

Energy & Environmental Science

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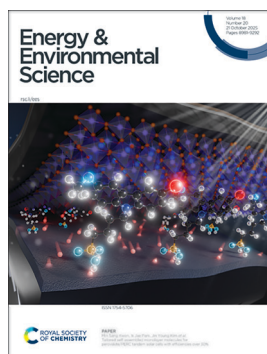
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See Wen-Ying Li *et al.*, pp. 8990–9017. Image reproduced by permission of Wen-Ying Li from *Energy Environ. Sci.*, 2025, **18**, 8990.



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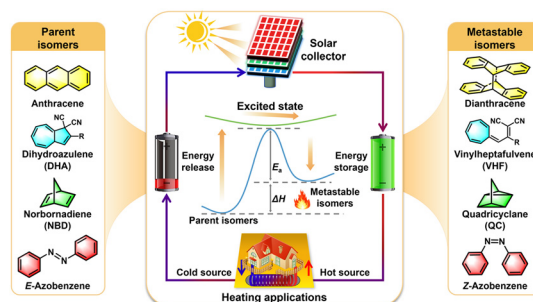
See Min Sang Kwon, Ik Jae Park, Jin Young Kim *et al.*, pp. 9105–9113. Image reproduced by permission of Jin Young Kim from *Energy Environ. Sci.*, 2025, **18**, 9105.

REVIEWS

8990

Molecular solar thermal energy storage devices: toward a more sustainable future

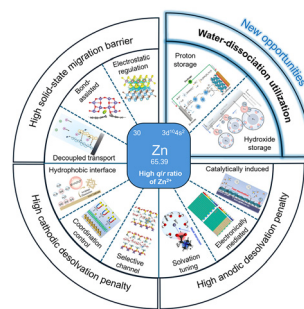
Xingtang Xu, Chonghua Li, Wang Li, Jie Feng and Wen-Ying Li*



9018

Interfacial energy storage in aqueous zinc-ion batteries

Yuhang Dai,* Chengyi Zhang, Xinyu Zhang, Peie Jiang, Jie Chen, Wei Zong, Sicheng Zheng, Xuan Gao,* Thomas J. Macdonald and Guanjie He*



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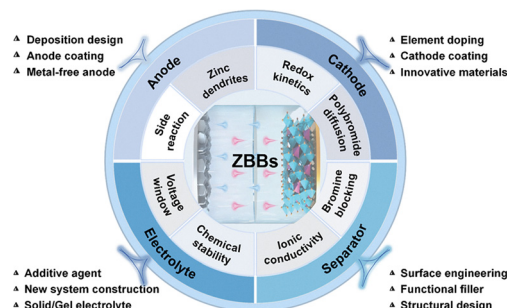
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REVIEWS

9031

Zinc–bromine batteries revisited: unlocking liquid-phase redox chemistry for next-generation energy storage

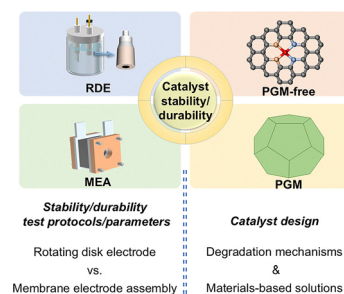
Jiaxin Meng, Guozhen Zhang,* Le Pang, Qiyu Liu, Jianuo Yao, Yaoyu Wang, He Liu, Cong Guo, Weizhai Bao, Jingfa Li, Faxing Wang, Feng Yu* and Hongxia Wang*



9054

Stability/durability challenges of cathode catalysts for PEM fuel cells: experiments, mechanisms, and perspectives beyond three-electrode systems

Yangdong Zhou, Weijia Guo, Lixin Xing,* Jiayang Li, Ning Wang, Ling Meng, Siyu Ye, Xiaohua Yang,* Hao Chen and Lei Du*

