

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(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

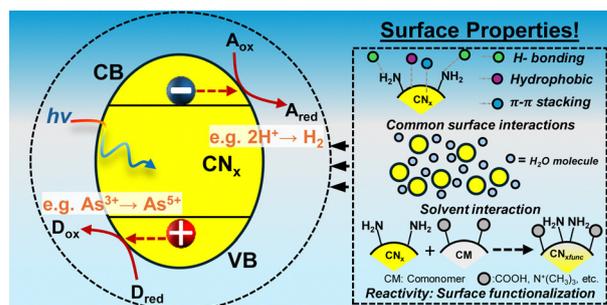


HIGHLIGHT

12034

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

Peter Osei Ohemeng and Robert Godin*



**GOLD
OPEN
ACCESS**

EES Batteries

**Exceptional research on
batteries and energy storage**

Part of the EES family



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

FEATURE ARTICLES

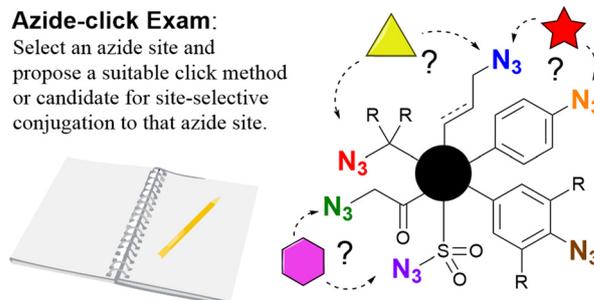
12062

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:

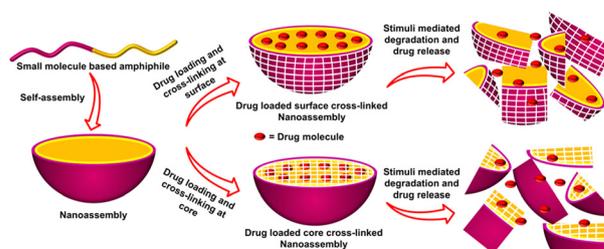
Select an azide site and propose a suitable click method or candidate for site-selective conjugation to that azide site.



12101

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

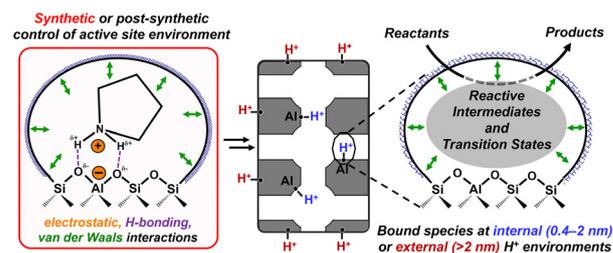
Subrata Santra and Mijanur Rahaman Molla*



12118

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

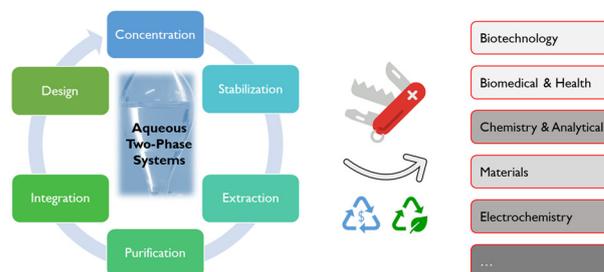
Sopuruchukwu Ezenwa and Rajamani Gounder*



