Supplementary Data for:

Dually Responsive Aqueous Gels from Thermo- and Light-Sensitive Hydrophilic ABA Triblock Copolymers

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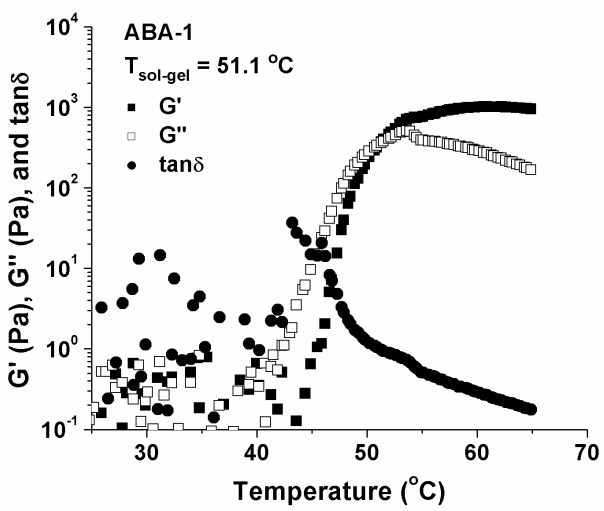


Figure S1. Plot of dynamic storage modulus G' (!), dynamic loss modulus G" (∀), and tanδ (,) versus temperature for a 10.0 wt % aqueous solution of PTEGEA-*b*-PEO-*b*-PTEGEA (**ABA-1** in Table 1) in a heating ramp. The rheological data were collected using a heating rate of 3 °C/min, a strain amplitude of 0.2 %, and an oscillation frequency of 1 Hz.

