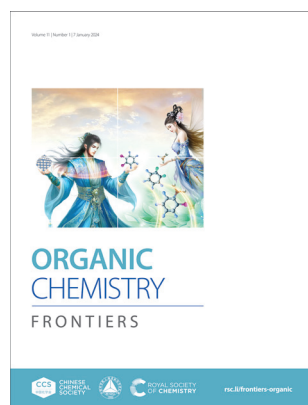


### IN THIS ISSUE

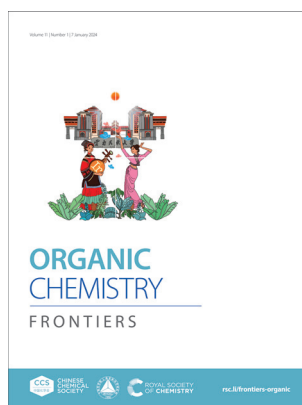
ISSN 2052-4129 CODEN OCFRA8 11(1) 1-256 (2024)



#### Cover

See Shihui Liu, Yanwei Hu, Shilei Zhang *et al.*, pp. 12–20.

Image reproduced by permission of Shilei Zhang from *Org. Chem. Front.*, 2024, **11**, 12.



#### Inside cover

See Jingchao Chen and Baomin Fan *et al.*, pp. 21–26.

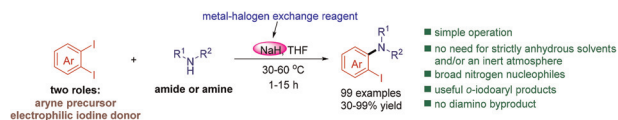
Image reproduced by permission of Baomin Fan from *Org. Chem. Front.*, 2024, **11**, 21.

### RESEARCH ARTICLES

12

#### A simple method for *N*-arylation of secondary amides/amines through a NaH-initiated aryne generation strategy

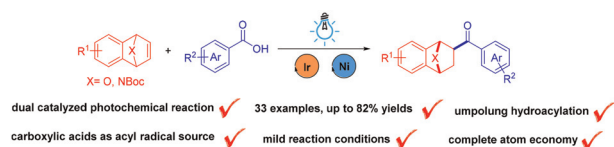
Yuanrui Jiang, Wenjing Zhu, Jiawen Huang, Fan Luo, Xiaobei Chen, Chunhui Fang, Xin Chen, Shihui Liu,\* Yanwei Hu\* and Shilei Zhang\*



21

#### Iridium/nickel dual catalyzed hydroacylation of hetero-bicyclic alkenes under visible-light irradiation

Li Meng, Chunhui Yang, Jun Dong, Wantiu Wen, Jingchao Chen\* and Baomin Fan\*



# RSC Sustainability

GOLD  
OPEN  
ACCESS

Dedicated to sustainable  
chemistry and new solutions

For an open, green and inclusive future

[rsc.li/RSCSus](https://rsc.li/RSCSus)

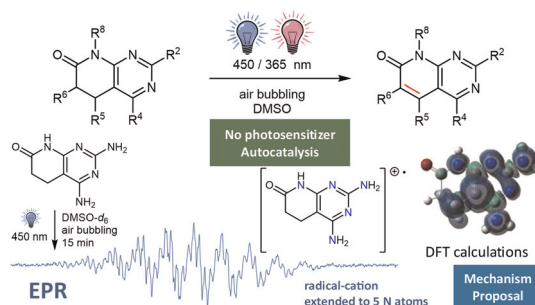
Fundamental questions  
Elemental answers

## RESEARCH ARTICLES

27

### Autocatalytic photoinduced oxidative dehydrogenation of pyrido[2,3-*d*]pyrimidin-7(8*H*)-ones: synthesis of C5–C6 unsaturated systems with concomitant formation of a long-lived radical

