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Chemical Communications

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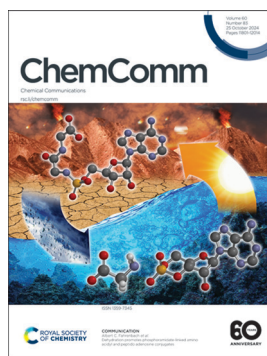
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(83) 11801-12014 (2024)



### Cover

See Paul D. Beer *et al.*, pp. 11916–11919. Image reproduced by permission of Gurshinder Kaur.



### Inside cover

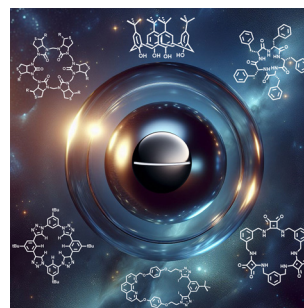
See Albert C. Fahrenbach *et al.*, pp. 11920–11923. Image reproduced by permission of Albert C. Fahrenbach from *Chem. Commun.*, 2024, **60**, 11920.

## HIGHLIGHT

11812

### Macrocyclic receptors for anion recognition

Farhad Ali Mohammed, Tangxin Xiao, Leyong Wang and Robert B. P. Elmes\*

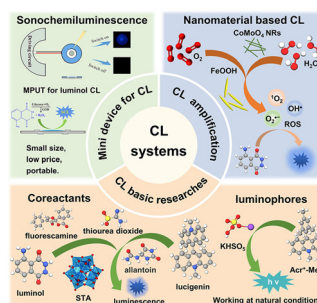


## FEATURE ARTICLES

11837

### Development of chemiluminescent systems and devices for analytical applications

Zhiyong Dong, Fangxin Du, Saima Hanif, Yu Tian\* and Guobao Xu\*



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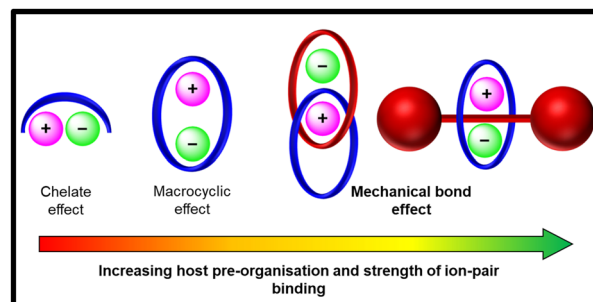
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## FEATURE ARTICLES

11849

**Mechanically interlocked host systems for ion-pair recognition**

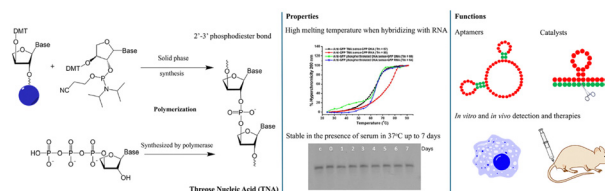
Arya Arun, Hui Min Tay and Paul D. Beer\*



11864

**Versatility of threose nucleic acids: synthesis, properties, and applications in chemical biology and biomedical advancements**

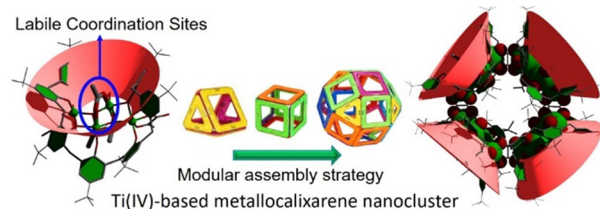
Dick Yan Tam, Pan Li, Ling Sum Liu, Fei Wang, Hoi Man Leung and Pik Kwan Lo\*



11890

**Advancements in calixarene-protected titanium-oxo clusters: from structural assembly to catalytic functionality**

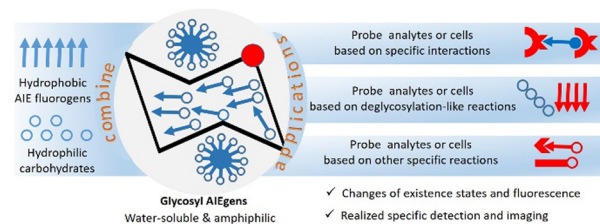
Xin-Yu Chen, Qing-Yi Liu, Wei-Dong Yu,\* Jun Yan and Chao Liu\*



11899

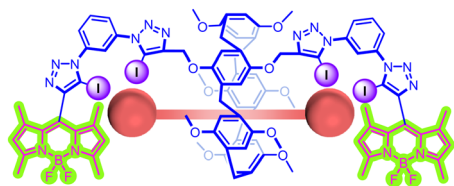
**Recent advances in sugar-based AIE luminogens and their applications in sensing and imaging**

