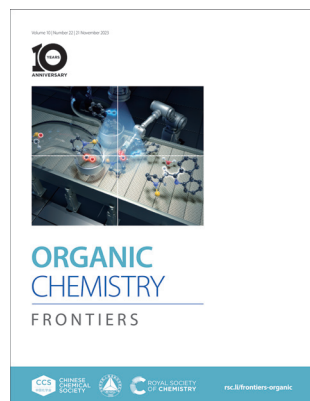
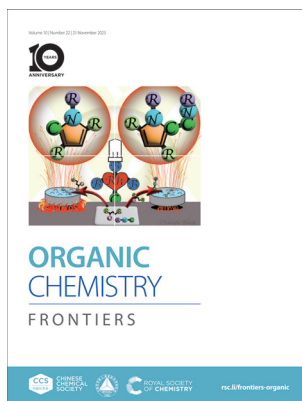


IN THIS ISSUE

ISSN 2052-4129 CODEN OCFRA8 10(22) 5541-5806 (2023)



Cover

See Yunkui Liu *et al.*, pp. 5551–5558.Image reproduced by permission of Yuanqiang Li and Yunkui Liu from *Org. Chem. Front.*, 2023, **10**, 5551.

Inside cover

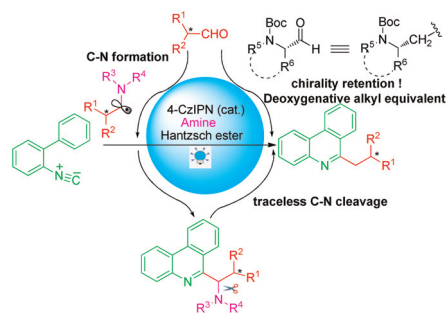
See Takuya Shimbayashi and Taiyou Ishige *et al.*, pp. 5559–5567.Image reproduced by permission of Taiyou Ishige and Takuya Shimbayashi from *Org. Chem. Front.*, 2023, **10**, 5559.

RESEARCH ARTICLES

5551

A photocatalytic traceless C–N bond formation/cleavage strategy enabling the use of (α -chiral) alkyl aldehydes as deoxygenative (chiral) alkyl radical equivalents

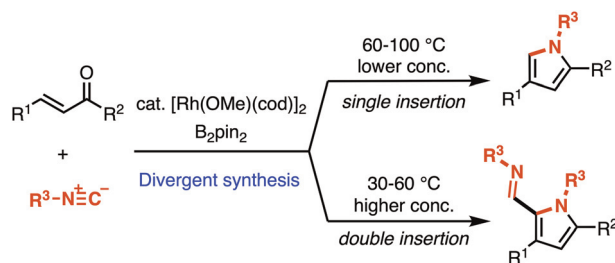
Hanyang Bao, Limeng Zheng, Qian Liu, Mingfeng Han, Ya Li, Miao Bao, Yuanqiang Li, Pucha Yan and Yunkui Liu*



5559

Rh-catalysed divergent synthesis of polysubstituted pyrroles from α,β -unsaturated ketones via selective single or double insertion of isocyanides

Takuya Shimbayashi,* Taiyou Ishige and Ken-ichi Fujita



Temperature and concentration are key factors for switch of selectivity!



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 must 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.



CHINESE
CHEMICAL
SOCIETY


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
Akshattu 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

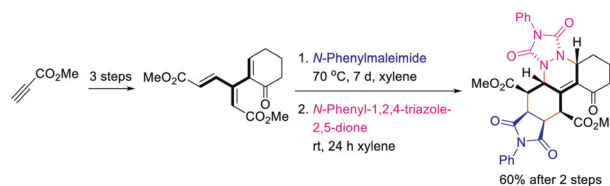


RESEARCH ARTICLES

5568

Synthesis of highly polarized [3]dendralenes and their Diels–Alder reactions

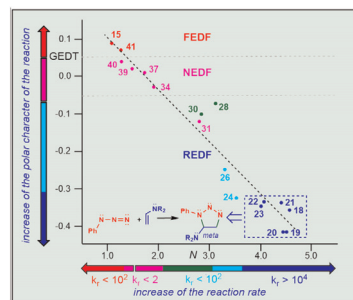
Rastislav Antal, Monika Staś, Stefanie M. Perdomo, Marie Štemberová, Zbyněk Brůža, Petr Matouš, Jiří Kratochvíl, Aleš Růžicka, Lubomír Rulišek, Jiří Kuneš, Pavel Kočovský, Erik Andris* and Milan Pour*



