

Energy & Environmental Science

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IN THIS ISSUE

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Cover

See Yunhuai Zhang, Guangmin Zhou, Yingze Song *et al.*, pp. 2968–3003. Image reproduced by permission of Guangmin Zhou and Yingze Song from *Energy Environ. Sci.*, 2024, 17, 2968.



Inside cover

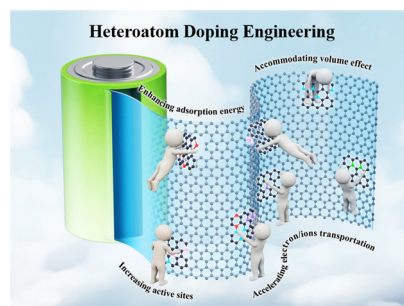
See Niklas von der Assen *et al.*, pp. 3004–3020. Image reproduced by permission of Niklas von der Assen from *Energy Environ. Sci.*, 2024, 17, 3004.

REVIEW

2968

Intrinsic carbon structure modification overcomes the challenge of potassium bond chemistry

Xijun Wei, Yuyang Yi, Xiaozhi Yuan, Yu Liu, Qi Wan, Guangjun Gou, Yunhuai Zhang,* Guangmin Zhou* and Yingze Song*

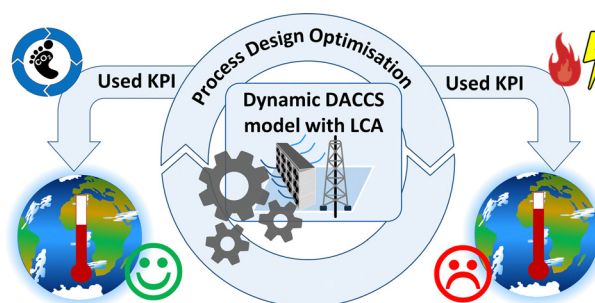


PAPERS

3004

Environmental process optimisation of an adsorption-based direct air carbon capture and storage system

Patrik Postweiler, Mirko Engelpracht, Daniel Rezo, Andrej Gibelhaus and Niklas von der Assen*



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Elemental answers

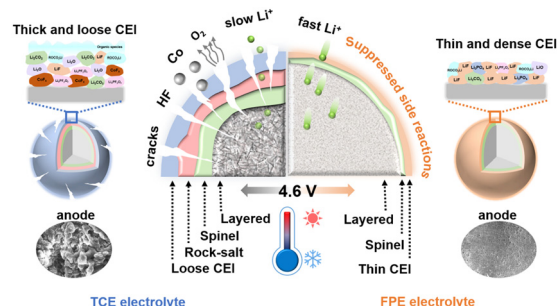


PAPERS

3021

Regulating electrode/electrolyte interfacial chemistry enables 4.6 V ultra-stable fast charging of commercial LiCoO₂

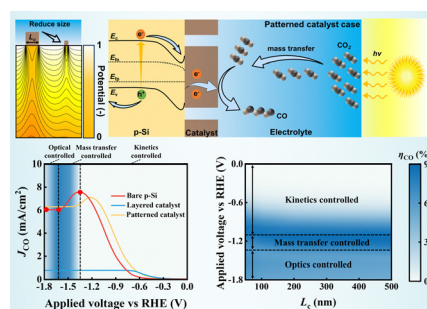
Anping Zhang, Zhihong Bi, Gongrui Wang, Shihao Liao, Prattek Das, Hu Lin, Mingrun Li, Yan Yu,* Xinliang Feng,* Xinhe Bao and Zhong-Shuai Wu*



3032

Performance assessment of photoelectrochemical CO₂ reduction photocathodes with patterned electrocatalysts: a multi-physical model-based approach

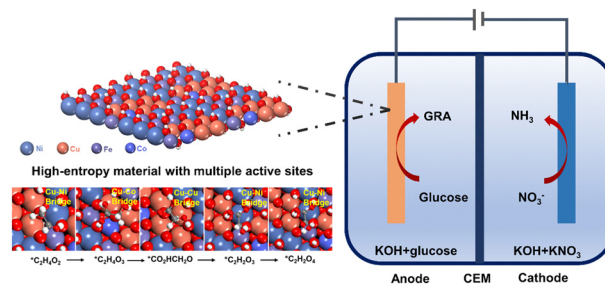
Yuzhu Chen, Chengxiang Xiang and Meng Lin*



3042

Multi-site catalysis of high-entropy hydroxides for sustainable electrooxidation of glucose to glucaric acid

