

# Journal of Materials Chemistry C

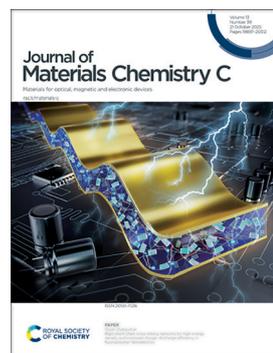
Materials for optical, magnetic and electronic devices

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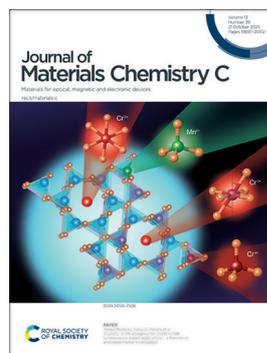
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### Cover

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### Inside cover

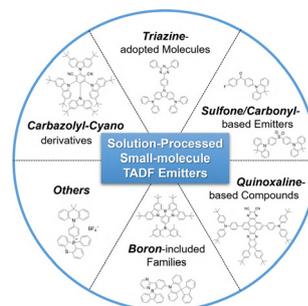
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## REVIEWS

19909

### Recent advances in highly efficient small-molecule TADF emitters for solution-processed OLEDs

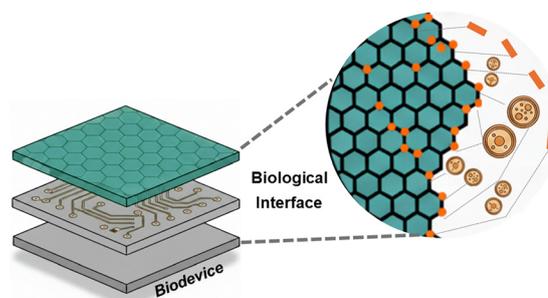
Yongxia Ren and Shi-Jian Su\*



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### 2D and layered materials for bio-integrated devices: insights into their multiscale interaction with biological moieties

Nabila Yasmeen, Nada Morsy, Mariam Badawi, Roberta Gagliani, Sung Mun Lee, Emmanuel Stratakis, Lucia Gemma Delogu, Yarjan Samad and Anna-Maria Pappa\*



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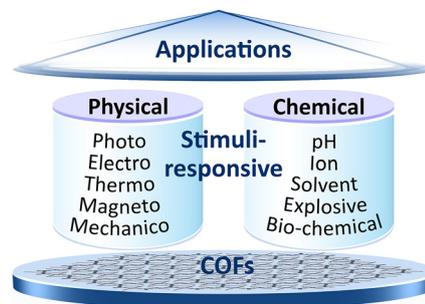
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## REVIEWS

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## Recent advances in stimuli-responsive covalent organic frameworks: from mechanisms to applications

Shen Xu,\* Shengqiang Xue, Le Yu and Qichun Zhang\*

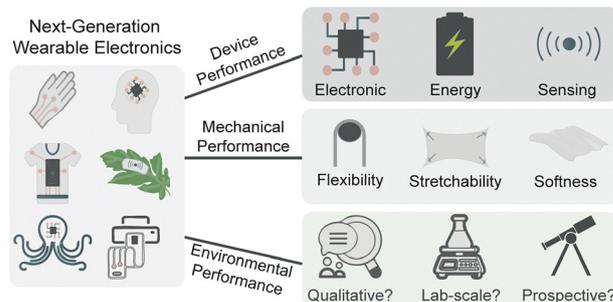


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## Integrating environmental assessment into early-stage wearable electronics research

Filippa Wentz, Mohsen Mohammadi, Klas Tybrandt, Magnus Berggren, Rickard Arvidsson\* and Aiman Rahmanudin\*

