

Journal of Materials Chemistry C

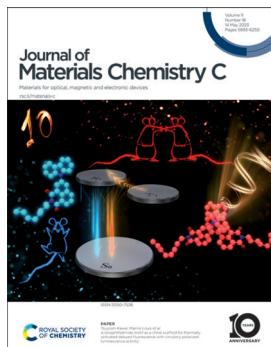
Materials for optical, magnetic and electronic devices

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EDITORIAL

5905

Circularly polarized luminescence: a themed collection

Jeanne Crassous,* Lorenzo Di Bari,* Wai-Yeung Wong*
and You-Xuan Zheng*

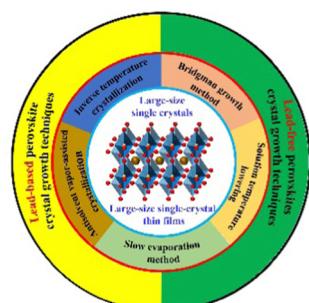


REVIEW

5908

Advances of metal halide perovskite large-size single crystals in photodetectors: from crystal materials to growth techniques

Meiyu Yang, Zhiguo Nie, Xinyi Li, Rui Wang, Yang Zhao*
and Huan Wang*



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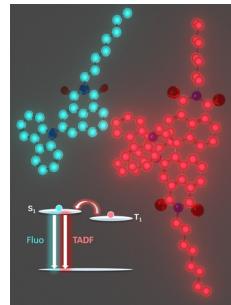
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A binaphthalimide motif as a chiral scaffold for thermally activated delayed fluorescence with circularly polarized luminescence activity

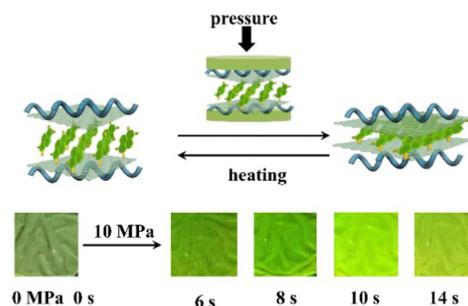
Yugo Tsuji, Natsuko Kanno, Chigusa Goto, Shohei Katao, Yasuo Okajima, Pablo Reine, Paulius Imbrasas, Sebastian Reineke, Katsuyuki Shizu, Takuya Nakashima, Hironori Kaji, Tsuyoshi Kawai* and Marine Louis*



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A metastable molecular array guided by the synergy of confinement and charge repulsion for piezochromic sensors

Jing Liu, Ruixing Wang, Xinrui Wang, Kaixiang Liang, Wenying Shi* and Chao Lu



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Cationic tetraphenylethylene-based AIE-active acrylonitriles: investigating the regioisomeric effect, mechanochromism, and wash-free bioimaging

Xiaoyuan Tian, Hui Wang, Shixian Cao, Yunting Liu, Fanda Meng,* Xiaoyan Zheng* and Guangle Niu*

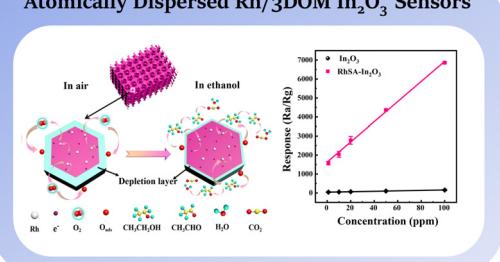


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Atomically dispersed rhodium on ordered macroporous In_2O_3 for the highly sensitive detection of ethanol and the sensing mechanism

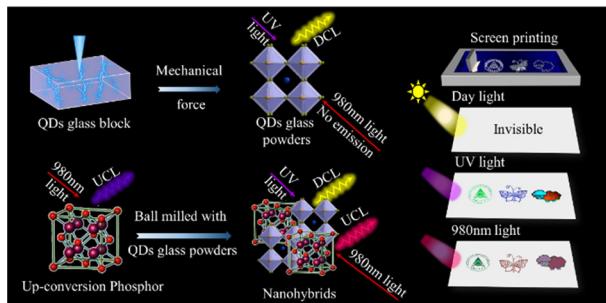
Fubo Gu, Lanlan Zhang, Song Hong, Dongmei Han and Zhihua Wang*

