

Journal of Materials Chemistry C

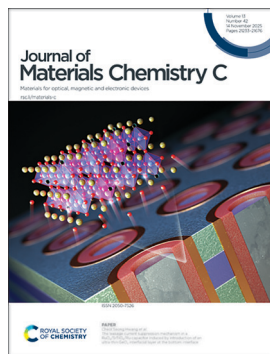
Materials for optical, magnetic and electronic devices

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Cover

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EDITORIAL

21246

Transport in organic and hybrid semiconductors

Yuning Li, Simone Fabiano and Oana D. Jurchescu

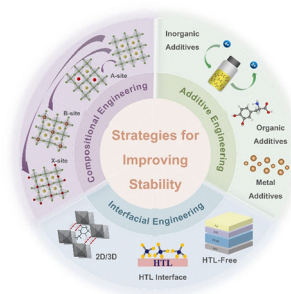


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Recent advances in the stability of Sn–Pb mixed perovskite solar cells

Yue Zhang, Yourui Pi, Jiakang Guo, Hongyi Liu,
Ruming Yang, Shengqiang Ren, Chao Ding, Yang Li,
Cong Chen* and Dewei Zhao



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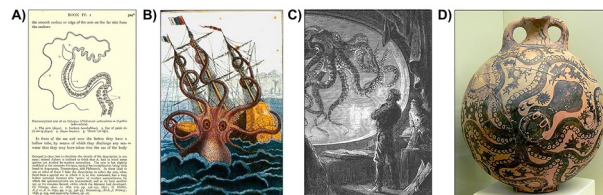
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From nature's masters of camouflage to engineered optics: cephalopod-inspired materials and technologies

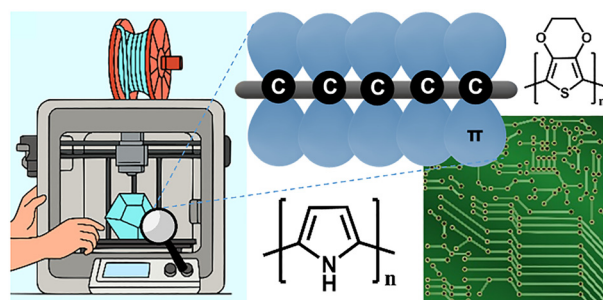
Chengyi Xu



21302

Additive manufacturing of electrically conductive polymers: a comprehensive review

Paulina Wiśniewska,* Angelika Łeppek, Jacek Ryl* and Mohsen Khodadadi Yazdi*

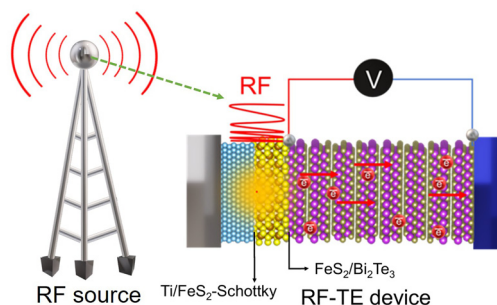


COMMUNICATION

21333

Pyrite–bismuth telluride heterojunction for hybrid electromagnetic-to-thermoelectric energy harvesting

R. Karthik, Yiwen Zheng, Caique Campos de Oliveira, Sreeram Punathil Raman,* Pedro Alves da Silva Autreto,* Aniruddh Vashisth* and Chandra Sekhar Tiwary*

