

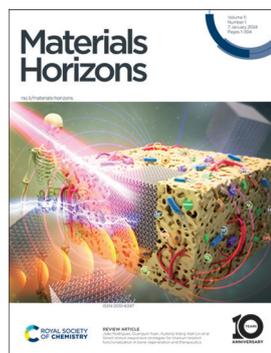
Materials Horizons

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See João Rodrigues, Guangyin Yuan, Xudong Wang, Kaili Lin *et al.*, pp. 12–36. Image reproduced by permission of Kaili Lin from *Mater. Horiz.*, 2024, 11, 12.



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Materials Horizons Emerging Investigator Series:
Dr Jie Xu, Argonne National Laboratory, USA

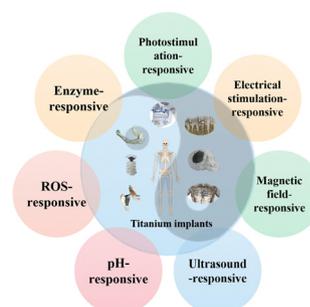


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Smart stimuli-responsive strategies for titanium implant functionalization in bone regeneration and therapeutics

Jinkai Zhang, Yu Zhuang, Ruilong Sheng, Helena Tomás, João Rodrigues,* Guangyin Yuan,* Xudong Wang* and Kaili Lin*



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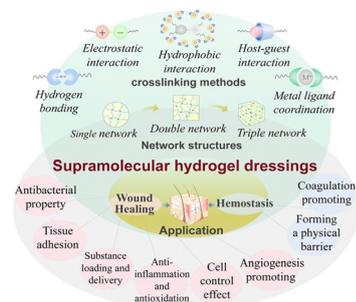


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Supramolecular hydrogels for wound repair and hemostasis

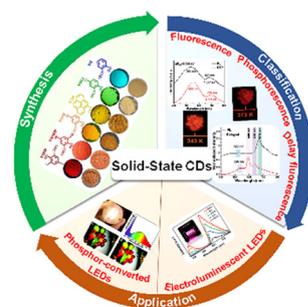
Shaowen Zhuo, Yongping Liang, Zhengying Wu, Xin Zhao,* Yong Han* and Baolin Guo*



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The emergence and prospects of carbon dots with solid-state photoluminescence for light-emitting diodes

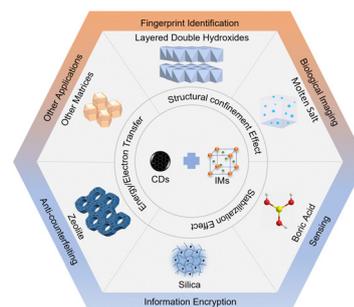
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The afterglow of carbon dots shining in inorganic matrices

Xiaoyan He, Yihao Zheng, Chaofan Hu, Bingfu Lei, Xingcai Zhang,* Yingliang Liu* and Jianle Zhuang*

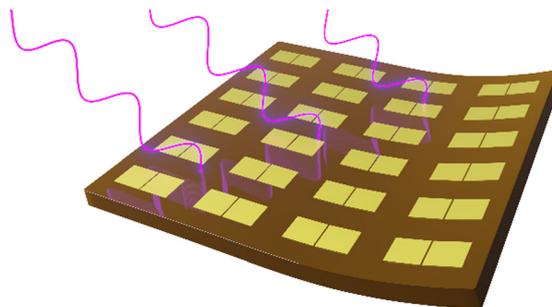


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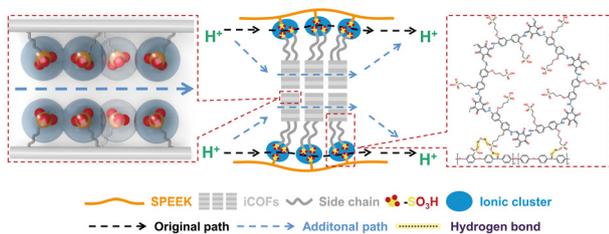
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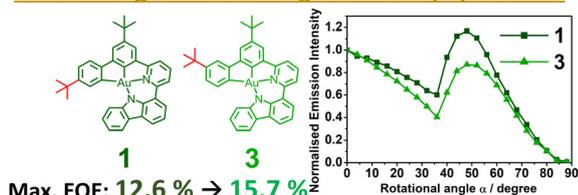


Covalent organic frameworks with flexible side chains in hybrid PEMs enable highly efficient proton conductivity

