

Journal of Materials Chemistry C

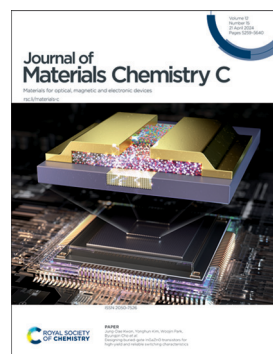
Materials for optical, magnetic and electronic devices

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IN THIS ISSUE

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EDITORIAL

5272

In memory of Professor Gilles Horowitz

Natalie Stingelin,* Thomas Anthopoulos,
Hyeok Kim, Denis Tondelier, Luisa Torsi and
Christine Videlot-Ackermann

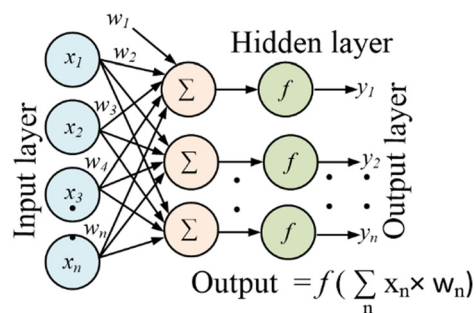


REVIEWS

5274

Advancements in memory technologies for artificial synapses

Anubha Sehgal,* Seema Dhull, Sourajeet Roy and
Brajesh Kumar Kaushik



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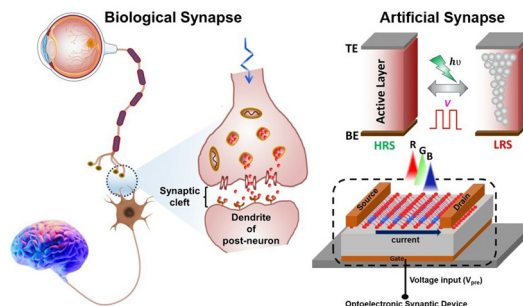


REVIEWS

5299

Recent developments in the state-of-the-art optoelectronic synaptic devices based on 2D materials: a review

Rajesh Jana, Sagnik Ghosh, Ritamay Bhunia* and Avijit Chowdhury*

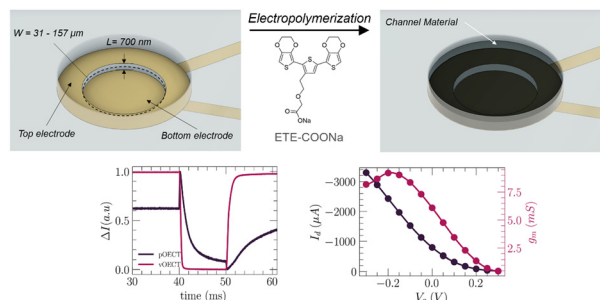


COMMUNICATION

5339

Vertical organic electrochemical transistor platforms for efficient electropolymerization of thiophene based oligomers

Maciej Gryszel, Donghak Byun, Bernhard Burtscher, Tobias Abrahamsson, Jan Brodsky, Daniel Theodore Simon, Magnus Berggren, Eric Daniel Glowacki, Xenofon Strakosas* and Mary Jocelyn Donahue*

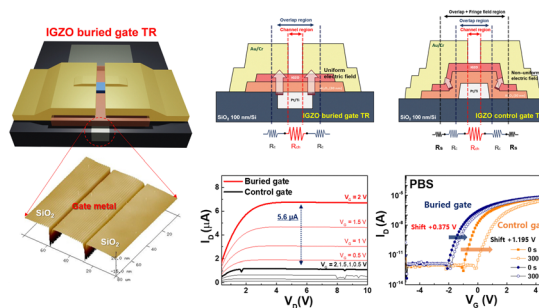


PAPERS

5347

Designing buried-gate InGaZnO transistors for high-yield and reliable switching characteristics

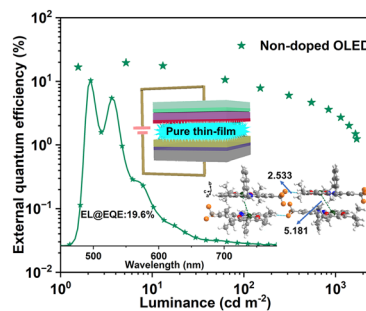
Do Hyeong Kim, Seyoung Oh, Ojun Kwon, Soo-Hong Jeong, Hyun Young Seo, Eunjeong Cho, Min Jeong Kim, Wondeok Seo, Jung-Dae Kwon,* Yonghun Kim,* Woojin Park* and Byungjin Cho*



