

# Journal of Materials Chemistry C

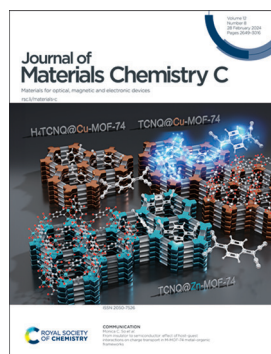
Materials for optical, magnetic and electronic devices

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## IN THIS ISSUE

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### Cover

See Monica C. So et al., pp. 2699–2704.

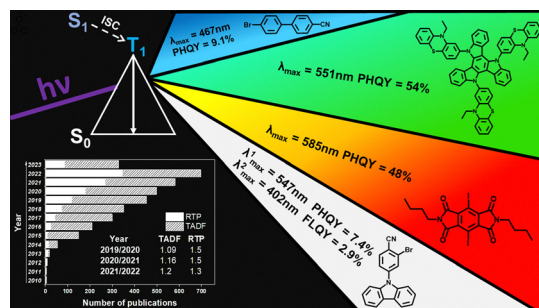
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## REVIEW

2662

### Molecular design, synthesis, properties, and applications of organic triplet emitters exhibiting blue, green, red and white room-temperature phosphorescence

Mariia Stanitska, Dmytro Volyniuk, Boris Minaev, Hans Agren and Juozas V. Grazulevicius\*

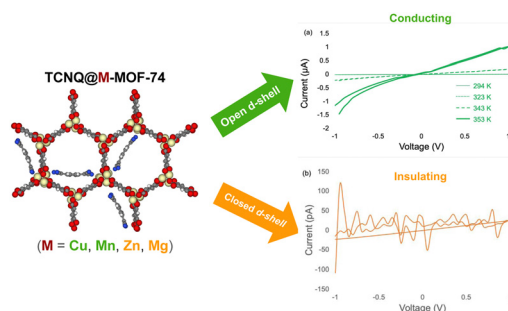


## COMMUNICATIONS

2699

### From insulator to semiconductor: effect of host-guest interactions on charge transport in M-MOF-74 metal-organic frameworks

Sydney M. Angel, Nicholas S. Barnett, A. Alec Talin, Michael E. Foster, Vitalie Stavila, Mark D. Allendorf and Monica C. So\*



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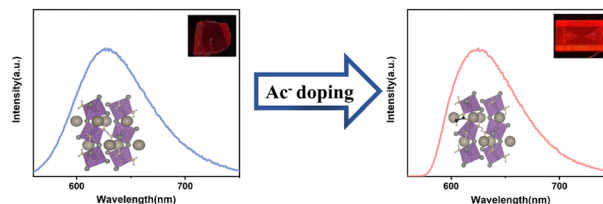


## COMMUNICATIONS

2705

### Modulating luminescence properties of CsMnBr<sub>3</sub>-based lead-free single crystals by pseudohalide doping

Yang Yang, Zisheng Wang, Jiahao Jie, Chunqing Hou, Yilong Song, Yuhao Fu,\* Lijun Zhang and Qingfeng Dong\*

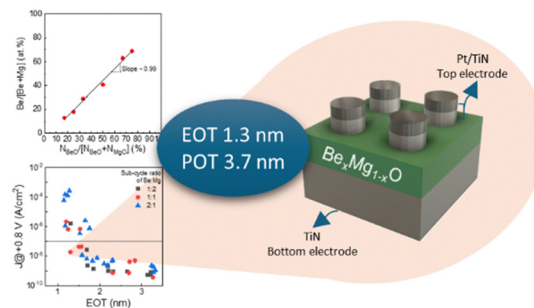


## PAPERS

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### Improved electrical performance of ultra-thin Be<sub>x</sub>Mg<sub>1-x</sub>O films using super-cycle atomic layer deposition

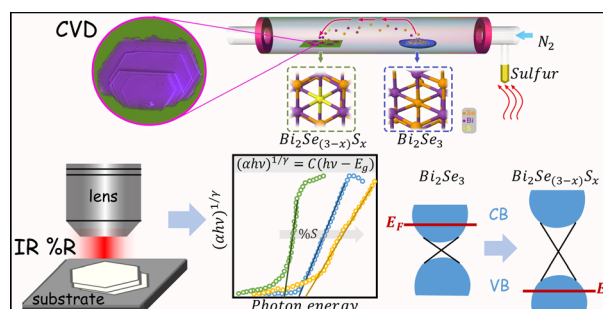
Haewon Song, Bowen Wang, Jonghoon Shin, Yu-Kyung Park, Tae Kyun Kim, Heewon Paik, Haengha Seo, Junil Lim, Daeson Kwon, Keonuk Lee, Young Sin Kim, Dong Hoon Shin and Cheol Seong Hwang\*



