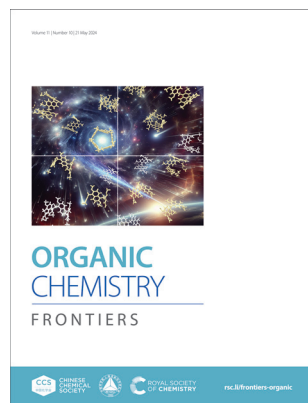


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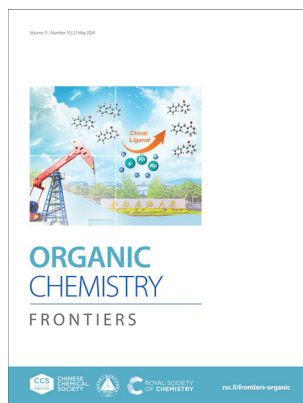
ISSN 2052-4129 CODEN OCFRA8 11(10) 2697–2982 (2024)



#### Cover

See Silvano Geremia, Carmine Gaeta *et al.*, pp. 2710–2719.

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#### Inside cover

See Pher G. Andersson, Taigang Zhou *et al.*, pp. 2934–2953.

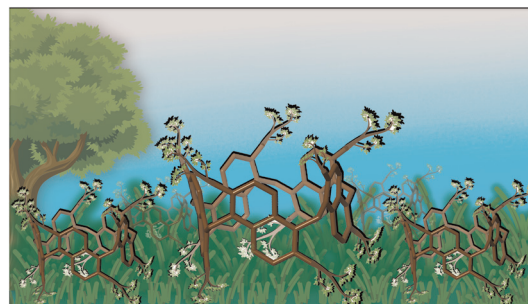
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### RESEARCH ARTICLES

2710

#### Synthesis, conformational properties, and molecular recognition abilities of novel prism[5]arenes with branched and bulky alkyl groups

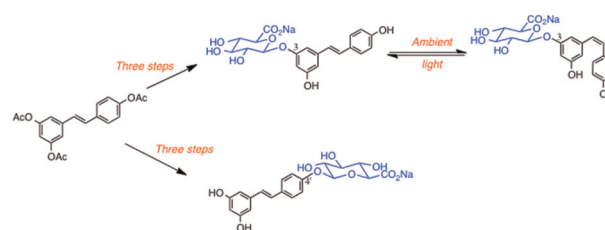
Rocco Del Regno, Paolo Della Sala, Ivan Vollono, Carmen Talotta, Placido Neri, Neal Hickey, Siddharth Joshi, Silvano Geremia\* and Carmine Gaeta\*



2720

#### Convenient syntheses of *trans*-resveratrol 3-*O* and 4'-*O*- $\beta$ -D-glucuronides and a study of their aqueous stability

Megan K. Fraser, Aleksandra Gorecka, Edwin A. Yates, Jonathan A. Iggo, Krzysztof Baj and Andrew V. Stachulski\*



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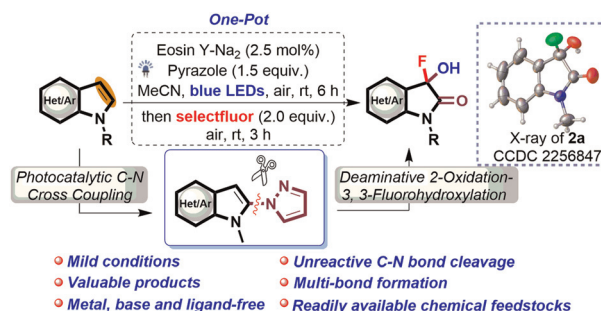
[rsc.li/icm](https://rsc.li/icm)

## RESEARCH ARTICLES

2727

### Platform for 3-fluoro-3-hydroxyoxindoles: photocatalytic C–N cross-coupling and deaminative oxidation–fluorohydroxylation

