

Journal of Materials Chemistry C

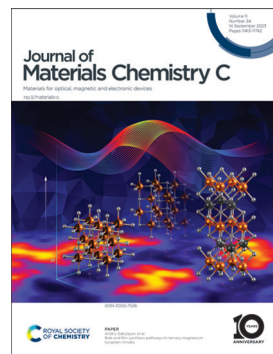
Materials for optical, magnetic and electronic devices

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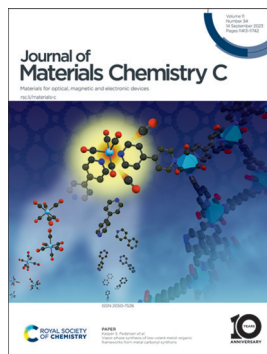
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ISSN 2050-7526 CODEN JMCCCC 11(34) 11413–11742 (2023)



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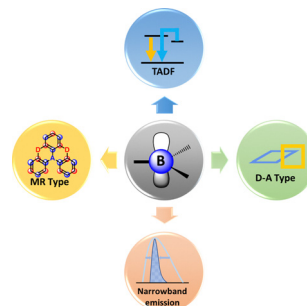
See Kasper S. Pedersen *et al.*, pp. 11460–11465. Image reproduced by permission of Carl Emil Andersen from *J. Mater. Chem. C*, 2023, 11, 11460.

REVIEW

11425

Toward narrowband emission: the chemical strategies for modifying boron-based luminescent materials

Fu-Ming Liu, Ling-Yi Ding,* You-Jun Yu, Meng-Tian Li, Liang-Sheng Liao and Zuo-Quan Jiang*

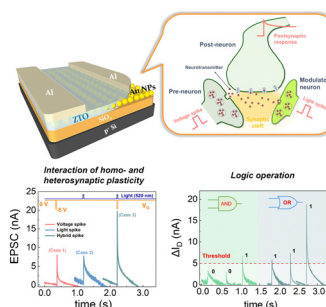


COMMUNICATION

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Super-additive interaction of homo- and heterosynaptic plasticity in a hot electron transfer optosynapse for visual sensing memory and logic operations

Li-Chung Shih, Kuan-Ting Chen, Shi-Cheng Mao, Ya-Chi Huang, Fang-Jui Chu, Tzu-Hsiang Liu, Wen-Hui Cheng and Jen-Sue Chen*



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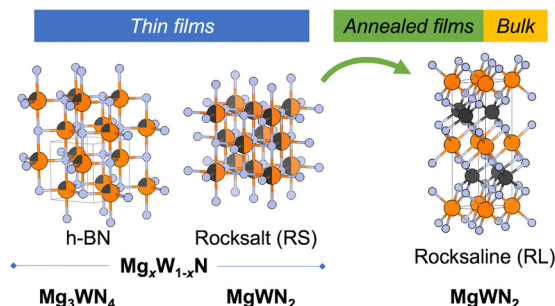


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Bulk and film synthesis pathways to ternary magnesium tungsten nitrides

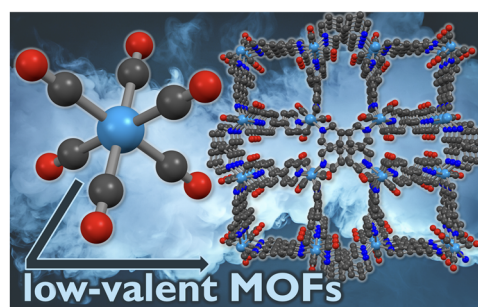
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Vapor-phase synthesis of low-valent metal–organic frameworks from metal carbonyl synthons

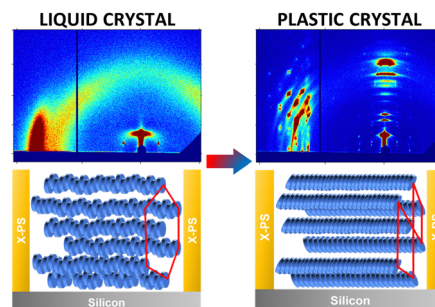
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Crystalline solid retains memory of anisotropy in precursor liquid crystalline phase

