

## Supporting Information

# Fullerene derivative induced morphology of bulk heterojunction blends: PIPCP:PC<sub>61</sub>BM

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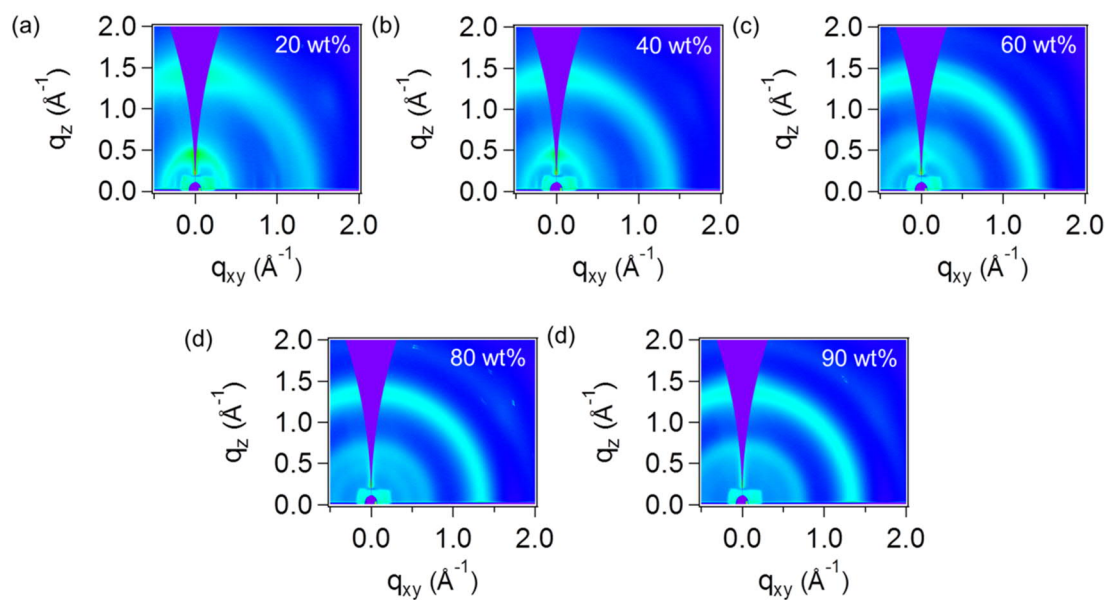


Figure s1. The GIWAXS pattern of PIPCP:PC<sub>61</sub>BM BHJ blends with various blend ratio. The weight percentage corresponds to the content of PC<sub>61</sub>BM in the active layer.

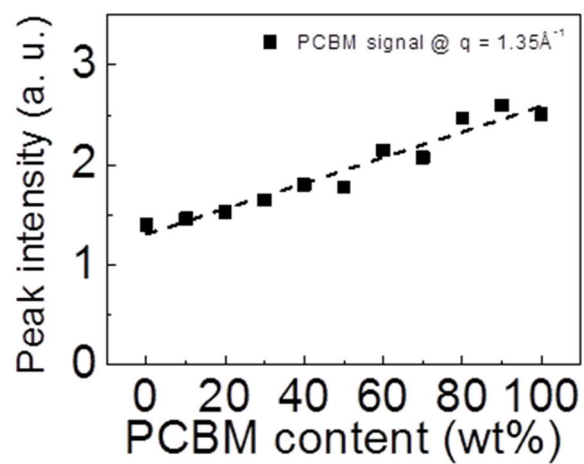


Figure s2. The intensity of PCBM signal ( $q = 1.35 \text{ \AA}^{-1}$ ) with varying PC<sub>61</sub>BM content. The dashed line is the fitting curve.

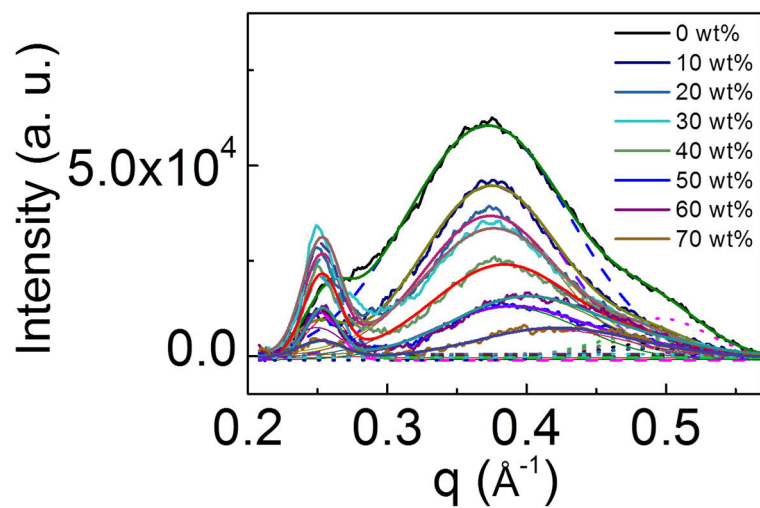


Figure s3. The in-plane line profiles for different PIPCP:PC<sub>61</sub>BM blend ratio with the fitting curves and background subtraction.

