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Supporting Information

Responsive Nanogel-Based Dual Fluorescent Sensors for Temperature and Hg^{2+} Ions with Enhanced Detection Sensitivity

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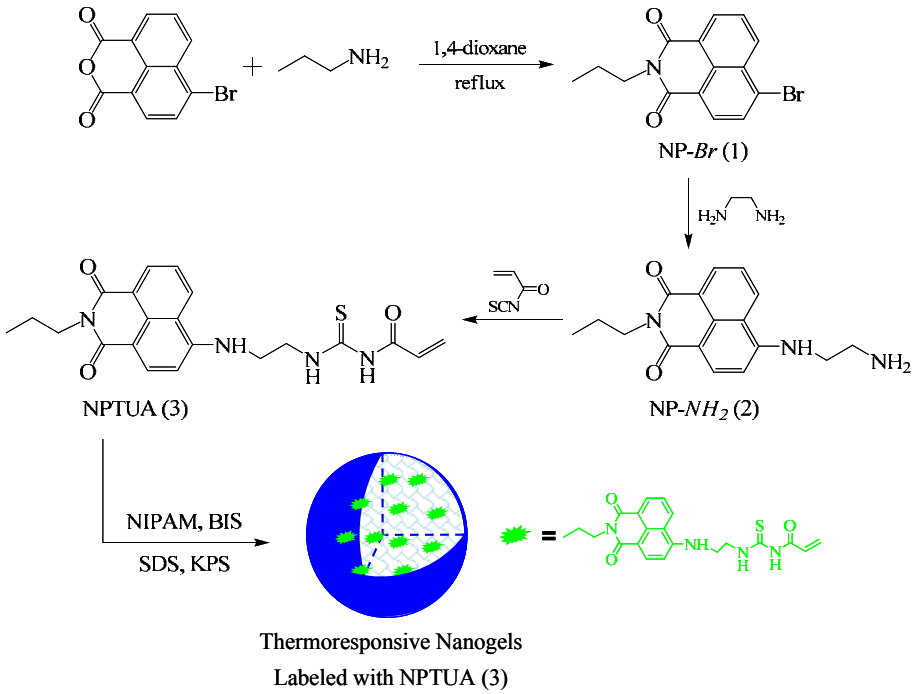

Scheme S1. Synthetic routes employed for the preparation of NPTUA-labeled thermo-responsive PNIPAM nanogels as dual fluorescent sensors for temperature and Hg^{2+} ions.

