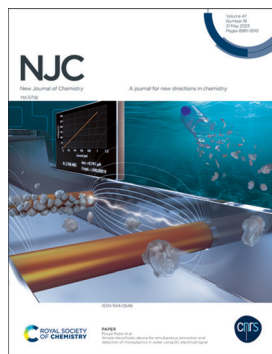


## IN THIS ISSUE

ISSN 1144–0546 CODEN NJCHES 47(19) 8981–9510 (2023)



### Cover

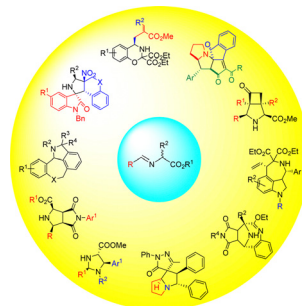
See Pouya Rezai *et al.*,  
pp. 9050–9060.  
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from *New J. Chem.*,  
2023, 47, 9050.

## PERSPECTIVE

8997

### Recent advances in the (3+2) cycloaddition of azomethine ylide

Sapana Dubey, Anit Pal, Shreya Roy, Souvik Sasmal, Aashi Tamrakar, Rathin Jana\* and Tapas Das\*

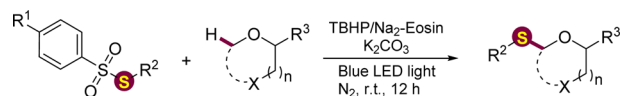


## COMMUNICATIONS

9035

### Visible-light-promoted C(sp<sup>3</sup>)-H thiolation of aliphatic ethers with thiosulfonates

Wen-Zhu Bi,\* Qing-Pu Liu, Chen-Yu Li, Wen-Jie Zhang, Su-Xiang Feng,\* Yang Geng,\* Xiao-Lan Chen and Ling-Bo Qu



R<sup>1</sup> = H, F, Cl, CH<sub>3</sub>; R<sup>2</sup> = (Het)Aryl, Benzyl; R<sup>3</sup> = H, Alkyl, Alkoxy; X = CH<sub>2</sub>, O; n = 0, 1

- ✓ Transition-metal free and mild conditions
- ✓ Available and inexpensive reagents
- ✓ Visible-light-promoted C(sp<sup>3</sup>)-H thiolation
- ✓ Good functional group tolerance



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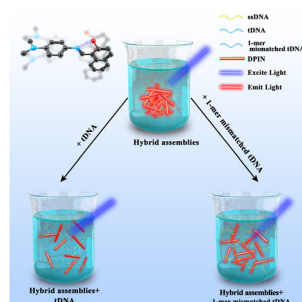


## COMMUNICATIONS

9040

## DNA-embedding Schiff base molecule assemblies: an efficient biological detection approach based on clustering-triggered emission

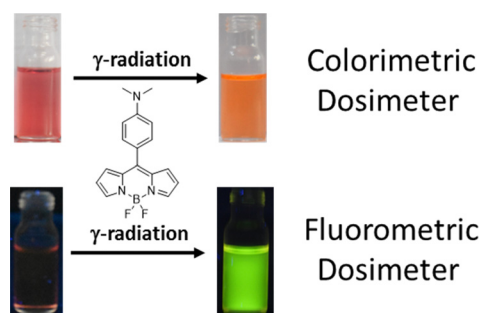
Danning Lv, Jingyuan Huang, Xianyang Li, Chunzhi Cui\* and Dong June Ahn\*



9045

## Development of a BODIPY-based ratiometric fluorescence off-on dosimeter for gamma radiation

Manoj K. Choudhary and Soumyaditya Mula\*

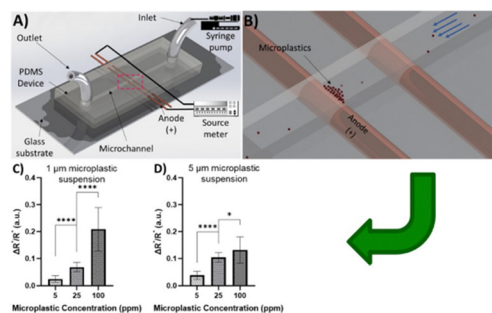


## PAPERS

9050

## Simple microfluidic device for simultaneous extraction and detection of microplastics in water using DC electrical signal

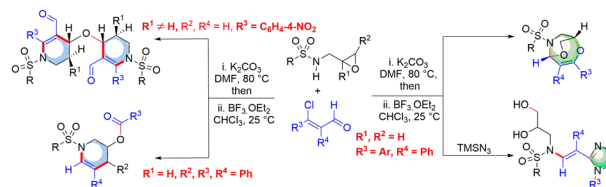
Alireza Zabihhesari, Arezoo Khalili, Mohammad-Javad Farshchi-Heydari, Armin Eilaghi and Pouya Rezai\*



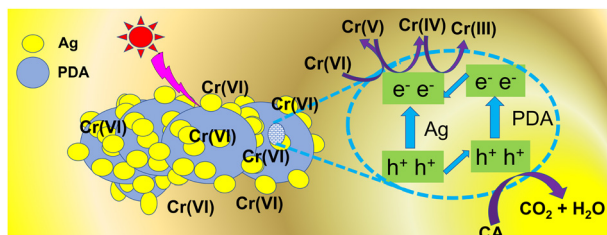
9061

## Ring expansion/opening reactions of epoxy ene-amides: access to azabicyclononene, tetrahydropyridine and tetrazole scaffolds

