pharmaceutics

MDPI

Supplementary Materials: Construction of a Multifunctional Nano-Scale Metal-Organic Framework-Based Drug Delivery System for Targeted Cancer Therapy

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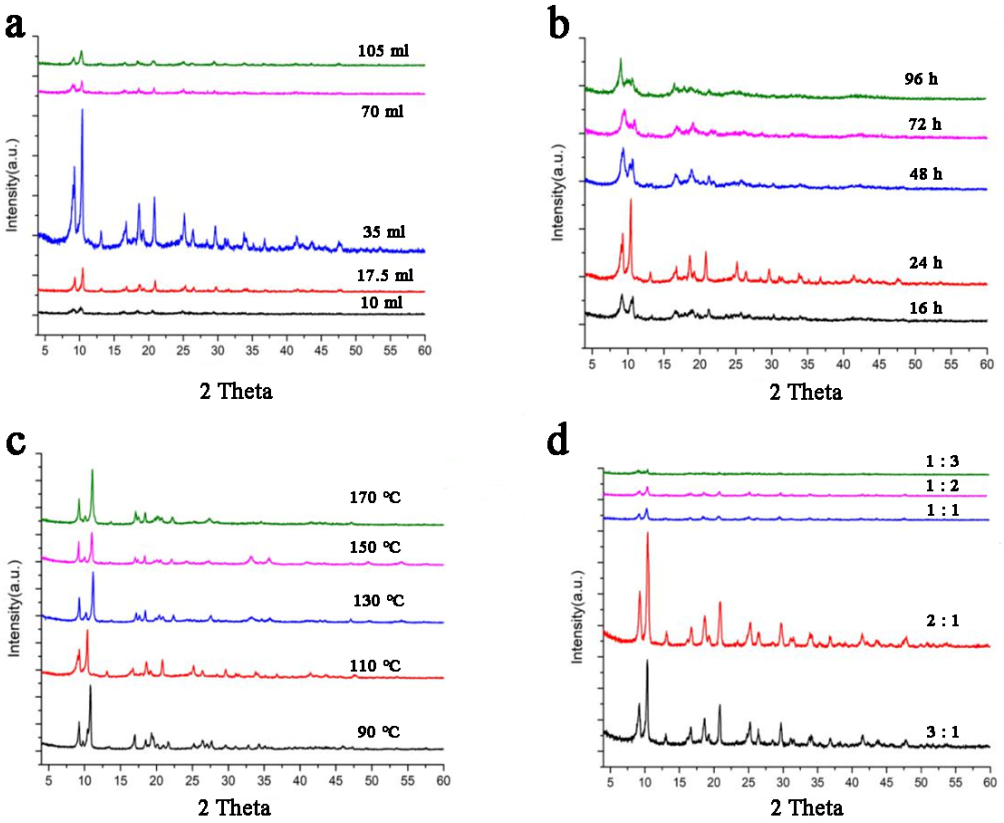

Figure S1. XRD pattern of Fe-MIL-101 (**a**: different solvent amount, **b**: different reaction time, **c**: different reaction temperature, **d**: different ratio).

