

Journal of Materials Chemistry C

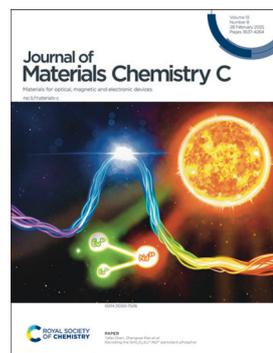
Materials for optical, magnetic and electronic devices

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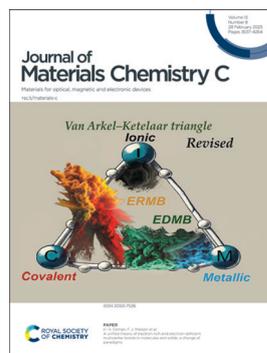
IN THIS ISSUE

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Cover

See Yafei Chen, Zhengwei Pan *et al.*, pp. 3764–3773. Image reproduced by permission of Grace Pan from *J. Mater. Chem. C*, 2025, 13, 3764.



Inside cover

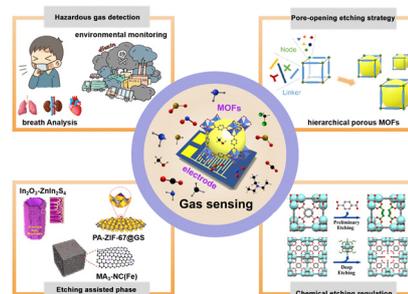
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REVIEWS

3653

Etching strategies induced multihierarchical structures of MOFs and their derivatives for gas sensing applications: a review

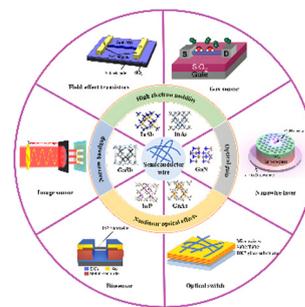
Zhuo Liu, He Lv and Yan Xu*



3669

III–V semiconductor wires for optical switches in solid-state lasers

Linlu Qiu, Yifan Zhao, Jieyu Jiang, Fei Lou,* Shuaiyi Zhang, He Yang, Baitao Zhang, Xia Wang and Jingliang He



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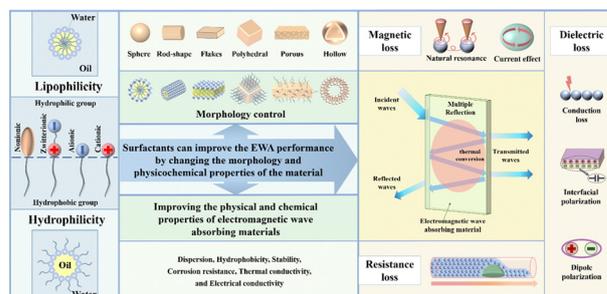
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REVIEWS

3689

Research progress on the application of surfactants in superior electromagnetic wave absorbers

Zhengtang Su, Chao Chen, Yuhang Long, Gang Chen,*
Wei Cai,* Rongli Gao and Fei Chen

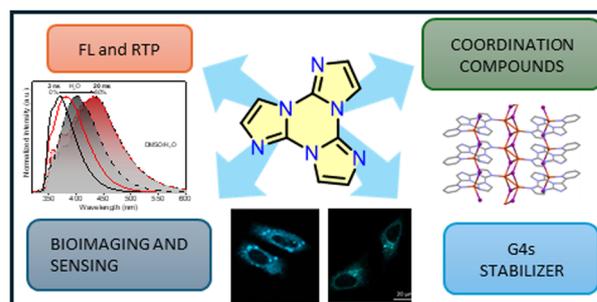


PERSPECTIVE

3721

The intriguing case of cyclic triimidazole: an emerging scaffold for the preparation of multiemissive, bio-medical and hybrid inorganic-organic materials

Alessandra Forni, Daniele Malpicci, Daniele Maver,
Elena Lucenti and Elena Cariati*

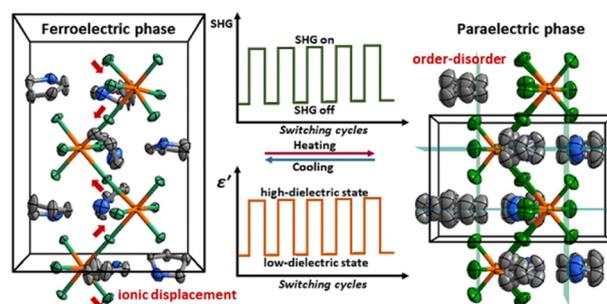


COMMUNICATION

3759

A one-dimensional organic-inorganic hybrid ferroelectric exhibiting a dielectric-optical duple switch

Qian-Jun Gu, Yu-Qiao Tong, Shi-Qing Yin, Ping Wang,
Peng-Peng Gong, Ya-Juan Li, Yue Fang, Yang Zhao and
Bo Huang*

