

Journal of Materials Chemistry C

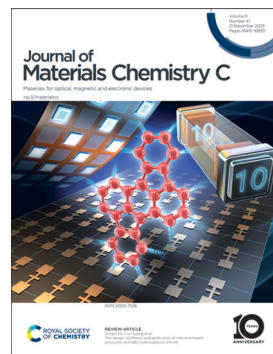
Materials for optical, magnetic and electronic devices

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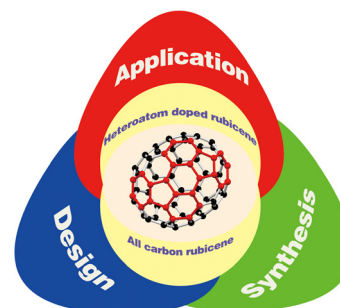
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REVIEWS

16429

The design, synthesis and application of rubicene based polycyclic aromatic hydrocarbons (PAHs)

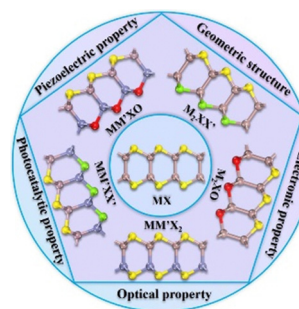
Liangzhuo Ma, Yinghui Han, Qinqin Shi* and Hui Huang*



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Recent progress in group-III metal chalcogenide based Janus materials: from properties to potential applications

Zengying Ma, Tao Zhou, Wensong Duan* and Yucheng Huang*



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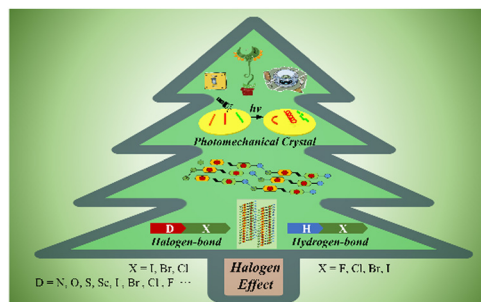


REVIEWS

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Halogen effect in photomechanical molecular crystals

Jiangbin Zhong, Jingbo Sun, Kaiqi Ye and Ran Lu*

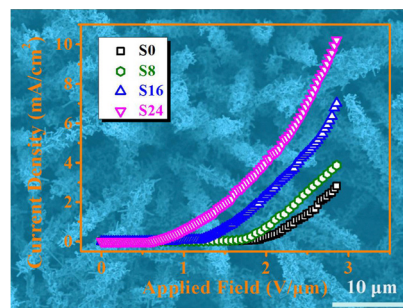


COMMUNICATION

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Three-dimensional branched SiC nanowire field emitters with single-crystal integrated structures and increased emission sites: ultralow turn-on field and high stability

Jianhong Liu, Yang Yang, Kai Song, Weijun Li, Hulin Wang, Nadiya Vityuk, Nataliia Klymenko, Tetyana V. Krupskaya, Vladimir V. Turov, Xinsheng Zhao, Weiyou Yang, Shanliang Chen* and Xiaoxiao Li*

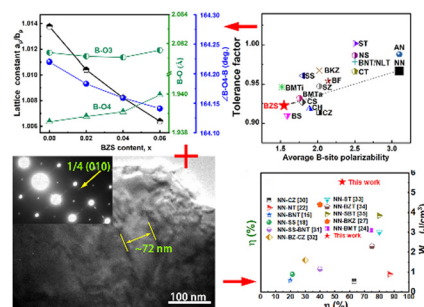


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Ultrahigh phase-transition electric field and giant energy density in $\text{NaNbO}_3\text{--Bi}(\text{Zn}_{0.5}\text{Sn}_{0.5})\text{O}_3$ lead-free antiferroelectric ceramics

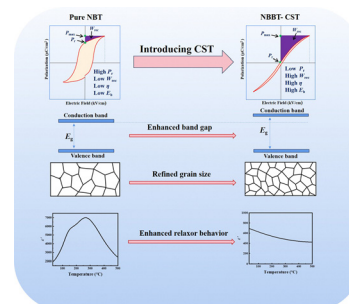
Yuanjie Xu, Aiwen Xie,* Xuwen Jiang,* Jun Wang, Ruijian Shi, Tianyu Li, Xinchun Xie and Ruzhong Zuo*



