Graphene OPV organic solar module

Can graphene oxide be used in organic photovoltaics?
Here the design and development of novel solution-processed graphene oxide (GO)-based materials,with their subsequent application in organic photovoltaics,and in the recently presented perovskite solar cells,are demonstrated.

Can a solution-processed semitransparent organic photovoltaic (OPV) work under doping conditions?
In this work, by applying a transfer method simultaneously with a solution doping process for graphene as top electrodes, we demonstrate a solution-processed semitransparent organic photovoltaics (OPV). The work function of doped graphene under various doping conditions was investigated via photoemission spectroscopy.

Can sulfated graphene oxide be used as a hole-extraction layer?
Sulfated graphene oxide as a hole-extraction layer in high-performance polymer solar cellsWater processable graphene oxide: single walled carbon Nanotube composite as anode modifier for polymer solar cells Plasmonic organic photovoltaic devices with graphene based buffer layers for stability and efficiency enhancement

Are BHJ solar cells able to use graphene stacks as bottom transparent electrodes?
BHJ solar cells incorporating such graphene stacks as bottom transparent electrodeswere first devised in the standard structure of glass/graphene/PEDOT:PSS/active layer/BCP/Al to investigate the adaptability of a polymer-free transferred graphene anode substituted for an ITO anode.

Abstract: Graphene is of great interest for future applications in organic photovoltaics (OPVs) due to its high three-dimensional aspect ratio, large specific surface ...

In this work, by applying a transfer method simultaneously with a solution doping process for graphene as top electrodes, we demonstrate a solution-processed ...

The narrow and intense absorption spectra of organic materials open up the opportunity to develop efficient organic photovoltaic devices that are qualitatively different from ...

Photovoltaic devices, or solar cells, are a means of generating electricity from sunlight in an environmentally friendly manner without emissions. Among ...

This work highlights recent advancements in how the structures and chemical makeups of the active layer materials affect photovoltaic processes and performance in terms of power ...

Organic photovoltaic (OPV) cells with a longer lifetime than that of poly (3,4-ethylenedioxythiophene): poly (styrenesulfonate) (PEDOT:PSS)-based OPV cells were ...

Introduction Organic photovoltaic (OPV) cells have attracted substantial scientific and commercial interest due to their light weight, compatibility ...

This work presents cutting-edge upscaling research on OPVs that aims at closing the efficiency gap between high-performance cells and modules. Utilizing computer ...

Organic photovoltaics (OPV), also known as organic solar cells, are PV cells that use organic compounds like conductive polymers and small organic molecules to convert ...

As a promising two-dimensional nanomaterial with outstanding electronic, optical, thermal, and mechanical properties, graphene has been proposed for many applications. In ...

Solution-processable functionalized graphene (SPFGraphene, see figure) is used as the electron-accepting material in organic photovoltaic (OPV) ...

An international research team has fabricated a large-area organic photovoltaic (OPV) panel reaching the new world-record efficiency of 14.5 %. This result has been certified ...

For these applications, the heavy, rigid and opaque traditional inorganic photovoltaic devices are impractical, and organic photovoltaic (OPV) 1 devices are attractive ...

> 90%, organic photovoltaic (OPV) optical transmittance of devices which use graphene as the transparent electrode have not yielded better performance as compared to ITO based devices. ...

Introduction Organic photovoltaic (OPV) cells have attracted substantial scientific and commercial interest due to their light weight, compatibility with flexible substrates, suitability for roll-to-roll ...

Photovoltaic devices, or solar cells, are a means of generating electricity from sunlight in an environmentally friendly manner without emissions. Among the various types of solar cells, ...

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