Journal of Materials Chemistry A

Materials for energy and sustainability

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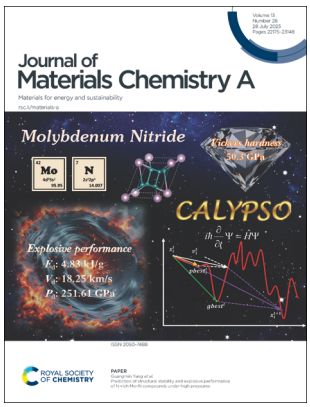
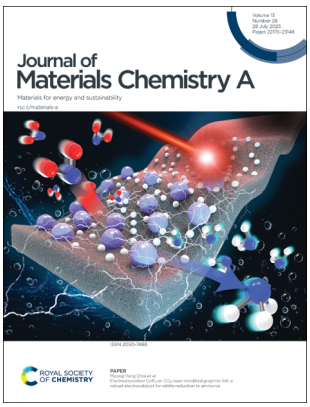


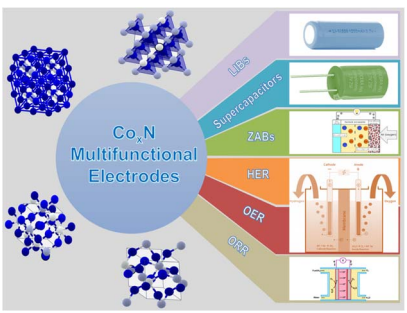
Cover
See Guangmin Yang *et al.*, pp. 22375–22382. Image reproduced by permission of Jianyan Lin from *J. Mater. Chem. A*, 2025, **13**, 22375.



Inside cover
See Myong Yong Choi *et al.*, pp. 22383–22391. Image reproduced by permission of Myong Yong Choi from *J. Mater. Chem. A*, 2025, **13**, 22383.

EDITORIAL

REVIEWS



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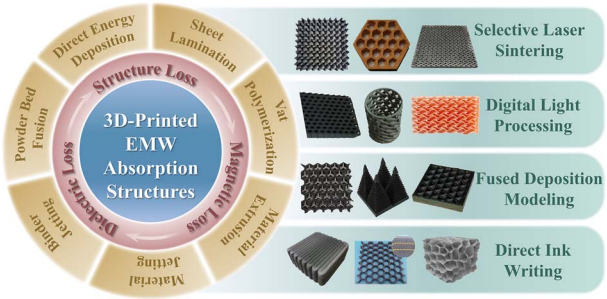

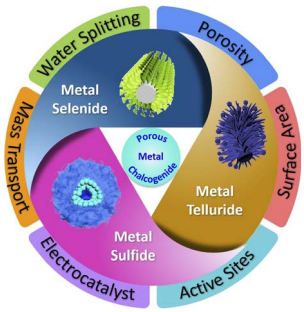

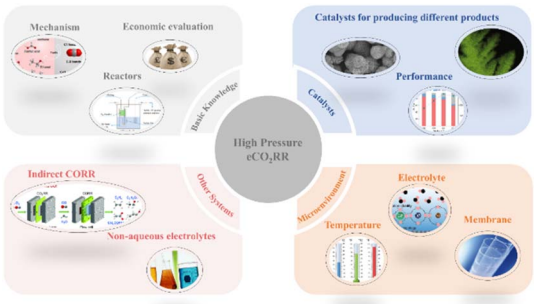

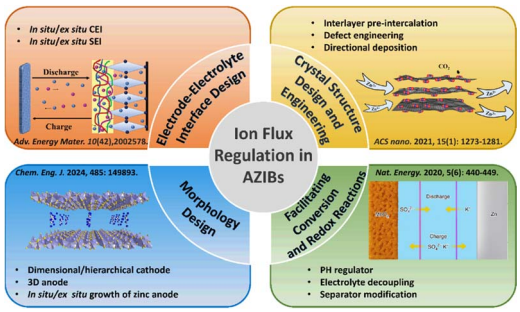

COMMUNICATION

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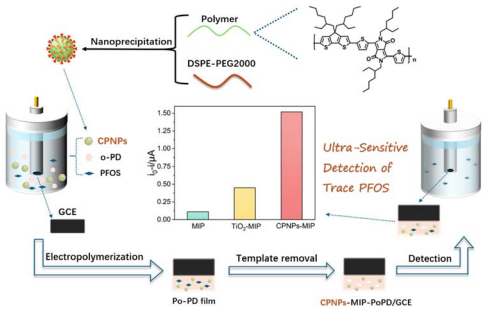

