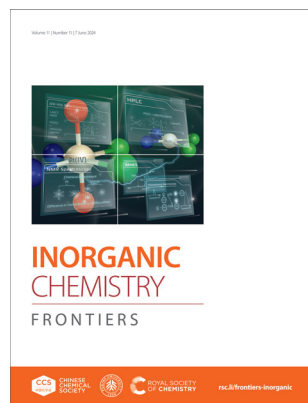


### IN THIS ISSUE

ISSN 2052-1553 CODEN ICFNAW 11(11) 3075–3388 (2024)



#### Cover

See Guangyu Zhu *et al.*,  
pp. 3085–3118.

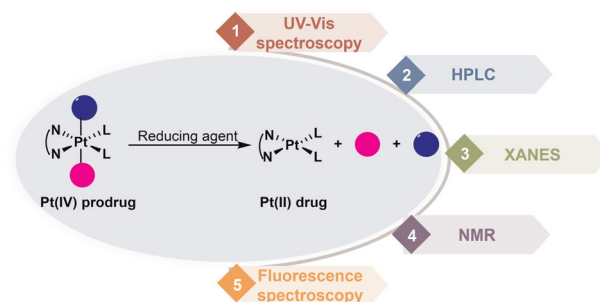
Image reproduced by  
permission of Guangyu Zhu  
from *Inorg. Chem. Front.*,  
2024, **11**, 3085.

### REVIEWS

3085

#### Advances in technical strategies for monitoring the reduction of platinum(IV) complexes

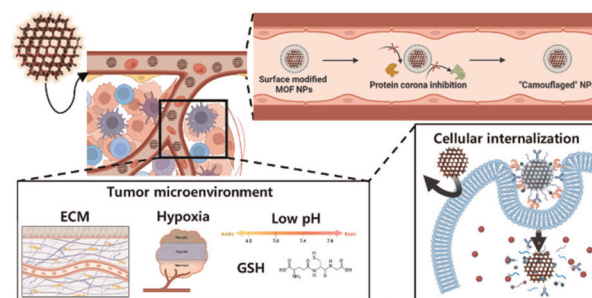
Shu Chen, Qiyuan Zhou, Ka-Yan Ng, Zoufeng Xu,  
Weikang Xu and Guangyu Zhu\*



3119

#### Surface functionalization of metal–organic framework nanoparticle for overcoming biological barrier in cancer therapy

Jun Yong Oh, Youjung Sim, Gyeongseok Yang,  
Myoung-Hwan Park,\* Kibeom Kim\* and  
Ja-Hyoung Ryu\*



# Advance your career in science

with professional recognition that showcases  
your **experience, expertise and dedication**

## Stand out from the crowd

Prove your commitment  
to attaining excellence in  
your field

## Gain the recognition you deserve

Achieve a professional  
qualification that inspires  
confidence and trust

## Unlock your career potential

Apply for our professional  
registers (RSci, RSciTech)  
or chartered status  
(CChem, CSci, CEnv)

## Apply now

[rsc.li/professional-development](https://rsc.li/professional-development)

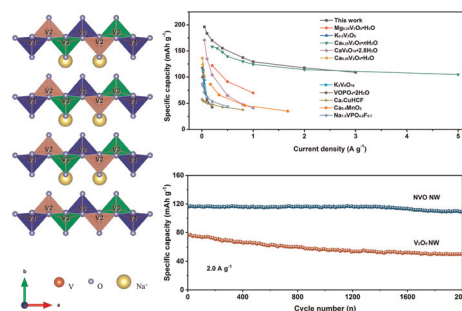


## RESEARCH ARTICLES

3136

## Sodium ion pre-intercalation regulates the electron density and structural stability of vanadium oxide nanowires for Ca-ion batteries

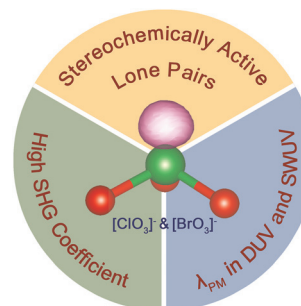
Huajie Feng, Yize Wang, Wenda Qiu,\* Zixi Liu, Yaping Tao and Xihong Lu



3150

## Discovery of excellent ultraviolet nonlinear optical materials in chlorates and bromates with highly stereochemically active lone pairs

