

Journal of Materials Chemistry C

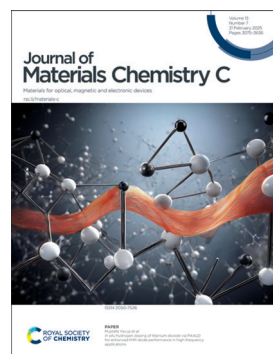
Materials for optical, magnetic and electronic devices

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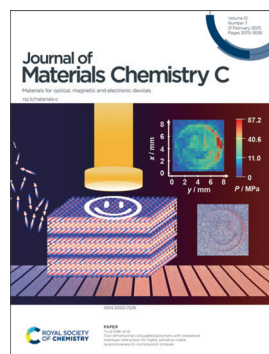
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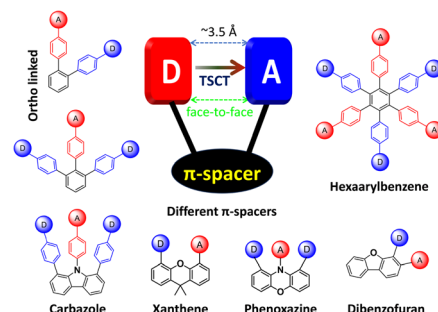
See Yuya Oaki *et al.*, pp. 3209–3214. Image reproduced by permission of Yuya Oaki from *J. Mater. Chem. C*, 2025, 13, 3209.

REVIEWS

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Recent breakthroughs in through-space charge transfer in π -stacked molecules as thermally activated delayed fluorescent emitters for OLED applications

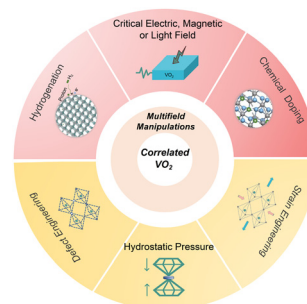
Kummara Madhusudana Rao, Rajavaram Ramaraghavulu, Deepti Kolli, S. Harinath Babu, S. V. Prabhakar Vattikuti* and Mallesham Godumala*



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Recent advances in multi-field manipulations of the metal–insulator transition in correlated vanadium oxides enabling interdisciplinary applications

Xuanchi Zhou



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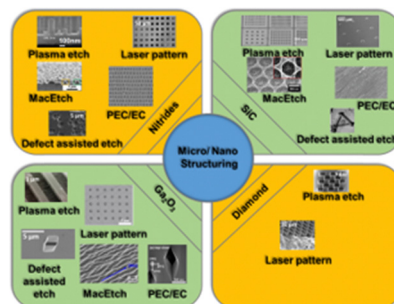
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Top-down micro and nano structuring of wide bandgap semiconductors for ultraviolet photodetection

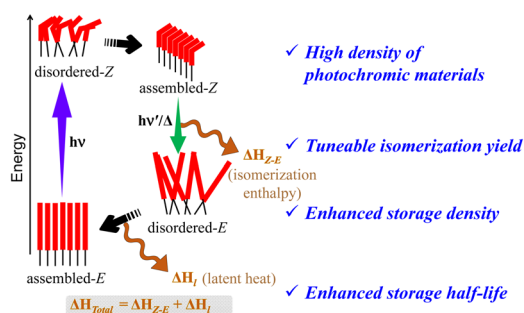
Ramit Kumar Mondal, You Jin Kim, Yikai Liao, Zhihua Zheng, Jiangnan Dai and Munho Kim*



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Tuning molecular assembly to enhance azobenzene-based solar thermal fuel efficiency

Saugata Sahu* and Santosh Kumar Behera*

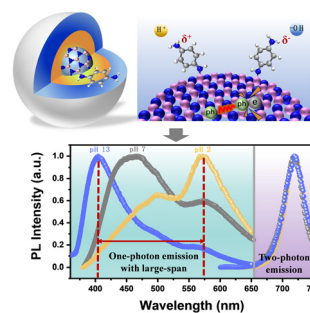


COMMUNICATION

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Wide-bandgap quantum dots with large-span fluorescence switching and two-photon emission via protonation/deprotonation

Yamei Ding, Mingyu Xie, Ping He, Ziqi Zhao, Huiwen Lin and Li Tao*

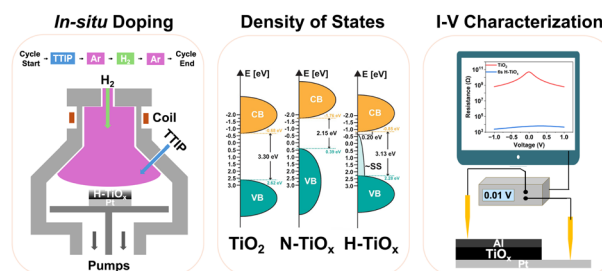


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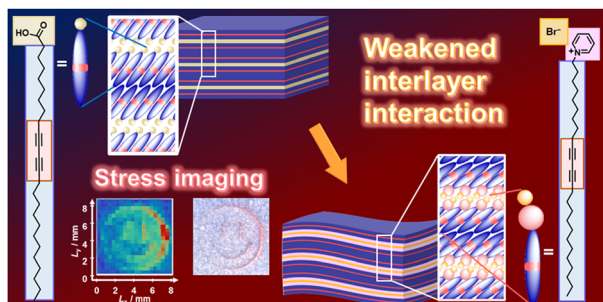
In situ hydrogen doping of titanium dioxide via PAALD for enhanced MIM diode performance in high-frequency applications

