Supporting Information

Model Random Polyampholytes from Nonpolar Methacrylic Esters

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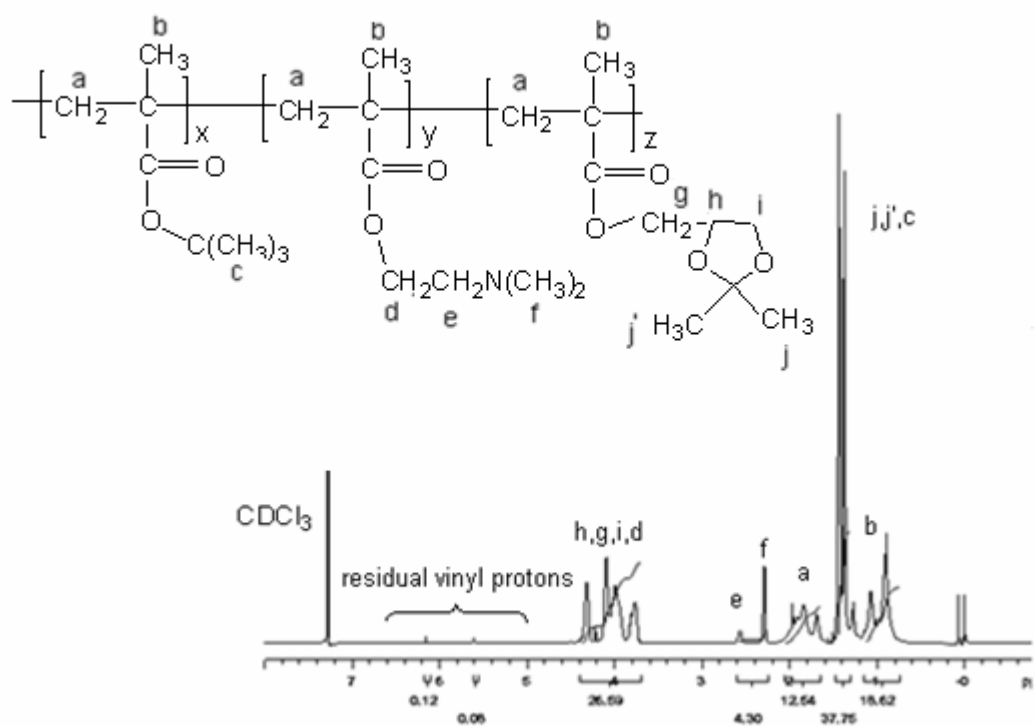Correspondence to W. T. Ford (E-mail: warren.ford@okstate.edu)

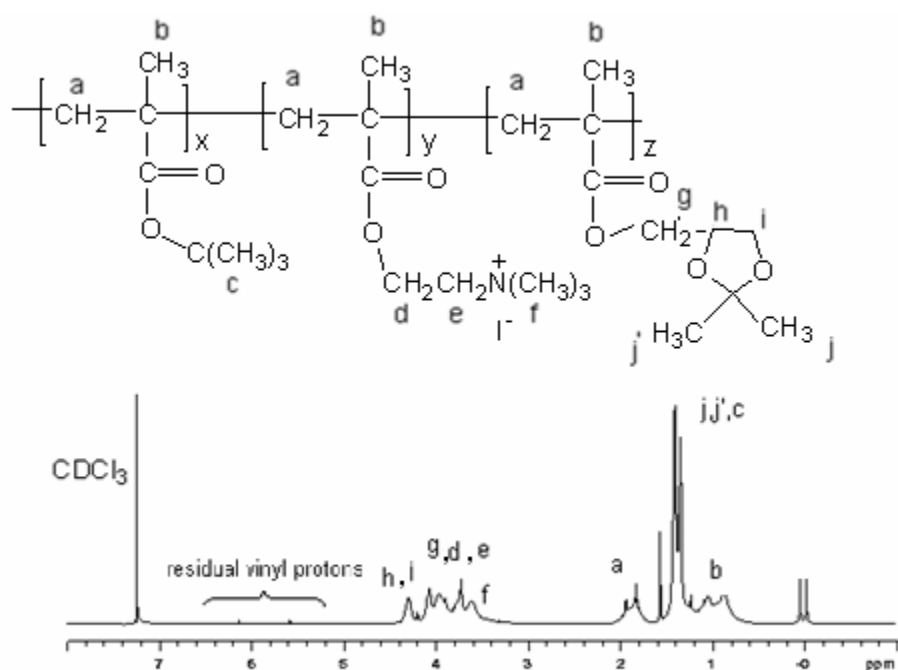**Figure S1.** ^{1}H NMR spectrum of terpolymer B1 in CDCl$_3$.

