

## Electronic supplementary information (ESI)

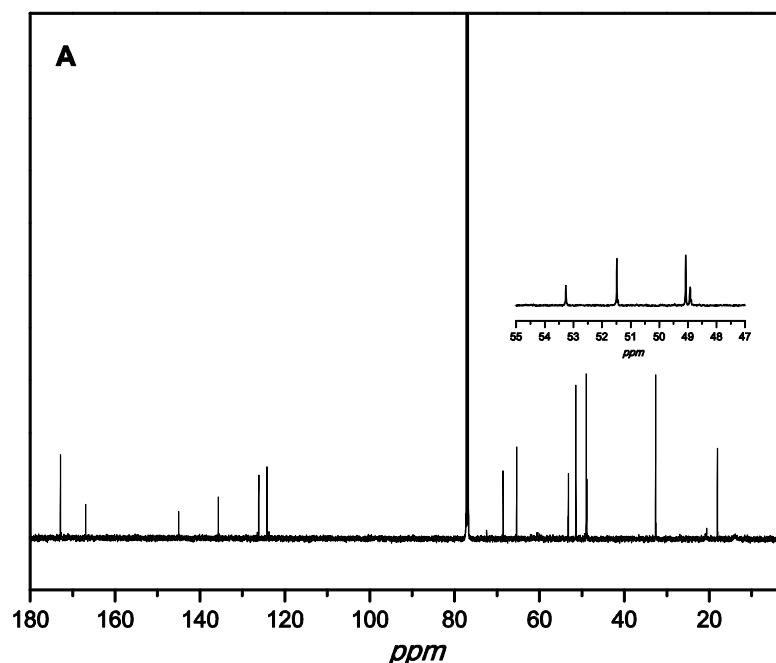
### Novel pH-tunable Thermoresponsive Polymers Displaying Lower and Upper Critical Solution Temperatures

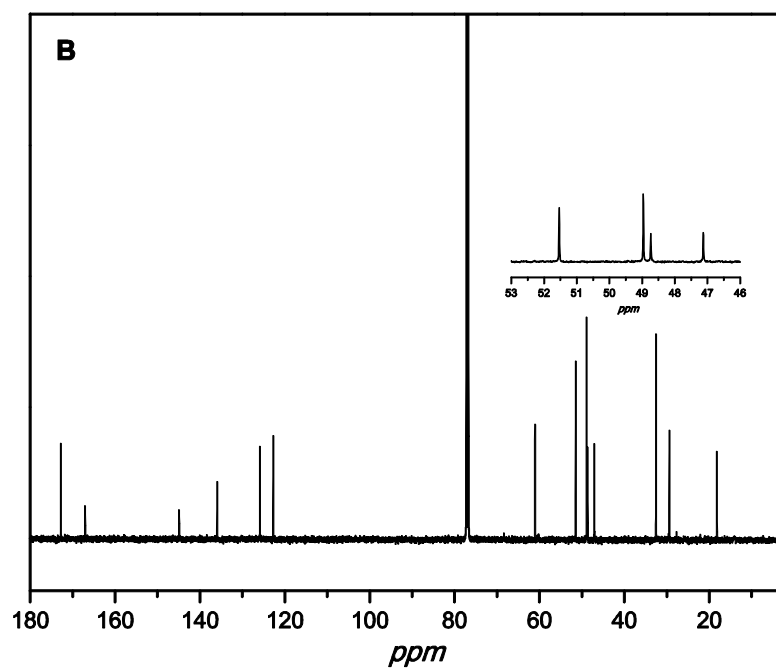
Xin Cai,<sup>1</sup> Liang Zhong,<sup>1</sup> Yue Su,<sup>2</sup> Shaoliang Lin,<sup>3\*</sup> Xiaohua He<sup>1\*</sup>

<sup>1)</sup> Department of Chemistry, School of Chemistry and Molecular Engineering, East China Normal University, 500 Dongchuan Road, Shanghai 200241, China

