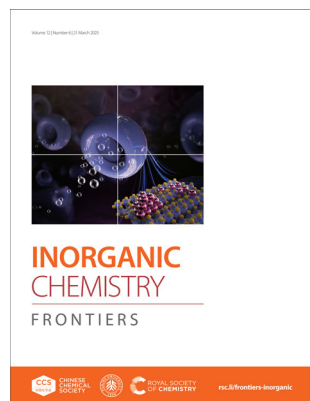


IN THIS ISSUE

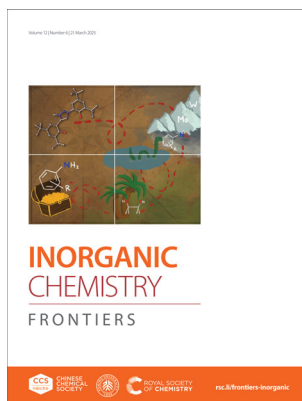
ISSN 2052-1553 CODEN ICFNAW 12(6) 2125–2540 (2025)



Cover

See Lei Liu, Sheng Wang *et al.*, pp. 2210–2223.

Image reproduced by permission of Chang Lv, Tao Wang, Yeting Fang, Yulong Ying, Lvlv Ji, Lei Liu and Sheng Wang from *Inorg. Chem. Front.*, 2025, **12**, 2210.



Inside cover

See Stephan Hohloch *et al.*, pp. 2224–2235.

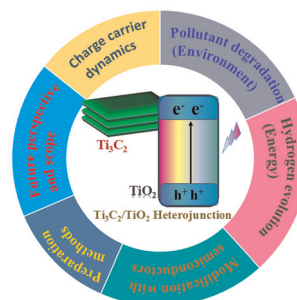
Image reproduced by permission of Stephan Hohloch from *Inorg. Chem. Front.*, 2025, **12**, 2224.

REVIEWS

2138

Review on Ti_3C_2 MXene-based binary and ternary composites for photocatalytic applications

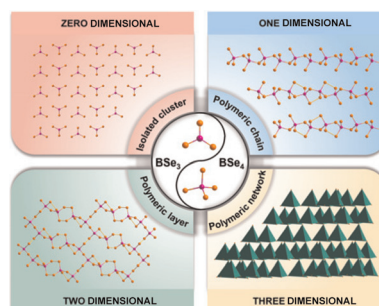
Prathibha C P, Mallapur Srinivas* and S. Girish Kumar*



2182

Selenoborates: a latent structure resource for infrared functional crystal materials

Yihan Yun, Abudukadi Tudi, Zhihua Yang, Guangmao Li* and Shilie Pan*



EES Batteries

**Exceptional research on
batteries and energy storage**

Part of the EES family

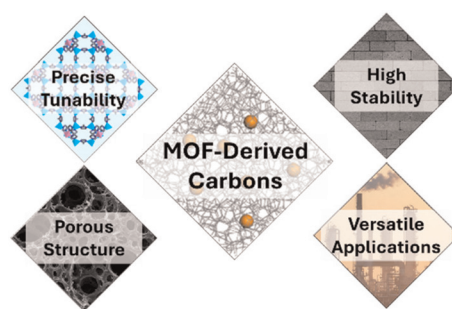
**Join
in** | Publish with us
rsc.li/EESBatteries

REVIEWS

2194

Design, analysis, and application of metal–organic framework derived carbons

Joshua A. Powell,* Yihao Yang and Hong-Cai Zhou*

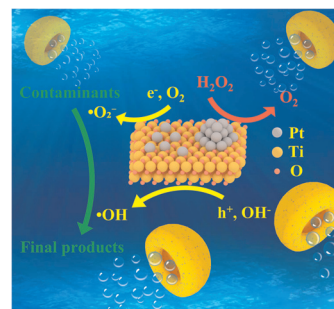


RESEARCH ARTICLES

2210

Pt single atom and atomic cluster-enhanced TiO₂ Janus micromotors for efficient bubble propulsion and photocatalytic environmental remediation

