

## IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 15(22) 8253–8592 (2024)



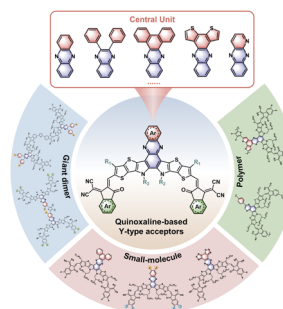
**Cover**  
See Xiaofeng Li, Hongzhe Sun, Xinming Yang *et al.*, pp. 8311–8322. Image reproduced by permission of Xinming Yang from *Chem. Sci.*, 2024, 15, 8311.

## PERSPECTIVE

8265

### Quinoxaline-based Y-type acceptors for organic solar cells

Meiling Xie, Zhixiang Wei\* and Kun Lu\*

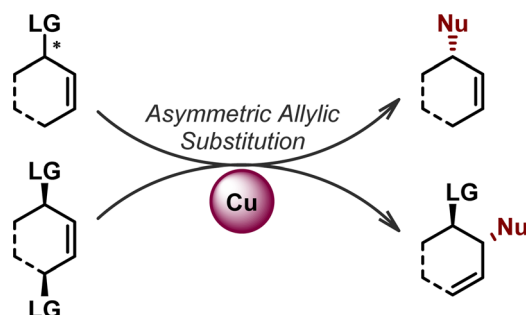


## REVIEWS

8280

### Copper-catalyzed asymmetric allylic substitution of racemic/meso substrates

Jun Li, Junrong Huang, Yan Wang, Yuexin Liu, Yuxiang Zhu,\* Hengzhi You\* and Fen-Er Chen\*



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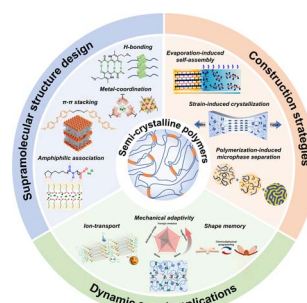
**SAVE  
10%**

## REVIEWS

8295

## Semi-crystalline polymers with supramolecular synergistic interactions: from mechanical toughening to dynamic smart materials

Chen-Yu Shi, Wen-Yu Qin and Da-Hui Qu\*

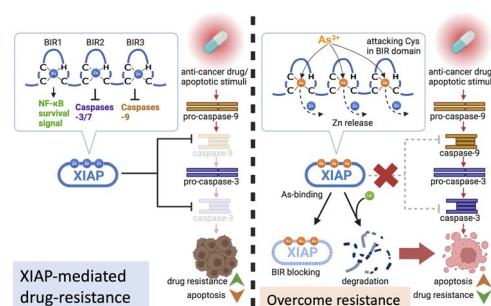


## EDGE ARTICLES

8311

## Clinically used drug arsenic trioxide targets XIAP and overcomes apoptosis resistance in an organoid-based preclinical cancer model

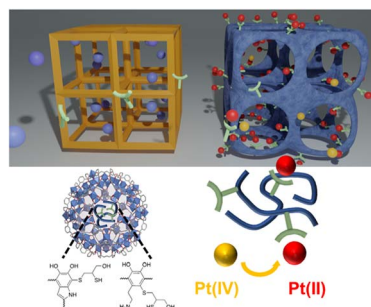
Liwa Shi, Jing Lu, Xin Xia, Xue Liu, Hongyan Li, Xinghua Li, Jun Zhu, Xiaofeng Li,\* Hongzhe Sun\* and Xinming Yang\*



8323

## A post-synthetic modification strategy for enhancing Pt adsorption efficiency in MOF/polymer composites

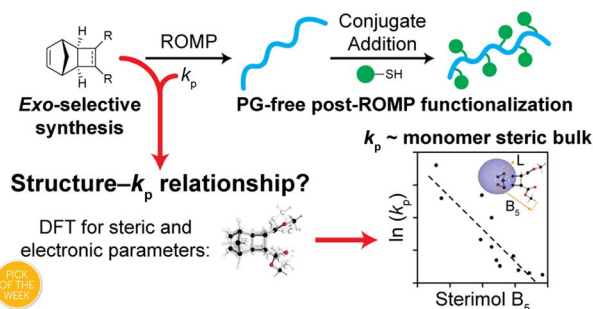
Till Schertenleib, Vikram V. Karve, Dragos Stoian, Mehrdad Asgari, Olga Trukhina, Emad Oveisi, Mounir Mensi and Wendy L. Queen\*



