

# Journal of Materials Chemistry C

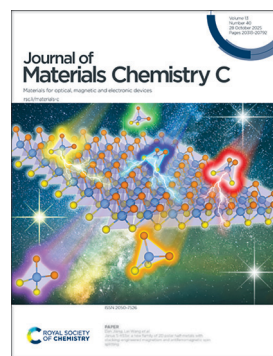
Materials for optical, magnetic and electronic devices

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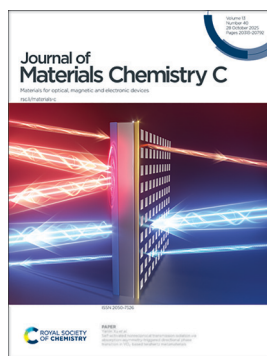
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### Cover

See Dan Jiang, Lei Wang *et al.*, pp. 20482–20490. Image reproduced by permission of Fengyu Li from *J. Mater. Chem. C*, 2025, 13, 20482.



### Inside cover

See Yanlin Xu *et al.*, pp. 20491–20499. Image reproduced by permission of Chenxi Liu *et al.* from *J. Mater. Chem. C*, 2025, 13, 20491.

## PROFILE

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Contributors to the *Journal of Materials Chemistry C* Emerging Investigators 2025 collection

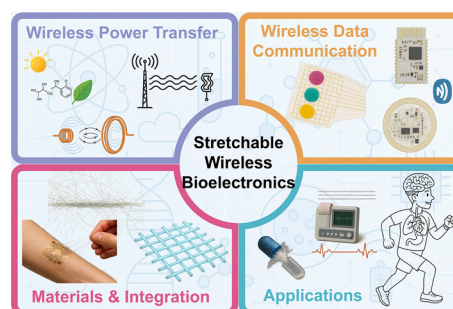


## REVIEWS

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Wireless technologies in stretchable bioelectronics

Miaoyun Feng, Guixuan Lu, Zihao Wang and Ying Jiang\*



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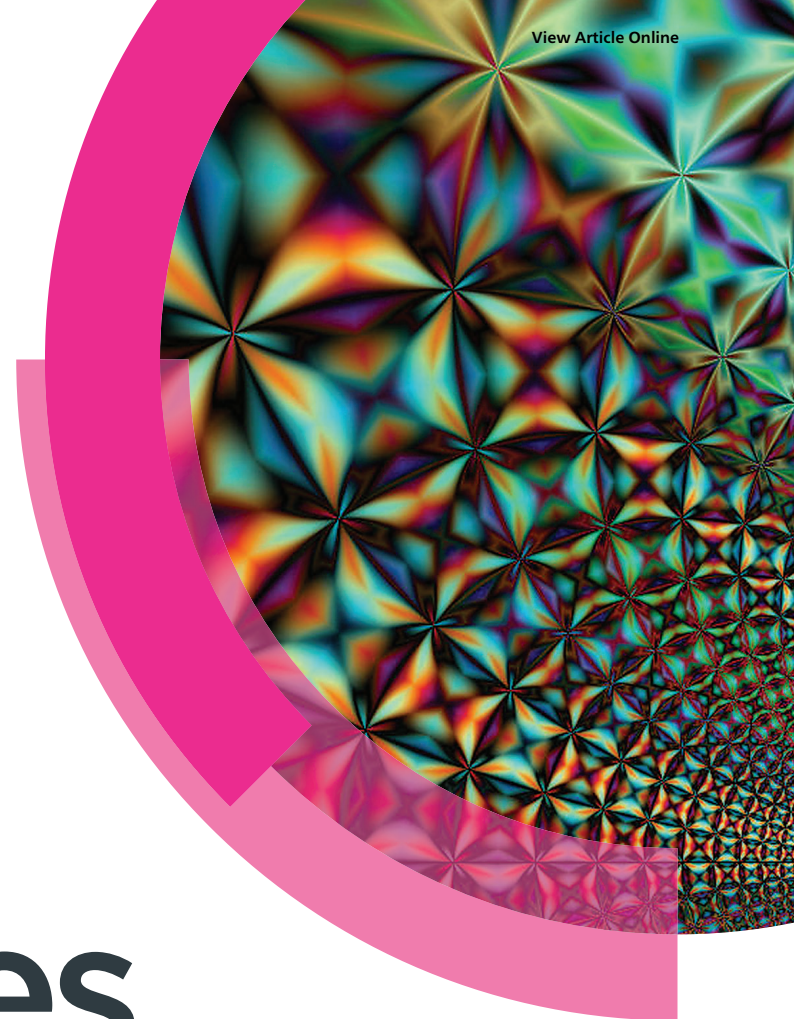


