

Electronic Supplementary Information

All-Polymer Solar Cells with Bulk Heterojunction Nanolayers of Chemically Doped Electron-Donating and Electron-Accepting Polymers

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Table S1. Summary of solar cell parameters for the P3HT:F8BT (undoped) and P3HT-EBSA:F8BT-EBSA (doped) solar cells according to thermal annealing temperatures (T_A). “D” and “A” denote donor and acceptor, respectively.

	D:A = 6:4						D:A = 8:2					
	Undoped			Doped			Undoped			Doped		
T_A (°C)	130	140	150	130	140	150	130	140	150	130	140	150
V_{oc} (V)	0.70	1.07	0.94	0.96	1.18	1.06	0.87	0.83	0.71	1.25	1.26	1.27
J_{sc} (mA/cm ²)	0.39	0.36	0.37	1.18	0.97	0.96	0.46	0.45	0.45	1.06	1.07	0.98
FF (%)	25.6	29.6	28.4	26.0	27.0	25.9	26.3	26.7	26.2	29.6	29.7	30.4
PCE (%)	0.07	0.11	0.1	0.29	0.31	0.26	0.11	0.10	0.08	0.39	0.4	0.38
R_s (k Ω ·cm ²)	19.5	26.1	22.96	8.30	10.7	11.76	16.76	18.4	16.75	7.61	7.1	7.23

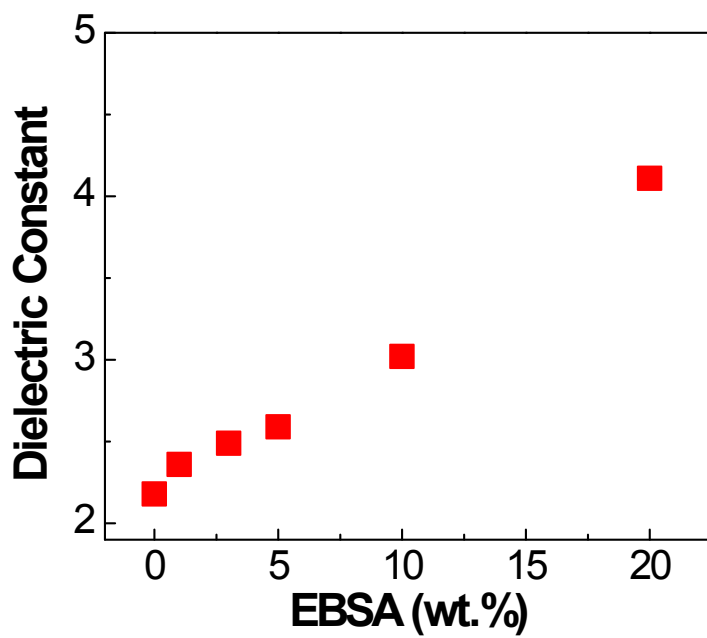


Figure S1. Dielectric constant (at 1 kHz) of the P3HT-EBSA films as a function of the EBSA content which were used for the hole-only devices.

