

Journal of Materials Chemistry A

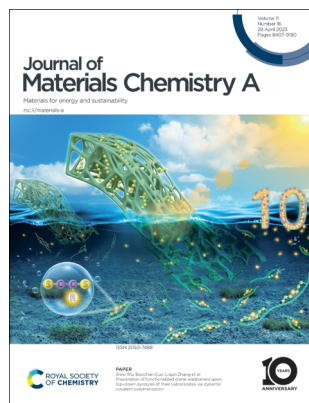
Materials for energy and sustainability

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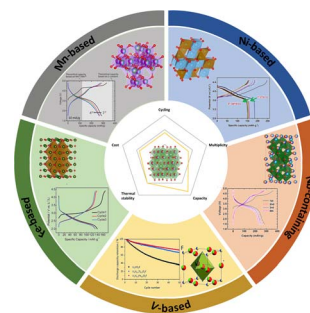
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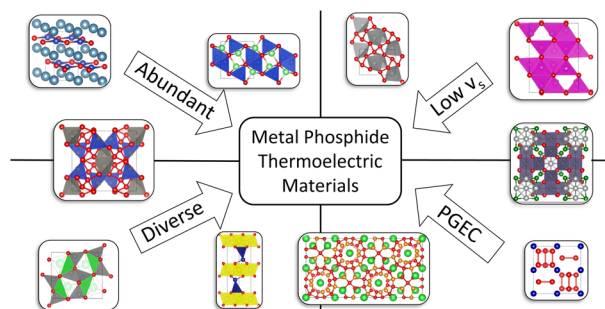
Hou Zhang, Xudong Gao, Qiuyun Cai, Xiaoyu Zhang,* Yinfeng Tian, Min Jia,* Wenyong Xie, Yang Du and Xiaohong Yan*



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Recent progress in phosphide materials for thermoelectric conversion

Robert J. Quinn and Jan-Willem G. Bos*



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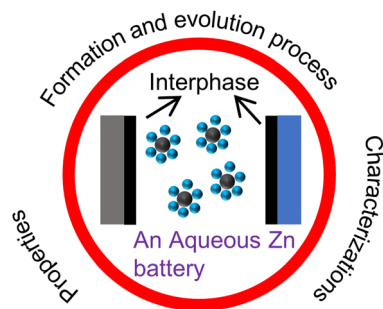
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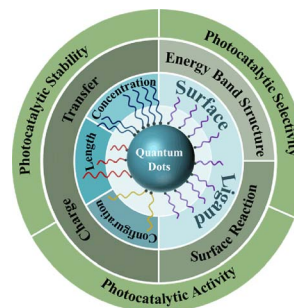


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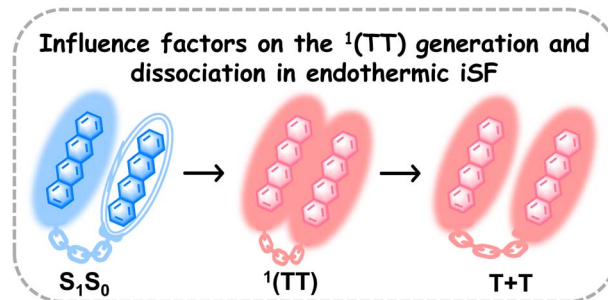
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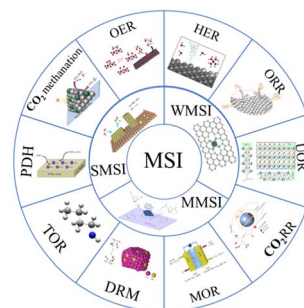
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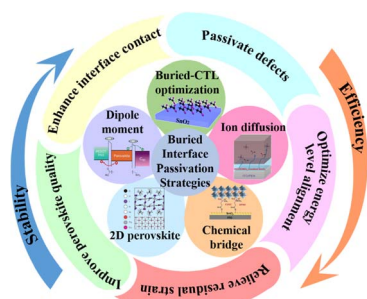
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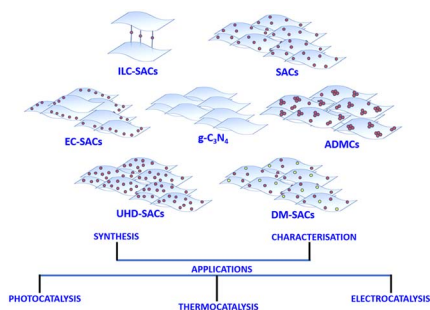
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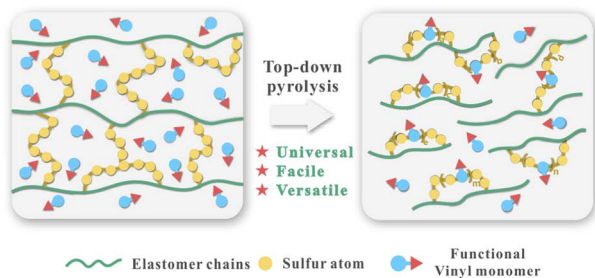
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Graphitic carbon nitride (g-C₃N₄) based heterogeneous single atom catalysts: synthesis, characterisation and catalytic applications

