

Journal of Materials Chemistry C

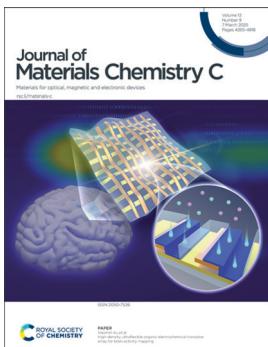
Materials for optical, magnetic and electronic devices

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Ashlee J. Howarth,* Takao Mori* and Zhiguo Xia*



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Advances in metal oxide semiconductor gas sensor arrays based on machine learning algorithms

Jiayue Han, Huizi Li, Jiangong Cheng,* Xiang Ma* and Yanyan Fu*



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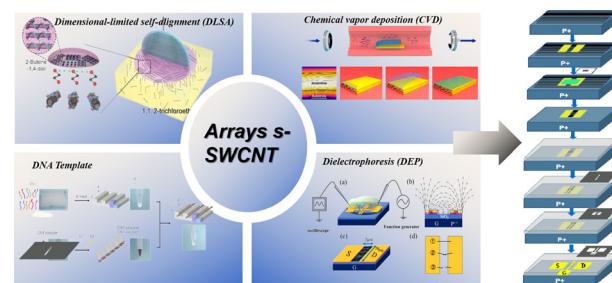


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Progress in the fabrication of high-purity semiconducting carbon nanotube arrays

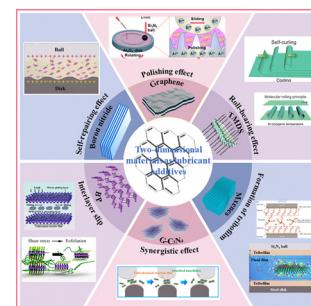
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Two-dimensional nanomaterials as lubricant additives: the state-of-the-art and future prospects

Zhengquan Jiang,* Jiahao Wu, Laigui Yu, Jinglei Bi, Yadong Wang, Xiaoyi Hu, Yujuan Zhang and Weihua Li*

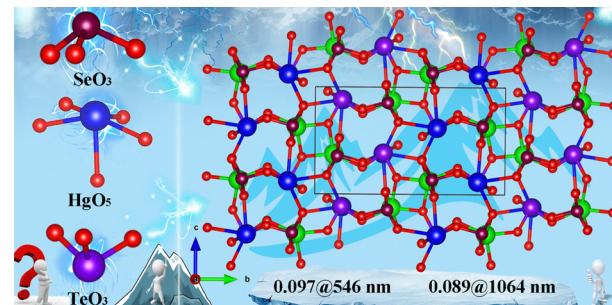


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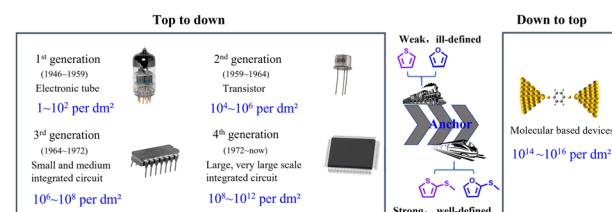
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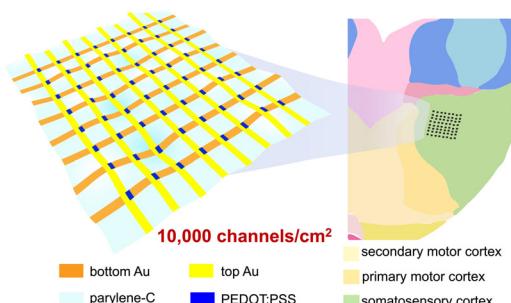
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Mengxiao Li, Aoxing Sun, Mingzhen Wang, Xu Wang, Yuhua Lu, Lei Yu* and Yunchuan Li*



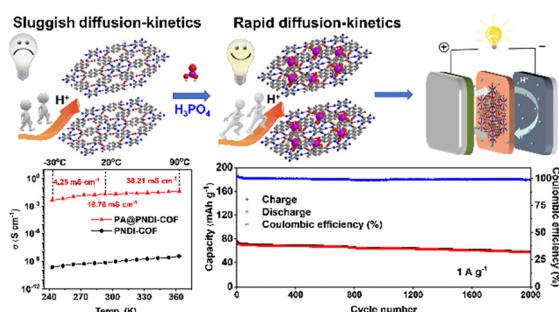
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**High-density, ultraflexible organic electrochemical transistor array for brain activity mapping**

