## **Supporting information for**

## Self-assembly of well-defined fatty acid based amphiphilic thermoresponsive random copolymers

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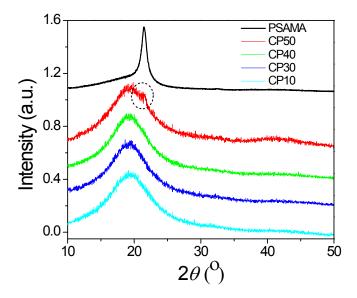


Fig. S1 WAXD patterns of copolymers at room temperature.

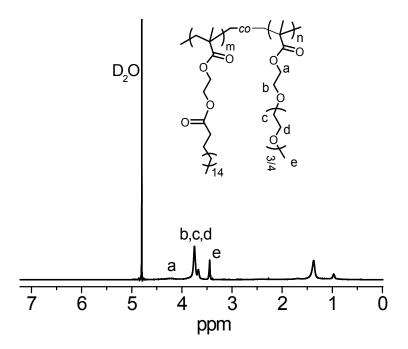
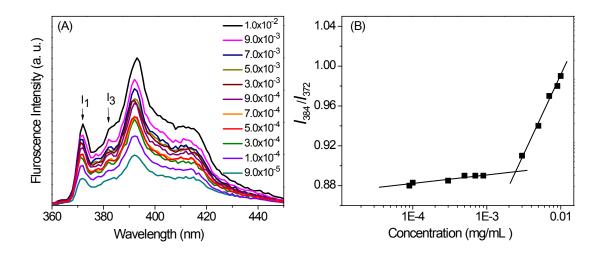
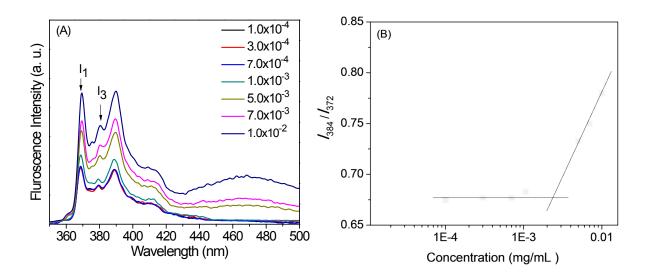


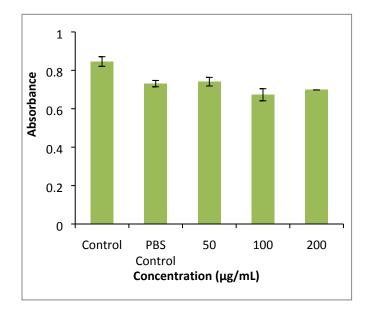
Fig. S2 <sup>1</sup>H NMR spectrum of CP20 in D<sub>2</sub>O.



**Fig. S3** (A) Emission spectra of pyrene at various concentrations of CP20 and (B) plot of intensity ratio  $I_{384}/I_{372}$  versus concentrations of CP20 and in water.



**Fig. S4** (A) Emission spectra of pyrene at various concentrations of CP30 and (B) plot of intensity ratio  $I_{384}/I_{372}$  versus concentrations of CP30 in water.



**Fig. S5** Cytotoxicity of CP30 copolymer at different concentrations. For each concentration of CP30, the bar height shows the mean value of the three data sets and the error bar indicates the highest of the three values.