

Supplementary information: Thermoresponsive Oligo(ethylene glycol) Methyl Ether Methacrylate based Copolymers: Composition and Comonomer Effect

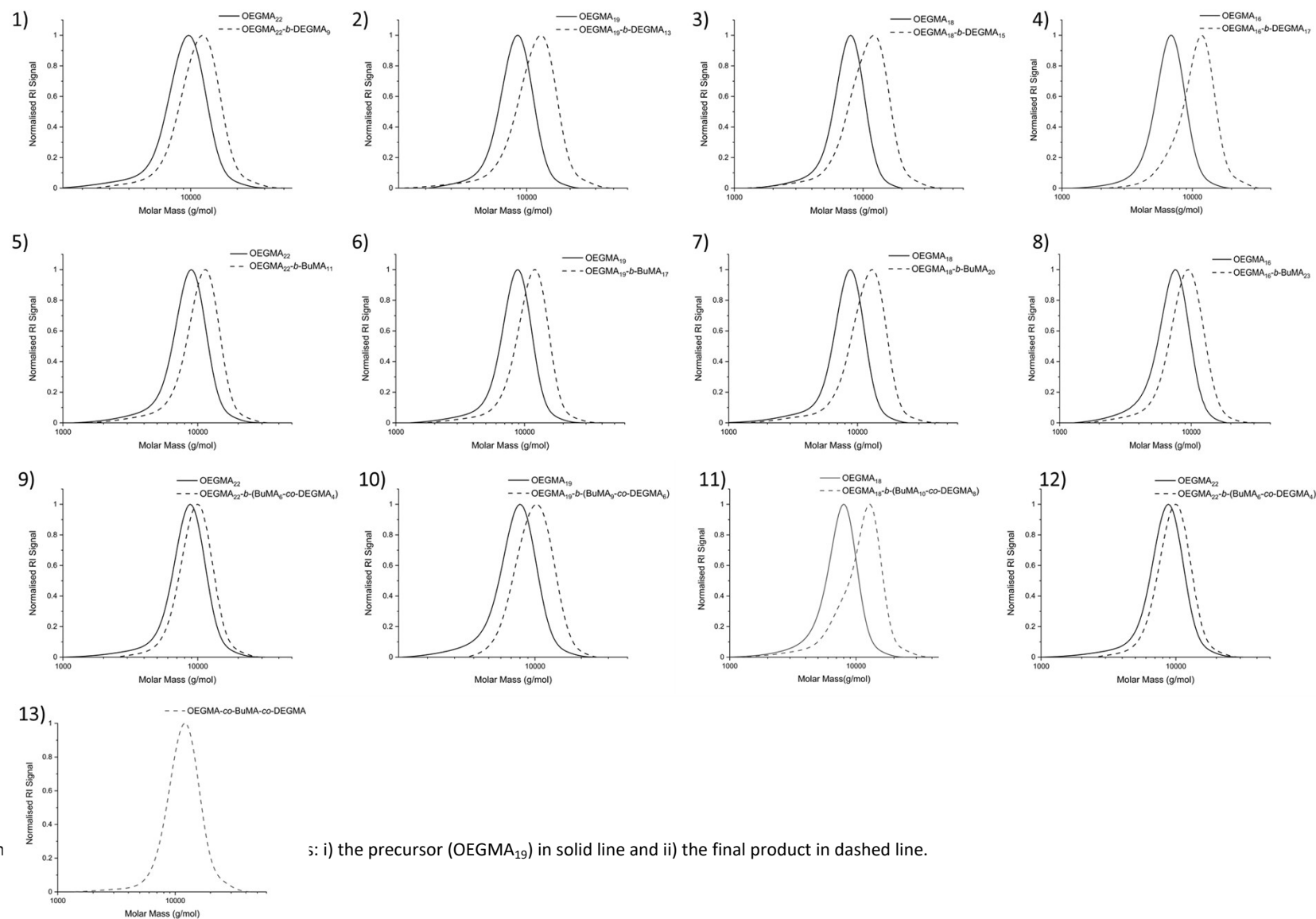


Figure S 1 Gel permeation

chromatograms showing the reaction progress of various OEGMA precursors with different monomers. s: i) the precursor (OEGMA₁₉) in solid line and ii) the final product in dashed line.

