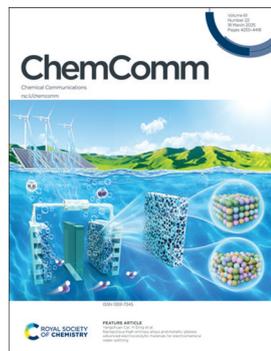


IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(22) 4255-4418 (2025)



Cover

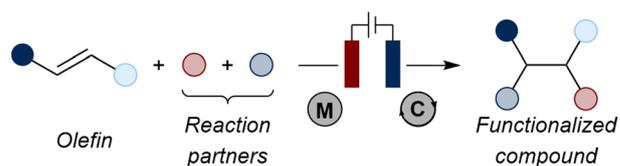
See Yangchuan Cai, Yi Ding *et al.*, pp. 4279–4292. Image reproduced by permission of Yi Ding from *Chem. Commun.*, 2025, 61, 4279.

HIGHLIGHT

4265

Navigating electrochemical oxidative functionalization of olefins: selected mechanistic and synthetic examples

Chun Qi, Marharyta Laktsevich-Iskryk and Daniele Mazzarella*



Radical and ionic mechanisms

Use of mediators

Direct electrochemistry

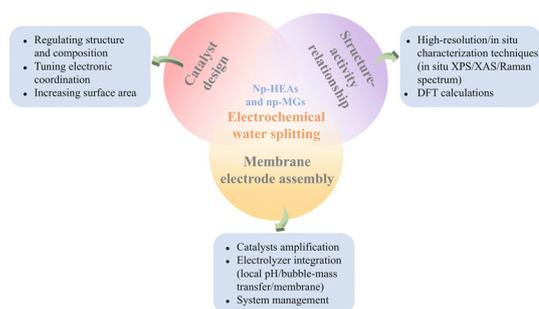
Catalytic activation modes

FEATURE ARTICLES

4279

Nanoporous high-entropy alloys and metallic glasses: advanced electrocatalytic materials for electrochemical water splitting

Yu Zhang, Yangchuan Cai* and Yi Ding*



RSC Advances

At the heart of open access for
the global chemistry community

Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

We stand for:



Breadth We publish work in all areas of chemistry and reach a global readership



Affordability Low APCs, discounts and waivers make publishing open access achievable and sustainable



Quality Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



Community Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

rsc.li/rsc-advances

@RSC_Adv



FEATURE ARTICLES

4293

Palladium catalyzed regioselective distal C (sp^2)-H functionalization

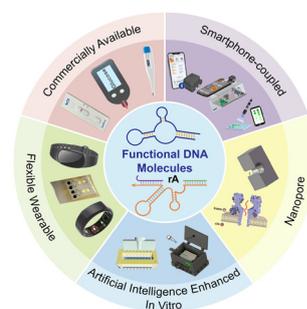
Rachit Singh Chauhan, Yogesh Bairagi, Om Desai, Rafal Kowalczyk* and Debabrata Maiti*



4316

Molecular engineering of functional DNA molecules toward point-of-care diagnostic devices

Jiayin Zhan,* Siyuan Wang, Xiang Li and Jingjing Zhang*

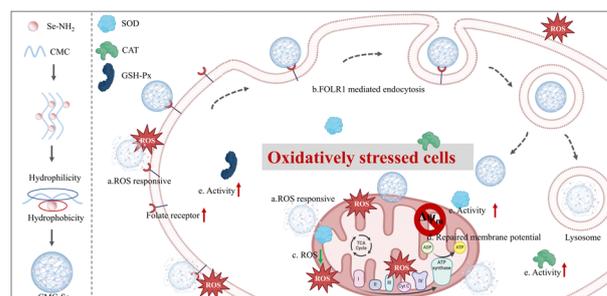


COMMUNICATIONS

4339

Cellular uptake mechanisms of a diselenide-based ROS-responsive nanocarrier in oxidatively stressed colon cells

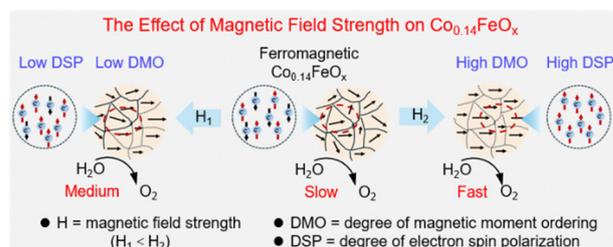
Wanqi Liang, Dong Li, Jinheng Hao, Wenli Dai, Bo-Bo Zhang* and Qionqiong Yang*



