

Energy & Environmental Science

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See Guoming Ma, Dingguo Xia, Hao Zhao *et al.*, pp. 8756–8767. Image reproduced by permission of Hao Zhao from *Energy Environ. Sci.*, 2025, **18**, 8756.



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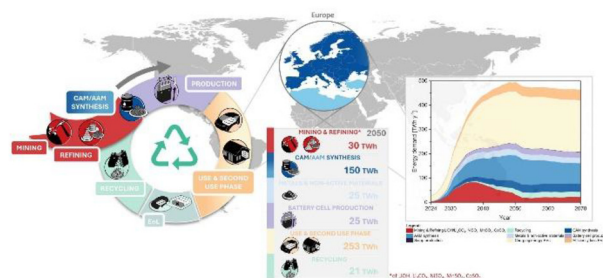
See Xiaodong Shi, Wei Zhang, Xinlong Tian *et al.*, pp. 8768–8779. Image reproduced by permission of Xinlong Tian from *Energy Environ. Sci.*, 2025, **18**, 8768.

ANALYSIS

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Future energy demand for automotive and stationary lithium- and sodium-ion battery production towards a European circular economy

Lukas Ihlbrock, Anne Sehnal, Moritz Gutsch and Simon Lux*

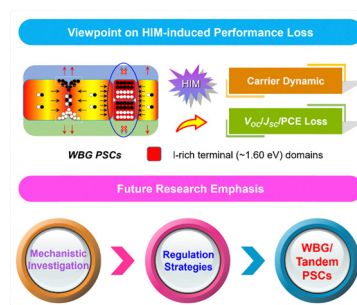


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Deciphering halide ion migration and performance loss in wide-bandgap perovskite solar cells: connection, mechanism, and solutions

Yuxiao Guo, Hairen Tan* and Bo Xu*



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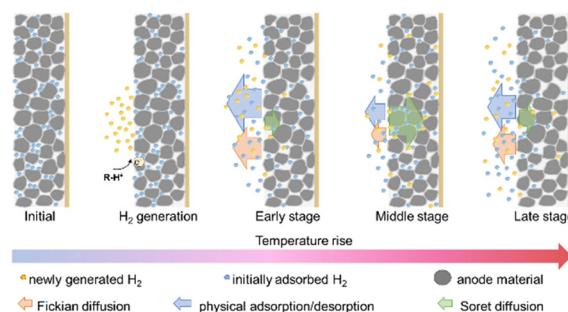


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Operando observing hydrogen evolution in commercial lithium-ion batteries

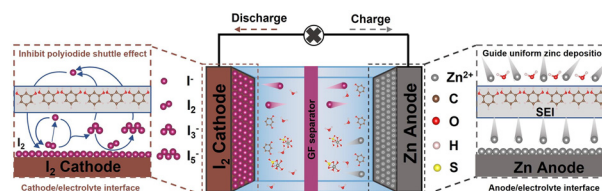
Yuan Wang, Shuyan Guo, Yuntian Guo, Peng Zhang, Guoming Ma,* Dingguo Xia* and Hao Zhao*



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Taming polyiodides: phenol chemistry for shuttle-free and durable zinc-iodine batteries

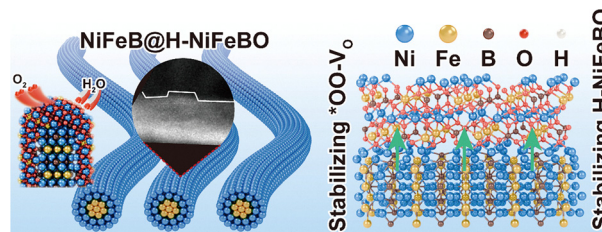
Zhixiang Chen, Xinlei Gao, Lutong Shan, Qingjin Fu, Zhenyue Xing, Peng Rao, Zhenye Kang, Xiaodong Shi,* Wei Zhang* and Xinlong Tian*



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High-index facet NiFeB@H-NiFeBO core-shell nanowires for a highly efficient oxygen evolution reaction in water splitting

