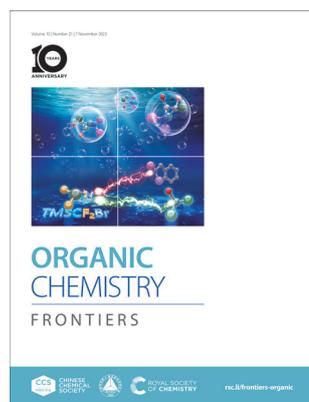


IN THIS ISSUE

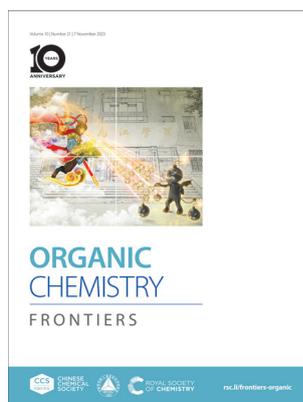
ISSN 2052-4129 CODEN OCFRA8 10(21) 5333-5540 (2023)



Cover

See Jinbo Hu *et al.*, pp. 5343–5351.

Image reproduced by permission of An Liu and Jinbo Hu from *Org. Chem. Front.*, 2023, **10**, 5343.



Inside cover

See Changlong Xu, Xiaohua Cao, Huanan Huang *et al.*, pp. 5352–5361.

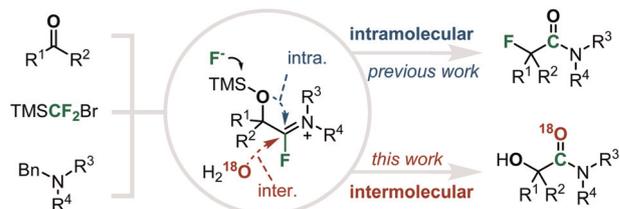
Image reproduced by permission of Huanan Huang from *Org. Chem. Front.*, 2023, **10**, 5352.

RESEARCH ARTICLES

5343

From intramolecular cyclization to intermolecular hydrolysis: TMSCF₂Br-enabled carbonylation of aldehydes/ketones and amines to α -hydroxyamides

An Liu, Shuo Sun, Qiqiang Xie, Rumin Huang, Taige Kong, Chuanfa Ni and Jinbo Hu*

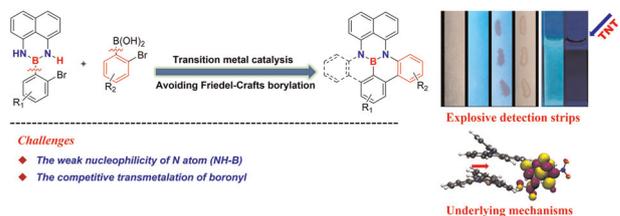


from intramolecular cyclization to intermolecular hydrolysis

5352

NBN embedded phenalenes as a new class of zigzag type polycyclic aromatic hydrocarbons for explosive detection

Han Xu, Junxiong Yao, Wenjue Tu, Xiaomin Zheng, Huimin Fu, Qixing Xu, Shengting Zhang, Jiaqi Li, Hanbin Wang, Jie Fang, Jing Yang, Changlong Xu,* Xiaohua Cao* and Huanan Huang*



EDITORIAL STAFF

Executive Editor

Wenjun Liu

Deputy Editor

Kailin Deng

Development Editor

Cheng Du

Editorial Production Manager

Helen Saxton

Senior Publishing Editor

Becky Webb

Publishing Editors

Kirstine Anderson, Matthew Bown, Laura Cooper, Hannah Fielding, Clare Fitzgerald, Anoushka Handa, Claire Harding, Alan Holder, Charlie Palmer, Rosie Rothwell, Donna Smith, Laura Smith

Assistant Editors

Jie Gao, Yu Zhang

Publisher

Jeanne Andres

For queries about submitted papers, please contact Helen Saxton, Editorial Production Manager, in the first instance. E-mail: OrgChemFrontiersPROD@rsc.org

For pre-submission queries please contact Wenjun Liu,

Executive Editor. Email: OrgChemFrontiersED@rsc.org

Organic Chemistry Frontiers (electronic: ISSN 2052-4129) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to RSC Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0)1223 432398; E-mail orders@rsc.org