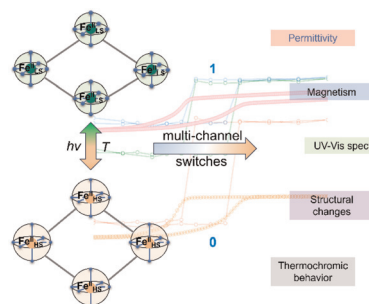
Chun-Li Hu, Qian-Qian Chen, Fang Kong and Jiang-Gao Mao\*



3159

## Hysteretic magnetism–dielectricity switching in 2D Hofmann type spin-crossover compounds

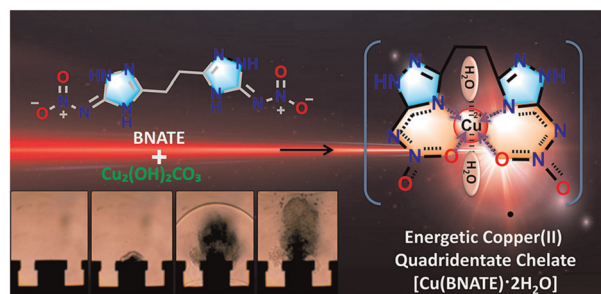
Nian-Tao Yao, Meng-Jia Shang, Han-Han Lu, Qiang Liu, Wen Wen, Shi-Hui Zhang, Liang Zhao, Hiroki Oshio, Yin-Shan Meng\* and Tao Liu\*



3168

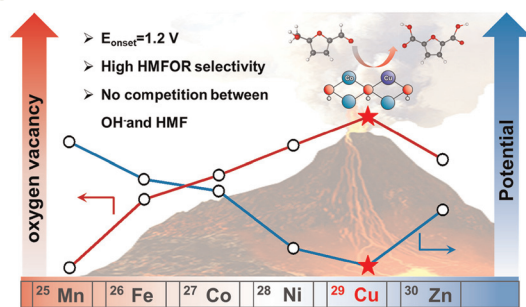
## Energetic copper(II) quadridentate chelate: a novel green laser-sensitive primary explosive

Qi Zhang,\* Ruibing Lv, Ying Wang, Zhenghang Luo, Pengyang Pan, Tingwei Wang and Quancheng Liu\*



## RESEARCH ARTICLES

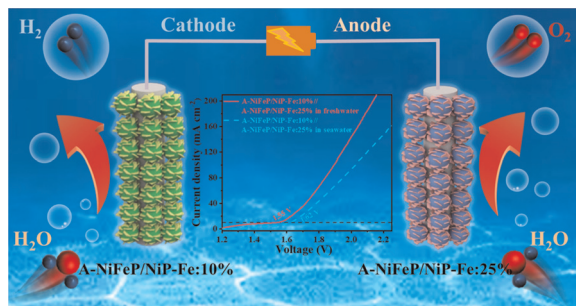
3178



### Large enhancement of electrochemical biomass oxidation by optimizing the competitive adsorption of HMF and $\text{OH}^-$ on doped $\text{CoO}_x$

Tianqi Nie, Guihao Liu, Ziheng Song, Tianyang Shen, Xiaoliang Sun, Tianrui Yu, Sha Bai, Lirong Zheng and Yu-Fei Song\*

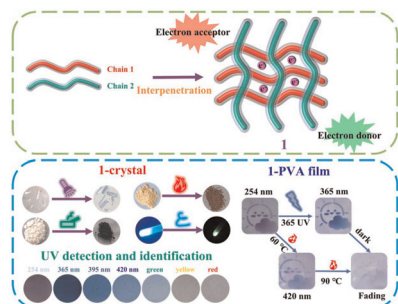
3187



### Adjustable composition of self-supported amorphous Ni-Fe-P nanosheet decorated NiP microspheres for efficient and stable overall alkaline freshwater/seawater splitting

Shi-Yu Lu,\* Ling Wang, Chunjie Wu, Jun Zhang, Wenzhao Dou, Tingting Hu, Rong Wang, Yin Liu, Qian Yang and Meng Jin\*

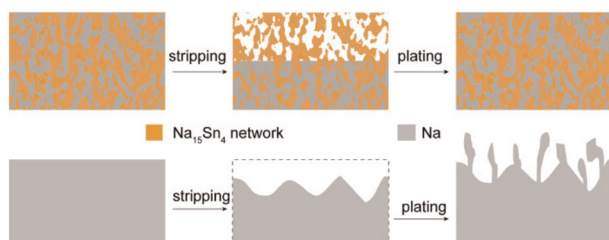
3200



### Incorporation of a one-dimensional electron-rich chain in viologen-based coordination polymers for super photochromic properties and improved optical applications in polyvinyl alcohol film

