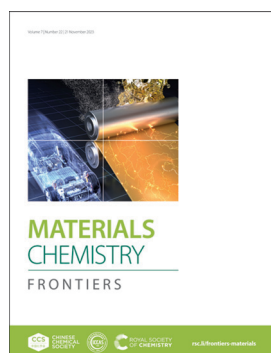


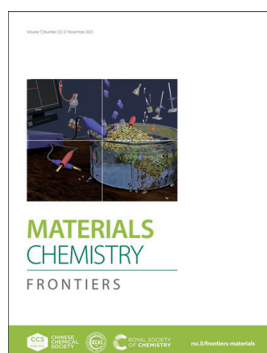
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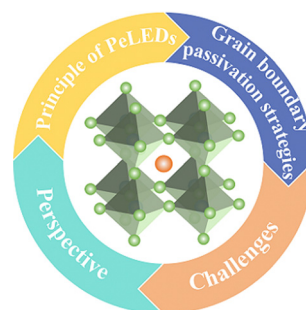
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#### High-performance perovskite light-emitting diodes based on grain boundary passivation: progress, challenges and perspectives

Yalian Weng, Eng Liang Lim, Yuanyuan Meng, Junpeng Lin and Zhanhua Wei\*

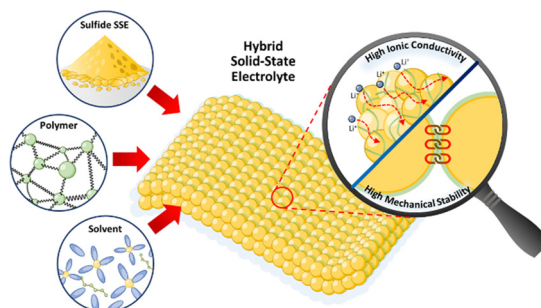


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Minjae Kim, Junhyeok Seo, Jeanie Pearl Dizon Suba and Kuk Young Cho\*



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## Chevrel phases: synthesis, structure, and electrocatalytic applications

## MXene-based nanocomposites: emerging candidates for the removal of antibiotics, dyes, and heavy metal ions

The diagram illustrates the photocatalytic degradation and regeneration process of MXene nanosheets. It consists of three main stages:

- Adsorption:** Anti-biotic drugs (red star-like structures) and heavy metal ions (black dots) are adsorbed onto the surface of MXene nanosheets (orange layered structure).
- Photocatalytic Degradation:** Under light irradiation (indicated by a yellow arrow), the adsorbed substances are degraded.
- Regeneration:** The degraded nanosheets are regenerated, releasing the degraded products (red star-like structures and black dots) and returning to their original state.

## Macroscopic alignment of metal–organic framework crystals in specific crystallographic orientations

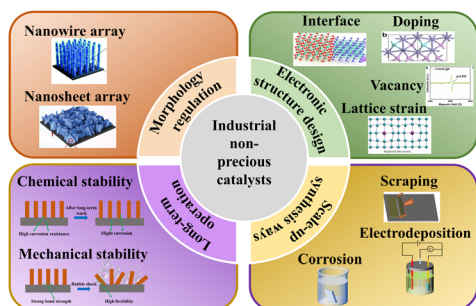
## Macroscopic aligned MOFs

## Recent advances in aggregation-induced emission (AIE)-based chemosensors for the detection of organic small molecules

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## REVIEWS

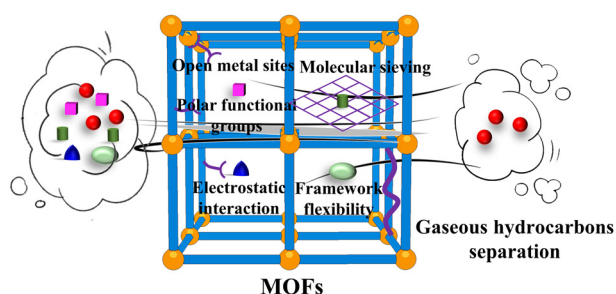
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### Non-precious metal-based catalysts for water electrolysis to produce H<sub>2</sub> under industrial conditions