Guang-jian Liu, Jing-dong Zhang, Wei Zhou, Gai-li Feng and Guo-wen Xing\*



## COMMUNICATIONS

11916

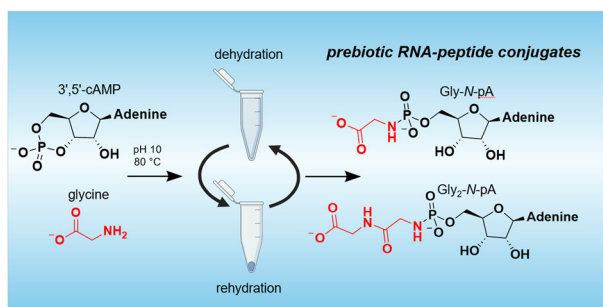


- ✓ Halogen bonding + hydrophobic effect = strong binding in aqueous media
- ✓ Sensing of dicarboxylates and neutral chemical warfare agent simulant

### Halogen bonding BODIPY-appended pillar[5]arene for the optical sensing of dicarboxylates and a chemical warfare agent simulant

Andrew J. Taylor, Jamie T. Wilmore and Paul D. Beer\*

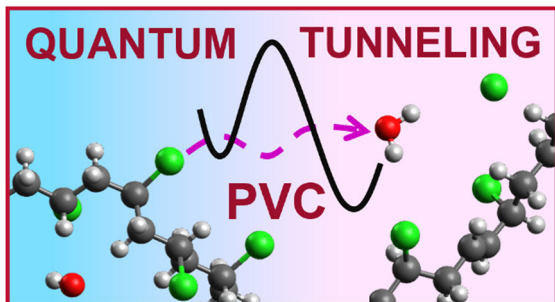
11920



### Dehydration promotes phosphoramidate-linked amino acidyl and peptido adenosine conjugates

Yaam Deckel, Joshua J. Brown, Tejaswi Senthilkumar and Albert C. Fahrenbach\*

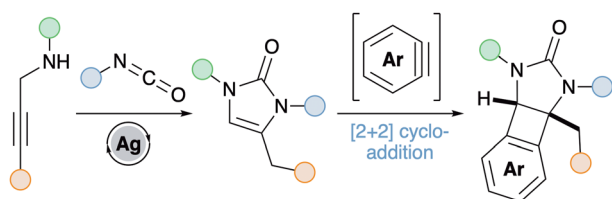
11924



### Quantum tunnelling dominates chloride leaching from polyvinyl chloride

Gbolagade Olajide and Tibor Szilvási\*

11928



- novel stereochemically defined *syn*-1,2-diamino framework
- amenable to one-pot process from propargylic amine
- cleave C=O bond to ring-open cyclic urea in product BCBs

### *syn*-1,2-Diaminobenzocyclobutenes from [2+2] cycloaddition of 2-imidazolones with arynes

Haseeb Ur Rehman Shah, Qi Li and Christopher R. Jones\*



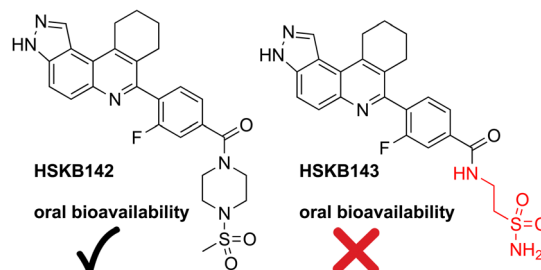
## COMMUNICATIONS

11932

## Orally bioavailable STING antagonist synthesized via multi-component Povarov–Doebner type reaction

Kofi B. Owusu, Jyotrimayee Samal, Delmis E. Hernandez and Herman O. Sintim\*

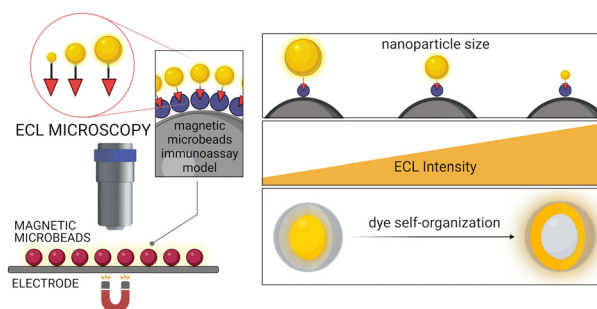
## Stimulator of interferon genes (STING) antagonists