Suja P, Jubi John, T. P. D. Rajan, Gopinathan M Anilkumar, Takeo Yamaguchi, Suresh C. Pillai and U. S. Hareesh*

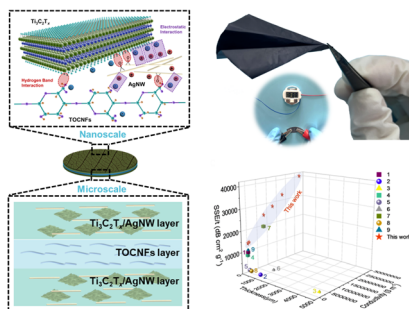
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Xinglong An, Siwu Wu,* Shafan Xiong, Shuangjian Yu, Zhenghai Tang, Baochun Guo* and Liqun Zhang*

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A micro/nano-multiscale hierarchical structure strategy to fabricate highly conducting films for electromagnetic interference shielding and energy storage

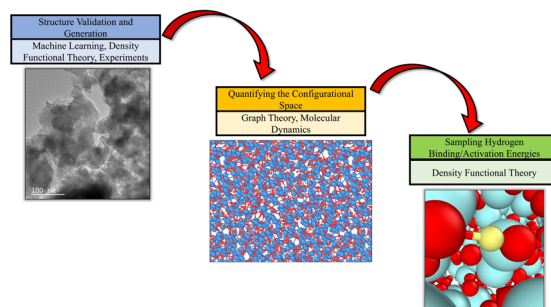
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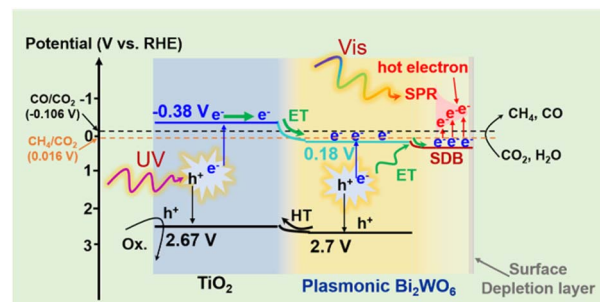
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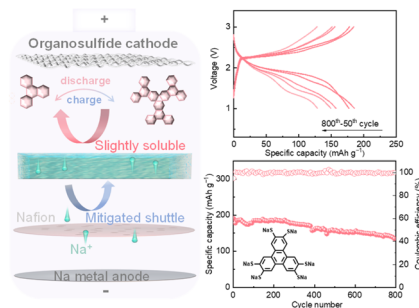
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An extended π -conjugated organosulfide-based cathode for highly reversible sodium metal batteries

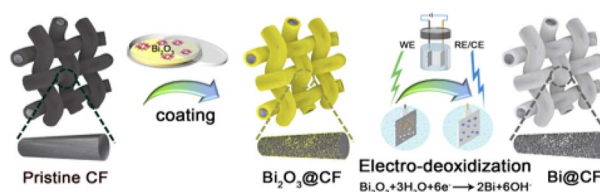
Xin Li, Yubing Si, Shuai Tang* and Yongzhu Fu*



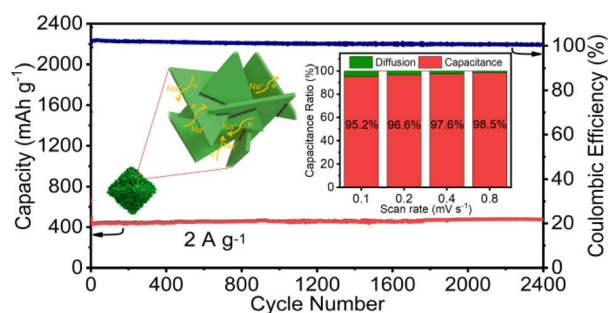
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Boosting anode kinetics in vanadium flow batteries with catalytic bismuth nanoparticle decorated carbon felt *via* electro-deoxidization processing

Qi-an Zhang, Hui Yan, Yuanfang Song, Jing Yang, Yuxi Song and Ao Tang*



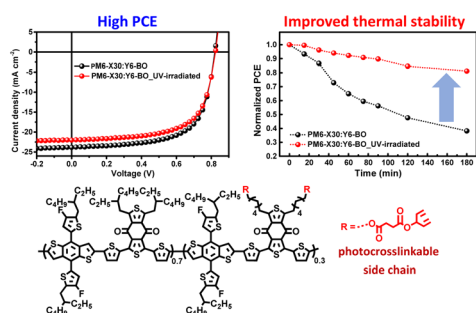
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Shuai Wang, Rujia Zou,* Qian Liu and Huifang Chen*

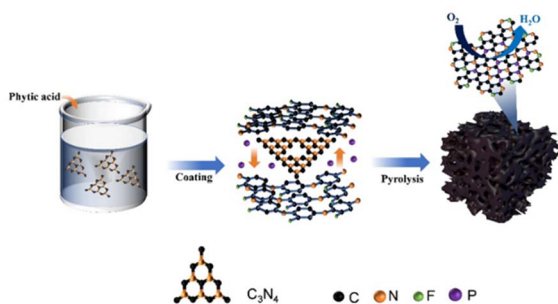
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Rational strategy to enhance the thermal stability of solar cell performance using a photocrosslinkable conjugated polymer

