

# ChemComm

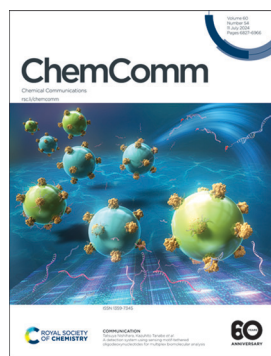
Chemical Communications

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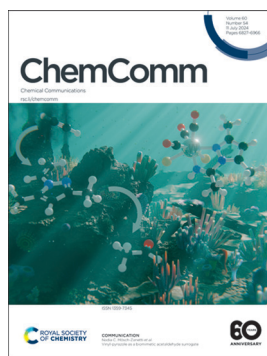
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(54) 6827-6966 (2024)



### Cover

See Tatsuya Nishihara, Kazuhito Tanabe *et al.*, pp. 6059–6062. This image was made by the Science Graphics Co., Ltd. Image reproduced by permission of Tatsuya Nishihara from *Chem. Commun.*, 2024, **60**, 6059.



### Inside cover

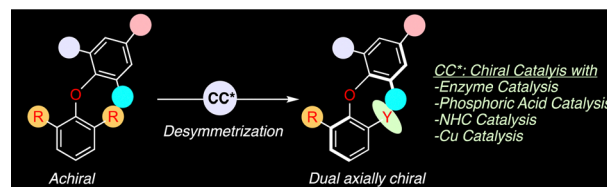
See Nadia C. Mösch-Zanetti *et al.*, pp. 6873–6876. Image reproduced by permission of Nadia C. Mösch-Zanetti from *Chem. Commun.*, 2024, **60**, 6873.

## HIGHLIGHTS

6837

### Evolution in the asymmetric synthesis of biaryl ethers and related atropisomers

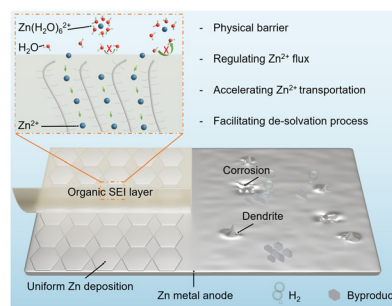
Namrata Kotwal and Pankaj Chauhan\*



6847

### Organic solid–electrolyte interface layers for Zn metal anodes

Ze He, Wei Huang, Fangyu Xiong, Shuangshuang Tan, Tianhao Wu, Rui Wang, Caterina Ducati,\* Michael De Volder\* and Qinyou An\*



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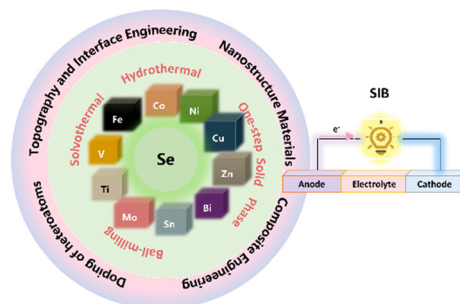
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## FEATURE ARTICLE

6860

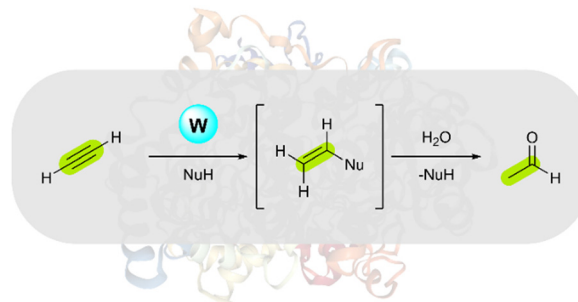
## Towards metal selenides: a promising anode for sodium-ion batteries

Mingjie Liu, Junling Xu, Lianyi Shao, Xiaoyan Shi,\*  
Chunsheng Li\* and Zhipeng Sun\*

