Electronic Supplementary Material (ESI) for Polymer Chemistry.

Supporting Information

A Straightforward and Rapid Synthesis of Polydithioacetals in the Presence of Chlorodimethylsilane

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Materials

Benzaldehyde (BA, purified by redistillation, ≥99.5%, Sigma-Aldrich), 3-nitrobenzaldehyde (99%, Sigma-Aldrich), 4-cyanobenzaldehyde (95%, Sigma-Aldrich), 4-formylbenzoic acid (97%, Sigma-Aldrich), *p*-anisaldehyde (98%, Sigma-Aldrich), 4-hydroxybenzaldehyde (98%, Sigma-Aldrich), 4-chlorobenzaldehyde (98%, Sigma-Aldrich), 2-thiophenecarboxaldehyde (98%, Sigma-Aldrich), 4-hydroxy-3-methoxybenzaldehyde (vanillin, 99%, Sigma-Aldrich), 1-pyrenecarboxaldehyde (99%, Sigma-Aldrich), 4-(1,2,2-triphenylethenyl)benzaldehyde (Sigma-Aldrich), ferrocenecarboxaldehyde (98%, Sigma-Aldrich), 1,4-butanedithiol (%98, Sigma-Aldrich), 1,6-hexanedithiol (HDT, 96%, Sigma-Aldrich), 1,8-octanedithiol (97%, Sigma-Aldrich), ethylene glycol bismercaptoacetate (≥95.0%, Sigma-Aldrich), 2,2′-(ethylenedioxy) diethanethiol (95%, Sigma-Aldrich), sulfuric acid (H_2SO_4, 99.99%, Sigma-Aldrich), *p*-toluenesulfonic acid monohydrate (PTSA, ACS reagent, ≥98.5%, Sigma-Aldrich), methanesulfonic acid (MSA, ≥99.0%, Sigma-Aldrich) and chlorodimethylsilane (CDMS, 98%, Aldrich), H_2O_2 35% (Sigma-Aldrich), and trimethylsilyl chloride (≥98.0%, Sigma-Aldrich) were used as received. Tetrahydrofuran (THF, 99%, Sigma-Aldrich), chloroform ($CHCl_3$, 99%, Sigma-Aldrich), 1,2-dichloroethane (DCE, 99.8%, Aldrich), 1,4-dioxane (for liquid chromatography LiChrosolv®, Supleco), 2-methyltetrahydrofuran (2-MeTHF, ≥99%, Sigma-Aldrich), *N,N*-dimethylformamide (DMF, 99.8%, Sigma-Aldrich), 1-methyl-2-pyrrolidinone (NMP, for liquid chromatography LiChrosolv®, Supleco) and *N,N*-dimethylacetamide (DMAc, 99.8%, Aldrich) were anhydrous and were of HPLC quality and used without further purification. Methanol (MeOH) was of reagent grade and used as received.

Instrumentation

^{1}H NMR (500 MHz) and ^{13}C NMR (125 MHz) spectra were recorded using an Agilent VNMRS 500 instrument in $CDCl_3$. Gel permeation chromatography (GPC) measurements were carried out with Agilent Instrument (series 1100), using a refractive index detector loaded

with Waters Styragel columns (HR 5E, HR 4E, HR 3, HR 2, 4.6 mm internal diameter, 300 mm length, packed with 5 μm particles). The effective molecular weight ranges of the columns are 2000–4,000,000, 50–100,000, 500–30,000, and 500–20,000 g/mol, respectively. THF was used as an eluent at a flow rate of 0.3 mL/min at 30 °C, and 2,6-di-*tert*-butyl-4-methylphenol was used as an internal standard. The number-average molecular weight (M_n) and dispersity ($Đ$) of the polymers were calculated based on narrow linear polystyrene (PS) standards (Polymer Laboratories) ranging between 2300 and 3,050,000 g/mol. FT-IR spectra were recorded on an Agilent Technologies Cary 630 FT-IR instrument over the range of 4000–400 cm^{-1}. Differential scanning calorimetry (DSC) measurements were carried out on a TA DSC Q10 instrument under a nitrogen atmosphere in the temperature range from -50 °C to 150 °C at a scanning rate of 20 °C/min. All data were collected from a second heating cycle, and the glass transition temperatures (T_g) were determined from the midpoint of calculated onset and endset temperatures of the glass transition region of the related DSC trace.

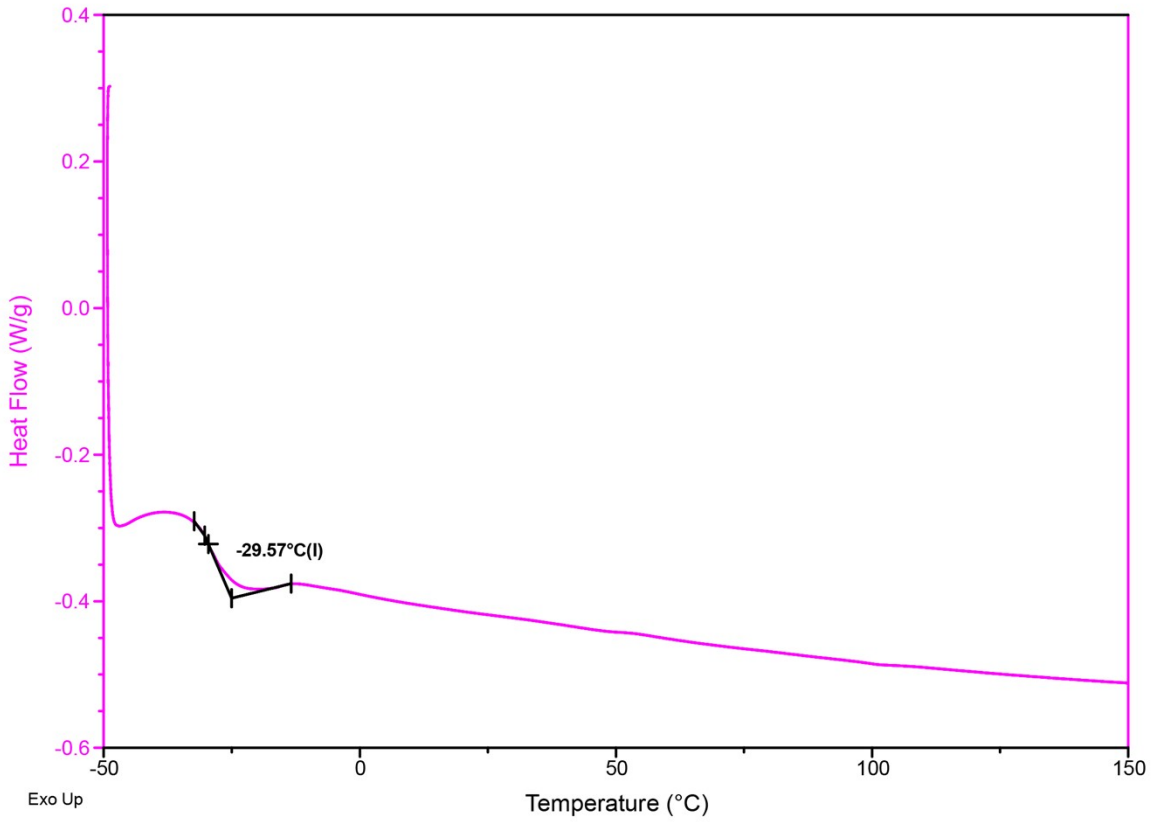

Figure S1. DSC thermogram of P1.

Synthesis of P2

General procedure was followed: 3-Nitrobenzaldehyde (332 mg, 2.20 mmol), HDT (306 µL, 2.00 mmol), and CDMS (111 µL, 1.00 mmol) were reacted in 500 µL of THF. P2 was obtained as a white sticky solid (yield = 478 mg, 84%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 8.29-7.51 (4H, Ar*H*), 4.92 (1H, ArC*H*S), 2.59-2.47 (4H, $SCH_2(CH_2)_4CH_2S$), 1.52-1.31 (8H, $SCH_2(CH_2)_4CH_2S$); ^{13}C NMR (125 MHz, $CDCl_3$): δ 148.30, 142.77, 133.99, 129.63, 122.97, 122.82, 50.90, 31.84, 28.64, 28.02.

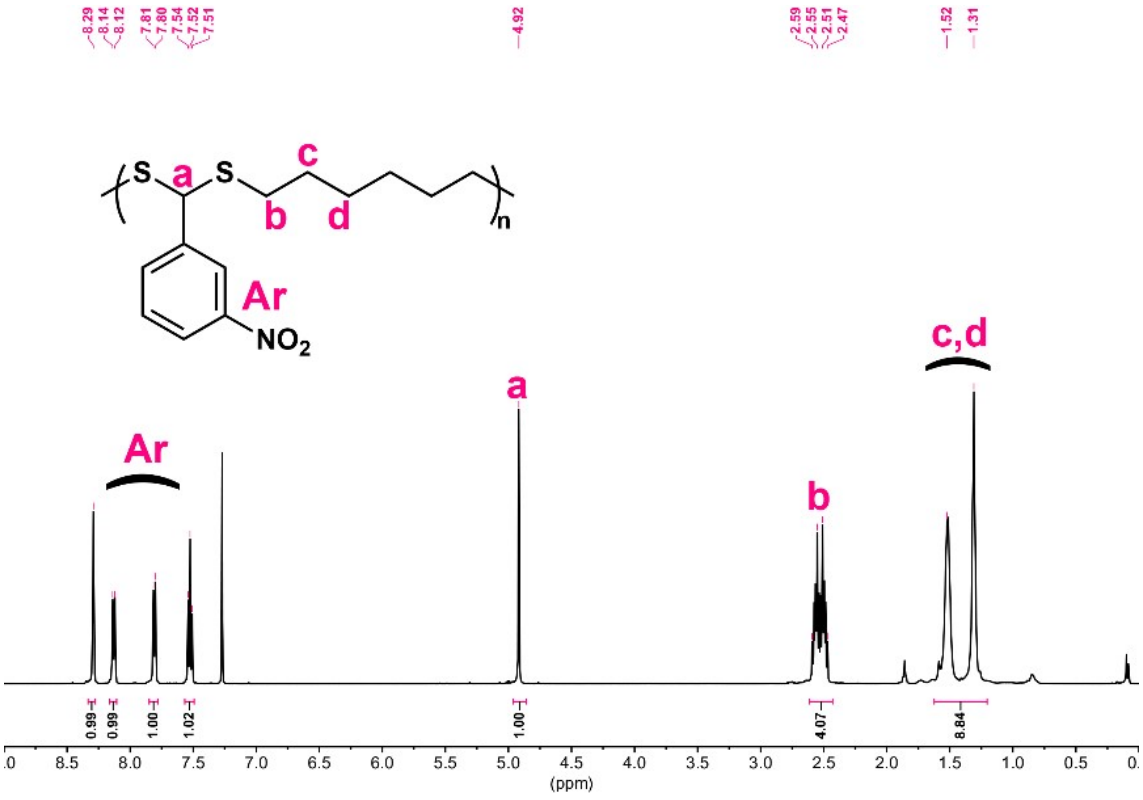

Figure S2. ^{1}H NMR spectrum of P2 ($CDCl_3$, 500 MHz).

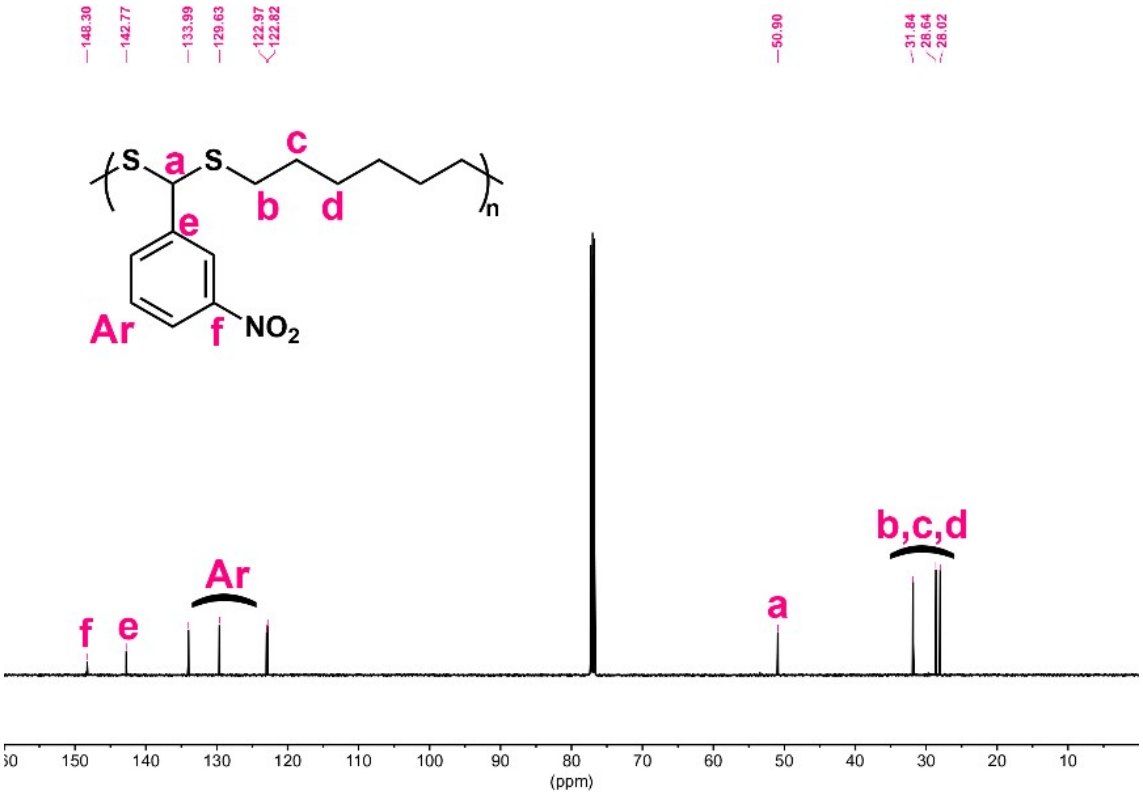

Figure S3. ^{13}C NMR spectrum of P2 ($CDCl_3$, 125 MHz).

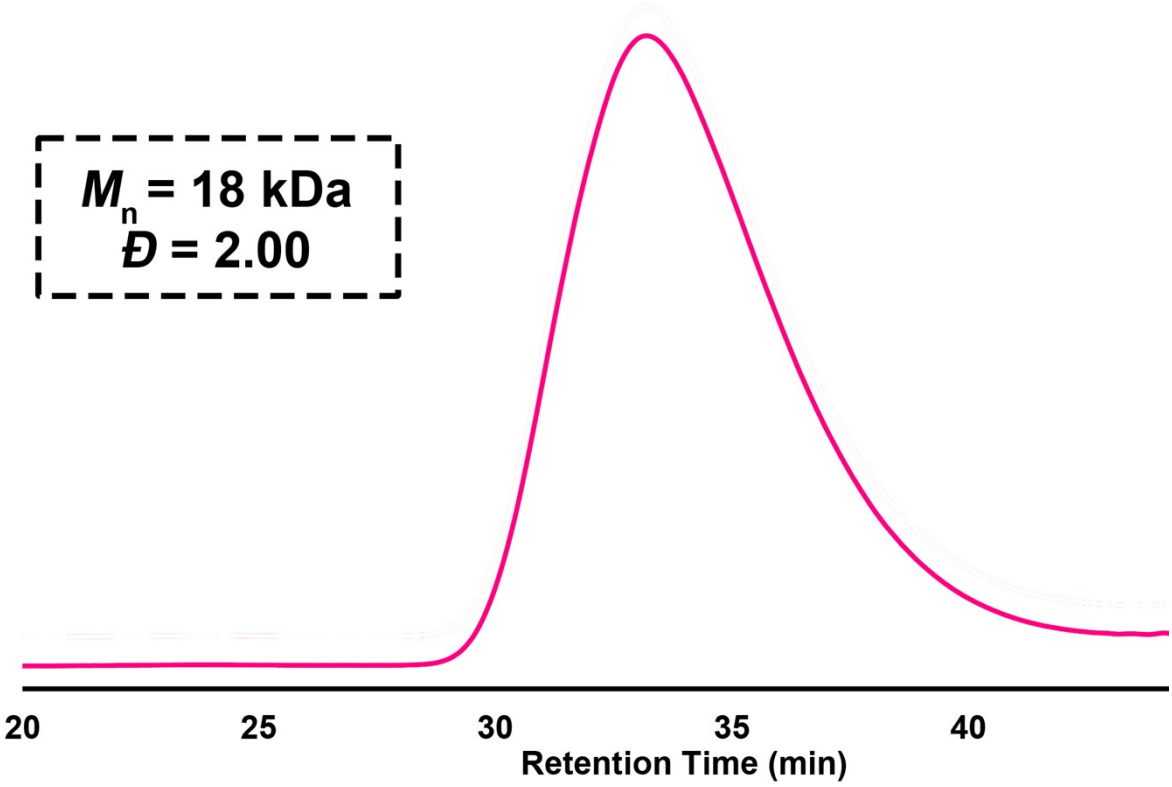

Figure S4. GPC chromatogram of P2.

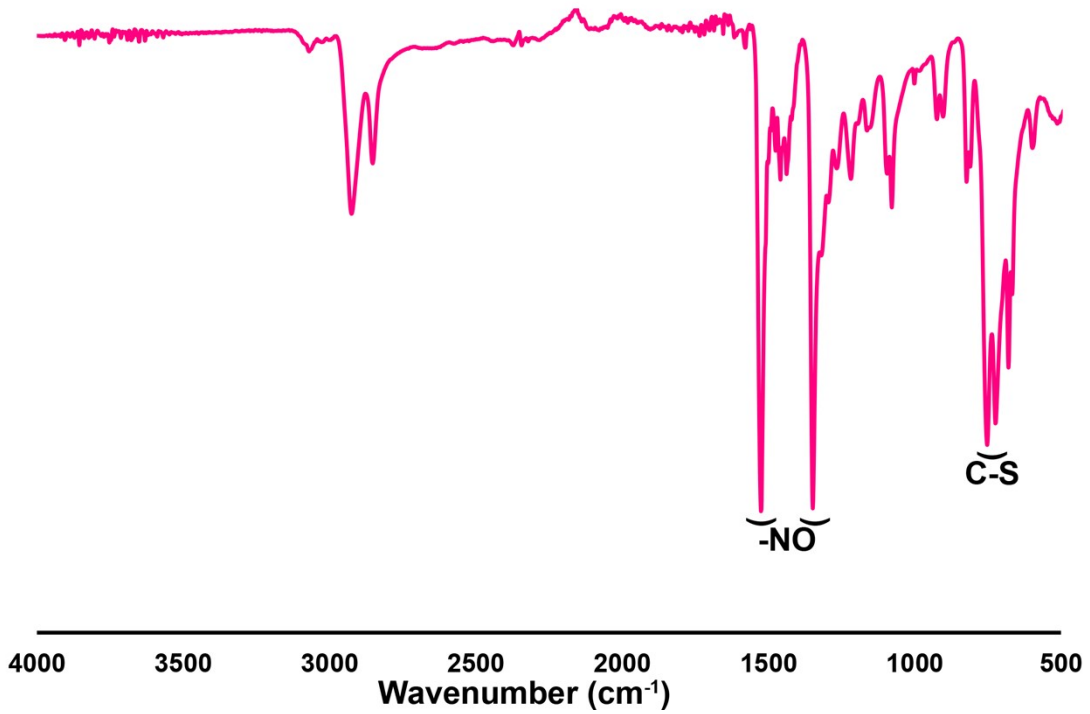

Figure S5. FT-IR spectrum of P2.

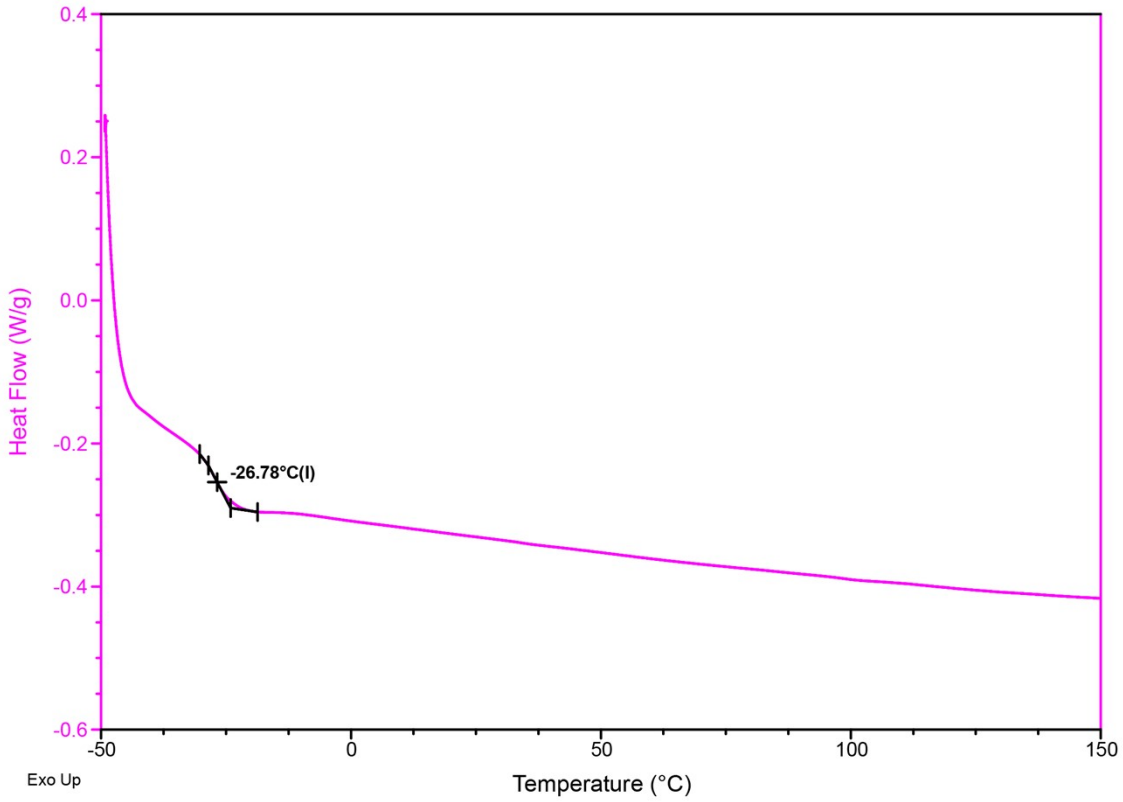

Figure S6. DSC thermogram of P2.

Synthesis of P3

General procedure was followed: 4-Cyanobenzaldehyde (288 mg, 2.20 mmol), HDT (306 µL, 2.00 mmol), and CDMS (111 µL, 1.00 mmol) were reacted in 500 µL of THF. P3 was obtained as a white sticky solid (yield = 400 mg, 76%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.62-7.55 (4H, Ar*H*), 4.84 (1H, ArC*H*S), 2.49 (4H, SCH_2(CH_2)$_4$CH_2S), 1.49-1.29 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 146.09, 132.42, 128.49, 118.56, 111.59, 52.93, 32.19, 28.81, 28.29.

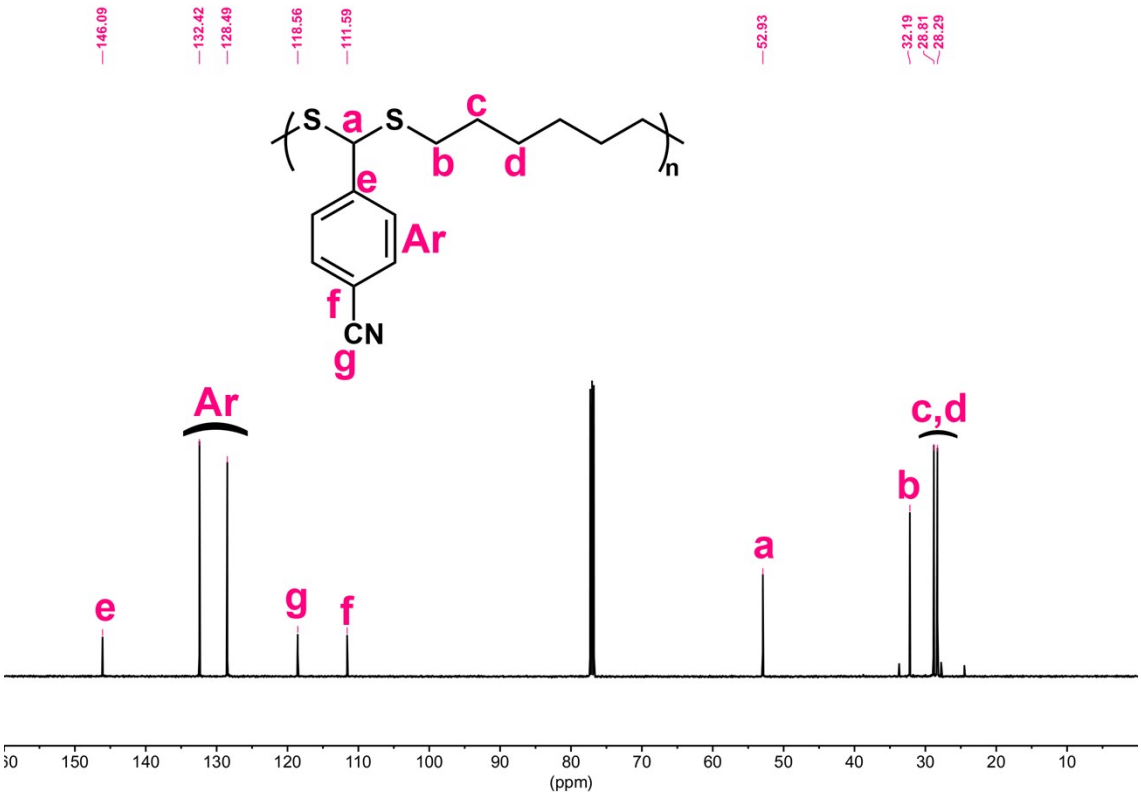

Figure S7. ^{13}C NMR spectrum of P3 ($CDCl_3$, 125 MHz).