2023 Annual (electronic) subscription price: £2,182; US\$3,492. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

ORGANIC CHEMISTRY

FRONTIERS

An international, high impact journal for cutting-edge researches from all disciplines of organic chemistry.



rsc.li/frontiers-organic

Published in collaboration with the Chinese Chemical Society and Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences

Editorial Board

Editor-in-Chief

Shengming Ma, Shanghai Institute of Organic Chemistry, China

Associate Editors

Arjan W. Kleij, Institute of Chemical Research of Catalonia, Spain
Chulbom Lee, Seoul National University, Korea
Bill Morandi, ETH Zurich, Switzerland

Jennifer M. Schomaker, University of Wisconsin-Madison, USA
Frank Würthner, University of Würzburg, Germany
Pei-Qiang Huang, Xiamen University, China
Qian Zhang, Northeast Normal University, China

Members

Guy Bertrand, University of California, San Diego, USA
Nicolai Cramer, EPFL, Switzerland
Louis Fensterbank, Sorbonne Université, France
Lichang Wang, Southern Illinois University, USA
Dan Yang, Westlake University, China

Advisory Board

Ayyappanpillai Ajayaghosh, National Institute for Interdisciplinary Science and Technology, India
Lutz Ackermann, Georg-August-Universität Göttingen, Germany
Marco Bandini, University of Bologna, Italy
Matthias Beller, University of Rostock, Germany
Akkattu T. Biju, Indian Institute of Science, India
Xi Chen, University of California-Davis, USA
Yiyun Chen, Shanghai Institute of Organic Chemistry, China
Yonggui Robin Chi, Nanyang Technological University, Singapore
Stuart Conway, University of Oxford, UK
Shuanhu Gao, East China Normal University, China
Véronique Gouverneur, University of Oxford, UK

Frank Glorius, Westfälische Wilhelms-Universität Münster, Germany
Zhenhua Gu, University of Science and Technology of China, China
Masayuki Inoue, The University of Tokyo, Japan
Guochen Jia, Hong Kong University of Science & Technology, China
Michael Kerr, University of Western Ontario, Canada
Ohyun Kwon, University of California, Los Angeles, USA
Rai-Shung Liu, National Tsing Hua University, Hsinchu
Sanzhong Luo, Tsinghua University, China
Cristina Nevado, University of Zurich, Switzerland
Christoph Schalley, Freie Universität Berlin, Germany

Daniel Seidel, University of Florida, USA
Feng Shi, Jiangsu Normal University, China
Yian Shi, Colorado State University, USA
Vinod K. Singh, IIT Kanpur, India
Wenjun Tang, Shanghai Institute of Organic Chemistry, China
Yong Tang, Shanghai Institute of Organic Chemistry, China
Chen-Ho Tung, Technical Institute of Physics and Chemistry, CAS, China
Tao Ye, Peking University (Shenzhen), China
Tomoki Ogoshi, Kanazawa University, Japan
Zhaohui Wang, Tsinghua University, China
Lizhu Wu, Technical Institute of Physics and Chemistry, CAS, China
Xingang Zhang, Shanghai Institute of Organic Chemistry, China

Information for Authors

Full details on how to submit material for publication in Organic Chemistry Frontiers are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/frontiers-organic

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

This journal is © the Partner Organisations 2023.

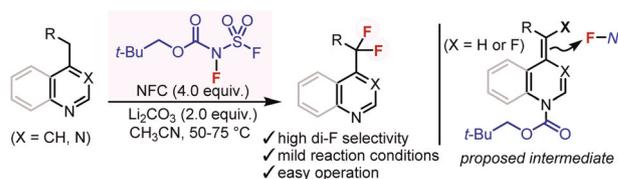
Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

