Electronic Supplementary Information (ESI) for:

Synergistically Enhanced Multienzyme Catalytic Nanoconjugates for Efficient Cancer Therapy

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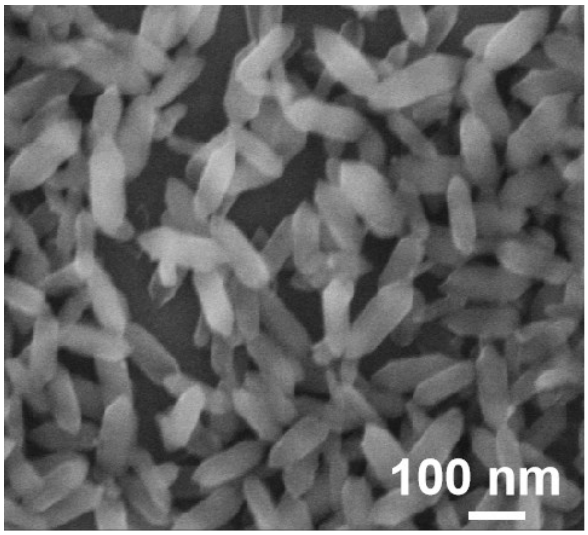

Fig.S1 SEM images of the Fe-porphyrin-MOF nanoparticles.

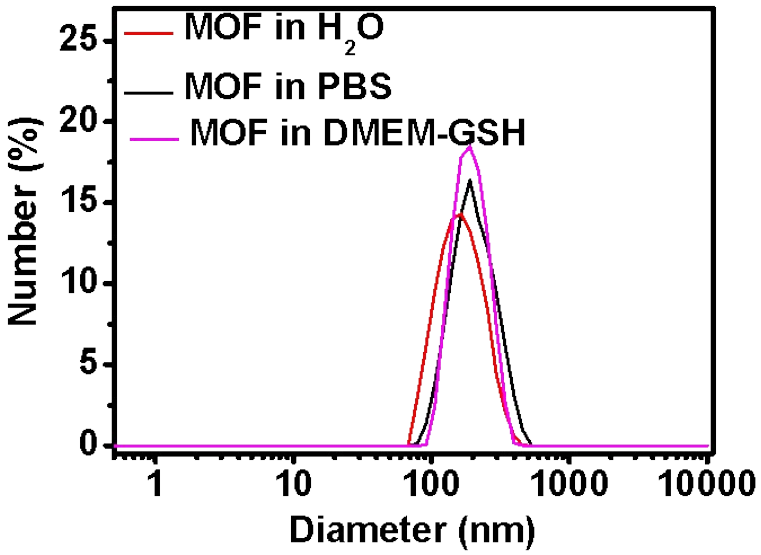

Fig.S2 Hydrodynamic size distribution of the Fe-porphyrin-MOF nanoparticles after incubated in H_2O, PBS (pH 6.8) and DMEM-10mM GSH for 36 h.

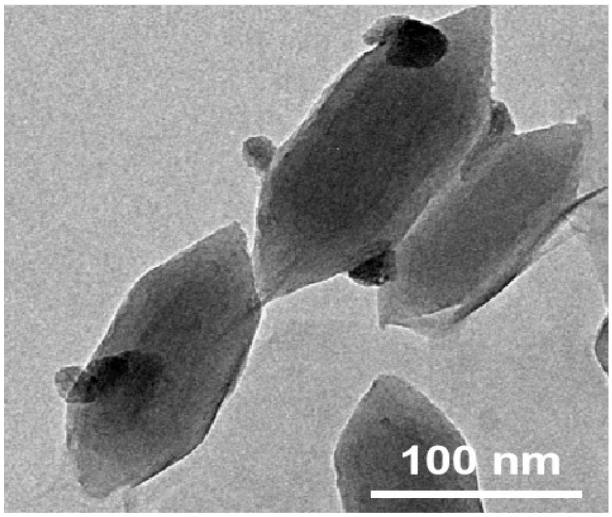

Fig.S3 TEM images of the Fe-porphyrin-MOF nanoparticles after incubated in DMEM-10mM GSH for 36 h.

