

## IN THIS ISSUE

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### Cover

See Sathiyanarayanan  
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Sathiyanarayanan Kulathu  
Iyer from *New J. Chem.*,  
2024, 48, 13251.

## EDITORIAL

13232

### International Symposium on Inorganic Environmental Materials 2023 (ISIEM 2023)

Kenjiro Fujimoto,\* Mamoru Aizawa,\*  
Naoyuki Matsumoto\* and Hiroaki Mori\*

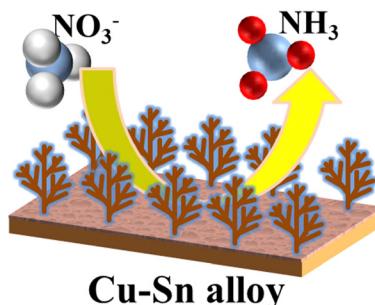


## COMMUNICATIONS

13233

### Electrodeposition of a 3D dendritic Cu–Sn bimetallic alloy for electrocatalytic nitrate reduction to ammonia

Jinxiu Zhao,\* Jingyi Xu and Liyi Shi\*



# ChemComm

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preliminary research**

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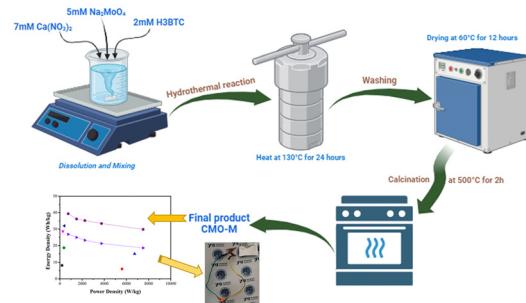
**Fundamental questions  
Elemental answers**

## COMMUNICATIONS

13238

## Unlocking the potential of a MOF-derived $\text{CaMoO}_4$ electrode for high performance supercapacitor application

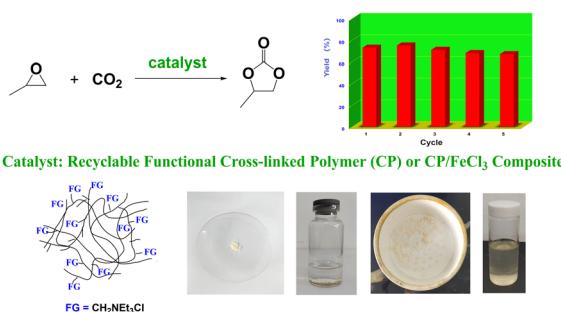
Palanisamy Rajkumar, Joel Kingston Ramesh, Vediappan Thirumal, Maalavika S. Iyer, R. Margrate Bhackiyavathi Princess, R. M. Gnanamuthu, Kisoo Yoo\* and Jinho Kim\*



13245

## The coupling reaction of epoxides with carbon dioxide catalyzed by functional cross-linked polystyrenes and metal salts/functional polystyrenes systems

Zhichao Zhang,\* Anqi Guan, Jingyi Yu, Xindong Jiang, Shuang Han,\* Zhaoyang Wen, Beiyang Du and Baiyang Song

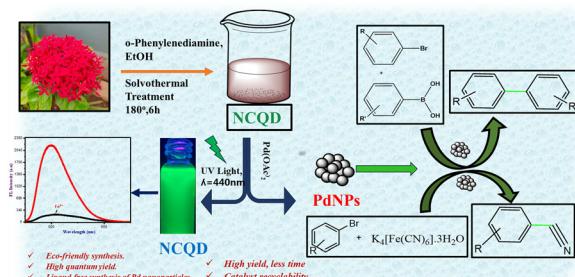


## PAPERS

13251

## *Ixora coccinea* flower-derived green luminescent carbon quantum dots for $\text{Fe}^{3+}$ recognition and preparation of Pd nanoparticles for the Suzuki–Miyaura coupling and cyanation process