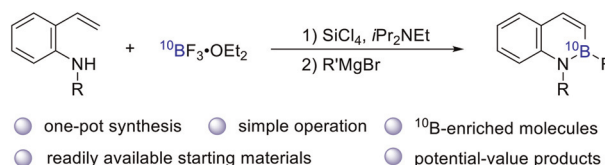
Letian Zhang, Yibin Wang, Jiabin Shen, Hao Xu and Chao Shen\*



2733

### Synthesis of <sup>10</sup>B-enriched 2,1-borazonaphthalenes from o-aminostyrenes and <sup>10</sup>BF<sub>3</sub>

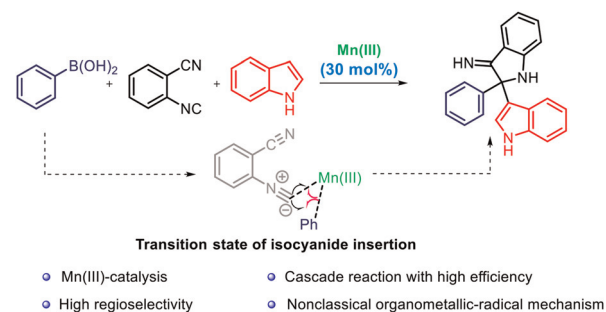
Weihua Qiu, Jide Zhu, Rencai Tao, Kai Yang\* and Qiuling Song\*



2739

### A Mn(III)-catalyzed arylboronic acid-based cascade reaction via a nonclassical organometallic-radical mechanism

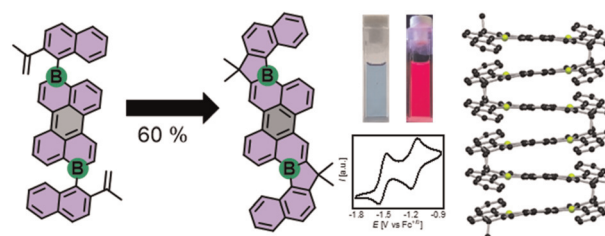
Hui-Min Qian, Jian-Dong Zhang, Shun-Jun Ji\* and Xiao-Ping Xu\*



2747

### Synthesis of a helical boron-doped PAH by post-functionalization of 3,9-diboraperylene

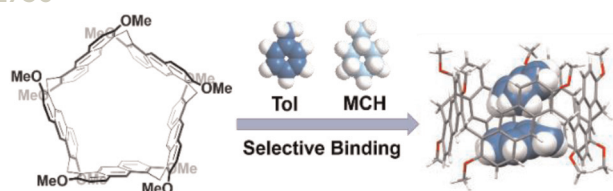
Carina Mützel, Kazutaka Shoyama, Ana-Maria Krause and Frank Würthner\*





## RESEARCH ARTICLES

2756



### Highly selective separation of toluene/methylcyclohexane based on pagoda[5]arene nonporous adaptive crystals

Zhongwen Liu, Ming Li,\* Shuai Fang, Li Shao, Bin Hua\* and Feihe Huang\*

2762

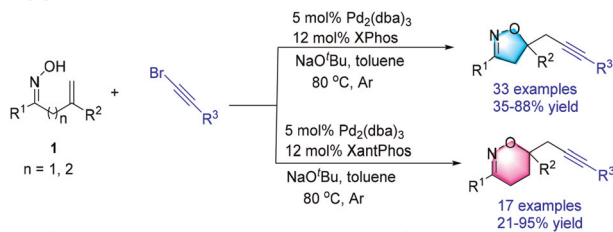


•[4+2] Annulation • Cascade Reduction/Hydroamination/Isomerization • Allenolates as C3 synthons • Gram-Scale

### Concise synthesis of pyrrolo[3,4-c]quinolines via a P(NMe<sub>2</sub>)<sub>3</sub>-catalyzed [4 + 2] annulation followed by a Zn/AcOH-mediated reduction–hydroamination–isomerization

Zhengyang Chen, Dan Xiong, Nengzhong Wang,\* Yufei Zhang, Hui Yao, Jinkun Zhang, Nianyu Huang\* and Kun Zou\*