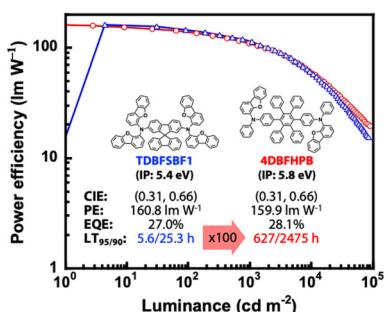
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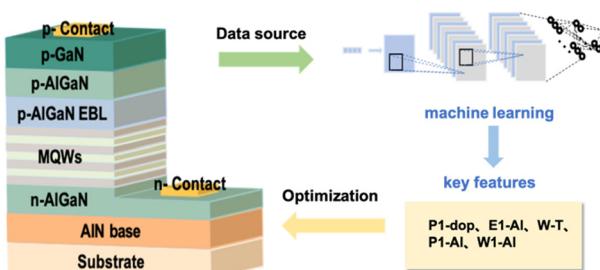
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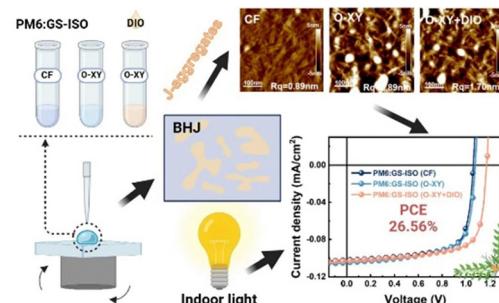


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Enhancing efficiency in organic electronics via J-aggregation modulation with non-halogenated solvents

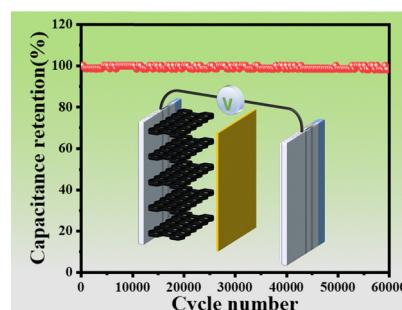
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Extremely durable supercapacitor enabled by disordered porous carbon with a capacity retention up to 60 000 cycles

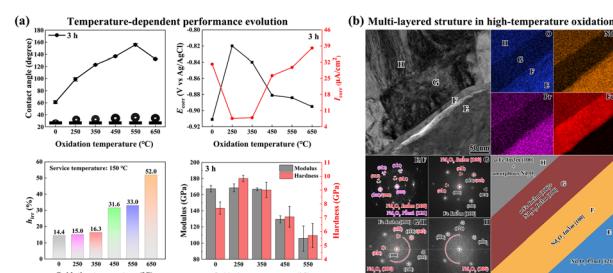
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Revealing the surface oxidation mechanism and performance evolution of Nd–Fe–B sintered magnets

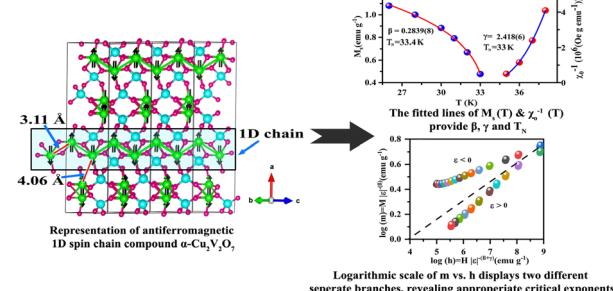
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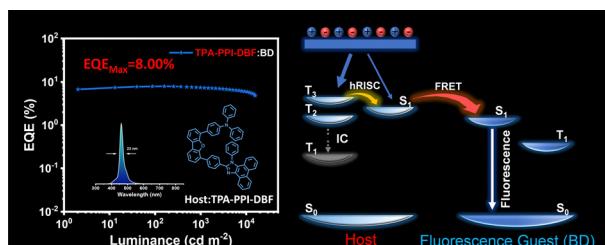
Revealing the one-dimensional (1-D) Heisenberg antiferromagnetic state in pyrochlore $\alpha\text{-Cu}_2\text{V}_2\text{O}_7$ from critical exponent analysis

Ajith Nix ESR, Pujalin Biswal, W. Prellier, D. Samal* and Bhaskar Chandra Behera*



