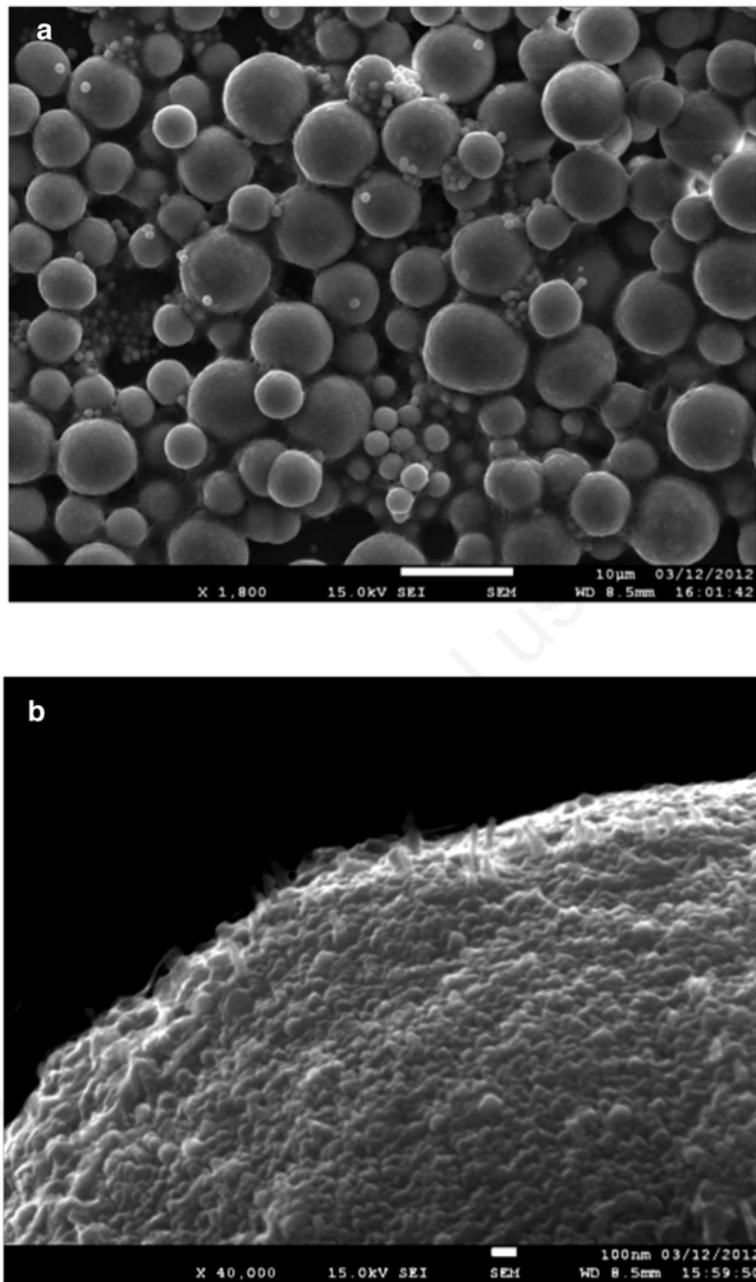
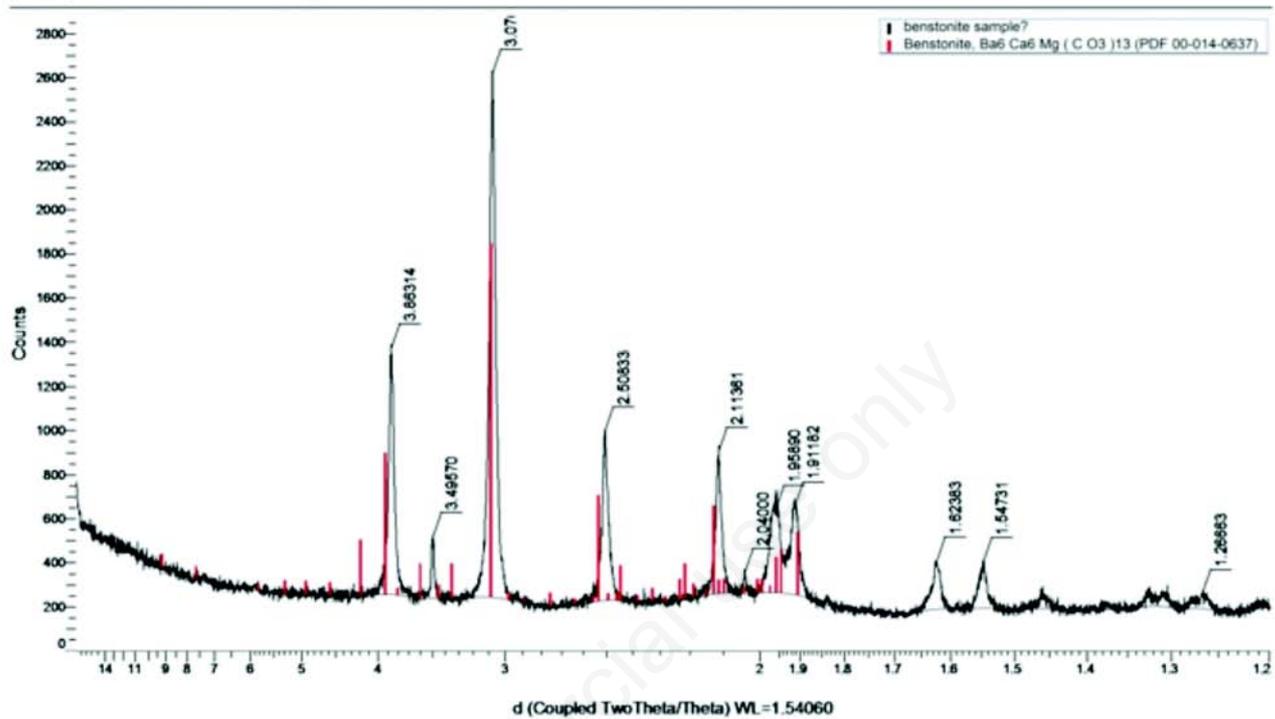