5579

Why is phenyl azide so unreactive in [3 + 2] cycloaddition reactions? Demystifying Sustmann's paradigmatic parabola

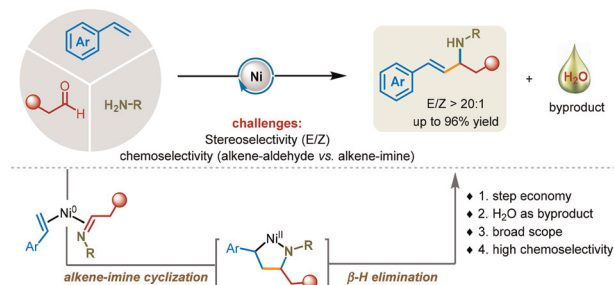
Luis R. Domingo,* Mar Ríos-Gutiérrez and Patricia Pérez*



5592

Direct and modular access to allylic amines via nickel-catalyzed three-component coupling

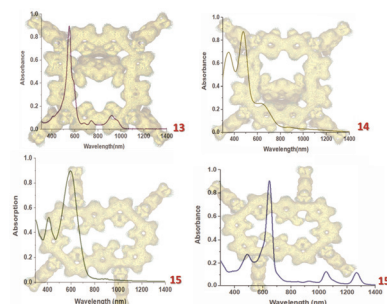
Changyu Xu, Jianchao Chang, Zhan Dong, Liangliang Song* and Liang-An Chen*



5601

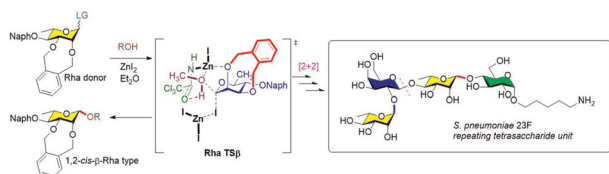
meso–meso 1,3-Bis(E-vinyl)azulene bridged tetrathiaoctaphyrins: synthesis and spectroscopic and theoretical characterization

Sumit Sahoo, Gunasekaran Velmurugan, Peter Comba* and Harapriya Rath*



RESEARCH ARTICLES

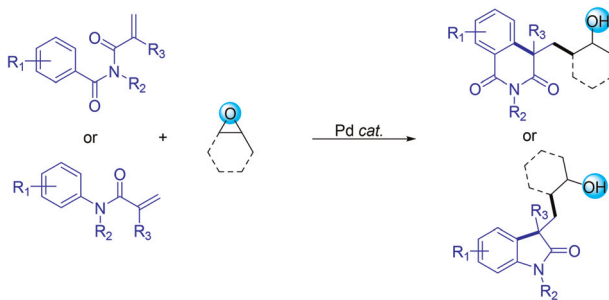
5610



Construction of 1,2-*cis* rhamnosidic linkages and synthesis of core tetrasaccharide repeating unit of *Streptococcus pneumoniae* serotype 23F

Jiaming Ao, Xiaoya Zhao, Siai Zhou, Yajing Guo, Guoqing Wang, Sixian Fang, Xuewen Yao, Yuhua Liu, Akihiro Ishiwata,* Katsunori Tanaka, Feiqing Ding* and Hui Cai*

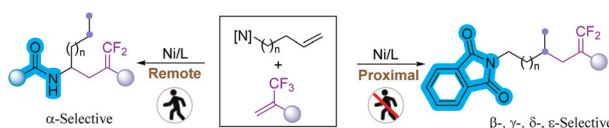
5616



Palladium catalyzed tandem cyclization of acryloylbenzamides and *N*-arylacrylamides with epoxides: access to functionalized isoquinolinediones and oxindoles

Xiao-Yu Lu,* Fu-Yi Shui, Xiang Zhang, Rui Huang, Zi-Zhen Wang, Yi-Wei Song, Fan Jiang, Gui-Xian Yang and Yan-Xi Sun

