

Electronic Supplementary Information (ESI) for RSC Advances

Molecular orientation and its stability of poly(3-hexylthiophene) nanogratings affected by the fabricated solvent vapor

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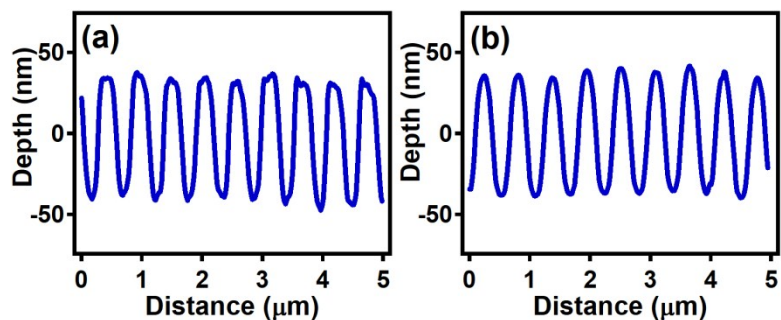


Figure S1. The cross-sectional profiles of AFM height images for PDMS template (a) and the fabricated P3HT nanograting film (b).

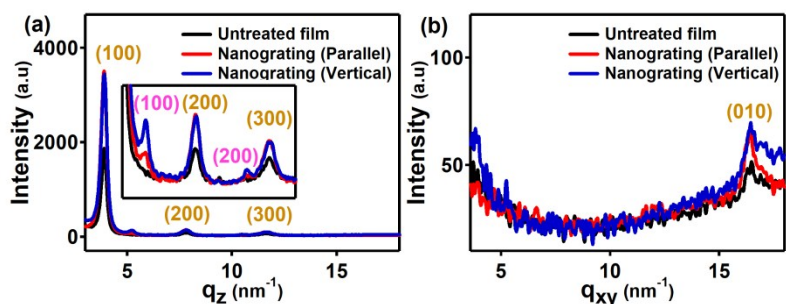


Figure S2. The one dimensional (1D) GIWAXD intensity images of untreated film and nanograting film integrated along the q_z direction (a) and the q_{xy} direction (b). The corresponding data are integrated from the 2D images indicated in Figure 4.

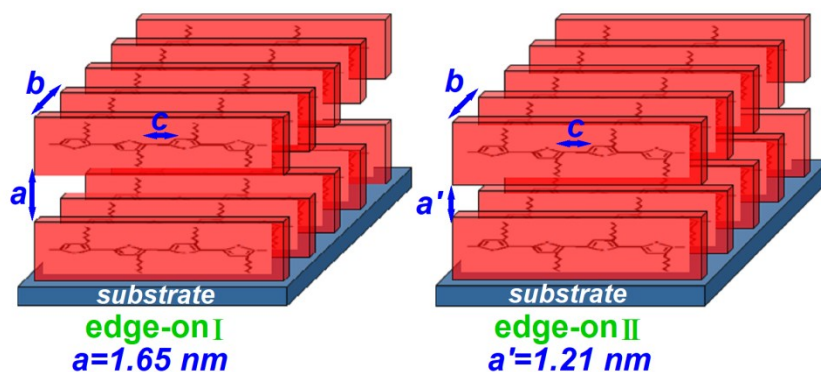


Figure S3. Schematic indication of edge-on molecular orientation for P3HT molecule chains.

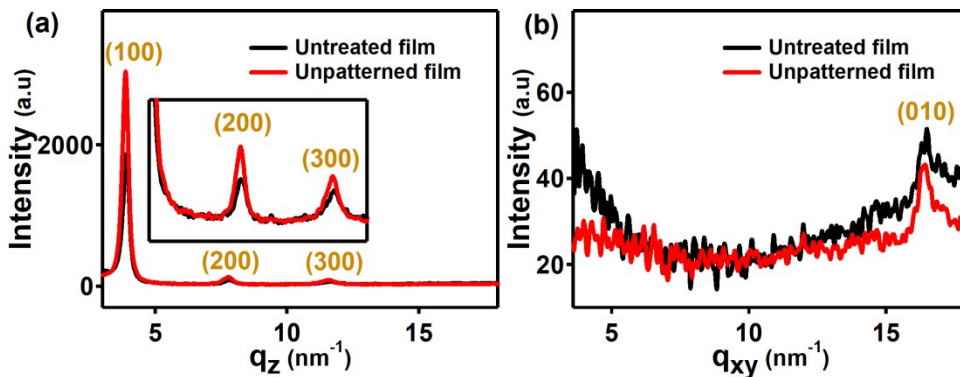


Figure S4. 1D GIWAXD intensity profiles of untreated and unpatterned film for the q_z direction (a) and q_{xy} direction (b). The unpatterned film is obtained by the same conditions as the fabrication of nanograting film with an unpatterned PDMS film rather than patterned PDMS template.