Atomically Dispersed Rh/3DOM In_2O_3 Sensors



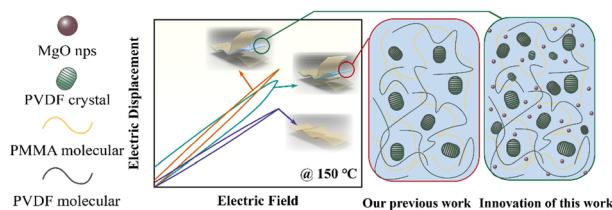
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**Nanohybrids with switchable multicolour emission for anticounterfeiting**

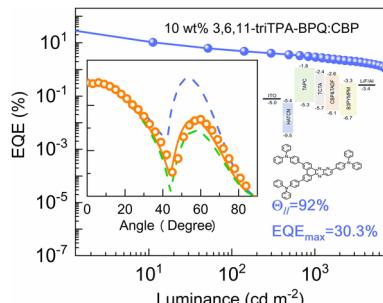
Yongmin Duan, Siyuan Fu, Zehui Wang, Shiqing Xu and Junjie Zhang*

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**Achieving high energy density at a low electric field of high-temperature sandwich-structured polymer dielectric composite by PVDF crystallinity regulation**

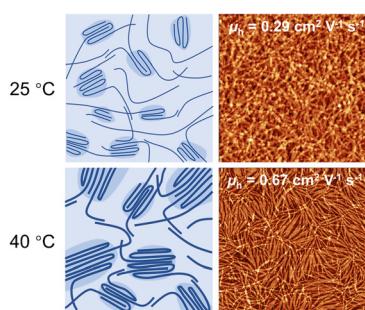
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**Structural control of charge transport in polymer monolayer transistors by a thermodynamically assisted dip-coating strategy**

Chenming Ding, Junyang Deng, Miao Cheng, Mengmeng Li* and Ling Li

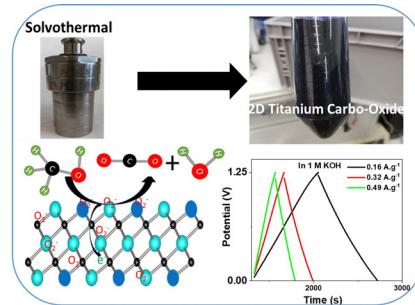


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Ti₃AlC₂ MAX phase conversion to a novel 2D titanium carbo-oxide by an eco-friendly and low-cost method: highly selective gas sensing and supercapacitor evaluations

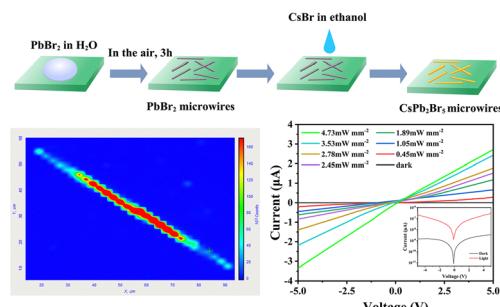
Roussin Lontio Fomekong,* Jalal Azadmanjiri, Joyce Boitumelo Matsoso, Marco Serra, Sana Akir, Lukáš Dekanovsky, Jan Luxa, Eva Vejmelková and Zdeněk Sofer*



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Phase evolution and fluorescence stability of CsPb₂Br₅ microwires and their application in stable and sensitive photodetectors