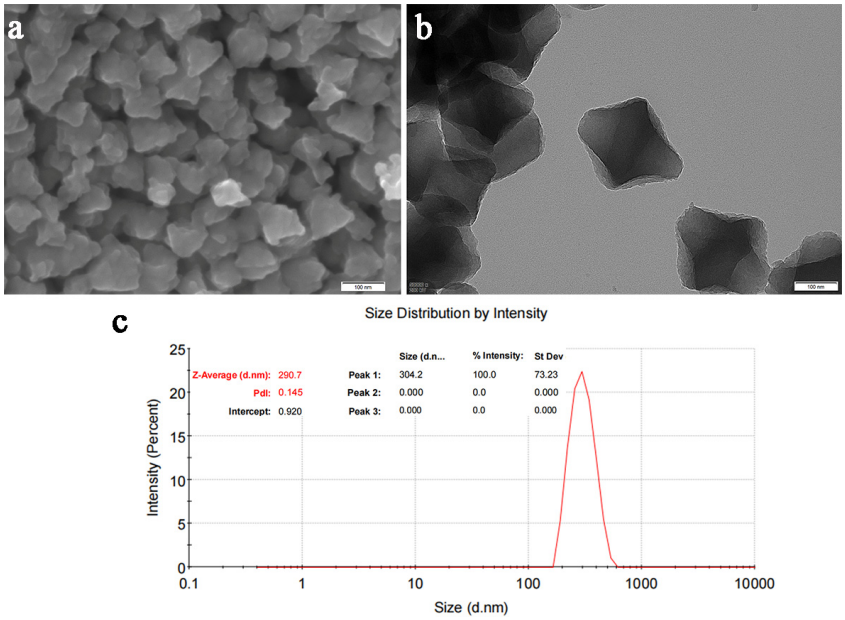

Figure S2. SEM (**a**), TEM (**b**) and DLS (**c**) images of Fe-MIL-101 (the scale bar indicated 100 nm).

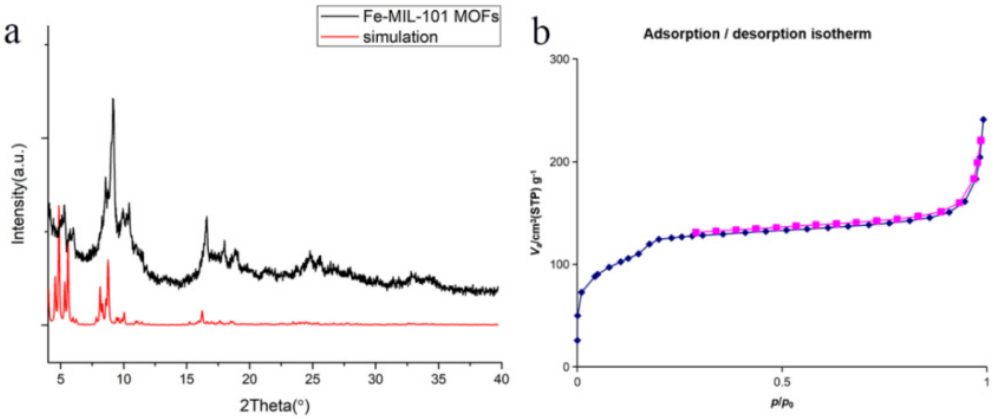

Figure S3. (**a**) XRD patterns of Fe-MIL-101, (**b**) N_2 adsorptio-desorp-tion isotherms of Fe-MIL-101.

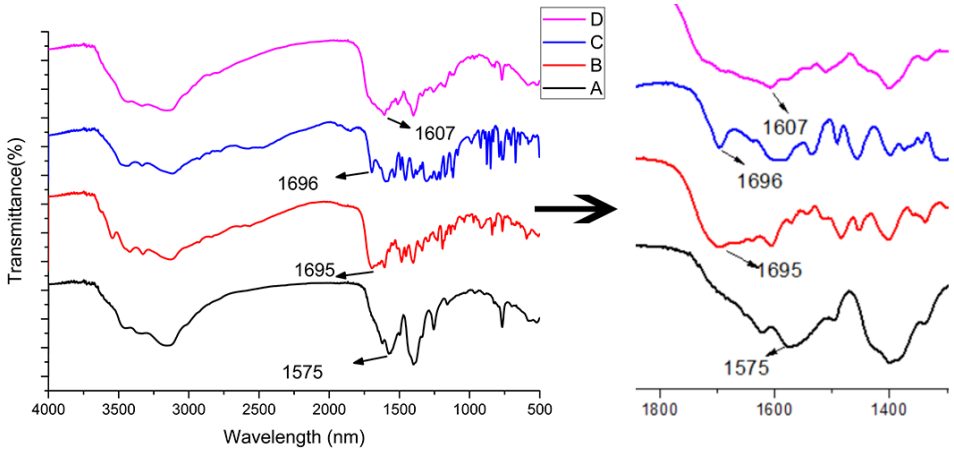

Figure S4. FTIR spectra of Fe-MIL-101 (A), FA (B), 5-FAM (C), 5-FAM/FA@Fe-MIL-101 (D).

