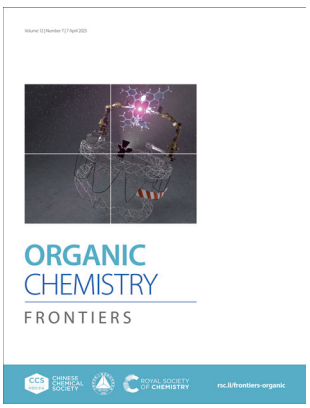
ORGANIC CHEMISTRY
FRONTIERS

rsc.li/frontiers-organic

Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

IN THIS ISSUE

ISSN 2052-4129 CODEN OCFRA8 12(7) 2135–2556 (2025)



Cover
See Ángel L. Fuentes de Arriba, Juan R. Granja *et al.*, pp. 2149–2158.

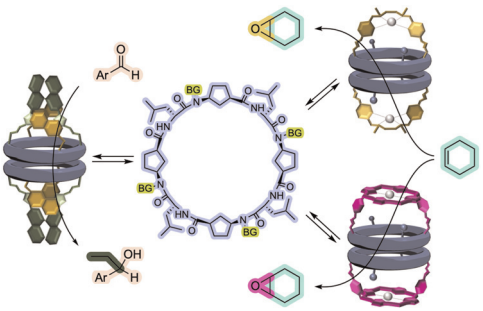
Image reproduced by permission of M. Eugenio Vázquez from *Org. Chem. Front.*, 2025, **12**, 2149.

RESEARCH ARTICLES

2149

Modular supramolecular capsules based on α,γ-cyclic peptide dimers for the development of confined catalysis

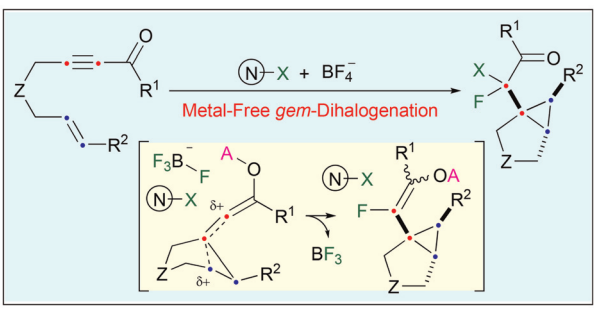
Ezequiel Troncoso Mondragón, Alberto Fuertes, Martín Calvelo, Ángel L. Fuentes de Arriba,* Manuel Amorín and Juan R. Granja*



2159

Cycloisomerization of 7-en-2-yn-1-ones to bicyclo [3.1.0]hexanes using electrophilic fluorination or chlorination agents

Yuki Yasuda, Daisuke Sato, Akira Tsubouchi and Akio Saito*



ROYAL SOCIETY OF CHEMISTRY

View Article Online

GOLD OPEN ACCESS

EES Solar

Exceptional research on solar energy and photovoltaics

Part of the EES family

Join in | Publish with us

rsc.li/EESSolar

Registered charity number: 207890

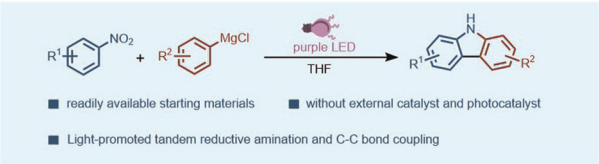
Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

2165

Synthesis of carbazoles: light-promoted tandem coupling of nitroarenes with Grignard reagents

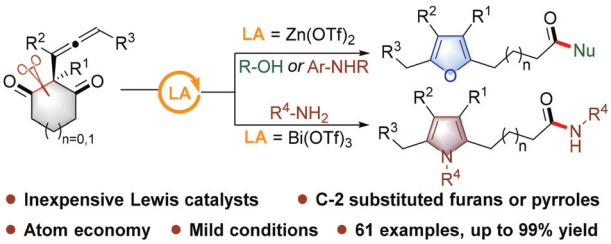
Chen Yang, Ya-Fei Wan, Tong Sun, Gang Li, Zhang-Jie Shi* and Dong Xue*



