

# ChemComm

Chemical Communications

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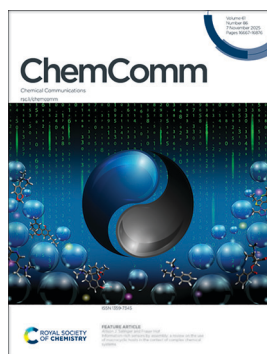
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(86) 16667-16876 (2025)



### Cover

See Małgorzata Tyszką-Czochara, Marlena Gryl *et al.*, pp. 16770–16773. Image reproduced by permission of Marlena Gryl from *Chem. Commun.*, 2025, **61**, 16770.



### Inside cover

See Allison J. Selinger and Fraser Hof, pp. 16701–16716. Image reproduced by permission of Allison J. Selinger from *Chem. Commun.*, 2025, **61**, 16701.

## PROFILE

16679

### Contributors to the Emerging Investigators collection 2025: Part 2

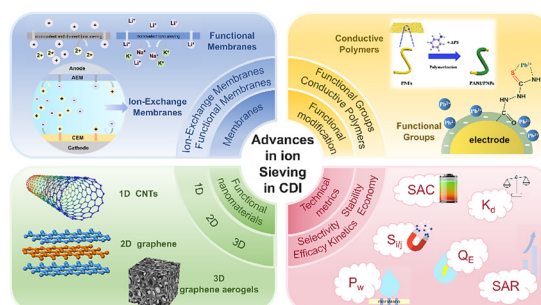


## HIGHLIGHT

16686

### Selective ion separation in electrosorption systems: progress in material development and mechanism exploration

Yingying Wang, Lujie Nie, Lei Wang,\* Jiajun An, Miaolu He, Xilin Yue, Yongtao Lv, Rui Miao and Xudong Wang



# Environmental Science: Atmospheres

GOLD  
OPEN  
ACCESS

Connecting communities  
and inspiring new ideas



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Fundamental questions  
Elemental answers

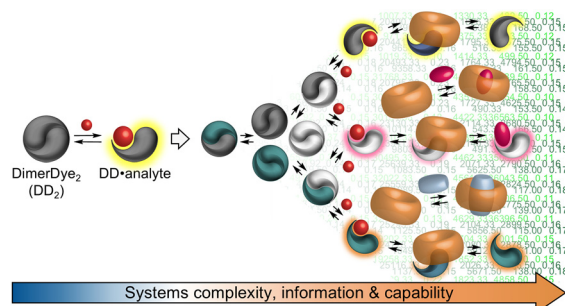


## FEATURE ARTICLES

16701

**Information-rich sensors by assembly: a review on the use of macrocyclic hosts in the context of complex chemical systems**

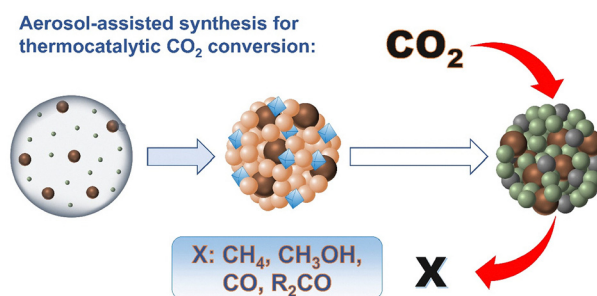
Allison J. Selinger and Fraser Hof\*



16717

**Aerosol-assisted synthesis of hybrid/composite porous nanostructures for CO<sub>2</sub> utilization**

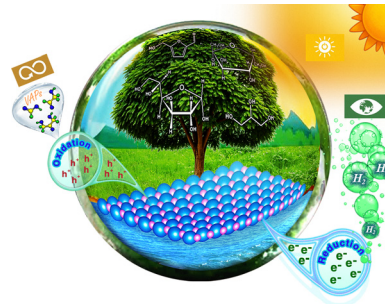
Duraiamy Senthil Raja and De-Hao Tsai\*



16738

**Concurrent utilization of e<sup>-</sup> and h<sup>+</sup> for water splitting to H<sub>2</sub> and biomass components into value-added products: sustainable solar-driven photocatalysis towards meeting SDG7, 12 and 13**