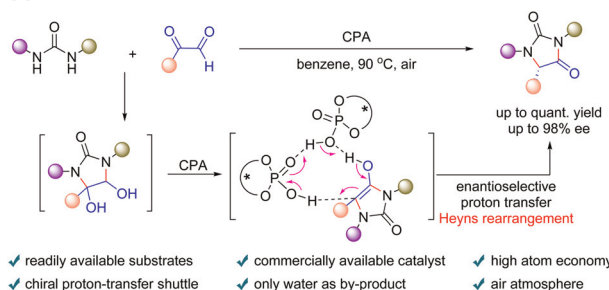
5623



Auxiliary-controlled regiodivergent NiH-catalyzed *gem*-difluoroallylation of alkenyl amines via defluorinative olefin cross-coupling

Lin Zhu, Jie Huang, Fanling Meng, Ziyun Tan, Xiao Meng, Yang Xiao, Lanlan Zhang, Wenyi Li* and Chao Wang*

5631



Enantioselective construction of substituted hydantoins via chiral phosphoric acid catalyzed annulation/Heyns rearrangement of aryl-substituted ureas with glyoxals

Yong Wang, Jingyuan Li, Yanyan Li, Chao Pi, Yangjie Wu and Xiuling Cui*

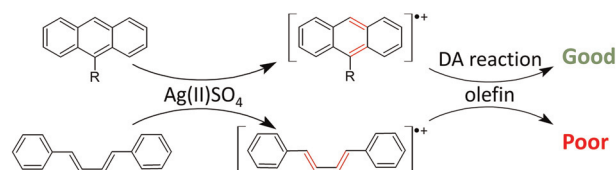


RESEARCH ARTICLES

5637

Redox-induced Diels–Alder revisited: impact of diene's oxidation on demanding cycloadditions

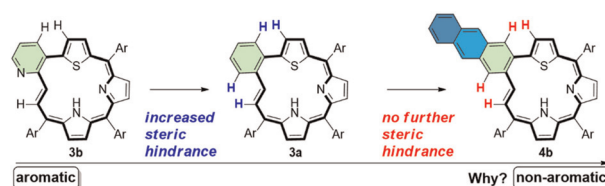
Michał J. Jadwiszczak,* Piotr J. Leszczyński,*
 Zoran Mazej, Przemysław J. Malinowski,*
 Ewa K. Nawrocka, Krzysztof Kazimierczuk,
 Piotr Kwiatkowski, Piotr Połczyński,
 Magdalena Grochowska-Tatarczak, Karol J. Fijalkowski,
 Jarosław Sadto and Wojciech Grochala



5644

Fundamental difference between simple arenes and PAHs found in o-PAH-connected porphyrins

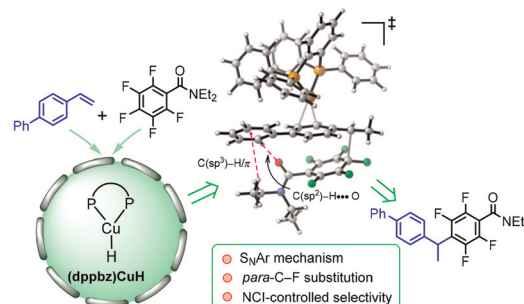
Min-Sung Ko, Jung-Ho Hong, Pradeep P. Desale,
 Tae-Ho Roh and Dong-Gyu Cho*



5651

Mechanistic study of CuH-catalyzed hydroarylation of alkenes with polyfluoroarenes involving C–F bond functionalization: noncovalent interaction-controlled regioselectivity

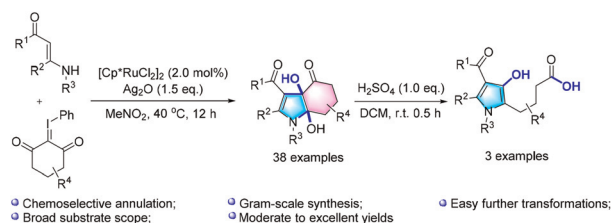
Xia Zhao, Wen-Yan Tong and Xiaotai Wang*



