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Journal of Materials Chemistry C

Materials for optical, magnetic and electronic devices

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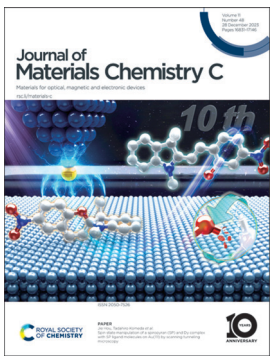

Cover
See Jie Hou, Tadahiro Komeda *et al.*, pp. 16933–16940. Image reproduced by permission of Jie Hou from *J. Mater. Chem. C*, 2023, **11**, 16933.

REVIEWS

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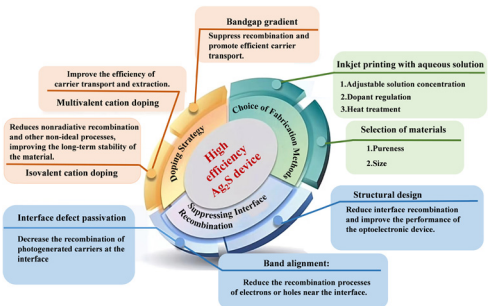
Silver sulfide thin film solar cells: materials, fabrication methods, devices, and challenges

Weiwei Dong, Junjie Fu,* Jin Yang, Shu Ren, Haonan Zhu, Yusen Wang, Jianchao Hao, Yange Zhang and Zhi Zheng*



16859

Recent progress of organic fluorescent molecules for bioimaging applications: cancer-relevant biomarkers

Chun Zhang, Yi-Tao Sun, Suya Gan, Aimin Ren, Slieman Milaneh, Da-Jun Xiang* and Wen-Long Wang*

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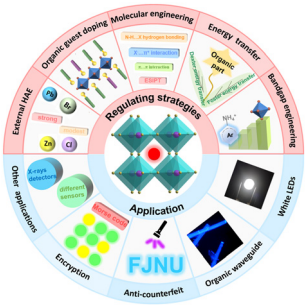
REVIEWS

16890

Regulation and application of organic luminescence from low-dimensional organic–inorganic hybrid metal halides

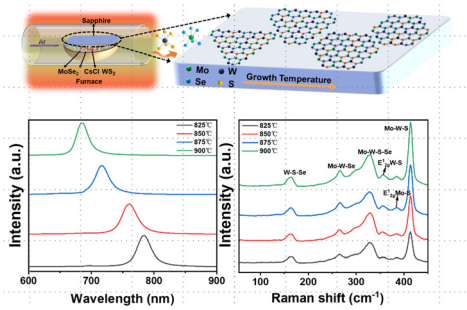
Shanshan Gao, Shuaiqi Wang, Junyan Wu* and Zhenghuan Lin*



16912

Synthesis of millimeter-sized $Mo_xW_{(1-x)}S_{2y}Se_{2(1-y)}$ monolayer alloys with adjustable optical and electrical properties and their magnetic doping

You Li, Yiwen Wang, Sabir Hussain, Liming Xie and Junjie Qi*

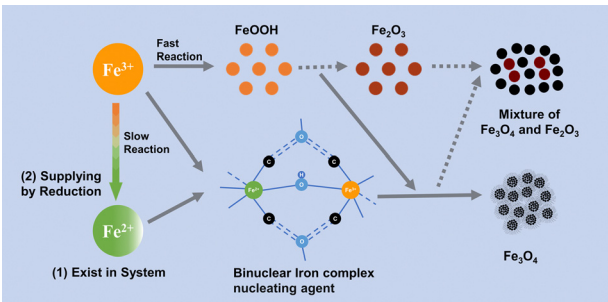


COMMUNICATIONS

16922

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*



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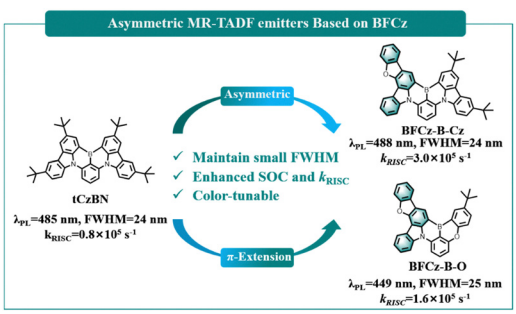
Asymmetric strategy based on 5*H*-benzofuro-[3,2-*c*]carbazole enables efficient narrowband multi-resonance thermally activated delayed fluorescence emitters

