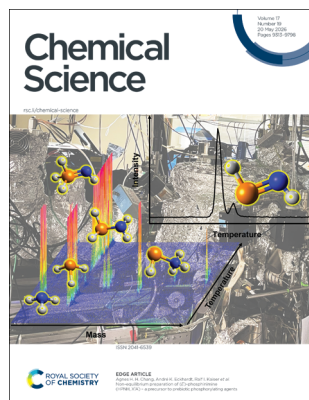


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ISSN 2041-6539 CODEN CSHCBM 17(19) 9313–9798 (2026)



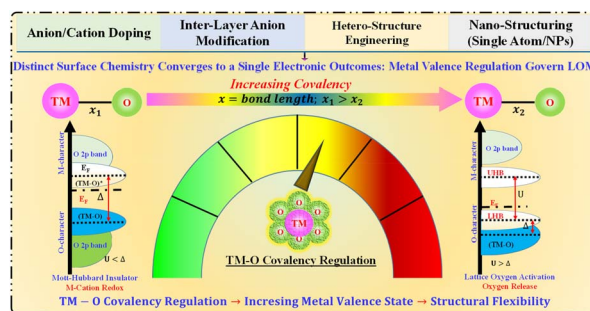
**Cover**  
See Agnes H. H. Chang, André K. Eckhardt, Ralf I. Kaiser *et al.*, pp. 9446–9453. Image reproduced by permission of Jia Wang from *Chem. Sci.*, 2026, 17, 9446.

## PERSPECTIVE

9327

### Why and when does lattice oxygen participate in oxygen evolution?

Arun Karmakar,\* Asha K. Satheesan and Subrata Kundu\*

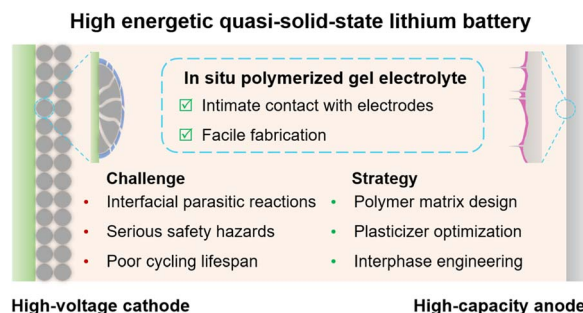


## REVIEWS

9344

### High energy density quasi-solid-state lithium batteries using *in situ* polymerized gel electrolytes

Zehui Fan, Yingxin Liu, Lanhua Ma, Hang Liu, Qinghao Chen, Yi Wang, Ewa Zygadło-Monikowska and Yunhua Xu\*



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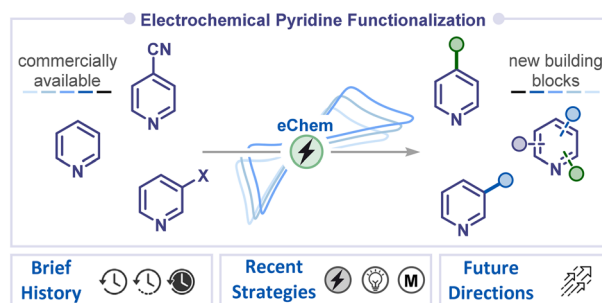
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10%**

## REVIEWS

9370

**Electrochemical functionalization of pyridines**

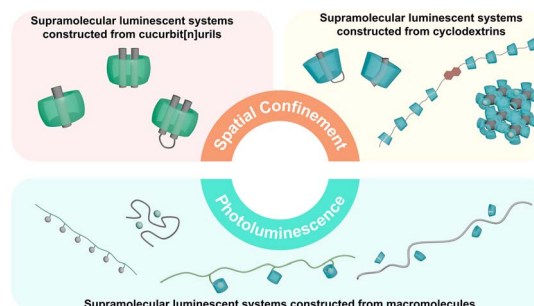
Satabdi Bera, Tushar Singha, Nakul Abhay Bapat and Durga Prasad Hari\*



