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IN THIS ISSUE

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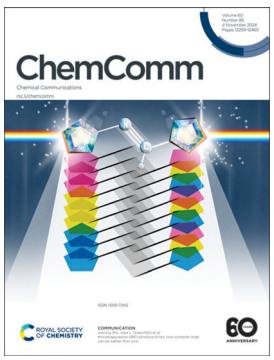
Cover
See Lei Zhu, Jian Zhou, Jin-Sheng Yu *et al.*, pp. 12302–12314. Image reproduced by permission of Lei Zhu from *Chem. Commun.*, 2024, **60**, 12302.



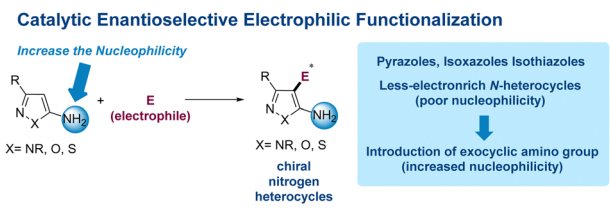
Inside cover
See Jake L. Greenfield *et al.*, pp. 12365–12368. Image reproduced by permission of Jiarong Wu from *Chem. Commun.*, 2024, **60**, 12365.

HIGHLIGHTS

12270

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

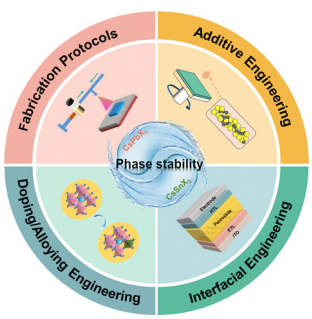
Gonzalo Blay,* Alicia Monleón, Marc Montesinos-Magraner, Amparo Sanz-Marco and Carlos Vila*



12287

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

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



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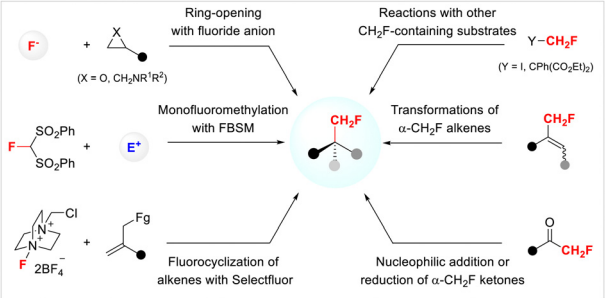
FEATURE ARTICLES

12302

Recent advances in catalytic enantioselective construction of monofluoromethyl-substituted stereocenters

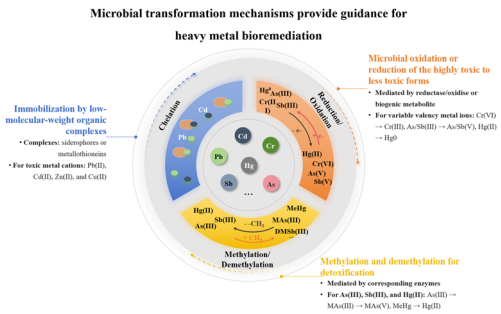
Bo-Jie Li, Yu-Long Ruan, Lei Zhu,* Jian Zhou* and Jin-Sheng Yu*



12315

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

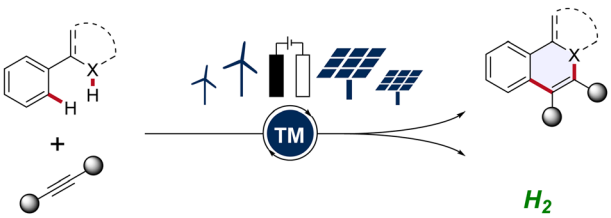
Chunlian Ding,* Zihan Ding, Qingcai Liu, Weizao Liu* and Liyuan Chai