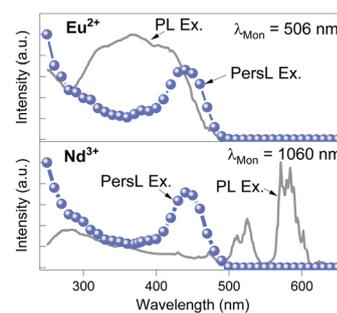


PAPERS

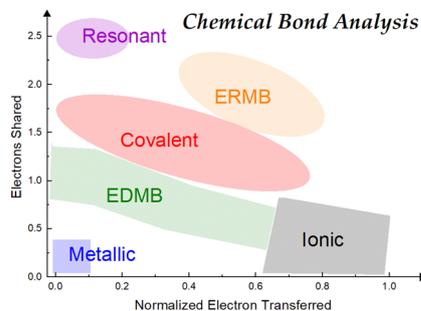
3764

Revisiting the SrAl₂O₄:Eu²⁺,Nd³⁺ persistent phosphor

Rola Kuban, Yafei Chen* and Zhengwei Pan*



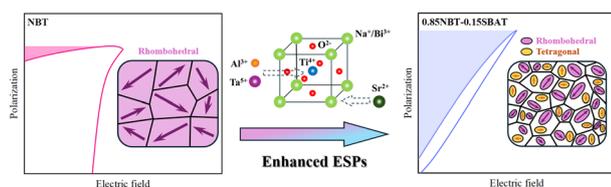
3774



A unified theory of electron-rich and electron-deficient multicenter bonds in molecules and solids: a change of paradigms

H. H. Osman,* P. Rodríguez-Hernández, A. Muñoz and F. J. Manjón*

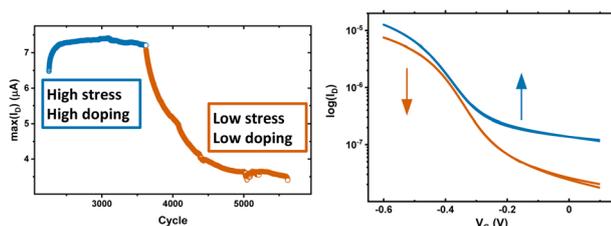
3804



Enhanced energy storage performances under low electric fields in $(1 - x) \text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3 - x\text{Sr}_{0.7}\text{Bi}_{0.2}(\text{Al}_{0.5}\text{Ta}_{0.5})\text{O}_3$ relaxor ferroelectric ceramics: impact of $\text{Sr}_{0.7}\text{Bi}_{0.2}(\text{Al}_{0.5}\text{Ta}_{0.5})\text{O}_3$ on structure and electrical properties

Jiangnan Hu, Xiangping Jiang,* Chao Chen, Na Tu, Xin Nie, Chong Zhao, Dandan Wei, Canxu Zheng, Jialin Gu, Qian Yuan and Xiaokun Huang*

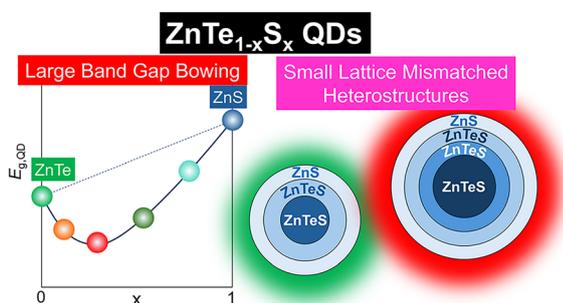
3815



Reversible stress-induced doping and charge trap generation in IDT-BT EGOFETs

Axel Luukkonen, Jonas Jern, Qiao He, Martin Heeney and Ronald Österbacka*

3825



Design of low-lattice-mismatch type-I heterostructures of zinc chalcogenide and synthesis of ZnTeS quantum dots as key materials for realizing green and red emission

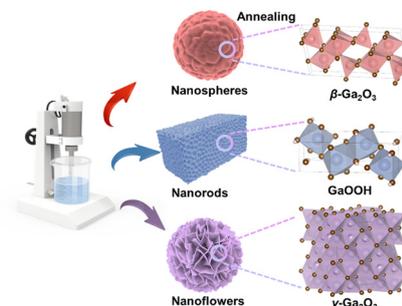
Rantaro Matsuo, Masao Kita, Satoshi Tsukuda* and Takahisa Omata*



3836

Ultrasonication-assisted synthesis of morphology-controlled gallium oxide nanoparticles for high-performance photoelectronic device applications

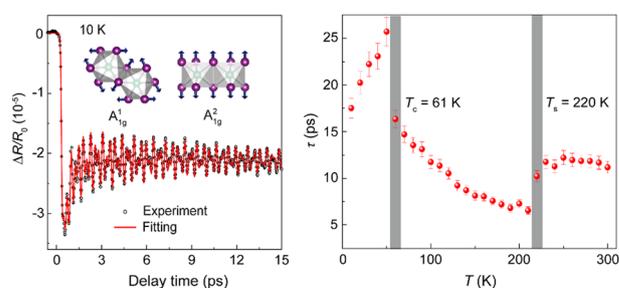
Donghui Yang, Haishuang Hu, Yizhou Ni, Shiwei Chen, Chao Wu,* Kai Chen, Fengmin Wu, Shunli Wang and Daoyou Guo*



