

# Journal of Materials Chemistry C

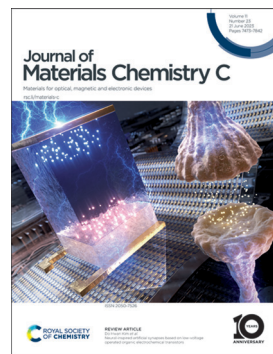
Materials for optical, magnetic and electronic devices

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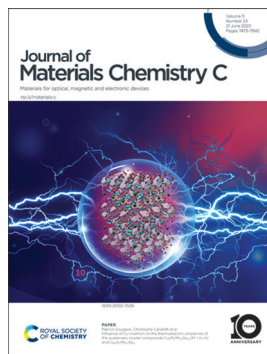
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### Inside cover

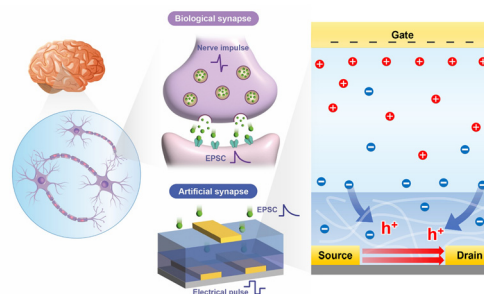
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## REVIEWS

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### Neural-inspired artificial synapses based on low-voltage operated organic electrochemical transistors

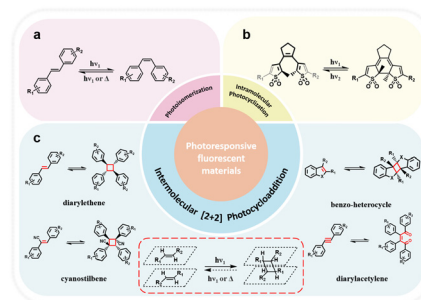
Ritamay Bhunia, Elvis K. Boahen, Dong Jun Kim, Hayoung Oh, Zhengyang Kong and Do Hwan Kim\*



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### Recent advances in photoresponsive fluorescent materials based on [2+2] photocycloaddition reactions

Xinni Ping, Junjun Pan, Xin Peng, Chuangye Yao, Tian Li, Hui Feng and Zhaosheng Qian\*



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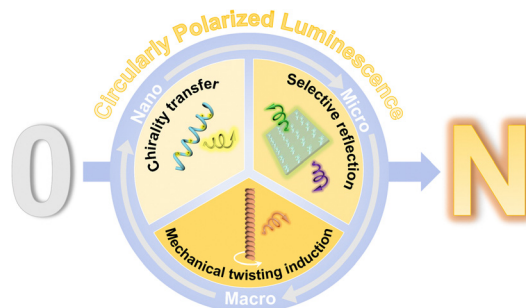


## REVIEWS

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### From 0 to N: circularly polarized luminescence generation from achiral luminophores in fibrous morphologies

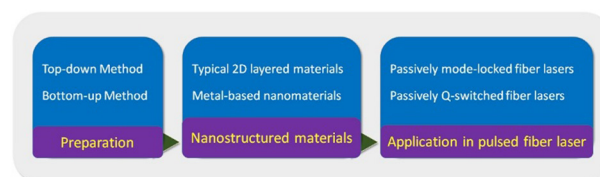
Xiaoxiao Yu, Linfeng Chen, Wanting Yu, Yanhua Cheng\* and Meifang Zhu



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### Preparation and pulsed fiber laser applications of emerging nanostructured materials

Min Li,\* Yabin Hao, Swelm Wageh, Omar A. Al-Hartomy, Abul Kalam and Han Zhang\*

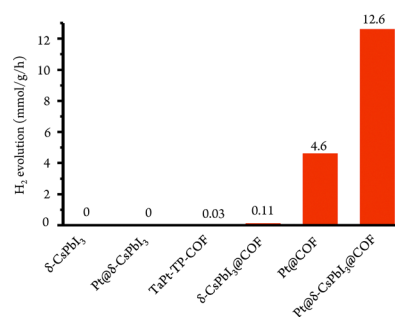


## COMMUNICATION

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### Promoting charge separation in a composite of $\delta$ -CsPbI<sub>3</sub> and covalent organic frameworks

Guangsong Yuan, Siwen Feng, Qing Yang, Fangli Yi, Xinyu Li, Yiqi Yuan, Cuijuan Wang\* and Hongjian Yan\*

