

Journal of Materials Chemistry C

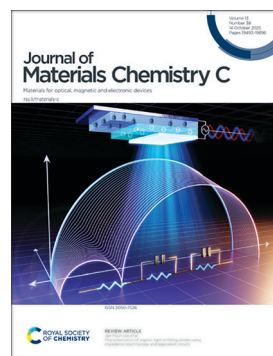
Materials for optical, magnetic and electronic devices

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IN THIS ISSUE

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Cover

See Jae-Hyun Lee *et al.*,
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Jonghee Lee and
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J. Mater. Chem. C,
2025, **13**, 19512.

EDITORIAL

19506

An honorary collection for *Journal of Materials Chemistry C* and *Journal of Materials Chemistry B* "in memory of Professor Dr Helmut Ringsdorf"

Dharmendra Pratap Singh,*
Ammathnadu Sudhakar Achalkumar,*
Matthias Lehmann* and Sandeep Kumar*

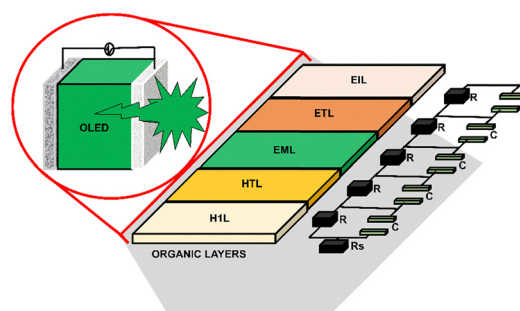


REVIEWS

19512

Characterization of organic light-emitting diodes using impedance spectroscopy and equivalent circuits

Akeem Raji, Jaeyong Park, Jonghee Lee and Jae-Hyun Lee*



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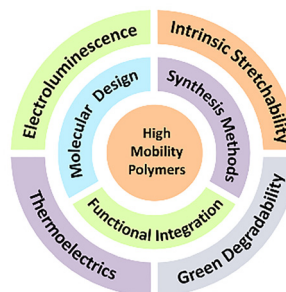
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REVIEWS

19535

Multifunctional high-mobility polymer semiconductors: design, synthesis and applications

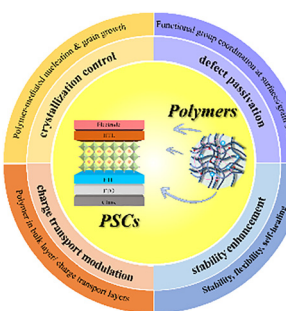
Zihan Xiong, Yunlong Guo* and Yunqi Liu*



19552

Polymer-engineered perovskite solar cells: synergistic strategies for multiscale stability and high-efficiency photovoltaics

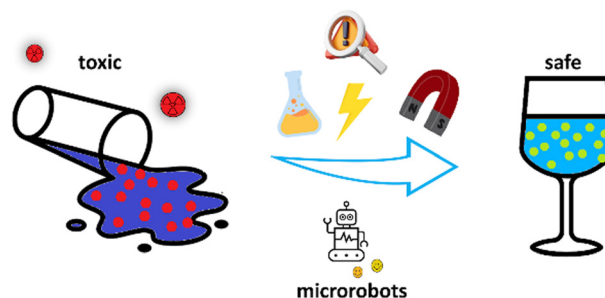
Jingsong Tu, Dengxue Li, Ting Hu* and Yiwang Chen*



19576

Materiomics approaches for stimuli-responsive microrobots

Silvia Orecchio, Giuseppe Arrabito,* Claudia Pellerito, Tiziana Fiore, Floriana Campanile, Federica Meringolo, Paola Costanzo, Sebastiano Alberto Fortuna, Salvatore Barreca, Giorgia Puleo, Vittorio Ferrara and Bruno Pignataro*

