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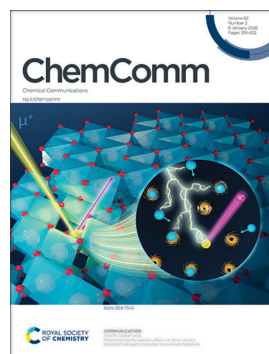
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Inside cover

See Trent R. Graham *et al.*, pp. 470–473. Image reproduced by permission of Battelle Memorial Institute from *Chem. Commun.*, 2026, 62, 470. Cover image created by Nathan Johnson.

PROFILE

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Contributors to the Pioneering Investigators collection 2025: part 3

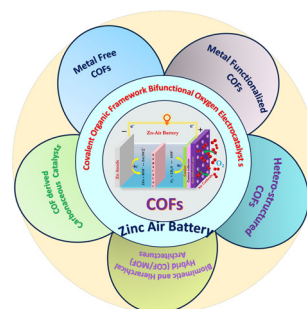


HIGHLIGHTS

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Recent progress in covalent organic frameworks for bifunctional oxygen electrocatalysis in rechargeable zinc–air batteries

Greesh Kumar, Manisha Das and Ramendra Sundar Dey*



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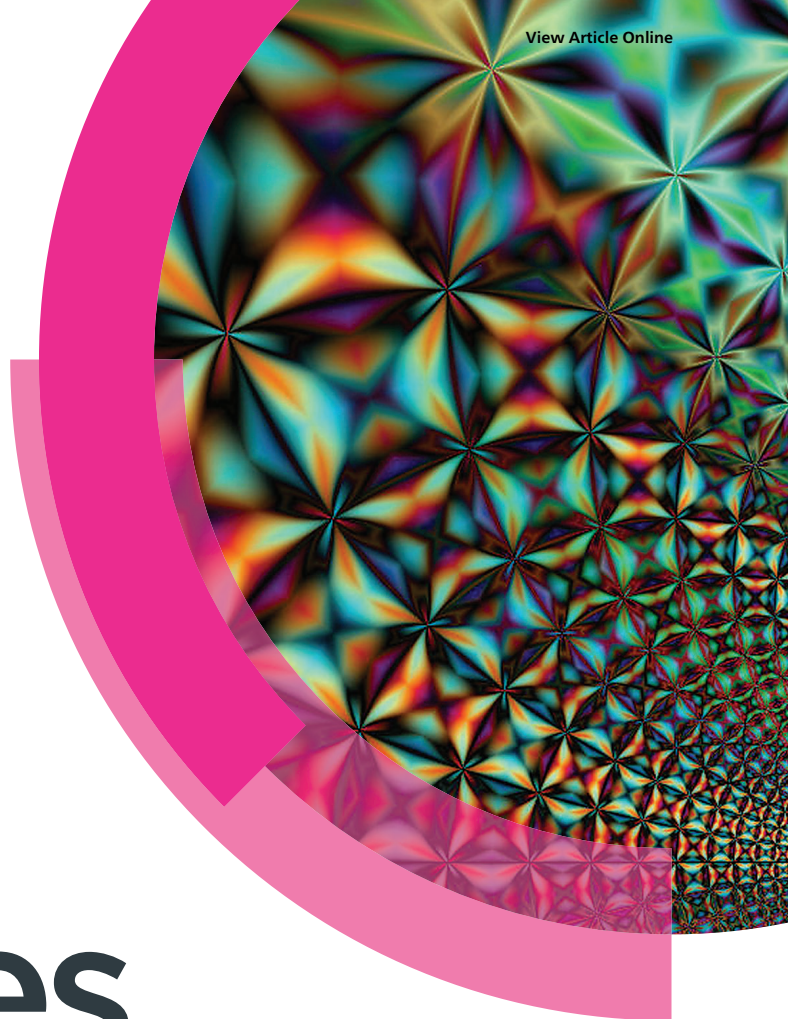


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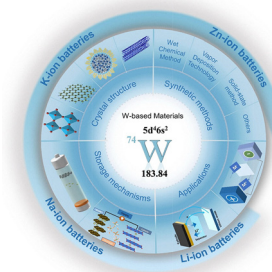


HIGHLIGHTS

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Emerging tungsten-based materials for rechargeable metal-ion batteries: progress and perspectives