9398

**Organic supramolecular assemblage-confined photoluminescence**

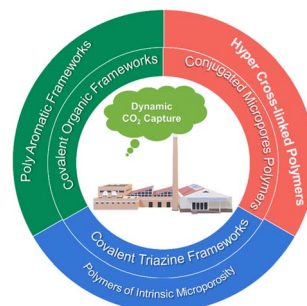
Hengzhi Zhang and Yu Liu\*



9407

**Engineering porous organic polymers for enhanced CO<sub>2</sub> capture: from synthesis to implementation**

Mohammed G. Kotp and Shiao-Wei Kuo\*

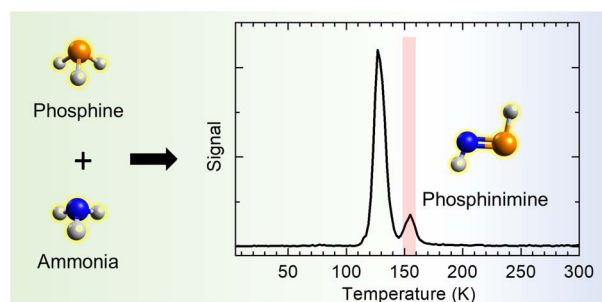


## EDGE ARTICLES

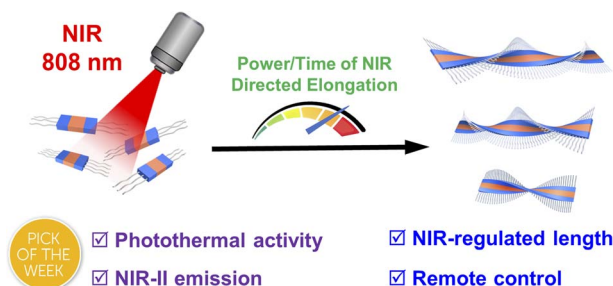
9446

**Non-equilibrium preparation of (*E*)-phosphinimine (HPNH, X<sup>1</sup>A') – a precursor to prebiotic phosphorylating agents**

Jia Wang, Bing-Jian Sun, Alexandre Bergantini, Zesen Wang, Mason McAnally, Joshua H. Marks, Agnes H. H. Chang,\* André K. Eckhardt\* and Ralf I. Kaiser\*



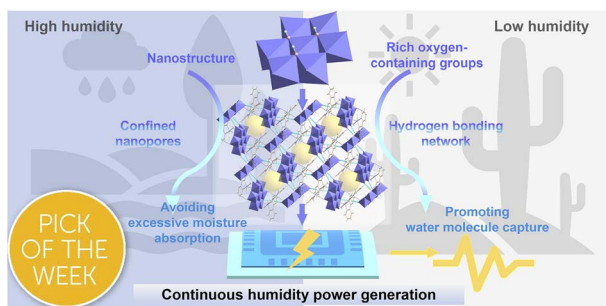
9454



### Near infrared light regulated crystallization-driven self-assembly: a versatile platform for controlled preparation of uniform $\pi$ -conjugated functional nanostructures

Rang Chen, Sen Zhang, Xiaoyu Huang,\* Guolin Lu, Mitchell A. Winnik and Chun Feng\*

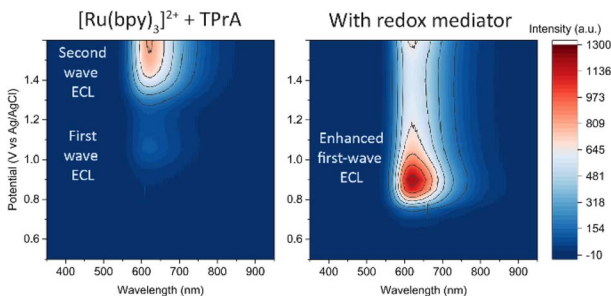
9468



### Confined nanopores and hydrogen bonds of polyoxometalates for continuous electricity generation from fluctuating humidity

Tuo Ji, WeiLin Chen,\* Fan Liao\* and ZhenHui Kang\*

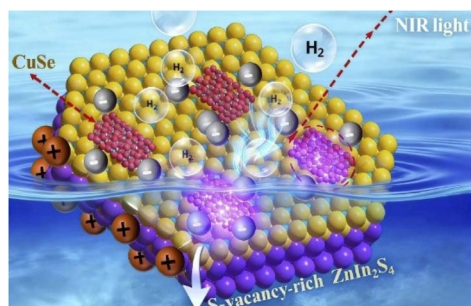
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### Redox-mediator enhanced electrochemiluminescence under non-aqueous conditions

