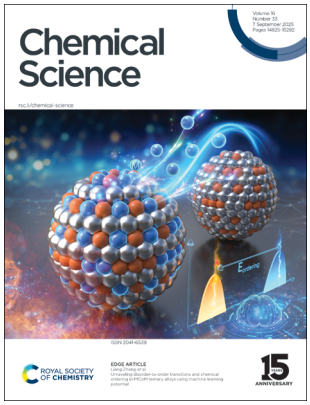
Chemical Science

rsc.li/chemical-science

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

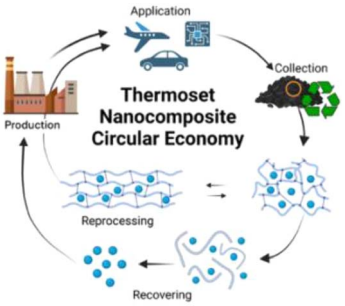
ISSN 2041-6539 CODEN CSHCBM 16(33) 14825–15282 (2025)



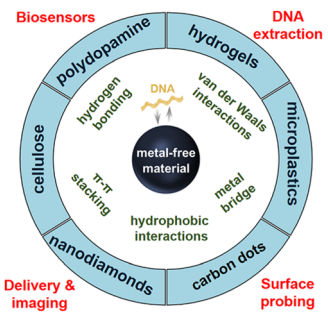
Cover
See Liang Zhang *et al.*, pp. 14884–14893. Image reproduced by permission of Liang Zhang from *Chem. Sci.*, 2025, **16**, 14884.

Inside cover
See Fubo Tian, Zhiyao Duan *et al.*, pp. 14894–14904. Image reproduced by permission of Zhiyao Duan from *Chem. Sci.*, 2025, **16**, 14894.

PERSPECTIVE



REVIEW



ROYAL SOCIETY OF CHEMISTRY

EES Catalysis

GOLD OPEN ACCESS

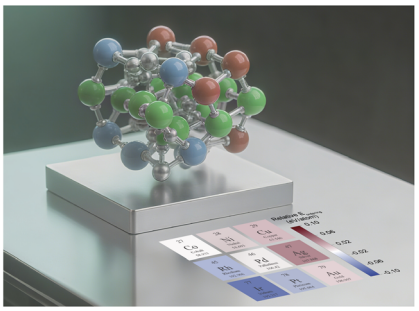
Exceptional research on energy and environmental catalysis

