

Supplementary Information

Synthesis of Diketopyrrolopyrrole Based Copolymers via Direct Arylation Method for p-Channel and Ambipolar OFETs

Prashant Sonar,^{*a} Thelese Ru Bao Foong^a, Ananth Dodabalapur^{*a,b}

a. Institute of Materials Research and Engineering (IMRE), Agency for Science, Technology, and Research (A*STAR), 3 Research Link, Singapore 117602

b. Microelectronics Research Centre, The University of Texas at Austin, Austin, TX, 78758, USA

Email: sonarp@imre.a-star.edu.sg, ananth.dodabalapur@engr.utexas.edu

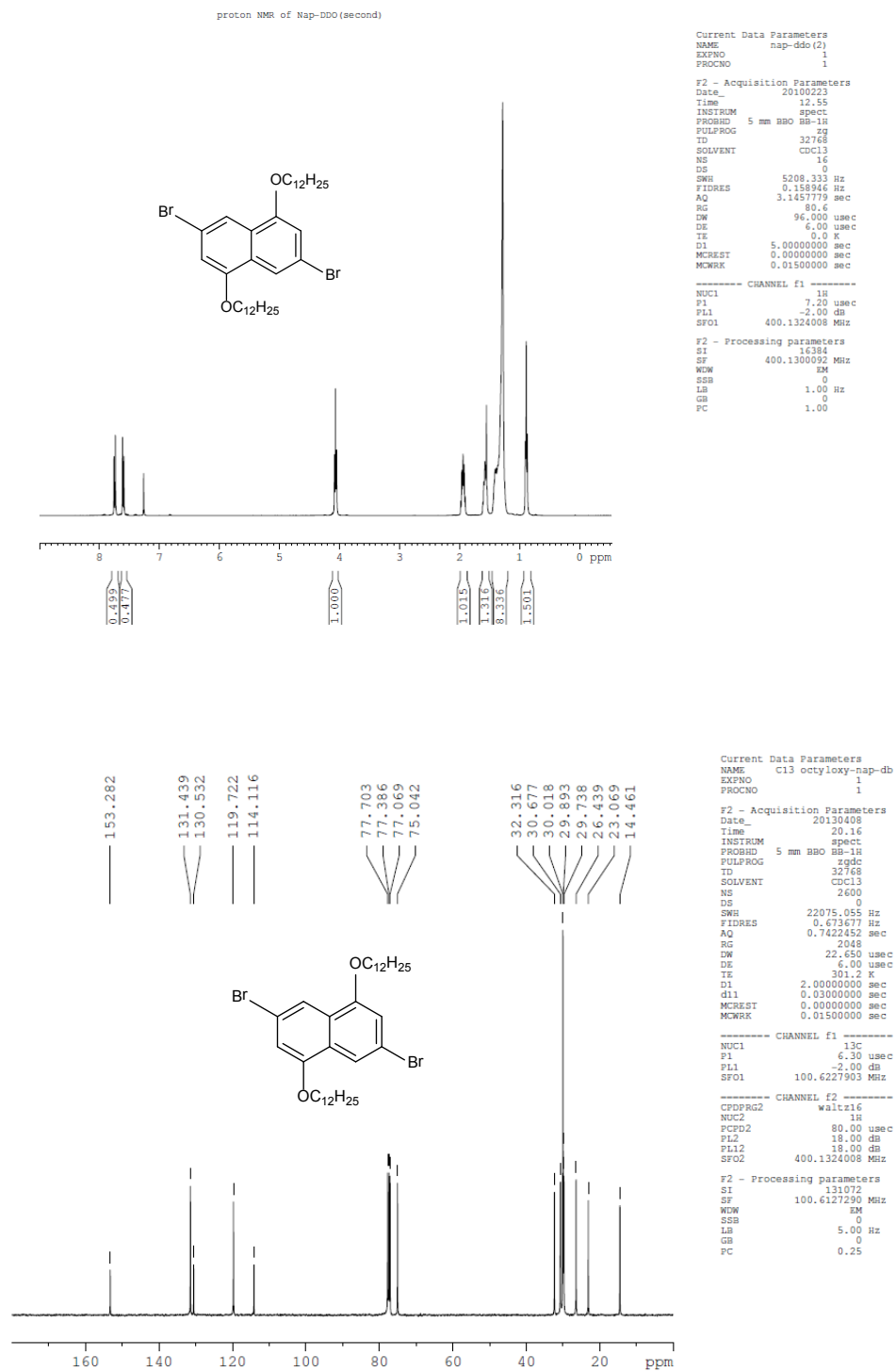


Figure S1. ^1H and ^{13}C NMR spectrum of 3,7-dibromo-1,5-bis(dodecyloxy)naphthalene in CDCl_3 .

