

Photovoltaic Effect in Single Layer 1*H*-Pyrazolo[3,4-*b*]quinoline and 1*H*-Pyrazolo[3,4-*b*]quinoxaline/Poly(3-Decylthiophene) Polymer Cells

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We have explored photovoltaic (PV) response for the pyrazoloquinoline and pyrazoloquinoxaline dyes incorporated into the poly(3-decylthiophene) (PDT) polymer matrices. The photovoltaic response correlates generally with the enhancement of the state dipole moments. Generally we have shown that enhanced state dipole moments lead to an increase of the open circuit voltage. The surrounded polymer matrix of the polythiophene enhances the ground state dipole moments and its relative changes are decreased with the increase of the particular state dipole moments. An appearance of the three-phenyl backside groups substantially diminishes the effect.

Key words: Photovoltaic Effect; Pyrazoloquinoline.