Enhanced organic photovoltaic with MoOx nanorod prepared by hydrothermal method

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The Organic Photovoltaic(OPV) applying Molybdenum oxides(MoOx) as Hole Transfer Layer(HTL) was decrease Photoelectric Conversion Efficiency(PCE) than MoOx nanorod as HTL. The device structure is FTO/MoOx nanorods/P3HT:PCBM/ZnO/Ag. The morphology of MoOx layer was controlled by hydrothermal reaction time and concentration of the precursor. Reducing hydrothermal reaction time and concentration of the precursor, the morphology of nanorod layer was chaged to flat one. The more decreasing MoOx nanorod size was coated increasing thickness by P3HT:PCBM layer. The devices PCE was changed according to P3HT:PCBM layer thickness.