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# Nanoscale

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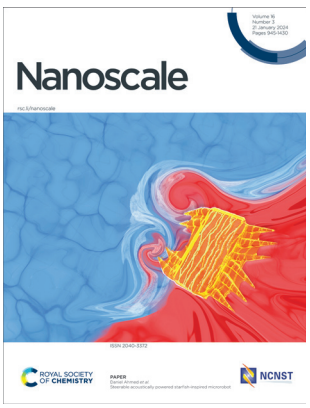


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See Daniel Ahmed *et al.*, pp. 1125–1134.

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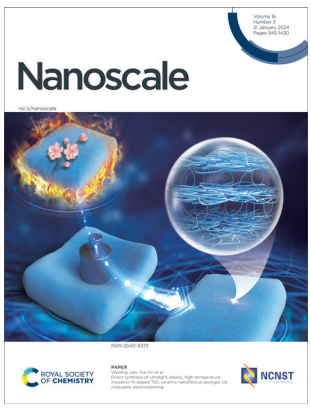


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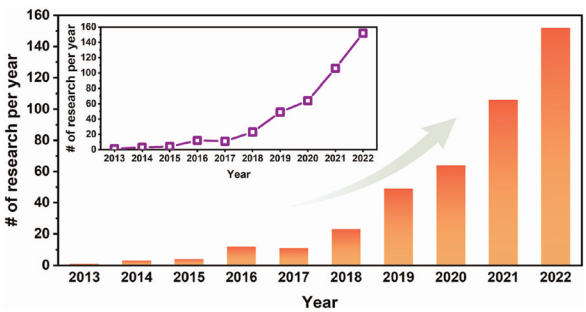

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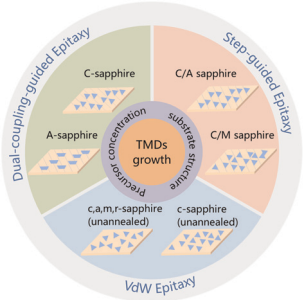


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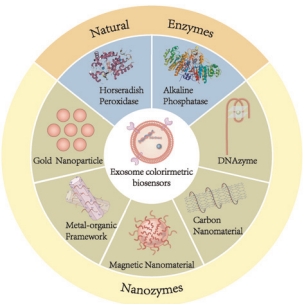


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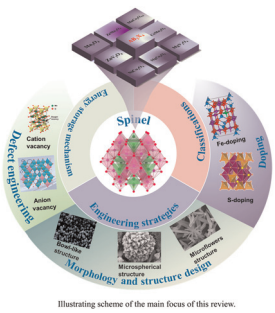


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Guangyu Chen, Jun Ma, Wanbing Gong,* Jiayi Li, Zheyue Li, Ran Long* and Yujie Xiong*

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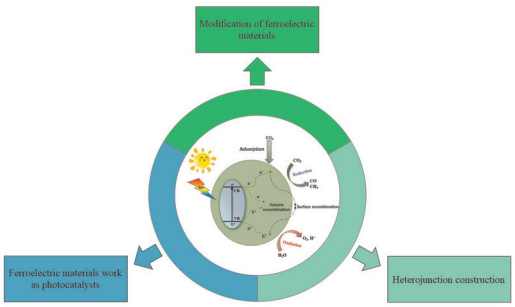


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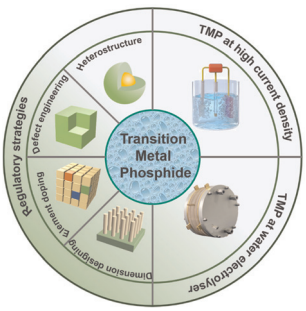