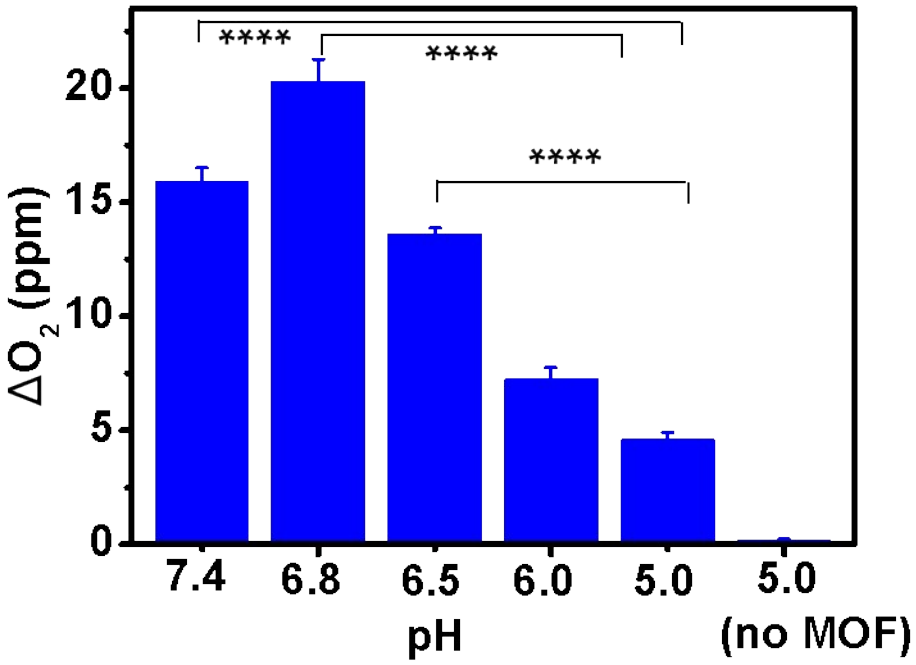

Fig.S4 The change of O_2 concentration for a mixture solution of Fe-porphyrin-MOF nanoparticles (200 μg/mL) and H_2O_2 (2.5 mM) in PBS with different pH values after being incubated for 30 min, (****$p < 0.0001$).

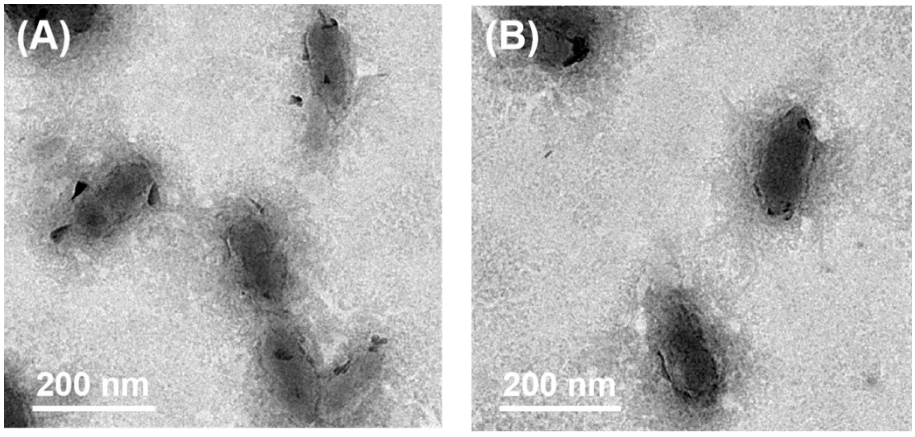

Fig.S5 TEM images of the C_1@M@C_2G nanoparticles after incubated in PBS (A) and FBS (B) for 36 h.

