

# ChemComm

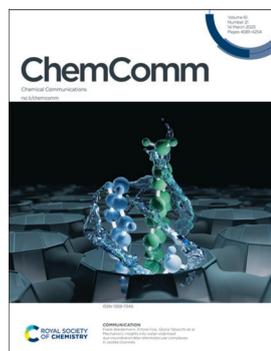
Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(21) 4081-4254 (2025)



### Cover

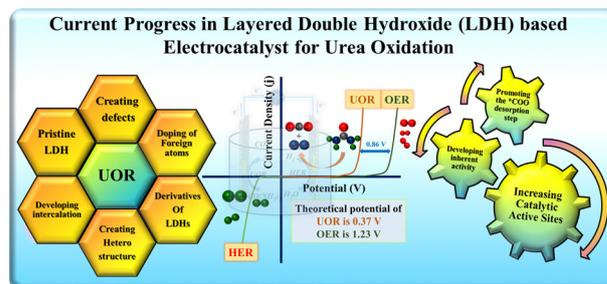
See Frank Biedermann, Ettore Fois, Gloria Tabacchi *et al.*, pp. 4160–4163. Image reproduced by permission of Ettore Fois from *Chem. Commun.*, 2025, 61, 4160.

## HIGHLIGHT

4092

### Current progress in layered double hydroxide-based electrocatalysts for urea oxidation: insights into strategies and mechanisms

Asha K Satheesan, Ragunath Madhu, Sreenivasan Nagappan, Hariharan N Dhandapani, Aditi De, Suprobhat Singha Roy, Prasita Mazumder and Subrata Kundu\*

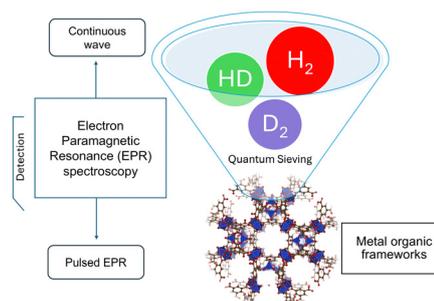


## FEATURE ARTICLES

4110

### Electron paramagnetic resonance spectroscopy: toward the path of dihydrogen isotopologue detection in porous materials

Muhammad Fernadi Lukman and Andreas Pöpl\*



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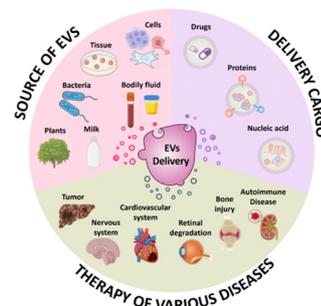


## FEATURE ARTICLES

4123

**Engineered extracellular vesicles: an emerging nanomedicine therapeutic platform**

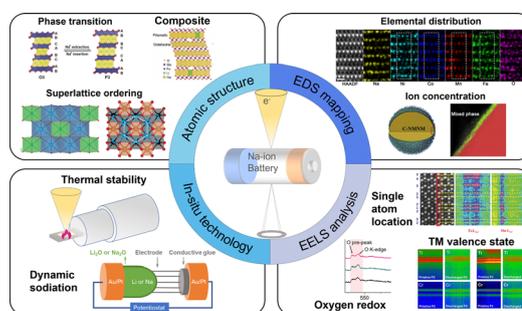
Jingshi Tang, Dezhong Li, Rui Wang, Shiwei Li, Yanlong Xing\* and Fabiao Yu\*



4147

**Revealing the microstructure and mechanism of layered oxide cathodes for sodium-ion batteries by advanced TEM techniques**

