

# ChemComm

Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(85) 12259-12460 (2024)



### Cover

See Lei Zhu, Jian Zhou, Jin-Sheng Yu *et al.*, pp. 12302–12314. Image reproduced by permission of Lei Zhu from *Chem. Commun.*, 2024, 60, 12302.



### Inside cover

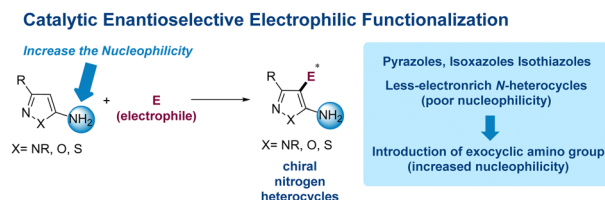
See Jake L. Greenfield *et al.*, pp. 12365–12368. Image reproduced by permission of Jiarong Wu from *Chem. Commun.*, 2024, 60, 12365.

## HIGHLIGHTS

12270

### Asymmetric electrophilic functionalization of amino-substituted heteroaromatic compounds: a convenient tool for the enantioselective synthesis of nitrogen heterocycles

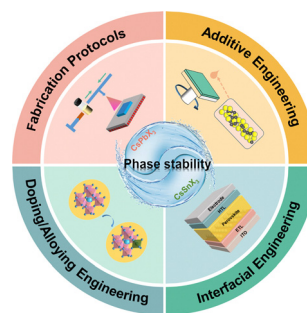
Gonzalo Blay,\* Alicia Monleón, Marc Montesinos-Magraner, Amparo Sanz-Marco and Carlos Vila\*



12287

### Toward durable all-inorganic perovskite solar cells: from lead-based to lead-free

Hongzhe Xu, Zhaochen Guo, Peng Chen\* and Songcan Wang\*



# ChemComm

Uncover new possibilities  
with outstanding  
preliminary research

Original discoveries, fuelling  
every step of scientific progress



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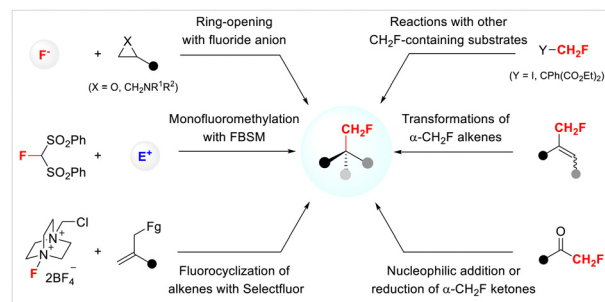
Fundamental questions  
Elemental answers

## FEATURE ARTICLES

12302

## Recent advances in catalytic enantioselective construction of monofluoromethyl-substituted stereocenters

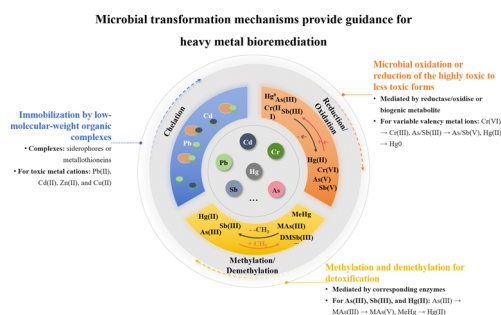
Bo-Jie Li, Yu-Long Ruan, Lei Zhu,\* Jian Zhou\* and Jin-Sheng Yu\*



12315

## Advances in mechanism for the microbial transformation of heavy metals: implications for bioremediation strategies

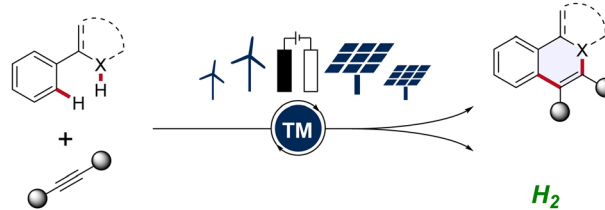
Chunlian Ding,\* Zihan Ding, Qingcai Liu, Weizao Liu\* and Liyuan Chai



12333

## Metallaelectro-catalyzed alkyne annulations via C–H activations for sustainable heterocycle syntheses

Preeti Kushwaha, Anjali Saxena, Tristan von Münchow, Suman Dana, Biswajit Saha\* and Lutz Ackermann\*