16491

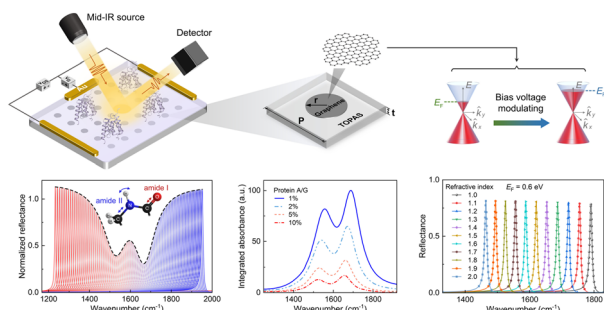
Superior energy storage performance and ultrafast discharge of NBBT-based ceramics *via* introducing linear dielectric additives and rare earth oxides

Pengzhen Li, Haibo Yang,* Ashani Nisansala Kodagoda, Qibin Yuan and Ying Lin*



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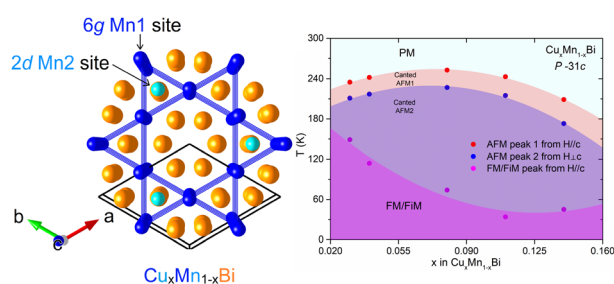
16501



A mid-IR tunable graphene metasurface for ultrasensitive molecular fingerprint retrieval and refractive index sensing

Yuhang Wei, Liming Si,* Lin Dong, Qitao Shen, Tianyu Ma, Houjun Sun and Xiue Bao

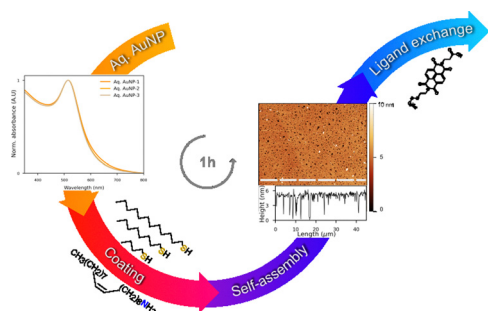
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Magnetic order in a quenched-high-temperature-phase of Cu-doped MnBi

Gina Angelo, Jeremy G. Philbrick, Jian Zhang, Tai Kong and Xin Gui*

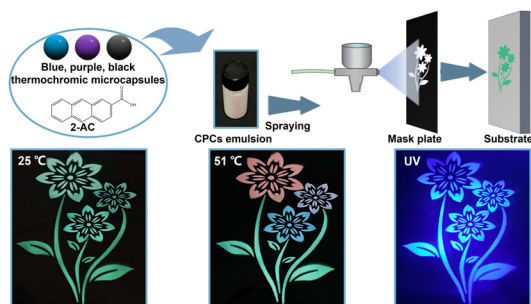
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One hour road to high-quality arrays of gold nanoparticles coated with organic ligands

Thibault Degousée,* William G. Neal, Zach Edwards, Saumya Singh, Jotham Selvarajah, Teymour Talha-Dean, Matteo Palma, Bob C. Schroeder and Jan A. Mol*

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Biomimetic intelligent photonic crystal composite films with tri-mode optical states for advanced anti-counterfeiting and information encryption

Zhumin Yu, Kai Zhao,* Yanbo Zhao, Mengyue Wu, Bin Cheng, Rong Qian, Shuoran Chen and Changqing Ye*

