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Chemical Communications

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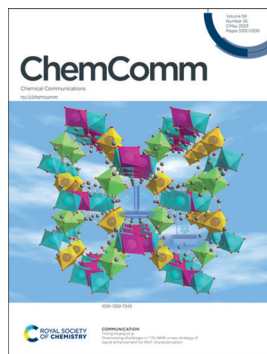
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ISSN 1359-7345 CODEN CHCOFS 59(35) 5133–5300 (2023)



### Cover

See Davin Tan, Richmond Lee *et al.*, pp. 5201–5204. Image reproduced by permission of Richmond Lee from *Chem. Commun.*, 2023, 59, 5201.



### Inside cover

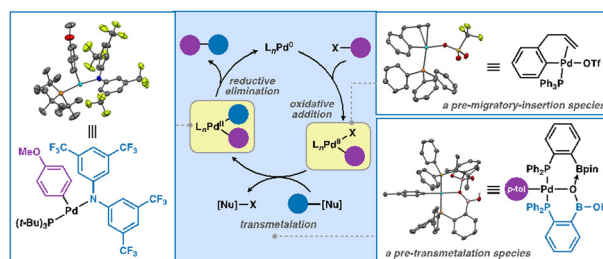
See Yining Huang *et al.*, pp. 5205–5208. Image reproduced by permission of Wanli Zhang from *Chem. Commun.*, 2023, 59, 5205.

## HIGHLIGHT

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### Structural authentication of intermediates of mechanistic significance in palladium- and nickel-catalysed cross-couplings: case studies

Angus Olding, Curtis C. Ho, Debabrata Maiti and Alex C. Bissember\*

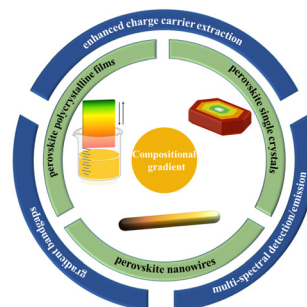


## FEATURE ARTICLES

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### Compositional gradient engineering and applications in halide perovskites

Junyu Li, Zeyao Han, Jiaxin Liu, Yousheng Zou and Xiaobao Xu\*



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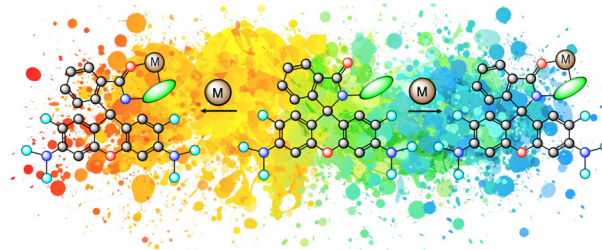


## FEATURE ARTICLES

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## Structure–metal ion selectivity of rhodamine-based chemosensors

Pritam Ghosh and Partha Roy\*

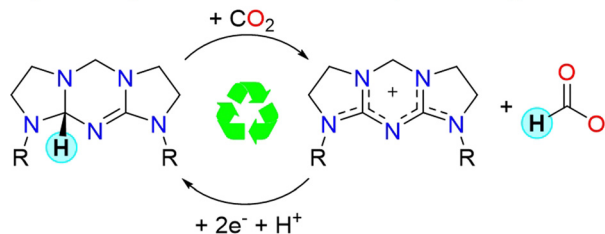


## COMMUNICATIONS

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## Guanidine-based biomimetic hydrides for carbon dioxide reduction

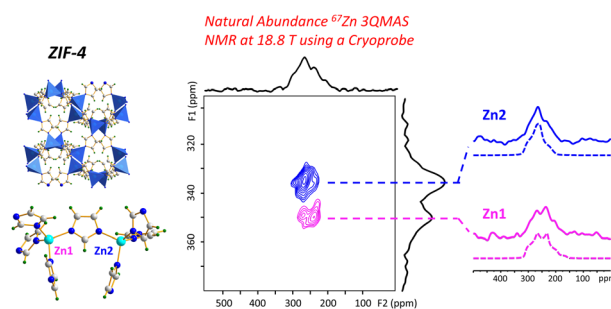
Junbo Chen, Haibo Yu, Davin Tan\* and Richmond Lee\*

Computational study and design of an electrochemically regenerative guanidine-based biomimetic hydride for CO<sub>2</sub> reduction

