

Fig. S1 ¹H NMR of copolymers of P(MEA-*co*-PEGA) in CDCl₃. (A) P(MEA₈₆-*co*-PEGA₁₀); (B) P(MEA₇₆-*co*-PEGA₁₈); (C) P(MEA₇₀-*co*-PEGA₃₀); (D) P(MEA₈₄-*co*-PEGA₁₅); (E) P(MEA₇₅-*co*-PEGA₂₅).

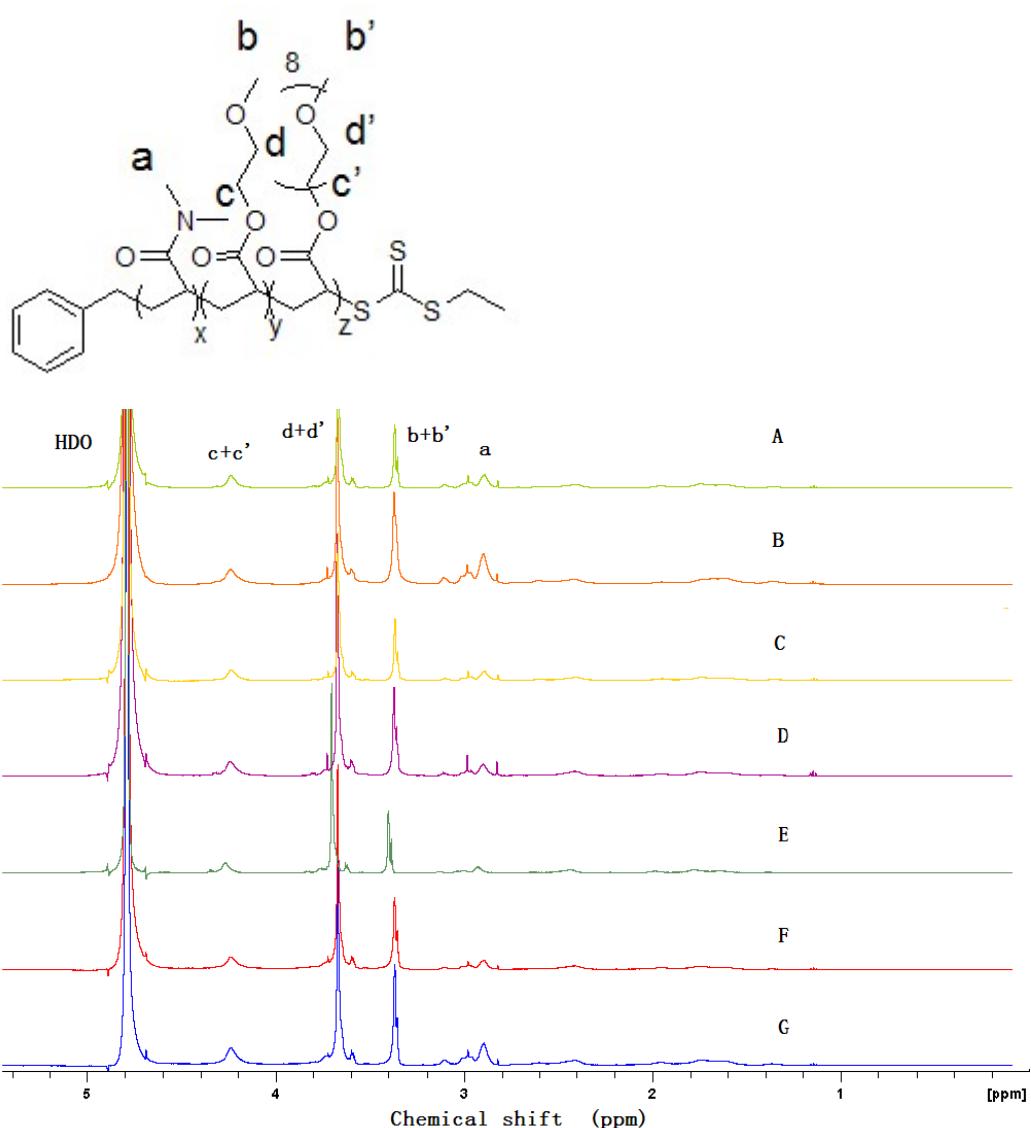


Fig. S2 ^1H NMR in D_2O of PDMA-*b*-P(MEA-*co*-PEGA) synthesized by dispersion polymerization. The molar ratio of PDMA, MEA and PEGA, and solid content are: (A) 1:80:20, 12.1%; (B) 1:90:10, 12.5%; (C) 1:127.5:22.5, 11.4%; (D) 1:170:30, 10.9%; (E) 1:160:40, 10.8%; (F) 1:170:30, 16.7%; (G) 1:85:15, 24.5%.

