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IN THIS ISSUE

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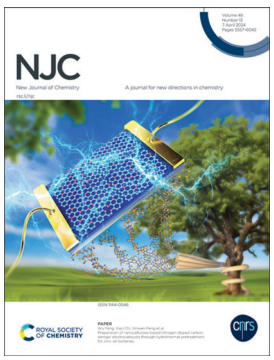


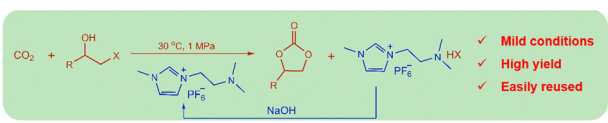
Cover
See Wu Yang, Xiao Chi, Xinwen Peng *et al.*, pp. 5582–5588. Image reproduced by permission of Xinwen Peng from *New J. Chem.*, 2024, **48**, 5582.

COMMUNICATIONS

5573

Hydrophobic diamine-functionalized ionic liquid for effective transformation of CO_2: a bridge to achieve separation and recycling processes in homogeneous systems

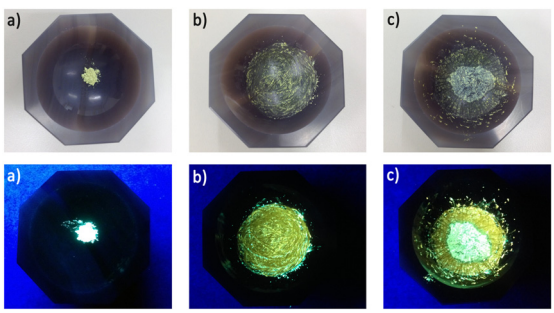
Wei Wei, Jiahe Zhang, Yan Li,* Tianlong Deng and Jiayin Hu*



5577

Mechanochromic photoluminescence in a dinuclear alkynyl copper(I) complex with an extremely short Cu(I)···Cu(I) separation

J. Moussa,* F. Juliá, L. M. Chamoreau and P. González-Herrero



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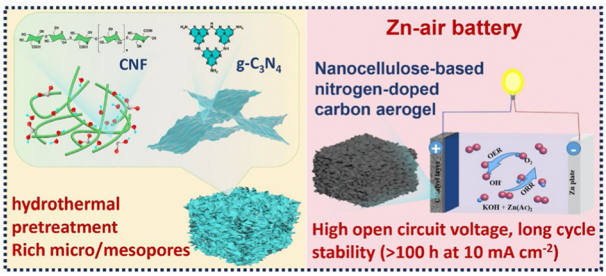
PAPERS

5582

Preparation of nanocellulose-based nitrogen-doped carbon aerogel electrocatalysts through hydrothermal pretreatment for zinc–air batteries

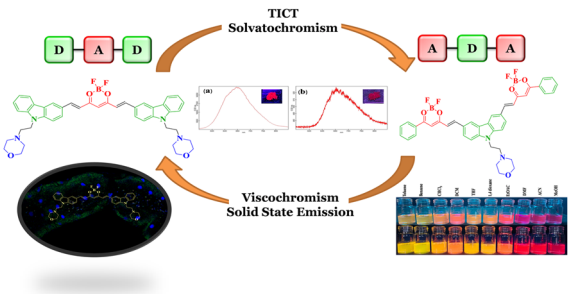
Yujia Wei, Yongfa Huang, Yike Pi, Wu Yang,* Liping Wu, Yuling Luo, Zehong Chen, Yongkang Chen, Ge Shi, Xiao Chi* and Xinwen Peng*



5589

Lysosome-targeting solid state NIR emissive donor–acceptor molecules: a study on photophysical modulation through architectural distinction

Ashish Kumar Kushwaha, Ankit Kumar Srivastava, Pradeep Kumar, Anjani Kumar, Saripella Srikrishna and Roop Shikha Singh*



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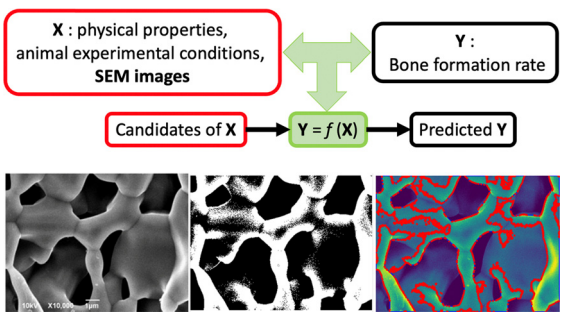
Prediction of bone formation rate of bioceramics using machine learning and image analysis

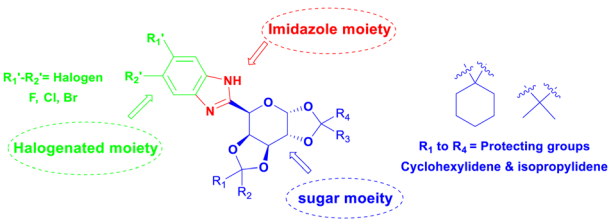
Ayano Yamamoto, Shota Horikawa, Kitaru Suzuki, Mamoru Aizawa and Hiromasa Kaneko*



