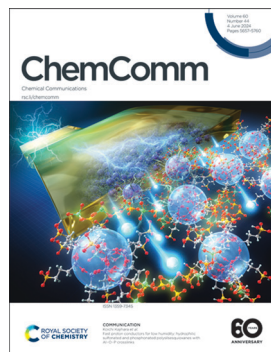


## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(44) 5657-5760 (2024)



### Cover

See Koichi Kajihara *et al.*, pp. 5683-5686.  
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### Inside cover

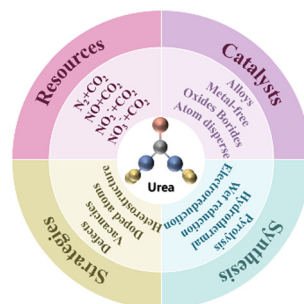
See Xicheng Wang, Yuhua Wang *et al.*, pp. 5687-5690.  
Image reproduced by permission of Gongli Chen, Xicheng Wang and Yuhua Wang from *Chem. Commun.*, 2024, 60, 5687.

## HIGHLIGHT

5666

### Catalysts for C–N coupling in urea electrosynthesis under ambient conditions from carbon dioxide and nitrogenous species

Chunqi Yang, Ziyang Yang, Wenxuan Zhang, Aiping Chen and Yuhang Li\*

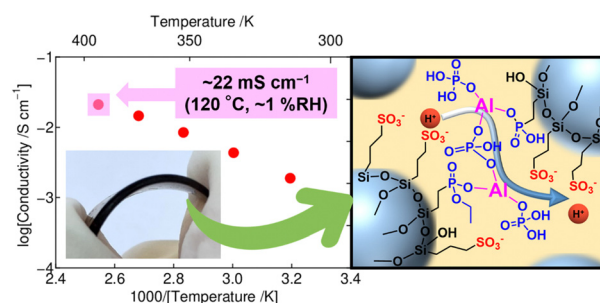


## COMMUNICATIONS

5683

### Fast proton conductors for low humidity: hydrophilic sulfonated and phosphonated polysilsesquioxanes with Al–O–P crosslinks

Hirotaika Itakura, Masanao Ishijima and Koichi Kajihara\*



# RSC Sustainability

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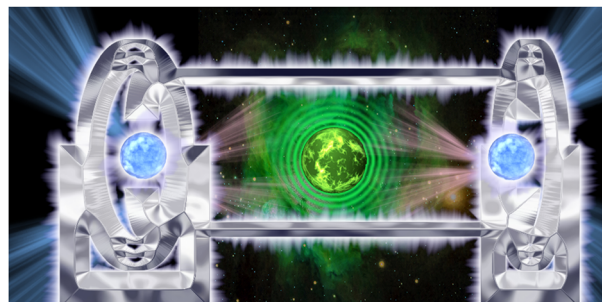
Fundamental questions  
Elemental answers

## COMMUNICATIONS

5687

**Luminescence center modulation for the synthesis of a narrow-band green phosphor: mechanism and backlighting display application**

Gongli Chen, Yaxin Cao, ZhenHua Li, Xicheng Wang\* and Yuhua Wang\*

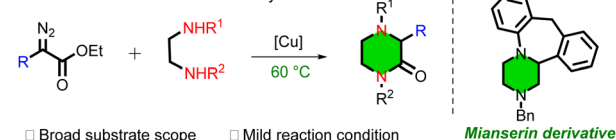


5691

**Facile access to C-substituted piperazin-2-ones and mianserin derivative enabled by chemoselective carbene insertion and cyclization cascade**

Dharmendra Kumar, Urmila Unnikrishnan and Malleswara Rao Kuram\*

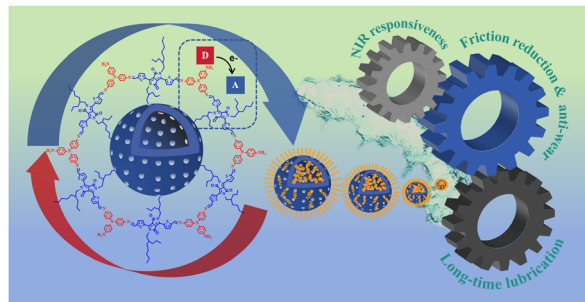
Chemoselective Carbene Insertion/Cyclization



