

## ***Supporting Information***

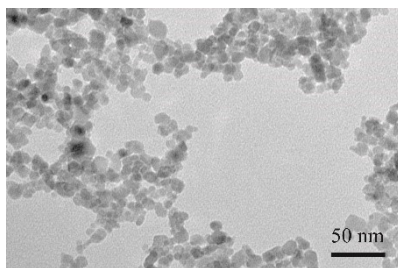
# Magnetic silk fibroin nanospheres loaded with amphiphilic polypeptides and antibiotics for biofilm eradication

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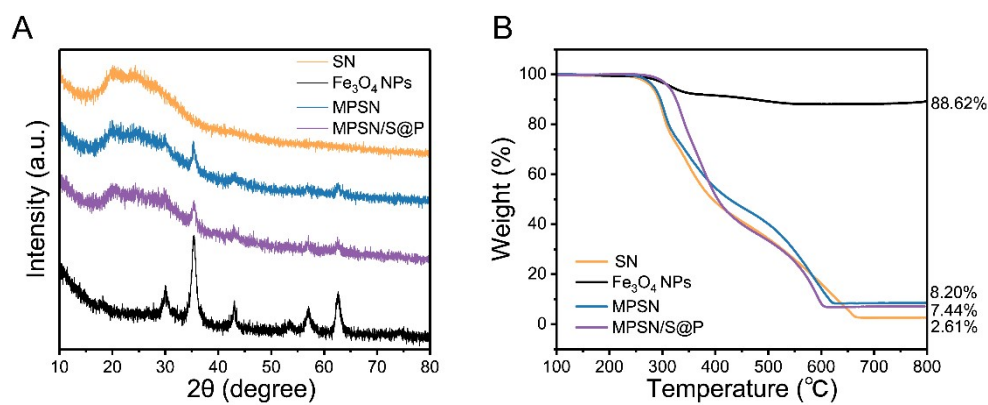
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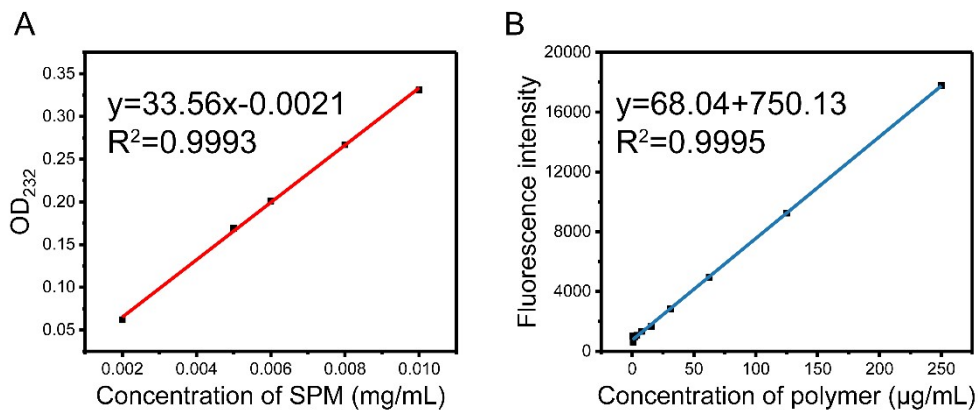
Shanghai 200438, P.R. China



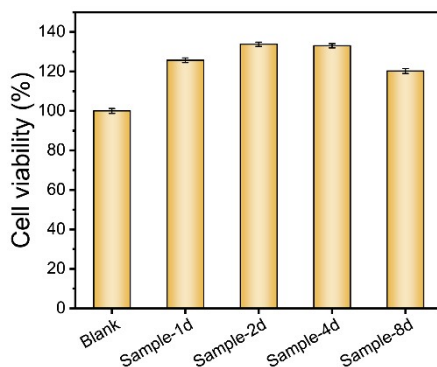
**Figure S1.** Transmission electron microscopy (TEM) image of  $\text{Fe}_3\text{O}_4$  nanoparticles.



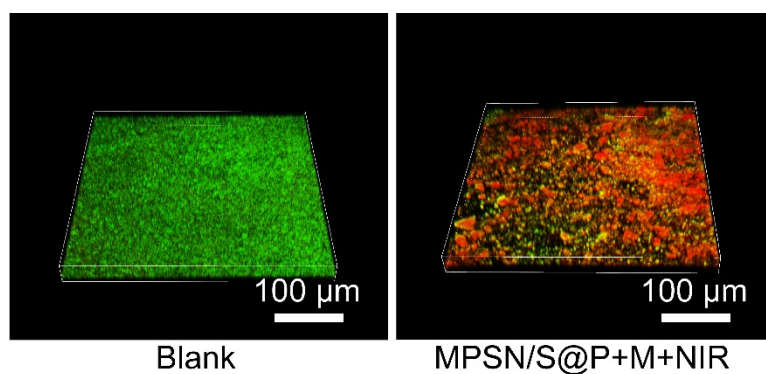
**Figure S2.** A) The XRD pattern of  $\text{Fe}_3\text{O}_4$  NPs and nanoparticles. B) TGA profiles for  $\text{Fe}_3\text{O}_4$  NPs and nanoparticles. After heating to 800 $^{\circ}\text{C}$ , the residual mass of  $\text{Fe}_3\text{O}_4$  NPs and MPSN/S@P were 88.62% and 7.44% of the original, respectively.



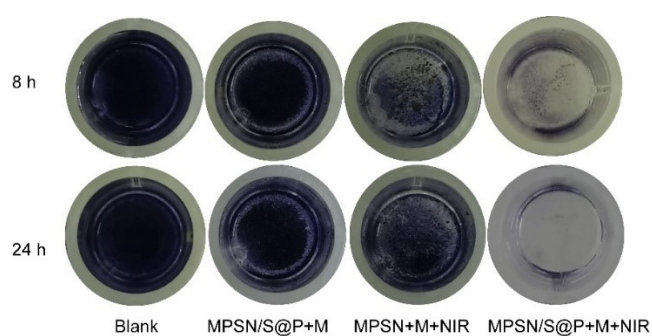
**Figure S3.** A) Standard absorbance-concentration curve of SPM at 232 nm. B) The standard curve of Lys<sub>90</sub>Val<sub>10</sub> using the fluorescamine assay.



**Figure S4.** Viability of NIH 3T3 cells after incubating with extracts taken out at predetermined time points from MPSN/S@P suspension.



**Figure S5.** Three-dimensional confocal laser scanning microscopy (3D CLSM) images of mature *P. aeruginosa* biofilms with different treatments after 24 h.



**Figure S6.** Typical pictures of biofilms visualized by staining with MTT.

**Table S1.** SPM-loading capacity and encapsulation efficiency in MPSN/S and MPSN/S@P.

Microspheres	Feed (%)	SPM loading (%)	SPM encapsulation (%)
MPSN/S	9.0	2.0 ± 0.1	22.5 ± 1.0
MPSN/S@P	9.0	1.4 ± 0.1	15.2 ± 0.5

**Table S2.** Lys<sub>90</sub>Val<sub>10</sub>-loading capacity and encapsulation efficiency in MPSN/S@P.

Microspheres	Feed (%)	Lys <sub>90</sub> Val <sub>10</sub> loading (%)	Lys <sub>90</sub> Val <sub>10</sub> encapsulation (%)
MPSN/S@P	9.0	6.4 ± 0.8	71.2 ± 9.0