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See Yun Zhang, Hao Wu *et al.*, pp. 5819–5832.
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Inside cover

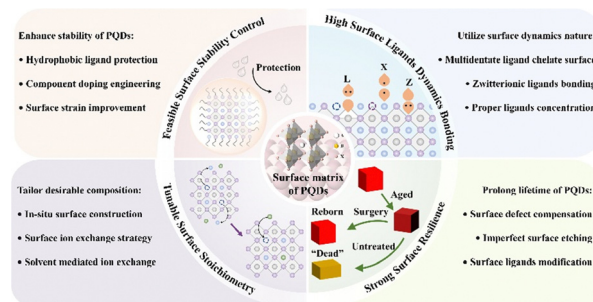
See Annemie Bogaerts, Volker Hessel *et al.*, pp. 5833–5853.
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Surface matrix regulation of perovskite quantum dots for efficient solar cells

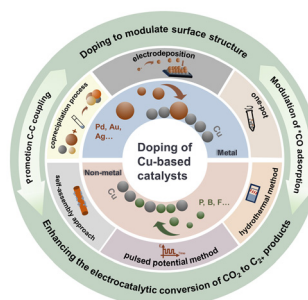
Shuhuai Xiao, Xinyi Mei and Xiaoliang Zhang*



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Doping engineering of Cu-based catalysts for electrocatalytic CO₂ reduction to multi-carbon products

Shiya You, Jiewen Xiao, Shuyu Liang, Wenfu Xie,* Tianyu Zhang, Min Li, Ziyi Zhong, Qiang Wang* and Hong He



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Fundamental questions
Elemental answers

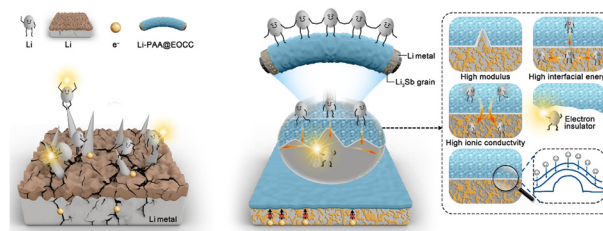


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5819

A large-capacity, superhigh-rate integrated lithium metal anode with top-down composition gradient enabled by polyantimonic acid

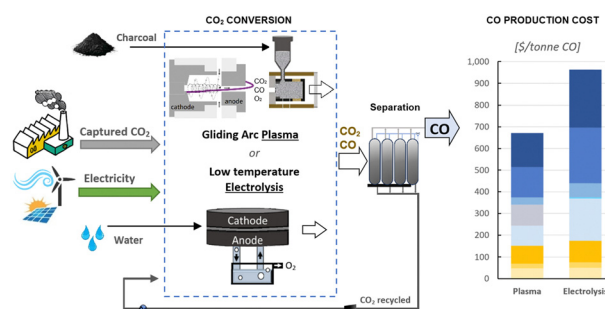
Yueying Zhang, Yi Guo, Kai Yong, Qian Wang, Meng Yao, Yun Zhang* and Hao Wu*



5833

CO₂ conversion to CO via plasma and electrolysis: a techno-economic and energy cost analysis

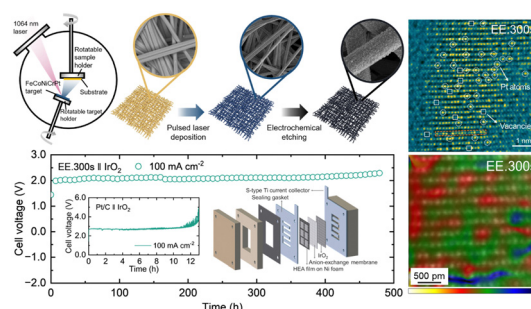
Jose Osorio-Tejada, Marc Escriba-Gelonch, Rani Vertongen, Annemie Bogaerts* and Volker Hessel*



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Vacancy induced microstrain in high-entropy alloy film for sustainable hydrogen production under universal pH conditions