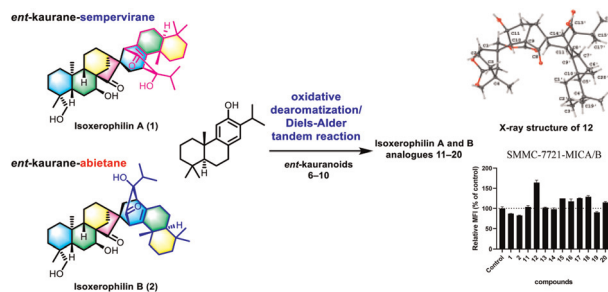
Claudi de Rocafiguera, Vega Lloveras, José Vidal-Gancedo, Jordi Teixidó, Roger Estrada-Tejedor, José I. Borrell and Raimon Puig de la Bellacasa\*



37

### Isoxerophilins A and B, two diterpene heterodimers from *Isodon xerophilus*: structural elucidation and semisynthesis of isoxerophilin analogues

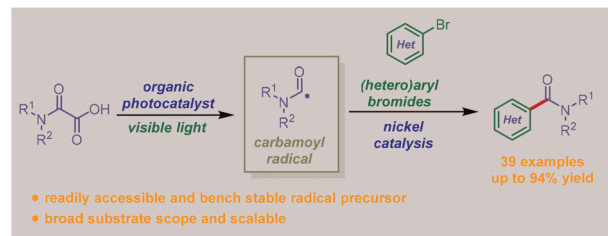
Jia-Meng Dai, Bing-Chao Yan, Ling-Mei Kong, Kun Hu, Xing-Ren Li, Xiao-Nian Li, Han-Dong Sun, Yan Li and Pema-Tenzin Puno\*



47

### Photoredox Ni-catalyzed decarboxylative arylation of oxamic acids for amide synthesis

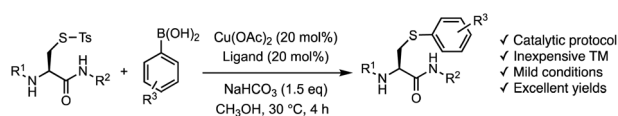
Depeng Duan and Lu Song\*



53

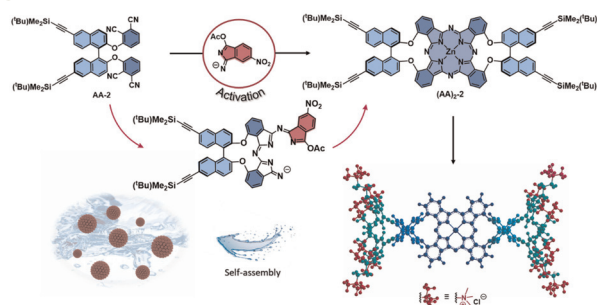
### Cu-catalyzed arylation of *S*-tosyl peptides with arylboronic acids

Junjie Ying, Jingrong Huang, Chenguang Liu, Fa-Jie Chen,\* Chunfa Xu\* and Fen-Er Chen\*



## RESEARCH ARTICLES

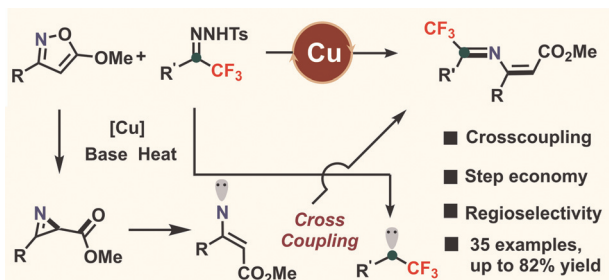
60



### Controlling the reactivity of phthalonitriles for the efficient synthesis of chiral phthalocyanines with self-assembly abilities

Irene Paramio, Tomás Torres and Gema de la Torre\*

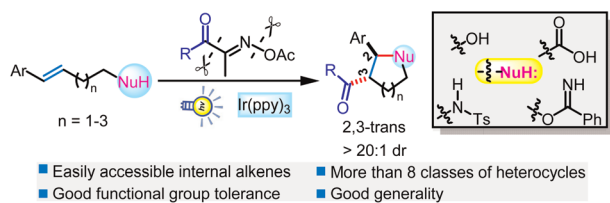
67



### Copper-catalyzed crosscoupling of vinyl nitrenes and $\text{CF}_3$ -carbenes to synthesize $\text{CF}_3$ -2-azadienes