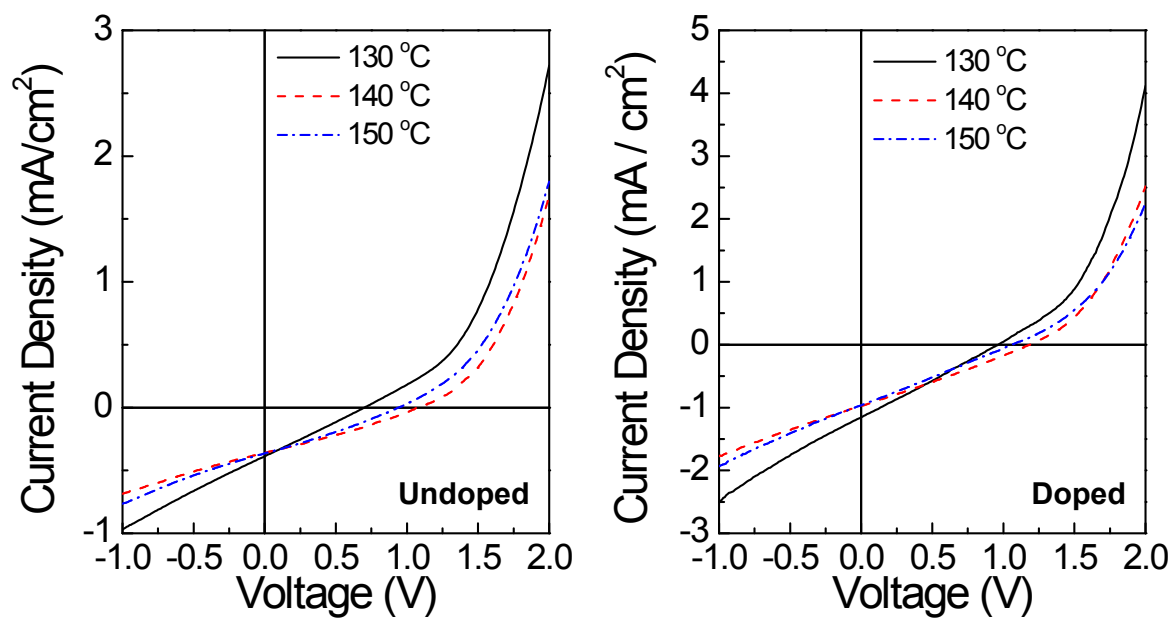


Figure S2. Light J-V curves for the polymer:polymer solar cells annealed at three different annealing temperatures: (left) P3HT:F8BT (6:4) solar cells, (right) P3HT-EBSA:F8BT-EBSA (6:4) solar cells.

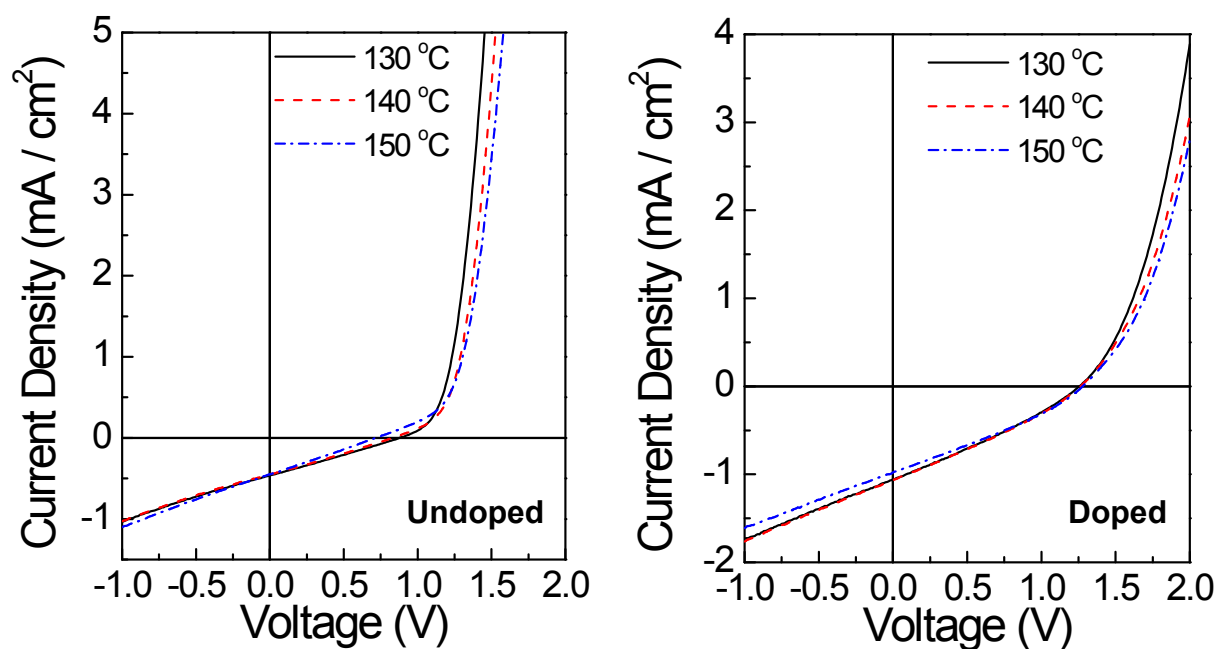


Figure S3. Light J-V curves for the polymer:polymer solar cells annealed at three different annealing temperatures: (left) P3HT:F8BT (8:2) solar cells, (right) P3HT-EBSA:F8BT-EBSA (8:2) solar cells.