Steven J. Blom, Fazeleh Mesgari, El M. S. Martin, Egan H. Doven, David J. Hayne, Timothy U. Connell, Peter J. Barnard, Narges Saeezadeh, Seyed Mohammad Jafar Jalali and Paul S. Francis\*

9492



### Constructing interfacial charge transfer channels *via* plasmon-mediated dual excitation in S-vacancy-rich ZnIn<sub>2</sub>S<sub>4</sub>/CuSe heterostructures for enhanced NIR-driven H<sub>2</sub> production

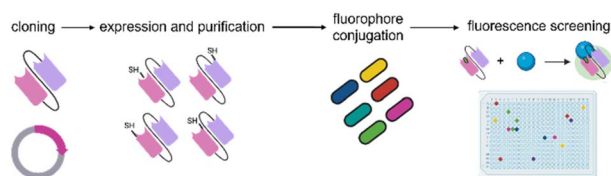
Yuanyong Huang, Cai Ning, Xinyu Lu, Yang Chao, Junhao He, Qiankun Gao, Yu Yu, Zhongkai Xie, Hailing Huo and Weidong Shi\*



9501

### A platform to design and optimise fluorogenic scFvs for detection of interleukin 33

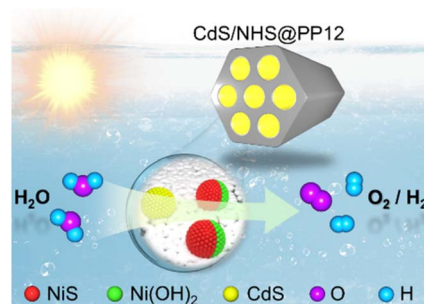
Abigail E. Reese, Utsa Karmakar, Margherita Restori, Marcela A. Hermoso, George M. Church, Erkin Kuru\* and Marc Vendrell\*



9507

### Spatially directed charge transfer in a polymer framework for efficient photocatalytic overall water splitting

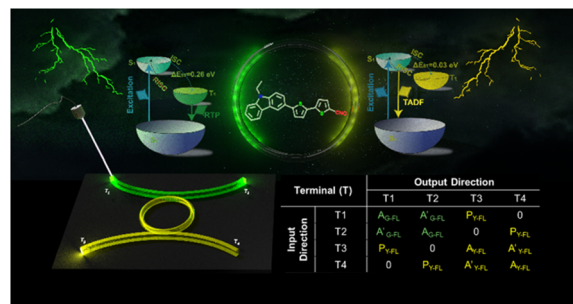
Xin-Yu Meng, Jin-Jin Li, Peng Liu, Tingwei Wang, Ming Pan, Chih-Chun Ching, Yu-Long Men, Xizhong Chen, Yin-Ning Zhou\* and Yun-Xiang Pan\*



9516

### Resonator-based add-drop filters enabled by flexible polymorphic crystals with TADF-RTP motifs

Pradip Pattanayak, Ankur Khapre, Shamim Ahmad, Avulu Vinod Kumar, Bishes Ray, Satendra Kumar, Chilla Malla Reddy, Rajadurai Chandrasekar\* and Pradipta Purkayastha\*



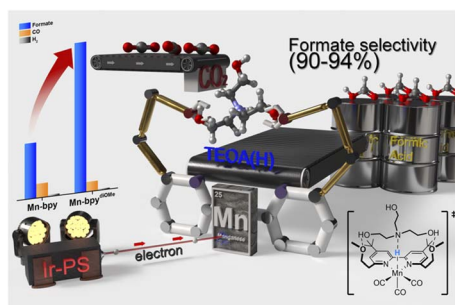
9526

### Synergistic diselenide/guanidine catalyzed dehydrophosphorylation of 2-nitrobenzhydrols to access C-stereogenic phosphinates

Jin-Yu Gong, Pan-Pan Zhou, Yu-Hao Qiao, Zhi-Chao Qi, Qian-Ming Zuo, Qing-Xia Fang and Shang-Dong Yang\*