5695

**Photothermal COFs with donor–acceptor structure for friction reduction and antiwear**

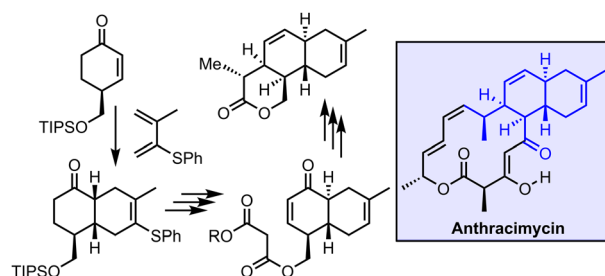
Peiwei Gong,\* Bairen Wang, Junyao Li, Huiying Cui, Dandan Wang,\* Jianxi Liu\* and Weimin Liu



5699

**Stereoselective synthesis of an advanced *trans*-decalin intermediate towards the total synthesis of anthracimycin**

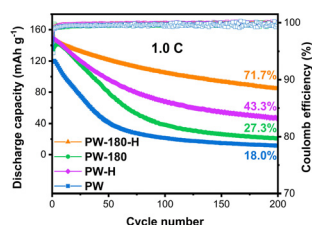
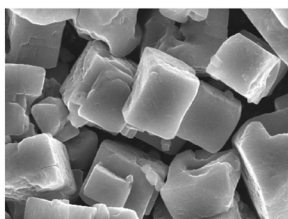
Laksamee Jeanmard, Giacomo Lodovici, Ian George, Joshua T. W. Bray, Adrian C. Whitwood, Gavin H. Thomas, Ian J. S. Fairlamb,\* William P. Unsworth\* and Paul A. Clarke





## COMMUNICATIONS

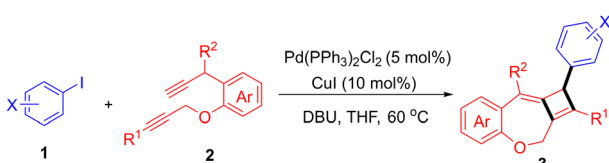
5703



### A collaborative manipulation strategy to enhance the sodium ion storage capability of Prussian white cathodes

Zhibin Zhang, Yuan Gao, Jing Gao, Wenyan Si, Xiaolin Sun, Fuhua Zhao, Yuan Zhang, Zhonghua Zhang,\* Depeng Song\* and Jianfei Wu\*

5707

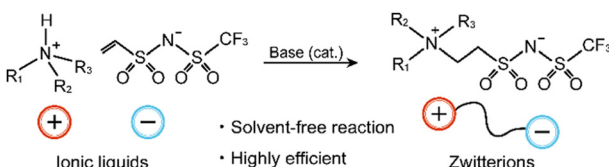


- Cyclobutenes with medium-sized rings
- Allene intermediates
- Mild conditions and high yields
- Experimental and computational studies

### Synthesis of benzooxepane-fused cyclobutene derivatives via Pd-catalyzed cascade reactions of haloarenes and diynyl ethers

Shugao Zhu,\* Wenliang Huang, Shihan Liu, Rongjing Yu, Yufeng Ma, Hong Wang, Rui Zhang, Bin Liu, Yu Lan\* and Ruwei Shen