2768



✓ General substrate scope

✓ Mild reaction conditions

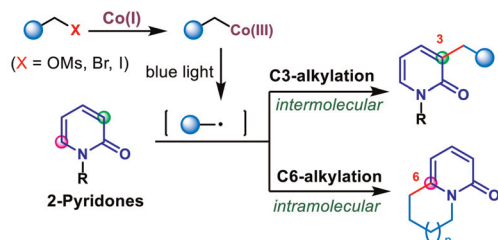
✓ High functional group tolerance

✓ Gram-scale synthesis

### The synthesis of isoxazolines and dihydrooxazines by Pd-catalyzed oxyalkynylation alkenyl oximes with alkynyl bromides

Cangzhu Hu, Shiji Xu, Qiang Wang, Jing Sun, Ying Han, Chao-Guo Yan and Lei Wang\*

2774



◇ Cobalt catalysis ◇ Mild conditions ◇ Broad scope

◇ Selective C-H alkylation ◇ Useful application

### Photoinduced cobalt catalyzed site selective alkylation of 2-pyridones

Chenyue Li, Jing Li, Zibin Jiang, Yiwei Xu, Hujie Xiong, Fei-Long Liu, Tingting Liu,\* Fei Ye\* and Chenggui Wu\*

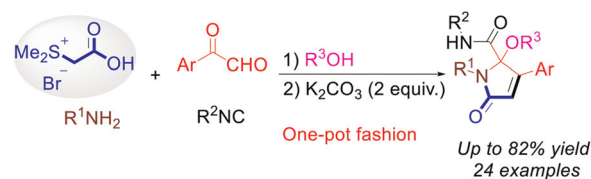


## RESEARCH ARTICLES

2780

**Solvent-involved synthesis of pyrrolidin-5-one-2-carboxamides via a sequential Ugi/olefination reaction**

Na Chen, Tianyu Long, Han-Han Kong,\*  
Zheng-Wei Wu, Qing-Qing Yang, Nianyu Huang and Long Wang\*

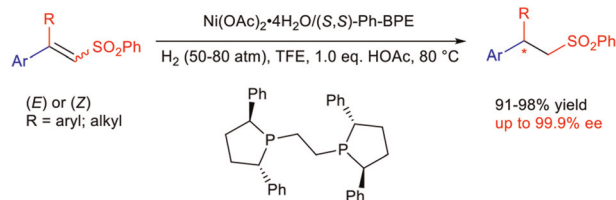


- Tandem reaction
- Solvent involved
- One-pot synthesis
- Carboxymethylated sulfur salts as acids

2786

**Synthesis of chiral sulfones via nickel-catalyzed asymmetric hydrogenation**

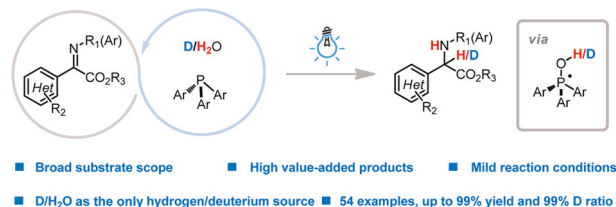
Guiying Xiao, Xiaoxue Wu, Zhangtao Zhou\* and Guohua Hou\*



2793

**H<sub>2</sub>O/D<sub>2</sub>O as the only H/D source for photocatalytic phosphine-mediated radical transfer hydrogenation/deuteration of  $\alpha$ -aryl imino esters**

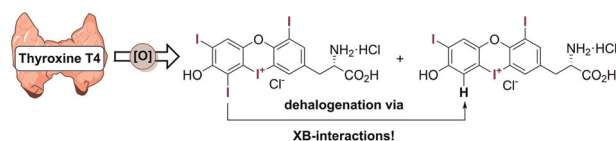
Yao Zhong, Xinhan Li, Xiaohan Zhao, Ruifeng Fan, Jianbin Xu\* and Baomin Fan\*