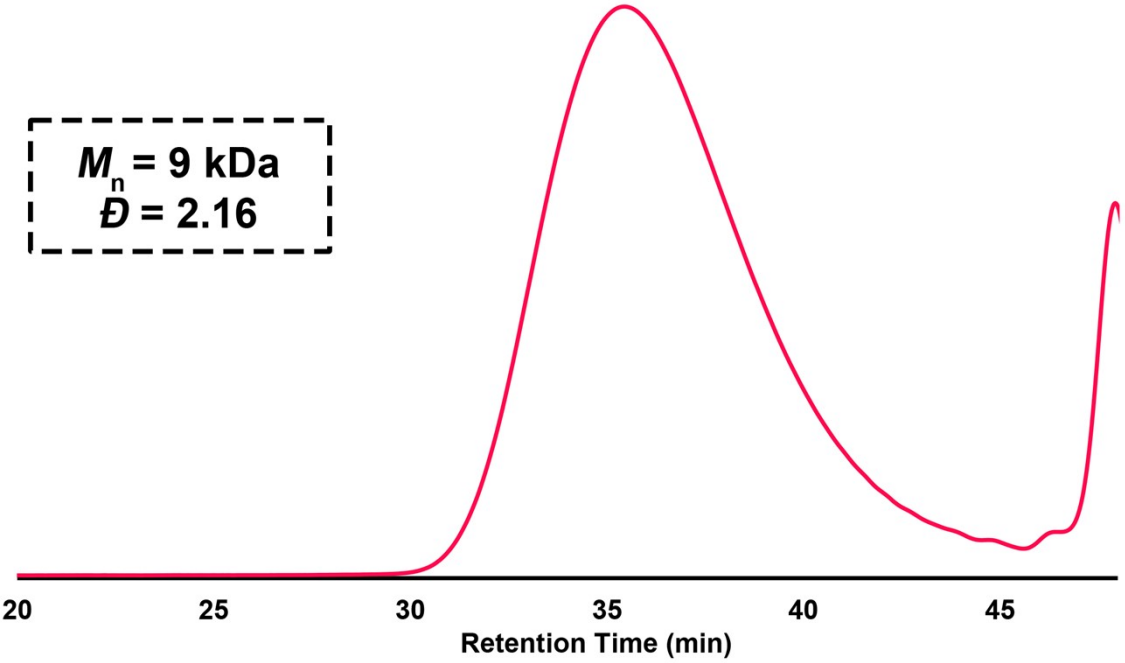

Figure S8. GPC chromatogram of P3.

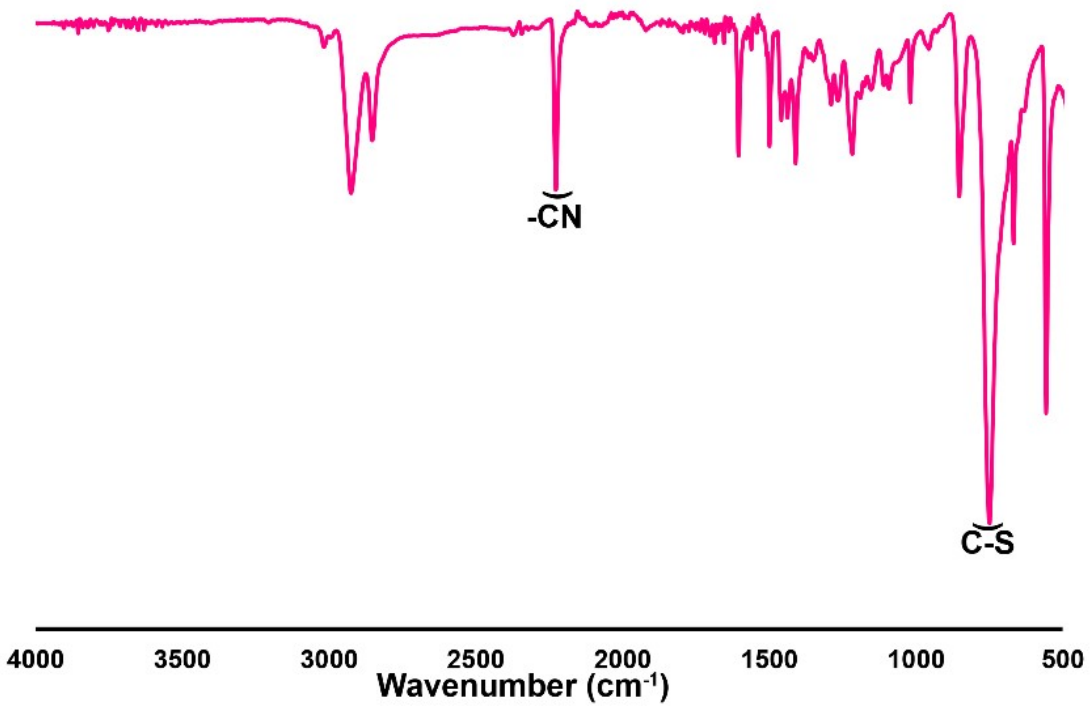

Figure S9. FT-IR spectrum of P3.

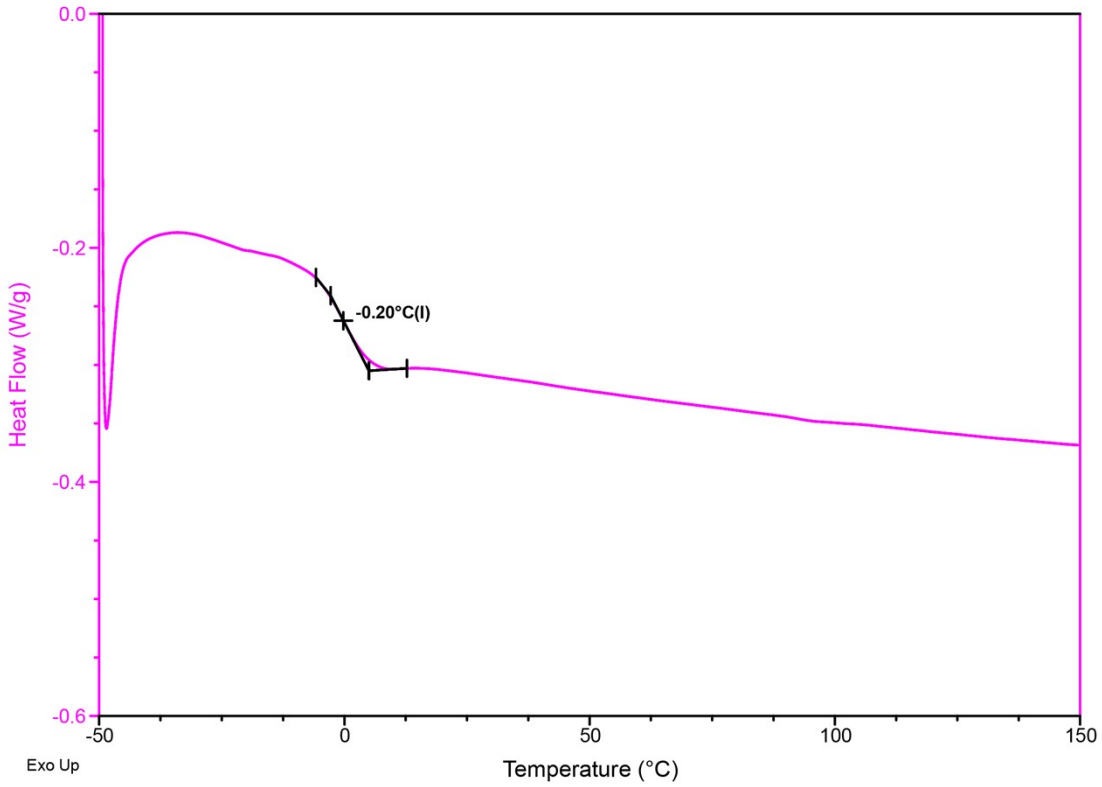

Figure S10. DSC thermogram of P3.

Synthesis of P4

General procedure was followed: 4-Formylbenzoic acid (330 mg, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. (Caution! The mixture was a solid mass in the reaction medium and became slurry within 2 min after adding CDMS to the reaction medium). P4 was obtained as a white solid (yield = 457 mg, 81%). ^{1}H NMR (500 MHz, d_6-DMSO): δ 7.88-7.49 (4H, Ar*H*), 5.08 (1H, ArC*H*S), 2.42 (4H, SCH_2(CH$_2$)$_4$CH_2S), 1.42-1.20 (8H, SCH$_2$(CH_2)$_4$CH$_2$S); ^{13}C NMR (125 MHz, d_6-DMSO): δ 167.39, 146.24, 130.51, 129.96, 128.04, 52.20, 32.02, 28.87, 28.09.

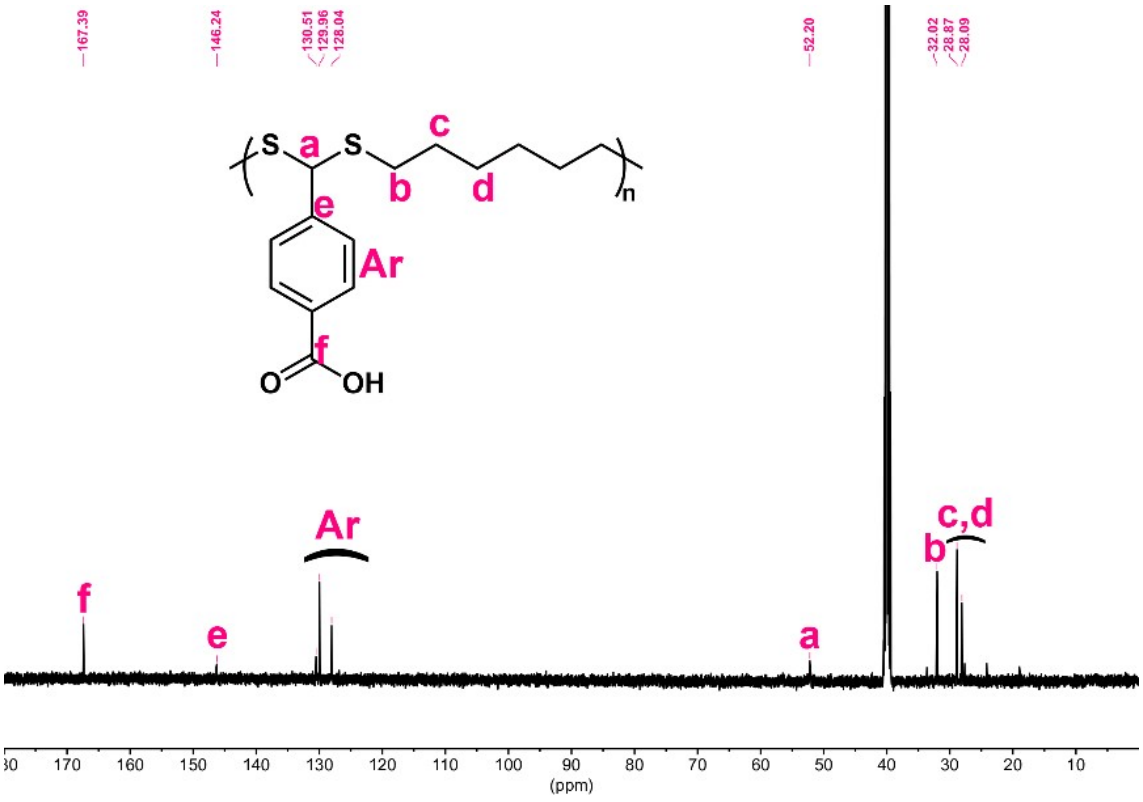

Figure S11. ^{13}C NMR spectrum of P4 ($CDCl_3$, 125 MHz).

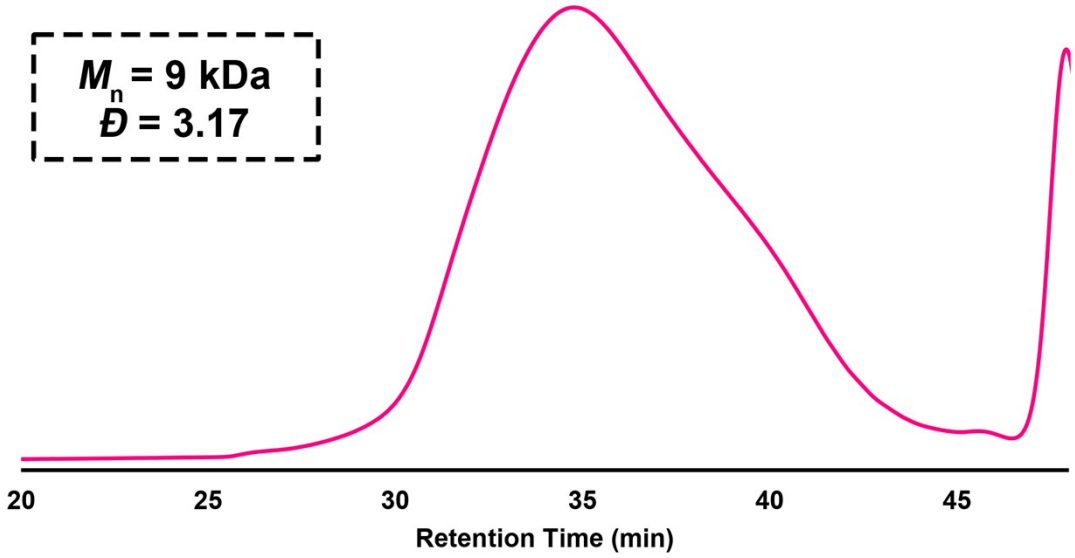

Figure S12. GPC chromatogram of P4.

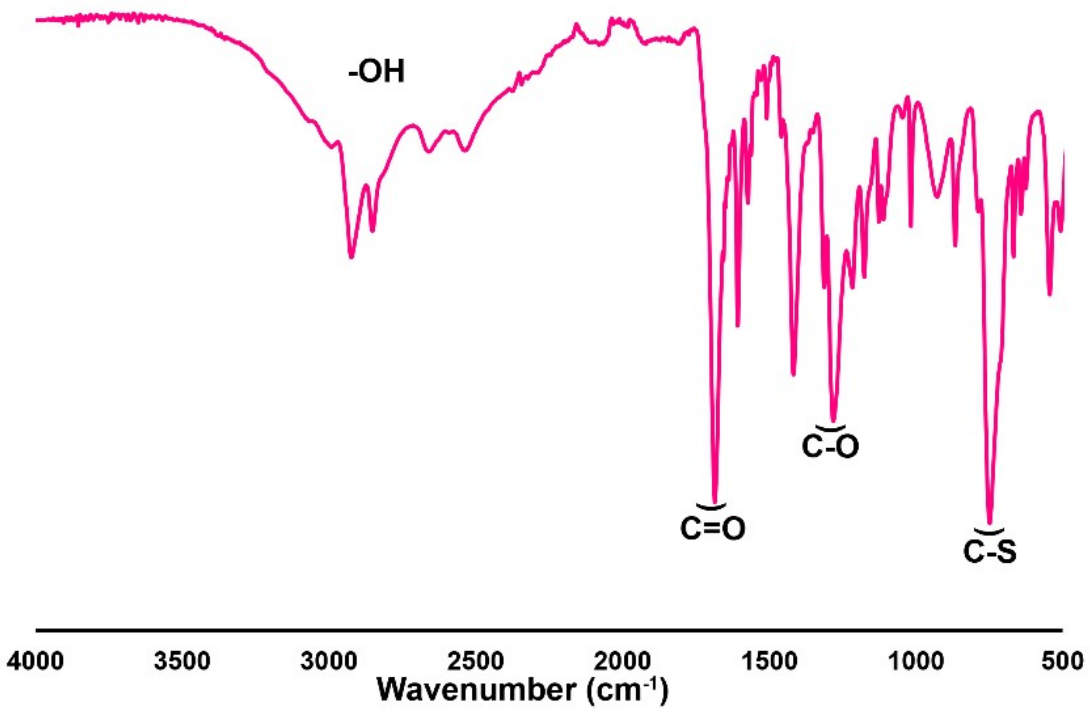

Figure S13. FT-IR spectrum of P4.

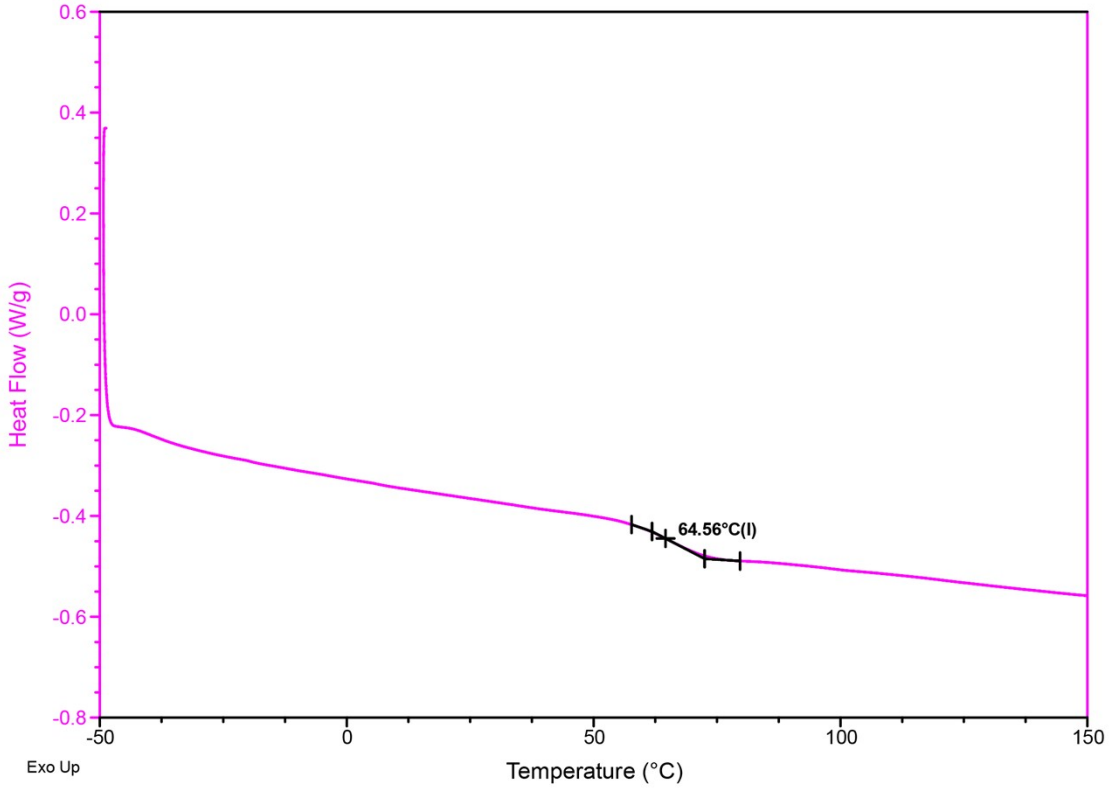

Figure S14. DSC thermogram of P4.

Synthesis of P5

General procedure was followed: *p*-Anisaldehyde (268 μL, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P5 was obtained as a white sticky solid (yield = 439 mg, 82%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.36-6.84 (4H, Ar*H*), 4.83 (1H, ArC*H*S), 3.80 (3H, ArOCH_3), 2.49 (4H, SCH_2(CH_2)$_4$CH_2S), 1.50-1.30 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 159.10, 132.48, 128.83, 113.84, 55.31, 52.68, 32.18, 29.00, 28.43.

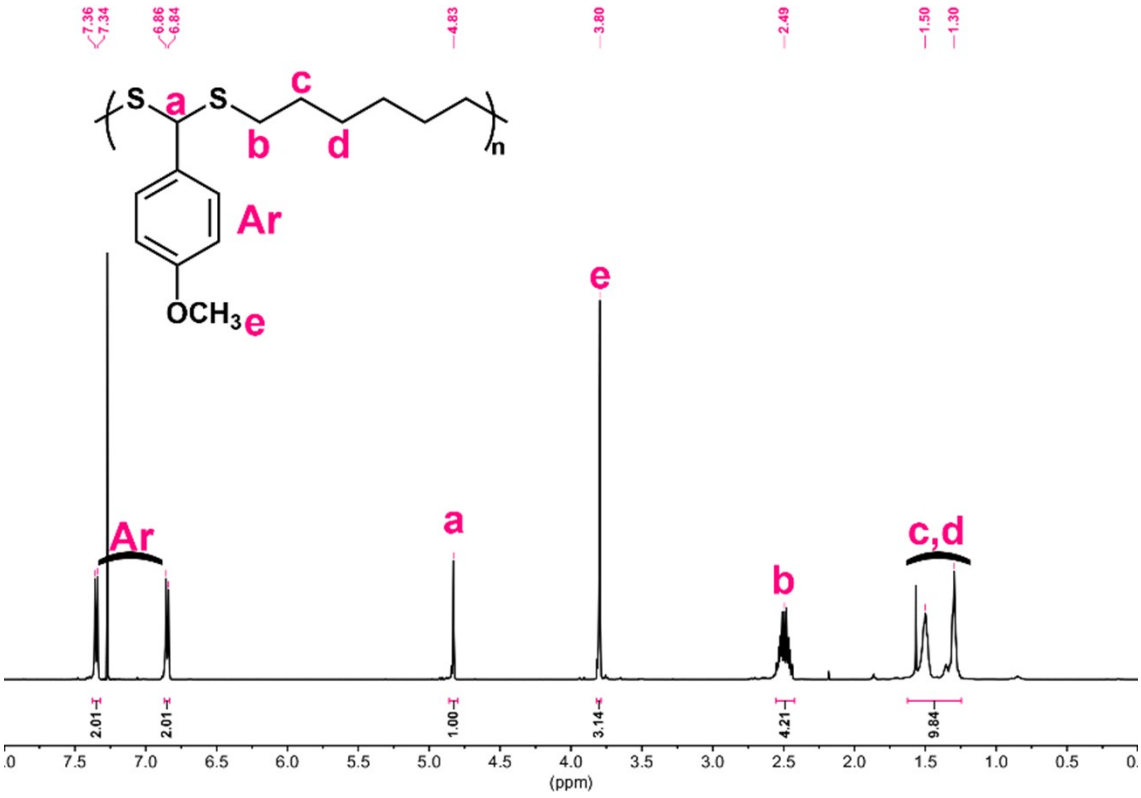

Figure S15. ^{1}H NMR spectrum of P5 ($CDCl_3$, 500 MHz).

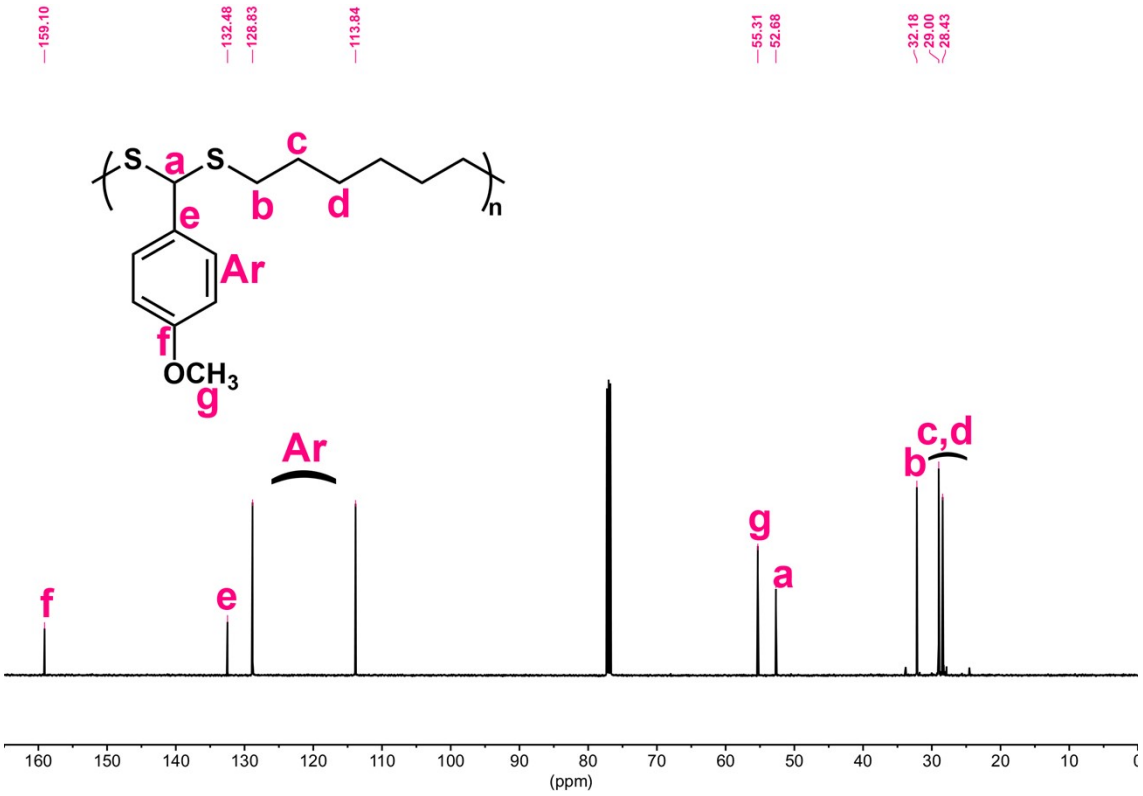

Figure S16. ^{13}C NMR spectrum of P5 ($CDCl_3$, 125 MHz).

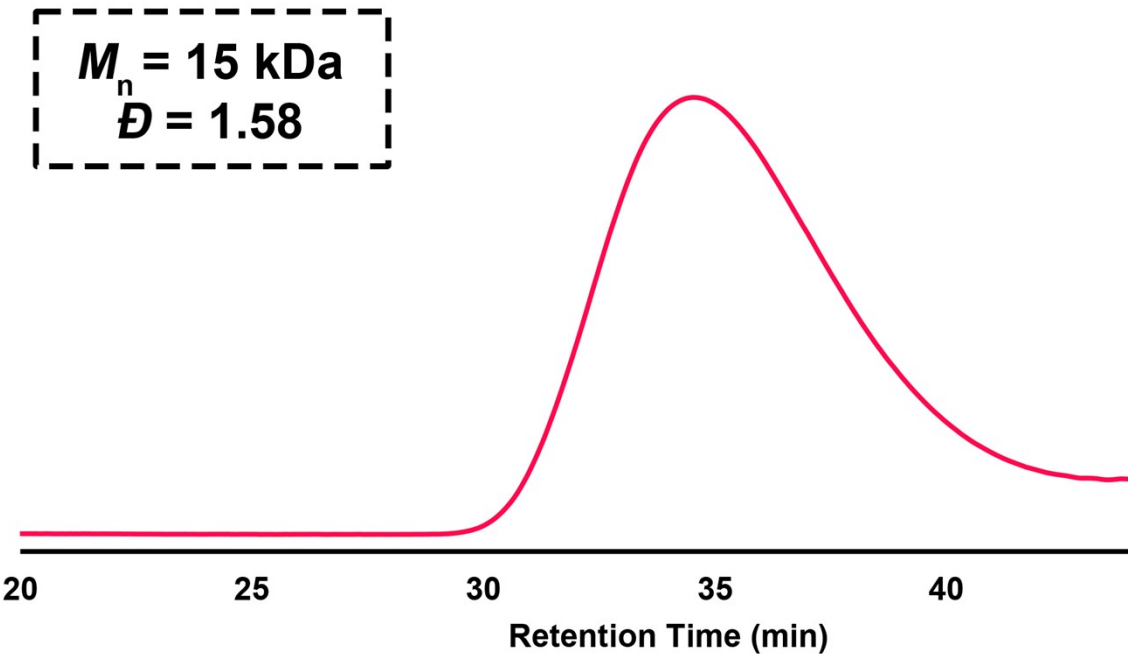

Figure S17. GPC chromatogram of P5.

