

## Supporting Information

### 2-D Gold Nanoparticle Arrays from Thermally Directed Self-Assembly of Peptide-Derivatized Block Copolymers

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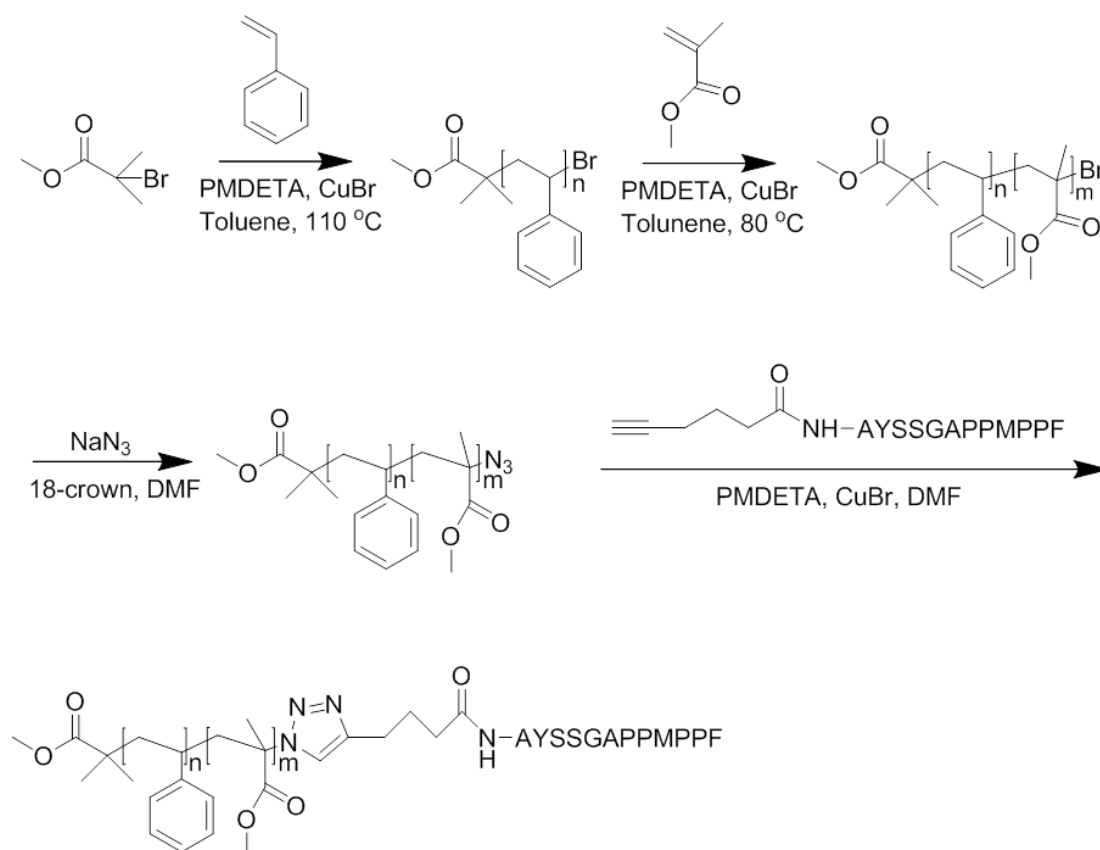


Figure S1. Synthetic route for A3 peptide-deviratized block copolymer bioconjugates. PS-*b*-PMMA was synthesized through a sequential polymerization followed by the “click” chemistry to tether A3 peptide at the end of PMMA.

