Journal of Materials Chemistry A

Materials for energy and sustainability

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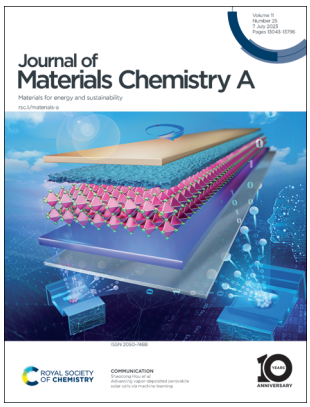

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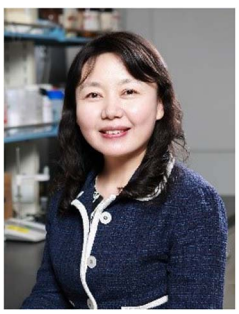
See Yunfeng Zhu, Rui Shi *et al.*, pp. 13255–13265. Image reproduced by permission of Yunfeng Zhu from *J. Mater. Chem. A*, 2023, **11**, 13255.

EDITORIAL



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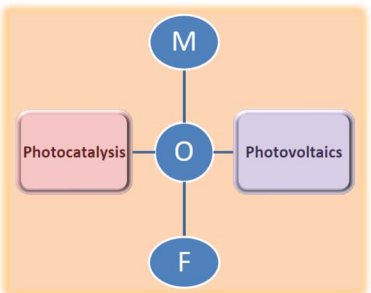

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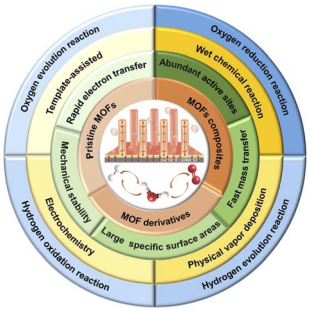

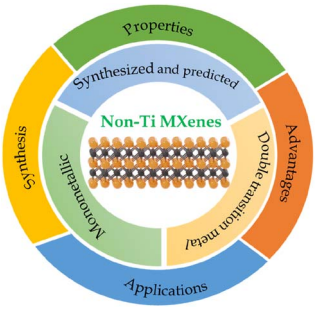

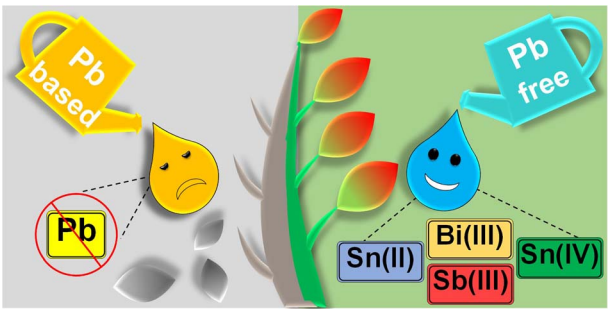

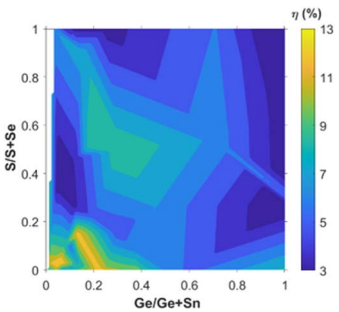

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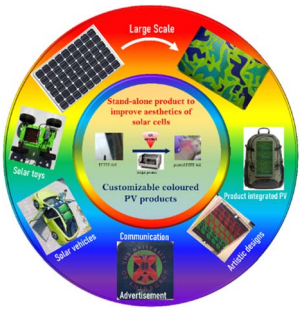

Visually attractive and efficient photovoltaics through luminescent downshifting

Neena Kurian Kalluvettukuzhy, Michal Robert Maciejczyk, Ian Underwood and Neil Robertson*

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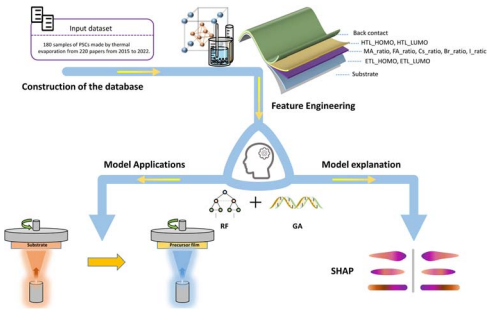
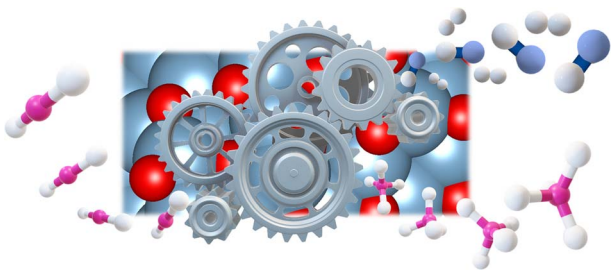