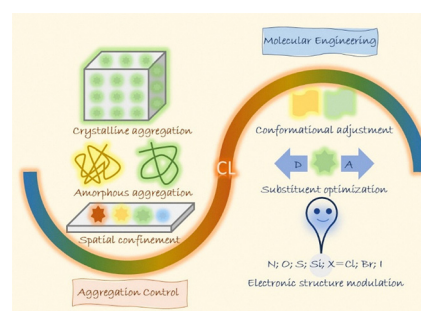
Chengcheng Xiao, Tianrui Liu, Linghao Sun and Lingyun Chen*



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Strategies for tailoring clusteroluminescence: from aggregation control to molecular engineering

Riliga Wu, Tongyue Wu, Weijiang Guan* and Chao Lu*

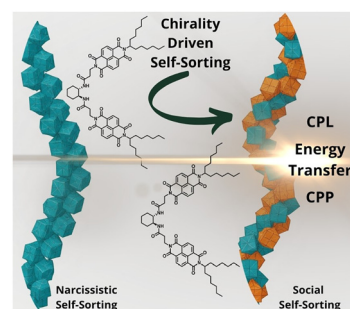


FEATURE ARTICLES

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Chirality driven self-sorting in supramolecular assemblies of π -conjugated systems

Bhawani Narayan



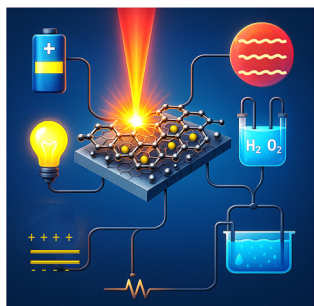
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Carbene transfer reactions enabled by heterogeneous metal catalysis

Luan Lu and Jie Zhao*



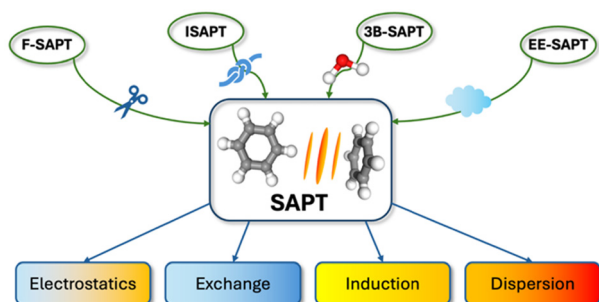
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From synthesis to applications: evolution of metal-embedded laser-induced graphene (M-LIG)

Asmita Dutta, Tomer Zidki* and Arie Borenstein*

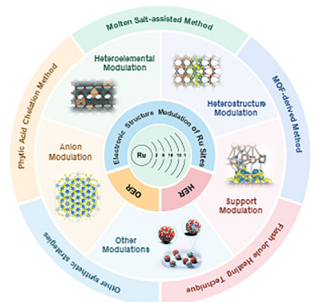
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Understanding nonbonded interactions between molecular fragments

Konrad Patkowski

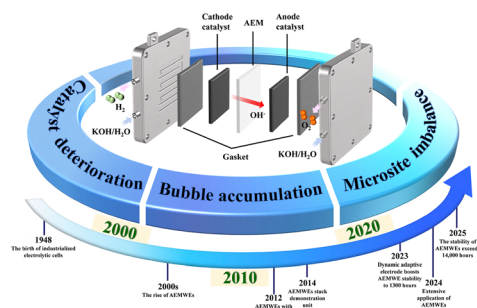
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Electronic structure modulation of Ru sites toward efficient water splitting

Jixiang Jiao and Shichun Mu*

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Innovative perspectives on strategies for enhancing the stability of anion exchange membrane electrolyzers

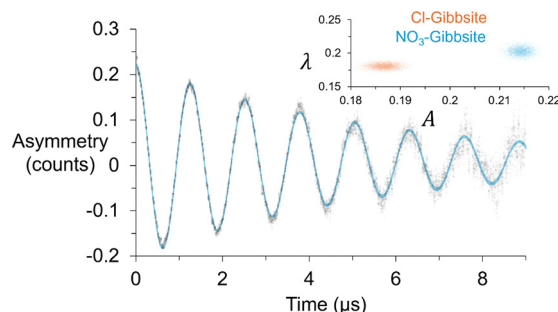
Zihe Liu, Yunchao Lei, Zichao Ji, Xinyuan Hu, Di Tian, Anlei Zhang* and Longlu Wang*



