Electronic Supplementary Material (ESI) for Dalton Transactions

Biomimetic mineralisation of polymeric scaffolds using a combined soaking and Kitano approach - Supplementary information

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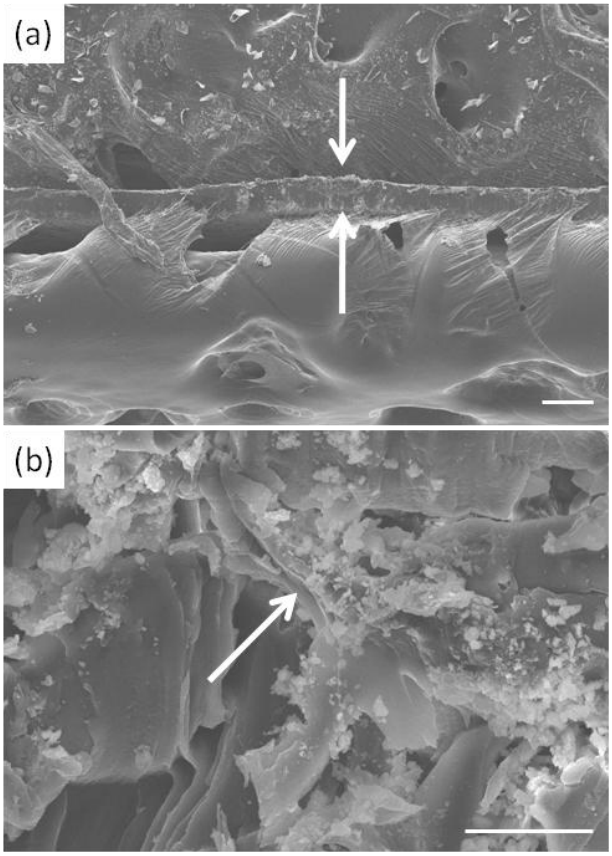

Figure S1 – SEM images of a cross-section of chitosan film treated with alternate soaking followed by Kitano solution prepared under static growth conditions. The sample was cleaved with a scalpel and mounted between two pieces of carbon tape on a cut stub. (a) The film between two pieces of carbon tape. The arrows indicate the peripheral surfaces of the mineralised film, the remainder of the image corresponding to the two pieces of carbon tape. Scale bar = 100 µm. (b) The interior of the film showing the crystallisation within the chitosan template. The arrow indicates a region of mineralisation. Scale bar = 5 µm.

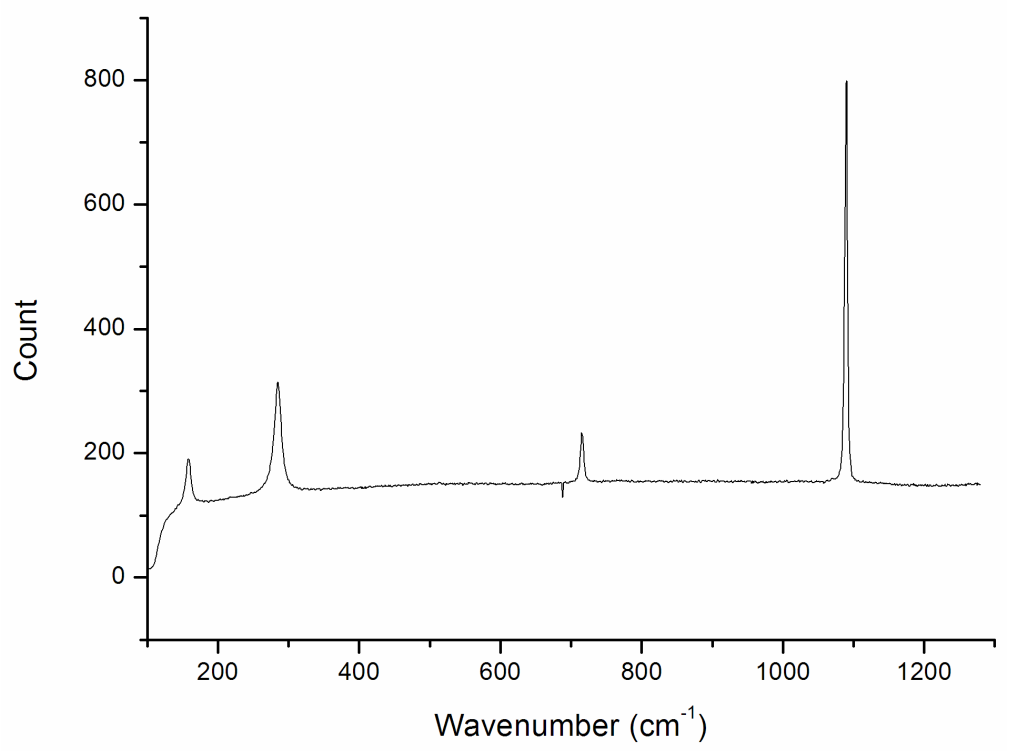

Figure S2 – A representative microRaman spectrum of a mineralised chitosan film. The peak positions at 284, 712 and 1086 cm^{-1} are assigned to the lattice mode, v_4 in-plane bend and v_1 symmetric stretch, respectively, of calcite.

