

IN THIS ISSUE

ISSN 1144-0546 CODEN NJCHES 49(29) 12455–12886 (2025)



Cover

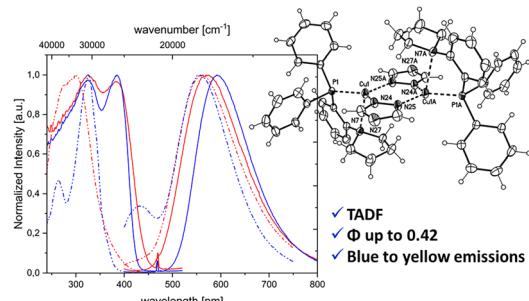
See Wim Klopper,
Stefan Bräse *et al.*,
pp. 12468–12475.
Image reproduced
by permission of
Vincenzo Pani from
New J. Chem.,
2025, 49, 12468.

PAPERS

12468

Blue to yellow-emitting neutral Cu(i) complexes with μ -bridging 1,2,4-triazole: synthesis, photophysical characterization and DFT calculations

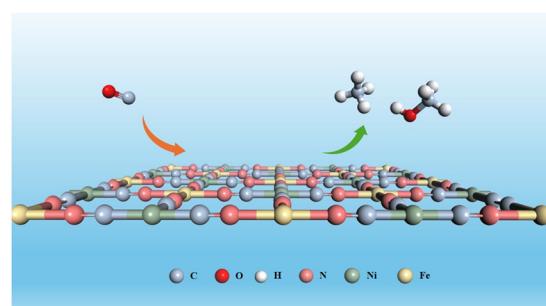
Valentina Ferraro, Xuemin Gan, Florian R. Rehak, Philipp Ralle, Martin Nieger, Andreas Steffen, Wim Klopper* and Stefan Bräse*



12476

A first-principles study of 2D Ni–Fe double metal cyanides for CO electroreduction

Xiaoliang Liu, Pengbo Lyu* and Lizhong Sun*





GOLD
OPEN
ACCESS

EES Solar

Exceptional research on solar
energy and photovoltaics



Part of the EES family

Join
in

Publish with us

rsc.li/EESSolar

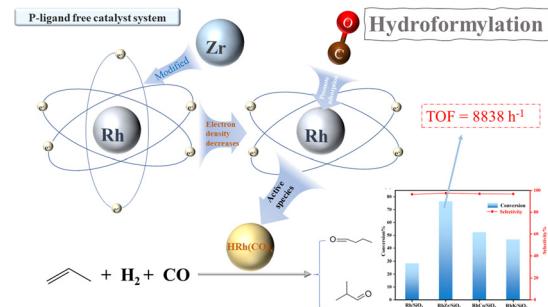
Registered charity number: 207890

PAPERS

12485

Enhancing effect of Zr on Rh/SiO₂ catalysts in propylene hydroformylation: experimental and DFT computational study

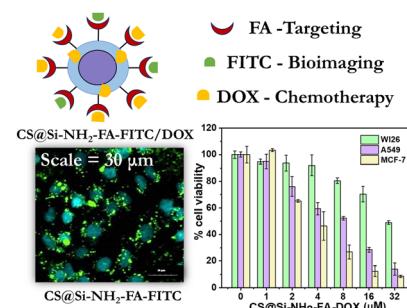
Hong Zhang, Wenlong Lu, Chen Li, Xinyu Chen, Lei Wang,* Hui Wan* and Guofeng Guan



12497

Water-dispersible monodispersed nanoparticles of magnetic γ -Fe₂O₃ and non-magnetic γ -Fe₂O₃@ZnO, γ -Fe_{2-2x}Zn_{2x}O₃ for targeting, imaging and therapy of cancer

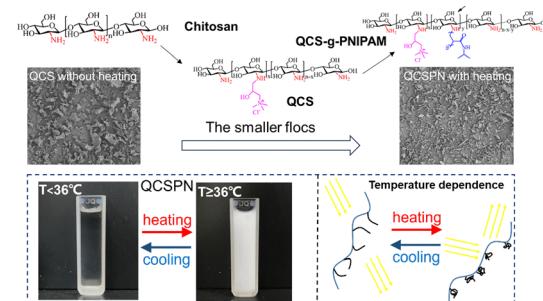
Ruchi Agrawal, Sandeep Balu Shelar, Manas Srivastava and Raghuman Singh Ningthoujam*



