Electronic Supplementary Material (ESI) for Soft Matter

Supplementary Information

Variation of physical and mechanical properties in the bicomponent hydrogels of melamine with positional isomers of hydroxybenzoic acid

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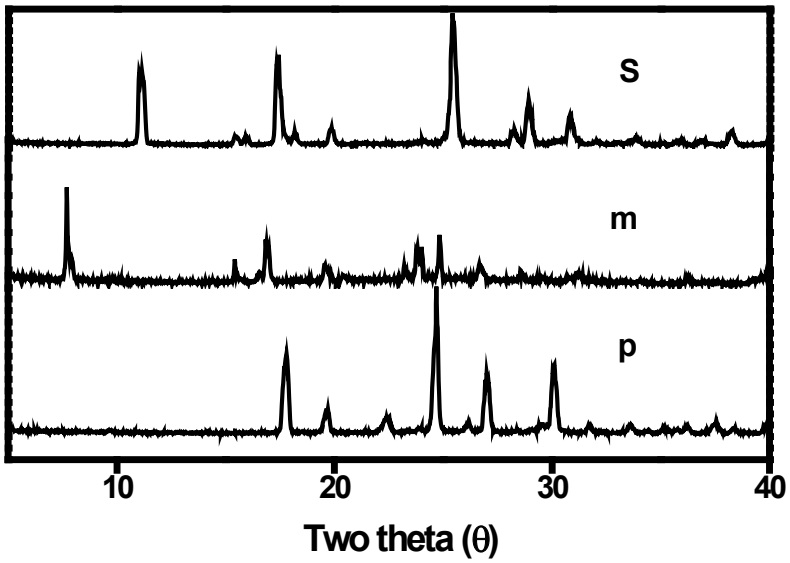
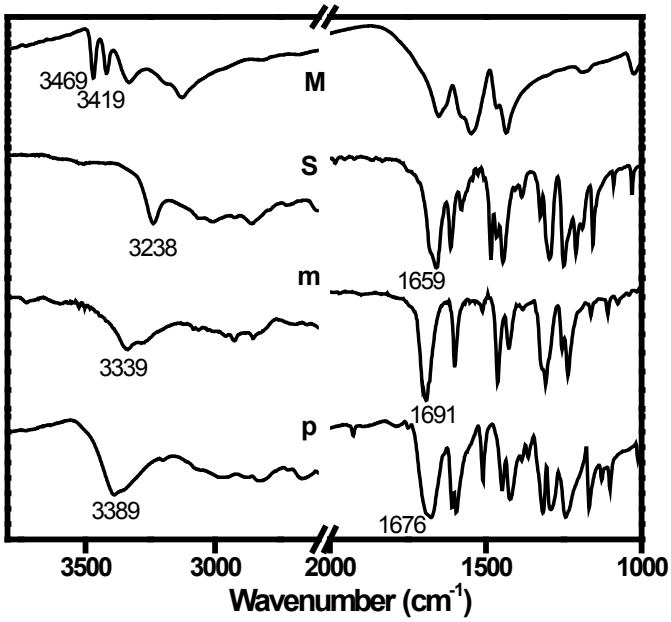
Table-S1: Comparison of ^{1}H NMR data (ppm) of Ms, Mm and Mp sols and gels of 1:1 molar composition with those of pure acids

Compositions	Peak position (δ in ppm)			
	Pure acids	gel	sol	Δδ ppm
Ms	6.94 7.48 7.83	6.87 7.37 7.73	6.90 7.41 7.76	0.03 0.04 0.03
Mm	7.08 7.35 7.34 7.39	6.95 7.26 7.34	6.98 7.29 7.37	0.03 0.03 0.03
Mp	6.81 7.80	6.84 7.72	6.88 7.78	0.04 0.06

