Strontium-driven Physiological to Pathological Transition of Bone-like Architecture: A Dose-dependent Investigation

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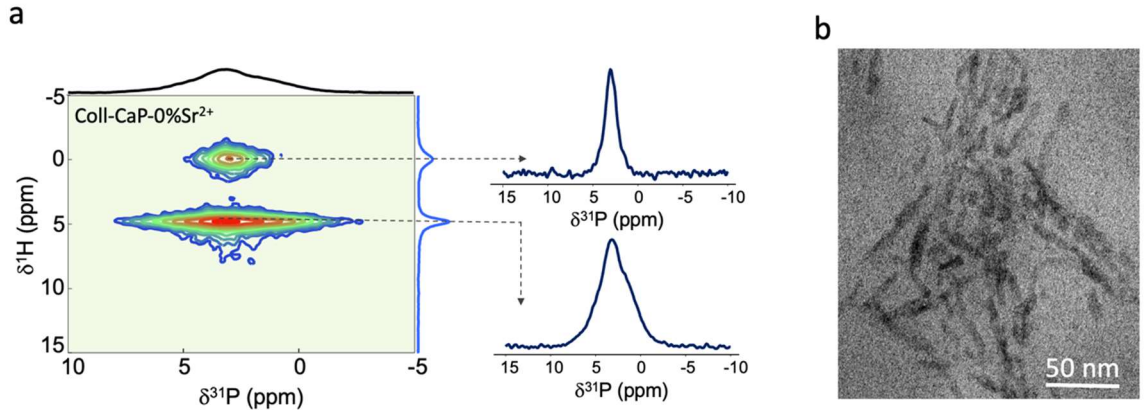

Fig. S1. Structural and morphological characterization of apatite formed within Coll-CaP-0% Sr^{2+}. scaffold. (a) ^{1}H-^{31}P HetCor spectra of Coll-CaP-0%Sr^{2+} and (b) TEM image of Coll-CaP-0%Sr^{2+}.

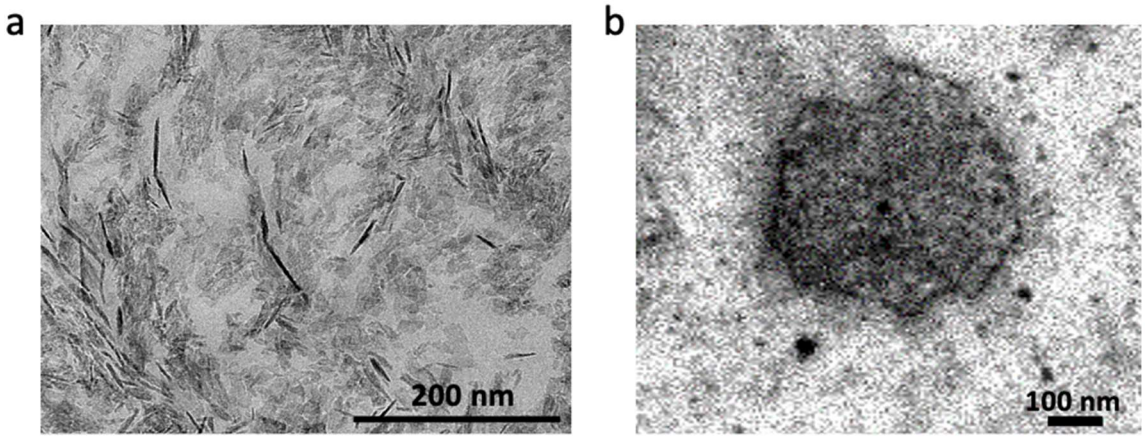

Fig. S2. TEM images of (a) bone mineral and (b) Coll-CaP-50%Sr^{2+}.