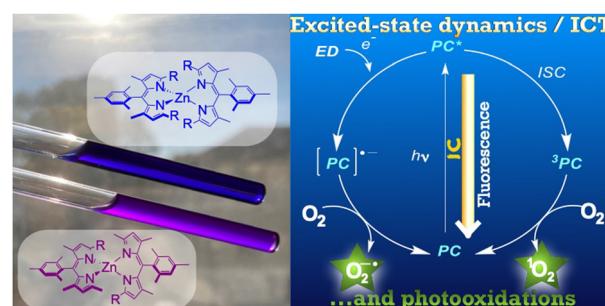
Namrata Priyadarshini Hota and Sathianarayanan Kulathu Iyer\*



13261

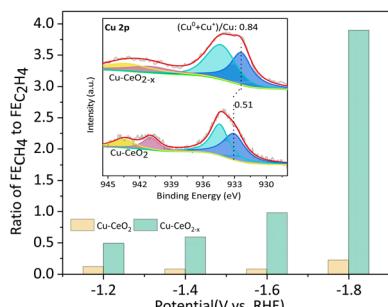
## Excited state dynamics of homoleptic $\text{Zn}(\text{II})$ dipyrromethane complexes and their application in photocatalysis

Julia Leier, Pascal Rauthe, Roberta Tabone, Claudia Bizzarri\* and Andreas-Neil Unterreiner\*



## PAPERS

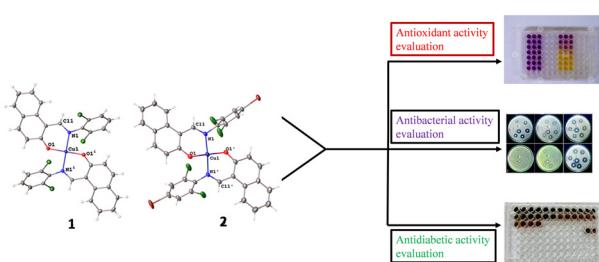
13270



**Promoting reducibility and activity of Cu by tuning oxygen defects on ceria for selective electrochemical CO<sub>2</sub> reduction to methane**

Lingwei Yu, Ying Zhang,\* Leyi Zhou, Yaqi Wang, Xinru Ma, Zhangkun Hou, Hongchuan Zhang, Sai Xie and Zifeng Yan\*

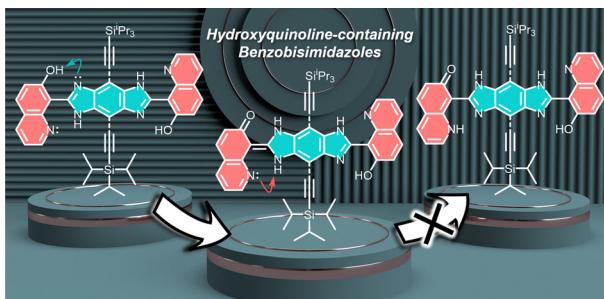
13276



**Copper(II) complexes derived from naphthalene-based halogenated Schiff bases: synthesis, structural analysis, DFT computational studies and *in vitro* biological activities**

Segun D. Oladipo\* and Robert C. Luckay\*

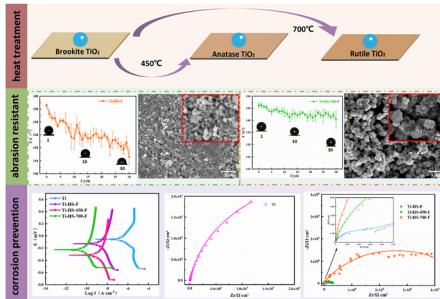
13289



**Feasibility of multiple excited-state proton transfer processes in hydroxyquinoline-containing benzobisimidazole dyes**

Tatiana Munteanu, Dancho Yordanov, Gabriel Canard, Olivier Siri,\* Denis Jacquemin,\* Anton Georgiev\* and Simon Pascal\*

13296



**Durable medical pure titanium superhydrophobic surface: preparation and performance analysis**

Xiaoya Guan, Yi Peng,\* Bing Wu, Hang You and Chong Yang

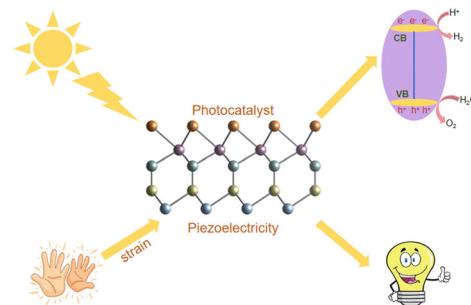


## PAPERS

13305

**Two-dimensional Janus SeMoZAZ' (A = Si, Ge; Z = N, P, As; Z ≠ Z'): multifunctional properties for electronic, piezoelectric and photocatalytic applications**

