

# ChemComm

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## IN THIS ISSUE

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### Cover

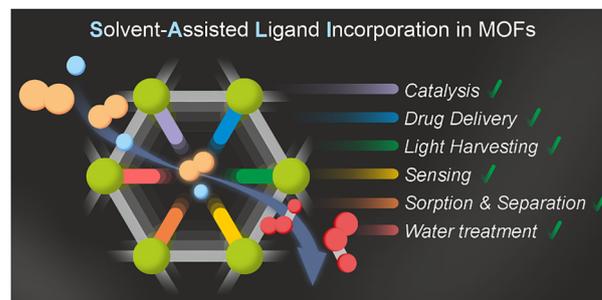
See Marzena Pander, Wojciech Bury *et al.*, pp. 17715-17734. Image reproduced by permission of Wojciech Bury from *Chem. Commun.*, 2025, **61**, 17715. Image designed and produced by Mr Dawid Longa.

## HIGHLIGHTS

17715

### When MOFs met SALI: solvent-assisted ligand incorporation in metal-organic frameworks for catalysis and beyond

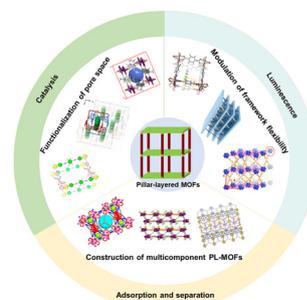
Marzena Pander,\* Emilian Stachura, Magdalena Koziet-Szymańska and Wojciech Bury\*



17735

### Structural design and applications of pillar-layered MOFs

Xiao-Ting Liu,\* Yaxuan Wang and Chao Lu\*



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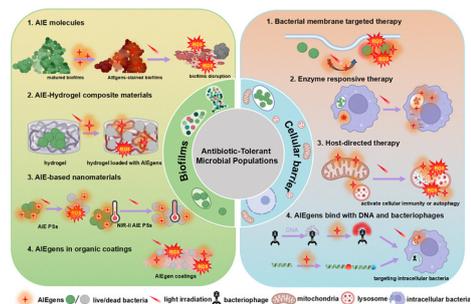


## HIGHLIGHTS

17751

### A review of AIE-based theranostic strategies regarding antibiotic-tolerant microbial infections

Tun Sun, Jiayi Song, Wentian Zhang, Linjie Tan, Junfeng Dong\* and Ying Li\*

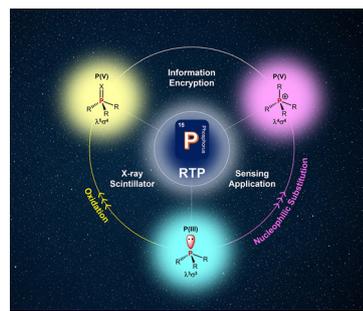


## FEATURE ARTICLES

17770

### Recent advances in room-temperature phosphorescence in organophosphorus aggregates

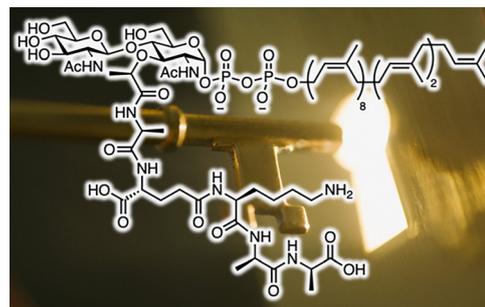
Gian Albert Alfani, Ziyu Cui, Zheng Zhao, Zijie Qiu,\* Parvej Alam\* and Ben Zhong Tang\*



17787

### Lipid II unlocked: strategies for obtaining a major antibiotic target

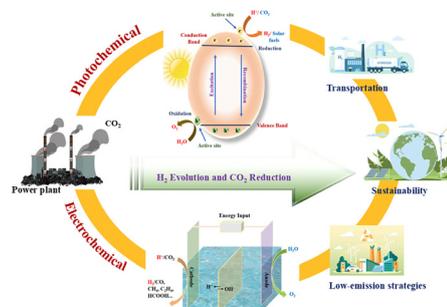
Luke J. Tyrie, Milandip Karak\* and Stephen A. Cochrane\*



