

# Journal of Materials Chemistry C

Materials for optical, magnetic and electronic devices

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ISSN 2050-7526 CODEN JMCCCX 13(33) 16821-17380 (2025)



### Cover

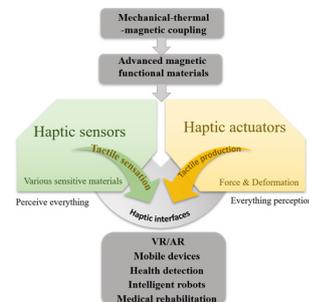
See Wojciech Wróblewski, Artur Kasprzak *et al.*, pp. 16937–16945. Image created by Dawid Longa and reproduced by permission of Artur Kasprzak from *J. Mater. Chem. C*, 2025, **13**, 16937.

## REVIEWS

16837

### Sensors and actuators based on magnetic materials for haptic interfaces

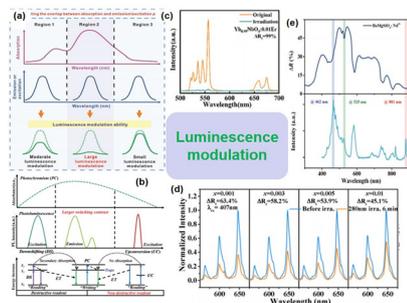
Liuxia Ruan, Jiahong Wen, Yaxin Wang, Xiaoyu Zhao,\* Fei Li, Yongjun Zhang, Chang Liu, Wentao Tao, Hongbo Liang, Xianmin Zhang, Yunlei Zhou,\* Chengxuan Tang, Xiqiang Zhong, Shaoqi He and Wenzhen Yang\*



16863

### Emerging perovskite photochromic materials: recent advances, mechanisms, and applications

Yang Lv, Ruihui Mo, Jifang Zou, Xiaojing Xu, Wenyu Zhu, Peixian Chen, Zhenzhang Li, Ruihao Xie, Liangbin Xiong, Naif Mohammed Al-Hada, Xiaohui Lin,\* Chonghui Li and Shaoan Zhang\*



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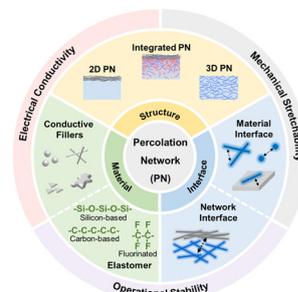
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## REVIEWS

16904

## Percolation networks in stretchable electrodes: progress and perspectives

Hanxue Zhang, Yan Shao\* and Yanhao Yu\*

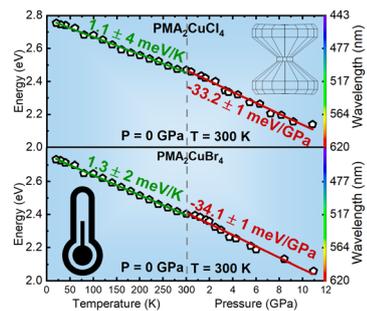


## COMMUNICATION

16929

Thermochromism versus piezochromism in  $(\text{PMA})_2\text{CuX}_4$  ( $\text{X} = \text{Br}, \text{Cl}$ ) halide perovskites

Rafał Bartoszewicz,\* Jan-Albert Zienkiewicz, Sri Hartati, Arramel Arramel, Jan Kopaczek, Muhammad Danang Birowosuto and Robert Kudrawiec



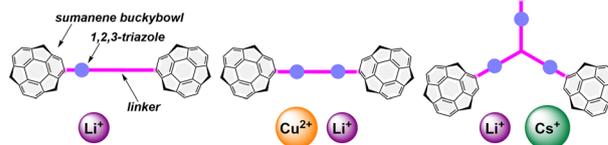
## PAPERS

16937

## Sumanene-based triazole-linked receptors

Joachim Ażgin, Stanisław Kulczyk, Hidehiro Sakurai, Wojciech Wróblewski\* and Artur Kasprzak\*

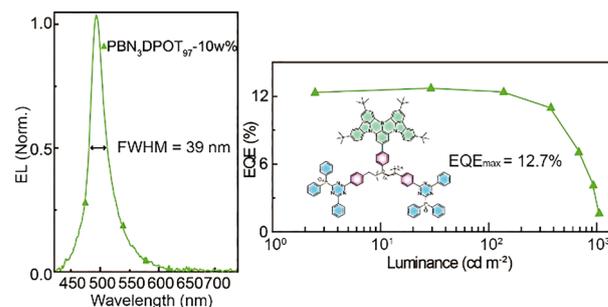
## sumanene-based molecular receptors with tuned metal cations selectivity



