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Materials for optical, magnetic and electronic devices

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Cover

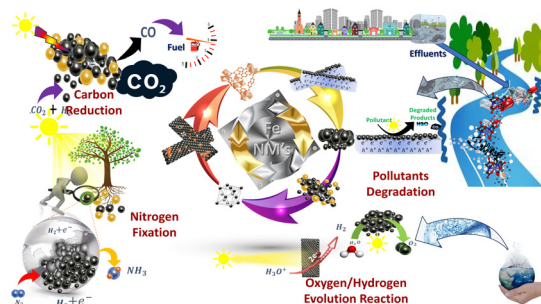
See Abdelaziz Jouaiti,
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Matteo Mauro *et al.*,
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REVIEWS

12653

Recent advances and perspectives on iron-based photocatalysts

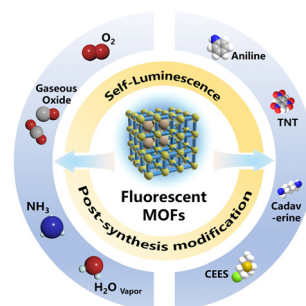
Nayab Arif, Muhammad Nadeem Zafar, Maria Batool, Muhammad Humayun, Muhammad Ahsan Iqbal, Muhammad Younis, Luyan Li, Kui Li* and Yu-Jia Zeng*



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Research progress in fluorescent gas sensors based on MOFs

Ruixiao Dong, Zhengqi Shen, Huizi Li,* Jiangong Cheng* and Yanyan Fu*



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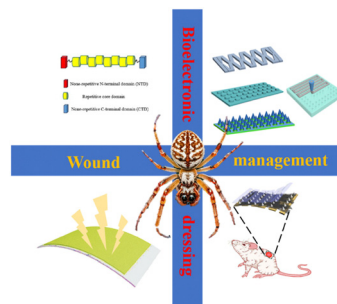


REVIEWS

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Artificial spider bioelectronic dressings for intelligent wound management

Shuhuan Li, Baoyang Lin, Yongji Xiong, Qian Zhou, Bingbing Gao* and Bingfang He



PERSPECTIVE

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The new material science towards sustainable robotics

Wusha Miao and Hedan Bai*

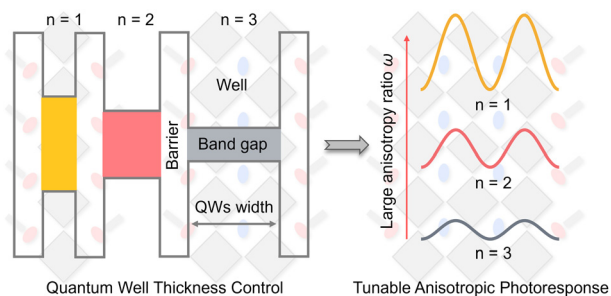


COMMUNICATIONS

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Quantum well thickness control of a hybrid perovskite to achieve a tunable anisotropic photoresponse

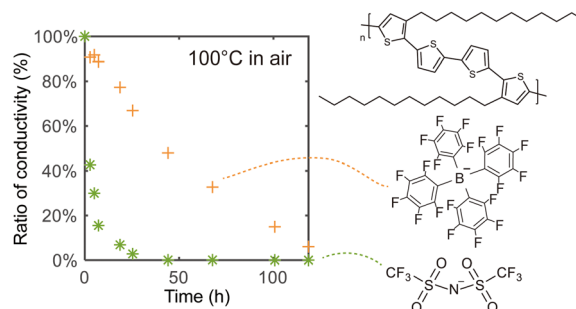
Cheng-Dong Liu, Chang-Chun Fan, Bei-Dou Liang, Wei Wang, Ming-Liang Jin, Chang-Qing Jing, Jing-Meng Zhang and Wen Zhang*



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Chemical doping of a semicrystalline polymeric semiconductor realizing high stability and work function

