

## IN THIS ISSUE

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See Allison A. Peroutka, G. Brian Stephenson, Michael J. Servis, pp. 10411–10421. Image reproduced by permission of Allison A. Peroutka from *Chem. Sci.*, 2026, 17, 10411.



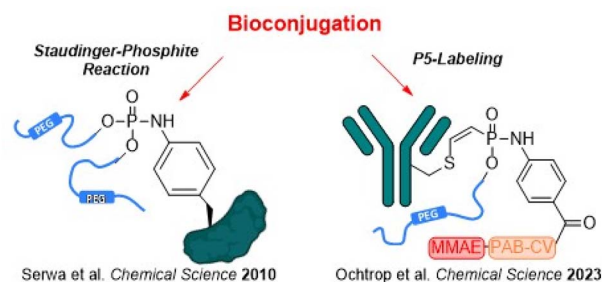
**Inside cover**  
See Jérôme Lacour *et al.*, pp. 10422–10433. Image reproduced by permission of Jérôme Lacour from *Chem. Sci.*, 2026, 17, 10422.

## COMMENTARY

10307

### Reflection on “Site-specific PEGylation of proteins by a Staudinger-phosphite reaction”: from protein modification to ADCs in the clinic

Karl T. Schuppe and Christian P. R. Hackenberger\*

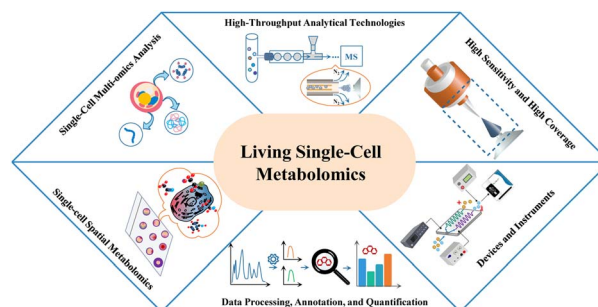


## PERSPECTIVE

10311

### Living single-cell metabolomics via mass spectrometry: state of the art and perspective

Xianzhe Shi, Jiajun Peng, Chunxiu Hu, Muyingnan You, Xin Lu,\* Xinyu Liu\* and Guowang Xu\*



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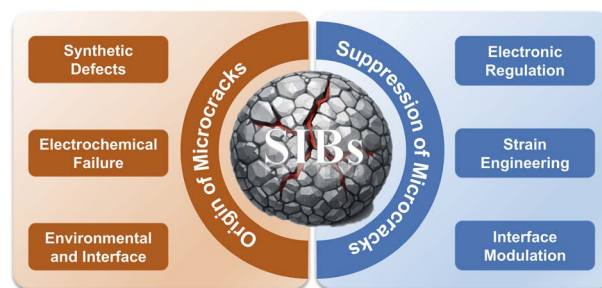
Fundamental questions  
Elemental answers

## REVIEWS

10329

**Layered oxide cathodes for sodium-ion batteries: origins of microcracks and countermeasures**

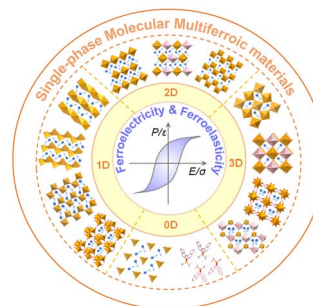
Qiang Ma, Ling-Yi Kong,\* Bang-Yuan Guo, Qi-Lin Ran, Ya-Fang Wang, Yan-Fang Zhu and Yao Xiao\*



10355

**Recent progress in single-phase molecular multiferroic materials with ferroelectricity and ferroelasticity**

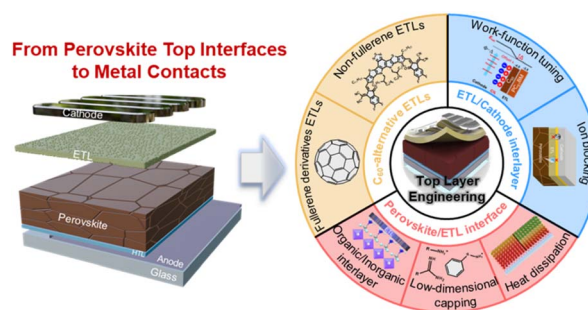
Meng-Meng Lun, Meng-Meng Sun, Yong-Qiang Wang, Gao-Shang Gong, Mao-Cai Wei, Yu-Ling Su, Da-Wei Fu\* and Zun-Qi Liu\*



