

What is the active layer of OPV?

The active layer of OPV is generally composed of a blend of donor and acceptor materials. In the past decades, blends with polymers as donors and fullerenes as acceptors have been studied extensively 43. P3HT and PCBM are classic materials in OPV (Fig. 1a) 44.

Can multicomponent photoactive layer synthesize a thermally stable OSC?

Herein, we demonstrate highly thermally stable OSCs using multicomponent photoactive layer synthesized via a facile one-pot polymerization, which show the advantages of low synthetic cost and simplified device fabrication.

Does high-efficiency active layer improve the performance of solution-processed flexible OPV 39?

The introduction of high-efficiency active layers causes a substantial increase in the efficiency of solution-processed flexible OPV 39. However, the reported conventional solution-processed flexible device structure cannot effectively maintain the performance of the high-performance active layer.

Are ternary all-polymer organic photovoltaic blends efficient?

Ma, R. et al. Achieving high efficiency and well-kept ductility in ternary all-polymer organic photovoltaic blends thanks to two well miscible donors. *Matter* 5,725-734 (2022). Wu, Y. et al. A conjugated donor-acceptor block copolymer enables over 11% efficiency for single-component polymer solar cells. *Joule* 5,1800-1815 (2021).

Are P3HT and PCBM a classic material in OPV?

P3HT and PCBM are classic materials in OPV (Fig. 1a) 44. In the early years, researchers focused on optimizing the crystallization behavior of polymer P3HT through various approaches to achieve optimal morphology and improve charge separation efficiency.

How to achieve solution-processed OPV?

To achieve solution-processed OPV, silver ink and nanowires used as top electrodes would permeate the layer underneath and reduce the performance. It is necessary to construct a robust interlayer to prevent infiltration of the top electrodes. For an inverted-structure OPV, the hole-transport layers should perform such roles.

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platform PV-TEC (Photovoltaic Technology Evaluation Centre) [1], Fraunhofer ISE decided to expand its current technical infrastructure to set up a new pilot facility for solar cells based on ...

Abstract. Recently, sequential layer-by-layer (LbL) organic solar cells (OSCs) have attracted significant attention owing to their favorable p-i-n vertical phase separation, ...

counter ow (CF) operation is considered the best ow direction for achieving such uniformity¹⁴. Theoretical analysis. Optimization procedures. ~e simulation of the current study is divided into ...

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