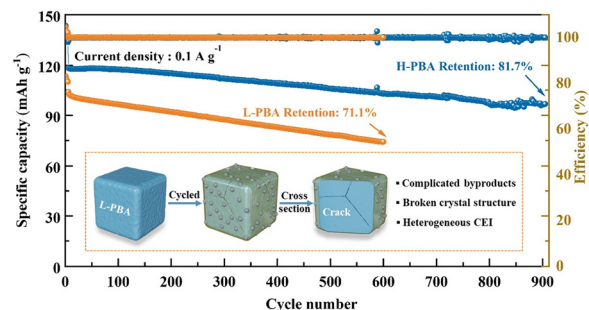
Xing Wang, Wei Pi, Yu Qiu, Zhangquan Gong, Jinchang Fan, Haifeng Bao,* Na Yao* and Xiaoqiang Cui*



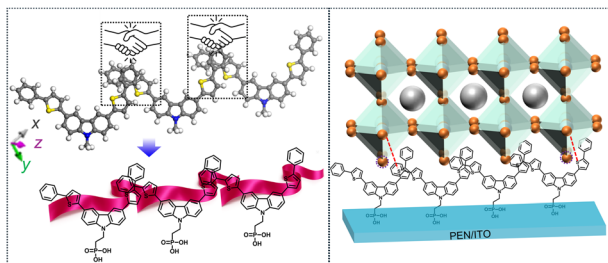
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Unraveling the degradation mechanism of sodium iron hexacyanoferrate cathodes in sodium ion batteries

Junyi Dai, Jiahao Li, Fangxin Ling, Yu Yao,* Yanru Wang, Mingze Ma, Jian Feng, Jun Xia, Yinbo Zhu, Hai Yang,* Xianhong Rui, Hengan Wu and Yan Yu*



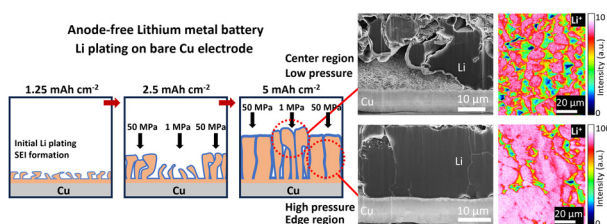
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Soft conjugation extension strategy of self-assembled molecules for achieving efficient and mechanically stable flexible perovskite solar cells

Biao Zhou, Mingliang Li,* Qi Xiong, Liren Zhang, Shiwei Zhang, Jiayun Sun, Jinyao Tang* and Wallace C. H. Choy*

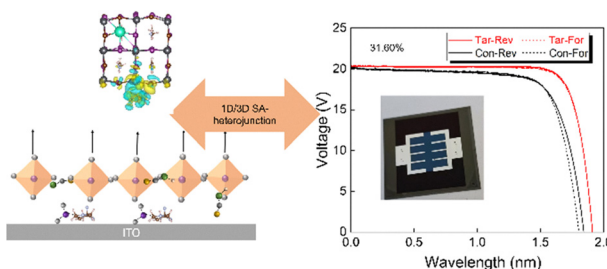
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Direct visualization and mechanistic insights into initial lithium plating in anode-free lithium metal batteries

Jin Su* and Chun Huang*

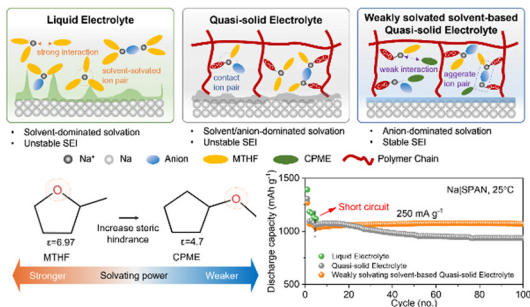
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Bottom directional deposition perovskite heterojunctions for efficient and stable lead halide perovskite/silicon tandem solar cells

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A weakly solvating solvent-based quasi-solid electrolyte for sodium metal batteries

