**Supplementary Information**

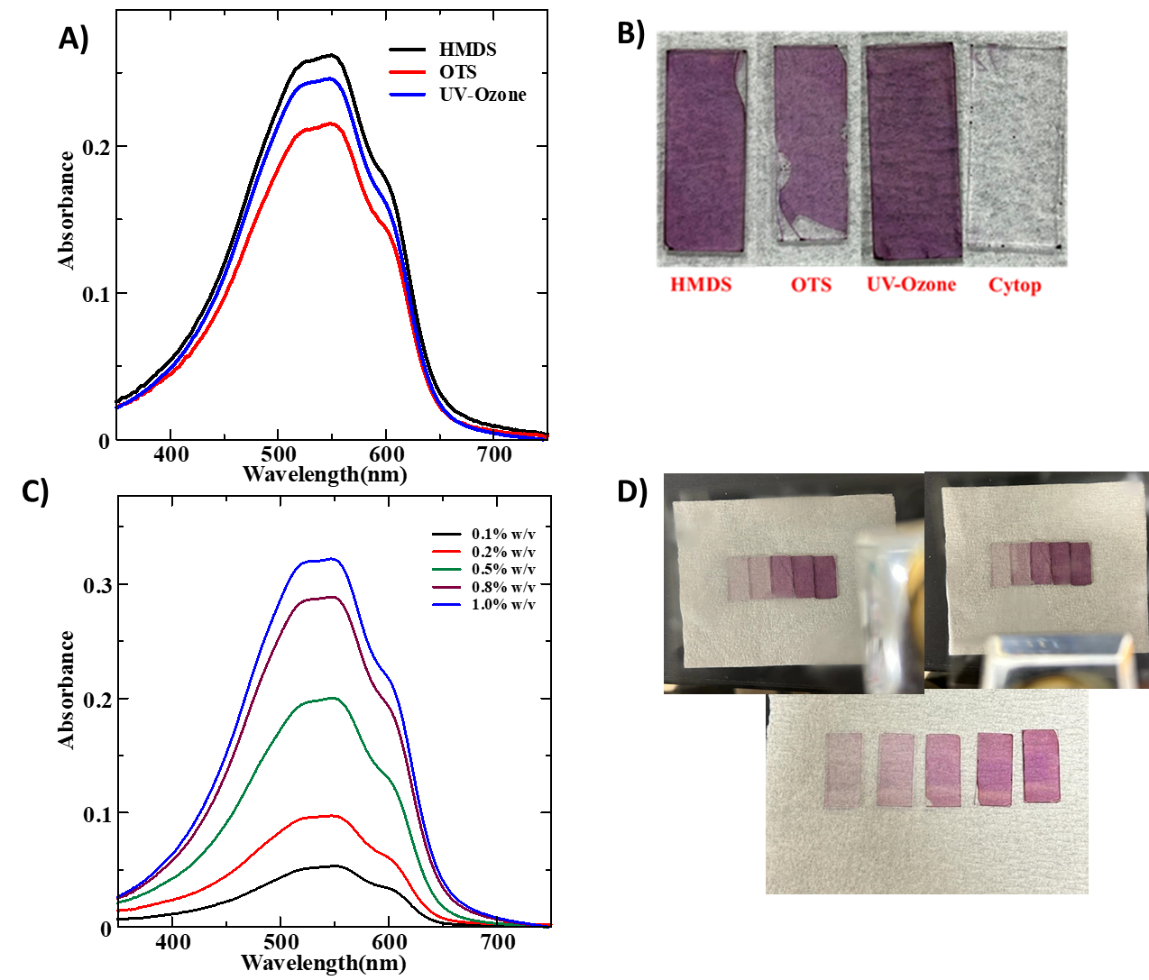
**Clarifying the dominant role of crystallinity and molecular orientation in differently processed thin films regioregular poly(3-hexylthiophene)**

