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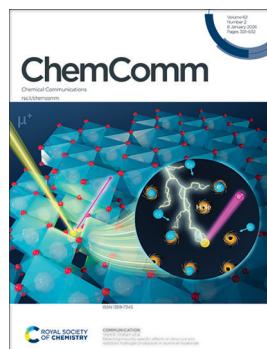
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Contributors to the Pioneering Investigators collection 2025: part 3

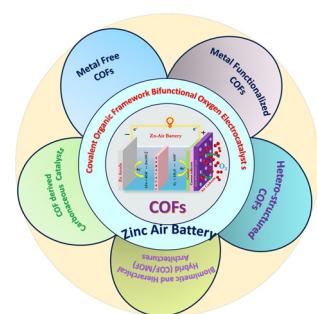


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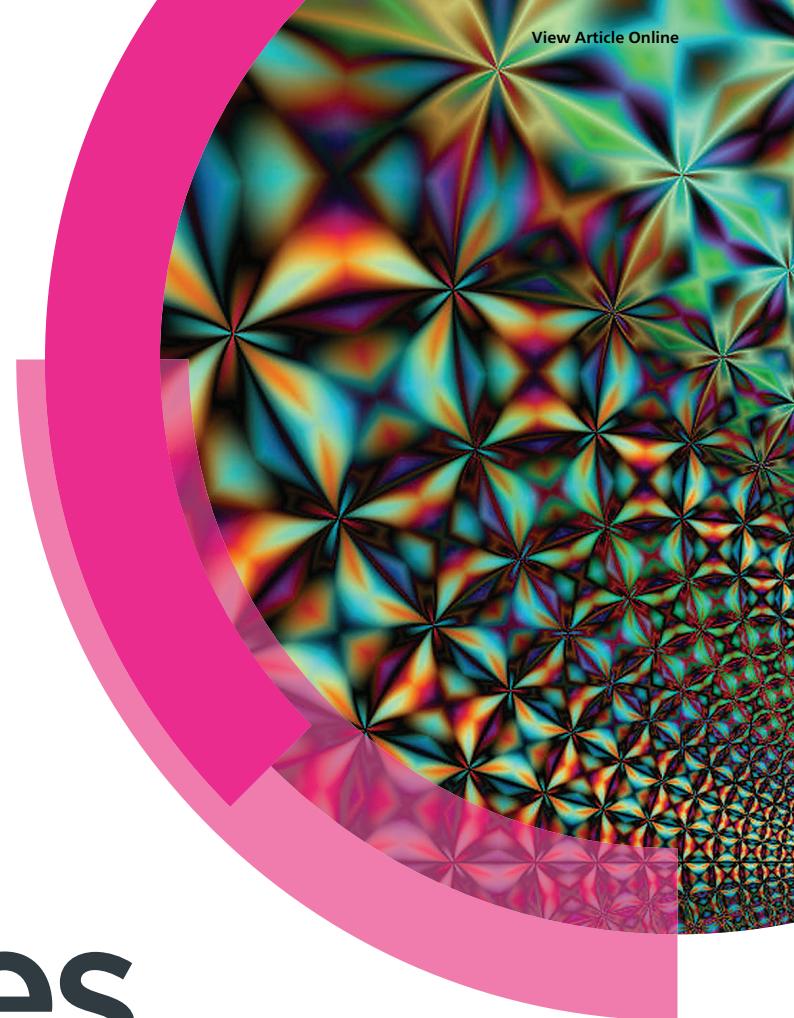
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Recent progress in covalent organic frameworks for bifunctional oxygen electrocatalysis in rechargeable zinc–air batteries

Greesh Kumar, Manisha Das and Ramendra Sundar Dey*



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

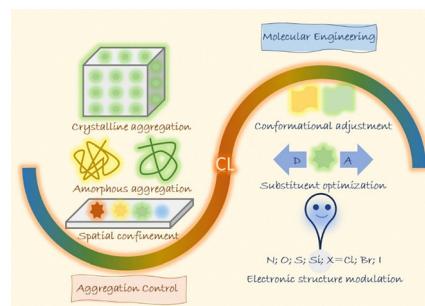
Chengcheng Xiao, Tianrui Liu, Linghao Sun and Lingyun Chen*