2173

Lewis acid-catalyzed divergent synthesis of polysubstituted furans and pyrroles

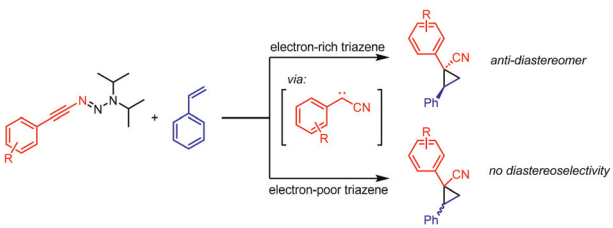
Chenguang Li, Tongxiang Cao* and Shifa Zhu*



2180

Scope and mechanistic insight into the chemistry of cyanocarbenes derived from alkynyl triazenes by UV irradiation

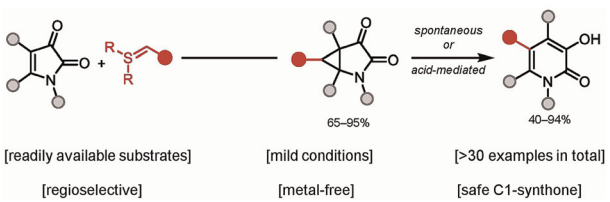
Melina Maag, Linus Bjarne Dittmer, Elena Michel, Alexandra V. Mackenroth, Martin C. Dietl, Frank Rominger, Matthias Rudolph, Andreas Dreuw and A. Stephen K. Hashmi*



2187

Cyclopropanation *vs.* single-carbon insertion of pyrrole-2,3-diones with sulfonium ylides: synthesis of functionalized 2-azabicyclo[3.1.0]hexanes and pyridine-2,3-diones

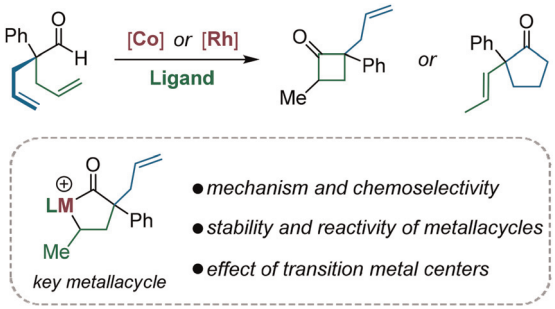
Maria M. Muranova, Andrey R. Galeev, Andrey N. Maslivets and Maksim V. Dmitriev*



Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

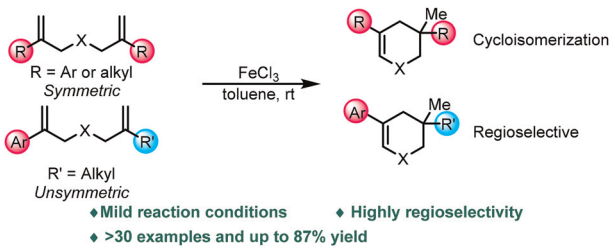
2194



Understanding the influence of metal centers on the mechanism and chemoselectivity of transition-metal-catalyzed cyclizations of dienyl aldehydes

Jian-Biao Liu,* Yan Wang, Hai-Yan Wang and Xiao-Jun Liu*

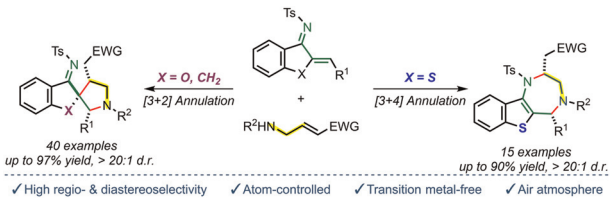
2205



$FeCl_3$ promoted cycloisomerization of 1,6-dienes

Zhongjian Du, Chenlei Ji, Xu Wang, Zhenyu Wang, Zhenguo Guo* and Yang'en You*

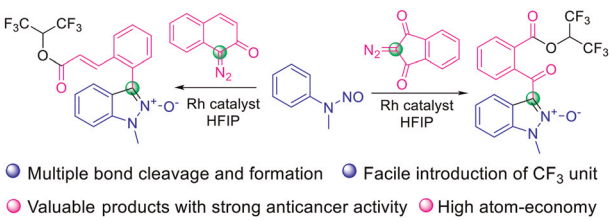
2212



Atom-controlled divergent synthesis of spiro and fused rings *via* base-catalyzed chemoselective annulation

