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IN THIS ISSUE

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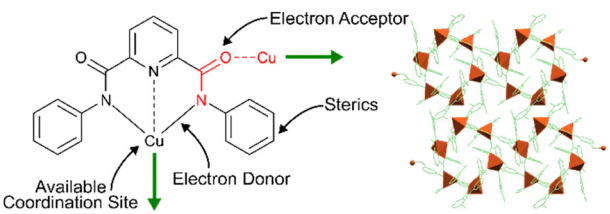
Cover
See Matthew L. Bracken *et al.*, pp. 8994–8999. Image reproduced by permission of Matthew L. Bracken from *New J. Chem.*, 2024, **48**, 8994.

COMMUNICATIONS

8994

Structural basis for Cu(II) metallocycle hexamer formation

Matthew L. Bracken,* Manuel A. Fernandes, Daniel Wamwangi and Orde Q. Munro



9000

Photocatalyst-free hydrothiolation of *gem*-difluoroalkenes with thiols

Lin Zuo, Zhiyang Zhang, Xiao-Ya Yuan, Kai Sun* and Bing Yu*

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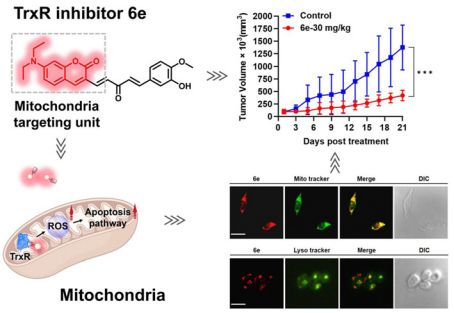
COMMUNICATIONS

9004

Discovery of a mitochondria-targeted fluorescent probe as TrxR inhibitors for cancer therapy

Yixian Liao, Wenda Zhang, Zejun Zhang and Wenying Yu*

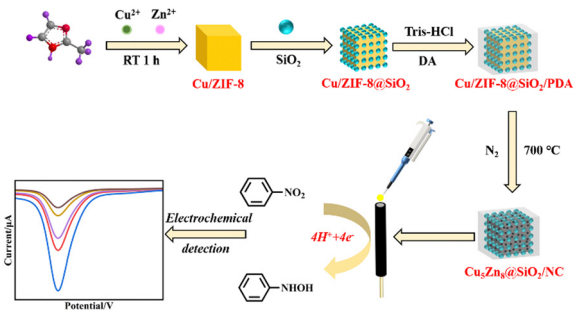


PAPERS

9008

Cu_5Zn_8@SiO_2/NC derived from Cu/ZIF-8 as an efficient electrochemical sensor for environmental pollutant detection in water bodies

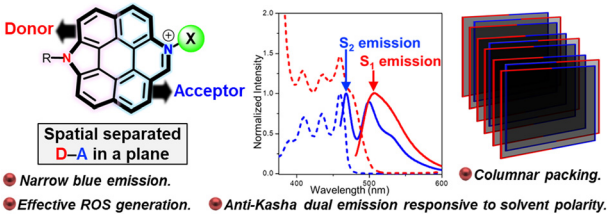
Zi-Hao Yu, Jing-Shuai Chen, Xing-Pei Liu,* Chang-Jie Mao* and Bao-Kang Jin



9014

Perylene with peripherally fused pyrrole and pyridine: columnar packing, anti-Kasha dual emission and reactive oxygen species generation

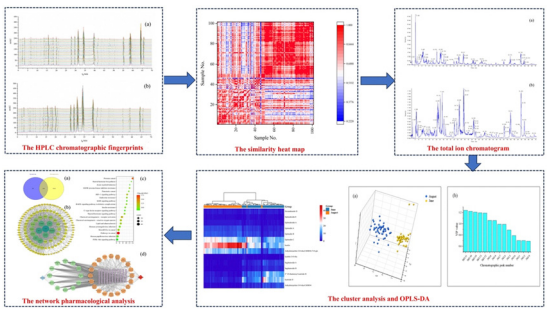
Jing Cao, Wenhao Zhang, Yeda Ding, Xuejin Zhang, Yuanyuan Zhang, Dan Qiao, Shumin Biao, Xuefei Dong, Jiayi Song, Gaole Dai,* Ruiguo Zhao* and Qing Wang*