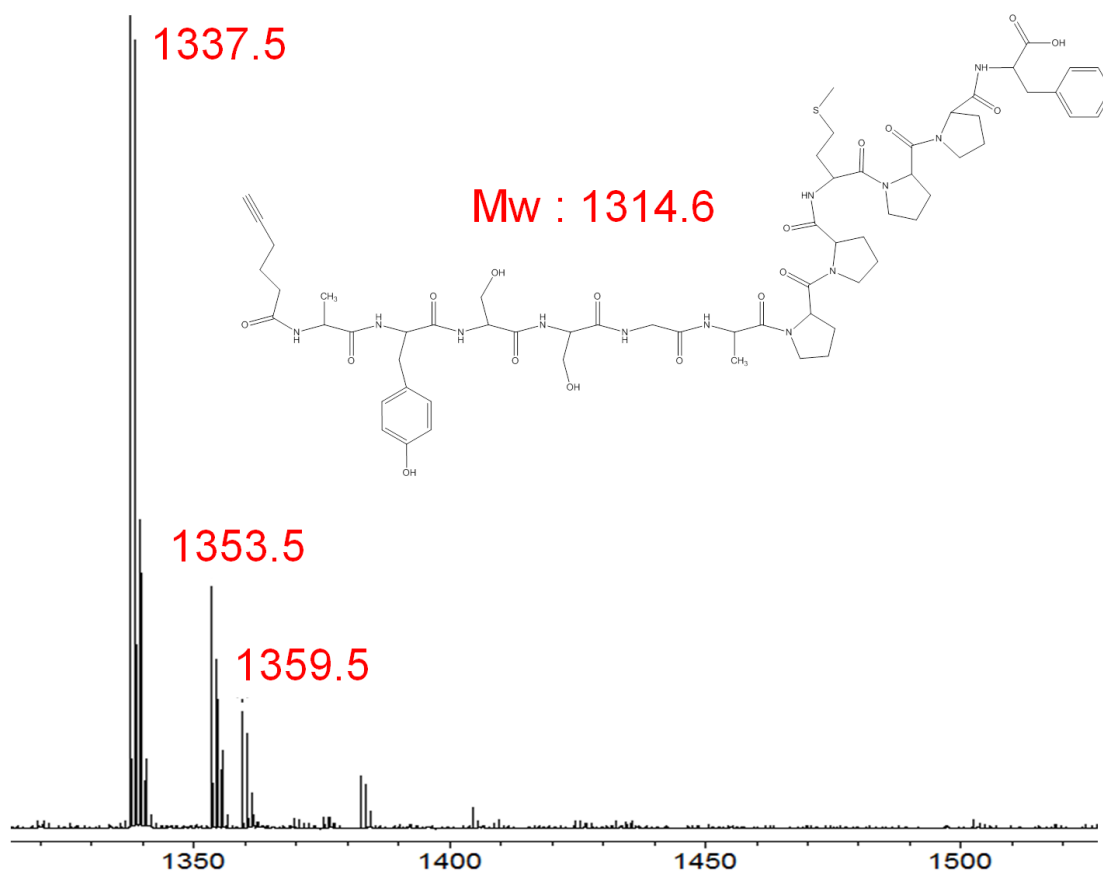


Figure S2. ESI-MS spectra of alkyne functionalized A3 peptide: 1337.5  
(Alkyne-A3 peptide +Na<sup>+</sup>); 1353.5 (Alkyne-A3 peptide +Na<sup>+</sup>+K<sup>+</sup>-H<sup>+</sup>); 1359.5  
(Alkyne-A3 peptide +2Na<sup>+</sup>-H<sup>+</sup>).

