

Supporting Information

Synthesis of Thermoresponsive Nonconjugated Fluorescent Branched Poly(ether amide)s via Oxa-Michael Addition Polymerization

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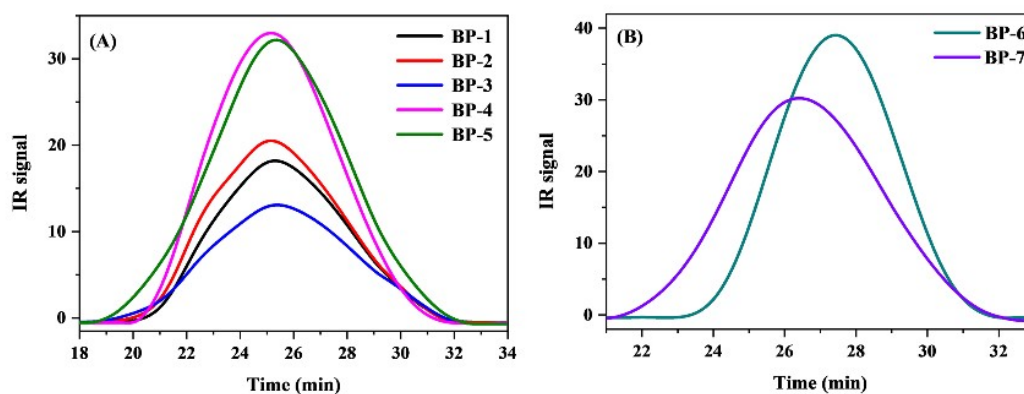


Fig. S1 SEC traces of branched poly(ether amide)s (A) BP-1, BP-2, BP-3, BP-3, BP-4 and BP-5, (B) BP-6 and B-7 prepared by oxa-Michael polymerization of MBA and various triols.

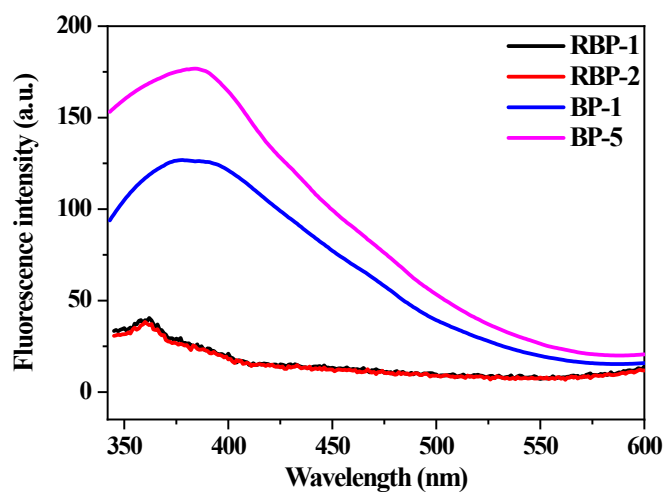


Fig. S2 Fluorescence spectra of branched poly(ether amide)s (BP-1, and BP-5) and their reference branched polymers (BRP-1, and BRP-2) in DMF solution. Polymer concentration=20 mg/mL, $E_x=320$ nm, Temperature=15°C.

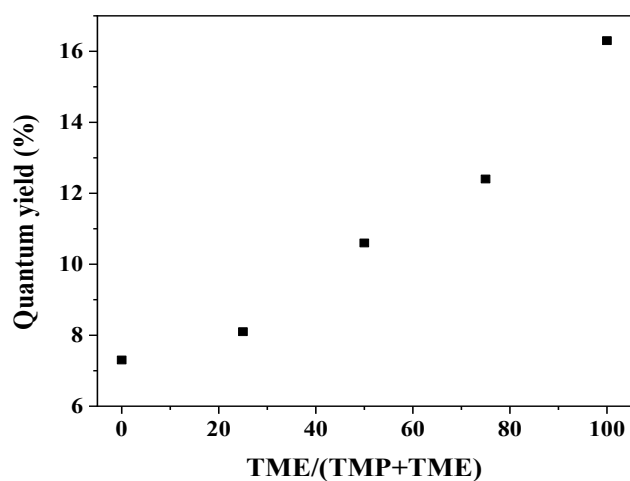


Fig. S3 Effect of TME/(TMP+TME) on quantum yield.

