

Energy & Environmental Science

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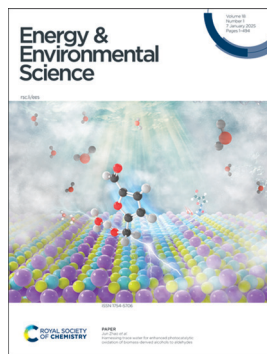
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See Jun Zhao *et al.*, pp. 214–226. Image reproduced by permission of Jun Zhao from *Energy Environ. Sci.*, 2025, 18, 214.

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Payback trade-offs from the electrolyte design between energy efficiency and lifespan in zinc-ion batteries

Xuan Gao, Haobo Dong, Chang Su, Yuhang Dai, Yiyang Liu, Ivan P. Parkin, Claire J. Carmalt* and Guanjie He*

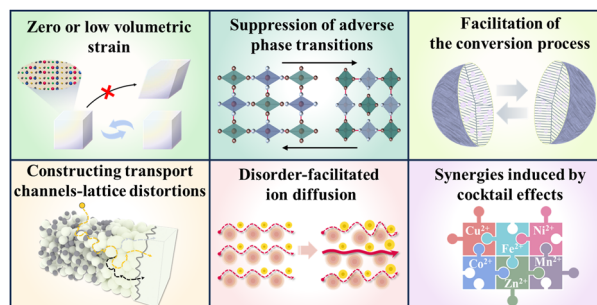


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Improving upon rechargeable battery technologies: on the role of high-entropy effects

Zihao Zhou, Yuan Ma,* Torsten Brezesinski, Ben Breitung, Yuping Wu* and Yanjiao Ma*



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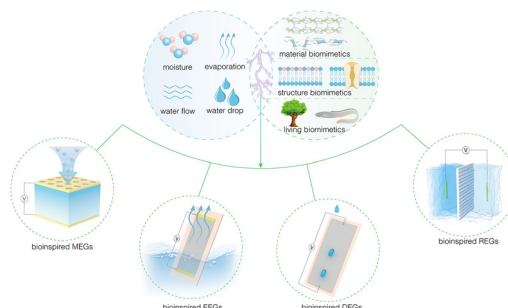
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Emerging bioinspired hydrovoltaic electricity generators

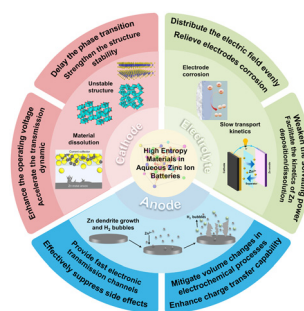
Guangtao Zan, Shengyou Li, Kaiying Zhao, HoYeon Kim, EunAe Shin, Kyuho Lee, Jihye Jang, Gwanho Kim, Yeonji Kim, Wei Jiang, Taebin Kim, Woojoong Kim and Cheolmin Park*



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High-entropy materials for aqueous zinc metal batteries

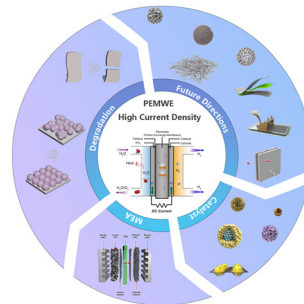
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Engineering Ir-based catalysts for high current density applications in proton exchange membrane water electrolyzers

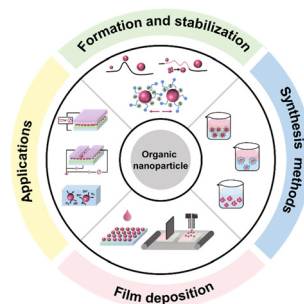
Yang Song, Hongwu Chen, Xingdong Wang, Chenchen Weng, Kang Zou, Cheng Wang, Yanxia Yuan, Yuxuan Ma, Xue Yang* and Wei Lin*