Hong Diem Chau, Su Hong Park, Sung Hoon Jung, Jin Young Park, Min Ji Kang, Amit Kumar Harit, Han Young Woo, Min Ju Cho* and Dong Hoon Choi*

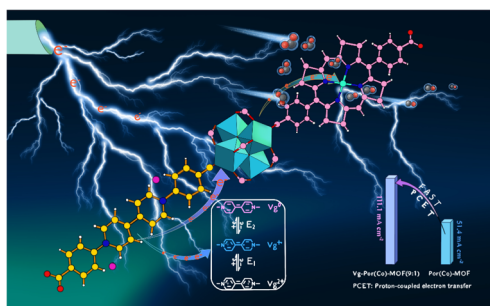
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Fluorine and phosphorus atoms cooperated on an N-doped 3D porous carbon network for enhanced ORR performance toward the zinc–air batteries

Mengwei Li, Qilong Ye, Sanying Hou, Jinlin Yang, Bin Chi,* Yijie Deng* and Xinlong Tian*

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Boosting electrocatalytic CO_2 reduction reaction over viologen-functionalized metal–organic frameworks by enhancement of electron-transfer capacity

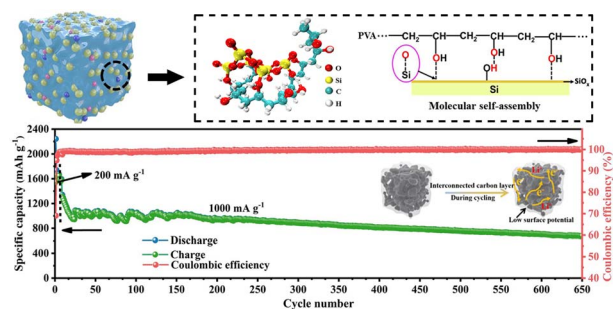
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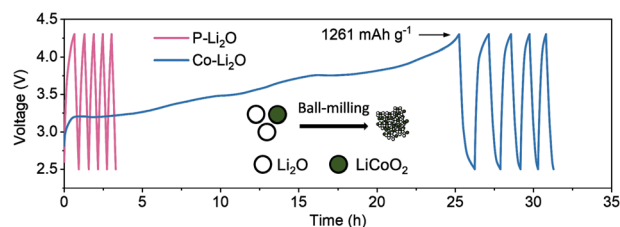
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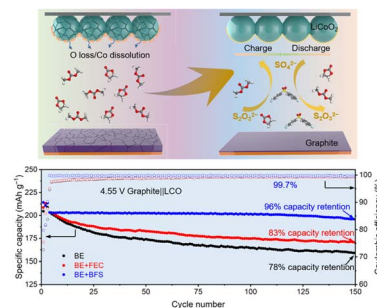
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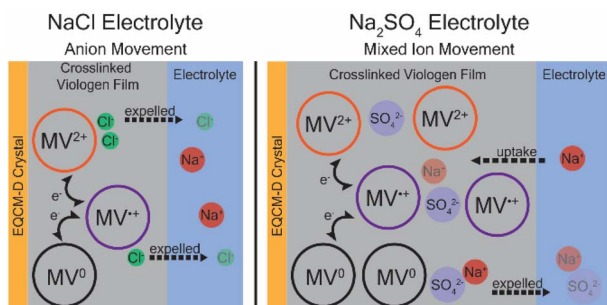
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Qiang Wang, Yanan Zhou, Kaifu Zhang,* Yu Yu, Qiquan Luo,* Shan Gao* and Yi Xie*



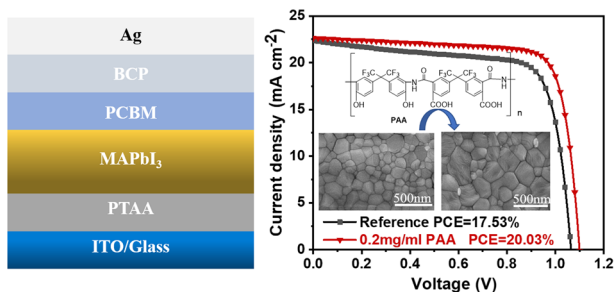
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Alexandra D. Easley, Khirabdi Mohanty and Jodie L. Lutkenhaus*

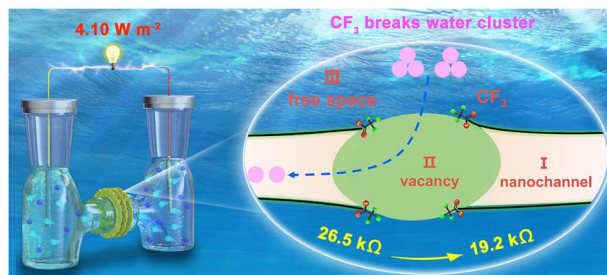
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A functionalized polyamide acid additive for perovskite solar cells with high efficiency and stability

Huanting Luo, Fanlin Tu, Xiaotong Chen, Longjiang Xing, Leliang Cao, Guoxing Ren, Shaomin Ji, Yuanhong Zhong, Liangang Xiao, Wen-Cheng Chen, Qing-Dan Yang,* Chen Yang* and Yanping Huo*

