

# Materials Horizons

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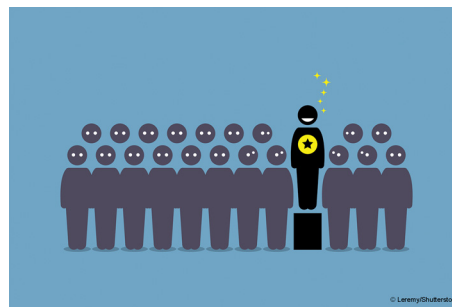
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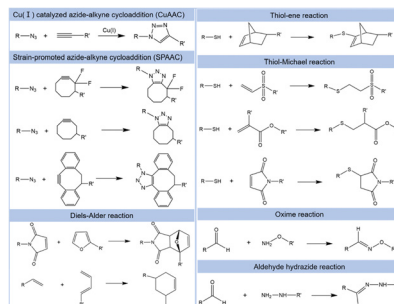
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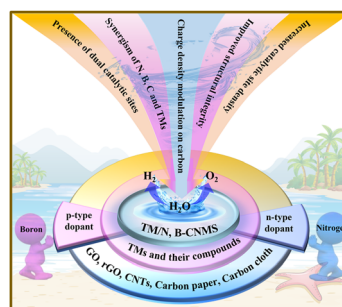


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Yaling Deng,\* Guohua Jiang and Amin Shavandi\*



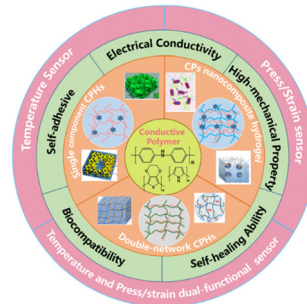
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Ayaz Muzammil, Rizwan Haider, Wenrui Wei, Yi Wan,  
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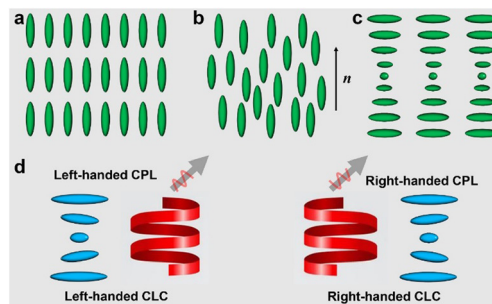
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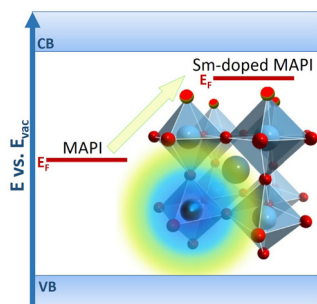


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Ruochen Lan,\* Wenbo Shen, Wenhuan Yao,  
Jingyu Chen, Xinyu Chen and Huai Yang\*