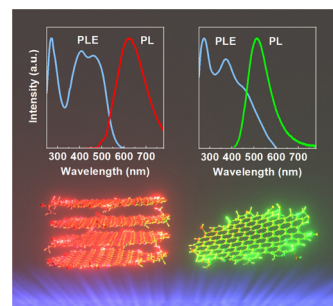
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Highly fluorescent nitrogen-doped carbon dots with large Stokes shifts

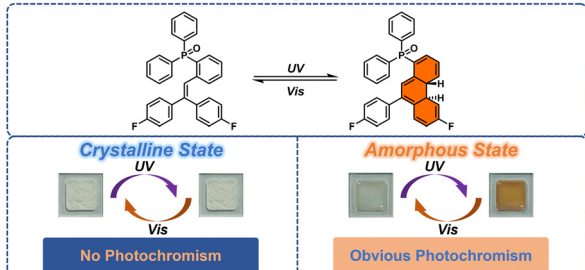
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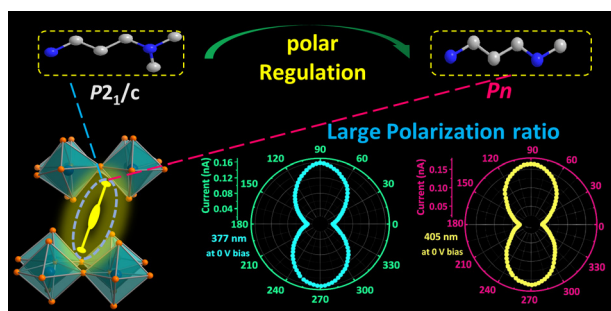
Controlling the Photochromism through the Transition of Aggregated States



Manipulating the transition of aggregated states to control the photochromism in a new triphenylethylene derivative

Mingyao Shen, Cheng Huang, Yuxin Xiao, Rongjuan Huang, Vonika Ka-Man Au* and Tao Yu*

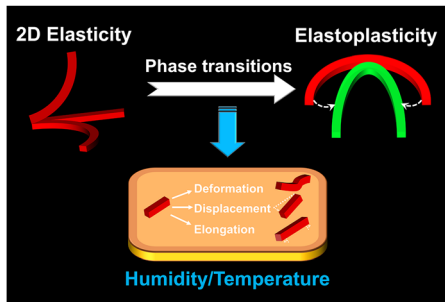
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Amplification of polarization ratio is observed in monolayer Dion–Jacobson hybrid perovskites

Dongying Fu,* Yanli Ma, Chang-Yuan Su, Zhuo Chen and Da-Wei Fu*

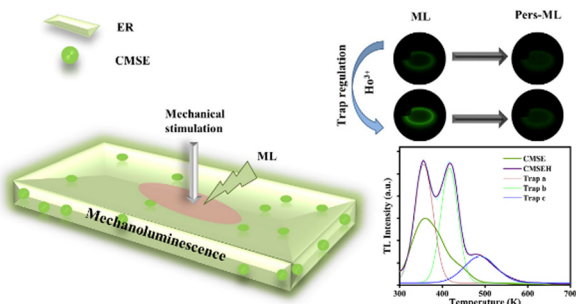
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Integrating 2D elasticity and elastoplasticity into a multi-stimuli-responsive crystal through phase transitions

Yihang Hou, Pengpeng Yang, Jingjing Zhao, Jinqiu Fu, Chiyi Wang, Yuzhong Shi, Wei Zhuang, Keke Zhang* and Hanjie Ying

