Supporting Information for

Synthesis of Telechelic Poly(*p*-benzamide)s

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NMR Spectra

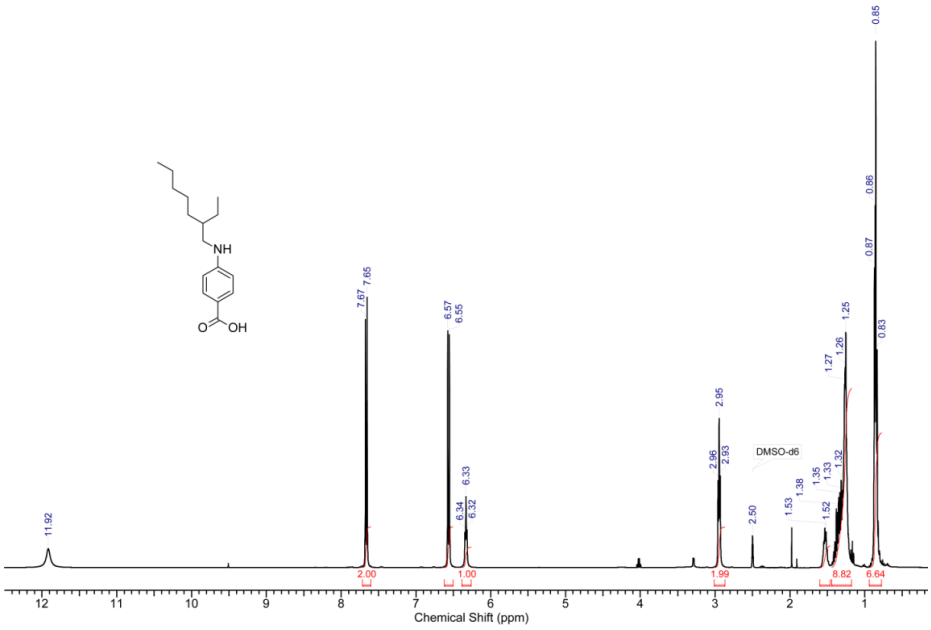

Figure S1: ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of 4-((2-ethylhexyl)amino)benzoic acid (**1a**) at r.t.

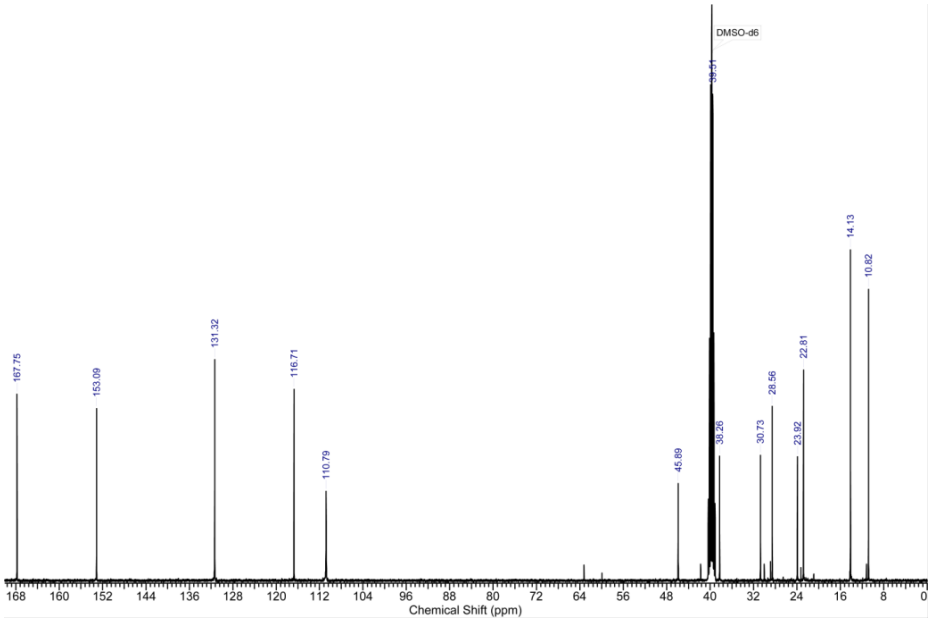

Figure S2: ^{13}C NMR spectrum (100 MHz, DMSO-d_6) of 4-((2-ethylhexyl)amino)benzoic acid (**1a)** at r.t**.**

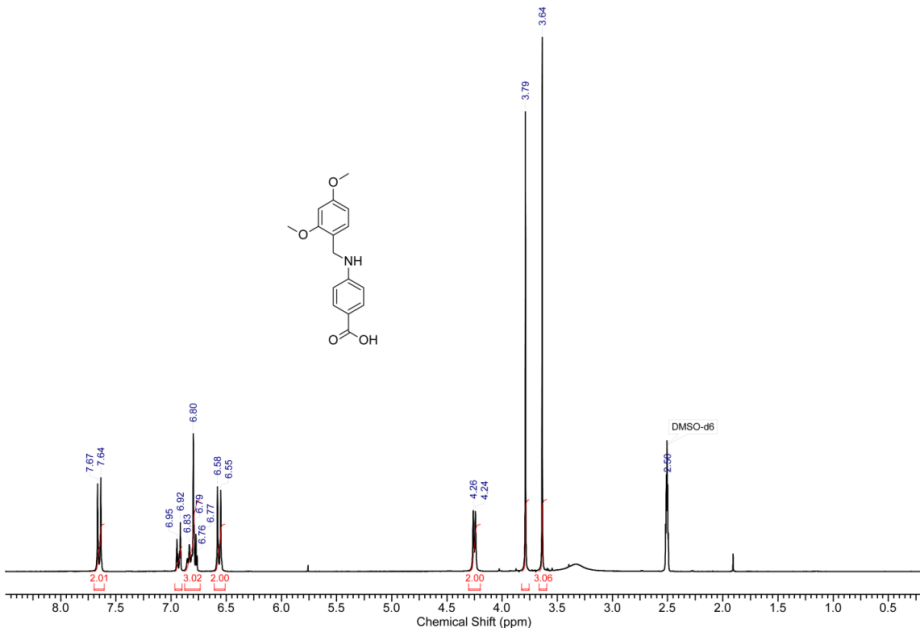

Figure S3: ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of 4-((2,4-dimethoxybenzyl)amino)benzoic acid (**1b**) at r.t.