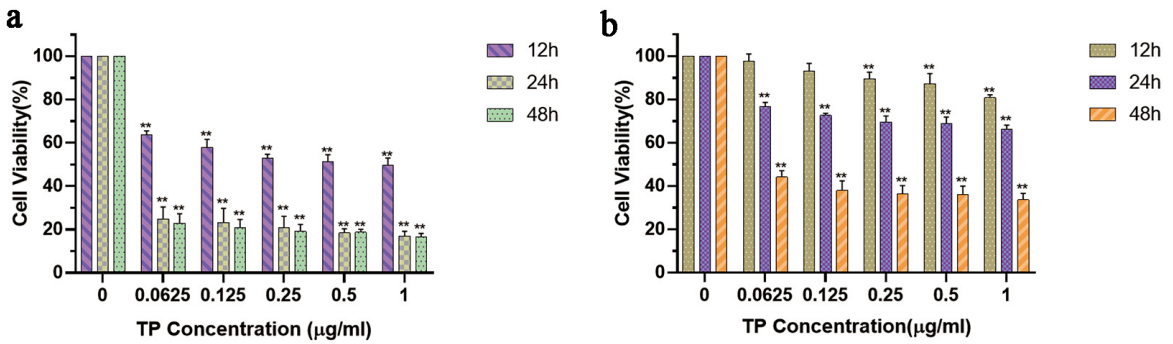

Figure S5. (**a**) Effect of TP on the viability of HepG2; (**b**) Effect of TP on the viability of L02. ($n = 3$, $^{**}p < 0.01$, significantly different compared with control).

