Polypyrrole-coated paper for flexible solid-state energy storage

What is highly conductive paper?

Highly conductive paper was fabricated through polypyrrole (PPy) coating on common printing paperby a simple and low-cost "soak and polymerization " method. The as-fabricated porous,flexible and conductive paper shows a high electrical conductivity of 15 S cm -1 and a low sheet resistance of 4.5 O sq -1.

What is a polypyrrole-MXene based SC?

Herein,a lightweight,flexiblepolypyrrole-MXene based SCs is developed by combining the good electrochemical performance of Ti 3 C 2 T x with the porous and hydrophilic characteristics of cotton textile.

Can MXene-based textiles be used for flexible and wearable energy storage devices?

In addition,a symmetrical solid-state supercapacitor based on MXene-PPy textiles was assembled,which achieved an energy density of 1.30 mW h g -1 (power density = 41.1 mW g -1). This work introduces a new type of MXene-based textile SC,which provides a promising candidatefor flexible and wearable energy storage devices.

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To evaluate the actual energy storage performance of the MPP-5 supercapacitor, a series connection of MPP-5 assembled supercapacitors is utilized to increase the operational ...

Particularly, its volumetric energy density outperforms many previously reported solid-state SCs, such as polypyrrole-coated paper symmetric SC 10, carbon/MnO 2 fiber ...

Reduced graphene oxide/polypyrrole nanotube papers for flexible all-solid-state supercapacitors with excellent rate capability and high energy density J Power Sources, 302 (...

The as-fabricated porous, flexible and conductive paper shows a high electrical conductivity of 15 S cm~(-1) and a low sheet resistance of 4.5 O sq~(-1) Flexible solid-state super-capacitors ...

Based on these superior features, an all-solid-state supercapacitor assembled with the PPy coated paper electrodes shows an outstanding energy density of 62.4 µW h cm -2, ...

Polypyrrole-Coated Paper for Flexible Solid-State Energy Storage Longyan Yuan,? a bBin Yao,?a,b Bin Hu,a Kaifu Huo, Wen Chen and Jun Zhou*a a Wuhan National ...

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Owing to the superior mechanical flexibility and environmental stability of the free standing PPy paper, the robust electrode displays an ultrahigh capacitance of 1650 mF cm-2and ...

Ultra-high performance, flexible, and good conductive polypyrrole (PPy) coated carbon nanotube paper (CNTP) electrodes are successfully prepared by a facile in-situ ...

High-performance and breathable polypyrrole coated air-laid paper for flexible all-solid-state supercapacitors Adv. Energy Mater., 7 (2017), Article 1701247 View in Scopus ...

DOI: 10.1039/C9TA01856E Corpus ID: 133332205; Ultra-high performance and flexible polypyrrole coated CNT paper electrodes for all-solid-state supercapacitors ...

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The all-solid-state supercapacitor device built with two PPy papers as electrodes and PVA-H 2SO 4 gel as the electrolyte also possessed excellent capabilities, representing an extensible route ...

Based on these superior features, an all-solid-state supercapacitor assembled with the PPy coated paper electrodes shows an outstanding energy density of 62.4 µW h cm -2, remarkable air permeability and excellent ...

Ultra-high performance, flexible, and good conductive polypyrrole (PPy) coated carbon nanotube paper (CNTP) electrodes are successfully prepared by a facile in situ interfacial polymerization method. The optimized ...

Facile synthesis of graphene paper/polypyrrole nanocomposite as electrode for flexible solid-state supercapacitor. Author links open overlay panel Weizheng Wang a 1, Omer ...

The strong mechanical adhesion of PPy on CNF film is essential for energy storage stability. ... Yuan LY, Yao B, Hu B, Huo KF, Chen W, Zhou J (2013) Polypyrrole-coated paper for flexible ...

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In most fiber-shaped all-solid-state supercapacitors, carbon nanotubes (CNTs) and graphene fibers have been commonly used as flexible electrodes materials due to their ...

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