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# ChemComm

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## IN THIS ISSUE

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**Cover**
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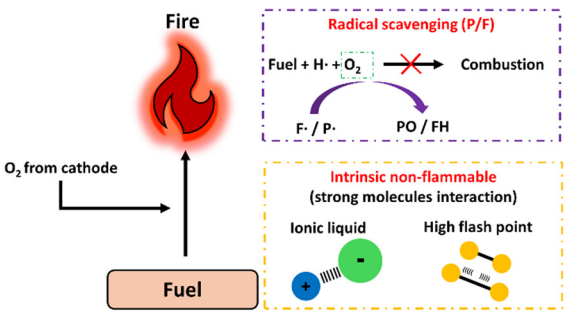
**Inside cover**
See Anna Skrzyńska, Łukasz Albrecht *et al.*, pp. 12119–12122. Image reproduced by permission of Anna Skrzyńska from *Chem. Commun.*, 2025, **61**, 12119.

## HIGHLIGHTS

12056

**Innovations in non-flammable and flame-retardant electrolytes for safer lithium-ion batteries**

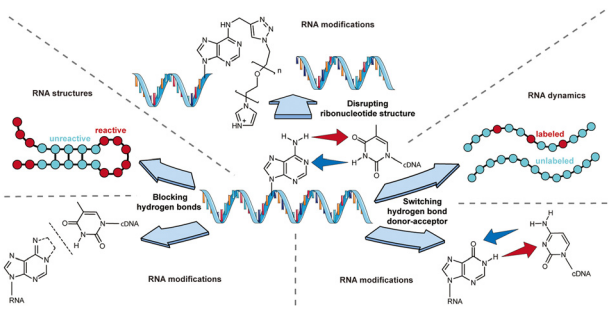
Won-Jang Cho, Yoo Jeong Huh, Soyeon Choi, Uddhav Kulkarni, Kiran P. Shejale and Gi-Ra Yi*




12069

**Chemical decoding strategies for detecting RNA modifications, dynamics and structures**

Xiao Shu* and Wenping Li



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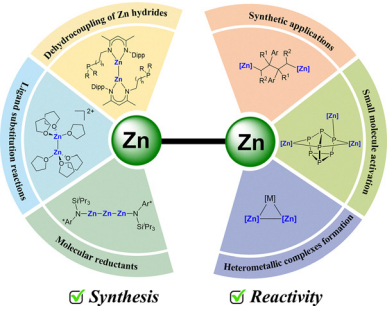
## FEATURE ARTICLES

12085

**Recent advances in zinc–zinc bonded complexes: synthesis and reactivity**

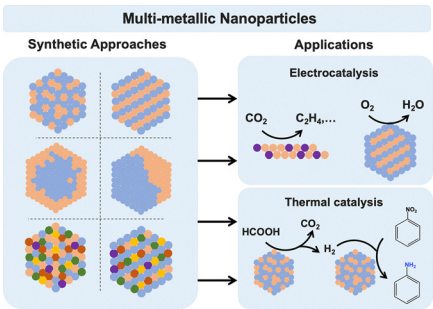
Shengjie Jiang, Shuilian Xu and Xin Xu*




12097

**Multi-metallic nanoparticles: synthesis and their catalytic applications**

Yuliang Chen, Ahsan Zohaib, Haobo Sun and Shouheng Sun*

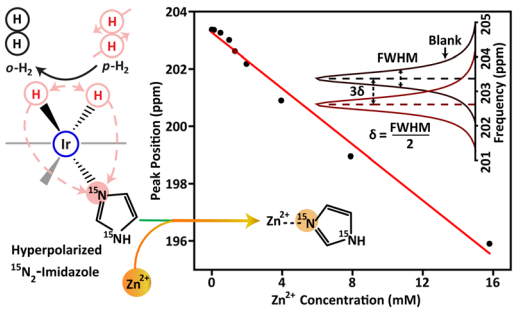



## COMMUNICATIONS

12115

**SABRE-SHEATH hyperpolarized $^{15}N_2$-imidazole for $Zn^{2+}$ sensing**

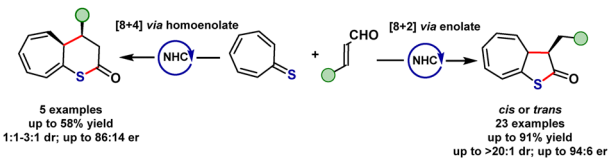
Brojo Kishor Shachib Dhali, Abubakar Abdurraheem, Mustapha Abdulmojeed, Anna Samoilenko, Megan Pike, Rielly J. Harrison, Franziska Theiss, Boyd M. Goodson, Eduard Y. Chekmenev* and Thomas Theis*




