

Electronic Supplementary Information

Cell adhesion control by photoinduced LCST shift of PNIPAAm-based brush scaffolds

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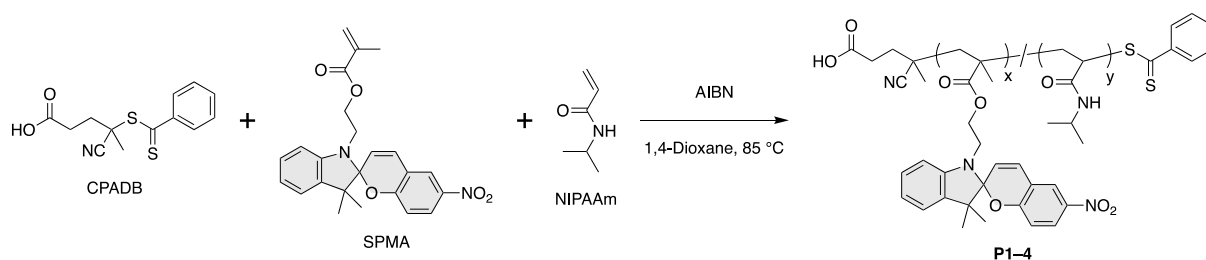


Fig. S1 Synthetic scheme for photoresponsive PNIPAAms **P1–4** via RAFT polymerization.

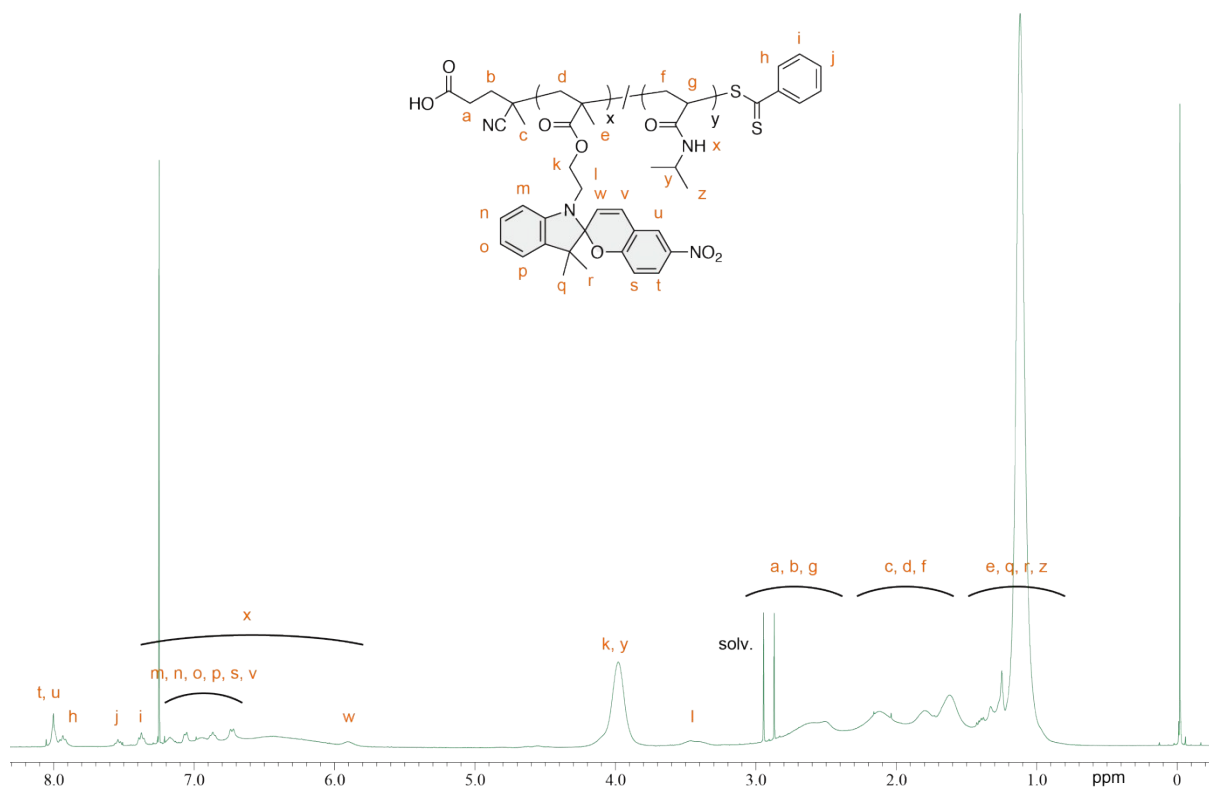


Fig. S2 ¹H NMR spectrum of **P1**.

