

# Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

rsc.li/obc

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 1477-0520 CODEN OBCRAK 23(32) 7359-7492 (2025)



### Cover

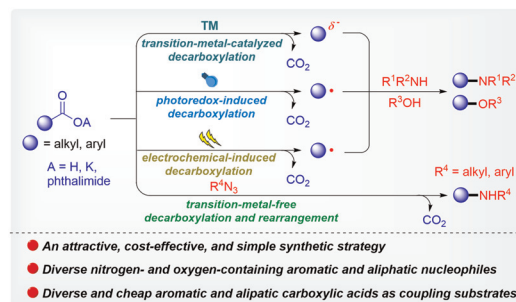
Image designed by and reproduced by permission of Kara Chris Bhatt.

## REVIEWS

7367

### From carboxylic acids or their derivatives to amines and ethers: modern decarboxylative approaches for sustainable C–N and C–O bond formation

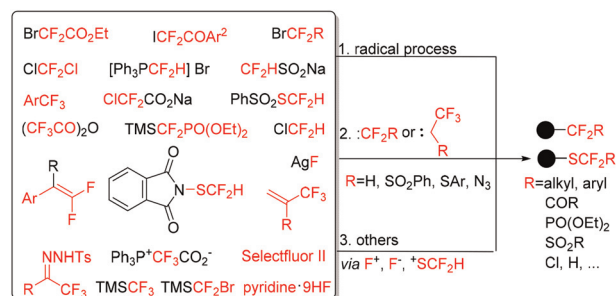
Weidan Yan, Tian Tian and Yasushi Nishihara\*



7383

### Recent advances in the three-component synthesis of difluorinated compounds

Zhan-Yong Wang,\* Ziyang Zhang, Weiyi Chen, Yang Liu, Aili Sun\* and Ran Xia\*



# Industrial Chemistry & Materials

GOLD  
OPEN  
ACCESS

Focus on industrial chemistry  
Advance material innovations  
Highlight interdisciplinary feature

Innovative.  
Interdisciplinary.  
Problem solving

APCs currently waived

Learn more about ICM  
Submit your high-quality article

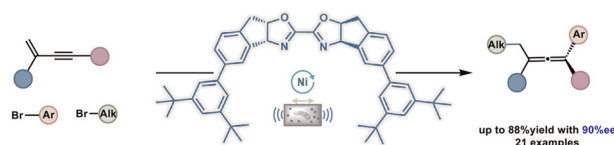
 [@IndChemMater](https://www.facebook.com/IndChemMater)

 [@IndChemMater](https://twitter.com/IndChemMater)

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

## COMMUNICATIONS

7401

**Ball-milling-mediated remote asymmetric reductive coupling in air**Hao Lei, Yufang Yang, Jiajia Sun, Shu Fan, Xiaofeng Wei,\*  
Siyuan Wang,\* Hai-Shu Lin\* and Yan Kang\*

7406

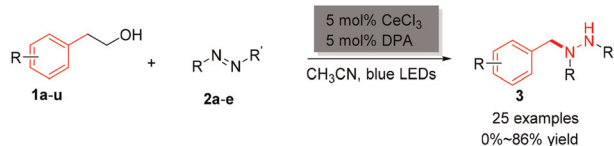
**Visible light-induced cascade cyclization of 2-isocyanoaryl thioethers/selenoethers: access to 2-arylthiobenzothiazoles/2-arylthiobenzoselenazoles**

Dan Liu, Shichao Yang, Huanfeng Jiang and Wanqing Wu\*



▲ Photocatalyst-, oxidant-, additive-free ▲ Mild and redox-neutral conditions  
▲ One-pot construction of two C-S bonds ▲ Good to excellent yields

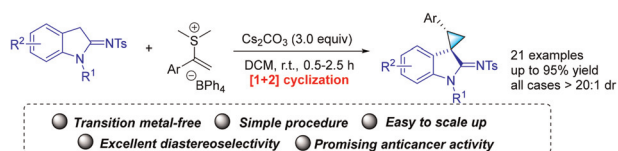
7411

**Efficient photocatalytic synthesis of benzylhydrazine**Yuhui Zhang, Fei Zeng, Yangyang Li, Meiqi Zhou,  
Jiafan Wang and Bingzhen Ma\*

7415

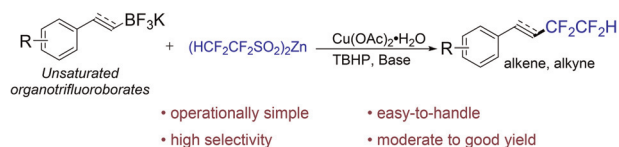
**Diastereoselective synthesis of spiro[cyclopropane-1,3'-indolin]-2'-imines via a sequential [1 + 2] annulation reaction of indolin-2-imines with  $\alpha$ -aryl vinylsulfonium salts**

Yan Gou, Shanling Hou, Qingyi Fu, Zhi Fan and Yuming Li\*



## COMMUNICATIONS

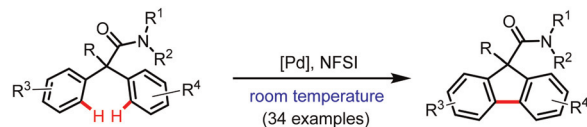
7420



### Copper-mediated tetrafluoroethylation of unsaturated organotrifluoroborates via generation of the HCF<sub>2</sub>CF<sub>2</sub>-radical from zinc 1,1,2,2-tetrafluoroethanesulfinate

