

## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(92) 17949-18194 (2025)



### Cover

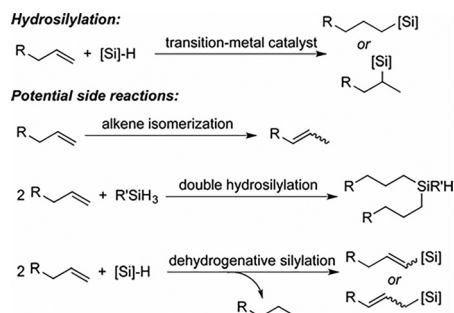
See Sun Hee Kim,  
Shinya Hayami *et al.*,  
pp. 18092-18095.  
Image reproduced  
by permission of  
Yoshihiro Sekine from  
*Chem. Commun.*,  
2025, 61, 18092.

## HIGHLIGHTS

17961

### Classic coordination compounds as the inspiration for MOFs: selected catalytic applications

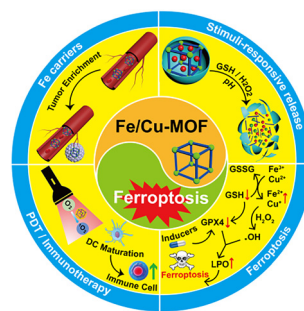
Marco L. Martínez, Antonio Hernández-Monsalvo, Pablo Marín-Rosas, Ariel Guzmán-Vargas, Jose Antonio de los Reyes, Diego Solis-Ibarra, Enrique Lima,\* Ricardo A. Peralta\* and Ilich A. Ibarra\*



17975

### Ferroptosis based on metal-organic frameworks for tumor therapy

Hang Li and Xuezhong Du\*



# Royal Society of Chemistry approved training courses

Explore your options.  
Develop your skills.  
Discover learning  
that suits you.

**Courses in the classroom,  
the lab, or online**

Find something for every  
stage of your professional  
development. Search our  
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit [rsc.li/cpd-training](https://rsc.li/cpd-training)



**SAVE  
10%**

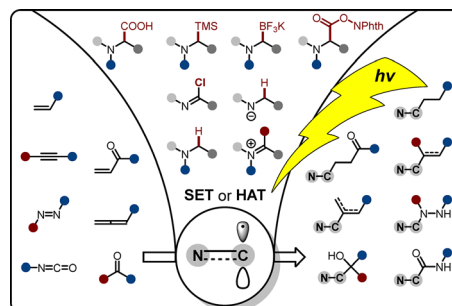


## HIGHLIGHTS

17989

Photoredox-catalyzed nucleophilic addition of  $\alpha$ -amino radicals to unsaturated compounds

Xu Ha, Yuze Hua and Guo-Qiang Xu\*

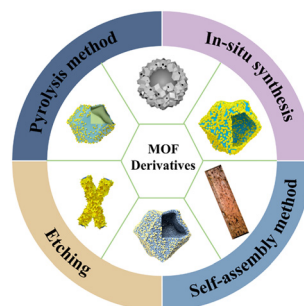


## FEATURE ARTICLES

18017

Mechanistic and structural insights into MOF-based photocatalysts for selective CO<sub>2</sub> reduction

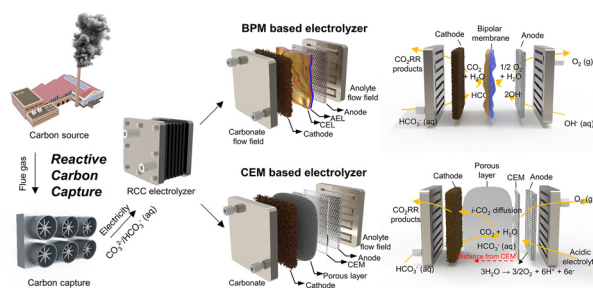
Yani Huang, Xiuzheng Deng, Changhai Liu\* and Qian Liang\*



18037

Advances in reactive carbon capture *via* carbonate/bicarbonate electrolysis for efficient CO<sub>2</sub> utilization

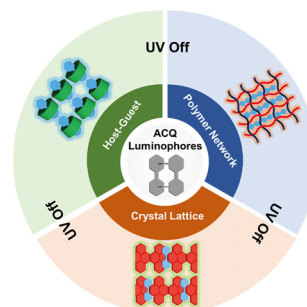
Taemin Lee, Hyeon-il Jeong, Yeon-A Cha, Dong-Hyun Shin and Dae-Hyun Nam\*



