

IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(26) 4871-5038 (2025)



Cover

See Daigo Miyajima, Go Watanabe *et al.*, pp. 4951–4954. Image reproduced by permission of Go Watanabe from *Chem. Commun.*, 2025, 61, 4951.



Inside cover

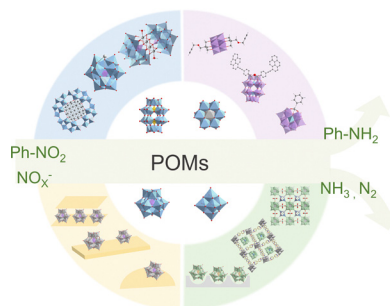
See Tamaki Yano and Ryosuke Masuda *et al.*, pp. 4955–4958. Image reproduced by permission of Tamaki Yano from *Chem. Commun.*, 2025, 61, 4955.

HIGHLIGHT

4881

Polyoxometalates for the catalytic reduction of nitrogen oxide and its derivatives: from novel structures to functional applications

Yuan Jiang, Chun-Jun Chen, Ke Li, Li-Ping Cui and Jia-Jia Chen*

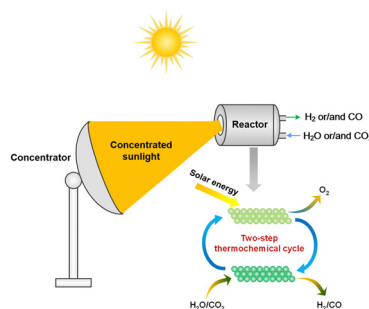


FEATURE ARTICLES

4897

Two-step thermochemical cycle for solar fuel production from H₂O and CO₂: technological challenges and potential solutions

Linyang Wei, Zhefei Pan* and Liang An*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers

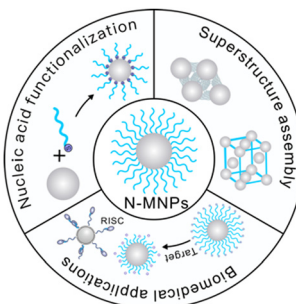


FEATURE ARTICLES

4904

Recent advances in nucleic acid-functionalized metallic nanoparticles

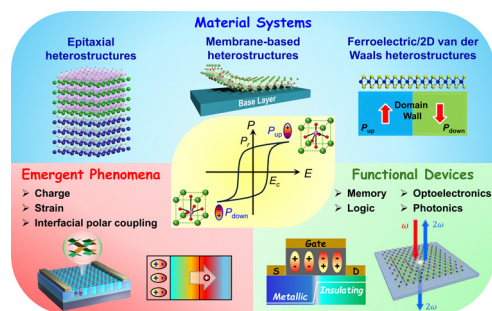
Lei Ren, Shuting Cao, Linjie Guo, Jiang Li, Kai Jiao* and Lihua Wang*



4924

Interface phenomena and emerging functionalities in ferroelectric oxide based heterostructures

Yifei Hao, Tianlin Li and Xia Hong*

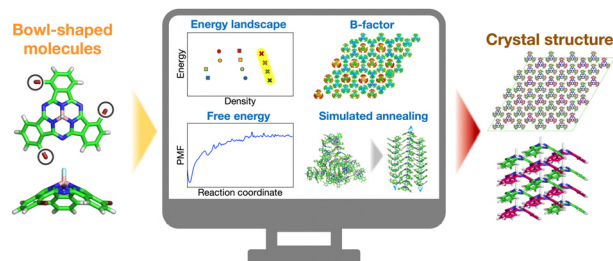


COMMUNICATIONS

4951

Molecular dynamics simulation to predict assembly structures of bowl-shaped π -conjugated molecules

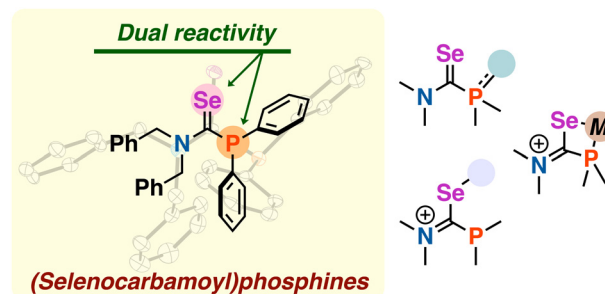
Shunsuke Sato, Barun Dhara, Dan He, Daigo Miyajima* and Go Watanabe*



