# Journal of Materials Chemistry A

Materials for energy and sustainability

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## IN THIS ISSUE

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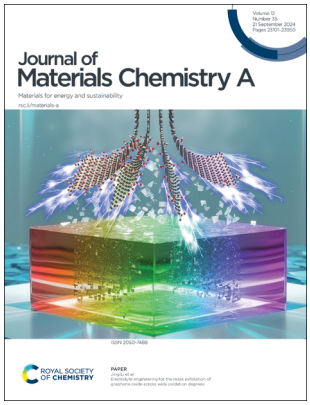


**Cover**
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**Inside cover**
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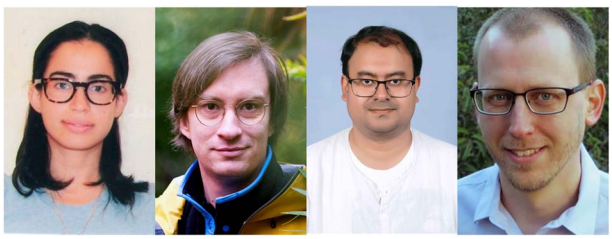
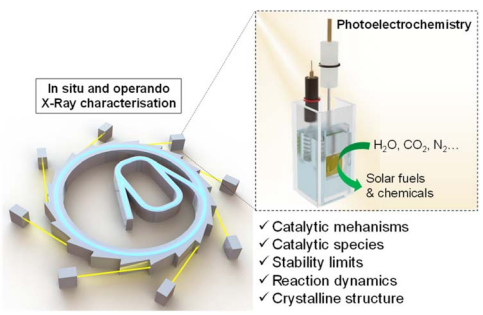
## EDITORIAL





## REVIEWS





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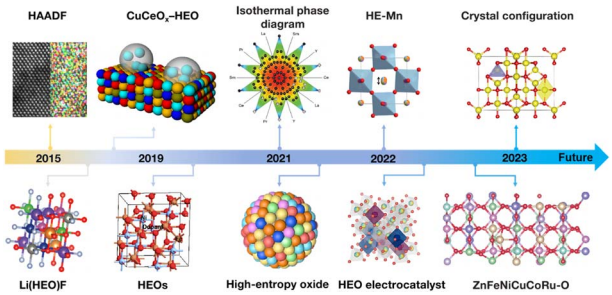




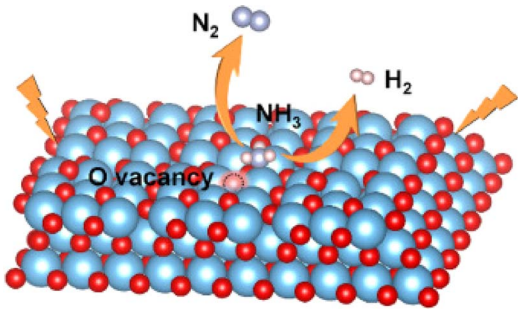




## REVIEWS

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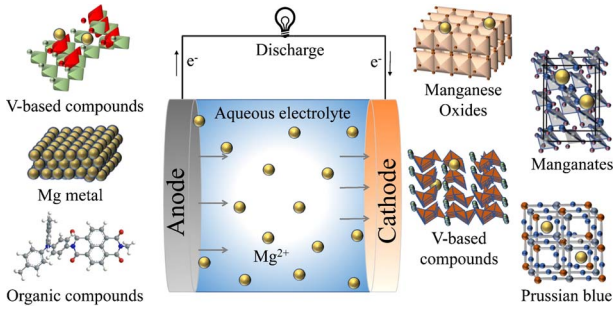
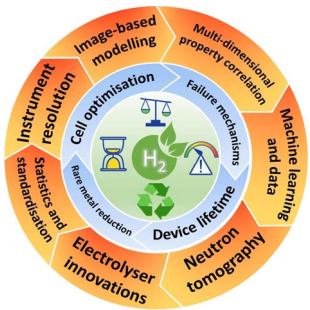