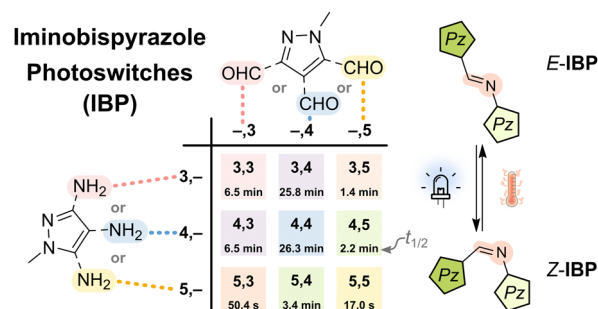


## COMMUNICATIONS

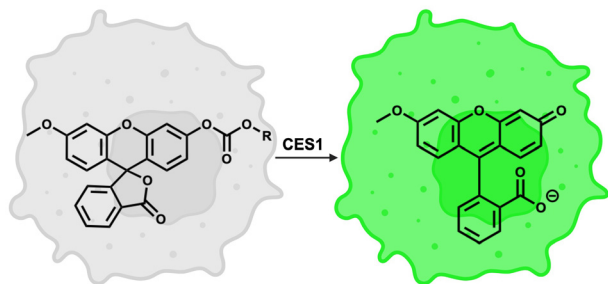
12365

## Iminobispyrazole (IBP) photoswitches: two pyrazole rings can be better than one

Jiarong Wu, Clara Li, Lasse Kreimendahl and Jake L. Greenfield\*



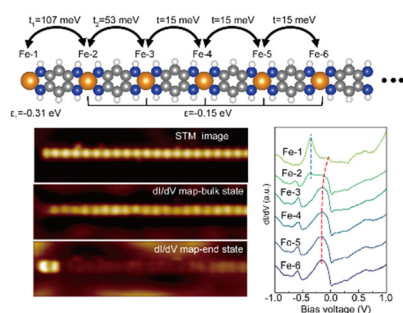
12369



### Fluorogenic chemical tools to shed light on CES1-mediated adverse drug interactions

Carolyn J. Karns, Taylor P. Spidle, Emmanuel Adusah, Mingze Gao, Jennifer E. Nehls and Michael W. Beck\*

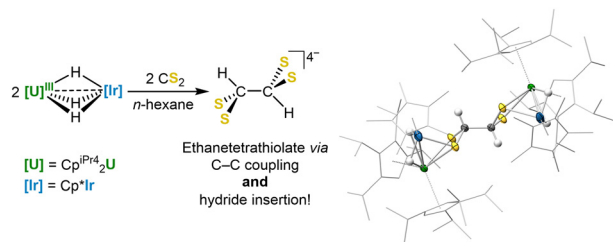
12373



### Atomic-scale investigation on the electronic states in a one-dimensional $\pi$ -d conjugated metal-organic framework

Nuoyu Su, Tingfeng Zhang, Weiliang Zhong, Guangyao Miao, Jiandong Guo, Zhengfei Wang\* and Weihua Wang\*

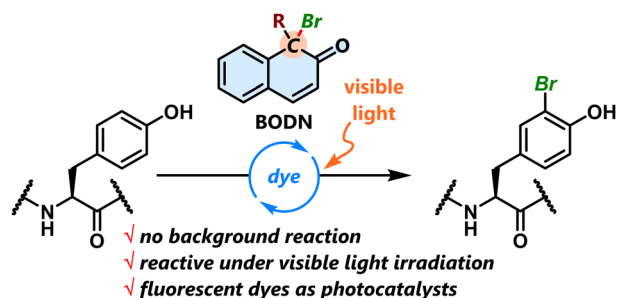
12377



### Reduction of $\text{CS}_2$ to an ethanetetrathiolate by a hydride-bridged uranium-iridium heterobimetallic complex

Christopher Z. Ye, Iker Del Rosal, Erik T. Ouellette, Stephan Hohloch, Laurent Maron, Clément Camp\* and John Arnold\*

12381



### BODNs as biocompatible brominating reagents: visible-light photocatalytic tyrosine modification under physiologically favorable conditions

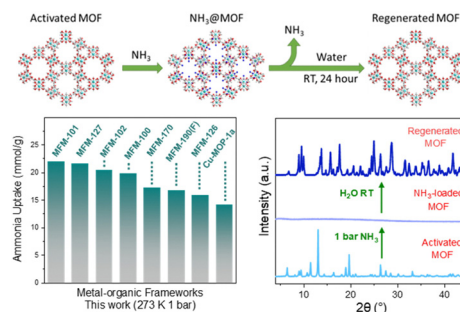
Rakuto Yoshida, Yuichiro Hori, Daisuke Uraguchi\* and Keisuke Asano\*



