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ISSN 1754-5706 CODEN EESNBY 16(4) 1321-1800 (2023)



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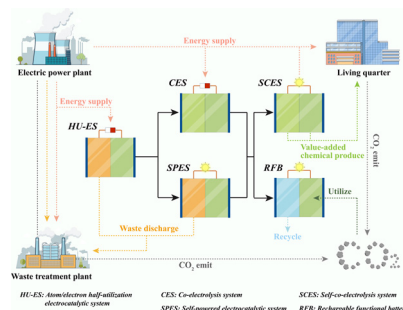
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Advanced electrocatalytic systems for enhanced atom/electron utilization

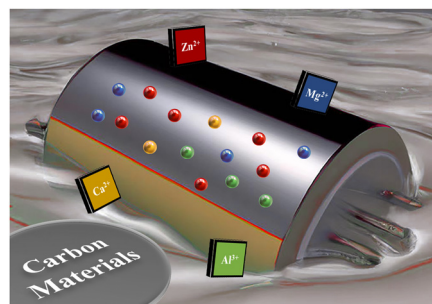
Heng Xu, Lisong Chen* and Jianlin Shi*



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Recent advances in carbon-based nanomaterials for multivalent-ion hybrid capacitors: a review

Xuan Gao, Haoyu Wu, Chang Su, Chuanming Lu,
Yuhang Dai, Siyu Zhao, Xueying Hu, Fangjia Zhao,
Wei Zhang, Ivan P. Parkin, Claire J. Carmalt* and
Guanjie He*



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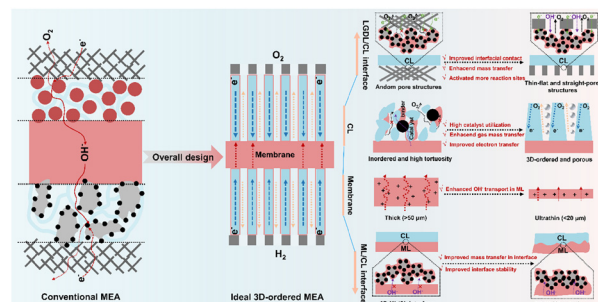


REVIEWS

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Key components and design strategy of the membrane electrode assembly for alkaline water electrolysis

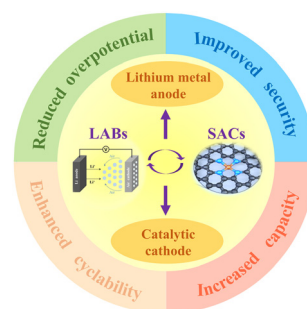
Lei Wan, Ziang Xu, Qin Xu, Maobing Pang, Dongcheng Lin, Jing Liu and Baoguo Wang*



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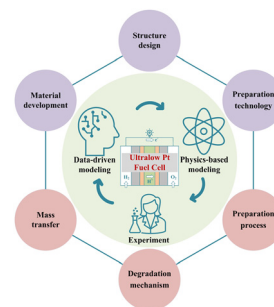


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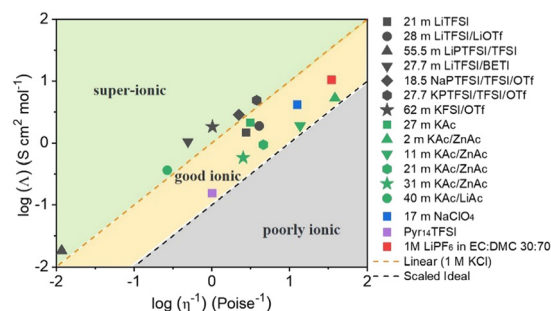
Linhao Fan, Hao Deng, Yingguang Zhang, Qing Du, Dennis Y. C. Leung, Yun Wang and Kui Jiao*



