

# Journal of Materials Chemistry A

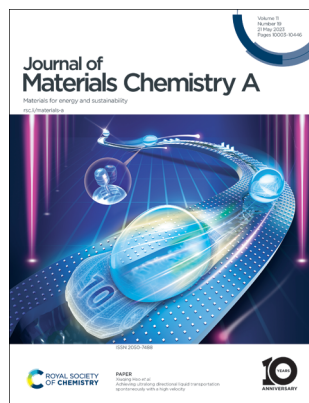
Materials for energy and sustainability

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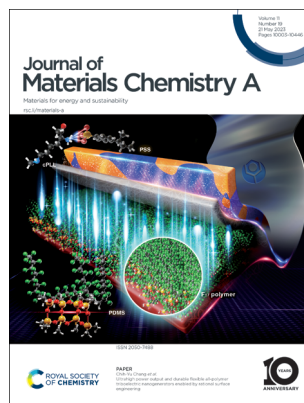
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ISSN 2050-7488 CODEN JMCAET 11(19) 10003–10446 (2023)



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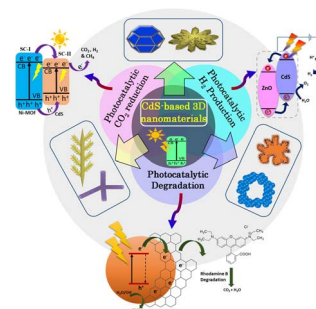
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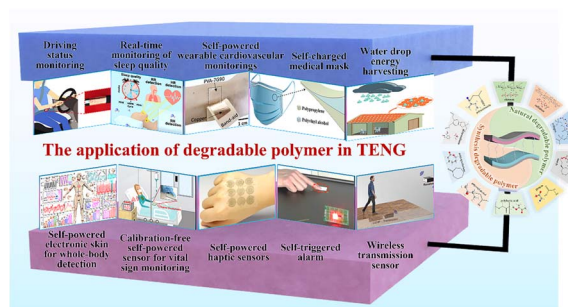
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### The performance of and promotion strategies for degradable polymers in triboelectric nanogenerators

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



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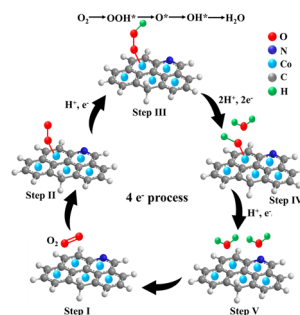


## REVIEWS

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

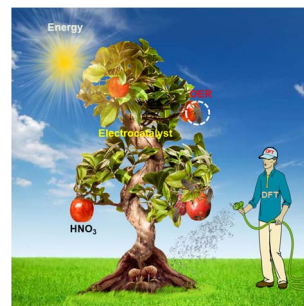
Fatima Nasim and Muhammad Arif Nadeem\*



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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\*

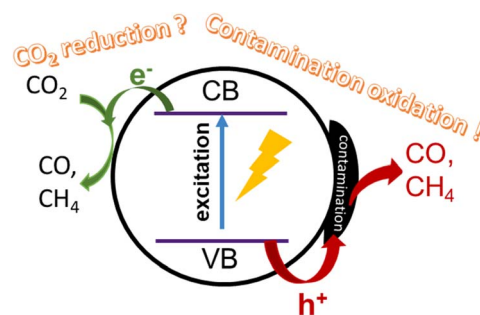


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### How carbon contamination on the photocatalysts interferes with the performance analysis of CO<sub>2</sub> reduction

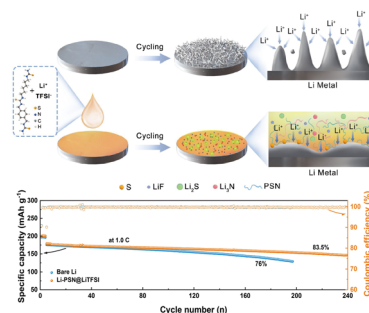
Jiakang You, Mu Xiao, Siqi Liu, Haijiao Lu, Peng Chen, Zhi Jiang, Wenfeng Shanguan, Zhiliang Wang\* and Lianzhou Wang\*



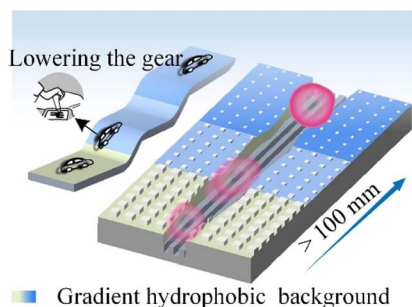
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### A polythiourea protective layer for stable lithium metal anodes

