

# Journal of Materials Chemistry A

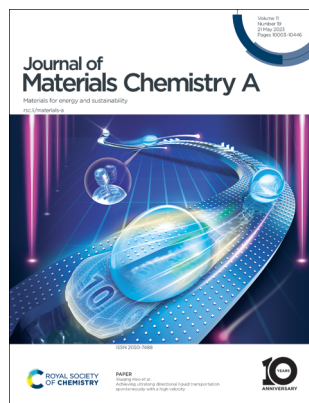
Materials for energy and sustainability

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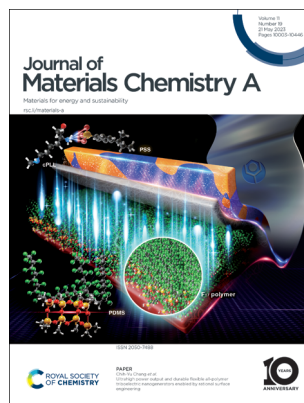
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ISSN 2050-7488 CODEN JMCAET 11(19) 10003–10446 (2023)



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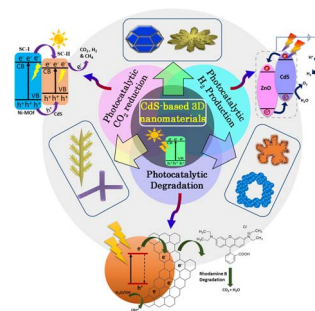
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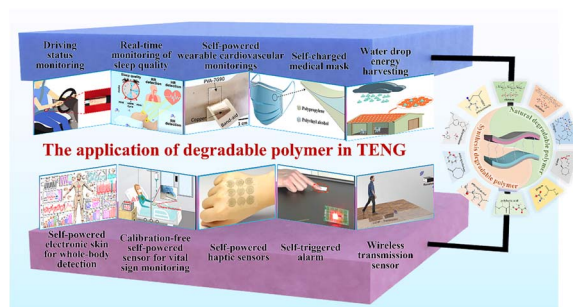
Jai Prakash,\* Pragati Kumar, Nupur Saxena, Zonghua Pu, Zhangsen Chen, Ankit Tyagi, Gaixia Zhang and Shuhui Sun\*



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### The performance of and promotion strategies for degradable polymers in triboelectric nanogenerators

Caixia Gao, Wangshu Tong,\* Yingge Zhang, Jiahe Zhang, Songling Liu and Yihe Zhang\*



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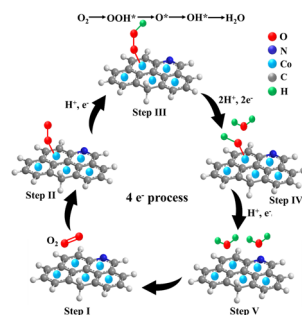


## REVIEWS

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### Understanding the mechanism and synergistic interaction of cobalt-based electrocatalysts containing nitrogen-doped carbon for 4 e<sup>-</sup> ORR

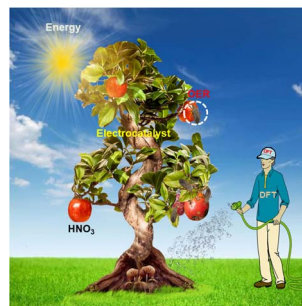
Fatima Nasim and Muhammad Arif Nadeem\*



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### Progress of electrochemical synthesis of nitric acid: catalyst design, mechanistic insights, protocol and challenges

Ashadul Adalder, Sourav Paul and Uttam Kumar Ghorai\*

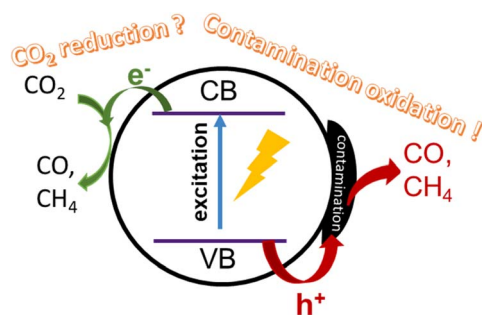


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### How carbon contamination on the photocatalysts interferes with the performance analysis of CO<sub>2</sub> reduction

