### **ORGANIC** CHEMISTRY

#### **FRONTIERS**

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#### IN THIS ISSUE

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#### Cover

See William D. G. Brittain, Benjamin R. Buckley, John S. Fossey *et al.*, pp. 3460–3466.

Artwork created by John S. Fossey from *Org. Chem. Front.*, 2023, **10**, 3460.

### RESEARCH ARTICLES

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#### 3460

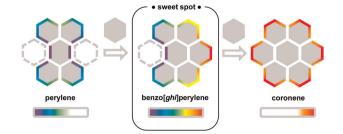
## Synthesis of atropisomeric phosphino-triazoles and their corresponding gold(i) complexes

Yiming Zhao, Fernanda Meloni, Louise Male, Cécile S. Le Duff, William D. G. Brittain,\* Benjamin R. Buckley\* and John S. Fossey\*

#### 3467

Rational assembly of benzenoid rings in benzo[ghi] perylene yields a diversity of edge features with site-selective reactivity

David T. Hogan, Wen Zhou, Benjamin S. Gelfand and Todd C. Sutherland\*



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#### 3479

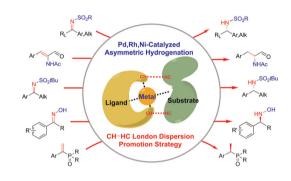
Photo-induced cyclization of olefinic amides towards sulfonamidylated iminoisobenzofurans and benzoxazines

Changduo Pan, Shipeng Luo, Yechun Wu, Jin-Tao Yu\* and Chengjian Zhu\*

#### 3485

The role of attractive dispersion interaction in promoting the catalytic activity of asymmetric hydrogenation

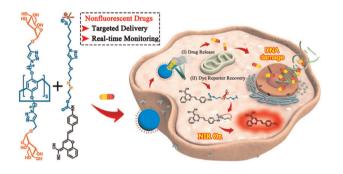
Limin Yang,\* Bo Li and K. N. Houk\*



#### 3491

A mannose-functionalized pillar[5] arene-based supramolecular fluorescent probe for real-time monitoring of gemcitabine delivery to cancer cells

Shuang Chao, Pei Huang, Ziyan Shen, Yuxin Pei, Yinghua Lv,\* Yuchao Lu\* and Zhichao Pei\*



#### 3498

Photoinduced carbene transfer for copper-catalyzed asymmetric [4 + 1] cycloadditions: an entry to chiral indolines bearing quaternary stereocenters

Bao-Le Qu, Bin Shi, Lin He, Jun-Wei Shi, Wen-Jing Xiao and Liang-Qiu Lu\*

• significant indoline skelecton • chiral quaternary stereocenter

n = 0.1.2

# 3504 R PdBr<sub>2</sub> 7.5 mol% P(o-tol)<sub>3</sub> 15 mol% LiCl (1.0 equiv.), air DMF, MS 4A, 40°C X = NMs, NTs, O Y = NTs, O, C(CO<sub>2</sub>Et)<sub>2</sub> R R R = H, Me, Ph

Palladium-catalyzed cascade cyclization/ intramolecular redox-relay Heck arylation of alkenols: access to tetrahydro-β-carbolines from 2-(hydroxyalkenynyl)sulfonanilides

Tao Liu, Tuanli Yao,\* Ruihua Guo\* and Xiangyang Qin\*

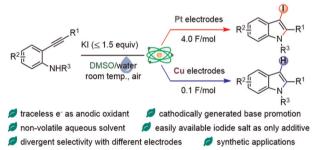
#### 3509



## Novel dual-enzyme system for synthesis of 2-alkyl and 2-arylbenzoxazoles *via* aerobic oxidation

Fengxi Li, Yaning Xu, Yuelin Xu, Jinglin Ma, Hanqing Xie, Hengzheng Yang, Weiwei Han, Chunyu Wang, Zhengqiang Li\* and Lei Wang\*