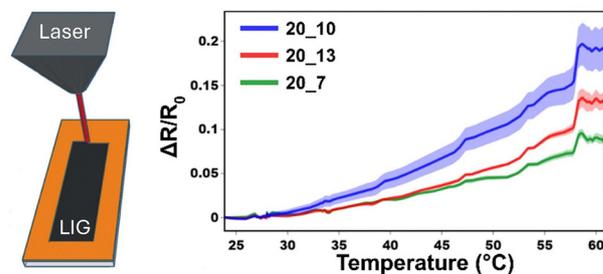


## COMMUNICATION

20000

## Wearable, near temperature insensitive laser-induced graphene nanocomposite strain sensors

Tom Jacquin, Simon Wanstall, Inkyu Park, Adam A. Stokes, Hadi Heidari, Theodore Lim and Morteza Amjadi\*

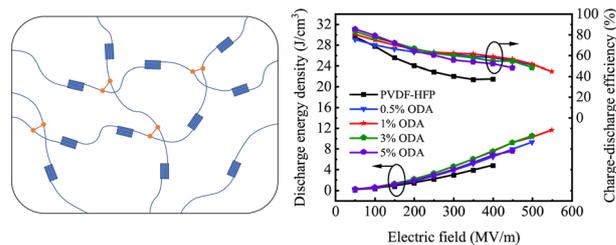


## PAPERS

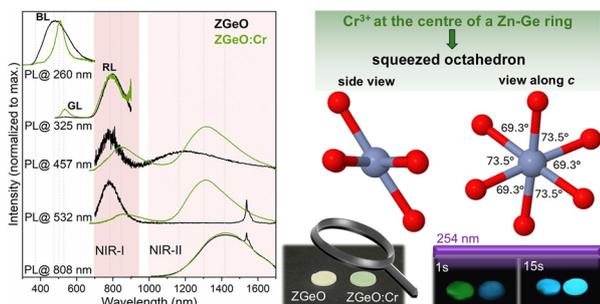
20013

## Rigid short-chain cross-linking networks for high energy density and improved charge-discharge efficiency in fluoropolymer ferroelectrics

Hao Chen, Ding Ai, Wandong Li, Ziyu Lv, Yongbiao Zhai, Shuangwu Huang and Qiyang Zhang\*



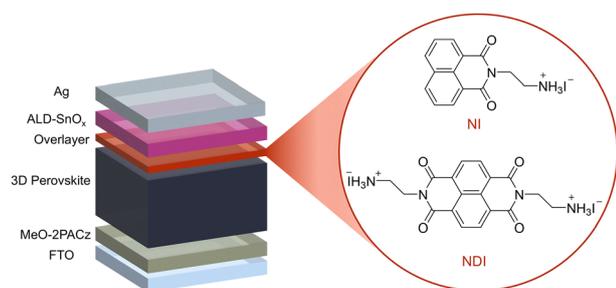
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### Zn<sub>2</sub>GeO<sub>4</sub>:Cr,Mn phosphor for visible to NIR luminescence-based applications – a theoretical and experimental investigation

Maria S. Batista, Miguel P. Dias, Maria B. Candeias, Gabriel Marques, José D. Gouveia, Ana V. Girão, Florinda M. Costa, Joaquim P. Leitão, Luís Rino, Jonas Deuermeier, Elvira Fortunato, Rodrigo Martins, Ana Pimentel, Joana Rodrigues, Teresa Monteiro\* and Sónia O. Pereira\*

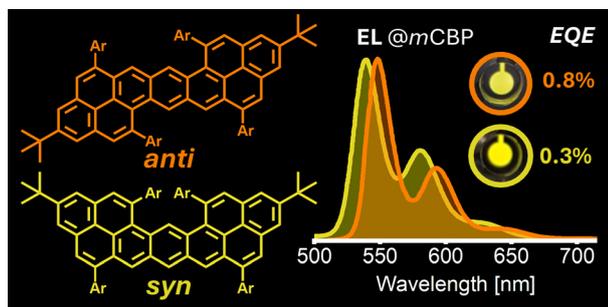
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### Electroactive naphthalimide and naphthalenediimide interlayers for inverted perovskite solar cells

Konstantina-Kalliopi Armadorou, Ghewa AlSabeih, Andrea Vezzosi, Murad Najafov, Pietro Nasturzio, Paul Zimmermann, Alexander Hinderhofer, Jinhyun Kim, Likai Zheng, Tiziano Agostino Caldara, Virginia Carnevali, Vladislav Slama, Nikolaos Lempesis, Frank Schreiber, Shaik M. Zakeeruddin, Ursula Rothlisberger, Lukas Pfeifer, Felix T. Eickemeyer,\* Jovana V. Milić\* and Michael Grätzel\*