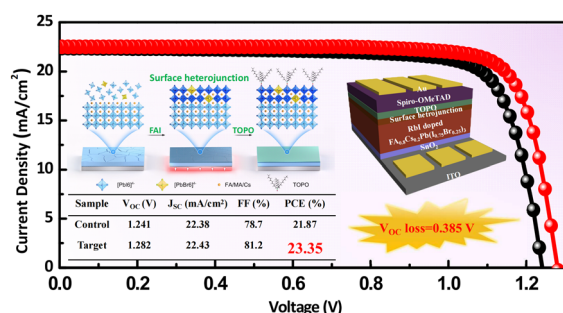
Yiyuan Yang, Zhe Jia,* Qianqian Wang, Yujing Liu, Ligang Sun,* Bo Sun, Juan Kuang, Shoujun Dai, Jianguo He, Sida Liu, Lunbo Duan, Hongjian Tang, Lai-Chang Zhang, Jamie J. Kruzic, Jian Lu and Baolong Shen*



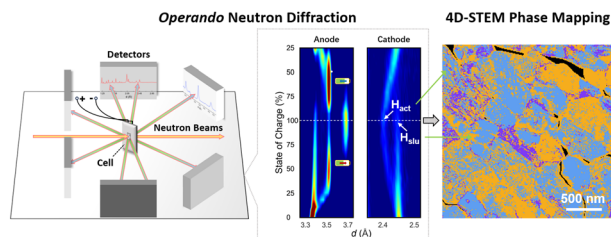
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Suppressing charge recombination in a methylammonium-free wide-bandgap perovskite film for high-performance and stable perovskite solar cells

Qiufeng Ye, Wenzheng Hu, Junchi Zhu, Ziyu Cai, Hengkang Zhang, Tao Dong, Boyang Yu, Feiyang Chen, Xieli Wei, Bo Yao, Weidong Dou, Zebo Fang,* Feng Ye,* Zhun Liu* and Tie Li*



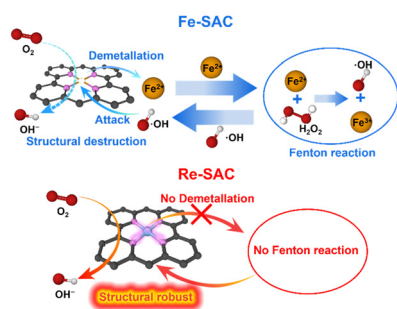
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Insights into the defect-driven heterogeneous structural evolution of Ni-rich layered cathodes in lithium-ion batteries

Zhongyuan Huang, Ziwei Chen, Maolin Yang, Mihai Chu, Zenan Li, Sihao Deng, Lunhua He, Lei Jin, Rafal E. Dunin-Borkowski, Rui Wang,* Jun Wang,* Tingting Yang* and Yinguo Xiao*

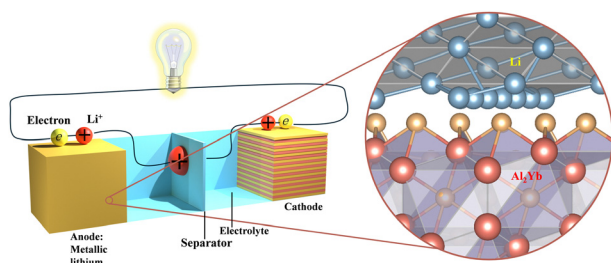
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Inherent anti-Fenton property of single-atom rhenium for the ultra-durable oxygen reduction reaction

Xin-Zheng Yue, Yun-Ce Liu, Bang-An Lu, Xin Du, Wen Lei, Zhong-Yi Liu, Sha-Sha Yi* and Chao Lu*

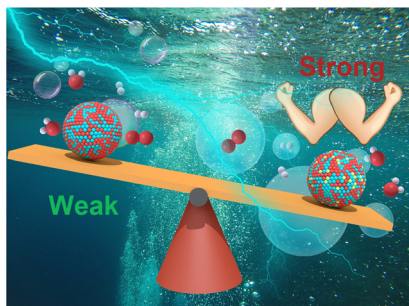
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Refining grains and optimizing grain boundaries by Al₂Yb to enable a dendrite-free lithium anode

