

Journal of Materials Chemistry C

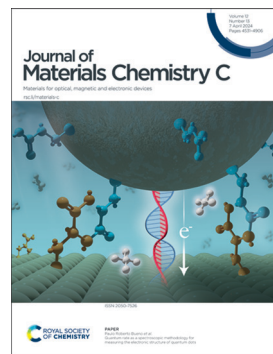
Materials for optical, magnetic and electronic devices

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Cover

See Paulo Roberto Bueno *et al.*, pp. 4606–4617.
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REVIEWS

4544

Unlocking the potential of perovskite-based nanomaterials for revolutionary smartphone-based sensor applications

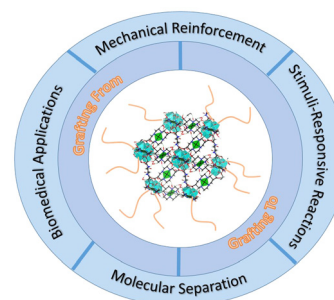
Dan Li,* Pengfei Zhuang and Cai Sun*



4562

Polymer-grafted metal–organic frameworks: design, synthesis, and applications

Xiaozhou Yang, Tzu-Ching Cheng and Amanda J. Morris*



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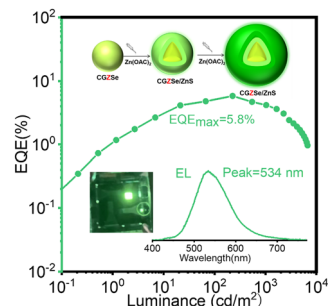
Fundamental questions
Elemental answers

COMMUNICATIONS

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Rationally designed synthesis of bright Cu–Ga–Zn–Se-based nanocrystals for efficient green quantum-dot light-emitting diodes

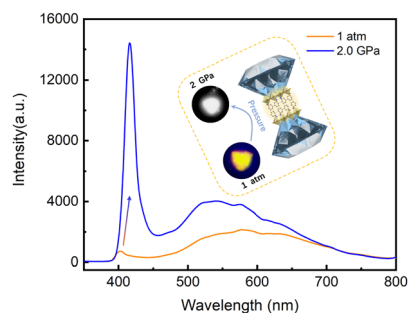
Ruixin Sun, Jinxing Zhao, Ouyang Lin, Yu Li, Xiulin Xie, Wentao Niu, Zhe Yin* and Aiwei Tang*



4599

Pressure enables high-standard white light emission and significant emission enhancement in a 2D halide perovskite

Xue-Zhou Zhao, Fei-Fei Gao, Wei Li,* Zhi-Gang Li, Ying Zhang, Kai Li, Huan Hu, Weizhao Cai, Jijie Zhang* and Xian-He Bu

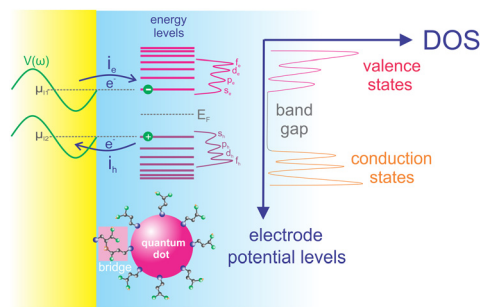


PAPERS

4606

Quantum rate as a spectroscopic methodology for measuring the electronic structure of quantum dots

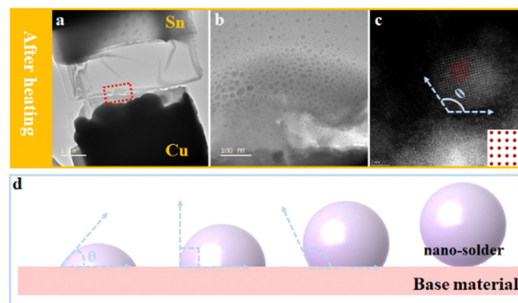
Edgar Fabian Pinzón, Laís Cristine Lopes, André Felipe Vale Fonseca, Marco Antonio Schiavon and Paulo Roberto Bueno*