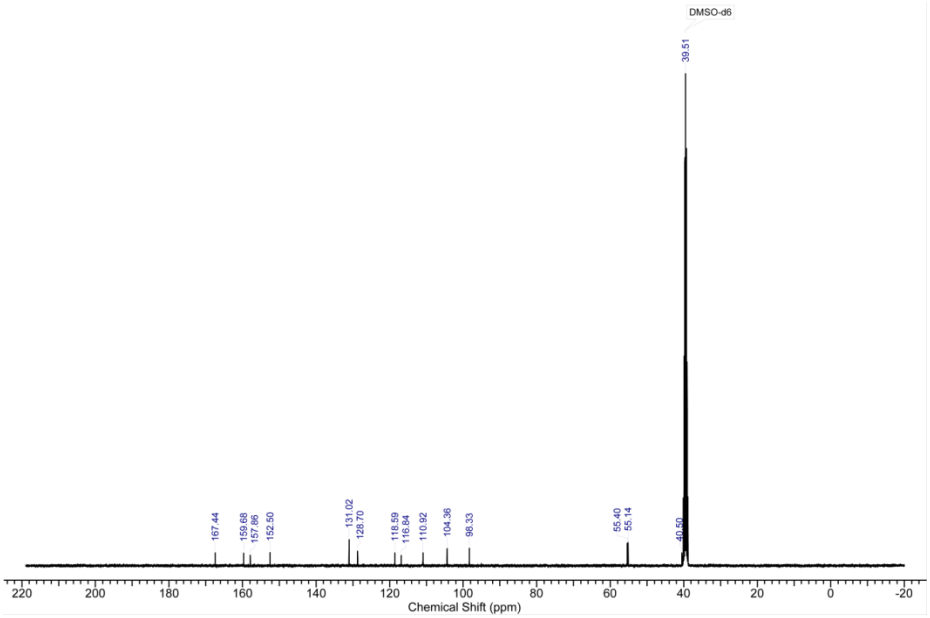

Figure S4: ^{13}C NMR spectrum (100 MHz, DMSO-d_6) of 4-((2,4-dimethoxybenzyl)amino)benzoic acid (**1b**) at r.t.

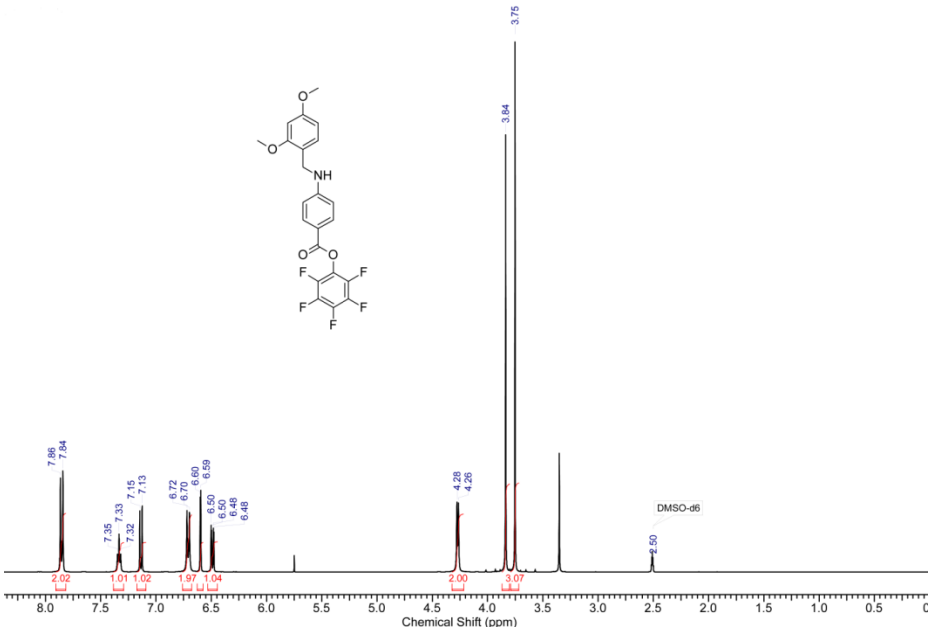

Figure S5: ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of pentafluorophenyl 4-((2,4-dimethoxybenzyl)amino)benzoate (**M2**) at r.t.

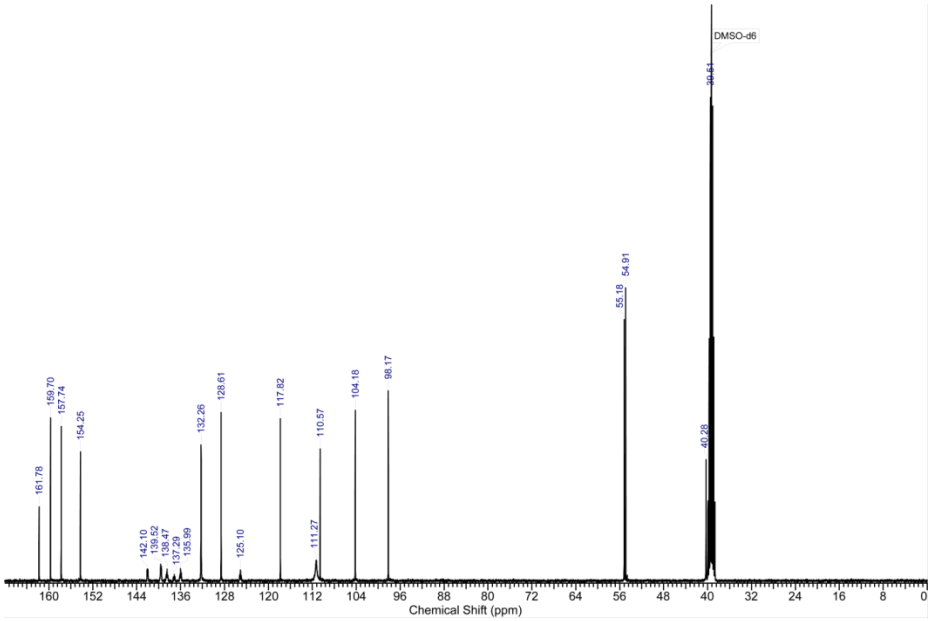

Figure S6: ^{13}C NMR spectrum (100 MHz, DMSO-d_6) of pentafluorophenyl 4-((2,4-dimethoxybenzyl)amino)benzoate (**M2**) at r.t.

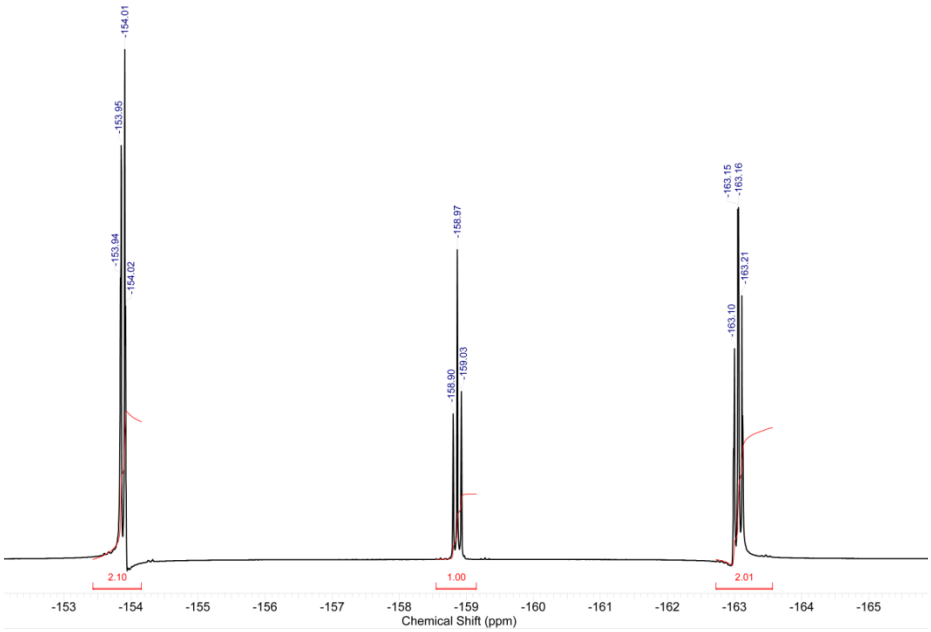

Figure S7: ^{19}F NMR spectrum (376 MHz, DMSO-d_6) of pentafluorophenyl 4-((2,4-dimethoxybenzyl)amino)benzoate (**M2**) at r.t