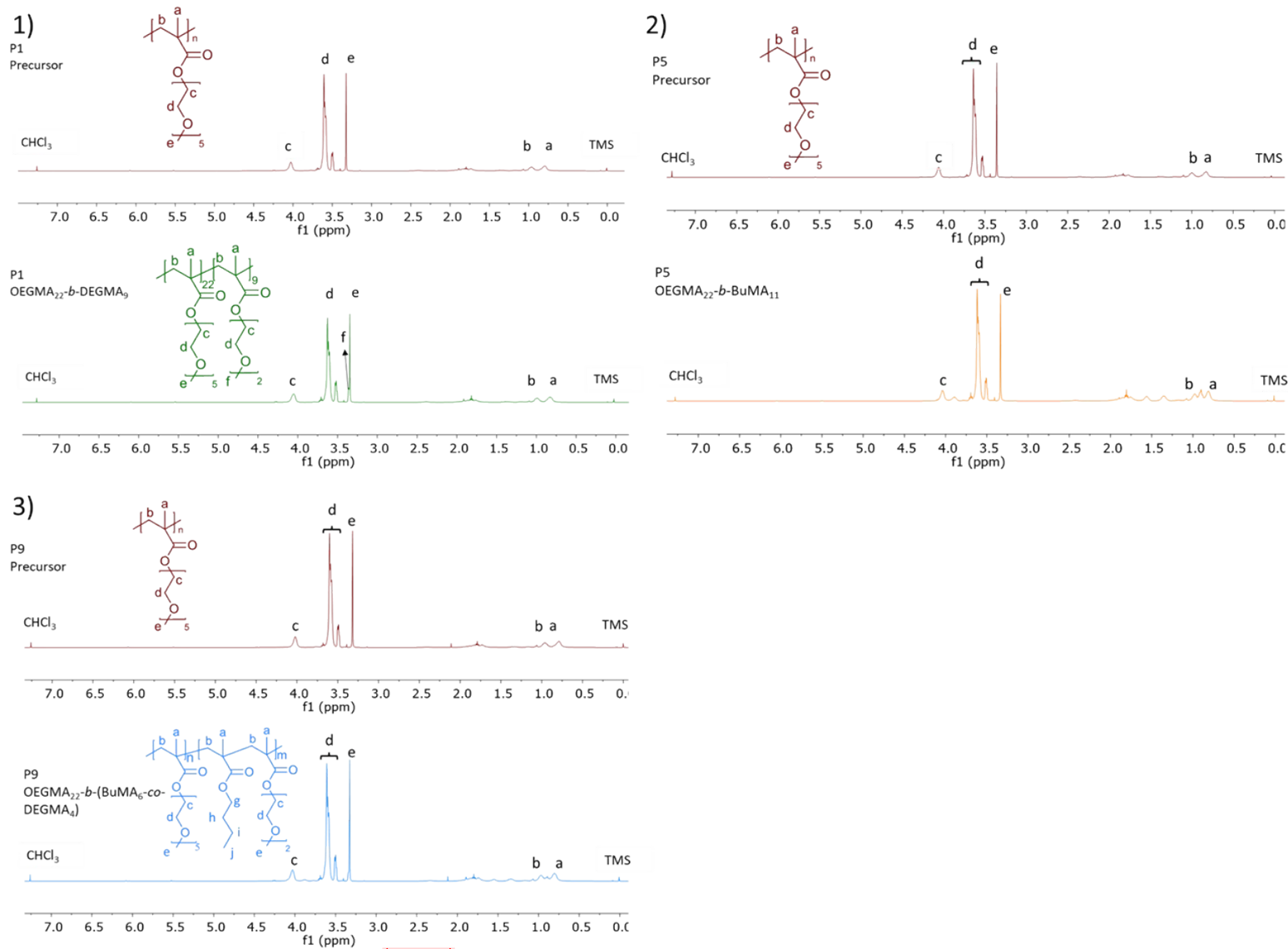
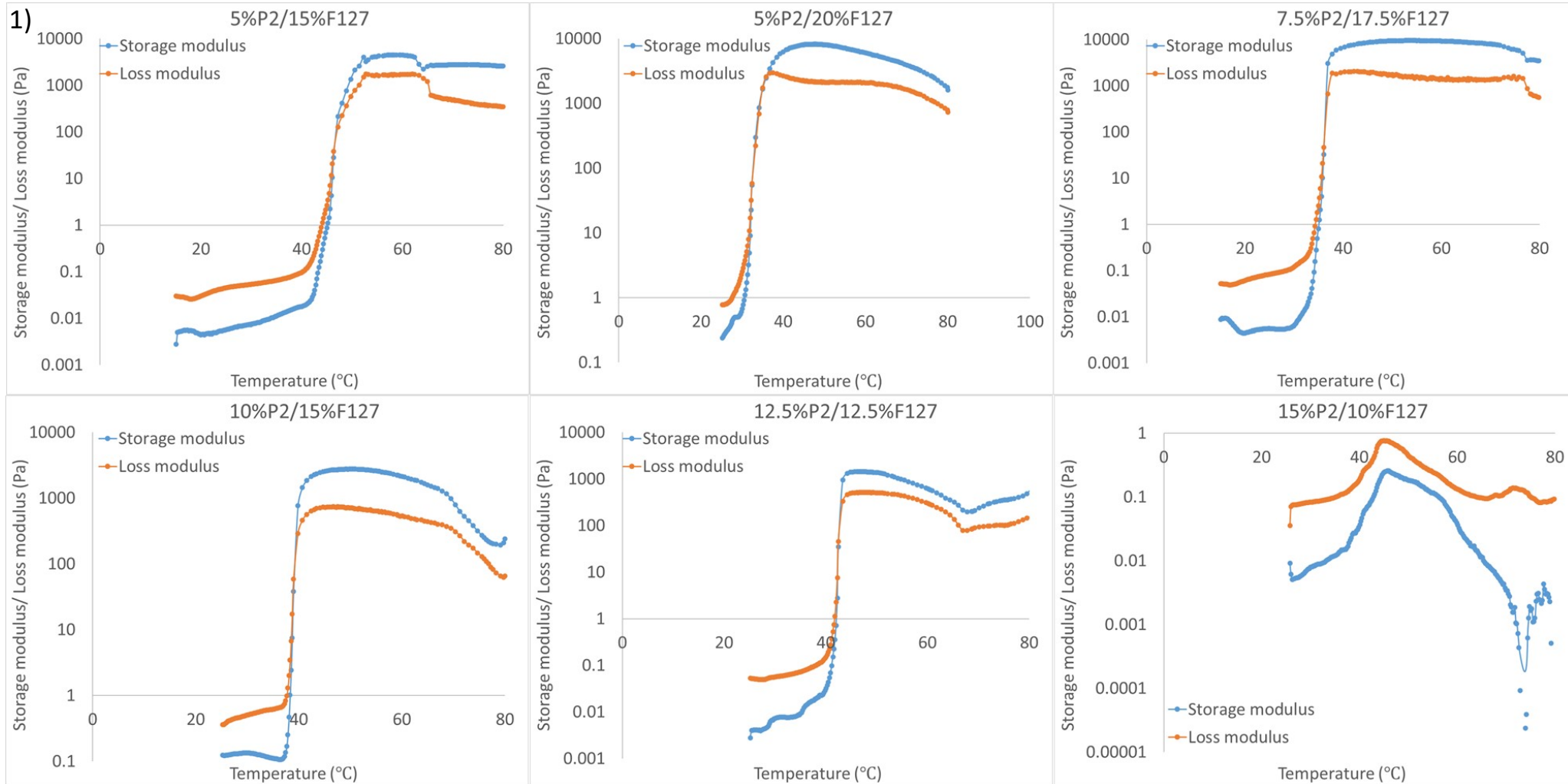