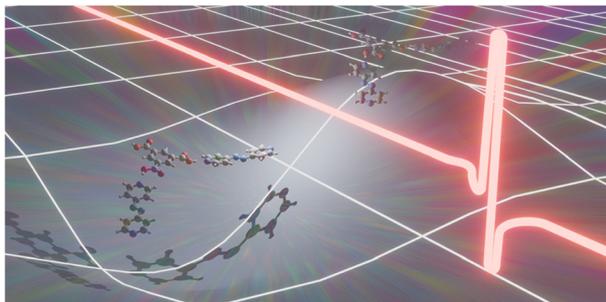
12144

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

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



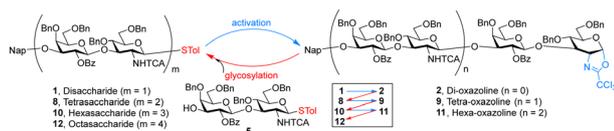
12169



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*

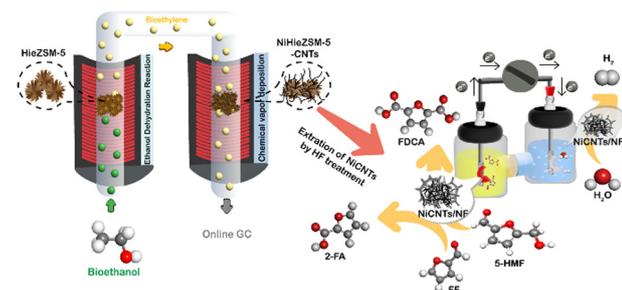
12173



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

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

12177

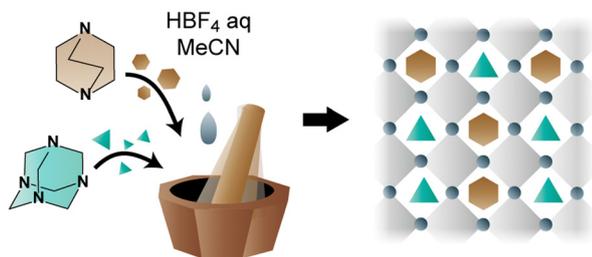


Ni-decorated carbon nanotubes (CNTs) derived from ethanol for electrooxidation of furan derivatives featuring H₂ production

Watinee Nunthakitguson, Peernat Chaipornchalerm, Anousha Sohail, Anawat Thivasasith and Chularat Wattanakit*

12181

molecular mixed metal free perovskite



Solvent-assisted mechanochemical crystallization of the metal-free perovskite solid solution (H₂dabco, H₂hmta)NH₄(BF₄)₃

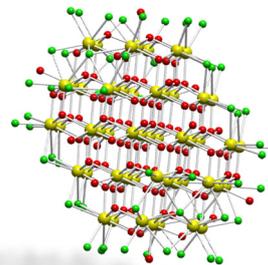
Jumpei Moriguchi, Tomoe Koga, Nao Tsunoji, Sadafumi Nishihara, Tomoyuki Akutagawa, Atsuko Masuya-Suzuki and Ryo Tsunashima*



12185

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

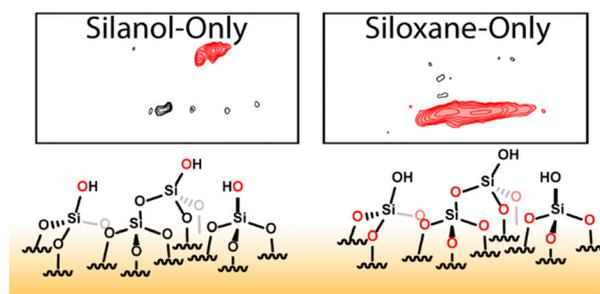
Anamar Blanes-Diaz, Jennifer N. Wacker,
Jennifer E. Szymanowski, Jeffery A. Bertke and
Karah E. Knope*



12189

Selective ^{17}O -labeling of silica

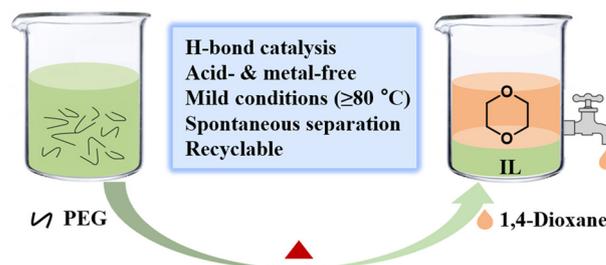
Amil Agarwal, Marco Mais and Frédéric A. Perras*



12193

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

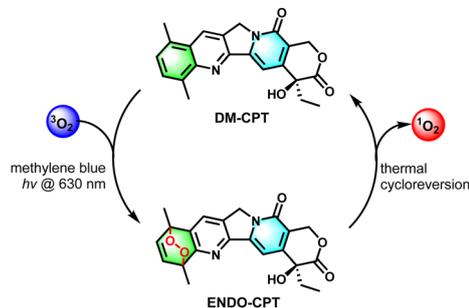
Huan Wang, Xue Zheng, Wei-Tao Wang, Zhen-Hong He,
Kuan Wang, Weiping Wang, Jianchuan Liu,*
Zhi-Hao Zhao* and Zhao-Tie Liu*