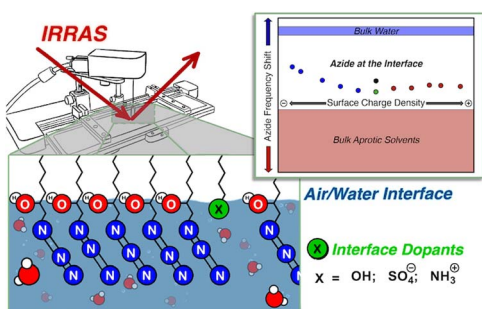
8334

## Tricyclonones and tricyclononadienes as efficient monomers for controlled ROMP: understanding structure–propagation rate relationships and enabling facile post-polymerization modification

Landon J. Kilgallon, Timothy P. McFadden, Matthew S. Sigman and Jeremiah A. Johnson\*



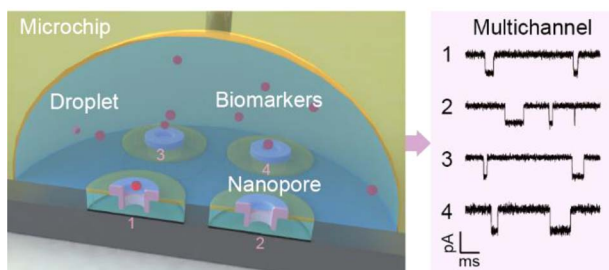
8346



### Visualizing partial solvation at the air–water interface

Kenneth D. Judd, Sean W. Parsons, Dmitry B. Eremin, Valery V. Fokin and Jahan M. Dawlaty\*

8355



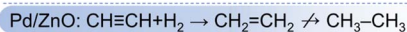
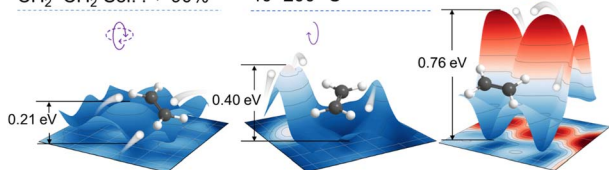
### High-throughput single biomarker identification using droplet nanopore

Lin-Lin Zhang, Cheng-Bing Zhong, Ting-Jing Huang, Li-Min Zhang, Feng Yan and Yi-Lun Ying\*

8363

CH≡CH Con. : ~100%  
CH<sub>2</sub>=CH<sub>2</sub> Sel. : > 90%

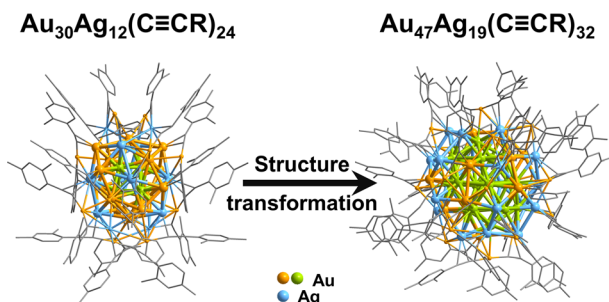
Reaction temperature:  
40–200 °C



### Circumventing the activity–selectivity trade-off via the confinement effect from induced potential barriers on the Pd nanoparticle surface

Junguo Ma, Chongya Yang, Xue Ye,\* Xiaoli Pan, Siyang Nie,\* Xing Cao, Huinan Li, Hiroaki Matsumoto, Liang Wu and Chen Chen\*

8372



### Diachronic evolution from tetra-icosahedral to quasi-hexagonal close-packed bimetal clusters

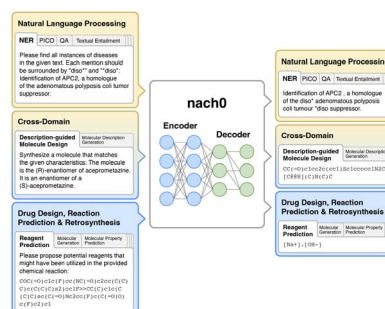
Shisi Tang, Endong Wang, Yanzhen Wu, Tongxin Song, Meng Zhou,\* Xiao Cai, Yi Gao,\* Weiping Ding and Yan Zhu\*



