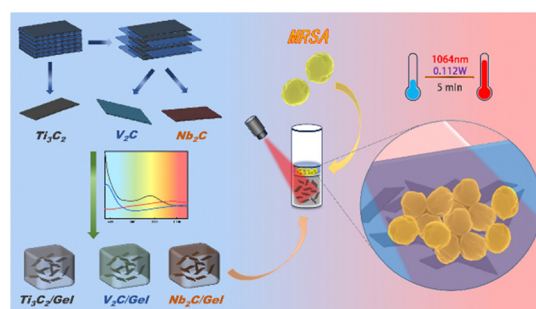
Yield up to 85%

PAPERS

7045

Photothermal properties of MXenes and sterilization of MRSA by Nb₂C/Gel with a low power NIR-II laser

Yekai Zheng, Xinyi Fu, Li Jiang,* Denghao Li, Weidan Zhao, Mi Liu, Jiali Liu, Shangzhong Jin and Yan Zhou



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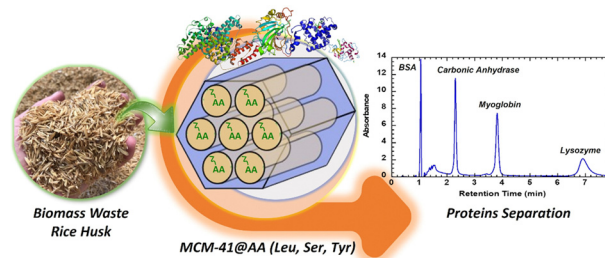
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Fundamental questions
Elemental answers

7052

Direct pseudomorphic transformation of silica from rice husk into organo-functionalized MCM-41

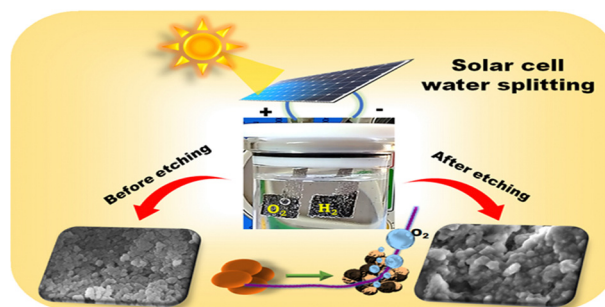
Lilia Sennoun, Chun-Cheng Lee, Yohan Fretel, Margaux Clavié, Gilles Subra, Yoann Ladner, Alfredo Napoli, Anne Galarneau, Peter Hesemann and Ahmad Mehdi*



7070

Citrus sap-stabilized regulated cobalt ferricyanide efficiently enhanced electrocatalytic activity and durability for oxygen evolution

Muthukumar Sangamithirai, Venkatachalam Ashok, Arunagiri Gayathri, Murugan Vijayarangan and Jayaraman Jayabharathi*



7081

Adsorption behavior of chloramphenicol on an activated carbon from pomelo peel using KHCO_3 activator

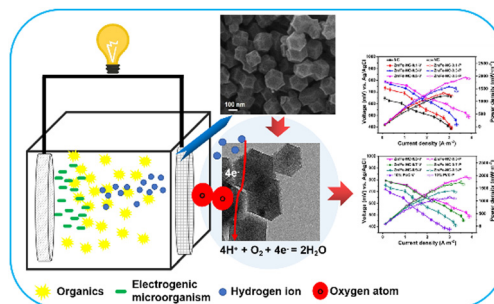
Haixia Li,* Hai Zhu, Junqiang Qiu, Danning Zheng, Lifang Gao, Dan Zhou* and Dan Xu*



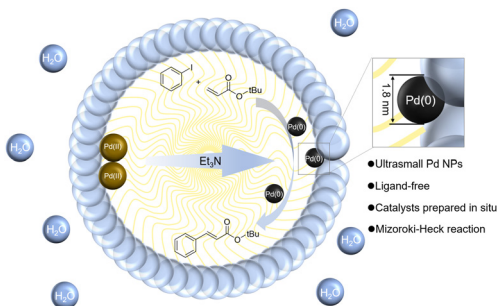
7092

Nanopolyhedral Zn/Fe-NC derived from bimetallic zeolitic imidazole frameworks as an efficient catalyst for the oxygen reduction reaction in an air-cathode microbial fuel cell

