

## IN THIS ISSUE

ISSN 1144-0546 CODEN NJCHES 48(20) 8979-9398 (2024)



### Cover

See Matthew L. Bracken  
et al., pp. 8994-8999.

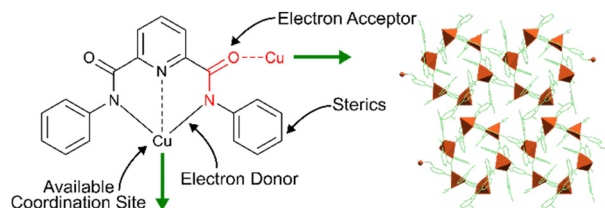
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Matthew L. Bracken  
from *New J. Chem.*,  
2024, **48**, 8994.

## COMMUNICATIONS

8994

### Structural basis for Cu(II) metallocycle hexamer formation

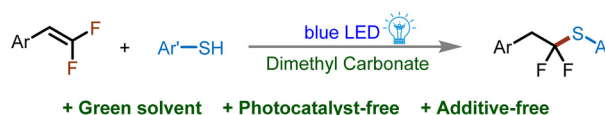
Matthew L. Bracken,\* Manuel A. Fernandes,  
Daniel Wamwangi and Orde Q. Munro



9000

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

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



# Environmental Science journals

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Fundamental questions  
Elemental answers

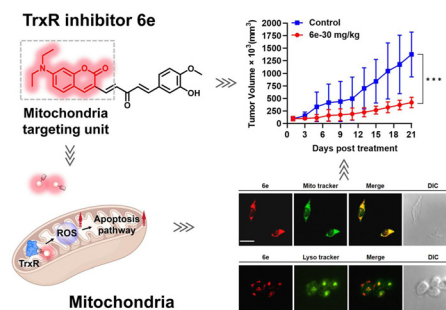


## COMMUNICATIONS

9004

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

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

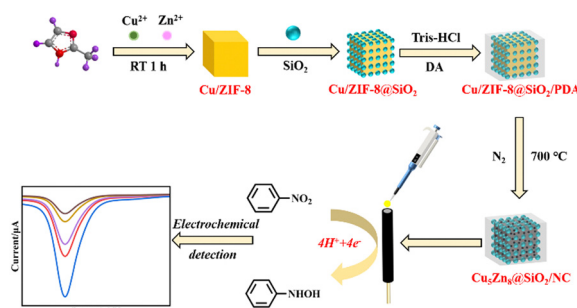


## PAPERS

9008

 $\text{Cu}_5\text{Zn}_8\text{@SiO}_2/\text{NC}$  derived from  $\text{Cu}/\text{ZIF-8}$  as an efficient electrochemical sensor for environmental pollutant detection in water bodies

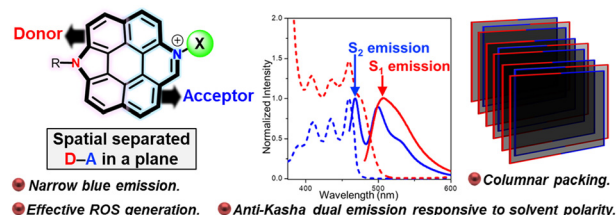
Zi-Hao Yu, Jing-Shuai Chen, Xing-Pei Liu,\* Chang-Jie Mao\* and Bao-Kang Jin



9014

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

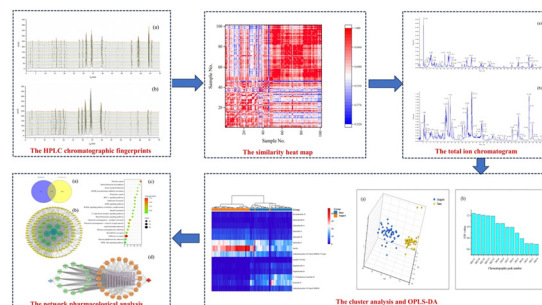
Jing Cao, Wenhao Zhang, Yeda Ding, Xuejin Zhang, Yuanyuan Zhang, Dan Qiao, Shumin Biao, Xuefei Dong, Jiayi Song, Gaole Dai,\* Ruiguo Zhao\* and Qing Wang\*



