Electronic Supplementary Material (ESI) for RSC Advances.

Stable Stereocomplex Micelles from Y-shaped Amphiphilic Copolymers MPEG-$(scPLA)_2$: Preparation and Characteristics

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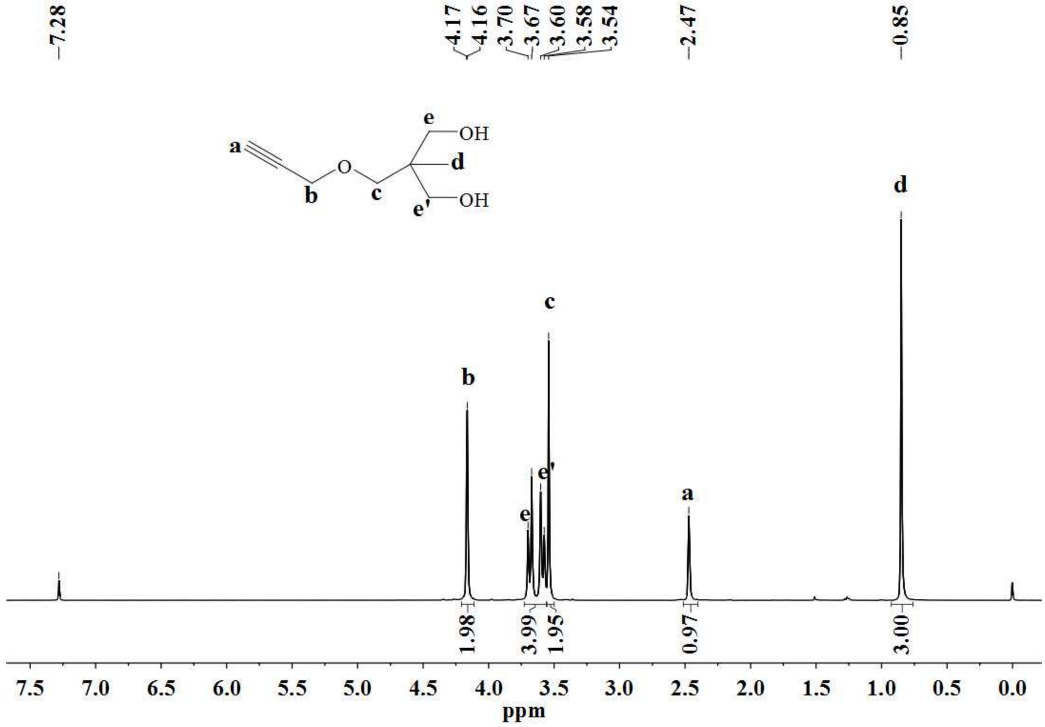
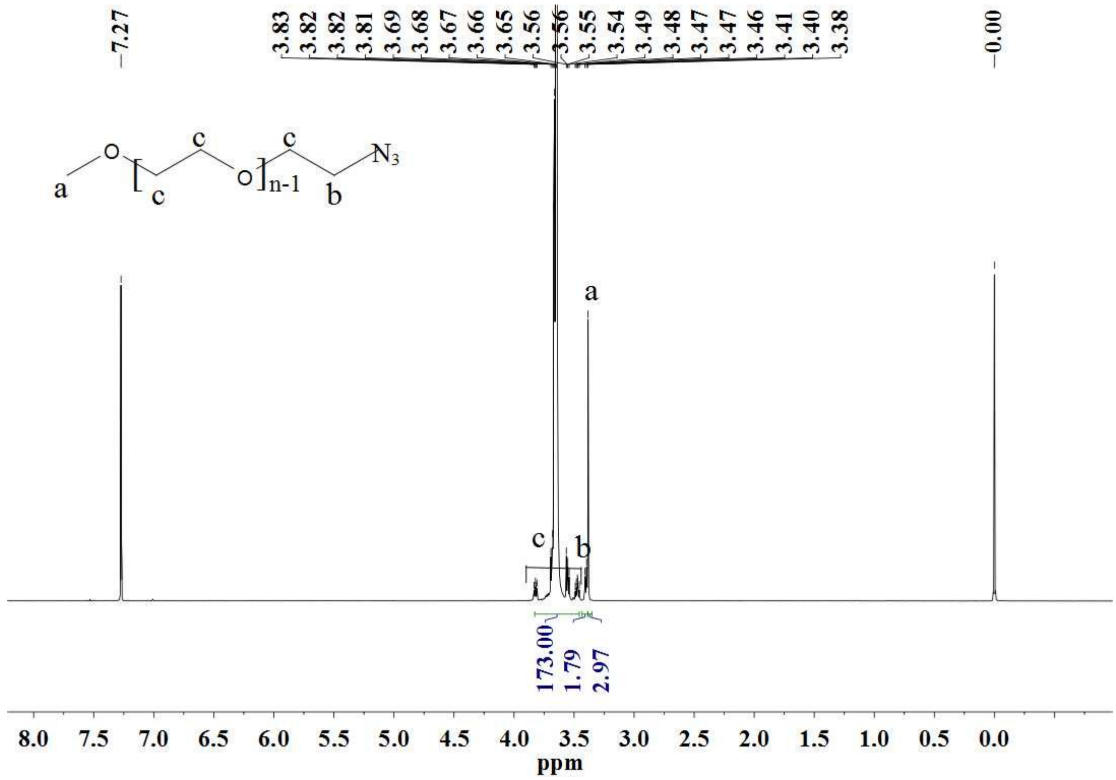
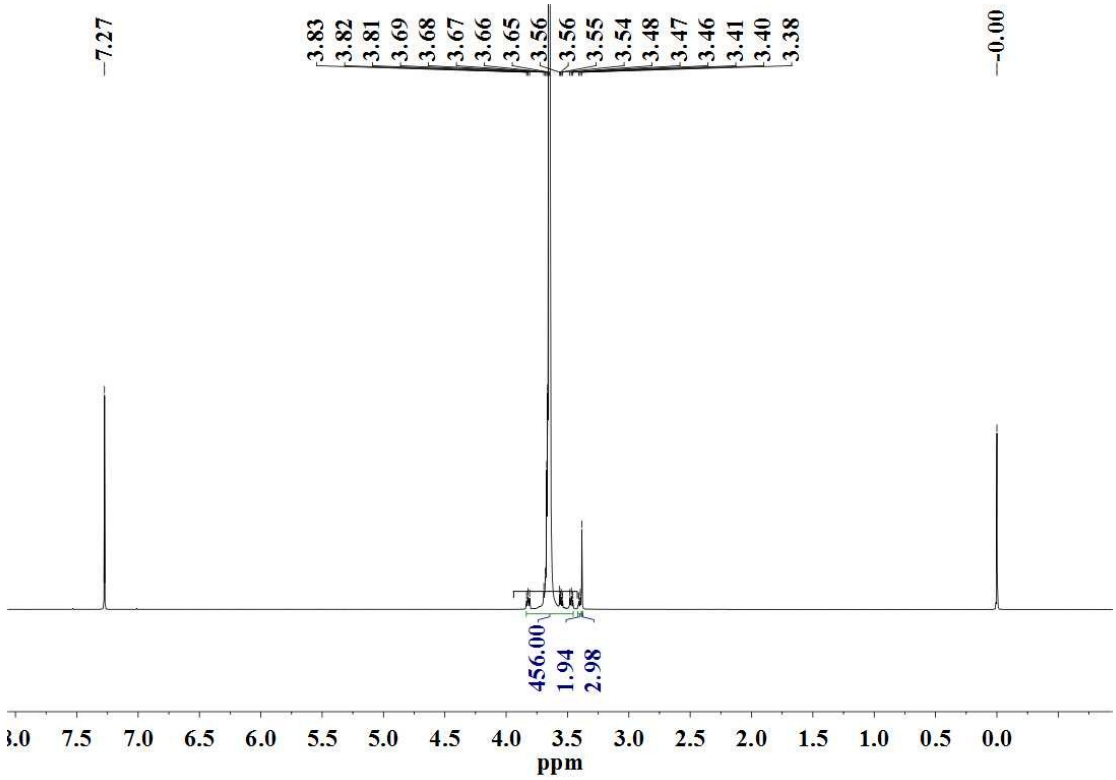


