

## Supporting Information

### Substituent Effects on Physical and Photovoltaic Properties of 5,6-Difluorobenzo[c]- [1,2,5]thiadiazole-Based D-A Polymers --- Towards A Donor Design for High Performance Polymer Solar Cells

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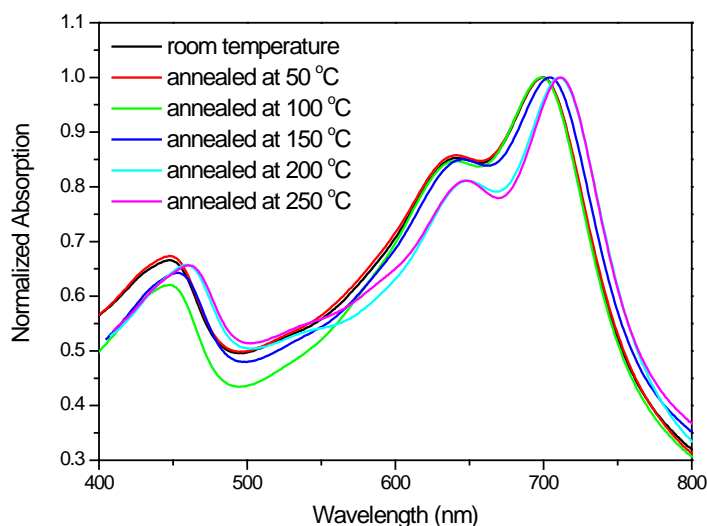


Figure S1 UV-vis absorption of polymer **PFBT-T20TT** at different annealing temperature.