3846

Ultrafast carrier and coherent phonon dynamics in van der Waals ferromagnet CrI₃

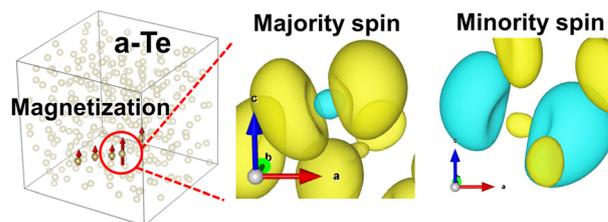
Chunyang Gou, Junyuan Zhang, Yang Mi* and S. N. Luo



3854

Intrinsic magnetism in semiconducting bulk amorphous tellurium

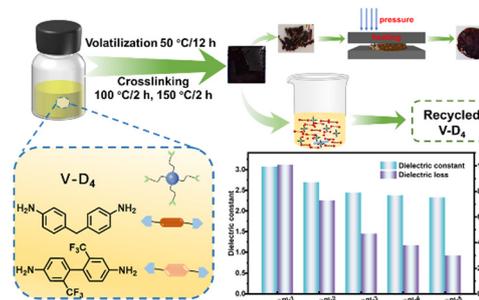
Jongchan Kim, Myung Mo Sung and Kyeongjae Cho*



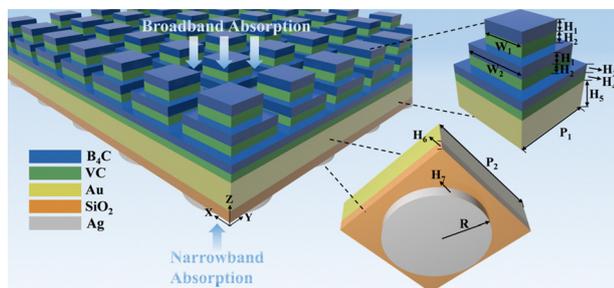
3860

Vanillin-grafted organosilicon backbone polyimide resins with low dielectric, reprocessing and monomer recovery properties

Guoming Yuan, Hui Yang, Zhijun Liu, Yuemiao Zhang, Yanhan Tao, Bo Yang, Kun Wu,* Jun Shi and Li Yang



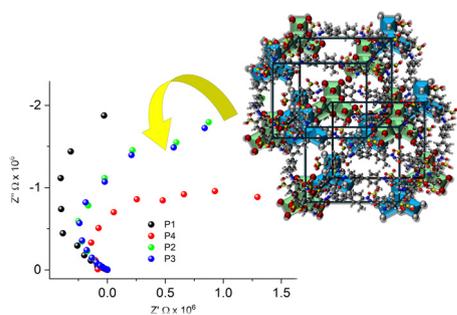
3872



Analysis of solar harvesting and refractive index sensing of multifunctional metamaterial perfect absorbers based on Ag discs and B₄C–VC cube films

Jiaying Jiang, Yingting Yi, Tangyou Sun, Qianju Song, Zao Yi,* Chaojun Tang, Qingdong Zeng, Zhimin Liu and Pinghui Wu

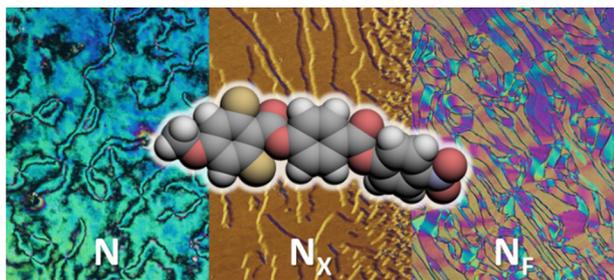
3886



Mixed metal conductive MOFs constructed from Trypan blue linked metal nodes: characteristic features and electrochemical performance

Shubhangi Shukla, Naveen Narasimhachar Joshi, Sachin Kadian, Siba Sundar Sahoo and Roger J. Narayan*

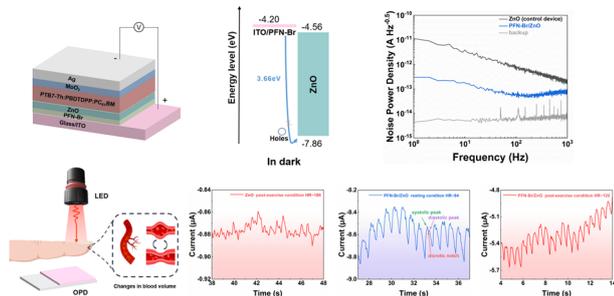
3902



The role of fluorine substituents in the formation of the ferroelectric nematic phase

Ewan Cruickshank,* Rebecca Walker, Grant J. Strachan, Ewa Górecka, Damian Pocięcha, John M. D. Storey and Corrie T. Imrie

3917



High detectivity ternary near-infrared organic photodetectors based on double electron transport layer for health monitoring

