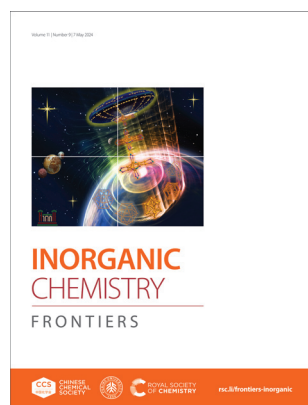


IN THIS ISSUE

ISSN 2052-1553 CODEN ICFNAW 11(9) 2511-2808 (2024)



Cover

See Jian-Hua Jia *et al.*,
pp. 2553–2561.

Image reproduced by
permission of Jian-Hua Jia
from *Inorg. Chem. Front.*,
2024, **11**, 2553.

PROFILE

2521

Contributors to the *Inorganic Chemistry Frontiers* Emerging Investigator Series 2022–2023

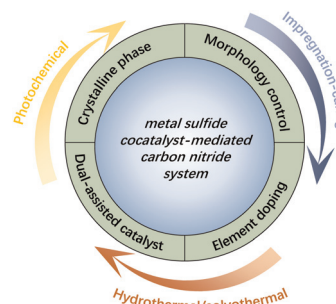


REVIEW

2527

Recent progress on the photocatalytic hydrogen evolution reaction over a metal sulfide cocatalyst-mediated carbon nitride system

Xunhuai Huang, Junpeng Song, Guanyu Wu,
Zhihuan Miao, Yanhua Song* and Zhao Mo*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers

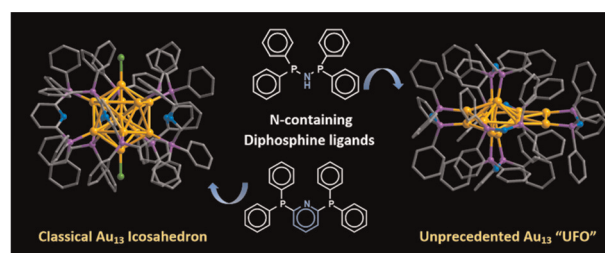


RESEARCH ARTICLES

2553

Tailoring two magic number Au₁₃ nanoclusters with N-containing diphosphine ligands: a classical icosahedral core vs. an unprecedented UFO-shaped core

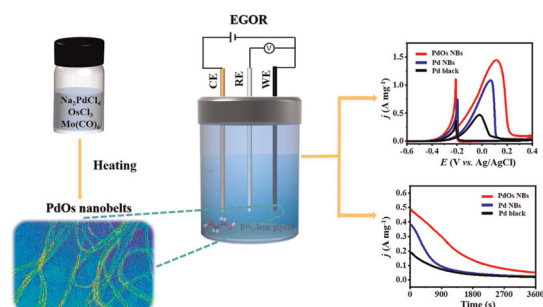
Jing Liu, Jia-Chuan Liu, Hai-Ling Wang, Pei-Yu Liao, Jian-Hua Jia* and Ming-Liang Tong



2562

Defect-rich Pd@PdOs nanobelts for electrocatalytic oxidation of ethylene glycol

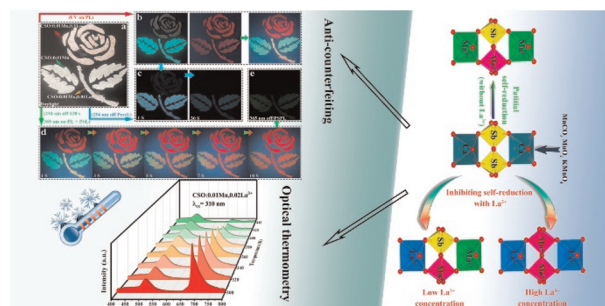
Xianlong Wang, Xuewen Wei, Ruifan Zhang, Min Yan, Ranran Wei, Xiaoying Zhang, Zhaoyou Zhu, Yinglong Wang, Xinling Zhao and Shuli Yin*



2570

Modulating Mn self-reduction and multimodal luminescence in CaSb₂O₆ through La³⁺ doping for quadruple-mode dynamic anti-counterfeiting and optical temperature sensing applications