Sivaraj Rajendran, Simi Saju, Thomas Mathew and Chinnakonda S. Gopinath\*

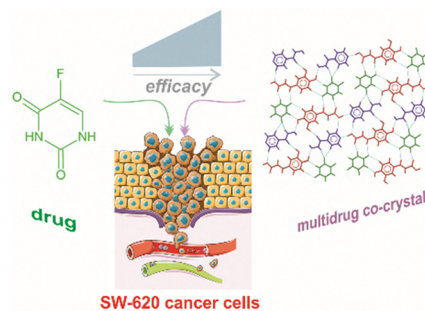


## COMMUNICATIONS

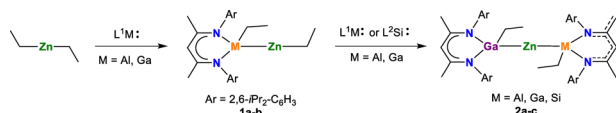
16770

**The whole is greater than the sum of its parts: binary and ternary 5-fluorouracil co-crystals with enhanced selectivity towards metastatic cancer cells**

Szymon Grabowski, Julianna Wojdyta-Parat, Małgorzata Tyszką-Czochara,\* Marcin Kozieł, Michał Chmylak, Sebastian Lalik and Marlena Gryl\*



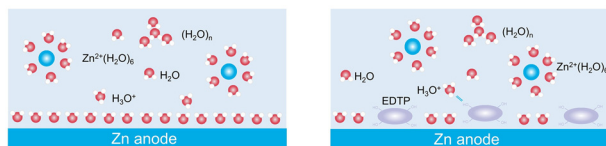
16774



### Synthesis and reactivity of acyclic heterotrinnuclear metal complexes

Rajata Kumar Sahoo, Christoph Wölper, Joost Möbius and Stephan Schulz\*

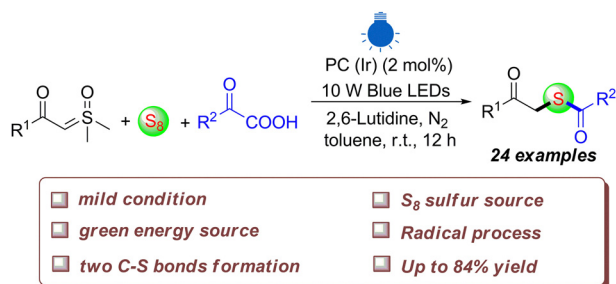
16778



### Interfacial pH regulation by a tetra-hydroxyl organic additive enables stable zinc anodes in aqueous batteries

Huimin Ji, Yan Xu, Hanhao Liang, Yixin Li, Qi Zhang,\* Yougen Tang and Haiyan Wang

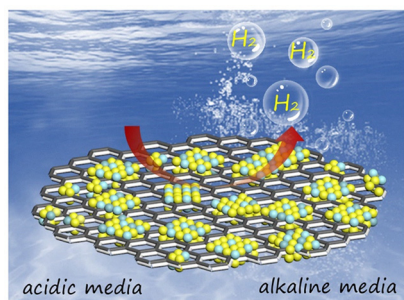
16782



### Visible-light photoredox catalyzed thioesterification of sulfoxonium ylides with elemental sulfur and $\alpha$ -ketoacids

Juanjuan Wu, Leilei Wang, Huilan Yue, Jindong Hao, Zu-Li Wang and Wei Wei\*

16786



### Sub-2 nm PtRu alloy embedded in carbon nanosheets for enhanced hydrogen evolution in acid and alkaline media

Zhijuan Li, Junjie Feng, Minghao Hou, Xiang Song, Yaojuan Hu, Fengyun He, Haibao Duan,\* Tongfei Li\* and Yawen Tang\*

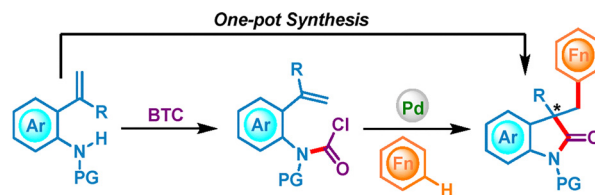


## COMMUNICATIONS

16790

### Palladium-catalyzed Heck/polyfluoroarylation of alkene-tethered carbamoyl chlorides with polyfluoroarenes

Chen Chen,\* Zi-Yi Wang, Xin-Yu Hu, Xiao-Xu Zhang, Yan-Ping Zhu,\* Chunjie Ni\* and Bolin Zhu\*