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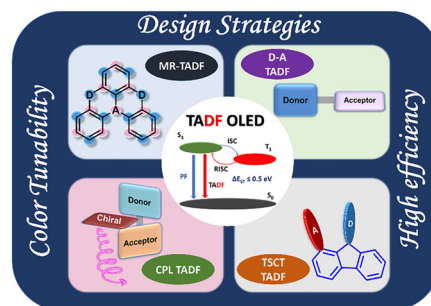


## REVIEWS

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### Evolution of color-tunable TADF emitters in OLEDs: from design strategies to color modulation

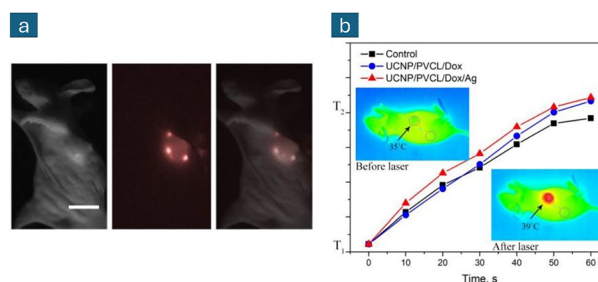
Tapashi Sarmah, Chakali Srinivas, Debika Barman, Rajdikshit Gogoi, Retwik Parui, Kavita Narang, Himangshu Baishya and Parameswar Krishan Iyer\*



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### Recent advances in conjugated polymer lanthanide-doped upconversion nanoparticles and their biological applications

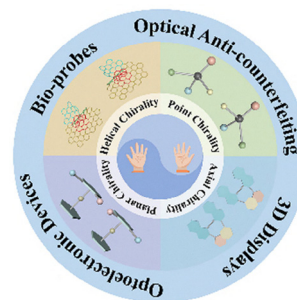
Guilherme de Freitas Silva, Fernando E. Maturi, Luis D. Carlos and Jefferson L. Ferrari\*



20444

### Emerging chiral molecular carbon materials for chiroptoelectronic applications

Xinyang Zhang, Xinyang Ge, Jingya You, Yipu Wang,\* Qiang Huang\* and Li Wan\*

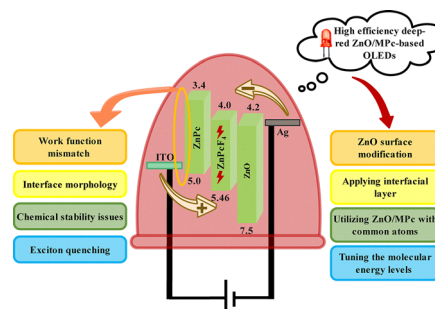


## PERSPECTIVE

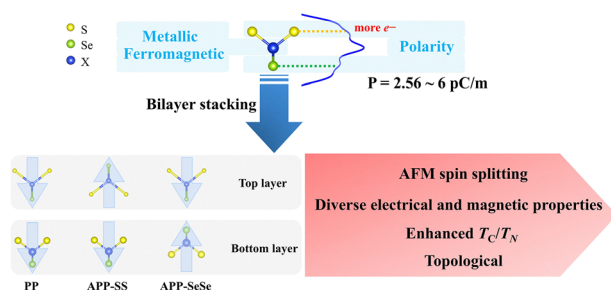
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### Navigating the ZnO/metal phthalocyanine interface in OLEDs: challenges, perspectives, and engineering strategies