## COMMUNICATIONS

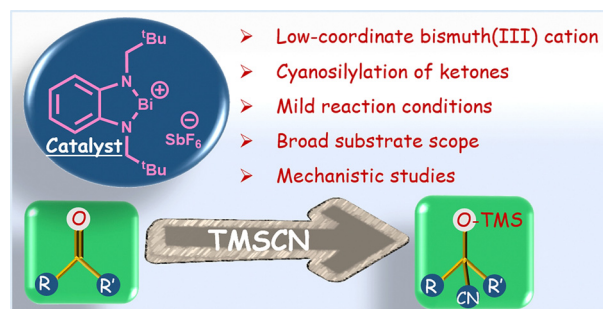
6873

## Vinyl-pyrazole as a biomimetic acetaldehyde surrogate

Lorenz Steiner, Miljan Z. Ćorović, Antoine Dupé and  
Nadia C. Mösch-Zanetti\*

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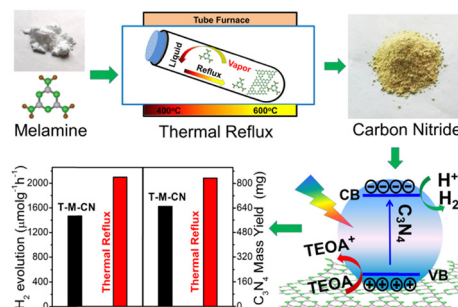
## Synthesis and catalytic application of a donor-free bismuthenium cation

Nilanjana Sen, Pallavi Sarkar, Yadram Meena,  
Srinu Tothadi, Swapan K. Pati\* and Shabana Khan\*

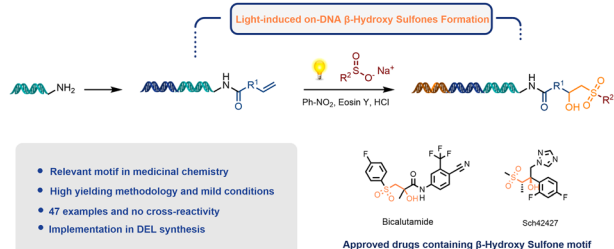
6881

Thermal reflux to synthesise C<sub>3</sub>N<sub>4</sub> nanostructures with high yield and enhanced photocatalytic activity in hydrogen evolution

Yihang He, Mingliang Wu and Kunquan Hong\*



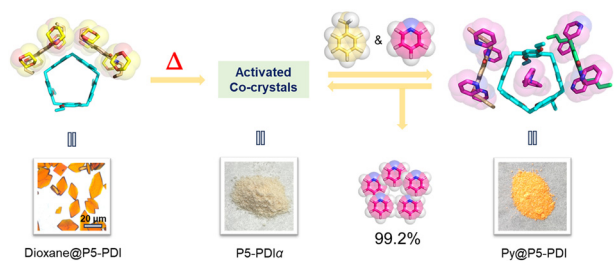
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### Light-induced $\beta$ -hydroxy sulfone synthesis in DNA-encoded libraries

Lijun Xue, Jiaqing Yu, Ying Zhong, Junyun Chen, Chao Li, Kexin Yang, Nicolas Duchemin\* and Yun Jin Hu\*

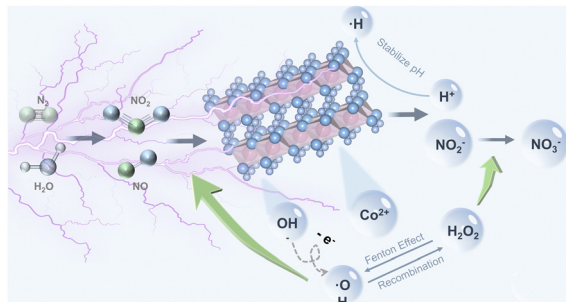
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### Vapo-chromic separation of toluene and pyridine azeotropes using adaptive macrocycle co-crystals

Bin Li,\* Yun Wang, Yuan Wang, Yue Liu, Lu Wang, Zhi-Yuan Zhang and Chunju Li\*

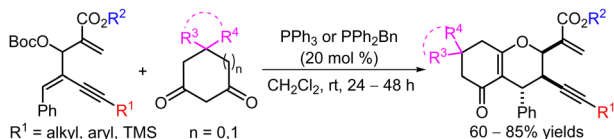
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### Solution plasma-cobalt hydroxide-enabled nitrogen fixation