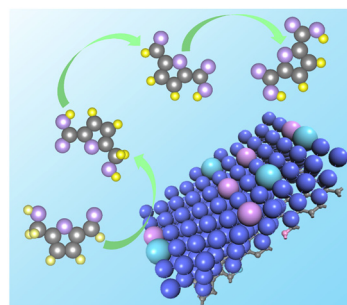


- Heck/polyfluoroarylation strategy
- 36 examples, up to 97% yield
- isolated or *in situ* formation carbamoyl chlorides
- scalability
- multistep cascades, one-pot synthesis of polyfluoroarylated oxindoles
- compatibility with complex bioactive molecules

16794

### La/Ni dual-doping in carbon nanofiber-supported cobalt electrocatalysts toward high-efficiency biomass upgrading

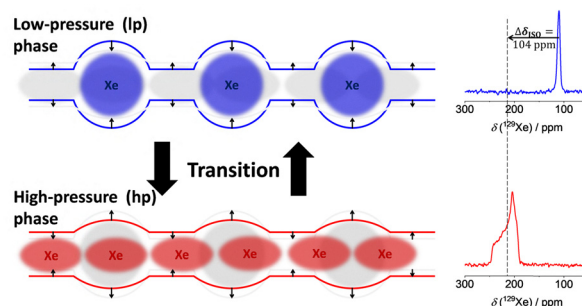
Yaqin Yu, Di Yan, Xin Liu, Hao Lu,\* Xusheng Wang, Juntao Zhang, Guixiang Ding, Peng Wang\* and Guangfu Liao\*



16798

### Xenon adsorption-induced flexibility of the zeolitic imidazolate framework ZIF-4 observed by *in situ* $^{129}\text{Xe}$ NMR spectroscopy

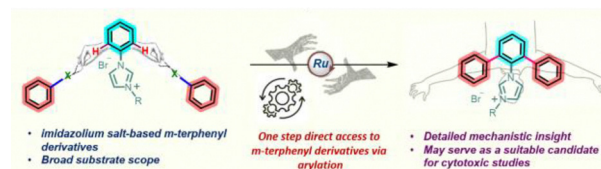
Tobias Bode, Wen-Long Xue, Yutong Wang, Karen M. Garcia Alvarez, Silvia Paasch, Andreas Schneemann, Sebastian Henke and Eike Brunner\*



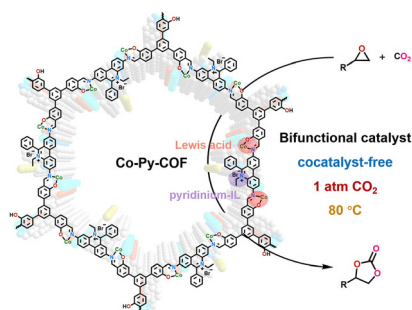
16802

### Efficient synthetic approach to *m*-terphenyl derivatives via arylation of azolium salts

Subarna Kar, Arya Ramachandran and Arnab Rit\*



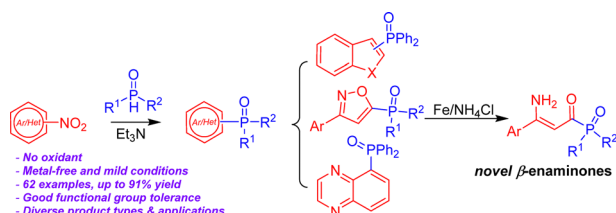
16806



### Cobalt- and ionic liquid-functionalized covalent organic framework for cooperative catalytic CO<sub>2</sub> cycloaddition

