

# Journal of Materials Chemistry C

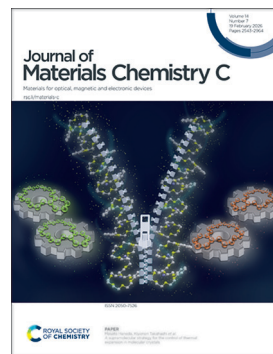
Materials for optical, magnetic and electronic devices

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## IN THIS ISSUE

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### Cover

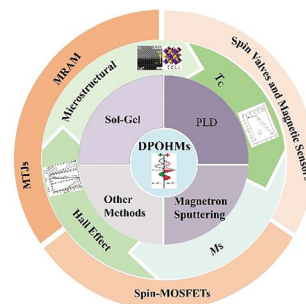
See Masato Haneda, Kiyonori Takahashi *et al.*, pp. 2609–2618. Image designed by Kazuya Kanamaru and reproduced by permission of Masato Haneda and Kazuya Kanamaru from *J. Mater. Chem. C*, 2026, **14**, 2609.

## REVIEW

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

Qingkai Tang and Xinhua Zhu\*

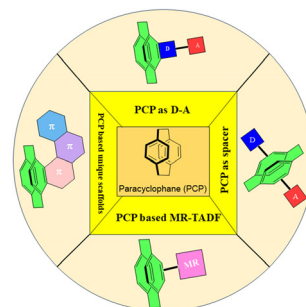


## PERSPECTIVE

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### Planar chiral paracyclophanes: emerging scaffolds for circularly polarized OLEDs

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



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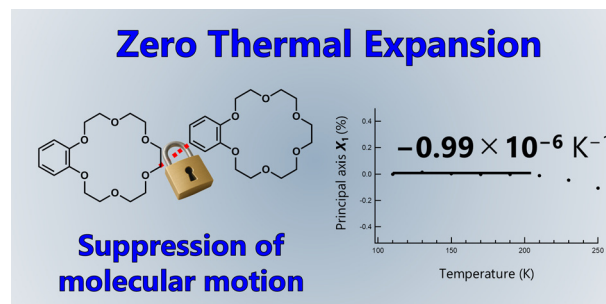
**SAVE  
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2609

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

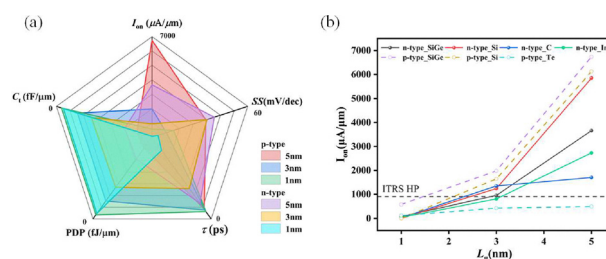
Masato Haneda, Kiyonori Takahashi,\*  
Naohiro Hasuo, Rui-Kang Huang, Jia-bing Wu,  
Chen Xue, Shin-ichiro Noro, Seiji Tsuzuki,  
Sadafumi Nishihara and Takayoshi Nakamura\*



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

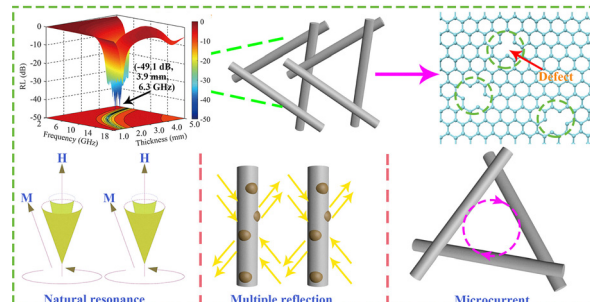
Guowei Zhang, Yuang Guan, Yee Sin Ang, Shibo Fang,  
Xiaoyi Lei, Jinchang Liu, Cong Shao, Yang Dai, Wu Zhao,  
Junfeng Yan, Jing Lu\* and Han Zhang\*



