Supplementary Information

Novel naphthyl side-chained benzodithiophene polymer for efficient photovoltaic cells with a high fill factor of 75%

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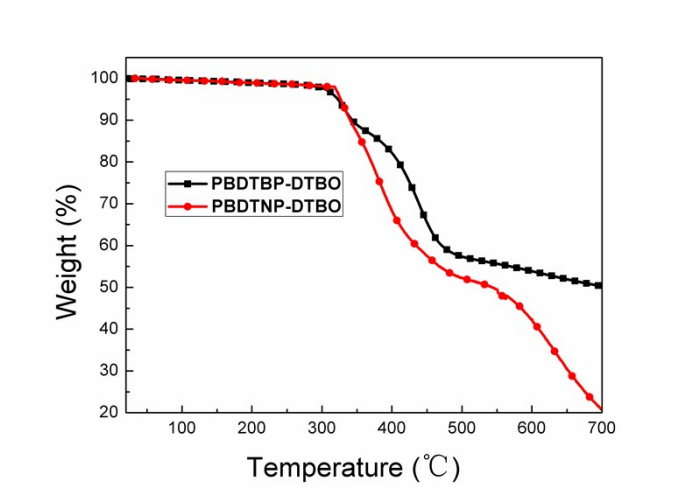

Fig.S1 TGA plot of two polymers

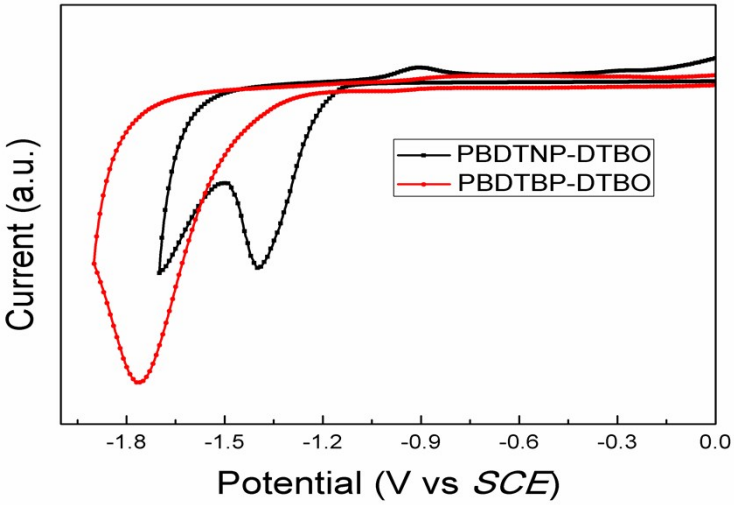

