Journal of Materials Chemistry A

Materials for energy and sustainability

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IN THIS ISSUE

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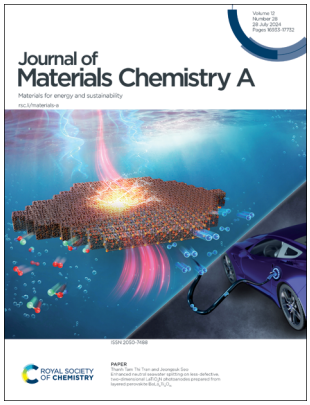

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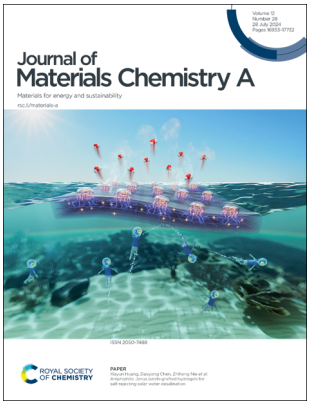
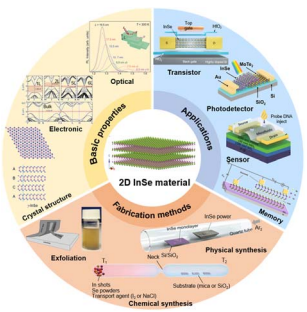
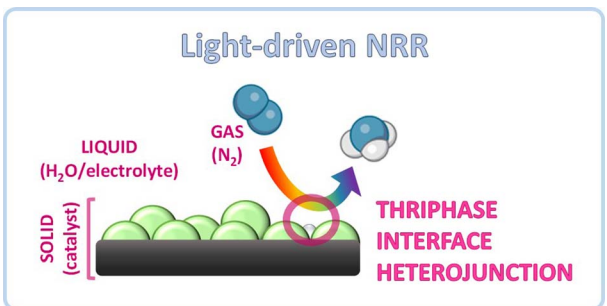
See Thanh Tam Thi Tran and Jeongsuk Seo, pp. 17128–17141. Image reproduced by permission of Jeongsuk Seo from *J. Mater. Chem. A*, 2024, **12**, 17128.



Inside cover
See Xiayun Huang, Daoyong Chen, Zhihong Nie *et al.*, pp. 17142–17150. Image reproduced by permission of Jie Zhu, Zhiyuan Xiao, Feiyu Song, Xiayun Huang, Daoyong Chen, Zhihong Nie from *J. Mater. Chem. A*, 2024, **12**, 17142.

REVIEWS





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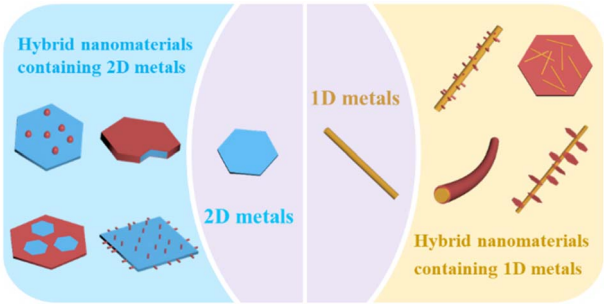
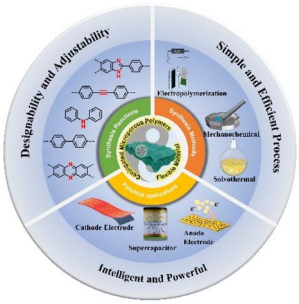
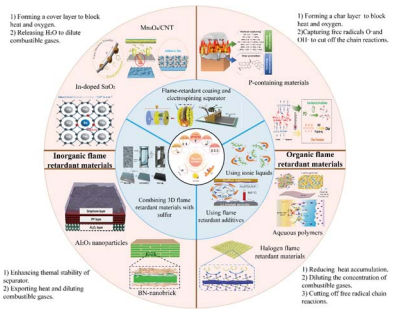
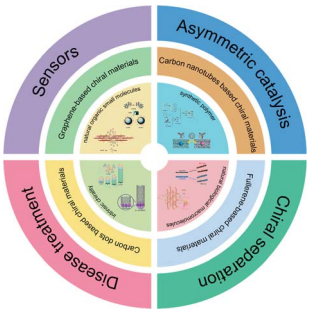








