

Materials Horizons

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See Quanchao Zhuang, Hamidreza Arandiyan, Yanguo Liu *et al.*, pp. 1479–1538. Image reproduced by permission of Hamid Arandiyan from *Mater. Horiz.*, 2023, 10, 1479.

EDITORIAL

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Materials Horizons 2022 Outstanding Paper Award

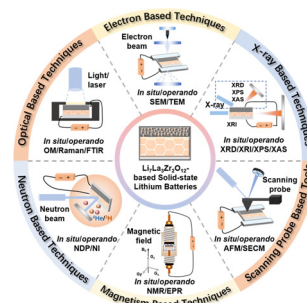


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Recent advances in *in situ* and *operando* characterization techniques for $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ -based solid-state lithium batteries

Lei Zhang, Huilin Fan, Yuzhen Dang, Quanchao Zhuang,* Hamidreza Arandiyan,* Yuan Wang, Ningyan Cheng, Hongyu Sun, H. Hugo Pérez Garza, Runguo Zheng, Zhiyuan Wang, Sajjad S. Mofarah, Pramod Koshy, Suresh K. Bhargava, Yanhua Cui, Zongping Shao and Yanguo Liu*



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Building and designing systems from the molecular level

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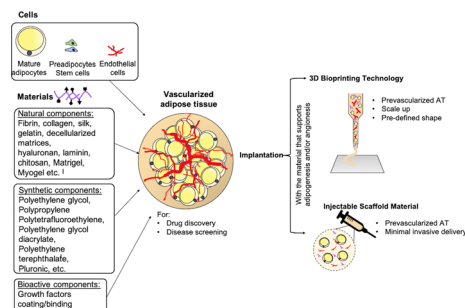


REVIEWS

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Biofabrication of vascularized adipose tissues and their biomedical applications

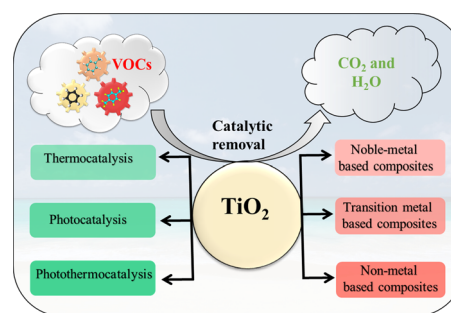
Aslı Sena Karanfil, Fiona Louis and Michiya Matsusaki*



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TiO₂-based catalytic systems for the treatment of airborne aromatic hydrocarbons

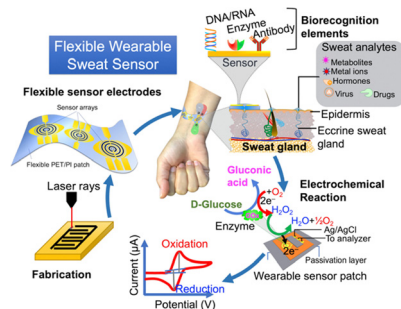
Aadil Bathla, Sherif A. Younis, Ki-Hyun Kim* and Xiaowei Li



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Graphene-interfaced flexible and stretchable micro–nano electrodes: from fabrication to sweat glucose detection

Anjum Qureshi* and Javed H. Niazi*

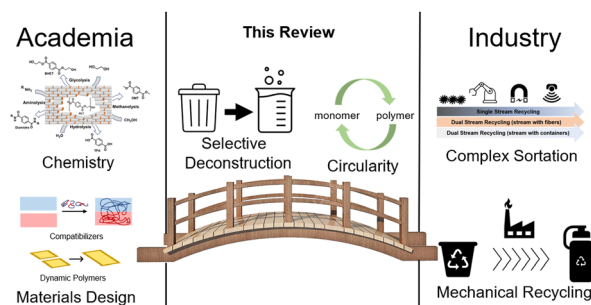


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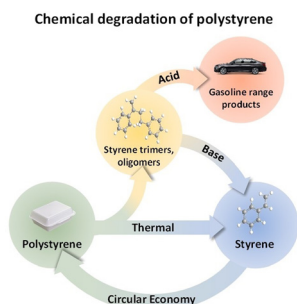
Recent development of end-of-life strategies for plastic in industry and academia: bridging their gap for future deployment