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

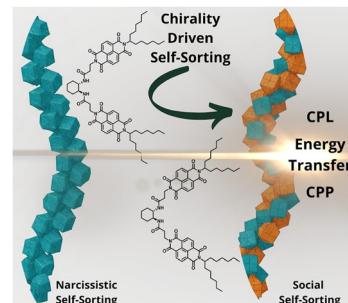


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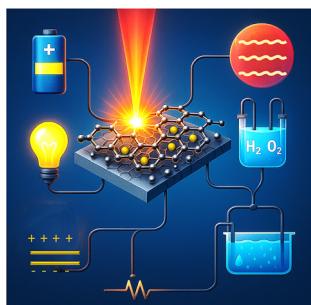
Carbene transfer reactions enabled by heterogeneous metal catalysis

Luan Lu and Jie Zhao*



FEATURE ARTICLES

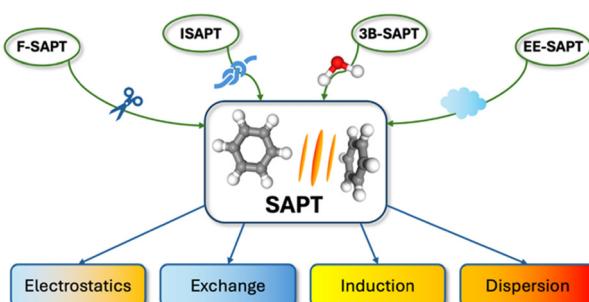
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Asmita Dutta, Tomer Zidki* and Arie Borenstein*

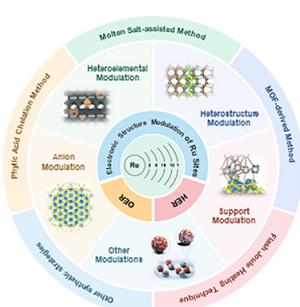
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Understanding nonbonded interactions between molecular fragments

Konrad Patkowski

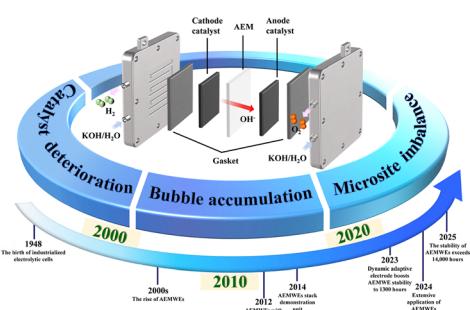
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Zihe Liu, Yunchao Lei, Zichao Ji, Xinyuan Hu, Di Tian, Anlei Zhang* and Longlu Wang*

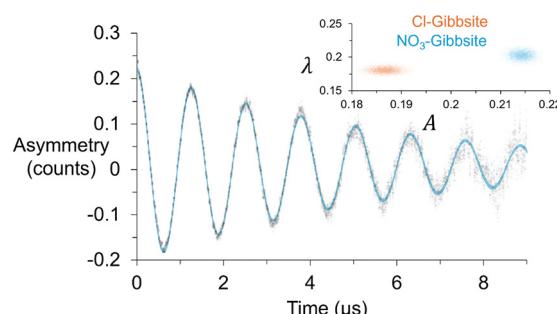


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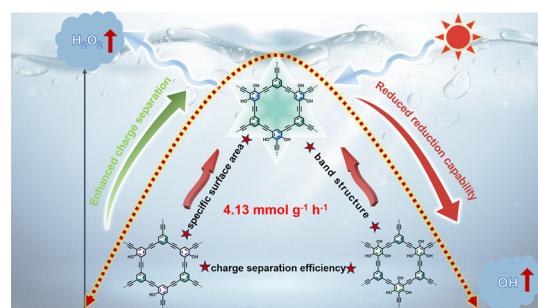
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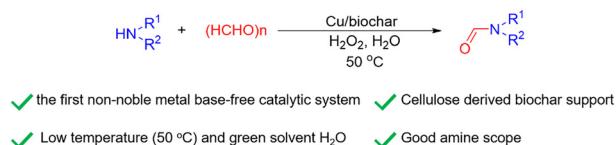
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Biochar-supported Cu catalyst for low-temperature base-free oxidative *N*-formylation of amines with paraformaldehyde in green solvent