Sheng Xu, Lihua Zhao,\* Shukui Li and Shaohua Guo\*

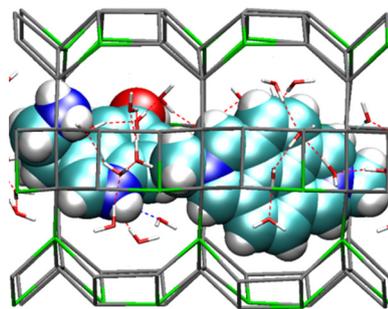


## COMMUNICATIONS

4160

**Mechanistic insights into water-stabilized dye-neurotransmitter intermolecular complexes in zeolite channels**

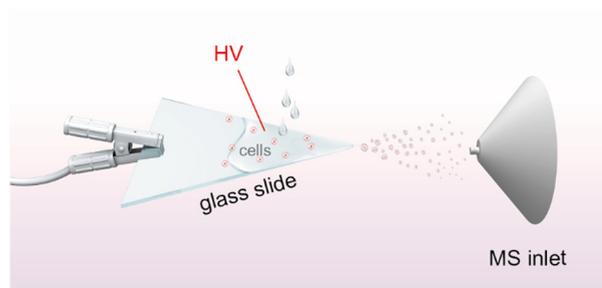
Cristiano Invernizzi, Laura M. Grimm, Frank Biedermann,\* Ettore Fois\* and Gloria Tabacchi\*



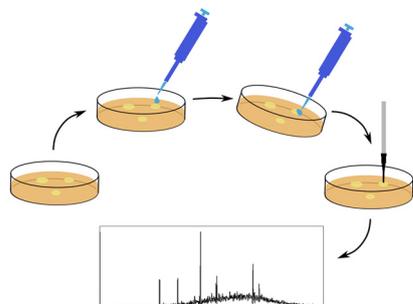
4164

**Glass electro spray for mass spectrometry *in situ* detection of living cells**

Xiyang Ge, Xiner Xing, Xiaoni Wang, Yiyan Yin, Xiaotong Shen, Jin Ouyang and Na Na\*



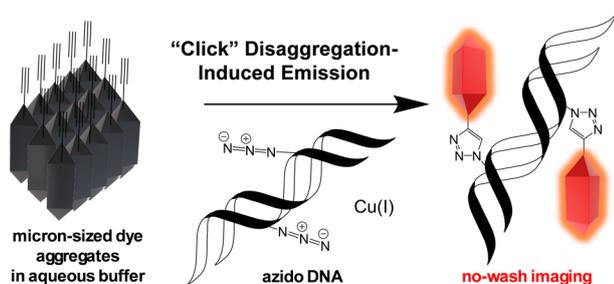
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### Native ambient mass spectrometry of membrane proteins directly from bacterial colonies

Yuying Du and Helen J. Cooper\*

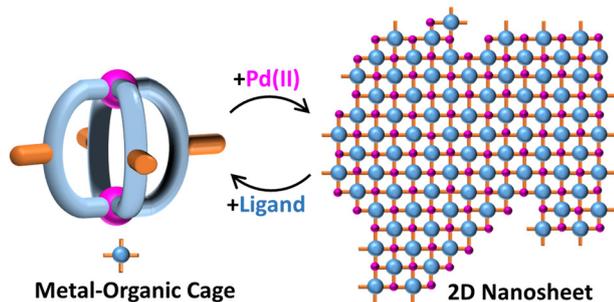
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### "Click" disaggregation-induced emission of a fluorescent dye

Kaleena Basran and Nathan W. Luedtke\*

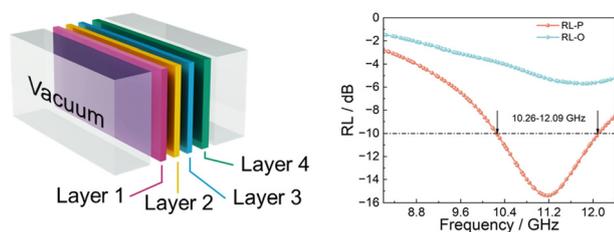
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### Programmable assembly/disassembly of metal-organic cage integrated 2D nanosheets

Vellaiyadevan Sivalingam and Dillip Kumar Chand\*

4180



### Recyclable construction of multi-layer films with an impedance gradient design for high-efficiency electromagnetic absorption performance

Yu Chen, Bin Quan,\* Litao Lin, Linyu Xie, Haoyu Jiao, Xinyi Min, Gaoyuan Yu, Binglin He, Xiaochi Lu, Jiajia Liu, Yan Chen and Xiaogu Huang\*