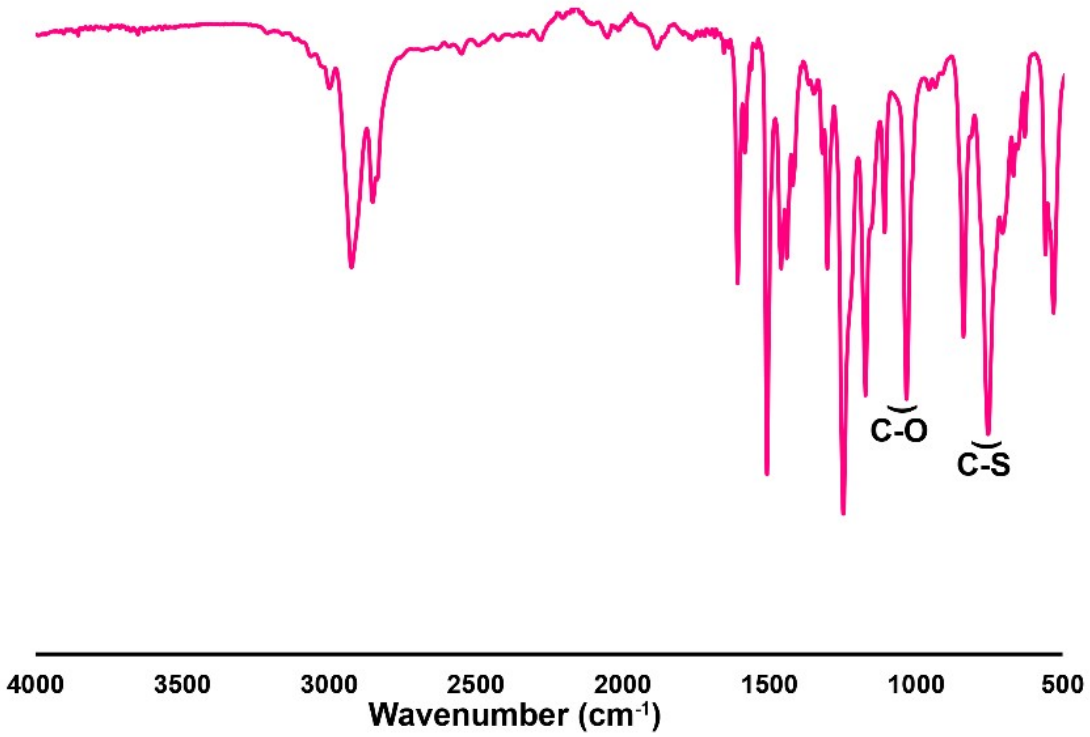

Figure S18. FT-IR spectrum of P5.

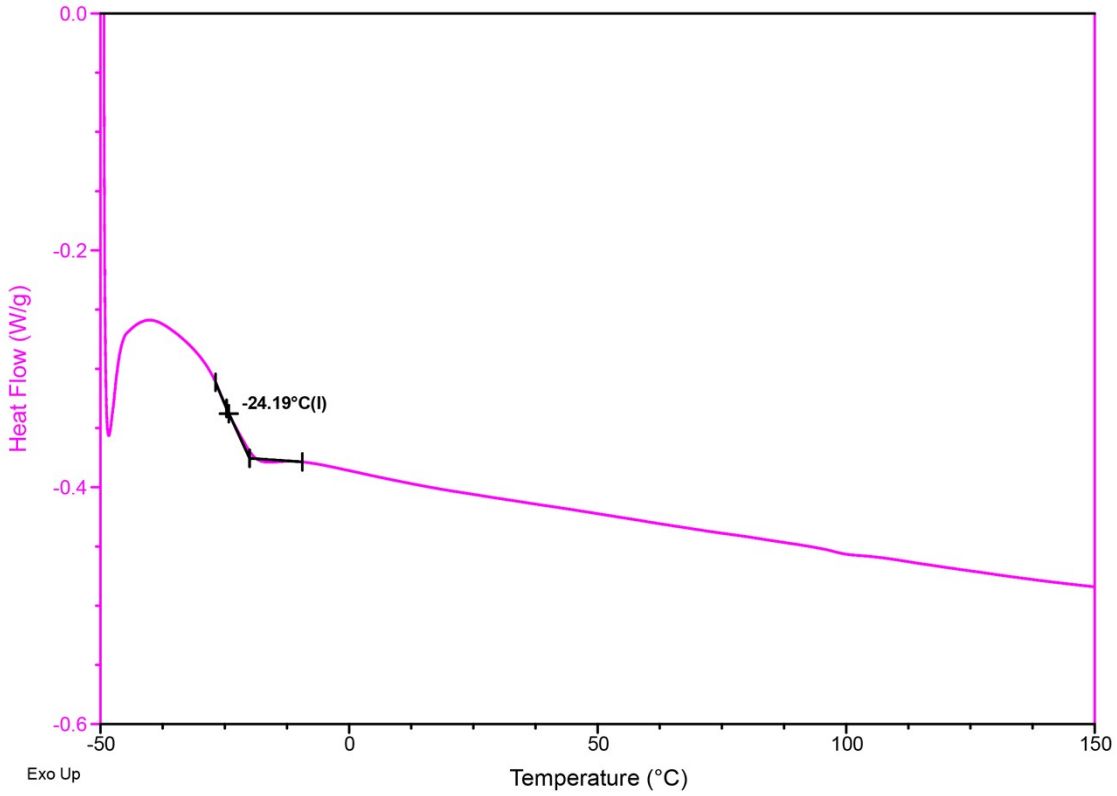

Figure S19. DSC thermogram of P5.

Synthesis of P6

General procedure was followed: *p*-Hydroxybenzaldehyde (269 mg, 2.20 mmol), HDT (306 µL, 2.00 mmol), and CDMS (111 µL, 1.00 mmol) were reacted in 500 µL of THF. P6 was obtained as a white sticky solid (yield = 406 mg, 80%). ^{1}H NMR (500 MHz, d_6-DMSO): δ 9.46 (1H, ArO*H*) 7.17-6.69 (4H, Ar*H*), 4.92 (1H, ArC*H*S), 2.49-2.40 (4H, SCH_2(CH$_2$)$_4$CH_2S), 1.42-1.22 (8H, SCH$_2$(CH_2)$_4$CH$_2$S); ^{13}C NMR (125 MHz, d_6-DMSO): δ 157.25, 131.26, 129.11, 115.46, 52.30, 31.99, 29.00, 28.23.

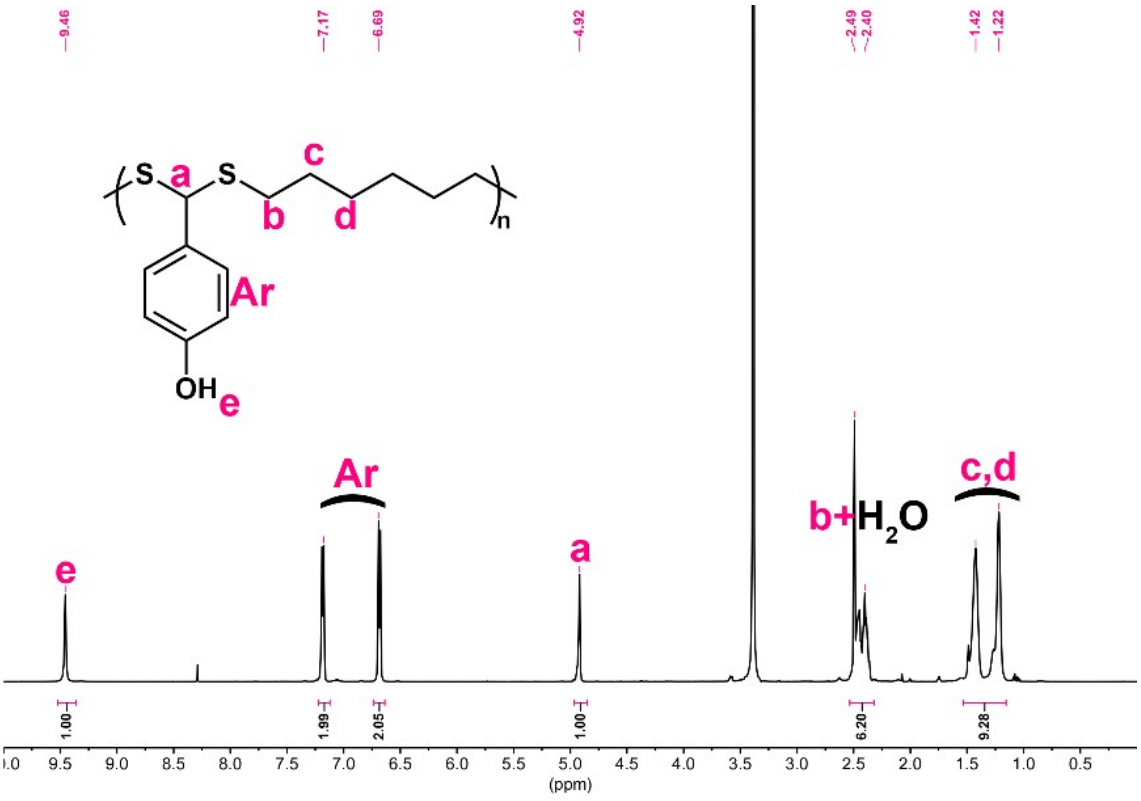

Figure S20. ^{1}H NMR spectrum of P6 (d_6-DMSO, 500 MHz).

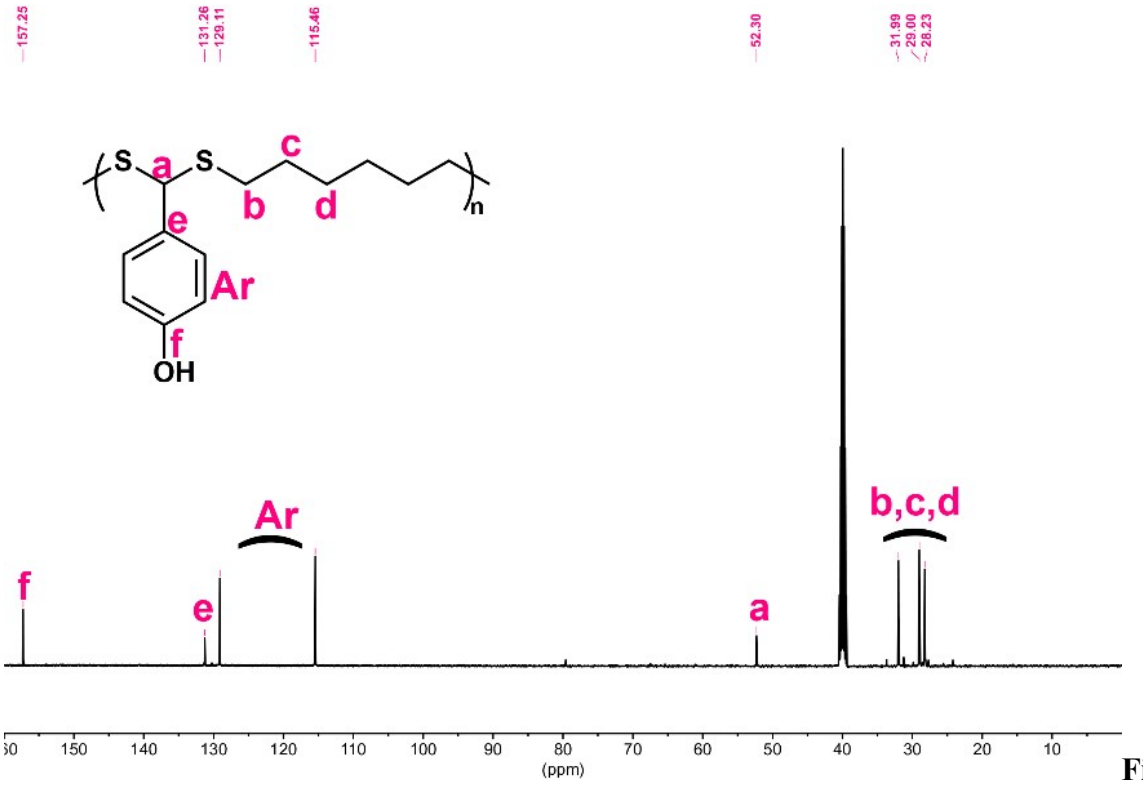

Figure S21. ^{13}C NMR spectrum of P**6** (d_6-DMSO, 125 MHz).

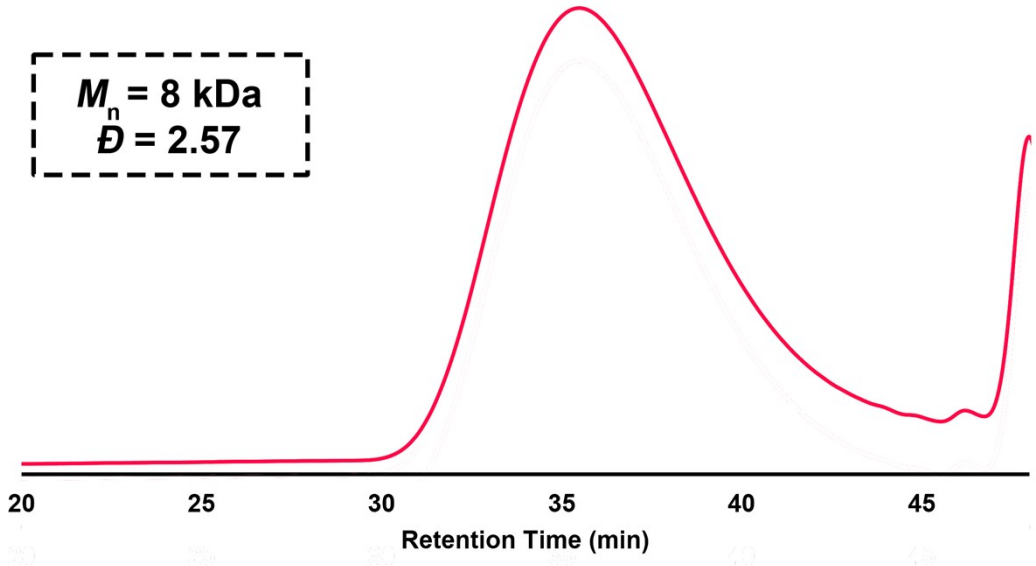

Figure S22. GPC chromatogram of P6.

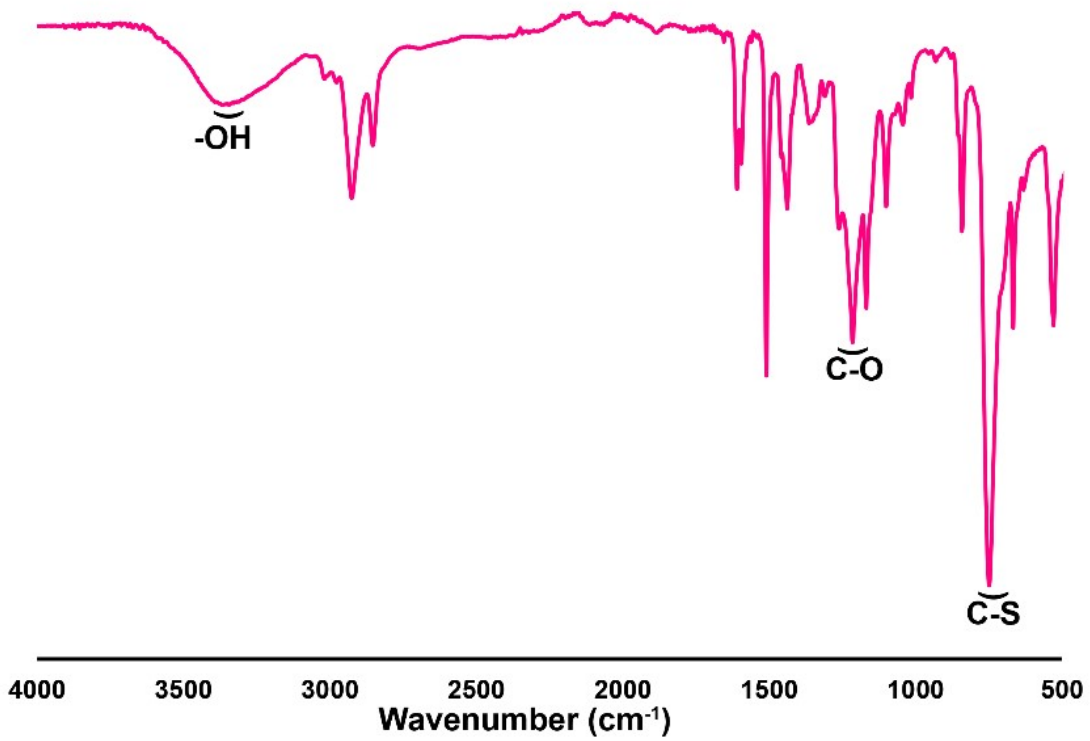

Figure S23. FT-IR spectrum of P6.

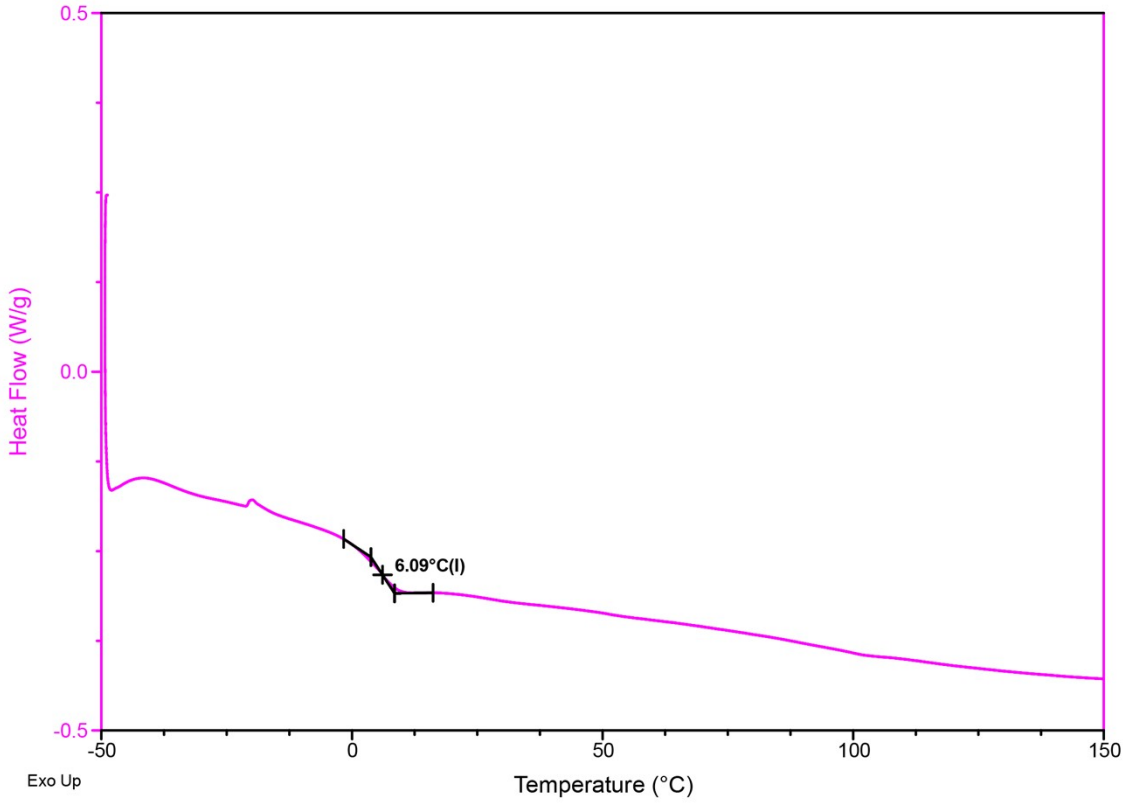

Figure S24. DSC thermogram of P6.

Synthesis of P7

General procedure was followed: 4-Chlorobenzaldehyde (309 mg, 2.20 mmol), HDT (306 µL, 2.00 mmol), and CDMS (111 µL, 1.00 mmol) were reacted in 500 µL of THF. P7 was obtained as a pale yellow sticky solid (yield = 408 mg, 75%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.36-7.30 (4H, Ar*H*), 4.81 (1H, ArC*H*S), 2.57-2.48 (4H, SCH_2(CH_2)$_4$CH_2S), 1.50-1.30 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 139.14, 133.52, 129.08, 52.60, 32.16, 28.90.

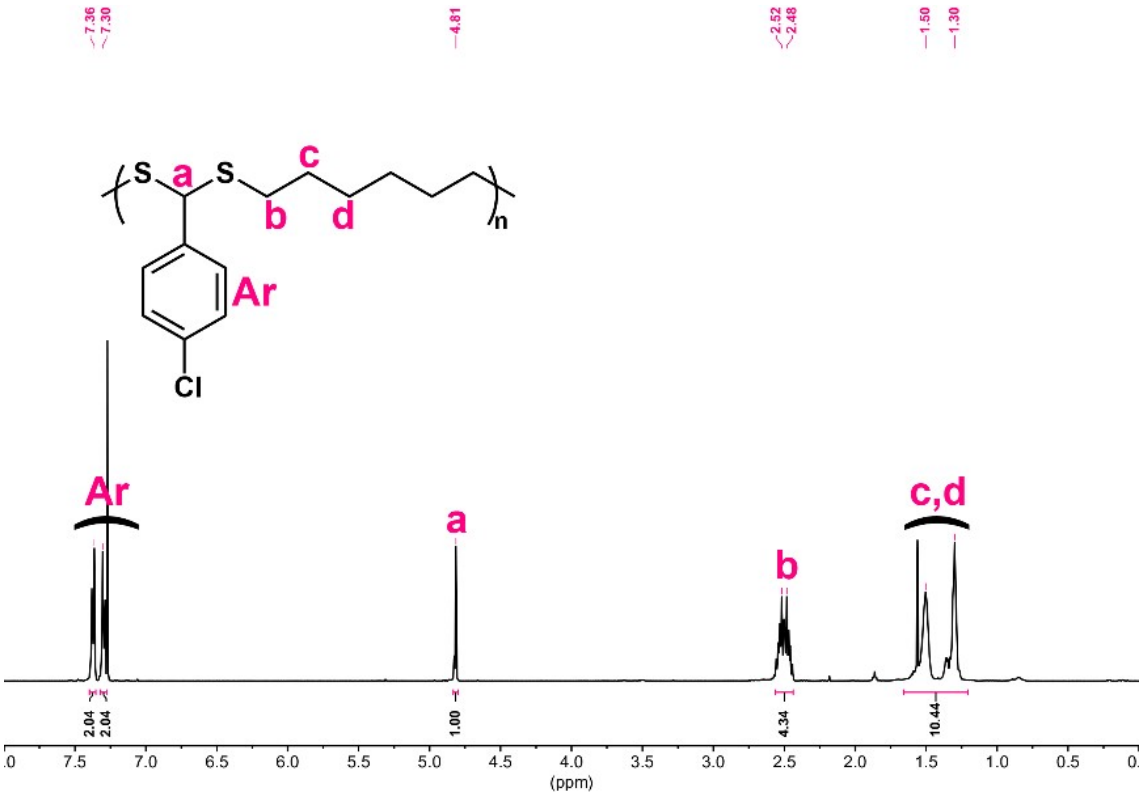

Figure S25. ^{1}H NMR spectrum of P7 ($CDCl_3$, 500 MHz).

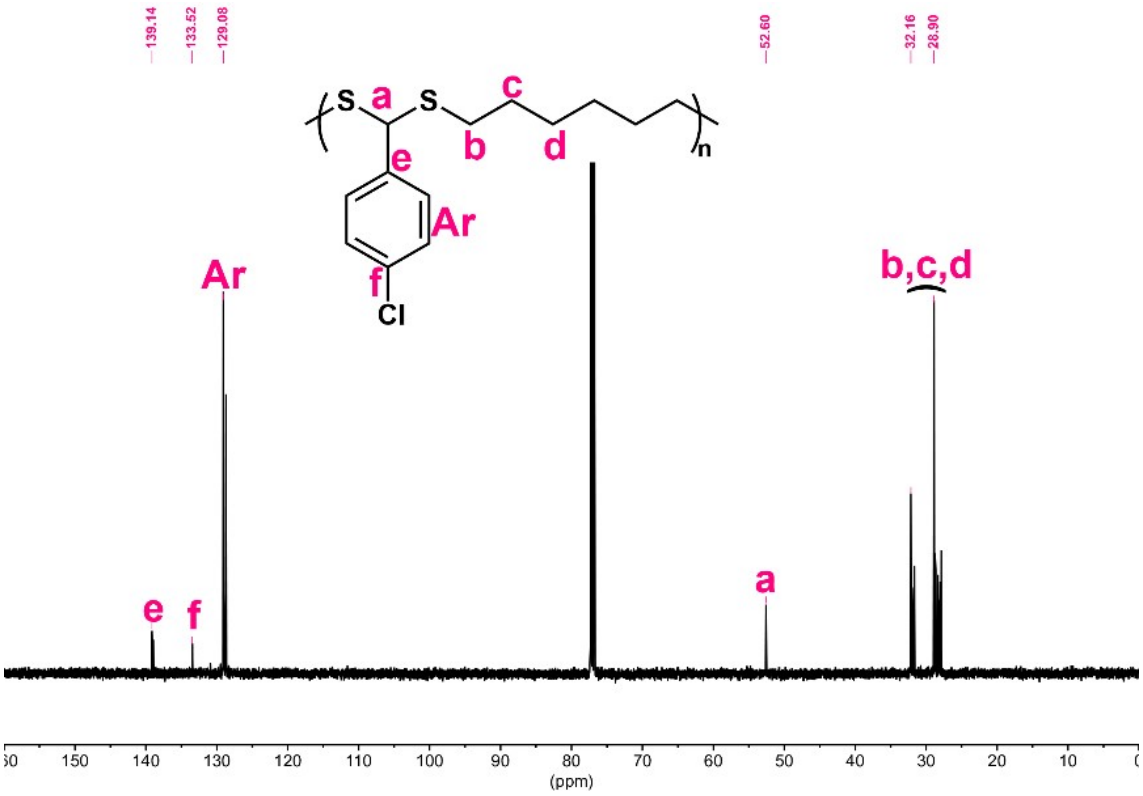

Figure S26. ^{13}C NMR spectrum of P7 ($CDCl_3$, 500 MHz).

