

# Organic & Biomolecular Chemistry

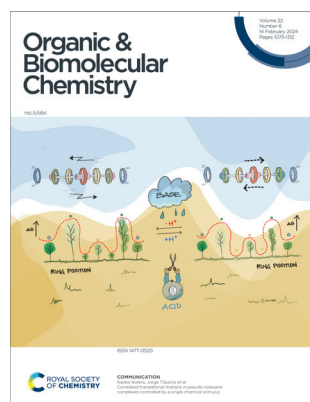
An international journal of synthetic, physical and biomolecular organic chemistry

[rsc.li/obc](https://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 22(6) 1075–1312 (2024)



### Cover

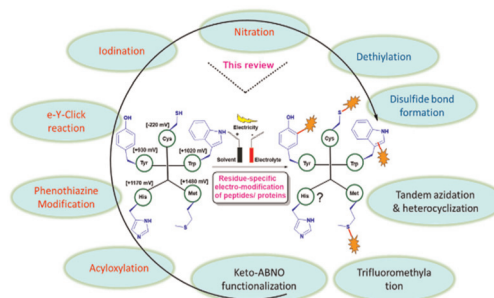
See Naoko Kotera,  
Jorge Tiburcio *et al.*,  
pp. 1135–1140.  
Cover image designed by  
Arturo Silva (@mr.coyme).  
Image reproduced by  
permission of Aldo C. Catalán  
from *Org. Biomol. Chem.*,  
2024, **22**, 1135.

## REVIEWS

1085

### Electrochemistry-enabled residue-specific modification of peptides and proteins

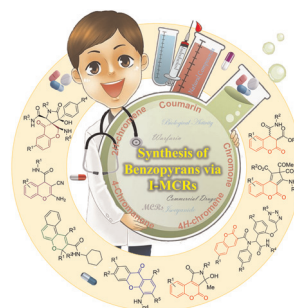
Ayan Bandyopadhyay, Pranay Biswas,  
Sudipta K. Kundu and Rajib Sarkar\*



1102

### Isocyanide-based multicomponent reactions for the synthesis of benzopyran derivatives with biological scaffolds

Mohammad Taghi Nazari, Tahereh Nasiriani,  
Saeed Torabi and Ahmad Shaabani\*



# RSC Advances

**At the heart of open access for  
the global chemistry community**

## Editor-in-chief

**Russell J Cox**

Leibniz Universität Hannover, Germany

## We stand for:



**Breadth** We publish work in all areas of chemistry and reach a global readership



**Quality** Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



**Affordability** Low APCs, discounts and waivers make publishing open access achievable and sustainable



**Community** Led by active researchers, we publish quality work from scientists at every career stage, and all countries

**Submit your work now**

[rsc.li/rsc-advances](https://rsc.li/rsc-advances)

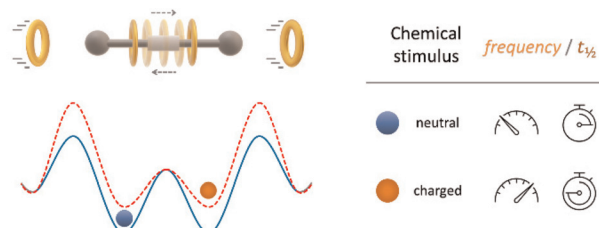
[@RSC\\_Adv](#)

## COMMUNICATIONS

1135

**Correlated translational motions in *pseudo*-rotaxane complexes controlled by a single chemical stimulus**

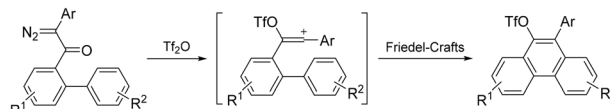
Naoko Kotera,\* Pilar Montellano, Aldo C. Catalán, Anayeli Carrasco-Ruiz, Ruy Cervantes and Jorge Tiburcio\*



1141

**Direct synthesis of phenanthrenyl triflates from 1-biphenyl-2-diazo-2-aryl ketones and triflic anhydride**

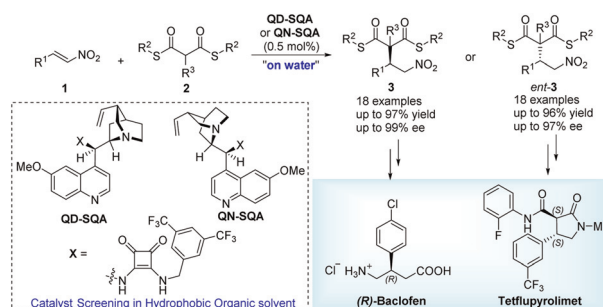
Yueqiang Liu, Sheng Zhang,\* Xiujuan Feng, Xiaoqiang Yu, Yoshinori Yamamoto and Ming Bao\*