Fei Li, Jian Wang, Xiao-Kun Zhang, Bing-Jian Yao\* and Yu-Bin Dong

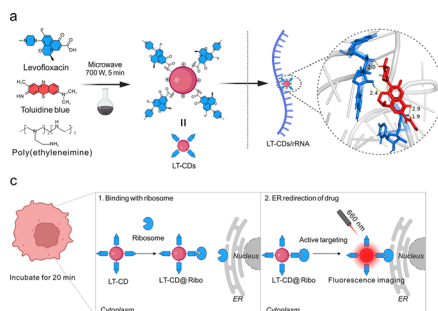
16810



### Concise synthesis of phosphonylated heteroarenes from nitroheteroarenes by dearomatization/elimination

Li-Qin Meng, Xinrong Zhu, Qiaoyan Xing,\* Junliang Zhang, Huamin Wang\* and Ying-Wu Lin\*

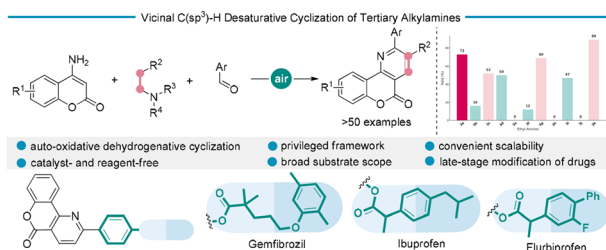
16814



### Ribosome affinity carbon dots for live-cell imaging of endoplasmic reticulum

Jia-Hua Zou, Yong Li, Kai Cheng, Dong Zhou, Jin-Xuan Fan,\* Fang Tan\* and Yuan-Di Zhao\*

16818



### Auto-oxidation-driven vicinal C(sp<sup>3</sup>)-H desaturative cyclization of tertiary alkylamines for the synthesis of pyrido[3,2-c]coumarins

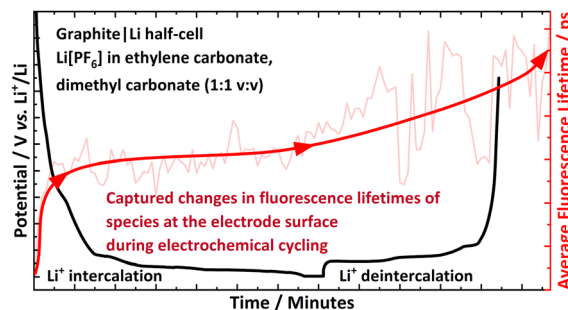
Fang Bai, Pengpeng Liu, Hongyan Xu,\* Mengjie Li, Binghui Liu, Miaomiao Xu and Qinghe Gao\*



16822

### Operando fluorescence lifetime imaging microscopy during Li<sup>+</sup> intercalation into graphitic electrodes

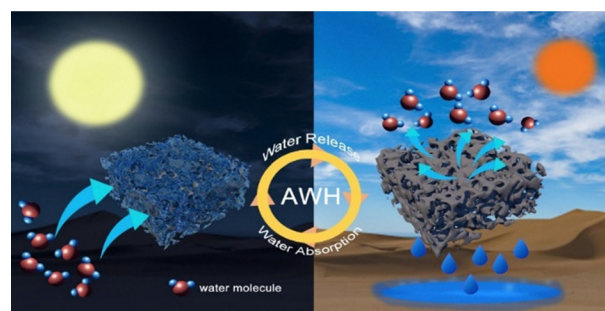
Matthew J. Quarrell, Thukshan Samarakoon, Alex R. Neale, Oliver J. Barker, Stanley W. Botchway and Laurence J. Hardwick\*



16826

### A dual network hygroscopic gel for efficient atmospheric water harvesting

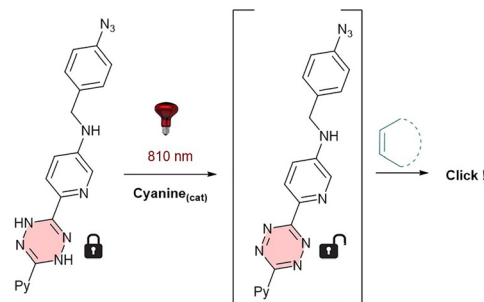
Lingling Liu, Wenbin Li, Xiangbing Wang, Xin Wang, Guofu Ma,\* Lei Zhu\* and Yuxi Xu\*