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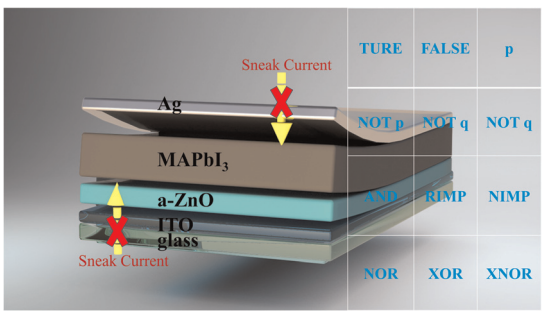


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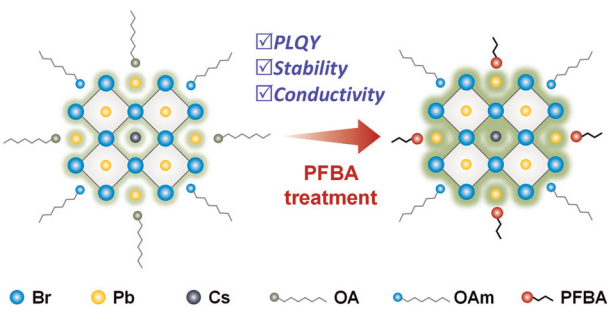


**Simultaneously improved photoluminescence, stability, and carrier transport of perovskite nanocrystals by post-synthetic perfluorobutanesulfonic acid treatment**

Xiao Huang, Xinli Wang, Jie Gao, Yang Sun, Jun Zhan, Yi Wang,* Xi-Cheng Ai and Jian-Ping Zhang


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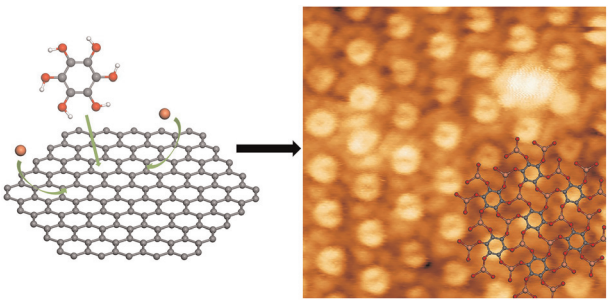
**A $Cu_2(C_6O_6)$ metal–organic framework monolayer assembled on silicon carbide grown graphene exhibiting a metallic band structure**

Xiaobo Wang, Tao Lin* and Nian Lin*



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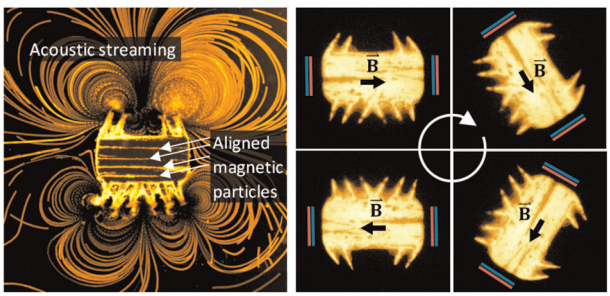
Cornel Dillinger, Justin Knipper, Nitesh Nama and Daniel Ahmed*

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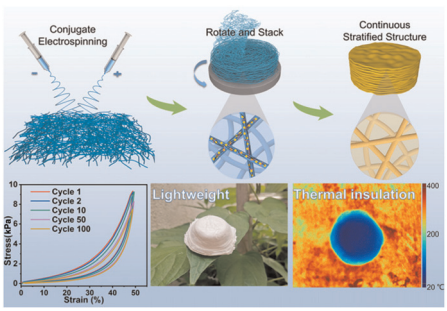


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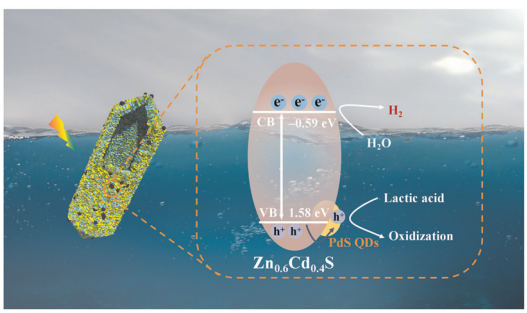
Cheng Guo, Zongyi Huang, Xinrui Long, Yuchen Sun, Pengfei Ma, Quanxing Zheng, Hongliang Lu, Xiaodong Yi and Zhou Chen*