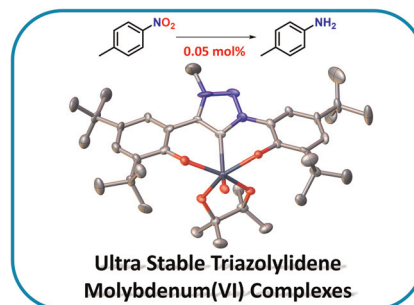
Chang Lv, Tao Wang, Yeting Fang, Yulong Ying, Lvlv Ji, Lei Liu* and Sheng Wang*



2224

Probing the influence of imidazolyldene- and triazolyldene-based carbenes on the catalytic potential of dioxomolybdenum and dioxotungsten complexes in deoxygenation catalysis

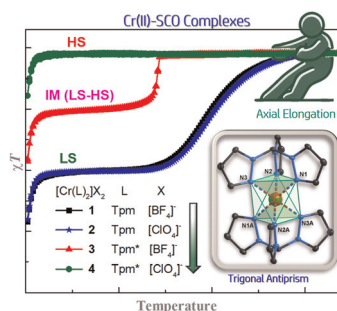
Florian R. Neururer, Florian Heim, Marc Baltrun, Philipp Boos, Julia Beerhues, Michael Seidl and Stephan Hohloch*



2236

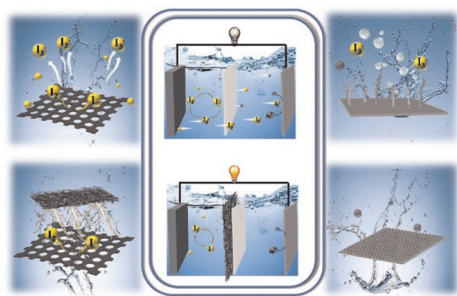
Trigonal antiprismatic mononuclear Cr(II) spin-crossover complexes

Shihao Liu, Qi Liu, Yi-Fei Deng* and Yuan-Zhu Zhang*



RESEARCH ARTICLES

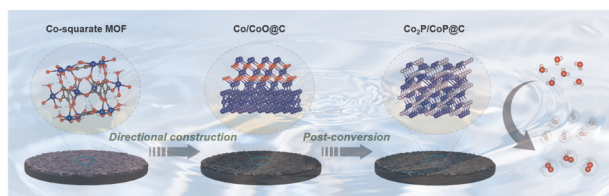
2245



Functional modified separator with high-entropy material for high-performance Zn–I₂ batteries

Hongfeng Jia, Yanxin Li, Yuehan Hao, Usman Ali, Bingqiu Liu, Lu Li, Lingyu Zhang, Liang Zhao,* Sun Hang and Chungang Wang*

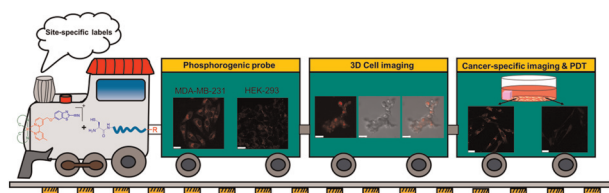
2254



Oxygen-coordinated MOF membrane facilitated construction of supported Co₂P/CoP@C hetero-structures for water electrolysis

Chongxi Zhang, Fengting Li, Dong Wu, Qingmeng Guo, Zhanning Liu, Zhikun Wang, Zixi Kang, Lili Fan* and Daofeng Sun

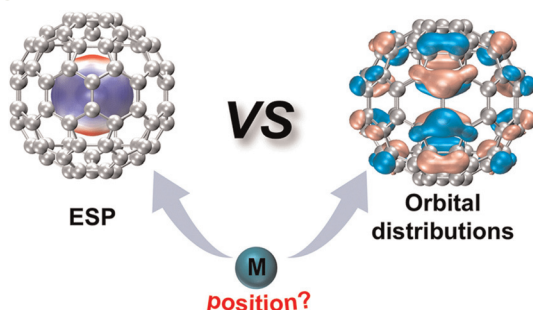
2266



Luminescent iridium(III) 2-cyanobenzothiazole complexes as site-specific labels to afford peptide-based phosphorogenic probes and hydrogels for enzyme activity sensing, cancer imaging and photodynamic therapy

Jun-Wen Xu, Lawrence Cho-Cheung Lee, Alex Man-Hei Yip, Guang-Xi Xu, Peter Kam-Keung Leung and Kenneth Kam-Wing Lo*

2280



What determines the Th/U atom positions inside fullerenes?

