Supporting Information

Acyclic Cucurbit[*n*]uril-Based Nanosponges Significantly Enhance the Photodynamic Therapeutic Efficacy of Temoporfin *in Vitro* and *In Vivo*

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Synthetic Procedures

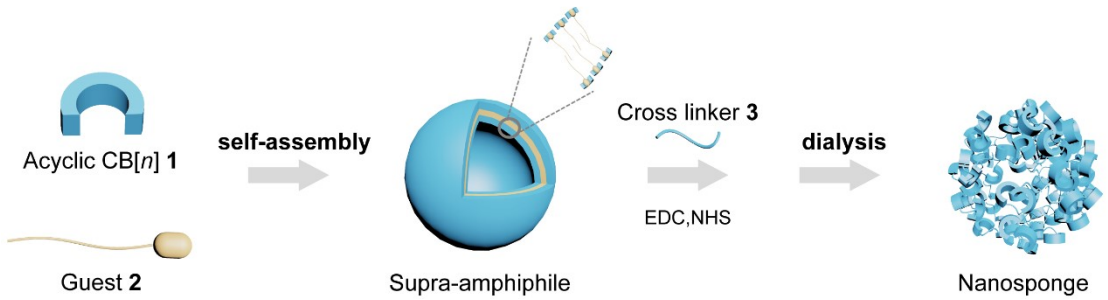

Fig. S1. Synthetic procedures of nanosponges.

Characterization

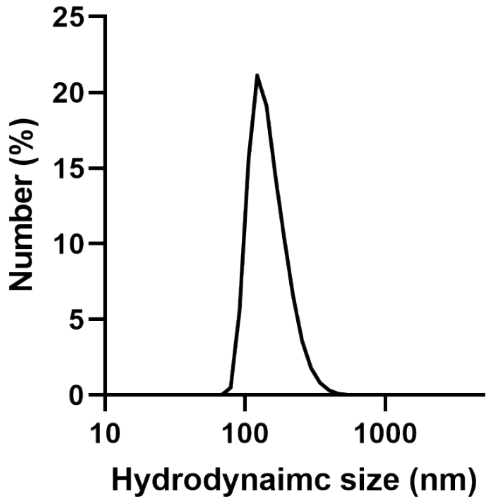

Fig. S2. DLS profile of the supra-amphiphiles with an average hydrodynamic size of 152 nm.

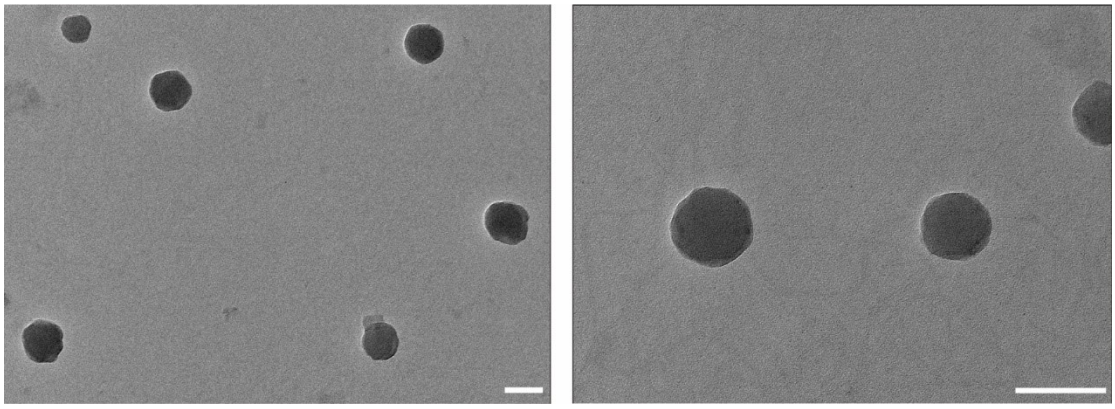

Fig. S3. TEM image of nanosponges. Scale bar: 100 nm.