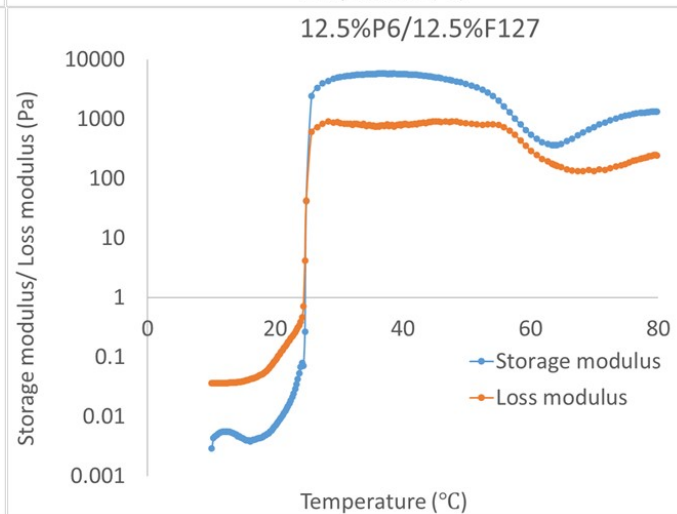
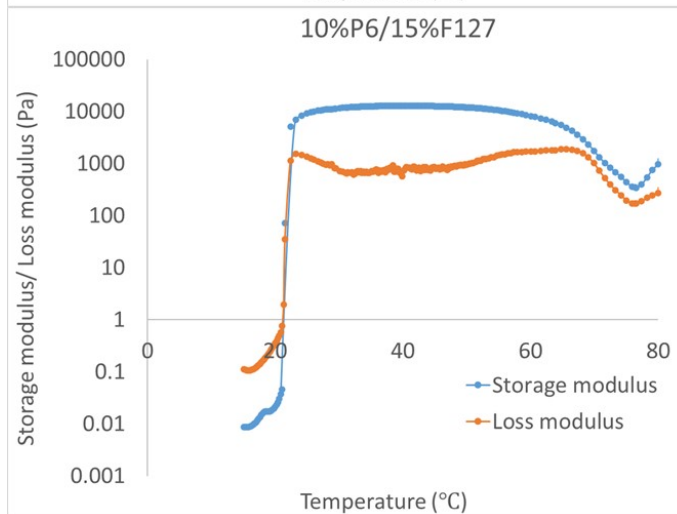
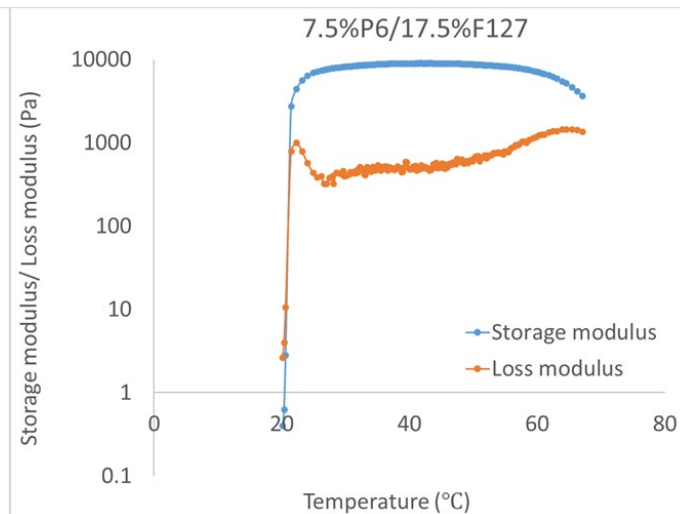