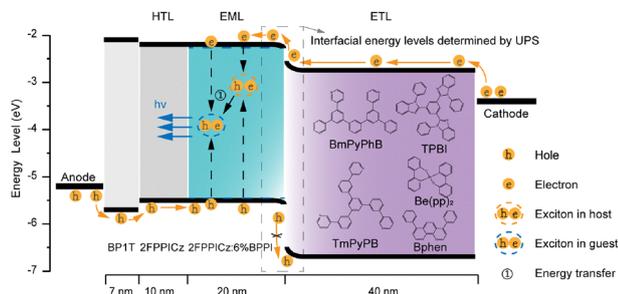
16946

## A multi-resonance TADF non-conjugated copolymer with near-unity photoluminescence quantum yield for efficient solution-processed OLEDs

Rundong Tian, Zhi Yang, Zihan Wang, Jinxin Dong, Weihao Li, Guangfu Li\* and Hui Xu\*



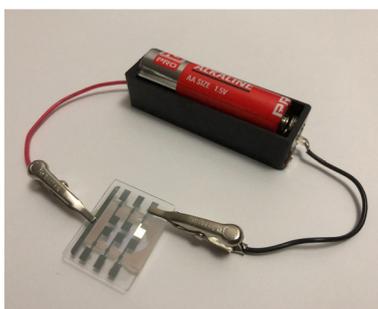
16954



### Determining interfacial energy levels between the crystalline emitting layer and the amorphous electron transport layer: UPS-assisted efficiency optimization in crystalline OLEDs

Wenjing Li, Tianyi Lin, Feng Zhu\* and Donghang Yan

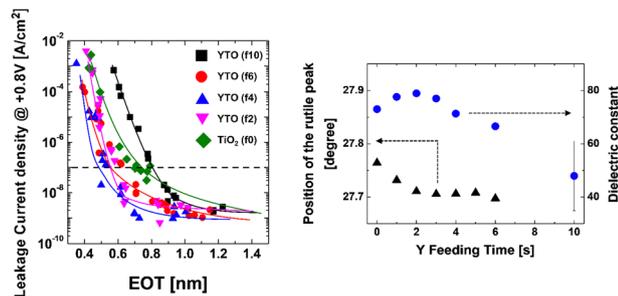
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### White organic light-emitting diodes with extremely low turn-on voltage at 1.5 V

Yang Yiyan, Qing-Jun Shui, Hiroto Iwasaki, Daiki Nakahigashi, Yutaka Majima, Ken-ichi Nakayama, Naoya Aizawa and Seiichiro Izawa\*

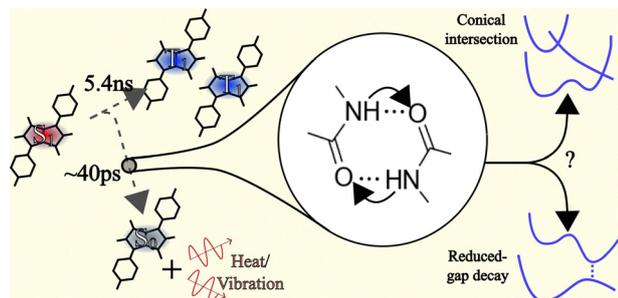
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### Effect of yttrium feeding time on the electrical and structural properties of atomic layer deposited Y-doped TiO<sub>2</sub> films for dynamic random-access memory capacitors

Tae Kyun Kim, Haengha Seo, Junil Lim, Heewon Paik, Jonghoon Shin, Haewon Song, Dae Seon Kwon\* and Cheol Seong Hwang\*

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### The importance of accounting for non-radiative decay when screening materials for singlet fission: the case of Pigment Red 254

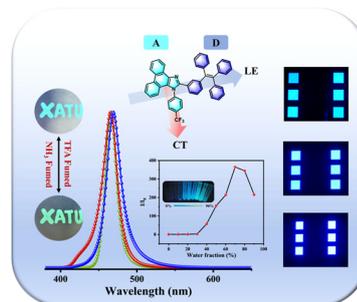
Daniel Z. Hook, Rachel Kilbride, Daniel J. Gillard, Samara Medina Rivero, Ravi Kumar Venkatraman, James P. Pidgeon, Alexander Tartakovskii and Jenny Clark\*