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Overcoming challenges in <sup>67</sup>Zn NMR: a new strategy of signal enhancement for MOF characterization

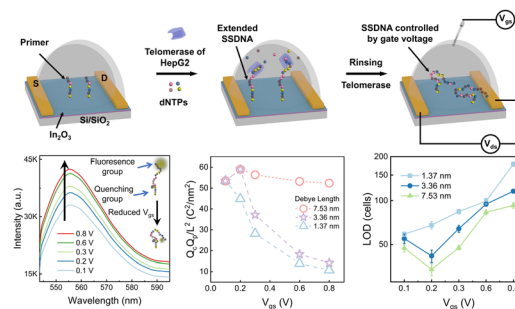
Wanli Zhang, Alia Hassan, Jochem Struppe, Martine Monette, Ivan Hung, Zhehong Gan, Vinicius Martins, Victor Tersikh and Yining Huang\*



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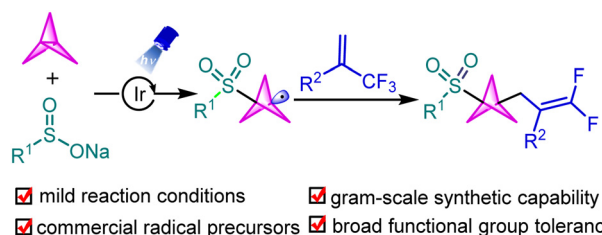
## Gate-voltage-modulated electrostatic interaction between the probe and the channel material of FET biosensors for detecting telomerase

Hongyuan Zhang, Zhi Zheng,\* Zhicheng Zhang, Liang Hai, Haiyang Li, Shenghong Liu, Xiaoding Lou, Tianyou Zhai and Fan Xia



## COMMUNICATIONS

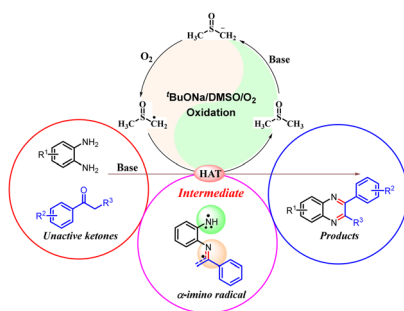
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### Visible light-induced *gem*-difluoroallylation of [1.1.1]propellane to access *gem*-difluoroallylic bicyclo[1.1.1]pentanes

Hui Zhu, Shengxing Wu, Bingbin Zhu, Jiacheng Li, Deyou Lan, Wenhao Xu, Gongcheng Xu, Yu Zhu, Chuanming Yu and Xinpeng Jiang\*

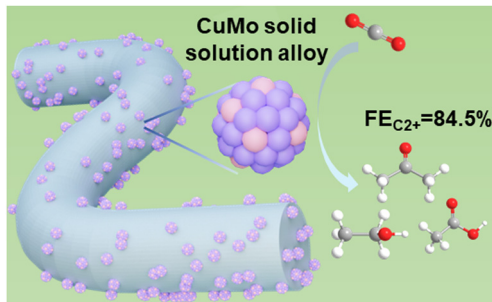
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### DMSO/*t*BuONa/O<sub>2</sub>-mediated efficient syntheses of diverse quinoxalines through $\alpha$ -imino radicals

Chihong Zhang, Zhen Zhang,\* Deliang Wang, Wenkun Wang, Bo Jin, Tao Wen, Lihua Ye, Zhong-Ning Chen and Hu Cai\*

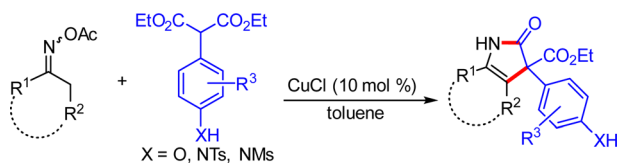
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### Solid-phase synthesis of ultra-small CuMo solid solution alloy for efficient electroreduction CO<sub>2</sub>-to-C<sub>2</sub><sup>+</sup> production

Zhili Zhang, Jingwen Hu, Xuan Zheng, Wenchao Zhang, Shuanglong Lu, Fang Duan, Han Zhu\* and Mingliang Du\*

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### Copper-catalyzed [3+2] annulation of *O*-acyl ketoximes with 2-aryl malonates for the synthesis of 3-aryl-4-pyrrolin-2-ones

