Supporting Information

Unified Film Patterning and Annealing of an Organic Semiconductor with Micro-Grooved Wet Stamps

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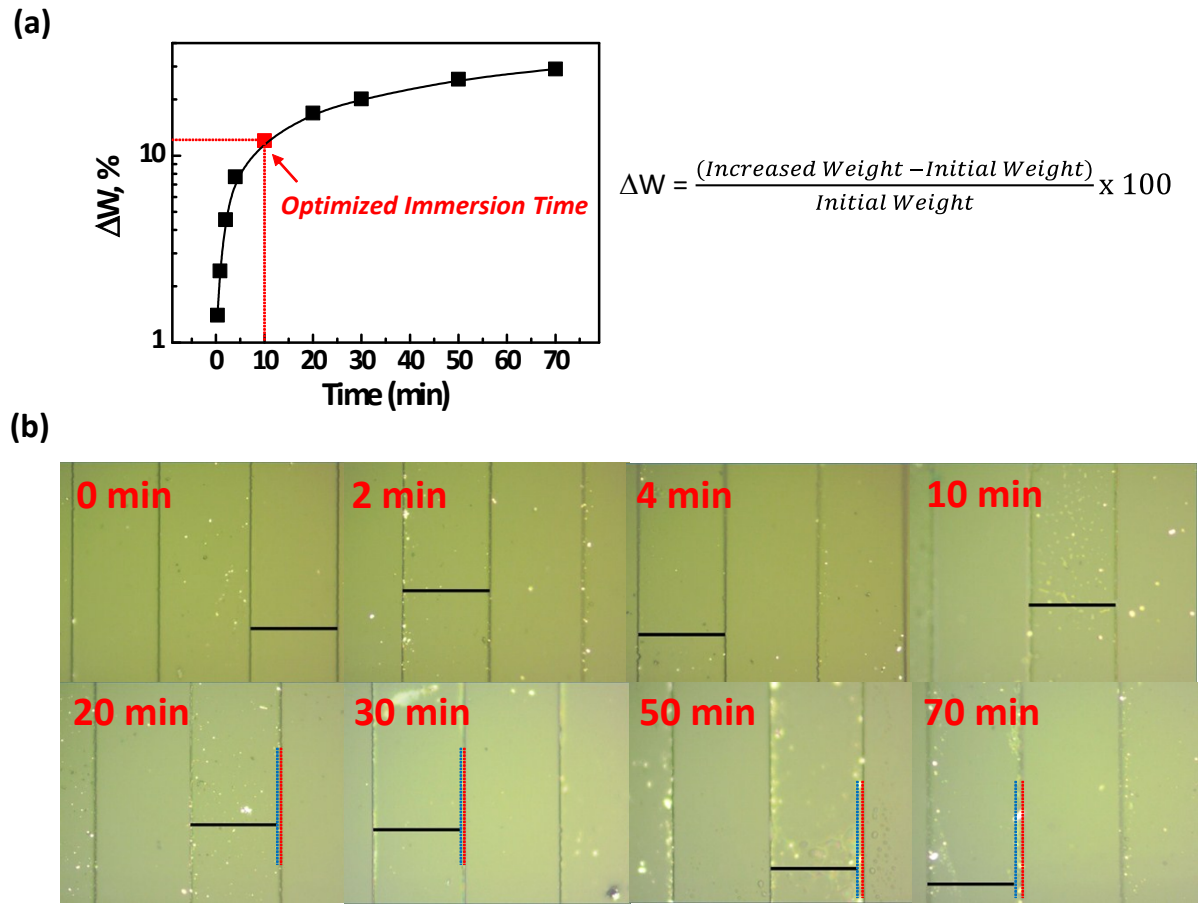

Figure S1. (a) Degree of weight increase and (b) OM images of the 50 μm-patterned PDMS stamp over time during immersion in the DCE reservoir. Note that in (b), the black scale bars indicate 50 μm. As the immersion time increased, particularly after 10 min, the line width of the PDMS stamp increase, indicating swelling in the PDMS.