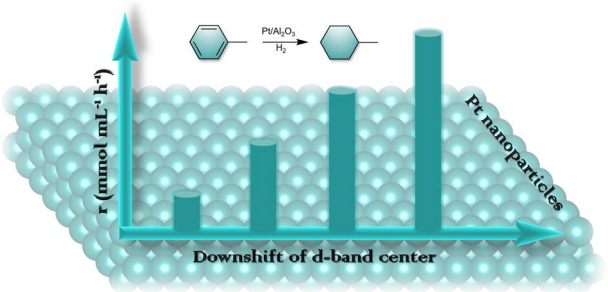

## PERSPECTIVE



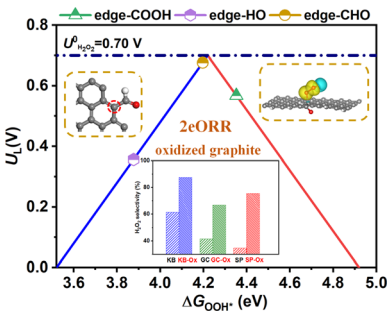



## COMMUNICATIONS







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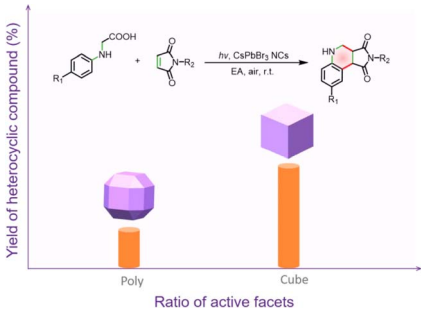
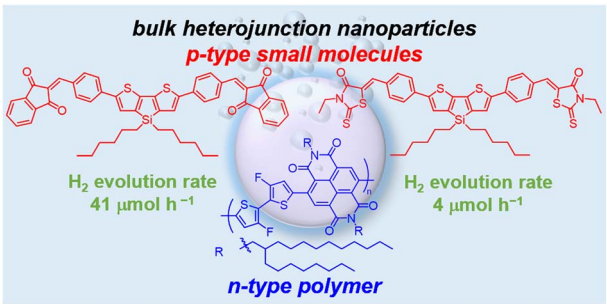



### Facets in metal halide perovskite nanocrystals for the photoinduced electron transfer annulation reaction

Qing Guo,* Jun-Lin Lu, Bin Qin, Qi-Chao Shan, Le Liu, Jin-Dan Zhang, Xi Liu,* Xin-Hua Duan and Li-Na Guo*



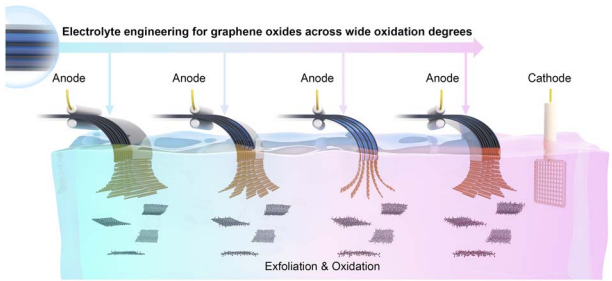



### Non-conventional bulk heterojunction nanoparticle photocatalysts for sacrificial hydrogen evolution from water

Jai-Ram Mistry, Ewan McQueen, Fabio Nudelman, Reiner Sebastian Sprick* and Iain A. Wright*

## PAPERS

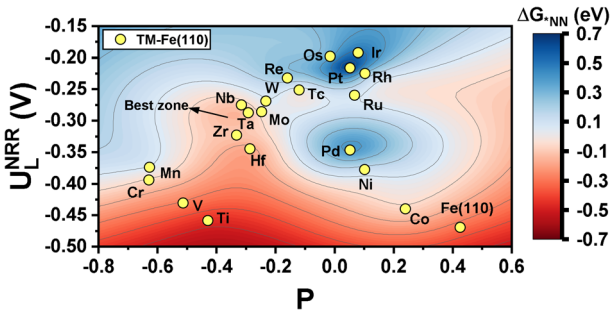





### Electrolyte engineering for the mass exfoliation of graphene oxide across wide oxidation degrees

Huili Ren, Xiaopei Xia, Yingzhi Sun, Yi Zhai, Zongzheng Zhang, Jiahao Wu, Jing Li* and Mingjie Liu