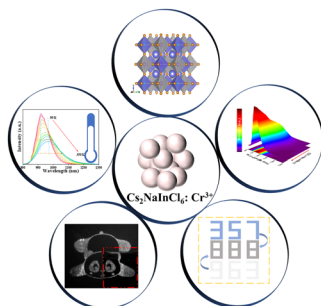
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In situ transmission electron microscopy (TEM) study on the structural evolution behavior of nano Sn sheets under a thermal field

Xia Zhou, Junwei Zhang, Hongli Li, Cong Ma, Yiqun Zhao, Hong Zhang* and Yong Peng*



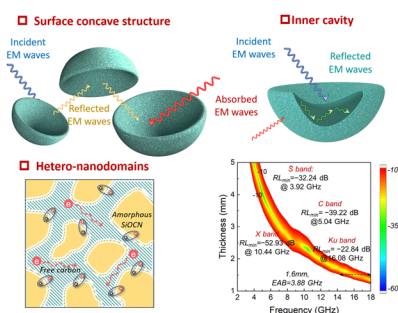
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Near-infrared Cr³⁺-doped lead-free halide perovskite microcrystals for information encryption and temperature thermometry

Wei Zhao, Li Li,* Faling Ling, Yongjie Wang,* Guotao Xiang, Xianju Zhou, Sha Jiang, Zhiyu Yang, Yongbin Hua and Jae Su Yu*

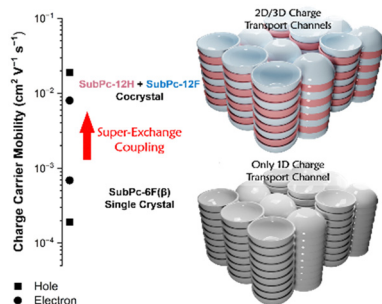
4640



Polymer-derived silicon oxycarbonitride bowls with hollow structures and hetero-nanodomains for electromagnetic wave absorption

Rupan Xu, Jie Zhou, Weiquan Huang, Gaoyuan Yu, Liqun Guo, Xiaogu Huang and Gaofeng Shao*

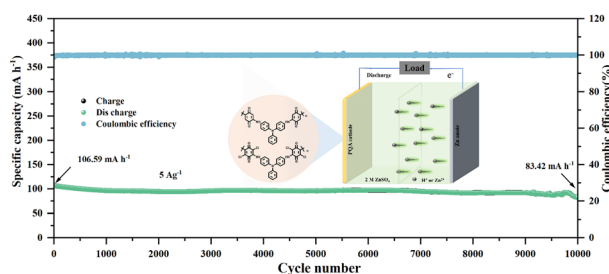
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Subphthalocyanine semiconducting cocrystals with efficient super-exchange coupling

Lingyan Sun, Yuan Guo,* Dan He, Barun Dhara, Fei Huang, Yuanping Yi, Daigo Miyajima* and Cheng Zhang*

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Quinone-amine polymers prepared by simple precipitation polymerization and used as cathodes for aqueous zinc-ion batteries and electrochromic materials

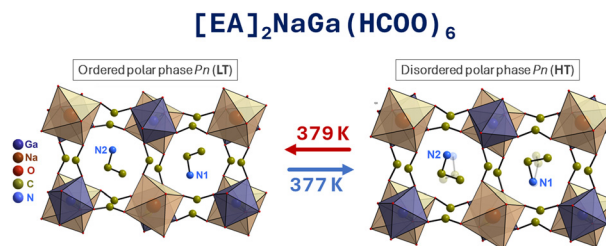
Jinli Liang, Yanjun Hou,* Yamei You, Liyan Dong, Binhua Mei and Haijun Niu*



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Mechanism of isosymmetric polar order–disorder phase transition in pyroelectric $[\text{CH}_3\text{CH}_2\text{NH}_3]_2\text{NaGa}(\text{HCOO})_6$ double perovskite