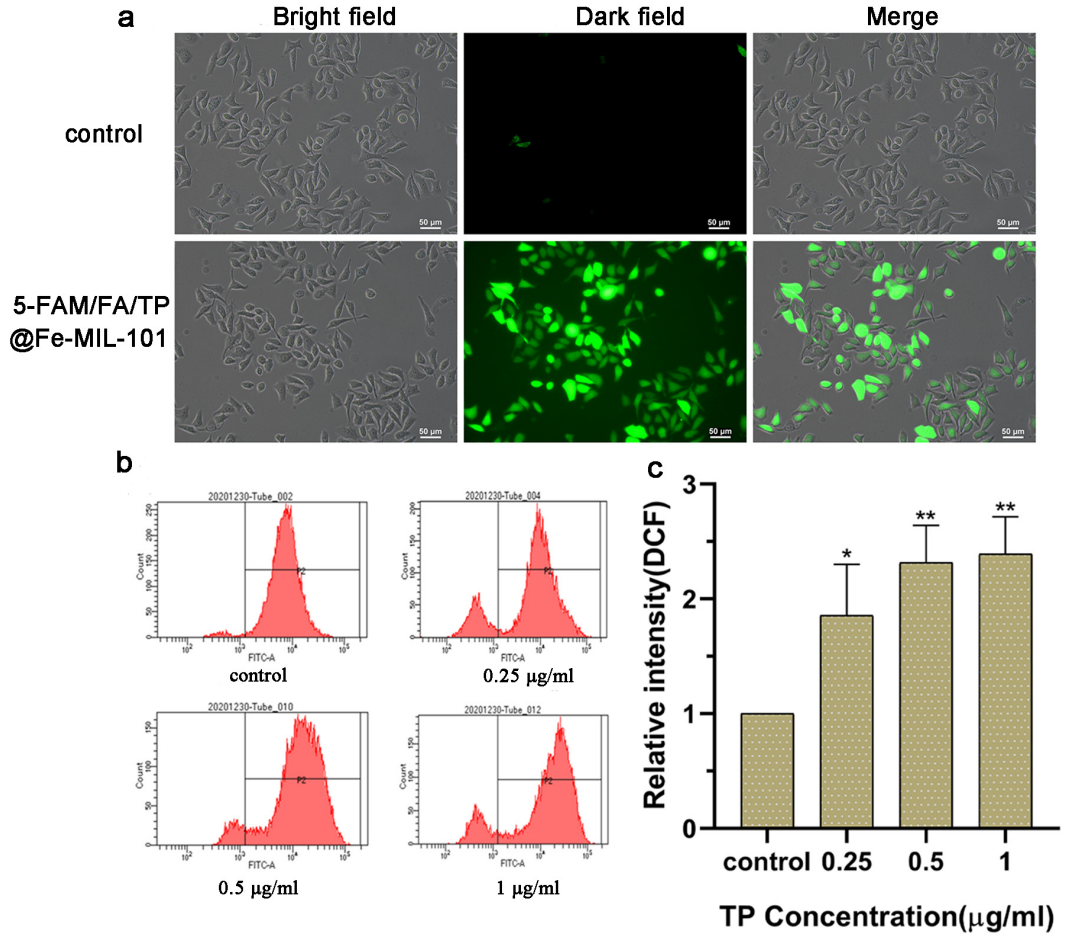

Figure S6. (**a**) Fluorescence microscope was used to observe control group and TP group; (**b**) Analysis of ROS generation using the oxidant sensitive fluorescent probe DCFH-DA; (**c**) Column bar graph of mean cell florescence for DCFH-DA. ($^{*}p < 0.05$, $^{**}p < 0.01$).