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*

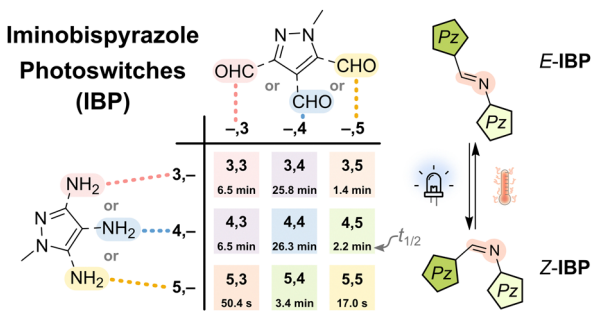


COMMUNICATIONS

12365

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

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



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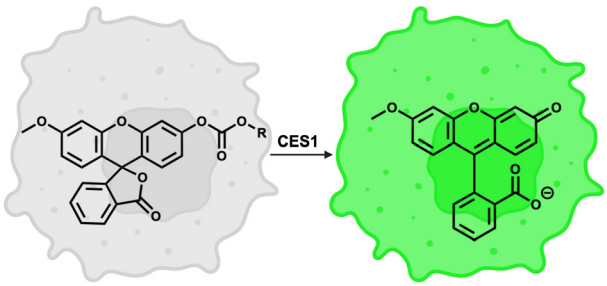
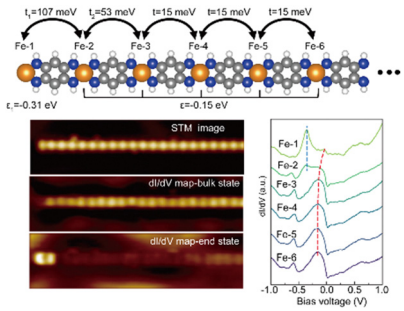
12369



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*

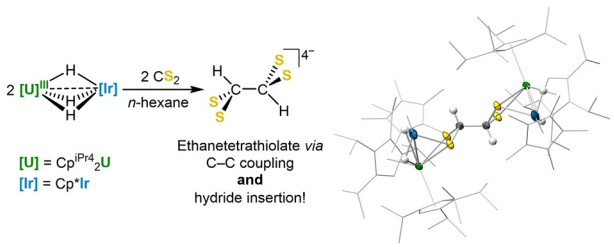
12373



Atomic-scale investigation on the electronic states in a one-dimensional π–d conjugated metal–organic framework

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

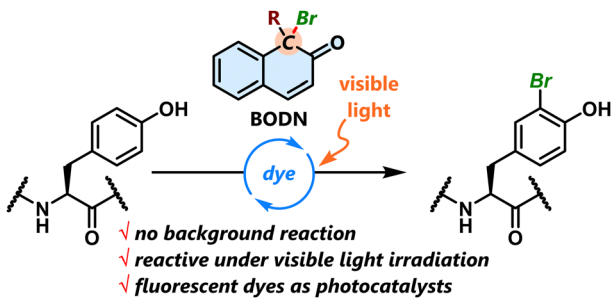
12377



Reduction of 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*

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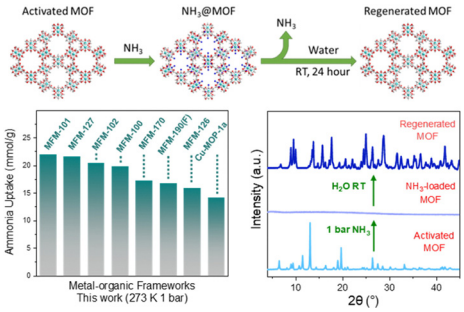
12385

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

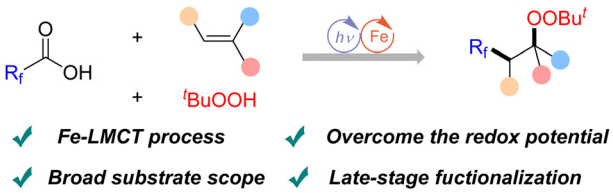
Wanpeng Lu, Yinlin Chen, Zi Wang, Lixia Guo, Jin Chen, Yujie Ma, Weiyao Li, Jiangnan Li, Meng He, Mengtian Fan, Alena M. Sheveleva, Floriana Tuna, Eric J. L. McInnes, Mark D. Frogley, Philip A. Chater, Catherine Dejoie, Martin Schröder* and Sihai Yang*



12389

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

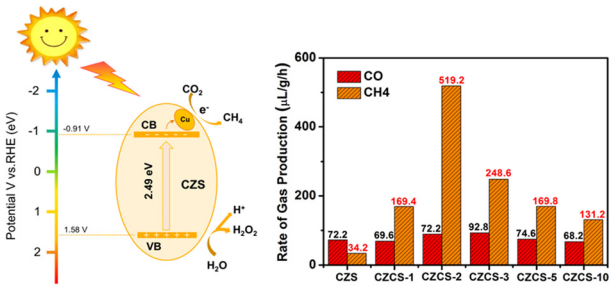
Qiuwei Huang, Chenhao Lou, Leiyang Lv* and Zhiping Li*