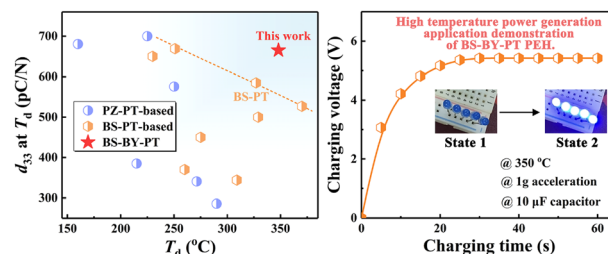


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Large piezoelectricity and high depolarization temperature in BiScO₃–BiYbO₃–PbTiO₃ ceramics for energy harvesting at elevated temperatures

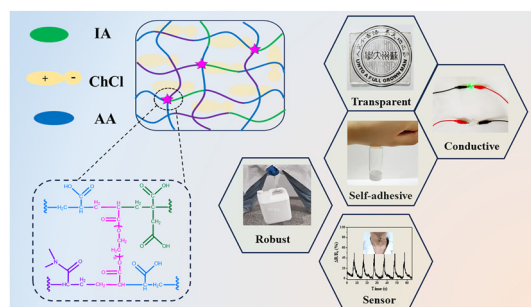
Haiyan Zhao,* Xiaole Yu,* Qiangqiang Guo, Huijing Yang, Fanlin Li, Suyang Zhang and Xiaoyuan Wu



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Itaconic acid-enhanced robust ionic conductive elastomers for strain/pressure sensors

Wenjuan Xia, Yijia Yu, Chuanjiang Zhou, Wenjin Wang, Zhaoqiang Wu* and Hong Chen

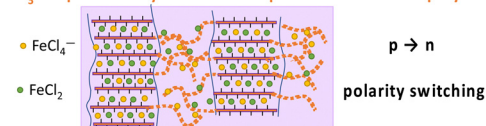


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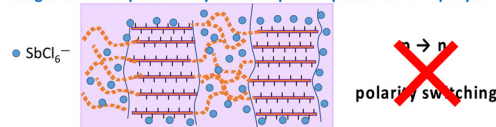
Impact of the dopant location in the semi-crystalline structure of alternated donor–acceptor copolymers on the polarity switching p → n mechanism

Bharath Dyaga, Antoine Lemaire, Shubhradip Guchait, Huiyan Zeng, Bruno Schmaltz* and Martin Brinkmann*

FeCl₃: Dopants in crystalline+amorphous zones of D-A polymer



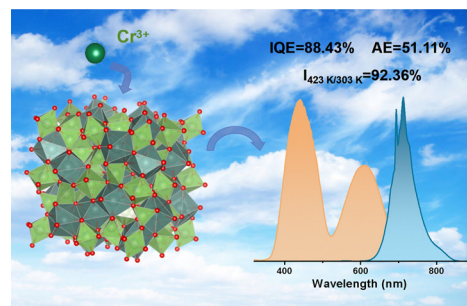
Magic blue: Dopants only in amorphous phase of D-A polymer



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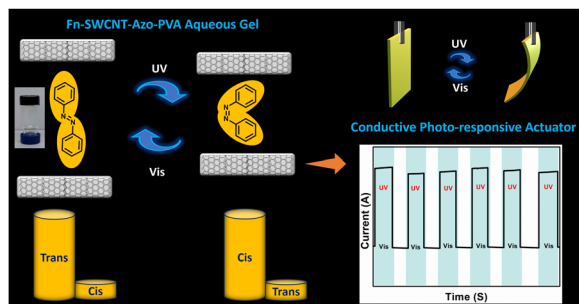
A highly thermally stable Y₃AlGa₄O₁₂:Cr³⁺ phosphor for near-infrared pc-LEDs

Zhihang Yue, Dashuai Sun,* Zeyu Lyu, Sida Shen, Chengliang Lyu, Pengcheng Luo and Hongpeng You*



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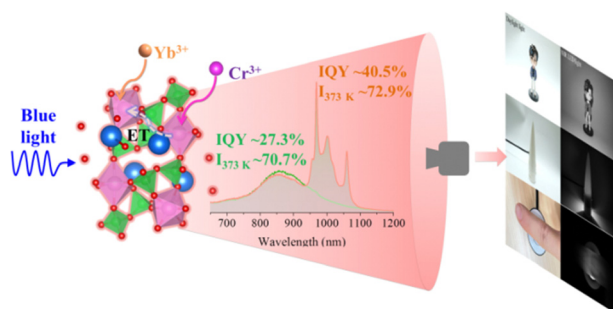
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A functionalized CNT-azobenzene-PVA-based self-healing aqueous gel as a conductive photo-responsive actuator

