

# Journal of Materials Chemistry C

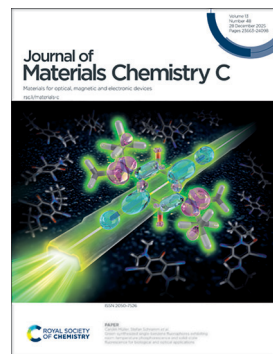
Materials for optical, magnetic and electronic devices

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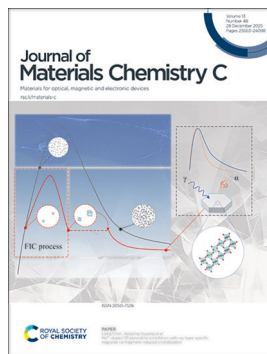
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### Cover

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### Inside cover

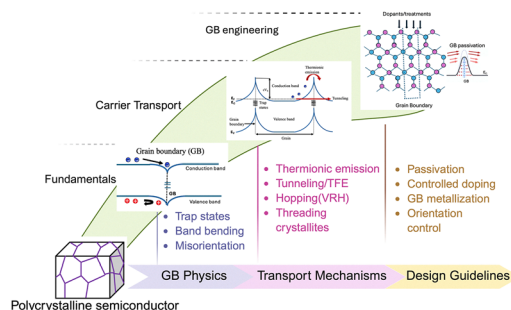
See Liang Chen, Xiaoping Ouyang *et al.*, pp. 23784–23795. Image reproduced by permission of Xinglong Shang from *J. Mater. Chem. C*, 2025, 13, 23784.

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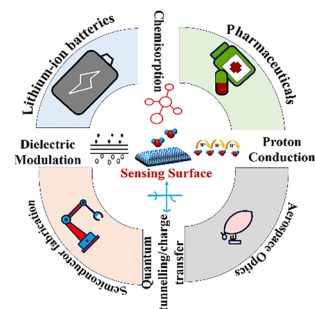
Israt Jahan, Jesus Dustin Arellano and Zhisheng Shi\*



23696

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Noor Alam and Yonggao Yin\*



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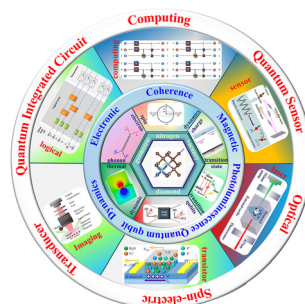
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## REVIEWS

23714

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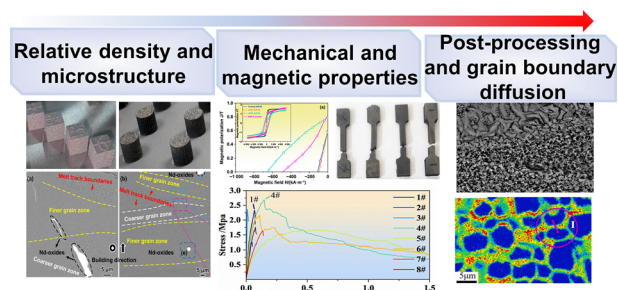
Ming-Hui Shang, Yong Xu,\* Zhao Liang, Xiangdong Yang, Jinju Zheng and Weiyu Yang\*



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### Interplay of the laser energy density and microstructure on the properties of NdFeB manufactured by laser powder bed fusion: a review

Hao Dong, Guoxuan Ming, Ketai He,\* Xiaowei Meng, Yangwei Du and Chaofang Dong

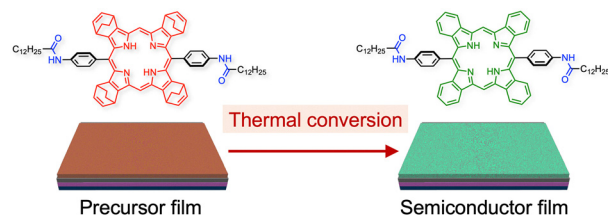


## COMMUNICATION

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So Ueno, Mitsuaki Yamauchi,\* Hiroshi Matsuda, Nobutaka Shioya, Keitaro Yamamoto, Yoshiyuki Mizuhata, Takeshi Hasegawa and Hiroko Yamada\*