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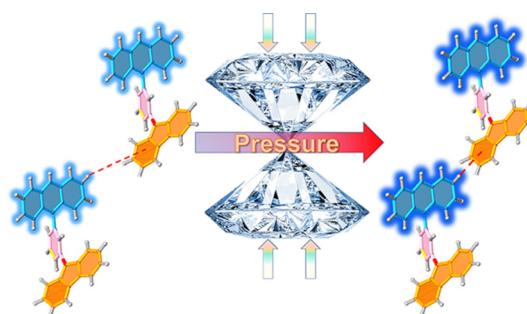
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Synthesis of phenanthroimidazole-based host materials with balanced hole–electron transport for highly efficient blue fluorescent OLEDs

Zhiqiang Wang, Bohua Zhang, Yi Chen, Jiangxue Pei, Qingyu Jia, Chaobo Hao, Xiping Lei* and Dongdong Wang*

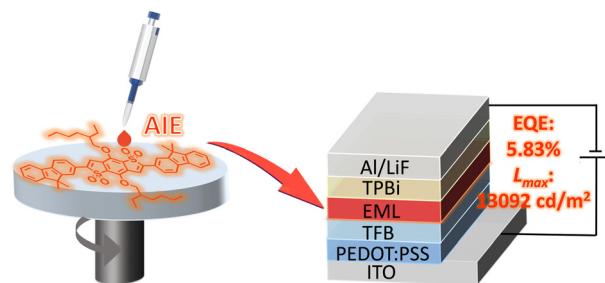
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Strengthening C–H...π intermolecular interactions induces emission enhancement of anthracene derivatives under high pressure

Yonghui Lv, Xinqi Yang, Wengpeng Jia, Qian Li, Wengang Liu, Ben-guo He, Yongli Liu, Kai Wang,* Haichao Liu* and Yuxiang Dai*

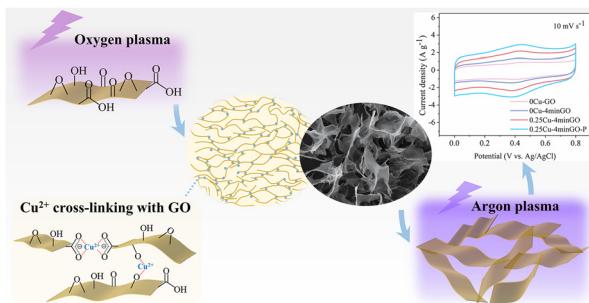
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Red/deep-red fluorophores based on benzo[1,2-*b*:4,5-*b'*]dithiophene 1,1,5,5-tetraoxide for high-performance solution-processed OLEDs

Zixuan Zhang, Zifan Yu, Meijing Li* and Shijie Zhen*

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Improved electrochemical performance of graphene oxide via copper ion cross-linking and plasma functionalization

Wenqi Zhao, Minghui Cui, Yansong Zhou, Yanjing Liu, Qiongrong Ou* and Shuyu Zhang*

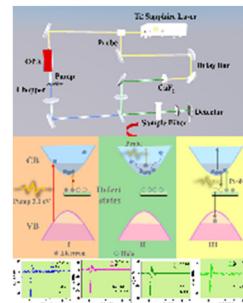


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Broadband nonlinear optical response and ultrafast carrier dynamics in defect-engineered Fe–Co₃O₄ for photonics

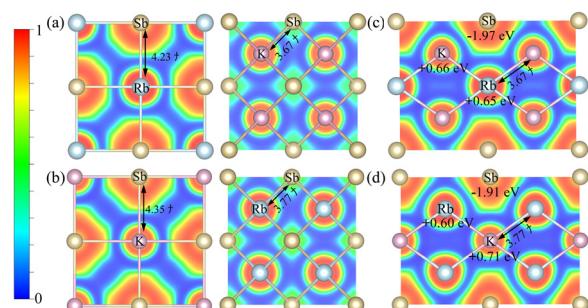
Linghao Kong, Hongwei Chu,* Zhongben Pan, Han Pan, Shengzhi Zhao and Dechun Li*



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Unveiling the microscopic origins and thermoelectric performance of full-Heusler compounds K₂RbSb and Rb₂KSb

Peipei Liu, Yinchang Zhao,* Jun Ni and Zhenhong Dai*



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Suppressing efficiency roll-off of orange-red thermally activated delayed fluorescence polymer-based OLEDs via copolymerizing co-hosts with cascade energy levels

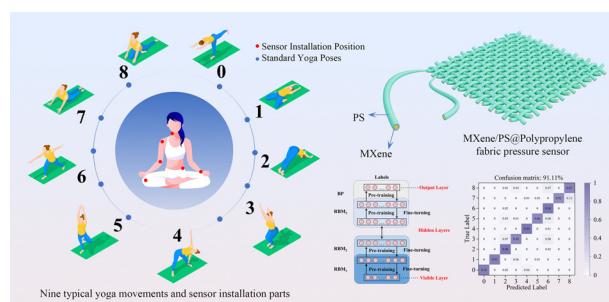
Mati Ullah Khan, Lei Hua,* Yuchao Liu, Haisong Zhao, Yumeng Guo, Yafei Wang, Shouke Yan* and Zhongjie Ren*