8380

## nach0: multimodal natural and chemical languages foundation model

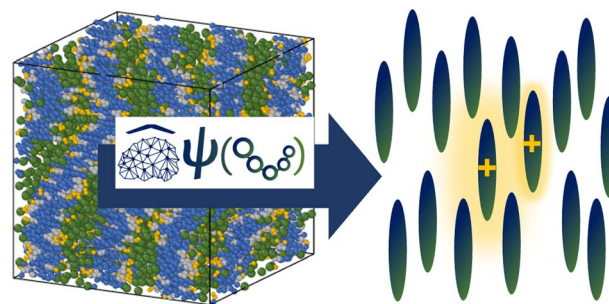
Micha Livne, Zulfat Miftahutdinov, Elena Tutubalina, Maksim Kuznetsov, Daniil Polykovskiy, Annika Brundyn, Aastha Jhunjhunwala, Anthony Costa, Alex Aliper, Al n Aspuru-Guzik\* and Alex Zhavoronkov\*



8390

## Accessing the electronic structure of liquid crystalline semiconductors with bottom-up electronic coarse-graining

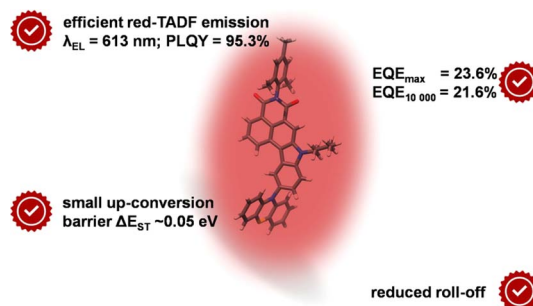
Chun-I Wang, J. Charlie Maier and Nicholas E. Jackson\*



8404

## An unprecedented roll-off ratio in high-performing red TADF OLED emitters featuring 2,3-indole-annulated naphthalene imide and auxiliary donors

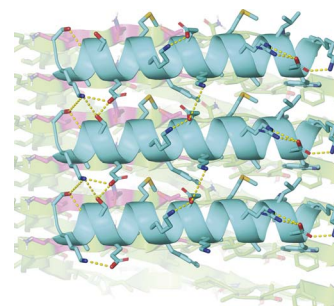
Magdalena Grzelak, Dharmendra Kumar, Michał Andrzej Kochman, Maja Morawiak, Gabriela Wiosna-Satyga, Adam Kubas,\* Przemysław Data\* and Marcin Lindner\*



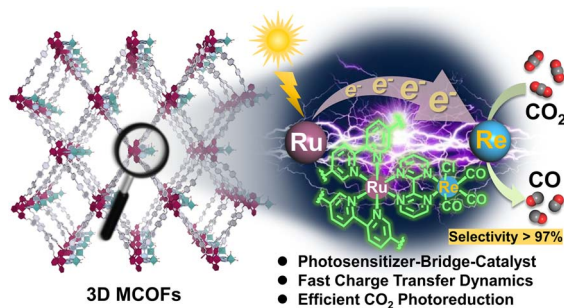
8414

## De novo design of peptides that bind specific conformers of $\alpha$ -synuclein

Hailey M. Wallace, Hyunjun Yang, Sophia Tan, Henry S. Pan, Rose Yang, Junyi Xu, Hyunil Jo, Carlo Condello, Nicholas F. Polizzi and William F. DeGrado\*



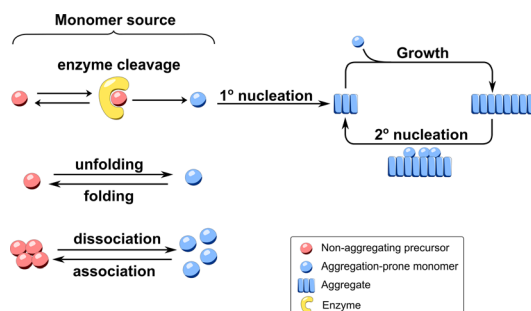
8422



### Photosensitizing metal covalent organic framework with fast charge transfer dynamics for efficient CO<sub>2</sub> photoreduction