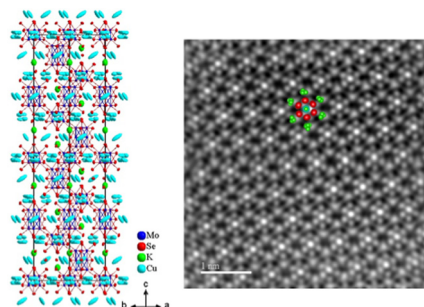


## PAPERS

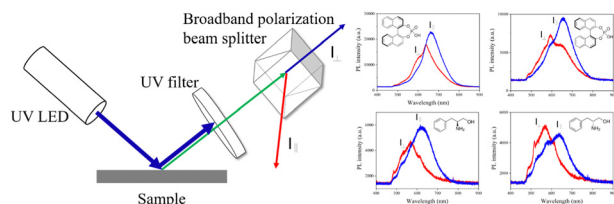
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### Influence of Cu insertion on the thermoelectric properties of the quaternary cluster compounds Cu<sub>3</sub>M<sub>2</sub>Mo<sub>15</sub>Se<sub>19</sub> (M = In, K) and Cu<sub>4</sub>In<sub>2</sub>Mo<sub>15</sub>Se<sub>19</sub>

Patrick Gougeon,\* Philippe Gall, Shantanu Misra, Adèle Léon, Christine Gendarme, Sylvie Migot, Jaafar Ghanbaja, Soufiane El Oualid, Bertrand Lenoir and Christophe Candolfi\*



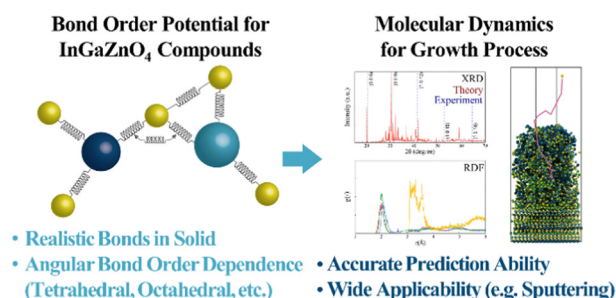
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### Probing the chirality and optical activity of organic molecules through the anisotropic photoluminescence of porous silicon

Chih-Hsuan Hu, Vincent K. S. Hsiao\* and Chih-Chien Chu\*

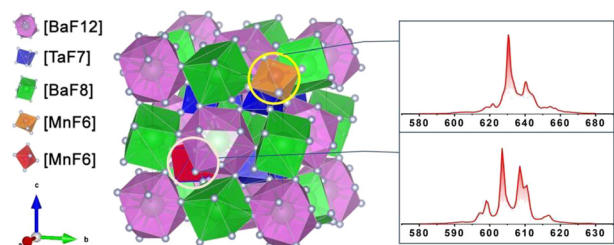
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### Analytic bond order potential for indium gallium zinc oxide

Yun Ho Lee, Su Hyun Park and Byoung Don Kong\*

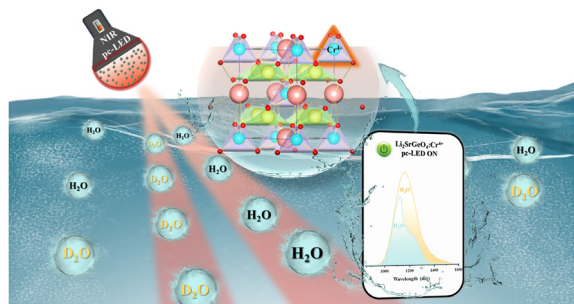
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### Exploring dual-emission properties in $\text{Mn}^{4+}$ distinctively activated $\text{BaTaF}_7$ red emitting phosphor

Konglan Chen, Shiyu Jia, Zifan Shao, Xinxin Han, Jian Yuan, Yayun Zhou\* and Tingting Deng\*

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### Valence state control of $\text{Cr}^{4+}$ -activated $\text{Li}_2\text{SrGeO}_4$ for NIR-II light source to distinguish deuterium and non-deuterium reagents