Qianwu Wang, Jingzhao Lu, Songlin Liu, Boqu Yu and Bolong Liang*



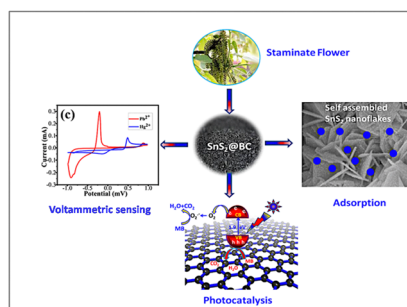
7102



Ligand-free ultrasmall palladium nanoparticle catalysis for the Mizoroki–Heck reaction in aqueous micelles

Xiaojun Luo, Siyuan Wu, Linxi Hou and Xin Ge*

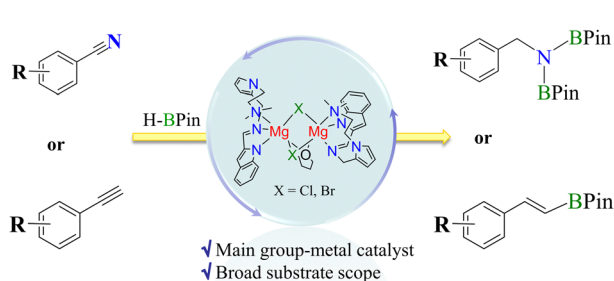
7111



SnS₂ decorated biochar: a robust platform for the photocatalytic degradation and electrochemical sensing of pollutants

Firdous Ahmad Ganaie, Zia ul-Haq, Arshid Bashir, Aaliya Qureashi, Irfan Nazir, Kaniz Fatima, Altaf Hussain Pandith* and Mohsin Ahmad Bhat

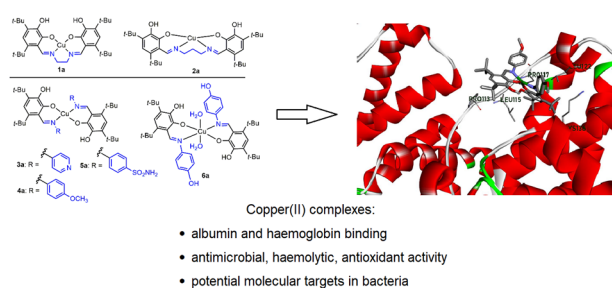
7125



Magnesium(II) complexes supported by indole- and pyrrole-containing Schiff-base ligands: syntheses, structures, and applications as precatalysts in the hydroboration of nitriles and alkynes

Mengxiang Wu, Ling Chen, Xiaohan Yang and Yahong Li*

7134



Copper(II) complexes of sterically hindered phenolic Schiff bases: synthesis, characterization, interaction with biomolecules, and antioxidant and antimicrobial activity

Iveta S. Turomsha, Maxim Y. Gvozdev, Nikolai P. Osipovich, Viktoriya A. Staravoitava, Dmitry I. Shiman and Natalia V. Loginova*



7148

Research progress of Co-based spinel oxide materials for direct methanol fuel cells

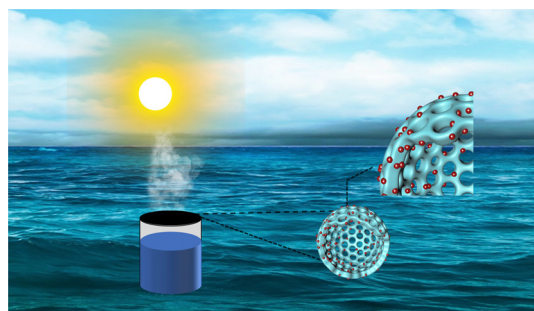
Zhiyang Zhong, Qinghui Zhang, Yingying Zhu, Bingyu Chen, Siyan Xu, Tianyu Shen, Aijuan Xie* and Shiping Luo*



7168

Mesoporous carbon hollow spheres loaded with Fe/Fe₃C as efficient solar vapour generation materials

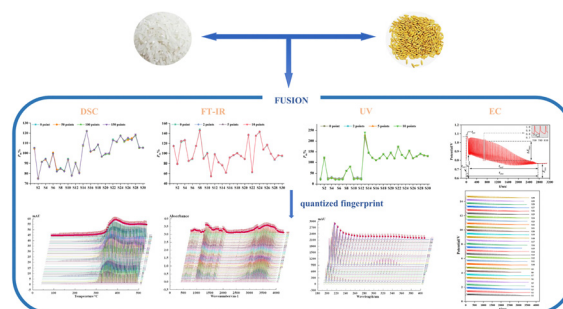
Jianfeng Gao, Hui Zhang, Zhaoshun Zhang, Changcheng Lin, Qun Yang, Shiwei Shi, Xueqin Zuo, Shaowei Jin* and Guang Li*