Suraj and K. C. Kumara Swamy\*



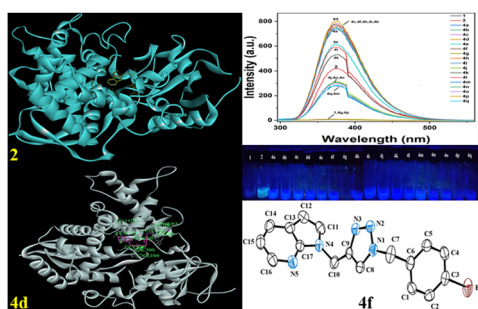
9066



### Mussel-inspired PDA/Ag nanocomposite catalyst for highly-efficient Cr(vi) removal via visible light-induced reduction and absorption

Xi Lu, Zhiwei Gao, Guihua Wang, Sheng Chen, Yingchun Gu, Bin Yan and Qin Yang\*

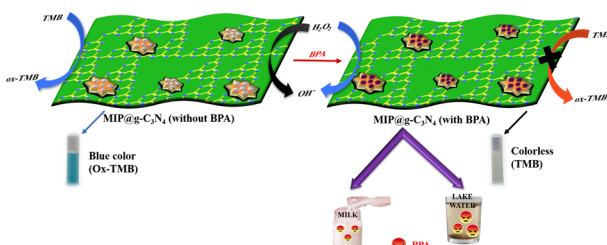
9077



### Fluorescent 7-azaindole *N*-linked 1,2,3-triazole: synthesis and study of antimicrobial, molecular docking, ADME and DFT properties

Kanika Sharma, Ram Kumar Tittal,\* Kashmiri Lal, Ramling S. Mathpati and Ghule Vikas D.

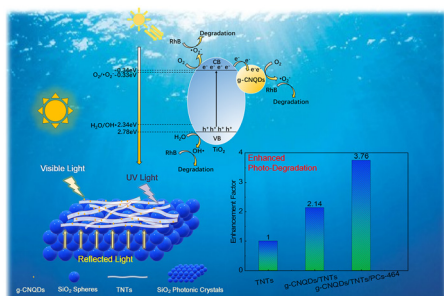
9087



### Selective and sensitive on-site colorimetric detection of 4,4'-isopropylidenediphenol using non-enzymatic molecularly imprinted graphitic carbon nitride hybrids in milk and water samples

M. Komal, J. Vinoth Kumar, R. Arulmozhi, M. Sherlin Nivetha, S. Pavithra and N. Abirami\*

9101



### Ternary-structured graphite carbon nitride quantum dots/TiO<sub>2</sub> nanotubes/3D SiO<sub>2</sub> photonic crystals for enhanced dye photodegradation

Ping Li, Huaiyuan Jiang, Qing Wang, Ruizhen Liu, Yutian Fan, Ru'an Chi, Jian Cheng and Renliang Lyu\*

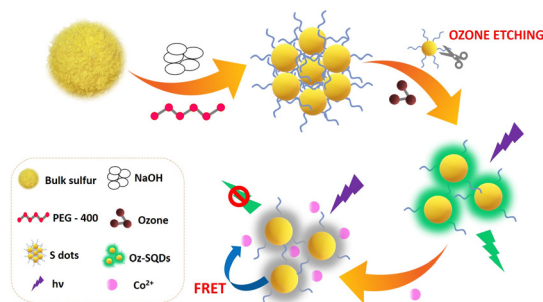




9113

## Rapid and scalable synthesis of sulfur quantum dots through ozone etching: photoluminescence and FRET-mediated $\text{Co}^{2+}$ sensing

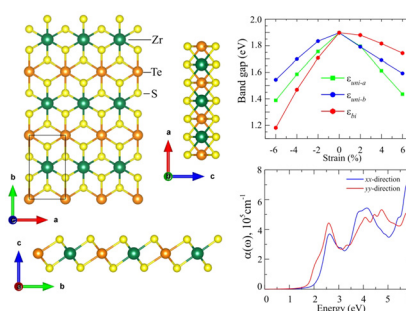
R. V. Reji and V. Biju\*



9124

## Electronic, optical, and transport properties of single-layer $\text{ZrTeS}_4$ : a DFT study

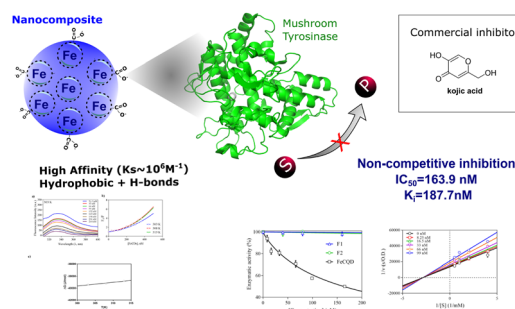
Dat D. Vo, Tuan V. Vu, A. A. Lavrentyev, O. Y. Khyzhun, A. I. Kartamyshev, Hien D. Tong and Nguyen N. Hieu\*