2723

### From monolayer to thin films: engineered bandgap in CVD grown Bi<sub>2</sub>Se<sub>(3-x)</sub>S<sub>x</sub> topological insulator alloys

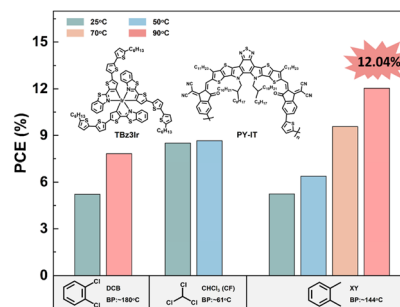
Michal Poplinger, Dimitris Kaltsas, Chen Stern, Pilkhaz Nanikashvili, Adi Levi, Rajesh K. Yadav, Sukanta Nandi, Yuxiao Wu, Avinash Patsha, Ariel Ismach, Ashwin Ramasubramaniam, Amaia Pesquera, Amaia Zurutuza, Ioanna Zergioti, Leonidas Tsetseris, Tomer Lewi and Doron Naveh\*



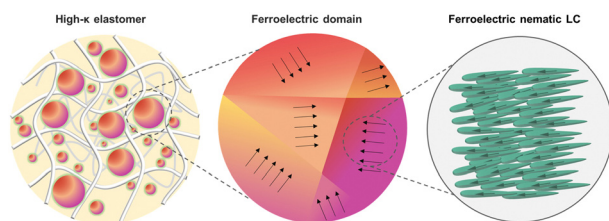
2730

### Green solvent-processed organic solar cells based on a small-molecule Ir(III) complex as electron donor materials

Duoquan You, Tianjian Yang, Yeting Tao, Jingsheng Wang, Jian Wang, Aihua Zhou and Youtian Tao\*



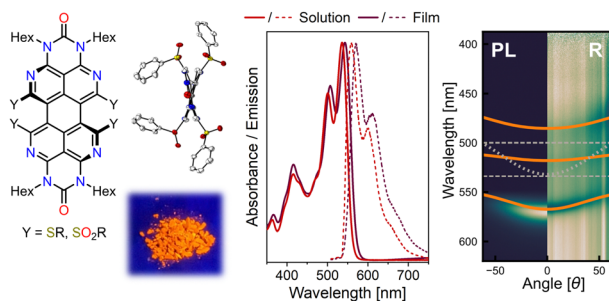
2738



### High- $\kappa$ elastomer with dispersed ferroelectric nematic liquid crystal microdroplets

Fan Ye, Chen Yang, Xinxin Zhang, Xiang Huang, Yongmei Zhu, Satoshi Aya\* and Mingjun Huang\*

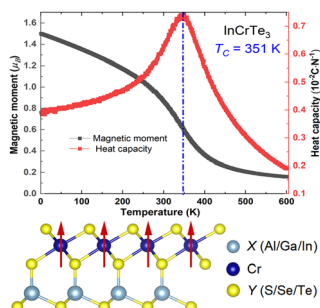
2745



### Bay-substituted octazaperopyrenedioxides as solid-state emitters for strong light-matter coupling

Manuel Hertzog, Robert Eichelmann, Pierre Jeudy, Tobias Wesp, Joachim Ballmann, Simon Settele, Finn L. Sebastian, Andreas Mischok, Florian Le Roux, Francisco Tenopala-Carmona, Malte C. Gather, Lutz H. Gade\* and Jana Zaumseil\*

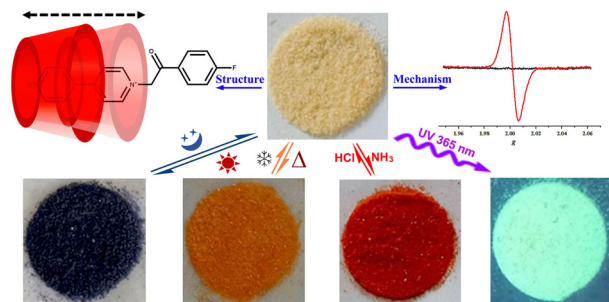
2756



### Intrinsic ferromagnetism with high Curie temperature in two dimensional $XCrY_3$ ( $X = Al, Ga, In; Y = S, Se, Te$ ) monolayers