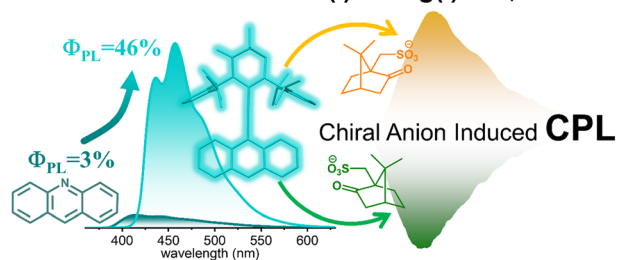
Zhenyun Xiao, Masaki Ishii, Jun Takeya, Katsuhiko Ariga and Yu Yamashita*



COMMUNICATIONS

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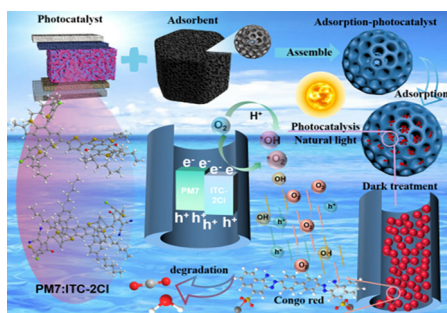
Cationic Two-coordinate Cu(I) and Ag(I) Complexes



Enhancement of the intrinsic fluorescence of acridine and its induced circularly polarized luminescence (CPL) in ionic two-coordinate coinage metal complexes

Ke-Die Li, Shu-Jia Zheng, Shi-Quan Song, Si-Qi Yu, Yue-Yang Feng, Junzi Liu, You-Xuan Zheng and Tian-Yi Li*

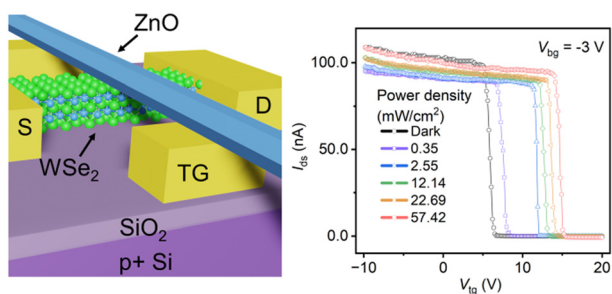
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Carbon-based binary organic photocatalysts for rapid dye degradation under weak light: performance and mechanistic study

Ciyuan Huang, Shasha Shi, Songlin Cai, Yue Qiao, Caiyun Wang,* Linji Yang, Yuchen Wang, Hao Cheng,* Tao Yang, Kai Huang, Bingsuo Zou and Tao Liu*

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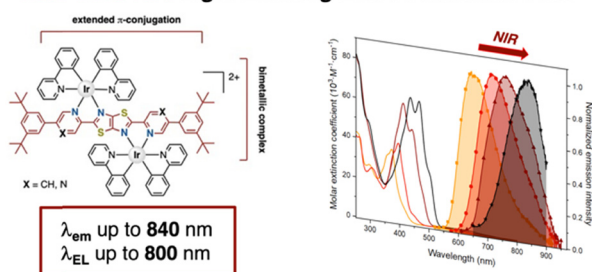
Photovoltage junction memtransistor for optoelectronic in-memory computing

Xueming Li, Sujuan Wang, Yani Yang, Shankun Xu, Xueyan Bao, Lei Zhao, Xueting Liu, Zhidong Pan, Yujue Yang,* Shichen Su* and Nengjie Huo*

PAPERS

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Near-Infrared Light-Emitting Electrochemical Cells



Binuclear iridium(III) complexes for efficient near-infrared light-emitting electrochemical cells with electroluminescence up to 800 nm

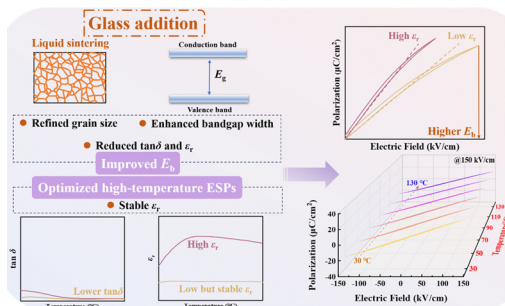
Lavinia Ballerini, Wei-Min Zhang, Thomaz Groizard, Christophe Gourlaouen, Federico Polo, Abdelaziz Jouaiti,* Hai-Ching Su* and Matteo Mauro*



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Glass modified $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ -based energy-storage ceramics for high-temperature applications at low/moderate electric fields

