Supporting Information

Nanosonosensitizers for Highly Efficient Sonodynamic Cancer Theranostics

Ju Huang[1], Fengqiu Liu[1], Xiaoxia Han[1], Liang Zhang[1], Zhongqian Hu[2], Qinqin Jiang[1], Zhigang Wang[1], Haitao Ran[1], Dong Wang[3], Pan Li[1]✉

[1]Institute of Ultrasound Imaging, The Second Affiliated Hospital of Chongqing Medical University, Chongqing 400010, P. R. China;

[2]Department of Ultrasound, Zhongda Hospital, Southeast University, Nanjing 210009, P. R .China;

[3]Department of Ultrasound, The First Affiliated Hospital of Chongqing Medical University Chongqing 400010, P. R. China.

✉Corresponding author: D. Li (cqlipan@163.com)

Supplementary Figures

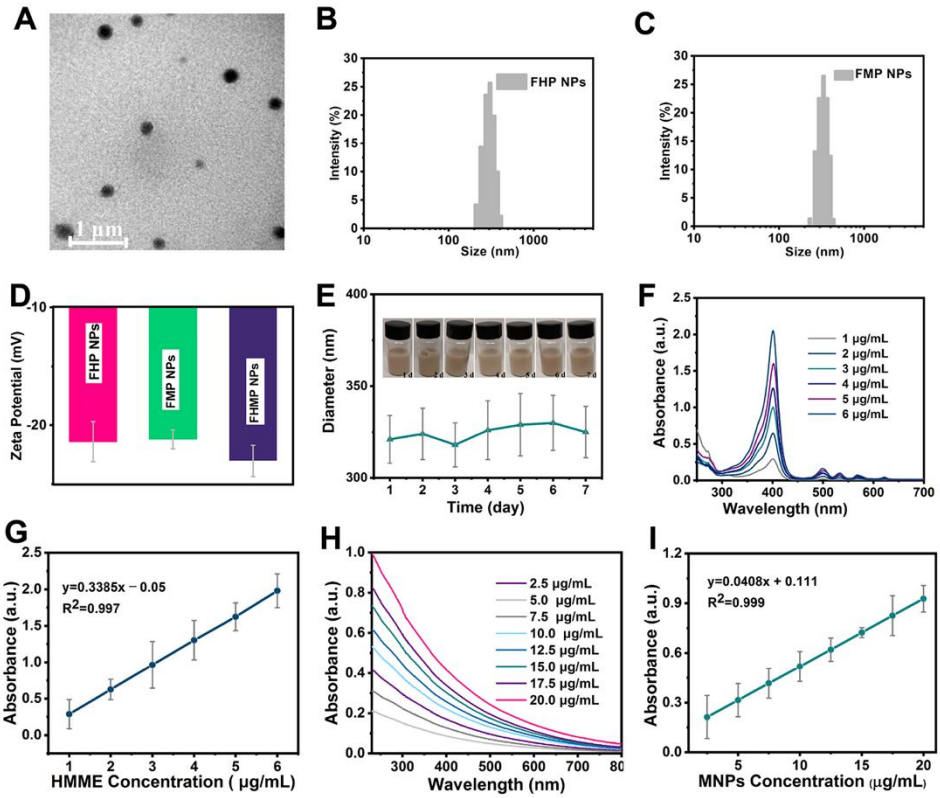

Figure S1. (**A**) The TEM of FHMP NPs. Size distribution of (**B**) FHP NPs and (**C**) FMP NPs. (**D**) Zeta potential of FHP NPs, FMP NPs and FHMP NPs **(E)** The changes of size distribution for 7 days' period. Inset: digital photos of the FHMP NPs dispersed in FBS (25 mg/mL). (**F**) The spectra of HMME at different concentrations (1, 2, 3, 4, 5 and 6 μg/mL). (**G**) The linear relationship between HMME and concentration. (**H**) The spectra of MNPs reacted with 0.1 M NaOH at various concentrations (2.5, 5, 7.5, 10, 12.5, 15, 17.5 and 20 μg/mL). (**I**) The linear relationship between MNPs and concentration.

