

## IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 15(45) 18661–19172 (2024)



**Cover**  
See Yosuke Demizu *et al.*, pp. 18789–18795. Image reproduced by permission of Yosuke Demizu from *Chem. Sci.*, 2024, 15, 18789.



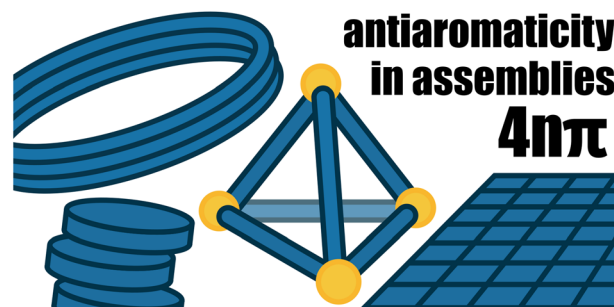
**Inside cover**  
See Hugh O'Neill, Anne-Frances Miller *et al.*, pp. 18796–18817. Image reproduced by permission of Phoenix Pleasant (Graphic Artist); Oak Ridge National Laboratory (ORNL) from *Chem. Sci.*, 2024, 15, 18796.

## PERSPECTIVES

18677

### Antiaromaticity in molecular assemblies and materials

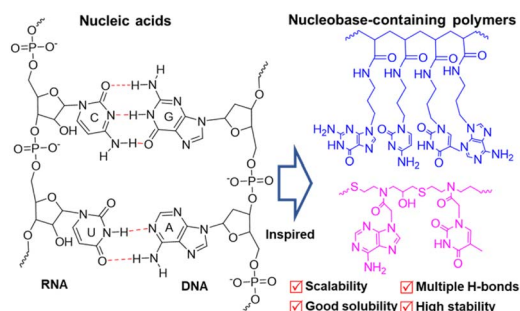
Roy Lavendomme\* and Masahiro Yamashina\*



18698

### Bioinspired and biomimetic nucleobase-containing polymers: the effect of selective multiple hydrogen bonds

Nan Yao, Jiang Wu, Guangming Liu\* and Zan Hua\*



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Elemental answers

## REVIEWS

18715

**Lateral nanoarchitectonics from nano to life: ongoing challenges in interfacial chemical science**

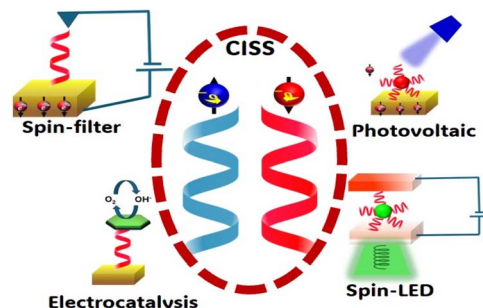
Jingwen Song, Anna Jancik-Prochazkova, Kohsaku Kawakami and Katsuhiko Ariga\*



18751

**The chirality-induced spin selectivity effect in asymmetric spin transport: from solution to device applications**

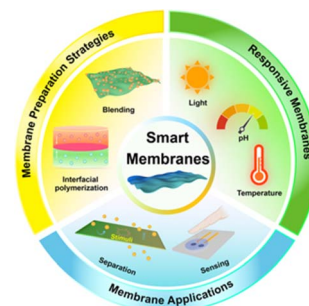
Ritu Gupta, Anujit Balo, Rabia Garg, Amit Kumar Mondal,\* Koyel Banerjee Ghosh\* and Prakash Chandra Mondal\*



18772

**Smart membranes for separation and sensing**

Xin Liu, Gengwu Zhang, Khozama Bader Al Mohawes and Niveen M. Khashab\*

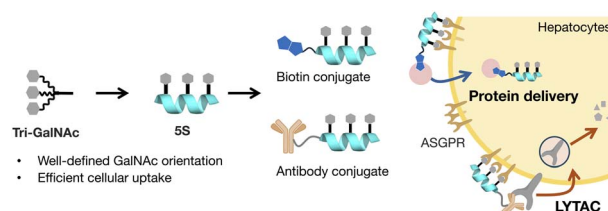


## EDGE ARTICLES

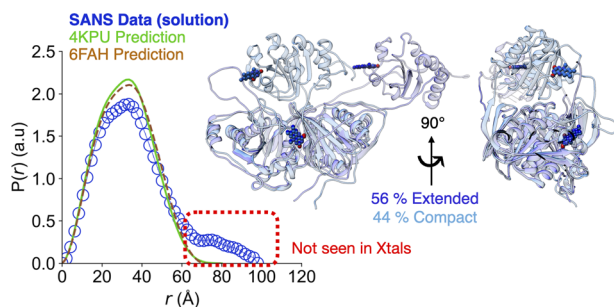
18789

**Strategic design of GalNAc-helical peptide ligands for efficient liver targeting**

Takahito Ito, Nobumichi Ohoka, Michihiko Aoyama, Takashi Nishikaze, Takashi Misawa, Takao Inoue, Akiko Ishii-Watabe and Yosuke Demizu\*