Wei Chen,\* Peidong Zhu, Hui Liu, Zhengjian Zhu, Qingxiang Zheng, Haibing Chen, Haiyan Yi, Jujian Liao and Guanghua Guo\*

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### Acid–base regulated inclusion complexes of $\beta$ -cyclodextrin with 1-[2-(4-fluorophenyl)-2-oxoethyl]-4,4'-bipyridinium dichloride displaying multistimuli-responsive chromic behaviors and photomodulable fluorescence

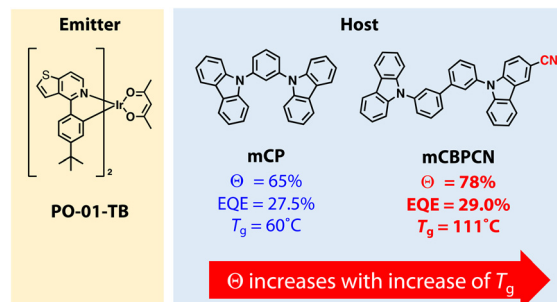
Xiao-Feng Wang, Chen-Yan Xu, Rui-Lian Lin,\* Wen-Qi Sun, Ming-Fu Ye,\* Li-Xin Xu and Jing-Xin Liu\*



2772

### Fundamental guidelines for the active control of the molecular orientation of heteroleptic iridium complexes enabled by carbazole-based host materials

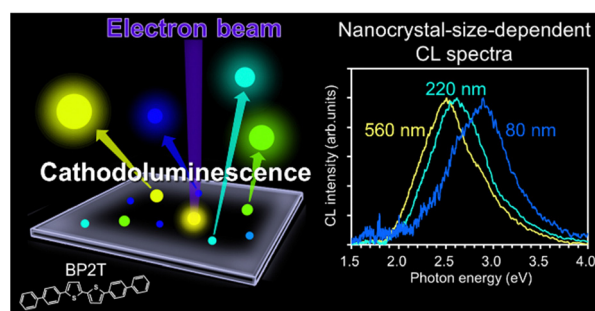
Hiroki Arai, Naoto Yoshida, Hisahiro Sasabe,\* Yuki Sagae, Keigo Hoshi, Daisuke Yokoyama and Junji Kido\*



2780

### Size-dependent cathodoluminescence properties of 5,5'-di(4-biphenyl)-2,2'-bithiophene nanocrystals

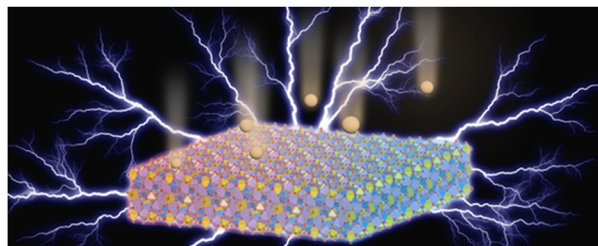
Tomomi Jinjyo,\* Hitoshi Mizuno\* and Fumio Sasaki



2787

### Structure, luminescence properties, and valence-induced spectral behavior of a bismuth-activated garnet phosphor

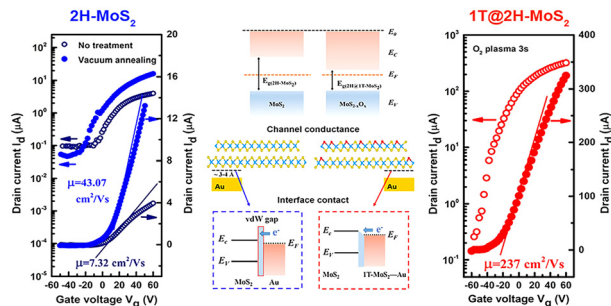
Gongli Chen, Yonghong Qin, ZhenHua Li,\* Xicheng Wang\* and Yuhua Wang\*



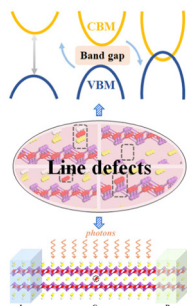
2794

### Improving electron mobility in MoS<sub>2</sub> field-effect transistors by optimizing the interface contact and enhancing the channel conductance through local structural phase transition