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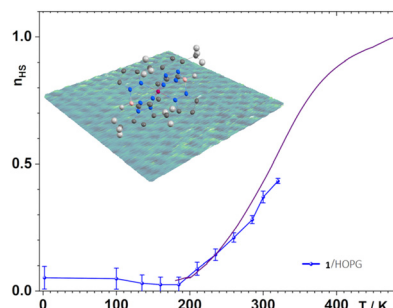
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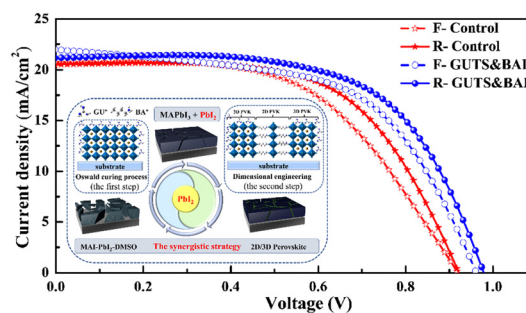
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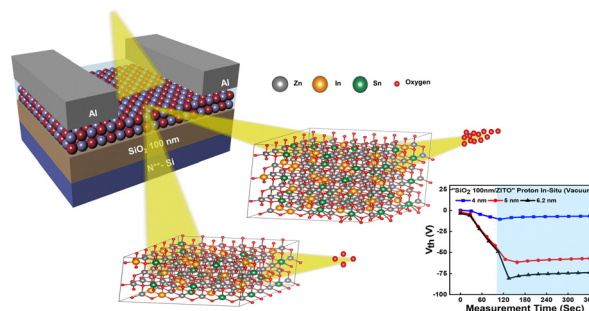
Hongbing Ran, Tao Ouyang, Shiyu Wang, Yue Zhao, Yulin Wang, Xiangjie Chen and Yiwen Tang*



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Effect of channel thickness on radiation hardness of solution-processed oxide thin film transistors

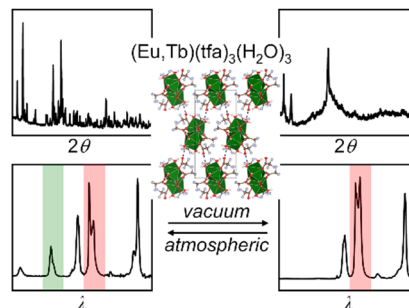
Hyunwoo Kang, Dongil Ho, Youngseok Kim, Jaeseung Kim, Hyunjung Kim and Choongik Kim*



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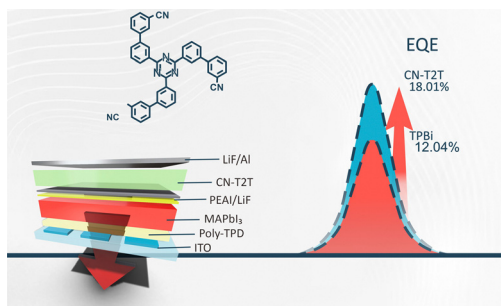
Crystalline-to-semicrystalline transition in lanthanide trifluoroacetates: implications for optical pressure and temperature sensing

Regina G. Szlag and Federico A. Rabuffetti*



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Optimization of a triazine-based acceptor (CN-T2T) as the electron transport layer for highly efficient near-infrared perovskite light-emitting diodes

Ade Kurniawan, Chih-Chien Lee, Johan Iskandar, Chih-Yi Liu, Bhola Nath Pal, Hsin-Ming Cheng, Shun-Wei Liu* and Sajal Biring*

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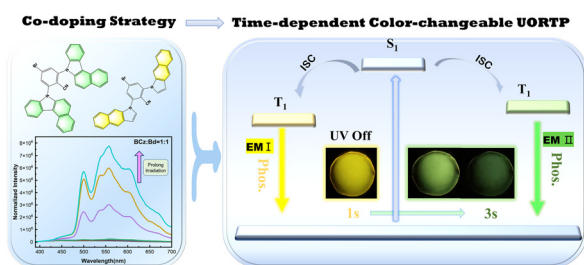
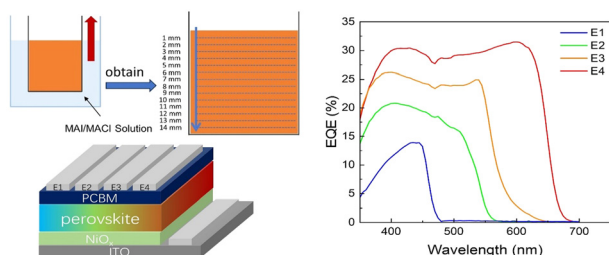


Photo-activated time-dependent color-changeable ultralong organic room temperature phosphorescence by co-doping strategy