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

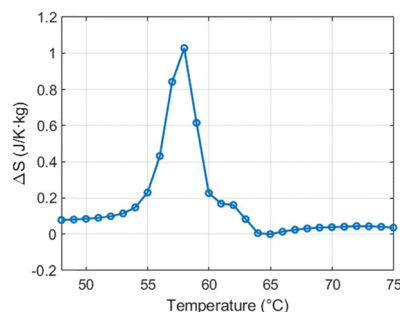
Xiaolei Zheng\* and Xiaoqiang Li\*



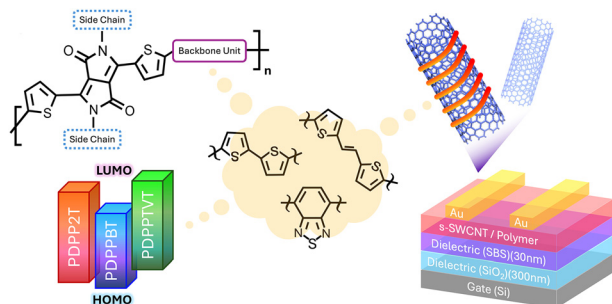
2641

### 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\*



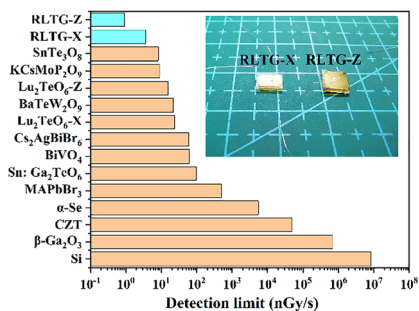
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### Fine-tuning the backbone coplanarity and energy level of diketopyrrolopyrrole-based conjugated polymers for single-walled carbon nanotube sorting and field-effect transistor applications

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

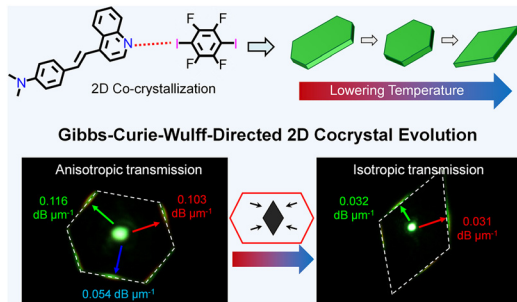
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### Ultralow detection limit X-ray detectors based on Rb<sub>4</sub>Li<sub>2</sub>TiOGe<sub>4</sub>O<sub>12</sub> single crystals with anisotropic responses

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

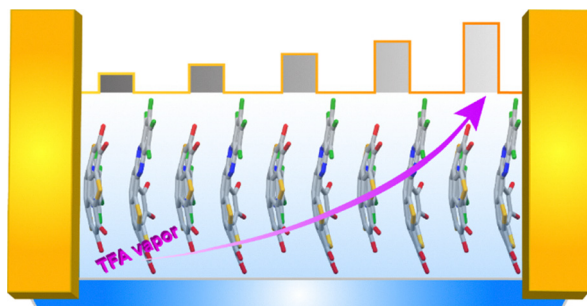
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### Gibbs–Curie–Wulff-directed 2D cocrystal evolution for tunable in-plane anisotropic and isotropic photon transmission

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\*

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

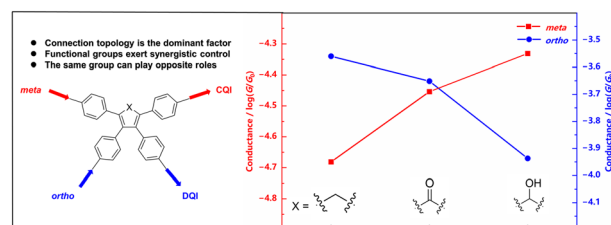
Yecheng Li, Haomin Zhang, Xinqiang Hua, Zitong Liu, Hao-Li Zhang and Xiangfeng Shao\*