12119

**Divergent hetero-[8+*n*] higher order cycloadditions of tropothione and enals catalyzed by *N*-heterocyclic carbenes**

Joanna Dybowska, Artur Przydacz, Weronika Olczyk, Lesław Sieroń, Anna Skrzyńska* and Łukasz Albrecht*



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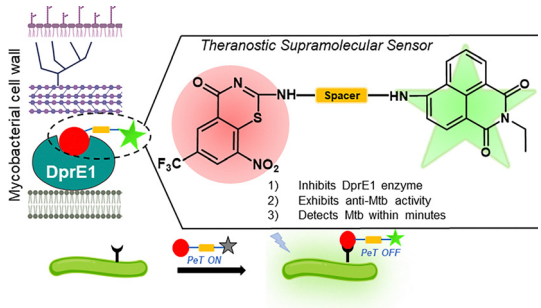
## COMMUNICATIONS

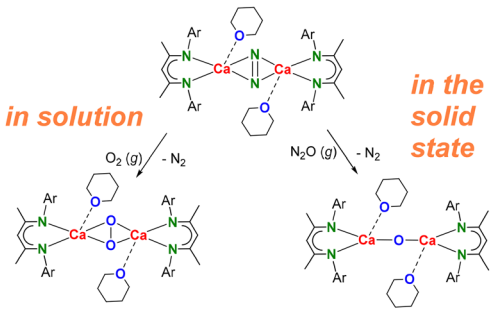
12123




**A dual-function probe for inhibition and rapid detection of *Mycobacterium tuberculosis***

Sonali Chhabra* and Raman Parkesh*

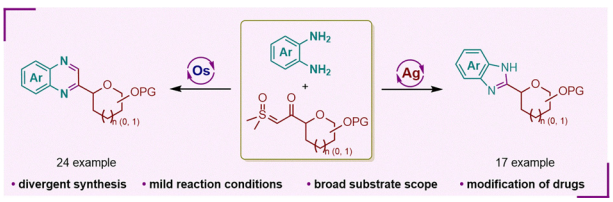
12127




**Low-coordinate calcium peroxide and oxide complexes**

Stefan Thum, Marcel A. Schmidt, Jens Langer and Sjoerd Harder*

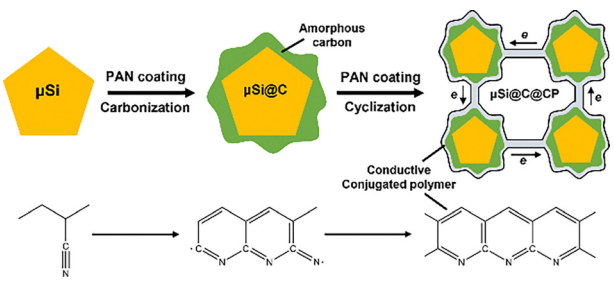
12131




**Switchable synthesis of benzimidazole/quinoxaline *C*-glycosides with *o*-phenylenediamines and sulfoxonium ylide glyco-reagents**

Deng-Yin Liu, Xin-Yue Hu, Cong-Zhen Zhang, Miao-Miao Wen, Xiao-Xi Ren and Xu-Ge Liu*

