

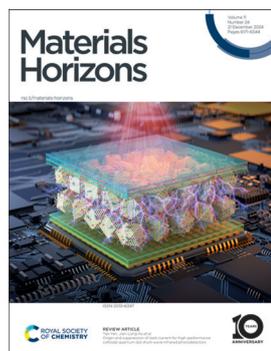
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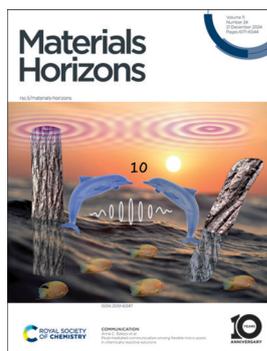
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See Yan Yan, Jian-Long Xu *et al.*, pp. 6192–6221. Image reproduced by permission of Yan Yan from *Mater. Horiz.*, 2024, **11**, 6192.



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EDITORIAL

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Materials Horizons Emerging Investigator Series:
Dr Yi Xiong, Southern University of Science and Technology, China

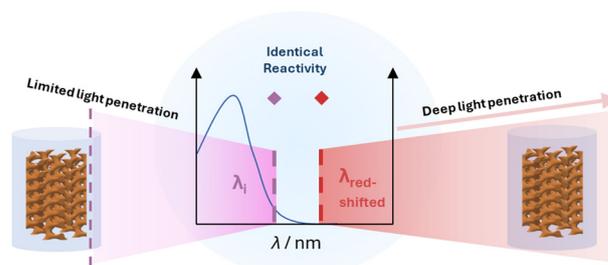


OPINION

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Beyond absorption maxima: the impact of wavelength-resolved photochemistry on materials science

Quinten Thijssen, Joshua A. Carroll, Florian Feist, Andreas Beil, Hansjörg Grützmacher, Martin Wegener, Sandra Van Vlierberghe and Christopher Barner-Kowollik*



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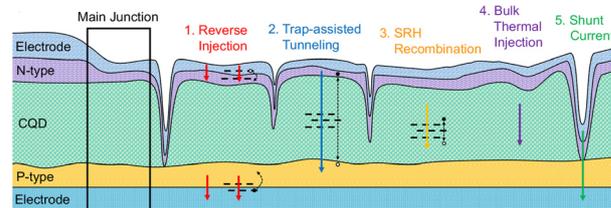
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REVIEWS

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Origin and suppression of dark current for high-performance colloidal quantum dot short-wave infrared photodetectors

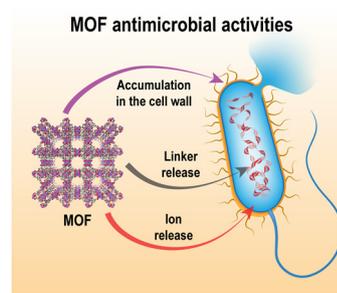
Yan Yan,* Hong-Yu Liu, Le Bian, Yan-Yan Dai, Bo-Ning Zhang, Shuang-Mei Xue, Ye Zhou, Jian-Long Xu* and Sui-Dong Wang



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Antimicrobial zeolites and metal–organic frameworks

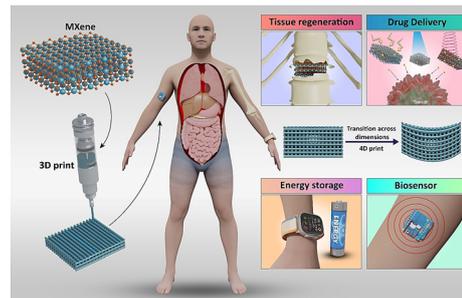
Emmanuel Oheix,* T. Jean Daou and Laurent Pieuchot*



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3D and 4D printing of MXene-based composites: from fundamentals to emerging applications

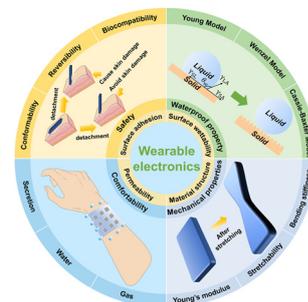
Ashkan Bigham, Atefeh Zarepour, Arezoo Khosravi, Siavash Iravani* and Ali Zarrabi*



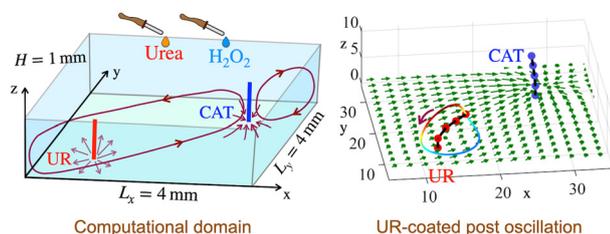
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Customized surface adhesive and wettability properties of conformal electronic devices