4955

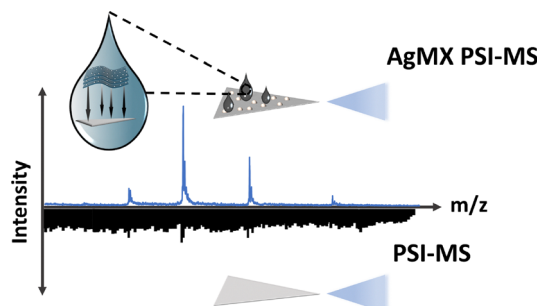
Selenoamides with two reactive sites: synthesis, structures, and dual reactivity of (selenocarbamoyl)phosphines

Ryosuke Masuda,* Tamaki Yano and Hiroyuki Kusama*



COMMUNICATIONS

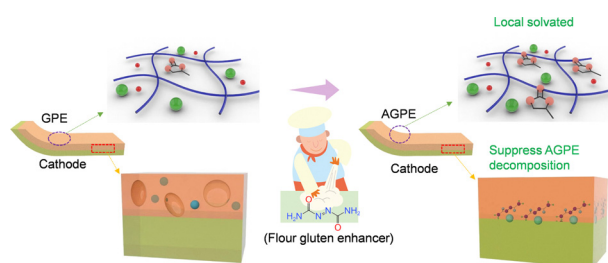
4959



Synergistic effect of Ag/MXene for efficient protein ionization in paper spray mass spectrometry

Lulu Yu, Yiqiu Wei, Yajuan Lei, Ziyi He, Guanyu Lu, Lingpeng Zhan and Peiqi Luo*

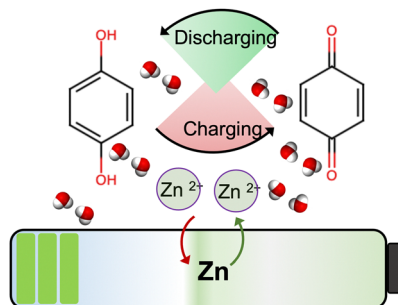
4963



Designing interfacially stable Na-ion polymer electrolytes with tailored local solvation structures

Jun Pan, Xinran Gao, Yanhong Liu, Okkyun Seo, Rosantha Kumara, Yuwei Liu, Takeshi Watanabe, Bing Zhu, Zhongchao Bai, Shixue Dou, Nana Wang* and Dongshuang Wu*

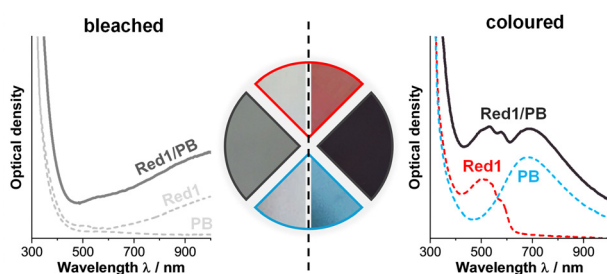
4967



Micropore confinement for a highly rechargeable aqueous Zn-hydroquinone battery with exceptional capacity

Mohamed H. Alkordj,* Ahmed B. Soliman, Eman Wahid, Aya Ali, Reham Shams-Eldin and Alexei Nefedov

4971



Combining broadband absorbing electrochromic materials for hybrid grey-to-colourless flexible devices

Lukas Niklaus, Rúben R. Ferreira, Sven Macher, Antoine Stopin, Marco Schott,* Laura Maggini* and Davide Bonifazi

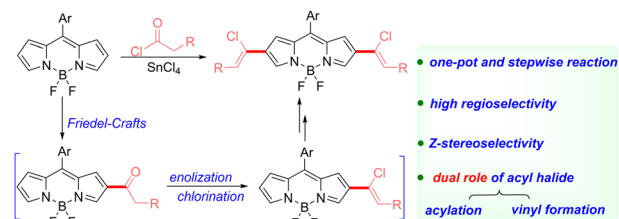


COMMUNICATIONS

4975

A cascade strategy for vinyl chloride-substituted BODIPYs with tunable photophysical properties

