

Organic photovoltaics (OPVs) have rapidly improved in efficiency, with single-junction cells now exceeding 18% efficiency.

In this work, we primarily investigated the performance of plasmonic NPs (e.g., Ag and Au) based OPV cells using the General-Purpose Photovoltaic Device Model (GPVDM) ...

The report presents results of the solar resource mapping and photovoltaic power potential evaluation, as a part of a technical assistance for the renewable energy .

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Most importantly, a PCE of 14.46% on 204.11 cm²; total module area is the highest certified PCE of an OPV module >200 cm²; to this date, and it thus constitutes a new world record, as further confirmed by the official "Champion Photovoltaic Module Efficiency Chart" by the National Renewable Energy Laboratory (NREL, Golden/USA). 12 Last but ...

To review the electrical properties, performance, and efficiency of photovoltaic (OPV) cells, highlighting current developments, trends, and challenges.

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

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Photovoltaic (PV) cells are electronic devices based on the photoelectric effect, using which solar energy can directly be converted into electrical energy. There are many photovoltaic ...

Organic photovoltaic (OPV) technology is flexible, lightweight, semitransparent and ecofriendly, but it has historically suffered from low power conversion efficiency (PCE).

We have prepared OPV devices using various non-halogen solvents--toluene, o-xylene, TMB, and THF--as potential replacement for the commonly used halogen solvent CF. Among the non-halogen-processed devices, the toluene ...

Organic photovoltaic (OPV) has shown great potential for energy conversion in specific applications, such as

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In this work, we primarily investigated the performance of plasmonic NPs (e.g., Ag and Au) based OPV cells using the General-Purpose Photovoltaic Device Model (GPVDM) and Semiconducting Thin Film Optics Simulation (SETFOS) environments and compare them to a reference cell without any NPs.

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