

# Materials Horizons

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### Cover

See Haibo Zhao, Yuzhong Wang *et al.*, pp. 1867–1876. Image reproduced by permission of Haibo Zhao from *Mater. Horiz.*, 2024, 11, 1867.



### Inside cover

See Enzheng Shi, Jiu-an Lv *et al.*, pp. 1877–1888. Image reproduced by permission of Jiu-an Lv from *Mater. Horiz.*, 2024, 11, 1877.

## EDITORIAL

1830

**Materials Horizons Emerging Investigator Series: Professor Zhengbao Yang, Hong Kong University of Science and Technology**

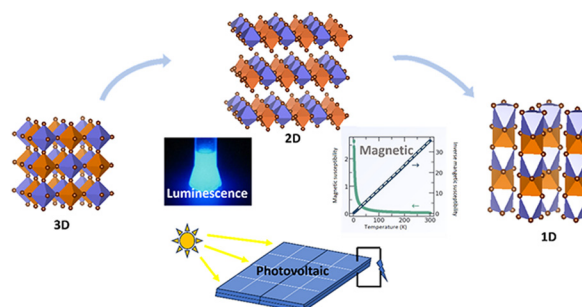


## COMMENTARY

1832

**A reflection on 'The synthesis, structure and electronic properties of a lead-free hybrid inorganic–organic double perovskite (MA)<sub>2</sub>KBiCl<sub>6</sub> (MA = methylammonium)'**

Anthony K. Cheetham,\* Paul D. Bristowe, Satoshi Tominaka and Fengxia Wei



# EES Catalysis

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Elemental answers

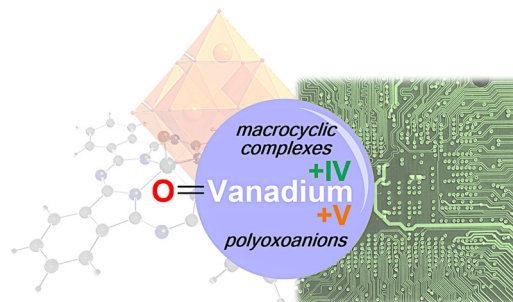


## OPINION

1838

## Oxovanadium electronics for in-memory, neuromorphic, and quantum computing applications

Kirill Yu. Monakhov\*

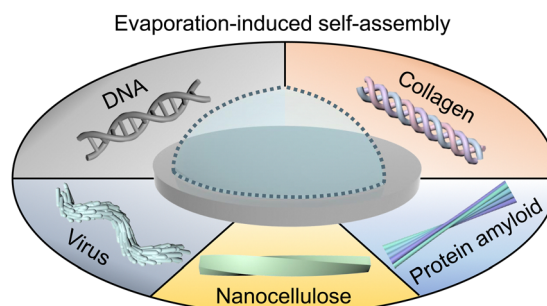


## REVIEW

1843

## Evaporation-induced self-assembly of liquid crystal biopolymers

Soon Mo Park and Dong Ki Yoon\*

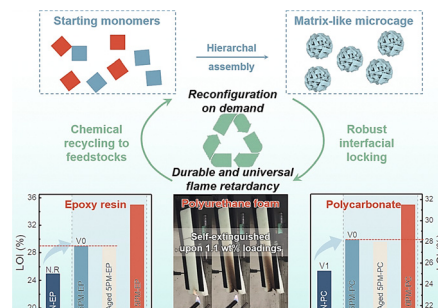


## COMMUNICATIONS

1867

## Microcage flame retardants with complete recyclability and durability via reversible interfacial locking engineering

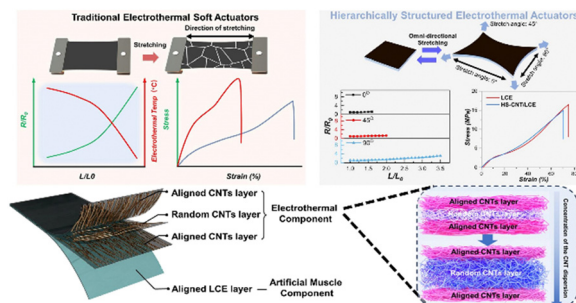
Furong Zeng, Lei He, Jianwen Ma, Danxuan Fang, Zhiwei Zeng, Tongyu Bai, Rong Ding, Bowen Liu, Haibo Zhao\* and Yuzhong Wang\*