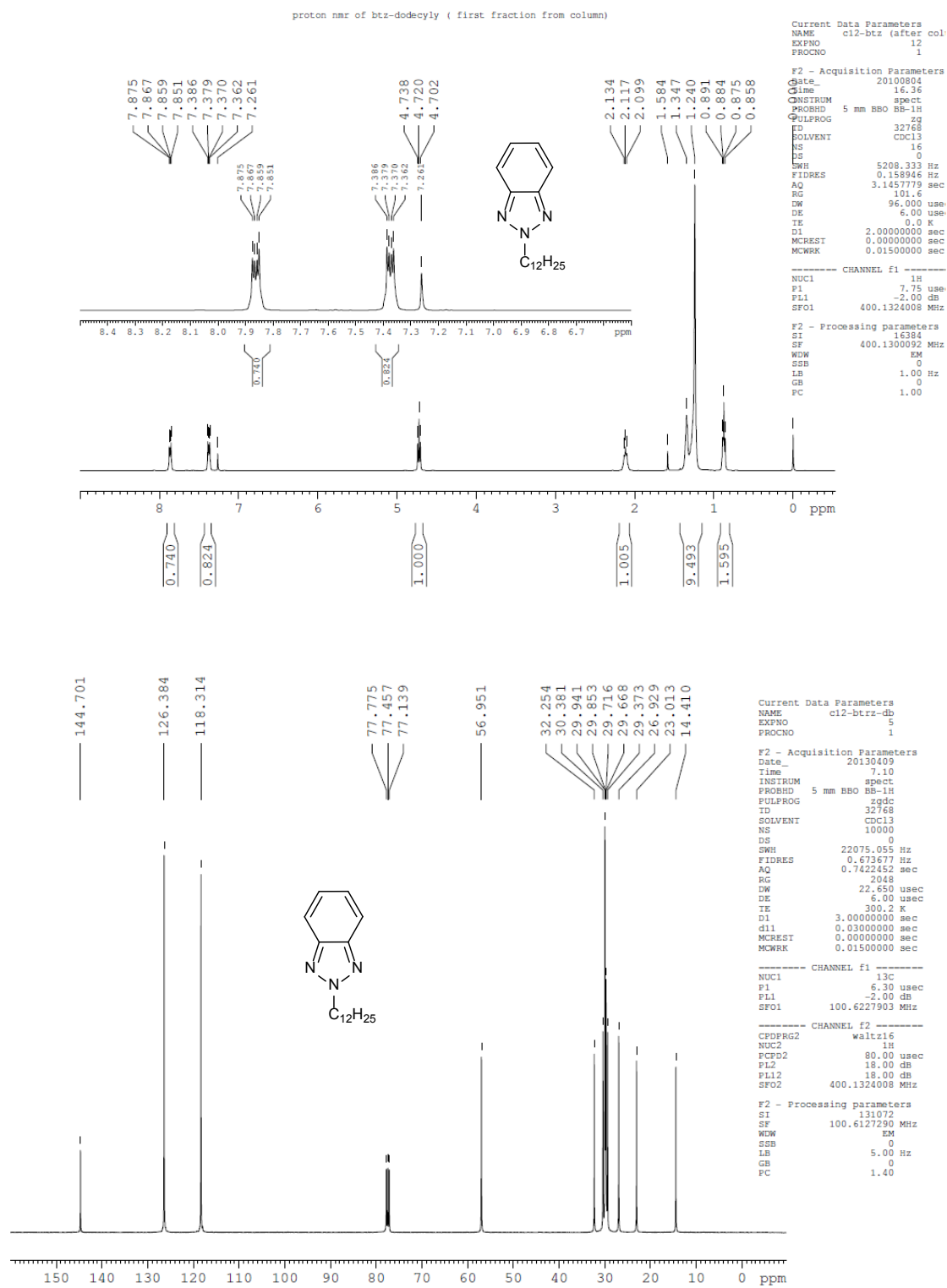


Figure S2. ¹H and ¹³C NMR spectrum of 2-dodecyl-2H-benzotriazole in CDCl₃.

