Solar cell donor

A series of ambipolar molecular donor-acceptor dyads D5-D10 was synthesized and characterized allowing for the elaboration of valuable structure-property relationships, ...

As a new type of clean energy technology, solar cells have been considered as a good candidate for effectively utilizing solar energy [1] is remarkable that organic solar cells ...

Polymer solar cells usually consist of an electron- or hole-blocking layer on top of an indium tin oxide (ITO) conductive glass followed by electron donor and an electron acceptor (in the case of bulk heterojunction solar cells), a hole or ...

The polymer donor serves as the main solar light absorber and as the hole transporting phase, whereas the small molecule transports electrons [18]. Therefore a wide ...

Designing new small molecule donors is a hot top in organic solar cell ...

The operation and the design of organic solar cells with donor/acceptor heterojunction structure and exciton blocking layer is outlined and results of their initial development and assessment ...

We fabricate a pseudo-bilayer heterojunction solar cell based on NFA-diluted donor (that is, donor + 1% NFA) and donor-diluted NFA (that is, NFA + 1% donor) layers: the ...

All-small-molecule organic solar cells (all-SM OSCs), with p-type small molecule (p-SM) as donor and n-type small molecule (n-SM) as acceptor, have drawn intensive ...

Small molecule donor/polymer acceptor (SD/PA)-type organic solar cells (OSCs) have attracted widespread attention in recent years due to the continuing power conversion ...

The donor/acceptor weight ratio is crucial for photovoltaic performance of organic solar cells (OSCs). Here, we systematically investigate the photovoltaic behaviors of ...

High-performance wide-bandgap (WBG) polymer donors are one of the key factors in determining the power conversion efficiencies (PCEs) of non-fullerene organic solar cells (OSCs). To date, ...

6 ???· Precise control over molecular crystallization and vertical phase distribution of photovoltaic bulk-heterojunction (BHJ) films is crucial for enhancing their optoelectronic ...

In organic solar cells (OSCs), both charge generation and charge recombination occur at the donor

(D)-acceptor (A) interfaces. Therefore, the energy level alignment (ELA) at ...

Achieving sufficiently high crystallinity and forming a suitable vertical phase separation in the active layer are essential for optimizing the performance of organic solar cells ...

With regard to the molecular architectures of donor materials for OPV cells fabricated by vacuum evaporation, donor-p-acceptor systems are emerging as good ...

With regard to the molecular architectures of donor materials for OPV cells ...

The high efficiency all-small-molecule organic solar cells (OSCs) normally require optimized morphology in their bulk heterojunction active layers. Herein, a small ...

Designing new small molecule donors is a hot top in organic solar cell research. Theoretical simulations can help in avoiding trial-and-error based designing, saving both ...

The application of polymer solar cells requires the realization of high efficiency, high stability, and low cost devices. Here we demonstrate a low-cost polymer donor ...

The polymer donor serves as the main solar light absorber and as the hole ...

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