18053

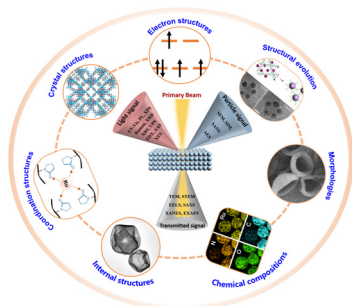
## AIE-inspired segregation and immobilization strategies for achieving organic room temperature phosphorescence

Yiteng Cai, Jianbin Huang and Yun Yan\*



## FEATURE ARTICLES

18064



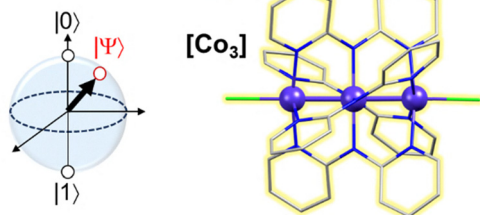
### Overview of the characterization technique groups for submicroscopic structures from the micro-nano to atomic scale

Nan Yu,\* Qingqing Liu, Jiayue Hu, Huan Liu\* and Long Kuai\*

## COMMUNICATIONS

18092

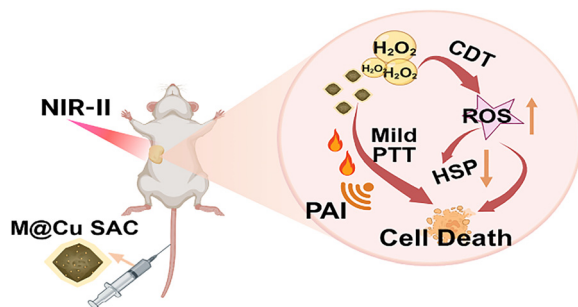
### Multi-nuclear Molecular Spin Qubits (MSQs)



### Slow magnetic relaxation in a trinuclear spin-crossover Co(II) compound with metal-metal bonding

Yoshihiro Sekine, Jeongcheol Shin, Sun Hee Kim,\* Hikaru Zenno, Hisui Kobayashi, Ming-Chuan Cheng, Kil Sik Min, Shie-Ming Peng and Shinya Hayami\*

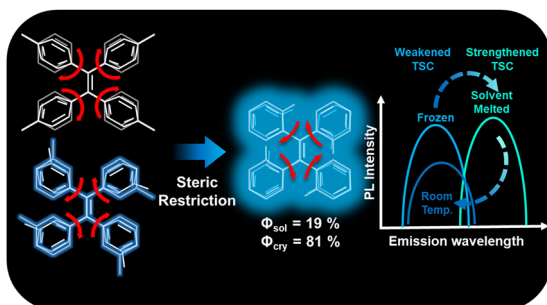
18096



### A membrane camouflaged copper single-atom nanozyme for combined mild photothermal and chemodynamic therapy

Chunmei Guo, Yi Zhou, Xiaolong Zhang, Jingyi Shi, Yuhao Zu, Lina Qi, Jianhang Zhao, Quli Fan, Ying Chen\* and Hui Zhou\*

18100



### Through-space conjugation engineering in methylated tetraphenylethene derivatives

Feng Gao, Yanning Xu, Zeyang Ding, Hanwen Liu, Haoran Wang, Parvej Alam,\* Zijie Qiu\* and Ben Zhong Tang\*

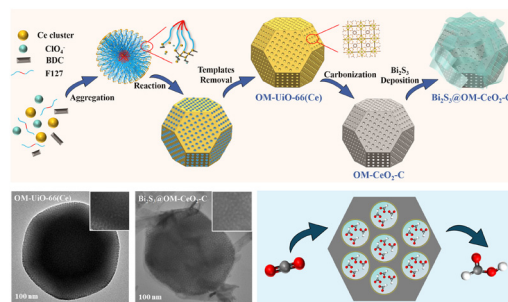


## COMMUNICATIONS

18104

### An ordered mesoporous structure-based nano-confined $\text{Bi}_2\text{S}_3$ @OM-CeO<sub>2</sub>-C hybrid catalyst for enhanced CO<sub>2</sub> electroreduction to formic acid