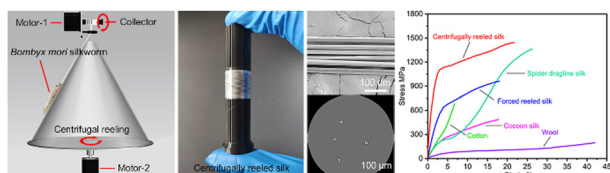
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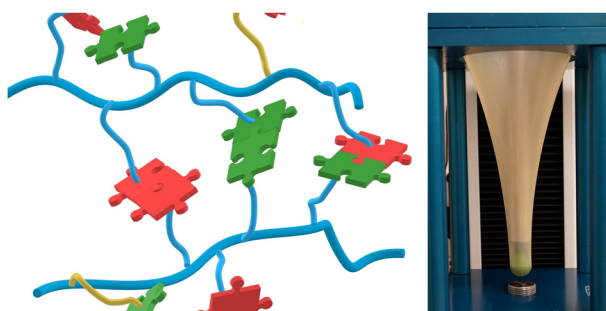
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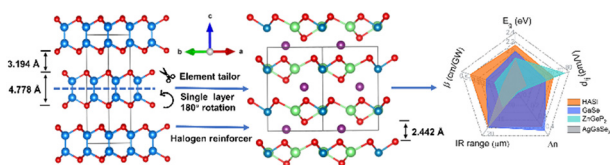
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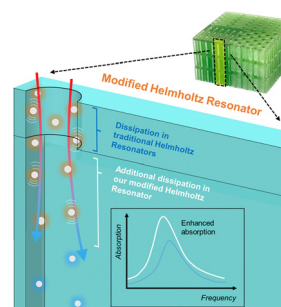
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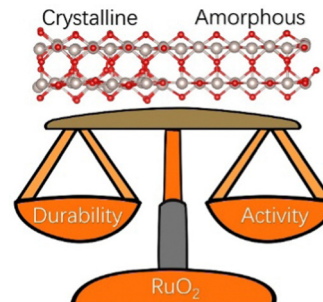
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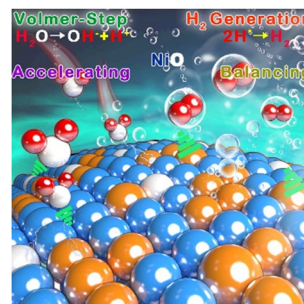
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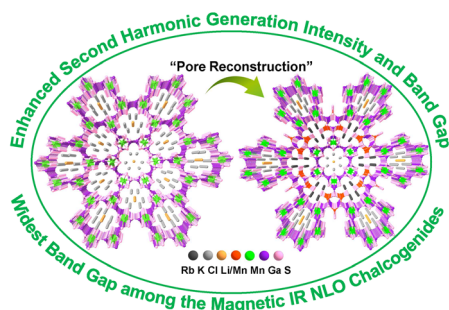
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Fei Guo, Zeyi Zhang, Runzhe Chen, Yangyang Tan, Wei Wu, Zichen Wang, Tang Zeng, Wangbin Zhu, Caixin Lin and Niancai Cheng\*



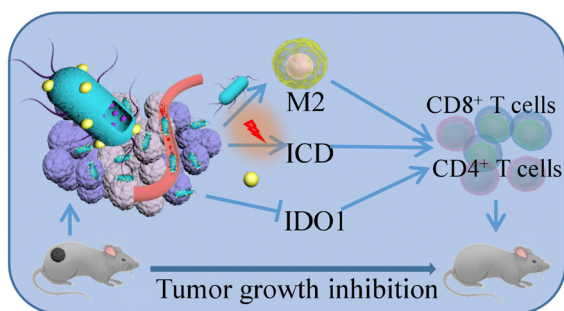
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Shao-Min Pei, Bin-Wen Liu,\* Wen-Fa Chen, Xiao-Ming Jiang and Guo-Cong Guo\*

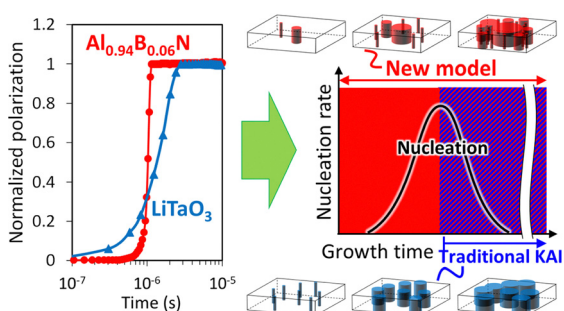
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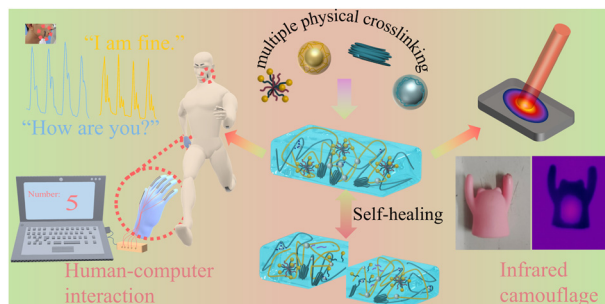
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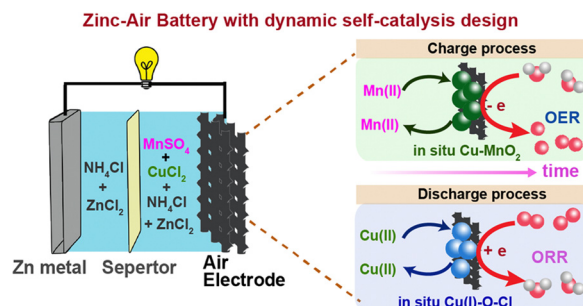