10374

**From perovskite top interfaces to metal contacts: stability-driven design for tandem-compatible inverted solar cells**

Sangmi Park, Jong Bin Park, Jung Min Ha, Hye Seung Kim, Myoung Hoon Song\* and Han Young Woo\*

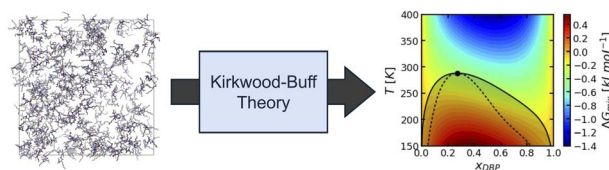


## EDGE ARTICLES

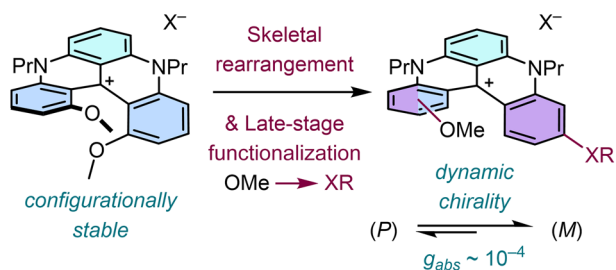
10411

**From molecular to macroscopic: predicting liquid-liquid phase equilibria and small-angle scattering of mixtures of organic liquids from atomistic simulation using Kirkwood–Buff theory**

Allison A. Peroutka,\* G. Brian Stephenson\* and Michael J. Servis\*



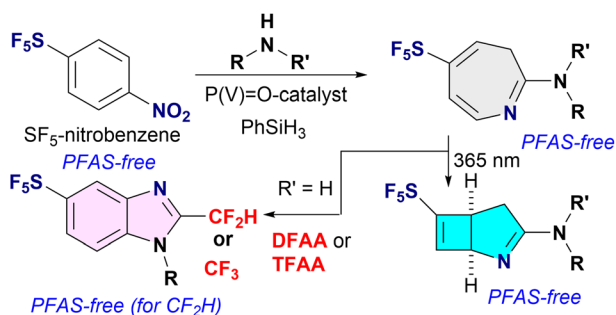
10422



### Skeletal rearrangement of [4]helicenes under acidic conditions: dynamic chirality and improved properties by subsequent peripheral editing

Arthur Gaucherand, Romain Duwald, Christelle Herse, Céline Besnard, Gennaro Pescitelli and Jérôme Lacour\*

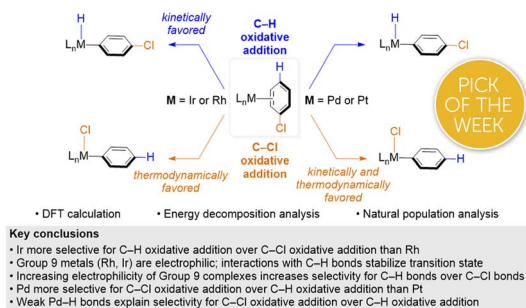
10434



### Bidirectional skeletal remodelling of SF<sub>5</sub>-nitrobenzenes into azepine, bicyclic, and benzimidazole frameworks

Muhamad Zulfaqar Bacho, Shiwei Wu, Takuya Muramatsu, Chavakula Nagababu, Daiki Harano, Seishu Ochiai and Norio Shibata\*

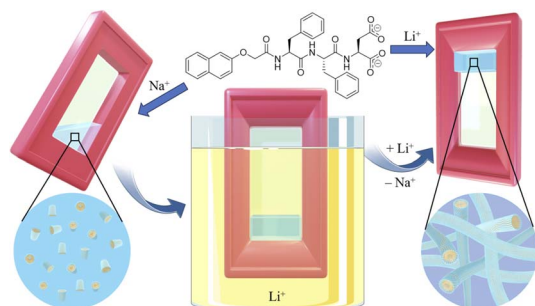
10441



### Origins of the selectivity of late transition metals of Group 9 and Group 10 for oxidative addition of C-H vs. C-Cl bonds