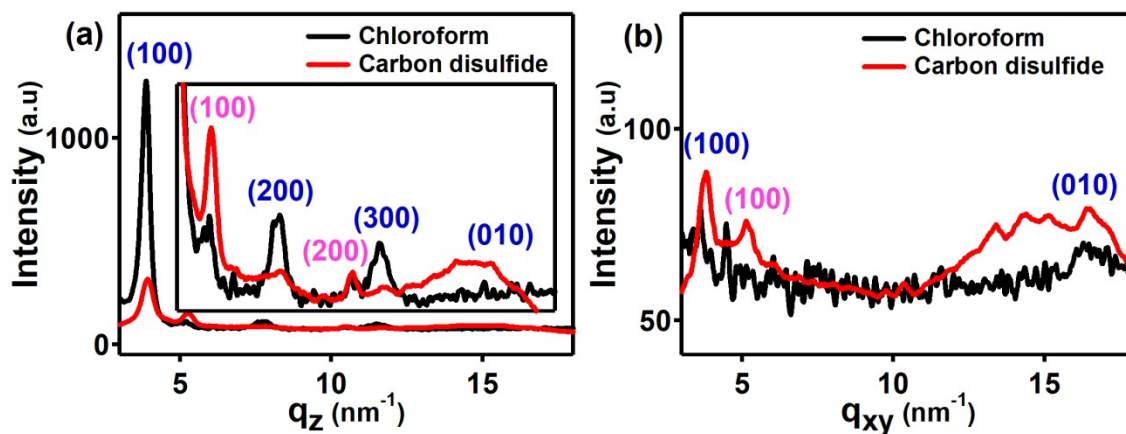


Figure S5. 1D GIWAXD intensity profiles of P3HT nanograting film by SV-NIL process with chloroform solvent and carbon disulfide solvent for the q_z direction (a) and q_{xy} direction (b). The integrated data are collected from the corresponding 2D images as shown in Fig. 6.

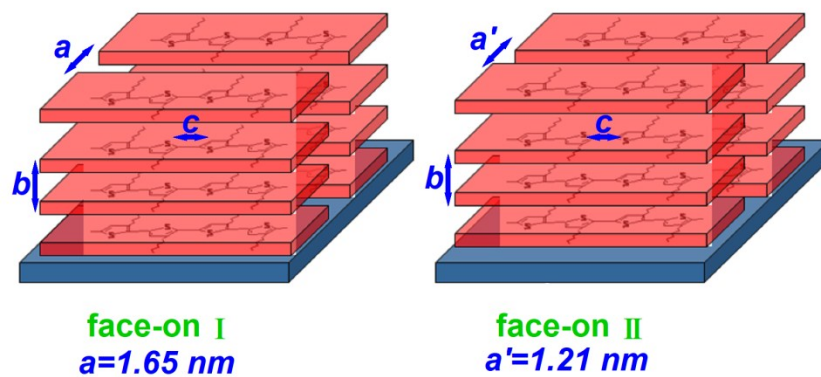


Figure S6. Schematic indication of face-on molecular orientation for P3HT molecule chains.

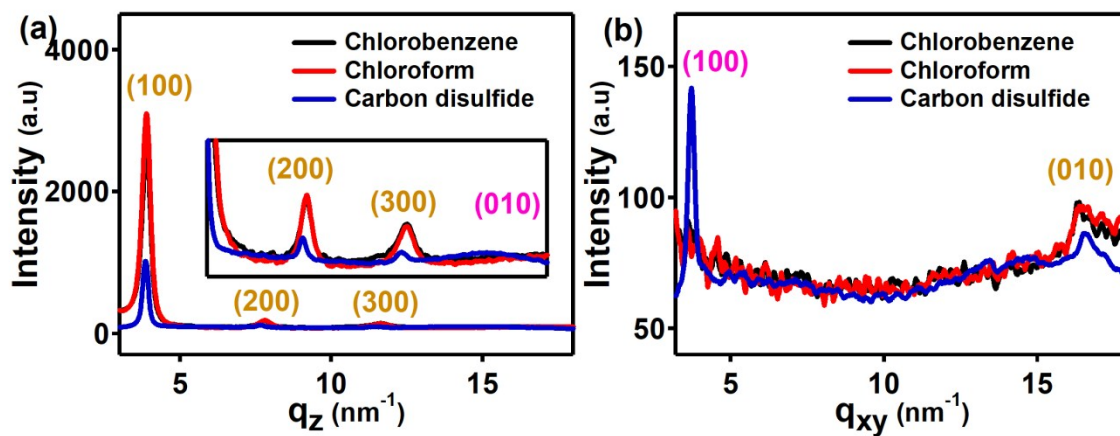


Figure S7. The 1D GIWAXD intensity curves of P3HT nanograting films after thermal annealing treatment integrated along the q_z direction (a) and the q_{xy} direction (b). The integrated data are collected from the corresponding 2D images as shown in Figure 7.

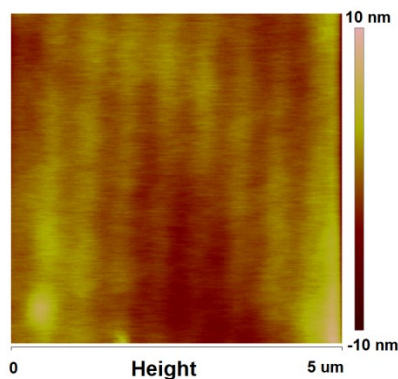


Figure S8. AFM height image of the annealed P3HT nanograting film.