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Journal of Materials Chemistry C

Materials for optical, magnetic and electronic devices

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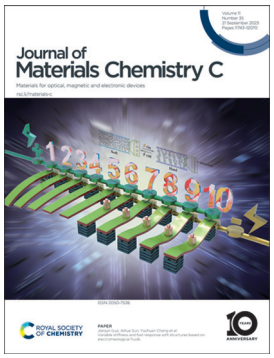

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REVIEWS

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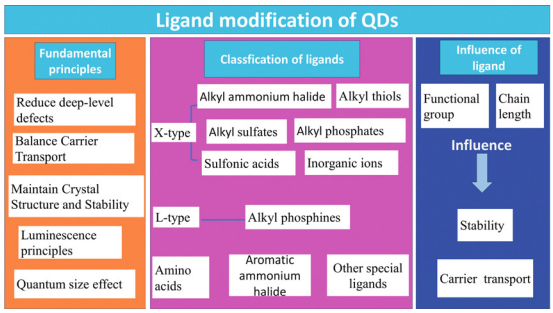
Ligand modification enhanced quantum dot LEDs: principles and methods

Xiangyuan Dong, Kaili Wang, Yanyan Bu* and Xiangfu Wang*



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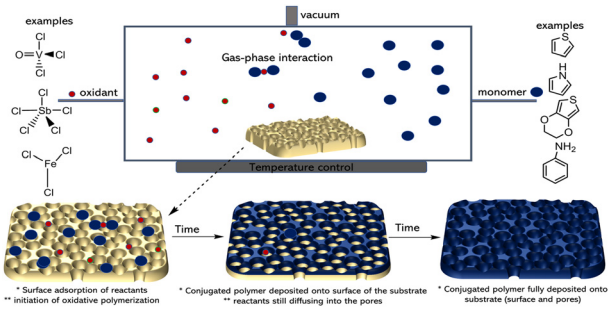
Oxidative chemical vapor deposition for synthesis and processing of conjugated polymers: a critical review

Afshin Dianatdar and Ranjita K. Bose*



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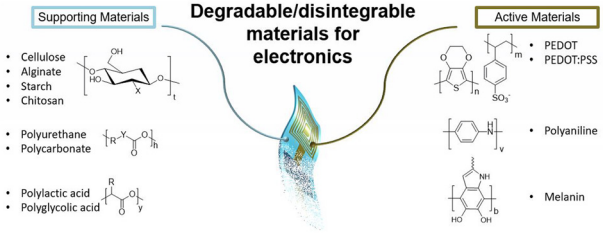
The future of electronic materials is. . .degradable!

Rajat Rai and Daniele Mantione*



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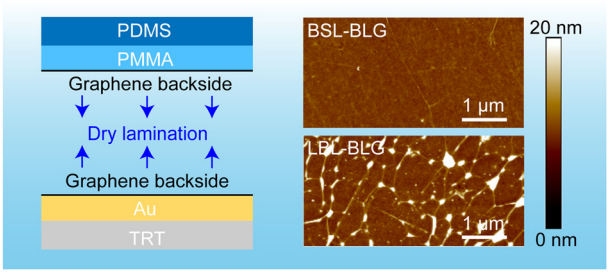
Towards bubble-free, centimeter-sized bilayer graphene enabled by backside lamination

Mingzhi Yan, Xin Gao, Jun Qian, Xiaoyin Gao, Jilin Tang, Yuechen Wang, Yani Wang, Junchuan Tang, Liming Zheng, Kaicheng Jia, Fei Jia, Hongtao Liu,* Guanghui Gao* and Hailin Peng*



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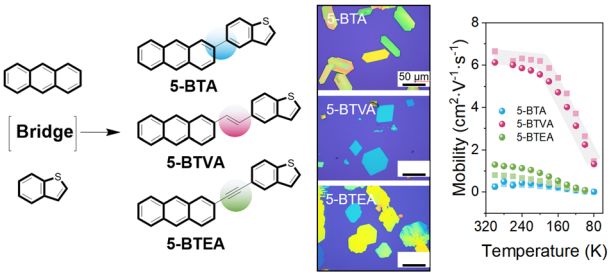
The effect of bridging groups on the charge transport properties of benzothiophene-substituted anthracenes

Xiaosong Shi, Yanan Sun, Jie Liu,* Yicai Dong, Yanjun Shi,* Yuanping Yi and Lang Jiang*