16998

### Blue fluorescence emitter based on HLCT and AIE: acidochromism behavior and narrow-band emission in OLED applications

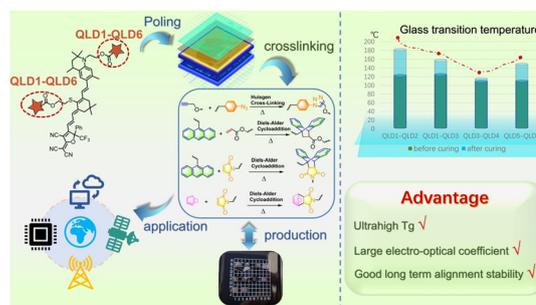
Haoyu Ma, Xiaoling Niu,\* Wenlong Qu, Zhen Feng, Tiantian Ma, Yongliang Liu and Shengbo Zhu\*



17009

### Highly thermally stable binary cross-linkable organic nonlinear optical materials based on different Diels–Alder or Huisgen cycloaddition reactions

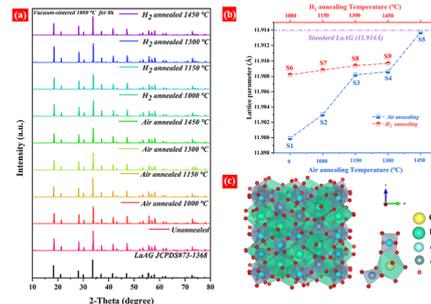
Zhihan Huang, Zhifan Liu, Xingtao Wang, Fuyang Huo\* and Fenggang Liu\*



17020

### Trap engineering for improved thermal stability and optical properties of Ce:LuAG phosphor ceramics

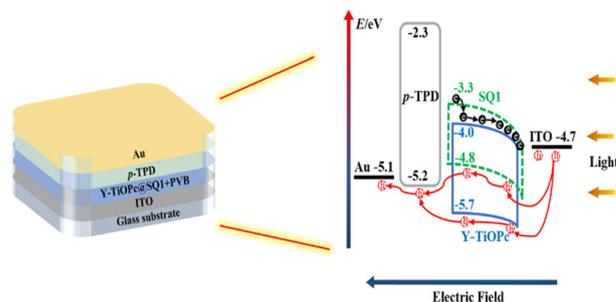
Xuanchu Liu, Hang Chen, Jinhua Wang, Jian Kang, Tianyuan Zhou, Yanbin Li, Jing Zhang, Bingheng Sun, Wieslaw Strek, Robert Tomala, Qiufeng Xu,\* Hao Chen and Le Zhang\*



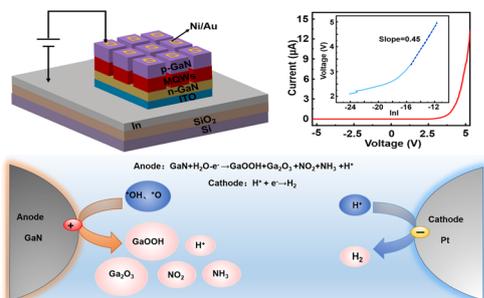
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### High-performance UV-Vis-NIR photomultiplier detectors based on titanyl phthalocyanine/squaraine dye bulk heterojunctions

Furui Jia, Dongjun Lv,\* Ping Wu, Jiahui Zhang, Nan Gao,\* Yirong Zhu, Xuelu Du, Mingli Feng, Xiaolong Li and Haofei Huang\*



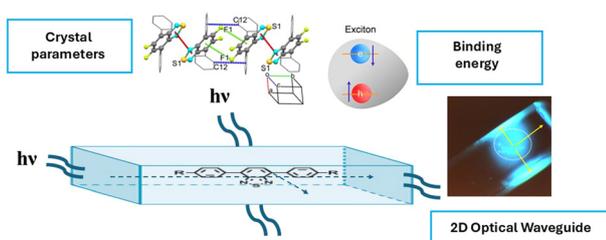
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### Electrochemical epitaxial lift-off and transfer of InGaN/GaN heterostructure films for vertical micro-LED arrays

Wenfeng Li, Peishan Li, Shujia Wang, Zexin Dong, Yuqing Yang, Chenguang He, Qiao Wang, Zhitao Chen, Kang Zhang\* and Xingfu Wang\*