Lixiang He, Guang Yu, Yujia Cheng,\* Ni Wang and Wencheng Hu\*

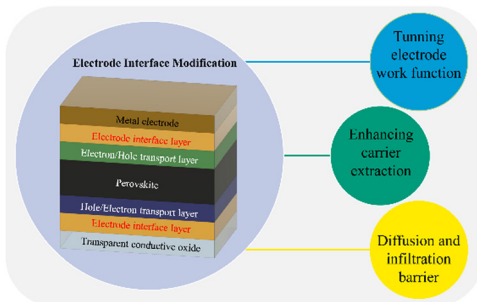
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### Recent progress in metal–organic frameworks for the separation of gaseous hydrocarbons

Jing-Hong Li, Jun-Xian Chen, Rui-Biao Lin\* and Xiao-Ming Chen\*

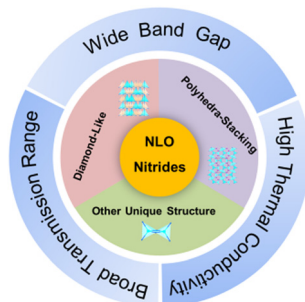
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### Recent advances in electrode interface modifications in perovskite solar cells

Jiantao Wang and Hsing-Lin Wang\*

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### Nitrides: a promising class of nonlinear optical material candidates

Xin Zhao, Chensheng Lin, Haotian Tian, Chao Wang, Ning Ye and Min Luo\*

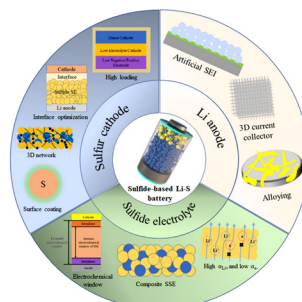


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## Research progress of all-solid-state lithium–sulfur batteries with sulfide solid electrolytes: materials, interfaces, challenges, and prospects

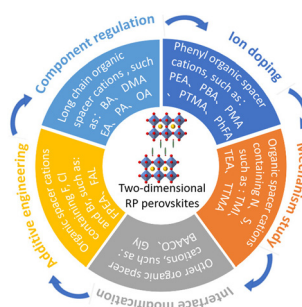
Limao Du, Rui Wu, Zhan Wu, Hui Huang, Yang Xia,\*  
Yongping Gan, Wenkui Zhang,\* Xinhui Xia, Xinping He  
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## Recent progress of two-dimensional Ruddlesden–Popper perovskites in solar cells

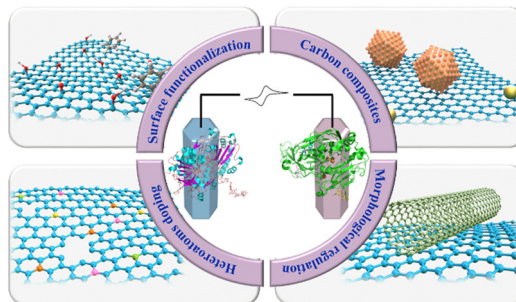
Chao Wang, Xinhe Dong, Feifan Chen, Guozhen Liu\*  
and Haiying Zheng\*



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## Engineering carbon nanomaterials toward high-efficiency bioelectrocatalysis for enzymatic biofuel cells: a review

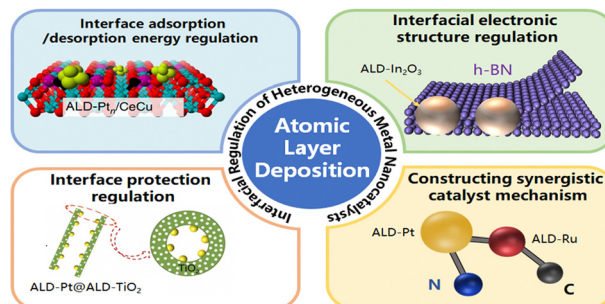
Jianqi Ye, Jinhua Lu\* and Dan Wen\*



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## Precise control of the catalyst interface at the atomic level

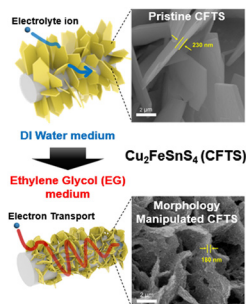
Ruijie Dai, Zhixi Guan, Daying Guo\* and Bin Xi\*