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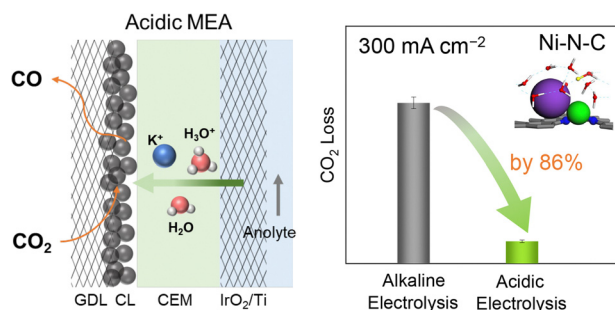
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Jin Han, Alessandro Mariani,* Stefano Passerini and Alberto Varzi*



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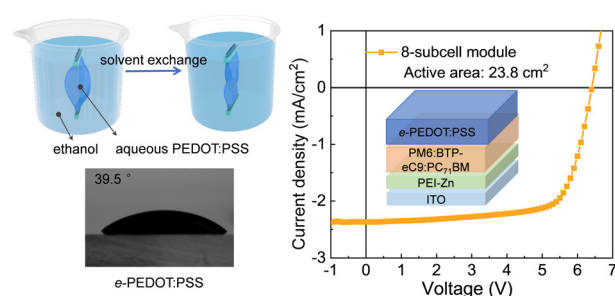
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Tailoring acidic microenvironments for carbon-efficient CO₂ electrolysis over a Ni–N–C catalyst in a membrane electrode assembly electrolyzer

Hefei Li, Haobo Li, Pengfei Wei, Yi Wang, Yipeng Zang, Dunfeng Gao,* Guoxiong Wang* and Xinhe Bao*

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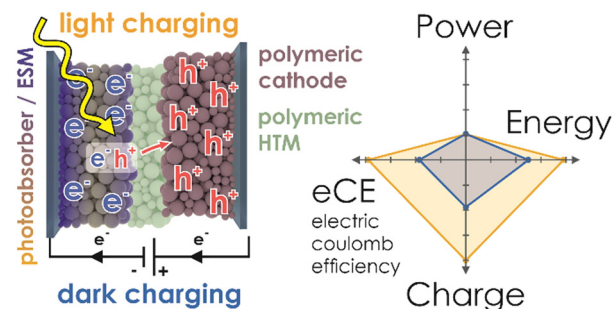


Two-in-one alcohol-processed PEDOT electrodes produced by solvent exchange for organic solar cells

Xinyun Dong, Xianmin Zhou, Yang Liu, Sixing Xiong, Jingyu Cheng, Youyu Jiang* and Yinhua Zhou*

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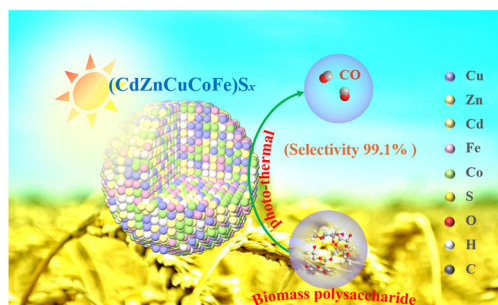
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An integrated solar battery based on a charge storing 2D carbon nitride

A. Gouder, F. Podjaski,* A. Jiménez-Solano, J. Kröger, Y. Wang and B. V. Lotsch*

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Peroxide-mediated selective conversion of biomass polysaccharides over high entropy sulfides via solar energy catalysis

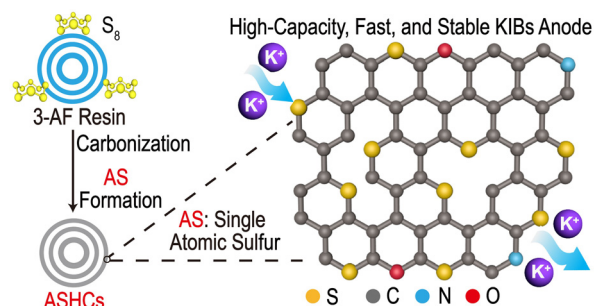
Yixue Xu, Li Wang, Zhonglian Shi, Na Su, Chao Li, Yingping Huang,* Niu Huang, Yu Deng, Hui Li, Tianyi Ma,* Xin Ying Kong, Wenjing Lin, Ying Zhou and Liqun Ye*