Yunlong Deng, Jian Gao,* Ming Wang, Jinxiang Deng, Yicheng Zhou and Wei Sun*

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Tungsten single atoms incorporated in cobalt spinel oxide for highly efficient electrocatalytic oxygen evolution in acid

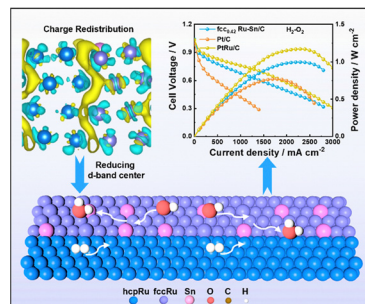
Jing Cao, Dezheng Zhang, Bianqing Ren, Ping Song* and Weilin Xu*



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Phase and interface engineering of a Ru–Sn nanocatalyst for enhanced alkaline hydrogen oxidation reaction

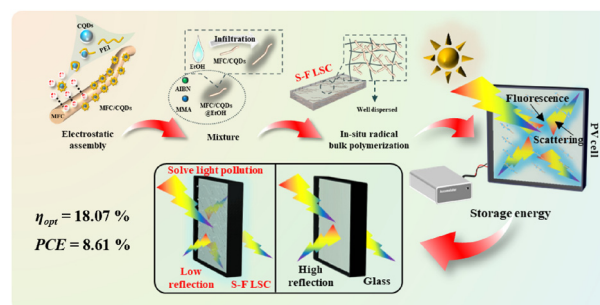
Licheng Wei, Wei Yan, Zhongliang Huang, Ruchun Li, Qingyu Kong, Wei-Hsiang Huang, Chih-Wen Pao, Zhiwei Hu, Haixin Lin, Nanjun Chen, Yong Xu,* Hongbo Geng* and Xiaoqing Huang*



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Fabricating a scattering–fluorescent luminescent solar concentrator synchronously to achieve broad-spectrum solar energy utilization and light pollution inhibition

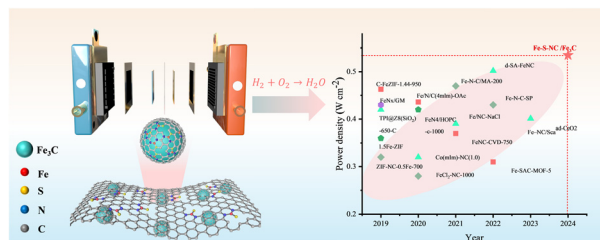
Chenkai Jin, Chengqi Feng,* Yuhua Chen, Ting Zhang, Huiwen He, Haining Na* and Jin Zhu



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Integrating sulfur-doped atomically dispersed FeN_x sites with small-sized Fe₃C nanoparticles for PEMFCs and beyond

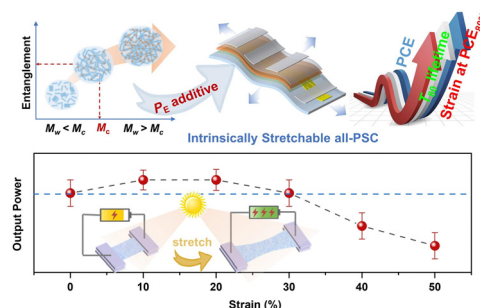
Chao Liu, Jie Zheng, Bin Chi, Chengzhi Zhong, Yingjie Deng, Chao Chen, Dai Dang,* Wenjun Fan,* Zhiming Cui* and Quanbing Liu*



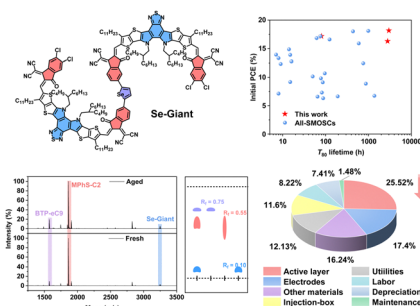
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Simultaneously improved stretchability, stability, and output power in solar cells via entanglement control

