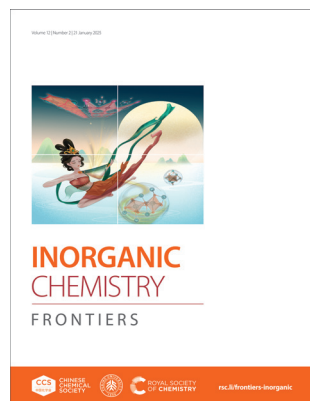


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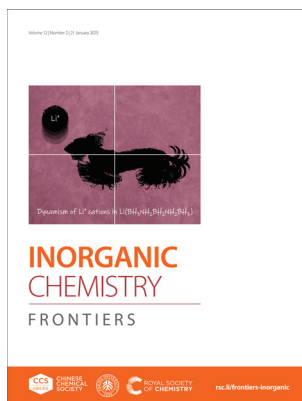
ISSN 2052-1553 CODEN ICFNAW 12(2) 383–834 (2025)



Cover

See Wei Jian, pp. 524–532.

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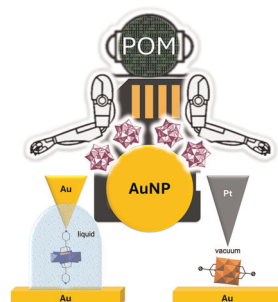
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HIGHLIGHT

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Stimuli-responsive gold–polyoxometalate multielectron transformers

Kirill Monakhov

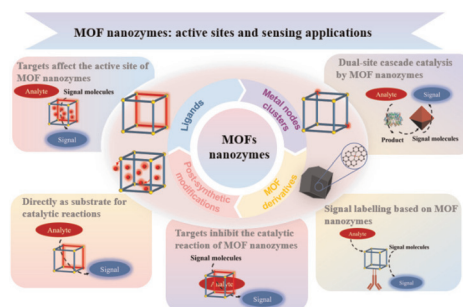


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MOF nanozymes: active sites and sensing applications

Ziyan Zhang, Yujie Li, Zhishuang Yuan, Lingxia Wu, Jiping Ma, Weiqiang Tan, Yingjie Sun, Guangyao Zhang* and Huining Chai*



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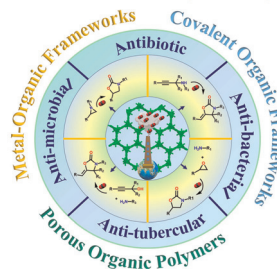
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A review on framework (MOF/COF/POP)-based materials for efficient conversion of CO₂ to bio-active oxazolidinones

Pooja Rani, Rajesh Das and C. M. Nagaraja*

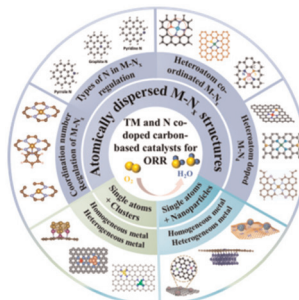
Synthesis of Value-added Oxazolidinones using MOFs, COFs, and POPs as Recyclable Catalysts



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Developments and perspectives of transition metal–nitrogen–carbon catalysts with a regulated coordination environment for enhanced oxygen reduction reaction performance

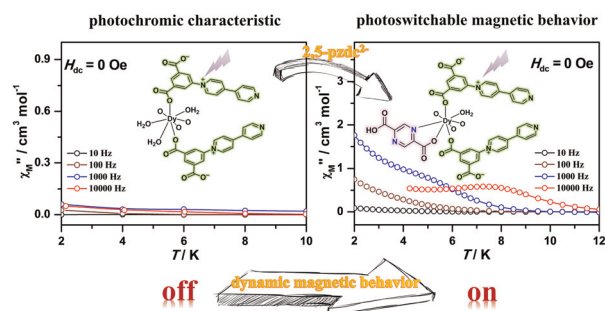
Wei-Wei Zhao, Wen-Jun Niu,* Ru-Ji Li, Bing-Xin Yu, Chen-Yu Cai, Fu-Ming Wang and Li-Yang Xu



