

Synthesis and Characterization of Long-chain Branched Poly(ether imide)s with A₃ Comonomers

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Supporting Information

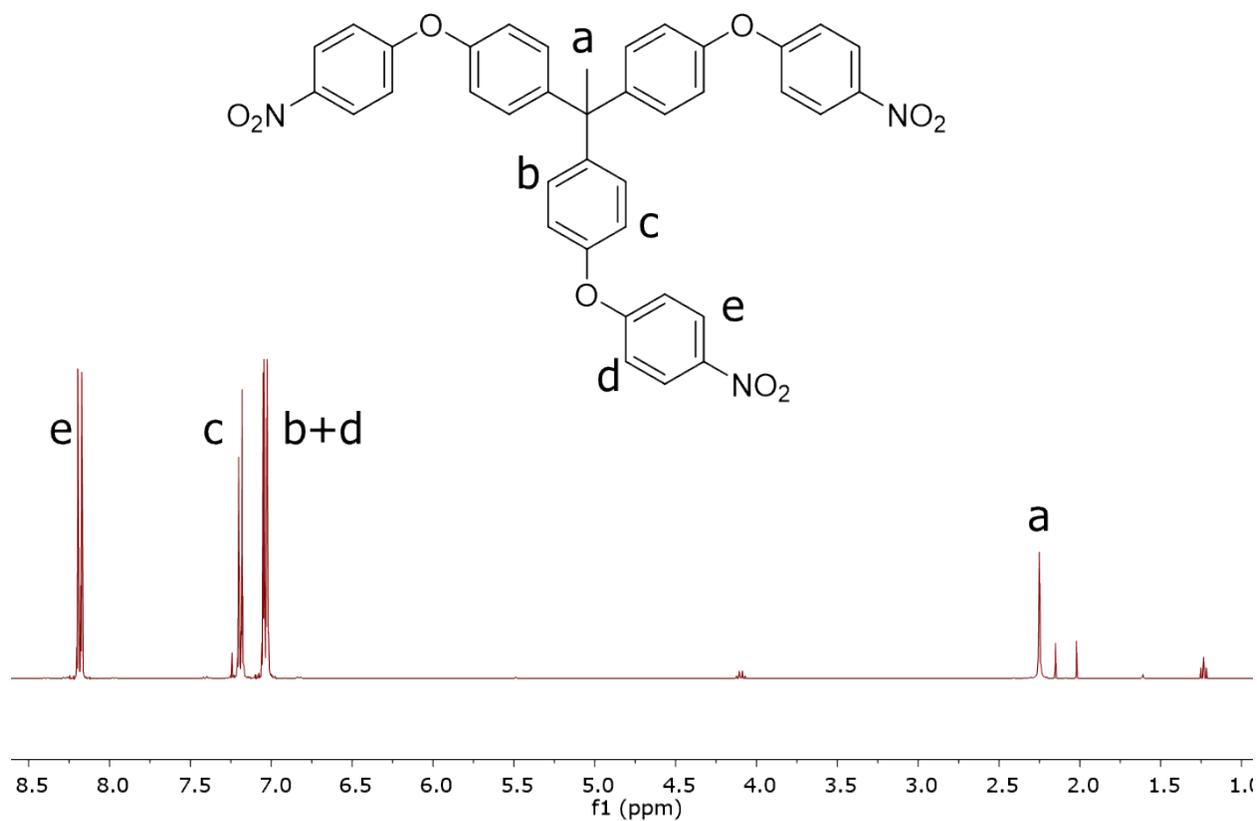


Figure S1: ¹H NMR spectroscopy of tris((p-nitrophenoxy)phenyl) ethane.

