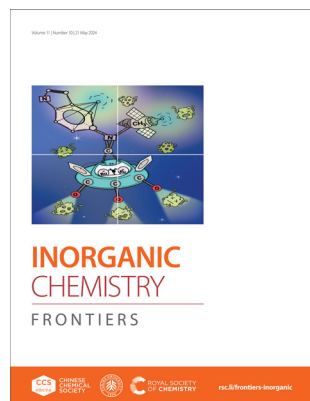


### IN THIS ISSUE

ISSN 2052-1553 CODEN ICFNAW 11(10) 2809–3074 (2024)



#### Cover

See Lorenzo Biancalana,  
Zdeněk Trávníček,  
Fabio Marchetti *et al.*,  
pp. 2841–2862.

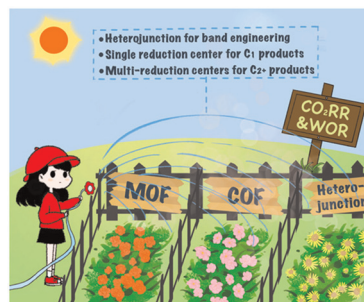
Image reproduced by  
permission of  
Fabio Marchetti,  
Zdeněk Trávníček from  
*Inorg. Chem. Front.*, 2024,  
**11**, 2841.

### REVIEW

2819

#### Metal– and covalent organic frameworks for photocatalytic CO<sub>2</sub> reduction coupled with H<sub>2</sub>O oxidation

Xiao-Xiang Zhou, Yongshi Ye, Qia-Chun Lin,  
Wei-Ming Liao\* and Jun He\*

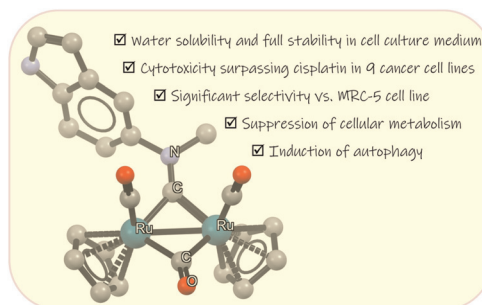


### RESEARCH ARTICLES

2841

#### Synthesis and studies of aqueous-stable diruthenium aminocarbyne complexes uncovered an *N*-indolyl derivative as a prospective anticancer agent

Matteo Fiaschi, Ján Vančo, Lorenzo Biancalana,\*  
Tomáš Malina, Zdeněk Dvořák, Tiziana Funaioli,  
Stefano Zacchini, Massimo Guelfi, Zdeněk Trávníček\*  
and Fabio Marchetti\*



# Environmental Science journals

One impactful portfolio for  
every exceptional mind

Harnessing the power of interdisciplinary  
science to preserve our environment

[rsc.li/envsci](https://rsc.li/envsci)

Fundamental questions  
Elemental answers

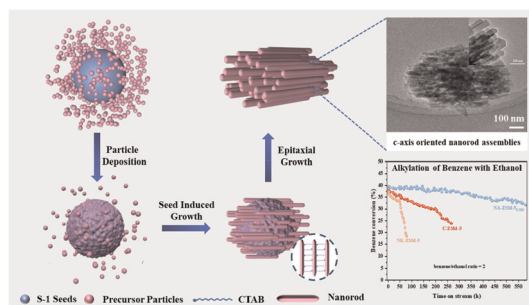


## RESEARCH ARTICLES

2863

**Anisotropic ZSM-5 nanorod assemblies: facile synthesis, epitaxial growth, and strikingly enhanced stability in benzene alkylation**

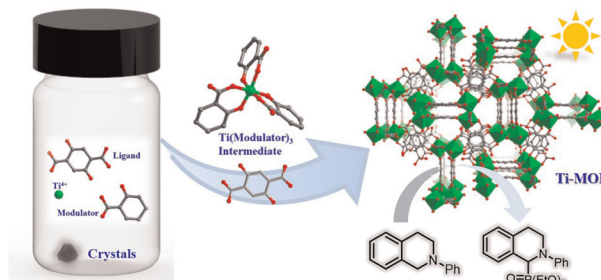
Peng Zhu, Yiren Yu, Guoshu Gao, Yumeng Zhao, Yuting Jiao, Haiou Liu, Guodong Liu,\* Xiongfu Zhang\* and Guohui Yang\*