Yong-Sheng Shi, Tong Xiao, Dong-Dong Yang and Xiang-Jun Zheng\*

3211



### *In situ* formed self-embedded ion/electron conductive skeletons enabling highly stable sodium metal anodes

Fang-Yu Tao, Dan Xie,\* Dan-Hong Wang, Wan-Yue Diao, Chang Liu, Xing-Long Wu, Wen-Liang Li\* and Jing-Ping Zhang\*

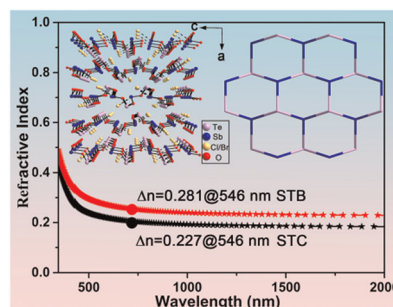


## RESEARCH ARTICLES

3221

### Designing excellent UV birefringent materials through the synergistic interaction of two highly distorted functional groups

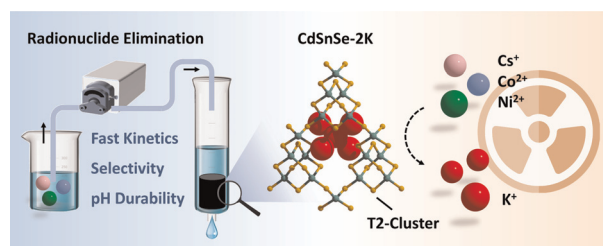
Xiaoyan Zhou, Xiang Mao, Pu Zhang, Xuehua Dong,\*  
Ling Huang, Liling Cao, Daojiang Gao and  
Guohong Zou\*



3229

### Tailoring supertetrahedral cadmium/tin selenide clusters into a robust framework for efficient elimination of Cs<sup>+</sup>, Co<sup>2+</sup>, and Ni<sup>2+</sup> ions

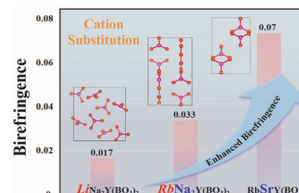
Kai-Yao Wang,\* Meng-Yu Li, Lin Cheng, Xin Hao and  
Cheng Wang



3245

### New ultraviolet transparent rare-earth borates with enhanced birefringence induced by cation chemical substitution

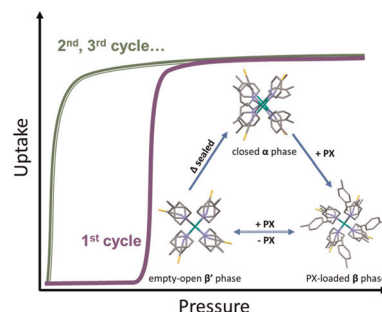
Guanglian Sun, Xiaofang Qi,\* Hongping Wu,\*  
Zhanggui Hu, Jiyang Wang and Yicheng Wu



3254

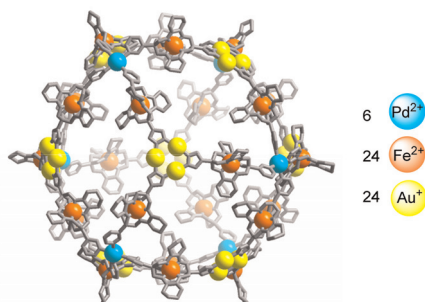
### Phase switching and shape-memory effect in a molecular material: revisiting the Werner complex [Ni(4-MePy)<sub>4</sub>(NCS)<sub>2</sub>]

Shi-Qiang Wang,\* Shaza Darwish, Catiúcia  
R. M. O. Matos, Zicong Marvin Wong,  
Anjaiah Nalaparaju, Yifei Luo, Jun Zhu, Xiaofei Zhang,  
Zhengtao Xu\* and Michael J. Zaworotko\*



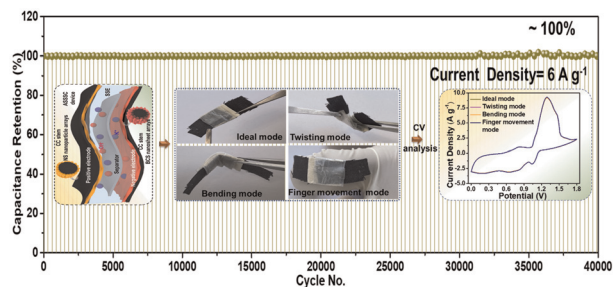
## RESEARCH ARTICLES

3263

Stepwise synthesis of heterotrimeric Fe<sup>II</sup>/Pd<sup>II</sup>/Au<sup>I</sup> coordination cages

