Color-changing energy storage device

energy storage devices (Huang et al., 2018; Liu et al., 2020b; Pei et al., 2020). Electrochromic devices generally adopt multi-layer ... 5+, corresponding to the color change from reddish ...

Also, flexible ECDs can integrate energy storage and electrochromic functions within a single platform. This integration allows the device to store electrical energy along with ...

A symmetrical flexible electrochromic energy storage device (FECESD) with good color-changing, energy-storage and cyclic bending performance is successfully fabricated, which shows a CE value of 269.80 cm ...

Multiple color states, a fast response, a high CE, high optical contrast, a high energy density, and a low operational redox potential are the elementary requirements of an efficient, smart, ...

Charging-discharging and absorption of the device were simultaneously analyzed in accordance with the changing EC color intensity. The device showed a change from dark green to blue ...

Similarly, viologens (1,1?-Disubstituted-4,4?-bipyridinium salt) is also a common polymer in the field of electrochromism. When the applied current or voltage changes, a two ...

Here we demonstrate a novel nickel-carbonate-hydroxide (NCH) nanowire thin-film-based color-changing energy storage device that possesses a high optical contrast of ~85% at 500 nm and a superior capacitance of more than 170 ...

With the rapid development of optoelectronic fields, electrochromic (EC) materials and devices have received remarkable attention and have shown attractive potential for use in emerging wearable and portable ...

Electrochromic devices (ECDs) can reversibly and rapidly change their color or optical properties on the application of low external voltages or currents [[1], [2], [3]] and are ...

The multifunctional electro-optical dual-control color-changing and storage device prepared in this paper combines color-changing, storage and photoelectric conversion technologies, which not ...

The device displays trioptical (clear, colored, and mirror) states in a single device with energy storage capability. The investigation of the discharging and charging of the Cu hybrid REM battery reveals a Cl - /ClO - ...

It is very similar to the energy conversion process of energy storage devices, so more and more people are

applying electrochromic materials in the field of multifunctional ...

The ever-growing pressure from the energy crisis and environmental pollution has promoted the development of efficient multifunctional electric devices. The energy storage ...

Firstly, the concept involves color-indexed energy storage devices, such as supercapacitors or batteries, that can change color in tandem with their charged state [29], [41], [42]. This ...

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