Wenfu Chen, Junzhu Lin, Zhicheng Ye, Xiangyu Wang, Jie Shen and Ben Wang*



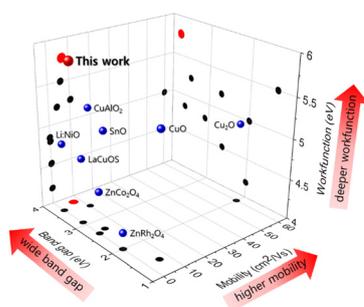
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Fluid mediated communication among flexible micro-posts in chemically reactive solutions

Moslem Moradi, Oleg E. Shklyaev, Wenzheng Shi and Anna C. Balazs*

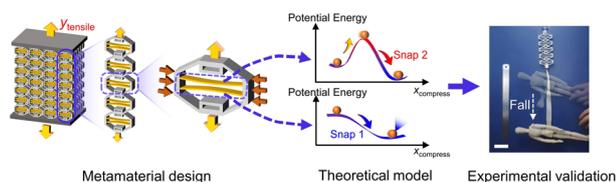
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A transparent p-type semiconductor designed via a polarizability-enhanced strongly correlated insulator oxide matrix

Seung Yong Lee, Inseo Kim, Hyun Jae Kim, Sangjun Sim, Jae-Hoon Lee, Sora Yun, Joonho Bang, Kyoung Won Park, Chul Jong Han, Hyun-Min Kim, Heesun Yang, Bongjae Kim, Seongil Im, Antonio Facchetti,* Min Suk Oh,* Kyu Hyoung Lee* and Kimoon Lee*

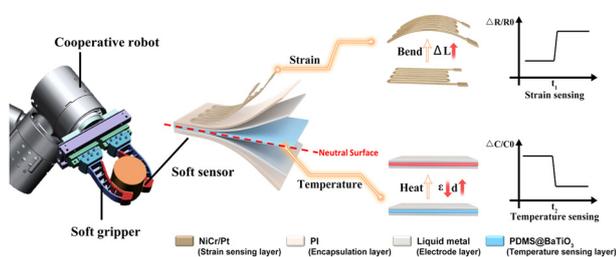
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Self-contact snapping metamaterial for tensile energy dissipation

Sen Yan, Zhiqiang Meng, Wenlong Liu, Xiaojun Tan, Peizheng Cao, Yongzheng Wen, Zheng Xiang, Jie Chen, Yong Xu, Yifan Wang, Jingbo Sun,* Lingling Wu* and Ji Zhou*

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A flexible dual-mode sensor with decoupled strain and temperature sensing for smart robots

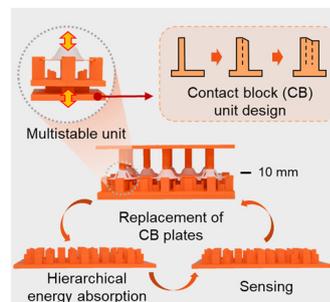
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Jian He, Yaohui Wang, Zhengquan Shen, Liang Xia* and Yi Xiong*



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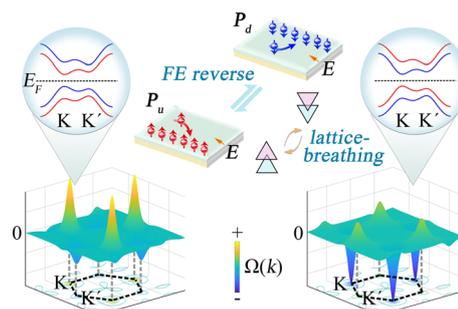
Jiali Chen, Xuezhe Chen, Yaozhuo Su, Bin Shen* and Wenge Zheng



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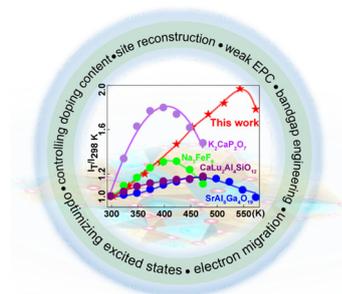
Yangyang Feng, Jiangyu Zhao, Ying Dai,* Baibiao Huang and Yandong Ma*



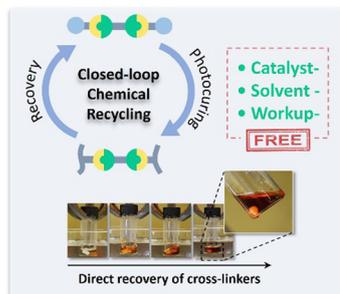
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Achieving broadband near-infrared emission with superior anti-thermal quenching by optimizing the excited-state population of Cr³⁺ in Gd₃ScGa₄O₁₂ garnet phosphors