Fig.S2 Electrochemical cyclic voltammograms of two polymers

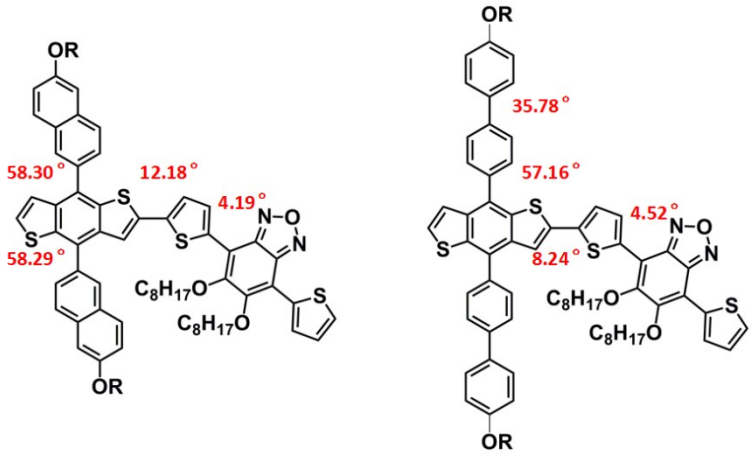

Fig. S3The main dihedral angles of PBDTNP-DTBO and PBDTBP-DTBO

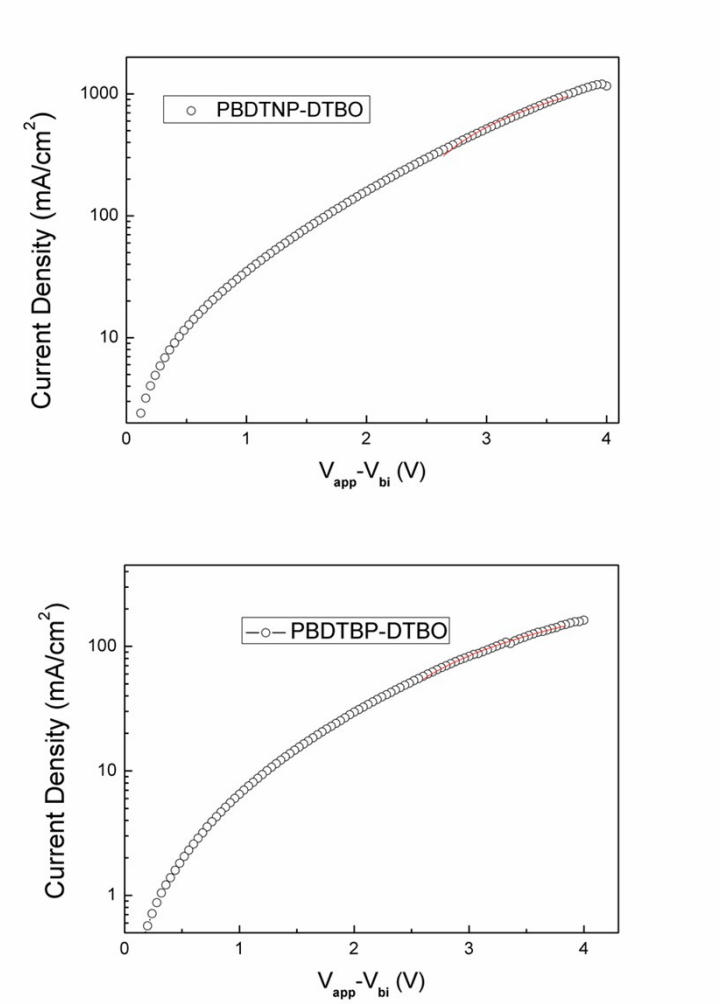

Fig.S4 Hole mobility characteristics of PBDTNP-DTBO/PBDTBP-DTBO and $PC_{71}BM$ (1:2)