2876

**A chelating coordination modulation method for the synthesis of Ti-MOF single crystals**

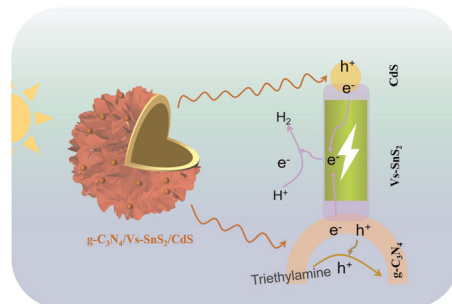
Hui-Zi Li, Shangda Li, Fei Wang\* and Jian Zhang\*



2884

**Efficient photocatalytic hydrogen evolution of g-C<sub>3</sub>N<sub>4</sub>/Vs-SnS<sub>2</sub>/CdS through a sulfur vacancy-rich SnS<sub>2</sub> induced charge storage effect**

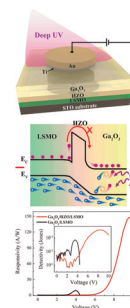
Fangyuan Xing, Junyan Li, Chengzhi Wang, Shaohua Jin, Haibo Jin and Jingbo Li\*



2894

**Hafnia-based oxide enhanced Ga<sub>2</sub>O<sub>3</sub>-based photodetectors via band engineering with ultralarge responsivity**

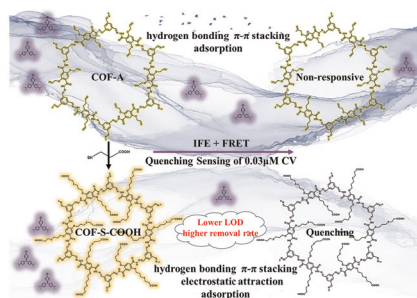
Han Wu, Jiaying Shen, Lincong Shu, Jie Dai, Shulin Sha, Zeng Liu, Weihua Tang, Yuehui Wang, Zhenping Wu, Kun Lin, Qiang Li, Jun Miao and Xianran Xing\*





## RESEARCH ARTICLES

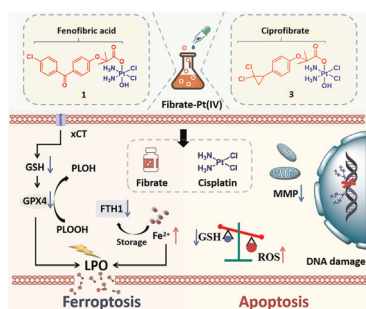
2902



### Post-synthetic modification of a covalent organic framework *via* a thiol–ene reaction for improving fluorescence detection and removal of cationic crystal violet carcinogenic dye

Ke Li and Bing Yan\*

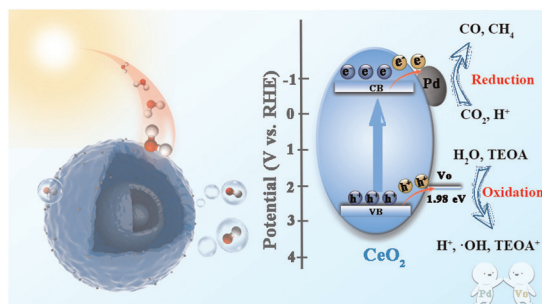
2914



### Disruption of lipid metabolism to induce ferroptosis using multifunctional fibrates-Pt(IV) prodrugs for cancer treatment