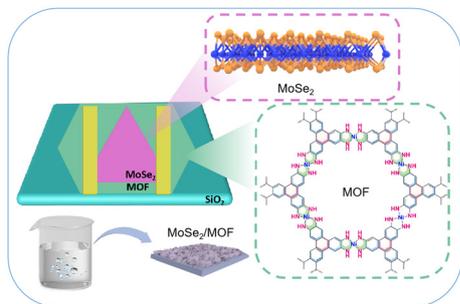
12197

Overcoming multidrug resistance by a singlet oxygen releasing camptothecin-endoperoxide

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



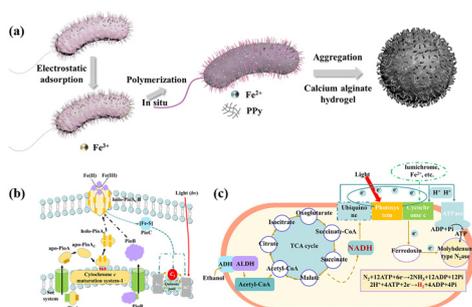
12201



Enhanced carrier transport of monolayer MoSe₂ through interlayer coupling with *in situ* grown metal–organic frameworks

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

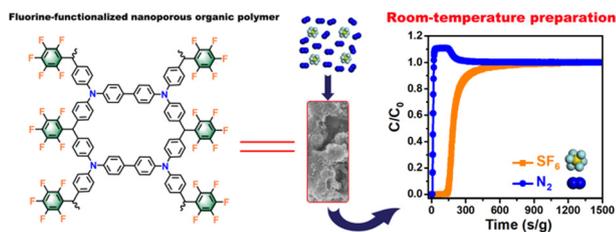
12205



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*

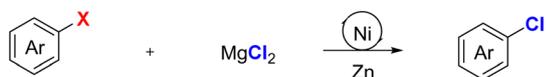
12209



Room-temperature synthesis of a fluorine-functionalized nanoporous organic polymer for efficient SF₆ separation

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

12213



X = I, Br, OTf

- ✓ simple conditions
- ✓ excellent functional groups tolerance
- ✓ ligand-free
- ✓ magnesium-promoted reductive elimination

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

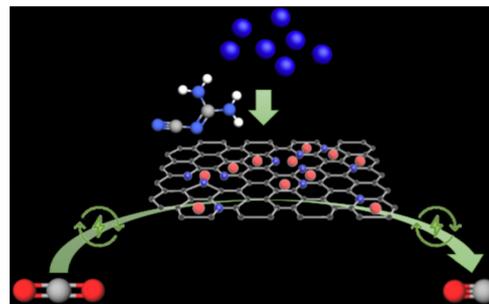
Tian-Yu Zhang, Muhammad Bilal, Tian-Zhang Wang, Chao-Peng Zhang and Yu-Feng Liang*



12217

A universal strategy for the synthesis of transition metal single atom catalysts toward electrochemical CO₂ reduction

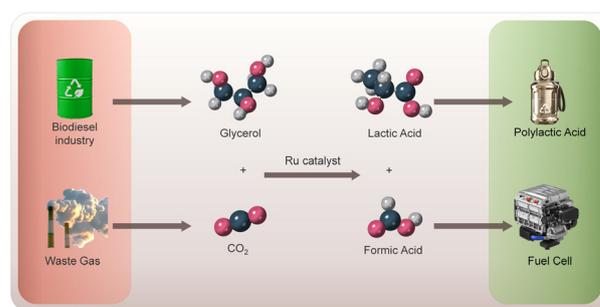
Bowen Li, Yan Liang and Yinlong Zhu*



12221

Efficient co-upcycling of glycerol and CO₂ into valuable products enabled by a bifunctional Ru-complex catalyst