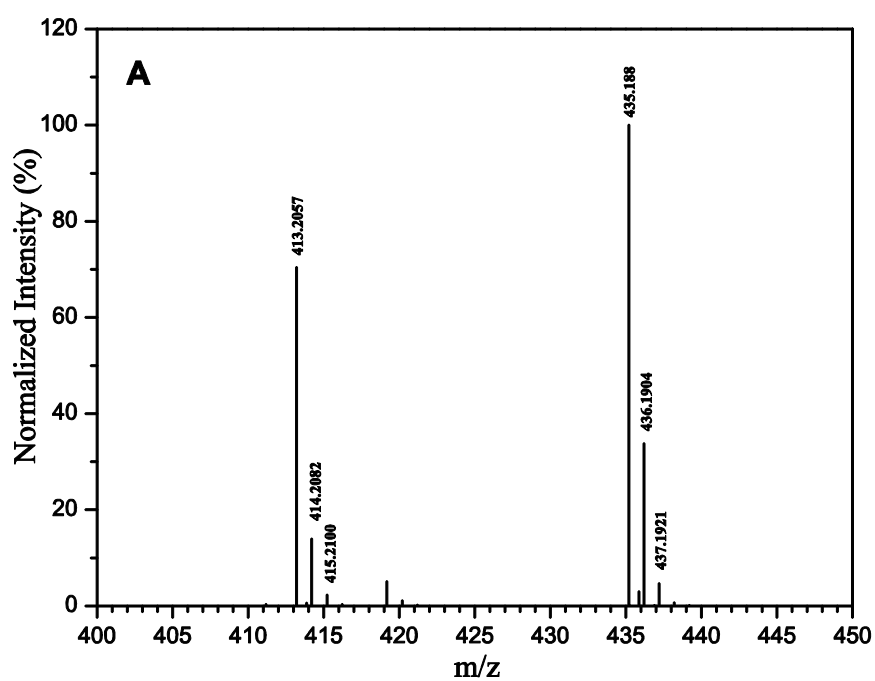
<sup>2)</sup> School of Chemistry & Chemical Engineering, Shanghai Key Lab of Electrical Insulation and Thermal Aging, Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai 200240, China

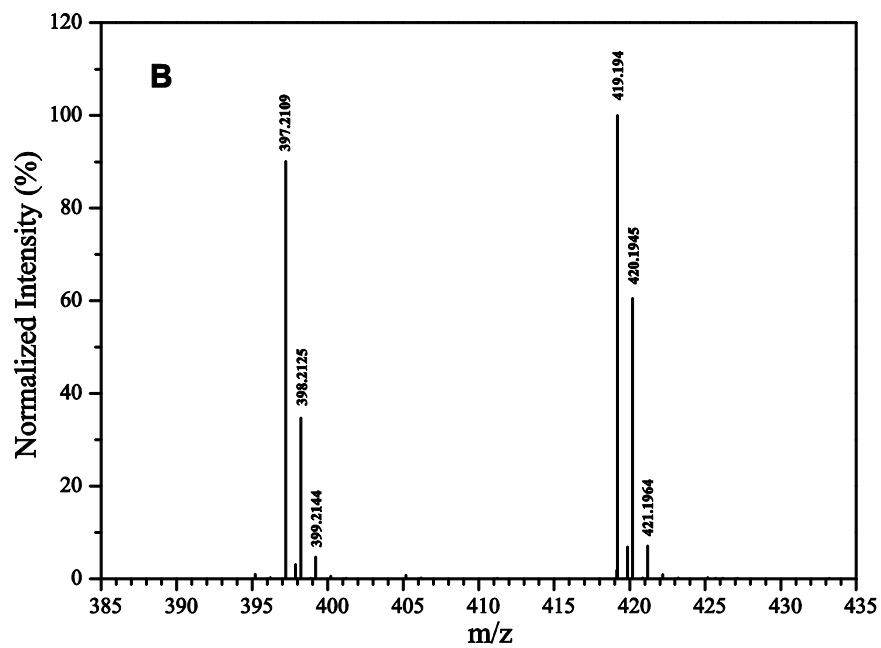
<sup>3)</sup> The Key Laboratory of Advanced Polymer Materials of Shanghai, School of Materials Science and Engineering, East China University of Science and Technology, Shanghai 200237, China