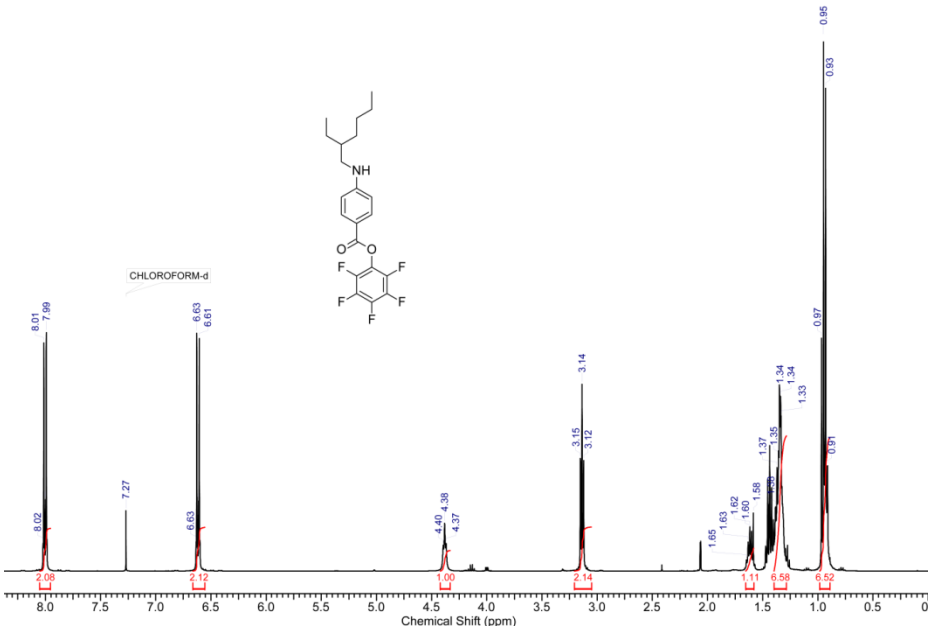

Figure S8: ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of pentafluorophenyl 4-((2-ethylhexyl)amino)benzoate (**M1**) at r.t.

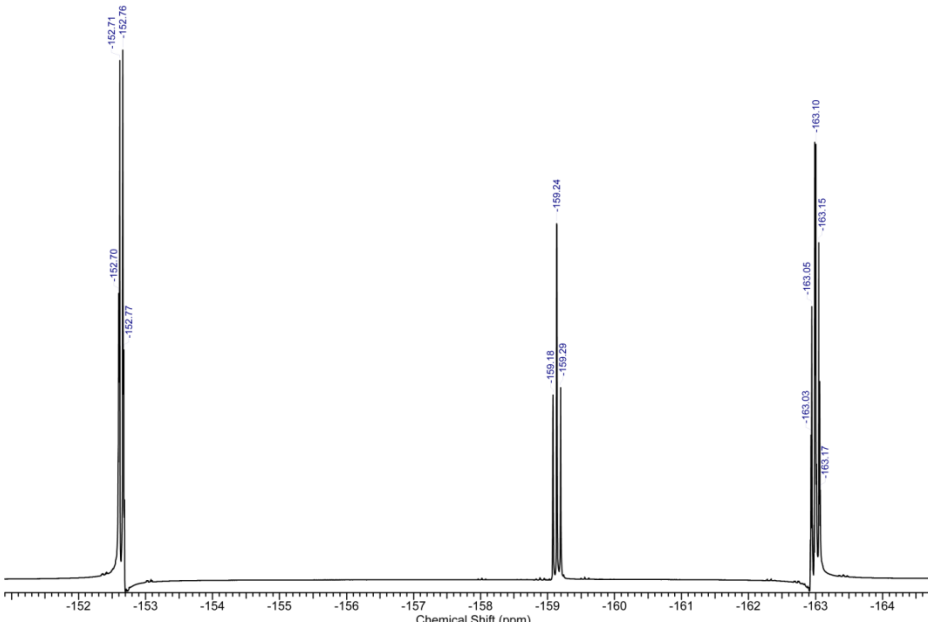

Figure S9: ^{19}F NMR spectrum (376 MHz, $CDCl_3$) of pentafluorophenyl 4-((2-ethylhexyl)amino)benzoate (**M1**) at r.t.

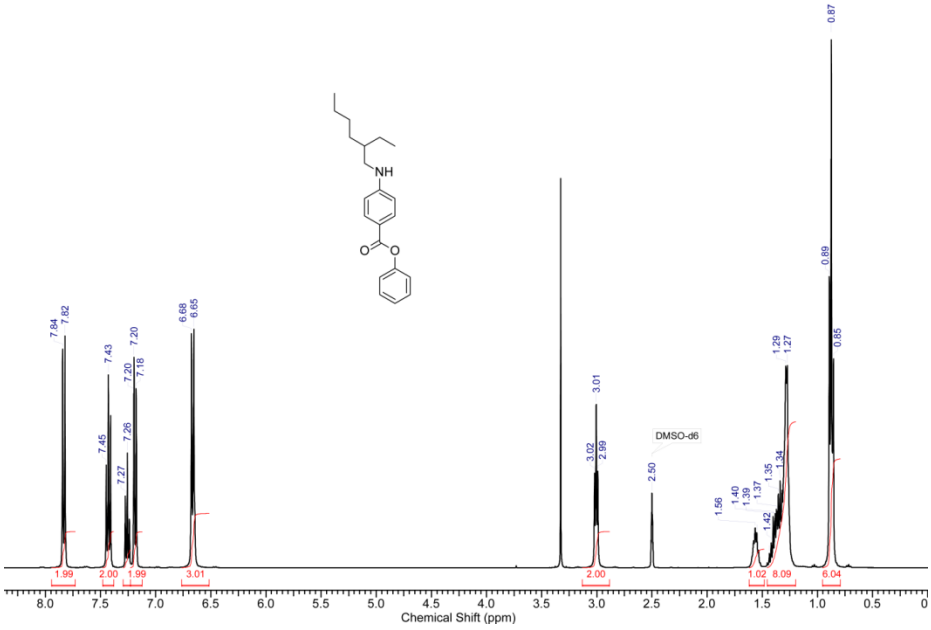

Figure S10: ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of phenyl 4-((2-ethylhexyl)amino)benzoate (**M3**) at r.t