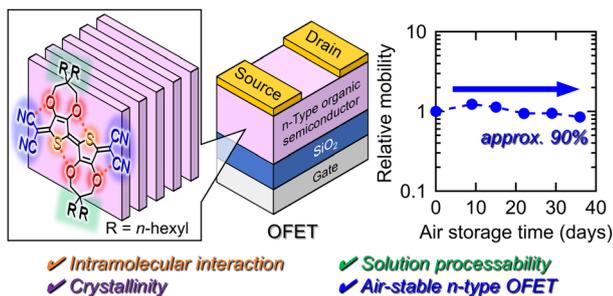
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### Experimental and theoretical insights into light confinement within 2D waveguides of alkylphenyl benzothiadiazole crystals

Iván Torres-Moya, Mohammad Afsar Uddin, Sergio Gámez-Valenzuela, Javier Álvarez-Conde, Juan Cabanillas-González, Ana L. Montero-Alejo, Ana M. Rodríguez, Luis A. Montero-Cabrera, M. Carmen Ruiz Delgado,\* Berta Gómez-Lor\* and Pilar Prieto\*

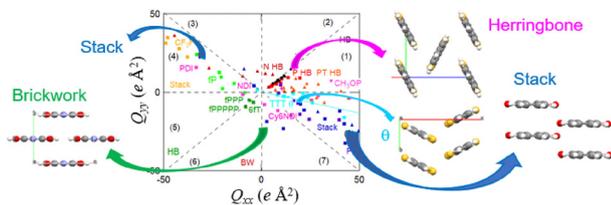
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### Quinoidal propylenedioxythiophene dimers for air-stable n-type semiconductors: achieving crystallinity and solution processability

Hiroshi Nishimoto, Tomoko Fujino,\* Toshiki Higashino and Hatsumi Mori\*

17078



### Quadrupole moments determine the crystal structures of organic semiconductors

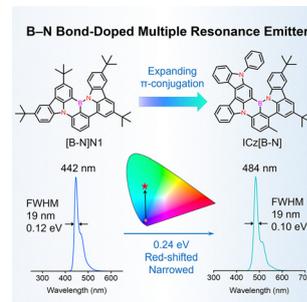
Takehiko Mori



17094

### A B–N bond-doped multiple resonance emitter with extended $\pi$ -conjugation for narrowband sky-blue OLEDs exhibiting low efficiency roll-off

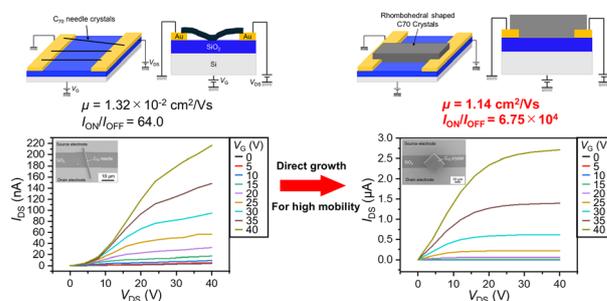
Jianping Zhou, Hai Zhang, Qi Wang, Danrui Wan, Guoyun Meng,\* Dongdong Zhang and Lian Duan\*



17101

### High mobility field-effect transistors produced by direct growth of C<sub>70</sub> single crystals from a solution

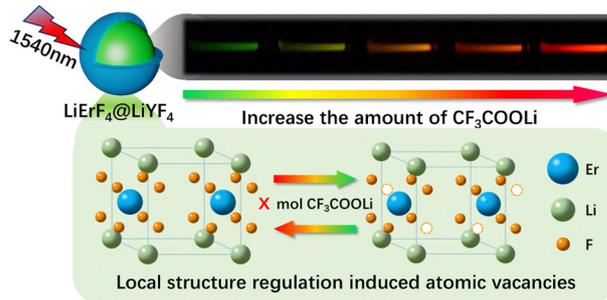
Yuto Sakai, Taiyo Araki, Ryo Suzuki, Toshiyuki Sasaki, Kouhei Ichyanagi, Tadahiko Hirai, Nobuyuki Aoki and Masaru Tachibana\*



17109

### Local structure regulation of multiple upconversion emission selectivity in highly doped lanthanide-based core-shell nanocrystals

