

Journal of Materials Chemistry C

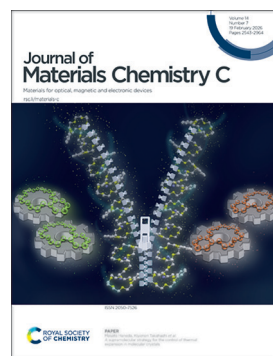
Materials for optical, magnetic and electronic devices

rsc.li/materials-c

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2050-7526 CODEN JMCCCX 14(7) 2543-2964 (2026)



Cover

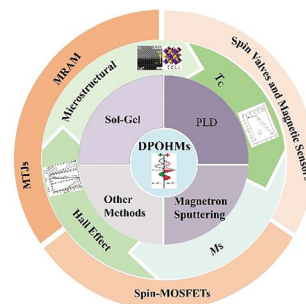
See Masato Haneda, Kiyonori Takahashi *et al.*, pp. 2609–2618. Image designed by Kazuya Kanamaru and reproduced by permission of Masato Haneda and Kazuya Kanamaru from *J. Mater. Chem. C*, 2026, **14**, 2609.

REVIEW

2555

Research progress in double perovskite oxide half-metals for magnetic storage technology

Qingkai Tang and Xinhua Zhu*

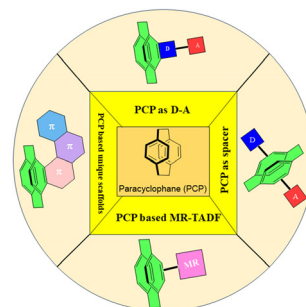


PERSPECTIVE

2587

Planar chiral paracyclophanes: emerging scaffolds for circularly polarized OLEDs

Pratham Bahirat, Marissa Carvalho, Sunil Madgaya, Hardik Janwadkar, Aniket Chaudhari* and Atul Chaskar*



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit rsc.li/cpd-training



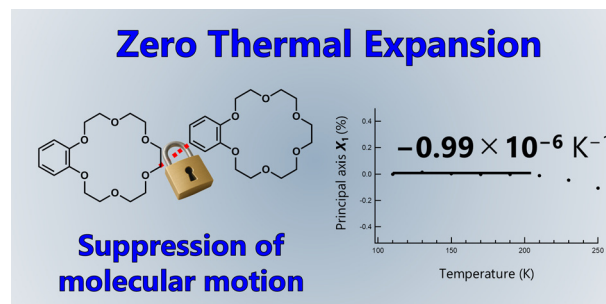
**SAVE
10%**



2609

A supramolecular strategy for the control of thermal expansion in molecular crystals

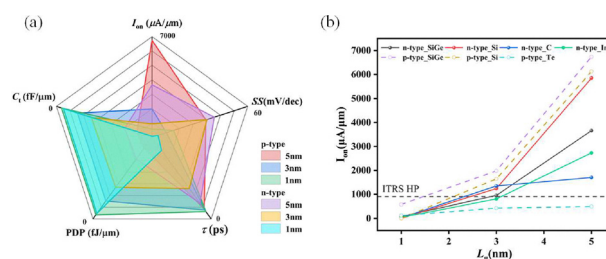
Masato Haneda, Kiyonori Takahashi,*
Naohiro Hasuo, Rui-Kang Huang, Jia-bing Wu,
Chen Xue, Shin-ichiro Noro, Seiji Tsuzuki,
Sadafumi Nishihara and Takayoshi Nakamura*



2619

Ultrathin sub-5 nm gate-all-around SiGe nanowire transistors with near-ideal subthreshold swing

