

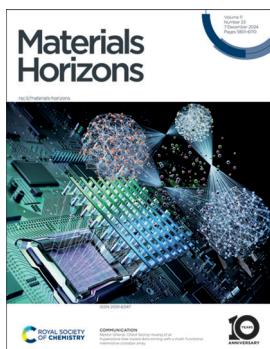
# Materials Horizons

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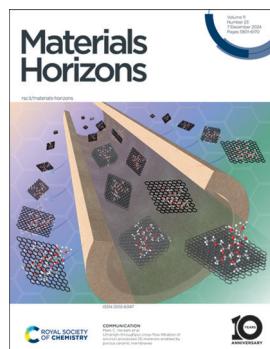
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ISSN 2051-6347 CODEN MHAOL 11(23) 5801–6170 (2024)



### Cover

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**Dr Muhammad Zubair and Dr Muhammad Qasim**  
**Mehmood, Information Technology University of**  
**the Punjab, Pakistan**

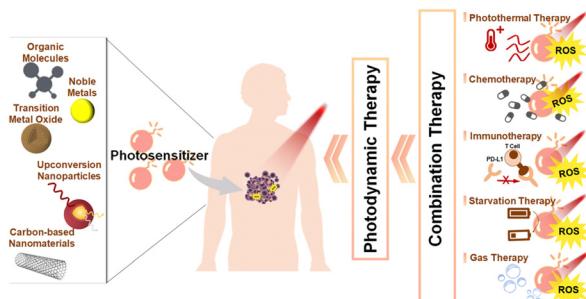


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Yiqian Yang, Shaohua Jiang, Stefan G. Stanciu,  
Hao Peng,\* Aiguo Wu\* and Fang Yang\*



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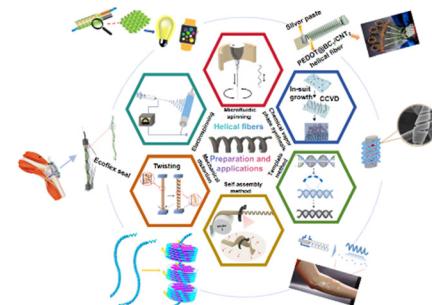
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## A review of advanced helical fibers: formation mechanism, preparation, properties, and applications

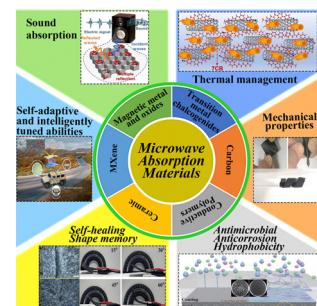
Minmin Ding, Xiuling Yang, Yanbo Liu,\* Shiyi Zeng, Gaigai Duan,\* Yong Huang, Zhao Liang,\* Peng Zhang, Jian Ji and Shaohua Jiang\*



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Junxiong Xiao, Mukun He, Beibei Zhan, Hua Guo, Jing-liang Yang, Yali Zhang, Xiaosi Qi\* and Junwei Gu\*



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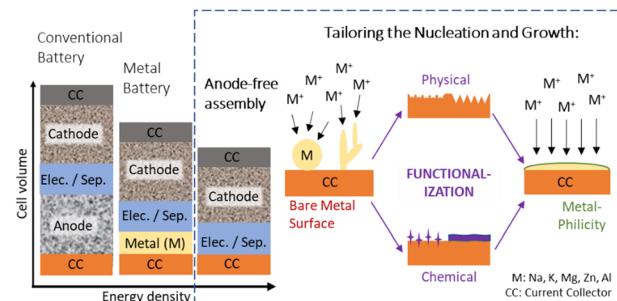
Longqiang Li, Depeng Liu, Jiayin Zhou, Min Qi, Guangqiang Yin\* and Tao Chen\*



