Materials Horizons

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See Vadim M. Kovrugin *et al.*, pp. 3712–3720. Image reproduced by permission of Vadim M. Kovrugin from *Mater. Horiz.*, 2025, **12**, 3712.

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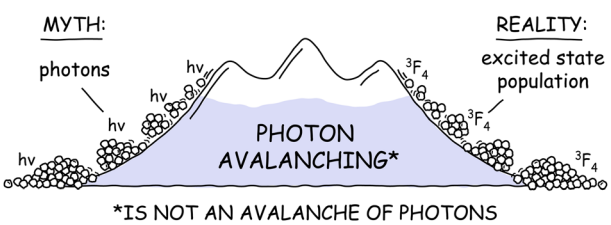
See Rui-Tao Wen *et al.*, pp. 3721–3730. Image reproduced by permission of Menghan Yin and Rui-Tao Wen from *Mater. Horiz.*, 2025, **12**, 3721.

EDITORIAL

FOCUS



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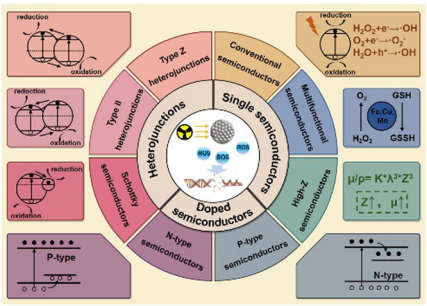

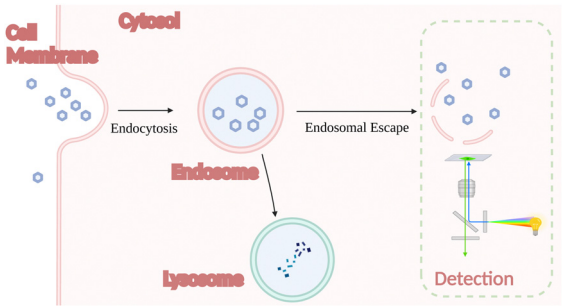

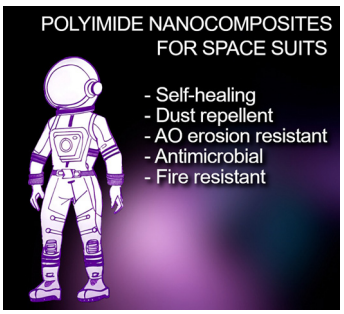

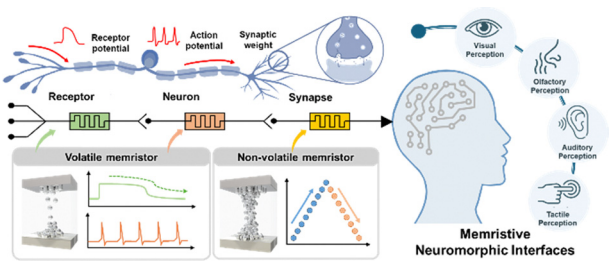

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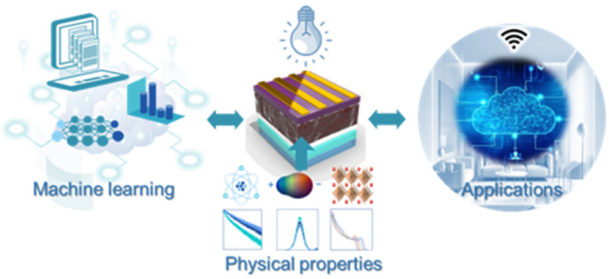

Indoor light energy harvesting perovskite solar cells: from device physics to AI-driven strategies

Wenning Chen, Kelvian T. Mularso, Bonghyun Jo* and Hyun Suk Jung*

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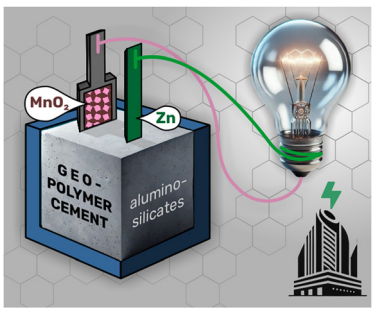
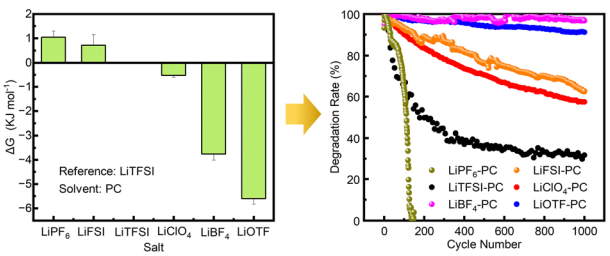


