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IN THIS ISSUE

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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

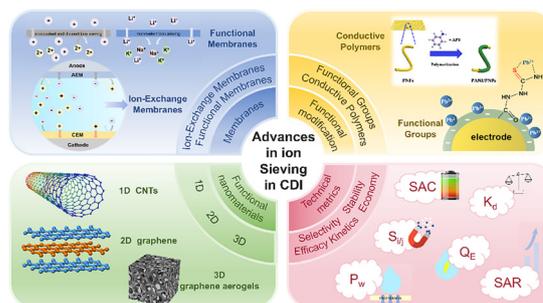


HIGHLIGHT

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

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Fundamental questions
Elemental answers

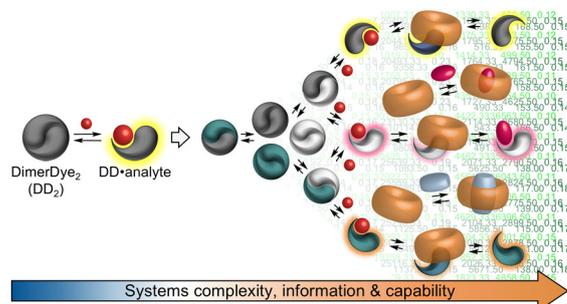


FEATURE ARTICLES

16701

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

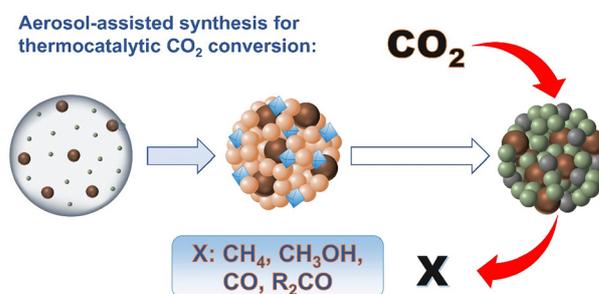
Allison J. Selinger and Fraser Hof*



16717

Aerosol-assisted synthesis of hybrid/composite porous nanostructures for CO₂ utilization

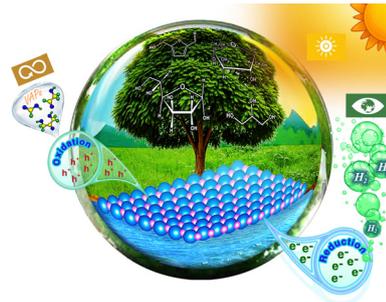
Duraiamy Senthil Raja and De-Hao Tsai*



16738

Concurrent utilization of e⁻ and h⁺ for water splitting to H₂ 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*

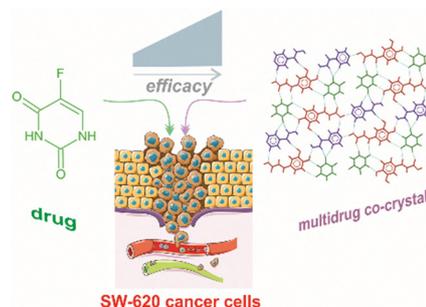


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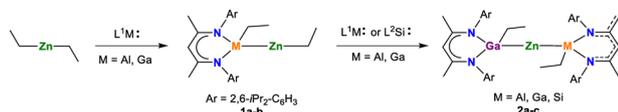
16770

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*



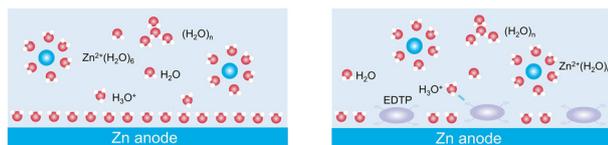
16774



Synthesis and reactivity of acyclic heterotrimeric metal complexes

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

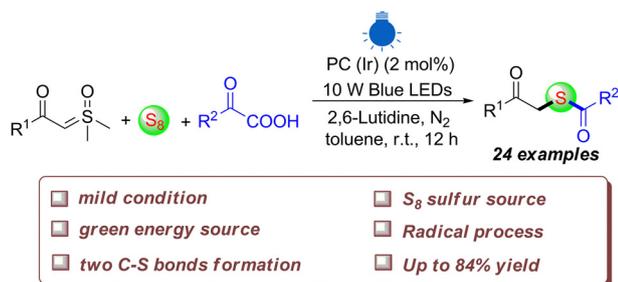
16778



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

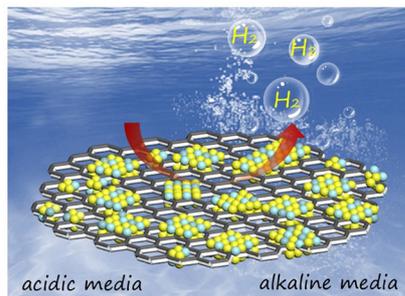
16782



Visible-light photoredox catalyzed thioesterification of sulfoxonium ylides with elemental sulfur and α -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