Yehao Qiu, Alistair J. Sterling, Kevin K. Ikeda, Alexander Zech, Matthias Loipersberger, Diptarka Hait, Martin Head-Gordon\* and John F. Hartwig\*

10456



### Lithium-selective supramolecular assembly and capture by tripeptide gelators

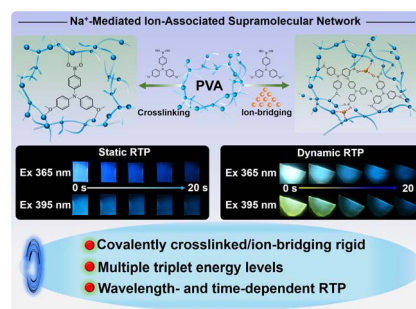
Dipankar Ghosh, Ralf Schweins, Andrew J. Smith and Dave J. Adams\*



10469

### Programmable wavelength- and time-dependent multicolor afterglow in polyvinyl alcohol via synergistic ion-bridging and crosslinking interactions

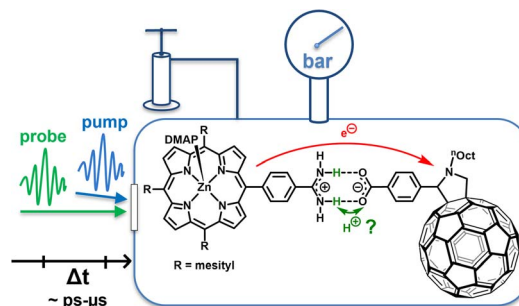
Shukang Yang, Ying Lv, Guorui Zhai, Xiaohui Yu, Jinmei Du, Yang Jiang, Dagang Miao, Guowei Xiao\* and Changhai Xu\*



10479

### Activation volumes associated with excited-state electron transfer across amidinium-carboxylate bridge

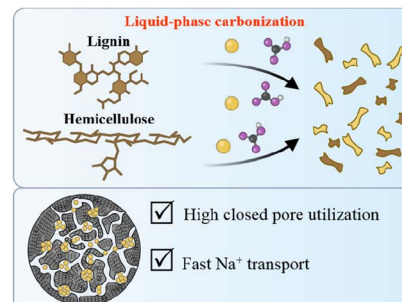
Daniel Langford, René Weiß, Marcel Krug, Maxence Urbani, Achim Zahl, Carolin Müller, Timothy Clark, Tomás Torres\* and Dirk M. Guldi\*



10489

### Molecular-level precursor engineering enables high utilization of closed nanopores in hard carbon for sodium-ion batteries

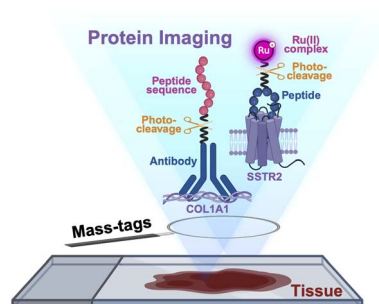
Rui Li, Beilei Yuan, Yupeng Feng, Yuhan Li, Na Jiang, Ping Liu, Liangzhi Li, Weiyue Li, Chunwei Dong,\* Shuchun Hu, Qi Liu, Jian Chen,\* Fei Li,\* Jianping Long\* and Anjun Hu\*



10504

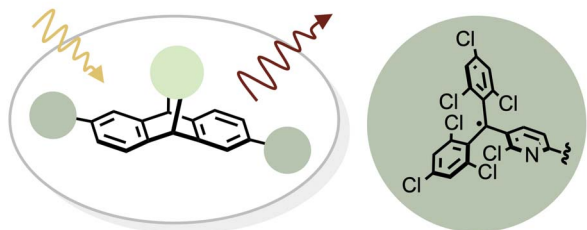
### A photocleavable peptidic Ru(II) mass-tag enabling targeted DESI and MALDI mass spectrometry imaging in cancer tissues

Mihyun Park, Juliana P. L. Gonçalves, Sandra Deiser, Sebastian Fenzl, Felix A. Böhm, Katja Steiger, Susanne Kossatz, Nicole Strittmatter\* and Angela Casini\*