Supporting Information

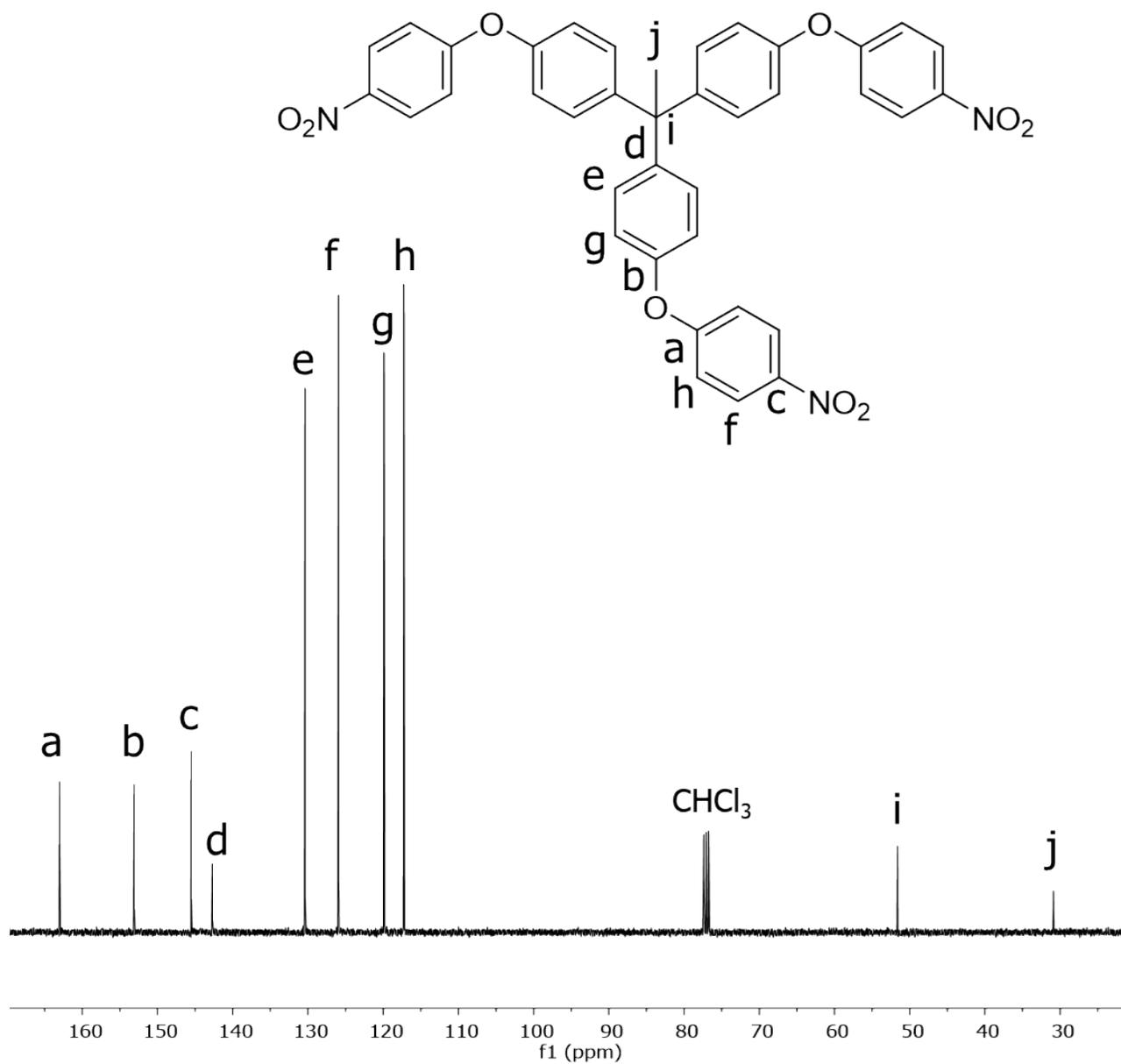


Figure S2: ^{13}C NMR spectroscopy of tris((p-nitrophenoxy)phenyl) ethane.

