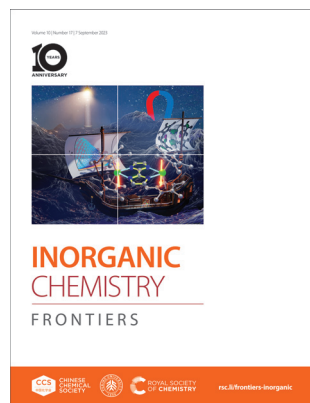


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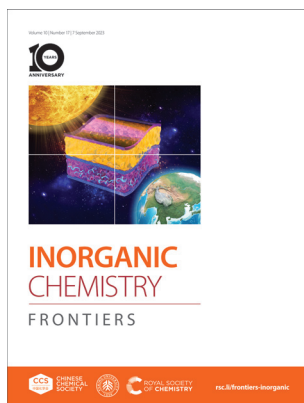
ISSN 2052-1553 CODEN ICFNAW 10(17) 4891–5200 (2023)



Cover

See Florian Benner and Selvan Demir, pp. 4981–4992.

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Inside cover

See Lianfeng Duan, Fushen Lu *et al.*, pp. 4993–5003.

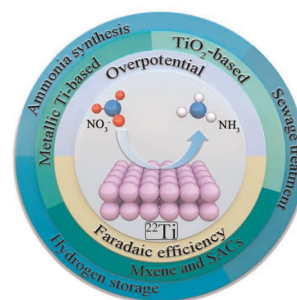
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REVIEWS

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Recent developments in Ti-based nanocatalysts for electrochemical nitrate-to-ammonia conversion

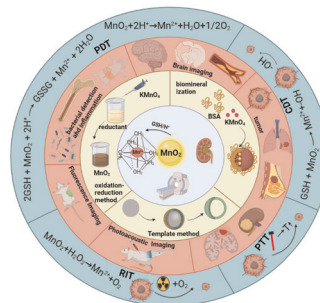
Wenda Chen, Yuan Xu, Jiaxin Liu, Huiqun Cao, Yongliang Li, Xiangzhong Ren, Shenghua Ye,* Jianhong Liu* and Qianling Zhang*



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Advances in the application of manganese dioxide and its composites for theranostics

Jiaqi Hao, Yu Zhao, Yiqi Ma, Beibei Liu, Yonglan Luo, Sulaiman Alfaifi, Xuping Sun* and Min Wu*



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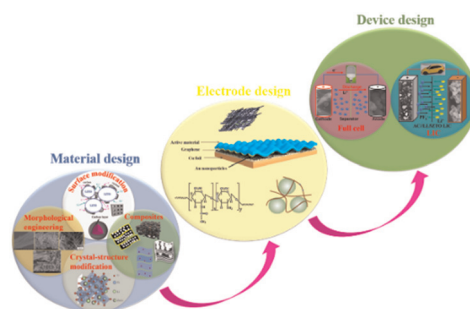


REVIEWS

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Li₂ZnTi₃O₈ anode: design from material to electrode and devices

Huanhuan Liu, Xue Zhang, Haoran Xu, Wenzhao Ma, Lijuan Wang,* Zhaohui Meng* and Fei Wang*

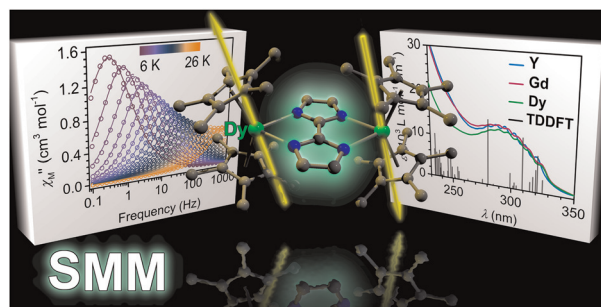


RESEARCH ARTICLES

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From unprecedented 2,2'-bisimidazole-bridged rare earth organometallics to magnetic hysteresis in the dysprosium congener