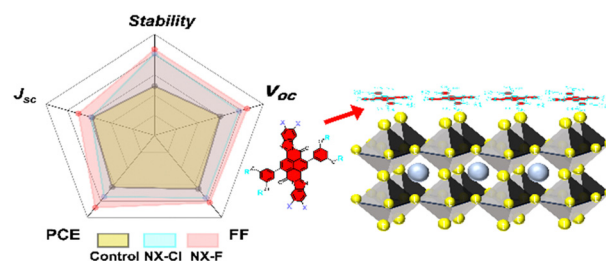
Maciej Ptak,* Adam Kabański, Błażej Dziuk, Sergejus Balciunas, Gediminas Usevicius, Jan K. Zaręba, Juras Banys, Mantas Simenas,* Adam Sieradzki and Dagmara Stefańska



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Halogen substitution of perinone-based cathode interfacial materials for high-efficiency inverted perovskite solar cells

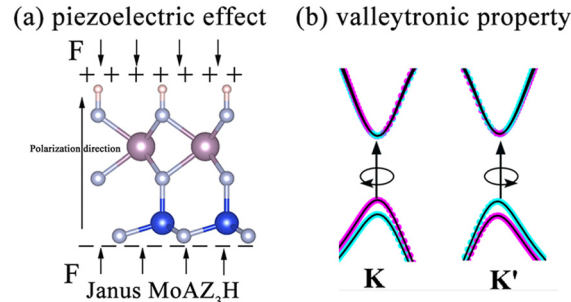
Shengxiong Zhang, Tianyu Xu, Peiyu Wu, Jun Pan, Wenjun Zhang* and Weijie Song*



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Novel valleytronic and piezoelectric properties coexisting in Janus MoAZ_3H ($\text{A} = \text{Si}$, or Ge ; $\text{Z} = \text{N}$, P , or As) monolayers

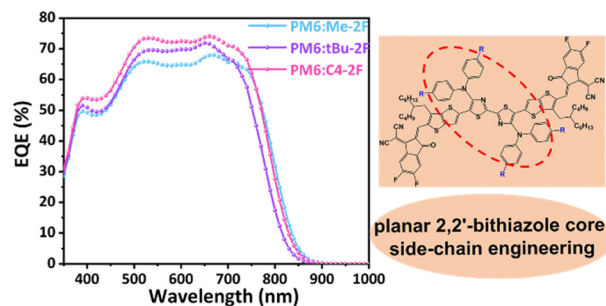
Xiaolin Cai,* Guoxing Chen, Rui Li, Zhixiang Pan and Yu Jia*



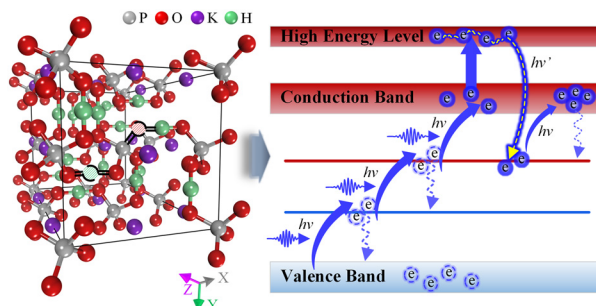
4690

Non-fused ring electron acceptors employing diphenylamine substituted 2,2'-bithiazole cores for organic solar cell applications

Shuo-Jun Wang, Yi Lin, Fangliang Dong, Zaifei Ma,* Zheng Tang* and Ming Wang*



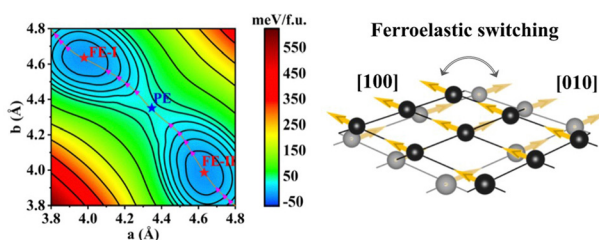
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Quantitative identification of deposited energy in UV-transmitted KDP crystals from perspectives of electronic defects, atomic structure and sub-bandgap disturbance

