Title: Sulfonated TEMPO Potential Flow Battery
Generated on: 2026-02-15 18:19:47

The effect of the microemulsion solubilization strategy is validated in a flow battery operated with TEMPO and methyl viologen dichloride (MVCl2) as catholyte and anolyte, ...

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

Since the 1970s, substantial research has been conducted on redox flow batteries (RFBs), which are today regarded as one of the most promising technologies for scalable energy storage.

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 ...

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 ...

Herein, a pair of anionic organic molecules, namely (PPBPy)Br 2 and PSS-TEMPO, are proposed. The (PPBPy)Br 2 in anolyte reveals remarkable electrochemical ...

To address these challenges, we designed a high-water-solubility polymer cathode material, P-T-S, which features a polyvinylimidazole backbone functionalized with 2,2,6,6 ...

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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) ...

Literature survey reveals that the practical application of TEMPO as the positive electrolyte needs more work on molecule engineering to increase the aqueous solubility, ...

Here, we demonstrate intrinsically microporous sulfonated poly (ether-ether-ketone) membranes engineered with triptycene backbone in a range of redox flow batteries.

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