Journal of Materials Chemistry A

Materials for energy and sustainability

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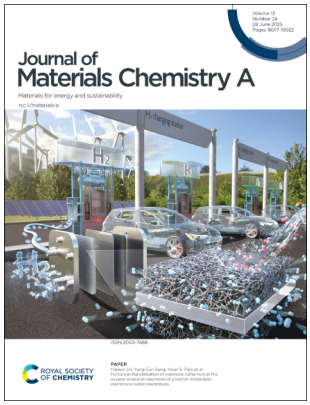
IN THIS ISSUE

ISSN 2050-7488 CODEN JMCAET 13(24) 18017–19022 (2025)



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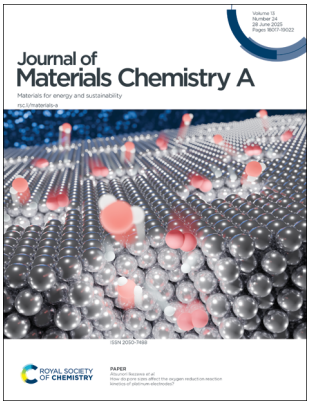
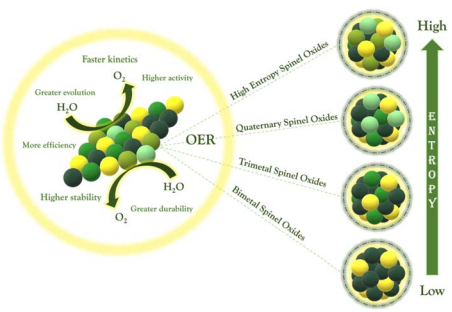
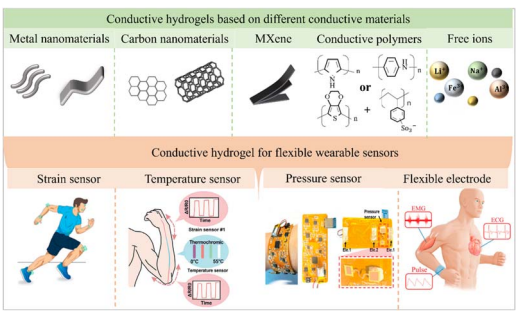


Inside cover
See Atsunori Ikezawa *et al.*, pp. 18338–18347. Image reproduced by permission of Atsunori Ikezawa from *J. Mater. Chem. A*, 2025, **13**, 18338.

REVIEWS





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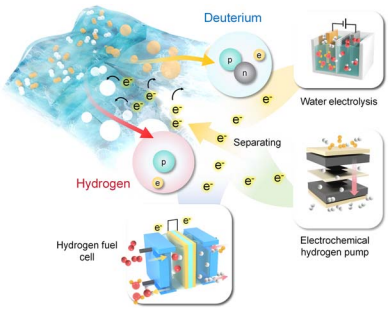