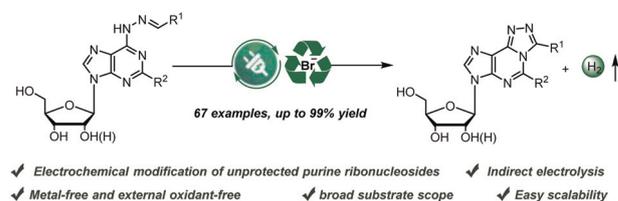


RESEARCH ARTICLES

5362

Difluorination of heterobenzyl C–H bonds with *N*-fluoro-*N*-(fluorosulfonyl)carbamate (NFC)Akiya Adachi, Takuya Hashimoto,* Kohsuke Aikawa,*
Kyoko Nozaki and Takashi Okazoe

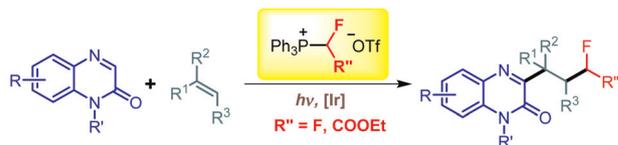
5369

Electrocatalytic oxidative C–H cycloamination towards tricyclic [1,2,4]triazolo-[3,4-*i*]purine nucleosides mediated by bromide ionsQi-Liang Yang,* Wan-Wan Li, Zhong-Xu Zhang,
Han-Meng Zhang, Xian-Jia Li and Hai-Ming Guo*

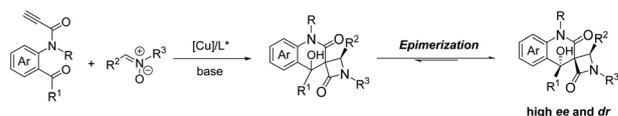
5375

Direct C(sp²)–H fluoroalkylation of quinoxalin-2 (1*H*)-ones with (fluoroalkyl)triphenylphosphonium salts and alkenes

Wenwen Wang, Tonghao Zhu* and Jie Wu*

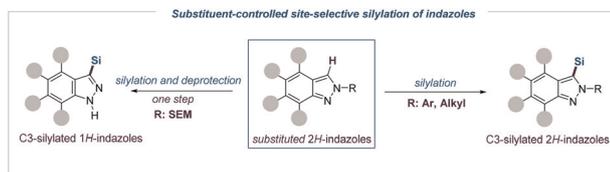


5383

Highly diastereo- and enantioselective synthesis of spiro β -lactams via copper-catalyzed Kinugasa/aldol cascade reactionJie Li, Haowen Ma, Xianqiang Zhong, Shanyue Li,
Jiehao Zhang, Yunlin Ao, Wei Zhou* and Qian Cai*

RESEARCH ARTICLES

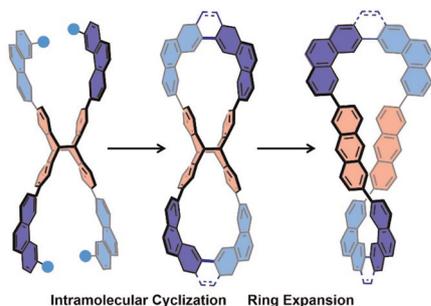
5389



Substituent-controlled site-selective silylation of 2H-indazoles to access silylated 1H-indazoles and 2H-indazoles under transition metal-free conditions

Jia Jia, Shuai Chen, Ting Mao, Jinlan Li, Weipiao Li, An-Jun Wang, Dezhi Yang, Zhengli Liu,* Chun-Yang He* and Zhang Feng*

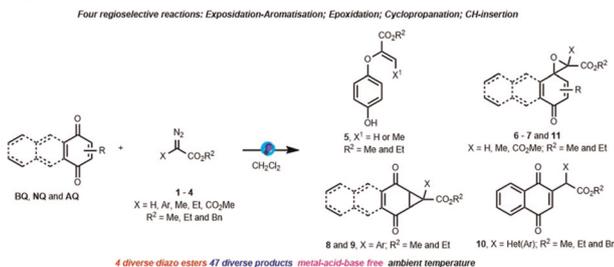
5395



Conjugated figure-of-eight macrocycles derived from the anthracene photodimer: synthetic execution through intramolecular cyclization and topological manipulation through ring expansion