10511

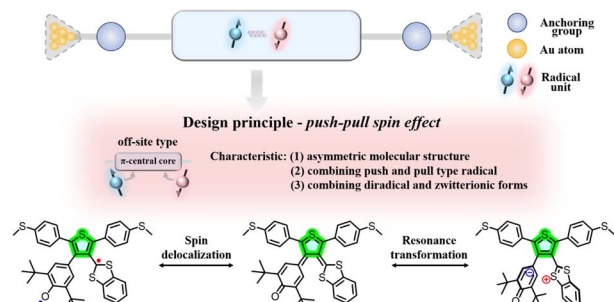
## Homoconjugated Luminescent Radicals



## Through-space donor–acceptor homoconjugation strategies for emissive radical species

Ashton R. Davis, Yujie Zhao, Robert N. Sansone, Colleen H. McAloon, Robert G. Griffin\* and Timothy M. Swager\*

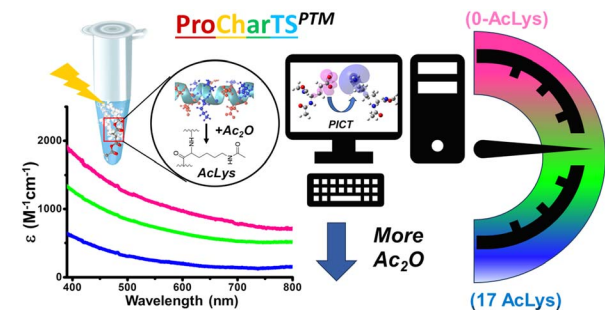
10519



## Radical-to-radical push–pull effect enhances single-molecule conductance in asymmetric diradicals

Dacheng Dai, Qian Zhan, Tianfang Shi, Xiaodong Liu,\* Lichuan Chen, Sergio Moles Quintero, Dongsheng Wang,\* Juan Casado\* and Yonghao Zheng\*

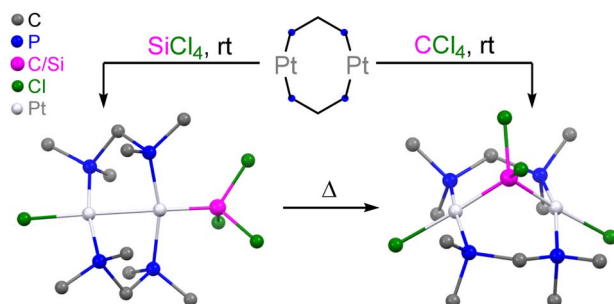
10529



## Label-free optical detection of protein acetylation using UV-vis charge transfer spectra

Himanshi Maniram Devi, Apoorva Badaya, Arijit Maity, Simangka Bor Saikia, Ravindra Venkatramani\* and Rajaram Swaminathan\*

10547

Cooperative reactivity of halomethanes and -silanes at an A-frame complex: transannular addition *versus* bridging tetrylenes

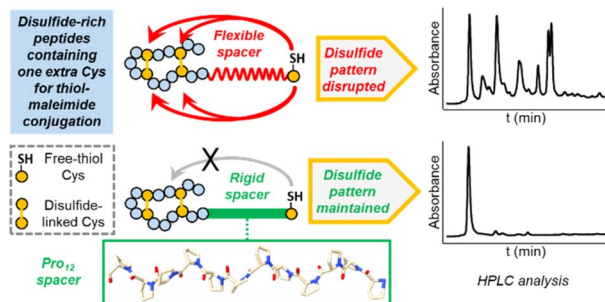
Max Passargus, Celine Nieuwland, Merle Arrowsmith, F. Matthias Bickelhaupt\* and Holger Braunschweig\*



10559

### A (poly)Pro tip for preserving native disulfide connectivity during thiol–maleimide bioconjugation of disulfide-rich peptides

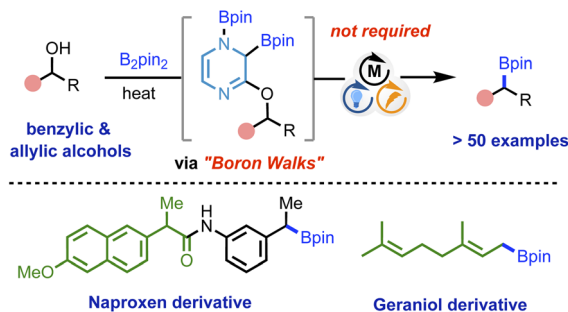
Lylia Azzoug, Ana Novak, Hervé Meudal, Jean-Baptiste Madinier, Stéphane Charpentier, Karine Loth, Séverine Morisset-Lopez, Carlo Pifferi\* and Vincent Aucagne\*