12512

A thermo-responsive chitosan-g-PNIPAM flocculant: a dual-phase mechanism for enhanced water treatment efficiency

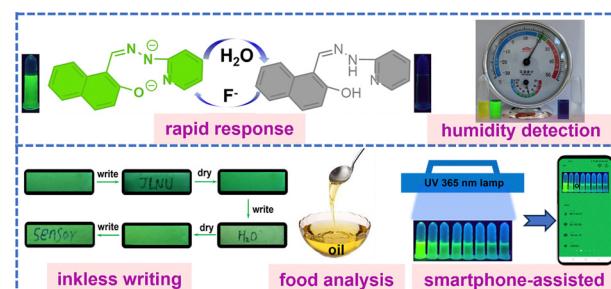
Mengyun Zhao, Jie Yang, Mengyue Wang, Wenzheng Ban, Tao Li,* Xi Lu* and Bin Yan



12523

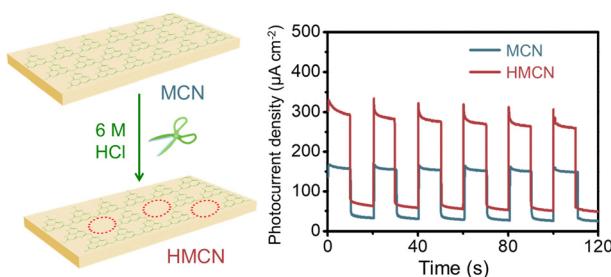
A portable smartphone platform based on a fluorescent-colorimetric sensor for visual detection of trace water in edible vegetable oils

Dongyu Han, Haiyu Liu, Yucun Liu,* Yi Zhang, Guosong Sun and Jiku Wang*



PAPERS

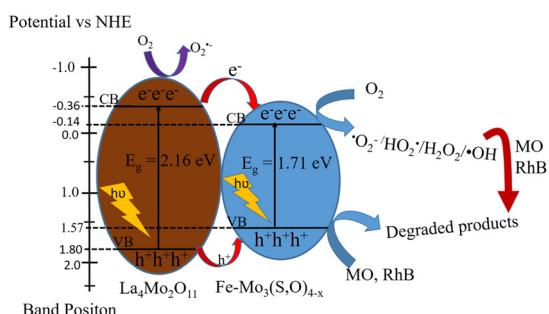
12532



Enhanced photoelectrochemical water splitting performance of a molten-salt carbon nitride photoanode with morphology and defect regulation induced by hydrochloric acid treatment

Xiaochun Li,* Chang Dong, Rouhua Chen, Shimin Jiang, Jiaying Lin, Shaoqi Wu, Sijie Liu, Yuxiu Li, Renping Cao and Bang Lan*

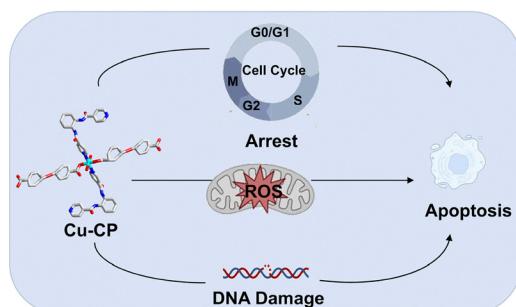
12542



Facile one-step synthesis of Fe-doped $\text{Mo}_3(\text{O},\text{S})_{4-x}/\text{La}_4\text{Mo}_2\text{O}_{11}$ nanocomposites for efficient photodegradation of dye pollutants

Sleshi Fentie Tadesse, Worku Lakew Kebede and Dong-Hau Kuo*

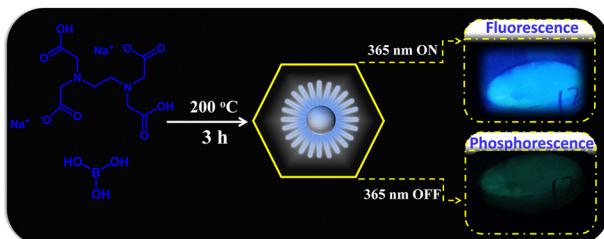
12561



Anti-cancer potential of a new bioactive copper-based coordination polymer against cervical cancer