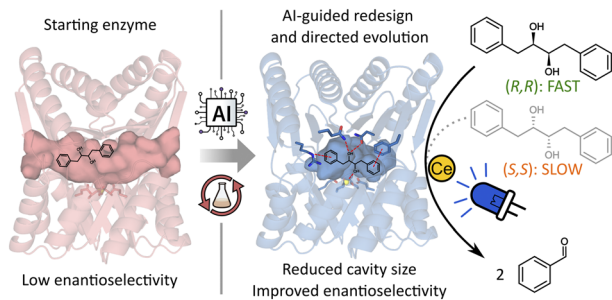
9535



### A secondary-sphere proton channel accelerating metal-hydride formation in Mn(I) catalysts for selective CO<sub>2</sub>-to-formate conversion

Min-Jong Bong, Wonjung Lee, Daehan Lee, Hyunuk Kim, Junhyeok Seo\* and Ho-Jin Son\*

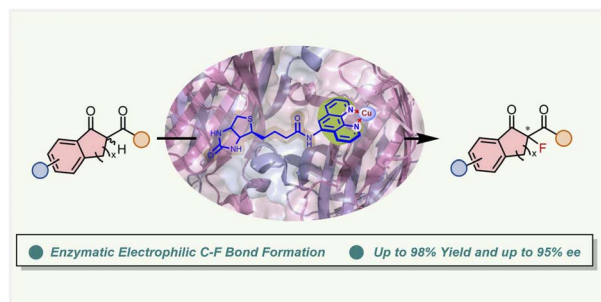
9552



### Computational redesign and directed evolution of a lanthanide-dependent photoredox enzyme for enantioselective diol cleavage

Florian Leiss-Maier, Joshua Behringer, Ghulam Mustafa, Anna Heider, Rahel Mühlofer, Andreas S. Klein, Michael Groll and Cathleen Zeymer\*

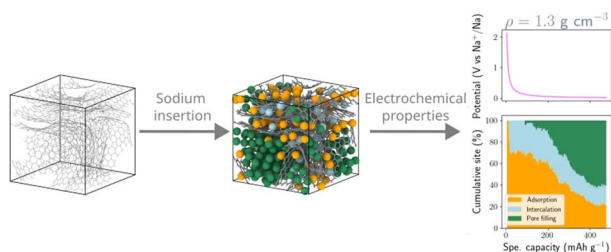
9562



### Enantioselective electrophilic $\alpha$ -fluorination catalyzed by an artificial metalloenzyme

Jinmeng Yu, Chang Wang, Wenhao Hu, Huan Wang, Jing Zhao and Hui-Jie Pan\*

9570



### Density-dependent sodium-storage mechanisms in hard carbon materials

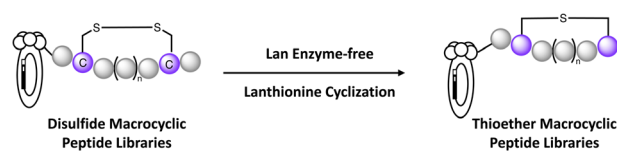
Alexis Front,\* Tapio Ala-Nissilä and Miguel A. Caro



9582

### Lan enzyme-free construction of lanthionine-bridged macrocyclic peptide libraries

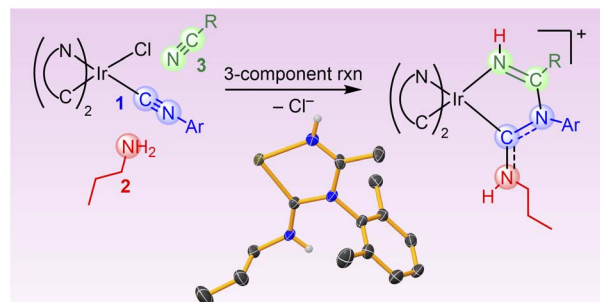
Fan Yang, Jiayi Xiao, Weihang Huang and Jianmin Gao\*



9591

### On-complex three-component cascade reactions involving phosphorescent cyclometalated Ir(III) chloro-isocyanide complexes, nitriles, and propylamine

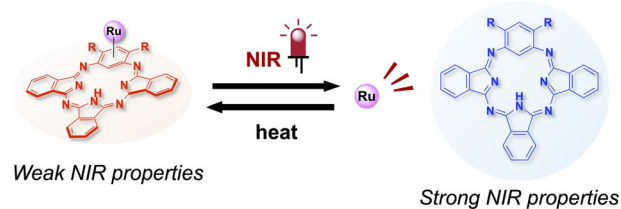
Son N. T. Phan, Vinh Q. Dang and Thomas S. Teets\*