12385

### High ammonia adsorption in copper-carboxylate materials: host-guest interactions and crystalline-amorphous-crystalline phase transitions

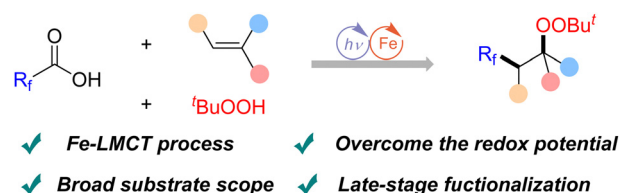
Wanpeng Lu, Yinlin Chen, Zi Wang, Lixia Guo, Jin Chen, Yujie Ma, Weiyao Li, Jiangnan Li, Meng He, Mengtian Fan, Alena M. Sheveleva, Floriana Tuna, Eric J. L. McInnes, Mark D. Frogley, Philip A. Chater, Catherine Dejoie, Martin Schröder\* and Sihai Yang\*



12389

### Photoinduced fluoroalkylation-peroxidation of alkenes enabled by ligand-to-iron charge transfer mediated decarboxylation

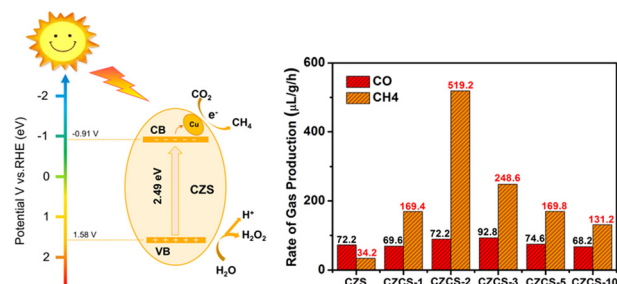
Qiwei Huang, Chenhao Lou, Leiyang Lv\* and Zhiping Li\*



12393

### Cu-doped CdZnS nanocrystals: a leap forward in selective photocatalytic CO<sub>2</sub> reduction to methane

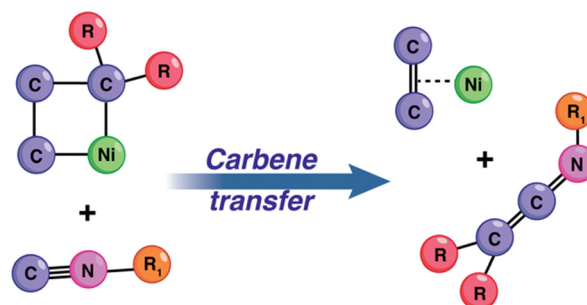
Jiwei Li, Ze Luo, Tianqing Zhou, Haibo Huang,\* Xilin She\* and Hua Tang



12397

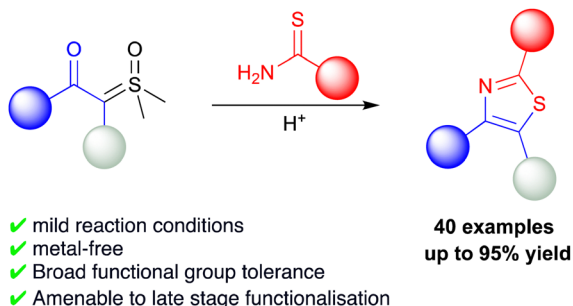
### Carbene transfer reactivity from a nickelacyclobutane

Maria L. G. Sansores-Paredes, Martin Lutz and Marc-Etienne Moret\*



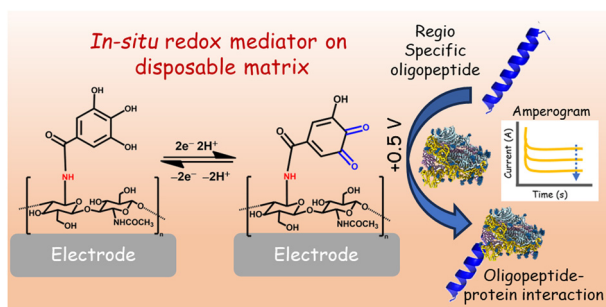
## COMMUNICATIONS

12401

**Brønsted acid-mediated thiazole synthesis from sulfoxonium ylides**

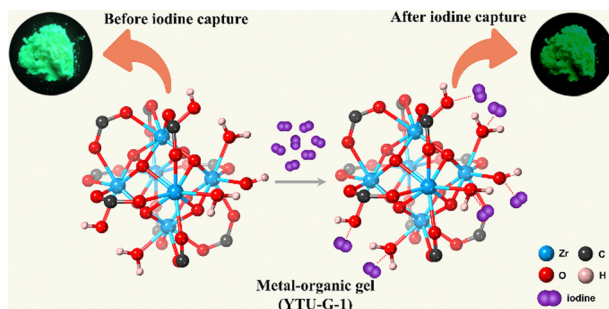
Joe L. Smy, Roxanne Ifill and Storm Hassell-Hart\*