Supporting Information

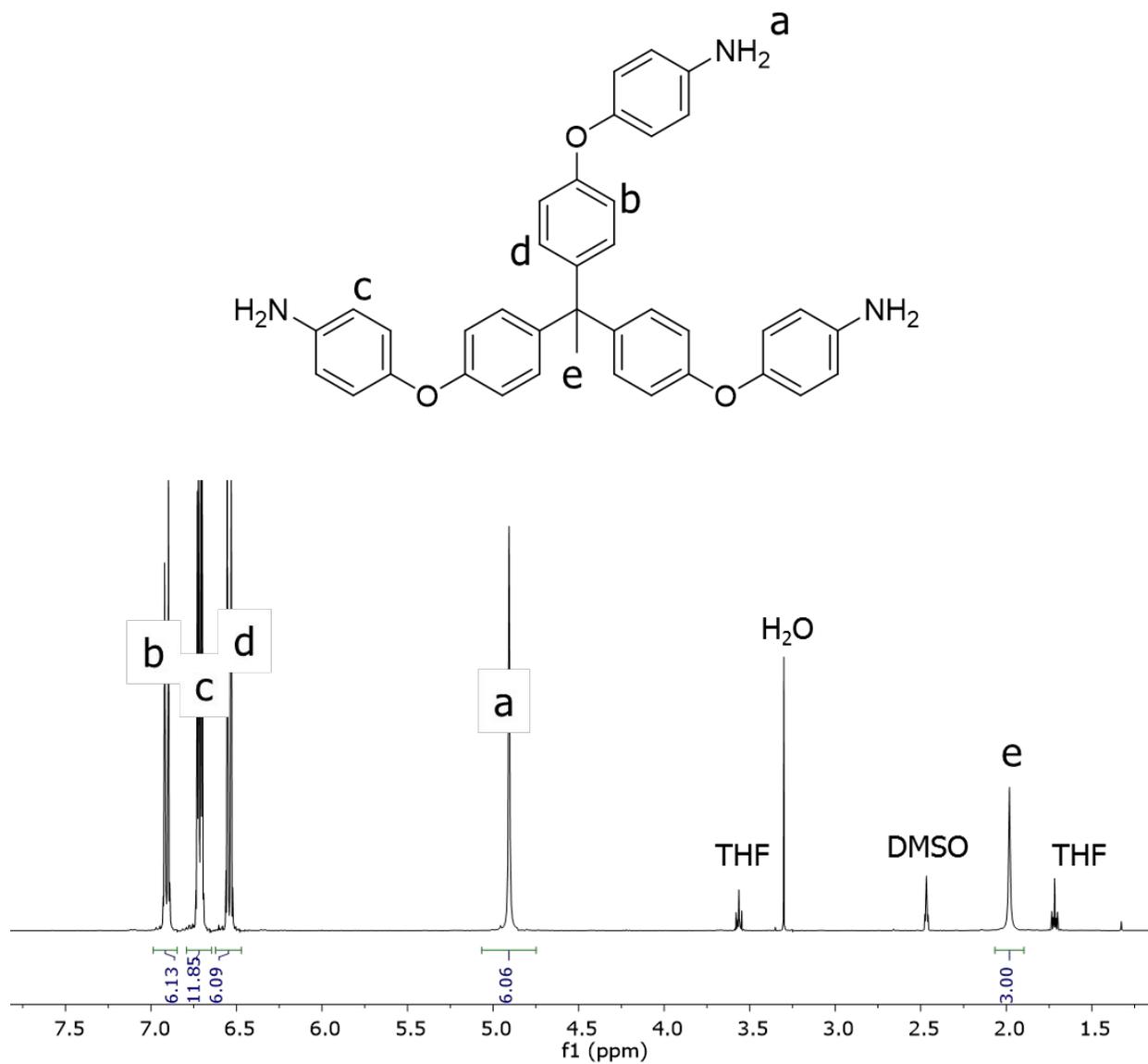


Figure S3: ¹H NMR spectroscopy of tris((p-aminophenoxy)phenyl) ethane (TAPE).