Md Nirshad Alam, Satyajit Majumder, Teruo Umemoto and William R. Dolbier, Jr.\*

7425



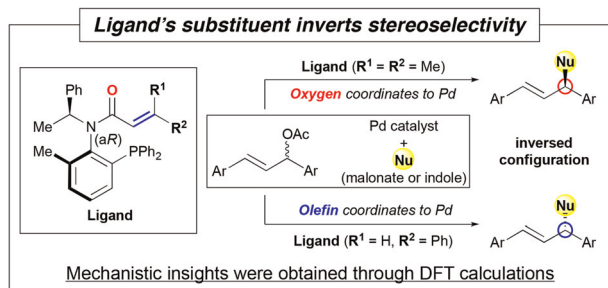
- De novo ring formation via CDC
- Mild reaction conditions
- Broad substrate scope: symmetric & unsymmetric fluorene-9-carboxamides

### Rapid access to fluorene-9-carboxamides through palladium-catalysed cross-dehydrogenative coupling

Xin Yang, Kun Zhou, Yue Wang, Yang-Jie Mao, Kai Liu, Zhen-Yuan Xu, Dan-Qian Xu\* and Shao-Jie Lou\*

## PAPERS

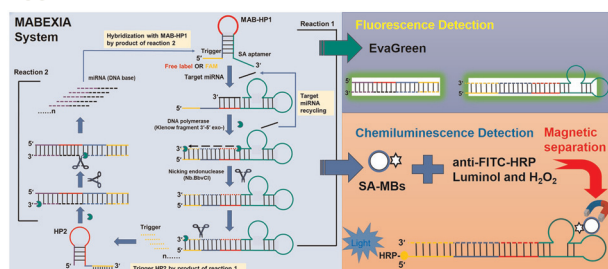
7431



### Stereoinversion in Pd-catalyzed allylic substitution induced by modification of olefinic moiety in chiral phosphine-acrylamide ligands

Kohei Watanabe,\* Yuto Toba, Shimpei Mita, Yusuke Kanda, Toru Yagi, Kento Kanauchi, Manami Kumada, Yasushi Yoshida, Yoshio Kasashima, Ryo Takita, Masami Sakamoto and Takashi Mino\*

7439



### Molecular aptamer beacon-based dual-mode exponential isothermal amplification for microRNA detection

Yu Han, Xuefeng Bian, Xiao Wang, Jiaying Chen, Liu Han\* and Xin Sun\*

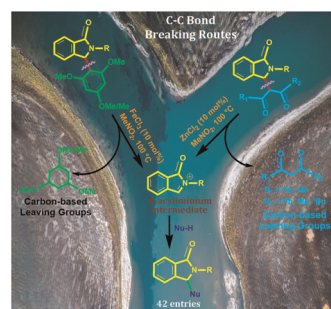


## PAPERS

7448

### Decarbonative routes to generate *N*-acyliminium ion intermediates for the synthesis of 3-substituted isoindolinones via an intermolecular amidoalkylation reaction

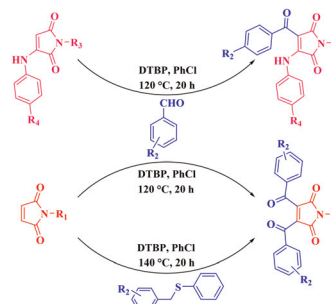
Nazir Uddin, Sudipta Roy, Santanab Giri, Gitish K. Dutta\* and Paresh Nath Chatterjee\*



7456

### Catalyst-free arylation of maleimides through $C_{sp^2}$ -H functionalization with aldehydes and benzyl phenyl sulfides

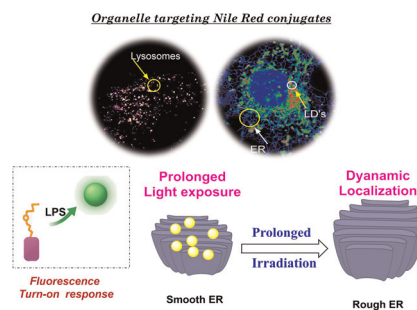
Elmira Taheri and Farnaz Jafarpour\*



7465

### Nile red derivatives for dual-channel organelle imaging and LPS detection

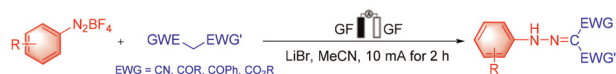
Mohini Ghorpade, Sneha Negi, Paramasivam Mahalingam and Sriram Kanvah\*



7477

### Electrochemical diazenylation of active methylene compounds with aryldiazonium salts: efficient synthesis of $\beta$ -dicarbonyl benzoylhydrazones

Ping Lin, Zezhao Huang, Zeyao Liang, Jiahe Zhang, Li Zhu\* and Xiaoquan Yao\*



- ✓ No sacrificial metal anode
- ✓ Good functional group compatibility
- ✓ Mild reaction conditions
- ✓ LiBr as the HAT reagent

24 examples  
up to 93% yield



7483


 $R^1 = \text{F, Cl, Br, NO}_2, \text{CF}_3, \text{OCH}_3$ 
 $R^2 = \text{CO}_2\text{Et, Ph, CH}_2\text{OH, CH}_2\text{CH}_2\text{OH, CH(OH)CH}_3, \text{CH}_2\text{NH-Boc, TIPS, COCH}_3$ 

- ✓ One-pot tandem C-C coupling and cyclization
- ✓ No palladium needed
- ✓ No ligand needed
- ✓ No base needed
- ✓ Regioselective and stereoselective
- ✓ Compatible with electron-rich and poor substrates/alkynes
- ✓ 55 examples
- ✓ Scalable, gram scale synthesis

## $\text{Cu}_2\text{O}$ -mediated regio- and stereoselective one-pot synthesis of (*Z*)-3-ylidenephthalides from 2-iodobenzoic acids and terminal alkynes

Ahmed R. Ali and Longqin Hu\*