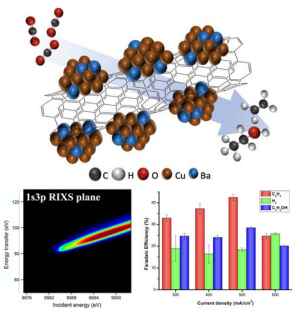
Advancing vapor-deposited perovskite solar cells *via* machine learning

Jiazheng Wang, Yuchen Qi, Haofeng Zheng, Ruilong Wang, Siyou Bai, Yanan Liu, Qi Liu, Jin Xiao, Dechun Zou and Shaocong Hou*



Unravelling the CO_2 capture and conversion mechanism of a NiRu–Na_2O switchable dual-function material in various CO_2 utilisation reactions

Loukia-Pantzechroula Merkouri, Juan Luis Martín-Espejo, Luis F. Bobadilla, José Antonio Odriozola, Anna Penkova, Tomas Ramirez Reina and Melis S. Duyar*



Copper–barium-decorated carbon-nanotube composite for electrocatalytic CO_2 reduction to C2 products

Feng-Yi Wu, Hsin-Jung Tsai, Tsung-Ju Lee, Zih-Yi Lin, Kang-Shun Peng, Pei-Hsuan Chen, Nozomu Hiraoka, Yen-Fa Liao, Chih-Wei Hu, Shao-Hui Hsu, Ying-Rui Lu* and Sung-Fu Hung*

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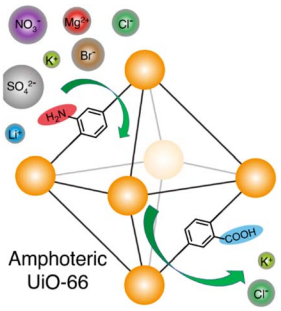

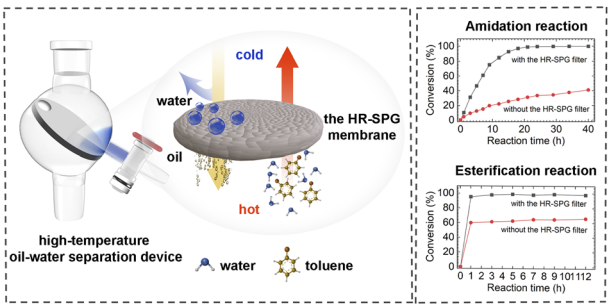

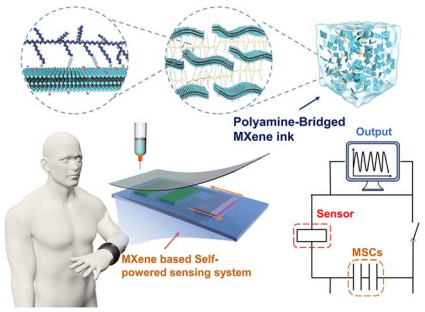

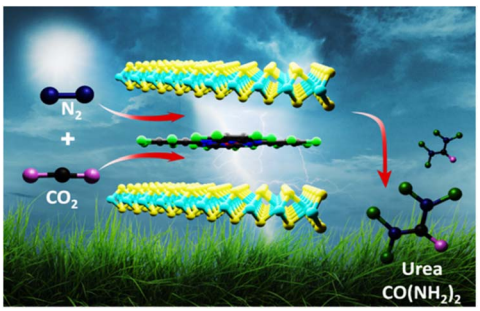

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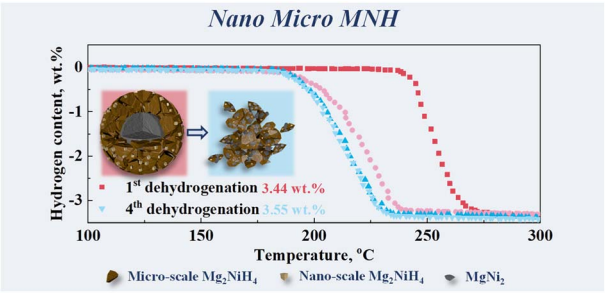