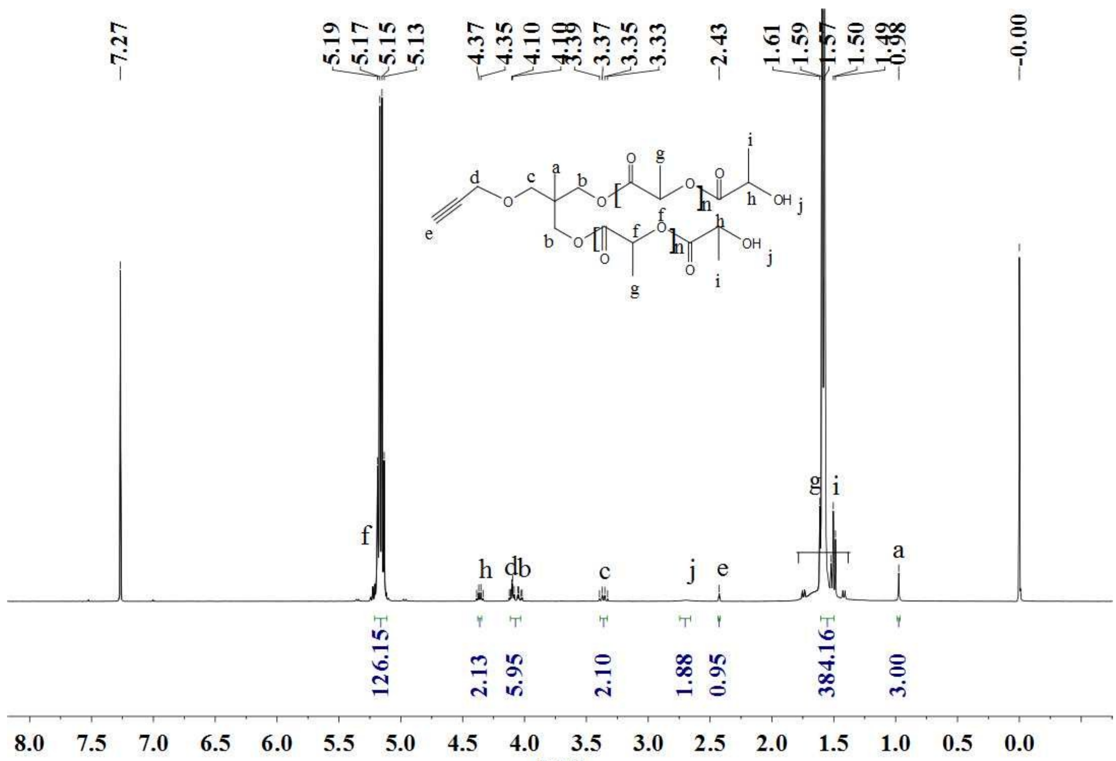
SI Fig. 1. ^{1}H NMR Spectrum of Compound **1**



