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Journal of Materials Chemistry C

Materials for optical, magnetic and electronic devices

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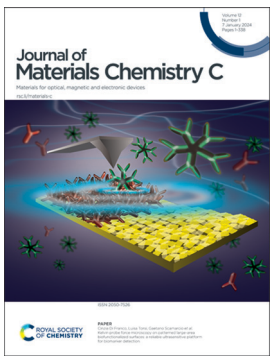

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See Cinzia Di Franco, Luisa Torsi, Gaetano Scamarcio *et al.*, pp. 73–79. Image reproduced by permission of Matteo Piscitelli from *J. Mater. Chem. C*, 2024, **12**, 73.

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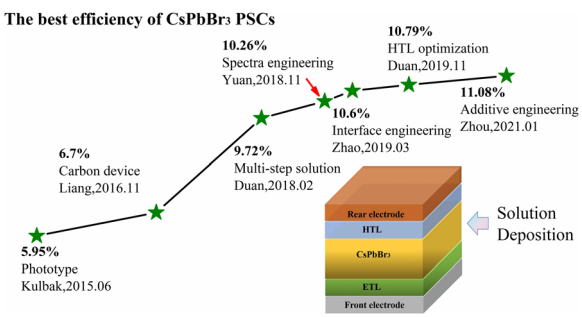

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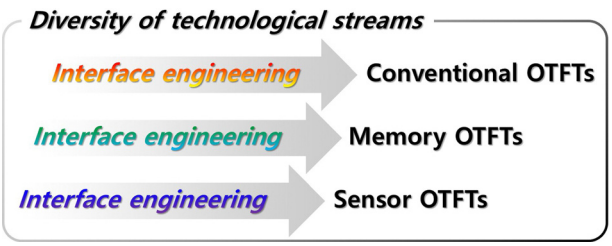
A review on diverse streams of interface engineering for organic thin-film transistors

Jin-Hyuk Kwon, Min-Hoi Kim* and Jin-Hyuk Bae*



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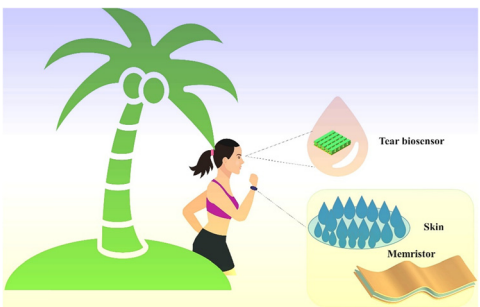
Jie Zhang,* Junmei Du, Chuan Yang, Haotian Liang, Zelin Cao, Xuegang Duan, Wentao Yan, Yong Zhao and Bai Sun*



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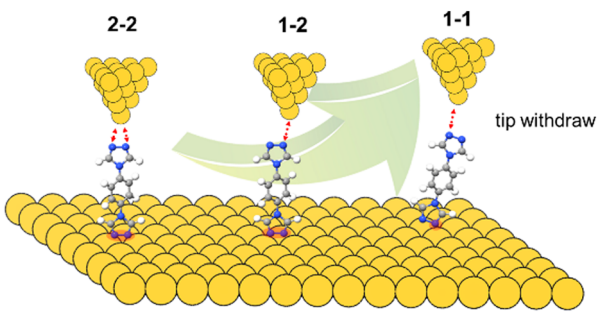
The regulation effect of coordination number on the conductance of single-molecule junctions

Qiang Wan, Hong-Yang Guo, Yi-Fan Zhou, Jia-Nan Jiang, Wenbo Chen,* Ju-Fang Zheng, Yong Shao, Ya-Hao Wang* and Xiao-Shun Zhou*



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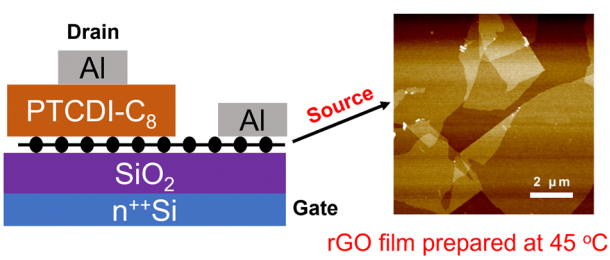
Kun Qiao, Qing Ma, Junjia Wang and Binghao Wang*