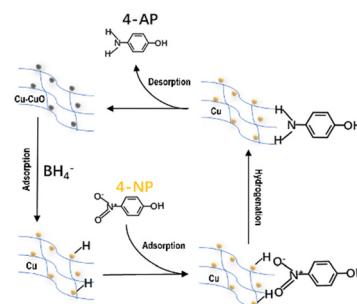
Zhen Gao, Hongbo Wu, Yao He\* and Kai Xiong\*



13316

**In situ green synthesis of copper-loaded chitin/hydroxyapatite hydrogels for efficient catalytic reduction of 4-nitrophenol**

Tao Feng,\* Yinyu Chen, Si Wu\* and Shuai Wang



13324

**Simple temperature-regulated polymerization for the fabrication of a tea polyphenols-modified PVDF membrane for emulsion separation**

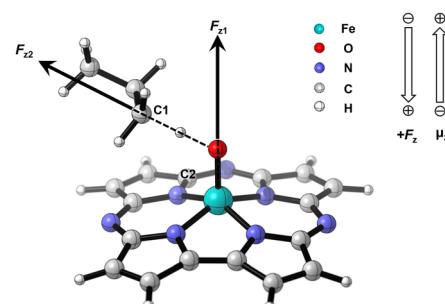
Atian Xie, Lei Lu, Can Wei, Jirong Luo, Tong Tian, Feiyan Wang, Quan Li, Jiaheng Pu, Jiuyun Cui\* and Chengcai Li\*



13335

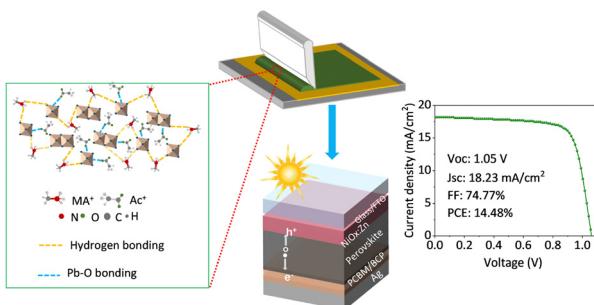
**OEEFs precisely regulating the propane oxidation reaction catalyzed by O-Fe-corrolazine**

Cheng-Cheng Song, Lei Yang, Wei Yang, Xian Bai, Jin-Xia Liang,\* Haiyan Wang\* and Chun Zhu\*



## PAPERS

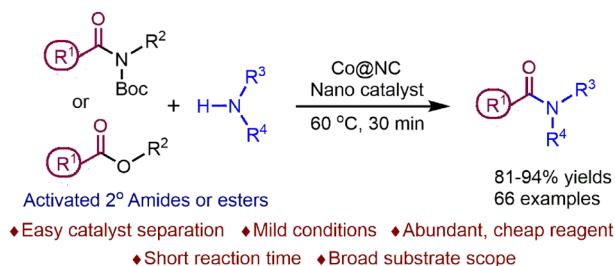
13342



**A green ionic liquid solvent for additive-free, efficient and stable bladed perovskite solar cells under ambient conditions**

Huanqin Yu\* and Bingqiang Cao\*

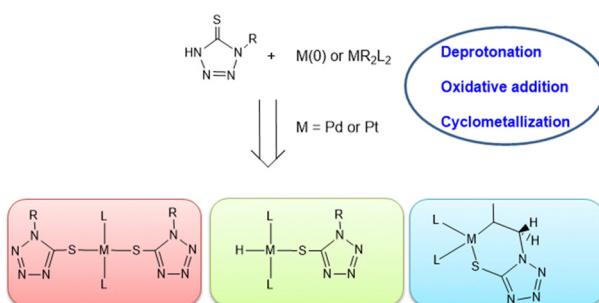
13350



**Transamidation of secondary carboxamides and amidation of esters are facilitated by magnetic Co@NC nanoparticles, as a highly efficient and recyclable catalyst under neat conditions**