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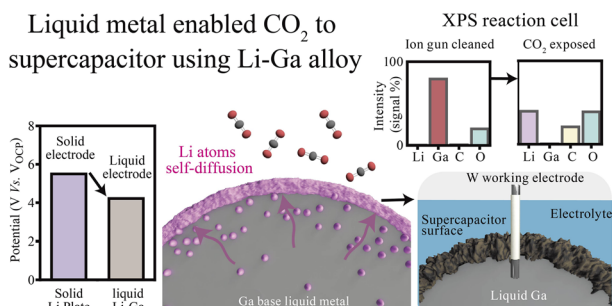


Promoting osmotic energy conversion through fluorinated nanochannel membranes with large-scale exfoliation and low transmission resistance

Zhengmao Ding, Tiancheng Gu, Shouyi Sun, Gang Tang, Hanli Zhang, Teng Wang, Yunjun Luo* and Jinjin Li*

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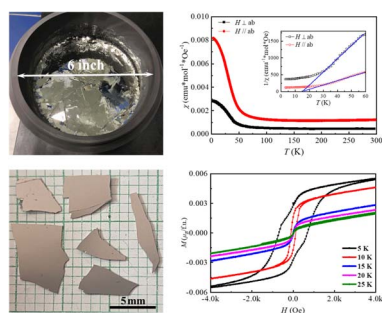
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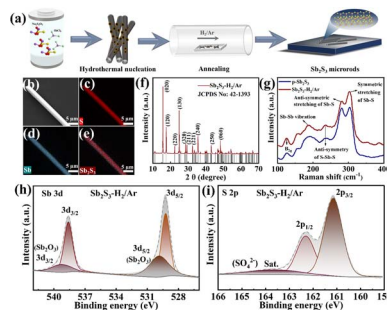
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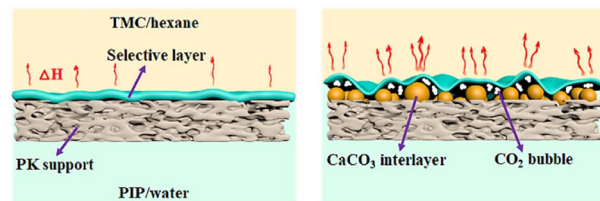
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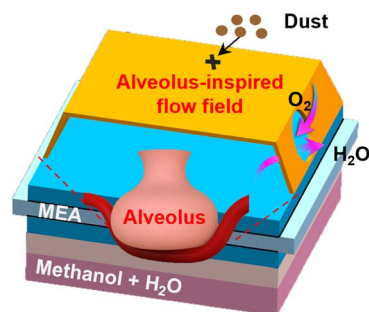
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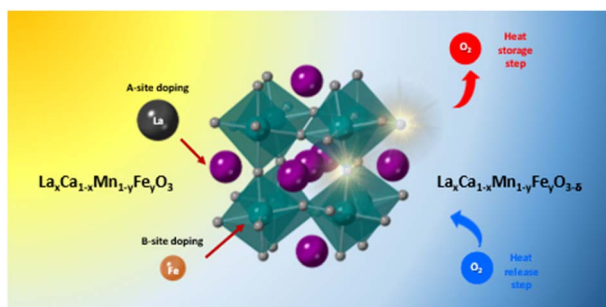
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A 3D printed alveolus-inspired flow field for direct methanol fuel cells with enhanced performance and durability

Pengpeng Xu, Qinglin Wen, Siyi Zou, Hanqing Jin, Yali Li, Wei Li, Can He, Saifei Pan, Bin Tian, Liuming Yan, Fandi Ning* and Xiaochun Zhou*



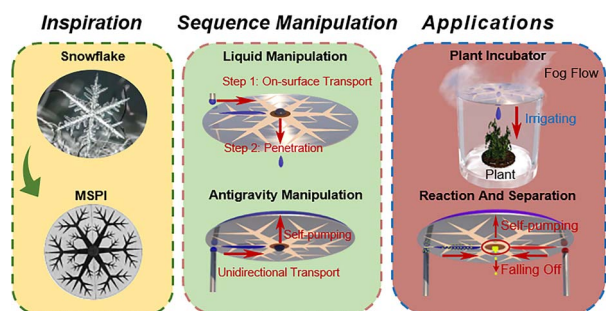
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A and B site Co-doping of CaMnO_3 : a route to enhanced heat storage properties

Emanuela Mastronardo,* Xin Qian, Juan M. Coronado and Sossina M. Haile*

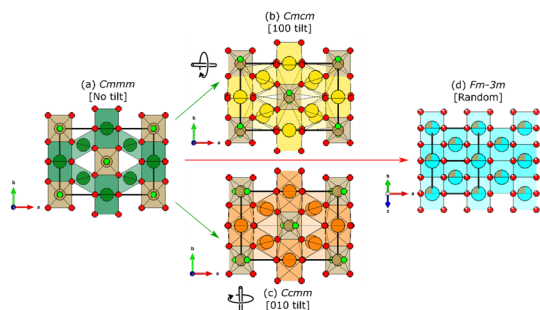
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Sequence liquid manipulation on a multifunctional snowflake-patterned interface with dual unidirectional wettability

