



# Polyacrylamide capacitors

The assembled flexible soft-packaged Zn//AC supercapacitor based on Zn-Alginate/PAM hydrogel electrolyte exhibited a high specific capacity of 194 mAh g<sup>-1</sup> at 0.1 A g<sup>-1</sup> and stable cycling performance with 77.0 % capacity retention ...

Among various hybrid capacitor devices (i.e., Li-, Na-, K-, Zn-HC), the aqueous Zn-ion hybrid capacitor ... Polyacrylamide (PAM) hydrogel electrolyte is one of the most widely used gel electrolytes, which are usually composed of the PAM physical network and infused electrolyte solution (Li et al., ...

A new hydroxide (OH<sup>-</sup>) ion-conducting polymer electrolyte comprised of tetraethylammonium hydroxide (TEAOH) and polyacrylamide (PAM) was developed. This electrolyte exhibits excellent ionic conductivity greater than 10 mS cm<sup>-1</sup> at room temperature and stable shelf-life over an 80 day exposure in various environments. Solid electrochemical double ...

A highly ionic-conductive and high-performance neutral pH polymer electrolyte comprises of Na<sub>2</sub>SO<sub>4</sub> and polyacrylamide (PAM) was developed for solid electrochemical double-layer capacitors (EDLCs). Na<sub>2</sub>SO<sub>4</sub> was compared with Li<sub>2</sub>SO<sub>4</sub> baseline in liquid electrolyte and exhibited higher ionic conductivity and identical stability window. Na<sub>2</sub>SO<sub>4</sub> ...

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Acid-mediated strategies designed for stretchable and durable polyacrylamide/sodium alginate dual-network hydrogels toward flexible capacitors and wearable sensors. Author links open overlay panel Shuangqing Li a, Ying Wei a, Zheng Xing a, Xinyi Ge a, Xinyuan Zhang b, Qingguo Zhang a, Zhong-Xia Wang c.

However, direct mixing of organic/inorganic materials leads to low dosage and poor dispersion of polymers owing to macromolecular chains. Herein, we firstly prepare ...

A highly ionic-conductive and high-performance neutral pH polymer electrolyte comprises of Na<sub>2</sub>SO<sub>4</sub> and polyacrylamide (PAM) was developed for solid electrochemical double-layer capacitors (EDLCs). Na<sub>2</sub> ...

By employing an in-plane asymmetric printing technique, the fabricated quasi-solid-state Zn-ion hybrid micro-capacitors exhibit high rate, long life and energy density up to 8.2 mWh cm<sup>-2</sup>. ... Zn powder anode and Zn(CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub>/polyacrylamide (PAM) hydrogel electrolyte are fabricated on polyimide (PI) substrate. Screen printing technique is ...

The electrical double-layer capacitor of NS-G acts as a supporting host for the growth of pseudocapacitance NCS nanoparticles, thus enhancing the synergistic electrochemical performance.



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Request PDF | On Jul 1, 2024, Shuangqing Li and others published Acid-mediated strategies designed for stretchable and durable polyacrylamide/sodium alginate dual-network hydrogels toward flexible ...

In the field of Zn-ion hybrid capacitors (ZICs), a multifunctional and ionic cross-linked copolymer hydrogel based on anionic P(AMPSZn-AAZn)/ZnCl<sub>2</sub> polymer chain was presented, in which FeCl<sub>3</sub> formed ionic bond cross-link with ...

, (fc) ?, ...

Request PDF | Borotungstic acid - Polyacrylamide solid electrolytes for electrochemical capacitors with H<sub>3</sub> PO<sub>4</sub> plasticizer | Proton-conducting polymer electrolytes consisting of borotungstic ...

DOI: 10.1016/j.dscop.2022.116216 Corpus ID: 255742343; A flexible Zn-ion capacitor based on wood derived porous carbon and polyacrylamide/cellulose nanofiber hydrogel @article{Zhou2023AFZ, title={A flexible Zn-ion capacitor based on wood derived porous carbon and polyacrylamide/cellulose nanofiber hydrogel}, author={Guoqiang Zhou and ...

