

# Journal of Materials Chemistry C

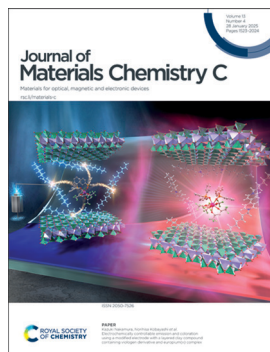
Materials for optical, magnetic and electronic devices

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## IN THIS ISSUE

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### Cover

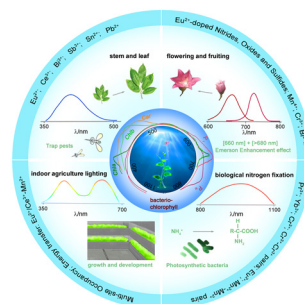
See Kazuki Nakamura,  
Norihiro Kobayashi *et al.*,  
pp. 1628–1636.  
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*J. Mater. Chem. C*,  
2025, 13, 1628.

## REVIEWS

1538

### Recent progress of inorganic phosphors in artificial plant cultivation LEDs

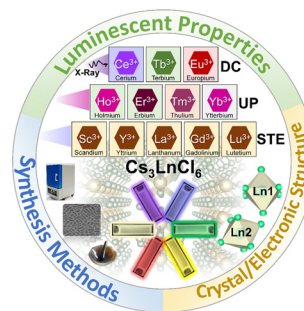
Jinmeng Xiang, Jiwen Chang, Changheng Chen,  
Shayi Jin, Renze Chen, Ruibo Gao, Minkun Jin and  
Chongfeng Guo\*



1557

### Lead-free lanthanide-based Cs<sub>3</sub>LnCl<sub>6</sub> metal halides

Yuanzhe Ding, Dongjie Liu, Peipei Dang,\* Guogang Li\*  
and Jun Lin\*



# RSC Advances

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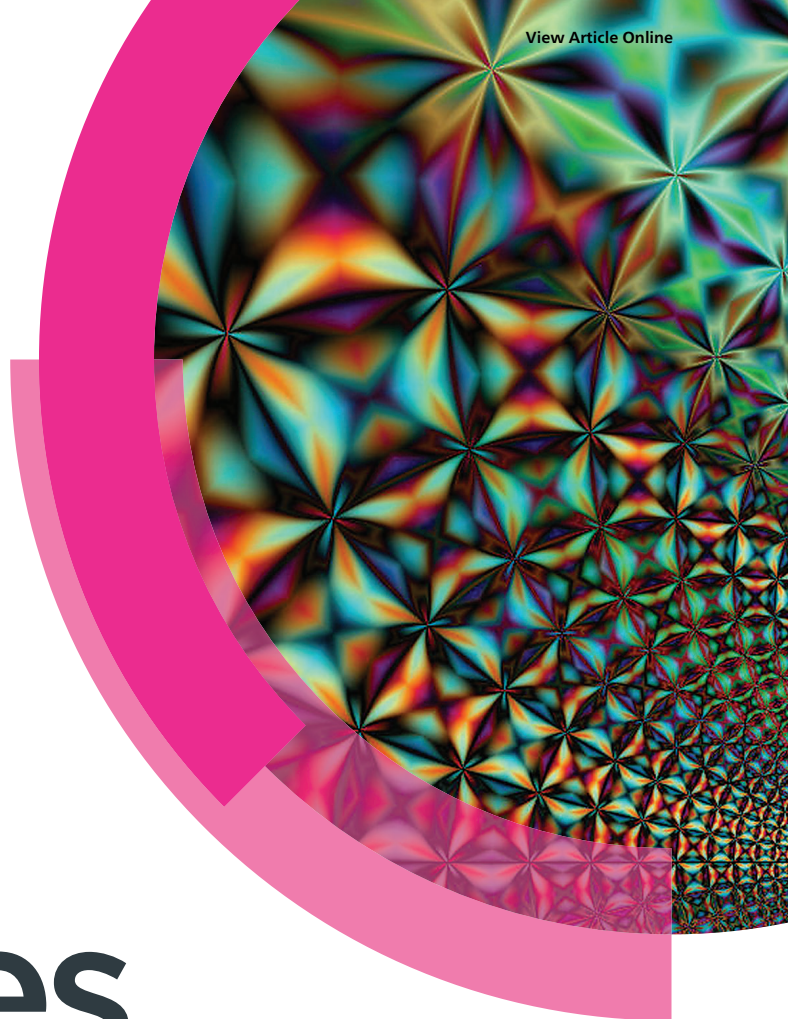


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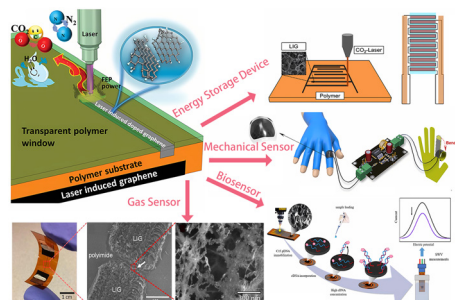