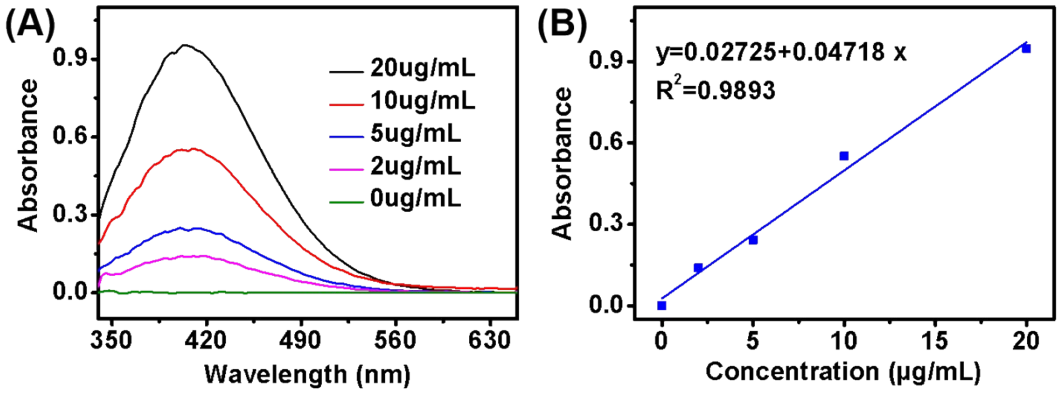

Fig. S6 (A) UV-vis absorption spectra of the titanium sulfate solution (1%) mixed with the solution of GOD (0, 2, 5, 10, and 20 μg/mL, respectively) and glucose (5 mg/mL) in PBS (pH 6.8). (B) The calibration curve of absorbance at 408 nm.

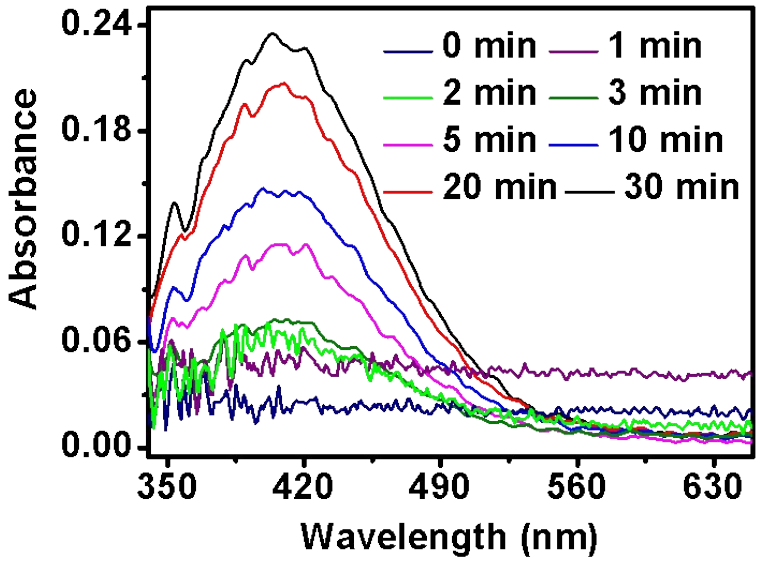

Fig. S7 UV-vis absorption spectra of the titanium sulfate solution (1%) mixed with the solution of C_1@M@C_2G (200 μg/mL) and glucose (5 mg/mL) in PBS (pH 6.8) for different time.

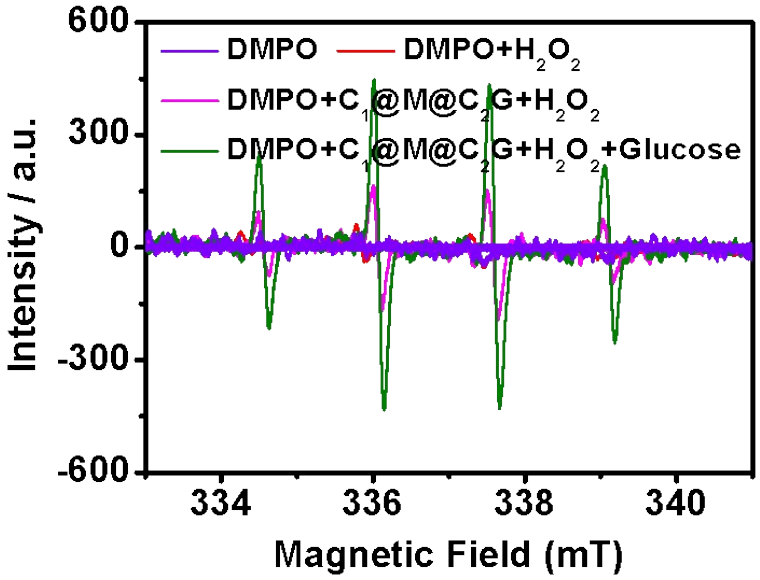

Fig.S8 ESR spectrum of •OH for different mixture solutions (The concentration is 7.6 mg/mL for DMPO, 200 μg/mL for C_1@M@C_2G, 0.25 mM for H_2O_2 and 1 mg/mL for glucose).