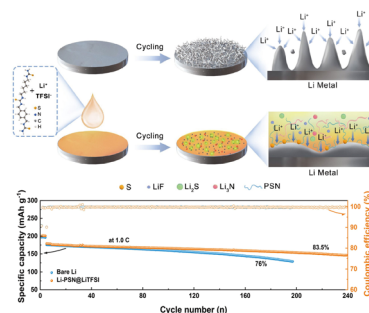
Jiakang You, Mu Xiao, Siqi Liu, Haijiao Lu, Peng Chen, Zhi Jiang, Wenfeng Shanguan, Zhiliang Wang\* and Lianzhou Wang\*



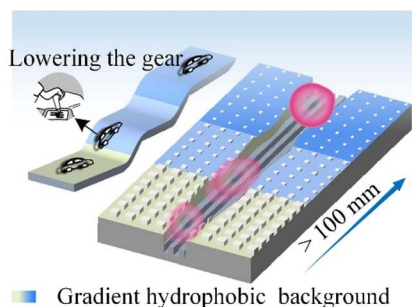
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### A polythiourea protective layer for stable lithium metal anodes

Xiaoya He, Zhu Liu, Yulian Yang, Zhiyong Wang, Yuanmao Chen, Qicheng Zhang, Zhangqin Shi, Yihong Tan,\* Xinyang Yue\* and Zheng Liang\*



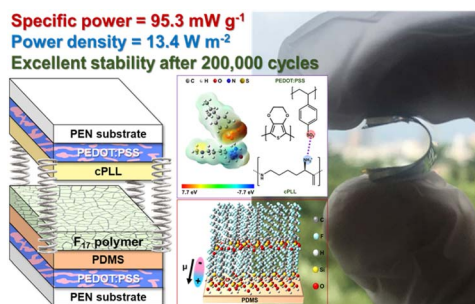
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### Achieving ultralong directional liquid transportation spontaneously with a high velocity

Qiankai Liu, Jie Zhang, Pengcheng Sun, Jianping Wang, Wei Zhao, Guolong Zhao, Ni Chen, Yinfei Yang, Liang Li, Ning He, Zuankai Wang and Xiuqing Hao\*

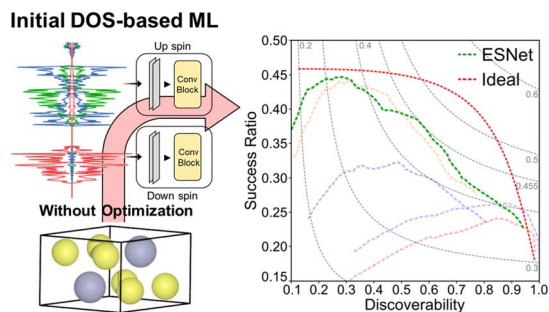
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### Ultrahigh power output and durable flexible all-polymer triboelectric nanogenerators enabled by rational surface engineering

Ying-Ying Chen, T. S. T. Balamurugan, Chih-Yu Chang,\* Chih-Yuan Hsu, Chih-Yu Fang, Yi-Shan Liu and Li-Fu Ho

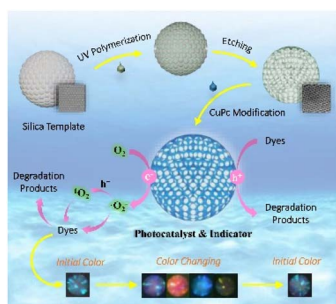
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### A chemically inspired convolutional neural network using electronic structure representation

Dong Hyeon Mok, Daeun Shin, Jonggeol Na\* and Seoin Back\*

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### Copper phthalocyanine modified hydrogel inverse opal beads for enhanced photocatalytic removal of dyes

Fengtong Shen, Jingzhen Wang, Libin Wang, Linlin Zang,\* Qing Xu, Liguo Sun\* and Yanhong Zhang\*

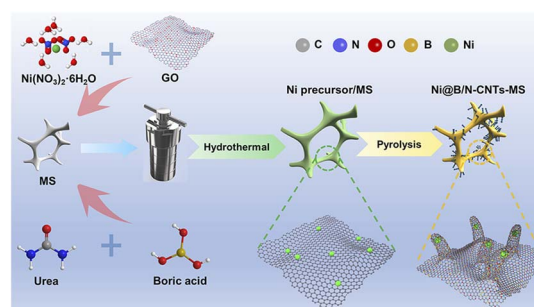




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### Melamine sponge templated synthesis of nickel nanoparticles encapsulated in B, N co-doped carbon nanotubes towards the selective electrocatalysis of hydrogen peroxide