12393

Cu-doped CdZnS nanocrystals: a leap forward in selective photocatalytic CO_2 reduction to methane

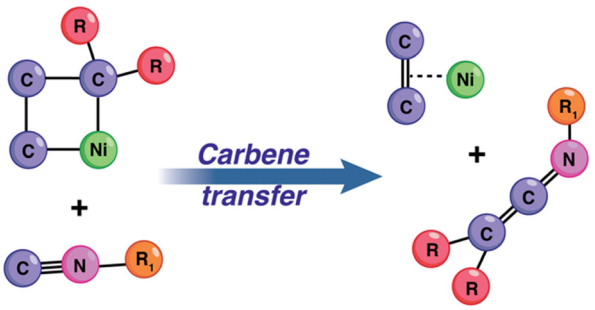
Jiwei Li, Ze Luo, Tianqing Zhou, Haibo Huang,* Xilin She* and Hua Tang



12397

Carbene transfer reactivity from a nickelacyclobutane

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



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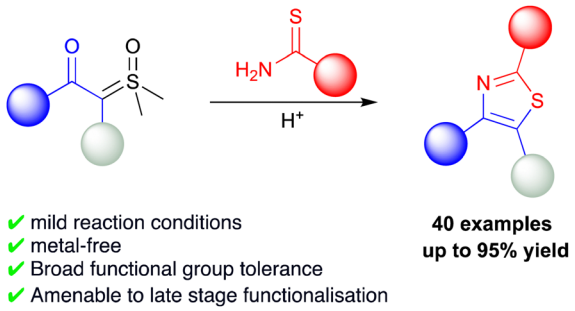
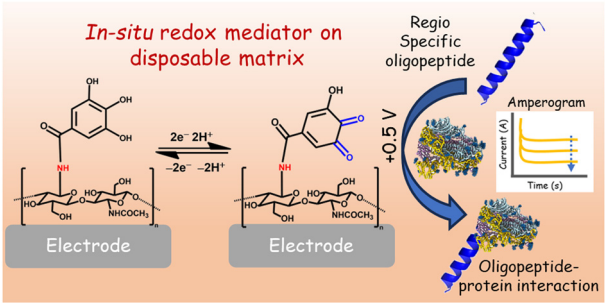
12401



Brønsted acid-mediated thiazole synthesis from sulfoxonium ylides

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

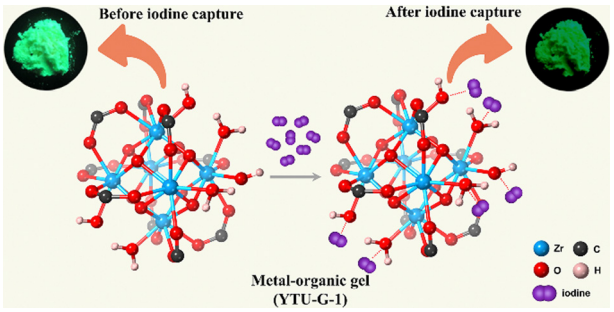
12405



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*

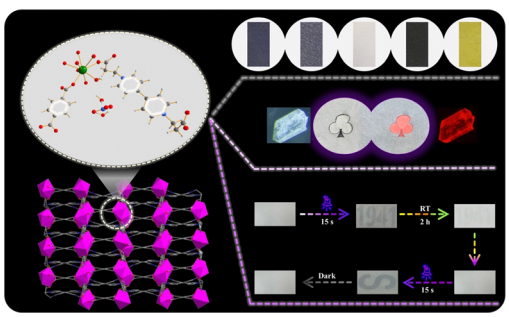
12409



AIEgen-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*

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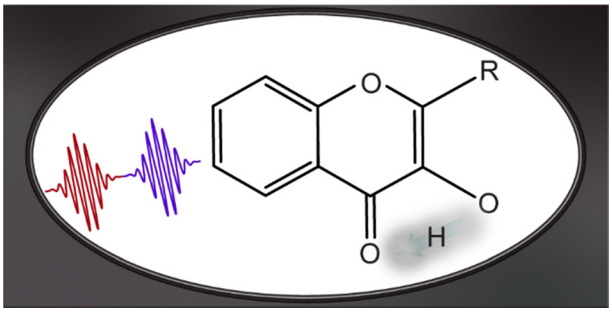
12417