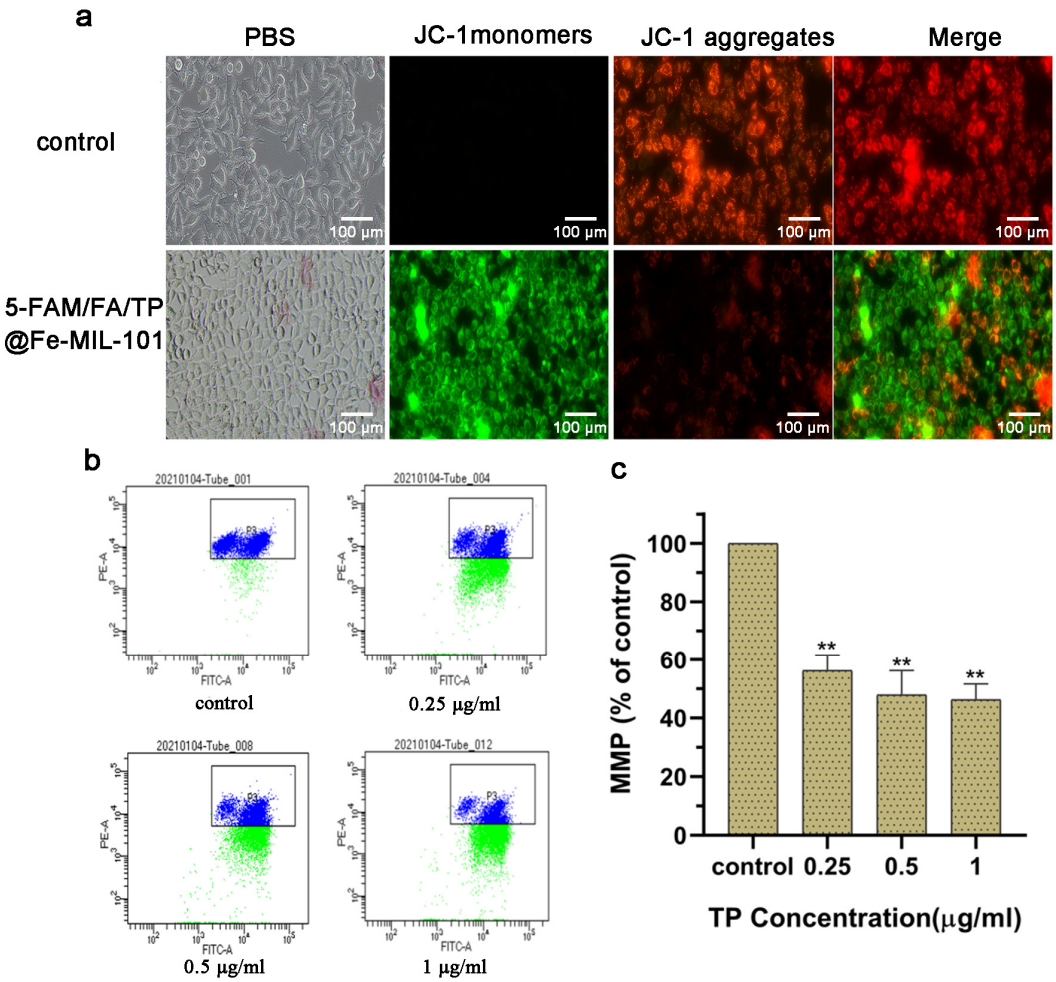

Figure S7. (**a**) Fluorescence microscope was used to observe control group and TP group (Red represents normal mitochondria, whereas green represents depolarized mitochondria); (**b**) MMP detection with JC-1 staining in different groups with flow cytometry flow cytometry. (Blue represents normal mitochondria, whereas green represents depolarized mitochondria); (**c**) Column bar graph of mean cell florescence for JC-1. (**$p < 0.01$).

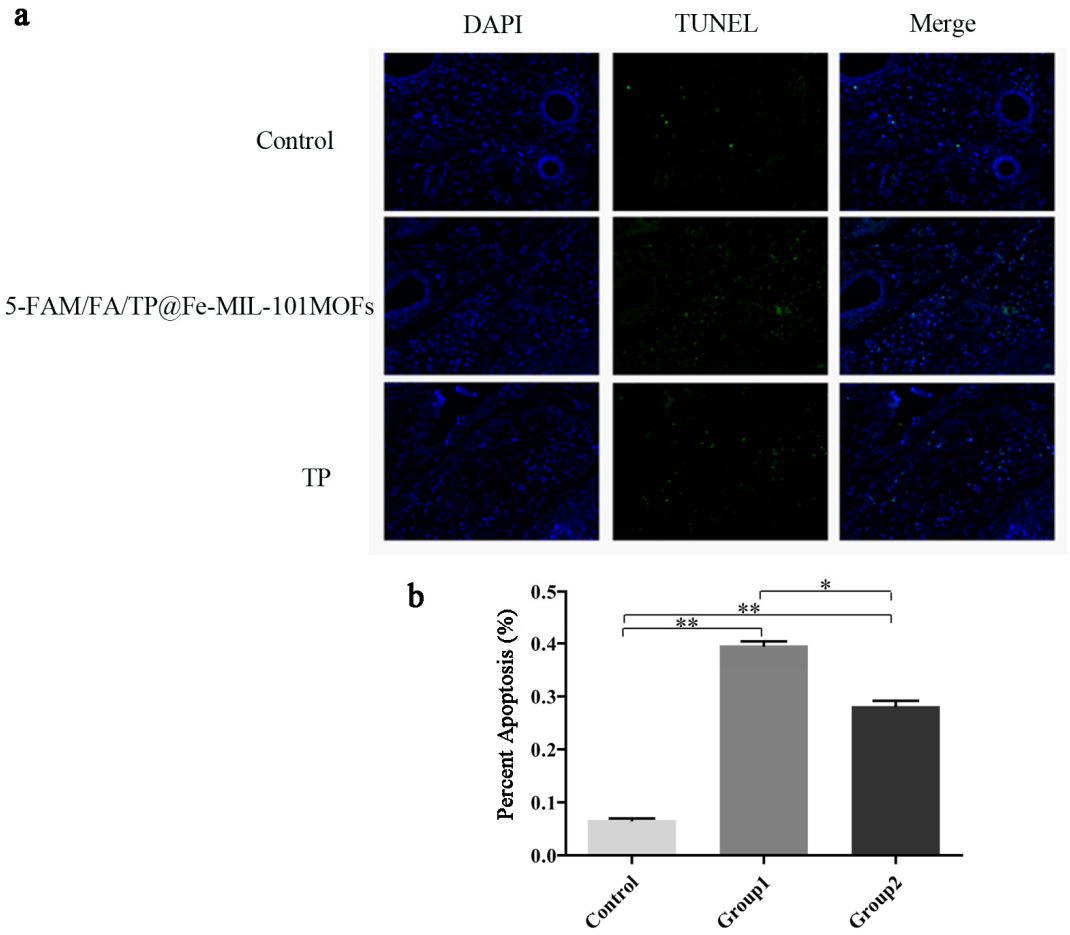

Figure S8. (**a**) TNUEL and DAPI double staining images of tumor tissues in each group (magnification: ×200); (**b**) Percentage of cell apoptosis in tumor tissues of each group（Group1:5-FAM/FA/TP@Fe-MIL-101, Group2:TP; *$p \leq 0.05$, **$p \leq 0.01$).