5660

Unprecedented chemoselective Ru(III)-catalyzed [3 + 2] annulation of enamines with iodonium ylides for the synthesis of functionalized 3a,7a-dihydroxy hexahydro-4H-indol-4-ones

Mingshuai Zhang, Longkun Chen, Zhuoyuan Liu,
 Jiuzhong Huang* and Fuchao Yu*



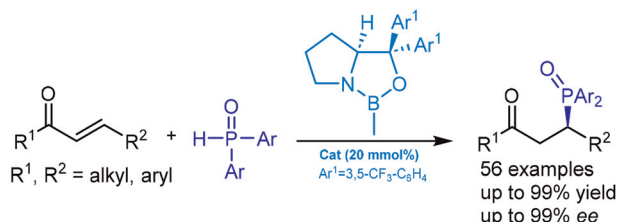
RESEARCH ARTICLES

5667

**Photoinduced catalyst-free borylation of alkenyl triflates with Lewis base complexes of boranes**

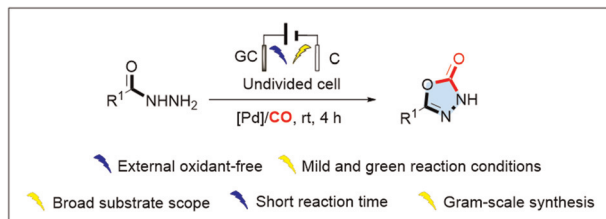
Zhi-Peng Ye, Si-Jia Yang, Zhi-Lin Liu, Jie Gao, Yong-Qing Ye, Hong-Bin Chen, Peng-Ju Xia, Kai Chen, Hao-Yue Xiang* and Hua Yang*

5672

**Enantioselective 1,4-addition of diarylphosphine oxides to α,β -unsaturated ketones catalyzed by oxazaborolidines**

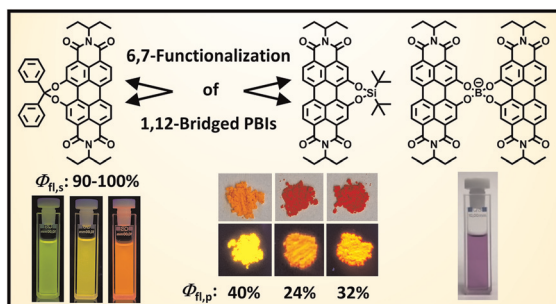
Jinyi Qian, Hengyuan Zhao, Qi Gao, Lirong Chen, Yinrui Shi, Jiuling Li, Yafei Guo* and Baomin Fan*

5680

**Electrochemical oxidative carbonylation of hydrazides for the synthesis of 1,3,4-oxadiazole-2(3H)-ones**

Mengyu Peng, Mingzhe Li, Longqiang Zhao, Wenxiu Huang, Shoucai Wang, Kang Chen, Guangbin Jiang* and Fanghua Ji*

5685

**Boron-, carbon-, and silicon-bridged 1,12-dihydroxy-perylene bisimides with tuned structural and optical properties**

Oliver Nagler, Kazutaka Shoyama, Olga Anhalt, Matthias Stolte, Rajeev K. Dubey, Zengqi Xie and Frank Würthner*



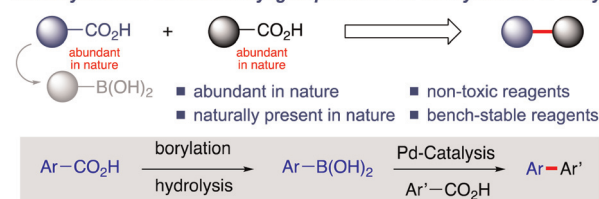
RESEARCH ARTICLES

5698

Carboxylic acids as double aryl group donors for biaryl synthesis

Wenzhi Zhang, Jie Ma, Fengyan Zhou, Michal Szostak* and Chengwei Liu*

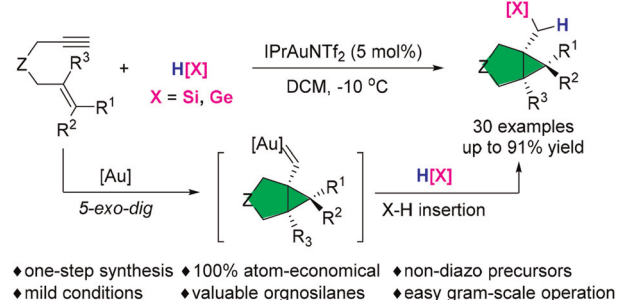
Carboxylic acids as double aryl group donors for the synthesis of biaryls