Yongjuan Jiao, Tao Wu, Xinyu Zhang and Yaojia Jiang\*

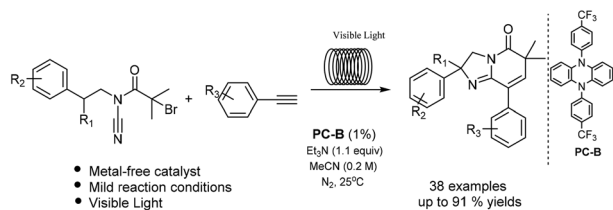
74



### Photoredox-catalyzed intramolecular oxy- and aminoacylation of alkenes with acyl oxime esters: facile synthesis of acylated saturated heterocycles

Xue-Qing Mou, Min Wang, Liang-Chen Ren, Yu-Rui Jian, Xin-Yu Fu, Hong-Yu Zheng, Xiao Zha, Bao-Dong Cui, Yun Zhang and Yong-Zheng Chen\*

83



### Synthesis of imidazo[1,2-a]pyridinones via a visible light-photocatalyzed functionalization of alkynes/nitrile insertion/cyclization tandem sequence using micro-flow technology

Minghui Wei, Jiankun Chen, Chengkou Liu, Zhao Yang, Hong Qin, Yujing Hu, Jindian Duan, Yuguang Li, Zheng Fang\* and Kai Guo\*

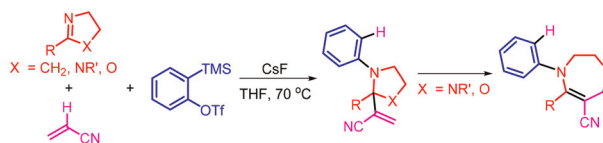


## RESEARCH ARTICLES

89

**A novel three-component coupling reaction of aryne, C=N derivatives, and acrylonitrile**

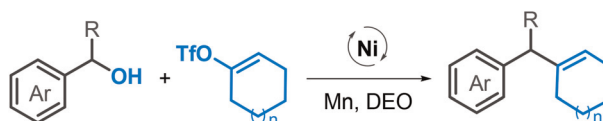
Yangang Wu, Wenbo Cai, Lulu Yu, Junbiao Chang\* and Chuanjun Song\*



94

**Nickel-catalyzed dynamic kinetic cross-electrophile coupling of benzylic alcohols and alkenyl triflates**

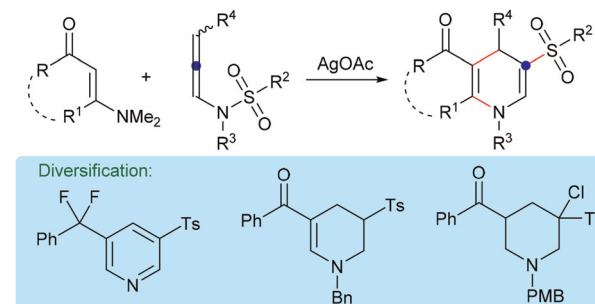
Xuejing Peng, Jingxian Huang, Guan-Yu Han and Xing-Zhong Shu\*



100

**Silver-mediated synthesis of 1,4-dihydropyridine sulfones via [4 + 2] cyclization of N-allenylsulfonamides and enaminones with a 1,3-sulfonyl shift**

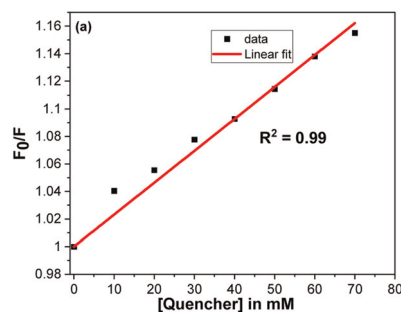
Shuguang Zhou, Shuang-Feng Dong, Xin Zhang, Shen-Yuan Zhang, Teck-Peng Loh\* and Jie-Sheng Tian\*