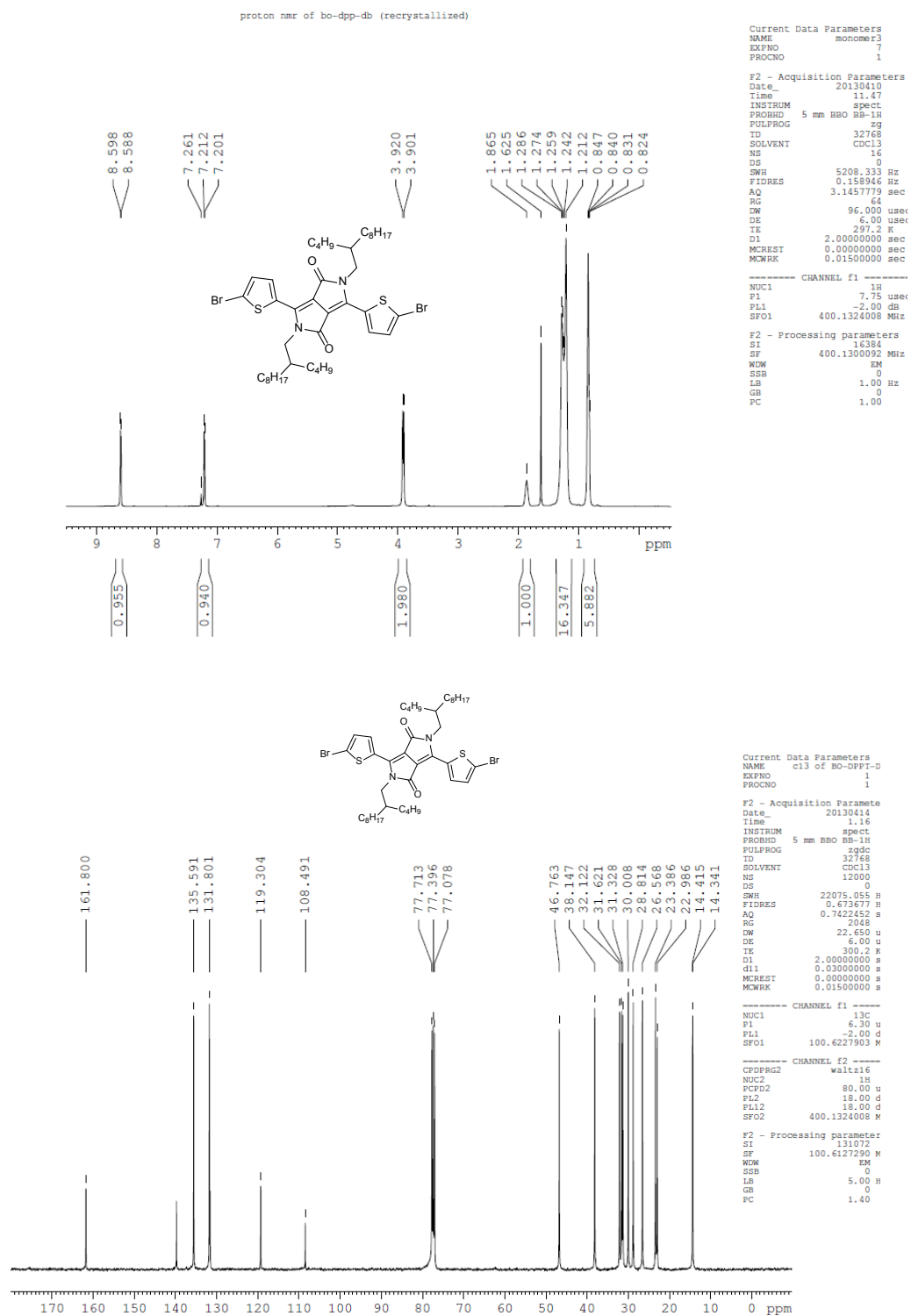


Figure S3. ¹H and ¹³C NMR spectrum of 3,6-bis(5-bromothiophen-2-yl)-2,5-bis(2-butyldecyl)pyrrolo[3,4-c]pyrrole-1,4(2H,5H)-dione in CDCl₃.