Sakineh Akbari Nia, Paulina Powroźnik, Mieczysław A. Pietrzyk and Maciej Krzywiecki\*



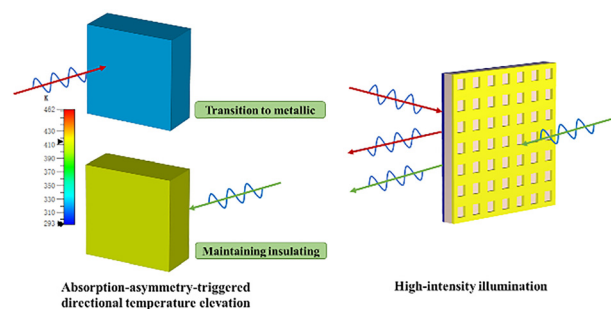
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## Janus S-XSSe: a new family of 2D polar half-metals with stacking-engineered magnetism and antiferromagnetic spin splitting

Yu Liu, Shuaiyu Wang, Dan Jiang,\* Lei Wang\* and Fengyu Li

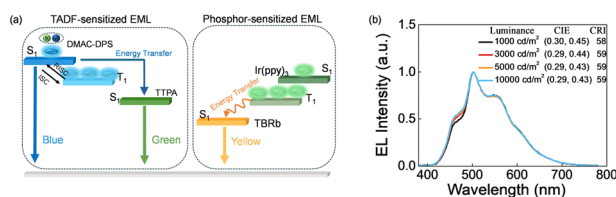
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## Self-activated nonreciprocal transmission isolation via absorption-asymmetry-triggered directional phase transition in VO<sub>2</sub>-based terahertz metamaterials

Chenxi Liu, Yanlin Xu,\* Hanqing Liu and He Ma

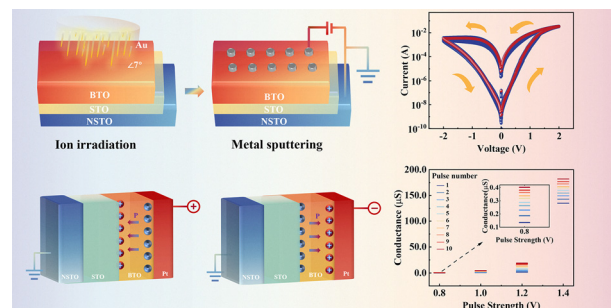
20500



## High efficiency, low roll-off and superior color stability fluorescent white organic light-emitting diodes through triplet exciton management with phosphor and TADF sensitization

Jingwen Yao, Hanlin Li, Dingke Zhang and Dongge Ma\*

20511



## Neuromorphic computational artificial synapses based on a BTO/STO memristor under Au ion implantation

Pengshun Shan, Minghui Xu, Jie Su,\* Ruowei Wang, Yuyi Li, Hao Wu, Yong Liu,\* Weijin Kong,\* Jinhua Zhao and Tao Liu\*

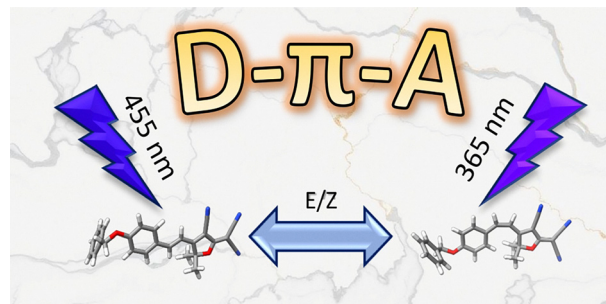




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### Efficient optical photoswitching of benzyloxy-substituted TCF-based D- $\pi$ -A molecules