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



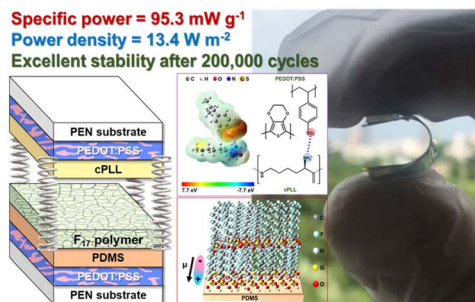
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### Achieving ultralong directional liquid transportation spontaneously with a high velocity

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\*

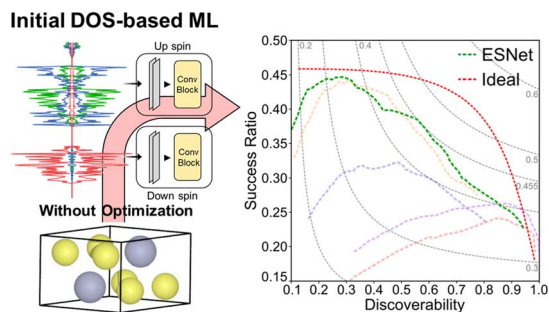
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### Ultrahigh power output and durable flexible all-polymer triboelectric nanogenerators enabled by rational surface engineering

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

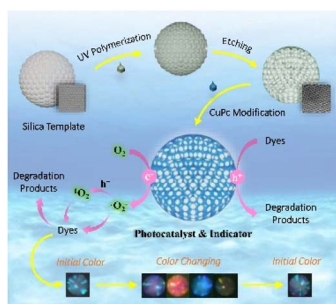
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### A chemically inspired convolutional neural network using electronic structure representation

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

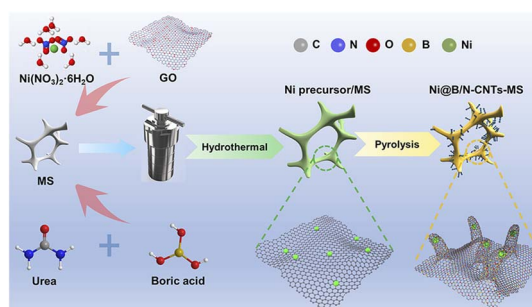
Fengtong Shen, Jingzhen Wang, Libin Wang, Linlin Zang,\* Qing Xu, Ligu Sun\* and Yanhong Zhang\*



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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

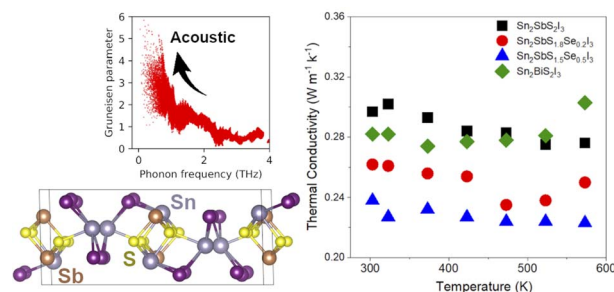
Hui Xu, Shengbo Zhang, Xinyuan Zhang, Min Xu, Jing Geng, Miaomiao Han\* and Haimin Zhang\*



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

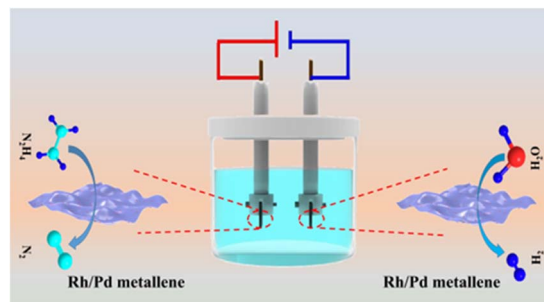
Justin Mark, Wenhao Zhang, Kazuhiko Maeda, Takafumi Yamamoto, Hiroshi Kageyama and Takao Mori\*



