

ChemComm

Chemical Communications

rsc.li/chemcomm

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

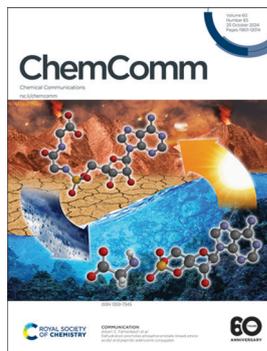
IN THIS ISSUE

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*

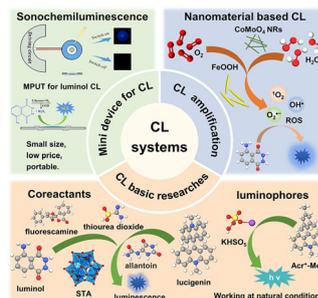


FEATURE ARTICLES

11837

Development of chemiluminescent systems and devices for analytical applications

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



**GOLD
OPEN
ACCESS**

EES Solar

**Exceptional research on solar
energy and photovoltaics**



Part of the EES family

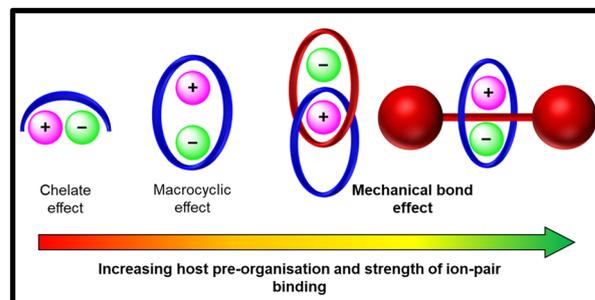
**Join
in** | Publish with us
rsc.li/EESolar

FEATURE ARTICLES

11849

Mechanically interlocked host systems for ion-pair recognition

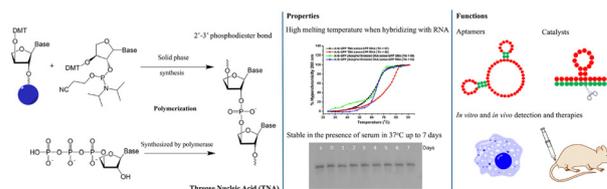
Arya Arun, Hui Min Tay and Paul D. Beer*



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

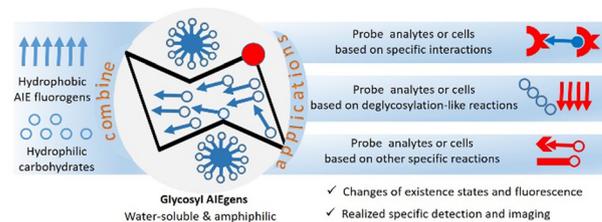
Xin-Yu Chen, Qing-Yi Liu, Wei-Dong Yu,* Jun Yan and Chao Liu*



11899

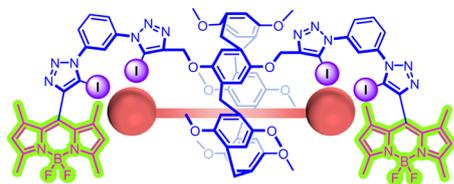
Recent advances in sugar-based AIE luminogens and their applications in sensing and imaging

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



COMMUNICATIONS

11916

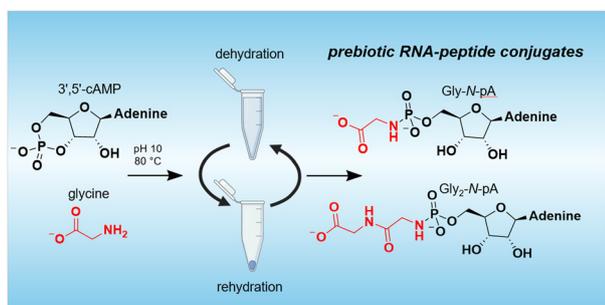


- ✓ Halogen bonding + hydrophobic effect = strong binding in aqueous media
- ✓ Sensing of dicarboxylates and neutral chemical warfare agent simulant