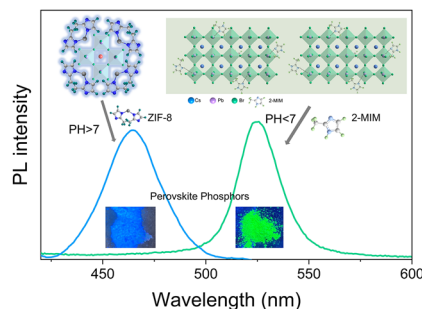


COMMUNICATIONS

19601

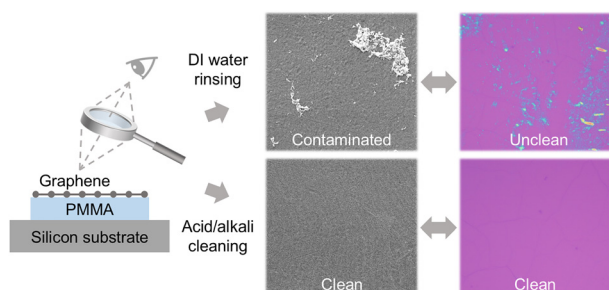
ZIF-8-assisted aqueous synthesis for highly stable green and blue perovskite phosphors

Bin Yan, Ziang Wang, Kaiqing Fan, Yunfan Wang, Jianxu Ding, Shaodong Sun, Kunhua Wang,* Meng Gao* and Yonghui Song*



COMMUNICATIONS

19606

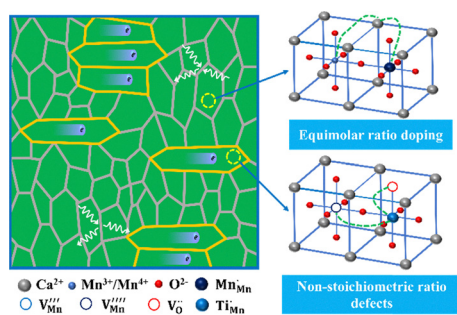


Revealing key surface contaminants *via* stack-flipping strategy: investigating rinsing protocols for clean graphene transfer and enhanced electrical performance

Hao Liu, Yingzhi Li, Kun Yang, Lei Guo, Zebing Zeng and Yifan Yao*

PAPERS

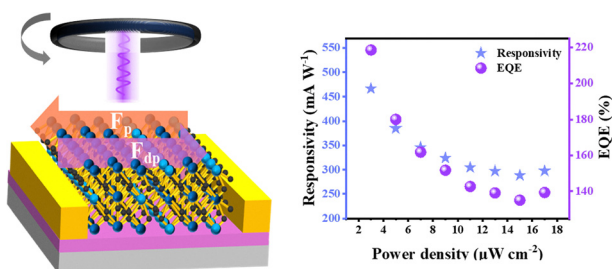
19615



Atomic-scale B-site deficiency stabilizes enhanced thermoelectric properties of calcium manganese oxides

Zongmo Shi,* Yuqing Qi, Zhen Han, Yifeng Tang, Qing Wang, Zhiyu Cao, Ying Zhang and Junzhan Zhang

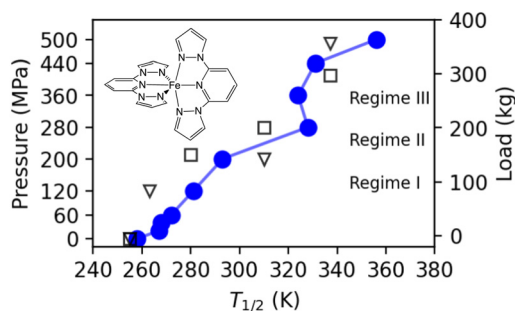
19626



An ultra-low dark current, high-performance photodetector based on CVD-grown Bi_2TeO_5

Yunxiao Min, Jie Liu, Zihan Wang and Liang Li*

19635



Atomistic description of spin crossover under pressure and its giant barocaloric effect

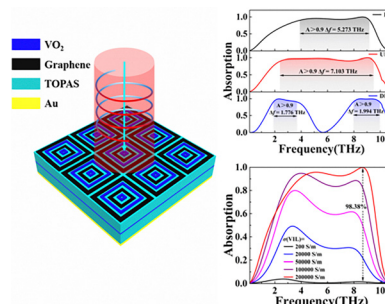
Sergi Vela,* Jordi Ribas-Arino, Steven P. Vallone, António M. dos Santos, Malcolm A. Halcrow and Karl G. Sandeman