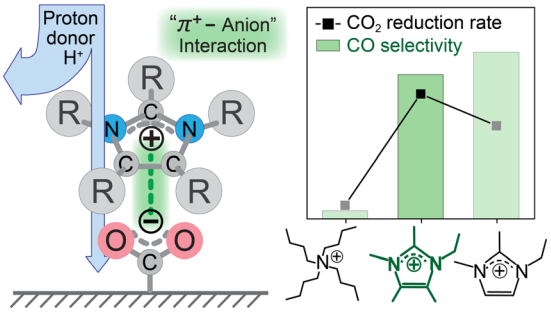
PAPERS

PAPERS

17169

Deciphering the role of aromatic cations in electrochemical CO_2 reduction: interfacial ion assembly governs reaction pathways

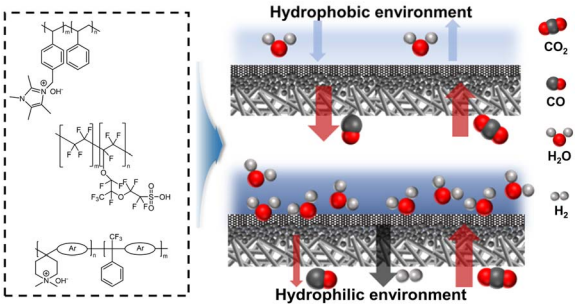
Wenxiao Guo, Beichen Liu, Seth R. Anderson, Samuel G. Johnstone and Matthew A. Gebbie*



17181

Regulating the selectivity through ionomer–catalyst interactions for high-efficiency electrocatalytic CO_2 reduction

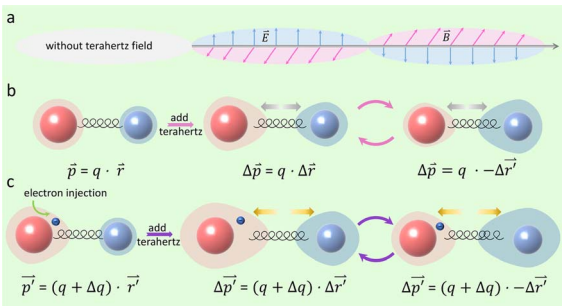
Chen Yu, Taoning Lei, Li Xu, Chuyao Jin, Jundong Yi, Shenghui Liu, Saisai Lin, Yang Yang, Hao Song, Kaige Wang, Haidong Fan, Chenghang Zheng, Xiao Zhang* and Xiang Gao*



17193

Electron-injection-induced Fe atomic valence transition for efficient terahertz shielding in α-Fe_2O_3@carbon microtubes

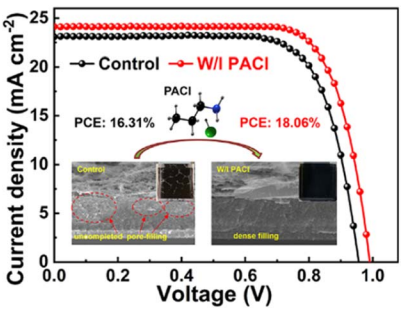
Sitao Guan, Siying Ma, Hengdong Ren, Jian Chen, Zhiyong Zhang, Pengzhan Zhang,* Xiaobing Xu* and Xinglong Wu*



17203

Manipulation of $Cs_{0.1}FA_{0.9}PbI_3$ crystallization behavior towards efficient carbon-based printable mesoscopic perovskite solar cells

Jinjiang Wang, Dongjie Wang,* Yang Zhang, Yiwen Chen, Tianhuan Huang, Wending Zhu, Zheling Zhang, Yu Huang, Jian Xiong, Dinghan Xiang and Jian Zhang*



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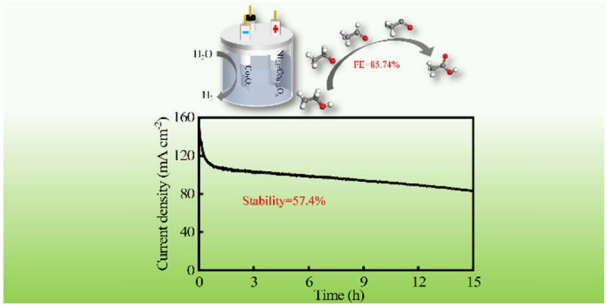

