

# ChemComm

Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(94) 13785-13972 (2024)



### Cover

See Youngsuk Kim *et al.*, pp. 13867-13870. Image reproduced by permission of Youngsuk Kim from *Chem. Commun.*, 2024, 60, 13867.



### Inside cover

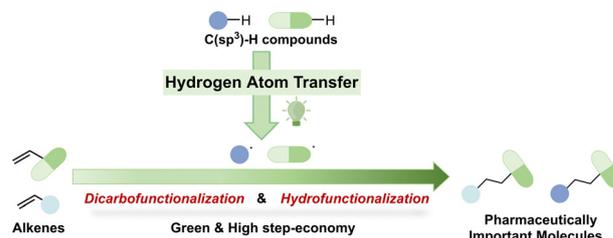
See Uttam Manna *et al.*, pp. 13871-13874. Image reproduced by permission of Uttam Manna from *Chem. Commun.*, 2024, 60, 13871.

## HIGHLIGHTS

13796

### Direct alkene functionalization via photocatalytic hydrogen atom transfer from C(sp<sup>3</sup>)-H compounds: a route to pharmaceutically important molecules

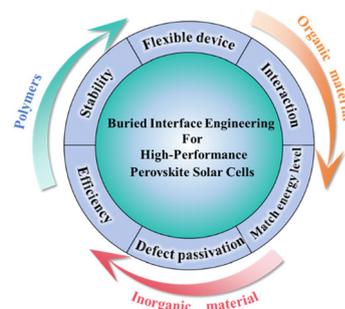
Hangqian Fan, Yuxin Fang and Jingbo Yu\*



13819

### Recent progress of buried interface in high-efficiency and stable perovskite solar cells

Bin Du,\* Jintao Ma, Hongkun Xiang, Yanlong Wang\* and Bixin Li\*



# ChemComm

Uncover new possibilities  
with outstanding  
preliminary research

Original discoveries, fuelling  
every step of scientific progress



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Fundamental questions  
Elemental answers

## FEATURE ARTICLES

13832

## Upcycling of waste polyesters for the development of a circular economy

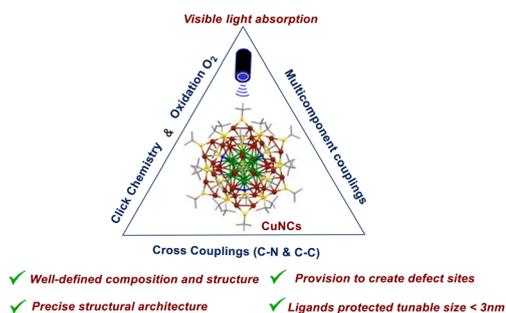
Huaiyuan Zhao, Yingdan Ye, Yibin Zhang, Lei Yang, Weichen Du, Songlin Wang\* and Zhaoyin Hou\*



13858

## Copper nanoclusters: emerging photoredox catalysts for organic bond formations

Arunachalam Sagadevan, Kathiravan Murugesan, Osman M. Bakr and Magnus Rueping\*

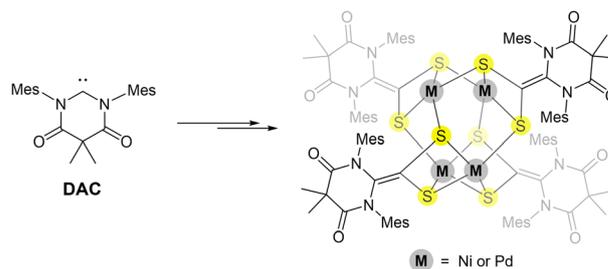


## COMMUNICATIONS

13867

## Diamidocarbene-derived palladium and nickel–sulfur clusters

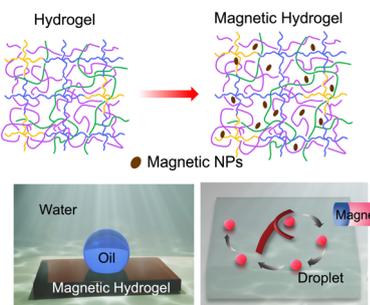
Minji Lee, Hyunju Noh and Youngsuk Kim\*



