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. S3 The 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