

# Journal of Materials Chemistry C

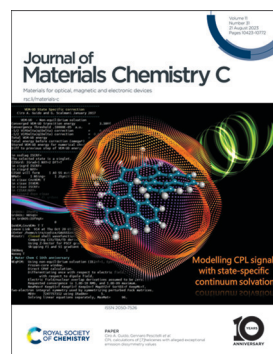
Materials for optical, magnetic and electronic devices

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### Cover

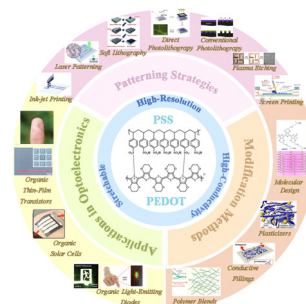
See *Ciro A. Guido, Gennaro Pescitelli et al.*, pp. 10474–10482. Image reproduced by permission of Gennaro Pescitelli from *J. Mater. Chem. C*, 2023, **11**, 10474.

## REVIEW

10435

### PEDOT and PEDOT:PSS thin-film electrodes: patterning, modification and application in stretchable organic optoelectronic devices

Yue Wang, Sisi Jia and Zhitao Zhang\*

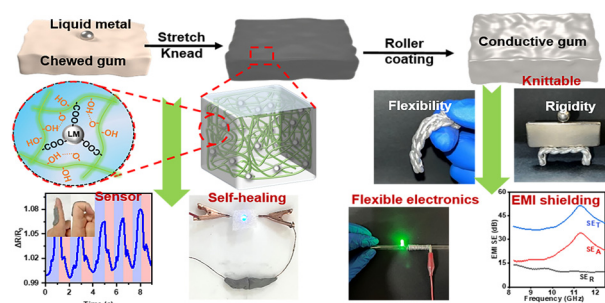


## COMMUNICATIONS

10455

### Versatile chewed gum composites with liquid metal for strain sensing, electromagnetic interference shielding and flexible electronics

Hongwei Yu, Lei Yu, Xiulei Qi, Jing Cui, Ke Wu, Yide Liu, Long Chen and Xiankai Li\*



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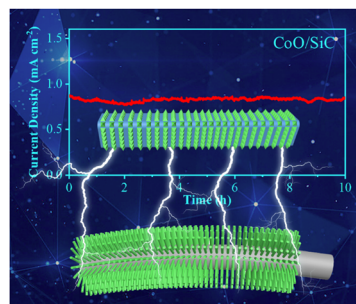


## COMMUNICATIONS

10464

### Superior CoO/SiC nanowire field emitters with substantially increased stable emission sites: ultralow turn-on field, high current density and high stability

Kai Song, Xiaoxiao Li, Weijun Li, Lin Wang, Chuangchuang Gong, Feng Hu, Fengmei Gao, Fang He\* and Shanliang Chen\*

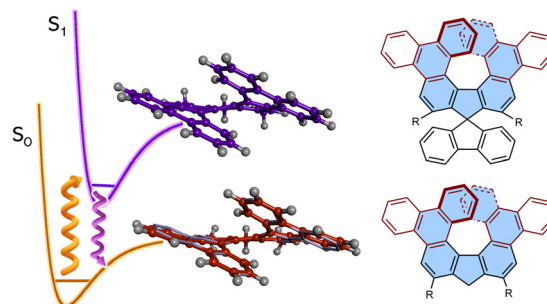


## PAPERS

10474

### CPL calculations of [7]helicenes with alleged exceptional emission dissymmetry values

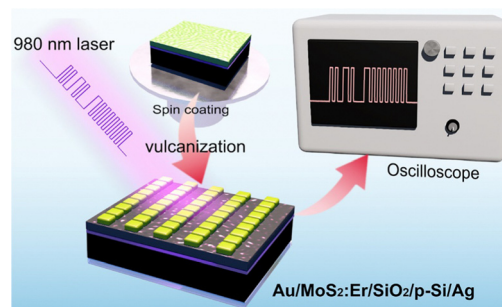
Ciro A. Guido,\* Francesco Zinna and Gennaro Pescitelli\*