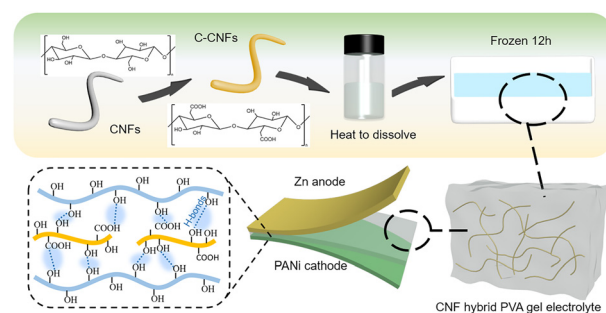
Kamila Lupinska,\* Kinga E. Szkaradek, Kacper Parafiniuk, Robert Góra, Piotr Fita, Yann Bretonnière, Chantal Andraud and Lech Sznitko\*



20531

### A high strength and dendrite free low-temperature nanocellulose composite PVA gel electrolyte for zinc ion batteries

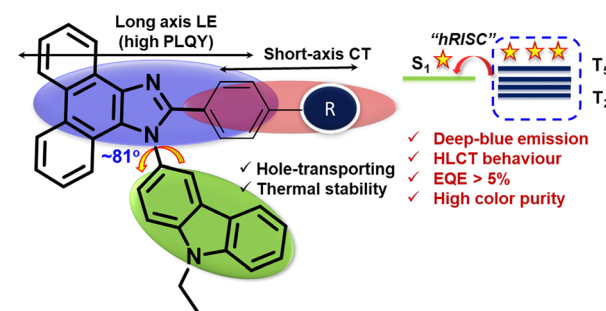
Jingyu Du, Daohai Zhang,\* Yuhuan Xu, Xiao Zhan and Shuhao Qin\*



20540

### Overcoming the 5% EQE ceiling in deep-blue fluorescent OLEDs with hybridized local and charge transfer featured phenanthroimidazole-carbazole emitters

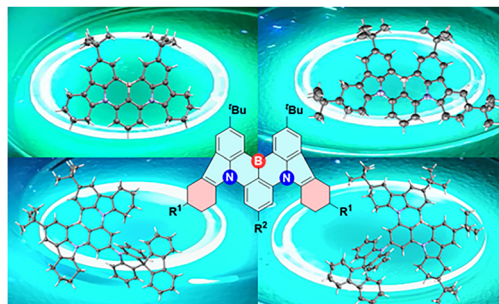
P. Keerthika, Ankit Kumar, Amutha Selvaganesan, Jangho Moon, Venkatramaiah Nutalapati,\* Jun Yeob Lee\* and Rajendra Kumar Konidena\*



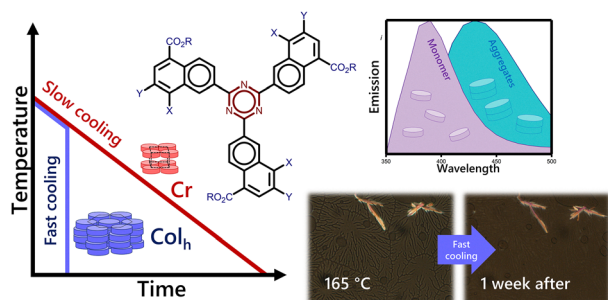
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### Saturated carbazole-embedded BN-aromatic systems as narrowband sky-blue emitters

Mahni Fatahi, Aidan P. McKay, David B. Cordes and Eli Zysman-Colman\*



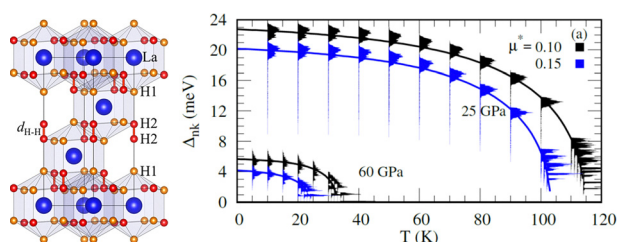
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### Trinaphthyl-triazines: towards persistent room temperature columnar mesomorphic matrices

Wilson Aparecido de Oliveira, Marilia Gabriela Belarmino Cabral, Monike da Silva Kutz, Lorenzo Conti Serra, Fabien Durola, Andrew Monkman, Ivan H. Bechtold, Harald Bock\* and Eduard Westphal\*