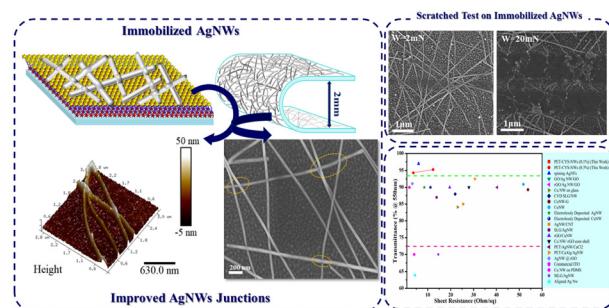
Ning Jiang, Jinwei Wei, Mingjie Lv, Youzhuang Rong, Changmin Wang, Yao Liu, Gongxiang Wei, Xin Han, Yuzhu Wang, Yunyan Liu* and Huiqiang Liu*



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Microwave-assisted immobilized silver nanowires on arbitrary substrates: an eco-friendly technique for next-generation transparent, flexible and robust electronics

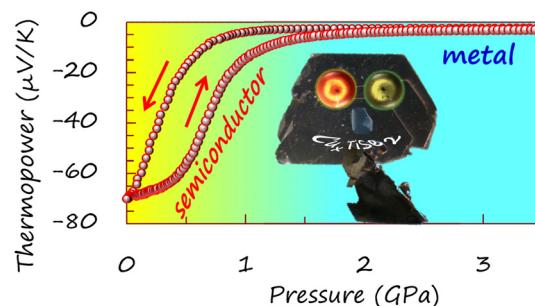
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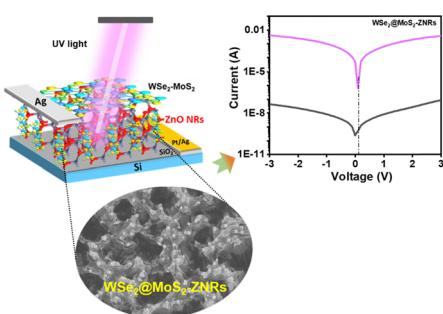
Controlling the semiconductor–metal transition in Cu-intercalated TiSe₂ by applying stress

Natalia V. Morozova,* Aleksandr Yu. Usik, Igor V. Korobeinikov, Alexander N. Titov and Sergey V. Ovsyannikov



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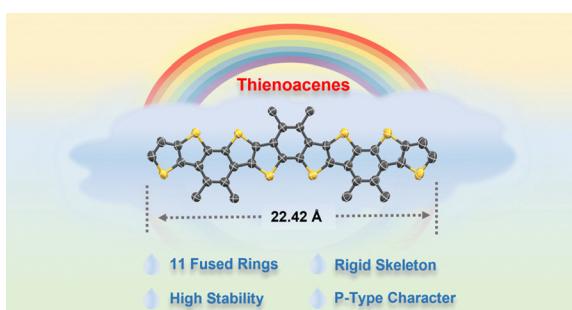
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Tunable defect-engineered nanohybrid heterostructures: exfoliated 2D WSe₂–MoS₂ nanohybrid sheet covered on 1D ZnO nanostructures for self-powered UV photodetectors

Adhimoorthy Saravanan,* Bohr-Ran Huang,* Deepa Kathiravan, Shikha Sakalley and Sheng-Chi Chen*

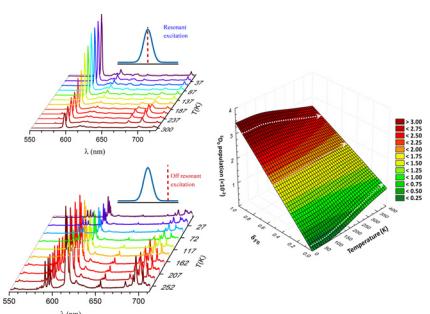
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Syntheses and properties of 11-ring-fused linear thienoacenes

Shihui Liu, Debin Xia,* Jinghao Wang, Congwu Ge, Sue Hao, Jian Zhang, Ping Wang, Kaifeng Lin, Shaoqiang Dong, Evgeny Tretyakov, Yulin Yang* and Xike Gao