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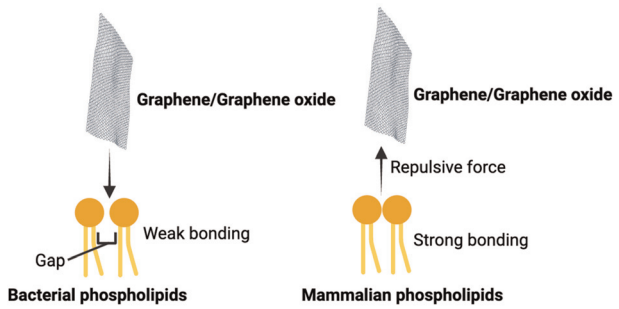


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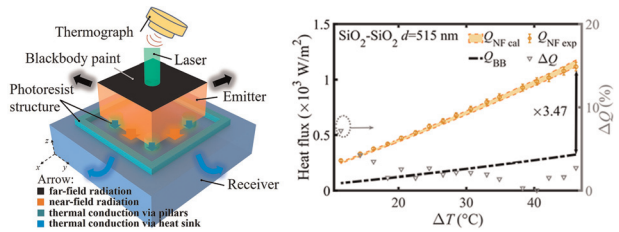


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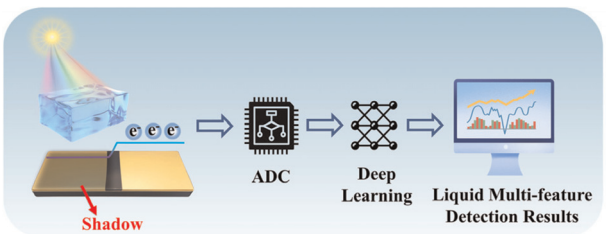


**A shadow enabled non-invasive probe for multi-feature intelligent liquid surveillance system**

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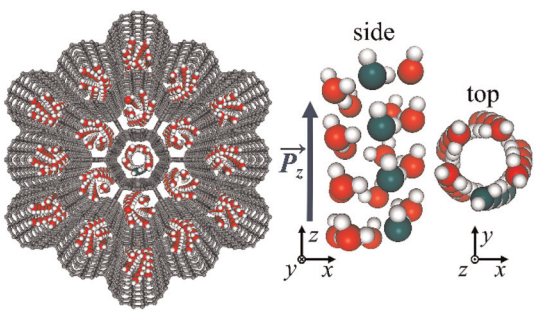


**Ferroelectricity of ice nanotube forests grown in three-dimensional graphene: the electric field effect**

Tengfei Zhang, Yang Han,* Chuan-fu Luo, Xiaochuang Liu, Xiaowei Zhang, Yuhan Song, Yi-Tung Chen and Shiyu Du



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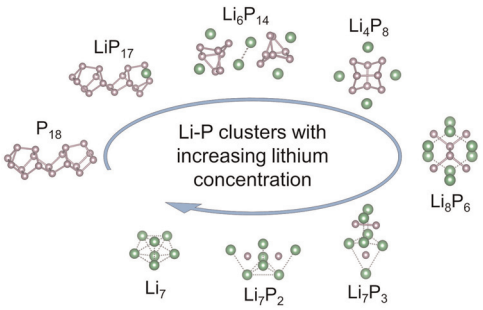