9020

Quality differentiation of *Epimedium* from different harvesting periods based on LC-MS and network pharmacology

Jianyu Zhang, Yuru Chen, Yuchen Tang, Shubo Guo, Cheng Ye and Wenlong Li*



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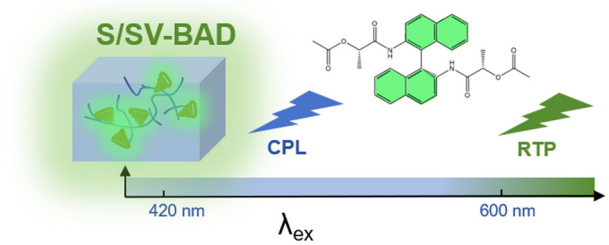
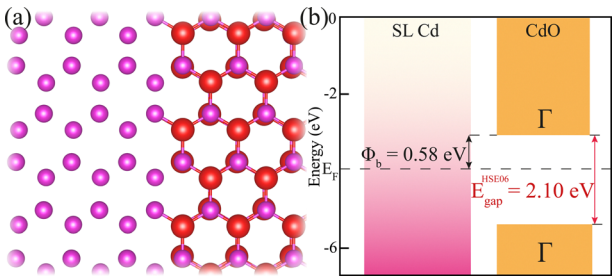
9030



Circularly polarized room-temperature phosphorescence enhanced by dynamic cross-linked network fixation

Bochun Wang, Yuzhan Li, Changli Zhang, Sirong Sun, Wanli He, Dong Wang, Hui Cao and Zhou Yang*

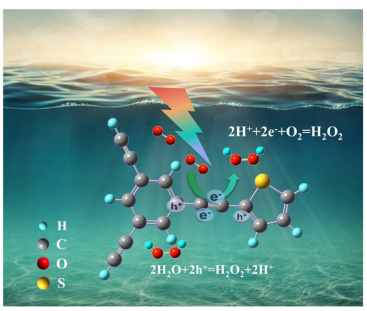
9036



Thickness-dependent characteristics and oxidation of 2D-cadmium

Arda Gulucu and Hasan Sahin*

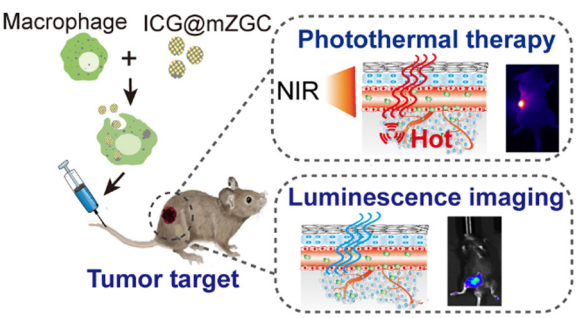
9043



The construction of an alkynyl-containing porous polymer for enhanced photocatalytic H_2O_2 generation

Yumiao Wang, Wenwen Chi, Renbao Zhang, Yingxin Guo, Xinyu Sun, Hui Zhao, Jiawei Zhang, Yuming Dong* and Yongfa Zhu

9052



Near infrared-emitting persistent luminescence nanoparticles@macrophages as cell-based carriers for precise imaging-guided cancer cell ablation

Hua Wang, Jie Zhang, Bin Zheng, Zirui Yang, Jiayi Sun, Xiao Liu* and Niansong Qian*

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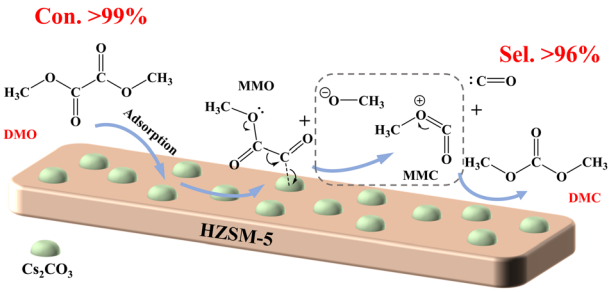
9062

