

## Environmental Science: Atmospheres

## Connecting communities and inspiring new ideas

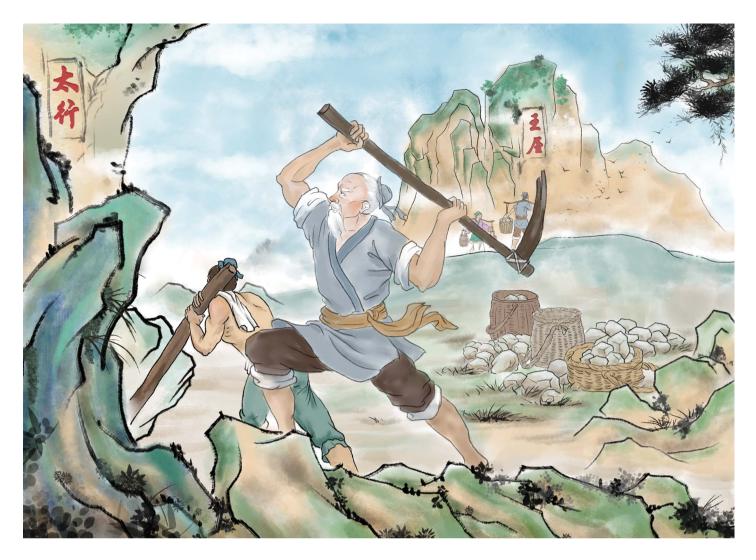
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Fundamental questions Elemental answers



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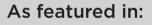
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Showcasing research from Prof. Mingxian Liu's laboratory, School of Chemical Science and Engineering, Tongji University, Shanghai, China.

*In situ* Nafion-nanofilm oriented (002) Zn electrodeposition for long-term zinc-ion batteries

Our study introduces perfluoropolymer (Nafion) into aqueous electrolyte to activate a thermodynamically ultrastable Zn/electrolyte interface. This ultrathin artificial solid electrolyte interface with zincophilic  $-SO_3^-$  groups guides the directional Zn<sup>2+</sup> electrodeposition along the (002) crystal surface even at high current density, yielding a dendrite-free Zn anode for propelling high-performance zinc-ion batteries.





See Mingxian Liu *et al., Chem. Sci.*, 2024, **15**, 4322.

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