

ARTICLE

## Mitochondria-targeted curcumin loaded CTPP-PEG-PCL self-assembled micelles for improving liver fibrosis therapy

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### Methods

#### 1. Quantitative measurement of the Cur loaded in CTPP-PEG-PCL micelles through UV-vis method

Accurately weigh 10.0 mg curcumin (Cur) into a 50 mL volumetric flask, add methanol to the volumetric flask and shake well to obtain a 200 µg/mL Cur standard solution. Dilute the Cur standard solution with methanol to different concentrations (1.6 µg/mL, 2.4 µg/mL, 3.2 µg/mL, 4.0 µg/mL, 4.8 µg/mL, and 5.6 µg/mL). The absorbance (A) of different samples at 424 nm wavelength was measured by UV-vis spectrophotometer with methanol as blank control. The obtain standard curve is  $y=135782x+0.0054$  ( $R^2=0.9997$ ) (y: the absorbance value at 424 nm; x: concentration of Cur).

#### 2. Quantitative measurement of the Cur *in vivo* by a high-performance liquid chromatography (HPLC) method

Cur content *in vivo* were determined by HPLC (Waters, USA) with the following conditions: an ThermoHypersil-keystone C18 column (4.6 mm × 250 mm, 5.0 µm); mobile phase: acetonitrile: 10% glacial acetic acid solution = 1:1 (v/v); detection wavelength 424 nm; flow rate 1.0 mL/min; column temperature room temperature; and injection volume 20 µL. Accurately weigh Cur 5.0 mg into a 50 mL volumetric flask, adding methanol and obtain 100 µg/mL Cur standard solution. After that, dilute to different concentration (0.1, 0.5, 2, 4, 10, 25 µg/mL) using 80% methanol-blank plasma mixed solution, and HPLC obtained the peak area of different samples. The peak area y was plotted on the ordinate, and the concentration x was plotted on the abscissa. The obtain standard curve is  $y=9.6321x$

+ 10.361,  $R^2=0.9944$  (y: peak area value at 424 nm; x: concentration of Cur).

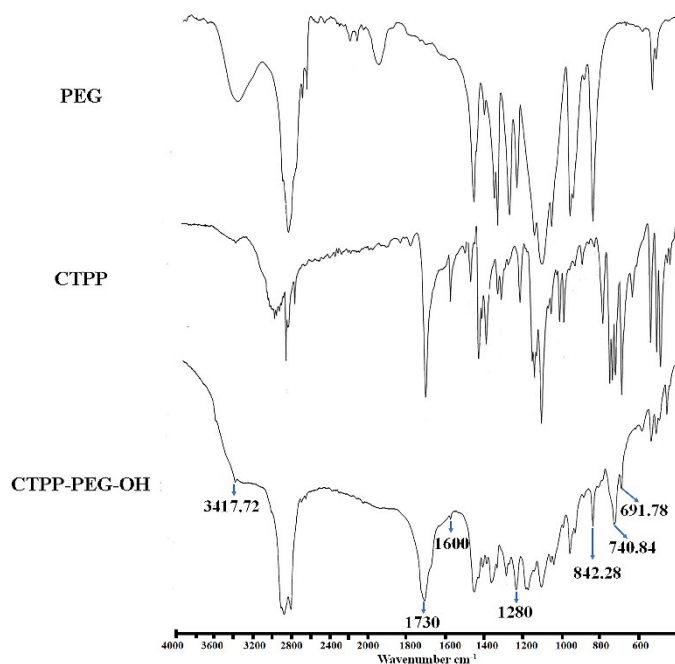


Figure S1. FTIR spectrum of PEG, CTPP and CTPP-PEG-OH.

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† Footnotes relating to the title and/or authors should appear here.

Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x