Zhaofang Cheng, Shaodan He, Xiaona Han, Xudong Zhang, Lina Chen, Shijun Duan, Shimin Zhang and Minggang Xia\*



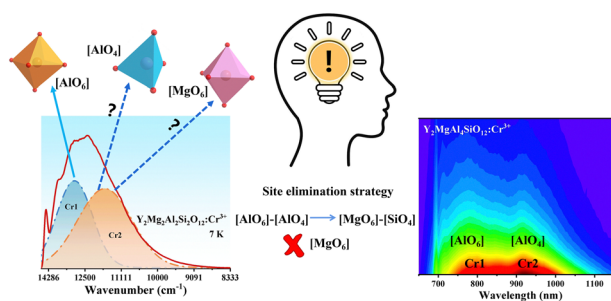
2803



### The line defects in two-dimensional $\text{Bi}_2\text{O}_2\text{S}$ : enhanced photocurrents in the infrared region

Yaoyu He, Wenhui Hu, Zhi Yang,\* Li-Chun Xu, Lin Xue,\* Ruiping Liu and Xuguang Liu

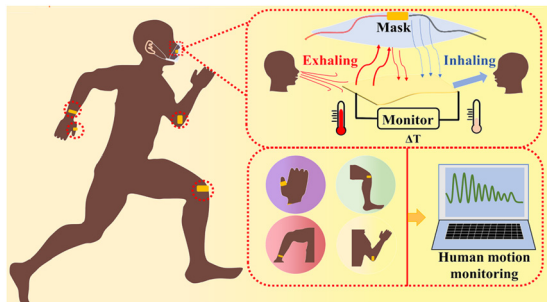
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### Efficient and stable near-infrared $\text{Y}_2\text{Mg}_2\text{Al}_2\text{Si}_2\text{O}_{12}:\text{Cr}^{3+}$ phosphor: analysis of the luminescence source by a site elimination strategy

Yixin Sun, Mengmeng Shang,\* Yining Wang, Yiying Zhu, Xiaole Xing, Peipei Dang and Jun Lin\*

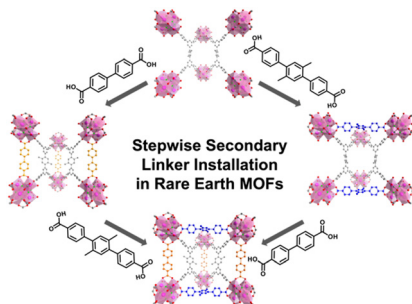
2824



### Temperature- and pressure-sensitive ionic conductive elastomer for respiratory monitoring and human motion sensing

Kai Yan,\* Hua Chen, Jun Wang, Qunna Xu, Yinsong Si and Yi Wu\*

2836



### Stepwise post-synthetic linker installation in rare-earth metal–organic frameworks

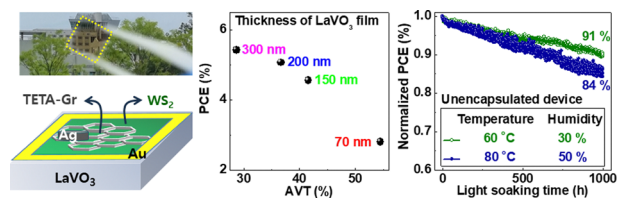
Yuchen Hu, Rebecca Shu Hui Khoo, Aiyang Pang,\* Sizhuo Yang, Christian Fiankor, Xu Zhang\* and Jian Zhang\*



2843

### Highly stable semitransparent solar cell employing graphene/WS<sub>2</sub>/LaVO<sub>3</sub> vertical-heterostructure

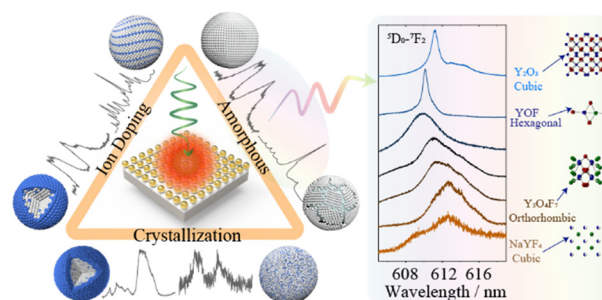
Da Hee Kim, Dong Hee Shin, Dae Ho Jung, Si Duck Oh, Eun Ji Kim and Hosun Lee\*