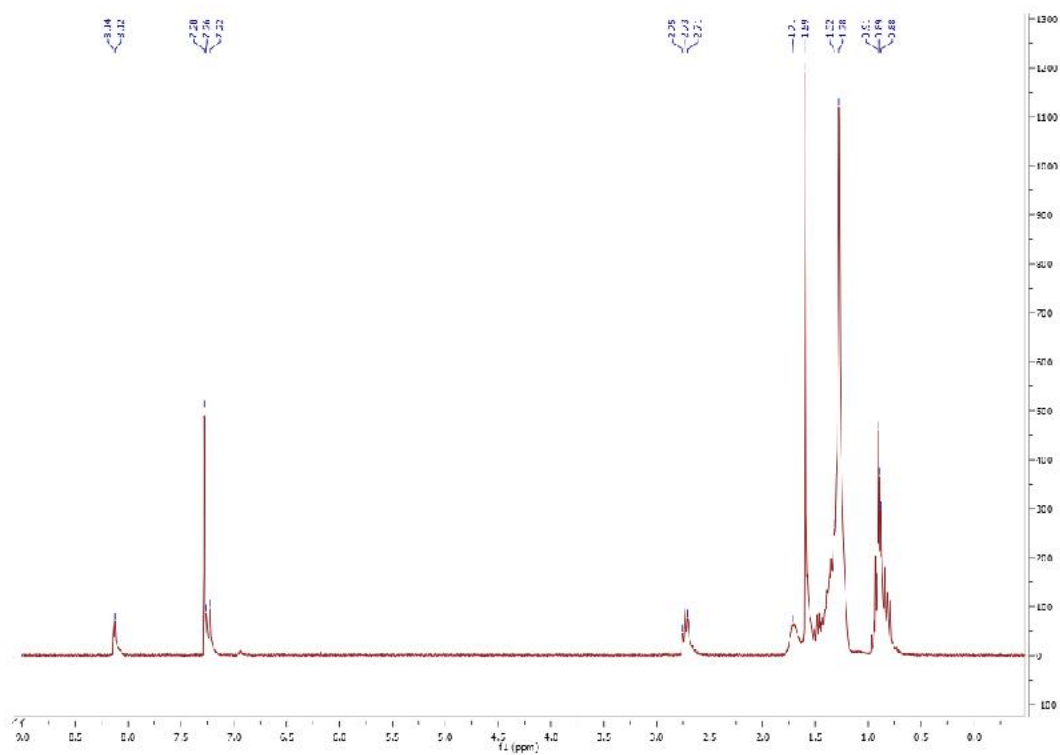


Figure S2  $^1\text{H}$  NMR of compound **1**

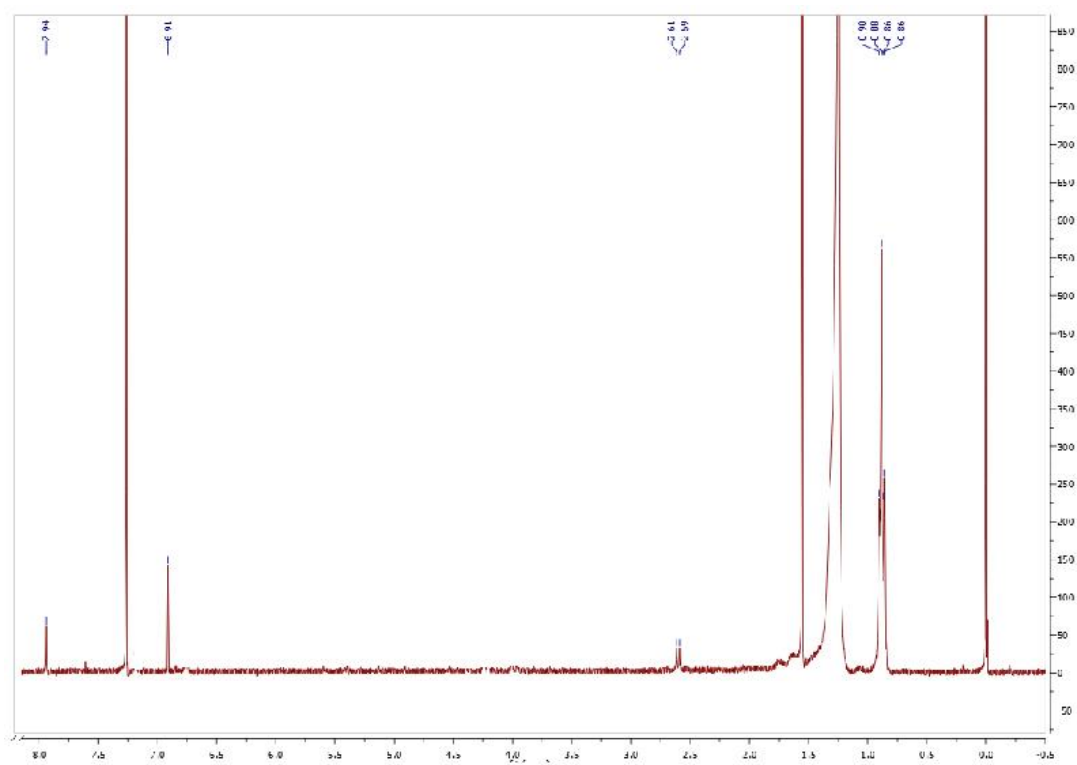


Figure S3  $^1\text{H}$  NMR of compound **2**