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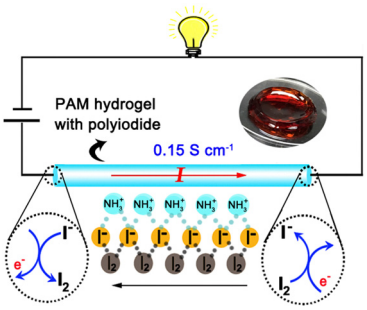
Facile fabrication of a highly-conductive hydrogel through filling with polyiodide

Ji-Hua Zhu, Hongtao Yu* and Hong Meng



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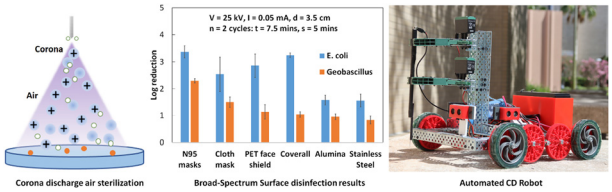

Automated corona discharge (CD) for efficient and broad-spectrum surface and air sterilization

Sriram S. K. S. Narayanan, Zijian Weng, Andrew Tenjo, Marcelo Farfan, Parinitha Giridharan, Xudong Wang, Valerie Zapata, Xing Ma, Libin Ye, Ehsan Sheybani and Ying Zhong*

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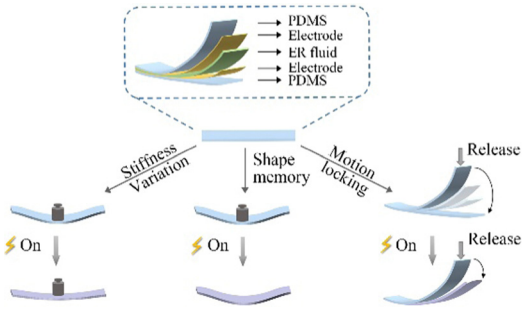

Variable stiffness and fast-response soft structures based on electrorheological fluids

Huilan Jing, Letian Hua, Fei Long, Bojin Lv, Bing Wang, Hewen Zhang, Xunye Fan, Hongru Zheng, Chengyi Chu, Gaojie Xu, Jianjun Guo,* Aihua Sun* and Yuchuan Cheng*

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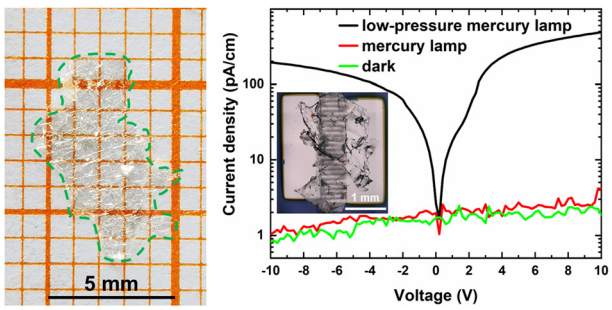

Rapid growth of a 24 mm^2 scale hexagonal boron nitride crystal in Ni–Cr solution

Jianguo Zhao,* Haichao Wang, Yue Yu, Minhui Yang, Ru Xu, Hui Zhang, Jiangyong Pan, Yuanyuan Li, Xiang Liu, Tao Tao,* Zhe Zhuang, Bin Liu and Jianhua Chang*

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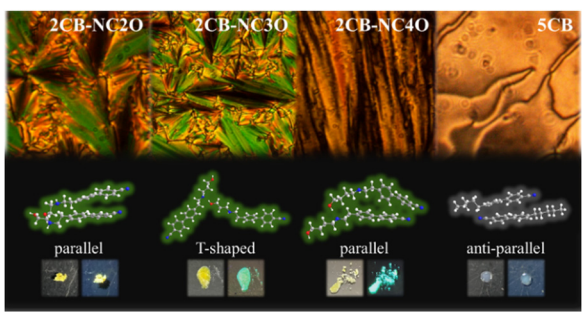

Aggregation-induced emission mesogens formed by intermolecular hydrogen bonding of 4-alkyl-4′-cyanobiphenyl molecules

Po-Ting Chou, Tsung Yang Ho, Jia-Ying Cai, Huang-Teng Lin, Chung-Hung Hsieh and Chih-Hsin Chen*