Wangyu Liu, Lifang Yuan, Haoyi Wu, Huafeng Dong and Yahong Jin*



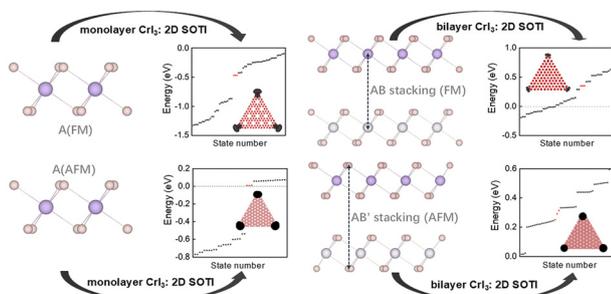
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Direct restoration of photocurable cross-linkers for repeated light-based 3D printing of covalent adaptable networks

Loc Tan Nguyen and Filip E. Du Prez*

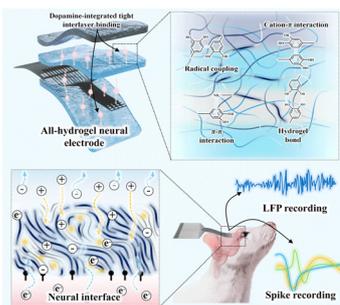
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Robust second-order topological insulator in 2D van der Waals magnet CrI₃

Xiaorong Zou, Yingxi Bai, Ying Dai,* Baibiao Huang and Chengwang Niu*

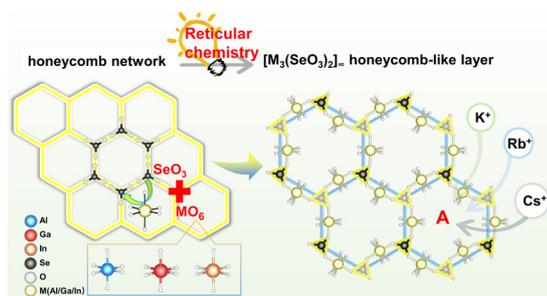
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Dopamine-integrated all-hydrogel multi-electrode arrays for neural activity recording

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Reticular chemistry-aided effective design of new second-order nonlinear optical selenites

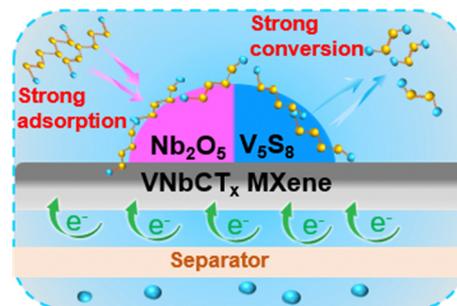
Qian Li, Yi Zheng, Hongping Wu, Zhanggui Hu, Jiyang Wang, Yicheng Wu and Hongwei Yu*



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Vanadium niobium carbide (VNbCT_x) bimetallic MXene derived V₅S₈-Nb₂O₅@MXene hetero-structures for efficiently boosting the adsorption and catalytic performance of lithium polysulfide

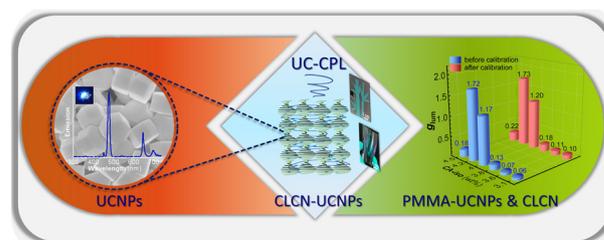
Yuqing Chen, Yongjie Huang, Qing Xu, Liying Yang,*
Ningyi Jiang* and Shougen Yin



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Upconversion circularly polarized luminescence of cholesteric liquid crystal polymer networks with NaYF₄:Yb,Tm UCNPs

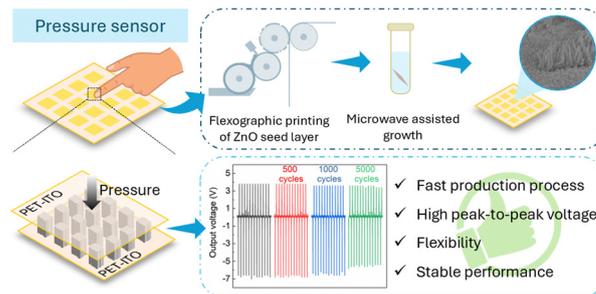
Liting Xu, Yi Li, Wei Liu* and Yonggang Yang*



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Flexographic printed microwave-assisted grown zinc oxide nanostructures for sensing applications