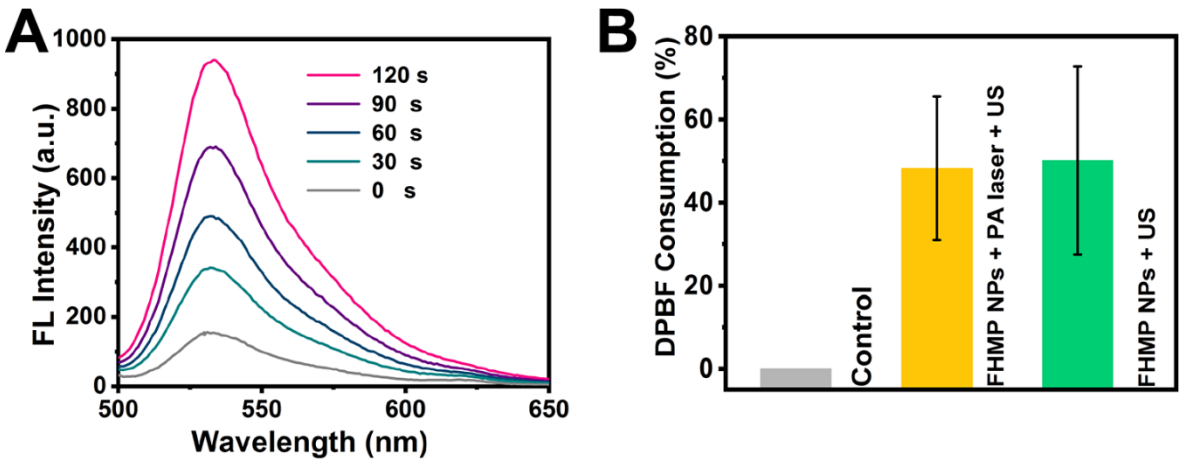

Figure S2. (**A**) The ROS production of FHMP NPs after different irradiation time (0 s, 30 s, 60 s, 90 s and 120 s) detected by SOSG. (**B)** Relative DBPF consumption of FHMP NPs under the treatment of laser or US irradiation (n = 3, *p < 0.05).