Yangwenting Ou, Jinglun Du, Changhua Wang,\* Qi Wu, Shuang Liang, He Ma and Xintong Zhang\*

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### Phosphine-catalyzed (3+3) annulation of cinnamaldehyde-derived Morita–Baylis–Hillman carbonates with dinucleophiles

Yue Ren, Wangyu Shi, Yi Tang and Hongchao Guo\*

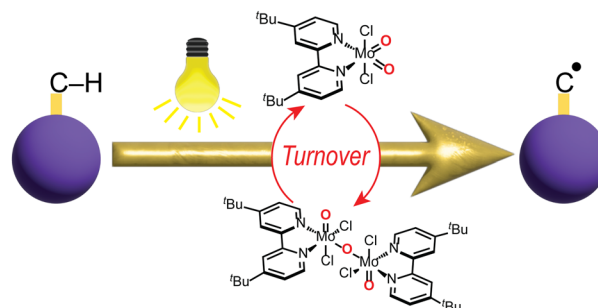


## COMMUNICATIONS

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**Direct photocatalytic C–H functionalization mediated by a molybdenum dioxo complex**

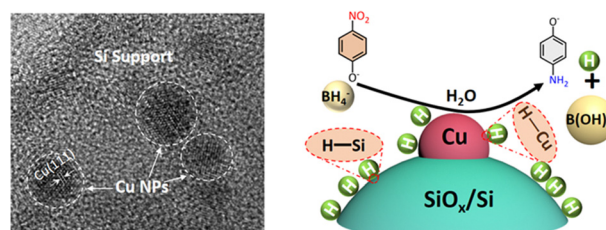
Courtney L. Baumberger, Victoria Z. Valley and Matthew B. Chambers\*



6905

**Facile synthesis of Cu-based catalysts from Cu<sub>3</sub>Si and their catalysis properties study**

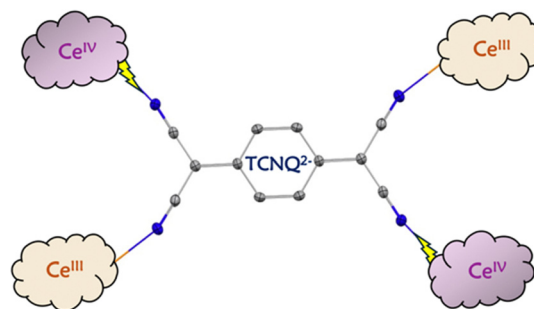
Yonghui Li, Xianhui Liu, Guangfu Zu, Zhiwei Yang, Xiao Huang and Shaozhou Li\*



6909

**Assembly of a trapped valent Ce<sup>III/IV</sup>–TCNQ complex through metal–ligand redox cooperativity**

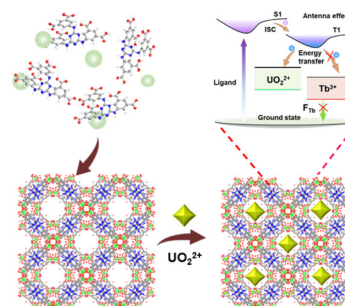
Himanshu Gupta, Brett D. Vincenzini, Alexandra M. Bacon and Eric J. Schelter\*



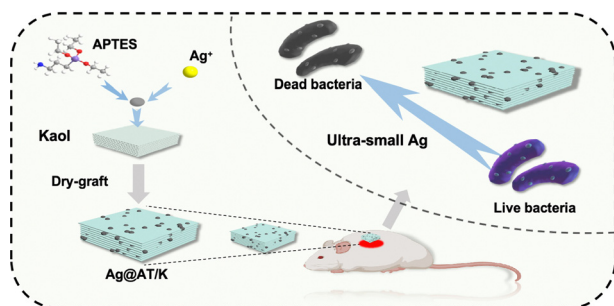
6913

**Site-recognition boosted the sensing performance of terbium-based organic frameworks for UO<sub>2</sub><sup>2+</sup> detection**

Kexuan Li, Yuan-Jun Tong, Qian Liu, Shiyu Peng, Xinying Gong, Dongmei Wang and Zhengjun Gong\*