Conjugated polymer nanoparticle-enhanced molecularly imprinted poly(*o*-phenylenediamine) electrochemical sensors for selective, sensitive and rapid detection of trace perfluorooctanesulfonate

Guangshuai Chen, Xue Zhou, Lingxia Wu, Shaoyun Jia, Bin Shan, Chunying Zheng, Yong Tian, Jiping Ma and Chuantao Gu*

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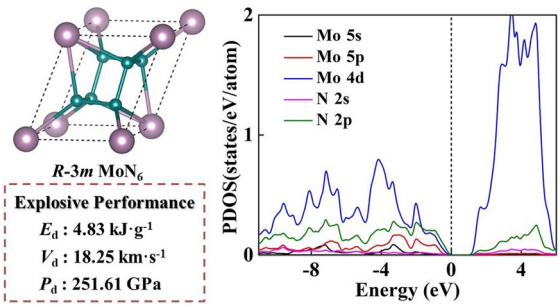
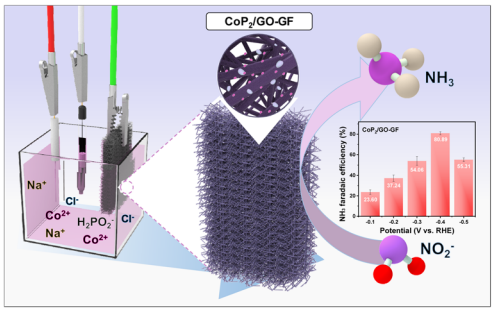


Prediction of structural stability and explosive performance of N-rich Mo–N compounds under high pressures

Jianyan Lin, Xin Liu and Guangmin Yang*

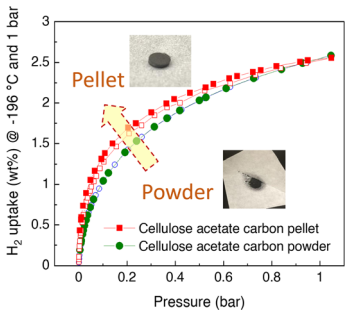
22383



Electrodeposited CoP_2 on CO_2-laser-modified graphite felt: a robust electrocatalyst for nitrite reduction to ammonia

Chae Eun Park, Rahul Kerkar, Deepak Arumugam, Jayaraman Theerthagiri, Shankar Ramasamy and Myong Yong Choi*

22392



Densification of cellulose acetate-derived porous carbons for enhanced volumetric hydrogen adsorption performance

Hiroshi Matsutaka,* Aya Kashifuku, Takaaki Orii, Daigo Miyajima, Naoki Uchiyama, Satoshi Wada and Hirotomo Nishihara

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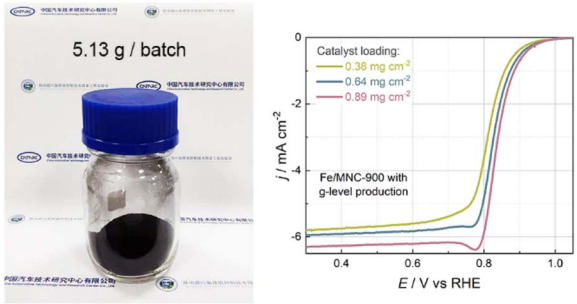