Decarbonylation of dimethyl oxalate to dimethyl carbonate over Cs_2CO_3/HZSM-5

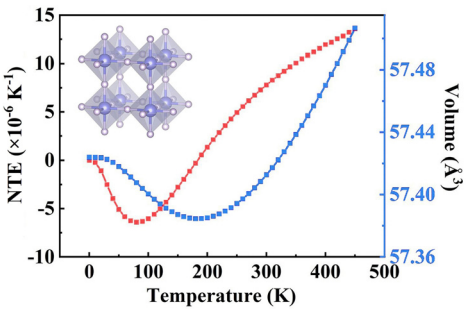
Ning Jv, Ci Li, Fang Li,* Wei Xue* and Jianhua Lv



9076

Theoretical prediction of negative thermal expansion in cubic VF_3

Dingfeng Yang,* Yurou Tang, Junzhu Yang, Hongzheng Pu, Mingyu Pi* and Yuanyuan Li*



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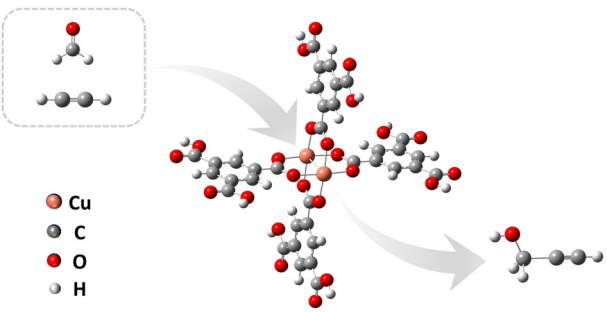
Catalytic ethynylation of formaldehyde for selective propargyl alcohol production using the copper metal organic framework HKUST-1

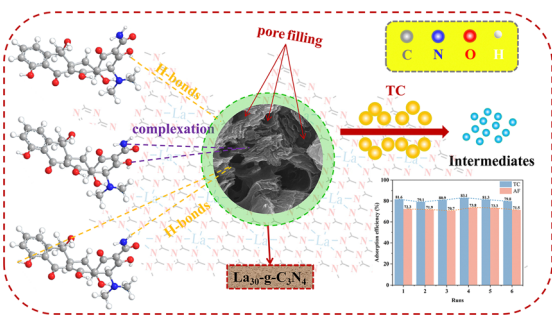
Wanxi Yang, Wencai Peng,* Han Li, Jin Mao, Liqiang Qian and Qingyu Zhang



9090

Evaluation of the adsorption and degradation performance of lanthanum-modified mesoporous carbon nitride composite materials for tetracycline wastewater treatment

Zhiqiang Wu,* Yueyi Li, Pengxi Jiang, Sisi Ma, Wenfei Dong, Hongjian Zhao, Enke Feng* and Xu-Ming Wang*



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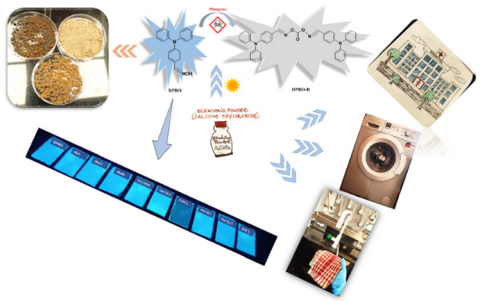
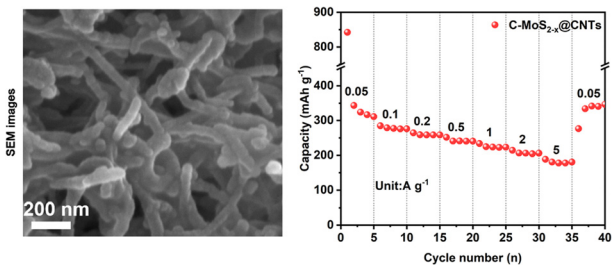
9103



A rapid and selective "on–off" fluorescence detection of lethal pulmonary agent phosgene supplemented with theoretical approach: a cost-effective sensing tool for household bleach and soil analysis