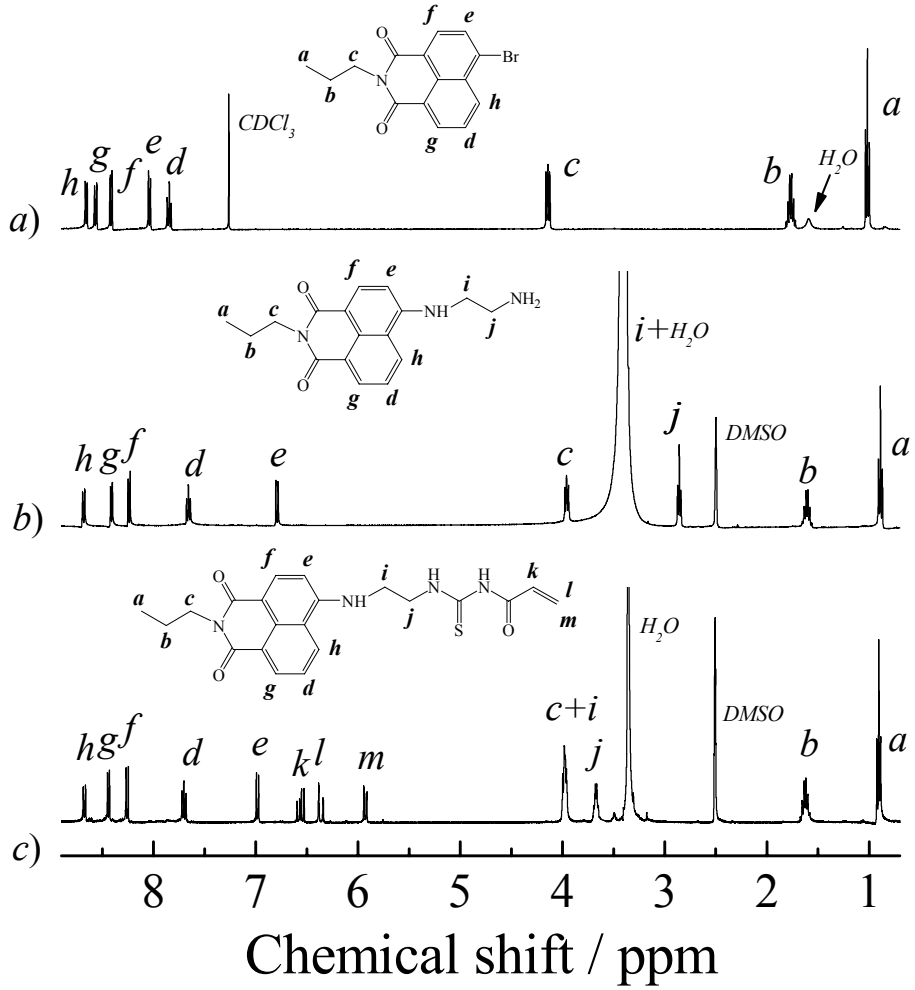

Figure S1. ^{1}H NMR spectra recorded for (a) NP-*Br* (***1***) in $CDCl_3$, (b) NP-NH_2 (***2***) in d_6-DMSO, and (c) NPTUA monomer (***3***) in d_6-DMSO.

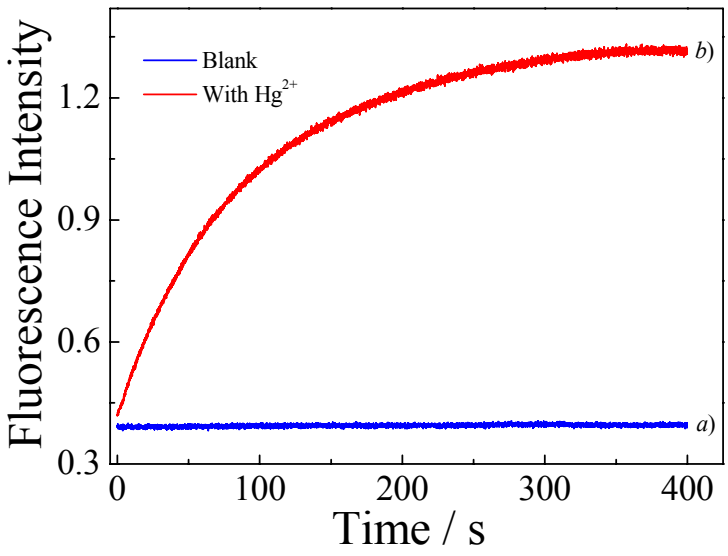

Figure S2. Time-dependence of fluorescence emission intensities (λ_{ex} = 390 nm, λ_{em} = 482 nm; slit widths: Ex. 10 nm, Em. 10 nm) recorded upon stopped-flow mixing 0.05 g/L aqueous dispersion of P(NIPAM-*co*- NPTUA) nanogels ([NPTUA] = 5.0×10^{-7} M) with (a) pure water and (b) 5 equiv. of Hg^{2+} at 25 ^{o}C.

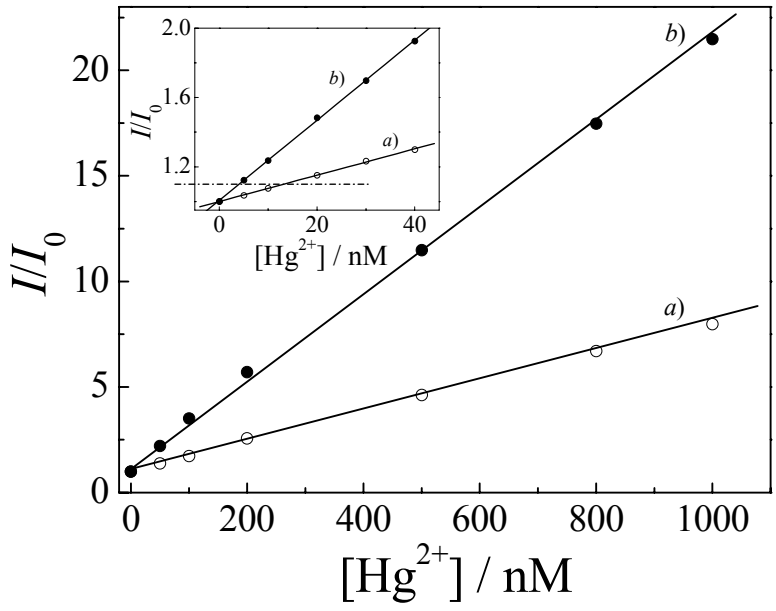

Figure S3. Normalized fluorescence intensity changes (λ_{ex} = 390 nm; slit widths: Ex. 5 nm, Em. 5 nm) recorded for 0.05 g/L aqueous dispersion of P(NIPAM-*co*-NPTUA) nanogels ([NPTUA]=5.0 × 10^{-7} M) upon gradual addition of Hg^{2+} (0-2 equiv.) at (a) 25 ^{o}C, λ_{em} = 482 nm and (b) 40 ^{o}C, λ_{em} = 457 nm, respectively. The inset shows the determination of detection limit.