Solar Storage Container Solutions

Cobalt molybdate supercapacitor price

Overview

Is cobalt molybdate a good electrode material for supercapacitors?

Cobalt molybdate (CoMoO 4) nanomaterials have been regarded as one of the most prospective electrode materials for supercapacitors due to their high theoretical capacitance and excellent electrical conductivity.

What is cobalt molybdate (CoMoO4)?

Cobalt molybdate (CoMoO4) nanomaterials have been regarded as one of the most prospective electrode materials for supercapacitors due to their high theoretical capacitance and excellent electrical conductivity.

Why are cobalt molybdate materials reversible redox reactions?

Cobalt molybdate materials, a kind of two-element transitional metal oxide, facilitate reversible redox reactions due to their abundant reserves and variable valence states of cobalt and molybdenum ions, and their electrochemical performance is usually better than that of single-component oxides.

Are nickel/cobalt oxides A pseudocapacitor material?

However, the nickel/cobalt oxides materials such as NiO, Co3 O 4 and NiCo 2 O 4 etc. are typical battery-type materials and have been widely exploited as anode materials for lithium batteries, which should not be classified into pseudocapacitor materials.

Which materials are suitable for supercapacitor electrodes?

Typically, the nickel/cobalt based materials with lower price, abundant natural resources, environment-friendly and multiple oxidation states for richer redox reactions have received considerable research interests for supercapacitor electrode materials, such as nickel hydroxides and nickel cobaltite, etc. [16, 17].

How can supercapacitors be improved?

Until now, many ways have been explored to further enhance the performance of supercapacitors, such as enlarging the surface areas of materials, searching for new materials and introducing faradic redox reactions, etc. [4, 13, 14], which great promote the development of supercapacitors.

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The study of electrochemical behavior of cobalt doped ZnMoO

Dec 4, 2024 · Transition metal molybdates based electrode material were widely investigated in research, recently. Among them, the exploration of ZnMoO4 as an electrode material was ...

Binder-free cobalt molybdate nanoflakes grown on nickel

Nov 6, 2023 · In this work, Cobalt molybdate nanoflakes were grown on nickel foam which is used as an electrode for the supercapacitor and electrocatalyst for the methanol oxidation reaction. ...

Synergistically engineered cobalt molybdate/nickel boride

The heterostructure's distinct interface synergy promotes rapid ion diffusion, making it a promising material with great potential for high-performance supercapacitors. Herein, Cobalt ...

Binder-free cobalt molybdate nanoflakes grown on nickel ...

Jan 1, 2024 · In this work, Cobalt molybdate nanoflakes were grown on nickel foam which is used as an electrode for the supercapacitor and

electrocatalyst for the m...

Cobalt molybdate nanoflowers decorated bio-waste derived ...

In this work, we report a supercapacitor electrode material based on nano-flower like cobalt molybdate decorated on porous activated carbon derived from waste onion peels (? ...

Improved supercapacitor and oxygen evolution reaction

Nov 12, 2023 · Herein, various morphologies (Bundle of rods, rods, nanoparticles, and umbra) of cobalt molybdate (CoMoO4) were obtained by changing the pH (6, 7, 8, and 9) of the solutions ...

Phosphorous-doped nickel-cobalt bimetallic molybdate...

Nov 1, 2024 · Phosphorous-doped nickel-cobalt bimetallic molybdate/three-dimensional hierarchical porous carbon for high-efficiency solid-state supercapacitors Ziyang Cong a 1, ...

Nickel/cobalt based materials for supercapacitors

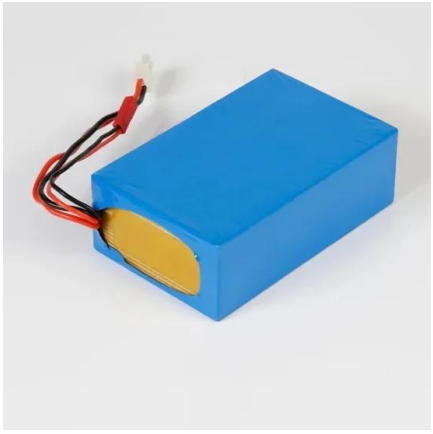
Dec 1, 2018 · The electrode materials as the key component of supercapacitors have attracted considerable research interests, especially for nickel/cobalt based materials by virtue of their ...

Pseudocapacitive Properties of cobalt molybdate hydrates

Jun 27, 2025 · Molybdenum-based oxides possess excellent electron transport capabilities,making them promising candidates for supercapacitor electrode materials. In this ...

Controllable synthesis of nanorod nickel doped cobalt molybdate ...

Oct 1, 2023 · Cobalt molybdate (CoMoO4) is a promising transition metal oxide catalyst used in supercapacitors and hydrogen evolution reaction (HER) [37], [38], Fan et al. first investigated ...



Nickel/cobalt based materials for supercapacitors

Dec 1, 2018 · Typically, the nickel/cobalt based materials with lower price, abundant natural resources, environment-friendly and multiple oxidation states for richer redox reactions have ...

Cobalt molybdate nanoflowers decorated bio-waste derived ...

