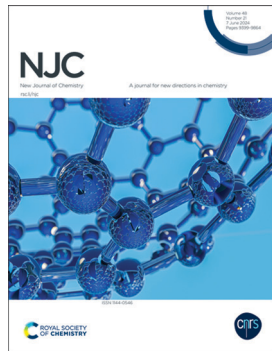


IN THIS ISSUE

ISSN 1144-0546 CODEN NJCHES 48(21) 9399-9864 (2024)



Cover

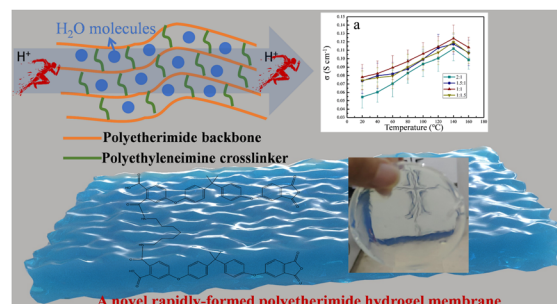
© Desmon Jiag/Getty Images

COMMUNICATIONS

9414

A novel polyetherimide hydrogel proton exchange membrane

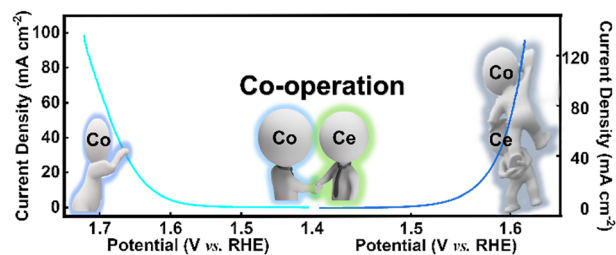
Yingnan Ma,* Shaohua Tang, Zugan Zou, Yongquan Zhang, Hefeng Zhu, Yulu Zhang, Panliang Zhang,* Kewen Tang and Yongqian Qiang*



9419

Exquisitely regulated CeO₂/Co(OH)₂ electrocatalysts for enhanced oxygen evolution reaction

Xiaowei Li, Quanquan Shi,* Jingjia Li, Chun Li and Qingyi Qian*



RSC Applied Interfaces

GOLD
OPEN
ACCESS

Interfacial and surface research with an applied focus

Interdisciplinary and open access



rsc.li/RSCApplInter

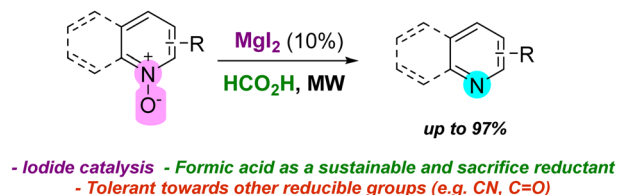
Fundamental questions
Elemental answers

COMMUNICATIONS

9424

Deoxygenation of heterocyclic *N*-oxides employing iodide and formic acid as a sustainable reductant

Alicia Elvira Cruz-Jiménez, Paola Alejandra Argumedo-Castrejón, Jefferson B. Mateus-Ruiz, Victor A. Lucas-Rosales, Octavio Adrián Valle-González, J. Oscar C. Jiménez-Halla and J. Armando Luján-Montelongo*

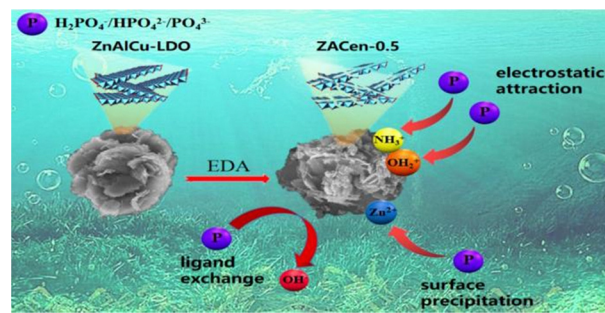


PAPERS

9429

Ethylenediamine modified ZnAlCu-LDO with high adsorption for phosphate

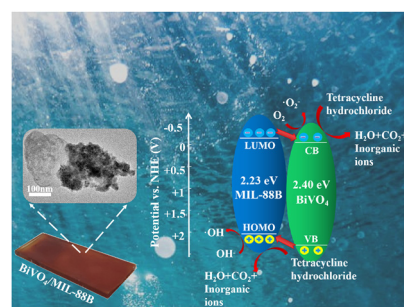
Na Qin, Weiwei Lin, Jianhua Chen,* Dingling Gao, Yuxiang Liu, Yayuan Zhang and Qian Yang*



