

# Chem Soc Rev

Chemical Society Reviews

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### Cover

See Zhongwu Li and Aleksandr Noy, pp. 8582–8635. Image reproduced by permission of Lawrence Livermore National Laboratory and Sabina Hahn (Interval Studios) from *Chem. Soc. Rev.*, 2025, 54, 8582. Artwork by Sabina Hahn.



### Inside cover

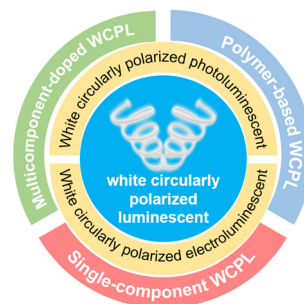
See Hai-Yan Lu, Chuan-Feng Chen *et al.*, pp. 8534–8554. Image reproduced by permission of Pei Zhao, Hai-Yan Lu and Chuan-Feng Chen from *Chem. Soc. Rev.*, 2025, 54, 8534.

## TUTORIAL REVIEWS

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### Recent advances in preparation and applications of white circularly polarized luminescent materials

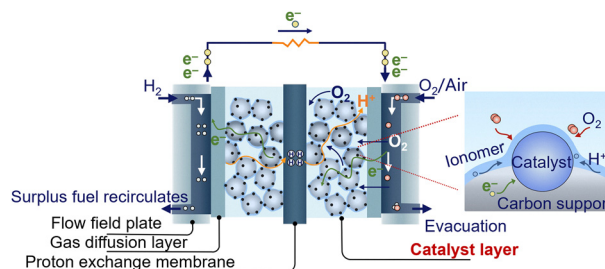
Pei Zhao, Hai-Yan Lu\* and Chuan-Feng Chen\*



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### Three-phase microenvironment modification by optimizing ionomer towards high-performance proton exchange membrane fuel cells

Jie Li, Qianli Ma, Shuda Dong, Shuang Zhao, Bo Wang and Xiao Feng\*



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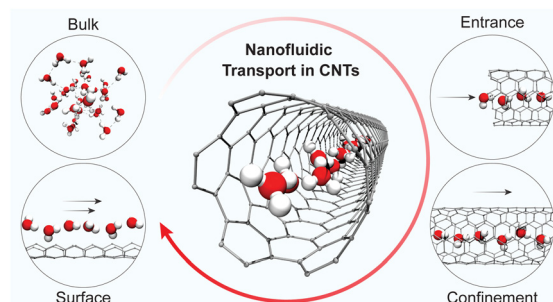


## REVIEW ARTICLES

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## Carbon nanotube nanofluidics

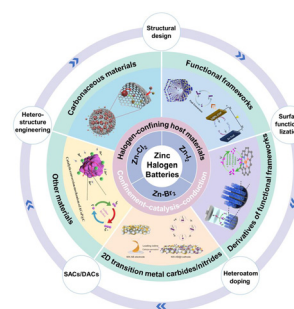
Zhongwu Li and Aleksandr Noy\*



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## Halogen-confining host materials for high-performance zinc-halogen batteries

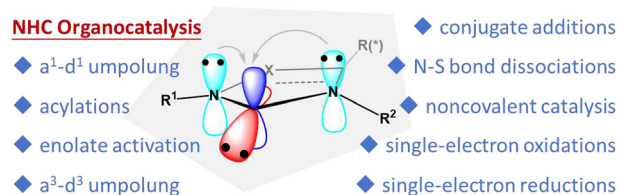
Shude Liu, Xue Peng, Yafei Chai, Ming Ma, Hulin Zhang, Jieming Chen, Ling Kang, Bin Ding,\* Yusuke Yamauchi\* and Seong Chan Jun\*



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## Advances in N-heterocyclic carbene organocatalysis from 2015 to 2024

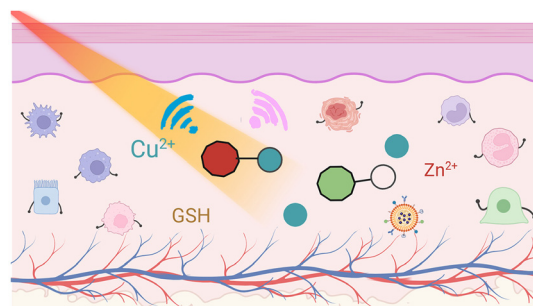
Dan Ling, Yusong Ran, Fachang Yang, Xiaoqun Yang, Xingxing Wu,\* Shi-Chao Ren\* and Zhichao Jin\*



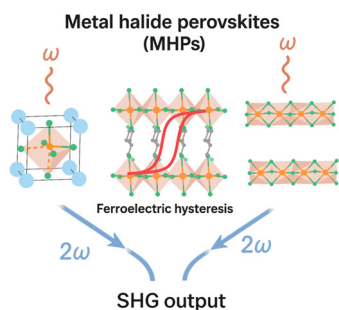
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Xiaoqing Wang, Beibei Cui, Qian Sun, Hang Liu and Zhipeng Liu\*



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### Dynamic control of halide perovskite structures for tailored ferroelectric and second-order nonlinear optical functionalities

Zhu Guo, Jiawei Lin and Lingling Mao\*

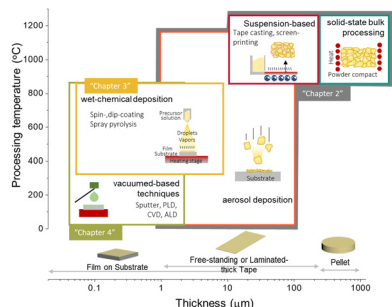
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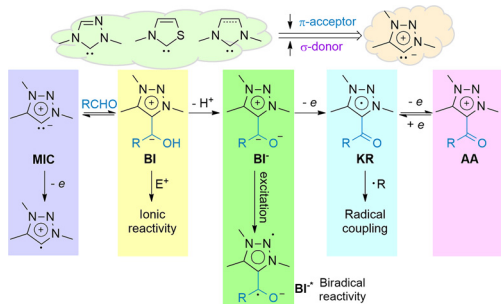
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### Emerging processing guidelines for solid electrolytes in the era of oxide-based solid-state batteries

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### Organocatalysis promoted by 1,2,3-triazolyldenes (MICs): carbenes which make a difference

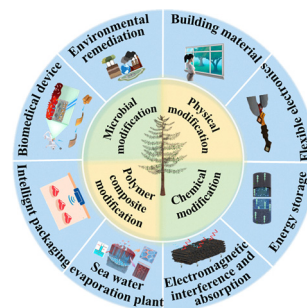
Fan Gao, Xiaoyu Yan\* and Guy Bertrand\*



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## Physicochemical, polymeric and microbial modifications of wood toward advanced functional applications: a review

Changzhu Huang, Qin Qin, Yanbo Liu,\* Gaigai Duan, Peng Xiao,\* Yong Huang, Changtong Mei,\* Xiaoshuai Han, Jingquan Han,\* Shuijian He and Shaohua Jiang\*



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Ze-Yu Liu, Qing-Bin Nie, Bao-Liang Han, Rakesh Kumar Gupta, Guang-Lei Dong, Geng-Geng Luo,\* Zhi-Lin Yang\* and Di Sun\*

