## **Supporting Information**

for

## Comparing blends and blocks: Synthesis of partially fluorinated diblock polythiophene copolymers to investigate the thermal stability of optical and morphological properties

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## Additional spectra

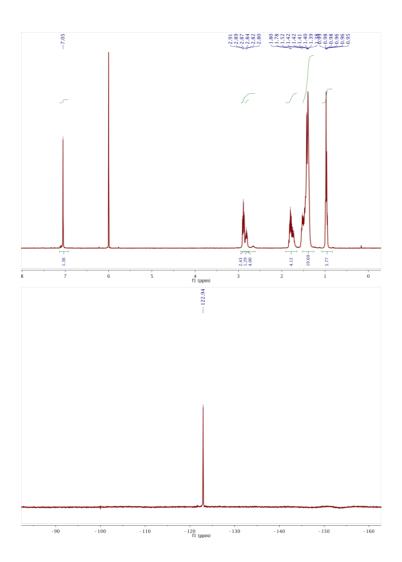


Figure S1: NMR P3OT-*b*-F-P3OT 2:1.

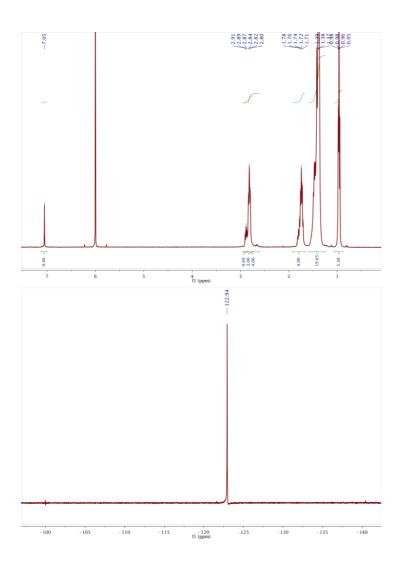
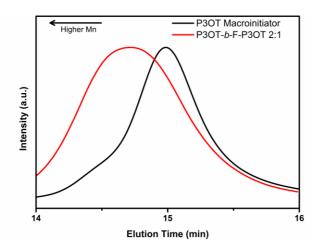
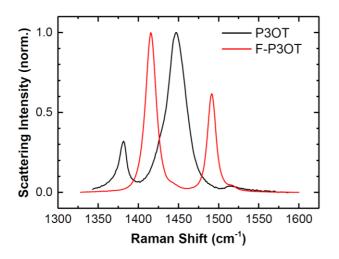


Figure S2: NMR P3OT-*b*-F-P3OT 1:4.

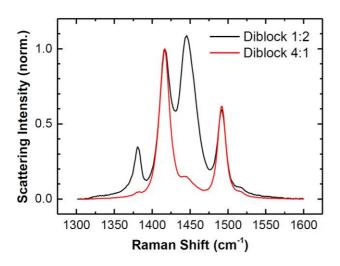


**Figure S3:** Gel Permeation Chromatography trace during the synthesis of P3OT-*b*-F-P3OT 2:1.

The black trace is the P3OT macroinitiator sample taken prior to the addition of 4, and the red trace is P3OT-*b*-F-P3OT 2:1 after Soxhlet purification.



**Figure S4:** Room temperature Raman spectra of P3OT and F-P3OT homopolymers.



**Figure S5:** Room temperature Raman spectra of P3OT-*b*-F-P3OT 2:1 and P3OT-*b*-F-P3OT 1:4.

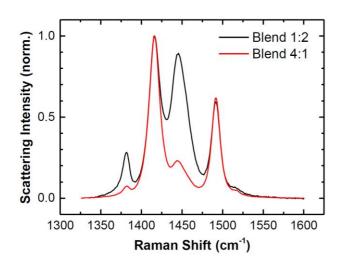
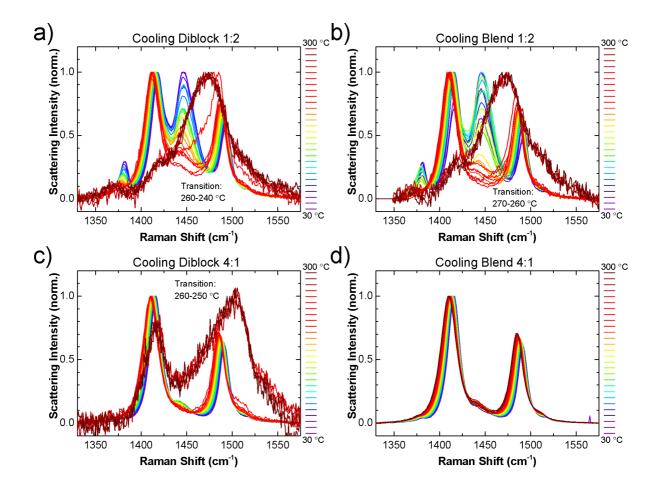


Figure S6: Room temperature Raman spectra of blends of P3OT and F-

P3OT in 2:1 and 1:4 ratios.



**Figure S7:** Temperature dependent Raman spectra measured during cooling thin film samples from 300 °C to 30 °C, (*cf.* heating data in Figure 6) showing the main C-C and C=C stretches of a) P3OT-*b*-F-P3OT 2:1, b) P3OT/F-P3OT blend in a 2:1 ratio, c) P3OT-*b*-F-P3OT 4:1, and d) P3OT/F-P3OT blend in a 4:1 ratio.