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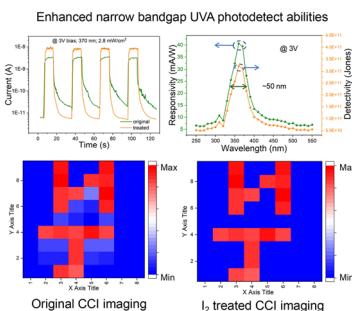
Highly hydrophobic MXene/PS@polypropylene fabric for human posture recognition assisted by machine learning

Daihui Zhang, Chunqing Yang, Jun Wang, Yukun Liu, Jiahui Shao and Dongzhi Zhang*



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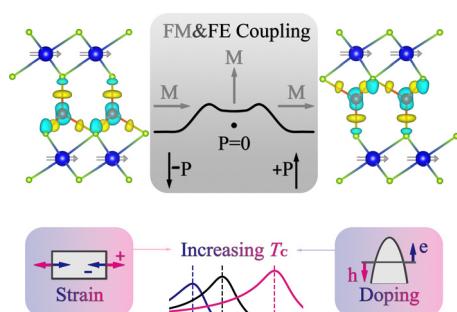
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Recrystallization of single crystal CsCu_2I_3 perovskites by I_2 treatment for enhanced UV detecting abilities

Fa Cao,* Guanyu Cheng, Enliu Hong, Ying Liu, Sancan Han, Pingping Yu* and Bin Sun*

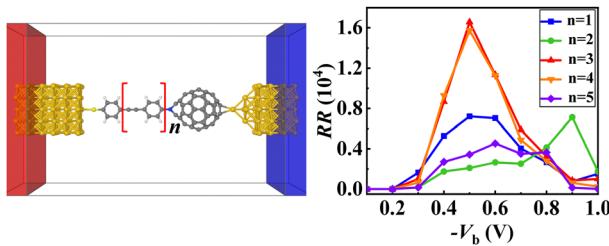
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Multiferroic metallic monolayer $\text{Cu}(\text{CrSe}_2)_2$

Ke Yang, Yuxuan Zhou, Yaozhenghang Ma and Hua Wu*

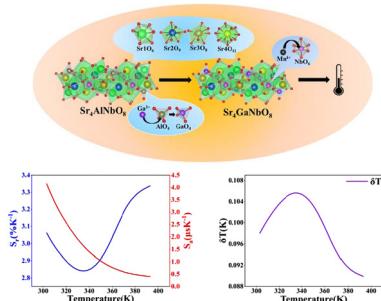
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Fullerene-based single molecule diodes with huge rectification ratios: a DFT-NEGF study

Minjing Zhang, Zhaodi Yang, Si-Dian Li* and Yuewen Mu*

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$\text{Sr}_4\text{GaNbO}_8:\text{Mn}^{4+}$: a novel perovskite-structured red-emitting phosphor for a luminescence lifetime thermometer with good relative sensitivity and repeatability

Zhenyu Huang, Kai Li,* Zhiyu Zhang, Jianing Liu and Daiman Zhu*

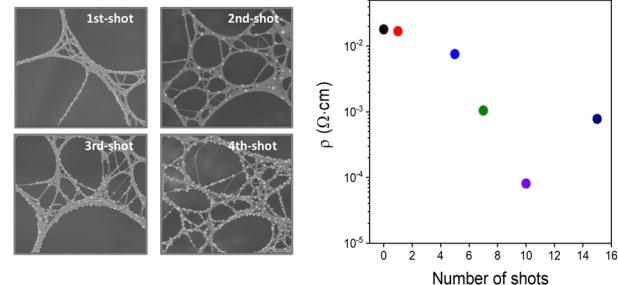


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Photo-thermally controlled Cu nanoparticles density in SWCNT/Cu nanocomposites-based flexible EMI shielding electrodes

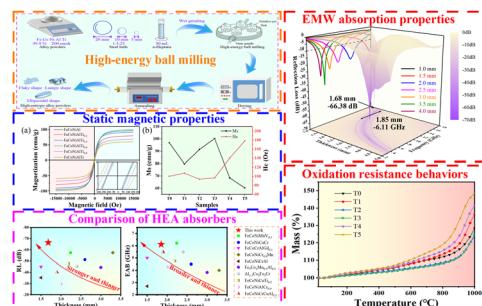
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Excellent electromagnetic wave absorption performances of FeCoNiAlTi_x high-entropy alloys with superior oxidation resistance