9600

### Near-infrared (NIR)-responsive activation of Ru-benzophthalocyanine complexes via singlet-triplet transition

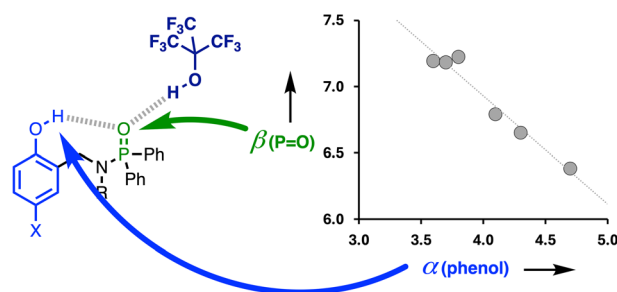
Ori Takayama, Naoyuki Toriumi,\* Kenjiro Hanaoka and Masanobu Uchiyama\*



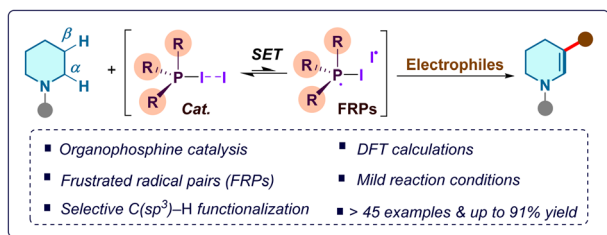
9609

### Negative cooperativity in the formation of two H-bonds with an oxygen H-bond acceptor

Maria Cristina Misuraca and Christopher A. Hunter\*



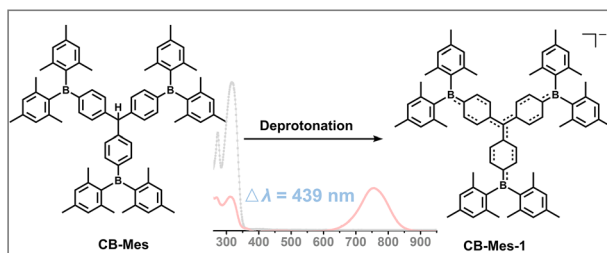
9616



### Phosphine-catalyzed $\beta$ -C(sp<sup>3</sup>)-H functionalization of cyclic amines via a halogen based frustrated radical pairs approach

Yukun Xie, Xiaodan Meng, Chenrui Liu, Jiaming Tan, Xiaoxiang Zhang, Zhuan Zhang, Shicheng Dong\* and Taoyuan Liang\*

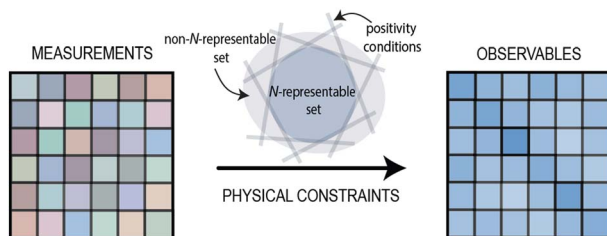
9625



### Tris((4-BMes<sub>2</sub>)phenyl)methanide: a carbanion with a delocalised triple quinoidal structure

Yufeng Zhang, Johannes Krebs, Alexandra Friedrich, Shigehiro Yamaguchi, Ivo Krummenacher, Holger Braunschweig, Todd B. Marder\* and Lei Ji\*

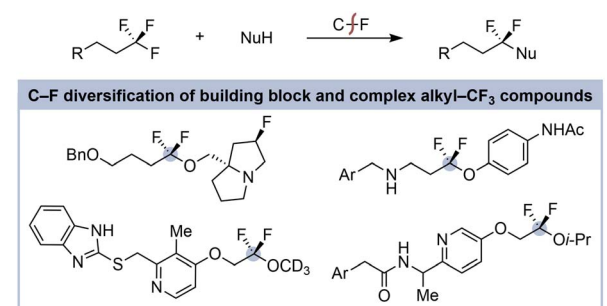
9633



### Constrained shadow tomography for molecular simulation on quantum devices

Irma Avdic, Yuchen Wang, Michael Rose, Lillian I. Payne Torres, Anna O. Schouten, Kevin J. Sung and David A. Mazziotti\*