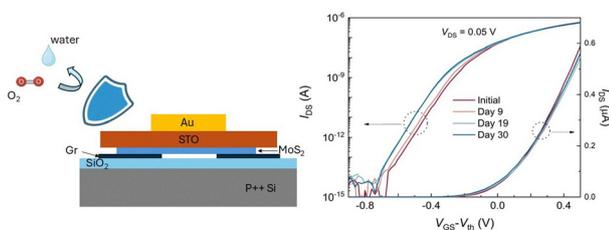
20049



### Synthesis of luminescent dinaphthopentacene isomers and their application in OLEDs

Hannah V. Anderson, Felix Brust, Maksym Fizer, Jonas Spengler, Yvonne Wagenhäuser, Matthias Stolte, Ana de Bettencourt-Dias, Sergey A. Varganov,\* Frank Würthner\* and Wesley A. Chalifoux\*

20056



### Stable operation of two-dimensional field-effect transistors with van der Waals integrated SrTiO<sub>3</sub> top-gate dielectrics

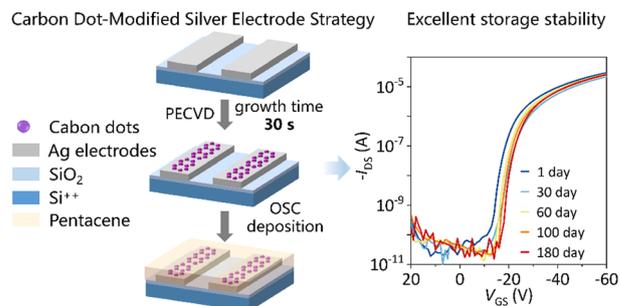
Yanran Liu, Allen Jian Yang,\* Shanhu Wang, Huiping Han, Jiayi Qin, Zhiwei Li, Tianli Jin, Josephine Si Yu See, Liang Wu and X. Renshaw Wang\*



20065

### Realizing high-performance and stable organic field-effect transistors by a cost-effective carbon dot-modified silver electrode strategy

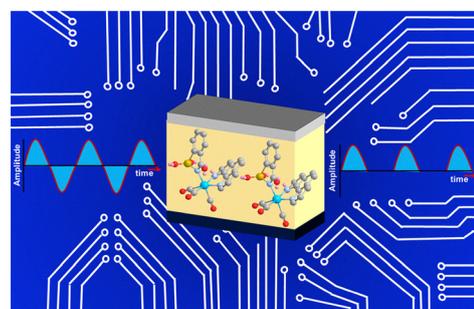
Jiannan Qi, Shujing Guo, Xiaosong Chen, Zhongwu Wang,\* Rongmei Si\* and Liqiang Li\*



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### Asymmetric charge injection barrier yields high rectification in a rhenium(i)-organometallic compound

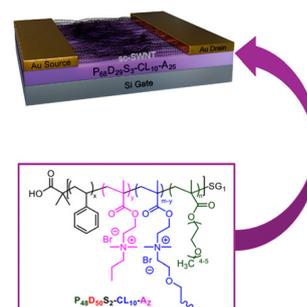
Subas Rajbangshi, Nila Pal, Ritu Gupta, Robinur Rahman, Pradeep Sachan, Vladimir N. Nesterov, Lisa Roy, Shishir Ghosh,\* Michael Zharnikov\* and Prakash Chandra Mondal\*



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### High conductivity poly(ionic liquid)-based crosslinked dielectrics

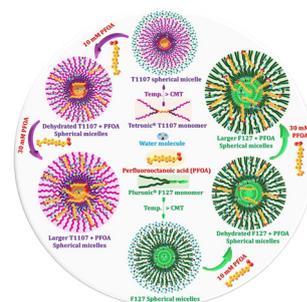
Sophia McKillop, Laura E. Dickson, Hyungjun Cho, May Ourabi, Joseph G. Manion, Vittoria-Ann DiPalo and Benoit H. Lessard\*