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Surface-dominated potassium storage enabled by single-atomic sulfur for high-performance K-ion battery anodes

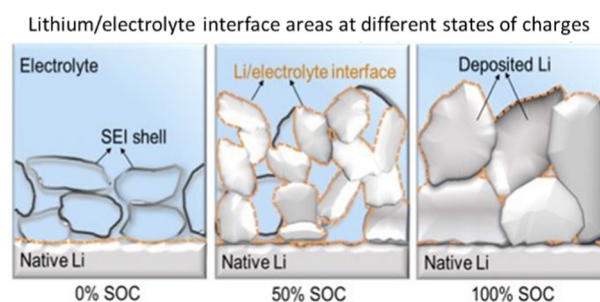
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Stability of solid electrolyte interphases and calendar life of lithium metal batteries

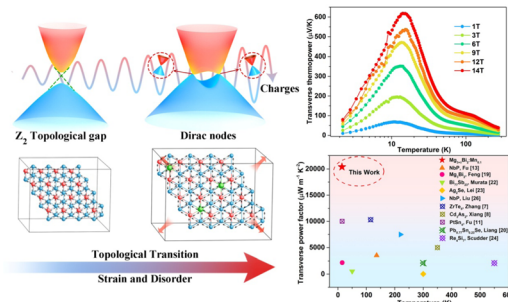
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Giant transverse thermoelectric effect induced by topological transition in polycrystalline Dirac semimetal Mg_3Bi_2

Tao Feng, Panshuo Wang, Zhijia Han, Liang Zhou, Zhiran Wang, Wenqing Zhang,* Qihang Liu* and Weishu Liu*

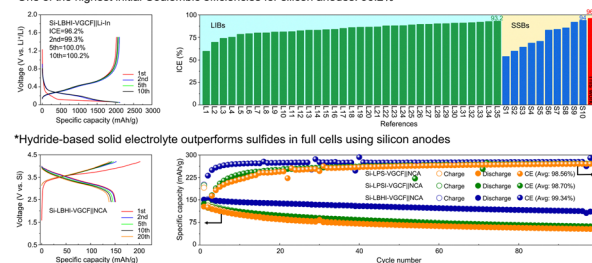


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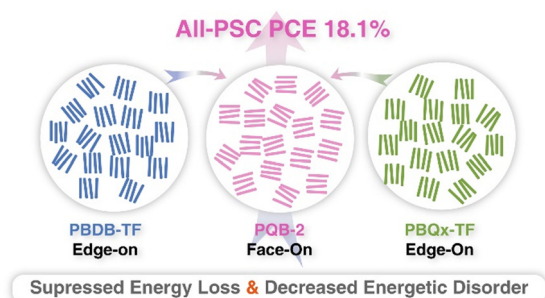
Solid-state silicon anode with extremely high initial coulombic efficiency

Yonglin Huang, Bowen Shao, Yan Wang* and Fudong Han*

*One of the highest initial Coulombic efficiencies for silicon anodes: 96.2%



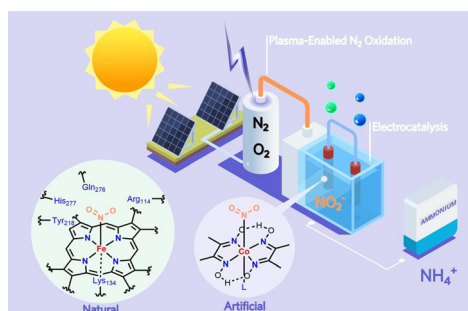
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Suppressing the energetic disorder of all-polymer solar cells enables over 18% efficiency

Tao Zhang, Ye Xu, Huifeng Yao,* Jianqi Zhang, Pengqing Bi, Zhihao Chen, Jingwen Wang, Yong Cui, Lijiao Ma, Kaihu Xian, Zi Li, Xiaotao Hao, Zhixiang Wei and Jianhui Hou*