7176

Evaluating the consistency of rice and paddy quality using four-dimensional fingerprint analysis

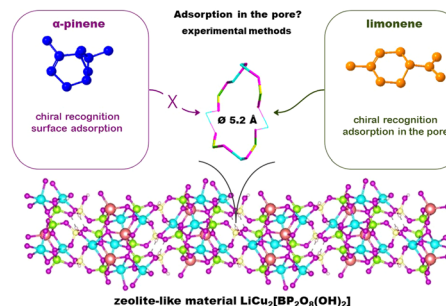
Yu Ren, Gang Li,* Ting Yang* and Guoxiang Sun*



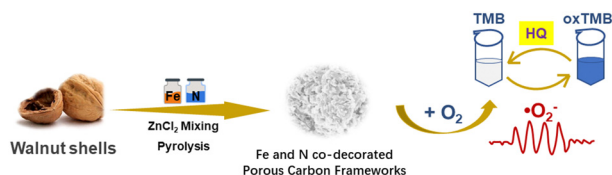
7189

Adsorption isotherms of enantiomers on a chiral open-framework copper borophosphate LiCu₂[BP₂O₈(OH)₂]

Zhanna D. Uteeva, Raul U. Sadykov, Diana O. Bagdanova, Marat R. Agliullin and Vladimir Yu. Guskov*



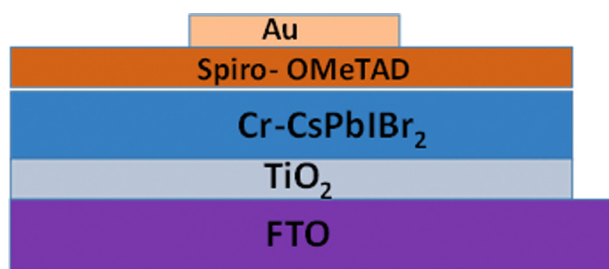
7197



Design of Fe and N co-decorated biomass-derived hierarchical porous carbon frameworks with boosted oxidase-like activity for hydroquinone detection

Han Zhang, Xiaodan Qi, Zhifei Wang, Lihua Jin* and Yehua Shen*

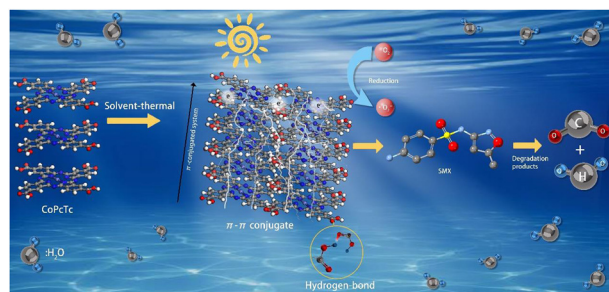
7205



Impact of Cr doping on the structural and optoelectronic properties of a CsPbI₂ perovskite solar cell

M. I. Khan, Ali Mujtaba,* Saddam Hussain, Asif Hussain, Dalil Bulayis N AlResheedi, Zainab Mufarreh Elqahani,* El Sayed Yousef and Norah Alwadai

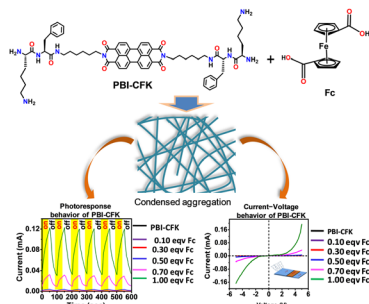
7213



Hydrogen-bonded organic frameworks with extended conjugate systems for boosted photocatalytic degradation

Xiaojuan Bai,* YiLin Xin, Tianqi Jia, Linlong Guo, Wei Song and Derek Hao*

7225



Peptide-linked perylenebisimide and ferrocene dicarboxylic acid conjugates with tunable optoelectronic properties

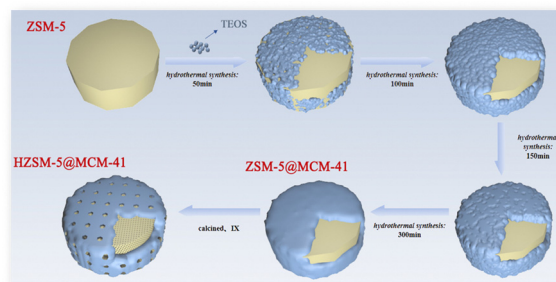
Biswanath Hansda, Soumyajit Hazra, Niladri Hazra, Purnadas Ghosh and Arindam Banerjee*