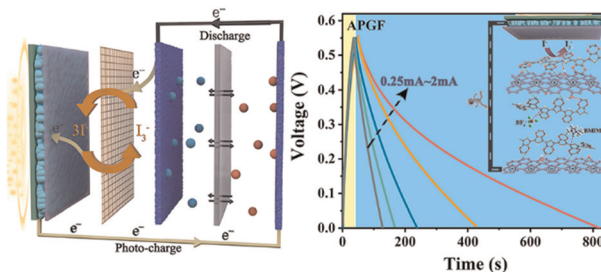
Florian Benner and Selvan Demir*



4993

Compatible and high-efficiency quasi-solid-state integrated photocapacitor based on the synergism of PEDOT/RGO electrode and gel electrolyte to improve the carrier migration

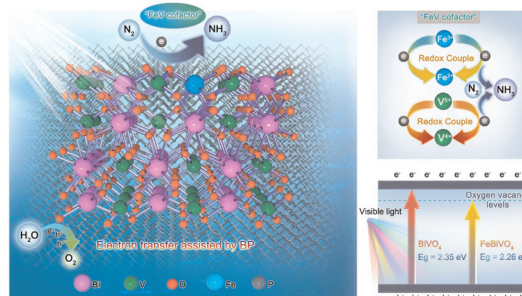
Yuan duo Qu, Siqi Liao, Liangyi Wu, Junkai Wang, Lianfeng Duan,* Xia He and Fushen Lu*



5004

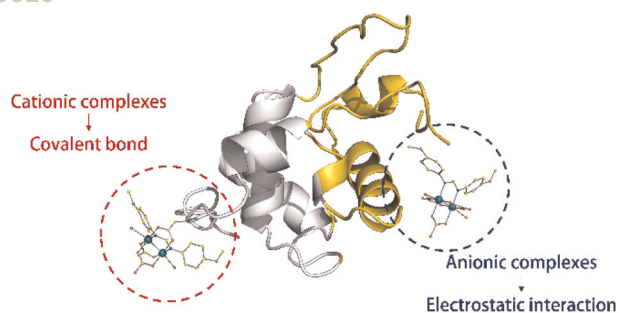
"FeV-cofactor"-inspired bionic Fe-doped BiVO₄ photocatalyst decorated with few-layer 2D black phosphorus for efficient nitrogen reduction

Hongda Li, Shuai Jian, Boran Tao, Guoxiao Xu, Baosheng Liu, Shaonan Gu,* Guofu Wang* and Haixin Chang*



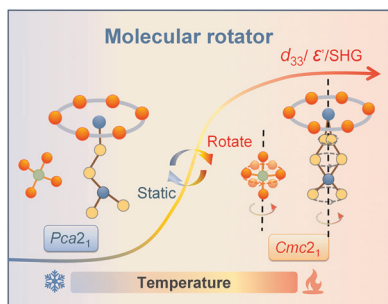
RESEARCH ARTICLES

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**Charge effect in protein metalation reactions by diruthenium complexes**

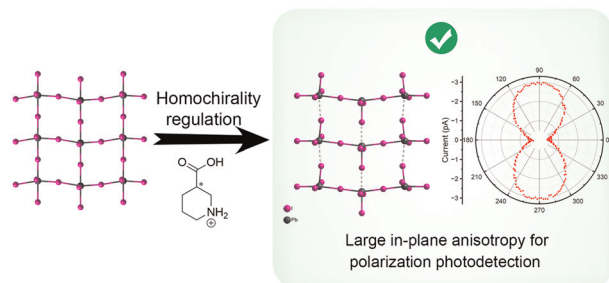
Aarón Terán, Giarita Ferraro, Ana E. Sánchez-Peláez, Santiago Herrero* and Antonello Merlino*

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**Remarkable enhancement of optical and electric properties by temperature-controlled solid-phase molecular motion**

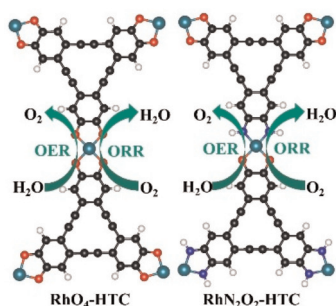
Meng-Meng Lun, Chang-Yuan Su, Qiang-Qiang Jia, Zhi-Xu Zhang, Jie Li, Hai-Feng Lu,* Yi Zhang* and Da-Wei Fu*