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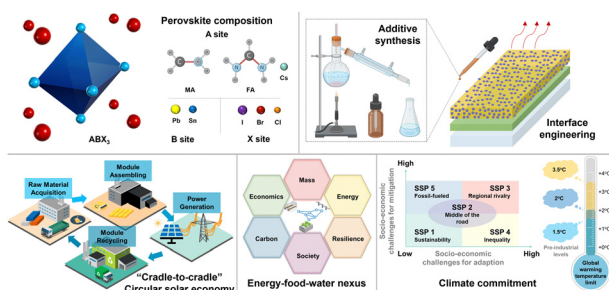
A review on organic nanoparticle-based optoelectronic devices: from synthesis to applications

Zhe Liu, Chen Xie, Thomas Heumueller, Iain McCulloch, Christoph J. Brabec, Fei Huang, Yong Cao and Ning Li*



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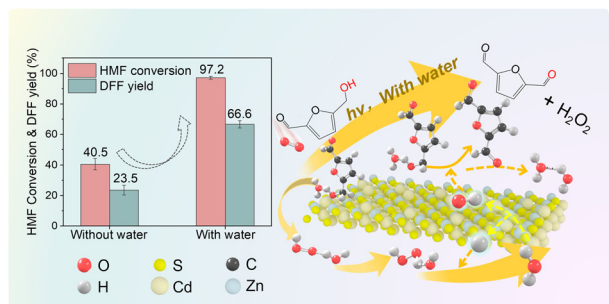


Perspectives for sustainability analysis of scalable perovskite photovoltaics

Xueyu Tian, Samuel D. Stranks, Jinsong Huang, Vasilis M. Fthenakis, Yang Yang and Fengqi You*

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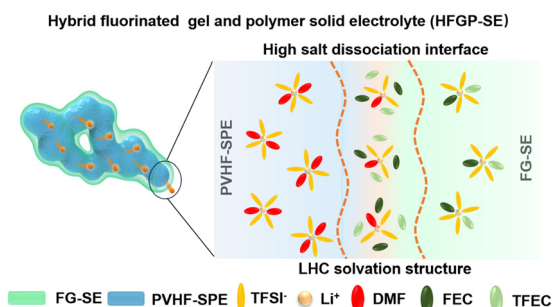
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Harnessing trace water for enhanced photocatalytic oxidation of biomass-derived alcohols to aldehydes

Wenhua Xue, Jian Ye, Zhi Zhu, Reeti Kumar and Jun Zhao*

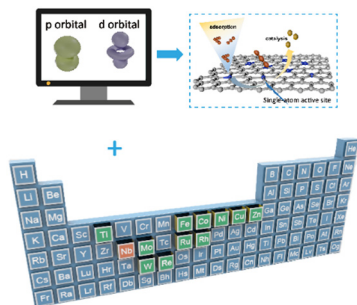
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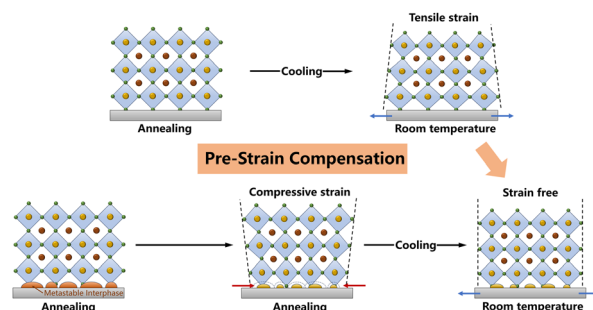
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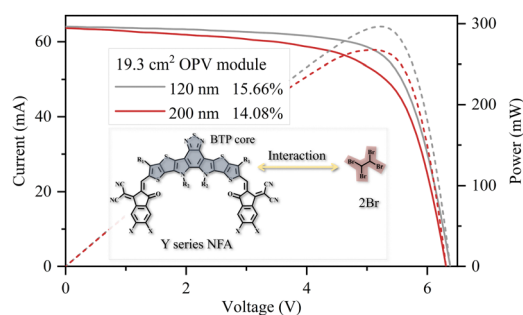
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Simultaneously improving the efficiencies of organic photovoltaic devices and modules by finely manipulating the aggregation behaviors of Y-series molecules