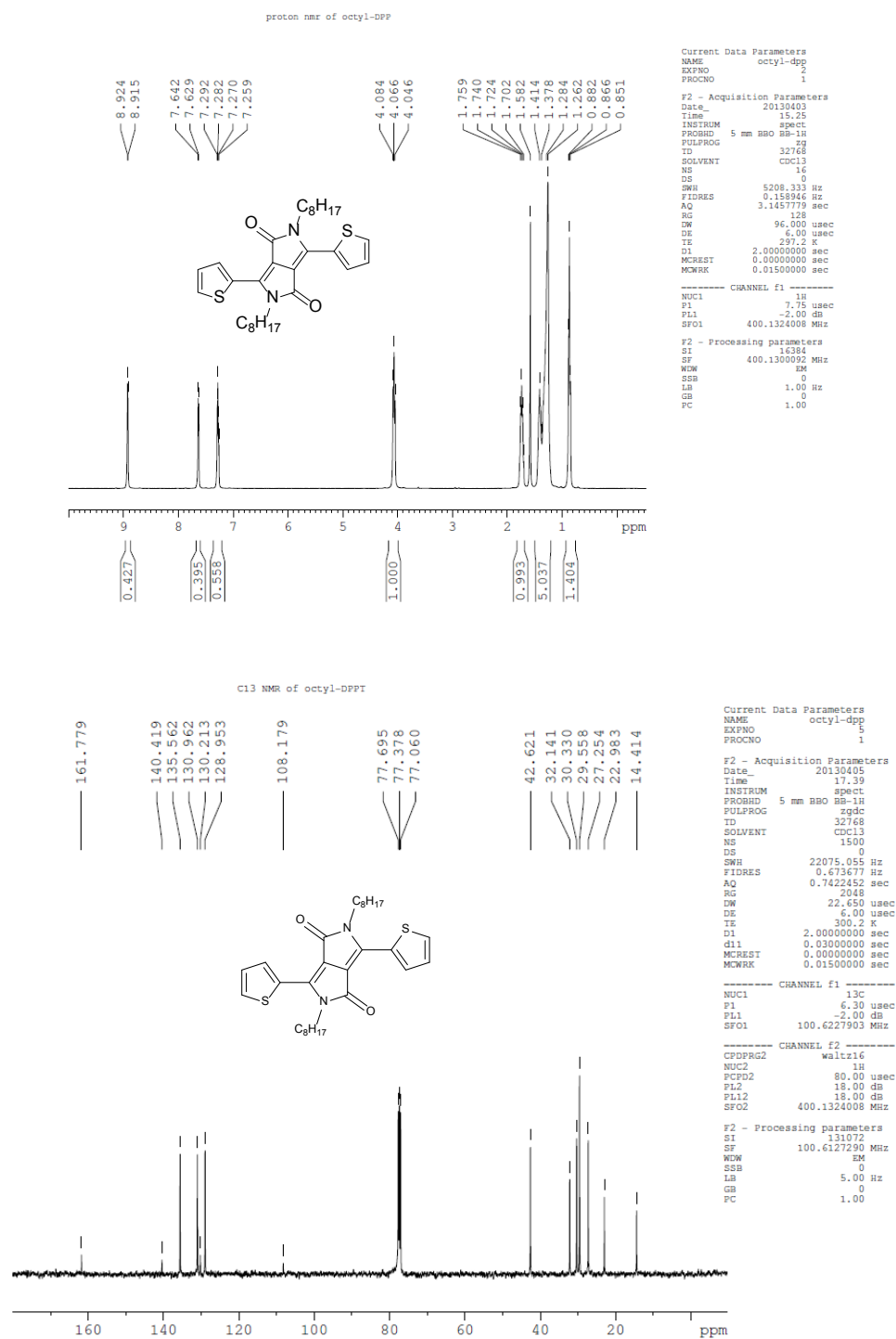


Figure S4. ¹H and ¹³C NMR spectrum of 2,5-dioctyl-3,6-di(thiophen-2-yl)pyrrolo[3,4-c]pyrrole-1,4(2H,5H)-dione in CDCl₃.