9644



### A Brønsted acid–base approach for the net monoselective C–F substitution of (trifluoromethyl) alkanes

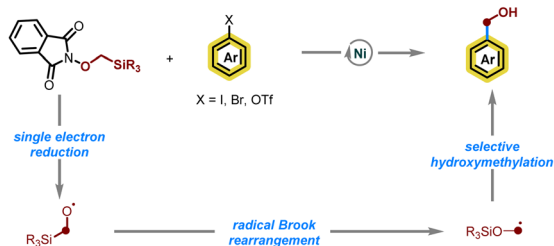
Nicholas J. Coradi and Jeffrey S. Bandar\*



9653

### Nickel-catalyzed hydroxymethylation with $\alpha$ -silicon *N*-methoxyphthalimides via radical Brook rearrangement

Xiao-Bo Liu, Muhammad Bilal, Jiaying Zuo, Ya-Xin Yu, Yu-Juan Wu, Boming Shen,\* Peng-Hui Shen, Hua-Jian Xu\* and Yu-Feng Liang\*

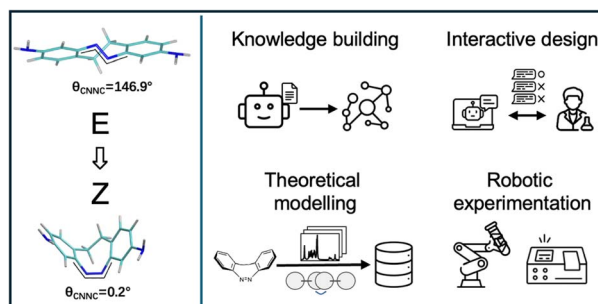


- selective hydroxymethylation
- benchstable radical precursor
- excellent chemoselectivity
- broad functional-group tolerance
- DFT studies
- reductive 1,2-radical Brook rearrangement

9663

### Unlocking azobenzene isomerization mechanisms via an LLM agent-driven workflow integrating simulation, experiment, and machine learning

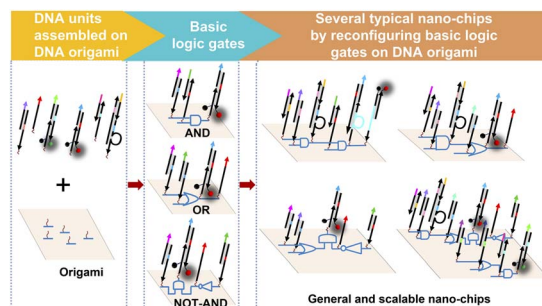
Yixi Shen, Ledu Wang, Yan Huang,\* Xiaolong Zhang, Meng Huang, Huirong Li, Jing He, Aoran Cai, Yang Wang, Pieter E. S. Smith, Jun Jiang,\* Zhuoying Zhu\* and Linjiang Chen\*



9674

### A general and scalable DNA nano-chip with a fully localized architecture enables biocomputing in living cells and precisely induces cell apoptosis

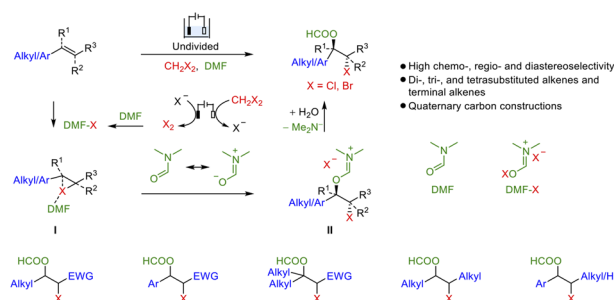
Jintao Yi, Tingting Chen\* and Jinghong Li\*



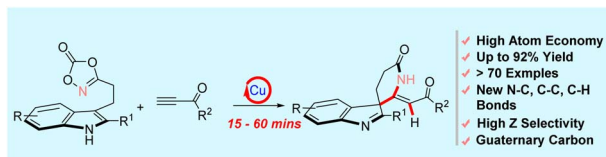
9684

### Electrochemically cooperative halogen-cation delivery enables modular electrophilic haloesterification of both activated and unactivated alkenes

