

# ChemComm

Chemical Communications

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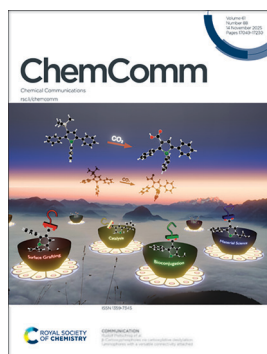
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(88) 17049-17230 (2025)



### Cover

See Xi Chen *et al.*, pp. 17125–17128. Image reproduced by permission of Xi Chen from *Chem. Commun.*, 2025, 61, 17125.



### Inside cover

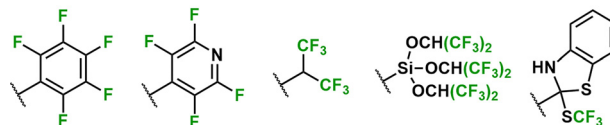
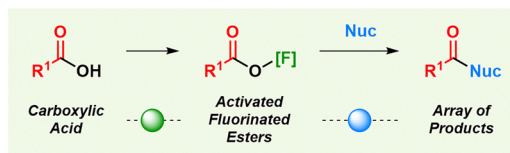
See Rudolf Pietschnig *et al.*, pp. 17129–17132. Image reproduced by permission of Katharina Eichhorn and Rudolf Pietschnig from *Chem. Commun.*, 2025, 61, 17129.

## HIGHLIGHT

17060

### Recent developments in the use of fluorinated esters as activated intermediates in organic synthesis

Daniel E. Bonn and William D. G. Brittain\*

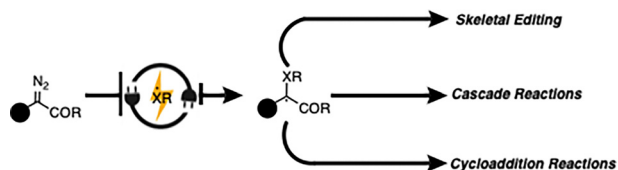


## FEATURE ARTICLES

17072

### Unlocking unprecedented reactivities through electricity-driven transformations of diazo compounds

Deepak Sharma, Pragati Sharma and Pankaj Chauhan\*



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Elemental answers

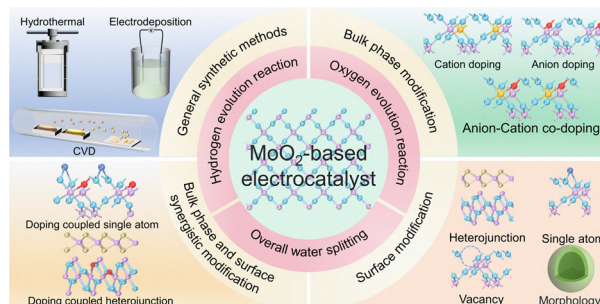


## FEATURE ARTICLES

17088

**Bulk and surface engineering of MoO<sub>2</sub> nanoreactors for boosting electrocatalytic water splitting**

Hao Jin, Yuxuan Wang, Yang Hou, Zongyue Nian and Sheng Ye\*



17107

**Unraveling the mechanisms behind porous calcium phosphate ceramics-instructed osteoinduction: a systematic review**

Hetian Bai, Xiangrong Zhao, Chongyun Bao\* and Yu Xiao\*

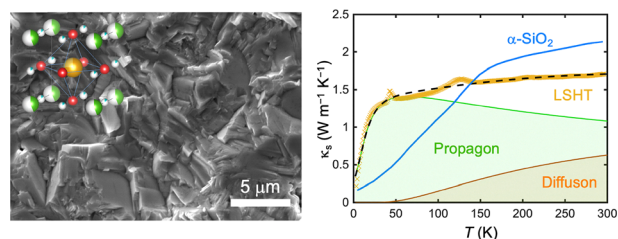


## COMMUNICATIONS

17125

**Glass-like thermal transport in polycrystalline perovskite lithium-ion conductor**  
**Li<sub>3/8</sub>Sr<sub>7/16</sub>Hf<sub>1/4</sub>Ta<sub>3/4</sub>O<sub>3</sub>**