Structural inhomogeneity: a potential strategy to improve the hydrogen storage performance of metal hydrides

Yingyan Zhao, Yunfeng Zhu,* Rui Shi,* Zhen Jia, Jiguang Zhang, Yana Liu, Honghui Cheng, Qinke Tang, Zhixin Ba, Xiaohui Hu and Liquan Li

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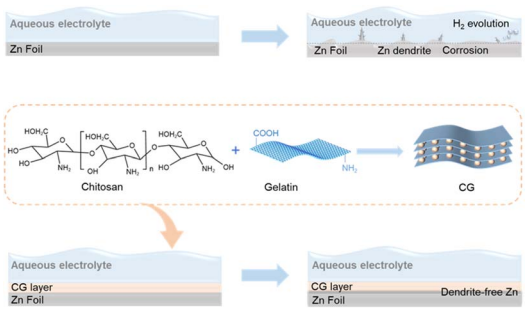

High performance Zn anodes enabled by a multifunctional biopolymeric protective layer for a dendrite-free aqueous zinc-based battery

Lingzhi Kang, Jiale Zheng, Huadong Yuan, Jianmin Luo, Yao Wang, Yujing Liu, Jianwei Nai and Xinyong Tao*

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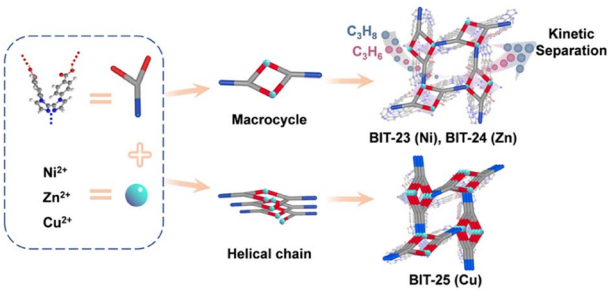

Rational design of metal–organic frameworks featuring macrocycle and helical chain motifs for propylene/propane separation

Xinyu Yu, Xin Huang, Mengchu Feng, Yuanyuan Zhang* and Bo Wang*

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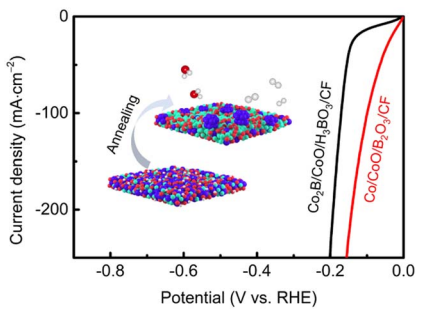

Boride-mediated synthesis of a highly active cobalt-based electrocatalyst for alkaline hydrogen evolution reaction

Yanmei Ren, Jiajun Wang, Weizhen Wang, He Wen, Muhua Chen, Yuping Qiu, Guangyao Li, Zhiqing Yang and Ping Wang*

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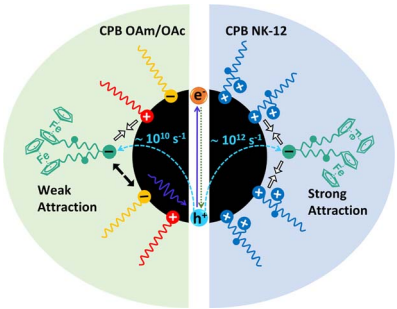