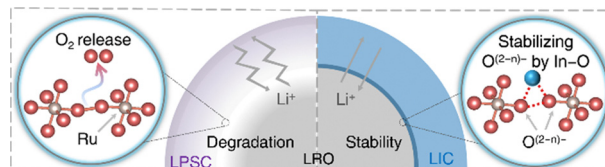
Xianhong Wu, Zhi-Jian Zhao, Xiangcheng Shi, Liqun Kang, Prattek Das, Sen Wang, Shengqi Chu, Hua Wang, Kenneth Davey, Bo Zhang,* Shi-Zhang Qiao,* Jinlong Gong* and Zhong-Shuai Wu*



3052

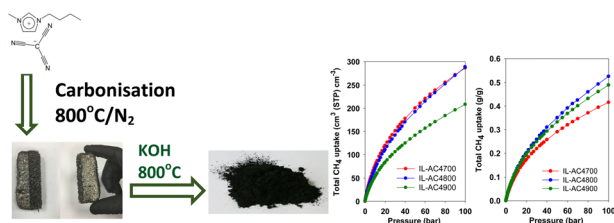
Self-constructing a lattice-oxygen-stabilized interface in Li-rich cathodes to enable high-energy all-solid-state batteries

Xiangqun Xu, Shiyong Chu, Sheng Xu, Shaohua Guo* and Haoshen Zhou*



PAPERS

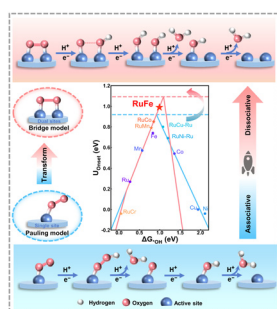
3060



Ultra-high surface area ionic-liquid-derived carbons that meet both gravimetric and volumetric methane storage targets

Nawaf Albeladi, L. Scott Blankenship and Robert Mokaya*

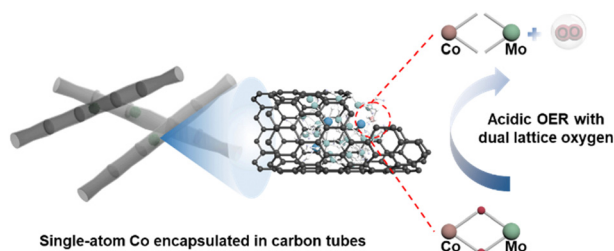
3077



Breaking Sabatier's vertex *via* switching the oxygen adsorption configuration and reaction pathway on dual active sites for acidic oxygen reduction

Pan Guo, Bo Liu, Fengdi Tu, Yunkun Dai, Ziyu Zhang, Yunfei Xia, Miao Ma, Yunlong Zhang,* Lei Zhao* and Zhenbo Wang*

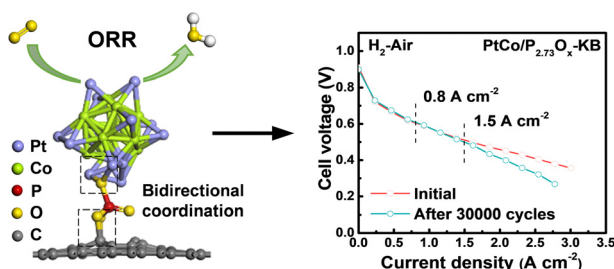
3088



Single-atom Co dispersed on polyoxometalate derivatives confined in bamboo-like carbon nanotubes enabling efficient dual-site lattice oxygen mediated oxygen evolution electrocatalysis for acidic water electrolyzers

Jianyun Liu, Tanyuan Wang,* Zijie Lin, Mengyi Liao, Shuxia Liu, Shiyu Wang, Zhao Cai, Hao Sun, Yue Shen, Yunhui Huang and Qing Li*

3099



A P–O functional group anchoring Pt–Co electrocatalyst for high-durability PEMFCs

Sheng-Nan Hu, Wei-Cheng Xu, Na Tian,* Su-Min Chen, Meng-Ying Li, Jun-Fei Shen, Jin-Xia Lin, Shuai-Long Guo, Xiao-Yang Huang, Zhi-You Zhou and Shi-Gang Sun*

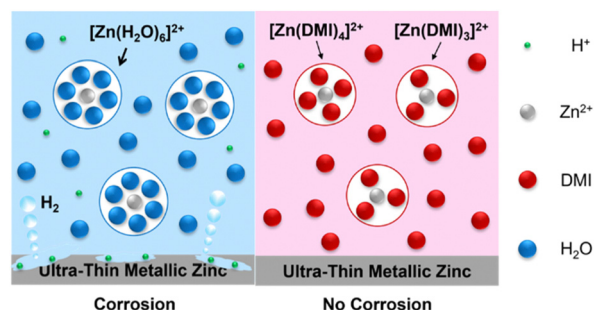


PAPERS

3112

A corrosion-free zinc metal battery with an ultra-thin zinc anode and high depth of discharge