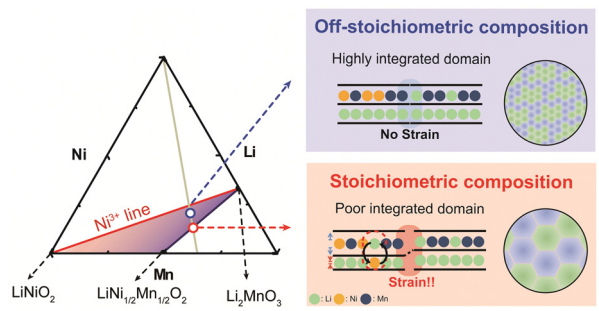
A sustainable approach to energy storage in buildings: the first rechargeable geopolymer-based battery

Vadim M. Kovrugin,* Liliane Guerlou-Demourgues, Laurence Croguennec, Jorge S. Dolado and Cyril Aymonier



Retaining superior electrochromic performance by effective suppression of ion trapping upon cycling

Renfu Zhang, Qingjiao Huang, Zhexuan Ou, Tooba Afaq Khan, Menghan Yin, Er Gao, Jiawei Sun and Rui-Tao Wen*



Elucidating and controlling phase integration factors in Co-free Li-rich layered cathodes for lithium-ion batteries

Youngsu Lee, Jaesub Kwon, Jong-Heon Lim, Eunseong Choi, Kyoung Eun Lee, Shin Park, Docheon Ahn, Changshin Jo, Yong-Tae Kim, Yoon-Uk Heo, Geunho Choi, Byongyong Yu, Inchul Park* and Kyu-Young Park*

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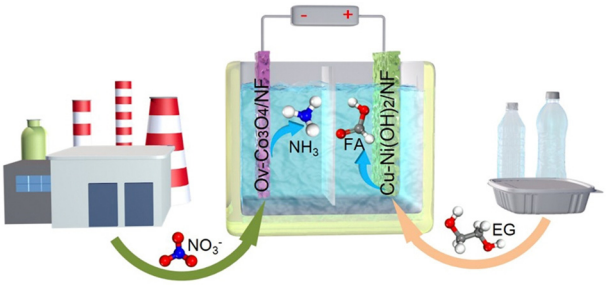

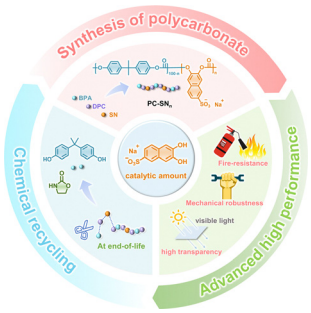

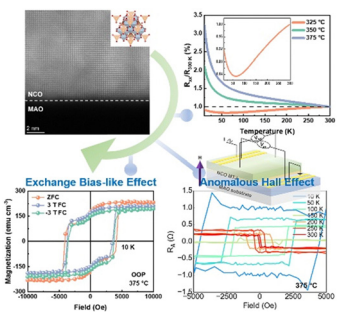

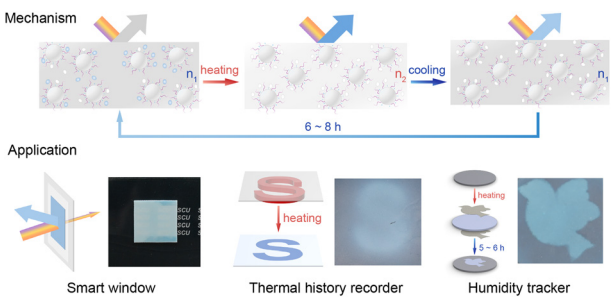

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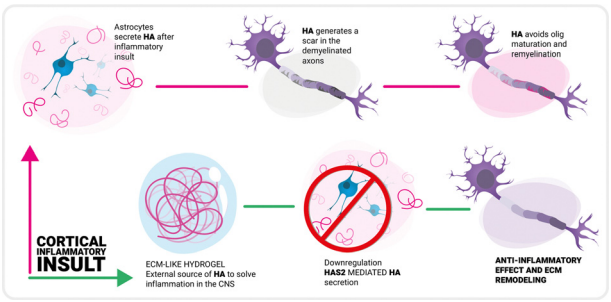