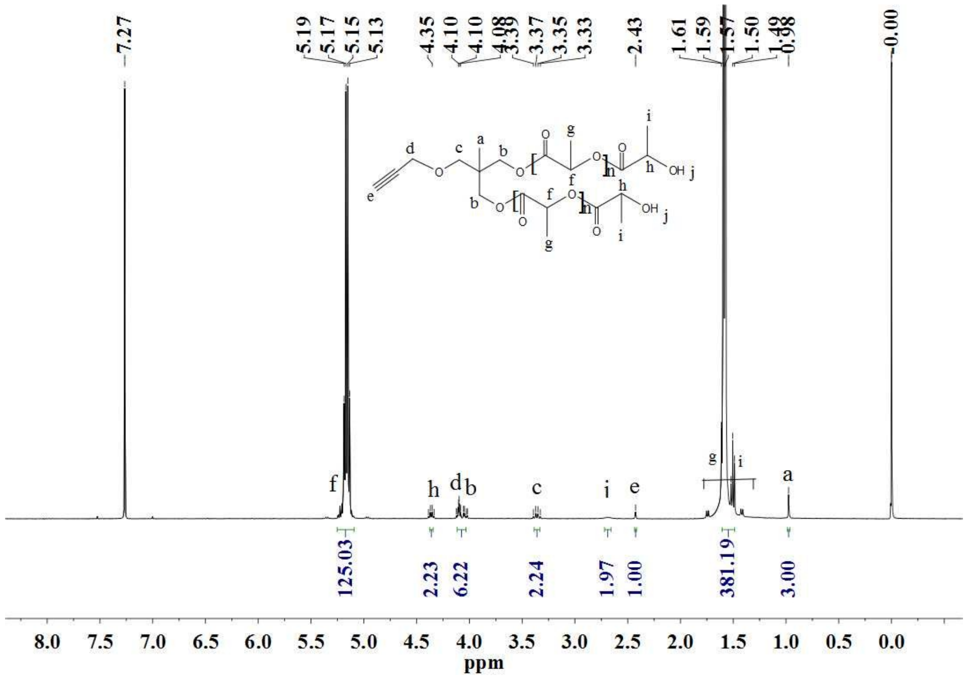
SI Fig. 2. ^{1}H NMR Spectrum of MPEG$_{1.9K}$-N$_3$