9020

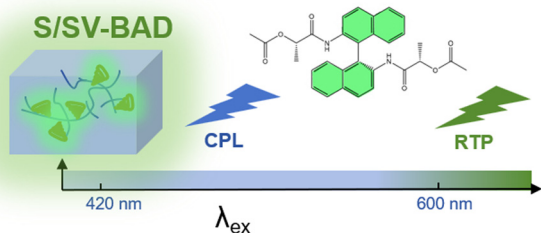
Quality differentiation of *Epimedium* from different harvesting periods based on LC-MS and network pharmacology

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





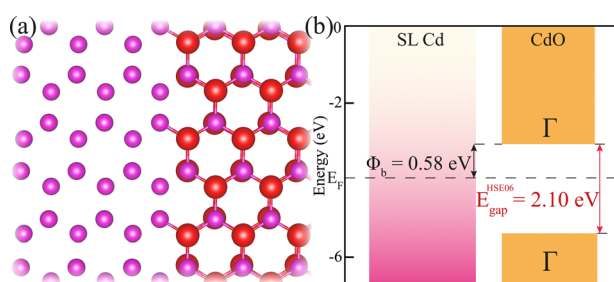
9030



### 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\*

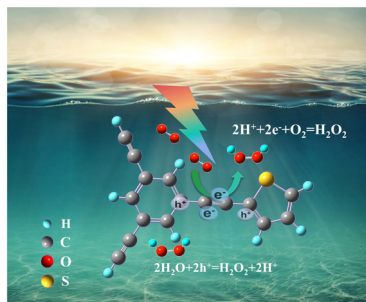
9036



### Thickness-dependent characteristics and oxidation of 2D-cadmium

Arda Gulucu and Hasan Sahin\*

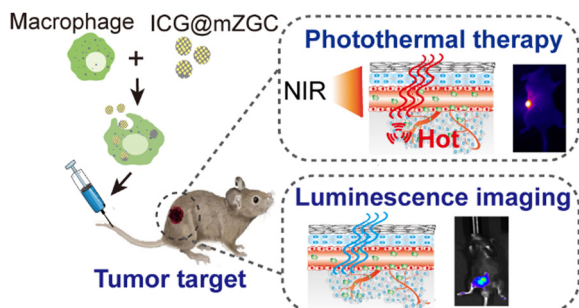
9043



### The construction of an alkynyl-containing porous polymer for enhanced photocatalytic $\text{H}_2\text{O}_2$ 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\*

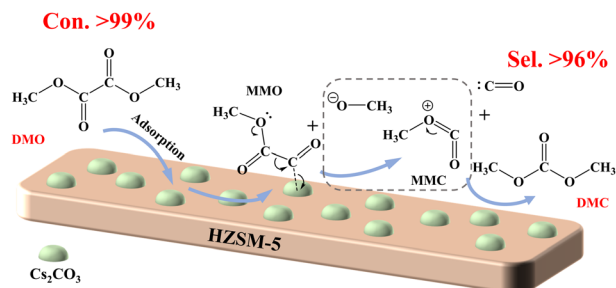




9062

### Decarbonylation of dimethyl oxalate to dimethyl carbonate over $\text{Cs}_2\text{CO}_3/\text{HZSM-5}$

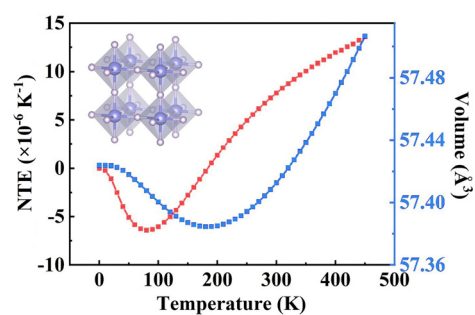
Ning Jv, Ci Li, Fang Li,\* Wei Xue\* and Jianhua Lv



