Supporting Information:

**Interpenetrating Morphology based on Highly Crystalline Small Molecule and PCBM Blends**

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**Figure S1.** Single-crystal OFET device from a discrete TIPS-DBC nanowire.
Figure S2. Enlarged absorption profiles of TIPS-DBC:PCBM blends.
Figure S3. Enlarged GIXD of TIPS-DBC:PCBM blends processed from chloroform: (a) as spun; (b) annealed.
(a) Data fitting for CF processed film:

- Location = $0.40345 \pm 0.0001063$
- Height = $6.7254 \times 10^5 \pm 4114.4$
- Area = $25914 \pm 200.61$
- FWHM = $0.036199 \pm 0.00027432$

(b) Data fitting for CB processed film:

- Location = $0.40531 \pm 0.00010874$
- Height = $1.3109 \times 10^6 \pm 10361$
- Area = $39737 \pm 351.33$
- FWHM = $0.036199 \pm 0.00027432$

Figure S4. Fitting of GIXD of TIPS-DBC:PCBM blends processed from chloroform and chlorobenzene as spun samples.
Figure S5. RSoXS scattering images of TIPS-DBC:PCBM blends processed from various conditions.
Table 1. Summary of device performances

<table>
<thead>
<tr>
<th></th>
<th>Voc (V)</th>
<th>Jsc (mA/cm²)</th>
<th>FF (%)</th>
<th>PCE (%)</th>
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</thead>
<tbody>
<tr>
<td>CF-as spun</td>
<td>0.720</td>
<td>-4.25</td>
<td>53.3</td>
<td>1.63</td>
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<tr>
<td>CF-annealed</td>
<td>0.720</td>
<td>-4.65</td>
<td>54.9</td>
<td>1.84</td>
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<td>CB-as spun</td>
<td>0.009</td>
<td>-0.60</td>
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<td>N.A.</td>
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<tr>
<td>CB-annealed</td>
<td>0.002</td>
<td>-0.48</td>
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<td>N.A.</td>
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