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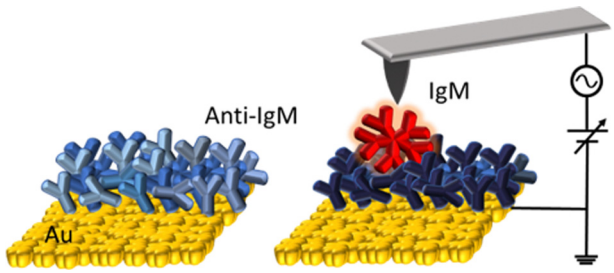

Kelvin probe force microscopy on patterned large-area biofunctionalized surfaces: a reliable ultrasensitive platform for biomarker detection

Cinzia Di Franco,* Matteo Piscitelli, Eleonora Macchia, Cecilia Scandurra, Michele Catacchio, Luisa Torsi* and Gaetano Scamarcio*

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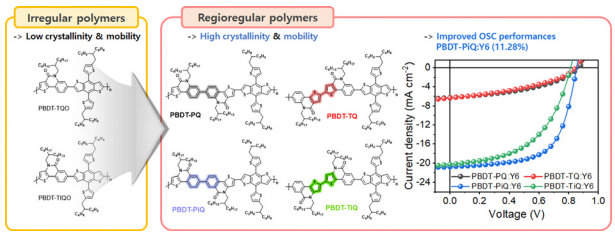

Highly crystalline polycyclic aromatic lactam-based regioregular wide-band gap polymer donors for organic solar cells

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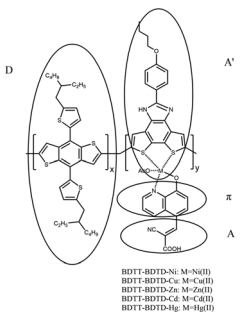

Novel and high photovoltaic performance sensitizers of copolymeric sulfur coordination metal complexes of benzimidazolyl benzodithiophene derivatives

Yu Wang, Houpeng Zhang, Yong Tian, Yinfeng Ma, Huimin Liu, Jie Yi* and Chaofan Zhong*

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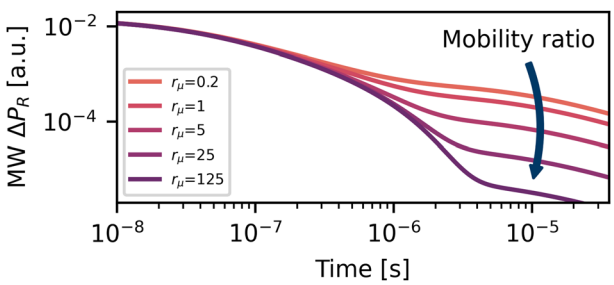

Unravelling material properties of halide perovskites by combined microwave photoconductivity and time-resolved photoluminescence spectroscopy

Christian Kupfer,* Vincent M. Le Corre, Chaohui Li, Larry Lüer, Karen Forberich, Masashi Kato, Andres Osvet and Christoph J. Brabec

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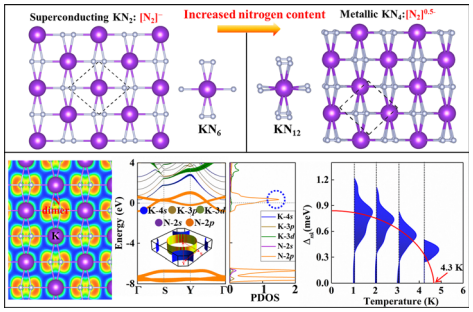
Unconventional stoichiometric two-dimensional potassium nitrides with anion-driven metallicity and superconductivity

Qiuping Yang, Ying Zhao, Xue Jiang,* Baotian Wang and Jijun Zhao



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A *para*-azaquinodimethane integrated quinoidal conjugated microporous polymer

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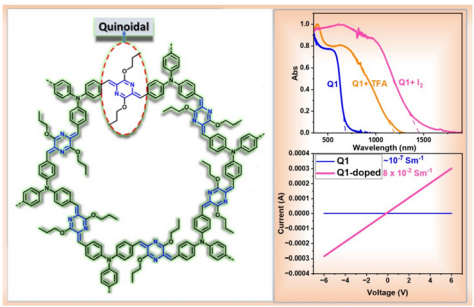

