

All-sodium redox flow battery





Overview

What is a redox flow battery?

Authors to whom correspondence should be addressed. Redox flow batteries represent a captivating class of electrochemical energy systems that are gaining prominence in large-scale storage applications. These batteries offer remarkable scalability, flexible operation, extended cycling life, and moderate maintenance costs.

Are redox flow batteries lagging Behind?

Redox flow batteries (RFBs) have emerged as a promising solution for large-scale stationary energy storage. However, nonaqueous flow batteries, despite having promising potential, are lagging behind.

Are iron-based aqueous redox flow batteries the future of energy storage?

The rapid advancement of flow batteries offers a promising pathway to addressing global energy and environmental challenges. Among them, iron-based aqueous redox flow batteries (ARFBs) are a compelling choice for future energy storage systems due to their excellent safety, cost-effectiveness and scalability.

Are aqueous redox flow batteries suitable for water splitting?

As a promising large-scale energy storage device, aqueous redox flow batteries face challenges with water splitting. Here, authors present polyoxometalate anolyte with a low redox potential which exhibits dynamic pH value changes during charging and discharging.



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