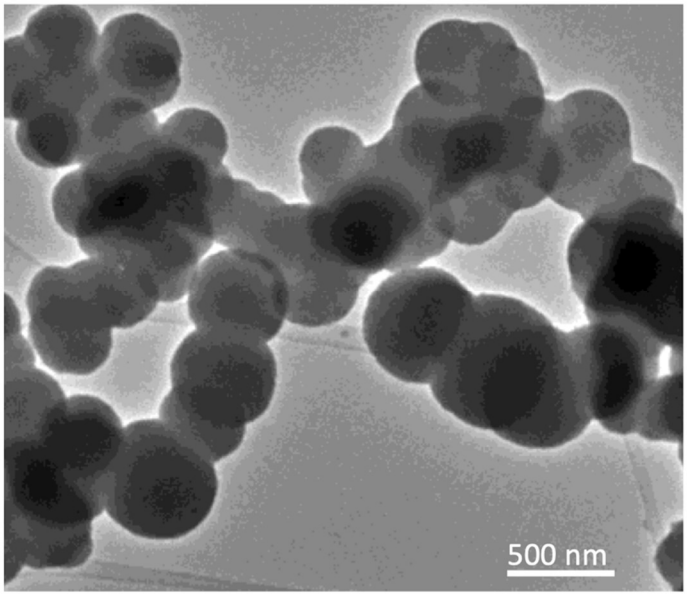

Fig. S3–2. TEM image of calcium phosphate particles containing 50% of Sr^{2+} formed in the absence of collagen (CaP-50%Sr^{2+}), previously characterized as Sr(ACP).

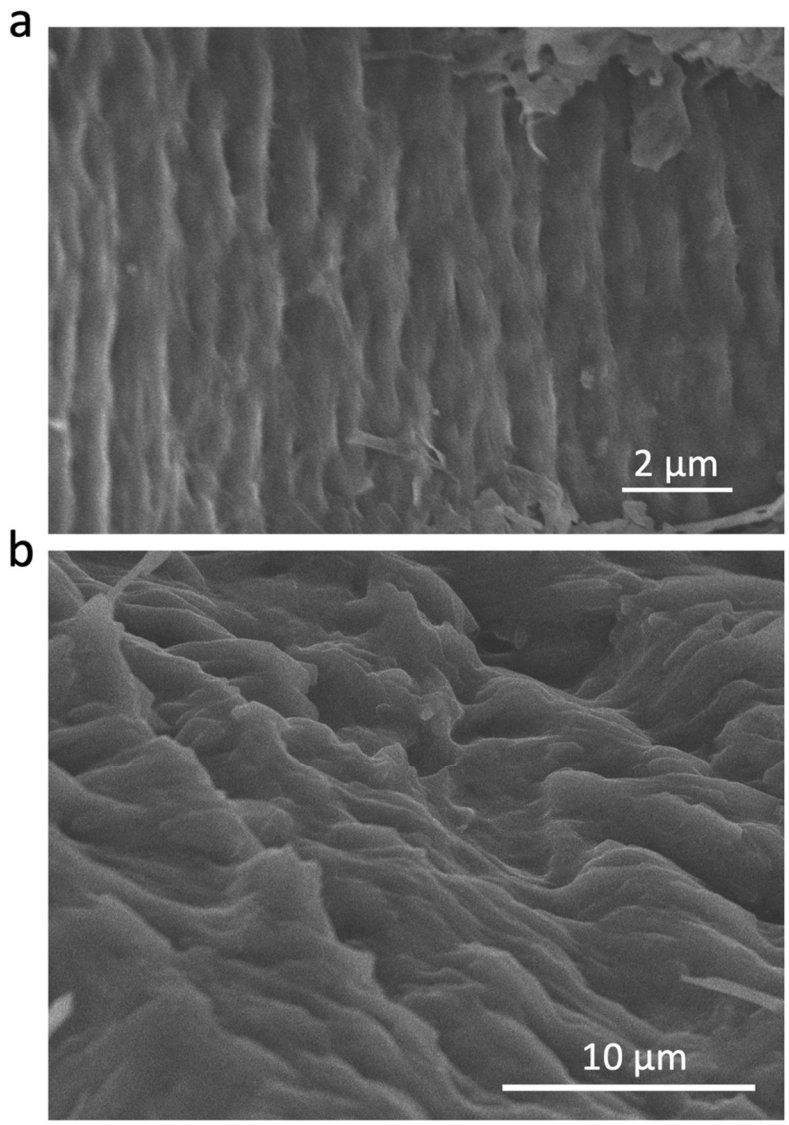

Fig. S4 ~~3~~. SEM images of a bone sample showing closely packed collagen fibrils. They align at the surface (a) while periodic stratification typical of cholesteric geometry are seen inside the matrix.