Xiaoxuan Guo, Bomei Liu,\* Rongyi Kuang, Weijiang Gan, Lin Huang and Jing Wang\*

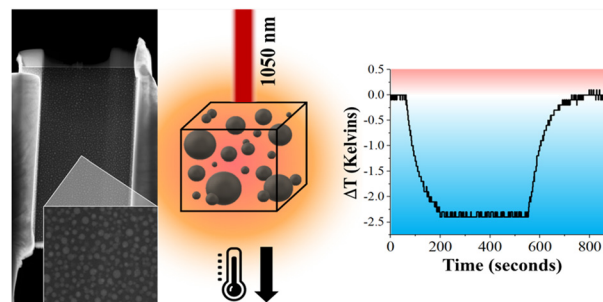


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### Controlled phase-separation effect for enhanced optical refrigeration in yttrium-aluminosilicate glasses

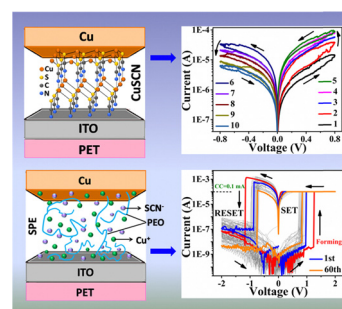
Thomas Meyneng,\* Jyothis Thomas,\* Nicolas Grégoire, Weawkamol Leelapornpisit, Jesus Valdez, Raman Kashyap and Younès Messaddeq



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### Contrasting analog and digital resistive switching memory characteristics in solution-processed copper(i) thiocyanate and its polymer electrolyte-based memristive devices

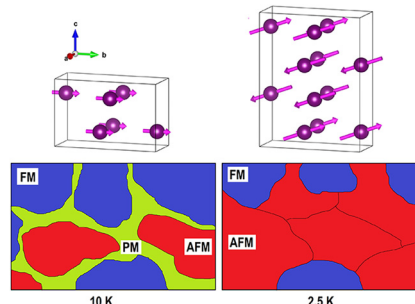
Rajesh Deb, Manjula G. Nair, Ujjal Das and Saumya R. Mohapatra\*



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### Magnetic phase separation in the $\text{EuPdSn}_2$ ground state

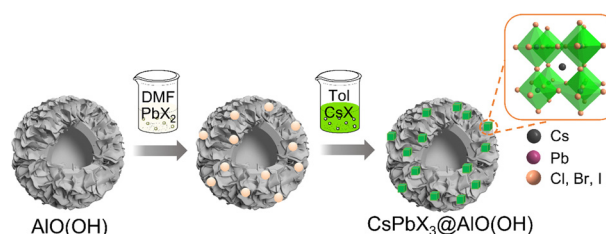
Alberto Martinelli,\* Dominic Ryan, Julian Sereni, Clemens Ritter, Andreas Leineweber, Ivan Ćurlik, Riccardo Freccero and Mauro Giovannini



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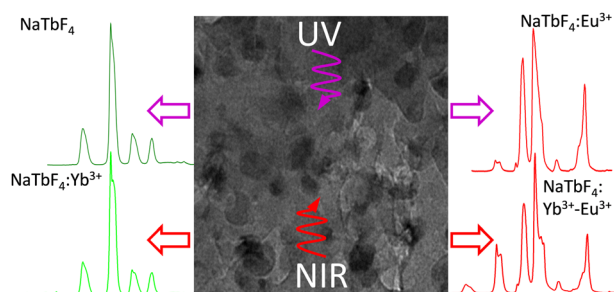
### $\text{CsPbX}_3$ nanocrystals embedded in hollow $\text{AlO}(\text{OH})$ nanosheet assemblies towards highly bright flexible multicolor emitting films

Jinchan He, Xiao Zhang,\* Cong Xie, Hsueh Shih Chen and Ping Yang\*





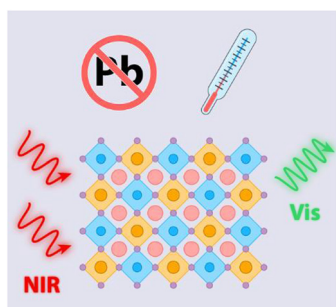
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### Efficient down-shifting and up-conversion emission dual-mode in RE<sup>3+</sup>-doped NaTbF<sub>4</sub>-based nano-glass ceramics

