

Journal of Materials Chemistry C

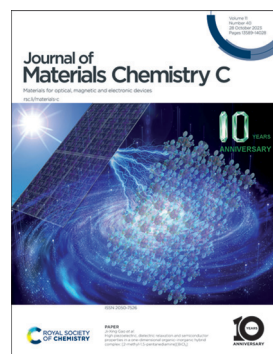
Materials for optical, magnetic and electronic devices

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Cover

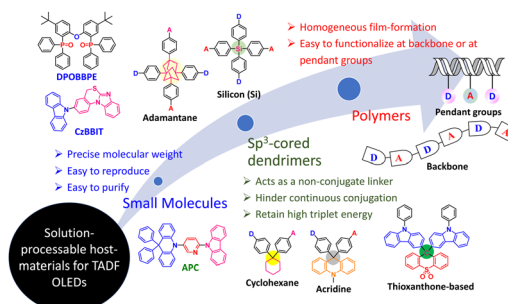
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REVIEWS

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Recent endeavors and perspectives in developing solution-processable host materials for thermally activated delayed fluorescence organic light-emitting diodes

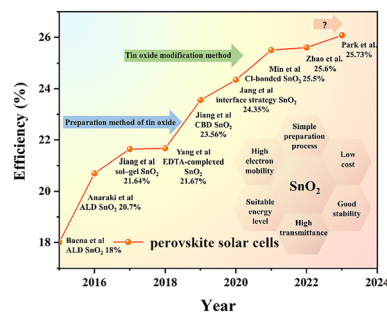
Purusottam Reddy Bommireddy,
Chandra Sekhar Musalikunta, Young-Woong Lee,
Youngsuk Suh, Mallesham Godumala* and Si-Hyun Park*



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Robust electron transport layers of SnO₂ for efficient perovskite solar cells: recent advances and perspectives

Bin Du,* Kun He, Gangqi Tian, Xiang Che and Lin Song*



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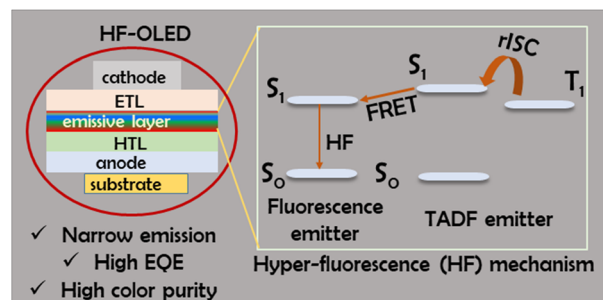


REVIEWS

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Emerging hyperfluorescent emitters for solid-state lighting

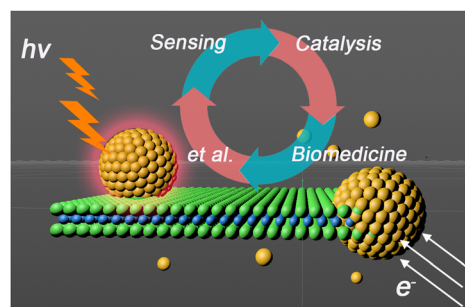
Santosh Kumar Behera* and Rubén D. Costa*



13657

Molybdenum disulfide nanostructures coupled with metal plasmonics for improved electronic and photonic performances

Na Zhang, Ying Jie Zheng, Liang Rui Zhu, Hao Lin Zou, Hong Qun Luo, Nian Bing Li and Bang Lin Li*

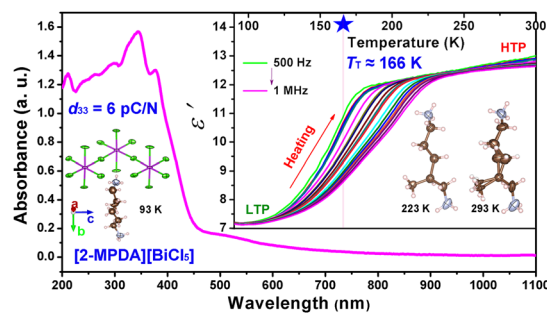


PAPERS

13675

High piezoelectric, dielectric relaxation and semiconductor properties in a one-dimensional organic–inorganic hybrid complex: [2-methyl-1,5-pentanediamine][BiCl₅]