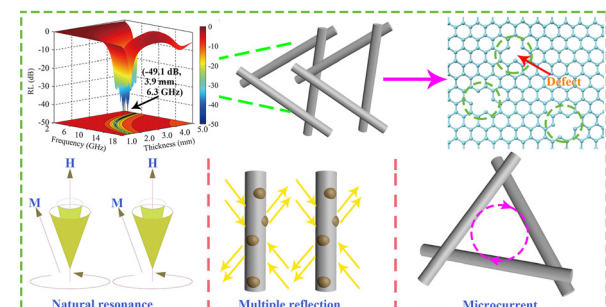
Guowei Zhang, Yuang Guan, Yee Sin Ang, Shibo Fang,
Xiaoyi Lei, Jinchang Liu, Cong Shao, Yang Dai, Wu Zhao,
Junfeng Yan, Jing Lu* and Han Zhang*



2632

Iron–cobalt/carbon nanocomposites with adjustable impedance matching and a wide effective absorption bandwidth as outstanding microwave absorbers

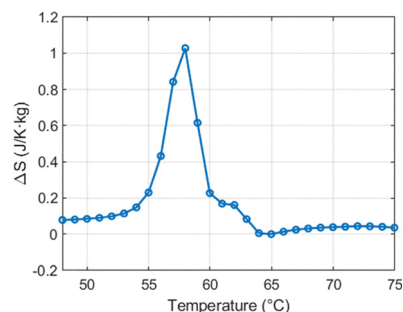
Xiaolei Zheng* and Xiaoqiang Li*



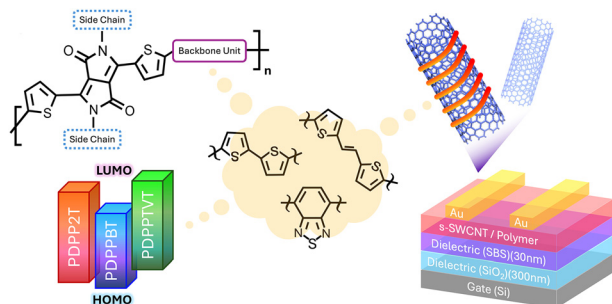
2641

Influence of particle orientation, concentration and matrix stiffness on the elastocaloric performance of spin crossover composite materials

Nagham Mawassy, Adelais Trapali, Vincent Collière,
Lionel Salmon, Gábor Molnár* and
Azzedine Bousseksou*



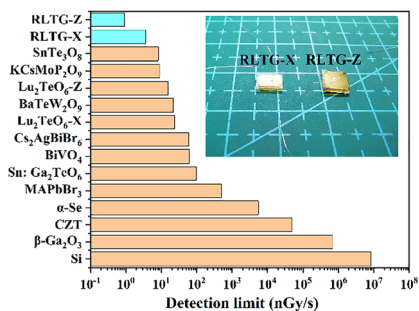
2650



Fine-tuning the backbone coplanarity and energy level of diketopyrrolopyrrole-based conjugated polymers for single-walled carbon nanotube sorting and field-effect transistor applications

Chun-Yen Wu, Guo-Hao Jiang, Yu-Che Kan, Yu-Chun Huang, Chi-Cheng Chiu, Chien-Chung Shih and Yan-Cheng Lin*

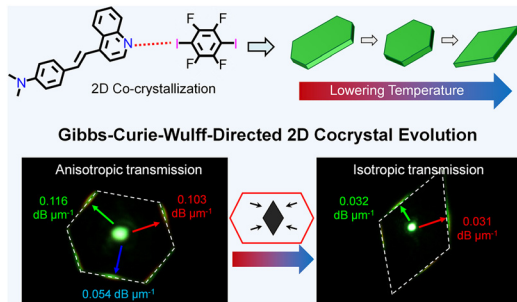
2661



Ultralow detection limit X-ray detectors based on Rb₄Li₂TiOGe₄O₁₂ single crystals with anisotropic responses

Tianyu Wang, Chuan Tang, Feifei Guo, Yini An, Qian Wu,* Haotian Tian, Hui Sun, Tixian Zeng, Chenghua Sun, Zeliang Gao* and Mingjun Xia*