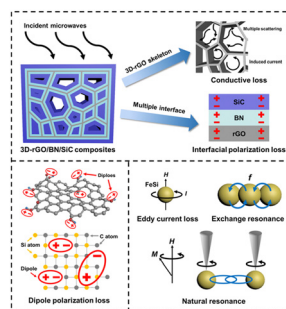
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Evaluation analysis of electromagnetic wave absorption for self-assembled 3D graphene skeleton-supported BN/SiC composites

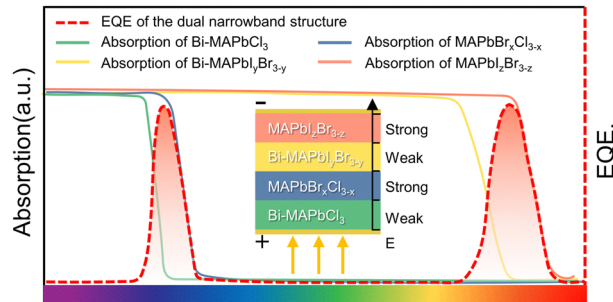
Qiuqi Zhang, Xiao You,* Huiying Ouyang, Yuanhang Yang, Zhenzhong Xing, Haodong Gu, Li Tian, Qingliang Shan, Xiangyu Zhang, Jinshan Yang* and Shaoming Dong*



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Dual narrowband photodetectors based on halide perovskite single crystal heterojunctions with solution-processed epitaxial growth

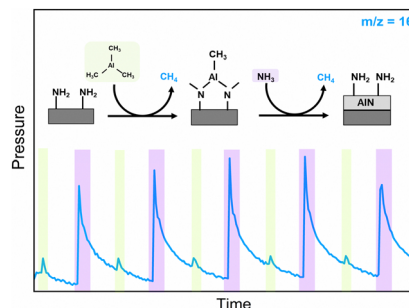
Dan Zhang, Yuzhu Pan, Xin Wang,* Ziyu Wei, Yubing Xu, Damian Chinedu Onwudiwe, Byung Seong Bae, Mehmet Ertuğrul, Jianming Zhou, Xiaobao Xu and Wei Lei*



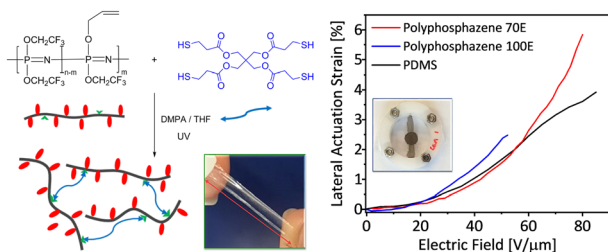
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Surface chemistry in atomic layer deposition of AlN thin films from $\text{Al}(\text{CH}_3)_3$ and NH_3 studied by mass spectrometry

Pamburayi Mpofu, Houyem Hafdi, Pentti Niiranen, Jonas Lauridsen, Oscar Alm, Tommy Larsson and Henrik Pedersen*



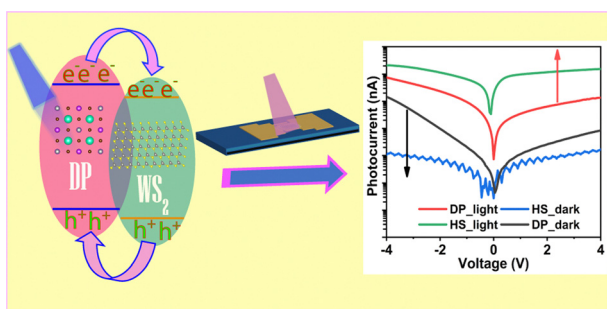
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A polyphosphazene elastomer containing 2,2,2-trifluoroethoxy groups as a dielectric in electrically responsive soft actuators

Cansu Zeytun Karaman, Thulasinath Raman Venkatesan, Johannes von Szczepanski, Frank A. Nüesch and Dorina M. Opris*