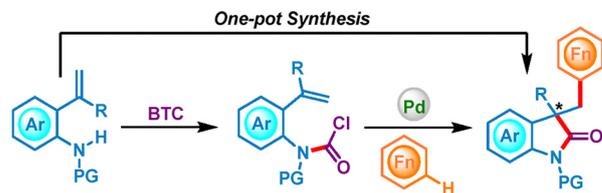
Zhijuan Li, Junjie Feng, Minghao Hou, Xiang Song, Yaojuan Hu, Fengyun He, Haibao Duan,* Tongfei Li* and Yawen Tang*



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*

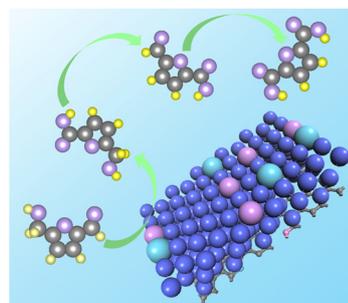


- Heck/polyfluoroarylation strategy
- 36 examples, up to 97% yield
- isolated or *in situ* formation carbamoyl chlorides
- scalability
- multistep cascades, one-pot synthesis of polyfluoroarylated oxindoles
- compatibility with complex bioactive molecules

16794

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

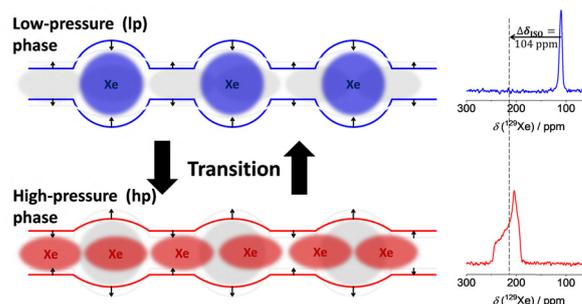
Yaqin Yu, Di Yan, Xin Liu, Hao Lu,* Xusheng Wang, Juntao Zhang, Guixiang Ding, Peng Wang* and Guangfu Liao*



16798

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

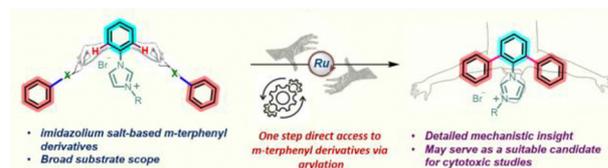
Tobias Bode, Wen-Long Xue, Yutong Wang, Karen M. Garcia Alvarez, Silvia Paasch, Andreas Schneemann, Sebastian Henke and Eike Brunner*



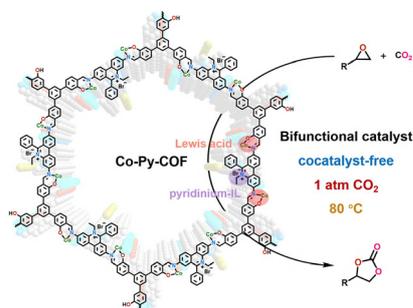
16802

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

Subarna Kar, Arya Ramachandran and Arnab Rit*



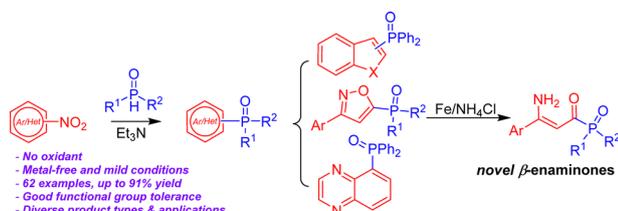
16806



Cobalt- and ionic liquid-functionalized covalent organic framework for cooperative catalytic CO₂ cycloaddition

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

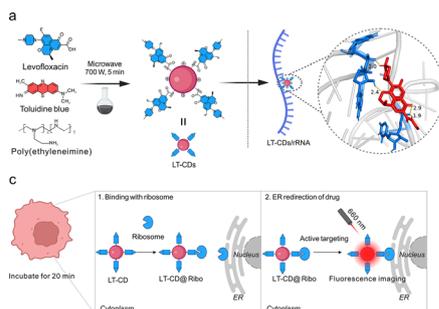
16810



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*

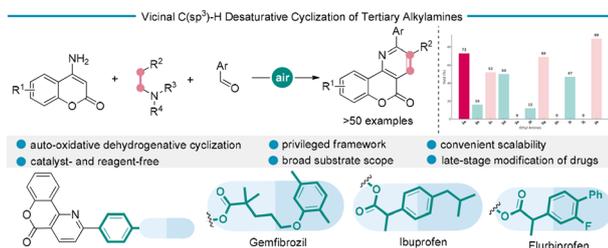
16814



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(sp³)-H desaturative cyclization of tertiary alkylamines for the synthesis of pyrido[3,2-c]coumarins