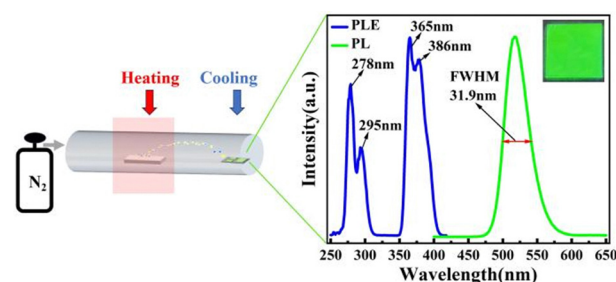
Fan Lv, Xing Guo, Shuangshuang Zhu, Sen Huang, Li Li, Shaozhen Wang,* Lijuan Jiao* and Erhong Hao*



4979

Green synthesis of ultra-bright Cs_3MnBr_5 films by a CVD method

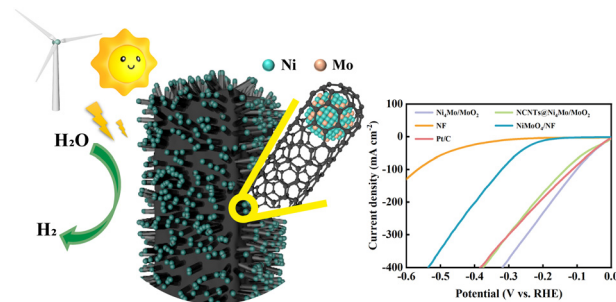
Shu Li, Chuanhe Ma, Fushuai Li, Jinchun Jiang and Hailong Wang*



4983

 Ni_4Mo nanoparticles embedded in N-doped carbon nanotubes growing on $\text{Ni}_4\text{Mo}/\text{MoO}_2$ micropillars for durable hydrogen evolution

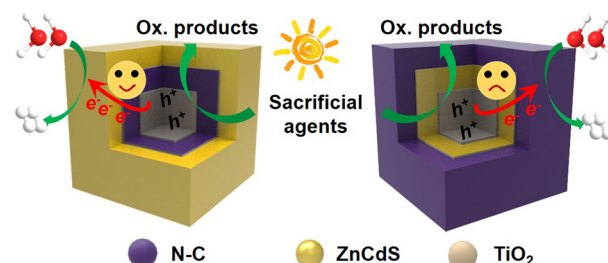
Lili Zhou, Zemin Zhao, Ao Xie, Rufe Zhang, Linting Cheng, Jia Liu, Hua Zhou, Yongmei Chen, Pingyu Wan and Yang Tang*



4987

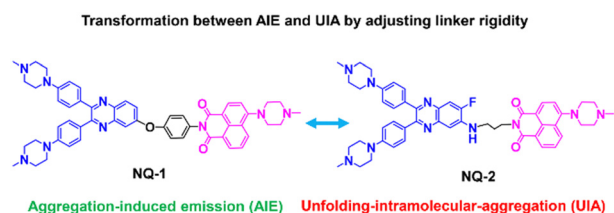
A regulated $\text{TiO}_2@\text{NC}@\text{ZCS}$ photocatalyst for efficient hydrogen evolution: insights into the role of carbon layer positioning

Guoxiang Zhang, Guangwen Fu, Tiaolong Lv, Wei Liu, Xiguang Han* and Jianjian Yi*



COMMUNICATIONS

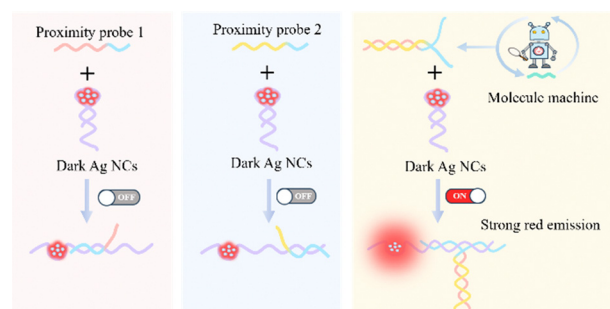
4991



AIE and UIA-featured fluorescent ligands for G-quadruplex: the impact of linker rigidity between recognition moiety and fluorophore