Supporting Information

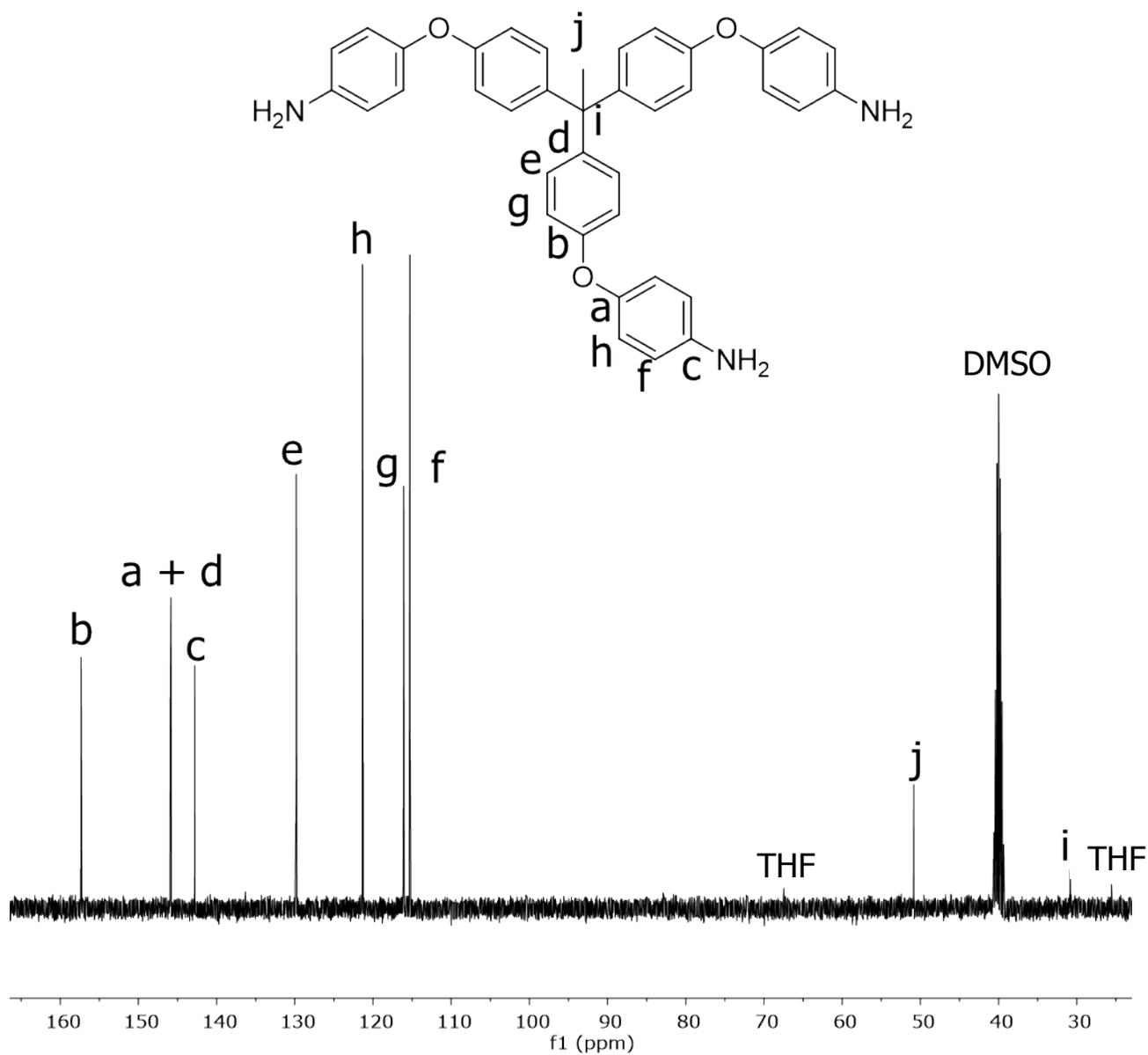


Figure S4: ^{13}C NMR spectroscopy of tris((p-aminophenoxy)phenyl)ethane.