Gang Chen, Guangjie Nie, Linxuan Li,* Jie Fu, Hui Yao, Nianyu Huang* and Nengzhong Wang*

2219



Divergent synthesis of functionalized indazole *N*-oxides with anticancer activity *via* the cascade reaction of *N*-nitrosoanilines with diazo compounds and HFIP

Yuqian Sun, Shengnan Yan, Kelin Wang, Bin Li, Chunhua Ma, Xinying Zhang* and Xuesen Fan*

This journal is © the Partner Organisations 2025

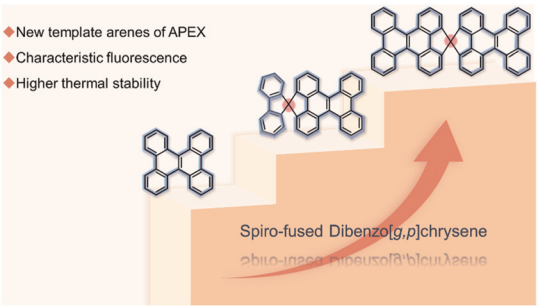
Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

2225

Spiro-fused dibenzo[*g*,*p*]chrysene: annulative π-extension (APEX) synthesis and properties

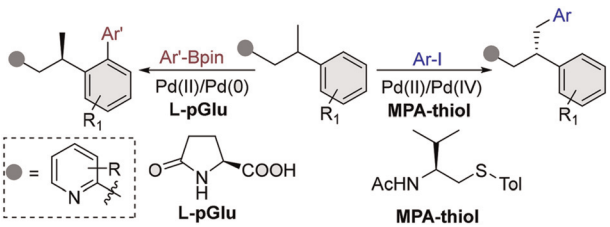
Kanghui Song, Yuying Zhang, Shuai Wu, Sha Yang, Shengchen Wei, Songhua Chen, Hideto Ito,* Kenichiro Itami* and Yuanming Li*



2232

Ligand-enabled enantio- and site-selective remote C–H arylation of 2-(2-phenpropyl)pyridine derivatives

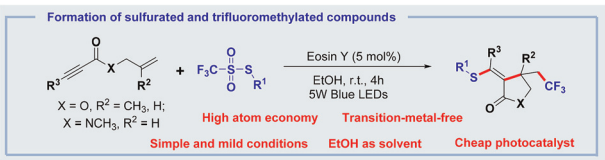
Dai-Yu Li, Jin-Ping Li, Shunsuke Yabu, Li-Sheng Wang, Hirofumi Sato, Masahiro Higashi,* Yoichiro Kuninobu* and Hong-Liang Li*



2242

Diastereoselective visible-light-induced radical cascade trifluoromethylation/sulfuration/cyclization of 1,6-enynes with *S*-aryl trifluoromethanesulfonothioate (TTSA)

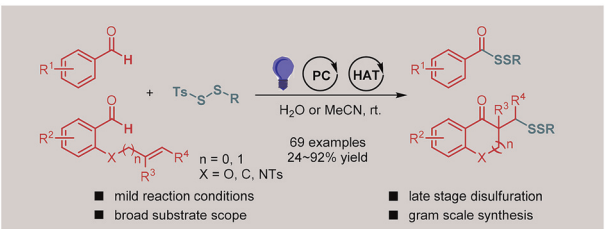
Yuhao Jiang, Jiapeng Sun, Qi Hu, Jianmin Huang, Yingming Song, Hua Cao* and Yue Yu*



2248

Photocatalytic selective disulfuration of aryl aldehydes and alkenyl aldehydes with dithiosulfonate as a bifunctional disulfur reagent and hydrogen atom acceptor