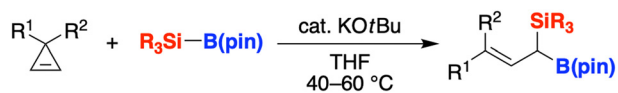
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### Kaolinite-mediated synthesis of ultra-small silver nanoparticles with high antimicrobial activity

Menghan Qu, Menghan Yu,\* Tianqi Liao and Huaming Yang\*

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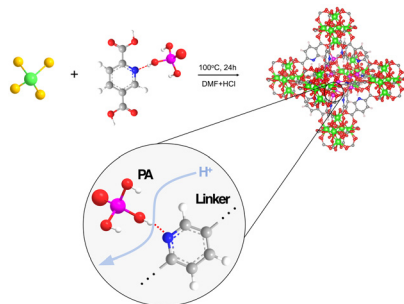


*efficient preparation of dimetalloids  
simultaneous introduction of Si and B functionalities  
mild reaction conditions*

### Synthesis of (1-silyl)allylboronates by KOtBu-catalyzed ring-opening *gem*-silylborylation of cyclopropenes

Ikuya Fujii, Haruka Hirata, Hirokazu Moniwa and Ryo Shintani\*

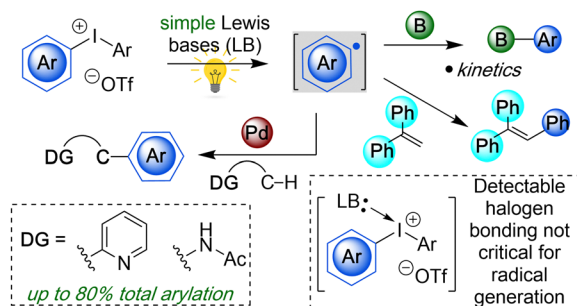
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### Bottom-up synthesis of ion-pair-bridged metal-organic framework for H<sup>+</sup> conduction

Keiichiro Maegawa,\* Hayata Okamoto, Kazuhiro Hikima, Go Kawamura, Atsushi Nagai and Atsunori Matsuda\*

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### Exogenous photocatalyst-free aryl radical generation from diaryliodonium salts and use in metal-catalyzed C-H arylation

Jonathan Galicia, Nicholas R. McDonald, Christopher W. Bennett, Jiajun He, Mark D. Glossbrenner and Erik A. Romero\*

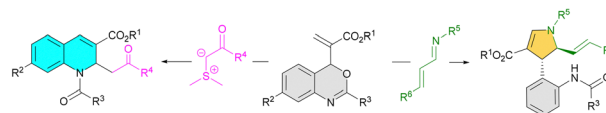


## COMMUNICATIONS

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Catalyst-free reaction of 2-(4*H*-benzo[*d*][1,3]oxazin-4-yl)acrylates: synthesis of 1,2-dihydroquinolines and 2,3-dihydropyrroles

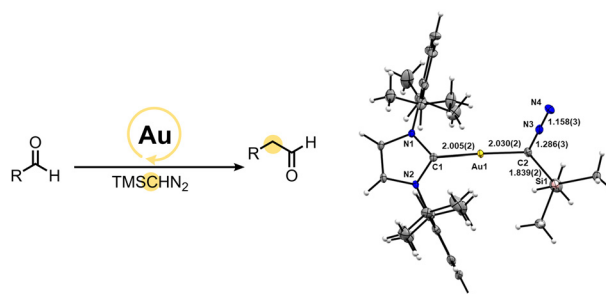
Tao Wang, Zhongyue Lu and Pengfei Li\*



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## Gold(i)-catalyzed homologation of aryl aldehydes with trimethylsilyldiazomethane

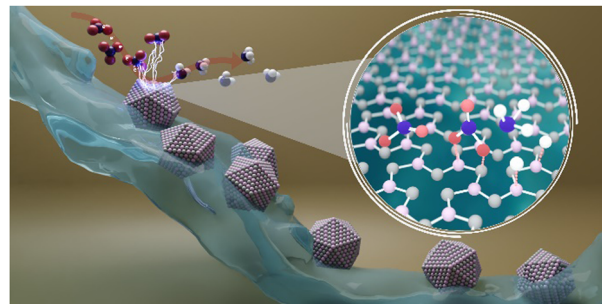
Abolghasem 'Gus' Bakhoda



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Ni<sub>2</sub>P active site ensembles tune electrocatalytic nitrate reduction selectivity