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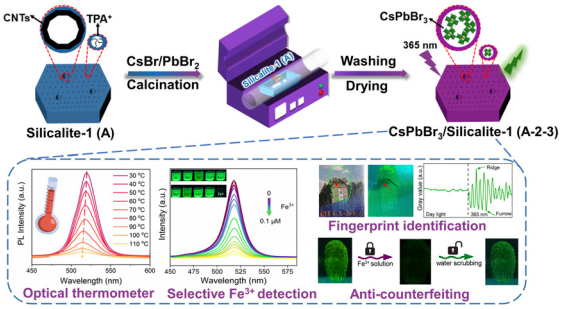
High-loading ultrastable $CsPbBr_3$ perovskite quantum dots in hierarchical silicalite-1 by elimination of co-templates for multimodal optical applications

Xiandi Yu, Yuchi Zhang, Le Han and Yan Xu*



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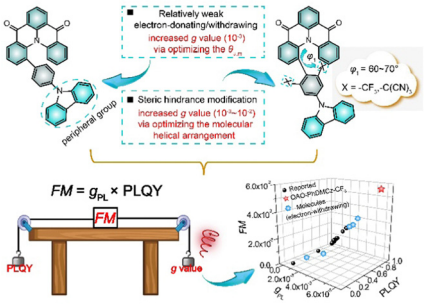
Construction of high-performance circularly polarized multiple-resonance thermally activated delayed fluorescence materials *via* the structural optimization of peripheral groups

Wenjing Li, Qixin Lv, Chengxi Sun, Junyuan Deng, Cefeng Zhou, Yewen Zhang, Ping Li* and Runfeng Chen*



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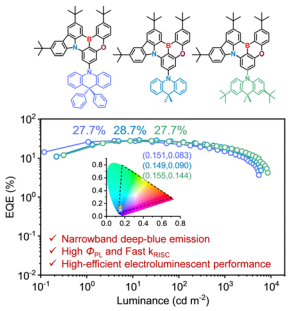
Donor-modified multiple resonance emitters with accelerated reverse intersystem crossing towards high-efficiency and narrowband deep-blue OLEDs

Xingyu Huang, Yulin Xu, Jingsheng Miao, Yan-Yun Jing, Shuni Wang, Zeyuan Ye, Zhongyan Huang, Xiaosong Cao* and Chuluo Yang



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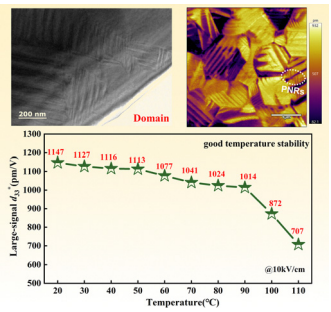
A synergistic approach to attain high piezoelectricity in a Pb(Ni, Nb)O_3–Pb(Lu, Nb)O_3–$PbTiO_3$ system

Mengdi Cheng, Yangxi Yan, Zhimin Li, Pangpang Wang, Ri-ichi Murakami and Dongyan Zhang*



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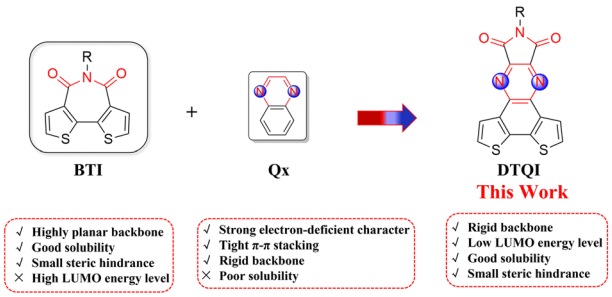

Dithiene-fused quinoxalineimide-based all-acceptor polymers for n-type organic semiconductors

Lijun Tu, Hao Wang, Xiangya Li, Xin Wang, Mingwei Li, Yang Wang* and Yongqiang Shi*

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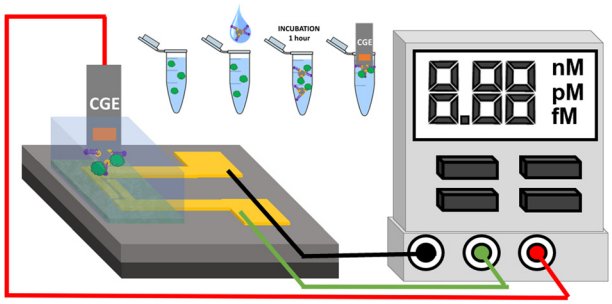

Magnetic carbon gate electrodes for the development of electrolyte-gated organic field effect transistor bio-sensing platforms