Lijie Zhan, Hongyan Xiao, Jia-Nan Gao and Huan Cong*

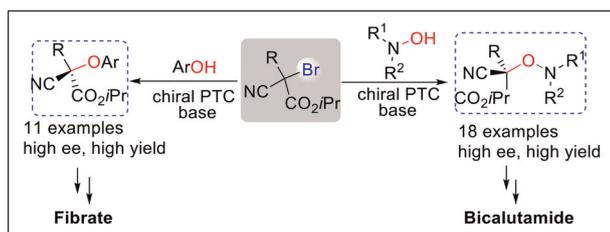
5402



Theoretical studies to predict the utility of diazo esters in their reactions with 1,4-quinones: experimental validation via a visible light driven metal free process

Tejas Prabakar, Subhankar Bera, Shagun Singh, Anubhuti Srivastava, Manasi Chandrachood, Debajit Maiti, Naiwrit Karmodak* and Subhabrata Sen*

5416



Bisguanidinium-catalyzed formation of oxygen-containing quaternary stereogenic carbon centers

Xu Ban,* Changxing Chen, Kha Tuan Khoa, Chao Wang, Zhiyong Jiang and Choon-Hong Tan*

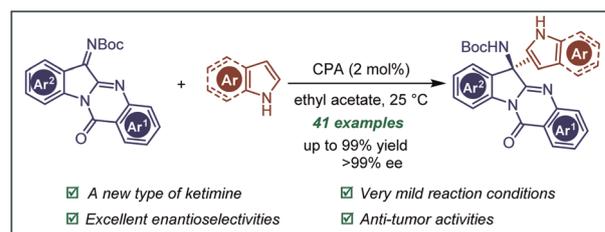


RESEARCH ARTICLES

5421

Enantioselective synthesis of tryptanthrin derivatives enabled by an asymmetric aza-Friedel–Crafts reaction

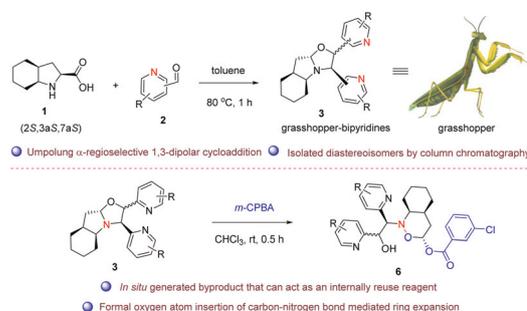
Yong You,* Guo-Ying Gan, Si-Yang Duan, Yan-Ping Zhang, Qun Li, Zhen-Hua Wang, Jian-Qiang Zhao, Xiong-Li Liu and Wei-Cheng Yuan*



5428

Umpolung α -regioselective 1,3-dipolar cycloaddition and internal recycle of byproduct as two key strategies: access to diverse chiral bipyridines

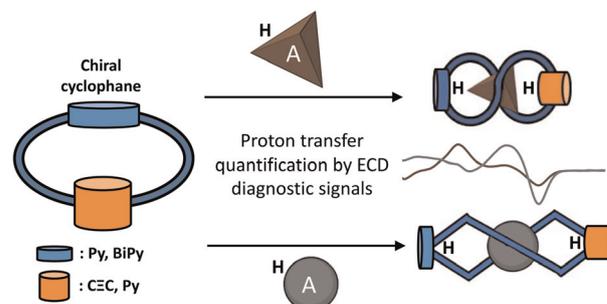
Yu-Heng Wang, Xi-Rui Wang, Ke-Lan Xu, Zi-Yue Chen, Bo-Wen Pan, Li-Jun Peng,* Ying Zhou and Xiong-Li Liu*



5435

Deciphering the degree of proton-transfer in pyrido-cyclophanes by chiroptical outcomes in non-aqueous solvents

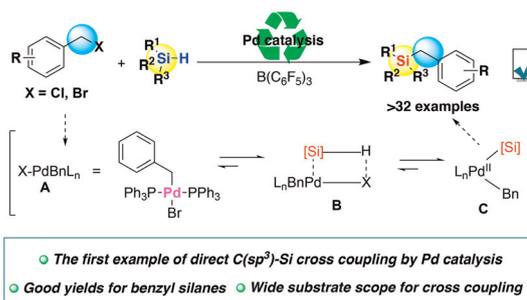
Jonathan Álvarez-García, Víctor Rubio-Pisabarro, Luis García-Río and María Magdalena Cid*