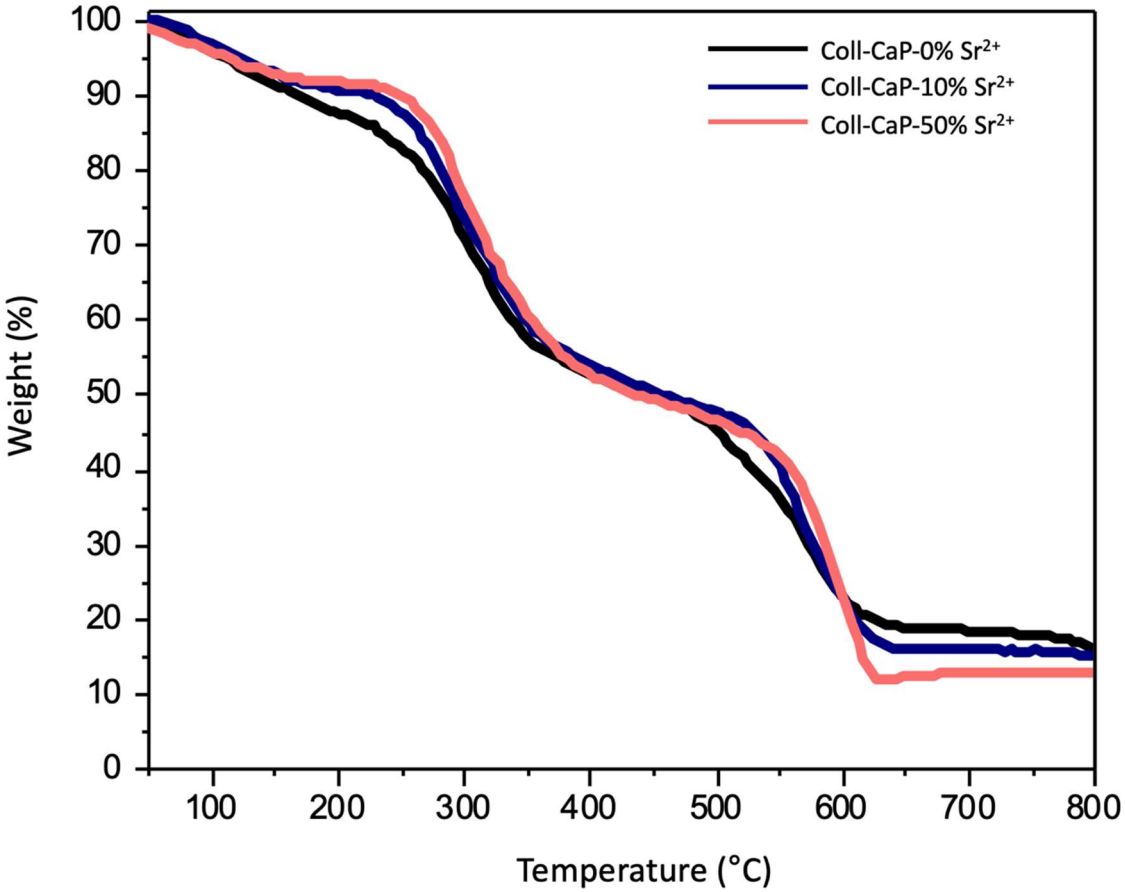

Fig. S5 4. Determination of mineral content of collagen matrices formed in the presence of different Sr^{2+} concentrations. The mineral contents (% wt.) of the matrices were determined by the ash content at 800 °C showing their comparable mineralization degree: 20% for Coll-CaP-0%Sr^{2+}, 18% for Coll-CaP-10%Sr^{2+} and 15% for Coll-CaP-50%Sr^{2+}.