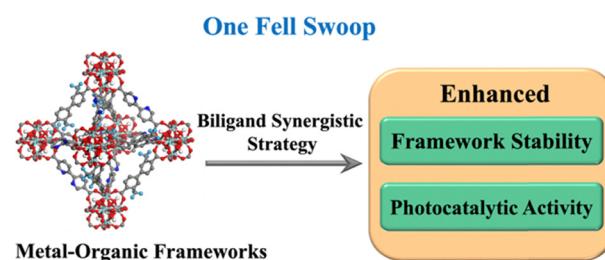
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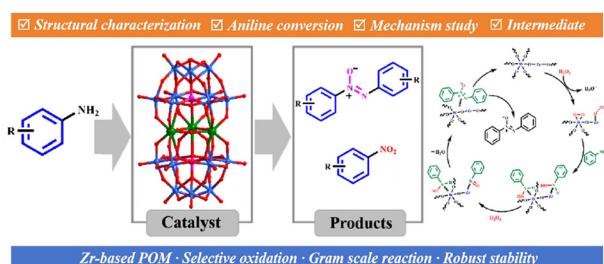
Biligand synergistic MOFs with dual enhancements in stability and charge transfer for efficient CO₂ photoreduction

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*

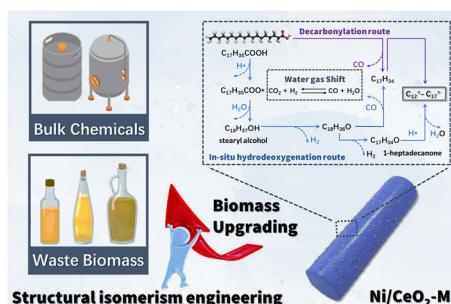


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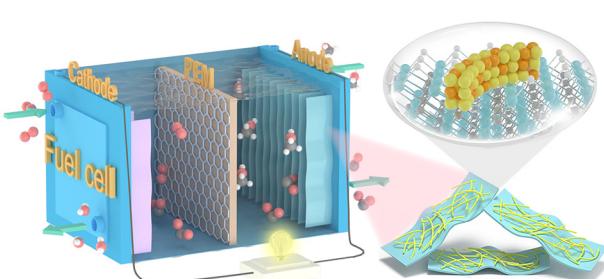
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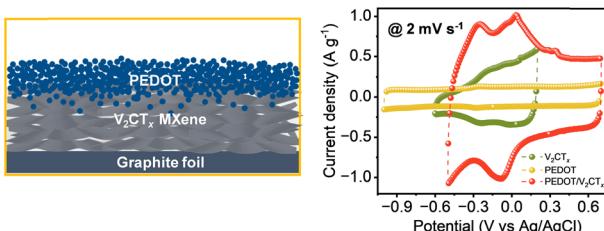
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Stable Zr-based polyoxometalate as a green catalyst for selective oxidation of aniline

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

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*

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*

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

Suman Yadav and Narendra Kurra*

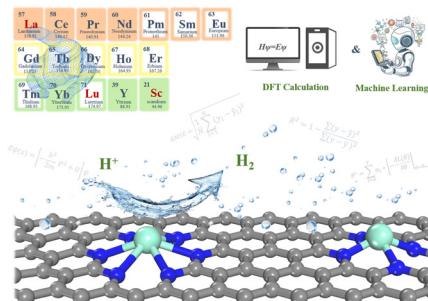


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Machine learning high-throughput screening of rare earth SACs with different coordination environments for the HER

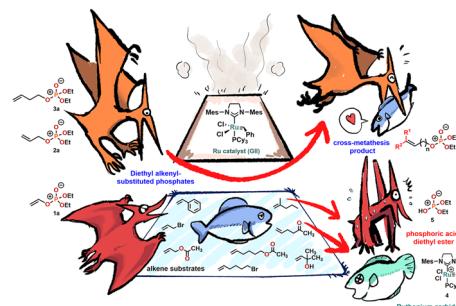
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Chain-length-dependent reactivity of alkenyl phosphates in ruthenium-catalyzed cross-metathesis

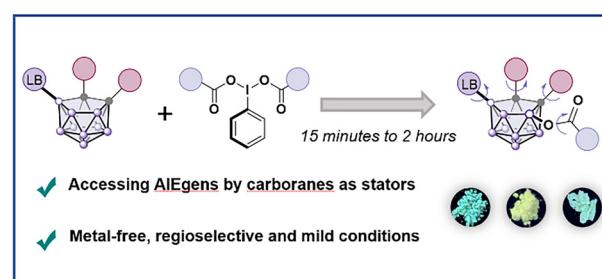
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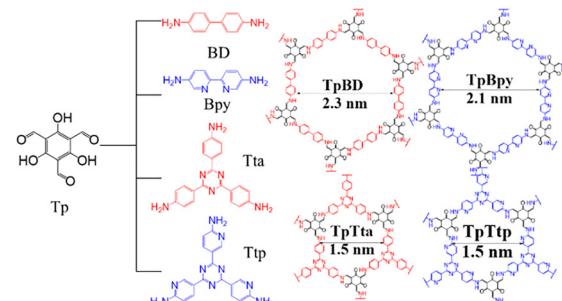
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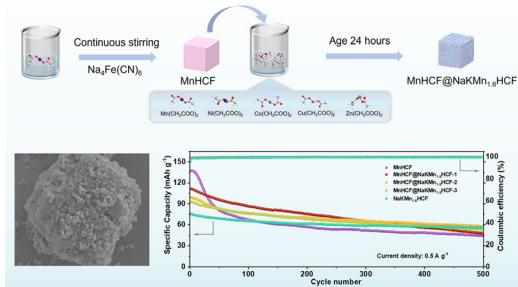
Water-assisted SO₂ capture in pyridine-functionalized COFs

