

Stretchable ITO-free organic solar cells with intrinsic anti-reflection substrate for high-efficiency outdoor and indoor energy harvesting Adv. Funct. Mater., 31 (2021), Article 2010172, 10.1002/adfm.202010172

Unlike the Bushnell SolarWrap 250, which uses thin-film amorphous silicon photovoltaic cells, the HeLi-on charger uses organic solar cells. Although organic PV cells are inherently less efficient than amorphous ...

Photographs and I-V characteristics of investigated solar cells: (a) DSSC with photosensitive field dimensions of 91 mm \times 91 mm, (b) an amorphous silicon cell on a glass substrate with ...

Consequently, the rigid and flexible Q-LbL all-PSCs exhibit outstanding power conversion efficiencies of 19.46% and 17.02%, respectively. In particular, the Q-LbL system showed promising thermal and mechanical stability as well as outdoor operational stability.

Solution-processed organic solar cells (OSC) have been explored widely due to their low cost and convenience, and impressive power conversion efficiencies (PCEs) which have surpassed 18%.

Abstract Apart from traditional large-scale outdoor application, organic solar cells are also of interest for powering small, off-grid electronic devices indoors. ... The reason for the enhanced power-conversion efficiency ...

High-Performance and Stable Nonfullerene Acceptor-Based Organic Solar Cells for Indoor to Outdoor Light ... PBDB-TSCI shows more efficient exciton dissociation and charge generation, which is probably because large dipole ...

Zhu, L. et al. Efficient organic solar cell with 16.88% efficiency enabled by refined acceptor crystallization and morphology with improved charge transfer and transport properties. Adv. Energy ...

Power conversion efficiency of organic solar cells (OSCs) has been improved up to 16%, 1 mainly driven by the development of new organic semiconductor materials. Although the short-circuit current density (J_{SC}) and ...

Outdoor and Remote Applications: Organic solar cells can power outdoor lighting, remote monitoring systems, and signage. They can be used in areas where traditional ...

The devices also show an impressive stability under outdoor environment, where the efficiency decay is less than 30% for 60 days. Our findings can pave the way toward ...

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