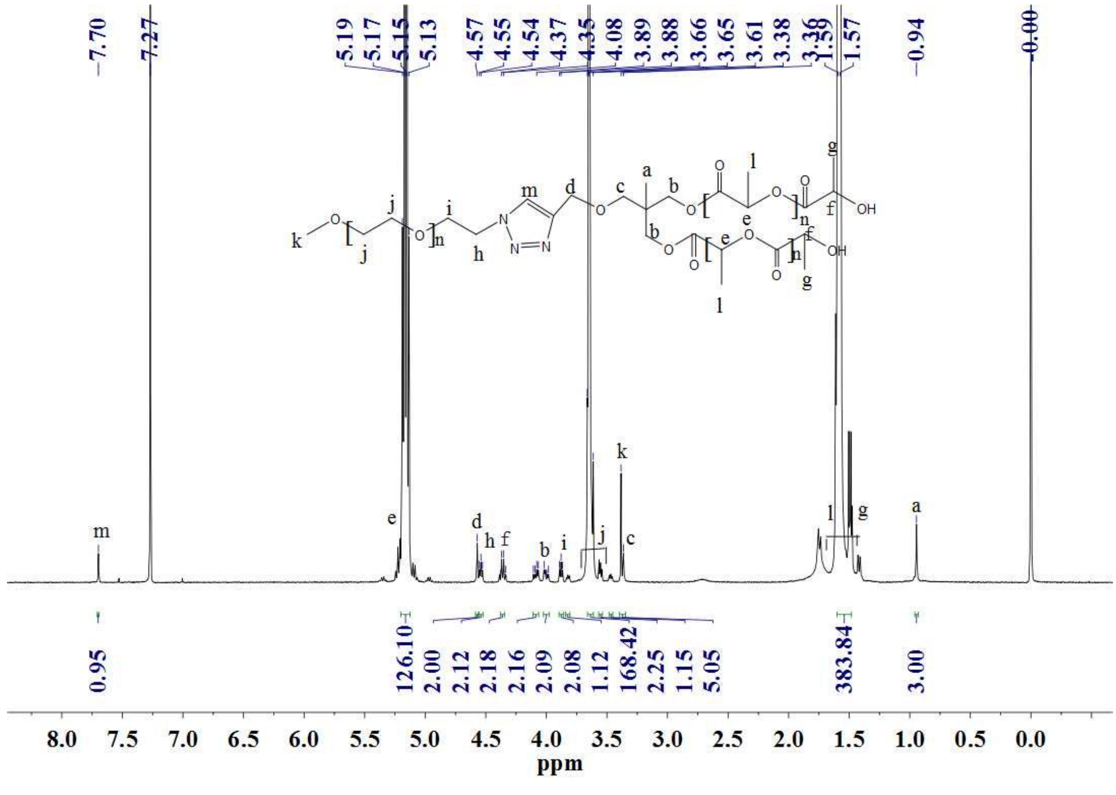
SI Fig. 3. ^{1}H NMR Spectrum of $MPEG_{5K}$-N_3



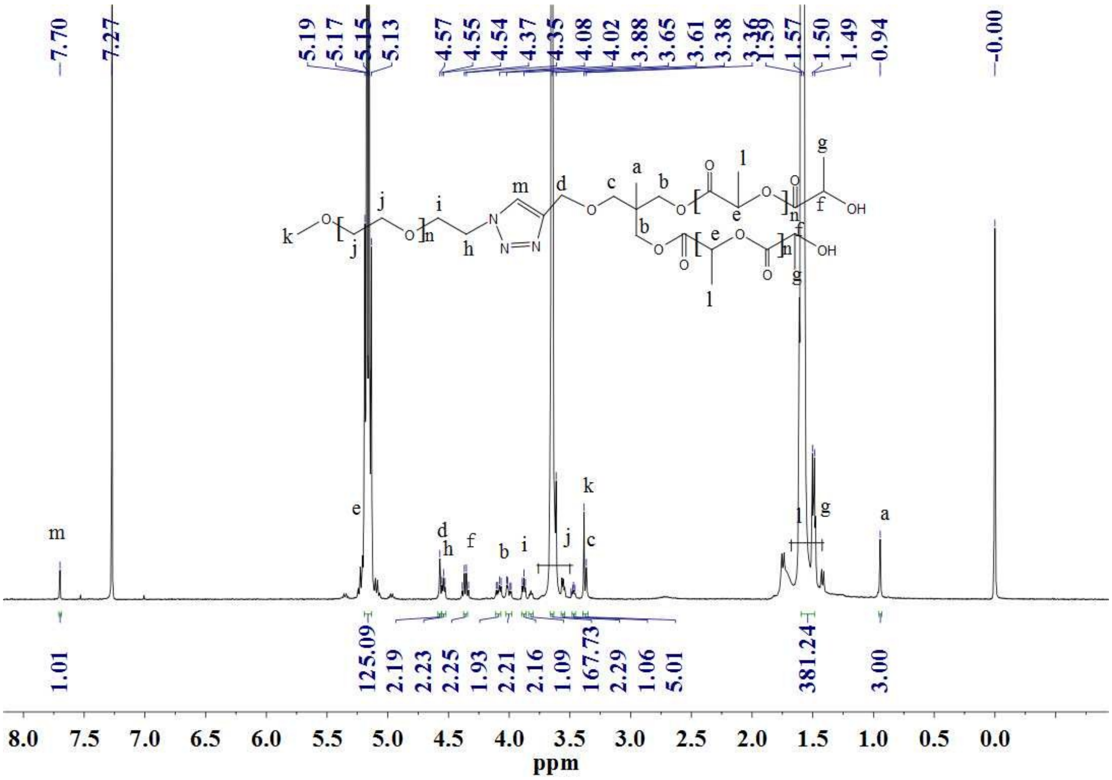
SI Fig. 4. ^{1}H NMR Spectrum of alkyne-$(PLLA_{4.5k})_2$ **2a**