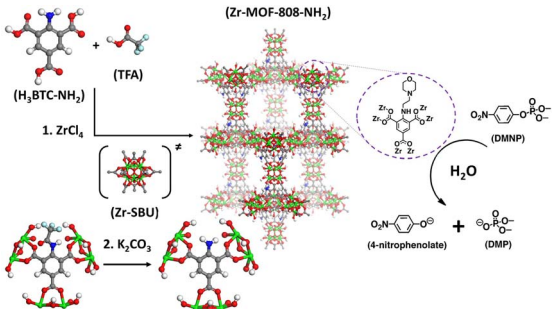

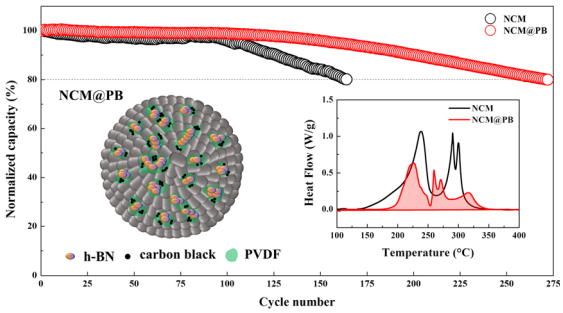

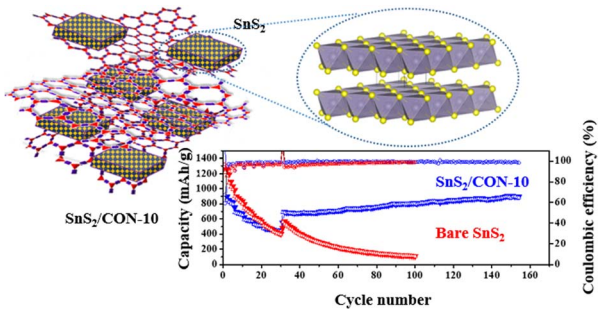

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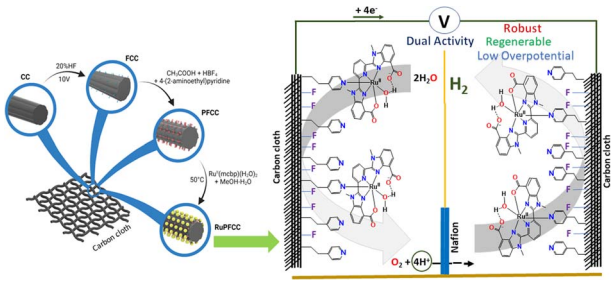

Bifunctional and regenerable molecular electrode for water electrolysis at neutral pH

Biswanath Das,* Esteban A. Toledo-Carrillo, Guoqi Li, Jonas Ståhle, Thomas Thersleff, Jianhong Chen, Lin Li, Fei Ye, Adam Slabon, Mats Göthelid, Tsu-Chien Weng, Jodie A. Yuwono, Priyank V. Kumar, Oscar Verho,* Markus D. Kärkäs, Joydeep Dutta and Björn Åkermark*

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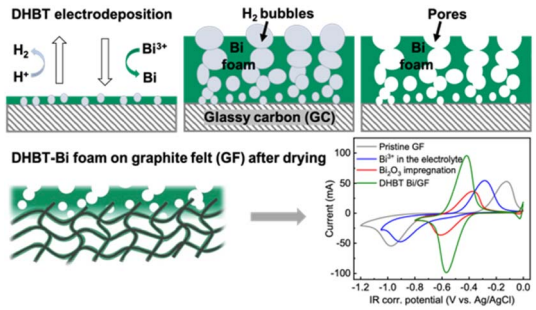

Dynamic hydrogen bubble template electrodeposited Bi on graphite felt and the effect of its post-processing in vanadium redox flow batteries

Ming Cheng, Tintula Kottakkat* and Christina Roth

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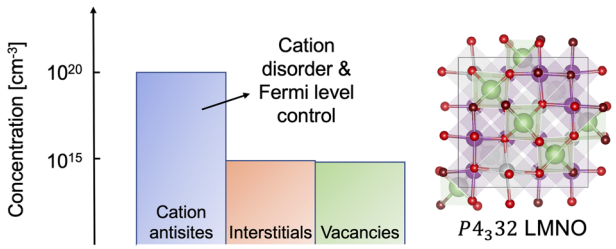

Cation disorder dominates the defect chemistry of high-voltage $LiMn_{1.5}Ni_{0.5}O_4$ (LMNO) spinel cathodes

Jiayi Cen, Bonan Zhu, Seán R. Kavanagh, Alexander G. Squires and David O. Scanlon*

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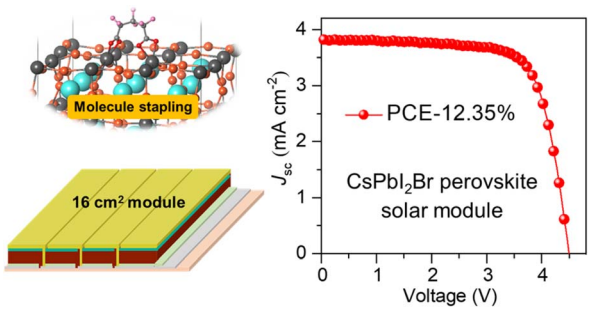