9076

### Theoretical prediction of negative thermal expansion in cubic $\text{VF}_3$

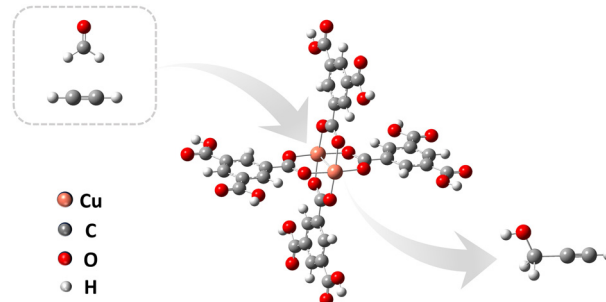
Dingfeng Yang,\* Yurou Tang, Junzhu Yang, Hongzheng Pu, Mingyu Pi\* and Yuanyuan Li\*



9082

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

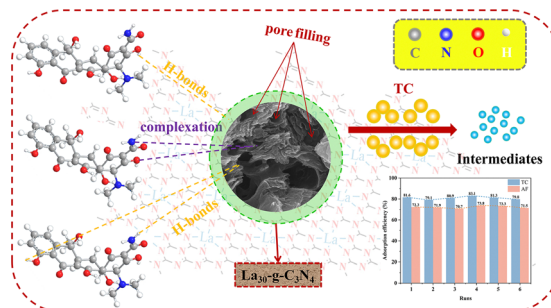
Wanxi Yang, Wencai Peng,\* Han Li, Jin Mao, Liqiang Qian and Qingyu Zhang