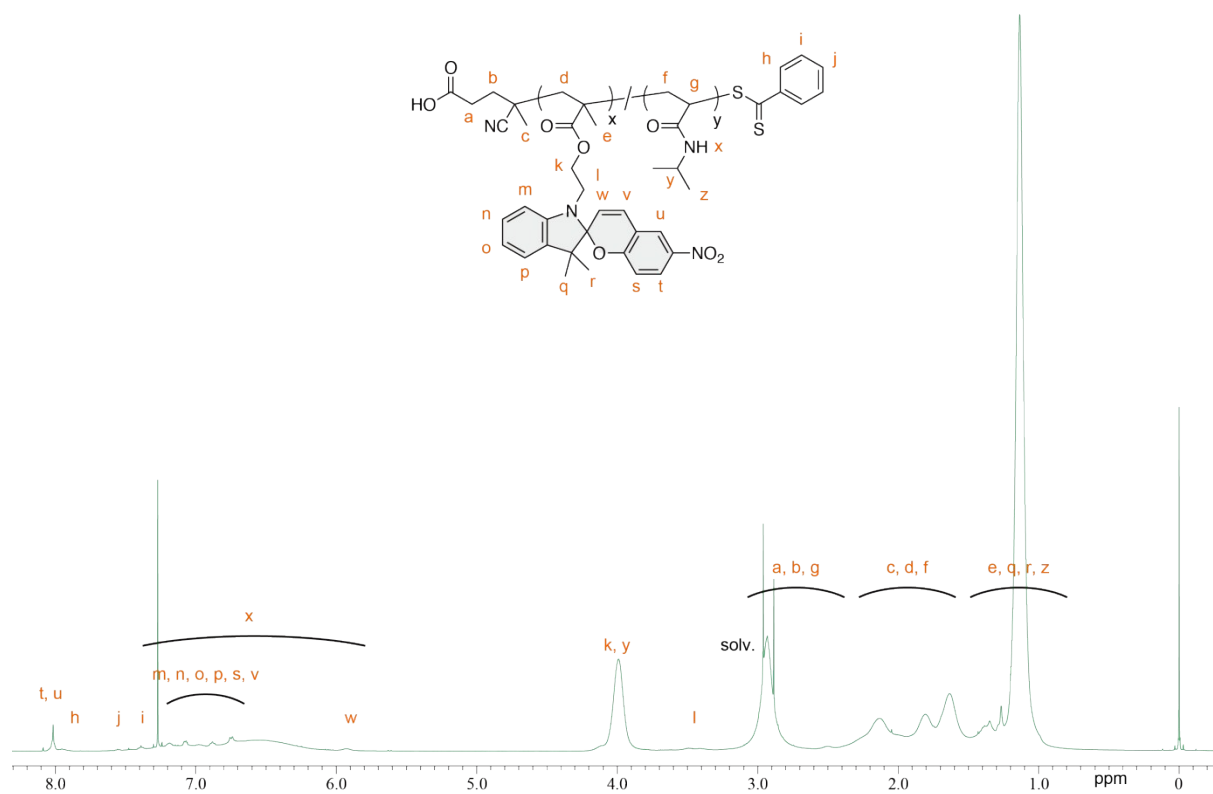


Fig. S3 ^1H NMR spectrum of **P2**.