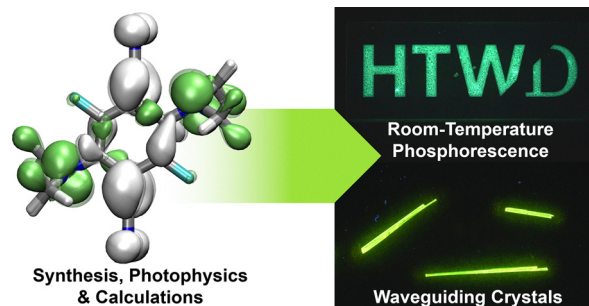


## PAPERS

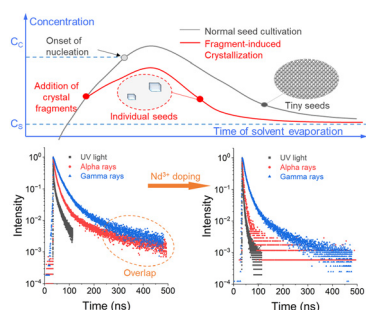
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### Green-synthesized single-benzene fluorophores exhibiting room-temperature phosphorescence and solid-state fluorescence for biological and optical applications

Maximilian Kramp, Durga Prasad Karothu, Juan Camilo Zschommler, Patrick Commins, Thomas Prestel, Verena Ibl, Panče Naumov, Carolin Müller\* and Stefan Schramm\*



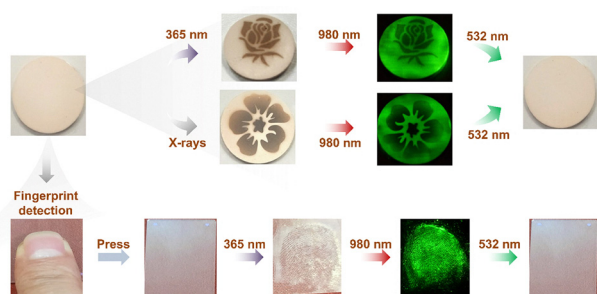
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### Nd<sup>3+</sup>-doped 2D perovskite scintillators with ray-type-specific response via fragment-induced crystallization

Xinlong Shang, Yang Li, Liang Chen,\* Quan Zhang, Leidang Zhou, Naizhe Zhao, Jinlu Ruan, Shiyi He, Fangbao Wang, Yapeng Zhang and Xiaoping Ouyang\*

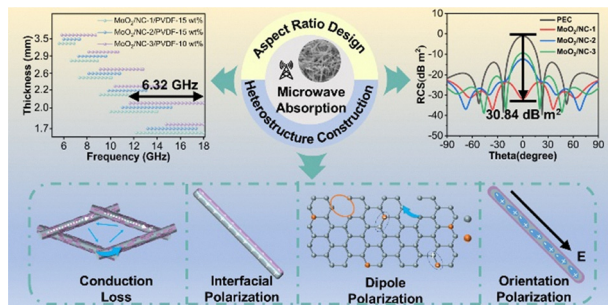
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### Multifunctional Bi<sub>2</sub>TeO<sub>5</sub>:Er<sup>3+</sup> with dual-stimuli photochromism and switchable upconversion for optical security

Asad Ullah, Asif Ali Haider, Jiayan Liao,\* Xue Bai, Anjun Huang, Imran Khan, Yangke Cun, Yuewei Li, Yingfan Li, Zhiguo Song, Jianbei Qiu and Zhengwen Yang\*

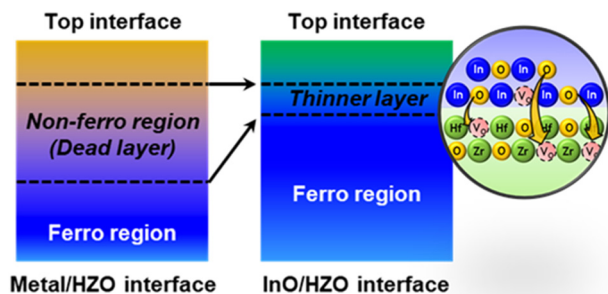
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### Aspect ratio design and heterostructure construction of MoO<sub>2</sub>/NC nanorods for broadband microwave absorption

Yidan He, Yunliang Dai, Yuke Zheng and Xiaojuan Zhang\*

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### An ultra-thin InO interlayer as an oxygen reservoir for defect passivation and enhanced ferroelectricity in hafnia devices