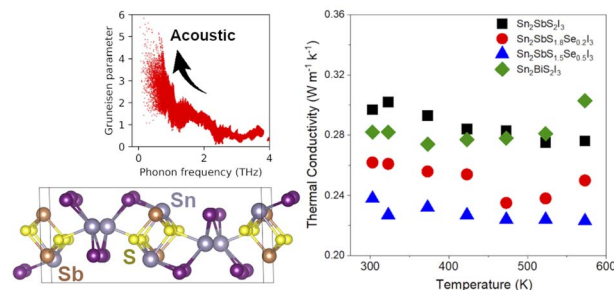
Hui Xu, Shengbo Zhang, Xinyuan Zhang, Min Xu, Jing Geng, Miaomiao Han\* and Haimin Zhang\*



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### Ultralow thermal conductivity in the mixed-anion solid solution $\text{Sn}_2\text{SbS}_{2-x}\text{Se}_x\text{I}_3$

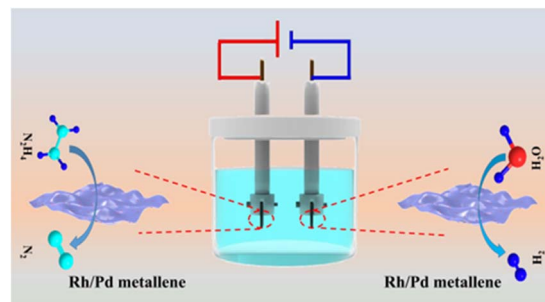
Justin Mark, Wenhao Zhang, Kazuhiko Maeda, Takafumi Yamamoto, Hiroshi Kageyama and Takao Mori\*



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### Heterointerface engineering of Rh/Pd metallene for hydrazine oxidation-assisted energy-saving hydrogen production

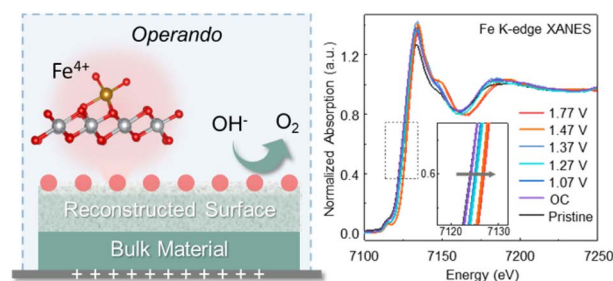
Ziqiang Wang, Guanghui Yang, Pengjun Tian, Kai Deng, Hongjie Yu, You Xu, Xiaonian Li, Hongjing Wang\* and Liang Wang\*



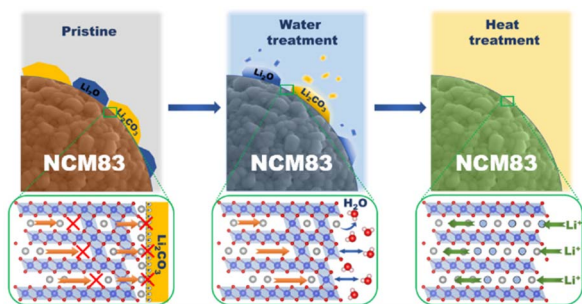
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### Dynamically activating Ni-based catalysts with self-anchored mononuclear Fe for efficient water oxidation

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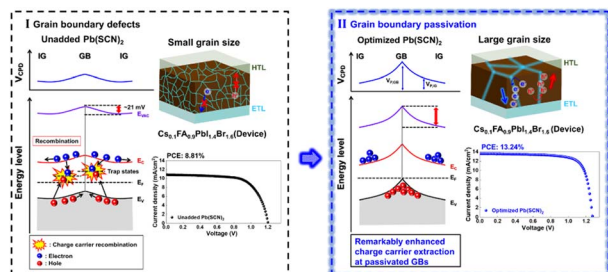
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### Fast charge storage kinetics by surface engineering for Ni-rich layered oxide cathodes

Jiacheng Wang, Zhenyu Zhang, Weitao He, Zhixuan Wang, Suting Weng, Quan Li, Xuefeng Wang, Suelen Barg, Liqun Chen, Hong Li and Fan Wu\*

