

Supporting Information for

An Efficient Pathway for Preparing Hollow Particles: Site-Specific Crosslinking of Spherical Polymer Particles with Photo-Responsive Groups That Play a Dual Role in Shell Crosslinking and Core Shielding

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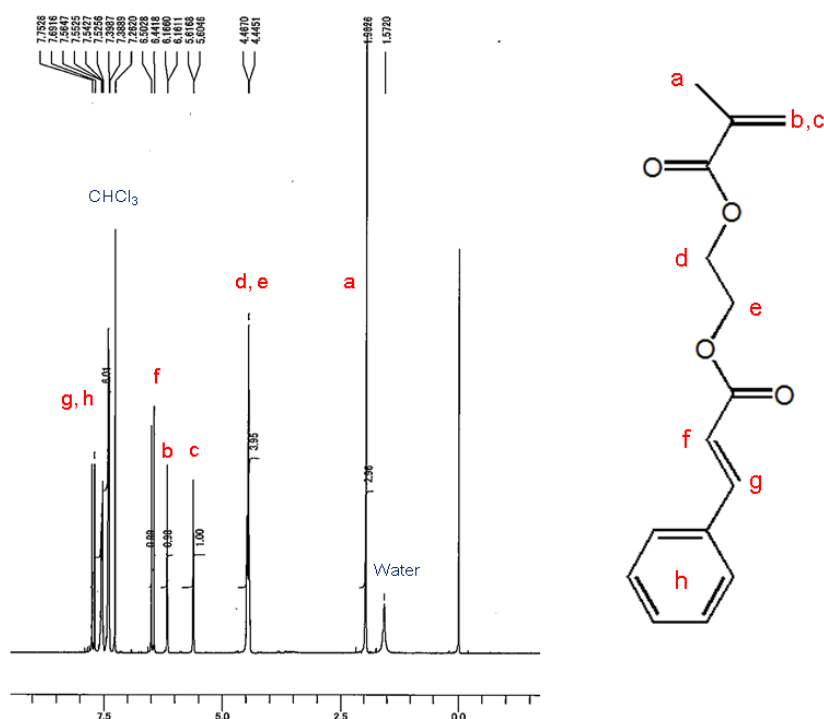