Malavika S. Kumar, Malay Dolai and Avijit Kumar Das*

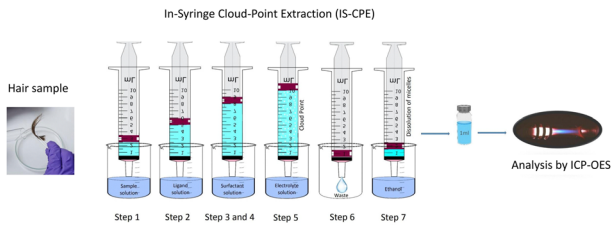
9110



Vacancy engineering in MoS_2 nanolayers coupled with dual-carbon confinement for potassium storage

Xiaotong Wei, Shuang Tian,* Tengteng Wang, Xue Zhang, Jingyi Huang, Peibo Gao, Yu Feng, Huanian Zhang, Jin Zhou and Tong Zhou*

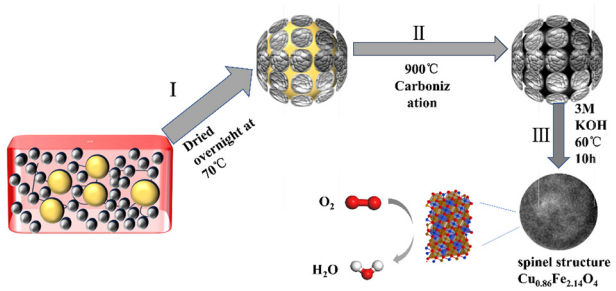
9119



A novel in-syringe cloud point extraction method for the determination of cadmium and lead in human hair samples

Hesane Zolfaghari, Seyed Mosayeb Daryanavard* and Aghil Gholamshahzadeh

9129



***In situ* growth of highly active Cu–Fe spinel materials on N-doped porous carbon spheres *via* an adjustable localized microenvironment**

Qidi Lu, Jianrong Wang and Zhenlu Zhao*

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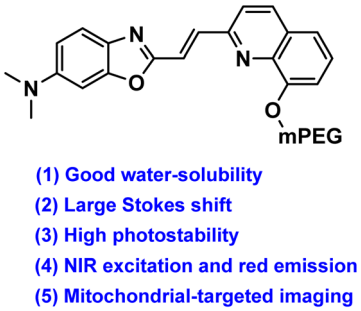
9136

Mitochondrial-targeted fluorophore: synthesis, property and cells imaging

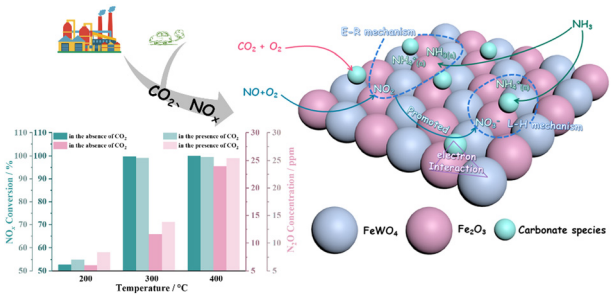
Jindao Liu, Lin Kong and Yi Chen*



9142

Revealing the influencing mechanism of CO_2 on SCR of NO_x with NH_3 over FeW mixed oxide catalyst: interactions of carbonate-Fe_2O_3–$FeWO_4$

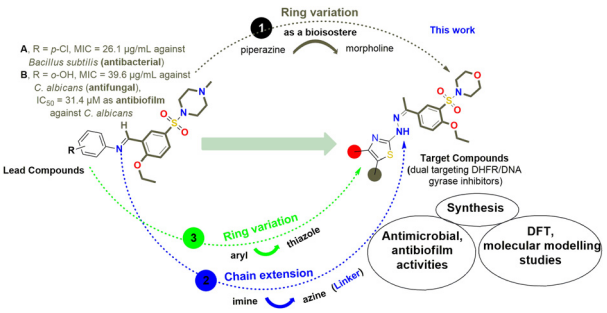
Hui Wang, Yujie Qiao, Xiang Li and Zhenping Qu*



9149

Tailoring of novel morpholine-sulphonamide linked thiazole moieties as dual targeting DHFR/DNA gyrase inhibitors: synthesis, antimicrobial and antibiofilm activities, and DFT with molecular modelling studies