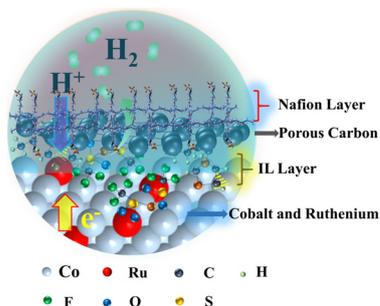
4343

Ferromagnetic transformation of α - Fe_2O_3 via Co doping for efficient water oxidation under magnetic field

Hong Wang, Yuan Dong, Jie Ying,* Ziheng Zhu, Yuan Feng, Yu-Xuan Xiao, Ge Tian, Ling Shen, Wei Geng, Yi Lu, Siming Wu and Xiao-Yu Yang*



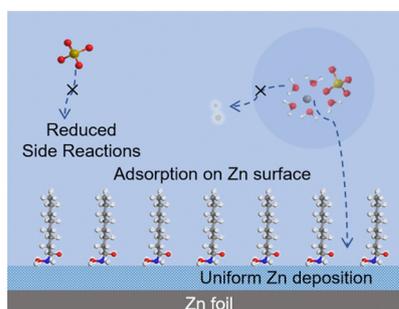
4347



A hydrophobic ionic liquid enhances electrocatalytic hydrogen evolution reaction on high specific-surface ruthenium-doped cobalt catalysts

Tao Zhang, Longjiang Li, Shucheng Liu and Yi Liu*

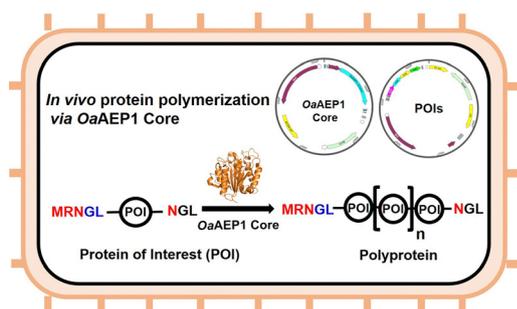
4351



Ultralow and biodegradable electrolyte additives for dendrite-free Zn anodes

Xinyu Chen, Dongdong Wang, Shaojie Zhang, Gulian Wang, Xiaojian Ma* and Jian Yang*

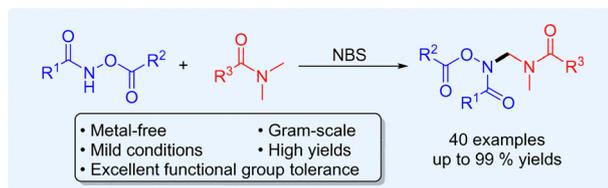
4355



Intracellular protein ligation and polyprotein synthesis using an asparaginyl endopeptidase core

Renming Liu, Jun Qiu, Yifen Huang, Ziyi Wang and Peng Zheng*

4359



NBS-mediated C(sp³)-H amidation of *N,N*-dimethylamides with *N*-acyloxyamides

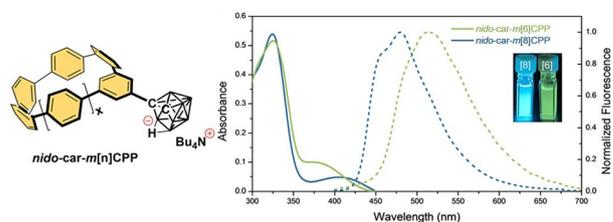
Shuangqing Li, Xianru Xu, Guojuan Yin, Jianhui Chen, Yanshu Luo and Yuanzhi Xia*



4363

meta-Cycloparaphenylenes (mCPPs) with pendant carborane

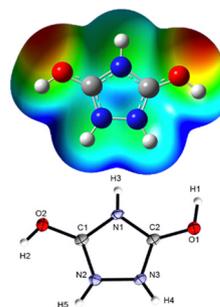
Pengfei Liu, Lingxiao He, Wei Shen, Siliang You, Zhiqiang Song, Bo Du, Sarfaraz Ahmed,* Hong Yan,* Ye Sha* and Xiang Li*



4367

Charge distribution and aromaticity in protonated urazole

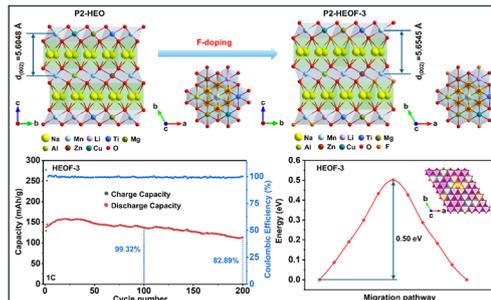
Alexander Nitzer,* Christoph Jessen and Andreas J. Kornath