2849

### Thermo-plasmonic assisted structural optimization of micro/nanocrystals based on single-particle spectroscopy

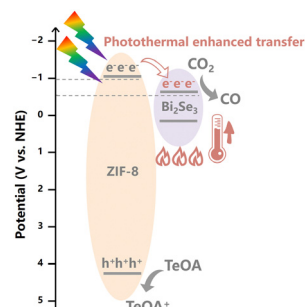
Chengyun Zhang, Xilin Zhou, Ting Kong, Lei Xi, Ruobin Zhang, Baobao Zhang, Huan Chen, Zhengkun Fu and Zhonglong Zhang\*



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### Facile construction of metal–organic frameworks/topological insulator heterostructure for photothermal catalytic CO<sub>2</sub> reduction

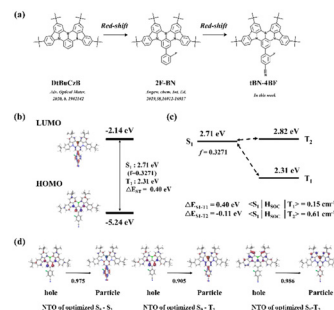
Jing Sun, Xunfeng Yuan, Baoying Liu, Shang Ma and Chengfang Qiao\*



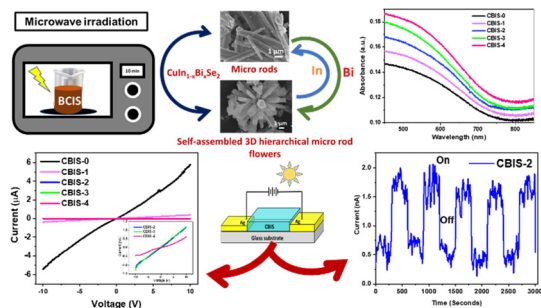
2868

### Colour-tuning of multiple resonance thermally activated delayed fluorescence emitters for hyperfluorescence with long-lifetime device characteristics

Tae Hoon Ha, Jeong Yeol Yoo, Seung Wan Kang and Chil Won Lee\*



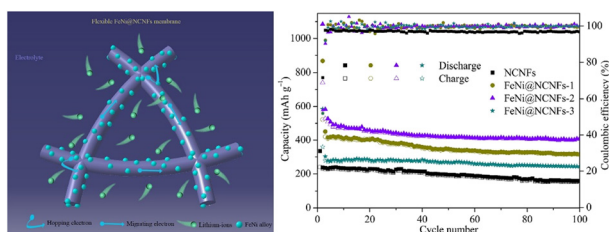
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### Morphological evolution of individual microrods to self-assembled 3D hierarchical flower architectures of $\text{CuBi}_x\text{In}_{1-x}\text{Se}_2$ for photo response applications

Priyanka Priyadarshini, Subrata Senapati,\*  
Ashutosh Mohapatra, Monalisa Pradhan,  
Devarajan Alagarasan and Ramakanta Naik\*

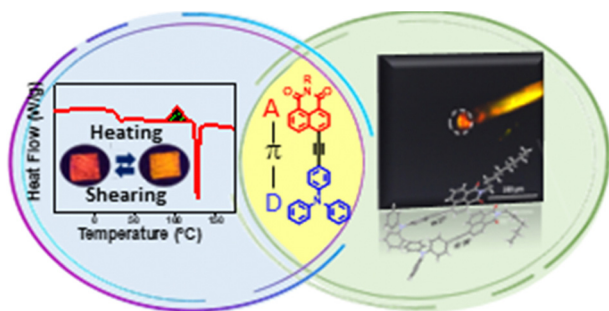
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### Well-dispersed FeNi nanoparticles embedded in N-doped carbon nanofiber membrane as a self-supporting and binder-free anode for lithium-ion batteries

Xiaoqiang Li, Guangguang Guan, Bingjie Cheng,  
Xueke Zhang, Kaiyin Zhang and Jun Xiang\*