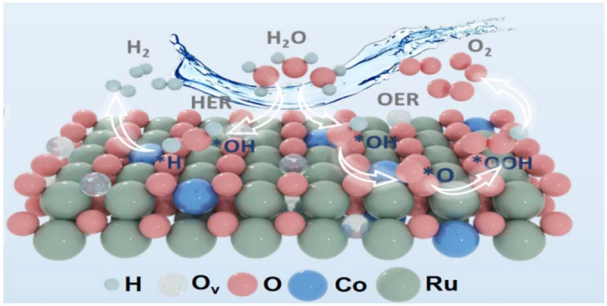

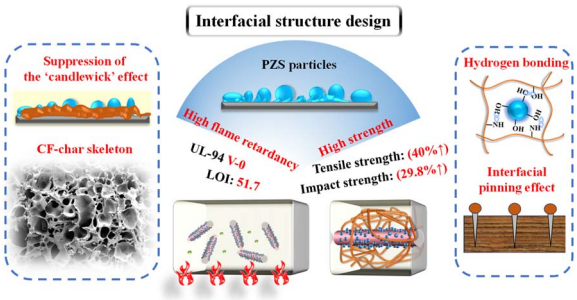

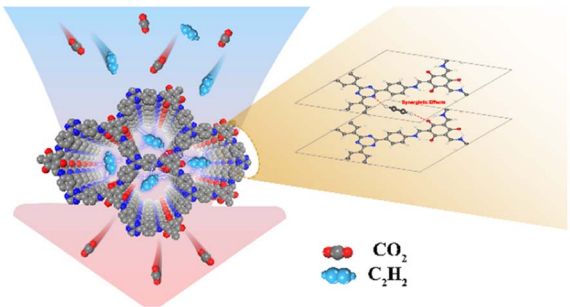

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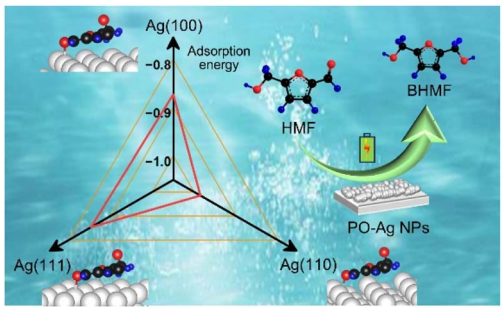

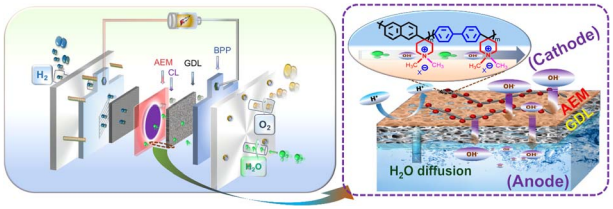

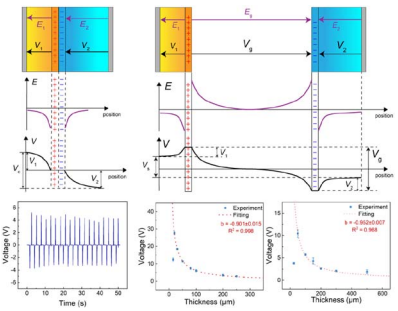

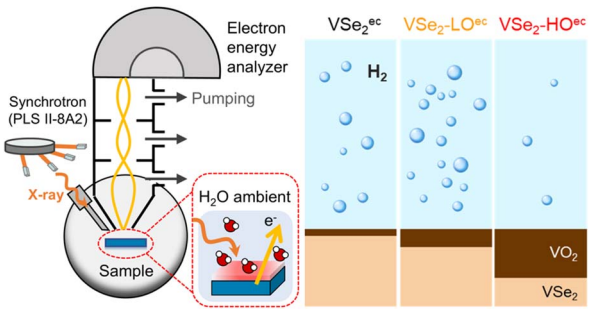

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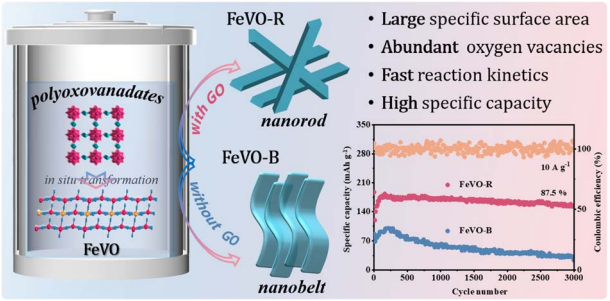
Synergistic effect of morphology evolution with oxygen vacancies on layered cathodes derived from polyoxovanadates for aqueous zinc-ion batteries

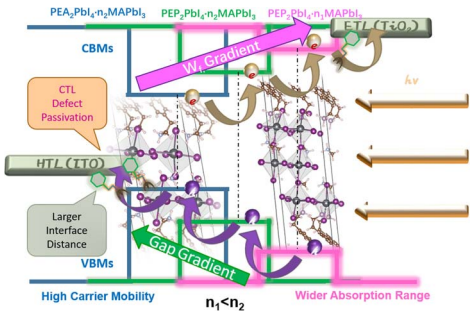
Yu-Ying Yang, Si-Yu Chen, Yong-Jia Ding, Yun-Xiang Zhou, Huan He, Qiaoji Zheng, Rui Zhang,* Dunmin Lin and Yu Huo*