9134

## Inhibitory effects of iron-based carbonaceous nanocomposites on mushroom tyrosinase activity: molecular aspects and mechanistic insights

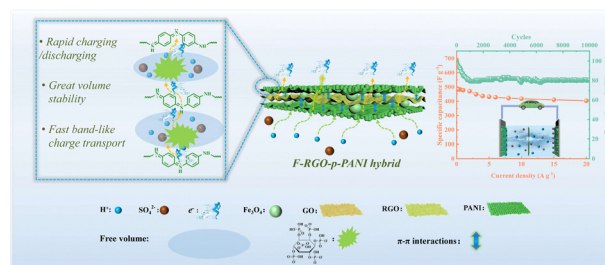
Marcela Rodrigues de Barros, Thais Meira Menezes, Yarima Sanchez Garcia and Jorge Luiz Neves\*



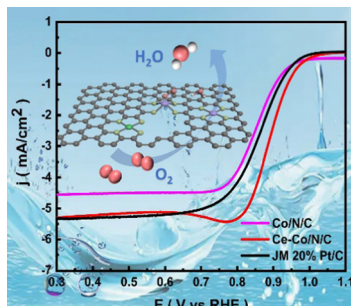
9143

## Ternary $\text{Fe}_3\text{O}_4$ /reduced graphene oxide/phytic acid doped polyaniline hybrid based supercapacitive electrode with high capacitance retention and good cycling stability

Yaxiong Zhao, Ming Zhou,\* Ruifeng Ni, Yi Li, Jiangyu Huang, Zhenyu Li and Jingyu Chen\*



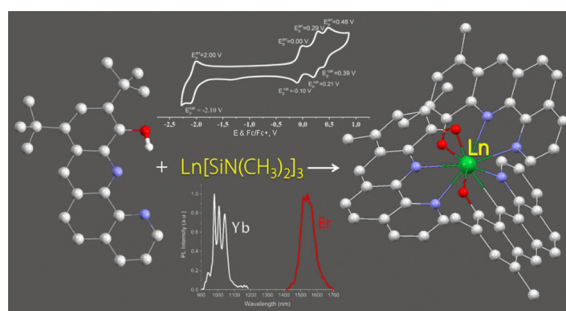
9153



### High-dispersion Co/N/C ultra-thin carbon nanosheets modified with trace Ce as efficient oxygen reduction reaction catalysts

Xiaoqi Zhu, Shengnan Xie, Xin Fu, Sheng Zhu, Yulin Min, Qunjie Xu and Qiaoxia Li\*

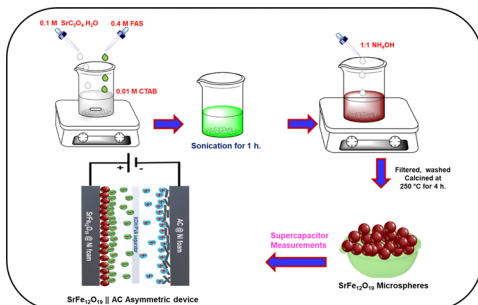
9164



### New NIR-luminescent lanthanide complexes with tridentate oxymethylenanthroline ligands

Tatyana V. Balashova,\* Maxim V. Arsenyev, Svetlana K. Polyakova, Vasily A. Ilichev, Roman V. Romyantsev, Georgy K. Fukin, Artem N. Yablonskiy and Mikhail N. Bochkarev

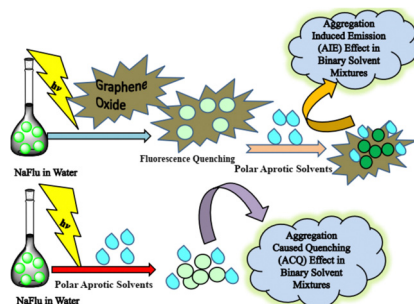
9174



### Surfactant assisted synthesis of strontium hexaferrite microspheres for the fabrication of high-performance asymmetric supercapacitors

Elaiyappillai Elanthamilan and Sea-Fue Wang\*

9186



### Graphene oxide promotes aggregation-induced emission in binary solvent mixtures

Souvik Pandit, Sanyukta Bhattacharjee and Debabrata Seth\*

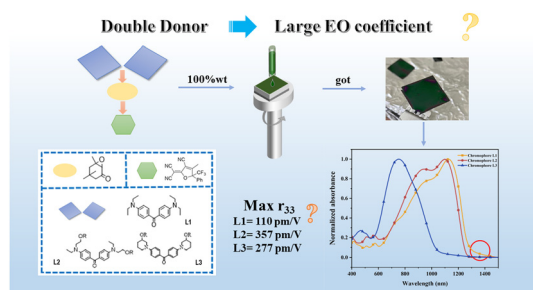


## PAPERS

9203

# Synthesis and characterization of Y-shaped optical nonlinear chromophores with strong acceptors

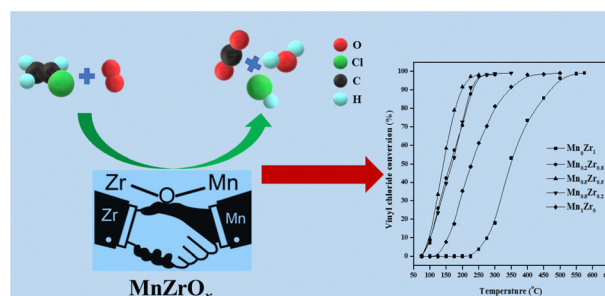
Zhibei Li, Ziyang Zeng, Shuangke Wu, Jianhua Liu,\*  
Tongyu Luo, Juanfei Liao, Ruoxi Yang and Fenggang Liu\*