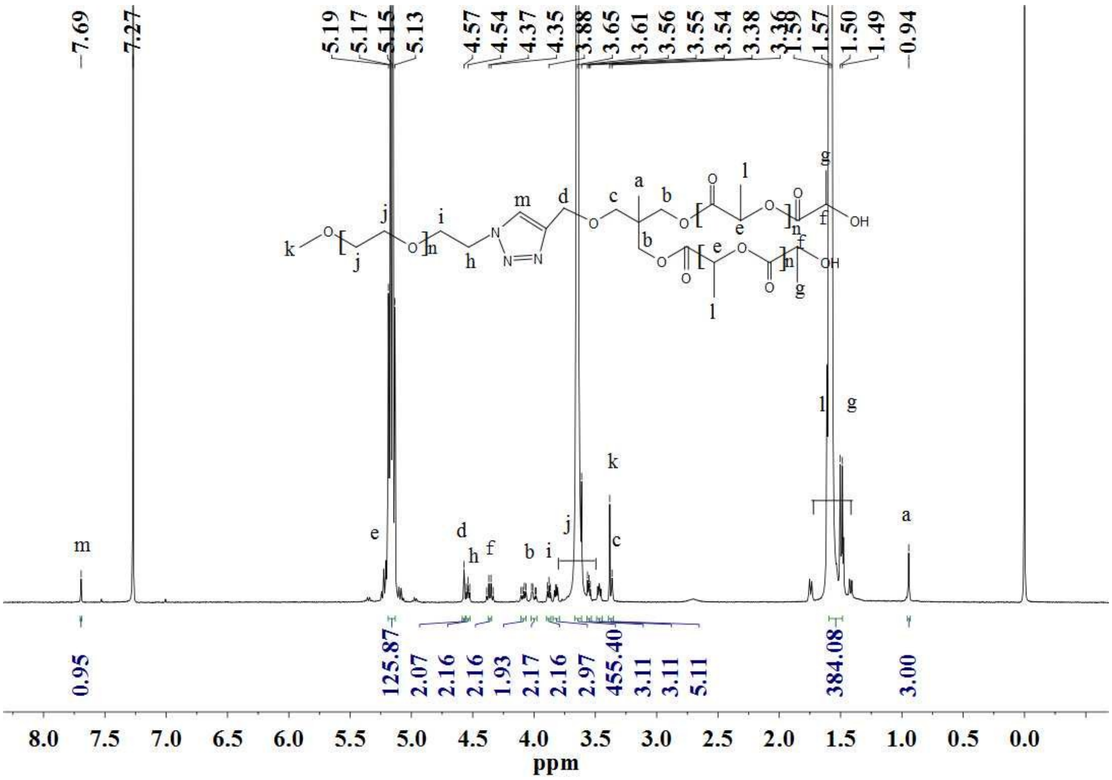
SI Fig. 5. ^{1}H NMR Spectrum of alkyne-(PDLA$_{4.5k}$)$_2$ **2b**