### Promoting electrocatalytic nitrogen reduction by introducing low-spin sites in ferromagnetic single-atom alloys

Yiming Ren, Peiyao Bai, Hongguang Wang, Shilin Wei and Lang Xu*

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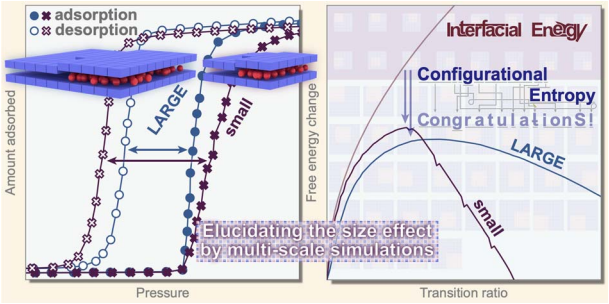
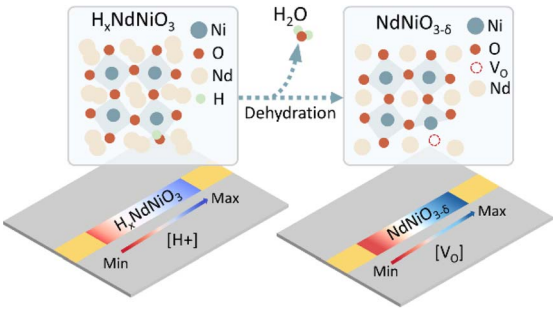



## Elucidating the particle size-dependent guest-induced structural transition of flexible metal–organic frameworks by exploring cooperative nature

Homare Arima, Shotaro Hiraide* and Satoshi Watanabe*

23658




## Manipulating protons and oxygen vacancies in nickelate oxides *via* thermochemical dehydration

Haowen Chen, Zihan Xu, Luhan Wei, Mingdong Dong, Yang Hu, Ying Lu, Nian Zhang, Jie Wu and Qiyang Lu*

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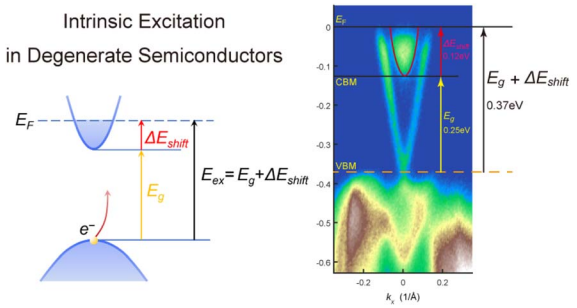
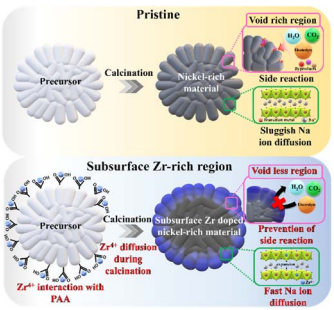



## Burstein-moss effect leads to an unusual suppression of bipolar conduction with shrinking bandgap

Chenxi Zhao, Shengtao Cui, Yuanlong Li, Yunbo Wu, Tongrui Li, Kai Li, Liang Sun, Zhe Sun, Chong Xiao* and Yi Xie

23676




## Design of a stable and voidless surface region by intensive subsurface zirconium doping for a high performance nickel-rich cathode in sodium-ion batteries

Sunwoo Lee, Donguk Kim and Wonchang Choi*

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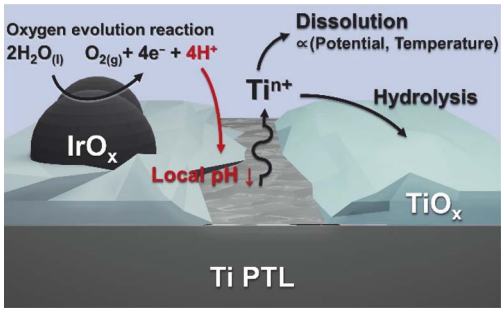
## Dissolution of the Ti porous transport layer in proton exchange membrane water electrolyzers