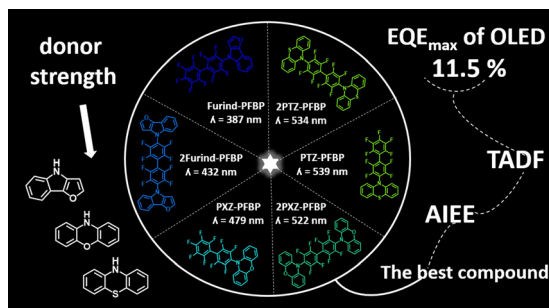
2903



### Self-assembled D- $\pi$ -A multifunctional systems with tunable stimuli-responsive emission and optical waveguiding behaviour

R. Martín, A. Sánchez-Oliva, A. Benito, I. Torres-Moya,  
A. M. García, J. Álvarez-Conde, J. Cabanillas-González,\*  
P. Prieto\* and B. Gómez-Lor\*

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### Effects of the nature of donor substituents on the photophysical and electroluminescence properties of derivatives of perfluorobiphenyl: donor-acceptor versus donor-acceptor-donor type AIEE/TADF emitters

Iryna Danyliv, Yan Danyliv, Mariia Stanitska,  
Oleksandr Bezikonnyi, Dmytro Volyniuk, Roman Lytvyn,  
Yuriy Horak, Vitaly Matulis, Dmitry Lyakhov,  
Dominik Michels, Pavlo Stakhira and  
Juozas Vidas Grazulevicius\*

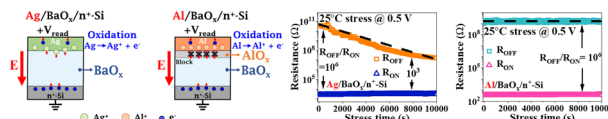




2926

### Barium oxide write-once read-many-times memory with a high resistance window

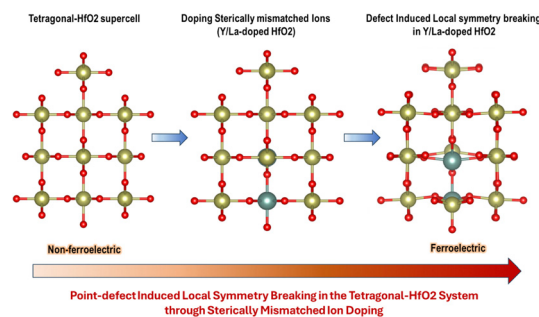
Chih-Chieh Hsu,\* Zong-Lin Cai, Pei-Xuan Long, Min-Yi Hsu, Bo-Ruei Huang, Wun-Ciang Jhang and Umakanta Nanda



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### Harnessing point-defect induced local symmetry breaking in a tetragonal-HfO<sub>2</sub> system through sterically mismatched ion doping

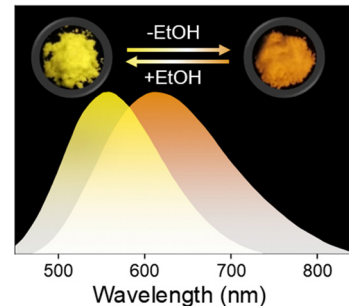
Syed Ul Hasnain Bakhtiar, Pu Ai, Harse Sattar, Sharafat Ali, Ahmed Sadeq Al-Fatesh, Junlei Zhao,\* Dong Wen\* and Qiuyun Fu\*



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### Highly efficient self-trapped exciton luminescence of Sb<sup>3+</sup>-doped (CH<sub>3</sub>N<sub>3</sub>)<sub>3</sub>BiCl<sub>6</sub> for ethanol detection

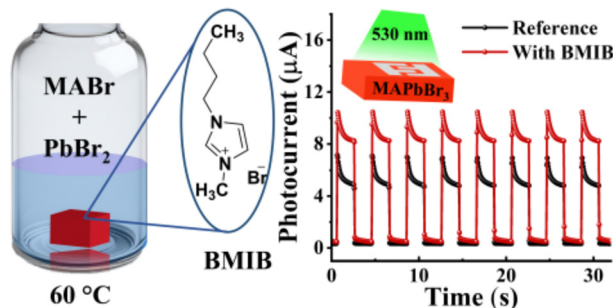
Bo Lian, Jiandong Yao, Miao Ren, Bingsuo Zou, Binbin Luo\* and Ruosheng Zeng\*