12405

**Electrochemically grafted gallic acid-chitosan: a metal-free *in situ* redox platform for regiospecific oligopeptide-viral spike protein interaction**

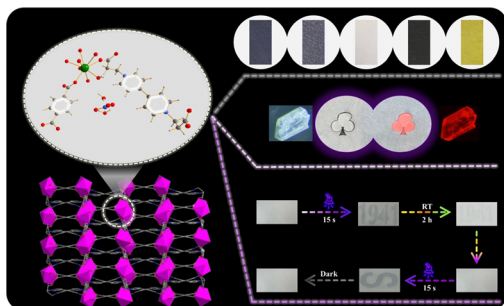
Vinoth Krishnan, Chinnaiah Sivakumar, Kannadasan Anand Babu, Sevakumaran Vigneswari, Rajamani Lakshminarayanan, Sudhakar Natarajan and Murugan Veerapandian\*

12409

**AI-Egen-functionalized metal-organic gel as a bifunctional platform for efficient adsorption and portable sensing of gaseous iodine**

Jian Xie, Ji Lei, Lilin Zhang, Jinpeng Liang, Sen Mei, Lixi Chen, Xia Wang, Wei Liu, Yanlong Wang\* and Baowei Hu\*

12413

**Two-dimensional viologen-based lanthanide coordination polymers as multi-stimuli responsive materials to light and amines with a fluorescence response**

Hao Wang, Xiao-Han Sun, Tian-Tian Wang, Yu-Xin Li, Ying-Ming Xu and Wen-Bin Sun\*

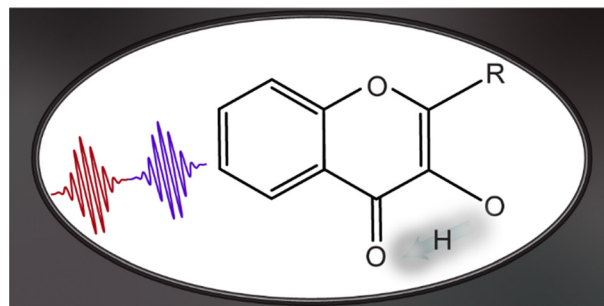


## COMMUNICATIONS

12417

### Characterizing excited-state intramolecular proton transfer in 3-hydroxyflavone with ultrafast transient infrared spectroscopy

Valerie S. Winkler and Joseph A. Fournier\*



12421

### Ring-extended carbazole modification to activate efficient phosphorescent OLED performance of traditional host materials

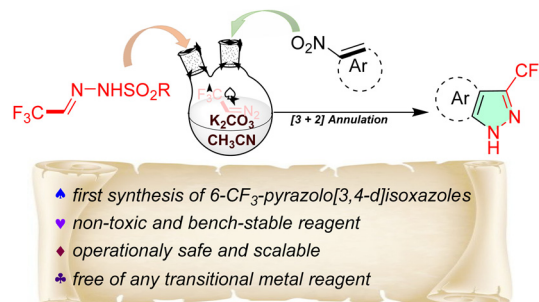
Zhen-Long Tu,\* Li-Yuan Hu, Jun-Yi Wang, Cong Wang, Xunwen Xiao\* and Xu-Feng Luo\*



12425

### The [3+2] annulation of *in situ* formed trifluorodiazoethane with 4-nitroisoxazoles: access to trifluoromethylpyrazolo[3,4-*d*]isoxazoles

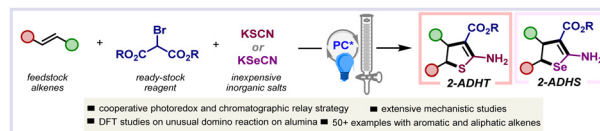
Huamin Wang,\* Li-Qin Meng, Wenjing Niu, Wan-Qi Yang, Yu Ou and Ying-Wu Lin\*