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Detecting impurity-specific effects on structure and radiolytic hydrogen production in aluminum hydroxide

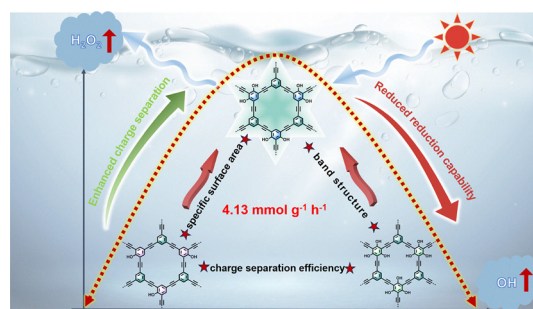
Trent R. Graham,* Khashayar Ghandi, Micah Prange, Gregory Schenter, Larry M. Anovitz, Jay A. LaVerne and Carolyn I. Pearce



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Precise molecular engineering in hydroxyl-containing conjugated microporous polymers for optimized hydrogen peroxide production

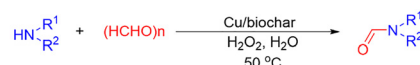
Daming Gao, Deli Kong, Wei Zhang,* Peng Wang,* Xiaobo Luo, Shiyuan Zhou* and Peiyang Gu



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Biochar-supported Cu catalyst for low-temperature base-free oxidative *N*-formylation of amines with paraformaldehyde in green solvent

Haihua Yin, Zhenjie Wang, Hangkong Yuan* and Xingchao Dai*

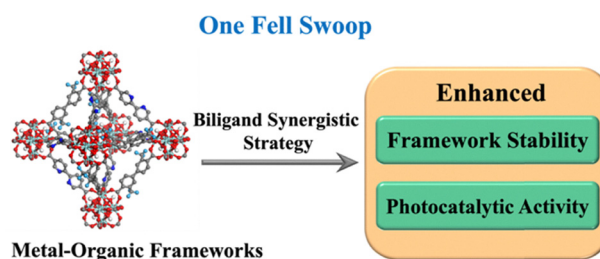


- ✓ the first non-noble metal base-free catalytic system
- ✓ Cellulose derived biochar support
- ✓ Low temperature (50 °C) and green solvent H₂O
- ✓ Good amine scope

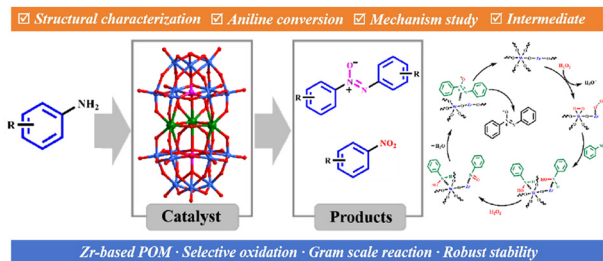
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Biligand synergistic MOFs with dual enhancements in stability and charge transfer for efficient CO₂ photoreduction

Jiayin Tao, Yujun Ouyang, Kai Zhang, Keke Wang,* Bolin Zhou, Xiahe Chen, Yi Zhang, Junze Zhao, Qin Wang, Yun-Fang Yang, Jiexiang Xia,* Huaming Li and Yuanbin She*



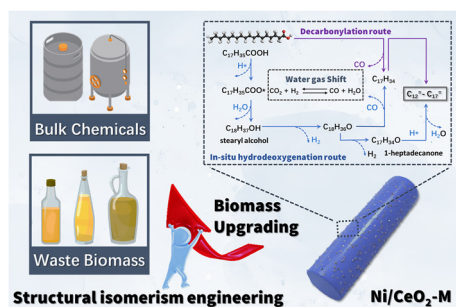
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Stable Zr-based polyoxometalate as a green catalyst for selective oxidation of aniline

Zhijie Liang, Yiqing Yao, Yuyang Ding, Haifeng Wang,*
Huafeng Li* and Gang Feng*

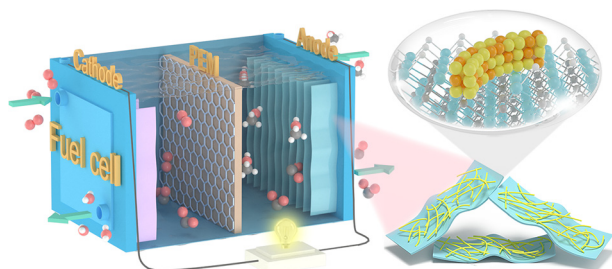
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Structural isomerism in Ce-MOFs directs Ni/CeO₂ catalyst design for selective fatty acid deoxygenation to linear α -olefins