22604

Quasi-2D Ruddlesden–Popper perovskites with tunable wide bandgaps and phosphonium as additives for interface defect passivation in tandem solar cell design

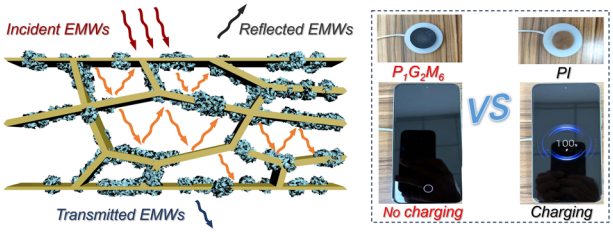
Qi Liu, Jian Jiang and Xiao Cheng Zeng*



22613

Hierarchically porous polyimide/graphene aerogels with superior compressibility and electromagnetic interference shielding performance

Yuehao Zhao, Haiming Chen,* Shiya Qiao, Zhen Wang and Jingling Yan*



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Unblocking "pinned" Li^+ ions in novel $KTiOPO_4$-structured $LiVPO_4F$ enables superior energy storage performance

Alexey V. Ivanov,* Arseniy S. Burov, Semyon D. Shraer, Nikita D. Luchinin, Dmitry A. Aksyonov and Stanislav S. Fedotov*

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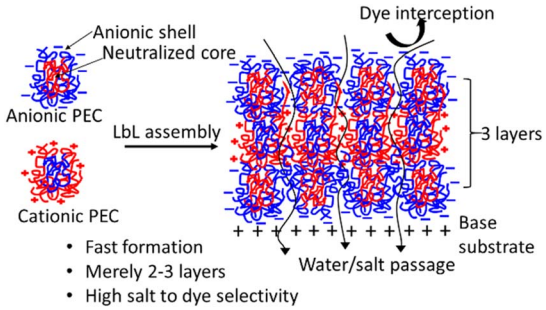

Rapid fabrication of selective barriers through layer-by-layer self-assembly of non-stoichiometric polyelectrolyte complexes for salt and dye fractionation

Urvashi S. Joshi and Suresh K. Jewrajka*

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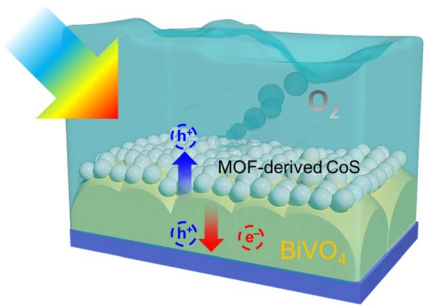

Metal–organic framework-derived nano-CoS-enhanced photoelectrochemical water splitting performance of the $BiVO_4$ photoanode

Dongqin Li, Xinchao Chen, Mingshi Shao, Shushi Hou, Jingyi Guo, Haoyu Jin, Hao Yang, Guikui Chen* and Yongchao Huang*

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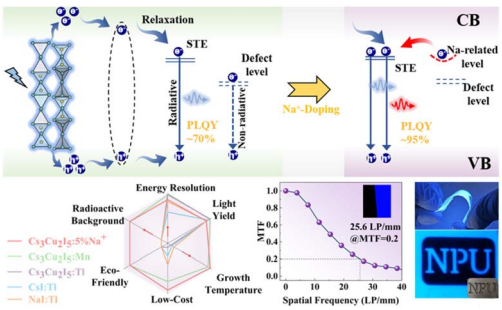

A highly efficient Na-doped $Cs_3Cu_2I_5$ scintillator for γ-ray detection and flexible X-ray imaging

Yanyan Lei, Lingyan Xu,* Yanze Wang, Lixiang Lian, Chongqi Liu, Yingming Wang, Lu Liang, Zhentao Qin, Shuai Han, Wei Zheng, Qinzeng Hu, Xiaowang Liu, Tao Wang and Wanqi Jie

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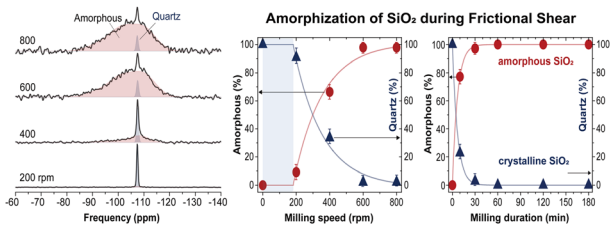