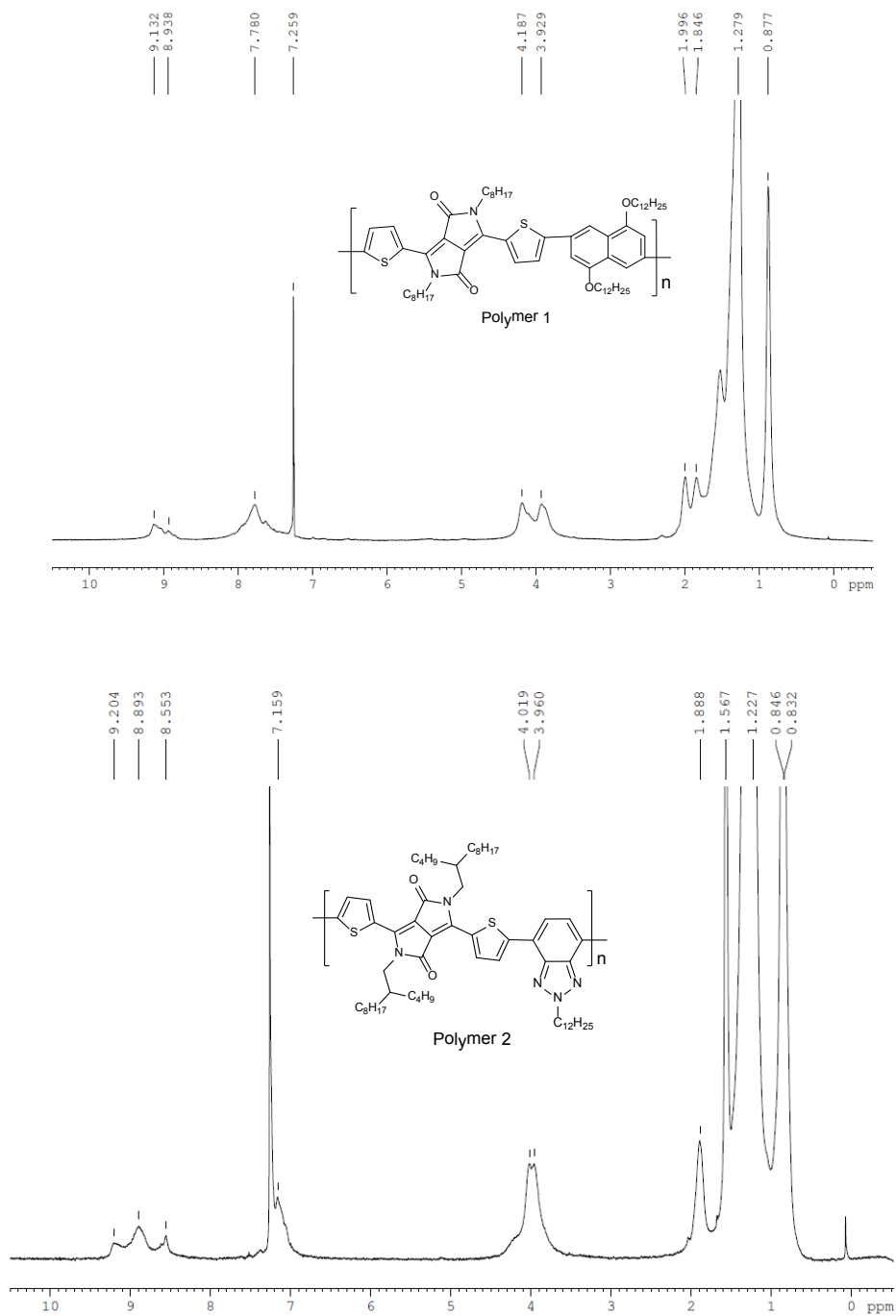
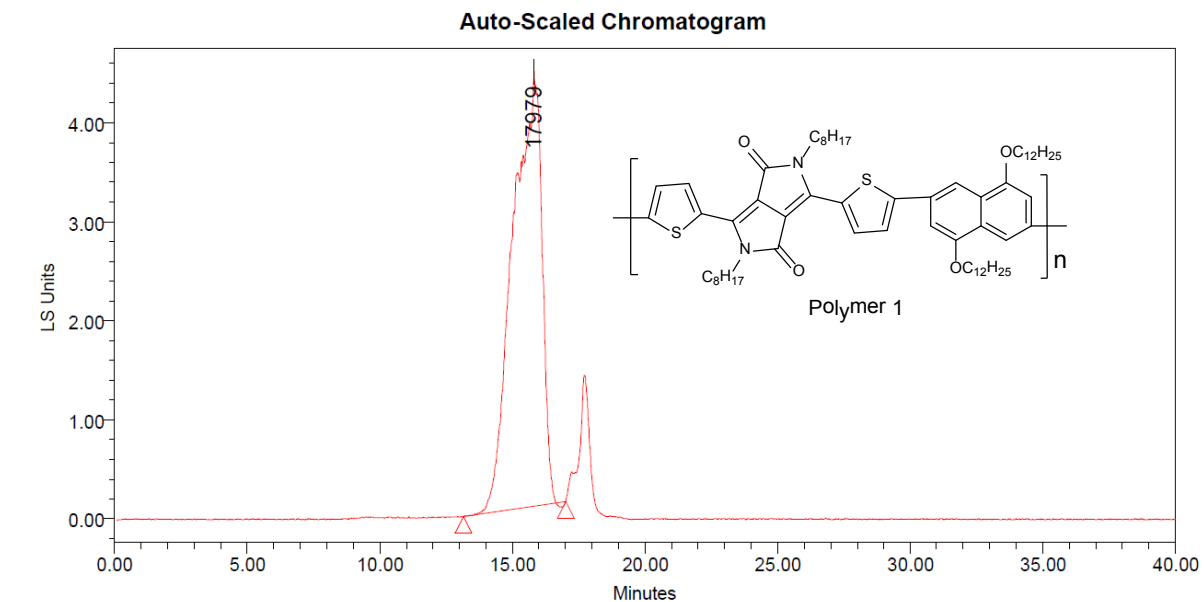