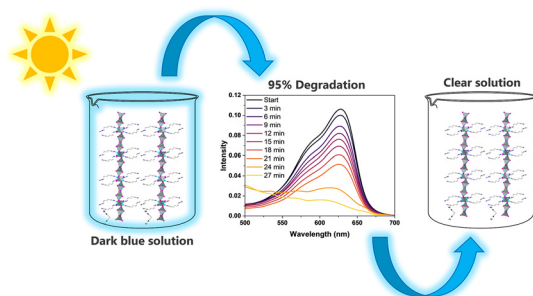
20571



### Prediction of high-temperature superconductivity in LaH<sub>4</sub> at low pressures

Christopher Renskers, Catalin D. Spataru, Marios Zacharias, Sakun Duwal, Timothy Elmslie, Peter A. Sharma and Elena R. Margine\*

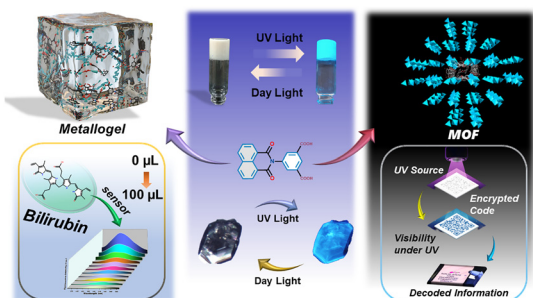
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### Maximizing sunlight absorption in narrow bandgap semiconducting copper(I) iodides for enhanced photocatalytic dye degradation

Gia M. Carignan, Simon J. Teat, Xiuze Hei, Srinivas Chakravartula, Gene Hall, Le Hong Nguyen and Jing Li\*

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### A solvent crafted alternate [Zn<sub>3</sub>/Zn<sub>4</sub>] cluster driven MOF and its analogous MOG: structural elucidation integrated with advanced bilirubin detection and encryption strategies

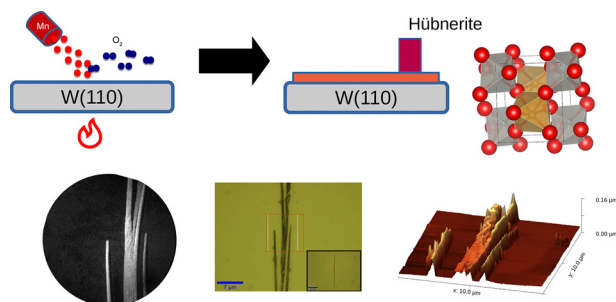
Joydeep Ray, Sumit Mondal, Pallav Mondal and Debajit Sarma\*



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### Growth of $\text{MnWO}_4$ nanowires on W(110) by high-temperature oxygen-assisted molecular beam epitaxy

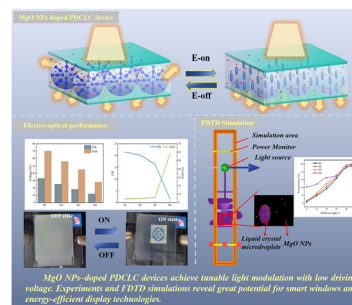
Kalina Fornal, Clara Gutiérrez-Cuesta, Adolfo del Campo, Anna Mandziak, Pawel Nita, José Emilio Prieto, José F. Marco and Juan de la Figuera\*



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### Integrated experimental and simulation studies on chiral–MgO nanoparticle synergistic tuning of PDCLC devices

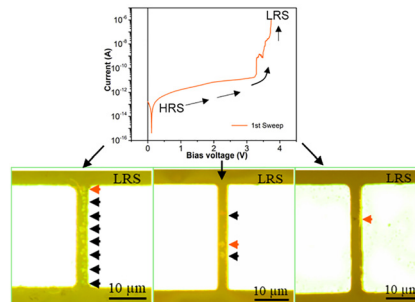
Xiaoyu Zhang, Huabin Yang, Wei Lin and Can Weng\*