He-Huan Xu,\* Duo-Duo Qian, Yi Fan,\* Jia-Jia Zhang, Chang-Le Guo and Hai-Chao Xu\*



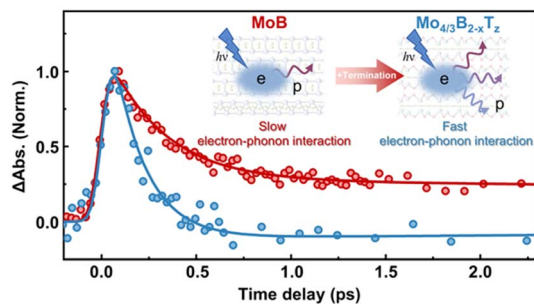
9695



### From alkynes to spiroindole $\delta$ -lactams via a copper-nitrenoid intermediate featuring unusual 1,1-addition and high Z-selectivity

Zhiqiang Ren,<sup>\*</sup> Tianhui Feng, Yeyao Li, Mengyi Chu, Ye Zheng, Tianli Gao, Bo Han, Ruili Guo, Haojie Ma, Ji-Jiang Wang and Yuqi Zhang<sup>\*</sup>

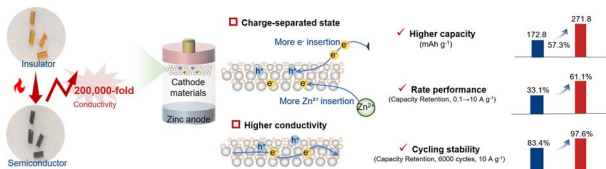
9703



### Time-resolved tracking of hot carrier relaxation in two types of MBenes

Jie Zhao, Qi Zhang,<sup>\*</sup> Pan Xiong, Chunli Wang, Liangzhu Zhang,<sup>\*</sup> Jiebo Li, Kun Zhao,<sup>\*</sup> Ruifeng Lu, Kaijun Yuan<sup>\*</sup> and Xueming Yang

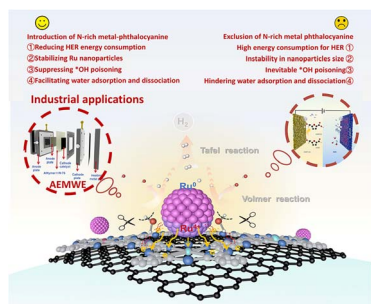
9711



### A thermochromic polyoxovanadate with a 200 000-fold conductivity gain for boosting zinc-ion battery performance

Ze-Xun Zhang, Xiao-Yue Zhang, Ping-Wei Cai,<sup>\*</sup> Shou-Tian Zheng<sup>\*</sup> and Cai Sun<sup>\*</sup>

9720



### Mixed-valence Ru nanoparticles anchored on N-rich metal-phthalocyanine/graphene vdW heterostructures for hydrogen-bond-assisted alkaline hydrogen evolution

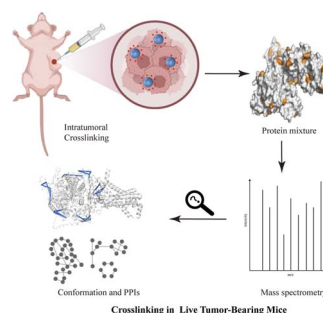
Zichong Xiang, Guanping Wei, Aifeng Yang, Shangyu Li, Sitian Xu, Yuelong Zhou, Longbin Li<sup>\*</sup> and Yiwang Chen<sup>\*</sup>



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### Crosslinker nanocarrier-based intratumoral delivery for protein complex mapping in mitochondria of live tumor-bearing mice

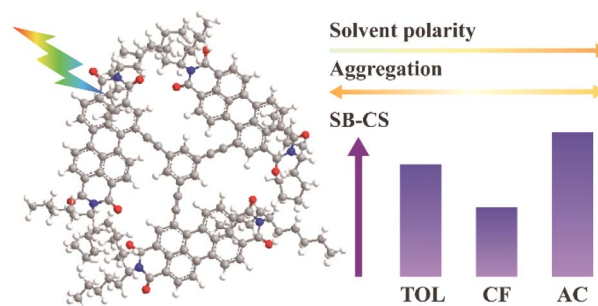
Yuwan Chen, Wenxin Fu, Baofu Ma, Xinwei Li, Wen Zhou, Zhen Liang, Kaiguang Yang,\* Lihua Zhang\* and Yukui Zhang



