

Supporting Information

Diblock copolymers consisting of a redox polymer block based on a stable radical linked to an electrically conducting polymer block as cathode materials for organic radical batteries

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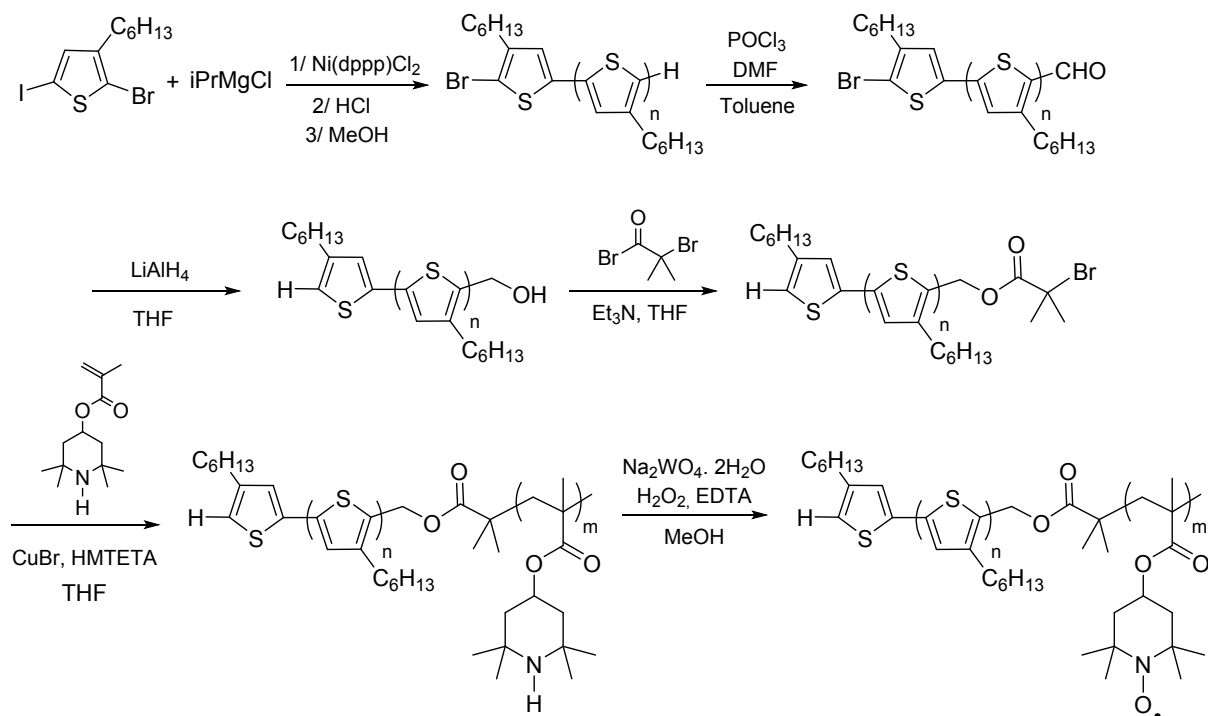


Figure S1. Synthetic route of the diblock P3HT-b-PTMA using P3HT as macroinitiator for copolymerization of TPM by ATRP.

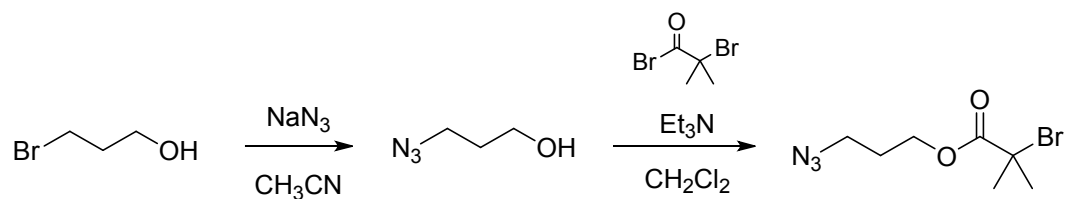


Figure S2. Synthesis of the 3-azidopropyl 2-bromoisobutyrate (N_3 -Ini)

