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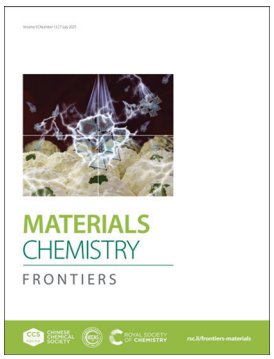
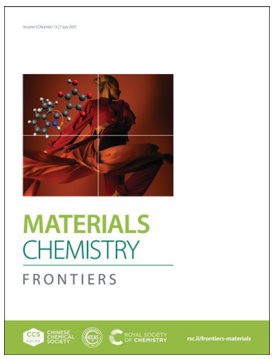
IN THIS ISSUE

ISSN 2052–1537 CODEN MCFAC5 9(13) 1947–2112 (2025)



Cover
See Qiyu Zhao, Jie Lin, Aiguo Wu, Tianan Jiang *et al.*, pp. 2018–2030. Image reproduced by permission of Tianan Jiang from *Mater. Chem. Front.*, 2025, **9**, 2018.



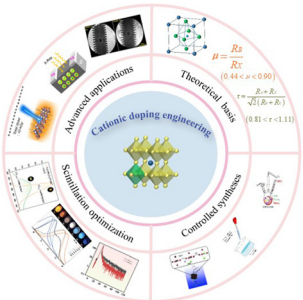
Inside cover
See Peter Šebej *et al.*, pp. 2031–2040. Image reproduced by permission of Peter Šebej from *Mater. Chem. Front.*, 2025, **9**, 2031.

REVIEWS

1954

Cation doping engineering of metal halide perovskites for high-energy X-ray exploration

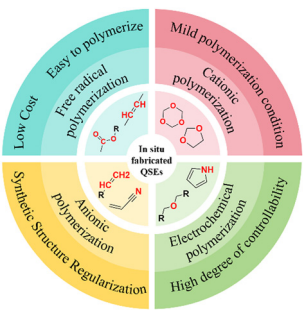
Guiqiang Pu, Rufeng Wang, Yangmin Tang, Junnan Song* and Jiacheng Wang*



1971

***In situ* polymerization-driven quasi-solid electrolytes for Li-metal batteries**

Jinxuan Liu, Yinglei Wu,* Zhenying Chen, Zhixin Xu, Jinhui Zhu* and Xiaodong Zhuang*



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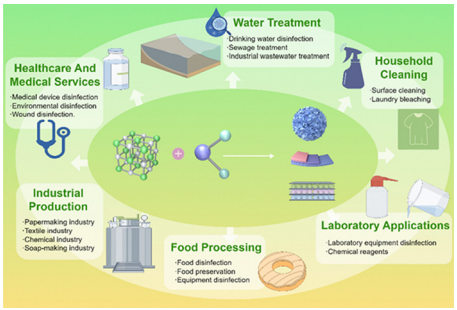
REVIEWS

1997

Recent progress in electrochemical synthesis of hypochlorite and its future outlook

Liuyu Ji, Junyang Ding, Caiyun Wang,* Yang Luo,* Qian Liu, Guangzhi Hu and Xijun Liu*

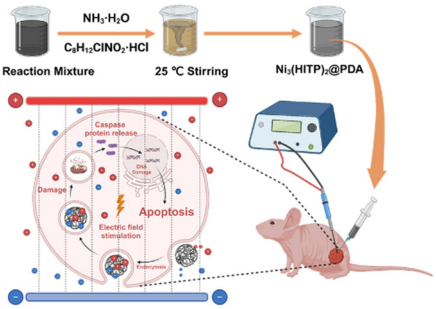


RESEARCH ARTICLES

2018

Enhancing pancreatic cancer ablation efficiency: bipolar IRE with conductive MOF

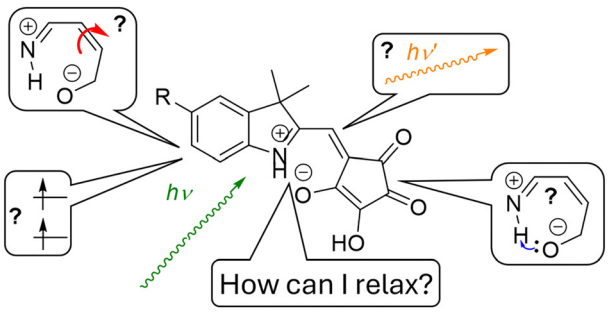
Lei Xu, Wenjing Lou, Fan Xu, Yujiao Xie, Yue Hu, Liting Xie, Chengyue Zhang, Aochi Liu, Xinyu Miao, Zhiwei Hou, Wenyuan Ma, Qiyu Zhao,* Jie Lin,* Aiguo Wu* and Tianan Jiang*



2031

Restricting intramolecular motion converts non-fluorescent semicroconaine dyes into turn-on aggregation-induced emission probes