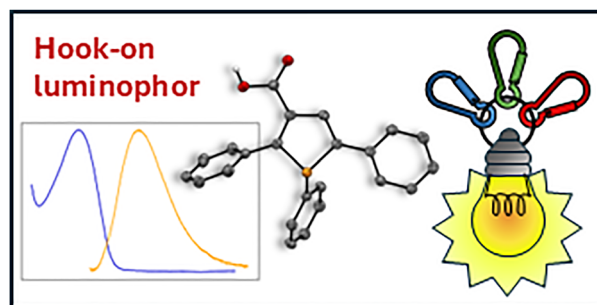
Yitian Wang, Qianru Jia, Shuchen Li, Li Shi, Yutao Li and Xi Chen\*



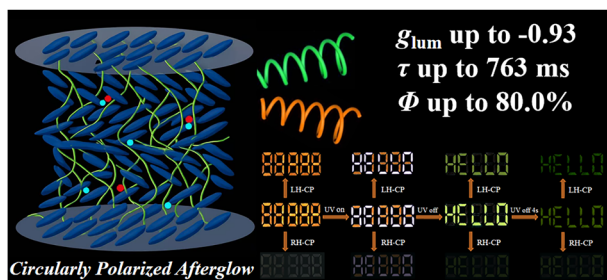
17129

**β-Carboxyphospholes via carboxylative desilylation: luminophores with a versatile connectivity attached**

Katharina Eichhorn, Clemens Bruhn and Rudolf Pietschnig\*



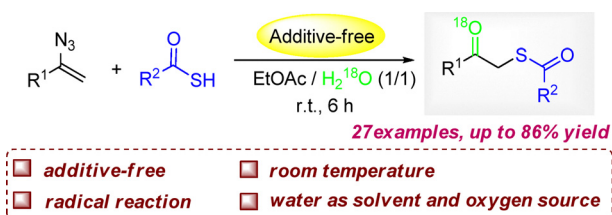
17133



### Efficient long-lived circularly polarized luminescence from cholesteric liquid crystalline polymer networks

Peipei Guan, Shihan Yu, Yonggang Yang and Hongkun Li\*

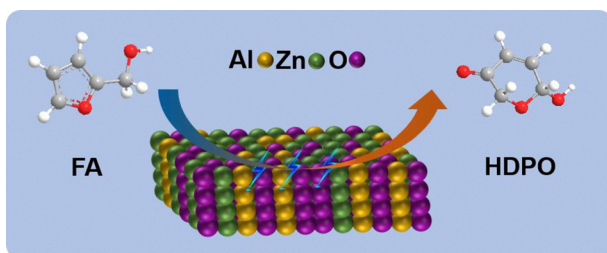
17137



### Additive-free synthesis of $\alpha$ -keton thiol esters via oxyacylthiolation of vinyl azides with thioacids and water

Yingjie Wang, Runmei Li, Jian Huang, Fei Jia, Zuli Wang, Wei Wei,\* Zi Yang\* and Dong Yi\*

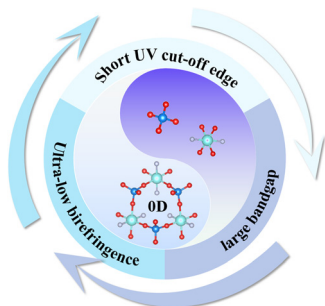
17141



### Highly efficient electrooxidation of biomass-based furfuryl alcohol to 6-hydroxy-2,3-dihydro-6H-pyrano-3-one over Zn–Al bimetallic oxides

Zhenbing Xie, Qiangqiang Guo, Jiayi Duan, Yongzan Yang, Haishan Xu, Tianyu Xiao, Weixia Zhu,\* Haoran Wu\* and Yiyong Mai\*