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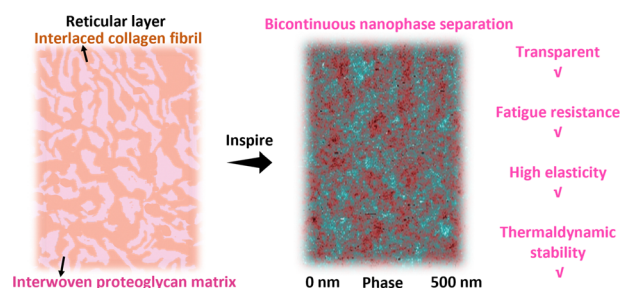
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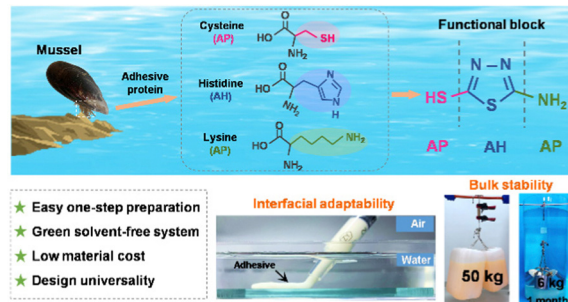
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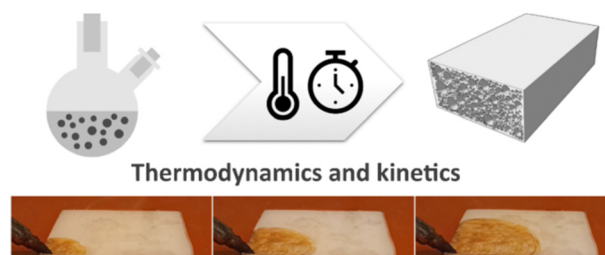


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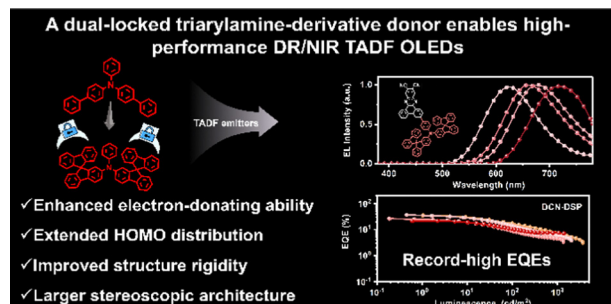
Petr Lepcio, John Daguerre-Bradford, Anna Maria Cristadoro, Markus Schuette and Alan J. Lesser\*

#### Particles hindering front propagation in foams



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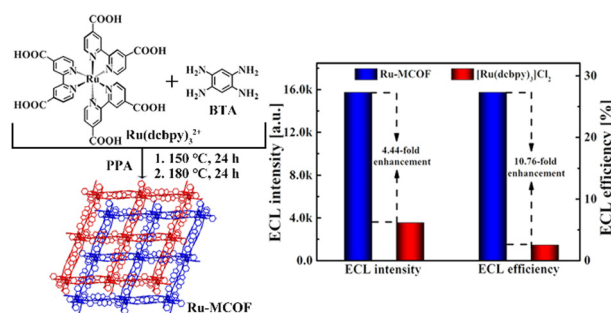
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Hui Wang, Jia-Xiong Chen, Lu Zhou, Xi Zhang, Jia Yu, Kai Wang\* and Xiao-Hong Zhang\*

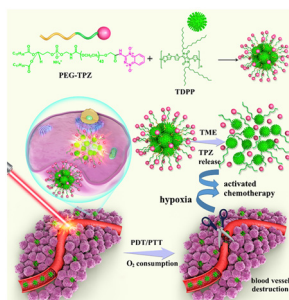
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**Highly stable Ru-complex-based metal-covalent organic frameworks as novel type of electrochemiluminescence emitters for ultrasensitive biosensing**

Yang Yang, Haicheng Jiang, Jialu Li, Jialing Zhang, Shu-Zhen Gao, Mei-Ling Lu, Xin-Yue Zhang, Wenbin Liang, Xiaoqin Zou,\* Ruo Yuan\* and Dong-Rong Xiao\*

