Supporting information for

**Short Elastin-like Peptide-functionalized Gold Nanoparticles that are Temperature Responsive under Near-Physiological Conditions**

Jingyi Zong, Steven L. Cobb, Neil R. Cameron

\textsuperscript{a} Department of Chemistry, Durham University, Durham, DH1 3LE, U.K.

\textsuperscript{b} Department of Materials Science and Engineering, Monash University, 22 Alliance Lane, Clayton, Victoria 3800, Australia

\textsuperscript{c} School of Engineering, University of Warwick, Coventry, CV4 7AL, U.K

*Email: neil.cameron@monash.edu*
Table of contents

Figure S1 (solid-phase peptide synthesis) .......................... 3
Figure S2 (analytical HPLC of peptide 1) .......................... 3
Figure S3 (analytical HPLC of peptide 2) .......................... 4
Figure S4 (analytical HPLC of peptide 3) .......................... 4
Figure S5 (structure of ELP-GNPs) ................................. 4
Figure S6 (CD data of peptide 2) ................................. 5
Figure S7 (CD data of peptide 3) ................................. 5
Figure S1: Solid peptide synthesis of Peptide 1.

Figure S2: Analytical HPLC of Peptide 1. This pentapeptide was synthesized on a solid resin. HPLC was carried out on a preparative column (C18, 100 x 19 mm, 5 µm particle size). Peptides were eluted in H₂O / MeCN + 0.1 % trifluoroacetic acid.
Figure S3: Analytical HPLC of Peptide 2. Same HPLC condition was carried as Peptide 1.

Figure S4: Analytical HPLC of Peptide 3. Same HPLC condition was carried as Peptide 1.

Figure S5: Structure of ELP-GNP.
**Figure S6.** a) Temperature dependence of the circular dichroism (CD) spectra of peptide 2 (200 µM) in PBS buffer at pH 7.4 from 10 °C to 60 °C; b) Temperature profile of [θ]_{198} values for Peptide 2 (200 µM) in PBS buffer at pH 7.4 from 10 °C to 70 °C.

**Figure S7.** a) Temperature dependence of the circular dichroism (CD) spectra of peptide 3 (200 µM) in PBS buffer at pH 7.4 from 10 °C to 70 °C. b) Temperature profile of [θ]_{198} values for Peptide 3 (200 µM) in PBS buffer at pH 7.4 from 10 °C to 70 °C.