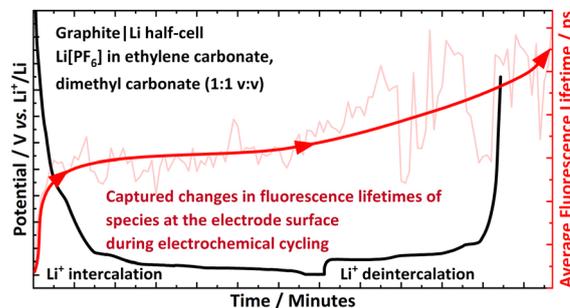
Fang Bai, Pengpeng Liu, Hongyan Xu,* Mengjie Li, Binghui Liu, Miaomiao Xu and Qinghe Gao*



16822

Operando fluorescence lifetime imaging microscopy during Li⁺ intercalation into graphitic electrodes

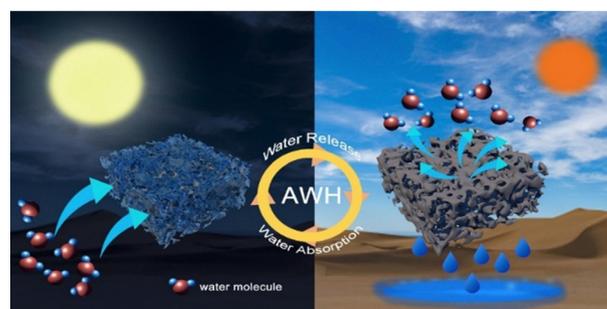
Matthew J. Quarrell, Thukshan Samarakoon, Alex R. Neale, Oliver J. Barker, Stanley W. Botchway and Laurence J. Hardwick*



16826

A dual network hygroscopic gel for efficient atmospheric water harvesting

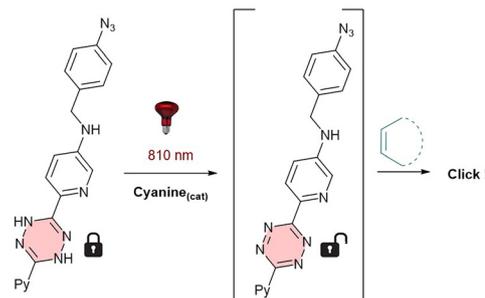
Lingling Liu, Wenbin Li, Xiangbing Wang, Xin Wang, Guofu Ma,* Lei Zhu* and Yuxi Xu*



16830

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

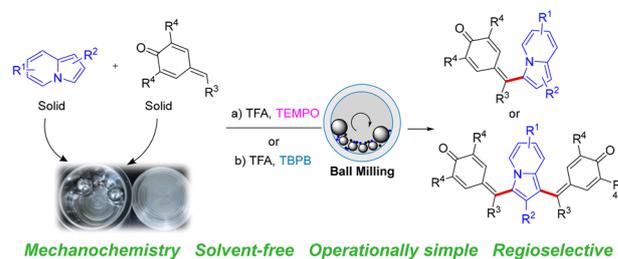
Margaux Walter, Murat Cihan, Mary-Lorène Goddard, Jean-Philippe Goddard* and Morgan Cormier*



16834

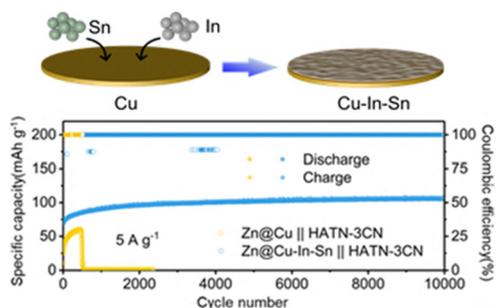
Mechanochemically controllable synthesis of mono- or di-alkenylated indolizines

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



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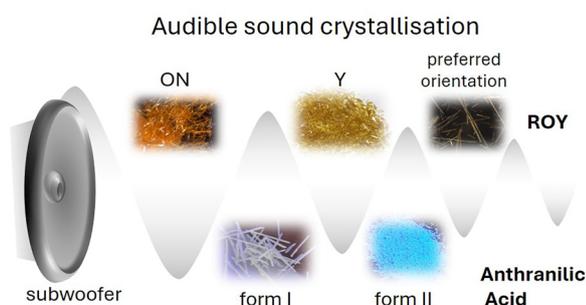
16838