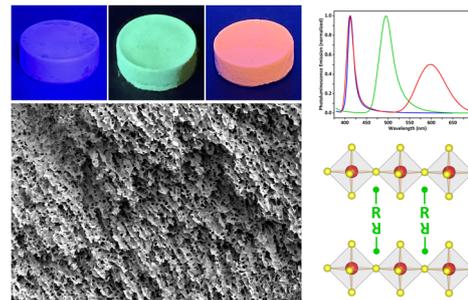
Tianhua Cui, Huihua Gong, Li Ji, Jiawei Mao, Weichao Xue, Xueli Zheng, Haiyan Fu, Hua Chen, Ruixiang Li* and Jiaqi Xu*



12225

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

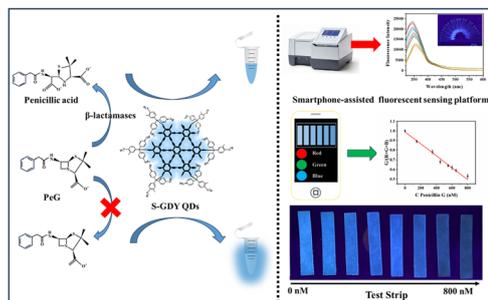
Penghao Guo, Xuelian Jiang and Pei-Xi Wang*



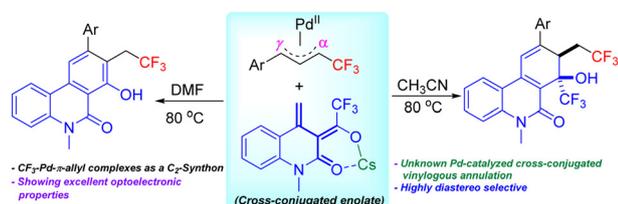
12229

Innovative fluorescence sensing platform for β -lactams based on acidity/basicity-sensitive graphdiyne quantum dots

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



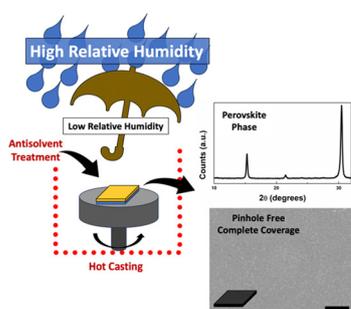
12233



Cross-conjugated vinylogous annulation of π -CF₃-allyl Pd-complexes with 4-methyl-3-trifluoroacetyl-quinolones

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

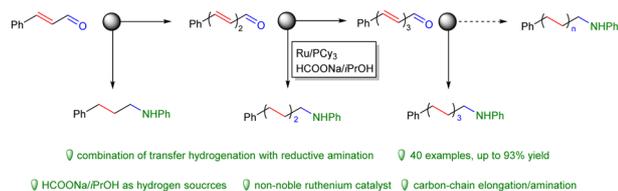
12237



Antisolvent-assisted growth of inorganic CsPb(Br,I)₃ under ambient conditions

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

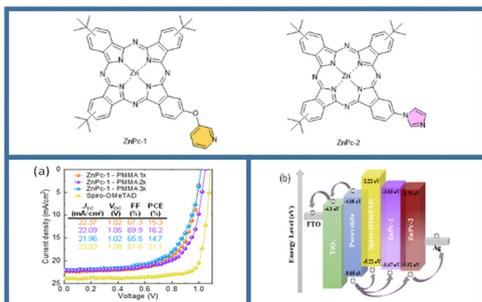
12241



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

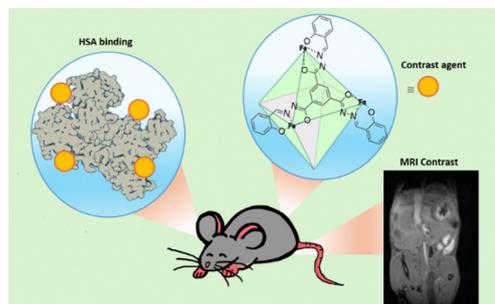
Sifa Dogan, Muhittin Unal, Perihan Kubra Demircioglu, Desiré Molina,* Mine Ince* and Seckin Akin*



12249

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

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



12253

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

Ryan Dol, Nenad Kovljenic and Travis Dudding*