Peng Sun, Jia-Qian Wang, Qiang Xie, Xuan-Lin Ren, Xin Qiao\* and Jing-Yuan Xu\*

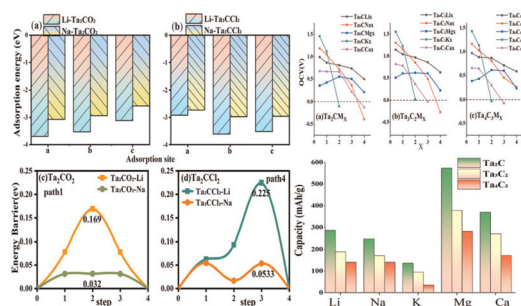
2932



### Enhanced photocatalytic CO<sub>2</sub> reduction by controlled oxygen vacancy generation and co-constructed heterojunction strategy for Pd/CeO<sub>2</sub>

Fanlin Kong, Xiaoyan Lu, Jing Xie,\* Zhenjiang Lu, Jindou Hu and Yali Cao\*

2945



### Structural and electrochemical properties of Ta<sub>n+1</sub>C<sub>n</sub> MXene anode materials for metal-ion batteries

Jiayi Guo, Danni Hu, Chenqi Bai, Lina Xu,\* Hongping Xiao,\* Qian Shi, Xinhua Li, Xi'an Chen, Yingjin Ma\* and Guoyong Fang\*

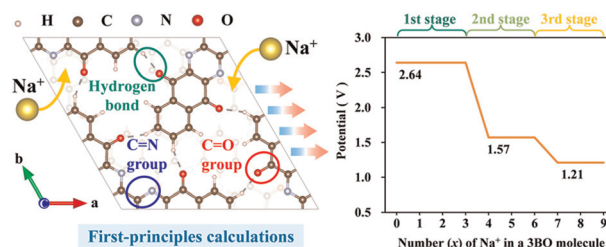


## RESEARCH ARTICLES

2957

### Insights into the modulation mechanisms of multiple active sites in a conjugated small molecule towards organic cathode capacity from first-principles

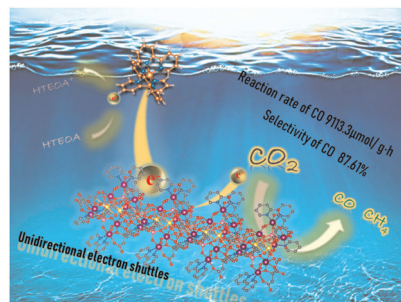
Zhaopeng Sun, Hao Tian, Meng Zhang, Yi Zhang, Zhiping Li and Weiwei Huang\*



2965

### Unleashing the power of directed electron transfer: unraveling the potential of $\{PV_4\}_2$ in heterogeneous photocatalysis

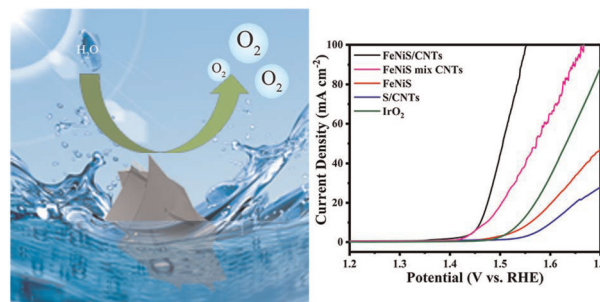
Xin Su, Yuzan He, Kunhong Li, Miao Wang, Wei Tang, Shihao Zhang, Pengtao Ma, Jingyang Niu\* and Jingping Wang\*



2972

### Application of changing the valence state of metals through the reaction time for efficient oxygen evolution reaction

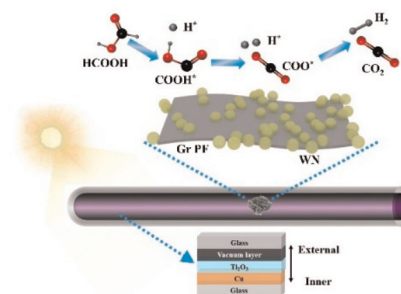
Ming Chen, Sha Luo, Zongyan Ma, Fei Yuan, Jing Chen, Linkun Dong, Weiwen Mao and Jiantai Ma\*