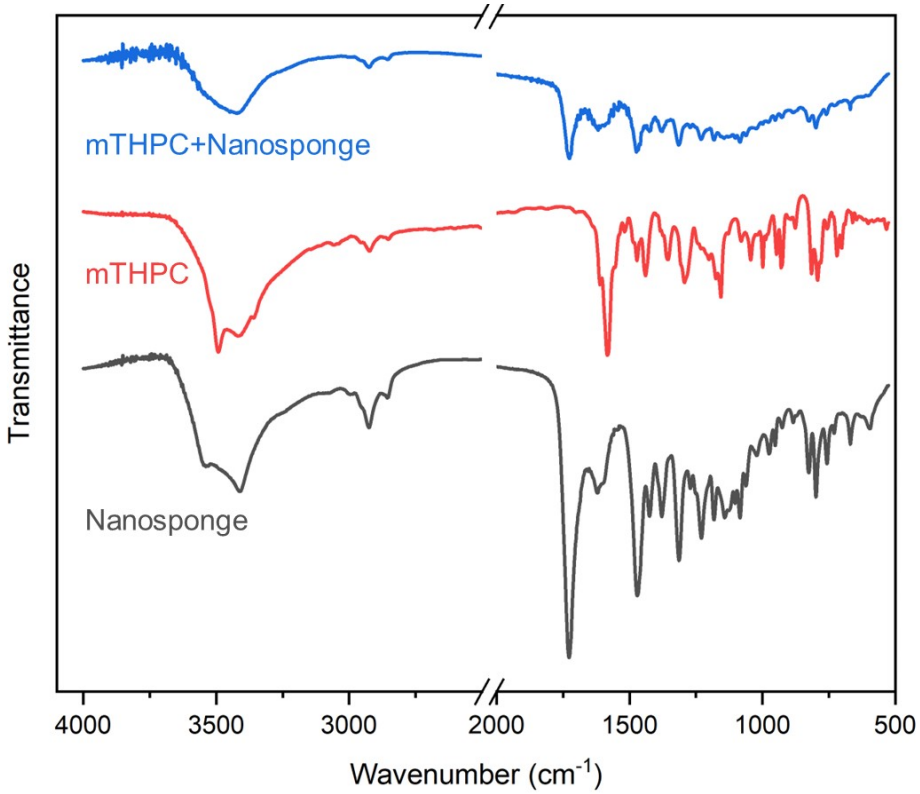

Fig. S4. Fourier transform infrared spectra of mTHPC, Nanosponge and mTHPC+Nanosponge.

Host-Guest Chemistry

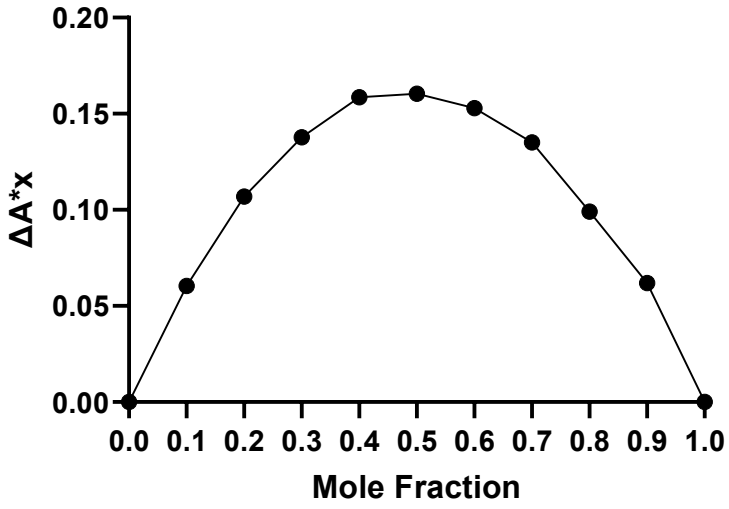

Fig. S5. Job plot ([CB[*n*] **1**]+ [mTHPC]= 10 μM) of mole fraction of acyclic CB[*n*] **1** versus ΔA*χ at pH 7.4 (PBS).