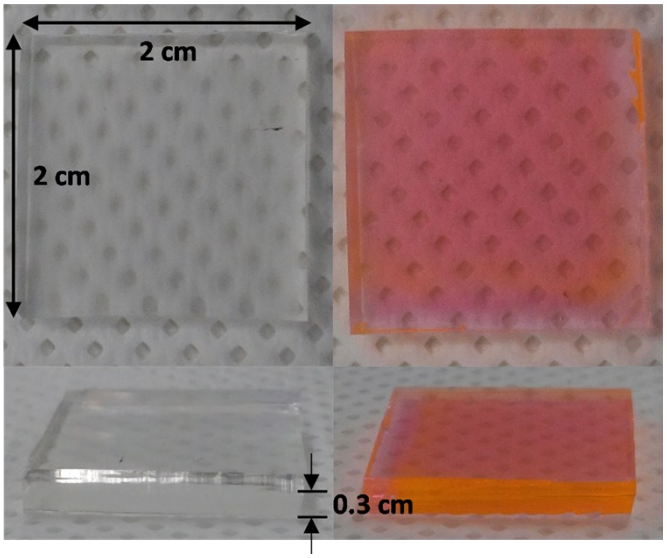

Figure S2. Photographs of the μ-PDMS stamps before and after the TES-ADT patterning process.

Figure S3. Polarized OM images of the unpatterned TES-ADT films after applying the solvent annealing process. (a) The radial growth of TES-ADT crystals from the nucleation site, and (b) the impingement among crystallites grown from different nucleation sites.

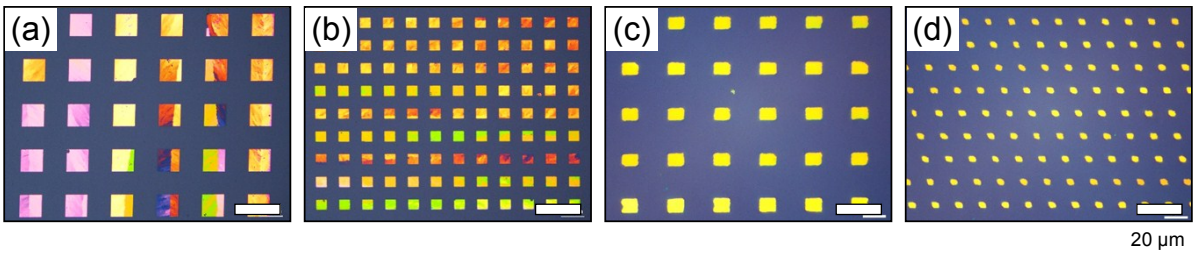

Figure S4. Polarized OM images of square-patterned TES-ADT films prepared using (a) 100, (b) 50, (c) 10, (d) 2.5 μm line patterned PDMS stamps.

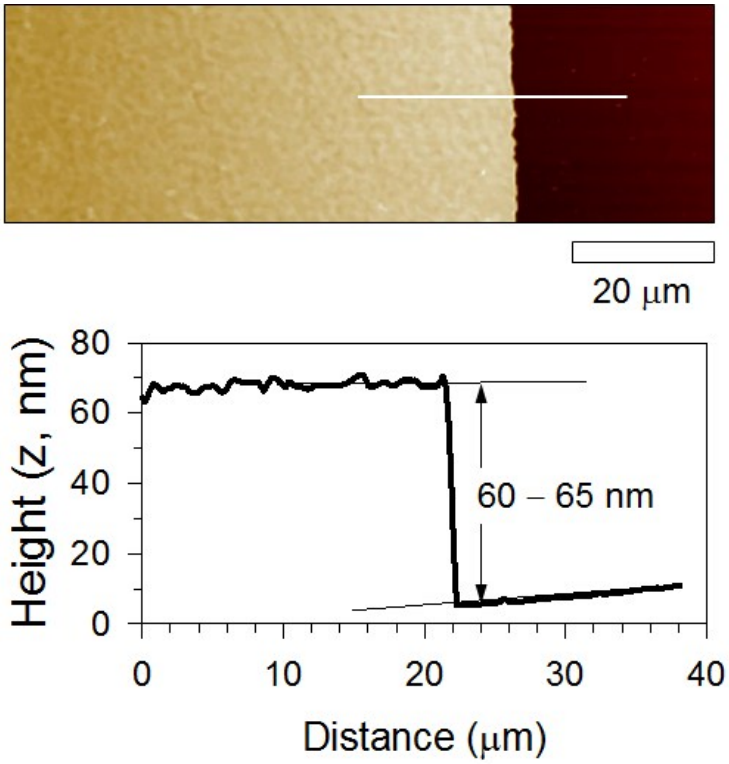

Figure S5. AFM topography (top) and cross-section profile (bottom) of the 100-μm patterned TES-ADT film.