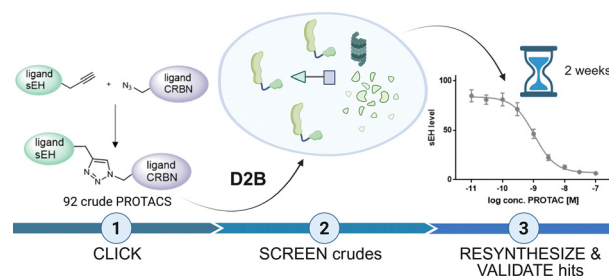
Xiaoyu Wang, Ning Wang, Hongxiang Huang, Xiaolian Sun and Wenlei Zhu\*



18108

### Click chemistry enables rapid development of potent sEH PROTACs using a direct-to-biology approach

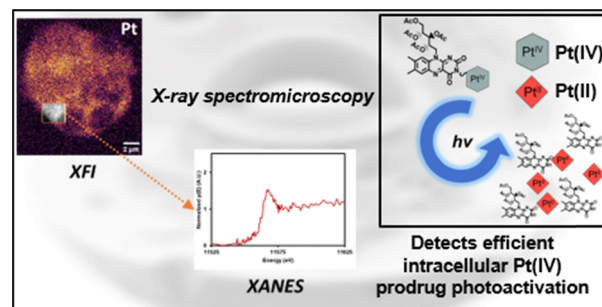
Julia Schönfeld, Nick Liebisch, Steffen Brunst, Lilia Weizel, Stefan Knapp, Aimo Kannt, Ewgenij Proschak and Kerstin Hiesinger\*



18112

### A snapshot of flavin-conjugated Pt anticancer agents: Pt(IV)-to-Pt(II) reduction revealed by X-ray fluorescence imaging and XANES

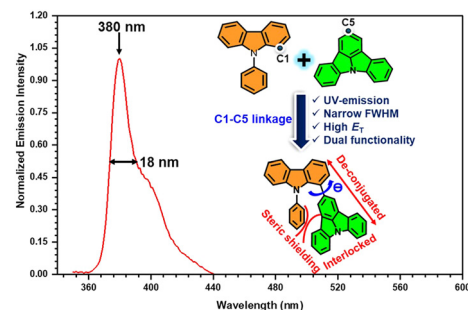
Esteban Zingales, Juan Sanchez-Camacho, Jessica Walker, Luca Salassa and Carlos Sanchez-Cano\*



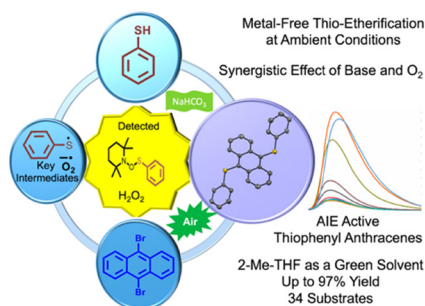
18116

### A streamlined steric-shielding approach toward efficient narrowband (FWHM ~ 18 nm) ultra-violet emitters for OLEDs

Ankit Kumar, Seungwon Han, Dilip Kumar Sharma, Jun Yeob Lee\* and Rajendra Kumar Konidena\*



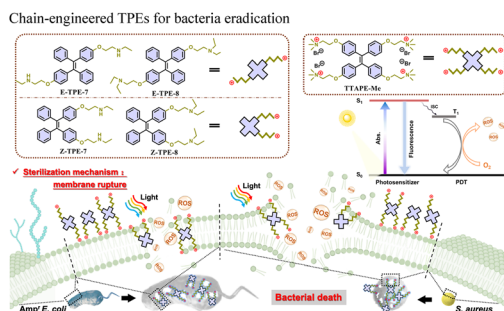
18120



### Key role of oxygen and base in catalytic thioetherification: access to sulfur bridged poly-aromatic hydrocarbons

Bedabara Nag and Akshai Kumar\*

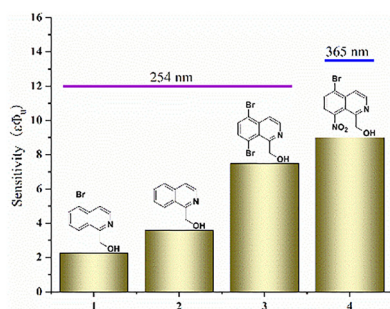
18124



### Chain-engineered tetraphenylethylene derivatives for potent antimicrobial activity against pathogens

Haorun Song, Yutong Li, Li Xu, Hao Zhao, Huanxiang Yuan,\* Ruilian Qi and Haotian Bai\*

