Supporting information

to

Optimisation of the synthesis parameters of mechanochemically prepared CaAl-layered double hydroxide

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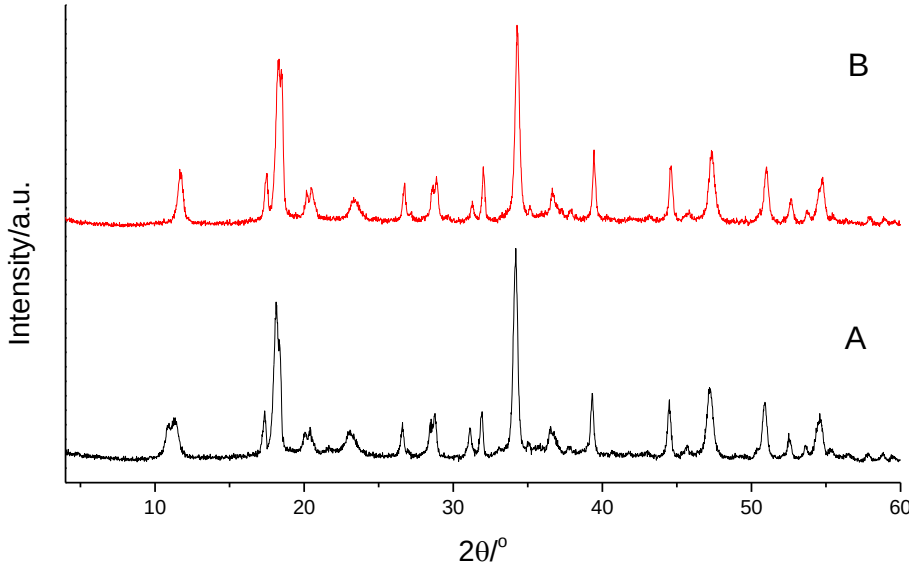

Fig. S1. The powder X-ray diffractograms of the Ca_2Al_60 (B/S = 60) sample (A) before and (B) after washing.

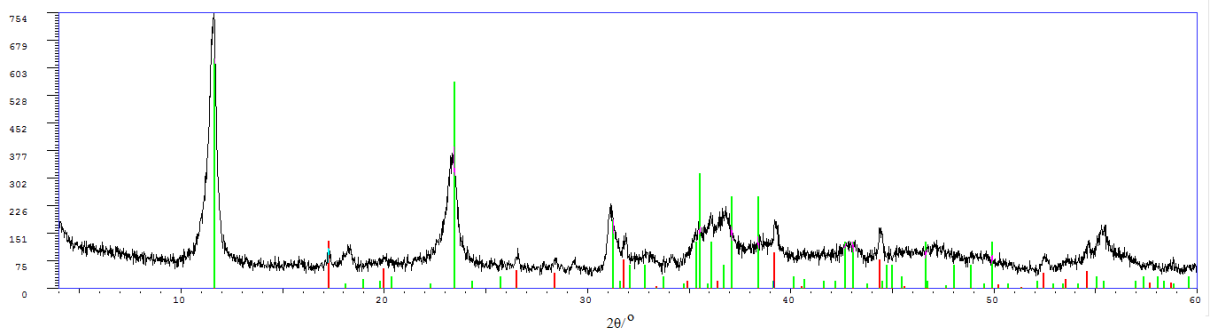

Fig. S2. The phase composition of the Ca_2Al LDH sample prepared with the optimised parameters: B/S = 140, n(H_2O):n(Al) = 1,75 and ν = 11.6 Hz. Black curve: the sample, green line: the diffraction pattern of the JCPDS #41-0219, red line: the diffraction pattern of the JCPDS #74-2281 (calcium-aluminium hydroxide).

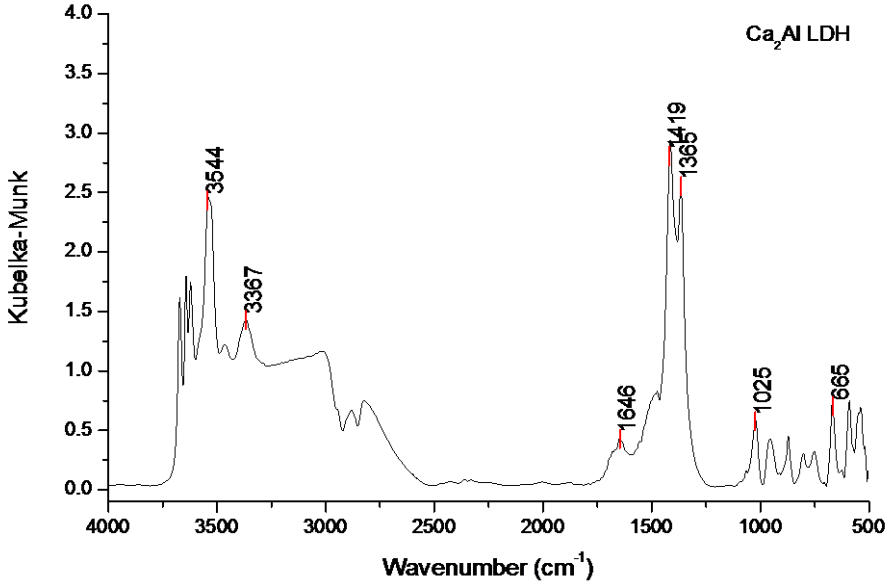

Fig. S3. FT-IR spectrum of the Ca_2Al-LDH prepared under the optimised conditions (see the vibration 1365 cm^{-1}, typical of interlayer carbonate ion).