Jilong Chen, Lei Lou and Peng Jin*

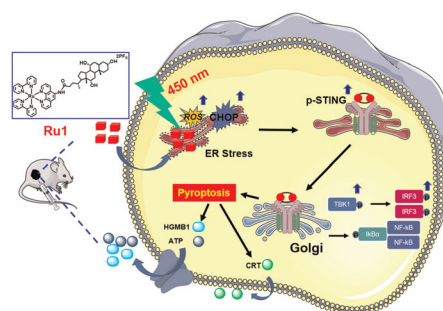


RESEARCH ARTICLES

2294

Photoactivation of the cGAS-STING pathway and pyroptosis by an endoplasmic reticulum-targeting ruthenium(II) complex for cancer immunotherapy

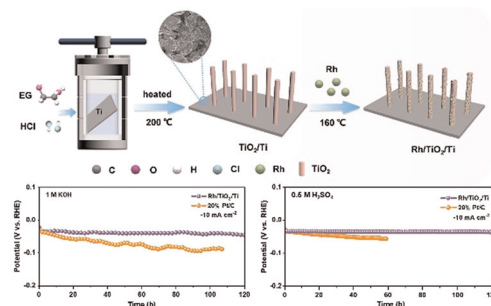
Bin-Fa Liang, Shan Jiang, Yun-Shi Zhi, Zheng-Yin Pan,*
Xiu-Qing Su, Qin Gong, Zhen-Dan He, Da-Hong Yao,
Liang He* and Chen-Yang Li*



2303

Stabilizing Rh nanoparticles using a TiO₂ array with oxygen vacancies for high-performance pH-wide hydrogen evolution

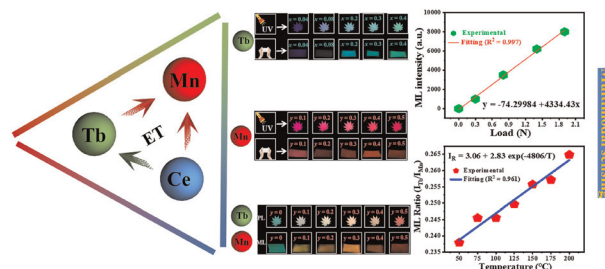
Guangxia Wang, Wenhui Wang, Yaozhong Yu, Tao Hu,*
Juan Ding* and Yongming Sui*



2315

Multicolor mechanoluminescence for integrated dual-mode stress and temperature sensing

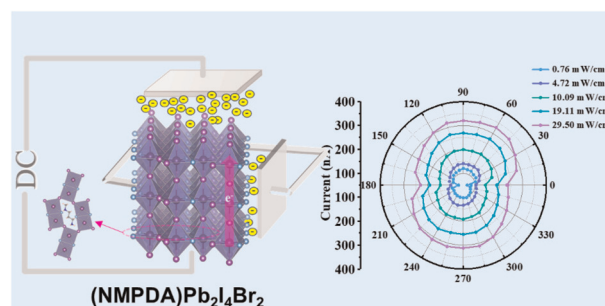
Pengfei Zhang, Ziyi Guo, Zhiting Wei, Wenbo Chen,*
Qinping Qiang, Bitao Liu, Tianchun Lang, Lingling Peng,
Wenjie Wang* and Lei Zhao*