7235

Design and synthesis of core shells HZSM-5@MCM-41 with variable acidity and mesoporosity for lignin-catalyzed fast pyrolysis to prepare aromatics

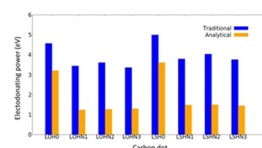
Yiwen Dai, Bin Guan, Xingxiang Wang, Jiaqi Liu, Zehua Huang, Bin Dai,* Jichang Liu* and Jiangbing Li*



7244

Carbon dots analysis of charge transfer intrinsic capacity based on the analytic calculation of chemical reactivity descriptors

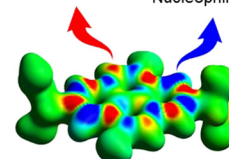
Jesús A. Lara-Cerón, Roberto Flores-Moreno,* José A. Flores-Ramos and Gururaj K. Jayaprakash



Global chemical reactivity descriptors:
 - Traditional ΔSCF method.
 - Analytical approach implemented in the deMon2k software.

Local chemical reactivity descriptors:

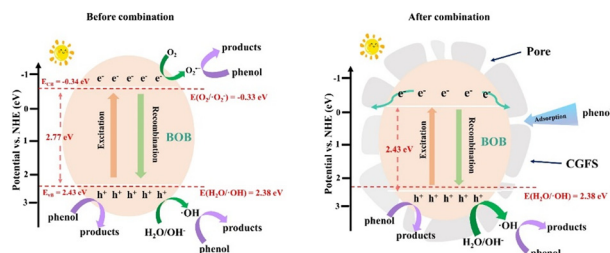
Electrophilic sites Nucleophilic sites



7256

Ambient temperature-prepared BiOBr-supported zero-pretreatment coal gasification fine slag for organic pollutant removal

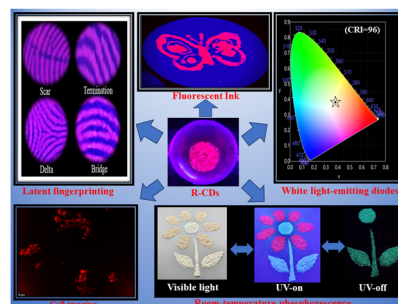
Hele Hua, Jing Yang, Rui Li, Yunfang Wang, Caimei Fan, Jianxin Liu and Yawen Wang*



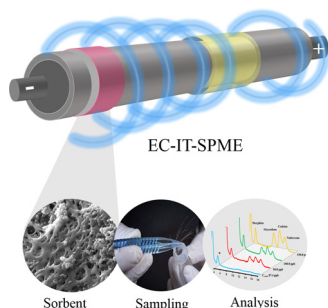
7265

Gram-scale synthesis of aggregation-caused quenching-resistant red-emissive carbon dots for potential applications

Ashok Kumar, Kanchan Negi and Sumanta Kumar Sahu*



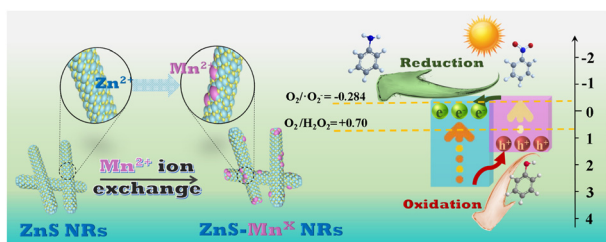
7277



Investigating drug abuse in hair samples using the electrospun PEDOT–CNT nanostructure along with EA-IT-SPME

Negar Sabahi Moosavi, Yadollah Yamini* and Payam Osooli

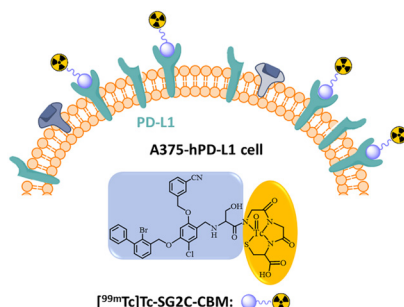
7287



In situ fabrication of a robust P–N heterojunction based on Mn–Zn–S–ethylenediamine hybrid nanorods for boosting photocatalytic performance