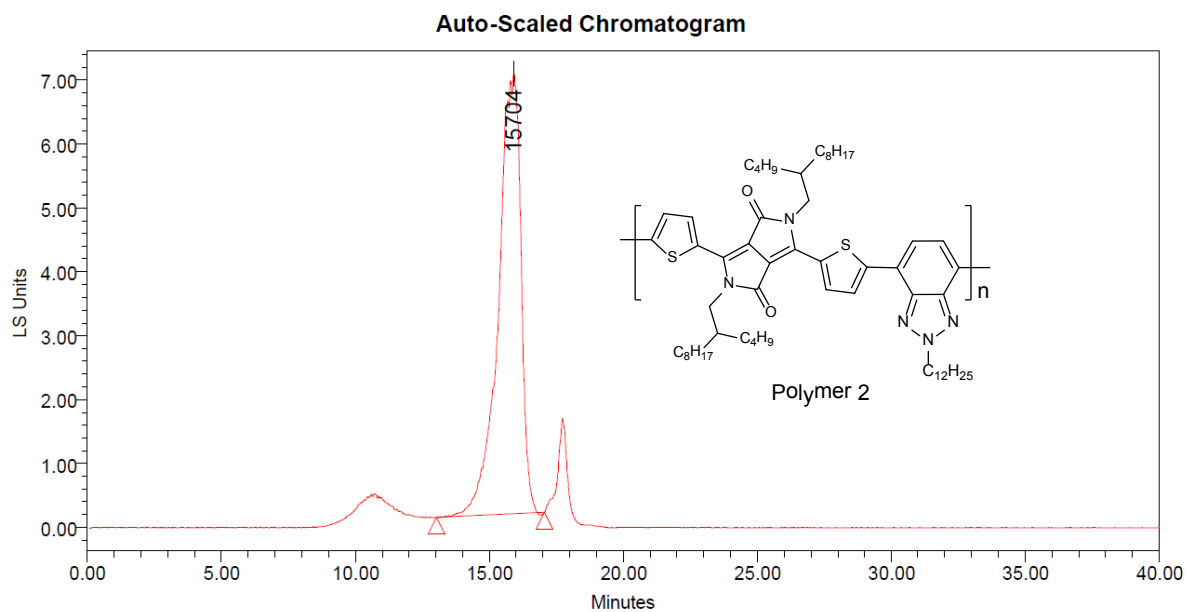