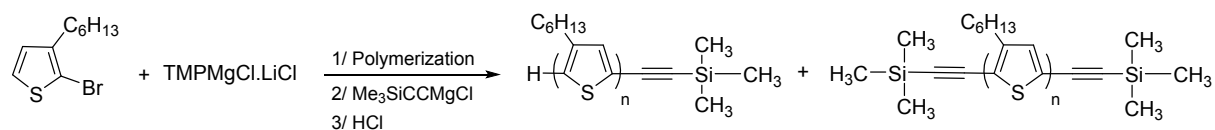


Figure S3. Synthesis of P3HT with unselective introduction of protected alkyne

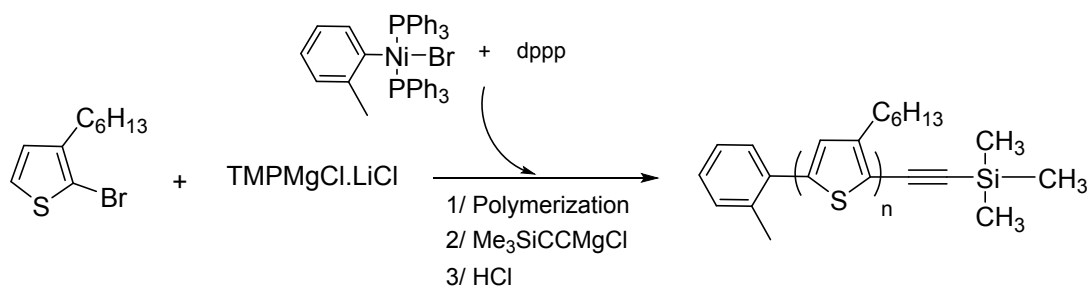


Figure S4. Synthetic pathway to prepare the mono protected alkyne-P3HT

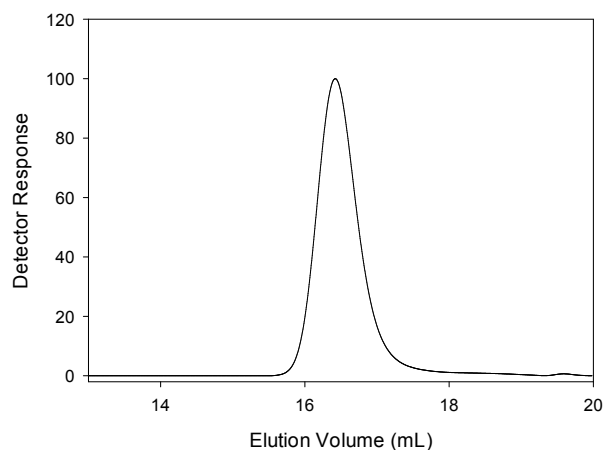


Figure S5. SEC trace of the P3HT₃₁ recorded in THF using PS standards.