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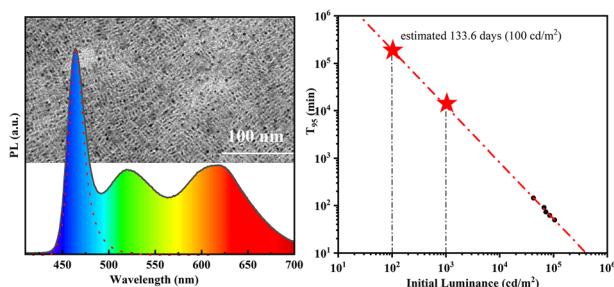
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A high-entropy Prussian Blue shell enabling the high-rate and long-term cycling stability of the Mn-PBA cathode for sodium-ion batteries

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

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High-quality deep-blue CsPbBr_3 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*

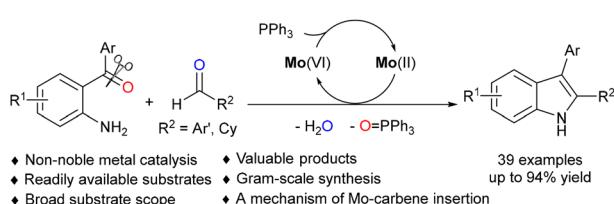
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Nickel-catalyzed dehydrogenative Zn–Zn coupling to a Zn(II) dimer and its reactivity

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 $\text{C}(\text{sp}^2)\text{-H}$ insertion

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Synergy of a 2D/2D $\text{Ti}_3\text{C}_2\text{T}_x$ MXene–graphene oxide heterostructure for enhanced hydrogen storage

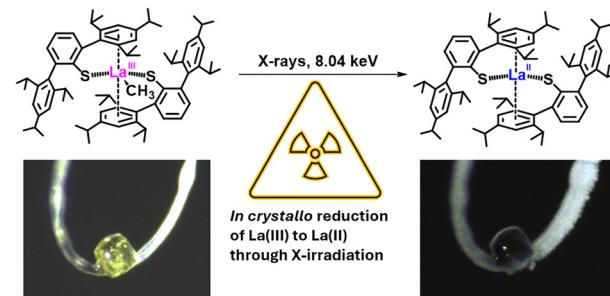
Shankar Ghotia, Seemita Banerjee, Asheesh Kumar and Pradip Kumar*



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***In crystallo* homolytic cleavage of a terminal lanthanum(III)–methyl bond by $\text{Cu K}\alpha$ X-radiation forms a La(II) complex**

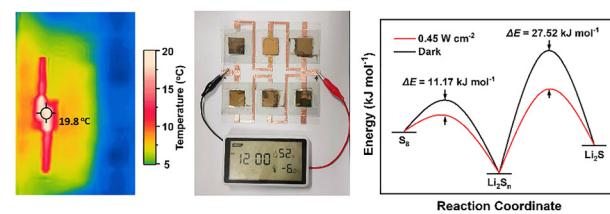
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Boosting Li–S redox chemistry by the plasmonic effect of MXene

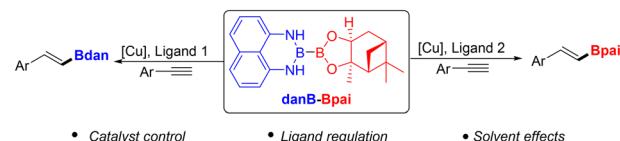
Yu Liu, Xingyu Wang, Xiangyu Meng and Zhiyu Wang*