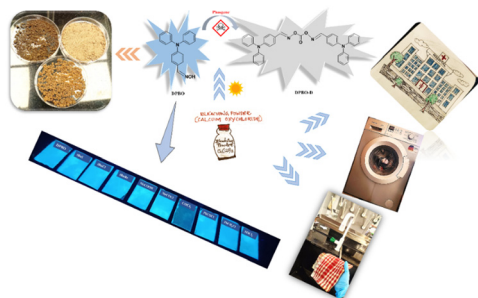
9090

### 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\*



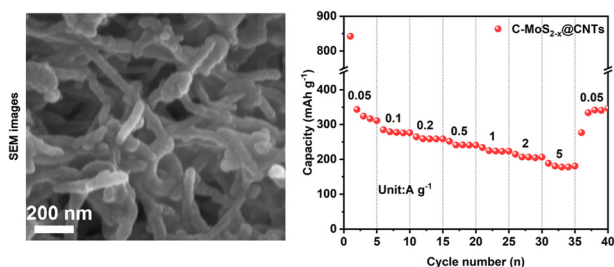
9103



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

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

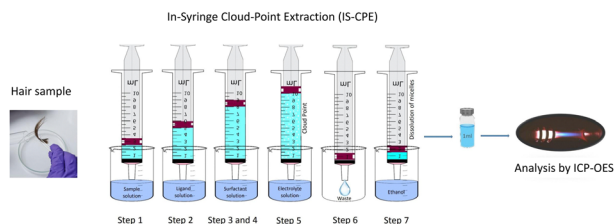
9110



**Vacancy engineering in MoS<sub>2</sub> nanolayers coupled with dual-carbon confinement for potassium storage**

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

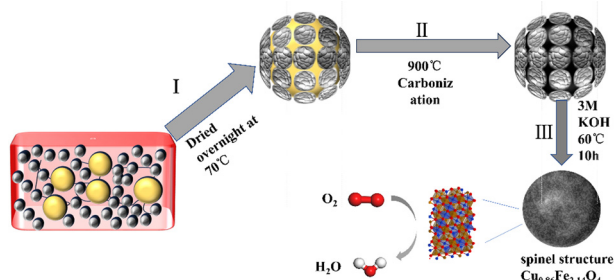
9119



**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\*

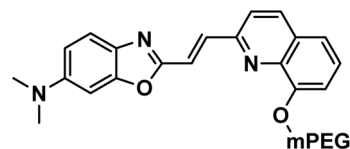


## PAPERS

9136

## Mitochondrial-targeted fluorophore: synthesis, property and cells imaging

Jindao Liu, Lin Kong and Yi Chen\*

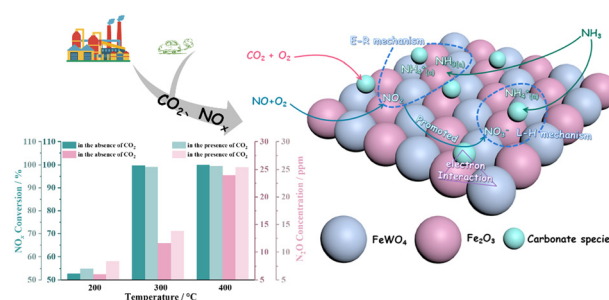


- (1) Good water-solubility
- (2) Large Stokes shift
- (3) High photostability
- (4) NIR excitation and red emission
- (5) Mitochondrial-targeted imaging

9142

Revealing the influencing mechanism of CO<sub>2</sub> on SCR of NO<sub>x</sub> with NH<sub>3</sub> over FeW mixed oxide catalyst: interactions of carbonate-Fe<sub>2</sub>O<sub>3</sub>-FeWO<sub>4</sub>

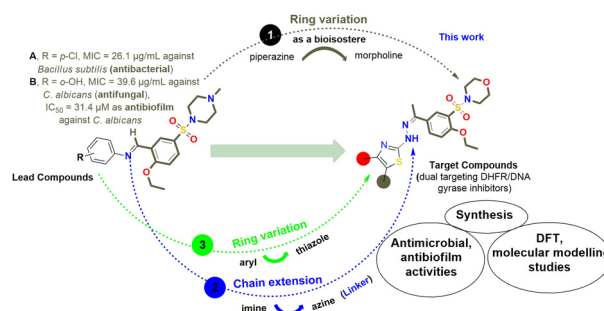
Hui Wang, Yujie Qiao, Xiang Li and Zhenping Qu\*



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

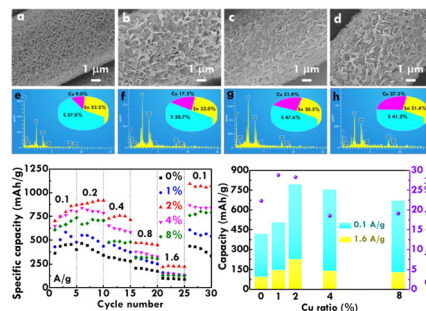
Moaz M. Abdou,\* Essam M. Eliwa, M. A. M. Abdel Reheim, Ahmed Abu-Rayyan, Shimaa M. Abd El-Gilil, Mohammed Abu-Elghait, Mohamed H. Sharaf, Mohamed H. Kalaba, Ahmed H. Halawa and Walid E. Elgammal



9163

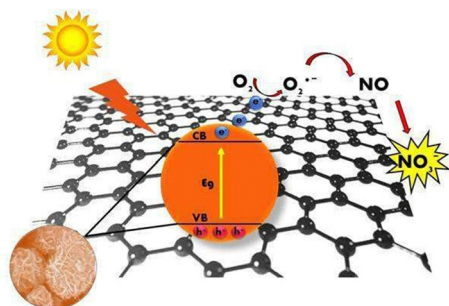
Design of novel Cu-doped SnS<sub>2</sub> on carbon cloth as a binder-free anode to improve high-rate performance of sodium ion battery