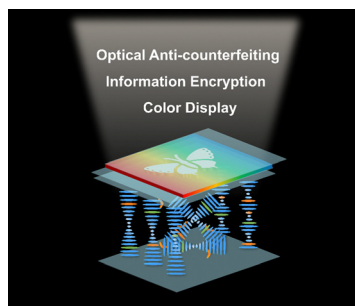
5355

Highly efficient platinum(II) complexes overcoming Pt–Pt interactions and their applications in organic light-emitting diodes

Keke Wan, Chen Lu, Nannan Cong, Kuo Lv, Zenghui Dai and Feng Li*



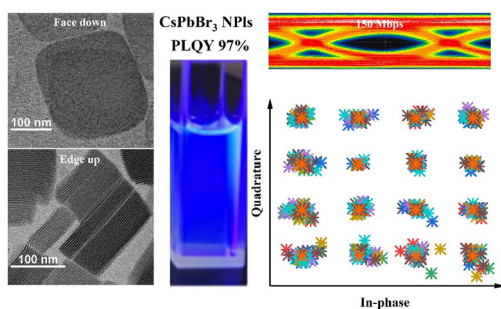
5362



Phototuning structural color and optical switching cholesteric textures in azobenzene-doped cholesteric liquid crystals

Hongbo Lu,* Ying Cao, Hao Bai, Mingyan Ren, Longzhen Qiu, Jun Zhu and Miao Xu

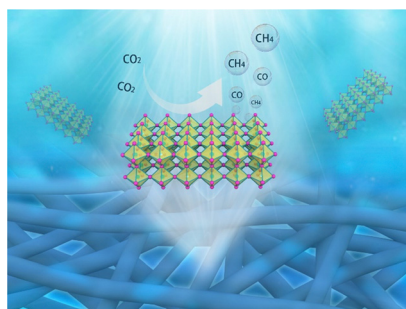
5370



Synthesis and optical wireless communication application of high efficiency extreme blue CsPbBr₃ nanoplates

Zhanpeng Wang, Luyang Hou, Jingzhou Li,* Jiahao Zhang, Hongyu Yang, Yichi Zhong, Hongxing Dong* and Long Zhang

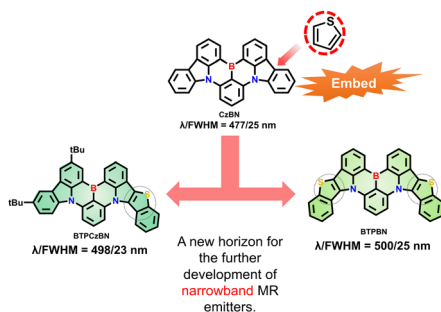
5377



Promoting photoreduction selectivity *via* synergetic utilization between vacancy and nanofiber structure over flexible Zr/TiO_{2-x} nanofiber films

Shan Jiang, Haoze Li, Wenke Gui, Yingbing Zhang, Chenchen Zhang, Lei Zhang, Jianping Yang and Li Wang*

5386



Efficient narrowband bluish-green emitters derived from a double-carbazole-fused organoboron multiple resonance skeleton with internal-structure modification

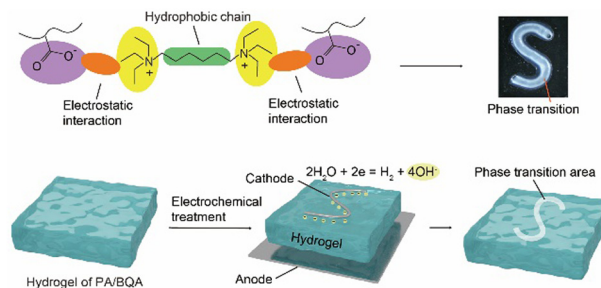
Tong-Yuan Zhang, Ying-Chun Cheng, Hui Wang, Feng Huang, Xin Xiong, Xiao-Chun Fan,* Jia Yu, Kai Wang* and Xiao-Hong Zhang*