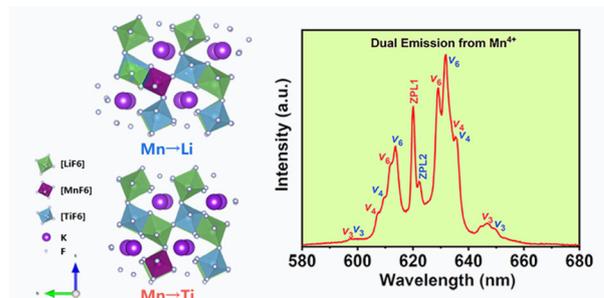
Jingchong Liang, Honglin Wang, Zhangmin Yin, Mengwei Jia, Minghao Wang, Dawei Yan, Xiaoya Hou* and Jie Zhang



3927

Enhanced chromaticity and dual emission in double-site Mn⁴⁺-activated KLiTiF₆ red phosphors for wide color gamut displays

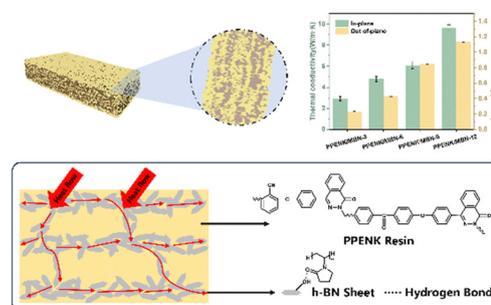
Zifan Shao, Qikai Yang, Qihao Li, Jianye Yan, Yuehua Chen, Haolin Xu, Wenjing Zhong, Cailing Liu, Yayun Zhou,* Tingting Deng* and Zhengliang Wang*



3936

Research on high thermal conductivity PPENK/PVP modified BN electrospinning hot-pressed multifunctional nanocomposite films

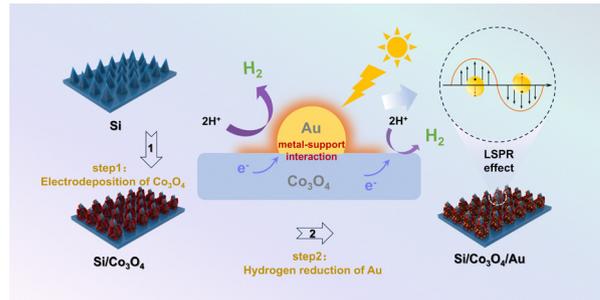
Jingyi Wang, Lishuai Zong, Yuhang Wang, Zichun Ding, Runze Liu, Jinyan Wang, Xigao Jian and Chenghao Wang*



3944

The Au nanoparticle-induced localized surface plasmon resonance effect and synergistic catalytic sites in Au/Co₃O₄/Si pyramid arrays for photoelectrochemical hydrogen evolution

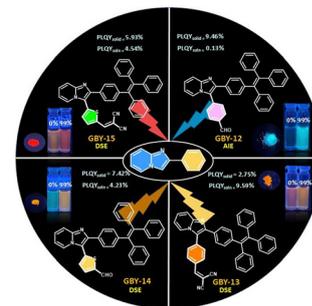
Yu Wang, Chenyu Yan, Honggui Wang and Ya Zhang*



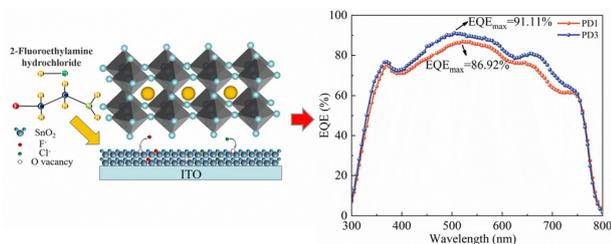
3955

Engineering of imidazo[1,2-a]pyridine into multifunctional dual-state emissive (DSE) luminogens for hydrazine sensing and cell-imaging

Gauravi Yashwantrao, Prajakta Gosavi, Vaishnavi Naik, Monalisha Debnath, Saona Seth, Purav Badani, Rohit Srivastava and Satyajit Saha*



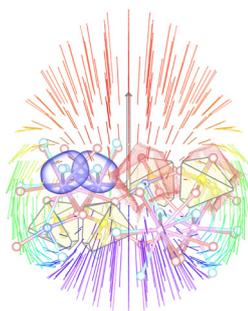
3969



Defect passivation of SnO₂ doped with 2-FN for high-performance perovskite detectors

Zuhuan Lu, Yukun Wang,* Jing Zhang, Xujianeng Du and Wenhong Sun*

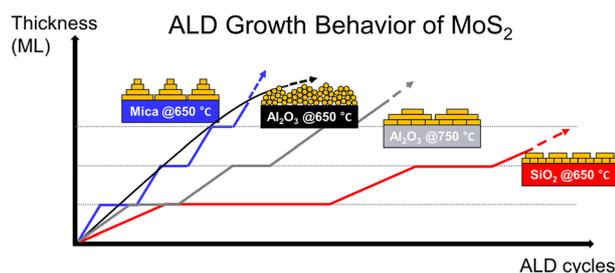
3978



Evaluation of microscopic origins of optical responses: based on rigorous atomic space tessellating