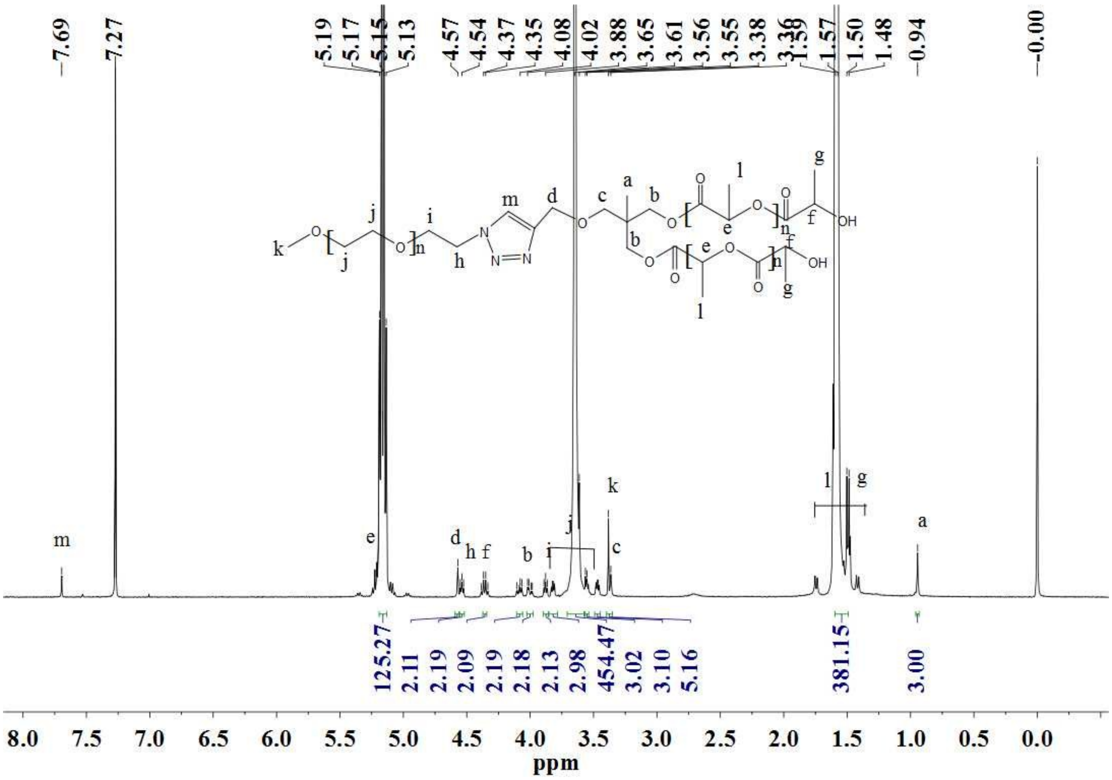
SI Fig. 6. ^{1}H NMR Spectrum of MPEG$_{1.9K}$-(PLLA$_{4.5k}$)$_2$ **3a**