19642

Design of a switchable and tunable terahertz metamaterial absorber with broadband, ultra-broadband, and dual-broadband absorption based on graphene and vanadium dioxide

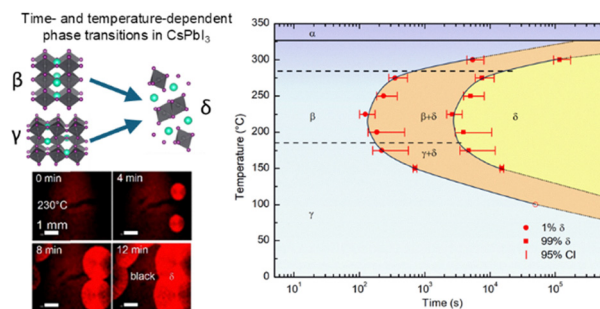
Youqi Zhang, Weijun Zhou, Yongzheng Sun, Xiangfei Yuan, Haipeng Wang, Xiangyang Zhang* and Ben-Xin Wang*



19654

Mapping the polymorphic phase transformations of CsPbI₃ perovskite thin films

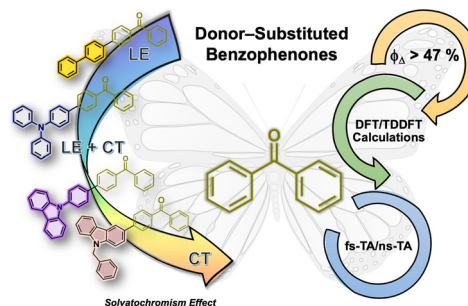
Rudolph Holley III, Quinn C. Burlingame* and Yueh-Lin Loo*



19660

Tuning charge transfer and singlet oxygen generation in donor-substituted benzophenones by structural and solvent effects

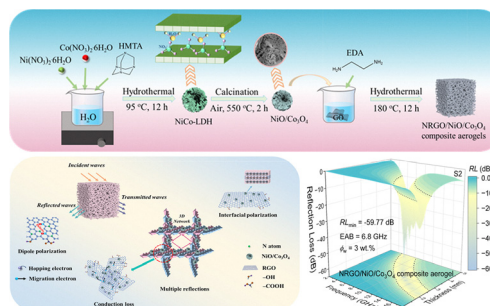
Carla Cunha and J. Sérgio Seixas de Melo*



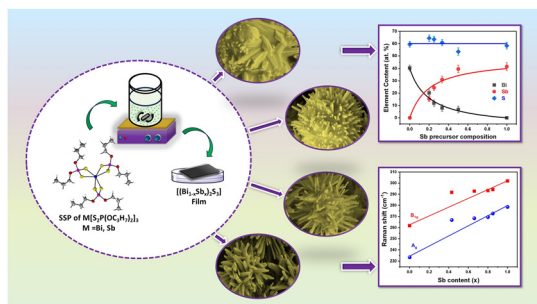
19673

Synthesis of layered double hydroxide derivative-decorated nitrogen-doped graphene composite aerogels with a unique hierarchical porous network structure for microwave absorption

Ruiwen Shu,* Chang Wang, Leilei Xu, Yang Guan and Konghu Tian



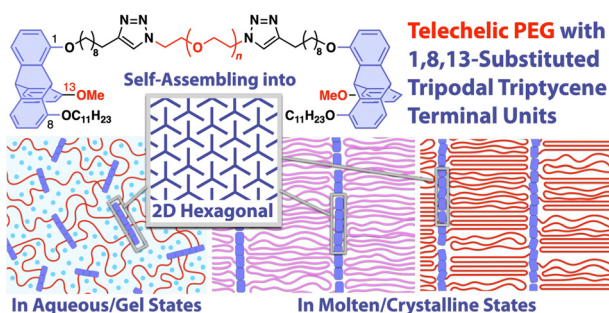
19683



Low-temperature solution-processed growth of ternary $(\text{Bi}_{1-x}\text{Sb}_x)_2\text{S}_3$ films