Wenyu Ding, Linjie Zhao,* Mingjun Chen, Jian Cheng,* Zhaoyang Yin, Qi Liu, Guang Chen and Hongqin Lei

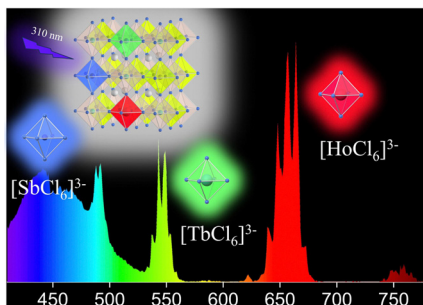
4711



Direction control of the easy magnetization axis in the magnetic GdN and GdNX (X = F, Cl) monolayers

Lu Chen, Zhihao Gao, Xuhong Li, Zhifen Luo, Ziyu Niu, Tengfei Cao, Junqin Shi and Xiaoli Fan*

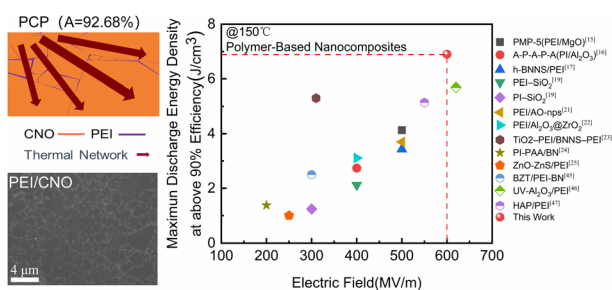
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Realizing efficient photoluminescence spectral modulation via $\text{Sb}^{3+}/\text{Ln}^{3+}$ co-doping in $\text{Cs}_2\text{NaNCl}_6$ double perovskites

Shuai Li, Chunrong Zhu, Jinjiang Wang, Zheling Zhang, Dongjie Wang, Yiwen Chen, Doudou Zhang, Jing Wang and Jian Zhang*

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Langmuir–Blodgett assisted alignment of 2D nanosheets in polymer nanocomposites for high-temperature dielectric energy storage applications

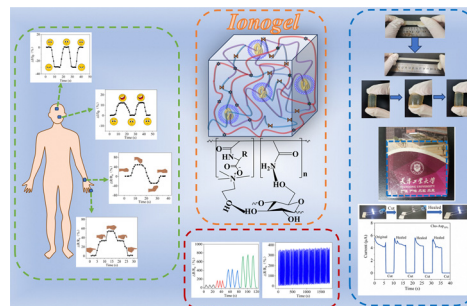
Cong Yu, Jian Wang, Jingjing Yan, Jianlong Xia and Xin Zhang*



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Polyionic liquid ionogels formed *via* hydrophobic association for flexible strain sensors

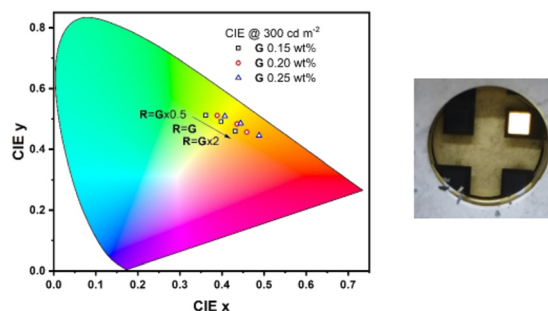
Hao Ren, Xiaoling He,* Yan Long, Qianqian Li, Saisai Li and Xuanping Zhou



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Solution-processed dendrimer-based bis-tridentate iridium(III) complexes with red, green, and blue phosphorescence for white OLEDs

