

# ChemComm

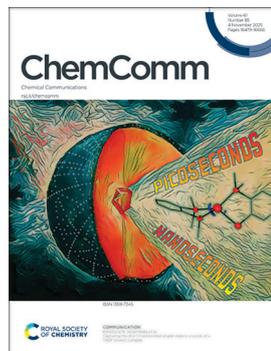
Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(85) 16479-16666 (2025)



### Cover

See Katarzyna N. Jarzemska *et al.*, pp. 16560–16563. Image reproduced by permission of Katarzyna N. Jarzemska from *Chem. Commun.*, 2025, 61, 16560.



### Inside cover

See Felipe Conzuelo *et al.*, pp. 16564–16567. Image reproduced by permission of Panpan Wang from *Chem. Commun.*, 2025, 61, 16564.

## PROFILE

16491

### Contributors to the Pioneering Investigators collection 2025: part 2

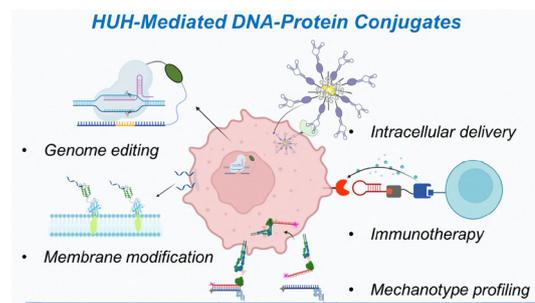


## HIGHLIGHT

16498

### HUH endonuclease-mediated DNA–protein conjugates: sequence-specific tools and cellular applications

Xiaowei Huang, Haokun Li, Jiajun Du, Wenxue Xie, Yuanyuan Liu, Yingwu Lin and Hang Xing\*



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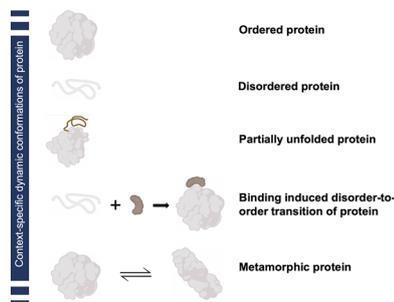


## FEATURE ARTICLES

16512

**Conditional disorder in proteins: functional transitions between order and disorder**

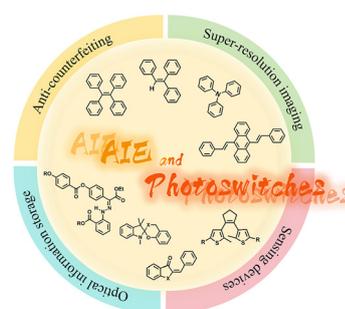
Bhaswati Devi, Niharika Nag, Vladimir N. Uversky\* and Timir Tripathi\*



16529

**Advances in AIE-based solid-state fluorescent photoswitches**

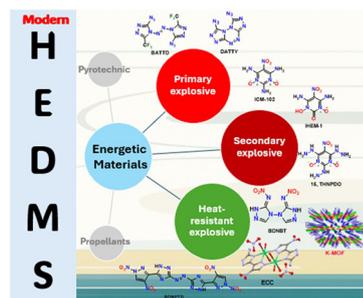
Chunyan Wei, Yaowu Zhang, Haoxuan Ren, Bin Xu\* and Wenjing Tian\*