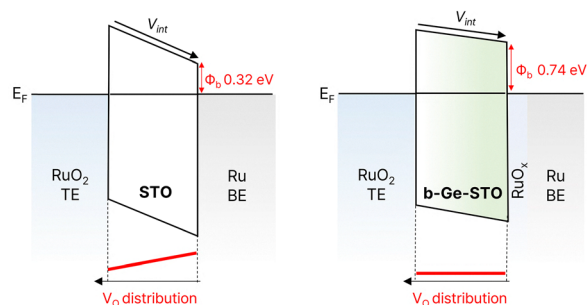


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21347

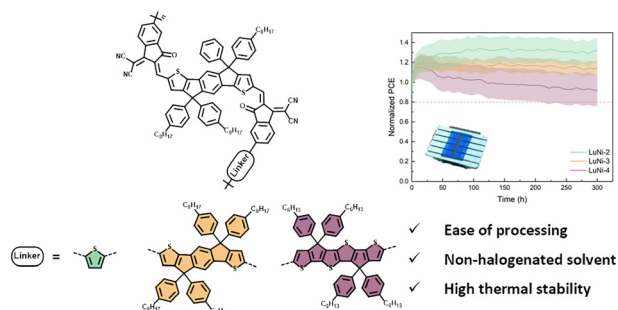
The leakage current suppression mechanism in a RuO₂/SrTiO₃/Ru capacitor induced by introduction of an ultra-thin GeO₂ interfacial layer at the bottom interface

Heewon Paik, Dohyun Kim, Junil Lim, Haengha Seo, Tae Kyun Kim, Jong Hoon Shin, Haewon Song, Hansub Yoon, Dae Seon Kwon, Dong Gun Kim, Jung-Hae Choi and Cheol Seong Hwang*



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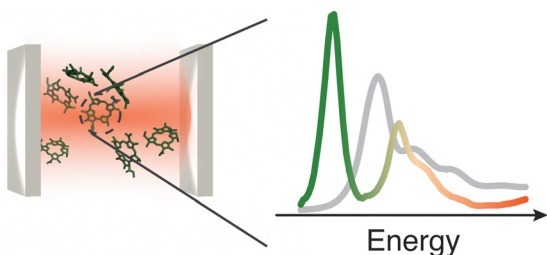
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Synthesis and characterization of NFA-based polymers for solar cells with improved thermal stability

Lucie Rivet, Antoine Curé, Camille Jutard, Samuel Fauvel, Renaud Demadrille, Antonio J. Riquelme and Cyril Aumaître*

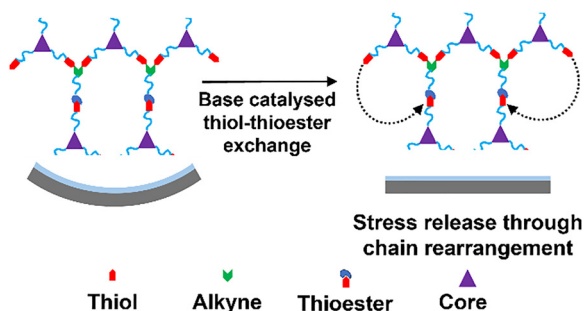
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Modulation of vibronic transitions in chlorophyll a through strong light-matter coupling

Rebecca M. Gracia, Gabriel J. Russo, Seongje Park, Lilia Kinziabulatova and Minjung Son*

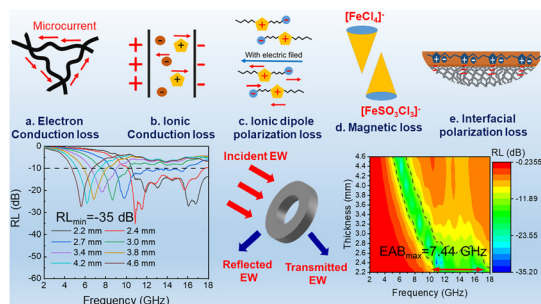
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Rapid stress release through thiol-thioester exchange in phenyl crosslinked polymers

Md Daloar Hossain, Hui Peng, Idriss Blakey, Josua Markus, Pratheep Kumar Annamalai, Charlotte Cutler and Andrew K. Whittaker*

21383



Magnetic iongel/carbon nanotube composites for ultra-broadband electromagnetic wave absorption

Chenjian Li, Shixian Zhang, Feng Zhao, Zhiwei Ye, Yuheng Fu, Chuanxi Xiong,* Xueliang Jiang* and Junlong Yao*