5605

Synthesis of halogenated benzimidazolyl-*C*-nucleosides and their activity against *Leishmania major* and *Leishmania tropica*

Umair Ahmed Khan, M. Iqbal Choudhary and Sammer Yousuf*



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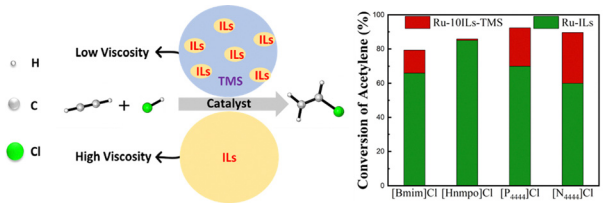
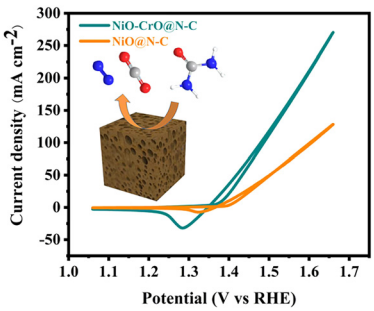


Ionic liquid–solvent systems in the gas–liquid phase for acetylene hydrochlorination

Xingtao Wang, Yongwang Li, Zhengliang Zhang, Zheng Wang, Zhiwei Zhang, Fumin Wang and Xubin Zhang*

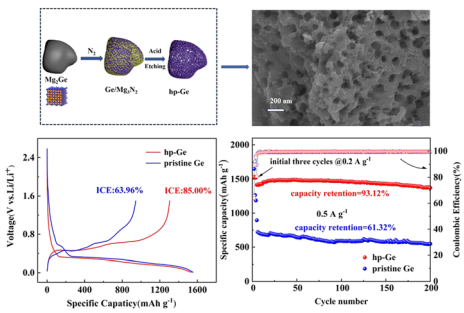
5621



Convenient synthesis and enhanced urea oxidation of NiO–CrO@N–C

Na Wu, Xiaoyu Chi, Yujuan Zhang and Tuoping Hu*

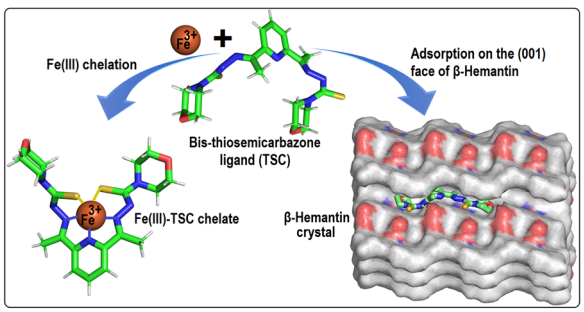
5627



Honeycomb-like micro-/nano-hierarchical porous germanium for high-performance lithium-ion battery anodes

Ya Zheng, Xiaocheng Li,* Juan Liu, Xiaoyu Zhao, Nengwen Ding, Qian Zhang* and Shengwen Zhong

5636



A quantum mechanics and molecular mechanics study of bis-thiosemicarbazones with strong antiplasmodial properties as Fe(III)-selective chelators and inhibitors of hemozoin formation

Nyiang Kennet Nkungli,* Godfred Ayimele Aponglen, Stanley Numbonui Tasheh, Abrar Ul Hassan and Julius Numbonui Ghogomu

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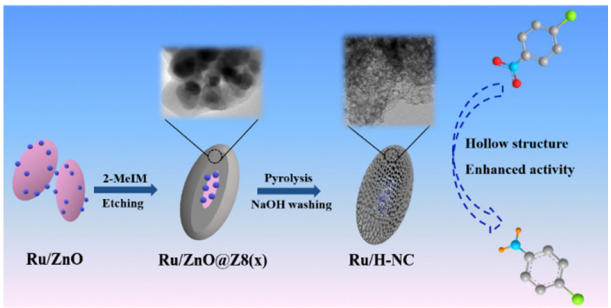
PAPERS

5649

Rationally constructing hollow N-doped carbon supported Ru catalysts for enhanced hydrogenation catalysis

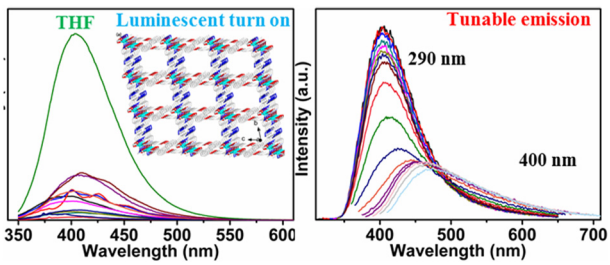
Tiantian Liu, Jing Li, Xiaorui Yan, Kairui Li, Wenhua Wang and Haisheng Wei*



