Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Incorporating vertical BDT unit in conjugated polymers for drastically improving open-circuit voltage of polymer solar cell

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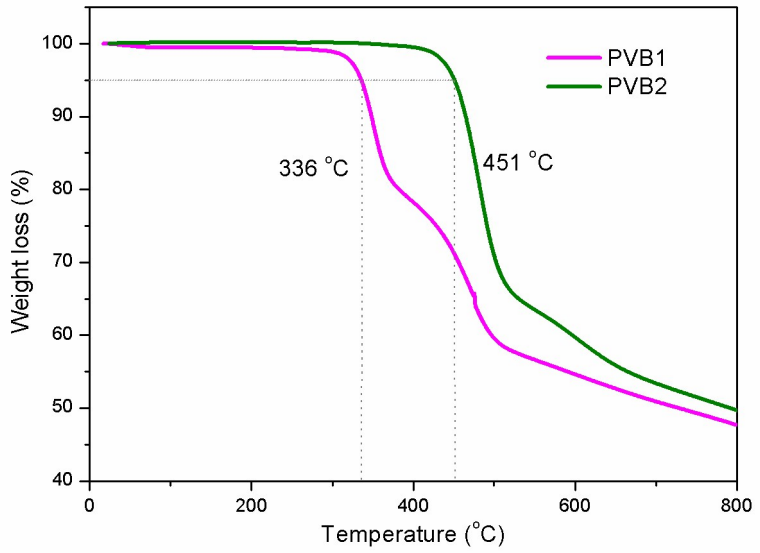

Fig. S1 TGA curves of PVB1 and PVB2 at the heating rate of 10 °C min^{-1} under nitrogen atmosphere.

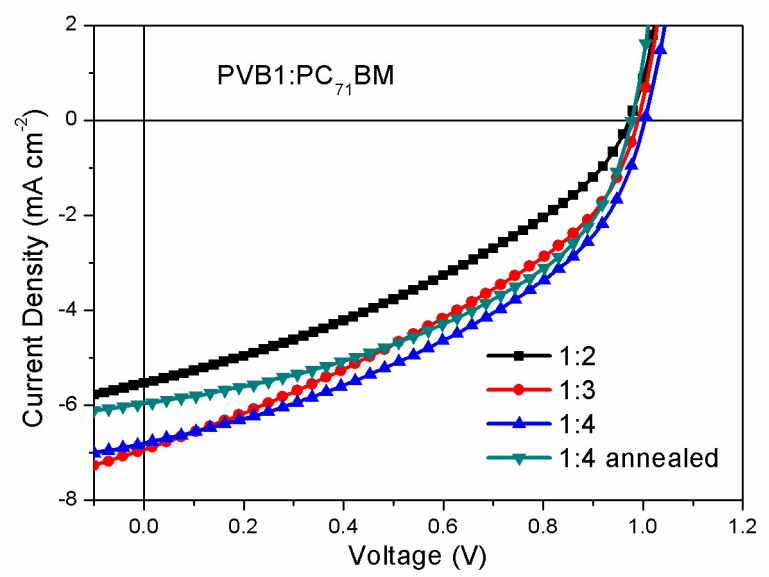

Fig. S2 *J-V* curves of PVB1:$PC_{71}BM$ with different weight ratios.

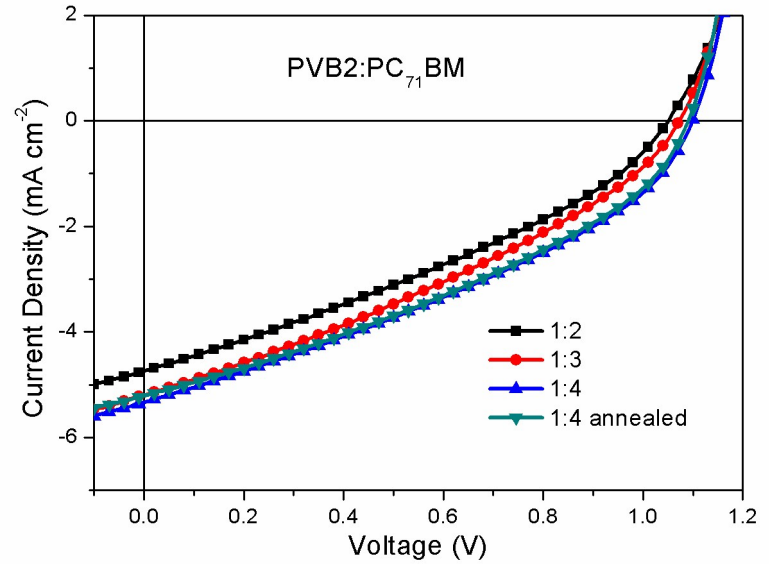

Fig. S3 *J-V* curves of PVB2:$PC_{71}BM$ with different weight ratios.

Table S1. Photovoltaic performance of PVB1 and PVB2 with $PC_{71}BM$ as the acceptor

		V_{oc} (V)	J_{sc} (mA cm^{-2})	FF	PCE (%)
PVB1:$PC_{71}BM$	1:2	0.97	5.53	0.37	1.96
	1:3	0.99	6.93	0.37	2.51
	1:4	1.00	6.80	0.42	2.84
	1:4[a]	0.98	5.96	0.45	2.64
PVB2:$PC_{71}BM$	1:2	1.03	4.61	0.32	1.55
	1:3	1.06	5.19	0.33	1.84
	1:4	1.09	5.32	0.35	2.05
	1:4[a]	1.08	5.21	0.35	2.02

[a] annealed at 80 °C for 10 min.

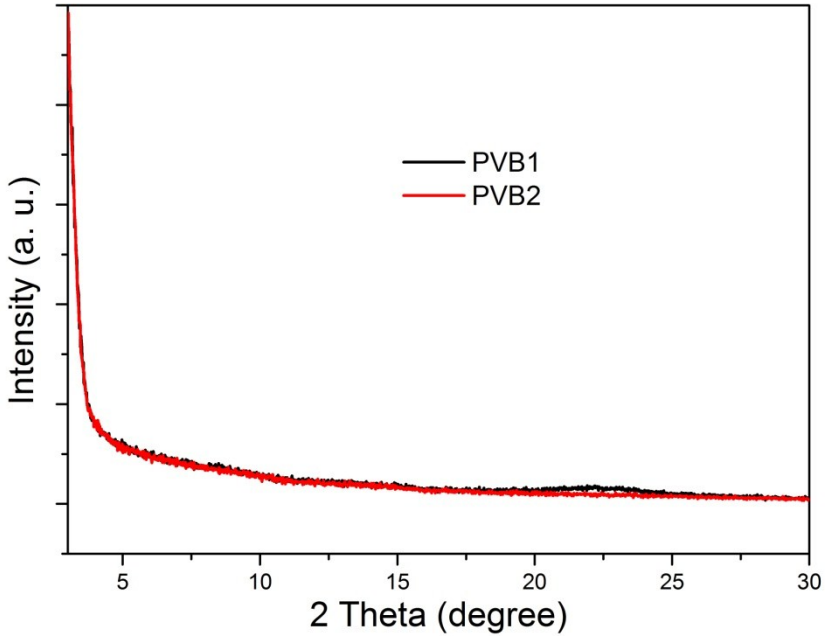

Fig. S4 X-ray diffraction patterns of polymer:$PC_{71}BM$ blend films.