Vishal Singh, Khushbu Rajput, Priya Mahaur, Sundaram Singh and Vandana Srivastava\*

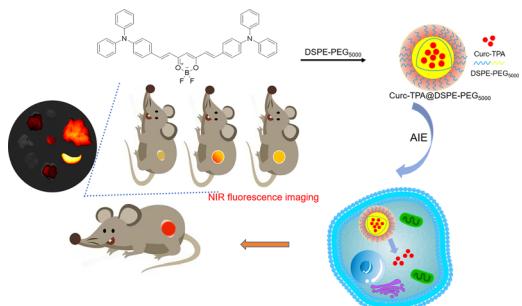
13358



**Facile formation of tetrazole–thiolato Pd(II) and Pt(II) complexes through deprotonation or oxidative addition using organic tetrazole–thiones**

Hyoung Soon Kwon, Geon Hyeong Park, Huiyeong Ju, Eunji Lee and Yong-Joo Kim\*

13373



**Nanoconstruction of curcuminoid boron difluoride dyes with aggregation-induced emission for bright near-infrared fluorescence imaging of malignant tumor**

Ziwei Zhao, Susu Yan and Yanan Li\*



## PAPERS

13384

**Tetrazolopyrimidine-tethered phenothiazine molecular hybrids: synthesis, biological and molecular docking studies**

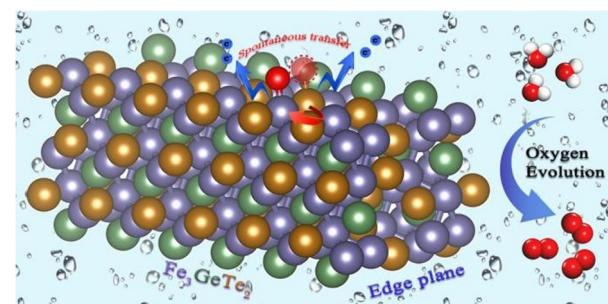
Shunmugam Iniyaval, Vadivel Saravanan, Chun-Wai Mai and Chennan Ramalingan\*



13397

**Active site transfer improves electrocatalytic activity of  $\text{Fe}_3\text{GeTe}_2$  edge planes for the oxygen evolution reaction: a first-principles calculation study**

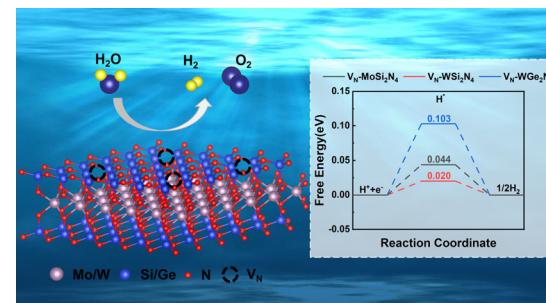
Wei Su, ZongXiang Kang, QiuHong Li and Jing Pan\*



13405

**Exploiting  $\text{MoSi}_2\text{N}_4$ ,  $\text{WSi}_2\text{N}_4$  and  $\text{WGe}_2\text{N}_4$  monolayers for efficient photocatalytic overall water splitting across a broad pH range**

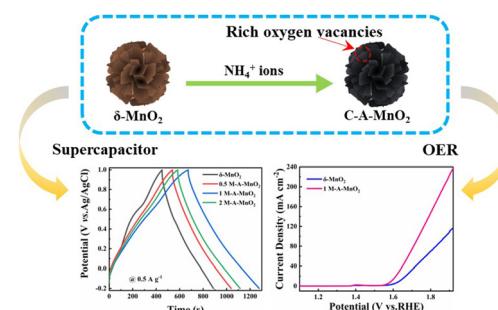
Xuhui Yang,\* Hang Xue and Luteng Luo



13413

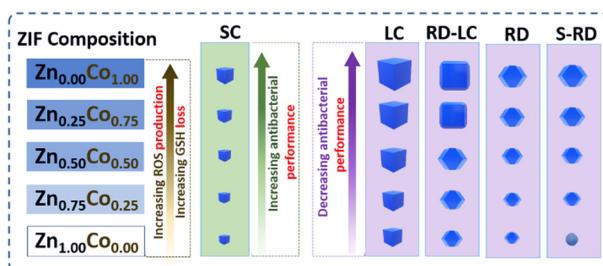
**Ammonium ion intercalation and oxygen-rich vacancies in birnessite-type  $\text{MnO}_2$  for supercapacitors and oxygen evolution applications**