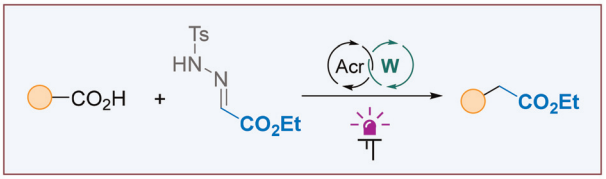
Jingchao Jiao, Juan Xu, Jingru Li, Hongru He, Runliang Yang, Xiaorui Ren, Qianwen Gao* and Xi Wang*



Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

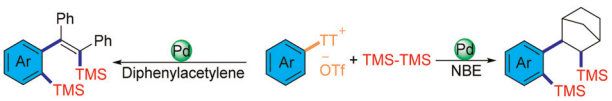
2255



Direct C1 homologation of carboxylic acids: free radical approach enabled by acridine catalysis

Zakhar M. Rubanov, Vitalij V. Levin and Alexander D. Dilman*

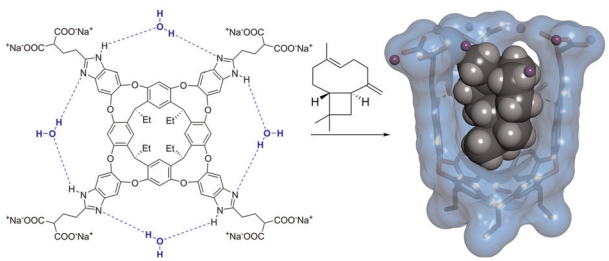
2260



Palladium-catalyzed Catellani-type selective C–H silylation of aryl-TT salts

Ziyao Tang, Mangang Guan, Tianqiang Wang, Guojun Yu, Jiaze Qin, Jingfeng Lan and Rulong Yan*

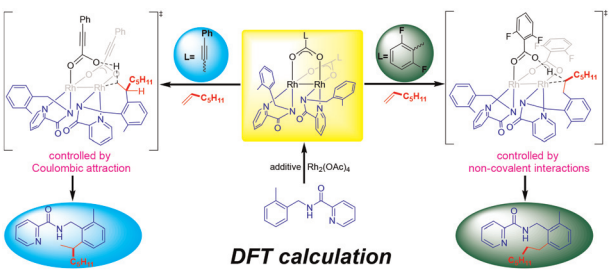
2266



A superior and accessible cavitand receptor for the binding of monoterpenes and sesquiterpenes in water

Hugo Marchi Luciano, Ricard López-Coll, Rubén Álvarez-Yebra and Agustí Lledó*

2273



The influence of an acid additive on linear and branch selectivity in the C–H alkylation of *N*-pyridinecarbonyl-protected 2-methylbenzylamine with 1-heptene catalyzed by $Rh_2(OAc)_4$: a theoretical investigation

Lingli Han, Fei Guan, Zifan Chen, Yaqian Xing, Zitong Meng, Kang Lv and Tao Liu*

This journal is © the Partner Organisations 2025

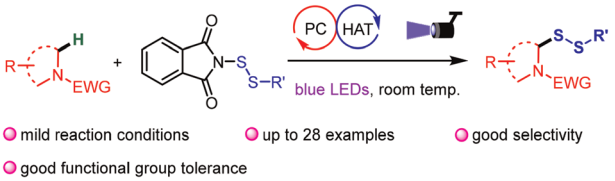
Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

2286

Visible-light induced direct C(sp^3)–H bond disulfidation of saturated N-heterocycles through a hydrogen atom transfer (HAT) process

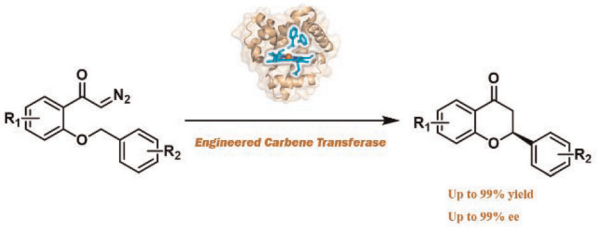
Junlei Wang,* Guocheng Gao, Chengcheng Shi, Han Gao, Ji Luo, Guofen Wei, Daohai Zhang, Hongqing Li, Tonghao Yang* and Binbin Huang*