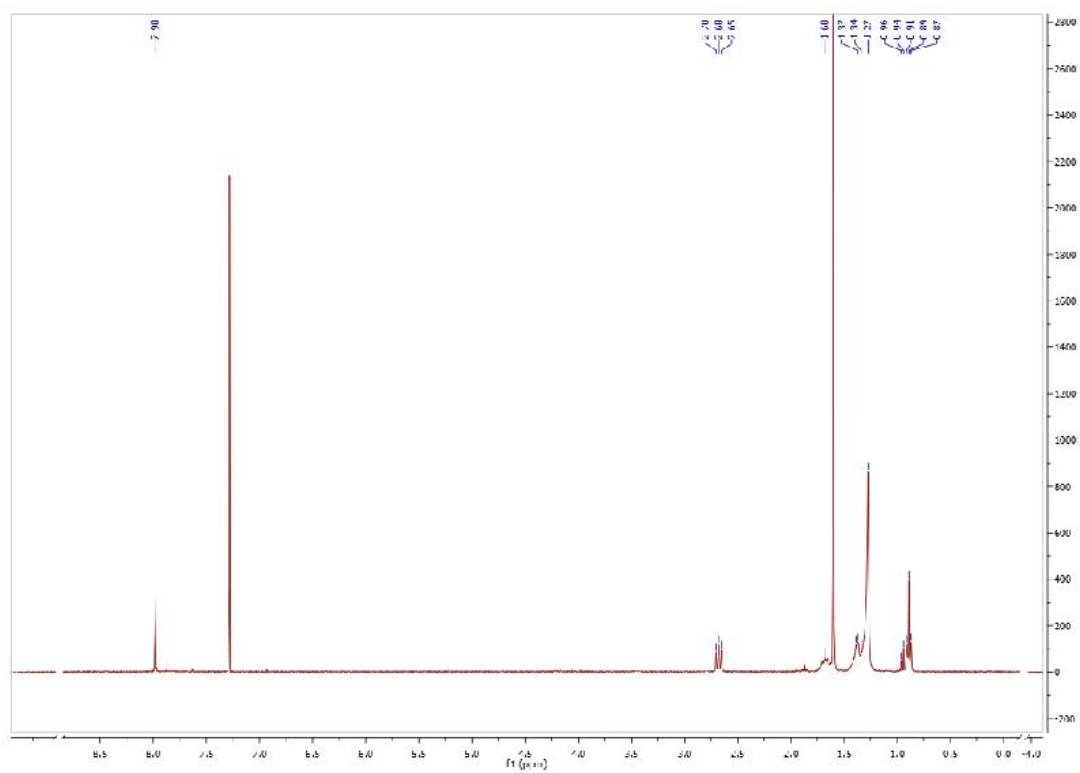


Figure S4  $^1\text{H}$  NMR of compound **3**

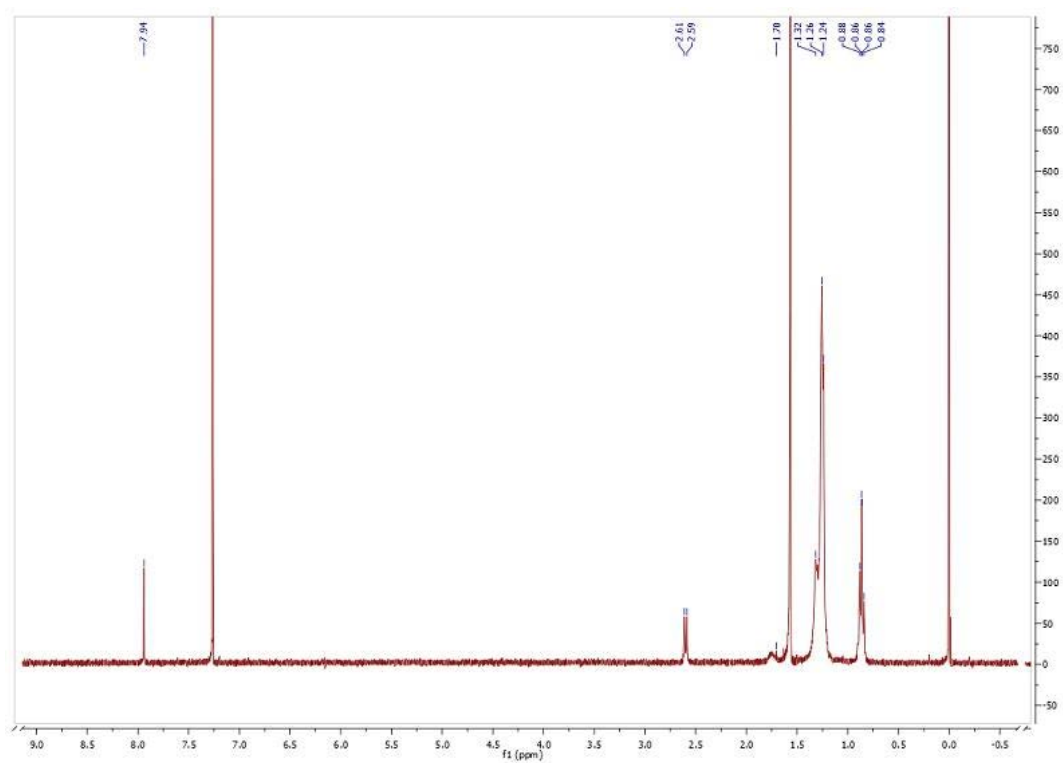