11936

## Dye self-organization in doped silica nanoparticles increases the electrochemiluminescence emission in magnetic bead-based assays

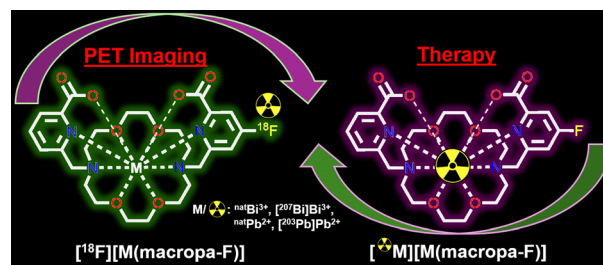
Yemataw Addis Alemu, Marinella Difonzo, Damiano Genovese, Francesco Paolucci, Luca Prodi, Enrico Rampazzo\* and Giovanni Valentini\*



11940

## Fluorine-18 incorporation and radiometal coordination in macropa ligands for PET imaging and targeted alpha therapy

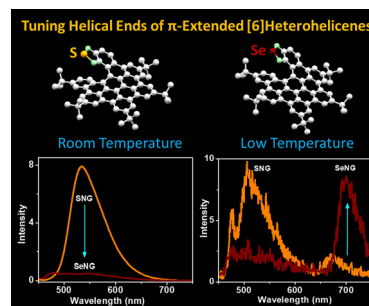
Thines Kanagasundaram, Yang Sun, Kevin K. Lee, Samantha N. MacMillan, Pedro Brugarolas\* and Justin J. Wilson\*



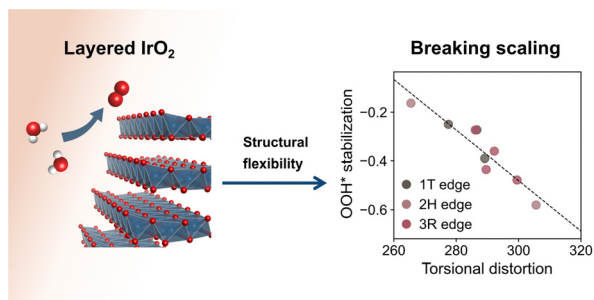
11944

Tailoring helical ends of  $\pi$ -extended [6]heterohelicenes to control optical, and electrochemical features

Viksit Kumar, Sangram D. Dongre, Geethu Venugopal, Aswini Narayanan and Sukumaran Santhosh Babu\*



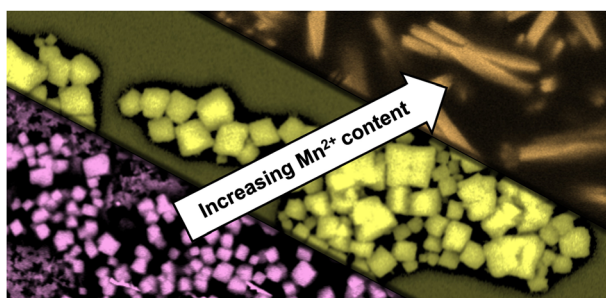
11948



### Theoretical insights into layered IrO<sub>2</sub> for the oxygen evolution reaction

Xian Zhong, Xin-He Liu, Hong-Jie Peng\* and Xinyan Liu\*

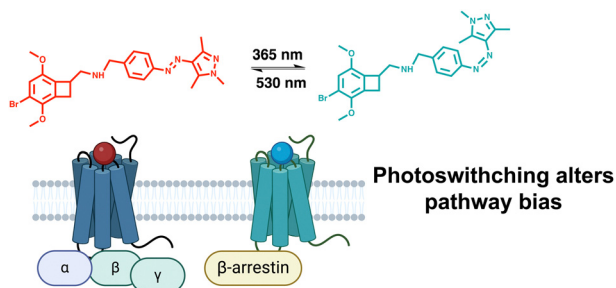
11952



### Manganese-enriched CsPbCl<sub>3</sub> perovskite nanocrystals for self-assembled supercrystals

Victoria Lapointe and Marek B. Majewski\*

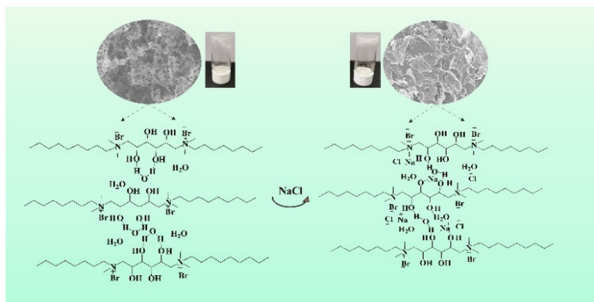
11956



### Photoswitchable TCB-2 for control of the 5-HT<sub>2A</sub> receptor and analysis of biased agonism

Alireza Jafar Esmaeili, Pantea Montazeri, Jasmine Cristina Gomez, Didier J. Dumervil, Faezeh Safar Nezhad and Rachel C. Steinhardt\*