16547

**Shaping the future of energetic materials: breakthroughs, barriers, and emerging frontiers**

Abhishek Kumar Yadav and Srinivas Dharavath\*

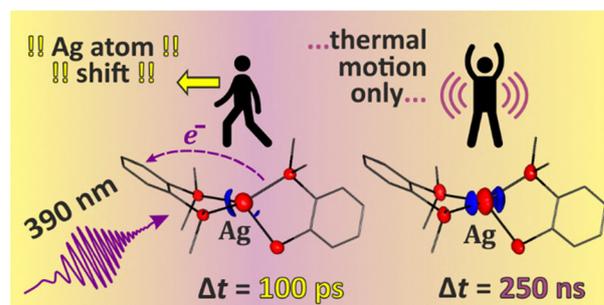


## COMMUNICATIONS

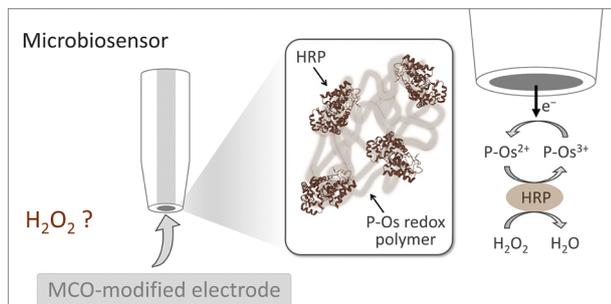
16560

**Capturing the short-lived excited singlet state in crystals of a TADF silver(i) complex**

Piotr Łaski, Jakub Drapała, Radostaw Kamiński, Krzysztof Durka, Dariusz Szarejko, Robert Henning and Katarzyna N. Jarzemska\*



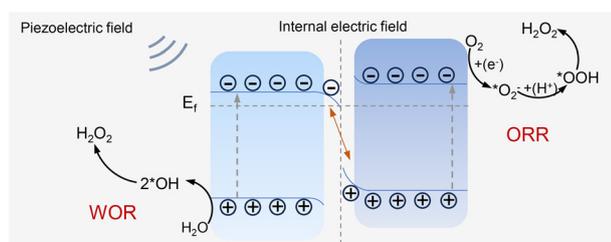
16564



### *In operando* assessment of $\text{H}_2\text{O}_2$ production by a multicopper oxidase under direct electron transfer with a gold electrode

Panpan Wang, Vânia Brissos, Lígia O. Martins, Wolfgang Schuhmann and Felipe Conzuelo\*

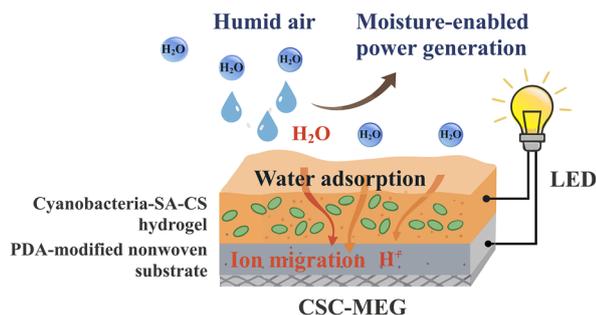
16568



### Interfacial electric field in Zr-MOF-grafted carbon nitride to boost $\text{H}_2\text{O}_2$ piezo-synthesis under ambient conditions

Jingyi Yang, Zhi Li,\* Huiru Chen, Jie Leng, Li Gong\* and Mingshan Zhu\*

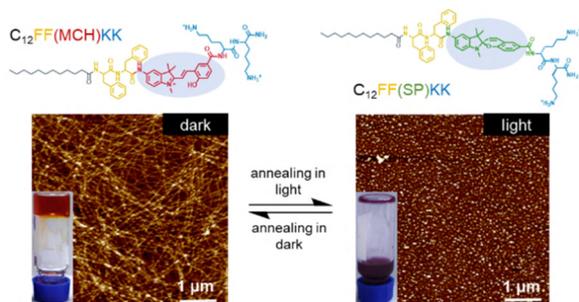
16572



### Moisture-electric generator based on a facilely prepared cyanobacteria–sodium alginate–chitosan composite hydrogel

Xiuwen Wang, Yunan Lin, Shipu Jiao and Xianhua Liu\*

16576



### Photoswitchable supramolecular self-assembly of amphiphilic peptides enabled by backbone-integrated spiropyran

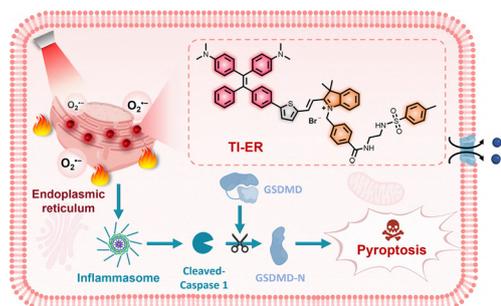
Jinying He, Meiqing Yang, Yifan Zheng, Yingjie Liu, Zhaomiao Chu and Chuang Li\*