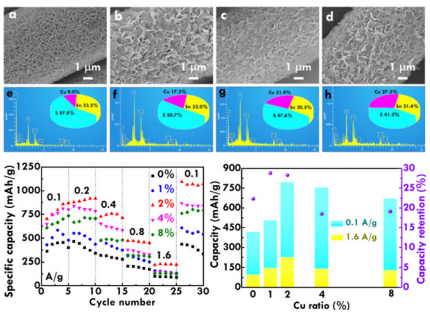
Moaz M. Abdou,* Essam M. Eliwa, M. A. M. Abdel Reheim, Ahmed Abu-Rayyan, Shimaa M. Abd El-Gilil, Mohammed Abu-Elghait, Mohamed H. Sharaf, Mohamed H. Kalaba, Ahmed H. Halawa and Walid E. Elgammal



9163

Design of novel Cu-doped SnS_2 on carbon cloth as a binder-free anode to improve high-rate performance of sodium ion battery

Tsai-Mu Cheng,* Kuan-Hsien Lin, Chutima Kongvarhodom, Hung-Ming Chen, Sadang Husain, Sibidou Yougbaré and Lu-Yin Lin*



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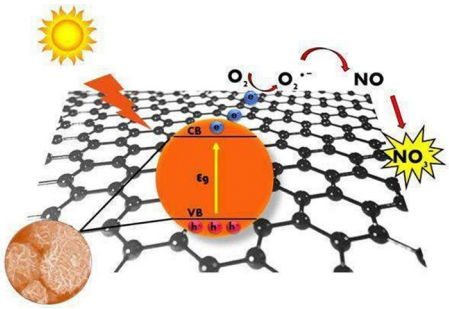
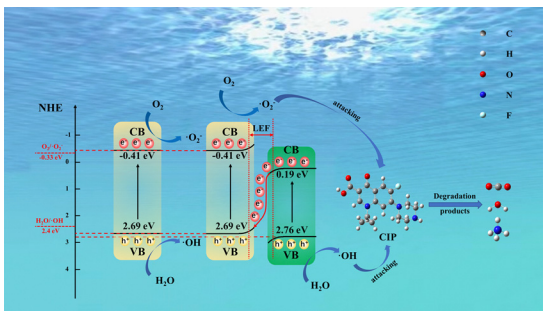
9172



Facile assembly of BiOI/GO composites with enhanced photocatalytic activity for NO photooxidation under visible light irradiation

M. Y. Nava-Núñez,* E. López-Cuéllar and A. Martínez-de la Cruz

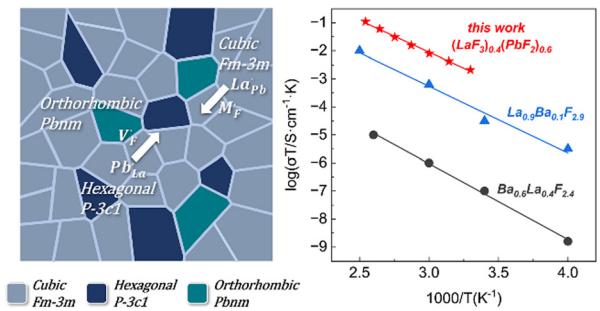
9185



Construction of an MIL-101(Fe)/layered bimetallic oxide heterojunction for enhanced ciprofloxacin removal

Shikai Xue, Dongying Zhu, Qing Zuo, Shuangfeng Yang, Haiyan Wang, Qiujun Lu, Guoxing Yin, Guihua Ruan and Fuyou Du*

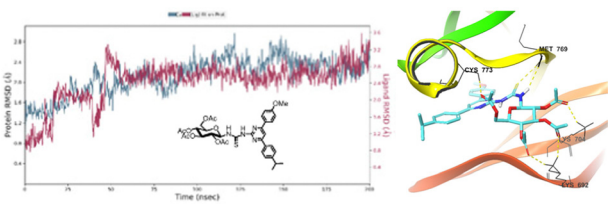
9196



Effects of mixed phases on ionic conductivities for $(LaF_3)_{1-x}(PbF_2)_x$ fast-fluoride-ion-conducting solid electrolytes

Yaowei Hao, Qiaojun Nie, Xiaocao Cao, Jiafan Zheng, Kai Zhang, Jun Zheng, Haodong Wang, Yafang Zhao, Jiayi Liu, Zhiguang Lin, Ming Zhang* and Zhongrong Shen*