Yang Chi*

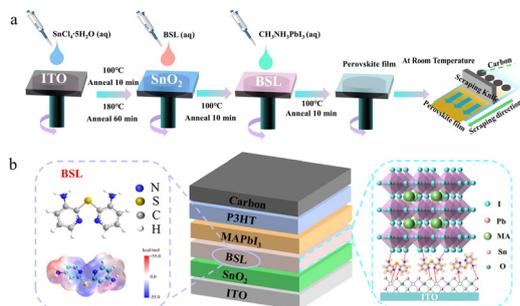
3988



Unraveling the influence of substrate surface and temperature on microstructural evolution of crystalline MoS₂ in atomic layer deposition

Seung Ho Ryu and Seong Keun Kim*

3996



Buried interface passivation with bis(3-aminopyrid-2-yl) sulfide for carbon-based perovskite solar cells

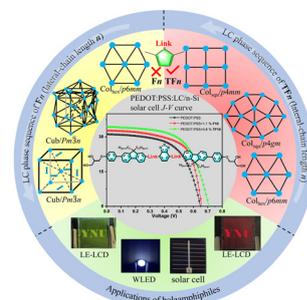
Jiating Wang, Xinrui Gao, Yingjia Zhuansun, Decai Zhu, Jie Liu, Long Tang* and Qingbo Wei*



4006

9,9-Dialkylfluorene-*alt*-benzothiadiazole-based bolaamphiphiles with the formation of complex self-assembled liquid-crystalline phases of a cubic A15 network and Col_{sq}/*p4gm* at the triangle–square transition

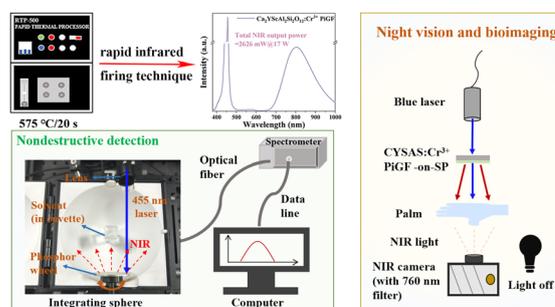
Shibo Chen, Haixia Wu, Zilong Guo, Qingqing Han, Jiaming Liu, Yu Yang* and Xiaohong Cheng*



4020

Ca₂YScAl₂Si₂O₁₂:Cr³⁺ phosphor-in-glass film for laser-driven high-power near-infrared lighting

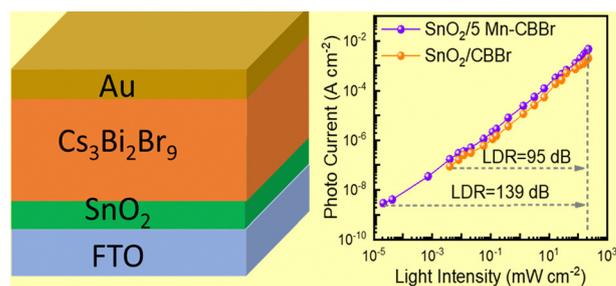
Yi Lin, Gaoming Dong, Hang Lin,* Bo Wang, Pengfei Wang, Ju Xu, Yao Cheng, Yan Xiong and Yuansheng Wang*



4031

High photodetector responsivity and weak light detection in a manganese doped lead-free low dimensional perovskite

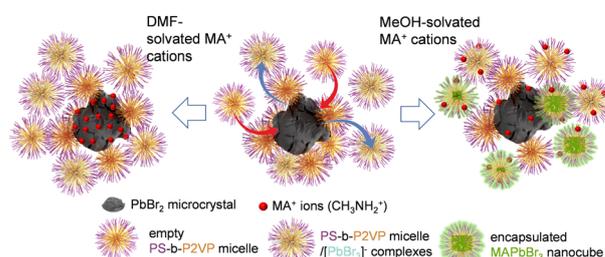
James Harry Martin, Zhirong Liu, Muhammed P. U. Haris, Luis Lezama, Mingkui Wang,* Shahzada Ahmad* and Samrana Kazim*



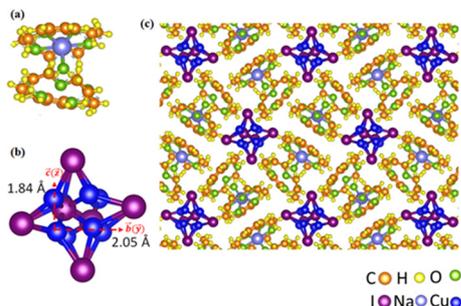
4039

Room-temperature synthesis of highly luminescent methylammonium lead bromide nanocubes encapsulated in block copolymer micelles: impact of solvent choice on crystallization and stability

