



**Figure S1:** (A) X-ray (Scale bar = 4.5 mm) and (B)  $\mu$ CT images (Scale bar = 1 mm) in two planes of a representative sample after treatment with an absorbable collagen sponge only (ACS). (C) BV/TV measurements determined for explanted femora treated with ACS (n=4), and SSC (n=6) or SSC-SBF (n=5) for comparison (Note: the latter 2 groups are also shown in figure 5). (D) Masson-Goldner trichrome stained section of an ACS-treated femur, showing mostly fibrotic tissue within the defect area (indicated by \*; scale bar = 1 mm).