Aswini Narayanan, T. M. Bhagyasree, Arun Torris and Sukumaran Santhosh Babu*

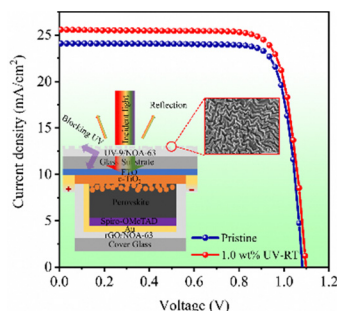
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Composition-structure-luminescence and enhancement of Cr³⁺ activated broadband near infrared phosphors for night vision, bio-imaging, and noninvasive detection

Gui-Hua Li, Jun-Ben Huang, Qi-Hua Yang, Jin Wang, Ge-Mei Cai* and Xiao-Jun Wang*

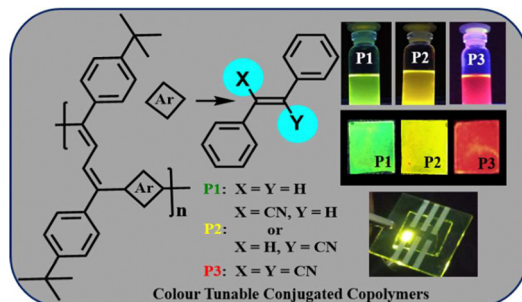
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An effective encapsulation method for highly stable perovskite solar cells by introducing a UV absorber with biomimetic textures and heat sinker with a reduced graphene oxide composite layer

Fuqiang Li, Chaoqun Ma, Xiaofeng Huang, Yoomi Ahn, Danbi Kim, Eunhye Yang, Junpeng Xue, Bo Ram Lee, Junghwan Kim, Yongchao Ma and Sung Heum Park*

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Effect of the cyano group on colour-tunability of aryl-substituted buta-1,3-diene based solid-state emissive copolymers

Prasanta Pal, Ayan Datta, Susmita Mukherjee, Ajay Perumal* and Sudip Malik*

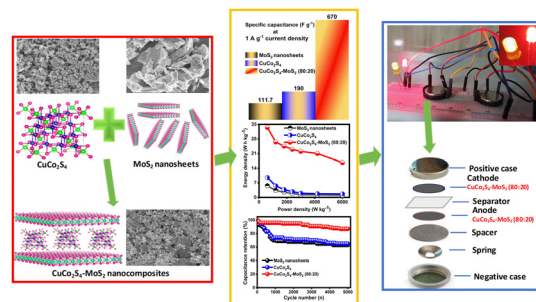


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MoS₂ mediated tuning of CuCo₂S₄–MoS₂ nanocomposites for high-performance symmetric hybrid supercapacitors

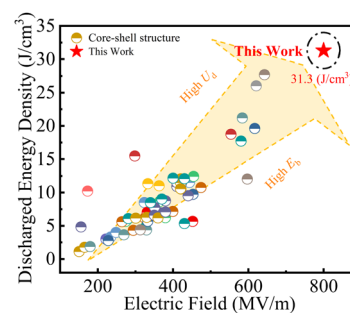
Mohasin Tarek and M. A. Basith*



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Superior capacitive performance achieved in wide HOMO–LUMO gap cyanoethyl cellulose nanocomposites via forming a built-in electric field

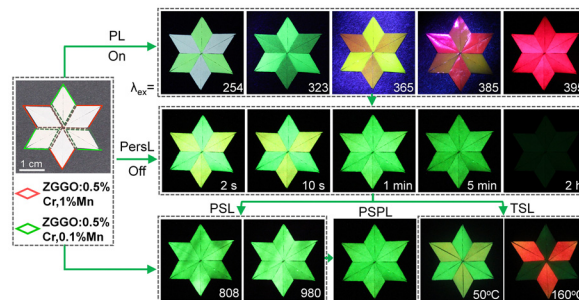
Zhicheng Li, Yu Zhang, Zhongbin Pan,* Xu Fan, Hao Wang, Peng Li, Haiming Huang,* Weiliang Wang, Jinjun Liu and Jiwei Zhai*