Dogu Ozyigit, Bersu Bastug Azer, Ahmet Gulsaran, George Shaker, Michal Bajcsy, Michael A. Pope and Mustafa Yavuz*



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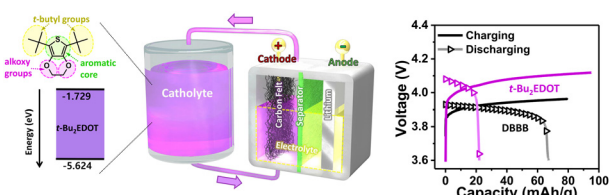
3209



Two-dimensional conjugated polymers with weakened interlayer interaction for highly sensitive visible responsiveness to compression stresses

Yui Takeuchi, Hiroaki Imai and Yuya Oaki*

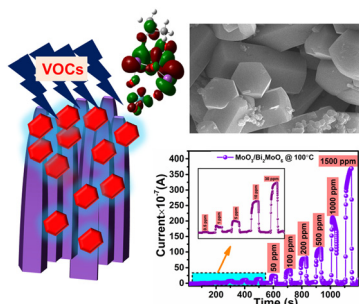
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Improved voltage and solubility in hybrid non-aqueous redox flow batteries using a molecular 3,4-ethylenedioxythiophene (EDOT) derivative with a stable radical cation state

Hee Kyung Hwang, Yejoo Park, Jisang Yeom, Yohan Ahn, Yeasin Khan, Jeewoo Lim, Clément Cabanetos, Jung Hwa Seo,* Je Seung Lee* and Bright Walker*

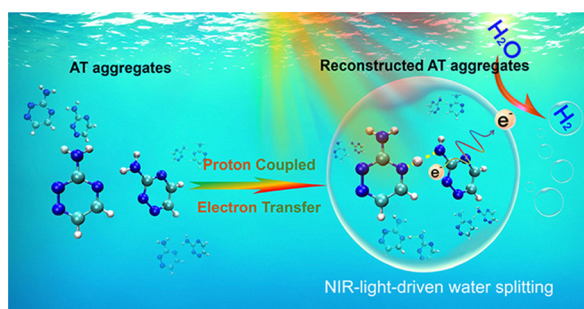
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Heterostructured binary/ternary $\text{MoO}_3/\text{Bi}_2\text{MoO}_6$ metal oxide-based acetone sensing devices relevant to non-invasive disease monitoring

Arpit Verma, Deepankar Yadav, Subramanian Natesan, Monu Gupta and Bal Chandra Yadav*

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Intermolecular proton-coupled electron transfer reconstructs aggregates for near-infrared-light-driven hydrogen evolution

Huimin Bai, Jie Wang, Jianghong Zhao,* Hongxia Zhang, Hu Shi* and Pengju Yang*

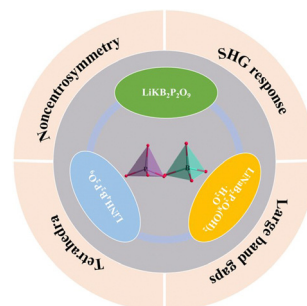


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Deep ultraviolet transparent borophosphates $\text{LiAB}_2\text{P}_2\text{O}_9$ ($\text{A} = \text{NH}_4, \text{K}$) and $\text{LiNaB}_2\text{P}_2\text{O}_8(\text{OH})_2 \cdot \text{H}_2\text{O}$ exhibiting a moderate second-harmonic generation response

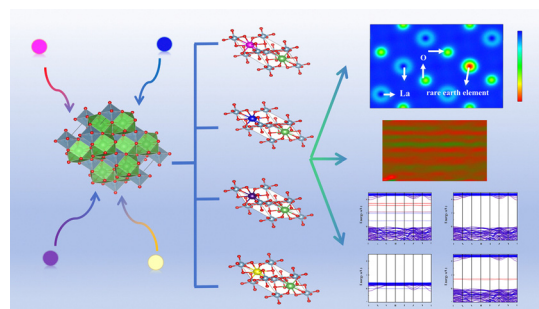
Huanhuan Zhao, Chenxu Li, Juanjuan Lu, Zhihua Yang, Jian Han* and Shilie Pan*



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Modulation of the microstructure and electrical properties of LaAlO_3 ceramics induced by doping with rare earth elements (Eu, Gd, Ho, and Tm)