Juyin Liu, Xiaoze Ren, Yanfang Gao\* and Ling Liu\*



## PAPERS

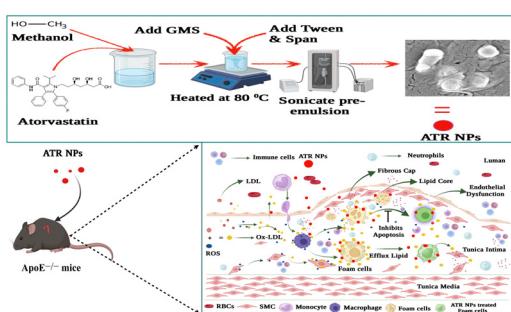
13428



## Morphology-size map of zeolitic imidazolate frameworks: unveiling the bactericidal effects upon varying their zinc/cobalt ion contents

Ruth Antwi-Baah, Malcom Frimpong Dapaah, Yajing Wang, Xiaoqin Chen\* and Heyang Liu

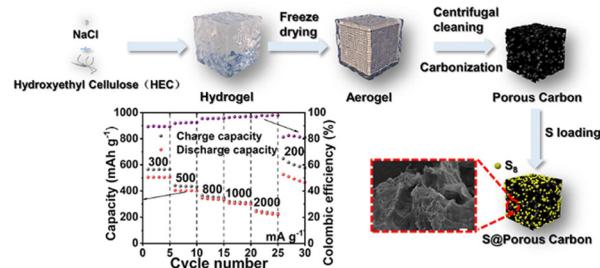
13444



## Atorvastatin-based nanoparticle-decorated glyceryl monostearate as a targeted drug carrier for inhibition of atherosclerosis lesions

Sandeep Kumar Yadav, Karri Karthik, Manjunatha Mahadevappa and Soumen Das\*

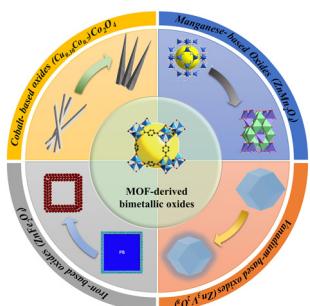
13457



## S@C composites constructed by a graded pore-making strategy for Mg–S batteries with outstanding rate performance

Peng Xue, Pengpeng Wang, Xuyan Qin, Zhikai Wang, Xi Jia and Wutao Wei\*

13466



## Metal–organic framework-derived bimetallic oxides as anode materials for lithium-ion batteries: a mini review

Yingchun Guan, Zichen Guo, Shengjun Zhou, Zhanpeng Chen, Kang Xu, Xiaoke Zhang, Xiaoming Lin\* and Yongbo Wu\*

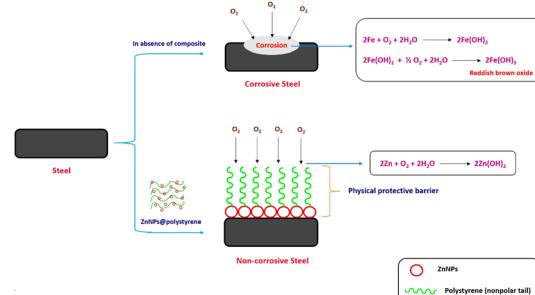


## PAPERS

13475

## Novel advancements in protection of steel surfaces using polystyrene supported nanoparticles of metallic zinc as sacrificial corrosion inhibitors

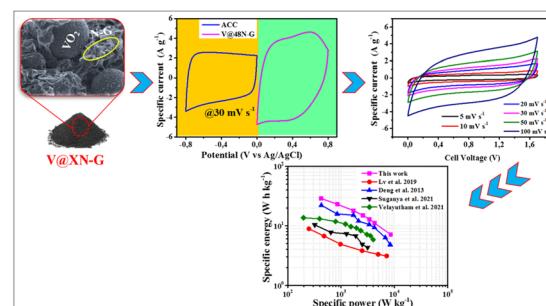
Ahmed M.A. El Naggar, Esraa M. El-Fawal,\* Mohamed I. Abd el Karim, Adel A. El-Zahhar, Mohamed H. Taha, Ahmed M. Ramadan and Hanan B. Ahmed