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

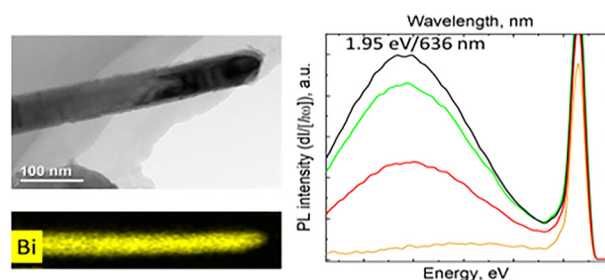
Zhe-Hao Bai, Xin Zuo, Ming-Hao Wu, Ye-Hao Ding, Wen-Rui Xu, Yan-Hou Geng, Jian-Feng Yan,\* Li-Chuan Chen,\* Dong Xiang\* and Yao-Feng Yuan\*



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## Broadband photoluminescence of epitaxial bismuth nanowires and planar nanostructures

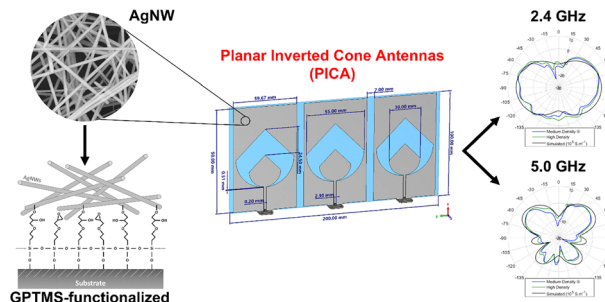
Andrey K. Kaveev,\* Vladimir V. Fedorov, Alexander V. Pavlov, Dmitry V. Miniv, Demid A. Kirilenko, Dmitrii A. Pudikov, Mikhail I. Vexler, Alexandr S. Goltaev, Sergey D. Komarov, Alexey M. Nadtochiy, Natalia V. Kryzhanovskaya and Ivan S. Mukhin



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

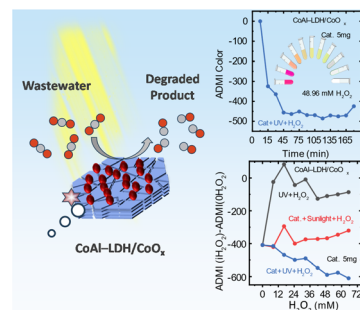
Vu H. Dao,\* Kelvin J. Nicholson, Thomas C. Baum and Andrew N. Rider



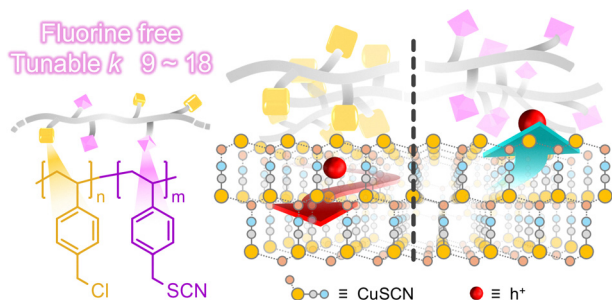
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## Interfacial charge-transfer in CoAl-LDH/CoO<sub>x</sub> for photocatalytic dye degradation and UV/H<sub>2</sub>O<sub>2</sub> assisted real-wastewater treatment

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



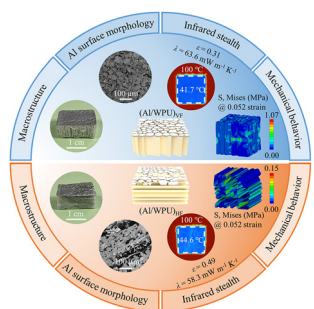
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### Achieving high field-effect mobility in CuSCN thin-film transistors with thiocyanate-functionalized polymers as fluorine-free dielectrics