2800

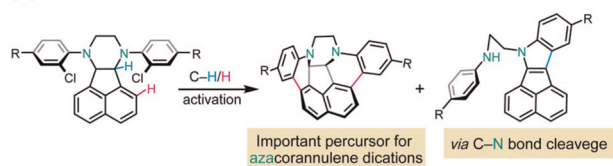
**Oxidative cyclization and enzyme-free deiodination of thyroid hormones**

Julian Spils, Lucien D. Caspers, Pim Puylaert and Boris J. Nachtsheim\*



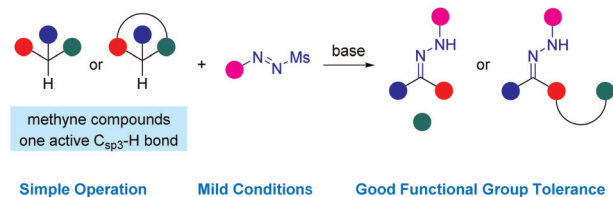
## RESEARCH ARTICLES

2807

**C-H activation-enabled synthesis of a piperazine-embedded azadibenzo[*a,g*]corannulene analogue**

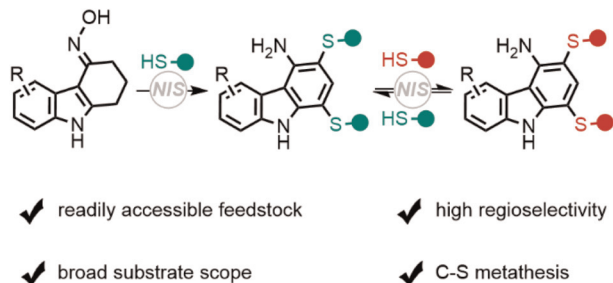
Lin Huang, Mengyu Qiu, Zhihao Chang, Duncan L. Browne and Jianhui Huang\*

2815

**Diazenylation of active methyne compounds via arylazo sulfones**

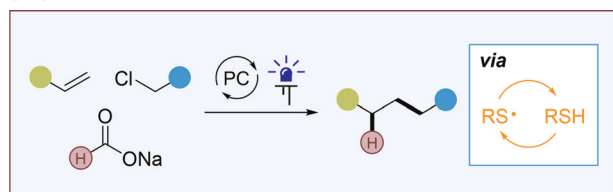
Ruiqing Wang, Lingkai Kong, Xinyu Zong, Minghui Zhang, Wenyi Chen, Yaxin Liu, Lingjuan Ma\* and Yulei Zhao\*

2821

**Synthesis of multisubstituted carbazol-4-amines from tetrahydrocarbazol-4-one oximes**

Jiahua Wang, Dandan Gao, Aanuoluwapo O. Oyejobi, Na Ji, Xiang-Ying Tang\* and Long Wang\*

2829

**Practical photocatalytic hydroalkylation of alkenes with chloroacetates mediated by the formate ion**

Ekaterina V. Malakhova, Vladislav S. Kostromitin, Vitalij V. Levin and Alexander D. Dilman\*

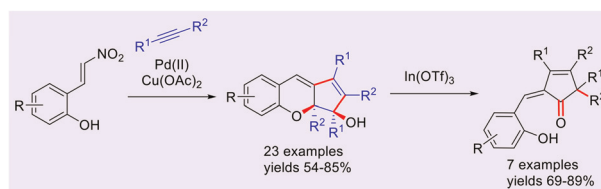


## RESEARCH ARTICLES

2834

### A Pd(II)-catalyzed denitrative alkyne annulation reaction for the synthesis of cyclopenta[*b*]chromanes

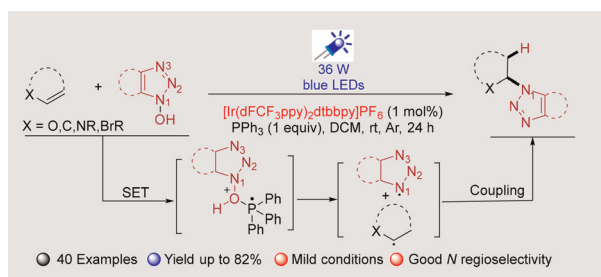
Pratiksha Bhorali, Deep J. Kalita, Babulal Das and Sanjib Gogoi\*



