

Liquid Flow Battery Amino





Overview

Are organic redox flow batteries stable?

Organic redox flow batteries face solubility and stability challenges. Here, authors develop Cys-DHAQ, a redox molecule whose zwitterionic structure and hydrogen bonding from cysteine side chains enhance solubility, redox reversibility, and molecular stability.

Which aqueous redox flow battery has a long life at pH 12?

Kwabi, D. G. et al. Alkaline quinone flow battery with long lifetime at pH 12. *Joule* 2, 1894–1906 (2018). Wu, M., Bahari, M., Fell, E. M., Gordon, R. G. & Aziz, M. J. High-performance anthraquinone with potentially low cost for aqueous redox flow batteries. *J. Mater.*

What are aqueous redox flow batteries?

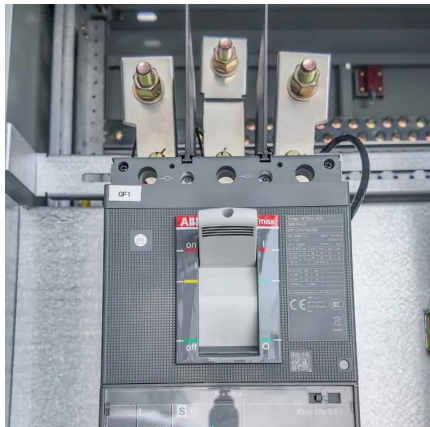
Aqueous redox flow batteries (ARFBs) offer numerous advantages such as high scalability, moldable structure, intrinsic safety and low cost, making them highly competitive 4, 5, 6, 7, 8. However, the resource limits and cross-contamination of metal ions are obstacles to the widespread application of ARFBs 9, 10.

Can nature-inspired principles be used to design organic redox flow batteries?

This study presents the promising potential of nature-inspired principles in designing electrochemically stable, redox-active organic molecules, contributing to the advancement of large-scale, biocompatible, and sustainable aqueous organic redox flow batteries.



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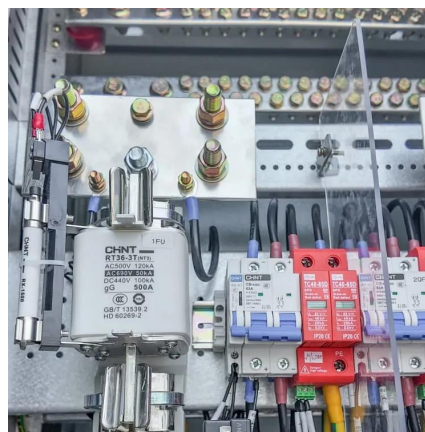
Novel Ionic Liquid-Based Aqueous Biphasic System with Amino ...

Apr 20, 2022 · The era of electric vehicles is rapidly approaching, and therefore, it is crucial to provide a sustainable technology for ensuring the circular economy of lithium-ion batteries. In ...

[An amphoteric and hydrogen-bond-rich ...](#)

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May 21, 2025 · Organic redox flow batteries face solubility and stability challenges. Here, authors develop Cys-DHAQ, a redox molecule whose ...



[An amphoteric and hydrogen-bond-rich artificial \$\gamma\$ -amino ...](#)

May 21, 2025 · Herein, we report the design and synthesis of an artificial redox-active γ -amino acid molecule by functionalizing 1,5-dihydroxyanthraquinone with natural cysteine side group, ...



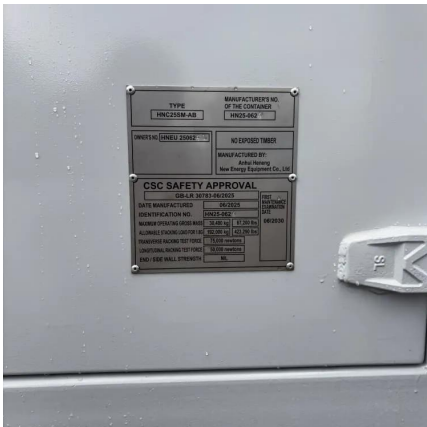
[Novel Ionic Liquid-Based Aqueous Biphasic ...](#)

Apr 20, 2022 · The era of electric vehicles is rapidly approaching, and therefore, it is crucial to provide a sustainable technology for ensuring the ...