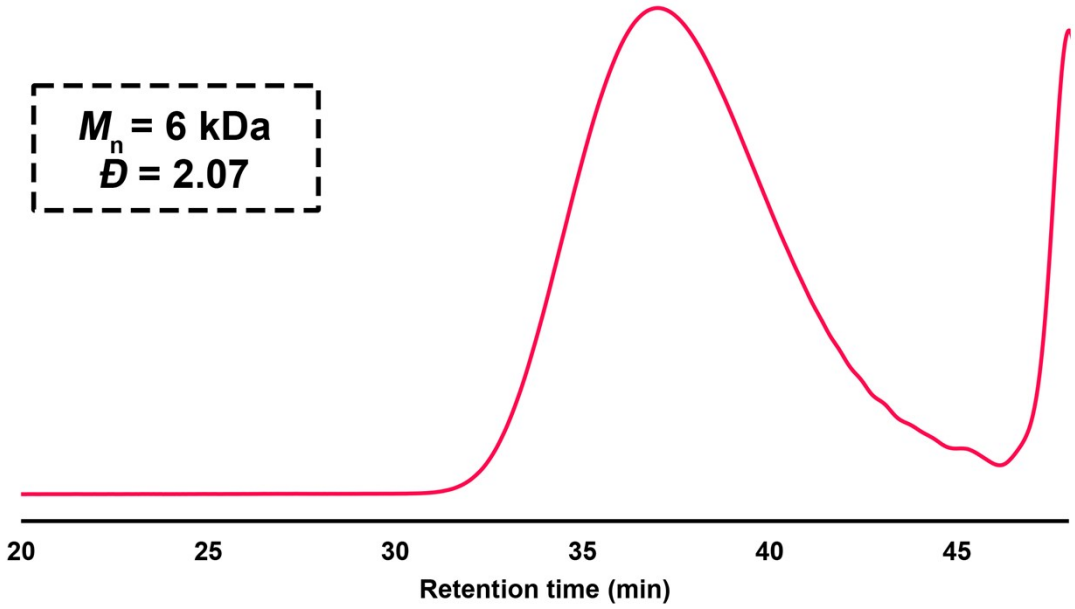

Figure S27. GPC chromatogram of P7.

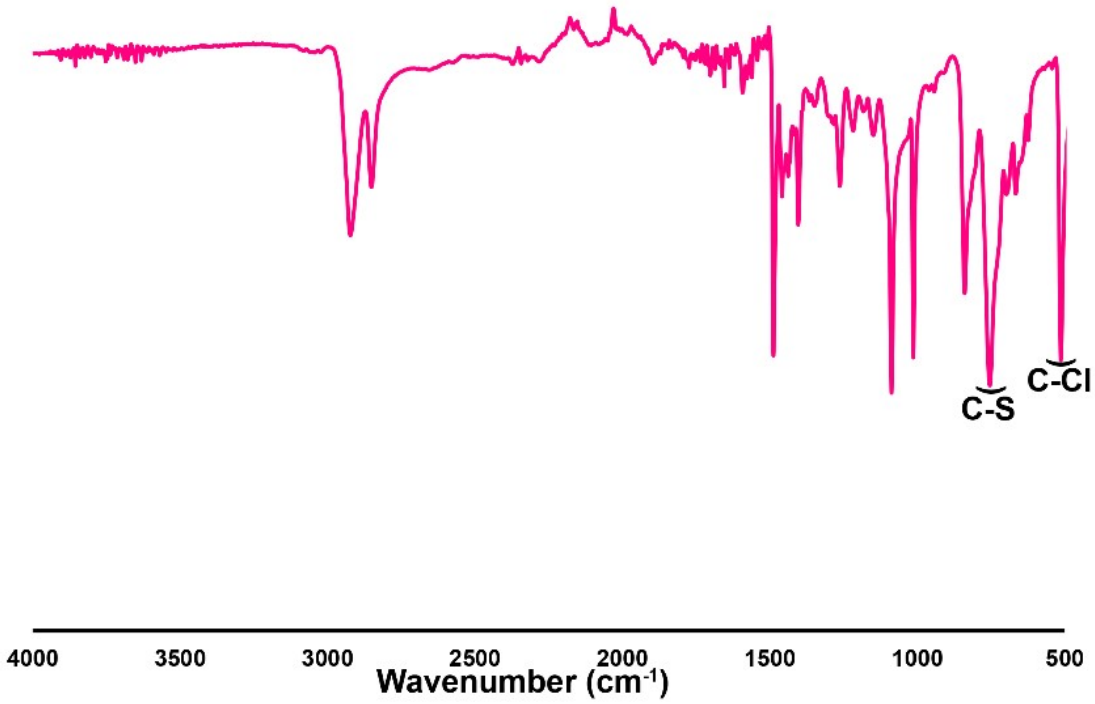

Figure S28. FT-IR spectrum of P7.

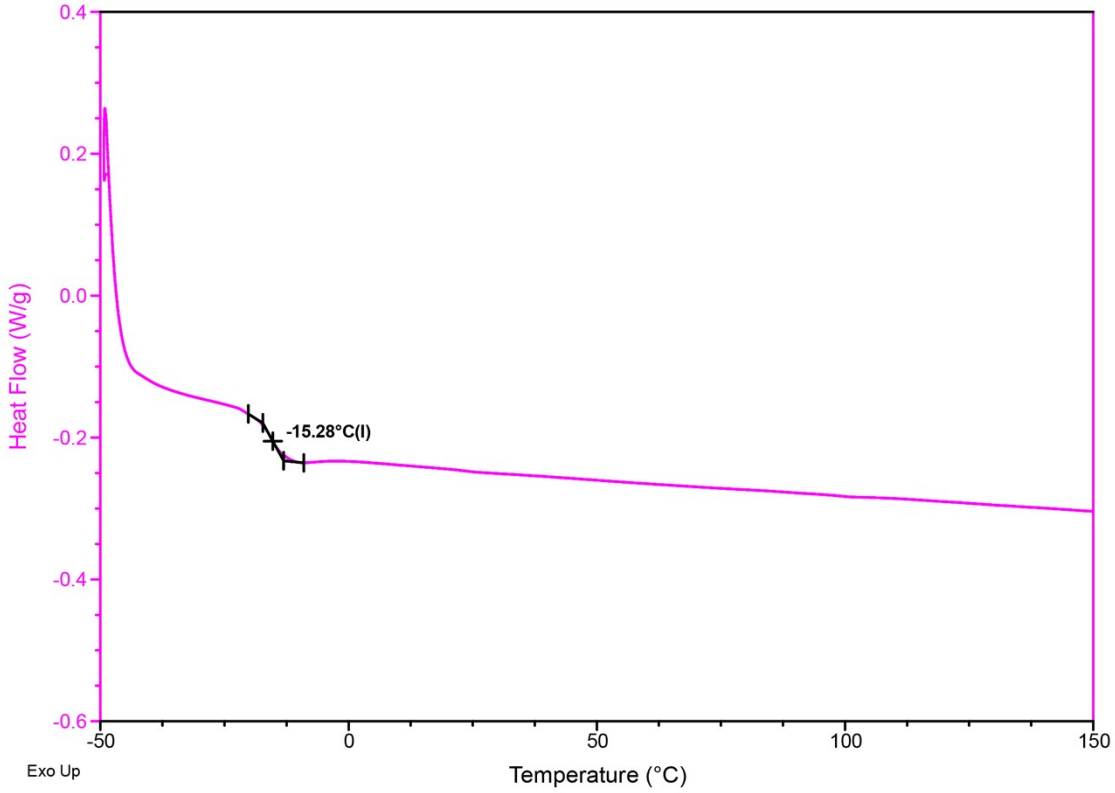

Figure S29. DSC thermogram of P7.

Synthesis of P8

General procedure was followed: Vanillin (335 mg, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P8 was obtained as a white sticky solid (yield = 494 mg, 87%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.02-6.83 (3H, Ar*H*), 5.68 (1H, O*H*), 4.80 (1H, ArC*H*S), 3.89 (3H, ArOCH_3), 2.49 (4H, SCH_2(CH_2)$_4$CH_2S), 1.58-1.27 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$) δ 146.77 145.31, 132.32, 120.77, 113.81, 109.93, 56.02, 53.18, 32.32, 29.01, 28.41.

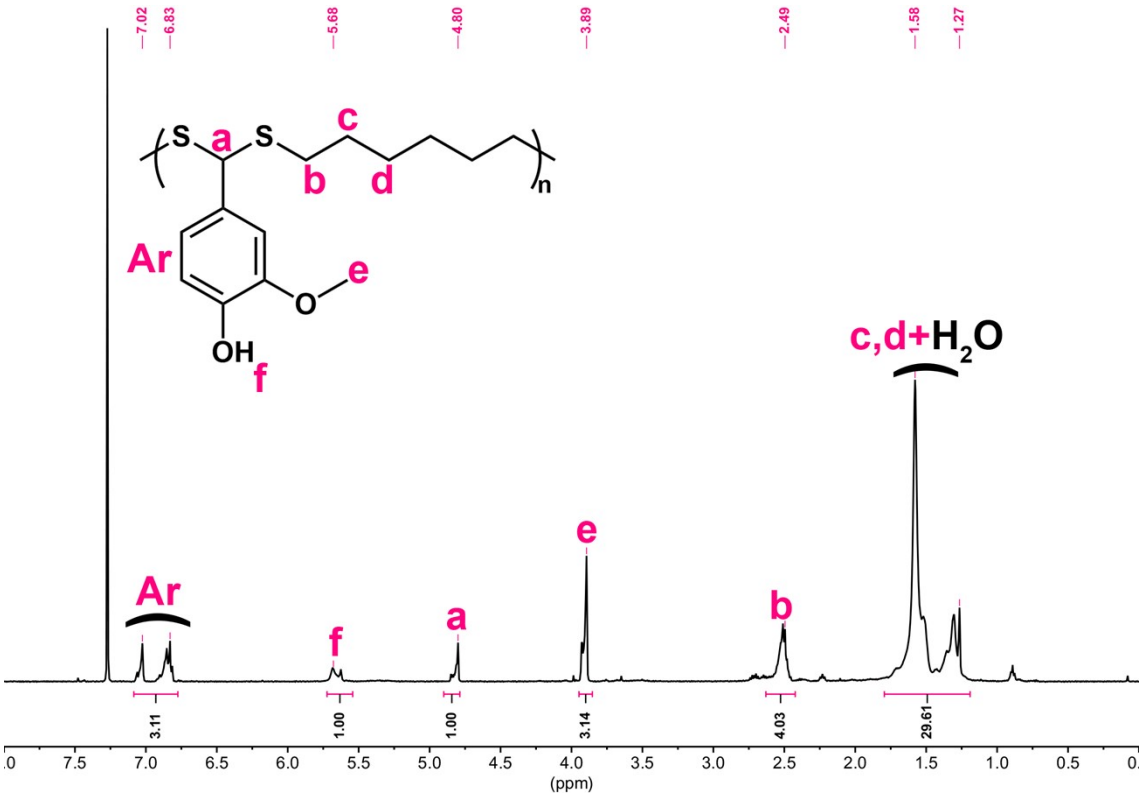

Figure S30. ^{1}H NMR spectrum of P8 ($CDCl_3$, 500 MHz).

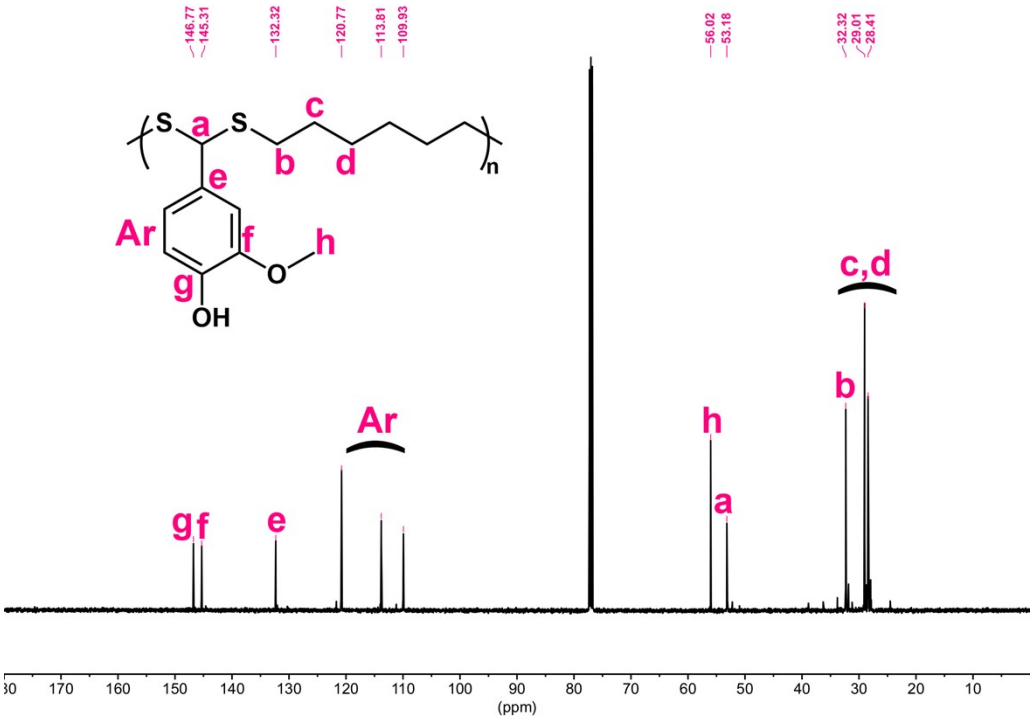

Figure S31. ^{13}C NMR spectrum of P8 ($CDCl_3$, 125 MHz).

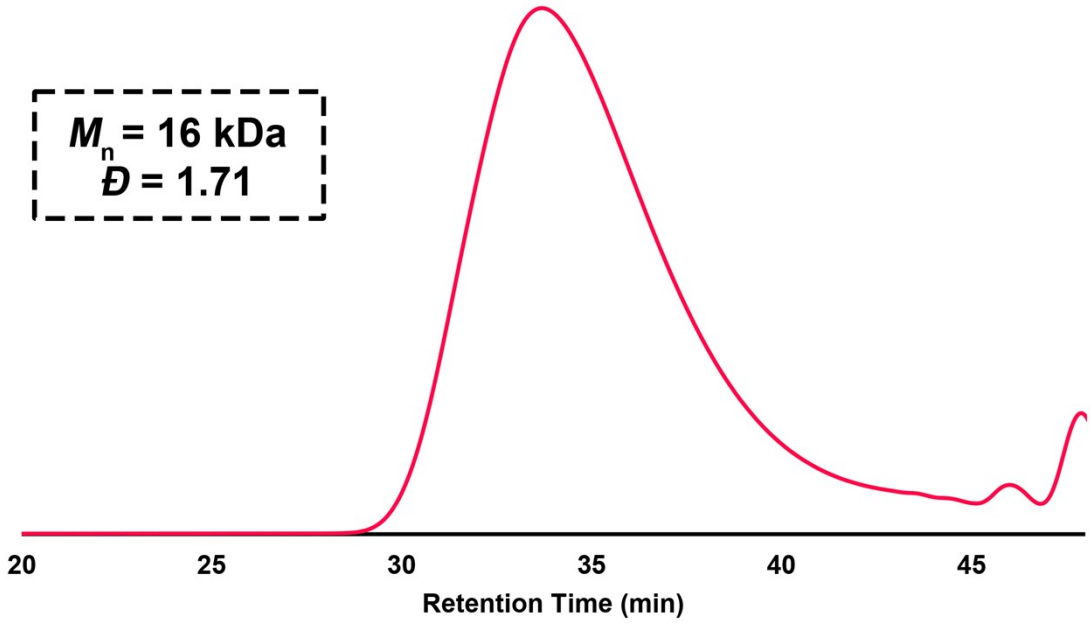

Figure S32. GPC chromatogram of P8.

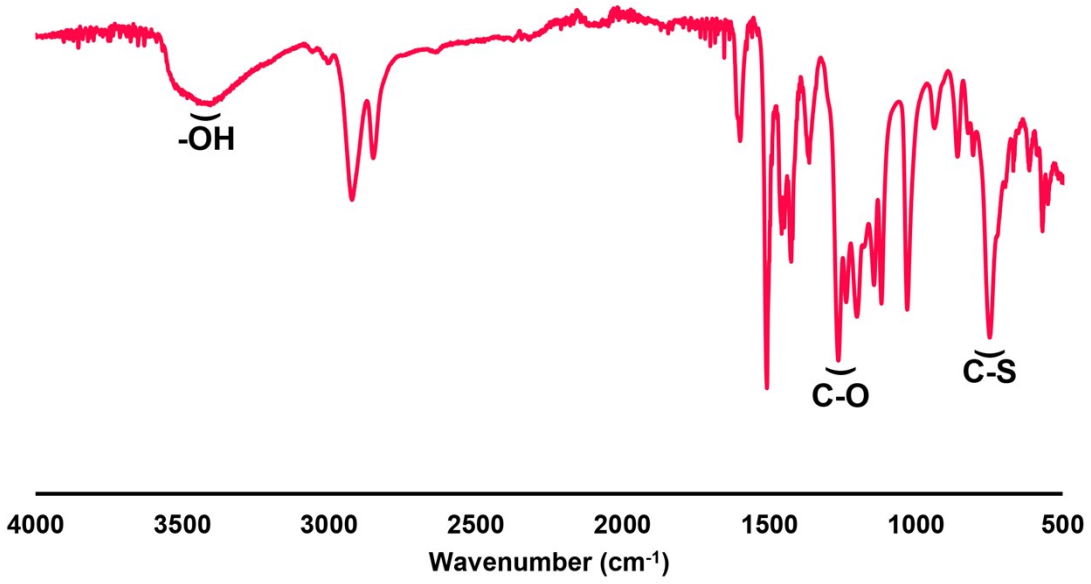

Figure S33. FT-IR spectrum of P8.

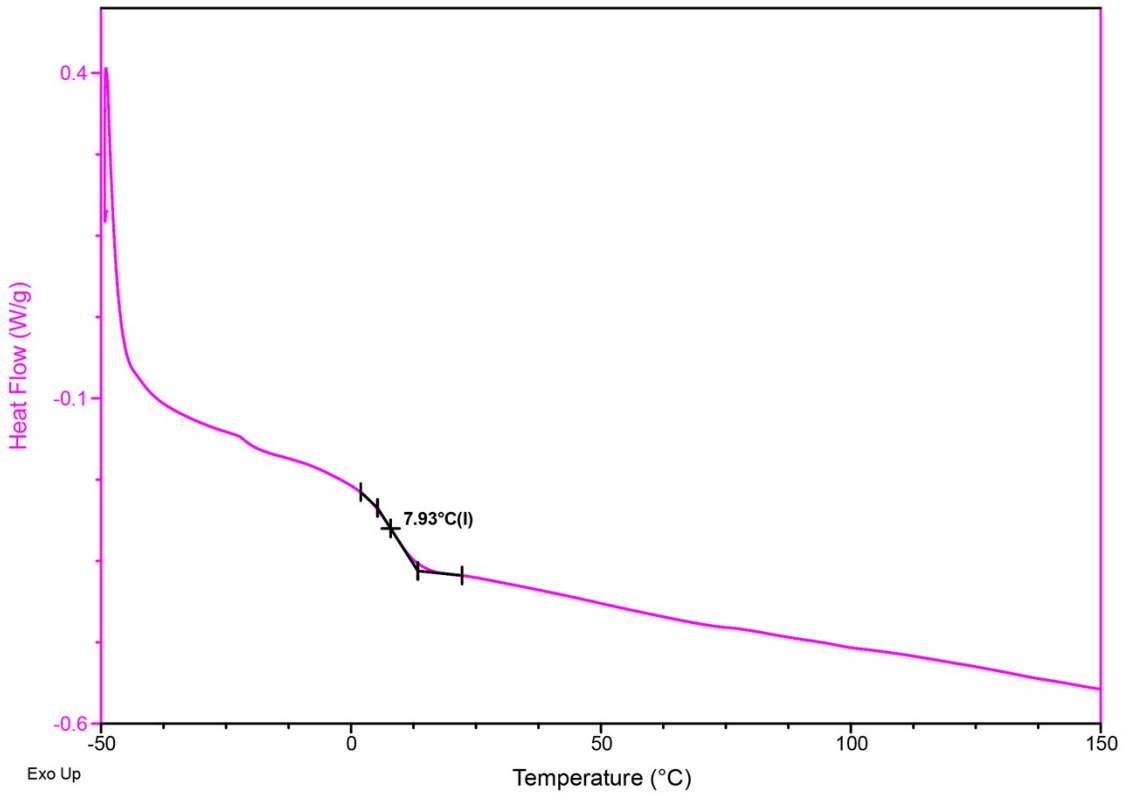

Figure S34. DSC thermogram of P8.

Synthesis of P9

General procedure was followed: 1-Pyrenecarboxaldehyde (507 mg, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P9 was obtained as a yellow solid (yield = 651 mg, 90%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 8.32-7.91 (9H, Ar*H*), 5.85 (1H, ArC*H*S), 2.45-2.39 (4H, SCH_2(CH_2)$_4$CH_2S), 1.37-1.10 (8H, SCH$_2$(CH_2)$_4$CH$_2$S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 133.29, 130.72, 127.44, 126.08, 124.94, 50.08, 28.97, 28.06.

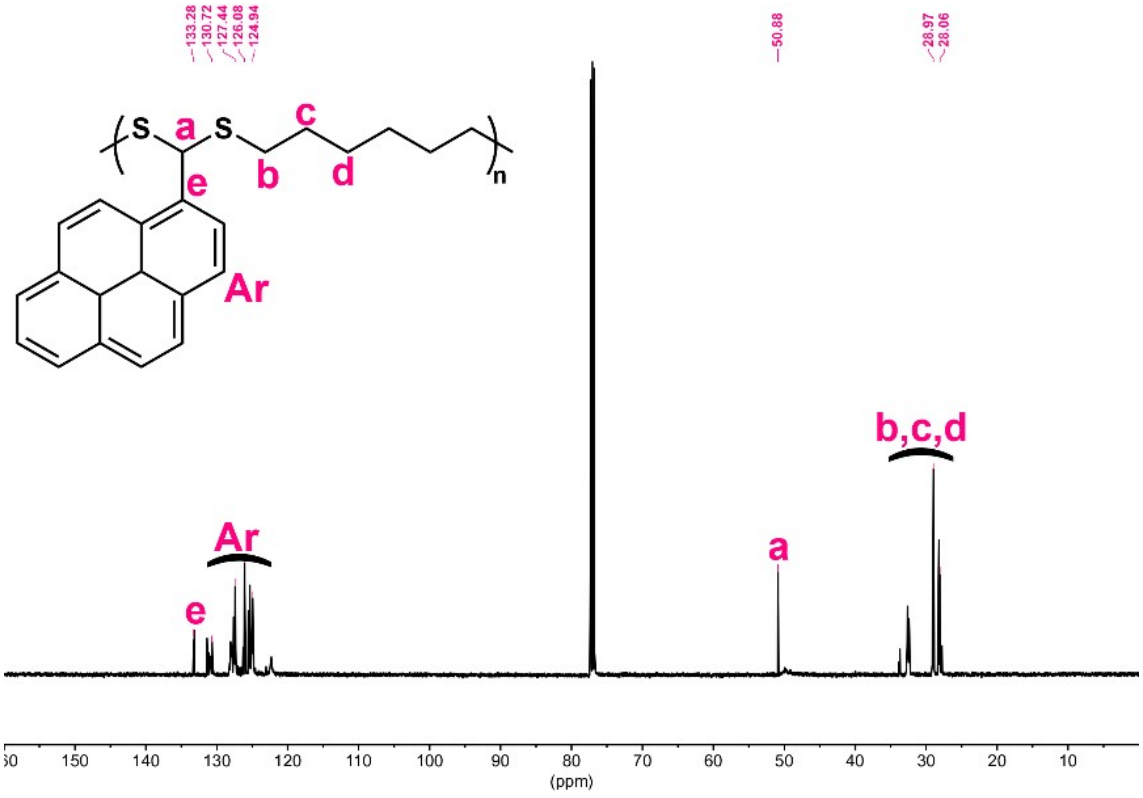

Figure S35. ^{13}C NMR spectrum of P9 ($CDCl_3$, 125 MHz).

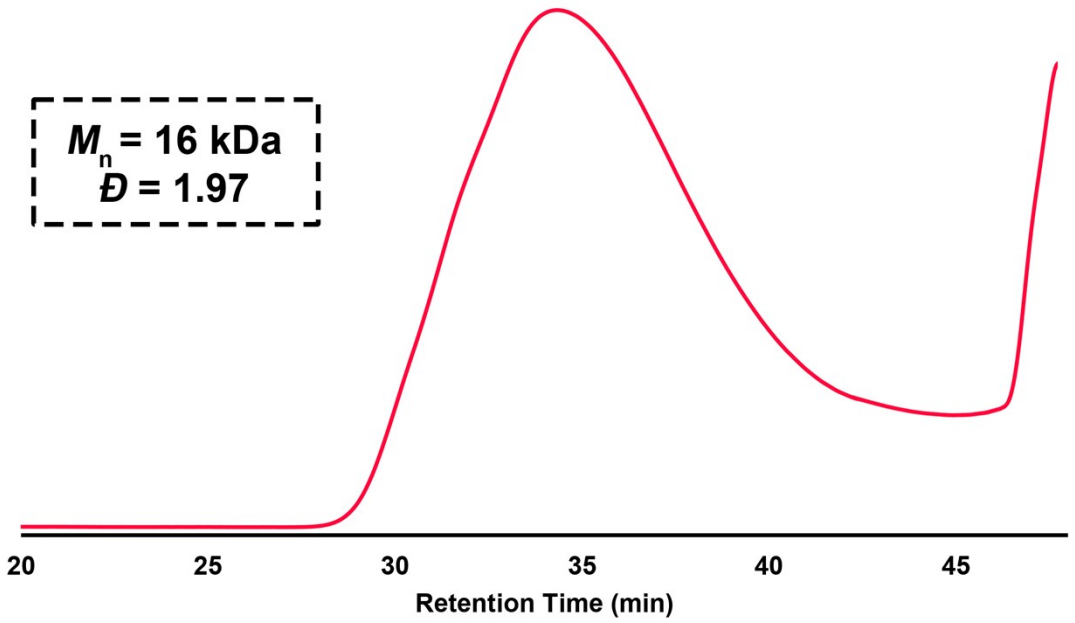

Figure S36. GPC chromatogram of P9.