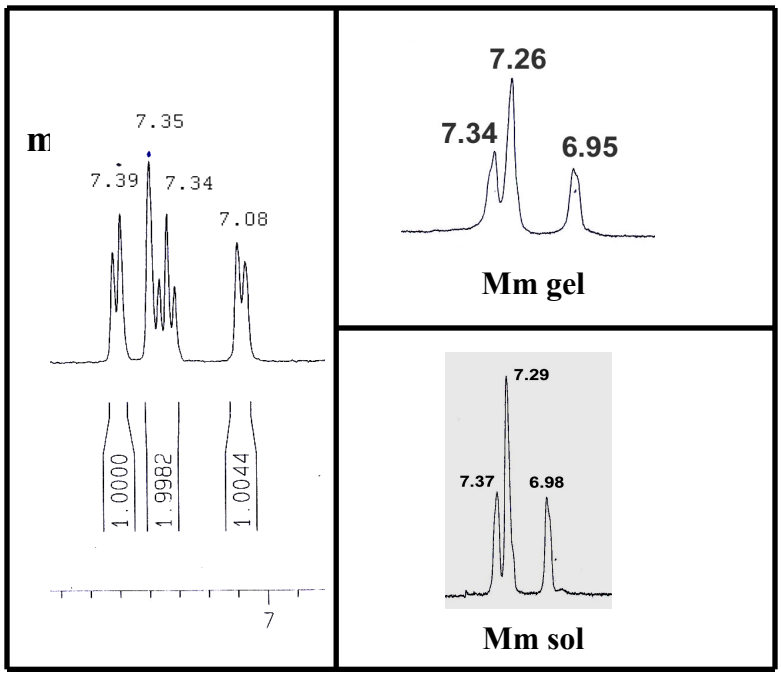


(a)

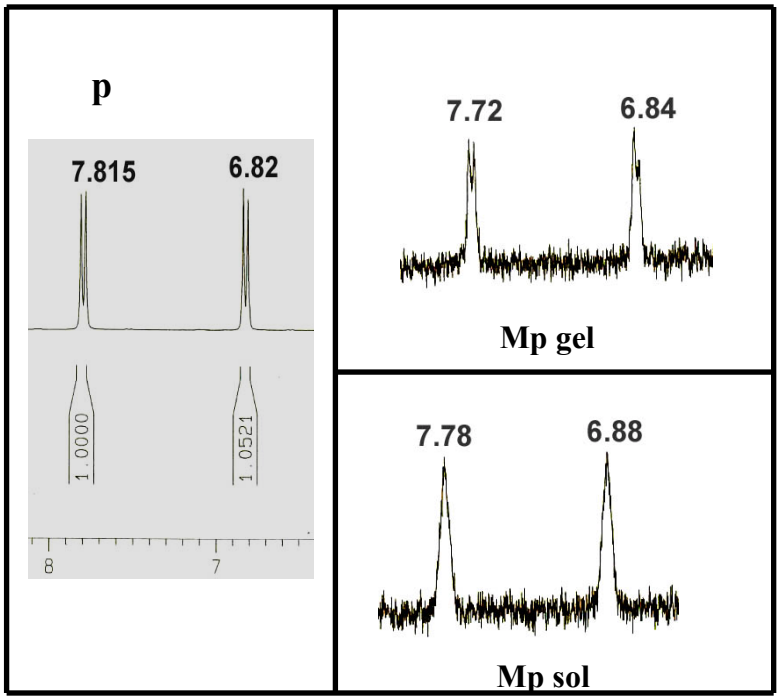
SI Figure 1: WAXS pattern of the pure hydroxybenzoic acid components.



SI Figure 2: FTIR spectra of the pure components.