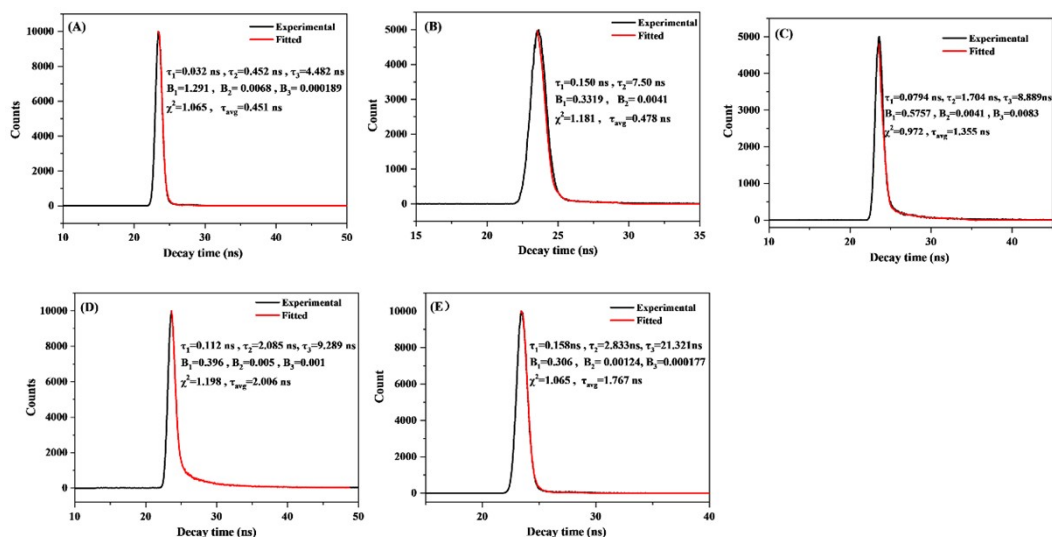


Fig. S4 Fluorescence decay curves of branched poly(ether amide)s (A) BP-1, (B) BP-2, (C) BP-3, (D) BP-4, and (E) BP-5 in solid state with emission monitored at 395 nm after excitation at 320 nm.

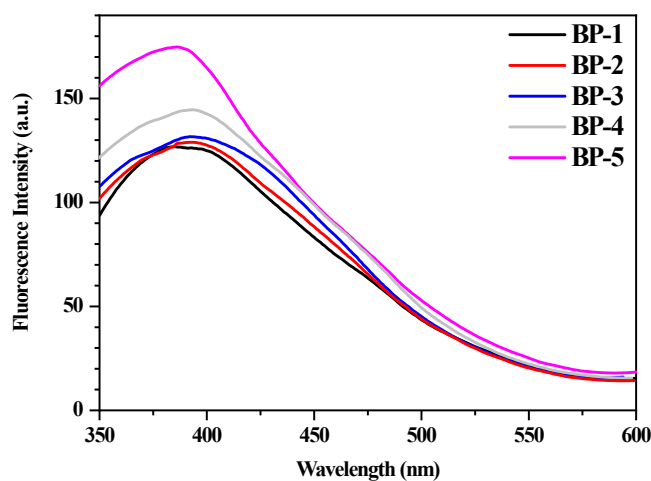


Fig. S5 Fluorescence spectra of branched poly(ether amide)s (BP-1, BP-2, BP-3, BP-4, and BP-5) in DMF. Polymer concentration=20 mg/mL, $E_x=320$ nm, Temperature=15°C.