13871

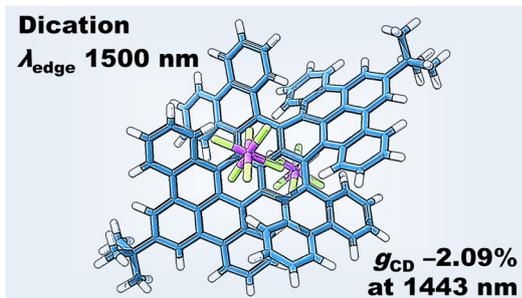
## Underwater superoleophobic and magnetic hydrogel for cascade chemical reactions

Hrisikesh Sarma, Subhankar Mandal, Saurav Kumar and Uttam Manna\*



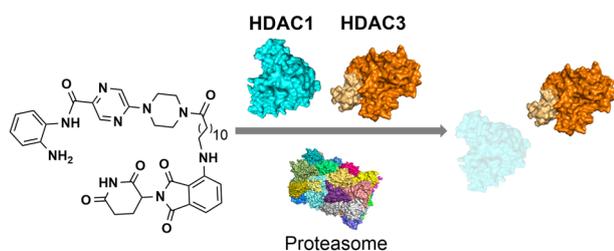
## COMMUNICATIONS

13875

**Chemical oxidation of a double-twisted nanographene**

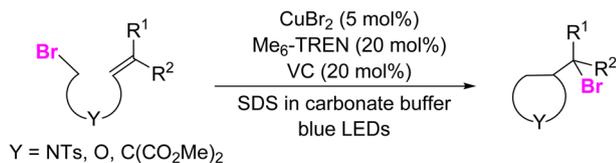
Zhiyu Zhang, Yoshifumi Hashikawa\* and Chaolumen\*

13879

**Cereblon-recruiting proteolysis targeting chimeras (PROTACs) can determine the selective degradation of HDAC1 over HDAC3**

Aline R. Pavan, Joshua P. Smalley, Urvashi Patel, Wiktoria A. Pytel, Jean Leandro dos Santos, Shaun M. Cowley,\* John W. R. Schwabe\* and James T. Hodgkinson\*

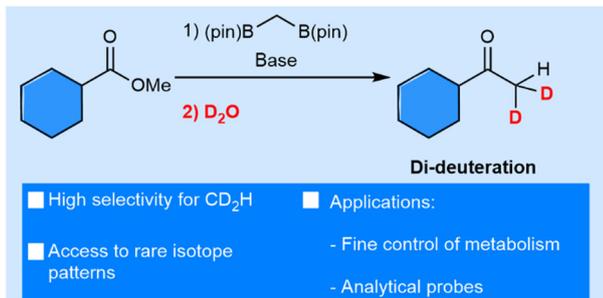
13883

**Copper-catalysed bromine atom transfer cyclisation in SDS micelles**

Shuoren Wu, Xue Yang, Jianlin Zhou and Wei Yu\*

- micellar catalysis
- mild conditions
- broad scope
- environmental friendliness

13887

**Controlled synthesis of  $\text{CD}_2\text{H}$ -ketones**

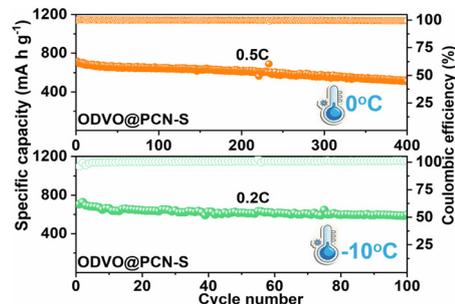
Pankaj Kumar and Graham Pattison\*



13891

### Electron-delocalization catalyzers for high performance, low-temperature Li–S batteries

Jing Zhang, Lin Li, Mannan Yang, Chen Cheng, Na Tian,\*  
Yongzheng Zhang, Dongmao Jiao, Hongzhen Lin\* and  
Jian Wang\*



13895

### A unique near-infrared fluorescent probe based on dual-DNP binding sites for rapid monitoring of hydrogen sulfide in food samples and living cells