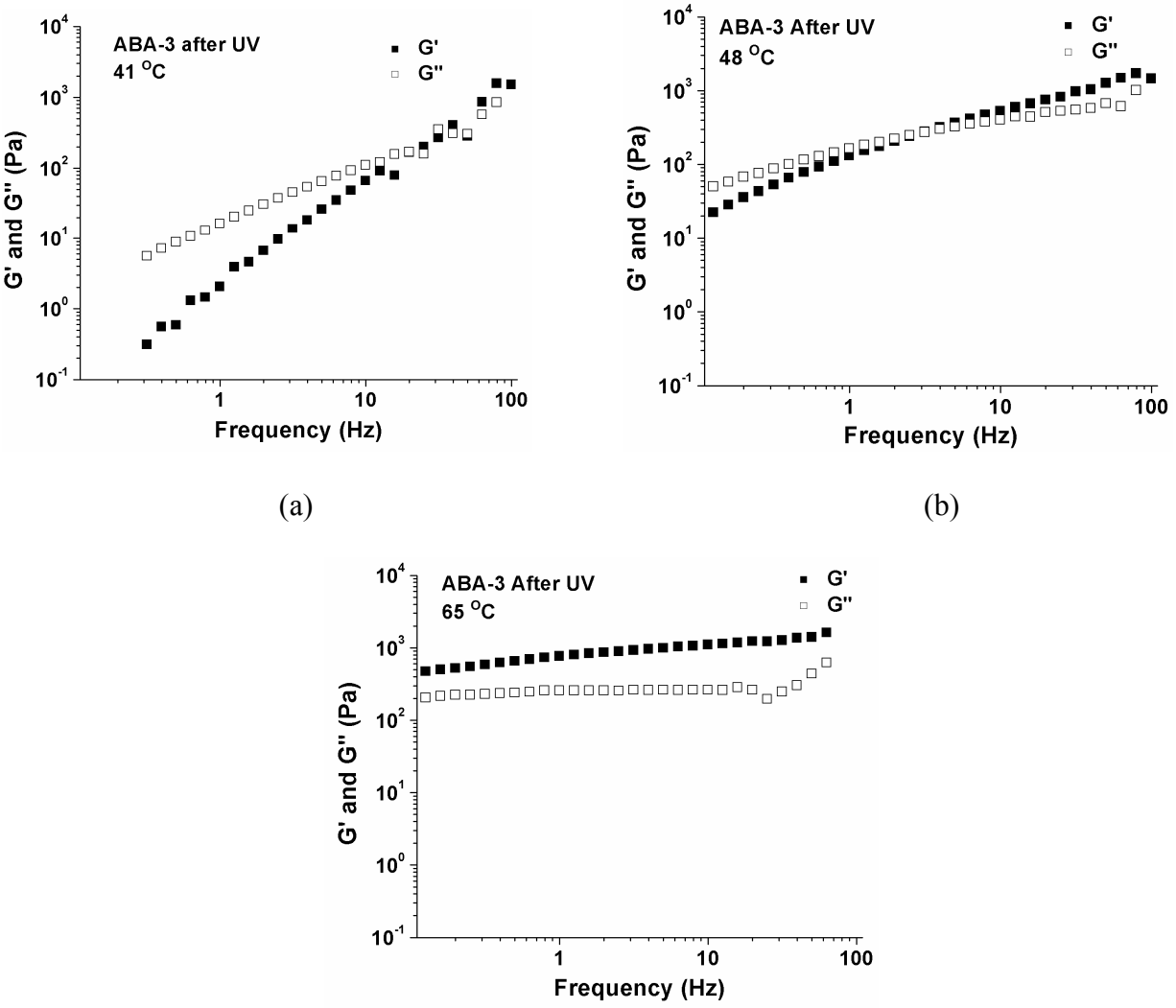
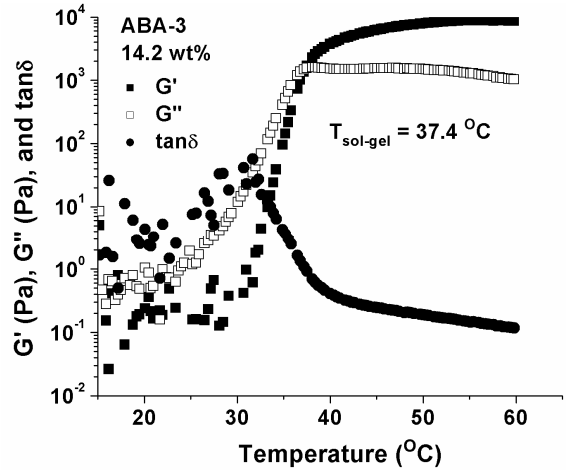
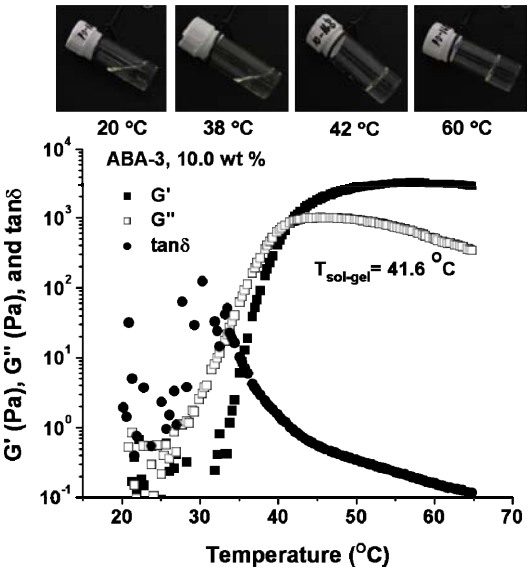