## REVIEWS

1573

### A comprehensive review of laser-induced-graphene for sensor applications: fabrication, properties, and performance evaluation

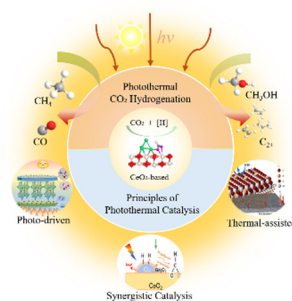
Xuanran Hu, Junke Wang, Chenyin Feng,\* Jun Yuan, Qiangmin Wei and Hao Wang\*



1592

### Enhanced photothermal catalytic CO<sub>2</sub> reduction by CeO<sub>2</sub>-based multicomponent catalysts

Jialiang Chen, Huilin Wang,\* Qing Xie, Yizhu Fang, Lu Sun, Xiao Wang,\* Shuyan Song\* and Hongjie Zhang

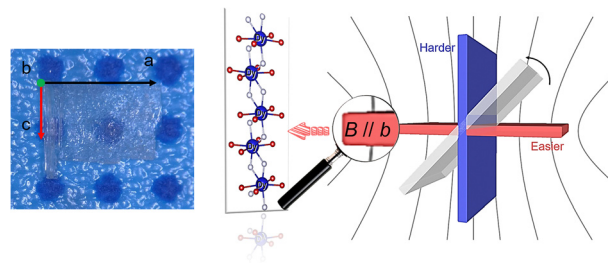


## COMMUNICATIONS

1612

### Magnetocaloric effects in the quasi-1D chain carbonate NaDy(CO<sub>3</sub>)F<sub>2</sub> through crystallographic directional rotation

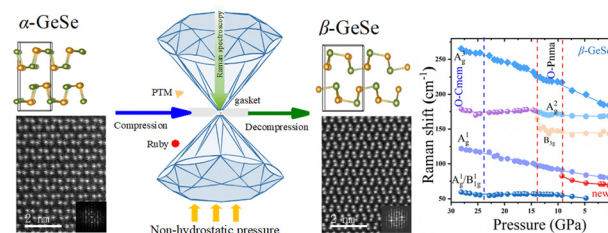
Ruixin Guo, Jingfang Tong, Lun Jin, Weijie Lin, Zhengzhong Deng, Changzhao Pan, Haitao Zhou and Shu Guo\*



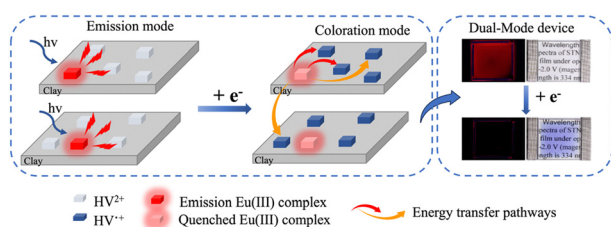
1620

### Non-hydrostatic pressure induced $\alpha$ to $\beta$ phase transition in group IV–VI monochalcogenide GeSe

Abliz Mattursun, Wenyi Tong, Yaqiong Wang,\* Zhao Guan, Yonghui Zheng, Wenming Qi, Jiahao Huang, Lei Yang, Wencheng Fan, Luqi Wei, Yating Xu, Yan Cheng, Pinghua Xiang, Binbin Chen, Zhongming Wei,\* Chungang Duan and Ni Zhong\*



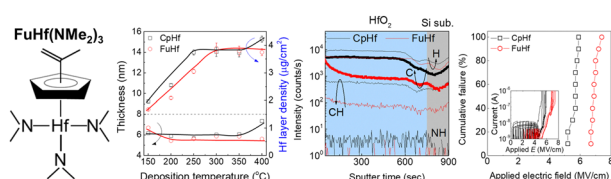
1628



### Electrochemically controllable emission and coloration using a modified electrode with a layered clay compound containing viologen derivative and europium(III) complex

Rong Cao, Naoto Kobayashi, Kazuki Nakamura\* and Norihisa Kobayashi\*

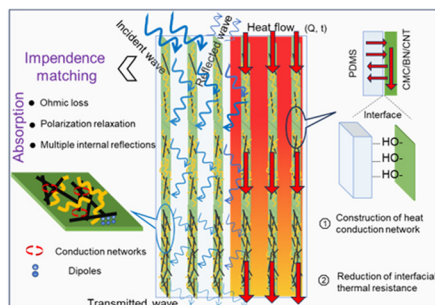
1637



### High-temperature atomic layer deposition of HfO<sub>2</sub> film with low impurity using a novel Hf precursor

Jae Chan Park, Chang Ik Choi, Woong Pyo Jeon, Tran Thi Ngoc Van, Woo-Hee Kim, Ji-Hoon Ahn, Bonggeun Shong\* and Tae Joo Park\*