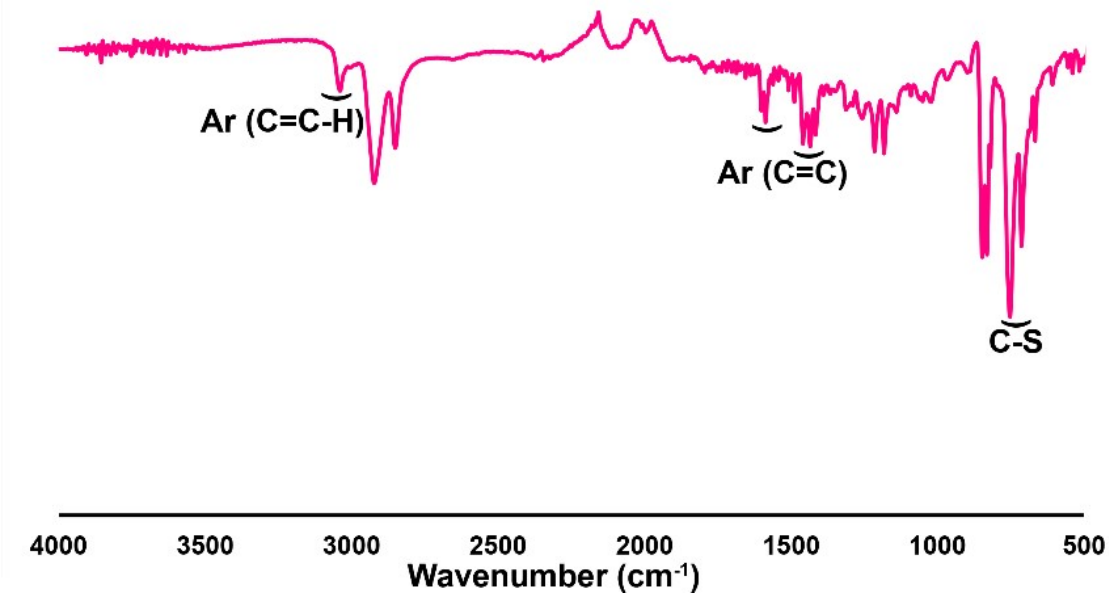

Figure S37. FT-IR spectrum of P9.

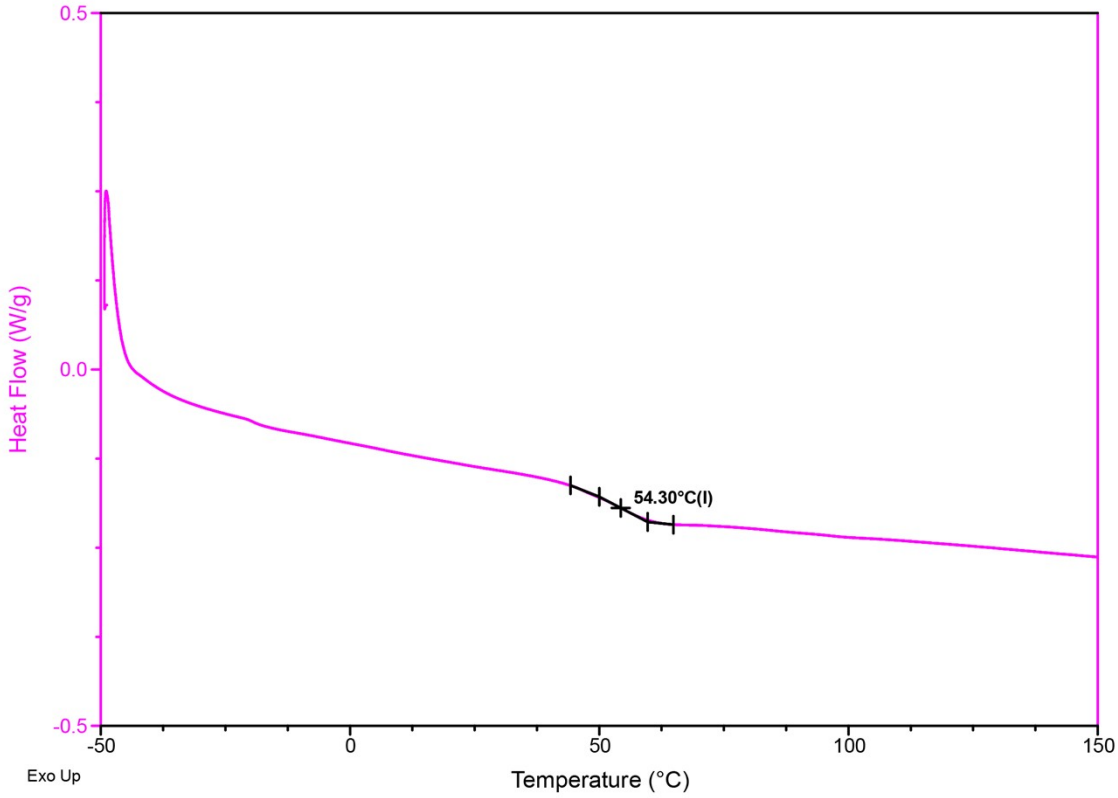

Figure S38. DSC thermogram of P9.

Synthesis of P10

General procedure was followed: 4-(1,2,2-Triphenylethenyl)benzaldehyde (397 mg, 1.10 mmol), HDT (153 μL, 1.00 mmol), and CDMS (56 μL, 0.50 mmol) were reacted in 250 μL of THF. P10 was obtained as a greenish solid (yield = 462 mg, 94%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.14-6.97 (19H, Ar*H*), 4.79 (1H, ArC*H*S), 2.44 (4H, SCH_2(CH_2)$_4$CH_2S), 1.49-1.29 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 143.64, 143.52, 143.34, 141.27, 140.47, 138.29, 131.31, 127.68, 127.08, 126.47, 53.00, 32.05, 29.05, 28.54.

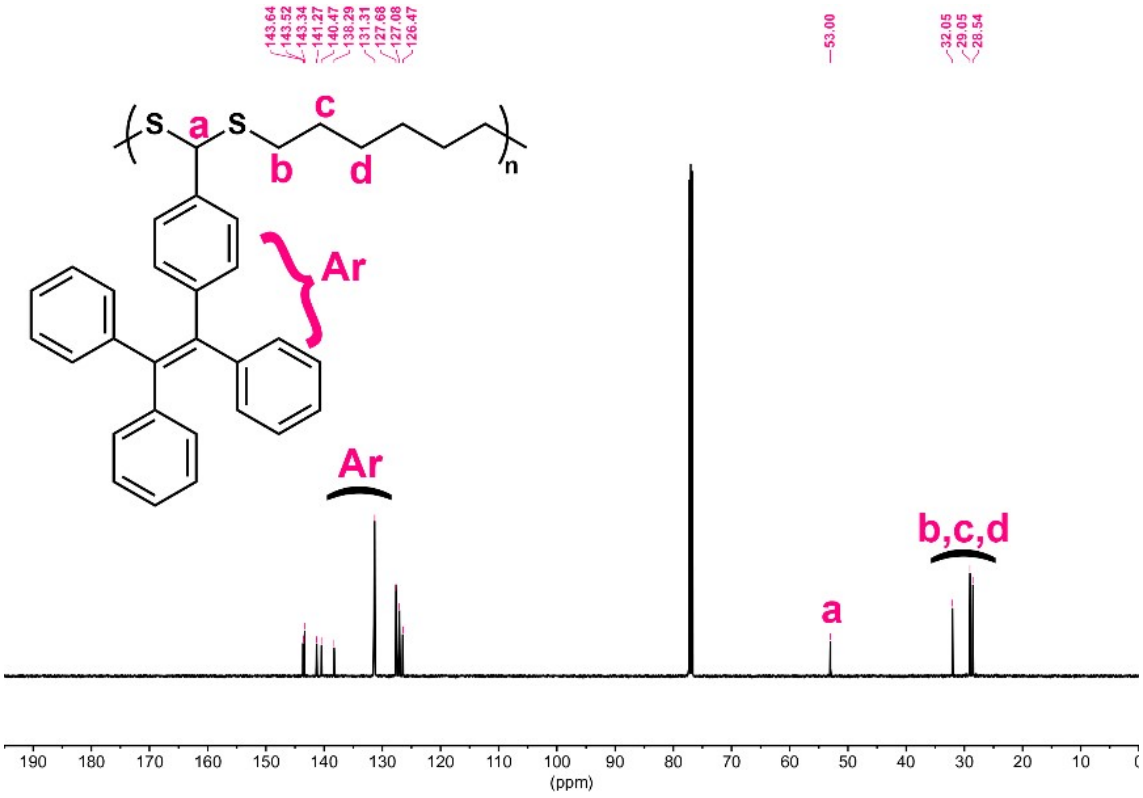

Figure S39. ^{13}C NMR spectrum of P10 ($CDCl_3$, 125 MHz).

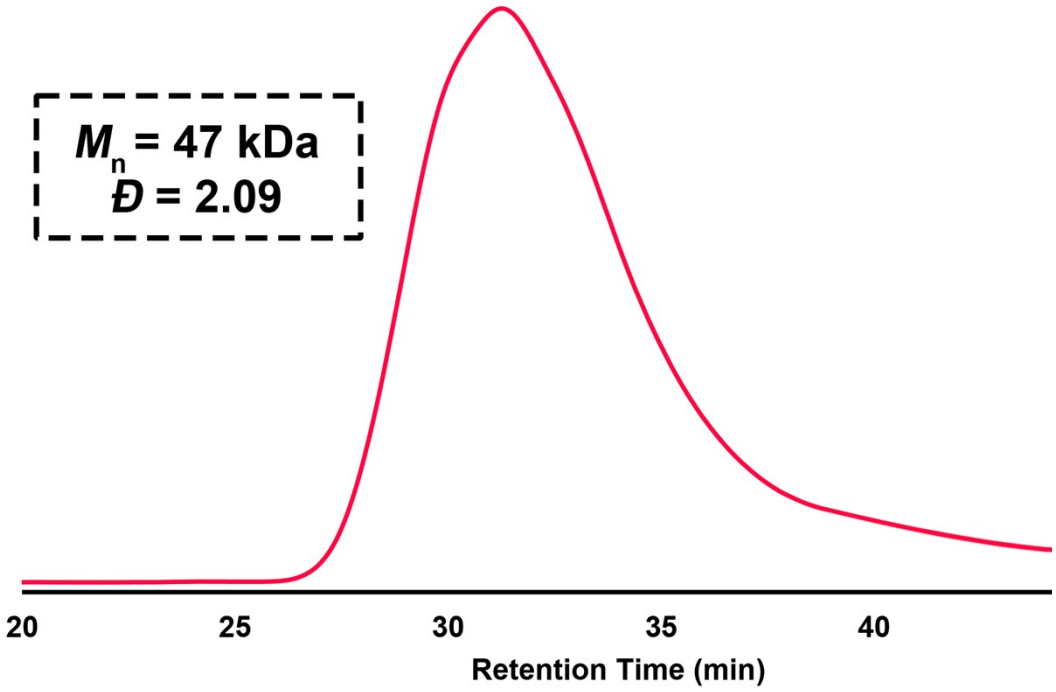

Figure S40. GPC chromatogram of P10.

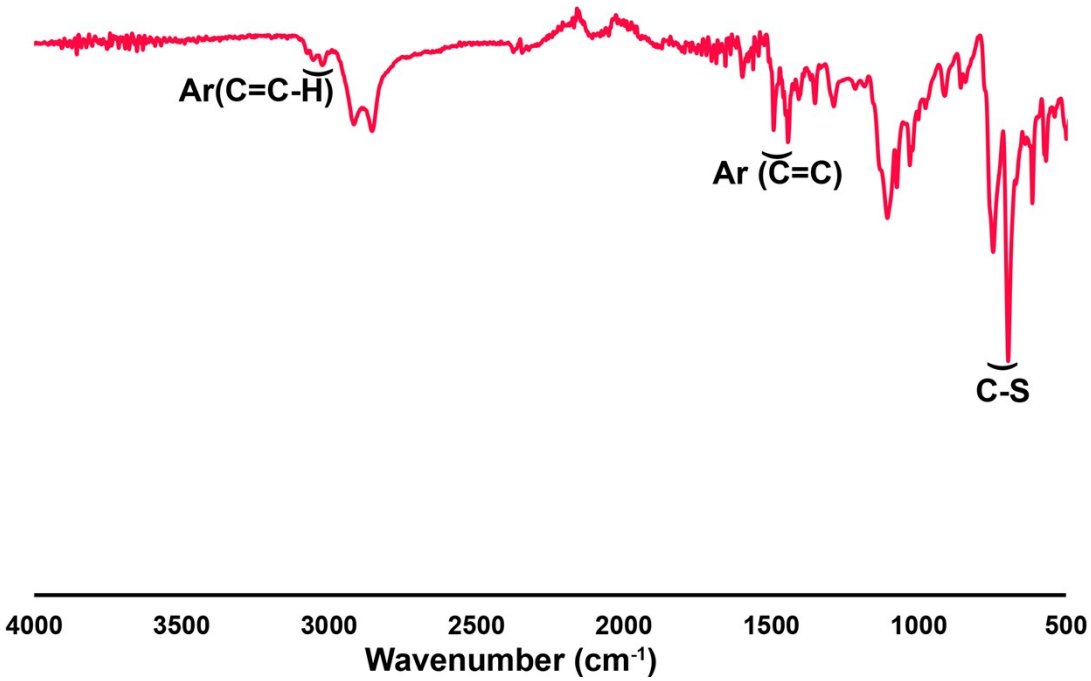

Figure S41. FT-IR spectrum of P10.

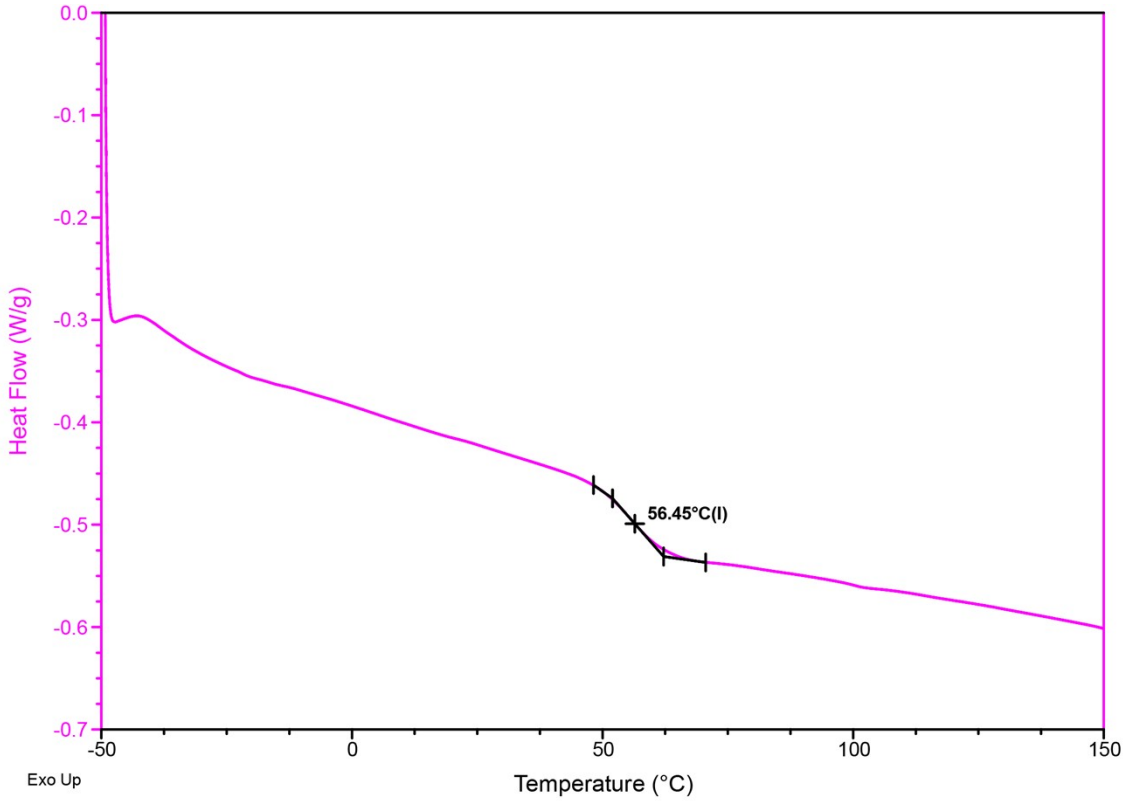

Figure S42. DSC thermogram of P10.

Synthesis of P11

General procedure was followed: 2-Thiophenecarboxaldehyde (206 μL, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P11 was obtained as a white sticky solid (yield = 433 mg, 89%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.25-6.92 (3H, Ar*H*), 5.17 (1H, ArC*H*S), 2.64-2.58 (4H, SCH_2(CH_2)$_4$CH_2S), 1.56-1.35 (8H, SCH_2(CH_2)$_4$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 145.15, 126.44, 125.76, 125.45, 48.41, 32.01, 28.90, 28.45.

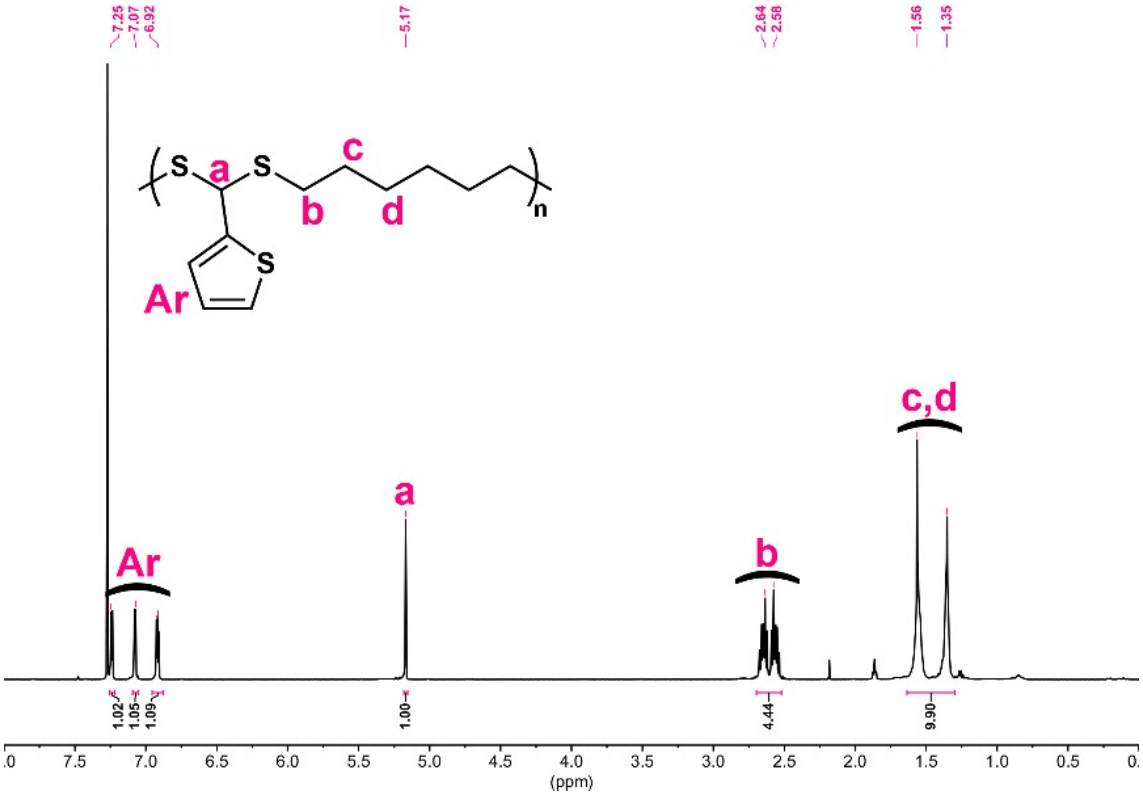

Figure S43. ^{1}H NMR spectrum of P11 ($CDCl_3$, 500 MHz).

Figure S44. ^{13}C NMR spectrum of P11 ($CDCl_3$, 125 MHz).

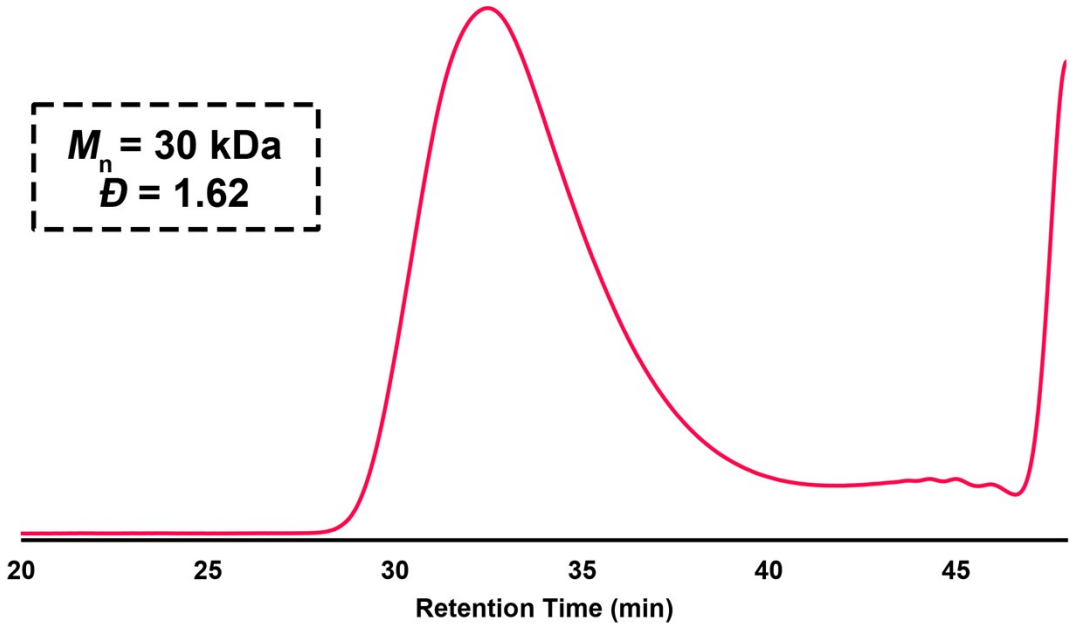

Figure S45. GPC chromatogram of P11.

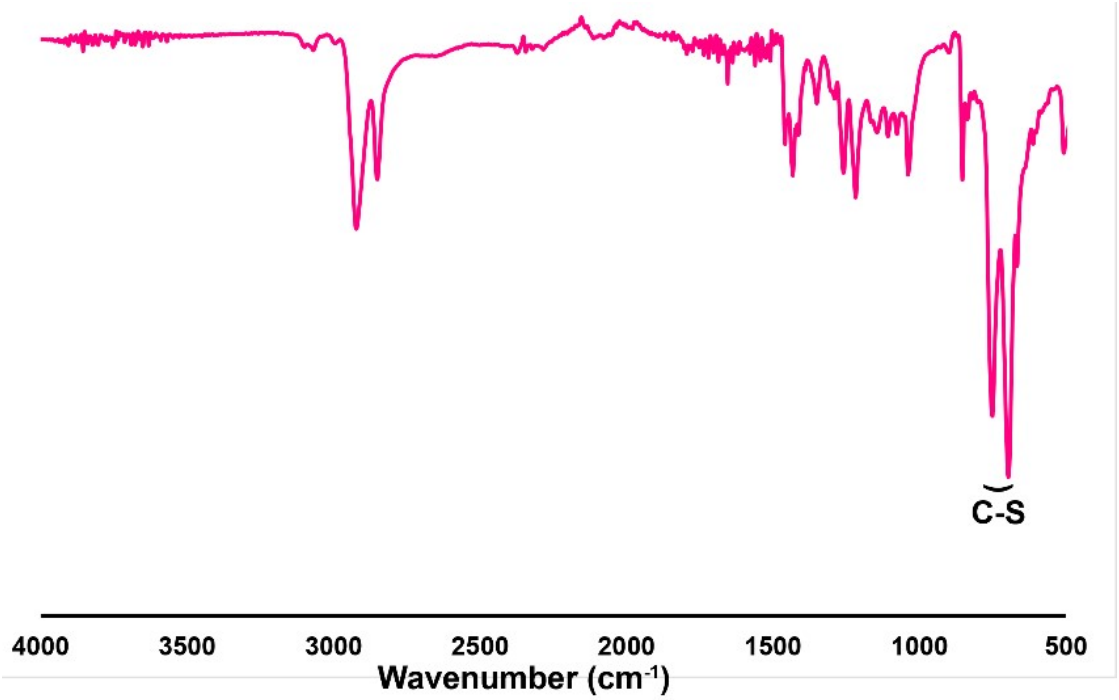

Figure S46. FT-IR spectrum of P11.

Synthesis of P12

General procedure was followed: Ferrocenecarboxaldehyde (471 mg, 2.20 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P12 was obtained as a reddish sticky solid (yield = 636 mg, 92%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 4.77 (1H, ArC*H*S), 4.27-4.15 (9H, Fc*H*), 2.70-2.53 (4H, $SCH_2(CH_2)_4CH_2S$), 1.68-1.40 (8H, $SCH_2(CH_2)_4CH_2S$); ^{13}C NMR (125 MHz, $CDCl_3$): δ 89.17, 69.45, 67.69, 67.41, 50.30, 30.73, 28.64.

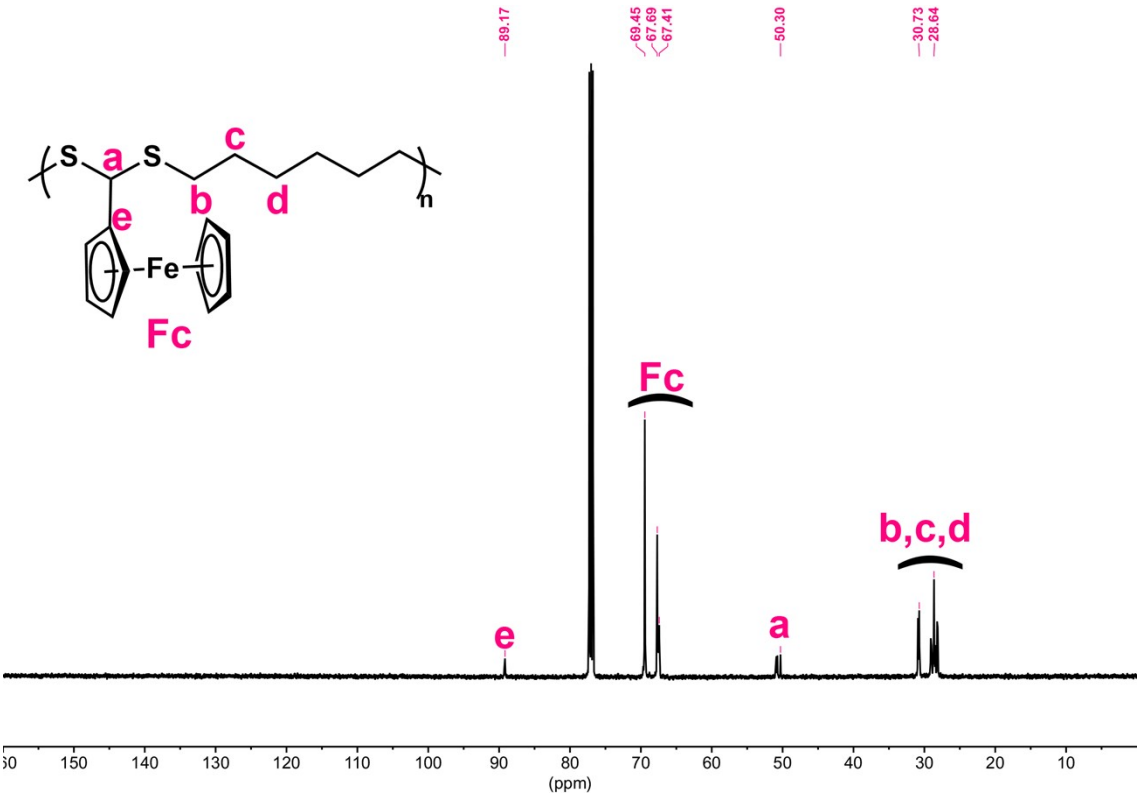

Figure S47. ^{13}C NMR spectrum of P12 ($CDCl_3$, 125 MHz).