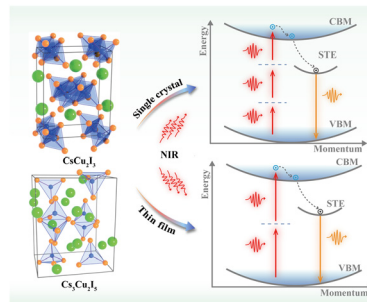
Kai Ding, Wenye Deng, Jinyang Li, Ni Ai, Yan Xue, Xianghui Chen, Pengjun Zhao, Weiwei Meng, Aimin Chang and Yongxin Xie*



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Ultra-high nonlinear absorption coefficients based on multiphoton-excited self-trapped excitons in perovskite-inspired copper halides

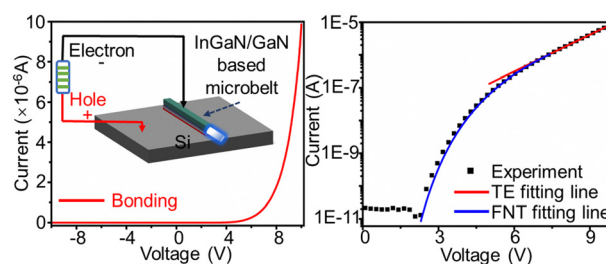
Maolan Peng, Xiaoming Mo,* Liu Tan, Xiaoma Tao, Yifang Ouyang, Yulu Zhou, Yi Liang and Jialong Zhao



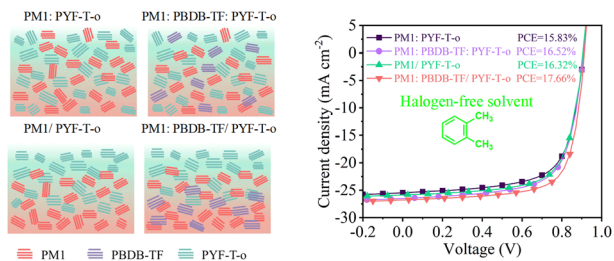
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A silicon-based InGaN/GaN microbelt blue light-emitting-diode fabricated via low-temperature direct bonding

Hui Wang, Peishan Li, Zexin Dong, Yuqing Yang, Huan Chang, Chenguang He, Qiao Wang, Zhitao Chen, Kang Zhang* and Xingfu Wang*



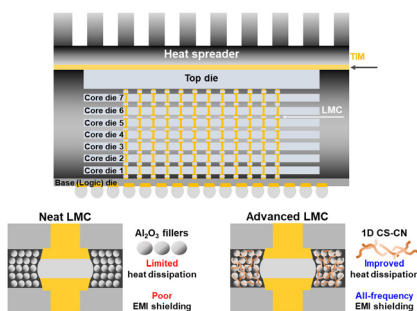
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Non-halogen solvent processed all-polymer organic solar cells with improved vertical phase morphology

Xinrui Li, LuYe Cao, Xiaoyang Du,* Jianchuan Liu, Hui Lin, Caijun Zheng and Silu Tao*

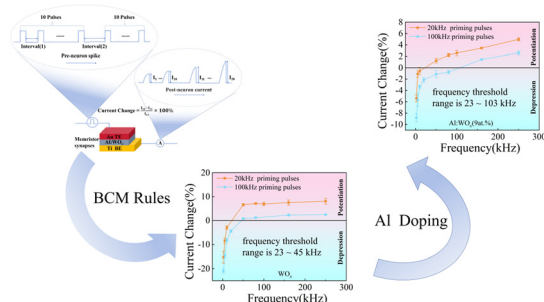
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One-dimensional Cu–Ni core–shell composites as liquid epoxy molding compound fillers for enhanced heat dissipation and electromagnetic interference shielding in high-bandwidth memory

Minkyu Kang, Minjun Bae, Sungho Cho, Yonghwan Kim, Kanghun Kim, Jonghyock Park, Won Young An, Dohyeong Kim, Yujin Chang, Kyurim Kim, Shuqing Piao, Yongyeol Park and Yuanzhe Piao*

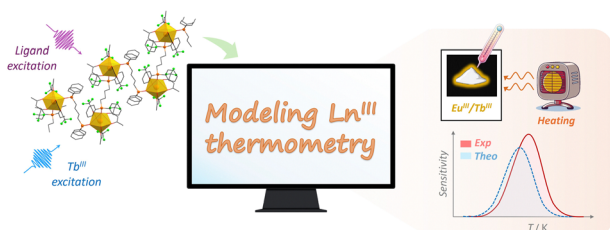
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Enlarging the frequency threshold range of Bienenstock–Cooper–Munro rules in WO_x-based memristive synapses by Al doping

Shimin Hu, Jiayi Liu, Linyan Yao, Hongjia Song,* Xiangli Zhong and Jinbin Wang

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Lanthanide coordination polymers as luminescent thermometers: integrating theoretical modeling with experimental analysis to tune the thermal response