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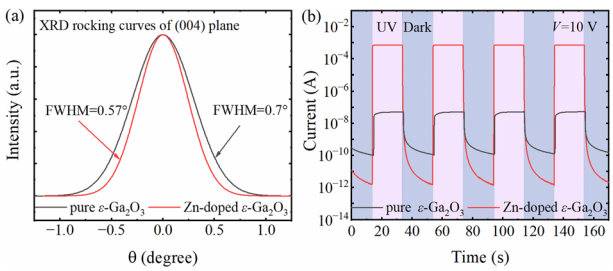
Enhancement of crystalline quality and solar-blind photodetection characteristics of ε-Ga_2O_3 films by introducing Zn impurity

Xuan Sun, Kewei Liu,* Xing Chen, Yongxue Zhu, Zhen Cheng, Jialin Yang, Binghui Li, Lei Liu and Dezhen Shen*



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Methyl red based metal–organic frameworks for the selective and tuneable sensing of ammonia gas

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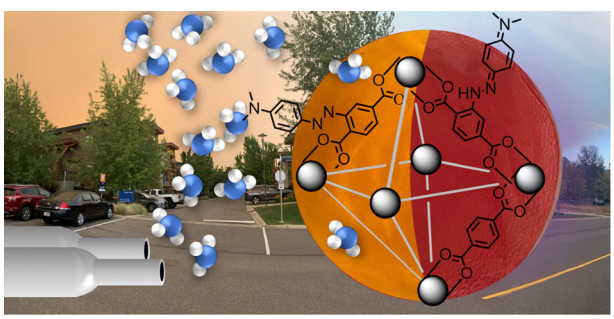

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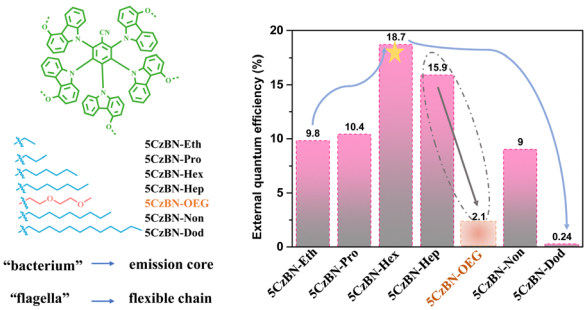

"Flagella effect" of thermally activated delayed fluorescence emitter dominating the efficiency of non-doped solution-processed OLEDs

Guimin Zhao, Yuheng Lou, Renjie Ji, Qiyin Ran, Haowen Chen, Wenwen Tian, Wei Jiang* and Yueming Sun

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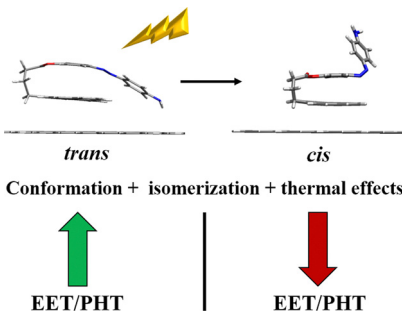

Photoinduced energy and electron transfer at graphene quantum dot/azobenzene interfaces

Magdalena Kaźmierczak, Samuele Giannini and Silvio Osella*

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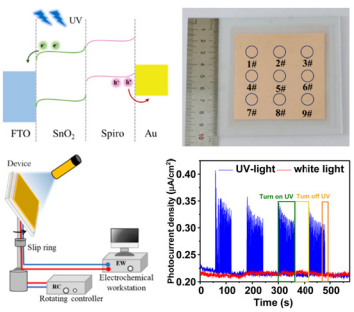

An ultraviolet, self-powered, and large area photodetector based on a n-SnO_2/p-spiro-OMeTAD organic–inorganic heterojunction

Mengqing Li, Huawei Zhou,* Jie Yin* and Xianxi Zhang*

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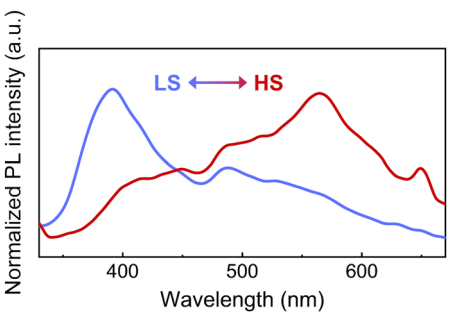

Spin-crossover tuning of the luminescence in 2D Hofmann-type compounds in bulk and exfoliated flakes