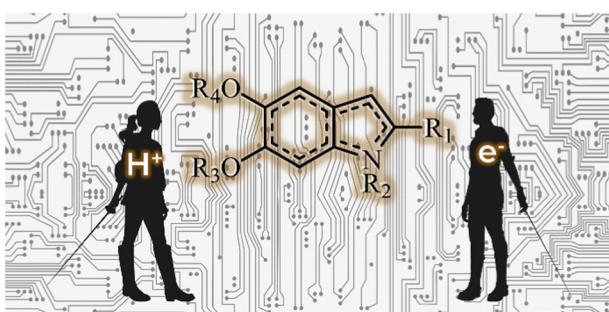
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Resonance/off-resonance excitations: implications on the thermal evolution of Eu³⁺ photoluminescence

Arnab De, Miguel A. Hernández-Rodríguez, Albano N. Carneiro Neto,* Vivek Dwij, Vasant Sathe, Luis D. Carlos* and Rajeev Ranjan*

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Controlling ions and electrons in aqueous solution: an alternative point of view of the charge-transport behavior of eumelanin-inspired material

João V. Paulin,* Mariane P. Pereira, Bruna A. Bregadiolli, João P. Cachaneski-Lopes, Carlos F. O. Graeff, Augusto Batagin-Neto and Carlos C. B. Bufon*

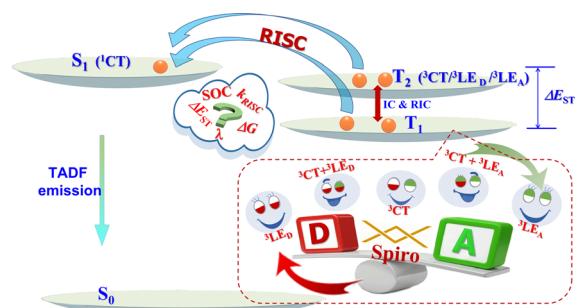


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Importance of spin-triplet excited-state character in the reverse intersystem crossing process of spiro-based TADF emitters

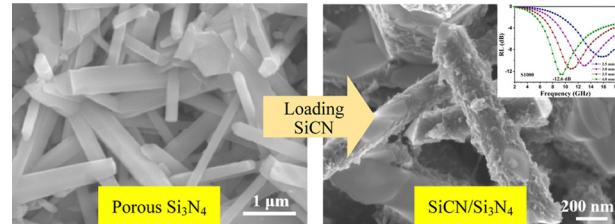
Jiaqi Li, Tian Tian, Dongxue Guo, Tingyu Li, Mingfan Zhang and Houyu Zhang*



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Increased microwave absorption property of porous Si_3N_4 ceramics by loading polymer-derived SiCN for a multifunctional design

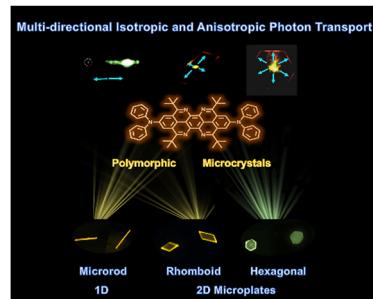
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Diphenylamine substituted 5,6,12,13-tetraazaperopyrene based polymorphic microcrystals versatile in multi-directional isotropic and anisotropic photon transport

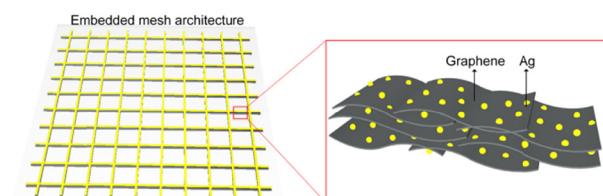
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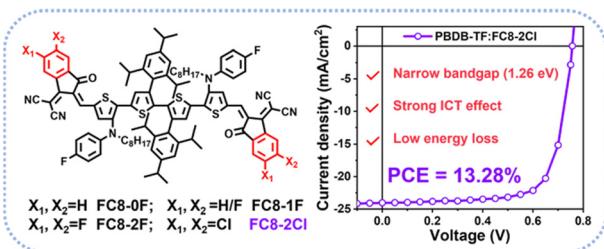