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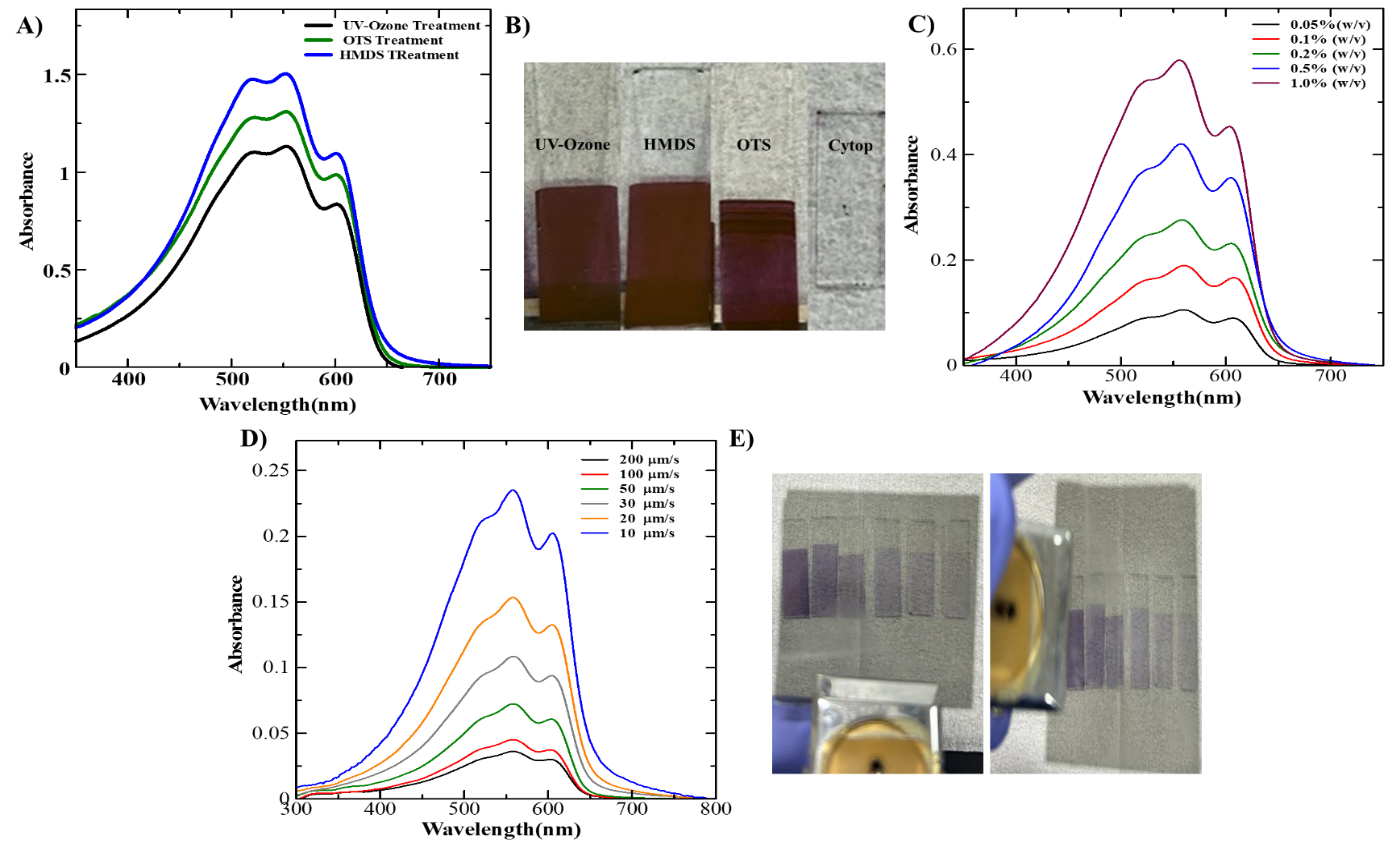
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**1.** **Optimization and Optical characterizations of spin-coated films**