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Colour evolution of dynamic persistent luminescence of Zn₃Ga₂Ge₂O₁₀:Cr³⁺,Mn²⁺ phosphors for advanced anti-counterfeiting

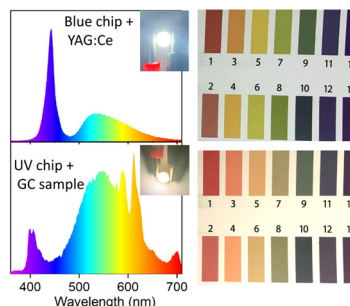
Xiangyu Zhang,* Xiaochun Hou, Jie Gao, Zhigang Wang, Xiaogang Zhao, Chunlong Xu* and Dangli Gao*



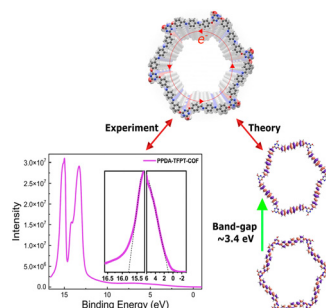
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Eu²⁺/Eu³⁺-doped oxyfluoride glass-ceramics for modular warm white emission

Jiayuan Chen, Yuan Gao,* Junhao Li, Zhengxu He, Dacheng Zhou and Jianbei Qiu*



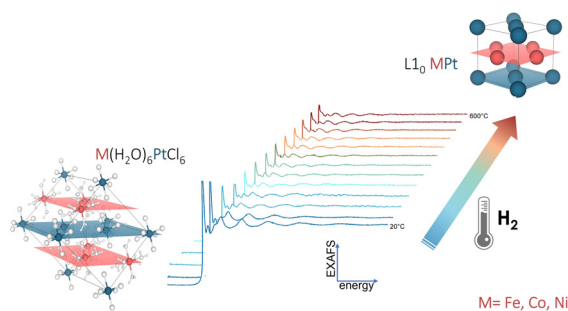
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Unveiling the electronic properties of metal-free and undoped covalent organic framework as a semiconductor

Kushagra Yadav, Praveen K. Budakoti and S. R. Dhakate*

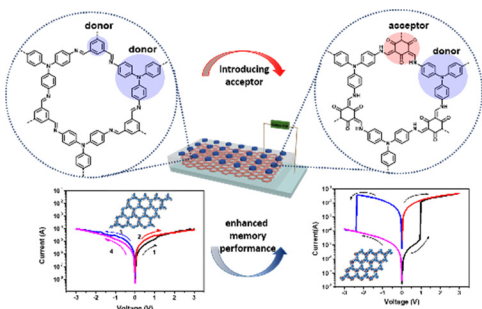
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Synthesis of highly ordered L1₀ MPt alloys (M = Fe, Co, Ni) from crystalline salts: an *in situ* study of the pre-ordered precursor reduction strategy

S. Laureti,* F. D'Acapito, P. Imperatori, E. Patrizi, G. Varvaro, A. Puri, C. Cannas and A. Capobianchi*

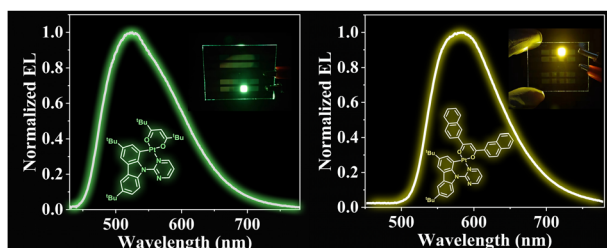
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Improved resistive switching performance through donor-acceptor structure construction in memristors based on covalent organic framework films

Dongchuang Wu, Qiongshan Zhang, Ning Gu, Yang Cao, Youyi Sun,* Bin Zhang* and Yu Chen*

