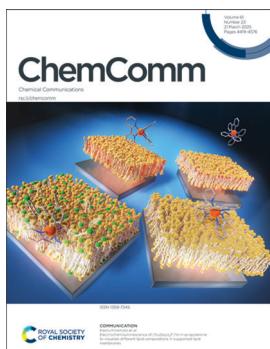


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### IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(23) 4419–4576 (2025)



#### Cover

See Kaoru Hiramoto et al., pp. 4495–4498.  
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#### Inside cover

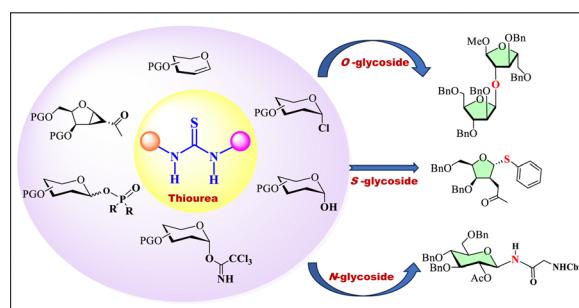
See Vatita Leamkaew and Daniel Crespy, pp. 4499–4502.  
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Background image designed by Freepik.

### HIGHLIGHT

4429

#### Thiourea-catalyzed glycosylation: a breakthrough in stereoselective synthesis of oligosaccharides

Shubhi Dwivedi, Swati Thakur and Abhijit Sau\*

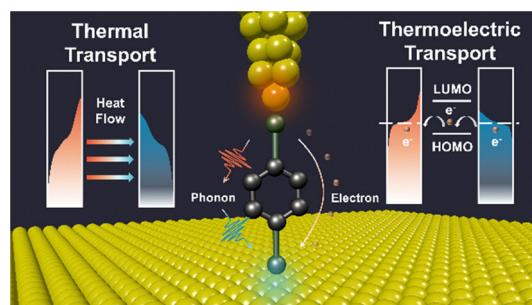


### FEATURE ARTICLES

4447

#### Thermoelectric and thermal properties of molecular junctions: mechanisms, characterization methods and applications

Chao Fang, Yuting Li, Siwen Wang, Mingchen Liang, Chenshuai Yan, Junyang Liu\* and Wenjing Hong\*



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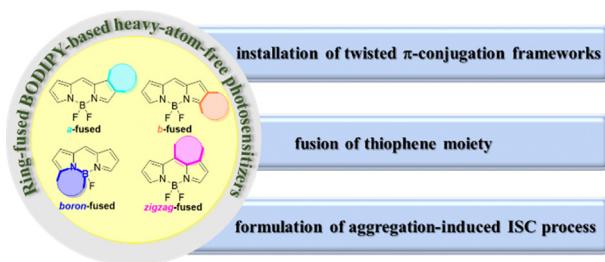


## FEATURE ARTICLES

4465

**Ring-fused BODIPY derived heavy-atom-free triplet photosensitizers**

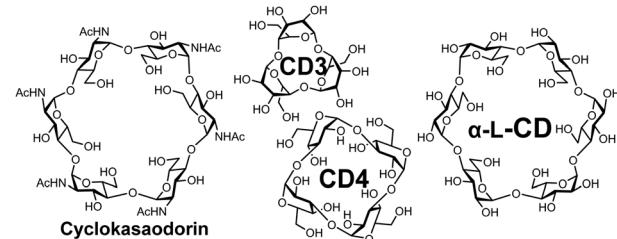
Jun Wang,\* Wanwan Li, Lijuan Jiao\* and Erhong Hao\*



4483

**Recent advancements in synthesis of cyclic oligosaccharides**

Hiroyuki Endo, Yu-Cong Sun, Norihiko Sasaki and Toshiki Nokami\*

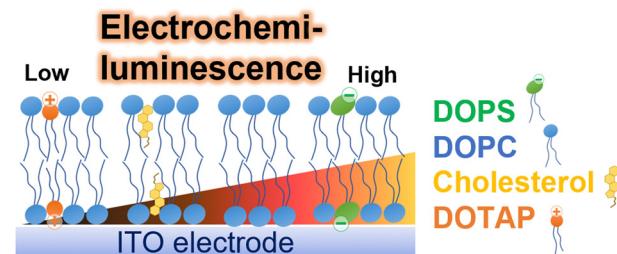


## COMMUNICATIONS

4495

**Electrochemiluminescence of  $[\text{Ru}(\text{bpy})_3]^{2+}$ /tri-*n*-propylamine to visualize different lipid compositions in supported lipid membranes**