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

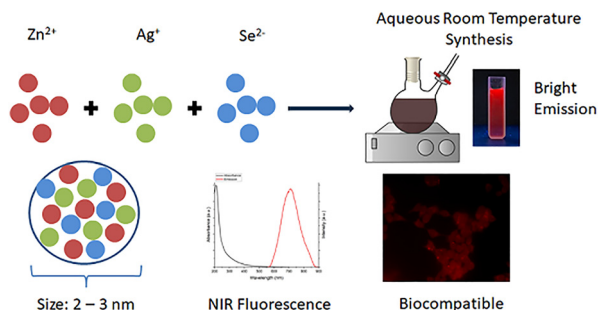
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### Aluminum/waterborne polyurethane composite aerogels with combined low infrared emissivity and thermal conductivity

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

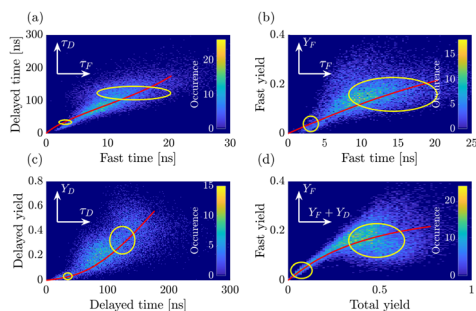
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Özge İbış, Hadi Jahangiri, Toghrul Almammadov and Caner Ünlü\*

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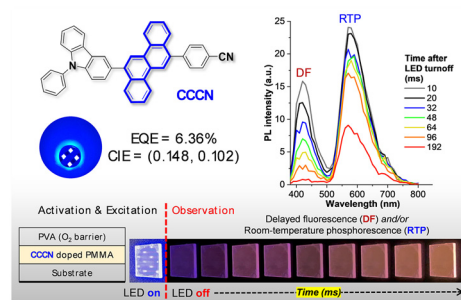
Eduard A. Podshivaylov, Alexandr M. Shekhin, Maria A. Kniazeva, Alexander O. Tarasevich, Elizaveta V. Sapozhnikova, Anatoly P. Pushkarev, Ivan Yu. Eremchev, Andrei V. Naumov and Pavel A. Frantsuzov\*



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

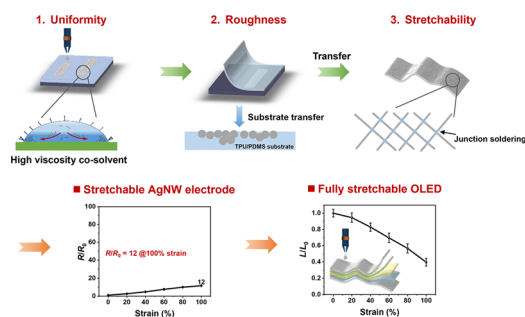
Nuttapong Chantanop, Phattananawee Nalaoh, Wijitra Waengdongbung, Rattanasiri Wannapakdee, Patteera Funchien, Suwapat Kongsabay, Taweesak Sudyoadsuk and Vinich Promarak\*



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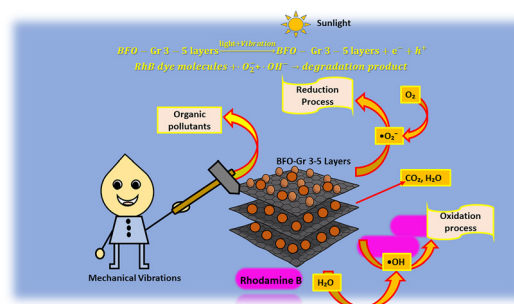
Dong Lv, Qiang Zhang, Xinhong Yu\* and Yanchun Han\*



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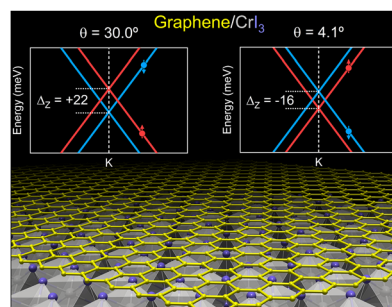
Anjali Varshney, Sunil Chauhan\* and Subhash Sharma\*