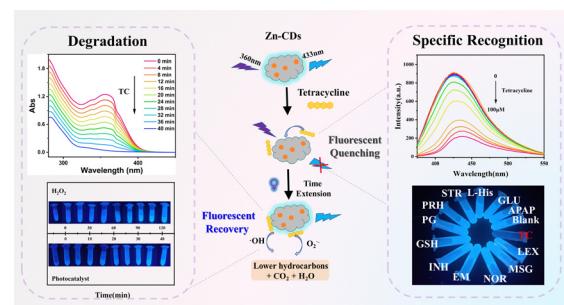
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Multifunctional Zn–carbon dots enhanced specific recognition and *in situ* degradation of tetracycline

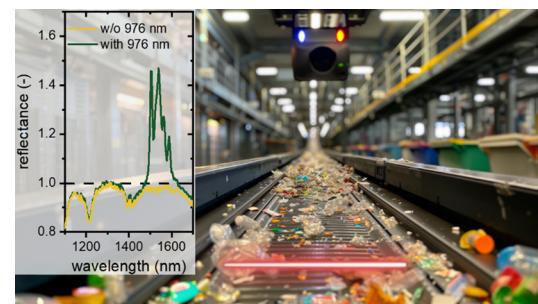
Tianbao Liu, Weixuan Zhao, Shenhua Meng, Biao Dong, Nan Shi* and Weiguang Shi*



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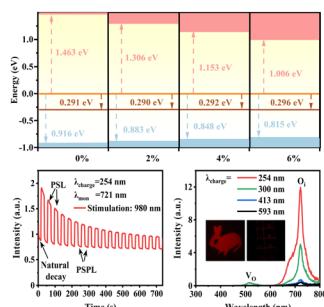
Optimizing the short-wavelength infrared photoluminescence quantum yield and brightness of Er³⁺, Yb³⁺ co-doped yttrium orthophosphate phosphors for tracer-based sorting

Nisrin Mohamed Bhiri, Herman Duim, Eduard Madirov, Justine Nyarige, Bryce S. Richards* and Andrey Turshatov*



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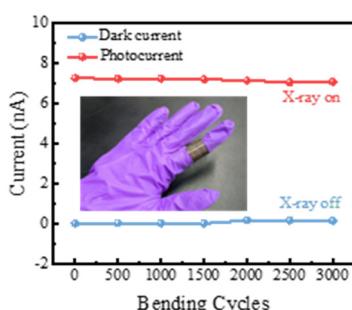
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The self-activated LiGa_5O_8 storage phosphor: insights into its photo/thermo/mechano-stimulated NIR luminescence

Min Jia, Xiangyu Zhang,* Xue Yang, Zehao Lin, Dingjun Jia, Yuqiang Wang, Sining Yun and Dangli Gao*

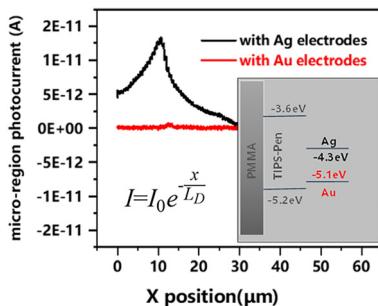
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Lead-free metal halides for a stable, flexible, and high-performance X-ray detector

Juan Zhao, Youkui Xu, Guoqiang Peng, Yujiang Wu, Qian Wang* and Zhiwen Jin

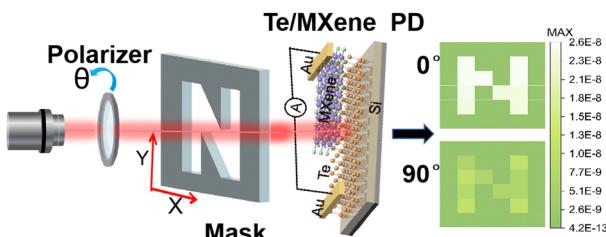
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How far can a minority charge carrier of an organic semiconductor walk? An *in situ* observation by scanning photocurrent microscopy

Di Sun, Xuehua Hou, Yonglin Cao, Hui Chai, Zengqi Xie and Linlin Liu*

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A 2D Te/Mxene Schottky junction for a self-powered broadband photodetector with high polarization-sensitive imaging