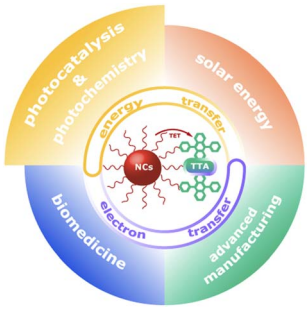

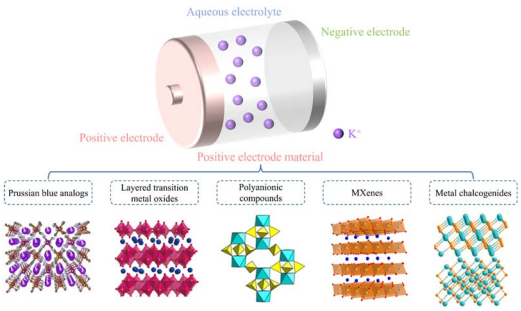

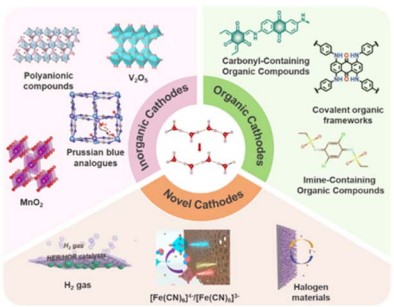

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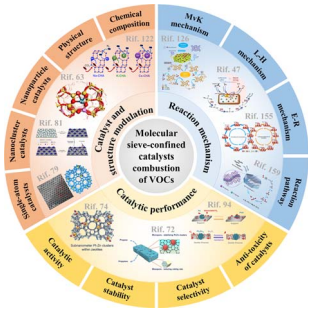
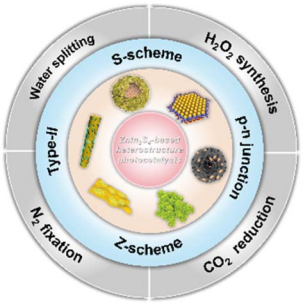


Molecular sieve confined catalysts for the catalytic combustion of VOCs: preparation, application and future development

Lei Wang, Fang Dong,* Yu Meng, Yuhong Kang, Haitao Zhang and Zhicheng Tang*



$ZnIn_2S_4$-based heterostructure photocatalysts for solar energy conversion: a comprehensive review

Zhao Jing, Qiang Wang,* Chen-Ming Fan, Xiao-Fan Yang, Peng-Yi Tang* and Bing Li*

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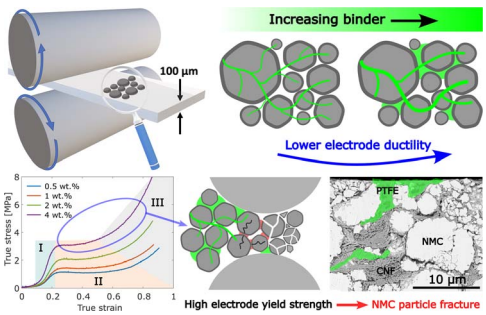
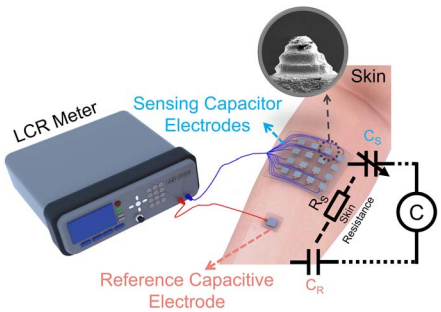


Impact of binder content on particle fracture and microstructure of solvent-free electrodes for Li-ion batteries

Guillaume Matthews,* Benjamin Meyer, Christopher Doerrer, Julia Ramírez-González, Ed Darnbrough, Noël Hallemans, David Armstrong and Patrick S. Grant



Facile patterning of hierarchical ionic microstructures for a pressure-sensitive ionic capacitive interface

Jiahong Yang, Yao Xiong, Yang Liu, Rui Gu, Shishuo Wu, Chao Liu, Zhong Lin Wang* and Qijun Sun*

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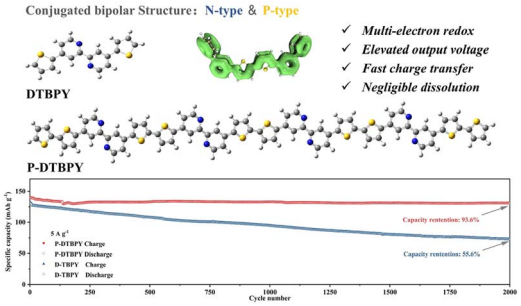