2839

### Photoredox catalyzed hydroazolylation of alkenes via phosphoranyl radicals

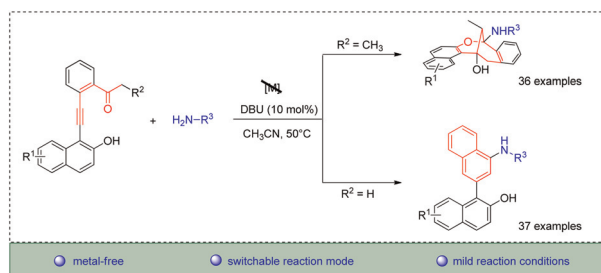
Fan Zhu, Zhi Qiao, Na He, Chunxiao Nong, Qiping He, Meilan Xi,\* Xizhong Song,\* Jun Lin, Jingbo Chen\* and Yi Jin\*



2845

### DBU-catalyzed substitution-controlled synthesis of oxa[3.3.1] bridged ring and naphthylamine derivatives

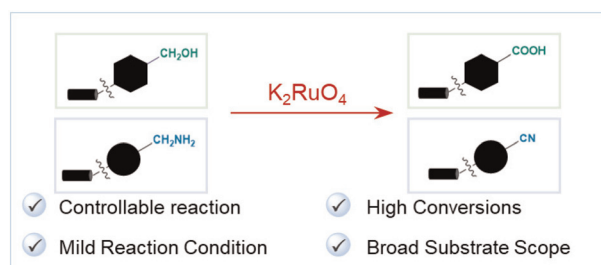
Shiyu Xu, Zhihui Sun, Pengyutian Liu, Yuanlin Wei, Fan Sun, Man Zhao, Ying Wang, Ming Zhang,\* Guofeng Li\* and Hong Liang\*



2851

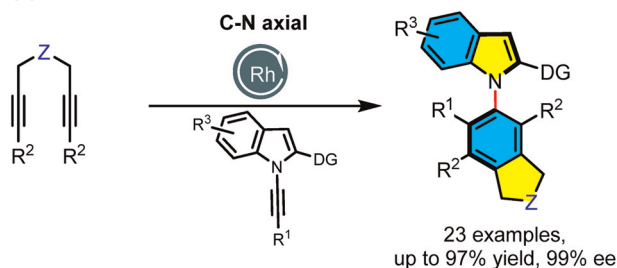
### DNA-compatible functional group transformations via K<sub>2</sub>RuO<sub>4</sub>-mediated oxidation

Pengyang He, Guixian Zhao, Mengping Zhu, Yangfeng Li,\* Gong Zhang\* and Yizhou Li\*



## RESEARCH ARTICLES

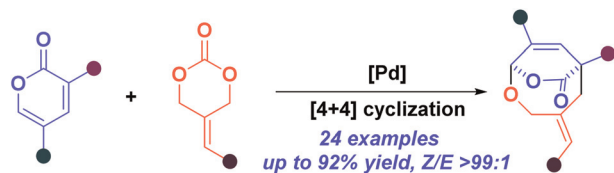
2857



### Neighboring group-directed asymmetric [2 + 2 + 2] cycloaddition to access C–N axially chiral indoles

Xuan Zhang, Qi Teng,\* Yanru Ren, Baitong Wei, Chen-Ho Tung and Zhenghu Xu\*

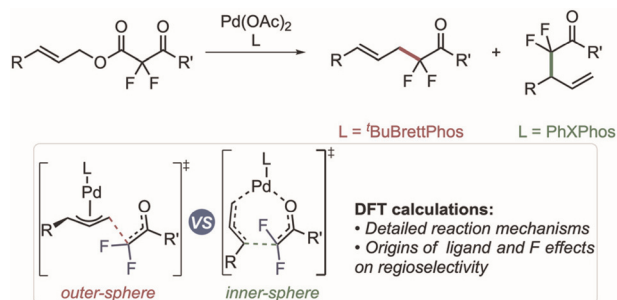
2864



### Palladium-catalyzed [4 + 4] cycloaddition of 2-pyrones with 2-alkyldienetri-methylene carbonates: access to bridged eight-membered oxygen heterocycles