Belda Amelia Junisu, Ya-Sen Sun* and Bo-Cheng Zhao



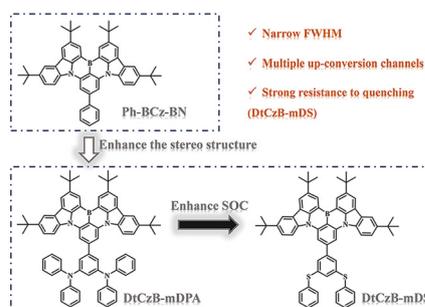
4055



Ultra broadband yellow emitting lead-free metal halide perovskite like compounds with near-unity emission quantum yields

Sayed Ali Khan,* Noor Zamin Khan, Jahangeer Ahmed, Marcin Runowski, Saad M Alshehri, Simeon Agathopoulos, Simon J. Teat and Jing Li*

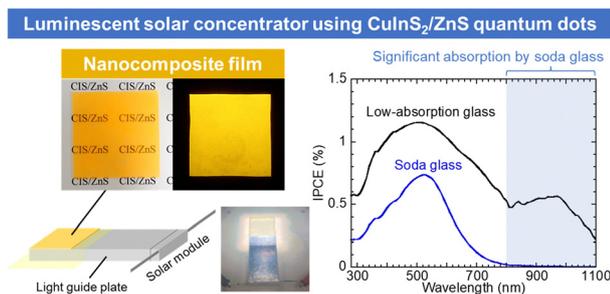
4069



Enhancing the stereo structure *via* bulky peripheral groups to improve resistance to concentration quenching in OLEDs

Haotian Yue, Yongxing Tian, Shan Huang, Hanrui Su, Hongbo Shao, Qiang Zhang, Runda Guo* and Lei Wang

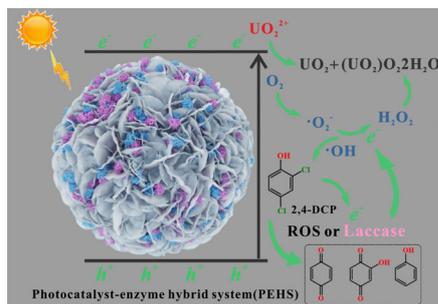
4078



Fabrication of $\text{CuInS}_2/\text{ZnS}$ quantum dot nanocomposite films and investigation of their influence on performance of soda glass-based luminescent solar concentrators

Yu Imakiire, Yoshiki Iso* and Tetsuhiko Isobe*

4089



Immobilization of laccase on different functional groups and degree of conjugation modified COFs for simultaneous photochemical-enzymatic removal of 2,4-dichlorophenol and uranium (U(VI))

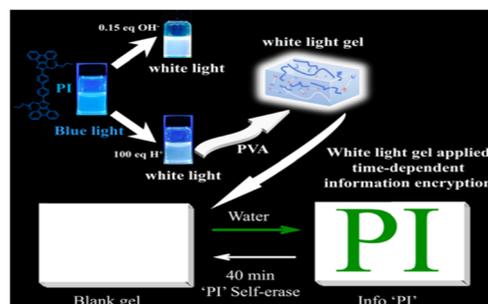
Xin Zhong,* Zhehong Ji, Qian Ling, Lifu Sun and Baowei Hu



4104

Dual-channel regulation of a single white-light-emitting compound and its application in time-dependent information encryption

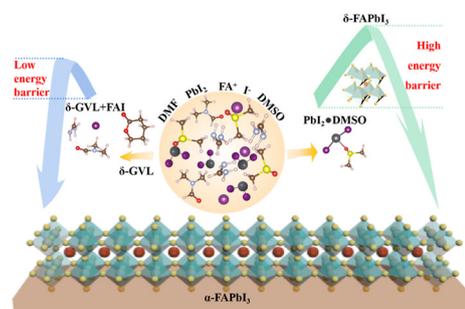
Yuehua Liang, Jiuzhi Wei, Juan Zhang, Tingting Zhang, Caiyuan Guo, Yanyan Li, Xinxian Ma,* Minghua Liu* and Yun Yan*



4112

Equilibrating bonding energy between solvent and solute for optimized crystallization enables efficient perovskite solar cells

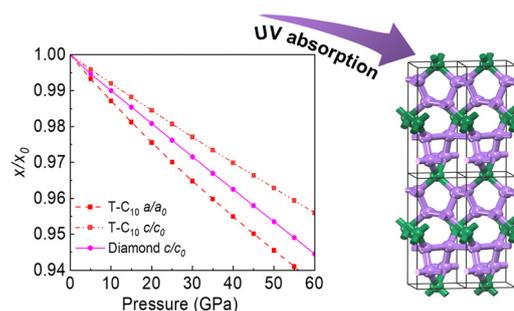
Hanzhi Zhang, Weihui Bi, Jin Wang,* Peng Mao, Jun Lv, Shen Xing, Po-Chuan Yang, Guangtong Hai, Gaorong Han and Yufei Zhong*



4119

A superhard and superdense carbon allotrope with all-sp³ bonded helical chains of five-membered rings