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**Large in-plane anisotropic 2D perovskites toward highly linear polarized light responses**

Bei-Dou Liang, Chang-Chun Fan, Cheng-Dong Liu, Tong-Yu Ju, Chao-Yang Chai,* Xiang-Bin Han* and Wen Zhang*

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**Two-dimensional conductive metal-organic frameworks as efficient electrocatalysts for oxygen evolution and reduction reactions**

Yanan Zhou, Li Sheng, Lanlan Chen, Qiquan Luo, Wenhui Zhao,* Wenhua Zhang* and Jinlong Yang*



Rational construction of VSe₂ encapsulated in seleniumized polyacrylonitrile toward a high-rate capacity and wide temperature tolerance for potassium-ion batteries

A three-dimensional Mn(II) coordination polymer with ferroelasticity obtained by introducing coligands to form novel networks

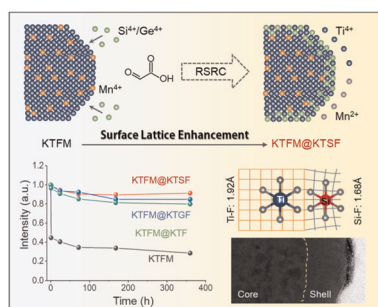
Co-doped long persistent luminescence materials $\text{LiSr}_3\text{SiO}_4\text{Cl}_3\text{:Eu}^{2+}, \text{Ln}^{3+}$ ($\text{Ln} = \text{Dy}, \text{Ho}, \text{Er}$): construction and verification of VRBE and HRBE scheme and their multifunctional applications

Figure 1 consists of four panels. Panel (a) shows HRBE (red line) and VRBE (blue line) spectra of LSSOC-Eu₂O₃ (red line) and LSSOC-Eu₂O₃ (blue line). The x-axis is the number of electrons in the 4f-shell of La³⁺ (0 to 14), and the y-axis is energy in eV (-2 to 6). Panel (b) shows a plot of ln(T₂/β) vs. 1/(hν_{1/2}) (eV⁻¹) for LSSOC-Eu₂O₃ (red line) and LSSOC-Eu₂O₃ (blue line). The x-axis ranges from 26 to 38, and the y-axis ranges from 12 to 16. Panel (c) shows SEM images of LSSOC-Eu₂O₃ (a) and LSSOC-Eu₂O₃ (b). Panel (d) shows PL intensity (a.u.) vs. Decay Time (ms) for LSSOC-Eu₂O₃ (red line) and LSSOC-Eu₂O₃ (blue line). The x-axis ranges from 0 to 10, and the y-axis ranges from 10⁰ to 10⁴. An inset shows the decay time of LSSOC-Eu₂O₃ (red line) and LSSOC-Eu₂O₃ (blue line) at 332 nm.

Fast rotating dipole array inducing large dielectric response in a Ruddlesden–Popper hybrid perovskite ferroelastic

RESEARCH ARTICLES

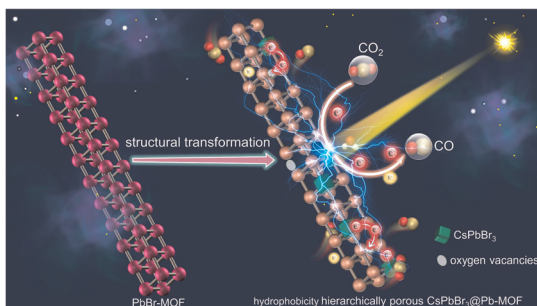
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Surface lattice enhancement of red-emitting fluorides enabled by embedding small cations

Pingping Wan, Chen Yang, Aolin Wang, Liping Yu, Shixun Lian and Wenli Zhou*

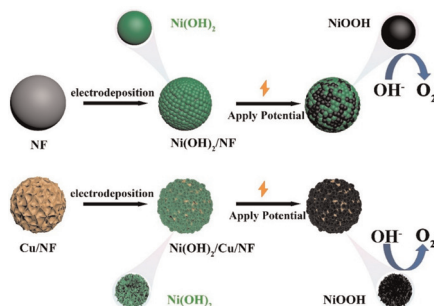
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Oxygen vacancies confined in hierarchically porous CsPbBr₃@Pb-MOF through *in situ* structural transformation for promoting photocatalytic CO₂ reduction