17810

### The potential of H<sub>2</sub> evolution and CO<sub>2</sub> mitigation from photochemical to electrochemical perspectives

Saman Shaheen and Tokeer Ahmad\*



## FEATURE ARTICLES

17825

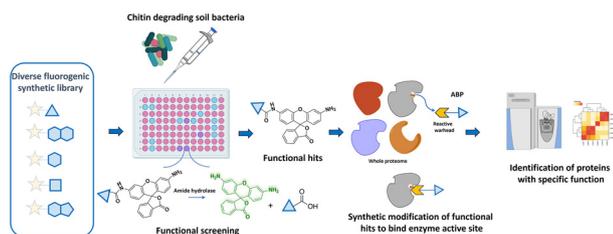


## Recent advances in multifunctional electromagnetic interference shielding materials

Xin Yan, Fangqi Guo, Yuting Lin and Guangbin Ji\*

## COMMUNICATIONS

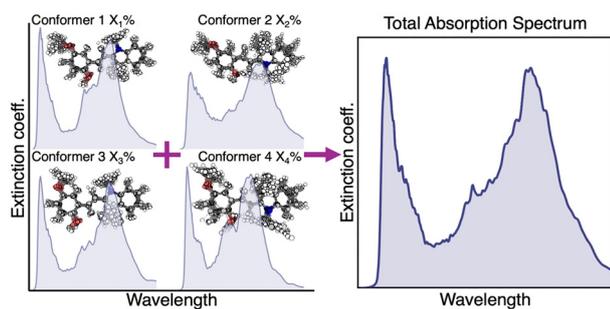
17846



## An activity-based probe library for identifying promiscuous amide hydrolases

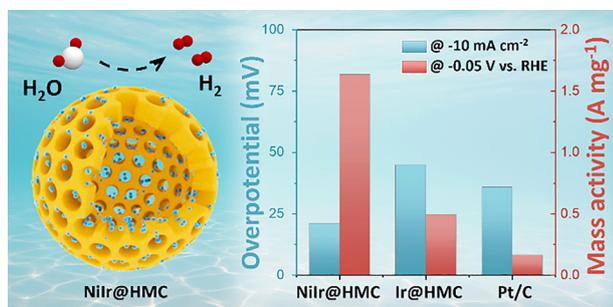
Chathuri J. Kombala, Jared O. Kroll, Lucas C. Webber, Stephen J. Callister, Natalie C. Sadler, Erin L. Bredeweg, Irlanda N. Medrano, Kristoffer R. Brandvold\* and Sankarganesh Krishnamoorthy\*

17850

Spectroscopic characterisation of metastable photoswitches for CO<sub>2</sub> capture and release

Federico J. Hernández\* and Basile F. E. Curchod\*

17854



## Ultrafine NiIr nanoclusters confined in hollow mesoporous carbon spheres accelerate alkaline hydrogen evolution

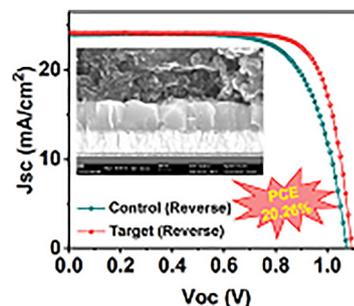
Yubei Du, Haining Wang, Jiayi Chen, Hongxuan Chen,\* Sibow Wang and Xue Feng Lu\*



17858

### Achieving over 20% efficiency in HTL-free carbon-electrode perovskite solar cells via multifunctional surface engineering

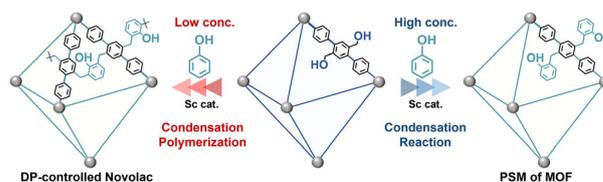
Shuai Xu, Yanqiang Hu,\* Xiangqian Cui, Yirui Wang, Jingxiang Fu, Guoliang Sun, Yiqiong Zhang, Yipu Wang,\* Minmin Wang and Yanfeng Tang



17862

### Controlled condensation reaction of an immobilized bis(hydroxymethyl)arene and mobile phenols in metal-organic frameworks