Sayali Shrishail Harke, Omesh Kapur, Ruomeng Huang* and Chitra Gurnani*

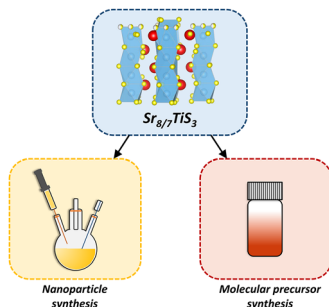
19693



Self-assembly behaviour of telechelic polyethylene glycol with triptycene termini capable of two-dimensional ordering

Fumitaka Ishiwari*, Yugen Chen, Tomoya Fukui,* Takashi Kajitani and Takanori Fukushima*

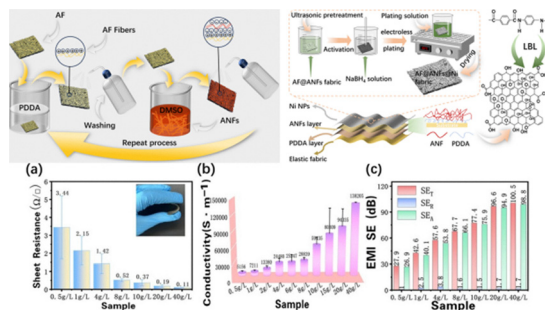
19699



Moderate-temperature solution-processed synthesis of incommensurate $\text{Sr}_{8/7}\text{TiS}_3$ thin films and rod-shaped nanocrystals

Kiruba Catherine Vincent, Shubhanshu Agarwal, Sofia Rodriguez Perilla, Daniel C Hayes, Kim Kisslinger and Rakesh Agrawal*

19712



Lightweight and flexible Ni-deposited aramid fabric for electromagnetic interference shielding

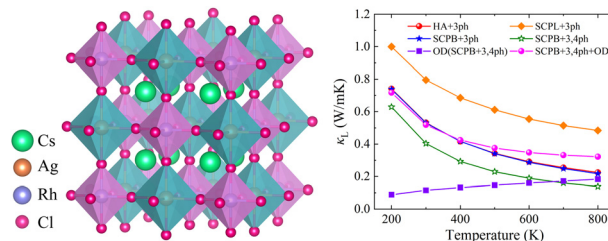
Ying-Kang Li, Wen-Juan Wang, Ya-Juan Cai, Ting Yue, Ke-Xiao Sang, Dan Wu, Ya-Ge Wu, Zi-Hao Yang, Chuan-Zhe Zhao, Jing-Gang Gai* and Yi-Xing Sun*



19724

Ultralow lattice thermal conductivity in double perovskite $\text{Cs}_2\text{AgRhCl}_6$: the effect of anharmonic phonon renormalization and wave-like phonon tunneling

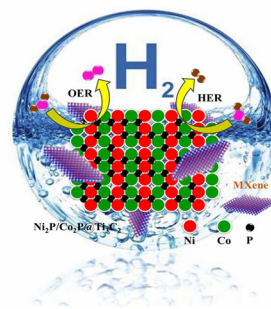
Kunpeng Yuan,* Xiaoyong Xie, Zhehan Duan, Xiaoliang Zhang, Zhaoliang Wang* and Dawei Tang



19734

Synergistic coupling of heterointerface $\text{Ni}_2\text{P}/\text{Co}_2\text{P}$ nanocrystals anchored on MXene nanosheets for high-performance oxygen and hydrogen evolution reactions

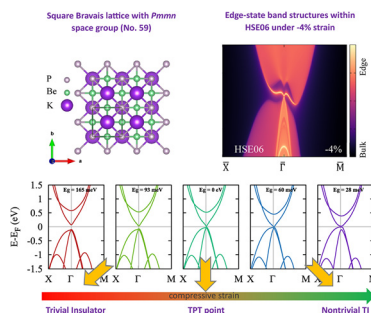
Xuan Wu, Thangavelu Dhanasekaran,* Wei Han, Zhao Dan, Yuhang Li, Wang Guiling and Zhao Jing*