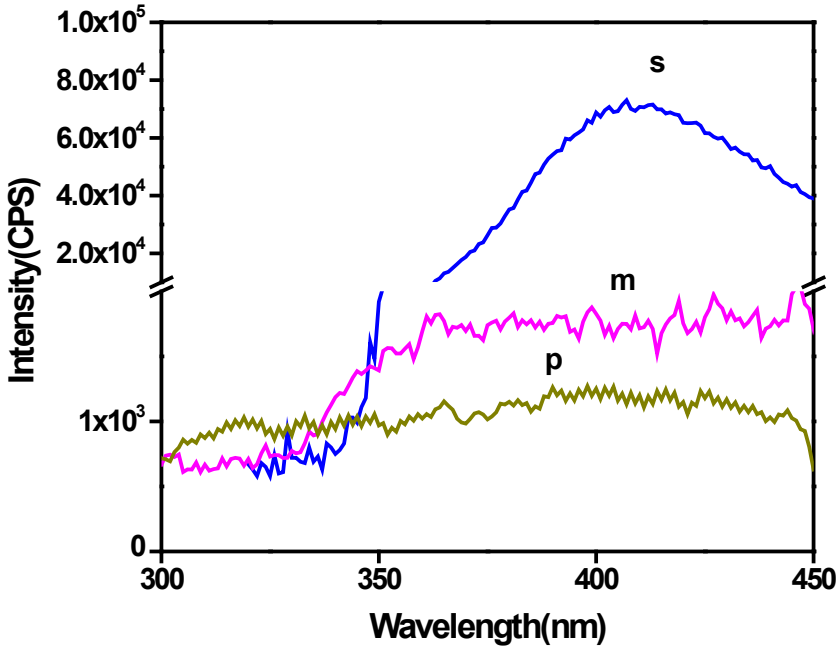


(a)

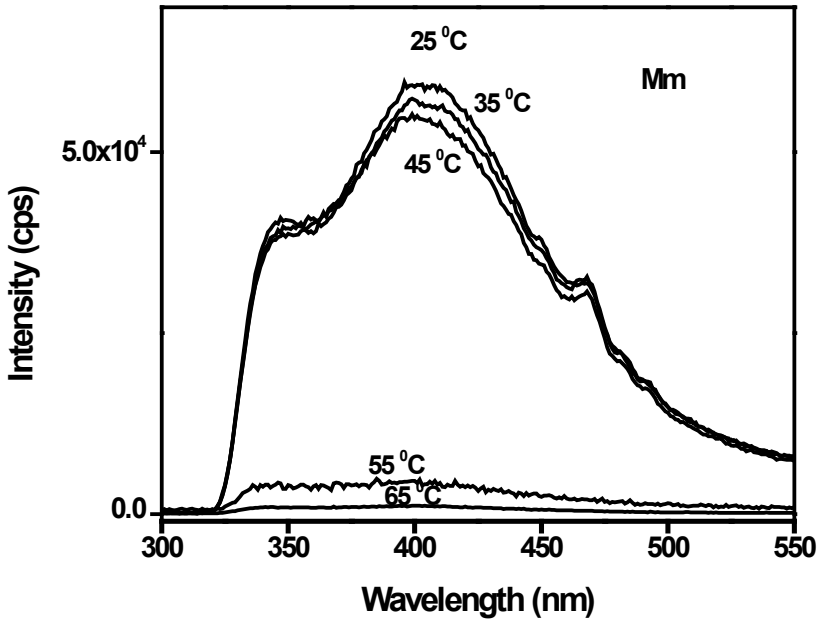


(b)

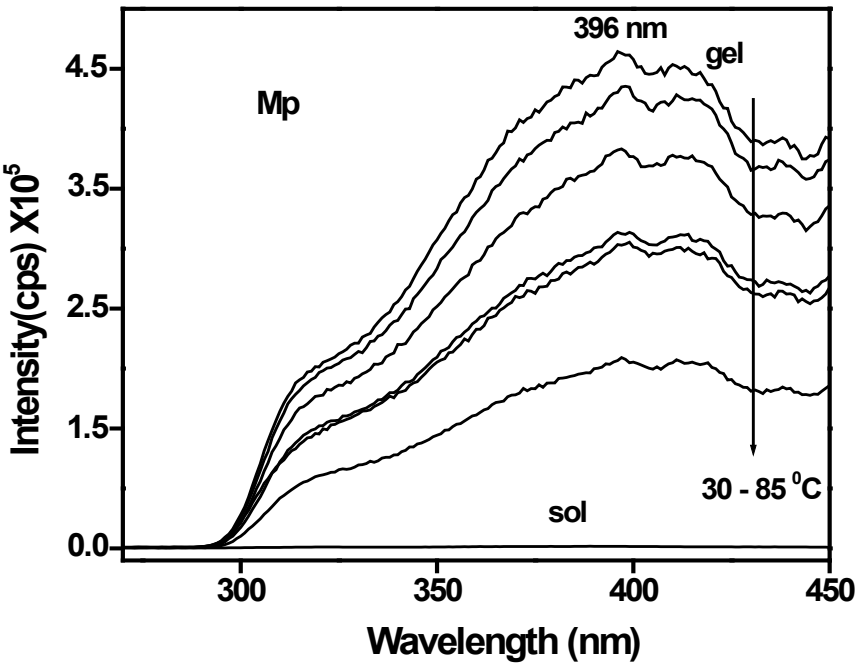
SI Figure 3: 1H NMR spectra of the pure components and in their gel and sol state.



