Flow battery quinone

We demonstrate a long-lifetime, aqueous redox-flow battery that can operate at a pH as low as 12 while maintaining an open-circuit voltage of over 1 V. We functionalized 2,6-dihydroxyanthraquinone (2,6 ...

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 production reactor.

Herein, we systematically investigate a family of quinones as bio-inspired electroactive molecules for non-aqueous redox flow batteries via a combination of experimental and computational methods.

Redox flow batteries (RFBs) rely on the development of cheap, highly soluble, and high-energy-density electrolytes. Several candidate quinones have already been investigated in the literature as two-electron ...

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 future of ...

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 providing ...

We measure electrolyte concentration and state-of-charge in real time in an operating aqueous anthraquinone-based flow battery using in-line optical spectrophotometry.

Harvard University researchers are now pursuing a metal-free flow battery chemistry, based on small organic molecules called quinones. The team claims the quinones are abundant and safer, because ...

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 impact the lifetime ...

Quinones are one of the most promising and widely investigated classes of redox active materials for organic aqueous redox flow batteries. However, quinone-based flow batteries still lack the necessary performance in ...

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Web: https://anaelenaartistapmu.es