

# ChemComm

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## IN THIS ISSUE

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### Cover

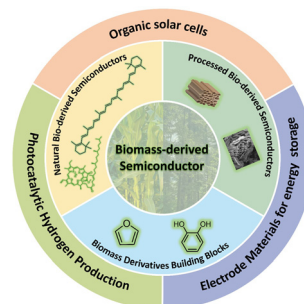
See XiaoYing Sun, Bo Li et al., pp. 7368-7383. Image reproduced by permission of Bo Li from *Chem. Commun.*, 2025, **61**, 7368.

## HIGHLIGHT

7356

### Biomass-derived semiconductors for renewable energy technologies

Siyu Ji, Shuyao Tian, Pengcheng Guan and Xu-Hui Jin\*

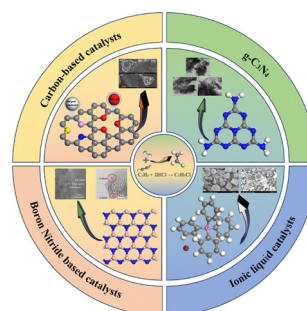


## FEATURE ARTICLES

7368

### Current status and perspective of metal-free materials as catalysts in acetylene hydrochlorination: active site, dopant, and mechanism

HuiJie Wang, LingLing Shang, BaiRan Wang, XiaoYing Sun\* and Bo Li\*



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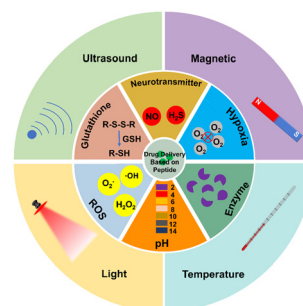
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## FEATURE ARTICLES

7384

**Stimuli-responsive peptide-based nanodrug delivery systems for tumor therapy**

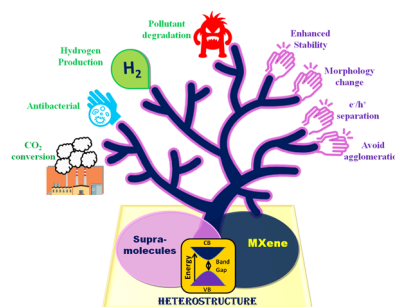
Lei Zhou, Ting-Jie Zhang, Lu Zhang, Qiu-Ying Deng, Zhi-Yu Xia, Si-Lin Chen, Dong-Bing Cheng,\* Zeng-Ying Qiao\* and Hao Wang\*



7408

**Supramolecular structure@MXenes for photocatalytic applications – a review**

Pankaj Verma, Jan H. van Maarseveen and N. Raveendran Shiju\*

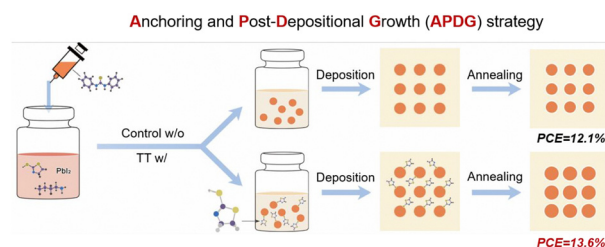


## COMMUNICATIONS

7426

**Anchoring and post-depositional growth enables matrix manipulation of PbS QD inks and efficient solar cells**

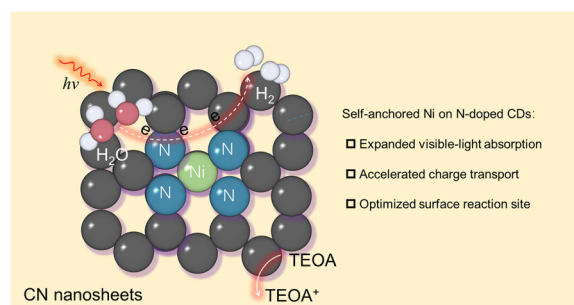
Haotian Gao, Leliang Song, Kunyuan Lu,\* Qingda Chang, Haoyu Zhao, Xiaobo Ding, Qianqian Lin, Chuang Zhang, Zeke Liu\* and Wanli Ma\*



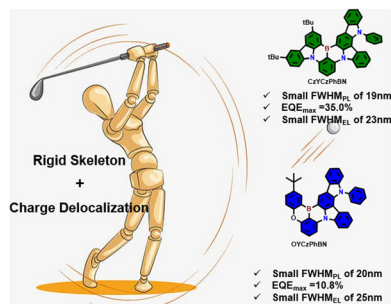
7430

**Self-anchored nickel cocatalyst on nitrogen-doped carbon dots for enhanced photocatalytic hydrogen evolution**

Wei Qin Yin, Ganghua Zhou, Xin Ning,\* Xiaozhi Wang\* and Xingwang Zhu\*



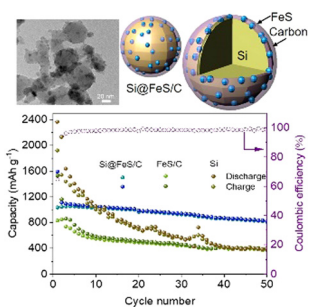
7434



### Synergistic optimization of MR-TADF materials via a rigid skeleton and charge delocalization for enhanced photoluminescence and electroluminescence performance