17145



### Tailoring UV waveplate materials via rational assembly of functional motifs in scandium fluoride phosphate

Huijian Zhao, Conggang Li,\* Ning Ye and Zhanggui Hu\*

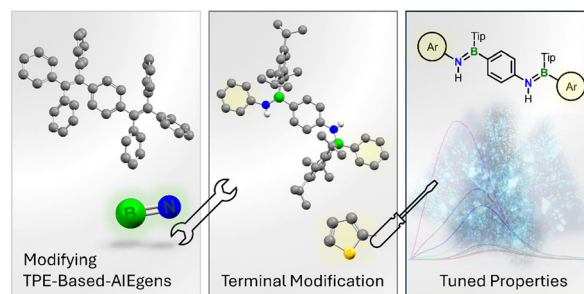


## COMMUNICATIONS

17149

## Thienyl flanked bis(aminoborane)s as inorganic–organic hybrid AIEgens

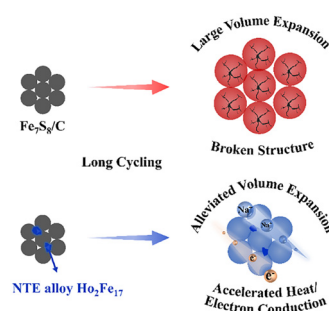
Johannes Chorbacher, Anna Hellinger, Jonas Klopf, Alexandra Friedrich and Holger Helten\*



17153

## Regulating thermal expansion in the iron sulfide anode for stable sodium storage

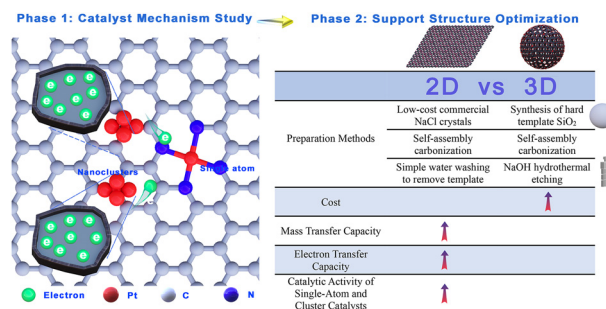
Shulian Lei, Yuancheng He, Gaobo Chang, Zhong Li and Hanqing Zhao\*



17157

## Two-dimensional dual-mesoporous catalytic networks with coexisting Pt single atoms and clusters for boosted oxygen reduction reaction

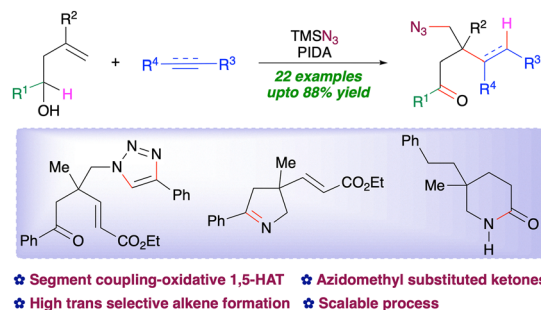
Fangzheng Wang, Tie Shu, Runfan Zheng, Yuying Han, Ang Li, Rui Xu, Tao Wang, Chengming Huang, Jing Li\* and Zidong Wei\*



17161

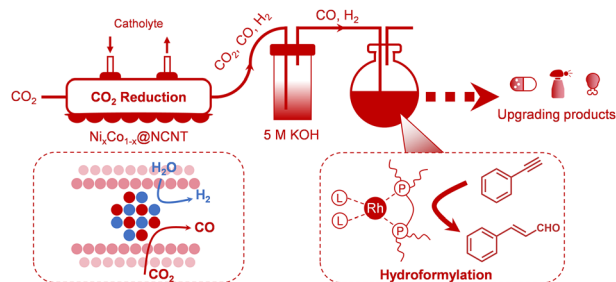
## PIDA-mediated segment coupling for the synthesis of azido-methyl substituted ketones via 1,5-hydrogen atom transfer (HAT)