Lujiadai Xue, Guie Gao, Yajuan Deng, Shimin Zhou, Jian Luan,* Shaolie Zheng* and Xiaoyu Wang*

12568



Matrix-free room-temperature phosphorescent boron and nitrogen co-doped carbon dots for information encryption and anticounterfeiting

Yifang Gao,* Shaogang Lei and Chuan Dong*

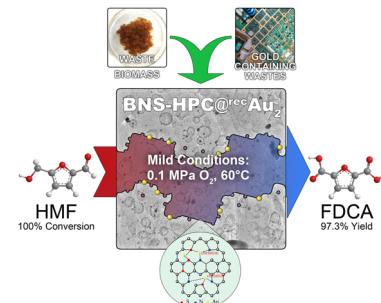


PAPERS

12576

Recovered gold on biomass-based hierarchical porous carbon as a catalyst for 5-hydroxymethylfurfural oxidation

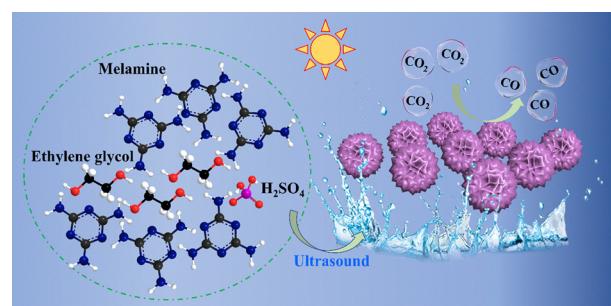
Bing Zhan, Xue-Juan Chen, Xi Hong and Xiu-Feng Hou*



12585

Ultrasound-assisted synthesis of rose-like carbon nitride nanoflowers: synergistic morphology and electronic modulation for efficient CO2 photoreduction

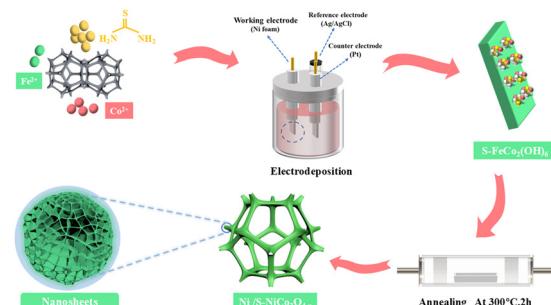
Longda Hu, Jinlong Yu, Yujing You,* Guoquan Zhou, Mengyang Yuan, Ningkun Wu, Liwei Zhao and Zhiqiang Jiang*



12594

Dual regulation strategy to synthesize rich oxygen-vacancy S-doped FeCo₂O₄ nanosheets as high-performance supercapacitor electrodes

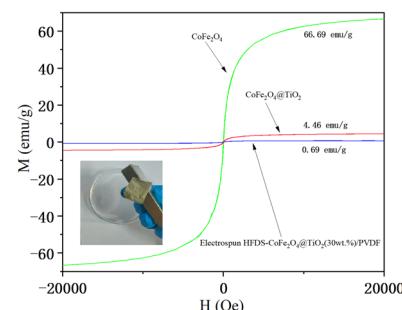
Xiaojuan Liu, Xiaohui Zhong, Jiayi Wu, Xingrong Hu, Zhifeng Li* and Chunxiang Wang*



12607

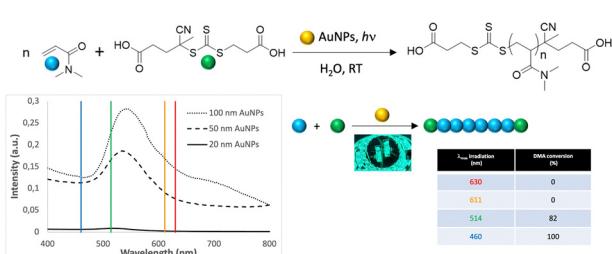
Preparation of a novel electrospun superhydrophobic magnetic CoFe₂O₄@TiO₂/PVDF composite film with catalytic function and enhanced polar crystal content in PVDF