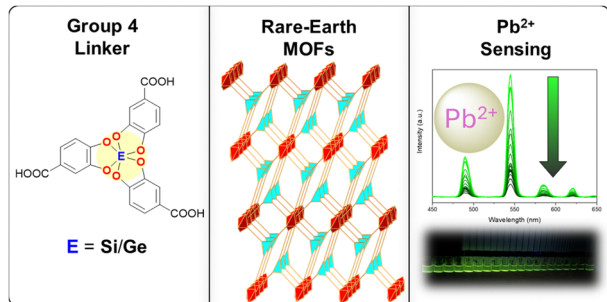
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Facile *in situ* synthesis of double perovskite $\text{Cs}_2\text{AgBiBr}_6/\text{WS}_2$ heterostructure and interfacial charge transfer mediated high-performance ultraviolet photodetection

Ravinder Chahal, Abdul Kaim Mia, Abhilasha Bora and P. K. Giri*

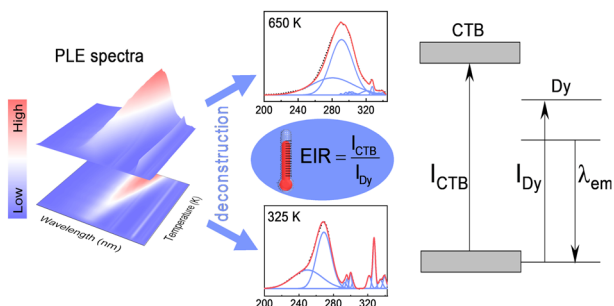
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Hexacoordinate germanate metal–organic frameworks for the detection of Pb^{2+} ions in aqueous solution

Shouyi Tian, Peter N. Horton, Simon J. Coles, Andrew J. P. White, Paul D. Lickiss and Robert P. Davies*

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Deconstructing excitation transitions in Dy^{3+} -doped CaWO_4 to develop a new ratiometric luminescent thermometry for achieving ultra-high sensing sensitivity

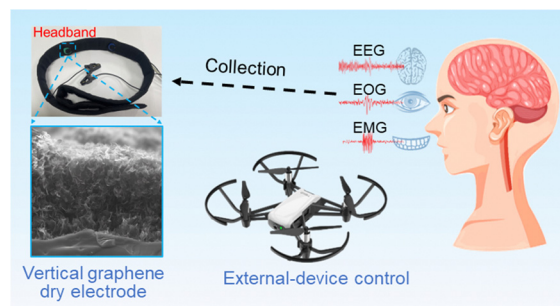
Qianrui Liu, Baosheng Cao,* Miao Gao, Lulu Qiu, Yujie Weng, Yangyang He, Xiaoguang Han* and Bin Dong



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Wearable gold–graphene dry electrode-based headband for effective brain–computer interface applications

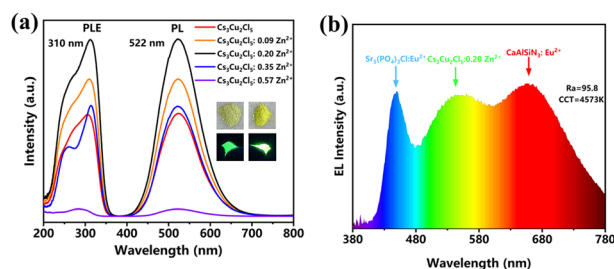
Yuhang Zheng, Yongyue Sun,* Hongji Li,* Xiuwei Xuan, Penghai Li and Mingji Li*



12874

Enhancement of photoluminescence quantum yield in lead-free inorganic copper based halide perovskites via zinc doping

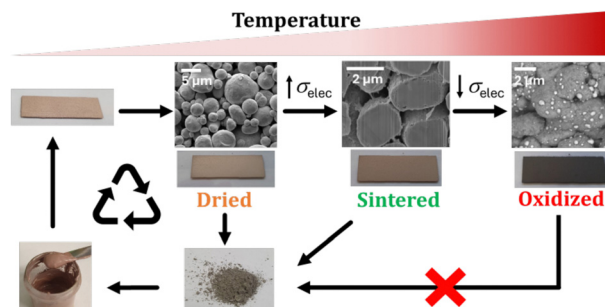
Yuchen Peng, Jing Guo,* Jingrui Guo, Jianghua Wu, Na Zhang, Guoying Zhao, Jingshan Hou, Ganghua Zhang, Yufeng Liu* and Yongzheng Fang*