5711

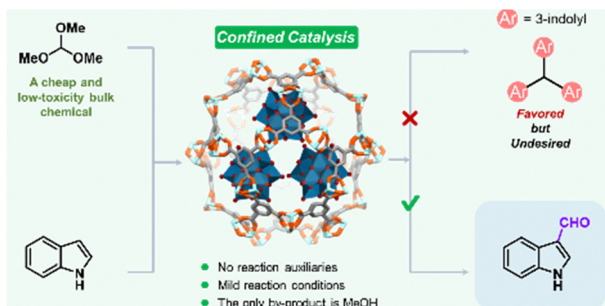


- Solvent-free reaction
- Highly efficient

### Solvent-free transformation of protic ionic liquids into zwitterions

Yosuke Nakazono, Ryota Inoue, Ryo Sumitani and Tomoyuki Mochida\*

5715



### Modulating confinement space in metal–organic frameworks enables highly selective indole C3-formylation

Deng-Yue Zheng, Tianjian Zhang, Rongxian Bai, Minghao Li and Yanlong Gu\*

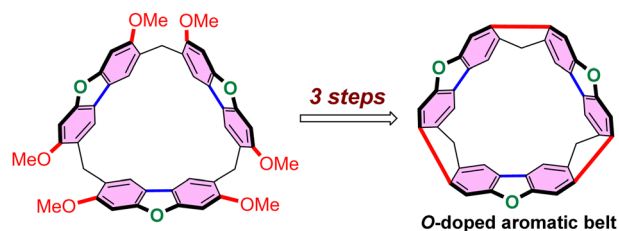


## COMMUNICATIONS

5719

**Synthesis and properties of an O-doped aromatic belt**

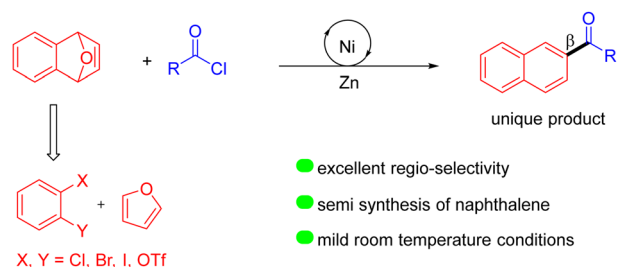
Ying Han,\* Wei-Chen Guo, Xu-Sheng Du and Chuan-Feng Chen\*



5723

**Nickel-catalysed highly regioselective synthesis of  $\beta$ -acyl naphthalenes under reductive conditions**

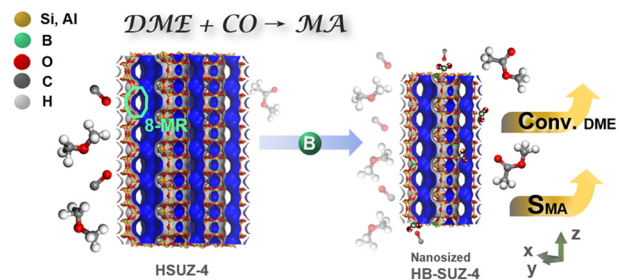
Yu-Juan Wu, Chen Ma,\* Jia-Fan Qiao, Xiao-Yu Cheng and Yu-Feng Liang\*



5727

**Boron-incorporated nanosized SUZ-4 zeolite for DME carbonylation**

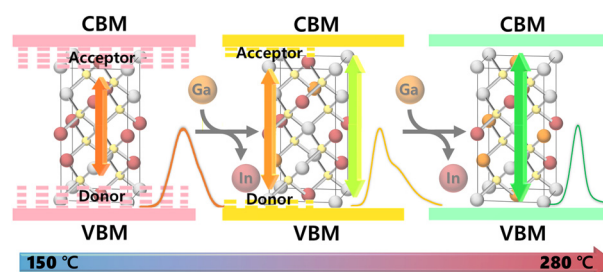
Yiming Jiang, Aijing Hao, Ensheng Zhan, Pablo Beato, Siyu Chen, Fengtao Fan\* and Can Li\*



5731

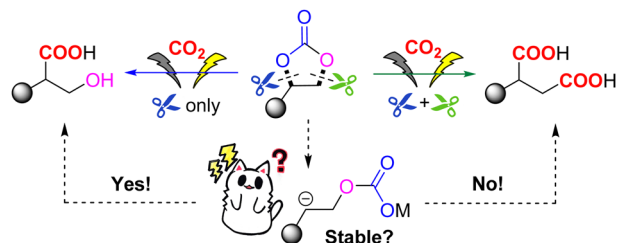
**Effect of the incorporation of gallium ions into silver indium sulfide nanocrystals**

Jiyeon Ban, So Young Eom, Hak June Lee, Mai Ngoc An, Beomsu Cho, Yong Ho Lee, Wan Ki Bae and Kwang Seob Jeong\*