5658

A two-dimensional cadmium-based metal–organic framework as an excellent probe: highly selective luminescent "turn on" detection of tetrahydrofuran and quantitative analysis of water

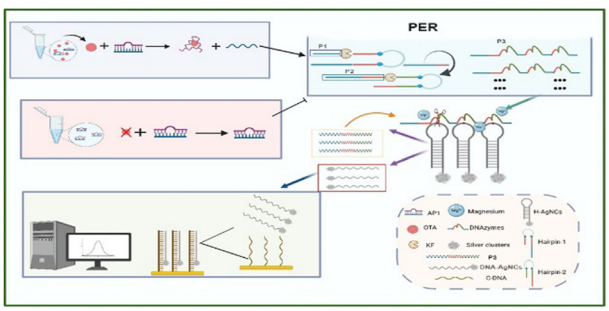
Bowen Qin,* Shuaiyu Chen, Guanghao Song, Wenzhe Sun, Wanting Li, Dan Yue, Bing Zhang, Weidong Li, Qiang Ma and Zhenling Wang*



5665

Robust and ultrasensitive electrochemical detection of ochratoxin a using a highly reactive DNAzyme wired *via* primer exchange reaction

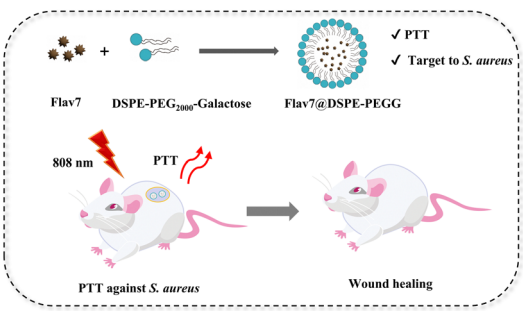
Yanling Meng, Qingxin Zhang, Zhiqiang Guo, Huihui Wang, Mingshuo Zhang, Huan Pan, Xudong Yue, Su Liu, Jiadong Huang and Yu Wang*



5674

Cyanine-based nanoparticles for near-infrared triggered photothermal therapy against *S. aureus*

Shuang Song, Na Yang, Di He, Ying Li,* Mahmood Hassan Akhtar, Chang Liu, Xiwen Li, Xiande Shen* and Cong Yu*



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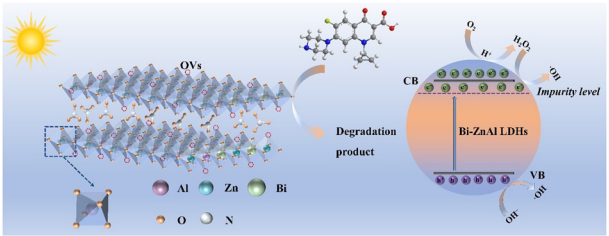
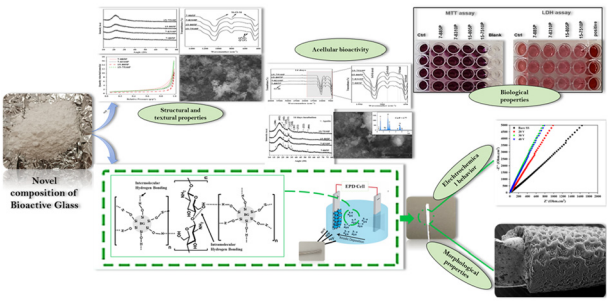


Bi-doped ZnAl-layered double hydroxides with enhanced photocatalytic activity for ciprofloxacin degradation: the synergistic effect of Bi doping and oxygen vacancies

Lin Wang, Ziyang Xiang, Huidi Zhang, Yao Deng, Jing Wang, Hongbo Xiao, Wenlei Wang* and Ximing Song

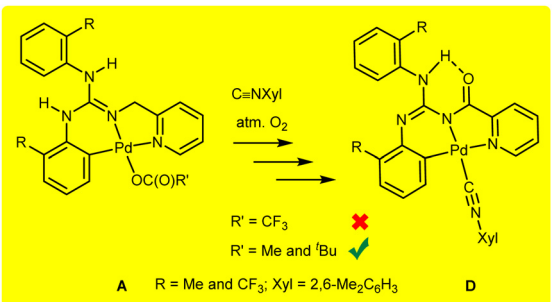
5696



Tailored electrophoretic coatings for enhanced corrosion resistance of 316L stainless steel implants using bioactive glasses

Salwa El Baakili, Abdelhabib Semlali, Hawraa Issa, Meriame Bricha and Khalil El Mabrouk*