Figure S1 ¹H-NMR spectrum of CEMA in CDCl₃

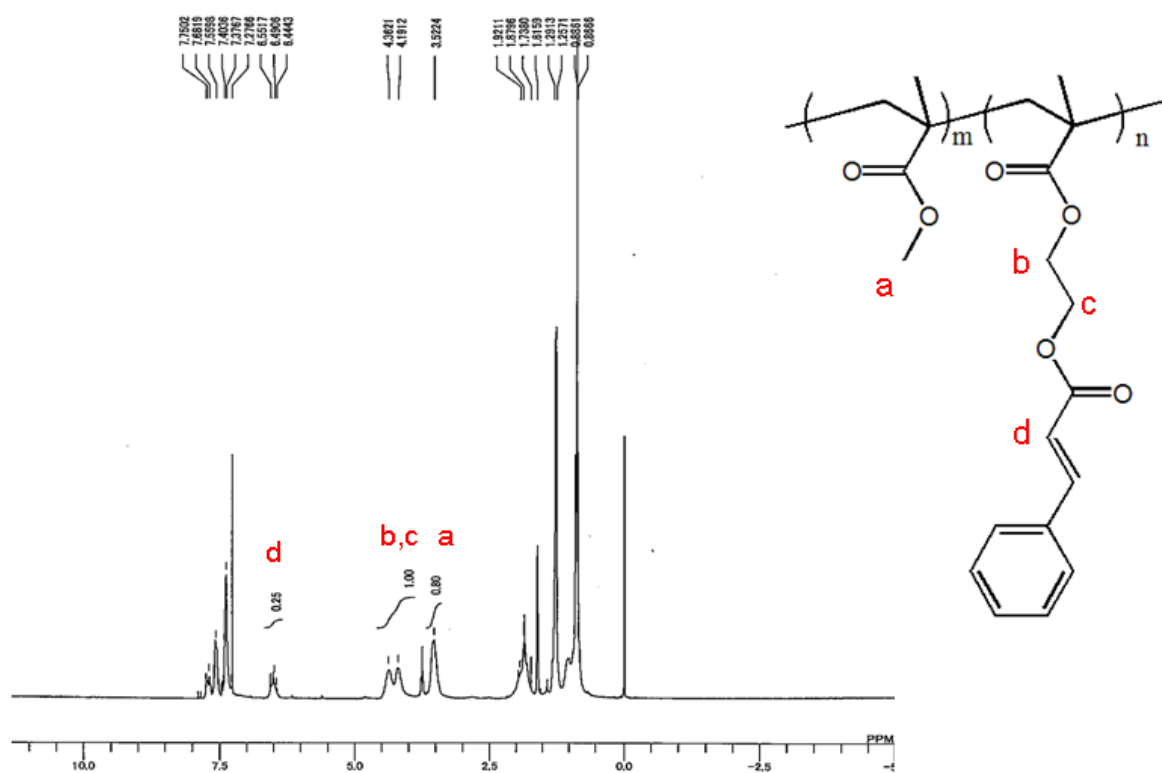
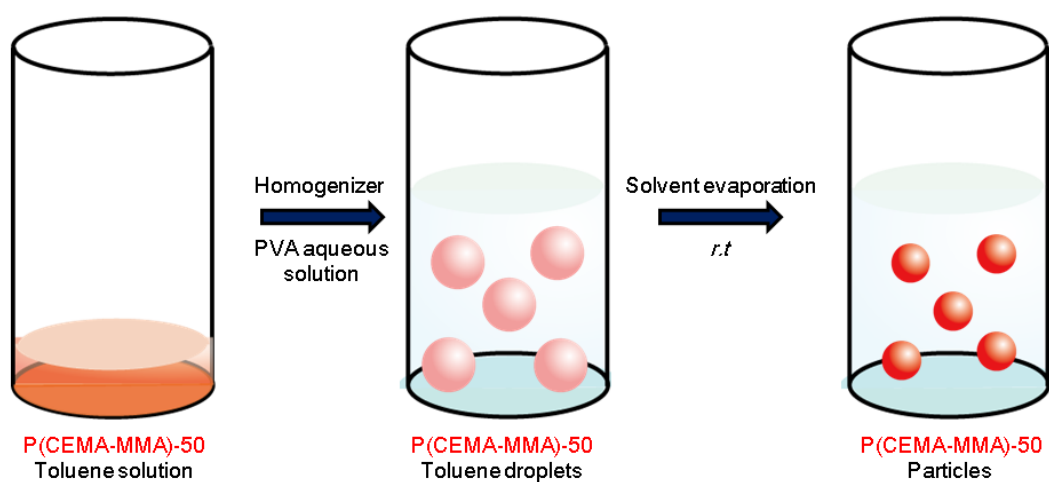