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Micro–nano dual-scale embedded graphene/Ag architectures for flexible low-voltage-driven transparent electrothermal films

Bangbang Nie, Huiqian Song, Benkun Lv, Xinyi Xiong, Guochen Qi, Yudong Zhang, Jingjiang Qiu, Xiangming Li,* Jinyou Shao and Zonhan Wei*

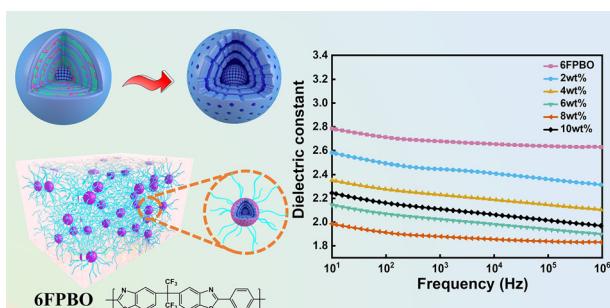




Completely non-fused ring acceptors with low non-radiative energy loss enabled by end-group modulation

Hao Li, Jiayao Li, Chenyi Yang, Jingwen Wang,
Du Hyeon Ryu, Lijiao Ma, Yi Yang, Won Suk Shin,
Shaoqing Zhang* and Jianhui Hou

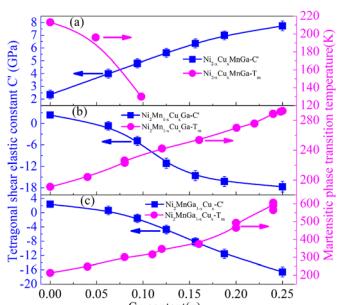
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An ultralow- k dielectric derived from a fluorinated polybenzoxazole composite film with yolk–multishell mesoporous silica nanostructures

Zhe Zhang, Peng He, Wenjun Ma, Peiyuan Zuo,*
Xiaoyun Liu and Qixin Zhuang*

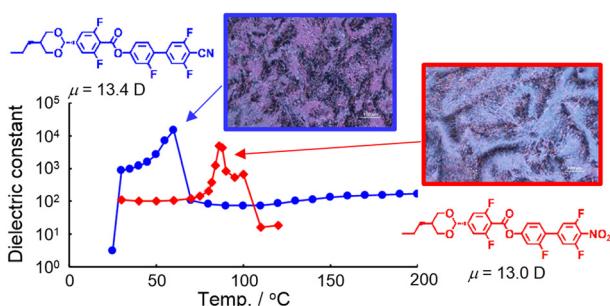
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A unified physical mechanism for martensitic phase transition and ductility in Ni–Mn-based ferromagnetic shape memory alloys: the case of Cu-doped Ni₂MnGa

Guijiang Li,* Lei Xu and Zhenhua Cao

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Synthesis of liquid crystals bearing 1,3-dioxane structures and characterization of their ferroelectricity in the nematic phase

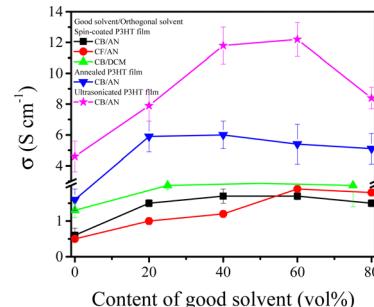
Hiroyuki Matsukizono, Koki Iwamatsu, Sota Endo,
Yasushi Okumura, Shizuka Anan and Hirotugu Kikuchi*

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The importance of a good solvent of conjugated polymers for preparing dopant solution on the electrical and mechanical properties of sequentially doped conjugated polymer films