Víctor García-López, Francisco Marques-Moros, José Troya, Josep Canet-Ferrer,* Miguel Clemente-León* and Eugenio Coronado

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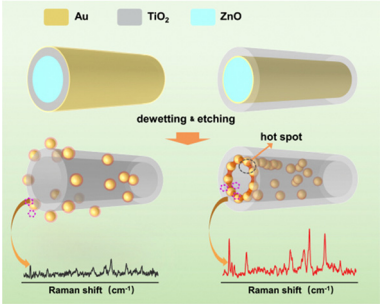
Regulating thermal diffusion of gold thin films at solid-state interfaces for site-selective decoration of gold nanoparticles on titania nanotubes as an efficient SERS sensing platform

Zhiyan Hu, Shan Chen, Yue Shi, Fengyu Yuan, Fengjiao Yu, Jun Fang and Yang Yang*



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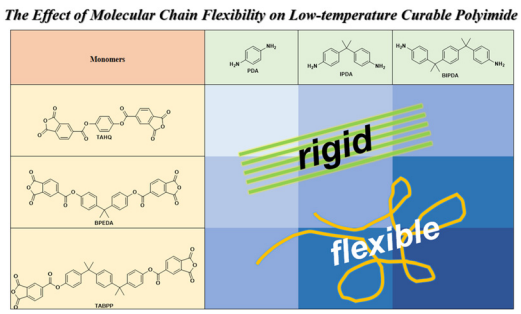
A comprehensive study on the effect of molecular chain flexibility on the low-temperature curing ability of polyimides

Shan Huang, Yao Zhang, Xingwang Lai, Xialei Lv,* Jinhui Li,* Siyao Qiu, Guoping Zhang* and Rong Sun



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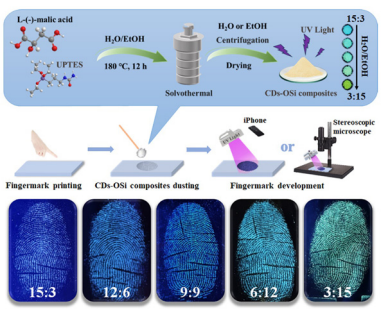
Simple synthesis of carbon dots/organosilicon composites with tunable solid-state emission and size for accurate latent fingerprint identification

Xiyue Cao, Jiashi Chen, Yue Chen, Xuanfeng Jiang, Wen Fan, Huijuan Ma, Zhengguang Sun* and Yuan Zhan*



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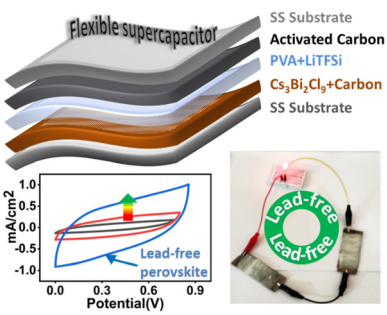
Lead-free halide perovskites for high-performance thin-film flexible supercapacitor applications

Ankur Yadav, Ankush Saini, Praveen Kumar and Monojit Bag*



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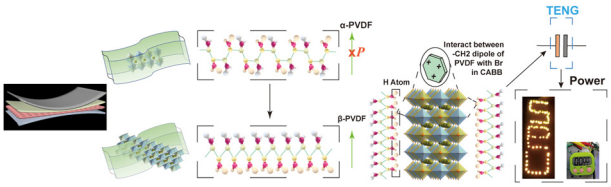

Enhanced nanogenerator by embedding lead-free double perovskite $Cs_2AgBiBr_6$ in polymer matrix for hybrid energy harvesting

Mengrou Wang, Xin Wang, Yubing Xu, Shunjie Chai, Zhiwei Zhao, Qing Li, Jun Wu, Jing Chen, Zhuoya Zhu, Byung Seong Bae, Razika Tala-Ighil, Jianming Zhou, Ying Zhu and Wei Lei*

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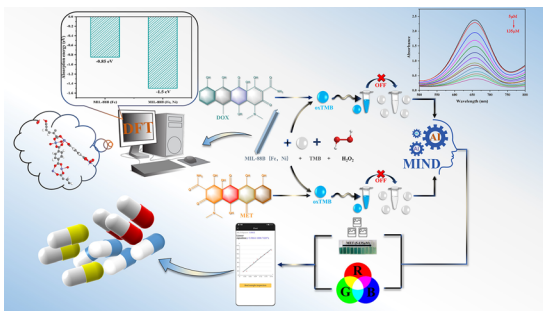