4371

Synthesis of F-doped high-entropy layered oxide as cathode material towards high-performance Na-ion batteries

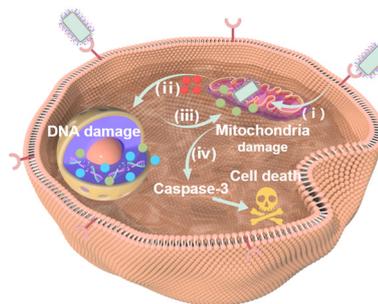
Minghui Cao,* Miao Cui, Yiping Gong, Zewei Guo, Shuangqing Le, Yangjinhua Wu, Chong Lin, Ke Li, Jingyang Tian* and Yi Qi*



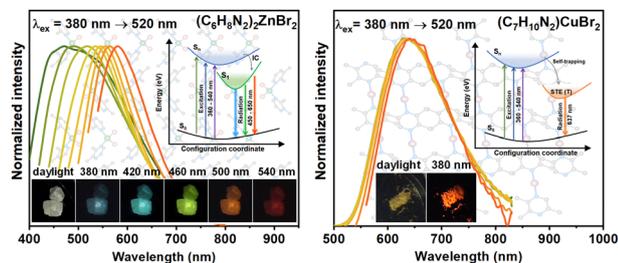
4375

Nanocapsules with dual-targeting of cell and mitochondria functions for enhanced hypoxia-activated drug therapy

Fen Li, Ziyi Li, Jing Zhao, Qingqing Zhang, Mengting Wu and Yingshu Guo*



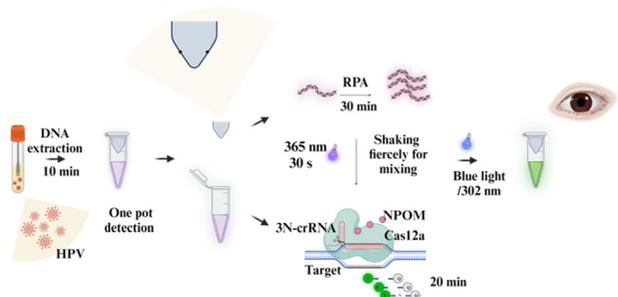
4379



Unveiling the photophysical mechanisms in low-dimensional Zn/Cu-based metal halides

Chuanyao Yang, Jia Zheng, Chang Xu, Chong Xiao, Yuanyuan Chang, Lei Zhou* and Xiangnan Gong*

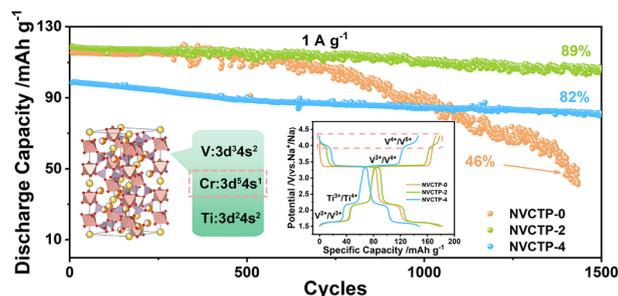
4383



Visual detection of HPV16 using a photoactivatable CRISPR-Cas12 system

Xiaoya Gu, Zhe Ma, Lin Zhou, Na Li, Shijiang Yu, Fu Wang* and Ruifang An*

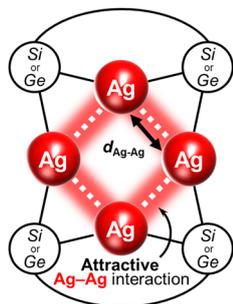
4387



Activating the high-potential V^{4+}/V^{5+} redox couple for an advanced NASICON sodium-ion cathode

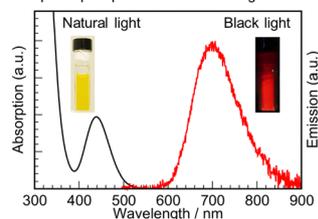
Miaomiao Wang, Lin Zhu, Shuang Xiang, Xiaobing Huang, Huanhuan Li, Haiyan Wang, Yougen Tang and Dan Sun*

4391



Silyl- and germyl-bridged Ag_4 clusters with short d_{Ag-Ag} of 2.70 and 2.71 Å

Deep-red phosphorescence reaching 700 nm



Silyl- and germyl-bridged neutral square-planar Ag_4 clusters with short Ag-Ag distances exhibiting red emission