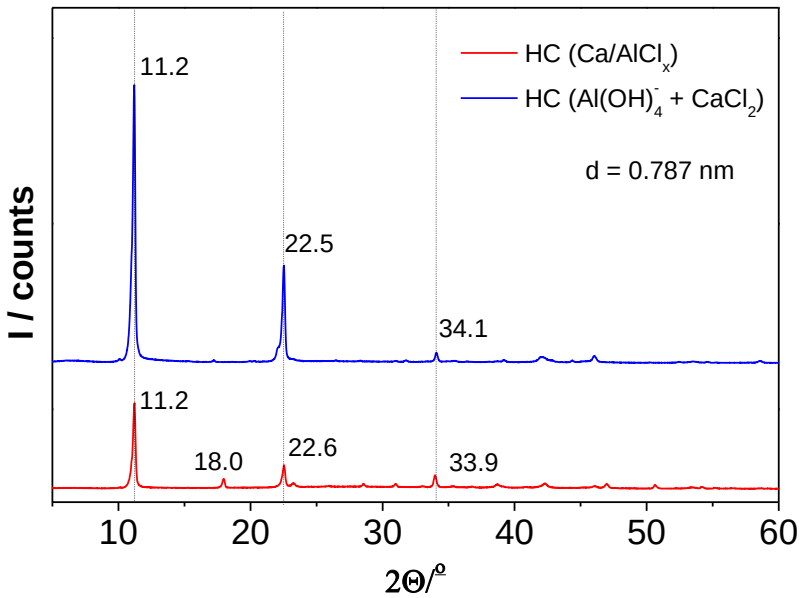

Fig. S4. The powder XRD diffraction patterns of two hydrocalumite samples (red: NaOH + $CaCl_2/AlCl_3$; blue: $Al(OH)_4$–/NaOH + $CaCl_2$) prepared by the co-precipitation technique (Tóth et al., 2014).

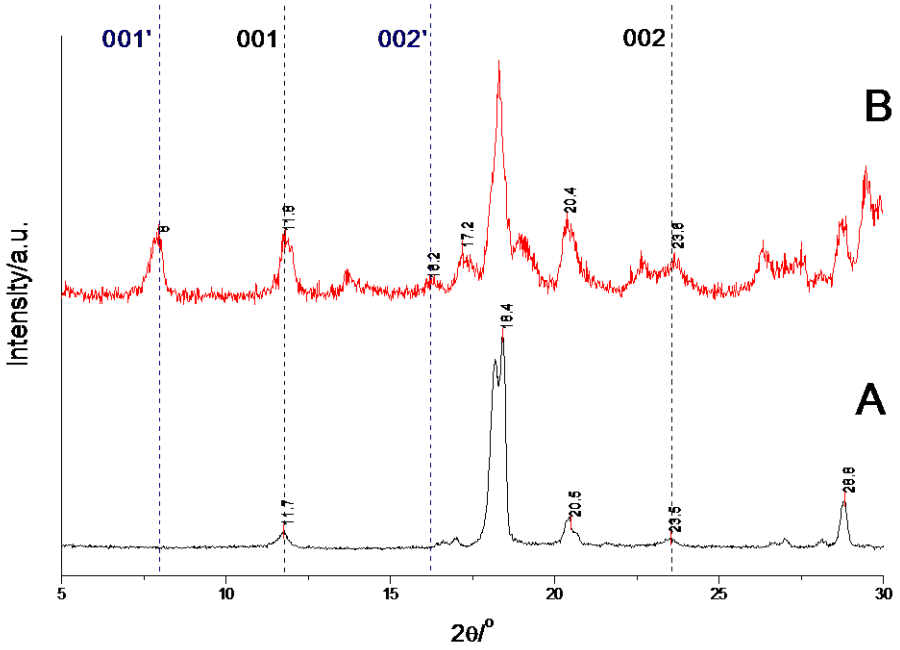

Fig. S5. Powder X-ray diffractograms of (A) the pristine Ca_2Al_1-LDH and (B), its tyrosinate intercalated derivative (B).

Reference

Tóth, V., Sipiczki, M., Pallagi, A., Kukovecz, A., Kónya, Z., Sipos, P., Pálinkó, I., 2014, Synthesis and properties of CaAl-layered double hydroxides of hydrocalumite-type, 68, 633−637.