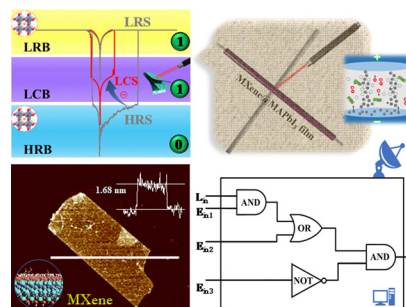
V. Pandit, J. Jang, C. S. K. Ranasinghe, P. L. Burn,* E. V. Puttock and P. E. Shaw



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NIR-triggered logic gate in MXene-modified perovskite resistive random access memory

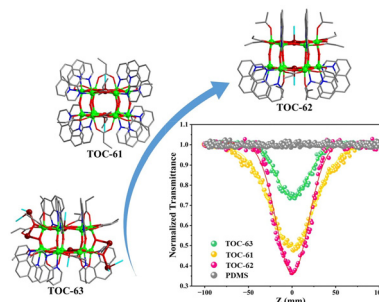
Rongbin Li, Yan Sun, Qianyu Zhao, Xin Hao, Haowei Liang, Shengang Xu, Yingliang Liu,* Xiaoman Bi* and Shaokui Cao*



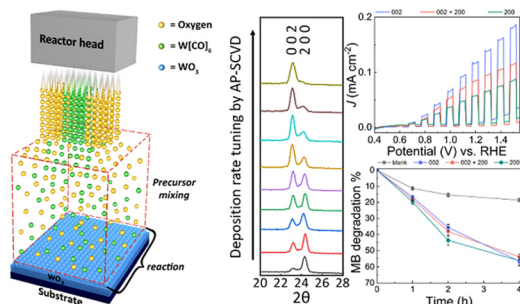
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Optical limiting effects of 1,10-phenanthroline functionalized heterometallic Sn–Ti oxo clusters with distinct $\pi \cdot \cdot \pi$ interactions

Hui-Fang Zhao, Wei-Zhou Chen, San-Tai Wang, Shumei Chen,* Jian Zhang and Lei Zhang*



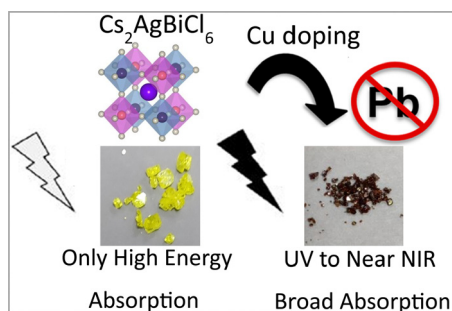
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Low-temperature open-atmosphere growth of WO_3 thin films with tunable and high-performance photoresponse

Zhuotong Sun, Subhajit Bhattacharjee, Ming Xiao,*
Weiwei Li, Megan O Hill, Robert A. Jagt,
Louis-Vincent Delumeau, Kevin P. Musselman,
Erwin Reisner and Judith MacManus-Driscoll*

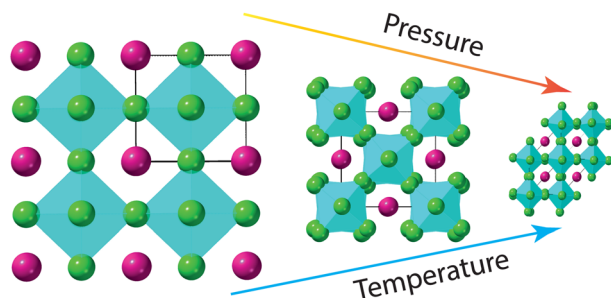
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Extending the absorption of $\text{Cs}_2\text{AgBiCl}_6$ double perovskite to the near infra-red region by copper doping

Raman Singh Lamba, Shubham Kumar, Pulkit Dhankhar,
Priyesh Yadav, Swati Khurana, Varsha Jha, Sahil Singh,
Aswathi Konur and Sameer Sapra*