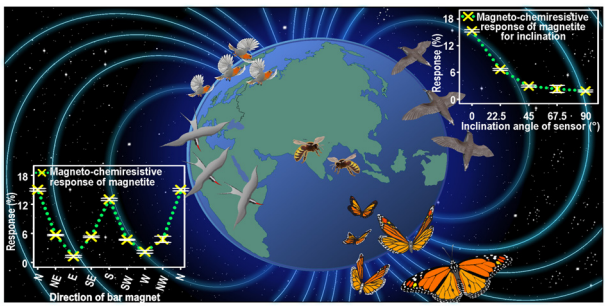

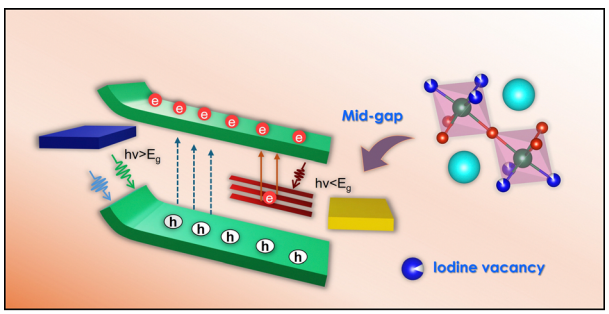

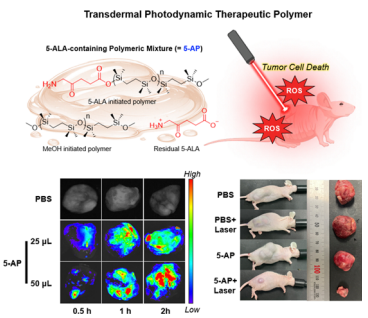

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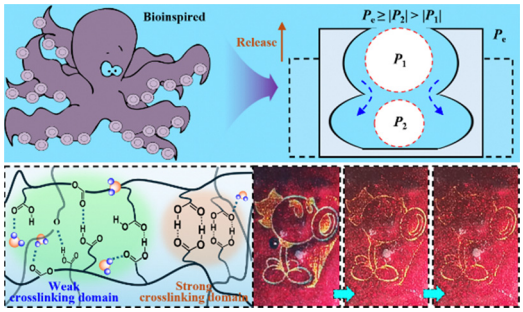

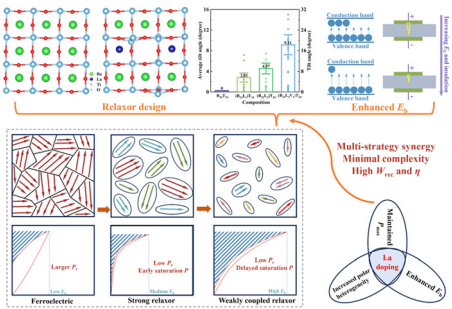

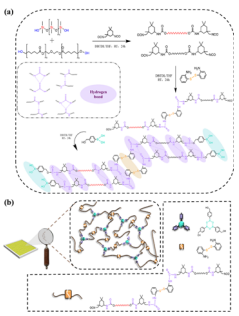

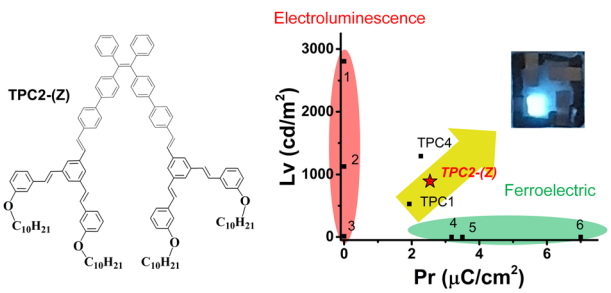

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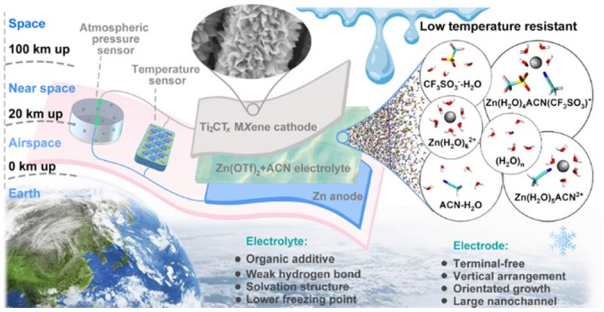

Low-temperature, low-pressure Zn-ion hybrid supercapacitor in extreme near-space application

Weijia Liu, Haiqing Liu, Yin Sun, Zhiyi Gao,* La Li* and Guozhen Shen*

CORRECTION

Correction: Transforming patterned defects into dynamic poly-regional topographies in liquid crystal oligomers

Yuxin You, Youssef M. Golestani, Dirk J. Broer, Tinghong Yang, Guofu Zhou, Robin L. B. Selinger,* Dong Yuan* and Danqing Liu*