Zhi-Yu Liang, Wang-Jun Huang, Er-Da Zhan, Peng Yang, Ren-Kun Huang, Ying Wang* and Gui-Yang Yan*

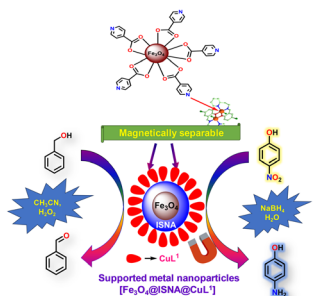
7300



Design, synthesis, and biological evaluation of a ^{99m}Tc-labeled small-molecule tracer for PD-L1 imaging

Chunxiang Lu,* Dandan Zhu, Peng Zhou, Kangxia Yu, Yaling Liu, Hongyong Wang, Hao Wu, Jun Wu, Guoqing Han and Pei Zou*

7308



Synthesis of copper(II) complex-functionalized Fe₃O₄@ISNA (ISNA = isonicotinic acid) as a magnetically recoverable nanomaterial: catalytic studies in alcohol oxidation and nitrophenol reduction, and TD-DFT studies

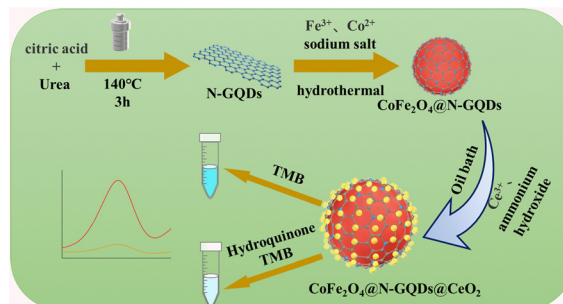
Rimpa Mondal, Aratrika Chakraborty, Ennio Zangrando, Madhulata Shukla* and Tanmay Chattopadhyay*



7323

Hydroquinone colorimetric sensing based on core-shell structured $\text{CoFe}_2\text{O}_4@N\text{-GQDs}@Ce\text{O}_2$ nanocomposites as oxidase mimics

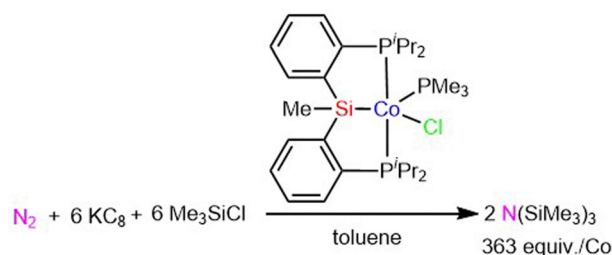
Xuefang Lei, Yujin Li, Peiqing Guo, Mingzhu Qiu, Rang Meng, Shaohui Li, Dongxia Zhang, Nali Chen and Xibin Zhou*



7334

Effects of silylene ligands on the catalytic activity of [PSiP] pincer cobalt(II) chloride for N_2 silylation

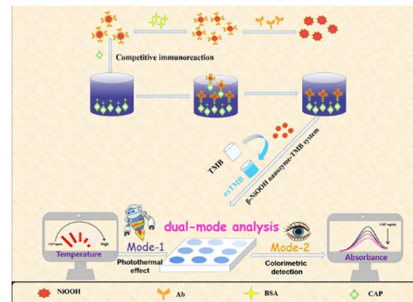
Min Zhang, Yanhong Dong, Qingshuang Li, Xiaoyan Li and Hongjian Sun*



7340

A colorimetric and photothermal dual-mode immunobiosensor for chloramphenicol based on the $\beta\text{-NiOOH}$ nanozyme-3,3',5,5'-tetramethylbenzidine system

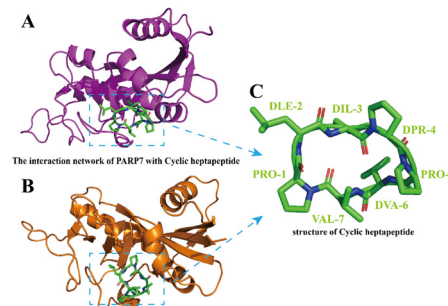
Yuxing Lian, Mengqin Zheng, Suhua Li, Wenqiang Lai, Dianping Tang and Youxiu Lin*