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Low-temperature sintering of Cu@Ag microparticles in air for recyclable printed electronics

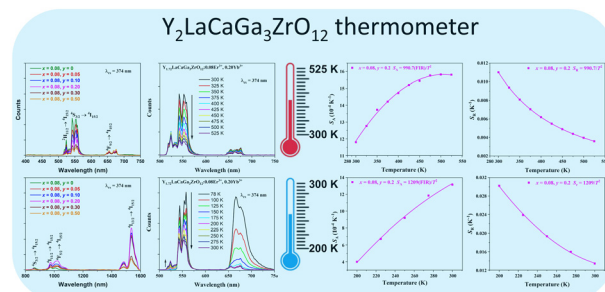
David van Impelen, Lola González-García* and Tobias Kraus*



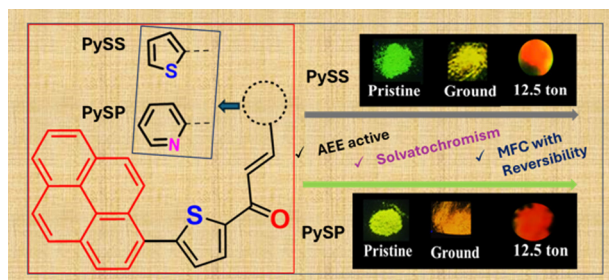
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Synthesis, dual mode luminescence and down-conversion based thermometric properties of novel $Y_{2-x-y}LaCaGa_3ZrO_{12}:xEr^{3+}, yYb^{3+}$ phosphors

Zhurong Mo, Hongli Wen,* Xin Gao, Chong Ta, Zhongfei Mu,* E. A. Dawi and Deshmukh Abdul Hakeem*



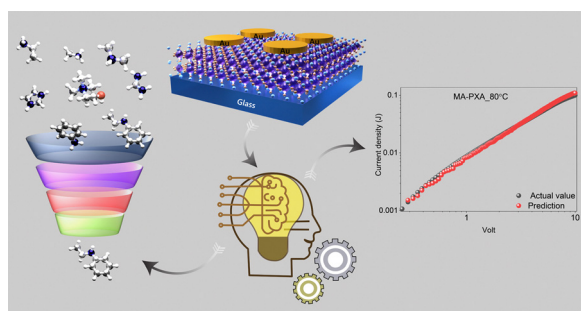
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Precise molecular design for a twisted pyrene-thiophene based mechanofluorochromic probe with large Stokes shift and feasibility study towards security ink and re-writable papers

Ram Prasad Bhatta, Sumit, Vishal Kachwal, Vandana Vishwakarma, Angshuman Roy Choudhury and Inamur Rahaman Laskar*

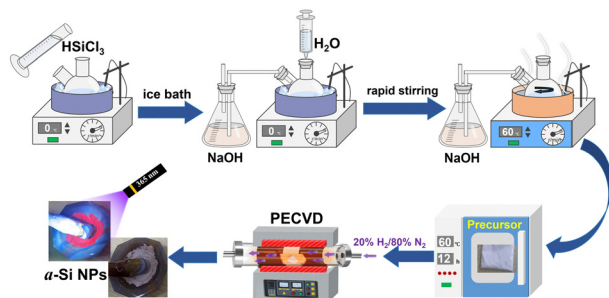
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Perovskite single crystal SCLC measurement prediction using a machine learning model

Sarvani Jowhar Khanam, Harinath Kuruva, Salman Abdul Moiz* and Murali Banavoth*

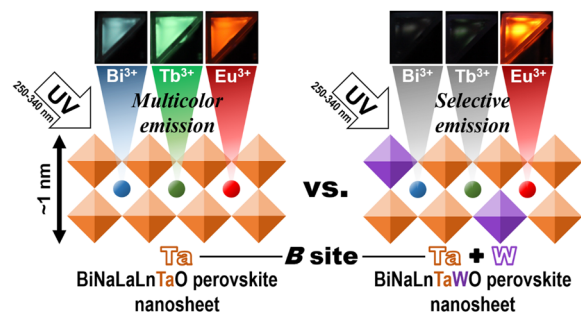
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A near-infrared fluorescence enhancement strategy of amorphous silicon nanoparticles for night vision imaging and visualizing latent fingerprints