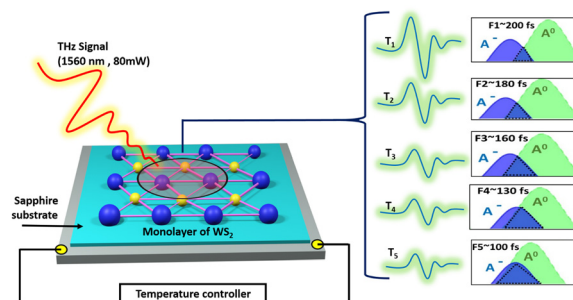
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Temperature-dependent trion-induced tunability of the terahertz signal response enabled by intraband transitions in monolayer WS_2

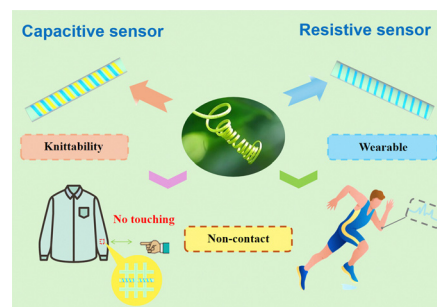
Saloni Sharma, Divyansh Pratap Singh, Shreeya Rane, Jishnu Murukeshan, Tymofii S. Pieshkov, Shubhda Srivastava, Soumyabrata Roy, Anand B. Puthirath, Guanhui Gao, Raturaj Puranik, Utkarsh Pandey, Snehal Haldankar, Vibhavari Parkar, Fathimath Faseela, Shriganesh S. Prabhu, Dibakar Roy Chowdhury, P. M. Ajayan* and Bipin Kumar Gupta*



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Bio-inspired helical EGaIn/TPU conductive fibers fabricated by a twisted coating method for flexible electronics

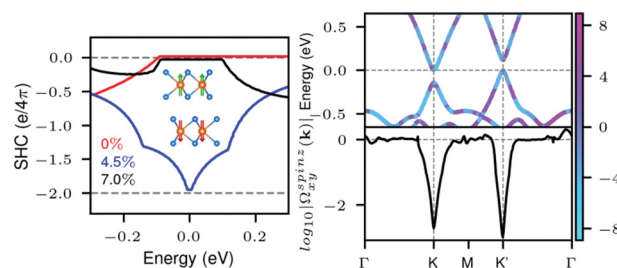
Junwei Tang, Shangbi Chen, Ziqi Wen, Zifeng Zhang, Bin Sheng* and Jing Wang*



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Strain-engineering quantized spin Hall conductivity in sliding multiferroic RuCl_2 bilayers

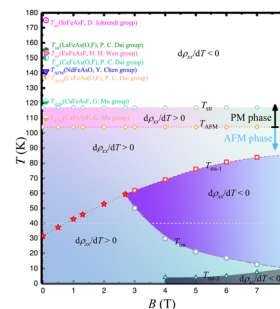
Xinge Zhang, Yuqian Jiang, Yuping Tian, Binyuan Zhang, Linyang Li, Wei-Jiang Gong* and Xiangru Kong*



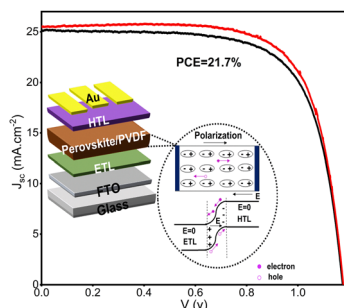
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Abnormal electronic transport properties with Hall effect, magneto-resistivity, and phase diagram in CaFeAsF single crystals

Yongqiang Pan,* Nan Zhou, Wei Zhou, Tianyang Wang, Qiang Hou, Run Lv, Ming Cheng, Ruihuan Lan, Yifan Deng, Yu Zhao, Lanxin Liu, Wenhai Song, Yue Sun, Zhixiang Shi, Wenjian Lu, Xuan Luo* and Yuping Sun



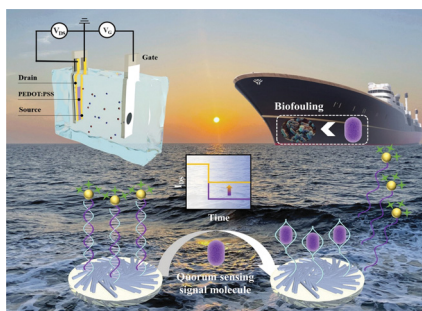
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Suppressing charge carrier recombination in halide perovskite solar cells by ferroelectric polarization

Hamaneh Zarenezhad, Shervin Daneshvar e Asl, Fatih Uçar, Timuçin Balkan and Sarp Kaya*

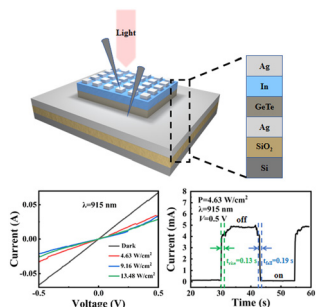
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A dual-inhibition aptamer gated OPECT biosensor based on a MOF-derived CAU-17/Bi₂S₃ Z-scheme heterojunction for rapid detection of bacterial quorum sensing signal molecules