13492

## Enhancement of the electrochemical properties of vanadium dioxide via nitrogen-doped reduced graphene oxide for high-performance supercapacitor applications

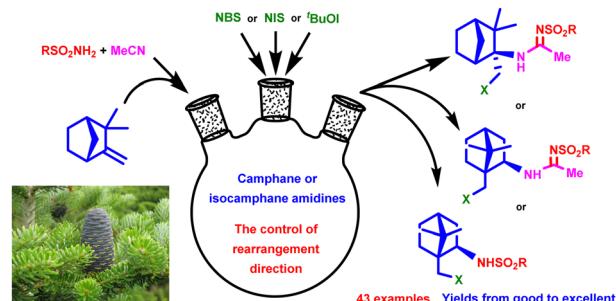
Samba Sarr, Daba T. Bakhoum, Ndeye F. Sylla, Ndeye M. Ndiaye, Delvina J. Tarimo, Vusani M. Maphiri, Balla D. Ngom and Ncholu Manyala\*



13506

## Halosulfonamidation of camphene: chemo and stereoselectivity, rearrangement, solvent interception, heterocyclization

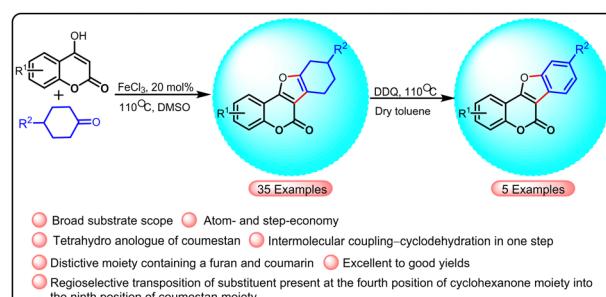
Mikhail Yu. Moskalik,\* Ivan A. Garagan, Bagrat A. Shainyan, Olga I. Yarovaya, Anton S. Ganin, Vera V. Astakhova, Irina V. Sterkhova, Sergey V. Zinchenko, Nariman F. Salakhutdinov and Amirbek D. Radzhabov



13514

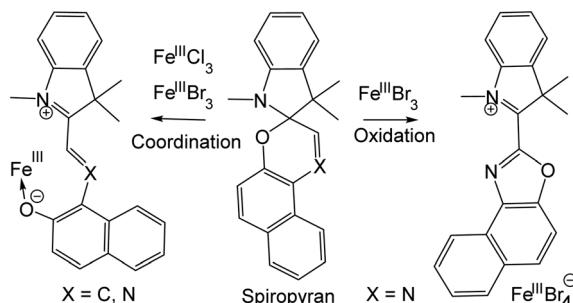
## A short and elegant synthetic approach for 9-substituted tetrahydro coumestan derivatives and synthesis of some naturally occurring coumestan derivatives

Simra Faraz and Abu Taleb Khan\*



## PAPERS

13526



Nikita G. Osipov, Maxim A. Faraonov, Alexey V. Kuzmin, Salavat S. Khasanov, Alexander F. Shestakov, Nikolay N. Denisov, Tatiana A. Savinykh, Akihiro Otsuka, Hiroshi Kitagawa and Dmitri V. Konarev\*

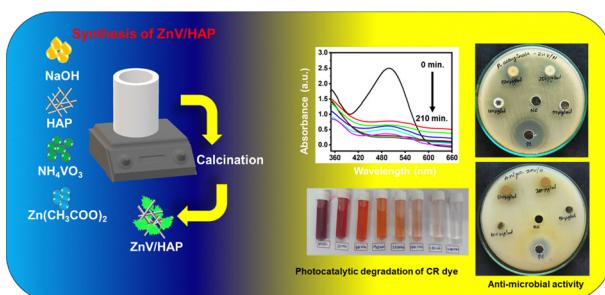
13538



**Decaying leaves turn into energy: empowering high-energy-density lithium–sulfur batteries**

Xiao Wang, Yaozu Jia,\* Di Wang, Xinzhi Ma,\* Hongxu Su, Qiong Gao and Zhikun Xu\*