9442

Photocatalytic degradation of tetracycline hydrochloride using a BiVO₄/MIL-88B(Fe) heterojunction

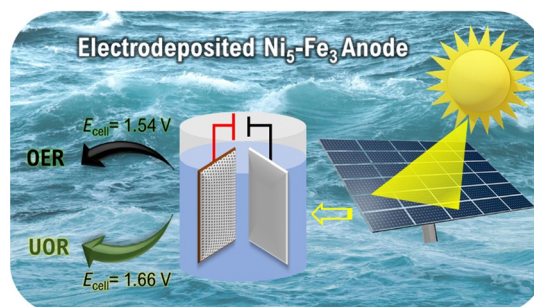
Ziwei Zhao, Qi Ling, Shangkun Deng, Ziliang Li, Jianguo Lv, Lei Yang, Chunbin Cao, Zhaoqi Sun and Miao Zhang*



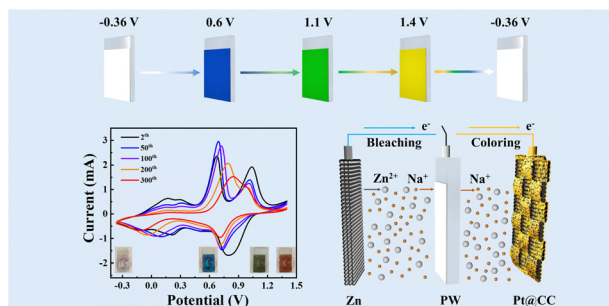
9457

Electrodeposited Ni–Fe alloy as a cost-effective material for harnessing hydrogen via the oxygen evolution and urea oxidation reactions

Ananth Venkatachalam, Venkatesan Senthilnathan, Murugan Veerapandian* and N. Rajasekaran*



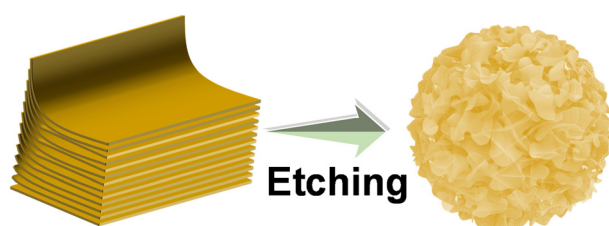
9467



Multicolor reversible prussian white film with application in self-powered electrochromic device

Guimao Liu, Zelang Jian, Chunxia Zhao, Haohao Sun, Ning Zhang and Yanyuan Qi*

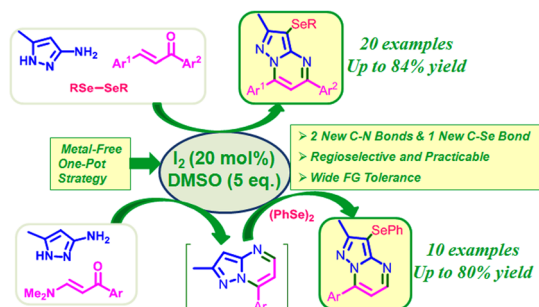
9474



Nanoflower-shaped MXene-based field-effect transistor capable of ultrasensitive microRNA-21 determination towards efficient lung cancer diagnosis

Qiao Ge, Chao Li, Zhenkai Fan, Bing Xia, Chao Zang, Liwei Chen, Chengling Zhao, Haiwei Sang and Ansheng Wang*

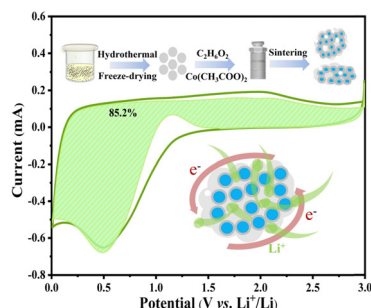
9480



I₂-Catalyzed three-component synthesis of 3-selenylated pyrazolo[1,5-a]pyrimidines

Tathagata Choudhuri, Suvam Paul, Papiya Sikdar, Sourav Das, Sanghapal D. Sawant and Avik Kumar Bagdi*

9486



Carbon aerogel capsulated cobalt oxides with nanomicro-hierarchical architectures as anodes for lithium-ion batteries