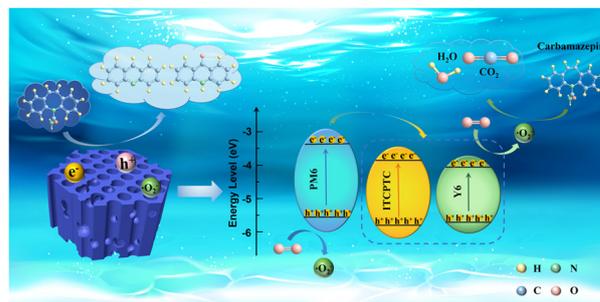
Maria Morais, Emanuel Carlos,* Ana Rovisco,
Tomás Calmeiro, Hugo Gamboa, Elvira Fortunato,
Rodrigo Martins and Pedro Barquinha*



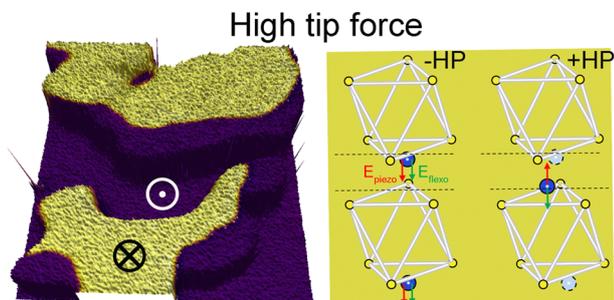
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Efficient photodegradation of carbamazepine by organocatalysts incorporating a third component with a more complementary absorption spectrum

Min Long, Ciyuan Huang, Xiao Huang,* Linji Yang,
Liangsheng Chen, Ke Sun, Caiyun Wang,* Liying Zhang,*
Libin Zhang, Songlin Cai, Shangfei Yao, Hongxiang Zhu,
Tao Yang, Bingsuo Zou and Tao Liu*



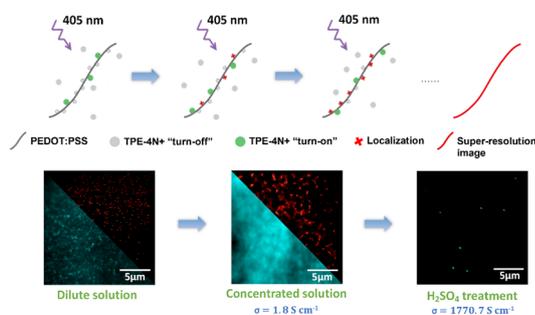
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Anomalous reverse mechanical polarization switching in negative piezoelectric CuInP_2S_6

Lei Wang, Dawei Zhang, Zheng-Dong Luo, Patrick D. Taylor, Kevin Tran, Wenjie Ming, Jianbo Tang, Pankaj Sharma, Michelle J.S. Spencer and Jan Seidel*

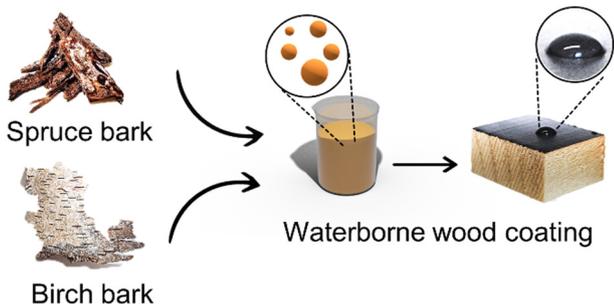
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Super-resolution fluorescence imaging of PEDOT:PSS films

Jun-Dan Huang, Li-Jun Mei, Weibing Kuang, Feng-Yu Zhu, Rui Tian, Wanxia Wei, Chong Li, Ya-Long Wang, Yinhua Zhou* and Ming-Qiang Zhu*

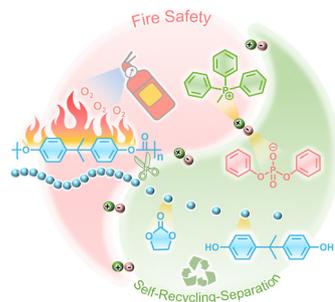
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Fully bio-based water-resistant wood coatings derived from tree bark

Fengyang Wang, Mohammad Morsali, Jānis Rižikovs, Ievgen Pylypchuk, Aji P. Mathew and Mika H. Sipponen*

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Selectively self-recyclable, highly transparent and fire-safe polycarbonate plastic enabled by thermally responsive phosphonium-phosphate

Pan Deng, Lin Chen,* Yue Li, Bo-Wen Liu, Xiu-Li Wang* and Yu-Zhong Wang



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Succulent inspired grown g-C₃N₄@lithium sodium niobate for supercapacitors and piezo-tuned electrochemical potential controlled smart electromagnetic shielding management

Prem Pal Singh and Bhanu Bhusan Khatua*