12135




**A conjugated conductive polymer coating towards a robust micro-Si anode for lithium storage**

Chao Song, Jiecheng Huang and Zhiyu Wang*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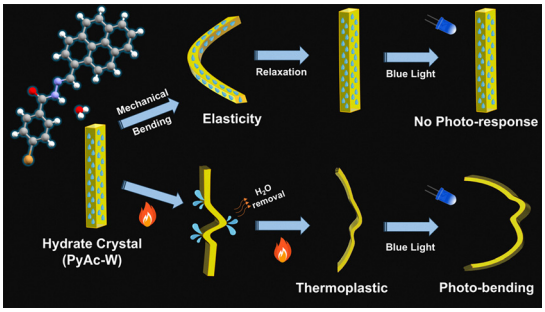
## COMMUNICATIONS

12139

**Water-driven modulation of multiresponsive properties in acylhydrazone-based crystals**

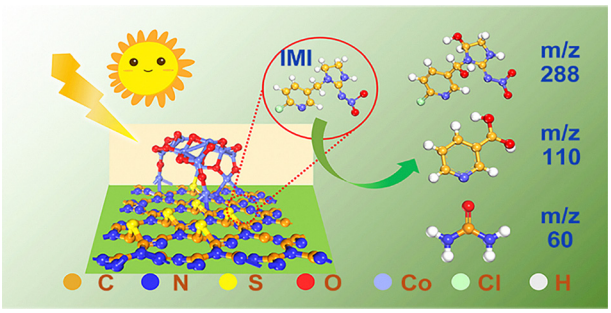
Deepak Manoharan, Aritra Bhowmik, Manish Kumar Mishra* and Soumyajit Ghosh*




12143

**Bulk-interface engineering of a $CoO_x$/SCN heterostructure for synergistically enhanced photocatalytic degradation of the imidacloprid insecticide**

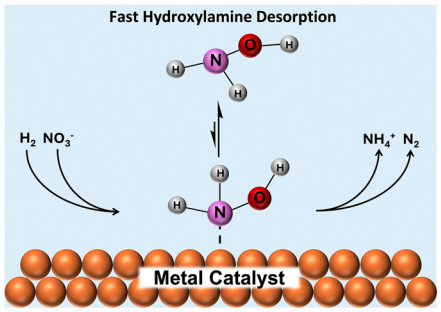
Guangxue Pan, Yan Zhang, Mengmeng Liu, Zhuwei Cao, Yi Zheng and Sheng Ye*




12147

**Hydroxylamine: an overseen intermediate that brings into question nitrogen selectivity in metal-catalyzed nitrate and nitrite reduction**

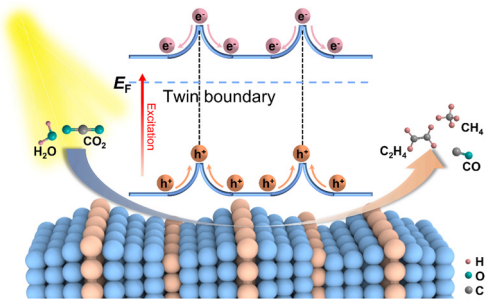
Janek Betting, Leon Lefferts* and Jimmy Faria Albanese*




12151

**Engineering twin $Cu_{0.3}Zn_{0.7}S$ for $CO_2$ photocatalytic reduction to ethylene**

Hang Zhao, Hao Song, Zhefei Pan, Xun Zhu, Dingding Ye, Yang Yang, Hong Wang, Qiang Liao and Rong Chen*



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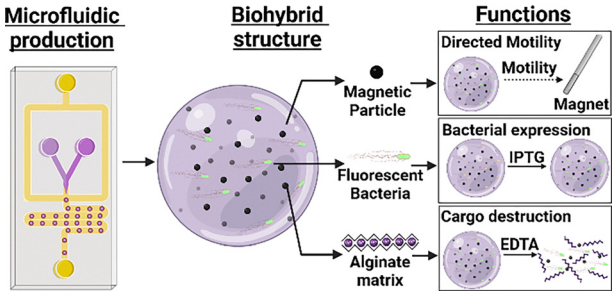
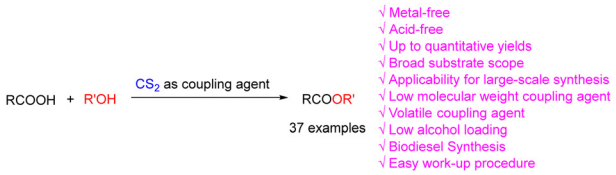
12155