2292

Stereoselective construction of chiral flavanones *via* enzymatic intramolecular C(sp^3)–H activation

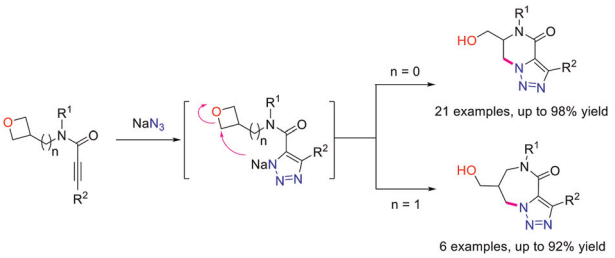
Hanzi Gao, Edgar Africano Camargo, Jude N. Ubi, Xiuyuan Duan, Guojun Zheng,* Shuaihua Gao* and Qipeng Yuan*



2299

A transition-metal-free azide–alkyne cycloaddition/oxetane ring opening cascade reaction for the construction of hydroxymethyl decorated triazole-fused piperazin-2-ones and [1,4]diazepin-4-ones

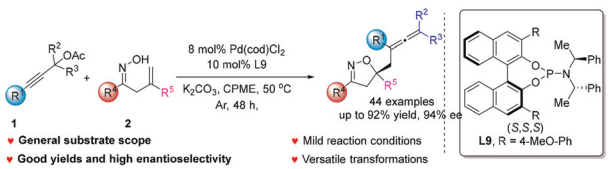
Cong Fu, Mingjin Xu, Qicai Ma, Wenjing Wang, Shanyue Li, Qingjie Zhao* and Wei Zhou*



2305

Enantioselective synthesis of isoxazolines bearing allenes by palladium-catalyzed carboetherification of β,γ-unsaturated ketoximes with propargylic acetates

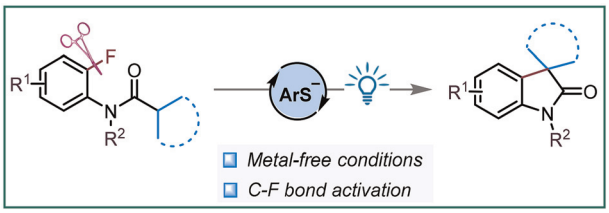
Feifei Jin, Cangzhu Hu, Shuaijie Wu, Guodong Zhang, Ying Han, Chao-Guo Yan, Wenbo Li,* Chaoshen Zhang* and Lei Wang*



Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

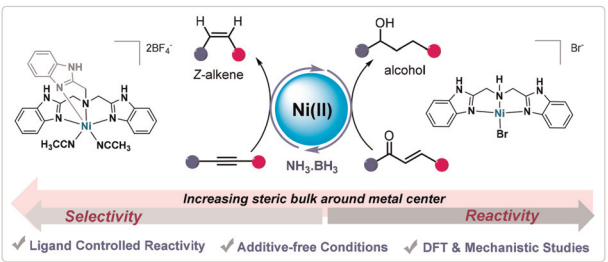
2314



Arenethiolate-catalyzed C_{aryl}–F bond activation: synthesis of oxindoles

Shengyun Liu, Mingying Li, Wei Xiao* and Jie Wu*

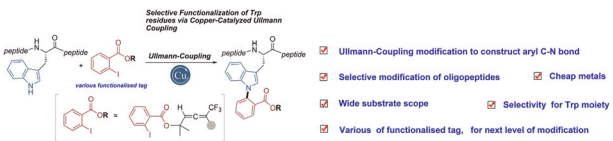
2321



Ligand-modulated phosphine-free Ni(II) complexes for *Z*-selective semi-transfer hydrogenation of alkynes and dual transfer hydrogenation of α,β-unsaturated ketones using ammonia borane