10483

### Synthesis of continuous MoS<sub>2</sub>:Er films and their enhanced NIR photoresponse for photo communication

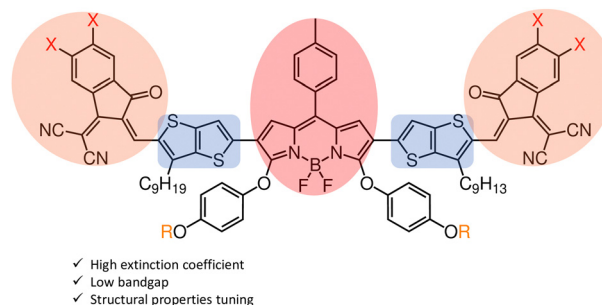
Lei Wang, Xiaohong Ji\* and Qinyuan Zhang\*



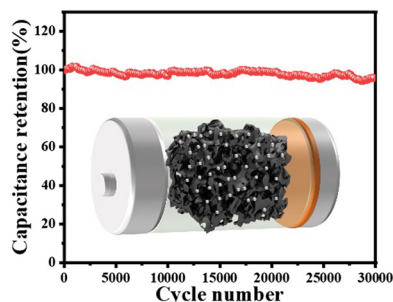
10492

### Non-fused BODIPY-based acceptor molecules for organic photovoltaics

Fabien Ceugniet,\* Amina Labiod, Denis Jacquemin, Benoît Heinrich, Fanny Richard, Patrick Lévêque,\* Gilles Ulrich and Nicolas Leclerc\*



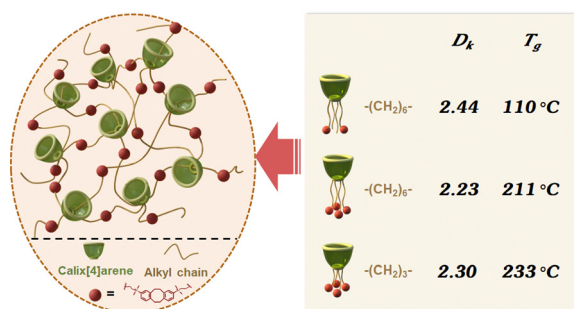
10502



### The structural transformation of metal–organic frameworks towards 2D carbon for a desirable supercapacitor

Yu Ma, Yanfeng Ge, Degong Gao, Zepeng Li, Mingrun Du, Xiaoqin Xing, Ribao Feng\* and Yingdong Han\*

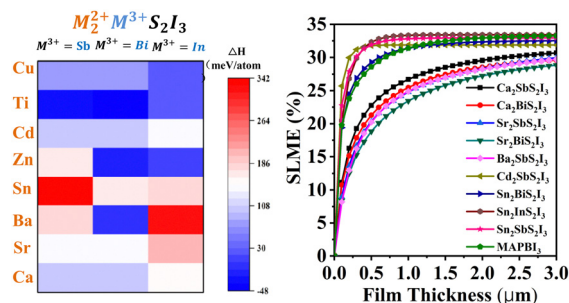
10509



### A low dielectric constant material synergized by calix[4]arene and benzocyclobutene units

Chengcheng Zhou, Ding Shen, Xingpeng Chai, Boyang Shi, Wenya Zhu and Guowei Wang\*

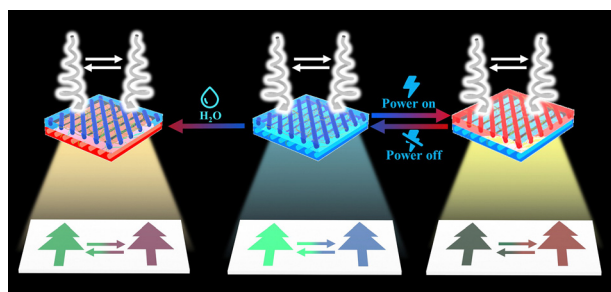
10520



### A first-principles study of quaternary thioiodides for stable lead-free solar cells

Ming Chen, Xiaofeng Dong, Weidong Luo, Zhimin Fang, Zhicheng Shan, Shengzhong (Frank) Liu\* and Zhuo Xu\*

10527



### Electrothermal and water dual-mode-responsive flexible polydiacetylene chiroptical films for multiplex laser displays

Peng Yang, Yifan Xie, Li Wen, Liyu Gan, Linxiao Deng, Hongli Zhang, Jiahe Li, Zeyu Feng, Chutian Zhang, Lixin Xu and Gang Zou\*