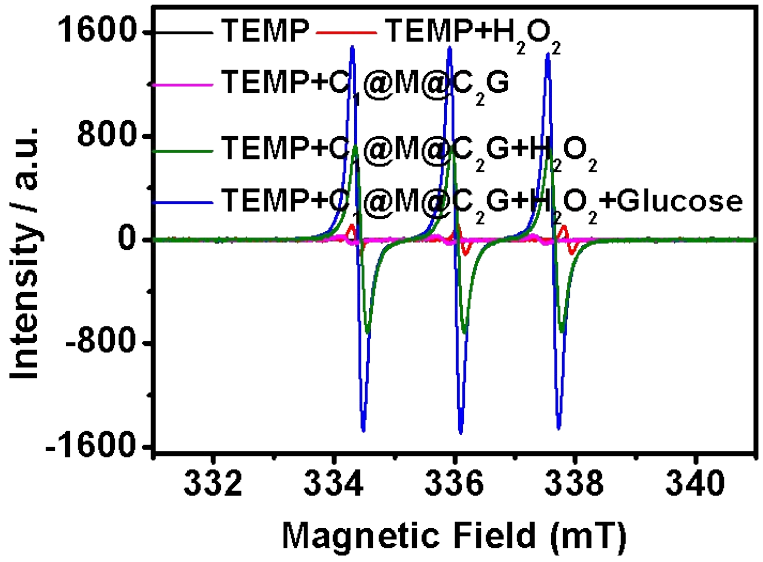

Fig.S9 ESR spectrum of $^1O_2$ for different mixture solutions (The concentration is 24.4 mg/mL for TEMP, 200 μg/mL for C_1@M@C_2G, 0.25 mM for H_2O_2 and 1 mg/mL for glucose).

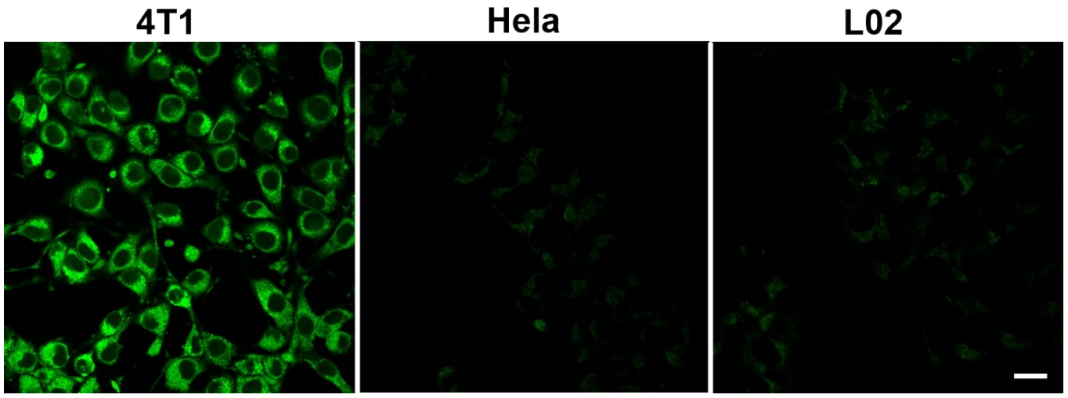

Fig.S10 Fluorescence images of the 4T1, HeLa and L02 cells incubated with C_1@M@C_2G particles (50 μg/mL) for 4 h. Scale bar: 20 μm.