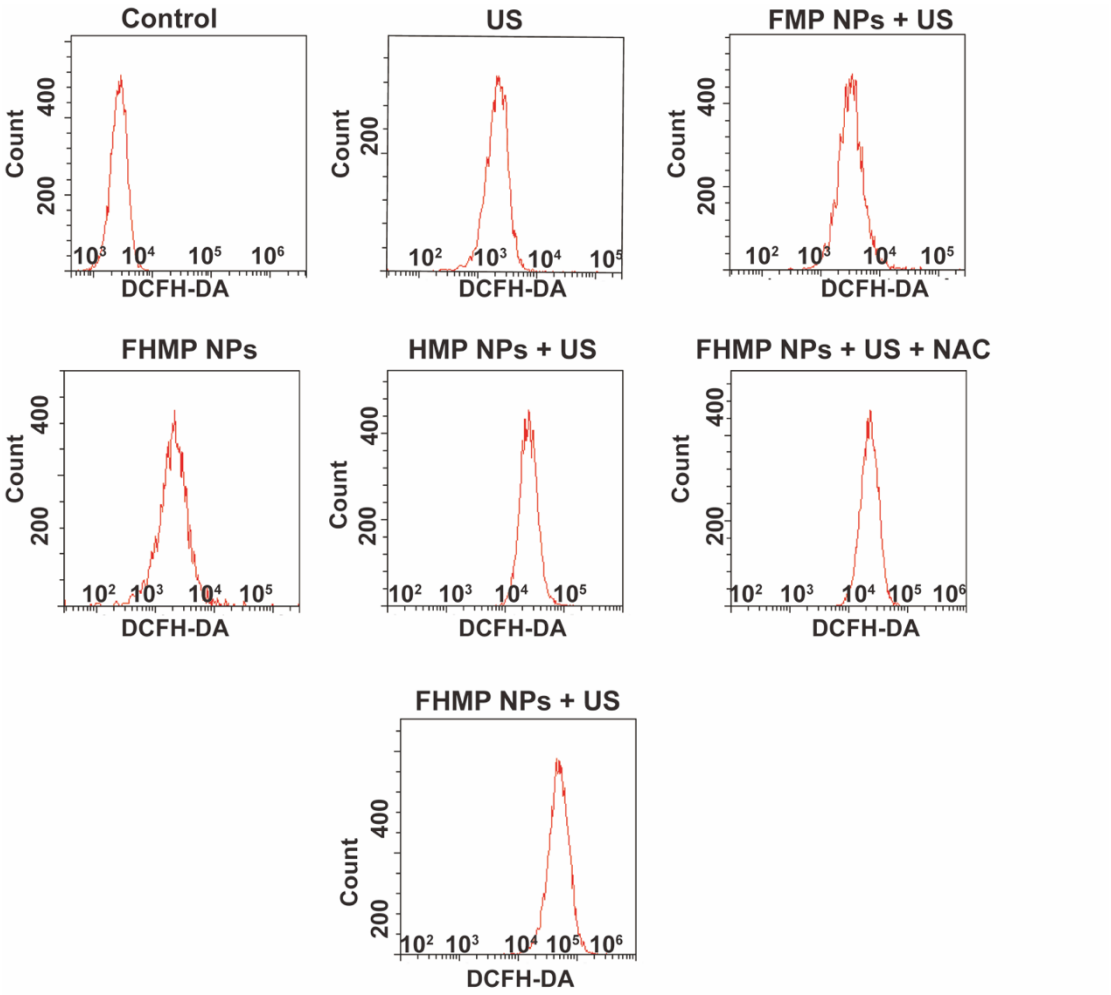

Figure S3. The fluorescence intensity of MDA-MB-231 cells after incubation with DCFH-DA for different treatments (Control, US, FMP NPs+US, FHMP NPs, HMP NPs +US, FHMP NPs+US+NAC and FHMP NPs+US) detect by flow cytometry.

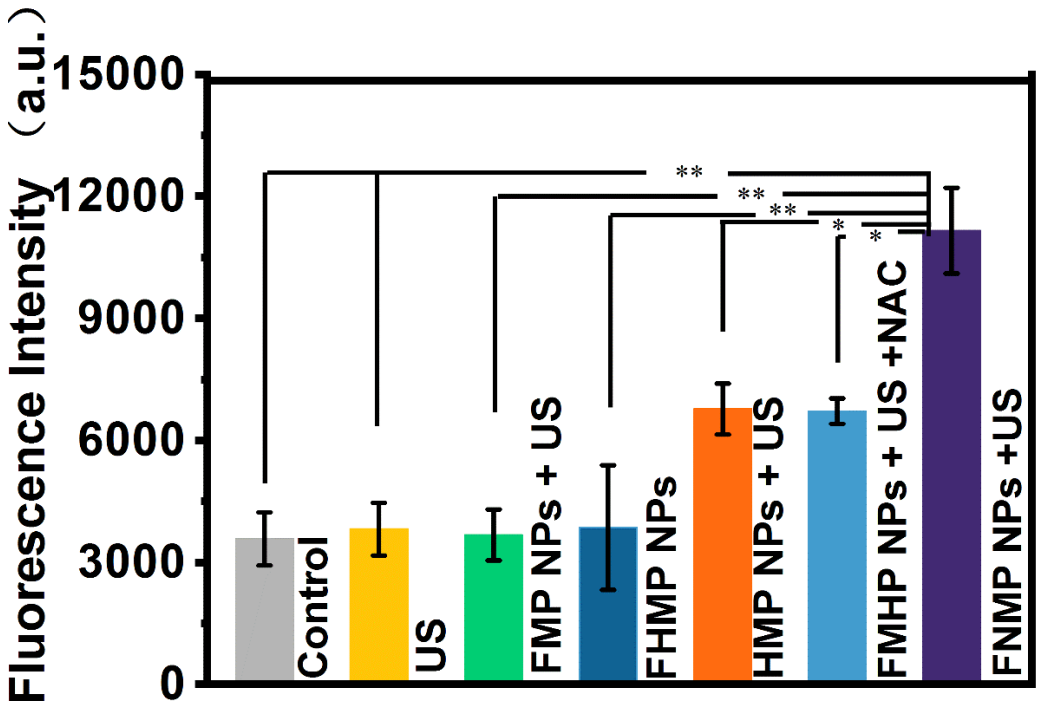

Figure S4. Flow cytometry fluorescence intensity of MDA-MB-231 cells after incubation with DCFH-DA for different treatments (Control, US, FMP NPs+US, FHMP NPs, HMP NPs +US, FHMP NPs+US+NAC and FHMP NPs+US) (n = 3, **p < 0.01).