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

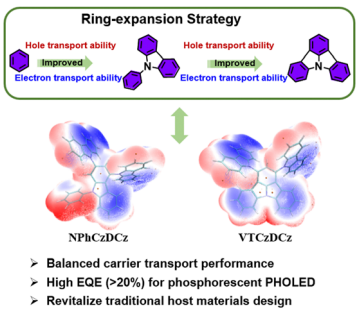
Valerie S. Winkler and Joseph A. Fournier*



12421

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

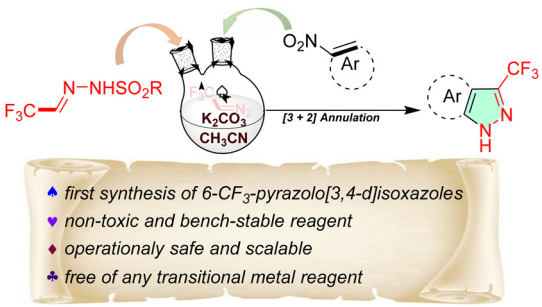
Zhen-Long Tu,* Li-Yuan Hu, Jun-Yi Wang, Cong Wang, Xunwen Xiao* and Xu-Feng Luo*



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*

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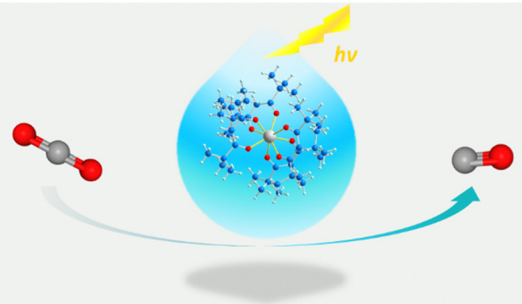
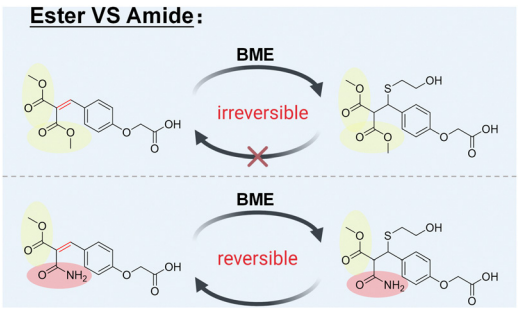


Photocatalytic CO_2 reduction to CO catalysed by lanthanide complexes

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

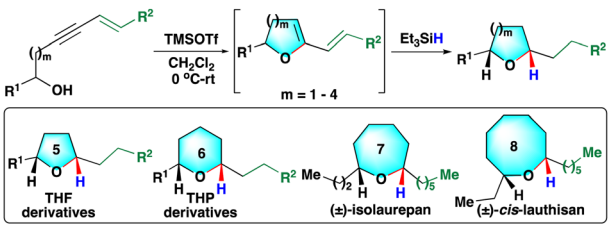
12437



New electrophiles targeting thiols in a reversible covalent manner

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

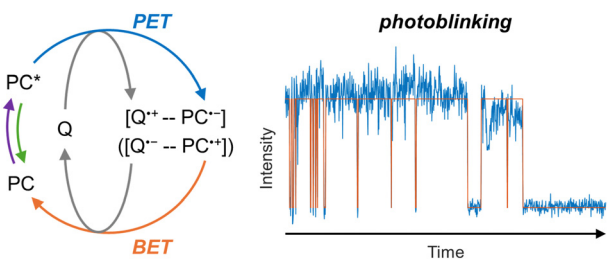
12441



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*

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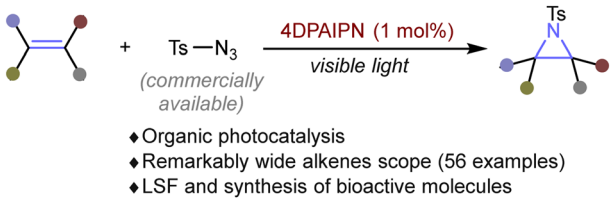
COMMUNICATIONS

12449

Organic photosensitized aziridination of alkenes

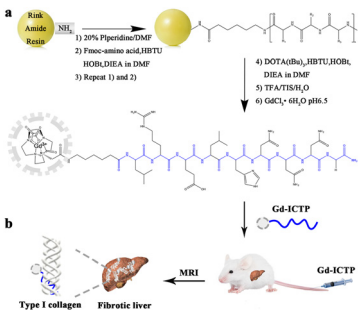
Chunying Wu and Yunbo Zhu*



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*