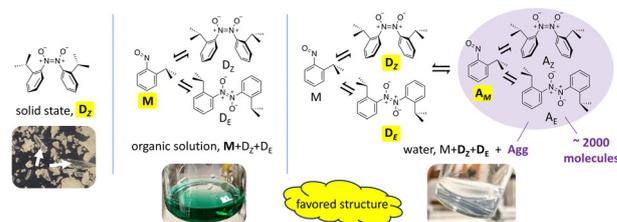
Lili Ma, Yinliang Yang, Gulziba Anwar, Minqi Xie, Jie Yang,  
Jinwu Yan,\* Jingjing Wu\* and Chuanxiang Liu\*



13899

### Dynamic covalent and noncovalent assembly of o-nitrosocumene in organic solvents and water

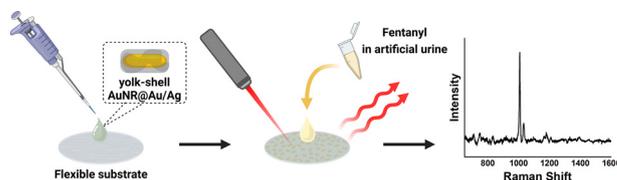
Cory H. Rogers, Anu Pradeep, Layla A. Galiano,  
S. Ariel Kelley, Ramkumar Varadharajan, Ken Belmore,  
Logan M. Whitt, Yanmei Li, Pier Alexandre Champagne,  
Vaidhyanathan Ramamurthy\* and Silas C. Blackstock\*



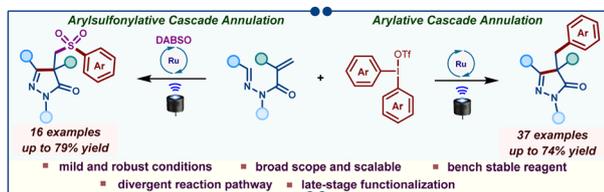
13903

### A flexible plasmonic substrate for sensitive surface-enhanced Raman scattering-based detection of fentanyl

Yun-Tzu Hsu, Shih-Han Lin and Keng-Ku Liu\*



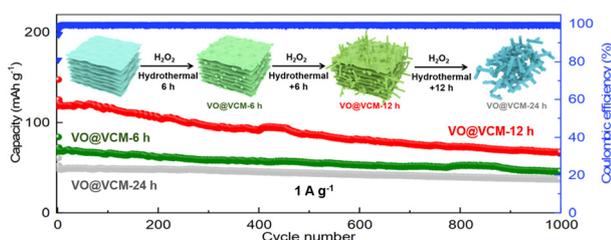
13907



### Photoredox-catalyzed arylative and aryl sulfonylative radical cascades involving diaryliodonium reagents: synthesis of functionalized pyrazolones

Karan Ramdas Thombare, Sushanta Kumar Parida, Prahallad Meher and Sandip Murarka\*

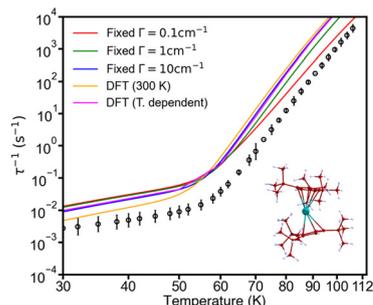
13911



### In situ construction of a vanadium dioxide and MXene heterostructure towards high-capacity ammonium ion storage

Zeyu Cao, Jinyao Yang, Hang Ren, Jingyuan Zhang, Ying Yang, Guoyin Zhu, Yizhou Zhang and Shengyang Dong\*

13915



### The impact of low-energy phonon lifetimes on the magnetic relaxation in a dysprosocenium single-molecule magnet

Rizwan Nabi, Benjamin E. Atkinson, Jakob K. Staab, Jonathan M. Skelton\* and Nicholas F. Chilton\*

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### A novel flame-retardant lithium fluoroborate salt for LNMO-graphite-based Li-ion batteries

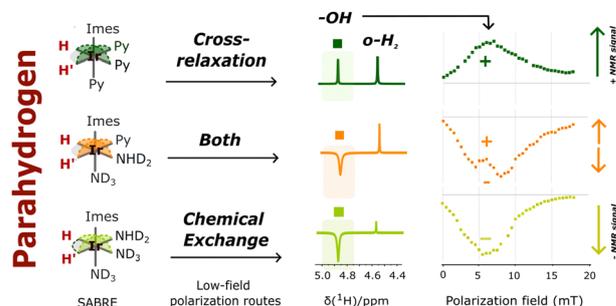
Binayak Roy,\* Urbi Pal, Koustav Banerjee, Patrick C. Howlett and Douglas R. MacFarlane\*