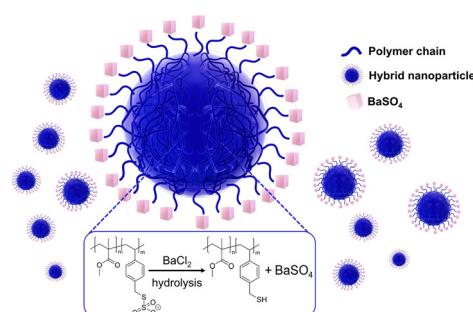
Kaoru Hiramoto,\* Ayumi Hirano-Iwata, Kosuke Ino and Hitoshi Shiku



4499

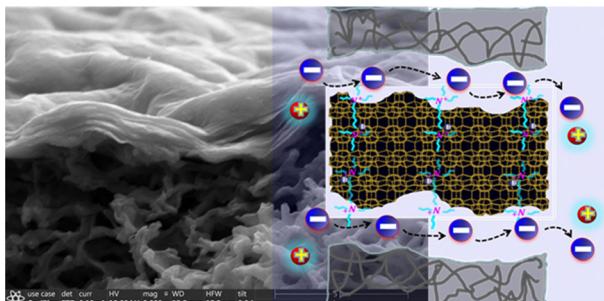
**Preparation of barium sulfate/polymer hybrid nanoparticles from Bunte salt precursors**

Vatita Leamkaew and Daniel Crespy\*



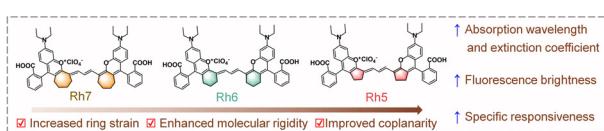
## COMMUNICATIONS

4503

**An anion exchange membrane of layered silicalite nanosheets with surface quaternary ammonium cations**

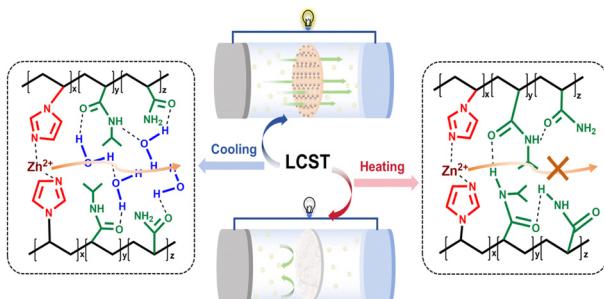
Yukta Sharma, Devraj Singh, Zishu Cao, Jan Gabski and Junhang Dong\*

4507

**Designing small organic molecular NIR-II fluorophores by ring strain modulation**

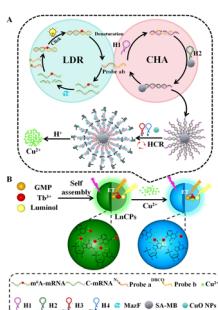
Xingyu Wang, Tuanwei Li,\* Xiaohu Yang, Xingyu Yang, Zhiwei Ma, Xiangyu Wu, Yequn Zhang, Guangcun Chen, Jiang Jiang and Chunyan Li\*

4511

**Thermoresponsive gel polymer electrolytes for smart rechargeable zinc-ion batteries**

Xintong Zhang, Na Sun, Jie Li, Lianwen He, Xia Li, Jiayi Li, Xiao Zhang, Hui Gu\* and Fei Lu\*

4515

**Integrating lanthanide coordination polymer ratiometric fluorescence biosensors with a concatenated DNA circuit for locus-specific N<sup>6</sup>-methyladenosine quantification**

Ping Nie, Ke Chen, Guohui Cao, Ensheng Xu,\* Pin Wang\* and Qingwang Xue\*

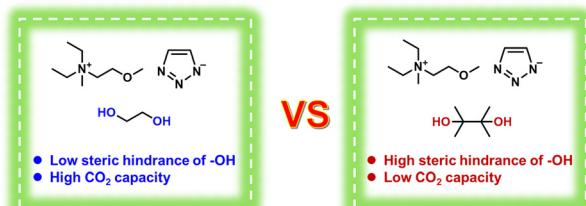


## COMMUNICATIONS

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**CO<sub>2</sub> capture by anion-functionalized deep eutectic solvents: the effect of steric hindrance of -OH groups**