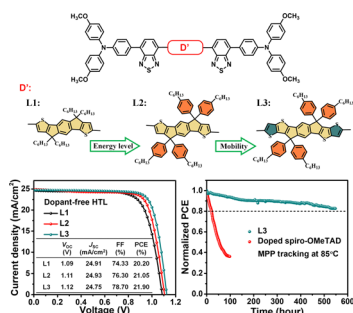
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Cobaloximes: selective nitrite reduction catalysts for tandem ammonia synthesis

Shu-Lin Meng, Chen Zhang, Chen Ye, Jia-Hao Li, Shuai Zhou, Lei Zhu, Xu-Bing Li, Chen-Ho Tung and Li-Zhu Wu*

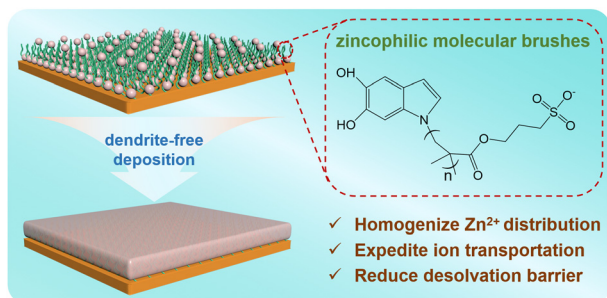
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A conformally bonded molecular interface retarded iodine migration for durable perovskite solar cells

Ligang Yuan, Weiya Zhu, Yiheng Zhang, Yuan Li,* Christopher C. S. Chan, Minchao Qin, Jianhang Qiu, Kaicheng Zhang, Jiaxing Huang, Jiarong Wang, Huiming Luo, Zheng Zhang, Ruipeng Chen, Weixuan Liang, Qi Wei, Kam Sing Wong, Xinhui Lu, Ning Li,* Christoph J. Brabec, Liming Ding and Keyou Yan*

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Molecular brush: an ion-redistributor to homogenize fast Zn²⁺ flux and deposition for calendar-life Zn batteries

Huanyan Liu, Qian Ye, Da Lei, Zhidong Hou, Wei Hua, Yu Huan, Na Li, Chunguang Wei, Feiyu Kang and Jian-Gan Wang*



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A 5 V-class cobalt-free battery cathode with high loading enabled by dry coating

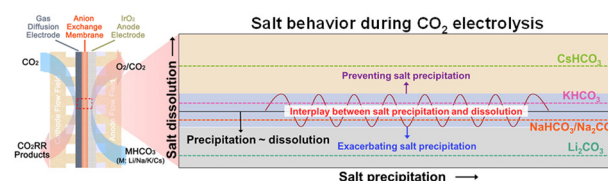
Weiliang Yao, Mehdi Chouchane, Weikang Li, Shuang Bai, Zhao Liu, Letian Li, Alexander X. Chen, Baharak Sayahpour, Ryosuke Shimizu, Ganesh Raghavendran, Marshall A. Schroeder, Yu-Ting Chen, Darren H. S. Tan, Bhagath Sreenarayanan, Crystal K. Waters, Allison Sichler, Benjamin Gould, Dennis J. Kountz, Darren J. Lipomi, Minghao Zhang* and Ying Shirley Meng*



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How alkali cations affect salt precipitation and CO₂ electrolysis performance in membrane electrode assembly electrolyzers

Sahil Garg, Qiucheng Xu, Asger B. Moss, Marta Mirolo, Wanyu Deng, Ib Chorkendorff, Jakub Drnec and Brian Seger*

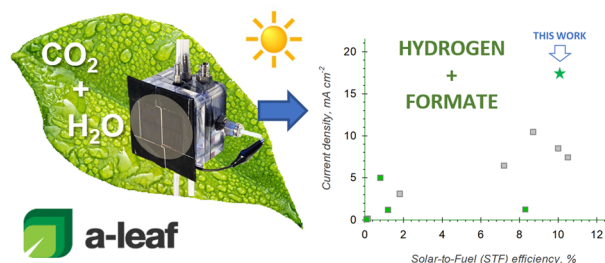


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An artificial leaf device built with earth-abundant materials for combined H₂ production and storage as formate with efficiency > 10%