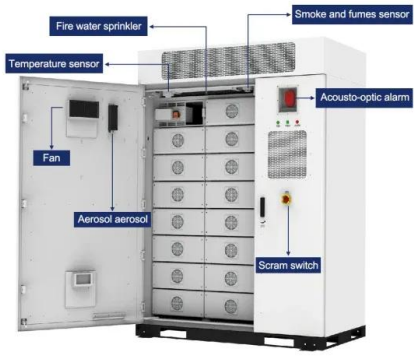
Aug 16, 2025 · Summary In this work, we report a supercapacitor electrode material based on nano-flower like cobalt molybdate decorated on porous activated carbon derived from waste ...

Regulating the surface reconstruction of nickel-cobalt molybdate

2 days ago · Transition-metal molybdate materials, such as NiMoO 4 and CoMoO 4, have emerged as highly promising battery-type electrode candidates for supercapacitors owing to ...

Boosting the performance of cobalt molybdate nanorods by ...

Apr 1, 2020 · Binary transition metal oxides have received extensive attention because of their multiple oxidation states. However, due to the inherent vices of poor electronic/ionic ...



Facile Solid-State Chemical Synthesis of CoMoO4 Nanorods ...

Mar 19, 2024 · The development of electrode materials with excellent performance serves as the key for researchers to enhance the energy density of supercapacitors. Cobalt molybdate ...

Nickel-doped cobalt molybdate nanorods with excellent ...

Mar 18, 2020 · Nickel-doped cobalt molybdate nanorods with excellent cycle stability for aqueous asymmetric supercapacitor Xiaodan Zhang a, Luchao Yue a, Shuaiguo Zhang b, Yu Feng c, ...

Pseudocapacitive properties of cobalt molybdate hydrates ...

Semantic Scholar extracted view of "Pseudocapacitive properties of cobalt molybdate hydrates with biomimetic shark tooth structures induced by cation doping" by Lingfeng Li et al.

Nickel-doped cobalt molybdate nanorods with excellent ...

Mar 1, 2020 · Nickel-doped cobalt molybdate nanorods with excellent cycle stability for aqueous asymmetric supercapacitor International Journal of Hydrogen Energy (IF 8.1) Pub Date : ...

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Oct 30, 2018 · Phosphorous-containing oxygen-deficient cobalt molybdate as an advanced electrode material for supercapacitors The intrinsically poor ...

Facile Solid-State Chemical Synthesis of CoMoO4 Nanorods ...

Mar 19, 2024 · Moreover, cobalt and molybdenum ions display rapid electron transfer and good electrical conductivity due to their abilities to form empty d-orbitals after hybridization; ...

Improved supercapacitor and oxygen evolution reaction ...

Jan 2, 2024 · Abstract Herein, various morphologies (Bundle of rods, rods, nanoparticles, and umbra) of cobalt molybdate (CoMoO 4) were obtained by changing the pH (6, 7, 8, and 9) of ...

Phosphorous-containing oxygen-deficient cobalt molybdate ...

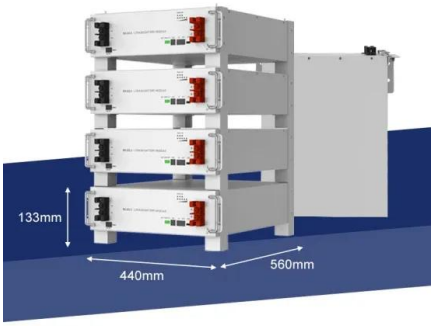
May 1, 2019 · Herein, we demonstrate an effective strategy of creating phosphorus-containing cobalt molybdate (CoMoO 4) with oxygen vacancies (P-CoMoO 4-x) on nickel foam for use as ...

Nickel/Cobalt Molybdate Hollow Rods Induced by Structure

Jun 4, 2021 · Oxygen defects and hollow structures positively impact pseudocapacitive properties of diffusion/surface-controlled processes, a component of critical importance when building ...

Electrochemical and magneto-optical properties of cobalt molybdate ...

Oct 15, 2018 · Nanorod shaped cobalt molybdate (CoMoO 4) electro-catalysts synthesized by microwave combustion route using urea as the fuel. The formation of monoclinic ...



Boosting the capacitive performance of hierarchical cobalt

Mar 9, 2021 · Boosting the capacitive performance of hierarchical cobalt molybdate hybrid electrodes for asymmetric supercapacitors,Journal of Materials Science - X-MOL

Simple synthesis and supercapacitor characterization of cobalt

Jun 24, 2024 · To address this shortcoming, we have devised a simple hydrothermal method for producing a composite powder of cobalt molybdate and graphene oxide (CMG), with the goal ...

Boosting the capacitive performance of hierarchical cobalt molybdate

Oct 8, 2019 · With the multifunctional features, the rationally combined core-shell-like CoM NS@CoP/NF electrode exhibited a maximum capacity of 886.8 uA ...

Nickel-doped cobalt molybdate nanorods with excellent ...

Jul 16, 2025 · ?? Nickel-doped cobalt molybdate nanorods with excellent cycle stability for aqueous asymmetric supercapacitor ?????????????????????????? ...

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