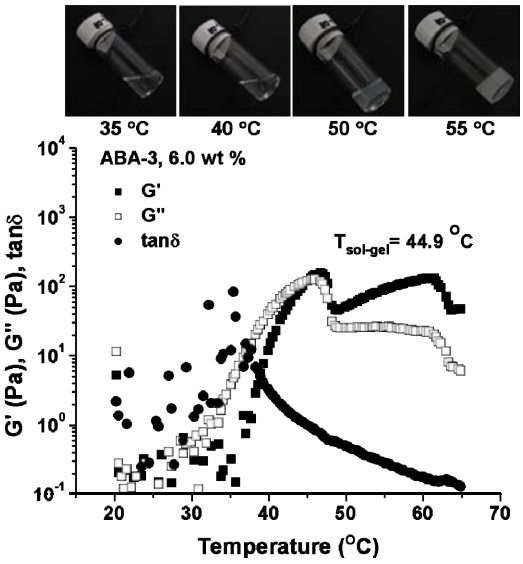
Figure S2. Frequency dependencies of dynamic storage modulus G' (!) and loss modulus G'' (∀) of a 9.7 wt % aqueous solution of P(TEGEA-*co*-AA)-*b*-PEO-*b*-P(TEGEA-*co*-AA), obtained from UV irradiation of a 10.0 wt % aqueous solution of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEA-*co*-NBA) (**ABA-3**) at 43 °C for 116 h, at (a) 41, (b) 48, and (c) 65 °C. A strain amplitude of 0.2 % was used in the frequency sweep experiments.


ABA-3
14.2 wt%
G'
G''
tanδ
$T_{sol-gel}$ = 37.4 °C
G' (Pa), G'' (Pa), and tanδ
Temperature (°C)

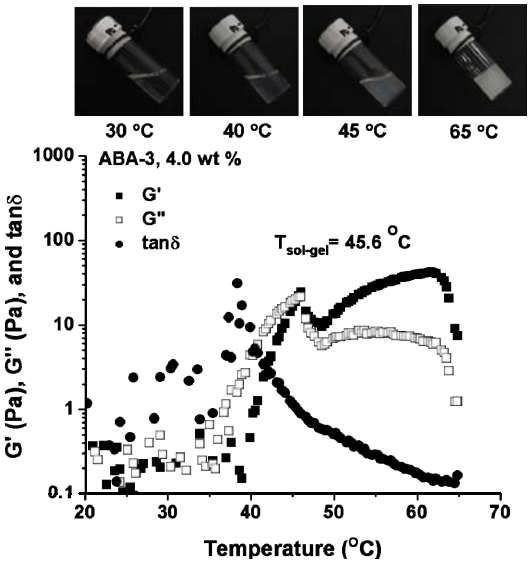
(a)


20 °C
38 °C
42 °C
60 °C
ABA-3, 10.0 wt %
G'
G''
tanδ
$T_{sol-gel}$= 41.6 °C
G' (Pa), G'' (Pa), and tanδ
Temperature (°C)

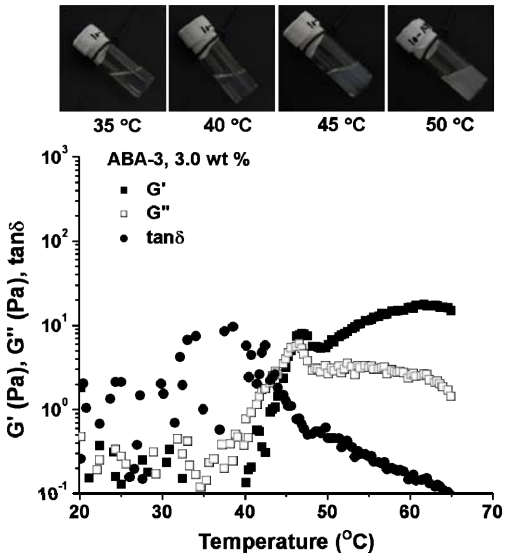
(b)


35 °C
40 °C
50 °C
55 °C
ABA-3, 6.0 wt %
G'
G''
tanδ
$T_{sol-gel}$= 44.9 °C
G' (Pa), G'' (Pa), tanδ
Temperature (°C)

(c)