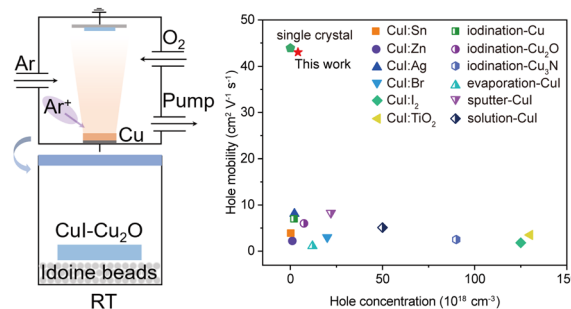
Zheng-Hui Hu, Xin-Yu Liu, Shu-Qi Sun, Chen Gong, Nuo Liu and Ji-Xing Gao*



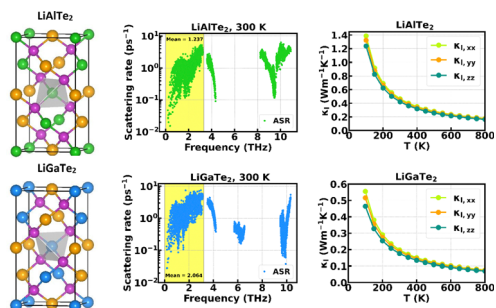
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High-performance p-type transparent conducting CuI–Cu₂O thin films with enhanced hole mobility, surface, and stability

Ruibin Xue, Gang Gao,* Lei Yang, Liangge Xu, Yumin Zhang* and Jiaqi Zhu



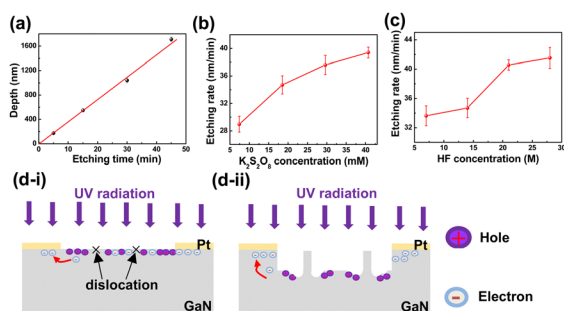
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Physical insights into the ultralow lattice thermal conductivity and high thermoelectric performance of bulk LiMTe_2 ($M = \text{Al, Ga}$)

Sampad Mandal and Pranab Sarkar*

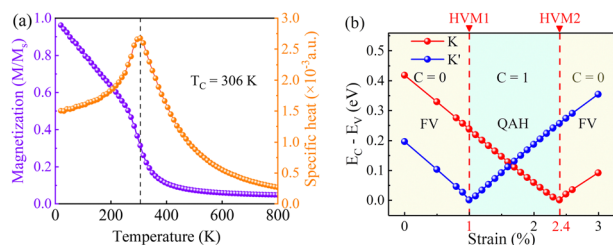
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Plasma-free metal-assisted chemical etching producing three-dimensional gallium nitride structures

Yikai Liao, You Jin Kim, Shu An and Munho Kim*

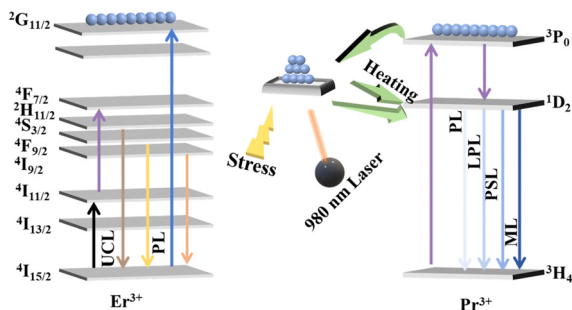
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Ferrovalley and topological phase transition behavior in monolayer $\text{Ru}(\text{OH})_2$

Yanzhao Wu, Li Deng, Junwei Tong, Xiang Yin, Fubo Tian, Gaowu Qin and Xianmin Zhang*

