Low dimensional mof energy storage

The Cu-MOF@NF//AC asymmetric supercapacitor demonstrates high specific capacitance (53.4 F g -1) and stability (90.3 % after 2000 cycles). Furthermore, this work ...

With many apparent advantages including high surface area, tunable pore sizes and topologies, and diverse periodic organic-inorganic ingredients, metal-organic frameworks ...

Porous materials are promising for energy applications and MOF-derived layered double hydroxide (LDH) nanosheets vertically align on the conductive substrates showed an ultra-thin ...

When MOFs are applied as electrode materials, they are mainly utilized to obtain MOF composites, MOF-derived materials, and modified MOF-derived materials. This ...

The Zr-MOF could be employed as either the active material or the additive in another active material. In this article, we aim to provide a comprehensive review on the progress in the use ...

While previous reviews have covered 2D MOF-based functional materials and their applications in energy, given the swift advancements in MOF-derived materials and ...

Abstract Effective electrocatalysts and electrodes are the core components of energy conversion and storage systems for sustainable carbon and nitrogen cycles to achieve ...

Two-dimensional (2D) metal-organic frameworks (MOFs) and their derivatives with excellent dimension-related properties, e.g. high surface areas, abundantly accessible metal nodes, and ...

In conclusion, MOFs and MOF-derived nanomaterials show great potential in the field of energy storage and conversion due to their unique properties. Nonetheless, there are ...

Aqueous zinc-based batteries (AZBs) are promising energy storage solutions with remarkable safety, abundant Zn reserve, cost-effectiveness, and relatively high energy density. However, ...

Furthermore, the potential applications of LD MOF-based materials in catalysis, energy storage, gas adsorption and separation, and sensing are introduced. Finally, challenges and ...

The research of hierarchical MOF makes outstanding contribution to the improvement of the performance of electrochemical energy storage device, and greatly ...

The research aims to optimize the composition and structure of MOF composites in order to increase their

energy storage capacity, while also taking into account cost ...

In recent years, two-dimensional (2D) materials such as graphene, MXene, MOF, and black phosphorus have been widely used in various fields such as energy storage, ...

Two-dimensional (2D) conducting metal-organic frameworks (MOFs) is an emerging family of porous materials that have attracted a great attention due to their ...

Metal-organic frameworks (MOFs) have exhibited tremendous potential in catalysis, gas storage, drug delivery, and sensing due to their high surface area, high porosity, ...

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