Jian-Wu Xiao, Li-Wang Jiang,* Yu-Ma Yang, Yun-Feng Zhu, Fu-An He* and Dong-Dong Mai*



PAPERS

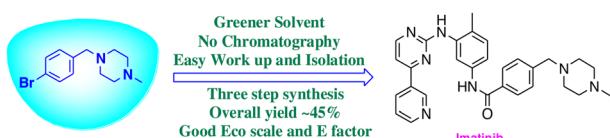
12621



Photoinduced electron transfer RAFT polymerization of *N,N*-dimethylacrylamide *via* plasmonic excitation of gold nanoparticles in water

Aldine Ali, Frederic Amiard, Alexandre Benard, Marc Lamy de la Chapelle* and Sandie Piogé*

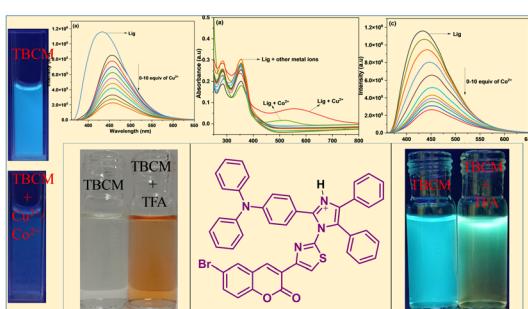
12633



Synthesis of imatinib using greener solvents: a sustainable approach

Atul K. Godha, H. B. Nandeesh, Govindarajalu Gavara,* Ganesh Sambasivam and C. S. Karthik*

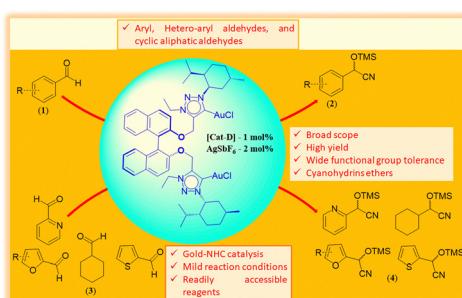
12639



Coumarin based dual fluorescent sensor for Co^{2+} , Cu^{2+} ions with volatile acid vapour sensing and validation from DFT, zebrafish bioimaging studies

Aravind R. Nesaragi,* Jyoti Nagalik, Sharanappa Chapi, Harshitha M, Venuprasad K. D., Naveen Kumar Kalagatur, Chandan Hunsur Ravikumar, Sanjeev R. Inamdar, Shivarudrappa H. P. and Nabil Al-Zaqri*

12651



Uncovering a solvent-free eco-friendly cyanosilylation of aldehydes through a well-defined gold(I)-NHC heterogeneous catalyst

Saurabh Kumar Tiwari,* Ankit Kumar, Ankit Verma and Ibadur Rahman Siddiqui

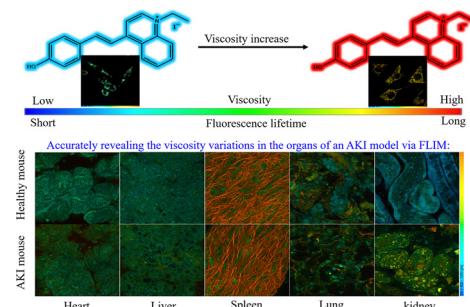


PAPERS

12667

Revealing the viscosity variations in the organs of an acute kidney injury model using a fluorescence lifetime probe under FLIM

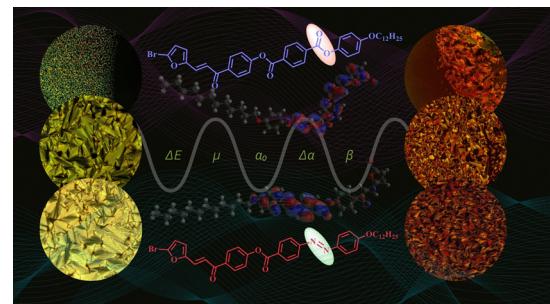
Yang Yang, Shasha Zhang, Fanyi Meng and Xiuquan He*