Wang-Kang Han, Jiayu Li, Ruo-Meng Zhu, Min Wei, Shu-Kun Xia, Jia-Xing Fu, Jinfang Zhang, Huan Pang, Ming-De Li\* and Zhi-Guo Gu\*

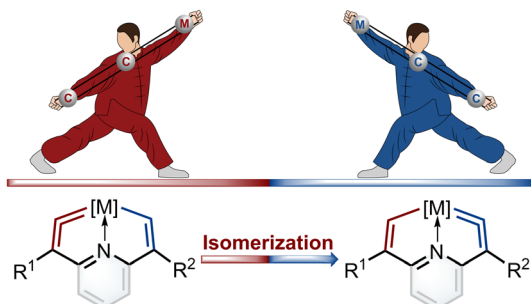
8430



### Kinetic models reveal the interplay of protein production and aggregation

Jiapeng Wei, Georg Meisl, Alexander Dear, Matthijs Oosterhuis, Ronald Melki, Cecilia Emanuelsson, Sara Linse and Tuomas P. J. Knowles\*

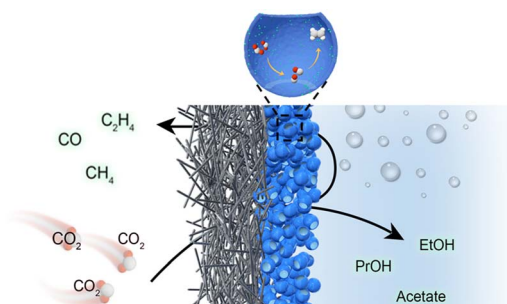
8443



### Isomerization reactions of metal vinylidene units

Xuejuan Zheng, Fanping Huang, Xinyuan Li, Kaiyue Zhuo, Dafa Chen, Ming Luo\* and Haiping Xia\*

8451



### Enhancing C<sub>2+</sub> product selectivity in CO<sub>2</sub> electroreduction by enriching intermediates over carbon-based nanoreactors

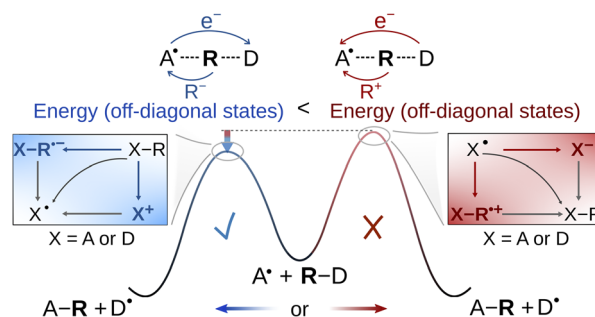
Min Wang, Chunjun Chen, Shuaiqiang Jia, Shitao Han, Xue Dong, Dawei Zhou, Ting Yao, Minghui Fang, Mingyuan He, Wei Xia,\* Haihong Wu\* and Buxing Han\*



8459

### Radical ligand transfer: mechanism and reactivity governed by three-component thermodynamics

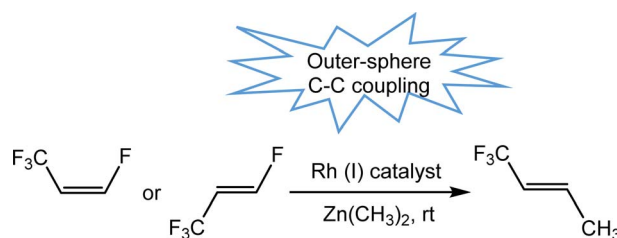
Zuzanna Wojdyla and Martin Srnc̃ek\*



8472

### C–H and C–F bond activation of fluorinated propenes at Rh: enabling cross-coupling reactions with outer-sphere C–C coupling

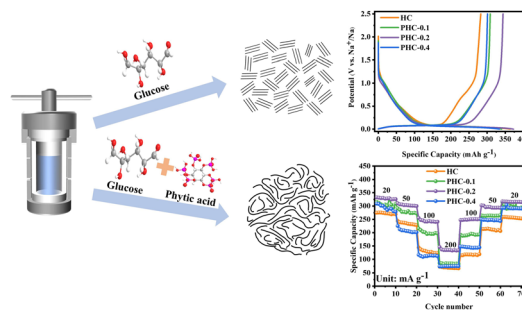
Maria Talavera,\* Soodeh Mollasalehi and Thomas Braun\*