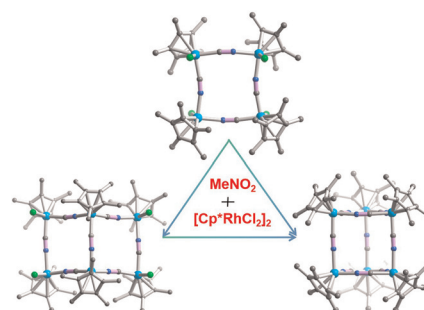
Fenzhong Long, Lu Xie, Jiawei Fu, Kaian Shan, Huihui Fei and Xinmin Zhang*



2590

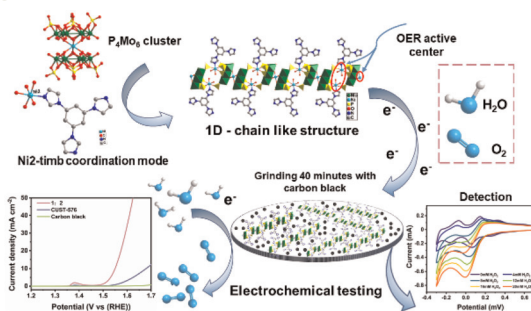
An unusual reaction in nitromethane solution: use of the Cp*Rh moiety to form Prussian blue analogues

Huirong Ma, Liangchen Liu, Yuluan Liao, Huatian Shi, Po Sun* and Weibin Yu*



RESEARCH ARTICLES

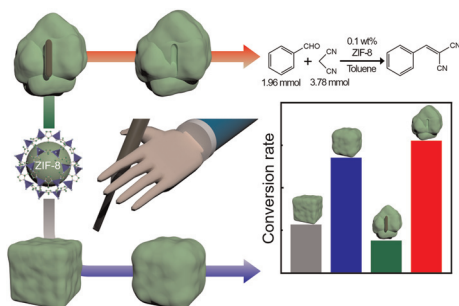
2598



An hourglass-shaped nickel-based polyoxometalate crystalline material as a highly efficient bifunctional electrocatalyst for the oxygen evolution reaction and detection of H₂O₂

Yajie Li, Na Zhu, Zhixuan Su, Xiaoli Hu,* Zhiyu Dou* and Zhongmin Su*

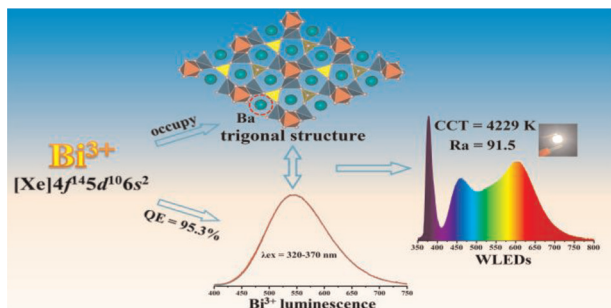
2608



Harnessing nanoscale spatial effects in inner-modified zeolitic imidazolate framework-8 for enhanced Knoevenagel condensation reaction

Semi Kim, Seojeong Woo, Cheongwon Bae, Yuri Jeon, Yeeun Seong, Song Li and Juyeong Kim*

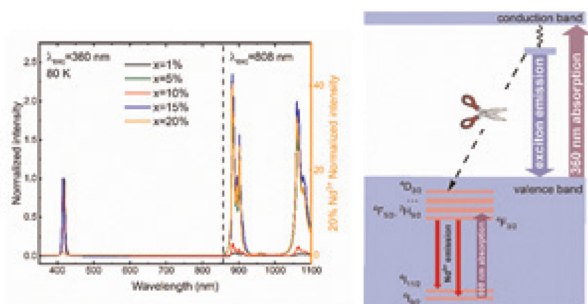
2616



Crystal structure, Bi³⁺ yellow luminescence, and high quantum efficiency of Ba₃SbAl₃Ge₂O₁₄:Bi³⁺ phosphor for white light-emitting diodes

Huihui Fei, Baolong Jing, Jin Han,* Kaian Shan, Dongming Cheng, Xueqing Xu,* Xinmin Zhang and Jing Wang*

2626



Synthesis and characterization of a CsPbCl₃ perovskite doped with Nd³⁺: structural, optical, and energy transfer properties

Mariusz Stefanski,* Bartosz Bondzior, Adam Basinski, Maciej Ptak, Bibo Lou and Chong-Geng Ma