Weiming Wu, Haoyu Bai, Yi Yang, Guoqiang Li,* Zuqiao Chen, Chengning Tang, Huan Yin, Lin Lai, Jiasong Liu, Sensen Xuan, Yuegan Song, Senyun Liu, Kai Yin* and Moyuan Cao*

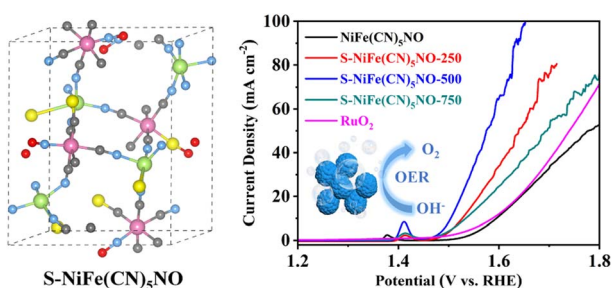
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Sulfur-doped $\text{NiFe}(\text{CN})_5\text{NO}$ nanoparticles as efficient electrocatalysts for the oxygen evolution reaction

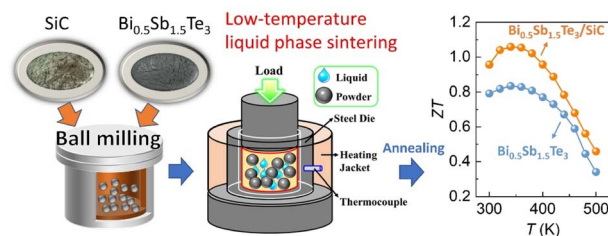
Yi Zhang, Xiaoping Shen,* Chunsen Song, Zhenyuan Ji and Fei-Hu Du*



8912

Enhanced thermoelectric performance in $\text{Bi}_{0.5}\text{Sb}_{1.5}\text{Te}_3/\text{SiC}$ composites prepared by low-temperature liquid phase sintering

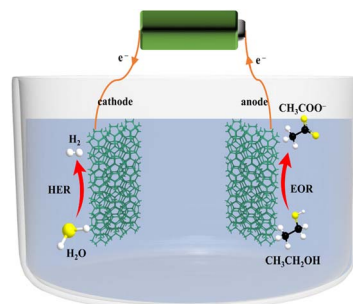
Bo Zhu, Yi Luo, Haiyi Wu, Du Sun, Luo Liu, Shengcheng Shu, Zhong-Zhen Luo, Qiang Zhang,* Ady Suwardi* and Yun Zheng*



8922

Energy-efficient hydrogen production coupled with simultaneous electrosynthesis of acetate over a mesoporous OsRh film

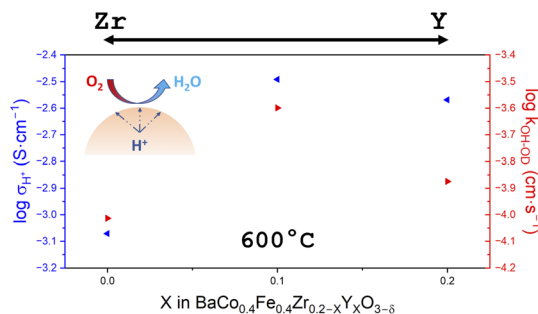
Ziqiang Wang, Peng Wang, Hugang Zhang, Kai Deng, Hongjie Yu, You Xu, Xiaonian Li, Hongjing Wang and Liang Wang*



8929

Tuning proton kinetics in $\text{BaCo}_{0.4}\text{Fe}_{0.4}\text{Zr}_{0.2-x}\text{Y}_x\text{O}_{3-\delta}$ triple ionic-electronic conductors via aliovalent substitution

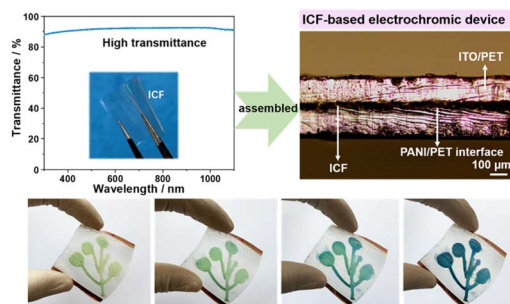
Jack H. Duffy, Harry W. Abernathy and Kyle S. Brinkman*



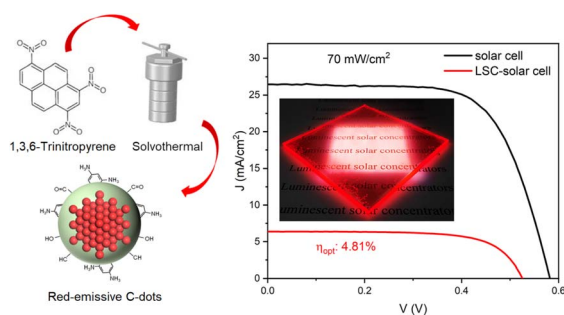
8939

Ultrathin flexible electrochromic devices enabled by highly transparent ion-conducting films

Hui Gong, Ang Li, Guoxing Fu, Meiyu Zhang, Zilong Zheng, Qianqian Zhang,* Kailing Zhou, Jingbing Liu and Hao Wang*