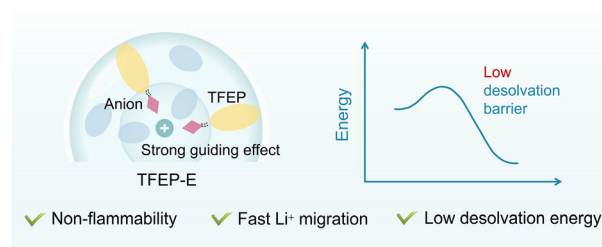


COMMUNICATION

9093

An anion outer-regulated electrolyte allows rapid desolvation to enable high-voltage lithium metal batteries

Qiujie He, Zhiwen Deng, Sicheng Miao, Ye Jia, Jianan Peng, Pengfei Xia, Changhaoyue Xu, Qiang Tang, Xuemei Zhang, Tiening Tan, Gaolong Zhu, Kaipeng Wu, Yongjin Fang, Yun Zhang* and Wenlong Cai*

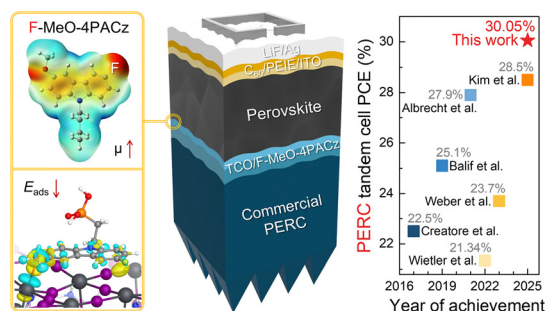


PAPERS

9105

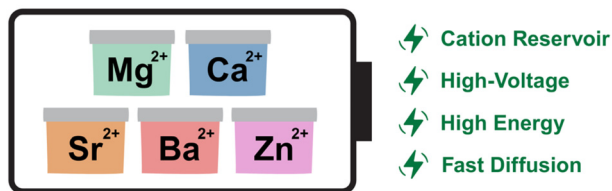
Tailored self-assembled monolayer molecules for perovskite/PERC tandem solar cells with efficiencies over 30%

So Jeong Park, Changhoon Yu, Kyu In Shim, Geon Pyo Hong, Sunwu Song, Jae Hyun Park, Sun Kyung Hwang, Yeo Jin Choi, Jeong Woo Han, Min Sang Kwon,* Ik Jae Park* and Jin Young Kim*



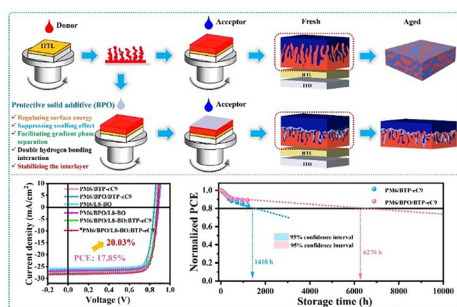
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Pure Solid-State Divalent Cation Storage

Amorphous coordination polymers for versatile Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , and Zn^{2+} cation storage

Xiaolong Guo, Robert Markowski, Ashley Black, Petru Apostol, Darsi Rambabu, Olivera Lužanin, Tjaša Pavčnik, Damien Monti, Mengyuan Du, Da Tie, Xiaodong Lin, Vasudeva Rao Bakuru, Raphaël Delogne, Koen Robeyns, Laura Simonelli, Jean-François Gohy, Jan Bitenc,* Jiande Wang,* Alexandre Ponrouch* and Alexandru Vlad*

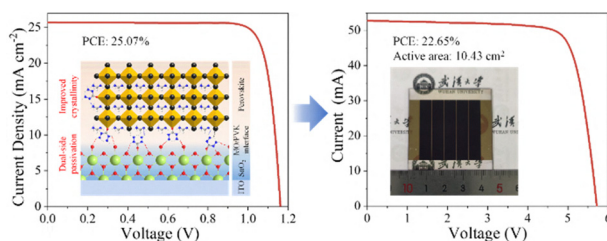
9125



Freezing the p-i-n interlayer with a symmetric phenolic compound to achieve favorable vertical morphology and efficient pseudo-planar hetero-junction organic solar cells with excellent stability

Xunfan Liao,* Zeng Li, Shiting Lai, Haojia Ding, Jinyang Yu, Yuang Fu, Peipei Zhu, Xinhui Lu, Haiming Zhu and Yiwang Chen*