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Phosphorescent Pt(II) acetylacetonate complexes bearing 9-(pyrimidin-2-yl)-9H-carbazole ligand: syntheses, photophysical properties and OLED applications

Haibo Yao, Lequn Yuan, Ling Pei, Yunjun Shen, Yuzhen Zhang,* Liang Zhou* and Hedong Bian*

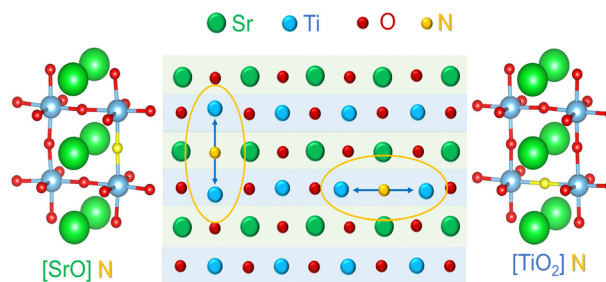


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Dielectric behaviour of nitrogen doped perovskite $\text{SrTiO}_{3-\delta}\text{N}_\delta$ films

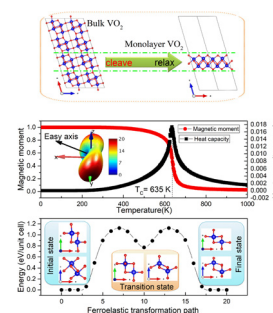
M. Tyunina,* L. L. Rusevich,* M. Savinov, E. A. Kotomin and A. Dejneka



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Predicted novel two-dimensional ferromagnetic VO_2 with high Curie temperature and ferroelasticity

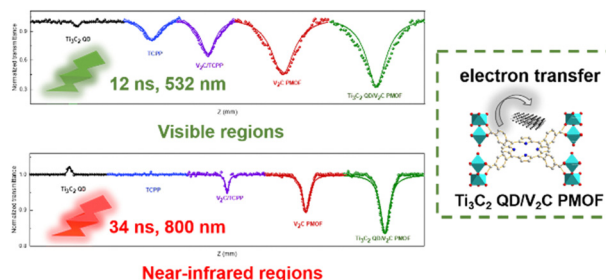
Wen-Zhi Xiao* and Ying-Xue Feng



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0D MXene quantum dots/2D MXene derived metal–organic frameworks for enhanced nonlinear optical absorption across spectral and temporal regimes

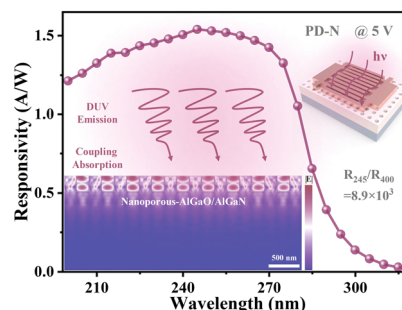
Naying Shan, Zhiyuan Wei, Zihao Guan, Yang Zhao, Fang Liu, Lulu Fu, Yanyan Xue, Zhipeng Huang, Mark G. Humphrey, Jun Xu and Chi Zhang*



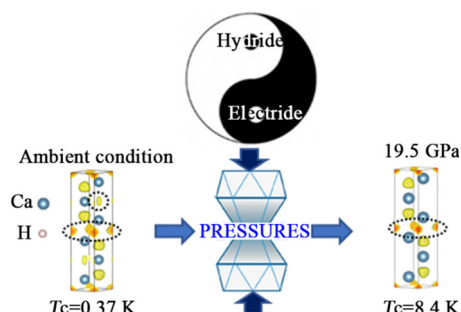
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High-performance shortwave deep-UV response-enhanced photodetector based on nanoporous AlGaO/AlGaN with efficient light-harvesting

Zhihua Zheng, Yongming Zhao, Pengcheng Jian, Shizhou Tan, Feng Wu,* Weijie Liu, Yiming Yang, Munho Kim, Jiangnan Dai* and Changqing Chen



