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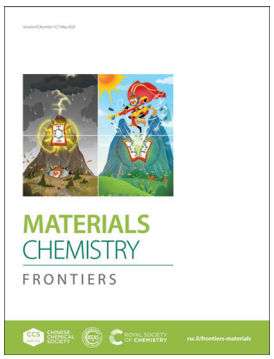

Cover
See Xiaogang Liu *et al.*, pp. 2135–2141.
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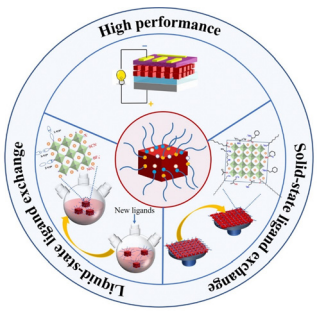
REVIEWS

2029

Surface engineering in $CsPbX_3$ quantum dots: from materials to solar cells

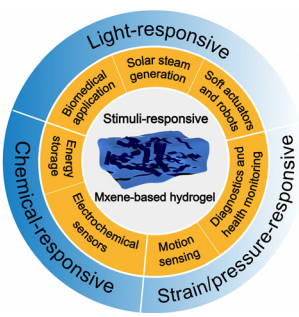
Yinyan Xu, Mei Lyu and Jun Zhu*



2056

Stimuli-responsive $Ti_3C_2T_x$ MXene-based hydrogels: preparation and applications

Qi Gao, Ping-Ping He, Xiaowen Wang, Xiaoxue Du and Weiwei Guo*



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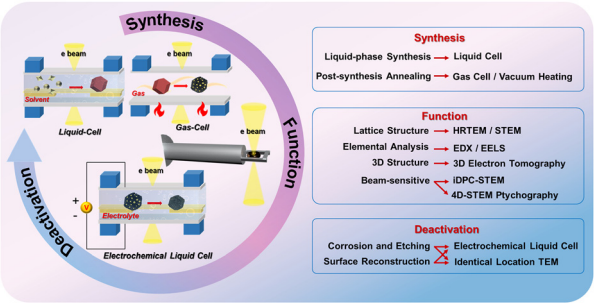
REVIEWS

2078

Emerging transmission electron microscopy solutions for electrocatalysts: from synthesis to deactivation

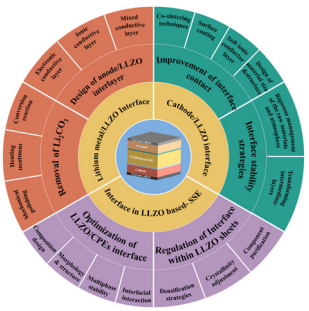
Le Wei, Zhanyong Xu, Xiaomei Wu, Xiaoxing Ke* and Manling Sui*



2109

Optimization strategies for key interfaces of LLZO-based solid-state lithium metal batteries

Jiangwei Chu, Ziwei Li, Jin Wang, Gang Huang* and Xinbo Zhang*



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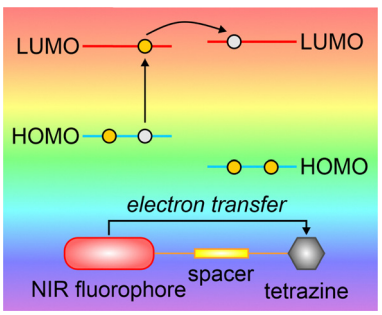
2135

Photoinduced electron transfer endows fluorogenicity in tetrazine-based near-infrared labels

Tianruo Shen, Xin Li and Xiaogang Liu*



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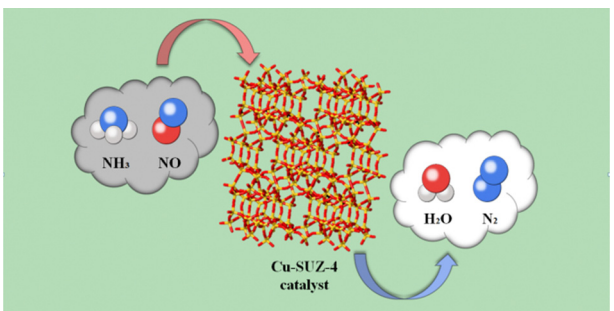
Copper-exchanged SUZ-4 zeolite catalysts for selective catalytic reduction of NO_x

Yang Bai, Dapeng Hao, Yingzhen Wei, Jinfeng Han, Dan Li, Mengyang Chen* and Jihong Yu*



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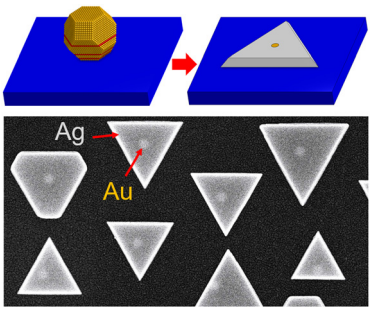

Large-area arrays of epitaxially aligned silver nanotriangles seeded by gold nanostructures

Zachary R. Lawson, Kaikui Xu, Christina Boukouvala, Robert A. Hughes, Matthew R. Rosenberger, Emilie Ringe and Svetlana Neretina*

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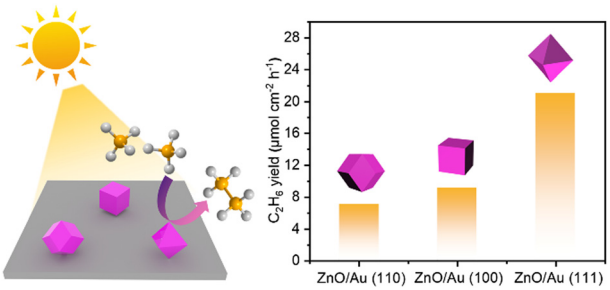

Understanding Au facet effects in photocatalytic nonoxidative coupling of methane

Zhuo Liu, Biyang Xu, Xuanzhao Lu, Pan Li, Jun-Jie Zhu and Wenlei Zhu*

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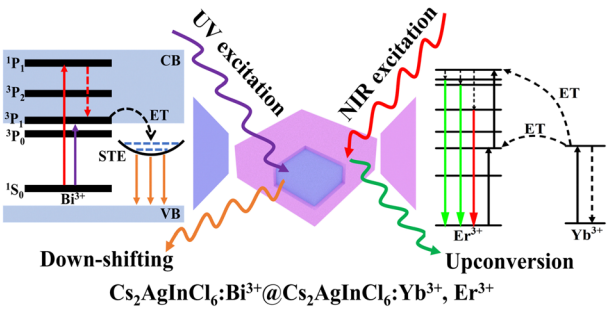

Simultaneously excited downshifting/upconversion luminescence from lanthanide-doped core–shell lead-free perovskite nanocrystals for encryption and data storage

Endian Cui, Gaoyuan Xing, Xiangyang Yuan, Yi Zhang, Flavia Artizzu, Xiaoling Liao, Jianfeng Tang, Yanan Zhao, Pengzhou Zhao, Kai Liu* and Jing Liu*

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