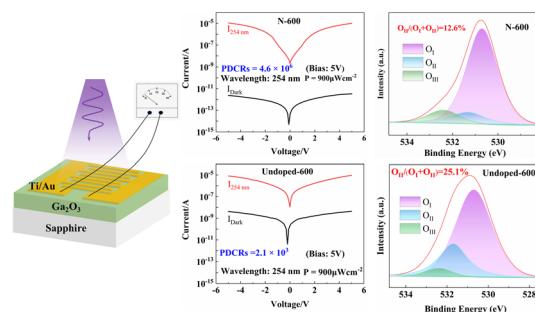
Jiaxin He, Hongtao Shan, Bingyan Zhu, Jianjun Zhou and Hong Huo*[†]



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Regulation of oxygen vacancies in nitrogen-doped Ga_2O_3 films for high-performance MSM solar-blind UV photodetectors

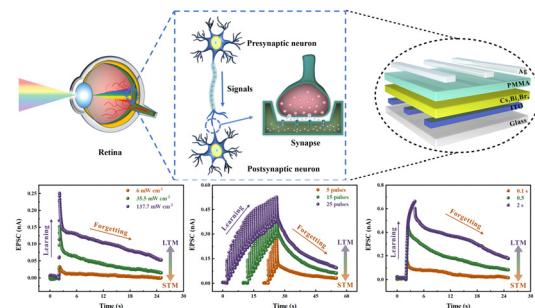
Jinjin Wang, Xueqiang Ji, Song Qi, Zhitong Li, Zuyong Yan,* Mengcheng Li, Xu Yan, Aoxue Zhong, Chao Lu, Xiaohui Qi and Peigang Li*



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Self-powered optoelectronic artificial synapses based on a lead-free perovskite film for artificial visual perception systems

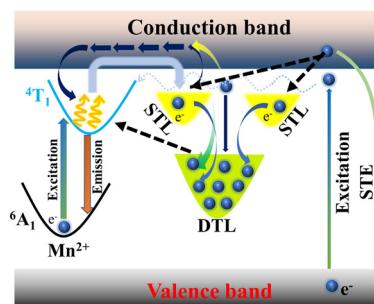
Pengfei Zhao, Mingqing Cui, Yanting Li, Jie Lao, Chunli Jiang, Chunhua Luo,* Bobo Tian, Hechun Lin, Hui Peng* and Chun-Gang Duan



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Effect of Mn^{2+} doping on exciton recombination and carrier trapping in the Cs_2CdCl_4 metal halide

Dayu Huang, Ziyong Cheng, Qiuyun Ouyang,* Hongzhou Lian* and Jun Lin*



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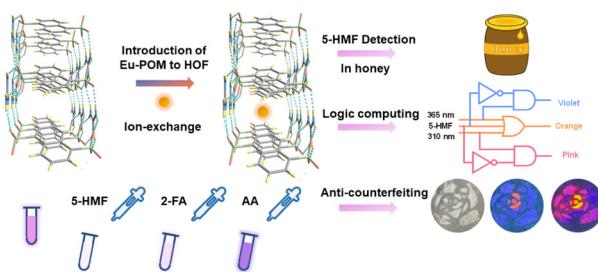
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A high-performance UV photodetector with superior responsivity enabled by a synergistic photo/thermal enhancement of localized surface plasmon resonance

Luxia Zheng, Yang Yang,* Chris R. Bowen, Lan Jiang, Zhan Shu, Yun He, Hongli Yang, Zongzhuo Xie, Taixu Lu, Feng Hu* and Weiyou Yang

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A multifunctional fluorescent platform based on polyoxometalate-functionalized HOFs for 5-hydroxymethylfurfural, 2-furaldehyde and ascorbic acid sensing, logic computing and anti-counterfeiting

Zishuo Zhang, Xin Xu and Bing Yan*