Supporting Information

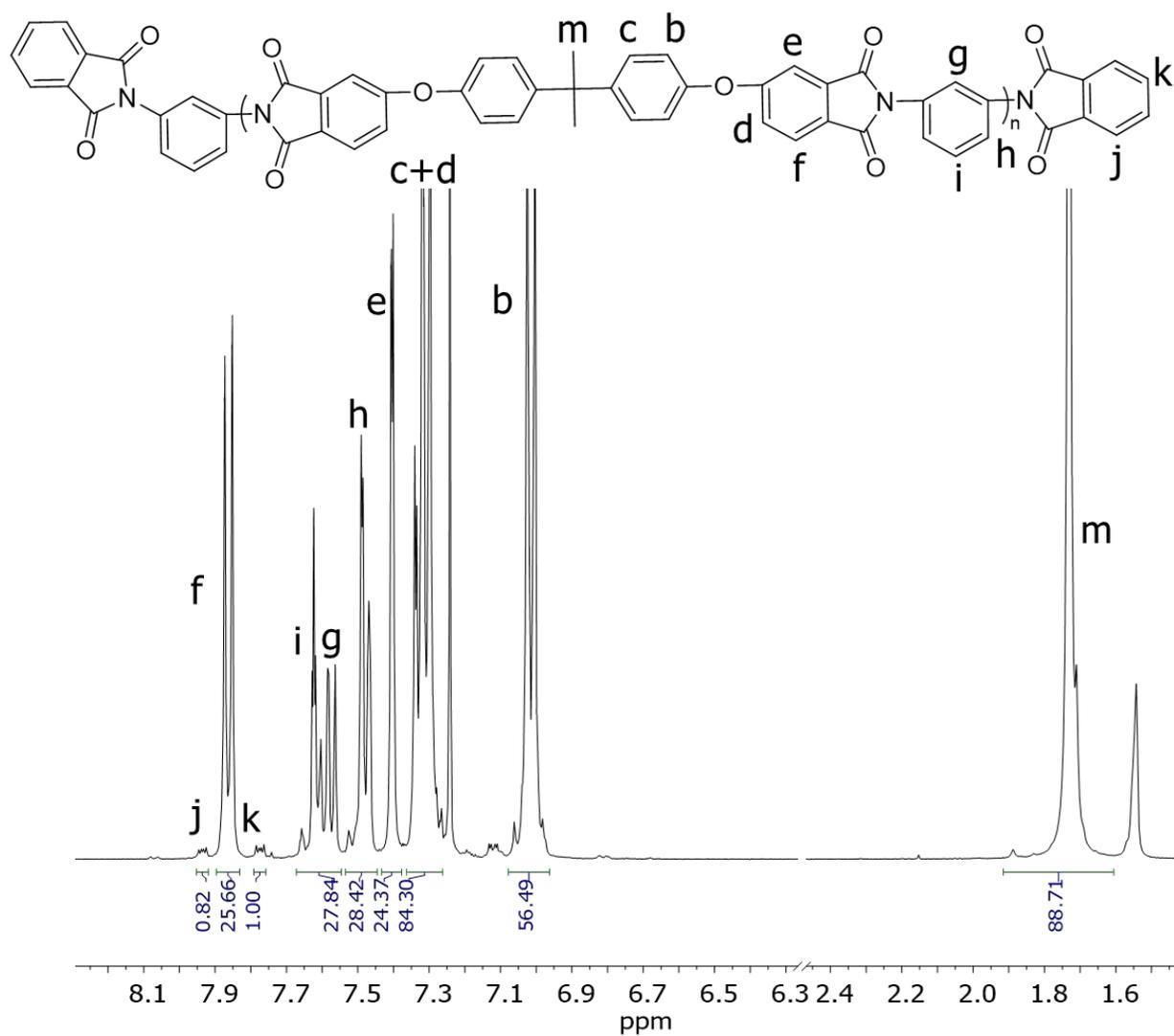


Figure S5: ¹H NMR spectroscopy of linear poly(ether imide) with endgroup protons indicated.

Supporting Information

Table S1: Summary of tensile properties of LCB-PEIs following ASTM D638.

		33k PEI Linear	33k PEI 0.3 mol% TAPE		33k PEI 1.5 mol% TAPE	
Tensile ASTM			Run 1	Run 2	Run 1	Run 2
Modulus of Elasticity - Avg	MPa	3380	3366	3390	3364	3396
Tensile Strength at Yield - Avg	MPa	116	117	117	117	117
Tensile Strength at Break - Avg	MPa	90	95	96	92	106
%Elongation at Yield - Avg	%	7.20	7.02	7.00	7.00	7.04
%Elongation at Break - Avg	%	95	11	12	12	9
Nominal Strain at Break - Avg	%	48	8	8	8	7
Modulus of Elasticity - Std	MPa	16	23	19	27	9
Tensile Strength at Yield - Std	MPa	0.5	0.0	0.0	0.0	0.0
Tensile Strength at Break - Std	MPa	1	10	10	10	7
%Elongation at Yield - Std	%	0.01	0.01	0.02	0.01	0.02
%Elongation at Break - Std	%	12	5	2	2	3
Nominal Strain at Break - Std	%	7	2	1	1	2

Supporting Information

Table S2: Molecular weights determined for LCB-PEIs used in mechanical analysis.

Materials	Absolute Mw (g/mol)	Absolute Mn (g/mol)	PDI
PEI-38k	41400	18900	2.19
PEI-33k	33500	16700	2.00
LCB-PEI-1	38700	15500	2.50
LCB-PEI-2	37000	15100	2.45
LCB-PEI-3	41200	13900	2.96
LCB-PEI-4	39200	13300	2.96