Jackie Zheng, Md Arifuzzaman, Xiaomin Tang, Xi Chelsea Chen* and Tomonori Saito*



MINIREVIEWS

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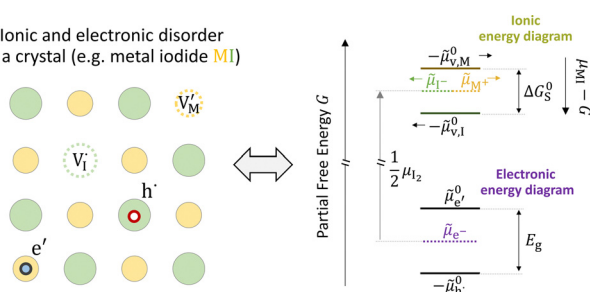
Catalytic routes towards polystyrene recycling

Carlos Marquez,* Cristina Martin, Noemi Linares and Dirk De Vos*

FOCUS

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Ionic and electronic disorder in a crystal (e.g. metal iodide MI)

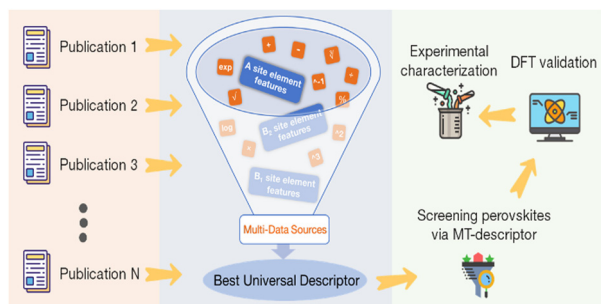


Ionic and electronic energy diagrams for hybrid perovskite solar cells

Davide Moia* and Joachim Maier

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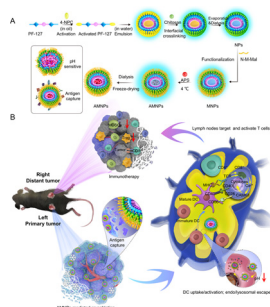
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Distilling universal activity descriptors for perovskite catalysts from multiple data sources via multi-task symbolic regression

Zhilong Song, Xiao Wang, Fangting Liu, Qionghua Zhou,* Wan-Jian Yin,* Hao Wu, Weiqiao Deng* and Jinlan Wang*

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Autologous-cancer-cryoablation-mediated nanovaccine augments systematic immunotherapy

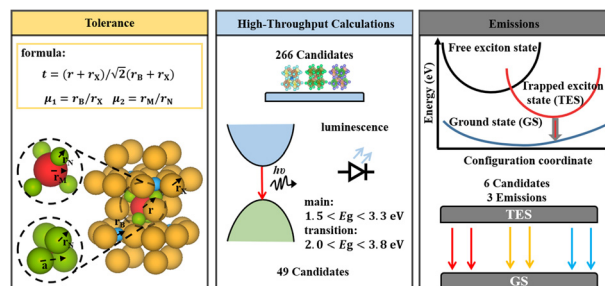
Zhongyang Yu, Dawei Wang, Yuxia Qi, Jing Liu, Tian Zhou,* Wei Rao* and Kaiwen Hu*



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Eco-friendly inorganic molecular novel antiperovskites for light-emitting application

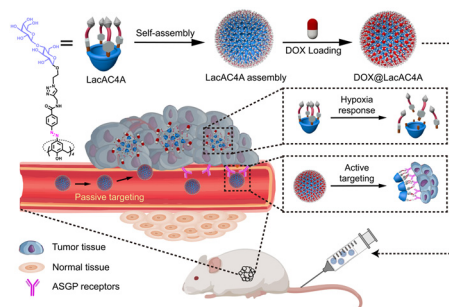
Jiawei Luo, Qun Ji, Yilei Wu, Xinying Gao, Jinlan Wang and Ming-Gang Ju*



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Triple targeting host-guest drug delivery system based on lactose-modified azocalix[4]arene for tumor ablation