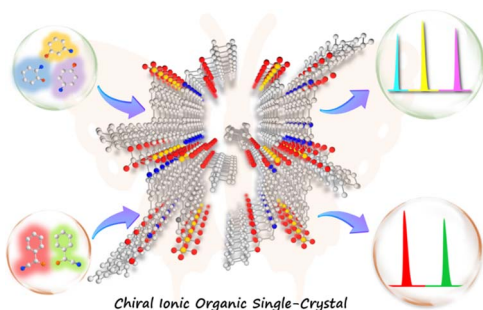
18796



### Extended conformations of bifurcating electron transfer flavoprotein constitute up to half the population, possibly mediating conformational change

Sharique A. Khan, Alan Hicks, Wellington C. Leite, James Byrnes, Biswajit Gorai, Maria-Andrea Mroginski, Hugh O'Neill\* and Anne-Frances Miller\*

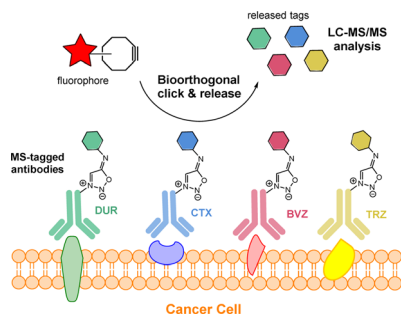
18818



### Chiral ionic organic single-crystal and its exfoliated two-dimensional nanosheets with enhanced enantioseparation

Huifeng Liu, Yongrui He, Jia Chen,\* Xiaoqing Qu, Jing He, Xuwei Chen,\* Jianhua Wang and Hongdeng Qiu\*

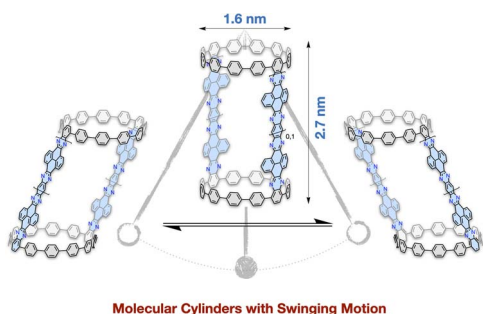
18825



### A cancer immunoprofiling strategy using mass spectrometry coupled with bioorthogonal cleavage

Maxime Ribéraud, Estelle Porret, Alain Pruvost, Frédéric Theodoro, Anvi Laëtita Nguyen, Simon Specklin, Dimitri Kereselidze, Caroline Denis, Benoit Jégo, Peggy Barbe, Mathilde Keck, Timothée D'Anfray, Bertrand Kuhnast, Davide Audisio, Charles Truillet\* and Frédéric Taran\*

18832



### Molecular cylinders with donor-acceptor structure and swinging motion

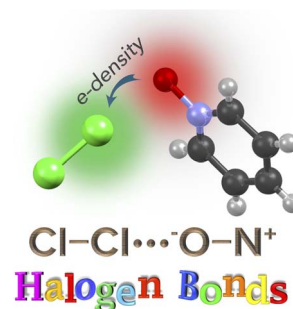
Ke Li, Satoshi Yoshida, Ryo Yakushiji, Xingchi Liu, Chang Ge, Zhuofan Xu, Yong Ni, Xiaonan Ma, Jishan Wu, Sota Sato\* and Zhe Sun\*



18840

### Dichlorine–pyridine *N*-oxide halogen-bonded complexes

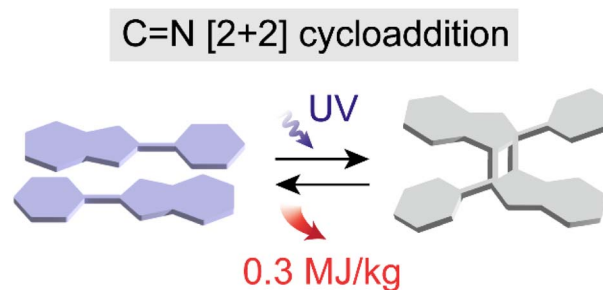
Niklas Limberg, J. Mikko Rautiainen, Jan Lundell, Sebastian Riedel,\* Kari Rissanen\* and Rakesh Puttreddy\*



