Electronic Supplementary Information (ESI)

MRI-Guided and Ultrasound-Triggered Release of NO by Advanced Nanomedicine

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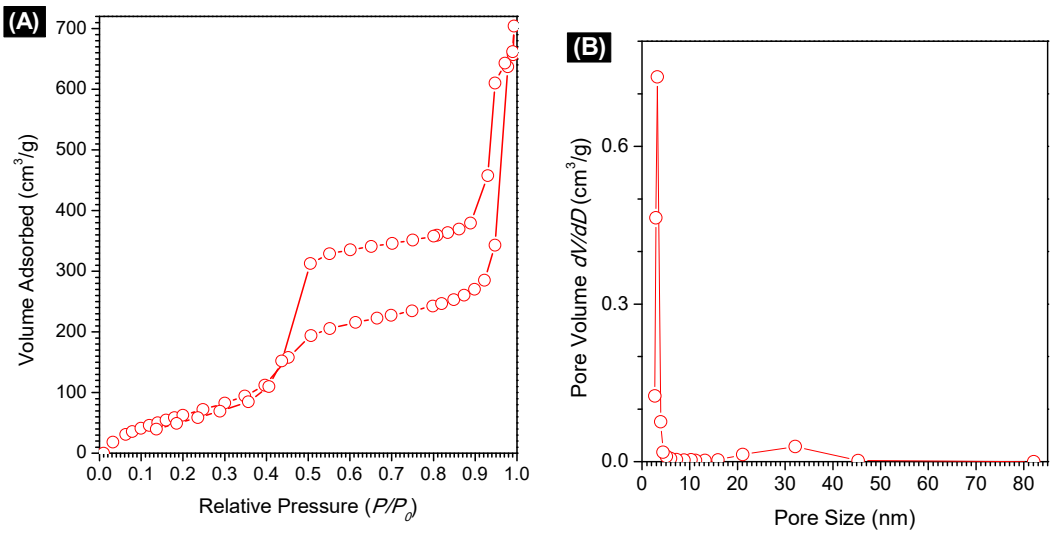

Figure S1. Nitrogen adsorption−desorption isotherm (A) and pore size distribution curve (B) of SPION@hMSN.