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Step-wise assembly of a dysprosium–viologen framework with photoswitchable slow magnetic relaxation under a zero dc field

Zhen-Na Huang, Lei Zhang and Hao-Ling Sun*

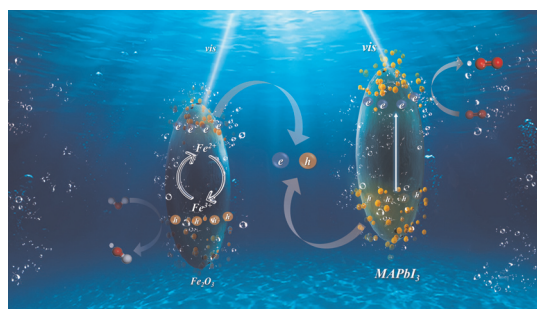


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Insights into the role of iron coordination in the enhanced photoactivity of MAPbI₃/iron oxide heterojunctions

Wei Jian



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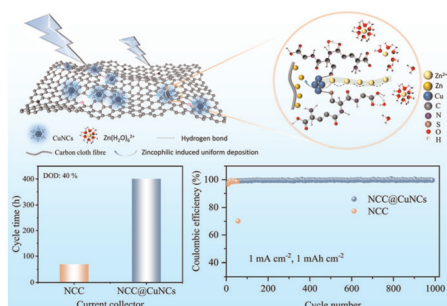
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Reinvestigation of the ionic conductivity of a layered $\text{Li}(\text{BH}_3\text{NH}_2\text{BH}_2\text{NH}_2\text{BH}_3)$ salt

A. Prus, R. Owarzany, D. Jezierski, M. Rzepecka, W. Grochala, P. Potczyński* and K. J. Fijałkowski*

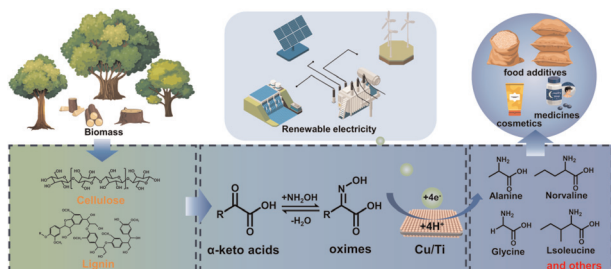
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Highly reversible Zn electrodeposition enabled by glutathione-protected copper nanoclusters for aqueous Zn-ion batteries

Lu-Fan Wang, Xiao-Yuan Wang, Shu Xu, Zhou Wu, Guoqiang Sun,* Xiao-Fei Liu,* Ren-Wu Huang and Shuang-Quan Zang

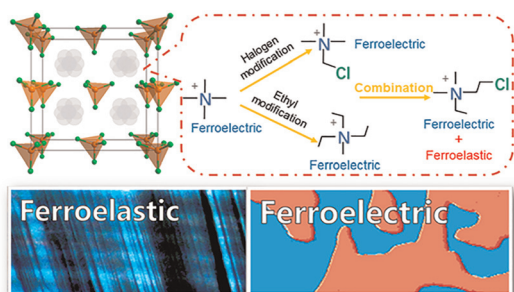
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Efficient electrosynthesis of alanine from α -keto acids over a self-supported electrocatalyst with superior activity

Min Xu, Shengbo Zhang,* Jiafang Liu, Hui Xu, Yong Jiang, Yunxia Zhang, Guozhong Wang and Haimin Zhang*

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Steric effect-induced modulation of crystallographic symmetry: implementing ferroelasticity in molecular ferroelectrics

Jie Yao, Zi-Jie Feng, Jin-Qi Hu, Guo-Wei Du, Yu-An Xiong, Hao-Ran Ji, Tai-Ting Sha, Xiangzhi Zhang, Zheng-Yin Jing, Qiang Pan,* Huihui Hu* and Yu-Meng You*