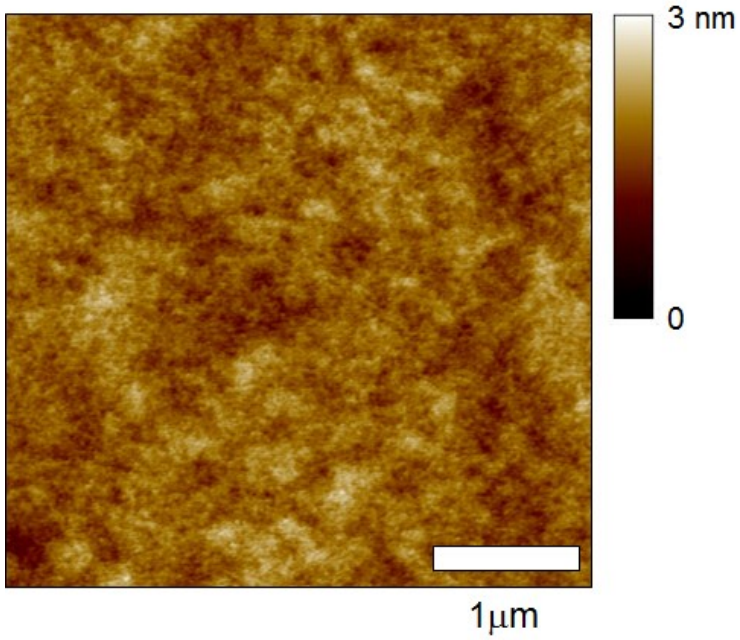

Figure S6. 2 μm × 2 μm AFM topography image of the as-spun TES-ADT film.

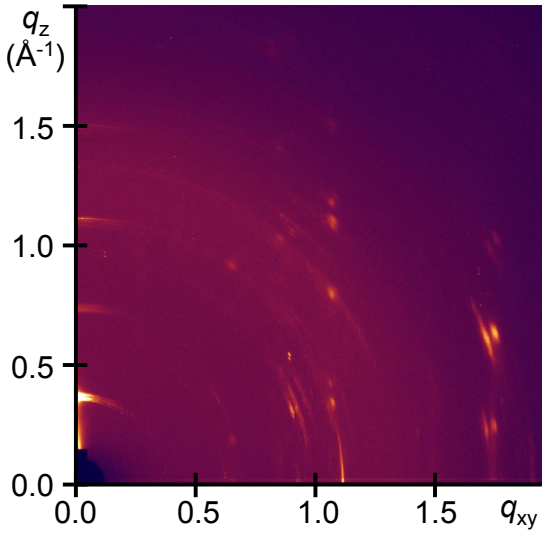

Figure S7. 2D GIXD patterns of the as-spun TES-ADT film.