12676

Exploring the mesophase and optical behavior of novel furan-based chalcone liquid crystals with ester/azo linkages

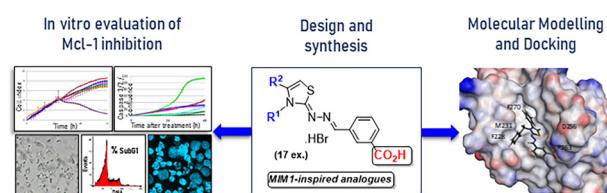
Başar Sezgin,* Ceren Can Karanlık and Gürkan Karanlık*



12688

Synthesis and biological studies on ovarian cancer cells of new heterocyclic molecules inspired by MIM1, an inhibitor of the anti-apoptotic protein Mcl-1

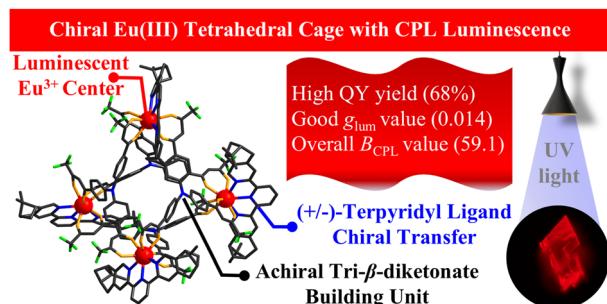
Jocelyn Pezeril, Louis-Bastien Weiswald, Ali Soulieman, Hippolyte Paysant, Ali Hachem, Emilie Brotin, Christophe Denoyelle, Anne-Sophie Voisin-Chiret, Nicolas Gouault, René Grée,* Nicolas Levoin* and Laurent Poulain*



12708

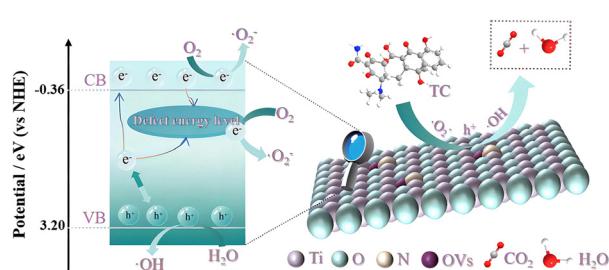
Chiral Eu(III) tetrahedral cage: circularly polarized luminescence induced by an ancillary chiral terpyridyl ligand

Feng Guo,* Xiao-Wei Zhang, Jin-Xiu Wu and Zhao-Gang Liu



PAPERS

12716



Frustrated defect pairs of oxygen vacancies and doped nitrogen in amorphous titanium dioxide for enhanced photodegradation of tetracycline

Siying Sun, Weixing Ming, Haixue Zhang, Anxin Li and Ge Xu*

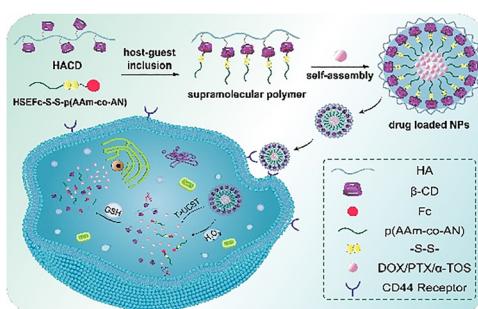
12735



Eco-engineered MIL53-NH₂/xanthan gum nanocomposite: a magnetic biosorbent for rapid eradication of ciprofloxacin and amoxicillin in polluted waters

Mohammad Mehdi Salehi, Ghazaleh Ranjbar, Leila Choopani, Fereshte Hassanzadeh-Afruzi, Ali Maleki* and Ehsan Nazarzadeh Zare*

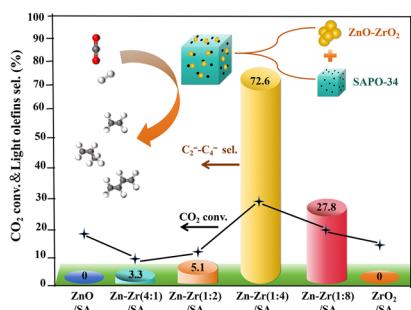
12749



Fabrication of a hyaluronic acid-targeted supramolecular delivery platform with multi-mode drug release