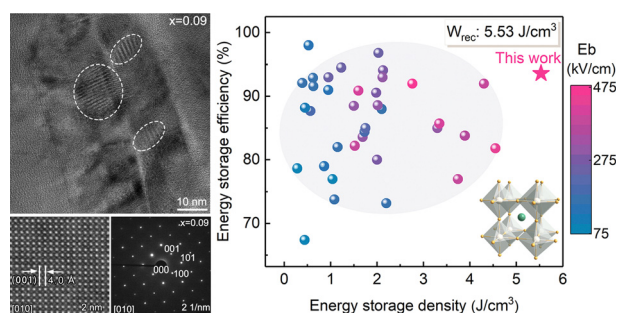
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Superconductivity in Ca_3H_2 electride at moderate pressure

Ziqiang Chen, Teng Xie, Peng-Fei Liu, Rui Xiong, Zhou Cui, Zihao Xu, Cuilian Wen,* Bao-Tian Wang* and Baisheng Sa*

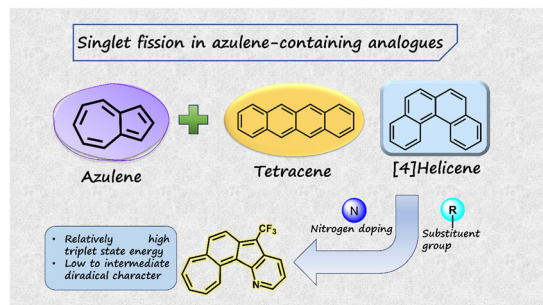
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Significantly enhanced energy storage density in lead-free barium strontium titanate-based ceramics through a cooperative optimization strategy

Jia-Jia Ren, Di-Ming Xu,* Da Li, Wei-Chen Zhao, Meng-Kang Xu, Zhong-Qi Shi, Tao Zhou, Hui-Xing Lin and Di Zhou*

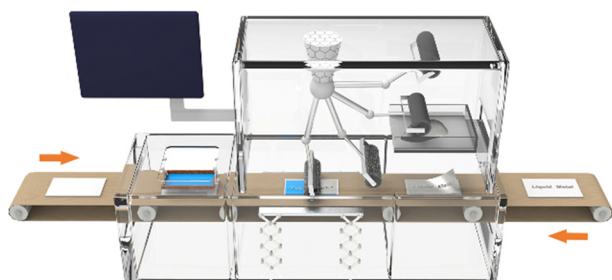
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Potential singlet fission chromophores of azulene-containing tetracene analogues: a theoretical study

Tianyu Li, Li Shen,* Xianyu Wang, Xiaonan Fan, Boce Cui, Yanli Chen, Bingchuan Yang,* Heyuan Liu* and Xiyou Li*

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Industrially-friendly rapid printing of stretchable liquid metal circuits for patch-mode wearable healthcare devices

Yanling Jia* and Ke Zhang*

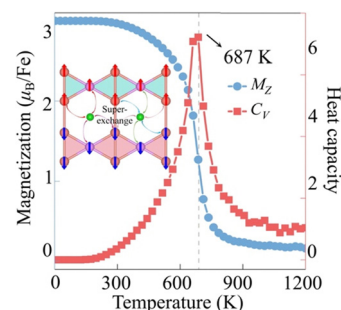


PAPERS

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Antiferromagnetic Fe₃As nanostructure with a unique planar Fe arrangement

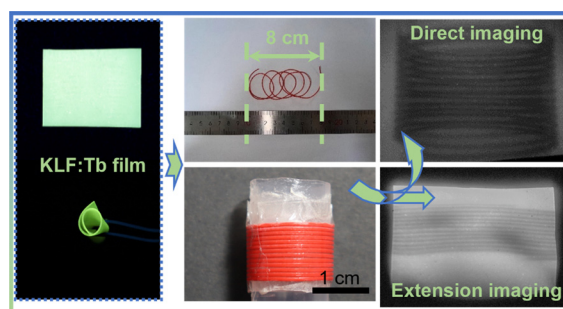
Xu Yan, Fanjunjie Han, Yong Liu* and Guochun Yang*



16772

Colloidal KLu₃F₁₀:Tb³⁺ persistent luminescence nanocrystal based flexible detectors for 3D X-ray imaging

