



Sintesis y propiedades fotovoltaicas de oligomero hexatienilenovinileno ralificado en celdas solares organicas con heterounion planar

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Résumé en anglais

A novel branched sexithienylene vinylene oligomer, (E)-Bis-1,2-(5,5'-Dimethyl-(2,2':3',2''-terthiophene)vinylene has been used as electron donor in a planar heterojunction Organic Photovoltaic cell (OPV). The electron acceptor was the fullerene (C60) and the cathode was an aluminum film, while ITO glass was used as anode. A hybrid anode buffer layer of MoO₃ and CuI was used between the ITO glass and the electrodonor. The effect of the thickness of the branched sexithienylene vinylene film, thickness and deposit rate of CuI on the solar cells performances was studied. In the present work, it has been found that MoO₃/CuI structure with 1.5 nm of CuI, deposited at 0.005 nm/s and the optimum branched sexithienylene vinylene thickness of 22 nm, efficiency (η) of 1.47 % could be achieved. This branched sexithienylene vinylene oligomer emerges as a promising electron donor compound which can be further be investigated in different combination of buffer layers and structures of OPV)

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