2983

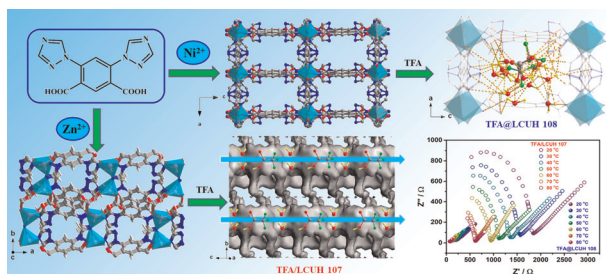
### Solar heating catalytic formic acid dehydrogenation by graphene-porous foam-supported tungsten nitride nanoparticles

Jiarong Chang, Tianhua Hao, Cuncai Lv,\* Maoyu Xu, Deyi Zhang, Linjie Gao, Shangbo Ning, Yaguang Li\* and Jinhua Ye\*



## RESEARCH ARTICLES

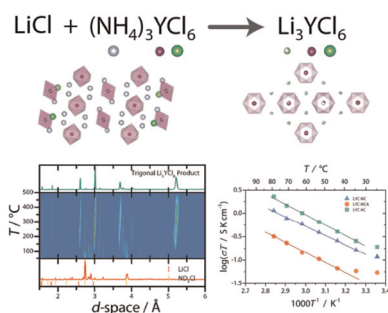
2990



### Trifluoroacetic acid molecules confined into/onto metal–organic frameworks using H<sub>2</sub>btzip for efficiently improving proton conductivity using a synergistic effect

Xiaoxue Ma, Xin Li, Xueke Han, Lu Zhang, Ronghua Liu, Hongguo Hao,\* Hui Yan, Xin Zhao, Xiangjin Kong, Huawei Zhou, Xia Li, Hongjie Zhu, Suna Wang, Yunwu Li, Dichang Zhong and Fangna Dai

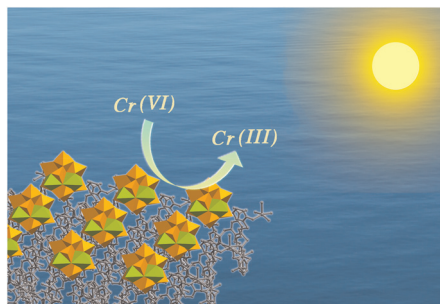
3001



### Tuning lithium–yttrium chloride local structure through coordination control and mixing during synthesis

Teerth Brahmabhatt, Cheng Li, Mounesha N. Garaga, Wan-Yu Tsai, Steve G. Greenbaum, Jagjit Nanda and Robert L. Sacchi\*

3011

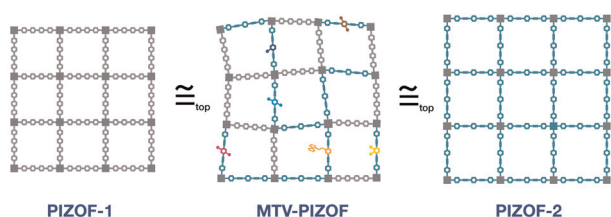


### A series of four-substituted polyoxometalate-thiacalix[4]arene-based materials for the efficient photocatalytic reduction of Cr(vi)

Jia-Yi Zhang, Yuting Song, Jin Yang,\* Wen-Yuan Pei and Jian-Fang Ma\*

3021

#### Substitutional Solid-Solutions of Multivariate Metal–Organic Frameworks



### Vegard's law in multivariate libraries of porous interpenetrated zirconia organic frameworks

Jacob I. Furst, Jacob T. Bryant, Kyle R. Langlois, Shea D. Myers, Azina Rahmani, David C. Fairchild, Rishabh Mehta, Titel Jurca,\* Jason B. Benedict\* and Fernando J. Uribe-Romo\*