Noga Eren, Farzaneh Fadaei-Tirani and Kay Severin\*

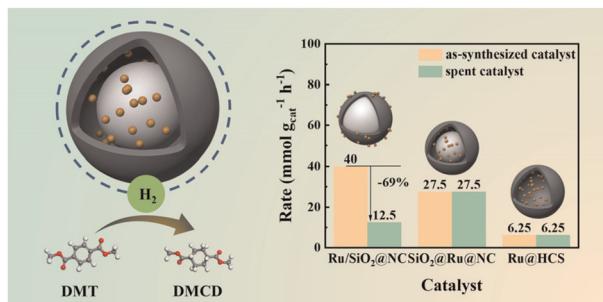
3270



## Electrochemically triggered rational design of bismuth copper sulfide for wearable all-sulfide semi-solid-state supercapacitor with a wide operational potential window (1.8 V) and ultra-long life

Edugulla Girija Shankar, Bhimanaboina Ramulu, Manchi Nagaraju and Jae Su Yu\*

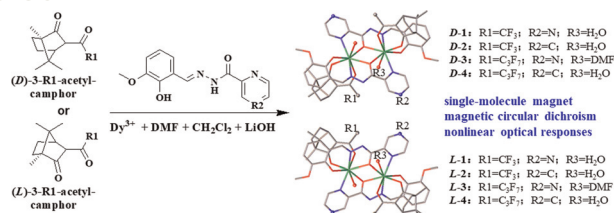
3285



## Yolk-shell type carbon-silica nanoarchitecture with dispersed and stabilized Ru nanoparticles for enhanced hydrogenation of aromatic compounds

Lu Yan, Yue Shen, Zidan Zou, Xiao Zhang,\* Zhixin Yu, Guozhong Wang and Chun Chen\*

3296

Homochiral Dy<sub>2</sub> single-molecule magnets with strong magneto-optical Faraday effects and strong third-harmonic generation

Cai-Ming Liu,\* Rong Sun, Xiang Hao, Xi-Li Li and Bing-Wu Wang\*

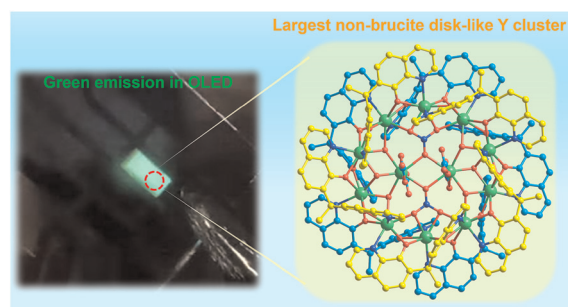


## RESEARCH ARTICLES

3309

### An unprecedented $\{Y_2C_{10}\}$ type disk-like $Y_{12}$ nanocluster featuring electroluminescence property in OLED device

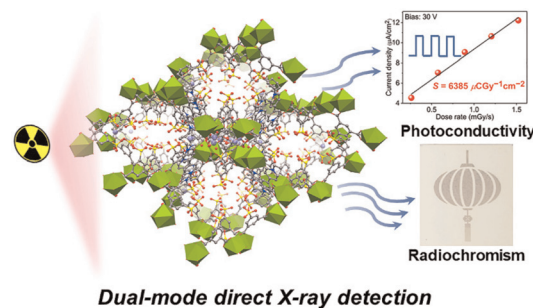
Lin-Ping Shi, Wen-Liang Li, Pu-Yue Wang, Xiao-Ming Wu,\* Zhao-Quan Yao,\* Jiong-Peng Zhao\* and Fu-Chen Liu\*



3316

### Radiochromic semiconductive MOFs with high sensitivity and fast photochromic responses for dual-mode X-ray direct detection

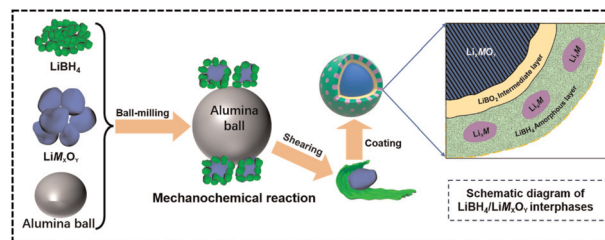
Xu-Ying Yu, Jia-Rong Mi, Qiu-Pei Qin, Xin-Ping Fang, Yong-Fang Han, Li-Zhen Cai, Ming-Sheng Wang\* and Guo-Cong Guo\*