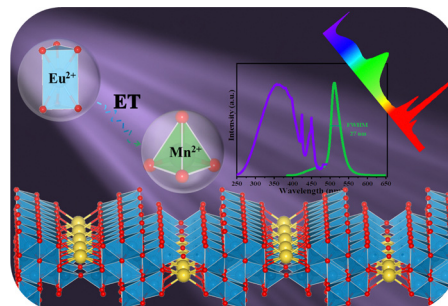


## PAPERS

10535

# High performance of broad excitation and narrow emission green phosphor $\text{NaAl}_{11}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$ for backlight displays

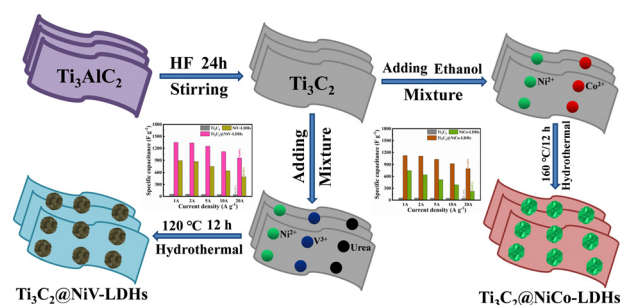
Yali Xue, Yujun Liang,\* Weilun Zhang, Yi Dou, Qiangke Wang, Xiaodeng Wu and Yongsheng Han\*



10547

# *In situ* coupled nickel-based layered double hydroxides with MXene to enhance supercapacitor performance

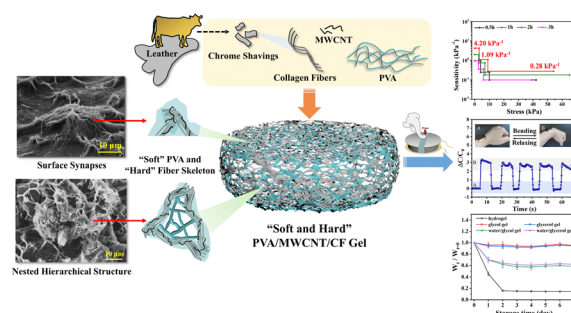
Guorong Wang,\* Guiquan Liu and Zhiliang Jin\*



10562

# A “soft and hard” bioinspired hydrogel for enhanced pressure sensing

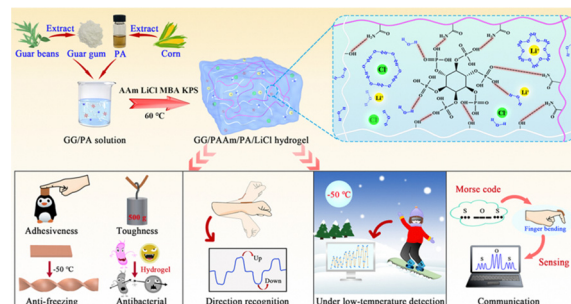
Hua Yuan, Jian Zhang, Jiaqi Zhang, Manting Wang, Jiexin Wang and Yuan Le\*



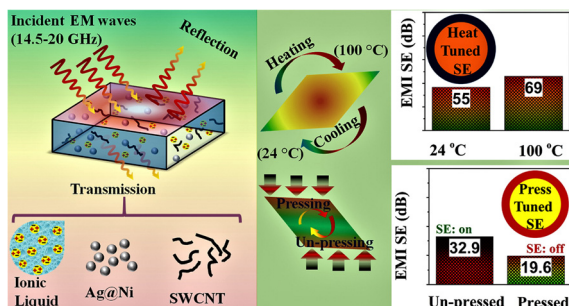
10573

# Superior low-temperature tolerant, self-adhesive and antibacterial hydrogels for wearable sensors and communication devices

Enke Feng,\* Xiaoqin Li, Mengzhen Zhang, Xinxian Ma, Linan Cao and Zhiqiang Wu\*



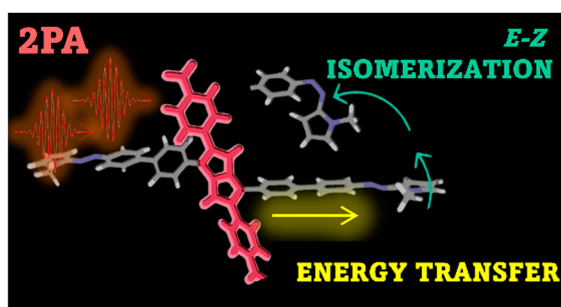
10584



### Ionic liquid-dispersed PDMS/SWCNT/Ag@Ni hybrid composite for temperature- and pressure-sensitive smart electromagnetic shielding applications