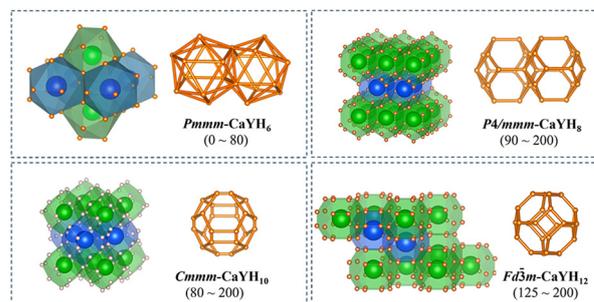
Yuan Tang, Meng Hu,* Wenyuan Zhang, Jiwei Pang, Mengdong Ma, Penghui Li, Julong He and Jianning Ding



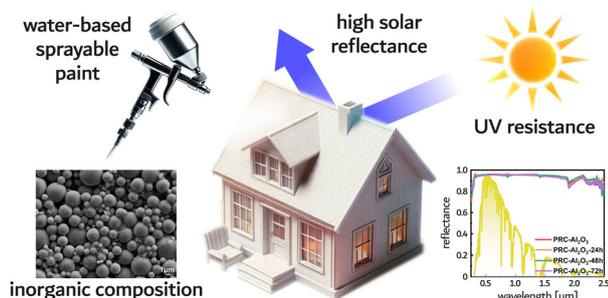
4128

Prediction of pressure-induced superconductivity in the ternary systems CaYH_{2n} (n = 3–6) at moderate pressures

Jinghong Zhao, Bole Chen, Shichang Li,* Ying Chang, Xu Yang, Mingyu Chen and Dengfeng Li*



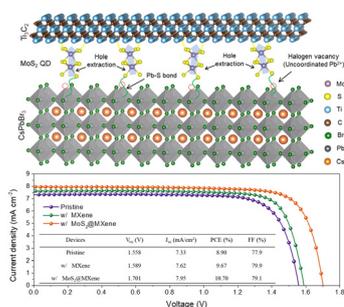
4137



An inorganic water-based paint for high-durability passive radiative cooling

Siyuan Li, Xianglin Zhang, Yanfei Yang, Xin Li, Hongbo Xu, Juyan Zhao,* Lorenzo Pattelli,* Lei Pan,* Jiupeng Zhao and Yao Li*

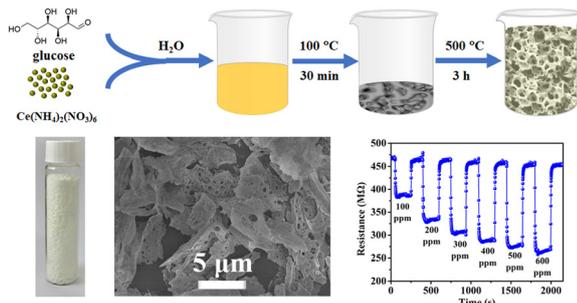
4145



Boosting charge transfer with MoS₂-grafted MXene interlayers for high-efficiency all-inorganic CsPbBr₃ perovskite solar cells with an ultrahigh voltage of 1.701 V

Qingwei Zhou,* Hansheng Li, Fan Wu, Dan Chen, Fang Luo, Chucai Guo* and Zhihong Zhu

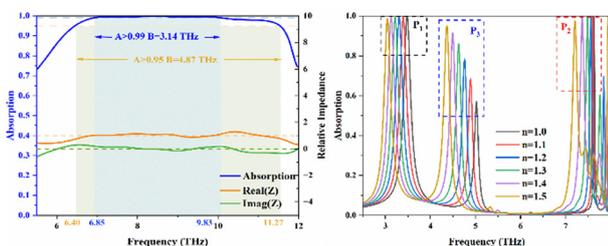
4153



A bubble-templating strategy to construct CeO₂ aerogels and their potential application for fast detection of acetone

Sen Liu, Liang Zhao, Chengchao Yu, Yunpeng Xing, Hongda Zhang, Sihao Zhi, Teng Fei, Haiyan Zhang* and Tong Zhang*

4160



A bifunctional tunable terahertz absorber based on a Fabry-Perot cavity: enabling broadband perfect absorption and refractive index sensing

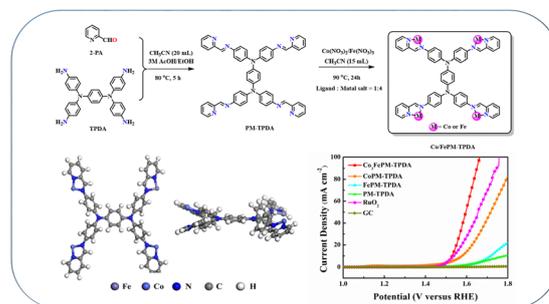
Jiaran Xiong, Chao Li,* Dong Wang, Song Gao, Yue Che, Guozheng Wu and Mingyuan Guo



4170

Big pyridyl Schiff base π -conjugated skeleton based cobalt/iron metal complexes: bimetallic electrocatalysts for the oxygen evolution reaction