Xiangan Song, Shaogang Shen, Shengnan Zou, Fengyun Guo, Shiyong Gao, Ying Wang* and Yong Zhang*



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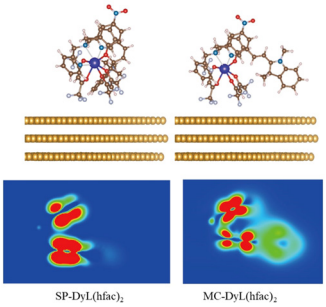

Spin state manipulation of a spiropyran (SP) and Dy complex with SP ligand molecules on Au(111) by scanning tunneling microscopy

Jie Hou,* Dongzhe Li, Lucie Norel, Stéphane Rigaut, Zhipeng Wang, Lei Shan and Tadahiro Komeda*

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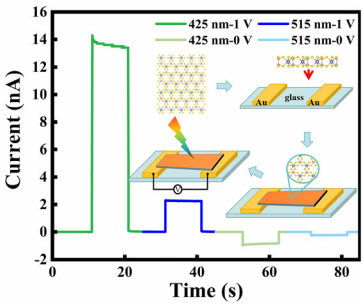

A high-performance self-powered photodetector based on SnP_2S_6 in the visible light region

Shuxian Wang, Jiaming Song,* Linghao Zong, Juanjuan Yang, Bingda Li, Feng Teng, Peng Hu, Haibo Fan and Xin Zhao

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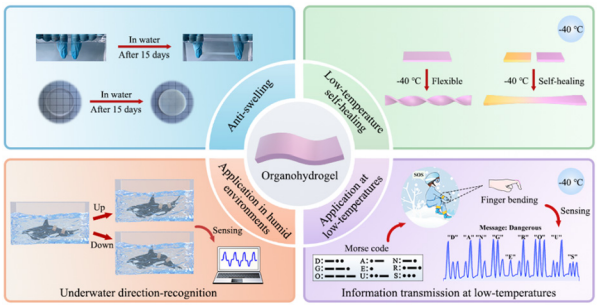

A wet-resistant and low-temperature self-healing organohydrogel sensor towards direction-recognition and information transmission in extreme environments

Enke Feng,* Xiaoqin Li, Mengzhen Zhang, Ying Li and Dailian Wang*

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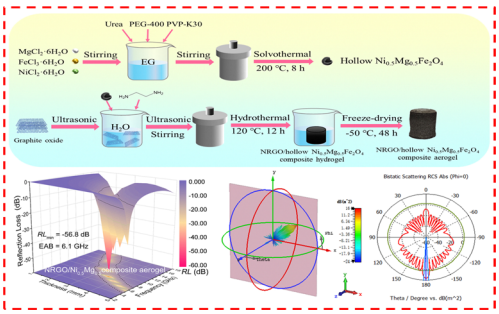

Construction of a hollow nickel–magnesium ferrite decorated nitrogen-doped reduced graphene oxide composite aerogel for highly efficient and broadband microwave absorption

Ruiwen Shu,* Leilei Xu and Ziwei Zhao

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PAPERS

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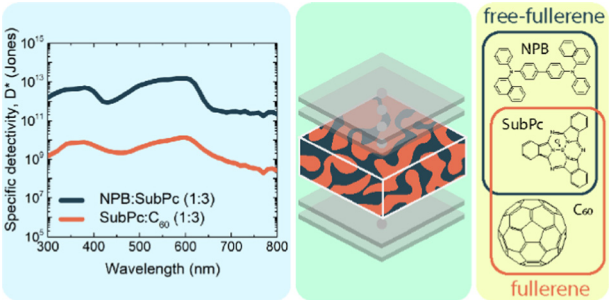
Vacuum-deposited organic photodetectors utilizing non-fullerene acceptors for enhanced detectivity in the green visible light spectrum

M Rivaldi Ali Septian, Richie Estrada, Chih-Chien Lee, Chih-Hsin Chen, Johan Iskandar, Nurul Ridho Al Amin, Abdul Khalik Akbar, Kasimayan Uma and Shun-Wei Liu*



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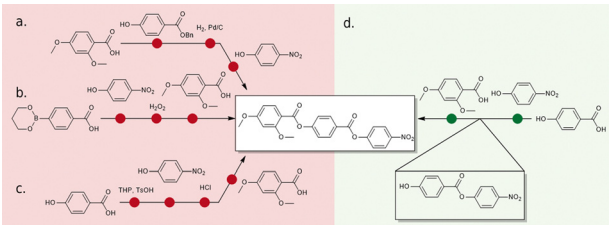
New RM734-like fluid ferroelectrics enabled through a simplified protecting group free synthesis

