Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information

Morphological evolution of carbonated hydroxyapatite to faceted nanorods through intermediate states

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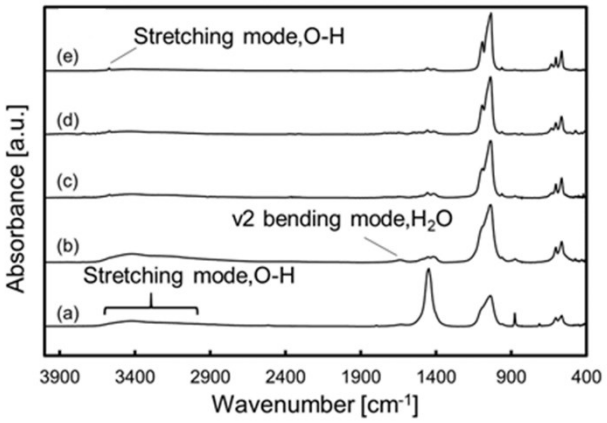

Fig. S1 FTIR spectra of the products from calcite. Reaction time: 0.2 h (a), 0.5 h (b), 2 h (c), 6 h (d), and 24 h (e). Broad signals from 3000 to 3700 cm^{-1} and around 1600 cm^{-1} are assigned to stretching and bending vibrations of H_2O that were adsorbed on the surface of HA nanosheets.

$$Conc(CO_3^{2-}\ wt\%) = 16.1\left(\frac{I_{1415}}{I_{575}}\right) - 0.2$$

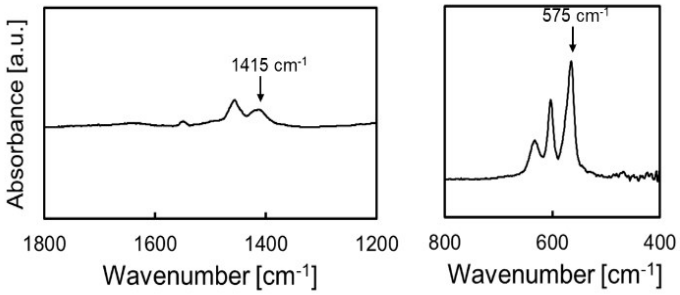

Fig. S2 Estimation of the concentration of CO_3^{2-} based on the FTIR signal intensity of CO_3^{2-} (1415 cm^{-1}) and PO_4^{3-} (575 cm^{-1}).

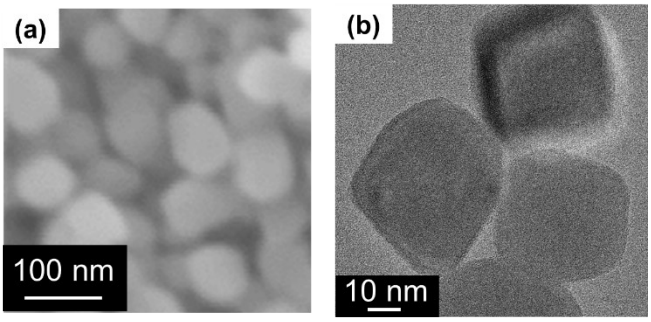

Fig. S3 SEM (a) and TEM (b) images of the original calcite nanoparticles.

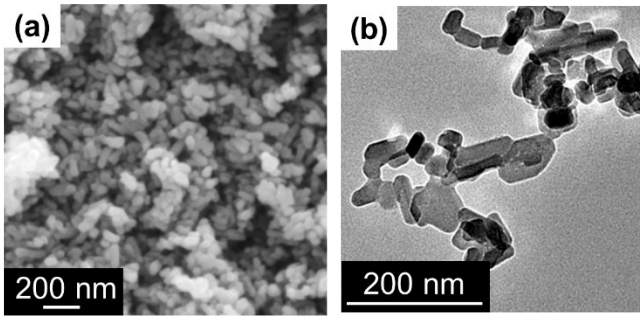

Fig. S4 SEM (a) and TEM (b) images of the products from calcite after the reaction for 6 h.

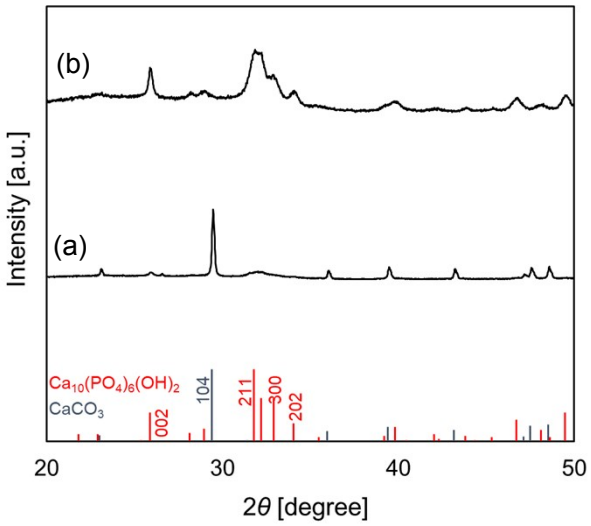

Fig. S5 XRD patterns of the products from calcite after the reaction at 60 °C for 0.5 h (a) and 6 h (b).

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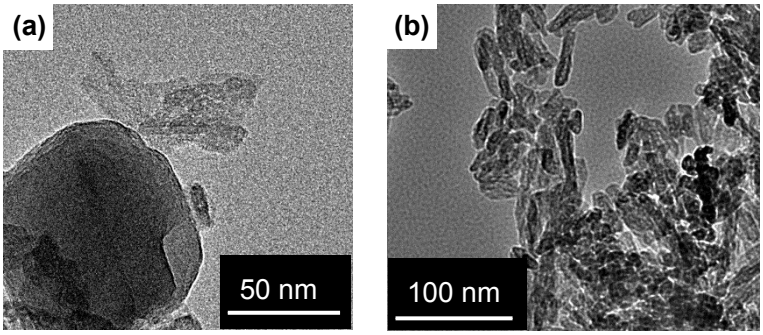

Fig. S6 TEM images of the products from calcite after the reaction at 60 °C for 0.5 h (a) and 6 h (b).

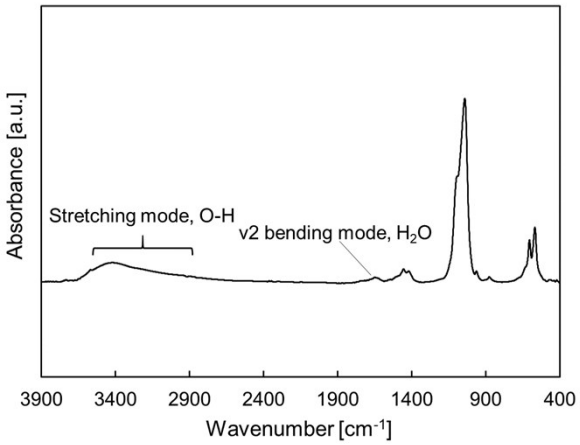

Fig. S7 FTIR spectra of the products from ion precursors after hydrothermal treatment for 0.5 h. Broad signals from 3000 to 3700 cm^{-1} and around 1600 cm^{-1} are assigned to stretching and bending vibrations of H_2O that were adsorbed on the surface of HA nanosheets.