Kaixuan Jiang, Yuxi Ge, Wenhui Wu, Meiran Xie, Hu He* and Ruyi Sun*

12760



CO₂ hydrogenation to light olefins on ZnO-ZrO₂/SAPO-34 tandem catalysts: optimizing the Zn/Zr ratio

Yi Xiang, Zidan Mei, Lulu Zhou, Yue Li* and Yongdong Chen*

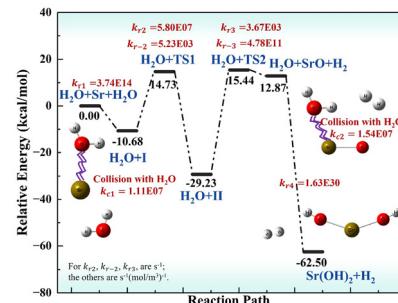


PAPERS

12773

Reaction between strontium and steam in the primary circuit of HTR-PM: a theoretical investigation

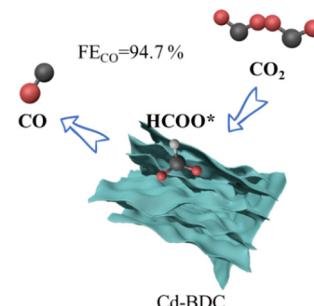
Jingni Guo, Yu Wang, Wei Peng, Feng Xie,* Peng Li and Minghua Lyu



12785

Carboxyl ligand-regulated Cd metal complexes as efficient catalysts for the electrocatalytic reduction of CO₂ to CO

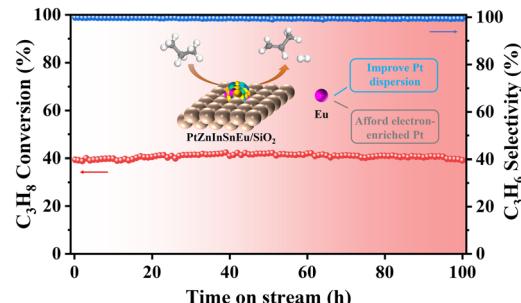
Jia Li, Tianxia Liu* and Boming Lu



12795

High-entropy intermetallic compounds induced by rare-earth europium as efficient catalysts for propane dehydrogenation

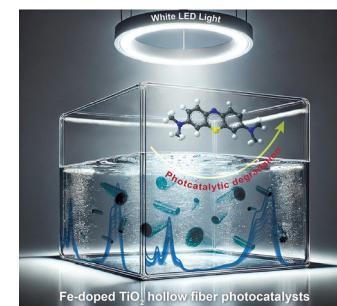
Shenghui Tao, Teng Li, Zhenjie Wang, Guomin Li, Dongyuan Yang, Shimin Liu* and Xinjiang Cui*



12804

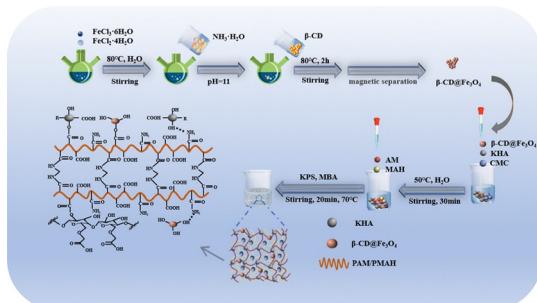
Facile synthesis of Fe-doped TiO₂ hollow fibers for photocatalytic degradation of methylene blue under white light-emitting diode irradiation

Sittan Wongcharoen, Kasidit Janbooranapinij and Gasidit Panomsuwan*



PAPERS

12814



Preparation of a β -CD@ Fe_3O_4 /KHA/CMC/AM/MAH hydrogel and its slow-release herbicidal properties against glyphosate

Jie Song,* Yingnan Zhou, Lijun Chen, Zhiwen Yuan, Yuhua Niu, Xi Li and Liangxian Huang