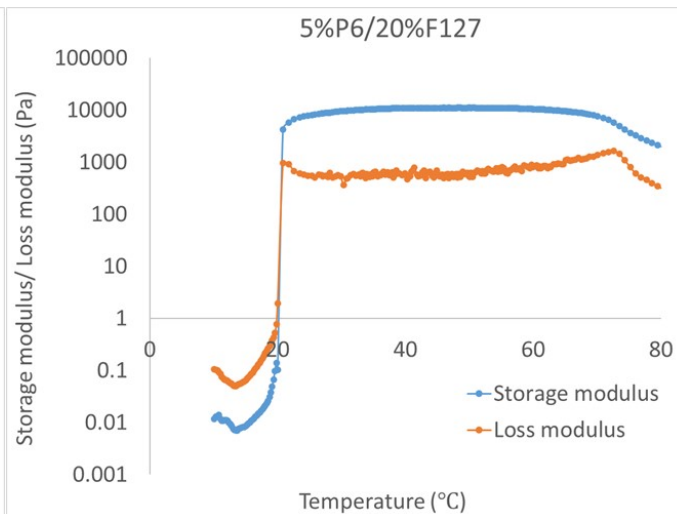
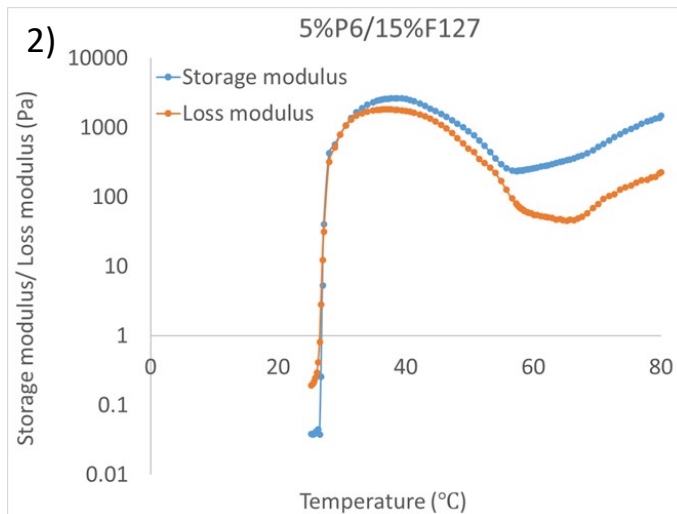