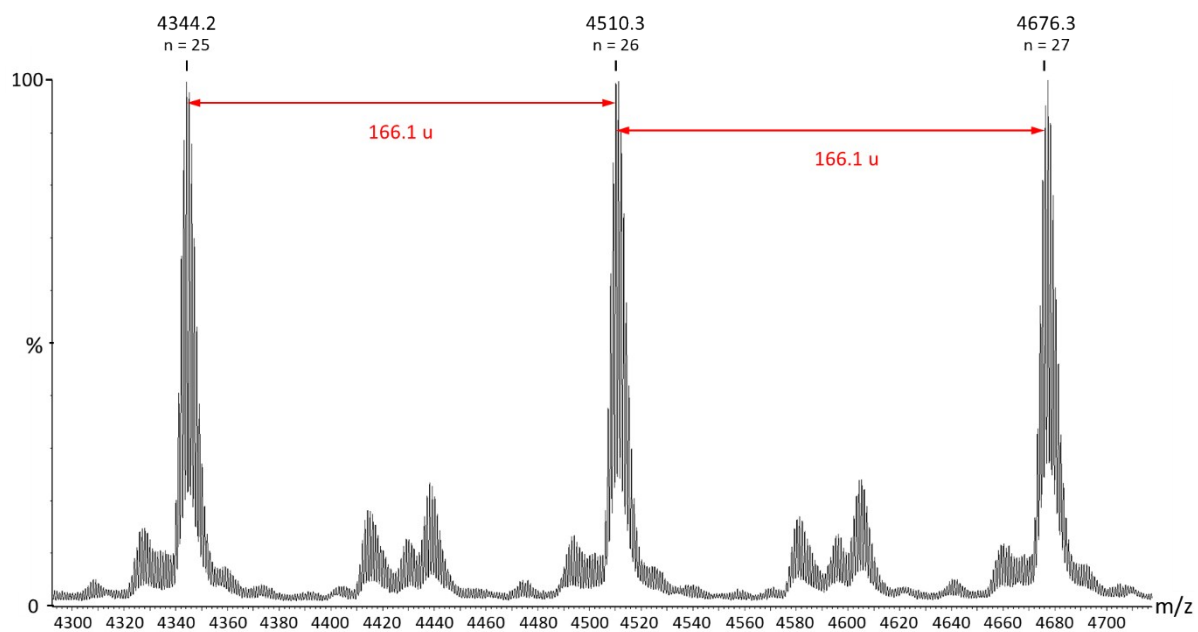


Figure S6. Magnification of the MALDI-ToF spectrum. Identification of the 3-hexylthiophene repeating unit ($C_{10}H_{14}$: 166.1 uma)

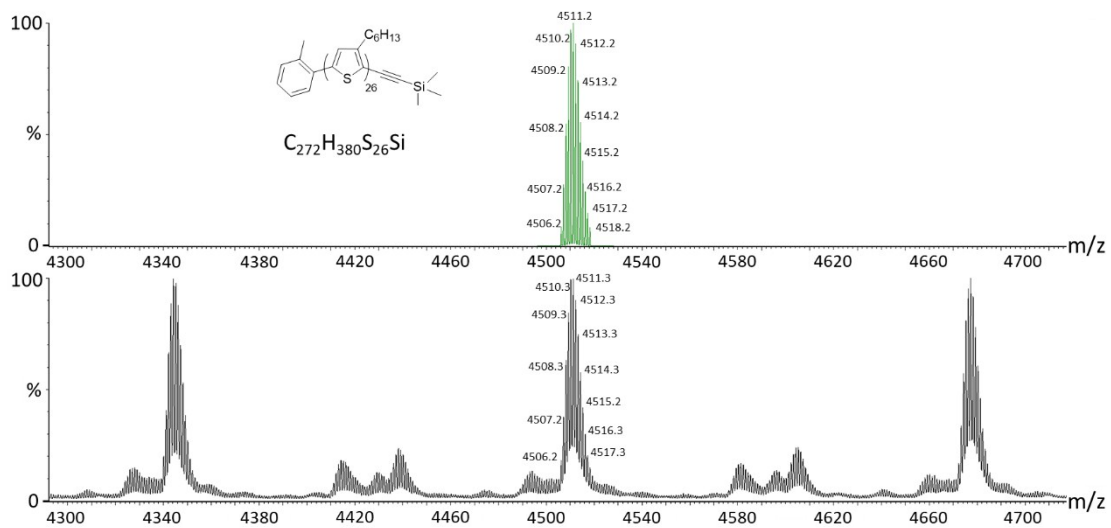


Figure S7. Magnification of the MALDI-ToF spectrum. Comparison between the experimental spectrum and the expecting polymer with a DP of 26.