18846

### Large and long-term photon energy storage in diazetidines via [2+2] photocycloaddition

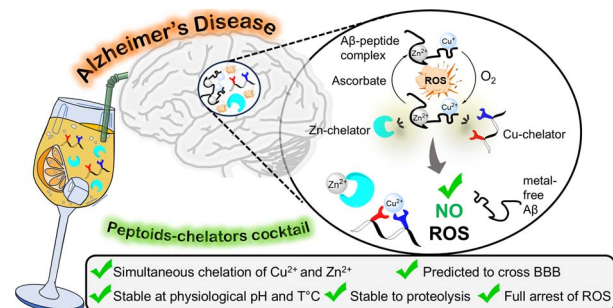
Han P. Q. Nguyen, Anurag Mukherjee, Junichi Usuba, Joshua Wan and Grace G. D. Han\*



18855

### A cocktail of $\text{Cu}^{2+}$ - and $\text{Zn}^{2+}$ -peptoid-based chelators can stop ROS formation for Alzheimer's disease therapy

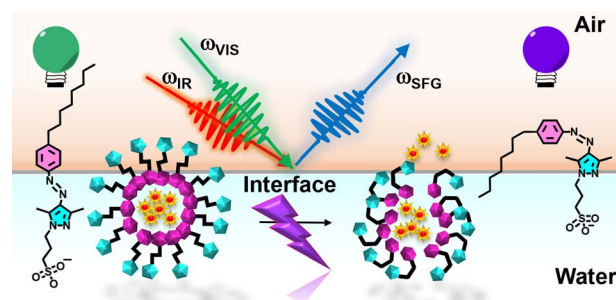
Anastasia E. Behar and Galia Maayan\*



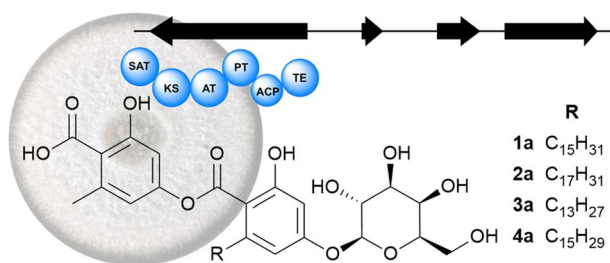
18865

### Photo-induced drug release at interfaces with arylazopyrazoles

Ipsita Pani, Michael Hardt, Dana Glikman and Björn Braunschweig\*



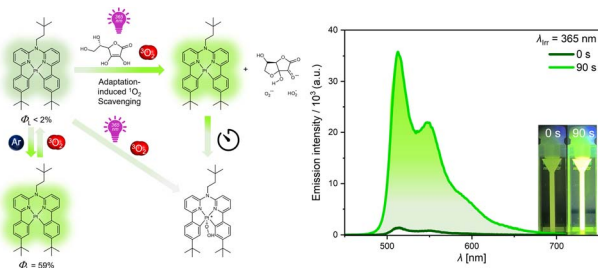
18872



### The aquastatin biosynthetic gene cluster encodes a versatile polyketide synthase capable of synthesising heteromeric depsides with diverse alkyl side chains

Nicolau Sbaraini,\* Andrew Crombie, John A. Kalaitzis, Daniel Vuong, Joe Bracegirdle, Fraser Windsor, Ashli Lau, Rachel Chen, Yu Pei Tan, Alastair Lacey, Ernest Lacey, Andrew M. Piggott\* and Yit-Heng Chooi\*

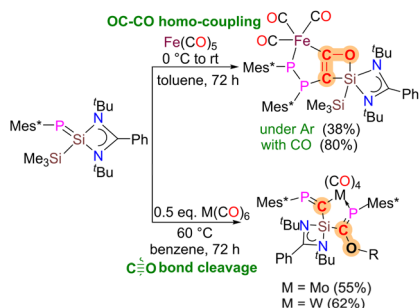
18881



### Adaptive photoluminescence through a bioinspired antioxidative mechanism

Tobias Rex, Sebastian Baumert, Alexander Hepp, Gustavo Fernández\* and Cristian A. Strassert\*