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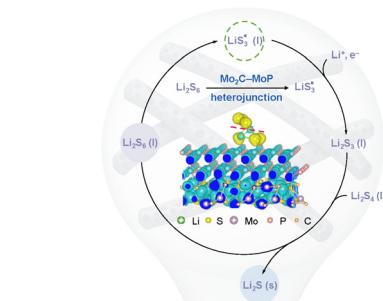
Cu-catalyzed selective coupling of alkynes with danB–Bpai

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



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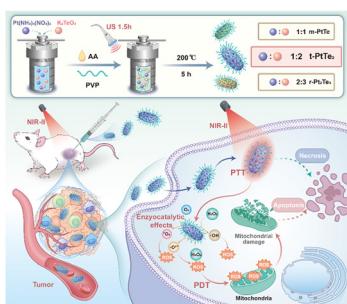
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A $\text{Mo}_2\text{C}-\text{MoP}$ heterostructure enabled catalytic route for high-performance lithium–sulfur batteries

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

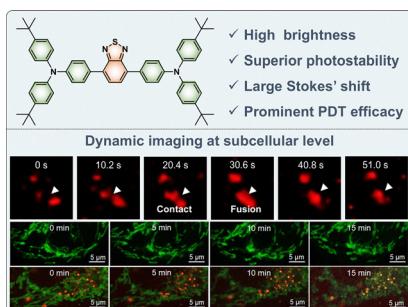
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NIR-II photozymes with stoichiometric chemistry-regulated enzyocatalytic activities for multi-modal nanocatalytic therapy

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

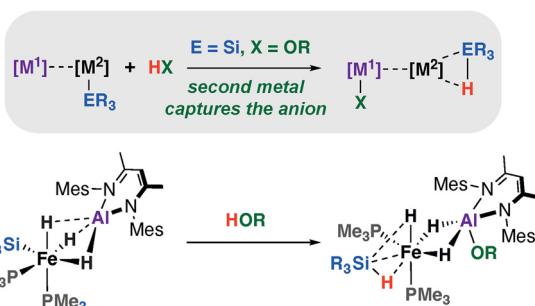
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Red/NIR-emissive AIE nanoprobe to track subcellular dynamics in a photodynamic therapy process

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*

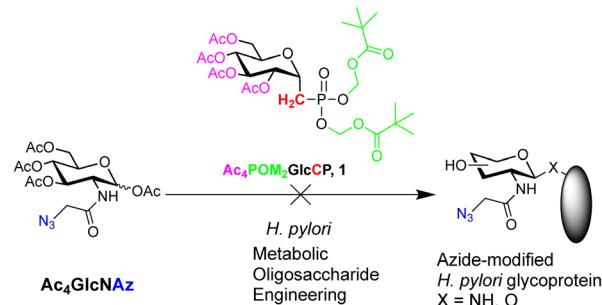


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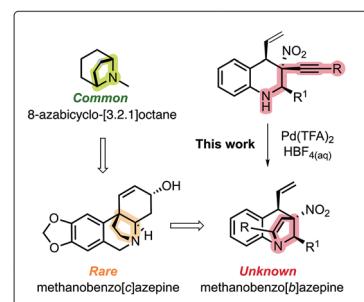
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Palladium(II)-catalysed intramolecular hydroamination of 3-alkynyltetrahydroquinolines to methanobenzo[*b*]azepines

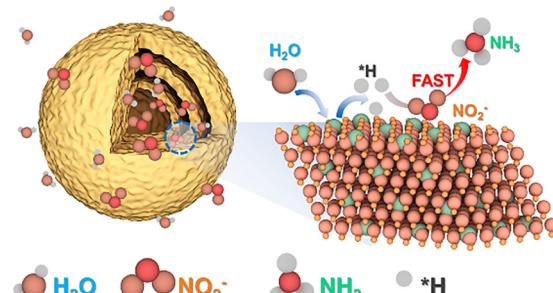
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Boosting nitrite conversion to ammonia by rational design of a Cu₂O-based electrocatalyst

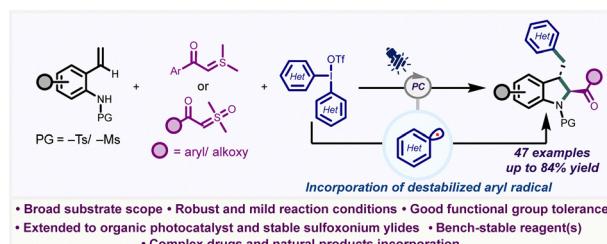
Yu Zhang, Encong Zhang, Jiahui Huang, Qingquan Chen, Jianyu Chen, Zhen Shen,* Li Shi,* Yanwen Ma and Jin Zhao*