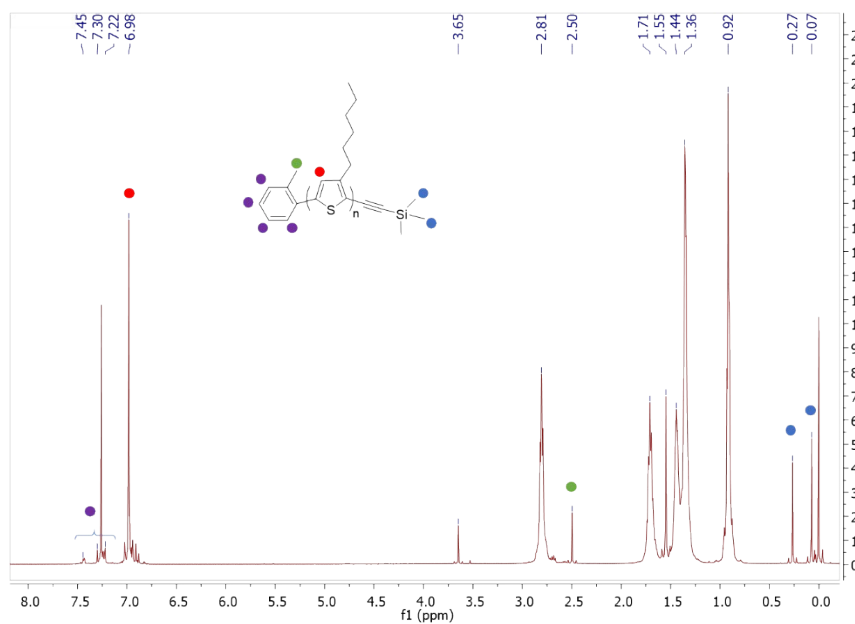


Figure S8. 1H NMR of the $P3HT_{31}$ recorded in $CDCl_3$.

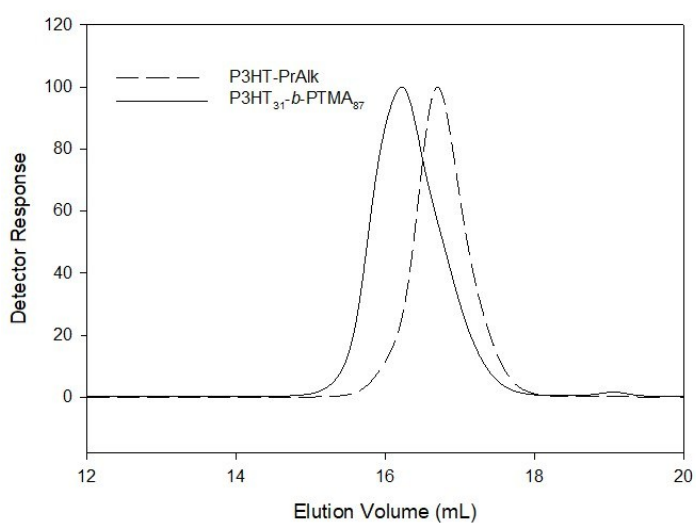


Figure S9. SEC traces comparison between a P3HT₃₁-PrAlk and its corresponding P3HT₃₁-b-PTMA₈₇ diblock copolymer recorded in THF using PS standards.