Xiao-Qing Song, Xiao-Qi Qiang, Zi-Jun Hu, Xinyu Lyu, Sheng Tan, Changsheng Yao, Yong-Qiang Sun, Chun-Bao Miao\* and Hai-Tao Yang\*

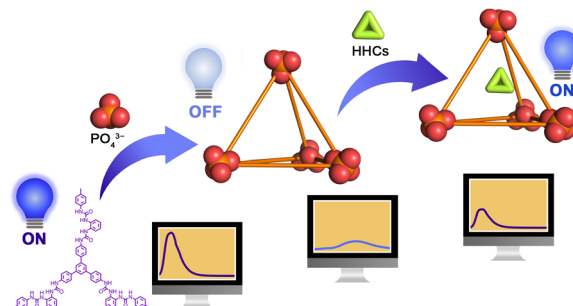


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### Fluorescence “ON–OFF–ON” response in the formation of a tetrahedral anionocage and encapsulation of halogenated hydrocarbons

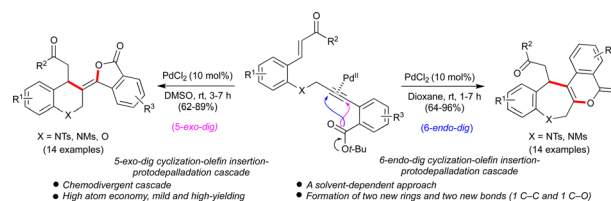
Jie Zhao, Wen Yao Zhang, Yayun Zheng, Yue Wang and Dong Yang\*



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### Palladium-catalyzed intramolecular oxypalladation-initiated cascade: solvent-dependent chemodivergent approach to functionalized benzazepines and tetrahydroquinolines

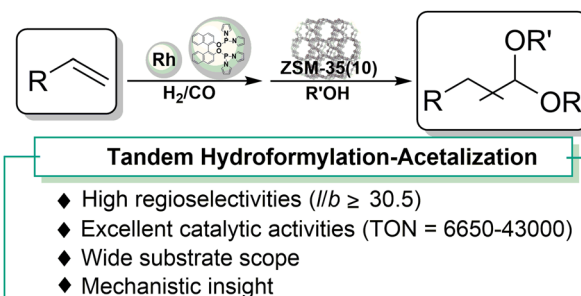
Anish Gupta, Tanvi Jandial, Muthu Karuppasamy, Nattamai Bhuvanesh, Subbiah Nagarajan, C. Uma Maheswari and Vellaisamy Sridharan\*



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### Co-catalysis of rhodium/phosphoramidite catalyst and ZSM-35(10) for the tandem hydroformylation–acetalization of olefins

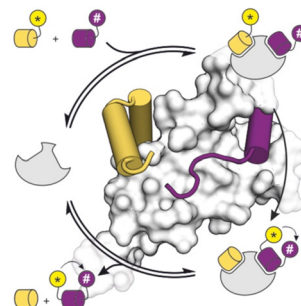
Zhe Shu, Xiu-Xiu Zhao, Zhaohui Zheng, Xueqing Zhang, Yushuang Zhang, Shuhui Sun, Jianbin Chen, Congxia Xie, Bing Yuan\* and Xiaofei Jia\*



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### Non-enzymatic protein templates amide bond formation and provides catalytic turnover

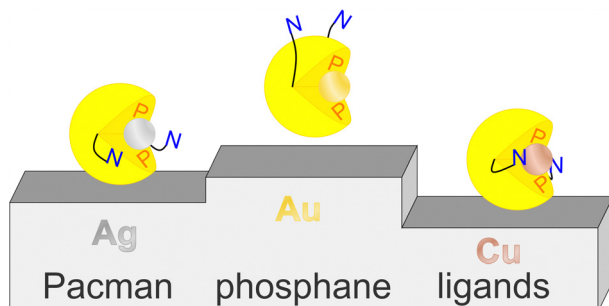
Nicolas Brauckhoff, Laura Fang, Anissa Haim and Tom N. Grossmann\*





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## Coinage metal complexes of multidentate Pacman phosphane ligands