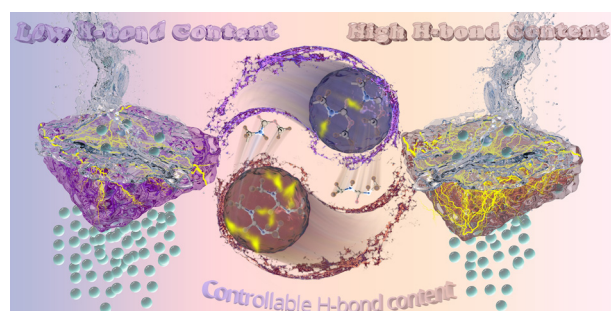
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**Tumor-microenvironment-responsive poly-prodrug encapsulated semiconducting polymer nanosystem for phototherapy-boosted chemotherapy**

Jianwei Zhu, Yuning Zhang, Zheng Li, Xiaowen Bao, Yanfeng Zhou, Bo Ma, Ying Xie, Peiyu Yan, Zimei Wu,\* Qi Zhang,\* Jianhua Zou\* and Xiaoyuan Chen\*

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**Controllable hydrogen-bonded poly(dimethylsiloxane) (PDMS) membranes for ultrafast alcohol recovery**

Tengyang Zhu, Jiayu Dong, Huan Liu and Yan Wang\*

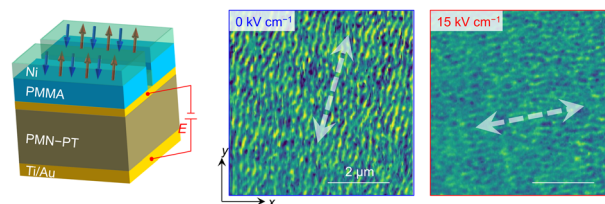




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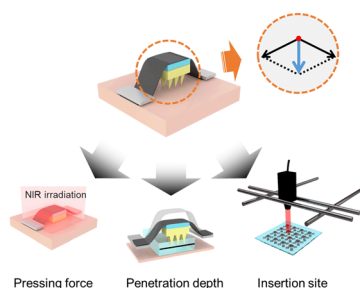


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### Microneedle system with light trigger for precise and programmable penetration

Weijiang Yu, Jieze Shen, Chong Ji, Peng Zhang, Hao Chang, Youxiang Wang\* and Jian Ji\*

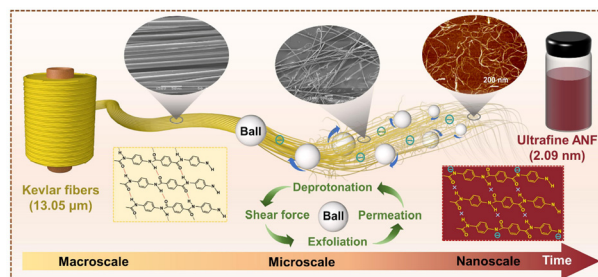
light-triggered microneedle system for controllable insertion



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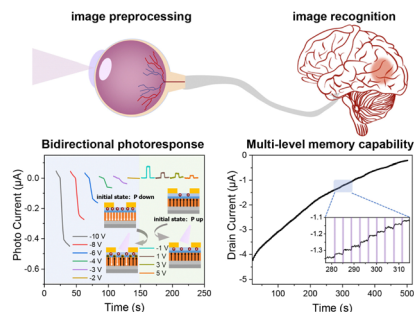
Gaojie Han, Bing Zhou, Zhaoyang Li, Yuezhao Feng,\* Chuntao Liu\* and Changyu Shen



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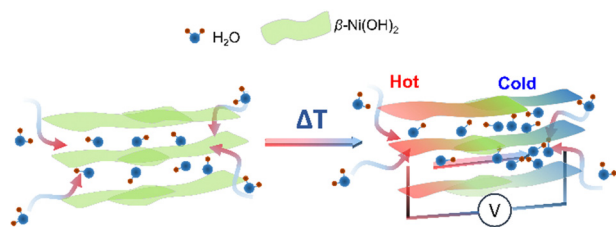
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Qinyong Dai, Mengjiao Pei, Jianhang Guo, Qijing Wang, Ziqian Hao, Hengyuan Wang, Yating Li, Longfei Li, Kuakua Lu, Yang Yan, Yi Shi\* and Yun Li\*