SI Fig. 7. ^{1}H NMR Spectrum of MPEG$_{1.9K}$-(PDLA$_{4.5k}$)$_2$ **3b**

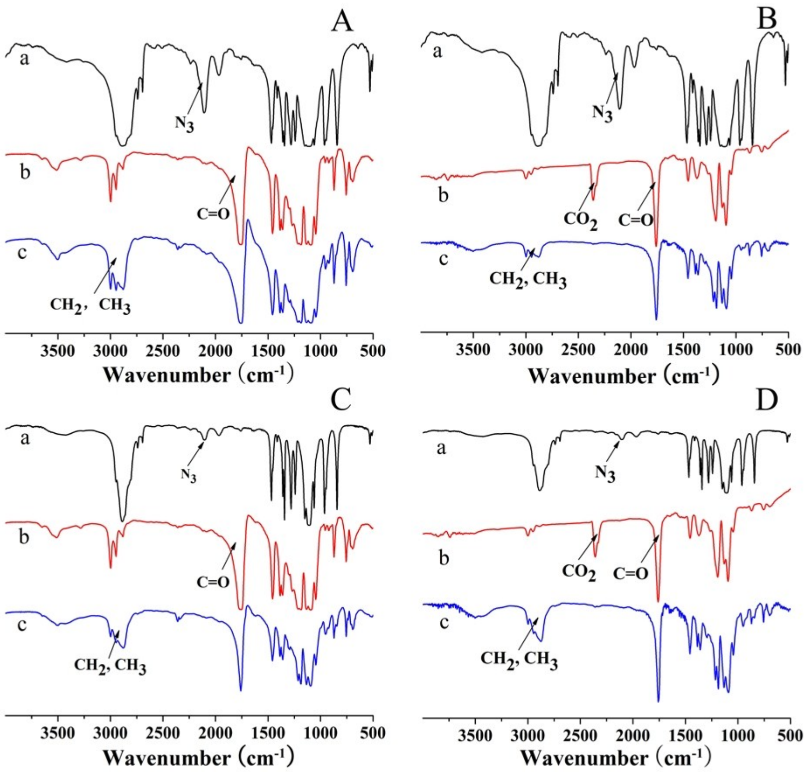


SI Fig. 8. ^{1}H NMR Spectrum of MPEG$_{5K}$-(PLLA$_{4.5k}$)$_2$ **3c**



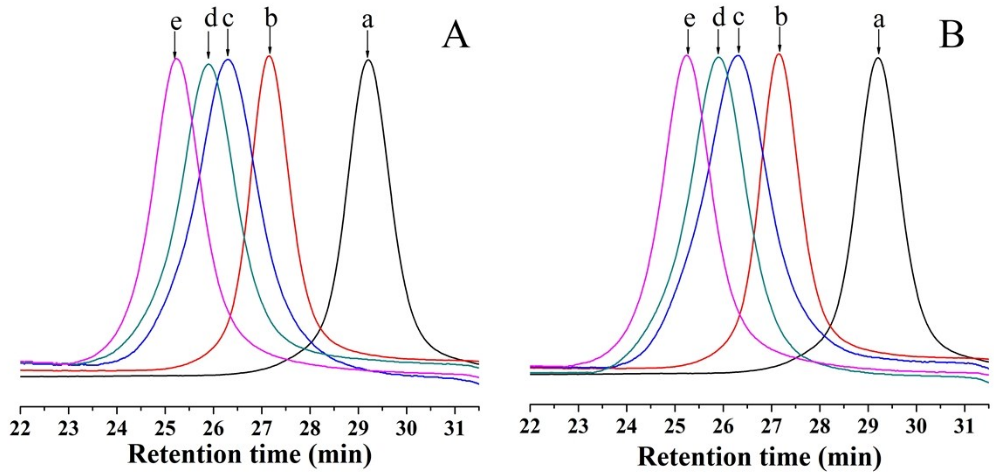
SI Fig. 9. [1]H NMR Spectrum of MPEG$_{5K}$-(PDLA$_{4.5k}$)$_2$ **3d**

II. IR spectra for synthesized polymers



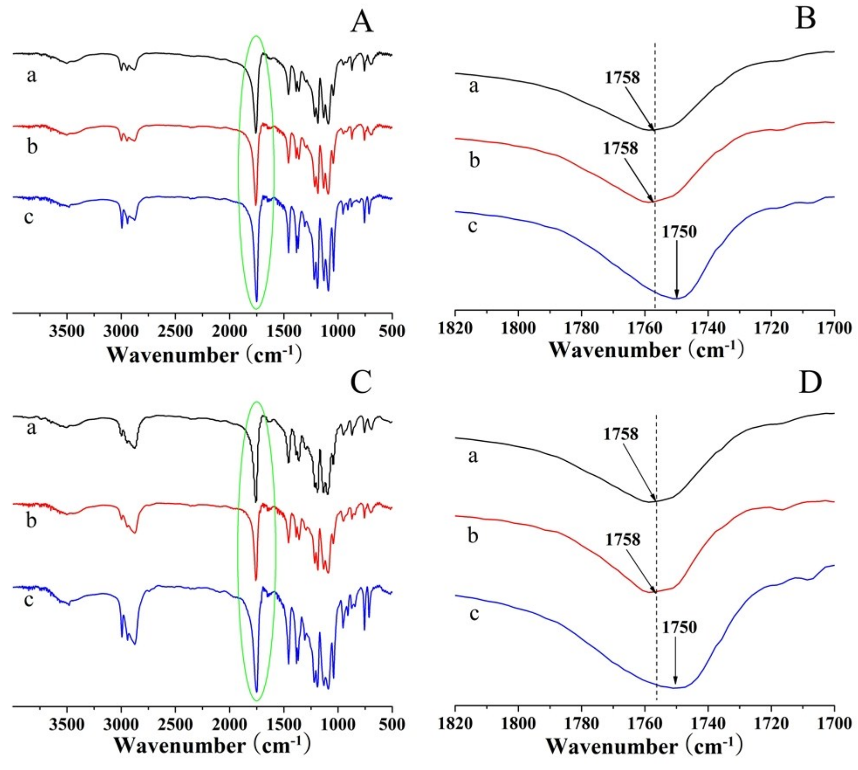
SI Fig. 10. FT-IR spectra of A: a) MPEG$_{1.9k}$-N_3, b) alkyne-(PLLA$_{4.5k}$)$_2$, c) MPEG$_{1.9k}$-(PLLA$_{4.5k}$)$_2$; B: a) MPEG$_{1.9K}$-N_3, b) alkyne-(PDLA$_{4.5k}$)$_2$, c) MPEG$_{1.9K}$-(PDLA$_{4.5k}$)$_2$; C: a) MPEG$_{5k}$-N_3, b) alkyne-(PLLA$_{4.5k}$)$_2$, c) MPEG$_{5k}$-(PLLA$_{4.5k}$)$_2$; D: a) MPEG$_{5k}$-N_3, b) alkyne-(PDLA$_{4.5k}$)$_2$, c) MPEG$_{5K}$-(PDLA$_{4.5k}$)$_2$.