5393

Electrochemical phase transition of ionic hydrogels

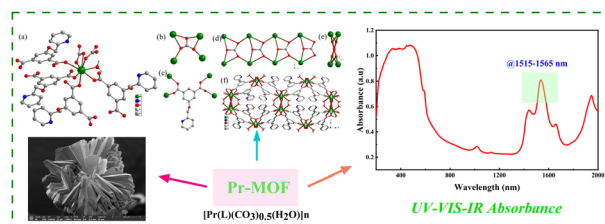
Jiayi Liu and Lidong Zhang*



5400

Application of Pr-MOFs as saturable absorbers in ultrafast photonics

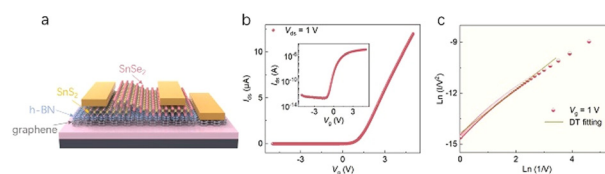
Xiaohui Du, Houting Liu,* Shaokai Li, Zefei Ding, Chenyue Liu, Cunguang Zhu* and Pengpeng Wang*



5411

Straddling SnSe₂/SnS₂ van der Waals tunneling heterostructures for high performance broadband photodetectors

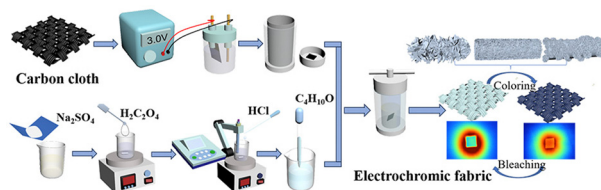
Xiangna Cong, Muhammad Najeeb Ullah Shah and Wenlong He*



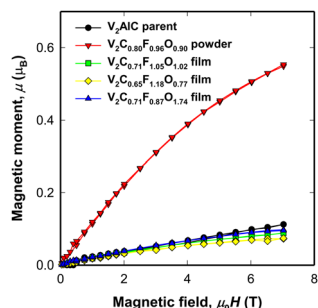
5420

Preparation of WO₃-based flexible electrochromic fabrics and their near infrared shielding application

Mengjie Li, Wei Jiang, Yun Lin, Chengjie Huang, Panpan Hao, Wenwen Wang, Liyan Yang, Yuedan Wang* and Dong Wang*



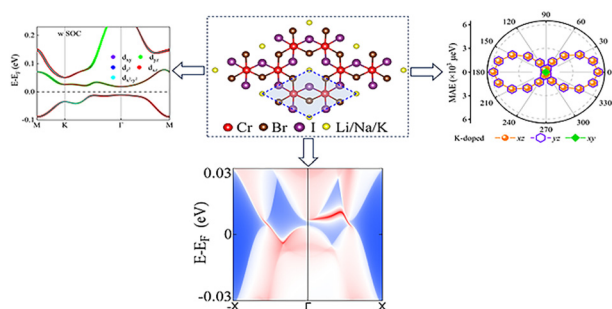
5431



The preparation route and final form of V-MXenes override the effect of the O/F ratio on their magnetic properties

Pavla Eliášová,* Břetislav Šmíd, Jana Vejpravová, Shuo Li, Federico Brivio, Michal Mazur, Daniel N. Rainer, M. Infas H. Mohideen, Russell E. Morris and Petr Nachtigall

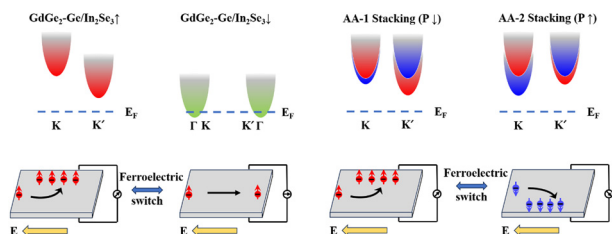
5442



Alkali metal-doped two-dimensional Janus Cr₂Br₃I₃ monolayers with the quantum anomalous Hall effect

Xiang Yin, Li Deng, Yanzhao Wu, Junwei Tong, Feifei Luo, Fubo Tian and Xianmin Zhang*

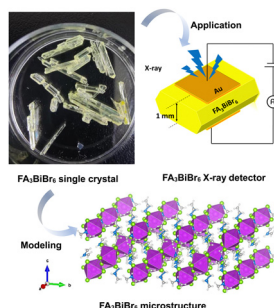
5451



Reversible nonvolatile control of the anomalous valley Hall effect in two-dimensional multiferroic materials based on GdGe₂

Xuhong Li, Jiawei Li, Zhihao Gao, Ziyu Niu, Xinyue Bi, Jinwei Gao, Tengfei Cao and Xiaoli Fan*

5461



Suppression of ion migration in lead-free zero-dimensional perovskite FA₃BiBr₆ single crystals for X-ray detection