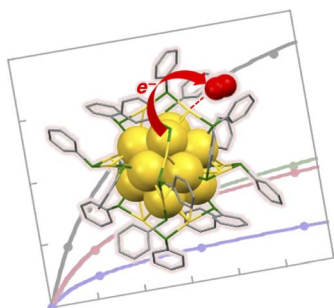
18888



### Phosphasilene mediated CO activation and deoxygenative homo coupling of CO molecules in reactions with metal carbonyls

Zohreh Hendi, Renuka Pradhan, Katharina Rachuy, Soheil Mahmoudi, Madhusudan K. Pandey, Saroj Kumar Kushvaha, Regine Herbst-Irmer, Upakarasamy Lourderaj,\* Dietmar Stalke\* and Herbert W. Roesky\*

18896



### Quantitative analysis of air-oxidation reactions of thiolate-protected gold nanoclusters

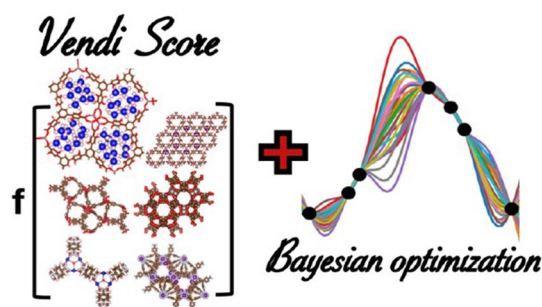
Wataru Suzuki, Ryo Takahata, Yoshiyuki Mizuhata, Norihiro Tokitoh, Songlin Xue and Toshiharu Teranishi\*



18903

### Diversity-driven, efficient exploration of a MOF design space to optimize MOF properties

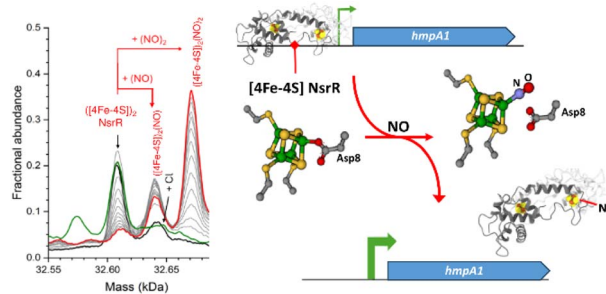
Tsung-Wei Liu, Quan Nguyen, Adji Bouso Dieng\* and Diego A. Gómez-Gualdrón\*



18920

### Binding of a single nitric oxide molecule is sufficient to disrupt DNA binding of the nitrosative stress regulator NsrR

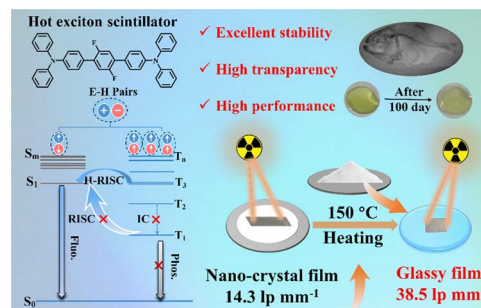
Jason C. Crack\* and Nick E. Le Brun\*



18933

### A hot exciton organic glassy scintillator for high-resolution X-ray imaging

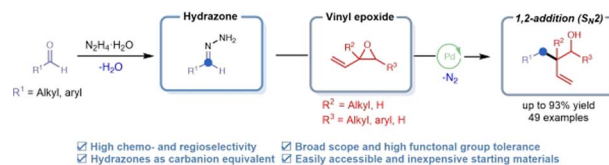
Xi Yang, Jingru Chen, Yang Zhang, Yiming Di, Guozhen Zhang, Songhua Chen,\* Hongming Chen\* and Mei-Jin Lin\*



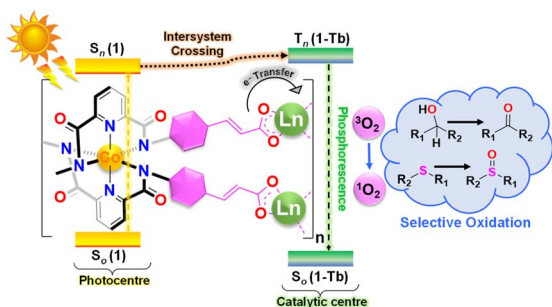
18943

### Palladium-catalysed Tsuji–Trost-type vinyl epoxide cross-coupling with umpolung hydrazones

Evan F. W. Chen and Chao-Jun Li\*



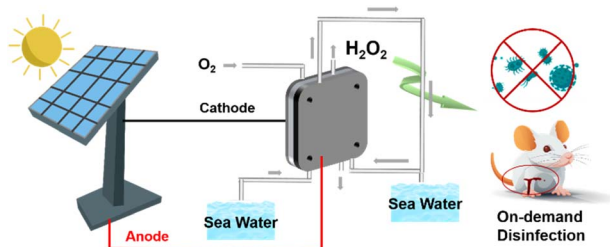
18952



### Visible light mediated photocatalysis by lanthanide metal–organic frameworks: enhanced specificity and mechanistic insights