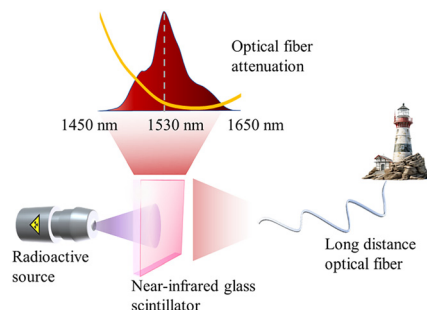
Junghyeon Hwang, Chaeheon Kim, Jinho Ahn\* and Sanghun Jeon\*



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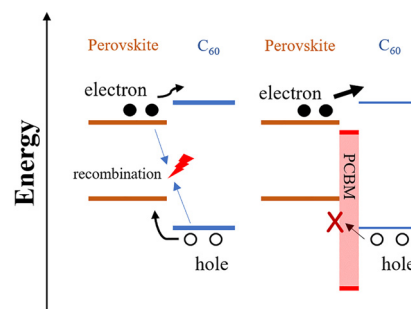
Zexuan Sui, Jinling Ma, Jiakuan Ye,\* Minghui Kang, Xiaoxin Zheng, Sen Qian, Bing Wang, Yiran Zhao and Jing Ren\*



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### Tin–lead perovskite solar cells featuring buffer layer structures: a combined theoretical and experimental study

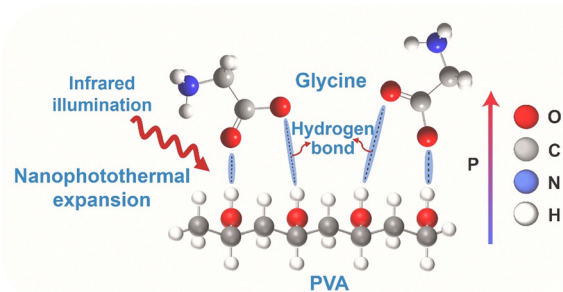
Zichao Xu, Ao Chen, Mengqi Ren, Shaopeng Liao, Menghao Xu, Chen Tao, Haibing Wang, Chen Wang, Fang Yao, Xiaojuan Cao, Jiwei Liang, MingMing Hu, Yansong Ge, Jian Wen, Xuzhi Hu\* and Guojia Fang\*



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### Infrared photothermal enhancement of piezoelectricity in $\gamma$ -glycine/PVA films via targeted interfacial hydrogen bond engineering

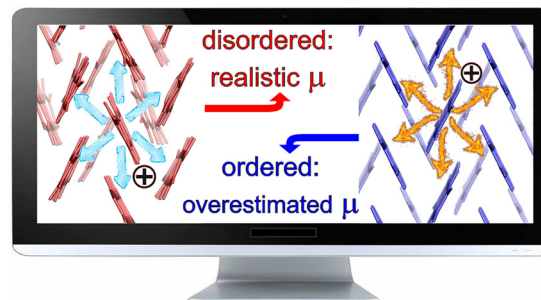
Lei Wang, Kaimin Du, Wentong Du, Kunyu Zhao and Huarong Zeng\*



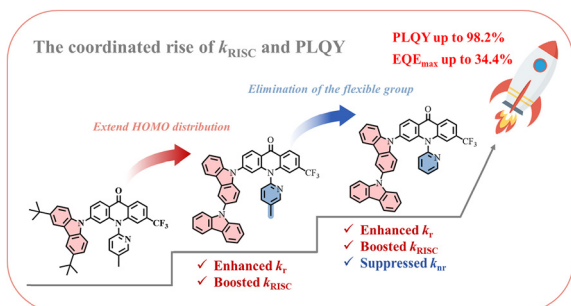
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### Effect of thermal disorder on the electronic structure and the charge mobility of acenes

Alessandro Landi,\* Francesco Ambrosio,\* Anna Leo, Daniele Padula, Giacomo Prampolini and Andrea Peluso\*



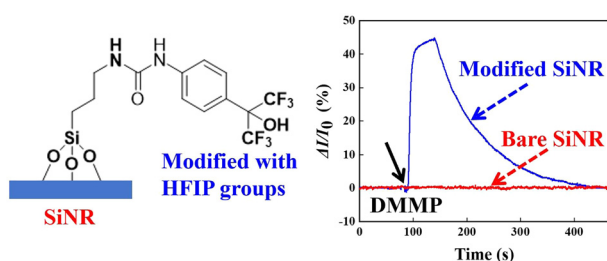
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Jingjie Yang, Jing Jin, Jiuyan Li,\* Jiahui Wang, Hongyu Chen, Meiling Mao, Yongqiang Mei\* and Di Liu\*