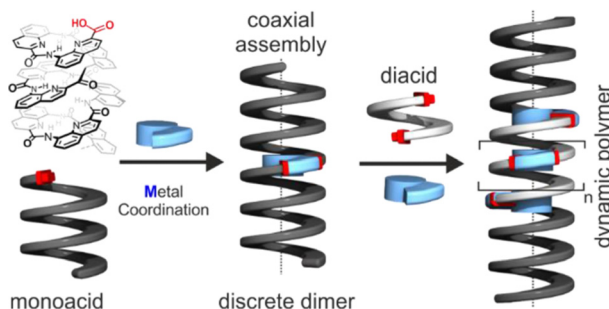
Leon Ohms, Liesa Eickhoff, Pascal Kramer, Alexander Villinger, Jonas Bresien and Axel Schulz\*

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Palladium-catalyzed remote *meta*-C–H olefination of cinnamates

Manickam Bakthadoss,\* Mir Ashiq Hussain and Tadiparthi Thirupathi Reddy

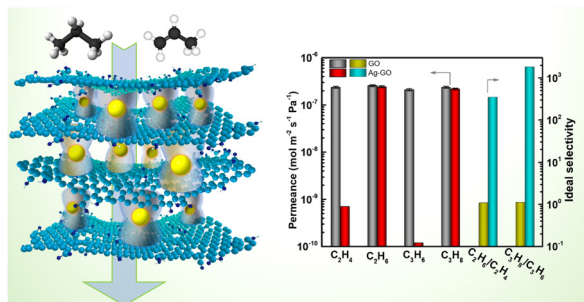
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## Coaxial assembly of helical aromatic foldamers by metal coordination

Albano Galan, Kristijan Lulic, Jingqi Wang, Barbara Wicher, Ivan Huc, Jean Duhamel and Victor Maurizot\*

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A cation- $\pi$  interaction confined graphene oxide membrane for separation of light paraffins and olefins

Huiling Chen, Bing Guo, Dian Gong, Jingrui Fan, Zhi Li, Chuhao Wang, Lu Wang, Chengbing Yu,\* Chenyu Wang\* and Gaofeng Zeng\*

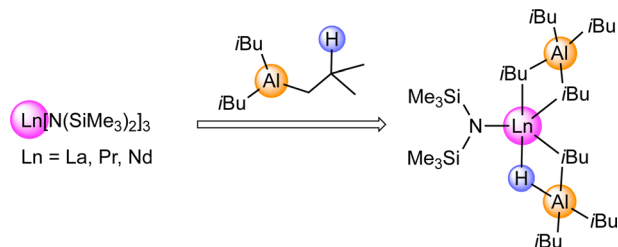


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**Triisobutylaluminium-promoted formation of lanthanide hydrides**

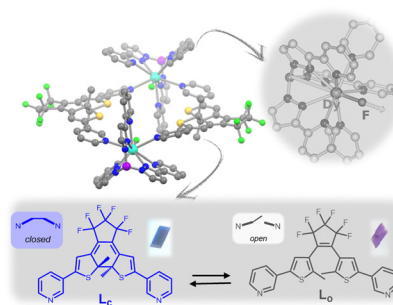
Eric C. Moinet, Olivier Tardif, Căcilia Maichle-Mössmer and Reiner Anwander\*



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**A photochromic metallacycle with highly anisotropic Dy–F magnetic units**

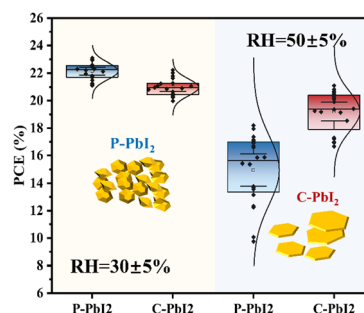
Nour El Beyrouiti, Felix Houard, Marie Cordier, Elzbieta Trzop, Stéphane Rigaut, Boris Le Guennic, Kevin Bernot and Lucie Norel\*



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**Tailoring particle size of PbI<sub>2</sub> towards efficient perovskite solar cells under ambient air conditions**

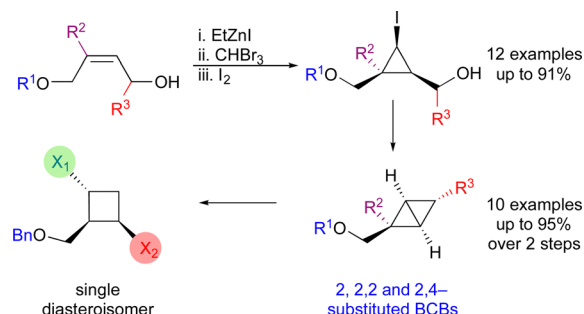
Qiang Zeng, Qingman Ma, Linhong Li, Bolin Zheng, Yining Pan, Xiangyun Zhao, Hanrui Xiao, Chang Yan and Fangyang Liu\*



