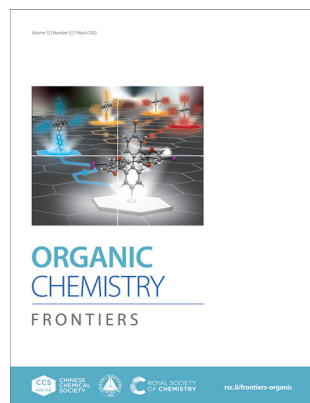


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ISSN 2052-4129 CODEN OCFRA8 12(5) 1377-1710 (2025)



Cover

See Marcel Mayor *et al.*,
pp. 1399–1408.

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EDITORIAL

1390

Organic Chemistry Frontiers Outstanding Paper Awards 2014–2023

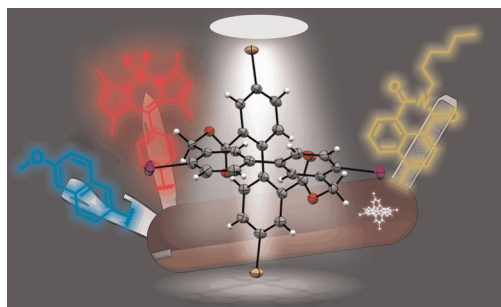


RESEARCH ARTICLES

1399

A cross-shaped organic framework: a multi-functional template arranging chromophores

Camiel C. E. Kroonen, Adriano D'Addio,
Allesandro Prescimone, Daniel Häussinger and
Marcel Mayor*



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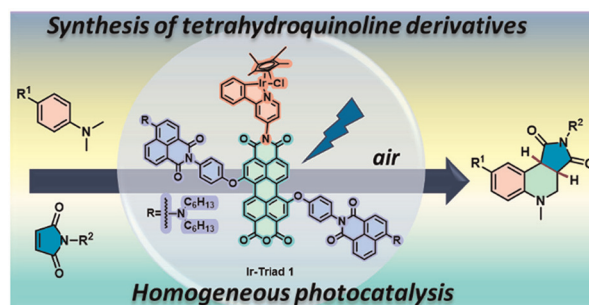
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RESEARCH ARTICLES

1409

Multichromophoric perylene–iridium triad as a homogeneous photocatalyst for the efficient synthesis of tetrahydroquinoline derivatives

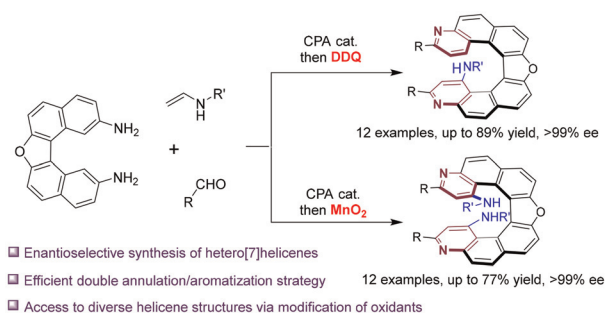
Anita Kumari and Sanchita Sengupta*



1417

Diverse enantioselective synthesis of hetero[7]helicenes via an organocatalyzed double annulation strategy

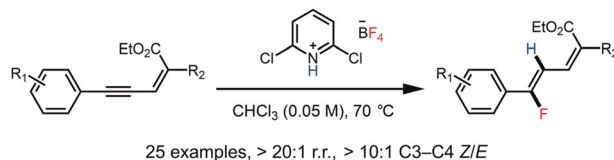
Tianren Qin, Wansen Xie, Wei Liu and Xiaoyu Yang*



1425

Access to fluorinated dienes through hydrofluorination of 2-En-4-ynoates

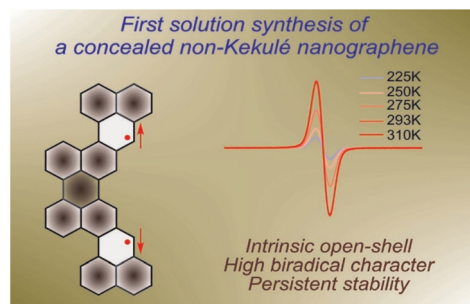
Yue Xia, Aaron D. Charlack, Rui Guo, Nicholas W. Wade and Yi-Ming Wang*