SI figure 4: Fluorescence spectra of the pure acids.

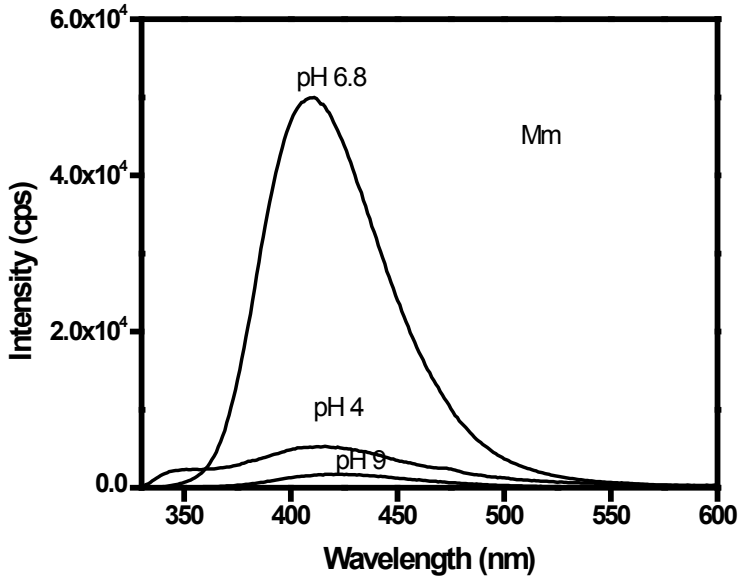


(a)

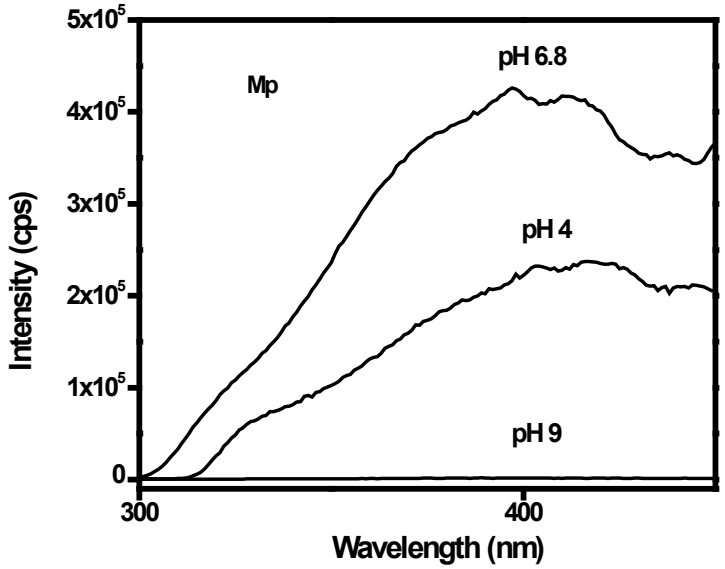


(b)

SI Figure 5: Temperature dependent fluorescence spectra of Mm and Mp hydrogels, respectively.