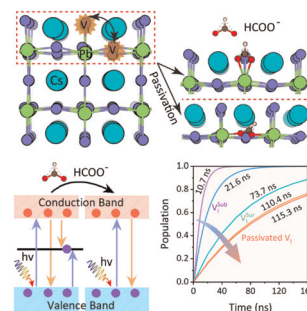


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Unveiling the role of surface iodine vacancies in CsPbI₃ perovskite: carrier recombination dynamics and defect passivation mechanisms

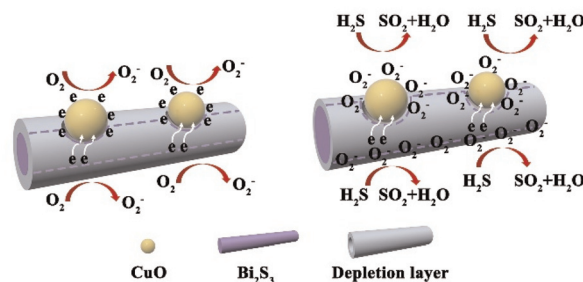
Jing Wang* and Xiang-Mei Duan



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Rapid room-temperature H₂S detection based on Bi₂S₃/CuO heterostructures: the synergy of increased surface-adsorbed oxygen and a hetero-junction effect

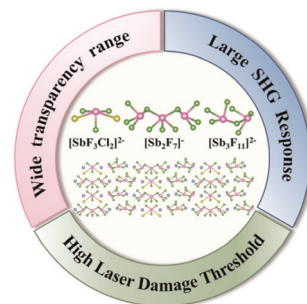
Chengcheng Hu, Meiling Yu, Zhenze Zhou, Chenda Wei, You Wang* and Juanyuan Hao*



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Novel antimony-based mixed halides exhibiting an excellent SHG response and a broad transmission range

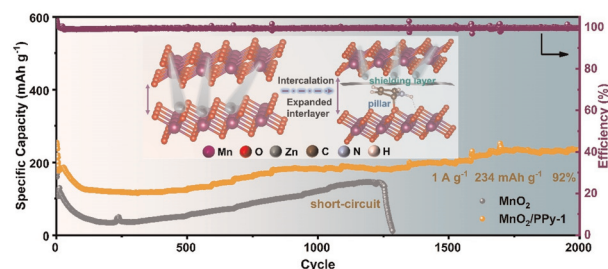
Luli Wang, Han Luo, Siyu Chen, Ling Huang,* Liling Cao, Xuehua Dong and Guohong Zou*



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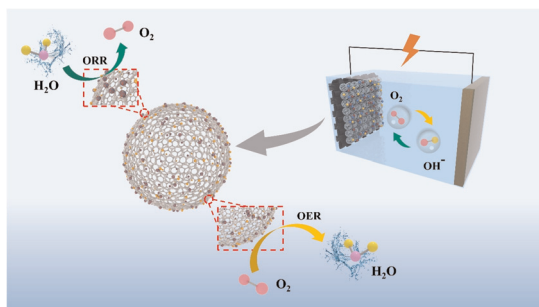
The spatial and electronic effects of polypyrrole between MnO₂ layers enhance the diffusion ability of Zn²⁺ ions

Le Li, Shaofeng Jia, Yue Shi, Yuanyuan Yang, Chao Tan, Conghui Wang, Hengwei Qiu, Yongqiang Ji, Minghui Cao and Dan Zhang*



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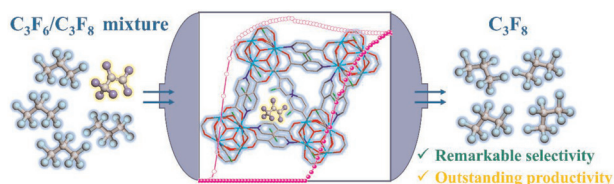
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Controllable loading of an Fe/Co alloy on heteroatom-doped hollow graphene spheres realized via regulation of small molecules for rechargeable zinc–air batteries