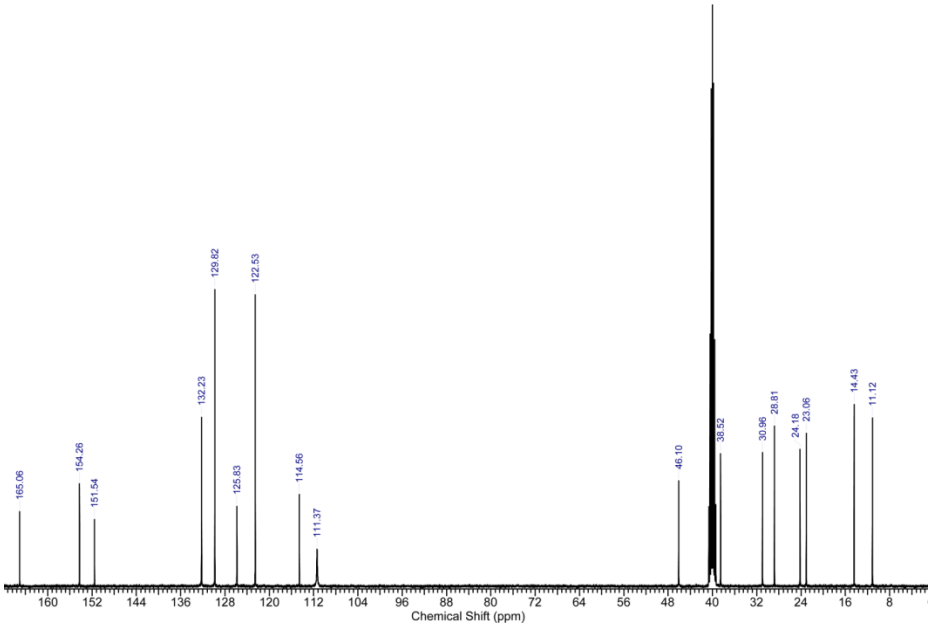

Figure S11: ^{13}C NMR spectrum (100 MHz, DMSO-d_6) of phenyl 4-((2-ethylhexyl)amino)benzoate (**M3**) at r.t.

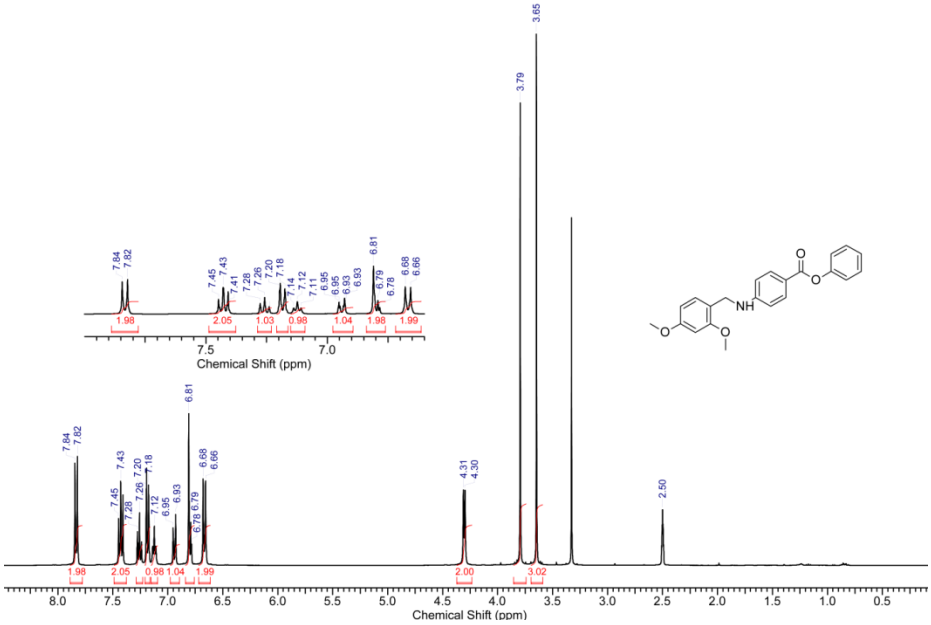

Figure S12: ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of phenyl 4-((2,4-dimethoxybenzyl)amino)benzoate (**M4**) at r.t.

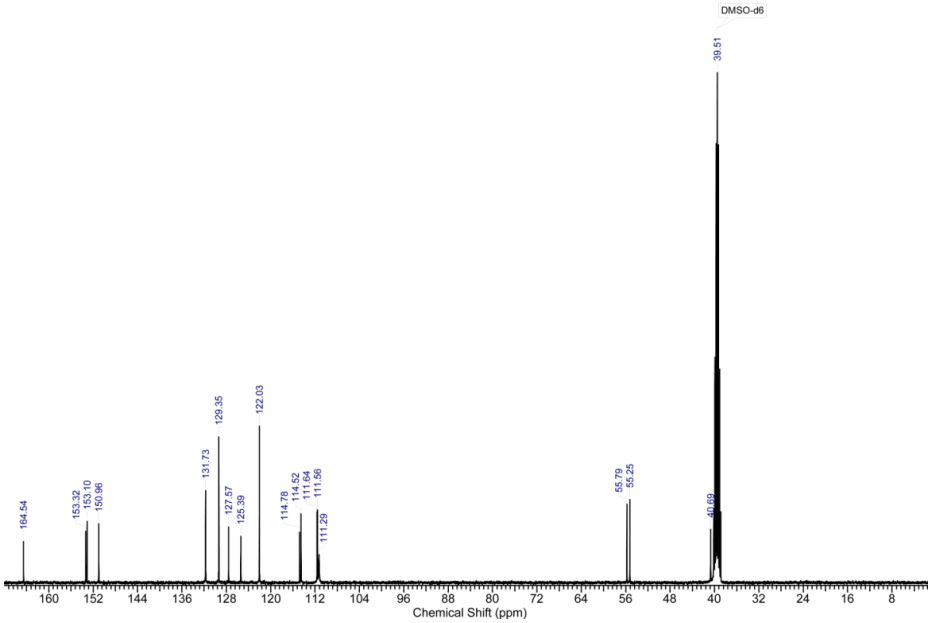

Figure S13: ^{13}C NMR spectrum (100 MHz, DMSO-d_6) phenyl 4-((2,4-dimethoxybenzyl)amino)benzoate (**M4**) at r.t.

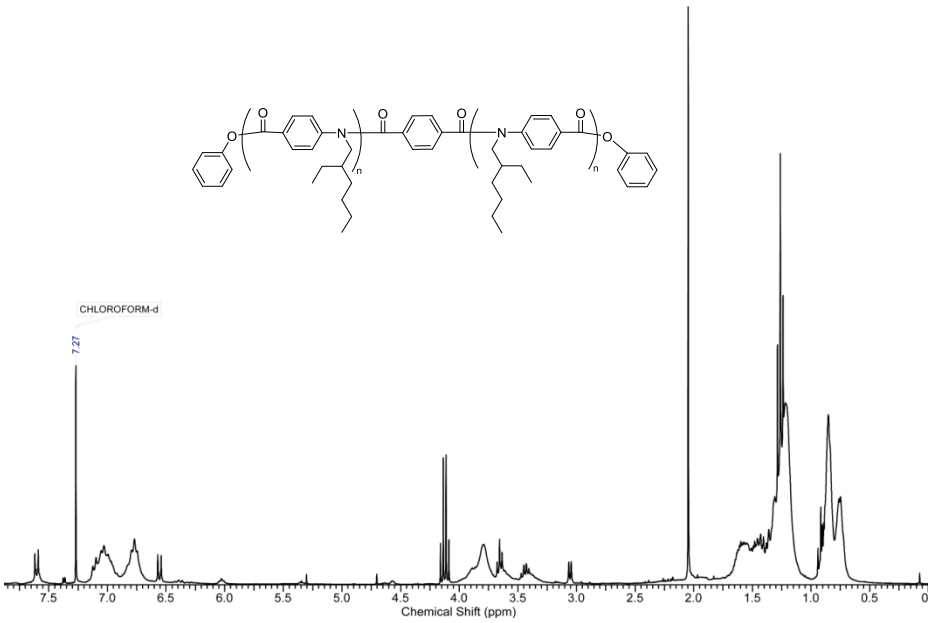

Figure S14: ^{1}H NMR spectrum (400 MHz, Chloroform-d) of **P3** at r.t.