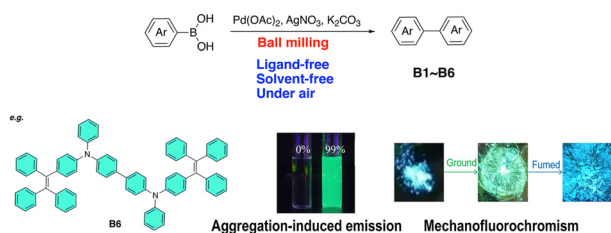
7347

Unraveling the inhibitory potential of Rosetta designed *de novo* cyclic peptides on PARP7 through molecular dynamics simulations

Yuqi Zhu, Aamir Mehmood and Daixi Li*



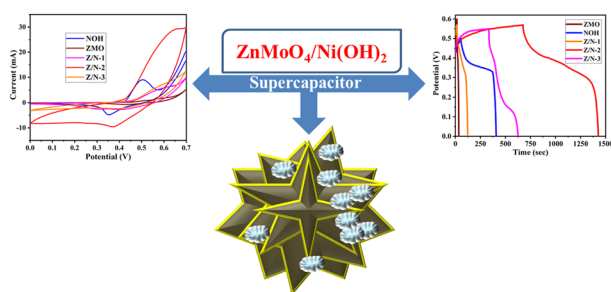
7356



Mechanochemical synthesis of biphenyl-derived organic fluorescent materials *via* solvent-free and ligand-free oxidative homocoupling reactions

Zefeng Li, Caihang Zhang, Yingxuan Zheng, Ping Deng* and Yan Yu*

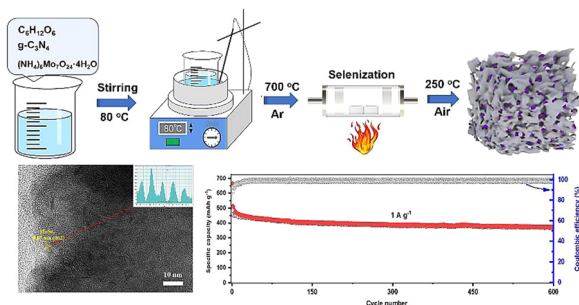
7362



Novel composite of $\text{ZnMoO}_4/\text{Ni(OH)}_2$ as an electrode material for enhanced performance in energy-storage applications

Barani Kumar Duvaragan, Ganesan Shanmugam,* Arif Mohamed Shahul Hameed and Vetrivel Ramalingam

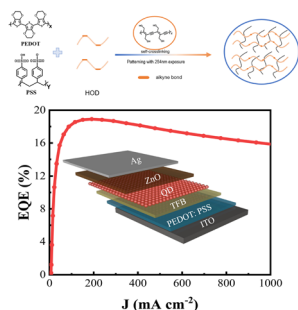
7370



Design and synthesis of few-layer molybdenum oxide selenide encapsulated in a 3D interconnected nitrogen-doped carbon anode toward high-performance sodium storage

Yonghong Qin, Shahrman Zainal Abidin,* Azhari Bin Md Hashim, Oskar Hasdinor Hassan and Xiaojun Zhao*

7379



High-performance QLED research based on direct photo-crosslinking of PEDOT:PSS

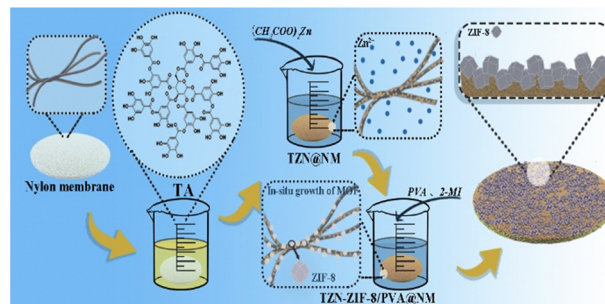
Kai Zhang, Junpeng Fan, Changfeng Han, Rui Xu, Lintao Nie, Yuhan Sun, Lei Qian, Chaoyu Xiang and Ting Zhang*



7384

Tannic acid induced *in situ* growth of an underwater superoleophobic ZIF-8 composite membrane for emulsion separation

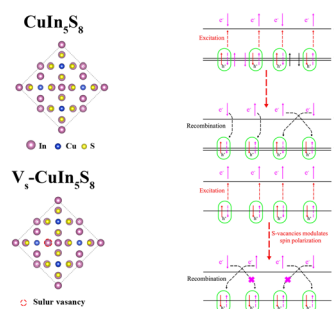
Wanyu Lu, Qijin Tang, Huajing Cheng, Shudi Li, Cailong Zhou* and Hao Yang*



7394

Vacancy engineering modulates spin polarization to enhance the charge dynamics of CuIn_5S_8 for photocatalytic sterilization