Peng Ju, Shiliang Wang, Siyu Wen, Weixing Liu, Jinquan Wang, Long Xiao, Shuai Wang,* Fubin Ma* and Zhe Chi*

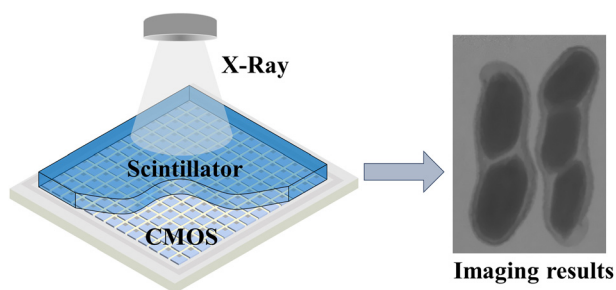
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A high-performance infrared photodetector based on GeTe films and In/Ag bimetallic electrodes

Bingbing Zhang, Xin Zhou, Xiaolin Liu, Jingyuan Wu, Kaibing Xu, Yi Gu, Chunrui Wang and Liangcai Wu*

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Dynamic monolithic X-ray imager with enhanced performance *via* strain relaxation in metal-halide scintillators

Chongrui Shu, Caixin Zhang, Ruihan Yuan,* Xixi Liu, Shujie Tie, Ning Yang, Xuan Lian, Jianguo Zhu* and Xiaojia Zheng*

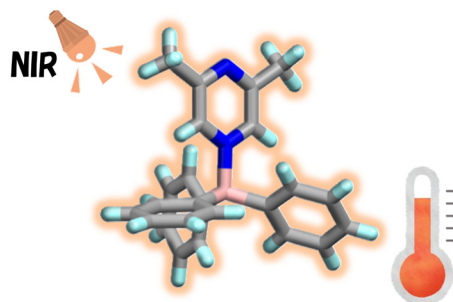


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Photochromism and efficient photothermal conversion of B ← N Lewis adducts induced by intramolecular electron transfer

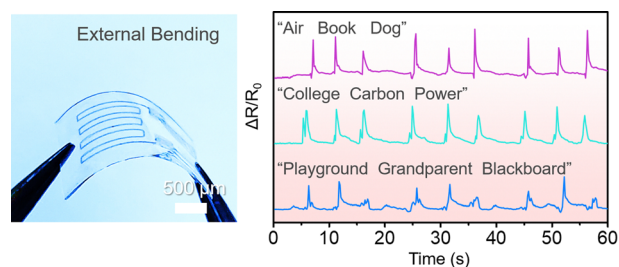
Sotaro Kusumoto,* Takuma Mio, Kenta Rakumitsu, Masaya Shimabukuro, Mamiko Kobayashi, Tomoya Fukui, Nobutsugu Hamamoto, Toshiharu Ishizaki, Yang Kim and Yoshihiro Koide*



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High-performance strain sensors using flexible micro-porous 3D-graphene with conductive network synergy

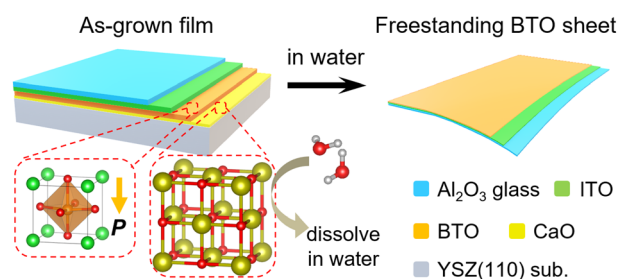
Jinqiu Zhang, Shanshui Lian, Fanghao Zhu, Genqiang Cao, Hui Ma, Bingkun Wang, Huijuan Wu, Ziqi Zhao, Zhiduo Liu* and Gang Wang*



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Water-soluble CaO sacrificial layer heteroepitaxially grown on yttria-stabilized zirconia substrate for large ferroelectric BaTiO₃ sheets

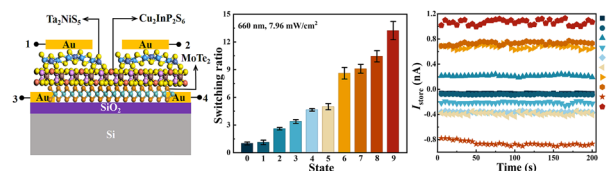
Weikun Zhou, Lizhikun Gong, Ren Mitsuya, Diwen Chen, Hiromichi Ohta and Tsukasa Katayama*



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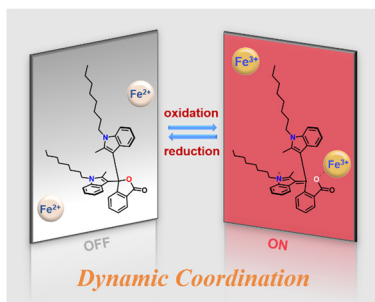
Ferroelectric polarization-modulated two-dimensional homojunctions for enhanced nonvolatile multistate memory with self-powered optical readout capacity