Javier del-Castillo, Angel Carlos Yanes\* and Moisés Cantón-Jara

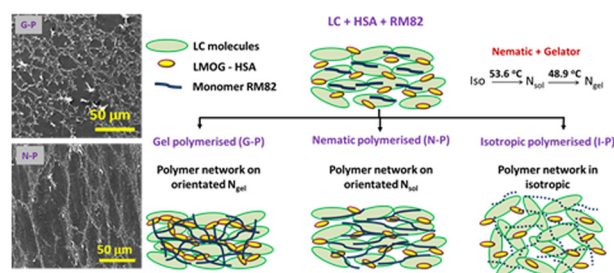
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### Luminescent Pb-free perovskites: low-cytotoxicity materials for primary thermal sensing

Luan N. Passini, Fernando E. Maturi, Roberta S. Pugina, Eloisa G. Hilário, Marina Fontes, Hernane S. Barud, Luís D. Carlos, José Mauricio A. Caiut and Danilo Manzani\*

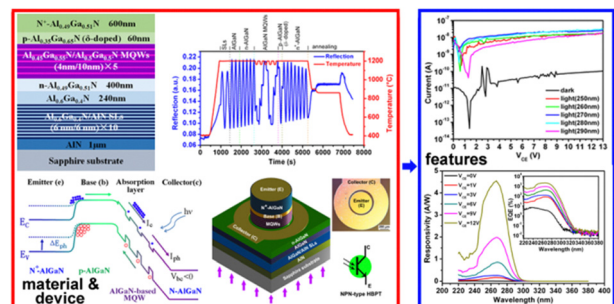
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### Anisotropic sol-gel transition and morphological aspects of a hierarchical network of nematic gel and a superimposed photopolymer

G. V. Varshini, D. S. Shankar Rao\* and S. Krishna Prasad

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### AlGaIn-based solar-blind UV heterojunction bipolar phototransistors: structural design, epitaxial growth, and optoelectronic properties

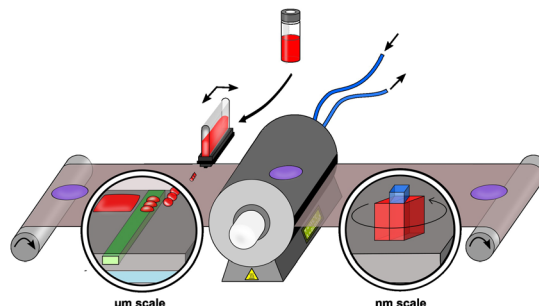
Yiren Chen,\* Jiawang Shi, Zhiwei Zhang, Guoqing Miao, Hong Jiang and Hang Song\*



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### The self out-of-plane oriented $\text{La}_2\text{O}_2\text{CO}_3$ film: an integration tool for fiber textured ferroelectric thin films

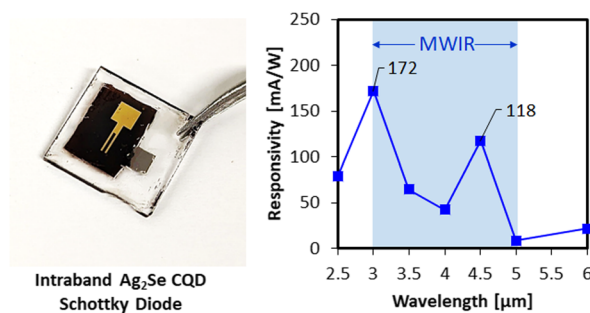
Ewout Picavet, Hannes Rijckaert, Eduardo Solano, Oier Bikondoa, Edgar Gutierrez Fernandez, Petriina Paturi, Laura Van Bossele, Henk Vrielinck, Jeroen Beeckman and Klaartje De Buysse\*



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### Schottky photodiodes based on mid-wavelength infrared intraband colloidal quantum dots – surface ligand and metal contact studies

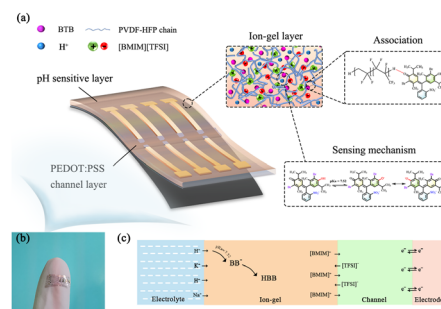
Mohammad M. Al Mahfuz, Junsung Park, Rock Huebner, Sunghwan Lee and Dong-Kyun Ko\*



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### Flexible pH sensors based on OECTs with a BTB dye-embedded ion-gel gate dielectric

