

Electronic Supplementary Information

Morphology, Molecule Stacking, Dynamics and Device Performance Correlations in Vacuum-Deposited Small-Molecule Organic Solar Cells

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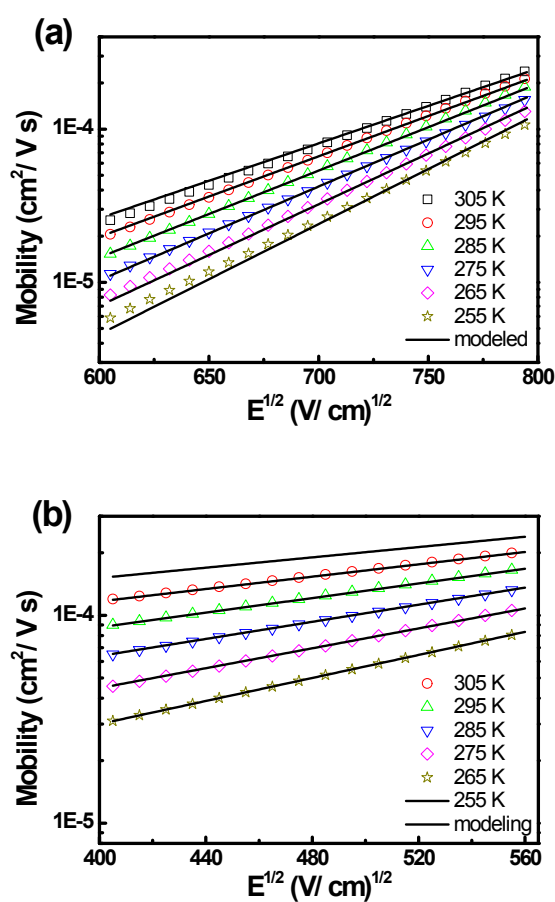


Figure S1. Temperature dependent carrier mobility against applied electric field in DBP:C₆₀ (1:1) (a) hole-only and (b) electron-only devices, respectively.

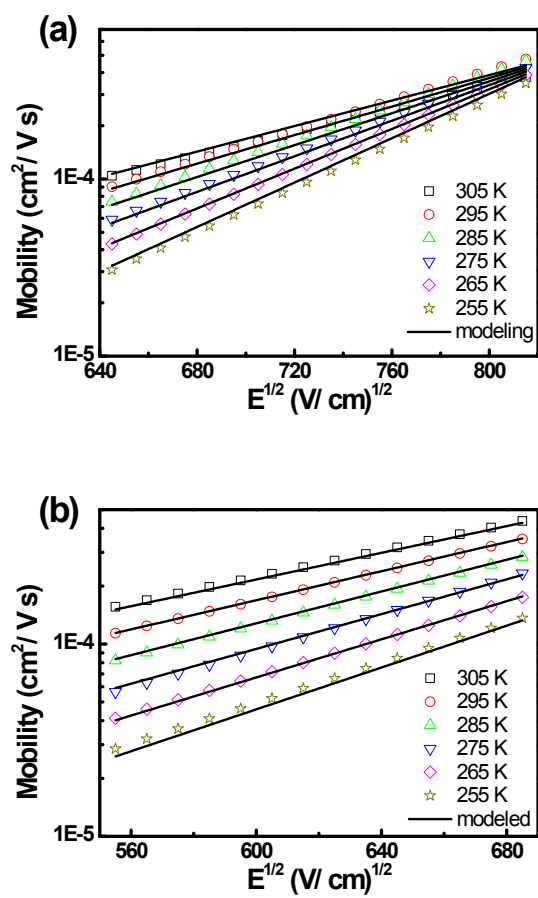


Figure S2. Temperature dependent carrier mobility against applied electric field in DBP:C₆₀ (1:2) (a) hole-only and (b) electron-only devices, respectively.