### Microfluidic generation of bacterial biohybrids for magnetic guidance and content release

Nina O'Toole, Matthew E. Allen, Claudia Contini* and Yuval Elani*

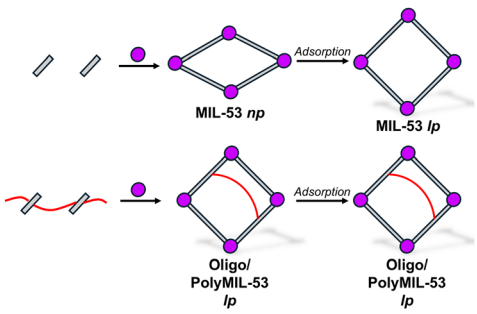
12159




### Esterification of carboxylic acids using carbon disulfide ($CS_2$) as a coupling agent

A. Ziyaei Halimehjani* and Z. Marjani

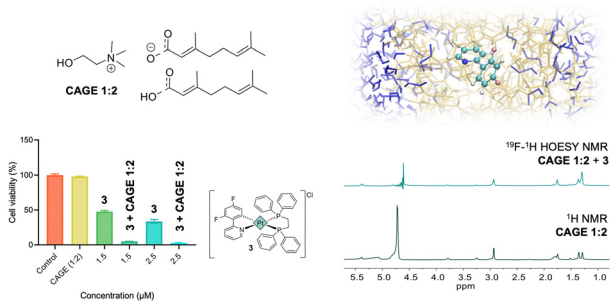
12163




### Permanently porous oligoMOFs and polyMOFs of MIL-53

Debobroto Sensharma and Seth M. Cohen*

12167




### Choline–geranate (CAGE) ionic liquids potentiate the anticancer activity of platinum-based drugs

Marta Costa Verdugo, Giulia Sierri, Laura Hernandez-Fernandez, Elena Formoso, José I. Miranda, Francesco Saverio Sica, Alejandro H. Orrego, Alba González, Elixabete Rezabal, Francesca Re and Luca Salassa*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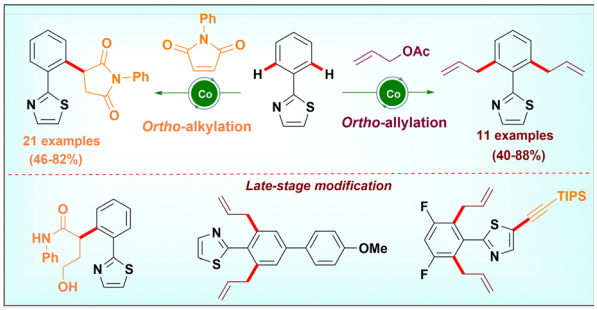
## COMMUNICATIONS

12171

**Cobalt(III)-catalyzed C–H functionalization of 2-arylthiazoles with maleimides or allyl acetate**

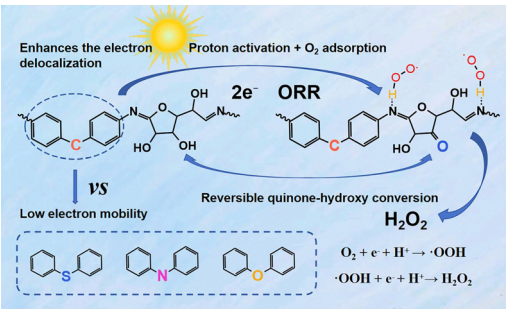
Pengfei Zhou, Guibin Wan, Zhihan Yuan, Aoran Guan, Zongwu Wei, Taoyuan Liang, Jun Jiang* and Zhuan Zhang*




12175

**Chain-section engineering enables electron delocalization for efficient photocatalytic $H_2O_2$ synthesis in D-glucuronolactone-derived polymers**