Structural transition in crystalline SiO_2 during mechanical amorphization under frictional shear

Jin Jung Kweon, Hoon Khim, Yong-Hyun Kim and Sung Keun Lee*

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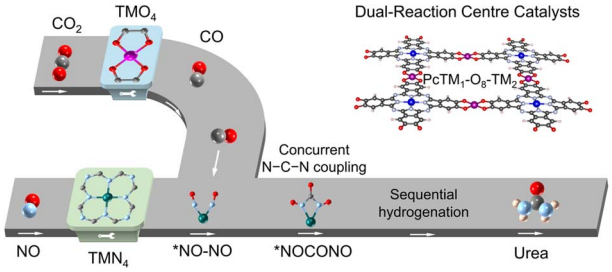

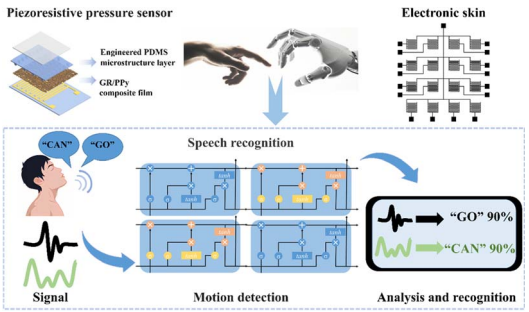

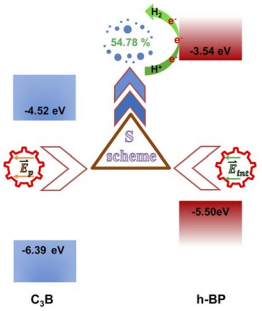

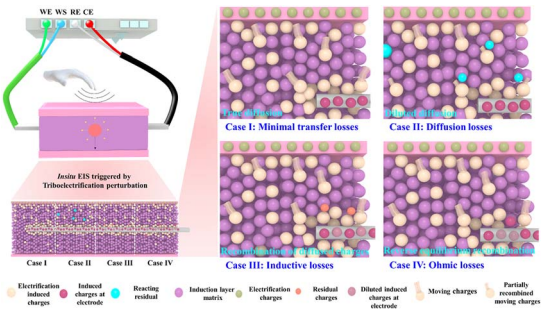

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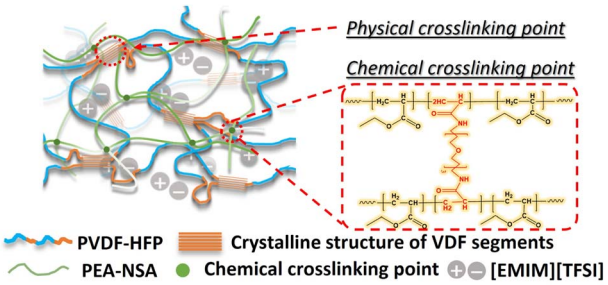