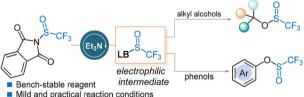
#### 3515



# Divergent electrosynthesis of 3-iodoindoles and indoles from 2-ethynylanilines under ambient and aqueous conditions

Binbin Huang,\* Guiling Chen, Haoxiang Zhang, Xinye Tang, Jiawei Yuan, Caicai Lu and Junlei Wang\*

#### 3522



Catalytic transformations with excellent functional group tolerance

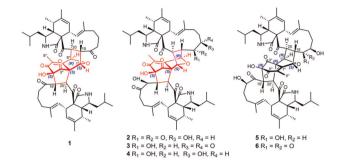
# Lewis base-catalyzed trifluoromethylsulfinylation of alcohols and phenols: modular synthesis of trifluoromethanesulfinate esters

Wen Liu, Shuya Xing, Shao-Fei Ni, Cheng Ma, Qiujin Fan, Zhiyong Ye, Yanchuang Zhao, Ting Ouyang, Ying Bai\* and Xinxin Shao

#### 3530

Amichalasines F-J: cytochalasan heterotrimers with mirror-imaged core structures from Aspergillus micronesiensis

Zhaodi Wu, Xiaotian Zhang, Qin Li, Qingyi Tong, Jing Yang, Chunmei Chen,\* Hucheng Zhu\* and Yonghui Zhang\*



#### 3537

Selective 6-endo-dig and ring-expansion cycloisomerizations of ortho-disubstituted thiophenes bearing 1-en-3-yne moieties

Yingjian Ren, Zhanglang Zhou, Weinan Chen, Si Liu, Min Wang and Gang Zhou\*

FG 
$$R_1$$
  $R_2$   $R_2$   $R_3$   $R_4$   $R_2$   $R_4$   $R_5$   $R_5$   $R_5$   $R_5$   $R_6$   $R_7$   $R_8$   $R_9$   $R$ 

#### 3544

Molybdenum-catalyzed carbonyl-carbonyl olefination reaction for heterocycle syntheses

Yuan-Qing Dong, Xiao-Nan Shi, Li-Ya Cao, Jin Bai and Chun-Xiang Zhuo\*

#### 3553

Site-selective carbamoylation of carbohydrates catalyzed by SnCl<sub>2</sub>/Me<sub>2</sub>SnCl<sub>2</sub> leading to complementary selectivity

Yang-Fan Guo, Tao Luo and Hai Dong\*

# 3559 **Electrolysis** dioxane-H2O

- Disulfides as versatile starting reagents: effective sulfonvlation of alkenes with disulfides under electrochemical conditions
- Olga M. Mulina, Mikhail M. Doronin, Liang-Nian He and Alexander O. Terent'ev\*
- electrochemically induced disulfides activation
- multistep sulfonylation in one laboratory step
- easily reproducible

✓ Mechanism study

# 3567

✓ Two Pd-catalytic cycles

✓ DFT calculation

A palladium-catalyzed cross-electrophile coupling reaction involving sulfur dioxide for the direct synthesis of diversely functionalized sulfones

Baojian Xiong, Jinyu Zhang, Ting Wang, Xuemei Zhang, Gui-juan Cheng\* and Zhong Lian\*

# THF, MW heating 150 °C, 105 min

The  $\alpha$ -alkylation of carbonyl sulfoxonium ylides: studies and applications in the synthesis of new sulfur heterocycles

Matheus P. de Jesus, Radell Echemendía and Antonio C. B. Burtoloso\*

3577



Organophotoelectrochemical silylation cyclization for the synthesis of silylated 3-CF<sub>3</sub>-2-oxindoles

Qinhui Wan, Chen-Yin Huang, Zhong-Wei Hou,\* Huajiang Jiang and Lei Wang\*

#### 3591

#### Asymmetric total syntheses of sarbracholide and shizukaol B

Ganxing Huang, Zhengsong Huang, Xianjian Ma, Zhihu Feng, Fengxia Yuan, Song Qin, Shaomin Fu\* and Bo Liu\*