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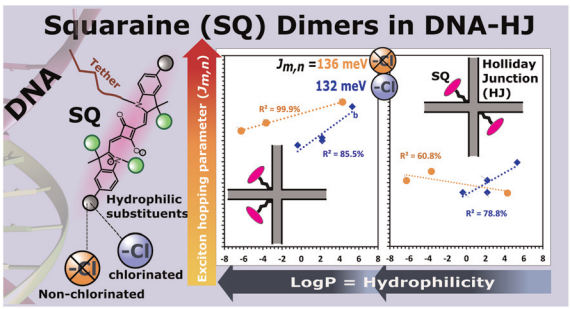


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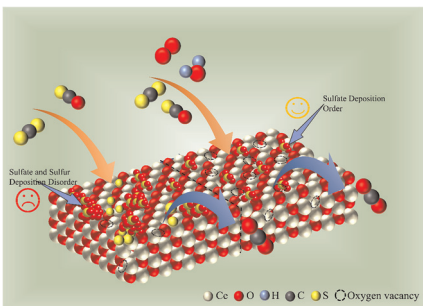


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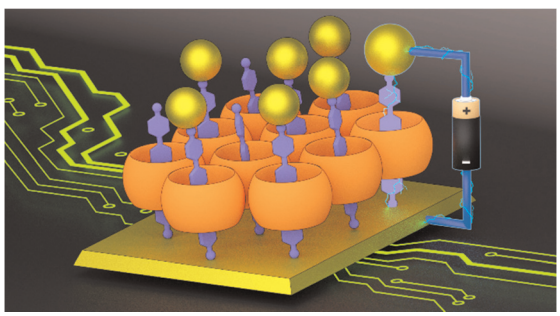

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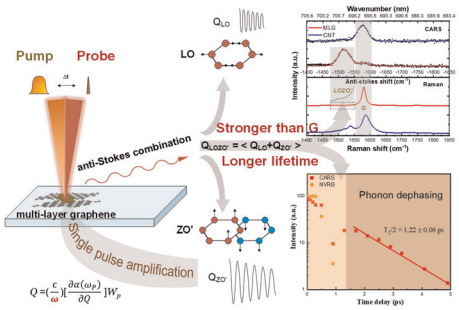


**Enhanced double resonance Raman scattering in multilayer graphene with broadband coherent anti-Stokes Raman spectroscopy**

Haolei Dai, Yujin Wang, Jianwei Zhao, Huan Liu, Zibo Liu* and Dameng Liu*

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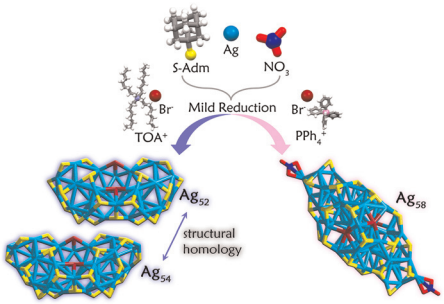


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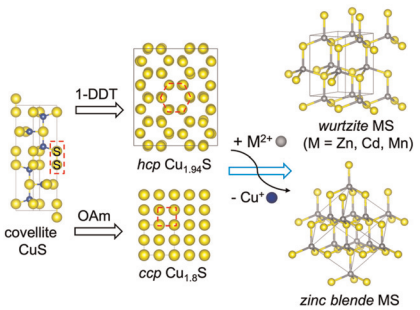


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Yan Zhang, Shaobo He, Qingxia Zhang, Hongtao Zhang, Jinchen Zhou, Xing Yang, Qinhong Wei and Lihui Chen*

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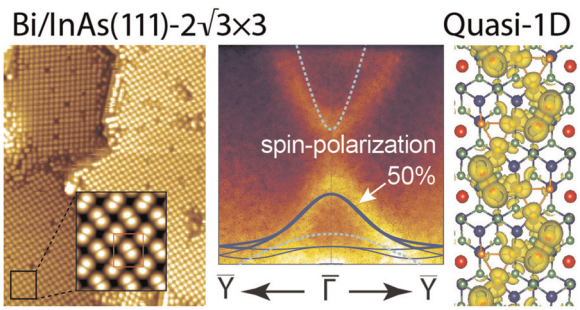