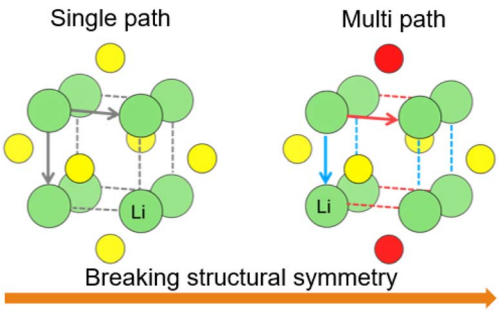

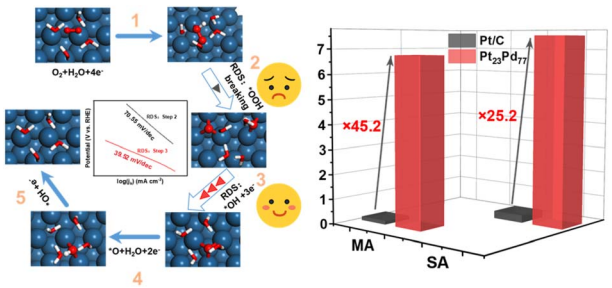

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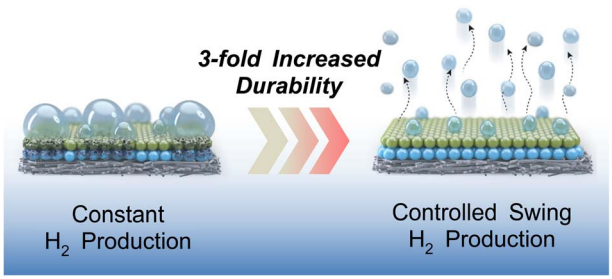

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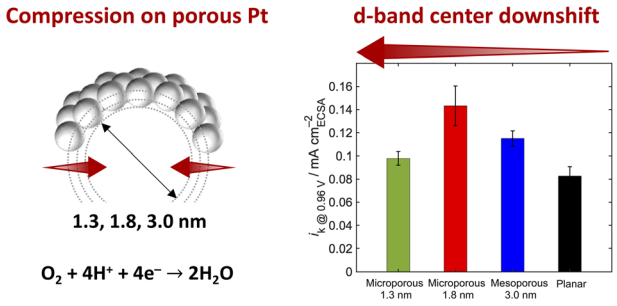

How do pore sizes affect the oxygen reduction reaction kinetics of platinum electrodes?

Kota Nakahara, Atsunori Ikezawa,* Junichi Inamoto, Takeyoshi Okajima and Hajime Arai

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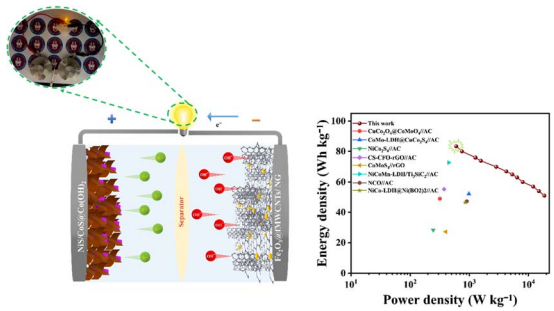

Surface modification and heterointerface engineering into cobalt-hydroxide nanowires by ion exchange for high-energy asymmetric supercapacitors

Mahmoud Dardeer, Hamouda M. Mousa, Kyoungin Kang, Devendra Shrestha* and Chan Hee Park*

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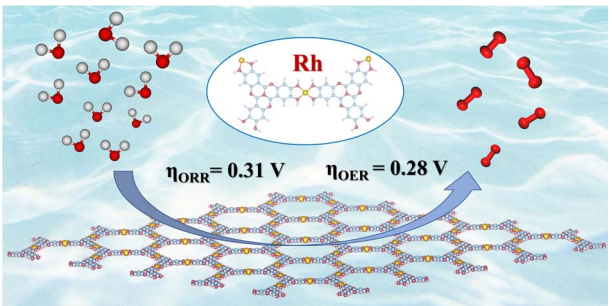
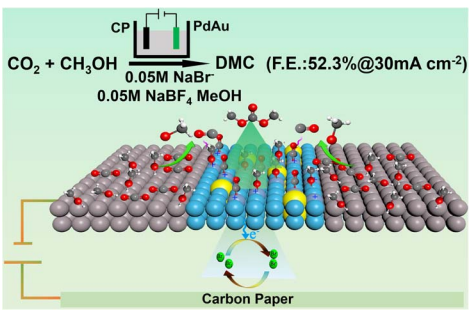