Pingping Yu, Yuqing Kong, Xiaotian Yu, Xi Wan, Fa Cao* and Yanfeng Jiang*

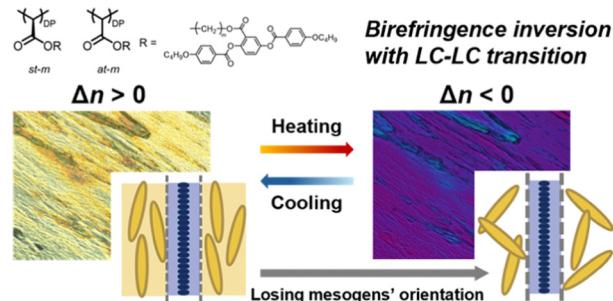


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Birefringence inversion in liquid crystalline poly(substituted methylene)s bearing side-on mesogens

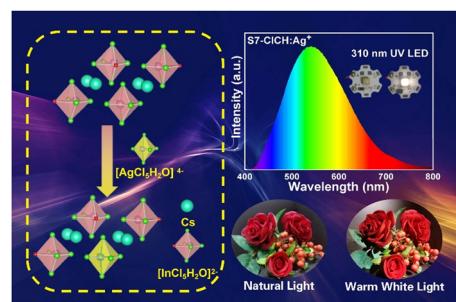
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Broadband and warm white emission in $\text{Cs}_2\text{In}_{1-x}\text{Cl}_5\cdot\text{H}_2\text{O}:x\text{Ag}^+$ phosphors enabled by H_3PO_2 -mediated stabilization

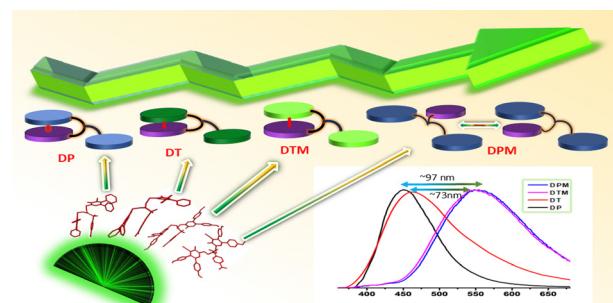
Ying Qin, Yuexiao Pan,* Haoshuai Wang, Tiantian Zhao, Weiyou Xu, Qian Miao* and Jun Zou*



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Designing symmetrically folded scaffolds of pyridazinone and triazinone derivatives linked via *N,N*-diethyl-4-nitro-benzenesulfonamide to explore luminescent materials

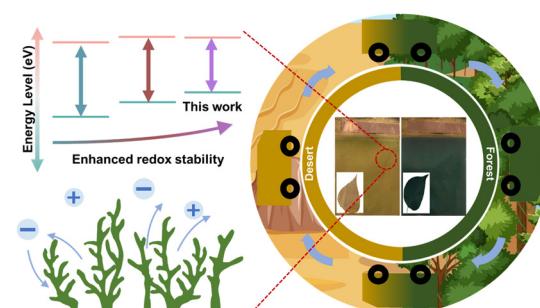
Vipin Kumar, Krishanu Bandyopadhyay, Manisha Nidhar, Vishal Prasad Sharma, Priyanka Yadav, Suman Gill, Priyanka Sonker, Abhineet Verma, Satyen Saha* and Ashish Kumar Tewari*



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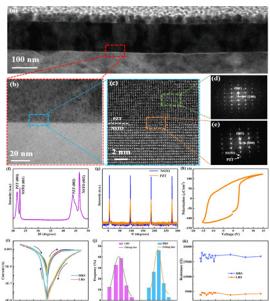
Electrochromic fabrics with improved cycling stability via modified polyaniline towards environmentally adaptive camouflage

Mingyu Ding, Wanzhong Li, Ang Li, Yuhao Wang, Jingbing Liu, Qianqian Zhang* and Hao Wang*



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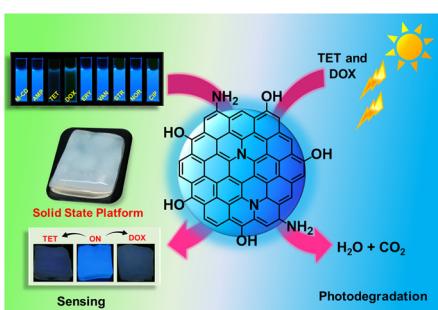
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Photoelectric memristor based on a PZT/NSTO heterojunction for neuromorphic computing applications