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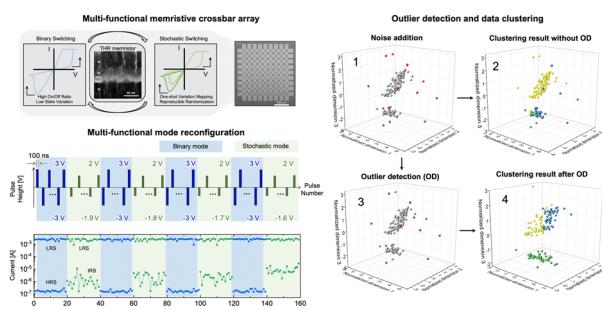
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Deik Petersen, Monja Gronenberg, German Lener, Ezequiel P. M. Leiva, Guillermmina L. Luque,\* Sasan Rostami, Andrea Paoletta, Bing Joe Hwang, Rainer Adelung and Mozaffar Abdollahifar\*

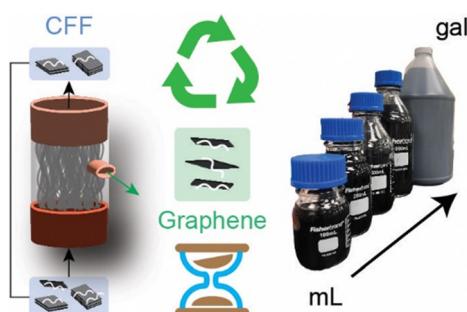


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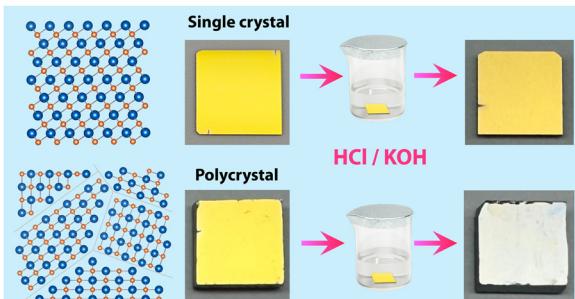


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**Hyperplane tree-based data mining with a multi-functional memristive crossbar array**

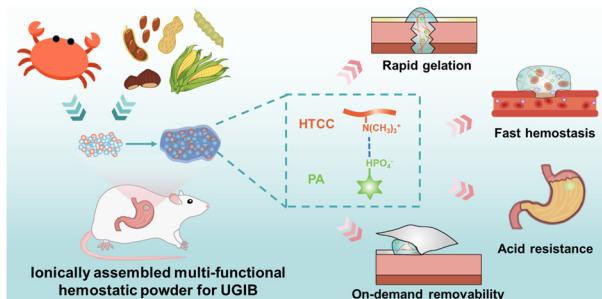
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Ashuang Liu, Zhimao Huang, Shengyong Cui, Ying Xiao, Xiangshu Guo, Gaoke Pan, Lei Song, Junjie Deng, Ting Xu, Youfen Fan and Rong Wang\*

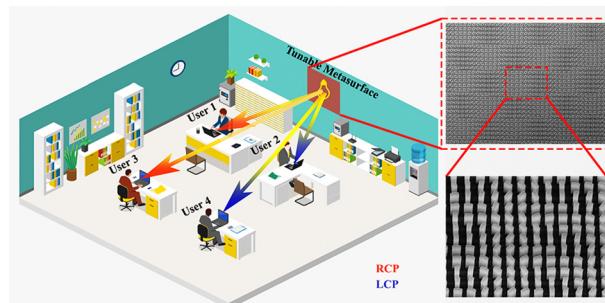


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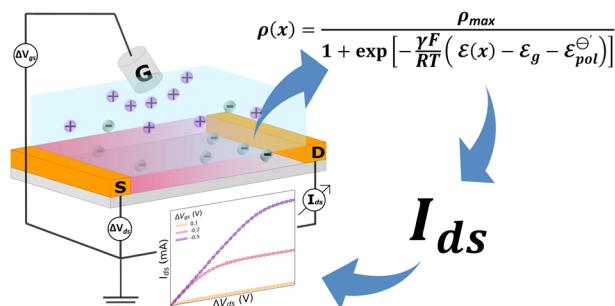
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**Non-ideal nernstian behavior in organic electrochemical transistors: fundamental processes and theory**