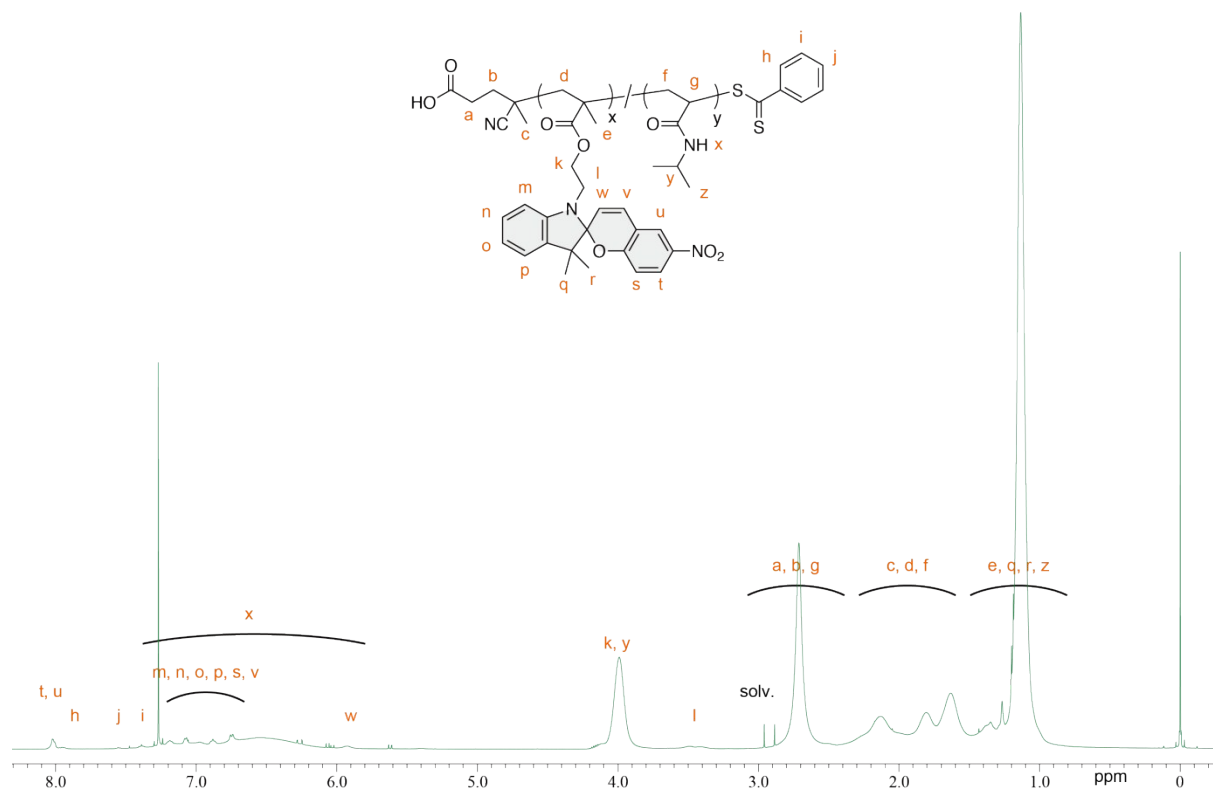


Fig. S4 ^1H NMR spectrum of **P3**.

