Origin of organic solar cells

In particular organic solar cells were made of Single Walls carbon Nano Tubes (SWNTs) employed as acceptor, and the poly(3-octylthiophene) (P3OT) as donor . The open ...

In this review we present an overview of the different organic solar cells families. After recalling shortly the specificities of organic materials, the band structure, the electronic ...

Organic solar cells, which generate electric power from the sunlight, play an important role in green energy industry and possess a variety of advantages: low cost, light, ...

a) J-V measurements recorded with simulated AM1.5G light of ITO | ZnO | PM6:Y6 | MoO 3 | Ag solar cells with a pristine active layer (red) or with active layers aged for ...

While the efficiency of organic solar cells (OSCs) has increased considerably ...

Additive engineering is widely utilized to optimize film morphology in active layers of organic solar cells (OSCs). However, the role of additive in film formation and ...

The most successful solution-processable organic solar cells use a C 60 or ...

In this review we present an overview of the different organic solar cells families. After recalling shortly the specificities of organic materials, the band structure, the electronic properties and the charge separation process in ...

The most successful solution-processable organic solar cells use a C 60 or C 70 fullerene derivative as an electron acceptor blended with a conjugated polymer 1,2,3.

In this paper we review the development of organic solar cells from the ...

The performance of ternary organic solar cells is limited by voltage losses. Using the detailed balance principle, Wang et al. show how the third component of the blend affects ...

While the efficiency of organic solar cells (OSCs) has increased considerably in recent years, there remains a significant gap between the experimental open-circuit voltage (V ...

Several studies of the origin of Voc refute this relationship [28] which highlights that in contrast to silicon p-n junction solar cells, the origin of Voc in bulk heterojunction ...

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Finally, we note that while mid-gap states do not appear to significantly affect the V OC (at 1 sun) for the organic solar cells studied in this work, this may not always be the case depending on ...

Organic solar cell research has developed during the past 30 years, but especially in the last decade it has attracted scientific and economic interest triggered by a ...

Open-circuit voltage (V OC) in organic solar cells (OSCs) is currently still not ...

Organic solar cells (OSCs) have potential advantages like the low manufacturing cost, light-weight and mechanical flexibility [1].Recently, polymer-based bulk heterojunction ...

The most successful solution-processable organic solar cells use a C 60 or C 70 fullerene derivative as an electron acceptor blended with a conjugated polymer 1,2,3 the ...

Open-circuit voltage (V OC) in organic solar cells (OSCs) is currently still not well-understood. A generally acceptable view is that V OC is mainly determined by the energy ...

With the emergence of nonfullerene electron acceptors resulting in further breakthroughs in the performance of organic solar cells, there is now an urgent need to understand their degradation mechanisms in order to improve ...

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