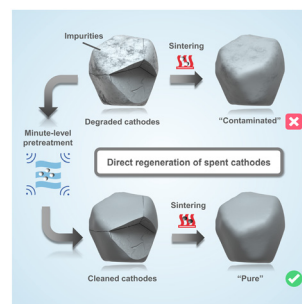
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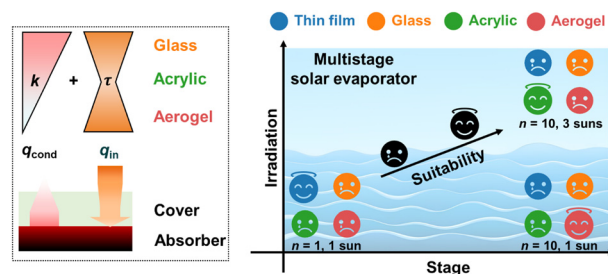
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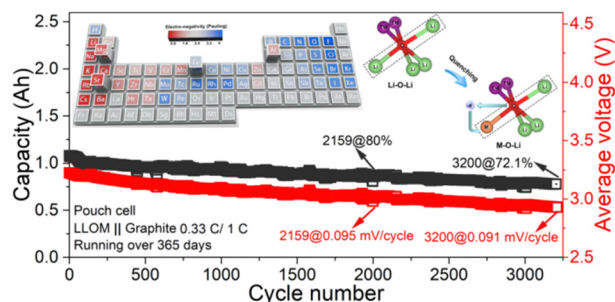
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Cover matters: enhanced performance of a multistage solar evaporator with tuned optical and thermal cover properties

Shiteng Li, Shang Liu, Qijun Yang, Shuai Deng and Meng Lin*



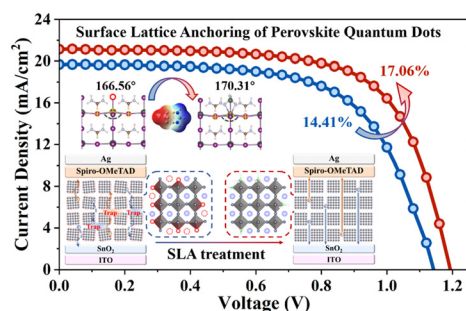
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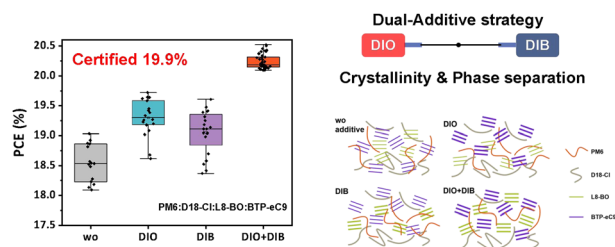
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Suppressed surface lattice vacancies and distortion through lattice anchoring for efficient FAPbI₃ perovskite quantum dot solar cells

Mingxu Zhang, Xinyi Mei, Guoliang Wang, Junming Qiu, Zhimei Sun* and Xiaoliang Zhang*

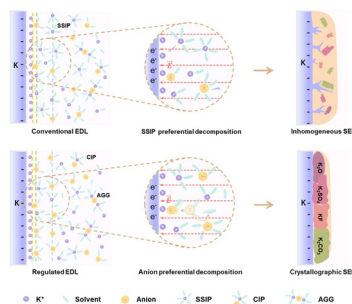
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An electric double layer regulator empowers a robust solid-electrolyte interphase for potassium metal batteries

Xueyu Lian, Liang Xu, Zhijin Ju, Ziang Chen, Xiaopeng Chen, Yuyang Yi, Zhengnan Tian, Tao Cheng,* Shixue Dou, Xinyong Tao* and Jingyu Sun*