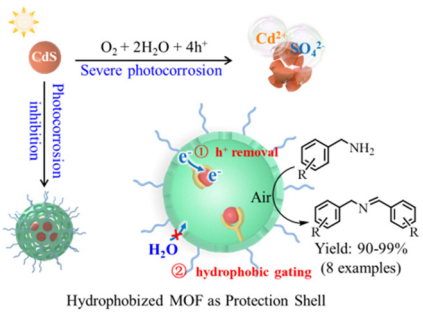
Yu Liu, Jiawei Lu, Shichen Cui, Haijiao Xie, Jianning He* and Qingyao Wu*




12179

**A hydrophobized metal–organic framework as a protection shell to stabilize CdS quantum dots for sunlight-driven aerobic oxidation**

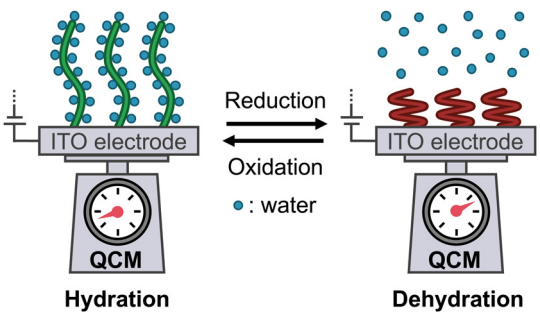
Zewei Liu, Zepeng Yu, Shu Li, Jun Pang, Yuzhu Wang, Zhiqiang Wu, Sijie Liu and Rong Tan*




12183

**Redox-associated phase transition of a marginally stable synthetic polymer**

Takafumi Enomoto,* Keita Terui, Shunsuke Yagi, Aya M. Akimoto and Ryo Yoshida*



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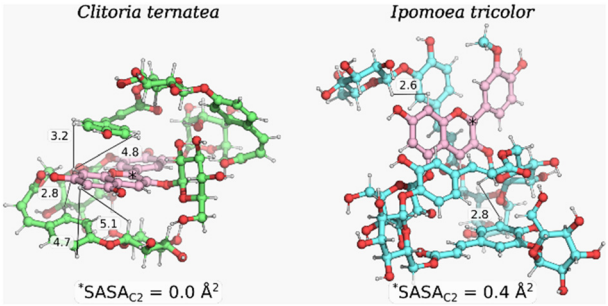
## COMMUNICATIONS

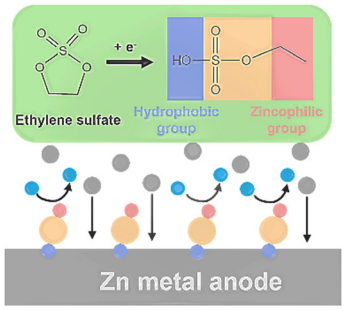
12187




**Achieving a dramatic blue colour stability in anthocyanins bearing acylated sugars in position 3′,5′**

Joana Oliveira,* João T. S. Coimbra, Victor Freitas, Peiqing Yang, Nuno Basílio and Fernando Pina*

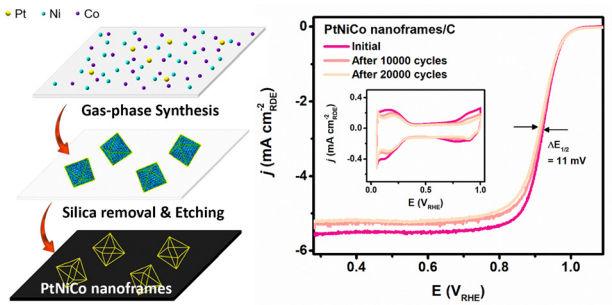
12191




***In situ* formation of zincophilic–hydrophobic layers using self-assembling additives for stabilizing zinc metal anodes**

Zhengquan Xiao, Zihan Xu, En Gao and Shilin Wu*

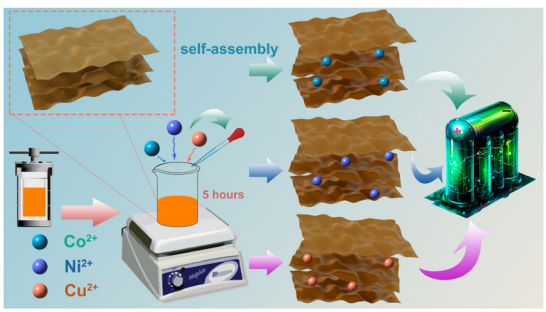
12195




**Synthesis and characterization of ultra-small octahedral PtNiCo skeletons with high activity for the oxygen reduction reaction**