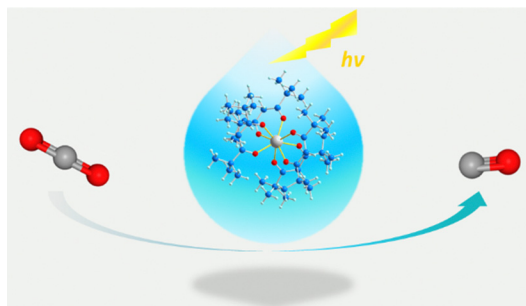
12429

### A chromatographic relay conjugated photoredox strategy: S, Se-pharmacophore from alkenes via formal [2+2+1] heteroannulation

Injamam Ul Hoque, Saradindu Debnath, Rabindranath Lo and Soumitra Maity\*



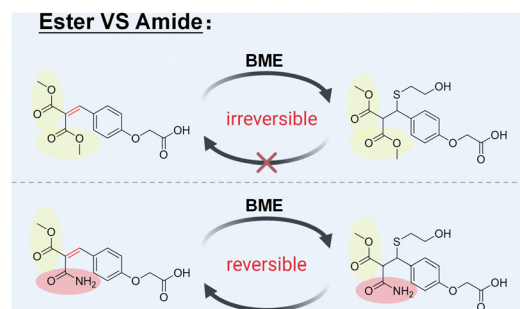
12433



### Photocatalytic CO<sub>2</sub> reduction to CO catalysed by lanthanide complexes

Yingzhe Zhao, Jianling Zhang,\* Haoxiang Wang, Renjie Zhang, Yunan Teng, Meiling Li, Yi Song and Zhonghao Tan

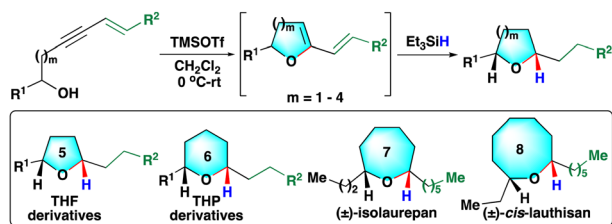
12437



### New electrophiles targeting thiols in a reversible covalent manner

Xingyu Ma, Manyi Xu, Fengge Wang, Tingting Hu, Xinyuan Chen and Chong-Jing Zhang\*

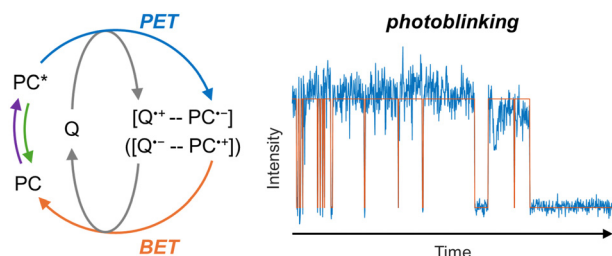
12441



### Unlocking a reductive hydroalkoxylation cascade for the stereoselective synthesis of cyclic ethers: total synthesis of (±)-isolaurepan and (±)-*cis*-lauthisan

Santosh J. Gharpure\* and Raj Kumar Patel

12445



### Visualizing back electron transfer in eosin Y photoredox catalysis

Kai Gu, Wenqiao Zhou and Chunming Liu\*

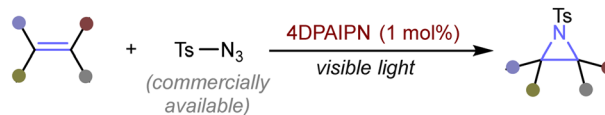


## COMMUNICATIONS

12449

## Organic photosensitized aziridination of alkenes

Chunying Wu and Yunbo Zhu\*

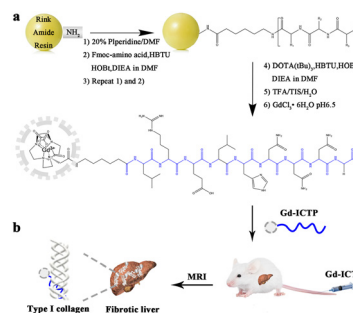


- ◆ Organic photocatalysis
- ◆ Remarkably wide alkenes scope (56 examples)
- ◆ LSF and synthesis of bioactive molecules

12453

A robust collagen-targeting MRI peptide contrast agent for *in vivo* imaging of hepatic fibrosis

Zhao Liu, Linge Nian, Xiangdong Cai, Yue Hu, Junqiang Lei\* and Jianxi Xiao\*



## RETRACTION

12457

Retraction: A robust collagen-targeting MRI peptide contrast agent for *in vivo* imaging of hepatic fibrosis

Zhao Liu, Linge Nian, Xiangdong Cai, Yue Hu, Junqiang Lei\* and Jianxi Xiao\*

