## **Supplementary Information**

## **Bio-Inspired 3D Printing of Layered Structures Utilizing Stabilized Amorphous Calcium Carbonate within Biodegradable Matrices**

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Figure S1 - BST measurements of various collagen concentrations, a plateau was reached after incorporation of 15%w/w



Figure S2 – XRD patterns were collected at a wavelength of Cu K $\alpha$  1.546Å 3 years after preparation. The diffraction peaks stem from NaCl byproducts; a calcite diffractogram is presented for reference





Index	Area	AreaIntgP(%)	Row Index	Beginning X	Ending X	FWHM	Center	Height
1	5.00E-04	100	683	0	0.00192	7.01E-04	0.00192	0.67513

Figure S4 – An example of Young's modulus and strain energy calculations done using OriginPro 2019. The given 60  $^{/}40_{CGN15\%}$  model, with a Young's modulus of 492.3387 [MPa] and 5 $\cdot 10^{-4}$  [J] strain energy. example is of a



Figure S5 - Example of Single slice pore analysis on scanned printed models, including size distribution of pores. (A) pores 60/40CGN15% model and pores distribution in the single slices, (B) pores in 50/50CGN15% model and pores distribution in the single slices, and (C) pores in LP2 model and pores distribution in the single slices.