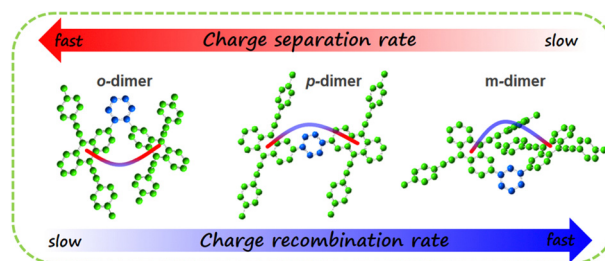
Fei Xie, Dongxun Chen, Yi Zhang, Xulong Lv, Xin Chen,* Kangning Sun and Yanjie Liang*



16782

Symmetry-breaking charge separation in weakly coupled anthracene dimers

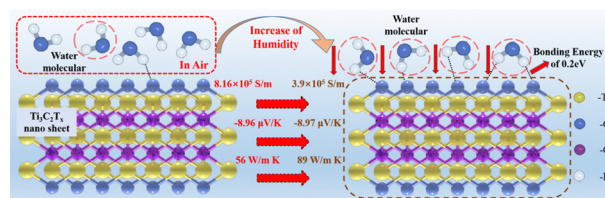
Liping Lv, Heyuan Liu,* Tianyu Li, Boce Cui, Tianying Wang, Xiaojuan Song, Wenmiao Chen, Yanli Chen and Xiyu Li*



16792

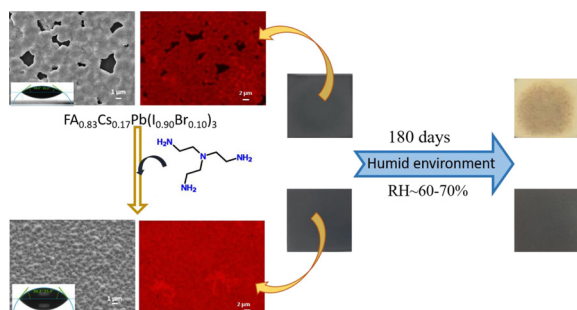
Electrical, thermal and thermoelectric properties of Ti₃C₂T_x films: uncovering the significant role of water molecules

Haonan Zhang, Haoze Jiang, Yeti Li, Wuning Wei, Fengming Wu, Mingshun Qi, Yongpeng Wu, Jianhao Li and Chenghao Deng*



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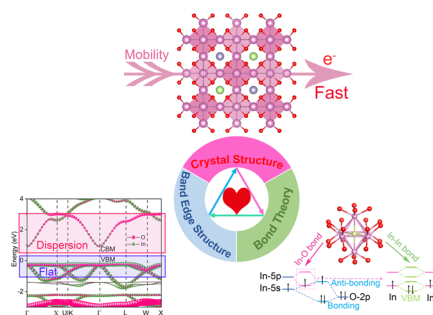
16806



Understanding the role of Tris(2-aminoethyl)amine in stabilizing mixed-cation perovskites under humid and thermal stress conditions

Priyanka Chhillar, Amit Kumar, Bhanu Pratap Dhamaniya, Kartiki Chandratre, Saurabh Pareek, Sandeep Kumar Pathak and Supravat Karak*

16818



New pentlandite-like oxide semiconductors IrIn₆XYO₈ (X = Ga, In; Y = Ge, Sn, Ti) as potential candidates for photocatalytic water splitting under visible-light irradiation

Xiaohui Yang, Dan Liu, Shiyu Lu, Siyu Xiang, Han Zhang, Qian Yang, Yongjiang Di, Yilong Ma and Rong Wang*

CORRECTION

16828

Correction: Investigation of factors affecting the stability of compounds formed by isovalent substitution in layered oxychalcogenides, leading to identification of Ba₃Sc₂O₅Cu₂Se₂, Ba₃Y₂O₅Cu₂Se₂, Ba₃Sc₂O₅Ag₂Se₂ and Ba₃In₂O₅Ag₂Se₂

Gregory J. Limburn, Daniel W. Davies, Neil Langridge, Zahida Malik, Benjamin A. D. Williamson, David O. Scanlon and Geoffrey Hyett*