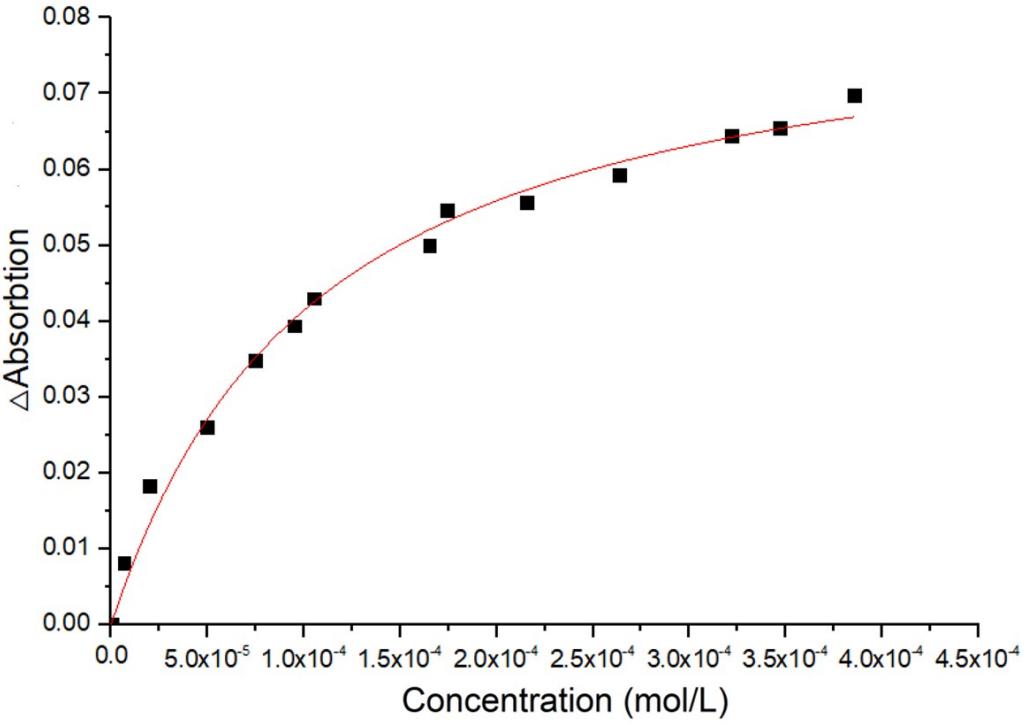

Fig. S6. Plot of the ΔAbs (A-A0) at 425 nm as a function of the concentration of acyclic CB[*n*] **1**. The solid line represents the best non-linear fitting of the data based on a 1:1 binding model (Ka = (1.01 ± 0.12) × 10^4 M^{-1}).

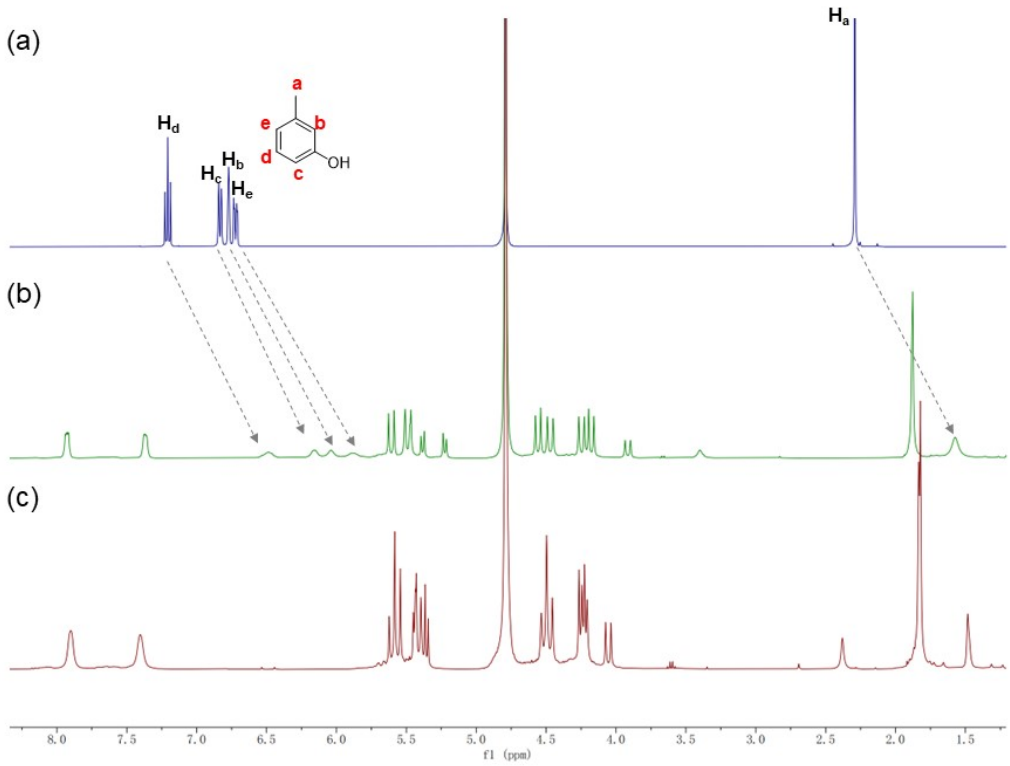

Fig. S7. ^{1}H NMR spectra recorded for (a) m-cresol(b) m-cresol and acyclic CB[*n*] **1** (c) acyclic CB[*n*] **1**.