Molecule stapling-assisted fabrication of high-quality $CsPbI_2Br$ films for efficient and stable photovoltaic modules

Ruihao Chen,* Jieru Du, Xuan Zheng, Yuyao Yang, Li Yuan, Yang Yang, Feiming Li and Hongqiang Wang*

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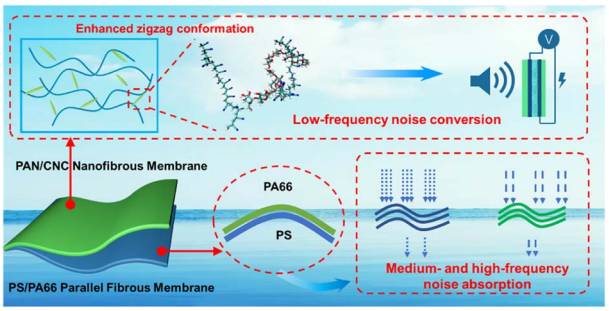

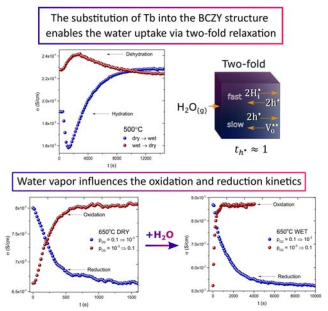

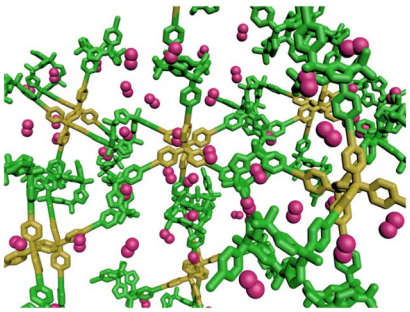

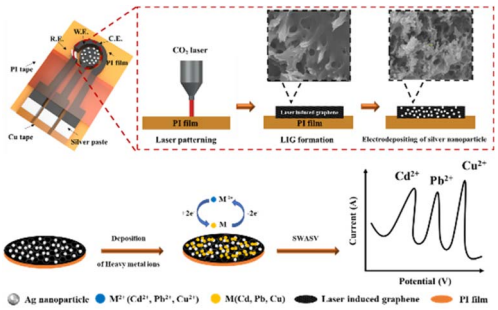

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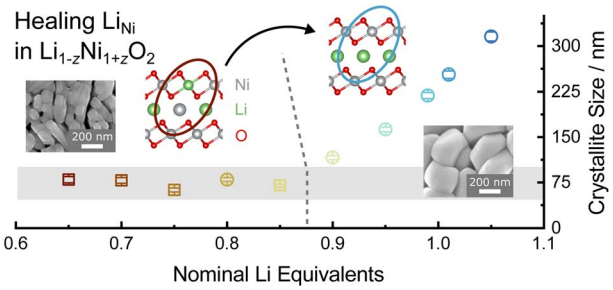

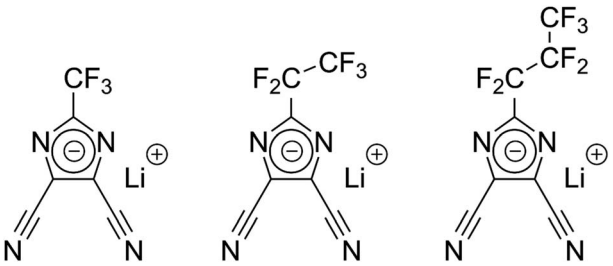

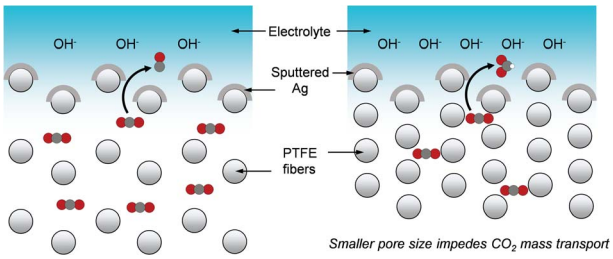

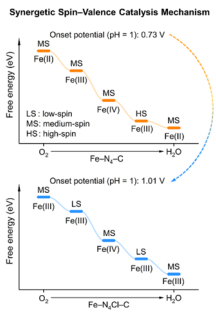

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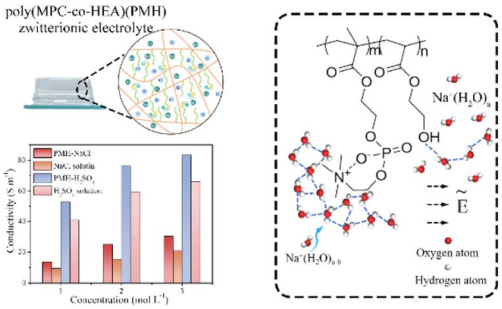