Figure S 2 ¹H-NMR spectra of Polymer 1, 5 and 9 and their precursors.

Comment [CA]: Why QL-C-P1? I know that this is for Qian Li C polymer series, but for the paper, this is irrelevant. Perhaps just delete and keep the number of polymer only to prevent confusion to the audience.



2)



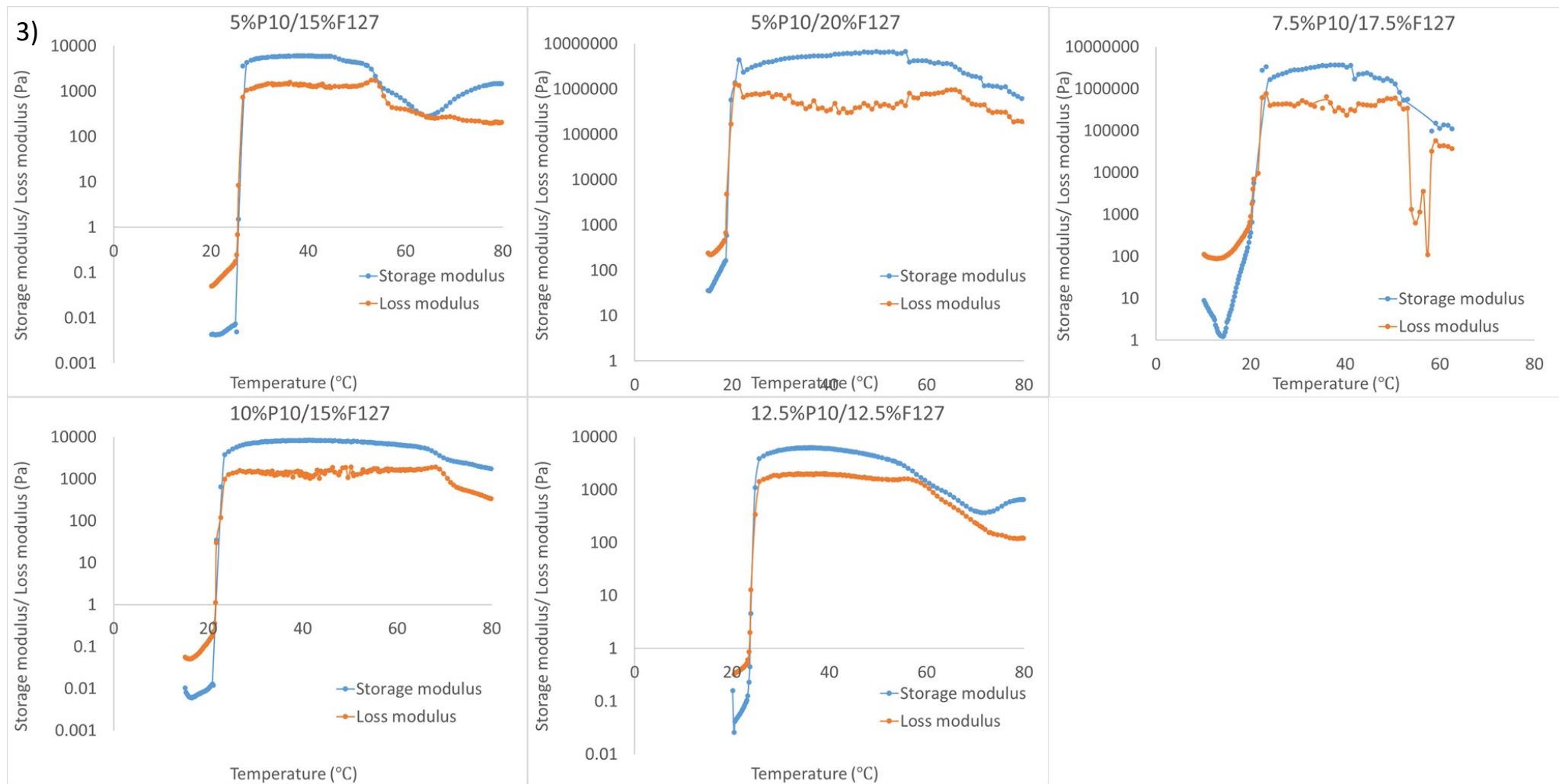


Figure S3 Rheological results of temperature ramp measurements performed on mixtures of 1) $\text{OEGMA}_{19}\text{-b-DEGMA}_{13}$ (P2); 2) $\text{OEGMA}_{19}\text{-b-BuMA}_{17}$ (P6); 3) $\text{OEGMA}_{19}\text{-b-(BuMA}_9\text{-co-DEGMA}_6)$ (P10) and F127 solutions in DI water at a total concentration of 25 % w/w. The shear storage modulus (elastic modulus, G') and the shear loss modulus (viscous modulus, G'') are shown in blue and orange, respectively.