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*

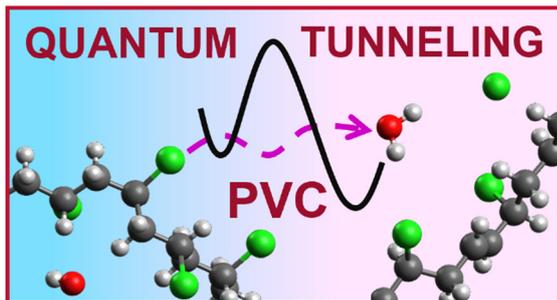
11920



Dehydration promotes phosphoramidate-linked amino acidyl and peptido adenosine conjugates

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

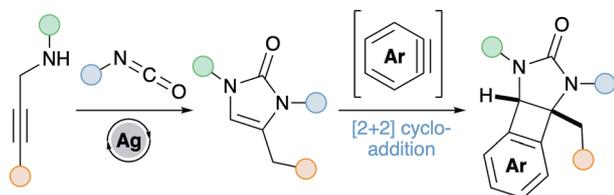
11924



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*



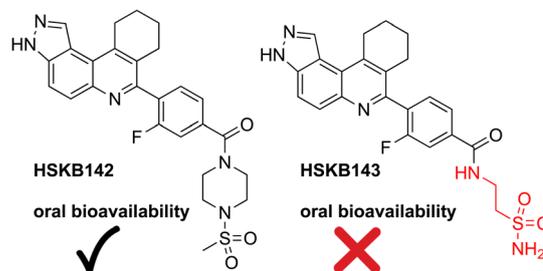
COMMUNICATIONS

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*

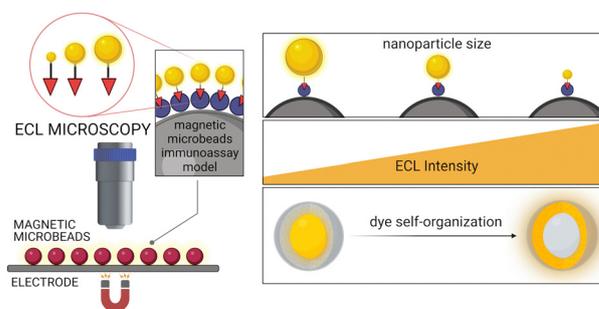
Stimulator of interferon genes (STING) antagonists



11936

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

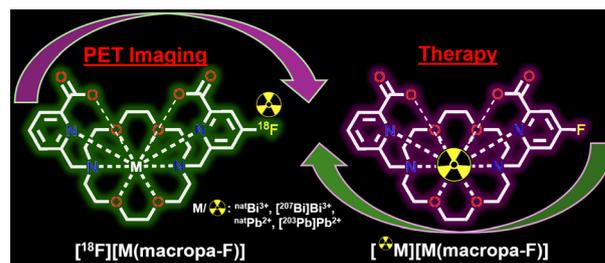
Yemataw Addis Alemu, Marinella Difonzo, Damiano Genovese, Francesco Paolucci, Luca Prodi, Enrico Rampazzo* and Giovanni Valentini*



11940

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

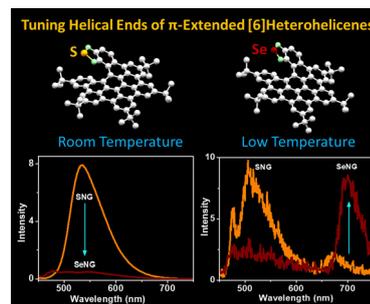
Thines Kanagasundaram, Yang Sun, Kevin K. Lee, Samantha N. MacMillan, Pedro Brugarolas* and Justin J. Wilson*