5705

Atom-economical synthesis of bicyclo[3.1.0]hexane silanes by gold-catalyzed Si-H bond insertion reaction of 1,6-enynes with hydrosilanes

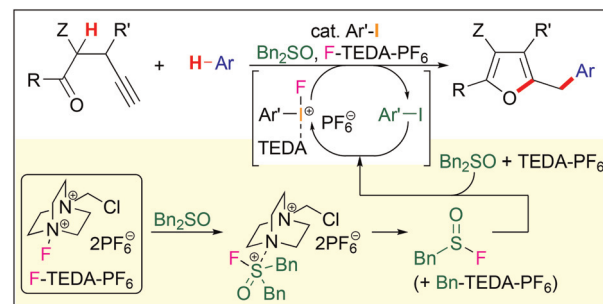
Guanghui Wang, Haotian Li, Yongqiang Wang, Zengzeng Li, Gang Liu and Ximei Zhao*



5710

Iodine(III)-catalyzed dehydrogenative cycloisomerization-arylation sequence of 2-propargyl 1,3-dicarbonyl compounds

Yuki Umakoshi, Kazushige Wakisaka, Akira Tsubouchi, Akira Yoshimura and Akio Saito*

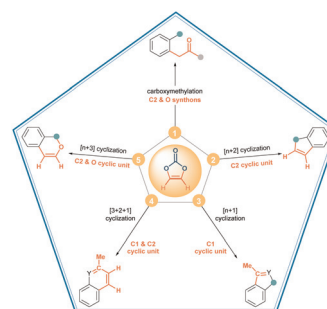


REVIEWS

5717

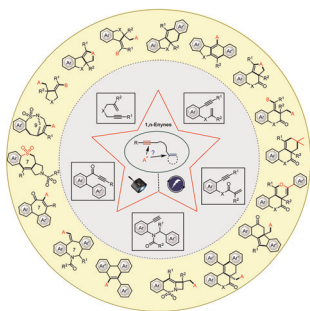
Advancement of vinylene carbonate as a coupling partner in metal-catalyzed C-H functionalization

Yicong Ge, Qiang Yan and Jiang Nan*



REVIEWS

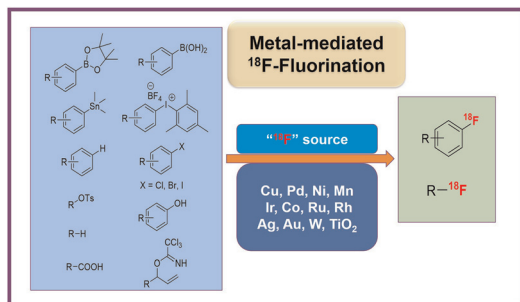
5735



Radical cascade cyclization of 1,*n*-enynes under photo/electrochemical conditions

Zhenzhi Cai, Sven Trienes, Kairui Liu, Lutz Ackermann and Yan Zhang*

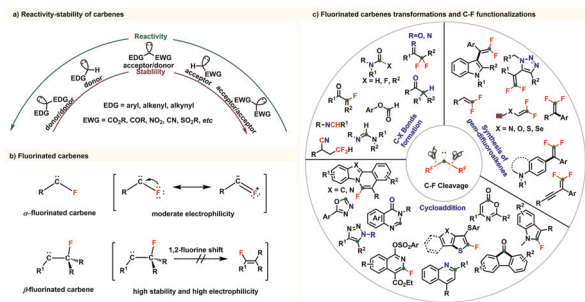
5746



Recent progress on radiofluorination using metals: strategies for generation of C–¹⁸F bonds

Truong Giang Luu and Hee-Kwon Kim*

5782



C–F bond functionalizations *via* fluorinated carbenes

Yingmei Li, Jiangbin Luo and Yaojia Jiang*