Figure S2 ^1H -NMR spectrum of P(CEMA-MMA)-50 in CDCl_3



Scheme S1 Solvent evaporation method

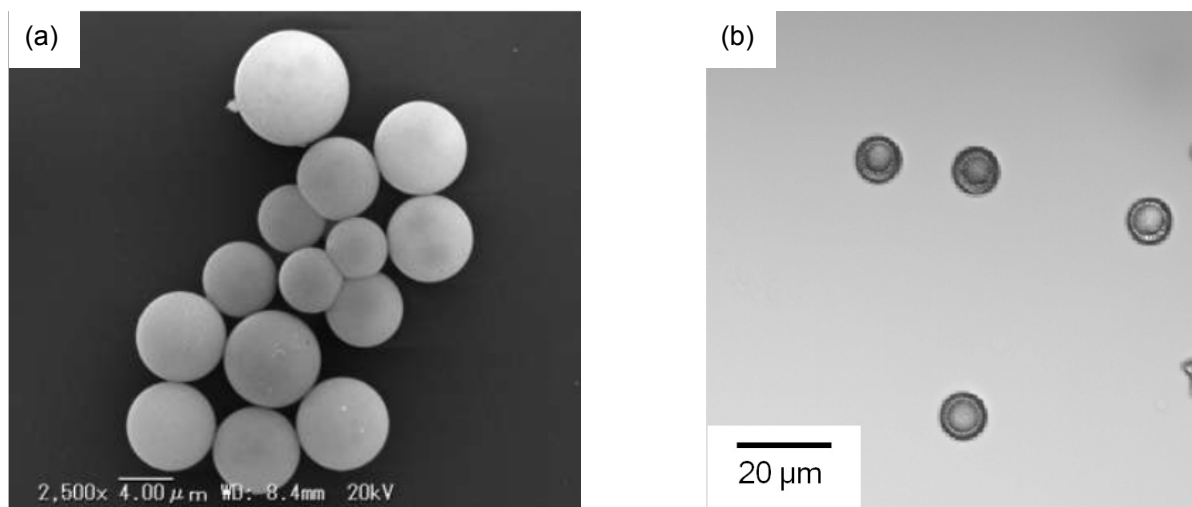


Figure S3 SEM (a) and optical micrograph (b) images of P(CEMA-MMA)-50 after photo-irradiation for 2 h, followed by THF washing. The sample was re-dispersed in water after THF washing.

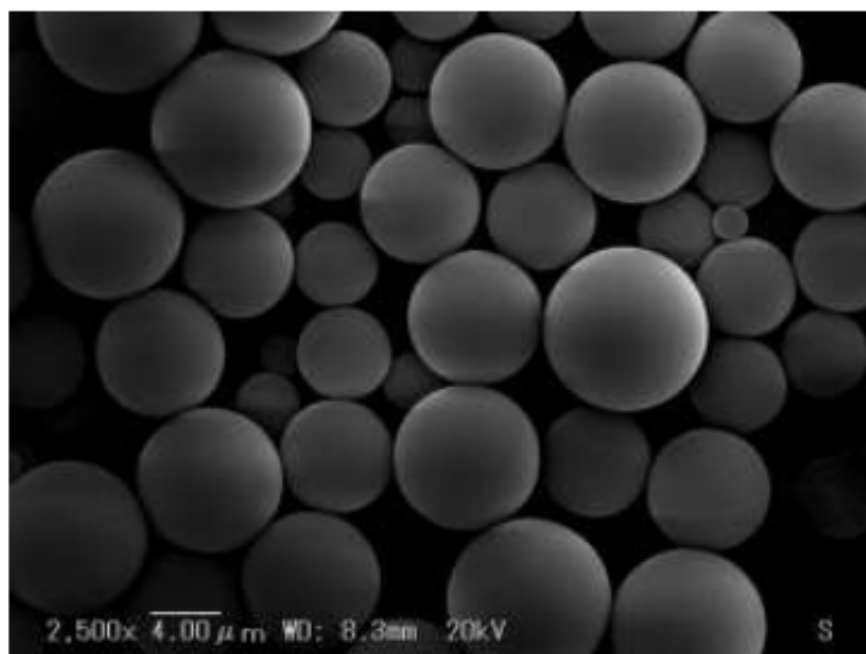


Figure S4 SEM image of P(CEMA-MMA-FAm)-50 after solvent evaporation method.