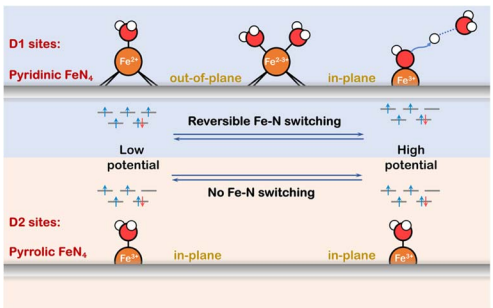
Open to everyone. Impactful for all

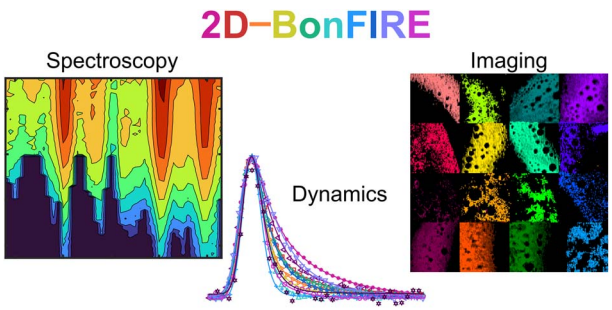
rsc.li/EESCatalysis

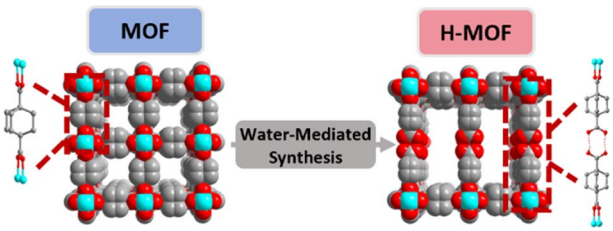
Fundamental questions
Elemental answers

EDGE ARTICLES







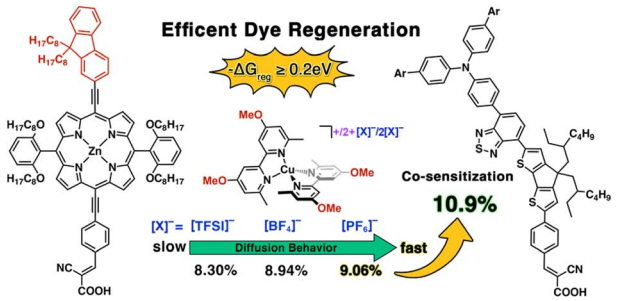


EDGE ARTICLES

EDGE ARTICLES

EDGE ARTICLES

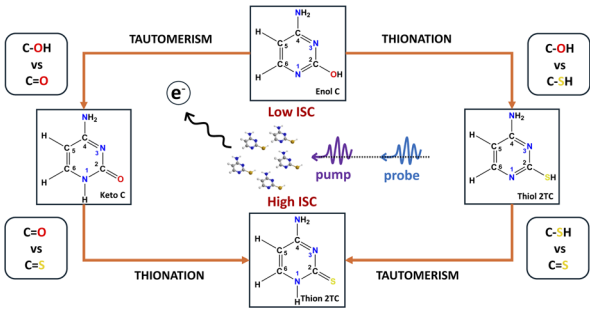
15004



Molecular engineering of porphyrin dyes and copper complexes for enhanced dye regeneration toward high-performance dye-sensitized solar cells using copper(I/II) redox shuttles

Yuzhe Zhang, Tomohiro Higashino,* Keigo Namikawa, W. Ryan Osterloh and Hiroshi Imahori*

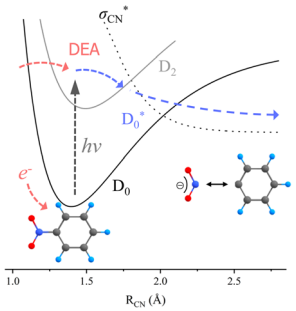
15015



Tautomer aspects in the excited-state dynamics in 2-thiocytosine: intersystem crossing in the absence of the thiocarbonyl group

Bijay Duwal, Isabel Eder, Leticia González, Sebastian Mai* and Susanne Ullrich*

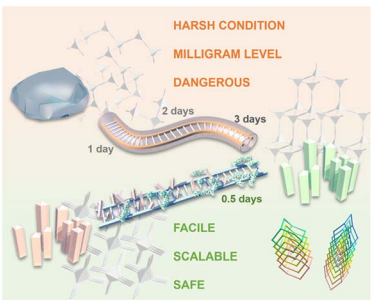
15029



Femtosecond real-time fragmentation dynamics of the nitrobenzene anion reveal the dissociative electron attachment mechanism

Sejun An, Jun Won Choi, Junggil Kim, Dabin Kim and Sang Kyu Kim*

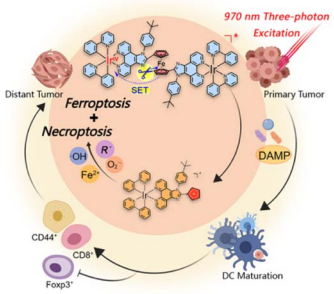
15037

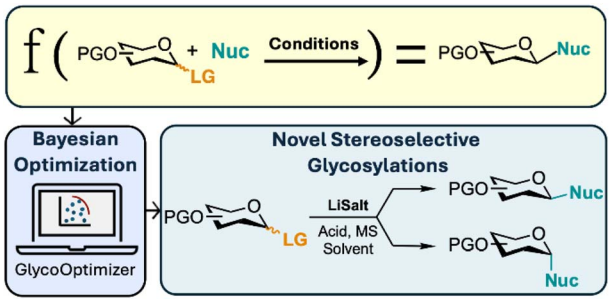


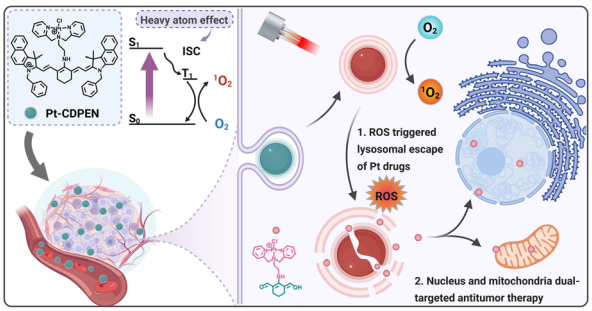
Facile and scalable synthesis of high-quality three-dimensional imine-linked covalent organic frameworks *via* crystalline intermediate transformation