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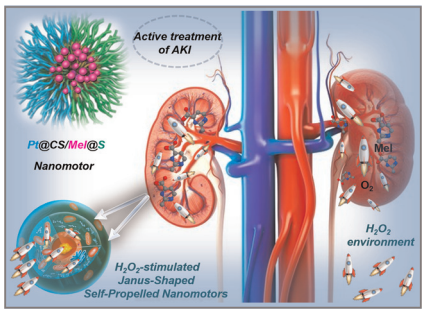
Jun Xu,* Yali Zhong, Weixin Wang, Rui Gao, Yini Wang, Fei Tong, Jiahui Sun, Miaofang Hong, Lingyan Qiao, Weiwei Qiao, Qibing Mei and Jianming Wu

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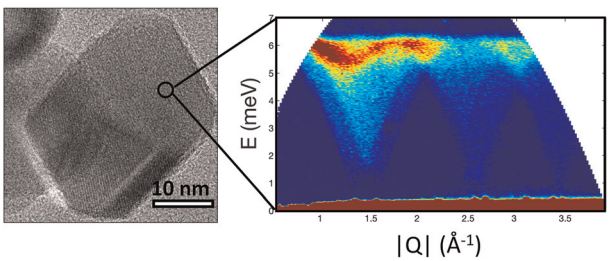


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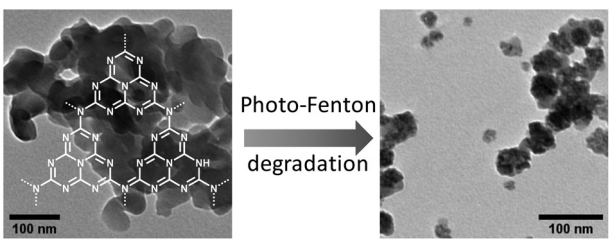
Livia Didonè, Yunseok Shin, Alessandro Silvestri,* Maurizio Prato, Sungjin Park* and Alberto Bianco*

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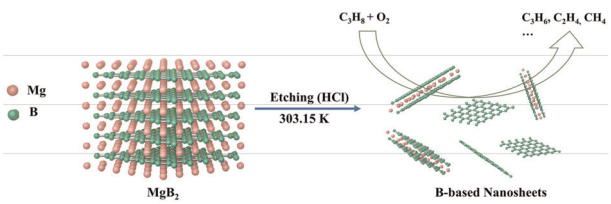
**Chemically exfoliated boron nanosheets for efficient oxidative dehydrogenation of propane**

Dake Zhang, Shenghua Wang, Chengcheng Zhang, Le He and Wei Sun*



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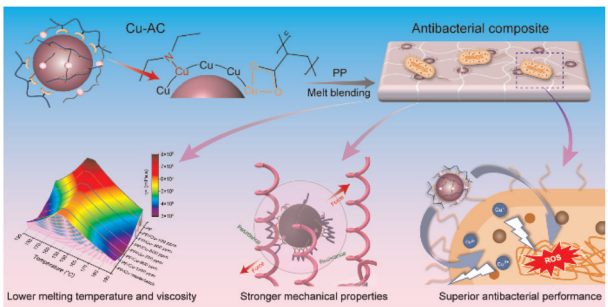


**Dual functionalized copper nanoparticles for thermoplastics with improved processing and mechanical properties and superior antibacterial performance**

Lulu Tian, Li Sun, Bo Gao, Fei Li, Chaoran Li, Ruoyu Wang, Yanfang Liu, Xiaohong Li, Liyong Niu* and Zhijun Zhang*

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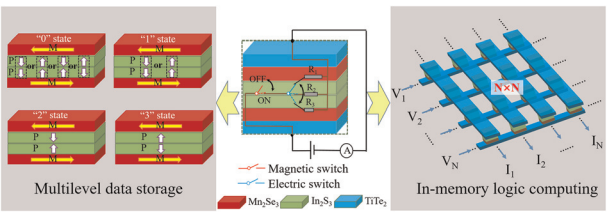