Kangkang Zhou, Dexia Han, Kaihu Xian, Saimeng Li, Mengyuan Gao, Kai Zhang, Bin Zhao, Xin Li, Yu Chen, Yanhou Geng and Long Ye*



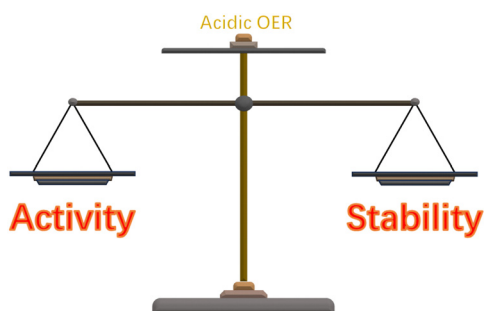
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Efficient and stable all-small-molecule solar cells enabled by incorporating a designed giant molecule acceptor

Xinrong Yang, Yuan Gao, Lin-Yong Xu, Xiaohai Wu, Xingyu Chen, Yiming Shao, Bo Xiao, Shanshan Liu, Jianlong Xia, Rui Sun* and Jie Min*

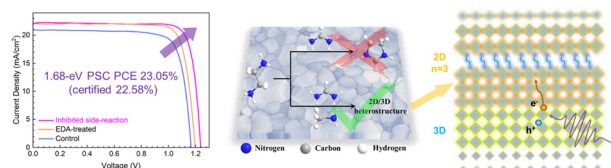
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Heterostructure boosts a noble-metal-free oxygen-evolving electrocatalyst in acid

Jian Wang,* Yunze Zhang, Ying Wang,* Junsic Cho, Ting-Shan Chan, Yang Ha, Shu-Chih Haw, Cheng-Wei Kao, Ziyi Wang, Jia Lei, Min Ju, Jiayi Tang, Tong Liu, Siyuan Zhao, Yawen Dai, Aleksandra Baron-Wiechec, Fu-Rong Chen, Wenxiong Wang, Chang Hyuck Choi, Zongping Shao* and Meng Ni*

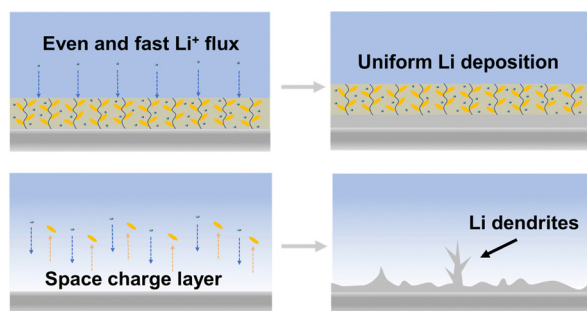
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Rational heterostructure stacking enables 23% wide-bandgap perovskite solar cells by side-reaction inhibition

Tianyu Huang, Fan Xu,* Jiangbing Hu, Jiang Wu, Shunde Li, Peng Chen, Xiaohan Jia, Qiuyang Li, Haoming Yan, Yongqiang Ji, Deying Luo, Dengke Wang, Juntao Hu, Hao-Hsin Chen, Zhangyuchang Lu, Hongyu Xu, Lei Li, Rui Sha, Qixuan Zhong, Xinyu Bai, M. Ibrahim Dar, Tinglu Song, Zikun Li, Xiaoyu Yang,* Lichen Zhao, Zheng-Hong Lu, Qihuang Gong and Rui Zhu*

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Optimizing interface concentration and electric fields for enhanced lithium deposition behavior in lithium metal anodes

Jiaxiang Liu, Haiming Hua, Jie Lin, Yongliang Deng, Nanbiao Pei, Peng Zhang,* Jin-Chao Dong,* Jian-Feng Li* and Jinbao Zhao*