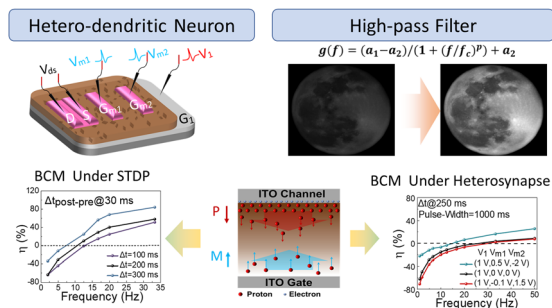
1646



### Improving electromagnetic engineering of thermal conductive composites by establishing continuous thermal conductive networks with gradient impedance

Dong An, Hongfeng Chen, Huitao Yu, Jiaqi Chen, Junru Yao,\* Chingping Wong and Wei Feng\*

1658



### Oxide-based bionic hetero-dendritic neuron with capabilities of Bienenstock–Cooper–Munro learning activities

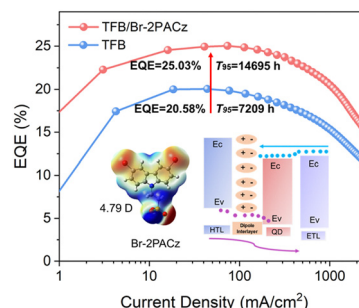
Jia Kang Di, You Jie Huang, Wei Sheng Wang, Xin Huang, Hui Xiao and Li Qiang Zhu\*



1668

## Molecular dipole interfacial engineering for high-performance quantum-dot light-emitting diodes

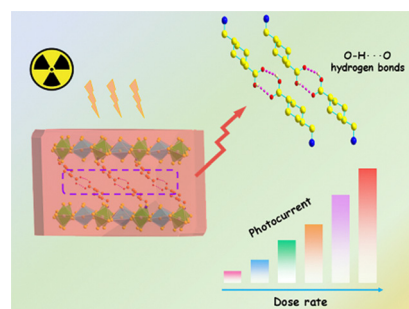
Kuibao Yu, Hailong Hu,\* Yuanhang Li, Wenjuan Huang, Yuan Qie, Chao Zhong, Tao Chen, Renjie Li, Tailiang Guo and Fushan Li\*



1675

## Centimeter-level double perovskite single crystals with strong interlaminar hydrogen bonds for high-performance X-ray detection

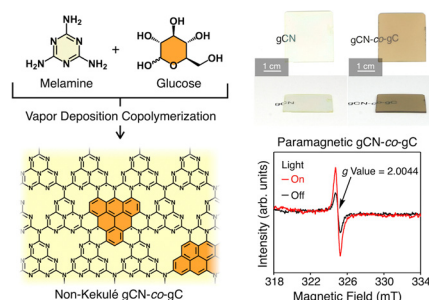
Linjie Wei, Yi Liu,\* Yu Ma, Qingshun Fan, Liwei Tang, Jingtian Zhang, Junhua Luo and Zhihua Sun\*



1680

## Non-Kekulé copolymer films for optoelectronics

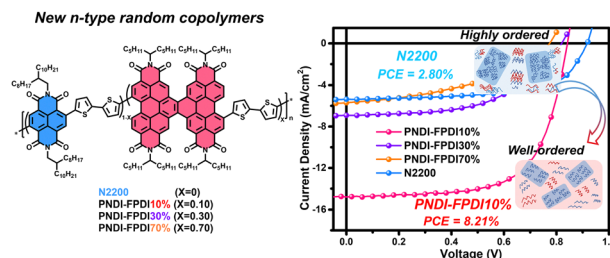
Niannian Wu, Nobuhiko Mitoma,\* Shunsuke Mori, Yi Ling Chiew, Xiuzhen Yu, Yugo Oshima, Shuxu Wang, Jinxu Liu and Takuzo Aida\*



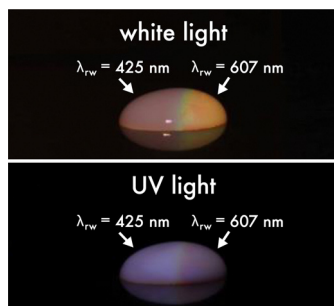
1687

## Molecular aggregation and crystallinity control enables improved performance of all-polymer solar cells

Yuli Yin,\* Yu Shi, Xionglei Wang, Guoqi Chen, Xingjian Jiang, Ming Liu, Fengyun Guo, Shiyong Gao and Yong Zhang\*



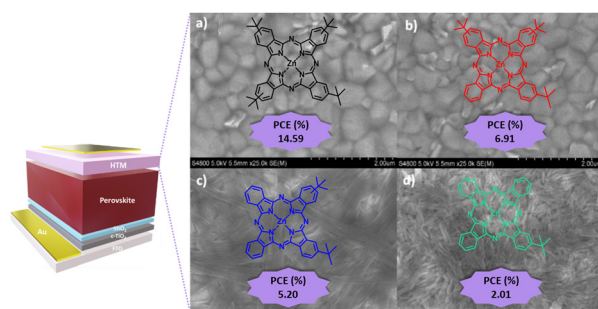
1694



### The intersection of field-limited density of states and matter: nanophotonic control of fluorescence energy transfer

Haley W. Jones, Yuriy Bandera and Stephen H. Foulger\*

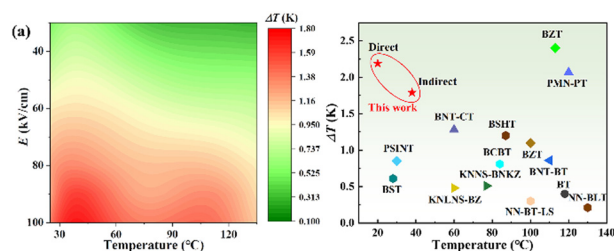
1704



### Dopant-free *tert*-butyl Zn(II) phthalocyanines: the impact of substitution on their photophysical properties and their role in perovskite solar cells