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Achieving dynamic quintuple-mode luminescence in $\text{Ca}_3\text{Ti}_2\text{O}_7:\text{Pr}^{3+}, \text{Er}^{3+}$ phosphor for anti-counterfeiting applications

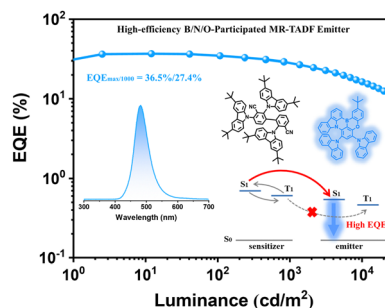
Jian Zhang, Xin You, Ting Wang,* Yiyu Cai, Chao Wang, Xin Li, Zhichao Liu, Heng Dai, Alexey Nikolaevich Yakovlev, Xuhui Xu and Jie Yu*



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B/N/O-participated multi-resonance TADF emitters by a simple peripheral decoration strategy enable high-efficiency electroluminescence with EQEs up to 36.5%

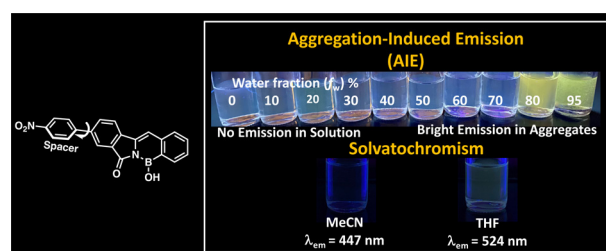
Yulin Xu, Jianmei Han, Nengquan Li,* Zhongyan Huang, Jingsheng Miao and Chuluo Yang*



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Solvatochromic and aggregation-induced emission active nitrophenyl-substituted pyrrolidinone-fused-1,2-azaborine with a pre-twisted molecular geometry

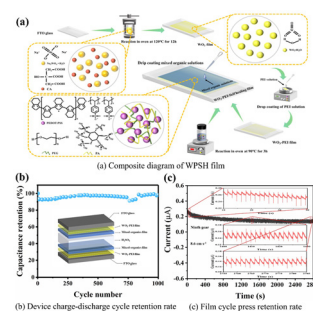
Albert D. Campbell Jr., Kaia Ellis, Lyric K. Gordon, Janiyah E. Riley, VuongVy Le, Kimberly K. Hollister, Stephen O. Ajagbe, Samer Gozem, Robert B. Hughley, Adeline M. Boswell, Ophelia Adjei-sah, Prioska D. Baruah, Ra'Nya Malone, Logan M. Whitt, Robert J. Gilliard Jr. and Carl Jacky Saint-Louis*



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Self-healing electrochromic energy storage devices based on PEDOT:PSS

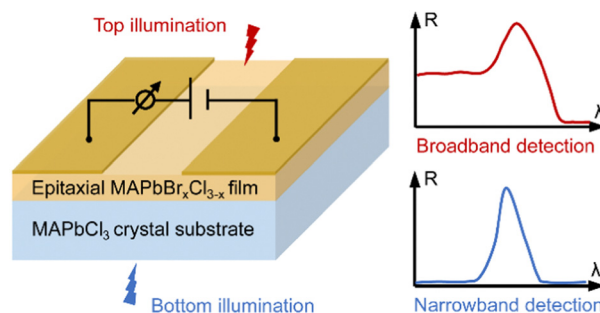
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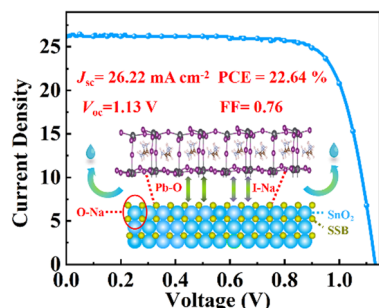
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Epitaxy growth of MAPbBr_xCl_{3-x} single-crystalline perovskite films toward spectral selective detection in both broadband and narrowband ranges

Yuzhu Pan, Xin Wang,* Yubing Xu, Shunjie Chai, Jie Wu, Zhiwei Zhao, Qing Li, Jun Wu, Jing Chen, Zhuoya Zhu, Byung Seong Bae, Omolola Esther Fayemi, Jianming Zhou, Ying Zhu and Wei Lei*