Yating Wang and Pengfei Hou*



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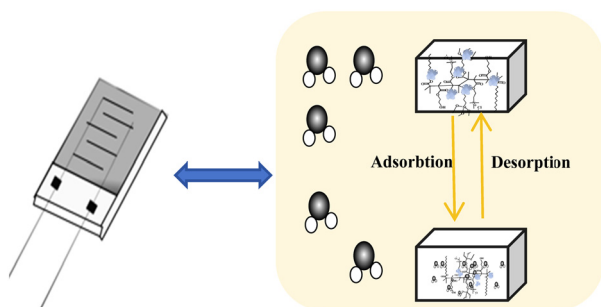
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An electrochromic device based on dynamic coordination and the dissociation of $\text{Fe}^{2+}/\text{Fe}^{3+}$ and a leuco dye with an improved cycle life

Ruipeng Shen, Min Li, Shuo Wang,* Yu-Mo Zhang* and Sean Xiao-An Zhang

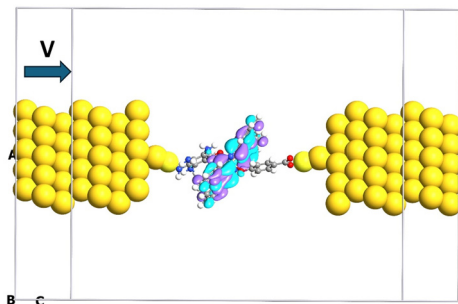
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Optimization of the hygroresponsive response characteristics of a polyacrylate humidity sensor using halloysite nanotubes

Xu Ma, Lijiu Cao, Nian Li, Yunpeng Gong, Yue Hu, Zongxing Yu, Tao Jin* and Yufang Chen*

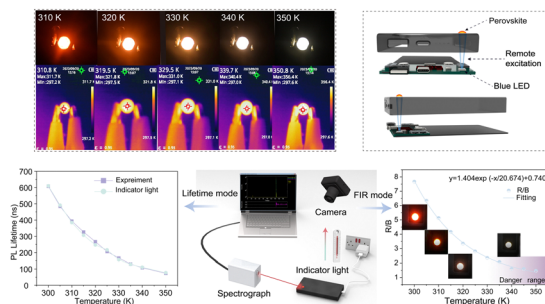
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Charge transport of silicon(IV) and zinc(II) phthalocyanines by molecular junction models

Michael Zambrano-Angulo and Gloria Cárdenas-Jirón*

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Te^{4+} doped zero-dimensional perovskites for dual-mode thermometry in electronic devices

Hao Song, Junheng Yuan, Dedan Mu, Lulu Han, Xuhui Xu and Peng Zhang*

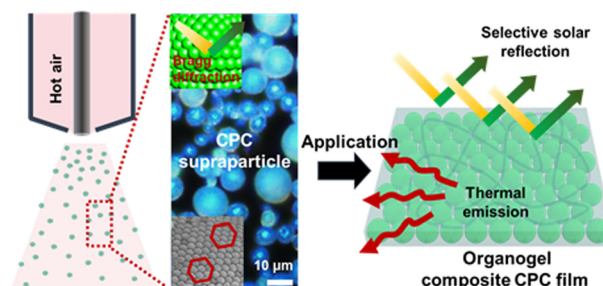


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Fabrication of colloidal photonic crystal supraparticles *via* atomization drying for efficient passive cooling

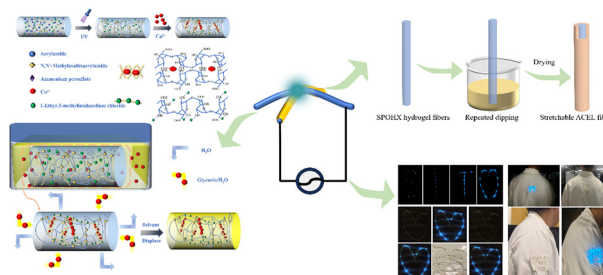
Jiang Zhai, Nian-Xiang Zhang, Fucheng Li, Chang Liu, Guo-Xing Li, Xiao-Qing Yu,* Qing Li* and Su Chen



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Stretchable alternating current electroluminescent fiber based on transparent and highly conductive dual-network imidazolium chloride ion–gel electrodes for wearable display applications

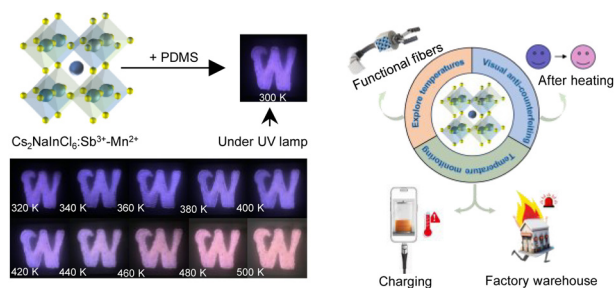
Tao Wang, Yaoqing Chu, Yongzheng Fang and Zhifu Liu*



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All-inorganic lead-free double perovskite Cs₂NaInCl₆ for fiber-based optical temperature sensing for temperature and safety monitoring