3323

### *In situ* interfacial reactions in hydride–oxide composite electrolytes for stable all-solid-state Li–metal batteries

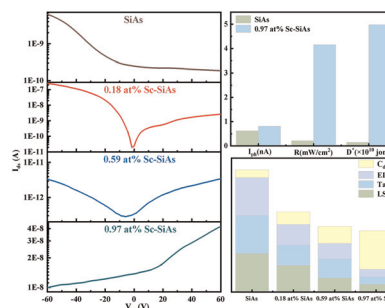
Shunqin Zeng, Meinan Zhao, Chen Xie, Jianhui Li, Xiaoli Ding,\* Liqing He, Yongtao Li,\* Qingan Zhang and Hai-Wen Li\*



3334

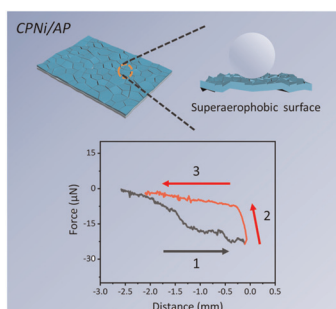
### The effect of Sc doping on the electrocatalytic and optoelectronic properties of 2D SiAs single crystals

Tong Yu, Qiubo Chen, Hailong Qiu,\* Hongjun Liu, Zhanggui Hu and Yicheng Wu



## RESEARCH ARTICLES

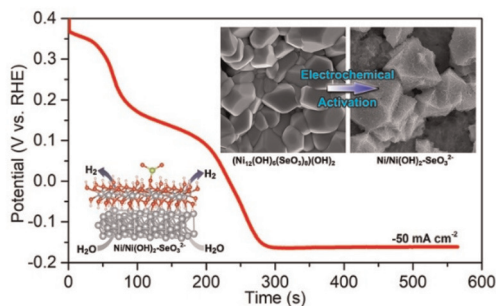
3348



### An electrodeposited superaerophobic nickel catalyst on pencil-drawn paper: a novel approach for highly efficient and stable hydrogen evolution

Qian Sun, Xiaoyu Hao, Tianyi Zhang, Zelin Ma, Kui Hu, Ming Yang,\* Xiaolei Huang\* and Xuqin Liu\*

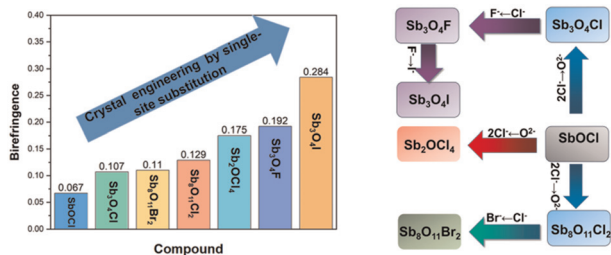
3357



### Unveiling the surface hydroxylation and selenite modification of *in situ* generated nickel for promoting the hydrogen evolution reaction

Kailu Guo,\* Jinzhi Jia, Huijiao Wang and Cailing Xu\*

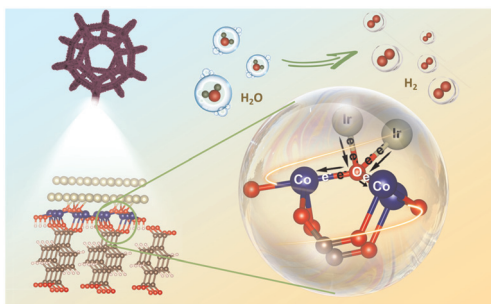
3367



### Exploration of antimony(III) oxyhalides via single-site substitution in quest of large birefringence

Chenhui Hu, Dongdong Chu, Xueling Hou, Feng Zhang\* and Jian Han\*

3377



### Electronic modulation by interfacial bridging between Ir nanoparticle and metal–organic framework to enhance hydrogen evolution

Kaipeng Cheng, Yinghuan Xu, Shengmeng Zhang, Heng Zhang,\* Yingying Xue, Xiahui Huang, Jianbo Zhao, Pengcheng Zhang, Shuang Ma\* and Zhiqiang Hou\*