106

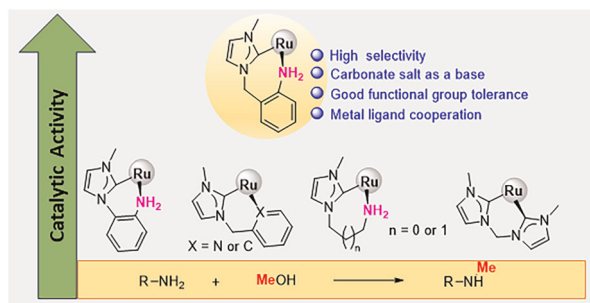
**Unveiling the potency of a phenalenyl-based photocatalyst for intramolecular dehydrogenative lactonization**

Partha Pratim Sen, Vishali Pathania and Sudipta Raha Roy\*



## RESEARCH ARTICLES

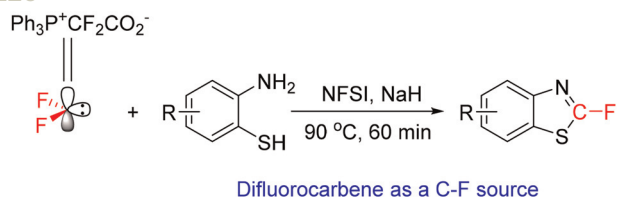
113



### NHC-amine Ru complex catalyzed selective mono-N-methylation of amines with methanol: understanding the effect of amine ligands

Xiuju Cai, Xiaoyu Zhou and Ming Huang\*

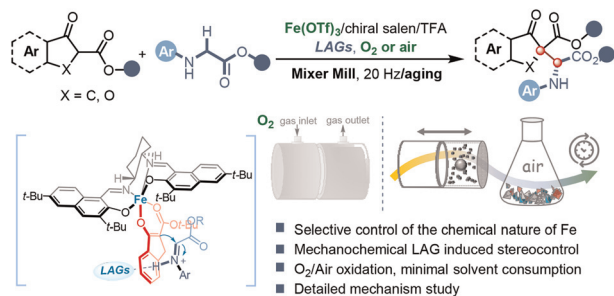
120



### Difluorocarbene as a C-F source for the construction of fluorinated benzothiazoles

Wen-Jie Pan, Jiao Yu, Wei-Guo Cao,\* Ji-Chang Xiao\* and Jin-Hong Lin\*

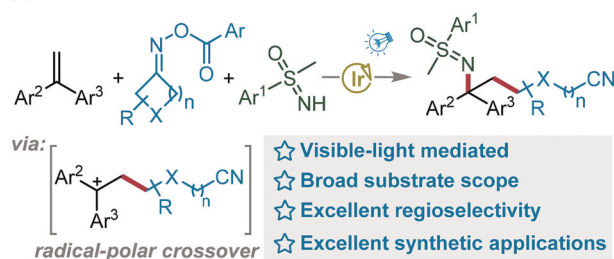
127



### Iron-catalyzed asymmetric Csp<sup>3</sup>-H/Csp<sup>3</sup>-H coupling: improving the chirality induction by mechanochemical liquid-assisted grinding

Ping Ying, Tao Ying, Hong Chen, Keyu Xiang, WeiKe Su, Haijiao Xie and Jingbo Yu\*

135



### Photoredox-catalyzed difunctionalization of alkenes with oxime esters and NH-sulfoximines

Hao-Cong Li, Guan-Nan Li, Hao-Sen Wang, Yan Tan, Xiao-Lan Chen\* and Bing Yu\*

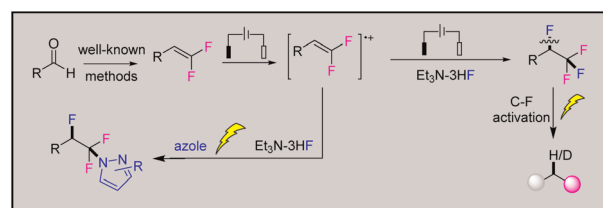


## RESEARCH ARTICLES

142

**Direct electrochemical difluorination and azo-fluorination of *gem*-difluorostyrenes**

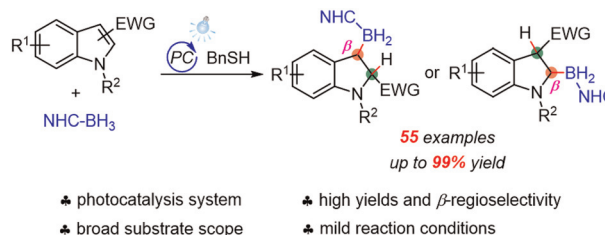
Linzi Wen, Boao Li, Ziyang Zou, Naifu Zhou, Chengbo Sun, Pengju Feng\* and Hongsheng Li\*