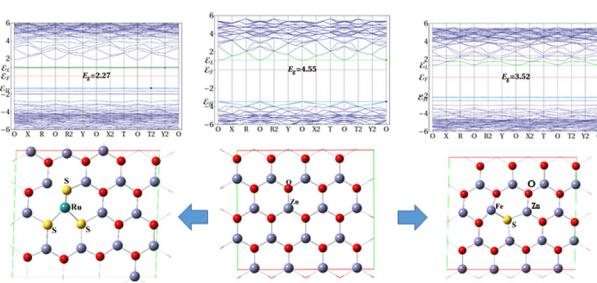
13544



**Interface engineering of  $\text{Zn}_3\text{V}_2\text{O}_8$  decorated hydroxyapatite nanocomposite for photocatalytic degradation of Congo red dye and anti-microbial applications**

I. Betsy Elizabeth, Elaiyappillai Elanthamilan, Sea-Fue Wang\* and I. Sharmila Lydia\*

13557



**Enhancing  $\text{ZnO}$  monolayer nanosheets for photocatalysis: the role of  $\text{FeS}_n$  and  $\text{RuS}_n$  ( $n = 0–3$ ) doping in electronic and structural properties**

Hamidreza Jouypazadeh and Esmail Vessally\*

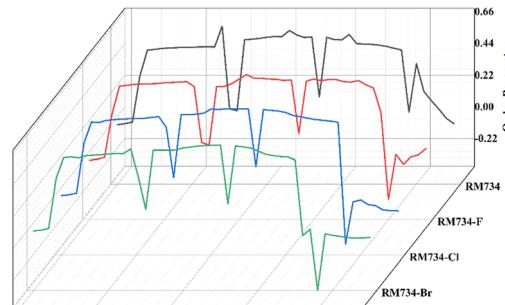


## PAPERS

13566

**Variations in the charge-transport, nonlinear optical, and electro-optical properties of RM734 due to halogenation: a quantum mechanical study**

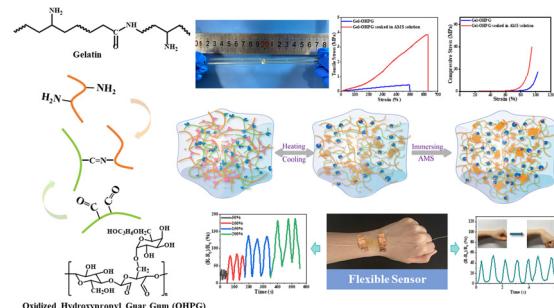
Manish Kumar, Mirtunjai Mishra, Devesh Kumar\* and Devendra Singh\*



13577

**A fully biobased tough hydrogel derived from guar gum and gelatin as a flexible sensor**

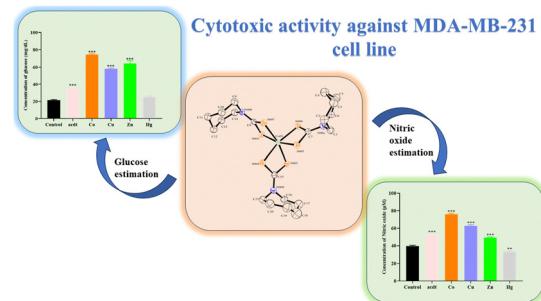
Zixuan Wei, Hongxin Zhou, Yingying Meng, Ting Wu,\* Junjie Li\* and Yuping Wei\*



13589

**Design, synthesis, and structural evaluation of metal complexes of azepane-1-carbodithioate for targeting human breast cancer: investigating cytotoxic activity against the MDA-MB-231 cell line**

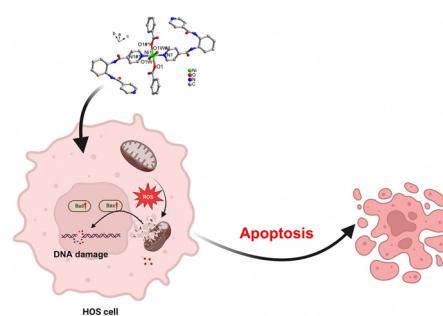
Shubham Jaiswal, Nilesh Rai, Suryansh Chandra, Ashish Verma, Vibhav Gautam, Manu Adhikari, Sanjay Singh and M. K. Bharty\*