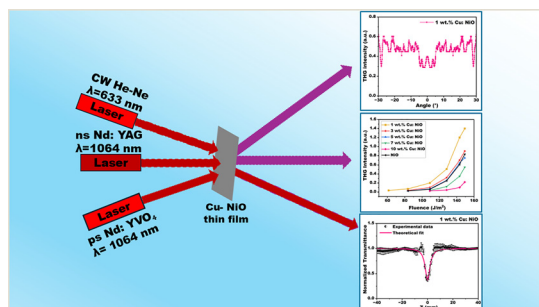
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### Novel molecule design for surface modification enables highly selective DMMP detection with silicon nanoribbon FET sensors

Runsheng Zang, Jun Shen, Jiahao Qin, Haizhen Li, Yongchao Zheng,\* Yuan Cheng, Xiujuan Zhang\* and Bingchang Zhang\*

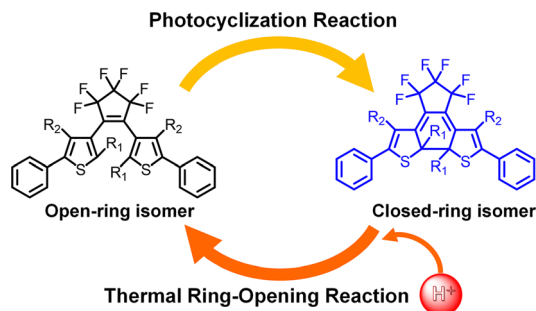
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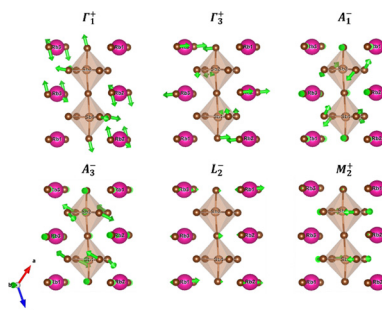
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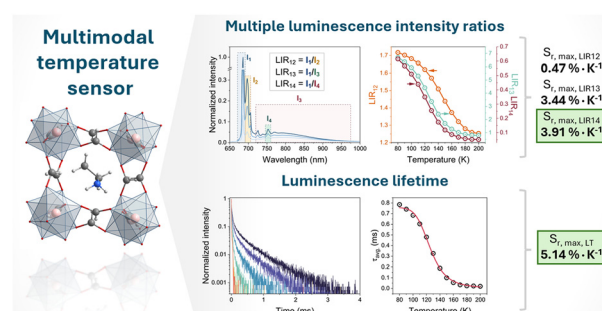
Yousra Chakroun, Wajdi Cherif, Brenda Martinelli, Carlos A. López, Javier Gainza, Romualdo S. Silva Jr., Federico Serrano-Sánchez, Mateus M. Ferrer, C. Pecharrmán, João Elias F. S. Rodrigues\* and José A. Alonso\*



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## Multimodal temperature sensing in hybrid perovskites doped with $\text{Cr}^{3+}$ : a strategy for optimizing luminescent thermometers

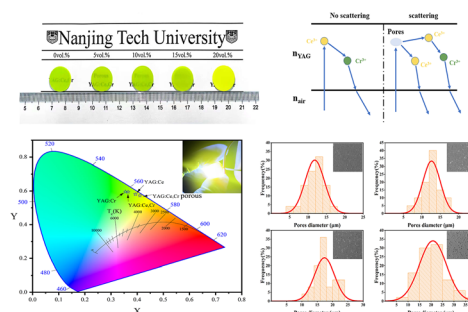
Adam Kabański,\* Kacper Caputa and Dagmara Stefańska\*



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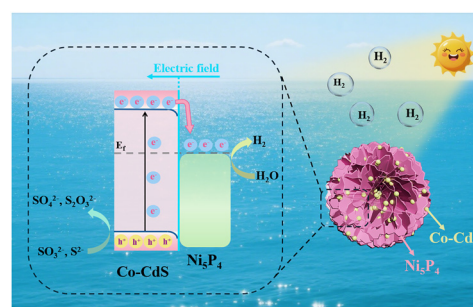
Ningdong Yang, Yulong Ji, Haikui Zhu,\* Yigang Qian and Lixi Wang\*