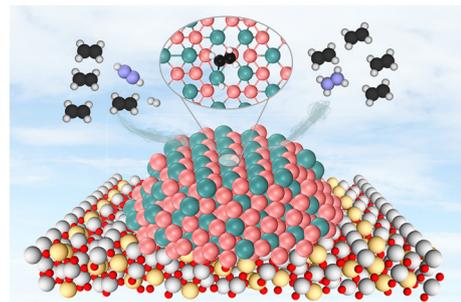
Mariko Tsutsumi, Hiroki Amaya, Keitaro Matsuoka and Kazuki Sada\*



17866

### Intermetallic Co<sub>3</sub>Sn<sub>2</sub> catalyst with isolated and electron-rich Co active sites for efficient acetylene semihydrogenation

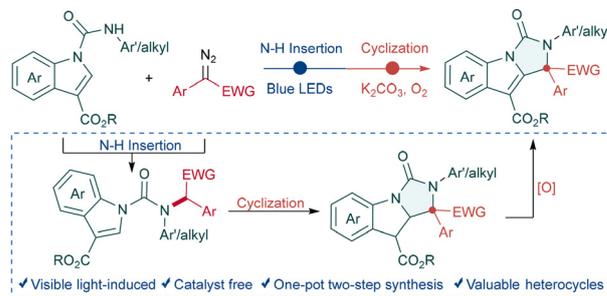
Nina Fei, Xiaohu Ge,\* Hao Jiang, Jing Zhang, Gang Qian, Yueqiang Cao,\* Xingguo Zhou, Weikang Yuan and Xuezhi Duan



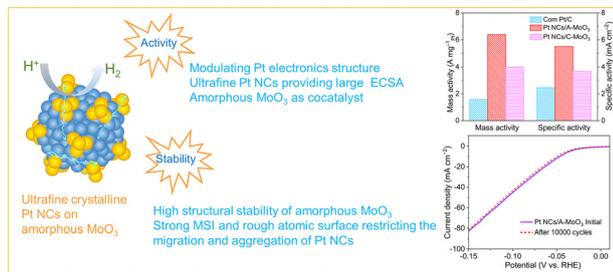
17870

### Visible-light-promoted synthesis of imidazo[1,5-a]-indole-3-ones via cascade carbene N-H insertion and oxidative cyclization

Shou-Yang Tang, Qian-Qian Sang, Ze-Le Chen, Bao-Gui Cai\* and Jun Xuan\*



17874



### Ultrafine Pt nanocrystals anchored on amorphous MoO<sub>3</sub> for hydrogen evolution

Qinhe Guan, Hongxuan Hao, Yisen Zhang, Xiaohang Ge, Mang Niu, Weiyong Yuan and Lian Ying Zhang\*

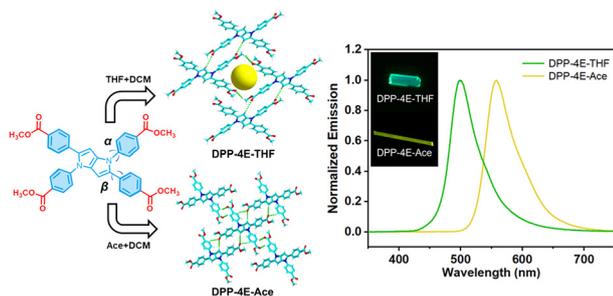
17878



### KNa<sub>2</sub>Y<sub>2</sub>B<sub>2</sub>O<sub>6</sub>F<sub>3</sub>: a beryllium free deep-UV nonlinear optical crystal with well-balanced properties

Huijian Zhao, Mengru Liu, Weina Nan,\* Ning Yang, Conggang Li,\* Ning Ye and Zhanggui Hu

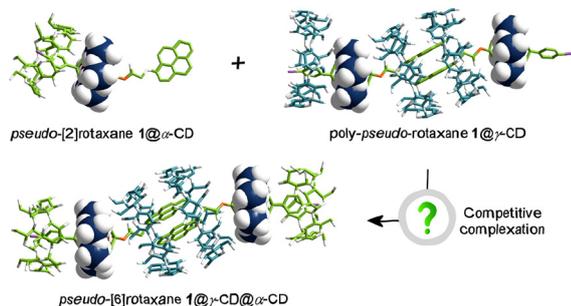
17882



### Solvent-induced conformational changes in color-tunable hydrogen-bonded organic frameworks

Longhao Hu, Chaohui Lin, Dailin Zeng, Xianjiao Qin, Xiao-Li Lai, Lingshan Gong,\* Yingxiang Ye,\* Thamraa AlShahrani and Shengqian Ma\*

