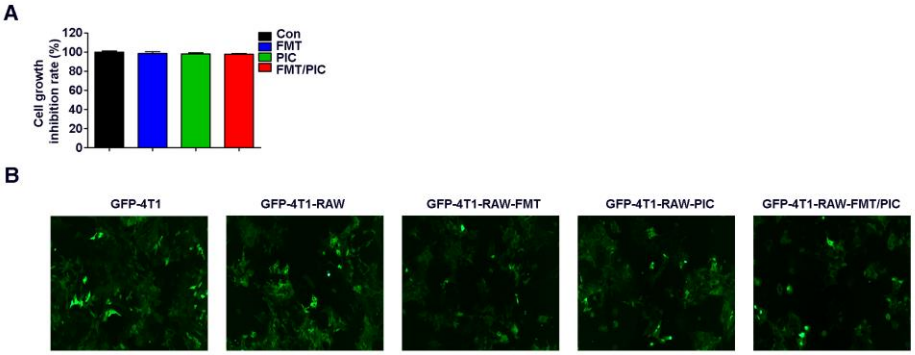

Figure S1. Combined effect of FMT and PIC on 4T1 tumor cells in a co-culture system. (A) 4T1 cells were incubated with FMT, PIC, or FMT/PIC for 48 h and cell viability was analyzed using CCK-8 assay. (B) GFP-4T1 cells co-cultured with RAW 264.7 (RAW) at a ratio of 2:1 were incubated with FMT, PIC, or FMT/PIC for 48 h and the fluorescence intensity of GFP was measured.

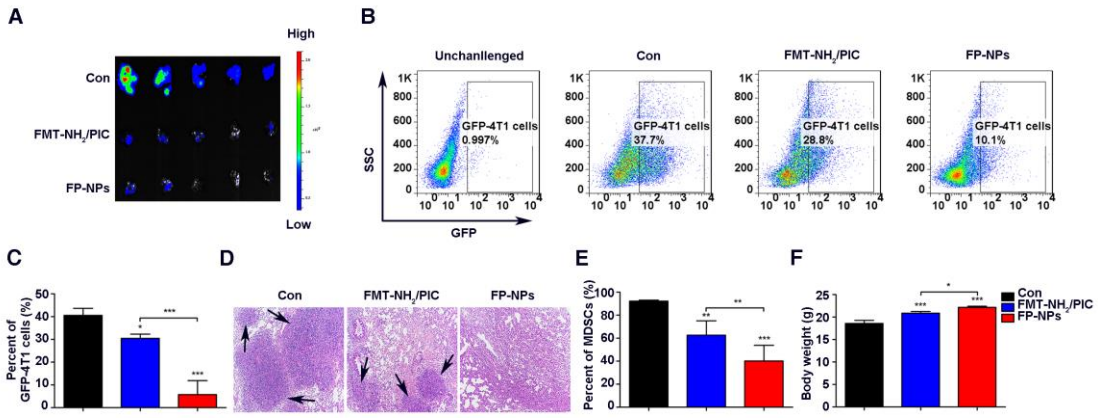

Figure S2. Therapeutic benefits of FP-NPs for lung metastasis of breast cancer. BALB/c mice bearing lung metastasis were prepared by intravenously injecting with 5 × 10^5 GFP-4T1 cells overnight and were intravenously treated with PBS, FP-NPs (FMT-NH_2 200 μg composited with PIC 10 μg), and FMT-NH_2 (200 μg) combined with PIC (10 μg) every other day for three times. (A) *Ex vivo* bioluminescence of GFP-4T1 metastatic lungs with the indicated treatment. (B) FCM analysis of GFP^+ live singlets in lung tissues of GFP-4T1 metastatic mice with the indicated treatment. (C) Corresponding quantitative GFP^+ live singlets displayed in (B). (D) Histopathologic analyses of H&E-stained lung tissue sections in tumor-bearing mice with the indicated treatment. (E) FCM analysis of MDSC populations in the blood of GFP-4T1 lung metastatic mice with the indicated treatment. (F) Body weight of GFP-4T1 lung metastatic mice with the indicated treatment.

Table S1. Sequences of forward and reverse primers used for PCR amplification

Gene	Primer Sequence
Mouse iNOS	Forward: GGAGTGACGGCAAACATGACT
	Reverse: TCGATGCACAACTGGGTGAAC
Mouse TNF-α	Forward: CCCTCACACTCAGATCATCTTCT
	Reverse: GCTACGACGTGGGCTACAG
Mouse Arg-1	Forward: CTCCAAGCCAAAGTCCTTAGAG
	Reverse: AGGAGCTGTCATTAGGGACATC
Mouse CD86	Forward: TGTTTCCGTGGAGACGCAAG
	Reverse: TTGAGCCTTTGTAAATGGGCA
Mouse CD206	Forward: CTCTGTTCAGCTATTGGACGC
	Reverse: CGGAATTTCTGGGATTCAGCTTC
Mouse GAPDH	Forward: TGGCCTTCCGTGTTCCTAC
	Reverse: GAGTTGCTGTTGAAGTCGCA