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

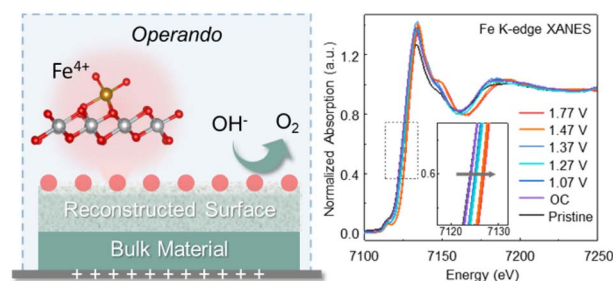
Ziqiang Wang, Guanghui Yang, Pengjun Tian, Kai Deng, Hongjie Yu, You Xu, Xiaonian Li, Hongjing Wang\* and Liang Wang\*



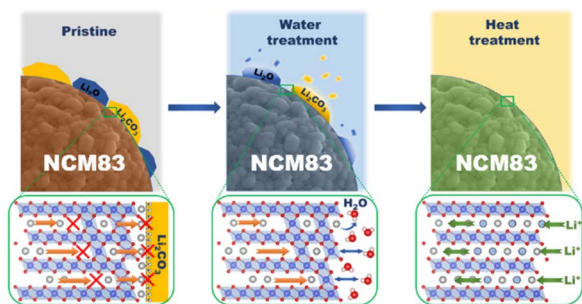
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### Dynamically activating Ni-based catalysts with self-anchored mononuclear Fe for efficient water oxidation

Zhiyuan Zhang, Yuting Luo, Kun Wang, Qiangmin Yu, Xin Kang, Yingqi Liu, Ke Xie, Zhengxing Lv, Zhibo Liu, Fengning Yang, Heming Liu, Ke Liu, Jiong Li, Guangmin Zhou, Wencai Ren, Hui-Ming Cheng, Jia Li,\* Shuo Zhang\* and Bilu Liu\*



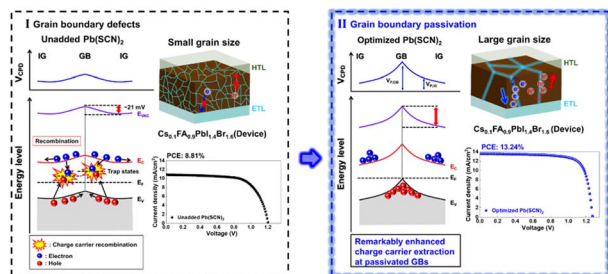
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### Fast charge storage kinetics by surface engineering for Ni-rich layered oxide cathodes

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

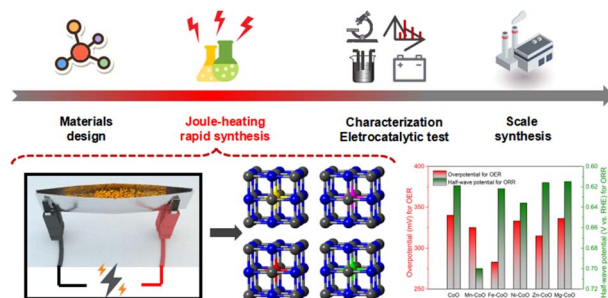
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### Wide-bandgap perovskites for multijunction solar cells: improvement of crystalline quality of $\text{Cs}_{0.1}\text{FA}_{0.9}\text{PbI}_{1.4}\text{Br}_{1.6}$ by using lead thiocyanate

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

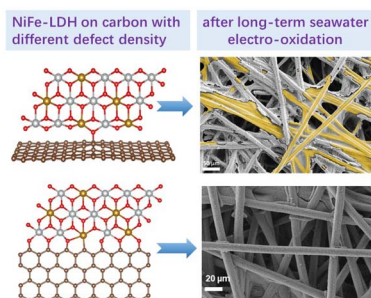
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### Rapid synthesis of doped metal oxides via Joule heating for oxygen electrocatalysis regulation

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

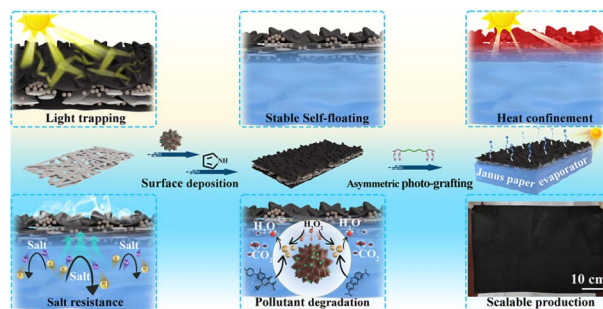
Heng Xu, Shi-Jun Xie, Chao Lv, Jun-Tao Li, Yao Zhou\* and Shi-Gang Sun\*