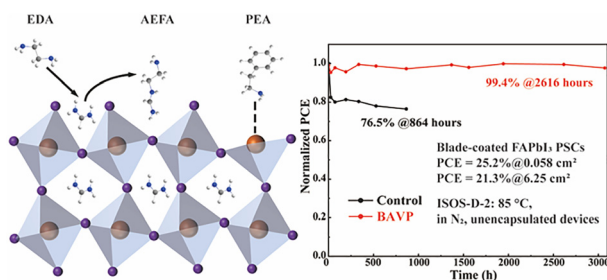
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A universal strategy toward homogenized metal oxide/perovskite contact for efficient solar cells and modules fabricated in ambient air

Zhenkun Zhu, Junjun Jin, Tonghui Guo, Zhongqiang Wang, Dawei Duan, Zhen Wang, Yuan Zhou, Lin Li, Yonggui Sun, Yuchen Zhang, Zhengyang Ke, Hanlin Hu, Jinhua Li and Qidong Tai*

9149

Bimolecular amine vapor passivation for efficient perovskite solar cells based on blade-coated $FAPbI_3$

Cun Zhou, Weicheng Wang, Haotian Wu, Jinsen Zhang, Ying Zhou, Yao Wang,* Gang Wu, Weifei Fu,* Alex K.-Y. Jen and Hongzheng Chen*

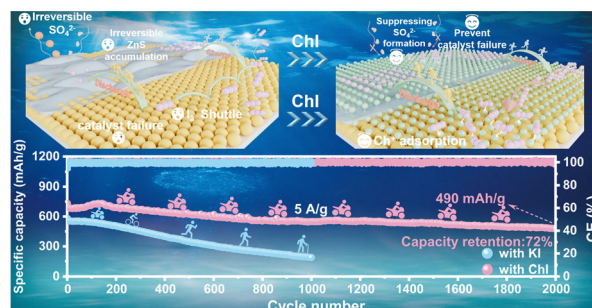


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Deciphering failure mechanisms of Zn–S batteries: anion–cation synergy for dual-interface stabilization toward dendrite-free zinc and reversible sulfur conversion

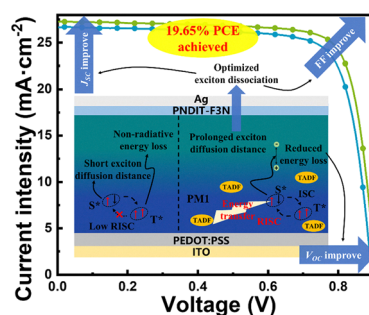
Xiaolang Liu, Runming Tao, Gaoxu Huang, Yuxi Yang, Haiping Wang, Huiyu Yuan, Deyu Wang, Zhihong Liu, Jiyan Liu and Jiyuan Liang*



9171

19.6% efficiency of layer-by-layer organic photovoltaics with decreased energy loss via incorporating TADF materials with intrinsic reverse intersystem crossing

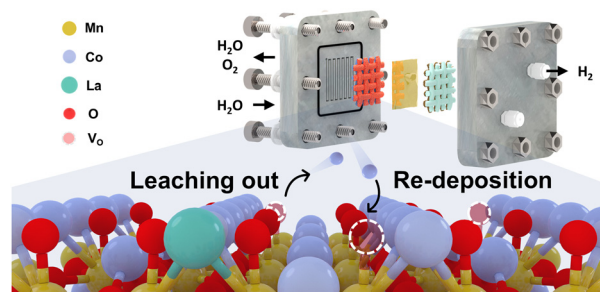
Lu Zhang, Zuliang Zhuo, Xiaoling Ma,* Hongyue Tian, Xingchao Zhao, Yongchao Xie, Kaixuan Yang, Byung Hui Lee, Xixiang Zhu, Han Young Woo, Chuluo Yang, Xiang Nie* and Fujun Zhang*



9183

A self-healing non-precious metal oxide anode in proton exchange membrane electrolysis beyond 1000 h stability at 2 A cm⁻²