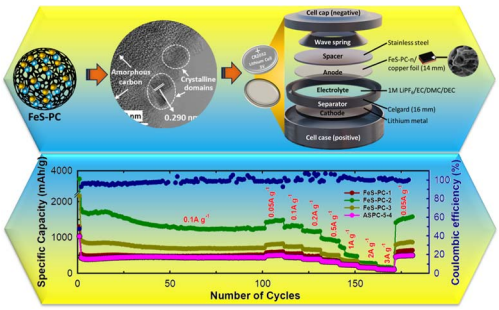

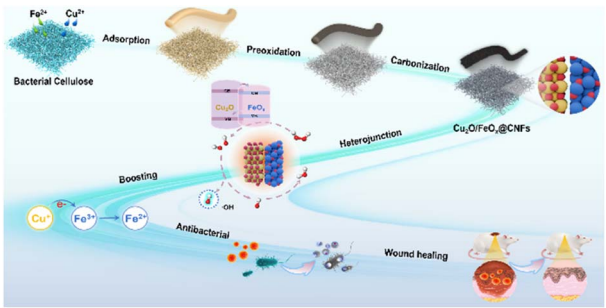

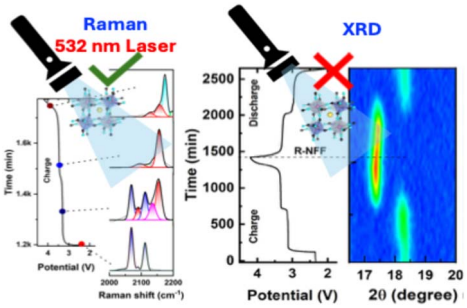

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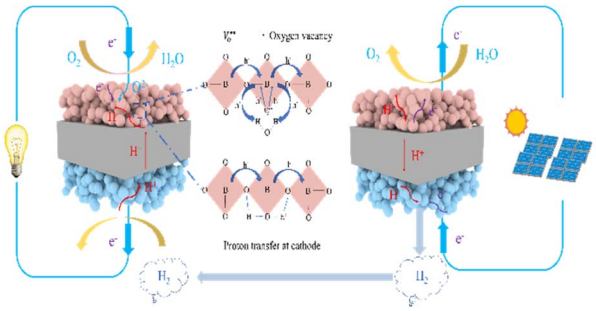

Tuning the proton concentration and uptake kinetics of $BaFeO_3$-based oxygen electrodes for reversible protonic ceramic fuel cells

Wei Tang, Chengyu Li, Qian Xia, Yingwei Lu, Pengqi Chen, Tao Hong* and Jigui Cheng*

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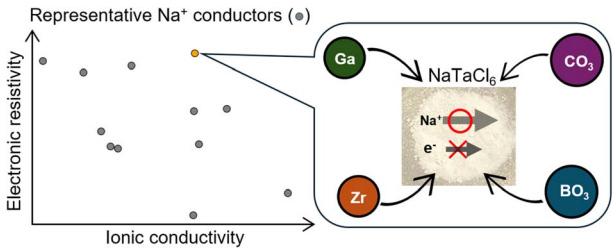
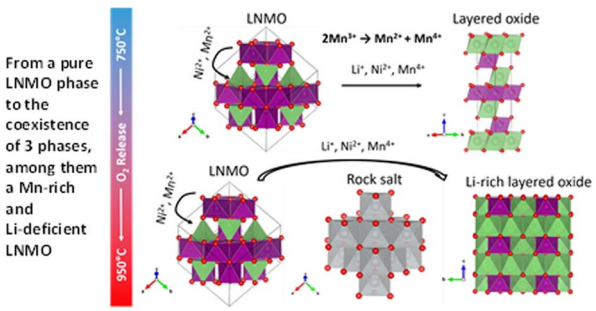


Multicomponentization of a super-Na ionic conductor chloride $NaTaCl_6$, enhancing ionic conductivity and electronic resistivity

Keisuke Makino, Naoto Tanibata,* Takaaki Natori, Tomoko Nakano, Hayami Takeda and Masanobu Nakayama

22931



Phase equilibrium during the synthesis of $LiNi_{0.46}Mn_{1.54}O_4$: comprehensive X-ray & neutron powder diffraction study

Ilia Tertov, François Fauth, Emmanuelle Suard, Thomas Hansen, François Weill, Pierre-Etienne Cabelguen, Christian Masquelier* and Laurence Croguennec*

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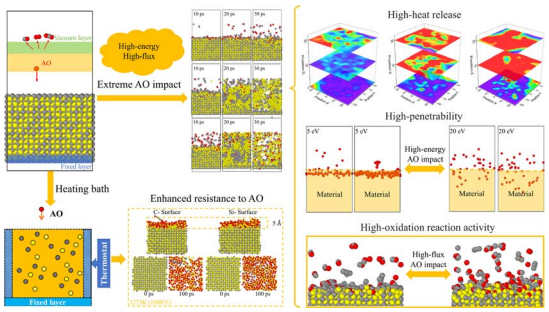

Erosion behaviors of silicon carbide at micro–nano scales under atomic oxygen exposure

Hao Ren, Yisong Qiu, Qiang Zhou, Hongfei Ye, Haiying Han and Yonggang Zheng*

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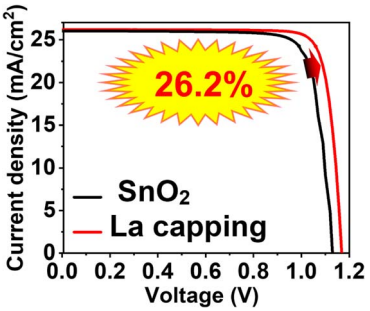