III. GPC traces for synthesized polymers



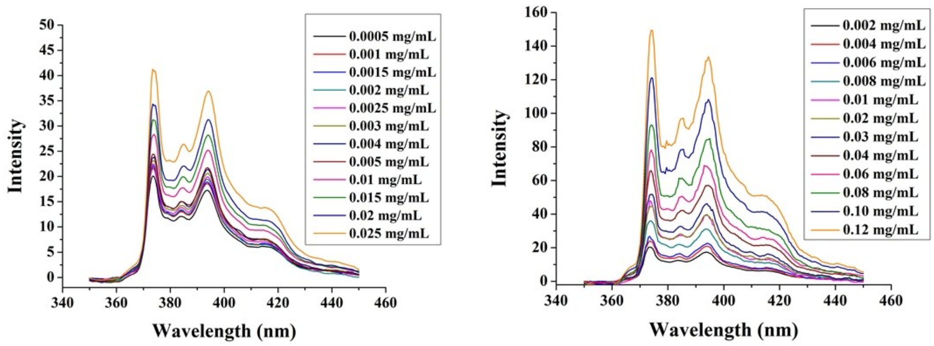
SI Fig. 11. GPC traces of A: a) $MPEG_{1.9K}$, b) $MPEG_{5K}$, c) alkyne-$(PLLA_{4.5k})_2$, d) $MPEG_{1.9K}$-$(PLLA_{4.5k})_2$, e) $MPEG_{5k}$-$(PLLA_{4.5k})_2$; B: a) $MPEG_{1.9K}$, b) $MPEG_{5K}$, c) alkyne-$(PDLA_{4.5k})_2$, d) $MPEG_{1.9K}$-$(PDLA_{4.5k})_2$, e) $MPEG_{5k}$-$(PDLA_{4.5k})_2$.

IV. IR spectra for synthesized polymers and their stereocomplexes



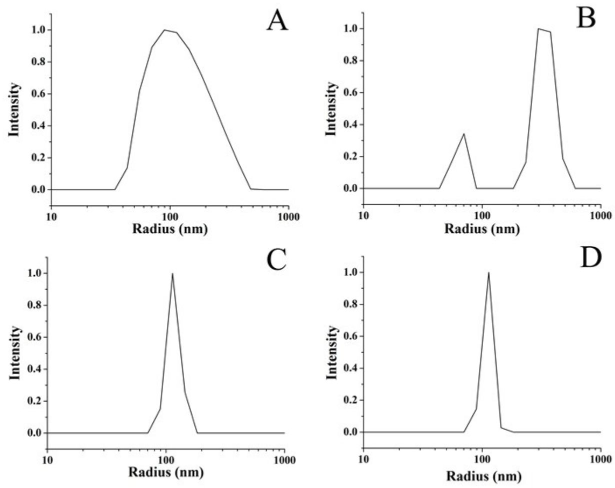
SI Fig. 12. FT-IR spectra of A: a) $MPEG_{1.9K}$-$(PLLA_{4.5k})_2$, b) $MPEG_{1.9K}$-$(PDLA_{4.5k})_2$, c) $MPEG_{1.9K}$-$(scPLA_{4.5k})_2$; B: partial enlarge part of A; C: a) $MPEG_{5k}$-$(PLLA_{4.5k})_2$, b) $MPEG_{5k}$-$(PDLA_{4.5k})_2$, c) $MPEG_{5k}$-$(scPLA_{4.5k})_2$; D: partial enlarge part of C.

V. Fluorescence spectra for MPEG$_{1.9K}$-(scPLA$_{4.5k}$)$_2$ and MPEG$_{5k}$-(scPLA$_{4.5k}$)$_2$



SI Fig. 13. Steady-state fluorescence excitation spectra monitored at for the pyrene probe in an aqueous solution of MPEG$_{1.9K}$-(scPLA$_{4.5k}$)$_2$ (left) and MPEG$_{5k}$-(scPLA$_{4.5k}$)$_2$ (right) at various concentration at 25 ºC.

VI. DLS spectra for synthesized polymers and their stereocomplexes



SI Fig. 14. Size distribution of the self-assembled micelles determined by DLS: A) MPEG$_{5K}$-(PLLA$_{4.5k}$)$_2$ micelles; B) MPEG$_{5K}$-(PDLA$_{4.5k}$)$_2$ micelles; C) MPEG$_{5K}$-(scPLA$_{4.5k}$)$_2$ micelles (Method B); D) MPEG$_{5K}$-(scPLA$_{4.5k}$)$_2$ micelles (Method A).