Tanmoy Kumar Ghosh, Anirban Sau, Divya Mahapatra and Sabuj Kundu*

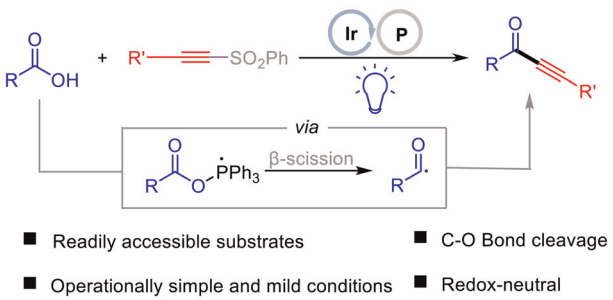
2332



Selective functionalization of Trp residues *via* copper-catalyzed Ullmann coupling

Xinru Liang, Junjie Shi, Qiuju Zhong, Lai Li, Yutao Liu, Tong Sun, Junxi Liang, Xianying Shi, Gaoqiang Li and Mingyu Yang*

2340



Photoredox catalytic phosphine-mediated deoxygenative alkynylation of carboxylic acids with alkynyl sulfones for alkynone synthesis

Wen-Huan Tang, Li-Yuan Wu, Quan-Quan Zhou* and Jie-Ping Wan*

This journal is © the Partner Organisations 2025

Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

2346

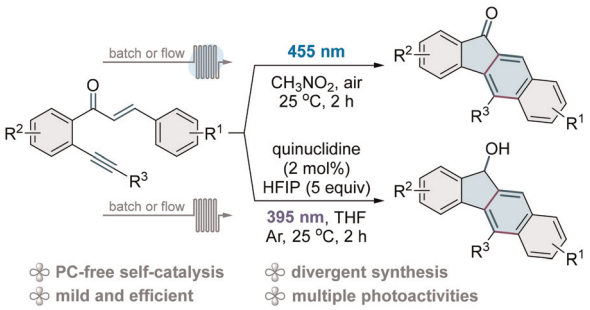
Water mediated synthesis of dialkylphosphine oxides from white phosphorus and *N*-(acyloxy) phthalimides

Guo Tang,* Xuanlin Zhu, Jiali He, Yan Liu and Yufen Zhao

2352

Self-photocatalysis with multiple activities: divergent synthesis of benzo[*b*]fluorenones and benzo[*b*]fluorenols from enone-ynes

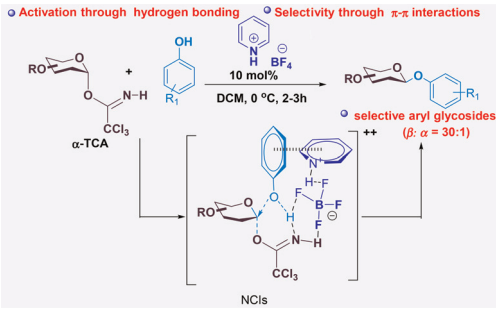
Jifu Shi, Qingyao Sun, YunLing Gao, Yongqin Hu, Weili Li, Binbin He, Shulin Gao,* Shaoguang Sun* and Deqiang Liang*



2362

Exploiting π and hydrogen bonding interactions of a strain-free pyridinium tetrafluoroborate salt for stereoselective synthesis of *O*-aryl glycosides

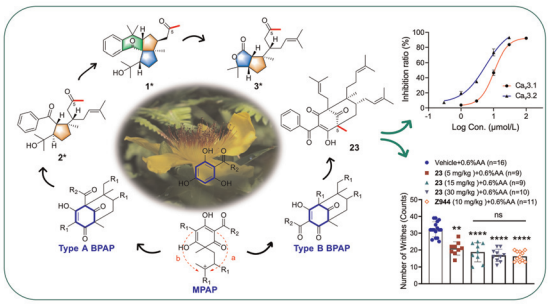
Anjali Aghi, Sankar Sau and Amit Kumar*



2375

5-Methylated polyprenylated acylphloroglucinol derivatives as low-voltage-gated Ca^{2+} channel inhibitors