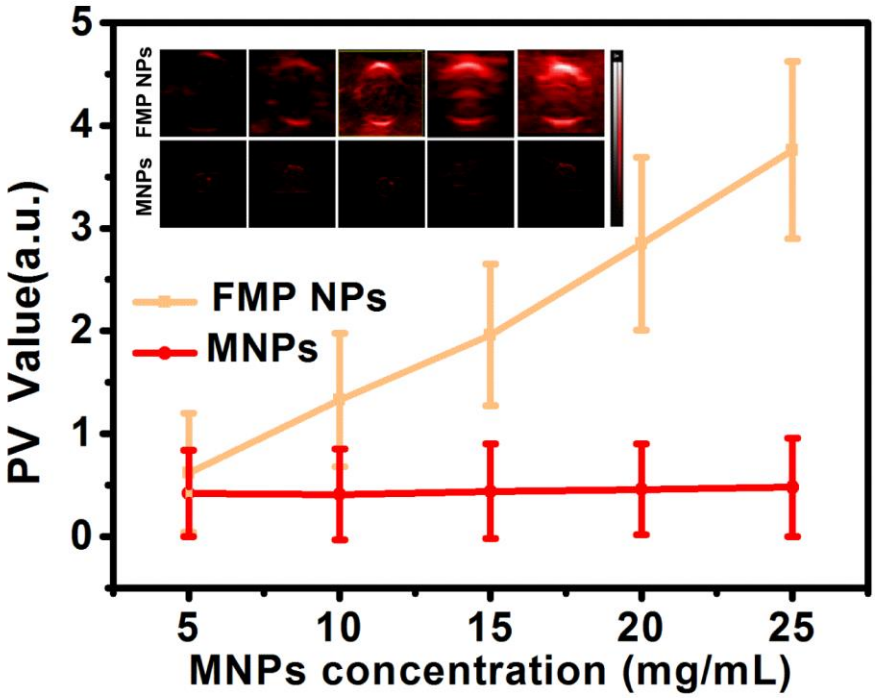

Figure S5. *In vitro* PA values of FMP NPs with different concentrations (5, 10, 15, 20, and 25 mg/mL). Inset: PA images of FHMP NPs dispersed in aqueous solution and MNPs dispersed in 0.1 M NaOH solution.

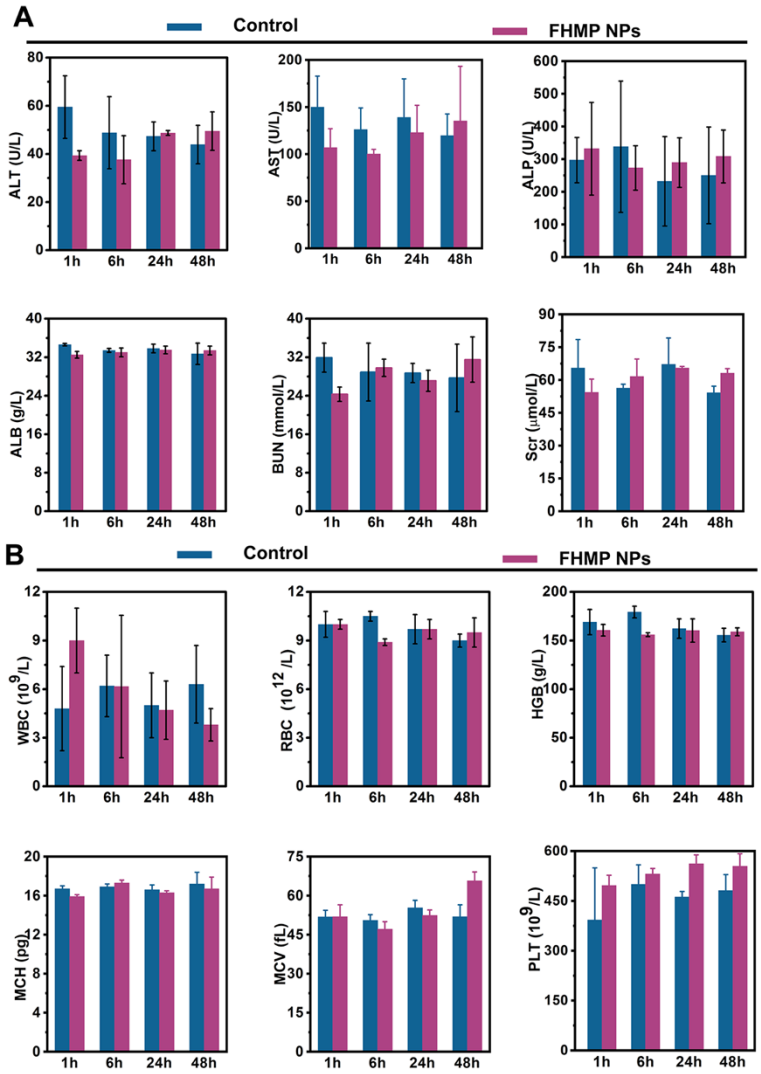

Figure S6. (A) Haematological data of the mice intravenously injected with FHMP NPs or saline (as control) at 1, 6, 24 and 48 h post-injection. **(B)** Blood biochemical analysis of the mice intravenously injected with FHMP NPs or saline (as control) at 1, 6, 24 and 48 h post-injection.