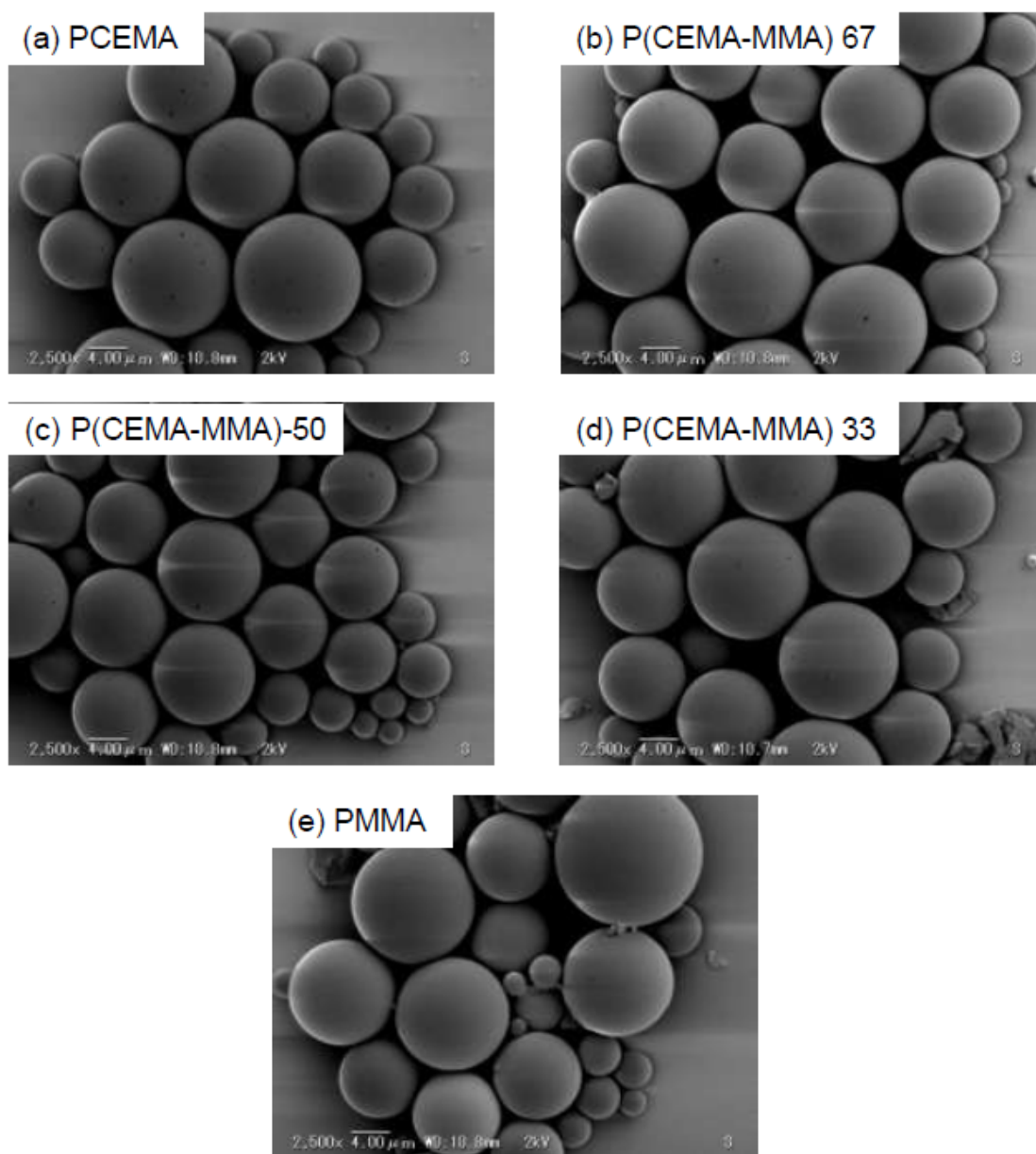


Figure S5 SEM images of P(CEMA) (a), P(CEMA-MMA)-67 (b), P(CEMA-MMA)-50 (c), P(CEMA-MMA)-33 (d), and PMMA (e) before photo-irradiation