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### Identifying routes for transferring spin polarization from parahydrogen to protic solvents

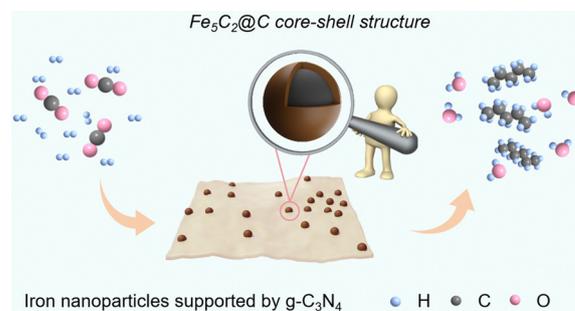
Ewoud Vaneekhaute,\* Jean-Max Tyburn,  
James G. Kempf, Johan A. Martens and Eric Breynaert\*



13927

### High-purity Hägg carbide supported by g-C<sub>3</sub>N<sub>4</sub> for CO<sub>2</sub> hydrogenation to liquid fuel

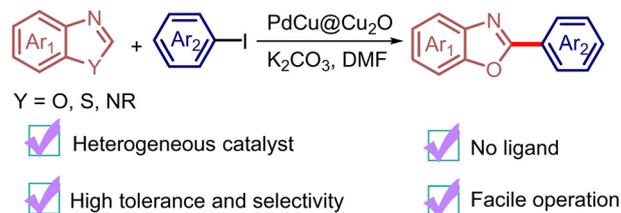
Zixuan Lu, Peipei Ai, Liru Zheng, Jie Huang, Yong Jiang,  
Lisheng Guo\* and Song Sun



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### Cu<sub>2</sub>O@PdCu synergistic catalysis for highly effective C–H arylation of azoles

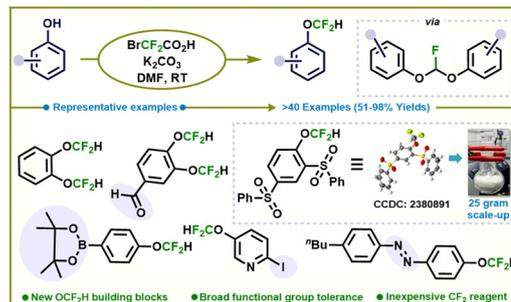
Wei Liu, Haochuan Jing, Hao Hou, Yangsen Xu,  
Chuntian Qiu and Xiang Ling\*



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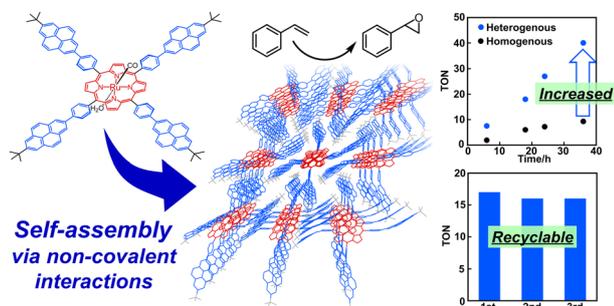
### Accessing structurally diverse aryl difluoromethyl ethers with bromo(difluoro)acetic acid

Sandeep Kumawat and Kishore Natte\*



## COMMUNICATIONS

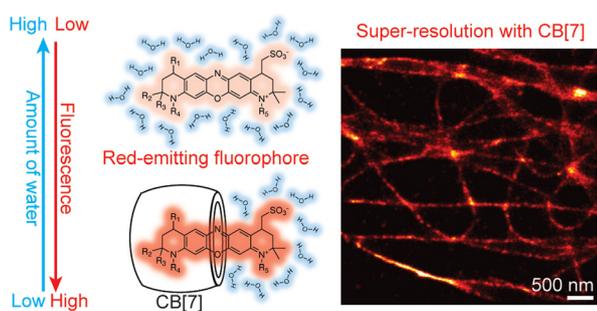
13939



### Development of a Ru–porphyrin-based supramolecular framework catalyst for styrene epoxidation

Akira Yoneda, Taito Watanabe, Kento Kosugi, Teppei Takahara, Shinpei Kusaka, Ryotaro Matsuda, Yutaka Saga, Tetsuya Kambe, Mio Kondo\* and Shigeyuki Masaoka\*