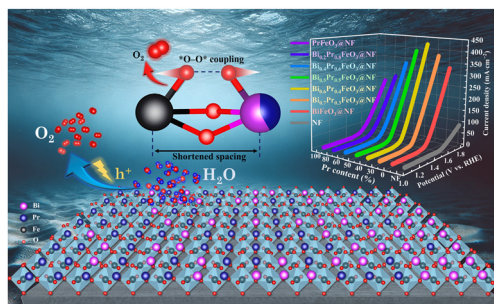


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Pr-induced dual-site oxide pathway in BiFeO₃ for enhanced alkaline water oxidation

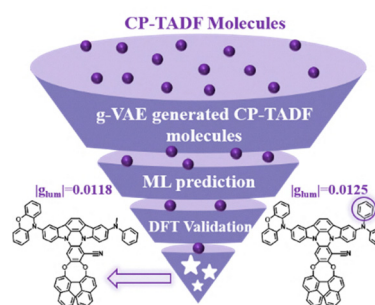
Jun Chen, Yubing Zheng, Zhe Su, Zhijie Yang, Guoli Chen, Wanting Yang, Xiaoxuan Ma,* Yidan Liu, Shoushuang Huang,* Lei Huang, Wei Ren, Shixun Cao and Rongrong Jia*



21408

Integrating machine learning and generative models for the intelligent design of TADF materials with circularly polarized luminescence

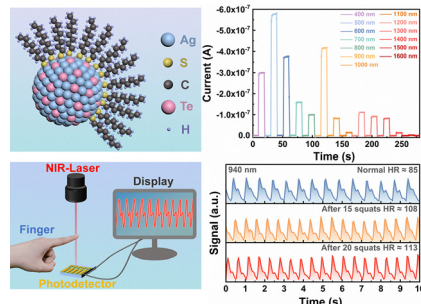
Haochen Shi, Yiming Shi, Pengcheng Jiang,* Bo Qiao, Zhiqin Liang, Suling Zhao and Dandan Song*



21418

Surface ligand engineering of Ag₂Te colloidal quantum dots for a self-powered shortwave infrared photodetector

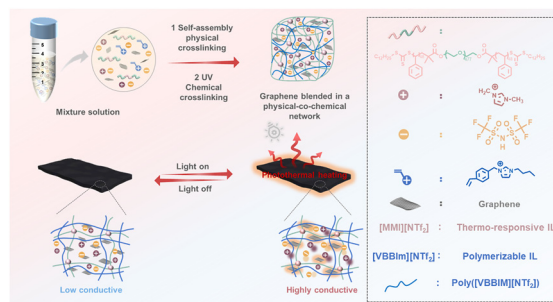
Xing Tang, Yadong Jiang, Zaihua Duan,* Yichen Bu, Wenxin Zeng, Jingwen Yang, Zhen Yuan and Huiling Tai*



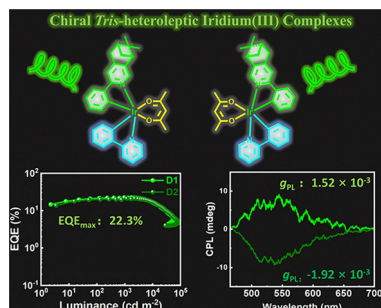
21428

A fast-response ionogel with switchable conductivity triggered by the photothermal effect

Jia Li, Xinru Zhang, Lei Sun, Qiyu Wu, Shoujie Shen,* Chuao Ma, Chan Liu, Guanwei Huang* and Hongliang Liu*