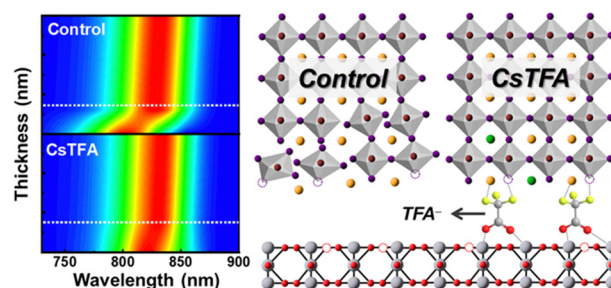


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Constructing orderly crystal orientation with a bidirectional coordinator for high efficiency and stable perovskite solar cells

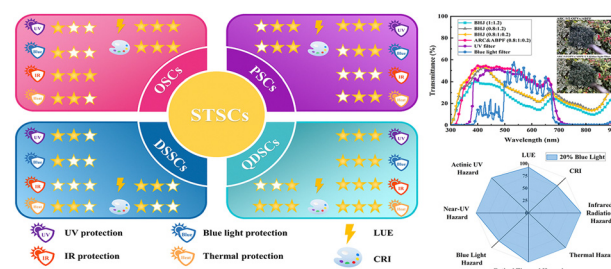
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Human-friendly semitransparent organic solar cells achieving high performance

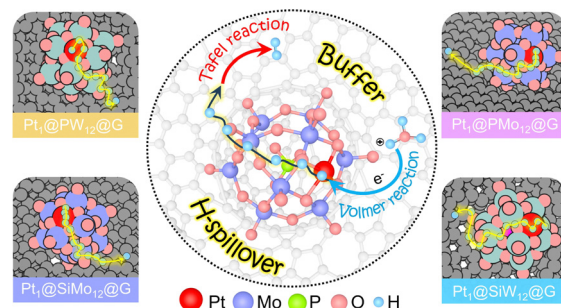
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H-buffer effects boosting H-spillover for efficient hydrogen evolution reaction

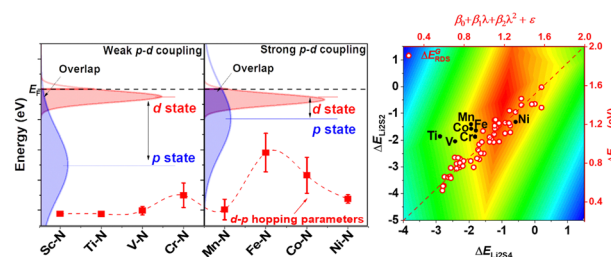
Yuanyuan Yan, Junyi Du, Chenyang Li, Jin Yang, Yike Xu, Meiling Wang,* Yapeng Li, Tian Wang,* Xiaosong Li, Xianming Zhang, Huang Zhou, Xun Hong, Yuen Wu* and Lixing Kang*



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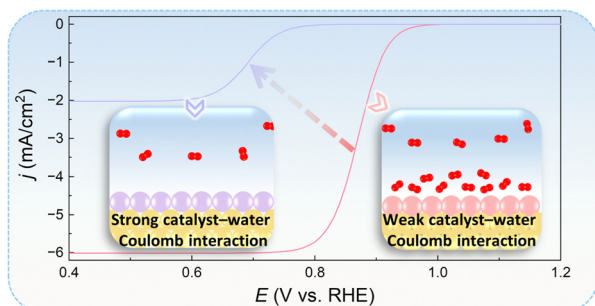
Revisiting the unified principle for single-atom electrocatalysts in the sulfur reduction reaction: from liquid to solid-state electrolytes

Jiadong Shen, Ziwei Liang, Tengting Gu, Zhaoyu Sun, Yiwen Wu, Xiaoqin Liu, Junhao Liu, Xiuying Zhang, Jiangwen Liu, Lei Shen,* Min Zhu and Jun Liu*