Ziwen Liu, Xiao Pang, Benbing Shi, Na Xing, Yawei Liu, Bohui Lyu, Leilang Zhang, Yan Kong, Sijia Wang, Zhong Gao, Rou Xue, Tianyu Jing, Changkun Liu, Qinuidan Bai, Hong Wu* and Zhongyi Jiang*

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C[^]C[^]N[^]N[^] ligand-containing TADF Gold(III) Emitters



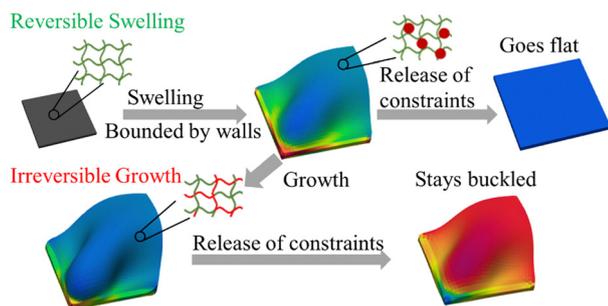
Max. EQE: 12.6 % \rightarrow 15.7 %

- ✓ TADF with $\Delta E_{(S_1-T_1)}$ of 0.16–0.18 eV
- ✓ Preferential horizontal molecular orientations
- ✓ Improvement in η_{out} by 30 %

Thermally activated delayed fluorescence tetradentate ligand-containing gold(III) complexes with preferential molecular orientation and their application in organic light-emitting devices

Cathay Chai Au-Yeung, Ming-Yi Leung, Shiu-Lun Lai, Shun-Cheung Cheng, Lok-Kwan Li, Man-Chung Tang, Wing-Kei Kwok, Chi-Chiu Ko, Mei-Yee Chan* and Vivian Wing-Wah Yam*

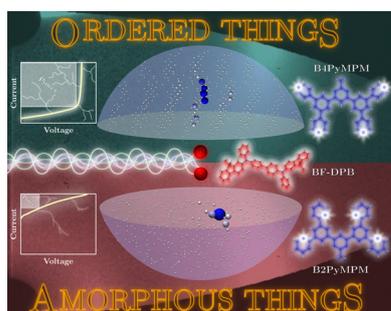
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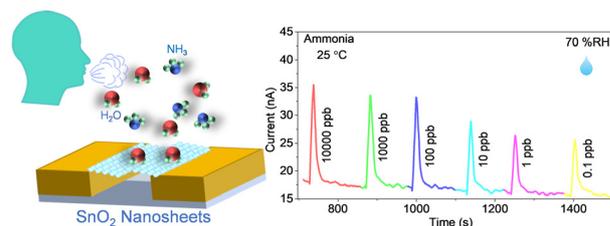
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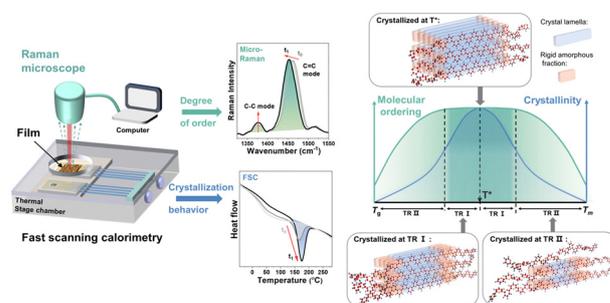
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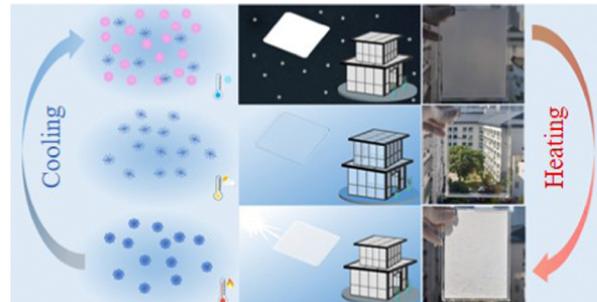
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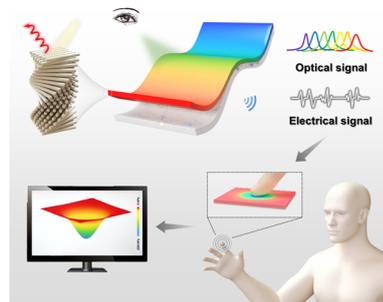
Zhenkun Yu, Yulin Ma, Linhan Mao, Yue Lian, Yanwen Xiao, Zhaoxia Chen* and Yuhong Zhang*