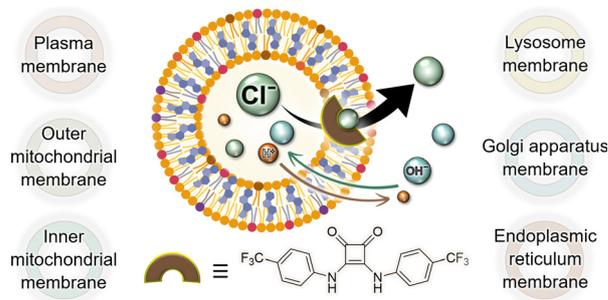


## COMMUNICATIONS

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**Anion transport in biologically relevant lipid mixtures**

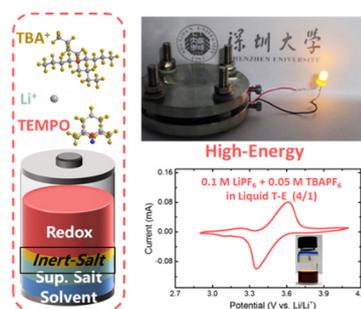
Krystyna Maslowska-Jarzyna, Sarah Rooijmans, Daniel A. McNaughton, William G. Ryder, Edward York, Moniek Tromp and Philip A. Gale\*



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**Introducing an inert-salt into a solvent-reduced catholyte for improving the electrochemical performance**

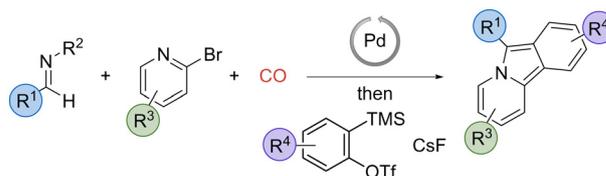
Mao Chen, Yangjun Xie and Hongning Chen\*



4192

**Design of a modular, palladium-catalyzed carbonylative synthesis of pyrido[2,1- $\alpha$ ]isoindoles via benzyne 1,3-dipolar cycloaddition**

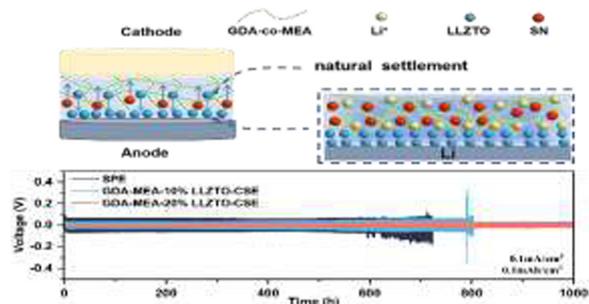
Karina S. Wong, Mohammad Ghanbari\* and Bruce A. Arndtsen\*



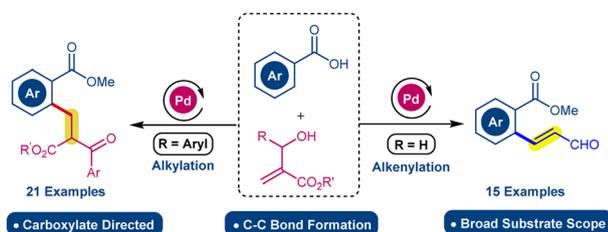
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***In situ* construction of an asymmetric composite electrolyte with structural gradients for dendrite-free lithium metal batteries**

Tao You, Lehao Pan, Jingchao Liu, Yifan Zhao, Fengquan Liu, Chen Wang\* and Lin Li\*



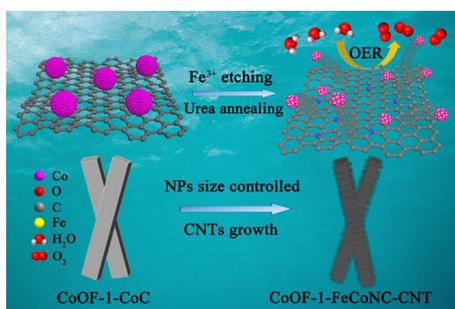
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### Palladium-catalyzed substrate-switchable C–H alkenylation and alkylation of benzoic acids using MBH alcohols