Yangwen Hou, Man Dong, Jingting He, Jing Sun, Chunyi Sun,* Xiao Li, Xinlong Wang and Zhongmin Su*

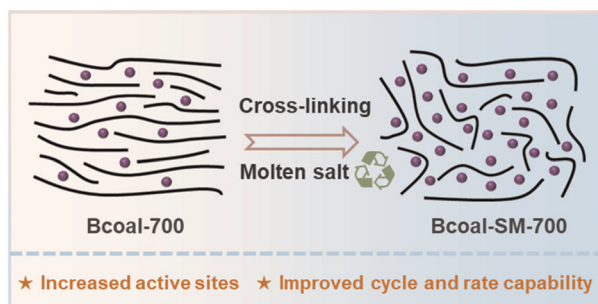
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A copper interface promotes the transformation of nickel hydroxide into high-valent nickel for an efficient oxygen evolution reaction

Junjun Zhang, Fengchen Zhou, Aiming Huang, Yong Wang, Wei Chu* and Wen Luo*

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Molten salt assisted fabrication of coal-based carbon anode materials for efficient Na ion storage

Wei Zhang, Ning Sun,* He Chen, Razium Ali Soomro and Bin Xu*

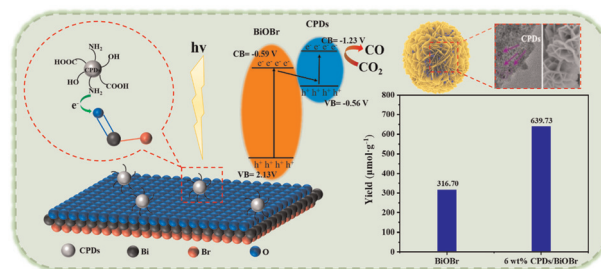


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Up-conversion effect boosted the photocatalytic CO₂ reduction activity of Z-scheme CPDs/BiOBr heterojunction

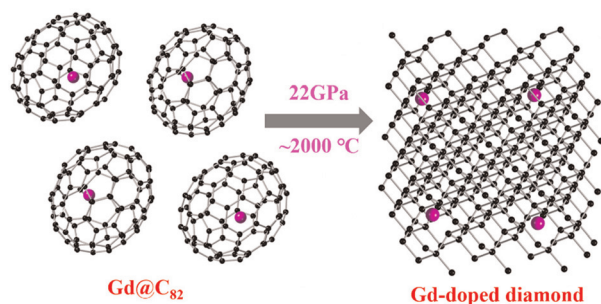
Jing Xie,* Xiaojing Zhang, Zhenjiang Lu, Jindou Hu, Aize Hao, Yue Feng and Yali Cao*



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Gd-doped diamond synthesized using Gd@C₈₂ under high pressure and high temperature

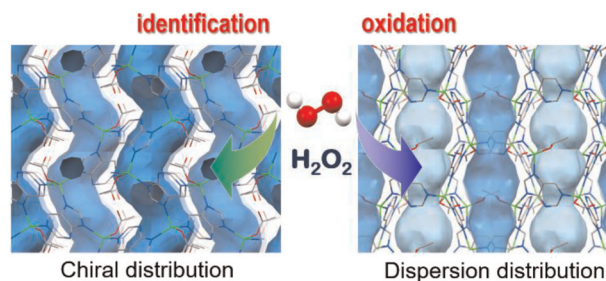
Shuhang Liu, Jun Han, Rongli Cui, Xin Yang, Yunfan Fei, Xingyu Tang, Yida Wang, Yajie Wang, Yongjin Chen, Jiajia Feng, Haiyan Zheng, Kuo Li* and Xiaoyang Liu*



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Recognition, detection and host–guest chemistry of hydrogen peroxide in a fluorescent metal–organic framework with chiral helical channels