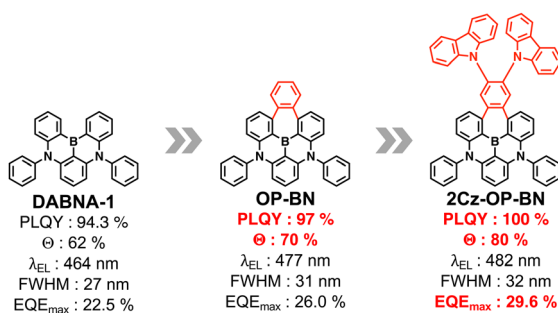
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Small molecule-incorporated SnO₂ layer for efficient perovskite solar cells

Xin Zhou, Rui Kong, Rong Liu,* Ying Liu,* Mao Liang,* Zhitao Shen, Fumin Li, Mengqi Jin, Dong Yang, Shengmin Wang, Huilin Li, Ruirui Cao and Chong Chen*

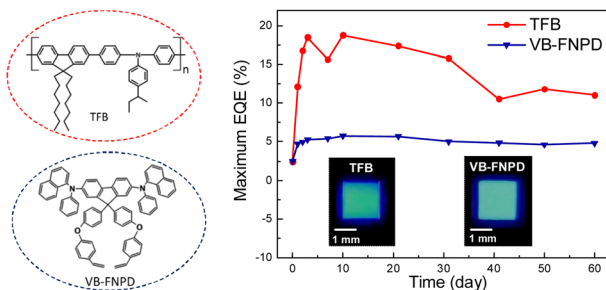
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Phenylene-bridged cyclic multi-resonance TADF emitters for high-efficiency and high-color-purity sky-blue OLEDs with EQE of 30%

Kengo Kumada, Hisahiro Sasabe,* Misaki Matsuya, Naoto Yoshida, Keigo Hoshi, Takeru Nakamura, Haruki Nemma and Junji Kido*

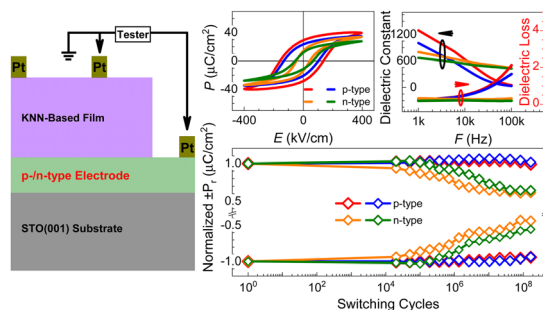
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Long-term spontaneous negative aging behavior of encapsulated blue quantum dot light emitting devices: the influence of the hole transport material

Junfei Chen,* Atefeh Ghorbani, Fatemeh Samaeifar, Peter Chun, Quan Lyu, Giovanni Cotella, Dandan Song, Zheng Xu and Hany Aziz

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Buffer electrode layers tuned electrical properties, fatigue behavior and phase transition of KNN-based lead-free ferroelectric films

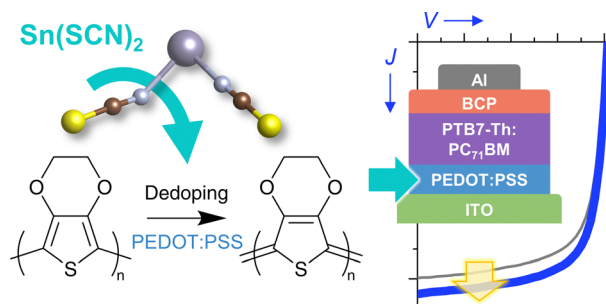
Liqiang Xu, Beibei Zhu, Song Dai, Kun Han, Pingfan Chen, Ke Wang, Zhen Huang,* Wenbin Wu and Feng Chen*



13803

Sn(SCN)₂ as an additive for improving the hole transport properties of PEDOT:PSS in organic photovoltaics

