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Supplementary information

Tumor-targeted Molybdenum Disulfide@Barium Titanate Core-Shell Nanomedicine for Dual Photothermal and Chemotherapy of Triple-Negative Breast Cancer Cells

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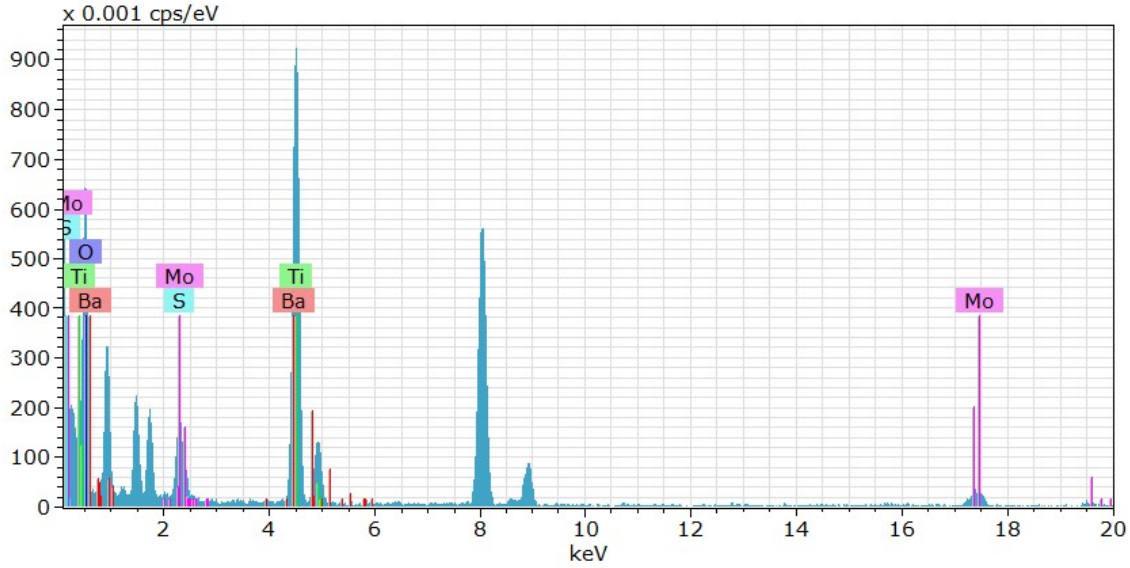

Figure S1. EDAX pattern of MoS_2@BT CSNPs.

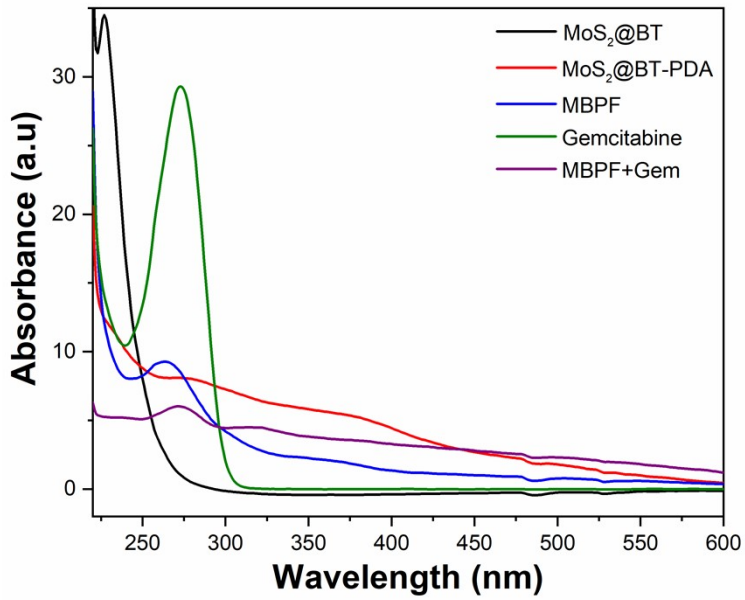

Figure S2. The UV-Visible spectrum of MoS_2@BT, MoS_2@BT-PDA, MBPF, Gemcitabine, and Gem-loaded MBPF (MBPF+Gem) core-shell nanoparticles.

The UV-Vis spectra of MoS_2@BT, MoS_2@BT-PDA, MBPF, gemcitabine, and Gem-loaded MBPF core-shell nanoparticles are shown in Figure S3. The UV-vis absorption spectrum of pure MoS_2@BT indicates that it can absorb light from 200 to 800 nm, which is consistent with the findings of other studies [**1-3**]. The characteristic absorption peak of PDA is visible after its coating on the MoS_2@BT, and it was noted at 350 nm due to the formation of quinone, which is consistent with the proposed mechanism of polymerization [**4**]. Pure folic acid displays two UV-Vis absorbance peaks at 280 nm and 360 nm for the n–π* and π–π* transitions, respectively. These two distinct peaks in the MBPF demonstrate that folic acid is effectively attached to the MBPF [**5**]. Gemcitabine exhibits a

prominent peak at about 270 nm, and the presence of Gem in the MBPF CSNPs was confirmed by a slight shift in the peak in the Gem-loaded MBPF [**6**].