Qian Zhang, Wanyin Ge,* Yunting Wang, Di Han, Maohao Yang, Xin Xie, Peng He and Honglei Yin

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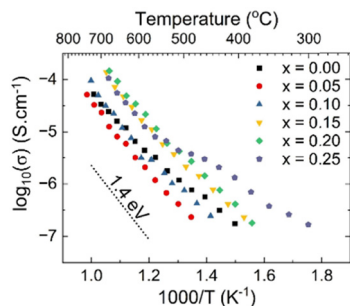


Photoluminescence study of perovskite materials derived from tungsten- and lanthanide-containing aurivillius layered perovskite, $\text{Bi}_2\text{Na}_{0.63}\text{Ln}_{0.37}\text{Ta}_{1.75}\text{W}_{0.25}\text{O}_9$

Keisuke Awaya,* Ayaka Yamamoto, Kazuto Hatakeyama and Shintaro Ida*



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Structural, dielectric, and conduction behaviour of A-site deficient $\text{Sr}_x\text{Na}_{1-2x}\text{NbO}_3$ ceramics

Thomas E. Hooper* and Derek C. Sinclair

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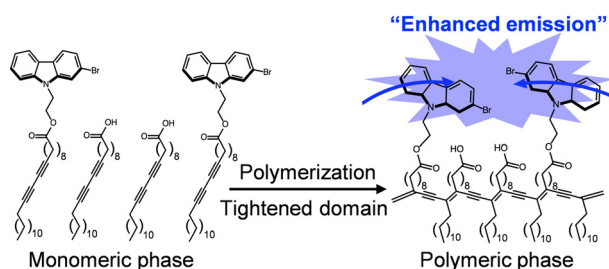
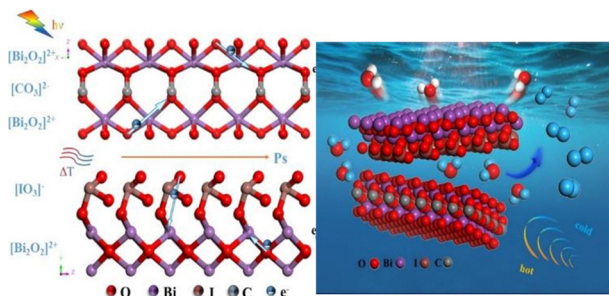


Photo-polymerization-induced tightened domain enhancing the room-temperature phosphorescence emission

Cheng Yuan, Sang Yup Lee, Jingyuan Huang, Yong Ho Cho, Yujie Liu, Dong June Ahn* and Chunzhi Cui*

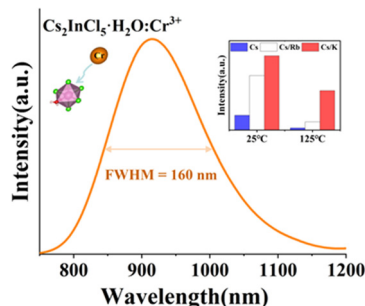
13010



Construction of 2D/2D $\text{BiOI}/\text{O}_3/\text{Bi}_2\text{O}_2\text{CO}_3$ composite structures with face-to-face contacts can facilitate carrier transfer via a built-in electric field and a polar field for pyro-photo-electric catalysis

Yunfei Wu, Mengnan Ruan, Chengyi Wang, Tingting Zhong and Zhifeng Liu*

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Enhancing the thermal stability of the NIR emitting $\text{A}_2\text{InCl}_5\cdot\text{H}_2\text{O}:\text{Cr}^{3+}$ phosphor based on A site regulation

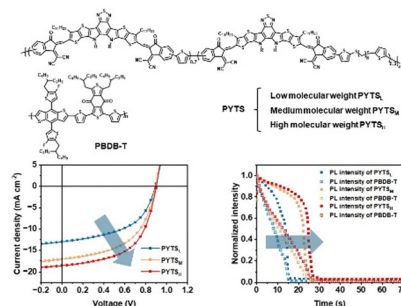
Lingkang Yu, Yining Wang, Xiaole Xing, Zheng Xu and Mengmeng Shang*



13029

In situ monitoring drying process to disclose the correlation between the molecular weights of a polymer acceptor with a flexible spacer and the performance of all-polymer solar cells