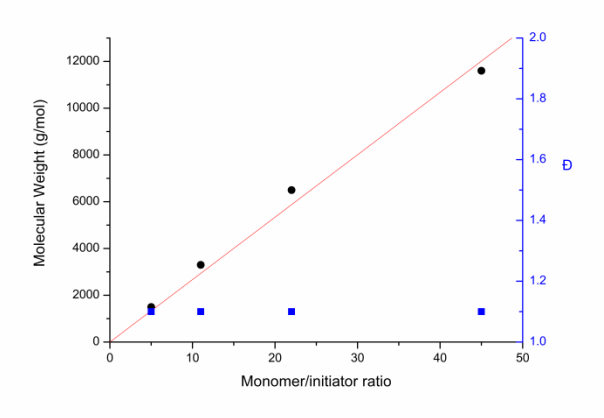

Figure S15: Plot of the molecular weight (black) and molecular weight dispersity (blue) obtained versus the **M2**/initiator ratio.

TGA/ DSC data

TGA/ DSC Curvs

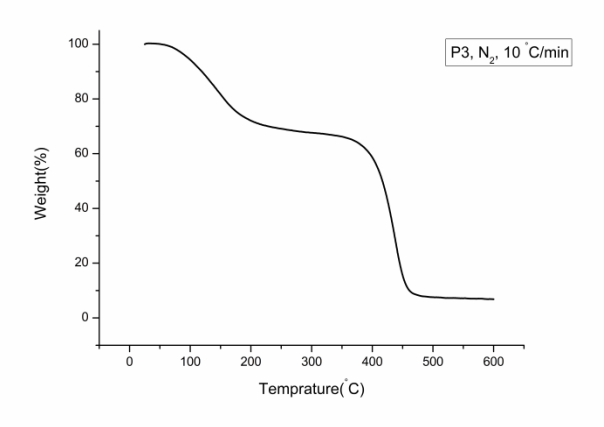

Figure S16: Thermogravimetric analysis of P3.

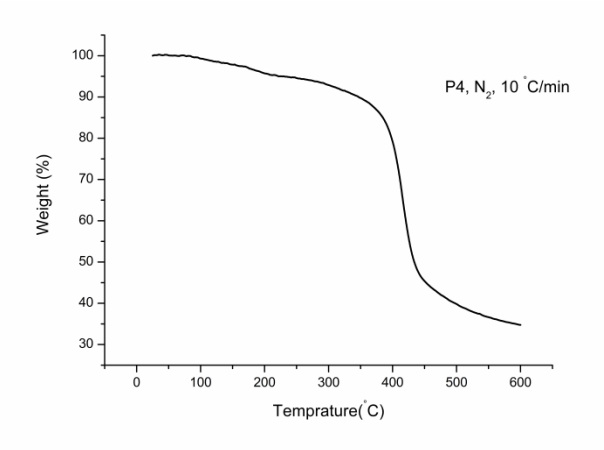

Figure S17: Thermogravimetric analysis of P4.

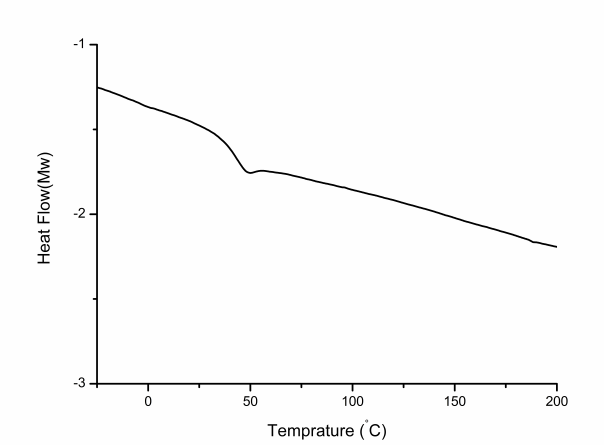

Figure S18: DSC experiment of P3(second heating curve from -50 °C to 250 °C).

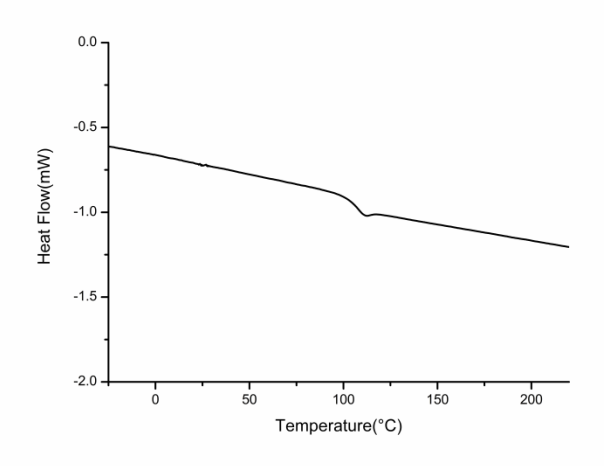

Figure S19: DSC experiment of P4 (second heating curve from -50 °C to 250 °C).

MALDI-ToF mass spectrometric data of polymers

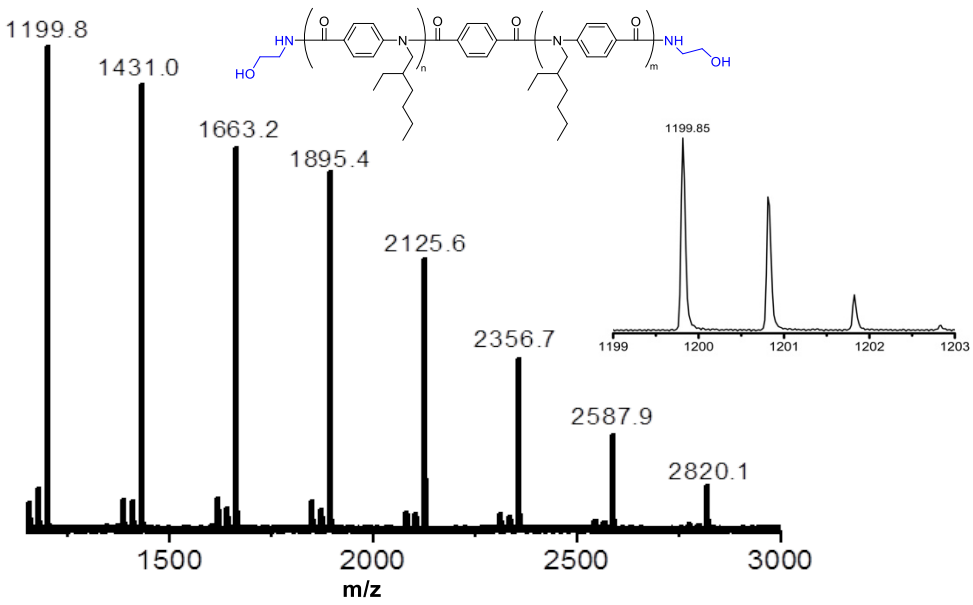

Figure S20: MALDI-ToF mass spectrum of the post polymerization modification of polymer **P1** with ethanolamine as Ag^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

