

Supplementary Information

3D Superparamagnetic Scaffolds for Bone Mineralization under Static Magnetic Field Stimulation

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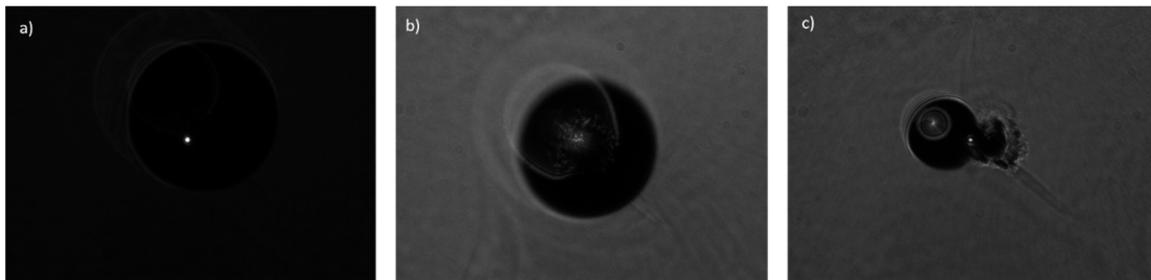


Figure S1. Optical images of the laser irradiated material at the laser focus, at different time points during the laser direct writing process: (a) at the beginning of the process, the laser spot is visible on the sample; (b) bubble formation at the irradiation spot, after few seconds of interaction of the focused laser beam with the material; (c) local micro-explosion at the laser-material interaction spot.

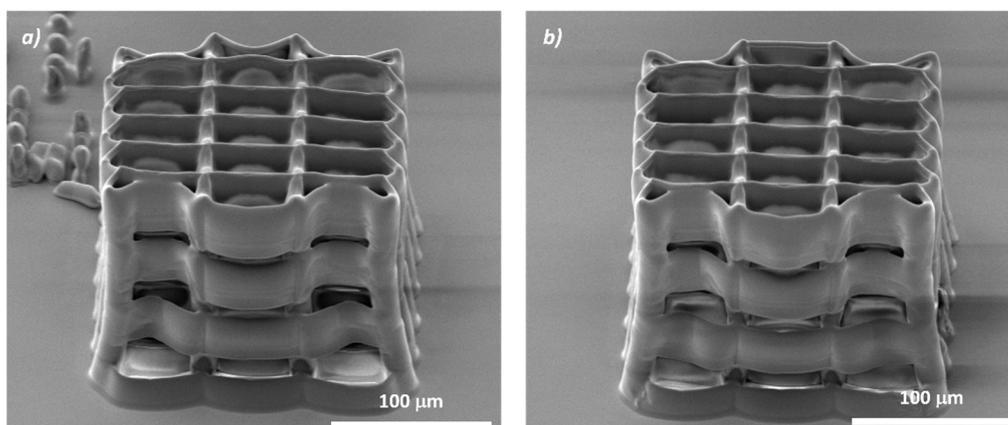


Figure S2. SEM micrographs of a scaffold with MNPs concentration of 4 mg/mL: (a) immediately after the fabrication process and (b) after 20 days of exposure to SMF of 1.3 T.

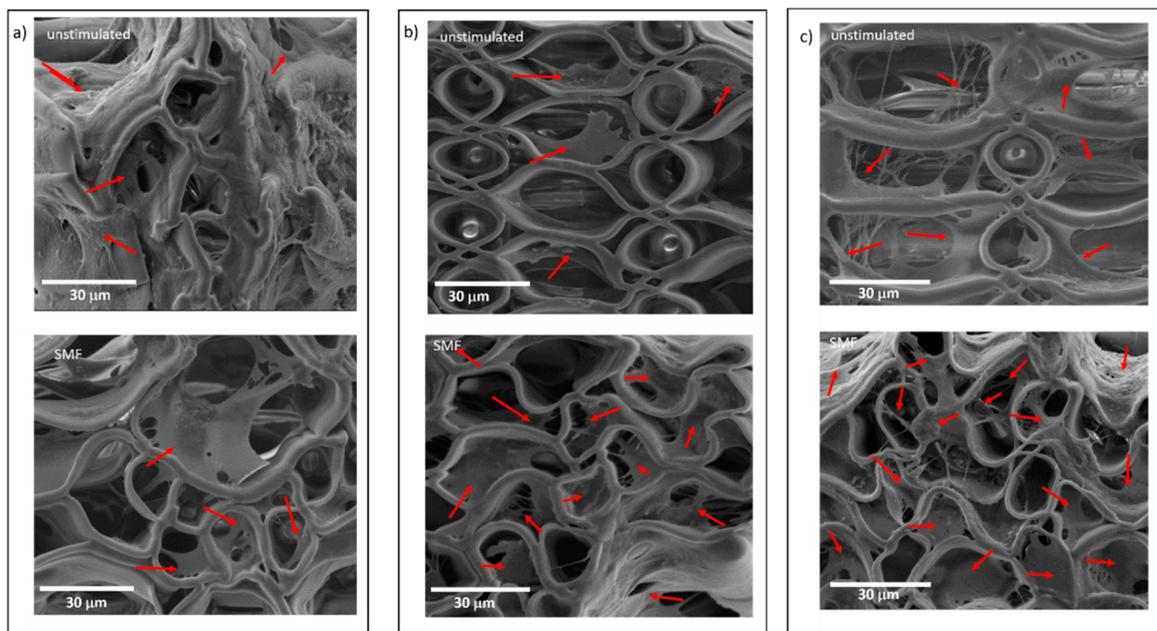


Figure S3. SEM micrographs illustrating cells attached on scaffolds with MNPs concentrations of: (a) 0 mg/mL; (b) 2 mg/mL; (c) 4 mg/mL, after 3 days of cultivation, in the absence (upper panel) and in the presence (lower panel) of SMF. The cells are indicated by red arrows.

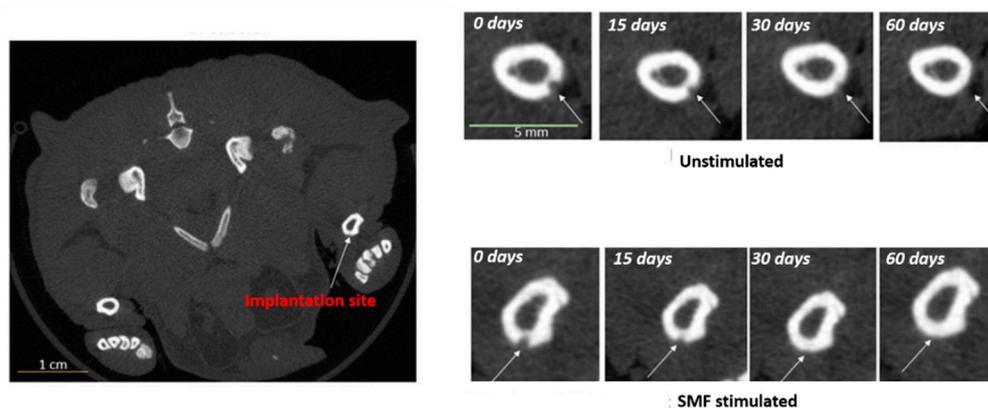


Figure S4. Preliminary results in vivo: CT scans of Wistar rats with scaffolds implanted at femoral level, at different time points after the implantation procedure.