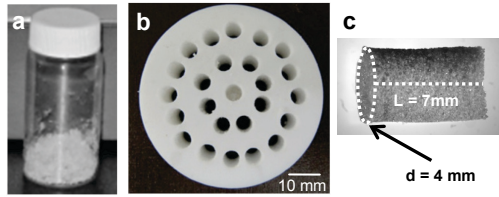
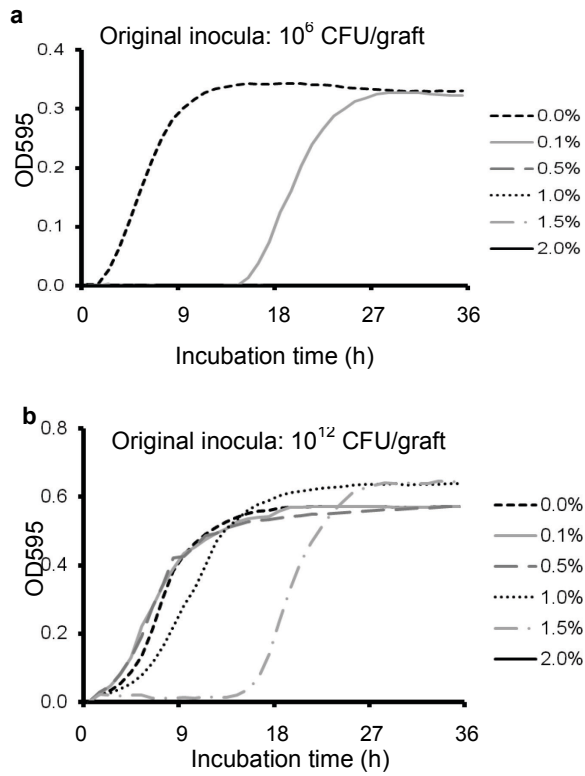


Supplemental Figure 1



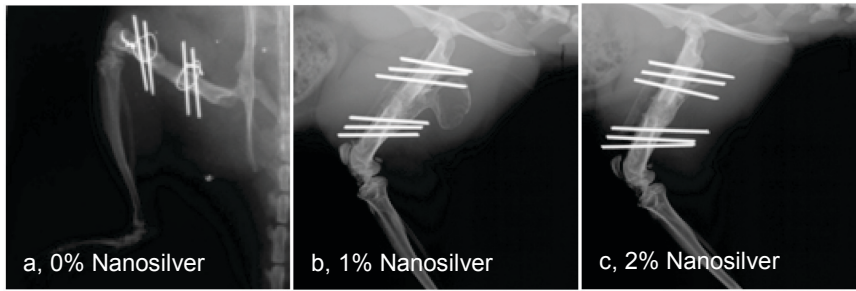
Supplemental Figure 1: Mixture of nanosilver and PLGA (a), Teflon model of the bone grafts (b) and bone grafts manufactured (c).

Supplemental Figure 2



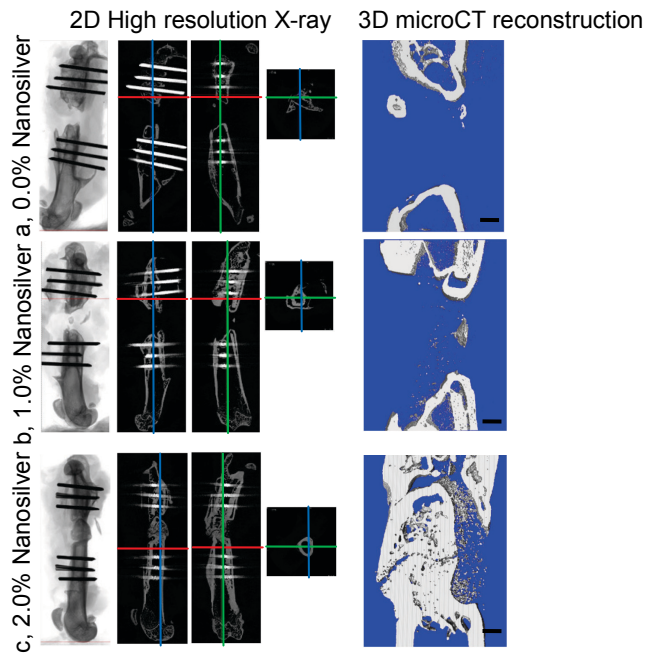
Supplemental Figure 2: *In vitro* antibacterial activity of nanosilver particles. Different inocula (a,  $10^6$  CFU; b,  $10^{12}$  CFU) of *Staphylococcus aureus* SA113 were injected to microplate proliferation assay.

Supplemental Figure 3



Supplemental Figure 3: Uncontaminated rat femoral segmental defects implanted with 0.0% (a), 1.0% (b), and 2.0% (c) nanosilver-PLGA bone grafts coupled with 30  $\mu\text{g/ml}$  BMP-2 were all healed at 8 week post implantation.

Supplemental Figure 4



Supplemental Figure 4: 2D high resolution X-ray and 3D microCT reconstruction photos for  $10^8$  CFU *S. aureus* Mu50 infected rat femoral segmental defects implanted with 0.0% (a), 1.0% (b), and 2.0% (c) nanosilver-PLGA bone grafts coupled with 30  $\mu\text{g/ml}$  BMP-2 at 12 weeks post implantation. Bar = 1 mm.