9208



Synthesis, anticancer activity, and molecular simulation of *N*-(2,3,4,6-tetra-*O*-acetyl-β-D-glucopyranosyl)thioureas containing a pyrimidine ring

Vu Ngoc Toan, Nguyen Dinh Thanh,* Do Son Hai and Nguyen Minh Tri

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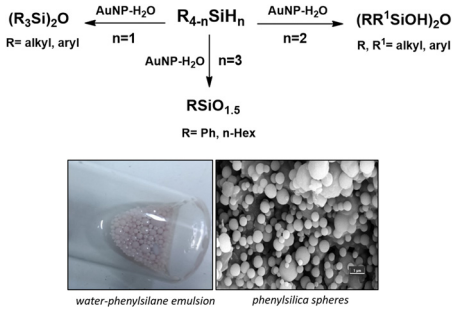
PAPERS

9224

Organosilanes as synthetic precursors for oligosiloxanes and phenylsilica spheres

Ragini Jain and Ravi Shankar*



9231

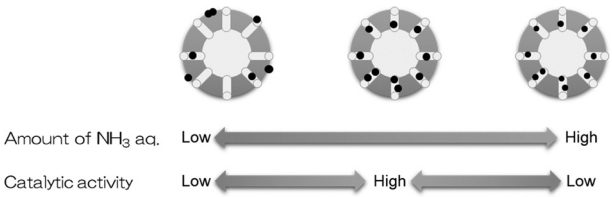
Enhanced photocatalytic activity of carbon nitride nanosheets *via* alkali metal ion doping

Xinhang Sun, Gang Zhao, Songyuan Li, Junhui Liu* and Mingju Huang*

9243

Effect of ammonia addition on the dispersion and activity of supported copper species on porous silica–alumina hollow spheres for catalytic decomposition of nitrous oxide

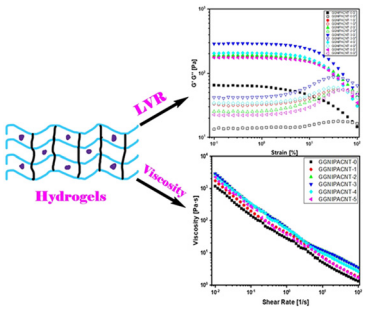
Tetsuo Umegaki,* Takeru Nakamura and Yoshiyuki Kojima



9249

Effect of functionalized multiwalled carbon nanotubes on the mechanical, swelling and viscoelastic properties of gum ghatti-cl-poly(NIPAm) hydrogels

Pragnesh N. Dave* and Pradip M. Macwan



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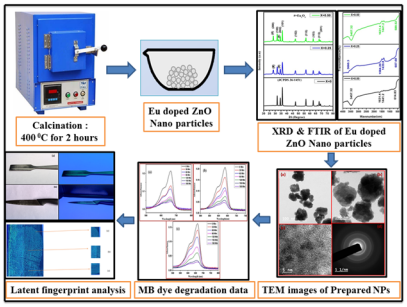
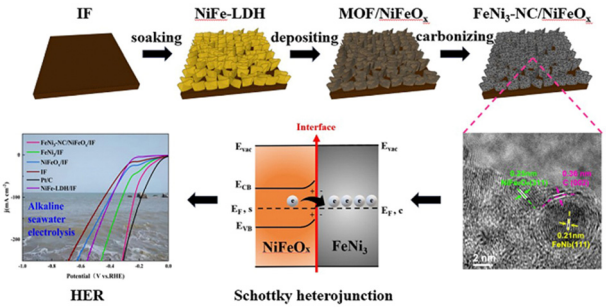
9262



Facile synthesis of Eu-doped ZnO nanoparticles for the photodegradation of the MB dye and enhanced latent fingerprint imaging

Shreya A., Bhojya Naik H. S.,* Vishnu G., Barikara Shivaraj, Adarshgowda N. and Hareeshanaik S.