Mahdi Gassara, José Garcés-Garcés, Luis Lezama, Javier Ortiz, Fernando Fernández-Lázaro, Samrana Kazim, Ángela Sastre-Santos\* and Shahzada Ahmad\*

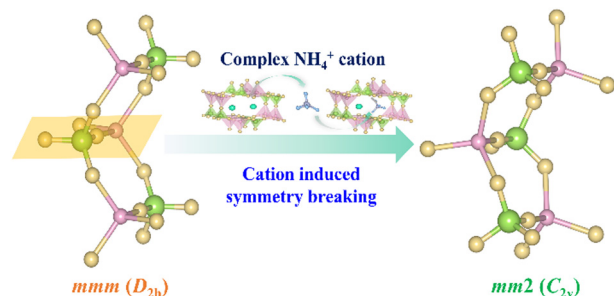
1713



### Enhanced room-temperature electrocaloric performance by both multiphase coexistence and diffused phase transition in $(\text{Ba}_{0.65}\text{Sr}_{0.3}\text{Ca}_{0.05})(\text{Sn}_x\text{Ti}_{1-x})\text{O}_3$ ferroelectric ceramics

Mingmei Lin, Zhihong Luo, Haochen Sun, Biao Zhang, Feifei Han,\* Xiang Niu, Dingyuan Wang, Yisong Bai, Xue Chen,\* Biaolin Peng, Shengguo Lu\* and Lajun Liu\*

1724



### The design of a non-centrosymmetric structure in sulfates by cation-induced symmetry breaking

Yanran Shang, Hongyuan Sha, Dongling Yang, Zhian Li, Zujian Wang,\* Chao He, Rongbing Su, Bin Su, Xiaoming Yang and Xifa Long

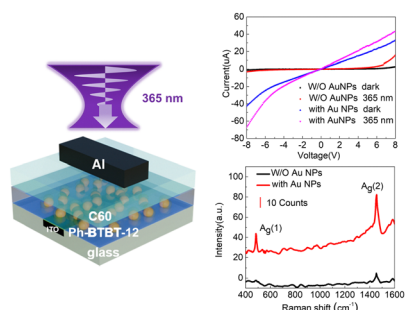


## PAPERS

1728

# Plasmon-enhanced all-organic ultraviolet photodetectors with high sensitivity and long-term stability

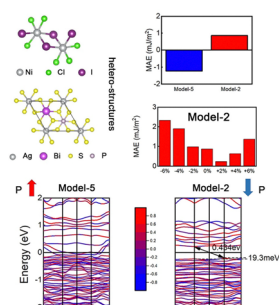
Fulong Yao, Chenlu Mao, Yue Wang, Fenghua Liu\* and Weiping Wu\*



1737

# Tunable valley polarization and magnetic anisotropy by polarization reversal in a $\text{Ni}_2\text{Cl}_2\text{I}_3/\text{AgBiP}_2\text{S}_6$ heterojunction

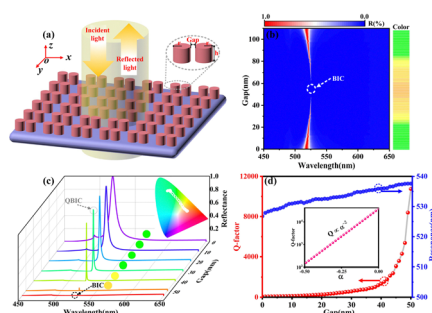
Xu Zhang, Bo Chen, Baozeng Zhou\* and Xiaocha Wang\*



1747

# Dynamic colorimetric sensing with all-dielectric metasurfaces governed by bound states in the continuum

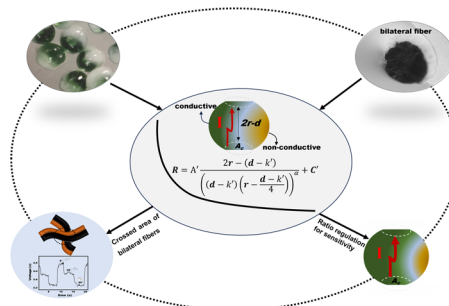
Yanli Xu,\* Yinze Yang,\* Hongxu Li and Lirong Ren