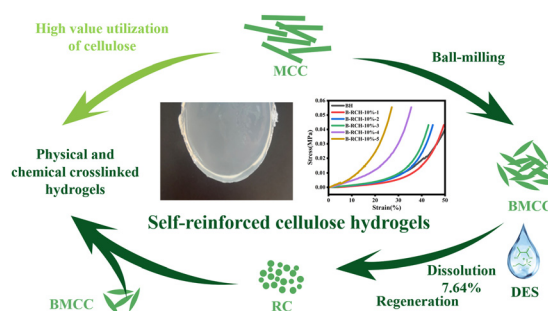
Wenbin Wu, Jing Wang, Xiaojie Liang, Laixi Luo, Yaohong Yang, Fan Zhou, Shuduan Deng,* Yumin Song,* Le Yang* and Kunyong Kang*



7405

Preparation of hydrogels with self-reinforced mechanical properties using ball-milled microcrystalline cellulose and regenerated cellulose from deep eutectic solvent

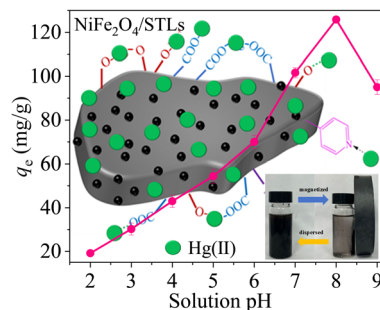
Yi Zhang, Yingming Zhu, Kejing Wu, Yingying Liu, Houfang Lu* and Bin Liang



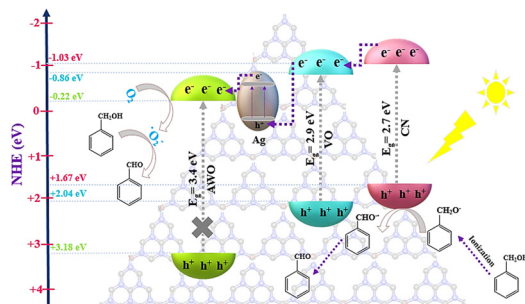
7413

Efficient elimination of Hg(II) from water bodies with acid-modified magnetic biomass spent tea leaves: conditional optimization and application

Dingli Cheng, Yiwen Li, Xinyu Zheng and Yongfu Guo*



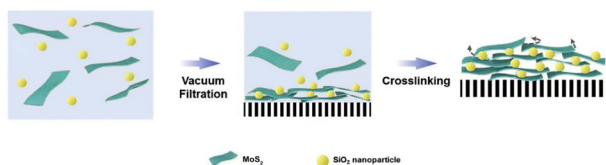
7430



High proficiency Ag/ β -Ag₂WO₄/V₃O₄/g-C₃N₄ heterojunction photocatalyst for the actuation of C(OH)–H bond

Fereshteh Zolfi, Mahdiah Ghobadifard* and Sajjad Mohebbi*

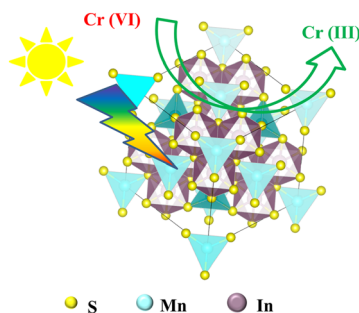
7439



Modification of a MoS₂ composite membrane using nano-silica for high-efficiency dye separation

Xiaoyu Yang, Hongdan Wu,* Zhihui Zhou, Yehao Zhao and Yuedong Li

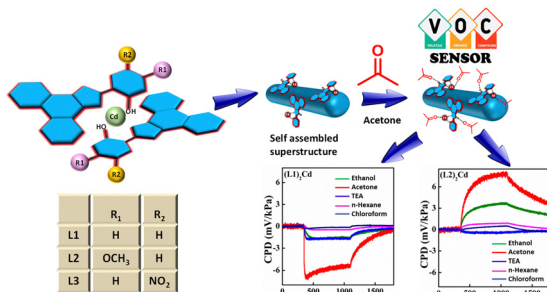
7449



Photocatalytic reduction of Cr(VI) on a series of defective Mn_mIn₂S_{3+m} ($m = 1-5$, integer)

Yuxin Liu, Yuhang Qi and Yiqiang He*

7456



Self-assembled superstructures derived from suitably substituted phenanthro[9,10-d]imidazole-based Zn(II)/Cd(II) complexes for selective detection of acetone