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





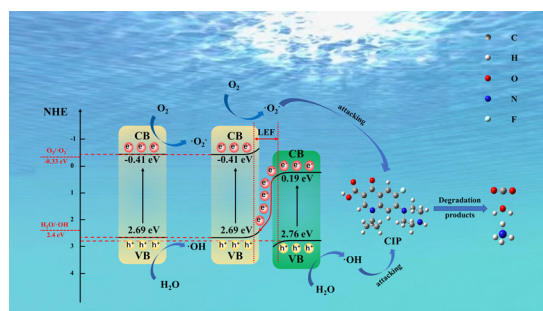
9172



### 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

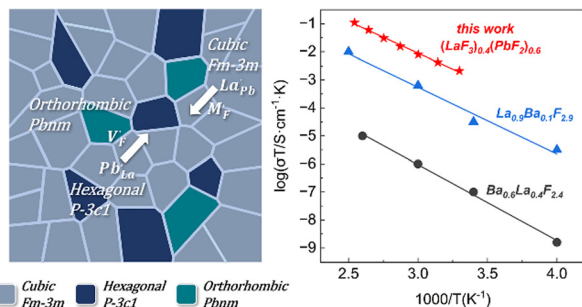
9185



### 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\*

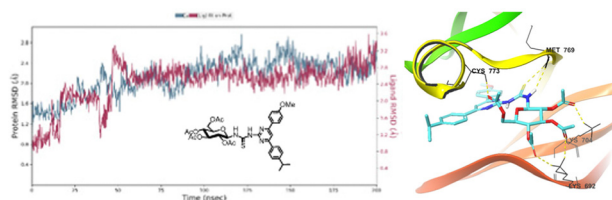
9196



### Effects of mixed phases on ionic conductivities for $(\text{LaF}_3)_{1-x}(\text{PbF}_2)_x$ 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

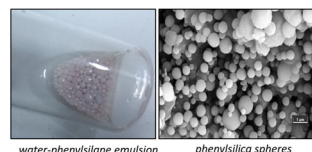


### Synthesis, anticancer activity, and molecular simulation of *N*-(2,3,4,6-tetra-*O*-acetyl- $\beta$ -D-glucopyranosyl)thioureas containing a pyrimidine ring

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



## Organosilanes as synthetic precursors for oligosiloxanes and phenylsilica spheres

$$\begin{array}{ccccc}
 (\text{R}_3\text{Si})_2\text{O} & \xleftarrow[\text{n}=1]{\text{AuNP-H}_2\text{O}} & \text{R}_4\text{-nSiH}_n & \xrightarrow[\text{n}=2]{\text{AuNP-H}_2\text{O}} & (\text{RR}'\text{SiOH})_2\text{O} \\
 \text{R= alkyl, aryl} & & & & \text{R, R}'=\text{alkyl, aryl} \\
 & & \downarrow \text{AuNP-H}_2\text{O} \text{ n}=3 & & \\
 & & \text{RSiO}_{1.5} & & \\
 & & \text{R= Ph, n-Hex} & & 
 \end{array}$$


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

Figure 1 consists of two parts. Part (a) shows a 3D lattice structure of a triangular crystal. The lattice is composed of nitrogen (N) atoms (grey spheres) and carbon (C) atoms (blue spheres). A central metal ion (M') is shown in a yellow sphere, coordinated by four nitrogen atoms. The legend indicates: N (grey sphere), C (blue sphere), and M' = Li, Na, K (yellow sphere). Part (b) shows a 3D lattice structure of a triangular crystal, similar to (a), but with a different arrangement of atoms. The legend is the same as in (a).