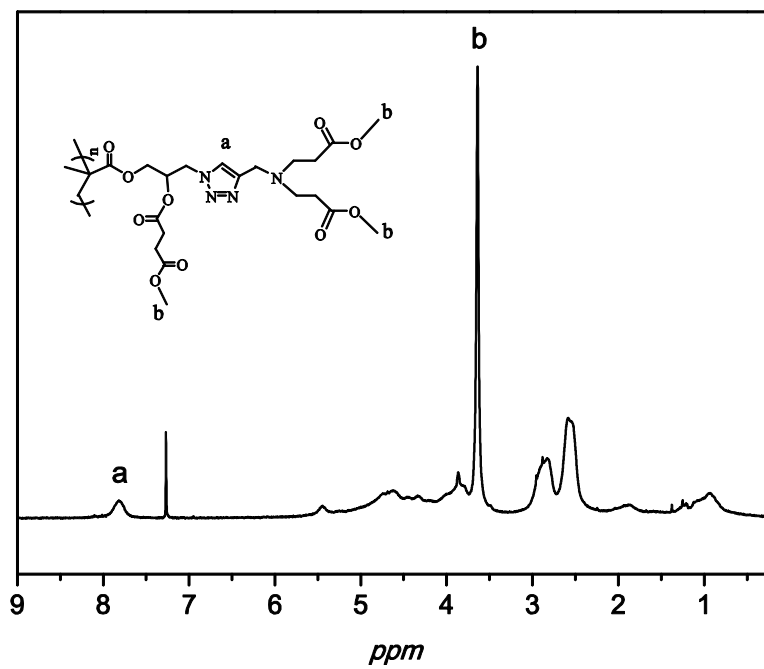


**Figure 1S**  $^{13}\text{C}$  NMR spectra of the monomers HPMAB (A) and PMAB (B).

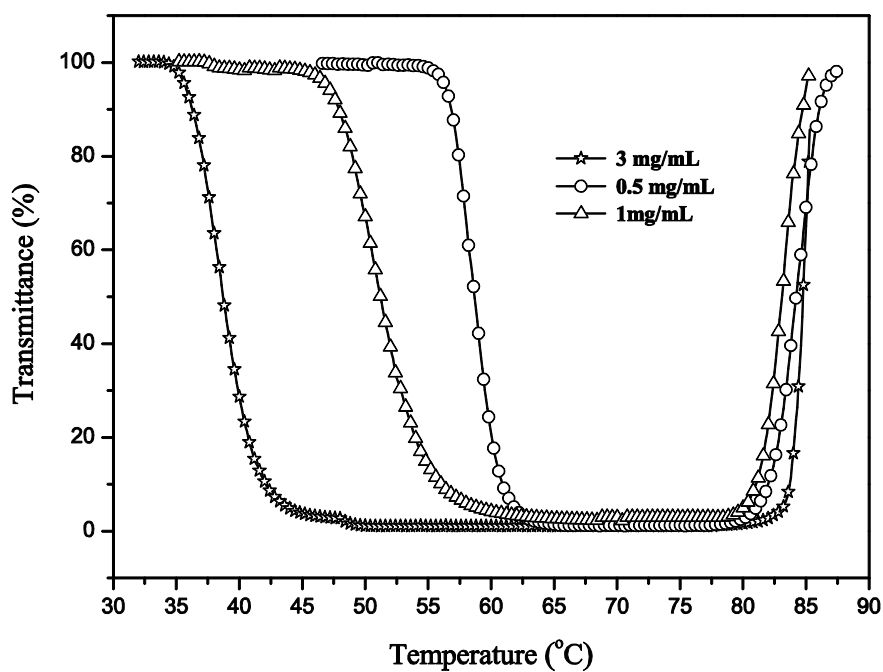




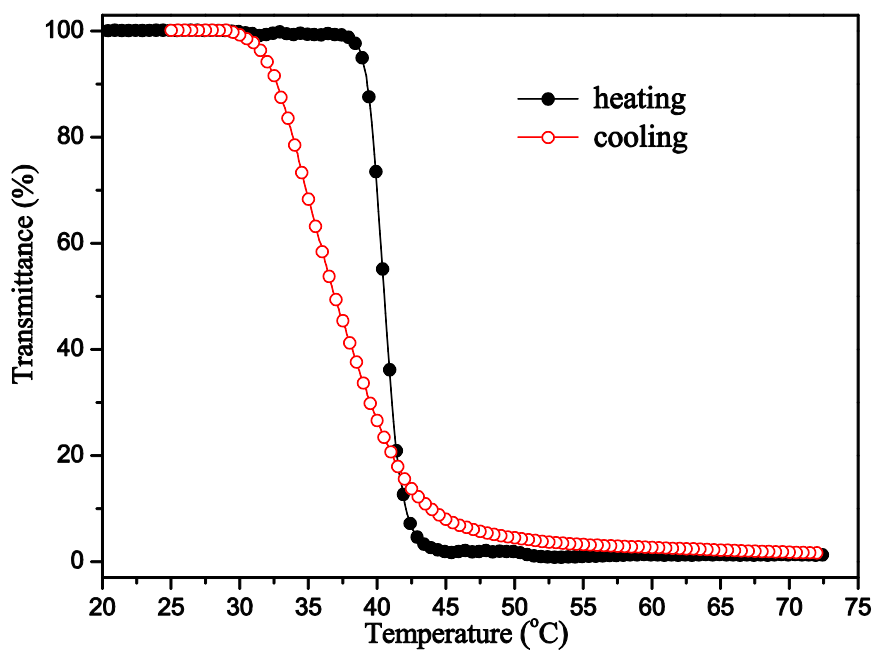
**Figure 2S** High-resolution mass spectra (HRMS) of the monomers HPMAB (A) and PMAB (B).



**Figure 3S**  $^1\text{H}$  NMR spectrum of the methylester P(PMAB-COOH) in  $\text{CDCl}_3$ .



**Figure 4S** Temperature dependence of the transmittance of P(PMAB-COOH) at different concentrations in water.



**Figure 5S** Temperature dependence of the transmittance of P(PMAB) with the concentration of 1.0 mg/mL at pH=4.7 in PBS