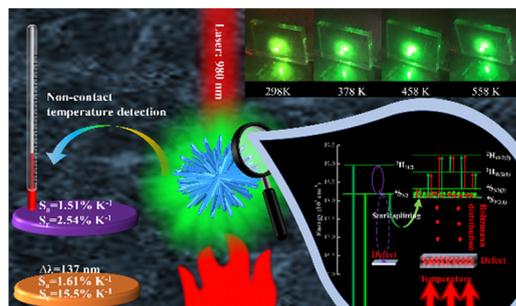
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Jiazhe Ma, Yanzhao Yang, Xuan Zhang, Pan Xue, Cristian Valenzuela, Yuan Liu, Ling Wang* and Wei Feng*



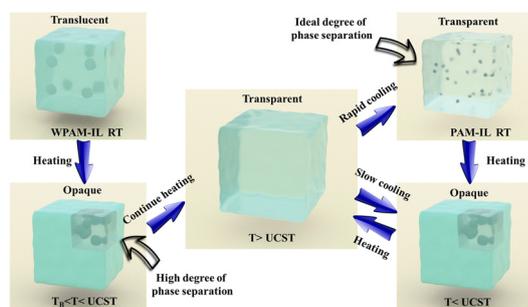
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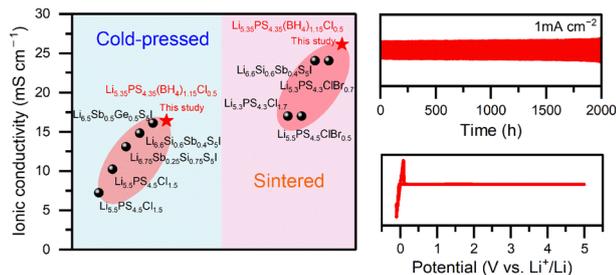
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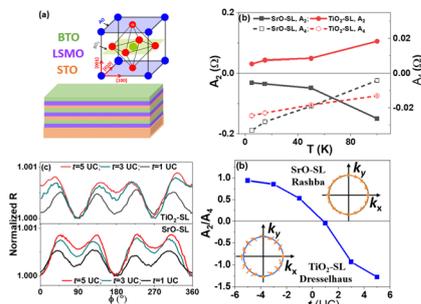


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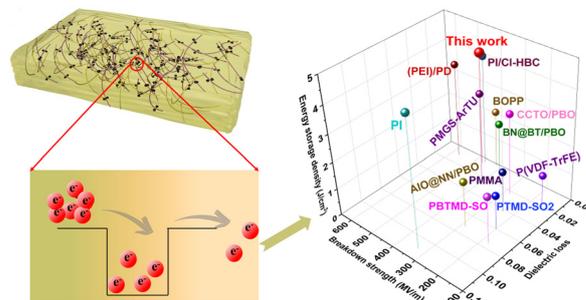
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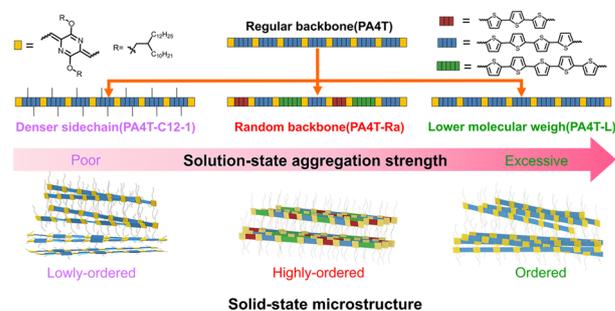
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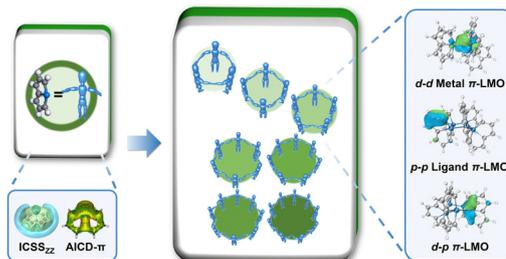
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Designed metal-organic π -clusters combining the aromaticity of the metal cluster and ligands for a third-order nonlinear optical response

Zirui Wang, Yayu Yan, Jiali Chen, Qiao-Hong Li* and Jian Zhang*



Metal core π + Ligand π = Metal-organic π -cluster