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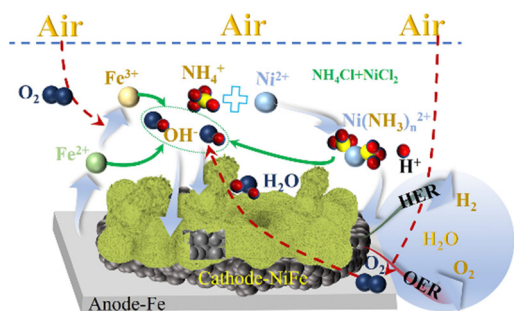
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### *In situ* decorated $\text{Cu}_2\text{FeSnS}_4$ nanosheet arrays for low voltage hydrogen production through the ammonia oxidation reaction

Yoongu Lim, Subramani Surendran, Won So, Sathyanarayanan Shanmugapriya, Chanmin Jo, Gnanaprakasam Janani, Hyeonuk Choi, Hyun Soo Han, Heechae Choi, Young-Hoon Yun, Tae-Hoon Kim, Myeong-Jin Kim, Kyoungsuk Jin, Jung Kyu Kim\* and Uk Sim\*

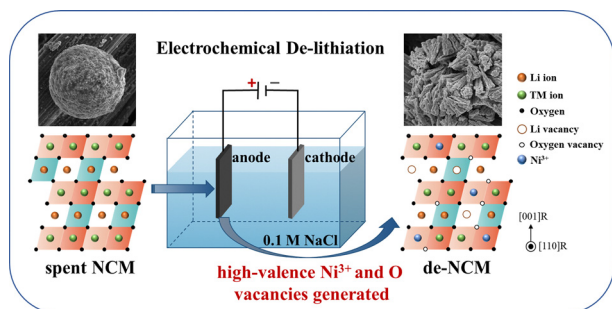
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### Accelerating corrosion of iron foam enables a bifunctional catalyst for overall water splitting

Yunhua Liu, Jianfei Mao, Yujie Yuan, Hongsheng Huang, Xianguo Ma, Xiaoqin Li\* and Zhaoyu Jin\*

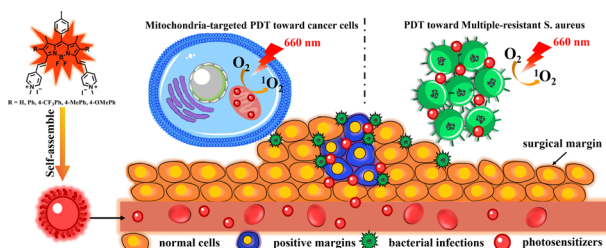
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### High-valence $\text{Ni}^{3+}$ construction and stability by electrochemical de-lithiation boosting oxygen evolution

Shujing Li, Xiaoming Zhu, Xiaohan Wang, Wenshu Luo, Xu Yu, Qiuyun Guo, Kunming Song, Han Tian,\* Xiangzhi Cui\* and Jianlin Shi

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### BODIPY-based photosensitizers with simultaneous photodynamic antitumor and antibacterial effects

Bin-Kai Liu, Ji Zheng, Hui Wang,\* Li-Ya Niu\* and Qing-Zheng Yang\*

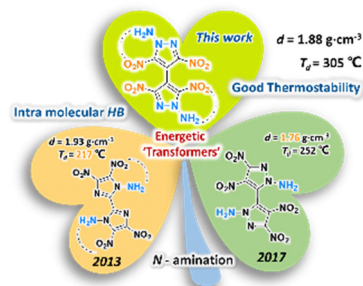


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**Energetic bi-diazole 'transformers' toward high-energy thermostable energetic compounds**

Jingwei Meng, Teng Fei,\* Jinxiong Cai, Qi Lai, Jinya Zhang, Siping Pang\* and Chunlin He\*



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**Controllable growth of WO<sub>3</sub>@GDY heterointerface for efficient NH<sub>3</sub> synthesis**

Xiaoyu Luan, Lu Qi, Zhiqiang Zheng, Shuya Zhao, Huimin Liu, Runyu Liu, Zhaoyang Chen, Jiayu Yan, Yurui Xue\* and Yuliang Li\*

