# Photochemical solar cells

Throughout each section, we highlight the photochemical degradation pathways for electron acceptor and donor materials, and their link to device degradation. We also ...

After a brief historical introduction, this review presents the most important solar reactor types and their successful application in preparative solar syntheses. The examples demonstrate that solar manufacturing of fine chemicals is ...

NREL"s solar photochemistry research focuses on solar photoconversion in molecular, nanoscale, and semiconductor systems to capture, control, and convert high-efficiency solar radiation into electrochemical potential for ...

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In sensitized photochemical reactions, the "catalyst", also called (photo)sensitizer, absorbs light and transfers energy to the reactant to generate its excited ...

The first realization of an upconversion-assisted solar cell was based on Yb 3+ and Er 3+ ions in a vitroceramic host, placed behind a GaAs solar cell. 76 The first application of the same system ...

In this work, the spectral-dependent photostability of films and solar cells comprising several Y-series acceptors and the donor polymer PM6 is investigated ...

The first realization of an upconversion-assisted solar cell was based on Yb 3+ and Er 3+ ions in a vitroceramic host, placed behind a GaAs solar cell. 76 The first application of the same system to c-Si solar cells was demonstrated in ...

Photoelectrochemical and Photochemical Devices, covering photoelectrodes, photocatalysis, photoconversion and solar desalination systems and their applications. Optical Properties of ...

Throughout each section, we highlight the photochemical degradation pathways for electron acceptor and donor materials, and their link to device degradation. We also discuss the existing interdisciplinary challenges ...

Photoelectrochemical cells are solar cells that generate electrical energy from light, including visual light. Some photoelectrochemical cells simply produce electrical energy, while others ...

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Over the past decades, the field of organic solar cells (OSCs) has witnessed a significant evolution in materials chemistry, which has resulted in a remarkable enhancement ...

In this review we have proposed suitable classification of solar cell based on the excitation (direct or indirect) of electron and semiconductor used, in which the photogalvanic ...

Photochemical approaches to solar energy conversion are currently making rapid progress, increasing not only academic but also commercial interest in molecular-based photovoltaic ...

Photovoltaic and electrochemical solar cells that convert solar energy into electricity can reach up to 55-77% efficiency [22], [23], ... These factors are rarely considered ...

Among A-D-A NFAs with fused, semi-fused and non-fused backbones, fully non-fused PTIC, representing one of rare existing samples, exhibits not only excellent ...

Perovskite/Silicon Tandem Solar Cells (PSTSCs) represent an emerging opportunity to compete with industry-standard single junction crystalline silicon (c-Si) solar ...

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