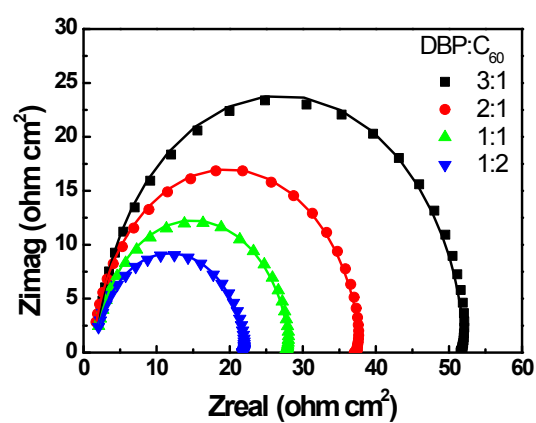


Figure S3. The Nyquist plots (symbols) obtained from the DBP:C₆₀ PMHJ cells operated under AM1.5G 1 sun simulated solar illumination and V_{oc} condition and the fitting curves (solid lines) calculated by the equivalent circuit.

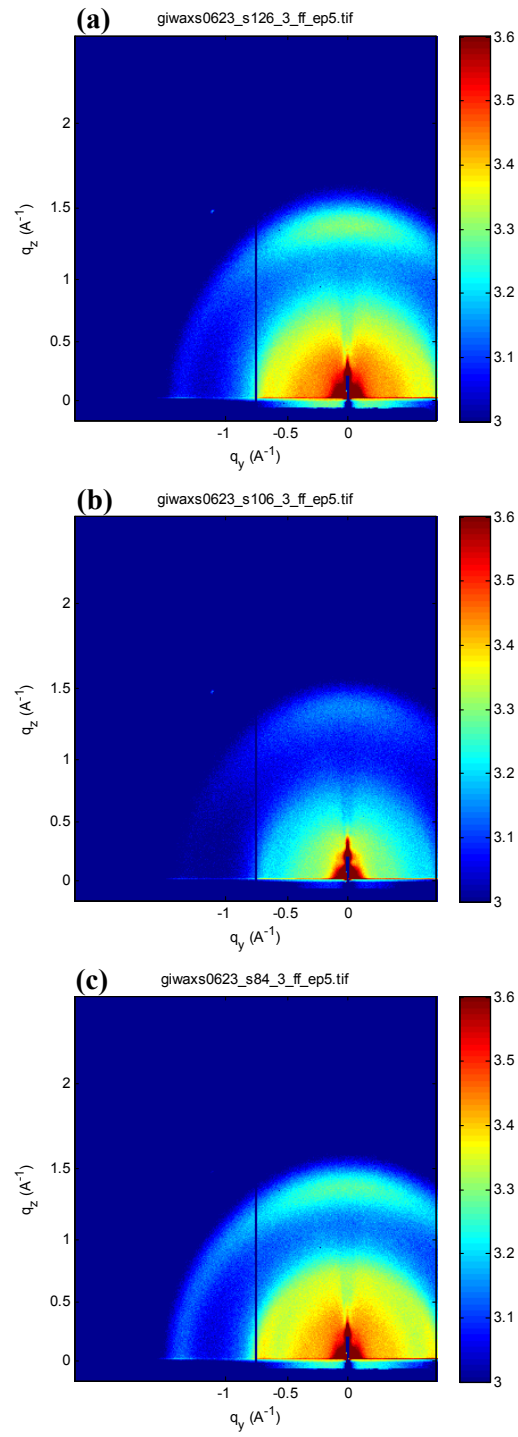


Figure S4. The 2D GIWAXS pattern of (a) DBP:C₆₀ (3:1), (b) DBP:C₆₀ (1:1) and (c) DBP:C₆₀ (1:2) on Si/PEDOT:PSS/MoO₃/DBP, respectively.

Table S1. The parameters of the equivalent circuit for the cells under AM1.5G solar simulated illumination at intensity of 100 mW/cm².

DBP:C ₆₀	R_s (Ω -cm ²)	R_1 (Ω -cm ²)	CPE ₁ (nF-cm ⁻²)
3:1	1.9	50.3	84.7
2:1	1.3	36.6	107.9
1:1	1.7	26.5	126.2
1:2	1.5	20.5	176.4