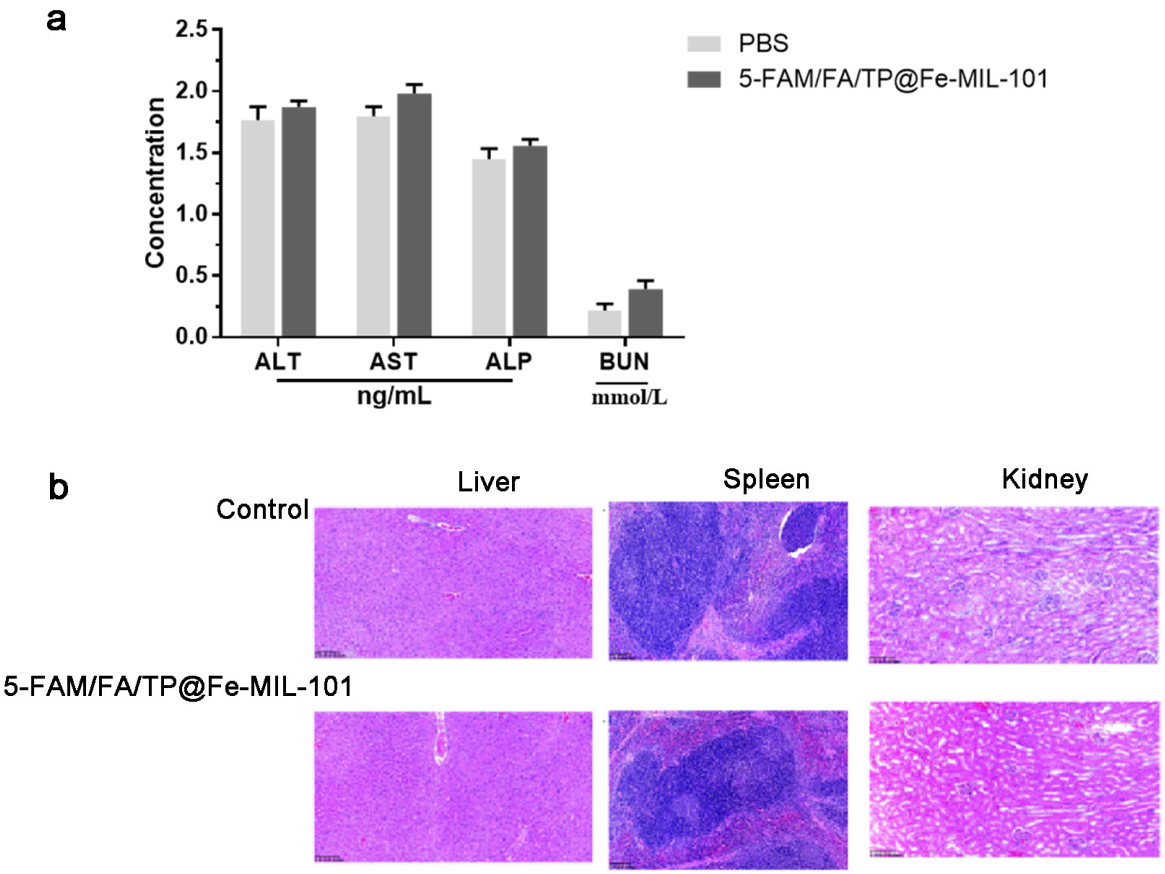

Figure S9. (**a**) ALT, AST, ALP, BUN indexes were detected; (**b**) H&E staining results of liver, spleen and kidney in each group (magnification: ×200).