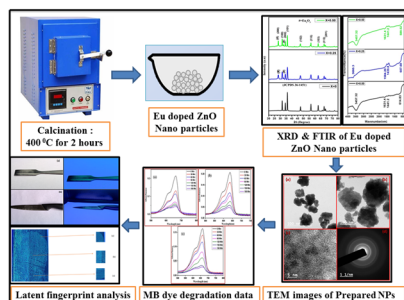
# Effect of ammonia addition on the dispersion and activity of supported copper species on porous silica–alumina hollow spheres for catalytic decomposition of nitrous oxide

Amount of  $\text{NH}_3$  aq. Low  $\longleftrightarrow$  High

Catalytic activity Low  $\longleftrightarrow$  High  $\longleftrightarrow$  Low

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

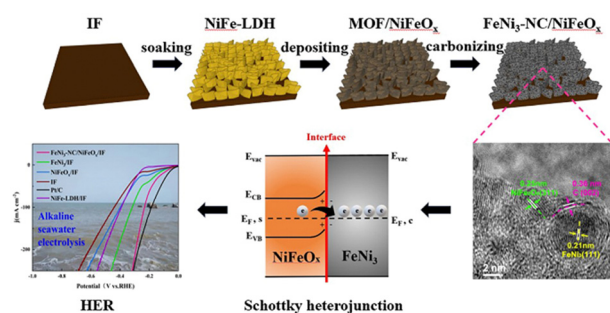
9262



### 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.

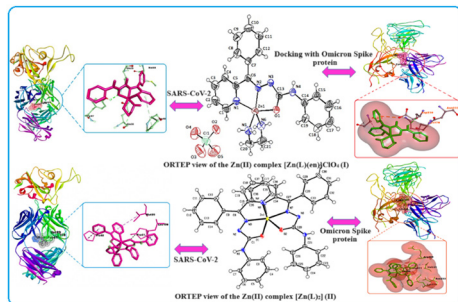
9277



### Self-sacrificial templated-directed synthesis of an ultrathin 0D/2D FeNi<sub>3</sub>-NC/NiFeO<sub>x</sub> 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\*

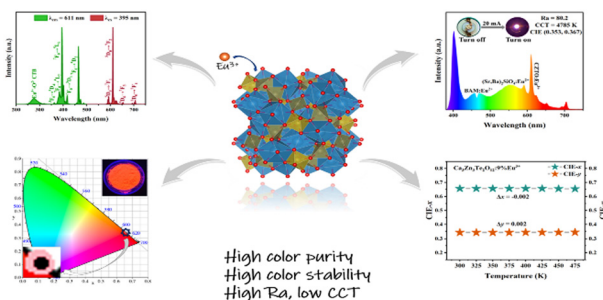
9287



### 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<sup>3+</sup> activated Ca<sub>3</sub>Zn<sub>3</sub>Te<sub>2</sub>O<sub>12</sub> 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\*

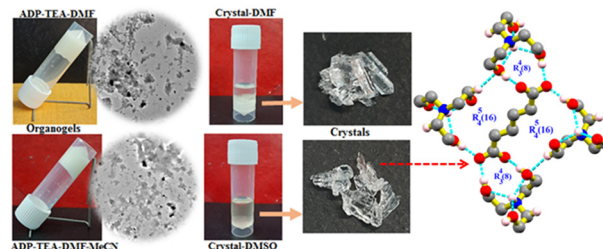


## PAPERS

9322

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

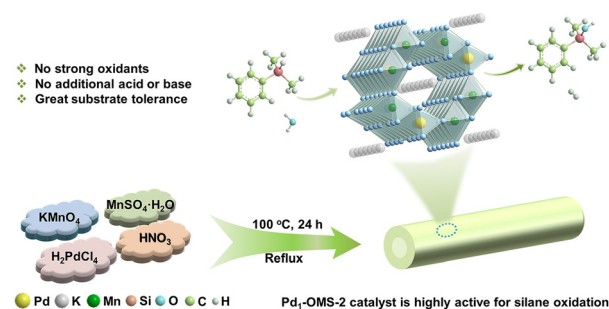
Gerald Lepcha, Indrajit Pal, Santanu Majumdar, Yogesh Dhasmana, Sanjay Mondal, Ennio Zangrando, Deepak Chopra\* and Biswajit Dey\*