Rational design of a two-dimensional metal–organic framework for high-efficiency bifunctional oxygen electrocatalysis

Lijuan Wang, Anyang Wang, Xuhao Wan, Wei Yu, Xiting Wang,* Zhen Li, Li Li, Yuzheng Guo, Zhaofu Zhang* and Yan Zhao*

18367



Au atom tailoring of palladium nanocatalysts to boost cathodic coupling of carbon dioxide and methanol into dimethyl carbonate

Xue-Han Guan, Ke-An Wang, Zhen-Long Wang, Huan-Chuan Hu, Biao Feng, Li-Jun Yang, Hai-Bin Zhu* and Hui Yang*

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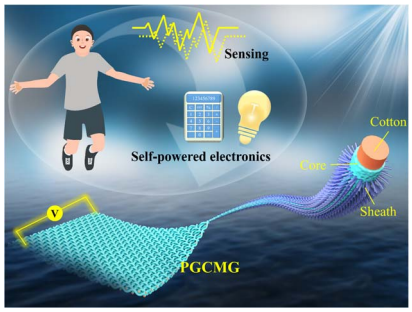

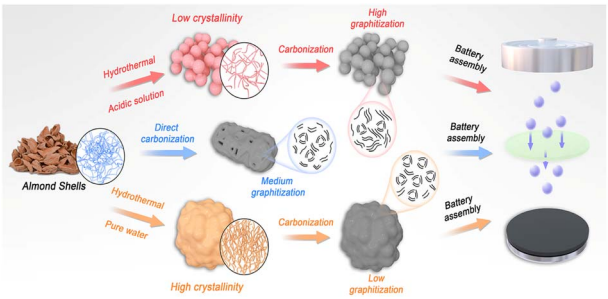

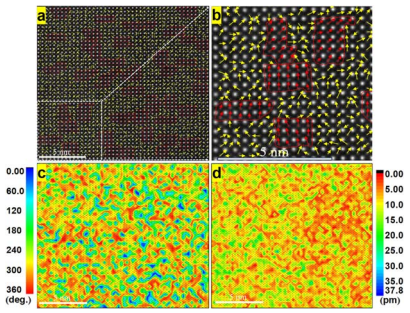

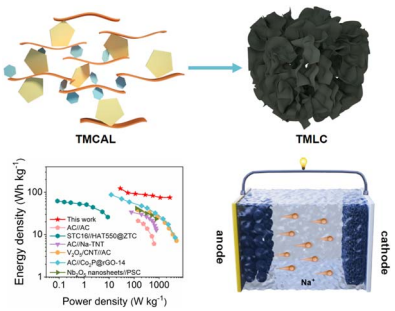

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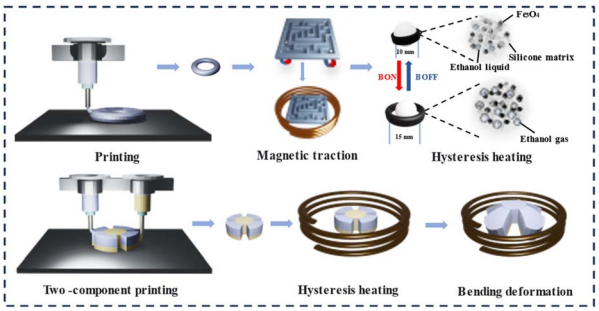