Claudio Ampelli,* Daniele Giusi, Matteo Miceli, Tsvetelina Merdzhanova, Vladimir Smirnov, Ugochi Chime, Oleksandr Astakhov, Antonio José Martín, Florentine Louise Petronella Veenstra, Felipe Andrés Garcés Pineda, Jesús González-Cobos, Miguel García-Tecedor, Sixto Giménez, Wolfram Jaegermann, Gabriele Centi, Javier Pérez-Ramírez, José Ramón Galán-Mascarós and Siglinda Perathoner

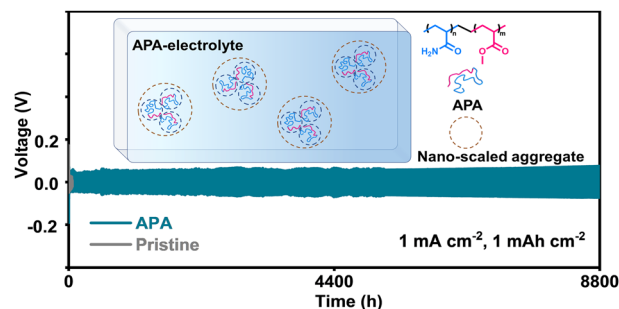
an ARTIFICIAL LEAF made of earth-abundant materials



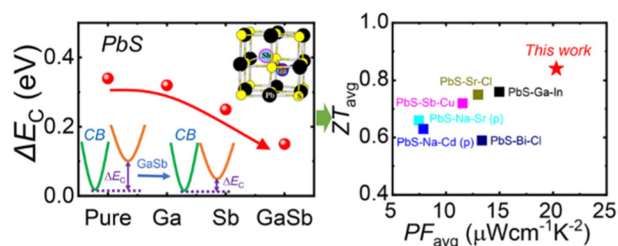
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Nano-scaled hydrophobic confinement of aqueous electrolyte by a nonionic amphiphilic polymer for long-lasting and wide-temperature Zn-based energy storage

Ben Niu, Zhengang Li, Die Luo, Xinyu Ma, Qingshan Yang, Yu-E Liu, Xiaoyu Yu, Xianru He,* Yu Qiao* and Xin Wang*



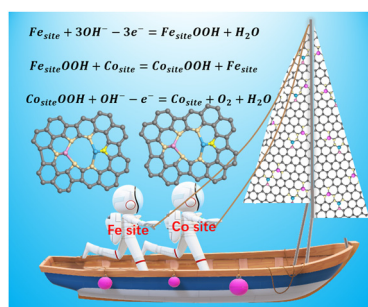
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GaSb doping facilitates conduction band convergence and improves thermoelectric performance in n-type PbS

Zixuan Chen, Hong-Hua Cui, Shiqiang Hao, Yukun Liu, Hui Liu, Jing Zhou, Yan Yu, Qingyu Yan, Christopher Wolverton, Vinayak P. Dravid, Zhong-Zhen Luo,* Zhigang Zou and Mercouri G. Kanatzidis*

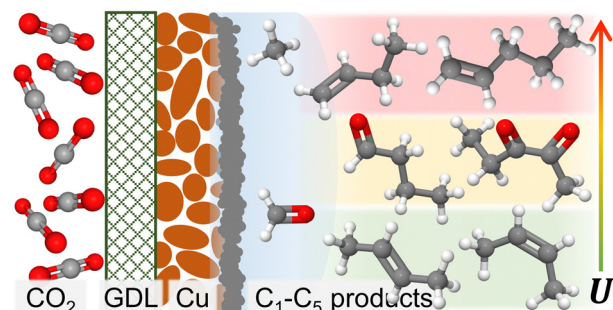
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Adjacent Fe Site boosts electrocatalytic oxygen evolution at Co site in single-atom-catalyst through a dual-metal-site design

