

Fabrication and Characterization of Photovoltaic devices from CdSe Nanoparticles and Conjugated Polymers

하스나인*

영남대학교 정보재료연구소

(azizu_alig@yahoo.co.in*)

We report on the fabrication of bulk heterojunction type photovoltaic devices from blends of CdSe nanoparticles and conjugated polymers. The photovoltaic effect of these devices depends on the critical value of the binary solution, the amount of CdSe, and the thickness of the active blend layer. The composition of the bulk heterojunction has a major effect on the performance of the solar cell. Atomic force microscopy (AFM) and transmission electron microscopy (TEM) have been used to gain insight into the morphology of these blends, both the morphology, and their performance in a photovoltaic device show a clear dependency on the CdSe content. Photoluminescence quenching experiments together with UV-vis absorption spectroscopy confirm that photoinduced charge separation occurs.