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Improved Ohmic Contact by Li Doping in Electron Transport Layers

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Abstract : To get ohmic contact between the cathode and organic semiconductor, transport layers are introduced between the active layer and the electrodes. Generally zinc oxide or titanium dioxide are used as electron transport layer. When electron transport layer is doped with lithium, the resultant film exhibited superior electronic properties, which enables faster electron transport. Doping is accomplished by heat treatment of films with Lithium salts. Li-doped films. We fabricated organic solar cell using PTB7(poly(3-hexylthiopene-2,5- diyl):PCBM(phenyl-C61-butyric acid methyl ester) and found that the solar cells prepared using Li doped films had better performance in terms of efficiency when compared to the undoped transport layers.

Keywords : electron transport layer, higher efficiency, lithium doping, ohmic contact
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