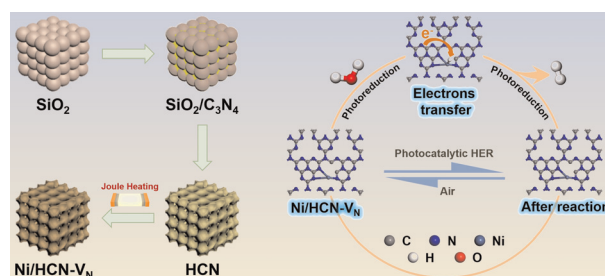


RESEARCH ARTICLES

2634

Rapid Joule heating synthesis of Ni doped into porous honeycomb C_3N_4 with greatly improved photocatalytic H_2 production

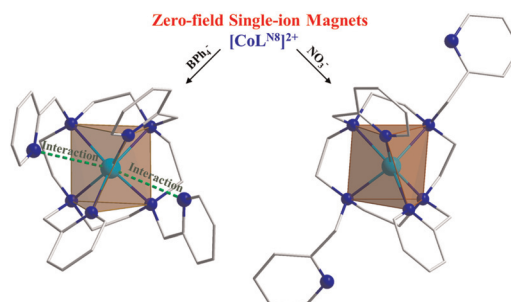
Zehui Zhao, Guangmin Ren, Zisheng Zhang, Xiangchao Meng and Zizhen Li*



2648

Effects of weak intramolecular interactions and distortions from trigonal prismatic coordination on the magnetic properties of zero-field $Co(II)$ single-ion magnets

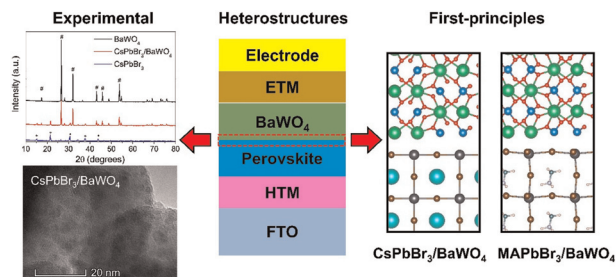
Ben Zhang, Yang Zhou, Hao-Yi Huang, Xiao-Le Zhang, Yi Xiang, Yanbo Shi, Chennan Zhang, Aihua Yuan, Xingwei Cai, Lei Chen,* Yi-Quan Zhang* and Zhao-Bo Hu*



2661

Adhesion, stability, structural and electronic properties of perovskite/ $BaWO_4$ heterostructures: first-principles and experimental characterizations

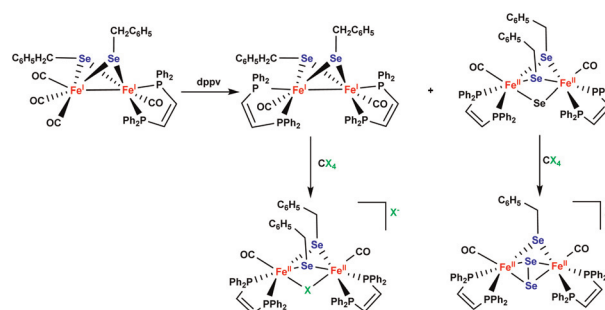
Yao Guo, Shiding Zhang,* Zhaoyu Zhang, Yuanbin Xue, Jianxin Li, Haixiang Song, Yuhua Wang* and Qing Shen*



2672

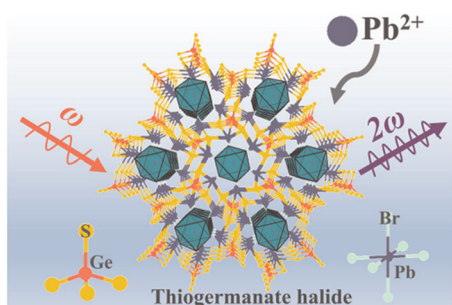
Facile access to tetra-substituted $Fe^{II}Fe^{II}$ biomimetics for the oxidized state active site of $[FeFe]$ -hydrogenases