19749

$\text{K}_2\text{Be}_2\text{P}_2$ monolayer: a predicted strain-tunable two-dimensional topological insulator exhibiting multifunctional properties

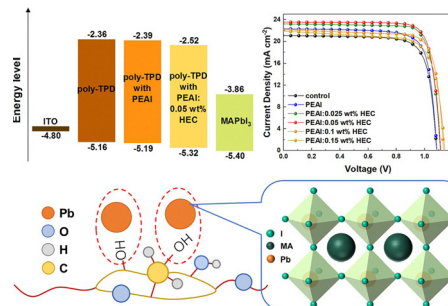
Shahram Yalameha,* Zahra Nourbakhsh and Javad Zahmatkesh



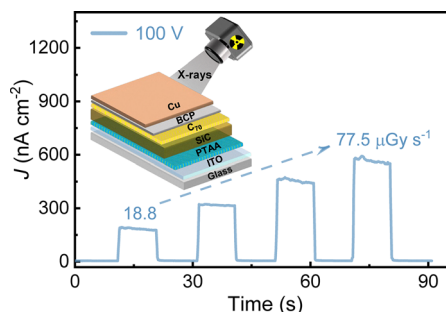
19763

Multifunctional interface modification to enhance the performance of perovskite solar cells

Yuqing Chen, Qiaoli Niu,* Junhao Xiong, Tianyu Wang, Wenyi Zhao, Wenjin Zeng, Xinwen Peng, James Ramontja and Ruidong Xia*



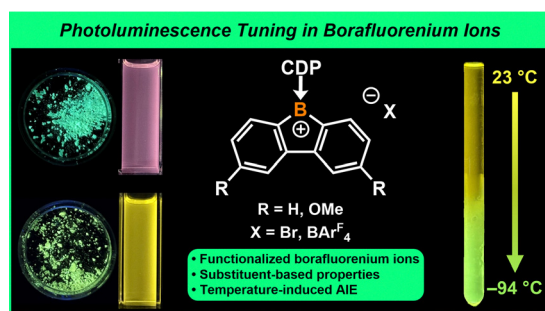
19772



Semi-insulating 4H-SiC based PIN photodiodes for X-ray detection

Xin Chen, Haitao Tang, Yong Liu and Qianqian Lin*

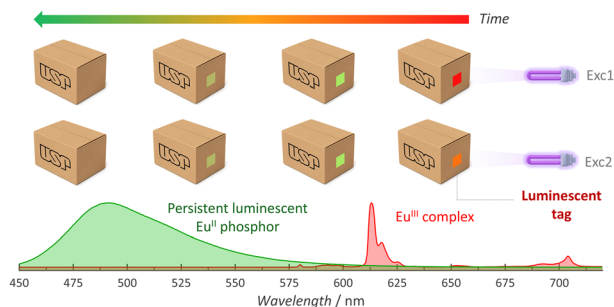
19778



Harnessing substituent and aggregation-induced effects for color-tunable emission in borafluorenum ions

Nathan C. Frey, Kimberly K. Hollister, Caleb C. Taylor, Nula Jones, Diane A. Dickie and Robert J. Gilliard Jr*

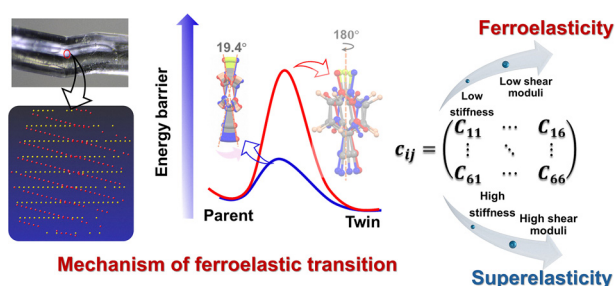
19788



Dual spectral and temporal encoding in luminescent polymeric films using a Eu^{III} complex and a persistent phosphor for anti-counterfeiting applications

