

## Supporting Information

### A size-tunable nanoplatform: enhanced MMP2-activated chemo-photodynamic immunotherapy based on biodegradable mesoporous silica nanoparticles

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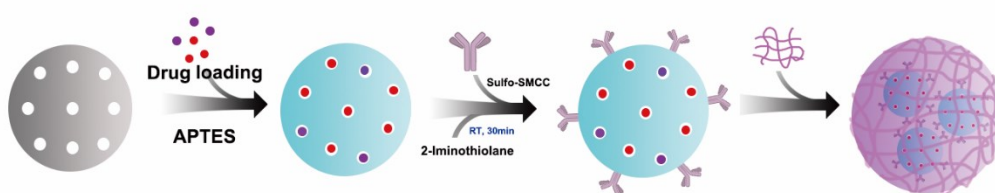
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Institute of Biomedical Materials and Engineering

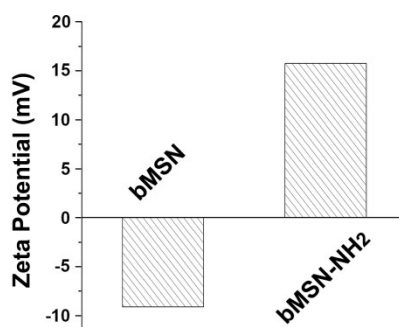
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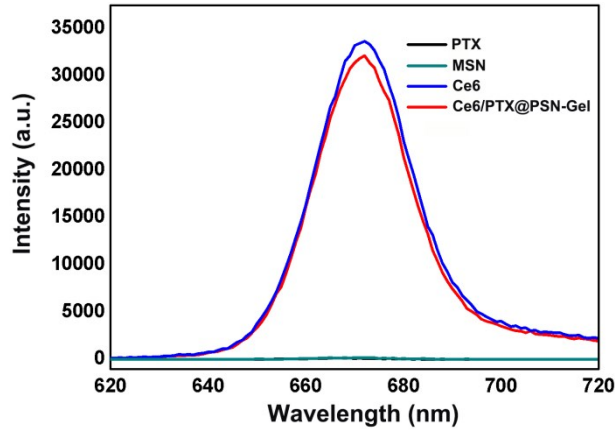
E-mail: zhangmin\_xyz@163.com



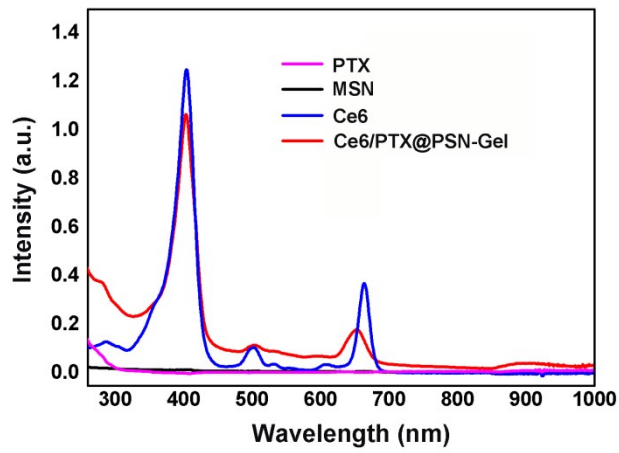
**Fig. S1.** General process of the basic steps in synthesizing Ce6/PTX@PSN-Gel.



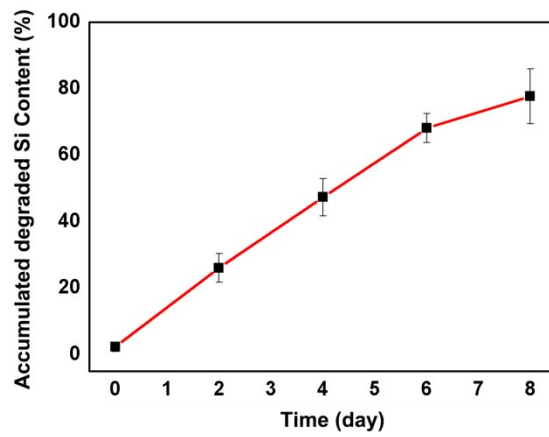
**Fig. S2.** Surface zeta potential of bMSN and bMSN-NH<sub>2</sub>.