1432

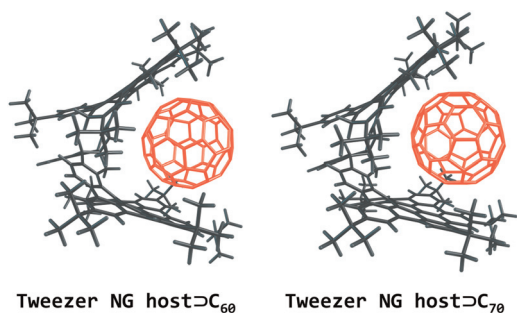
A persistent concealed non-Kekulé nanographene: synthesis and *in situ* characterization

Muhammad Imran, Lin Yang, Jin-Jiang Zhang, Zhen-Lin Qiu, Yubin Fu, Noel Israel, Evgenia Dmitrieva, Andrea Lucotti, Gianluca Serra, Matteo Tommasini, Ji Ma* and Xinliang Feng*



RESEARCH ARTICLES

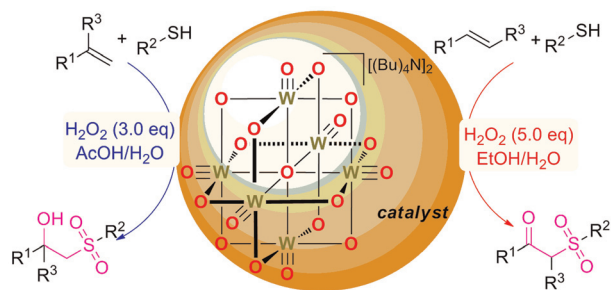
1438



All-carbon supramolecular complexation of a bilayer molecular nanographene with [60] and [70]fullerenes

Manuel Buendía, Anton J. Stasyuk, Salvatore Filippone, Miquel Solà* and Nazario Martín*

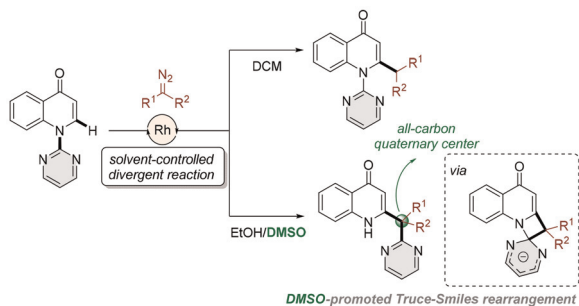
1444



Modular synthesis of β -oxygen-containing sulfones from alkenes through hexatungstate-catalyzed cascade hydroxysulfenylation/selective oxidation

Jiaoxiong Li, Zhibin Zhou, Xianghua Zeng* and Yongge Wei*

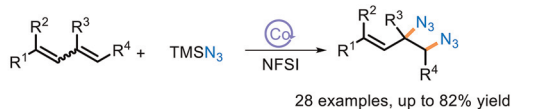
1452



Solvent-controlled catalytic divergent C–H alkylation of quinolones driven by unusual DMSO-promoted 1,3-heteroarene migration

Ye Lim Kim, Yuri Yun, Seoung-Mi Choi and Ju Hyun Kim*

1461



•Mild conditions •Readily available substrates •High regio- and stereoselectivity

Cobalt-catalyzed regioselective diazidation of 1-aryl-1,3-dienes enabled by a single electron transfer/radical addition/group transfer relay process

Chi-Fan Zhu, Jun-Ju Mai, Xiao-Jing Li, Mingyuan Shi, Xiasen Dong, Huinan Fu, Mei-Hua Shen and Hua-Dong Xu*

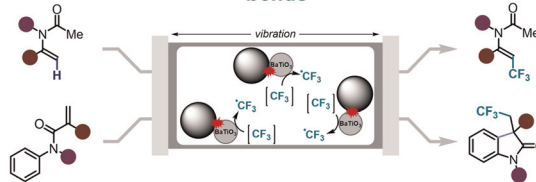


RESEARCH ARTICLES

1467

Ball-milling and piezoelectric materials enabled radical trifluoromethylation of enamides and acrylamides

Vitalii Solomin, Matthias Liard, Philippe Jubault* and Thomas Castanheiro*

Mechanochemical trifluoromethylation of C–C double bonds

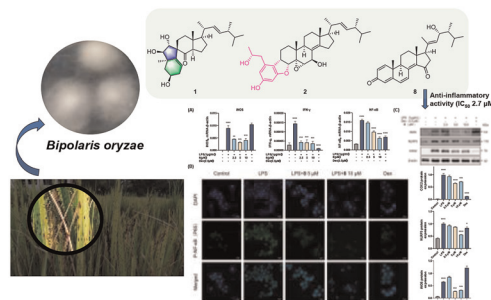
29 examples, up to 88% yield

- Ball-milling-mediated trifluoromethylation
- 1.0 equiv. of piezoelectric materials
- Sustainable synthesis
- Practical protocol
- Minimal amount of solvent