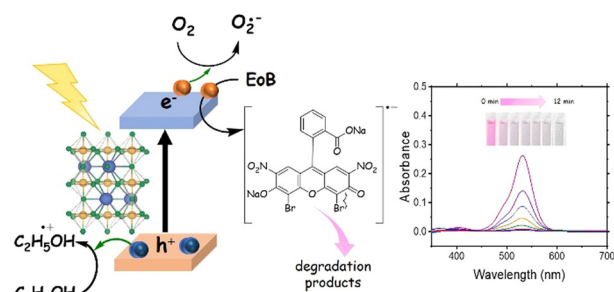
1757

# Conductive/non-conductive bi-compartmental architectures for sensing applications

Yafei Yang, Zhe Ma, Jingxin Gao, Ruotong Liu, Aierpati Abudusaimaiti and Jiguang Liu\*



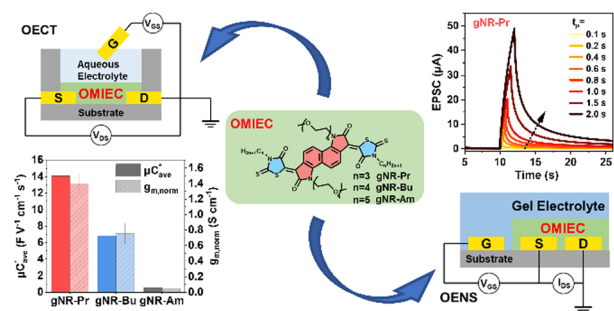
1769



### Synergistic dye/photocatalyst interconnections for activating efficient light-induced degradation pathways

Daniele Conelli, G. Krishnamurthy Grandhi, Amit Tewari, Vesa P. Hytönen, Paola Lanzafame, Paola Vivo, Gian Paolo Suranna and Roberto Grisorio\*

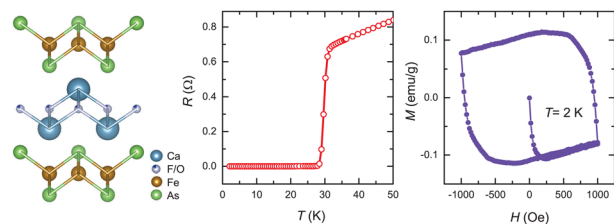
1784



### Modulating crystallinity and mixed ionic–electronic conduction properties via terminal side chain engineering of n-type small molecules

Xiuyuan Zhu, Junxin Chen, Riping Liu, Chaoyue Chen, Juntao Tan, Chong Ran, Yiming Wang, Runxia Wang, Zhengke Li and Wan Yue\*

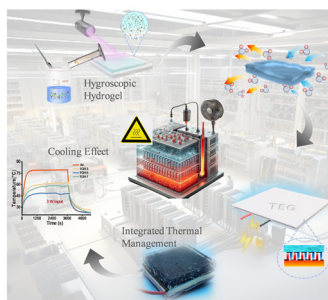
1793



### Superconductivity above 30 K due to the introduction of oxygen in CaFeAsF

Yixin Liu, Teng Wang, Zulei Xu, Da Jiang, Yi Zhao, Yanpeng Qi, Xiaoni Wang, Ming Yang, Mao Ye, Wei Peng and Gang Mu\*

1801



### Waste-heat harvesting using a thermoelectric generator coupled with a hygroscopic hydrogel for use in the energy industry

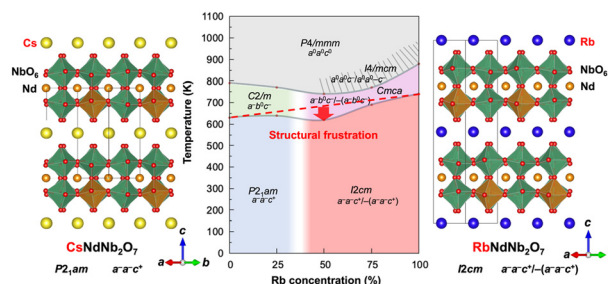
Huangying Wu, Guopeng Chen, Shangzhen Xie,\* Kang Xiang, Yipeng Fan and Zhiguang Guo\*



1812

## Structural frustration effects by mixed alkali ions in ferroelectric Dion–Jacobson layered perovskites (Cs,Rb)NdNb<sub>2</sub>O<sub>7</sub>

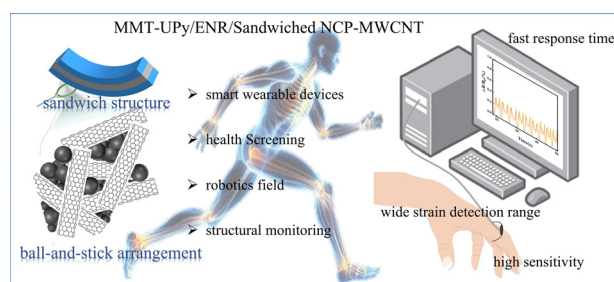
Zhen-Tao Lu, Sota Asaki, Suguru Yoshida, Chikako Moriyoshi, George Hasegawa, Koji Fujita, Venkatraman Gopalan, Katsuro Hayashi and Hirofumi Akamatsu\*