In Vitro Study

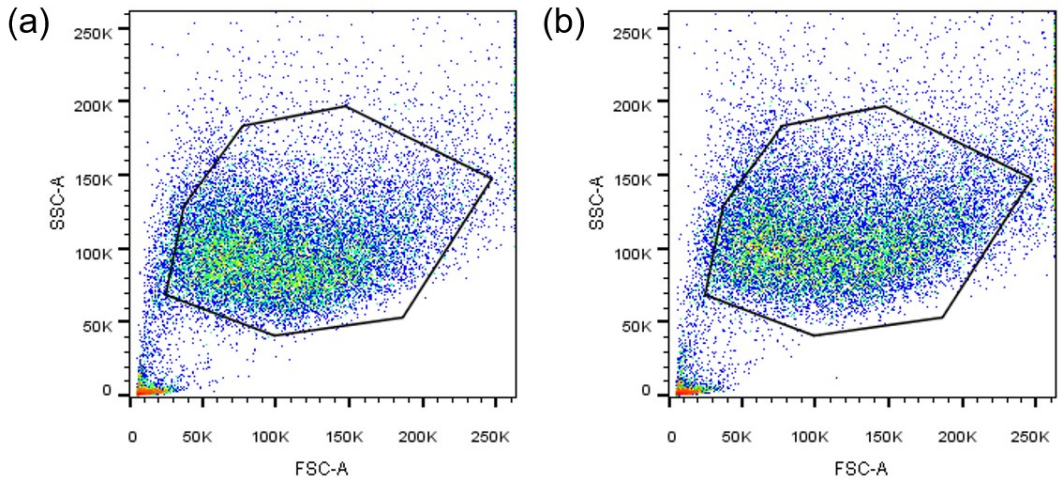

Fig. S8 Flow cytometry of HeLa cells treated with (a) mTHPC and (b) mTHPC-loaded nanosponges.

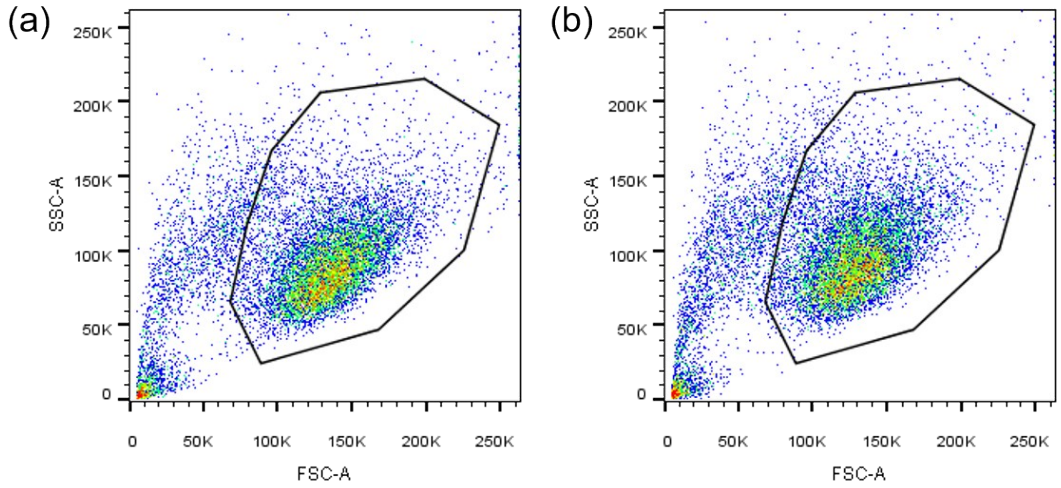

Fig. S9 Flow cytometry of B16-F10 cells treated with (a) mTHPC and (b) mTHPC-loaded nanosponges.