Ruchika Gupta, Aashish, Upma, Shubhangi Majumdar, Prमित K. Chowdhury and Rajeev Gupta\*

18969



### Photovoltaic-driven stable electrosynthesis of H<sub>2</sub>O<sub>2</sub> in simulated seawater and its disinfection application

Yichan Wen, Youyou Feng, Jing Wei,\* Ting Zhang, Chengcheng Cai, Jiayi Sun, Xufang Qian\* and Yixin Zhao\*

18977



• under air • minimal solvent • low dispersity • recyclable catalyst

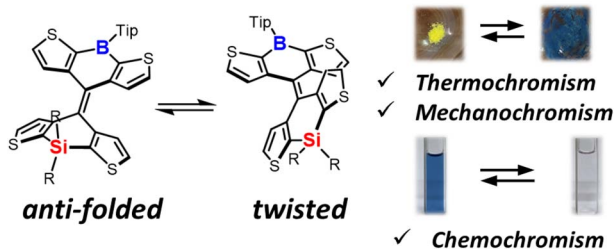
### Mechanoredox Cationic RAFT Polymerization

### Mechanically induced cationic reversible addition–fragmentation chain transfer polymerization of vinyl ethers

Longfei Zhang, Xiuyang Zou, Chengqiang Ding and Zhao Wang\*

18985

### Boron/Silicon Hybrid BAEs



### Controlling the thermodynamic stability of conformational isomers of bistricyclic aromatic enes by introducing boron and silicon atoms

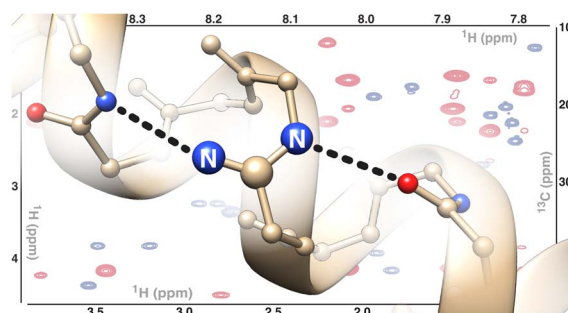
Kohei Yamada, Yohei Adachi\* and Joji Ohshita\*



18992

## Hydrogen-bonding behavior of amidines in helical structure

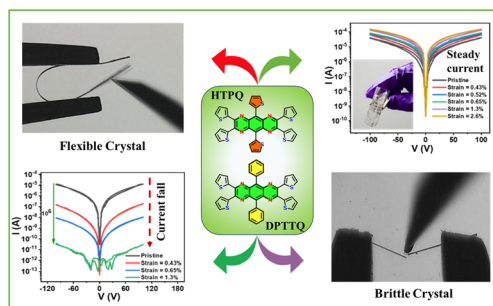
Emily A. O'Brien, Jeffrey A. Purslow, Brendan J. Wall and Brett VanVeller\*



19000

## Pyrazinoquinoxaline derivatives for flexible electronic devices: effect of the mechanical properties of the crystals on device durability

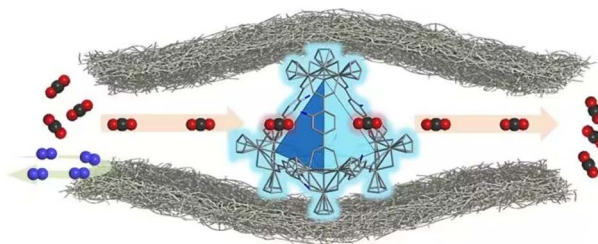
Jasmine Bezboruah, Kanha Ram Khator, Sayantan Gayen, Devendra Mayurdhwaj Sanke, Biplab Mahapatra, Anshuman Sahoo, Amlandeep Nayak, C. Malla Reddy,\* Satyaprasad P. Senanayak\* and Sanjio S. Zade\*



19013

## Synthesis of highly soluble zirconium organic cages by iodine substitution toward a CO<sub>2</sub>/N<sub>2</sub> separation membrane