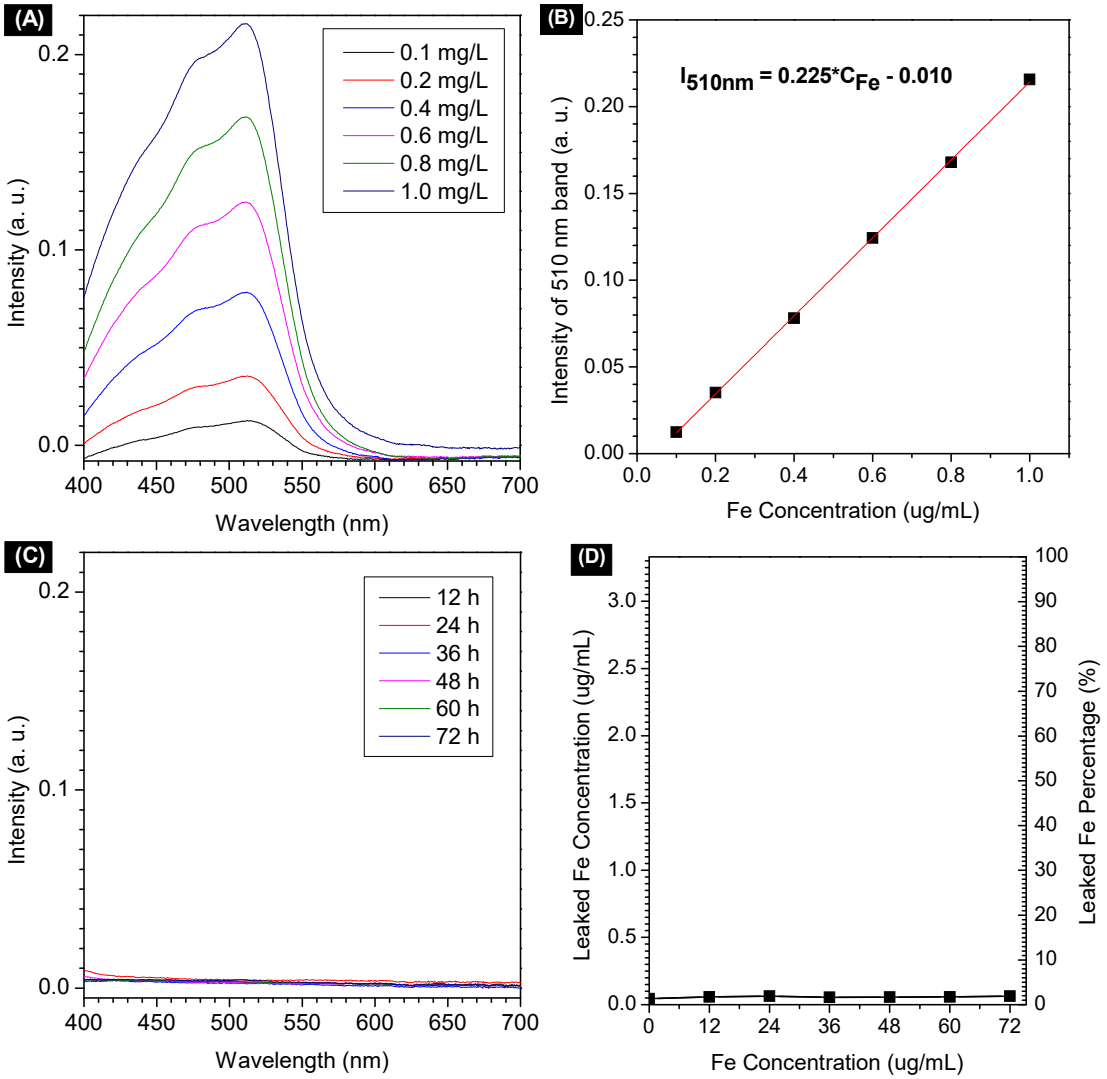

Figure S2. Measurement of free Fe ion concentration from leaking of SPION@hMSN by the chromogenic assay. (A) UV adsorption spectra of different standard concentration of Fe ion concentration, (B) the standard curve which was fitted according to the data in figure A, (C) UV adsorption spectra of collected sample solution after soaking for different time periods, and (D) the corresponding leaked Fe ion concentrations/percentages which were calculated according to the standard curve.

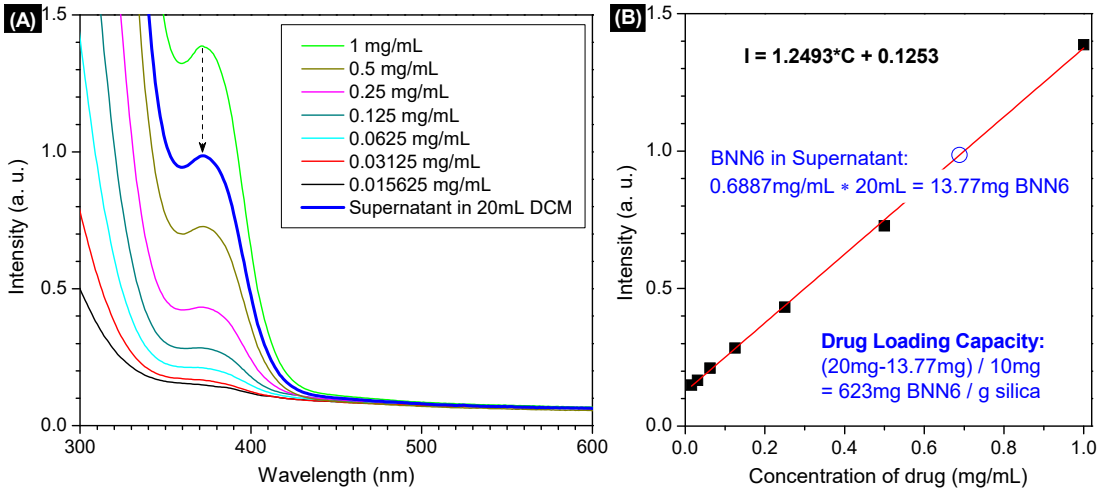

Figure S3. The standard curve collection (A) and plot (B) for calculation of BNN6 drug loading capacity of the BNN6-SPION@hMSN nanomedicine.