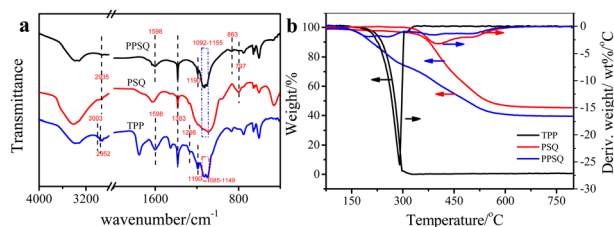
Mallayasamy Siva, Sheethal Sasi, Priya Rana, Raj Kumar Bera, Yuvaraj Sivalingam* and Priyadip Das*



7469

Performance analysis and structure characterization of polylactic acid modified with three flame retardants

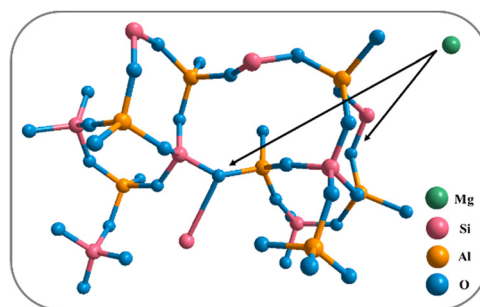
Zhu Yuqin, Wang Di, Guo Zhongliang and Wen Huiying*



7480

Depolymerization mechanism of MgO on a silicate microstructure under different CaO contents: a theoretical and experimental study

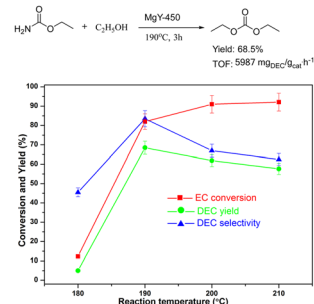
Maierhaba Abudourehman, Lanzhen He, Fangru Ma, Bo Wei,* Jianjiang Wang, Quan Zhu and Hong Yao



7489

Effective synthesis of diethyl carbonate over Mg–Y composite oxides *via* alcoholysis of ethyl carbamate

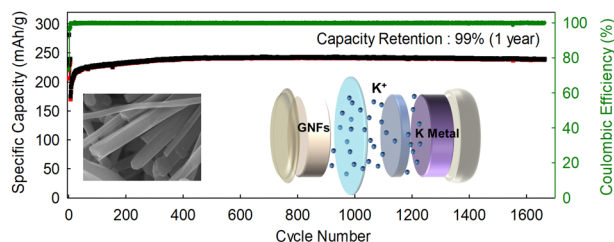
Peixue Wang, Shimin Liu, Xinjiang Cui,* Yang Wu and Feng Shi*



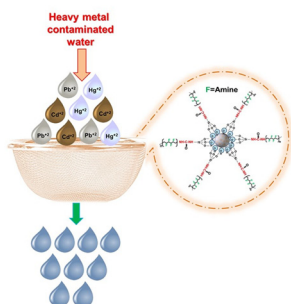
7497

Highly crystalline graphite nanofibers as an anode for high-performance potassium-ion batteries

Kaixuan Sun, Kun Chang, Jinshuo Tan, Chuan-Fu Sun* and Qin Liu*



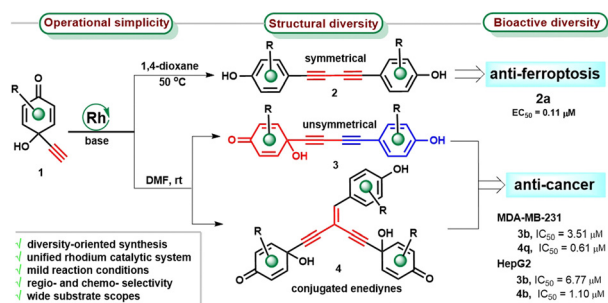
7503



3D interconnected polymer/mesoporous silica nanoparticle hybrid materials with hierarchical macro/meso-structures for heavy metal adsorption

Jae-Seo Park, Young Sunwoo, Debabrata Chakraborty, Chamila Gunathilake, Yanhai Du and Eun-Bum Cho*

7517



Rhodium-catalysed homo-coupling of terminal alkynes: divergent synthesis of bioactive 1,3-diynes and conjugated enediyne

Yijie Xiao, Lijie Lv, Nanxuan Luo, Peirui Zhao, Yao Chen, Zhangshun Luo, Houhua Yin, Yi He* and Shenyou Nie*

