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Electronic Supplementary Information

In-vitro study of novel Microparticle based Silk Fibroin Scaffold with Osteoblast-like Cells for Load-bearing Osteoregenerative Applications

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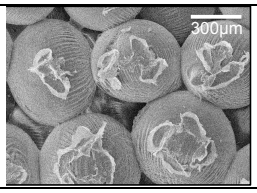
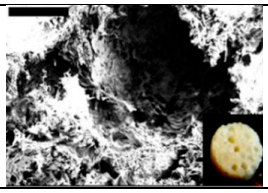
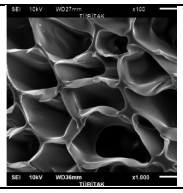
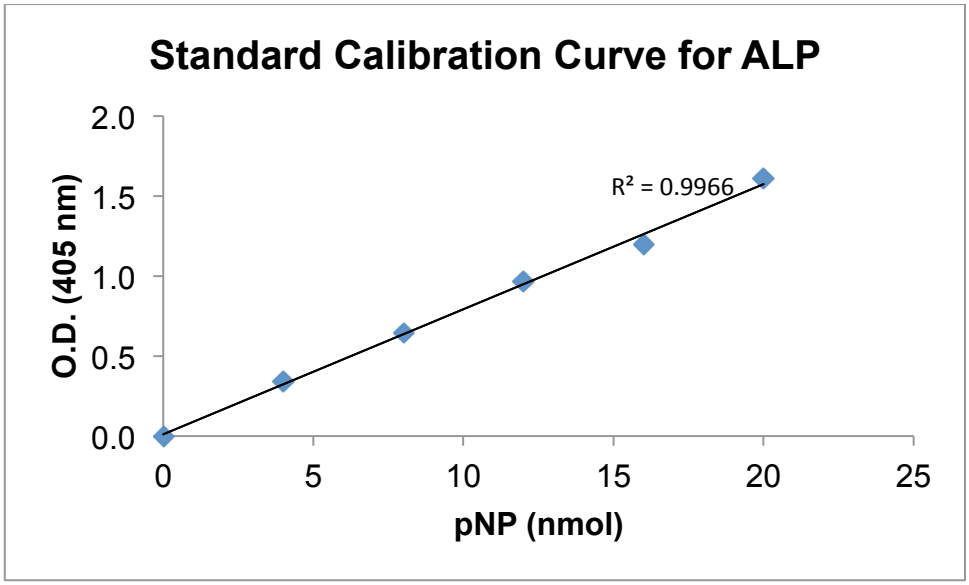
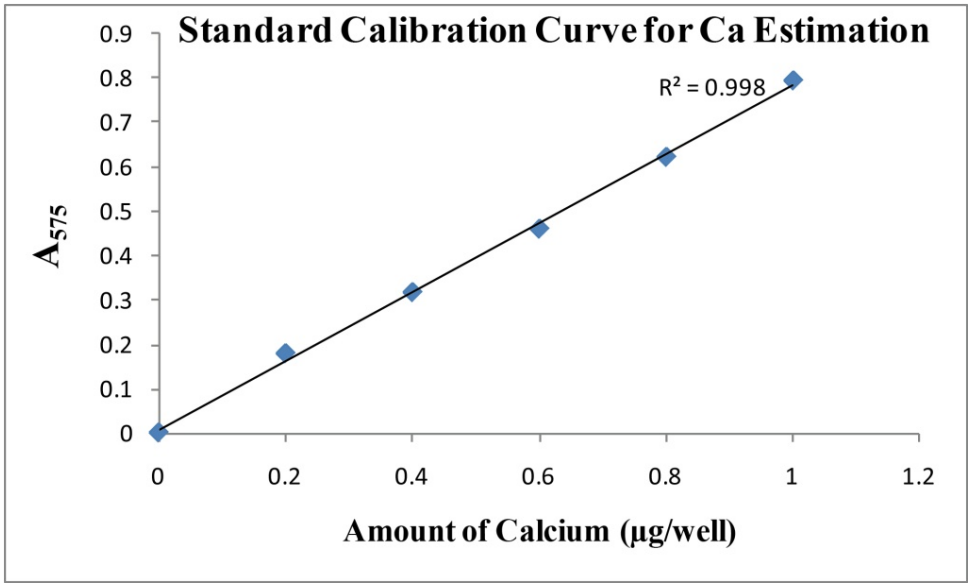
Property	SF microparticle scaffold	Mandal*et al.* 2012	Ak*et al.* 2012
Method of preparation	SF micro-particles fused using aq. SF solution	Salt leaching using SF: HFIP solutions with reinforcing SF microfibers	Gelation reaction of frozen SF solutions
Pore size (μm)	50 - 500	500 - 600	10 - 30
Porosity (%)	40 - 60 %	69 – 90 %	90 %
Dry Compression modulus (MPa)	60 - 100	Not reported	2 - 48
Wet Compression modulus (MPa)	0.1 - 30	0.1 - 12	Not reported
Bioresorption	Tunable (invivo few months to 2 years)	Not reported	Not reported
Scanning Electron Microscopy images			