16580

### An endoplasmic reticulum-targeted NIR-II type I AIE photosensitizer for triggering pyroptosis

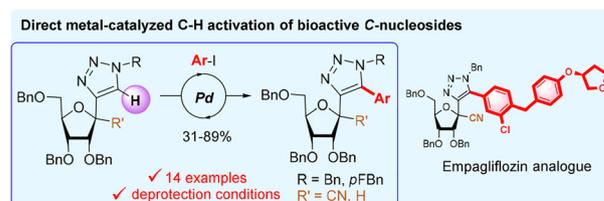
Xinyu Li, Lijin Yang, Bingbing He, Dongxiu Li, Changqing Lei, Nan Li\* and Na Zhao\*



16584

### Direct palladium-catalyzed C–H arylation of bioactive triazolyl-C-nucleosides on a key position of the heterocyclic base

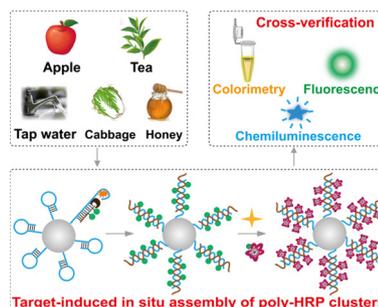
Bartosz Godlewski, Nina Bozinovic, Quentin Joachim, Olivier Monasson, Nadège Lubin-Germain\* and Angélique Ferry\*



16588

### Optical sensing of imidacloprid *via* target-induced *in situ* assembly of poly-horseradish peroxidase clusters

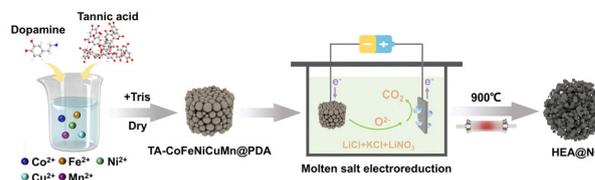
Luyu Wei, Mingrui Xu, Ziqi Cheng, Hengye Chen, Wanjun Long, Haiyan Fu and Yuanbin She\*



16592

### Constructing a high-entropy nanoalloy by molten salt electroreduction for efficient bifunctional oxygen electrocatalysis

Lielie He, Shudong Chen, Junyang Zhou, Jian Chen, Yangen Zhou,\* Mengran Wang\* and Yanqing Lai



## COMMUNICATIONS

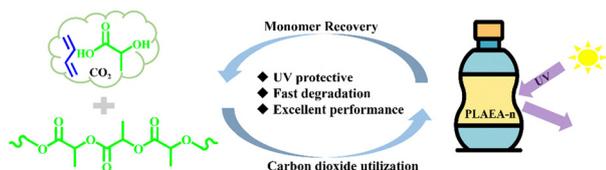
16596



### Photo-triggered tandem cyclization of arylethynyl quinazolin-4(3H)-one for difluoroalkylated quinolino[2,1-b]quinazolines

Haibo Yao, Qiyang Liu, Jinwei Yuan,\* Weixian Lv, Liangru Yang, Yongmei Xiao, Yuntao Xia and Dongliang Xing\*