1146

**Asymmetric synthesis of (*R*)-baclofen and (3*S*,4*S*)-tetfluprylimet via "on water" organocatalytic addition reactions: a tip on catalyst screening**

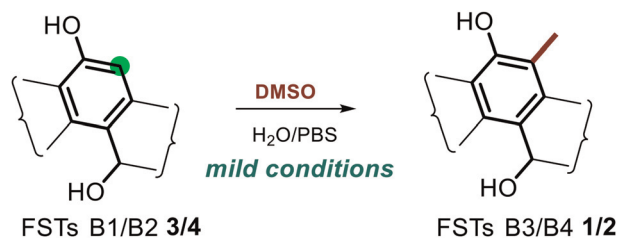
Bingfu Wang, Jian Liu, Tianxing Li, Hui Jin\* and Lixin Zhang\*



1152

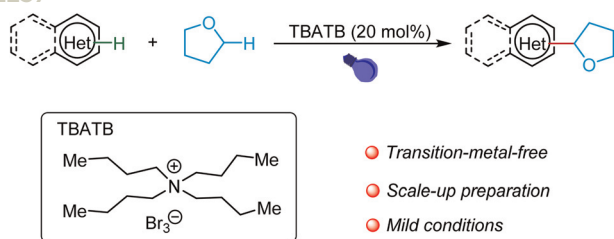
**Non-enzymatic synthesis of C-methylated fluostatins: discovery and reaction mechanism**

Bidhan Chandra De, Chunfang Yang, Chunshuai Huang, Changsheng Zhang and Wenjun Zhang\*



## COMMUNICATIONS

1157

**A visible-light-induced bromine radical initiates direct C–H alkylation of heteroaromatics**

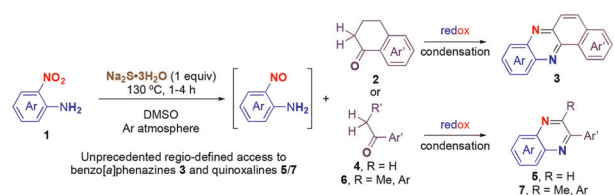
Xiangxue Cao, Lanfeng Wei,\* Jinbo Yang, Huanhuan Song\* and Yu Wei\*

1162

**Iridium(III)-catalyzed β-trifluoromethyl enone carbonyl-directed regioselective *ortho*-C(sp<sup>2</sup>)-H olefination**

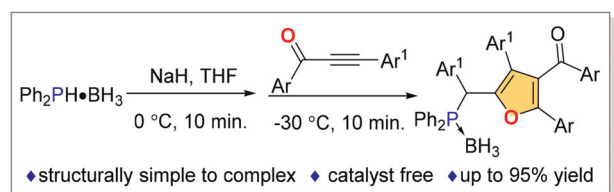
Haritha Sindhe, Akshay Kamble, Malladi Mounika Reddy, Amardeep Singh and Satyasheel Sharma\*

1167

**Sodium sulfide-promoted regiodefined redox condensation of *o*-nitroanilines with aryl ketones to benzo[a]phenazines and quinoxalines**

Duc Long Le, Le Anh Nguyen,\* Ngoc Binh Vo, Thi Thu Tram Nguyen, Quoc Anh Ngo,\* Pascal Retailleau and Thanh Binh Nguyen\*

1172

**Towards tetrasubstituted furans through rearrangement and cyclodimerization of acetylenic ketones**

Zhenyun Dai, Chenyong Xu, Rongqiang Tian\* and Zheng Duan\*

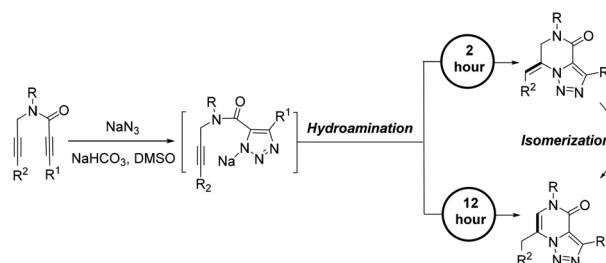


## PAPERS

1176

### A transition-metal-free azide–alkyne cycloaddition/hydroamination cascade reaction for the construction of triazole-fused piperazin-2-ones