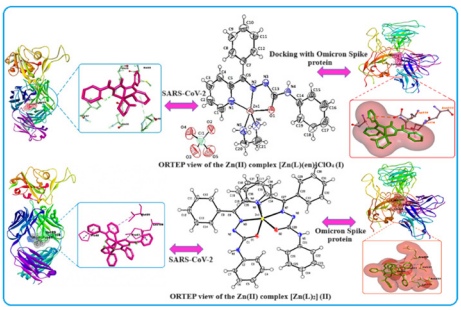
9277



Self-sacrificial templated-directed synthesis of an ultrathin 0D/2D $FeNi_3$-NC/$NiFeO_x$ Schottky junction as a hydrogen evolution reaction electrode for alkaline seawater electrolysis

Zili Xu, Yuankang Bao, Xun Xu,* Ping Li, Hao Zhang, Deliang Li and Shuwang Duo*

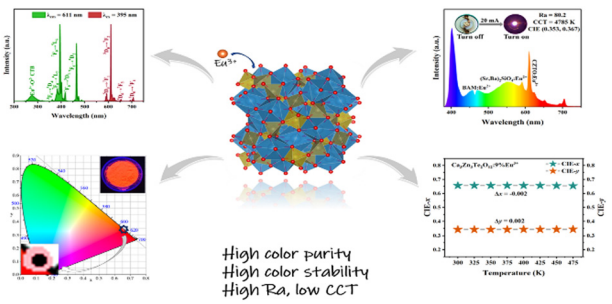
9287



Synthesis of Zn(II) coordination complexes, their molecular design and docking with SARS-CoV-2 RBD protein and Omicron spike protein

Simranjeet Singh and Mukesh Choudhary*

9314



A novel Eu^{3+} activated $Ca_3Zn_3Te_2O_{12}$ tellurate red phosphor for white LEDs with high color stability and color purity

Feiyan Xie,* Junqiang Gu, Dekang Xu, Qiancheng Xiong, Jinyu Yang, Xiangjian Ou and Dawei Wen*

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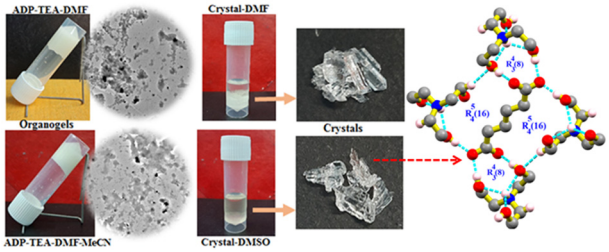
9322

Solvent and stoichiometry-dependent versatile organogelation and robust crystallization from the supramolecular association of adipic acid and triethanolamine

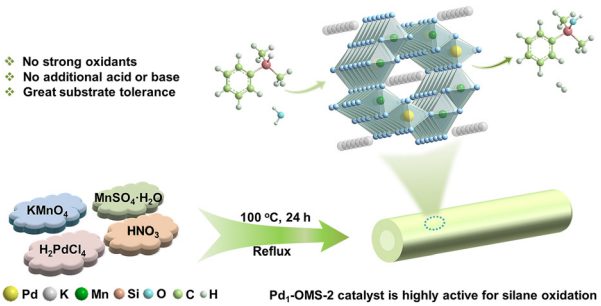
Gerald Lepcha, Indrajit Pal, Santanu Majumdar, Yogesh Dhasmana, Sanjay Mondal, Ennio Zangrando, Deepak Chopra* and Biswajit Dey*



9333

Pd single-atom decorated OMS-2 nanorod for efficient silane oxidation

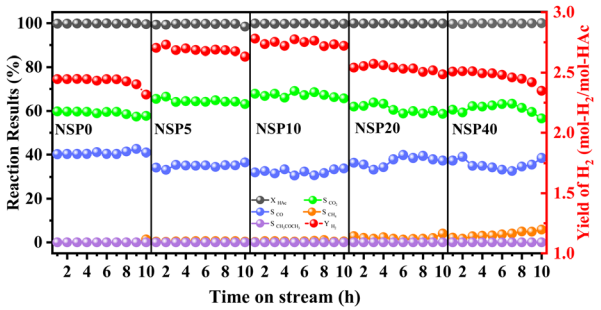
Liping Zhang, Xingchao Dai, Teng Li, Ce Liu, Bin Wang, Guomin Li, Peiqing Zhao* and Xinjiang Cui*



9340

Solid solution-type Sm–Pr–O supported nickel-based catalysts for auto-thermal reforming of acetic acid: the role of Pr in solid solution