11960



### Bio-based hydrogels induced by salts

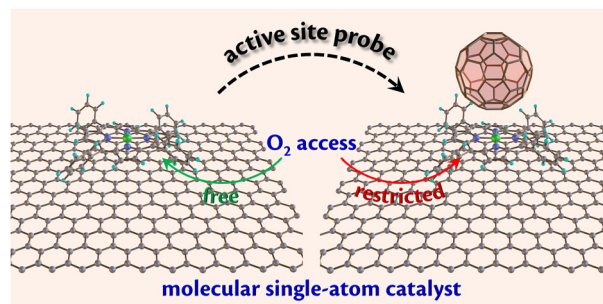
Pei Zhang, Yaoyu Yin, Xing Tong, Peng Chen, Zhuosen He, Zhihong Li, Baocai Xu, Ce Wang,\* Xinchen Kang\* and Buxing Han\*



11964

### Fullerene as a probe molecule for single-atom oxygen reduction electrocatalysts

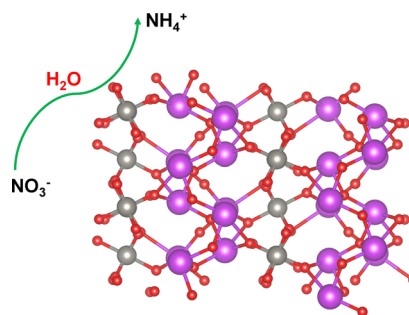
Ning Li, Kun Guo,\* Song Lu, Lipiao Bao, Zhixin Yu and Xing Lu\*



11968

### Oxygen vacancies in Bi<sub>2</sub>WO<sub>6</sub> enable robust nitrate reduction reaction catalysis

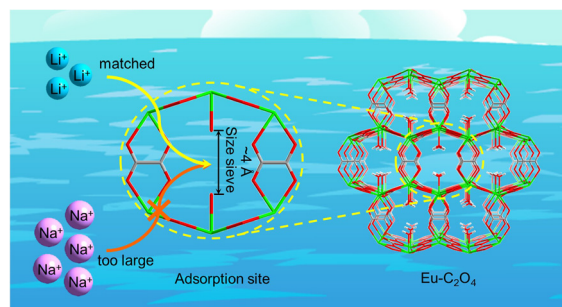
Qing Ren, Cong Zhou, Yumei Feng, Yifei Li, Yuhua Xie, Yingjie Yu, Chunsheng Li, Yazhou Chen,\* Yan Sun\* and Fang Luo\*



11972

### Strong size sieving effect in a rigid oxalate-based metal–organic framework for selective lithium extraction

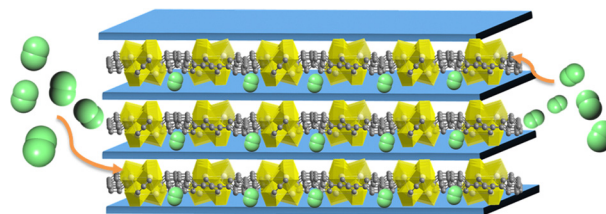
Wenhao Huang, Zhonghang Chen, Peng Cheng and Wei Shi\*



11976

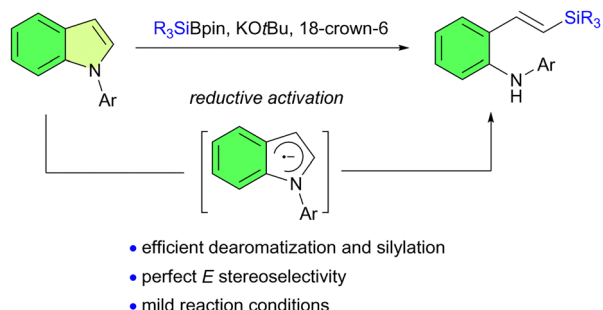
### Hydrogen storage in a sandwich structure by assembly of BNs and MOFs

Lu Sun, Xiaojia Huang, Yihan Kong, Jiangtao Jia\* and Guangshan Zhu



## COMMUNICATIONS

11980



### Ring-opening silylation of *N*-arylindoles via endocyclic C–N bond cleavage triggered by silylboranes

Ye Tian, Hanying Sun, Benqiang Cui,\* Shaoyue Han, Tianle Wang, Yanhui Shi\* and Changsheng Cao\*