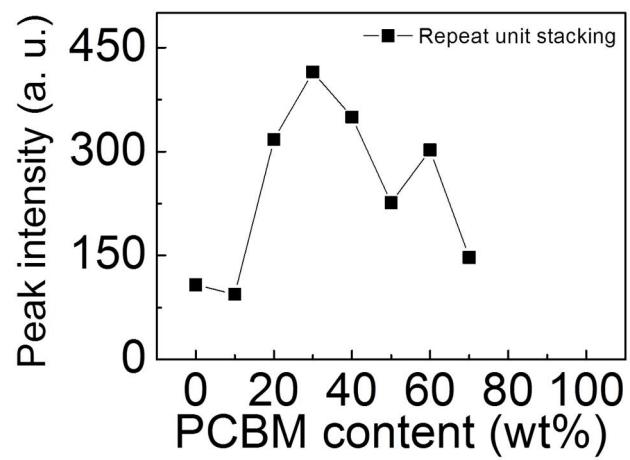


Figure s4. The peak intensity of repeat unit stacking normalized by the corresponding content of PIPCP in the BHJ film.

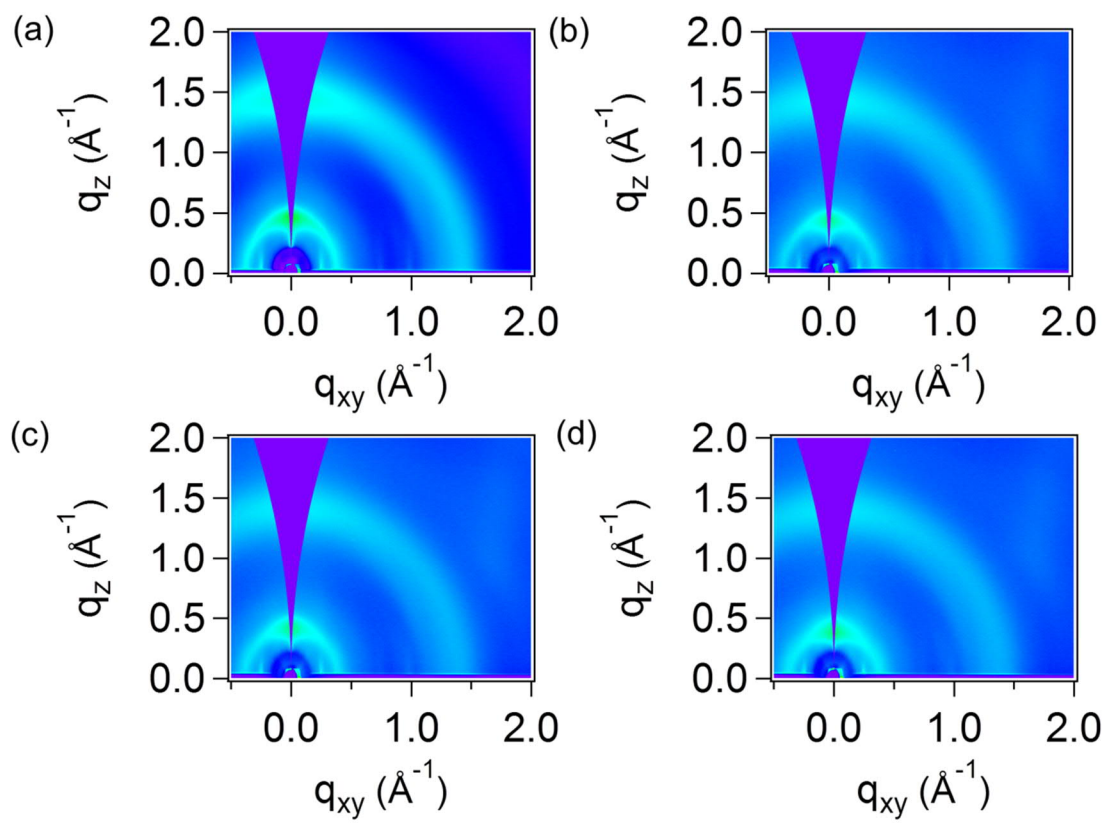


Figure s5. The GIWAXS pattern of PIPCP:PC<sub>61</sub>BM BHJ film incorporating 30 wt% of PC<sub>61</sub>BM with the annealing temperature of (a) RT, (b) 50, (c) 100 and (d) 150 ° C.

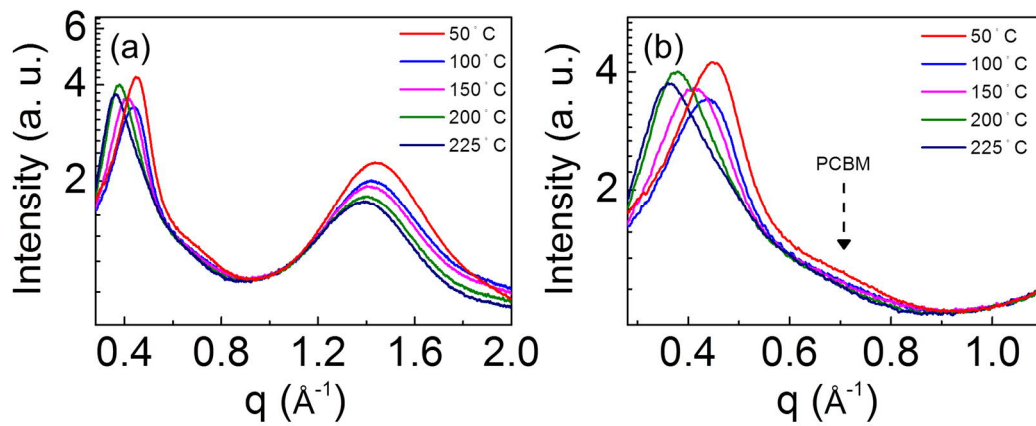


Figure s6. (a) The normalized out-of-plane line profiles (at  $q = 1.0 \text{ \AA}^{-1}$ ) integrated from the GIWAXS pattern for different annealing temperature. (b) The enlarged line profiles for PIPCP:PC<sub>61</sub>BM BHJ film with the thermal temperature of 50, 100, 150, 200 and 225 °C.