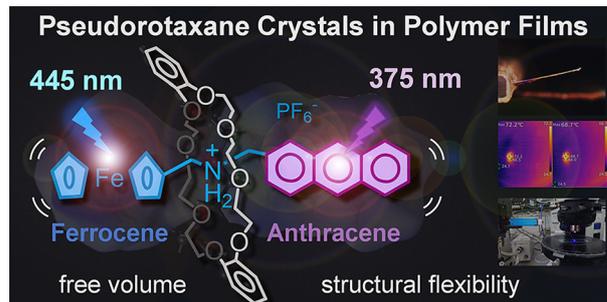
Yuxuan Qiu, Songbin Liu,\* Junjie Wang, Yushuang Peng, Yutian Yu, Hongyuan Fei, Fengli Yang, Jiaqing Peng, Junjun Tan and Xinyu Ye\*



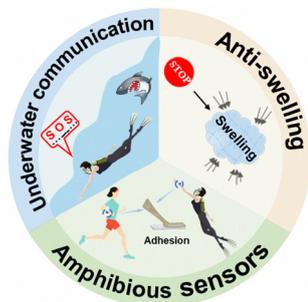
17120

### Crystalline pseudorotaxane enabling dual-wavelength photothermal mechanical actuation

Kuan-Hung Huang, Hong-Kai Chang, Meng-Che Tsai, Ting-Wei Liao, You-Ting Chen, Chu-Liang Hsieh, Pei-Lin Chen, Kai-Jen Chen\* and Masaki Horie\*



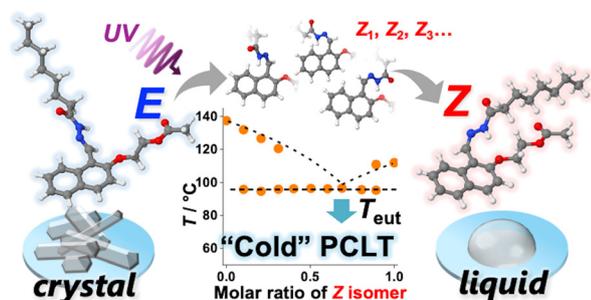
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### Anti-swelling and adhesive hydrogels enable amphibious sensors with long-lasting conductivity, adhesion and robustness

Rongli Zhang, Guoya Wei and Chunhui Luo\*

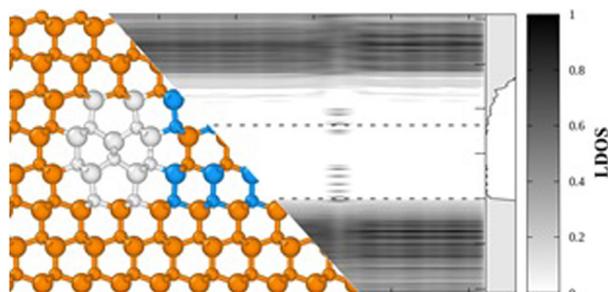
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### “Cold” photo-induced crystal-to-liquid transition of acylhydrazones: leveraging slight molecular modification to expand the usable temperature range

Ryo Koibuchi, Isao Yoshikawa and Hirohiko Houjou\*

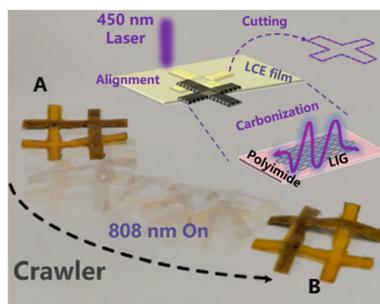
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### Stable partial dislocation complexes in GaN investigated by molecular dynamics and first-principles simulations

Andrey Sarikov\* and Ihor Kupchak

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### Laser-induced kirigami structures of liquid crystal elastomers for multimodal morphing

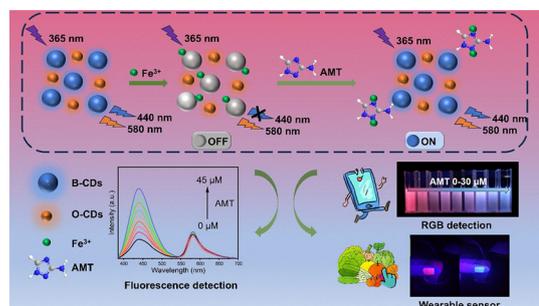
Bing Lei, Lei Huang, Ke-Hui Wu, Rui Zhou and Lu-Jian Chen\*