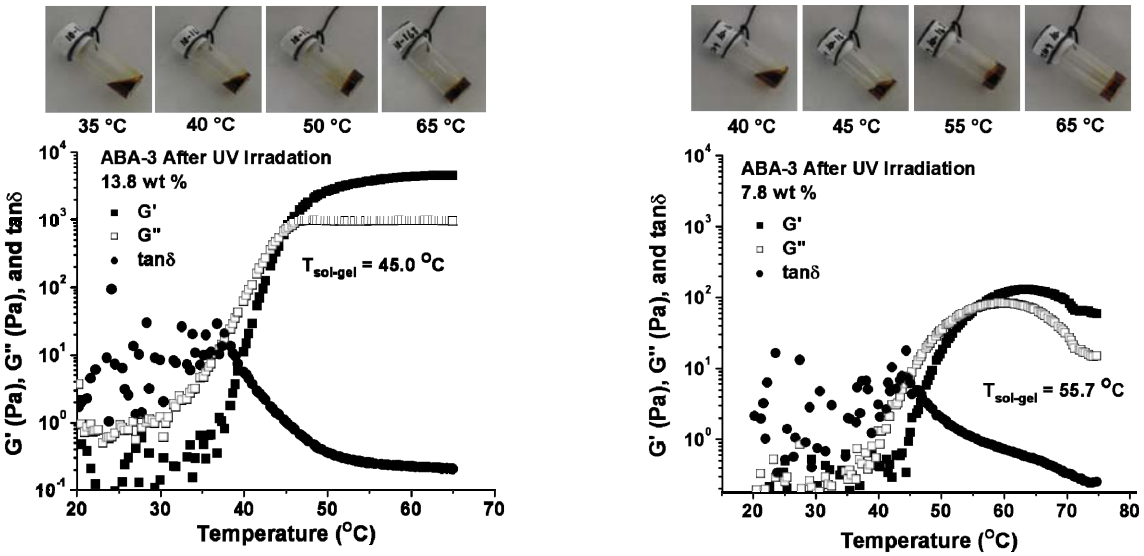

30 °C
40 °C
45 °C
65 °C
ABA-3, 4.0 wt %
G'
G''
tanδ
$T_{sol-gel}$= 45.6 °C
G' (Pa), G'' (Pa), and tanδ
Temperature (°C)

(d)



(e)

Figure S3. Temperature ramps for aqueous solutions of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEAA-*co*-NBA) (**ABA-3** in Table 1) with concentrations of (a) 14.2, (b) 10.0, (c) 6.0, (d) 4.0, and (e) 3.0 wt %. The rheological data were collected at a constant frequency of 1 Hz, a strain amplitude of 0.2 %, and a heating rate of 3 °C/min. The pictures show the states of each solution at four different temperatures.



(a) (b)

Figure S4. Temperature ramps for aqueous solutions of P(TEGEA-*co*-AA)-*b*-PEO-*b*-P(TEGEAA-*co*-AA) (obtained from UV irradiation of a 10.0 wt % aqueous solution of **ABA-3**) with concentrations of (a) 13.8 and (b) 7.8 wt %. The rheological data were collected at a constant frequency of 1 Hz, a strain amplitude of 0.2 %, and a heating rate of 3 °C/min. The pictures show the states of each solution at four different temperatures.