16830

### Oxidation of dihydrotetrazine triggered by near-infrared photocatalysis for photoclick chemistry

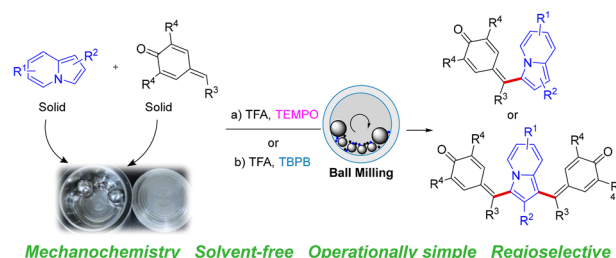
Margaux Walter, Murat Cihan, Mary-Lorène Goddard, Jean-Philippe Goddard\* and Morgan Cormier\*



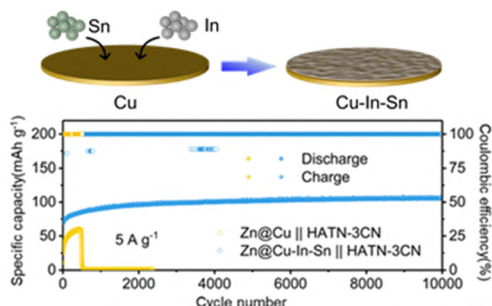
16834

### Mechanochemically controllable synthesis of mono- or di-alkenylated indolizines

Yue Yu, Ning Guan, Chunying Zhao, Hua Cao\* and Yan-Long Ma\*



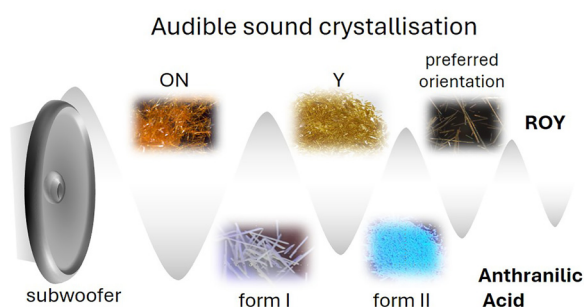
16838



### A ternary Cu alloy current collector for high-performance aqueous Zn-ion batteries

Kangning Shi, Wei Liang, Haiming Lv (Lyu)\* and Ying Fu\*

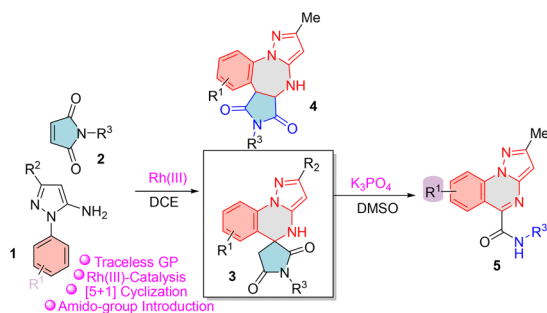
16842



### Controlling crystallisation with audible low frequency sound

Yasmin C. S. Figueiredo, Thiago G. Tabuti, Thaisa B. F. Moraes, Julian Ticona-Chambi, Rafael G. Candido, Silvia L. Cuffini, Marcelo S. Martins, Walter L. M. Tupinambá, Eduardo R. Triboni\* and Jonathan W. Steed\*

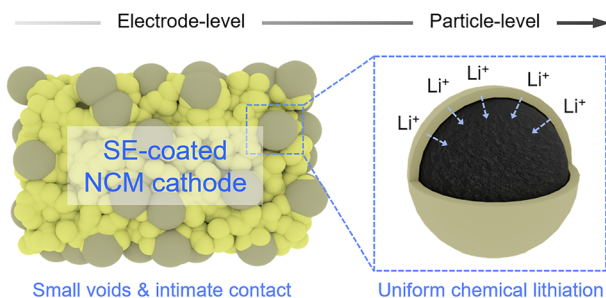
16846



### Rh(III)-catalyzed cyclization of 5-amino-pyrazoles with maleimides to pyrazoloquinazolines

Ting-Ting Guo, Qing-Sheng Zhao, Shu Yang, Tian-Tian Chen, Jin Liu\* and Sheng-Jiao Yan\*

