

This paper provides a comprehensive overview of organic photovoltaic (OPV) cells, including their materials, technologies, and performance.

This paper looks into the recent advances in the field of OPV technology like the device architecture, manufacturing techniques, working principles, and major constituents and it also gives an ...

In this context, this review paper aims to provide a comprehensive study of the evolution of PV cell technology, with a particular focus on OPV cells. The review makes several significant contributions to the existing ...

Organic solar cells (OSCs) have been recognized to have tremendous potential as alternatives to their inorganic counterparts, with devices that are low-cost, lightweight, and easily processed and have less ...

In this Review, we survey OPV technology, discussing progress in enhancing the PCE and in understanding the relationship between structure and performance. This progress includes the development...

Organic solar cells (OSCs) are emerging as a viable alternative, and complementary niche of applications, to the conventional silicon-based photovoltaics due to their unique attributes, including ...

Abstract Organic photovoltaics (OPV) is an emerging technology that combines semi-transparency and flexibility in lightweight, ultrathin solar modules. The record power conversion efficiencies for OPV are ...

Finally, we propose future research directions to achieve high-efficiency organic solar cells. We also expect that this review will contribute to guiding large-scale construction and will pave the way for ...

Organic photovoltaics have attracted considerable interest in recent years as viable alternatives to conventional silicon-based solar cells. The present study addressed the increasing demand for alternative ...

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