Huiwen Jin, Xue Zhang, Zhimin Ma, Chen Qian, Xiaohua Fu, Zewei Li, Mingxing Chen, Yan Guan and Zhiyong Ma*

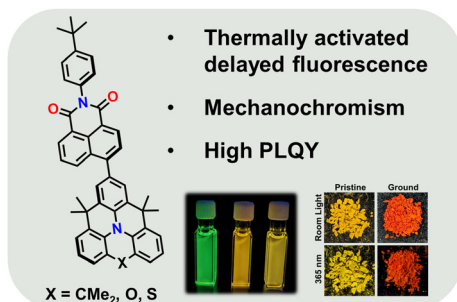
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Controllable bandgap-gradient halide perovskite films via dip-coating and halide anion exchange for multispectral photodiodes with high performance

Yichi Zhang, Jiaxin Liu, Xinli Wu, Yi Peng, Zeyao Han and Yousheng Zou*

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Thermally activated delayed fluorescence and mechanochromism in naphthalimide-azatriangulenes

Seja A. Elgadi, Arwen Y. Cai and Zachary M. Hudson*

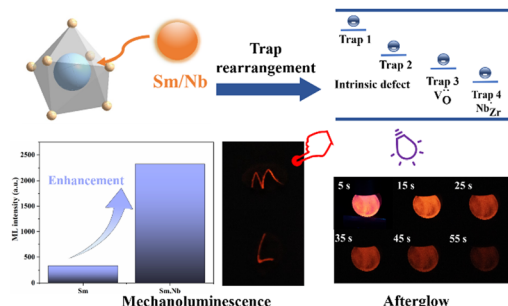


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Significantly enhanced mechanoluminescence from Nb⁵⁺ co-doped ZrO₂:Sm³⁺ via a high valence ion doping strategy

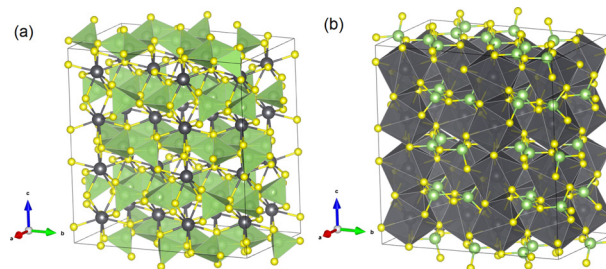
Jia Tong, Jun Huan, Xin Yu, Jia-Hui Cheng, Zhi-Jun Zhang, Juan-Juan Xing, Jing-Tai Zhao and Xin-Xin Yang*



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Joint experimental and theoretical study of PbGa₂S₄ under compression

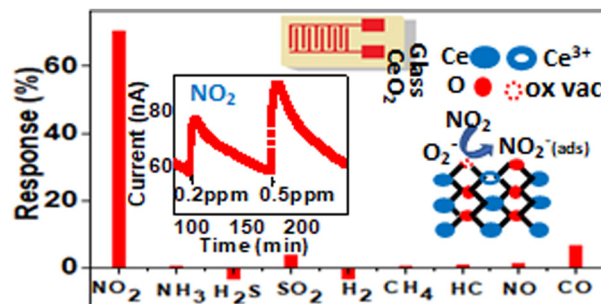
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Nanostructured CeO₂ ultrathin film deposited by the Langmuir Blodgett technique for highly sensitive and specific detection of sub ppm level NO₂ gas at room temperature

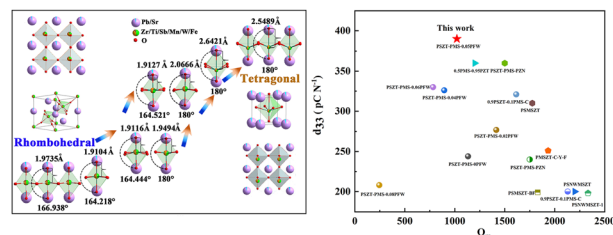
Sipra Choudhury,* Supriya Kanth, Vibha Saxena, Jagannath Gupta and C. A. Betty



