# **Materials Horizons**

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# IN THIS ISSUE

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#### Cover

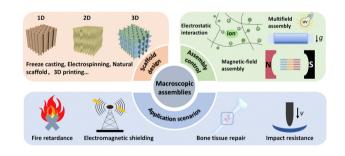
See Bing Li et al., pp. 1658-1667. Image reproduced by permission of Bing Li from Mater. Horiz., 2024, 11, 1658.

# COMMENTARY

#### 1608

A reflection on 'A shape-memory scaffold for macroscale assembly of functional nanoscale building blocks'

Xiang-Sen Meng, Li-Bo Mao and Shu-Hong Yu\*

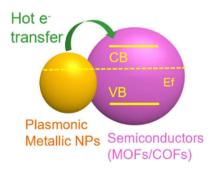


## **REVIEWS**

# 1611

Enhanced photocatalysis of metal/covalent organic frameworks by plasmonic nanoparticles and homo/hetero-junctions

Yannan Liu, Shengyun Huang,\* Xing Huang and Dongling Ma\*





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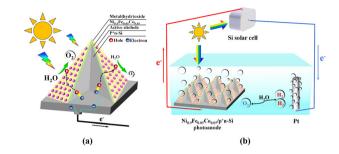


#### **REVIEWS**

#### 1638

Advances and challenges in the modification of photoelectrode materials for photoelectrocatalytic water splitting

Longyue Yang, Fang Li and Quanjun Xiang\*

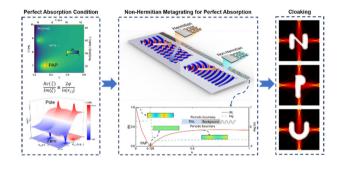


# COMMUNICATIONS

#### 1658

Non-Hermitian metagrating for perfect absorption of elastic waves

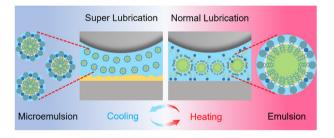
Jiali Cheng, Yabin Hu and Bing Li\*



#### 1668

A dual-responsive microemulsion with macroscale superlubricity and largely switchable friction

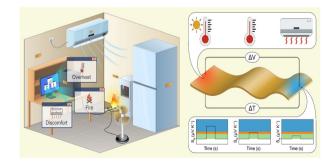
Siwei Chen, Hong Sun, Jian Liu, Jinyu Wang, Hongsheng Lu, Jingcheng Hao,\* Lu Xu\* and Weimin Liu



## 1679

Distinguishing thermoelectric and photoelectric modes enables intelligent real-time detection of indoor electrical safety hazards

Gang Li, Chengzhi Chen, Zijian Liu, Qi Sun, Lirong Liang, Chunyu Du\* and Guangming Chen\*



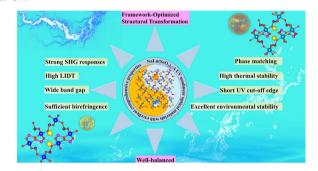
#### 1689



# Robust myco-composites: a biocomposite platform for versatile hybrid-living materials

Sabrina C. Shen, Nicolas A. Lee, William J. Lockett, Aliai D. Acuil, Hannah B. Gazdus, Branden N. Spitzer and Markus J. Buehler\*

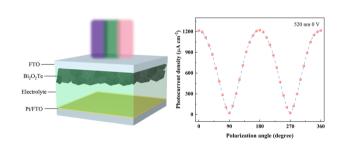
#### 1704



A UV non-hydrogen pure selenite nonlinear optical material for achieving balanced properties through framework-optimized structural transformation

Peng-Fei Li, Chun-Li Hu, Jiang-Gao Mao and Fang Kong\*

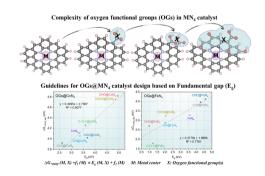
#### 1710



A high-performance and self-powered polarization-sensitive photoelectrochemical-type Bi<sub>2</sub>O<sub>2</sub>Te photodetector based on a quasi-solid-state gel electrolyte

Song Yang, Shujie Jiao,\* Yiyin Nie, Yue Zhao, Shiyong Gao, Dongbo Wang and Jinzhong Wang

#### 1719



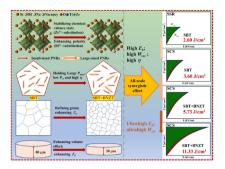
Elucidating the impact of oxygen functional groups on the catalytic activity of M-N<sub>4</sub>-C catalysts for the oxygen reduction reaction: a density functional theory and machine learning approach

Liang Xie, Wei Zhou,\* Yuming Huang, Zhibin Qu, Longhao Li, Chaowei Yang, Yani Ding, Junfeng Li, Xiaoxiao Meng, Fei Sun, Jihui Gao,\* Guangbo Zhao and Yukun Qin