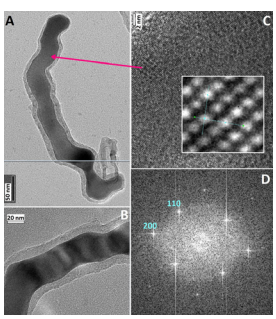
5710



Guanidine-centred reactivity of CNN Pd(II) pincer complexes including carboxylate-assisted N–H activation and $-CH_2-$ → $-C(O)-$ oxygenation

Nitish Kumar Sinha, Hilal Ahmad Khan, Chinnappan Sivasankar and Natesan Thirupathi*

5721



Local stabilization of body-centred tetragonal Fe and enhanced dislocation density in carbon nanotubes filled with μm-long nanowires

Filippo S. Boi,* Shanling Wang, Li Lei, Xilong Guo, Jian Guo, Aiqun Gu, Lin Zhang, Jiaxin Song and Yi He

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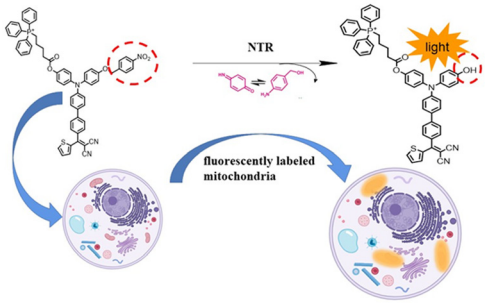
PAPERS

5733

Synthesis and bioimaging of mitochondria targeted nitroreductase-responsive fluorescent probe

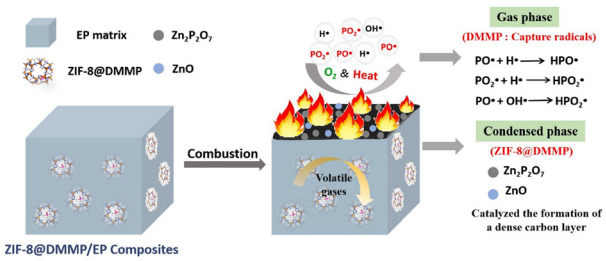
Yixuan Li, Wenjun Bai, Yating Bao, Jinhui Wang, Jingbo Hu* and Jing Huang*



5745

Synergic improvements in flame retardant and dielectric properties of hybrid epoxy resin composites bearing a dimethyl methylphosphonate-loaded zeolitic imidazole framework

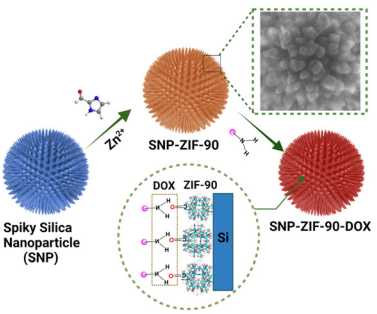
Huiru Guan, TingShu Liu, Lifeng Shi, Liwei Ma, Alexander M. Kirillov, Weisheng Liu, Lizi Yang* and Wei Dou*



5760

ZIF-90-decorated silica nanoparticles with a spiky surface: a novel approach to drug delivery

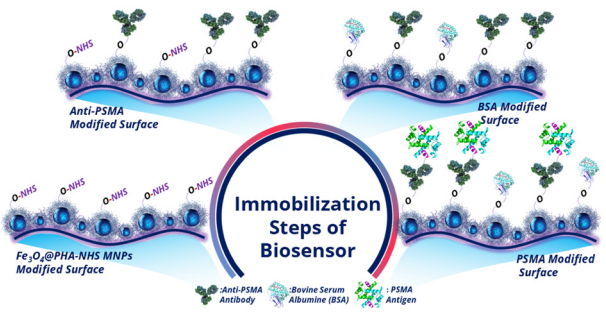
Manoj Kumar Sharma, Dan Cheng, Jingjing Qu, Hao Song, Chengzhong Yu,* Ashok K. Ganguli* and Jie Tang*



5769

Functionalized magnetic nanoparticles for electrochemical magneto biosensing of PSMA cancer biomarker

Muhammet Aydın,* Elif Burcu Aydın and Mustafa Kemal Sezgintürk



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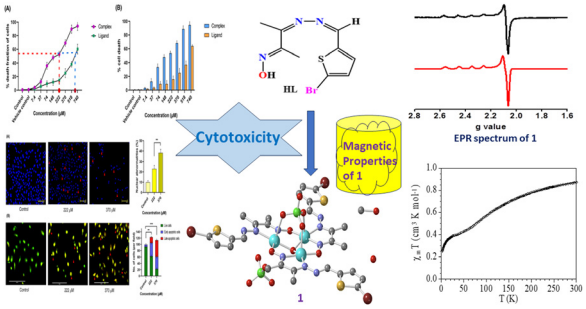
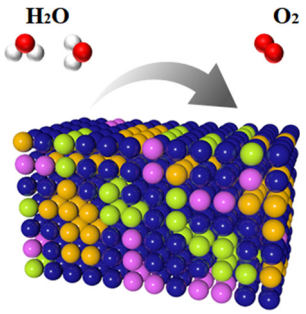