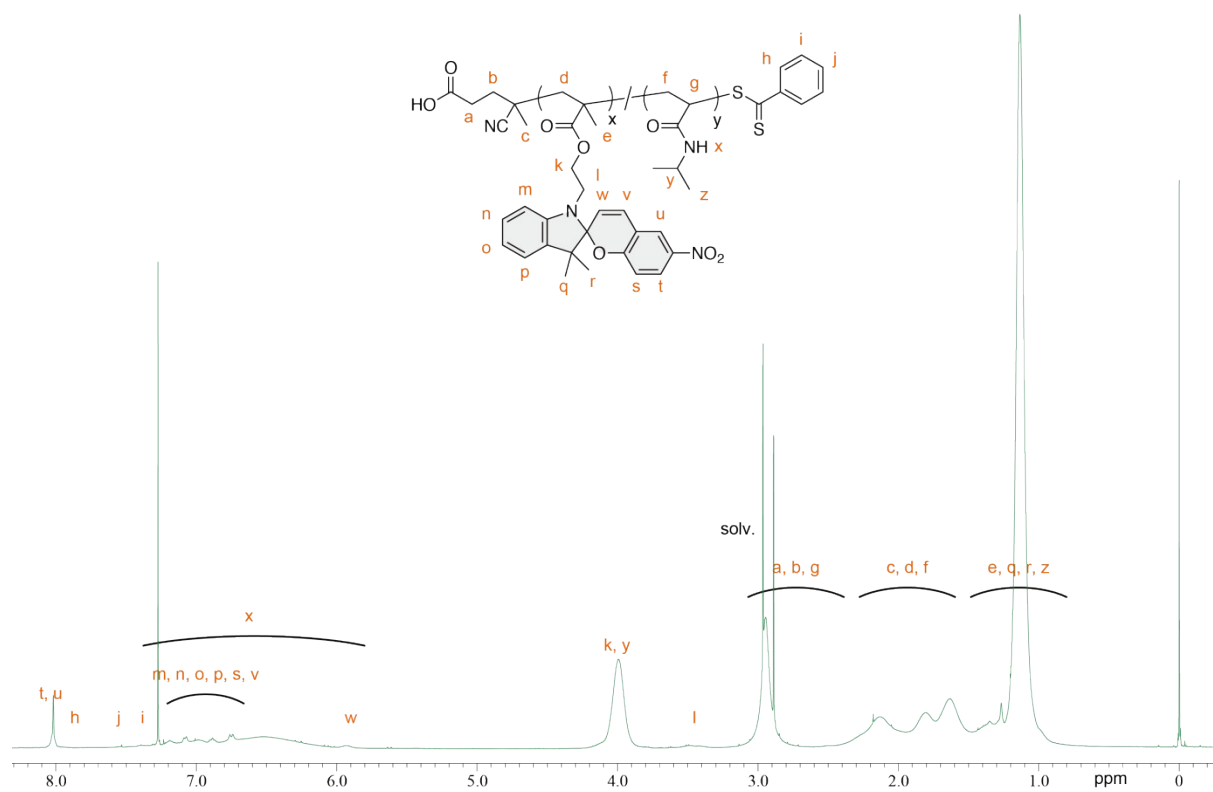


Fig. S5 ^1H NMR spectrum of **P4**.

