Supporting Information

Colorimetric Thermometer from Graphene Oxide Platform Integrated with Red, Green, and Blue Emitting, Responsive Block Copolymers

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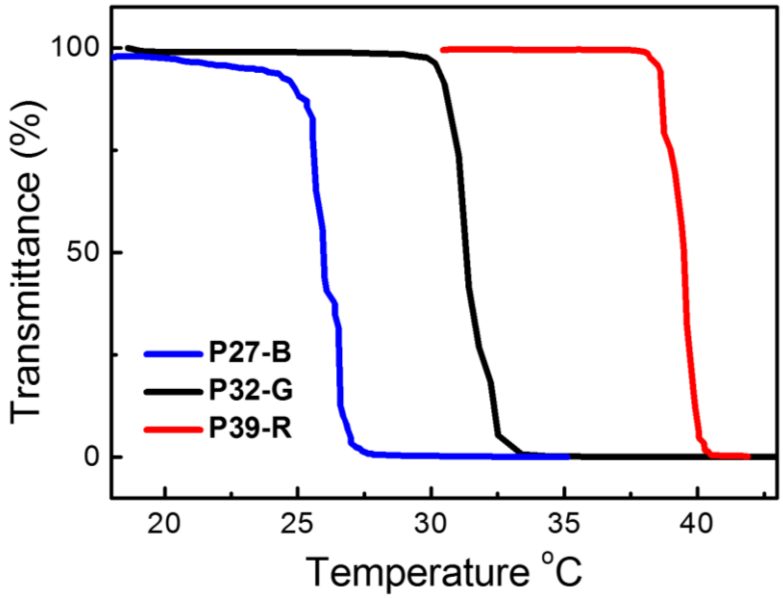

Figure S1. Temperature-dependent optical transmittances of P27-B, P32-G and P39-R in aqueous solution (0.5 w/v%)

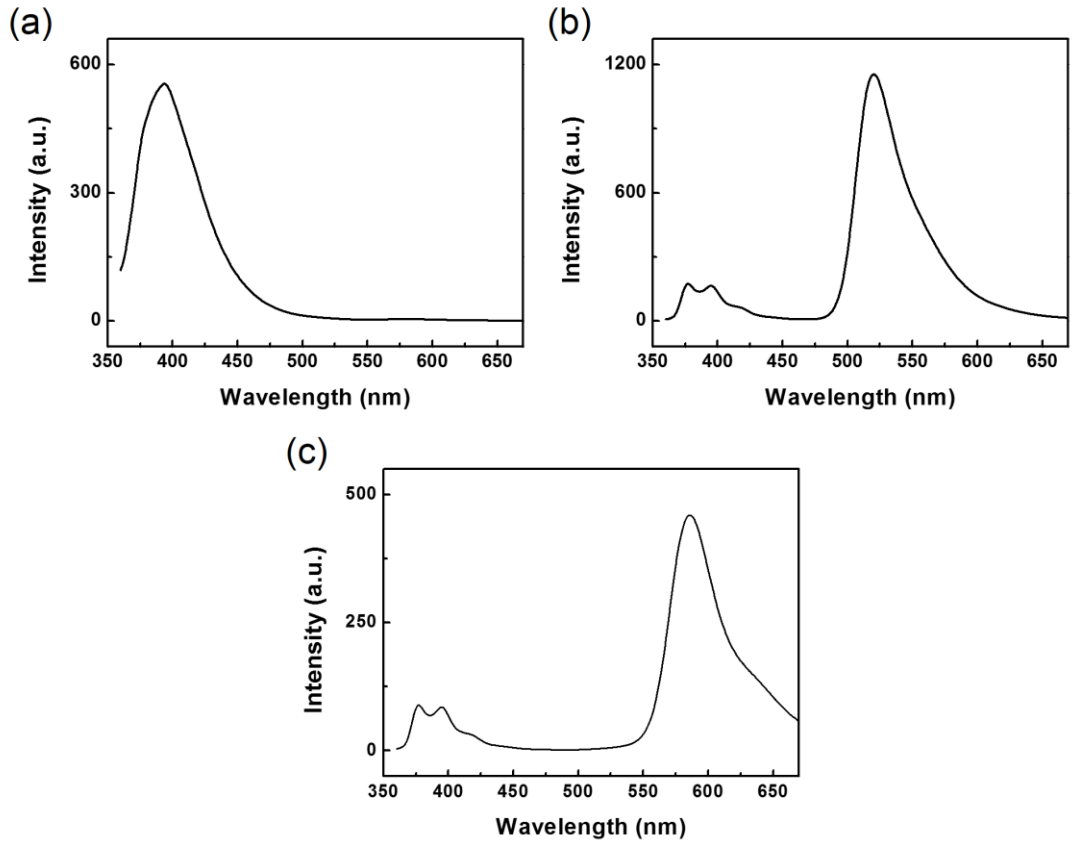

Figure S2. PL spectra of (a) P27-B, (b) P32-G and (c) P39-R. PL measurements were performed at 10 mg/ml under irradiation at 350 nm.