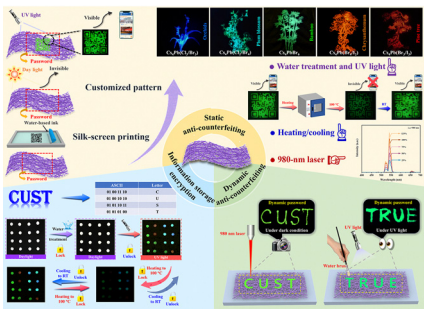
Rebecca Strada, David Dunlop, Michal Vorba, Amar Raj, Büşra Buse Tütüncü, Pasi Myllyperkiö, Tomáš Slanina, Tatu Kumpulainen and Peter Šebej*



2041

Cs_4PbX_6-UCLNPs/PS film for multimodal anti-counterfeiting and information encryption storage upon triple strategies of water treatment, light excitation and heating/cooling

Xintong Huo, Yunrui Xie,* Yaolin Hu, Yuqi Sheng, Zheng Wang, Haina Qi, Hong Shao, Qianli Ma, Wensheng Yu and Xiangting Dong*



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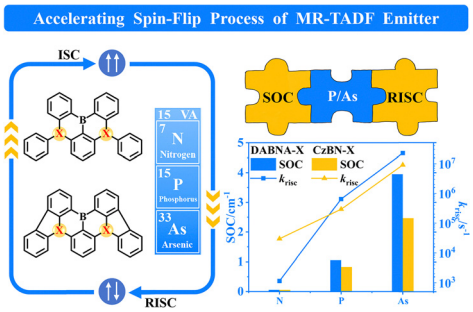
RESEARCH ARTICLES

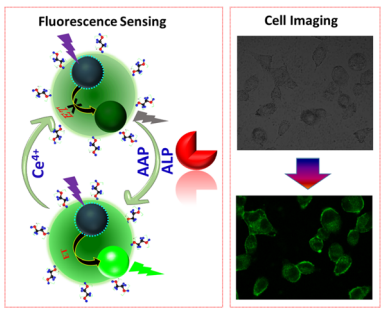
2054



Accelerating the spin–flip process of multi-resonance emitters *via* an advanced nitrogen group heavy atom strategy

Weibo Cui, Yexuan Pu, Linjie Li, Lixiao Guo, Pingping Zheng, Yun Geng* and Chenglong Li*

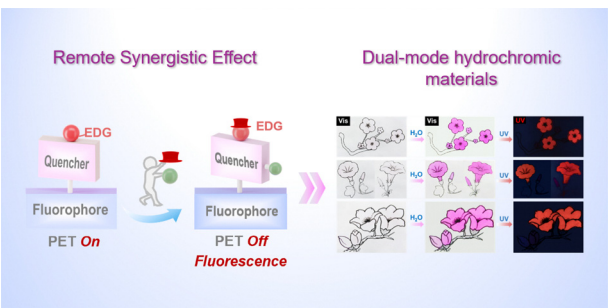
2066



Synthesis and design of terbium-activated $CaWO_4$ nanocrystals for fluorescence sensing of alkaline phosphatase and bioimaging applications

Terefe Tafese Bezuneh, Xin Li, Tongtong Kou, Fuchun Nan, Zilong Wu, Lanbo Shen, Xinyuan Xia, Bin Li,* Liang Wang* and William W. Yu*

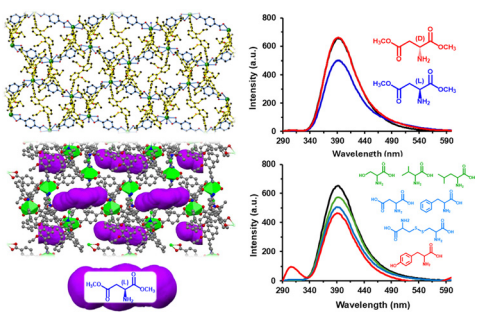
2078



Harnessing a remote synergistic effect for regulating photoinduced electron transfer: a novel strategy for absorption/fluorescence dual-mode hydrochromism

Junli Gao, Qiang Gao, Jinyan Zhang, Tianyou Qin, Fanyu Kong, Yifei Liu, Lu-Yi Zou,* Sean Xiao-An Zhang and Lan Sheng*

2087



A chiral metal–organic framework fluorescent sensor incorporating H_8-BINOL

Pattara Siripanich, Jierui Zhang, Martina Lessio and Carol Hua*

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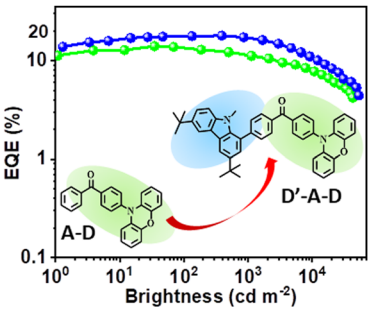
RESEARCH ARTICLES

2099

Performance enhancement by additional donors in D–A–D′ type thermally activated delayed fluorescence materials

Jiuyan Li,* Xin Li, Jiahui Wang, Jing Jin and Jun Wang