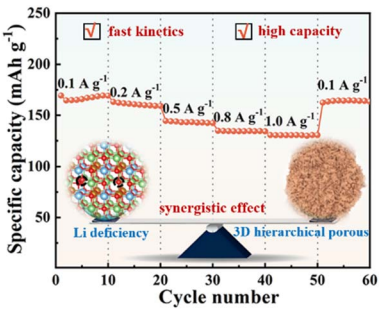
Jiaqiang Liu, Xin Su, Yan Xu, Weiwei Tang,* Taimin Yang* and Junbo Gong*

EDGE ARTICLES



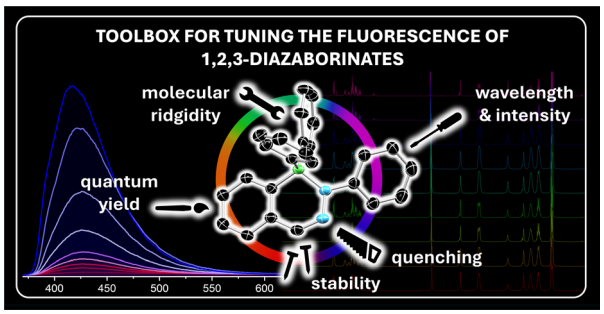






EDGE ARTICLES

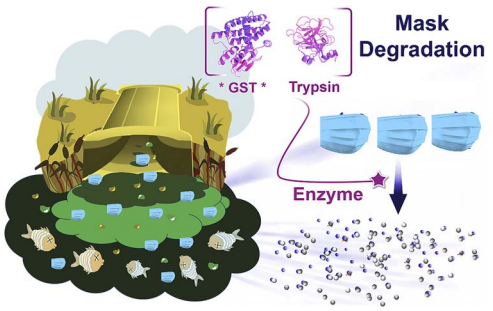
15086



Tuning the emission properties of luminescent 1,2,3-diazaborinates

Leonie Wüst, Johannes Chorbacher, Timo Keim, Tim Wellnitz, Julian Spieß, Nele Wieprecht, Maximilian Michel, Holger Helten* and Holger Braunschweig*

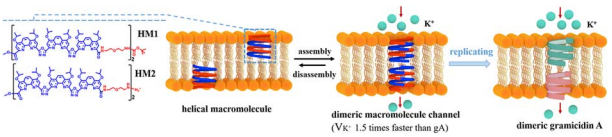
15097



High-efficiency enzymatic biodegradation of polypropylene-based melt-blown fabric debris

Xiu Huang, Li Huang, Qian Wang, Qiurong He, Zunzhen Zhang, Qian Liu* and Guibin Jiang

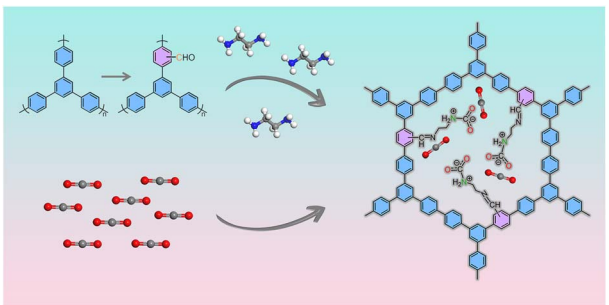
15111



Helical foldamers replicating membrane-spanning gramicidin a with pH responsiveness and ultrafast potassium permeability

Jun Tian, Lei Zhang, Ze Lin, Shizhong Mao and Zeyuan Dong*

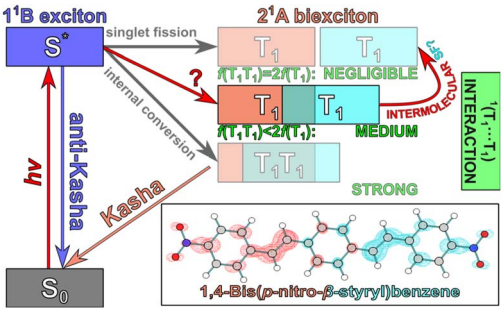
15121

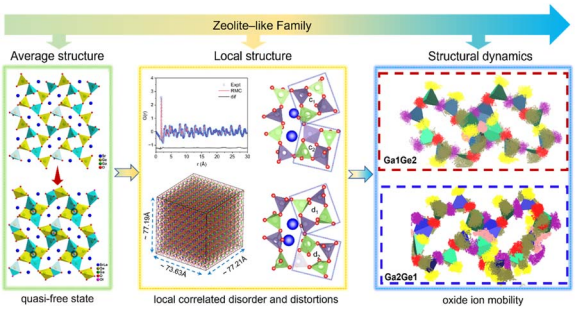


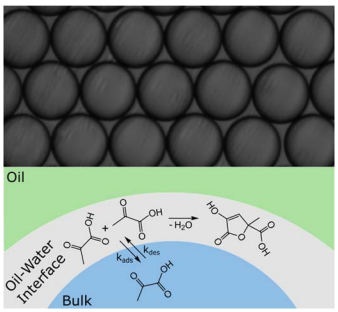
A new post-synthetic route to graft amino groups in porous organic polymers for CO_2 capture