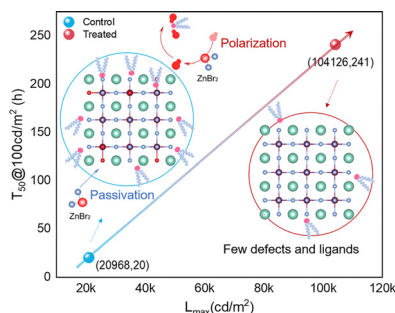
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Circularly polarized organic light-emitting diodes with chiral asymmetric $[\text{Ir}(\text{C}_1\text{N}_1)(\text{C}_2\text{N}_2)(\text{L}^X)]$ -tris-heteroleptic iridium(III) complexes

Ping Chen, Qingwu Wu, Faxun Wang, Ming-Yu Teng,* Sheng Yu, Yang Li, Dan Peng, Huabo Han,* You-Xuan Zheng* and Guangzhao Lu*

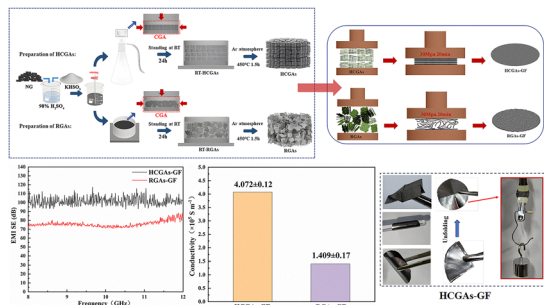
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A polarization-passivation synergistic antisolvent strategy for high-brightness CsPbBr_3 QLEDs exceeding $100\,000\text{ cd m}^{-2}$

Haoqi Li, Wenjun Yuan, Kun Zhang, Yifei Wang, Xinrui Chen, Yuqin Su, Xingle Shang, Hengyang Xiang* and Haibo Zeng*

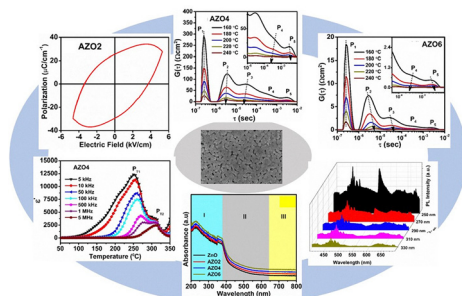
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Scalable and low-cost fabrication of highly oriented ultra-thin GA pressed films for 100% EMI shielding protection

Weinan Gao, Hongxu Ding, Pengfei Ma, Yi Wang, Pengtao Yan* and Ruijun Zhang*

21460



Excitation-dependent photoluminescence, conduction mechanisms *via* impedance spectroscopy, and DRT investigations in Al-doped ZnO ceramics

P. Elorika, Sambit Kumar Barik, Bibekananda Nayak, Sharmistha Anwar* and Shahid Anwar*

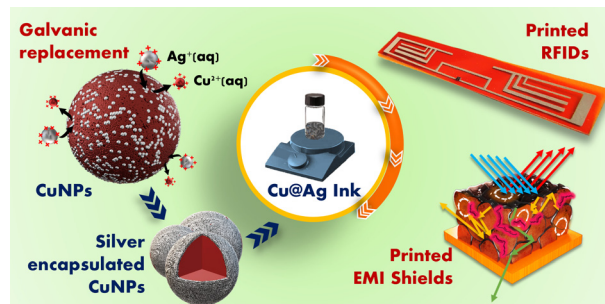


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An ambient air sinterable Cu@Ag nanoparticle ink with exceptional oxidation resistance and stability for EMI shielding and printed RFID applications

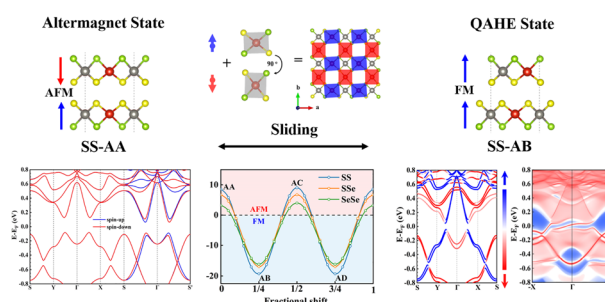
Sumith Sudhakar, K. N. Arya, Adarsh Sivan Pillai, Sabitha Ann Jose, Achu Chandran* and Surendran Kuzhichalil Peethambharan*