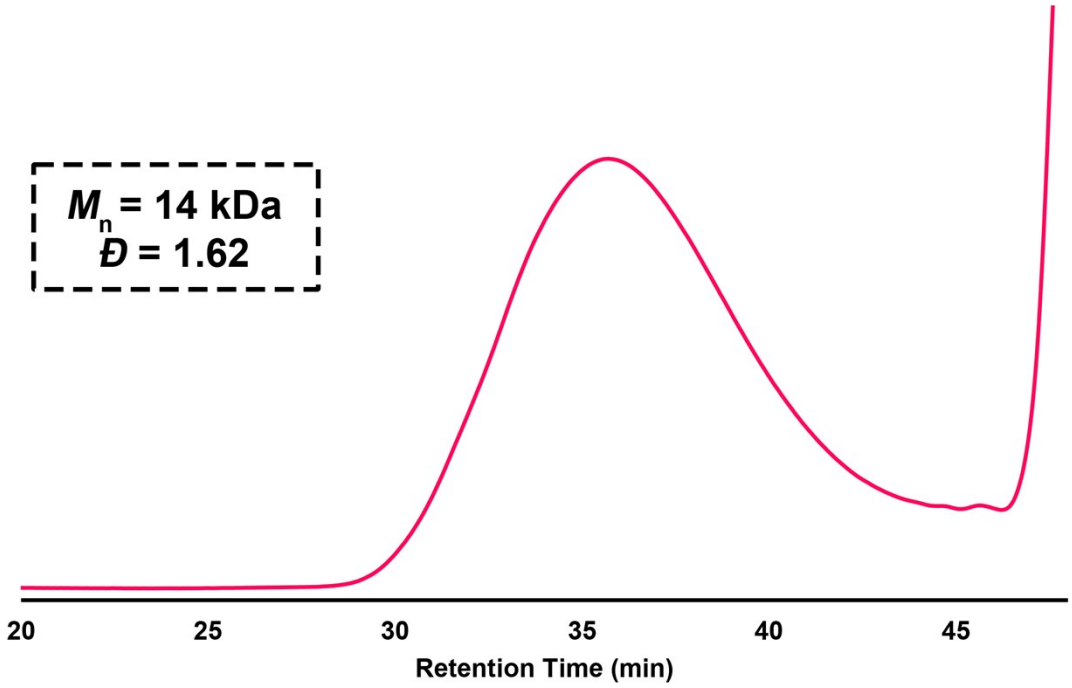

Figure S48. GPC chromatogram of P12.

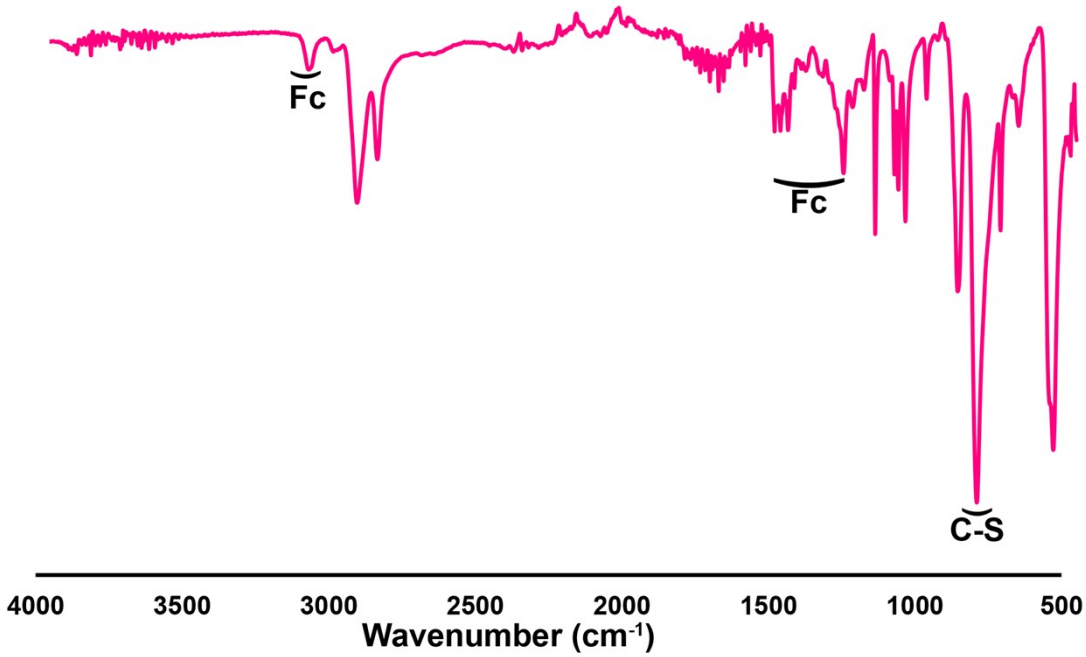

Figure S49. FT-IR spectrum of P12.

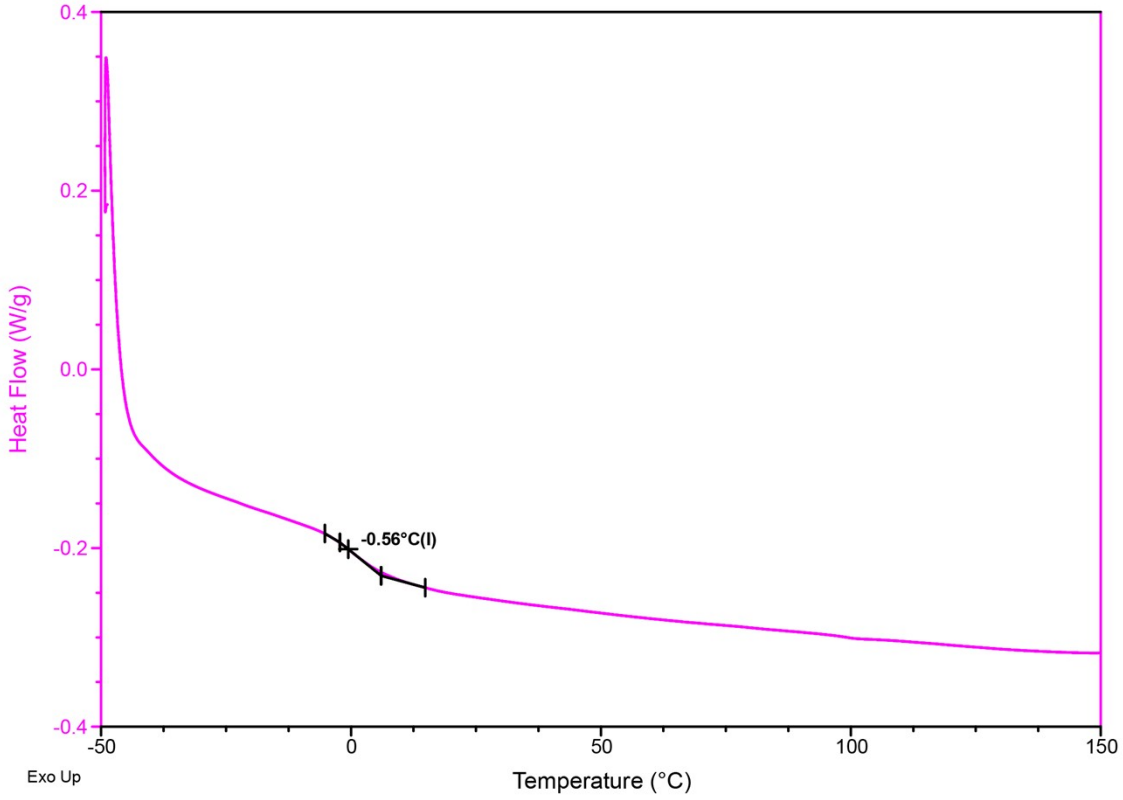

Figure S50. DSC thermogram of P12.

Synthesis of P13

General procedure was followed: BA (224 μL, 2.20 mmol), 1,4-butanedithiol (235 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P13 was obtained as a white sticky solid (yield = 411 mg, 98%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.40-7.26 (5H, Ar*H*), 4.83 (1H, ArC*H*S), 2.51-2.46 (4H, SCH_2(CH_2)$_2$CH_2S), 1.58 (4H, SCH_2(CH_2)$_2$CH_2S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 140.82, 128.61, 127.46, 56.84, 32.61, 31.72.

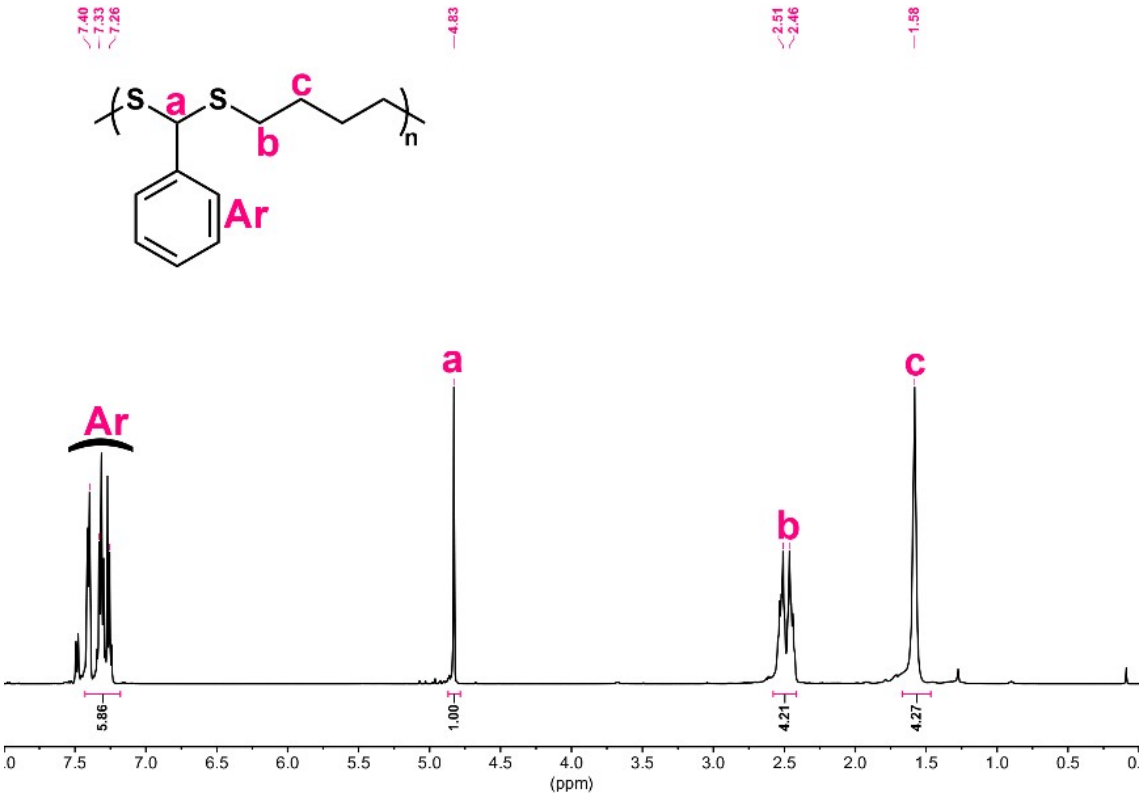

Figure S51. ^{1}H NMR spectrum of P13 ($CDCl_3$, 500 MHz).

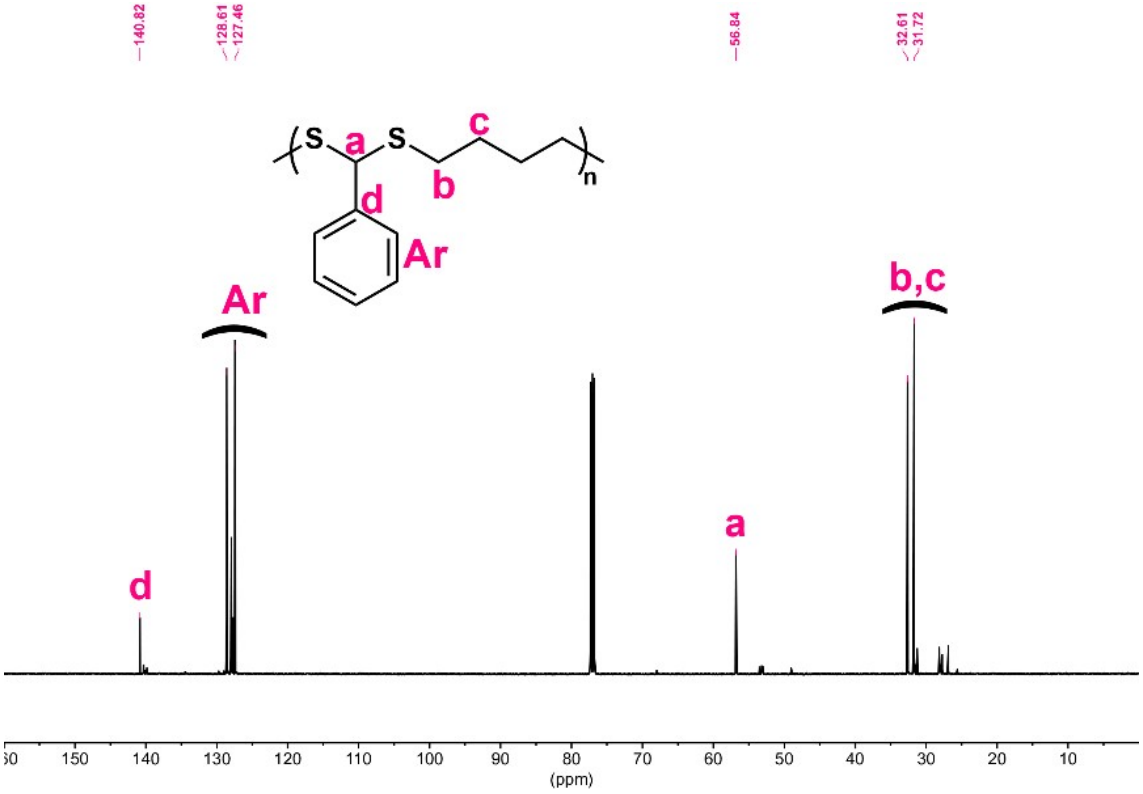

Figure S52. ^{13}C NMR spectrum of P13 ($CDCl_3$, 125 MHz).

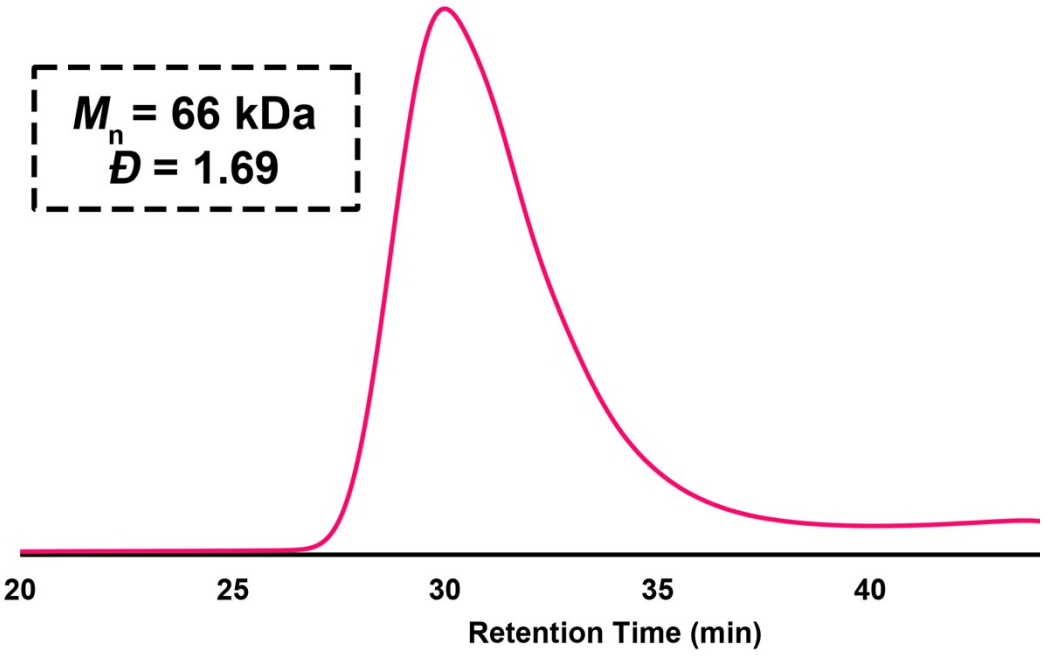

Figure S53. GPC chromatogram of P13.

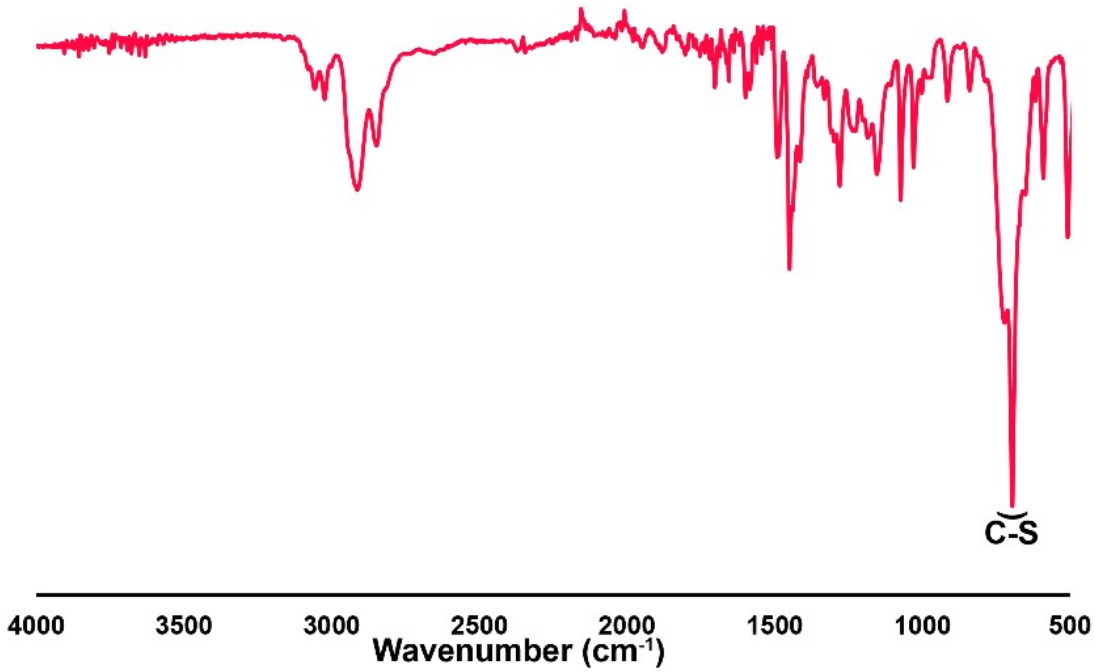

Figure S54. FT-IR spectrum of P13.

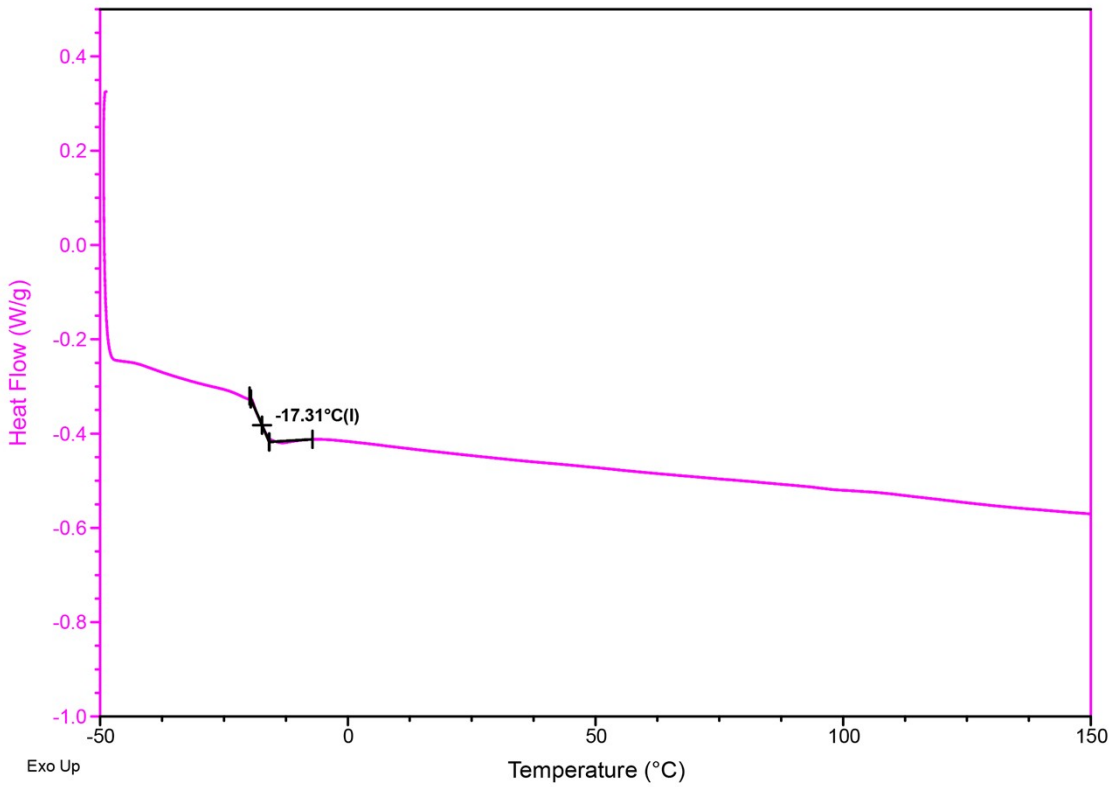

Figure S55. DSC thermogram of P13.

Synthesis of P14

General procedure was followed. BA (224 μL, 2.20 mmol), 1,8-octanedithiol (368 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P14 was obtained as a white sticky solid (yield = 516 mg, 97%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.45-7.27 (5H, Ar*H*), 4.87 (1H, ArC*H*S), 2.69-2.51 (4H, $SCH_2(CH_2)_6CH_2S$), 1.54-1.21 (12H, $SCH_2(CH_2)_6CH_2S$); ^{13}C NMR (125 MHz, $CDCl_3$): δ 140.62, 128.49, 127.69, 53.30, 32.26, 29.11, 28.79.

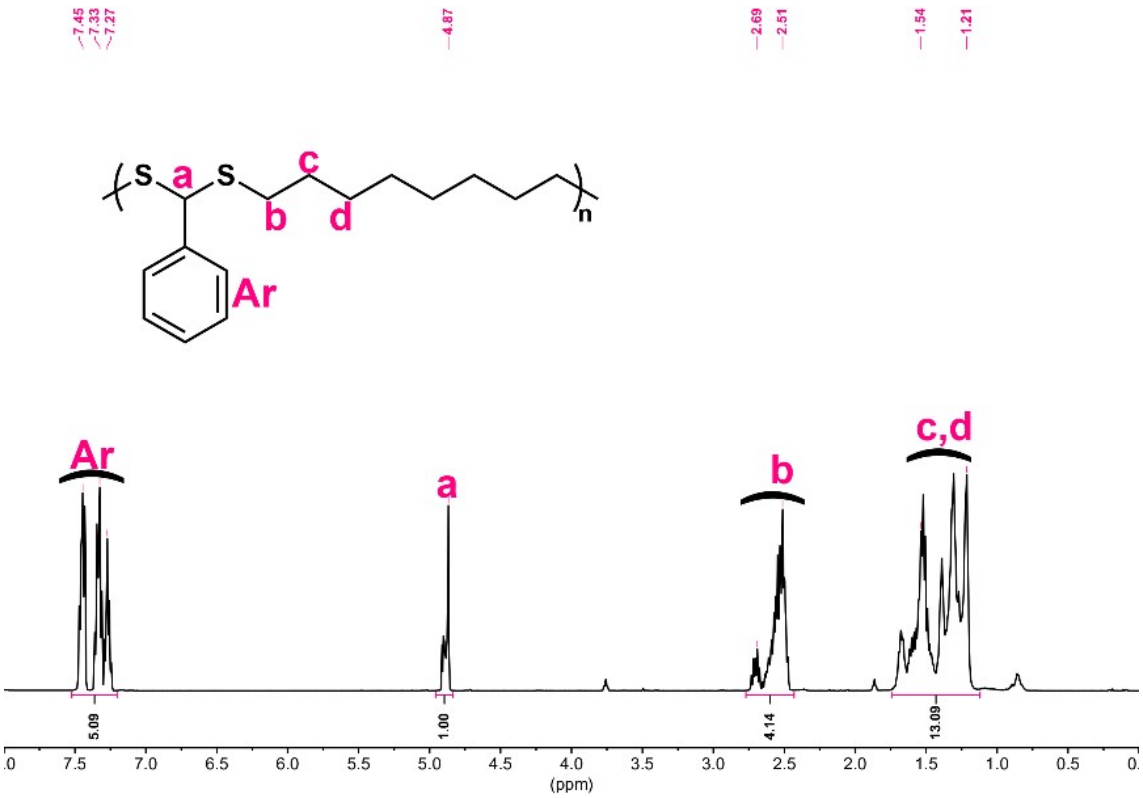

Figure S56. ^{1}H NMR spectrum of P14 ($CDCl_3$, 500 MHz).