2325

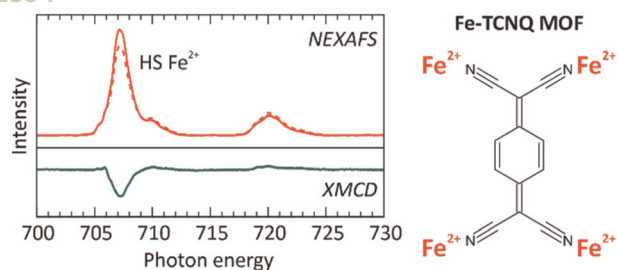
A three-dimensional lead iodide-bromide perovskitoid with distinct photoelectric anisotropy

Zixian Yu, Kuan Kuang, Jie Yang, Junyuan Duan,*
Mingkai Li,* Yunbin He* and Junnian Chen*



RESEARCH ARTICLES

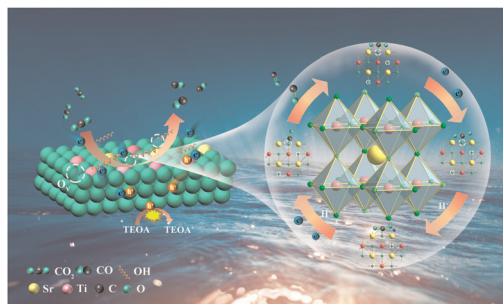
2334



Robust high-spin Fe^{2+} centers in 2D TCNQ-based metal–organic frameworks

Yan Yan Grisan Qiu,* Simone Mearini, Daniel Baranowski, Iulia Cojocariu, Matteo Jugovac, Giovanni Zamborlini, Pierluigi Gargiani, Manuel Valvidares, Vitaliy Feyer* and Claus Michael Schneider

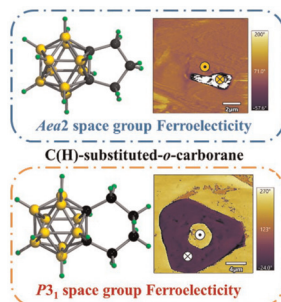
2341



Stabilization of COOH^* intermediate through hydroxylation engineering for remarkably efficient photocatalytic CO_2 reduction

Zhende Wu, Jing Xie,* Zhenjiang Lu, Jindou Hu and Yali Cao*

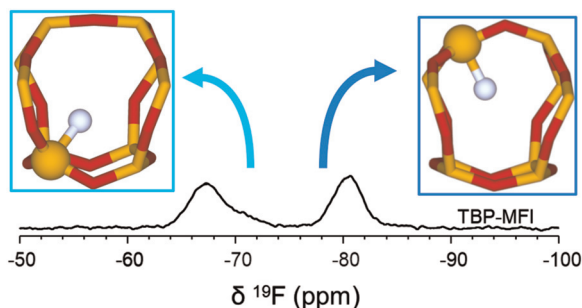
2352



Ferroelectric crystals with naphthenic hydrocarbon-modified carborane vertices

Wenjing Guo, Xiao Sun, Wenkang Cheng, Guoyong Chen, Ying Wei, Zhenhong Wei* and Hu Cai*

2359



New insights into fluoride's role in MFI zeolites: unveiling the link between location and synthesis conditions

Joaquín Martínez-Ortigosa, Reisel Millán, Jorge Simancas, J. Alejandro Vidal-Moya, Charlotte Martineau-Corcós, Fernando Rey* and Teresa Blasco*

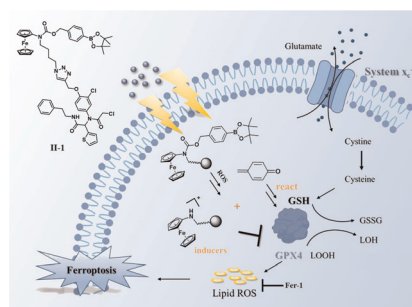


RESEARCH ARTICLES

2368

Synthesis and bio-evaluation of aminoferrocene-based anticancer prodrugs as potent ferroptosis inducers