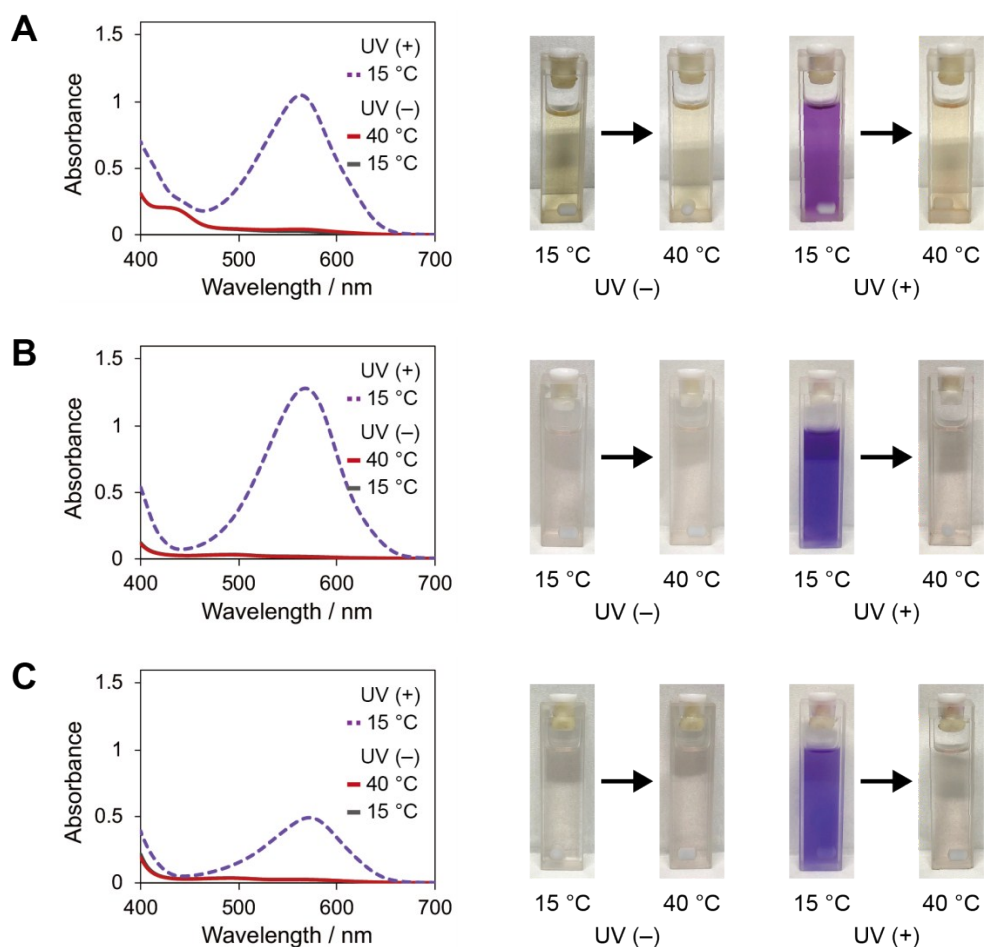


Fig. S6 UV-vis absorption spectra and photographs of **P3** in organic solvents, (A) DMF, (B) THF, and (C) chloroform, at 15 °C and 40 °C before and after UV irradiation for 5 min.

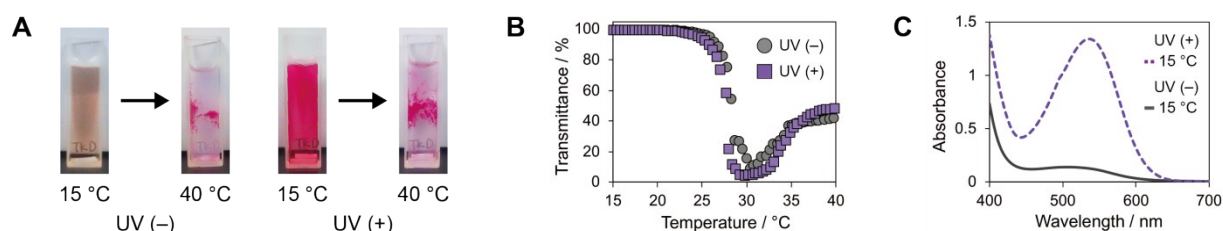


Fig. S7 Thermoresponsive behavior of **P4** aqueous solutions with or without photostimulation. (A) **P4** aqueous solutions at 15 °C and 40 °C before and after UV irradiation for 5 min. (B) Transmittances of non-irradiated and UV-irradiated **P4** aqueous solutions at 700 nm during heating from 15 °C. (C) UV-vis absorption spectra of non-irradiated and UV-irradiated **P4** aqueous solutions at 15 °C.

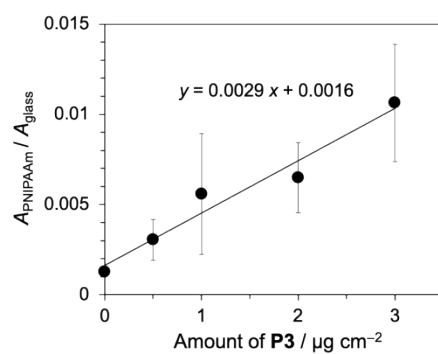


Fig. S8 Calibration curve obtained by FT-IR measurements for estimating the amount of grafted **P3** on **S2–4** surfaces ($n = 9$).

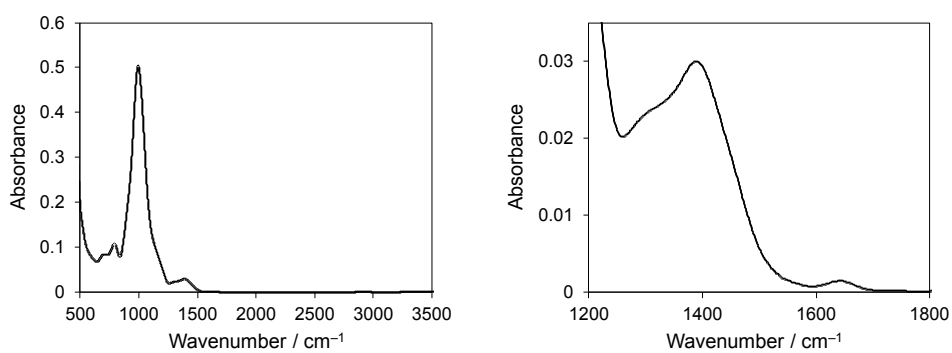


Fig. S9 FT-IR spectra of **S3**.