Lixia Liao,* Ting Ma, Tao Fang, Jiyuan Zhang, Bo Chai, Lian Zhu, Jiaqi Ding, Huizhi Kou, Yuling Xu, Yuanjing Hou and Benmei Wei*

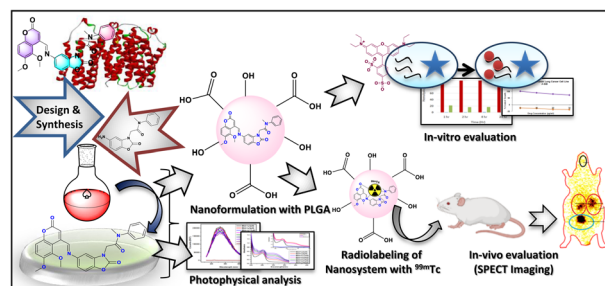


PAPERS

9498

An 18 kDa TSPO specific ligand-based polymeric nanoformulation: synthesis, computational and biological studies

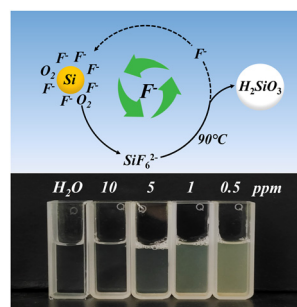
Priya Singh, Vijay Kumar Singh, Dipti Kakkar and Anjani Kumar Tiwari*



9514

Highly selective, sensitive, and visible detection of fluoride ions through transforming their roles from reactants to catalysts in the silicon corrosion reaction

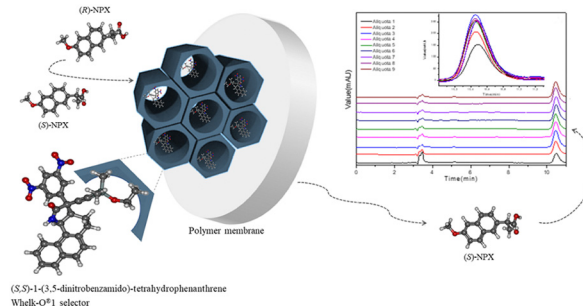
Xinyue Hu, Bingchang Zhang,* Yihao Shi, Xingda An,* Jia Yu, Le He and Xiaohong Zhang*



9522

Chiral mixed matrix membranes with the (S,S)-Whelk-O®1 selector supported on polyethersulfone/MCM-41

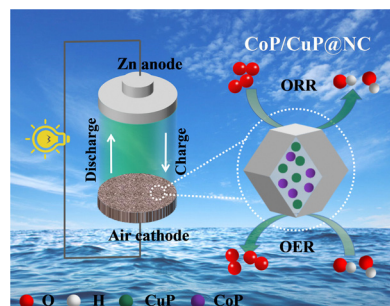
Priscila Vedovello,* Carla Fernandes, Maria Elizabeth Tiritan* and Caio Marcio Paranhos



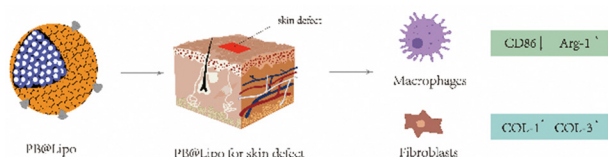
9534

MOF-derived CoP/CuP hybrids as bifunctional electrocatalysts for zinc–air batteries

Huimin Liu, Xing Zong, Yongfei Wang,* Zhizhi Hu and Zhiqiang Zhang*



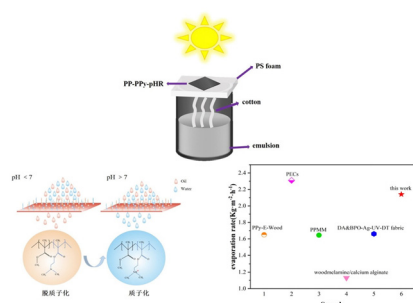
9542



Liposome-loaded Prussian blue nanoparticles accelerate wound healing by promoting anti-inflammatory effects

