Supporting Information

Thiol-responsive hydrogel scaffolds for rapid change in thermoresponsiveness

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Figure S1. Kinetic plot (A) and evolution of molecular weight and molecular weight distribution with conversion (B) for AGET ATRP of MEO_2MA in the presence of PEO-Br macroinitiator in DMF at 47 °C. Conditions: $[MEO_2MA]_0/[PEO-Br]_0/[CuBr_2]_0/[bpy]_0 = 500/1/3/6$; $[Sn(Oct)_2]_0/[CuBr_2]_0 = 0.7/1$; $MEO_2MA/DMF = 1.5/1$ wt/wt. The dotted lines in (A) are linear fits, and the straight lines in (B) are the theoretically predicted molecular weight over conversion.
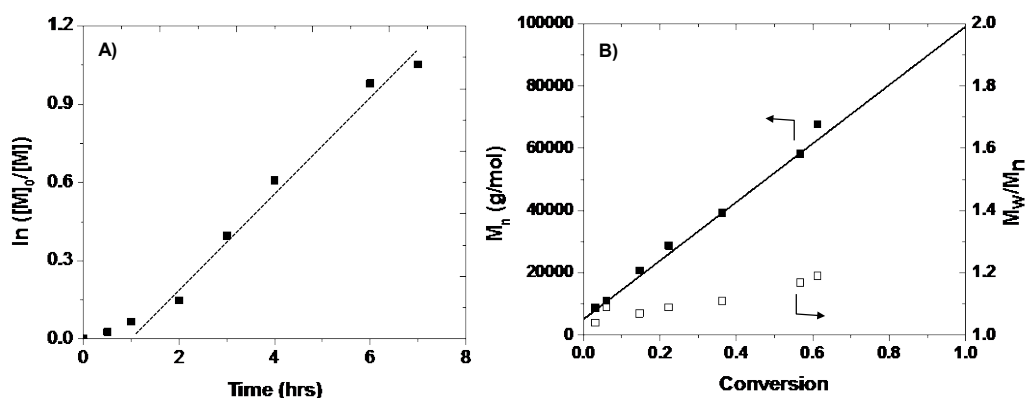