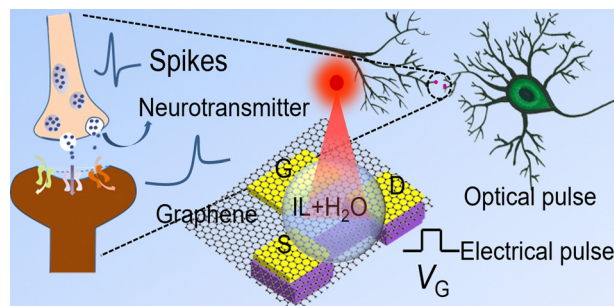
Xin Chen, Jianlong Ji,\* Yubo Peng, Zhipeng Gao, Min Zhao, Bin Tang\* and Ying Liu\*



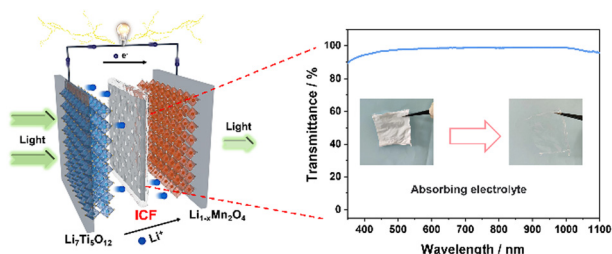
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### Multisensory synapses based on $\text{Fe}_3\text{O}_4$ /graphene transistors for neuromorphic computing

Tingting Miao, Weikang Liu, Cungang Huang, Bin Cui,\* Ruiyue Chu, Xiangxiang Zhao, Xinyi Wu, Shuyun Wu, Jihao Xie, Huiyang Liu, Juan Chen, Bin Cheng and Jifan Hu\*



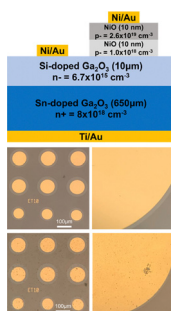
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### A highly transparent ion conducting film enabling a visual electrochromic battery

Wanzhong Li, Ting Bai, Qianqian Zhang,\* Jingbing Liu, Kailing Zhou and Hao Wang\*

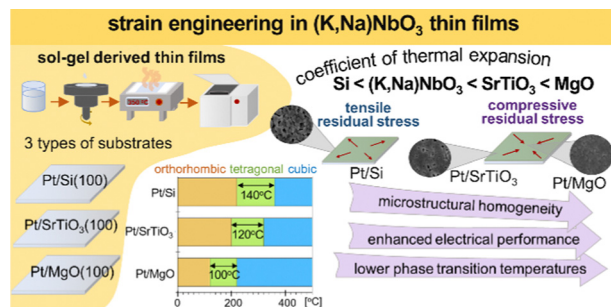
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### Superior high temperature performance of 8 kV NiO/Ga<sub>2</sub>O<sub>3</sub> vertical heterojunction rectifiers

Jian-Sian Li, Chao-Ching Chiang, Xinyi Xia, Hsiao-Hsuan Wan, Fan Ren and S. J. Pearton\*

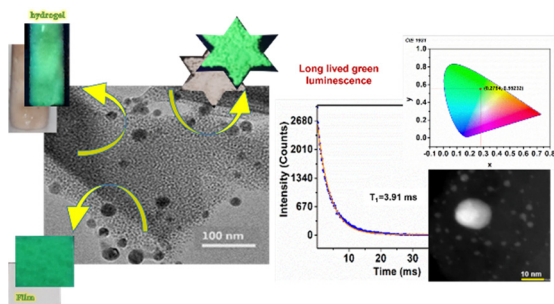
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### Stress induced effects on piezoelectric polycrystalline potassium sodium niobate thin films

Rui Pinho, Rui Vilarinho, J. Agostinho Moreira, Fátima Zorro, Paulo Ferreira, Maxim Ivanov, Alexander Tkach, M. Elisabete Costa and Paula M. Vilarinho\*

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### A long-lived photoluminescent silver nanocluster-infused silver terephthalate metal organic framework with antibacterial and biofilm inhibition activity: a high functional resource

Liz Hannah George, Sreedharan Prathapan, Narayanapillai Manoj, Prasanth Rathinam, Salbi Aadithya and G. S. Sailaja\*