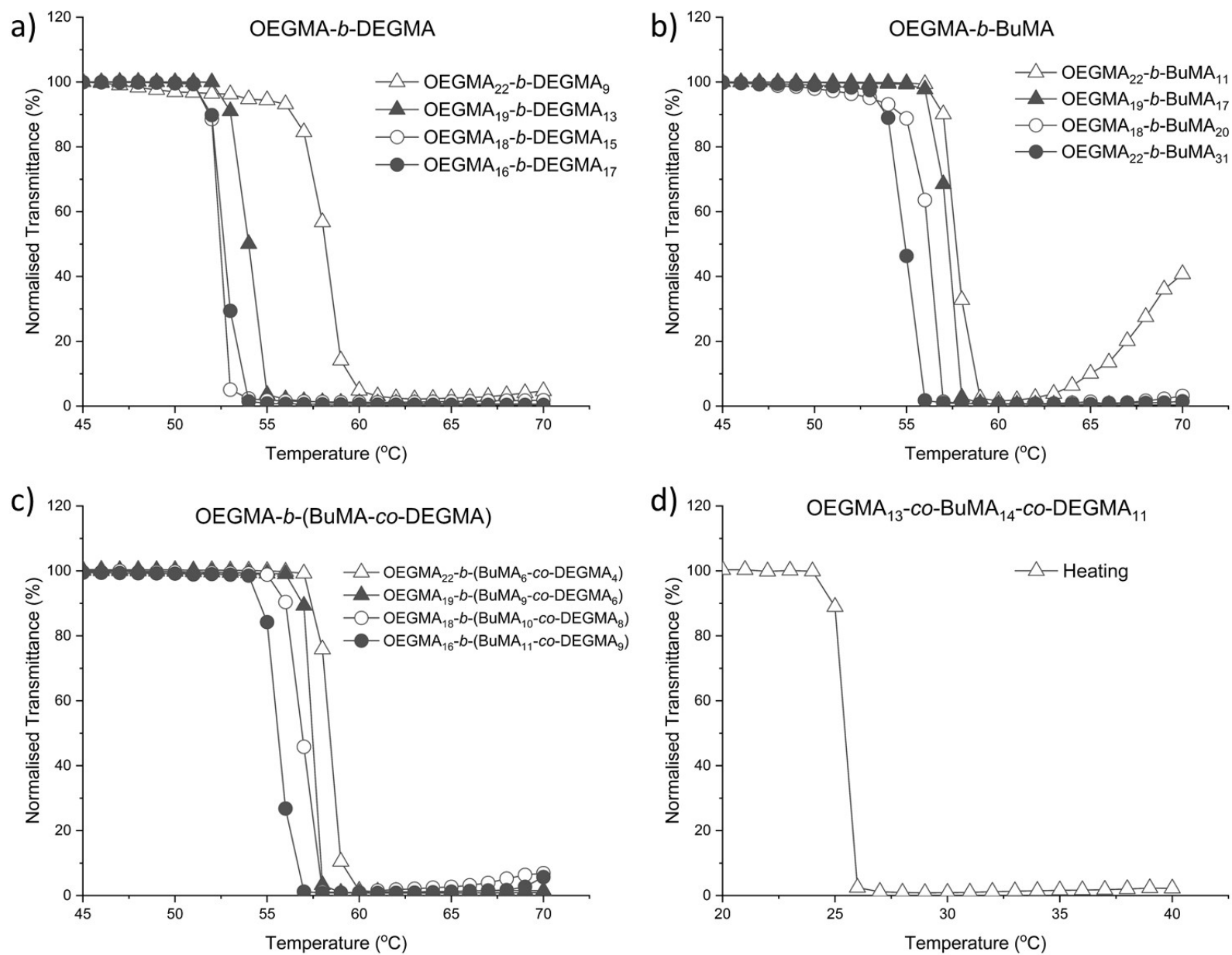


Figure S 4 Heating curves of a) OEGMA-*b*-DEGMA; b) OEGMA-*b*-BuMA; c) OEGMA-*b*-(BuMA-*co*-DEGMA); and d) OEGMA₁₃-*co*-BuMA₁₄-*co*-DEGMA₁₁.

Table S1 The gelation temperatures of the mixtures of Pluronic®F127 and copolymers with a constant total concentration (25% w/w).

Concentration of pluronic / copolymer (wt%)	T ^a _{gel} (±2°C)					
	PEGMA ₁₉ - <i>b</i> -DEGMA ₁₃		PEGMA ₁₉ - <i>b</i> -BuMA ₁₇		PEGMA ₁₉ - <i>b</i> -(BuMA ₉ - <i>co</i> -DEGMA ₆)	
5/20	N/A	N/A	N/A	N/A	N/A	N/A
10/15	42	44	N/A	N/A	N/A	N/A
12.5/12.5	39	40	26	25	24	25
15/10	37	38	22	21	23	23
17.5/7.5	34	35	22	21	21	21
20/5	31	32	21	20	21	21

^aThe left column is the result of the visual test; the right column is the result of the rheological measurement.

Table S2. The gelation temperatures of the mixtures of 20 wt% Pluronic®F127 and 5% w/w of copolymers.

Concentration of pluronic (wt%)	T ^a _{gel} (°C)					
	PEGMA ₁₉ - <i>b</i> -DEGMA ₁₃		PEGMA ₁₉ - <i>b</i> -BuMA ₁₇		PEGMA ₁₉ - <i>b</i> -(BuMA ₉ - <i>co</i> -DEGMA ₆)	
5	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A
15	45	45	29	28	26	25
20	31	32	21	20	21	21

^aThe left column is the result of the visual test; the right column is the result of the rheological measurement.