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### Localized redox filament formation in biopolymer-based RRAM devices for in-memory volatile molecule sensing

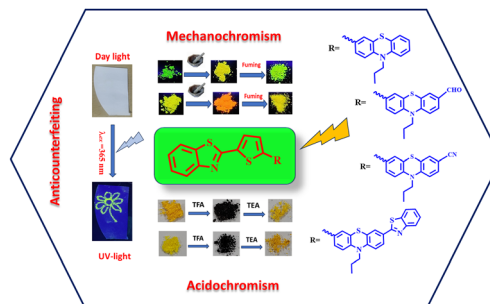
Mohammad Tauquir A. S. Shaikh, Kyong Jae Kim, Hyojung Kim and You Seung Rim\*



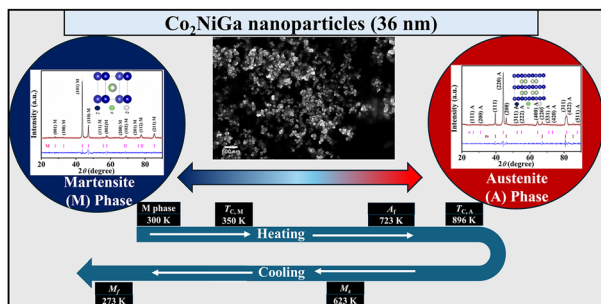
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### Multi-functional benzothiazole-based phenothiazine derivatives: mechanochromism, acidochromism, and anticounterfeiting application

Ramakant Gavale and Rajneesh Misra\*



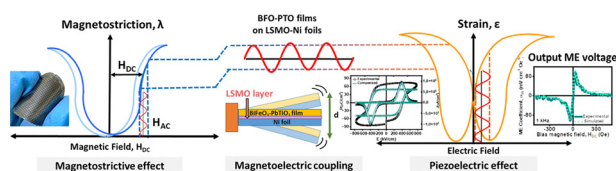
20645



### Effect of heat treatment on the martensite phase and magnetic properties of chemically synthesized $\text{Co}_2\text{NiGa}$ nanoparticles

Debraj Mahata and Ananthakrishnan Srinivasan\*

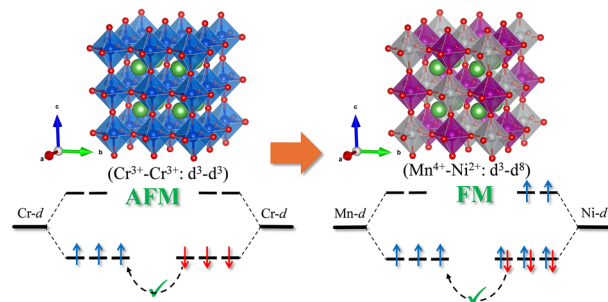
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### Flexible high-sensitivity magneto-electric thin film composites of solution-derived $\text{BiFeO}_3\text{-PbTiO}_3$ layers on Ni foils

Adriana Barreto, Ricardo Jiménez, Pablo Ramos, Harvey Amorin, Íñigo Bretos, Miguel Algueró\* and M. Lourdes Calzada\*

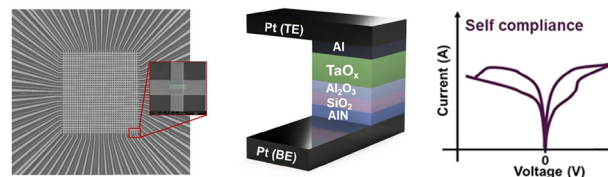
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### Origin of strong ferromagnetic couplings in ordered double perovskite semiconductors

Panpan Li, Ziyang Qu, Shihai Wu, Fang Wu, Yi Wan, Ang Li, Erjun Kan\* and Chengxi Huang\*

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### Material-engineered self-compliant memristor enabling multibit synaptic learning and in-memory computing

