

Supporting Information

Thermo, pH and reduction responsive coaggregates comprising AB₂C₂ star terpolymers for multi-triggered release of doxorubicin

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Table S1 Dependence of apparent drug-release rate (K), cumulative release (CR) and increment of cumulative release (ICR) at 48 h on external stimuli during in vitro DOX release from various aggregates

Aggregates	stimuli	T (°C)	pH	DTT	K (h ⁻¹)	CR (%)	ICR(%)
S1	dual	25	7.4	none	0.0291	19.2	0
S1	dual	25	7.4	yes	0.0705	41.4	116
S1	dual	37	7.4	none	0.115	37.0	93
S1	dual	37	7.4	yes	0.161	61.1	218
S3	dual	37	7.4	none	0.065	26.7	0
S3	dual	37	7.4	yes	0.137	43.0	61
S3	dual	37	5.3	none	0.119	38.4	44
S3	dual	37	5.3	yes	0.215	63.1	136
S1+S3	triple	25	7.4	none	0.0261	18.3	0
S1+S3	triple	25	7.4	yes	0.0393	36.8	101
S1+S3	triple	25	5.3	none	0.0326	35.0	91
S1+S3	triple	25	5.3	yes	0.0496	42.0	130
S1+S3	triple	37	7.4	none	0.0618	24.1	32
S1+S3	triple	37	7.4	yes	0.135	42.9	134
S1+S3	triple	37	5.3	none	0.0837	33.0	80
S1+S3	triple	37	5.3	yes	0.177	57.1	212

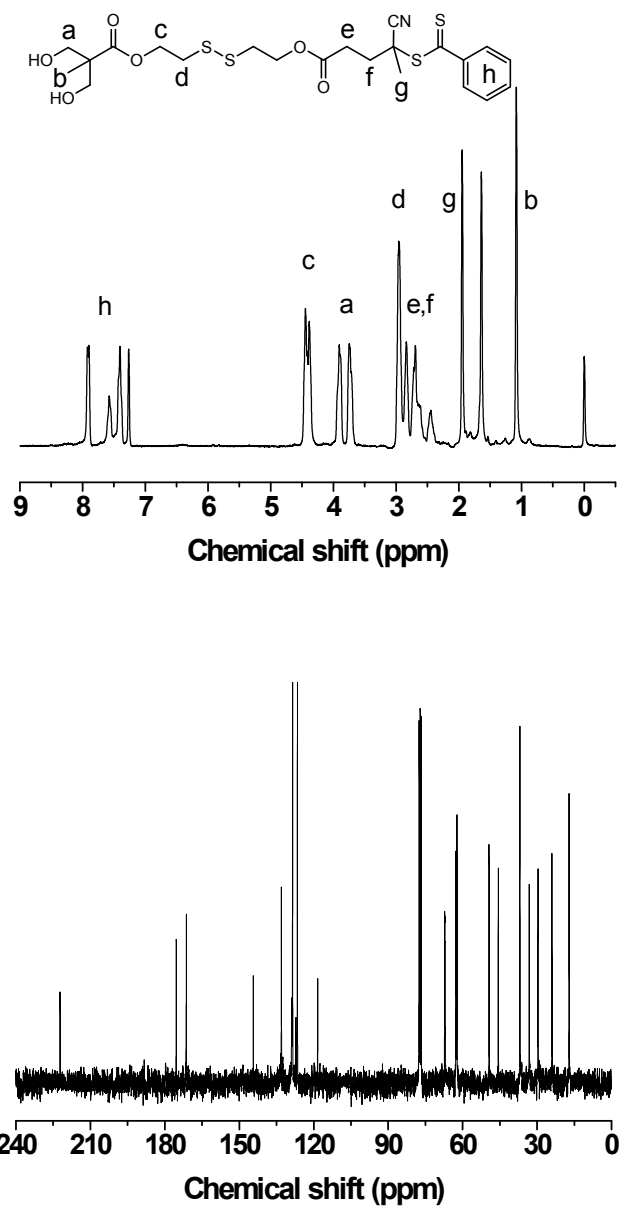


Fig. S1 ^1H (top) and ^{13}C (bottom) NMR spectra of DCP.