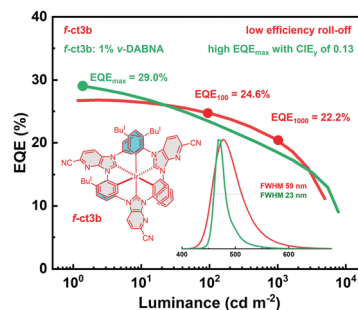
Xiao Wang, Yanyan Li,* Haitao Tang, Ruiming Li, Xiaodi Hao, Meng Li, Jiale Zhao, Liyan Yang, Yu Chen, Qianqian Lin,* Mufang Li and Dong Wang*



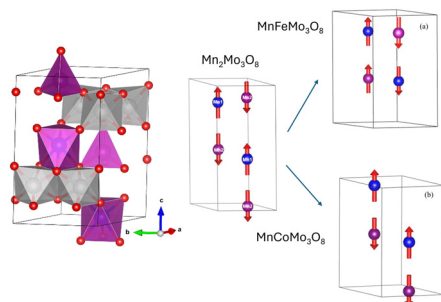
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Blue electroluminescence and hyperluminescence facilitated by Ir(III) phosphors with 5-cyano-imidazo[4,5-*b*]pyridin-2-ylidene cyclometalates

Yixin Wu, Kai-Ning Tong, Martin Kuhn, Chengcheng Wu, Wen-Yi Hung, Guodan Wei,* Jie Yan,* Yun Chi* and Xiuwen Zhou*



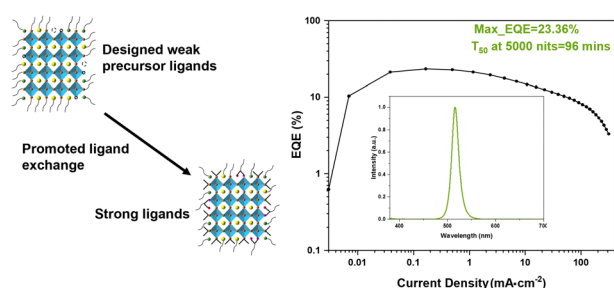
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Investigation of the magnetic spin correlations in the layered molybdenates, $\text{Mn}_2\text{Mo}_3\text{O}_8$ and MnAMo_3O_8 (A = Fe, Co, Zn)

Holly L. McPhillips, Pascal Manuel, Gavin B. G. Stenning, Ivan da Silva, Silvia Ramos* and Donna C. Arnold*

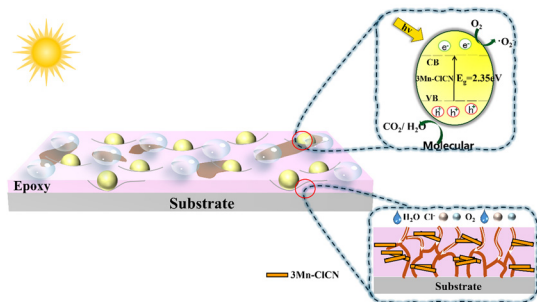
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Designing efficient ligand exchange strategies for the synthesis of stable perovskite nanocrystals

Xuanyu Zhang, Zhiwei Yao, Ming Deng, Ruifa Wu, Jing Wang, Yong Ren, Chengbo Wang, Guohua Jia, Lei Qian and Chaoyu Xiang*

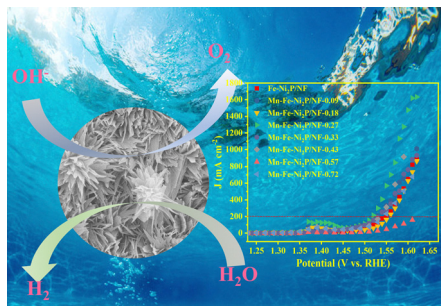
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Preparation of PDMS-modified epoxy composite coatings by Mn/Cl co-doping of $\text{g-C}_3\text{N}_4$ and their enhanced photocatalytic activity and aging resistance

Haihua Wang,* Wenyu Guo, Dong Yang, Chaoxian Chen, Yihao Duan and Xiaosong Li

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Electronic coupling regulation in MOF derived Mn/Fe co-doped Ni_2P through Mn/Fe integration for enhanced overall water splitting

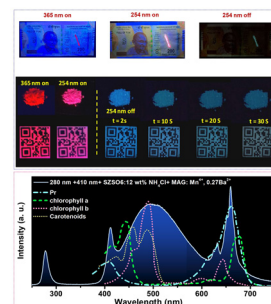
Teng Gao, Tingting Hu, Hongqi Chu,* Liping Guo, Xuepeng Wang, Zhenzi Li* and Wei Zhou*



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Defect-induced new persistent cyan-emitting rare-earth-free phosphors for dynamic anti-counterfeiting and plant-growth LED applications

Thejas K. K., Sariga C. Lal, Reshmi Thekke Parayil, Santosh K. Gupta and Subrata Das*