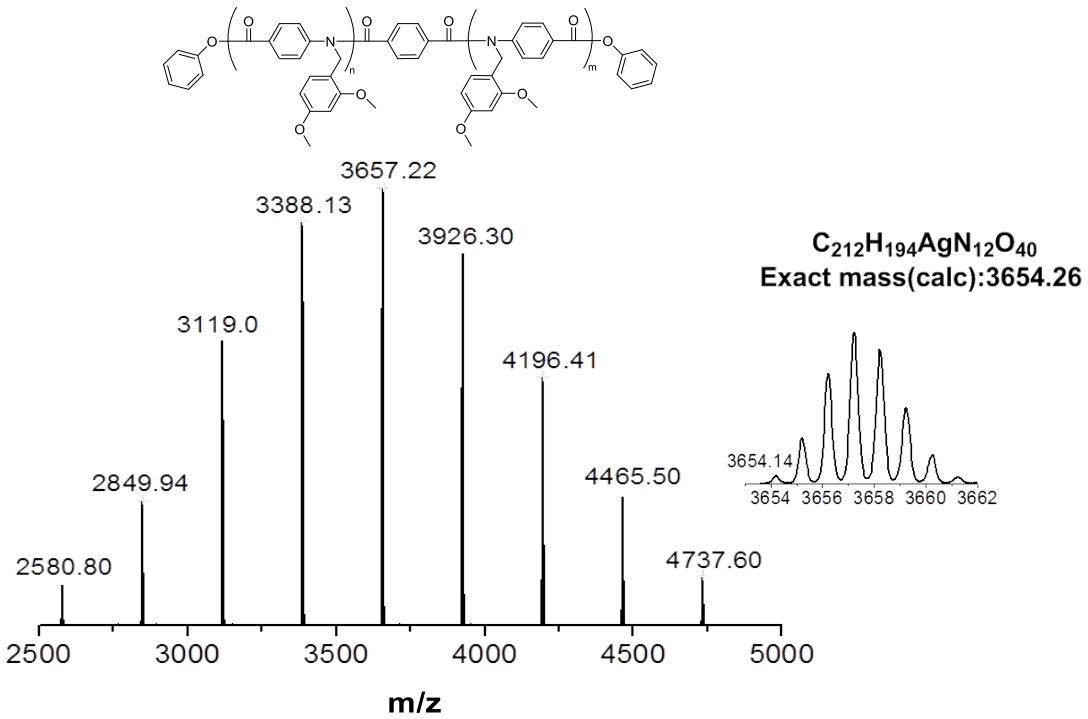

Figure S21: MALDI-ToF mass spectrum of polymer **P4** as Ag^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

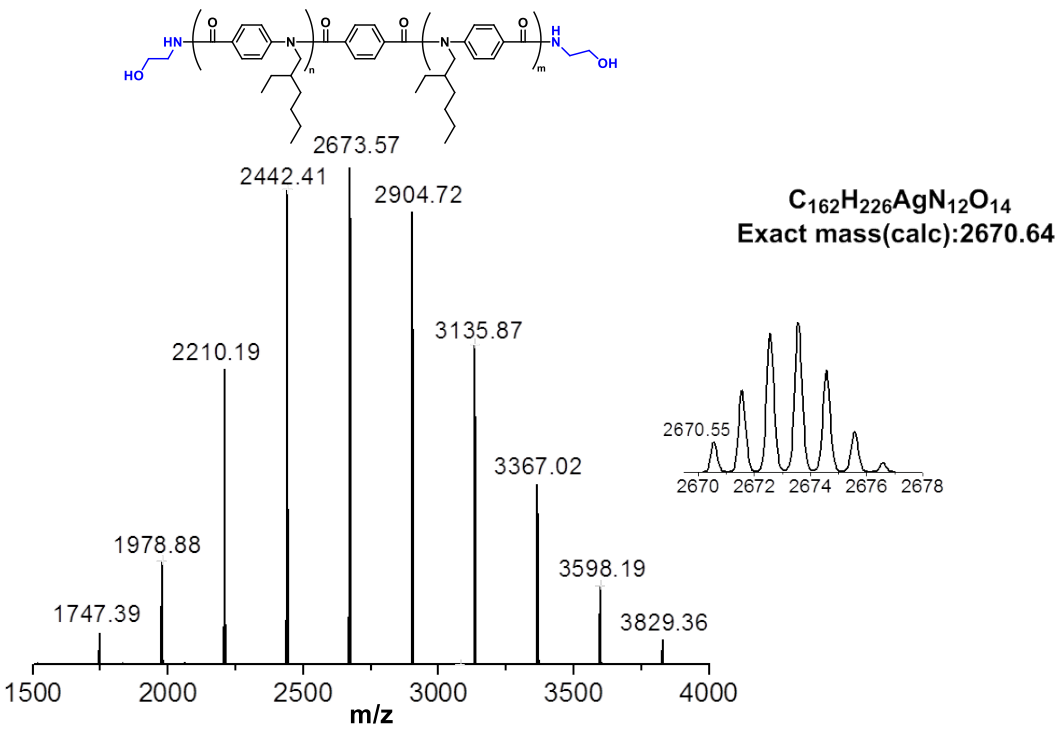

Figure S22: MALDI-ToF mass spectrum of polymer **P5** as Ag^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

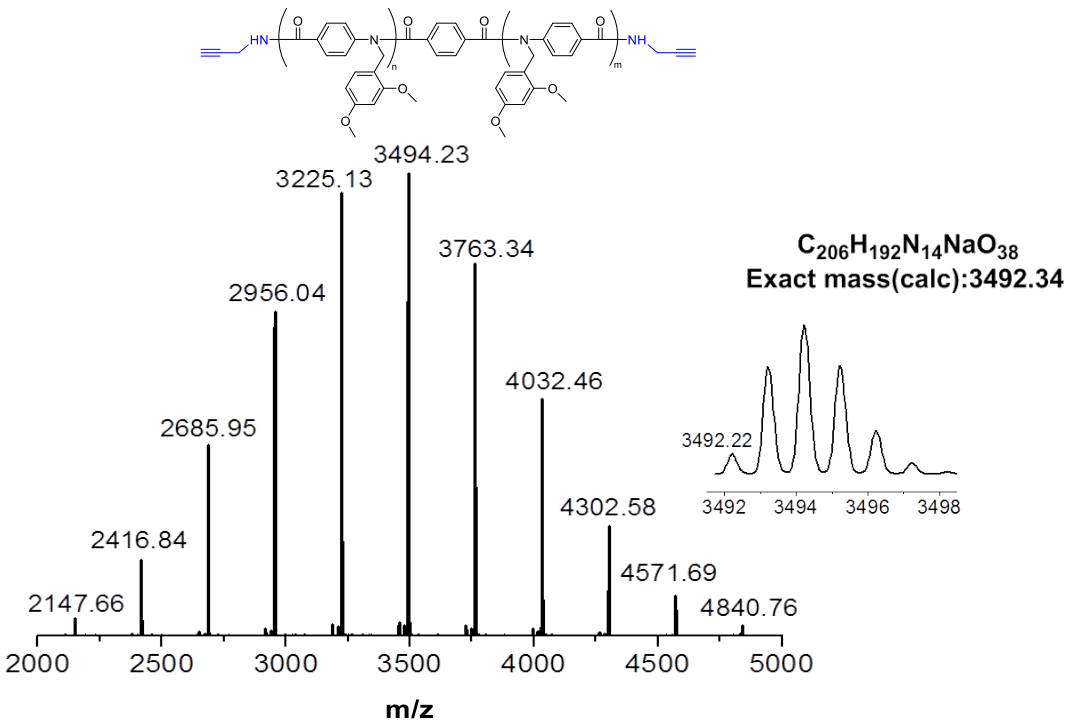

Figure S23: MALDI-ToF mass spectrum of the polymer **P6** as Na^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