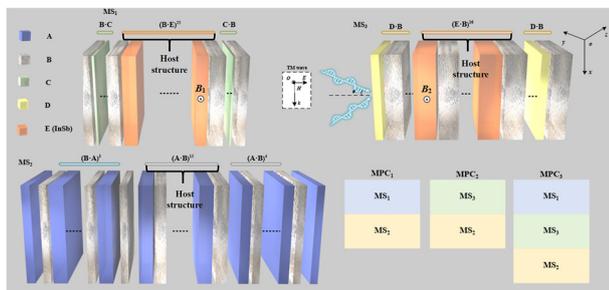
20094

### Perfluorooctanoic acid-mediated self-assembly behaviour of linear and star block copolymers: the impact of intermolecular interactions on polymer micelles

Ankur Patel, Debes Ray, Paresh Parekh,\* Li-Jen Chen, Mehul Khimani, Ketan Kuperkar, V. K. Aswal and Vijay Patel\*



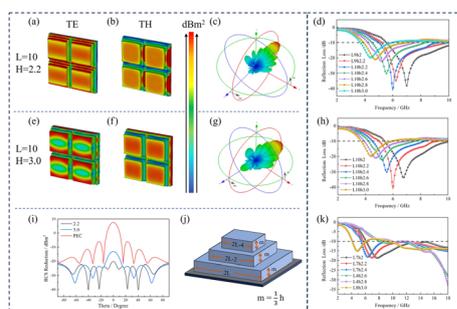
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### Theoretical study of tunable and controllable angular channels based on magnetically controlled metastructures

Ling Qian, Ting-Hao Zhang, Yue-Qi Tang, Bao-Fei Wan and Hai-Feng Zhang\*

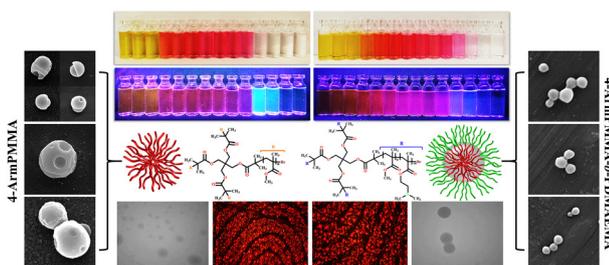
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### Multifunctional PANI–TiO<sub>2</sub>–Fe<sub>3</sub>O<sub>4</sub>@attapulgite 3D composites for synergistic microwave absorption and corrosion protection

Kai Xu, Pei Liu, Yin Xu Ni, Qingqing Gao, Jin Chen, Shuai Yin, Zixuan Ding, Guohui Tang, Changtian Zhu and Fenghua Liu\*

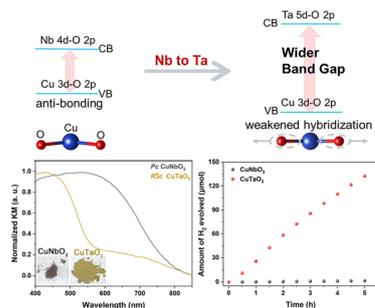
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### Dual-mode colorimetric/fluorimetric pH-sensing and *in situ* visualization of latent fingerprints by halofluorochromic nanoprobe prepared from self-assembled multi-responsive star-shaped block-copolymers with anisotropic Janus morphology

Soma Nikzaban and Amin Abdollahi\*

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### B-site substitution-induced band edge shifts in perovskite-type Cu(Nb,Ta)O<sub>3</sub> solid solutions for visible-light-driven hydrogen evolution

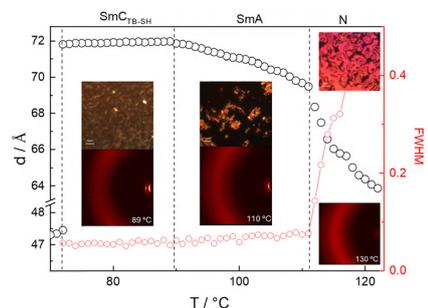
Haocong Wang, Chihiro Takahashi, Xuemeng Guo, Shunya Okada, Hajime Suzuki, Daiming Tang, Wei Yi,\* Ikuya Yamada, Xiaojuan Liu, Ryu Abe and Koji Fujita\*