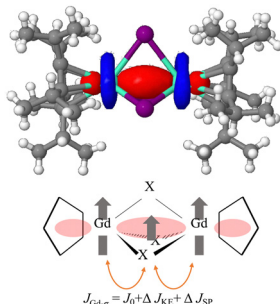
11984



### Photoinduced 1,5-HAT-enabled 1,7-hydrosulfonylation of allylic ethers and amides

Ke-Yi Deng, Zhen-Zhen Xie, Chu-Ping Yuan, Jian-Ping Guan, Kai Chen, Hao-Yue Xiang\* and Hua Yang\*

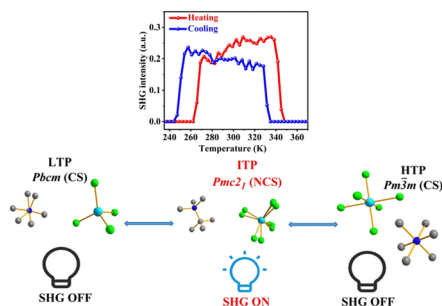
11988



### Promoting exchange coupling in $(Cp^{iPr_5})_2Gd_2X_3$ complexes

Grégoire David,\* Boris Le Guennic and Daniel Reta\*

11992



### An organic–inorganic hybrid perovskite material $[Me_3NCMe_3]GaCl_4$ exhibits a two-step off–on–off SHG response with a large temperature interval

Zhao Yang, Yiyi Zeng, Guoyong Chen, Xiao Sun, Haina Zhang,\* Hu Cai\* and Zhenhong Wei\*

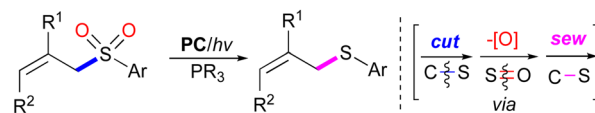


## COMMUNICATIONS

11996

### Deoxygenation of allyl arylsulfones to allyl arylthioethers via a “cut-sew” strategy: phosphines as bifunctional reagents

Liuxin Dong, Tao Shu, Di Yang and Min Chen\*

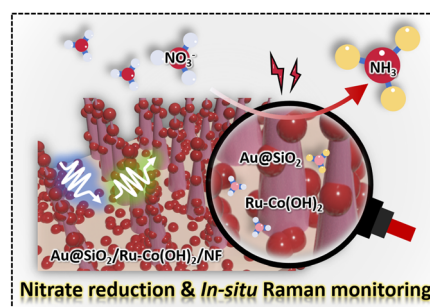


- Deoxygenation of allyl sulfones
- Phosphines as bifunctional reagents
- Mild conditions
- Enabling intermolecular reactions

12000

### Accelerated ammonia electrosynthesis of cobalt hydroxide through electronic modulation with ultralow noble metal doping

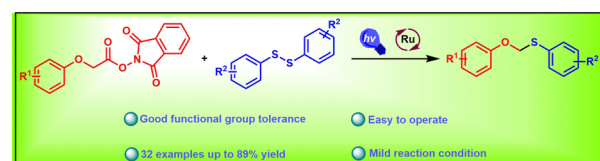
Fengcai Lei,\* Ruixue Huai, Menghan Zhang, Ying Wang, Jing Yu, Yuhan Hou, Junfeng Xie, Pin Hao and Bo Tang\*



12004

### Visible-light induced decarboxylative coupling of phenoxyacetic acid with disulfides: synthesis of $\alpha$ -arylthioanisole derivatives

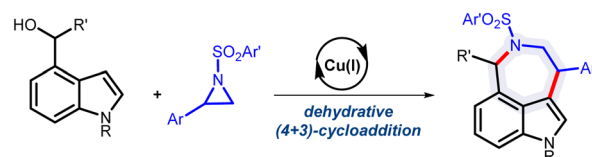
Ning Li, Zhao-Nian Peng, Run Xiong, Ao-Cheng Wang and Zhi-Bing Dong\*



12008

### Copper-catalyzed (4+3)-cycloaddition of 4-indolylcarbinols with aziridines: stereoselective synthesis of azepinoindoles

Subhradeep Kar, Prabhat Kumar Maharana, Swagata Maity, Vishal Trivedi and Tharmalingam Punniyamurthy\*



—key highlights

- \* dehydrative sequence
  - \* stereoselective
  - \* substrate scope
  - \* scalable
- synthesis of chiral azepino[c,d]indoles 32 examples, 3 examples up to >96% ee