17886



### Size-matched supramolecular assembly between an asymmetric Anderson-type polyoxometalate hybrid and α-/γ-cyclodextrins

Chun-Yan Liu, Yun-Jing Mu, Wu-Ji Chen, Cheng-Shuai Liu, Chang-Gen Lin\* and Yu-Fei Song\*

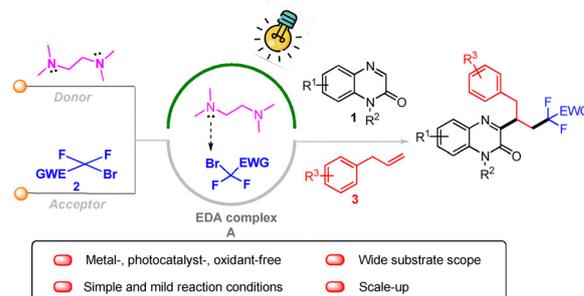


## COMMUNICATIONS

17890

### Photoinduced EDA complex triggered difluoroalkylation of quinoxalin-2(1*H*)-ones with unactivated alkenes and fluoroalkyl bromides

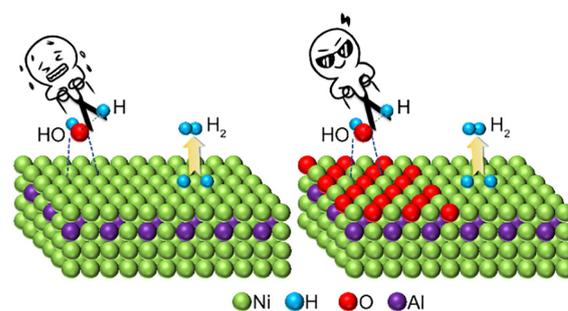
Huanhuan Cui, Xiulin Qiao, Tiesheng Shi, Wei Wei, Huilan Yue, Zuli Wang, Zhuoming Ma\* and Zi Yang\*



17894

### A plasma spray modulating porous NiAl coating on nickel mesh for hydrogen and oxygen evolution

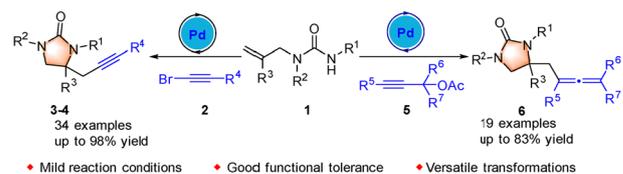
Junjie Huang, Yuan Heng, Yuqian Yang, Lihua Gao, Zhong-Qin Pan,\* Yuhuan Yang, Xiao-Lei Huo,\* Changqing Ye and Qingwen Zhou\*



17898

### Palladium-catalyzed aminoalkynylation/alleneamination of urea-tethered alkenes: access to imidazolidinones bearing alkynes and allenes

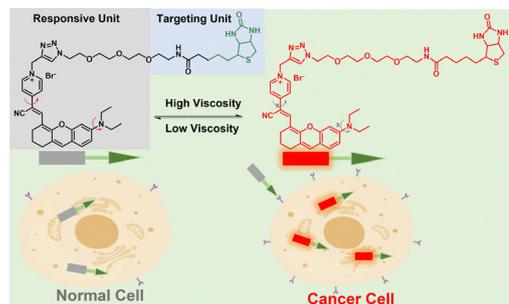
Qianqian Hu, Cangzhu Hu, Tian Tang, Qing Wu, Weiming Hu,\* Qiang Dai\* and Lei Wang\*