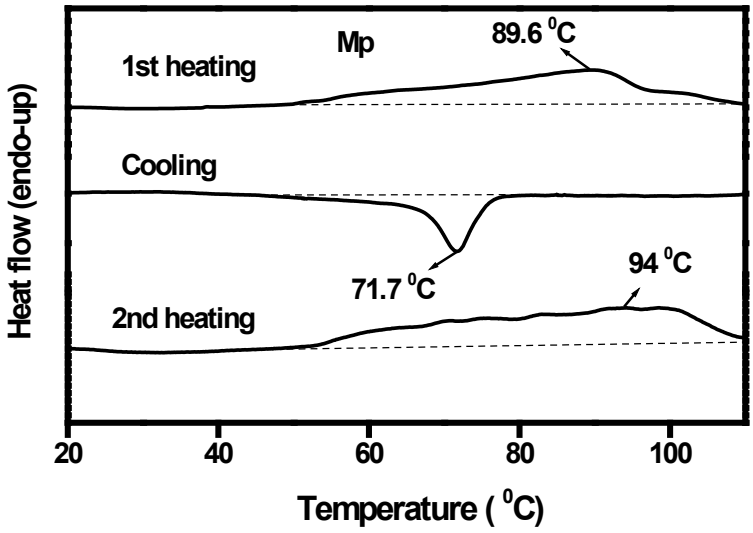


(a)

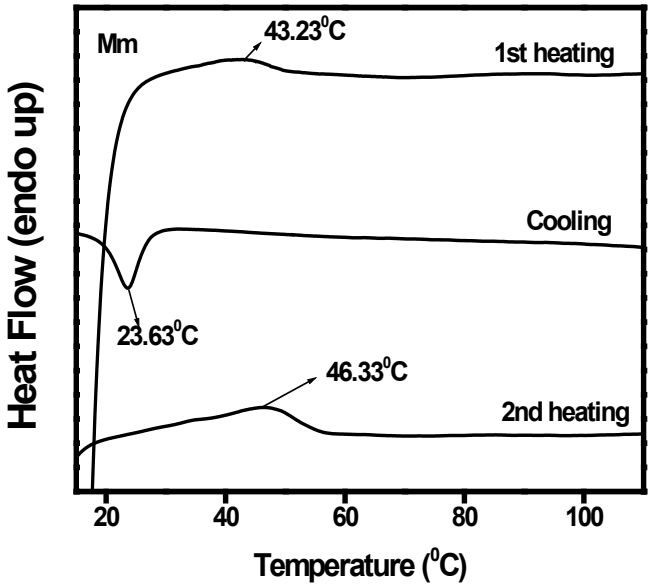


(b)

SI Fig. 6: pH dependent fluorescence spectra of Mm and Mp hydrogels, respectively.

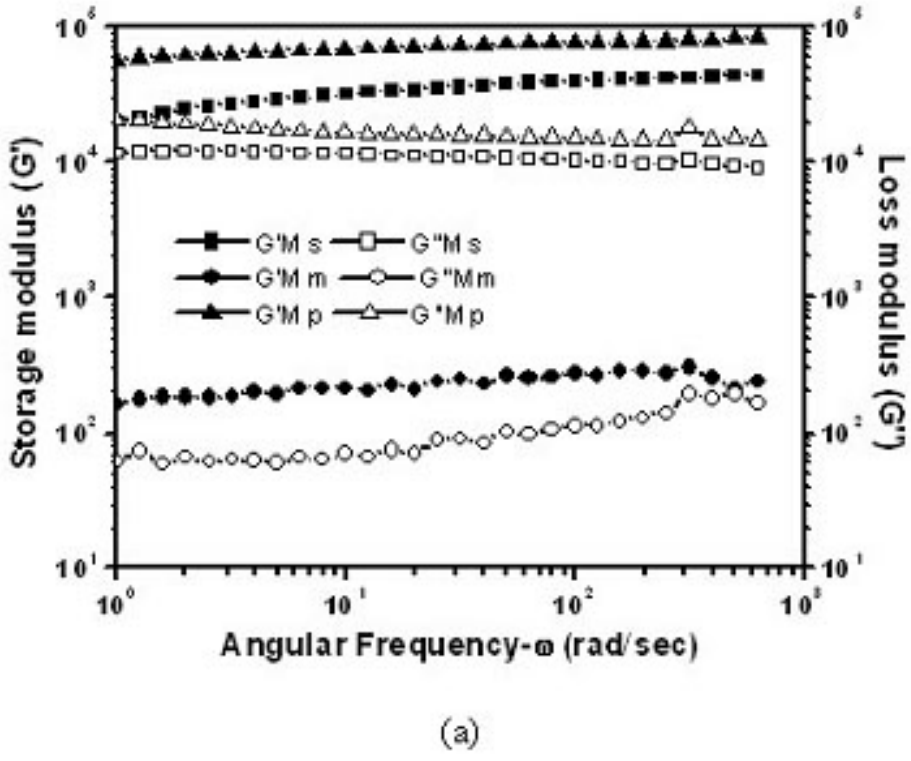


(a)