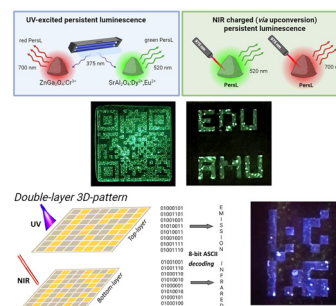
Jiale Xiang, Sven Englund, Zewdneh Genene, Guanzhao Wen, Yanfeng Liu,* Nannan Yao, Rui Zhang, Lei qiang Qin, Lei Wang, Ergang Wang,* Wei Zhang* and Fengling Zhang*



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Unleashing the glow: upconverting nanoparticles recharge persistent luminescent materials – applications in 3D-printing and optical coding

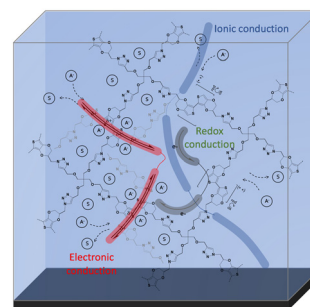
Adrian Drozdowski, Dirk Poelman, Marcin Runowski, Hanoch Hemmerich, Fernando Rivera-López and Tomasz Grzyb*



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Polymerization of EDOT functionalized star-shaped pentaerythritol and study of the structure and conducting properties of polymers

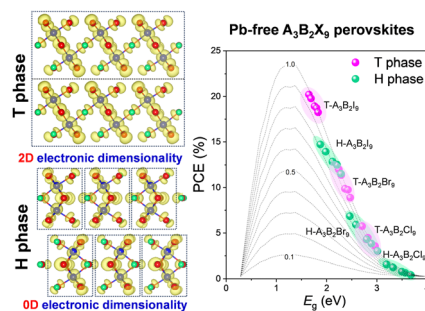
Rana Abdel Samad, Frédéric Gohier, Barbara Daffos, Pierre-Louis Taberna and Charles Cougnon*



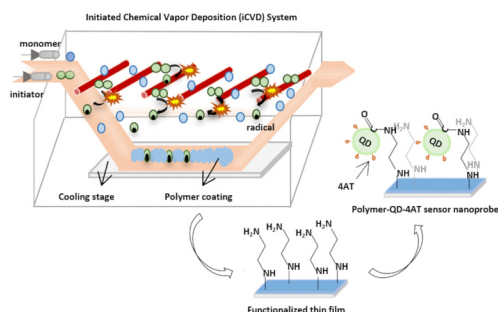
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Unravelling phase-dependent electronic dimensionality and optoelectronic properties in lead-free layered A₃B₂X₉ perovskites for photovoltaic applications

Qingyuan Luo, Dabao Xie, Yiqian Tian, Congmin Zhang, Dan Cao, Xiaoshuang Chen, Pei Liang and Haibo Shu*



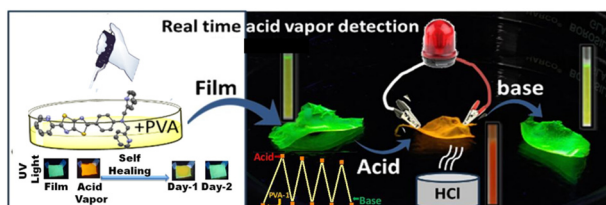
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Reusable polymer-based fluorescent sensor nanoprobe for selective detection of Cd²⁺ ions in real water sources

Merve Karabiyik* and Özgenç Ebil

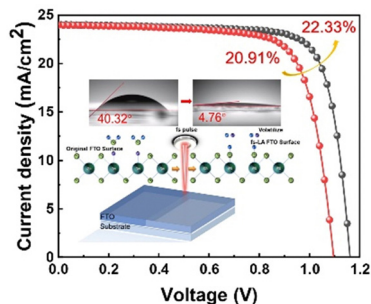
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An asymmetric thiazolo-thiazole derivative as a solvatochromic, reversible and self-color recovery acid–base molecular switch

Sanchita Shah, Neeraj Naithani, Subash Chandra Sahoo, Prakash P. Neelakandan* and Nidhi Tyagi*