Figure S5. ^1H NMR spectra of **PDPPT-NAP** and **PDPPT-BTRZ** polymers.



GPC Results

	Mn	Mw	MP	Mz	Mz+1	Polydispersity
1	23402	34645	17979	53328	78877	1.480409



GPC Results

	Mn	Mw	MP	Mz	Mz+1	Polydispersity
1	18639	25731	15704	45029	97548	1.380492

Figure S6. Gel Permeation Chromatogram (GPC) spectra of **PDPPT-NAP** and **PDPPT-BTRZ** polymers.

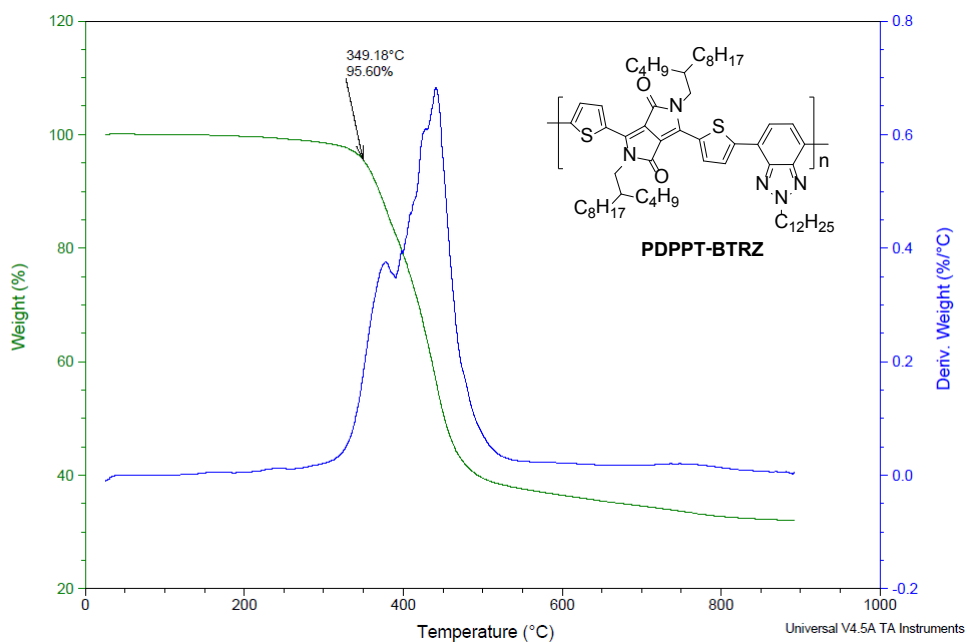
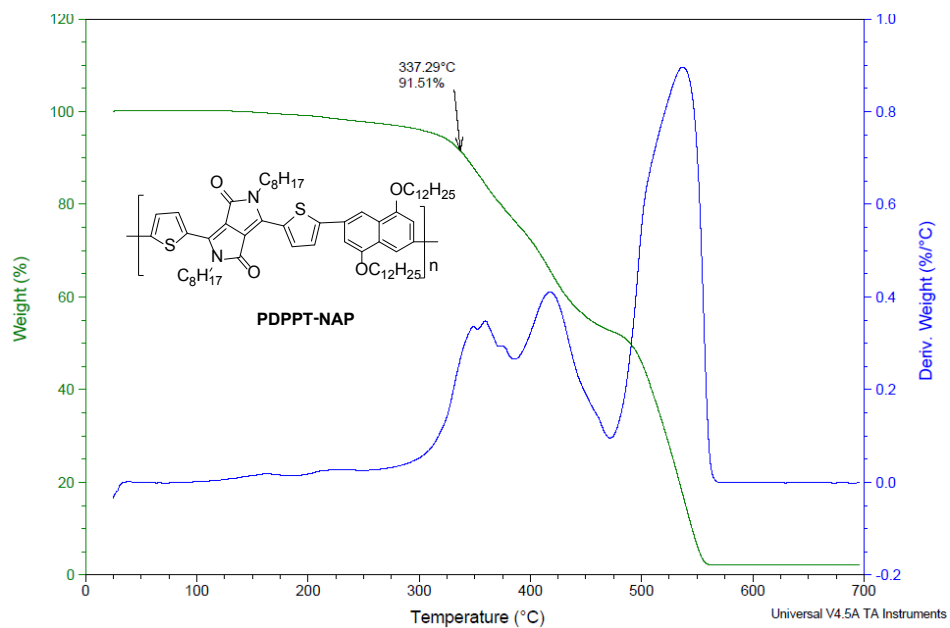


Figure S7. Thermo gravimetric analysis (TGA) graphs of **PDPPT-NAP** and **PDPPT-BTRZ** polymers.