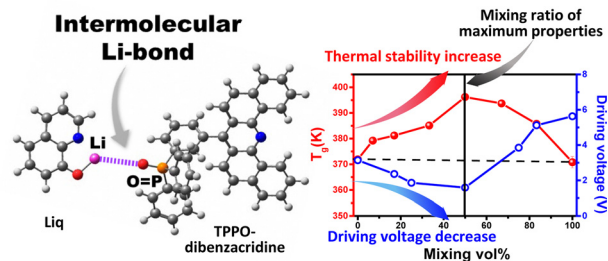
Kangyu Ji, Wenjun Wang,* Yuanbo Ma, Zihan Wang, Xuepeng Liu, Jiajiu Ye, Shu Zhang,* Xu Pan* and Songyuan Dai*



5469

Intermolecular lithium bonding between different components upon mixing simultaneously enhances the thermal and electrical properties of an amorphous organic semiconductor material

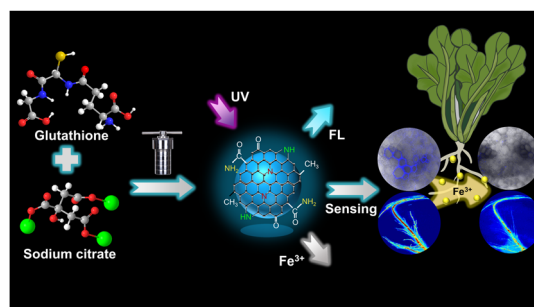
Seon Bin Song, Myungsun Sim, Min Seok Ki, Taewoo Kim, You Kyoung Chung, Joonsuk Huh, Ohyun Kwon* and Keewook Paeng*



5480

A fluorescence probe based on blue luminescent carbon dots for sensing Fe^{3+} in plants

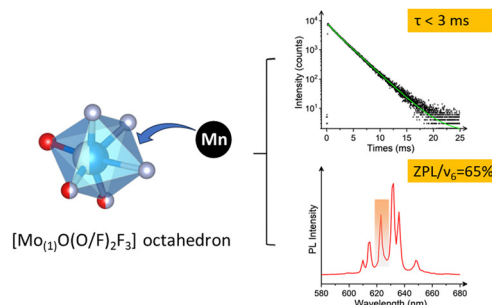
Junjie Lin, Wanyi Huang, Haoran Zhang, Xuejie Zhang, Yingliang Liu, Wei Li* and Bingfu Lei*



5488

Non-equivalent Mn^{4+} doping in mixed-anion host of $\text{K}_3\text{Na}(\text{MoO}_2\text{F}_4)_2 \cdot \text{H}_2\text{O}$ achieving short fluorescence lifetime and intense zero phonon line

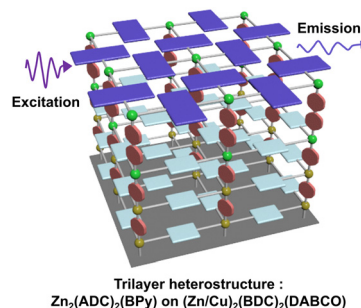
Qiao Qu, Haiyan Zhang and Haipeng Ji*



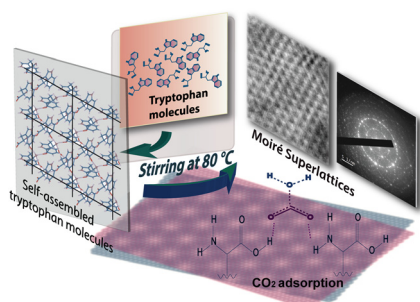
5496

[001]-Oriented heteroepitaxy for fabricating emissive surface mounted metal-organic frameworks

Tonghan Zhao,* Narges Taghizade, Jan C. Fischer, Bryce S. Richards and Ian A. Howard*



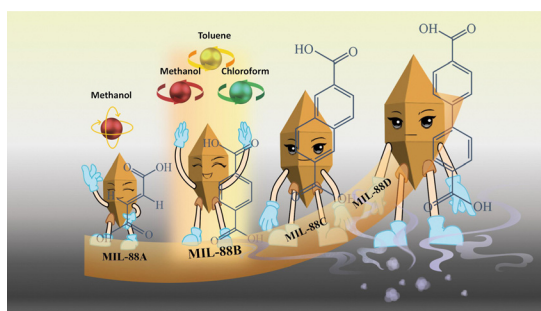
5506



Two-dimensional molecular moiré superlattices of tryptophan with visible photoluminescence for photo-activatable CO₂ sensing and storage

