

Electronic Supplementary Information

Benzothiadiazole-oligothiophene flanked dicyanomethylenated quinacridone for non-fullerene acceptors in polymer solar cells

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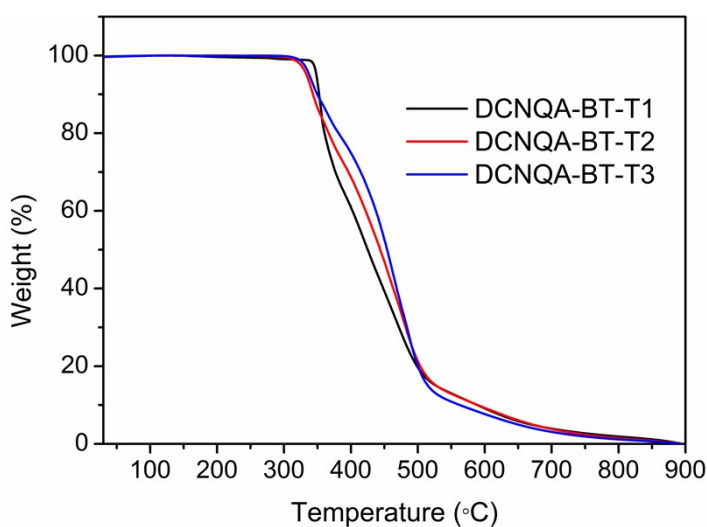


Fig. S1 TGA curves of DCNQA-BT- T_n ($n=1-3$).

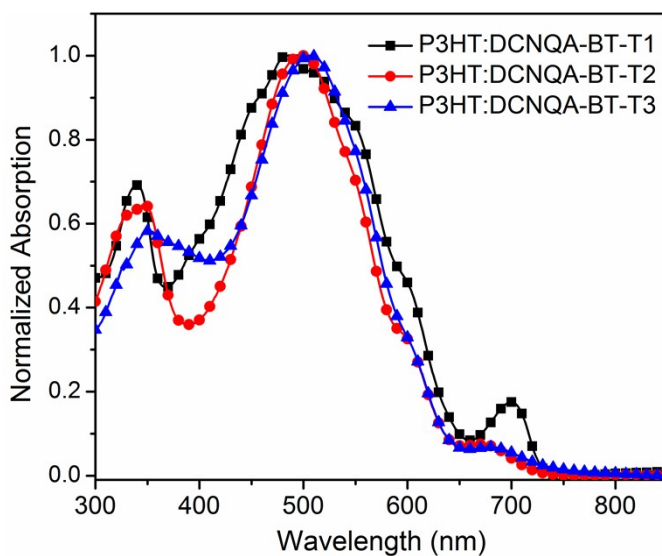


Fig. S2 Normalized UV-visible absorption spectra of P3HT:DCNQA-BT- T_n ($n=1-3$) blend films.

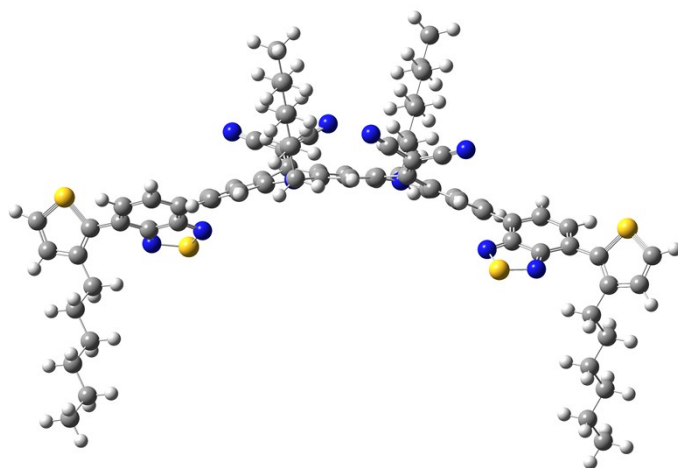


Fig. S3 DFT optimized geometry of DCNQA-BT-T1.

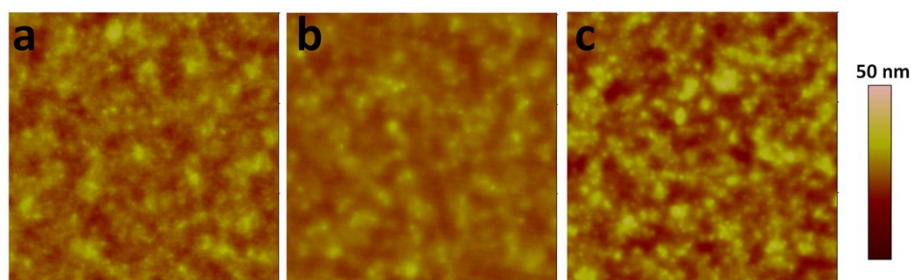


Fig. S4 Atomic force microscopy images ($3 \times 3 \mu\text{m}$) of blend films: (a) P3HT:PC₆₁BM; (b) P3HT:DCNQA-BT-T2; (c) P3HT:DCNQA-BT-T3.

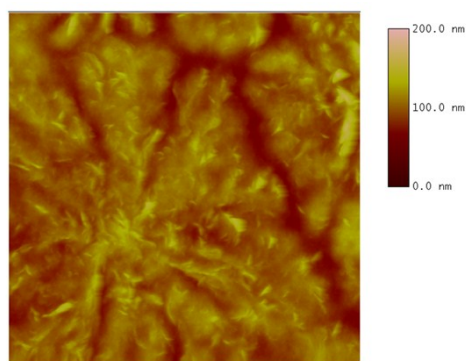


Fig. S5 Atomic force microscopy images ($3 \times 3 \mu\text{m}$) of annealed blend films of P3HT:PC₆₁BM.

Table S1. PCE distribution of 5 individual P3HT:DCNQA-BT-Tn and P3HT:PC₆₁BM devices.

device	PCE (%)					Average
	1	2	3	4	5	
P3HT:DCNQA-BT-T1	0.66	0.70	0.72	0.76	0.79	0.73
P3HT:DCNQA-BT-T2	0.20	0.21	0.21	0.22	0.31	0.23
P3HT:DCNQA-BT-T3	0.16	0.18	0.18	0.20	0.28	0.20
P3HT:PC ₆₁ BM	2.65	2.65	2.76	2.80	2.88	2.75