1824

## Self-healing epoxidized natural rubber flexible sensors based on hydrogen bonding interactions

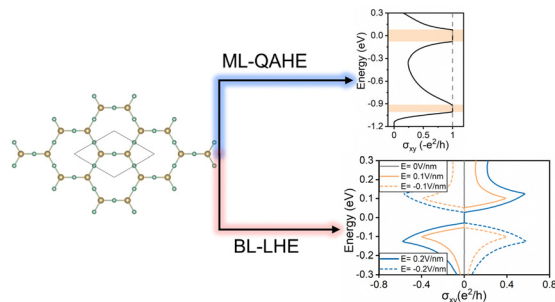
Wanying Hu, Caiyan Wang, Fan Fei, Runhua Wang, Jincheng Wang,\* Hao Tian, Yiyao Zhu and Hua Zhang\*



1835

## A quantum anomalous Hall effect in novel two-dimensional structure Ta<sub>2</sub>Se<sub>3</sub>

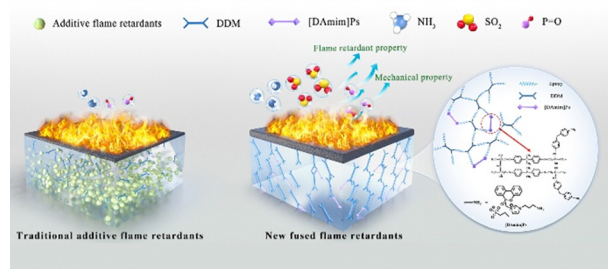
Yanghao Tang, Ao Du, Long Kuang, Ting Yang, Shi Qiu, Jinming Cai\* and Cuixia Yan\*



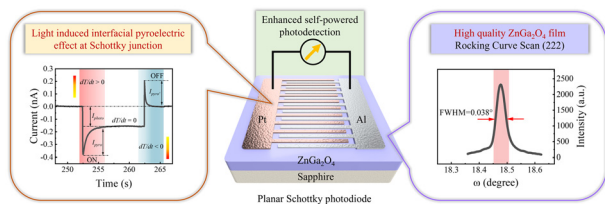
1844

## Synthesis of a novel DOPO-based ionic liquid flame retardant and its application in epoxy resin

Jinzhuo Zhang, Jiaming Liang,\* Jiapeng Long\* and Bing Liang\*



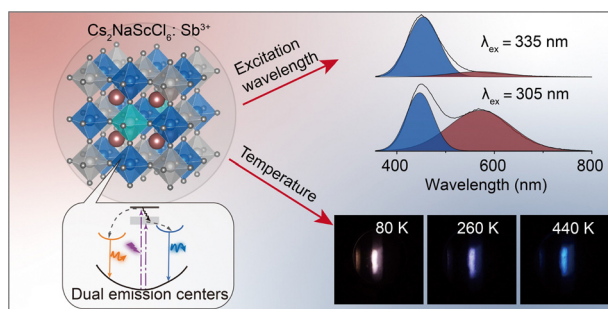
1857



### Self-powered, temperature-sensitive, solar-blind photodetector based on a Pt–ZnGa<sub>2</sub>O<sub>4</sub>–Al Schottky junction induced by coupling of photovoltaic and interfacial pyroelectric effects

Xiaoqian Huang, Kewei Liu,\* Xing Chen,\*  
Mingshuo Wang, Yongxue Zhu, Jialin Yang,  
Zhen Cheng, Binghui Li, Lei Liu and Dezhen Shen\*

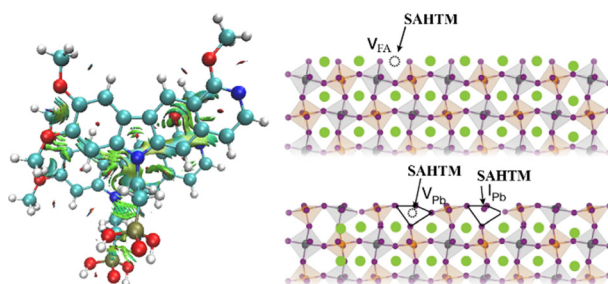
1866



### Dual-response photoluminescence of rare earth-based halide double perovskites

Xianhe Gao, Tao Cui, Ruigang Liu, Jie Liu, Shigui Zhu,  
Hao Song, Yang Wei, Weiqiu Kang, Xiumei Chen,  
Ze Yuan, Hongbo Li\* and Xiaoji Xie\*

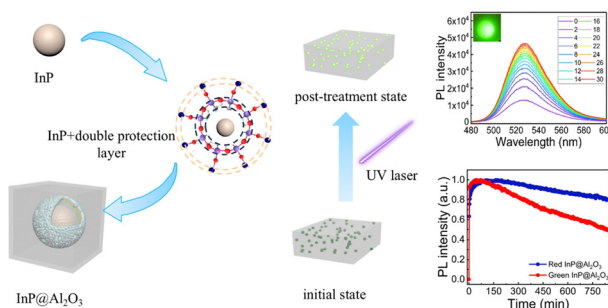
1874



### Hole transportation and defect passivation properties at the perovskite/SAHTM interface: the effect of heteroatom groups and alkyl chain lengths in self-assembled phosphonic acid carbazole derivatives