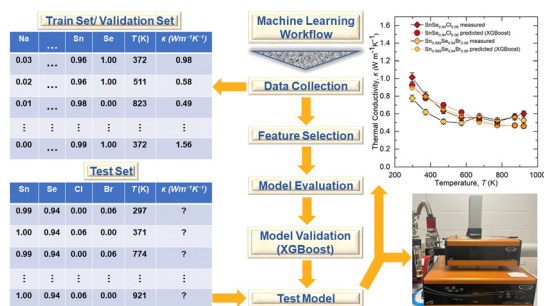
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Enhanced electromechanical performance of PSZT–PMS–PFW through morphotropic phase boundary design and defect engineering

Peixin Qiao, Ying Yang,* Yiping Wang,* Mingzhi Zhang, Pai Qian, Jiakang Wang and Jiyang Zhang



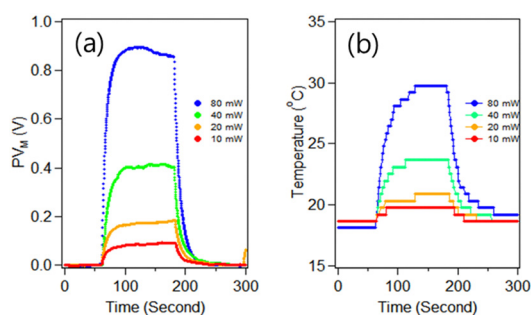
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Experimentally validated machine learning predictions of ultralow thermal conductivity for SnSe materials

N. K. Barua, A. Golabek, A. O. Oliynyk and H. Kleinke*

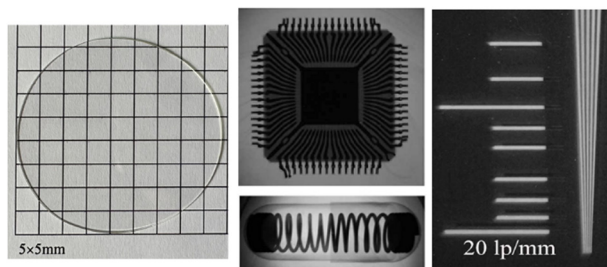
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Broadband paper-photodetectors for visible & UV light detection

Wonjae Kim, Minho Choi and Jaewu Choi*

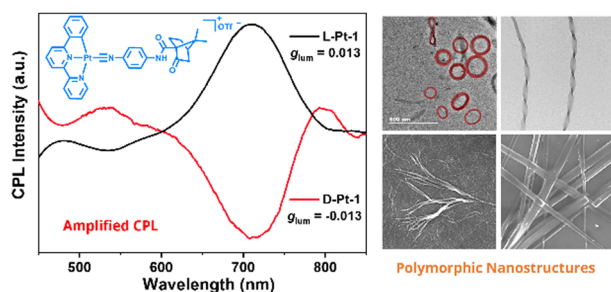
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High-resolution Tb³⁺-doped Gd-based oxyfluoride glass scintillators for X-ray imaging

LianJie Li, JunYu Chen, XiuSha Peng, TingMing Jiang, Lei Lei* and Hai Guo*

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Supramolecular polymerization of chiral platinum(II) complexes: transformable nanoassemblies and their amplified circularly polarized luminescence

Xiaolin Zhu,* Zhen Wang, Yihui Jia, Fang Yang, Youzhi Zhang, Shirui Zhao and Xiaoming He*

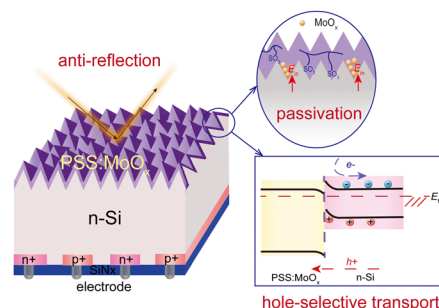


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Solution-processed PSS:MoO_x composite thin film with triple function (passivation, antireflection, and hole-selective transport) for application in IBC solar cells