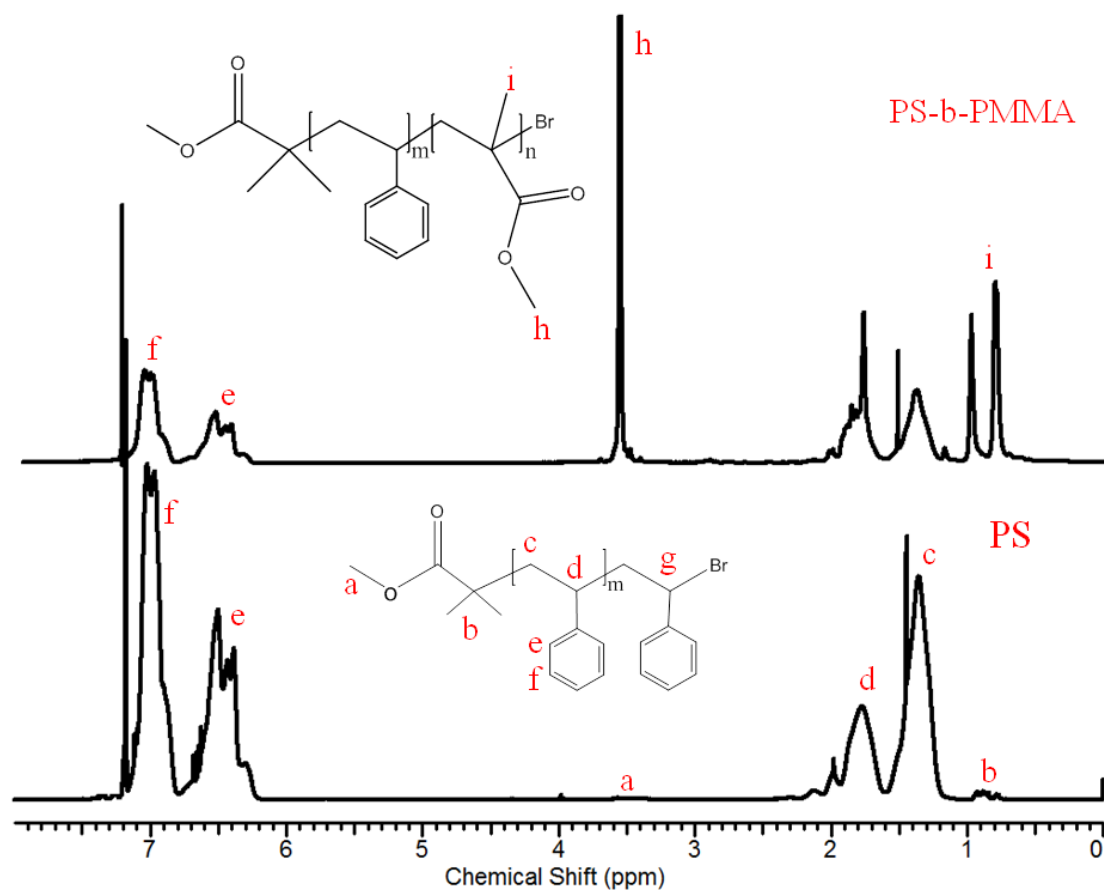


Figure S3. <sup>1</sup>H NMR (CDCl<sub>3</sub>, 500 MHz, ppm, δ) spectra of PS-Br (a) and PS-b-PMMA-Br (b). PS-Br was polymerized and used as the macromolecular initiator to grow PMMA block. PS-Br: 6.30-7.40 (br, 1980H, phenyl rings), 3.50 (s, 3H, CH<sub>3</sub>O-), 1.67-2.15 (br, 396H, -CH<sub>2</sub>CH(-Ar)-), 1.20-1.67 (br, 792H, -CH<sub>2</sub>CH(-Ar)-), 0.93 (s, 6H, -(C=O)C(CH<sub>3</sub>)<sub>2</sub>-). PS-b-PMMA-Br: 6.30-7.40 (br, 1980H, phenyl rings), 3.35-3.60 (br, 522H, CH<sub>3</sub>O-), 1.67-2.15 (br, 396H, -CH<sub>2</sub>CH(-Ar)-), 1.20-1.67 (br, 792H, -CH<sub>2</sub>CH(-Ar)-), 0.60-1.00 (br, 522H, -(CH<sub>3</sub>-)C(C=O)-).