Jianjie Xie, Zongyu Huang, Jinpeng Gao, Huicong Feng and Chang Liu*

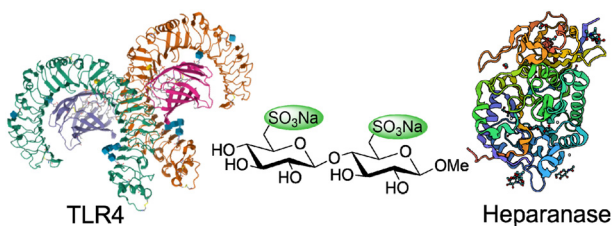
9549



Solar-driven pH-responsive oil–water separation membranes for effective oil–water emulsion separation

Ting-Ting Li,* Mengdan Jia, Shuxia Li, Ying Zhang, Xiaomeng Wang, Sheng Chu, Bing-Chiuan Shiu, Ching-Wen Lou and Jia-Horng Lin*

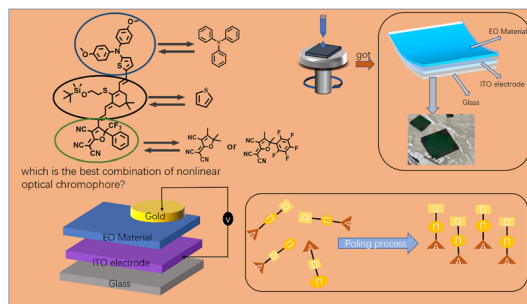
9559



Comparative analysis of sulfated and sulfonated disaccharide analogs as TLR4 modulators and heparanase inhibitors

Jamal El-Abid, Dindet Steve-Evanes K. L. C. Koffi Teki, Abed Bil, Agnès Denys, Aurélie Vallin, Corentin Lefebvre, Fabrice Allain, Vincent Chagnault* and José Kovensky*

9567



Study on the structure–performance relationship of nonlinear optical chromophores with different donors, bridges, and acceptors

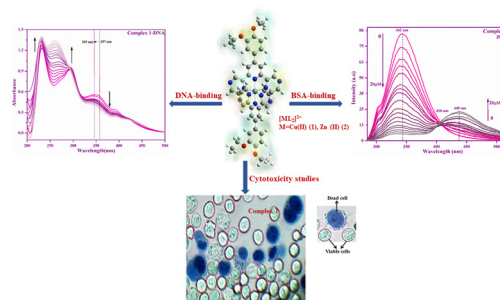
Weijun Zhang, Ziheng Li, Fuyang Huo,* Wenlong He, Jiahai Wang,* Yu Zhang, Chuying Liu and Fenggang Liu*



9577

Investigation of protein/DNA binding, and *in vitro* cytotoxicity of novel Cu(II) and Zn(II)-dipyrazinyl pyridine complexes

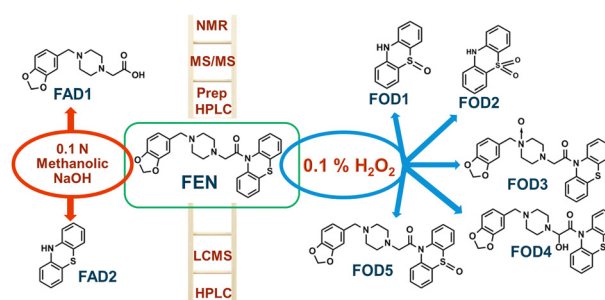
Parnashabari Sarkar, Munmi Gogoi, Sonali Palo, A. H. Udaya Kumar, Sourav Sutradhar, Dipankar Das, N. K. Lokanath, Akalesh Kumar Verma* and Biswa Nath Ghosh*



9589

Isolation and characterization of novel degradation products in fenoverine by LC-QTOF-MS/MS, LC-MSⁿ and 2D-NMR

Ch Krishnam Raju, J. V. Shanmukha Kumar,* Kada Yesudas and Sanath Kumar Goud Palusa



9611

A nano CoFe₂O₄ entangled CMC/psyllium/RGO (CPR_{HG}/CF)-based hydrogel composite for the adsorption & photocatalytic removal of pharmaceutical effluent: tramadol

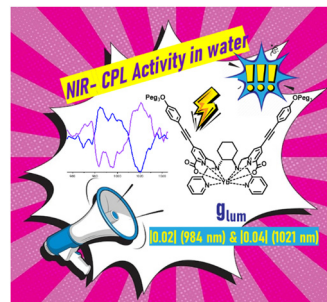
Jogindera Devi, Arush Sharma, Pooja Dhiman and Ajay Kumar*