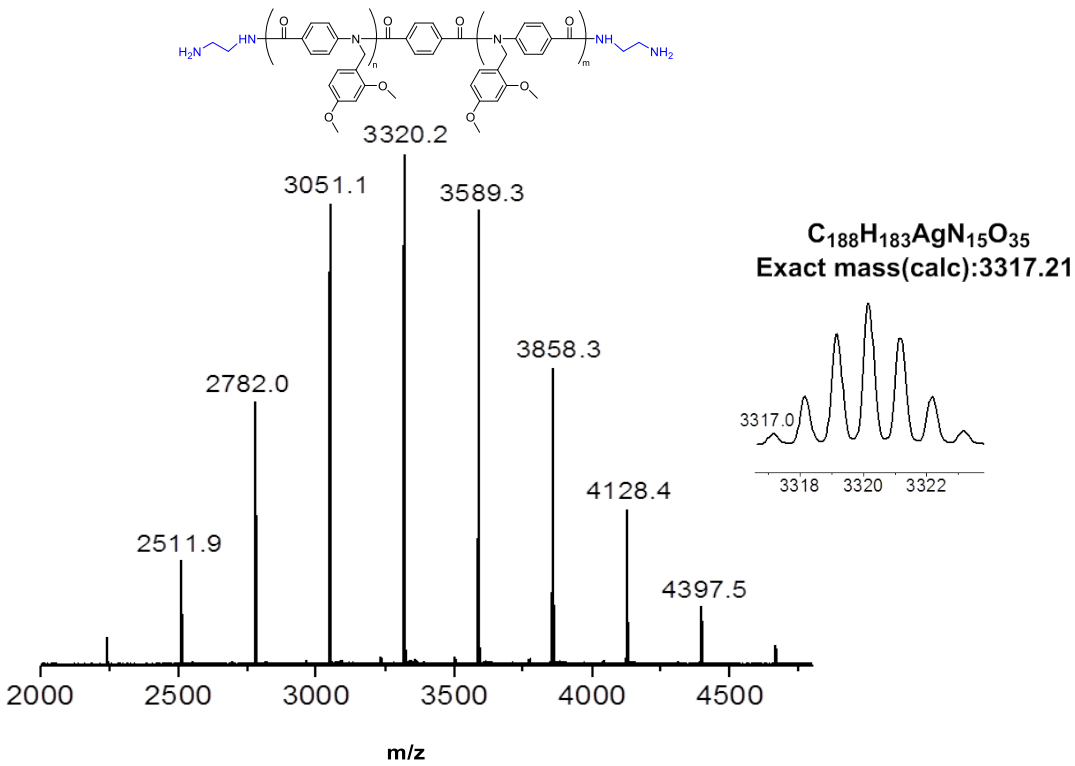

Figure S24: MALDI-ToF mass spectrum of the polymer **P7** as Ag^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

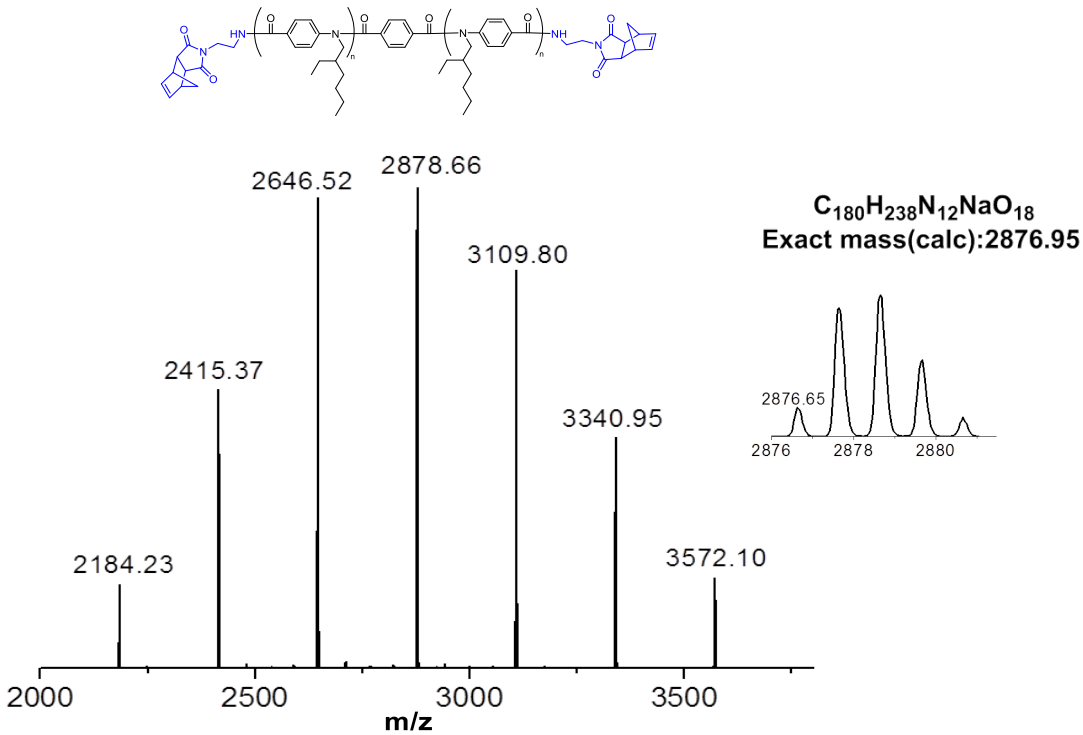

Figure S25: MALDI-ToF mass spectrum of the polymer **P8** as Na^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