5443

Palladium-catalyzed $C(sp^3)$ –Si cross-coupling silylation of benzyl halides with hydrosilanes

Xiao-Hua Zhou, Jun-Hui Zhu, Guang-Ao Song, Xin-Li Jiang, Xiao-Jun Fang, Zheng Xu and Li-Wen Xu*

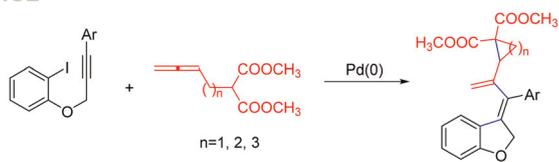


- The first example of direct $C(sp^3)$ –Si cross coupling by Pd catalysis
- Good yields for benzyl silanes
- Wide substrate scope for cross coupling



RESEARCH ARTICLES

5451

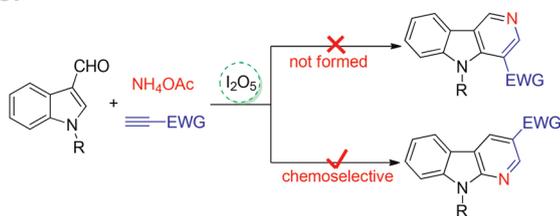


- 39 Examples up to 87% yield
- High regio- and stereoselectivity
- General substrate scope
- Three new C-C bond and two ring formation

Palladium-catalyzed bicyclization of alkynyl aryl iodide with allenyl malonates

Ping-Xin Zhou,* Yang Liu, Xueyan Du, Ning Liu, Kexin Li, Yuji Wu, Wang Feng, Xu Liu and Yingying Kong*

5457



- ▲ Chemoselective synthesis
- ▲ Metal- and additive-free conditions
- ▲ Readily available starting materials
- ▲ Gram scale synthesis
- ▲ Significant synthetic application
- ▲ 37 examples, up to 93%

Chemoselective three-component synthesis of α -carbolines under metal-free conditions

Wei Feng, Chao Zhang, Xinlin Zhou, Kuiyi You,* Guo-Jun Deng* and Shanping Chen*

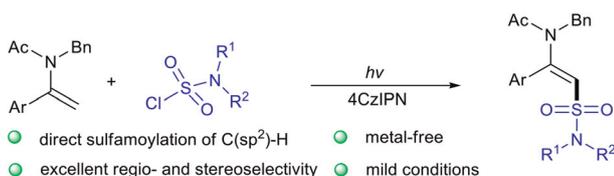
5463



Palladium-catalyzed regio- and stereoselective allylic alkylation of 5-vinylloxazolidine-2,4-diones with azlactones: synthesis of chiral (Z)-trisubstituted allylic amino acid derivatives

Kuan Li, Lan Wang, Shuo Zhen, Lihan Zhu, Songcheng Yu, Yongjun Wu and Hongchao Guo*

5470



- direct sulfamoylation of C(sp²)-H
- metal-free
- excellent regio- and stereoselectivity
- mild conditions

Photocatalytic C(sp²)-H sulfamoylation of enamides: regio- and stereoselective construction of (E)- β -sulfamoyl enamides

Lingli Liu, Yechun Wu, Xian Wu, Jin-Tao Yu* and Changduo Pan*

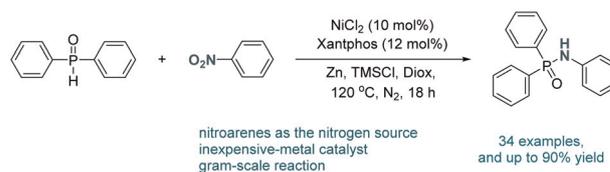


RESEARCH ARTICLES

5478

Nickel-catalyzed reductive coupling of nitroarenes and phosphine oxides to access phosphinic amides

Meixia Liu, Huimin Hu, Runbo Sun, Haoyuan Li, Anjun Ding, Xiaoyong Liu, Zhengjiang Fu, Shengmei Guo* and Hu Cai*



