Supplementary Information for:

Thermo- and Light-Regulated Fluorescence Resonance Energy Transfer Processes within Dually Responsive Microgels

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Fig. S1. $^1$H NMR spectra recorded in DMSO-$d_6$ for (a) 5-hydroxy-2-nitrobenzaldehyde (1) and (b) 5-hydroxy-2-nitrobenzyl alcohol (2).
**Fig. S2.** Fluorescence emission spectra ($\lambda_{ex} = 470$ nm; slit widths: Ex. 5 nm, Em. 5 nm) recorded at varying temperatures for P(NIPAM-DMNA-NBDAE-RhBEA) microgel dispersions (pH 8.5, $1.0 \times 10^{-5}$ g/mL; microgels were prepared with a DMNA feed ratio of 15.0 wt%) (a) before and (b) after UV irradiation (365 nm) for 30 min.
**Fig. S3.** Temperature-dependent fluorescence intensity ratio changes, $F_{590}/F_{529}$, obtained for P(NIPAM-DMNA-NBDAE-RhBEA) microgel dispersions (pH 8.5, $1.0 \times 10^{-5}$ g/mL; microgels were prepared with a DMNA feed ratio of 15.0 wt%) before and after UV irradiation (365 nm) for 30 min.
**Fig. S4.** Typical hydrodynamic radius distributions, $f(R_h)$, of P(NIPAM-DMNA-NBDAE-RhBEA) microgels (20.0 wt% DMNA feed content) (○) at 25 °C before UV irradiation and at 38 °C (■) before and (●) after UV irradiation for 30 min, respectively.