Jun-Yi Wang, Hao-Ran Zheng, Xunwen Xiao\* and Xu-Feng Luo\*

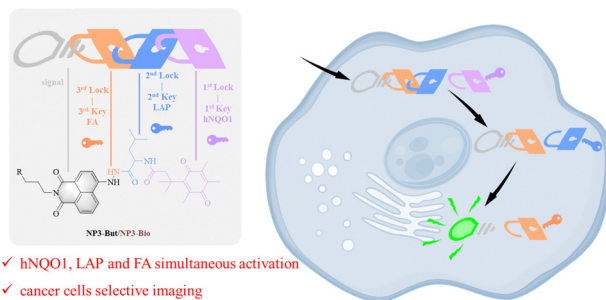
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### Engineering iron sulfide/carbon co-coated silicon nanoparticles as a lithium-ion battery anode displaying stable capacity and rate-performance

Jinyun Liu,\* Hui Zhang, Kehao Tao, Yajun Zhu, Shenglan Li, Yongmei Hua, Huizi Songtian, Tianli Han\* and Jinjin Li\*

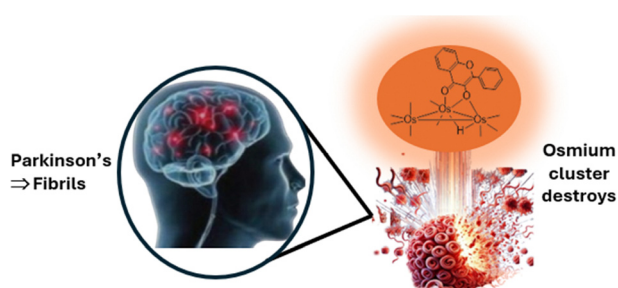
7442



### Triple-locked fluorescent probes sequentially activated by hNQO1, LAP and FA: application in bioimaging of cancer cells

Langping Zhou, Han Chen, Weibing Zhang\* and Junhong Qian\*

7446



### A triosmium carbonyl cluster that inhibits $\alpha$ -synuclein aggregation and disassembles preformed aggregates

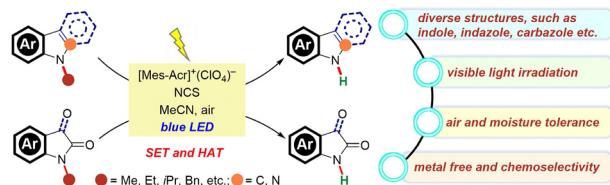
Xin Liang, Balasz Gulyas, Mathangi Palanivel and Weng Kee Leong\*



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### Visible-light-induced acridinium-catalyzed selective *N*-dealkylation of *N*-heterocycles

Shanshan Liu,\* Yaoyao Zhang, Xianying Zhou and Lin-Yu Jiao\*



7454

### Electrochemical reaction of indole-tethered alkynes enabling stereoselective synthesis of iodovinyl spiroindolenine-cyclopentanes

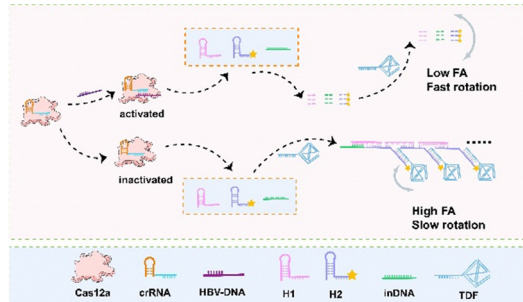
Jingrui He, Xinrui Zhou, Haibo Mei,\* Ata Makarem, Ramin Javahershenas, Vadim A. Soloshonok and Jianlin Han\*



7458

### A novel CRISPR–Cas12a-based fluorescence anisotropy method with a high signal-to-background ratio for sensitive biosensing

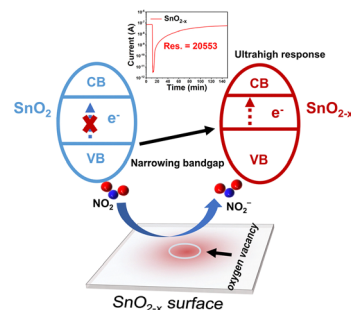
Yu Qin, Jia Li Xie, Kai Mao, Yuan Fang Li, Cheng Zhi Huang, Hong Yan Zou\* and Shu Jun Zhen\*