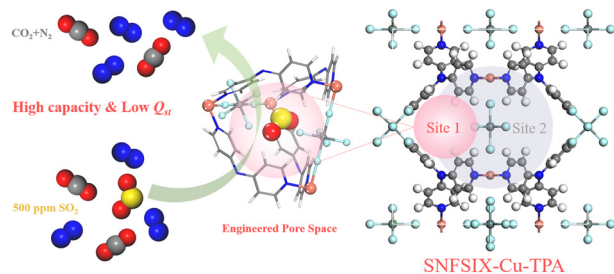
1877

## Adaptive nanotube networks enabling omnidirectionally deformable electro-driven liquid crystal elastomers towards artificial muscles

Jiao Wang, Hao Zhou, Yangyang Fan, Wenhao Hou, Tonghui Zhao, Zhiming Hu, Enzheng Shi\* and Jiu-an Lv\*



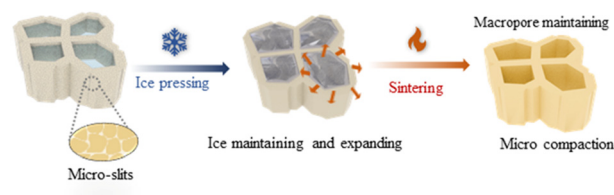
1889



### Trace SO<sub>2</sub> capture within the engineered pore space using a highly stable SnF<sub>6</sub><sup>2-</sup>-pillared MOF

Weiwei Li, Can Cheng, Guanqun Gao, Haomiao Xu, Wenjun Huang, Zan Qu\* and Naiqiang Yan

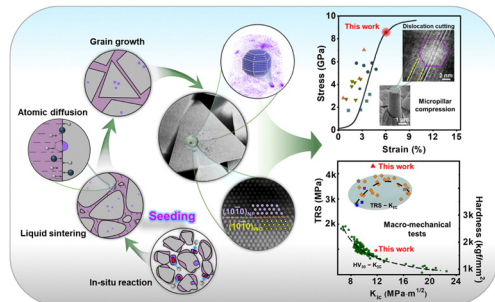
1899



### Exploring the Mpemba effect: a universal ice pressing enables porous ceramics

Xiaodan Yang, Yao Shan, Ying Hong, Zhuomin Zhang, Shiyuan Liu, Xiaodong Yan, Xuetian Gong, Guangzu Zhang and Zhengbao Yang\*

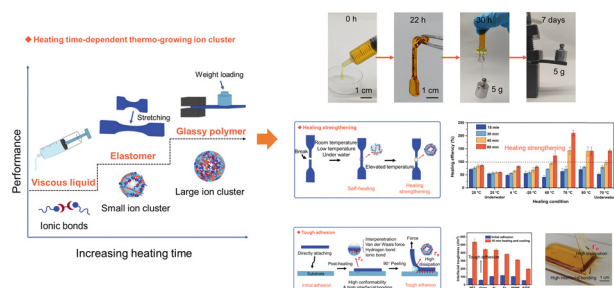
1908



### Seeding ductile nanophase in ceramic grains

Chong Zhao, Hao Lu,\* Haibin Wang, Xuemei Liu, Zhigang Zak Fang,\* Chao Hou and Xiaoyan Song\*

1923



### Thermo-growing ion clusters enabled healing strengthening and tough adhesion for highly reliable skin electronics

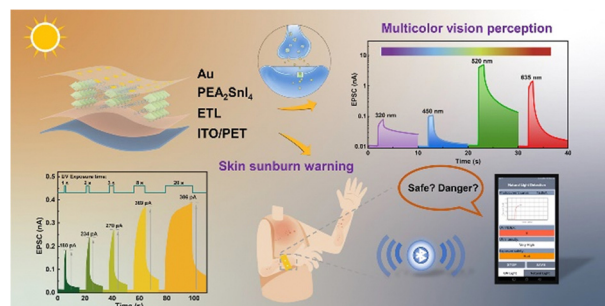
Song Chen, Xinyu Chen, Kaiying Luo, Wenwei Yang, Xueling Yan and Lan Liu\*