10571

### Metal-free deoxygenative borylation of pyrazinyl ethers via an unusual boron-walking mechanism

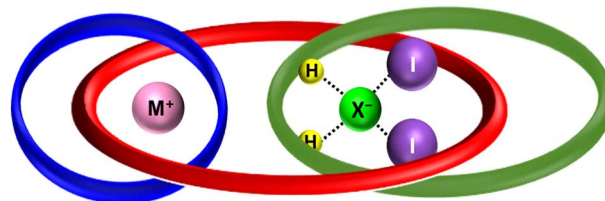
Mirja Md Mahamudul Hassan, Saikat Guria, Priyanka Ramnath Kanojia, Anogh Ghosh, Priyonu Mondal, Raghavan B. Sunoj\* and Buddhadeb Chattopadhyay\*



10581

### Orthogonal cation and anion template-directed synthesis of a heteroditopic [3]catenane for ion-pair recognition

Hui Min Tay, Andrew Docker,\* Antonio J. Martínez-Martínez and Paul D. Beer\*

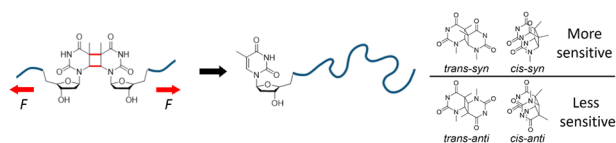


An ion-pair binding hetero[3]catenane

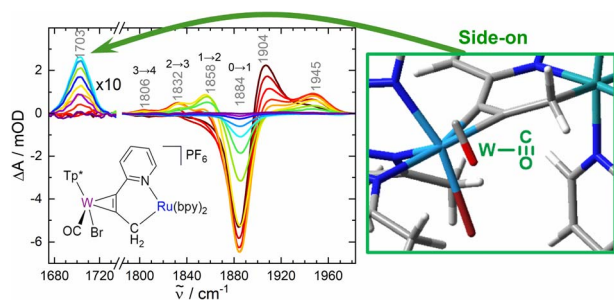
10589

### The mechanochemical activation of a pyrimidine dimer

Xiang Gao, Gurudas Chakraborty,\* Felix Joel Urhahne, Marcus Lantzius-Beninga, Regina Lennarz, Jilin Fan, Kara Stappert, Jan Meisner, Robert Göstl and Andreas Herrmann\*



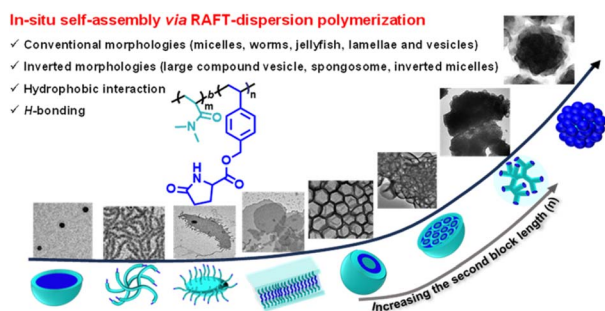
10600



### Time-resolved spectroscopy of a photoactive dinuclear W/Ru complex: spectroscopic evidence for a metastable intermediate with side-on coordinated carbonyl ligand

Jan-Hendrik Bortler, Sayan Kangsa Banik, Kristian Kunze, Stephan Kupfer,\* Dirk Schwarzer\* and Wolfram W. Seidel\*