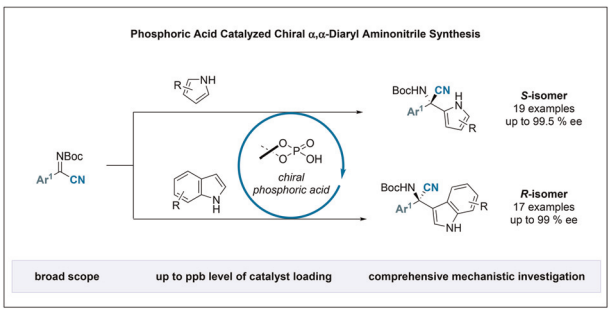
Ya-Li Hu, Ding Dong, Jian-Jun Zhao, Kun Hu, Ling-Mei Kong, Yun-Xia Hu, Xing-Ren Li, Song-Yu Li, Yin Nian* and Gang Xu*



Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

RESEARCH ARTICLES

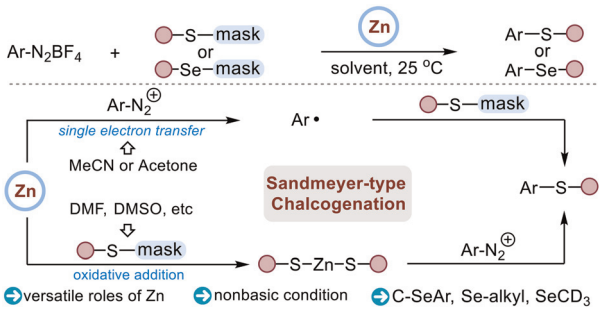
2382



Enantioselective modular synthesis of α-aryl-α-heteroaryl aminonitriles with parts per million organocatalyst loading: mechanistic investigation for stereochemical origins

Yusuke Oyamada, Kaito Ishikawa, Tsunayoshi Takehara, Takeyuki Suzuki and Shuichi Nakamura*

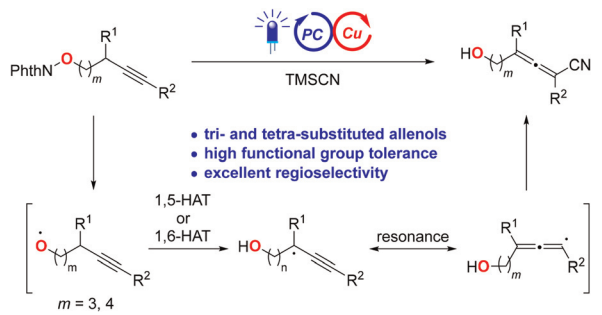
2393



Zn-promoted Sandmeyer-type reductive chalcogenation of (hetero)aryl diazonium salts

Qiujin Fan, Yanchuang Zhao, Junhong Wang, Ying Bai, Shengbin Zhou* and Xinxin Shao*

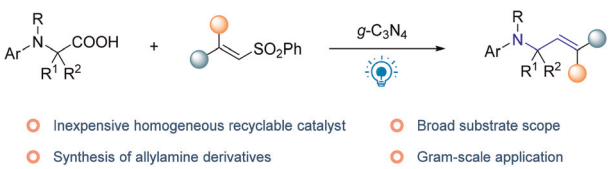
2401



Photoredox copper-catalyzed regioselective syntheses of allenols *via* HAT-mediated propargyl radical generation

Wenyao Li, Hao Yu* and Shengming Ma*

2409



Recyclable g-C_3N_4 catalyzed decarboxylative alkenylation of *N*-aryl glycines with vinyl sulfones under visible-light irradiation

Chengjie Guo, Guozhi Zhao, Yabiao Feng, Dong Chen, Teck-Peng Loh,* Dongping Wang* and Zhenhua Jia*

This journal is © the Partner Organisations 2025

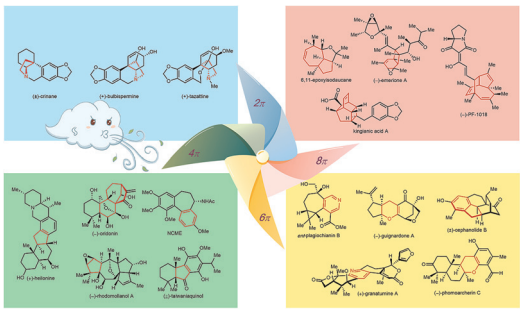
Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