9212

# Mn–Zr composite oxides as efficient catalysts for catalytic oxidation of vinyl chloride

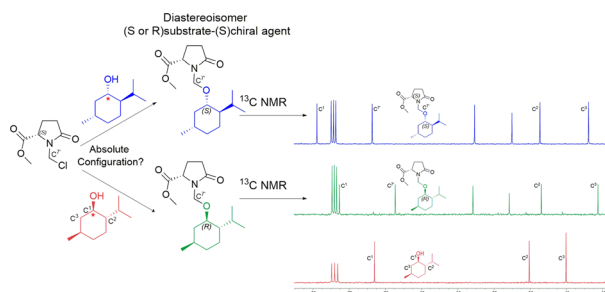
Zhiyong Deng,\* Mingju Wang, Hongliang Zhang and  
Chuanhui Zhang\*



9222

# Assignment of the absolute configuration of secondary alcohols by $^{13}\text{C}$ NMR and its correlation with methyl-1-(chloromethyl)-oxopyrrolidine-2-carboxylate and quantum-mechanical GIAO calculations

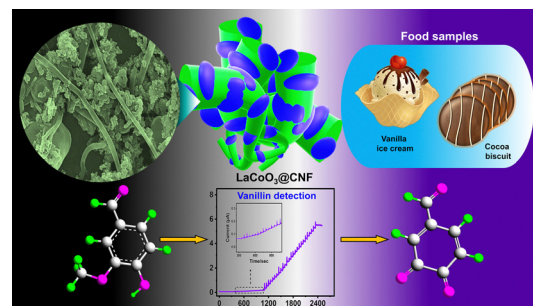
Eréndira Torales, Serguei Fomine and Jorge Cárdenas\*



9229

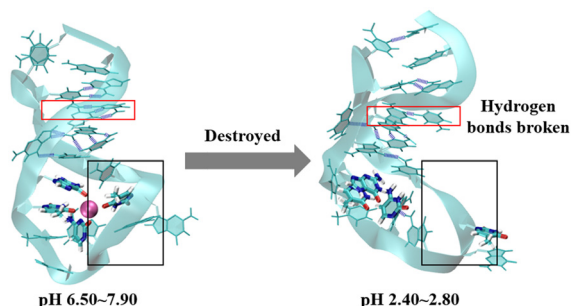
# Rhombohedral type of $\text{LaCoO}_3$ with carbon nanofiber composite as an electrocatalyst enables the amperometry detection of vanillin in food samples

Subramaniyan Vinoth and Sea-Fue Wang\*



## PAPERS

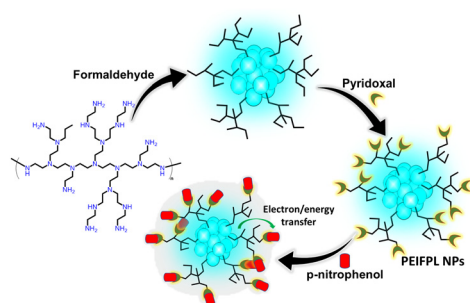
9239



### Mechanism of pH influence on aptamer binding with $\text{Cd}^{2+}$ revealed by molecular dynamics simulation

Hongen Yuan, Xiuxiu Wu,\* Xingfa Ren, Bin Xue, Wenjie Qiu, Dinghui Nong, Tao Yang and Fei Xu

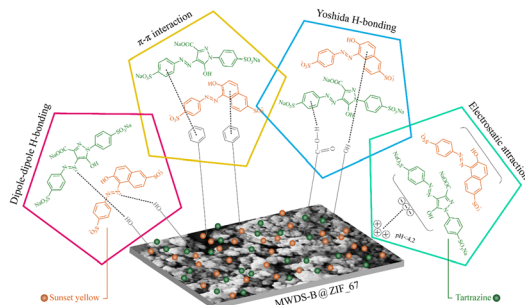
9250



### Polyethyleneimine-based fluorescent polymeric nanoparticles: synthesis and application in fluorescence sensing of pH and *para*-nitrophenol

Anuj K. Saini, Bigyan R. Jali and Suban K. Sahoo\*

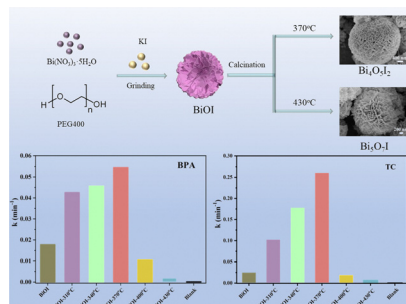
9257



### Rapid microwave-assisted synthesis of a magnetic biochar@ZIF-67: an efficient nanocomposite-based adsorbent for the dye-contaminated water cleanup