1934

### Multicolor vision perception of flexible optoelectronic synapse with high sensitivity for skin sunburn warning

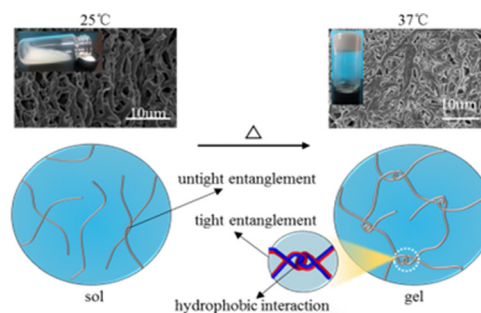
Yaqian Yang, Ying Li,\* Di Chen and Guozhen Shen\*



1944

### Injectable extracellular matrix-mimetic hydrogel based on electrospun Janus fibers

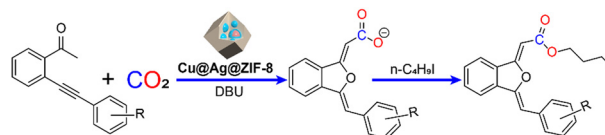
Jinzhong Zhang, Xiaolong Zha,\* Gengxin Liu, Huipeng Zhao, Xiaoyun Liu\* and Liusheng Zha\*



1957

### Hierarchical surface-modification of nano-Cu toward one pot H-transfer-coupling–cyclization–CO<sub>2</sub> fixation tandem reactions

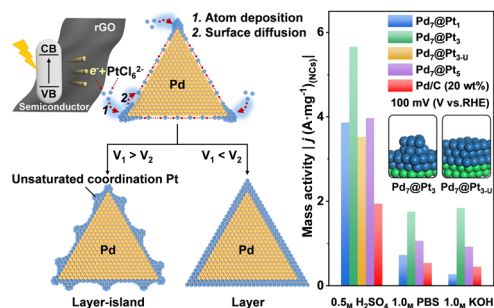
Zhi-Qiang Wang, ChengHua Deng, Bo Li, Hai-Qiang Luo, Peng Hao, Xiao Liu,\* Jian-Gong Ma\* and Peng Cheng



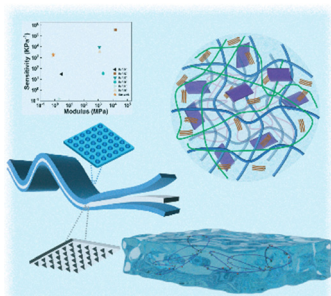
1964

### Photochemical engineering unsaturated Pt islands on supported Pd nanocrystals for a robust pH-universal hydrogen evolution reaction

Yidan Liu, Nuttapon Yodsinn, Ting Li, Haocheng Wu, Rongrong Jia, Liyi Shi,\* Zhuangchai Lai,\* Supawadee Namuangruk\* and Lei Huang\*



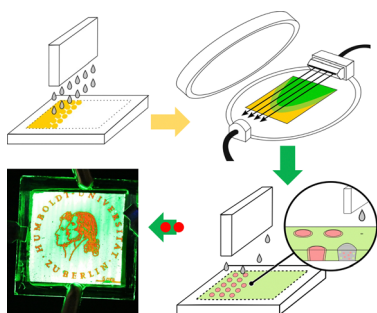
1975



### An ultra-soft conductive elastomer for multifunctional tactile sensors with high range and sensitivity

Ao Yin, Ruiguang Chen, Rui Yin, Shiqiang Zhou, Yang Ye, Yuxin Wang, Peike Wang, Xue Qi, Haipeng Liu, Jiang Liu, Suzhu Yu\* and Jun Wei\*