**Magnetic-ferroelectric synergic control of multilevel conducting states in van der Waals multiferroic tunnel junctions towards in-memory computing**

Zhou Cui, Baisheng Sa,* Kan-Hao Xue, Yinggan Zhang, Rui Xiong, Cuilian Wen, Xiangshui Miao and Zhimei Sun*

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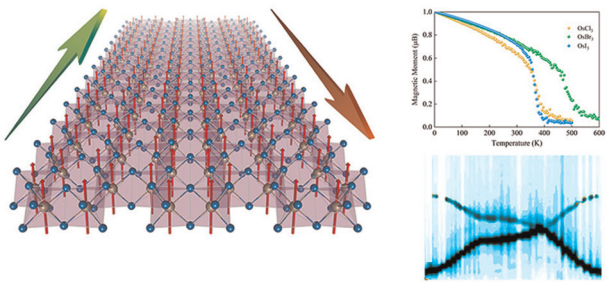

**Stable room-temperature ferromagnetism and gate-tunable quantum anomalous Hall effect of two-dimensional 5d transition-metal trihalide $OsX_3$ (X = Cl, Br, I) monolayers**

Mu Lan,* Rong Wang, Lezhong Li, Wenning Ren, Xing Zhang, Gangxu Gu, Xi Zhang and Gang Xiang*

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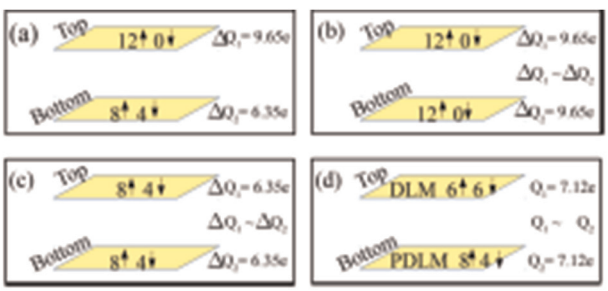


**Manipulation of electrochemical properties of MXene electrodes for supercapacitor applications by chemical and magnetic disorder**

Mandira Das, Himanshu Murari, Subhradip Ghosh* and Biplab Sanyal



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## PAPERS

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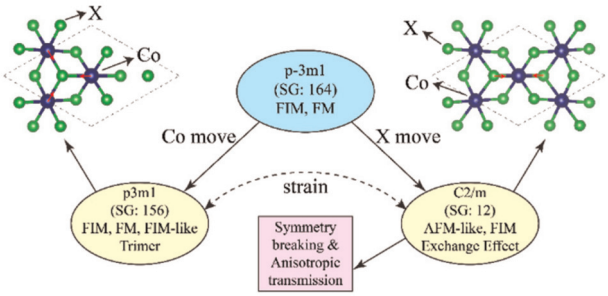
**$Co_3X_8$ (X = Cl and Br): multiple phases and magnetic properties of the Kagome lattice**

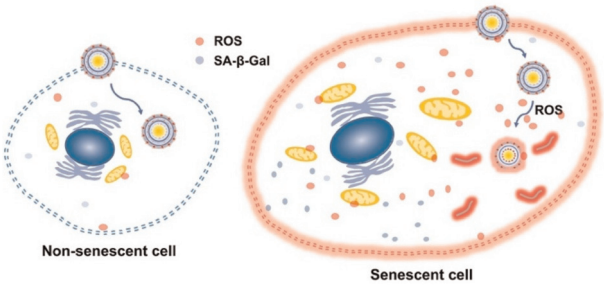
Haoyun Bai, Zhichao Yu, Jinxian Feng, Di Liu, Weiqi Li and Hui Pan*