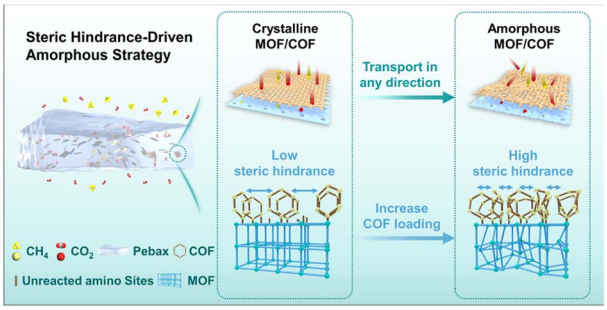

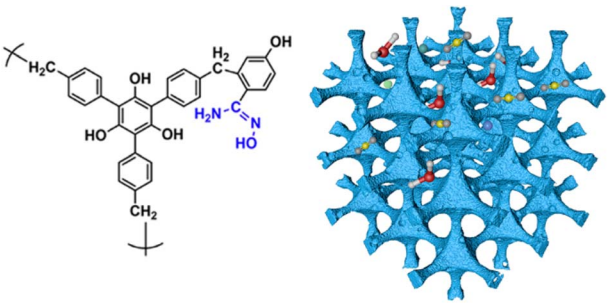

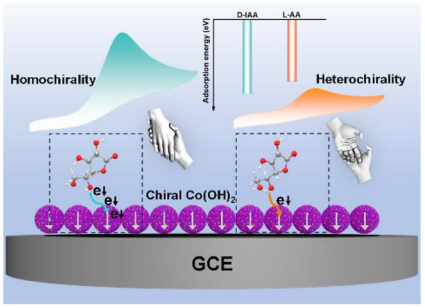

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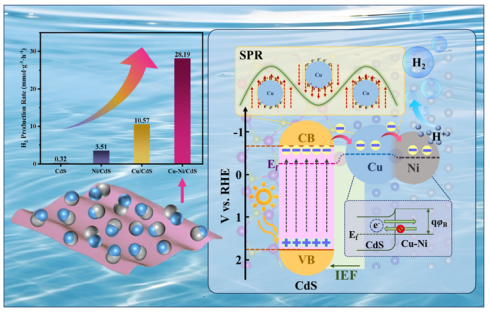
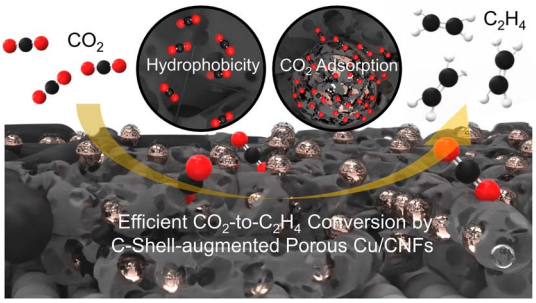
17286



Plasmonic Cu–Ni bimetal nanoparticles coupled with ultrathin CdS nanosheets for remarkably improved photocatalytic H_2 generation under visible-light irradiation

Qingru Zeng, Yining Bao, Shunyan Ning, Qingguo Yu, Yuezhou Wei and Deqian Zeng*

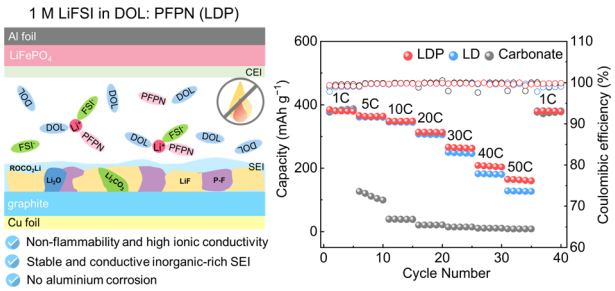
17295



Porous Cu/C nanofibers promote electrochemical CO_2-to-ethylene conversion *via* high CO_2 availability

Daewon Bae, Taemin Lee, Woosuck Kwon, Sang-Ho Oh and Dae-Hyun Nam*

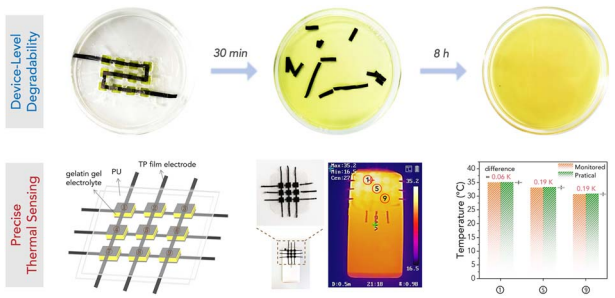
17306



A multi-functional electrolyte additive for fast-charging and flame-retardant lithium-ion batteries