1474

Bipolarsterol A, a steroid with an unprecedented 6/5/6/5 carbon skeleton from the phytopathogenic fungus *Bipolaris oryzae*

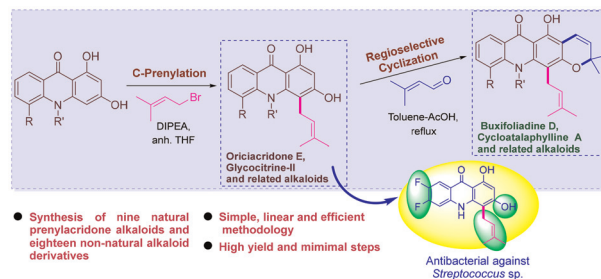
Meijia Zheng, Xiaotian Zhang, Xinran Zhang, Yingjie Liu, Qin Li, Lidan Mao, Weiguang Sun, Chunmei Chen,* Yonghui Zhang* and Hucheng Zhu*



1485

Synthesis and antibacterial evaluation of prenylacrindone alkaloids and their analogues

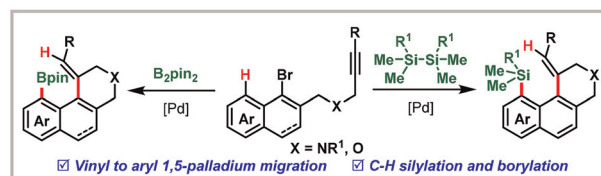
Shilpi Karmakar, Kousik Maji, Sudeshna Mondal, Semantee Bhattacharya and Jyotirmayee Dash*



1491

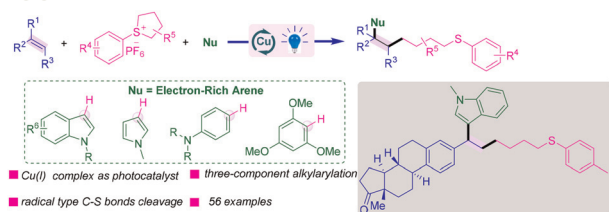
C–H silylation and boronation enabled by alkyne insertion/vinyl to aryl 1,5-palladium migration

Zhendong Cheng, Weiwei Xu, Xuliang Tan, Zhengrui Zhou, Liwei Zhou,* Yun Liang* and Yuan Yang*



RESEARCH ARTICLES

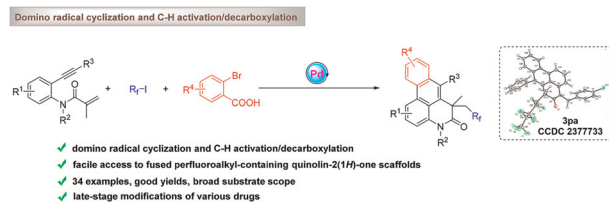
1498



Photoinduced copper-catalyzed three-component alkylarylation of alkenes involving C–S bond cleavage of sulfonium salts

Hui Chen, Xuan Shang, Nan Jiang, Quan Zhou, Ke-Wen Tang, Long-Jin Zhong* and Yu Liu

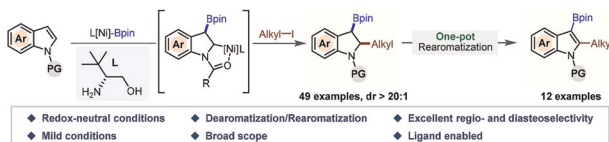
1506



Palladium-catalyzed decarboxylative domino synthesis of fused quinolin-2(1H)-one scaffolds containing a perfluoroalkyl unit

Shuwei Li, Linqi Wang, Shangyuan Wang and Jun Ying*

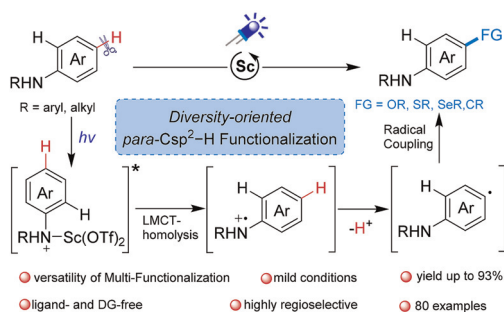
1513



Amino alcohol ligand-enabled Ni-catalyzed regio- and diastereoselective dearomative borylalkylation of indoles