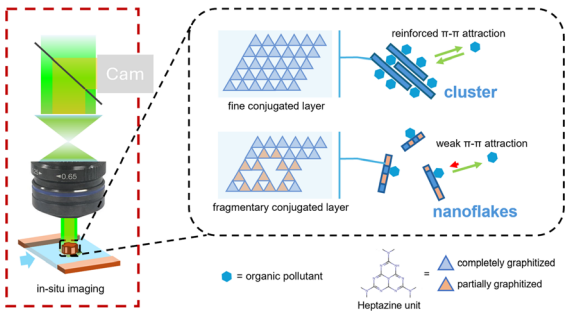
Junsic Cho, Dong Hyun Kim, Min Wook Noh, Haesol Kim, Hong-Gyun Oh, Pilyoung Lee, Soobin Yoon, Wangyun Won, Young-June Park,* Ung Lee* and Chang Hyuck Choi*




23697

## Quantitative nanoscopic imaging of adsorbent-aggregation-state dependent molecular binding cooperativity

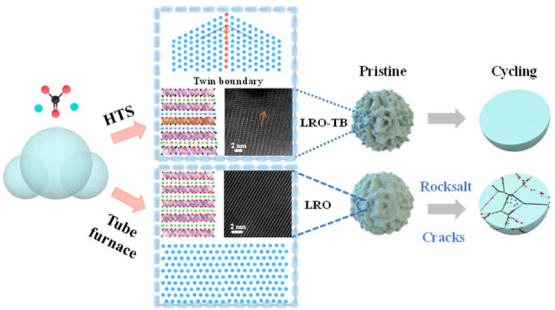
Jin Xie, Kanglu Li, Nafil Zuhair B Nizzar, Haotian Meng and Xianwen Mao*




23712

## Twin boundaries induced by high-temperature shock boost the structural stability of Li-rich layered-oxide

Zhedong Liu, Cuihua Zeng, Jingchao Zhang, Jiawei Luo, Zhaoxin Guo, Zekun Li, Rui Liu, Wei-Di Liu, Jia Ding, Yanan Chen* and Wenbin Hu*

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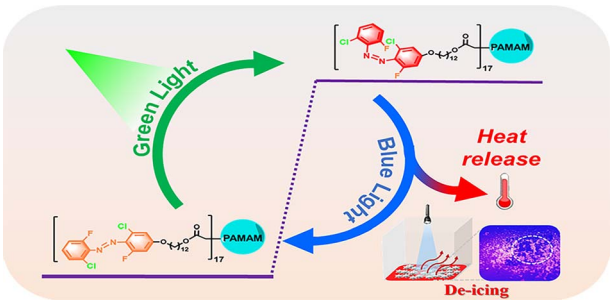
## Visible light activated dendrimers for solar thermal energy storage and release below 0 °C

Xingtang Xu, Chonghua Li, Wenjing Chen, Jie Feng, Wen-Ying Li,* Guojie Wang* and Haifeng Yu*



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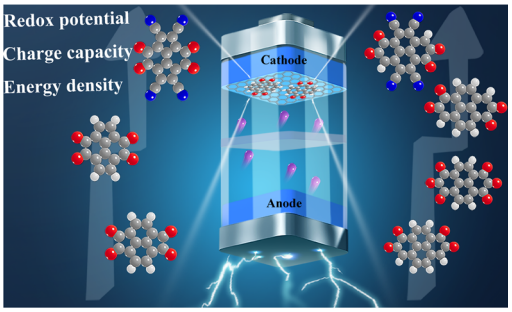




