Sulfonated TEMPO Potential Flow Battery

The TEMPO-sulfate/zinc hybrid flow batteries assembled with the SPX membrane demonstrated significantly enhanced cycling stability with an energy efficiency (EE) of ~ 80 % and a ...

Despite the excellent electrochemical properties of non-functionalized 2,2,6,6-tetramethylpiperidine-1-oxyl (TEMPO), its use in aqueous organic redox flow battery (AORFB) is ...

Here, the authors report highly ion-conductive and selective polymer membranes, which boost the battery"s efficiency and stability, offering cost-effective electricity storage.

As a potential application for the sulfonated cellulose membranes, their function as cation-selective membranes for use in redox flow batteries was investigated.

We herein report hyperbranched TEMPO-based polymers as potentially low-viscosity catholytes for RFBs aiming to improve the electrolyte capacity.

In this paper 33, mainly quinone-based, compounds are studied experimentially in terms of pH dependent redox potential, solubility and stability, combined with single cell battery RFB tests ...

Herein we report a sulfonate-functionalized viologen molecule, 1,1?-bis (3-sulfonatopropyl)-4,4?-bipyridinium, (SPr)2V, as an anolyte in neutral aqueous organic redox flow ...

Water-soluble 2,2,6,6-tetramethylpiperidine-1-oxyl (TEMPO) derivatives have been frequently utilized as catholytes for aqueous redox flow batteries to achieve cost-effective renewable energy storage. ...

We report a long-lifetime TMAP-TEMPO/BTMAP-Vi all-organic aqueous flow battery, the capacity retention rate of which is among the highest of all-organic AORFBs. We discuss the ...

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