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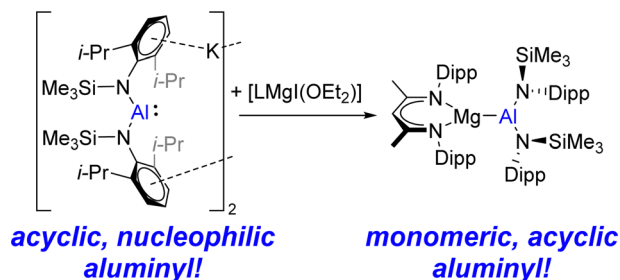
**Synthesis of 2-substituted bicyclo[1.1.0]butanes via zincocyclopropanation using bromoform as the carbenoid precursor**

Léa Thai-Savard and André B. Charette\*



## COMMUNICATIONS

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## An acyclic aluminy anion

Ross A. Jackson, Aidan J. R. Matthews, Petra Vasko, Mary F. Mahon, Jamie Hicks\* and David J. Liptrot\*

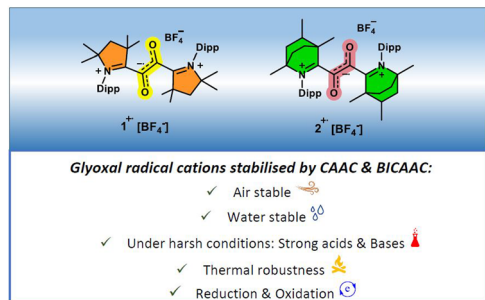
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## Copper-catalyzed aerobic oxidation of primary alcohols to carboxylic acids

Yibo Yu, Di Zhai, Zhengnan Zhou, Sheng Jiang, Hui Qian\* and Shengming Ma\*

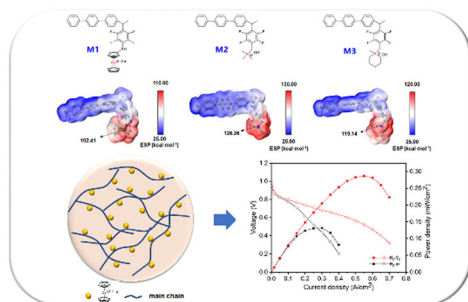
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## Cyclic(alkyl)(amino)carbene (CAAC)- and bicyclic (alkyl)(amino)carbene (BICAAC)-derived glyoxal radical cations with excellent stability

Bindusagar Das, Ritu Yadav, Ankita Sharma, Tarak Karmakar\* and Subrata Kundu\*

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## Partially fluorinated poly(arylene–alkane)s containing cobaltocenium for alkaline-stable anion exchange membranes

Run Zhang, Xiaoyu Zhao, Wenhao Li, Huidong Qian\* and Hui Yang\*



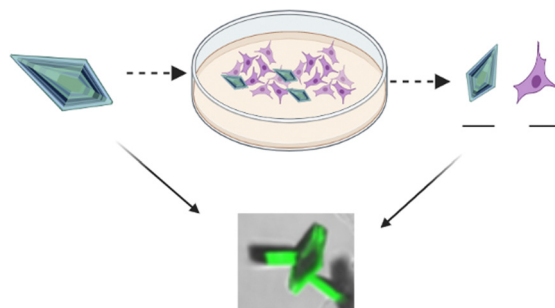


## COMMENTS

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Comment on "Fluorimetric sensing of ATP in water by an imidazolium hydrazone based sensor" by S. Farshbaf and P. Anzenbacher Jr., *Chem. Commun.*, 2019, 55, 1770

Sakshi Sareen, Agnieszka Wiśniewska,  
Karina Kwapiszewska\* and Robert Hołyst\*



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Reply to the 'Comment on "Fluorimetric sensing of ATP in water by an imidazolium hydrazone based sensor"' by S. Farshbaf and P. Anzenbacher Jr., *Chem. Commun.*, 2019, 55, 1770

Sepideh Farshbaf and Pavel Anzenbacher Jr\*