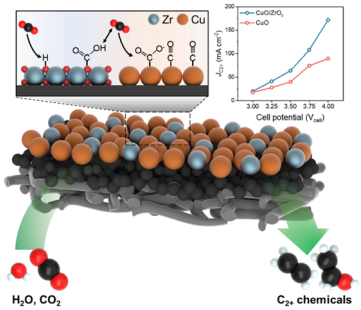




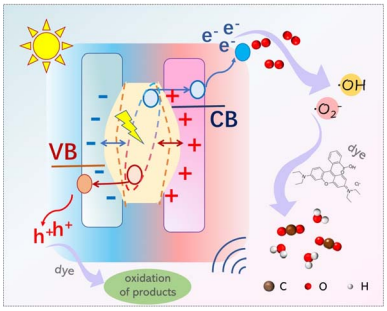




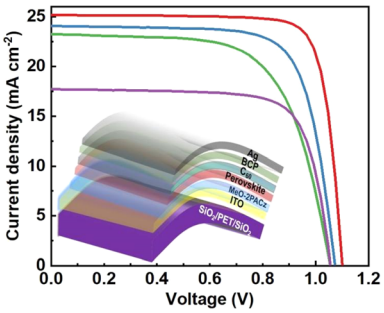

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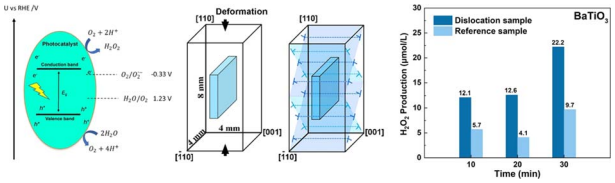
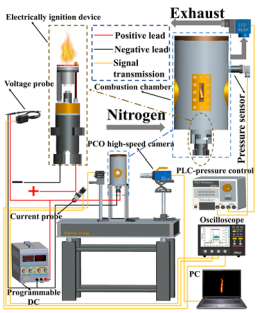



## Enhancing the photoelectric performance of metal oxide semiconductors by introduction of dislocations

Haoyu Zhang, Shuang Gao, Hongyang Wang, Fangping Zhuo, Qaisar K. Muhammad, Xufei Fang, Jürgen Rödel, Till Frömling* and Qi Li*

23920




## A combination strategy targeting the combustion enhancement of electrically controlled rocket fuels exerts synergistic elimination against zirconium's electrostatic hazards

Zhiwen Wang, Feng Li, Qianyi Zhang, Keer Ouyang, Ruiqi Shen, Yinghua Ye, Luigi T. DeLuca and Wei Zhang*

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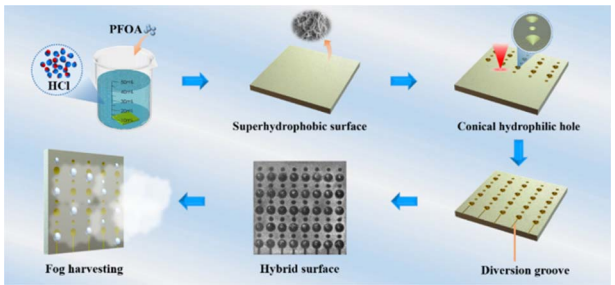
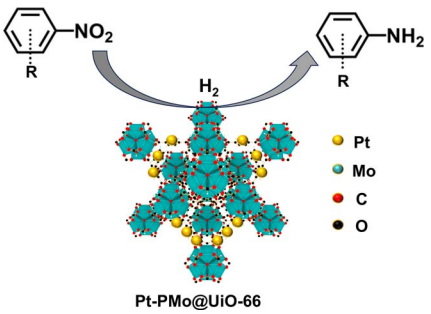



## Efficient water-collection hybrid surface optimized through combination-hole arrangement and diversion groove structure design

Jing Zhao,* Chuang Liu, Zijin Cheng, Ruoyu Sun, Yixian Hu and Jiliang Mo

23940




## Highly dispersed platinum and phosphomolybdic acid (PMo) on the UiO-66 metal–organic framework (MOF) for highly efficient and selective hydrogenation of nitroaromatics

Kai Chen, Qingqing Liu, Zhiying Qiu, Huan Zhang, Ning Gong and Lihua Zhu*

CORRECTION

23948

# Correction: Influence of microstructure evolution on the discharge properties of the Al–Mg–Sn–Ga–In anode for Al–air batteries

Xuehong Xu, Jin Zhang, Wei Jiang and Yunlai Deng*