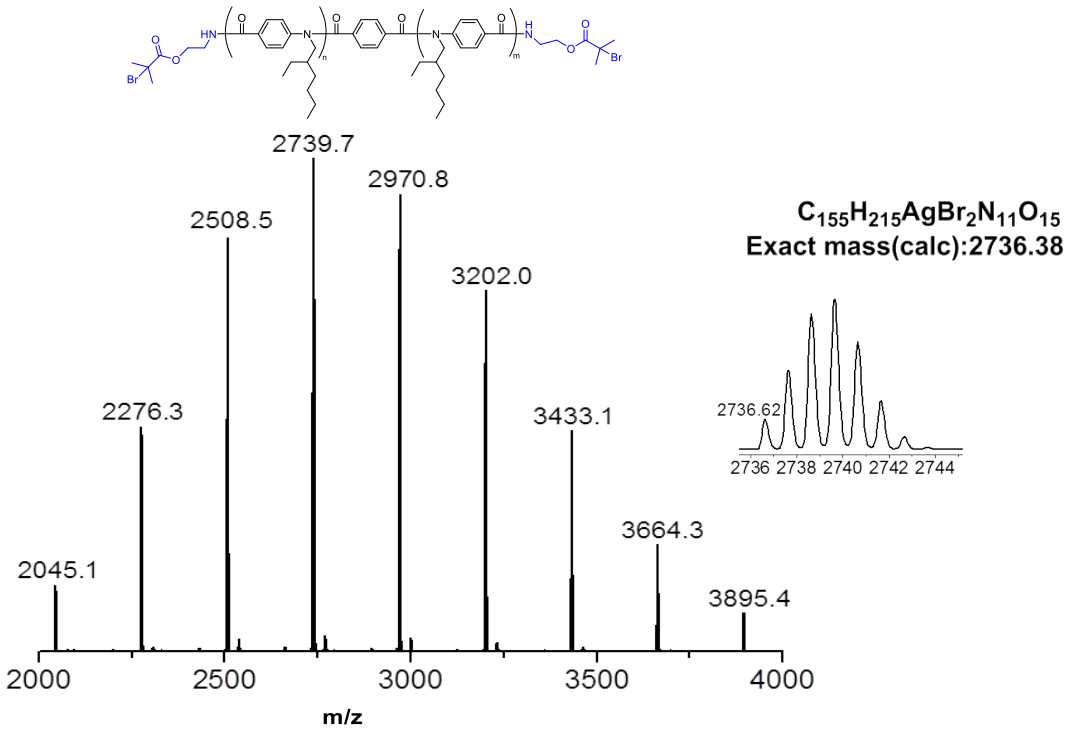

Figure S26: MALDI-ToF mass spectrum of the polymer **P9** as Ag^+ adduct (matrix: DCTB). The inset shows the most intense peak of the distribution isotopically resolved.

GPC data of modified polymers

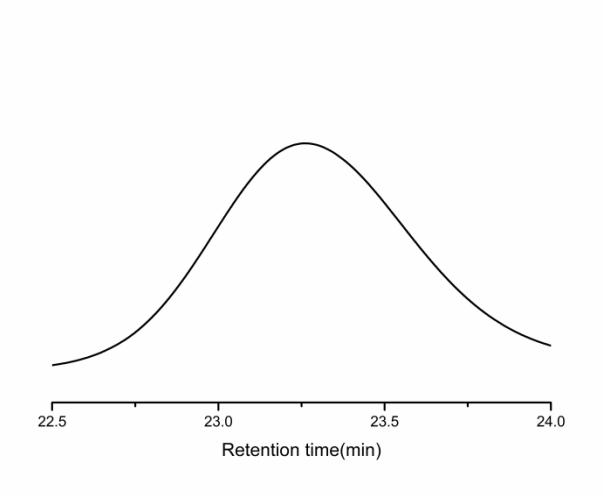

Figure S27: THF GPC elugram of **P5**

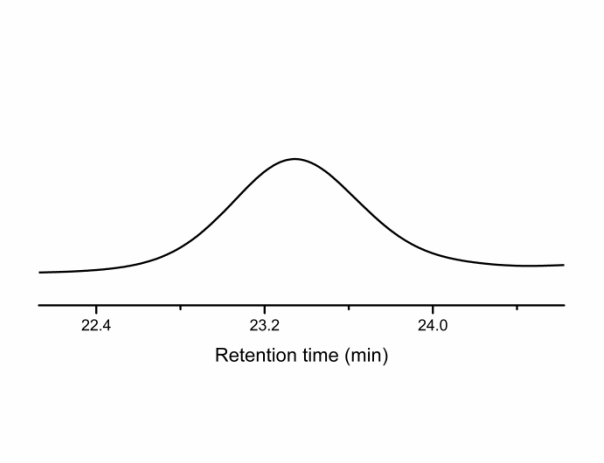

Figure S28: THF GPC elugram of **P6**

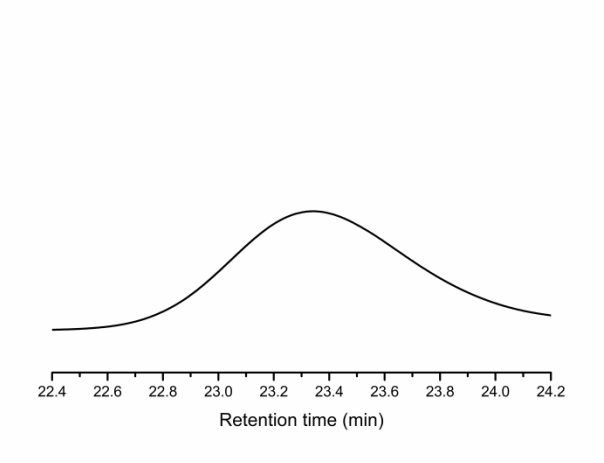

Figure S29: THF GPC elugram of **P7**

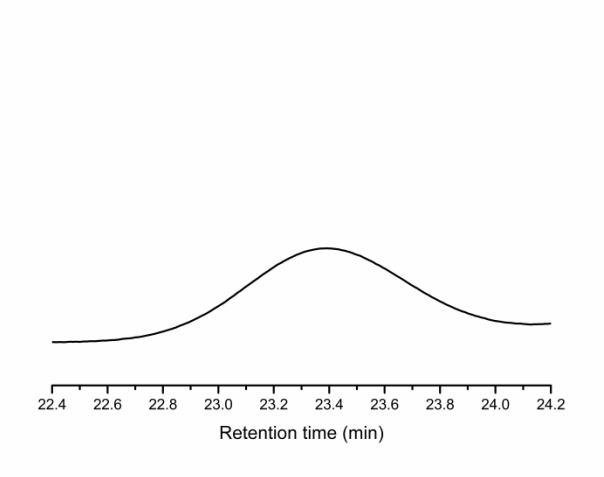

Figure S30: THF GPC elugram of **P8**

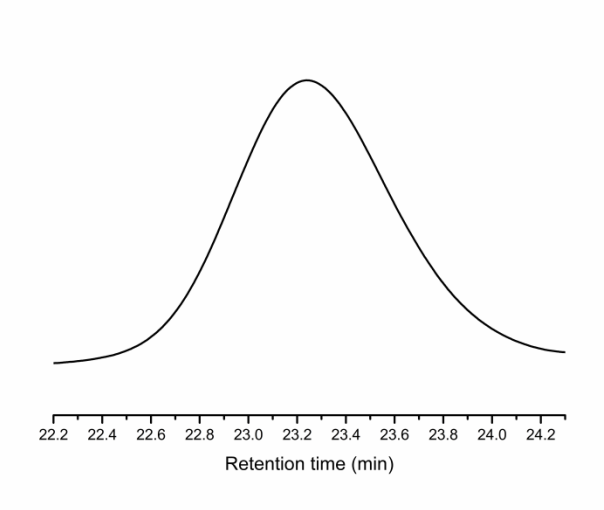

Figure S31: THF GPC elugram of **P9**

Table of solubility

Table S1: solubility of P3 and P4 (2 mg/0.3mL) in different solvents.

Solvent	P3	P4
DMSO	✓	✓
NMP	✓	✓
DMF	✓	✓
MeOH	✓	✓
EtOH	✓	×
THF	✓	✓
Aceton	✓	slightly
AcN	✓	needs heating
DCM	✓	slightly
$CHCl_3$	✓	slightly
Hexane	×	×