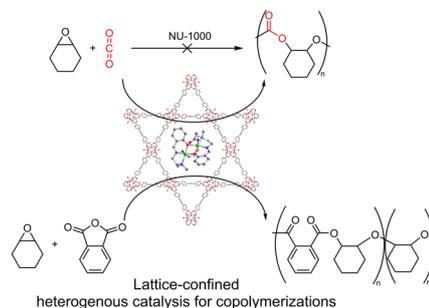
Reon Ishii, Yoshimasa Wada* and Yusuke Sunada*



4395

Teaching copolymerization catalysis to metal–organic frameworks by confining molecular catalysts in lattices

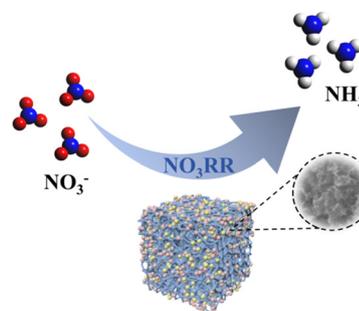
Chao-Yu Chiu, Chia-Her Lin, Pei-Wen Wu, Zhuorigebatu Tegudeer, Chen-Yen Tsai* and Wen-Yang Gao*



4399

Co-engineering of Fe–Mn nanoclusters with porous carbon for enhanced electrocatalytic ammonia synthesis

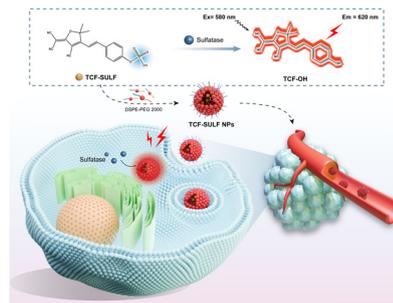
Youqing Wang, Lang Zhang, Caiyun Wang,* Zhiwei Wang, Yanhong Feng* and Xijun Liu*



4403

A sensitive fluorescent nanoprobe for sulfatase detection and imaging in living cells and *in vivo*

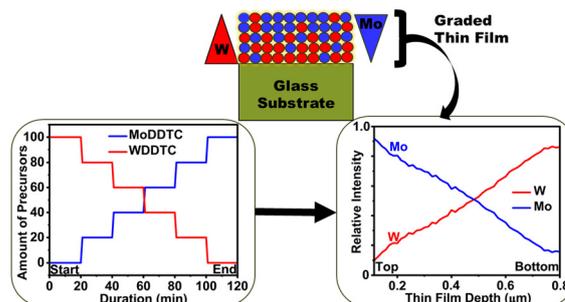
Huijia Liu, Jiaqi Zhang, Li Liu, Wenqing Li, Jing Yang* and Peng Wang*



4407

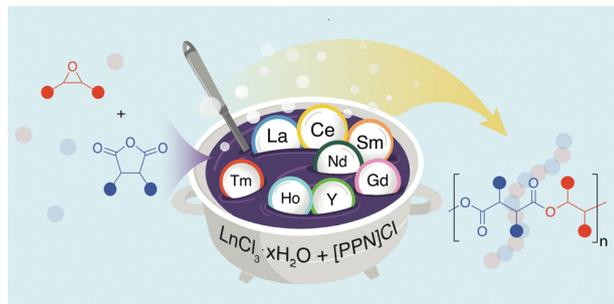
Gradient aerosol chemical vapor deposition (GA-CVD) for vertically graded thin films of $\text{Mo}_x\text{W}_{1-x}\text{S}_2$ and $\text{W}_x\text{Mo}_{1-x}\text{S}_2$

Abraham Barde, Huda Salam Al-Jurani, Brendan Ward-O'Brien, Mark A. Buckingham, Robert Cernik and David J. Lewis*



COMMUNICATIONS

4411



Effects of Lewis acidity and size of lanthanide salts for ring-opening copolymerization

Zachary A. Wood, Mrityunjay Giri, Harrison Min, Aren Ohanyan, Adrian Guerrero, Mikiyas K. Assefa and Megan E. Fieser*

CORRECTION

4415

Correction: Interstitial and substitutional doping of Mn^{2+} in 2D $\text{PEA}_2\text{PbBr}_4$ and BA_2PbBr_4 perovskites

Udara M. Kuruppu, Alvaro J. Magdaleno, Anuraj S. Kshirsagar, Bruno Donnadieu, Ferry Prins* and Mahesh K. Gangishetty*