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### The effect of the terminal linking atom on the appearance of twist-bend nematic and smectic phases

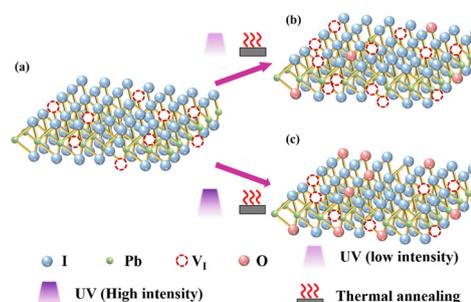
Ewan Cruickshank,\* Grant J. Strachan, Magdalena M. Majewska, Damian Pociecha, Ewa Gorecka, John M. D. Storey and Corrie T. Imrie



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### Enhanced charge trapping effect in PVA/PbI<sub>2</sub> synaptic transistors achieved through integrated UV irradiation and thermal annealing treatments

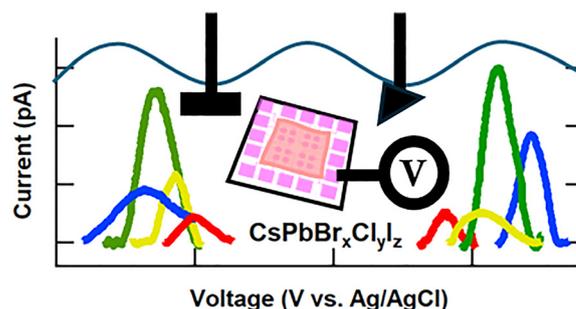
Yonglin Yang, Xiao Fu, Honglong Ning,\* Zhihao Liang, Weixin Cheng, Junxiong Luo, Han He, Weiguang Xie, Rihui Yao\* and Junbiao Peng



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### Revealing frontier energy levels in blended mixed-halide perovskite thin films with electrochemistry

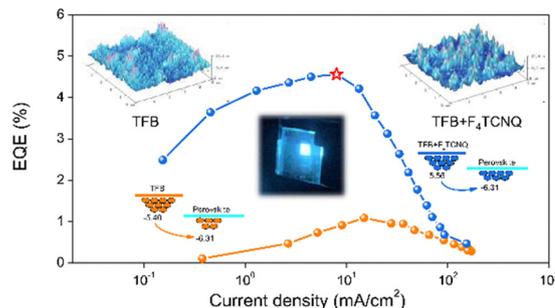
Muhammad Khalid, Austen C. Adams, Rohit Kajla, Akbar Ali, Md Musfiqur Rahman, Anton V. Malko and Jason D. Slinker\*



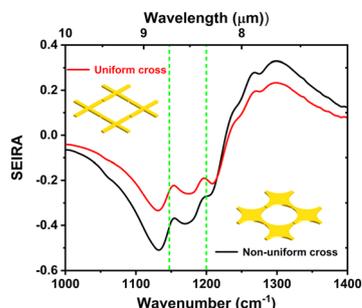
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### A p-type doping strategy for a hole-transport polymer in blue perovskite light-emitting diodes

Jian Chen, Yifan Wang, Jijia Gao, Jialiang Tian, Yuelong Ma, Wei Shen, Kun Cao, Yingying Fu, Lihui Liu\* and Shufen Chen\*



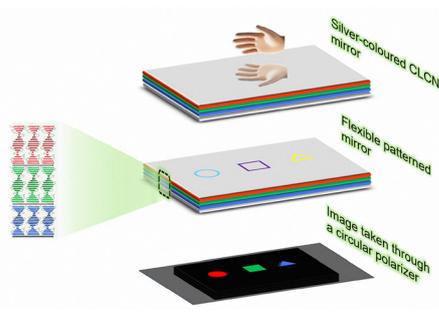
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### Resonator arrays with non-uniform unit cell design for surface-enhanced infrared absorption spectroscopy