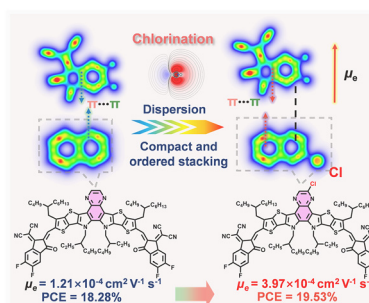
Miao Yu Lin, Wen Jing Li, Hao Yang Lin, Sheng Dai, Zhen Xin Lou, Jia Chen Wu, Huai Qin Fu, Song Ru Fang, Hao Fan, Xiao Xiao Mao, Xue Qing Chen, Hai Yang Yuan, Peng Fei Liu,* Hua Gui Yang* and Yu Hou*



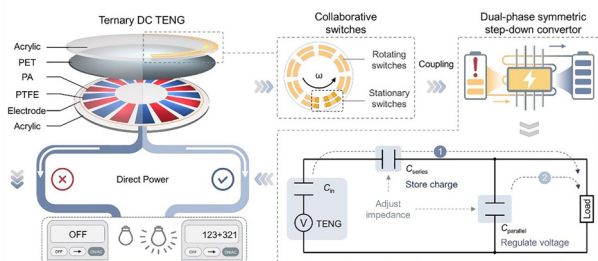
9194

Dispersion effect of chlorination-induced intermolecular stacking optimization of small-molecule acceptors for high-performance organic solar cells

Kewei Hu, Yu Ge, Hang Yang, Yue Xu, Jiahao Qian, Xuncheng Zhu, Yue Wu, Chaohua Cui* and Yongfang Li



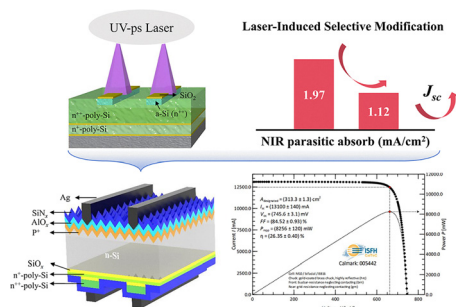
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Comprehensive output performance optimization of ternary constant DC triboelectric nanogenerators via dual-phase symmetric step-down conversion

Dahu Ren, Liping Yang, Xuemei Zhang, Qianying Li, Xiaochuan Li, Qianxi Yang, Haiyang Feng, Zheng Peng, Yi Xi,* Huake Yang* and Changsheng Wu*

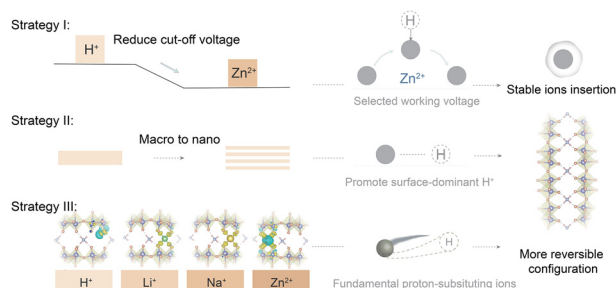
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26.35%-Efficiency and high-bifaciality n-TOPCon solar cells enabled by UV-ps laser-induced selective modification of double-layered SiO_x/n⁺-poly-Si passivating contacts

Qinqin Wang,* Kaiyuan Guo, Wangping Wu,* Siwen Gu, Xinyu Zhang, Jingyu Cao, Zhao Wang, Yusif Mohammed Mukhtar and Jianing Ding*

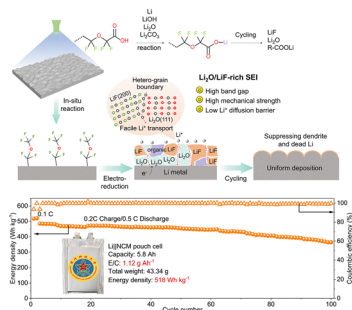
9230



Capturing failure mechanisms toward the rational design of reversible vanadium oxide-based zinc batteries

Xuesong Xie, Yang Yang, Yifan Li, Rohit Sinha, Xuehai Tan, Keren Jiang, Minggang Xie, Yuxuan Xue, Ning Chen and Zhi Li*