Minseo Noh and Sungjun Kim\*

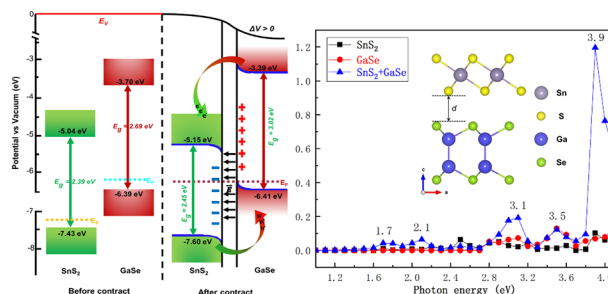




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### High-performance photoelectric and self-powered properties of a p–n GaSe/SnS<sub>2</sub> heterojunction by a built-in electric field

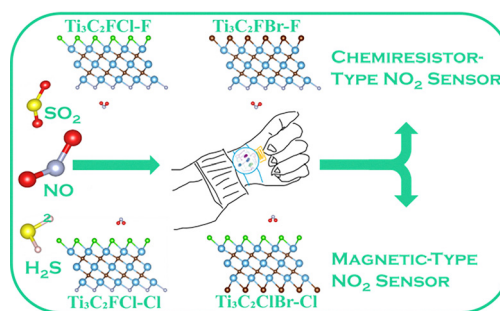
Dongxiang Li,\* Ruiqin Li and Yongting Zhao



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### Effects of halogen termination (F, Cl, and Br) and surface symmetry on the adsorption performance of Ti<sub>3</sub>C<sub>2</sub> MXenes for H<sub>2</sub>S, SO<sub>2</sub>, and NO<sub>2</sub> gases

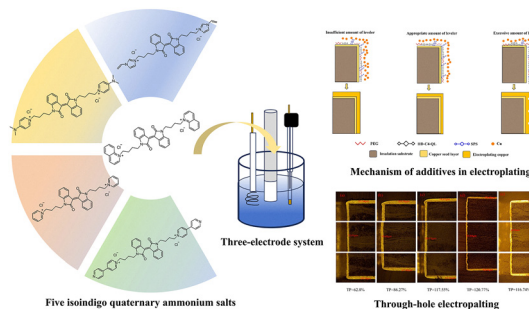
Guorui Rao, Li Fang,\* Zikun Du and Wei Liu



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### Synthesis and application of isoindigo quaternary ammonium salts in copper plating

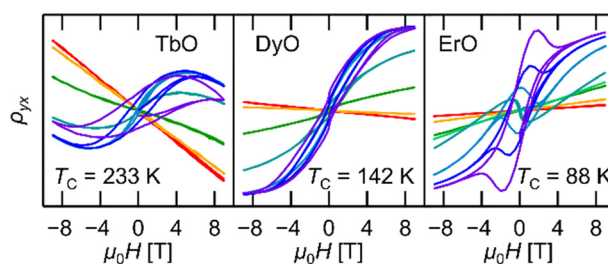
Ruiqi Shan, Chenhao Qian, Xuyang Li, Xin Chen and Limin Wang\*



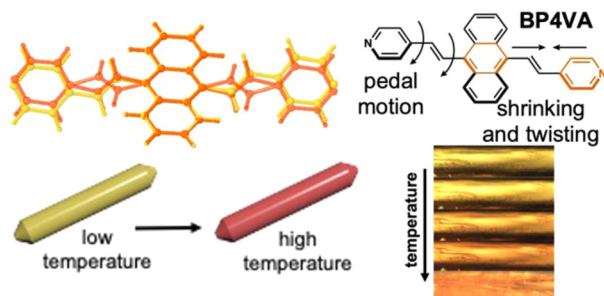
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### Metallic conduction in high Curie temperature ferromagnetic heavy rare earth monoxides REO (RE = Tb, Dy, Er): rare-earth-dependent carrier polarity and anomalous Hall effect