Figure S2. GPC traces of PEO-b-PMEO$_2$MA block copolymers, compared with that of PEO-Br macroinitiator. Molecular weights of PEO-b-PMEO$_2$MA: $M_n = 28.8$ kg/mol, $M_w/M_n = 1.09$ (1), $M_n = 39.2$ kg/mol, $M_w/M_n = 1.11$ (2), and $M_n = 58.2$ kg/mol, $M_w/M_n = 1.17$ (3).
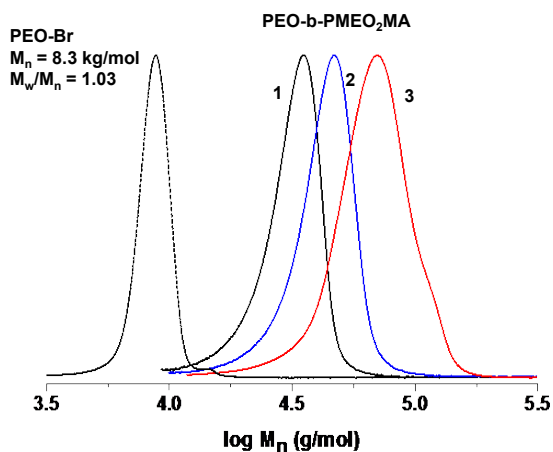
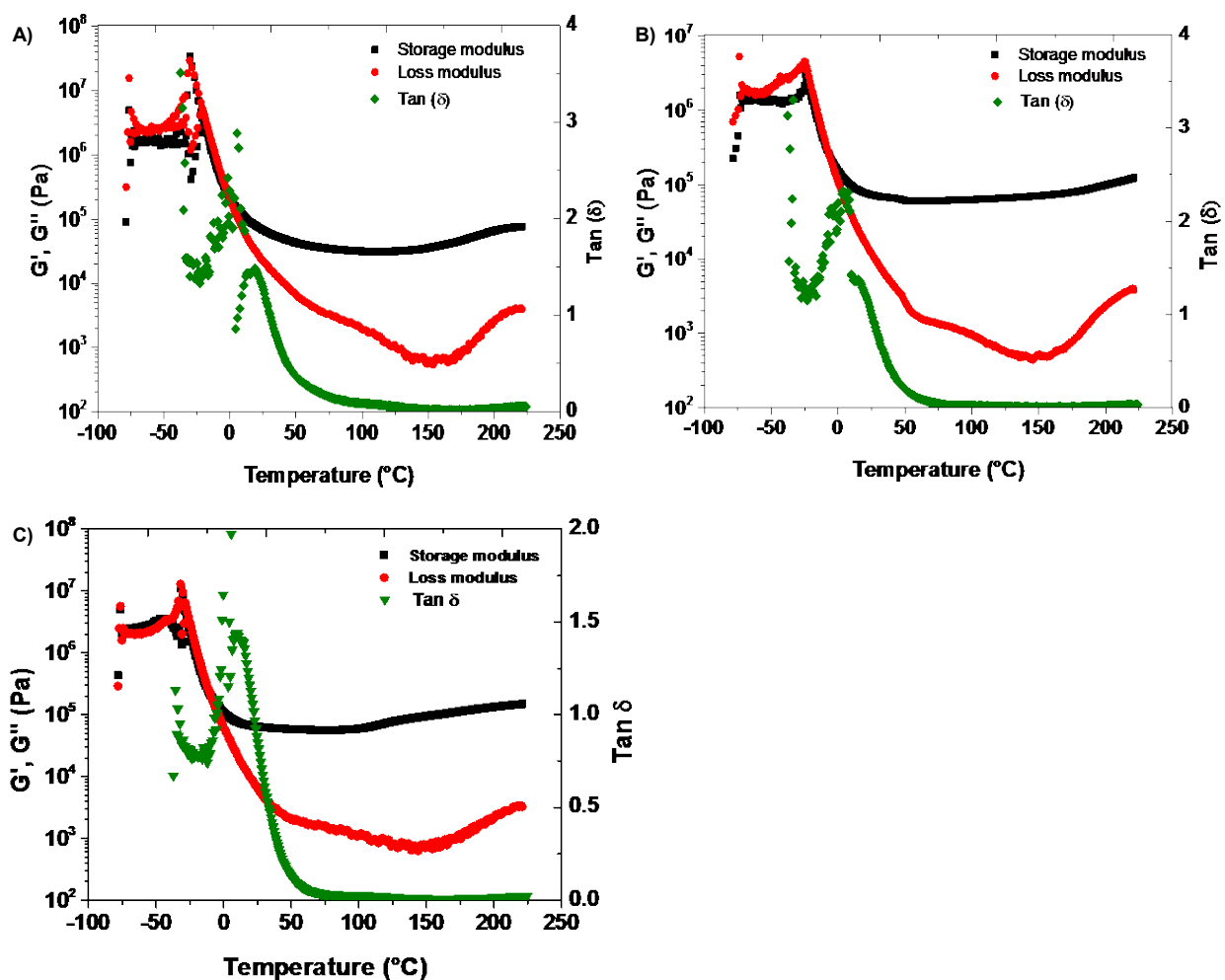**Figure S3.** Temperature-dependent viscoelastic properties of ssH2 (a), ssH4 (b), and ssH6 gels (c).

Figure S4. Temperature dependence of normalized light scattering intensity by DLS for 3 mg/mL aqueous solutions of PEO-b-PMEO$_2$MA.
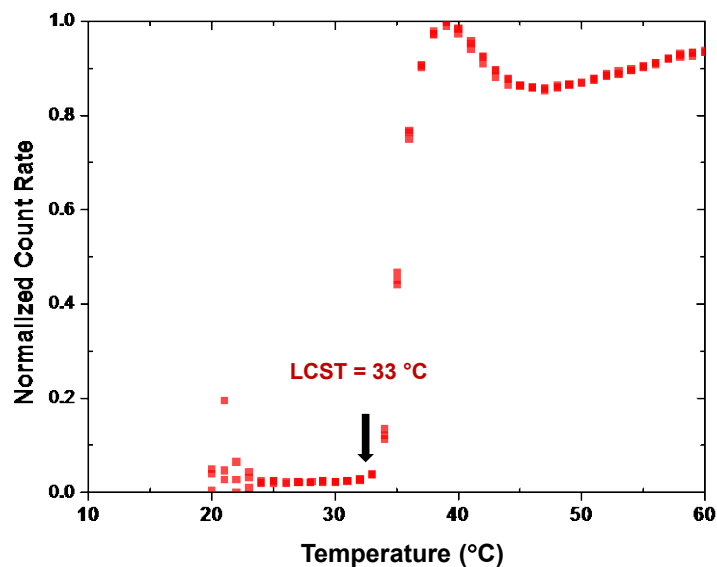