Changli Chen, Mingzi Sun, Fang Zhang, Haijing Li, Mengru Sun, Pin Fang, Tinglu Song, Wenxing Chen, Juncai Dong, Brian Rosen, Pengwan Chen, Bolong Huang* and Yujing Li*

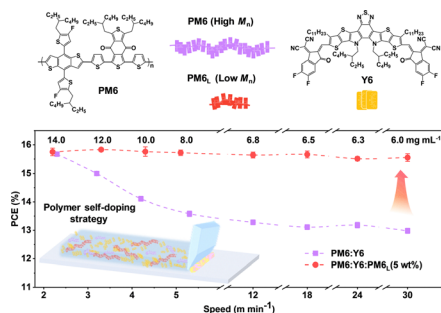
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On the role of C₄ and C₅ products in electrochemical CO₂ reduction via copper-based catalysts

Simon D. Rihm, Mikhail K. Kovalev, Alexei A. Lapkin, Joel W. Ager and Markus Kraft*

1711



High-speed printing of a bulk-heterojunction architecture in organic solar cells films

Xinbi Zhao, Rui Sun,* Xiaohei Wu, Meimei Zhang, Yuan Gao, Ji Wan and Jie Min*

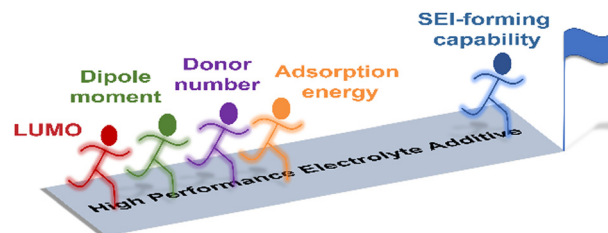


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Selection criteria for electrical double layer structure regulators enabling stable Zn metal anodes

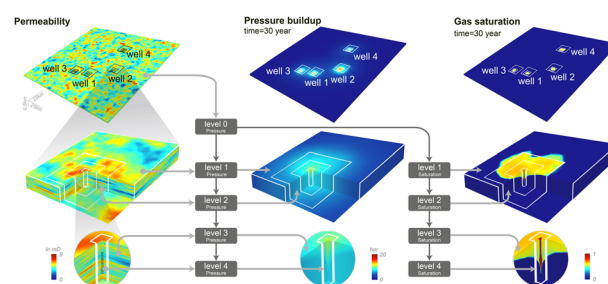
Cong Huang, Xin Zhao, Yisu Hao, Yujie Yang, Yang Qian, Ge Chang, Yan Zhang, Qunli Tang,* Aiping Hu and Xiaohua Chen*



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Real-time high-resolution CO₂ geological storage prediction using nested Fourier neural operators

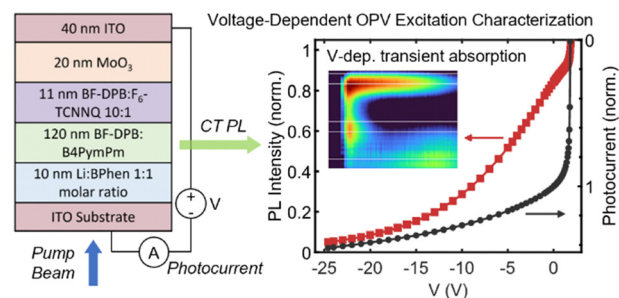
Gege Wen,* Zongyi Li, Qirui Long, Kamyar Azizzadenesheli, Anima Anandkumar and Sally M. Benson



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Voltage-dependent excitation dynamics in UV-absorbing organic photovoltaics with efficient charge transfer exciton emission

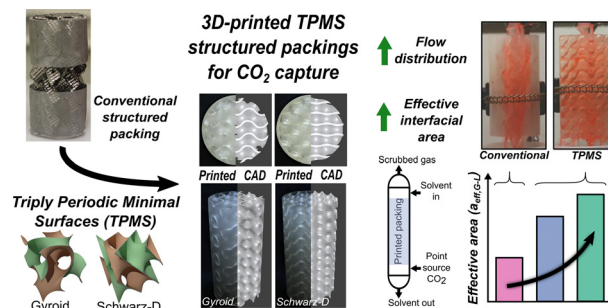
Quinn C. Burlingame,* Xiao Liu, Melissa L. Ball, Barry P. Rand and Yueh-Lin Loo*