149

**Photoredox dearomative  $\beta$ -hydroborylation of indoles for the synthesis of borylated indolines**

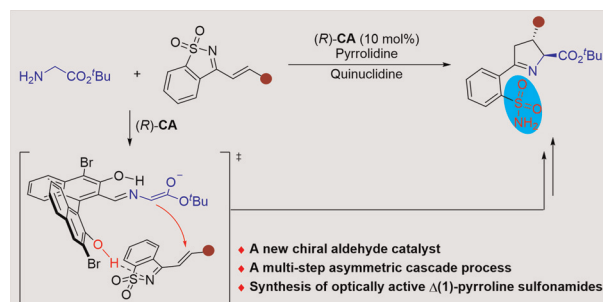
Yongchan Jian, Fei Wen, Jianping Shang, Xiaolong Li, Zhenyu Liu, Yuanyuan An\* and Yubin Wang\*



156

**Stereoselective synthesis of  $\Delta(1)$ -pyrroline sulfonamides via a chiral aldehyde mediated cascade reaction**

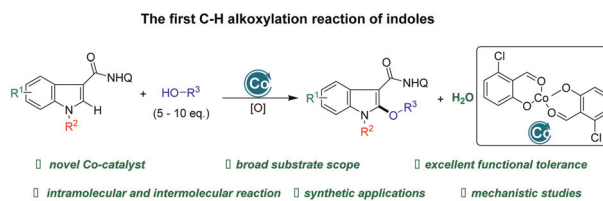
Wei Wen,\* Zhao-Pin Ai, Zhu-Lian Wu, Tian Cai and Qi-Xiang Guo\*



164

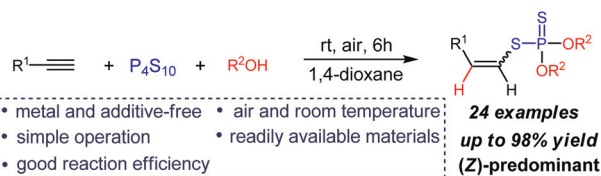
**Rapid modular synthesis of indole ethers via dehydrogenative cross-coupling reaction of indoles and alcohols**