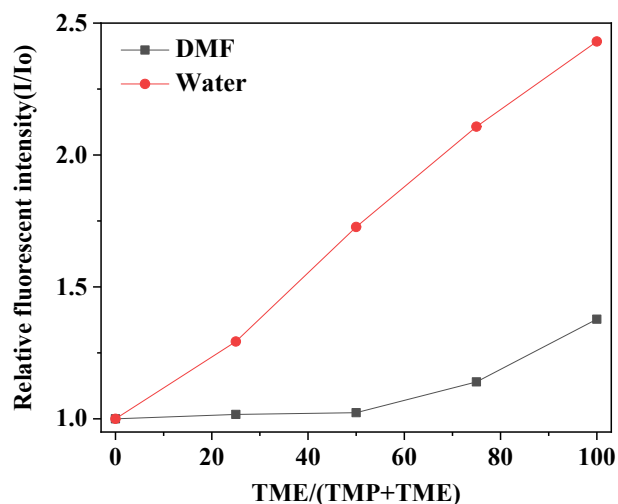


Fig. S6 Relative fluorescent intensity (I/I_0) of BP-1, BP-2, BP-3, BP-4, and BP-5 in DMF or water with different TME content; I is fluorescence intensity with different TME content, I_0 is fluorescence intensity without TME content. Polymer concentration=20 mg/mL, $E_x=320$ nm, Temperature=15°C.

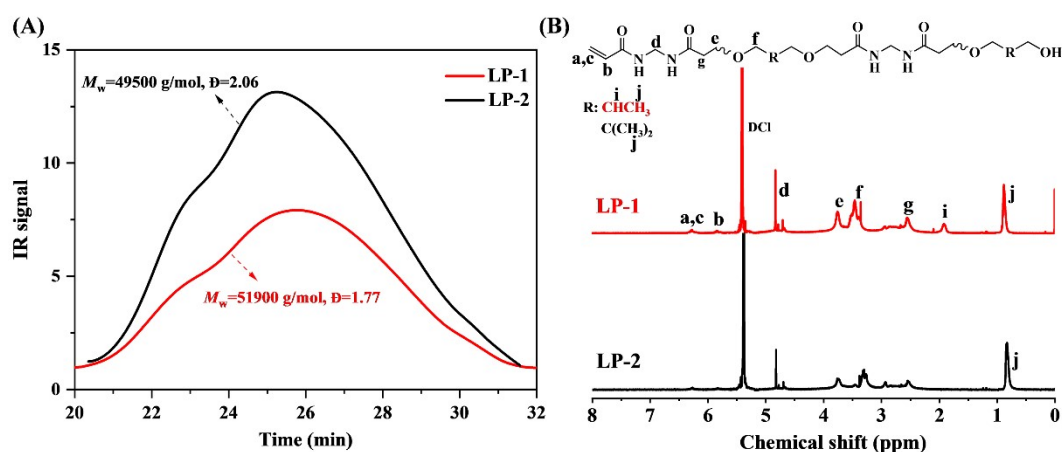


Fig.S7 (A) SEC traces and (B) 1H NMR spectra of linear poly(ether amide)s (LP-1, and LP-2).

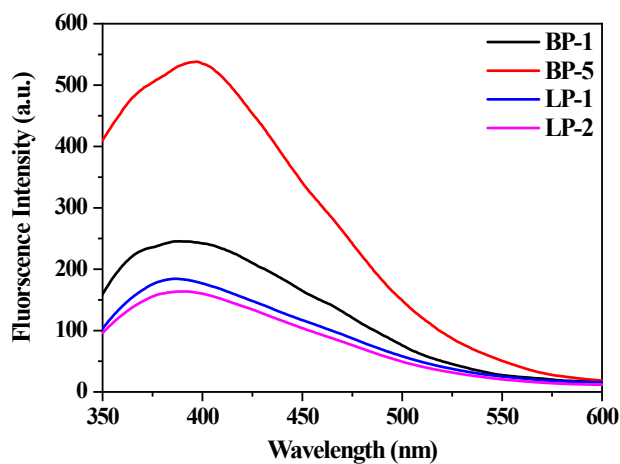


Fig. S8 Fluorescence spectra of branched poly(ether amide)s (BP-1, and BP-5), and their linear analogous poly(ether amide)s (LP-1, and LP-2) in aqueous solution. Polymer concentration=20 mg/mL, $E_x=320$ nm, Temperature=15°C.