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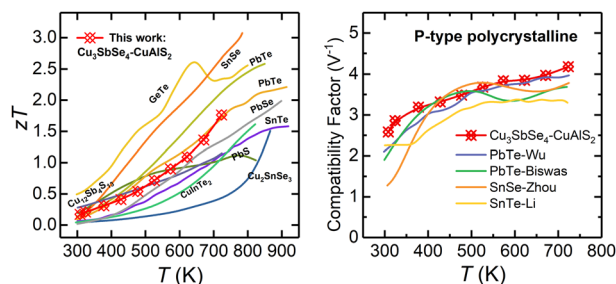
3D printed triply periodic minimal surfaces as advanced structured packings for solvent-based CO₂ capture

Nathan C. Ellebracht, Pratanu Roy, Thomas Moore, Aldair E. Gongora, Diego I. Oyarzun, Joshua K. Stolaroff and Du T. Nguyen*



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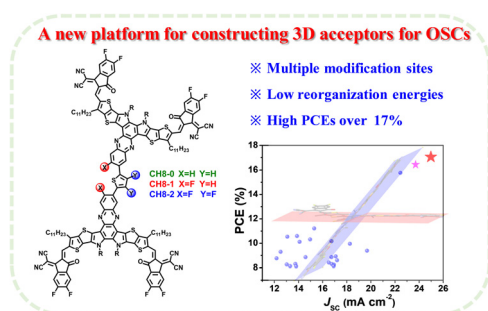
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High thermoelectric performance and compatibility in $\text{Cu}_3\text{SbSe}_4\text{-CuAlS}_2$ composites

Yuling Huang, Xingchen Shen, Guiwen Wang, Bin Zhang, Sikang Zheng, Chun-Chuen Yang, Xuan Hu, Shaokuan Gong, Guang Han, Guoyu Wang, Xu Lu* and Xiaoyuan Zhou*

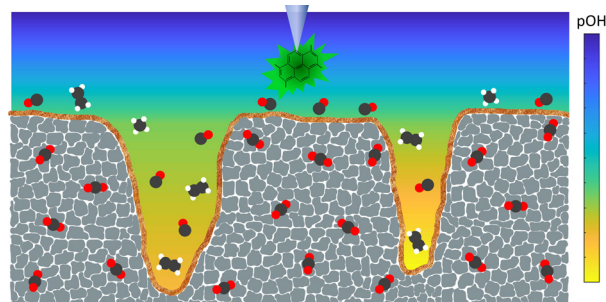
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3D acceptors with multiple A–D–A architectures for highly efficient organic solar cells

Hongbin Chen, Zhe Zhang, Peiran Wang, Yunxin Zhang, Kangqiao Ma, Yi Lin, Tainan Duan, Tengfei He, Zaifei Ma, Guankui Long, Chenxi Li, Bin Kan,* Zhaoyang Yao,* Xiangjian Wan and Yongsheng Chen*

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Direct observation of the local microenvironment in inhomogeneous CO_2 reduction gas diffusion electrodes via versatile pOH imaging

Annette Böhme, Justin C. Bui, Aidan Q. Fenwick, Rohit Bhide, Cassidy N. Feltenberger, Alexandra J. Welch, Alex J. King, Alexis T. Bell, Adam Z. Weber, Shane Ardo and Harry A. Atwater*

CORRECTIONS

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Correction: Global potential of algae-based photobiological hydrogen production

Qingyang Chen, Lijie Wang, Yimin Chen* and Chenba Zhu



CORRECTIONS

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Correction: Elucidating the chirality transfer mechanisms during enantioselective synthesis for the spin-controlled oxygen evolution reaction

Hayoung Im, Sunihl Ma, Hyungsoo Lee, Jaemin Park, Young Sun Park, Juwon Yun, Jeongyoub Lee, Subin Moon and Jooho Moon*