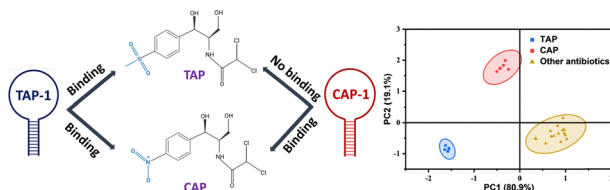
18128



### A study of 1-(hydroxymethyl)isoquinoline as a new member of the photoremovable protecting groups

Xingzi Shi, Jiansong Zhou, Qiqi Wu, Hao Zeng, Li Liang, Shuang Xia, Jun Yan\* and Xiaohua Sun\*

18132



### Combining aptamers for thiamphenicol and chloramphenicol for detecting both antibiotics

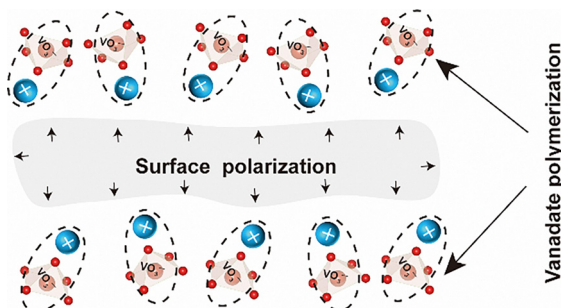
Yun Shu, Shiyuan Liu and Juewen Liu\*



18136

### Electrostatic-field-induced growth of $V_2O_5$ superlattices with PTFE for advanced zinc-ion batteries

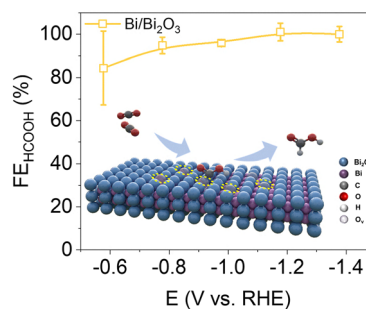
Jiangfeng Gong,\* Bingxin Zhu, Yonghao Guan, Haiyuan Lin, Zhibin Shao, Chunmei Tang, Hongbing Yao, Guangchao Du and Wenyi He



18140

### Hierarchical $Bi/Bi_2O_3$ heterostructures with robust oxygen vacancies for efficient electrochemical $CO_2$ reduction to formate

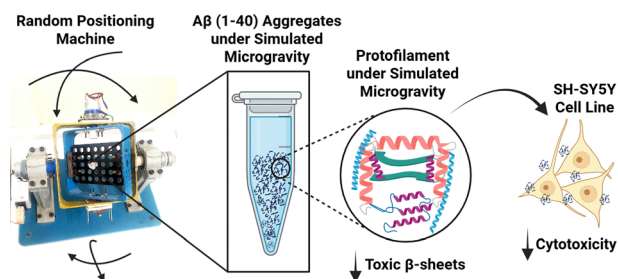
Yi Wang, Zhaolong Wang,\* Siyu Yi, Qiankang Zhang, Mengxia Ji, Jinman Yang, Pengcheng Yan, Xingwang Zhu,\* Hui Xu\* and Xiaojie She\*



18144

### Impact of microgravity on the fibrillization kinetics and structure of amyloid beta peptide

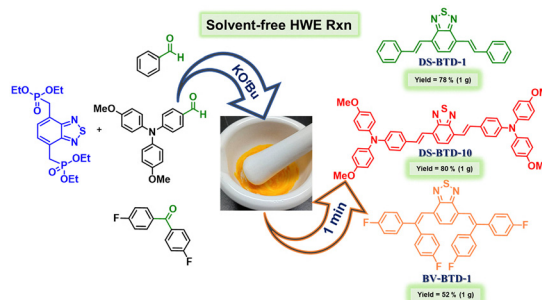
Hitendranath Napa Mallikarjuna, Anagha Manohar, Narendran Sekar and Swathi Sudhakar\*