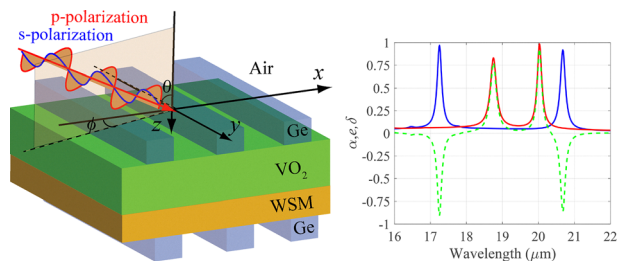
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## Enhancing photocatalytic hydrogen evolution of metal sulfides via a Co-CdS/ $\text{Ni}_5\text{P}_4$ ohmic junction

Mengru Bao, Zhenyu An, Jiao Zhang, Yongxin Chen, Xin Guo, Xueying Yang\* and Zhiliang Jin



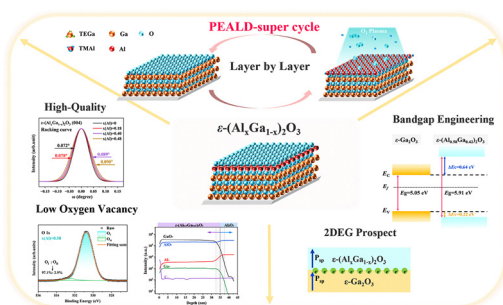
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### Magnet-free nonreciprocal thermal emitters via VO<sub>2</sub>–Weyl semimetal double-sided grating metasurfaces

Qi Fang, Wenyang Ma, Fenglin Xian and Gaige Zheng\*

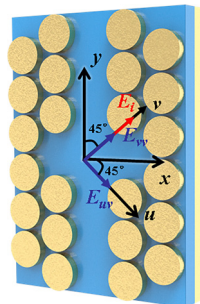
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Jinteng Zhang, Xiaohong Zeng, Liang Yu, Shuhao Zhang, Quan Miao, Zicheng Xing, Zhiyun Li, Nan Hu, Rong Huang, Yang Shen, Yecheng Ding, Zhitai Jia,\* Ying Wu\* and Sunan Ding\*

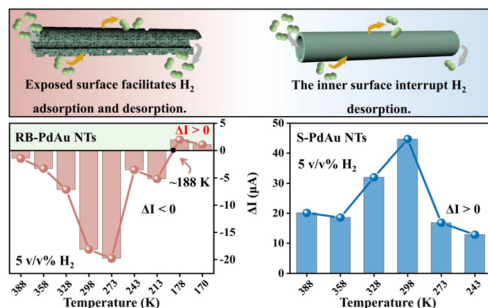
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### Improving the performance of polarization conversion in the near-infrared with low insertion loss by the metasurface

Qi Chen, Si-Yuan Liao, Jun-Jie Luo, Jia-Hao Zou and Hai-Feng Zhang\*

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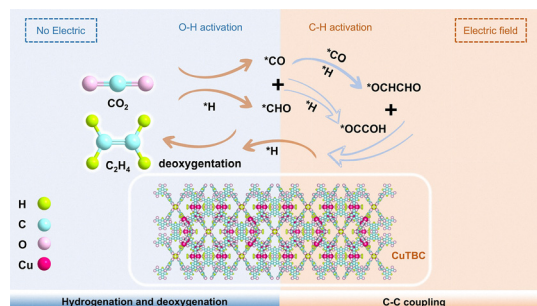
Zhenxu Li, Xinhua Zhao, Yi Zhang, Zhu Zhang, Tingting Wang and Dachi Yang\*



24007

## Enhancing C<sub>2</sub> production in CO<sub>2</sub> electroreduction using hierarchical copper–organic links: a molecular engineering approach for advanced metal–organic framework catalysts

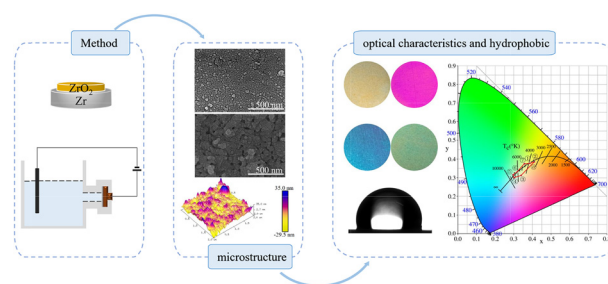
Yaoqi Wei, Ziwei Lu, Yucui Wei, Fengyun Zhang, Ying Chen, Wenting Qiu, Zhentian Xu,\* Huanhuan Zhang\* and Xiangfei Liang\*



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## Preparation, color formation mechanisms and hydrophobic properties of anodic zirconia films