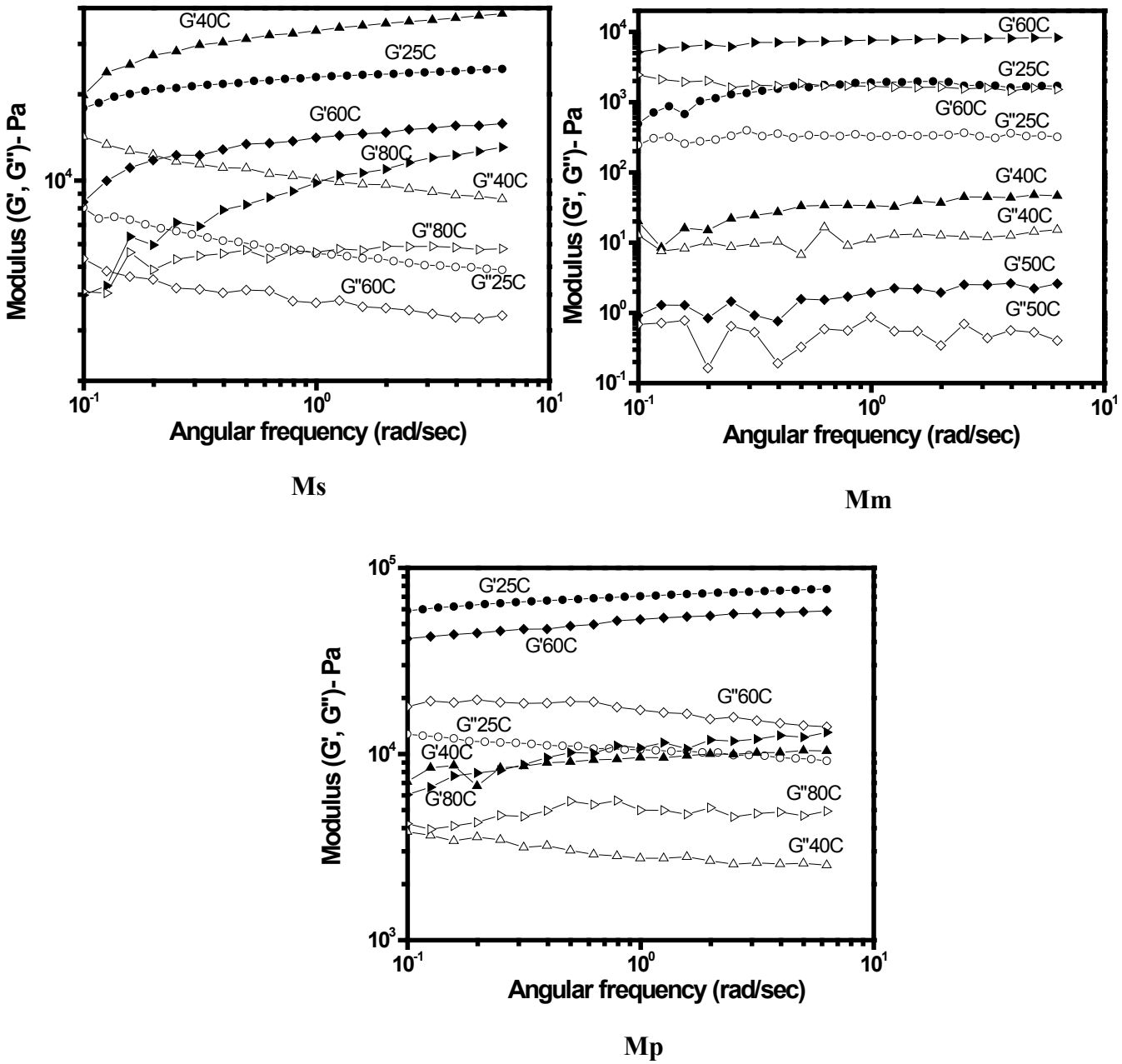


(b)