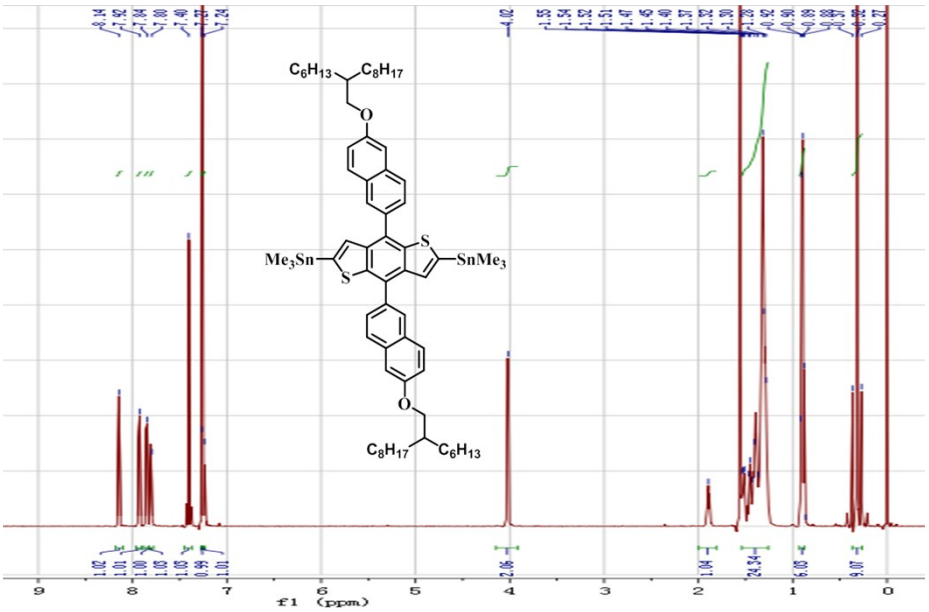

Fig. S5 ^{1}H NMR spectra of BDTNPSn

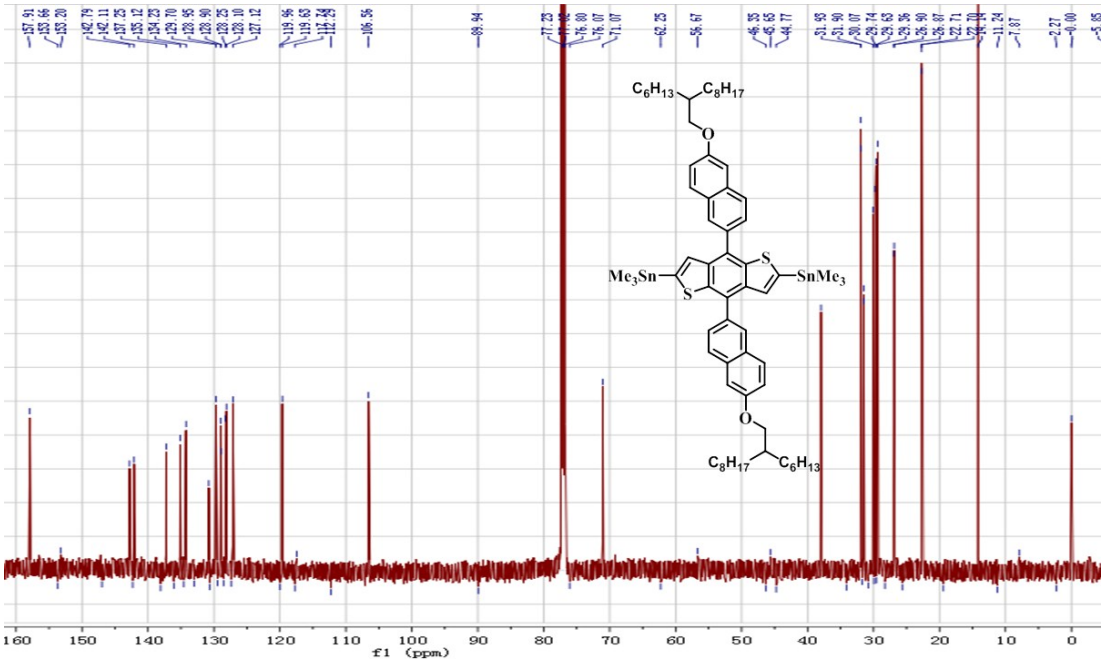

Fig .S6 ^{13}C NMR spectra of BDTNPSn