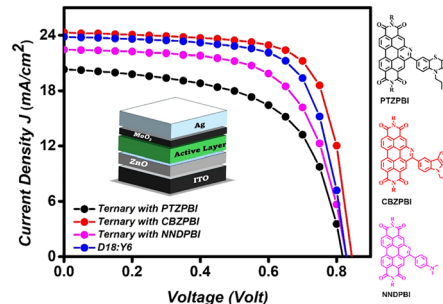
Panzhe Hou, Lingna Jia, Tianen Liu, Guangyu Wen, Junmeng Zhang, Lihu Liu, Peipei Lu\* and Huiyuan Sun\*



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## Donor-functionalized aza-benzannulated peryleneimide-based ternary blend efficient inverted organic solar cells

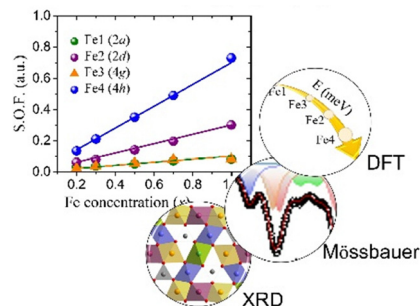
Mohd Wazid, Tarun, Upendra Kumar Pandey\* and Rajneesh Misra\*



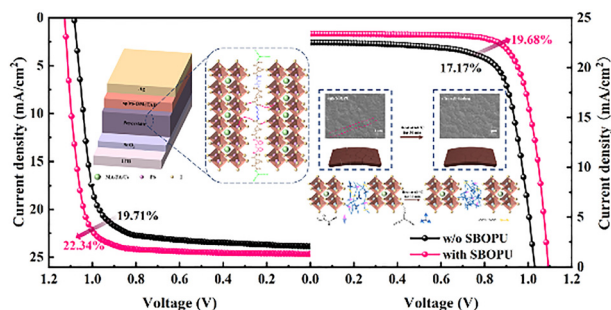
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## Insight into the cation distribution in Co<sub>2</sub>Co<sub>1-x</sub>Fe<sub>x</sub>(BO<sub>3</sub>)O<sub>2</sub> (0.0 < x < 1.0): X-ray diffraction, Mössbauer spectroscopy, and DFT investigations

Yu. S. Gokhfeld, N. V. Kazak, V. S. Zhandun,\* A. D. Vasiliev, Yu. V. Knyazev, D. A. Velikanov, S. Yu. Gavrilkin, O. A. Kondratev, A. O. Belyaeva, L. N. Bezmaternykh and S. G. Ovchinnikov



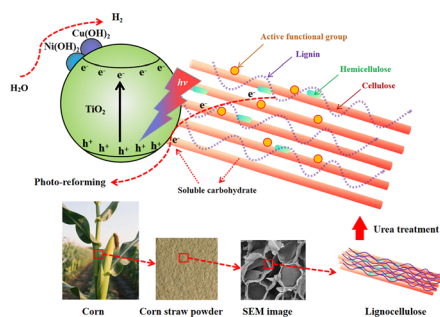
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### Synergistic dynamic bonds in self-repairing elastomers boost efficiency and bendability of flexible perovskite photovoltaics

Xueying Li, Lixin Song,\* Ruizhi Duan, Nan Liu, Xinyi Zheng, Pingfan Du and Jie Xiong

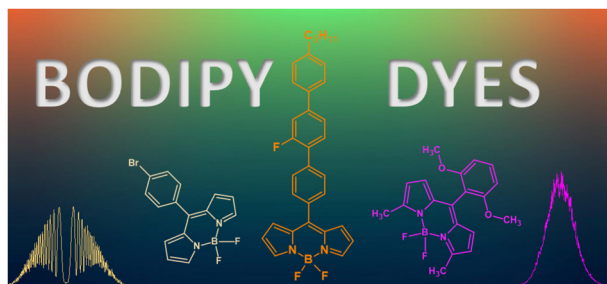
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### A low-cost strategy for photocatalytic hydrogen production by using non-noble metal catalysts and biomass as a sacrificial agent

Dongyao Lin\* and Peijie Wang

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### Versatile BODIPY dyes for advanced optoelectronics: random lasing, harmonics generation, and OLED application

Piotr Leśniak, Paulina Wójcicka, Adam Szukalski,\* Rafał Wysokiński, Bouchta Sahraoui, Dorota Zając, Przemysław Kula, Jarosław Myśliwiec and Alina Szukalska\*

