Sodium electrode for organic solar cells

Can organic solar cells be used in wearable or stretchable electronics?
The mechanical properties of organic solar cells are of great importance to ensure their application in wearable or stretchable electronics. Here, we introduce polymer acceptor (N2200) into the active layer blend, and realize intrinsically stretchable organic solar cells (is -OSCs) with evaporated electrode via encapsulation strategy.

Why is surface design a new type of sodium storage electrode?
This surface design strategy reduces the irreversible capacity loss of Sb anode and selectively promotes the decomposition of FEC in electrolyte to form a dense and robust SEI,which provides a stable interface for durable electrodes. As a new type of sodium storage electrode,interface studies on organic electrodes are rarely reported.

What metals are used in organic solar cells?
Ultrathin metals commonly used as the top electrode of transparent and semi-transparent organic solar cells have included silver,gold,aluminum,and copper.

Can transparent conductive electrodes be used for solar cells?
All in all, discovering means of production, development, and enhancement of transparent conductive electrodes will facilitate the advancement of transparent solar cells and thus a clean-energy society.

How can we improve the performance of a sodium-ion battery electrode?
In addition to developing novel electrode materials,it is also possible to improve performance through mixing strategies. The strategy of mixing isomers as anode materials offers a new way for developing next-generation high-capacity sodium-ion battery electrodes.

Can organic solar cells be used as TSCs?
The use of organic solar cells as TSCs confronts many difficulties,from selecting active layer materials that selectively absorb UV and NIR light and managing reflections in the device to perhaps the most critical challenge - finding appropriate top conductive electrodes (TCEs).

We investigate a solution-processable, non-toxic sodium chloride (NaCl) interlayer for aluminum cathodes in organic solar cells. The electron extraction at the cathode ...

A highly flexible and durable transparent graphene electrode with thermal stability was developed via the direct integration of polyimide (PI) on graphene. Due to the ...

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NaCl leading to power conversion efficiencies of up to 2.9% as compared to 1.8% efficient devices without interlayer.

On the basis of this understanding, we achieved four-sodium storage in a Na2C6O6 electrode with a reversible capacity of 484 mAh g-1, an energy density of 726 Wh kg-1 ...

Solar cells are semiconductor devices that convert light into electricity. Under illumination, light flux is shined on the solar cells. When the photon energy is equal to or greater than the bandgap of the material, the photon is absorbed by the material, one electron is excited into the conduction band (C B), and one hole is left in the valence band (V B).

Flexible organic solar cells (Fl-OSCs), in particular, are currently attracting much interest as a promising clean-energy technology ... Cold isostatic-pressured silver ...

This chapter focuses mainly on the graphene preparation methods, and the fabrication of graphene-based thin films as well as their utilization as back contacts, transparent conductive electrodes ...

Organic solar cells (OSCs) are a promising low-cost thin-film photovoltaic technology while the fabrication of transparent conductive oxide (TCO) and metal electrodes still remains a factor that hinders the scaling-up ...

This review introduces the development and recent progress of different types of solid-state electrolyte for sodium batteries, including v-alumina, NASICON, sulfide-based electrolyte, ...

This work advances the sustainable synthesis of organic electrode materials for sodium (Na)-ion batteries by reporting (i) a new facile and rapid gram-scale synthesis based ...

Here a 2000-h light-soaking stability test is reported for cobalt complex based dye solar cells using Y123 organic dye with either platinum or poly(3,4-ethylene dioxythiophene) as counter ...

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