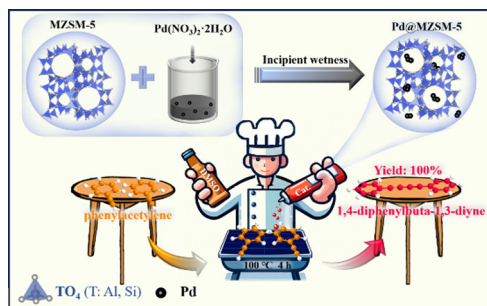
9627

Circularly polarized luminescence activity in the near infrared spectral region of a water-soluble ytterbium(III) complex containing a conjugated chromophoric ligand

Silvia Mizzoni, Annika Sickinger, Silvia Ruggieri, François Riobé, Laure Guy, Olivier Maury,* Bruno Baguenard, Amina Bensalah-Ledoux, Yannick Guyot, Stéphan Guy, Martina Sanadar, Andrea Melchior* and Fabio Piccinelli*



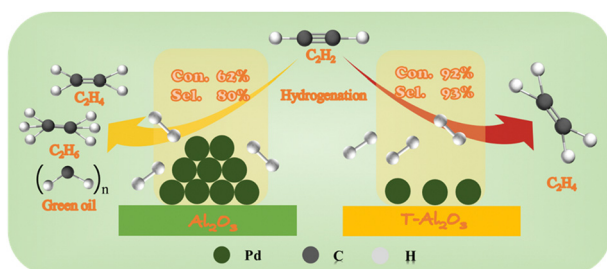
9637



Synergistic catalysis by Brønsted acid and Pd species on a mesoporous ZSM-5 zeolite for the oxidative homocoupling of terminal alkynes

Siming Wang, Xueqin Jia, Yongqi Sun, Jiteng Liu, Wenqian Fu* and Tiandi Tang*

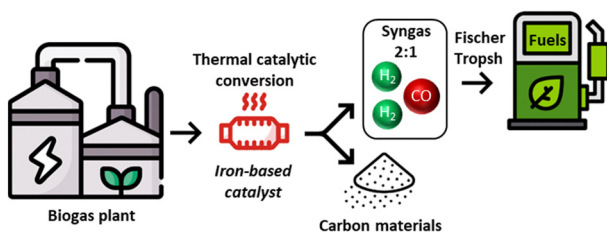
9646



Tannic acid adjusts Pd dispersity over Al₂O₃ for acetylene selective hydrogenation

Lijun Yang, Tianqing Zhou, Haotian Lei, Chaojian Zhang, Huanwen Zhou and Xiaoyuan Liao*

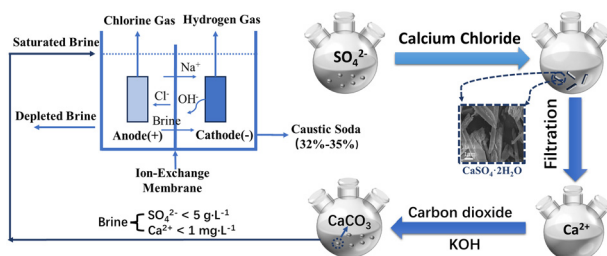
9656



Direct biogas reforming to turquoise H₂ and carbon material in a catalytic fluidised-bed reactor

Valentin L'hospital, Leandro Goulart de Araujo, Yves Schuurman, Nolven Guilhaume and David Farrusseng*

9663



Study on the removal of SO₄²⁻ and Ca²⁺ from potassium chloride brine via a method combining calcium chloride and carbon dioxide

Huimin Ren, Qiuchen Wang, Yanzhi Sun,* Yongmei Chen, Pingyu Wan and Junqing Pan*

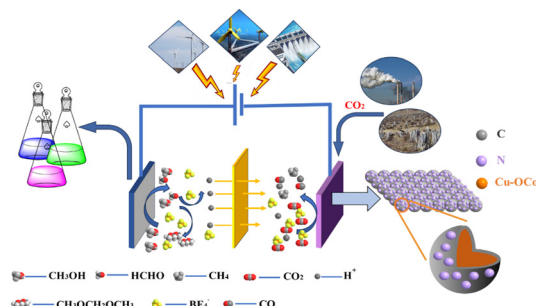


PAPERS

9672

Efficient CO₂ reduction to CO + CH₄ at CuCo@NC cathode integrated with CH₃OH oxidation to methylal at Pt anode in an ionic liquid electrolyte