Minseok Ko, Mrinal Kanti Kabiraz, Yuseong Heo, Daehee Yang, Yeongseop Lee, Sang Hoon Joo, Young-Min Kim, Sang-Il Choi* and Won Seok Seo*

12199




**Divalent transition metal ion intercalated hydrated $V_2O_5$ nanosheet cathodes for ultra-long cycling aqueous zinc-ion batteries**

Jie Bai, Wenting Ji, Mengda Xue, De Li,* Huayu Wang and Lingyun Chen*



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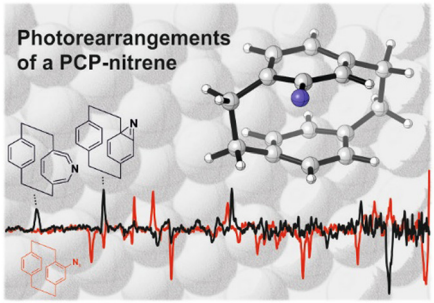
## COMMUNICATIONS

12203

**Photochemical rearrangements of a [2.2]paracyclophane-based nitrene studied by vibrational CD spectroscopy**

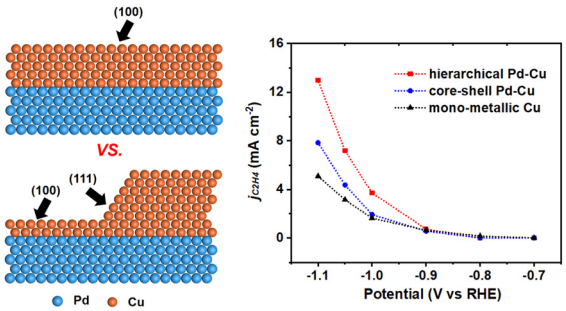
Frederike Beyer and Christian Merten*




12207

**Architecture engineering and lattice modulation of exposed Cu (100)/(111) surfaces for efficient electrochemical $CO_2$ reduction**

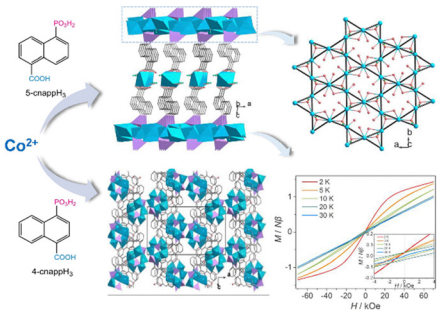
Zhen He, Hanwen Cheng, Hao Liu, Tengfei Xiong, Chengming Wang,* Xiaobin Liao* and Lingwen Liao*



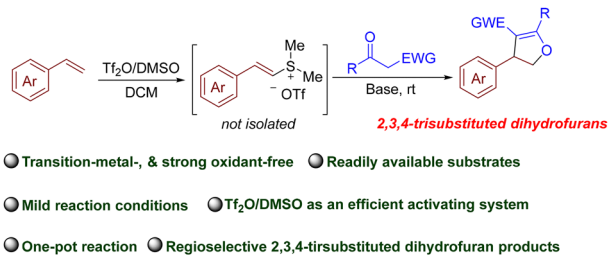

12211

**Metal–organic framework containing $Co_3(\mu_3\text{-}OH)$-based kagomé layers showing long-range weak ferromagnetic ordering**

Yan Xu, Qian-Qian Su, Bei Liu, Wen-Tao Sun, Song-Song Bao, Su-Zhi Li and Li-Min Zheng*




12215

**Sulfonium triggered one-pot synthesis of dihydrofurans *via* [3+2] annulation of alkenes and active methylene compounds**

Li Yang, Jin-Long Wang, Jia Shu, Xiang-Qin Xu, Shan-Shan Tang and Long-Yong Xie*