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## IN THIS ISSUE

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### Cover

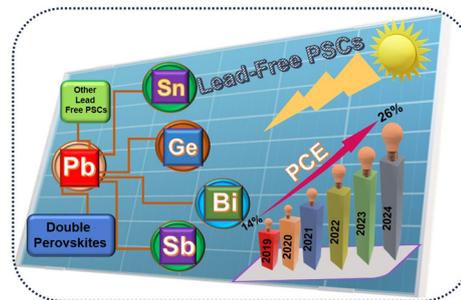
See Marius Haugland-Grange *et al.*, pp. 6755–6758. Cover image prepared by ScienceBrush Design. Image reproduced by permission of Marius Haugland-Grange from *Chem. Commun.*, 2025, **61**, 6755.

## FEATURE ARTICLES

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### Lead-free perovskites for solar cell applications: recent progress, ongoing challenges, and strategic approaches

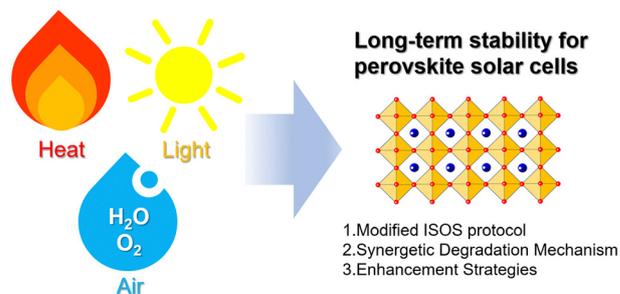
Imtiaz Ahmed, Kamal Prakash and Shaikh M. Mobin\*



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### Protocols for degradation assessment and stability enhancement in perovskite solar cells

Seok Joo Yang,\* Sungwon Song, Chanui Park, Jinhyeok Choi, Eunho Lee and Min Kim\*



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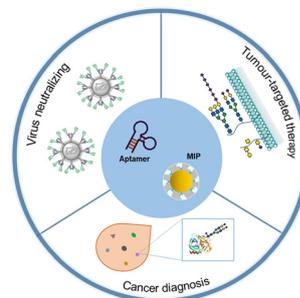
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## FEATURE ARTICLES

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## Advances in glycan-specific biomimetic molecular recognition and its biomedical applications

Wei Li and Zhen Liu\*

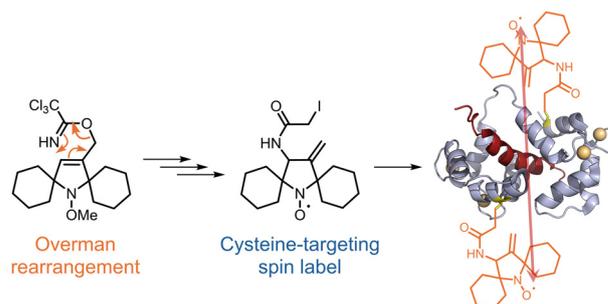


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## Sigmatropic rearrangement enables access to a highly stable spirocyclic nitroxide for protein spin labelling

Mateusz P. Sowiński, Elena M. Mocanu, Hannah Ruskin-Dodd, Aidan P. McKay, David B. Cordes, Janet E. Lovett and Marius Haugland-Grange\*



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## Oxazine-based molecular switches with finely tunable pH and temperature sensitivity via substituent engineering

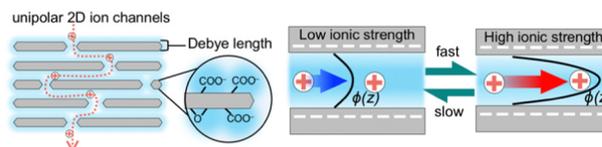
Chaofan Jin, Yuan Wang, Lu Wang, Xingjie Zan\* and Sicheng Tang\*



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## Programmable cation migration in unipolar 2D ion channels via dynamic Debye length

Yi-Lu Zhang, Shizhe Feng,\* Yumei Tan, Teng-Xuan Cao, Wangwang Ji, Rui Xie, Xiao-Jie Ju, Wei Wang, Da-Wei Pan, Zhuang Liu\* and Liang-Yin Chu

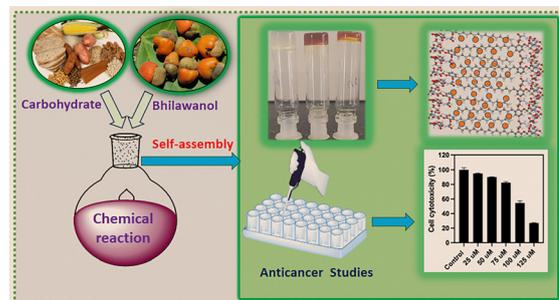




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### Easy access to a self-assembled glycolipid derived from bhilawanol: a promising anti-cancer drug