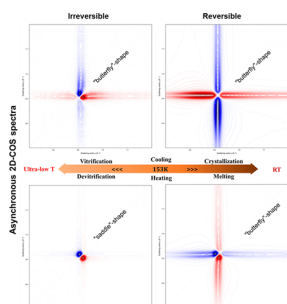
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## Twist-angle programmable magnetism in graphene/CrI<sub>3</sub> bilayers

Florentino López-Urías and Francisco Sánchez-Ochoa\*



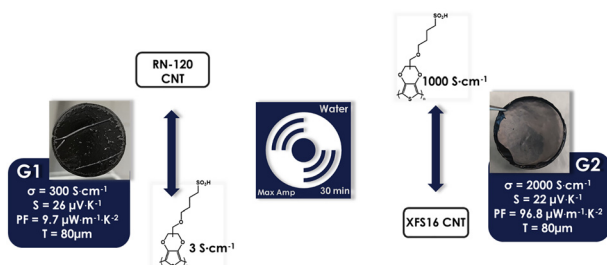
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### Mapping the structural evolution in supercooled polysiloxane liquids: a combined temperature-resolved WAXD and 2D-COS study

Xiang Shi\* and Chao Fu\*

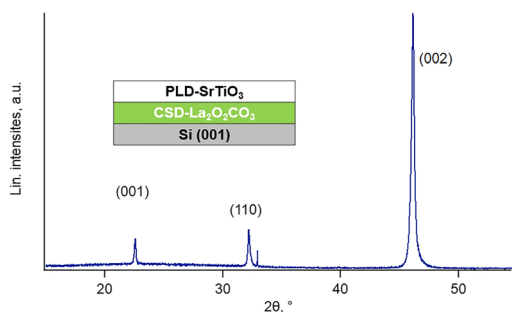
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### Organic thermoelectric films: achieving high conductivity and power factor through sulfonated-poly(3,4-ethylenedioxythiophene) and single-walled carbon nanotube composites

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

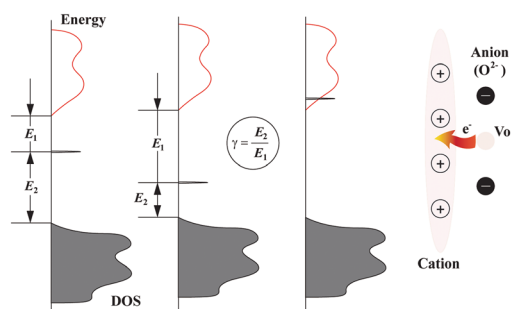
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### Preferentially oriented SrTiO<sub>3</sub> thin films grown on lanthanide-assisted Si(001) via pulsed laser deposition

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

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### A theoretical trend of oxygen vacancy levels in typical metal oxides

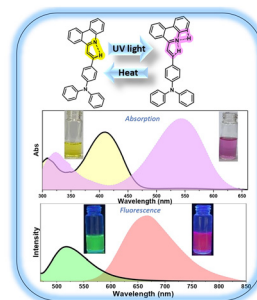
Zihui Chen, Kan-Hao Xue,\* Heng Yu, Zijian Zhou, Shanzhong Xie and Xiangshui Miao



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### Photochromism and photofluorochromism of arylvinylene phenanthridines

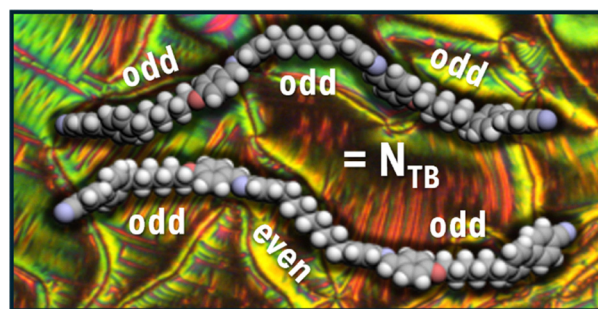
Atul B. Nipate, Vinutha K. Venkatareddy and M. Rajeswara Rao\*