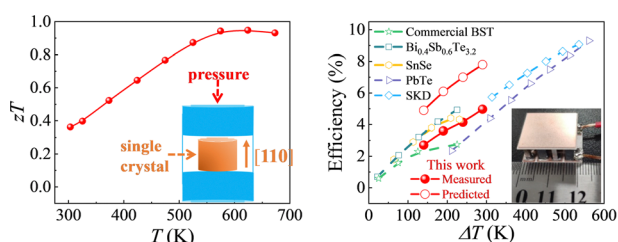
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### Application of lamellar nickel hydroxide membrane as a tunable platform for ionic thermoelectric studies

Raktim Gogoi, Arnab Ghosh, Priyamjeet Deka, K. K. R. Datta and Kalyan Raidongia\*

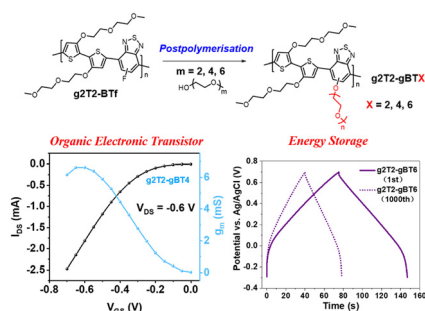
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### A boost of thermoelectric generation performance for polycrystalline InTe by texture modulation

Jianghe Feng, Menghui Zhou, Juan Li, Guoying Dong, Shufang Gao,\* Erbiao Min, Chuang Zhang, Jiaqing He,\* Rong Sun and Ruiheng Liu\*

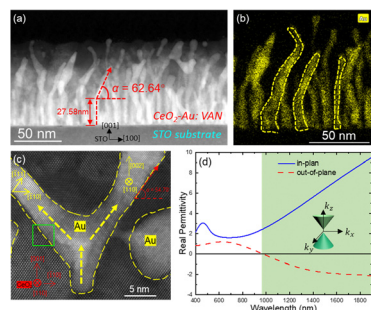
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### Tunable control of the performance of aqueous-based electrochemical devices by post-polymerization functionalization

Shengyu Cong, Junxin Chen, Bowen Ding, Liuyuan Lan, Yazhou Wang, Chaoyue Chen, Zhengke Li, Martin Heeney\* and Wan Yue\*

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### Abnormal in-plane epitaxy and formation mechanism of vertically aligned Au nanopillars in self-assembled CeO<sub>2</sub>-Au metamaterial systems

Juanjuan Lu, Di Zhang, Robynne L. Paldi, Zihao He, Ping Lu, Julia Deitz, Ahmad Ahmad, Hongyi Dou, Xuejing Wang, Juncheng Liu, Zedong Hu, Bo Yang, Xinghang Zhang, Anter A El-Azab and Haiyan Wang\*

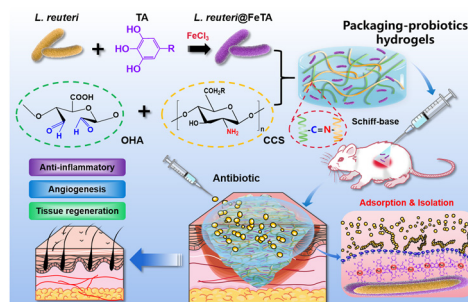


## COMMUNICATIONS

3114

### Metal-phenolic self-assembly shielded probiotics in hydrogel reinforced wound healing with antibiotic treatment

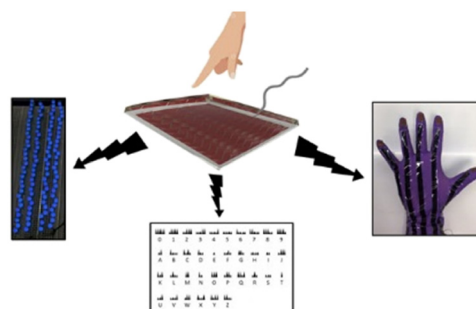
Chen Zhou, Yaping Zou, Ruiling Xu, Xiaowen Han, Zhen Xiang, Hao Guo, Xing Li, Jie Liang, Xingdong Zhang, Yujiang Fan\* and Yong Sun\*