8478

### P-doped spherical hard carbon with high initial coulombic efficiency and enhanced capacity for sodium ion batteries

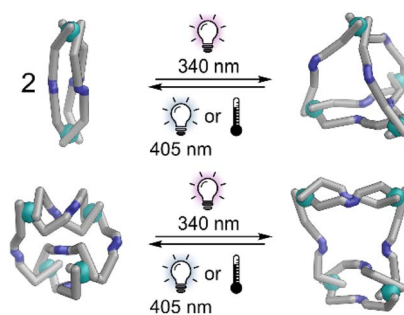
Zheng-Guang Liu, Jiahua Zhao, Hao Yao, Xiang-Xi He, Hang Zhang, Yun Qiao, Xing-Qiao Wu, Li Li\* and Shu-Lei Chou\*



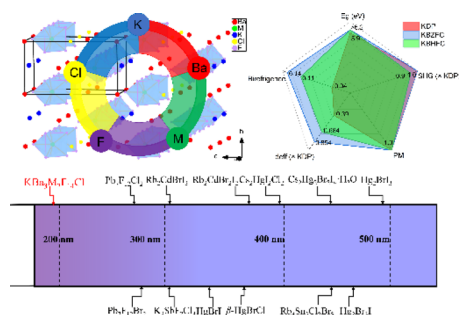
8488

### Photoswitching of Co(II)-based coordination cages containing azobenzene backbones

Max B. Tipping, Lidón Pruñonosa Lara, Atena B. Solea, Larissa K. S. von Kr̃bek\* and Michael D. Ward\*



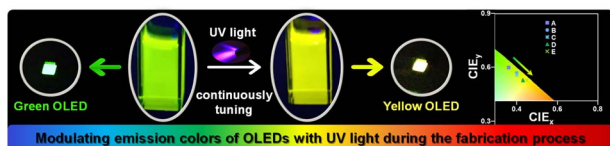
8500



**$\text{KBa}_3\text{M}_2\text{F}_{14}\text{Cl}$  (M = Zr, Hf): novel short-wavelength mixed metal halides with the largest second-harmonic generation responses contributed by mixed functional moieties**

Mei Yan, Chun-Li Hu, Ru-Ling Tang,<sup>\*</sup> Wen-Dong Yao, Wenlong Liu and Sheng-Ping Guo<sup>\*</sup>

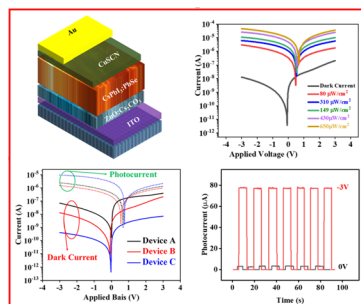
8506



**The third strategy: modulating emission colors of organic light-emitting diodes with UV light during the device fabrication process**

Yuanhui Sun, Shipan Xu, Huaiteng Hang, Jun Xi, Hua Dong, Bo Jiao, Guijiang Zhou<sup>\*</sup> and Xiaolong Yang<sup>\*</sup>

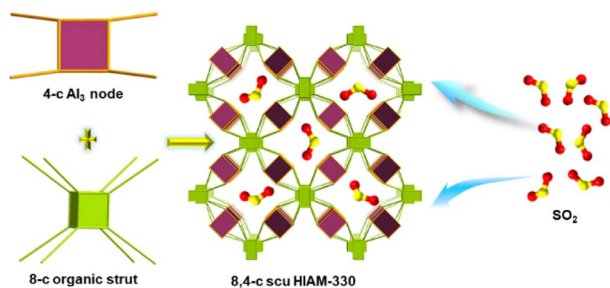
8514



**Synergetic enhancement of  $\text{CsPbI}_3$  nanorod-based high-performance photodetectors via PbSe quantum dot interface engineering**

Muhammad Sulaman, Shengyi Yang,<sup>\*</sup> Honglian Guo, Chuanbo Li, Ali Imran, Arfan Bukhtiar, Muhammad Qasim, Zhenhua Ge, Yong Song, Yurong Jiang and Bingsuo Zou