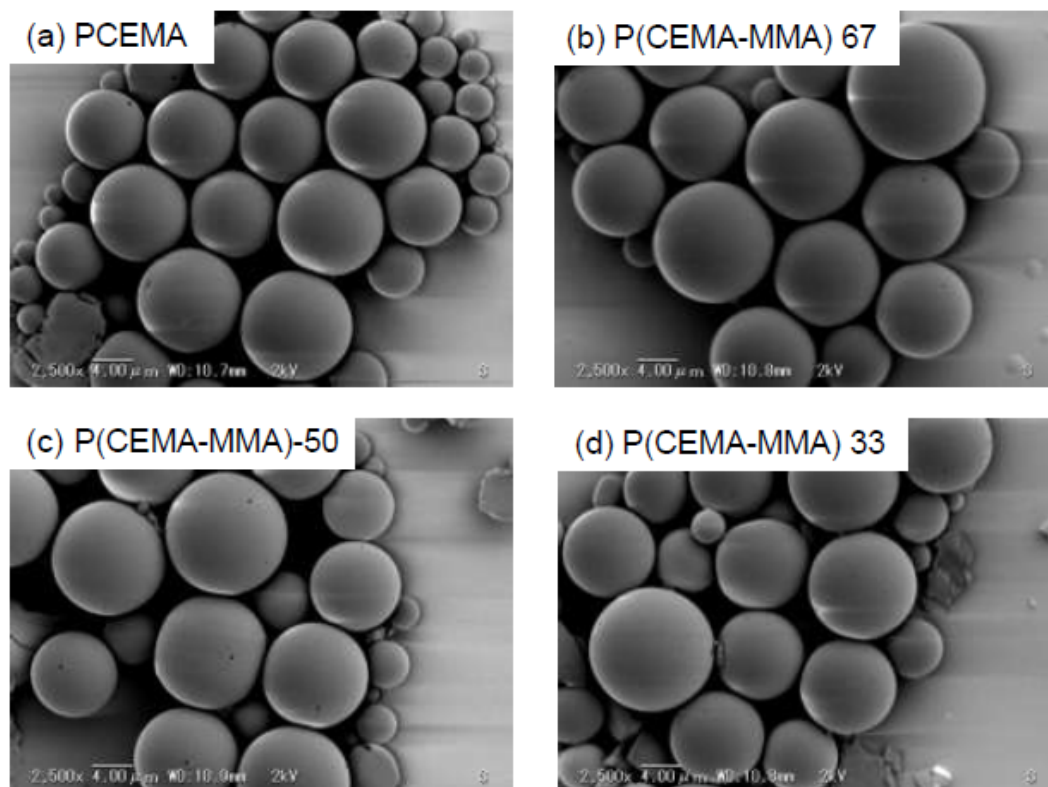


Figure S6 SEM images of P(CEMA) (a), P(CEMA-MMA)-67 (b), P(CEMA-MMA)-50 (c), and P(CEMA-MMA)-33 (d) after posteriori photo-induced cross-linking

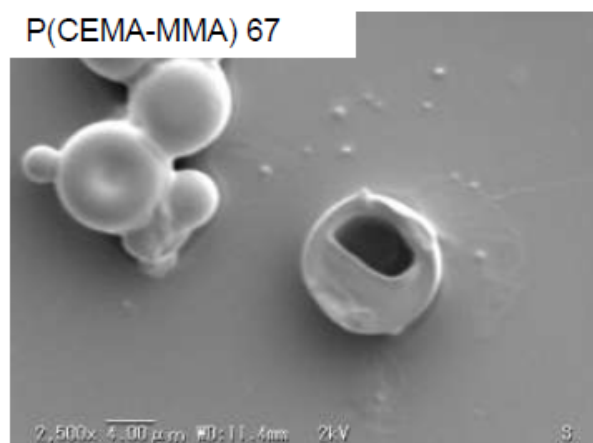


Figure S7 SEM image of accidentally broken P(CEMA-MMA)-67 after posteriori photo-induced cross-linking for 2 h, followed by THF washing