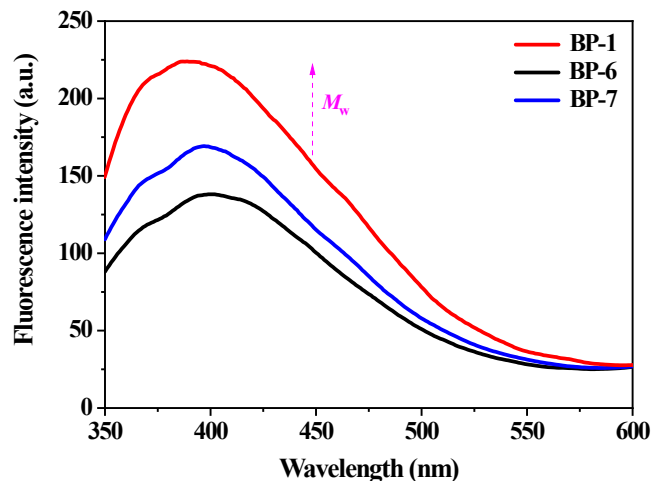


Fig.S9 Molecular weight dependence of fluorescence intensity of branched poly(ether amide)s. Polymer concentration=20 mg/mL, $E_x=320$ nm, Temperature=15°C.

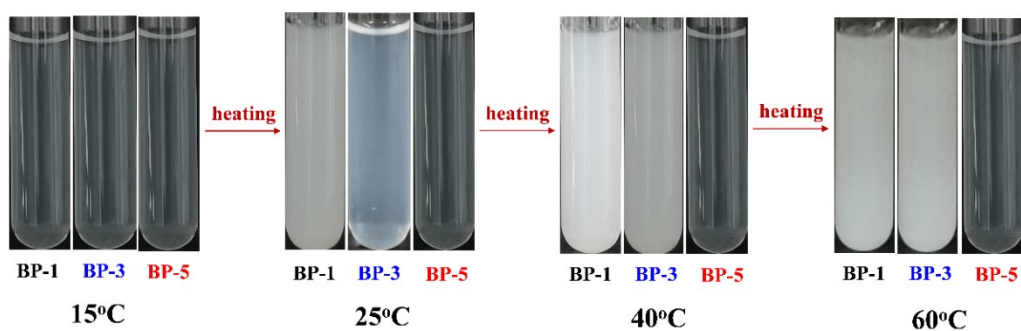


Fig.S10 The photographs of branched poly(ether amide)s (BP-1, BP-3 and BP-5) aqueous solution with a concentration of 20 mg/mL at 15 °C, 25 °C, 40 °C, and 60 °C.

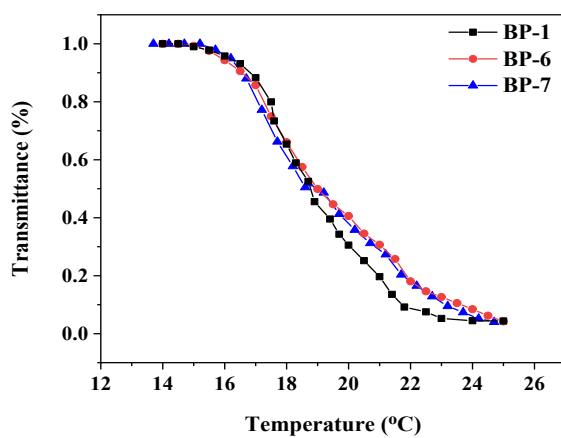


Fig. S11 Molecular weight dependence of light transmittance for aqueous solutions of branched poly(ether amide)s with a concentration of 20 mg/mL.

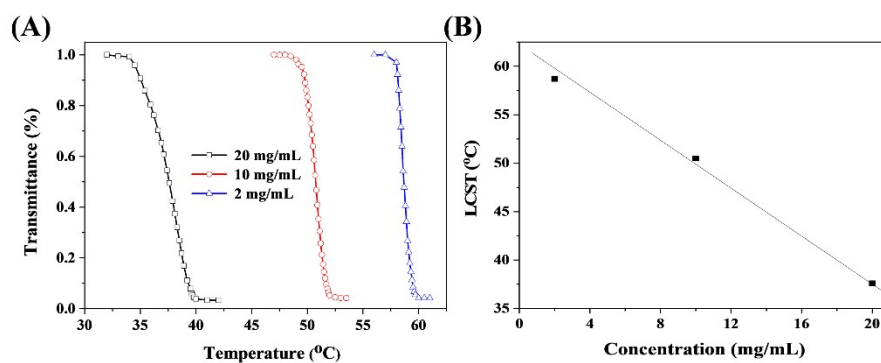


Fig. S12 (A) Temperature dependence of light transmittance for aqueous solutions of branched poly(ether amide)s (BP-3) at different concentrations. (B) Effect of concentrations on LCST.