Title:	Effect of structural isomerism in BODIPY based donor-acceptor co-polymers on their photovoltaic performance
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Abstract:	Borondipyrromethene or BODIPY can be incorporated into the polymer backbone through either the α (or 2,6) positions or the β (3,5) positions and hence resulting in polymers exhibiting structural isomerism. In this work two pairs of such isomeric D-A polymers formed by copolymerization of BODIPY with benzodithiophene (P1 and P2) and fluorene (P3 and P4) separately are reported along with structure property correlation. Depending on the positions of attachment of the BODIPY unit in the isomeric polymers, the geometry of the polymer backbone is either coiled or linear which in turn affects physical properties such as thermal stability, solubility and absorption, electronic properties such as delocalization of molecular orbitals, HOMO-LUMO energy levels and band gap. Though the charge carrier mobility seems to remain unaffected due to the isomerism of the polymer backbone, the α connected polymers perform better than the β connected polymers when used as electron acceptor along with P3HT in all polymer solar cells. This is also the first instance of application of BODIPY copolymers as electron acceptor in organic solar cells.
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