1371

***In vivo* senescence imaging nanoprobe targets the associated reactive oxygen species**

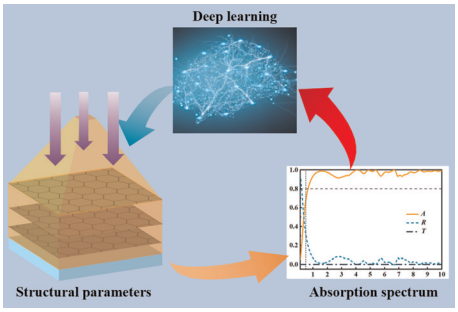
Seung Koo Lee,* Myung Shin Han and Ching-Hsuan Tung*




1384

**Metasurface inverse designed by deep learning for quasi-entire terahertz wave absorption**

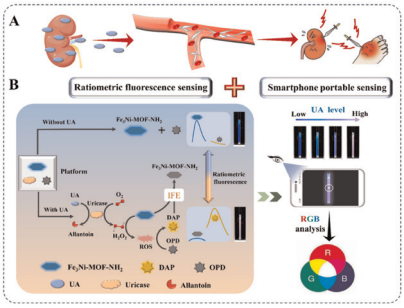
Zhipeng Ding, Wei Su,* Yinlong Luo, Lipengan Ye, Wenlong Li, Yuanhang Zhou, Jianfei Zou, Bin Tang and Hongbing Yao*




1394

**A facile, low-cost bimetallic iron–nickel MOF nanozyme-propelled ratiometric fluorescent sensor for highly sensitive and selective uric acid detection and its smartphone application**

Jiawen Han, Yuwei Zhang, Xujuan Lv, Daoqing Fan* and Shaojun Dong



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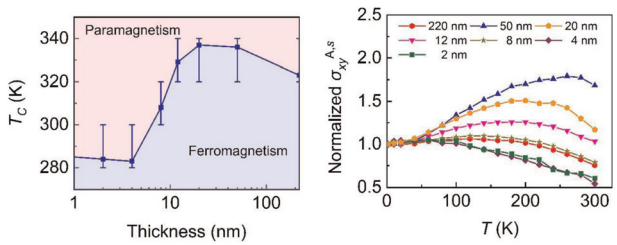
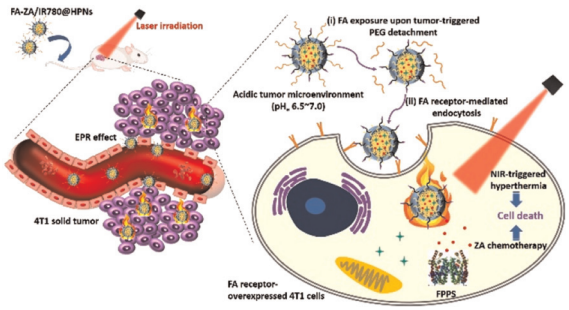
1406




**Near-room temperature ferromagnetism and a tunable anomalous Hall effect in atomically thin $Fe_4CoGeTe_2$**

Shaohua Yan, Hui-Hui He, Yang Fu, Ning-Ning Zhao, Shangjie Tian, Qiangwei Yin, Fanyu Meng, Xinyu Cao, Le Wang, Shanshan Chen, Ki-Hoon Son, Jun Woo Choi, Hyejin Ryu, Shouguo Wang, Hechang Lei,* Kai Liu* and Xiao Zhang*

1415




**Tumor-activated targetable photothermal chemotherapy using IR780/zoledronic acid-containing hybrid polymeric nanoassemblies with folate modification to treat aggressive breast cancer**

Yu-Ling Liu, Tzu-Hao Wang, Nien-Tzu Yeh, Wei-Jen Huang, Bor-Show Tzang, I-Ting Wu, Hao-Yang Chin, Shang-Hsiu Hu, Tsai-Ching Hsu* and Wen-Hsuan Chiang*



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