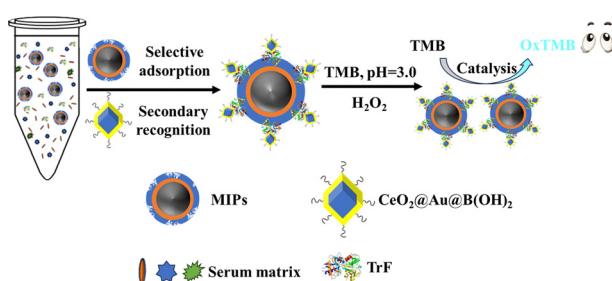
12828



Porous hydrogel loaded with BMSCs overexpressing IL-4 promotes tendon-bone healing by activating the TGF- β /Smad2/3 pathway

Ji-Yang Tan, Ze-Nan Huang, Xun-Hao Wang, Fei Xiong, Qiu-Wen Ying, Qian-Yuan Liu, Jun Qian* and Jing-Yi Mi*

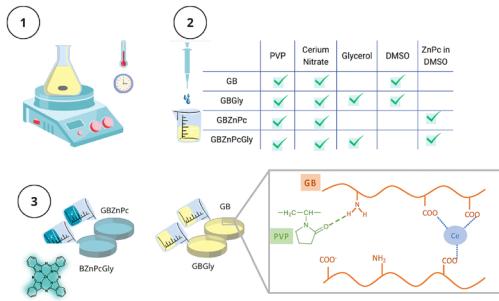
12841



Sandwich-structured imprinted polymers for colorimetric glycoprotein detection via functionalized CeO_2 nanozyme catalysis

Kai-Wen Zheng, Jing-Yan Kang, Xiao-Bo Zhao, Ying-Shan Zhang and Yan-Ping Shi*

12852



Development of functional films for enhanced photodynamic therapy against resistant *S. aureus*

Mariana Miretti, Maria S. Gualdesi, Jimena Vara, Victoria Trivellini Wainziger and Marisa Martinelli*

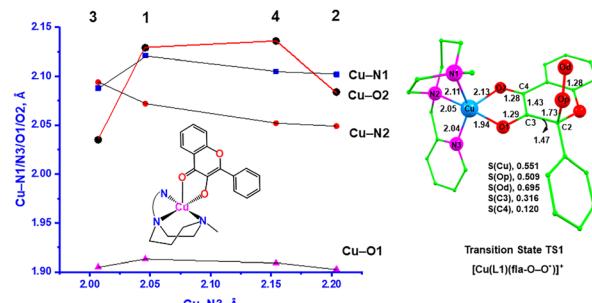


PAPERS

12861

Copper(II)-flavonolate complexes of sterically hindering 3N ligands as enzyme-substrate models for copper(II) quercetin 2,4-dioxygenase: experimental and computational study on the dioxygenation reactivity

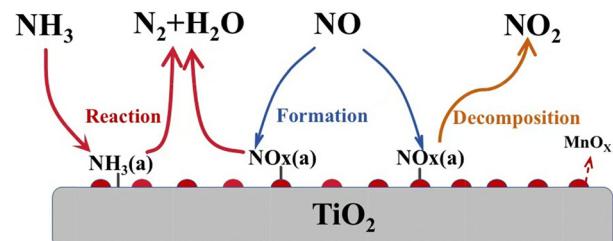
Tamilarasan Ajaykamal, Vishnubhotla V. Sai Siva Bharadwaj, Martin Köckerling, Prabha Vadivelu* and Mallayan Palaniandavar*



12875

Temperature sensitive long-term stability of $\text{MnO}_x/\text{TiO}_2$ catalysts for selective catalytic reduction of NO_x with NH_3 at low temperature

Ruoxuan Bai, Rongkun Jiang, Zixiao Yu, Junqi Wang, Yiqing Zeng* and Shule Zhang



CORRECTION

12884

Correction: Preparation of a polyvinyl chloride superhydrophobic coating with high stability and strong corrosion resistance

Chao-gang Zhou, Jia-jun Chen, Qi-ya Chen, Jin-yue Li, Wei Gong,* Tian-xiang Yuan, Ting-zhen Li, Wei-min Gao and Chuan-bo Hu*