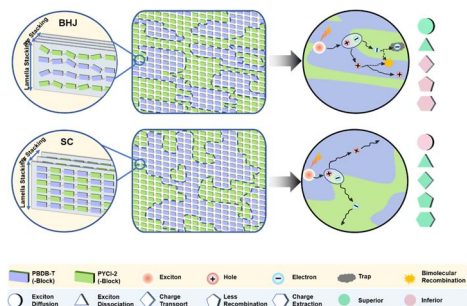
8950



Red-emissive carbon quantum dots enable high efficiency luminescent solar concentrators

Guiju Liu,* Margherita Zavelani-Rossi, Guangting Han, Haiguang Zhao* and Alberto Vomiero*

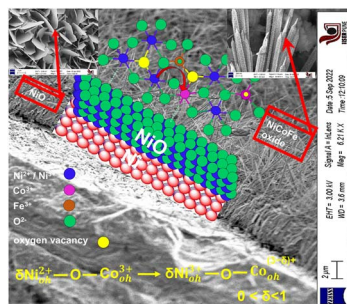
8961



Unraveling the device performance differences between bulk-heterojunction and single-component polymer solar cells

Yina Zheng, Yao Wu, Zhihao Chen, Xinxin Xia, Yawen Li, Qiang Wu, Yuze Lin, Xinhui Lu, Xiaotao Hao and Jie Min*

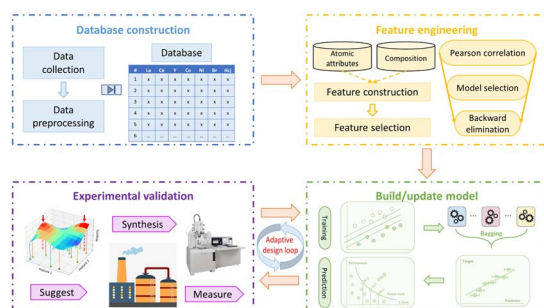
8972



Superior oxygen evolution reaction performance of NiCoFe spinel oxide nanowires *in situ* grown on β -Ni(OH)₂ nanosheet-decorated Ni foam: case studies on stoichiometric and off-stoichiometric oxides

Prerna Upale, Seema Verma* and Satishchandra B. Ogale

8988



Accelerated discovery of cost-effective Nd–Fe–B magnets through adaptive learning

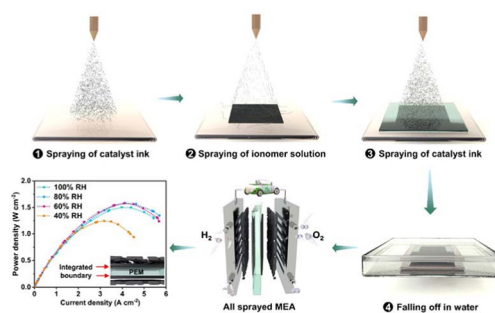
Jie Chen, Jian Liu, Minjuan Zhang,* Zhanji Dong, Zhongjie Peng, Xinyi Ji, Mei Liu, Lanting Zhang, Anqi Zhang and Hong Zhu



9002

All sprayed fluorine-free membrane electrode assembly for low-platinum and low-humidity proton exchange membrane fuel cells

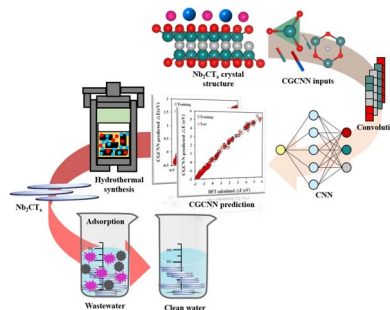
Weisheng Yu, Xiaoqi Yang, Xian Liang, Yan Xu, Xianhe Shen, Xiaolin Ge, Liang Wu* and Tongwen Xu*



9009

Crystal graph convolution neural networks for fast and accurate prediction of adsorption ability of Nb₂CT_x towards Pb(II) and Cd(II) ions

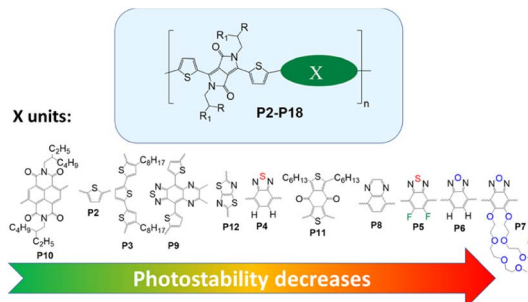
Zeeshan Haider Jaffari, Ather Abbas, Muhammed Umer, Eun-Sik Kim* and Kyung Hwa Cho*



9019

Molecular structure – intrinsic photostability relationships for diketopyrrolopyrrole-based conjugated polymers

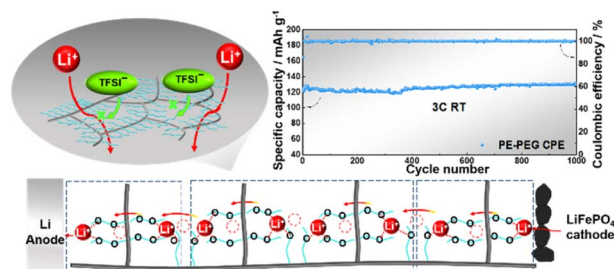
Petr M. Kuznetsov, Ilya V. Martynov, Ivan S. Zhidkov, Lavrenty G. Gutsev, Ekaterina A. Khakina, Elena N. Zakharchenko, Nikita A. Slesarenko, Andrey I. Kukharenko and Pavel A. Troshin*