Yefei Ma, Qiushi Wang, Xia Xiao, Zhong-Jie Jiang,*
Weiheng Chen, Xiaoning Tian* and Zhongqing Jiang*

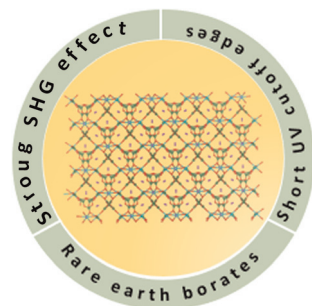
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Purification of octafluoropropane from hexafluoropropylene/octafluoropropane mixtures with a metal–organic framework exhibiting high productivity

Yuan-Qin Feng, Hui-Fang Ma, Shuai Luo, Hui-Ping Xiao,
Qing-Yan Liu and Yu-Ling Wang*

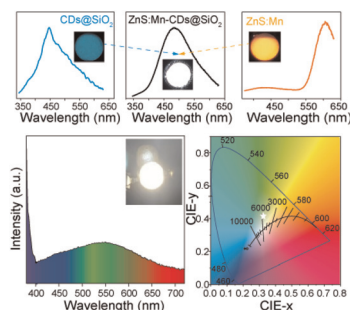
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Chemical substitution towards a rare-earth borate ultraviolet NLO crystal exhibiting a strong SHG response

Xianghao Kong, Jing Chai, Huijian Zhao, Ning Ye,
Zhanggui Hu, Yicheng Wu and Conggang Li*

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Enhancing white light-emitting diode performance with an ultra-wide spectrum ZnS:Mn-CDs@SiO₂ dual core@shell composite

Haijiang Qiu, Song Yang, Min Li, Haixin Chen,
Yongqi Zhang, Xin Chen* and Yuanhui Zheng*

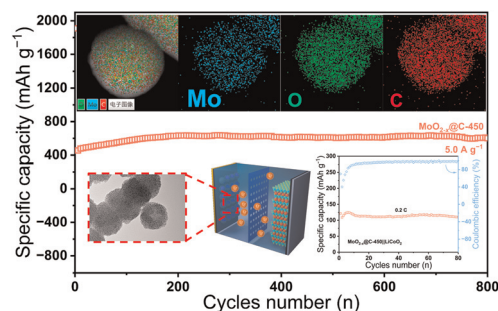


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Designing different carbon capping amorphous MoO_2 to enhance electrochemical performance in lithium-ion batteries

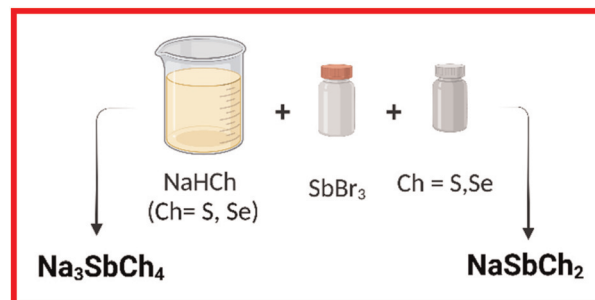
Gaoyuan Liu, Xinxin Yin, Jing Xie, Jindou Hu, Aize Hao, Zhenjiang Lu* and Yali Cao*



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Facile one-pot synthesis of high-purity sodium antimony chalcogenides in polar solvents

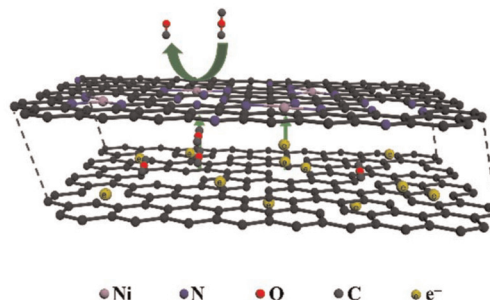
Saeed Ahmadi Vaselabadi, Brynn Benham and Colin A. Wolden*



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A Ni–N–C catalyst for CO_2 electroreduction based on the MOF@MOF configuration exhibiting wide active reaction sites

