

# ChemComm

Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(84) 12015-12258 (2024)



### Cover

See Michael T. Ruggiero *et al.*, pp. 12169–12172. Image reproduced by permission of Michael T. Ruggiero from *Chem. Commun.*, 2024, 60, 12169.



### Inside cover

See Chun-Hung Lin *et al.*, pp. 12173–12176. Image reproduced by permission of Chun-Hung Lin from *Chem. Commun.*, 2024, 60, 12173.

## PROFILE

12026

### Contributors to the Emerging Investigators collection 2024: Part 2

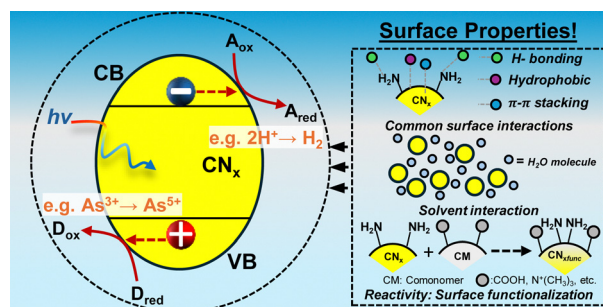


## HIGHLIGHT

12034

### Surface properties of carbon nitride materials used in photocatalytic systems for energy and environmental applications

Peter Osei Ohemeng and Robert Godin\*



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## FEATURE ARTICLES

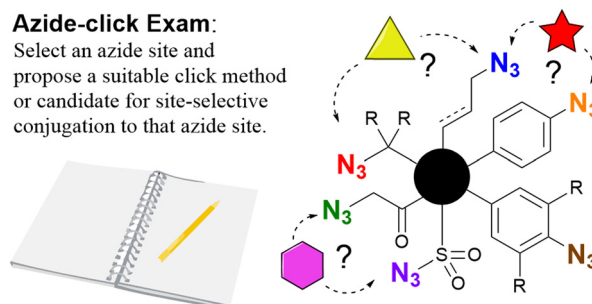
12062

## Spot the difference in reactivity: a comprehensive review of site-selective multicomponent conjugation exploiting multi-azide compounds

Hiroki Tanimoto\* and Takenori Tomohiro

## Azide-click Exam:

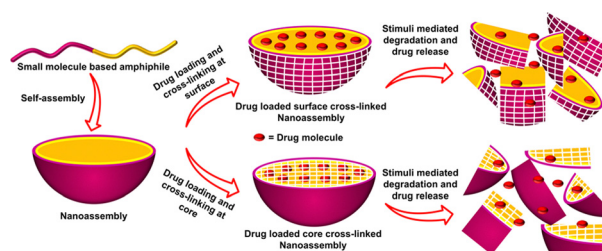
Select an azide site and propose a suitable click method or candidate for site-selective conjugation to that azide site.



12101

## Small molecule-based core and shell cross-linked nanoassemblies: from self-assembly and programmed disassembly to biological applications

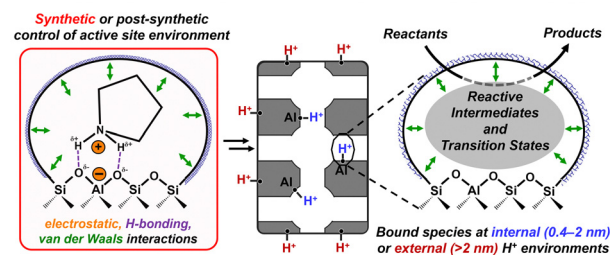
Subrata Santra and Mijanur Rahaman Molla\*



12118

## Advances and challenges in designing active site environments in zeolites for Brønsted acid catalysis

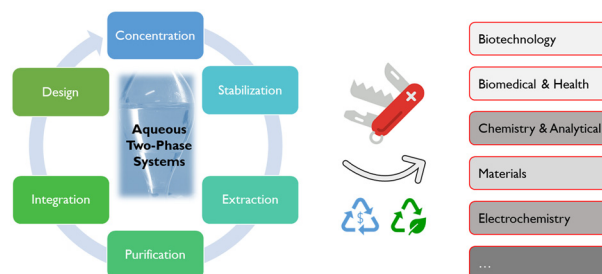
Sopuruchukwu Ezenwa and Rajamani Gounder\*