Figure S5. DSC thermograms of ssH2 and ssH6 hydrogels.
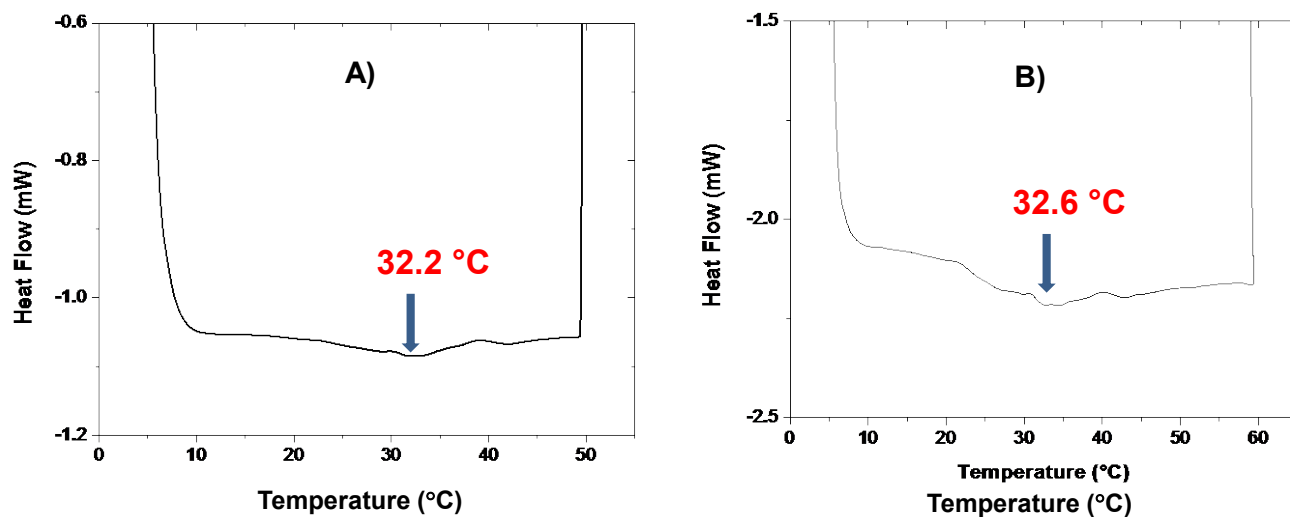
Figure S6. Absorbance vs concentration of R6G to determined its extinction coefficient in aqueous buffer solution at pH = 6.
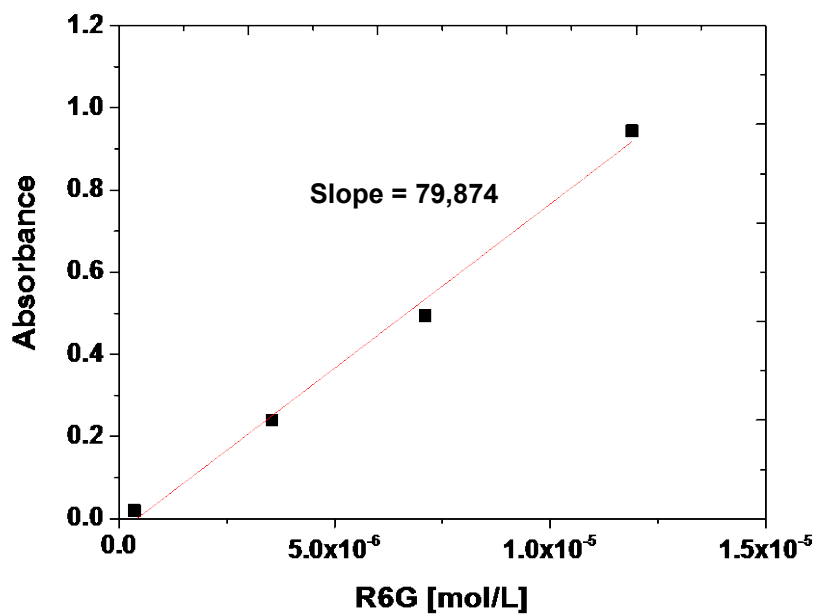

Figure S7. Evolution of absorbance of R6G released from thermoresponsive hydrogels in aqueous buffer solution at pH = 6 at 45 °C.