Mao-Gui Huang, Xiao-Hong Chen, Hai-Bing Xu and Yue-Jin Liu\*



## RESEARCH ARTICLES

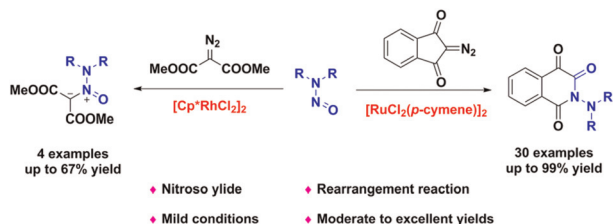
171



### Metal-free hydrophosphorodithiolation of alkynes with $P_4S_{10}$ and alcohols leading to vinyl phosphorodithioates

Chengming Qu, Yalu Wang, Yufen Lv, Huilan Yue, Wei Wei\* and Dong Yi\*

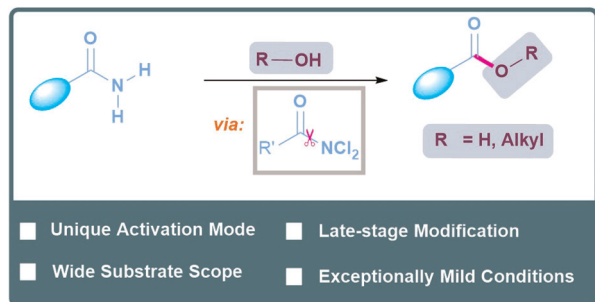
176



### Transition-metal catalyzed reactions of diazo compounds and *N,N*-dialkyl nitrosoamines

Yuan Chen, Rui-jun Peng, Xue-jing Zhang and Ming Yan\*

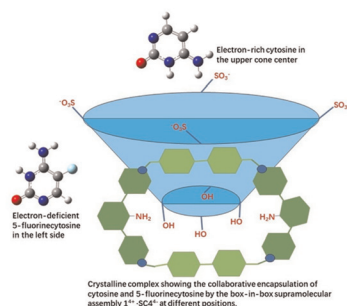
183



### Interception of $RCONCl_2$ : late-stage hydrolysis and esterification of primary amides

Xiao Wan, Jiaxin Lin, Junjie Bai, Jingjing Li, Kaifeng Wang, Zhiyu Cao, Minggang Li, Xiaoguang Bao\* and Xiaobing Wan\*

194



### A box-in-box supramolecular assembly for the highly selective recognition of natural, epigenetically and chemically modified cytosines in water

Shu-Qin Qin, Wei Xu, Qi-Qi Wang, Run-Yi Chen, De-Zhi Yang, Yang Lu, Wen-Cai Ye\* and Ren-Wang Jiang\*

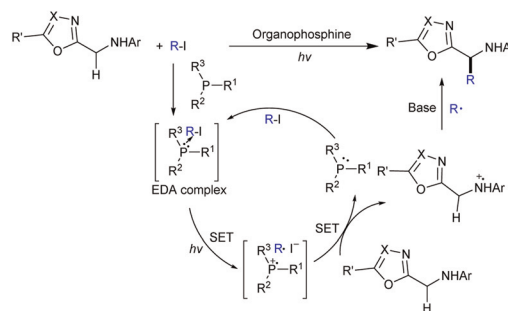


## RESEARCH ARTICLES

205

### Visible-light-driven C(sp<sup>3</sup>)-H alkylation of heterobenzylic amines *via* electron donor-acceptor complexes

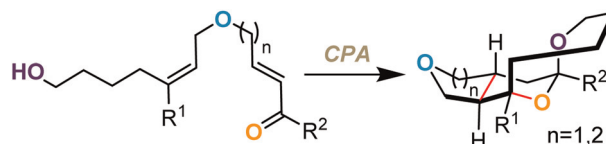
Yumei Huo, Beibei Chen, Zhaoqing Xu,\* Xiaoyu Ren,\* Rupeng Qi and Chao Wang\*



211

### Chiral phosphoric acid catalyzed enantioselective inverse-electron-demand oxa-Diels-Alder reactions to synthesize chiral tricyclic tetrahydropyran derivatives

Cong-Yun Tang, Jie Wu, Feng-Ting Ji, Fang Tian, Lin Peng\* and Liang-Liang Wang\*



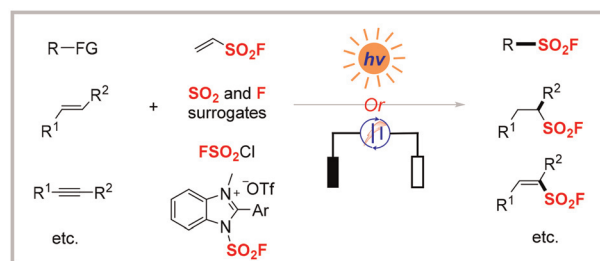
34 examples, dr > 20:1,  
up to 95% yield, up to 99% ee,

## REVIEWS

217

### Recent advances in photochemical and electrochemical strategies for the synthesis of sulfonyl fluorides

Yu Zheng,\* Wenguang Lu, Tianting Ma and Shenlin Huang\*



236

### Straight-chain ω-amino-α,β-unsaturated carbonyl compounds: versatile synthons for the synthesis of nitrogen-containing heterocycles *via* organocatalytic reactions

Shuhui Li, Xiaoxuan Li, Hui Yao,\* Mengting Tan, Dan Xu, Nianyu Huang\* and Nengzhong Wang\*