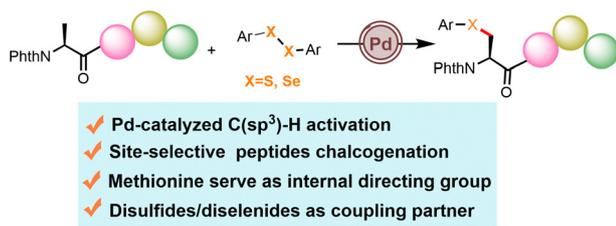
16600



### Synthesis of a CO<sub>2</sub>-based polyester for remarkably improving the toughness, UV-resistance and degradability of bio-based polylactic acid

Jiang Li, Hengsheng Liu, Yu Jiang,\* Xiaoqiang Hu and Daohong Zhang\*

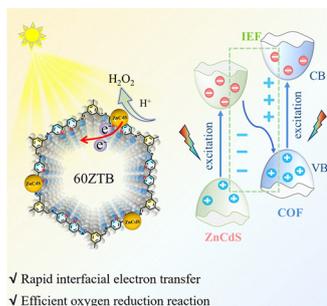
16604



### Methionine-facilitated chalcogenation of peptides through palladium-catalyzed $\beta$ -C(sp<sup>3</sup>)-H activation

Jian Tang,\* Qinyu Lu, Fengjie Lu, Yi Sun, Yuqi Pan and Weishuai Qu

16608



### An efficient S-scheme Tb-BPY COF/ZnCdS heterojunction for visible-light H<sub>2</sub>O<sub>2</sub> production

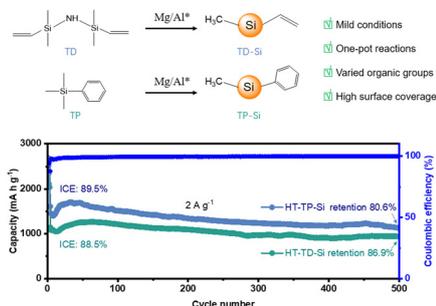
Jie Zhang, Jianjun Zhang, Changhong Sun, Huogen Yu, Jiaguo Yu, Matvey V. Fedin and Liuyang Zhang\*



16612

### *In situ* one-pot synthesis of organic-functionalized crystalline silicon nanoparticles

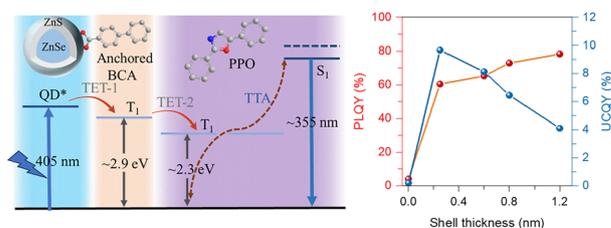
Yanan Xu, Shiyue Zhang, Pengliang Gu, Qing Hu, Yu Zhang, Hao Li, Wenkai Wang and Hongbin Du\*



16616

### Optimizing shell thickness in ZnSe/ZnS quantum dots for enhanced triplet energy transfer and photon upconversion

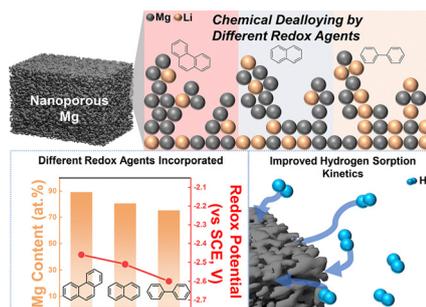
Lei Wang, Rongxin Zhang, Zixiang Zhou, Feng Chen, Xin Zhang, Meihua Chen,\* Yanchun Zhao\* and Guijie Liang\*



