

## Supporting Information

### Multi-Responsive Protein Nanocarriers from Anionic Dynamic Covalent Copolymer

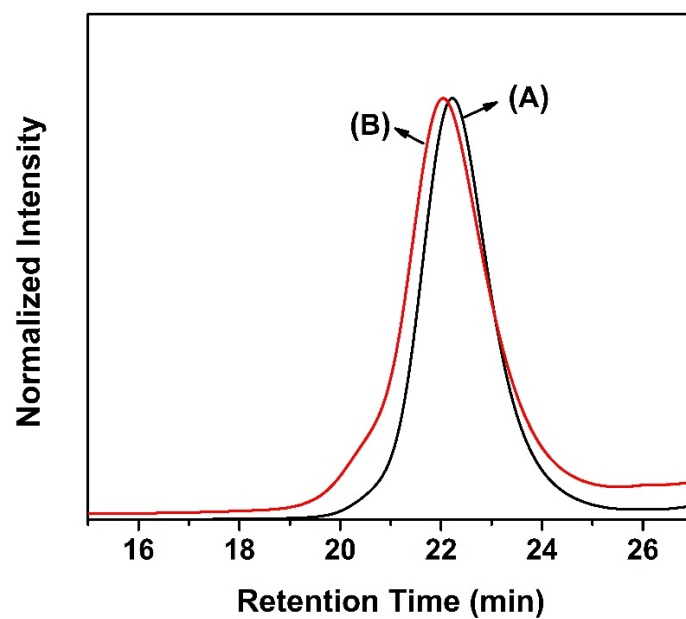
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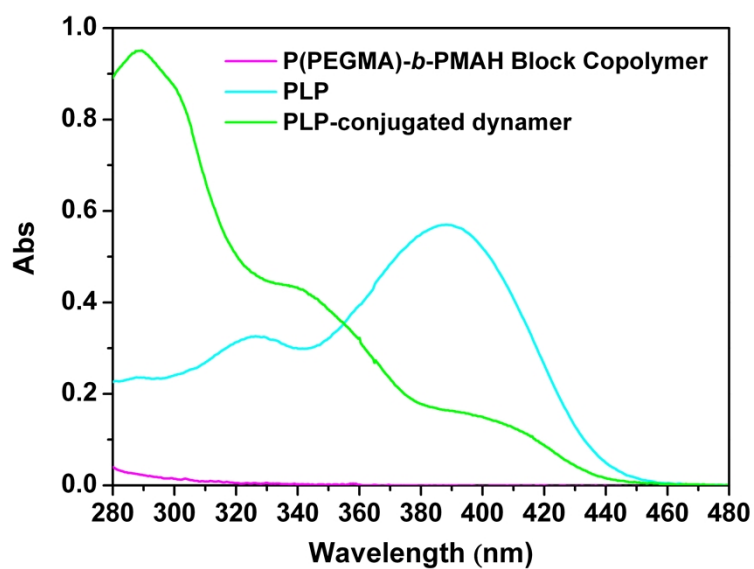
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**Modified TNBS assay**

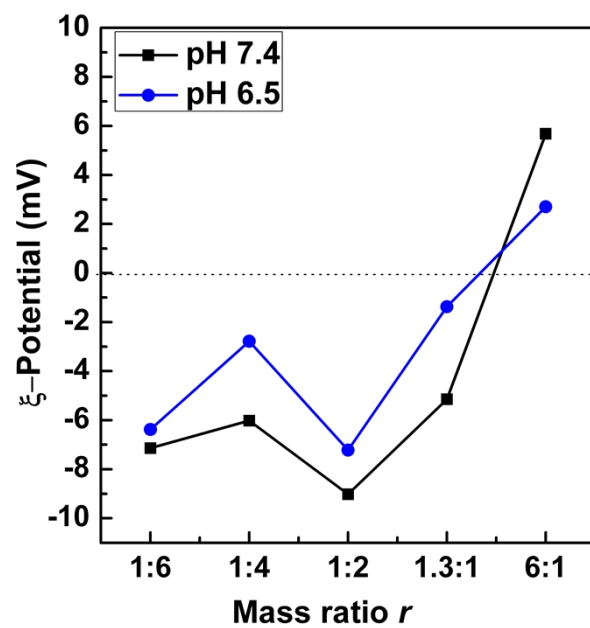
Poly(methylacryloylhydrazide) (PMAH) homopolymer was prepared by the reaction of PMAO homopolymer and excess Hydrazine hydrate. A stock solution of PMAH (1.1 mg/mL) was prepared in a borate buffer (pH 9.3, 0.05 M). A calibration curve was obtained by preparing PMAH of known concentration (3.564, 5.319, 7.092, 8.865, 10.638, 14.184,  $19.5 \times 10^{-5}$  mol/mL). 25  $\mu$ L of this solution were added to a cuvette containing 950  $\mu$ L of borate buffer and 25  $\mu$ L of 0.03 M TNBS solution, After 100 min incubation, the absorption at 500 nm was measured.



**Figure S1.** GPC traces of (A) P(PEGMA)<sub>17</sub> homopolymer and (B) P(PEGMA)<sub>17</sub>-*b*-PMAO<sub>16</sub> block copolymer.



**Figure S2.** Formation of acylhydrazone bond monitored by UV-vis.



**Figure S3.** Dependence of Zeta potential of the PIC micelles on mass ratio.