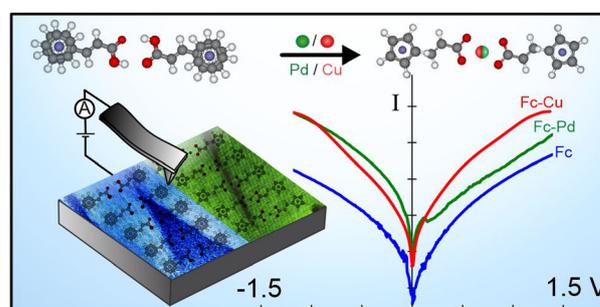
Yuwei Dong, Mingyu Wu, Yu Ren, Zhou Yu* and Zhen Zhao*



4180

Enhancing the electronic-coupling and conductivity of a monolayer film of ferrocenyl molecules by Pd and Cu doping

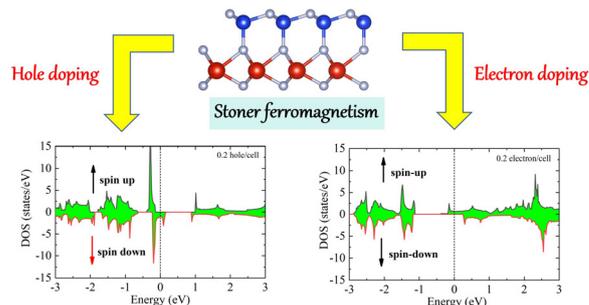
Sunny M. P. Gautam, Himani Malik, Vikash Meghwal, Sruthi Manoharan, Vinithra Gurunaryanan, Ramesh Ramapanicker and Thiruvancheril G. Gopakumar*



4191

Two-dimensional multiferroicity and half-metallicity of the carrier-doped 2H-VSiN₃ monolayer

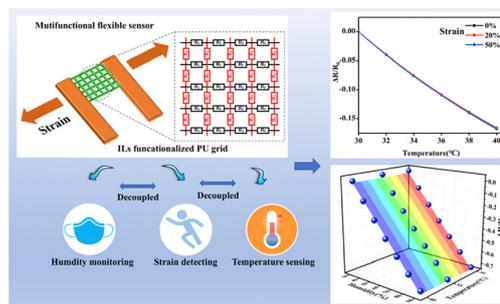
Long Gong, Ming-Yang Liu,* Yao He and Kai Xiong



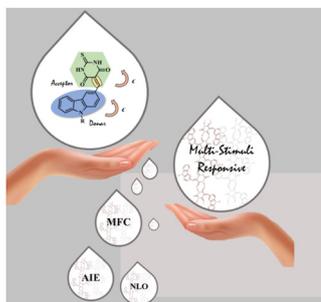
4203

Topologically structured sensors with high linearity and dual-sensing signal decoupling

Huanyu Liu, Chengkai Luo, Yunhui Wu* and Xinxing Zhang



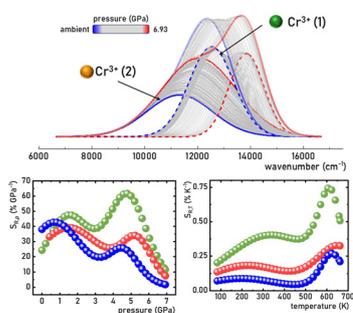
4213



Bend, don't break: exploring the mechanochromic, AIE and nonlinear optical properties of carbazole-thiobarbituric acid hybrids

Meema Rasheed, R. Lakshmi, Parvathy O.C., Shandev P.P., Pramod Gopinath* and Narayanapillai Manoj*

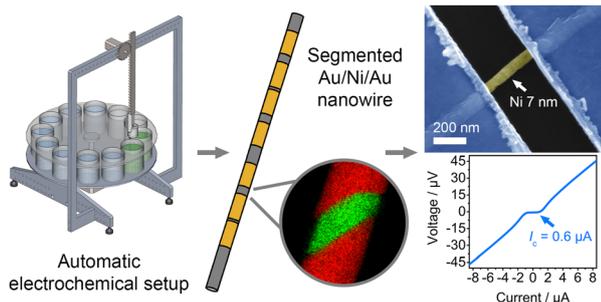
4224



Highly sensitive ratiometric luminescence manometers based on the multisite emission of Cr³⁺

M. Szymczak, W. M. Piotrowski, U. R. Rodriguez-Mendoza, P. Wozny, M. Runowski and L. Marciniak*

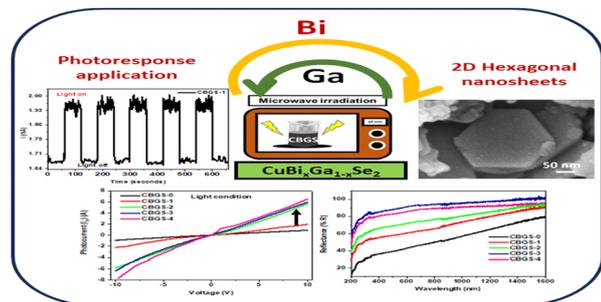
4236



Automated manufacturing of segmented nanowires with thin ferromagnetic layers: a step towards miniature SFS Josephson junctions

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4246



2D hexagonal CuBi_xGa_{1-x}Se₂ nanosheets for a visible light photodetector

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