Santosh J. Gharpure,\* Anusha Khandelwal and Rupali S. Chavan



## COMMUNICATIONS

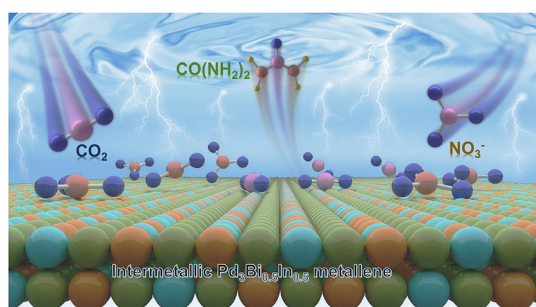
17165



### A tandem electrocatalysis and hydroformylation approach to synthesize high-carbon aldehydes from CO<sub>2</sub>

Siheng Yang, Jianguai Zhao, Xufeng Nie, Xuan Zheng, Xiaobin Xie, Xueli Zheng, Haiyan Fu, Hua Chen, Ruixiang Li, Weichao Xue\* and Jiaqi Xu\*

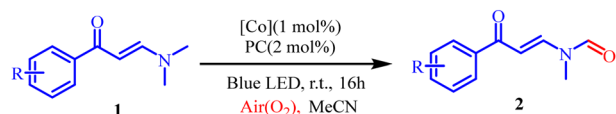
17169



### Accelerated electrocatalytic urea synthesis via atomic-ordering-mediated d–p orbital hybridization in ternary intermetallic Pd<sub>3</sub>Bi<sub>0.5</sub>In<sub>0.5</sub> metallene

You Xu,\* Yufeng Yuan, Jiangwei Xie, Yunju Li, Kai Deng, Ziqiang Wang, Hongjie Yu, Liang Wang\* and Hongjing Wang\*

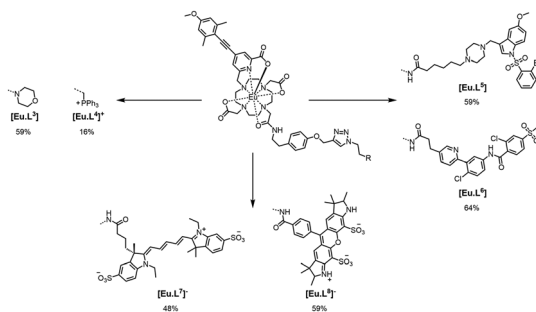
17173



### Cobalt-salen complexes/organic photoredox-cocatalyzed selective oxidative formylation of enaminones

Yaolian Shi, Yuchen Gong, Ganpeng Li, Xiao-Jing Zhao and Yonghui He\*

17177



### Divergent late stage functionalisation of luminescent europium(III) complexes for targeting and imaging applications

Tsz-Lam Cheung, Carlson Alexander, Huishan Li and David Parker\*

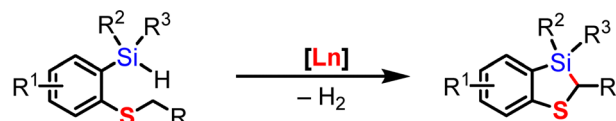


## COMMUNICATIONS

17181

**Synthesis of [1,3]-thiasilolanes via rare-earth-catalysed intramolecular  $\alpha$ -C(sp<sup>3</sup>)-H silylation of alkyl sulphides with hydrosilanes**

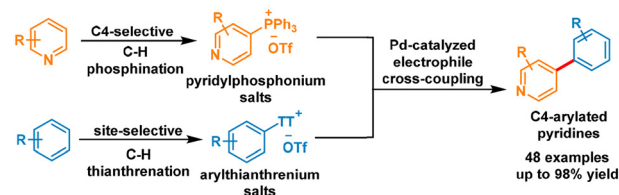
Kun An, Mengqing Liu, Jingxia Wang, Masayoshi Nishiura, Xuefeng Cong\* and Zhaomin Hou\*

Primary, secondary  $\alpha$ -C(sp<sup>3</sup>)-H  
Secondary, tertiary silanes34 examples  
up to 95% yield

17185

**Pd-catalyzed electrophilic cross-coupling of pyridylphosphonium salts with arylthianthrenium salts to access C4-arylated pyridines**