3124

### Flexible triboelectric nanogenerators using transparent copper nanowire electrodes: energy harvesting, sensing human activities and material recognition

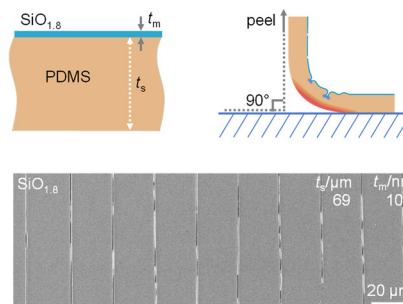
Biswajoy Bagchi, Priyanka Datta, Carmen Salvadores Fernandez, Priya Gupta, Shireen Jaufuraully, Anna L. David, Dimitrios Siassakos, Adrien Desjardins and Manish K. Tiwari\*



3135

### Periodic fracture behaviour of nanomembranes

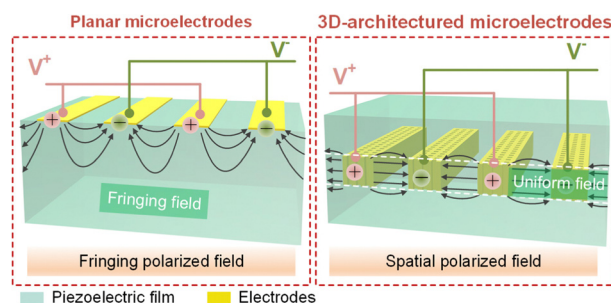
Yancheng Meng, Jianqiang Zhang, Baowen Li, Luxian Li, Qin Wang and Wanlin Guo\*



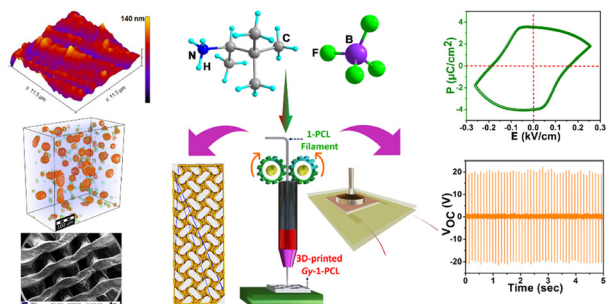
3140

### Electrowetting-assisted printing of 3D-architected microelectrodes inside flexible piezoelectric films for sensitive, robust responses to bending deformation

Chao Yan, Xiangming Li,\* Zhengjie Yang, Xiaopei Wang, Hao Ran, Ruolin Zhang, Hongmiao Tian, Chunhui Wang, Xiaoliang Chen and Jinyou Shao\*



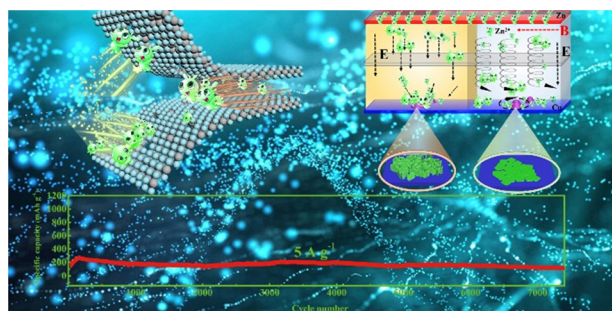
3153



### 3D-printed polymer composite devices based on a ferroelectric chiral ammonium salt for high-performance piezoelectric energy harvesting

Supriya Sahoo, Premkumar Anil Kothavade, Dipti R. Naphade, Arun Torris, Balu Praveenkumar, Jan K. Zaręba,\* Thomas D. Anthopoulos,\* Kadiravan Shanmuganathan\* and Ramamoorthy Boomishankar\*

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### Magneto-electrochemistry driven ultralong-life Zn-VS<sub>2</sub> aqueous zinc-ion batteries

Yunjie Mao, Jin Bai,\* Jianguo Si,\* Hongyang Ma, Wanyun Li, Peiyao Wang, Hongli Zhang, Zhigao Sheng, Xiaoguang Zhu, Peng Tong, Xuebin Zhu, Bangchuan Zhao\* and Yuping Sun