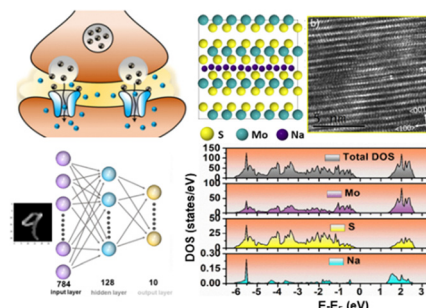




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## Experimental and theoretical evidence of ion engineering in nanocrystalline molybdenum disulfide memristors for non-filamentary switching actions and ultra-low-voltage synaptic features

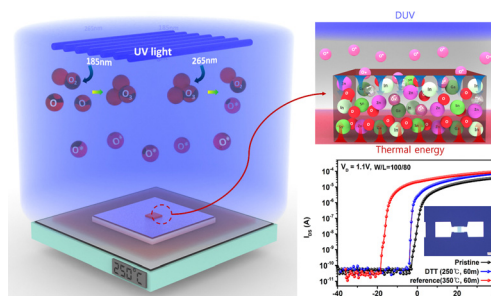
D. Das,\* J. Asirvatham, M. A. Luong, A. Claverie, P. Johari\* and A. Kanjilal\*



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## Threshold voltage tuning of IGZTO thin-film transistors deposited by RF sputtering for high-resolution flexible displays using deep ultraviolet light

In Pyo Park, Bu Kyeong Hwang, Bo Ram Lee, Pung Keun Song\* and Soo Won Heo\*



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## Tailoring the 3D porous structure of conducting PEDOT:PSS gels via ice-templating

Quentin Weinbach, Naoures Hmili, Emma Gottis, Guillaume Fleith, Jérôme Combet, Vasiliki Papaefthimiou, Vincent Malesys, Emmanuel Denys, Laurent Simon, Marc Schmutz, Alain Carvalho, Doru Constantin and Laure Biniek\*

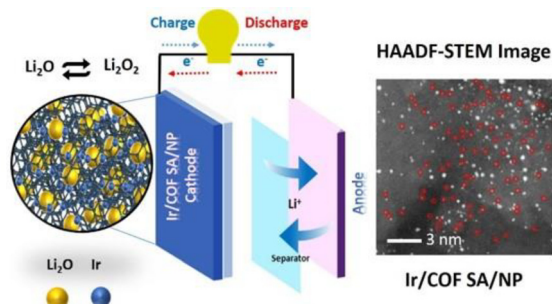


THERMALLY ISOLATING and ELECTRICALLY CONDUCTING PEDOT:PSS

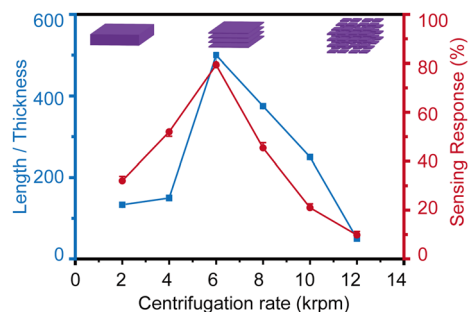
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## Reconstruction of nitrogen-containing covalent organic framework-coordinated Ir single-atom electrocatalysts for high-performance lithium-rich oxygen battery cathodes

Babar Shahzad, Yihui Li, Dong Xinfang, Yangjian Ding, Zewen Xu, Muhammad Kashif Zaman, Rana Muhammad Irfan\* and Cheng Huang\*



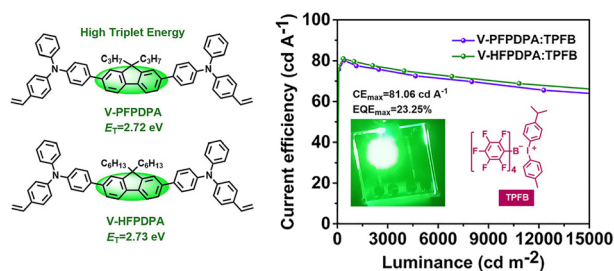
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### Aspect ratio control of TaS<sub>2</sub> nanosheets: a methodology for room temperature formaldehyde gas sensing performance optimization

Ying Wang, Min Du, Jiangang Xu, Zhiyuan Zeng\* and Derek Ho\*

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### Alkyl fluorene-based cross-linkable hole transport materials with high triplet energy for high-efficiency solution-processed green PHOLEDs

Qianqian Li, Hongli Liu,\* Xianggao Li and Shirong Wang\*