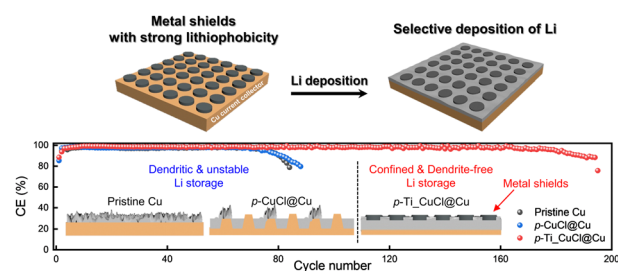
Rui Yao, Yunxiang Zhao, Lumeng Wang, Chengxiang Xiao, Feiyu Kang, Chunyi Zhi and Cheng Yang*



3123

Metal shields with crystallographic discrepancies incorporated into integrated architectures for stable lithium metal batteries

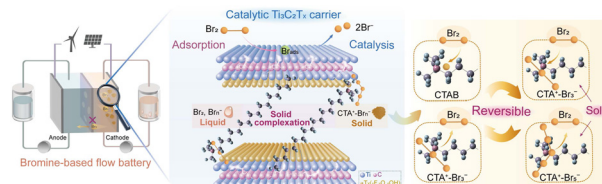
Ki-Yeop Cho, Sungjun Cho, Gun Young Jung* and KwangSup Eom*



3136

Reversible solid bromine complexation into $\text{Ti}_3\text{C}_2\text{T}_x$ MXene carriers: a highly active electrode for bromine-based flow batteries with ultralow self-discharge

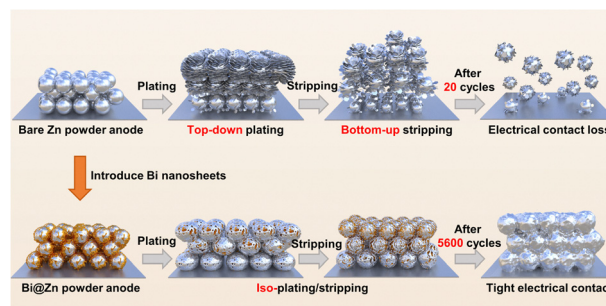
Luyin Tang, Tianyu Li, Wenjing Lu* and Xianfeng Li*



3146

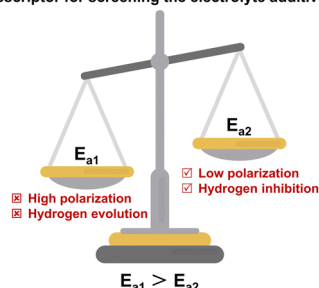
Zinc iso-plating/stripping: toward a practical Zn powder anode with ultra-long life over 5600 h

Hongli Chen, Wanyu Zhang, Shan Yi, Zhe Su, Zhiqiang Zhao, Yayun Zhang, Bo Niu* and Donghui Long*



3157

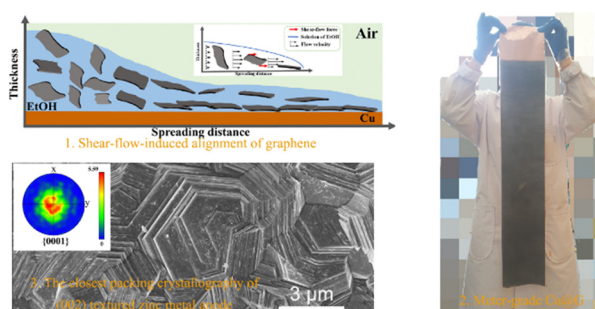
Descriptor for screening the electrolyte additives



An effective descriptor for the screening of electrolyte additives toward the stabilization of Zn metal anodes

Lin Hong, Jingzhuo Guan, Yiwei Tan, Yao Chen, Yu-Si Liu, Wei Huang,* Chunyang Yu, Yongfeng Zhou, Jie-Sheng Chen and Kai-Xue Wang*