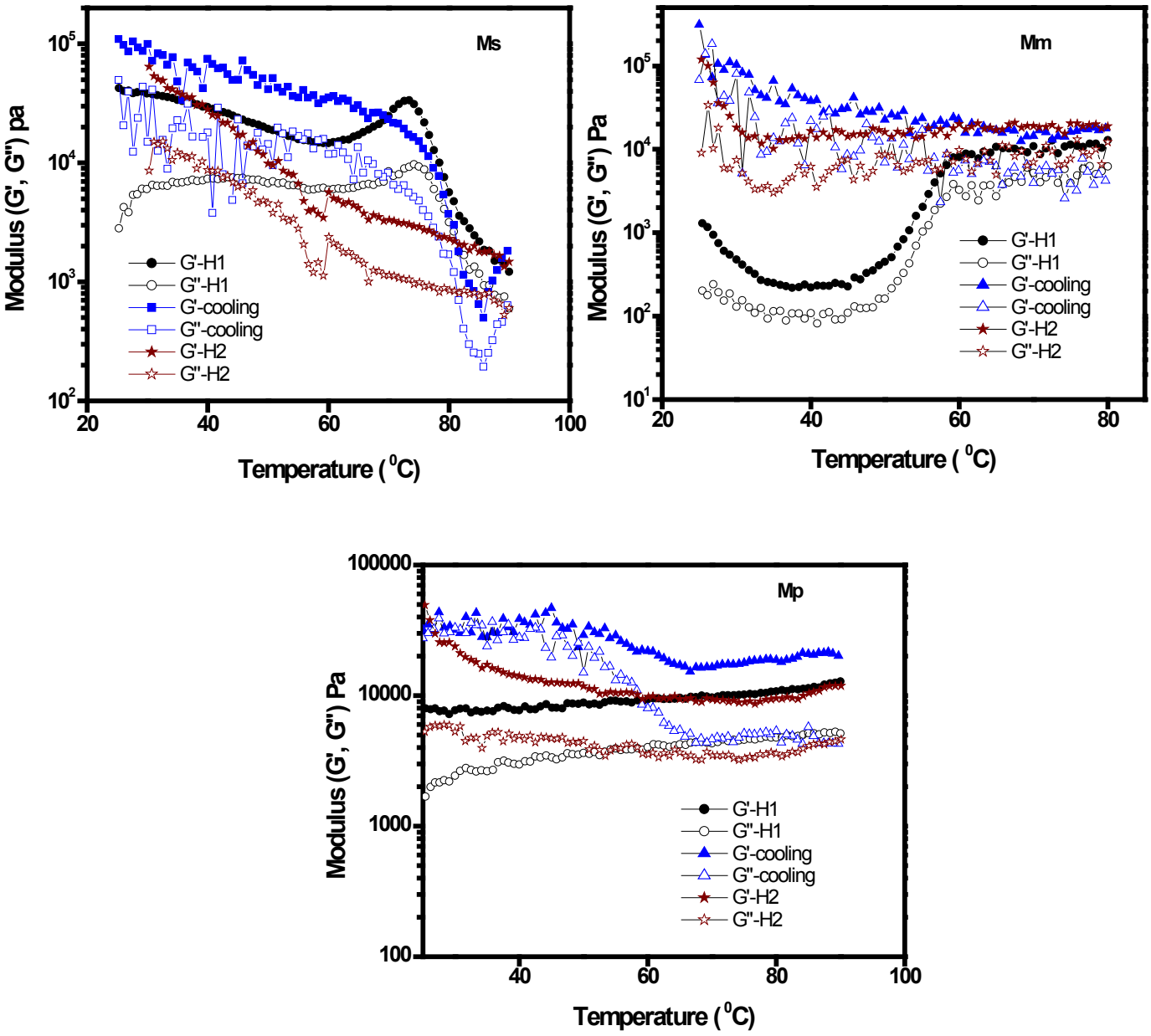
SI fig. 7: DSC thermograms of (a) Mp and (b) Mm hydrogels at 2 % (w/v) concentration.