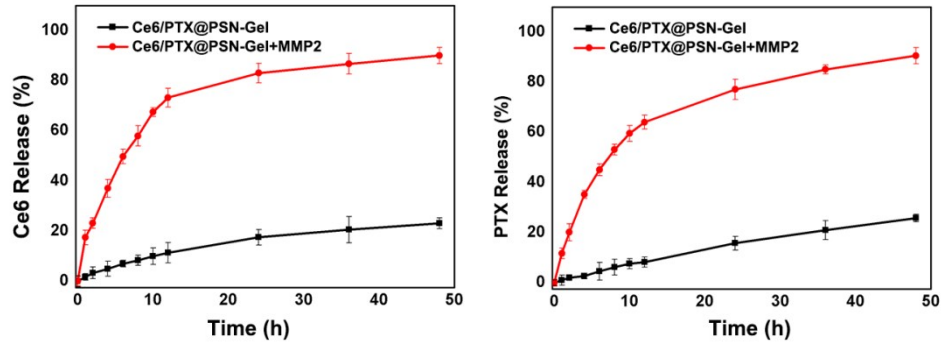
**Fig. S3.** Fluorescence emission spectra of PTX, MSN, Ce6 and Ce6/PTX@PSN-Gel.



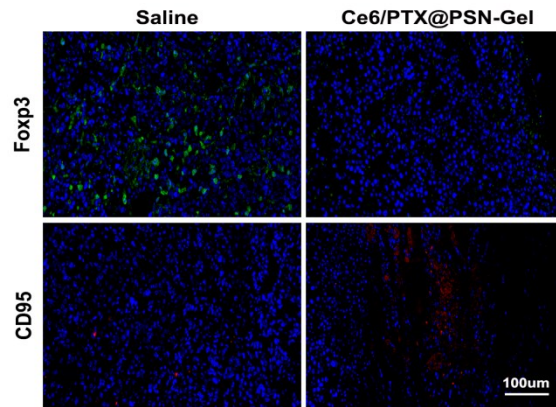
**Fig. S4.** Absorption spectra of PTX, MSN, Ce6 and Ce6/PTX@PSN-Gel.



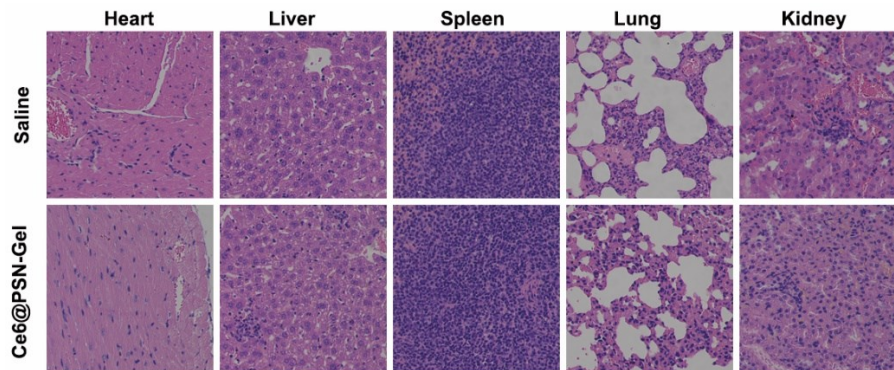
**Fig. S5.** *In vitro* biodegradation profile of bMSN.



**Fig. S6.** Drug release profile of Ce6/PTX@PSN-Gel.



**Fig. S7.** Foxp3 and CD95 staining of the tumor sections after treated with saline and Ce6/PTX@PSN-Gel (green: anti-Foxp3/FITC; red: anti-CD95/PE; blue: DAPI).



**Fig. S8.** H&E staining of main organs after treated with saline and Ce6/PTX@PSN-Gel.