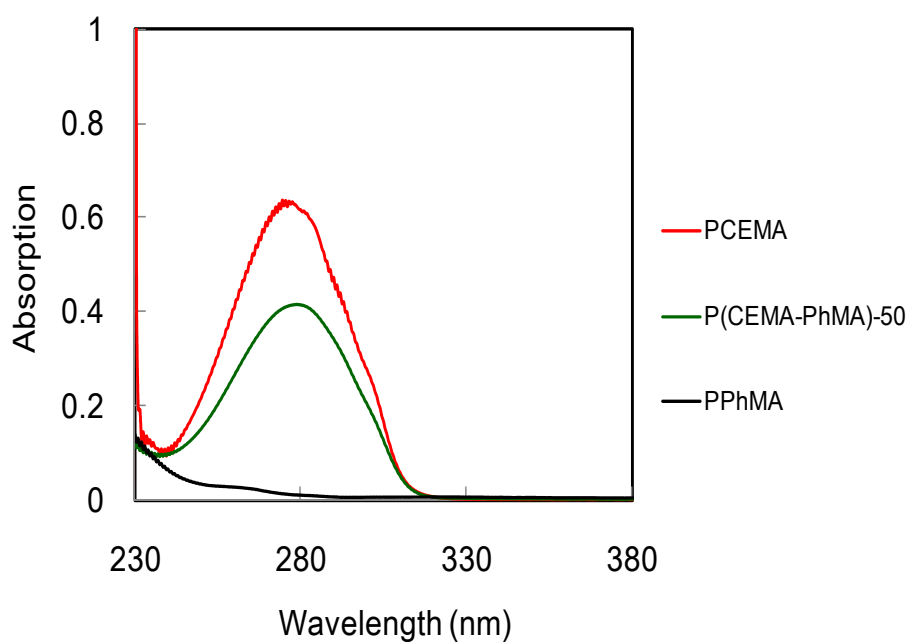


Figure S8 UV-Vis spectra of P(CEMA) (red), P(CEMA-PhMA)-50 (green), and PPhMA (black) dissolving in DCM (10 $\mu\text{g./mL}$).