12144

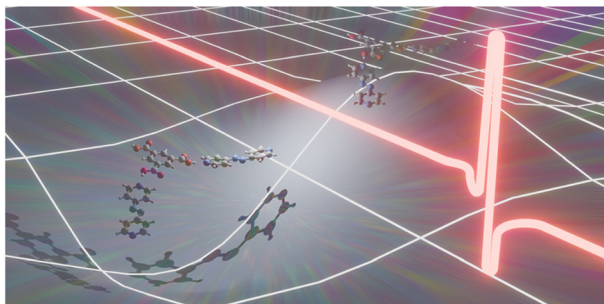
## Aqueous two-phase systems – versatile and advanced (bio)process engineering tools

Alexandre M. S. Jorge and Jorge F. B. Pereira\*



## COMMUNICATIONS

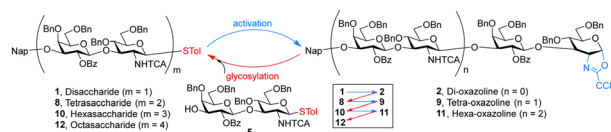
12169



### Fundamentally intertwined: anharmonic intermolecular interactions dictate both thermal expansion and terahertz lattice dynamics in molecular crystals

Navkiran Juneja, Josephine L. Hastings, William B. Stoll, William W. Brennessel, Salvatore Zarrella, Parker Sornberger, Luca Catalano, Timothy M. Korter and Michael T. Ruggiero\*

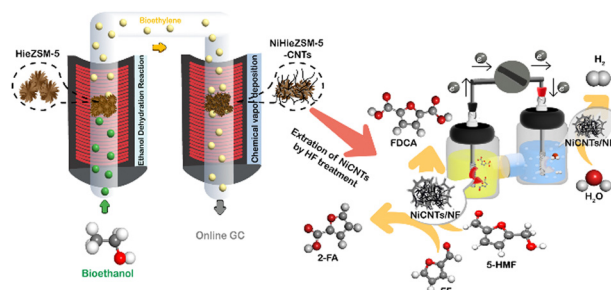
12173



### Glycosyl oxazolines serve as active donors for iterative synthesis of type I oligosaccharides

Nitish Verma, Zhijay Tu, Septila Renata and Chun-Hung Lin\*

12177

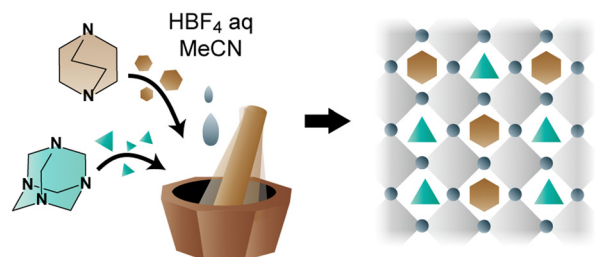


### Ni-decorated carbon nanotubes (CNTs) derived from ethanol for electrooxidation of furan derivatives featuring H<sub>2</sub> production

Watinee Nunthakitguson, Peeranat Chaipornchaler, Anousha Sohail, Anawat Thivasasith and Chularat Wattanakit\*

12181

### molecular mixed metal free perovskite



### Solvent-assisted mechanochemical crystallization of the metal-free perovskite solid solution (H<sub>2</sub>dabco, H<sub>2</sub>hmta)NH<sub>4</sub>(BF<sub>4</sub>)<sub>3</sub>

Jumpei Moriguchi, Tomoe Koga, Nao Tsunoji, Sadafumi Nishihara, Tomoyuki Akutagawa, Atsuko Masuya-Suzuki and Ryo Tsunashima\*