13602

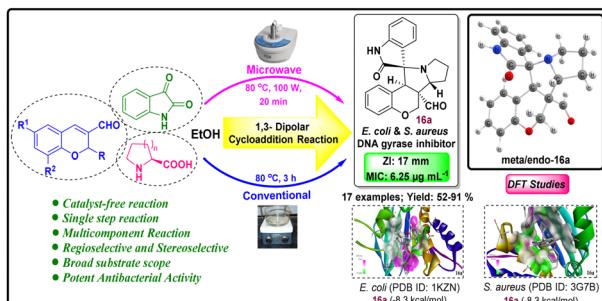
**A novel Ni-based complex inducing apoptosis through mitochondrial dysfunction in osteosarcoma HOS cells**

Xiao-Dong Liu, Pei-Xin Liu, Zhong Zhang, Li-Long Li, Jian Luan\* and Yi Qin\*



## PAPERS

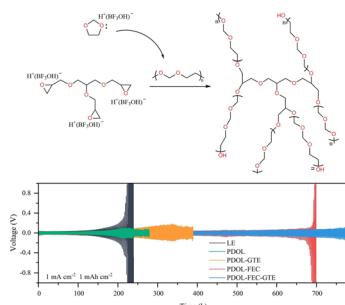
13609



### [3+2] Cycloaddition mediated synthesis of spirooxindole pyrrolidine/piperidine fused chromene aldehyde derivatives: DFT studies, antibacterial evaluation and molecular docking investigation as DNA gyrase inhibitors

Jasmine Panda, Bishnu Prasad Raiguru, Sabita Nayak,\* Suhasini Mohapatra, Seetaram Mohapatra, Saiprakash Rout, Pranay Mohanty, Himansu Sekhar Biswal, Debdutta Bhattacharya and Chita Ranjan Sahoo

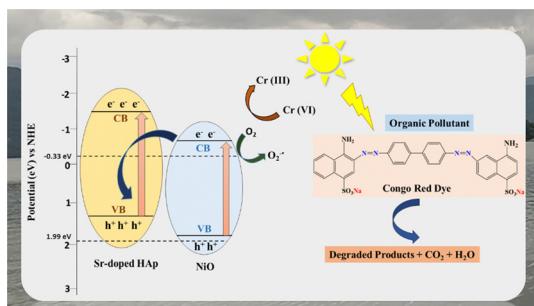
13631



### A glycerol triglycidyl ether cross-linker assisting an *in situ* thermally polymerized gel polymer electrolyte for advanced lithium metal batteries

Hao Huang, Linyun Yi, Xiaoxiao Chen, Chaohui Wei, Aijun Zhou, Yuehui Wang and Jingze Li\*

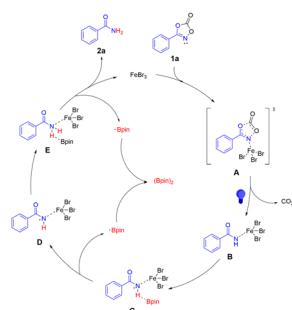
13639



### Development of a hydroxyapatite-based composite: Sr-doped HAp/NiO proven to be an efficient nanocatalyst for photocatalytic degradation of organic dye and photoreduction of Cr(vi)

Linkon Bharali, Susmita Sahu, Juri Kalita and Siddhartha Sankar Dhar\*

13654



### Visible-light-induced Fe(III)-promoted reduction amidation of 1,4,2-dioxazol-5-one

Bosen Wang, Hao Li, Minmin Liu, Jiayi Lin, Chenglei Yang, Zhongkai Zhao, Dianjun Li\* and Jinhui Yang\*



## CORRECTION

13659

**Correction: Synthesis of template-free magnetite nanospheres grown on Sb<sub>2</sub>WO<sub>6</sub> hierarchical structures for sunlight-driven photo-Fenton catalysis of organic pollutants**

Abeer A. AlObaid, Vipin Bihari Shrotriya, Girraj Sharma, Ghazanfar Nazir and Zia Ul Haq\*