Jian Tian, Jiasen Li, Mingke Zhang, Youting Wang,
Gen Li, Bin Chen and Guowu Zhan*

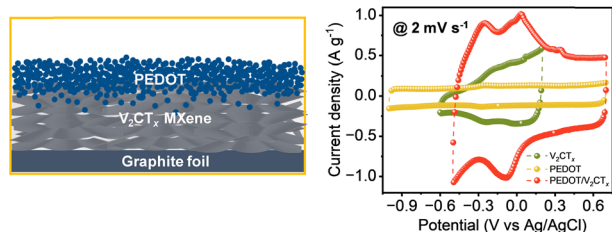
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Bimetallic PtRu alloy nanowires confined on MXene nanosheets for highly efficient methanol electrooxidation

Jiawei Yang, Quanguo Jiang,* Chi Zhang, Jian Zhang,
Lu Yang, Haiyan He and Huajie Huang*

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Extrinsic pseudocapacitance of a vanadium carbide MXene-poly(3,4-ethylenedioxythiophene) heterostructure

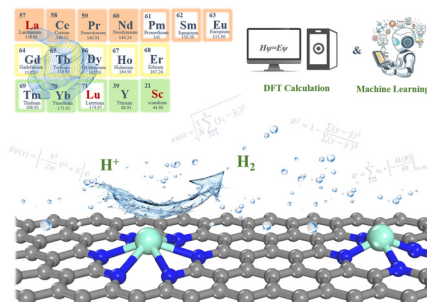
Suman Yadav and Narendra Kurra*



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Machine learning high-throughput screening of rare earth SACs with different coordination environments for the HER

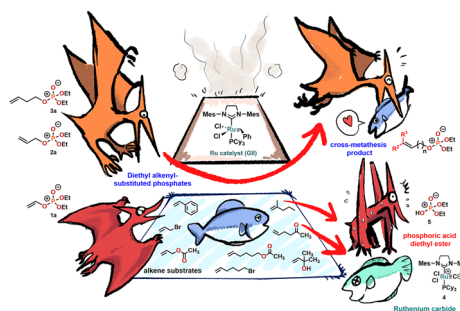
Meiling Liu, Qiming Fu, Wei Zhong, Shaik Gouse Peera* and Chao Liu*



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Chain-length-dependent reactivity of alkenyl phosphates in ruthenium-catalyzed cross-metathesis

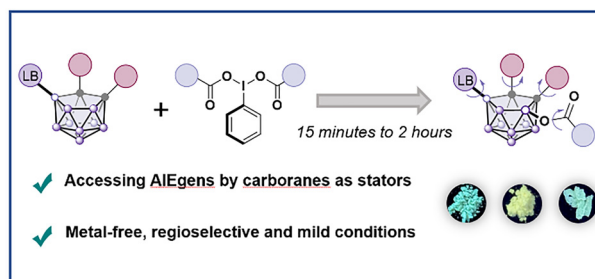
Apicha Pontavatchai, Kevin Schwedtmann, Philipp Royla, Kai Schwedtmann, Tossapol Khamnaen, Uwe Schwarzenbolz, Thomas Henle, Ekasith Somsook* and Jan J. Weigand*



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Metal-free regioselective B–O coupling in carboranes for constructing aggregation-induced emission luminogens

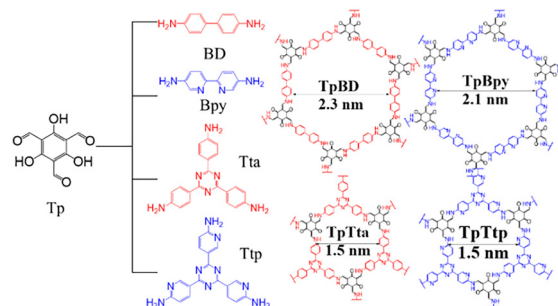
Xinrui Li, Ningning Zhou, Deshuang Tu,* Chang-sheng Lu* and Hong Yan*