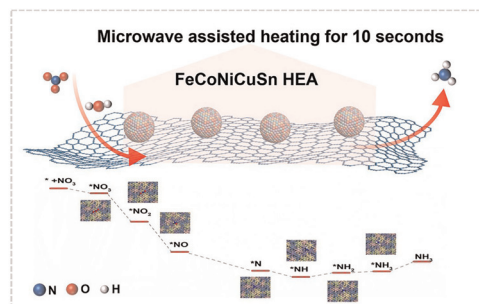
Chul Hyun Jun, Chandan Chandru Gudal, Sampath Prabhakaran, Anki Reddy Mule, Pil J. Yoo, Do Hwan Kim* and Chan-Hwa Chung*



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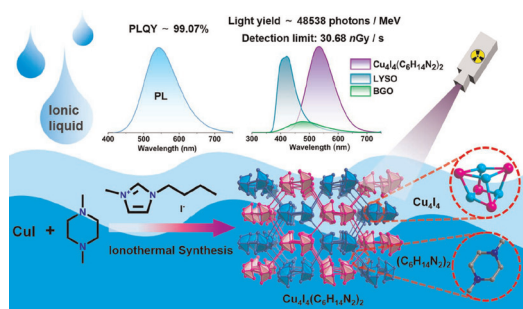
Microwave-assisted fabrication of a self-supported graphene-based high-entropy alloy electrode for efficient and stable electrocatalytic nitrate reduction to ammonia

Yun Ling,* Qingyun Feng, Xuan Zheng,* Hui Su, Yuanyuan Zhang, Zehua Zou, Aifen Liu, Yang Huang, Jing Tang, Yi Li, Maosheng Zhang and Qingxiang Wang



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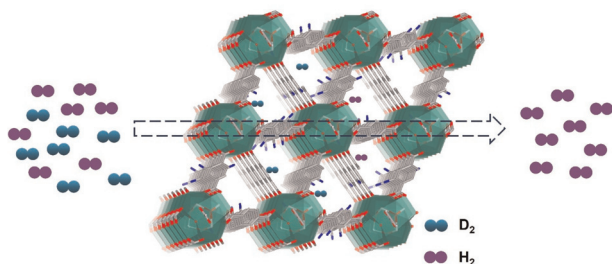
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Ionothermal synthesis of a stable three-dimensional $[\text{Cu}_4\text{I}_4]$ cluster scintillator with near-unity quantum efficiency and weak thermal quenching

Qing-Hua Zou, Wen-Hao Yang, Ling-Kun Wu, Lu-Lu Jiang, Shuai-Hua Wang, Lang Liu, Ren-Fu Li,* Heng-Yun Ye and Jian-Rong Li*

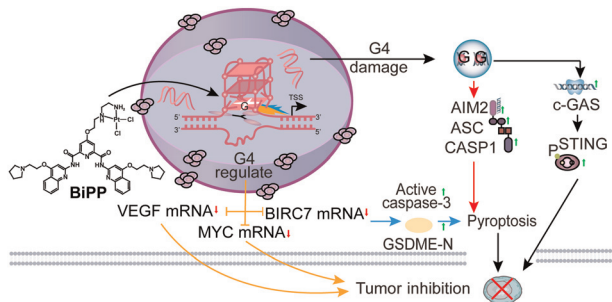
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Exploration of functional group effects on D_2/H_2 separation selectivity within the UiO-66 framework

Xiufang Li, Yanxi Tan, Zhanfeng Ju, Wenjing Wang* and Daqiang Yuan*

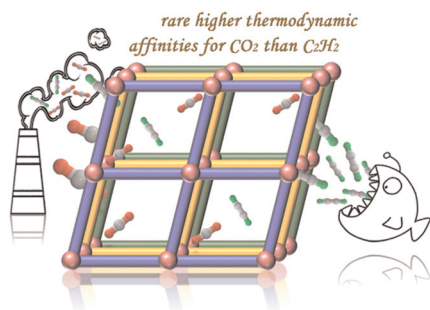
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G-quadruplex-guided bifunctional platinum complexes induce multiple pyroptosis pathways for antitumor therapy

