

## Supplementary Information

# Spectroscopic Study of Microstructure and Phase Transition of Regioregular Poly(3-dodecylthiophene)

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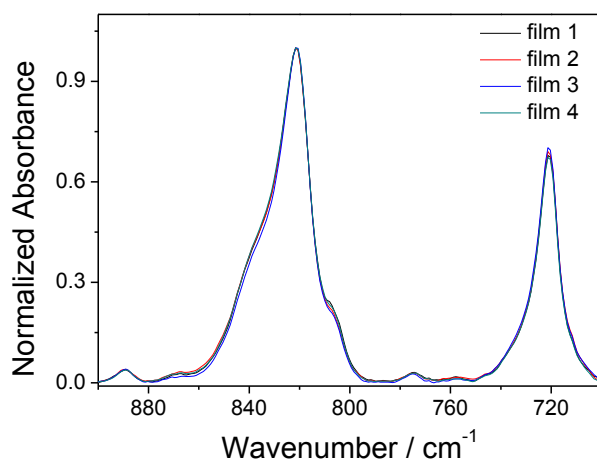


Fig. S1 IR spectra of 4 replicate P3DDT films at 20 °C. The 4 spectra overlap completely, indicating that the IR data are highly reproducible.

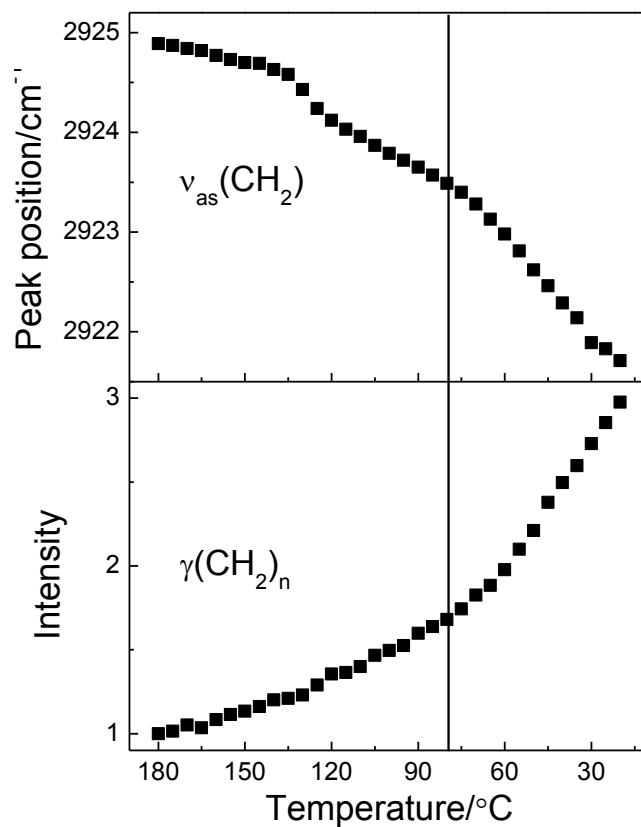


Fig. S2 Peak position of  $\text{CH}_2$  asymmetric stretching band and relative intensity of  $(\text{CH}_2)_n$  in-plane rocking band for P3DDT as functions of temperature at first cooling. The dash line marks 80 °C.

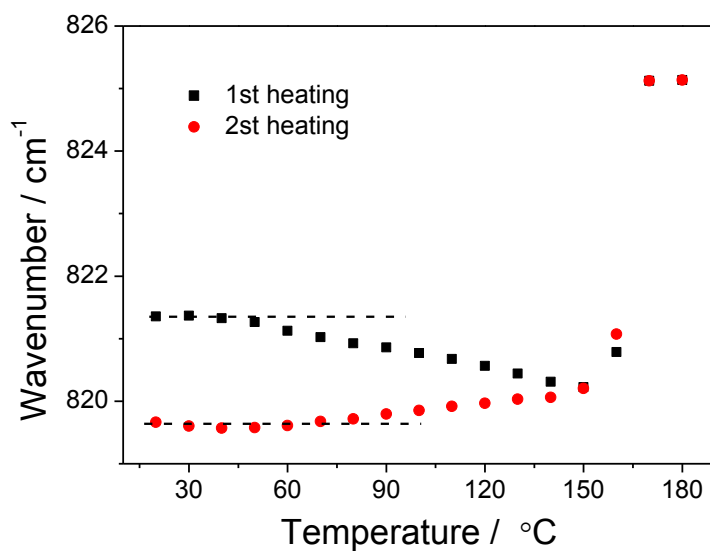


Fig. S3 Peak position of the component at  $820 \text{ cm}^{-1}$  as a function of temperature for the first (black) and second (red) heatings. The dash lines are to guide the eye.