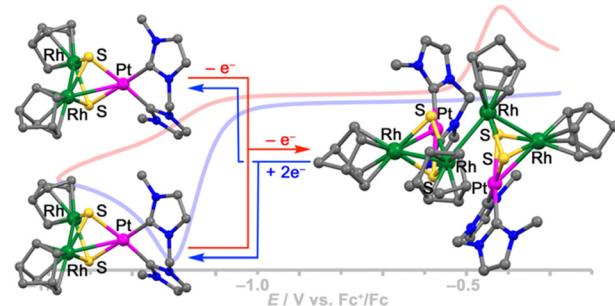
Mingzhe Chen, Shaoyu Zhang, Qingqing Mei,\* Huacong Zhou\* and Dezhong Yang\*



4523

**Aerobic oxidation-induced virtual radical coupling of mixed-metal PtRh<sub>2</sub> trinuclear complexes accompanied by the formation of a Rh–Rh bond**

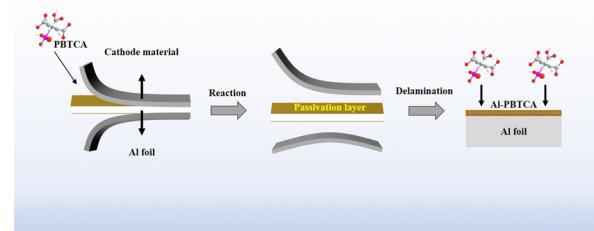
Amiru Yokoyama, Hiroshi Nakajima and Takanori Nishioka\*



4527

**Organophosphonic acid-assisted efficient delamination of spent lithium-ion battery cathodes for regeneration**

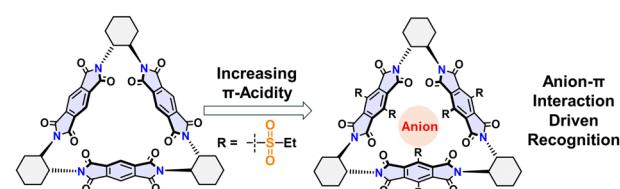
Cheng Gong, Shiwen Zhang,\* Qin Liu, Jia Yi and Wentuan Bi\*



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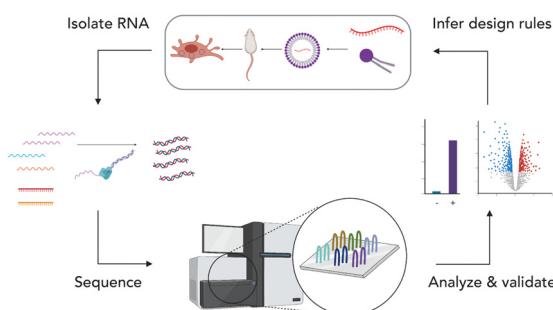
**A sulfone-functionalized molecular triangle as a strong anion receptor driven by anion-π interactions**

Yifan Ma, Zihang Song, Sidan Guo, Han Han and Kang Cai\*



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**The time course of *in vivo* cellular responses to LNPs**

David Loughrey,\* Kalina Paunovska, Elisa Schrader Echeverri, Karen E. Tiegreen and James E. Dahlman\*

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**Inherent antibacterial properties of mannose-containing polynorbornene glycomaterials**

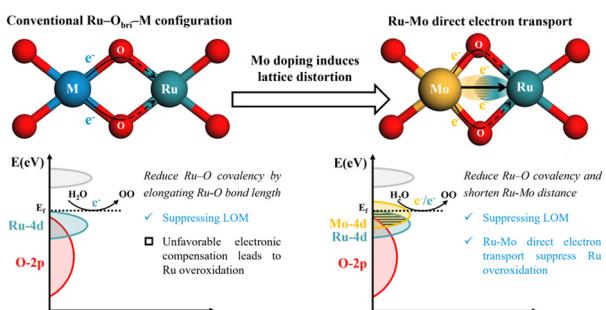
Brady A. Hall, Ophelia J. Wadsworth, Logan M. Breiner, Jacob C. Chappell, Andrew S. Brenner, Jennifer P. McCord, Andrew N. Lowell\* and Michael D. Schulz\*

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**Triethyl methyl ammonium ionic liquid as an effective electrolyte additive for high-performance zinc–iodine batteries**

Xin Wu, Wei Wei, Xue Yang,\* Le Yu\* and Xiao Chun Chen\*

4547

**Constructing weak Ru–Mo metallic bonds to suppress Ru overoxidation for durable acidic water oxidation**

Yongduo Liu, Runxu Deng, Yang Song, Weiling Tan, Xiongxin Tao, Shijian Luo, Daojun Long,\* Siguo Chen\* and Zidong Wei