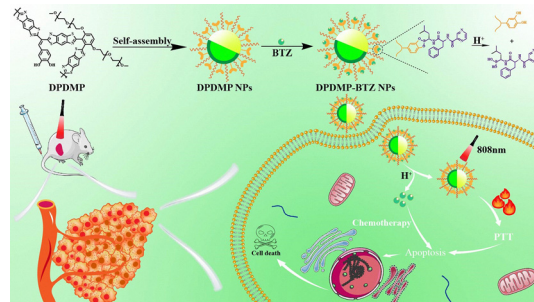
Chen Chen,\* Zi-Yi Wang, Xiao-Xu Zhang, Kui Wang\* and Bolin Zhu\*

C4-arylated  
pyridines  
48 examples  
up to 98% yield

17189

**Biomimetic synthesis of a benzobisthiazole-based conjugated polymer for pH-responsive drug delivery and synergistic tumor therapy**

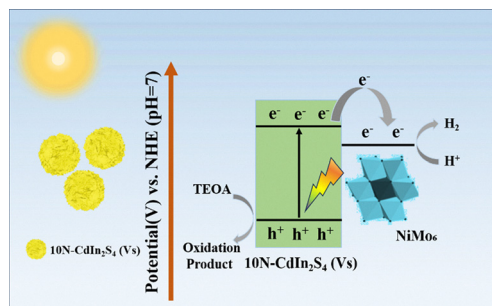
Kun Zhang, Yu Wu, Qi Lai, Peng Luo, Xin Hu, Meiyong Liu, Yulong Ouyang,\* Shaorong Huang,\* Xiaoyong Zhang\* and Yen Wei



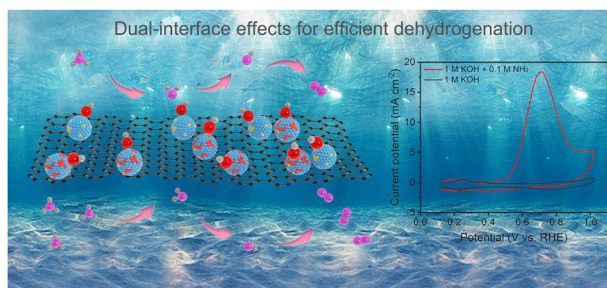
17193

**Synergistic effect of nitrogen-doped CdIn<sub>2</sub>S<sub>4</sub>(Vs) and Anderson-type polyoxometalate on enhanced photocatalytic hydrogen production**

Xiaoyu Dong, Xu Yang, Yulu Liu, Xue Zhao, Haixiu Yang and Yong Ding\*



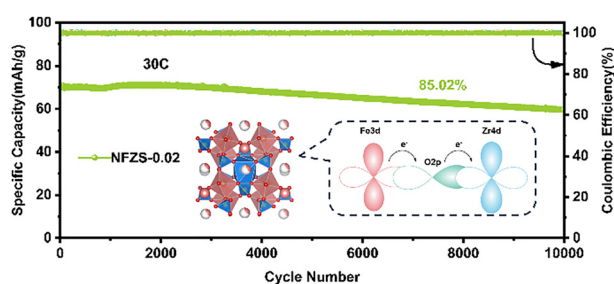
17197



### Boosting the electrocatalytic ammonia oxidation reaction through dual-interface effects

Chi Zhang, Xin Cheng, Qikai Shi, Shengming Li, Yue Shi, Yuying Chen, Zhiyan Yuan, Chengjiao Zhang,\* Jianfeng Ju\* and Xiaolei Yuan\*

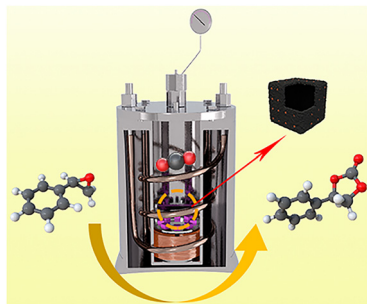
17201



### Synergistic electronic and crystal structure regulation of $\text{Na}_{2+2x}\text{Fe}_{2-x}(\text{SO}_4)_3$ via Zr doping for high-performance sodium-ion batteries

Xianbi Zhang, Shuang Xiang, Xiaobing Huang, Dan Sun,\* Yougen Tang\* and Haiyan Wang\*