Jingjuan Wang, Zhaowen Wang, Wenze Zhao and Xiaobing Yan*

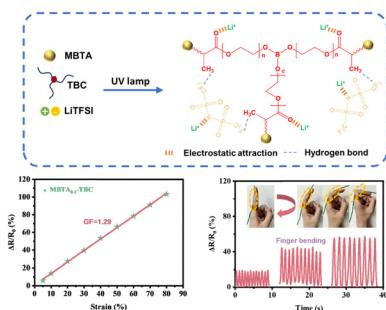
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A carbon dot anchored bacterial cellulose hybrid platform as a fluorescent sensor and photocatalytic remover of pharmaceuticals

Nirmiti Mate, Kallayi Nabeela and Shaikh M. Mobin*

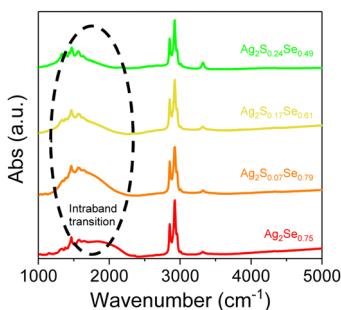
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Highly linear wearable ionic gel based on self-assembled discoid liquid crystal towards human motion monitoring

Jie Chen, Rui Feng,* Peng Su, Tong Zhou and Lijie Dong*

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Tailoring intraband transition via composition in self-doped $\text{Ag}_2\text{S}_x\text{Se}_y$ alloy nanocrystals

Youngjo Choi, Haemin Song, Gyu Ho Song, Hee Kwon Kim, Yoon Seo Jung, Hyeong Seok Kang, Woong Kim* and Kwang Seob Jeong*

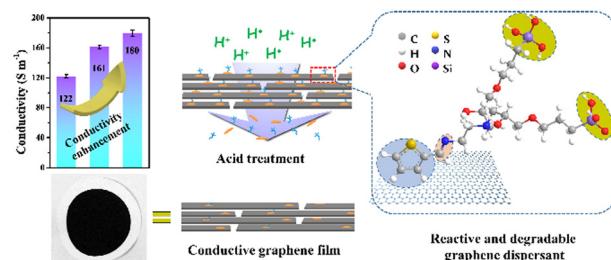


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Reactive and decomposable dispersant for maximizing the properties of graphene composites

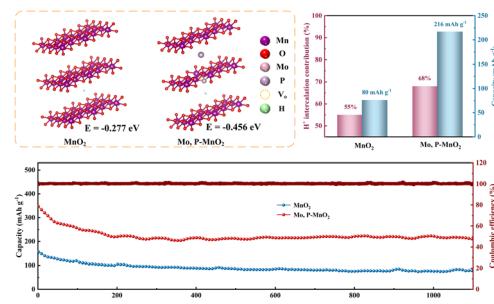
Junshuo Cui,* Xuening Du, Shiyi Liu, Liangyu Guo, Wanqi Liu and Ying Xiong*



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Unlocking Mo, P co-doping to boost proton intercalation in MnO_2 as a high-performance cathode material for aqueous zinc-ion batteries

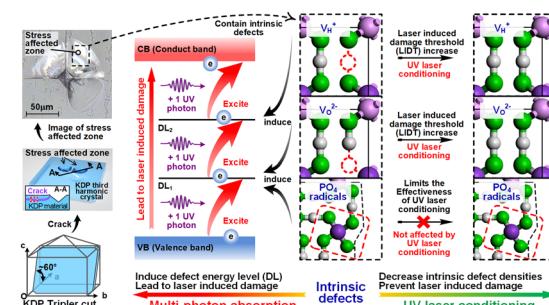
Kaixuan Ma, Guangfeng Liang, Qingze Jiao, Haibo Jin, Yuefeng Su, Ning Li, Jingbo Li, Zhiyong Xiong, Caihong Feng* and Yun Zhao*



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Evolution of intrinsic defect density in UV laser conditioning at the KDP crystal stress affected zone and its role in improving the laser induced damage threshold

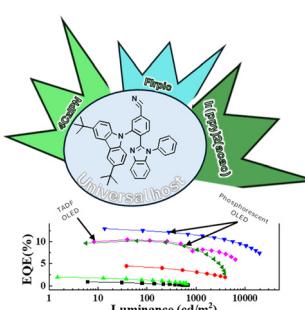
Jianrui Hu, Zhaoyang Yin, Jian Cheng,* Jixiang Chen, Linjie Zhao, Hongqin Lei, Guang Chen and Mingjun Chen