Hemanga Bhattacharyya, Sharajit Saha, Kshitiz Verma and Tharmalingam Punniyamurthy\*

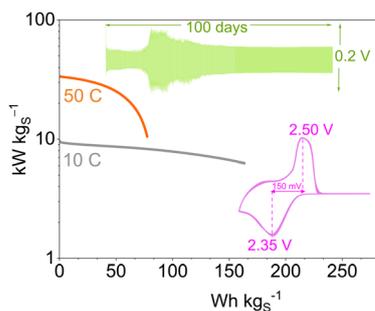
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### Co-MOF-derived carbon nanomaterials with size-controlled FeCo alloys for oxygen evolution

Junliang Chen, Yunan Ye, Yi Wu, Jie Liu, Xuemei Zhou, Qipeng Li and Jinjie Qian\*

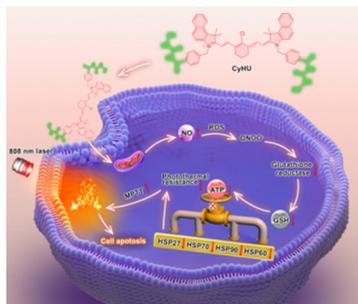
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### A high-power lithium–sulfur battery combining a catholyte and a composite cathode

Edoardo Barcaro and Jusef Hassoun\*

4212



### A nitric oxide-boosting molecular agent to enhance mild-temperature photothermal therapy

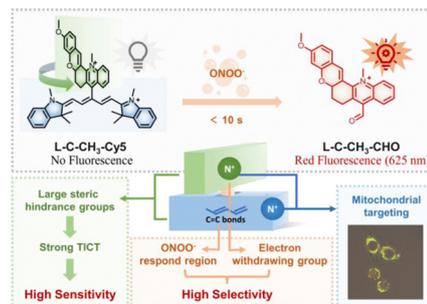
Xinhao Zhang, Wei Pan,\* Jialin Kuang, Kaiye Wang, Na Li\* and Bo Tang\*



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### Fluorescence probe for the fast and sensitive detection and imaging of ONOO<sup>-</sup> via regulation of charge distribution

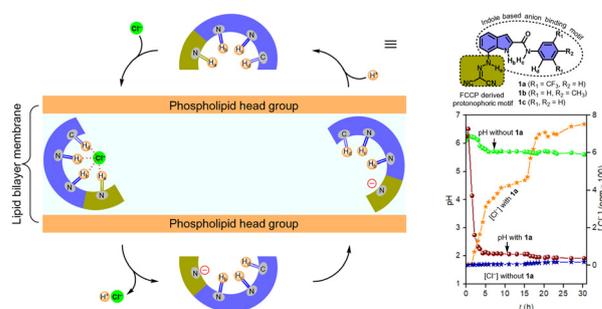
Yanhong Lin, Bingling Zhang, Xiaoli Yu, Chang Lu, Guozhen Zhang,\* Xiaole Zhou\* and Leyu Wang\*



4220

### Carbonhydrazonoyl dicyanide-linked indole carboxamides as a new scaffold for transmembrane H<sup>+</sup>/Cl<sup>-</sup> transport

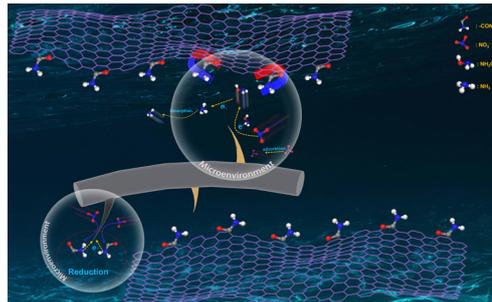
Akram Raza, Sandip Chattopadhyay, Debashis Mondal and Pinaki Talukdar\*



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### "Soft armor" regulates the electrocatalytic microenvironment for nitrate reduction to ammonia to greatly enhance stability