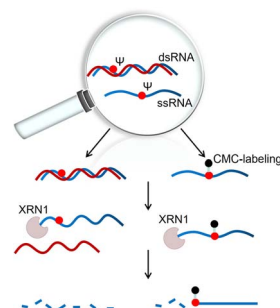
Junchao Dong, Dongxu Gai, Guocai Cha, Qinhe Pan, Jia Liu, Xiaoqin Zou\* and Guangshan Zhu\*



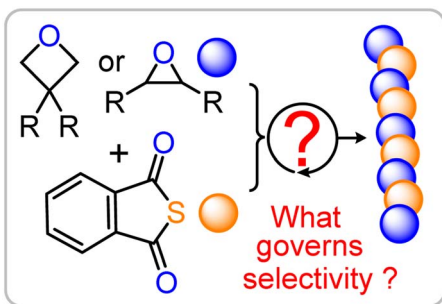
19022

## Exonuclease-assisted enrichment and base resolution analysis of pseudouridine in single-stranded RNA

Xin Fang, Ziang Lu, Yafen Wang, Ruiqi Zhao, Jing Mo, Wei Yang, Mei Sun, Xiang Zhou and Xiaocheng Weng\*



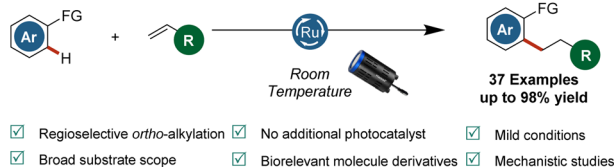
19029



### Monomer centred selectivity guidelines for sulfurated ring-opening copolymerisations

Merlin R. Stühler, Marie Kreische, Christoph Fornacon-Wood, Susanne M. Rupf, Robert Langer and Alex J. Plajer\*

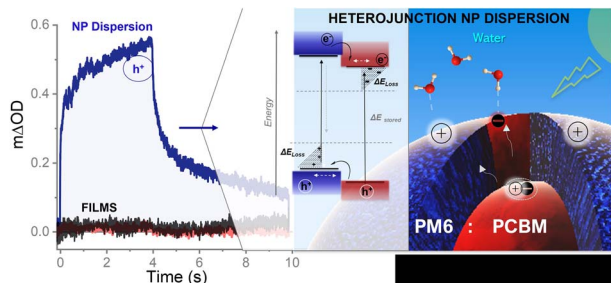
19037



### Visible light-induced ruthenium(II)-catalyzed hydroarylation of unactivated olefins

Sven Trienes, Stéphane Golling, Matthew H. Gieuw, Marco Di Matteo and Lutz Ackermann\*

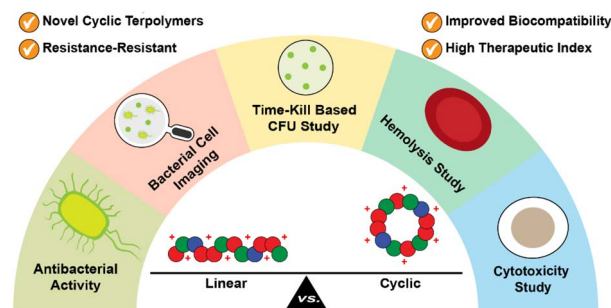
19044



### Impact of water solvation on the charge carrier dynamics of organic heterojunction photocatalyst nanoparticle dispersions

Soranyel Gonzalez-Carrero,\* Jan Kosco, Teng Fei, Iain McCulloch\* and James R. Durrant\*

19057



### Effect of cyclic topology *versus* linear terpolymers on antibacterial activity and biocompatibility: antimicrobial peptide avatars

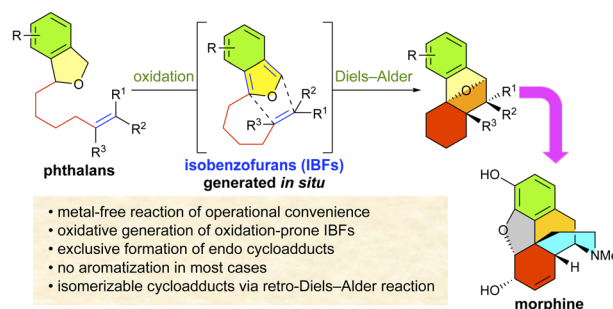
Md Aquib, Wenting Yang, Luofeng Yu, Vinod Kumar Kannaujiya, Yuhao Zhang, Peng Li, Andrew Whittaker, Changkui Fu\* and Cyrille Boyer\*