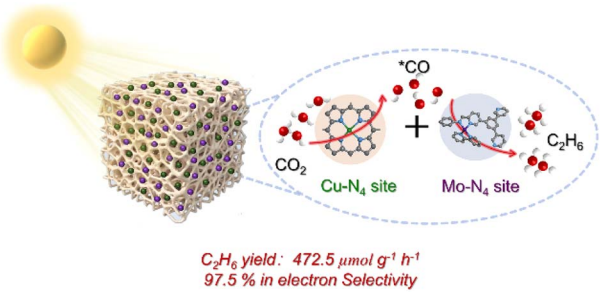
Qihaoyue Wang, Lin Lin, Li Jiang, Zihao Wang, Yina Zhang, Qiance Han, Xin Huang, Changyan Zhu, Jiangtao Jia,* Zheng Bian* and Guangshan Zhu*

EDGE ARTICLES



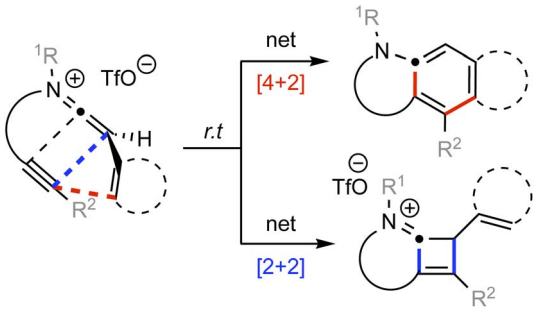






EDGE ARTICLES

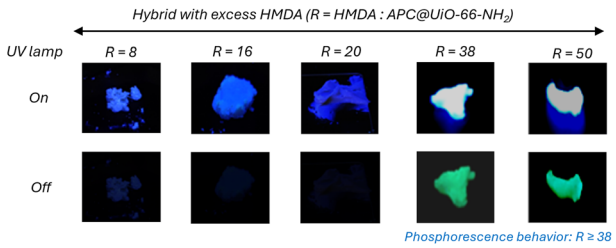
15177



Divergent reactivity of intramolecular cycloadditions of keteniminium ions with alkynes: [4+2] or [2+2]?

Sangjun Lee and Thomas R. Hoye*

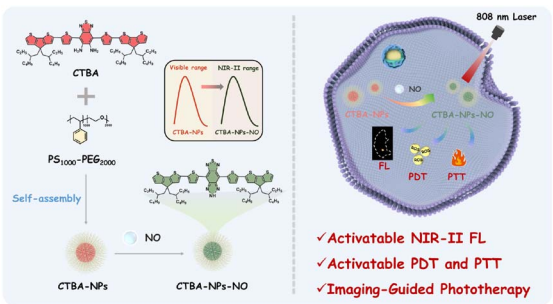
15185



Modulating ultralong room-temperature phosphorescence through mechanical confinement of tailored polymer/MOF hybrid interfaces

Samraj Mollick, Vishal Kachwal, Benjamin Hupp, Yogeshwar D. More, Michele Tricarico, Andreas Steffen and Jin-Chong Tan*

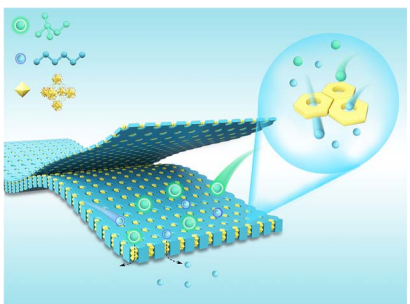
15194



Nitric oxide-activatable NIR-II organic small molecule for fluorescence imaging-guided synergistic photodynamic and photothermal therapy

Xinyi Zhang, Ling Li, Yuxin Ren, Meiqi Li, Xinyi Ma, Yajie Long, Junqing Wang and Yanli Tang*

