

A cost-effective all-in-one halide material for all-solid-state batteries

By harnessing the advantageous dynamic mechanical and diffusion properties of all-in-one halides, this work establishes all-in-one halides as an avenue for energy-dense, durable ...

In article number 2003190, Kyung-Wan Nam, Yoon Seok Jung and co-workers develop a new halide solid electrolyte, Fe³⁺-substituted Li₂ZrCl₆, that is mechanically sinterable, ...

All-solid-state batteries require advanced cathode designs to realize their potential for high energy density and economic viability^{1,2,3}. Integrated all-in-one cathodes, which eliminate inactive ...

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We design an all-solid-state lithium battery based on a cost-effective organic cathode material phenanthrenequinone (PQ) and a halide solid electrolyte Li₂ZrCl₆. The PQ cathode achieved a high specific capacity of ...

2025?6?25?,?????????"A cost-effective all-in-one halide material for all-solid-state batteries"??,??? Nature ????

Abstract A cost-effective Ca²⁺-substituted Li₂ZrCl₆ solid electrolyte (SE) was fabricated by the mechanochemical method, exhibiting high Li⁺ conductivity, a wide electrochemical window and excellent compatibility ...

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Here we present Li_{1.3}Fe_{1.2}Cl₄, a cost-effective halide material that overcomes these challenges. Leveraging reversible Fe²⁺/Fe³⁺ redox and rapid Li⁺/e⁻ transport within its ...

??,??Tsun-Kong Sham??,?"????????????????????????(A cost-effective all-in-one halide ...

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