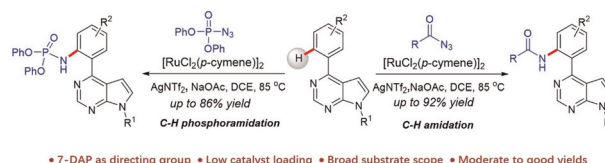
Kongxi Qiu, Kaifu Wu, Haowen Ma, Yunlin Ao, Wei Zhou\* and Qian Cai\*



1181

### Ruthenium-catalysed direct C–H amidation of 4-aryl-pyrrolo[2,3-*d*]pyrimidines with acyl/phosphoryl azides

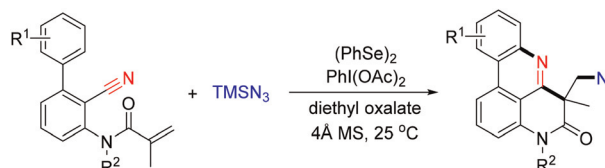
Chenhong Pan, Chun He, Jiangrong Wang, Junyang Tang and Xingxian Zhang\*



1186

### Oxidative cascade cyclization of *N*-arylacrylamides with TMSN<sub>3</sub>

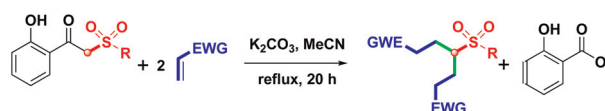
Bo Jiang, Tai-Gang Fan, Yu-Song Ran, Yun-Tao Shen, Cui Zhang, Wei Jiang and Ya-Min Li\*



1194

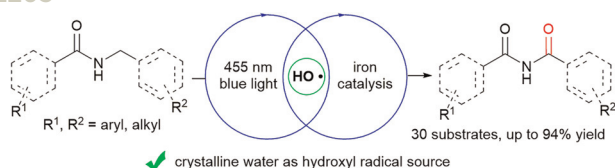
### Synthesis of 4-sulfonyl-1,7-diesters via K<sub>2</sub>CO<sub>3</sub>-mediated alkylative debenzoylation of α-sulfonyl *o*-hydroxyacetophenones with acrylates

Meng-Yang Chang\* and Pin-Hsien Chen



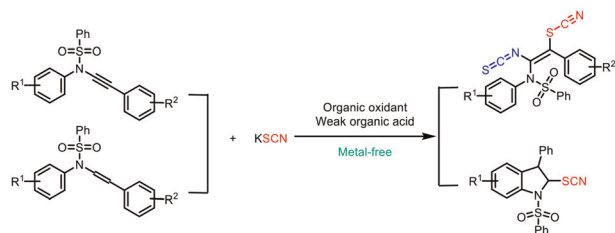
## PAPERS

1205

**Selective  $\alpha$ -oxidation of amides via visible-light-driven iron catalysis**

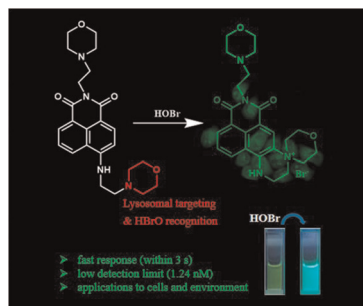
Shu-Hong Liu, Zhi-Chao Dong, Zhong-Lin Zang, Cheng-He Zhou and Gui-Xin Cai\*

1213

**Thiocyanate promoted difunctionalization and cyclization of unsaturated C–C bonds to construct 1-sulfur-2-nitrogen-functionalized alkenes and 2-thiocyanate indolines**

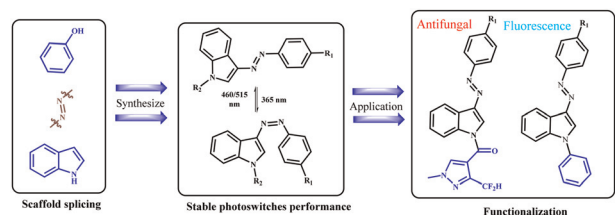
Hong Qin, Feng Chen, Jinze Du, Xiaobing Yang, Yiping Huang, Kai Zhu, Changhai Yue, Zheng Fang\* and Kai Guo

1219

**Fast detection of hypobromous acid in cells and the water environment using a lysosome-targeted fluorescent probe**

Quan-Rong Du, Min Peng, Yang Tian, Xue Yao, Jianfeng Zheng, Yu Peng\* and Ya-Wen Wang\*

1225

**Phenolylazoindole scaffold for facilely synthesized and bis-functional photoswitches combining controllable fluorescence and antifungal properties using theoretical methods**