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The switchable quantum anomalous Hall effect and altermagnetism in Janus monolayer and bilayer V₂WS₂Se₂

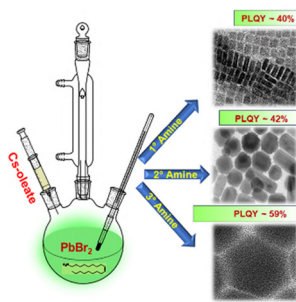
Yonteng Wei, Xuhong Li, Hao Wang, Yunxiao Wang, Tengfei Cao and Xiaoli Fan*



21509

An amine-mediated synthesis strategy for shape-controlled cesium lead halide perovskite nanoplatelets

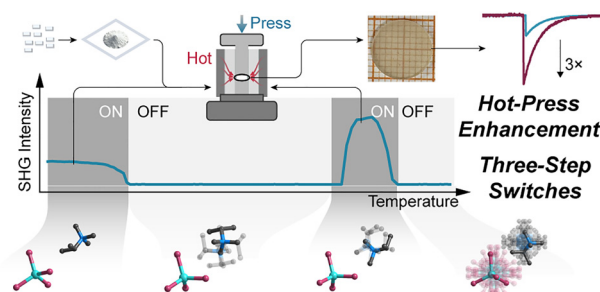
Riddhi Mitra, Shramana Guha, Sharmishtha De Dalui and Somobrata Acharya*



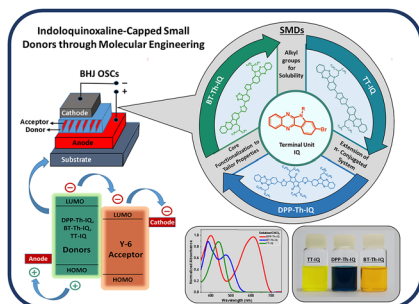
21517

Thermo-mechanical control of second harmonic generation in a ferroelectric plastic crystal

Le Ye, Ming-Yu Guo, Zi-Luo Fang, Wei-Jian Xu* and Wei-Xiong Zhang*



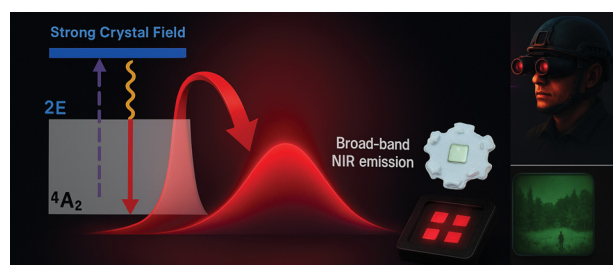
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Molecular engineering, synthesis, and atomistic structure–property relationship of indoloquinoline-capped small donors for efficient organic solar cells

Maryam Javed, Waqas Akram, Zeeshan Ali, Nabeel Shahzad, Munazza Shahid,* Ghayoor Abbas Chotana, Jafar Iqbal Khan, Jie Min, Muhammad Altaf, Christian B. Nielsen* and Raja Shahid Ashraf*

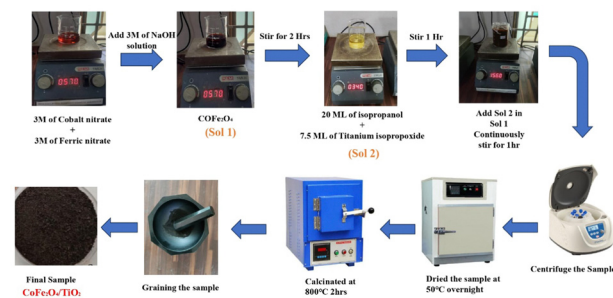
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Cr³⁺–Cr³⁺ pairing and multi-site engineering in Sr₂ZnAl₂₂O₃₆ phosphors for broadband near-infrared emissions