Satoshi Sasaki, Daichi Oka, Masamichi Negishi and Tomoteru Fukumura\*



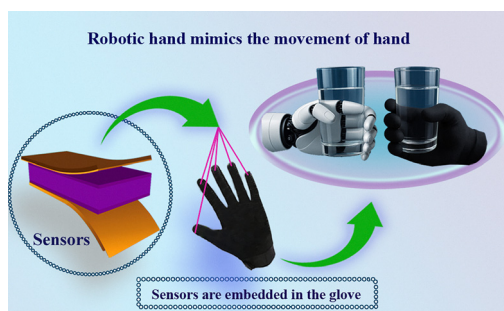
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### Temperature-driven molecular dynamics initiate thermochromism and luminescence modulation in an anthracene-based organic semiconductor crystal

Alice Colatrella, Ivan Bondarenko, Rachel J. Liu, Michael Bernhardt, Tie-Yan Chang, Yu-Sheng Chen and Gonzalo Campillo-Alvarado\*

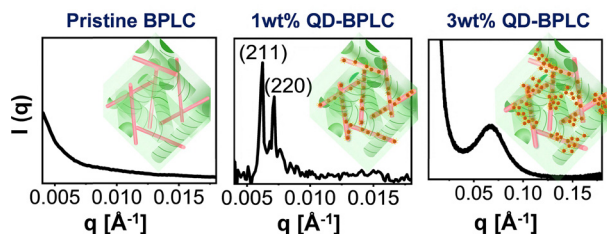
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### Development of an electronic skin based on piezoelectric porous PVDF nanospheres for robotic perception

Mehdi Pourbafrani, Mohammad Mahdi Abolhasani,\* Sara Azimi, Seyed Amir Abbas Kashanchi, Rasoul Ahadi-Hadibeyglu, Mohammad Aghanouri and Hamid Abdi

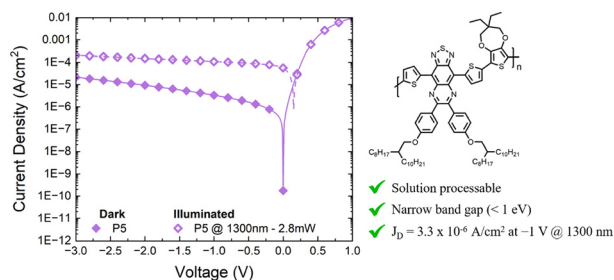
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### Nanoparticle self-assembly and domain growth kinetics in BPI: a synchrotron ultra-small angle X-ray scattering study

Nurjahan Khatun, Vimala Sridurai, Gouranga Manna and Geetha G. Nair\*

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### Low bandgap conjugated polymers based on thiadiazoloquinoxaline for high performance shortwave infrared photodetection

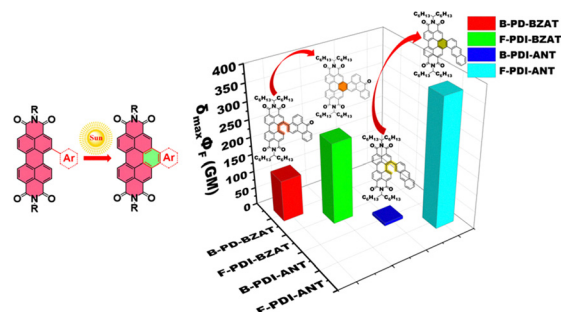
Nathan Yee, Tyler Davidson-Hall, Neil Graddage, Barbara Martin, Jianying Ouyang, Philippe Berrouard and Jianping Lu\*



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## Improving two-photon active cross-section value of perylene diimide derivatives through intramolecular photocyclization

Liang Xu,\* Jianpeng Liu, Xueting Long, Jian Qing, Zidong Yu, Binbin Huang, Jieyu Wu, Shengsi Liu, Lingxiu Liu, Yifan Wu, Ziqi Deng, Xingchong Liu, Xiao-Fang Jiang\* and Jianguo Wang\*



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## Molecular doping with 4-aminobenzylphosphonic acid for stable and efficient inverted perovskite solar cells

Zhichun Yang,\* Sheng Wang, Mengyu Li, Waqar Ahmad,\* Changgang Yang, Ruiyun Chen, Guofeng Zhang, Chengbing Qin,\* Liantuan Xiao\* and Suotang Jia