Haoran Hu, Yu Liu, Junqi Li, Chong Zhang, Chao Gao, Chengguo Sun, Yang Du and Bingcheng Hu\*





## PAPERS

1234

# Synthesis of 2-benzyl benzoxazoles and benzothiazoles *via* elemental sulfur promoted cyclization of styrenes with 2-nitrophenols and *N,N*-dialkyl-3-nitroanilines

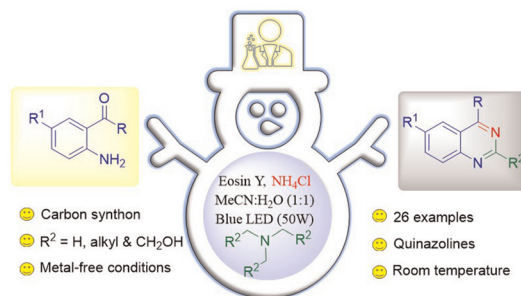
Truong K. Chau, Nguyen T. Ho, Tuan H. Ho, Anh T. Nguyen, Khoa D. Nguyen, Nam T. S. Phan, Ha V. Le\* and Tung T. Nguyen\*



1245

# Visible-light photocatalyzed C–N bond activation of tertiary amines: a three-component approach to synthesize quinazolines

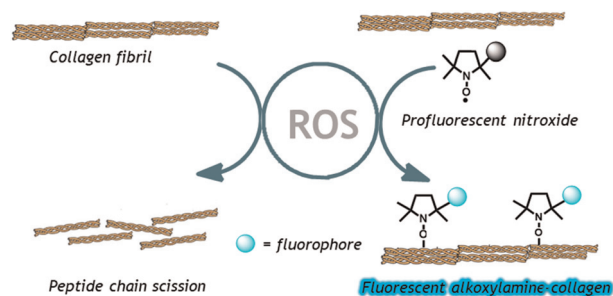
Ajithkumar Arumugam and Gopal Chandru Senadi\*



1254

# Dual functional profluorescent nitroxides for the detection of reactive oxygen species and inhibition of collagen degradation during reassembly

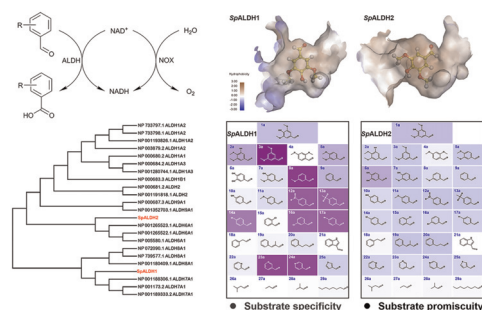
Nattawut Decha, Jutakan Thonglam, Jirut Meesane, Soraya Pornsuwan and Chittreya Tansakul\*



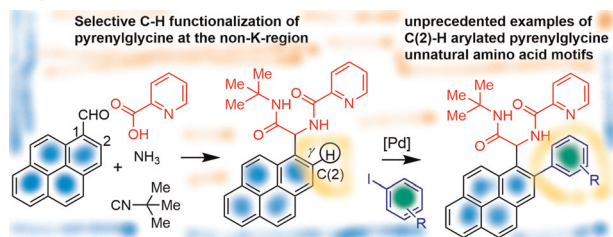
1269

# A comparative study of two aldehyde dehydrogenases from *Sphingobium* sp.: the substrate spectrum and catalytic mechanism

Siyi Chen, Jieyu Zhou,\* Xiangyuan Gu and Ye Ni\*



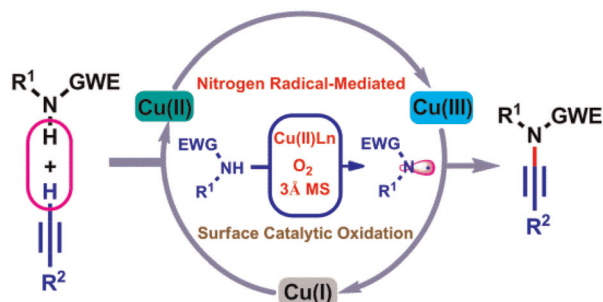
1279



### Picolinamide-assisted *ortho*-C–H functionalization of pyrenylglycine derivatives using aryl iodides

Arup Dalal, Subhankar Bodak and Srinivasarao Arulananda Babu\*

1299



### Copper-catalyzed room-temperature cross-dehydrogenative coupling of secondary amides with terminal alkynes: a chemoselective synthesis of ynamides

Shuang-Yan Zhuo, Jian-Liang Ye\* and Xiao Zheng\*