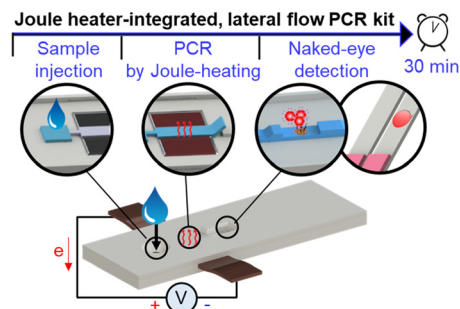
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Rapid PCR kit: lateral flow paper strip with Joule heater for SARS-CoV-2 detection

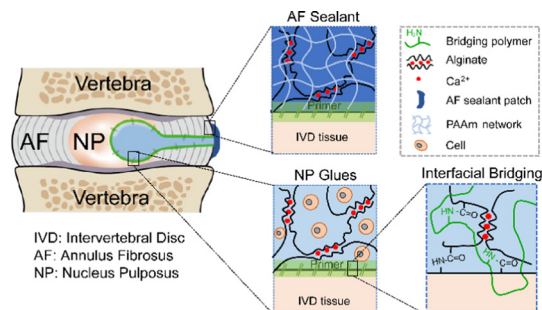
Kihyeun Kim, Bobin Lee, Jun Hyeok Park, Ji-Ho Park, Ki Joong Lee, Tae Joon Kwak, Taehwang Son, Yong-Beom Shin, Hyungsoon Im and Min-Gon Kim*



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Tissue-mimetic hybrid bioadhesives for intervertebral disc repair

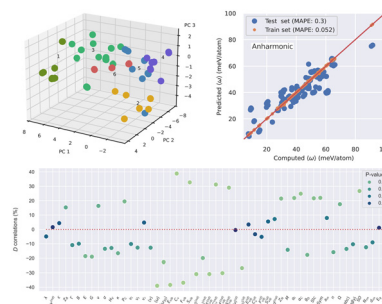
Xuan Li, Yin Liu, Li Li, Ran Huo, Farshid Ghezalbash, Zhenwei Ma, Guangyu Bao, Shiyu Liu, Zhen Yang, Michael H. Weber, Nicole Y. K. Li-Jessen, Lisbet Haglund* and Jianyu Li*



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Universal ion-transport descriptors and classes of inorganic solid-state electrolytes

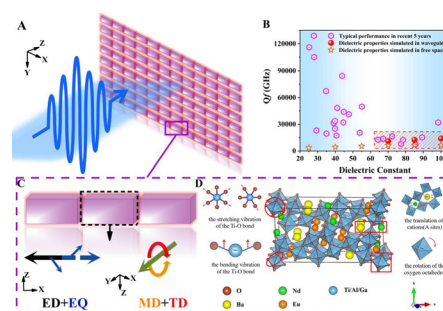
Cibrán López, Agusti Emperador, Edgardo Saucedo, Riccardo Rurali and Claudio Cazorla*



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Perfect absorption based on a ceramic anapole metamaterial

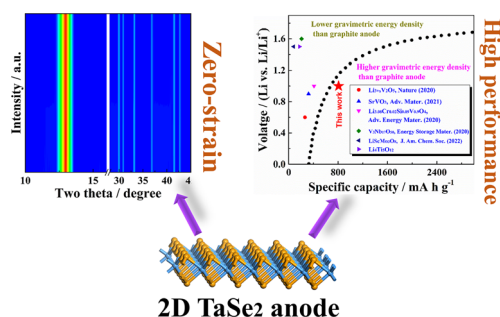
Weijia Luo, Xubin Wang, Xingcong Chen, Siyong Zheng, Shiqiang Zhao, Yongzheng Wen, Lingxia Li* and Ji Zhou*



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2D TaSe₂ as a zero-strain and high-performance anode material for Li⁺ storage