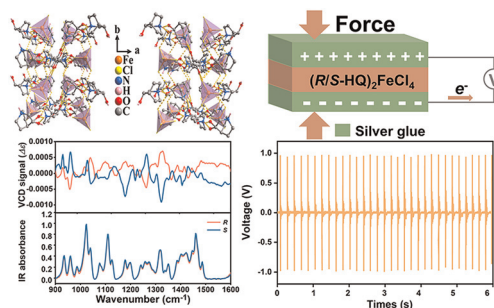
Qianer Zhang, Xuejing Fan, Huimei Qian, Shanshan Xiao, Qin Song, Yicheng Wang, Jing Wang, Shuang Yang and Yong Wang*



2387

Enantiomeric Fe(II)-incorporated organic–inorganic hybrid crystals for energy harvesting

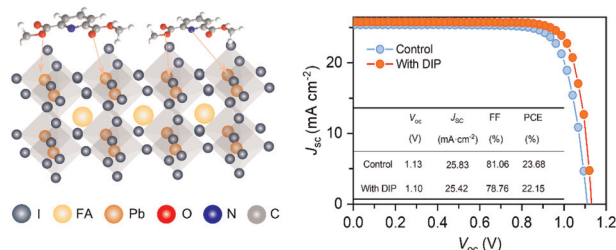
Dan Lu, Yun-Hui Yu, Yong Yu, Yan-Ran Weng, Jia-Zi She and Yong Ai*



2395

Multidentate chelation via pyridine-based molecules for high-efficiency perovskite solar cells

Yongxiang Zhang, Jinfeng Zhang, Aiqin Sun, Zhiqian Yang, Mengting Han, Yang Huang, Mei Lyu, Yan Meng*, Jun Zhu* and Linhua Hu*



2404

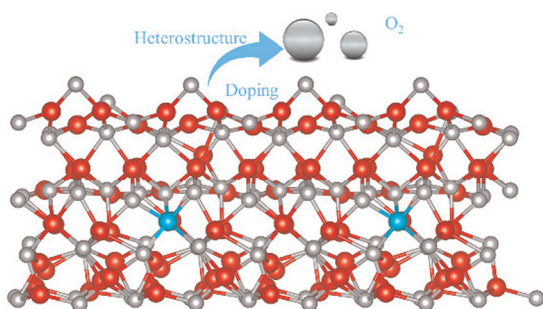
Cyclometalated half-sandwich iridium(III) and rhodium(III) complexes as efficient agents against cancer stem-cell mammospheres

Dana Josa, Piedad Herrera-Ramírez, Xiao Feng, Albert Gutiérrez, David Aguilà, Arnald Grabulosa*, Manuel Martínez, Kogularamanan Suntharalingam* and Patrick Gamez*



RESEARCH ARTICLES

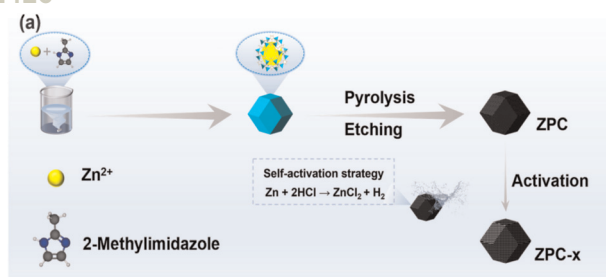
2417



Fe-doped $\text{Ni}_3\text{S}_2/\text{NiS}$ heterojunction with improved electrocatalytic activity and stability for the alkaline oxygen evolution reaction

Jiening Sun, Licheng Miao,* Zhichuan J. Xu and Zhipeng Sun*

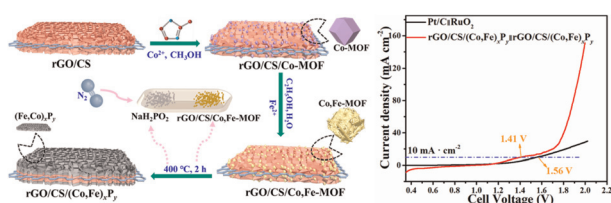
2426



A self-activation strategy to prepare ZIF-8 derived N,O co-doped meso-microporous carbon for zinc ion hybrid capacitors

Yanyan Wang, Te Huo, Chunxia Chen, Lan Wang,* Lichao Tan, Xiaoliang Wu* and Xin Wang*