Design, synthesis and structure of a trinuclear copper(II) complex having a Cu_3OH core with regard to aspects of antiproliferative activity and magnetic properties

Naba Kr Mandal, Sudeshna Nandi, Samia Benmansour, Carlos J. Gómez-García, Krishnendu Acharya and Jnan Prakash Naskar*

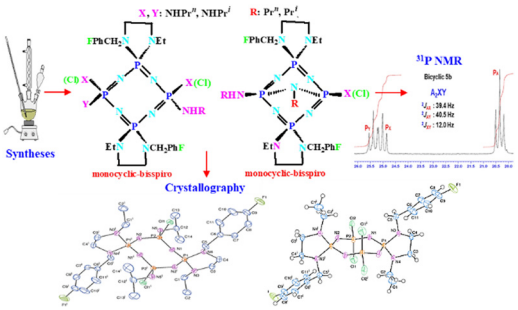
5797



FeCoNiW medium entropy alloys loaded onto N-doped carbon skeletons as efficient electrocatalysts for oxygen evolution reactions

Yuanyuan Ye, Hui Zhang, Xian Cao, Zhaoshun Zhang, Xueqin Zuo,* Qun Yang,* Huaibao Tang, Shaowei Jin and Guang Li*

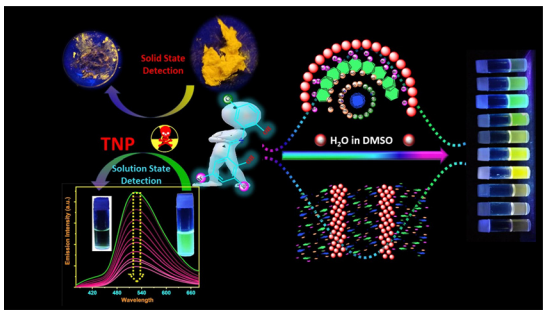
5804



Phosphorus–nitrogen compounds. Part 73. Dispiromono and dispirobicyclotetraphosphazene derivatives: syntheses, and spectroscopic, crystallographic and thermal studies

Gamze Elmas,* Aytuğ Okumuş,* Zeynel Kılıç and Tuncer Hökelek

5820



Morphological adaptability through structural alterations in an AIE active novel chemosensor with Al(III), Fe(III), and gas phase/aqueous phase TNP recognition ability

Pranabendu Das, Manik Das, Raju Biswas, Soumik Laha, Bidhan Chandra Samanta and Tithi Maity*

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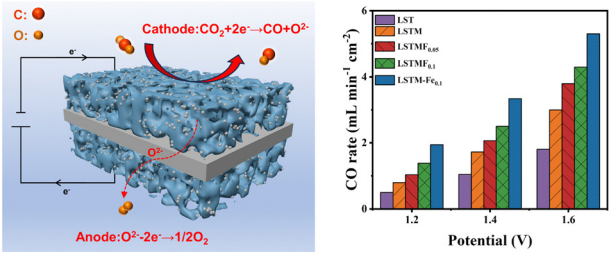
PAPERS

5834

Enhanced CO_2 electrolysis with *in situ* exsolved nanoparticles in the perovskite cathode

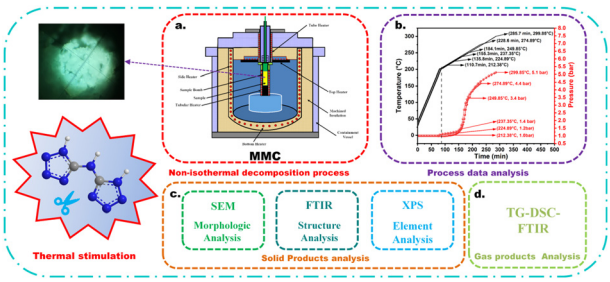
Xuewei He, Xu Huang, Hui Sun and Lizhen Gan*



5840

Insights into the 5,5′-bis(1*H*-tetrazolyl)amine monohydrate (BTA·H_2O) pyrolysis mechanism: integrated experimental and kinetic model analysis

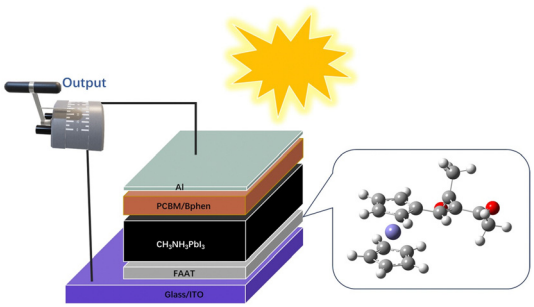
Jianwei Zhang, Ling Chen,* Peichen Han, Chunzhi Li, Ye Yuan, Bo Wu, Feiyun Chen and Weidong He*