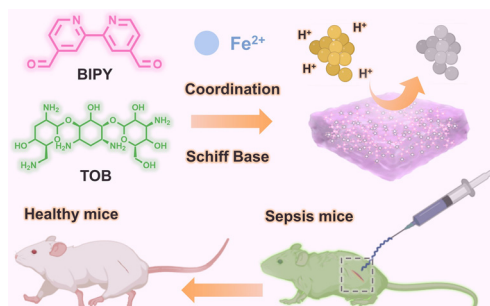
Fei Wang and Jian Mao*



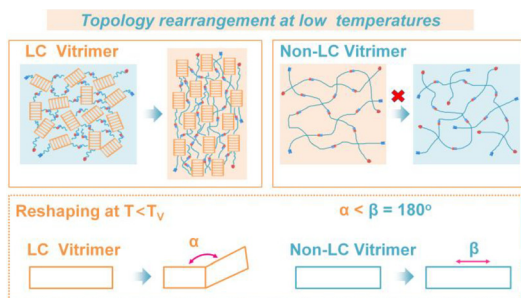
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An injectable all-small-molecule dynamic metallogel for suppressing sepsis

Haotian Li, Jianhua Zhang, Hongrui Xue, Lin Li, Xun Liu, Lei Yang, Zhipeng Gu, Yiyun Cheng, Yiwen Li* and Quan Huang*



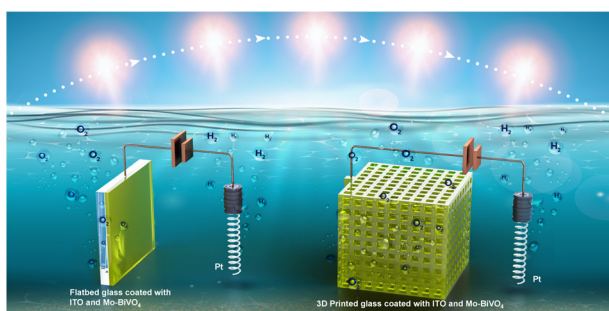
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Fabricating liquid crystal vitrimer actuators far below the normal processing temperature

Yanjin Yao, Enjian He, Hongtu Xu, Yawen Liu, Yen Wei and Yan Ji*

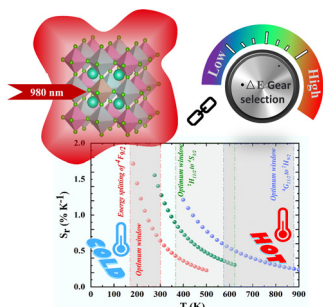
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Angle-independent solar radiation capture by 3D printed lattice structures for efficient photoelectrochemical water splitting

Chidanand Hegde, Tamar Rosental, Joel Ming Rui Tan, Shlomo Magdassi* and Lydia Helena Wong*

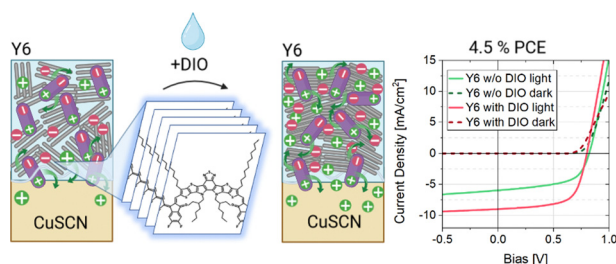
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Targeted high-precision up-converting thermometer platform over multiple temperature zones with Er^{3+}

Zhihui Rao, Zhilin Li, Xiujian Zhao and Xiao Gong*

1825



What is special about Y6; the working mechanism of neat Y6 organic solar cells

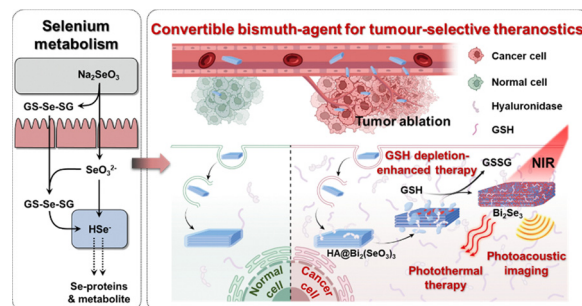
Elifnaz Sağlamkaya, Artem Musienko, Mohammad Saeed Shadabroo, Bowen Sun, Sreelakshmi Chandrabose, Oleksandra Shargaieva, Giulia Lo Gerfo M., Niek F. van Hulst and Safa Shoaee*



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Learning from human metabolism for nanomedicine: a convertible bismuth-agent for tumour-selective theranostics