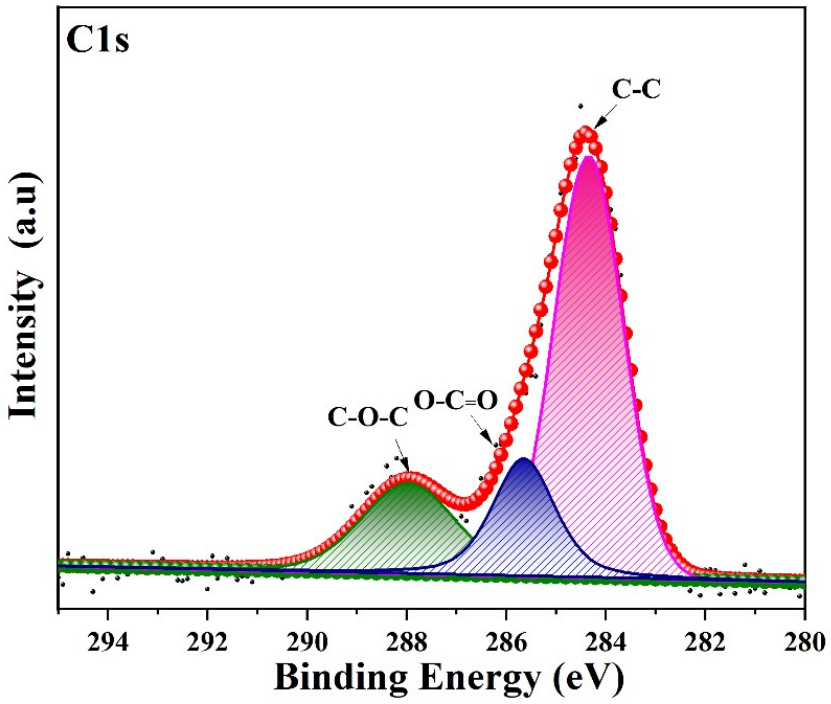

Figure S3. XPS spectrum of carbon atom in the MoS_2@BT CSNPs.

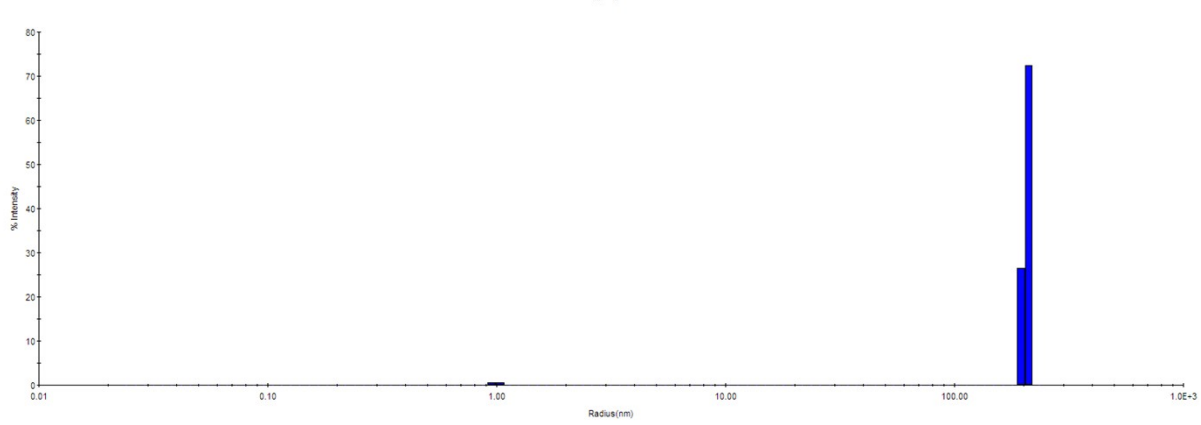

Figure S4. Dynamic light scattering (DLS) measurement showed the size distribution of MBPF CSNPs.

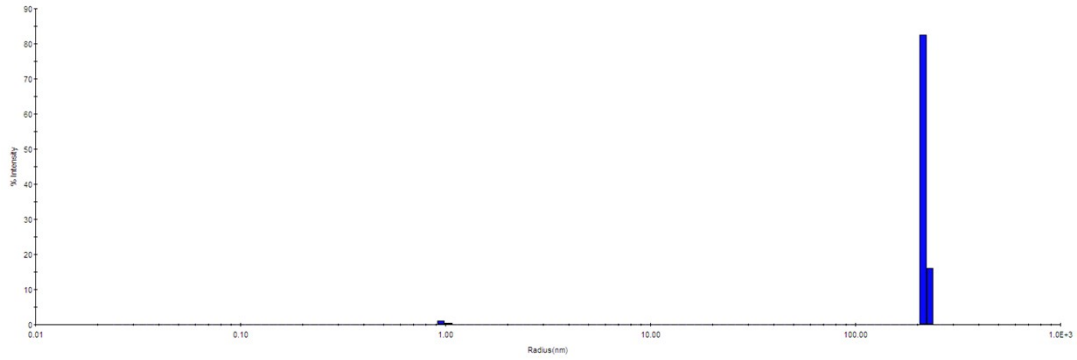

Figure S5. The stability of MBPF CSNPs was determined after 1 week of incubation with PBS (pH 7.4).

