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ARTICLE TYPE

Supporting Information

Thermoresponsive Behavior of a LCST-type polymer based on pyrrolidone structure in aqueous solution

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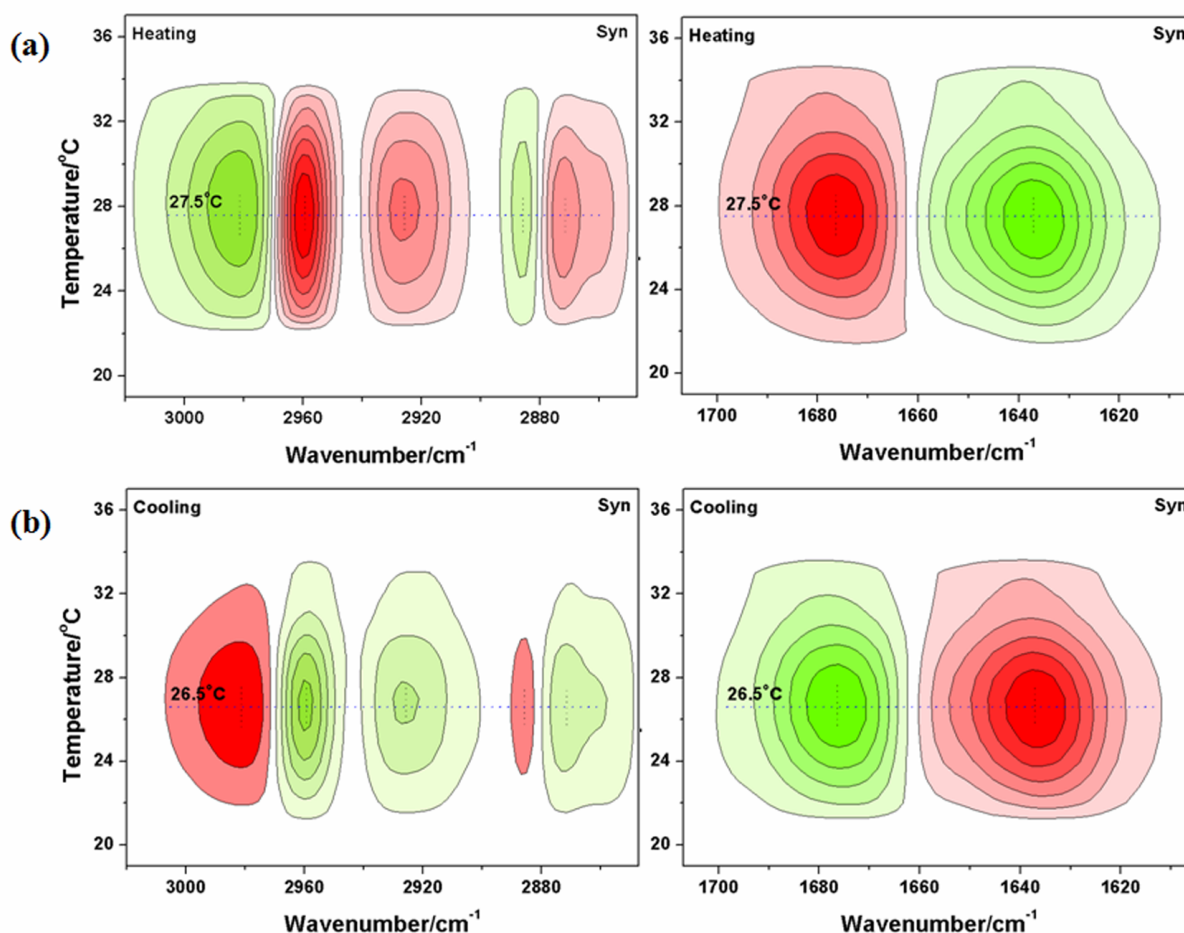


Fig. S1 PCMW synchronous maps in the $\nu(\text{CH})$ region and the $\nu(\text{C}=\text{O})$ region obtained in the C_2PVP aqueous solution during (a) heating and (b) cooling.

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Table S1. The symbols of cross peaks obtained from synchronous and asynchronous maps during heating (red region) and cooling (blue region) processes.