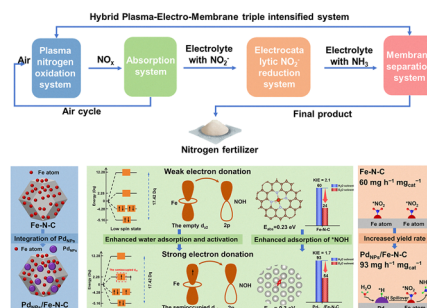
Ho Mei Law, Zilong Wang, Shengjun Xu, Longyun Shen, Baptiste Py, Yuhao Wang, Renée Siegel, Jürgen Senker, Qingsong Wang* and Francesco Ciucci*



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A hybrid plasma-electro-membrane triple intensified system over Pd_{NPs}/Fe–N–C for ammonium fertilizer synthesis

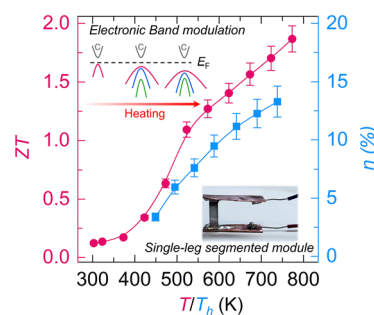
Cheng Wang, Chang Yu,* Bingzhi Qian, Yongwen Ren, Rulong Ma, Yue Chu and Jieshan Qiu*



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Manganese doping induced record-high medium-temperature AgCuTe thermoelectrics

Nan-Hai Li, Xiao-Lei Shi,* Chao Zhang, Meng Li, Xiaodong Wang, Min Zhang, Wen-Yi Chen, Yong-Qi Chen, Dmitri Golberg, Dong-Chen Qi and Zhi-Gang Chen*



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How multi-length scale disorder shapes ion transport in lithium argyrodites

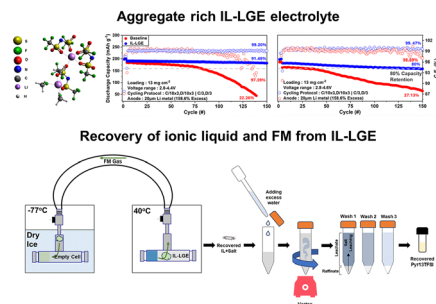
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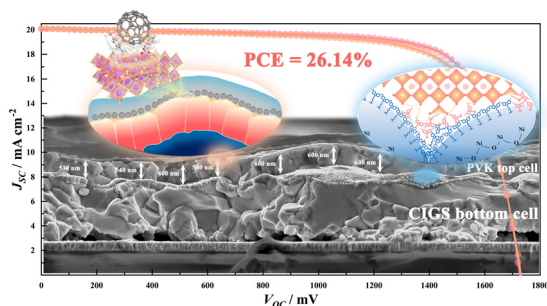
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Recoverable aggregate-rich liquefied gas electrolytes for enabling high-voltage lithium metal batteries

Ganesh Raghavendran, Alex Liu, Oleg Borodin, Nathan Hahn, Kevin Leung, Na-Ri Park, Tejas Nivarty, Mingqian Li, Aiden Larson, Yijie Yin, Minghao Zhang* and Ying Shirley Meng*



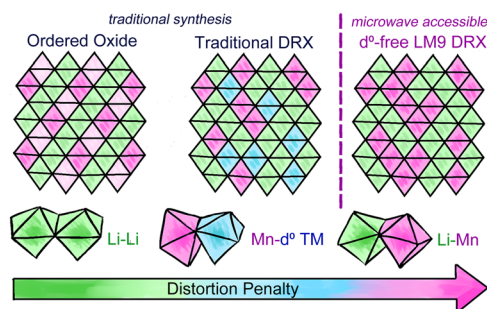
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Two-terminal perovskite/Cu(In,Ga)Se₂ tandems with conformal coatings based on commercial bottom cells with >26% efficiency

Cong Geng, Kuanxiang Zhang, Jiwen Jiang, Changhua Wang, Chung Hsien Wu, Jize Wang, Fei Long, Liyuan Han, Yi-Bing Cheng and Yong Peng*