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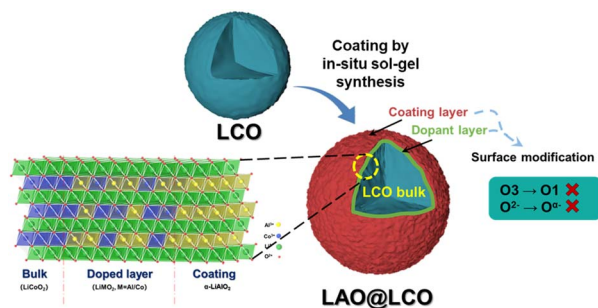
Xin Wang,\* Zilong Li, Shuyang Xing, Wei Kuang, Cuihua Dong and Yingying Liu\*



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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

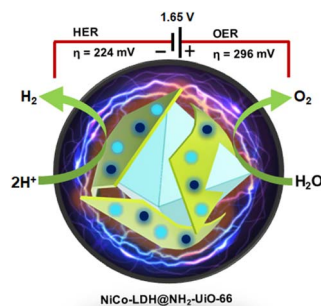
Jiahui Zheng, Yong Wang, Mengmeng Qin, Lidong Sun, Cong Peng, Yu Li\* and Wei Feng\*



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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

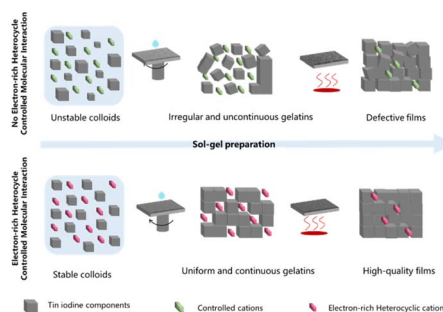
Saddam Sk, Ragunath Madhu, Deepak S. Gavali, Vidha Bhasin, Ranjit Thapa, Shambhu Nath Jha, Dibyendu Bhattacharyya, Subrata Kundu\* and Ujjwal Pal\*



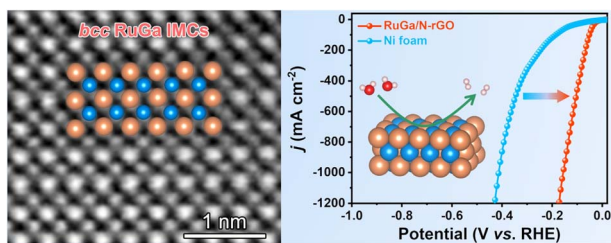
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## Molecular interaction modulating Ruddlesden-Popper tin-based perovskite crystallization

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



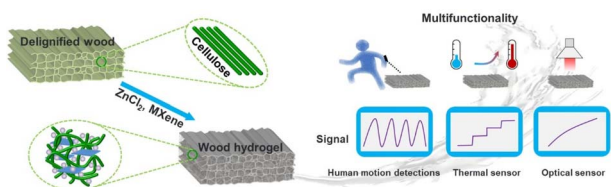
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### Atomically dispersed ruthenium sites with electron-rich environments in intermetallic compounds for high-current-density hydrogen evolution

Huaifang Zhang, Chuanqi Cheng, Jin Zhou, Chaoqun Ma, Peidong Shi, Haoming Wu, Pengfei Yin, Wenbin Cao, Jing Xia, Lijie Zhu,\* An-Liang Wang\* and Qipeng Lu\*

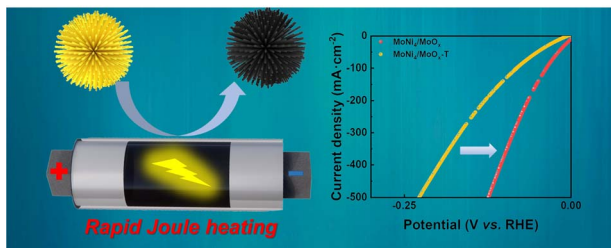
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### Construction of MXene functionalized wood-based hydrogels using $ZnCl_2$ aqueous solution for flexible electronics

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

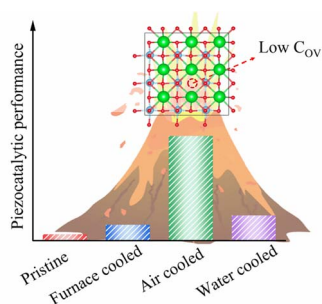
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### Rapid synthesis of efficient Mo-based electrocatalyst for the hydrogen evolution reaction in alkaline seawater with 11.28% solar-to-hydrogen efficiency

