

Supplementary information

S1 the morphology of peanut-like monohydrocalcite at the early stage of the crystallization

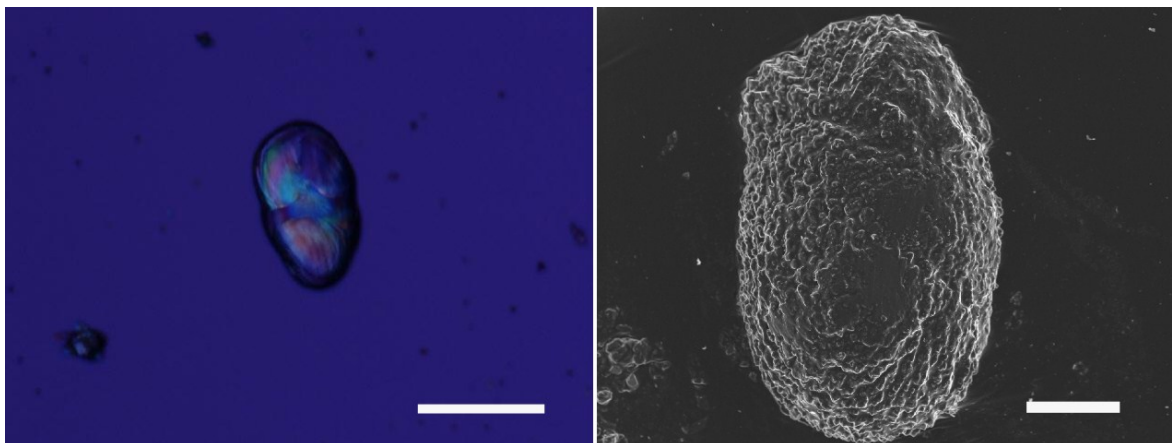


Fig.S1 The characteristic morphologies of peanut-like monohydrocalcite after two days crystallization: left, an image from optical microscopy (Left, scale bar: 50 μm); right, an image from FESEM (Right, scale bar: 10 μm).

S2 Raman spectrum of crystal in agarose gel

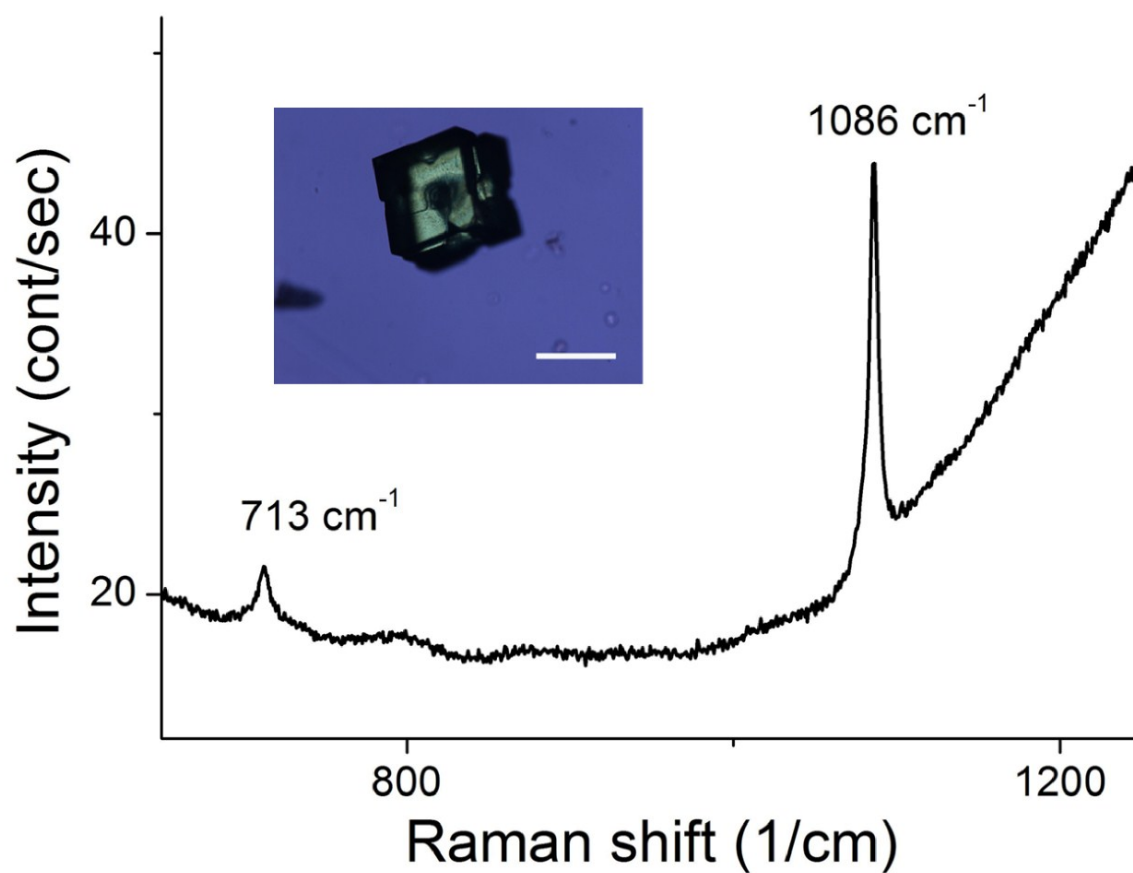


Fig.S2 Raman spectrum of calcium carbonate (calcite) crystallized in agarose gel. The inset shows an optical microscopy image of a rhombohedral calcite crystal obtained in agarose gels. (Scale bar: 50 μm)

S3 Characteristic morphologies of monohydrocalcite after 4 weeks crystallization, the more detailed texture study:

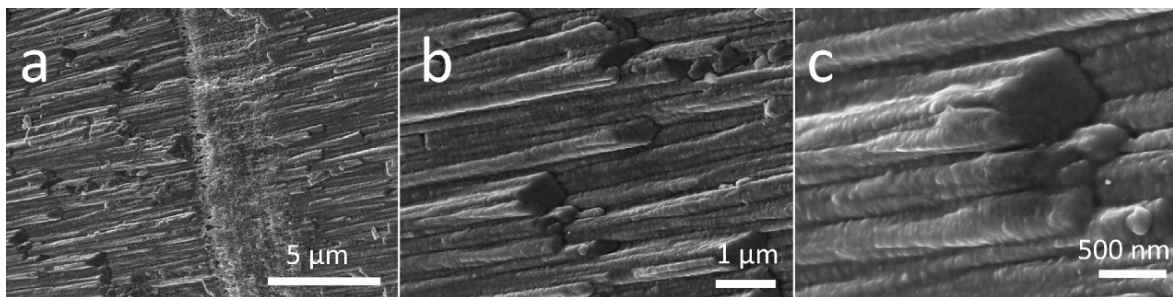


Fig.S3 High magnified FESEM micrographs of monohydrocalcite: compact layer with cracked band (a), needle-like texture in compact layer (b and c).