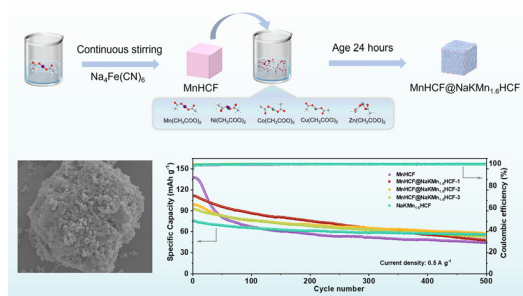
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Water-assisted SO₂ capture in pyridine-functionalized COFs

Zhenling Tang, Guang-Rui Si, Qiang Chen,* Jia-Ao Lv, Shengjun Wang, Xue-Feng Bai, Lin-Hua Xie, Kecheng Wang* and Jian-Rong Li



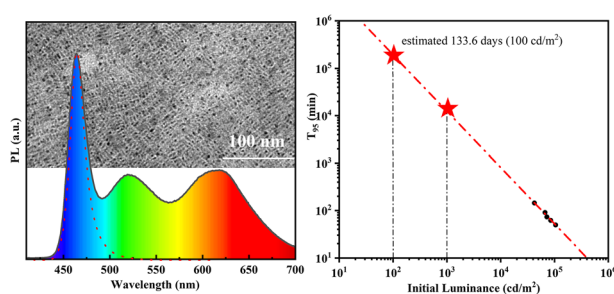
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A high-entropy Prussian Blue shell enabling the high-rate and long-term cycling stability of the Mn-PBA cathode for sodium-ion batteries

Yuxin Li, Beibei Kuang, Ziwen Zhu, Peng Liu, Zilin Yang,*
Wenting Li and Zheng Liu*

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High-quality deep-blue CsPbBr₃ quantum rods toward stable white light-emitting diodes

Wei Shen,* Wei Zhao, Zhongyi Yang, Yue Qiu,
Meng Nan, Erdong Zhang, Shuang Lu, Ting Zhi,
Pengfei Xia and Shufen Chen*

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Nickel-catalyzed dehydrogenative Zn–Zn coupling to a Zn(II) dimer and its reactivity

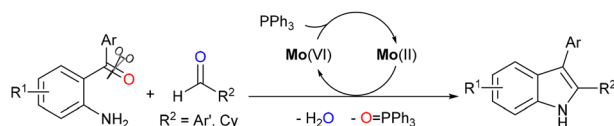
Sagrika Rajput, Smrutirani Padhan, Nithya M. Thilakan,
Sayantan Mukhopadhyay and Sharanappa Nembenna*



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Molybdenum-catalyzed synthesis of 2,3-disubstituted indoles *via* imine condensation and C(sp²)–H insertion

Haoke Chu,* Xiuxin Lv, Yitong Luo, Meiyong Liu,
Rong-Hui Huang,* Xiao-Qing Feng and Fen-Er Chen*



- ◆ Non-noble metal catalysis
 - ◆ Readily available substrates
 - ◆ Broad substrate scope
 - ◆ Valuable products
 - ◆ Gram-scale synthesis
 - ◆ A mechanism of Mo-carbene insertion
- 39 examples
up to 94% yield



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Synergy of a 2D/2D Ti₃C₂T_x MXene–graphene oxide heterostructure for enhanced hydrogen storage

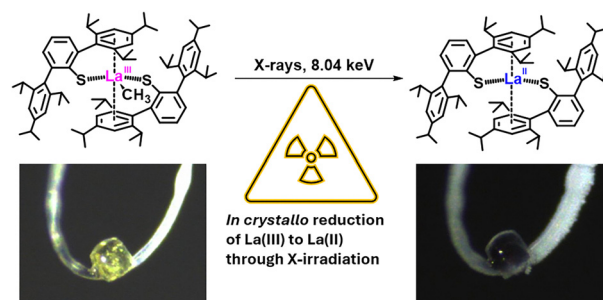
Shankar Ghotia, Seemita Banerjee, Asheesh Kumar and Pradip Kumar*



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In crystallo homolytic cleavage of a terminal lanthanum(III)–methyl bond by Cu K α X-radiation forms a La(II) complex

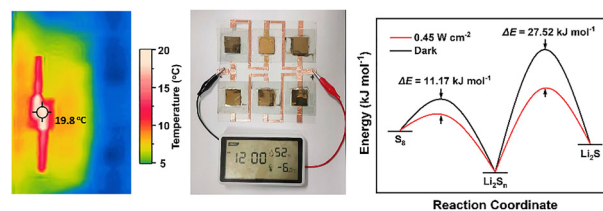
Cary R. Stennett, Makayla R. Luevano, Joseph W. Ziller and William J. Evans*