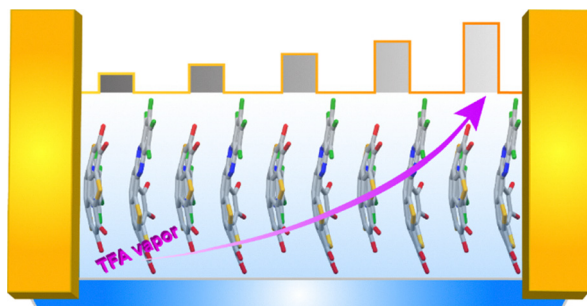
2667



Gibbs–Curie–Wulff-directed 2D cocrystal evolution for tunable in-plane anisotropic and isotropic photon transmission

Yong Liu, Fang Ding, Zhaoyang Guo, Weiguang Zhang, Xu Zhang, Shuo Jiang, Kelin Yang, Yali Cao, Zhenhua Gao, Lei Wang, Ming Ma,* Xue-Dong Wang and Wei Zhang*

2676



Ultrasensitive ppb-level detection of trifluoroacetic acid vapor using bucky-bowl-based organic field-effect transistors

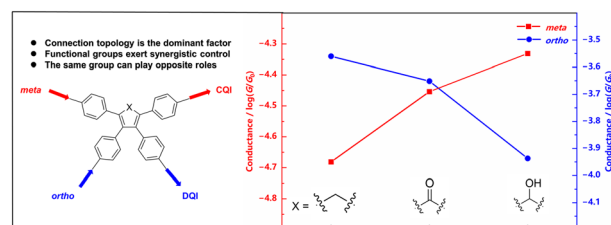
Yecheng Li, Haomin Zhang, Xinqiang Hua, Zitong Liu, Hao-Li Zhang and Xiangfeng Shao*



2686

Synergistic regulation of conductance via functional groups and connection topology in cyclopentadienone molecular junctions

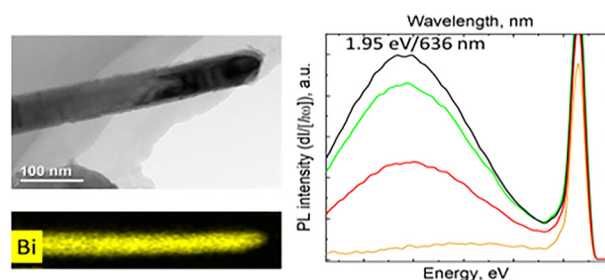
Zhe-Hao Bai, Xin Zuo, Ming-Hao Wu, Ye-Hao Ding, Wen-Rui Xu, Yan-Hou Geng, Jian-Feng Yan,* Li-Chuan Chen,* Dong Xiang* and Yao-Feng Yuan*



2697

Broadband photoluminescence of epitaxial bismuth nanowires and planar nanostructures

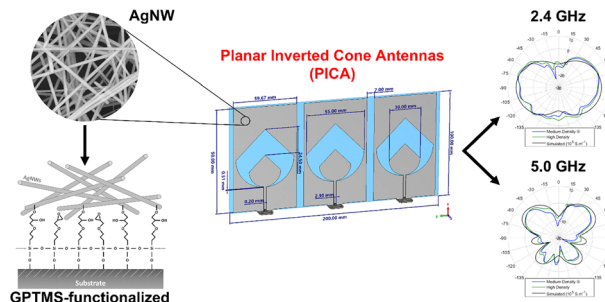
Andrey K. Kaveev,* Vladimir V. Fedorov, Alexander V. Pavlov, Dmitry V. Miniv, Demid A. Kirilenko, Dmitrii A. Pudikov, Mikhail I. Vexler, Alexandr S. Goltaev, Sergey D. Komarov, Alexey M. Nadtochiy, Natalia V. Kryzhanovskaya and Ivan S. Mukhin



2706

Planar inverted cone antenna based on silver nanowire network with enhanced interfacial adhesion after surface functionalization using (3-glycidyloxypropyl)trimethoxysilane