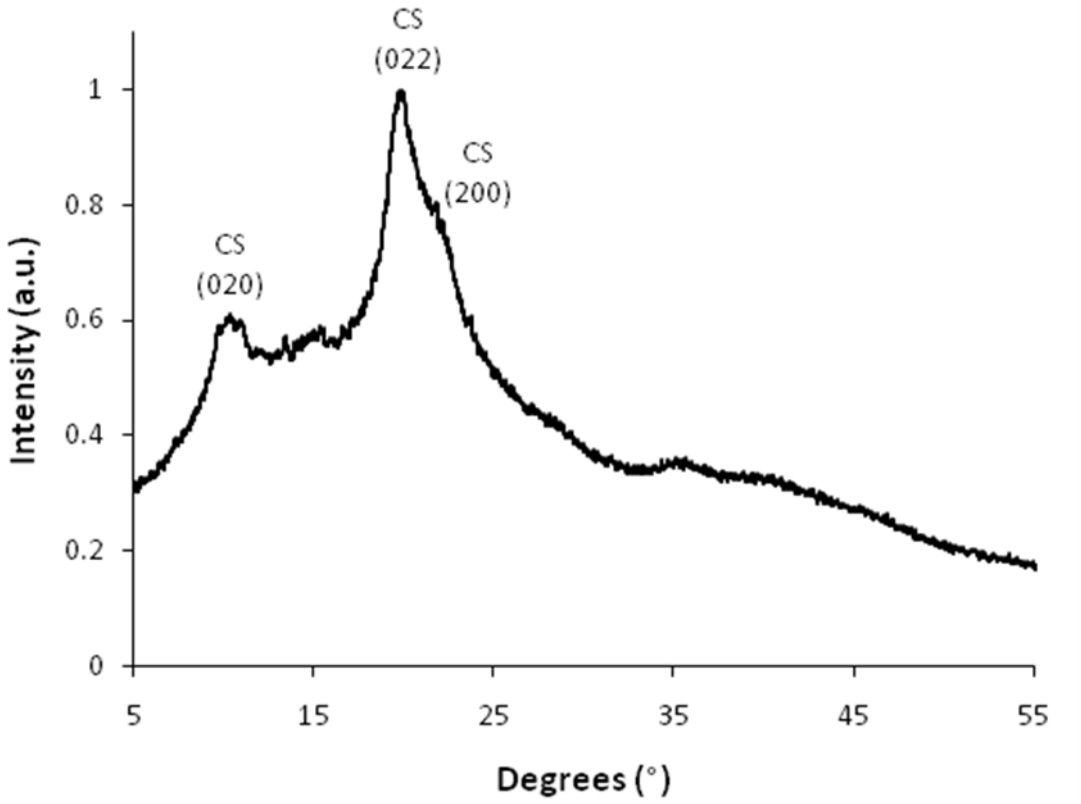

Figure S3 – XRD pattern of a base-treated and washed chitosan film. The peaks at °2θ ((Bragg planes also given) were 10.2 (020), 19.8 (022) and (shoulder) 22.0 (200).

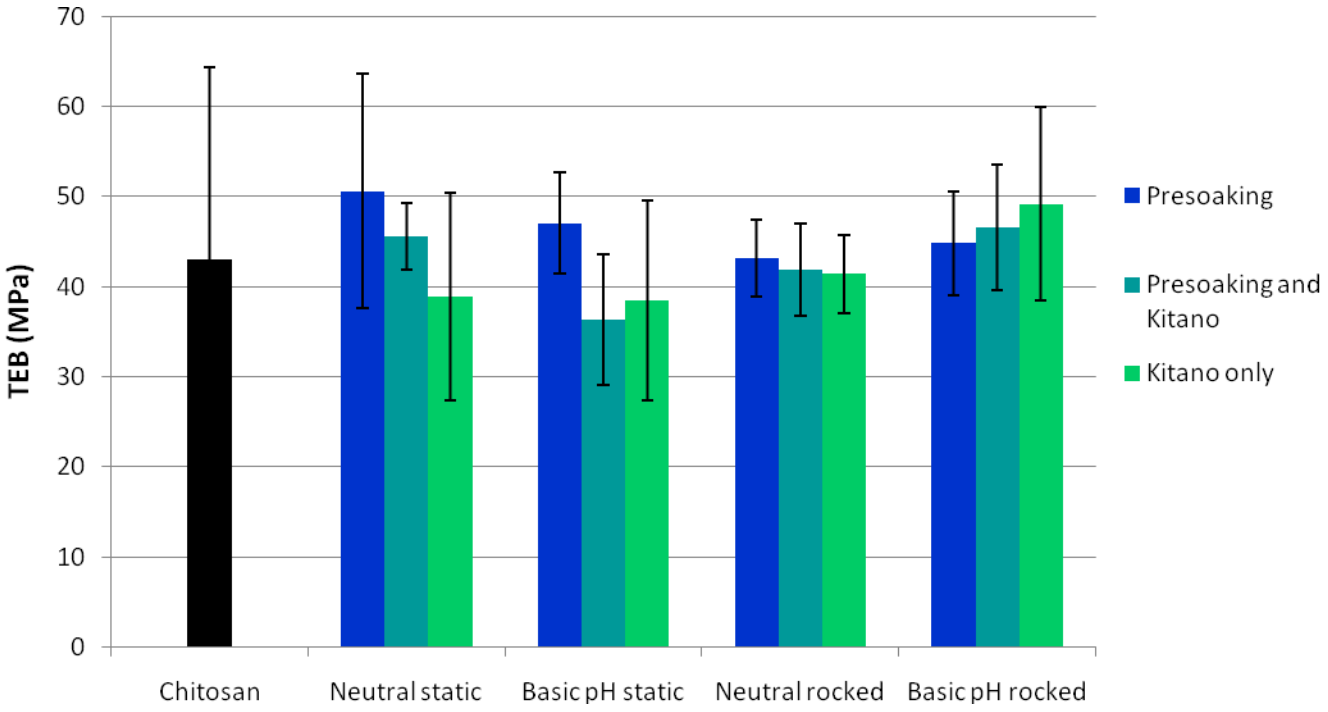

Figure S4 - The mechanical strength of chitosan/$CaCO_3$ composites prepared with different growth conditions and crystallisation solutions.