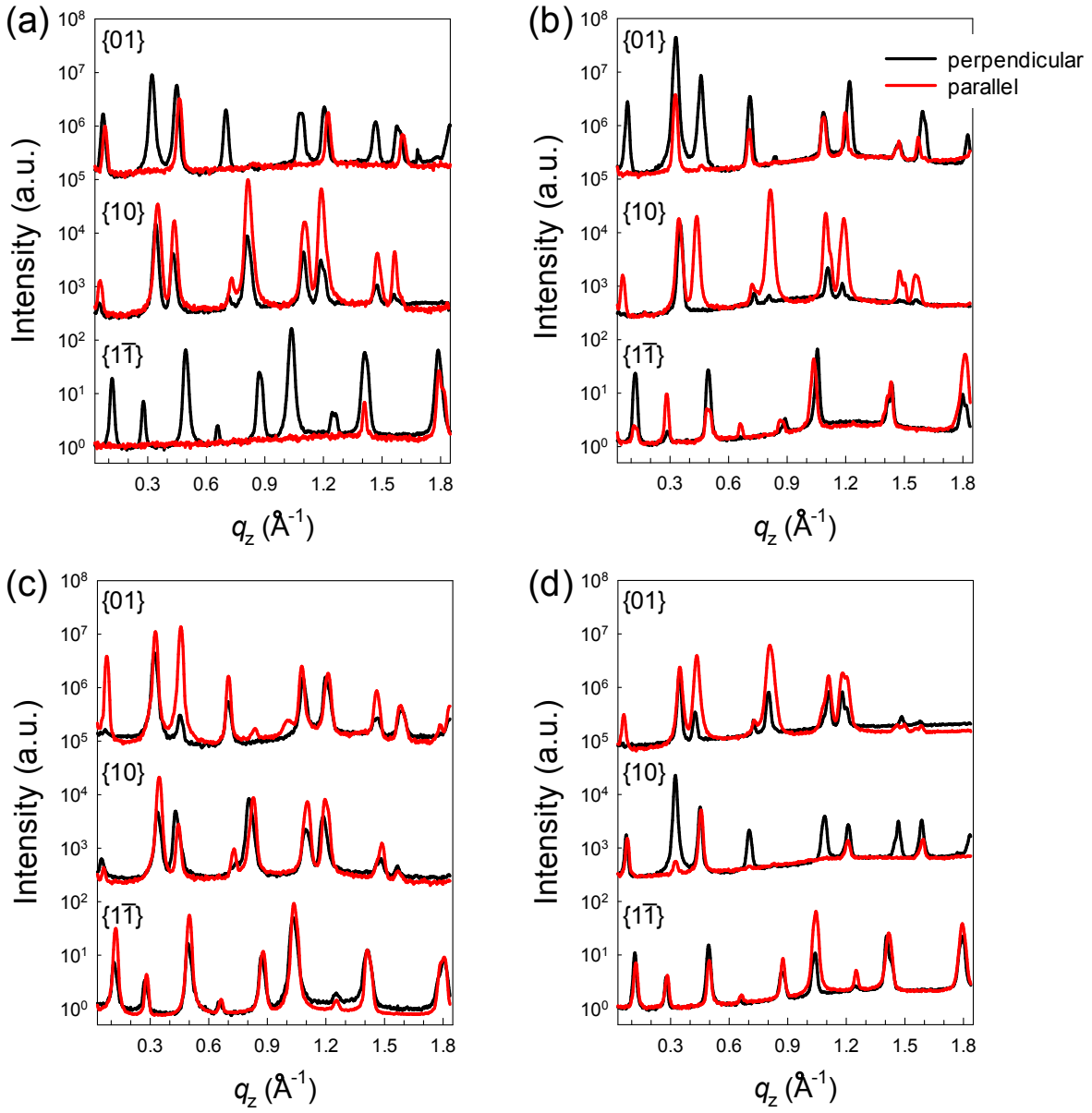

Figure S8. 1D X-ray reflections extracted at $q_{\{01\}}$, $q_{\{10\}}$, and $q_{\{\text{-}11\}}$ from the 2D GIXD patterns of (a) 100, (b) 50, (c) 10, (d) 2.5 μm TES-ADT samples (Figure 5).