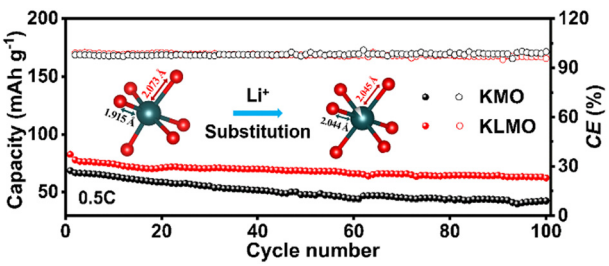
Jinbo Liu, Jia Huang, Chenyu Ding, Fuxia Liao, Chenghong Shu and Lihong Huang*



9352

Suppression of Jahn–Teller distortion in a layered Mn-based oxide cathode with Li substitution toward achieving stable K-storage

Xiaoyu Yin, Mengjia Gu, Qian Yang and Kaixiang Lei*



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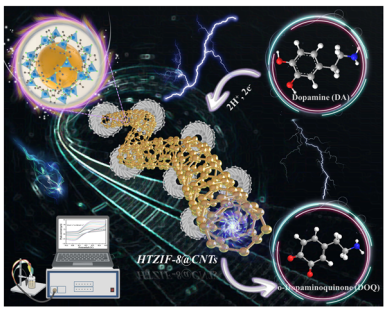
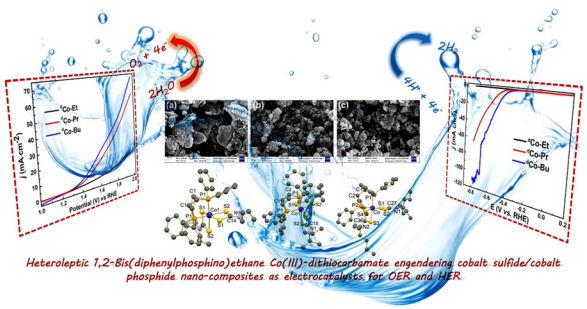
9358



Synthesis and characterization of hollow dual-tube MOF hybrid nanocomposites for electroanalytical applications

Junfeng Wang, Shuyue Tian, Sihua Pan, Yujuan Zhang, Wang Sun and Yang Wang*

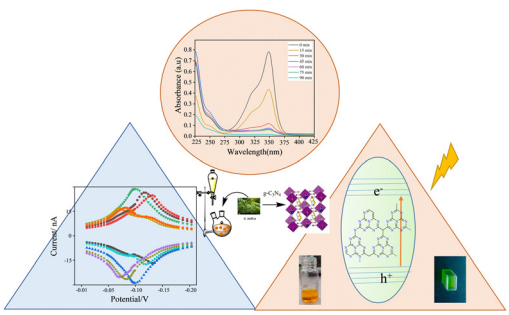
9366



1,2-Bis-(diphenylphosphino)ethane (dppe) appended cobalt(III)-dithiocarbamates as single source precursors of cobalt sulfide/cobalt phosphide composites: apt electrocatalytic materials for water splitting reactions

Devyani Srivastava, Aparna Kushwaha, Sudheer, Gabriele Kociok-Köhn, Ashish Kumar Singh,* Mohd. Muddassir and Abhinav Kumar*

9376



Green-synthesized porous g-C_3N_4@ZnHCC nanocomposite for the on–off fluorescence detection and elimination of toxic chromium(VI) metal ions

Jyoti Yadav, Manviri Rani* and Uma Shanker*

9390

Plasmonic Fabry–Pérot nanocavities produced *via* solution methods

Stylianos Kioumourtzoglou, Robert Berical-Vadell, Vitor R. Silveira, Dan Li, Mikaela Görlin and Jacinto Sá*

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CORRECTION

9396

Correction: Effect of electrolyte optimization on nitrogen-doped MXene ($Ti_3C_2T_x$) coupled with Cu–BTC MOF for a supercapattery and the hydrogen evolution reaction

Haseebul Hassan, Ehtisham Umar, M. Waqas Iqbal,* Afaf Khadr Alqorashi, Badriah S. Almutairi, Hussein Alrobei, Amir Muhammad Afzal and Niaz Ahmad

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