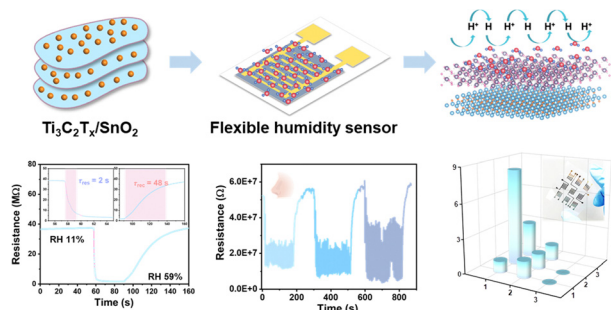
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Thermodynamic study of CsCaCl_3 using neutron diffraction

Craig L. Bull,* Christopher J. Ridley, Nicholas P. Funnell,
Sumit Konar and James Cumby

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Fast response flexible humidity sensors based on $\text{Ti}_3\text{C}_2\text{T}_x$ MXene-heterostructures for multifunctional applications

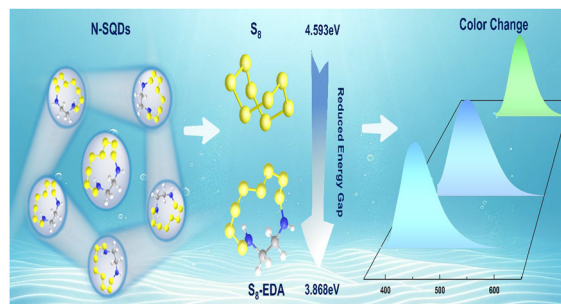
Yutong Han, Huina Cao, Yuzhong Cao, Xiaolu Wen,
Yu Yao and Zhigang Zhu*



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Tailoring the energy gap to promote long wavelength emission of nitrogen-doped sulfur quantum dots *via* dual functional ethylenediamine

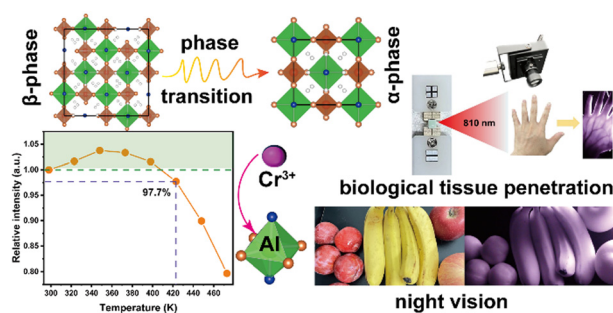
Guoyong Huang, Zitong Wei, Xiaona Zhang, Wenyi Lu, Yizhang Du, Yali Yin, Umme Hani Prova and Chunxia Wang*



4825

A broadband near-infrared emission $\text{Na}_3\text{Al}_2(\text{PO}_4)_2\text{F}_3:\text{Cr}^{3+}$ phosphor exhibiting zero photoluminescence quenching at 398 K

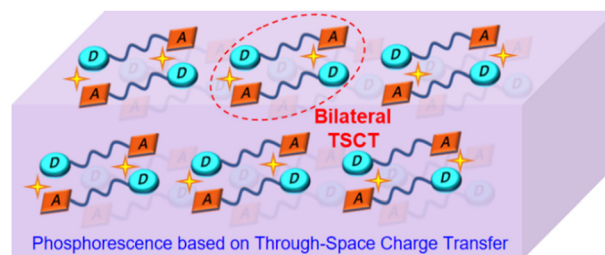
Huijie Wu, Sisi Liang,* Weixiong You, Le Liu, Yongwei Guo, Shujian Wang, Liping Song, Zihao Wang and Haomiao Zhu*



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Through-space charge transfer within single-component organic crystal: visual detection and rational regulation