Sodium alginate reinforced polyacrylamide/xanthan gum double network ionic hydrogels for stress sensing and self-powered wearable device applications. Author links open overlay panel Tuo ... The capacitors used in the experiments were conventional 4.7 mF direct-plug aluminum electrolytic capacitors that are commercially available and bought ...

, (LiCl)(PAM)? LiCl-PAM > 10 mS cm<sup>-1</sup>? LiCl-PAM ...

A highly ionic-conductive and high-performance neutral pH polymer electrolyte comprises of Na<sub>2</sub>SO<sub>4</sub> and polyacrylamide (PAM) was developed for solid electrochemical double-layer capacitors (EDLCs). Na<sub>2</sub>SO<sub>4</sub> was compared with Li<sub>2</sub>SO<sub>4</sub> baseline in liquid

Cost-effective porous carbon materials have been widely used in advanced electrochemical capacitors (ECs). Herein, we developed a simple yet scalable method to fabricate a porous hierarchical N,S co-doped carbon framework (HNSC-F) using a polyacrylamide hydrogel (PAAG) soaked with CH<sub>4</sub>N<sub>2</sub>S as a precursor. The HNSC-F is endowed with a large surface area of ...

, (LiCl)(PAM)? LiCl-PAM > 10 mS cm<sup>-1</sup>? LiCl-PAM? CNT-(EDLC)? EDLC LiCl 85%?

Le polyacrylamide est un polymère soluble dans l'eau, couramment utilisé dans diverses applications industrielles et scientifiques. Il est souvent abrégé en PAM et sa formule chimique est (C<sub>3</sub>H<sub>5</sub>NO)<sub>n</sub>. Structure chimique et propriétés. Le polyacrylamide est formé par la polymérisation de l'acrylamide, un petit monomère.

The advent of flexible electronic devices has given rise to urgent demand for compatible flexible power



# Polyacrylamide capacitors

sources. Zinc-ion hybrid capacitors (ZIHCs) combine the complementary advantages of zinc-ion ...

DOI: 10.1016/J.ELECOM.2018.10.026 Corpus ID: 104938235; Lithium polyacrylate-polyacrylamide blend as polymer electrolytes for solid-state electrochemical capacitors @article{Virya2018LithiumPB, title={Lithium polyacrylate-polyacrylamide blend as polymer electrolytes for solid-state electrochemical capacitors}, author={Alvin Virya and Keryn Lian}, ...

Abstract. A new hydroxide ( $\text{OH}^-$ ) ion-conducting polymer electrolyte comprised of tetraethylammonium hydroxide (TEAOH) and polyacrylamide (PAM) was developed. This electrolyte exhibits excellent ionic conductivity greater than  $10^{-3}$  ...

Polyacrylamide (PAM) GPE has very high transparency and ionic conductivity, as well as good flexibility and mechanical properties, making it an ideal choice for electrolyte layers of ECDs [[30 ... Lithium polyacrylate-polyacrylamide blend as polymer electrolytes for solid-state electrochemical capacitors. Electrochem. Commun., 97 (2018), pp. 77 ...

In recent years, hydrogels have been employed to fabricate flexible capacitors (FCs) and wearable sensors. However, achieving a balance between the electrochemical and mechanical properties of hydrogels remains a challenge. Herein, polyacrylamide/sodium alginate (PAM/SA) dual-network hydrogels with good mech

Zinc polyacrylamide hydrogel electrolyte for quasi-solid-state electrochromic devices with low-temperature tolerance In this paper, Ai et al. prepare a  $\text{WO}_3\text{-Zn}$  electrochromic bifunctional battery by in situ polymerization based on a hydrogel electrolyte containing a high zinc concentration, which can work at 30 °C and supply external power during the

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