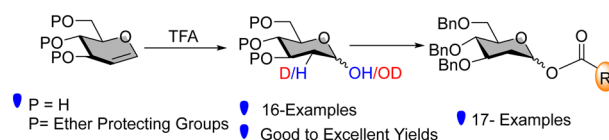
Hongyan Li, Bairui Yang, Jiawei Zhang, Tianchi Wang,*
Jingxiang Zhao and Qinghai Cai*



9680

TFA-induced conversion of glycals to 2-deoxy-sugars and their utility in synthesizing 2-deoxy-glycosyl esters

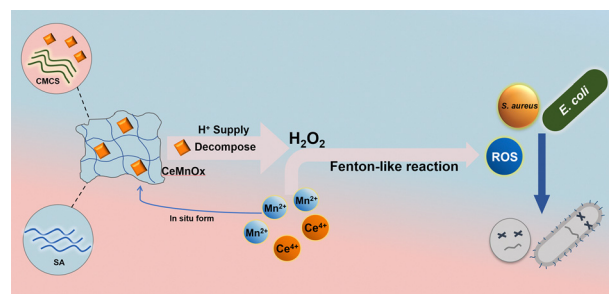
Bindu Tiwari, Ram Pratap Pandey and Nazar Hussain*



9685

Facile synthesis of a CeMnOx catalytic gel with bacterial microenvironment-responsive antibacterial properties

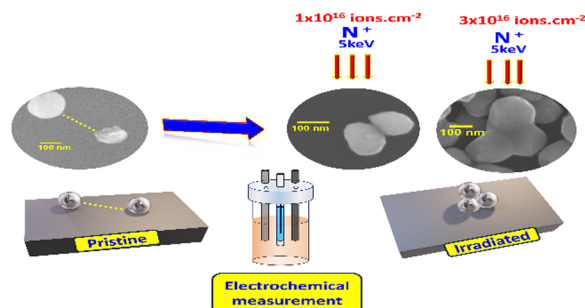
Zicheng Wei, Zhihui Niu,* Huihui Xu, Zihao Li, Peng Wang, Chengfeng Li, Guangwu Wen and Xiaowei Li*



9694

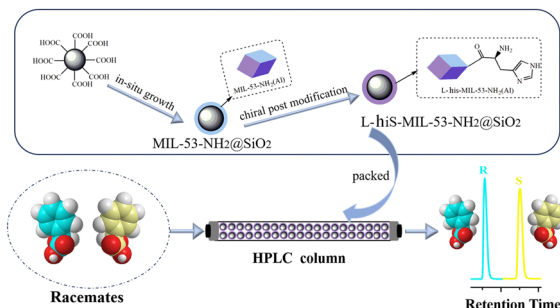
Enhanced electrochemical capacitance of titanium oxide nanoparticles using low-energy nitrogen ion irradiation

Arpita Patro, Manoj K Rajbhar, Shitara Radhakrishnan, Shyamal Chatterjee, Chandra Sekhar Rout and Satyanarayan Dhal*



PAPERS

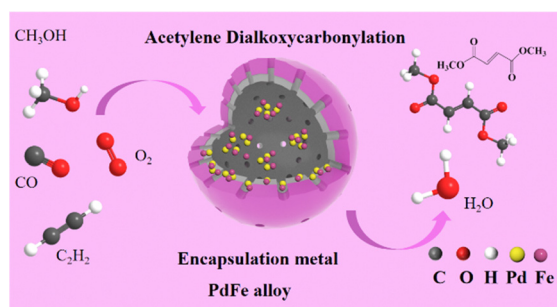
9702



Preparation of chiral metal–organic framework L-his-MIL-53-NH₂@SiO₂ composite by *in situ* growth and chiral post-modification strategies for HPLC enantiomeric separation

An-Xu Ma, Cai-Fang Liu, Yu-Lan Zhu, Zong-Hong Luo, Hong-Mei Zhou, Yue Zhang, Bang-Jin Wang,* Jun-Hui Zhang, Sheng-Ming Xie* and Li-Ming Yuan

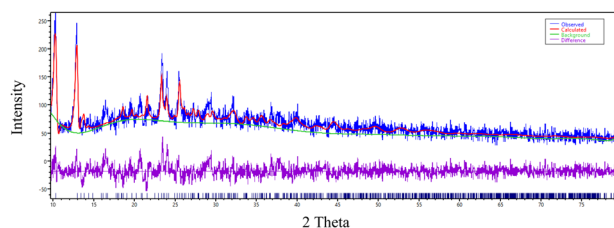
9709



High activity nitrogen-doped hollow carbon/silicon hollow spheres as encapsulated Pd–Fe nano-reactors for acetylene dialkoxycarbonylation