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

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

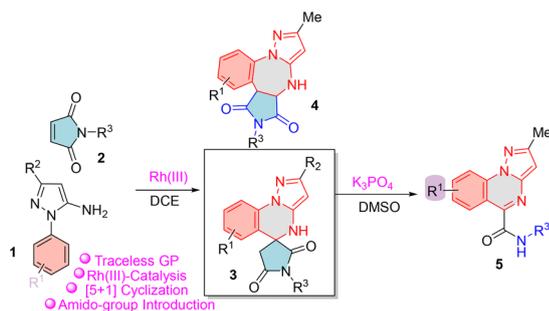
16842



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*

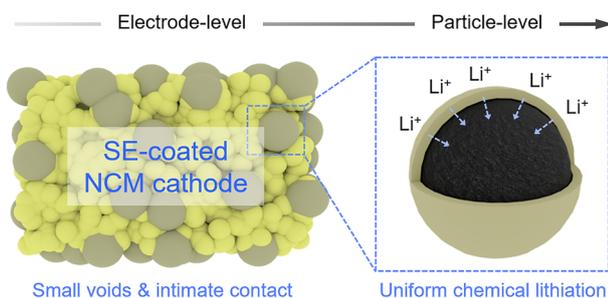
16846



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

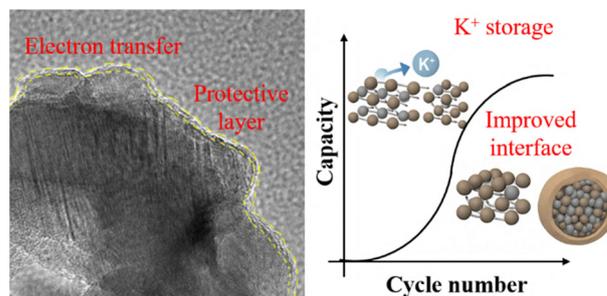
Junhee Kang, Yeokyung Lee, Youngjin Bae and Jong-Won Lee*



16854

Soft carbon-coated FeNCN anodes for enhanced potassium ion storage

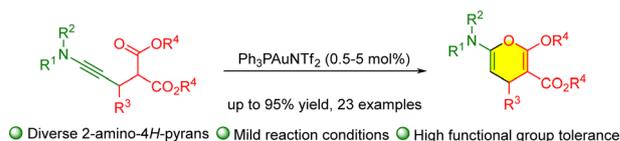
Erjin Zhang, Kelei Wu, Zhentao Luo, Yuanning Luo, Peng Wang, Bing Hua, Li Xu, Xuejiao Wang* and Henan Li



16858

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

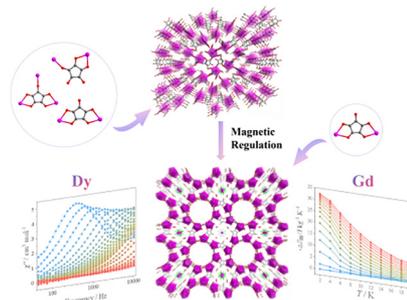
Jianfeng Zheng,* Dong Xiong, Yongqi Ye, Luhao Tang, Jiajin Yang, Zeyu Yang and Yunfei Cai*



16862

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

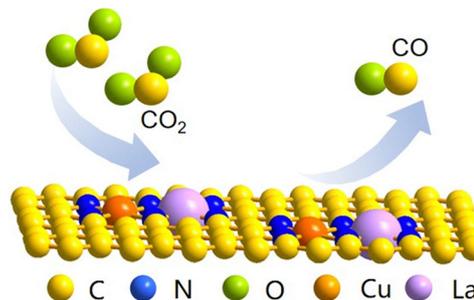
Xueying Shao, Yue Yang, Xiaofang Dong, Shen Wang, Yulu Liang, Zhongyi Liu, Hui Min,* Yu-Xia Wang* and Peng Cheng*



16866

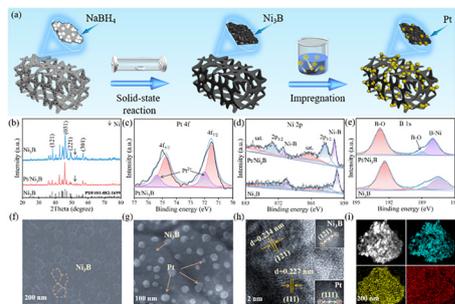
A CuLa dual-site catalyst for high-efficiency CO₂-to-CO electrocatalytic conversion with ultralow overpotential

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



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16870



Ultra-low Pt nanoparticles on self-supported monolithic Ni_3B 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*