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 $BaTiO_3$ by regulating the quenching process

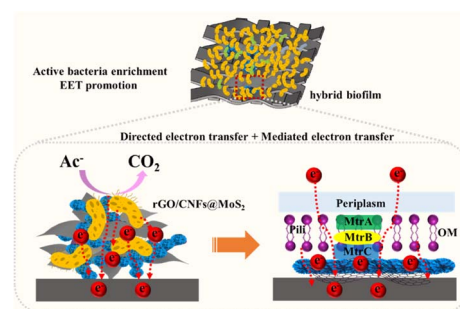
Cheng-Chao Jin,\* Jun-Di Ai, Dai-Ming Liu, Li-Ning Tan, Liang Cao, Bing-Lin Shen, Xu-Ting Qiu and Ling-Xia Zhang\*



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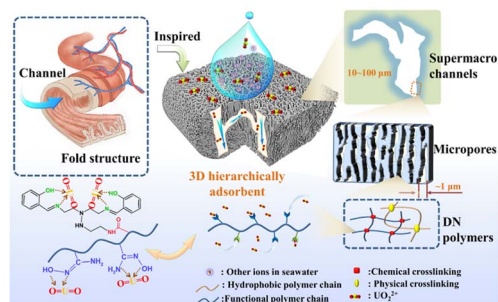
Yuanfeng Liu, Tingli Ren, Zijing Su and Congju Li\*



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### A 3D hierarchical porous adsorbent constructed by cryo-polymerization for ultrafast uranium harvesting from seawater

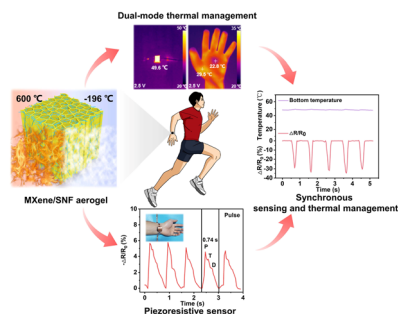
Dagang Li, Yaozu Liao,\* Zheng Chen, Xixin Chang, Xu Zhang, Chongcheng Chen, Chang Cui, Zilei Zhang, Constantin Muhire, Weiwu Tang, Dongxiang Zhang,\* Jinying Li and Xiyan Xu\*



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

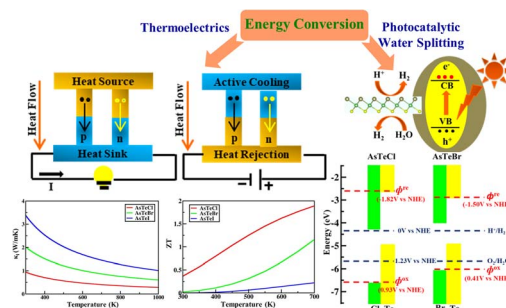
Jiafei Ren, Xing Huang, Ruolin Han, Guangxin Chen, Zheng Zhou\* and Qifang Li\*



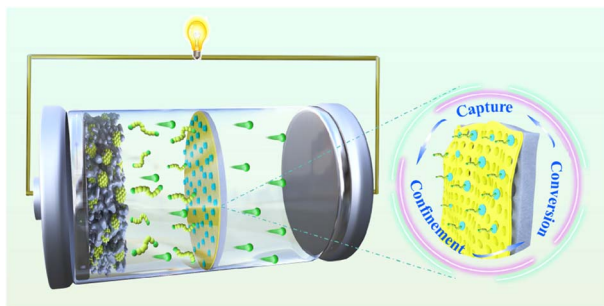
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### As-based ternary Janus monolayers for efficient thermoelectric and photocatalytic applications

Poonam Chauhan, Jaspreet Singh and Ashok Kumar\*



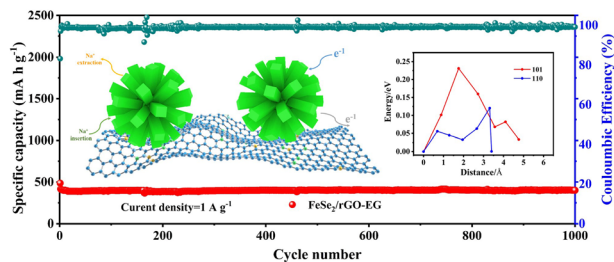
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### Developing a MXene quantum dot-based separator for Li-S batteries

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