Chen Chen,\* Wenbo Huang, Hailong Jiang, Feng Chen, Lijun Hao, Ronger Lu\* and Lei Wang\*

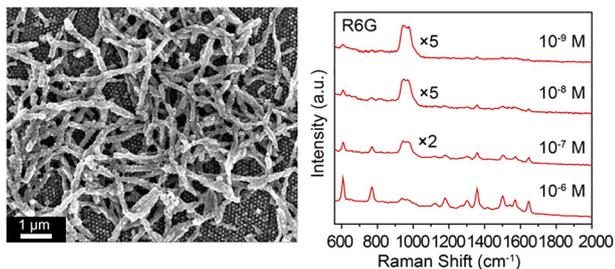
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### Flexible patterned mirrors prepared by stacking patterned cholesteric liquid crystal polymer network films

Qingqing Huang, Xiaofang Chen,\* Limin Wu, Wei Liu, Yi Li and Yonggang Yang\*

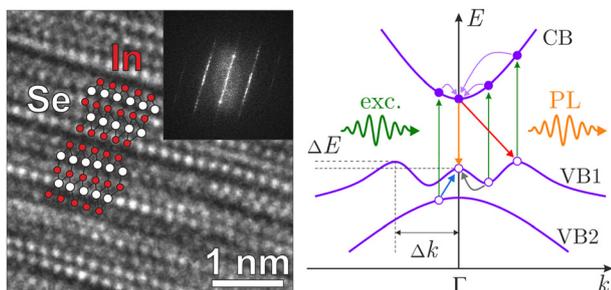
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### Construction of a hybrid SERS chip composed of a microstructured Si metasurface and MoS<sub>x</sub>O<sub>y</sub> for sensitive molecular detection

Chao Gao, Ziheng Song, Huijie Chen, Ling Wu, Zhibing Weng, Lei Jiang, Qingru Wang\* and Yingdong Han\*

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### Photoluminescence features of few-layer hexagonal α-In<sub>2</sub>Se<sub>3</sub>

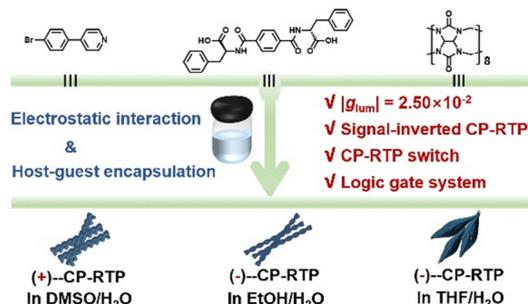
Ilya Eliseyev, Alexey Veretennikov, Aidar Galimov, Lyubov Kotova, Grigorii Osochenko, Kseniya Gasnikova, Demid Kirilenko, Mariya Yagovkina, Yuliya Salii, Valery Davydov, Prokhor Alekseev and Maxim Rakhlin\*



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## Achieving circularly polarized room-temperature phosphorescence inversion via a supramolecular co-assembly strategy

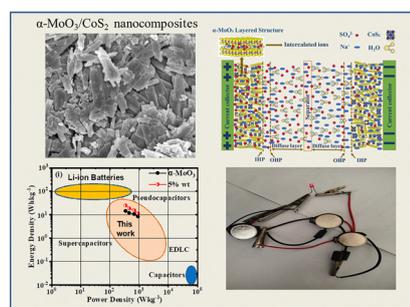
Chunli Li, Zhenyi He, Chenjia Yin, Tao Li, Jie Sun, Zhiqin Wu, Zizhao Huang\* and Xiang Ma\*



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## Tailoring the pseudocapacitive performance of hierarchical $\alpha$ -MoO<sub>3</sub>/CoS<sub>2</sub> nanostructures for enhanced electrochemical properties of aqueous symmetric supercapacitors

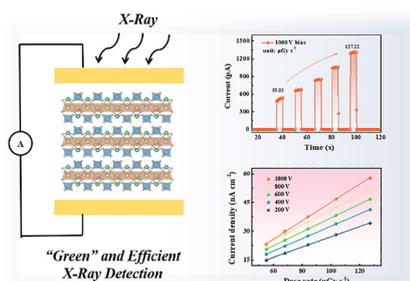
Mehedi Hasan, Md. Raihan Siddiki, Md. Abdullah Zubair and Muhammad Rakibul Islam\*