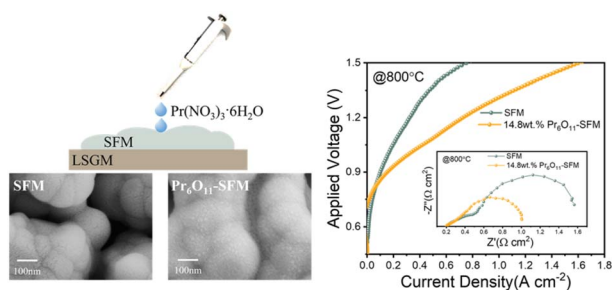
9029

Enhancing Li ion conduction through polyethylene glycol brushes towards long-life solid-state lithium metal batteries

Yuxuan Li, Jing Yang, Xingzhao Zhang, Ximing Cui and Qinmin Pan*



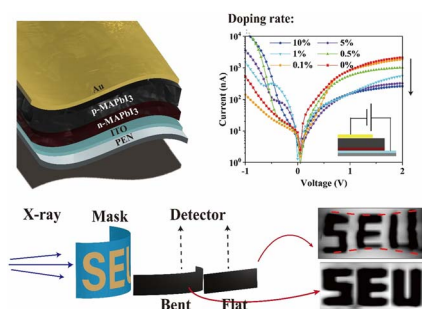
9039



Improving the performance for direct electrolysis of CO₂ in solid oxide electrolysis cells with a Sr_{1.9}Fe_{1.5}Mo_{0.5}O_{6-δ} electrode via infiltration of Pr₆O₁₁ nanoparticles

Wanhua Wang, Haixia Li, Clarita Y. Regalado Vera, Jie Lin, Ka-Young Park, Taehee Lee, Dong Ding* and Fanglin Chen*

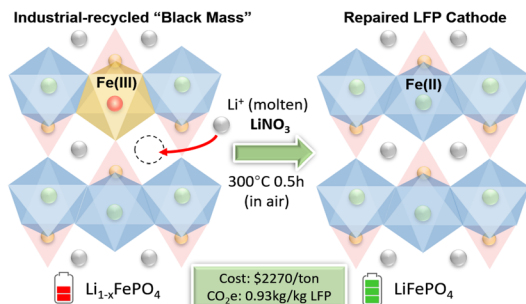
9049



A flexible perovskite homojunction with metallic ion doping for large-scale and high sensitivity X-ray detection

Jingda Zhao, Xin Wang,* Yijing Ding, Ziyu Wei, Yubing Xu, Yuzhu Pan, Yuwei Li, Byung Seong Bae, Mamoru Furuta, Zhuoya Zhu, Qing Li, Jianming Zhou, Xiaobing Zhang and Wei Lei*

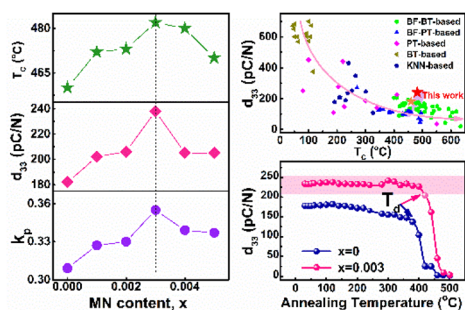
9057



A recrystallization approach to repairing spent LiFePO₄ black mass

Zhongheng Wang, Hui Xu, Zhiruo Liu, Mingzhe Jin, Linghao Deng, Sa Li* and Yunhui Huang*

9066



Superior lead-free high-temperature piezoceramics of BiFeO₃-BaTiO₃-(Bi_{0.5}Na_{0.5})TiO₃ through cooperative regulation

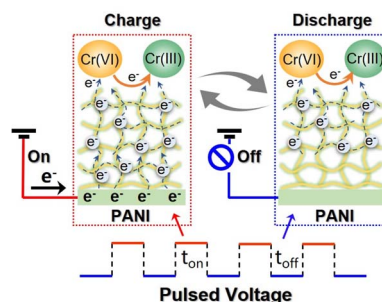
Aiwen Xie, Mengshan Wang, Jian Fu, Zide Yu, Xinchun Xie and Ruzhong Zuo*



9074

Pulsed-waveform electrocatalytic detoxification of hexavalent chromium promoted by pseudocapacitive effects

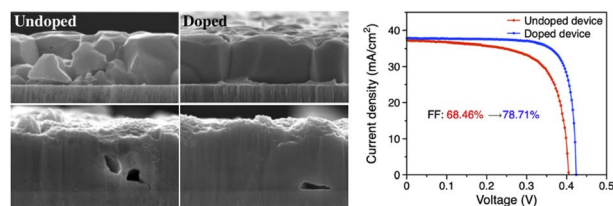
Huaijia Xin, Hang Wang, Wei Zhang, Yang Liu, Jun Zhang, Gong Zhang, Qinghua Ji,* Huijuan Liu and Jiuhui Qu