16620

### Chemical redox agent-mediated dealloying enables structural tuning of nanoporous Mg for hydrogen storage

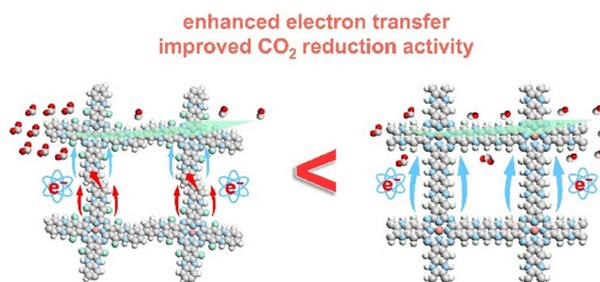
Byungmoon Yoo, YongJun Cho, Jinseok Koh, Aqil Jamal and Eun Seon Cho\*



16624

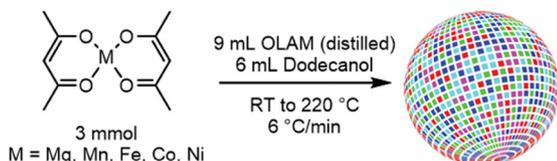
### Co phthalocyanine covalent organic frameworks with enhanced $\pi$ -electron delocalization for boosted electrocatalytic CO<sub>2</sub> reduction reaction

Anhao Han, Ping Fang, Qian Zhao, Jiwu Zhao, Jilong Yin, Haitao Lei\* and Rui Cao\*



## COMMUNICATIONS

16628

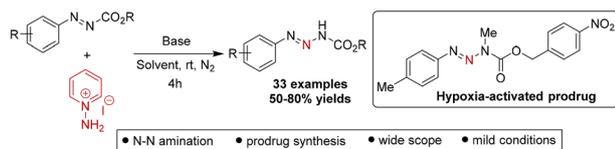


- ❖ Simple heat-up procedure
- ❖ Low-dispersity
- ❖ Low-cost precursors
- ❖ 3 to 5 elements incorporated
- ❖ Small (<5 nm) average particle size

## Colloidal synthesis of low-dispersity high entropy rock-salt oxide nanoparticles

Jonathan L. Rowell, Aditya A. Joshi, Haotian Tan, Dasol Yoon, David A. Muller and Richard D. Robinson\*

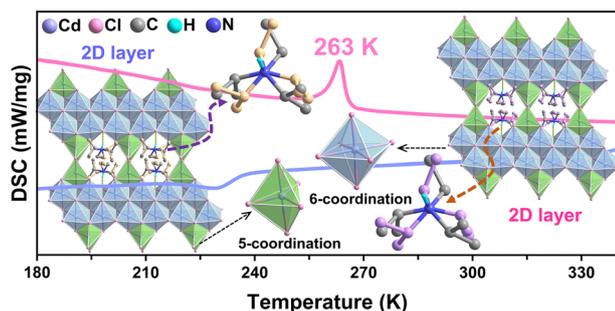
16632



## Nitrogen atom insertion into N=N double bonds: straightforward access to triazenes

Prashant Kumar, Ruchir Kant and Namrata Rastogi\*

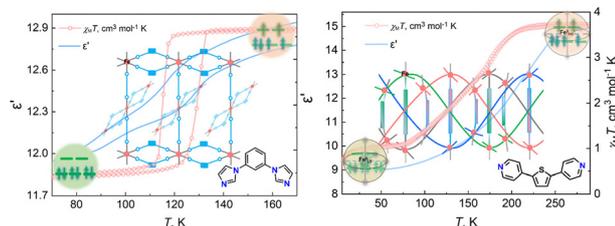
16636



## A five- and six-coordinated two-dimensional metal halide organic-inorganic phase transition material

Hui-Ping Chen, Zhen-Yu Wang, Jun-Chao Qi, Hang Peng, Tian-En Yang, Xiao-Xuan Zhang, Xin-Yu Luo and Wei-Qiang Liao\*