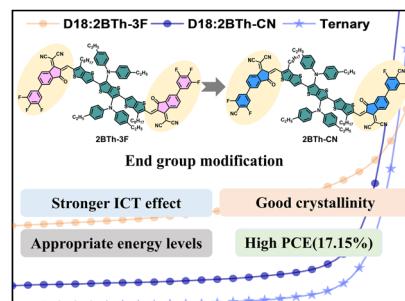
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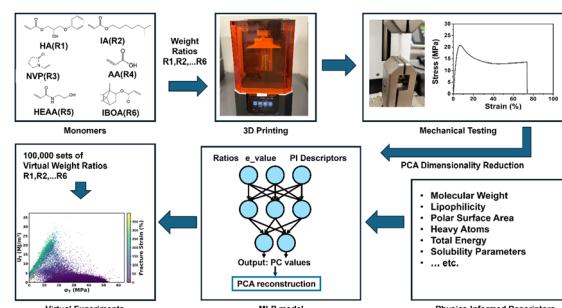
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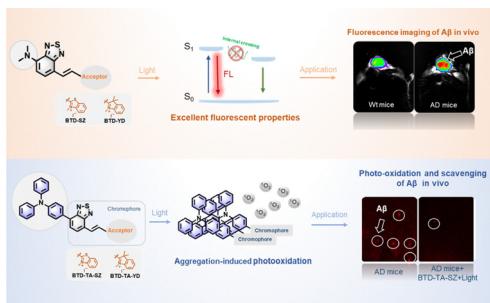
**Physics-informed machine learning enabled virtual experimentation for 3D printed thermoplastic**

Zhenru Chen, Yuchao Wu, Yunchao Xie, Kianoosh Sattari  
 and Jian Lin\*



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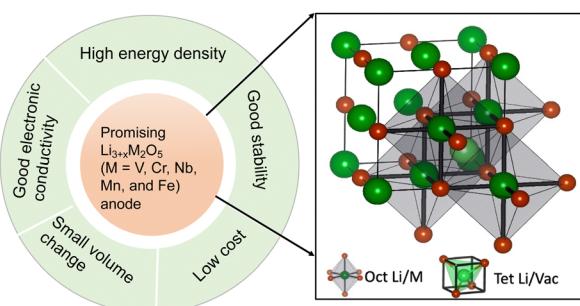
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### Modulation of intramolecular freedom for tuning fluorescence imaging and photooxidation of amyloid- $\beta$ aggregates

Yuhui Guo, Chunli Xia, Yingmei Cao, Junyi Su, Weijie Chi,\* Daoyuan Chen\* and Jinwu Yan\*

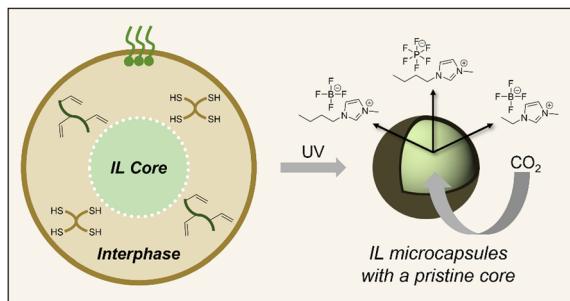
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### Design principle of disordered rocksalt type overlithiated anode for high energy density batteries

Yufang He, Zhengda He and Bin Ouyang\*

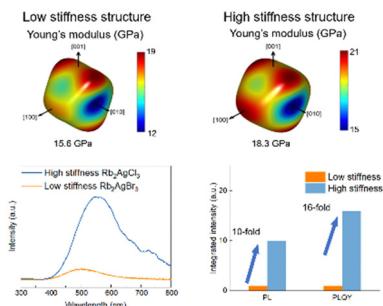
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### Microstructural stiffness engineering of low dimensional metal halide perovskites for efficient X-ray imaging

Yangmin Tang, Guiqiang Pu, Chengbin Kang, Chenyang Li, Xiaoze Wang, Machao Wang, Hui Bi, Wei Chen\* and Jiacheng Wang\*