Jatin Dhanuka, Monalisha Behera, Sudipta Som,* Somrita Dutta, Shivaramu Nagarasanakote Jayaramu, Robin E. Kroon and H. C. Swart*

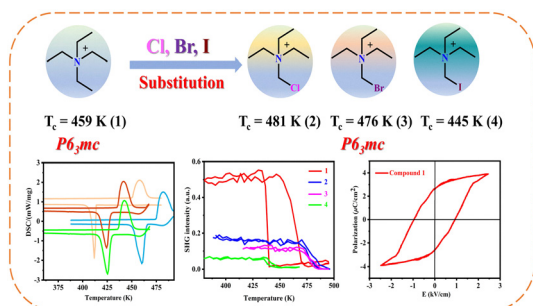
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Exploring CoFe₂O₄/TiO₂ NCs for high-efficiency UV-driven organic dye degradation

K. M. Gopalakrishnan, R. Ragul, K. Vallarasu, R. Anitha and V. Vijayalakshmi*

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Halogen-substituted quasi-spherical tetraethylammonium cations induce reversible molecular ferroelectricity in indium-based hybrid materials

Yiyi Zeng, Xiao Sun, Mengxiang Luo, Mingjun Zou, Zhenhong Wei* and Hu Cai*

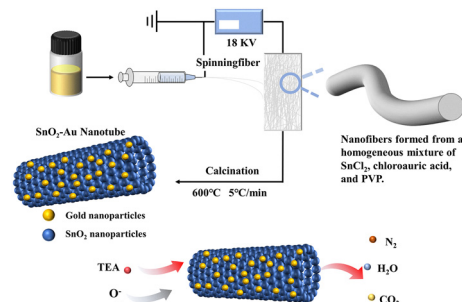


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High-performance triethylamine gas sensors based on SnO₂–Au nanotubes fabricated via an electro-spinning method

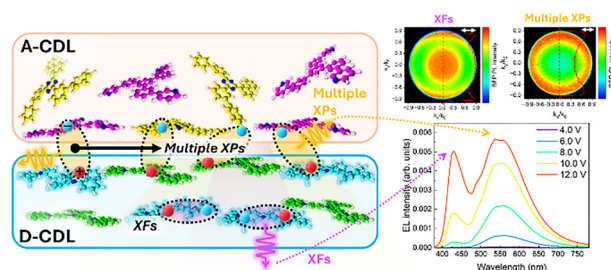
Yuyang He, Haoxiang Wang, Ruoyu Wang, Mengqi Lu and Dongpo Xu*



21595

Modulation of hybrid emissions from multiple exciplexes and Frenkel excitons: dipole characteristics toward facile fabrication of cool white OLEDs

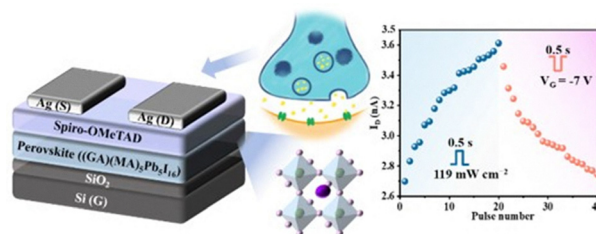
Sang Wook Song, Sang-hun Lee, Kwang Seop Shin, Dayeong Kwon, Jeongyong Kim, Dong Hoon Choi and Jinsoo Joo*



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Promising guanidinium layered perovskite photoelectric synaptic transistors for neuromorphic computing and image recognition