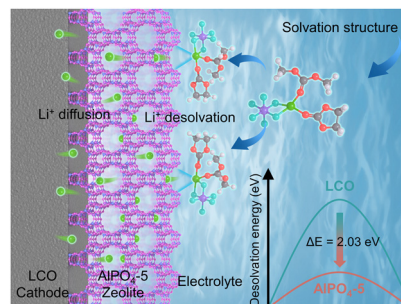


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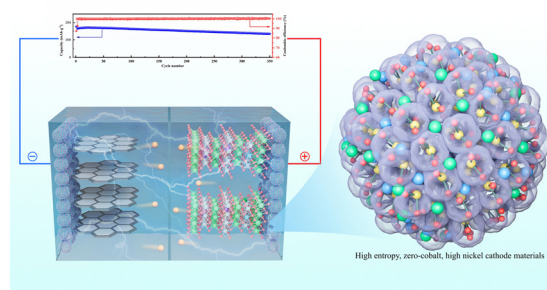
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High-entropy doping for high-performance zero-cobalt high-nickel layered cathode materials

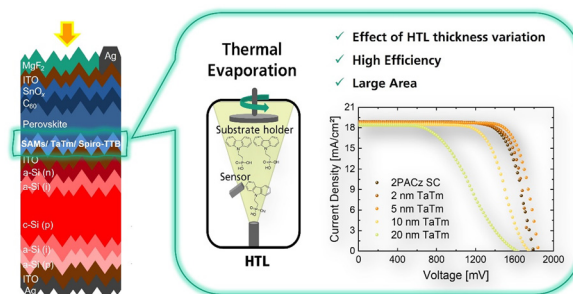
Jiahui Zhou, Jiehui Hu, Xia Zhou, Zhen Shang, Yue Yang* and Shengming Xu*



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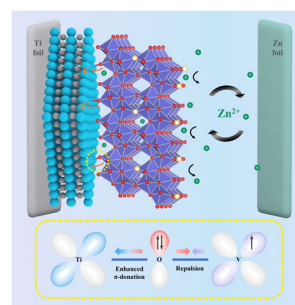
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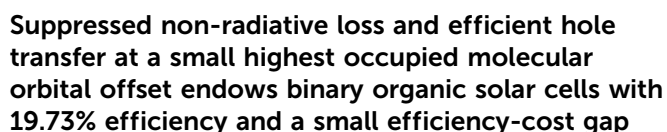
Asymmetric orbital hybridization at the MXene- VO_{2-x} interface stabilizes oxygen vacancies for enhanced reversibility in aqueous zinc-ion batteries

Yuan Fang, Chunhong Qi, Weichao Bao, Fangfang Xu, Wei Sun,* Bin Liu, Xiqian Yu, Lianjun Wang, Wan Jiang, Pengpeng Qiu* and Wei Luo*

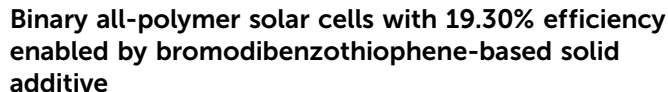




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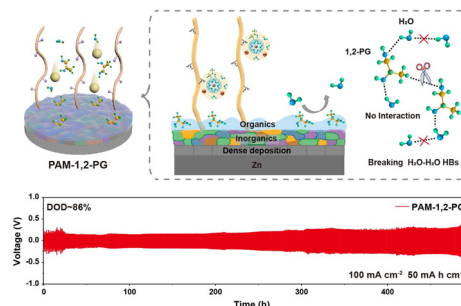


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Anti-freezing hydrogel electrolyte with a regulated hydrogen bond network enables high-rate and long cycling zinc batteries

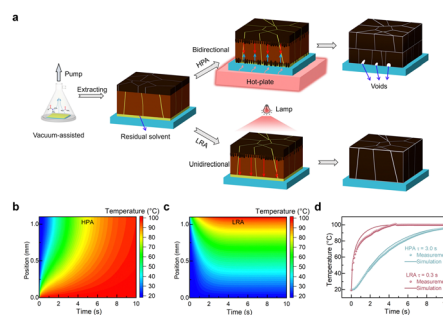
Shao-Jie Guo, Meng-Yu Yan, Dong-Ming Xu, Pan He, Kai-Jian Yan, Jie-Xin Zhu, Yong-Kun Yu, Ze-Ya Peng, Yan-Zhu Luo* and Fei-Fei Cao*