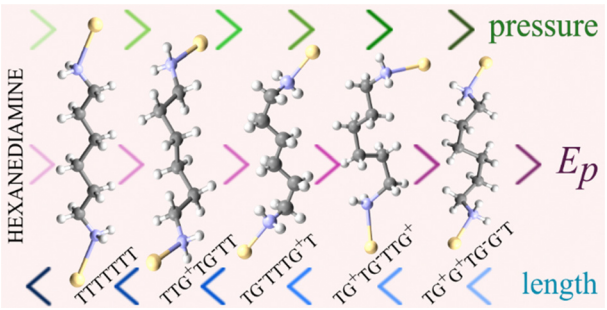
Calum J. Gibb* and Richard J. Mandle



16992

Engineering anomalous elastic properties of coordination polymers and their amorphization by employing flexible linkers

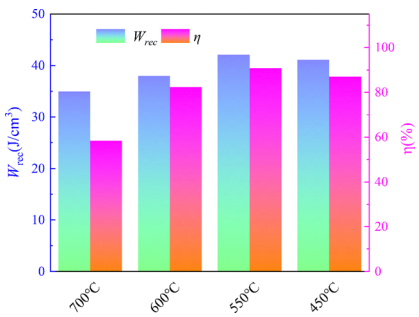
Aleksandra Półrolniczak, Szymon Sobczak and Andrzej Katrusiak*



17003

Improved energy storage performance in flexible (PbLa)ZrO_3 thin films *via* nanocrystalline engineering

Chao Yin, Tiandong Zhang,* Changhai Zhang, Chang Kyu Jeong, Geon-Tae Hwang and Qingguo Chi*



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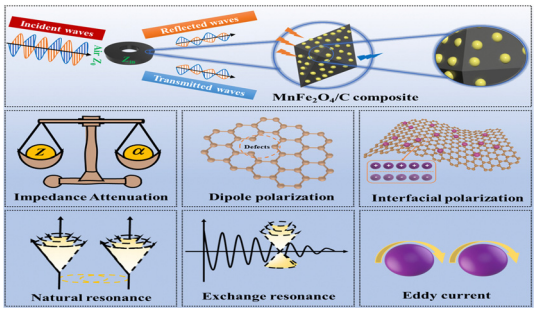
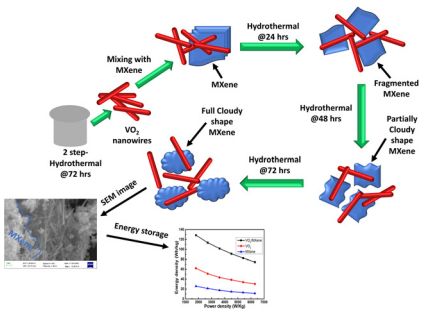


Fabrication of iron manganese metal–organic framework derived magnetic $MnFe_2O_4$/C composites for broadband and highly efficient electromagnetic wave absorption

Ruiwen Shu,* Jinling Zhang, Shuai Liu and Zaigang Luo

17022



Blending of a 3D cloud-like morphology with a 1D structure in a VO_2/MXene nanocomposite to enhance the charge storage capability

Niraj Kumar,* M. N. M. Ansari, Sanjay Upadhyay,* Vikash Gajraj, Chetana S., Naveen Chandra Joshi, Surajudeen Sikiru and Arijit Sen*

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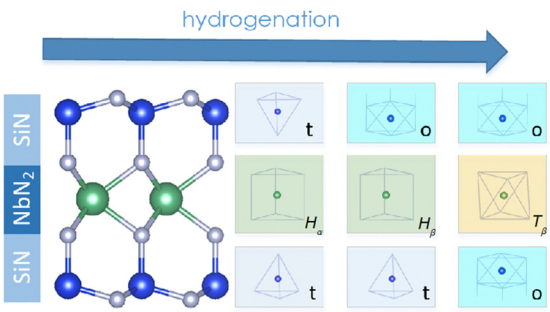

Tunable structural phases and electronic properties of group V MSi_2N_4 (M = V, Nb, Ta) nanosheets *via* surface hydrogenation: a first-principles study