Tohira Banoo, Kajal Sandhu, S. Chockalingam and Subbiah Nagarajan\*



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### An acanthosphere-like PtRuRhPdAuIr high-entropy alloy as an efficient electrocatalyst for hydrogen evolution in both acidic and alkaline electrolytes

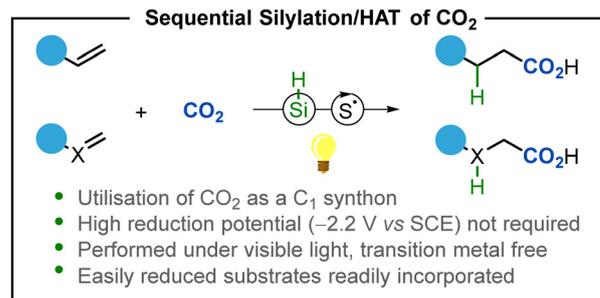
Cheng Chen, Wanwan Wu, Panyan Chen, Jiayin Guo, Heng Bian, Weiwei Li, Xinsheng Zhao\* and Lu Wei\*



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### Photocatalytic reductive incorporation of carbon dioxide into double bonds

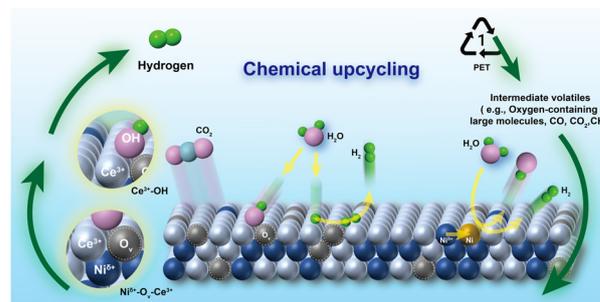
Mark J. Deeprase\* and Thorsten Bach\*



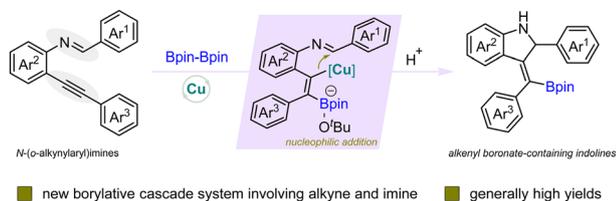
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### A dual-active NiO–Ce<sub>1-x</sub>Ni<sub>x</sub>O<sub>2</sub> nanocomposite for catalytically upcycling PET into H<sub>2</sub>

Jin Wang, Fangqi Liu, Chun Shan, Jiarui Zhu, Zengjian Guo, Xuesong Zhang\* and Lujia Han



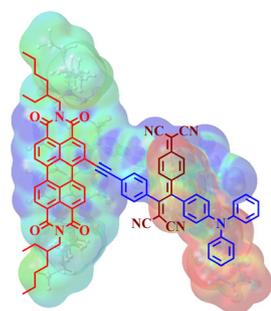
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### Cu-catalyzed borylative cyclization of *N*-(*o*-alkynylaryl)imines

Tingting Zhang, Jinhai Gui, Yu Mo, Yuchuan Pu, Hongping Zhao, Yong Liu\* and Chengyu He\*

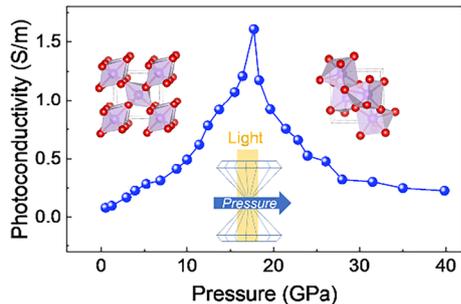
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Mohd Wazid, Yogajivan Rout, Ajyal Z. Alsaleh, Ram R. Kaswan, Rajneesh Misra\* and Francis D'Souza\*

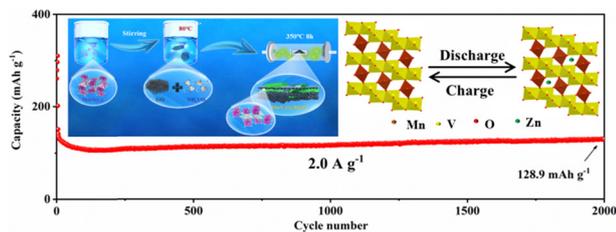
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### The pressure-induced photoconductivity enhancement of black-TiO<sub>2</sub>

