

# Thermoresponsive self-assembled NiPAm-zwitterion copolymers

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## Supporting Information

We characterized the structure of all the PC and PS copolymers by obtaining their proton nuclear magnetic resonance (<sup>1</sup>H NMR) spectra by using a Bruker AV500 series spectrometer with a 1H frequency at 499.956 MHz and D<sub>2</sub>O as the lock solvent.

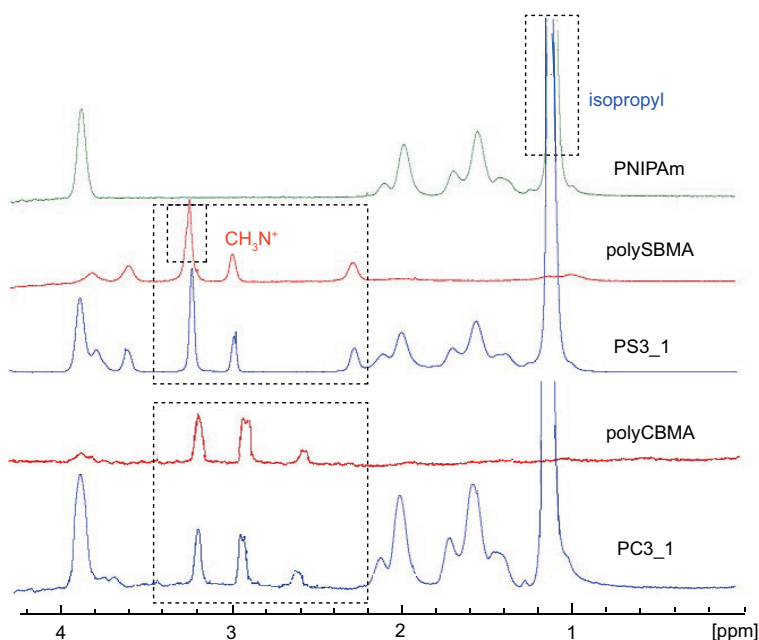


Figure 1: <sup>1</sup>H NMR spectra for PNIPAm, polySBMA, PS3\_1, polyCBMA and PC3\_1.

The composition of the PS copolymers was estimated from the relative area of (CH<sub>3</sub>)<sub>2</sub>N<sup>+</sup> proton resonance of the polySBMA side group at  $\delta = 3.2$  ppm. The composition of the PC copolymers was estimated from the relative area of (CH<sub>3</sub>)<sub>2</sub>N<sup>+</sup> proton resonance of the polyCBMA side group at  $\delta = 3.16$  ppm. The composition of the polyNIPAAm was estimated from the relative area of the methyl proton resonance of the

polyNIPAAm isopropyl group at  $\delta = 1.1$  ppm, see Fig. 1. In order to display smaller peaks from the zwitterion components, we truncated the first big peak from isopropyl groups in the PNIPAAm, see Fig. 1. All PC and PS copolymers have the same spectra pattern but different sizes of relative areas. The ratio of area integrations representing different components corresponds to the molar ratio percentage listed in Table 1 in the revision. We do detect slight differences in the molecular compositions percentages of PC and PS copolymers used. However, all samples exhibited a similar average molecular weight of about 42~46 kDa and a narrow molecular weight distribution ( $M_w/M_n = 1.1-1.3$ ).