#### 1732

Superior energy storage properties in SrTiO<sub>3</sub>-based dielectric ceramics through all-scale hierarchical architecture

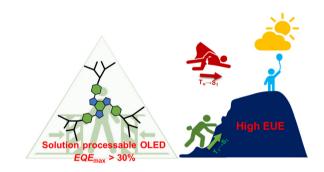
Chengyang Zuo, Jialing Xu, Shilin Yang, Zhiqin Cao, Hongtao Yu, Jingsong Liu and Xianhua Wei\*



#### 1741

Hybridized local and charge transfer dendrimers with near-unity exciton utilization for enabling high-efficiency solution-processed hyperfluorescent OLEDs

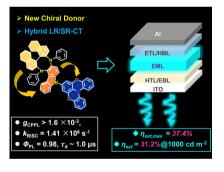
Yixiao Yin, Songkun Zeng, Chen Xiao, Peng Fan, Dong Jin Shin, Ki Ju Kim, Hyewon Nam, Qian Ma, Huili Ma,\* Weiguo Zhu, Taekyung Kim,\* Jun Yeob Lee\* and Yafei Wang\*



# 1752

Integration of fine-tuned chiral donor with hybrid long/short-range charge-transfer for high-performance circularly polarized electroluminescence

Xiaojun Yin,\* Haoxin Huang, Nengquan Li, Wendi Li, Xuechao Mo, Manli Huang, Guohao Chen, Jingsheng Miao and Chuluo Yang\*



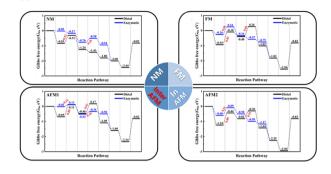
#### 1760

Hierarchical porous dual-mode thermal management fabrics achieved by regulating solar and body radiations

Chuntao Lan, Jia Meng, Chongxiang Pan, Luyao Jia and Xiong Pu\*



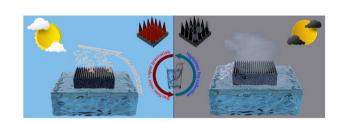
#### 1769



# Novel magneto-electrocatalyst Cr<sub>2</sub>CO<sub>2</sub>-MXene for boosting nitrogen reduction to ammonia

Neng Li,\* Zhongyong Zhang, Zheng Wang, Bin Liu, Deyong Zhou, Xing Zhou, Peng Zhang and Xiujian Zhao

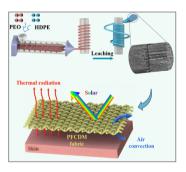
#### 1779



# Magnetically driven Janus conical vertical array for all-weather freshwater collection

Xiangyi Zhang, Mengyao Zhu, Junhao Chen, Zongwei Wang, Sanchuan Li, Huiyu Yang,\* Hongman Xu, Guang He, Ziwei Deng,\* Shaojin Gu, Xin Liu and Bin Shang\*

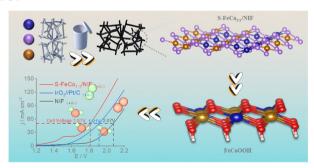
#### 1787



# Polyethylene fibers containing directional microchannels for passive radiative cooling

Mengxia Sun, Fei Peng, Shanshan Xu, Xianhu Liu, Kun Dai, Guogiang Zheng,\* Chuntai Liu and Changyu Shen

#### 1797



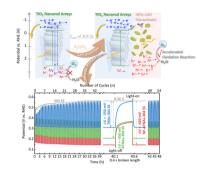
# In situ self-reconstructed hierarchical bimetallic oxyhydroxide nanosheets of metallic sulfides for high-efficiency electrochemical water splitting

Yaning Fan, Junjun Zhang,\* Jie Han,\* Mengyuan Zhang, Weiwei Bao, Hui Su, Nailiang Wang, Pengfei Zhang\* and Zhenghong Luo

#### 1808

Heterostructured grafting of NiFe-layered double hydroxide@TiO2 for boosting photoelectrochemical cathodic protection

Zhi-Jun Wang, Hui Xie, Seong Chan Jun, Jiang Li, Li Cheng Wei, Yu Chen Fang, Shude Liu,\* Ming Ma\* and Zheng Xing\*



# CORRECTION

#### 1817

Correction: Solution-processed white OLEDs with power efficiency over 90 lm W<sup>-1</sup> by triplet exciton management with a high triplet energy level interfacial exciplex host and a high reverse intersystem crossing rate blue TADF emitter

Liang Chen, Yufei Chang, Song Shi, Shumeng Wang\* and Lixiang Wang\*