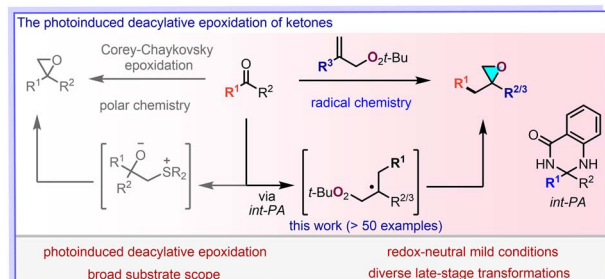
10611



### Pyroglutamate pendant block copolymers: evolution of inverse and conventional morphologies from RAFT-mediated PISA

Pampa Chowdhury, Kamal Bauri\* and Priyadarsi De\*

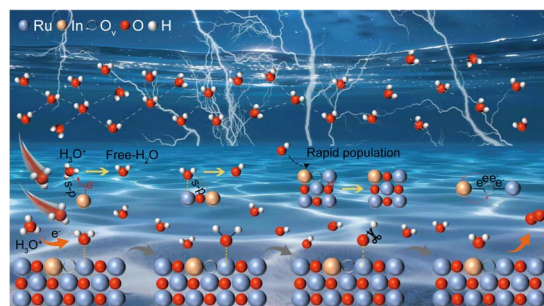
10623



### Photoinduced deacylative epoxidation of ketone derivatives with allylic peroxides

Jiangtao Lin, Mingqian Zhou, Ziyang Li, Jiang Duan, Xiaoyu Liu, Yue Wang and Chao Shu\*

10632



### Lewis base-mediated stabilization of the lattice oxygen mechanism in RuO<sub>2</sub> for robust acidic water oxidation

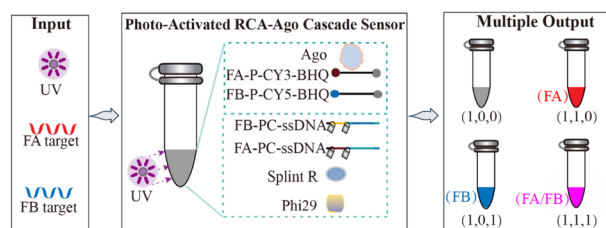
Sheng Hu, Siyang Luo, Haoxin Du, Xiongfeng Zeng, Jiao Yang, Xing Wang,\* Haifeng Bao\* and Na Yao\*



10643

**PANDA: AND logic-gated RNA sensing enabled by a photo-activated RCA-Ago cascade**

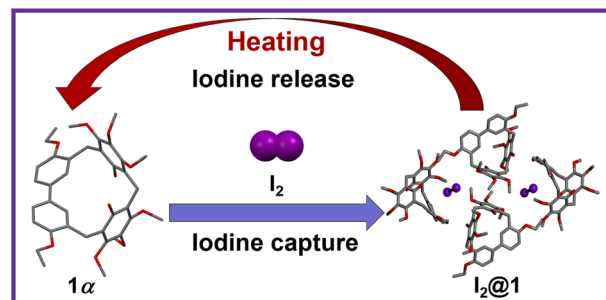
Xinxin Ke, Heming Fan, Jingwen Qu, Junlan Wang, Yilong Wang, Tengfei Xu, Chuanxia Chen,\* Chunyi Hu\* and Tao Hu\*



10653

**Reversible iodine capture by nonporous adaptive hybrid[3]arene crystals**

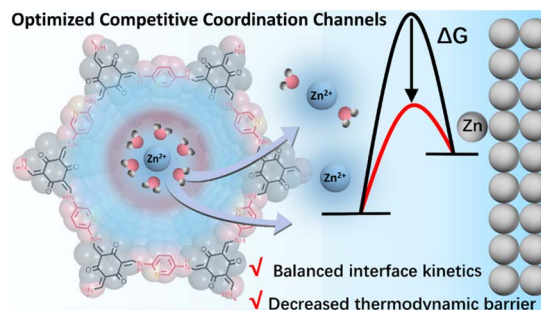
Ruike Zhang, Wenqian Liu and Jiong Zhou\*



10658

**Fast hydrated-ion transport and desolvation in pyridinyl COF membranes via competitive coordination**

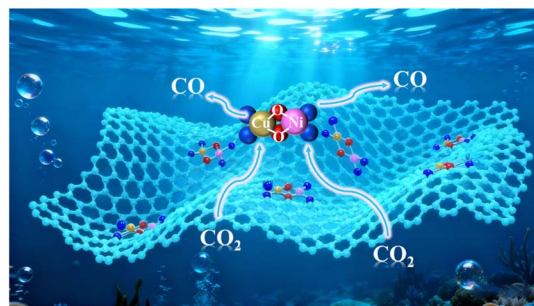
Xuan Li, Jiaxin Liu, Yilin Zhang, Zhixiang Dai, Zihan Tan, Hongli Yang, Chao Xu, Maria Strømme, Shengyang Zhou\* and Zhong-Ming Li