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## Ion migration suppression in quasi-2D CdTeMoO<sub>6</sub> crystals for high-performance X-ray detection

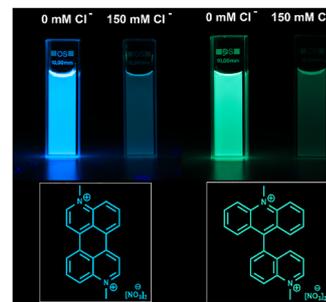
Fuai Hu, Conggang Li, Lijuan Chen, Yang Li, Yanru Yin, Feifei Guo and Zeliang Gao\*



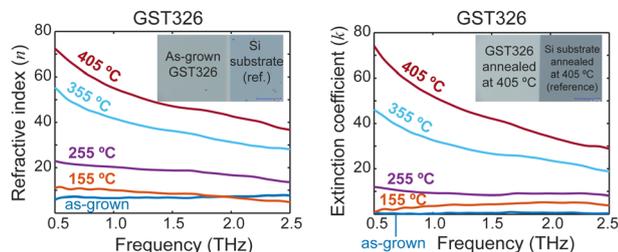
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## New cationic fluorescent dyes for optical sensing of chloride

Karl L. Sterz, Torsten Mayr\* and Sergey M. Borisov\*



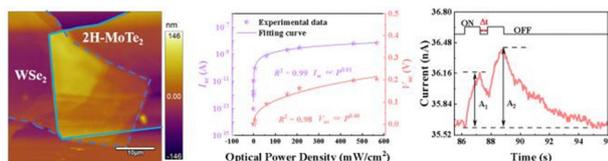
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## Terahertz spectroscopic characterization of $\text{Ge}_3\text{Sb}_2\text{Te}_6$ compounds for active applications

Krishna Kumar,\* Miroslavna Kovylnina, Jose Antonio Álvarez-Sanchis, David Ortiz de Zárate, Borja Vidal and Carlos García-Meca

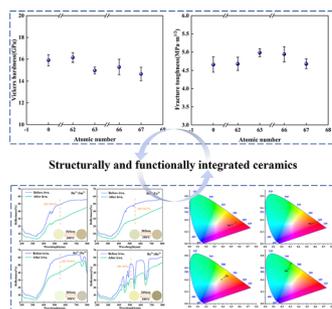
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## Broadband photodetection and artificial visual synapses enabled by the photovoltaic and photoconductive effects of $2\text{H-MoTe}_2/\text{WSe}_2$ heterojunction

Qiang Guo, Xianjun Zhang, Danzhi Wang and Pengfei Hou\*

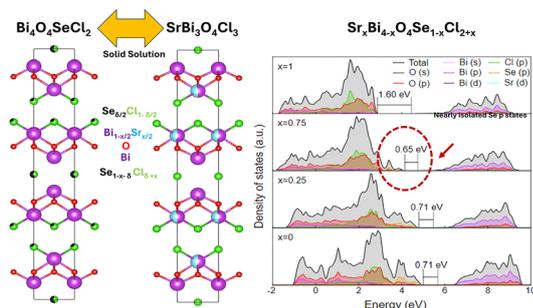
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## Photochromic and photoluminescence modulation properties of $\text{Zr}_6\text{Nb}_2\text{O}_{17}$ ceramics doped with a variety of rare earth ions

Jiao Liu, Qiangqiang Wen, Jianwei Cao, Yuwei Ma, Weixiang Shang, Gaofei Pan, Hongxia Li, Fei Ruan, Qingchun Wang and Jinxiao Bao\*

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## Tuning the band gap and structure from wide gap $\text{SrBi}_3\text{O}_4\text{Cl}_3$ to narrow gap $\text{Bi}_4\text{O}_4\text{SeCl}_2$ by aliovalent anion substitution

T. Robinson, A. Safdar, J. W. Still, I. D. Seymour and Q. D. Gibson\*