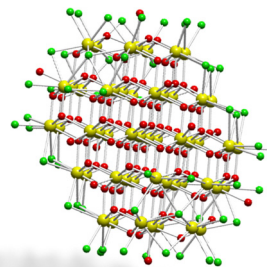


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12185

**Isolation of a chloride-capped cerium polyoxo nanocluster built from 52 metal ions**

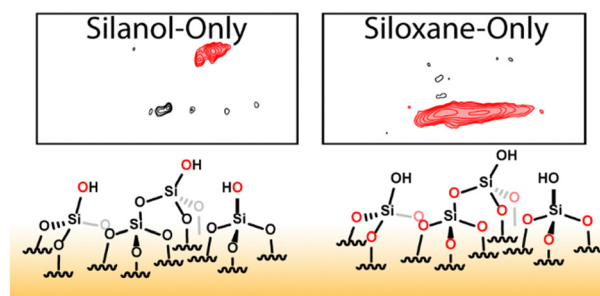
Anamar Blanes-Diaz, Jennifer N. Wacker,  
Jennifer E. S. Szymanowski, Jeffery A. Bertke and  
Karah E. Knope\*



12189

**Selective  $^{17}\text{O}$ -labeling of silica**

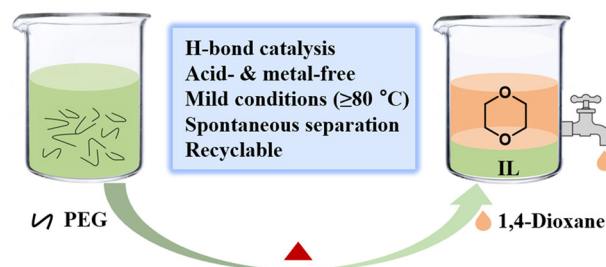
Amil Agarwal, Marco Mais and Frédéric A. Perras\*



12193

**Hydrogen-bonding catalysis of the degradation of polyethylene glycol to 1,4-dioxane over OH-functionalized ionic liquid**

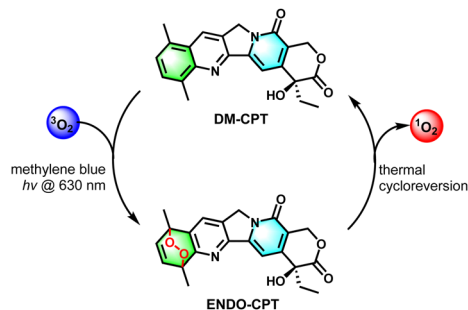
Huan Wang, Xue Zheng, Wei-Tao Wang, Zhen-Hong He,  
Kuan Wang, Weiping Wang, Jianchuan Liu,\*  
Zhi-Hao Zhao\* and Zhao-Tie Liu\*



12197

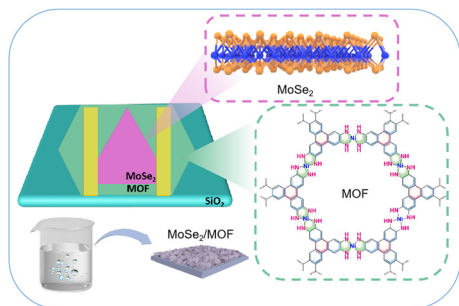
**Overcoming multidrug resistance by a singlet oxygen releasing camptothecin-endoperoxide**

Guangyu Zhang, Lei Wang,\* Yuan Qiao, Feiyan Zhang,  
Rensong Sun and Engin U. Akkaya\*



## COMMUNICATIONS

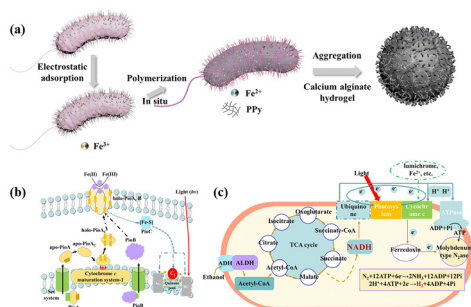
12201



### Enhanced carrier transport of monolayer MoSe<sub>2</sub> through interlayer coupling with *in situ* grown metal–organic frameworks