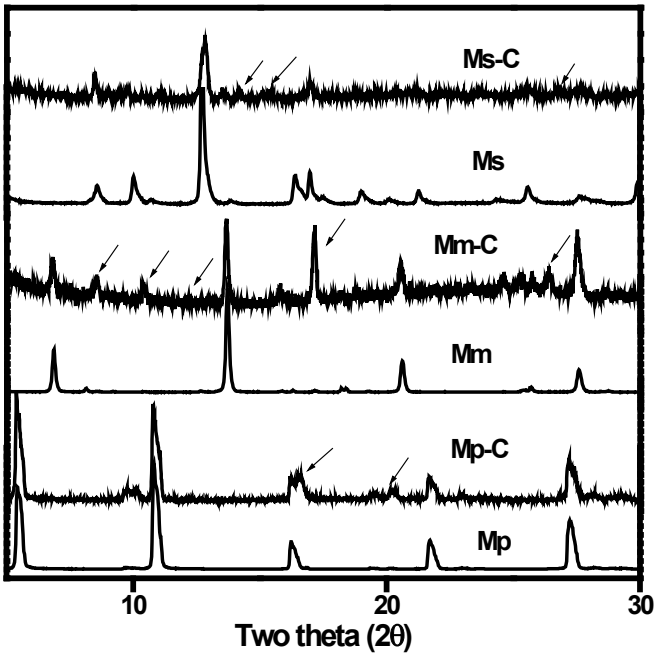
SI Figure 8: Storage Modulus vs angular frequency plot of the three different hydrogel systems at a concentration of 2 % (w/v).



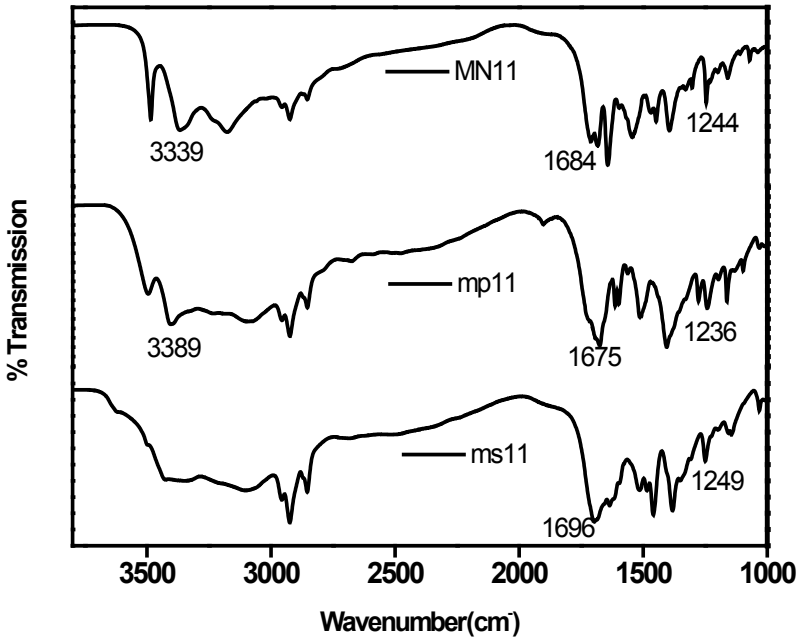
SI Figure 9: Frequency sweep experiment at different temperature for Ms, Mm & Mp gels.



SI Figure 10: Cyclic temperature ramp study of the Ms, Mm & Mp hydrogels. (H1, H2= first and second heating at the rate of 5 ^{0}/min, cooling rate was also 5 ^{0}/min)



SI Figure 11: Comparison of WAXS patterns of the xerogels with that of respective shear induced crystals collected after the end of temperature ramp rheological experiment at 90^0 C.



SI fig. 12: FT-IR spectra of the shear induced crystals collected after the end of temperature ramp rheology experiment at 90^0 C.