Figure S5  $^1\text{H}$  NMR of compound **4**

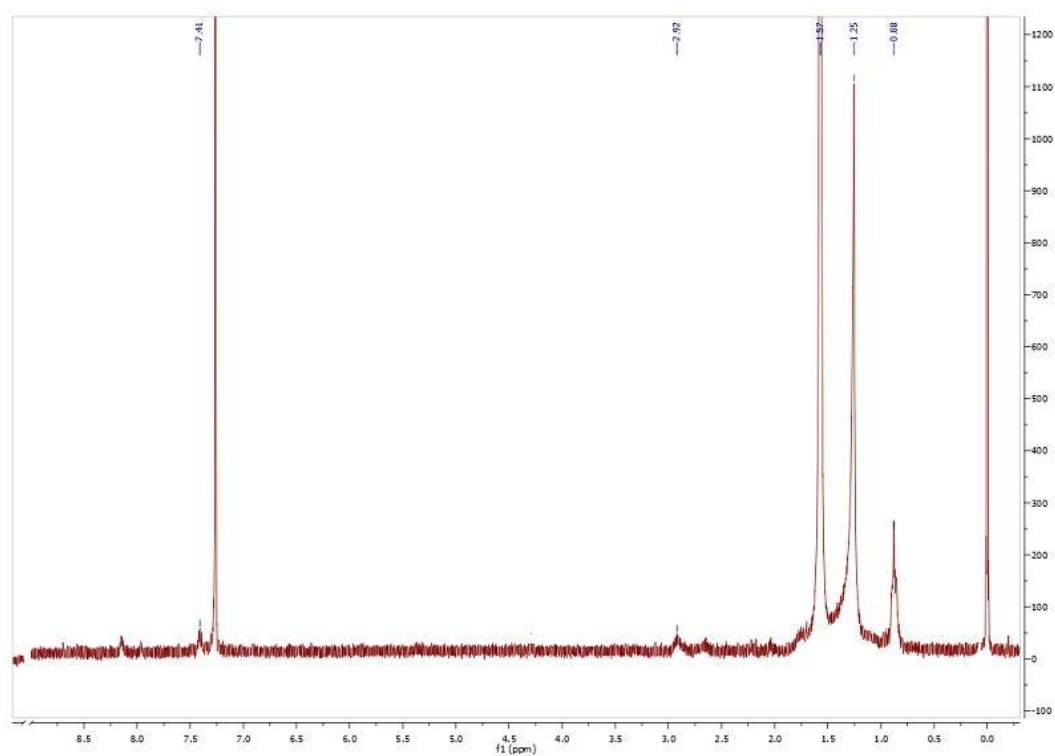


Figure S6  $^1\text{H}$  NMR of polymer **PFBT-T12TT**

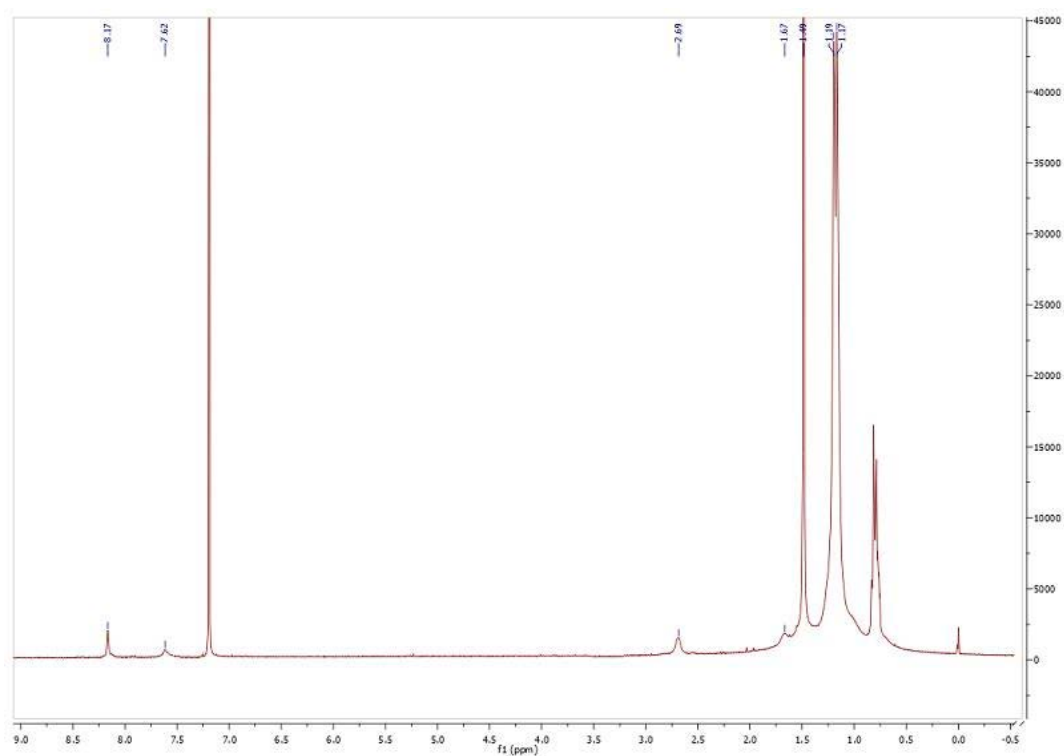