Rui Wang and Ming-Hao Hu*

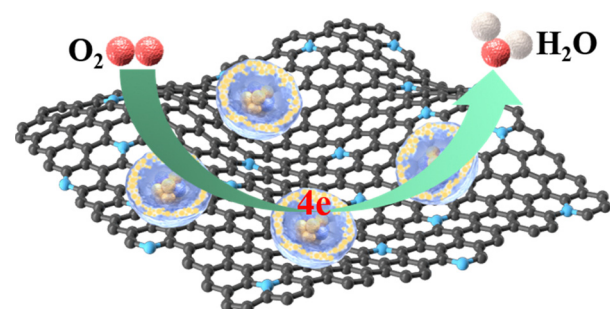
4995



Proximity-induced DNA Ag NC enhancement with a DNA-fueled molecule machine for lung cancer-associated miRNA detection

Yiting Lan, Ruirui Chang, Wei Zhang, Dengxue Qiu, Chengtong Liang, Jin Huang,* Qin Xu* and Jing Li*

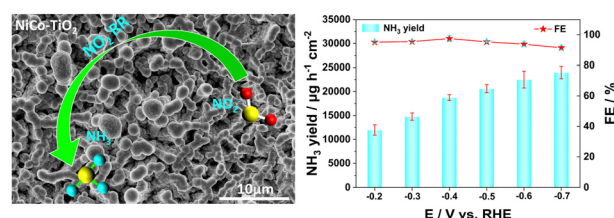
4999



A facile approach for synthesizing nitrogen-doped carbon supported circular trough-shaped FeCo alloy for the oxygen reduction reaction

Kun Yang, Jing Liu,* Bin Li, Zhicheng Xu, Xiang Ji, Xinchun Yang* and Jianping Long*

5003



A NiCo alloy particle-decorated TiO₂ nanoarray as an efficient electrocatalyst for nitrite reduction to ammonia

Zhaofei Ren, Baofang Zhao, Qiuyue Chen, Lisi Xie,* Jing Zhang, Xuguang An, Qian Liu, Xiaolei Li, Weitang Yao and Qingquan Kong*

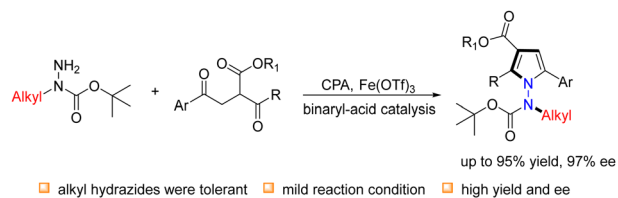


COMMUNICATIONS

5007

Atroposelective synthesis of N–N axially chiral pyrrolylamides by combined-acid catalytic Paal–Knorr reaction

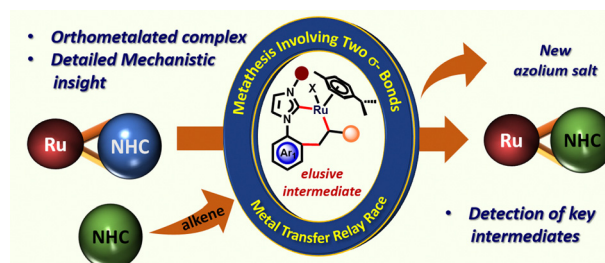
Zhihuang Chen, Qi Chen, Guogang Tu and Xiaodong Xiong*



5011

Alkene-promoted NHC ligand substitution in orthometalated Ru–NHC complexes via σ -bond metathesis: a mechanistic insight