19070

### Oxidative generation of isobenzofurans from phthalans: application to the formal synthesis of (±)-morphine

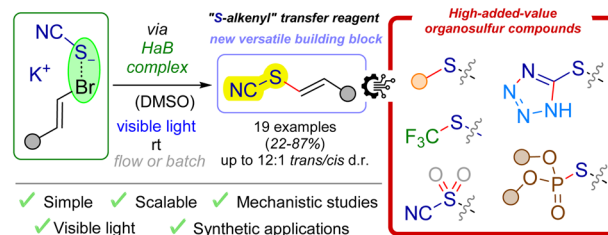
Mirai Kage, Hiroyuki Yamakoshi, Manami Tabata, Eisaku Ohashi, Kimihiro Noguchi, Takeshi Watanabe, Manato Uchida, Minetatsu Takada, Kazutada Ikeuchi and Seiichi Nakamura\*



19077

### Visible-light-driven synthesis of alkenyl thiocyanates: novel building blocks for assembly of diverse sulfur-containing molecules

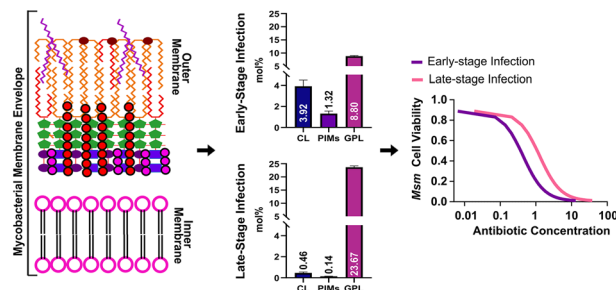
Helena F. Piedra and Manuel Plaza\*



19084

### Decoding the role of mycobacterial lipid remodelling and membrane dynamics in antibiotic tolerance

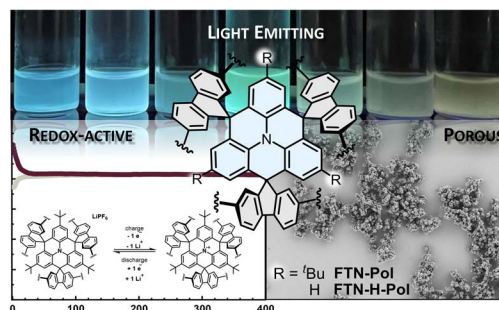
Anjana P. Menon, Tzong-Hsien Lee, Marie-Isabel Aguilar\* and Shobhna Kapoor\*



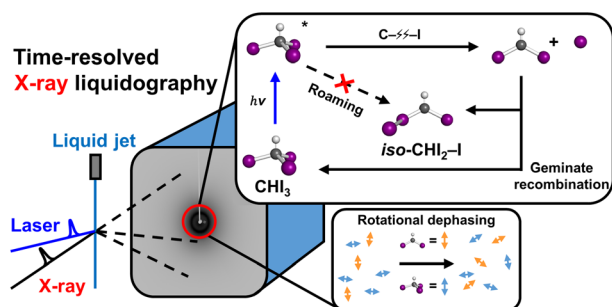
19094

### Redox-active, photoluminescent porous polymers based on spirofluorene-bridged N-heterotriangulenes and their feasibility as organic cathode materials

Angelina Jovic, Tom Wickenhäuser, Sebastian Lindenthal, Wen-Shan Zhang, Jana Zaumseil, Rasmus Schröder, Rüdiger Klingeler and Milan Kivala\*



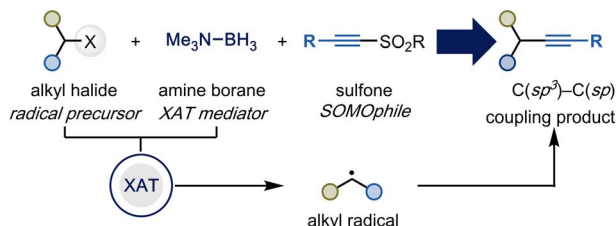
19104



### The carbon–iodine bond cleavage and isomerization of iodoform visualized with femtosecond X-ray liquidography

Yongjun Cha, Hosung Ki, Donghwan Im, Yunbeom Lee, Seonggon Lee, Jungmin Kim, Jae Hyuk Lee, Jeongho Kim and Hyotcherl Ihee\*