16850



### High-voltage stability of sulfide-based all-solid-state batteries: benefit of the parasitic reaction

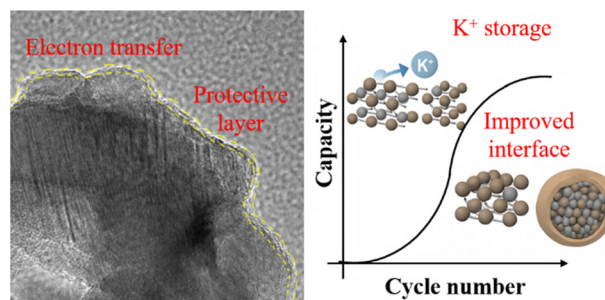
Junhee Kang, Yeokyung Lee, Youngjin Bae and Jong-Won Lee\*



16854

### Soft carbon-coated FeNCN anodes for enhanced potassium ion storage

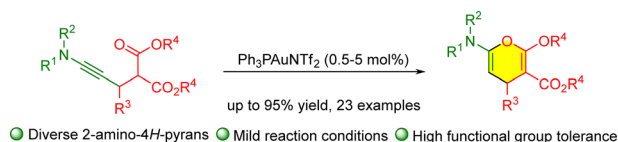
Erjin Zhang, Kelei Wu, Zhentao Luo, Yuanning Luo, Peng Wang, Bing Hua, Li Xu, Xuejiao Wang\* and Henan Li



16858

### Efficient syntheses of 2-amino-4H-pyrans via gold-catalyzed cyclization of diester-tethered ynamides

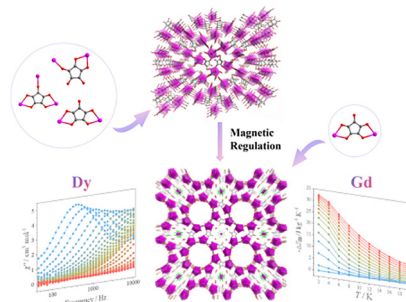
Jianfeng Zheng,\* Dong Xiong, Yongqi Ye, Luhao Tang, Jiajin Yang, Zeyu Yang and Yunfei Cai\*



16862

### Magnetic modulation and magnetocaloric effect of lanthanide porous organic frameworks with croconic acid

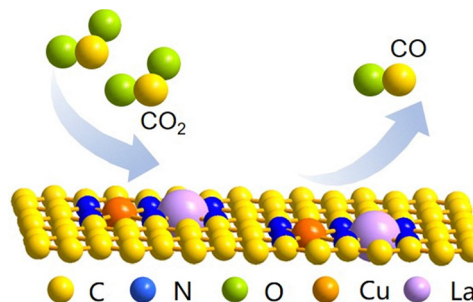
Xueying Shao, Yue Yang, Xiaofang Dong, Shen Wang, Yulu Liang, Zhongyi Liu, Hui Min,\* Yu-Xia Wang\* and Peng Cheng\*



16866

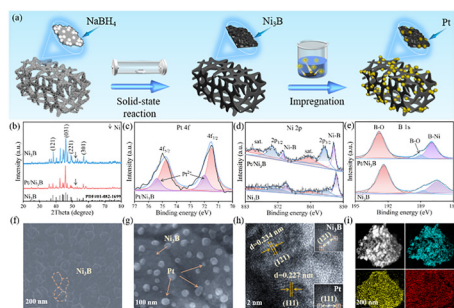
### A CuLa dual-site catalyst for high-efficiency CO<sub>2</sub>-to-CO electrocatalytic conversion with ultralow overpotential

Tao Sun, Liu Ju, Xiaoqian Xu, Chuan Hu, Rei Xie, Feng Hu\* and Shengjie Peng



## COMMUNICATIONS

16870



### Ultra-low Pt nanoparticles on self-supported monolithic Ni<sub>3</sub>B toward efficient electrocatalytic hydrogen evolution

Jiaru He, Xinyu Gao, Hao Wang, Jing Zhao, Xiaowei Yang,\* Lihong Bao\* and Yuntao Cui

## CORRECTION

16874

### Correction: A ternary Cu alloy current collector for high-performance aqueous Zn-ion batteries

Kangning Shi, Wei Liang, Haiming Lv (Lyu)\* and Ying Fu\*