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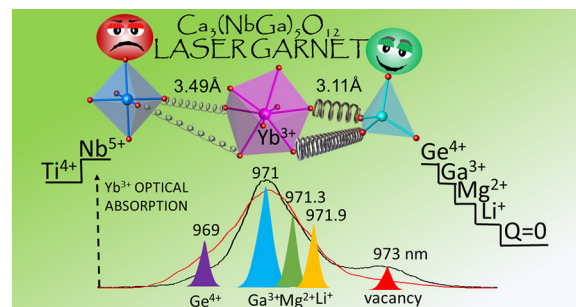
Ewan Forsyth, Magdalena M. Majewska, Rebecca Walker,\* Damian Pocięcha, Ewa Gorecka, John M. D. Storey and Corrie T. Imrie



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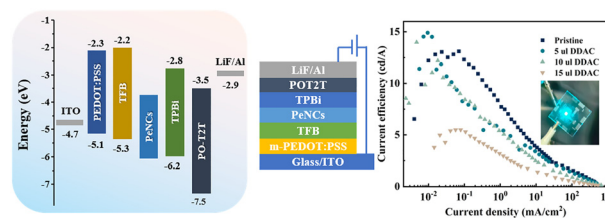
María Dolores Serrano, Concepción Cascales, Carlos Zaldo,\* Nicolas Trcera, João Elias F. S. Rodrigues, Giulio Gorni, Mamoru Kitaura and Hirokazu Masai



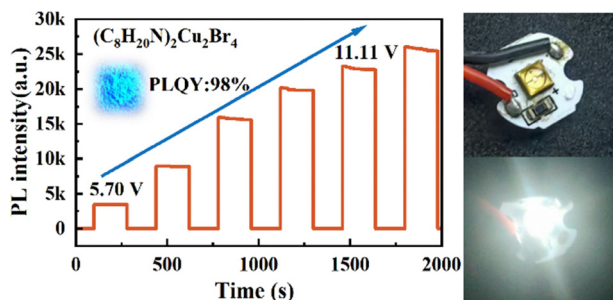
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### Neodymium chloride doping and homogeneous passivation in CsPbBr<sub>3</sub> nanocrystals for efficient blue light-emitting diodes

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



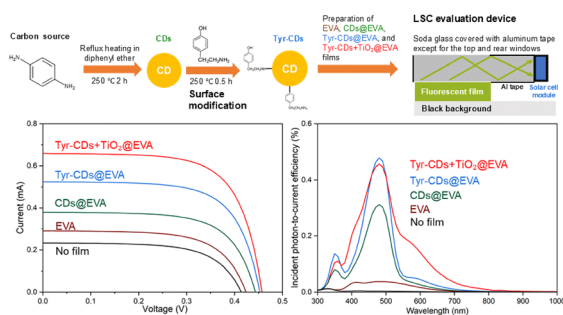
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### Efficient and stable deep-blue emission from lead-free $(TEA)_2Cu_2Br_4$ for white LEDs

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

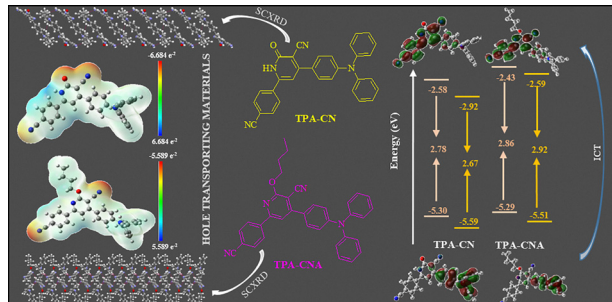
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### Performance enhancement of carbon dot-based luminescent solar concentrators *via* surface modification and $TiO_2$ -enhanced scattering

Yunxiang Liu, Yoshiki Iso\* and Tetsuhiko Isobe\*

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### Exploring $\pi$ -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\*