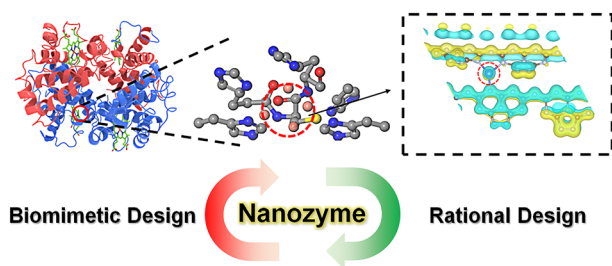
7462

### Enriched oxygen vacancies in SnO<sub>2-x</sub> with narrow bandgap for highly sensitive gas sensing

Pei-Xuan Wu, Bo-Jing Ruan, Ke-Feng Li, Wei-Hua Deng,\* Yong-Jun Chen\* and Gang Xu



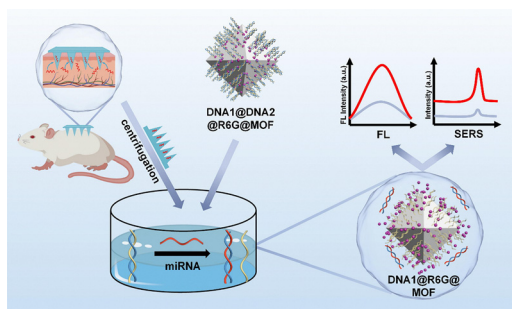
7466



### Bioinspired single-atom nanozymes for microplastic degradation

Yonghui Gao, Bin Pan, Yimeng Wang and Zhiling Zhu\*

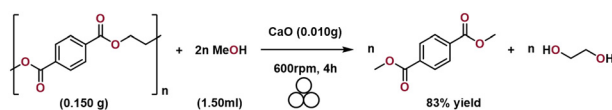
7470



### In situ enrichment and ultrasensitive analysis of interstitial fluid miRNA enabled by hydrogel microneedles coupled with DNA-gated metal-organic frameworks

Kun Zou, Zhe Hao, Yu Liu,\* Ruizhong Zhang,\* Xiyan Li and Libing Zhang\*

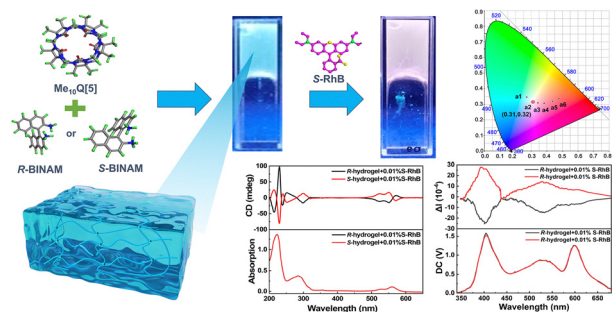
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### Mechanochemical methanolysis of polyethylene terephthalate using calcium oxide as solid base catalyst: a case study

Sophea Chrea and Atsushi Takagaki\*

7478



### Circularly polarized luminescence from decamethylcurcubit[5]uril-triggered chiral supramolecular hydrogels

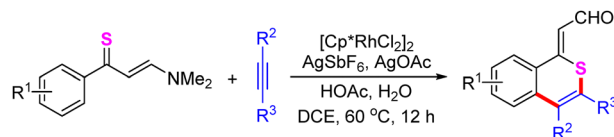
Bing An, Qingmei Ge, Hang Cong\* and Ruihan Gao\*



7482

### Synthesis of 1*H*-isothiochromenes by regioselective C–C and C–S bond formation of enaminothiones with alkynes under rhodium catalysis

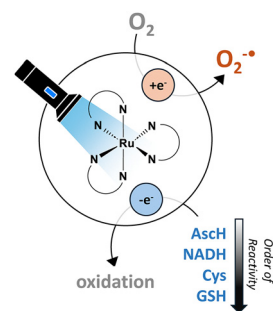
Kelu Yan,\* Yuhang Sun, Jiangwei Wen, Qiuyun Li, Xinming Yu, Wenxu Shang and Xiu Wang



7486

### Photocatalytic oxidation of biologically relevant reducing agents by [Ru(bpy)<sub>3</sub>](PF<sub>6</sub>)<sub>2</sub>

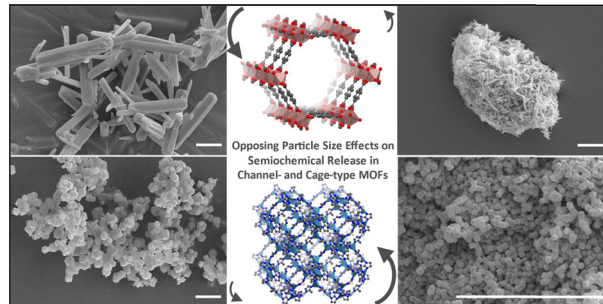
Iman Doumi, Daniella Al Othman, Shao-An Hua, Vincent Lebrun, Franc Meyer and Peter Fallér\*