Bingyan Liu, Tianfeng Duan, Songhao Guo, Kejun Bu, Jiabing Luo, Yiming Wang, Junxiu Liu, Wenge Yang, Jun Zhang\* and Xujie Lü\*

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### Insights into the enhanced electrochemical performance and energy storage mechanism of a manganese vanadate cathode for rechargeable aqueous zinc ion batteries

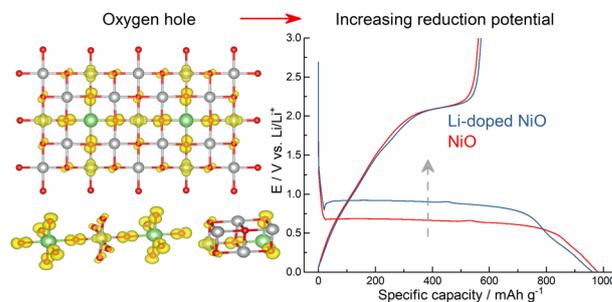
Hong Liu, Litao Han, Chen Lu,\* Shi Tao, Fanjun Kong\* and Bin Qian



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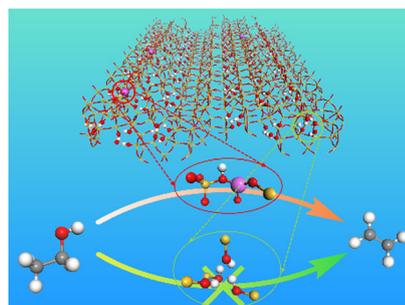
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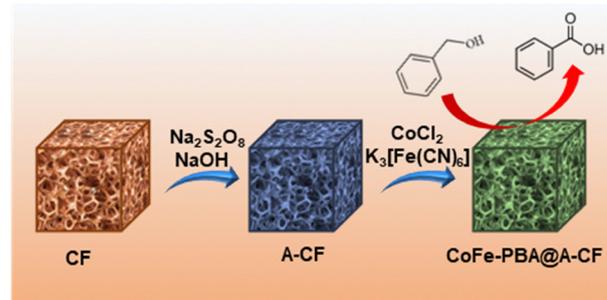
Haoxi Jiang, Jiahao Guan, Changdong Li, Lingtao Wang and Guochao Yang\*



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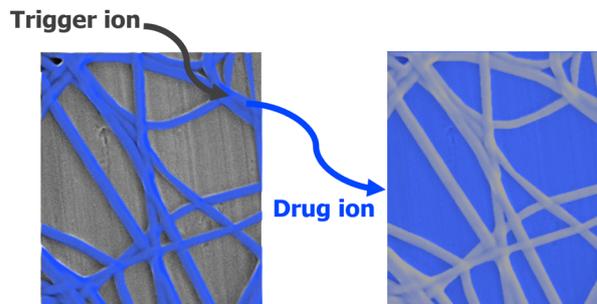
Ayusie Goyal, Shalini Verma, Labham Singh, Baghendra Singh\* and Apparao Draksharapu\*



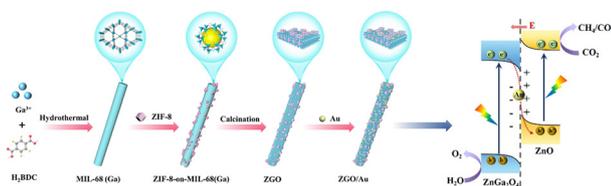
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### Towards drug delivery systems triggered by ion-selective interactions

Dorota Buczyńska, Emilia Stelmach, Justyna Kalisz, Bohdan Paterczyk, Piotr Piątek, Krzysztof Maksymiuk and Agata Michalska\*



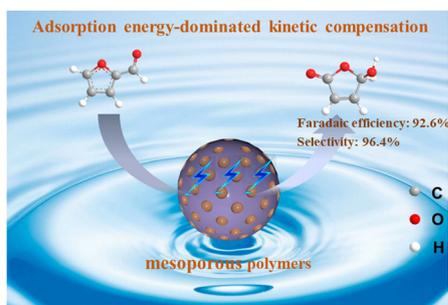
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### Heterojunction constructed from ZIF-8-on-MIL-68(Ga) precursor for photocatalytic CO<sub>2</sub> reduction

Yu Ma, Qingqing Jiang,\* Xingyu Li, Hao Yu, Xiaole Han, Yi Liu, Qin Li, Kangle Lv and Juncheng Hu\*

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### Mechanistic insights into biomass-based furfural electrooxidation to 5-hydroxy-2(5H)-furanone over mesoporous polymers

Weixia Zhu, Runlu Yang, Xin Wang, Keying Dai, Chang Su, Jiayi Duan, Chun Chang and Haoran Wu\*