Huawei Lin, Biming Mao, Bing Han, Jiayi Luo, Yanqing Ge, Xuerui Zhang, Chang Wang,\* Hongchao Guo\* and Chunhao Yuan\*

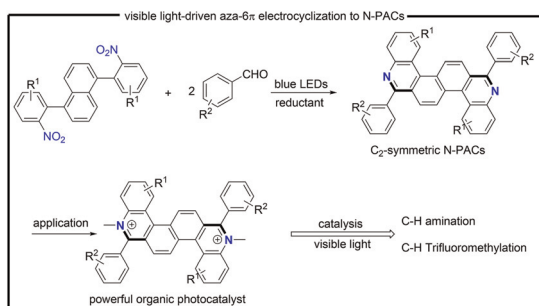
2870



### Computational insights into the synergistic interplay of ligand and fluorine effects in palladium-catalyzed regiodivergent decarboxylative allylic alkylation

Shiyu Wang, Hongli Wu, Xiangyang Tang\* and Genping Huang\*

2884



### Modular synthesis of C<sub>2</sub>-symmetric nitrogen-containing polyaromatics via visible light-enabled reductive aza-6π electrocyclization

Qun-Liang Zhang, Qing-Tian Fan, Yirong Zhou,\* Jingli Zhang\* and Fang-Lin Zhang\*



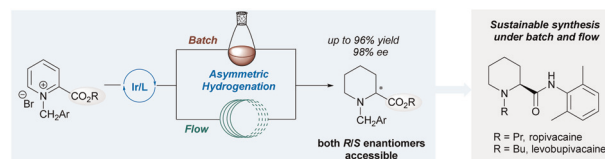


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### Sustainable synthesis of long-acting local anesthetics ropivacaine and levobupivacaine under batch and continuous flow via asymmetric hydrogenation

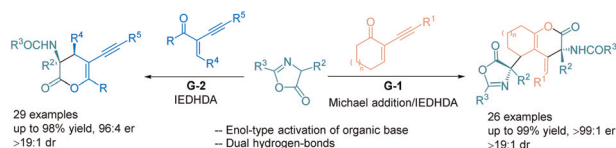
Zhi Yang, Hanlin Chen, Linxi Wan, Xinyi Feng, Lingshuang Ma, Pei Tang\* and Fen-Er Chen\*



2897

### Chiral guanidine catalyzed cyclization reactions of 1,3-enynes for lactone synthesis: switchable H-bond catalysis

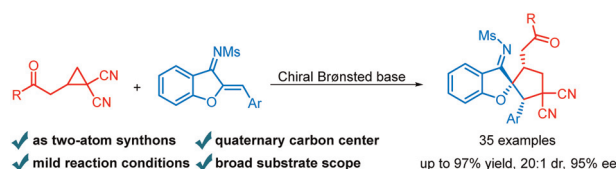
Yongyan Zhang, Lichao Ning, Tianxin Zhu, Zheng Xie, Shunxi Dong, Xiaoming Feng and Xiaohua Liu\*