Xin-Ping Gao, Shu-Fen Bai, Yan-Lan Wang, Shuang Lü* and Qian-Li Li*



RESEARCH ARTICLES

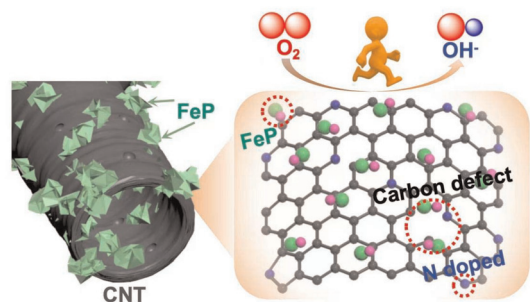
2681



$\text{Pb}_{3.5}\text{GeS}_4\text{Br}_3$: the first phase-matching thiogermanate halide infrared nonlinear optical material

Jiazheng Zhou, Hongshan Wang, Junjie Liu, Xin Su, Yu Chu,* Jiale Qu* and Xiangzhan Jiang*

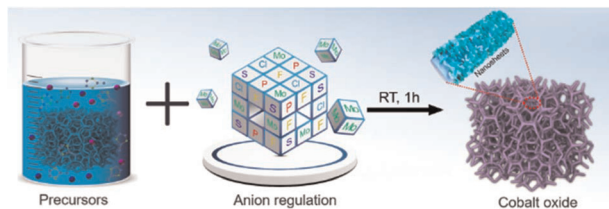
2690



NH_3 plasma-etching-derived porous N-doped carbon nanotubes with FeP nanoparticles and intrinsic carbon defects for boosting oxygen reduction in rechargeable Zn–air batteries

Bing Chen, Minjie Zhou,* Na Zhang, Xianglin Deng and HaiHua Yang*

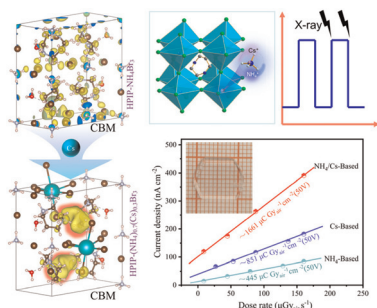
2702



Large-scale fabrication of ZIF-derived electrocatalysts for industrial oxygen evolution

Liangjun Chen, Zhuowen Huangfu, Xuelin Yang, Hang Lei,* Zilong Wang* and Wenjie Mai

2709



Synergistic role of hydrogen bonding and band degeneracy leads to enhanced X-ray detection in $\text{HPIP}-(\text{NH}_4)_{0.7}\text{Cs}_{0.3}\text{Br}_3 \cdot \text{H}_2\text{O}$ perovskites

Pengxiang Dong, Chensheng Lin, Xin Zhao, Yicong Lv, Ning Ye and Min Luo*

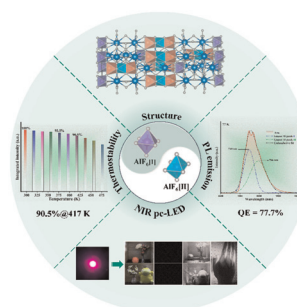


RESEARCH ARTICLES

2718

Rational design for broad near-infrared emission from a two-sited $\text{Rb}_2\text{LiAlF}_6:\text{Cr}^{3+}$ phosphor with high efficiency and thermal stability for spectroscopic applications

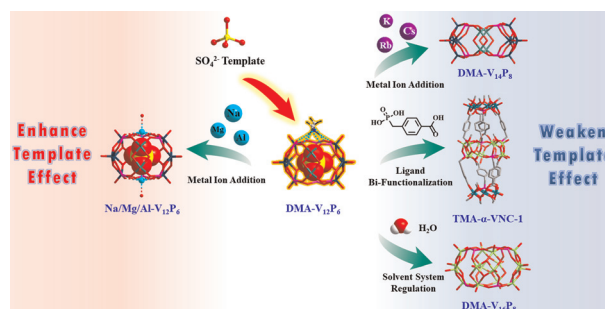
Song Qing, Jing Wan, Tao Yang, Qiang Zhou,*
Yayun Zhou, Zhengliang Wang,* Dawei Wen and
Mingmei Wu*



2726

Controlling the structural and adsorption features of polyoxovanadate-based metal-organic clusters by adjustable template effect

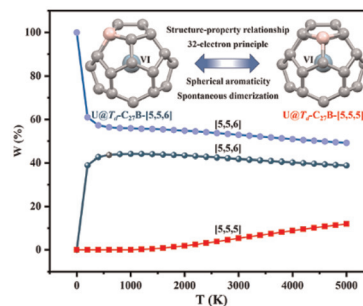
Yan-Hu Wang, Ke-Wei Tong, Chao-Qin Chen, Jing Du,
Guo-Ping Yang and Peng Yang*