Ujjala Dey and Arun Chattopadhyay*

5517



Soft actuators based on the flexible MOF MIL-88B(Fe) with a fast response to various organic solvent vapours

Shizhen Song, Tengfei Zheng, Bo Li, Hangcheng Yang, Qin-Xiang Jia,* Zhuting Hao, Wen Zhang and Ying Zhang

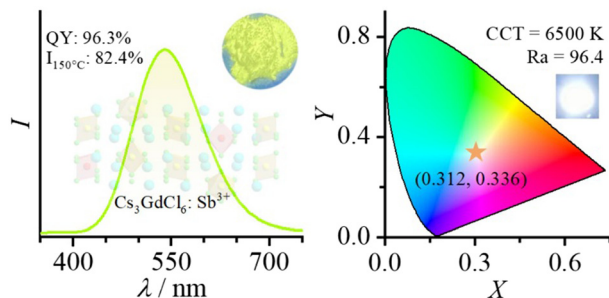
5529



A passivation strategy assisting a robust and low consumption power BP-based optical synaptic device for neural computing

Jiahao Zeng, Liping Ding,* Shuai Yuan, Zhe Feng, Liyan Dong, Weikang Shen, Pan Wang, Zuheng Wu and Guodong Wei

5538



Sb³⁺-doped 0D Cs₃GdCl₆ microcrystals with a near-unity photoluminescence quantum yield and high thermal quenching resistance for light-emitting application

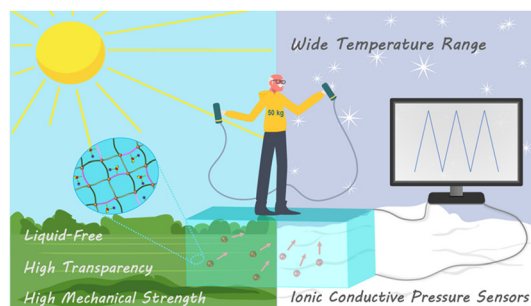
Xiantian Liang, Wei Zhang, Yitong Shi, Wen Zhang, Hongyi Yang, Ping Huang, Lingyun Li, Qi Zhang, Wei Zheng* and Xueyuan Chen



5549

High ionic conductive, freezing-resistant and transparent polyurethane based on a novel metal ionic deep eutectic solvent

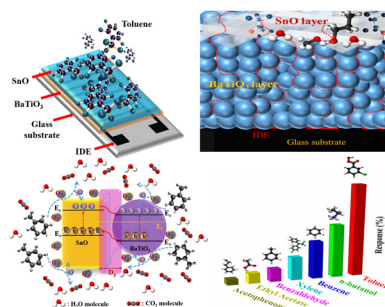
Menghao Du, Xu Zhu, Kaiyue Yang, Haoge Cheng, He Ma, Kaihu Zhang, Ning Ma, Yuyun Yang* and Xinyue Zhang*



5557

The heterostructure topology of a chemiresistive sensor based on hexagonal BaTiO₃ and 2D SnO for toluene detection

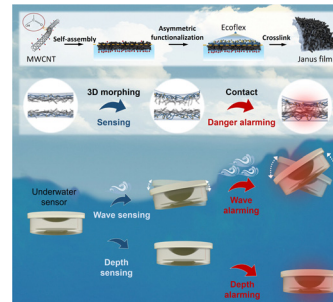
Anshika Singh,* Ravindra Kumar Rawat,* Atul Kumar and Pratima Chauhan*



5568

Structured carbon nanotube–elastomer nano-composites with a morphing–contact mechanism for an advanced underwater perception warning system

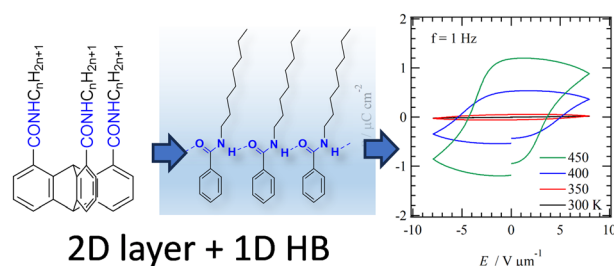
Feng Deng, Peng Xiao,* Wei Zhou, Qing Yang and Tao Chen*