2905

### Asymmetric [3 + 2] cycloaddition of donor–acceptor cyclopropanes with azadienes enabled by Brønsted base catalysis

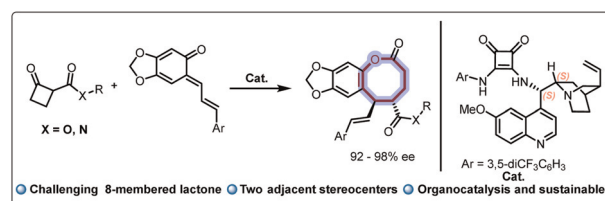
Shu Li, Zhi-Hong Dong, Si-Yu Dan, Mei-Jun Zheng, Teng Long, Jie Zhan, Qing Zhou, Wen-Dao Chu\* and Quan-Zhong Liu\*



2911

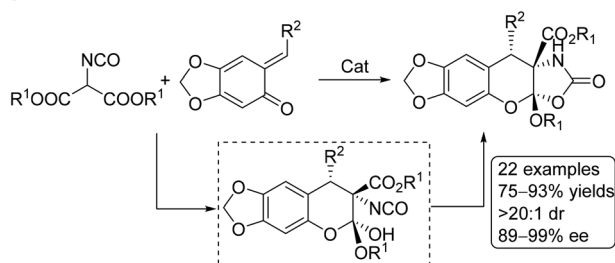
### Enantioselective synthesis of 8-membered lactone derivatives via organocatalytic cascade reactions

Dong-Sheng Ji, Rui Zhang, Xu-Yan Han, Hai-Long Chai, Yucheng Gu, Xiu-Qin Hu and Peng-Fei Xu\*



## RESEARCH ARTICLES

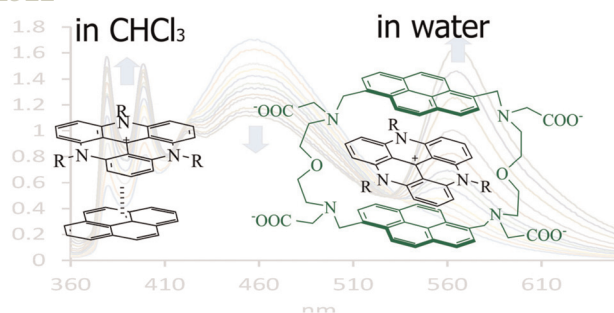
2917



### Organocatalytic formal [4 + 2] cycloaddition of o-quinone-methyl derivatives and 2-isocyanatomalonate diesters for the construction of chroman derivatives with adjacent quaternary chiral centers

Tong Xiong, Yi-Zhao Xu, Yao Wang, You-Cai Xiao\* and Fen-Er Chen\*

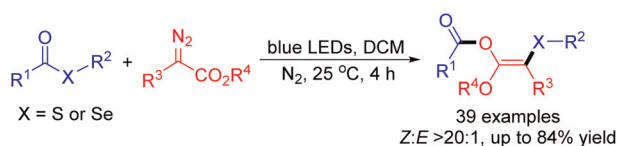
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### Triazatriangulenium salts – hosts and guests in supramolecular assemblies in solution

Sayan Sarkar, Michael Böck, Agnes Uhl, Aleksandr Agafontsev, Jürgen Schatz\* and Evgeny A. Kataev\*

2928

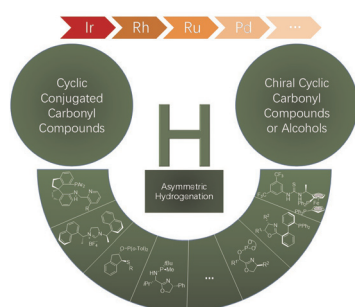


### Blue light-mediated carbene transfer reaction of thioesters with diazoesters: efficient synthesis of tetrasubstituted Z-enol esters

Shuncheng Wang, Hua Zhang, Jin Yang, Dongfang Zhang and Xin-Ping Hui\*

## REVIEWS

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### Recent advances in the metal-catalyzed asymmetric alkene hydrogenation of cyclic conjugated carbonyl compounds

Min Tan, Bram B. C. Peters, Pher G. Andersson\* and Taigang Zhou\*



## REVIEWS

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**Electrochemical switching in mechanically interlocked molecules (MIMs)**

Ayush Bhadani and Murugavel Kathiresan\*