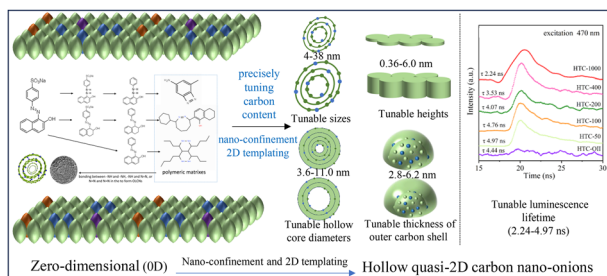
18148

### Eco-friendly synthesis of highly emissive benzothiadiazole-based fluorophores via a solvent-free hand-grinding Horner–Wadsworth–Emmons reaction in $\leq 1$ minute

Premkumar Gnanasekaran, Chia-Yu Chen, Ting-Hung Chu, Po-Heng Lin and Yuan Jay Chang\*



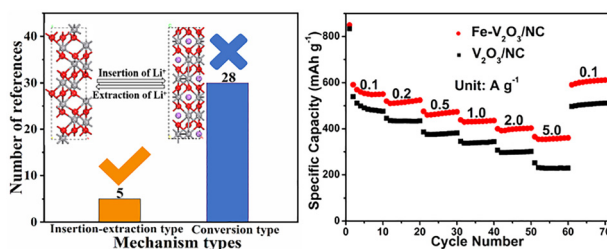
18152



### Synthesis of a novel quasi-two-dimensional hollow onion-like carbon nanomaterial under the nano-confined space of layered double hydroxides

Minwang Laipan,\* Chenhao Zhang, Runliang Zhu,\* Mengyao Yuan, Ziyu Wang, Junkang Guo, Abbas Ahmed and Luyi Sun\*

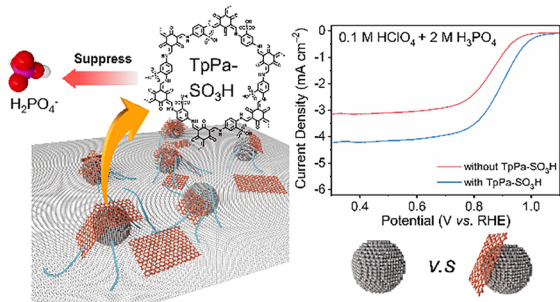
18156



### Enhanced lithium storage *via* Fe doping in V<sub>2</sub>O<sub>5</sub>/N-doped carbon hybrids: a stable insertion-extraction anode

Xuerui Li, Dan Zhang,\* Jia Sun, Zhe Huo, Chunyan Zhang, Baomin Luo, Guangyin Liu, Xiaodi Liu and Chuang Yu\*

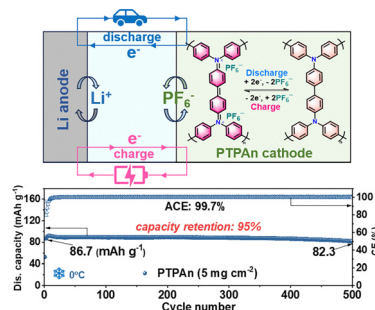
18160



### Sulfonated covalent organic frameworks for mitigating phosphate poisoning in high-temperature proton exchange membrane fuel cells

Ruiyu Zhang, Pengyu Song, Mengmeng Zhu and Lu Wang\*

18164



### Tailoring triphenylamine cathode structures for high-voltage and temperature-robust lithium organic batteries

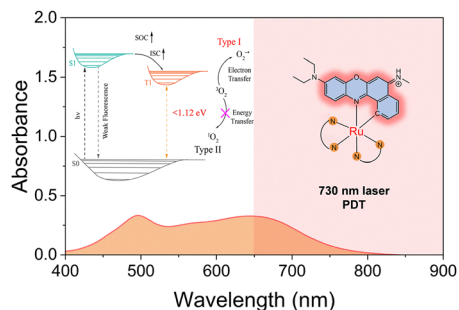
Wei Zhang, Yan Wang, Weiliang Yin, Fengtao Yu,\* Beibei Yang, Duan Bin, Hongbin Lu and Jie Xu\*