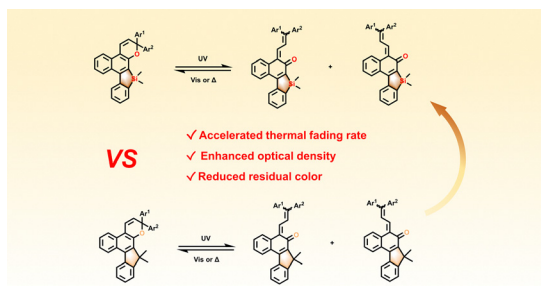
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### Ionic liquid-assisted growth of high-quality methylammonium lead bromide single crystals for photodetection applications

Apurba Mahapatra, Vishnu Anilkumar, Joanna Kruszyńska, Nada Mrkyvkova, Peter Siffalovic, Pankaj Yadav and Daniel Prochowicz\*



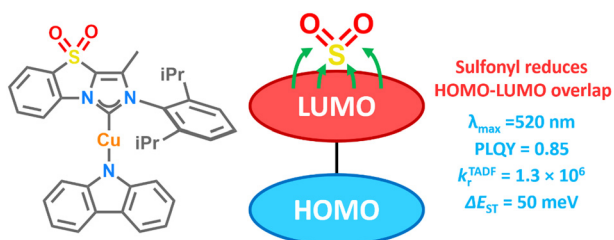
2961



### Silindeno-fused 3*H*-naphthopyrans with fast thermal fading rate and high optical density

Zheng Xu, Juanjuan Sun, Taishan Yan, Huacheng Zhang\* and Jie Han\*

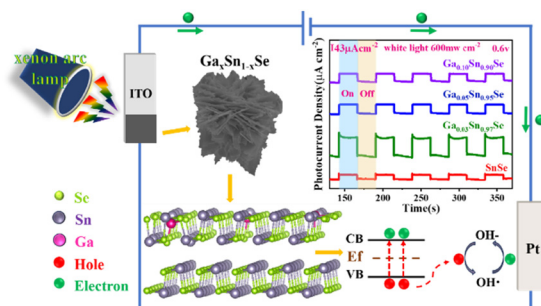
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### Sulfonyl-functionalized benzo[d]imidazo[5,1-*b*]thiazole-based carbenes as building blocks for two-coordinate Cu(I) complexes exhibiting fast and efficient thermally activated delayed fluorescence

Armands Ruduss, Annija Jece, Kitija A. Stucere, Kuan-Wei Chen, Baiba Turovska, Sergey Belyakov, Aivars Vembris, Chih-Hao Chang and Kaspars Traskovskis\*

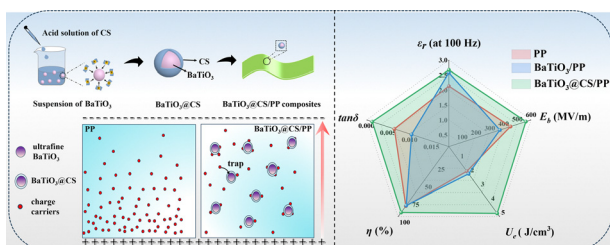
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### Enhancing the photo-response performance of a SnSe-based photoelectrochemical photodetector via Ga doping

Zhiping Liang, Run Hao, Hualong Luo, Zhenming He, Liumei Su\* and Xing Fan\*

2993



### Improved energy storage properties of polypropylene-based composite dielectrics by introducing surface-charged BaTiO<sub>3</sub>@chitisan ultrafine constructions

Yujie Wu, Hang Zhao,\* Na Zhang, Huiqin Wang, Chuying Zhang, Lei Yin and Jinbo Bai\*

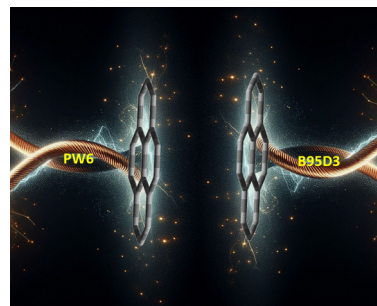


## PAPERS

3005

**Triphasic circularly polarized luminescence switch quantum simulation of a topologically chiral catenane**

Giovanni Bella,\* Marco Milone, Giuseppe Bruno and Antonio Santoro



## CORRECTION

3013

**Correction: Magnetic response of photonic crystals based on nucleating agents of binuclear complexes**

Mengdong Tu, Mengying Xu, Xi Wei, Depeng Gong, Jun Chen and Chaocan Zhang\*