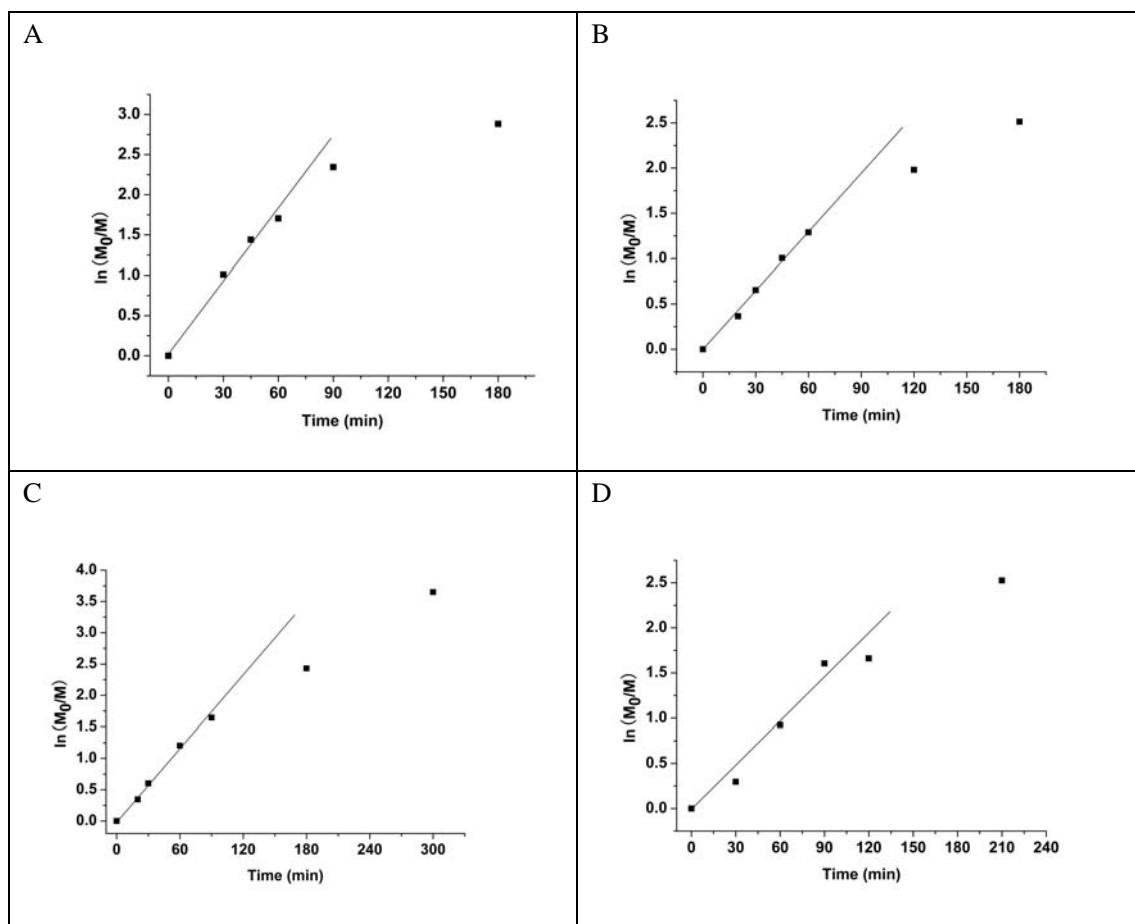


Fig. S3 Plot of $\ln(M_0/M)$ vs time for solution polymerization in DMF. [CTA] = 29 mM in DMF, CTA:AIBN:monomer = 1:0.2:100, 70 °C. (A) Homopolymerization for PMEA₉₇; (B) copolymerization for P(MEA₈₆-co-PEGA₁₀). (C) copolymerization for P(MEA₇₀-co-PEGA₃₀); and (D) homopolymerization for PPEGA₉₇.

