SOLAR PRO.

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 viability1,2,3. 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 Li 2 ZrCl 6. 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 Ca 2+ -substituted Li 2 ZrCl 6 solid electrolyte (SE) was fabricated by the mechanochemical method, exhibiting high Li + conductivity, a wide electrochemical window and excellent compatibility ...

??????, ??????????? ???????? ???????(2021?????????????)??????????????? ??? Nature ??????" A cost ...

Here we present Li1.3Fe1.2Cl4, 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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A cost-effective all-in-one halide material for all-solid-state batteries

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However, current sulfide-based all-solid-state lithium-organic batteries still face challenges such as high working temperatures, high costs, and low voltages. Here, we design an all-solid-state ...

A cost-effective all-in-one halide cathode material with high energy density and exceptional cycling stability can be used to achieve energy-dense, durable cathodes for the ...

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