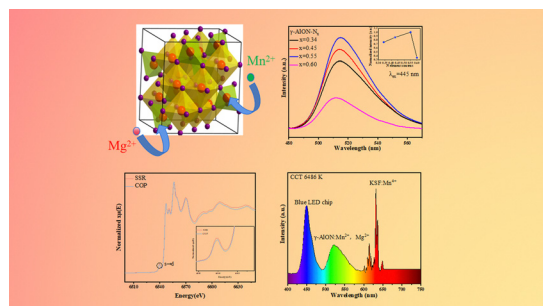
5578

Ferroelectricity of alkylamide-substituted triptycene derivatives

Ryohei Mizoue, Takashi Takeda, Shun Dekura, Mikiya Kato, Tomoya Fukui, Yoshiaki Shoji, Takanori Fukushima, Saya Yamane, Yasutaka Suzuki, Jun Kawamata and Tomoyuki Akutagawa*



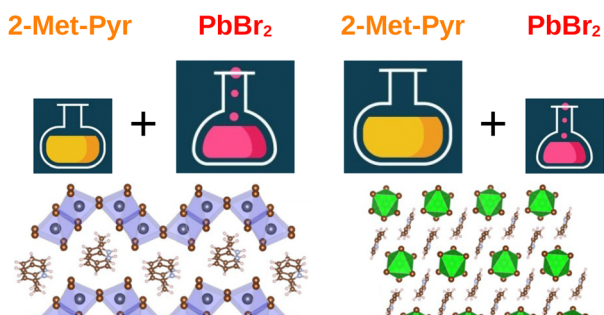
5587



Synthesis of efficient submicron γ -ALON Mn^{2+} , Mg^{2+} phosphors for mini-LEDs by a coprecipitation precursor method

Zhezhe Su, Yuhua Wang* and Takatoshi Seto*

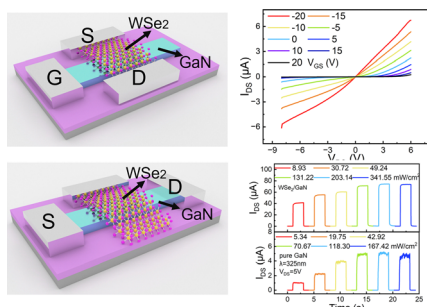
5596



The effect of precursor concentrations on the structure and optoelectronic properties of quasi low-dimensional hybrid 2-methylpyridinium lead bromide crystalline phases

D. S. Shtarev,* D. A. Chaplygina, O. V. Patrusheva, C. Chen, A. V. Shtareva, C. C. Stoumpos, R. Kevorkyants and A. V. Emeline

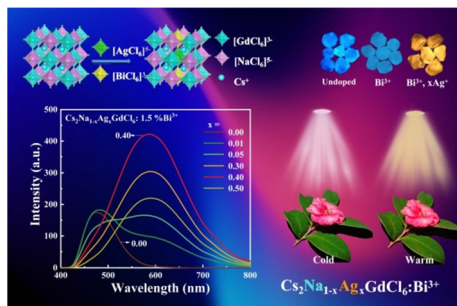
5608



A dual-band photodetector based on a mixed-dimensional WSe_2 /GaN junction

Shuting Chen, Hui Wang, Yuqing Yang, Shishi Liu, Lingyu Zhu, Xingfu Wang* and Nengjie Huo*

5615



Alloying strategy for developing a single-band warm white emitting material $Cs_2NaGdCl_6:Bi^{3+}$ via Ag^+ co-doping

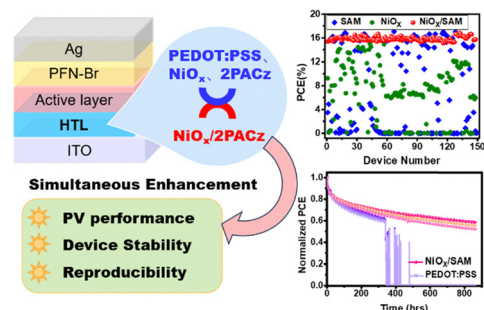
Qianrong Jin, Jinrong Shi, Jianwei Jin, Wenli Xu, Siqin Chen and Yuexiao Pan*



5623

Functionalized nickel oxide as a hole transport layer for organic solar cells with simultaneous enhancement of efficiency and stability

Jingyang Xiao,* Minrun Ren, Guichuan Zhang, Yonggang Min and Hin-Lap Yip*



5631

Bandgap engineering and Schottky barrier modulation of ultra-wide bandgap Si-doped β -(Al_xGa_{1-x})₂O₃ single crystals

Yiyuan Liu, Qiming He, Wenxiang Mu,* Zhitai Jia, Guangwei Xu, Shibing Long* and Xutang Tao