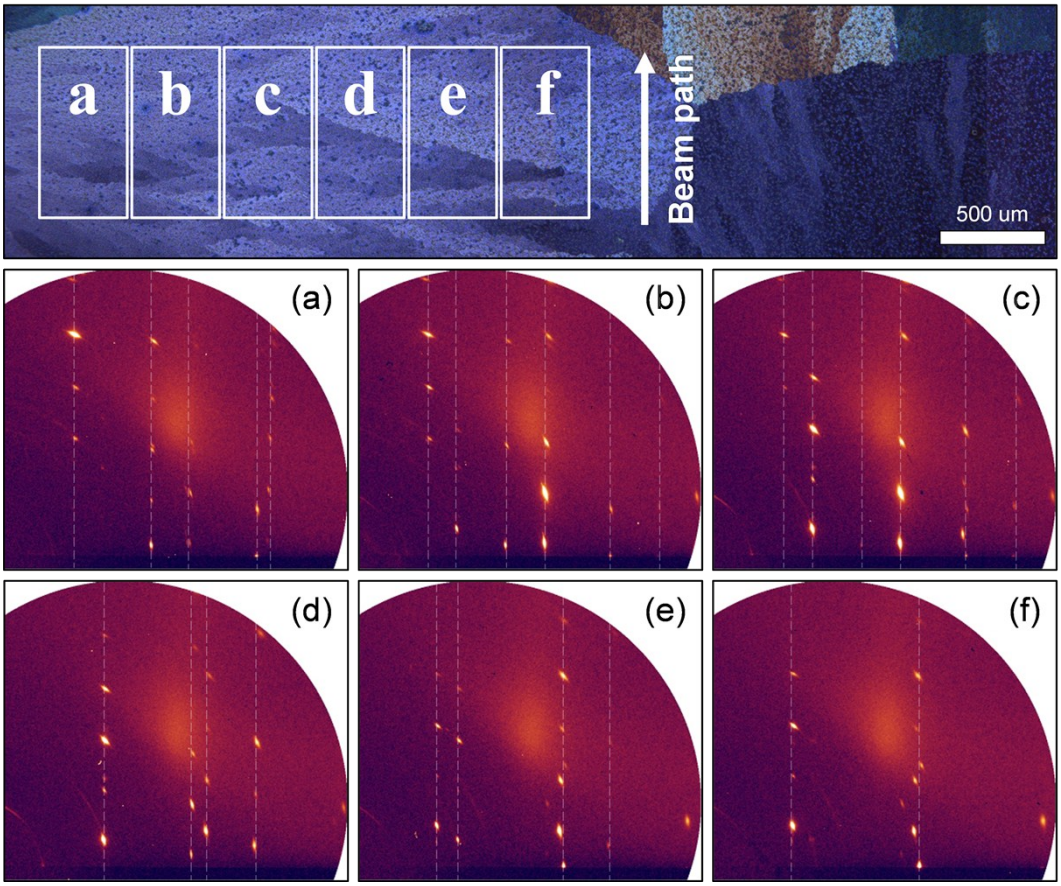

Figure S9. 2D GIXD patterns obtained from a normal DSA-treated TES-ADT film along the footprint of the incident beam with a width × height of 300 × 50 μm^2. The patterns corresponding to each footprint are indicated in the upward-polarized OM images.

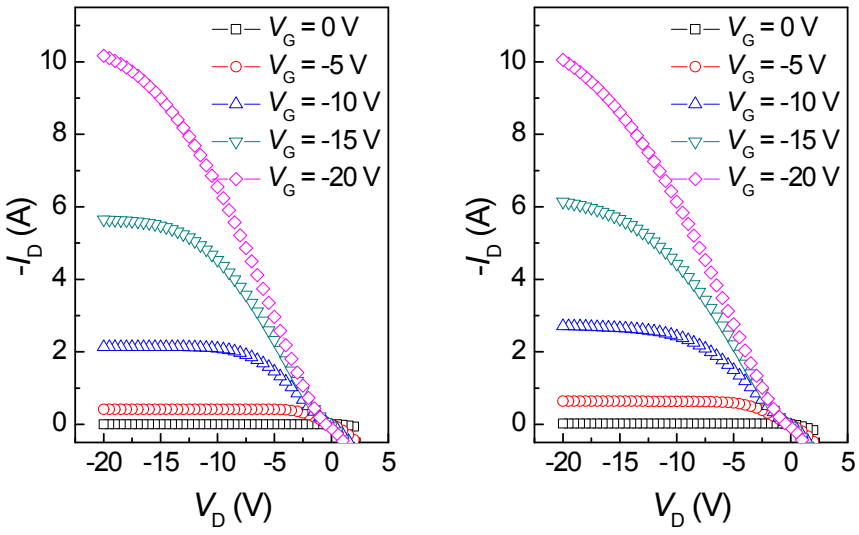

Figure S10. Output characteristics of OFETs prepared with 100 or 2.5 μm-patterned TES-ADT film.