2D correlation results in cooling											
2981		1631	1646	1668	1681	2896	2927	2946	2962	2981	
2962	^a -, ^b +		+, +	-, +	-, -	-, +	-, -	-, -	-, -	+, +	1631
2946	-, -	+, +		-, +	-, +	-, +	-, +	-, -	-, +	+, -	1646
2927	-, +	+, +	+, -		+, +	+, -	+, +	+, +	+, +	-, -	1668
2896	-, +	+, -	+, -	+, -		+, -	+, -	+, +	+, -	-, +	1681
1681	-, -	+, +	+, -	+, +	+, +		+, +	+, +	+, +	-, -	2896
1668	-, +	+, -	+, -	+, -	+, +	+, -		+, +	+, -	-, -	2927
1646	+, -	-, -	-, +	-, -	-, -	-, +	-, -		+, -	-, +	2946
1631	+, -	-, +	-, +	-, +	-, -	-, +	-, +	+, -		-, -	2962
	2981	2962	2946	2927	2896	1681	1668	1646	1631		2981
2D correlation results in heating											

^a The left symbols obtained from the synchronous maps;
^b The right symbols obtained from the asynchronous maps.

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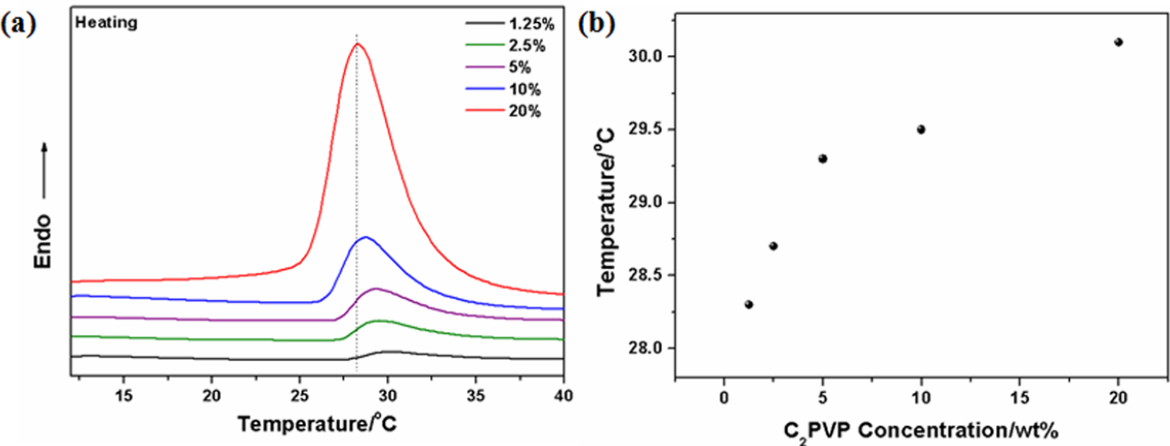


Fig. S2 (a) DSC thermograms of C₂PVP solutions at different weight fractions during heating (heating rate: 10°C/min). (b) LCSTs determined by DSC measurements are plotted against the weight fraction of C₂PVP.