Yanli Wang* and Yi Ding*

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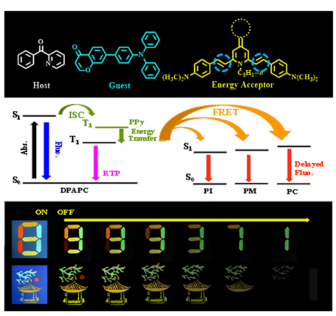

Three-component color-tunable room temperature afterglow doped materials through Förster-resonance energy transfer

Huaiying Huang, Yitian Jiang, Miaochang Liu,* Wenbo Dai, Yunxiang Lei, Yan Guan,* Qiuping Ding, Huayue Wu and Xiaobo Huang*

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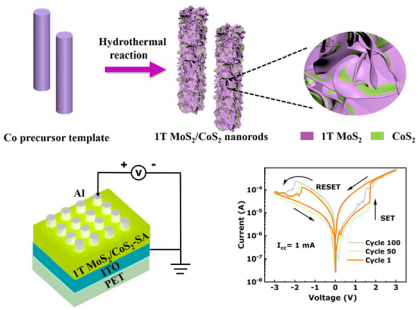
1T MoS_2/CoS_2 heterostructures enabling enhanced resistive switching behavior in sodium alginate-based flexible memristors

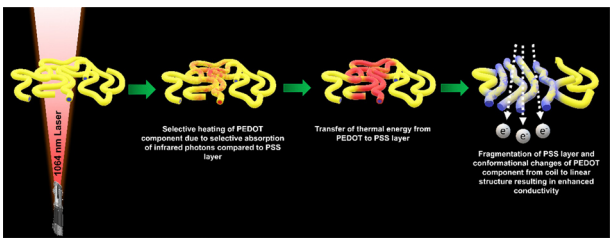
Zipan Jiao, Xiaoyan Lan, Xinglan Zhou, Kunjie Wang, Haoran Zong, Peng Zhang* and Benhua Xu*



17061

Interface engineering towards high conductivity of a model organic plastic micro-surface by microbubble lithography

Anand Dev Ranjan, Rakesh Sen, Rahul Vaippully, Sumeet Kumar, Soumya Dutta, Basudev Roy,* Goutam Dev Mukherjee, Soumyajit Roy* and Ayan Banerjee*



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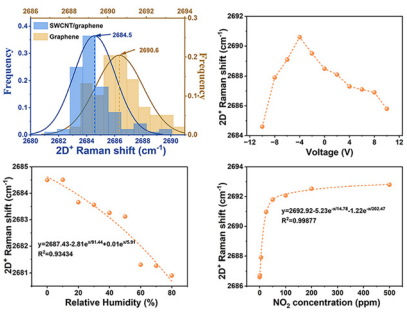
External condition-induced interfacial charge transfer in single-walled carbon nanotube/graphene van der Waals heterostructures

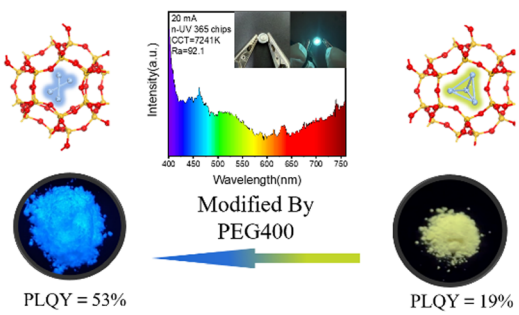
Huan Yin, Ruxuan Zhang, Tian Tian, Zhi Yang, Nantao Hu, Yafei Zhang and Yanjie Su*



17080

Emission-tunable silver clusters constrained within EMT zeolite

Jinping Yuan, Qianrui Li, Chunmei Yue, Na Wang, Peng Li* and Huanrong Li*



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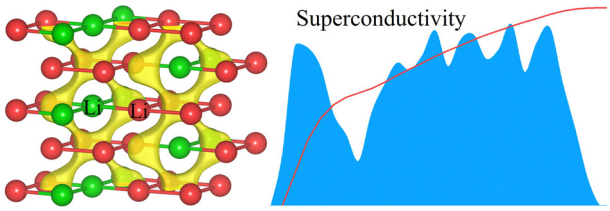
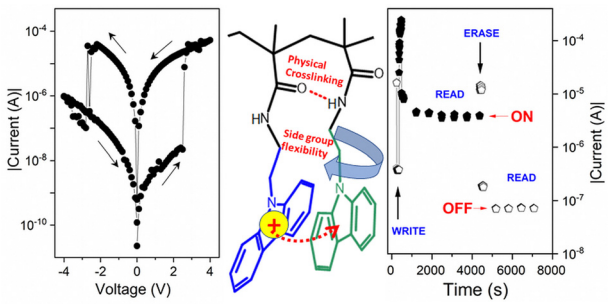