Jiaxin Wang, Xuelong Zhang, Aichen Li, Rui He, Surong Zhang, Xiangyue Li, Lanlan Zhang,* Guodong Ju and Chao Wang*

1521



LMCT-homolysis-enabled C–H functionalization of arylamines

Qiping He, Wenxin Yan, Xianglin Yu, Xinxiang Huang, Chang Liu, Yinchun Jiao* and Yi Jin*

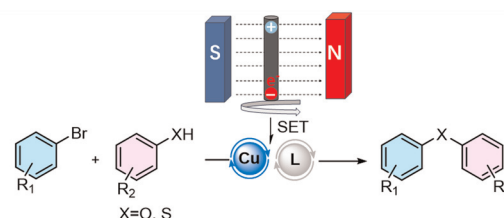


RESEARCH ARTICLES

1528

Electromagnetic milling promoted mechanochemical copper-catalyzed C–O coupling reaction for diaryl ether formation

Zhaoxuan Zeng, Zhe Tian, Zhihan Zhang, Hongzhen Sun,* Qing Liu, Lizhi Zhang, Fachao Yan, Zengdian Zhao and Hui Liu*

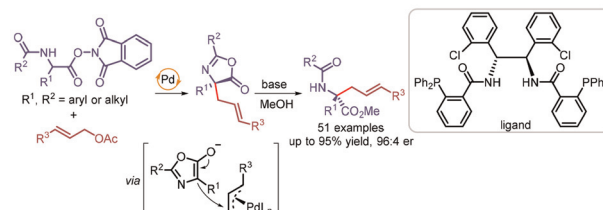


- ★ Solvent-free
- ★ Low catalyst loading
- ★ No additional heating
- ★ 48 examples
- ★ up to 99% yield

1537

Pd-catalyzed asymmetric allylic alkylation of *N*-hydroxyphthalimide esters with allyl acetates

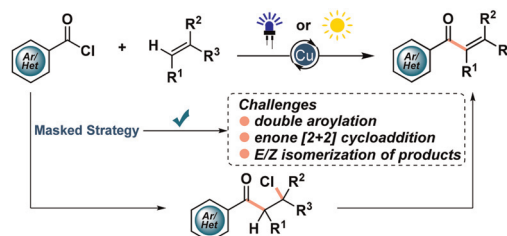
Yixuan Zheng, Xinhao Deng, Fei Zhao, Yuanyuan Peng, Qiongjiao Yan,* Wei Wang,* Fener Chen and Hui Zhou*



1543

Visible-light or sunlight photoredox-catalyzed β -selective acylation of alkenes to access α,β -unsaturated ketones

Xun Yang, Yuxuan Xiao, Ying Yin, Haiyan Li, Jiahui Du, Xin Li, Wengui Duan* and Lin Yu*



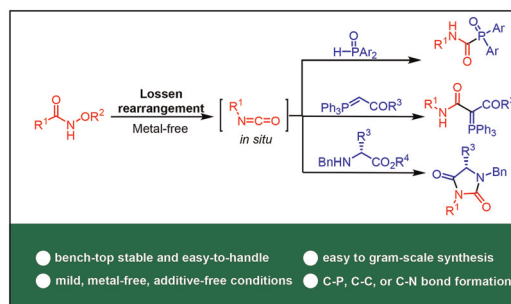
Advantages

- sustainable strategy
- broad substrate scope
- mild reaction conditions
- good regioselectivity
- clean renewable energy
- sunlight, up to 90% yield

1550

Metal-free synthesis of carboxamides via the Lossen rearrangement

Chong Li,* Yi-Fei Liu, Wei Yang, Lian-Jie Zhao, Lin-Yuan Song, Yu-Shuang Deng, Ke-Yu Mou, Jing-Wen Wang, Sheng Cao and Feng Li*

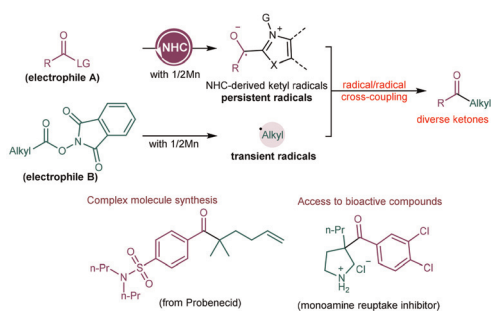


- bench-top stable and easy-to-handle
- mild, metal-free, additive-free conditions
- easy to gram-scale synthesis
- C-P, C-C, or C-N bond formation