Sepehr Haghdoust, Payam Arabkhani, Sajad Ghaderi, Mehrorang Ghaedi\* and Arash Asfaram\*

9271



### Bi<sub>x</sub>O<sub>y</sub>I<sub>z</sub> with oxygen vacancies for boosting the photocatalytic oxidation of bisphenol A and tetracycline

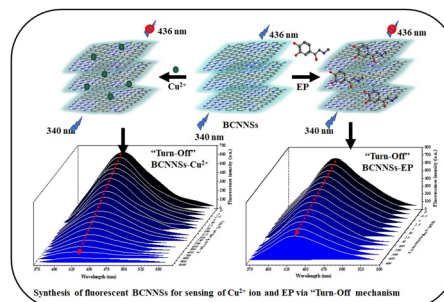
Jing Xie,\* Suixin Yin, Zhenjiang Lu, Jindou Hu, Aize Hao and Yali Cao\*



9279

## Synthesis of fluorescent boron carbon nitride nanosheets for the detection of $\text{Cu}^{2+}$ ions and epinephrine

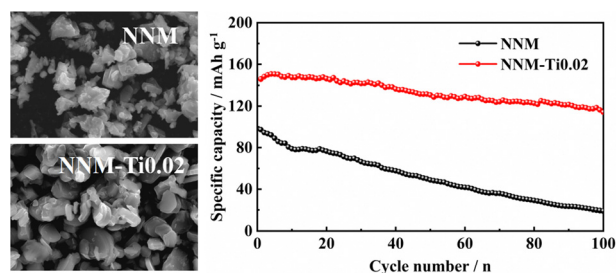
Mayurkumar Revabhai Patel, Tae Jung Park and Suresh Kumar Kailasa\*



9288

## Cathode material stability enhancement for layered manganese-based sodium-ion batteries by doping titanium

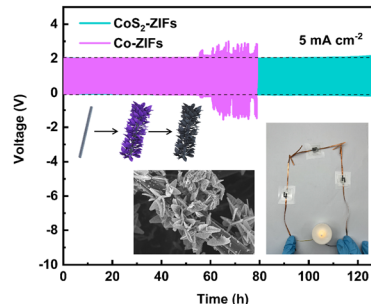
Qingmei Xiao, Soroosh Mahmoodi, Ziting Guo, Jinchao Huang and Shengwen Zhong\*



9297

## A leaf-like porous N-doped carbon structure embedded with $\text{CoS}_2$ nanoparticles self-supported on carbon fiber paper as a cathode in flexible zinc–air batteries

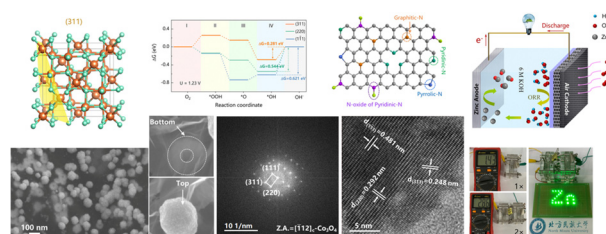
Mengyu Chen, Yongjian Wu, Yujie Zhou, Xinxin Yu, Peng Dai, Jing Yu, Tongtong Jiang\* and Mingzai Wu\*



9307

## *In situ* growth of $\text{Co}_3\text{O}_4$ nanoparticles on nitrogen-doped reduced graphene oxide for high-efficiency oxygen reduction catalysis

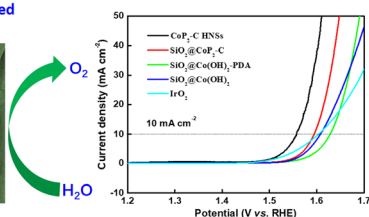
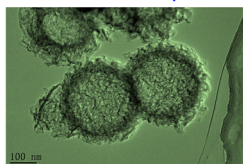
Yue Yang, Qitong Ye, Quan Zhou, Tong Xue,\* Yipu Liu,\* Xiahui Shi, Zheng-Jian Chen, Xiang-Hui Yan, You-Jun Lu, Zhong-Li Zou, Bei-Ping Wang, Li-Hua Cui and Feng-Lan Han





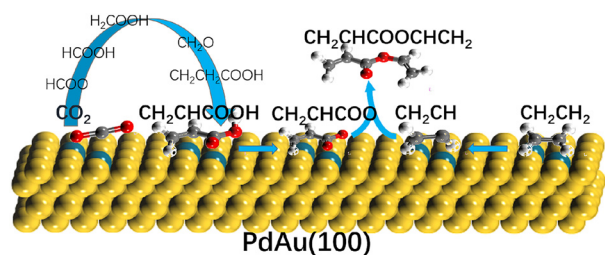
## PAPERS

9316

Nitrogen Doped and Carbon Coated  
CoP Hollow NanospheresNitrogen doped and carbon coated CoP hollow  
nanospheres with enhanced electrocatalytic activity  
towards the oxygen evolution reaction