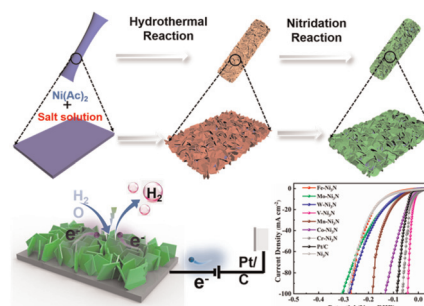
Hong Cai,* Jie-Wen Wu, Xiao-Jun Cai, Zhou Lu, Ya-Liang Lai, Jing-Xuan Sun, Zhuo-Li Yuan, Yang-Ying Huang, Jing-Wen Cai, Wen Lu, Yi-Hong Lu, Hui-Ying Zhang and Dan Li*



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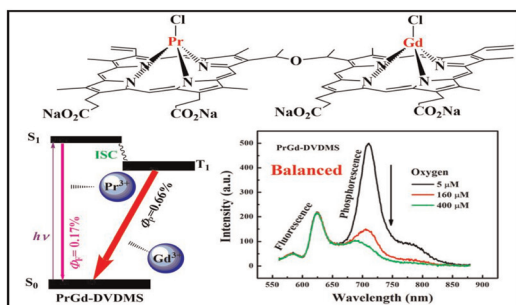
Formulating a heterolytic cleavage process of water on Ni₃N nanosheets through single transition metal doping for ultra-efficient alkaline hydrogen evolution

Wansen Ma, Meng Wang, Chaowen Tan, Jiancheng Wang, Yanan Dai, Liwen Hu, Xuwei Lv, Qian Li and Jie Dang*



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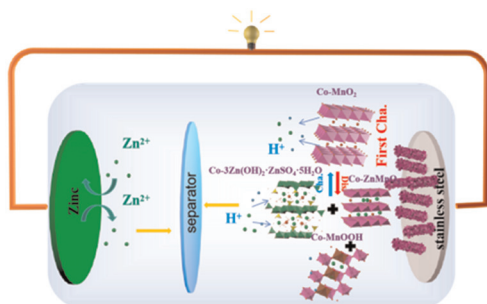
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Balancing the phosphorescence and fluorescence of a double-ring porphyrin using different lanthanides for ratiometric oxygen sensing

Huimin Zhao,* Qingqing Wang, Shumin Wang, Junyue Yin, Huibin Wang, Wenhao Shao, Zixin Yao, Jianting Yao and Lixin Zang*

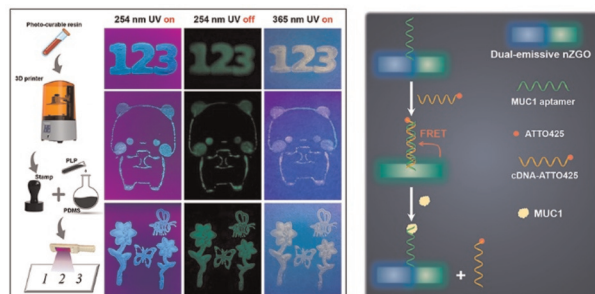
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Cobalt-doped δ -MnO₂/CNT composites as cathode material for aqueous zinc-ion batteries

ShuLing Liu,* Jie Wang, ZiXiang Zhou, Ying Li, Wei Zhang and Chao Wang

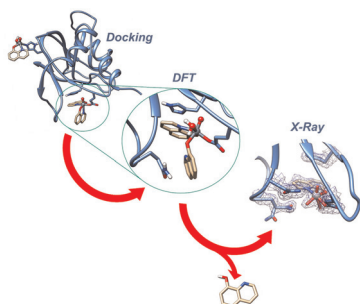
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Dual-emissive persistent luminescent phosphors for multi-mode anti-counterfeiting and ratiometric luminescent aptasensors

Peng Lin, Junpeng Shi,* Lin Liu, Yile Kang, Liang Song, Maochun Hong* and Yun Zhang*

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Interaction of V^{IV}O–8-hydroxyquinoline species with RNase A: the effect of metal ligands in the protein adduct stabilization

Giarita Ferraro, Luigi Vitale, Giuseppe Sciortino, Federico Pisanu, Eugenio Garribba* and Antonello Merlino*