16640



## Large dielectric modulation triggered by spin crossover in polar Hofmann-type polymers

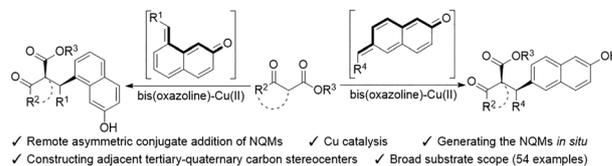
Nian-Tao Yao,\* Jiao-Jiao Jiang, Bing-Yuan Qian, Hui-Ying Sun,\* Cheng Yi\* and Liang Zhao



16644

### Remote asymmetric conjugate addition of naphthoquinone methides: constructing adjacent tertiary-quaternary carbon stereocenters

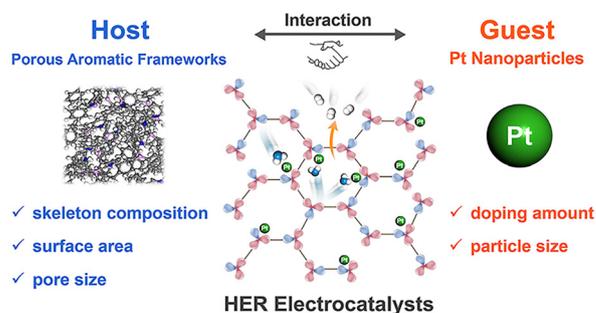
Jing-Jing Zhai, Shao-Jie Lou, Xiao-Xiao Zhang, Qiu-Yi Lan, Cheng-Cheng Jing, Yang-Jie Mao, Yi-Feng Wang,\* Ming-Ming Chu\* and Dan-Qian Xu\*



16648

### Elucidating host-guest interactions between phosphine-based porous aromatic frameworks and platinum for enhanced HER

Yang Xiao, Zelin Shi, Han Yan, Jiahui Li, Shuo Han, Yuting Yang\* and Xiaofei Jing\*



16652

### B<sub>2</sub>Pin<sub>2</sub>-enabled reductive thioesterification of aryl triflates with thiocarbonates

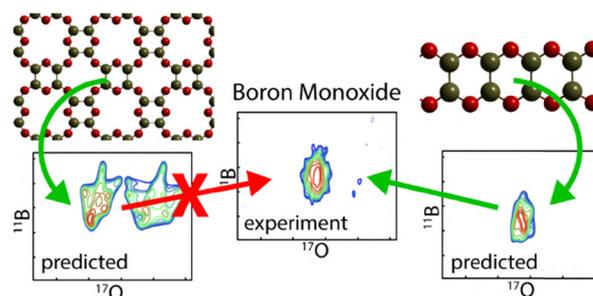
Houguang Shi, Fan Wu,\* Wei Zhu, Hong C. Shen, Shaojie Xu, Xiaotai Wang and Hegui Gong\*



16656

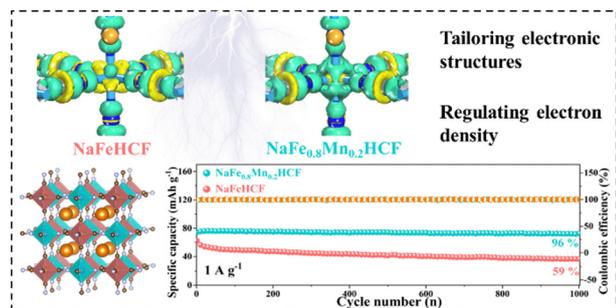
### Boron monoxide is a one-dimensional polymer

Joseph F. Thuma, Rana Biswas, Carl F. Fleischer III, Levi Stanley, Wenyu Huang and Frédéric A. Perras\*



## COMMUNICATIONS

16660



### A high-spin Mn-tailored sodium hexacyanoferrate electronic structure enables efficient Mg<sup>2+</sup> storage

Yue Yang, Hui Li, Yusheng Zhang, Qin Zhao\* and Tianyi Ma\*

## CORRECTION

16664

### Correction: Revealing cobalt-induced Li-ion trapping at the LATP/LCO interface with a fine-tuned machine learning interatomic potential

Yu-Ting Tai and Hong-Kang Tian\*