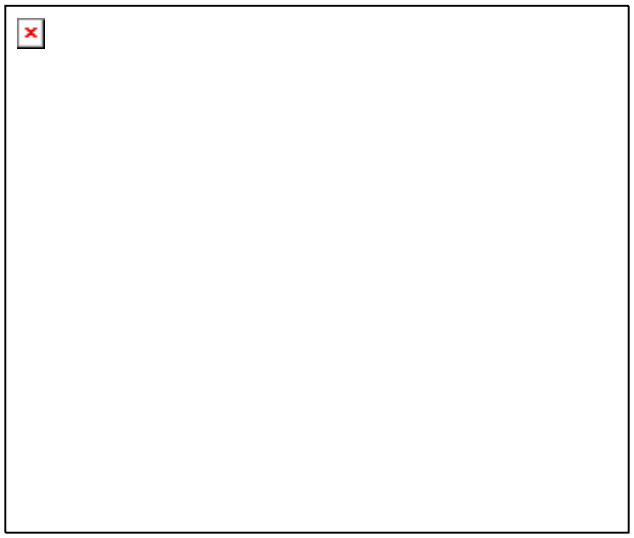
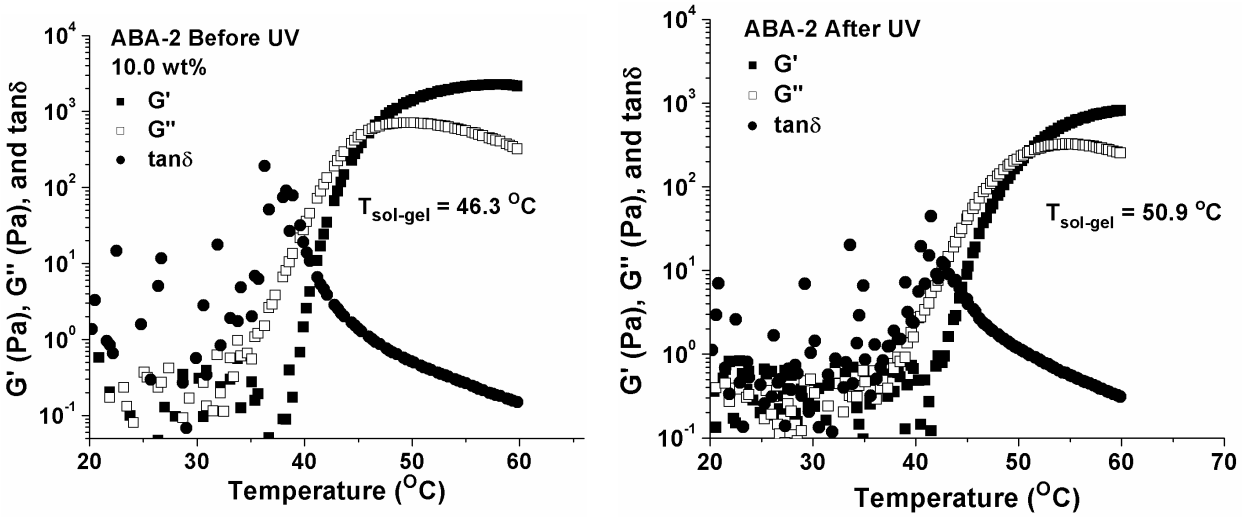
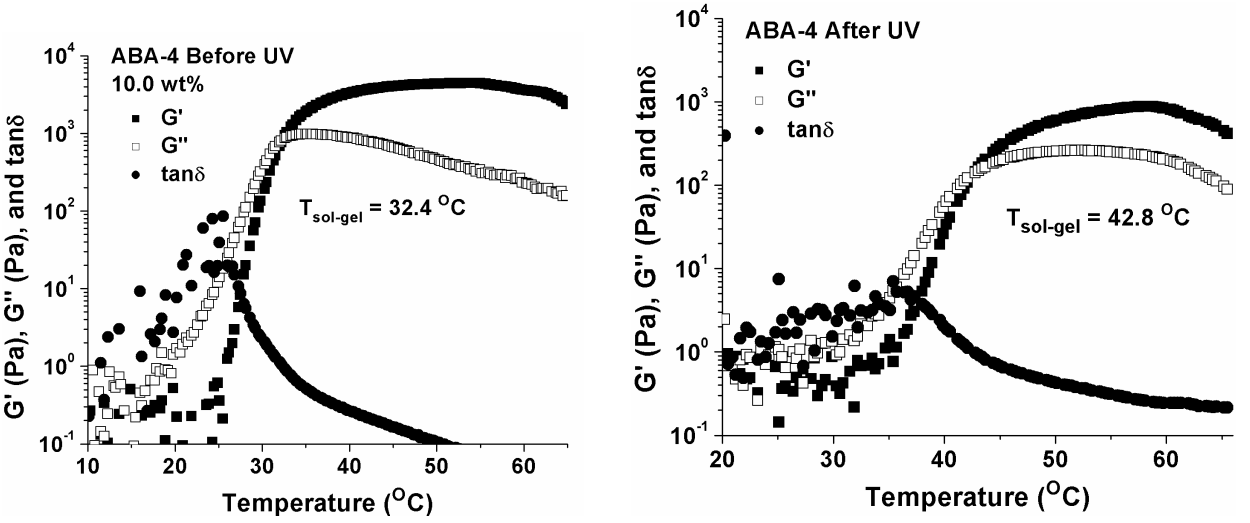


Figure S5. Phase diagram of aqueous solution of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEA-*co*-NBA) (**ABA-3**). !: Sol-gel transition temperature determined by rheological measurements; ,: temperature at which the gel became cloudy, determined by visual examination; 7: temperature at which a clear solution turned cloudy, determined by visual examination.