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The effect of bipolar charge transport of derivatives of 1-phenyl-1*H*-benzo[*d*]imidazole with horizontal molecular orientation on the performance of OLEDs based on thermally activated delayed fluorescence or phosphorescence

Simas Macionis, Ehsan Ullah Rashid, Jurate Simokaitiene, Rita Butkute, Oleksandr Bezzivkonnyi, Dmytro Volyniuk, Dalius Gudeika, Tien-Lung Chiu, Jiun-Haw Lee, Zi-Wen Su, Chia-Hsun Chen, Ruta Budreckiene, Mariia Stanitska, Oleksandr Navozenko and Juozas V. Grazulevicius*



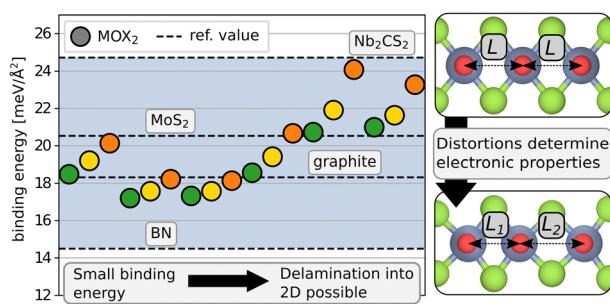
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**Cu-MOF/C₃N₅ as a laccase-like nanozyme for colorimetric detection of antioxidants in electronic cigarettes**

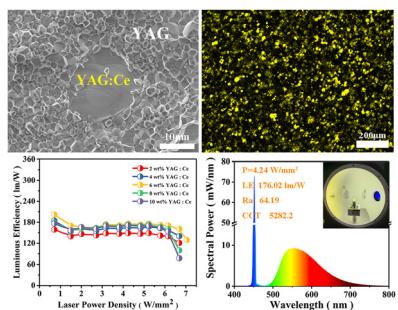
Ya Ruan, Zheng Chen, Xianfang Rong, Qianqian Pang, Dezhi Yang, Yaling Yang* and Zhichao Chen*

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**Computational screening of MOX₂ transition metal oxydihalides with M = V, Nb, Ta, Mo, Ru, or Os, and X = Cl, Br, or I**

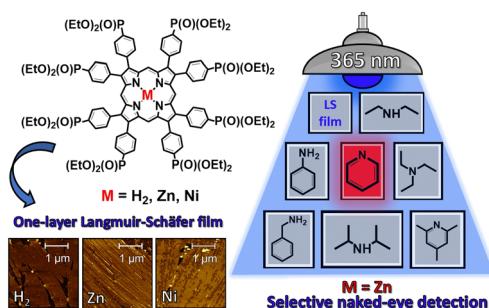
Pernilla Helmer, Martin Dahlqvist and Johanna Rosen*

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**Reactive spark plasma sintering of YAG–YAG:Ce composite phosphor ceramics for laser-driven lighting with high luminous efficacy**

Hailiang Fang, Lei Li, Beiyang Zhou,* Weijie Li, Shijia Gu, Qi Zheng, Lianjun Wang* and Wan Jiang*

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**Supramolecular assembly of phosphonate-substituted porphyrins in Langmuir layers and Langmuir–Schäfer films: structural studies and selective sensing of pyridine vapors**

Elizaveta V. Ermakova,* Vladimir V. Arslanov, Yann Bretonnière, Carine Michel and Alla Bessmertnykh-Lemeune*

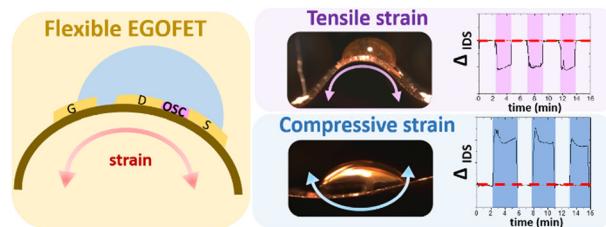


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Influence of mechanical stress on flexible electrolyte-gated organic field-effect transistors

Sara Ruiz-Molina, Simona Ricci, Carme Martínez-Domingo, María Jesús Ortiz-Aguayo, Raphael Pfattner, Guillaume Schweicher, Yves H. Geerts, Tommaso Salzillo and Marta Mas-Torrent*



CORRECTION

4816

Correction: Recent developments in emerging two-dimensional materials and their applications

Karim Khan,* Ayesha Khan Tareen,* Muhammad Aslam, Renheng Wang, Yupeng Zhang, Asif Mahmood, Zhengbiao Ouyang,* Han Zhang* and Zhongyi Guo*