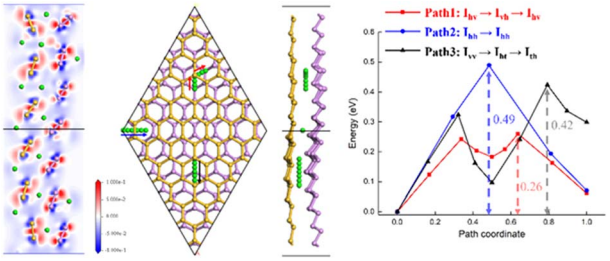

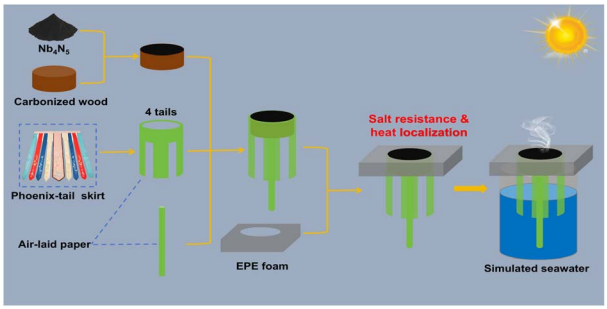

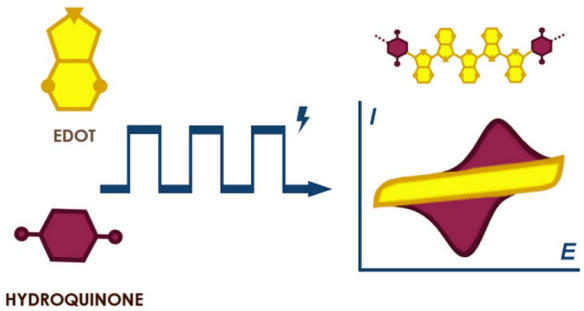

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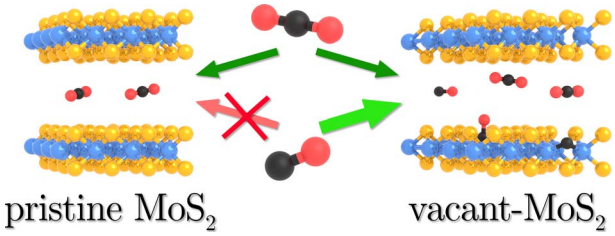