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Mo-doped ZnO NPs with NIR light enhance peroxidase-like nanozymes and trigger photothermal for bacteria eradication

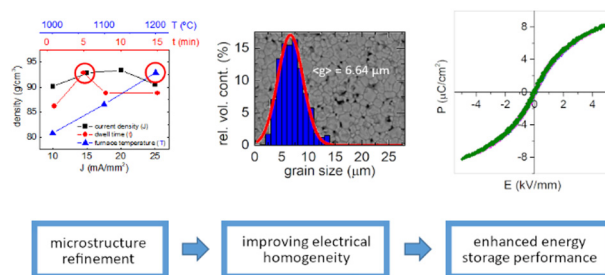
Yini Xu, Jinya Wei, Dezhi Yang, Yuzhu Song* and Yaling Yang*



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High performance BaTiO₃–SrTiO₃ ceramics with refined microstructure obtained by current-controlled reactive flash sintering of mixed powders

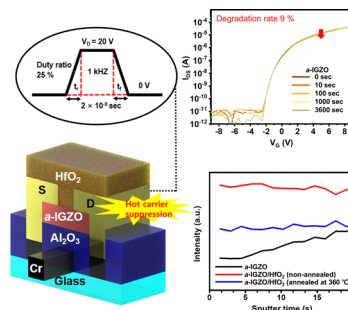
Samuel López-Blanco,* Xavier Vendrell, Nerea Morante and José E. García*



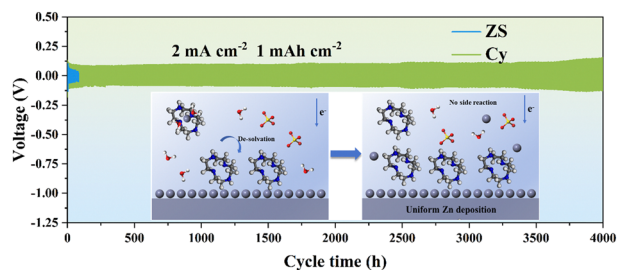
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Enhancing AC stress stability in amorphous indium gallium zinc oxide thin-film transistors via controlled hydrogen diffusion

Jaesung Kim, Seonggeun Kim, Hwijoong Kim, Sangwan Kim,* Dongil Ho* and Choongik Kim*



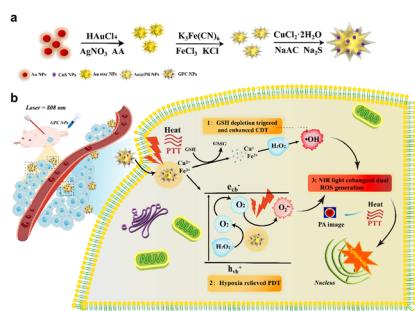
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Regulating the solvation structure and adsorption behavior in zinc anodes using polar organic molecules to achieve durable dendrite-free zinc metal anodes for aqueous zinc-ion batteries

Xiaoqin Zhang, Haoran Lang, Chao Li, Min Li, Bin Xie, Ji Chen, Yuxiang Chen, Yu Huo, Lin Li, Qiaoji Zheng,* Xin Tan,* Heng Zhang* and Dunmin Lin*

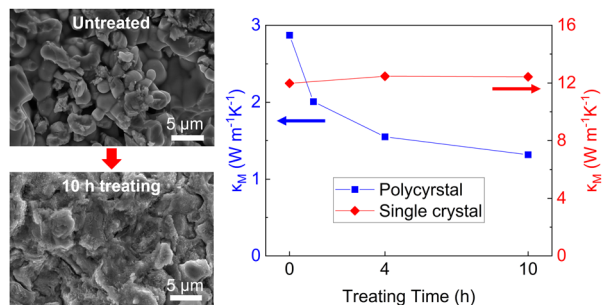
3606



Tuning a consistent near-infrared photo-initiated multimodal tumor strategy based on the core-shell structure of gold star@PB@CuS nanoparticles

Yao Zhong, Xiaolei Li, Li Ye, Pengcheng Zhu and Lin Zhuang*

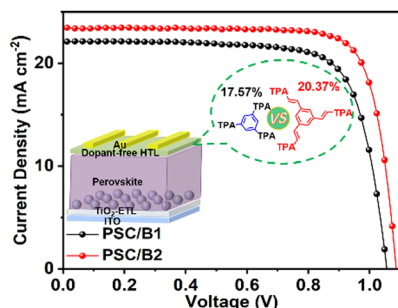
3618



Effect of water treatment on microstructure and magnon thermal transport in spin ladder compound $\text{Sr}_{12}\text{Y}_2\text{Cu}_{24}\text{O}_{41}$

Shuchen Li and Xi Chen*

3627



A low-cost, high-performance, dopant-free phenyl-based hole transport material for efficient and stable perovskite solar cells

Zhenhu Zhang,* Xinrui Wang, Xin Lv, Xuerui Zheng, Dewang Niu, Guangxin Zhang, Kexin Wang, Kuanyu Yuan* and Yongjie Zhang*