18168

### Near-infrared-activated Ru(II)-nile blue conjugates as type-I photosensitizers for efficient hypoxia tumor therapy

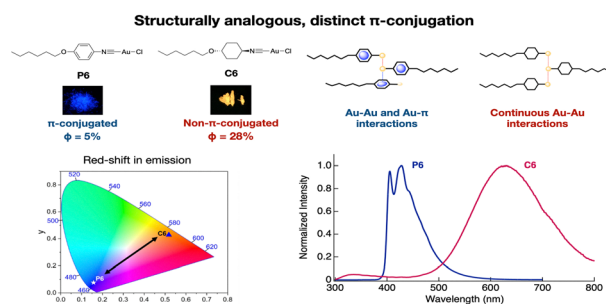
Pengmin Shi, Zhiyuan Zhou, Yanyan Sun,\* Qinshen Xie, Chuanzhu Gao, Gang Xu, Jian Zhao\* and Lei Fang\*



18172

### Eliminating $\pi$ -conjugation to enhance aurophilic interactions and aggregation-induced phosphorescence in Au(I) complexes

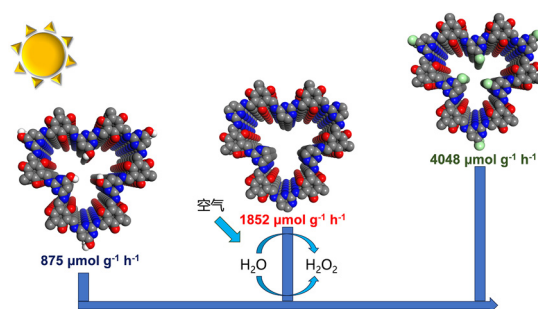
Andriani Furoida, Kazuhisa Ozaki, Ryoko Niimi, Arushi Rawat, Kohsuke Matsumoto, Kaori Fujisawa and Osamu Tsutsumi\*



18176

### Regulating the substituent of the electron-acceptor in a D-A system for boosting $H_2O_2$ photosynthesis from air and water

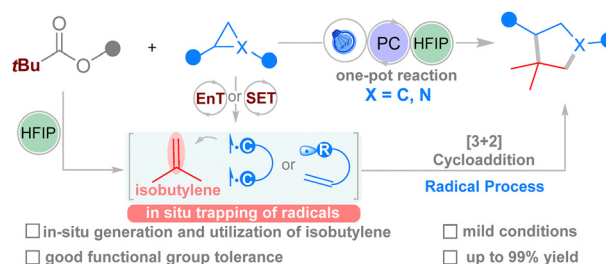
Yao Zhang, Yu Kai, Xuefeng Feng\* and Feng Luo\*



18180

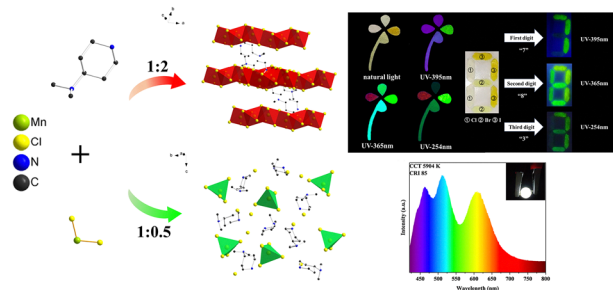
### Photoinduced [3+2] cycloaddition via HFIP-promoted *in situ* formation of isobutylene from the Boc group

Xue-Ling Luo, Yu Lv, Di-Jing Luo, Lu-Lu Qin, Shu-Hui Li,\* Zhi-Peng Ye,\* Zhen-Zhen Xie\* and Peng-Ju Xia\*



## COMMUNICATIONS

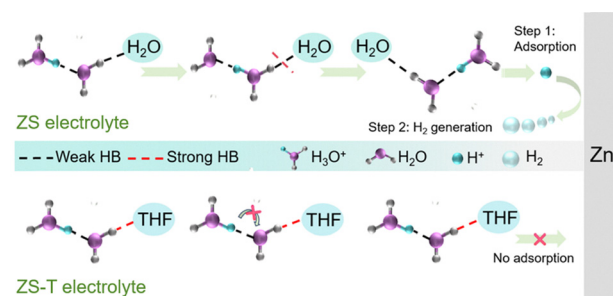
18184



### New strategy for dimensional control of manganese-based metal halides: feed composition control

Xintong Li, Junhui Liu, Junwei Xiang, Qingsong Lv, Juan Wang\* and Fengwan Guo\*

18188



### Tetrahydrofuran-mediated hydrogen bonding for stabilized zinc anodes

Bingjie Zhang, Zenglong Xu, Yiqun Du,\* Guangbin Duan, Degang Zhao, Bingqiang Cao and Shuhua Yang\*