Effects of amino acid additives on performance of all

Article "Effects of amino acid additives on performance of all vanadium redox flow battery" Detailed information of the J-GLOBAL is an information service managed by the Japan ...



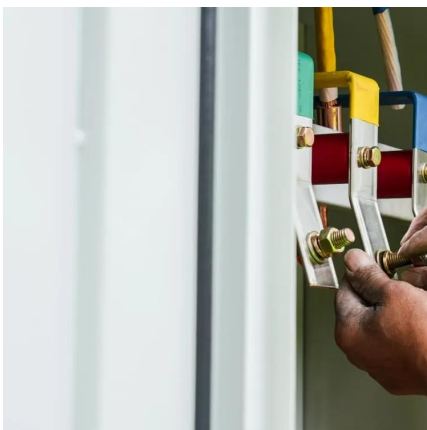
Amino acid as a multifunctional electrolyte additive for ...

Feb 15, 2025 · Here we apply a single amino acid, L-leucine (Leu), as a liquid electrolyte additive to curtail these critical issues and enhance the performance of the battery. With an ultralow ...



Nature Communications: Artificial ?-amino acid based on ...

Nov 17, 2025 · Nature Communications: Artificial ?-amino acid based on cysteine grafted natural aloe-emodin for aqueous organic redox flow batteries





An Amino Acid-Modified Bifunctional Separator for Shuttle ...

Aug 12, 2025 · This study introduces the amino acid L-Arginine (Arg) as a multifunctional additive for separator modification in Li-S batteries. The Arg-modified separator simultaneously ...

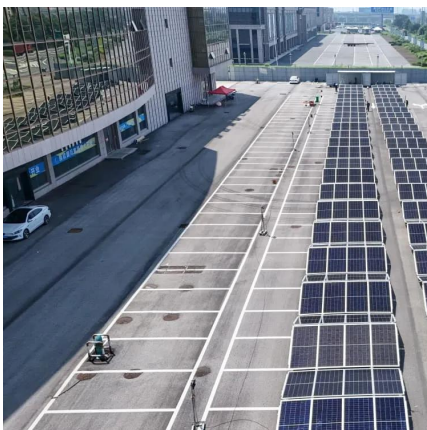


[Nature Communications: Artificial ?-amino ...](#)

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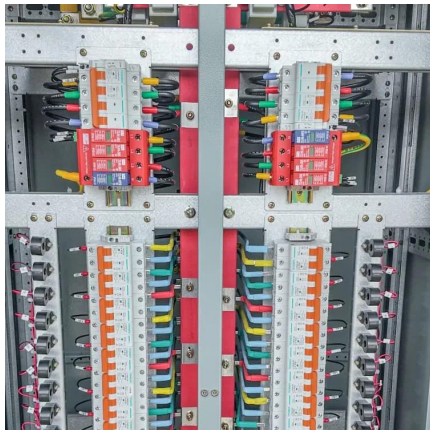
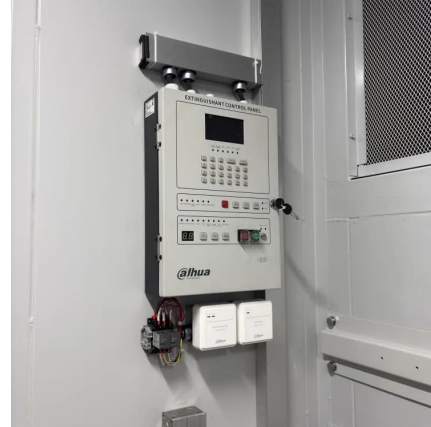
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Feb 26, 2013 · Two amino acids (L-glutamate and L-arginine) have been used respectively as an additive in a positive electrolyte containing 2.0 M VOSO₄ and 3.0 M H₂SO₄ for all ...



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