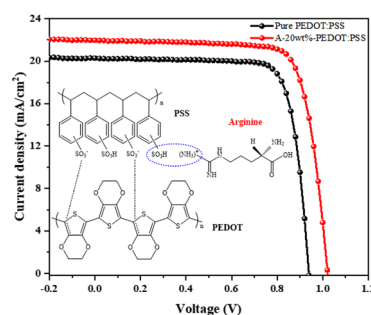
Jidapa Chaopaknam, Taweesak Sudyoadsuk, Vinich Promarak, Akinori Saeki and Pichaya Pattanasattayavong*



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Application of arginine-doped PEDOT:PSS as a hole transfer layer in perovskite solar cells

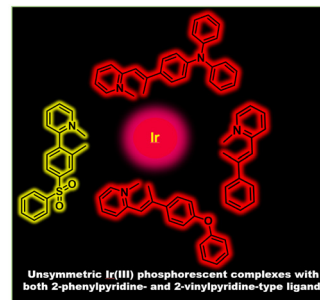
Yuanlin Yang, Yanqing Yao, Ying Li, Xusheng Zhao, Wan Cheng, Banghui Chen, Lijia Chen,* Ping Li* and Shuhui Tang



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Unsymmetric Ir(III) phosphorescent complexes with both 2-phenylpyridine(ppy)- and 2-vinylpyridine(vpy)-type ligands bearing functional groups and their optoelectronic properties

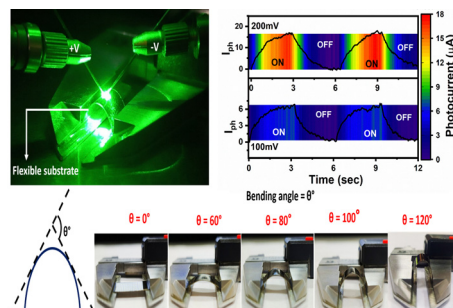
Siqi Liu, Zhao Feng, Hongyan Wang, Huaiteng Hang, Daokun Zhong, Xiaolong Yang, Yuanhui Sun, Bochao Su, Xianbin Xu, Zhen Feng, Guijiang Zhou* and Bo Jiao



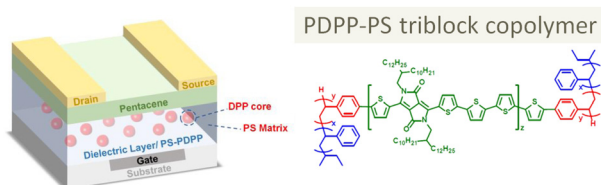
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Strain-induced photocurrent enhancement in thin films of topological insulators (Bi₂Te₃)

Animesh Pandey, Sanjay Sharma, Amit Kumar Gangwar, Mandeep Kaur, Preetam Singh and Sudhir Husale*



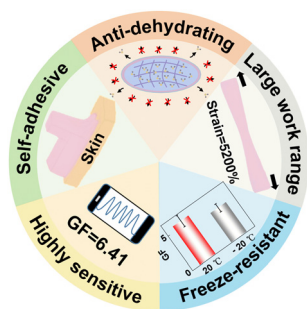
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Hydrophobic cross-linked nanoparticles comprising polystyrene and poly(thiophene-diketopyrrolopyrrole) segments for non-volatile memory applications

Yueh-Chun Huang, Tomoya Yahagi, Zi-En Chiang, Qun-Gao Chen, Wen-Ya Lee* and Tomoya Higashihara*

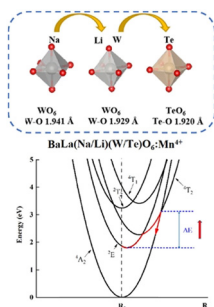
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Conductive hydrogels with core-shell structures to realize super-stretchable, highly sensitive, anti-dehydrating, non-freezing and self-adhesive capabilities

Wentang Wang, Xinyue Deng, Jinlong Lu and Chunhui Luo*

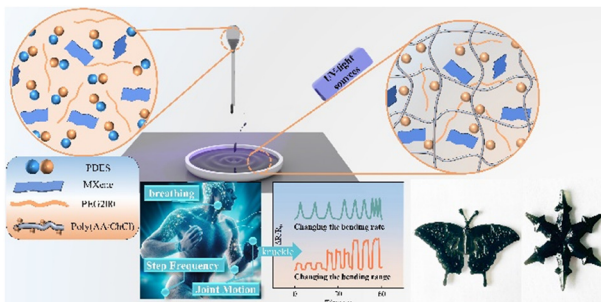
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Insights into luminescence thermal quenching of Mn⁴⁺-doped BaLa(Na/Li)(W/Te)O₆ double perovskite red phosphors