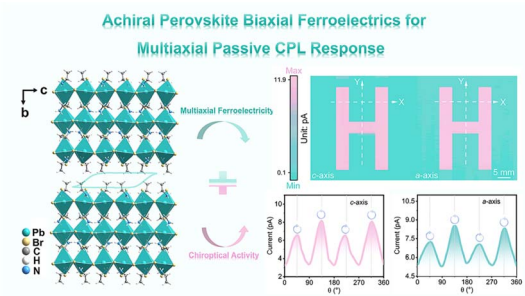
10669

**Asymmetric electronic modulation in bridged Cu–O<sub>2</sub>–Ni dual-atom catalysts promoting CO<sub>2</sub> electroreduction**

Xue Bai, Liyuan Xiao, Xiaoqin Xu, Anaer Husile, Fuquan Bai, Lina Li\* and Jingqi Guan\*



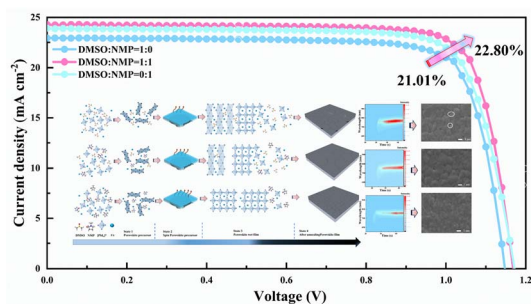
10678



### Inch-sized achiral perovskite ferroelectric single crystals for multiaxial passive circularly polarized light response

Yueying Wang, Zeng-Kui Zhu,\* Yuhang Jiang, Jianbo Wu, Wenhui Wu, Haodong Ge, Yong Wang, Yao Li, Huawei Yang, Panpan Yu,\* Ying Zeng, Song Yang\* and Junhua Luo\*

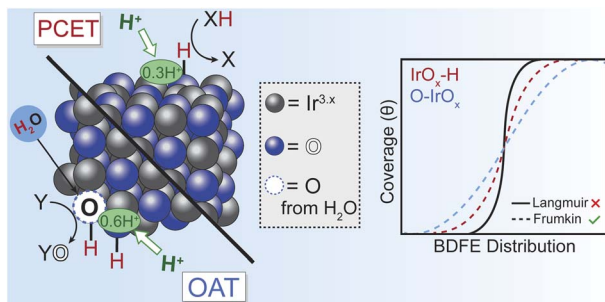
10684



### The underlying synergistic mechanism of co-solvents to fabricate high-quality FAPbI<sub>3</sub> perovskite films

Zejuan Jiang, Xiaofeng He, Cunyun Xu, Xiaoyun Wan, Haimao Zhu, Jiancheng You, Zhongjun Dai, Wenqi Zeng, Ping Li,\* Jin Ye\* and Qunliang Song\*

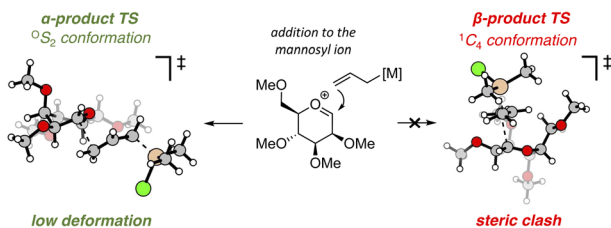
10694



### Non-ideal stoichiometry and thermochemistry of aqueous iridium oxide nanoparticles in proton-coupled electron transfer and oxygen-atom transfer

Justin L. Lee, Saeed Saeed and James M. Mayer\*

10708



### Beyond the two-conformer model: boat conformers provide stereoselectivity in S<sub>N</sub>1-type glycosylations of manno-type donors

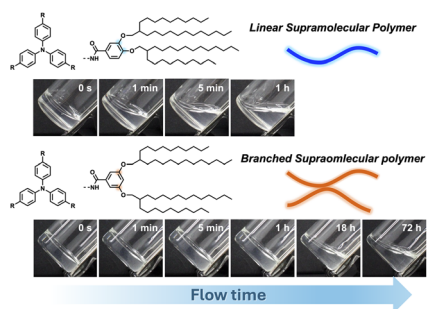
Wouter A. Remmerswaal, Daan Hoogers, Joeri Schoenmakers, F. Matthias Bickelhaupt, Thomas Hansen\* and Jeroen D. C. Codée\*