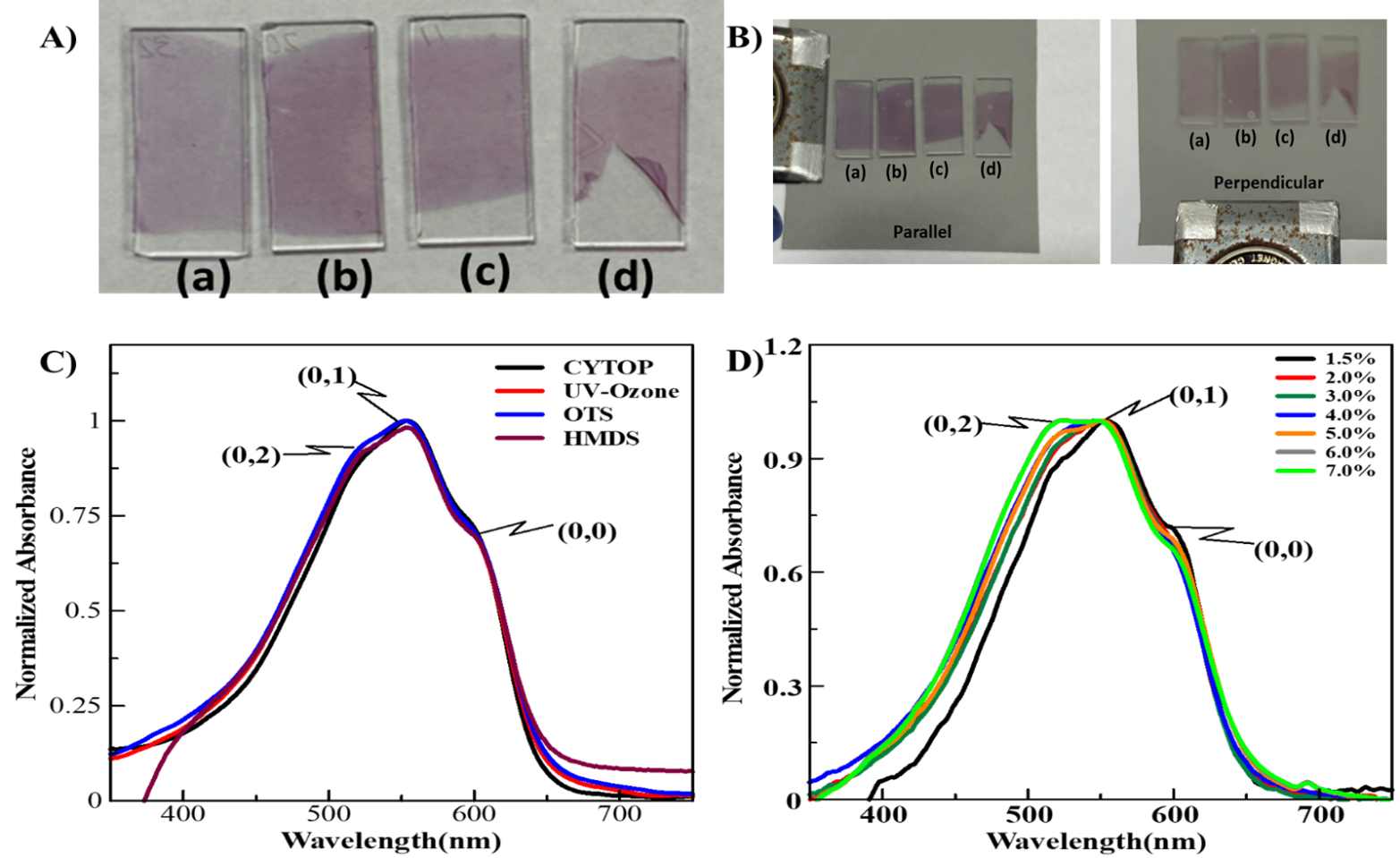
**Figure S1.** UV-Visible absorption spectra for spin-coated RR-P3HT thin films fabricated on differently surface-treated glass substrates A) and the photographs of corresponding thin films B). UV-Vis absorption spectra by varying the concentrations of RR-P3HT in Chloroform at a fixed spinning speed of 3500rpm on UV-Ozone treated glass substrate C) and the corresponding photographs spin-coated films with different concentrations under polarizer.

**S2.** **Optimization and Optical characterizations of dip-coated films**



**Figure S2.** A) Electronic absorption spectra for dip-coated RR-P3HT thin films on glass substrate using different surface modifications at fixed lifting speed and concentration of 20 m/s and 1.0 % (w/v), respectively and B) photographs of corresponding thin films. C) Absorption spectra on UV-Ozone treated glass substrate with varying concentrations of RR-P3HT in Chloroform at a fixed lifting speed of 20 m/s. D) Absorption spectra on UV-Ozone treated glass substrate at various lifting speeds while keeping the polymer concentration of 0.1 % fixed and E) corresponding photographs of dip-coated thin films under polarizer.

**S3.** **Optimization and Optical characterizations of FTM-processed thin films**



**Figure S3.** Photographs of the FTM-processed thin films prepared on differently surface-modified glass substrates without polarizer A) and with polarizer B), where a, b, c, and d represent glass substrates modified with CYTOP, OTS, HMDS and UV-Ozone, respectively. Normalized absorption spectra on differently surface-treated glass substrates C) and UV-Ozone treated glass substrates utilizing varying RR-P3HT concentrations.

**Keywords:** Regioregular poly(3-hexylthiophene); organic field-effect transistors; thin films; crystallinity; orientation; unidirectional floating film transfer