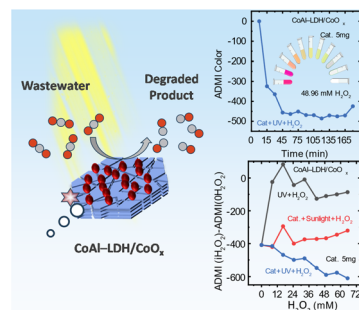
Vu H. Dao,* Kelvin J. Nicholson, Thomas C. Baum and Andrew N. Rider



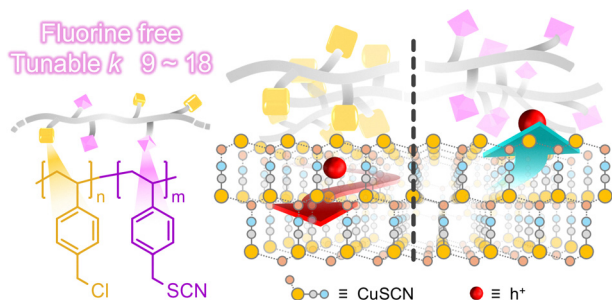
2721

Interfacial charge-transfer in CoAl-LDH/CoO_x for photocatalytic dye degradation and UV/H₂O₂ assisted real-wastewater treatment

Tariq Ali, Yiwei Li, Bingjie Fang, Saleem Raza* and Yeyuan Xiao*



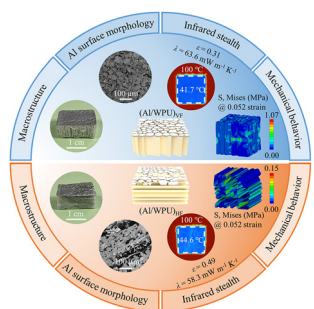
2736



Achieving high field-effect mobility in CuSCN thin-film transistors with thiocyanate-functionalized polymers as fluorine-free dielectrics

Chitsanucha Chattakoonpaisarn, Vatita Leamkaew, Matilde Brunetta, Sarah Fearn, Patipan Sukpoonprom, Taweesak Sudyoosuk, Vinich Promarak, Nicola Gasparini, Daniel Crespy* and Pichaya Pattanasattayavong*

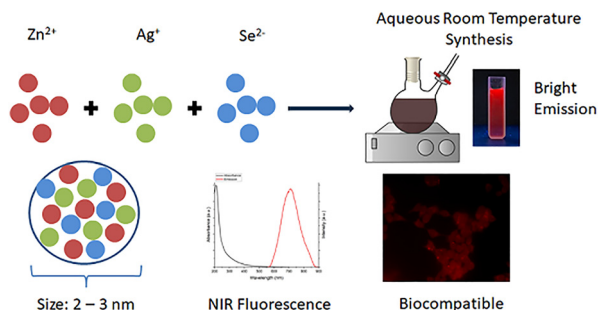
2748



Aluminum/waterborne polyurethane composite aerogels with combined low infrared emissivity and thermal conductivity

Bingcheng Li, Fei Fang,* Ke Zhang and Xudong Huang*

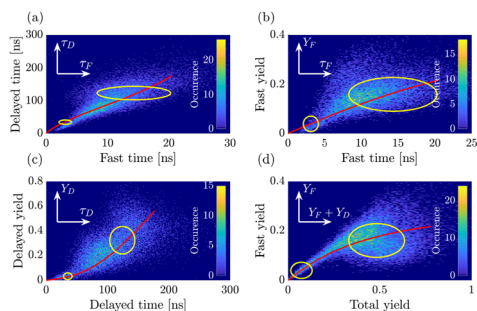
2758



Room-temperature aqueous ZnAgSe alloyed quantum dots: Zn-assisted defect passivation for bright NIR emission and biointerface-ready colloids

Özge İbış, Hadi Jahangiri, Toghrul Almammadov and Caner Ünlü*

2777



Model of luminescence and delayed luminescence correlated blinking in single CsPbBr₃ nanocrystals