Shan Wang, Qing Zhang, Aiqing Fan, Lin Li and Dechao Geng\*

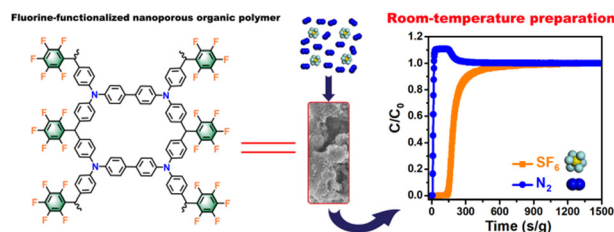
12205



### Study on confined interface electron enhanced ethanol to hydrogen conversion by *Rhodospseudomonas palustris*

Zhengyu Tao, Baoyuan Li, Song Lin, Shangsong Li, Luxuan Li and Xin Huang\*

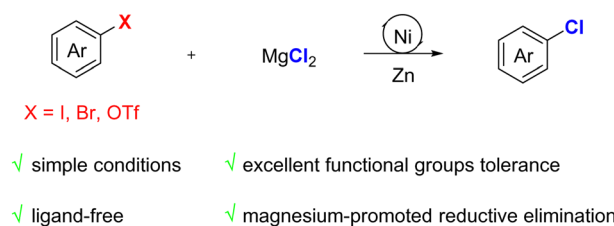
12209



### Room-temperature synthesis of a fluorine-functionalized nanoporous organic polymer for efficient SF<sub>6</sub> separation

Jiangli Zhu, Danchi Luo, Qilin Wang, Sihan Tong, Zefeng Wang and Jun Yan\*

12213



### Magnesium-promoted nickel-catalysed chlorination of aryl halides and triflates under mild conditions

Tian-Yu Zhang, Muhammad Bilal, Tian-Zhang Wang, Chao-Peng Zhang and Yu-Feng Liang\*

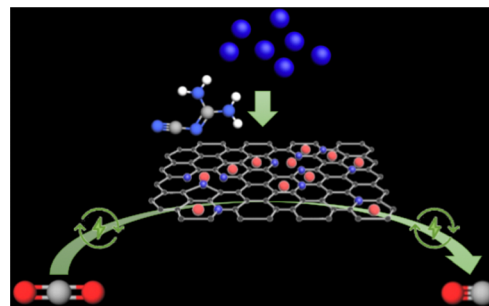


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12217

### A universal strategy for the synthesis of transition metal single atom catalysts toward electrochemical CO<sub>2</sub> reduction

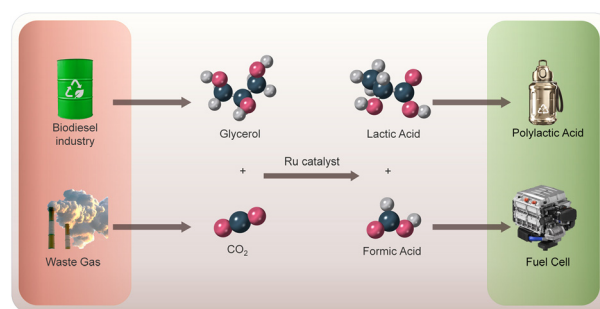
Bowen Li, Yan Liang and Yinlong Zhu\*



12221

### Efficient co-upcycling of glycerol and CO<sub>2</sub> into valuable products enabled by a bifunctional Ru-complex catalyst

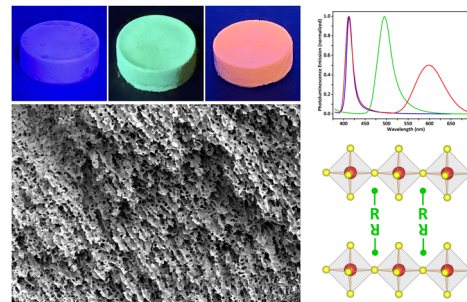
Tianhua Cui, Huihua Gong, Li Ji, Jiawei Mao, Weichao Xue, Xueli Zheng, Haiyan Fu, Hua Chen, Ruixiang Li\* and Jiaqi Xu\*



12225

### Luminescent macroporous aerogels of two-dimensional nanocrystals of metal halide perovskites with adjustable semiconducting bandgaps

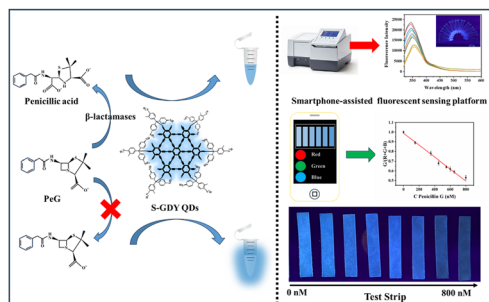
Penghao Guo, Xuelian Jiang and Pei-Xi Wang\*