Fusheng Huang, Yongkang Sun, Jichang Liu, Bin Dai,* Jiangbing Li* and Xuhong Guo*

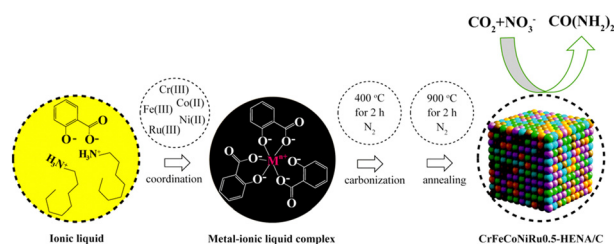
9718



Nano-crystallites of a ruthenium(III) violurate complex: synthesis, characterization, PXRD and DFT structural analysis. DNA/HSA-binding, antiviral activity against COVID-19 and molecular docking study

Abdulrahman Alhadhrami

9738



Mild and scalable synthesis of a high performance CrFeCoNiRu_{0.05} high entropy nano-alloy/carbon electrocatalyst for efficient urea production with a chelate-based ionic liquid

Zhang Qingqing, Ruiyi Li, Zaijun Li,* Yang Yongqiang and Liu Xiaohao

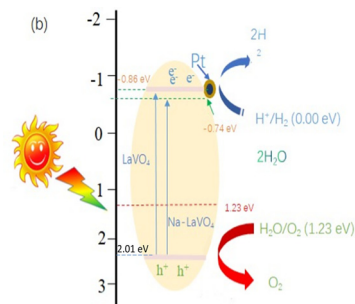


PAPERS

9748

LaVO₄ with alkali metal doping for enhanced photocatalytic water splitting

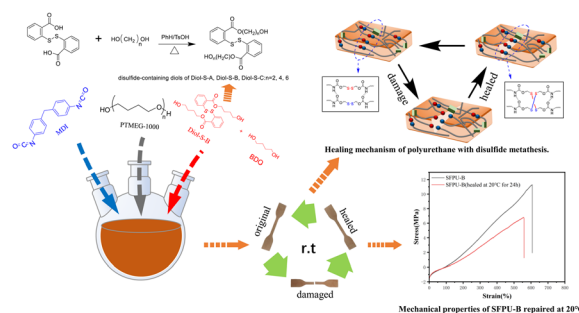
Linjie Yan, Fan Zhang, Fan Liu, Xiaoyi Lei, Xuecheng Liu,*
Xia Jin, Xiaole Zhu, Tingting Pei and Hongyu Chen



9756

Novel disulfide-containing diols: synthesis and application in self-healing fluorescent polyurethane elastomers

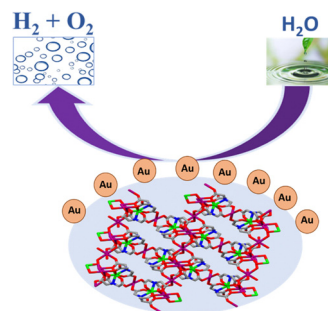
Jialu Luo, Jin Liu,* Zhen Li, Xiaoyan Wei, Shiwu Wang,
Jinyang Tang, Yajie Zhang, Ping Wang, Di Wang,
Xianhai Hu and Xianbiao Wang



9768

A Au nanoparticle anchored stannatranone-pillared MOF as a duo-active electrocatalyst for overall water splitting

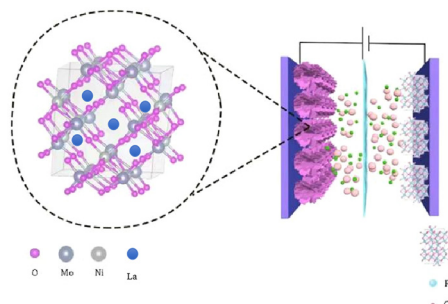
Jyoti Rohilla, Sahil Thakur, Keshav Kumar,
Raghubir Singh* and Varinder Kaur*