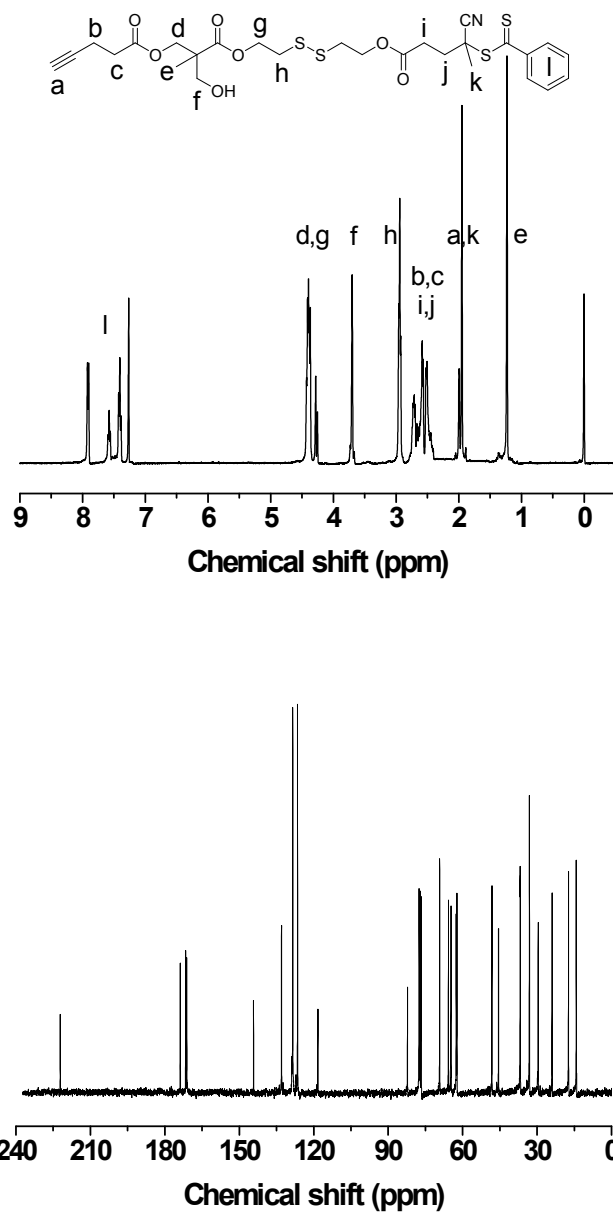


Fig. S2 ^1H (top) and ^{13}C (bottom) NMR spectra of HCP.

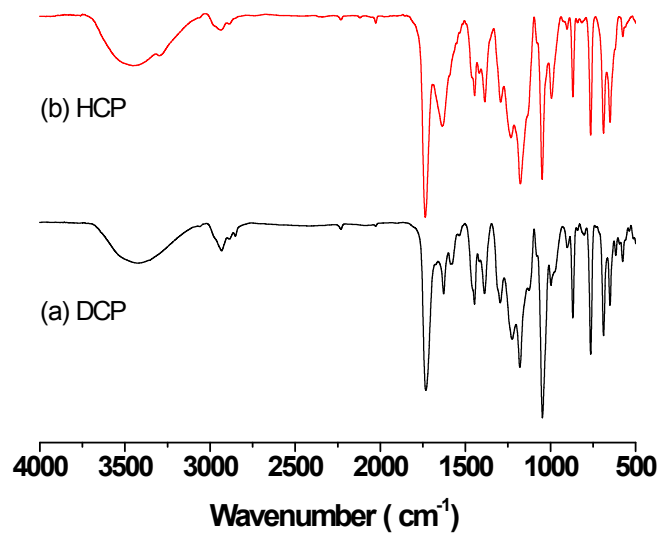


Fig. S3 IR spectra of trifunctional agents DCP and HCP.