12229

### Innovative fluorescence sensing platform for $\beta$ -lactams based on acidity/basicity-sensitive graphdiyne quantum dots

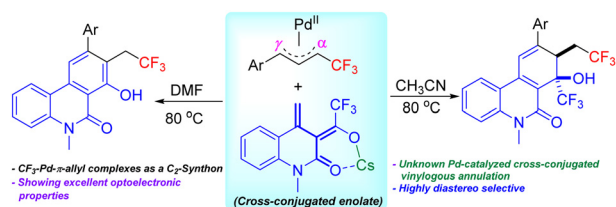
Gangbing Zhu, Diyan Liao, Jing Li and Yinhui Yi\*





## COMMUNICATIONS

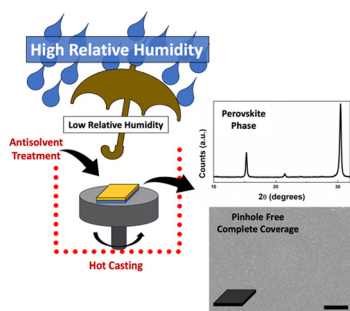
12233



### Cross-conjugated vinylogous annulation of $\pi\text{-CF}_3$ -allyl Pd-complexes with 4-methyl-3-trifluoroacetyl-quinolones

Chiliveru Priyanka, Desagoni Madhu, Palivela Siva Gangadhar, Lingamallu Giribabu and Nagender Punna\*

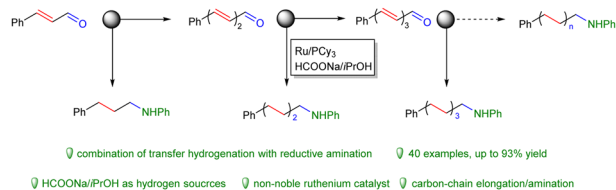
12237



### Antisolvent-assisted growth of inorganic $\text{CsPb}(\text{Br},\text{I})_3$ under ambient conditions

Kai-Chieh Hsu, Yu-Ting Lin, Chun-An Chen, Po-Han Chen, Shang-Fan Lee\* and Yi-Hsien Lee\*

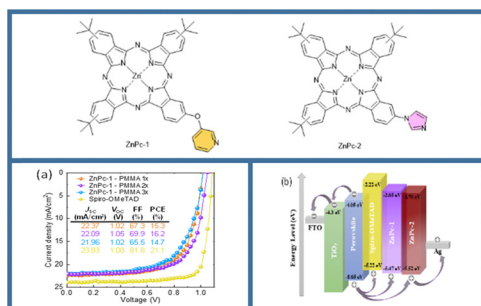
12241



### One-pot transfer hydrogenation and reductive amination of polyenals

Juntao Yang, Miaomiao Tian, Junbiao Chang\* and Bingxian Liu\*

12245



### Asymmetric phthalocyanine-based hole-transporting materials: evaluating the role of heterocyclic units and PMMA additive

Sifa Dogan, Muhittin Unal, Perihan Kubra Demircioglu, Desiré Molina\*, Mine Ince\* and Seckin Akin\*



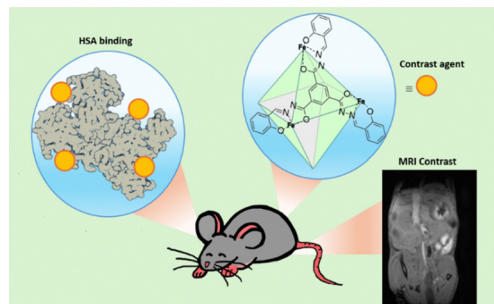


## COMMUNICATIONS

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An octahedral coordination cage with six Fe(III) centers as a  $T_1$  MRI probe

Aruni Dissanayake, Joseph A. Sperryak and Janet R. Morrow\*



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## Polymer-supported strong Lewis acid phosphonium cation catalysis applied to sydnone synthesis

Ryan Dol, Nenad Kovljenic and Travis Dudding\*