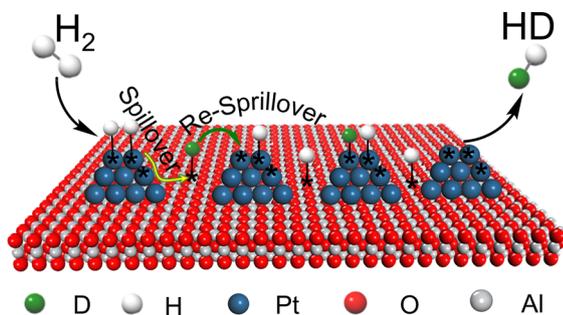
17902

### A viscosity-activated and tumor-specific NIR probe for precise imaging of cancer cells

Xue Wu, Lingling Cao, Qiuyue Zhao, Junjie Kou, Ying Li,\* Fanpeng Kong\* and Bo Tang



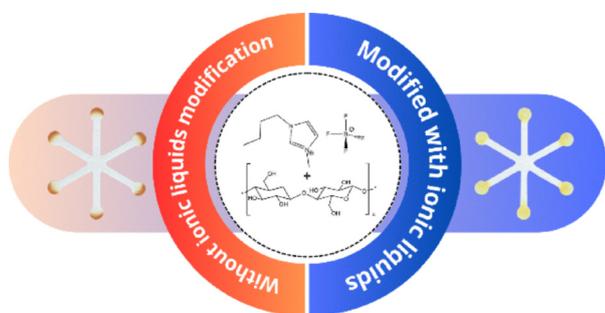
17906



### Surface acidity as the decisive descriptor for hydroxyl-mediated hydrogen spillover in hydrogen isotope exchange

Hongbing Wang,\* Qiongdan Zhang, Xiaolin Zhou, Linsen Zhou, Wei Cui, Xiaoke Li,\* Peilong Li\* and Yifei Yang\*

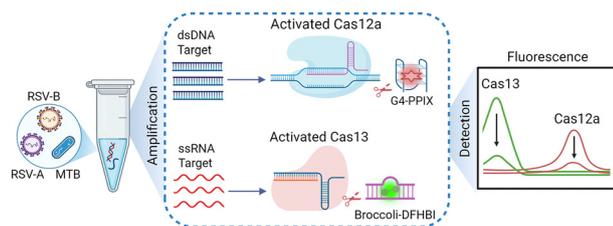
17910



### Tailored ionic liquids for microfluidic paper-based analytical devices: boosting colorimetric performance for enzymatic glucose assays via cellulose surface modification

Daniel S. Paula, Larissa G. Velasco, Jean C. P. Sousa, Thiago M. G. Cardoso, Muhammad I. Qadir, Boniek G. Vaz and Wendell K. T. Coltro\*

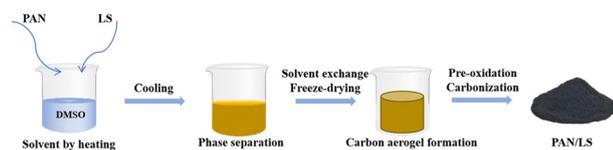
17914



### A label-free orthogonal dual-channel CRISPR-Cas platform for simultaneous detection of *Mycobacterium tuberculosis* and respiratory syncytial virus

Yanan Lin, Dawei Jiang, Xingpeng Dong, Yilin Li, Xiyue Wu, Ruoxuan Li, Feng Li, Dan Sun\* and Yanyan Yu\*

17918



### Pore structure design via modified phase inversion strategy toward high-performance hard carbon anode

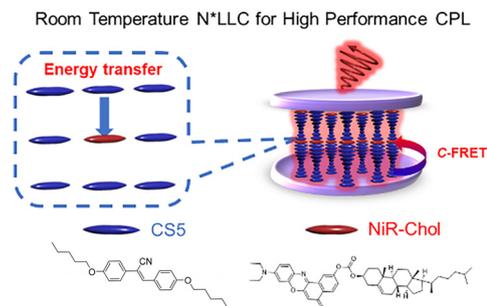
Zi Li, Xiaojie Wang, Xuewen Yu,\* Zhijun Qiao, Dianbo Ruan and Yuzuo Wang\*