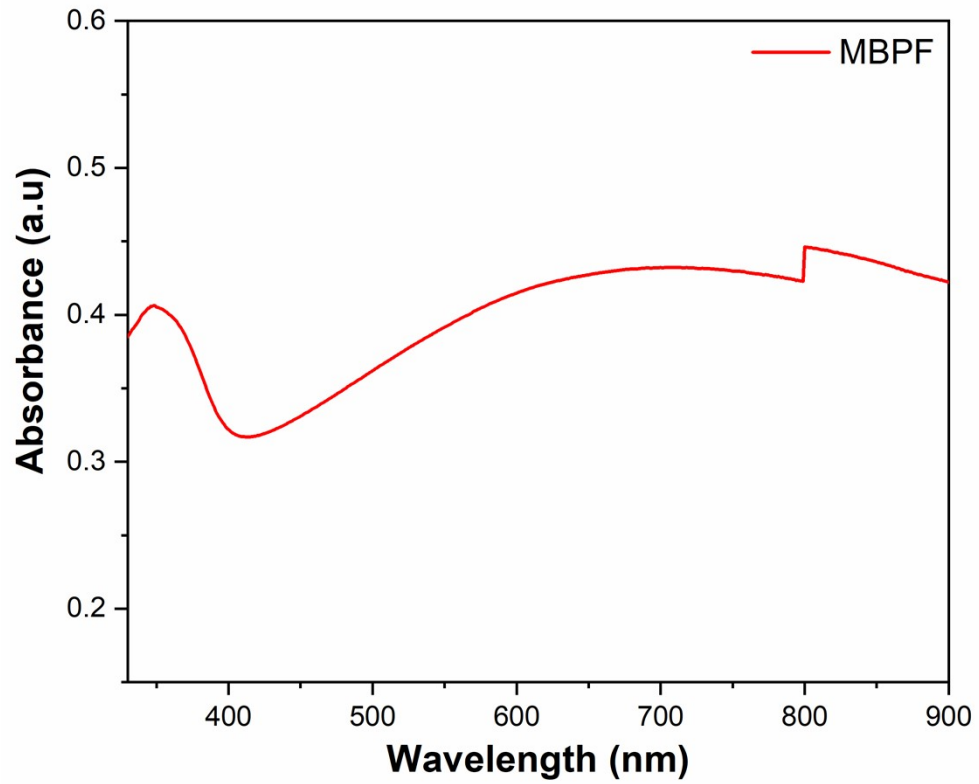

Figure S6. UV-Visible NIR spectrum of MBPF showed a strong band at NIR region.

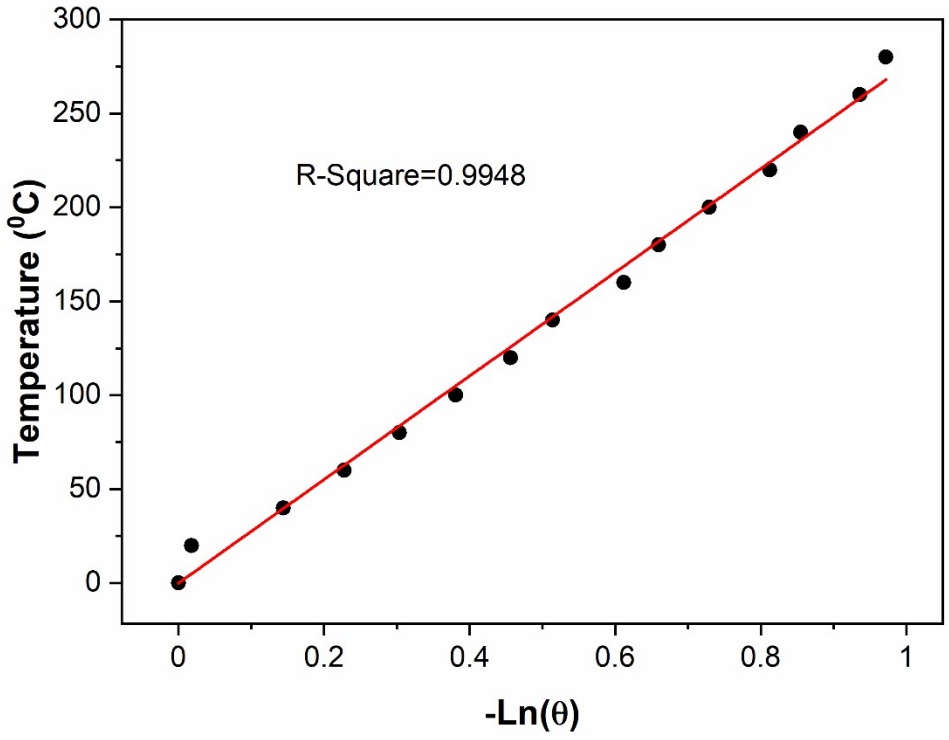

Figure S7. Linear fitting curve of T and –Ln(θ) at cooling phase.

References

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