Prem Pal Singh, Ankita Mondal, Parna Maity and Bhanu Bhusan Khatua\*

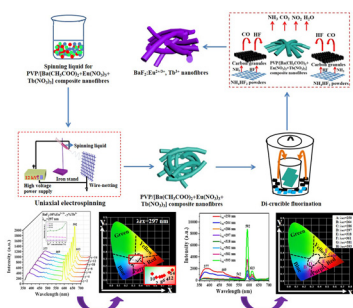
10598



### Non-linear photo-switching in molecular actuators through intra-molecular energy transfer from an electron donating core

Óscar Guzmán-Méndez, Emmanuel Villatoro, Mariana M. Reza, Maria Eugenia Sandoval, Jesus Jara-Cortés, Martha Elena García-Aguilera, Melissa Bravo-Romero, José G. López-Cortés and Jorge Peon\*

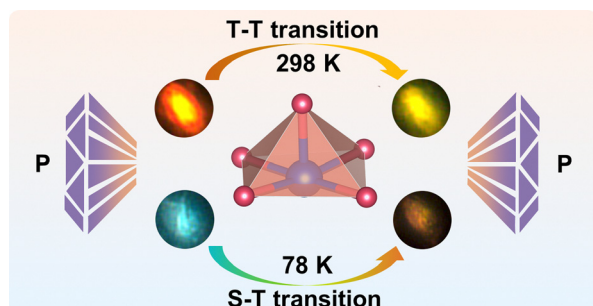
10613



### BaF<sub>2</sub>:Eu<sup>2+/3+</sup>, Tb<sup>3+</sup> nanofibres achieve enhanced multicolor luminescence and white-light emission via multi-channel excitation and energy migration procedure

Ning Li, Xiaohan Liu, Hong Shao,\* Haina Qi, Dan Li, Wensheng Yu, Guixia Liu and Xiangting Dong\*

10625



### Regulating multiple self-trapped exciton emissions in zero-dimensional antimony halides with pyramidal units

Jiang Han, Qian Li,\* Bin Xu, Li Tan, Yulin Chen and Zewei Quan\*

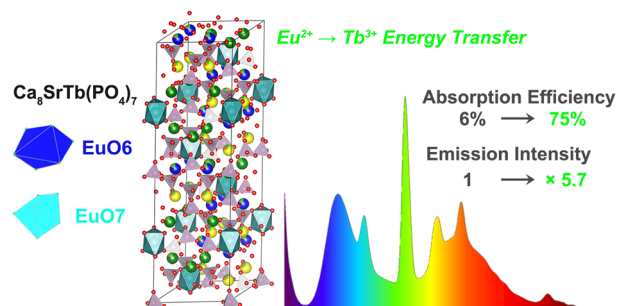


## PAPERS

10634

# Non-concentration quenching and energy transfer enhanced green emission in $\text{Ca}_8\text{SrTb}(\text{PO}_4)_7$ : $\text{Eu}^{2+}, \text{Tb}^{3+}$ for near-UV white LEDs with a high color rendering index

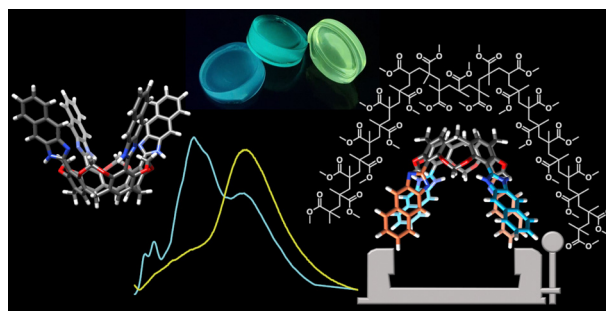
Shaoyu Wang, Zeyu Lyu,\* Zheng Lu, Lixuan Wang, Jianhui Wang, Dashuai Sun, Taixing Tan, Sida Shen and Hongpeng You\*



10642

# Macrocyclic luminophores under confinement in a polymeric matrix – induction of large-Stokes shift by inter-unit proton transfer

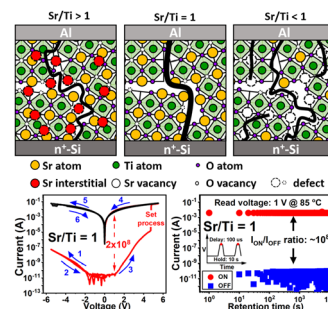
Paulina Jurek, Michał F. Rode,\* Marek P. Szymański, Marzena Banasiewicz and Agnieszka Szumna\*