8530



**A robust aluminum-octacarboxylate framework with scu topology for selective capture of sulfur dioxide**

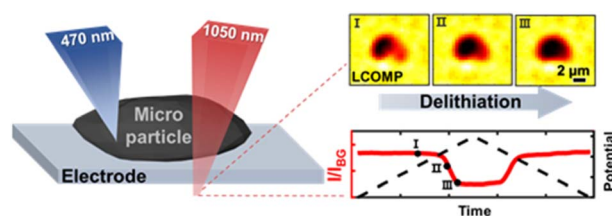
Liang Yu, Meng He, Jinze Yao, Qibin Xia,<sup>\*</sup> Sihai Yang,<sup>\*</sup> Jing Li<sup>\*</sup> and Hao Wang<sup>\*</sup>



8536

### Near-infrared visualisation of single microparticle electrochemistry for batteries

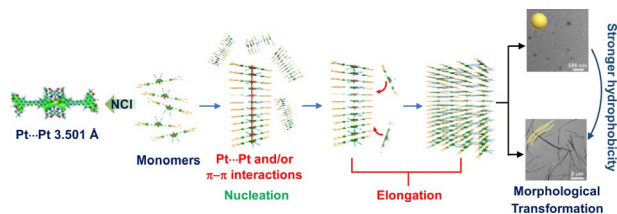
Xinyue Wang, Si-Cong Wang, Junjie Ma, Ruo-Chen Xie\* and Wei Wang\*



8545

### Supramolecular assembly of amphiphilic platinum(II) Schiff base complexes: diverse spectroscopic changes and nanostructures through rational molecular design and solvent control

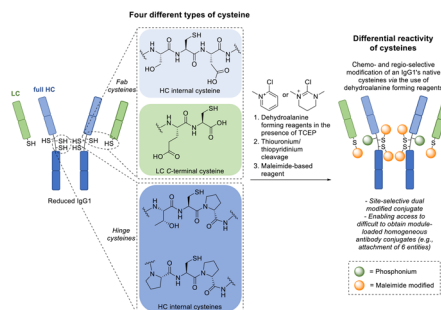
Huilan Zhang, Michael Ho-Yeung Chan, Jonathan Lam, Ziyong Chen, Ming-Yi Leung, Eric Ka-Ho Wong, Lixin Wu\* and Vivian Wing-Wah Yam\*



8557

### Chemo- and regio-selective differential modification of native cysteines on an antibody via the use of dehydroalanine forming reagents

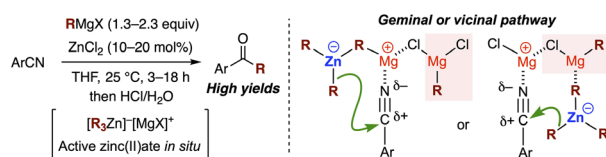
Steven Y. Yap, Tobias Butcher, Richard J. Spears, Cliona McMahon, Ioanna A. Thanasi, James R. Baker\* and Vijay Chudasama\*



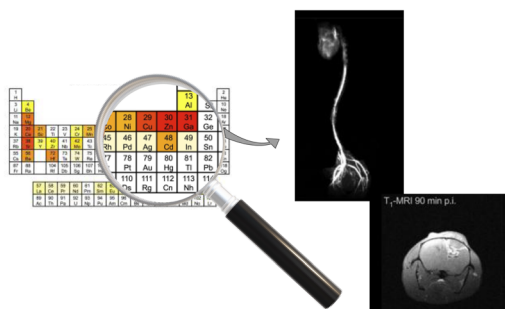
8569

### Zinc chloride-catalyzed Grignard addition reaction of aromatic nitriles

Manabu Hatano,\* Kisara Kuwano, Riho Asukai, Ayako Nagayoshi, Haruka Hoshihara, Tsubasa Hirata, Miho Umezawa, Sahori Tsubaki, Takeshi Yoshikawa\* and Ken Sakata\*



8578



## Periodic table screening for enhanced positive contrast in MRI and *in vivo* uptake in glioblastoma

Aitor Herraiz, M. Puerto Morales, Lydia Martínez-Parra, Nuria Arias-Ramos, Pilar López-Larrubia, Lucía Gutiérrez, Jesús Mejías, Carlos Díaz-Ufano, Jesús Ruiz-Cabello and Fernando Herranz\*