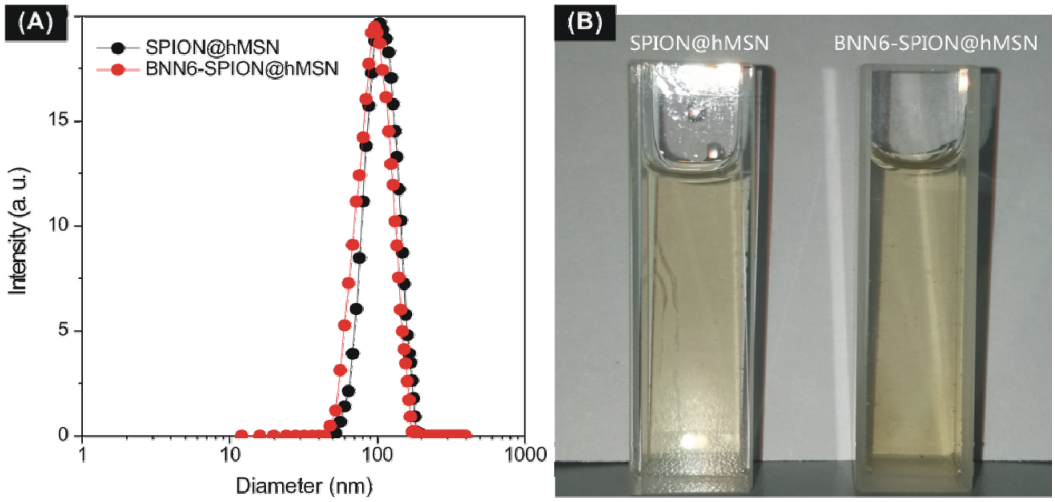

Figure S4. The distribution of particle sizes of SPION@hMSN and BNN6-SPION@hMSN solutions (A), and their digital photos (B).

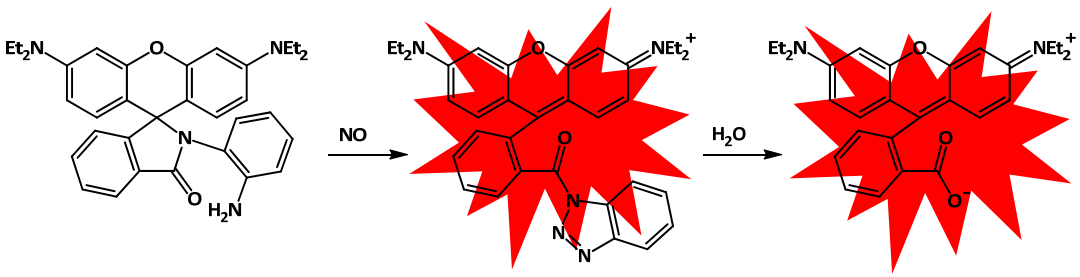

Figure S5. The RBSP fluorescence method for detecting the release of NO.

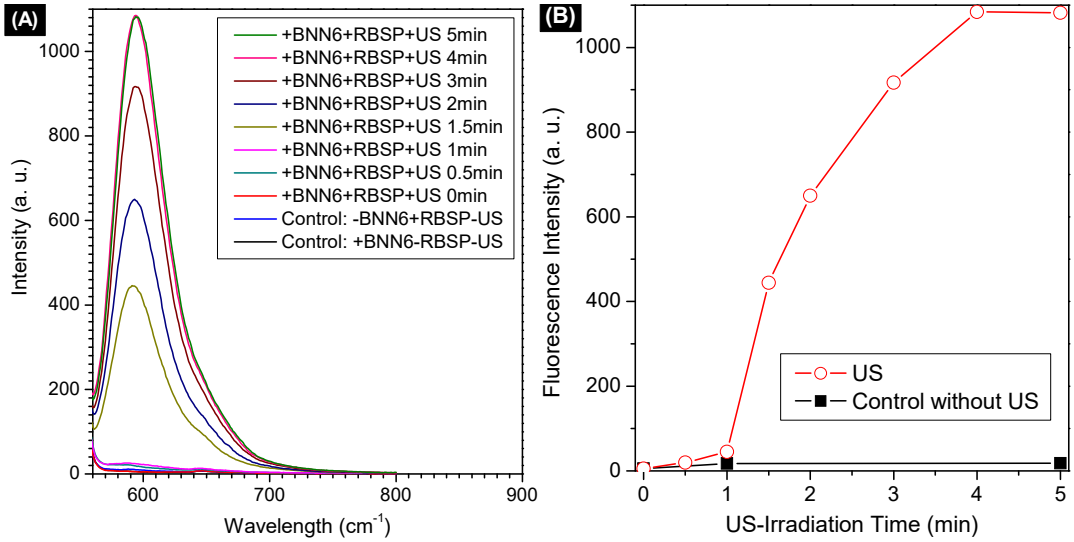

Figure S6. The US-triggered release behavior of BNN6 by the RBSP fluorescence detection: (A) Fluorescence spectra of reaction solution (566 nm excitation), (B) Relationship between released NO amount and US irradiation time.