Tian-Zhu Ma, Liu-Yi Liu, You-Liang Zeng, Ke Ding, Wenting Liu, Xushen Xiong* and Zong-Wan Mao*

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Efficient inverse $\text{CO}_2/\text{C}_2\text{H}_2$ separation driven by difference in rare thermodynamic affinities in a porous MOF

Hai-Yu Duan, Xiu-Yuan Li,* Lei Hou,* Si-Ru Liu, Xiang-Yu Liu* and Ping Wang*

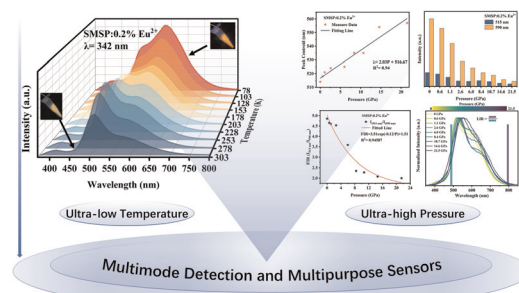


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$\text{Sr}_8\text{MgSc}(\text{PO}_4)_7:\text{Eu}^{2+}$ phosphor: d–f transition driven applications for solid-state lighting and extreme environment multimode sensing investigations

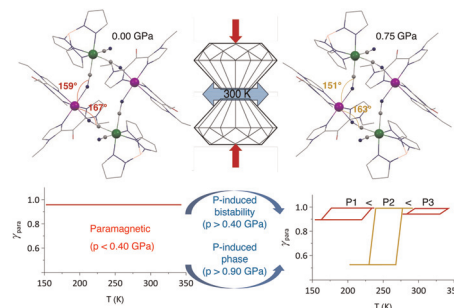
Baofeng Zheng, Jiahao Yan, Jingyao Li, Yixuan Wang, Xinyi Yang* and Wenzhe Li*



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Pivotal role of solid phase interactions in the pressure-induced bi-stability of cyanide-bridged Fe_2Co_2 square complexes

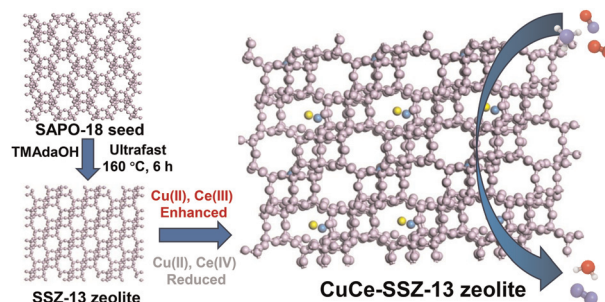
Buqin Xu, Yanling Li,* Geoffrey Gontard, Keevin Bénéut, Paraskevas Parisiades, Maxime Deutsch and Rodrigue Lescouëzec*



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Rapid synthesis and hydrothermal stability enhancement of Cu-SSZ-13 zeolites for nitrogen oxide removal

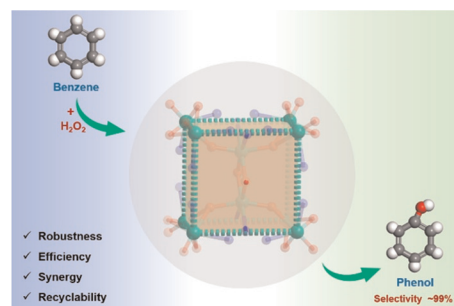
Jie Su, Zhe Ma, Yingzhen Wei, Yida Zhou, Mao Shen, Shi-Bin Ren, De-Man Han, Mengyang Chen* and Wenfu Yan*