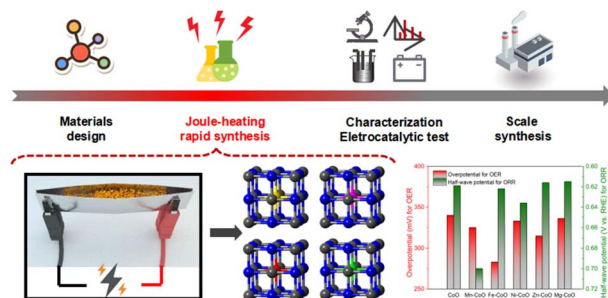
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### Wide-bandgap perovskites for multijunction solar cells: improvement of crystalline quality of $\text{Cs}_{0.1}\text{FA}_{0.9}\text{Pb}_{1.4}\text{Br}_{1.6}$ by using lead thiocyanate

Thuy Thi Nguyen, Jihyun Kim, Yeon Soo Kim, Bich Phuong Nguyen and William Jo\*

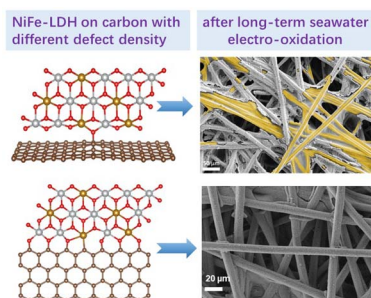
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### Rapid synthesis of doped metal oxides via Joule heating for oxygen electrocatalysis regulation

Yajing Li, Han Wu, Jinfeng Zhang, Qi Lu, Xiaopeng Han, Xuerong Zheng, Yida Deng\* and Wenbin Hu

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### Effects of carbon defects on interfacial anchoring of NiFe-LDH for seawater electro-oxidation

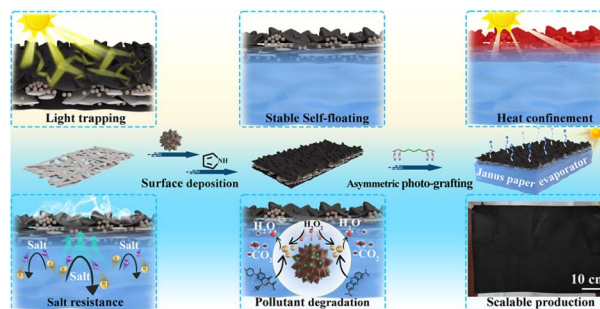
Heng Xu, Shi-Jun Xie, Chao Lv, Jun-Tao Li, Yao Zhou\* and Shi-Gang Sun\*



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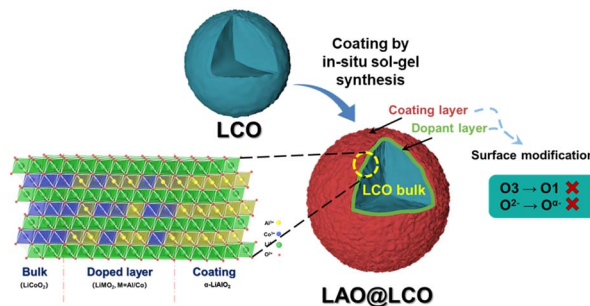
Xin Wang,\* Zilong Li, Shuyang Xing, Wei Kuang, Cuihua Dong and Yingying Liu\*



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## Epitaxial growth of a single hexagonal layered $\alpha$ -LiAlO<sub>2</sub> coating on a high-voltage LiCoO<sub>2</sub> cathode material for enhanced stability

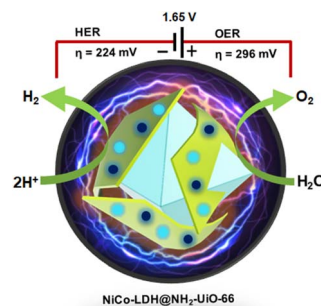
Jiahui Zheng, Yong Wang, Mengmeng Qin, Lidong Sun, Cong Peng, Yu Li\* and Wei Feng\*



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## An ultrathin 2D NiCo-LDH nanosheet decorated NH<sub>2</sub>-UiO-66 MOF-nanocomposite with exceptional chemical stability for electrocatalytic water splitting