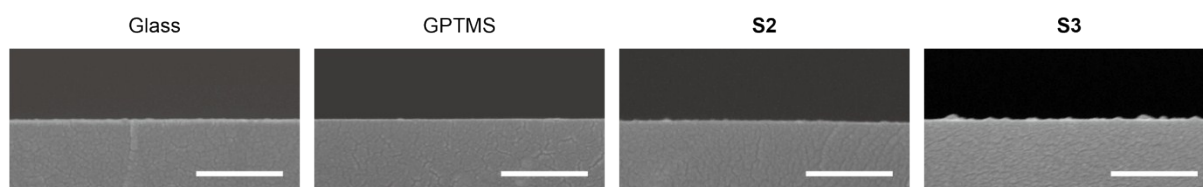


Fig. S10 FE-SEM cross-sectional images of clean glass, GPTMS-modified substrates, **S2**, and **S3**.

Scale bars are 300 nm.

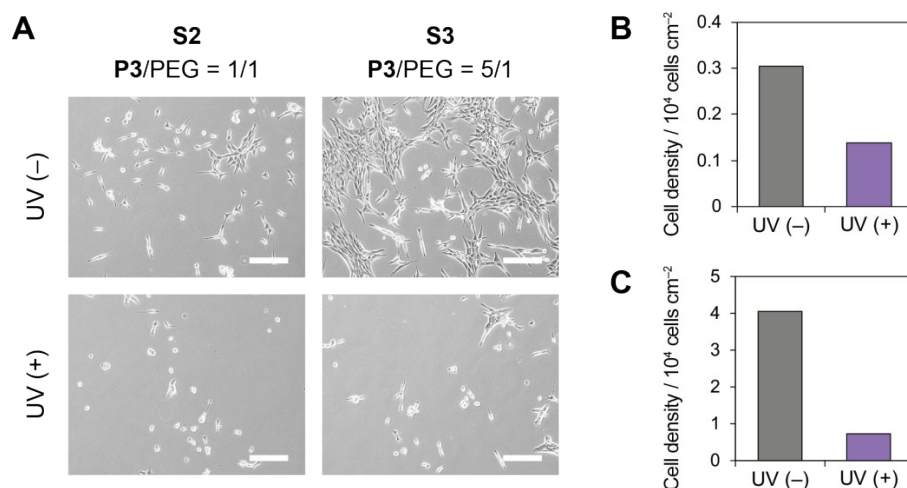


Fig. S11 (A) Phase-contrast images of NIH3T3 cells cultured for 5 days on non-irradiated and UV-irradiated **S2** and **S3**. Scale bars are 200 μm . Densities of NIH3T3 cells after 5 days culture on non-irradiated and UV-irradiated (B) **S2** and (C) **S3** ($n = 1$).

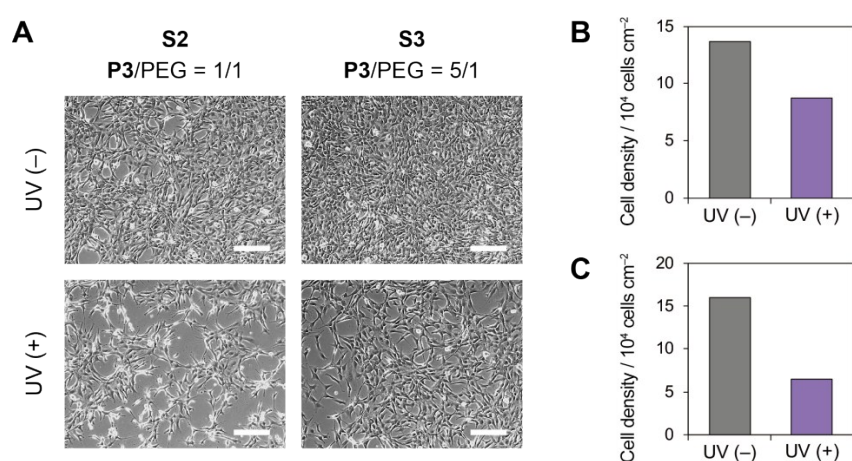


Fig. S12 (A) Phase-contrast images of C2C12 cells cultured for 4 days on non-irradiated and UV-irradiated **S2** and **S3**. Scale bars are 200 μm . Densities of C2C12 cells after 4 days culture on non-irradiated and UV-irradiated (B) **S2** and (C) **S3** ($n = 1$).