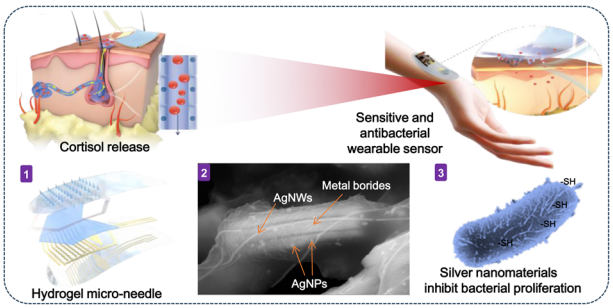

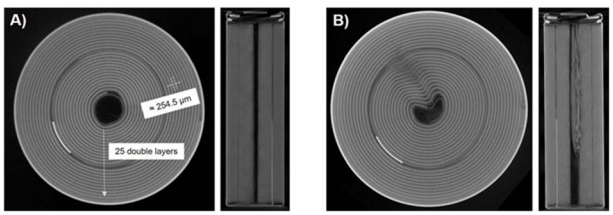

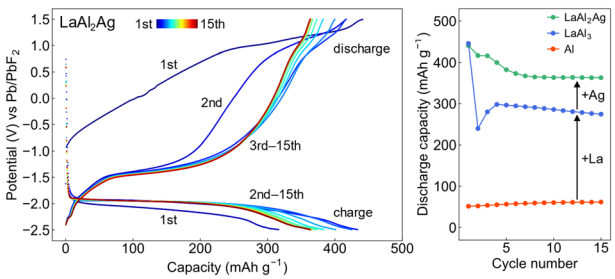

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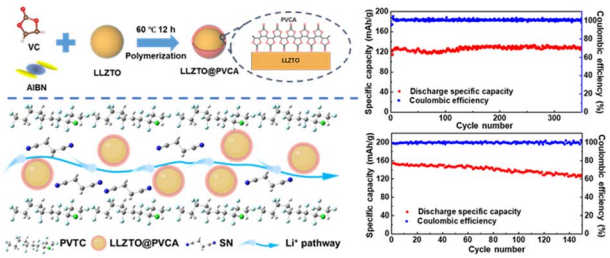

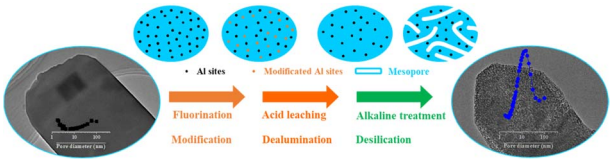

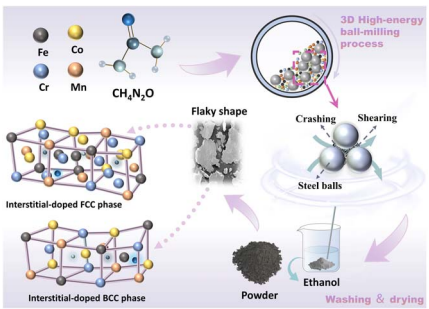

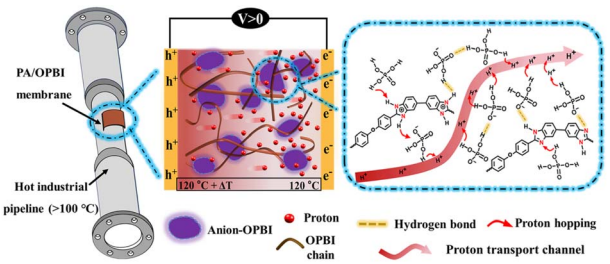

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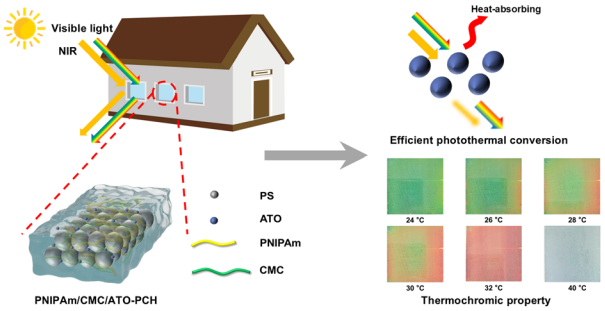