Adrián Tamayo, Jose Muñoz, Carme Martínez-Domingo and Marta Mas-Torrent*

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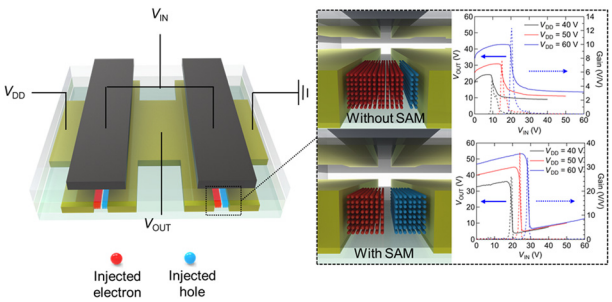

Solution-processed ambipolar organic thin-film transistors and inverters in a single substrate through self-assembled monolayer-treated electrodes

Yeon Jun Kim, Swarup Biswas, Jeong Han Song, Seunghoon Song, Yun-Hi Kim,* Hyeok Kim* and Jeonghun Kwak*

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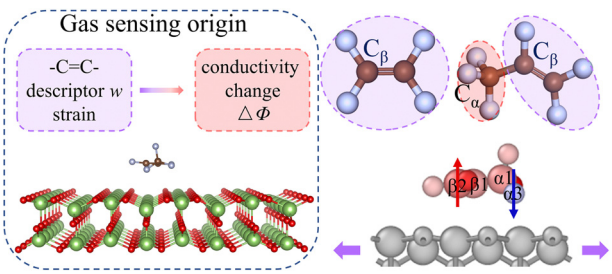

Theoretical insights into the two-dimensional gallium oxide monolayer for adsorption and gas sensing of C_4F_7N decomposition products

Rong Han, Zhaofu Zhang, Wei Liu, Fengxiang Ma, Hailing Guo, Zhuo Jiang, Xuhao Wan, Anyang Wang, Chao Yuan, Wenjun Zhou, Yu Zheng* and Yuzheng Guo*

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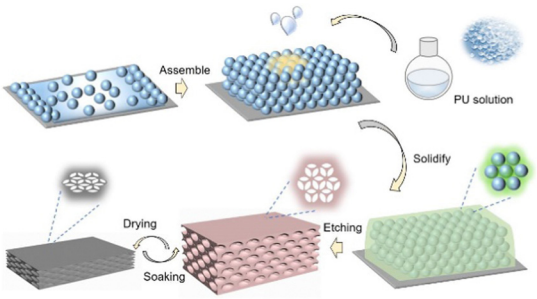
Dual-responsive PU inverse photonic crystal film with high flexibility for anti-counterfeiting

Xin Zhang,* Ziyuan Zhang and Fuchang Yu



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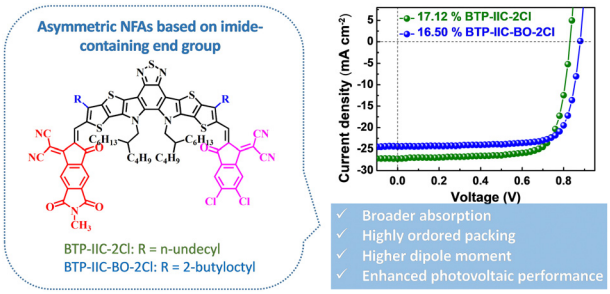
Asymmetric non-fullerene acceptors with an imide-containing end group for high-performance organic solar cells

Shiling Shi, Shimin Zhang, Xiang Yao,* Kaihu Xian, Dexia Han, Yuxuan Zhu, Yanru Li, Xueyang Tu, Zheng Tang, Long Ye, Hongliang Zhong* and Zhuping Fei*



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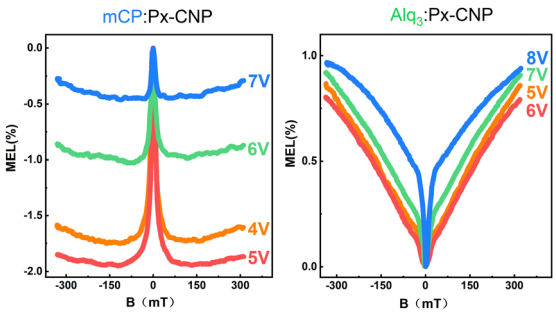
Mediation of energy transfer on magnetic field effects in Px-CNP-based OLEDs

Jiayi Song, Yunxia Guan,* Cheng Wang, Xi Bao, Wanjiao Li, Keao Peng, Shuang Xu, Lijia Chen and Lianbin Niu*



