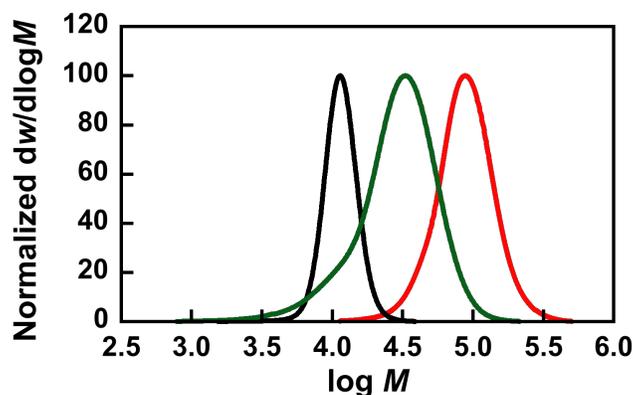


## Supporting Information

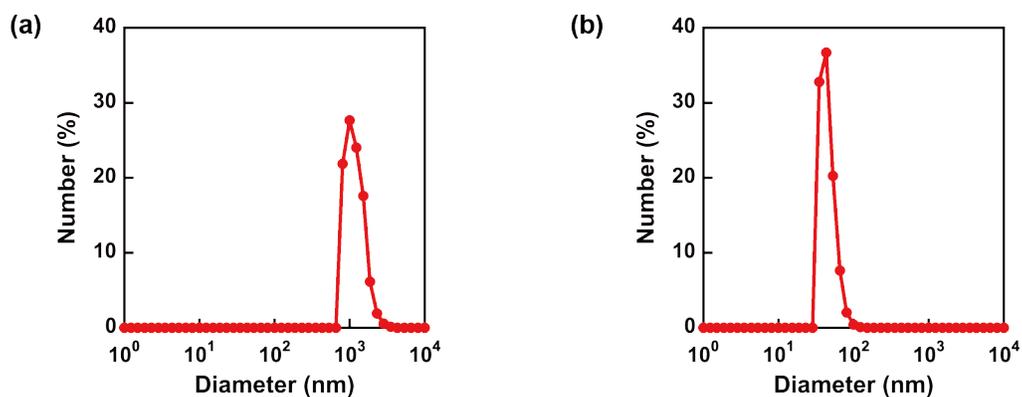
# UCST-type Thermoresponsive Sol-Gel Transition Triblock Copolymer Containing Zwitterionic Polymer Blocks

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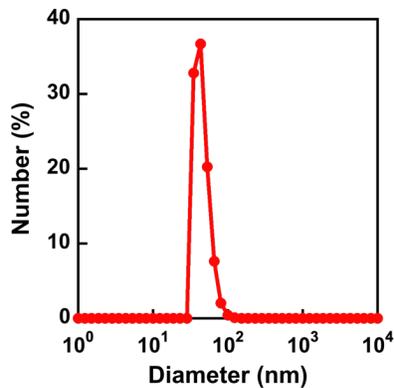
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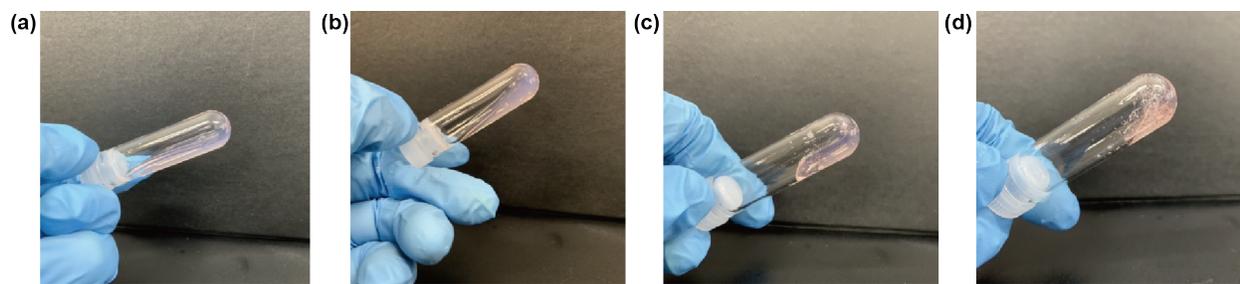
**Figure S1.** Molecular weight distributions (normalized to peak height) of PEG<sub>250</sub> (black line), PSB<sub>96</sub>-PEG<sub>250</sub>-PSB<sub>96</sub> (green line), and PSaB<sub>97</sub>-PEG<sub>250</sub>-PSaB<sub>97</sub> (red line). The size exclusion chromatography measurements were conducted using a Shimadzu Prominence HPLC system (Shimadzu corp., Kyoto, Japan) equipped with PFG 100 Å and PFG 1000 Å columns (Polymer Standards Service GmbH, Germany) at 40 °C under a flow rate of 1.0 mL/min using a refractive index detector. A 2,2,2-trifluoroethanol solution containing 20 mM sodium trifluoroacetate was used as an eluent. The molecular weight distributions were calculated using near-monodisperse poly(methyl methacrylate) standards.



**Figure S2.** Size distributions of (a) PSB<sub>140</sub>-PEG<sub>91</sub>-PSB<sub>140</sub> and (b) PSB<sub>96</sub>-PEG<sub>250</sub>-PSB<sub>96</sub> at 25 °C. The concentration of triblock copolymers was 5 mg/mL. Size distributions of PSB-PEG-PSB self-assemblies were measured using ELS-Z1000 spectrometer (Otsuka Electronics Co., Ltd., Osaka, Japan) equipped with a He-Ne laser ( $\lambda = 633.8$  nm) and backscatter optics. Size distribution was obtained using Marquart analysis.



**Figure S3.** Size distribution of PSaB<sub>97</sub>-PEG<sub>250</sub>-PSaB<sub>97</sub> at 25 °C. The concentration of PSaB<sub>97</sub>-PEG<sub>250</sub>-PSaB<sub>97</sub> was 5 mg/mL. Size distributions of PSaB<sub>97</sub>-PEG<sub>250</sub>-PSB<sub>97</sub> self-assemblies were measured using ELS-Z1000 spectrometer (Otsuka Electronics Co., Ltd., Osaka, Japan) equipped with a He–Ne laser ( $\lambda = 633.8$  nm) and backscatter optics. Size distribution was obtained using Marquart analysis.



**Figure S4.** Photographs of PSB<sub>96</sub>-PEG<sub>250</sub>-PSB<sub>96</sub> in water after heating at 80 °C, followed by cooling to 25 °C. The concentrations of PSB<sub>96</sub>-PEG<sub>250</sub>-PSB<sub>96</sub> were (a) 15, (b) 20, (c) 25, and (d) 30 wt%.