Xiangwei Wang, Yunyun Zhai\* and Haiqing Liu\*

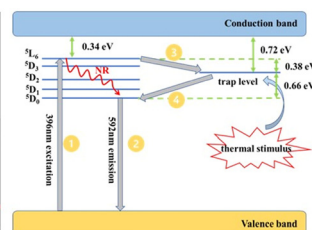
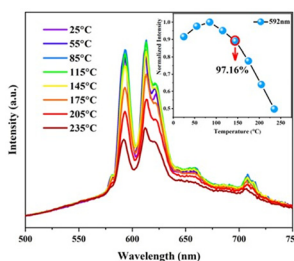
9323



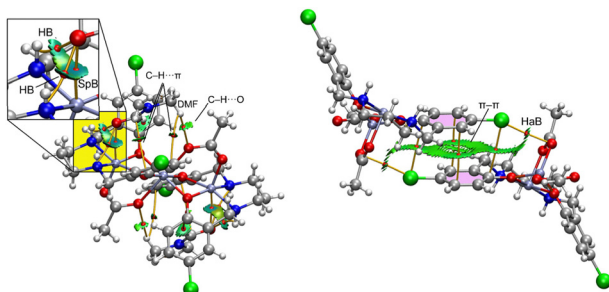
Possible reaction network for the formation of vinyl acrylate on PdAu(100) surface

Theoretical insight into the generation mechanism  
of vinyl acrylate in the production of vinyl acetate  
on PdAu(100)Yingzhe Yu, Jia Guo, Weiwei Zhang, Hai Chen and  
Minhua Zhang\*

9335

A bright orange-red emitting phosphor  
 $\text{Ba}_9\text{La}_2\text{W}_4\text{O}_{24}:\text{Eu}^{3+}$  with double perovskite structure  
and abnormal thermal quenching behaviorXiaoxi Ma, Chuqi Wang, Qingyi Lv, Bohuai Shao,  
Shuo Yang and Chuang Wang\*

9346

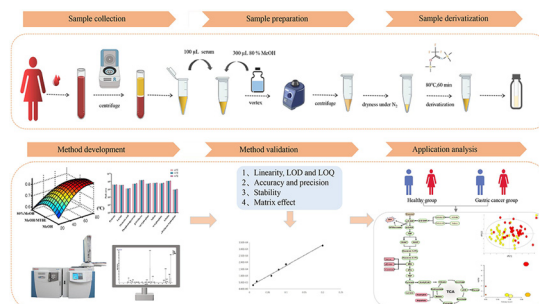
The importance of spodium bonds, H-bonds and  
 $\pi$ -stacking interactions in the solid state structures  
of four zinc complexes with tetradentate secondary  
diamine ligandsPuspendu Middya, Mainak Karmakar, Rosa M. Gomila,  
Michael G. B. Drew, Antonio Frontera\* and  
Shouvik Chattopadhyay\*

## PAPERS

9364

# Optimization of a quantitative protocol for the intermediate metabolites of the glycolysis pathway in human serum using gas chromatography–mass spectrometry

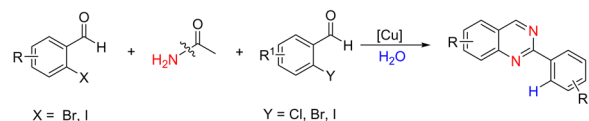
Ying-Shu Tang, Ming-Jia Zhang, Jin-Hui Zhao and Li-Yan Liu\*



9377

# Copper-catalyzed synthesis of quinazolines via cascade cyclization/hydrodehalogenation

Peng Ma, Yuhang Wang, Jianhui Wang\* and Ning Ma\*



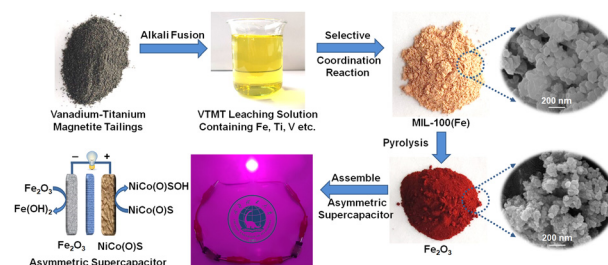
low toxicity and odorless acetamide as nitrogen source  
H<sub>2</sub>O as hydrogen source  
sequential cyclization/ hydrodehalogenation

C–N bond cleavage  
broad substrate scope  
31 examples, up to 85% yield

9383

# Recycling of iron from vanadium titanium magnetite tailings and its application in an asymmetric supercapacitor

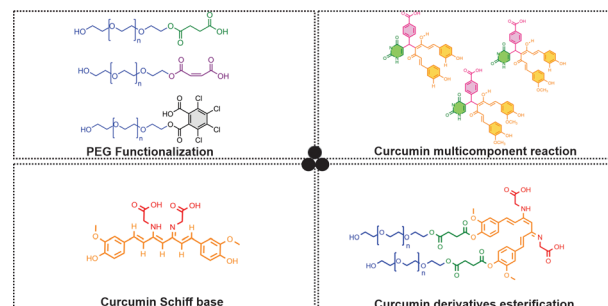
Jiale Chen, Lei Qian,\* Zongyao Fu, Guanfeng Li and Ying Zeng