Mengyao Zhai, Qiufeng Shi,* Konstantin V. Ivanovskikh, Jianwei Qiao, Lei Wang, Haijie Guo, Ping Huang and Xiao-Jun Wang

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Dual conductive network sensors based on an MXene/PDES supramolecular elastomer and their performance

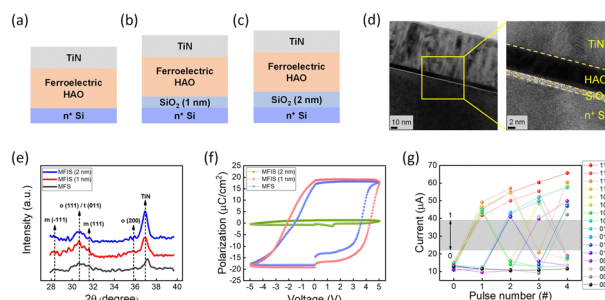
Haoze Yuan, Peixing Li, Xinyu Wang, Cheng Yu, Xin Wang and Jutao Sun*



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Effect of interfacial SiO₂ layer thickness on the memory performances in the HfAlO_x-based ferroelectric tunnel junction for a neuromorphic system

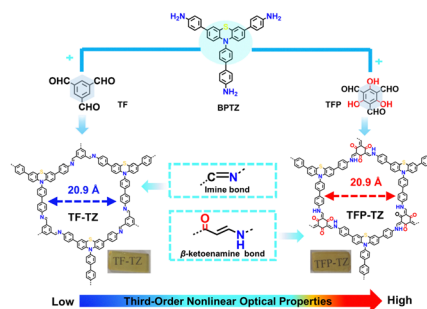
Yongjin Park, Jihyung Kim, Sunghun Kim, Dahye Kim, Wonbo Shim* and Sungjun Kim*



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Phenothiazine-based donor–acceptor covalent–organic frameworks with keto–enol irreversible tautomerism as a promising third-order nonlinear optics material

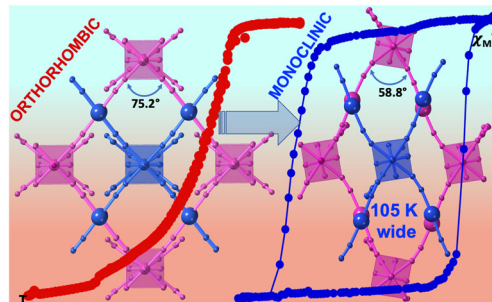
Mingyan Li, Tingting Li, Chengtao Gong, Debo Ding, Jiawei Du, Xiangxiang Zhou, Yinglin Song, Yun-Fang Yang, Yuanbin She* and Jianhong Jia*



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Guest-controlled polymorphism and exceptionally marked bi-stability in a spin crossover 3D porous amino-functionalized coordination polymer

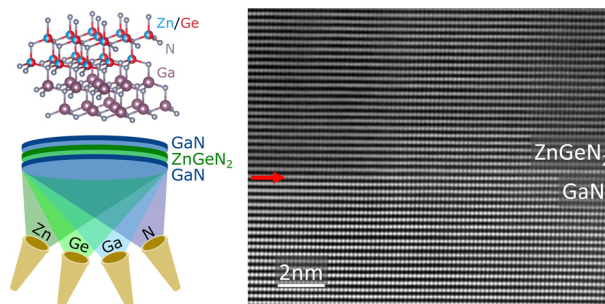
Alejandro Orellana-Silla, Manuel Meneses-Sánchez, Rubén Turo-Cortés, Víctor Rubio-Giménez, Giel Arnauts, M. Carmen Muñoz, Rob Ameloot, Carlos Bartual-Murgui* and José Antonio Real*