17167

### A carbon dot-based ratiometric fluorescent probe for the fluorescence “on–off–on” detection of Fe<sup>3+</sup> and amitrole herbicides

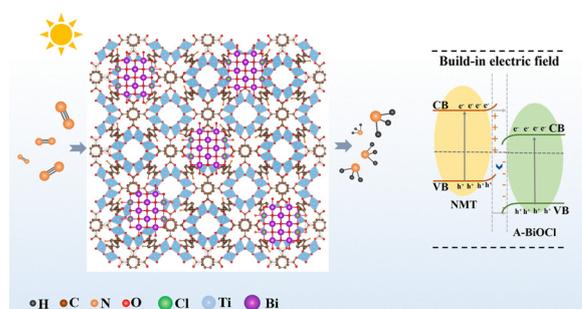
Tingjie Jiang, Na Yang, Ziyi Wang, Haoran Zhang,\* Na Li, Yongying Chen, Mingkai Wei, Xuejie Zhang and Bingfu Lei\*



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### Enhancement of built-in electric field strength of BiOCl/NMT Z-scheme heterojunctions through photoinitiated defects for optimized photocatalytic performance

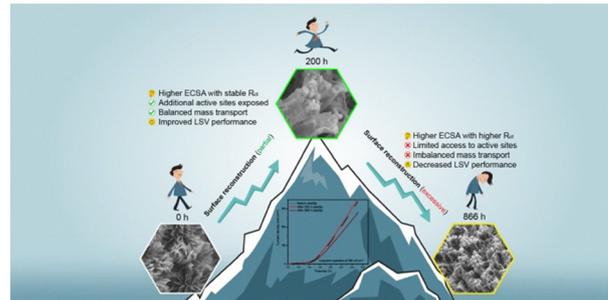
Libo Wang,\* Xiayu Wu, Yangyang Zhang, Yitong Wang, Qiguo Zhu, Ya Wang, Jingyao Li, Gang Liu\* and Zhenhua Hou\*



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### A surface reconstruction approach using nonprecious zirconium-enriched nanosheets on NiCo nanowire catalysts with an iron foam substrate for water splitting

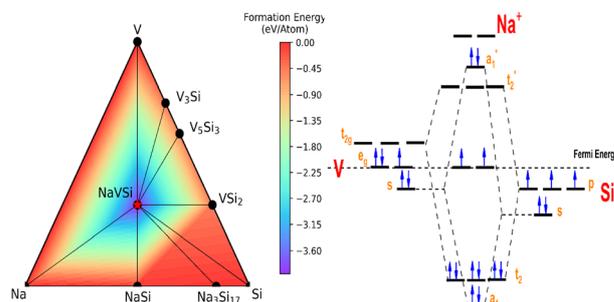
Mst Zakia Sultana, Jing Liu, Dongcheng Lin, Qin Xu, Maobin Pang, Yihan Zhen, Shuaishuai Yan and Baoguo Wang\*



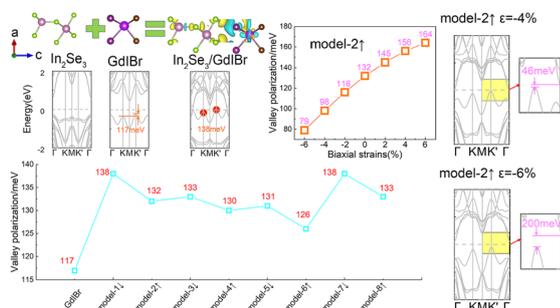
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### Structural, optoelectronic, magnetic, elastic, thermodynamic and thermoelectric properties of NaVSi half-Heusler alloys

Sabir Makhlouf, Seif Eddine Amara, Abdelaziz Amara,\* Mehmet Çakmak, Ceren Tayran, Hemza Kheribot and Ahmed Yasser Behlali



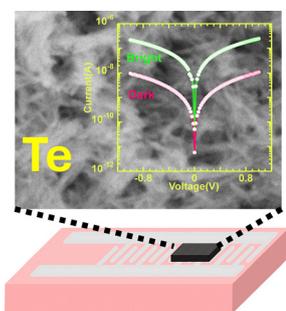
17221



### Intrinsic valley polarization and manipulation via interfacial coupling in a two-dimensional GdIBr/In<sub>2</sub>Se<sub>3</sub> van der Waals multiferroic heterojunction