5484

Reductive thiolation and oxidative dehydroaromatization of cyclohexanones with primary amines and sodium sulfinates to access o-sulfanylanilines

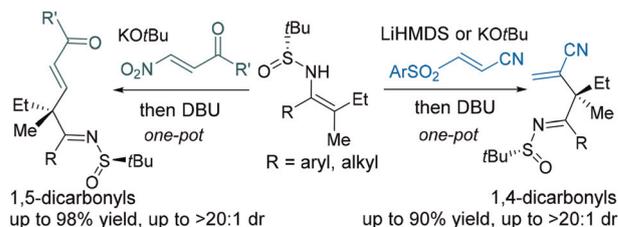
Hui Wu, Lin Zhao, Wenting Wang, Yining Yu and Ge Wu*



5490

Stereoselective formal alkenylation of β,β -disubstituted enesulfinamides for constructing 1,5- and 1,4-dicarbonyl derivatives bearing less-accessible acyclic α -quaternary stereocenters

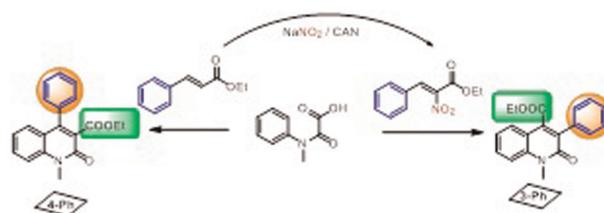
Chong-Lin Zhu and Chong-Dao Lu*



5496

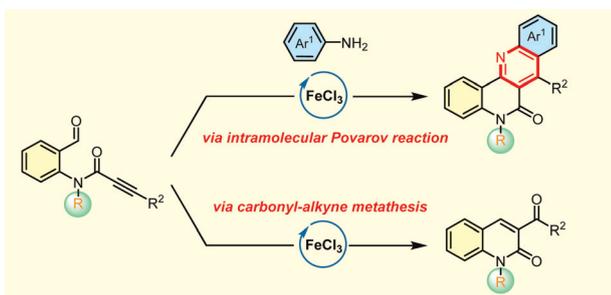
Nitro – a traceless directing group for reversing the radical site-selectivity of styrene derivatives

Zhenxing Zhang, Xin Zhang, Yaxin Wang, Yang Liu, Yu Wang, Xinhao Zhang,* Junyan Ma* and Lijuan Song*



RESEARCH ARTICLES

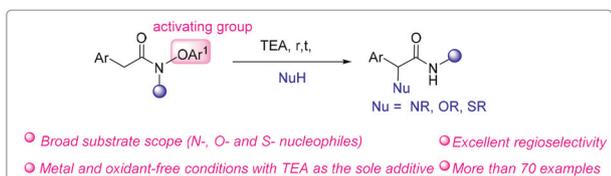
5505



Iron-catalyzed divergent approach to naphthyridinones and quinolinones: leveraging Povarov and carbonyl-alkyne metathesis reactions of electron deficient alkynes

Jia-ming Chen, Jun-hua Li, Li-cheng Xie, Hui-ke Fan, Xia-xin Sheng, Yu-jia Du, Guo-ying Liu, Hao Hu, Yan Jiang* and Ming Chen*

5512

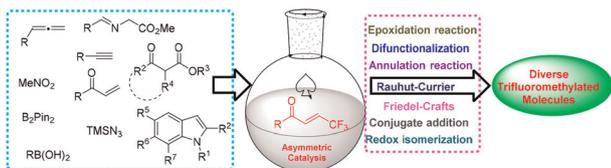


Regioselective heterofunctionalization of alpha-aryl amides with heteroatom nucleophiles via electrophilic activation

Shuai Han, Yu Guo,* Wei Zhang, Jinjin Chen, Zhen Wang* and Yao-Fu Zeng*

REVIEW

5519



β -Trifluoromethylated enones as trifluoromethylated synthons in asymmetric catalysis

Xiufang Cheng, Wenjin Niu, Huamin Wang* and Ying-Wu Lin*