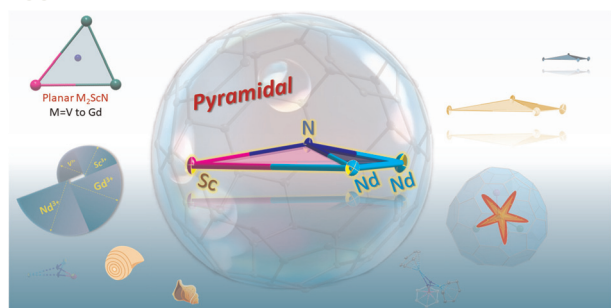
2439



Multiple interface coupling triggered built-in electric field over double-sandwiched RGO/cobalt silicate/cobalt-iron phosphide for improving the overall water-splitting performance

Yifu Zhang,* Xianfang Tan, Xiaoyu Pei, Yang Wang, Shengping Yi, Qiushi Wang,* Xiaoming Zhu, Changgong Meng and Chi Huang*

2453



Pyramidal Nd_2ScN inside an icosahedral C_{80} cage

Wei Yang, Yaofeng Wang, Alexey A. Popov* and Fupin Liu*

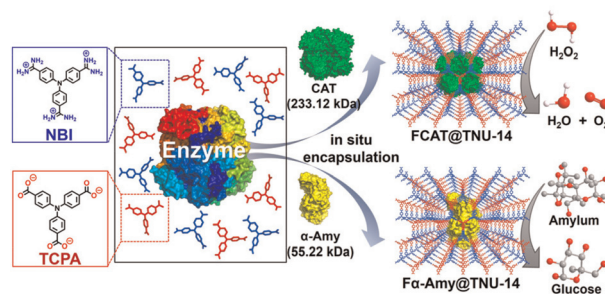


RESEARCH ARTICLES

2459

A charge-assisted hydrogen-bonded organic framework as a host platform for enzyme immobilization and robust biocatalysis

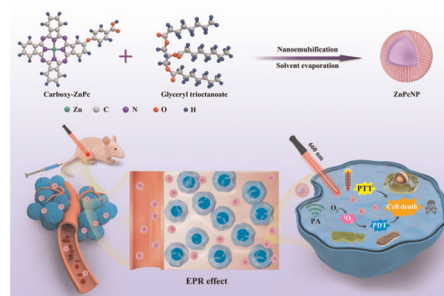
Jie Xu, Mengxuan Zuo, Hanyuan Zhang, Zhengyi Di* and Cheng-Peng Li*



2468

Novel zinc(II) phthalocyanine nanoparticles as a diagnosis–treatment nanoprobe for photoacoustic-imaging-guided synergistic photothermal/photodynamic-enhanced cancer therapy

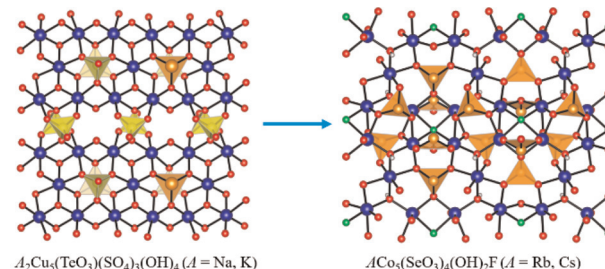
Min He, Yidong Bin, Lixian Huang, Caiying Li, Yuzhen Ma, Yanni Luo, Shulin Zhao* and Jinzhe Liang*



2478

Synthesis, structure and magnetic properties of $\text{ACo}_5(\text{SeO}_3)_4(\text{OH})_2\text{F}$ ($\text{A} = \text{Rb}, \text{Cs}$): the first compounds with a distorted 2-uniform lattice (T29)

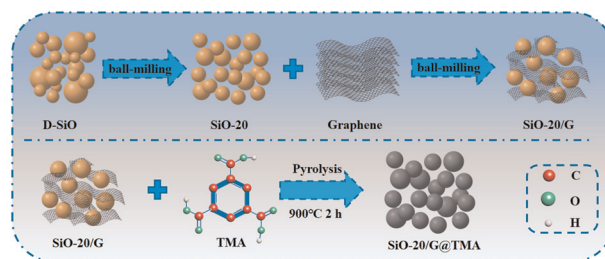
Wenhao Zhang, Meiyan Cui, Zhiying Zhao, Tianyu Zhu and Zhangzhen He*