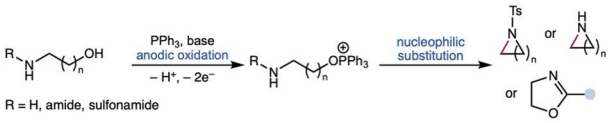
15206

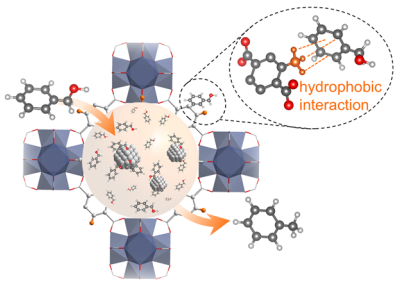


Confined growth of UiO-66 into ultrahigh-loading membranes for efficient hexane isomer separation

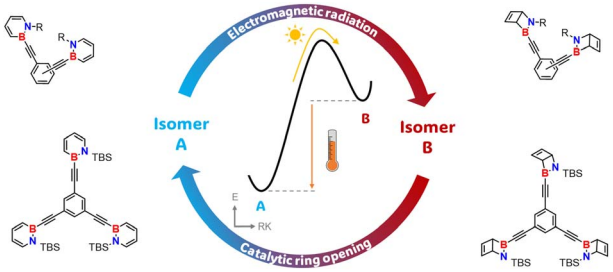
Pan-Pan Zhang, Jing-Ran Yu, Jia-Yu Ding, Wei-Hai Lin, Zhen Chen, Wei Shao, Shu-Chang Wang, Yi-Le Chen, Yi Li,* Qi-Han Gong,* Ming Xue* and Xiao-Ming Chen

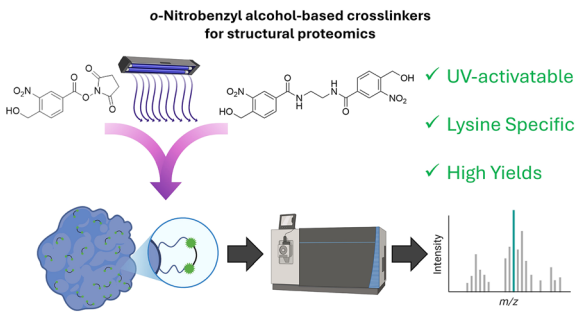
EDGE ARTICLES



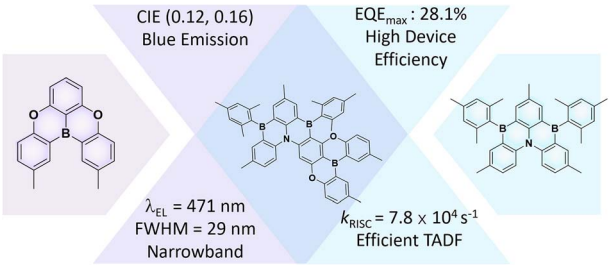


Nanopocket Promotes Hydrodeoxygenation



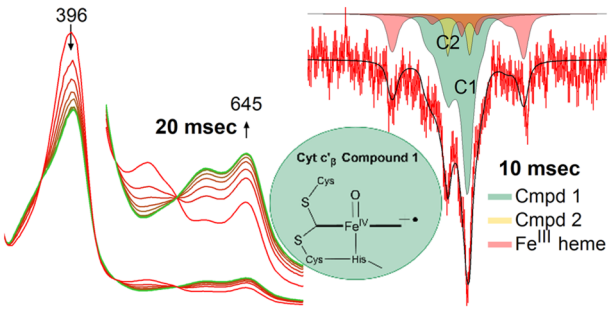


EDGE ARTICLES



A three boron doped B/O/N multi-resonant TADF emitter for improved reverse intersystem crossing rate and efficient pure blue organic light-emitting diodes

Sen Wu, Dongyang Chen, Mathilde Seinfeld, Aidan P. McKay, David B. Cordes, Xiaohong Zhang and Eli Zysman-Colman*



Detection and characterization of a compound 1 species from the *c*-type heme enzyme cytochrome c'_β

Jared C. Paris, Joline Nguyen, Hyung J. Kim and Michael P. Hendrich*

CORRECTIONS

Correction: A supramolecular nanovehicle toward systematic, targeted cancer and tumor therapy

Ruizheng Liang, Shusen You, Lina Ma, Chunyang Li, Rui Tian, Min Wei,* Dan Yan,* Meizhen Yin,* Wantai Yang, David G. Evans and Xue Duan

Correction: Arylazobenzimidazoles: versatile visible-light photoswitches with tuneable *Z*-isomer stability

Sophie A. M. Steinmüller, Magdalena Odaybat, Giulia Galli, Davia Prischich, Matthew J. Fuchter* and Michael Decker*