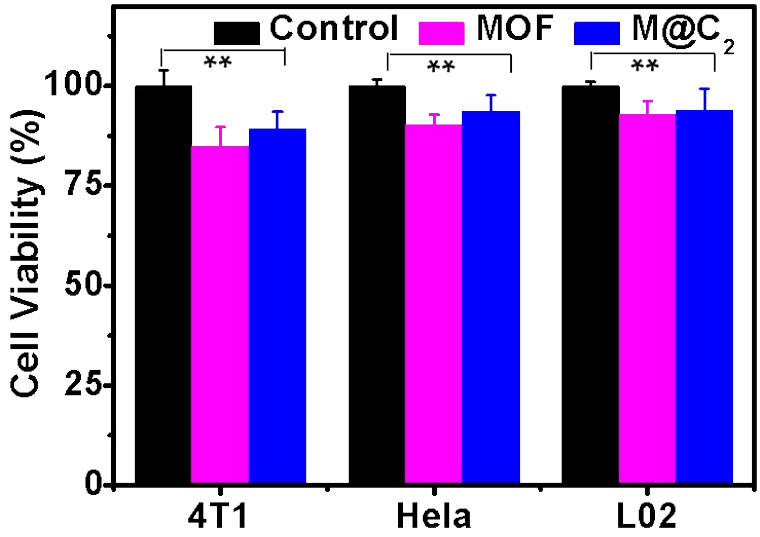

Fig.S11 Cell viability of L02, HeLa and 4T1 cells treated with Fe-porphyrin-MOF particles (200 μg/mL) or M@C_2 particles (200 μg/mL) for 48 h, (**$p < 0.01$).

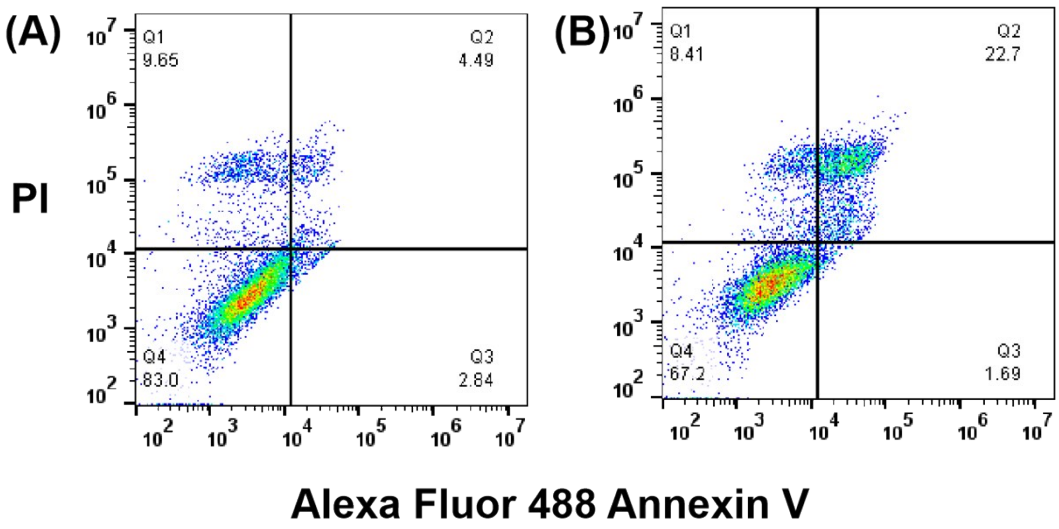

Fig.S12 Flow cytometry analysis of 4T1 cells of control (A) and C_1@M@C_2G (B).

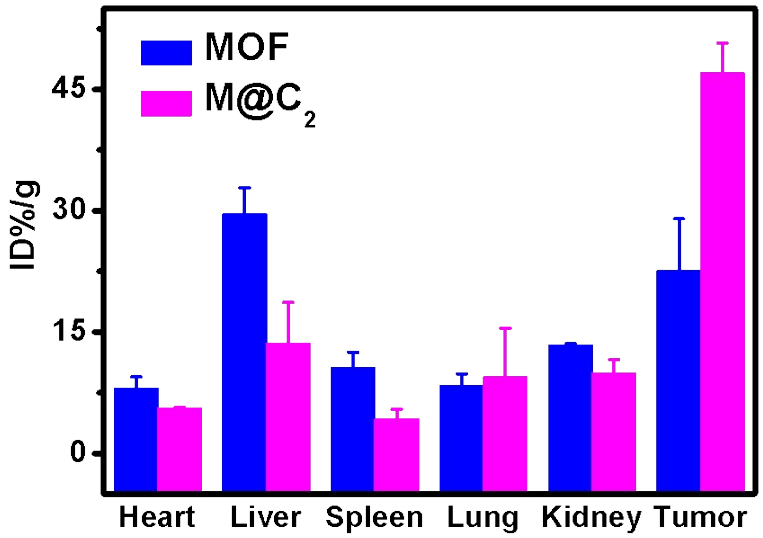

Fig.S13 Biodistribution of the Fe-porphyrin-MOF nanoparticles or the M@C_2 nanoparticles in various organs and tumors of the mice, which is resulted from ICP-MS measurements.