Supplementary Figures.

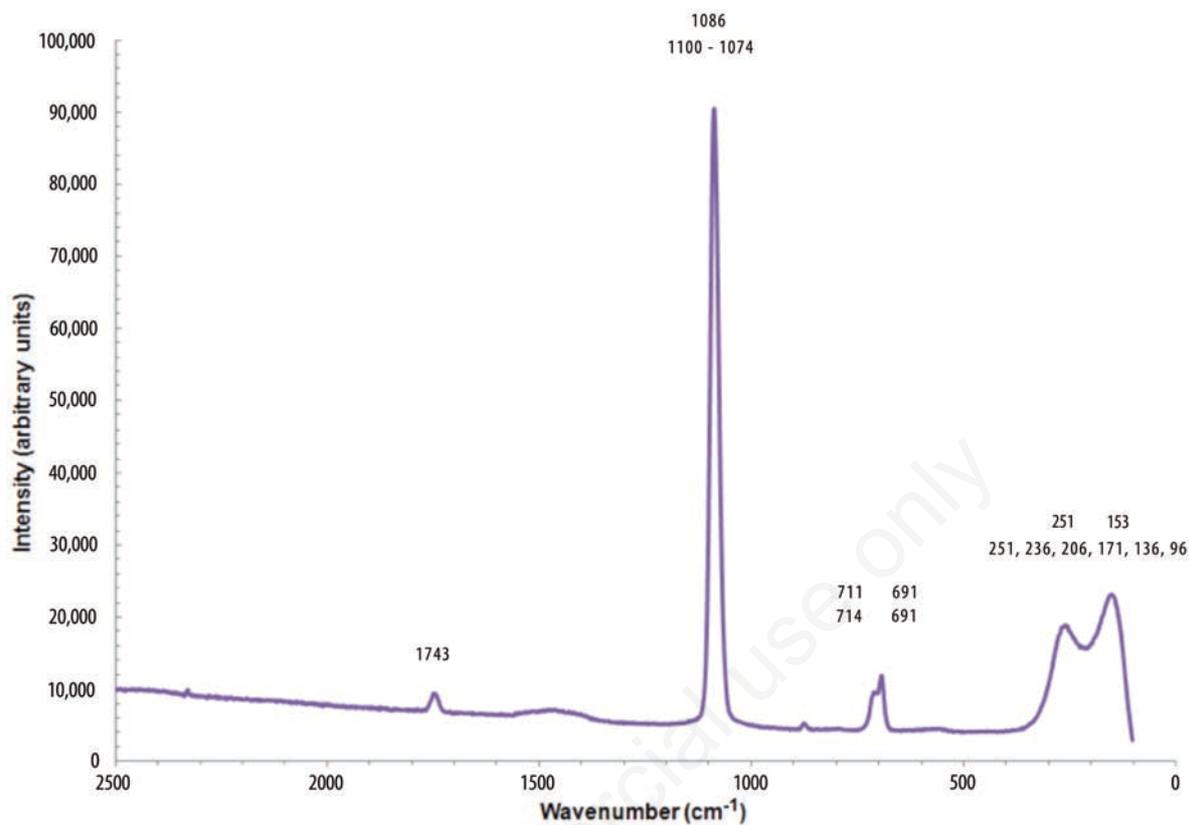


Supplementary Fig. 1. a) Spherical concretions of synthetic benstonite $\text{Mg}(\text{Ba}_{4.5}\text{Sr}_{1.5})\text{Ca}_6(\text{CO}_3)_{13}$, aged 3 days. Scale bar: 10 μm ; b) close-up on a concretion surface. Scale bar: 100 nm. The concretion consists of individual, spherical (diameter <100 nm), or needle-shaped nanoparticles.

(Coupled TwoTheta/Theta)



Supplementary Fig. 2. X-ray diffraction diagram of synthetic benstonite (black), with standard $[\text{Mg Ca}_6 \text{Ba}_6 (\text{CO}_3)_{13}]$.



Supplementary Fig. 3. Raman spectrum of synthetic benstonite. Wavenumber of main peaks is compared to those of $\text{Ca}_7\text{Ba}_6(\text{CO}_3)_{13}$.