Xueqin Ran,\* Jianbing Zhu, Chen Zhang, Lei Yang\* and  
Yonghua Chen

1883



### Ultrastable InP@Al<sub>2</sub>O<sub>3</sub> nanocomposites with UV curable function for application in white LEDs

Xiaobo Ding, Hailong Hu, Tailiang Guo and Fushan Li\*

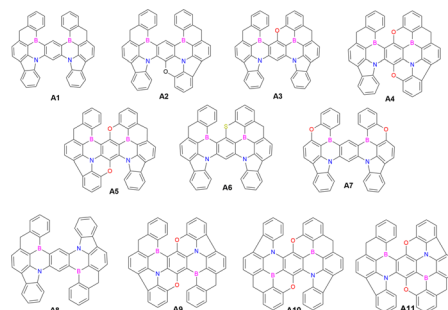


## PAPERS

1893

### Breaking the trade-off between $\Delta E_{ST}$ and oscillator strength in hybrid LR/SR-CT compounds for enhanced TADF performance

Nikhitha R. and Anirban Mondal\*

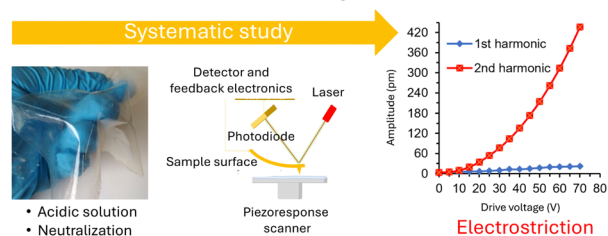


1907

### Electrostriction contribution to the electromechanical response of cast chitosan films

Dayana L. Guzmán Sierra, Qiancheng Zhang, Srikanth Kolagatla, Paula M. Vilarinho, Cláudia Nunes, Brian J. Rodriguez\* and Paula Ferreira\*

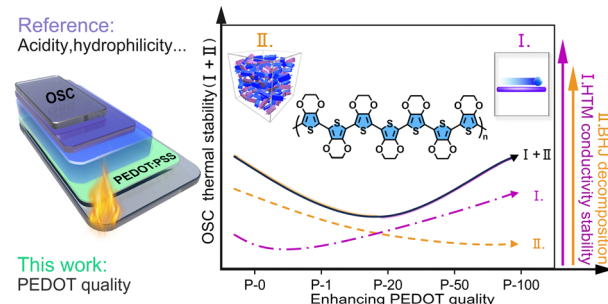
#### Chitosan: Piezoelectricity or Electrostriction?



1919

### PEDOT quality: another key factor determining the thermal stability of organic solar cells

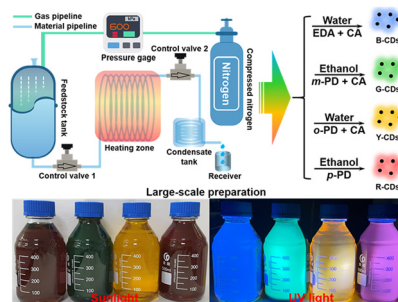
Jingyuan Yao, Yuting Diao, Yanzhuo Zhu, Xiaojing Xu, Rongchen Fu, Bowen Gao, Huaxiang Xiang, Xunchang Wang and Yuda Li\*



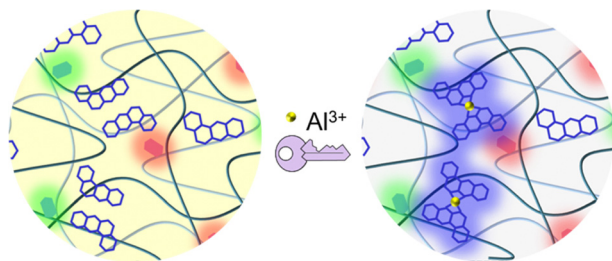
1928

### A controllable and high-pressure gas driven microfluidic platform towards large-scale fabrication of multicolor-emissive carbon dots

Xin Huang, Tingting Zhang, Haomiao Zhang, Jiahui Yang, Tingting Cui, Rui Cheng and Jian Yu\*



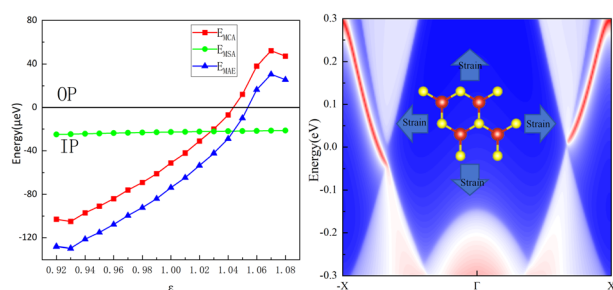
1936



### A stimulus-triggered luminescent hydrogel with $\text{Al}^{3+}$ for visible color tunability in advanced information encryption applications

Lina Liu, Kai Cui, Fuqiang Song, Daoyuan Wang, Baoyan Wang\* and Xiaoliang Tang\*