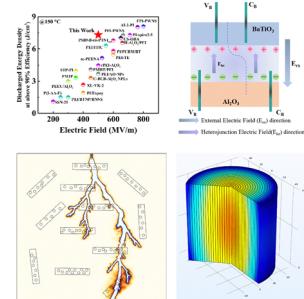


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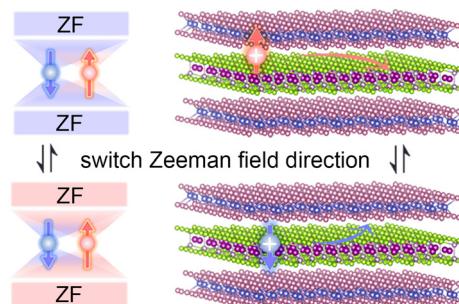
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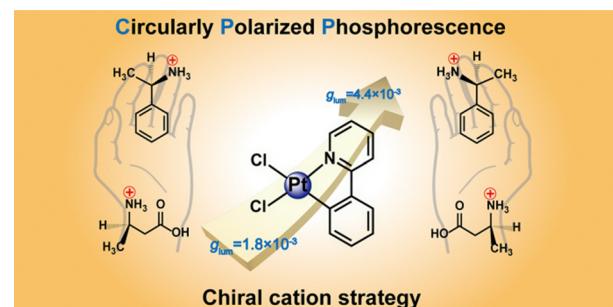
Shuyan Chai, Yangyang Feng, Ying Dai,\* Baibiao Huang, Liangzhi Kou\* and Yandong Ma\*



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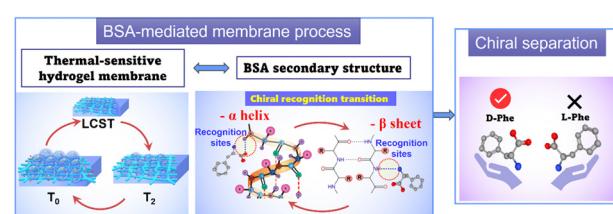
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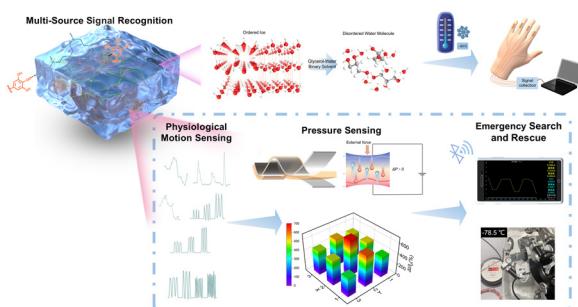
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Shen Zhang, Rui Sun, Jun Wang, Zhiqin Jiang, Mingfang Liu, Hua Chen, Zhijun Hu, Xiaoli Zhan, Feng Gao\* and Qinghua Zhang\*

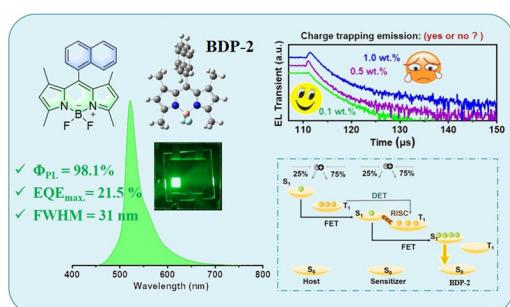
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### Ultramicroporous crosslinked polyxanthene-poly(biphenyl piperidinium)-based anion exchange membranes for water electrolyzers operating under highly alkaline conditions

Zejun Zheng, Boxin Xue,\* Jin Yao, Qingyi He, Zhen Wang and Jingling Yan\*

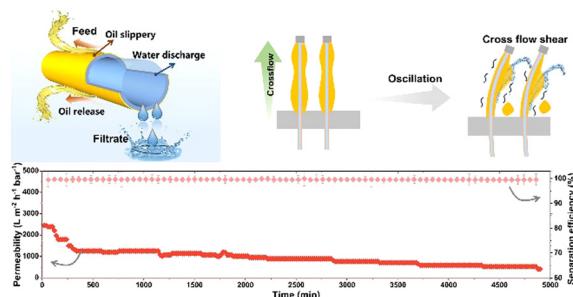
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### Slippery hydrogel surface on PTFE hollow fiber membranes for sustainable emulsion separation

Yajie Ding, Yue Zhu, Jiawei Wang, Jianqiang Wang\* and Fu Liu\*

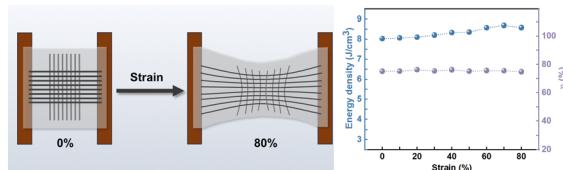


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