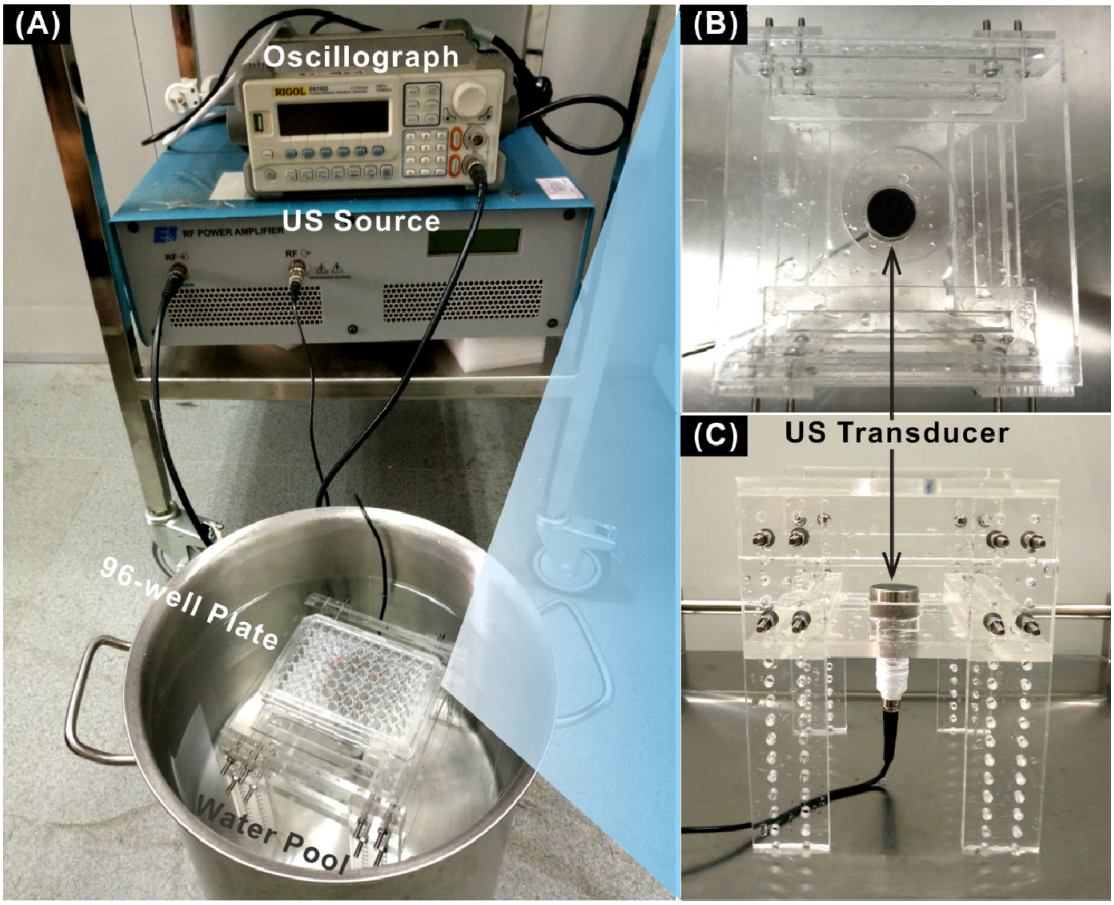

Figure S7. The self-made ultrasound device for ultrasound irradiation experiments of the nanomedicine-treated cells (A). Figure B and C are top and side views respectively after removal of 96-well plate.

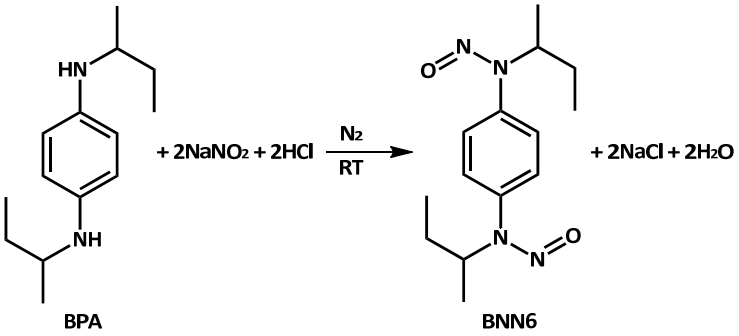

Figure S8. The synthetic method of BNN6.