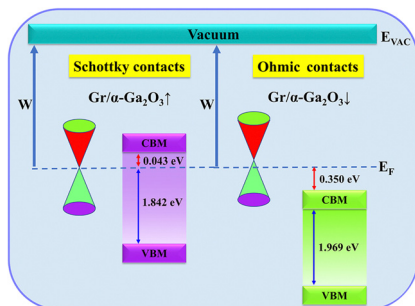
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Structure, defects, and optical properties of commensurate GaN/ZnGeN₂/GaN double heterojunctions

M. Brooks Tellekamp,* M. K. Miller, Lin Zhou and Adele Tamboli



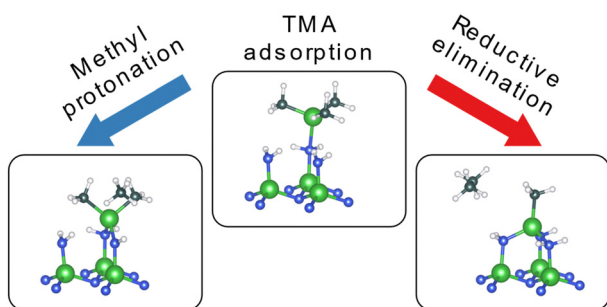
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Electric field and strain engineering tuning of 2D Gr/ α -Ga₂O₃ van der Waals heterostructures

Xiangyu Wu, Zhiyang Xie, Yu Zhang, Xuefei Liu,*
Jinshun Bi,* Wentao Wang, Zhaofu Zhang and
Ruyue Cao*

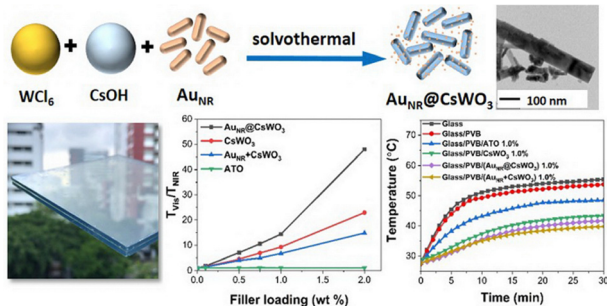
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Surface chemical mechanisms of trimethyl aluminum in atomic layer deposition of AlN

Karl Rönby,* Henrik Pedersen and Lars Ojamäe

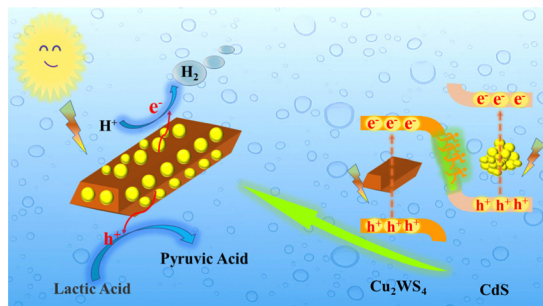
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NIR shielding performance and spectral selectivity of PVB interlayer films loaded with composite fillers derived from CsWO₃ coupled with Au nanorods

Chanakarn Pivnuan, Jatuphorn Wootthikanokkhan* and
Chivarat Muangphat

13957



Activating the (101) facets of Cu₂WS₄ in the CdS/Cu₂WS₄ S-scheme heterojunction to enhance the photocatalytic hydrogen evolution activity

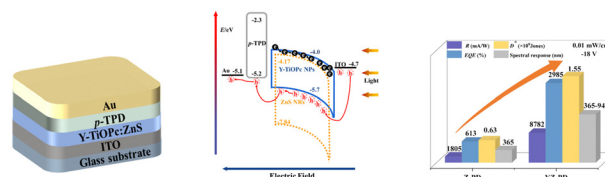
Tian Wang and Zhiliang Jin*



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High-performance UV-Vis-NIR photomultiplier detectors assisted by interfacial trapped-electrons