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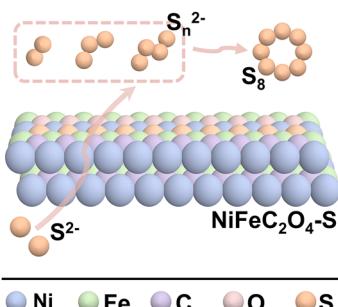
Photoredox-catalyzed multicomponent transformation towards functionalized *trans*-2,3-disubstituted indolines

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



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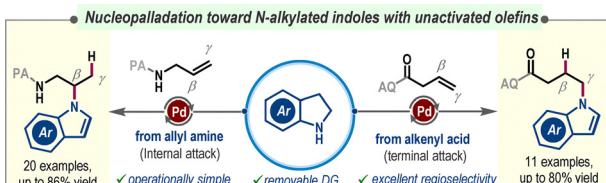
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Employing oxalate to protect metal active sites for efficient sulfion oxidation coupled with hydrogen production

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

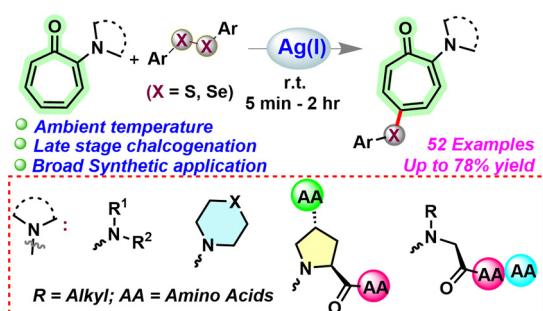
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Nucleopalladation strategy towards regioselective *N*-alkylation of indoles with unactivated olefins

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

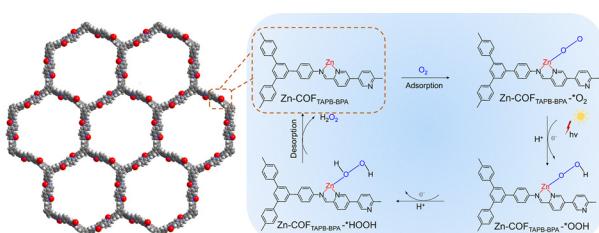
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Ag(I)-mediated mono-selective C(sp²)–H chalcogenation of α -aminotropones and their peptides at room temperature

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*



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

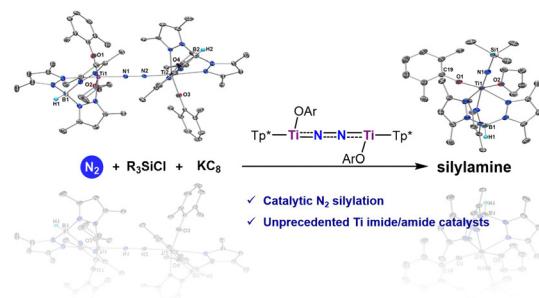
Yu-Yong Luan, Jin-Ye Li, Xue-Yuan Liu* and Yong-Min Liang*



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

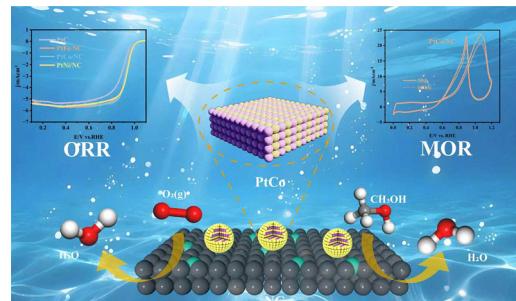
Chenrui Liu, Ling-Ya Peng, Yumeng Chen, Jingyi An, Zhaoxin Li, Wenshuang Huang, Ganglong Cui* and Shaowei Hu*



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

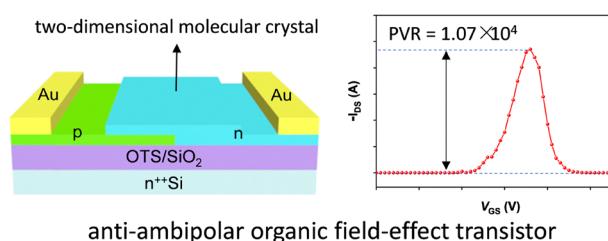
Yang Han, Qingmei Wang,* Fengqin Zhang, Qingsong Hua* and Shun Lu*



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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*