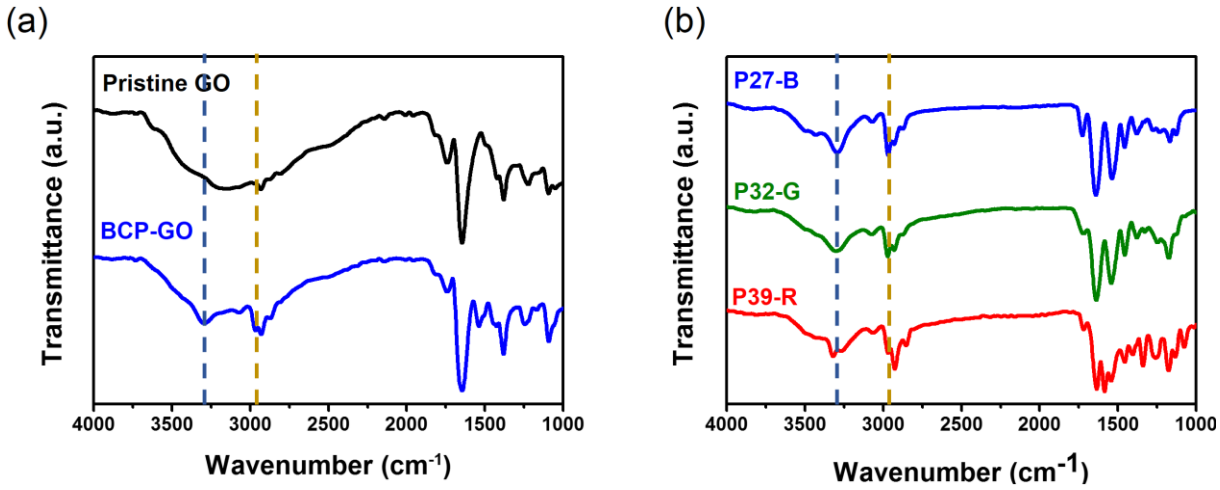

Figure S3. ATR-FTIR spectra of (a) pristine GO, BCP-GO, (b) P27-B, P32-G and P39-R

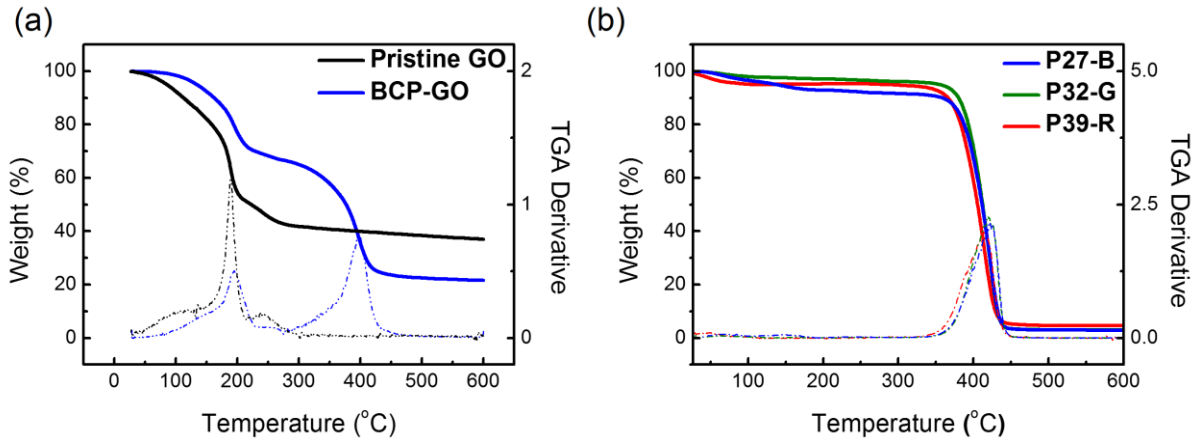

Figure S4. TGA curves of (a) pristine GO, BCP-GO, (b) P27-B (Blue), P32-G (Green) and P39-R (Red)