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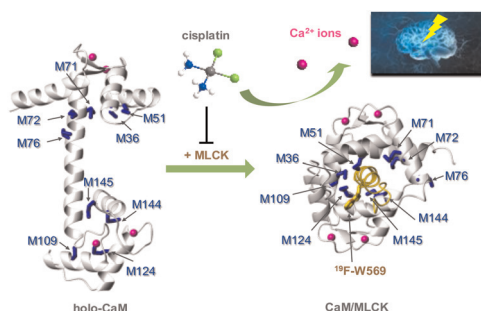
Two robust polyoxovanadate clusters having a square-prism V_{10}O_x core for efficient catalysis of benzene hydroxylation to phenol

Ji-Lei Wang, Ling-Xi Xu, Qin Wang, Pin-Fang Yan, Xin-Lian Chen, Ting Jin, Hua Mei* and Yan Xu*



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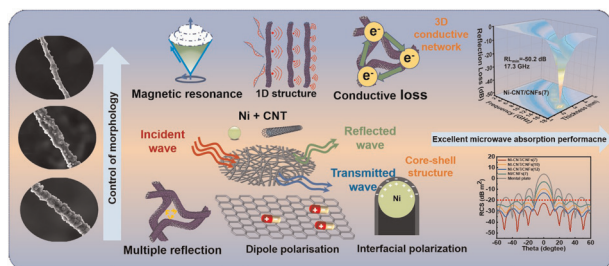
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Probing the interaction of cisplatin with calmodulin and its effect upon binding to myosin light-chain kinase

Siming Yuan, Shenghu Wang, Kaiming Cao, Yu Wang, Hongze Hu, Liqin Tang,* Aizong Shen,* Fabio Arnesano, Giovanni Natile* and Yangzhong Liu*

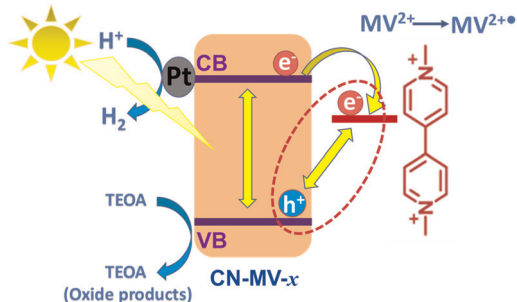
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Optimizing electromagnetic wave absorption in electrospun carbon-based fibers through dielectric and magnetic component modulation

Yuchao Wang, Yunlong Liu, Shenglin Yuan, Hui Huang, Zhijun Wu, Lijia Xu and Yongpeng Zhao*

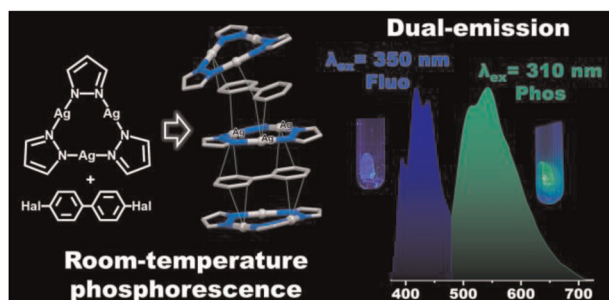
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Viologen doping induced charge storage in carbon nitride for enhanced photocatalytic hydrogen production

Fankai Bu, Runzhi Yuan, Zejun Zhang, Jun Wang, Junying Liu* and Yang-Chun Yong*

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Room-temperature phosphorescence and dual-emission behavior of simple biphenyl derivatives unlocked by intermolecular interactions with cyclic silver pyrazolate

Arina P. Olbrykh, Alisia V. Tsorieva, Vladislav M. Korshunov, Alexander F. Smol'yakov, Ivan A. Godovikov, Alexander A. Korlykov, Ilya V. Taydakov, Aleksei A. Titov,* Oleg A. Filippov* and Elena S. Shubina



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Surficial-enriched Ru on octahedral CeO₂ with strong electronic interactions as an efficient electrocatalyst for hydrogen generation in alkaline freshwater/seawater

Jing Li, Ruotong Guo, Xingchao Zang, Yue Wang, Hongdong Li, Weiping Xiao, Liantao Xin, Yingxia Zong, Guangying Fu, Zexing Wu* and Lei Wang*