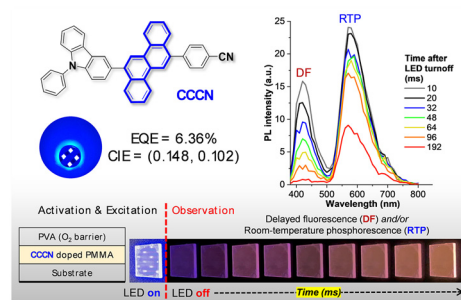
Eduard A. Podshivaylov, Alexandr M. Shekhin, Maria A. Kniazeva, Alexander O. Tarasevich, Elizaveta V. Sapozhnikova, Anatoly P. Pushkarev, Ivan Yu. Eremchev, Andrei V. Naumov and Pavel A. Frantsuzov*



2787

Observation of delayed fluorescence/room-temperature phosphorescence emissions in organic small-molecule emitters, their properties, and electroluminescent performance

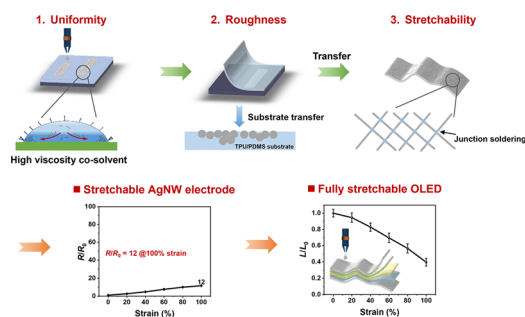
Nuttapong Chantanop, Phattananawee Nalaoh, Wijitra Waengdongbung, Rattanasiri Wannapakdee, Patteera Funchien, Suwapat Kongsabay, Taweesak Sudyoasuk and Vinich Promarak*



2800

Inkjet printing of silver nanowire electrodes for fully stretchable organic light-emitting diodes

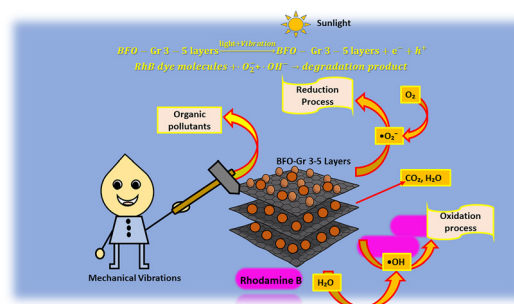
Dong Lv, Qiang Zhang, Xinhong Yu* and Yanchun Han*



2814

Graphene layer-controlled bismuth ferrite nanocomposites with enhanced bandgap engineering and piezophotocatalytic activity

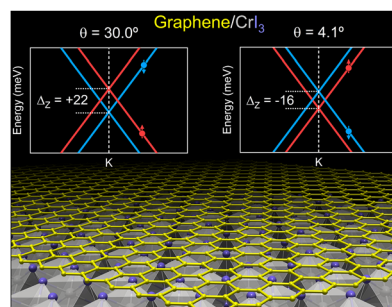
Anjali Varshney, Sunil Chauhan* and Subhash Sharma*



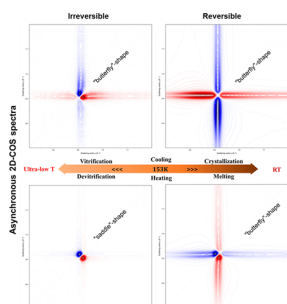
2836

Twist-angle programmable magnetism in graphene/CrI₃ bilayers

Florentino López-Urías and Francisco Sánchez-Ochoa*



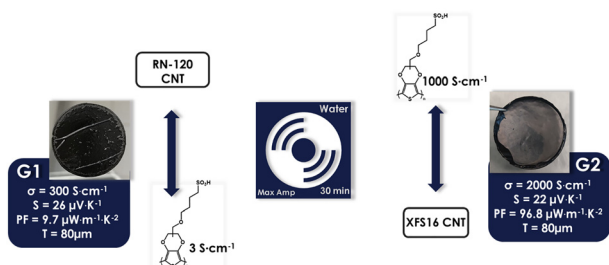
2847



Mapping the structural evolution in supercooled polysiloxane liquids: a combined temperature-resolved WAXD and 2D-COS study