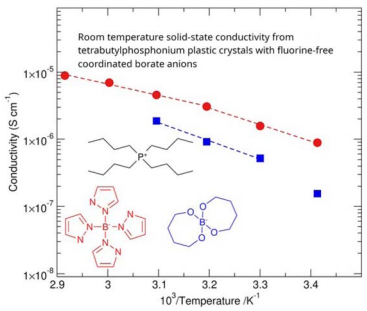

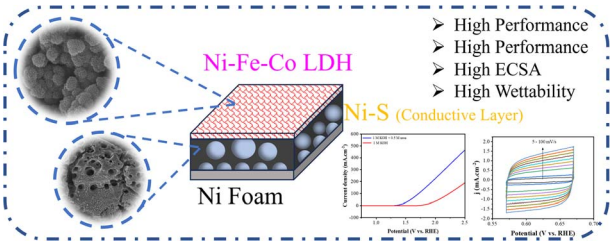

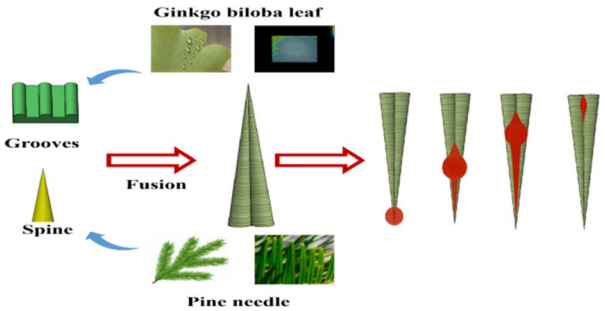

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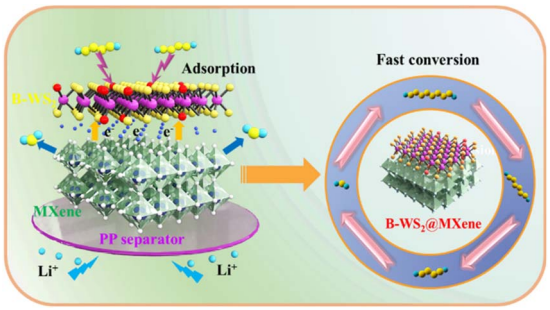
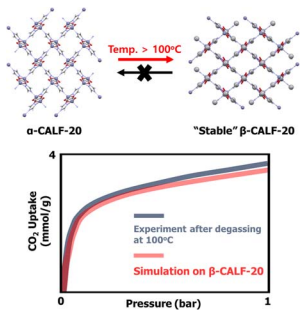


Morphology and electron regulation of B-WS_2@MXene nanosheet array heterojunctions to upgrade the capacity and longevity of lithium–sulfur batteries

Jiayu Huang, Dan Wang,* Zhibin Cheng, Xiaofei Xie, Bowen Chang, Xiaoju Li* and Ruihu Wang*

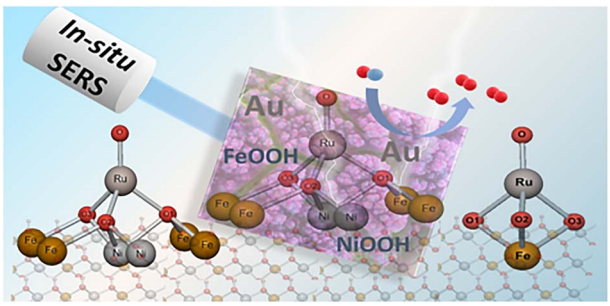
18892



Thermally-induced phase transformations of CALF-20: insights into its phase stability and carbon capture properties

Dong A. Kang, Navaporn Suphavilai, Amro M. O. Mohamed, Ioannis G. Economou, Manish Shetty, Jinsoo Kim* and Hae-Kwon Jeong*

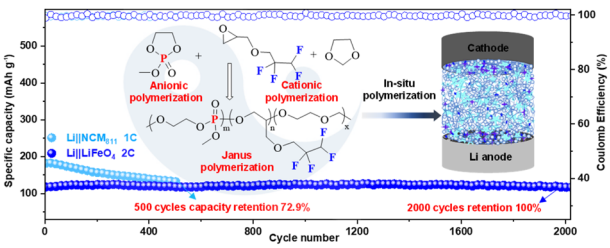
18900



Surface amorphized *in situ* RuO-NiFeOOH/Au islands for electrocatalytic oxygen evolution reaction

Karthick Kannimuthu, Pawan Kumar, Pooja Gakhad, Hadi Shaker Shiran, Xiyang Wang, Ali Shayesteh Zeraati, Sangeetha Kumaravel, Shariful Kibria Nabil, Rajangam Vinodh, Md Abdullah Al Bari, Maria Molina, George Shimizu, Yimin A. Wu, Pulickel M. Ajayan, Abhishek Kumar Singh, Soumyabrata Roy and Md Golam Kibria*

18911



In situ Janus polymerization of cyclic phosphate and ethers affording fluorine/phosphorus copolymer electrolyte for high-safety lithium metal batteries with long-cycle life