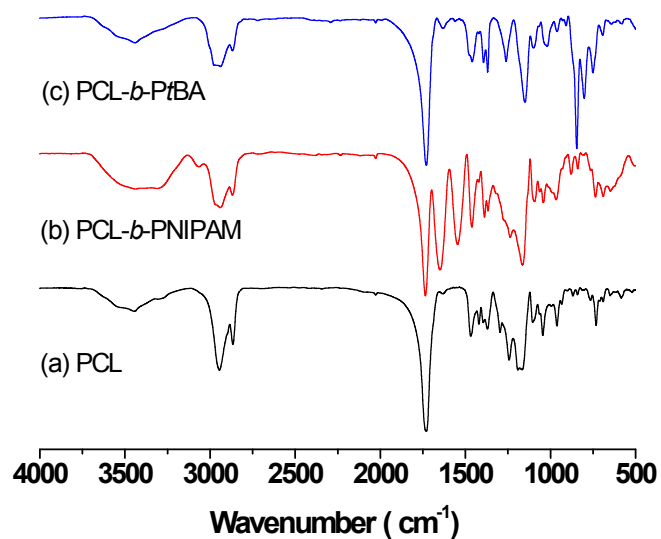


Fig. S4 IR spectra of alkyne-functionalized PCL (a), PCL-*b*-PNIPAM (b) and PCL-*b*-PtBA (c).

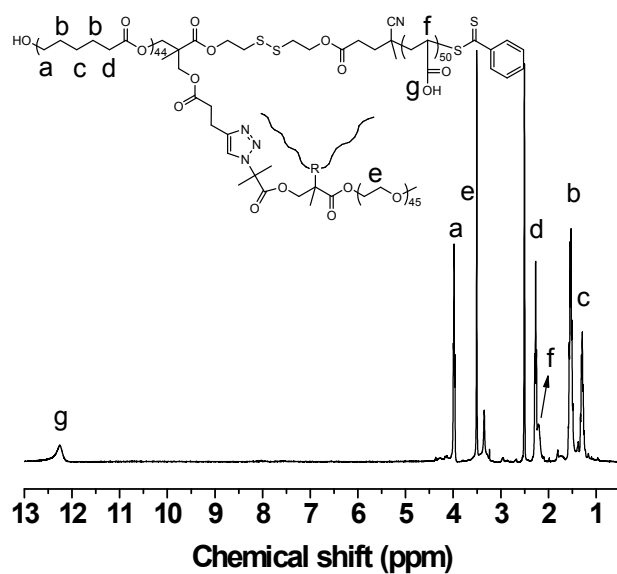


Fig S5. ^1H NMR spectrum of $\text{PEG}(\text{PCL})_2(\text{PAA})_2$ star copolymer in $\text{DMSO-}d_6$.