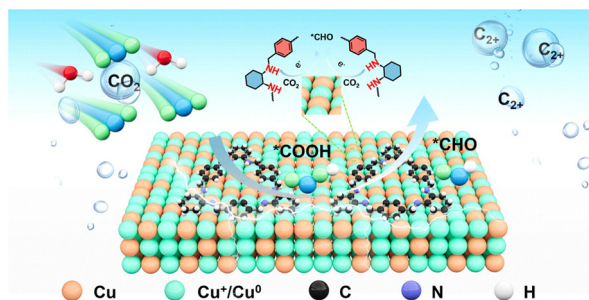
17205



### Efficient $\text{CO}_2$ conversion enabled by well-dispersed Co nanoparticles on N-doped hollow-structured carbon supports

Xiang Shi, Yu Su, Yu Wang, Xiaoxuan Zhang, Fagong Xu, Shizhong Luo\* and Ruirui Yun\*

17209



### Optimized copper interfaces with triethylamine for enhanced electrocatalytic $\text{CO}_2$ reduction

Tongxin Qiao, Wenli Hao, Li Peng,\* Baowei Wu, Yuyu Guo, Junhua Kuang, Tianwei Xue, Yanyin Wu, Han Han, Shuliang Yang\* and Jun Li\*

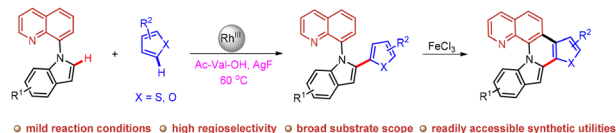


## COMMUNICATIONS

17213

**Rh(III)-catalyzed oxidative C–H cross-coupling between indoles and thiophenes/furanes**

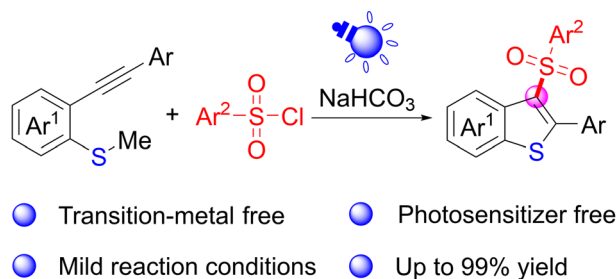
Yuhao Wang, Li Li, Quansheng Zhao, Pengming Gao, Kaiyue Guo, Jitan Zhang\* and Jiaping Wu\*



17217

**Photosensitizer-free synthesis of benzochalcogenophenes via photoinduced cascade cyclization**

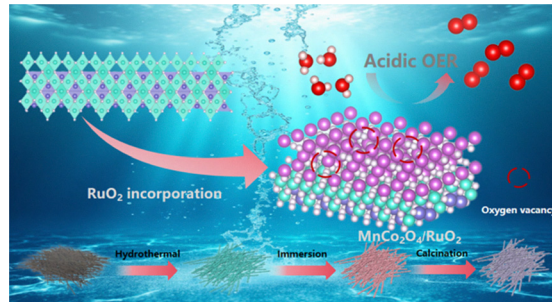
Hua Yan, Fenglian Zhang, Kuo Li, Jingfa Zhang, Shuxian Guan, Ruiya Yin, Jingjing Jia, Fengping Wang,\* Bin Wang\* and Pan Zhou\*



17221

**Breaking the activity-stability trade-off of RuO<sub>2</sub> via a MnCo<sub>2</sub>O<sub>4</sub> electron buffer and heterointerface engineering for acidic oxygen evolution**

Minglei Yan,\* Yisong Sun, Ying Hu, Jingtong Luo, Yan Li, Yiming Shi, Ying Cao,\* Zhiwei Lu and Yang Zhao\*



17225

**An organoplatinum-bridged conjugated polymeric photosensitizer with a donor–acceptor structure for enhanced photodynamic efficiency and integrated tumour therapy**

Ziyin Tian, Gang Wen, Yuxin Yi, Xiling Mao, Shenglong Liao\* and Shouchun Yin\*