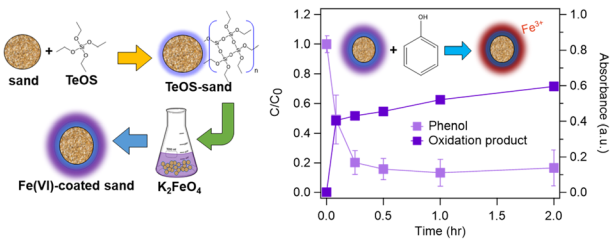

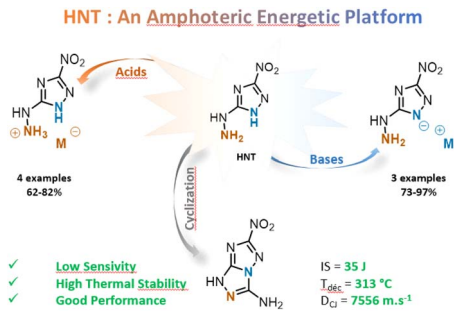

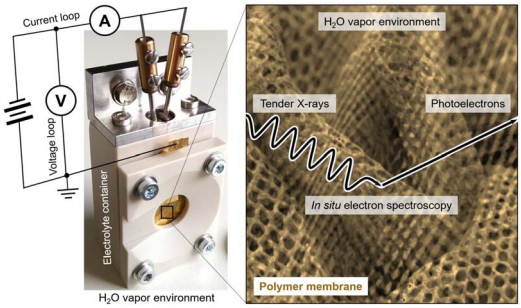

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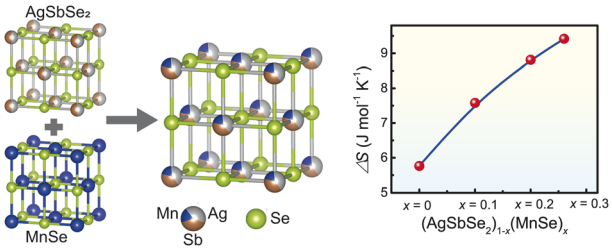

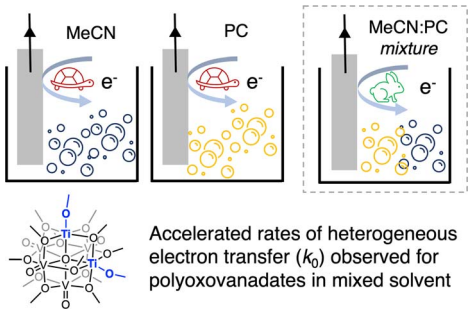

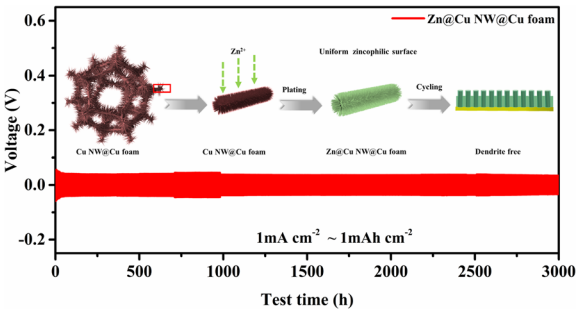

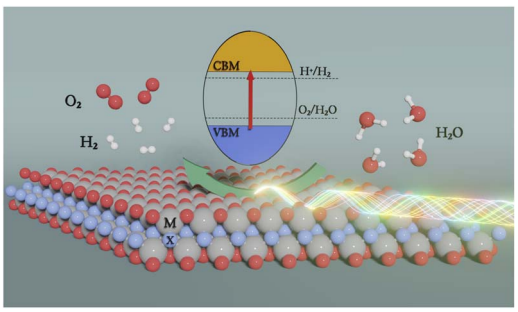

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