Reasonable construction of a bimetallic organic framework MIL-88B (Fe, Ni) nanoenzyme based on deep learning assisted doxycycline hydrochloride and methyloxytetracycline hydrochloride

Mengmeng Sun, Kaixin Pu, Xingrong Hao, Tao Liu, Zhiwei Lu, Gehong Su, Chun Wu, Yanying Wang, Shuang Cai,* Xiaoqing Zhao* and Hanbing Rao*

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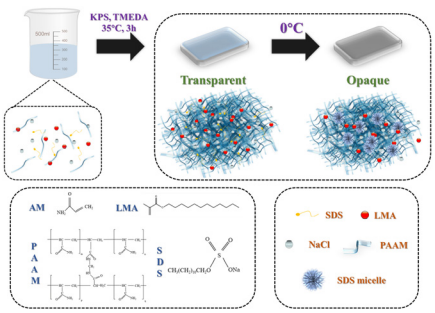

Thermochromic and conductive hydrogels with tunable temperature sensitivity for dual sensing of temperature and human motion

Dongmei Lei, Yunchao Xiao, Man Xi, Yang Jiang* and Yi Li*

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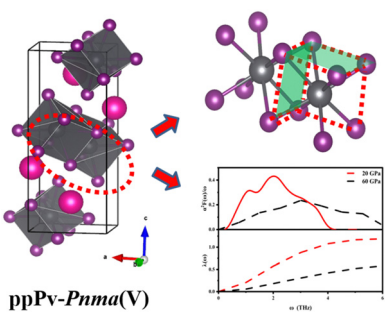

Piezochromic effects and low-pressure superconductivity discovered in inorganic halide perovskite $RbPbI_3$

Siyuan Zhou, Hao Tian, Xiaoyu Kuang, Siyu Jin, Miao Yu, Jichao Chen and Aijie Mao*

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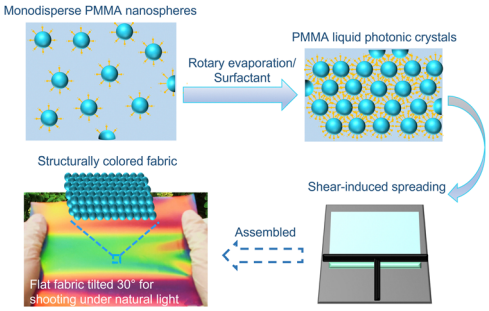
Structural coloration of textiles with PMMA photonic crystals

Yanan Wang, Xinyang Li, Yalan Zhang, Xiaohui Wang, Yichen Li, Yijia Liu, Dong Wang, Guojin Liu, Yi Huang and Jianzhong Shao*



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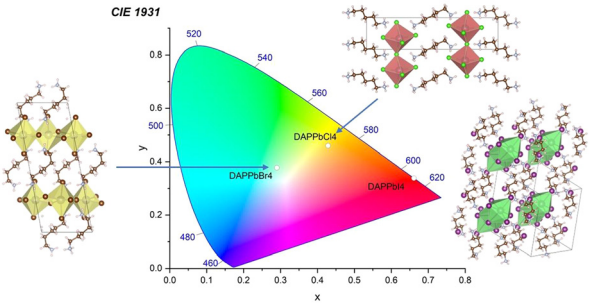
The effect of the halogen on the structural, optoelectronic, and luminescent properties of hybrid (1,5-pentanediamine)PbX_4 (X = Cl, Br, I) perovskites

D. S. Shtarev,* M. I. Balanov, A. Ju. Major, A. V. Gerasimenko, R. Kevorkyants, D. A. Zharovov, K. M. Bulanin, D. V. Pankin, A. V. Rudakova, D. A. Chaplygina, N. I. Selivanov and A. V. Emeline



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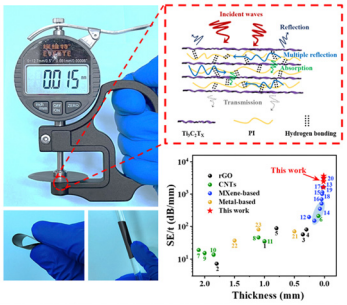
Ultrathin and flexible polyimide/$Ti_3C_2T_X$ MXene composite films for electromagnetic interference shielding with harsh environment tolerance