Xu Zhang, Yadong Zhu,\* Baozeng Zhou\* and Xiaocha Wang\*

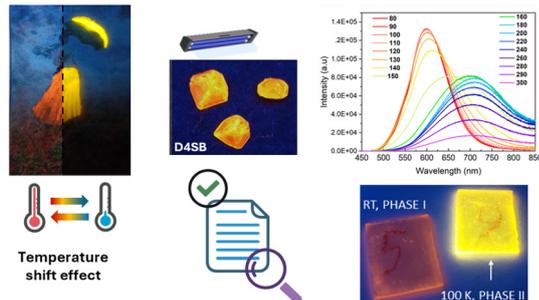
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### Solution processed tellurium films for photodetection

Biman Jana, Hridesh Kumar Gupta, Arijit Haldar, Bilaram Kumar Meena, Vishnupriyan Murugan, Sushobhan Avasthi and Anshu Pandey\*

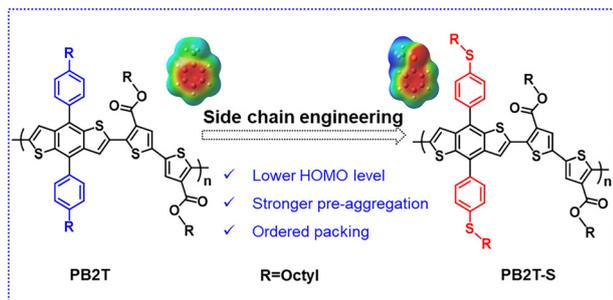
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### Secret agent in the secret service: Utilization of Sb(III)-based complexes' emission properties for the study of forgery and document authenticity

Magdalena Rok,\* Aleksandra Krupińska, Marta Gordel-Wójcik, Przemysław Szklarz, Przemysław Starynowicz, Piotr Durlak, Rafał Janicki, Magdalena Malik, Ryszard Jakubas, Grażyna Bator and Anna Piecha-Bisiorek\*

17251



### Alkylthiophenyl side chain modulation for enhanced photovoltaic properties of polymer donors in organic solar cells

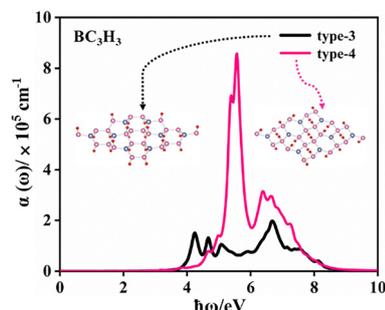
Kaijie Yuan, Chaoyi Wang, Wenxuan Wang, Jianqiu Wang, Junzhen Ren, Chenyi Yang, Jianhui Hou and Shaoqing Zhang\*



17259

### Stability and electro-optical properties of the hydrogen-functionalized monolayer $\text{BC}_3\text{H}_3$ : a theoretical study

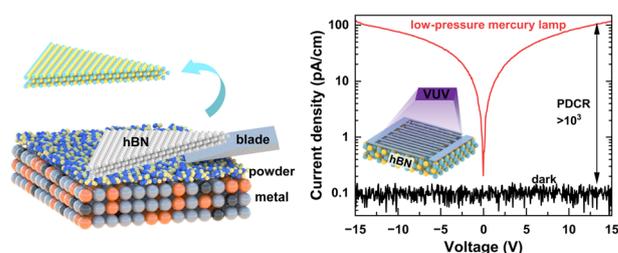
Huabing Shu\* and Haiying Xu



17270

### Easy-peeling growth of triangular hBN flakes and their demonstration in vacuum ultraviolet photodetectors

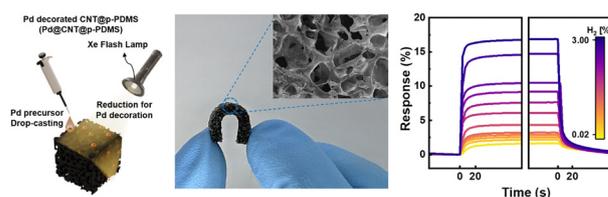
Yuyao Zhang, Jianguo Zhao,\* Zhiyong Wu, Hui Zhang, Ru Xu, Shenyu Xu, Bin Liu, Zhe Zhuang, Tao Tao, Jianguo Pan, Lixi Wang and Jianhua Chang