7490

### Particle size effects on vapour uptake and release dynamics in metal–organic frameworks

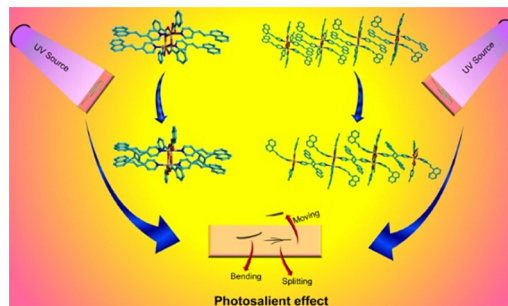
Joshua Nicks,\* Cosmin Mudure, Jordan James, Alexander McDougall, William O. H. Hughes, John Spencer, Tina Düren and Andrew D. Burrows\*



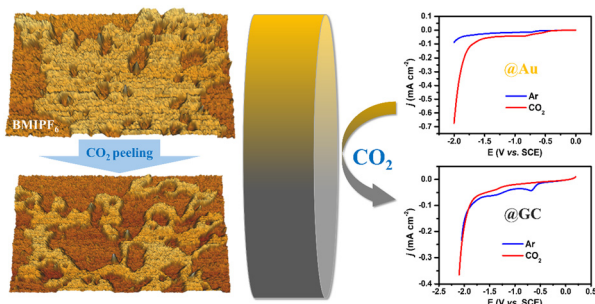
7494

### Light-driven structural transformations in isotypical Cd(II) complexes: stereoselectivity and photosalient motion

Uma Kurakula, Sanobar Naaz, Sourav Roy, Samim Khan, Abdul Malik Puthan Peedikakkal,\* Raghavender Medishetty\* and Mohammad Hedayetullah Mir\*



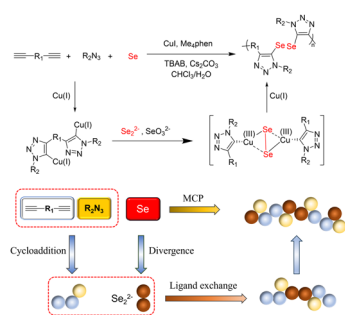
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### Unveiling the CO<sub>2</sub> electrocatalytic mechanism in ionic liquids via real-time AFM and voltammetry

Kaixuan Li, Shuai Liu, Ting Wang, Bingwei Mao\* and Jiawei Yan\*

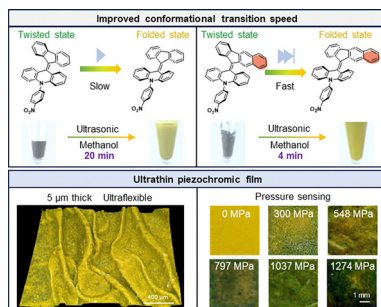
7502



### Copper-catalyzed multicomponent polymerization of elemental selenium for regioselective synthesis of poly(5-diselenide-triazole)s

Yangyang Yue, Chen Qu, Nan Zheng, Yubin Zheng\* and Wangze Song\*

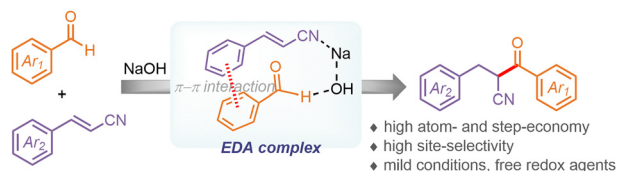
7506



### Bistricyclic aromatic enes with fast conformational transition for ultrathin piezochromic films

Xiang-Ru Liu, Yihao Yin, Xian-Xian Xiao, Lin Zheng, Yan-Na Lu, Jun-Shuai Chen, Jin-Hui Gu, Yunjie Lu, Jia-Sen Xie, Mingwei Gu, Zhi-Guang Xu and Jin Ge\*

7510



### Direct hydroacylation of arylacrylonitriles toward β-ketonitriles assisted by an EDA complex

Zhenhui Wang, Shiqing Huang, Hao Hou, Wei Liu\* and Wei Ou\*



7514

## Electrocatalytic reduction of carbon dioxide using Cu-based ecocatalysts

Hong Phong Duong, Ngoc-Huan Tran, Pierre-Alexandre Deyris, Yves-Marie Legrand, Peter Hesemann, Claude Grison, Claire M. Grison\* and Marc Fontecave\*

