Coordination chemistry flow battery

This review provides an overview of the recent development of soluble metal coordination compounds, such as Ferrocene, and concludes with an in-depth discussion of the ...

Redox flow batteries (RFBs) that employ sustainable, abundant, and structure-tunable redox-active species are of great interest for large-scale energy storage.

Alkaline iron flow batteries (AIFBs) are promising for long-duration energy storage due to the abundance of iron resources. To date, their cycling stability is challenged by the dissociation of ...

Here, we review the handful of metal coordination complexes proposed as redox flow battery electrolytes. We highlight examples with careful ligand design, driving research towards ...

Herein, we propose a coordination strategy for reducing the intrinsic negative electrode redox potential in aqueous copper-based batteries and thus improving their operating voltage.

Herein, we propose a coordination strategy to delicately tune the coordination structure of Fe 2+, enabling effective suppression of Fe 2+ hydrolysis and a highly reversible Fe plating/stripping reaction.

This Review focuses on the role of coordination chemistry in the design of redox-active electrolytes for aqueous redox flow batteries.

We present the first alkaline redox flow battery (a-RFB) based on the coordination chemistry of cobalt with 1-[Bis (2-hydroxyethyl)amino]-2-propanol (mTEA) and iron with ...

Redox flow batteries have the potential to address many of the limitations of existing battery chemistries, like lithium-ion, by offering a number of critical advantages: separation of power and energy; low ...

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