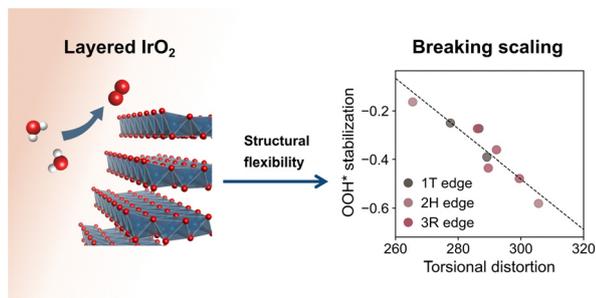
11944

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

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



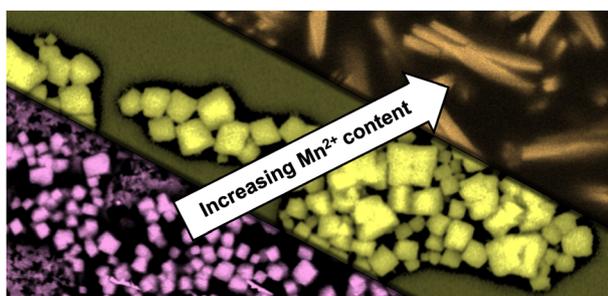
11948



Theoretical insights into layered IrO₂ for the oxygen evolution reaction

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

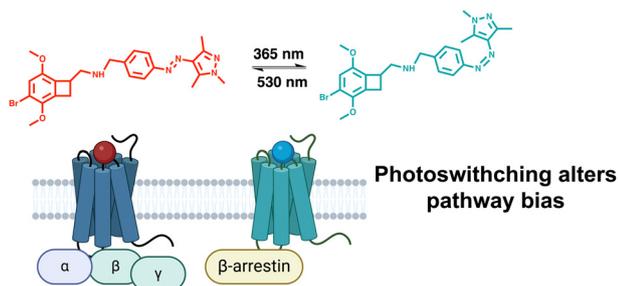
11952



Manganese-enriched CsPbCl₃ perovskite nanocrystals for self-assembled supercrystals

Victoria Lapointe and Marek B. Majewski*

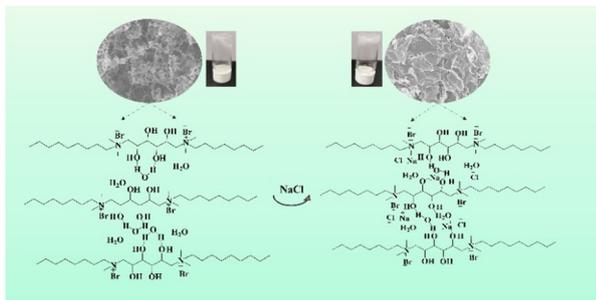
11956



Photoswitchable TCB-2 for control of the 5-HT_{2A} 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

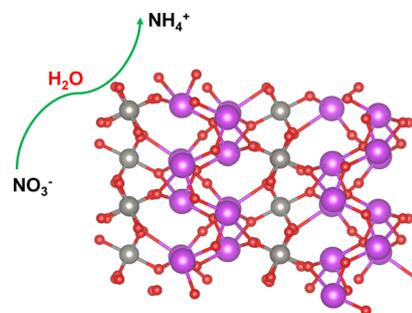
Ning Li, Kun Guo,* Song Lu, Lipiao Bao, Zhixin Yu and Xing Lu*



11968

Oxygen vacancies in Bi₂WO₆ enable robust nitrate reduction reaction catalysis

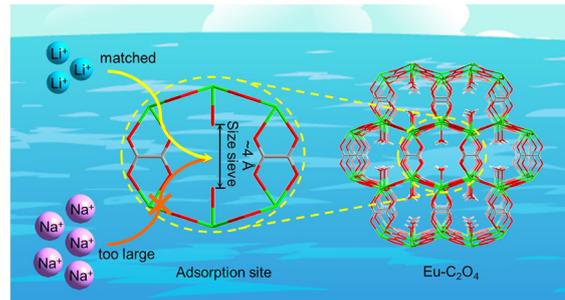
Qing Ren, Cong Zhou, Yumei Feng, Yifei Li, Yuhua Xie, Yingjie Yu, Chunsheng Li, Yazhou Chen,* Yan Sun* and Fang Luo*



11972

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

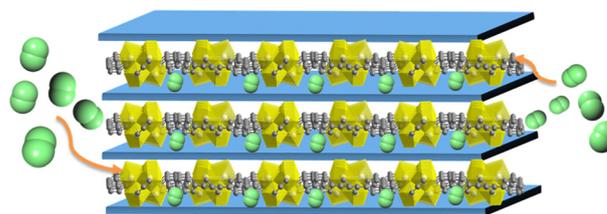
Wenhao Huang, Zhonghang Chen, Peng Cheng and Wei Shi*