Xiang Shi* and Chao Fu*

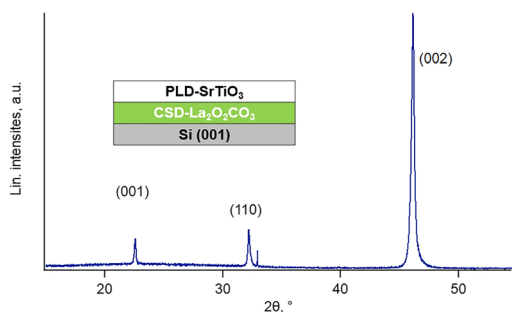
2854



Organic thermoelectric films: achieving high conductivity and power factor through sulfonated-poly(3,4-ethylenedioxythiophene) and single-walled carbon nanotube composites

Maël Idir,* Guillaume Chamelot, Yinghui He, Thomas Lemieux, Kendra Bueley, Serge Beaupré, Salima Alem, Jianping Lu, Jean-François Morin and Mario Leclerc

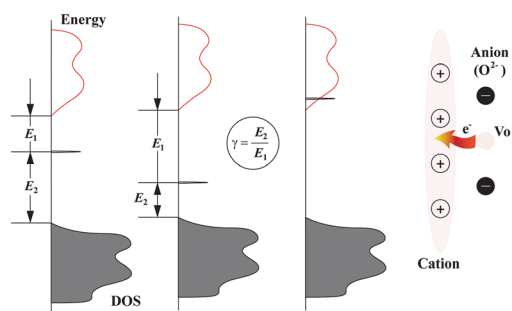
2862



Preferentially oriented SrTiO₃ thin films grown on lanthanide-assisted Si(001) via pulsed laser deposition

Hannes Rijckaert,* Giovanna Latronico, Davy Deduytsche, Eduardo Solano, Petriina Paturi and Paolo Mele

2870



A theoretical trend of oxygen vacancy levels in typical metal oxides

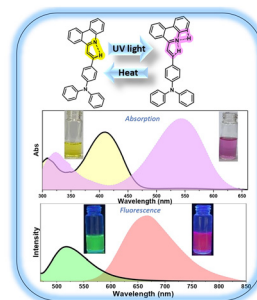
Zihui Chen, Kan-Hao Xue,* Heng Yu, Zijian Zhou, Shanzhong Xie and Xiangshui Miao



2880

Photochromism and photofluorochromism of arylvinylene phenanthridines

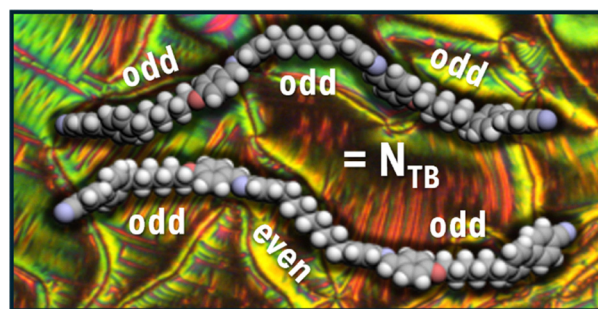
Atul B. Nipate, Vinutha K. Venkatareddy and M. Rajeswara Rao*



2888

Liquid crystal tetramers and spontaneous chirality: the heliconical twist-bend nematic phase

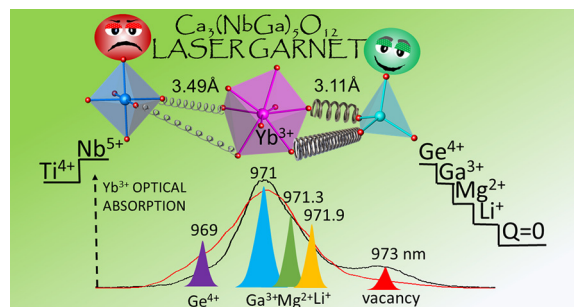
Ewan Forsyth, Magdalena M. Majewska, Rebecca Walker,* Damian Pocięcha, Ewa Gorecka, John M. D. Storey and Corrie T. Imrie