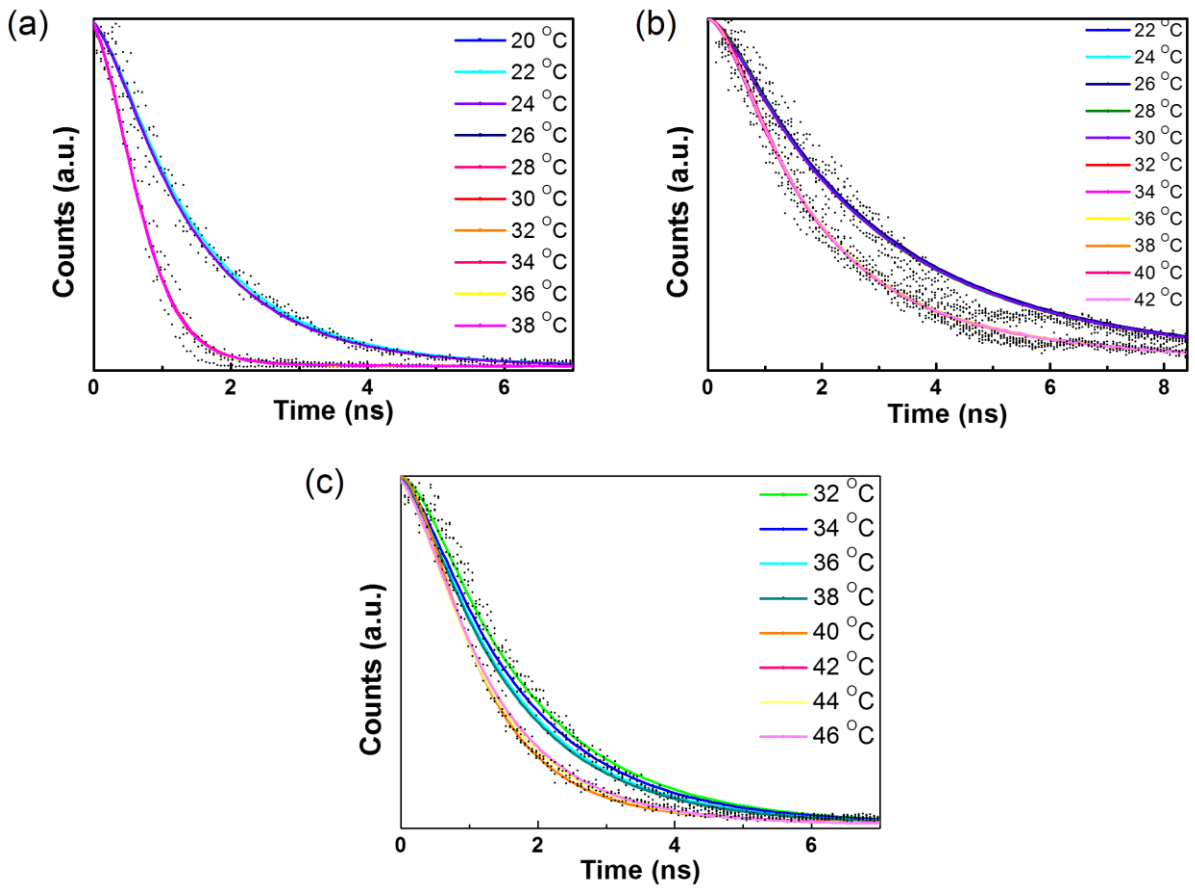

Figure S5. Time-resolved fluorescence (TRF) spectra of BCP-GO as function of temperature: TRF was measured for the BCP-GO with filtering (a) 393 nm for blue emission, (b) 518 nm for green emission and (c) 585 nm for red emission. BCP-GO was irradiated at 370 nm

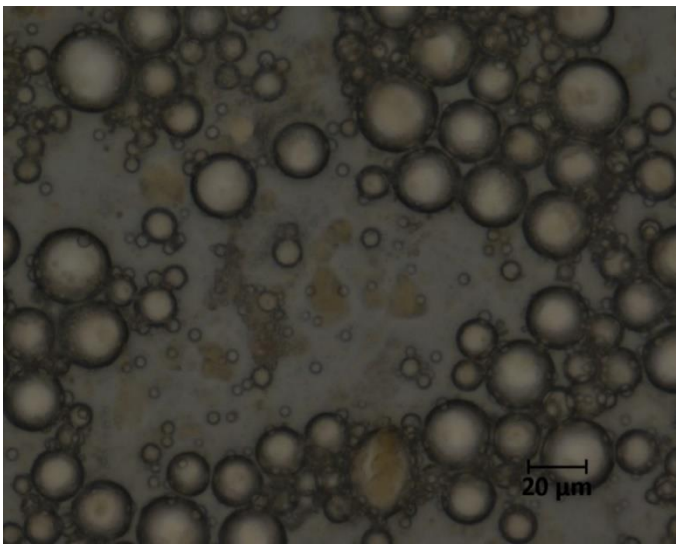

Figure S6. Optical microscopy images of BCP-GO in water-in-toluene emulsion

Table S1. Results of fluorescence lifetime decay measured at 393 nm for coumarin, 518 nm for fluorescein and 585 nm for rhodamine under irradiation at 370 nm. The data were fitted by a double exponential model using two different lifetimes of τ_1 and τ_2. A_1 and A_2 are the normalized populations for lifetime τ_1 and τ_2, respectively. The average τ_{ave} is calculated using the equation $\tau_{ave} = (A_1\tau_1 + A_2\tau_2)/(A_1 + A_2)$.

Emission (nm)	Temperature	τ_1 (ns)	A_1 (%)	τ_2 (ns)	A_2 (%)	τ_{ave} (ns)
393 nm	22 ℃	1.29	95.93	4.38	4.07	1.42
(Coumarin)	28 ℃	0.42	97.33	4.18	2.67	0.54
518 nm	28 ℃	1.99	45.41	4.76	54.59	3.50
(Fluorescein)	34 ℃	1.47	64.13	4.66	35.87	2.62
585 nm	34 ℃	1.51	94.48	2.74	5.52	1.57
(Rhodamine B)	42 ℃	1.08	93.68	2.74	6.32	1.18