5859

A novel functionalized ferrocene derivative as a hole transport material for efficient perovskite solar cells: insight into the ultrafast interfacial carrier dynamics and charge transport

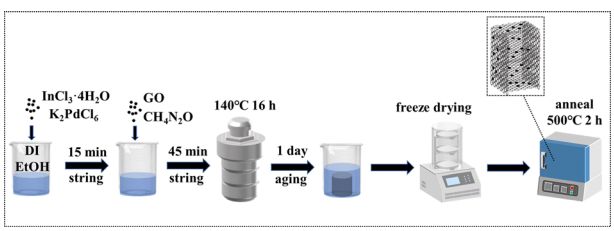
Xin Jiang, Haiyang Yu, Litao Zhao,* Xiao Xing, Wangwei Chen, Helin Wang,* Hengzheng Li, Guang Zhu* and Jianhua Xu



5866

A rapid response room temperature hydrogen sensor based on a three-dimensional Pd–In_2O_3/rGO aerogel

Chunyan Chen,* Yuheng Liu, Jian Zhou,* Xuehu He, Chunlin Chen, Guoqing Xiao, Yaling Tang and Wanxin Chen



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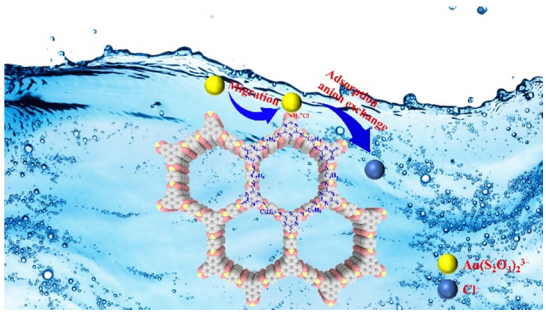
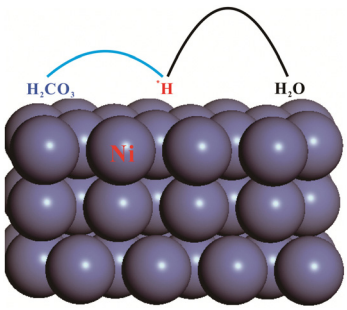


Facile synthesis of a novel covalent triazine framework for recovering gold(I) from thiosulfate solution

Yongmao Zeng, Shuliang Chen, Xinrong Li, Yue Lin, Li Zhao, Rencong Yang, Wanting Li, Xianzhi Hu* and Futing Zi*

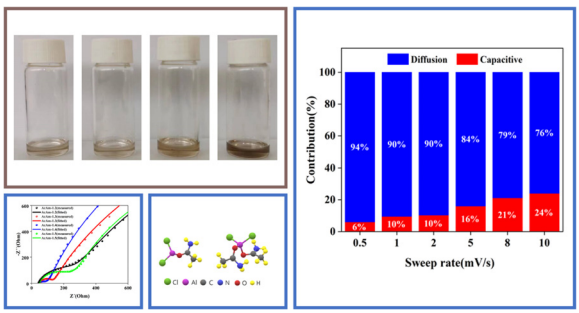
5888



Promoting water splitting by transforming its presence status for enhanced hydrogen evolution

Yanxia Han,* Lijie Hou, Chao Shuai, Xiaoli Song and Chao Kong*

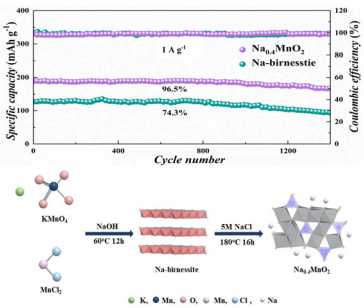
5893



A deep eutectic electrolyte of $AlCl_3$–acetamide for rechargeable aluminum-ion batteries

Xingyang Bao, Zhenshuai Wang, Dai Zhang, Ruoyu Hong,* Minglin Li,* Campion M. Smith and Jinjia Xu*

5902



Sodium ion-stabilized 2 × 4 tunnel manganese oxide nanorods as cathodes for high-performance aqueous zinc-ion batteries

Shuling Liu,* Ruirui Teng, Xiangyang Wei, Yupei Li, Zixiang Zhou, Xiaoqiang Shi, Jiebing Li and Jianbo Tong*

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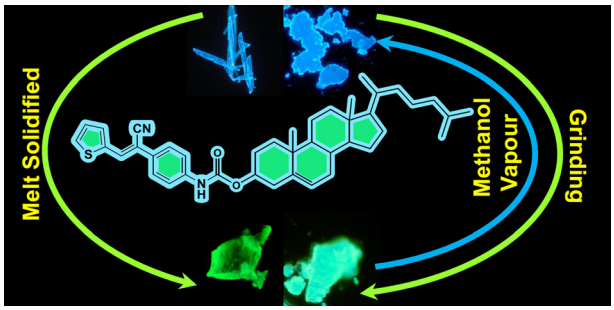
5911