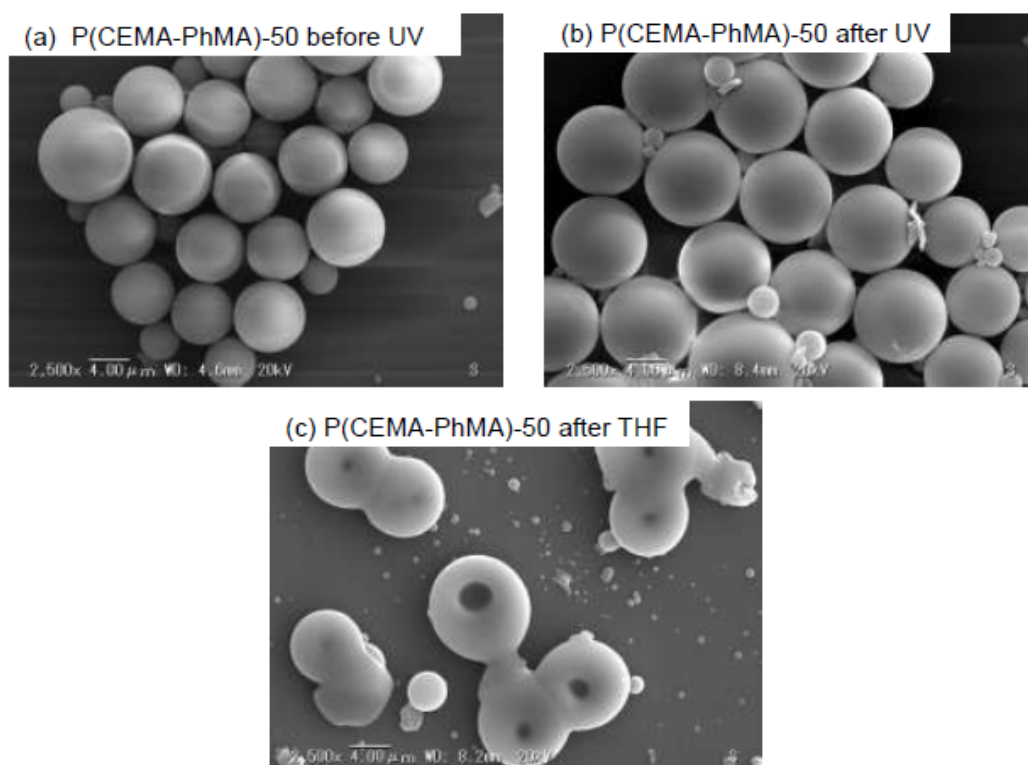


Figure S9 SEM images of P(CEMA-PhMA)-50 before posteriori photo-induced cross-linking (a), after photo-irradiation (b), and subsequent THF washing (c)

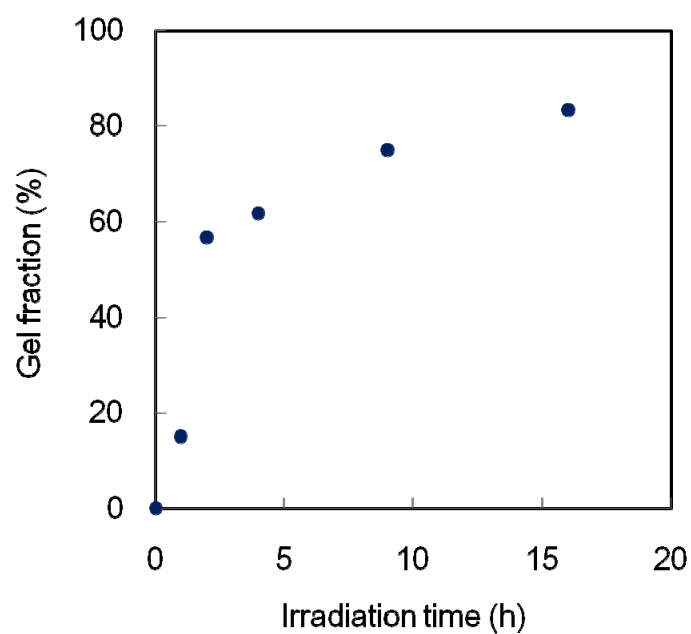


Figure S10 Time course of gel fraction of P(CEMA-PhMA).

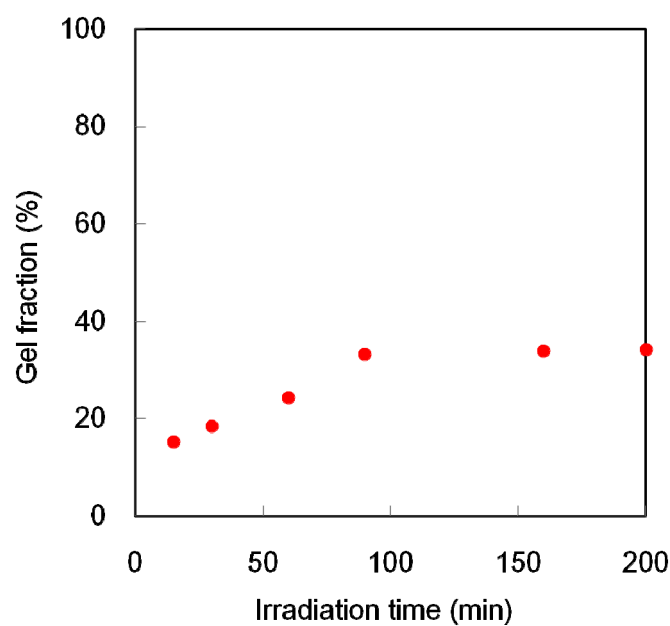


Figure S11 Gel fraction of P(CEMA-MMA)-50 films (100 mg) at various photo-irradiation times on the glass petri dish (the area of base: 127 cm²), where the P(CEMA-MMA)-50.

