

Can lithium-ion capacitors be used in flexible devices?

The emergence of lithium-ion capacitors (LICs), which combined a battery-type electrode and capacitor-type electrode in one device, has provided new insight to tackle the current limitations of LIBs and SCs and aroused extensive attention for their potential in flexible devices ,,,.

What is a flexible quasi-solid-state LIC device?

Hence, a flexible quasi-solid-state LIC device was fabricated based on rGO/AC cathode, rGO/HC anode, and a bis (trifluoromethane)sulfonimide lithium salt (LITFSI)/polyvinylidene fluoride-hexafluoropropylene (PVDF-HFP) film as both the separator and electrolyte.

What is RGO/carbon filtration for lithium-ion capacitors?

To address these challenges, a free-standing reduced graphene oxide (rGO)/carbon film with a unique sandwich structure has been designed via the assistance of vacuum-assistant filtration for lithium-ion capacitors (LICs).

Are flexible HC-RGO anodes suitable for sodium-ion batteries?

Similarly, Sun et al. prepared a flexible micro-sized hard carbon (HC)-rGO anode for sodium-ion batteries. Benefiting from the multi-functional conductive binder of rGO, the flexible HC-rGO films exhibit an improved capacity and cyclic stability.

Semantic Scholar extracted view of "Flexible perovskite solar cell-driven photo-rechargeable lithium-ion capacitor for self-powered wearable strain sensors" by C. Li et al. ... A ...

DOI: 10.1016/j.est.2022.104031 Corpus ID: 246072646; Flexible all solid-state niobium nitride//activated carbon lithium-ion hybrid capacitor with high volumetric power and energy ...

DOI: 10.1016/j.jpowsour.2020.229143 Corpus ID: 229497928; Flexible quasi-solid-state lithium-ion capacitors employing amorphous SiO₂ nanospheres encapsulated in ...

In the present work, a flexible quasi-solid-state lithium-ion capacitor (LIC) is developed based on graphene-based bendable freestanding films in a gel polymer electrolyte. ...

Exploiting lithium ion capacitor in flexible wire-shape design is an excellent way to bridge the performance gap of wire shaped LIBs and SCs. ... Facile development strategy of ...

Development of lithium-ion capacitors. Lithium-ion capacitors are hybrid supercapacitors. As early as 1987, S Yata et al. first reported that polybenzene (PAS) could reversibly insert/deinsert Li + ...

??????? 2D Graphene/MnO Heterostructure with Strongly Stable Interface Enabling High-Performance

Flexible Solid-state Lithium-Ion Capacitors ??,??? ...

Notably, the as-assembled flexible pouch cell of activated carbon//rGO/MnO solid-state lithium-ion capacitors (LICs) possesses an exceptional energy density of 194 Wh kg ...

The ever-increasing boom in smart, miniaturized electronics has led to an urgent need for on-chip energy storage systems that exhibit high performance, safety, flexibility and ...

A research team led by WU Zhongshuai and BAO Xinhe et al. from Dalian Institute of Chemical Physics of the Chinese Academy of Sciences, collaborated with HE ...

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Lithium-ion capacitors (LICs), as a hybrid of EDLCs and LIBs, are a promising energy storage solution capable with high power (10 kW kg^{-1} , which is comparable to EDLCs and over 10 ...

Flexible electrochemical energy storage devices are gaining considerable interest for use in smart portable flexible electronic devices. Herein, a (Niobium nitride) NbN// Activated carbon (AC) ...

A highly flexible solid-state Li-ion hybrid capacitor NbN//AC is demonstrated. o The designed capacitor exhibits a high capacitance of 2597 mF cm^{-3} at 60 mA cm^{-3} . o The ...

Flexible electrochemical energy storage devices are gaining considerable interest for use in smart portable flexible electronic devices. Herein, a (Niobium nitride) NbN// Activated ...

Flexible energy storage devices have become critical components for next-generation portable electronics. In the present work, a flexible quasi-solid-state lithium-ion ...

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