10651

# Effect of stoichiometry on the resistive switching characteristics of STO resistive memory

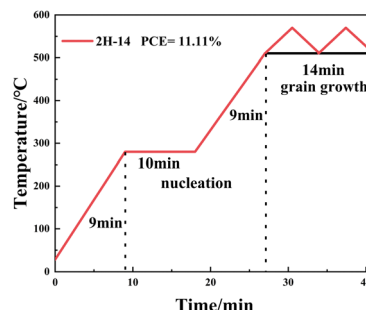
Chih-Chieh Hsu,\* Chao-Wen Cheng, Xiu-Ming Wen and Mojtaba Joodaki



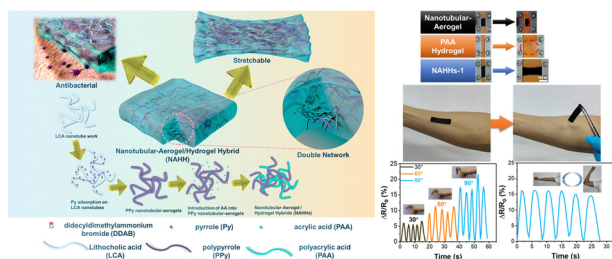
10660

# Enhancing the efficiency of $\text{Cu}_2\text{ZnSn}(\text{S}, \text{Se})_4$ solar cells by variable-temperature sulfoselenization

Yonggang Zhao, Congyan Xu, Zhineng Zhou, Yufei Chen, Ying Zhang, Lang Wu, Xu Su, Xinghuan Hu and Shurong Wang\*



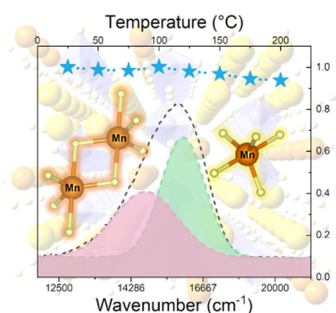
10673



### Nanotubular-aerogel/hydrogel hybrid for strain sensing applications

Qian Zhang, Wenchao Ye, Guojiao Li, Yanli Gong, Wenlang Liang\* and Yongxiang Leng

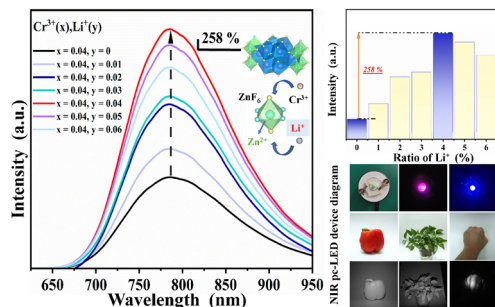
10684



### Achieving excellent thermostable red emission in singly Mn<sup>2+</sup>-doped near-zero thermal expansion (NZTE) material Li<sub>2</sub>Zn<sub>3</sub>(P<sub>2</sub>O<sub>7</sub>)<sub>2</sub>

Qin Liu, Peipei Dang,\* Guodong Zhang, Maxim S. Molokeev, Sergey P. Polyutov, Hongzhou Lian, Ziyong Cheng, Guogang Li\* and Jun Lin\*

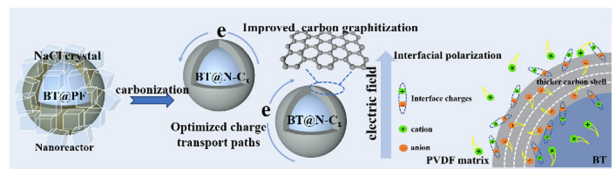
10694



### Enhanced photoluminescence of a HF free novel NIR phosphor of K<sub>2</sub>ZnF<sub>4</sub>:Cr<sup>3+</sup> by lithium ion doping

Yiwen Zhu, Yifan Yang, Yongqi Zhu, Yifan Chen, Zhenyu Liu, Fengmeng Lei, Hua Yu, Qinan Mao, Jiasong Zhong\* and Jing Wang\*

10703



### NaCl-treated multiple carbon coating BaTiO<sub>3</sub> nanoparticles towards enhancing dielectric properties

Peng Wang, Zihao Guo, Zhihao Sun, Benli Du, Shaoyao Tian, Yu Qiu, Han Ding and Lei Qian\*