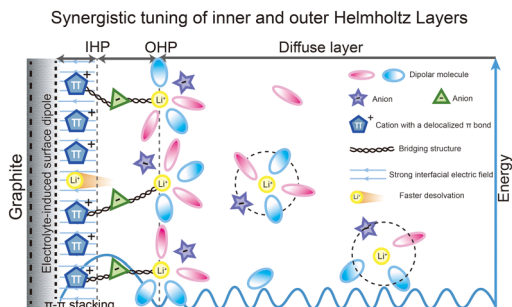
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High energy density and micrometer-sized d⁰-free disordered rocksalt cathodes

Vincent C. Wu, Erick A. Lawrence, Tianyu Li, Euan N. Basseby, Chia-Yu Chang, Bing Joe Hwang, Pierre-Etienne Cabelguyen and Raphaële J. Clément*

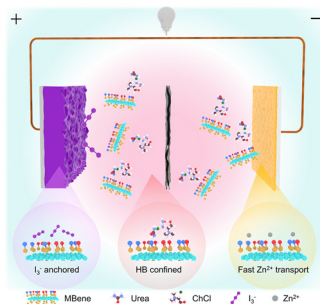
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Synergistic tuning of inner and outer Helmholtz layers for ultra-stable fast charging in lithium-ion batteries

Sai Li, Xianhui Zhao, Zheng Liu, Rang Xiao, Xin Zhang, Binghan Cui, Geping Yin, Pengjian Zuo, Yulin Ma, Chaoyang Li, Ning Wang, Guokang Han,* Huaizheng Ren* and Chunyu Du*

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An MBene-based colloidal electrolyte for high depth-of-discharge and energy-density 2 Ah-scale Zn metal batteries

Hongyu Qin, Ao Liu, Kefeng Ouyang, Sheng Chen, Shubing Wei and Yan Huang*

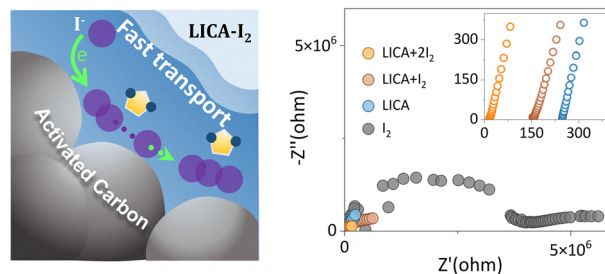


PAPERS

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Hydrophobic ionic liquid enabled polyiodide confined transport in a cathode, realizing high areal capacity, stable zinc–iodine batteries

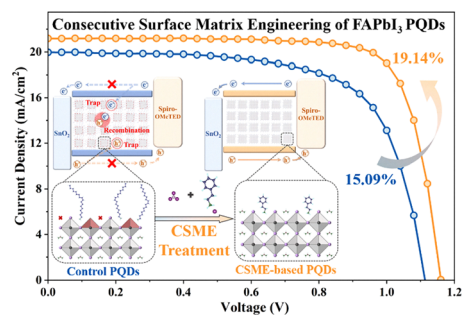
Lanya Zhao, Dandan Yin, Yanan Zhang, Boyang Li, Shen Wang, Xiaofeng Cui, Jie Feng, Na Gao, Xiaowei Liu, Shujiang Ding* and Hongyang Zhao*



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Consecutive surface matrix engineering of FAPbI₃ perovskite quantum dots for solar cells with over 19% efficiency

Mingxu Zhang, Sicong Huang, Xinyi Mei, Guoliang Wang, Bainian Ren, Junming Qiu, Zehong Yuan and Xiaoliang Zhang*



CORRECTION

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Correction: Deciphering the interplay between tin vacancies and free carriers in the ion transport of tin-based perovskites

Luis Huerta Hernandez, Luis Lanzetta, Anna M. Kotowska, Ilhan Yavuz, Nikhil Kalasariya, Badri Vishal, Marti Gibert-Roca, Matthew Piggott, David J. Scurr, Stefaan De Wolf, Martin Stotterfoht and Derya Baran*