Cholesterol-appended cyanostyryl thiophene positional isomers with multistimuli responsive emission switching and liquid crystalline properties

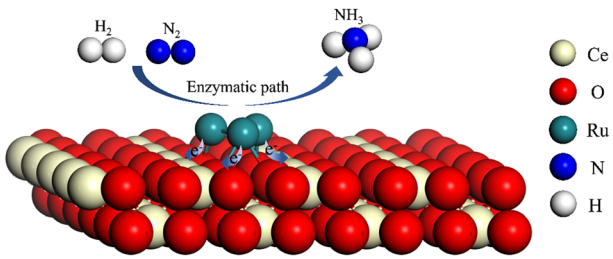
Nelliyulla Kappumchalil Ramya, Parappurath Athira, Manoj Mathews, Doddamane S. Shankar Rao and Reji Thomas*



5919

Atomic Ru clusters supported on CeO_2(110) for effectively catalyzing the electrochemical N_2 reduction reaction: insights from density functional theory

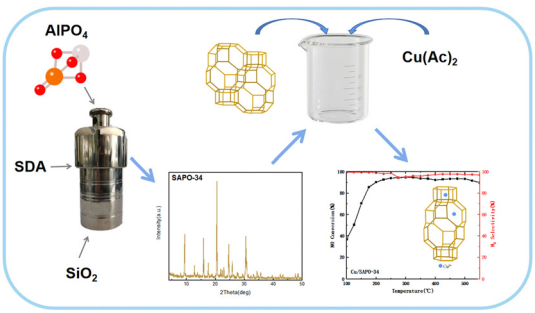
Heng Cao and Shulan Zhou*



5930

Efficient preparation and denitration performance of Cu/SAPO-34 catalyst

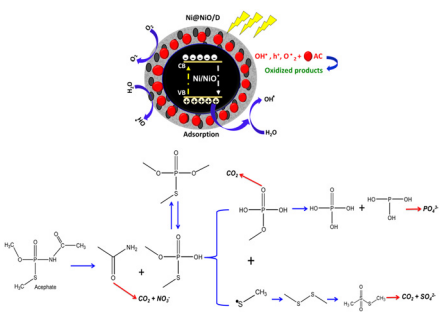
Jing He, Junyan Liu, Di Mao, Bohui Cai and Chengyang Yin*



5936

Enhancing the photocatalytic elimination of acephate residues using Ni^0 doped and diatomite-supported NiO: optimization, pathway, and toxicity

Sarah I. Othman,* Haifa E. Alfassam, Haifa A. Alqhtani, Maha A. Al-Waili, Hanan Mualla Alharbi, Ahmed A. Allam and Mostafa R. Abukhadra*



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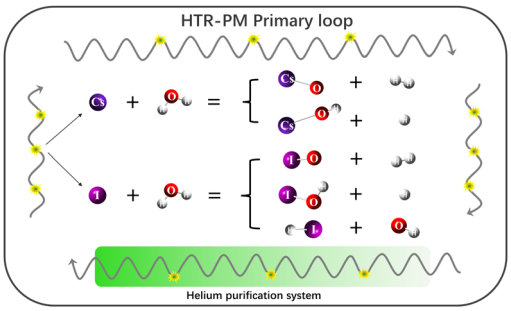
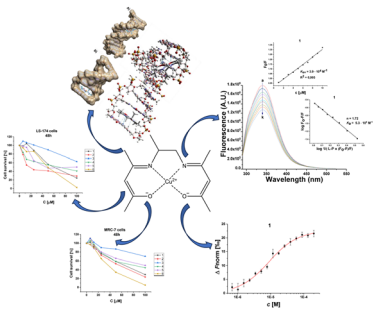
5951



Theoretical study for the reaction of fission products Cs and I elements with steam in the HTR-PM primary loop

Kerong Wang, Jingni Guo, Feng Xie, Peng Li* and Jie Ma

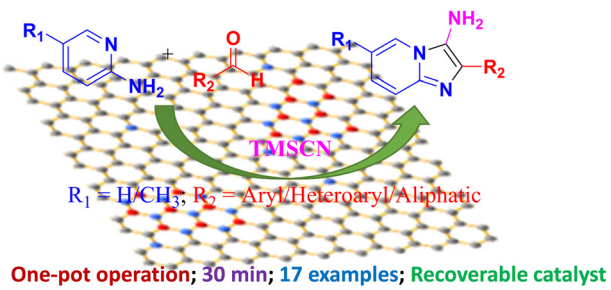
5959



Promising *in vitro* and *in silico* biological activity of tetradentate Schiff base copper(II) complexes with a propylenediamine bridge