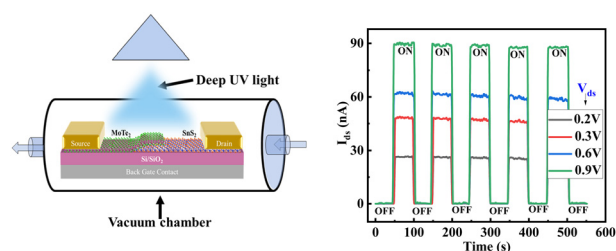
Xiaolong Li, Yulu Tang, Chenyu Wang, Tianzhu Wei, Dongjun Lv, Mingyuan Guo, Yongning Ma and Yuhao Yang*



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Gate-tunable rectification and photoresponse in a MoTe₂/SnS₂ van der Waals heterostructure based P–N diode

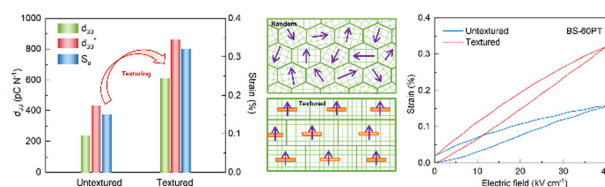
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13991

Texture technique to achieve enhanced piezoelectric response in BiScO₃–PbTiO₃ high-temperature piezoelectric ceramics

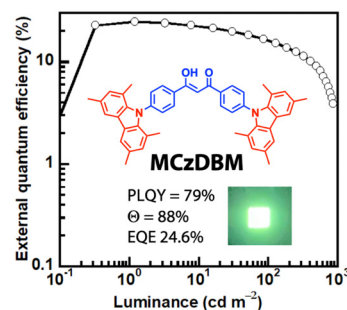
Xiaodan Ren, Mingyang Tang, Xin Liu, Yike Wang, Zhuo Xu* and Yongke Yan*



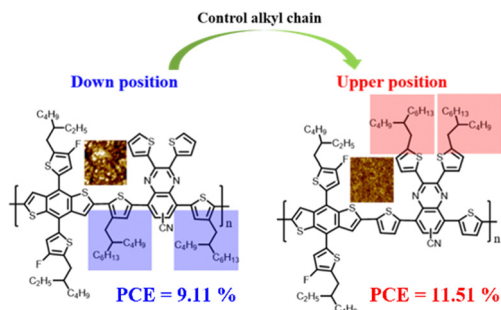
14002

Bluish-green-to-green thermally activated delayed fluorescent emitters based on β -diketone derivatives exhibiting a horizontal emission dipole orientation ratio of 88% and an external quantum efficiency of nearly 25%

Keigo Hoshi, Hisahiro Sasabe,* Ryoma Sato, Naoto Yoshida, Misaki Matsuya, Yudai Chiba and Junji Kido



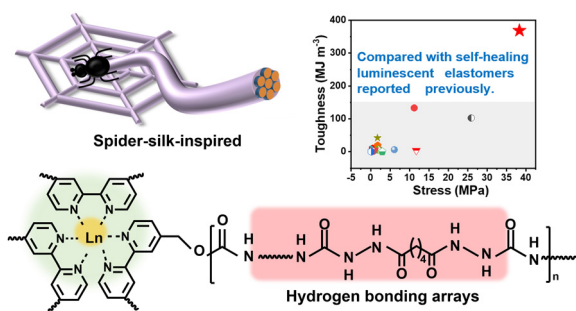
14009



Positional effects of alkyl chains on the photovoltaic performances of quinoxaline-based polymers

Dinda Fariesta Nugraha, Yifan Yu, Jung Won Yoon, Hyungju Ahn, Juan Anthony Prayogo, Dong Ryeol Whang, Jihoon Lee,* Hyosung Choi* and Dong Wook Chang*

14018



A super-tough and self-healing biomimetic luminescent elastomer enabled by hydrogen bonding arrays and lanthanide-bipyridine moieties

Di Zhao, Chunmei Yue, Qianrui Li, Lei Guo and Huanrong Li*

CORRECTION

14025

Correction: A multicolor carbon dot doped nanofibrous membrane for unclonable anti-counterfeiting and data encryption

Shunfei Qiang, Ke Yuan, Yanyan Cheng, Guoqiang Long, Wenkai Zhang,* Xiaofeng Lin, Xiuli Chai,* Xiaomin Fang and Tao Ding