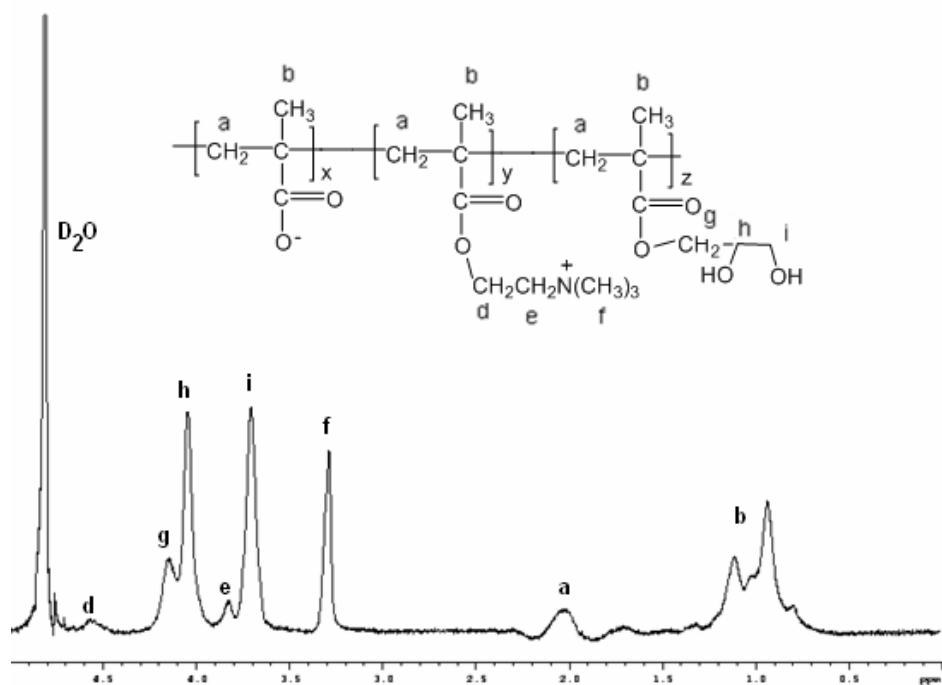**Figure S2.** ^{1}H NMR spectrum of quaternized polymer Q1-1 in CDCl$_3$.

Figure S3. ^{1}H NMR spectrum of polyampholyte PA1-1 in D$_2$O.

Table S1. Quaternary Ammonium Ion Polymers

sample[a]	DP_n	terpolymer (g)	THF (mL)	CH_3I (mmol)	DMAEMA[b] (mmol)	isolated yield (g)[c]
Q1-1	368	1.00	15.0	320	0.81	1.16
Q1-2	368	1.76	15.0	320	1.43	1.90
Q2-1	225	3.00	10.0	580	2.47	3.35
Q2-2	225	2.36	10.0	580	1.94	2.55
Q4	263	2.40	10.0	50	3.88	2.74
Q10	1825	1.15	10.0	2.0	0.85	1.30
Q11	1075	0.80	10.0	2.0	1.10	1.01

[a]Two separate samples of terpolymers B1 and B2 were converted to polycations. [b]Calculated from % conversion of DMAEMA in terpolymer after partial conversion and moles of DMAEMA in the feed mixture. [c]The isolated yields are slightly high due to small amounts of THF in the samples, which were detected in the NMR spectra.

Table S2. Synthesis of Polyampholytes

product	reactant[a] (g)	solution[b] (mL)	yield (g)
PA1-1	1.00	10	0.50
PA1-2	1.76	14	0.89
PA2-1	3.01	24	1.42
PA2-2	2.50	14	1.53
PA4	2.74	16	1.42
PA10	1.49	10	1.05
PA11	1.01	6	0.48

[a]Samples Q in Table S1. [b]1/1 concd aq HCl/1,4-dioxane.