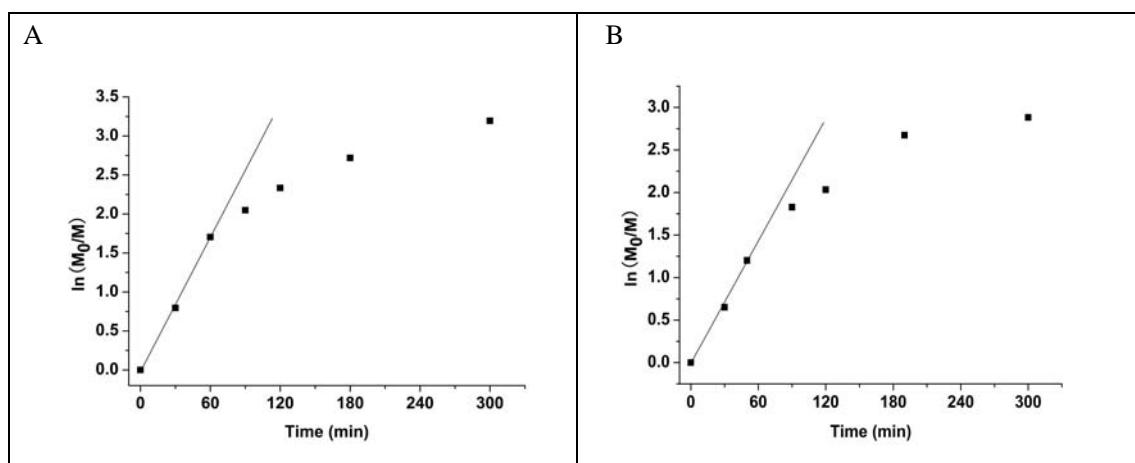


Fig. S4 Plot of $\ln(M_0/M)$ vs time for dispersion polymerization in water. Monomer content = 10% (w/v), [Macro-CTA]:[MEA+PEGA]:[V-50] = 1:100:0.05, 70 °C. (A) [MEA]:PEGA = 90:10; (B) [MEA]:PEGA = 85:15.

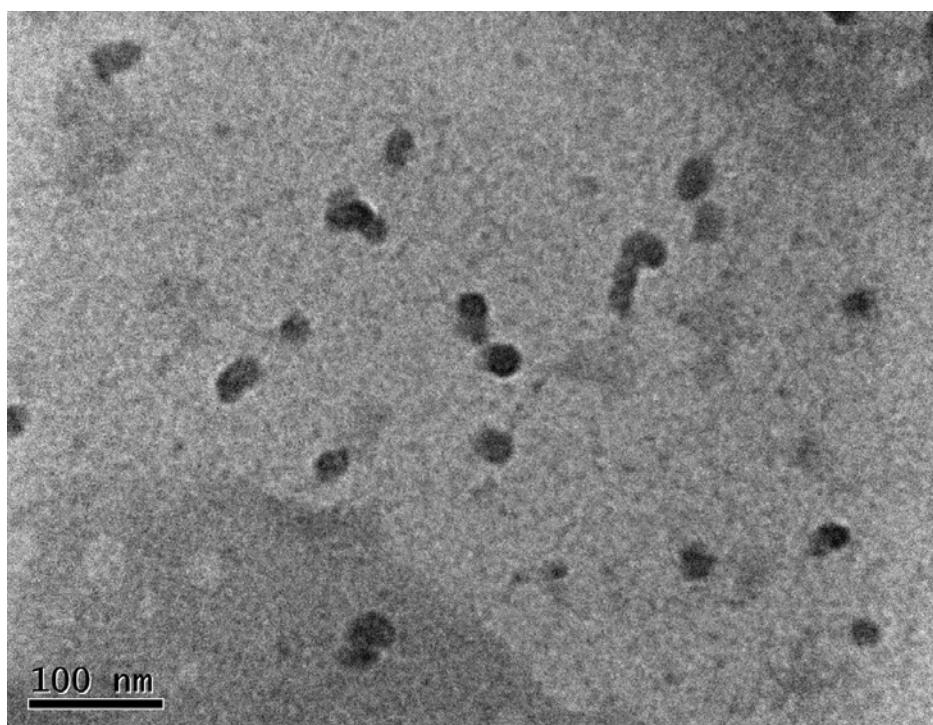


Fig. S5 Typical TEM image for nanogels.