Superconducting $Li_{11}Sb_2$ electride at ambient pressure

Yaping Zhao, Jiayu Gao, Xiaohua Zhang,* Shicong Ding, Yong Liu and Guochun Yang*

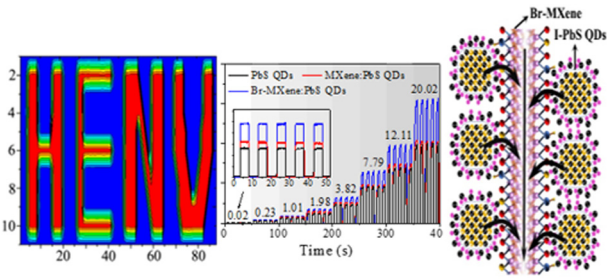
17093



Rewritable resistive memory effect in poly[*N*-(3-(9*H*-carbazol-9-yl)propyl)-methacrylamide] memristor

Yadu Ram Panthi, Jiří Pfleger,* Drahomír Výprachtický, Ambika Pandey, Muhammed Arshad Thottappali, Ivana Šeděnková, Magdalena Konefał and Stephen H. Foulger

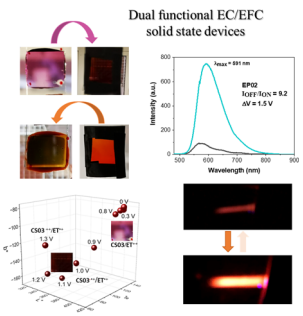
17106



A hybrid quantum dot:MXene bulk heterojunction for an efficient infrared self-powered photodetector

Junyi Huang, Jianfeng Ding, Furui Tan,* Yueyue Gao, Xiayao Lu, Chen Dong, Gentian Yue, Xiaobao Xu* and Liming Ding*

17115



Reversible vis-NIR electrochromic/electrofluorochromic switching in dual-functional devices modulated by different benzothiadiazole-arylamine anodic components

Giuseppina Anna Corrente,* Dora A. González, Ece Aktas, Agostina Lina Capodilupo, Francesco Ruighi, Gianluca Accorsi, Daniela Imbardelli, Cristina Rodriguez-Seco, Eugenia Martinez-Ferrero, Emilio Palomares and Amerigo Beneduci*

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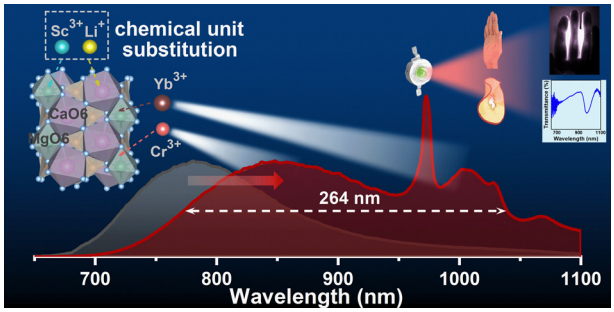
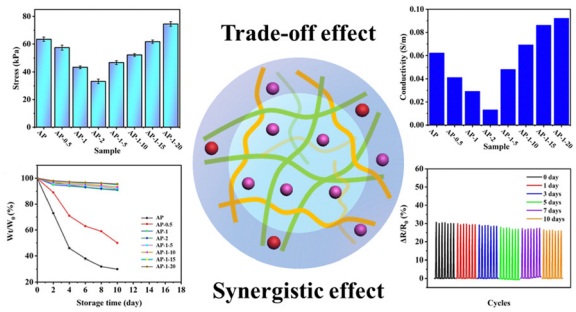
Ultra-broadening near-infrared emission of Cr^{3+}-activated pyroxene phosphors *via* chemical unit substitution and Yb^{3+} co-doping

Shuofeng Sun, Yuming Yang, Renfei Zhang, Qinan Mao,* Lang Pei, Junhua Xi, Yang Ding, Yiwen Zhu, Hua Yu and Jiasong Zhong*



17136

Skin-inspired environment-tolerant organohydrogel sensors with balanced mechanical and electrical properties for human motion and physiological signal monitoring

Wenshuai Zhang, Lingxiao Xu,* Cui Lv, Peipei Sun* and Lei Shi*