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Boosting Li–S redox chemistry by the plasmonic effect of MXene

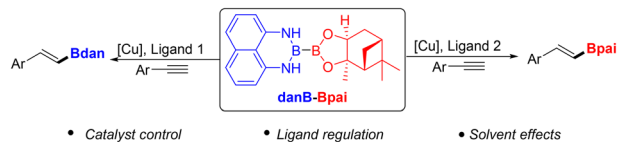
Yu Liu, Xingyu Wang, Xiangyu Meng and Zhiyu Wang*



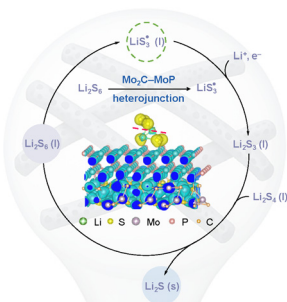
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Cu-catalyzed selective coupling of alkynes with danB–Bpai

Qi Li, Dezhao Zhang, Tanyu Song, Xiaodong Tang, Jun-An Ma and Chun Zhang*



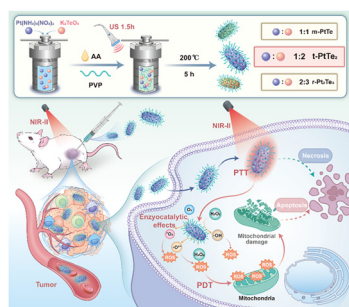
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A Mo₂C–MoP heterostructure enabled catalytic route for high-performance lithium–sulfur batteries

Baijing Wu, Xiaoxia Tang, Yujiao Xiang, Hongrui Wang, Cheng Tong,* Minhua Shao, Cunpu Li* and Zidong Wei

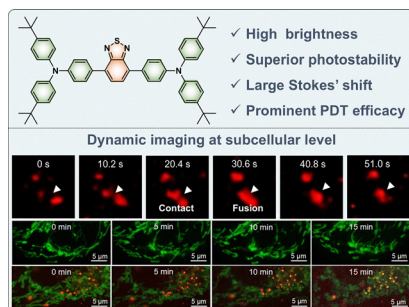
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NIR-II photozymes with stoichiometric chemistry-regulated enzymatic activities for multi-modal nanocatalytic therapy

Zhengzheng Lin, Ziyang Song, He Shen, Yi Shen,* Liang Chen* and Yu Chen*

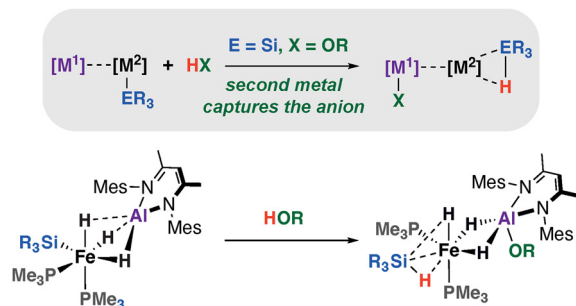
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Red/NIR-emissive AIE nanoprobe to track subcellular dynamics in a photodynamic therapy process

Yu Zhou, Yalei Jiang, Lanqiong Zhang, Yukang Li, Ying Hao, Pei Zhou, Zhi Wang, Youming Zhang, Jen-Shyang Ni, Yanzi Xu,* Lingjie Meng* and Dongfeng Dang*

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A heterometallic σ -silane adduct from cooperative reactivity of an iron–aluminium complex

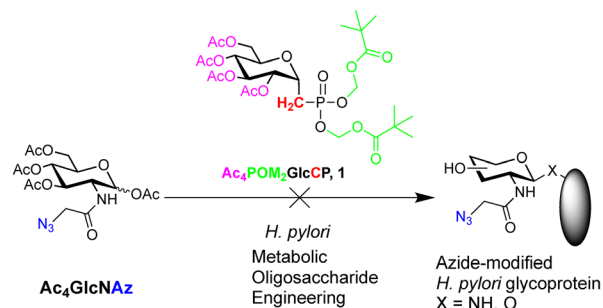
Benedek Stadler and Mark R. Crimmin*



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Inhibition of glycoprotein biosynthesis in the pathogenic bacterium *Helicobacter pylori* by masked carbohydrate phosphonates