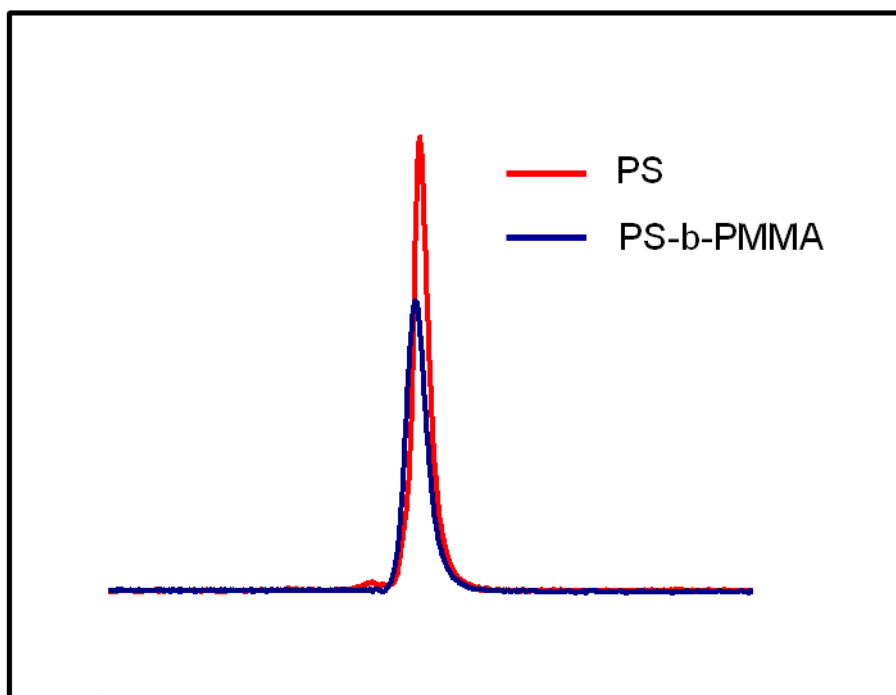


Figure S4. SEC spectra (THF, RI detector, PS standard) of PS-Br and PS-b-PMMA-Br. PS-Br was polymerized and used as the macromolecular initiator to grow PMMA block. PS-Br:  $M_n = 42.1$  kDa,  $M_w = 43.9$  kDa, PDI = 1.02. PS-b-PMMA-Br:  $M_n = 59.5$  kDa,  $M_w = 69.0$  kDa, PDI = 1.16.

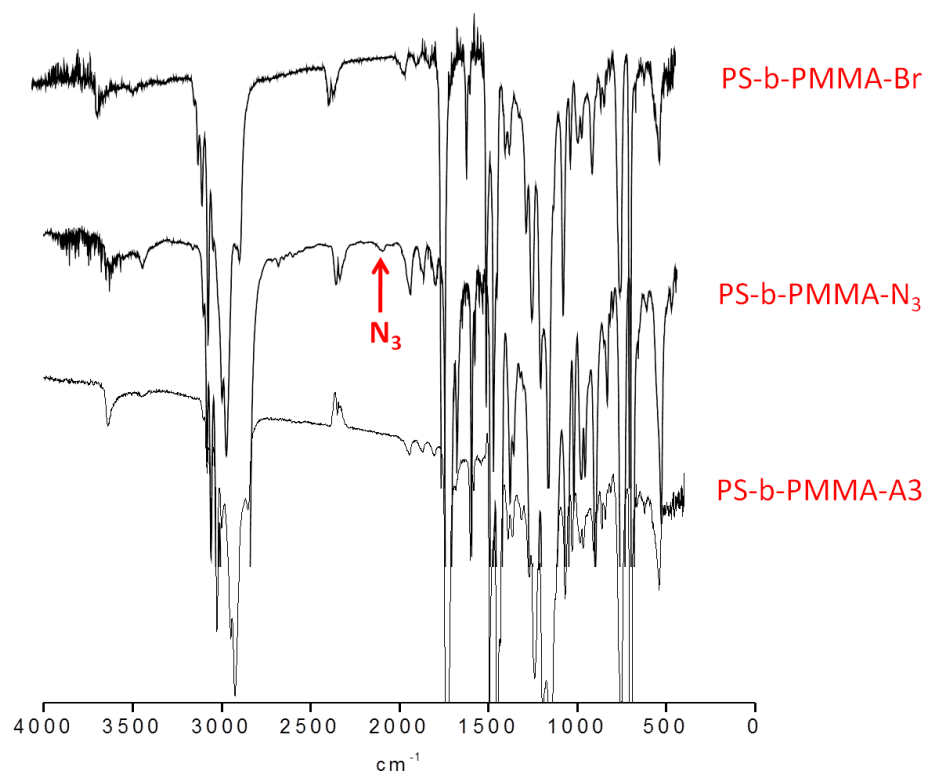


Figure S5. Fourier transform infrared (FTIR) spectra of PS-b-PMMA-Br, PS-b-PMMA- $\text{N}_3$  and PS-b-PMMA-A3.  $\text{N}_3$  functional group showed signal at 2100  $\text{cm}^{-1}$  and disappeared after “Click” reaction.