

Title: Quinone-based flow battery

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Aqueous organic flow batteries hold great promise to store massive electricity generated from intermittent renewables. Tremendous efforts have been made in tailoring existing redox cores to ...

The present results appear highly promising for the use of quinones and quinone-like compounds in flow battery applications. Future work will involve tailoring quinones to achieve ideal properties for our ...

A library of quinone-based structures with tuned properties has been studied to this end, however the long-term stability remains a critical challenge, as degradation processes significantly ...

Quino Energy is a start-up company that is developing water-based flow batteries that store electrical energy in organic molecules called quinones, for commercial and grid applications.

We have demonstrated the repeated cycling of a redox flow cell based on water-soluble organic redox couples (ORBAT) at high voltage efficiency, coulombic efficiency and power density.

We demonstrate a successful high-throughput screening approach for the discovery of inexpensive, redox-active quinone molecules for organic-based aqueous flow batteries.

Quino Energy has developed a process that converts quinone raw materials - dyestuff chemicals - directly into high-performance, long lifetime quinones using the flow battery system itself as the ...

This review article provides a comprehensive overview of recent progress in this area, with a specific focus on redox potential, solubility, and stability, and offers valuable insights into the ...

Quinones are redox-active molecules with good electrochemical reversibility and reaction rates. They are a class of metal-free organic compounds that consist of earth-abundant elements ...

A water-miscible anthraquinone with polyethylene glycol (PEG)-based solubilizing groups is introduced as

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the redox-active molecule in a negative electrolyte (negolyte) for aqueous redox flow ...

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