Figure S7  $^1\text{H}$  NMR of polymer **PFBT-T20TT**

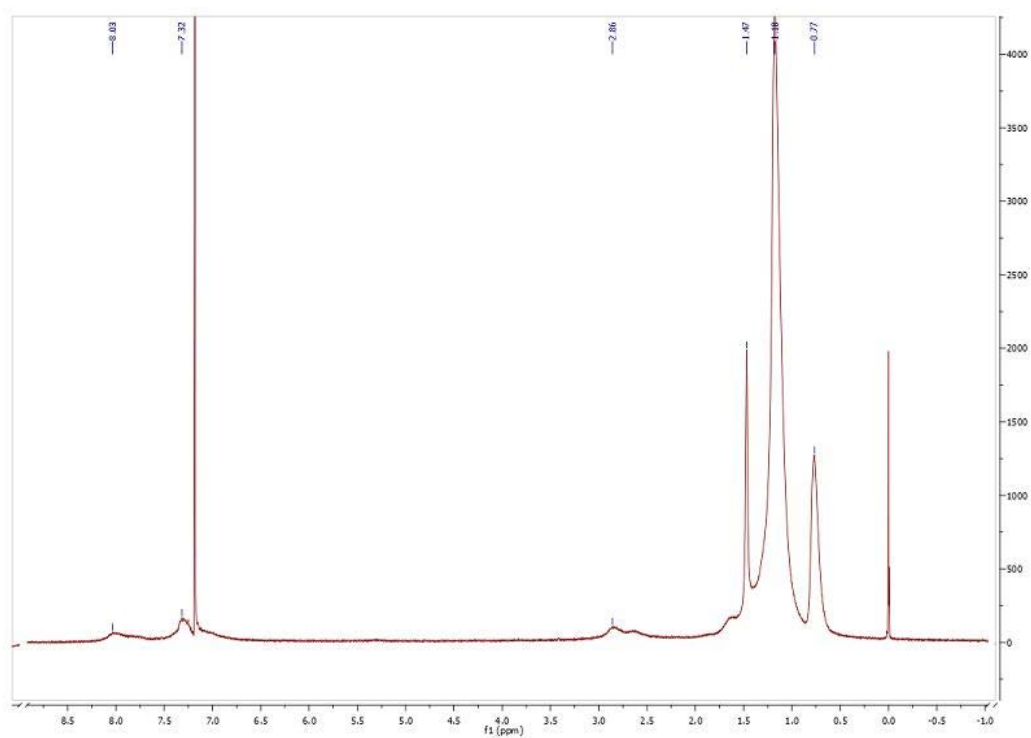


Figure S8  $^1\text{H}$  NMR of polymer **PBT-T12TT**