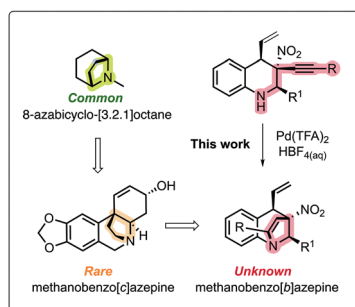
Ebrahim Soleimani, Aniq Chowdhury, Jian-She Zhu, Elisa Ospanow, Karen D. Moulton, Danielle H. Dube* and David L. Jakeman*



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Palladium(II)-catalysed intramolecular hydroamination of 3-alkynyltetrahydroquinolines to methanobenzo[*b*]azepines

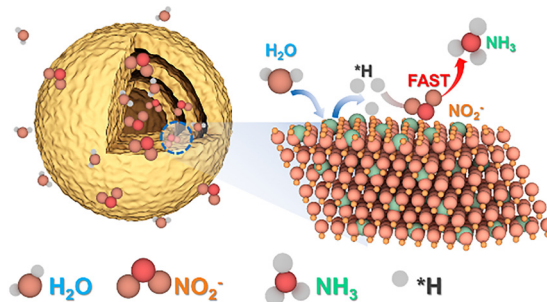
Chi Bong Eric Chao, Lloyd R. Kellermann, Christopher Richardson, Andrew J. Tague*, Stephen G. Pyne* and Christopher J. T. Hyland*



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Boosting nitrite conversion to ammonia by rational design of a Cu₂O-based electrocatalyst

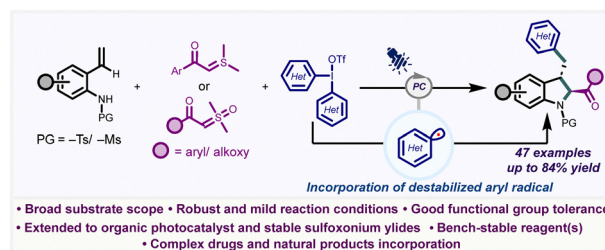
Yu Zhang, Encong Zhang, Jiahui Huang, Qingquan Chen, Jianyu Chen, Zhen Shen*, Li Shi*, Yanwen Ma and Jin Zhao*



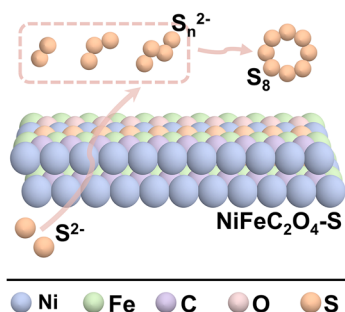
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Photoredox-catalyzed multicomponent transformation towards functionalized *trans*-2,3-disubstituted indolines

M. Siva Prasad, Sneha Chandra, Prahallad Meher and Sandip Murarka*



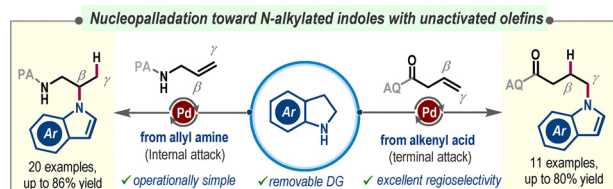
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Employing oxalate to protect metal active sites for efficient sulfion oxidation coupled with hydrogen production

Yang Nie, Xinzheng Liu, Jingyu Li, Ruonan Wang* and Bohua Dong*

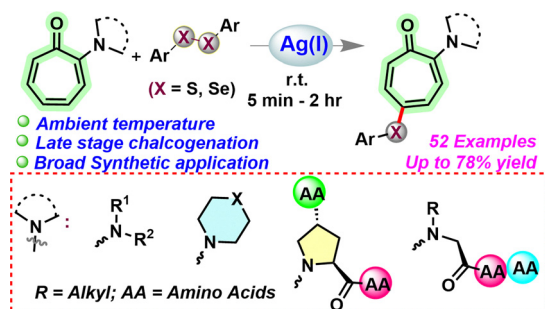
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Nucleopalladation strategy towards regioselective *N*-alkylation of indoles with unactivated olefins