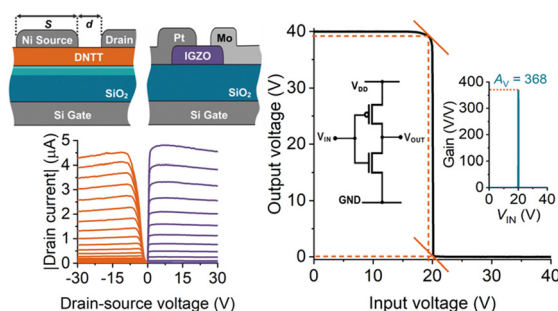
Kunpeng Ge, Wenqian Zhang, Xin Zhou, Linlin Yang, Jianxin Guo, Feng Li, Ying Xu and Xueliang Yang*



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High gain complementary inverters based on comparably-sized IGZO and DNTT source-gated transistors

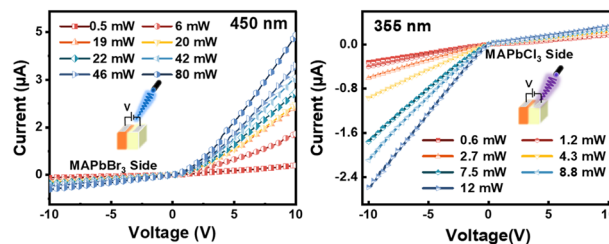
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A photo-switchable rectifier based on the MAPbBr₃–MAPbCl₃ halide perovskite heterostructure for dual-wavelength optical communications

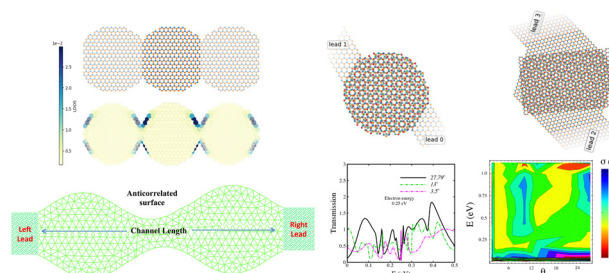
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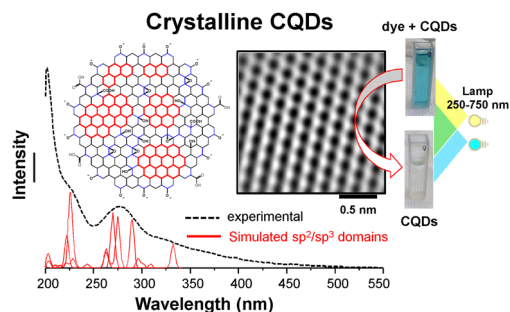
Quantum transport and fractional hall effect in Moiré correlated/anticorrelated interface channels

Farzaneh Shayeganfar* and Ali Ramazani*



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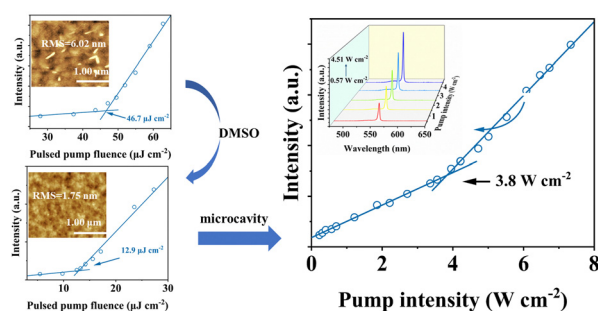
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Efficient generation of highly crystalline carbon quantum dots via electrooxidation of ethanol for rapid photodegradation of organic dyes

Santiago D. Barrionuevo, Federico Fioravanti, Jorge M. Nuñez, Mauricio Llaver, Myriam H. Aguirre, Martin G. Bellino, Gabriela I. Lacconi and Francisco J. Ibañez*

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Solvent atmosphere-assisted crystallization of perovskites for room-temperature continuous-wave amplified spontaneous emission

Deyue Zou, Yunpeng Wang, Yan Zhang, Xiaoyang Guo,* Ying Lv, Jie Lin,* Jingsong Huang and Xingyuan Liu*

RETRACTION

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Retraction: Design and synthesis of a highly sensitive "Turn-On" fluorescent organic nanoprobe for iron(III) detection and imaging

Cuiping Han, Tonghui Huang, Qi Liu, Huiting Xu, Yinping Zhuang, Jingjing Li, Junfeng Hu, Aming Wang and Kai Xu*