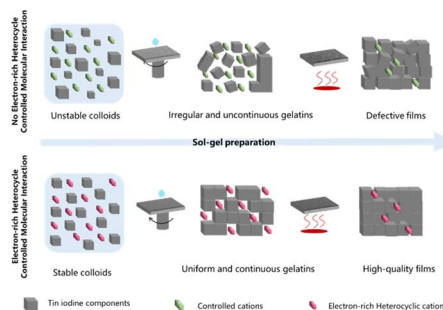
Saddam Sk, Ragunath Madhu, Deepak S. Gavali, Vidha Bhasin, Ranjit Thapa, Shambhu Nath Jha, Dibyendu Bhattacharyya, Subrata Kundu\* and Ujjwal Pal\*



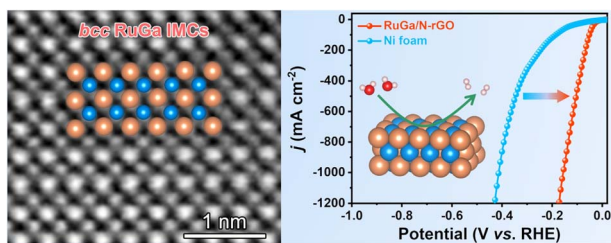
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## Molecular interaction modulating Ruddlesden-Popper tin-based perovskite crystallization

Han Pan,\* Yong Zheng, Wenqing He, Wenxing Yang,\* Xiu Gong, Xiaodong Liu, Qiang Wei, Yan Liu, Yan Shen and Mingkui Wang\*



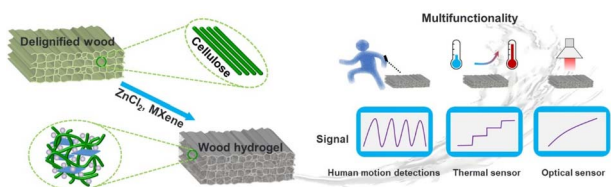
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### Atomically dispersed ruthenium sites with electron-rich environments in intermetallic compounds for high-current-density hydrogen evolution

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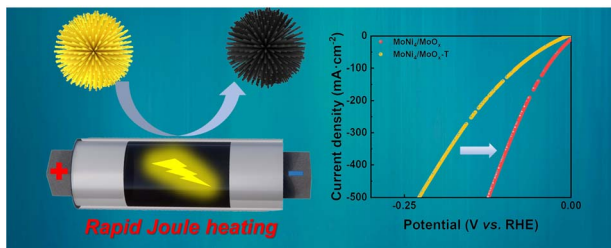
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### Construction of MXene functionalized wood-based hydrogels using $\text{ZnCl}_2$ aqueous solution for flexible electronics

Zhongguo Wang, Xiong-Fei Zhang,\* Lian Shu and Jianfeng Yao\*

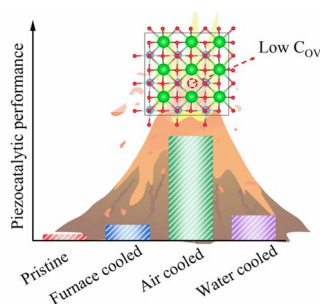
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### Rapid synthesis of efficient Mo-based electrocatalyst for the hydrogen evolution reaction in alkaline seawater with 11.28% solar-to-hydrogen efficiency

Zhan Zhao, Jianpeng Sun, Zizhen Li, Xiaofeng Xu, Zisheng Zhang, Chunhu Li, Liang Wang and Xiangchao Meng\*

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### Significantly enhanced piezocatalytic activity of $\text{BaTiO}_3$ by regulating the quenching process

Cheng-Chao Jin,\* Jun-Di Ai, Dai-Ming Liu, Li-Ning Tan, Liang Cao, Bing-Lin Shen, Xu-Ting Qiu and Ling-Xia Zhang\*

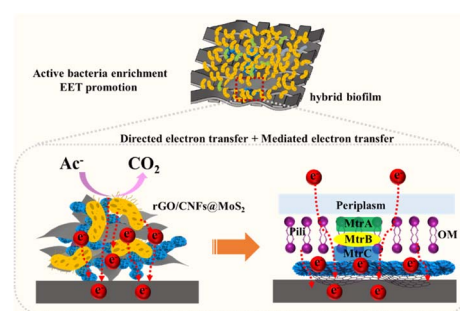




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### Nanoflower-like MoS<sub>2</sub> anchored on electrospun carbon nanofiber-interpenetrated reduced graphene oxide as a microbial fuel cell anode achieving high power density