RESEARCH ARTICLES

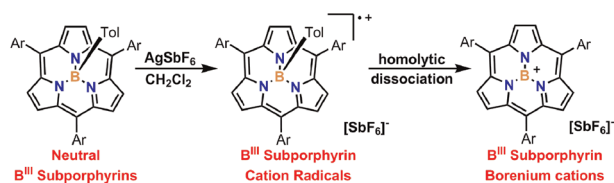
1556



N-heterocyclic carbene-catalyzed decarboxylative cross-electrophile coupling to access sterically hindered ketones

Xiangyu Zhuang, Hao Li, Tingting Wang, Hongyu Wang* and Bo Tang

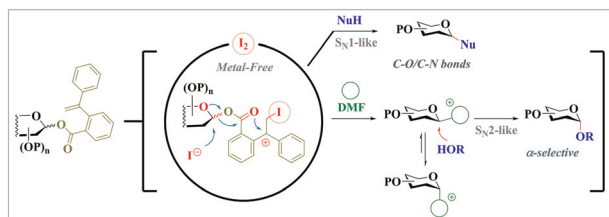
1565



Cation radicals, borenium cations, and a dication from the oxidation of B-tolyl B^{III} subporphyrins

Zixuan Xie, Xiaoheng Ji, Xu Zeng, Daiki Shimizu, Takayuki Tanaka, Yutao Rao, Mingbo Zhou, Ling Xu,* Atsuhiko Osuka* and Jianxin Song*

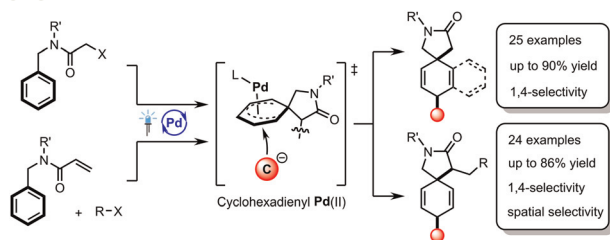
1572



2-(1-Phenylvinyl)benzoic acid as a highly active leaving group for metal-free glycosylation

Qi Dai, Penghua Li,* Yaran Cao, Xiangying Xie, Chen Zhang, Mingyue Zheng* and Haiwei Shen*

1579



Excited Pd-catalyzed dearomative 1,4-dicarbofunctionalization of nonactivated aromatic rings

Kai Jiang, Ziyang Zhao, Xiaodong Yin, Fangjun Chen and Biaolin Yin*

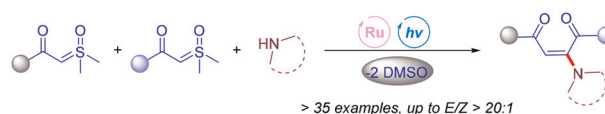


RESEARCH ARTICLES

1586

Visible-light-induced photoredox aerobic coupling of sulfonium ylides and amines leading to the *E*-selective formation of 2-amino-2-butene-1,4-diones

Ning Xian, Xiaochen Ji,* Guo-Jun Deng and Huawen Huang*

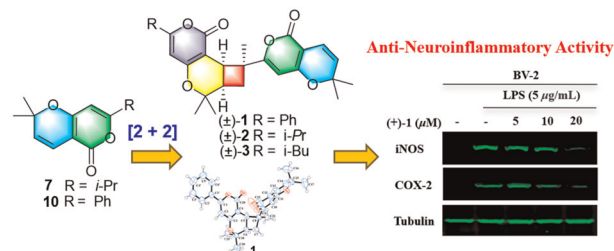


- Readily available feedstocks
- Good *E*-selectivities
- Ambient temperature
- Valuable structural motifs

1593

Six pairs of α -pyrone meroterpenoid dimers from *Hypericum monogynum* with anti-neuroinflammatory activity

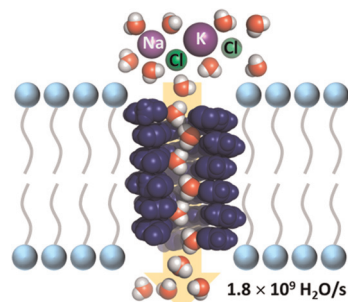
Jun Jin, Yan-Ling Li, Li-Hua Chen, Feng Zhang, Xin-Yu Zuo, Yan-Rong Zeng, Jue Yang,* Xiao-Jiang Hao* and Chun-Mao Yuan*