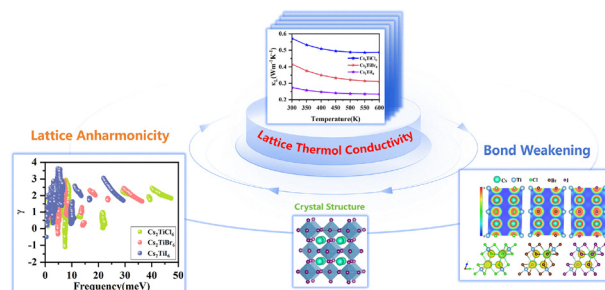
Jie Meng, Wenwen Wang, Jiangdong Zhang, Yinchun Liang, Li Tian and Jinjin Zhao*



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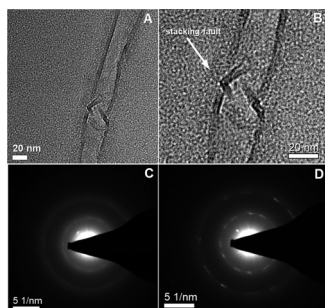
Glassy ultralow thermal conductivity in Cs₂TiX₆ (X = Cl, Br, I) arises from bond weakening

Jiang-Jiang Ma, Li-Fang Hu, Rong-Rong Ma,* Lu-Yao Wu, Mei Ge, Ke-Xun Li and Jun-Feng Zhang



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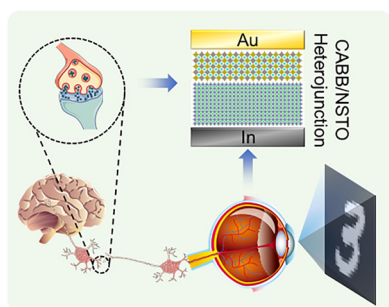
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Memristive hysteresis and stacking-fault-induced semiconductor to metal transition in sulfur-modified multiwall carbon nanotubes

Yan Liu, Shanling Wang, Jian Guo, Hansong Wu, Li Lei, Joanna Borowiec, Omololu Odunmbaku, Xilong Guo and Filippo S. Boi*

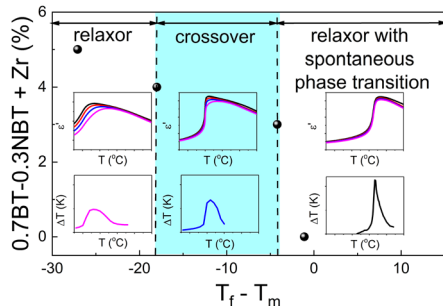
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A halide perovskite/Nb:SrTiO₃ heterojunction-based interfacial-type memristor

Kaijin Kang, Jiongyue Hao, Wen Niu, Siming Tian, Binglin Liu, Caili Dong, Chuanfu Yang, Xuefeng Chen, Xiaosheng Tang, Rui Yang, Weiming Cheng, Xiangshui Miao, Yong He* and Wei Hu*

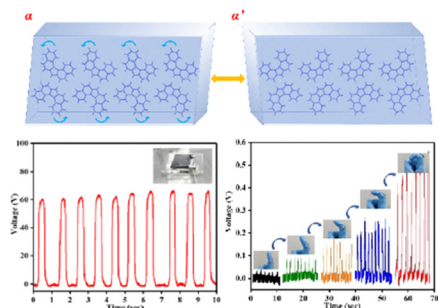
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Ferroelectric to relaxor crossover in Zr-doped BaTiO₃-based ceramics and its consequences for the electrocaloric effect

Oğuz Akkaşoğlu, Merve Karakaya, Nikola Novak, Lovro Fulanović and Umut Adem*

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Organic piezosensitive charge-transfer complexes with crystal-to-crystal phase transition for flexible energy harvesting

Yongyi Zhang, Peng Sheng, Shuang Ma, Tao Jin, Guan Wang, Jing Zhang, Jinqiu Chen, Wenkai Zhao, Jing Zhang,* Yannan Xie* and Guankui Long*



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Dual-mode G–aSi–ITO transparent photodetectors enabled by optical switching of defect states

Minho Choi, Jiyoun Jeong and Jaewu Choi*