17922

### A room temperature nematic luminescent liquid crystal: a FRET donor for amplified circularly polarized luminescence

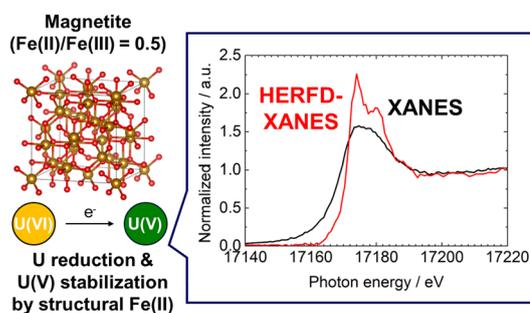
Yao Xiao, Xue-Lan Pan, Xiang-Jian Cao, Xin Qi, Sheng-Qi Qiu and Zhen-Qiang Yu\*



17926

### High stabilization of pentavalent uranium on magnetite nanoparticles evidenced by high-energy-resolution X-ray absorption spectroscopy

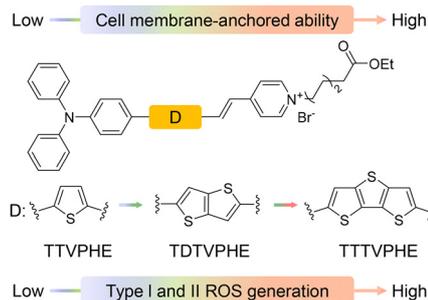
Takumi Yomogida,\* Jaimy Scaria, Laura Fablet, Kohei Tokunaga, Syuntaro Dei, Kotaro Higashi, Naomi Kawamura, Yoshio Takahashi and Rémi Marsac\*



17930

### Molecular engineering of NIR AIE probes for cell membrane-targeted cancer phototheranostics

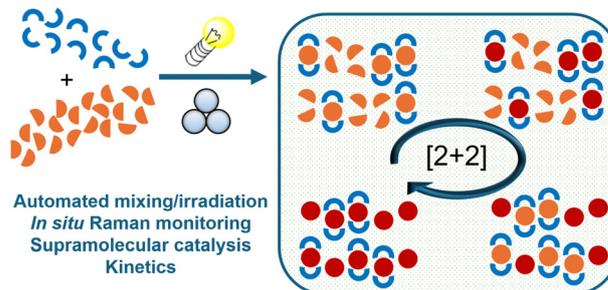
Chengwei Tang, Wenman Li, Huixuan Tang, Yuanyuan You, Yuxun Ding, Dingyuan Yan,\* Dong Wang\* and Xiaohui Chen\*



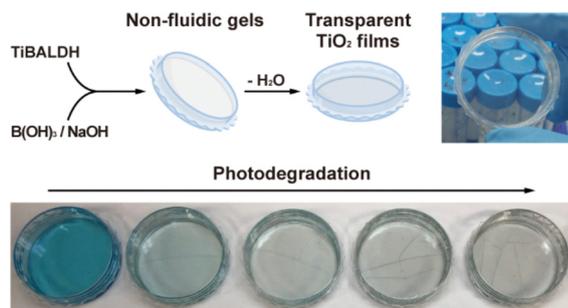
17934

### Less is more? Probing the template amount required for solid-state olefin [2 + 2] photocycloaddition in a ball mill

Mario Pajić, Senada Muratović and Marina Juribašić Kulcsár\*



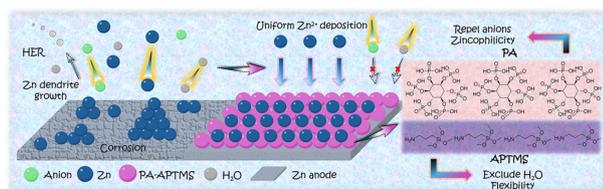
17938



### Boric acid-mediated sol–gel construction of transparent, photoactive TiO<sub>2</sub> films

Su Yeon Rhee, Duc Tai Nguyen, Sang Yeong Han, Konstantin Klementiev, Wongu Youn, Gyeongwon Yun, Yongmin Kwon, Sang Woo Han, Ji Hun Kim, Taek-Soo Kim, Hojae Lee, Gulaim A. Seisenbaeva,\* Vadim G. Kessler\* and Insung S. Choi\*

17942



### Hydrophobic–zincophilic double-ingredient interfacial design enables a stable Zn anode

Hanlin Ding, Zhenxin Lin, Xiaoting Lin, Minghui Ye, Yongchao Tang, Xiaoqing Liu, Zhipeng Wen, Yufei Zhang\* and Cheng Chao Li\*