1603

Superfast and highly selective water transport by hybrid aquapentamers incorporating a non-helicity codon

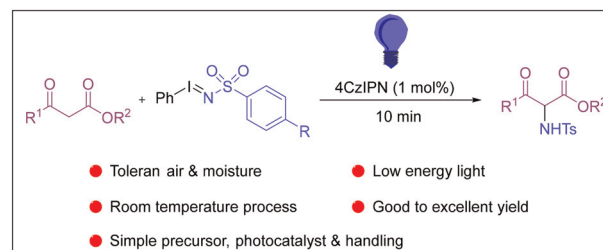
Gaiping Cao, Zihong Yang, Huaiqing Zhao, Jie Shen, Wenju Chang,* Zhiwei Liu* and Huaqiang Zeng*



1612

Intermolecular amination of ethyl benzo yacetate via photocatalytic nitrene transfer reactions

Yujing Guo, Yifan Guo, Luyao Ding, Linlin Shi,* Xinqi Hao* and Rene M. Koenigs*

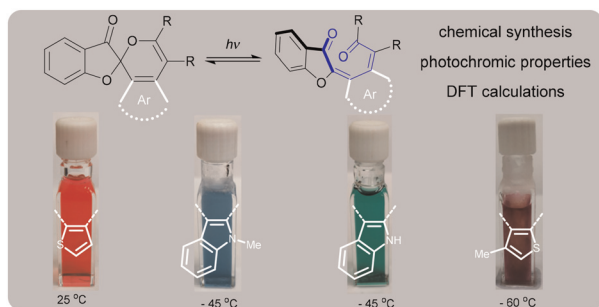


- Tolerant air & moisture
- Room temperature process
- Simple precursor, photocatalyst & handling
- Low energy light
- Good to excellent yield



RESEARCH ARTICLES

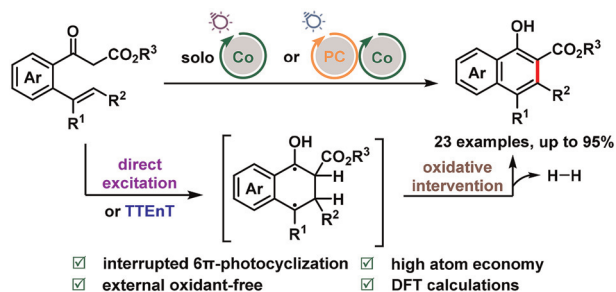
1619



Benzofuranone-based spiropyrans: synthesis, temperature-dependent photochromic properties, and DFT calculations

Xincheng Zhou, Zhichao Chang, Yongchun Hu, Jianming Zhong, Jiaying Liao, Chunying Rong* and Wang Zhou*

1626



Photoinduced Co-catalyzed dehydrogenative cyclization of 2-alkenylphenyl carbonyl compounds and mechanistic insights

Hao-Yuan Li, Xiu-Long Yang,* Fantao Zhou, Jun-Li Li, Qing-Yuan Meng* and Xiaoying Niu*

REVIEWS

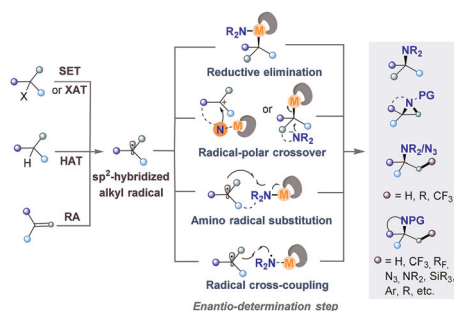
1633



Remodelling molecular frameworks via atom-level surgery: recent advances in skeletal editing of (hetero)cycles

Rubal Sharma, Mitsuhiro Arisawa, Shinobu Takizawa* and Mohamed S. H. Salem*

1671



Recent advances in enantioselective construction of C–N bonds involving radical intermediates

Jiaqiong Sun, Guangfan Zheng, Ge Zhang, Yan Li* and Qian Zhang*



1695

Recent advances in visible light-driven phosphine-mediated transformations

Jiaxu Feng, Luca Nicchio, Liting Liu, Yingying Wu, Kui Lu,* Stefano Protti* and Xia Zhao*