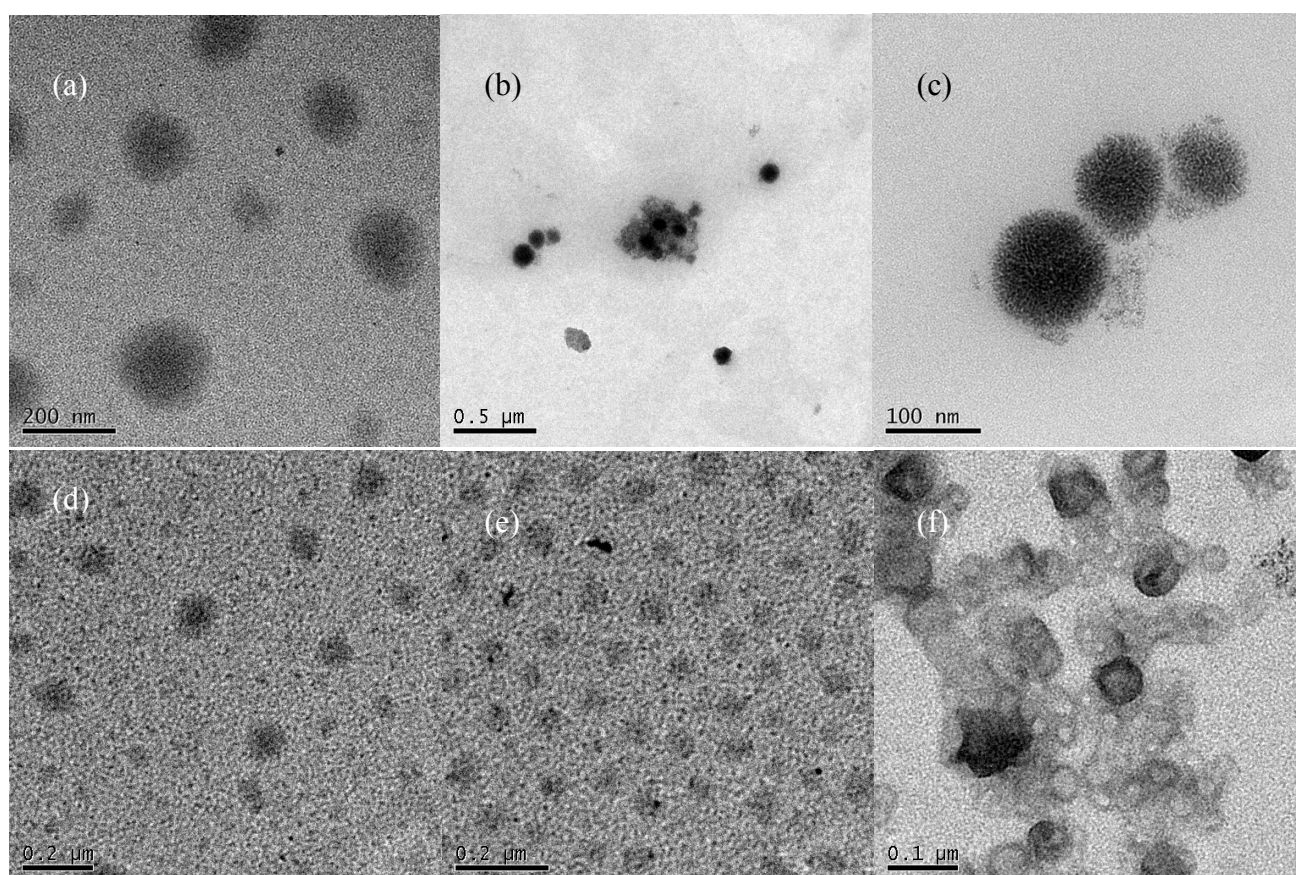


Fig S6. TEM images of copolymer aggregates formed by $\text{PEG}(\text{PCL})_2(\text{PNIPAM})_2$ (a, $T = 25\text{ }^\circ\text{C}$; b and c, $T = 37\text{ }^\circ\text{C}$), $\text{PEG}(\text{PCL})_2(\text{PAA})_2$ (d, $T = 37\text{ }^\circ\text{C}$) and their mixtures according to equimolar ratio (e, $T = 25\text{ }^\circ\text{C}$; f, $T = 37\text{ }^\circ\text{C}$) in PBS solution with pH 7.4 ($c = 0.50\text{ mg mL}^{-1}$).

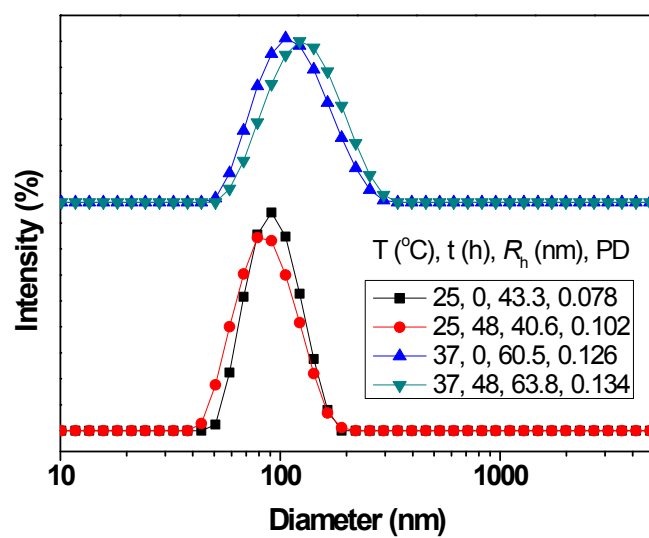


Fig. S7 DLS plots of S1/S3 coaggregates ($c = 0.50 \text{ mg mL}^{-1}$) in PBS solution (pH 7.4, 50 mM) at 25 or 37 °C for different time periods ($t = 0$ and 48 h).