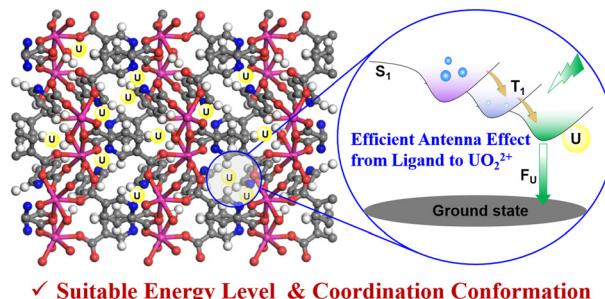


## COMMUNICATIONS

4551

**Ultra-selective recognition of  $\text{UO}_2^{2+}$  via triggering its intrinsic luminescence using a precisely designed europium metal–organic framework**

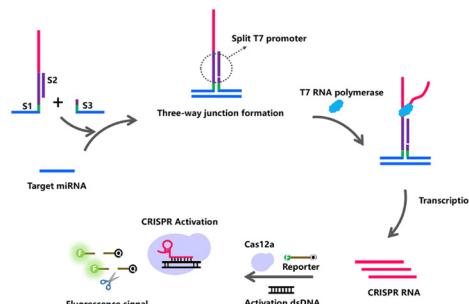
Yuan-Jun Tong, Qian Liu, Shiyu Peng, Ran Tao, Kexuan Li, Xinying Gong, Dongmei Wang and Zhengjun Gong\*



4555

**A sensitive miRNA detection method based on a split-T7 switch modulating CRISPR/Cas12a system**

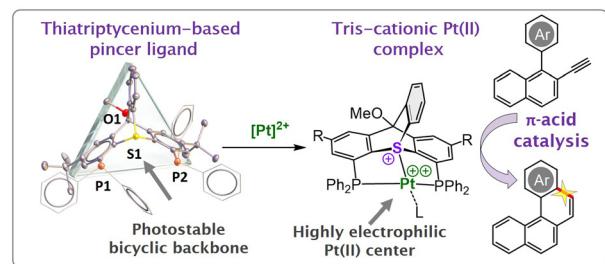
Dayong Li, Wenting Cheng, Feifan Yin, Yanheng Yao, Zhongyun Wang\* and Yang Xiang\*



4559

**Bicyclic sulfonium pincer ligand with a thiatriptycenium backbone-synthesis and applications in  $\pi$ -acid catalysis**

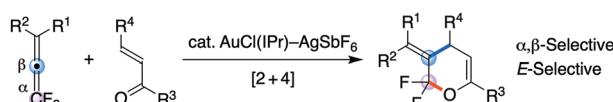
Mohammad Zafar, Donia Shamali, Nitsan Barel, David Danovich and Yuri Tulchinsky\*



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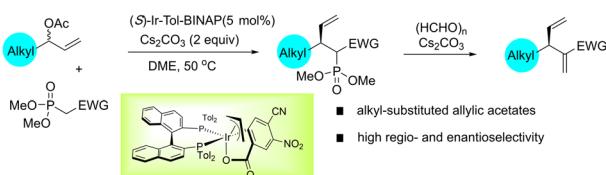
**Gold(I)-catalysed [2+4] cycloaddition of 1,1-difluoroallenes with conjugated enones: synthesis of ring-difluorinated dihydro-2H-pyrans**

Daisuke Miyazaki, Reo Eto, Junji Ichikawa and Kohei Fuchibe\*



## COMMUNICATIONS

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**Synthesis of vinyl, alkyl-substituted chiral acrylates via Krische iridium complex-catalysed allylic phosphonation**

Yuan-Yuan Zhang, Yi Deng, Kun Wei and Yu-Rong Yang\*

## CORRECTIONS

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**Correction: Macrocyclic peptides as inhibitors of WDR5–lncRNA interactions**

Jen-Yao Chang, Cora Neugebauer, Stefan Schmeing, Gulshan Amrahova and Peter 't Hart\*

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**Correction: Synthesis of U<sub>3</sub>Se<sub>5</sub> and U<sub>3</sub>Te<sub>5</sub> type polymorphs of Ta<sub>3</sub>N<sub>5</sub> by combining high pressure–temperature pathways with a chemical precursor approach**

Ashkan Salamat,\* Katherine Woodhead, S. Imran U. Shah, Andrew L. Hector\* and Paul F. McMillan\*