2902

Tailoring Yb³⁺ energy levels by local configuration in the garnet structure: the case of Ca₃(NbGa□)₅O₁₂ laser single crystals as a model for Yb:YAG

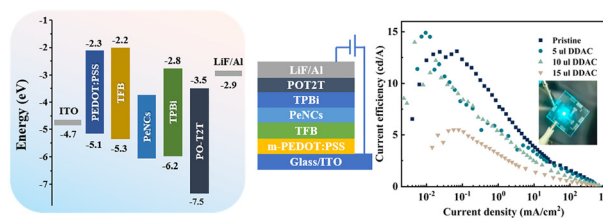
María Dolores Serrano, Concepción Cascales, Carlos Zaldo,* Nicolas Trcera, João Elias F. S. Rodrigues, Giulio Gorni, Mamoru Kitaura and Hirokazu Masai



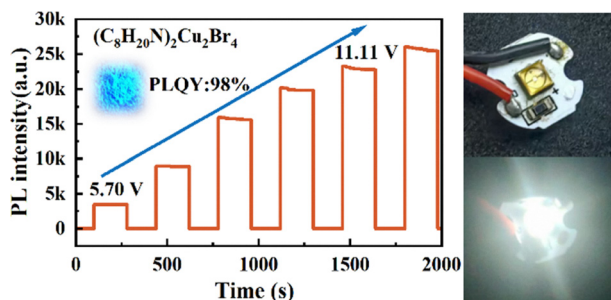
2919

Neodymium chloride doping and homogeneous passivation in CsPbBr₃ nanocrystals for efficient blue light-emitting diodes

Chenrun Liu, Ziqi Wu, Peisheng Nong, Qiuting Cai, Xingliang Dai, Bobo Li,* Haiping He,* Wang Zhang* and Mingxia Qiu*



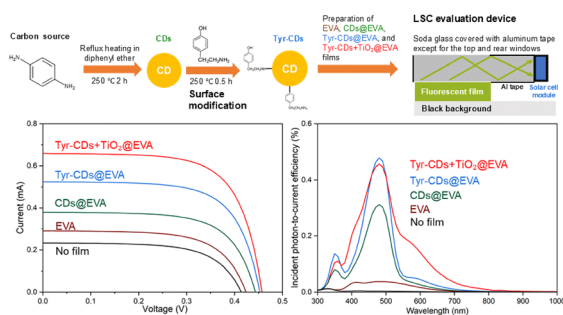
2928



Efficient and stable deep-blue emission from lead-free $(TEA)_2Cu_2Br_4$ for white LEDs

Bing Wang,* Yonglin Wang, Ming Cui, Ting Yu, Zurong Du, Wanfu Wang and Pengbo Lyu

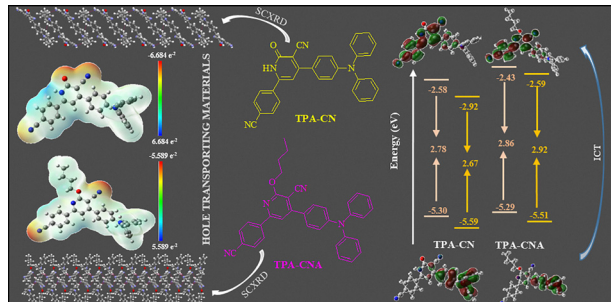
2936



Performance enhancement of carbon dot-based luminescent solar concentrators *via* surface modification and TiO₂-enhanced scattering

Yunxiang Liu, Yoshiki Iso* and Tetsuhiko Isobe*

2948



Exploring π -conjugated triphenylamine–cyano derivatives as cost-effective hole-transporting materials in perovskite solar cell

M. Swathi, Rachel Chetri, Vyngintas Jankauskas, Gediminas Kreiza, Kasparas Rakstys, Vytautas Getautis and T. N. Ahipa*