9333

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

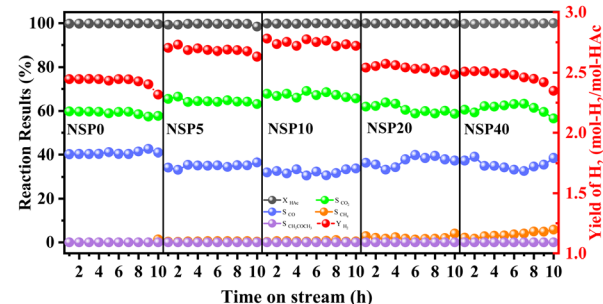
Liping Zhang, Xingchao Dai, Teng Li, Ce Liu, Bin Wang, Guomin Li, Peiqing Zhao\* and Xinjiang Cui\*



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

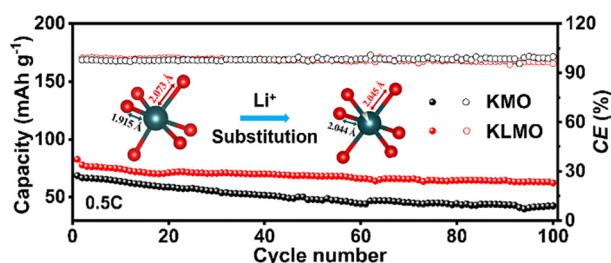
Jinbo Liu, Jia Huang, Chenyu Ding, Fuxia Liao, Chenghong Shu and Lihong Huang\*



9352

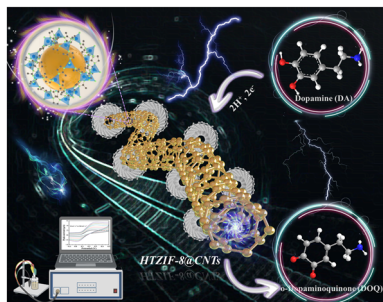
### Suppression of Jahn–Teller distortion in a layered Mn-based oxide cathode with Li substitution toward achieving stable K-storage

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





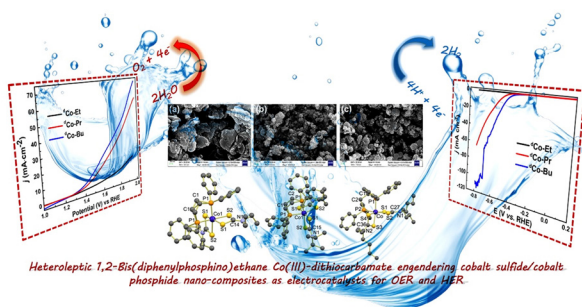
9358



### 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\*

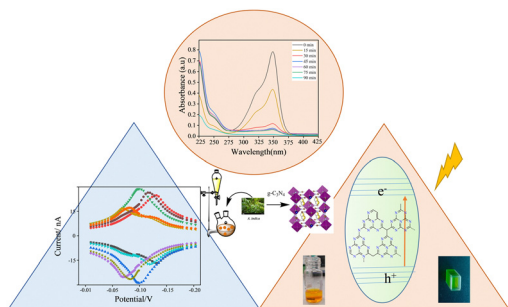
9366



### 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\*

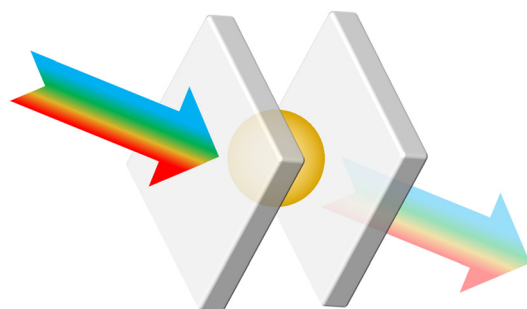
9376



### Green-synthesized porous g-C<sub>3</sub>N<sub>4</sub>@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\*



## CORRECTION

9396

**Correction: Effect of electrolyte optimization on nitrogen-doped MXene ( $\text{Ti}_3\text{C}_2\text{T}_x$ ) 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

