Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Materials

Gemini Surfactant-like Peptide-based Nanocages with β-sheet-Enhanced Stability and Encapsulation Efficiency of Hydrophobic Anticancer Drugs

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Supplementary methods

1. Circular dichroism (CD) spectroscopy

A peptide solution with a concentration of 0.2 mM was used to record CD spectra. Far-UV CD spectra between 200 and 260 nm were recorded on a CD spectrometer (Chirascan Plus, Applied Photophysics Ltd., UK) using a cuvette with a pathlength of 2 mm. For each sample, the spectra were averaged from 3 measurements and converted to molar ellipticity. We performed an analysis of the secondary structure content using online tools available at http://dichroweb.cryst.bbk.ac.uk/html/home.shtml.

2. Fluorescence spectroscopy

A fluorescence spectrometer (Fluorolog, Horiba scientific Inc., USA) was used to measure the fluorescence spectra between 360 nm and 600 nm with setting 330 nm as the excitation wavelength. Both the excitation and emission slits were set 5 nm.

Supplementary Figures

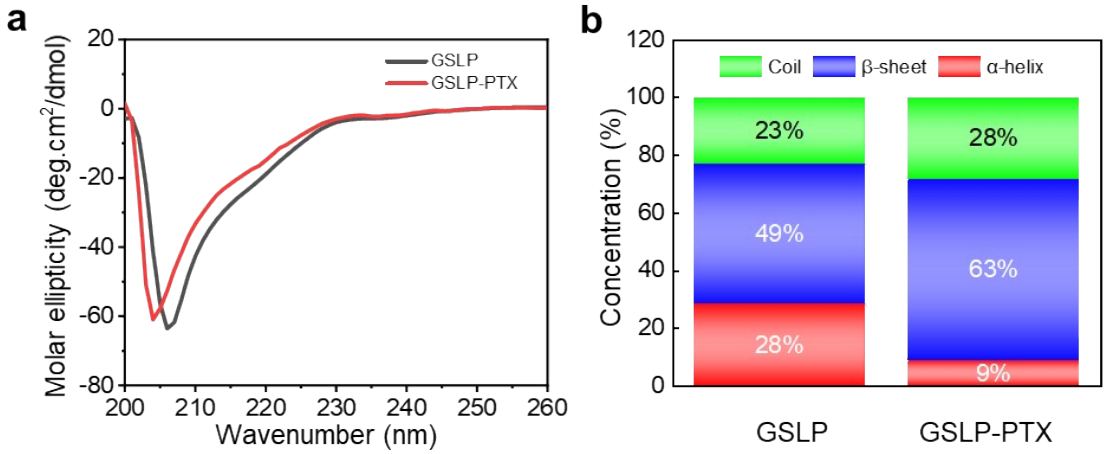

Figure S1. CD characterization. (a) CD spectra of GSLP and GSLP-PTX. (b) Secondary structure content of GSLP and GSLP-PTX.

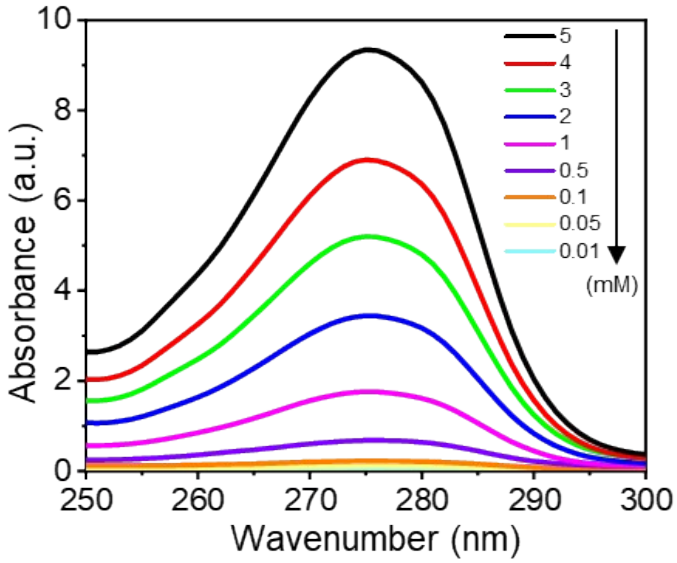

Figure S2. UV absorption spectra of peptide solutions of different concentrations as labeled.

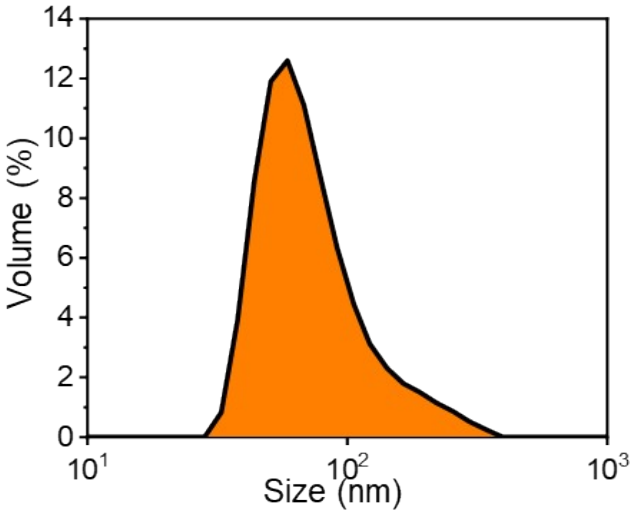

Figure S3. Hydrodynamic size of GSLP nanocages after heating at 42 °C for 120 min.

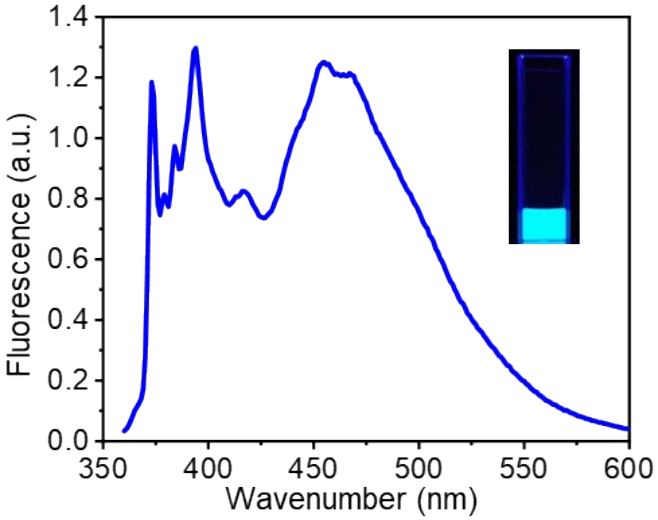

Figure S4. Fluorescence spectra of the β-nanocages after encapsulation of pyrene molecules. The inset photo shows the fluorescence of GSLP-pyrene in a cuvette under UV lamp excitation.