Supporting Information

Synthesis of Water-Soluble Polyisocyanate with Oligo(ethylene glycol) Side-Chain as a New Thermoresponsive Polymer

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SCE, NMR, and Thermoresponsive Measurements

Figure S1. (a) SEC traces of obtained PMeEO<sub>3</sub>ICs (runs 1 – 5, and 7) in THF.

Figure S2. <sup>13</sup>C NMR spectra of MeEO<sub>3</sub>IC (upper) and PMeEO<sub>3</sub>IC (run 2, lower) in CDCl<sub>3</sub>. 
**Figure S3.** Transmittance versus temperature for the aqueous solutions of PMeEO$_3$Ic (run 3, $M_{n,NMR} = 5,560$) with polymer concentrations of 20, 30, and 40 g L$^{-1}$. The data were recorded at 400 nm at the heating rate of 1 °C/min.

**Figure S4.** (a) SEC trace of PMeEO$_2$Ic (run 6) in THF, (b) $^1$H NMR spectrum of PMeEO$_2$Ic (run 6) in CDCl$_3$, and (c) $^{13}$C NMR spectrum of PMeEO$_2$Ic (run 6) in CDCl$_3$. 
Figure S5. (a) SEC trace of PEtEO3IC (run 8) in THF and (b) $^1$H NMR spectrum of PEtEO3IC (run 8) in CDCl$_3$, and (c) $^{13}$C NMR spectrum of PMeEO2IC (run 8) in CDCl$_3$.

Figure S6. (a) SEC trace of PMeEO4IC (run 9) in THF and (b) $^1$H NMR spectrum of PMeEO4IC (run 9) in CDCl$_3$, and (c) $^{13}$C NMR spectrum of PMeEO2IC (run 9) in CDCl$_3$. 