Jing Long, Jiafang Huang, Yuhui Miao, Huiting Huang, Xiaochuan Chen,* Junxiong Wu,* Xiaoyan Li* and Yuming Chen*

17315



Wholly degradable quasi-solid-state thermocells for low-grade heat harvesting and precise thermal sensing

Yifeng Hu, Daibin Xie, Zhaopeng Liu, Bin Xie, Mingyu Li, Guangming Chen* and Zhuoxin Liu*

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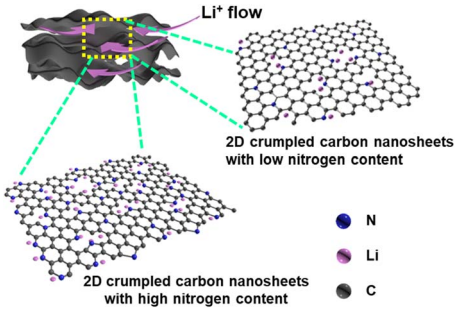
17327

2D crumpled nitrogen-doped carbon nanosheets anode with capacitive-dominated behavior for ultrafast-charging and high-energy-density Li-ion capacitors

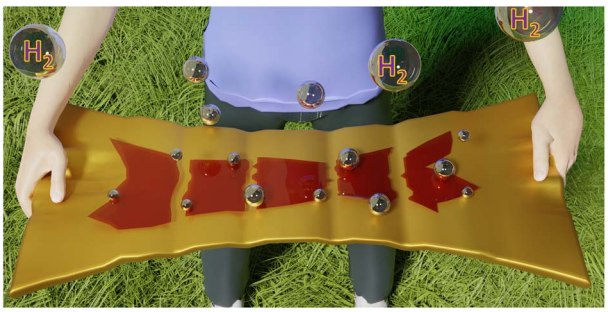
Fangyan Liu, Tong Yu, Jieqiong Qin,* Liangzhu Zhang, Feng Zhou, Xiong Zhang, Yanwei Ma, Feng Li* and Zhong-Shuai Wu*



17338

Strain and defect-engineering on the basal plane of ultra-large MoS_2 monolayers attached onto stretchable gold electrodes

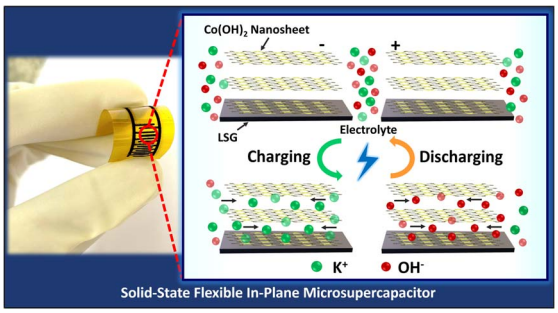
Leonardo H. Hasimoto, Ana B. S. de Araujo, Cláudia de Lourenço, Leandro Merces, Graziâni Candioto, Edson R. Leite, Rodrigo B. Capaz and Murilo Santhiago*



17350

Facile and scalable fabrication of flexible micro-supercapacitor with high volumetric performance based on ultrathin $Co(OH)_2$ nanosheets

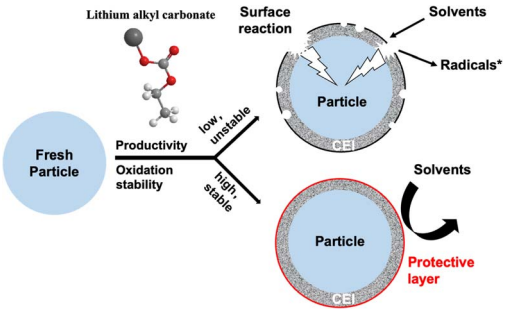
Pallavi Bhaktapralhad Jagdale, Sayali Ashok Patil, Mansi Pathak, Prangya Bhol, Amanda Sfeir, Sébastien Royer, Akshaya Kumar Samal, Chandra Sekhar Rout and Manav Saxena*



17360

Disparity among cyclic alkyl carbonates associated with the cathode–electrolyte interphase at high voltage

Shuaishuai Chen, YiHan Tang, Zhaoxin Lu, Shun Wu, Jiliang Wu,* Zhenlian Chen* and Deyu Wang*