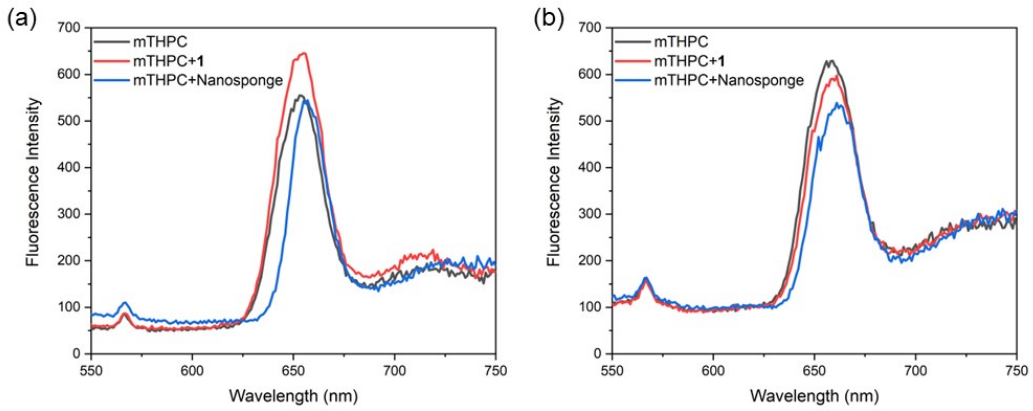

Fig. S10. (a) Fluorescence emission spectra of mTHPC, acyclic CB[*n*] **1** + mTHPC and mTHPC@nanosponge ([mTHPC] = 2 μM, [**1**] = 15.6 μM, [Nanosponge] = 0.02 mg/mL, load ratio=6.8%). (b) Fluorescence emission spectra of mTHPC, acyclic CB[*n*] **1** + mTHPC and mTHPC@nanosponge ([mTHPC] = 10 μM, [**1**] = 15.6 μM, [Nanosponge] = 0.02 mg/mL, load ratio=34%). Laser excitation : 405 nm.

In Vivo Study

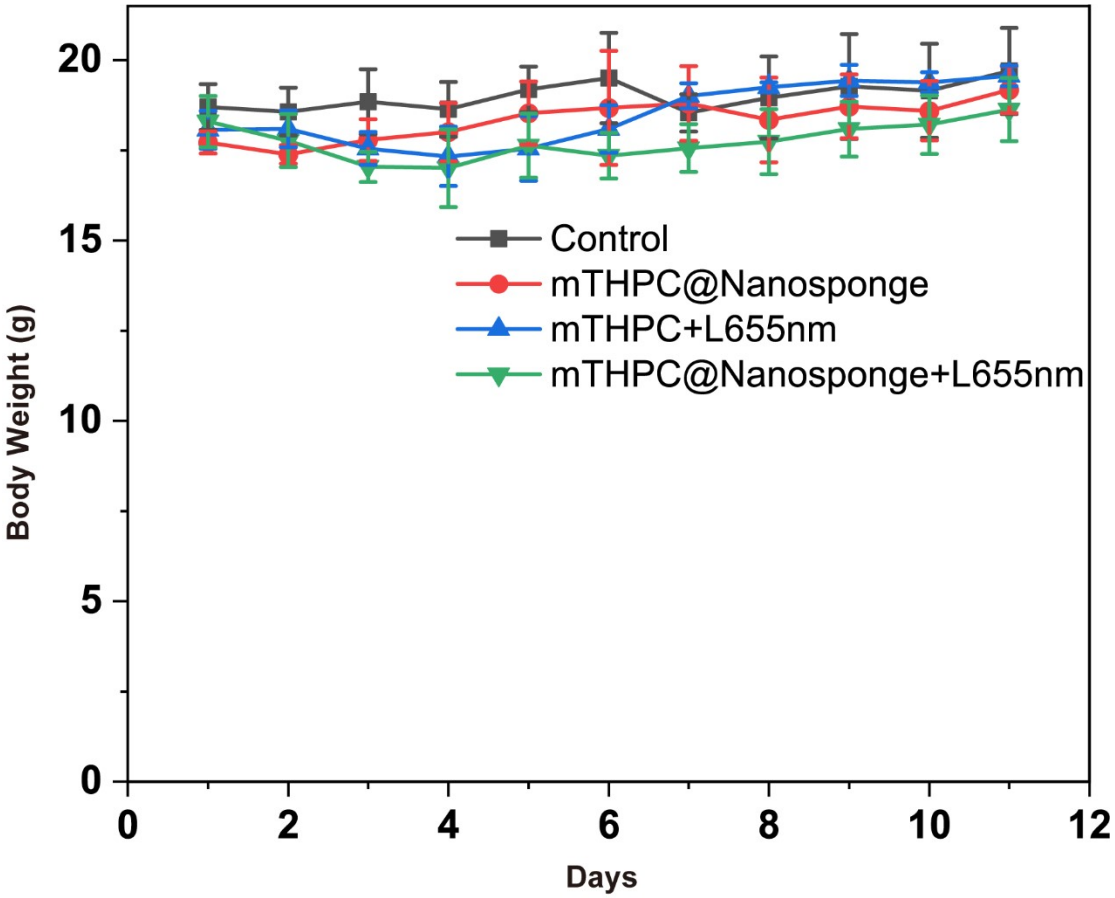

Fig. S11. The body weight variation of mice from each group.