17278

### Flexible porous PDMS–CNT frameworks with flash-decorated Pd nanoparticles for high-performance hydrogen sensing

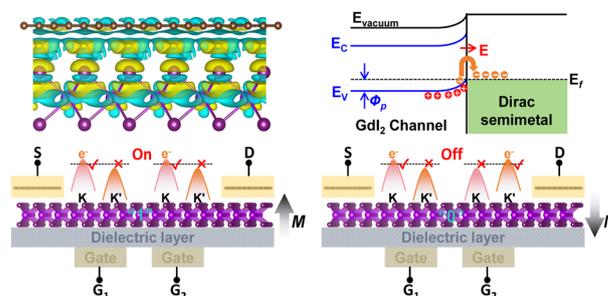
Junyoung Jung, Hangeol Choi, Geonhee Lee, Du Won Jeong, Sunwoo Lee, Gun Hee Kim, Donghwi Cho, Suok Lee, Young-Woo Lee, Jeong-O Lee,\* Keun Soo Kim\* and A-Rang Jang\*



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### Tuning valley-Ohmic contacts and interfacial electronic properties in valley-polarized semiconductor/Dirac semimetal heterostructures

Hao Guo, Yongqian Zhu, Jinbo Pan\* and Shixuan Du

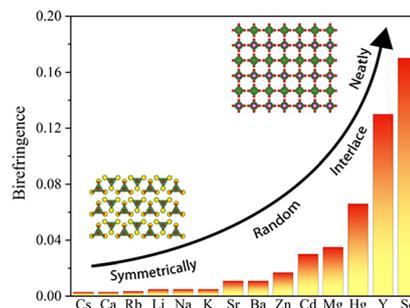




17345

### The impact of anionic group arrangement on the optical properties of the arsenate series

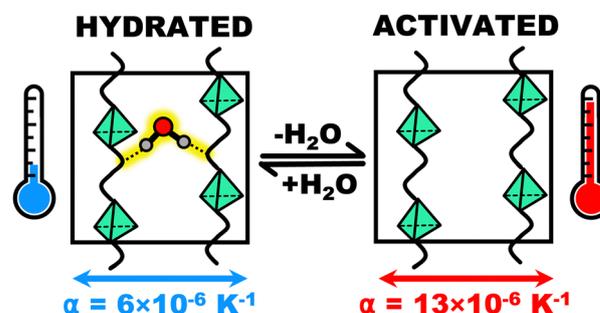
Yunjie Wang, Zhihao He, Jiafu Ding, Jian Cui, Fuhong Wan, Jiajun Li, Xin Su\* and Yu Chu\*



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### Influence of pore-confined water on the thermal expansion of a zinc-based metal–organic framework

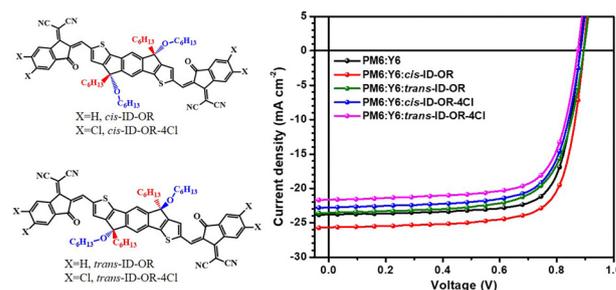
Nina Strasser, Benedikt Schrode, Ana Torvisco, Sanjay John, Birgit Kunert, Brigitte Bitschnau, Florian Patrick Lindner, Christian Slugovc, Egbert Zojer\* and Roland Resel\*



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### Enhancing performances of organic photovoltaics by incorporating small molecule stereoisomers as the third component

Yu-Wei Su, Chung-Hao Chen, Bing-Huang Jiang, Han-Yi Huang, Tzu-Ching Lu, Bin Chang, Chih-Ping Chen\* and Kung-Hwa Wei\*



17376

### Correction: Carmine–PVA composites as optical limiters: effect of carmine concentration and the role of laser intensity in optical limiting

Rukshaana Rafi, K. Mani Rahulan, N. Angeline Little Flower, T. Sharmila, T. C. Sabari Girisun and R. Annie Sujatha\*



## CORRECTIONS

17377

**Correction: Circularly polarized luminescence with large dissymmetry factors based on perovskite and cholesteric liquid crystal polymer network films**

Liting Xu, Huajun Lei, Zongqi Li, Wei Liu,\* Yi Li and Yonggang Yang\*