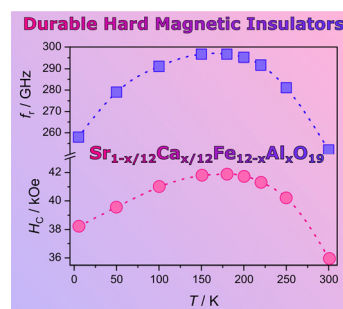
Qiannan Cao, Cuihong Yang, Yuan Yao, Bin Li, Jinjian Liu, Zhipeng Cao, Jianfeng Liu and Meng Xiao*



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Hard ferrite magnetic insulators revealing giant coercivity and sub-terahertz natural ferromagnetic resonance at 5–300 K

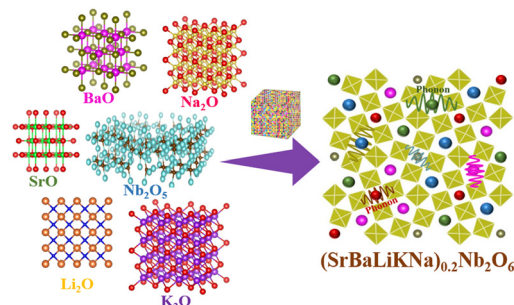
Evgeny A. Gorbachev,* Ekaterina S. Kozlyakova, Liudmila N. Alyabyeva, Asmaa Ahmed and Lev A. Trusov*



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Designing rare earth-free high entropy oxides with a tungsten bronze structure for thermoelectric applications

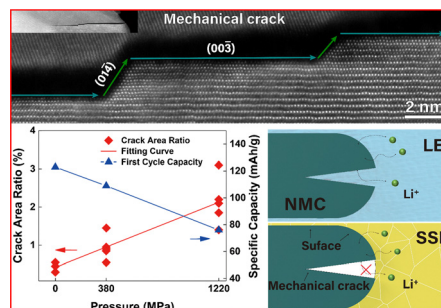
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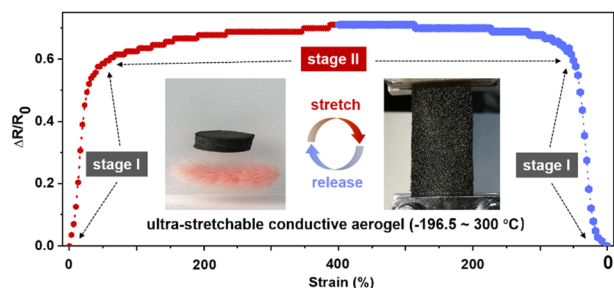
Assessing the roles of mechanical cracks in Ni-rich layered cathodes in the capacity decay of liquid and solid-state batteries

Xuedong Zhang, Zaifa Wang, Xiaomei Li, Yong Su, Zhangran Ye, Liqiang Zhang,* Qiao Huang,* Yongfu Tang* and Jianyu Huang*



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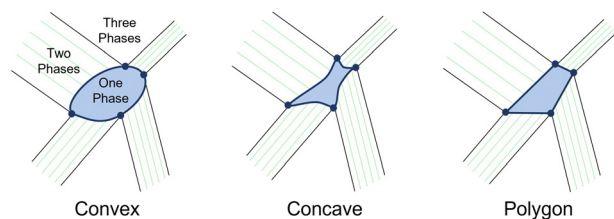
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Ultra-stretchable graphene aerogels at ultralow temperatures

Guohui Yang, Xiaofang Zhang, Ruijia Wang, Xu Liu, Jianming Zhang, Lu Zong* and Hongsheng Yang*

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Shapes of phases in isothermal phase diagrams: what is wrong with the Thermo-Calc logo

Adetoye H. Adekoya, Shashwat Anand and G. Jeffrey Snyder*

CORRECTION

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Correction: Tuning the arrangement of lamellar nanostructures: achieving the dual function of physically killing bacteria and promoting osteogenesis

Shi Mo, Kaiwei Tang, Qing Liao, Lingxia Xie, Yuzheng Wu, Guomin Wang, Qingdong Ruan, Ang Gao, Yuanliang Lv, Kaiyong Cai, Liping Tong,* Zhengwei Wu,* Paul K Chu and Huaiyu Wang*