Tayne P. Pereira, Felipe S. M. Canisares, João H. de Araujo-Neto, Javier Ellena, Lucas C. V. Rodrigues, Hermi F. Brito and Airton G. Bispo-Jr*

19797



Ferroelasticity versus superelasticity in molecular crystals: the role of weak switchable interaction motifs and low shear moduli

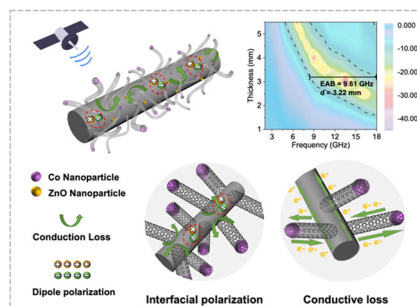
Ravi Teja Malisetty, Atiqur Rahman, Soyab Sabu, Ashi Singh and Sajesh P. Thomas*



19805

Fabrication of rod-like porous Co@graphene/CNT composites for superior wideband electromagnetic wave absorption

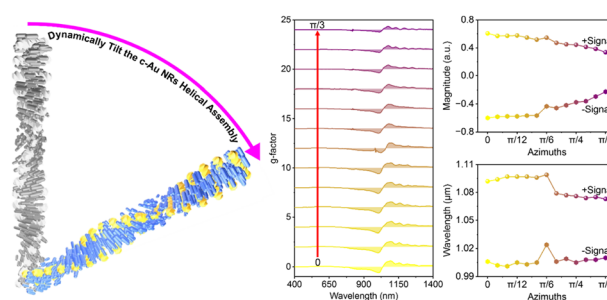
Songyuan Mao, Chang He, Xiao Wang, Hongdu Jin, Zhenjie Liang, Minrui Chen, Hui-Min Wen* and Jun Hu*



19816

Assembly of intrinsic chiral gold nanorods within a cholesteric liquid crystal host with tunable optical asymmetry

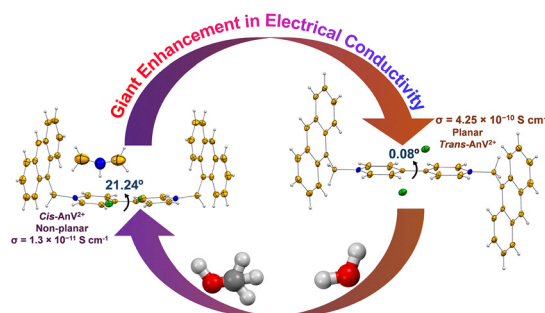
Yang Liu,* Xiyang Wei, Yongguang Chen, Yi Yang, Yongfang Zhang and Hao Liu



19829

Stabilizing a *cis* viologen via co-crystal engineering: electric and magnetic fields are in action to confirm no π -mer formation

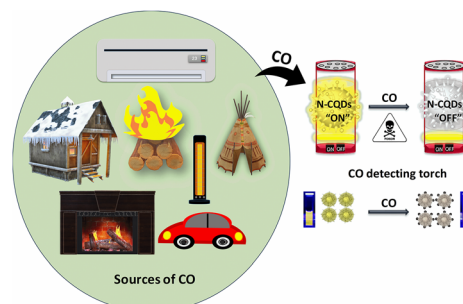
Ranjeev Kumar Parashar, Aditya Kamal, Debashree Manna, Vikram Singh* and Prakash Chandra Mondal*



19842

A CO-detecting torch using carbon nanodots

Shrodha Mondal and Prithidipa Sahoo*



PAPERS

19884

Temperature-responsive hydrogels with adaptive coloration and superior mechanical performance

Yi-Zuo Chu, Chien-Yin Lin, You-Sheng Zhang and Mei-Yu Yeh*



- ✓ outstanding mechanical properties
- ✓ excellent puncture resistance
- ✓ high elongation (>1000%)
- ✓ strong interfacial adhesion

CORRECTION

19894

Correction: Emerging microelectronic microneedles (eMN) for biomedical applications

Shu Zhou, Qian Zhou, Xin Li* and Bingbing Gao*