Zhichun Chen, Yuju Li, Yan Tan, Ji Xian, Dawei Yu, Wenbing Yang,* Xiaobo Pan* and Jincai Wu*

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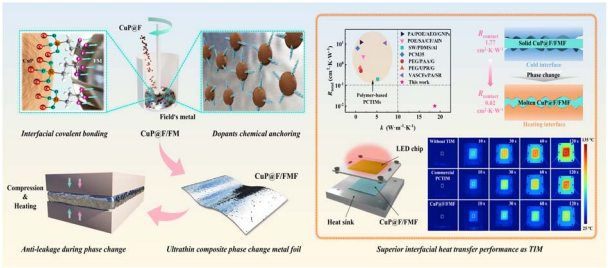
Dopant chemical anchoring enables ultra-low interfacial thermal resistance composite phase-change metal foil with high reliability for efficient heat dissipation

Yu Zhao, Weihua Liu, Ziye Ling, Zhengguo Zhang* and Xiaoming Fang*



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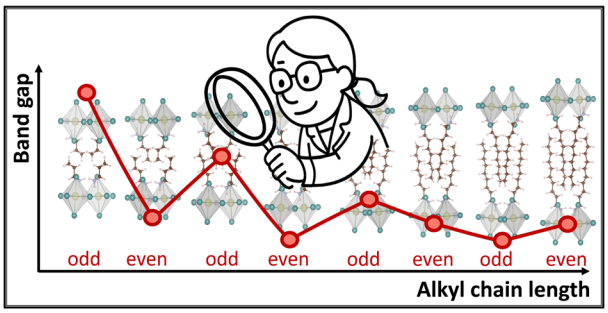
Odd-even effects in lead-iodide-based Ruddlesden–Popper 2D perovskites

Maryam Choghaei, Maximilian Schiffer, Viren Tyagi, Marcello Righetto, Jiaxing Du, Maximilian Buchmüller, Kai Oliver Brinkmann, Geert Brocks, Patrick Görrn, Laura M. Herz, Shuxia Tao, Thomas Riedl and Selina Olthof*



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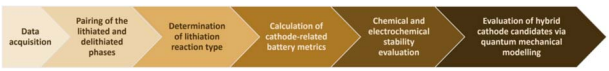
A data-driven framework to accelerate the discovery of hybrid cathode materials for metal-based batteries

Ahmed H. Biby, Benjamin S. Rich and Charles B. Musgrave*



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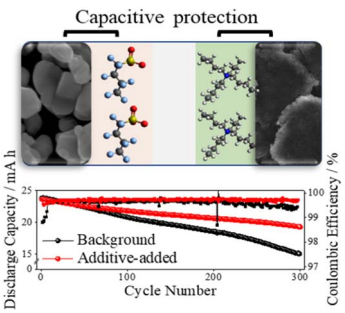
An ionic protector to proactively mitigate interfacial degradation induced by electrolyte decomposition in lithium-ion batteries

Wontak Kim, Joon Ha Chang, Miseung Kim, Chihyun Hwang, Boseong Heo, Jun Ho Song, Ji-Sang Yu, Youngjin Kim* and Hyun-seung Kim*



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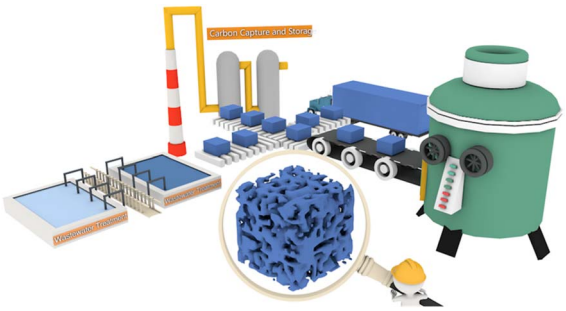

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