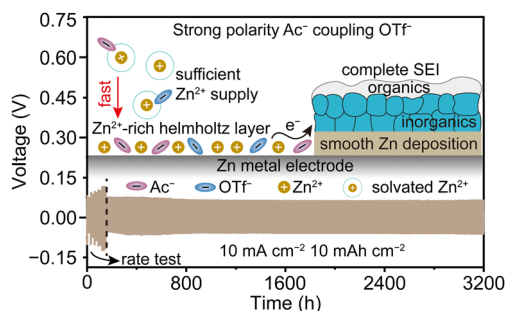
3168



Shear-flow induced alignment of graphene enables the closest packing crystallography of the (002) textured zinc metal anode with high reversibility

Murong Xi, Zhenjie Liu, Wei Wang, Zihan Qi, Rui Sheng, Juan Ding, Yudai Huang* and Zaiping Guo*

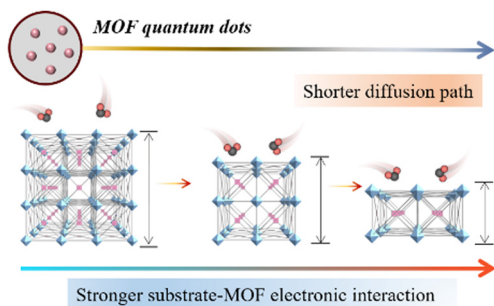
3179



Dual-anion chemistry synchronously regulating the solvation structure and electric double layer for durable Zn metal anodes

Rong Huang, Jingwei Zhang, Wei Wang, Xiaohong Wu, Xuelong Liao, Tiantian Lu, Youzeng Li, Jialei Chen, Shan Chen, Yu Qiao, Qing Zhao* and Huan Wang*

3191



93% single-atom utilization in base-resistant metal-organic framework quantum dots for ampere-level CO₂ electroreduction

Wenpeng Ni, Xiaodong He, Houjun Chen, Minyang Dai, Wei Zhang, Yan Zhang, Shuangyin Wang and Shiguo Zhang*

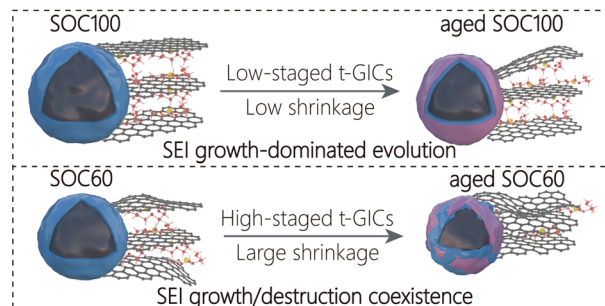


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3202

Degradation of sodium co-intercalation chemistry and ether-derived interphase on graphite anodes during calendar aging

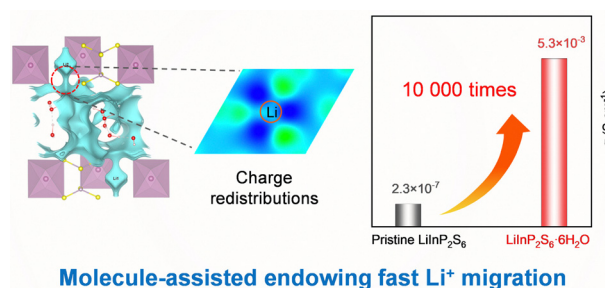
Jiali Wang, Junyang Hu, Feiyu Kang* and Dengyun Zhai*



3210

Anomalous superionic conductivity in van der Waals lithium thiophosphates triggered by interlayer molecules

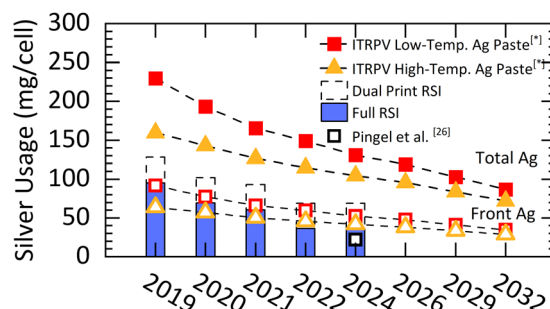
Jianing Liang, Yu Wu, Zongdong Sun, Cheng Zeng, Youwen Liu, Yinghe Zhao, Tianyou Zhai and Huiqiao Li*



3218

Reactive silver inks: a path to solar cells with 82% less silver

Michael W. Martinez-Szewczyk*, Steven J. DiGregorio, Owen Hildreth and Mariana I. Bertoni*



CORRECTION

3228

Correction: Preferred planar crystal growth and uniform solid electrolyte interfaces enabled by anion receptors for stable aqueous Zn batteries

Xinyu Wang, Yiran Ying, Xiaomin Li, Shengmei Chen*, Guowei Gao, Haitao Huang* and Longtao Ma*