9739

### Symmetry-breaking charge separation in perylene diimide trimers: effects of aggregation and solvent polarity

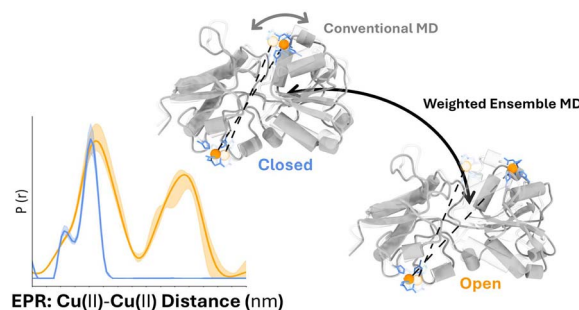
Lie Tian, Guangliu Ran,\* Shixuan Zheng and Wenkai Zhang\*



9747

### Large-scale protein conformational transitions revealed by weighted ensemble simulations and EPR

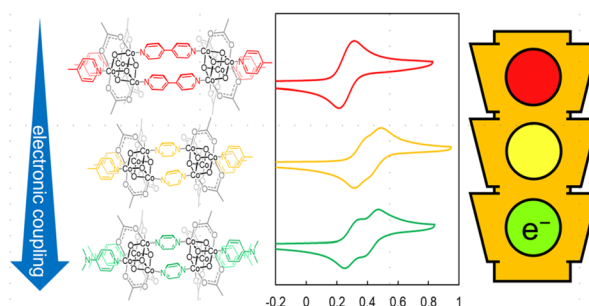
Shramana Palit, Darian T. Yang, Xiaowei Bogetti, Anthony T. Bogetti, Olivia Wood, Sunil Saxena\* and Lillian T. Chong\*



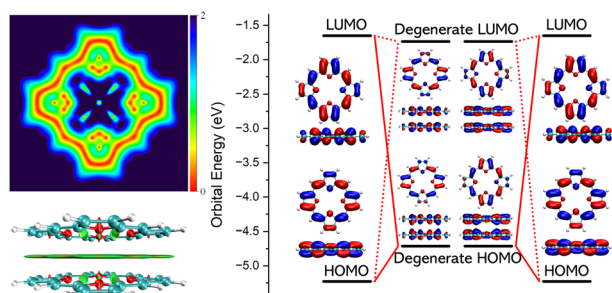
9760

### Tunable electronic coupling in linked bis(cubane) cobalt-oxo clusters

Vincent J. P. Maddi and T. Don Tilley



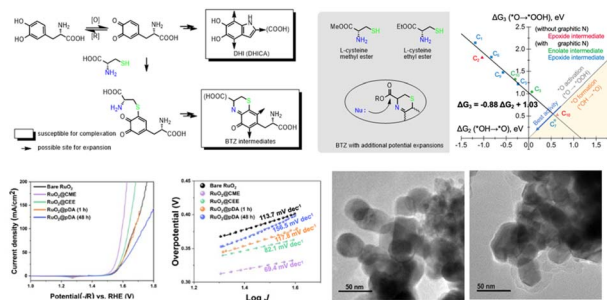
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### Change of the aromatic nature through face-to-face stacking

Qian Wang, Rinat T. Nasibullin and Dage Sundholm\*

9780



### Ultrasmooth and thin pheomelanin-like film as a metal-free electrocatalytic enhancer

Chan Yeon Kim, Jae Ryeol Jeong, Seong Ah Jo, Jun Seok Park, Joowon Choi, Myung Jun Kim, Minho Kim,\* Kyungtae Kang\* and Min Hyung Lee\*

## CORRECTION

9793

### Correction: Controlled intra- and extracellular localization of bioorthogonal polymeric nanozymes

Cristina-Maria Hirschbiegel, Mathangi Shrikanth, Yagiz Anil Cicek, Nourina Nasim, Joe Truong, Junwhhee Yang, Alexander Ribbe, Maged Abdelaziz and Vincent M. Rotello\*