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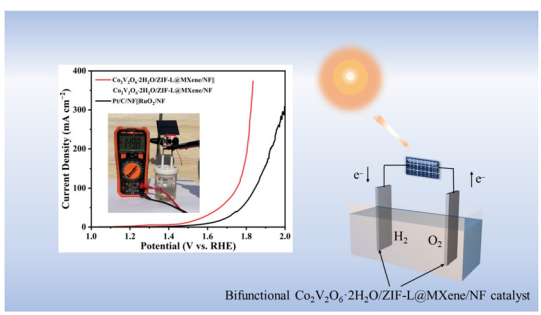
CoV_2O_6 coupled with MXenes as a highly efficient electrocatalyst for water splitting

Yin Huang, Guangzheng Xu, Xiaoyu Huang, Hao Wu and Xiuhua Wang*



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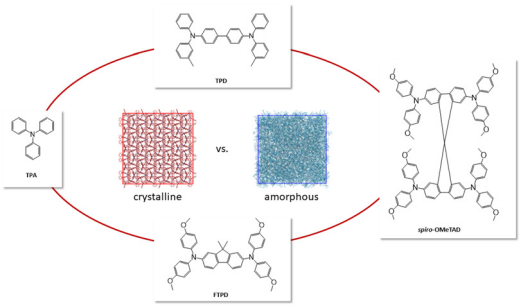

Revealing the interplay between the structural complexity of triphenylamine redox derivatives and their charge transport processes *via* computational modeling

Robert Herzhoff, Fabrizia Negri, Klaus Meerholz* and Daniele Fazzi*

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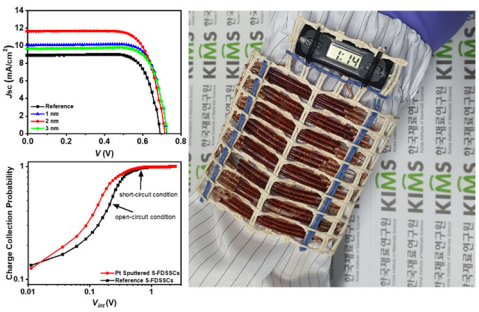

Efficient charge transport in a solid electrolyte with percolated Pt for solid-state fiber dye-sensitized solar cells

Jae Ho Kim, Drajad Satrio Utomo, Daseul Lee, Sungok Cho, Myungkwan Song* and Jin Woo Choi*

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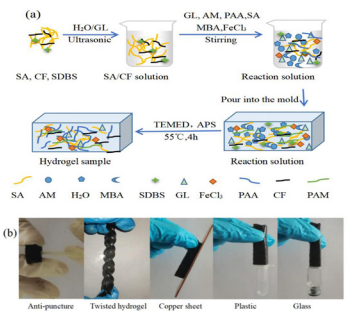
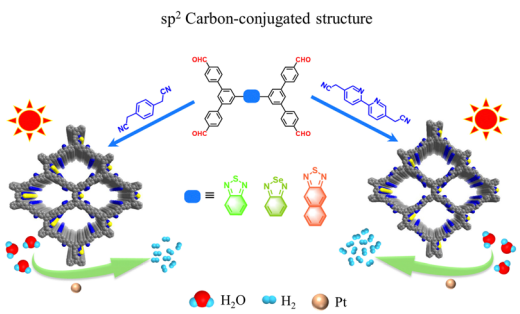


A self-healing and wearable hydrogel sensor with a dynamic physical cross-linking structure can detect strain stimulus in a wide temperature range

Xiaomin Zhang* and Juan Pang

12000



Benzothiadiazole and its derivative-based sp^2 carbon-conjugated covalent organic frameworks for photocatalytic hydrogen generation

Chao-Qin Han, Xiaokang Sun, Xiao Liang, Lei Wang,* Hanlin Hu and Xiao-Yuan Liu*

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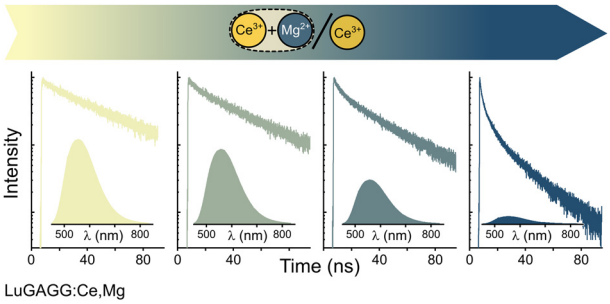
12007

Influence of heavy magnesium codoping on emission decay in Ce-doped multicomponent garnet scintillators