11976

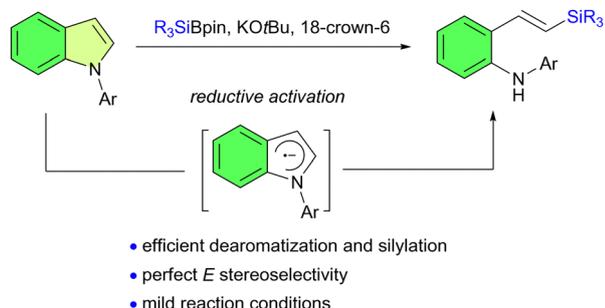
Hydrogen storage in a sandwich structure by assembly of BNs and MOFs

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



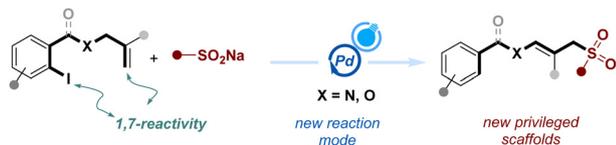
COMMUNICATIONS

11980



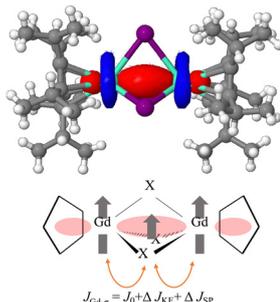
Ye Tian, Hanying Sun, Benqiang Cui,* Shaoyue Han, Tianle Wang, Yanhui Shi* and Changsheng Cao*

11984

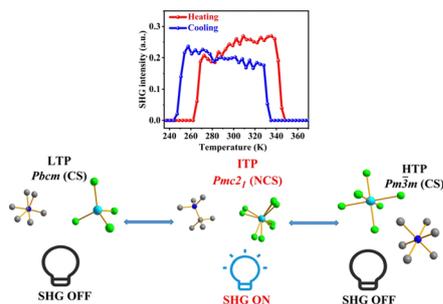


Ke-Yi Deng, Zhen-Zhen Xie, Chu-Ping Yuan, Jian-Ping Guan, Kai Chen, Hao-Yue Xiang* and Hua Yang*

11988



11992

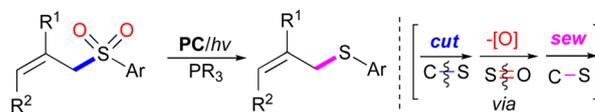


COMMUNICATIONS

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*

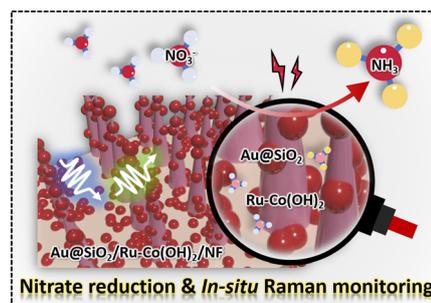


- Deoxygenation of allyl sulfones
- Phosphines as bifunctional reagents
- Mild conditions
- Enabling intermolecular reactions

12000

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

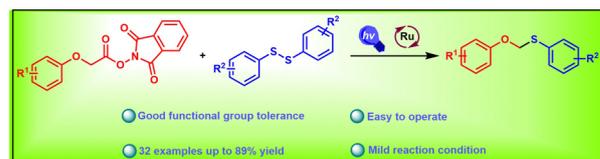
Fengcai Lei,* Ruixue Huai, Menghan Zhang, Ying Wang, Jing Yu, Yuhan Hou, Junfeng Xie, Pin Hao and Bo Tang*



12004

Visible-light induced decarboxylative coupling of phenoxyacetic acid with disulfides: synthesis of α -arylthioanisole derivatives

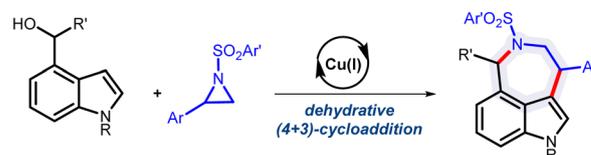
Ning Li, Zhao-Nian Peng, Run Xiong, Ao-Cheng Wang and Zhi-Bing Dong*



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