9240



Achieving a stable 518 Wh kg⁻¹ Li metal pouch cell via SEI reconstruction engineering for high Li⁺ conductive hetero-grain boundaries

Zhongwei Jiang, Junyang Liu, Ke Yue, Man Pang, Yixuan Peng, Chongyang Luo, Ziqing Yao, Tao Pan, Yuanyuan Wang, Yujie Li, Qingpeng Guo, Chunman Zheng, Weiwei Sun,* Xinyong Tao* and Shuangke Liu*

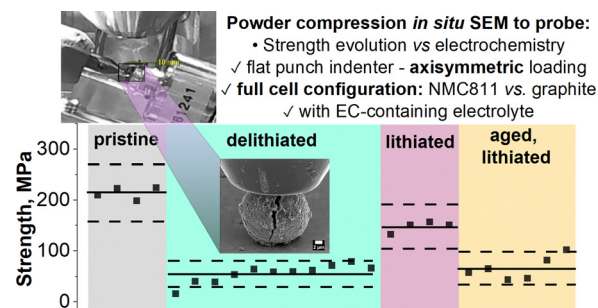


PAPERS

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Investigating the effect of lithiation on polycrystalline NMC811 Li-ion battery cathode cracking using *in situ* SEM micromechanical testing

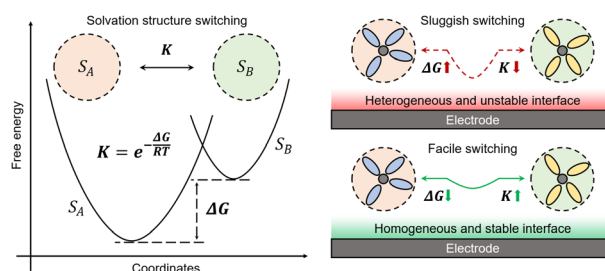
Aigerim Omirkhan,* Oriol Gavalda-Diaz, Siyang Wang, Ifan E. L. Stephens, Finn Giuliani and Mary P. Ryan*



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Energy-landscape-tailored solvation switching dynamics enable stable lithium batteries

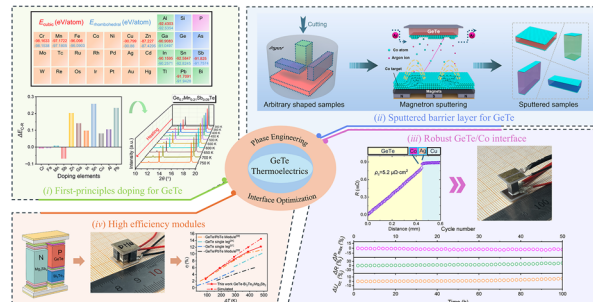
Haotian Zhu, Haikuo Zhang, Shuoqing Zhang, Ruhong Li,* Ruixin Zhang, Shouhong Ding, Liuhui Zhu, Baochen Ma, Long Chen, Tao Zhou, Jinze Wang, Long Li, Yuntong Ma, Shihao Duan, Menglu Li, Junyi Hua, Wei Liu, Lixin Chen, Tao Deng and Xiulin Fan*



9274

Phase-stabilized GeTe with optimized interfaces for high-performance thermoelectric energy conversion

Kai Xu, Yuntian Fu, Wusheng Zuo, Meng Jiang, Xin Ai,* Shun Wan, Hongyi Chen,* Xiaofang Lu, Lianjun Wang,* Qihao Zhang* and Wan Jiang



CORRECTION

9287

Correction: Covalent organic and metal organic frameworks based single atom catalysts for valorisation of CO₂ to value added chemicals

Sowjanya Vallem, Malayil Gopalan Sibi, Rahul Patil, Vishakha Goyal, A. Giridhar Babu, EA. Lohith, K. Keerthi, Muhammad Umer, N. V. V. Jyothi, Matthias Vandichel, Daniel Ioan Stroe, Subhasmita Ray, Mani Balamurugan,* Aristides Bakandritsos,* Sada Venkateswarlu, Rajenahally V. Jagadeesh* and Radek Zboril