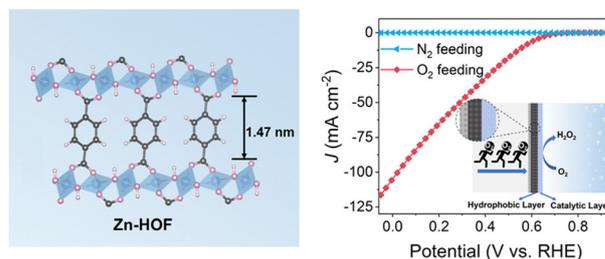
Xinxin Ji, Jiwen Hu, Hui Zhang,\* Shikuo Li\* and Fangzhi Huang\*



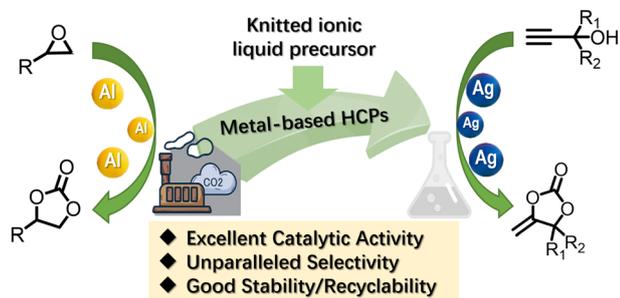
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### A zinc hydroxide-organic framework for electrochemical synthesis of H<sub>2</sub>O<sub>2</sub>

Jiajia Zou, Yang Yu, Dantong Zhao and Weihua Hu\*



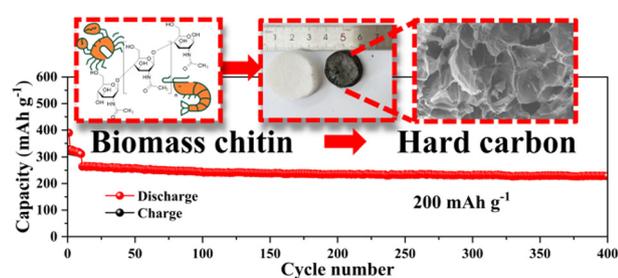
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### Integrating metal complex units into knitted hypercrosslinked polymers for enhanced efficiency of cyclization reactions with CO<sub>2</sub>

Yingyin Li, Ke Lin, Zhiyuan Chen, Yinghua Lu and Rongchang Luo\*

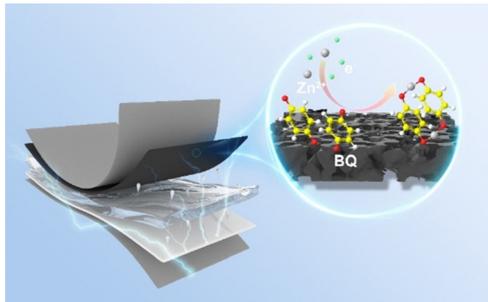
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### Renewable chitin-derived hard carbon as a free-standing anode for sodium-ion batteries

Wenting Liu, Xiaoyu Wu,\* Feng Wang and Zhenzhen Wu

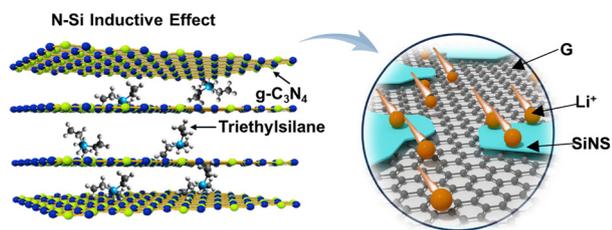
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### Revitalizing inert carbon pores with benzoquinone for high-performance flexible zinc-ion capacitors

Lintong Hu, Xiaolong Li, Yunpeng Zhou, Can Cui, Minjie Shi and Chao Yan\*

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### Restriction of silicon aggregation upon enhanced bond cleavage

Shuyue Xue, Peng Li,\* Yingchun Yan, Qinggang Zhang,\* Zhen Wang, Zifei Sun and Jin Zhou\*



4248

**Metal-free carbon nitride catalyst for toluene oxidation**

Yanping Li, Lizheng Chen, Tao Gan, Xuefeng Chu, Wanchun Zhu, Wenxiang Zhang, Wenfu Yan and Gang Liu\*