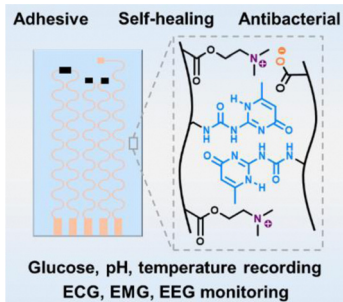
1989



### Bicolour, large area, inkjet-printed metal halide perovskite light emitting diodes

Vincent R. F. Schröder, Nicolas Fratzscher, Nicolas Zorn Morales, Daniel Steffen Rühl, Felix Hermerschmidt,\* Eva L. Unger and Emil J. W. List-Kratochvil\*

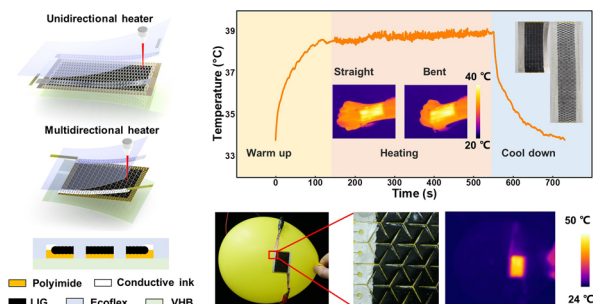
1997



### Skin-adhesive and self-healing diagnostic wound dressings for diabetic wound healing recording and electrophysiological signal monitoring

Zishuo Hou, Tengjiao Wang,\* Lei Wang, Junjie Wang, Yong Zhang, Qian Zhou, Zhengheng Zhang, Peng Li\* and Wei Huang\*

2010



### Kirigami-enabled stretchable laser-induced graphene heaters for wearable thermotherapy

Junyu Chen, Yichao Shi, Binbin Ying, Yajie Hu, Yan Gao, Sida Luo\* and Xinyu Liu\*

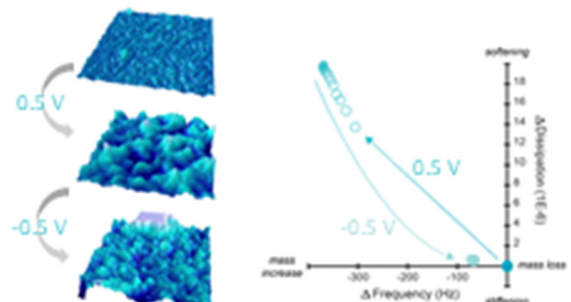


## COMMUNICATIONS

2021

**Electrochemical modulation of mechanical properties of glycolated polythiophenes**

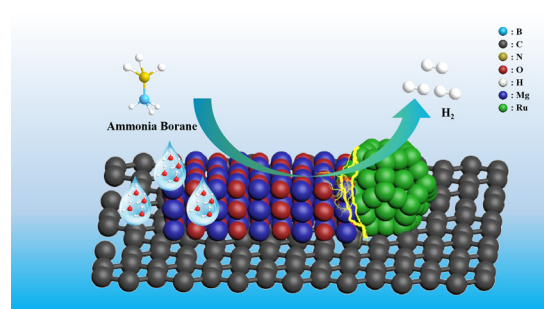
Ilaria Abdel Aziz, Johannes Gladisch, Chiara Musumeci, Maximilian Moser, Sophie Griggs, Christina J. Kousseff, Magnus Berggren, Iain McCulloch and Eleni Stavrinidou\*



2032

**Engineering a hollow bowl-like porous carbon-confined Ru–MgO hetero-structured nanopair as a high-performance catalyst for ammonia borane hydrolysis**

Jialei Yang, Zhenyu Yang, Jiafu Li, Hao Gang, Donghai Mei, Dongming Yin, Ruiping Deng, Yifeng Zhu, Xingyun Li,\* Ning Wang,\* Sameh M. Osman and Yusuke Yamauchi



## CORRECTION

2041

**Correction: Exploring the Mpemba effect: a universal ice pressing enables porous ceramics**

Xiaodan Yang, Yao Shan, Ying Hong, Zhuomin Zhang, Shiyuan Liu, Xiaodong Yan, Xuétian Gong, Guangzu Zhang and Zhengbao Yang\*