#### 3598

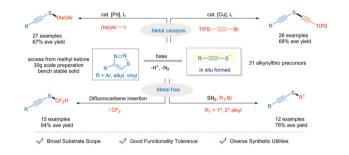
#### Copper-catalyzed silylation of propargyl carbonates: a general entry to allenylsilanes

He Zhang, Linjuan Jiang, Mei Yang and Yuanhong Liu\*

#### 3603

Alkyne/thio umpolung tactic replacement: synthesis of alkynyl sulfides via capturing the in situ formed alkynylthiolate anion

Donghui Xing, Mengxia Feng, Yuzhen Zheng, Bin Huang, Huanfeng Jiang and Liangbin Huang\*



#### 3612

Visible-light-initiated nickel-catalyzed amination of aryl halides using thioxanthen-9-one as a photocatalyst

Da-Liang Zhu, Jie Li, David James Young, Yanqing Wang\* and Hong-Xi Li\*



#### 3619

## Enriching calixarene functionality with 1,3-diketone groups

Maria Sakovich, Daria Sokolova, Ivan Alekseev, Ivan Lentin, Alexander Gorbunov, Maria Malakhova, Ivan Ershov, Rustem Zairov, Ilia Korniltsev, Sergey Podyachev, Stanislav Bezzubov, Vladimir Kovalev and Ivan Vatsouro\*

#### 3637

- 1,2-S migration Csp<sup>3</sup>- S bond cleavage and Csp<sup>2</sup>- S bond formation
- a indole ring and a fused thiophene ring formation in one step
- good functional group tolerance and broad substrate scope

# Fe/S cluster catalyzed cascade cyclization of *N,S*-1,6-enynes for the synthesis of thieno[3,4-*b*] indoles

Zhuqing Liu, Shaobin Sun and Jiang Lou\*

#### 3642



# Mechanisms and origin of regioselectivity for manganese-catalyzed denitrogenative annulation and click reactions

Guanghui Song, Wei Rong, Yongyin Liu and Juan Li\*

#### 3654

- · Radical addition to two electron-deficient alkenes in a specific order
- $\boldsymbol{\cdot}$  Z-Selective synthesis of  $\gamma, \delta\text{-unsaturated}$  ketones and esters

# Sequence-selective three-component reactions of alkyltrifluoroborates with $\alpha,\beta$ -unsaturated carbonyl compounds and vinylphosphonium salts

Masaki Yoshida, Masaya Sawamura\* and Yusuke Masuda\*

#### 3662

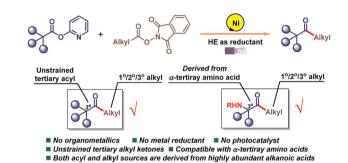
## Organocatalytic enantioselective reaction of tertiary $\alpha$ -(7-indolyl)methanols with tryptamines

Zhibin Yue, Boming Shen, Jie Cao, Xuling Chen, Fang Fang, Pengfei Li,\* Peiyuan Yu\* and Wenjun Li\*

#### 3669

Photoinduced nickel-catalyzed reductive acyl cross-coupling: facile access to all carbon quaternary aliphatic ketones

Yukun Chen, Xiaoxiang Xi and Weiming Yuan\*

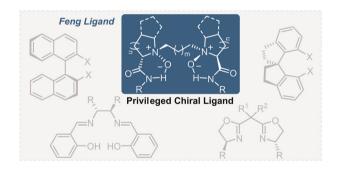


#### **HIGHLIGHT**

#### 3676

## Feng chiral *N,N'*-dioxide ligands: uniqueness and impacts

Dian-Feng Chen and Liu-Zhu Gong\*



#### **REVIEW**

#### 3684

## Recent advances in the chemistry of $\alpha$ -oxylboronate reagents

Nanquan Jiang, Du Chen and Chao Liu\*