9085

Efficiency enhancement of CZTSe solar cells based on *in situ* K-doped precursor

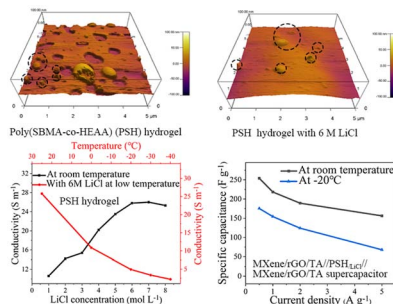
Shengye Tao, Liangzheng Dong, Junsu Han, Yafei Wang, Qianming Gong, Jinquan Wei, Ming Zhao* and Daming Zhuang*



9097

Ultra-high conductivity and antifreezing zwitterionic sulfobetaine hydrogel electrolyte for low-temperature resistance flexible supercapacitors

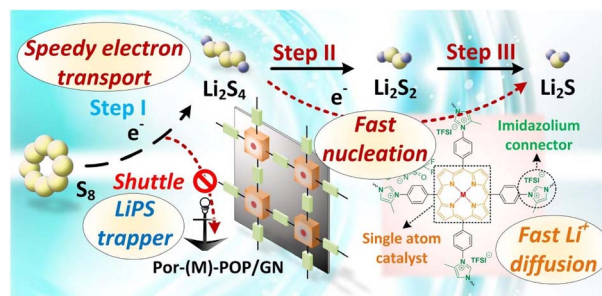
Geliang Zhang, Xinguo Yang,* Honghao Shu and Wenbin Zhong*



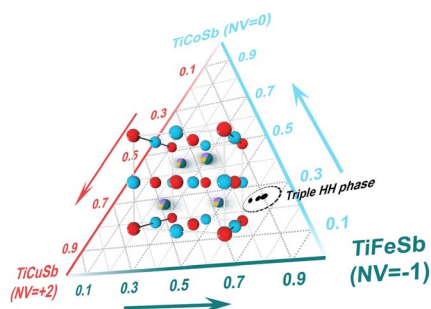
9112

Integrating the multiple functionalities in metalloporphyrin porous organic polymers enabling strong polysulfide anchoring and rapid electrochemical kinetics in Li-S batteries

Yun Sheng Ye,* Mohamed Gamal Mohamed, Wei Cheng Chen and Shiao Wei Kuo*



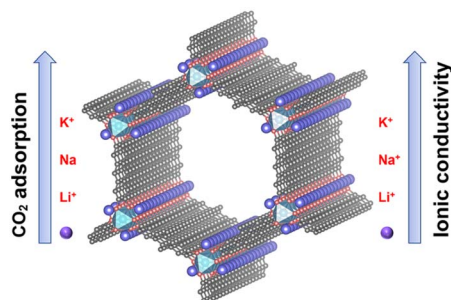
9125



Alloyed triple half-Heuslers: a route toward high-performance thermoelectrics with intrinsically low lattice thermal conductivity

Peng-Fei Luo, Shengnan Dai, Yuting Zhang, Xin Liu, Zhili Li, Jiye Zhang, Jiong Yang* and Jun Luo*

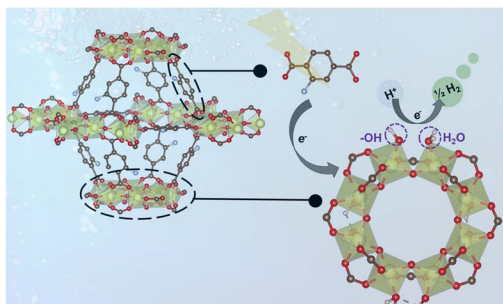
9136



2D titanium catecholate metal-organic frameworks with tunable gas adsorption and ionic conductivity

Yueting Li, Huanyu Liu, Lu Dai, Changli Wang, Jianning Lv, Xiangjian Meng, Anwang Dong, Bo Wang and Pengfei Li*

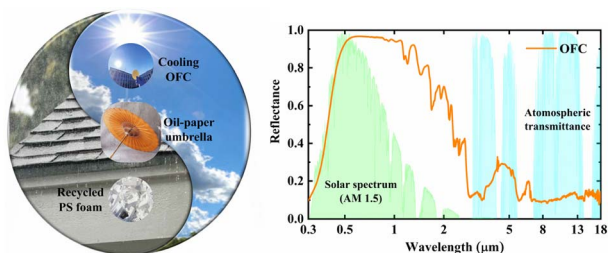
9143



Defect engineering in MIL-125-(Ti)-NH₂ for enhanced photocatalytic H₂ generation

Ladawan Pukdeejorhor, Suttipong Wannapaiboon, Jan Berger, Katia Rodewald, Sutarat Thongratkaew, Sarawoot Impeng, Julien Warnan,* Sareeya Bureekaew and Roland A. Fischer*

9152



Oil-paper-umbrella-inspired passive radiative cooling using recycled packaging foam

Yang Liu, Xiaojie Liu, Fangqi Chen, Yanpei Tian, Andrew Caratenuto and Yi Zheng*



9160

Predicting the Na⁺ ion transport properties of NaSICON materials using density functional theory and Kinetic Monte Carlo

Judith Schuett, Antonia S. Kuhn and Steffen Neitzel-Grieshammer*