## COMMUNICATIONS

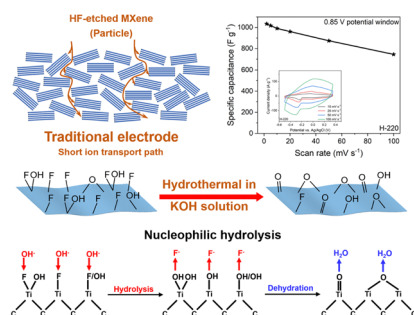
5735



### Electrochemical ring-opening carboxylation of cyclic carbonate with carbon dioxide

Li Tao, He Wang, Xiao-Fei Liu, Wei-Min Ren, Xiao-Bing Lu and Wen-Zhen Zhang\*

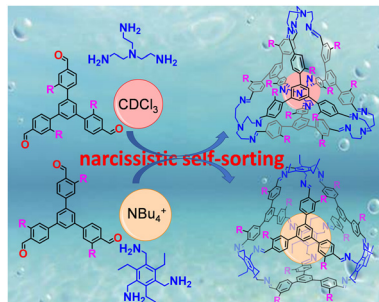
5739



### Nucleophilic hydrolysis enables HF-etched MXene kilofarad specific capacitance and excellent rate performance

Jiang Xu, Yaokai Gu, Bingqing Hu, Haoqi Yang, Dawei Sha, Jiabiao Lian\* and Shanhai Ge\*

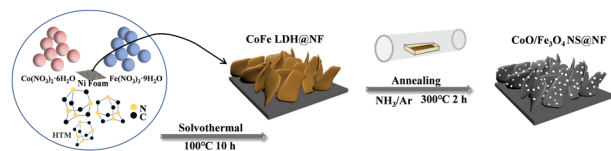
5743



### Guest-induced narcissistic self-sorting in water via imine formation

Bingda Li, Bin Sun, Shuai Fang, Yixin Chen and Hao Li\*

5747



### A superior zinc-air battery performance achieved by CoO/Fe<sub>3</sub>O<sub>4</sub> heterostructured nanosheets

Xue Long, Wei Tang, Chunsheng Li, Zhiyong Ma, Kai Liu, Yi Li, Yazhou Chen,\* Yan Sun,\* Zehui Yang and Fang Luo\*

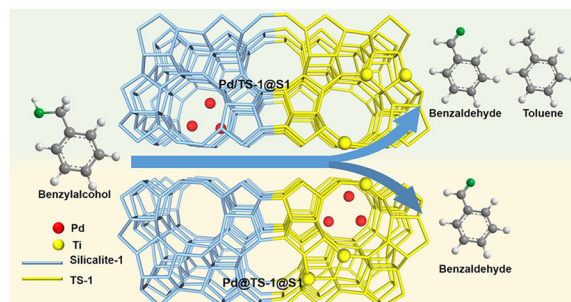


## COMMUNICATIONS

5751

### Crystal epitaxy-confined Pd, Ti-bimetallic sites in the MFI zeolite for benzylalcohol oxidation

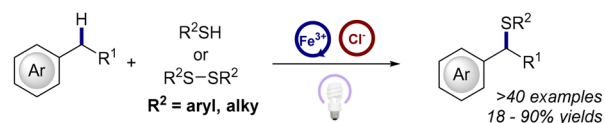
Wenchao Xu, Jianyuan Su, Xiang Ni, Qifan Yang, Wenwen Song, Lei Wang\* and Hongjun Zhu\*



5755

### Iron-catalyzed benzylic C–H thiolation via photoinduced ligand-to-metal charge-transfer

Kaiting Sun, Tianyi Sun, Yuxin Jiang, Jiayue Shi, Wenlu Sun, Youyou Zheng, Zhixuan Wang, Ziyu Li, Xiaoqing Lv, Xingxian Zhang,\* Fan Luo\* and Shihui Liu\*



- electron-deficient and electron-rich alkylarenes were well tolerated
- works for disulfides and thiols
- operational simplicity, mild condition
- late-stage introduction of S into biologically active compounds