Shib Nath Saha, Niloy Ballav, Nitya Gupta and Mahiuddin Baidya*

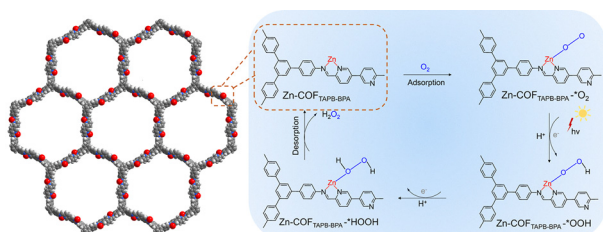
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Ag(I)-mediated *mono*-selective C(sp²)-H chalcogenation of α -aminotropones and their peptides at room temperature

Malobika Kar and Nagendra K. Sharma*

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Atomic zinc active sites on imine-pyridine based covalent organic frameworks for enhancing photocatalytic H₂O₂ production

Ruolan Huang, Xuan-He Liu* and Bing Sun*

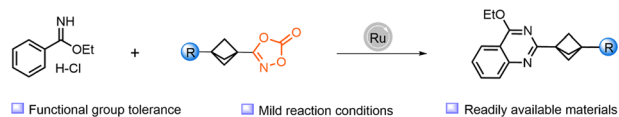


COMMUNICATIONS

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Ru-catalyzed C–H annulation: accessing quinazolinone–BCP hybrids from stable precursors

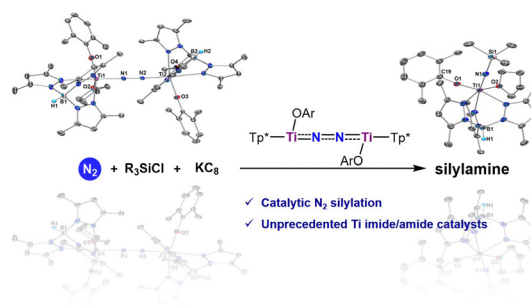
Yu-Yong Luan, Jin-Ye Li, Xue-Yuan Liu* and Yong-Min Liang*



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Catalytic dinitrogen silylation by tris(pyrazolyl)borate-supported titanium complexes

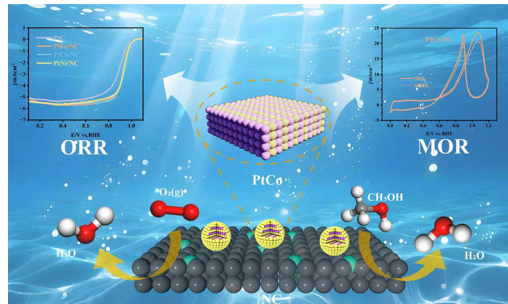
Chenrui Liu, Ling-Ya Peng, Yumeng Chen, Jingyi An, Zhaoxin Li, Wenshuang Huang, Ganglong Cui* and Shaowei Hu*



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Atomically ordered PtM intermetallics on nitrogen-doped carbon for high-efficiency bifunctional electrocatalysis

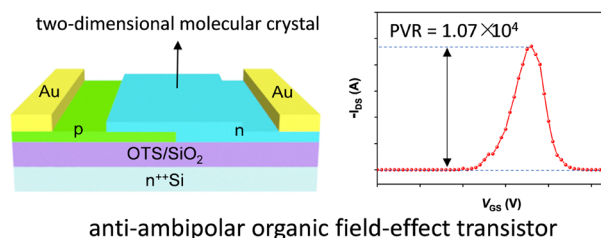
Yang Han, Qingmei Wang,* Fengqin Zhang, Qingsong Hua* and Shun Lu*



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High peak-to-valley ratio in anti-ambipolar organic transistors enabled by two-dimensional molecular crystal heterojunctions

Jiarong Yao, Xianfeng Shen, Xianshuo Wu, Hai Xie* and Rongjin Li*



EXPRESSION OF CONCERN

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Expression of concern: Photo-triggered C-arylation of active-methylene compounds with diazonium salts via an electron donor–acceptor (EDA) complex

Shikha Pandey, Arsala Kamal, Ambuj Kumar Kushwaha, Himanshu Kumar Singh, Suresh Kumar Maury and Sundaram Singh*

CORRECTION

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Correction: Photoswitchable inhibitors: temporally regulated inhibition of the IDO1 enzyme using photoactive merocyanine derivatives

Niku Moni Das, Sayantani Biswas, Suravi Chauhan, Adyasa Sahoo, Debdas Dhabal and Debasis Manna*