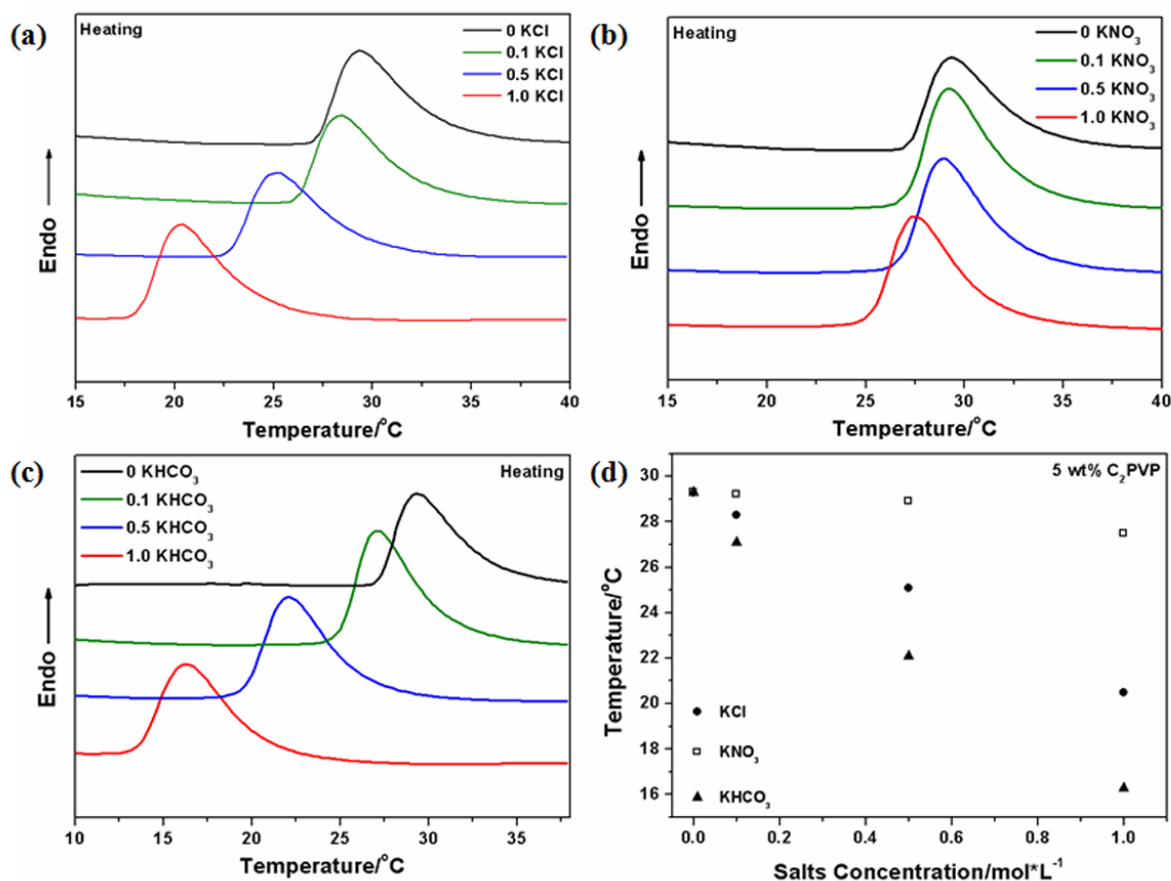


Fig. S3 DSC thermograms of C₂PVP aqueous solutions with different salt concentration (mol/L) (a) KCl, (b) KNO₃, (c) KHCO₃ (heating rate: 10°C/min). (d) LCSTs determined by DSC measurement as a function of salt type and concentration.

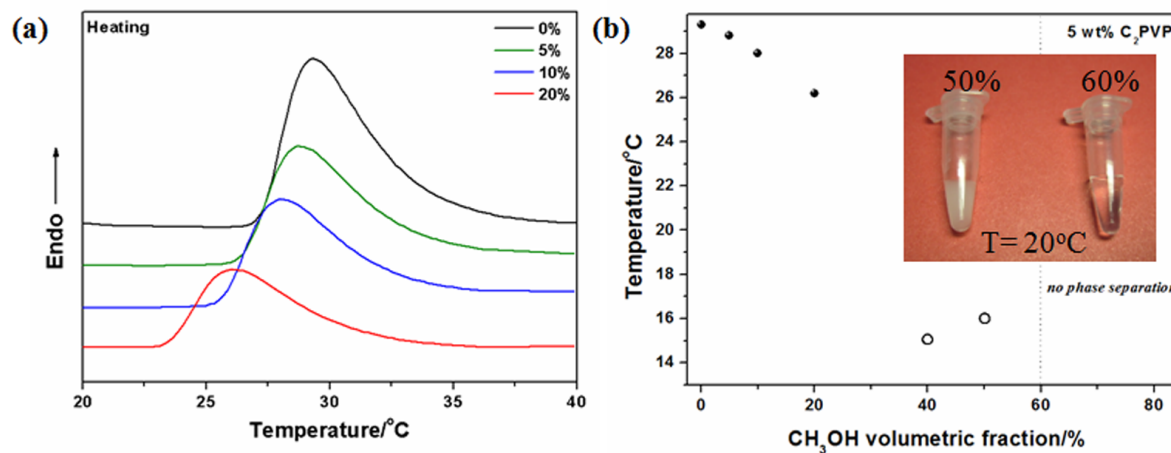


Fig. S4 (a) DSC thermograms in C₂PVP aqueous solutions with different volumetric fractions of methanol during heating (heating rate: 10°C/min). (b) LCSTs of C₂PVP in mixed solvents determined by DSC (●) and turbidimetry (○) measurements are plotted against the volumetric fraction of methanol.