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Light radiation annealing enables unidirectional crystallization of vacuum-assisted Sn–Pb perovskites for efficient tandem solar cells

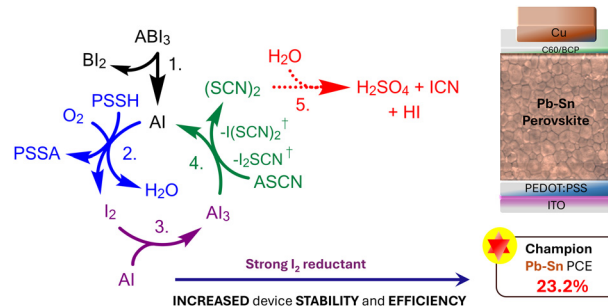
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23.2% efficient low band gap perovskite solar cells with cyanogen management

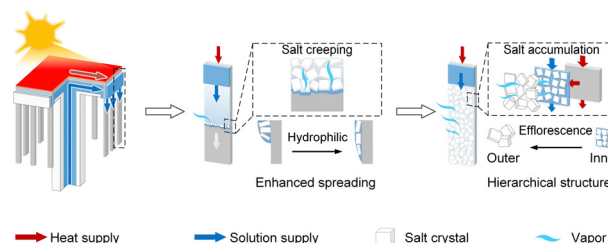
W. Hashini K. Perera, Thomas Webb, Yuliang Xu, Jingwei Zhu, Yundong Zhou, Gustavo F. Trindade, Mateus G. Masteghin, Steven P. Harvey, Sandra Jenatsch, Linjie Dai, Sanjayan Sathasivam, Thomas J. Macdonald, Steven J. Hinder, Yunlong Zhao, Samuel D. Stranks, Dewei Zhao, Wei Zhang, K. D. G. Imalka Jayawardena,* Saif A. Haque* and S. Ravi P. Silva*



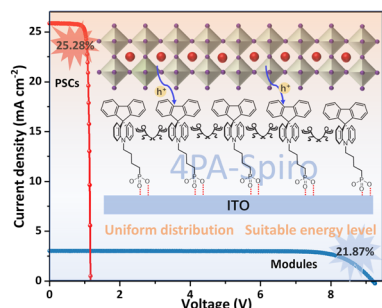
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Self-assembled porous salt crystals for solar-powered crystallization

Jie Yu, Lenan Zhang, Jintong Gao, Wenyu Han, Ruzhu Wang and Zhenyuan Xu*



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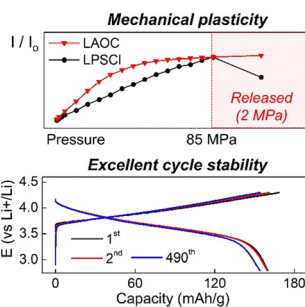
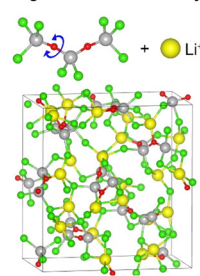


A spiro-type self-assembled hole transporting monolayer for highly efficient and stable inverted perovskite solar cells and modules

Xianfu Zhang, Botong Li, Shaochen Zhang, Zedong Lin, Mingyuan Han, Xuepeng Liu,* Jianlin Chen, Weilun Du, Ghadari Rahim, Ying Zhou, Pengju Shi, Rui Wang, Pengfei Wu, Thamraa Alshahrani, Wadha Alqahtani, Norah Alahmad, Qian Wang,* Bin Ding,* Songyuan Dai, Mohammad Khaja Nazeeruddin* and Yong Ding*

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A facile route to plastic inorganic electrolytes for all-solid state batteries based on molecular design

Insang You, Baltej Singh, Mengyang Cui, Gillian Goward, Lanting Qian, Zachary Arthur, Graham King and Linda F. Nazar*