9392

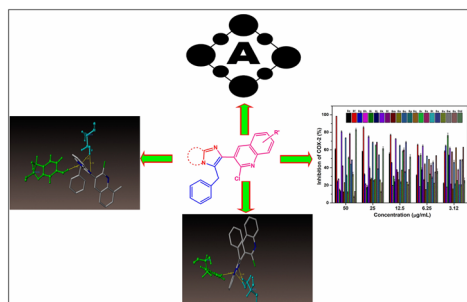
# Mechanochemical method: a powerful tool to obtain ω-poly(ethylene glycol)-functionalized structures and curcumin analogues

Aniele de Moura,\* Caroline Gaglieri, Luiz Octavio Terciotti, Daniel Rinaldo and Flávio Junior Caires\*



## PAPERS

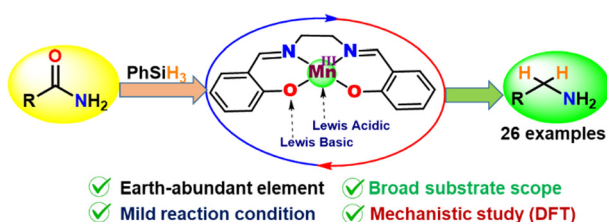
9401



**Microwave-assisted copper(I) catalyzed A<sup>3</sup> cascade coupling of imidazo[1,2-a]pyridines via C–H bond functionalization as selective COX-2 inhibitors and antioxidants, and *in silico* studies**

Aravind R. Nesaragi, Ravindra R. Kamble,\*  
Swati R. Hoolageri, Shruti Dixit, Shrinivas D. Joshi,  
Shyamkumar Vootla and Vijay M. Kumbar

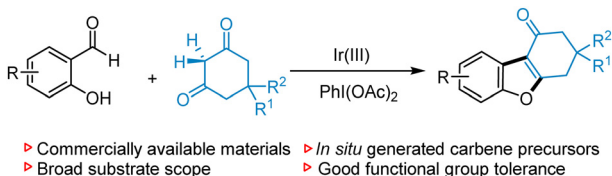
9414



**Catalytic fate of structurally characterized manganese(III)–salen complexes towards efficient transformation of primary amides to amines or nitriles using hydrosilane**

Nilaj Bandopadhyay, Krishnendu Paramanik,  
Gayetri Sarkar, Souvik Chatterjee, Suvojit Roy,  
Subhra Jyoti Panda, Chandra Shekhar Purohit,  
Bhaskar Biswas\* and Hari Sankar Das\*

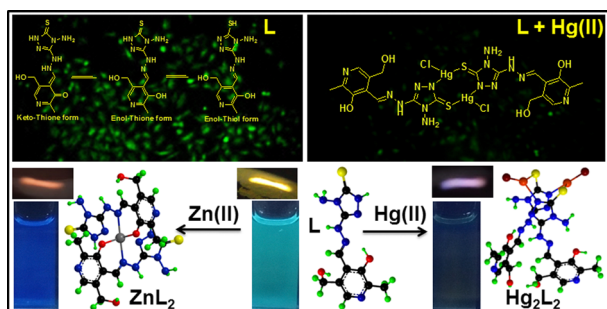
9421



**Ir(III)-catalyzed decarbonylative annulation of salicylaldehydes with cyclohexane-1,3-diones**

Qiao-Juan Jiang, Yu-Tao Min, Yan-Ping Liu, Hua Li,  
Jun-Ao Peng and Cong-Jun Liu\*

9427



**Dual responsive pyridoxal-AHMT based fluorescent sensor towards zinc(II) and mercury(II) ions and its bioimaging application**

Kettalu Ananthan Karthick, Bhaskaran Shankar,  
Santhalingam Gayathri, Manikka Kubendran Aravind,  
Balasubramaniam Ashokkumar and  
Arunachalam Tamilselvi\*

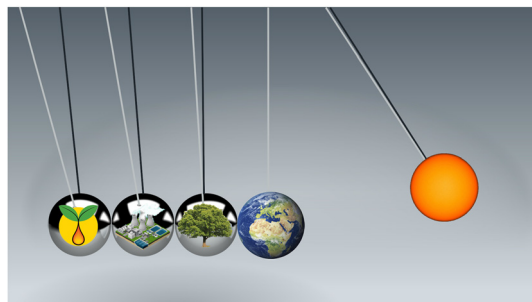


## PAPERS

9440

### Stabilization of the aqueous phase fraction of pine wood bio-oil using zirconia-supported Fe/Cu/Pd nano-catalysts under mild conditions

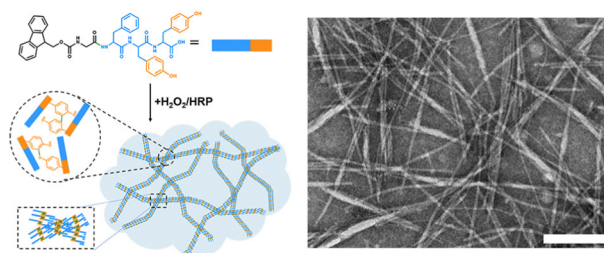
Giuseppe Bagnato,\* Michela Signoretto, Elena Ghedini, Federica Menegazzo, Xiaoying Xi, Gert H. ten Brink, Bart J. Kooi, Hero Jan Heeres and Aimaro Sanna\*