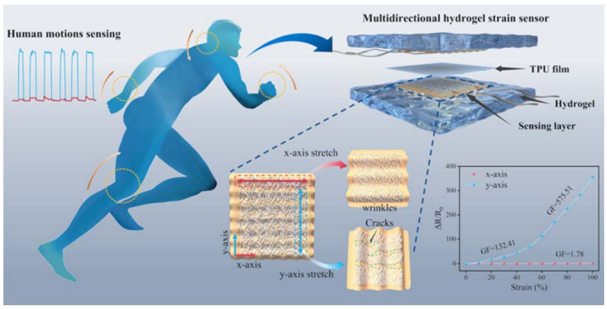

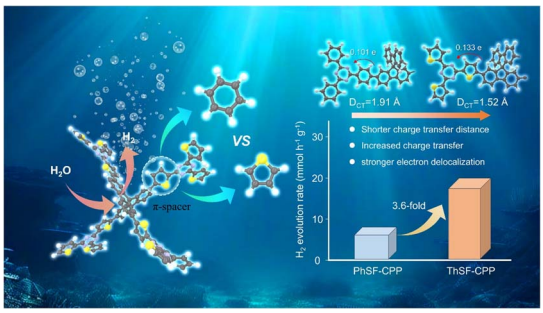

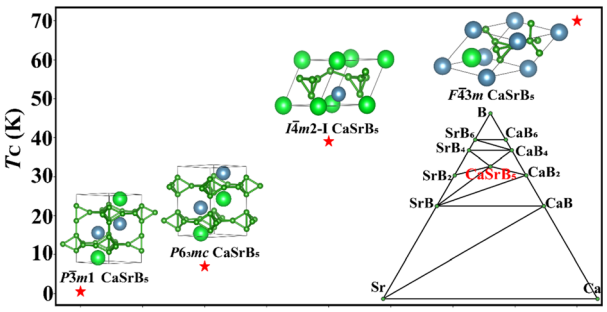

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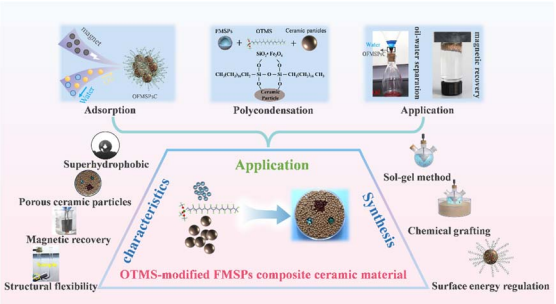

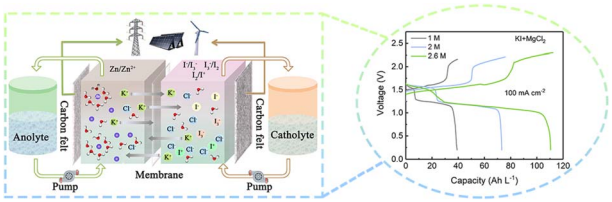

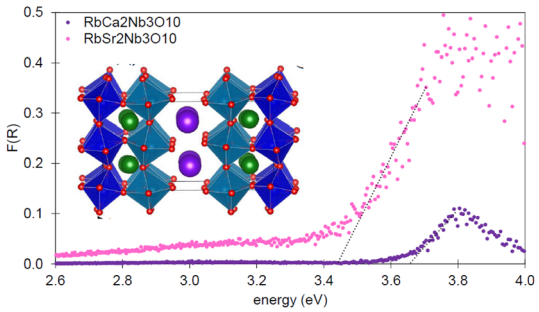

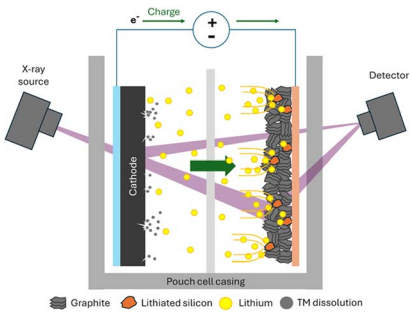

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CORRECTIONS

CORRECTIONS

23143

Correction: Pure hydrogen and sulfur production from H_2S by an electrochemical approach using a NiCu–MoS_2 catalyst

Mukesh Kumar and Tharamani C. Nagaiah*

23144

Correction: A NiCu–MoS_2 electrocatalyst for pH-universal hydrogen evolution reaction and Zn–air batteries driven self-power water splitting

Mukesh Kumar and Tharamani C. Nagaiah*