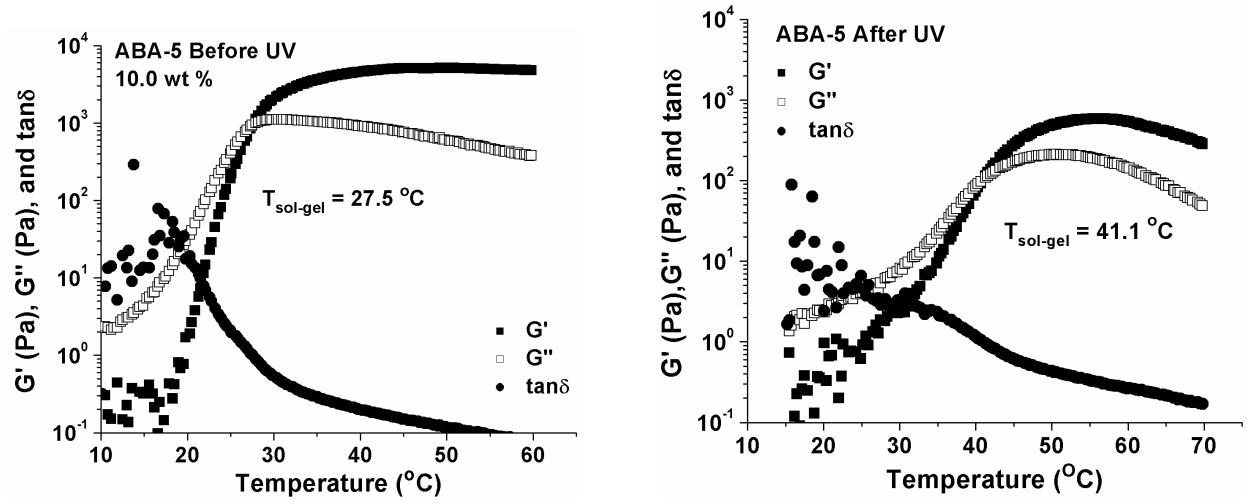
(a) (b)

Figure S6. Plot of dynamic storage modulus G' (!), dynamic loss modulus G" (∀), and tanδ (,) versus temperature for a 10.0 wt % aqueous solution of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEA-*co*-NBA) (**ABA-2**) before (a) and after (b) the removal of *o*-nitrobenzyl groups. The rheological data were collected from heating ramps using a heating rate of 3 °C/min, a strain amplitude of 0.2 %, and an oscillation frequency of 1 Hz.



(a) (b)

Figure S7. Plot of dynamic storage modulus G' (!), dynamic loss modulus G" (∀), and tanδ (,) versus temperature for a 10.0 wt % aqueous solution of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEA-*co*-NBA) (**ABA-4**) before (a) and after (b) the removal of *o*-nitrobenzyl groups. The rheological data were collected from heating ramps using a heating rate of 3 °C/min, a strain amplitude of 0.2 %, and an oscillation frequency of 1 Hz.



(a) (b)

Figure S8. Plot of dynamic storage modulus G' (!), dynamic loss modulus G" (∀), and tanδ (,) versus temperature for a 10.0 wt % aqueous solution of P(TEGEA-*co*-NBA)-*b*-PEO-*b*-P(TEGEA-*co*-NBA) (**ABA-5**) before (a) and after (b) the removal of *o*-nitrobenzyl groups. The rheological data were collected from heating ramps using a heating rate of 3 °C/min, a strain amplitude of 0.2 %, and an oscillation frequency of 1 Hz.