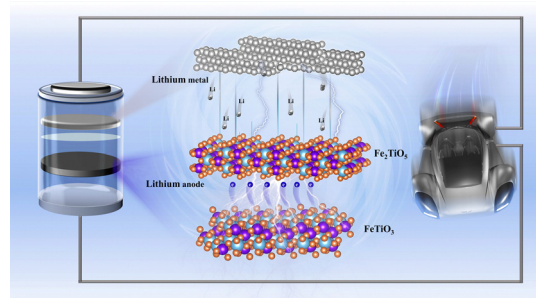
Zhenjiang Liu, Jia Ren, Hui Zhang, Yunsheng Wang, Xiaoning Li, Jiaqiang Wang, Manman Fang, Jie Yang,* Ben Zhong Tang* and Zhen Li*



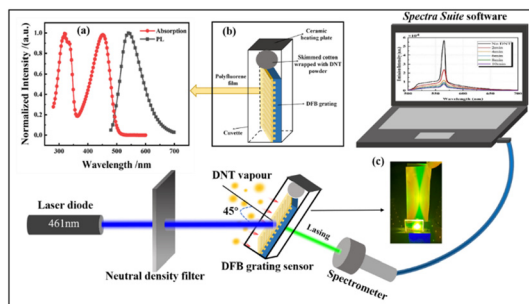
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Structural evolution and lithium-storage mechanism of the $\text{FeTiO}_3@\text{Fe}_2\text{TiO}_5$ endogenous heterojunction

Yang Chen, Ye Li, Xiaohuan Wang,* Huijun Kang, Zhiming Shi, Guojun Ji and Zhipeng Yuan



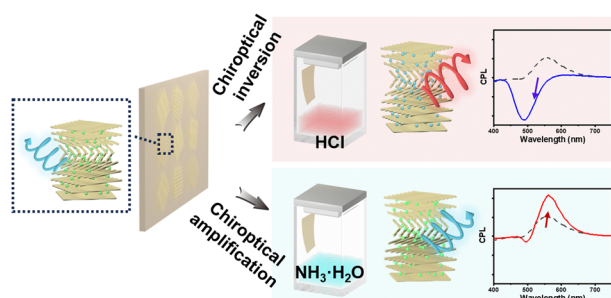
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A distributed-feedback grating excited by a CW laser diode for portable detection of explosive vapors with high sensitivity and stability

Liming Wang, Wei Lu, Meijuan Zhang, Shengnan He,*
Huiwen Fang, Yujiao Wei, Yilin Hong* and Weihua Wang

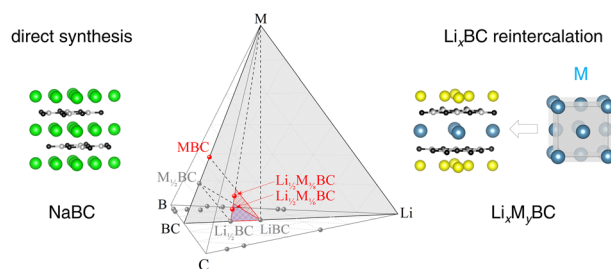
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Stimuli-responsive circularly polarized luminescence with chiroptical amplification and inversion enabled by cholesterically assembled bio-materials

Qing Miao, Xi Wang, Bowen Jin, Yang Chen, Yi Zhou,
Rui Xiong, Xiao Meng* and Chunhong Ye*

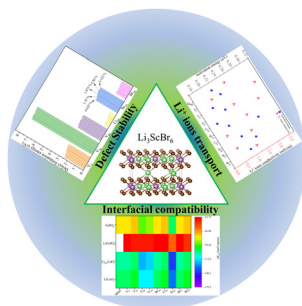
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Prospect of high-temperature superconductivity in layered metal borocarbides

Charley R. Tomassetti, Gyanu P. Kafle, Edan T. Marcial,
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Effects of neutral point defects on the solid-state electrolyte Li_3ScBr_6

Ming Jiang, Zhi-Wen Chen,* Adwitiya Rao, Li-Xin Chen,
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Chandra Veer Singh*



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The layered $\text{RuBr}_3\text{--RuI}_3$ honeycomb system

Danrui Ni, Xianghan Xu and Robert J. Cava*