2735

The smallest endohedral borafullerene: structural isomerization, electronic properties, aromaticity and reactivity of $\text{U@C}_{27}\text{B}$

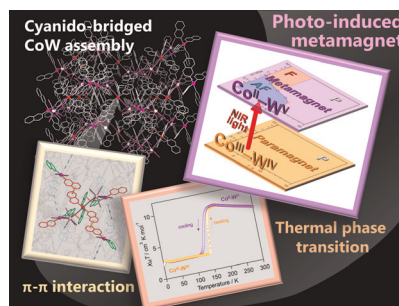
Xinde Li, Lei Lou and Peng Jin*



2752

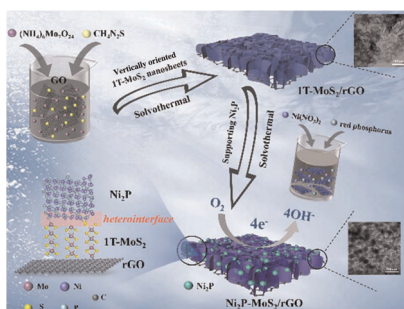
Near-infrared-photoinduced metamagnet based on a layered cyanido-bridged Co-W assembly with $\pi-\pi$ interactions

Kazuki Nakamura, Koji Nakabayashi,* Shota Kobayashi
and Shin-ichi Ohkoshi*



RESEARCH ARTICLES

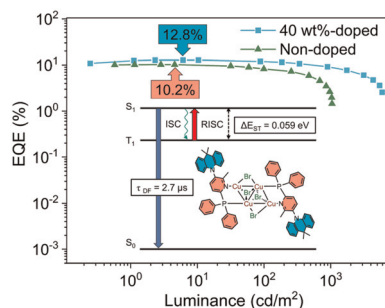
2763



Integrating multiple regulatory strategies: phase, morphology and interface engineering to construct a hierarchical Ni₂P–MoS₂/rGO heterostructure catalyst for efficient oxygen reduction reaction

Xinyi Wang, Jing Jin, Zeyuan Gao, Li Hou,* Xiwen Tao, Jing Wang,* Yueqi Zhao and Faming Gao*

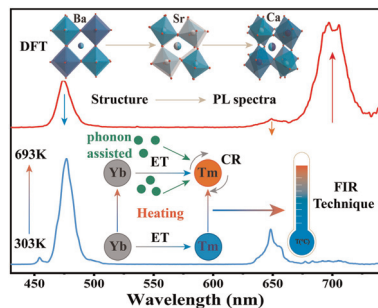
2775



Efficient doped and non-doped light-emitting diodes based on a TADF-emitting Cu₄Br₄ cluster

Xin Lu, Shao-Jie Wu, Ya-Shu Wang, Shan-Yue Wei, Lingyi Meng, Xi-He Huang,* Xu-Lin Chen* and Can-Zhong Lu*

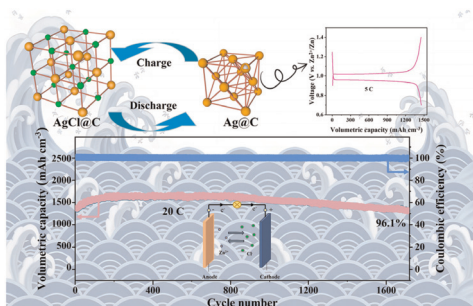
2784



Achieving high-sensitivity dual-mode optical thermometry *via* phonon-assisted cross-relaxation in a double-perovskite structured up-conversion phosphor

Houhe Dong, Zonghao Lei, Shikun Su, Wenhua Yang,* Xuyang Zhang, Wenyong Teng, Guangyue Zu, Bing Teng* and Degao Zhong*

2798



Nanocarbon armor reinforced Ag particles to build a high-rate and long-lifespan aqueous Zn²⁺/Cl⁻ dual-ion battery

Wenbo Guo, Tianyuan Zhang, Guangchang Shu, Leiyu Fan, Zhouxiang Wu, Lei Yan, Liyuan Zhang, Haoxiang Yu,* Ting-Feng Yi and Jie Shu*