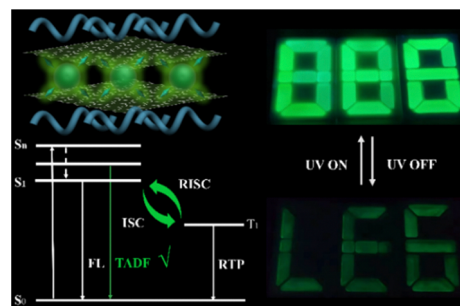


## PAPERS

10712

### Thermally activated delayed fluorescence from confined carbon dots activated by the triple synergy effect for advanced information encryption

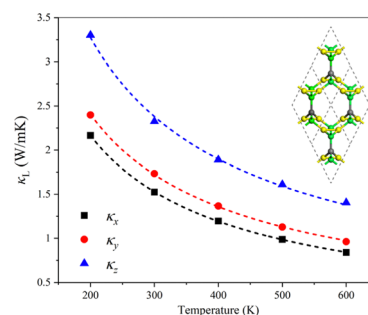
Feifei Peng, Ruixing Wang, Xinrui Wang, Wenying Shi\* and Chao Lu



10722

### A stable trigon-based 3D carbon allotrope with ultralow lattice thermal conductivity

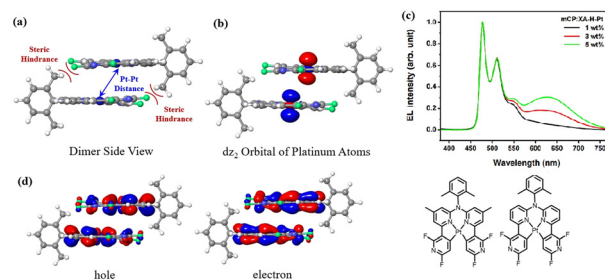
Muhammad Azhar Nazir, Yiheng Shen, Chenxin Zhang and Qian Wang\*



10730

### Highly efficient single emitter white phosphorescent organic light-emitting diodes based on Pt(II) emitters

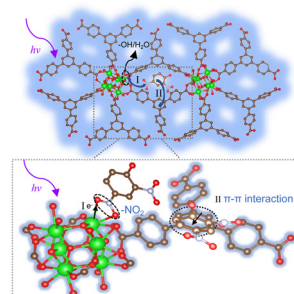
Ji Hyun Lee, Chul Woong Joo, Baeksang Sung, Seung-Je Woo, Seungwan Woo, Gyeong Seok Lee, Jonghee Lee\* and Yun-Hi Kim\*



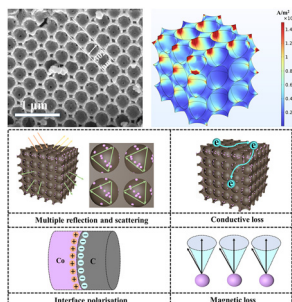
10738

### Molecular insights into the sensitivity detection mechanism of fluorescent 2D Zr-BTB for 2,4-dinitrophenol

Deyi Zhan, Zhiwu Yu, Abdul Saeed, Qi Hu, Nanjing Zhao, Weihong Xu,\* Junfeng Wang,\* Lingtao Kong\* and Jinhuai Liu



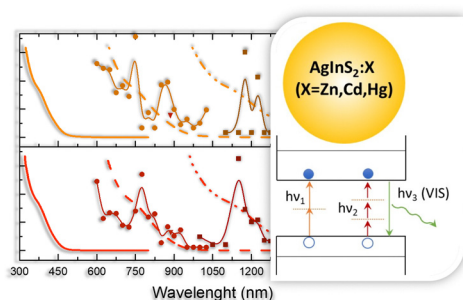
10748



### A strategy based on composition control and structural design to prepare 3DOM RFCo composites with a 3D ordered macroporous structure for enhanced electromagnetic wave absorption

Jun Chen, Weiping Ye, Shuai Wang, Kunyao Cao, Yue Zhang, Jiayue Wen, Yili Hao, Rui Zhao\* and Weidong Xue\*

10758



### Zn, Cd and Hg doping of AgInS<sub>2</sub> quantum dots – efficient strategy to modify nonlinear absorption

Rafał Kosman, Dominika Wawrzyńczyk, Marcin Nyk, Mirosława Pawlyta, Oleksii Bezkravnyi and Bartłomiej Cichy\*