Binzhe Tan, Dongya Guo, Zhirong Tao, Zhibo Chen, Zhijian Lv, Guozhang Wu* and Yu Lin*



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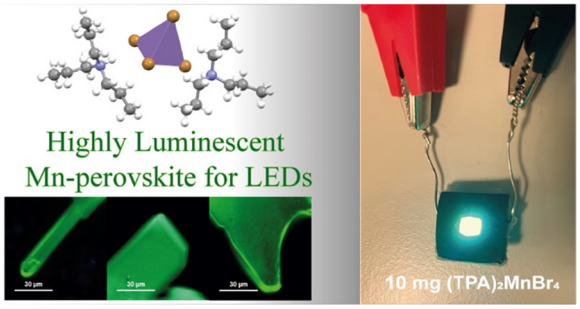
A new eco-friendly and highly emitting Mn-based hybrid perovskite toward high-performance green down-converted LEDs

Asmae Ben Abdelhadi, Mario Gutiérrez, Boiko Cohen, Luis Lezama, Mohammed Lachkar and Abderrazzak Douhal*



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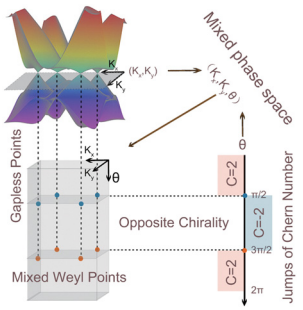

A mixed Weyl semimetal in a two-dimensional ferromagnetic $BaCrSe_2$ monolayer

Bo Yuan, Wenli Sun, Yingxi Bai, Zhiqi Chen, Baibiao Huang, Ying Dai* and Chengwang Niu*

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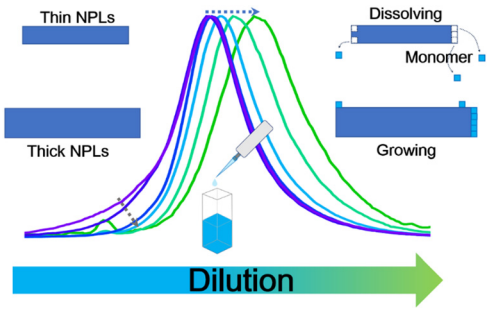

Emission variation and spontaneous deformation of $CsPbBr_3$ perovskite nanoplatelets at low concentrations

Hui Zhang, Feifei Cai, Bo Huang,* Huichao Zhang* and Shitong Li

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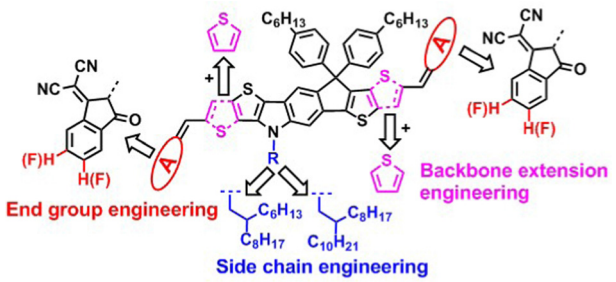

Molecular engineering of *N*,*S*-heteroarene-based small-molecule acceptors: effects of side chains, backbone extension and end groups on structure, optoelectronic properties and solar cell performance

Gang Wang, Xuejiao Tang, Yalun Zhao, Mingfan Li, Pingping Huang, Xiaoying Zhang, Chao Weng and Ping Shen*

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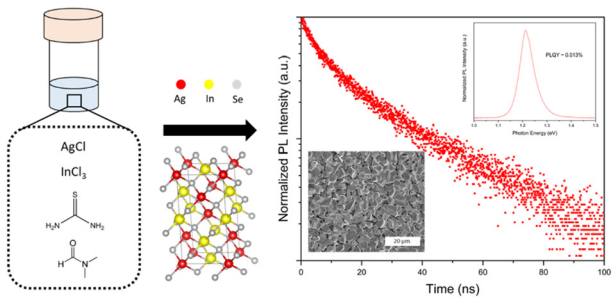

Enhancing the optoelectronic properties of solution-processed $AgInSe_2$ thin films for application in photovoltaics

Shubhanshu Agarwal, Kyle Weideman, David Rokke, Kiruba Catherine Vincent, Dmitry Zemlyanov and Rakesh Agrawal*

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