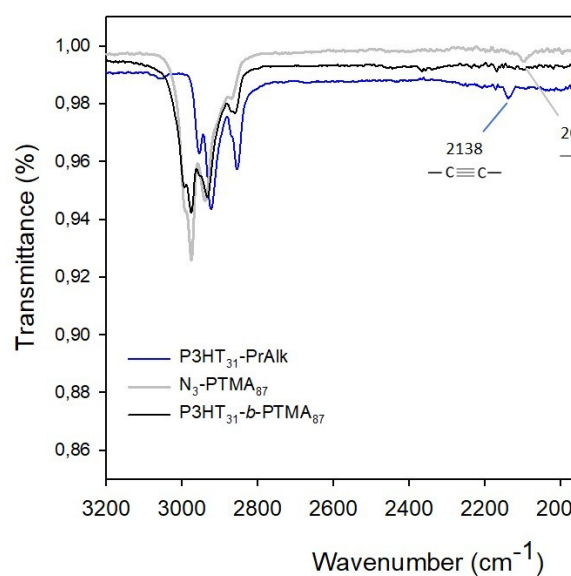
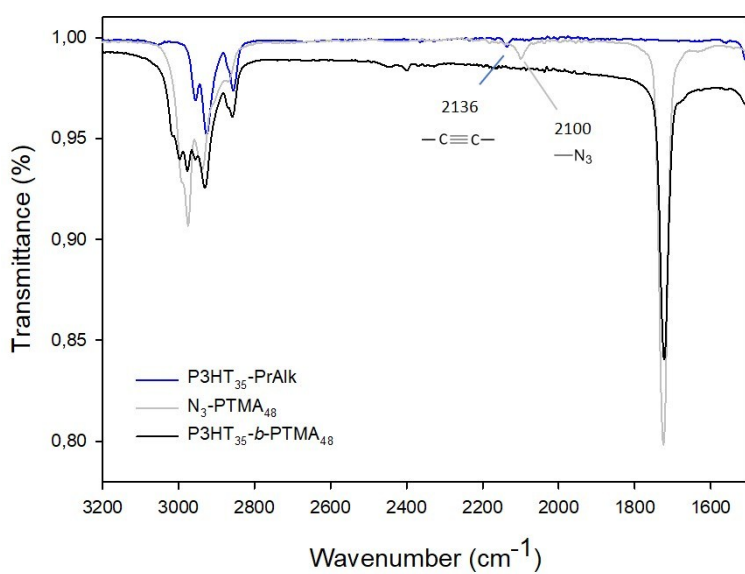


Figure S10. FTIR spectra of the parent homopolymers vs block copolymers P3HT-*b*-PTMA

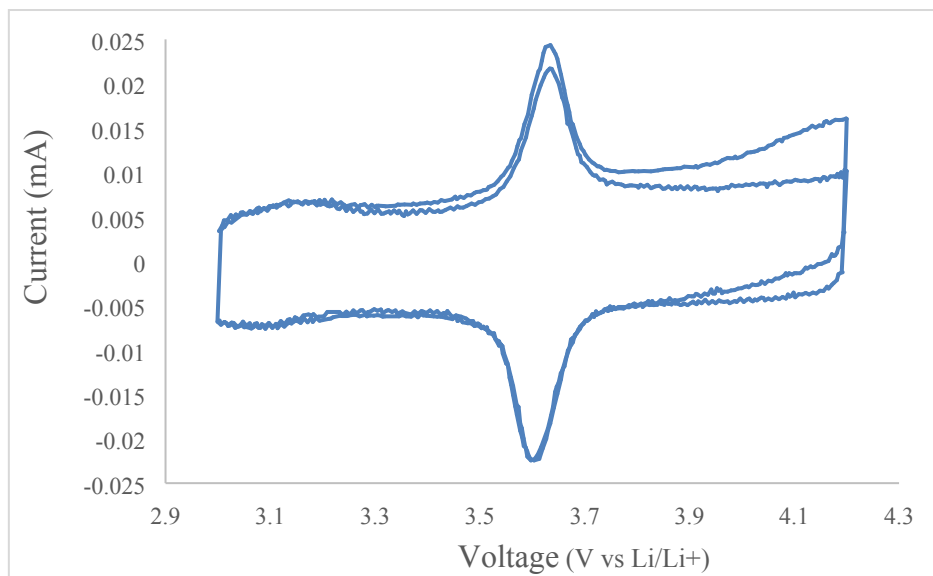


Figure S11. Cyclic voltammogram of P3HT₃₁-b-PTMA₈₇ recorded at 0.1mV/s.