2485

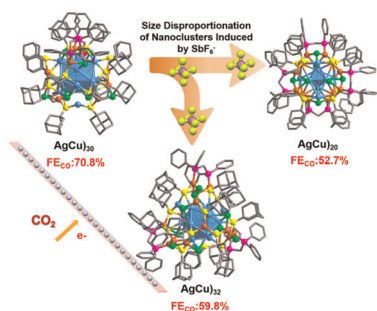
Stepwise carbon coated submicron silicon dioxide anode for long life lithium ion batteries

Mengqi Man, Yong Guo, Tianran Hu, Ying Sun,* Aikai Yang,* Xiqing Chen and Xingchao Wang*



RESEARCH ARTICLES

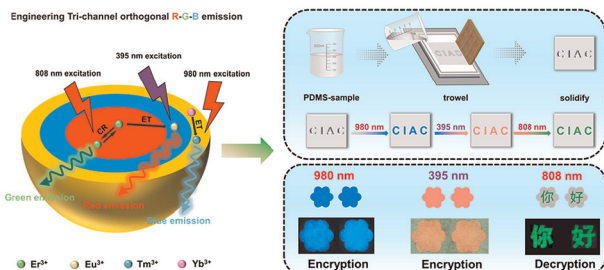
2495



Structural disproportionation of Ag₂₀Cu₁₀ highlights the impact of cluster structure on electrocatalytic properties for CO₂ reduction

Yujiao Wang, Lin Xiong, Qian Cheng, Daqiao Hu, Shan Jin* and Manzhou Zhu

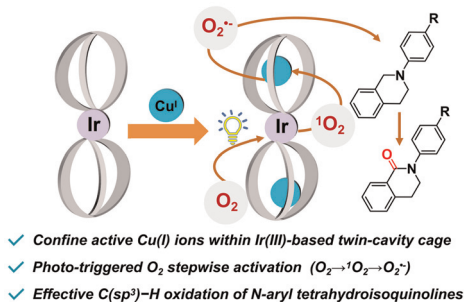
2506



Engineering tri-channel orthogonal luminescence in a single nanoparticle for information encryption

Jianhao Zheng, Pengye Du, Ran An,* Yuan Liang, Yi Wei, Shuyu Liu, Pengpeng Lei* and Hongjie Zhang*

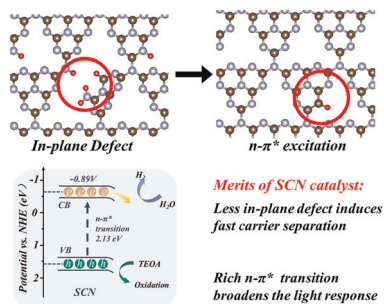
2515



Confining Cu(I) ions within an Ir(III)-based twin-cavity cage for photo-triggered dioxygen activation toward C(sp³)-H oxidation

Zhuolin Shi, Yuwen Wang, Rong Zhang, Hanshu Li, Rui Cai, Jinguo Wu, Xin Wang, Hechuan Li, Xuezhao Li* and Cheng He

2524



Insights into atomic level defect commanding coupling with n- π^* excitation in carbon nitride for enhanced photocatalytic hydrogen production and CO₂ reduction

Shukui Shi, Huibin Zong, Zhimin Yuan,* Zaiyong Jiang, Haotian Qi, Zhao Mo and Xianglin Zhu*



CORRECTION

2537

Correction: Monolithic green-sensitive photodetectors enabled by a ZnSnN₂/GaN nanorods/silicon double heterojunction

Jeong Hyeon Kim, Juchan Hwang, Soon Joo Yoon, Jongmin Kim, Yoon Kyeong Lee, Kwangwook Park* and Han Eol Lee*