Aleksandar Mijatović,* Tino Šeba, Nevenka Gligorijević,* Dušan Ćoćić, Snežana Spasić, Aleksandar Lolić, Sandra Aranđelović, Milan Nikolić, Mario Gabričević and Rada Baošić

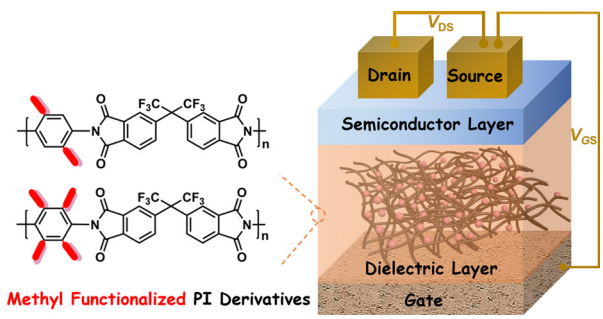
5971



Frustrated Lewis pairs in two-dimensional borocarbonitride for the facile synthesis of 3-aminoimidazo[1,2-α]pyridines using TMSCN as an isonitrile substitute

Jing Leng, Mohd Sajid Ali, Hamad A. Al-Lohedan, Chandra Sekhar Rout,* K. Pramoda* and Kothanahally S. Sharath Kumar*

5981



Methyl functionalization on polyimide side chains as gate dielectrics for organic transistors

Jiawei Zou, Bo Yu, Yonggang Qi, Lifei Wang and Zhaoyang Wang*

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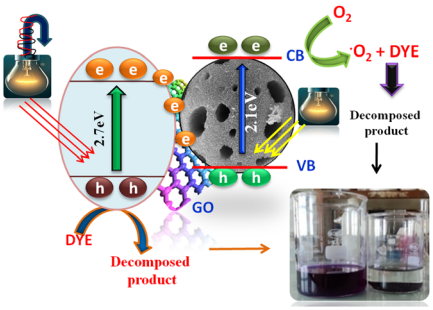
5988

Fabrication of 2D graphene oxide incorporating S-scheme Sn_2S_3–In_2S_3 heterojunctions for enhanced photocatalytic mineralization of organic pollutants

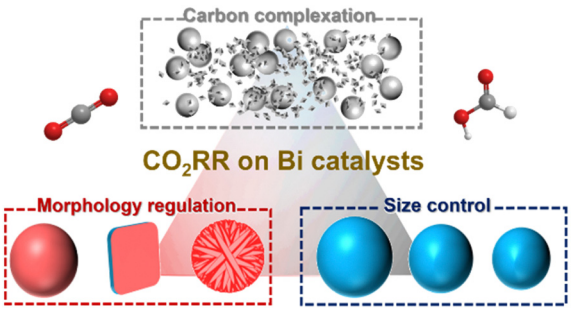
Zia ul Haq, Aaliya Qureashi, Irfan Nazir, Firdous Ahmad Ganaie, Arshid Bashir, Lateef Ahmad Malik and Altaf Hussain Pandith*



6000

Improving the electrocatalytic CO_2 reduction performance of Bi catalysts for formic acid production *via* size control, morphology regulation and carbon complexation

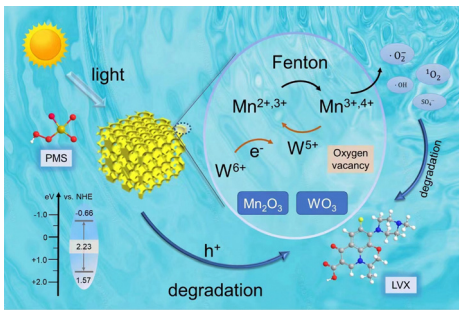
Wei Du, Min Li, Qiong Liu* and Rong Chen*



6009

Inverse opal manganese-doped tungsten trioxide as a high-performance Fenton-like photocatalyst for levofloxacin degradation

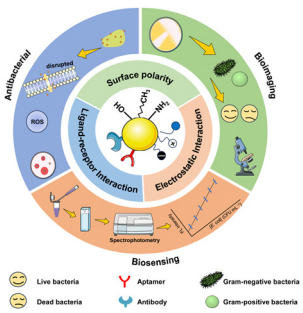
Nan Jia, Yizhou Wu, Xinxi Zhang, Liang Zhou, Juying Lei,* Tan Phong Nguyen, Jinlong Zhang and Yongdi Liu*



6020

Engineering the functional surface of carbon dots for antibacterial, bacterial bioimaging and sensing applications

Zhenzhen Li, Binggang Ye, Jiayin Fang, Meng Li, Yuxiao Xiong, Ping Xiong, Yifan Zhou, Zhouyi Guo, Huiqing Zhong* and Zhiming Liu*



RETRACTION

6039

Retraction: Ruthenium(II) CNN Pincer Complexes as Efficient Catalysts in Oxidative Annulation of Aromatic Acids with Alkynes to Isocoumarins

Sally Howells-Wyllie

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