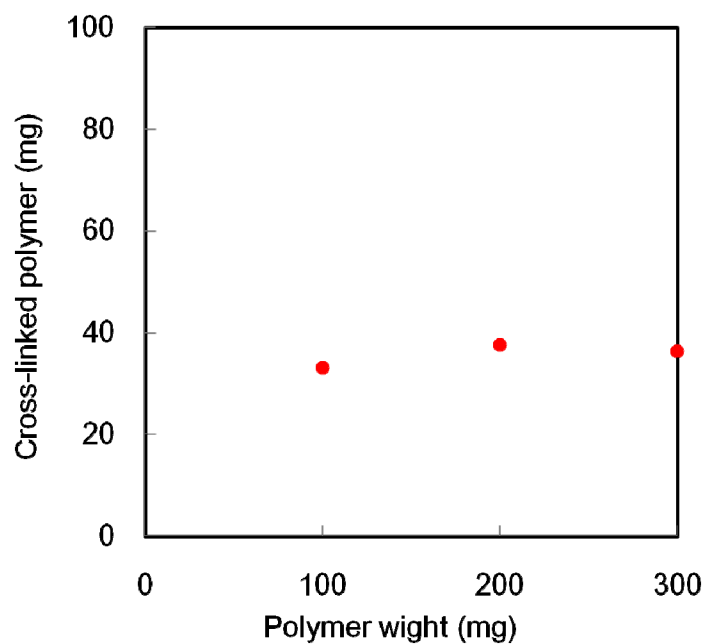


Figure S12 Gel fraction of P(CEMA-MMA)-50 films at 90 min on the glass petri dish (the area of base: 127 cm²) with different weight of polymer films (100 mg, 200 mg, and 300 mg), where the P(CEMA-MMA)-50.

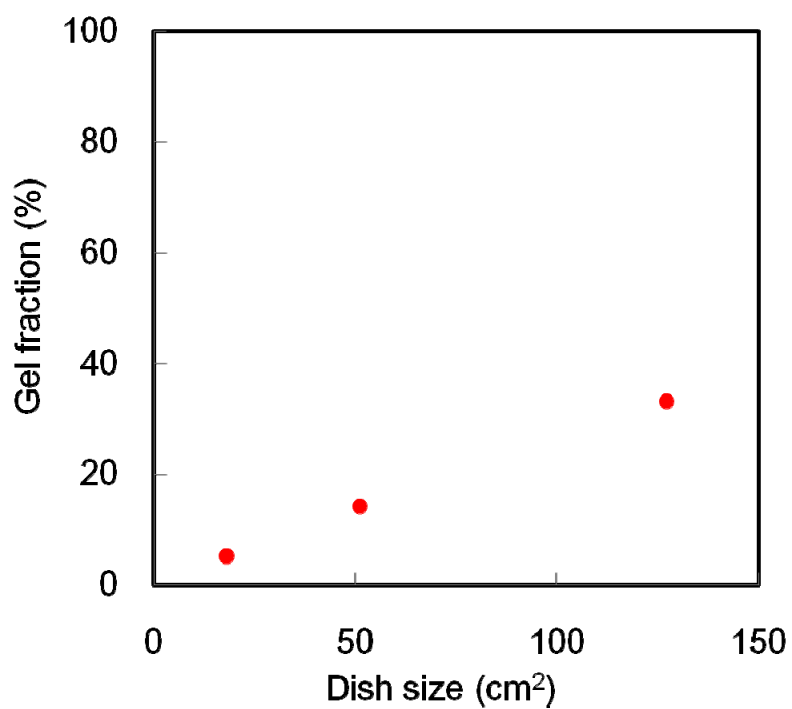


Figure S13 Gel fraction of P(CEMA-MMA)-50 films (100 mg) at 90 min on the various glass petri dish bearing three different areas of the base (18 cm², 51 cm², and 127 cm²), where the P(CEMA-MMA)-50.