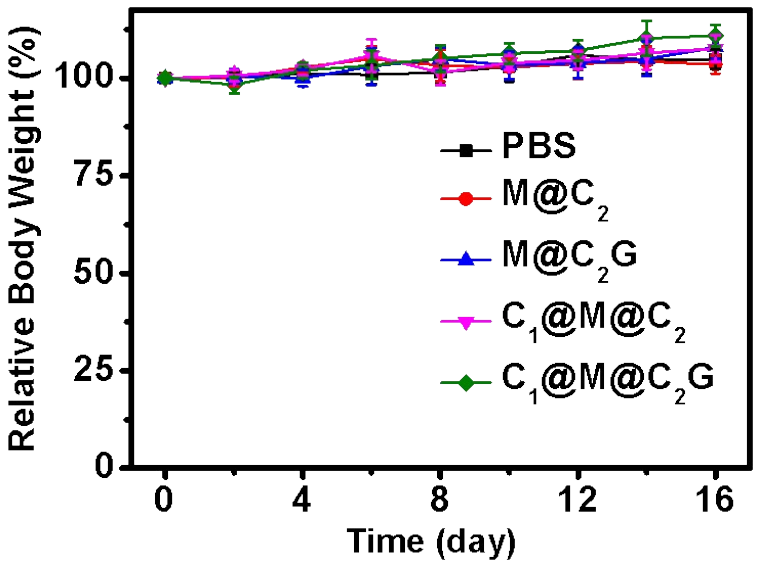

Fig.S14 Body weight changes in each group mice during the treatment period.

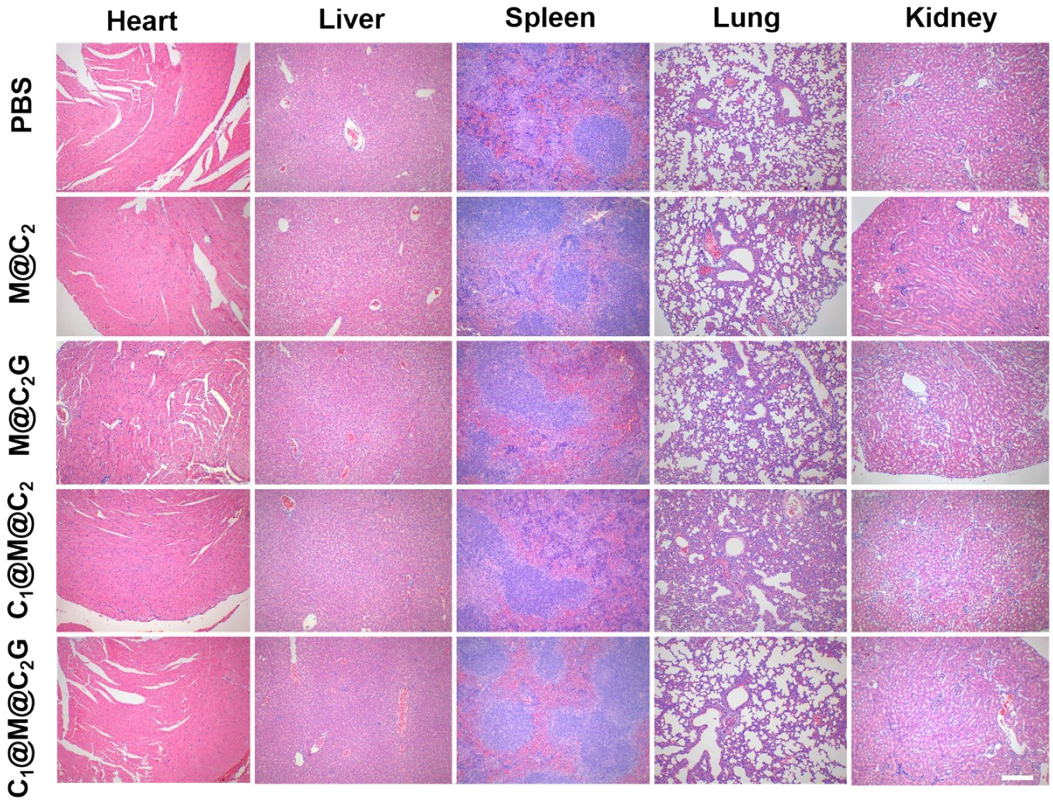

Fig.S15 Hematoxylin and eosin (H&E) staining of the main organs' sections for different groups. Scale bar: 100 μm.