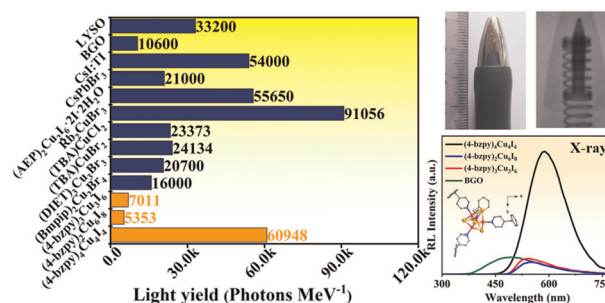


## RESEARCH ARTICLES

3028

### Yellow-emissive organic copper(I) halide single crystals with [Cu<sub>4</sub>I<sub>4</sub>] cubane unit as efficient X-ray scintillators

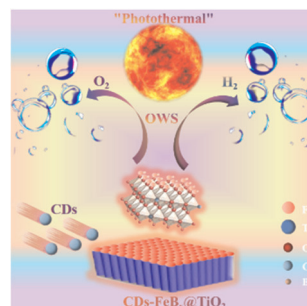
Qingzheng Kong, Xiaomei Jiang,\* Ying Sun, Jianguo Zhu and Xutang Tao\*



3036

### CDs "inserted" abundant FeB-based electrode via "local photothermal effect" strategy toward efficient overall seawater splitting

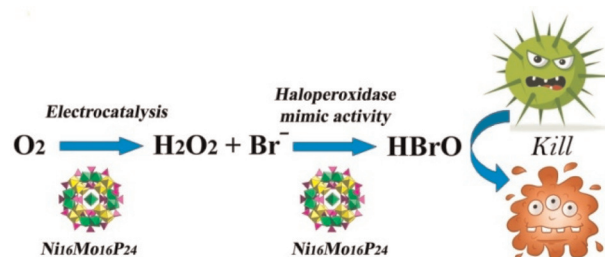
Shiheng Liang, Liugang Wu, Yiming Wang, Yuqi Shao, Hongyuan Song, Ziliang Chen and Weiju Hao\*



3047

### A wheel-like polyoxometalate for haloperoxidase-inspired antibiofouling with H<sub>2</sub>O<sub>2</sub> *in situ* provided by electrocatalysis

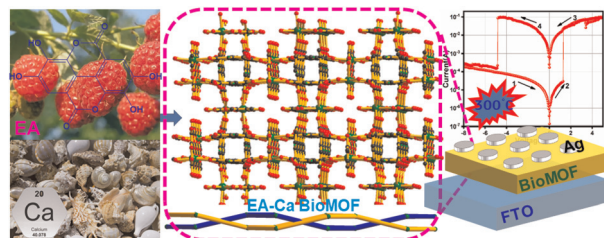
Yumeng Bian, Runze Wang, Xinxin Xu,\* Jin Chen and Qiang Wang\*

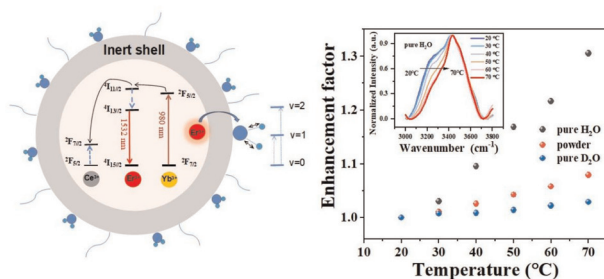


3056

### Stable calcium ellagate metal–organic frameworks as high-performance green memorizers bearing high working temperatures

Ting-Bo Liu, Jing-Wen Deng, Yi Li,\* Hai-Ying Fu, Liang-Wen Shi, Shi-Ying Lin, Yue Liu, Hao-Hong Li,\* Jing-Bo Liu\* and Jian-Zhi Liu\*





### Effect of –OH on the thermal enhancement properties of NIR-II lanthanide-doped nanoparticles in water

Yingping Huang, Jie Hu,\* Yongwei Guo, Zihao Wang, Fulin Lin and Haomiao Zhu\*