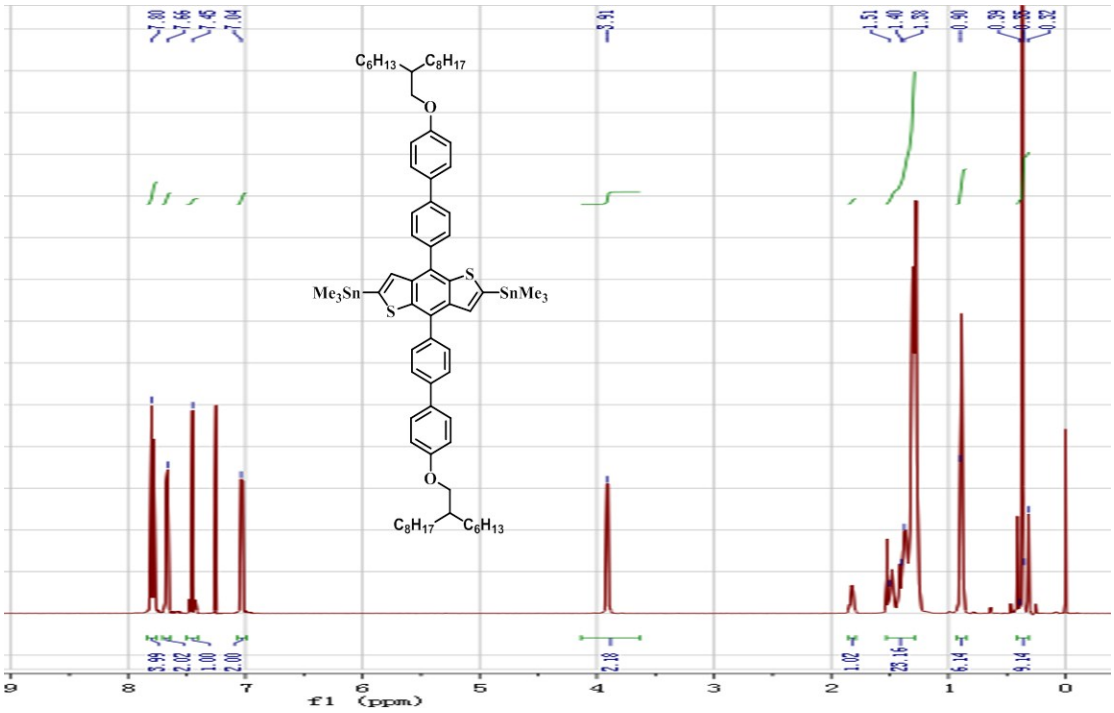

Fig. S7 ^{1}H NMR spectra of BDTBPSn

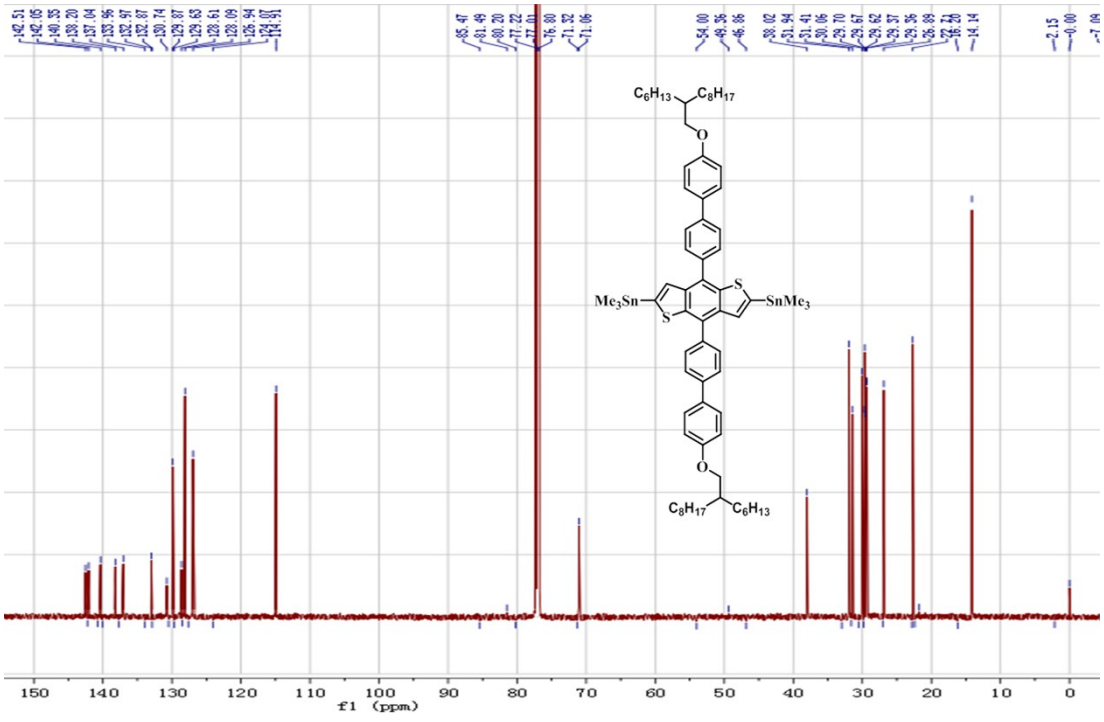

Fig .S8 ^{13}C NMR spectra of BDTBPSn