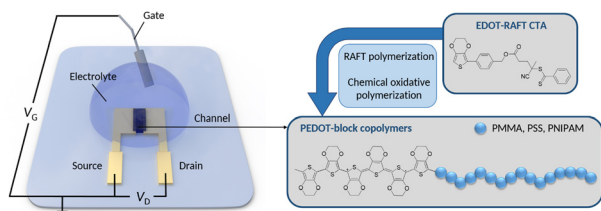
1945



### Strain-tuning of perpendicular magnetic anisotropy and valley topological phase transition in the SVNH monolayer

Xiang-Jie Chen, Zhen Gao,\* Yong-Hu Xu, Meng-Ran Qin, Yao He\* and Kai Xiong

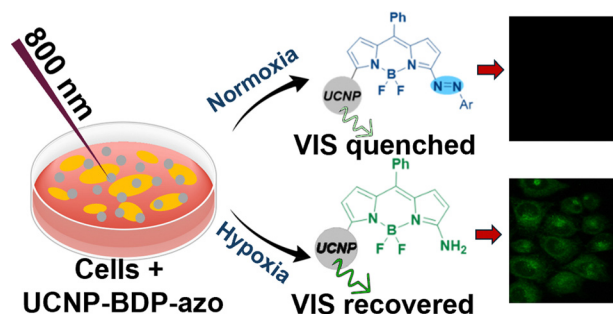
1954



### Synthesis of multifunctional PEDOT-block copolymers by combining controlled and chemical oxidative polymerization for bioelectronics

Naroa Lopez-Larrea, Yizhou Zhong, Shofarul Wustoni, Antonela Gallastegui, Mario Iván Peñas, Sahika Inal, David Mecerreyes and Daniele Mantione\*

1972



### Multifunctional azo-BODIPY-functionalised upconversion nanoparticles as sensors of hypoxia in biological environments

Jingke Yao, Silvia Simón-Fuente, Gabriel Lopez-Peña, Silvia Gómez-Pastor, Santiago Guisan-Ceinos, Riccardo Marin, Emma Martín Rodríguez, Daniel Jaque, Francisco Sanz-Rodríguez,\* Maria Ribagorda\* and Dirk H. Ortgies\*

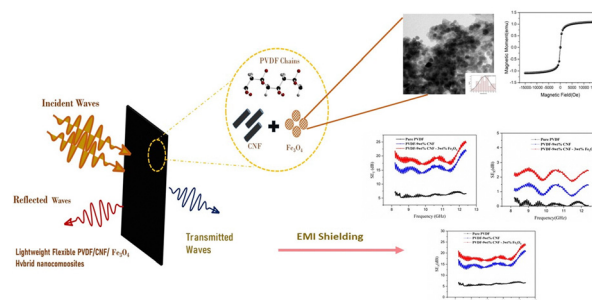


## PAPERS

1982

# Tailoring electromagnetic interference shielding, electrical and thermal properties of poly(vinylidene fluoride) based hybrid nanocomposites with carbon nanofiber and magnetite nanoparticles

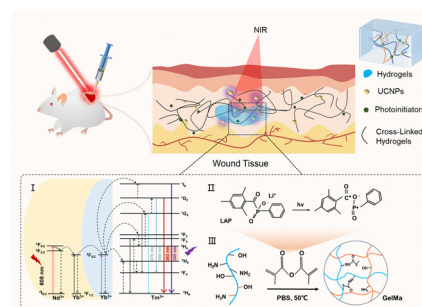
Aleena Sabu, Sabarish Narayanan B.,  
Pratheep Kumar Annamalai and  
Ramanujam Brahmadesam Thoopol Srinivasa Raghava\*



1999

# Rare-earth doped upconversion-photopolymerization hydrogel hybrids for *in vivo* wound healing

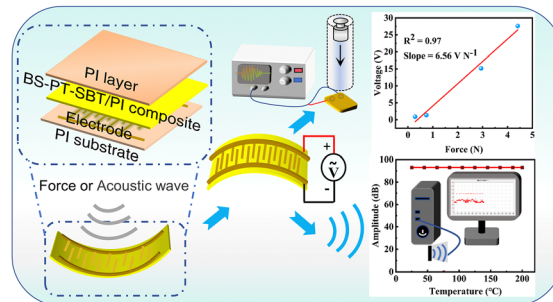
Ximei An, Ling Gao,\* Jingrui Guo, Fan Meng,  
Huiwang Lian, Shaoan Zhang, Janak L. Pathak,  
Yang Li\* and Shizhen Zhang\*



2010

# A flexible piezoelectric sensor based on a piezoelectric composite film with high sensitivity and excellent thermal stability for multi-scenario applications

Chungang Li, Changhong Yang,\* Yaoting Zhao,  
Gensheng Dong, Xiujuan Lin and Shifeng Huang



## RETRACTION

2022

# Retraction: Using van der Waals heterostructures based on two-dimensional InSe–XS<sub>2</sub> (X = Mo, W) as promising photocatalysts for hydrogen production

Jiaming Ni, Mildred Quintana,\* Feifei Jia\* and Shaoxian Song