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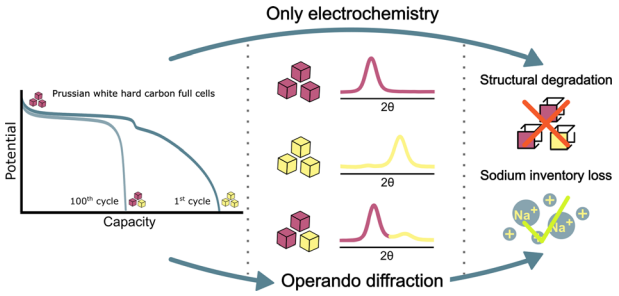

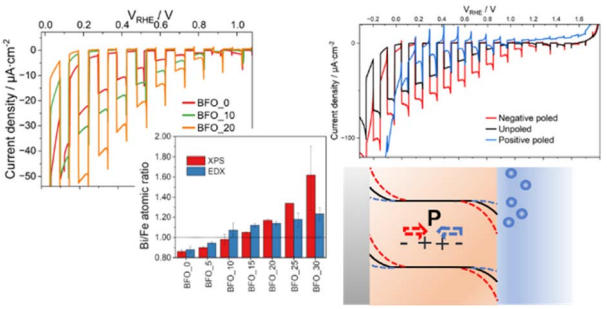

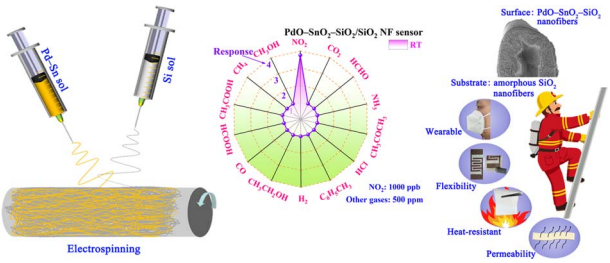

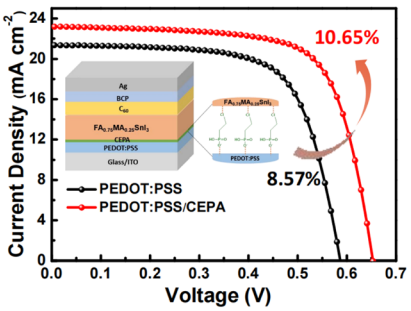

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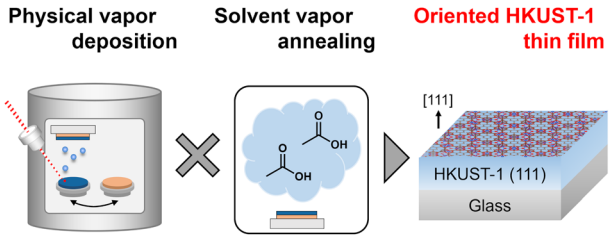

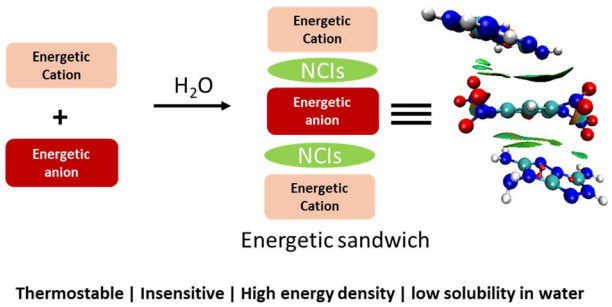

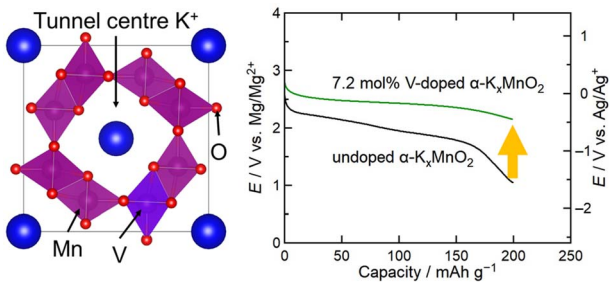

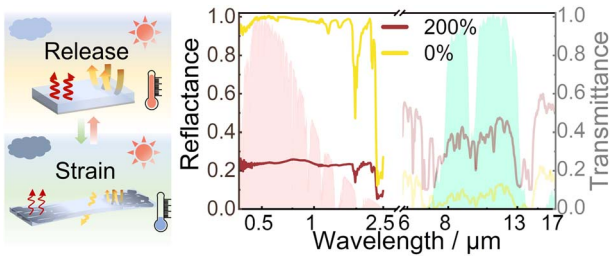

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