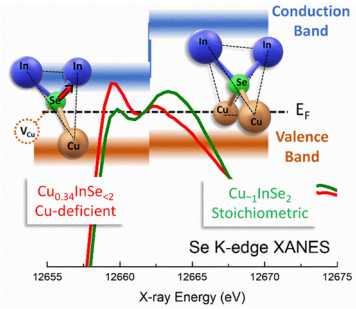
Saulius Nargelas,* Arnoldas Solovjovas, Yauheni Talochka, Žydrūnas Podlipskas, Miroslav Kucera, Zuzana Lucenicova and Gintautas Tamulaitis



12016

Chemical states and local structure in Cu-deficient $Cu_xInSe_{\sim 2}$ thin films: insights into engineering and bandgap narrowing

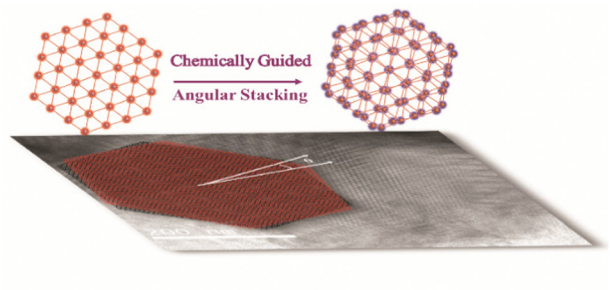
Ahmed Yousef Mohamed,* Byoung Gun Han, Hyeonseo Jang, Jun Oh Jeon, Yejin Kim, Haeseong Jang, Min Gyu Kim, Kug-Seung Lee and Deok-Yong Cho*



12029

Moiré superlattices of two-dimensional copper nanocluster assemblies with tuneable twin emissions from hierarchical components leading to white light emission

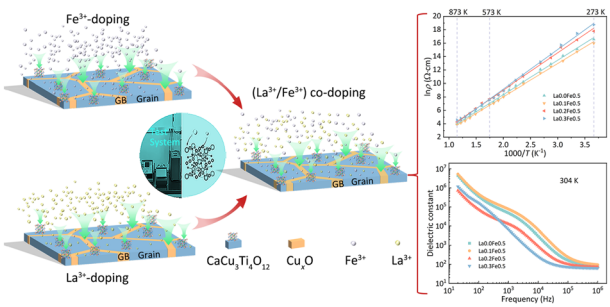
Priya Das and Arun Chattopadhyay*



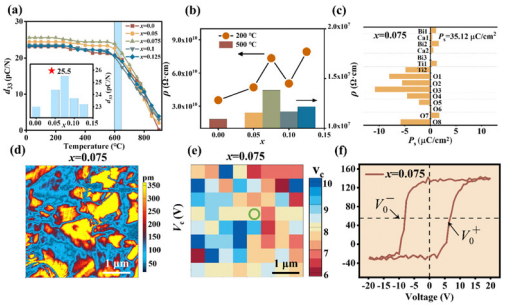
12037

Enhanced thermal and dielectric properties of $CaCu_3Ti_4O_{12}$ by (Fe, La)-co-doping

Ruifeng Wu, Haibing Li, Yafei Liu, Aimin Chang* and Bo Zhang*



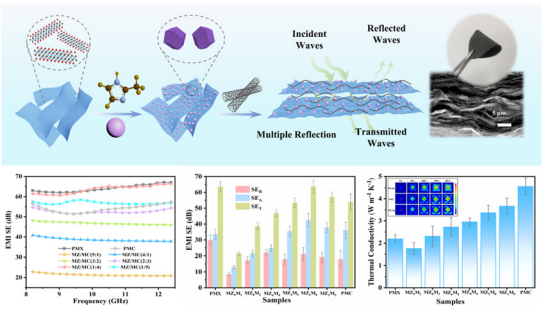
12048



Decoding intrinsic and extrinsic contributions for high piezoelectricity of CBT-based piezoelectric ceramics

Hao Chen, Jingwen Xi, Zhi Tan, Fei Wang, Xu Li, Ning Chen, Hongjiang Li, Qiang Chen, Jie Xing* and Jianguo Zhu*

12057



Anchoring magnetic ZIF-67 on $Ti_3C_2T_x$ MXene to form composite films with high electromagnetic interference shielding performance

Zhenping Ma, Lei Zhang, Xianzhen Wang, Guang Xiao, Yongbao Feng,* Wei Wang, Konghu Tian, Dewei Liang, Yagang Yao and Qiulong Li*

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