10720

### Linear and branched supramolecular polymers formed from isomeric monomers as revealed by solution viscoelasticity

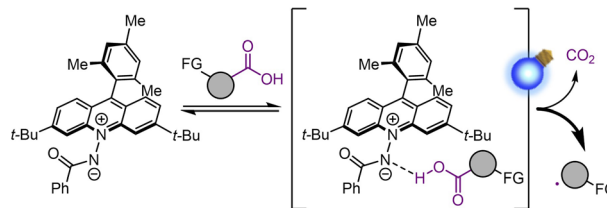
Yufuka Furukawa, Ren Sato, Natsumi Fukaya, Takashi Kajitani, Takuya Katashima\* and Kazunori Sugiyasu\*



10729

### Acridinium amidate as a hydrogen-bonding photocatalyst for direct decarboxylative alkylation of native carboxylic acids

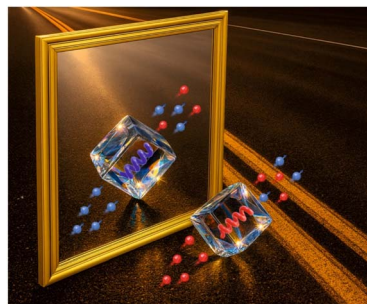
Duc An Truong, Soichiro Mori, Taiki Ninomiya, Ryoya Niwa, Bumpei Maeda, Haruka Fujino, Masayuki Inoue, Kohsuke Ohmatsu\* and Takashi Ooi\*



10735

### Chirality induced long-range spin-selective transport in helical 3D metal-organic frameworks

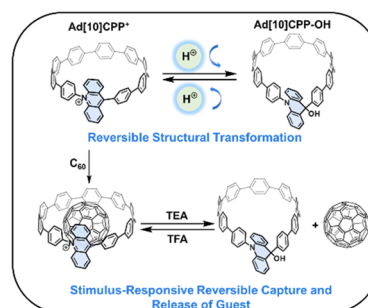
Pravesh Singh Bisht, Rabia Garg, Tapan Kumar Das, Nidhi Bhatt, Subash Chandra Sahoo and Amit Kumar Mondal\*



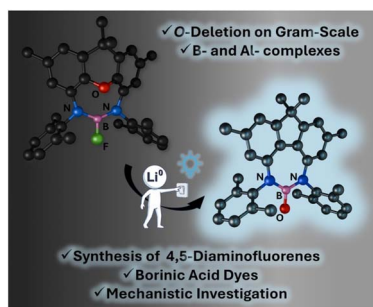
10744

### A dual-responsive cationic acridinium nano hoop: redox activity and acid/base-controlled reversible guest capture and release

Jiao Ming, Jin Zhang, Yan Hu, Kai Lan, Dongmei Zhang, Ping Li, Jiarong Miao, Jiyong Jiang, Xiaobo Zhang, Hanchi Zhong, Peiyuan Yu\* and Chuyang Cheng\*



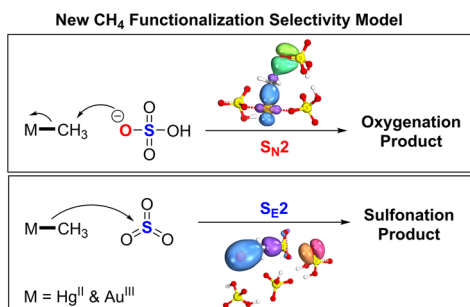
10755



### Xanthene-to-fluorene skeletal editing *via* oxygen deletion mediated by boron and aluminium radicals

Emily Nahon, Gareth R. Nelmes, Elena Dallerba, Li Feng Lim, Nicholas Cox, Claire L. McMullin, Massimiliano Massi, Fabian Kallmeier\* and Jamie Hicks\*

10762



### Non-radical pathways control methane sulfonation *versus* oxygenation C–H functionalization selectivity with Hg(II) and Au(III) catalysis

Anjaneyulu Koppaka,\* Caz Cullimore, Jyothish Joy, Alex Kraus, Roy A. Periana\* and Daniel H. Ess\*

10772

### Correction: Simple, one-step syntheses of tri- and tetracyclic B,N,S-heterocycles from reactions of a diboracumulene with thiols

Christian Markl, Sourav Kar, Lukas Lubczyk, Kai Hammond, Rian D. Dewhurst and Holger Braunschweig\*