9451

### Enzymatically cross-linked peptide hydrogels for enhanced self-assembling capability and controlled drug release

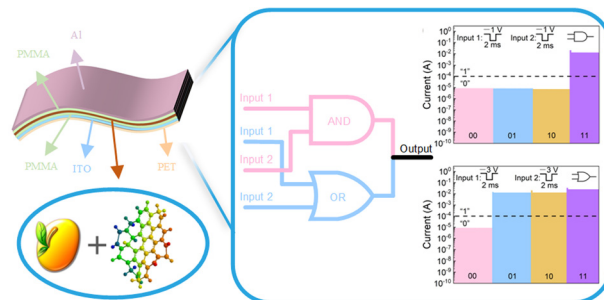
Xiujie Wang, Guoru Dai, Bianli Cheng, Jing Xu, Keming Xu\* and Wenying Zhong\*



9459

### Bioresistive random access memory with an in-memory computing function based on graphene quantum dots

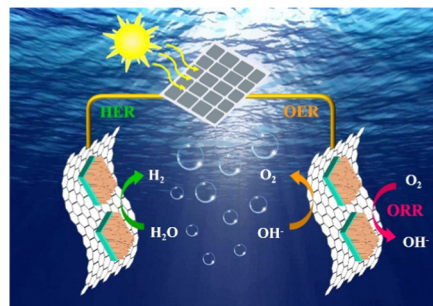
Lu Wang,\* Yuting Wang, Jing Yang, Wenhao Li and Dianzhong Wen



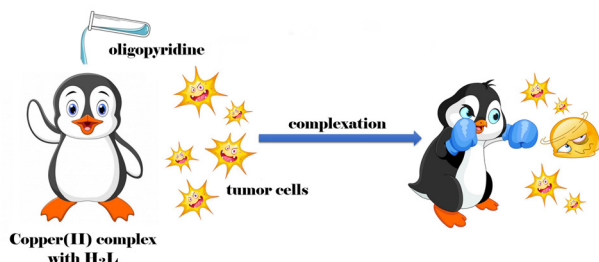
9464

### Cooperative catalysis of $\text{Zn}_3(\text{VO}_4)_2/\text{Ni}(\text{OH})_2/\text{rGO}$ nanosheet arrays advancing highly active $\text{O}_2$ reduction and water-splitting

Xue Li, Xinglong Gao, Enyan Guo, Mingzhi Wei, Conghui Si, Qifang Lu\* and Yingping Pang\*



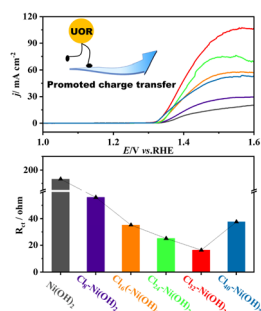
9472



### Cytotoxic mixed-ligand copper(II) complexes with 1*H*-tetrazole-5-acetic acid and oligopyridine derivatives

Ekaterina A. Ermakova, Yuliya A. Golubeva, Ksenia S. Smirnova, Lyubov S. Klyushova, Alexey S. Berezin, Leonid N. Fetisov, Alexandra E. Svyatogorova, Natalia O. Andros, Alexander A. Zubenko and Elizaveta V. Lider\*

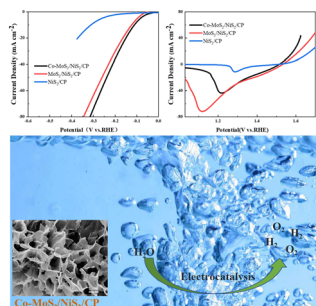
9483



### Accelerating charge transfer for $Ni(OH)_2$ through chlorine-anion decoration in the urea electrooxidation reaction

Yongjie Zhao, Xiujuan Sun,\* Qiuhan Cao, Jiajia Zhou, Wenjuan Tan, Zhu Piao, Enhui Liu, Rui Ding, Ping Gao and Weiwei Lin\*

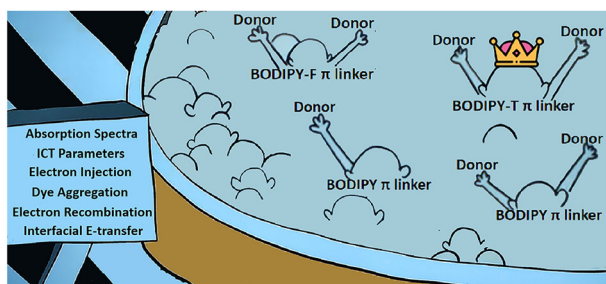
9492



### Cobalt incorporation and $MoS_2$ - $NiS_2$ heterostructure synergistic for improving full water electrolysis efficiency

Minyu Wu, Xiangdong Meng, Min Zhou\* and Yuxue Zhou\*

9501



### Theoretical insight into the influence of different molecular design strategies on photovoltaic properties for a series of POM-based dyes applied in dye-sensitized solar cells

Yu Gao and Zhi-Bin Lu\*