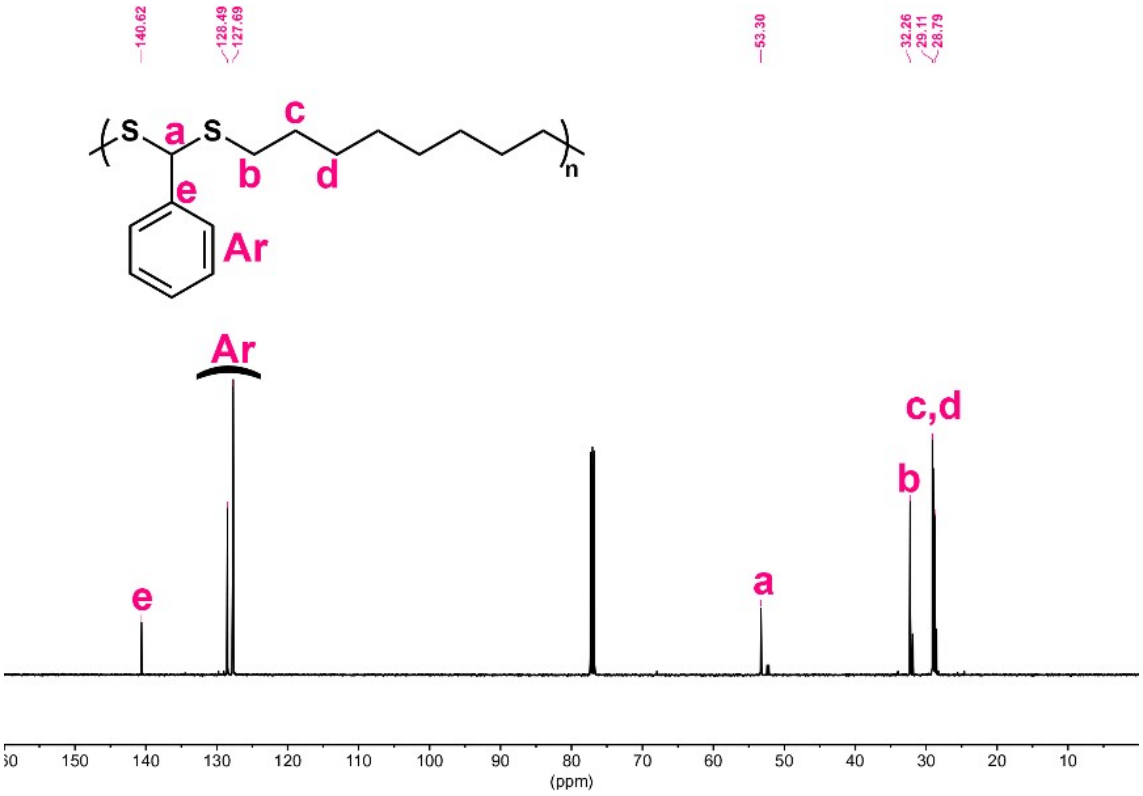

Figure S57. ^{13}C NMR spectrum of P14 ($CDCl_3$, 125 MHz).

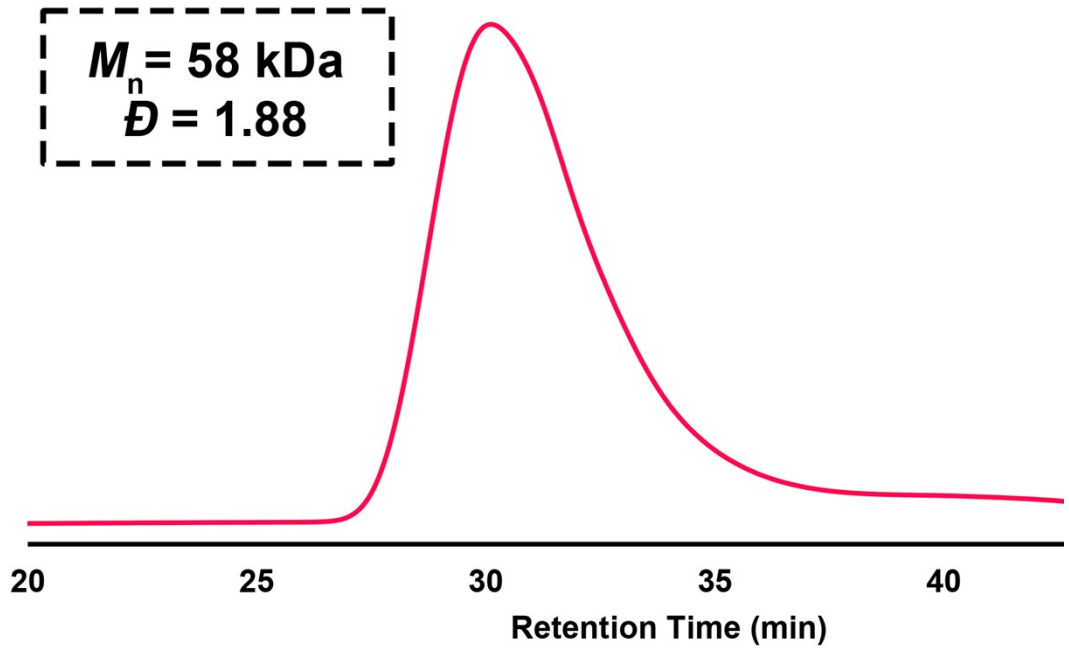

Figure S58. GPC chromatogram of P14.

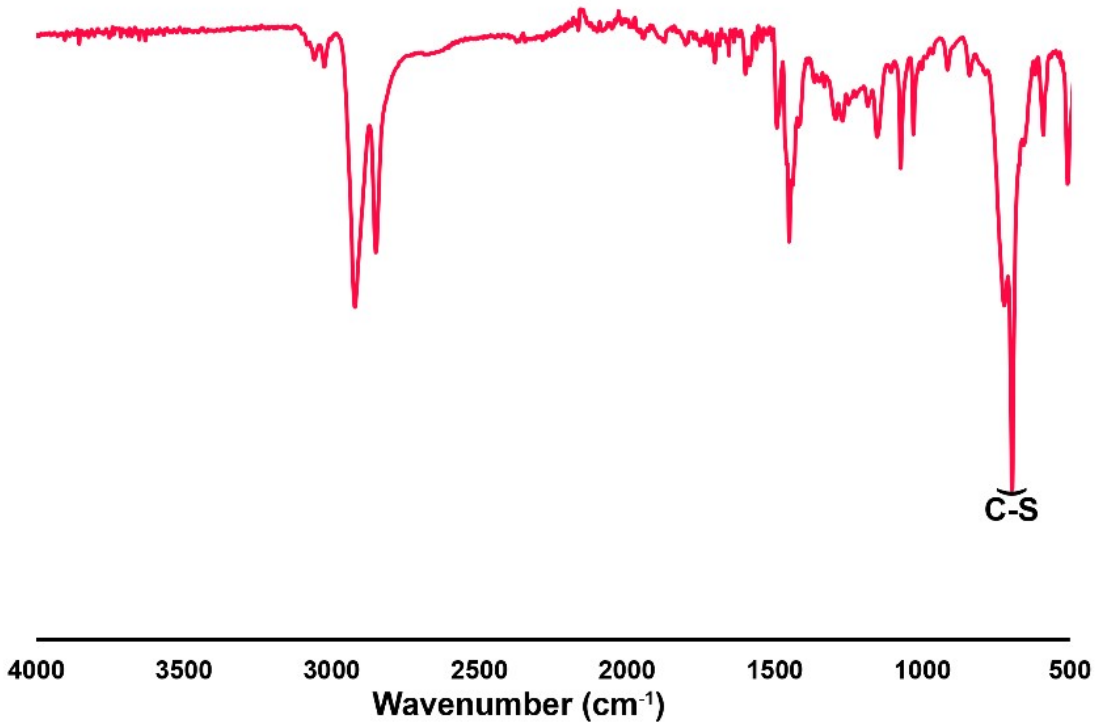

Figure S59. FT-IR spectrum of P14.

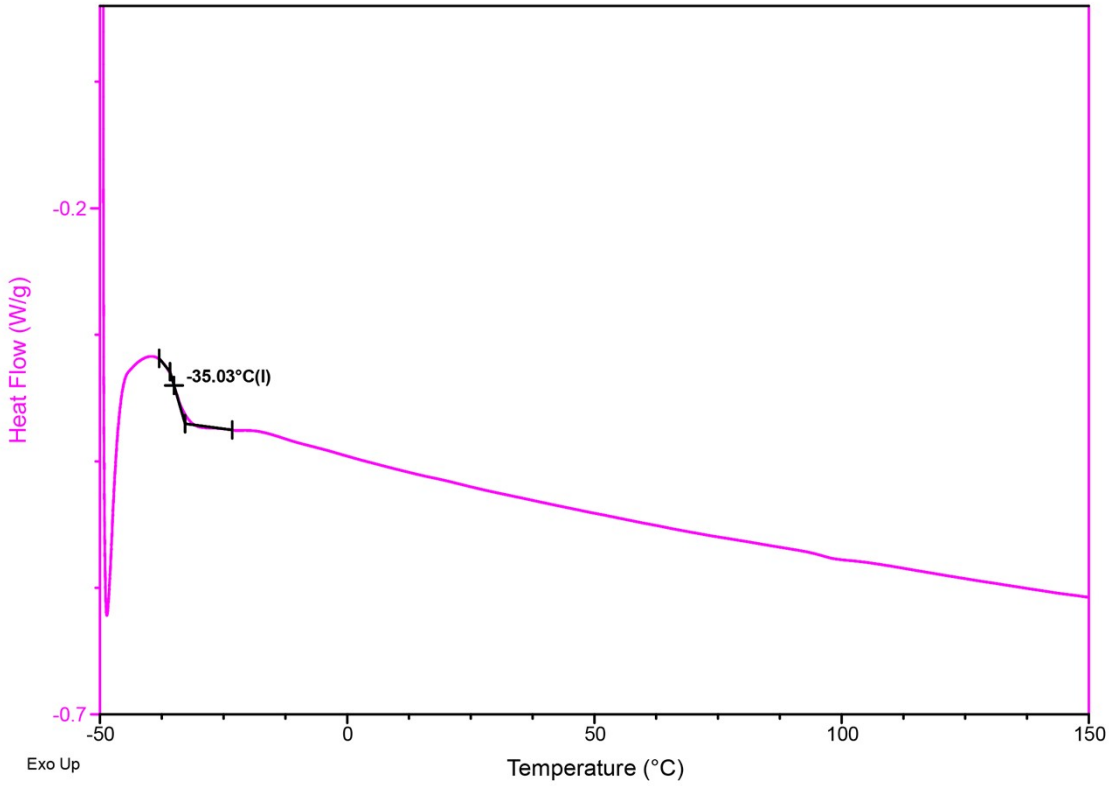

Figure S60. DSC thermogram of P14.

Synthesis of P15

General procedure was followed: BA (224 μL, 2.20 mmol), 2,2'-(ethylenedioxy)diethanethiol (326 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P15 was obtained as a white sticky solid (yield = 513 mg, 95%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.42-7.25 (5H, Ar*H*), 5.09 (1H, ArC*H*S), 3.58-3.52 (8H, $SCH_2(CH_2OCH_2)_2CH_2S$), 2.78-2.69 (4H, $SCH_2(CH_2OCH_2)_2CH_2S$); ^{13}C NMR (125 MHz, $CDCl_3$): δ 141.84, 140.94, 128.52, 127.87, 127.67, 73.74, 72.01, 70.23, 53.46, 31.78, 31.39.

Figure S61. ^{13}C NMR spectrum of P15 ($CDCl_3$, 125 MHz).

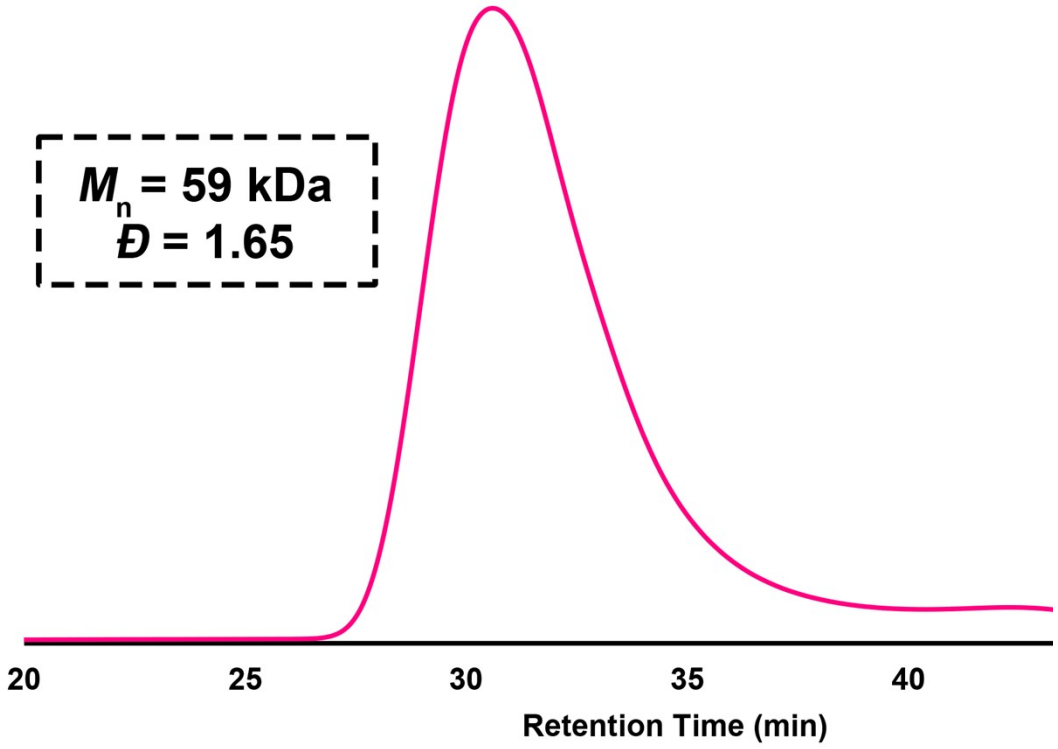

Figure S62. GPC chromatogram of P15.

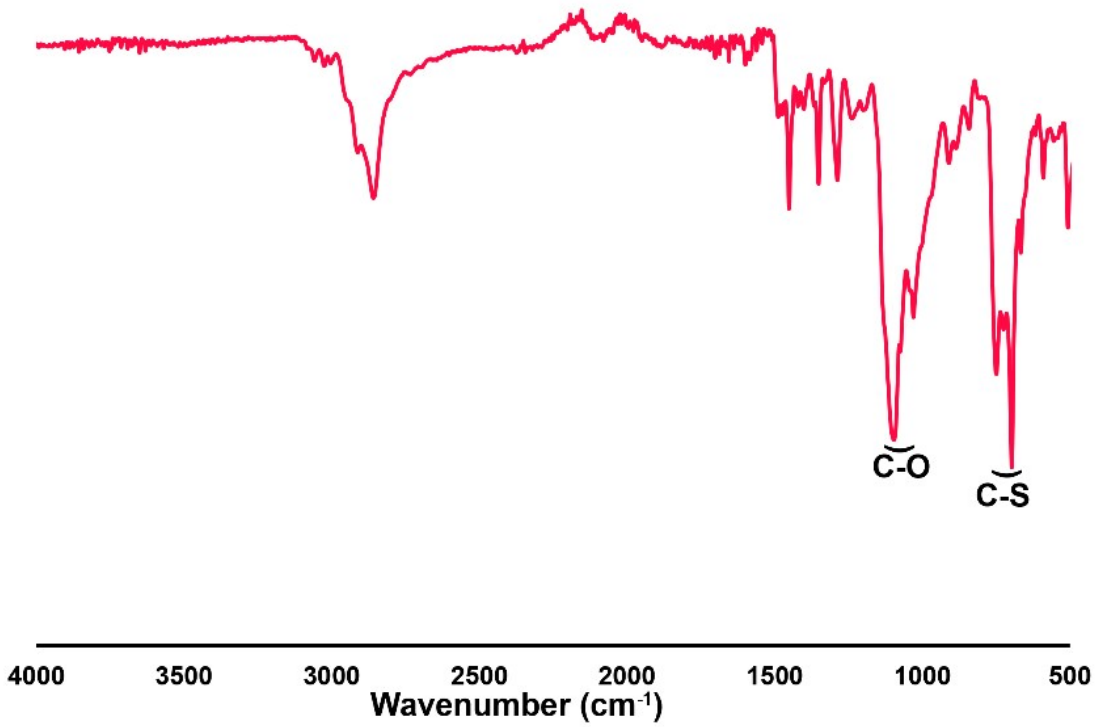

Figure S63. FT-IR spectrum of P15.

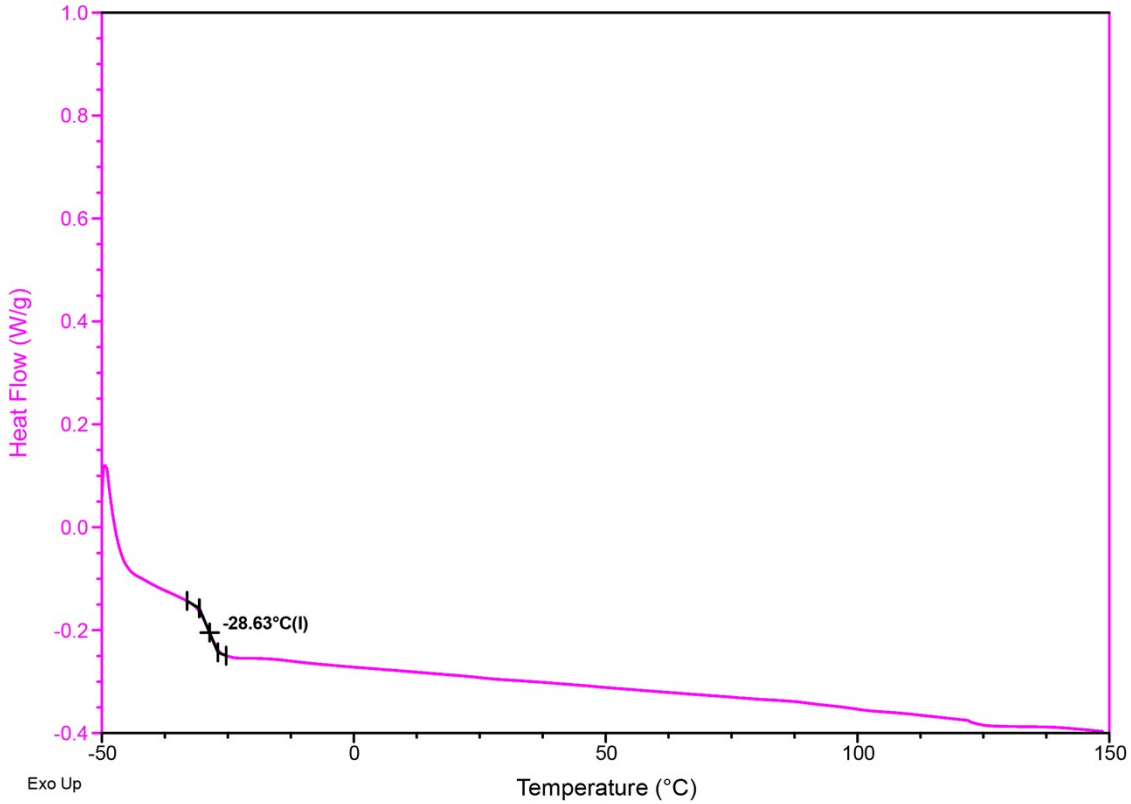

Figure S64. DSC thermogram of P15.

Synthesis of P16

General procedure was followed: BA (224 μL, 2.20 mmol), 1,4-benzenedimethanethiol (341 mg, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P16 was obtained as a white solid (yield = 454 mg, 88%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.31-7.03 (9H, Ar*H*), 4.47 (1H, ArC*H*S), 3.71-3.54 (4H, CH_2Ar); ^{13}C NMR (125 MHz, $CDCl_3$): δ 139.45, 136.35, 129.11, 128.63, 127.98, 51.48, 47.01, 36.21.

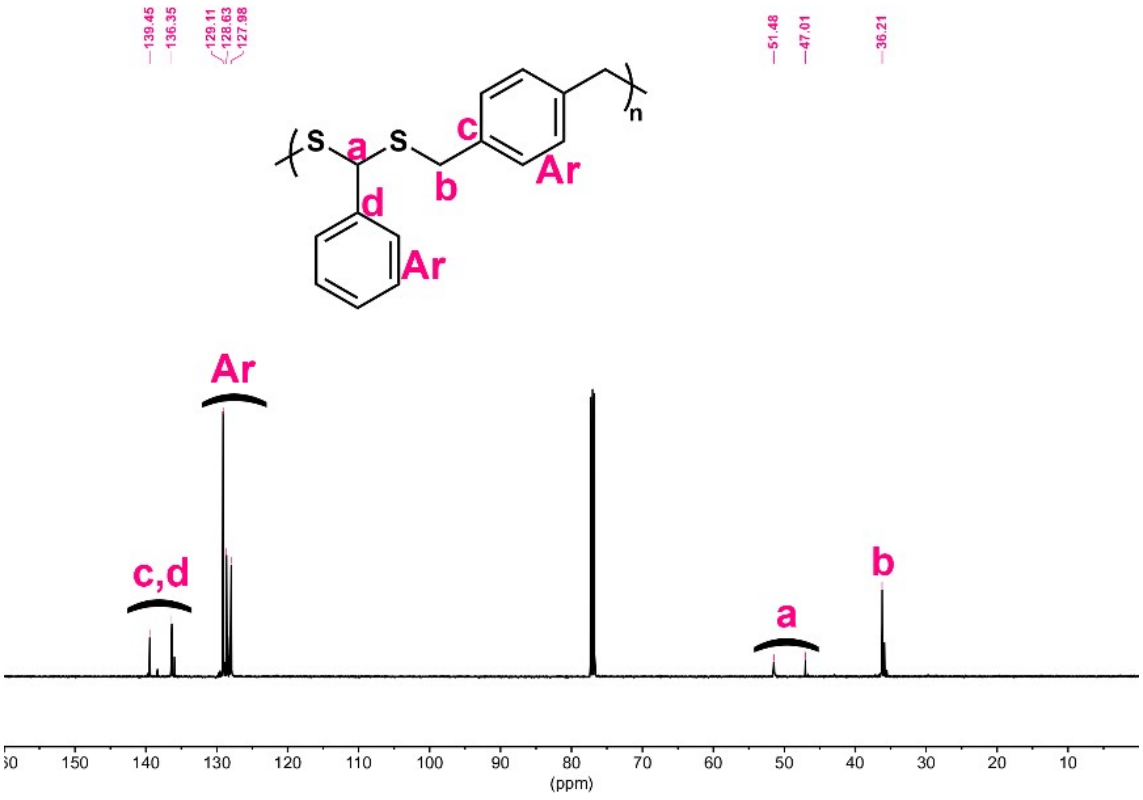

Figure S65. ^{13}C NMR spectrum of P16 ($CDCl_3$, 500 MHz).

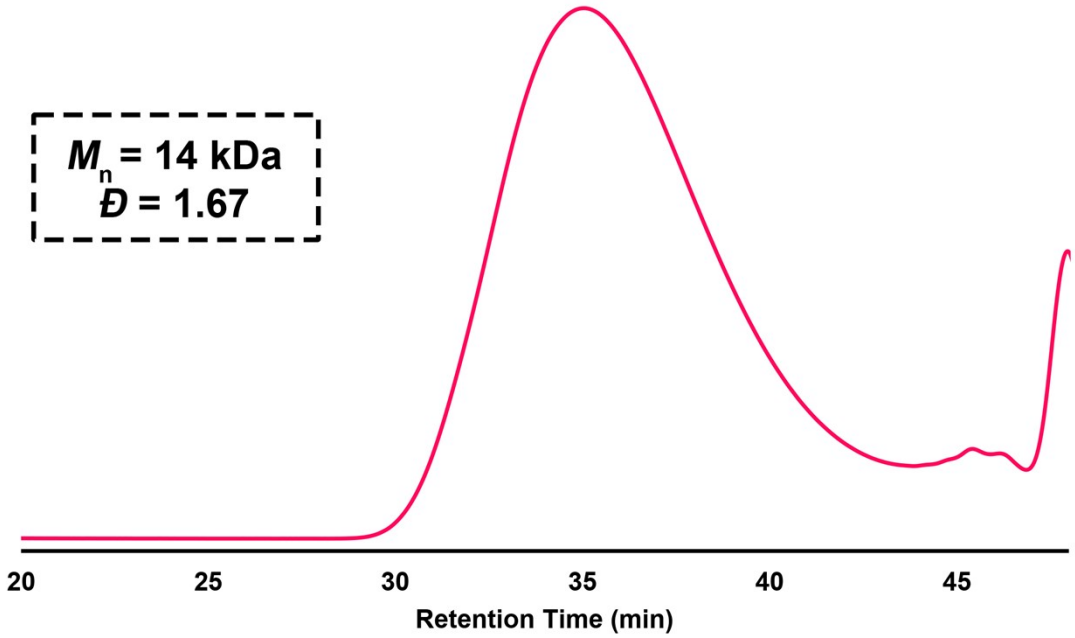

Figure S66. GPC chromatogram of P16.

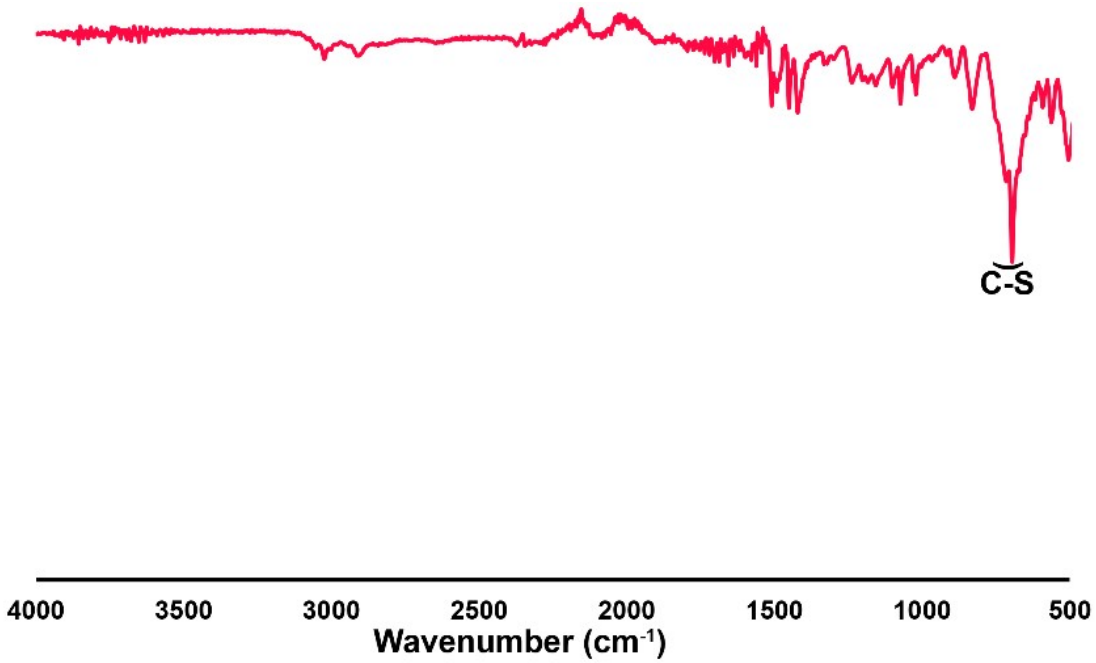

Figure S67. FT-IR spectrum of P16.