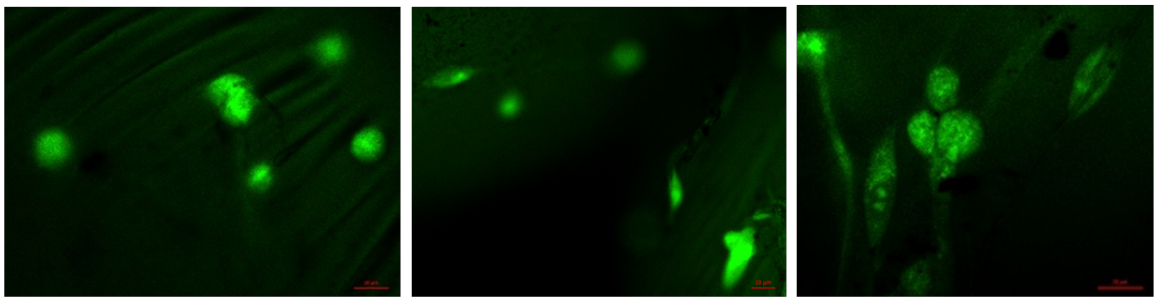
ESI Figure S1: Comparison properties of our newly developed SF microparticle scaffold with other reported silk scaffolds



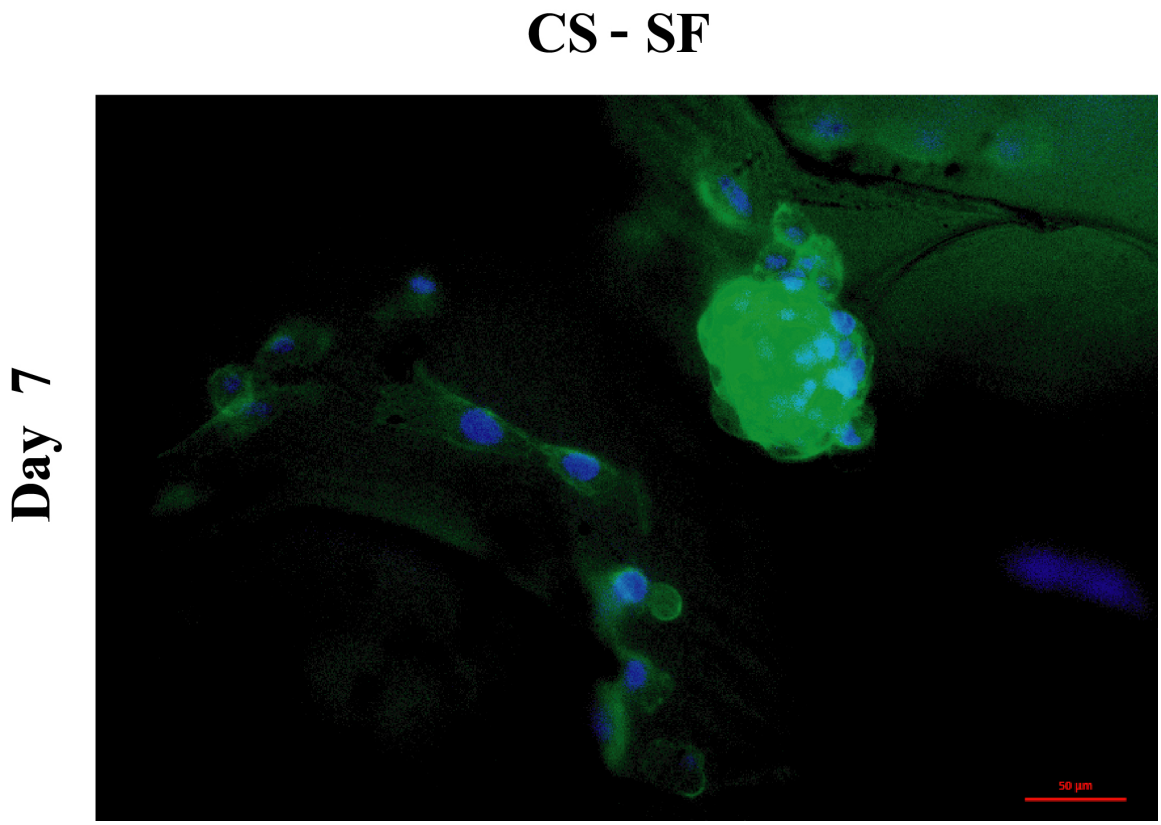
ESI Figure S2: Standard calibration curve for Alkaline Phosphatase Assay



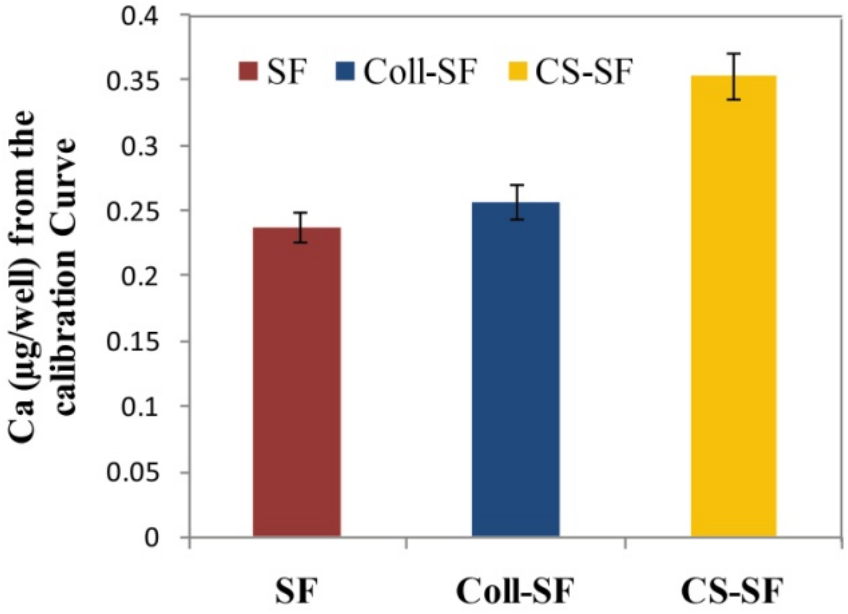
ESI Figure S3: Standard Calibration curve for Ca estimation by *O*-cresolphthalein complexone colorimetric assay



ESI Figure S4: Live/Dead images of AO channel; Elongated MG 63 cell morphology on 3rd day of seeding with modified scaffold (Scale bar – 20 µm)



ESI Figure S5: CS-SF scaffold - Actin cytoskeleton staining of MG63 cells with alexa fluor phalloidin 488 and nucleus were counter stained with DAPI



ESI Figure S6: Calcium deposition of MG63 cells after 7 days.