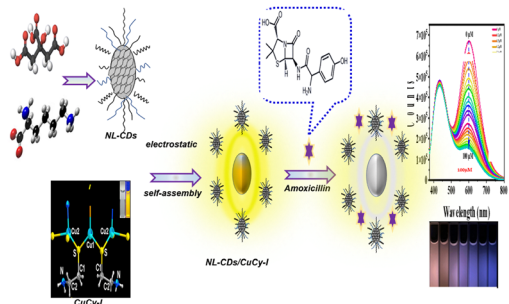
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Femtosecond laser annealing of fluorine-doped tin oxide films towards high-performance perovskite photovoltaics

Weihan Li, Nianyao Chai, Xiangyu Chen, Zhongle Zeng, Yunfan Yue, Fengyi Zhao and Xuewen Wang*

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Exploration of novel dual-emission NL-CDs/Cu–Cy–I ratio fluorescent probe for the sensitive detection of amoxicillin

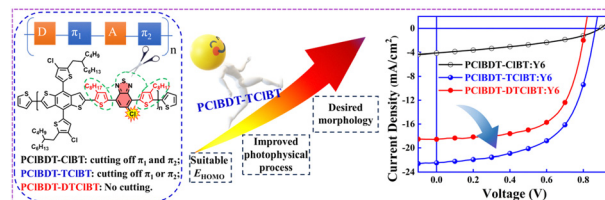
Bowen Shi, Zirui Yin, Xiaodan Tang,* Hongmei Yu,* Shuanping Cui and Wei Chen*



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The optimized energy level, morphology and photophysical procedure boosted the photovoltaic performance of monochlorinated benzothiadiazole-based polymer donors

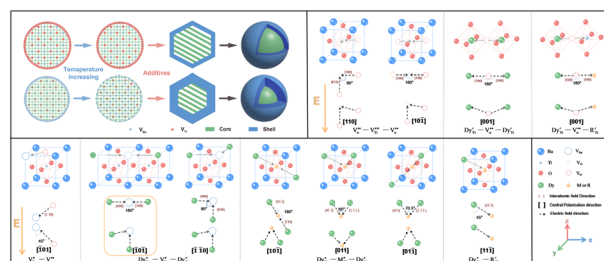
Junfeng Tong,* Wuyan Liu, Lili An, Shilei Qu, Aoxiang Zhang, Pengzhi Guo, Zezhou Liang, Lihe Yan, Chunyan Yang, Jianfeng Li and Yangjun Xia*



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Exceptional dielectric performance of MLCCs enabled by defect-engineered BaTiO₃

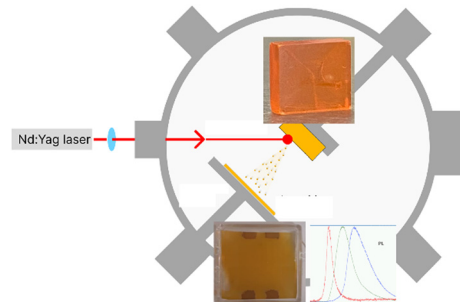
Pengfei Wang, Xiong Huang, Saiwei Luan, Jianwei Zhao, Bo Li, Jun Yang, Zhenxiao Fu,* Xiuhua Cao, Lei Zhang,* Shuhui Yu and Rong Sun



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High quality MAPbBr₃ films via pulsed laser deposition of single-crystalline targets

E. Ghavidel, A. Di Carlo, A. Ishteev, J. Barichello, K. Konstantinova, D. Saranin, V. Campanari, F. Martelli, B. Paci, A. Generosi, M. Guaragno, A. Cricenti, D. Becerrill, M. Luce, F. Matteocci and A. Di Trollo*



13149

Correction: Perovskite single crystal SCLC measurement prediction using a machine learning model

Sarvani Jowhar Khanam, Harinath Kuruva, Salman Abdul Moiz* and Murali Banavoth*



CORRECTIONS

13150

Correction: Photo-gain optimization in multilayer organic phototransistors by study of space-charge limited current

Giulia Baroni, Francesco Reginato, Mario Prosa, Marco Brucale, Federico Prescimone, Mirko Seri, Katherine Gallegos-Rosas, Caterina Soldano, Margherita Bolognesi* and Stefano Toffanin*

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