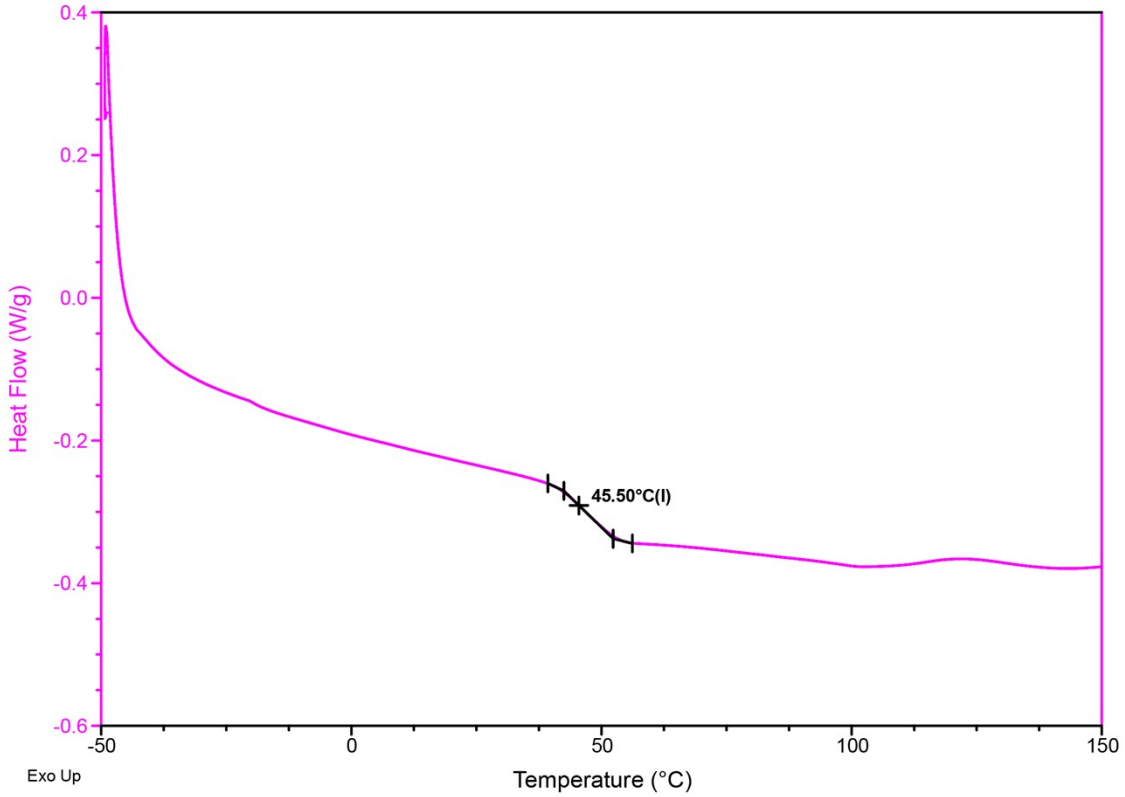

Figure S68. DSC thermogram of P16.

Synthesis of P17

General procedure was followed: BA (224 μL, 2.20 mmol), ethylene glycol bis-mercaptoacetate (319 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P17 was obtained as a white sticky solid (yield = 530 mg, 89%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.41-7.33 (5H, Ar*H*), 5.33 (1H, ArC*H*S), 4.27 (4H, $SCH_2(C{=}O)OC\mathit{H}_2C\mathit{H}_2O(C{=}O)CH_2S$), 3.42-3.21 (4H, $SC\mathit{H}_2(C{=}O)OCH_2CH_2O(C{=}O)C\mathit{H}_2S$); ^{13}C NMR (125 MHz, $CDCl_3$): δ 169.70, 138.19, 134.46, 128.78, 127.91, 62.91, 53.45, 33.65.

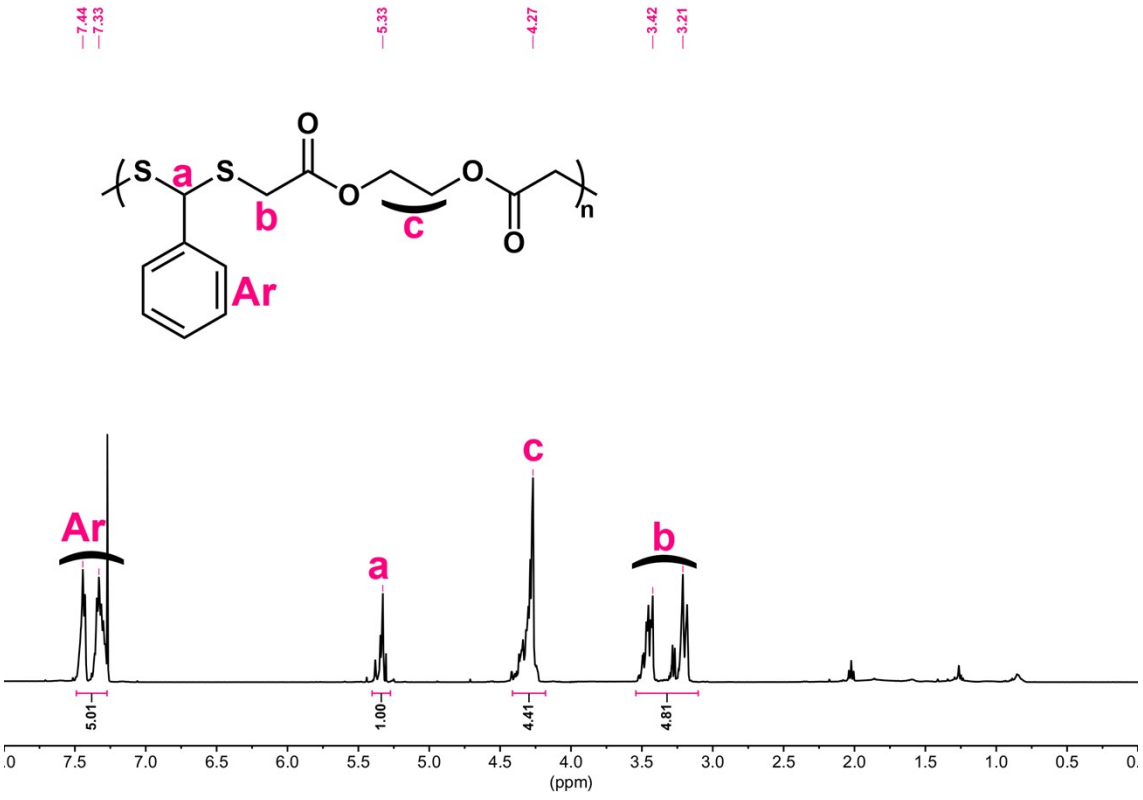

Figure S69. ^{1}H NMR spectrum of P17 ($CDCl_3$, 500 MHz).

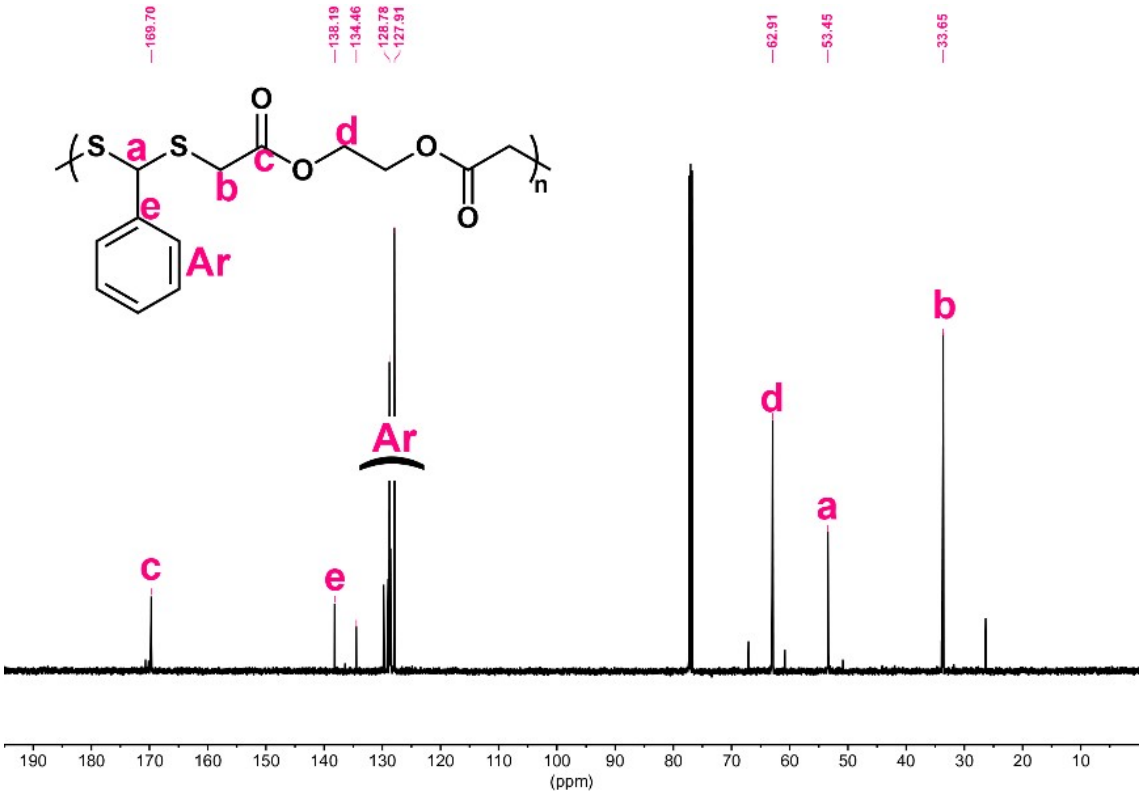

Figure S70. ^{13}C NMR spectrum of P17 ($CDCl_3$, 500 MHz).

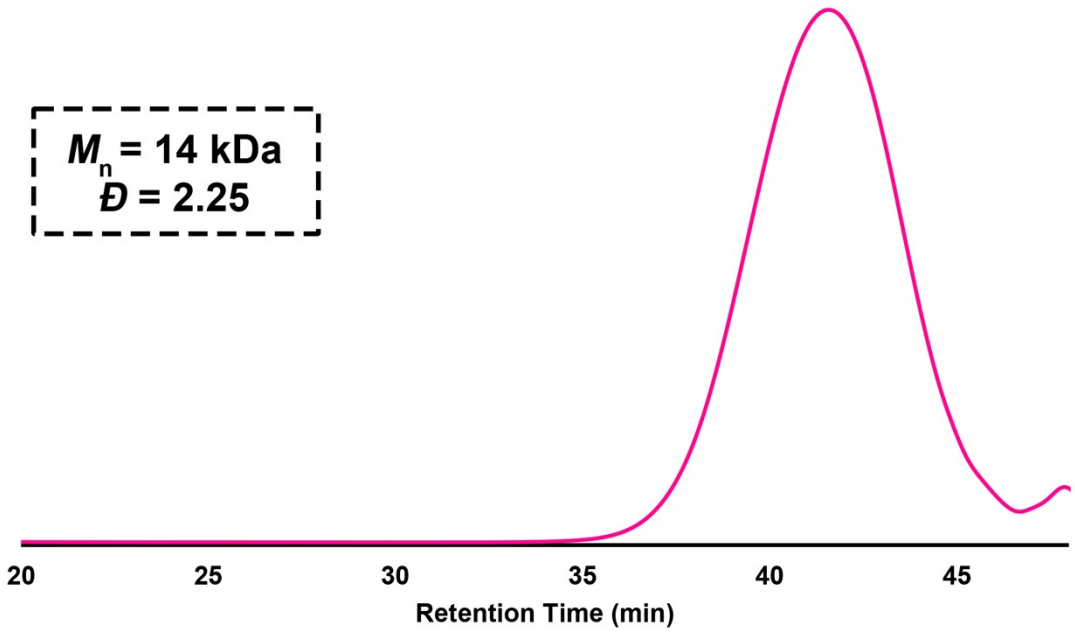

Figure S71. GPC chromatogram of P17.

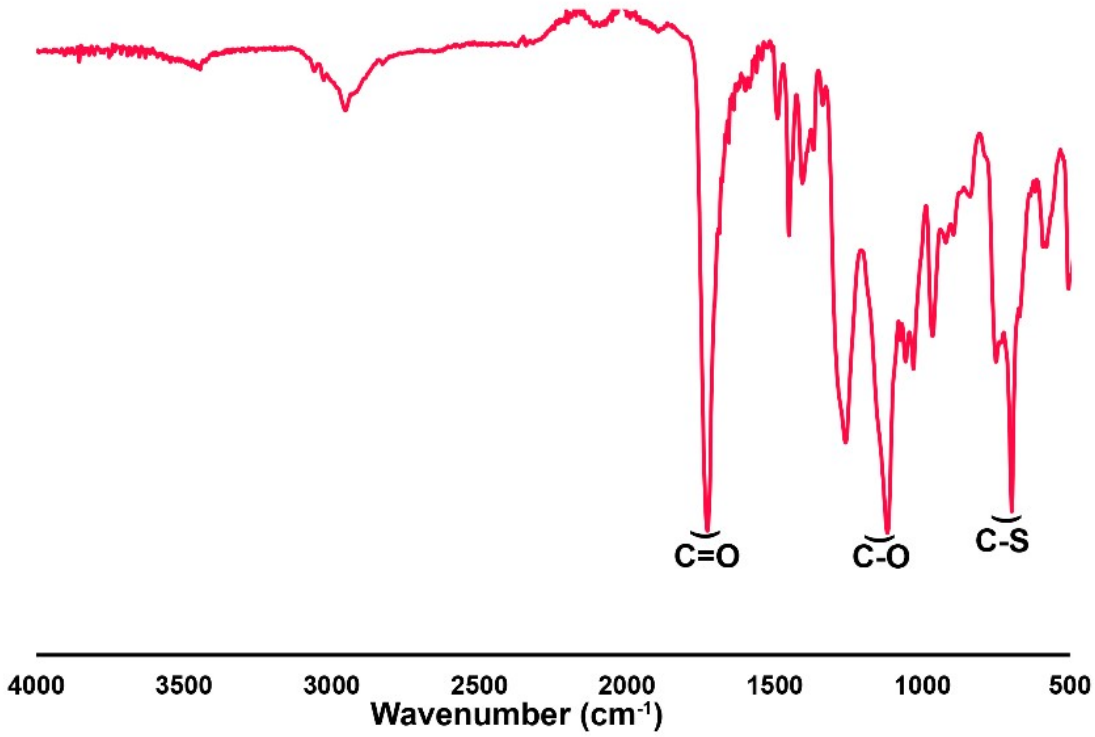

Figure S72**.** FT-IR spectrum of P17.

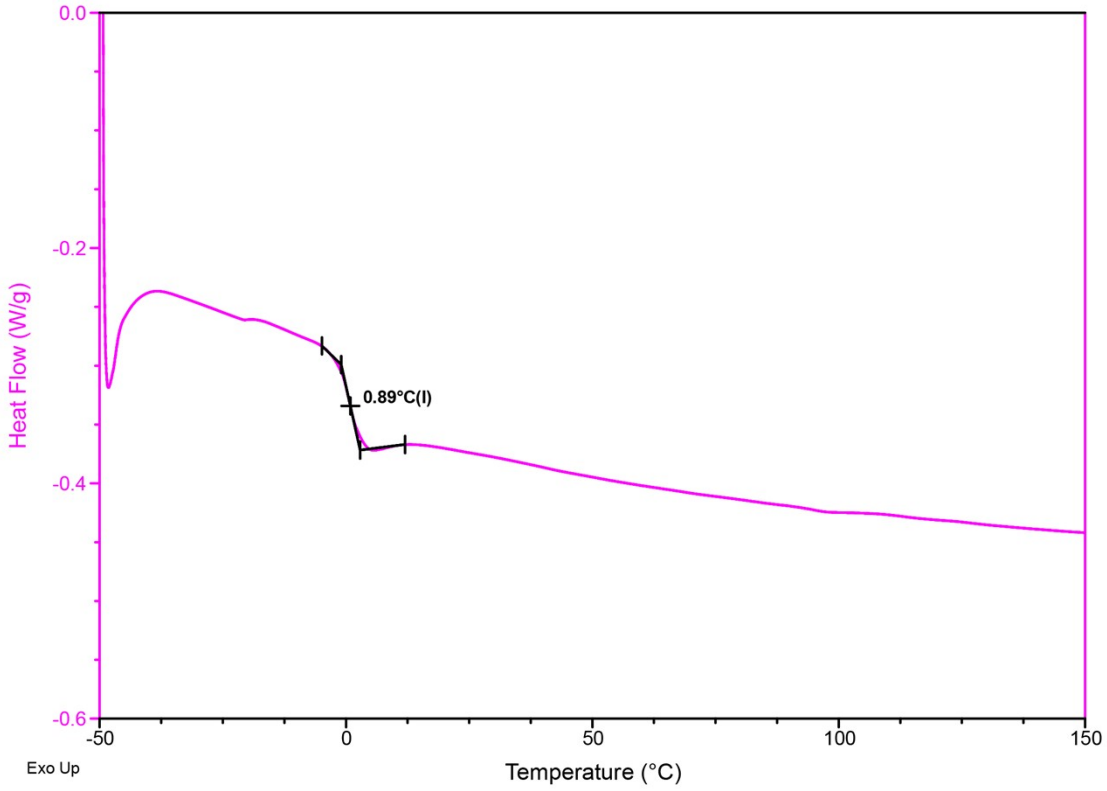

Figure S73. DSC thermogram of P17.

Synthesis of P18

General procedure was followed: BA (112 μL, 1.10 mmol), 2-thiophenecarboxyaldehyde (103 μL, 1.10 mmol), HDT (306 μL, 2.00 mmol), and CDMS (111 μL, 1.00 mmol) were reacted in 500 μL of THF. P18 was obtained as a white sticky solid (yield = 442 mg, 92%). ^{1}H NMR (500 MHz, $CDCl_3$): δ 7.44, 6.92 (8H, Ar*H*), 5.17 (1H, ArC*H*S), 4.85 (1H, ArC*H*S), 2.62-2.51 (4H, SCH_2(CH$_2$)$_4$CH_2S), 1.53-1.33 (8H, SCH$_2$(CH_2)$_4$CH$_2$S); ^{13}C NMR (125 MHz, $CDCl_3$): δ 145.16, 140.53, 128.52, 127.69, 124.43, 125.44, 53.32, 48.43, 32.01, 28.97.

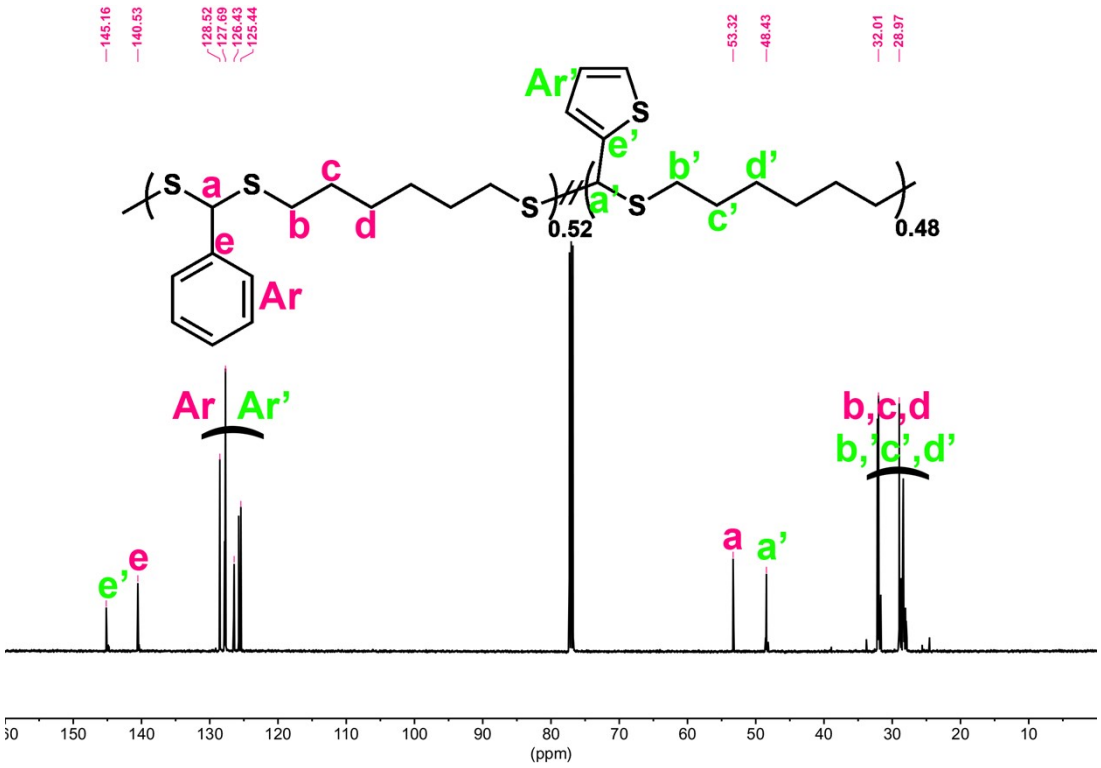

Figure S74. ^{13}C NMR spectrum of P18 ($CDCl_3$, 125 MHz).

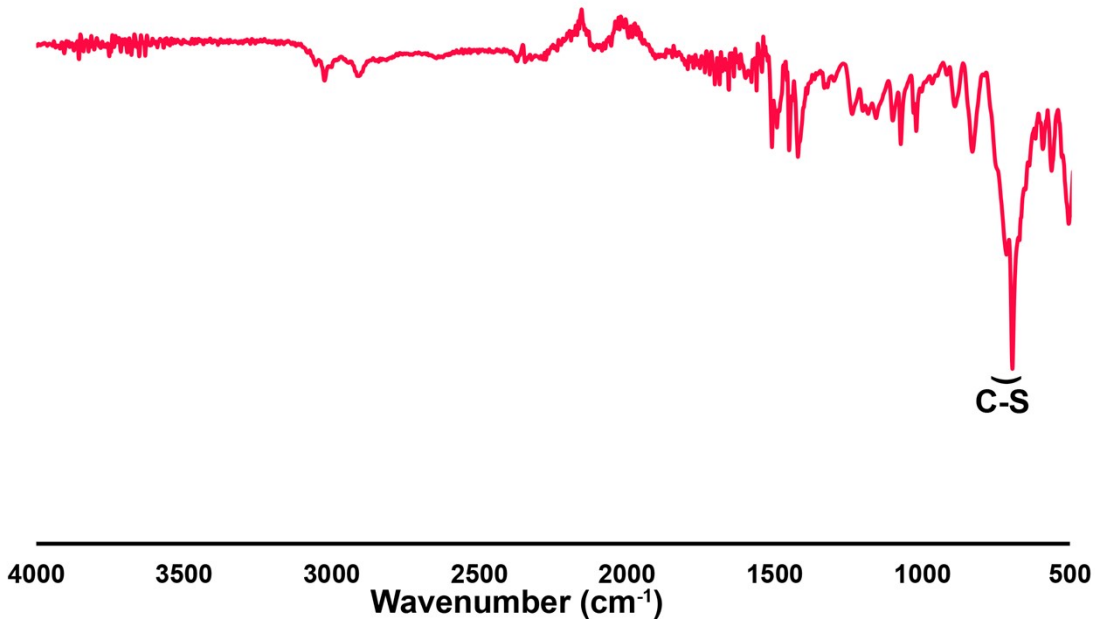

Figure S75. FT-IR spectrum of P18.

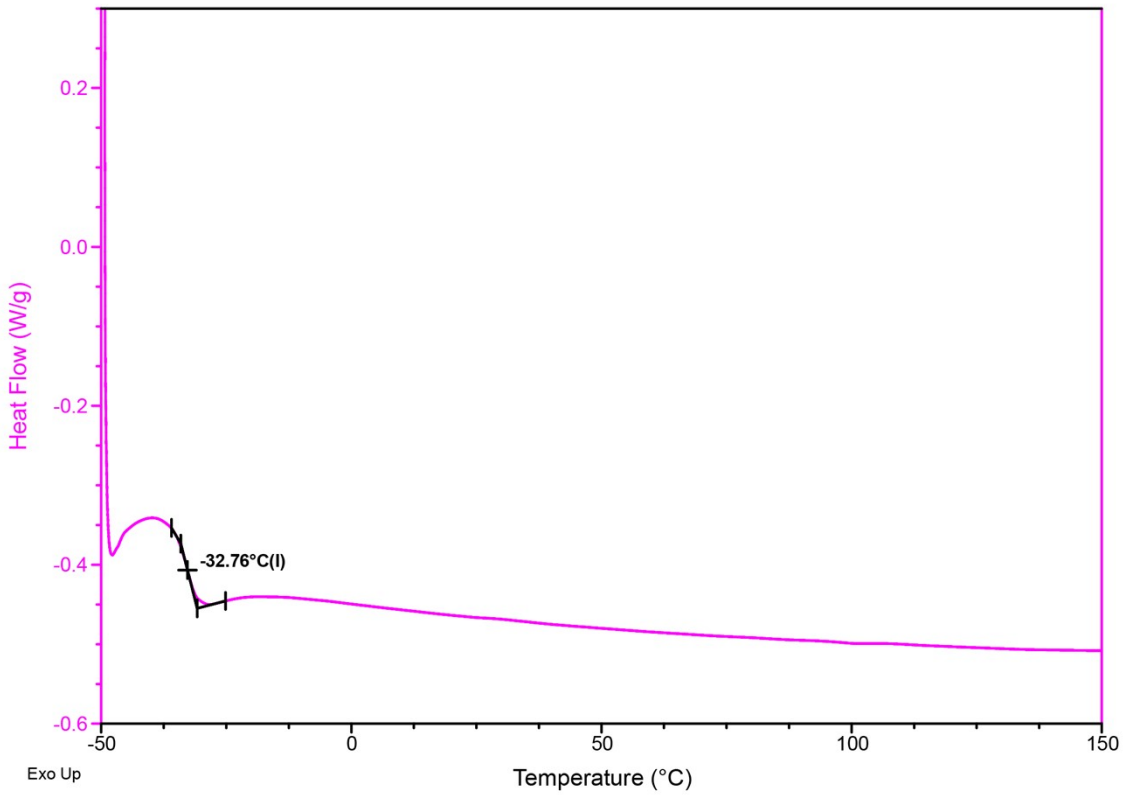

Figure S76. DSC thermogram of P18.