REVIEWS

2415

Recent advances on electrocyclic reactions in complex natural product synthesis: an update

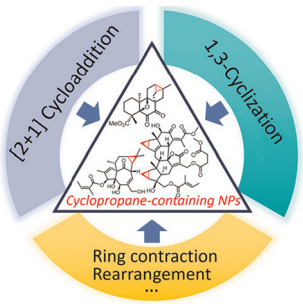
Ruyi Chen, Yanlin Liu and Hanfeng Ding*



2439

Total synthesis of cyclopropane-containing natural products: recent progress (2016–2024)

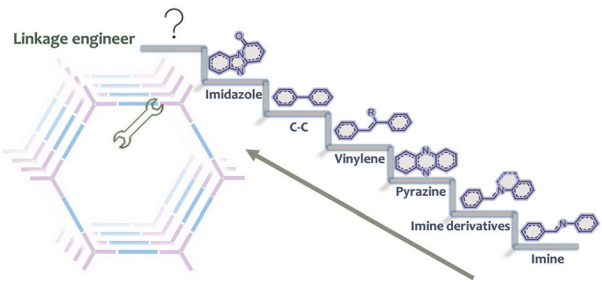
Neng Wang, Jin-Xin Zhao and Jian-Min Yue*



2457

Advances in synthetic strategies for two-dimensional conjugated polymers

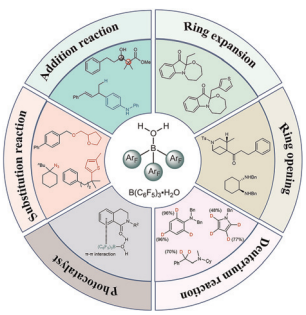
Ruyan Zhao, Guoqin Liu, Philomène Leonore Koko, Mingchao Wang* and Xinliang Feng*



2481

Organic reactions catalyzed by the Brønsted acid $B(C_6F_5)_3{\cdot}H_2O$

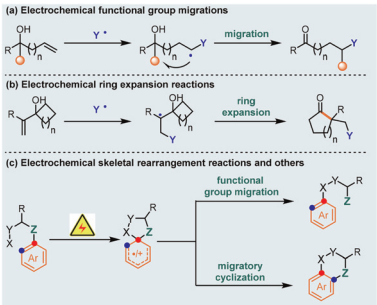
Tianwei Liu



Open Access Article. Published on 25 March 2025. Downloaded on 12/12/2025 9:26:35 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

REVIEWS

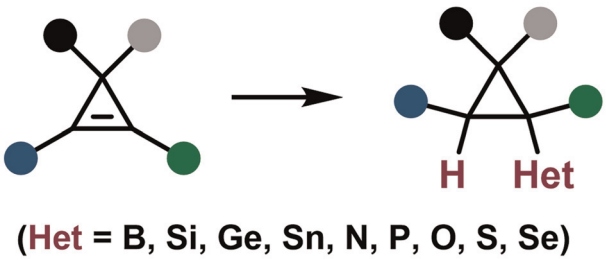
2499



Recent progress in electrochemical rearrangement reactions

Zhaojiang Shi,* Chao-Yan Wen, Li-Xue Yang, Jianan Li* and Xiaoxia Sun*

2525



Recent advances in hydrofunctionalisation of cyclopropenes *via* carbon–heteroatom bond formation

Jorge García-Lacuna, Gema Domínguez, Ángel Manu Martínez* and Javier Pérez-Castells*

CORRECTION

2552

Correction: A visible light-mediated three-component strategy based on the ring-opening of cyclic ethers with aryldiazoacetates and nucleophiles

Mateus L. Stivanin, Rafael D. C. Gallo, João Paulo M. Spadeto, Rodrigo A. Cormanich and Igor D. Jurberg*

This journal is © the Partner Organisations 2025