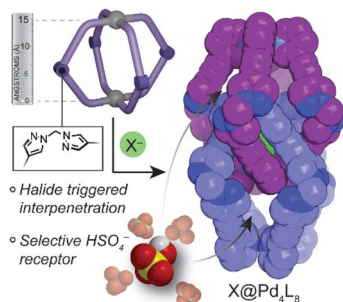
19113



### Boryl radical-mediated halogen-atom transfer (XAT) enables the Sonogashira-like alkylation of alkyl halides

Javier Corpas, Maialen Alonso and Daniele Leonori\*

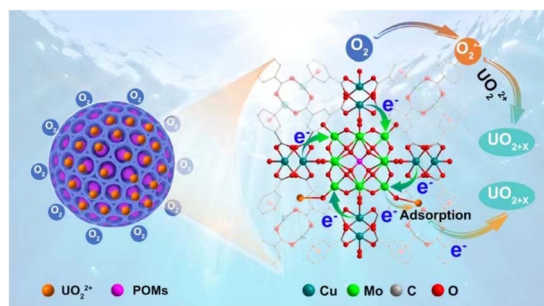
19119



### Halide-triggered assembly and selective bisulfate recognition in a quadruply interlocked coordination cage

Jemma I. Virtue, Steven Tsoukatos, Martin R. Johnston and Witold M. Bloch\*

19126



### Polyoxometalate-encapsulated metal–organic frameworks for photocatalytic uranium isolation

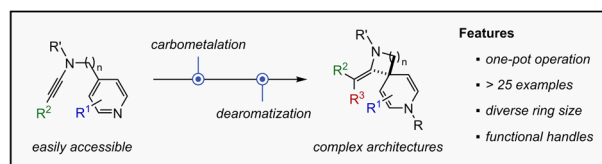
Zhimin Dong, Dongling Zeng, Zifan Li, Junjie Chen, Youqun Wang, Xiaohong Cao, Guoping Yang,\* Zhibin Zhang,\* Yunhai Liu and Feng Yang\*



19136

**Dearomative spirocyclization of ynamides**

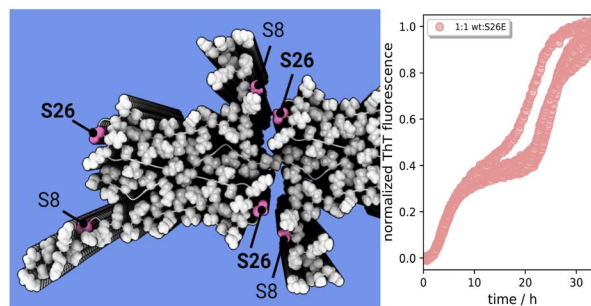
Mohamed Agbaria, Nwar Egbaria and Zackaria Nairoukh\*



19142

**Serine phosphorylation mimics of A $\beta$  form distinct, non-cross-seeding fibril morphs**

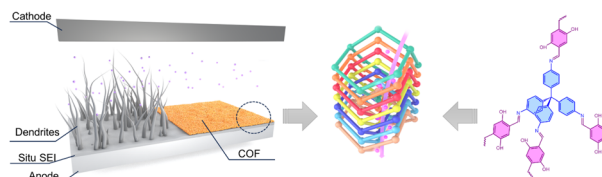
Kalyani Sanagavarapu,\* Georg Meisl, Veronica Lattanzi, Katja Bernfur, Birgitta Frohm, Ulf Olsson, Tuomas P. J. Knowles, Anders Malmendal and Sara Linse\*



19160

**Three-dimensional covalent organic framework-based artificial interphase layer endows lithium metal anodes with high stability**

Kaiyang Zheng, Zhengyang Gou, Cen Zhang, Yuqiang Zhang, Yaying Dou, Shaojie Liu,\* Yongheng Zhang and Yantao Zhang\*



## CORRECTIONS

19168

**Correction: Catalytic generation of *ortho*-quinone dimethides via donor/donor rhodium carbenes**

Mingchun Gao, Jose M. Ruiz, Emily Jimenez, Anna Lo, Croix J. Laconsay, James C. Fettinger, Dean J. Tantillo and Jared T. Shaw\*



## CORRECTIONS

19169

**Correction: Second-shell modulation on porphyrin-like Pt single atom catalysts for boosting oxygen reduction reaction**

Tayyaba Najam, Syed Shoaib Ahmad Shah, Hanqing Yin, Xin Xiao, Shamraiz Talib, Qianqian Ji, Yonggui Deng, Muhammad Sufyan Javed, Jie Hu, Ruo Zhao, Aijun Du, Xingke Cai\* and Qiang Xu\*