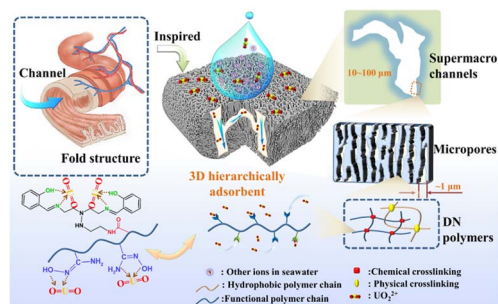
Yuanfeng Liu, Tingli Ren, Zijing Su and Congju Li\*



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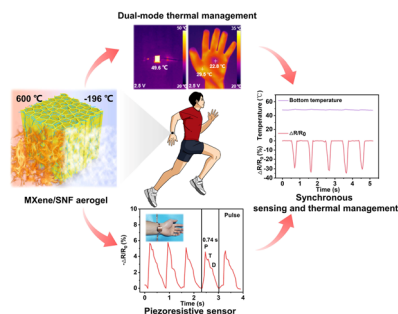
Dagang Li, Yaozu Liao,\* Zheng Chen, Xixin Chang, Xu Zhang, Chongcheng Chen, Chang Cui, Zilei Zhang, Constantin Muhire, Weiwu Tang, Dongxiang Zhang,\* Jinying Li and Xiyan Xu\*



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### An extreme condition-resistant superelastic silica nanofiber/MXene composite aerogel for synchronous sensing and thermal management

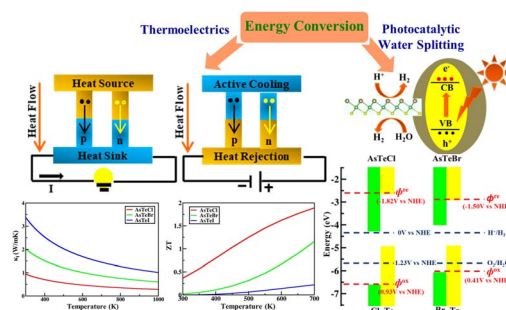
Jiafei Ren, Xing Huang, Ruolin Han, Guangxin Chen, Zheng Zhou\* and Qifang Li\*



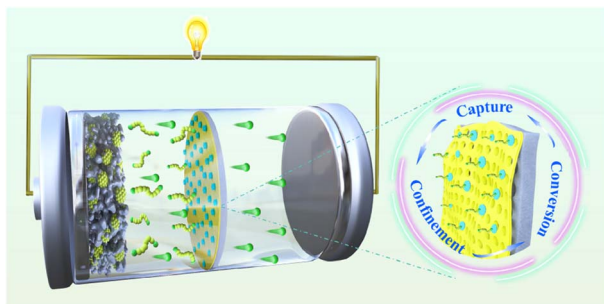
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### As-based ternary Janus monolayers for efficient thermoelectric and photocatalytic applications

Poonam Chauhan, Jaspreet Singh and Ashok Kumar\*



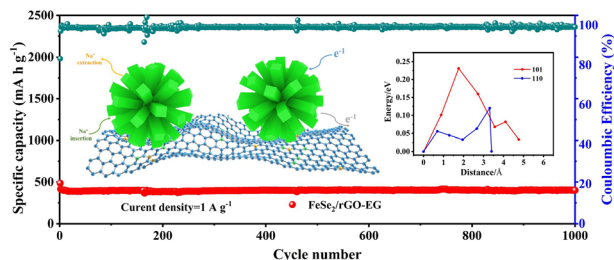
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### Developing a MXene quantum dot-based separator for Li-S batteries

Ke Yang, Chan Li, Haoyuan Qi, Yunfei Dai, Yuhong Cui and Yibo He\*

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### Effect of solvent on the crystal phase, morphology, and sodium storage performance of FeSe<sub>2</sub>

Manman Ren,\* Haoting Zang, Shilei Cao, Hongling Guo, Jihui Zhang, Weiliang Liu, Jinshui Yao, Xu Zhang\* and Zhen Zhou