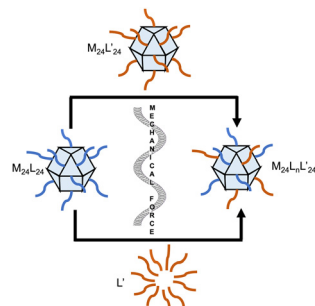
Emily Nishiwaki, Peter S. Rice, Ding-Yuan Kuo, Florence Y. Dou, Anthony Pyka, Bryce Reid, Hao A. Nguyen, Eric M. Stuve, Simone Rauegi and Brandi M. Cossairt\*



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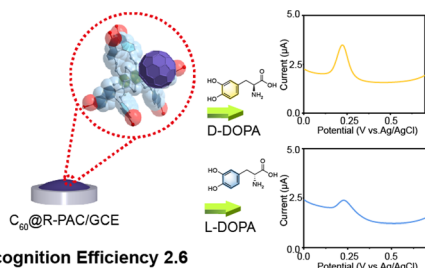
## Solvent-free mechanochemistry for the preparation of mixed-ligand cuboctahedral porous coordination cages

Jahidul Hoq and Eric D. Bloch\*



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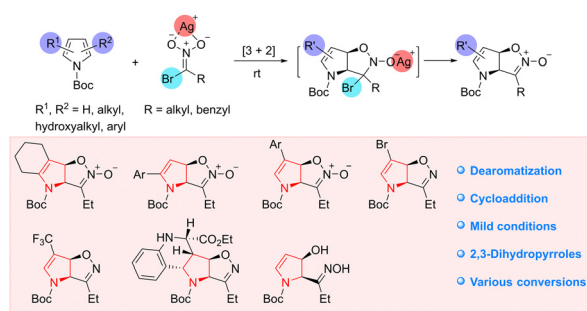
## Electrochemical Sensor



## A porous aromatic cage-based electrochemical sensor for enantioselective recognition of DOPA

Junning Kou, Ziyu Zhu, Jianzhu Jiang, Li Chen, Kunhao Zhang,\* Guogang Shan,\* Xinlong Wang,\* Zhongmin Su and Chunyi Sun\*

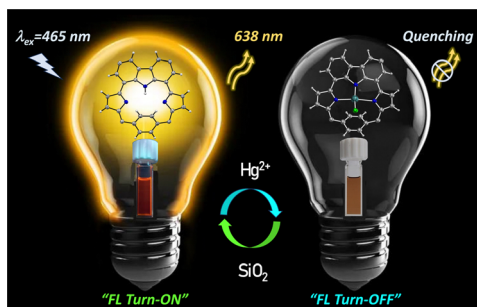
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## Dearomative pyrrole (3+2) reaction with geminal bromonitroalkane: synthesis of 2,3-dihydropyrroles

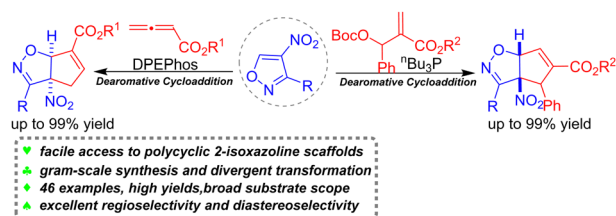
Lin Shi, Lidong Liu, Xingyu Lei, Yihan Wang, Yeguang Fang\* and Peng Jiao\*

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Carbazole-embedded *p*-benzporphyrinoid: synthesis, structure and a reversible chemodosimeter for mercury(II) ions

Athira Naniyil, Naveen Koroth Valappil, Alex P. Andrews and Sabapathi Gokulnath\*

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## Phosphine-catalyzed dearomative [3+2] cycloaddition of 4-nitroisoxazoles with allenates or Morita–Baylis–Hillman carbonates

Yongjun He, Tian-Juan He, Xiufang Cheng, Yibo Wei, Huamin Wang\* and Ying-Wu Lin\*