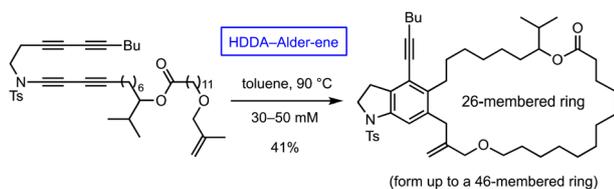
13943



### Super-resolution imaging with a cucurbituril-encapsulated fluorophore

Liza Briant, Jimmy Maillard and Alexandre Fürstenberg\*

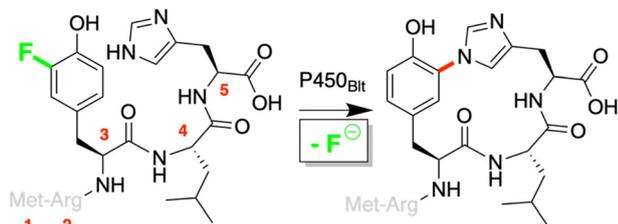
13947



### Alder–ene reactions of arynes to form medium-sized and macrocyclic frameworks of sizes up to a 46-membered ring

Rajdip Karmakar, Nam-Kyu Lee, Erandi Liyanage Perera and Daesung Lee\*

13951



### Specific loss of fluorine during P450-mediated crosslinking

### Loss of fluorine during crosslinking by the biaryllyte P450<sup>Bit</sup> proceeds due to restricted peptide orientation

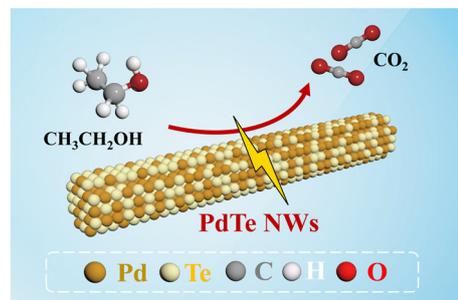
Yongwei Zhao, Jemma Gullick, Mathias H. Hansen, Laura Coe, Maxine Treisman, Ralf B. Schittenhelm, Alasdair McKay, Lauren A. M. Murray, Julien Tailhades, James J. De Voss,\* Elizabeth H. Krenke\* and Max J. Cryle\*



13955

### Template-directed synthesis of one-dimensional hexagonal PdTe nanowires for efficient ethanol electrooxidation

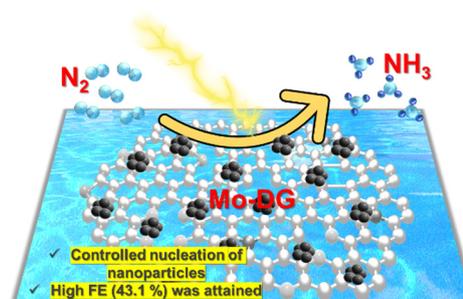
Zhenya Hu, Mengyuan Ma, Penglei Cui, Hui Liu, Dong Chen, Shaonan Tian,\* Lin Xu\* and Jun Yang



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### Controlled nucleation of ultrasmall MoO<sub>3</sub> nanoparticles on defective graphene for enhanced ammonia efficiency

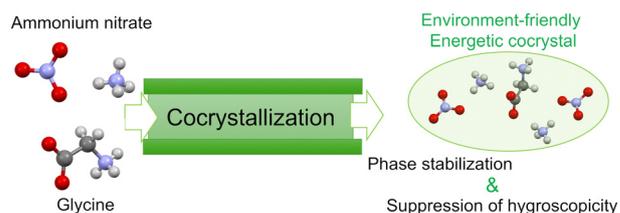
Sakshi Bhardwaj, Sumon Santra and Ramendra Sundar Dey\*



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### Synthesis of environmentally friendly energetic cocystal derived from commodity chemicals

Kazuki Inoue, Yosuke Nishiwaki, Mieko Kumasaki,\* Shinya Matsumoto and Ken Okada



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### Collectively optimized Pt–O bond and morphology engineering of structurally ordered Pt<sub>3</sub>Zn intermetallic for high-efficiency zinc–air devices

Chenzhong Wu and Qingmei Wang\*