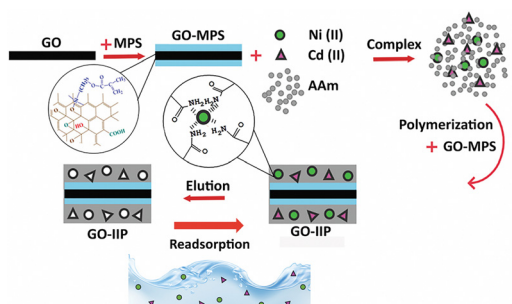
9778

Rapid and easy preparation of self-supporting La-mixed NiMoO₄ nanofloral materials and their capacitance properties

Jing Wang,* Yang Liu, Tingting Hao, Jian Hao and
Tenghao Ma



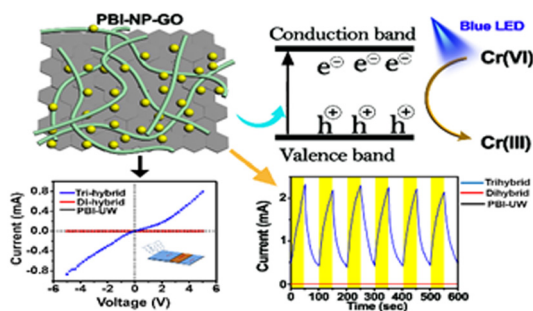
9794



A dual template ion-imprinted polymer based on acrylamide monomer/modified graphene oxide for simultaneous adsorption of Ni(II) and Cd(II)

Elahe Ghorbani, Samaneh Bagheri Renani and Payam Zahedi*

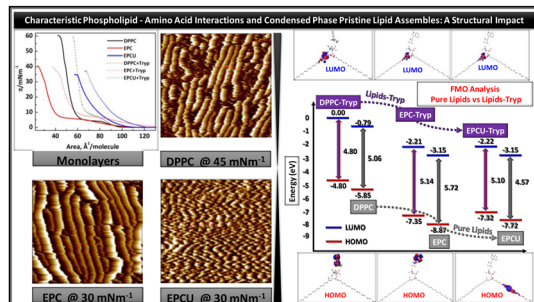
9805



Peptide-appended perylene bisimide containing silver nanoparticle-based trihybrid system with GO: improvement of photocatalytic and photo-switching behaviour

Purnadas Ghosh, Soumyajit Hazra, Kousik Gayen, Niladri Hazra, Arun K. Nandi and Arindam Banerjee*

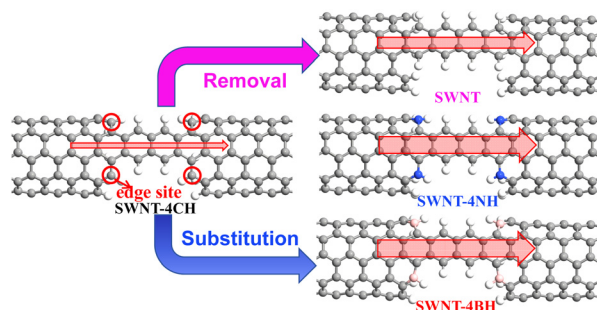
9814



Structure and interaction in 2D organized assemblies of cationic lipids with tryptophan: an experimental and computational investigation

Biplab Roy, Murugesan Panneerselvam and Archita Patnaik*

9830



Controlling the electronic transport through the carbon nanotube junction via the local electronic environment

Huaguo Xu, Jianwei Zhao, Liuyue Zhang, Lianmei Liu, Na Cheng* and Yuanyuan He*

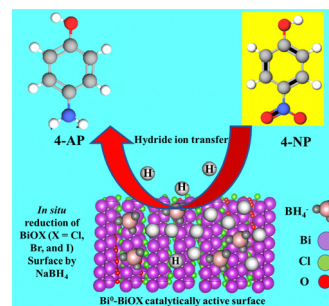


PAPERS

9840

***In situ* synthesis of metal (Bi⁰)–semiconductor [BiOX (X = Cl, Br, and I)] nanocomposites as a highly effective catalyst for the reduction of 4-nitrophenol to 4-aminophenol**

Dinesh Singh and Pankaj Poddar*



9856

Anchored Ru clusters on a lignin/algae carbon aerogel as an efficient bifunctional catalyst for water splitting

Pengfei Li,* Zhongfa Cheng, Wei Chai, Ya Yao, Ning Zhang, Hong Yue, Yanping Wang, Wei Li, Liang Zhang, Lina Zhou, Jianming Zhang, Zhanming Wang and Tao Dong*