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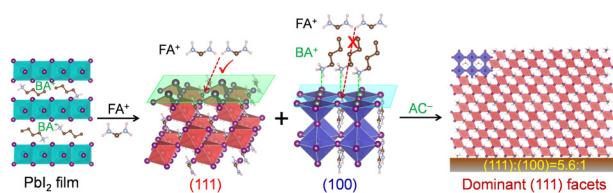
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Importance of the catalyst–water Coulomb interaction for oxygen reduction reaction kinetics

Teng Liu, Yinghe Zhao* and Tianyou Zhai*

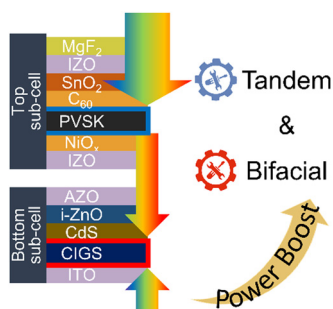
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Dominating (111) facets with ordered stacking in perovskite films

Xiaotao Liu, Xiaoqing Jiang, Yanfeng Yin, Jiafeng Zhang, Hao Tian, Junxue Guo, Xin Guo* and Can Li*

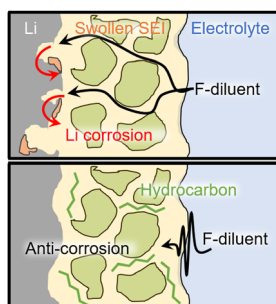
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Power generation density boost of bifacial tandem solar cells revealed by high throughput optoelectrical modelling

Jiahong Tang, Junfeng Xue, Huaiwang Xu, Yujing Li, Shuping Lin, Boyan Li, Dalong Zhong, Gang Li, Yan Jiang* and Qi Chen*

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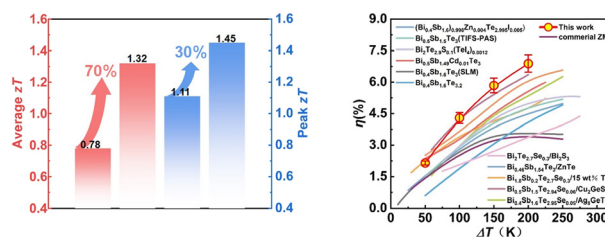
Anti-corrosive electrolyte design for extending the calendar life of lithium metal batteries

Minkwan Kim, Jiwoo An, Seung-Jae Shin, Insu Hwang, Jimin Lee, Youngbin Park, Jinyoung Kim, Eunseok Park, Jisub Kim, Gyuleen Park, Sujin Kim, Ali Coskun* and Jang Wook Choi*



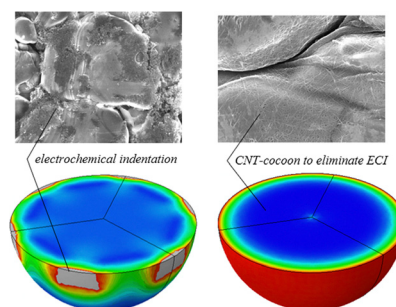
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Jacques G. Noudem, Peng Sun, Jiehua Wu,
Guo-Qiang Liu and Jun Jiang*

Hongtao Li, Lidong Chen, Zhe Guo,* Gang Wu,
Xiaojuan Tan,* Qiang Zhang, Jianfeng Cai, Qianqian Sun,
Jacques G. Noudem, Peng Sun, Jiehua Wu,
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Avoiding electrochemical indentations: a CNT-cocooned LiCoO₂ electrode with ultra-stable high-voltage cycling

Zhi Zhu,* Shuanglong Xu, Zhenjie Wang, Xiaohui Yan,
Guiyin Xu, Yimeng Huang, Yuping Wu, Yin Zhang* and
Ju Li*



Cosolvent occupied solvation tuned anti-oxidation therapy toward highly safe 4.7 V-class NCM811 batteries

Yuqing Chen, Yun Zhao, Aiping Wang, Daozhen Zhang,
Baohua Li, Xiangming He, Xiulin Fan and Jilei Liu*

