

What is the most stable cobalt-DSSC device?

Encouraged by the ability of cobalt-DSSCs to deliver high PCEs under sunlight and artificial illumination,⁽⁴²⁾ we report the most stable cobalt-DSSC device (M-DSSC) obtained by robust and exceptionally hermetic glass encapsulation.

What is a cobalt complex redox shuttle?

A cobalt complex redox shuttle for dye-sensitized solar cells with high open-circuit potentials.

Can a liquid-junction cobalt m-DSSC be encapsulated with ACN?

Hermetic encapsulation of liquid-junction cobalt M-DSSCs with ACN is absolutely essential for a stable PV response under ISOS testing conditions. Glass-encapsulated M-DSSCs showed fully stable PCE in the dark and under continuous operation under artificial light.

Are glass-encapsulated m-DSSCs stable in the dark?

Glass-encapsulated M-DSSCs showed fully stable PCE in the dark and under continuous operation under artificial light. Robust encapsulation allowed for the first time ever to test the devices with an ACN electrolyte according to the ISOS thermal cycle protocol at 85 °C.

Dye-sensitized solar cells (DSSCs) emerged in the market as one of the most promising indoor photovoltaic technologies to address the need for wireless powering of low-consuming ...

The formation of the mixed valence states of cobalt ions (Co²⁺ /Co³⁺) in octahedral (oh) and tetrahedral (Td) geometric forms inside the glass network makes it a favorable material in solar ...

Cobalt and nickel, ferrous and ferric iron, cerium and titanium are all used to control transmission of infrared or ultraviolet waves to differing degrees and with differing visual effects. Coatings on the ...

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The produced glass samples can be employed as photovoltaic solar cells since the addition of cobalt and La³⁺ ions increases the refractive index values and creates a high optically ...

Solar glass is a specialized low-iron, tempered soda-lime silicate glass, often enhanced with an anti-reflective coating. This combination delivers ultra-high light transmittance, superior mechanical ...

Stable Cobalt-Mediated Monolithic Dye-Sensitized Solar Cells by Full Glass Encapsulation Fátima Santos, Jorge Martins, Jeffrey Capitão, Seyedali Emami, Dzmitry Ivanou, * and Adélio Mendes*

This study reports on the exceptional stability of cobalt-mediated dye-sensitized solar cells (DSSCs) assembled in a monolithic configuration with a carbon counter electrode (CE). DSSCs ...

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