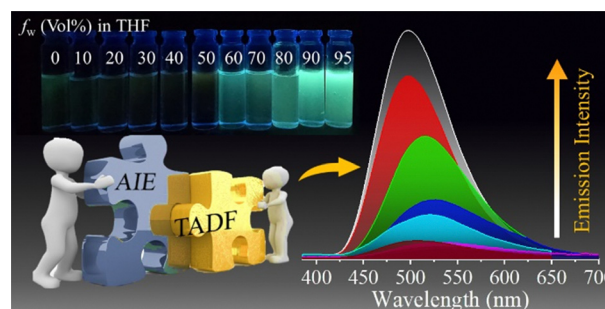
Arya Ramachandran, Somnath Bauri and Arnab Rit*



5015

Regulation of aggregation-enhanced thermally activated delayed fluorescence in butterfly-shaped donor–acceptor conjugates

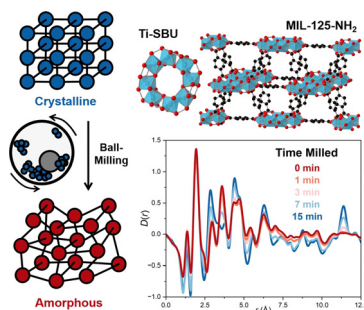
Manoj Upadhyay and Debdas Ray*



5019

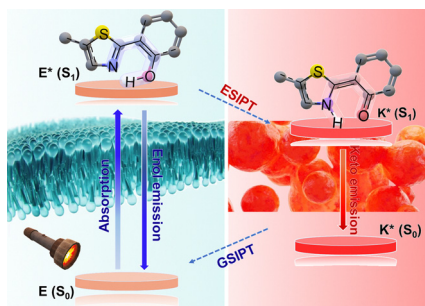
Structural insights of mechanochemically amorphised MIL-125-NH₂

E. V. Shaw, C. Castillo-Blas,* T. Lambden, B. de Santos, B. Turner, G. I. Lampronti, J. E. M. Laulainen, G. P. Robertson, A. M. Chester, C. Ye, S. Guan, J. K. G. Karlsson, V. Martinez, I. Brekalo, B. Karadeniz, S. Cabrera, L. N. McHugh, K. Užarević, J. Alemán, A. Fraile, R. C. Evans, P. A. Midgley, D. A. Keen, X. Moya and T. D. Bennett*



COMMUNICATIONS

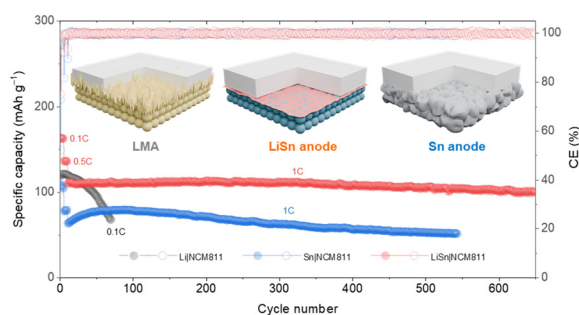
5023



ESIP-driven imaging: a thiazole probe for lipid droplets and plasma membranes

José L. Belmonte-Vázquez, Juan L. Cortes-Muñoz, Adriana Romo-Pérez, Braulio Rodríguez-Molina* and Arturo Jiménez-Sánchez*

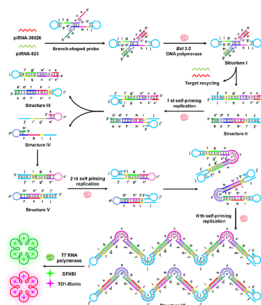
5027



An ultra-stable prelithiated Sn anode for sulfide-based all-solid-state Li batteries

Haozhe Geng, Senhe Huang, Zhenyu Zhang,* Sheng Han,* Rongrong Miao, Jinhui Zhu* and Xiaodong Zhuang

5031



Construction of a dual-color fluorescent light-up biosensor based on sequential coding for label-free and sensitive detection of multiple Piwi-interacting RNAs

Jinping Hu, Jie Zhang, Juan Hu* and Chun-yang Zhang*

CORRECTION

5035

Correction: Main advances in the application of scorpionate-based catalytic systems for the preparation of sustainable polymers

Luis F. Sánchez-Barba,* Andrés Garcés,* Agustín Lara-Sánchez,* Marta Navarro and David González-Lizana

