Electronic Supplementary Material (ESI) for CrystEngComm

Supporting Information

Complex calcium carbonate aggregates: Controlled crystallization and assembly via an additive-modified positive-microemulsion-route

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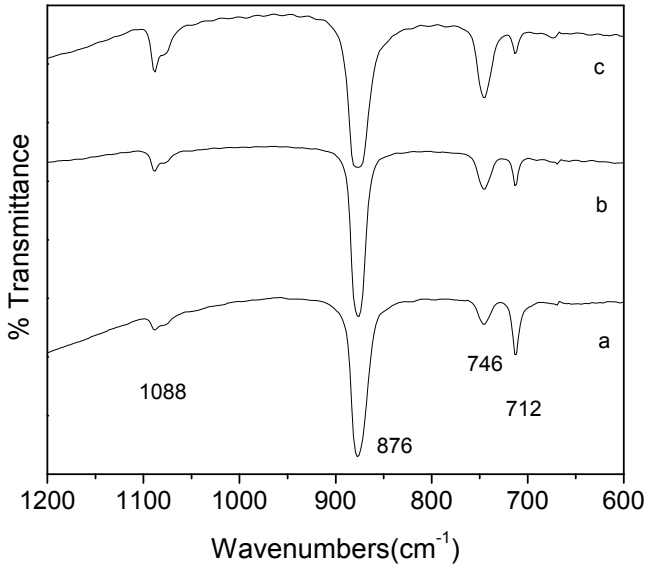


Figure S1 FT-IR spectra of the products obtained in glycin/ microemulsion after reacting for 10 min (a), 30 min (b), and 24 h (c).

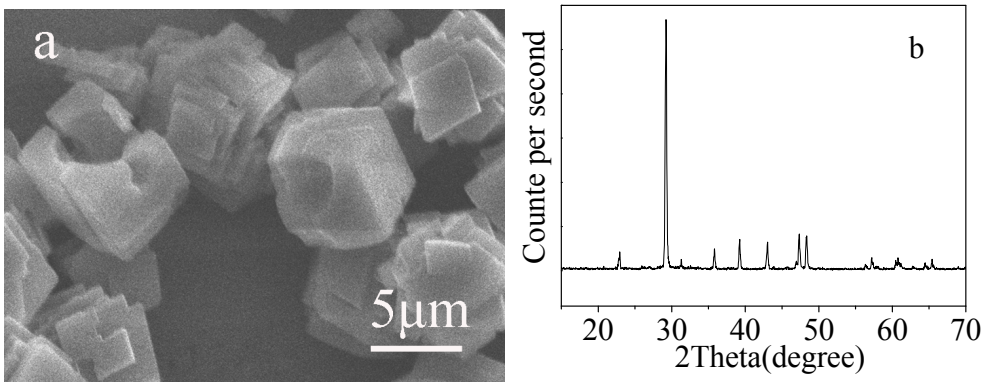


Figure S2 SEM image (a) and X-ray diffraction patterns (b) of $CaCO_3$ crystals obtained in microemulsion after reacting for 24 h.

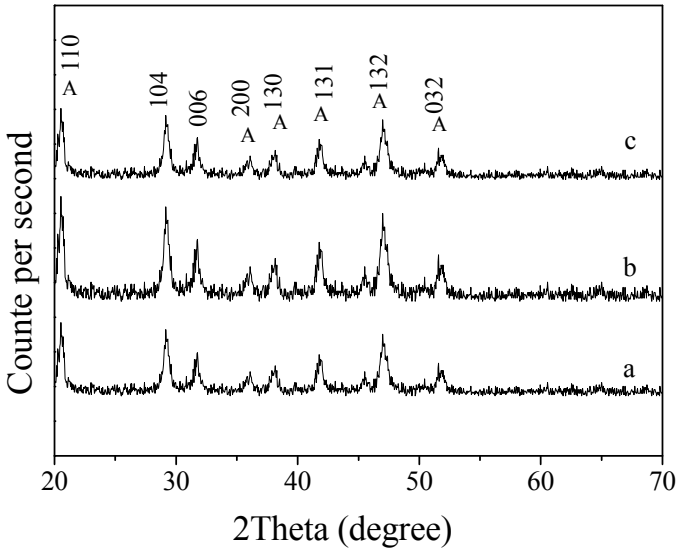
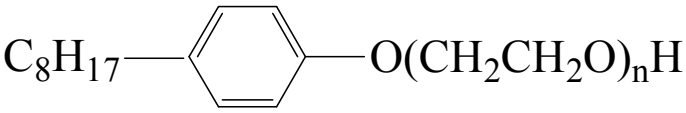
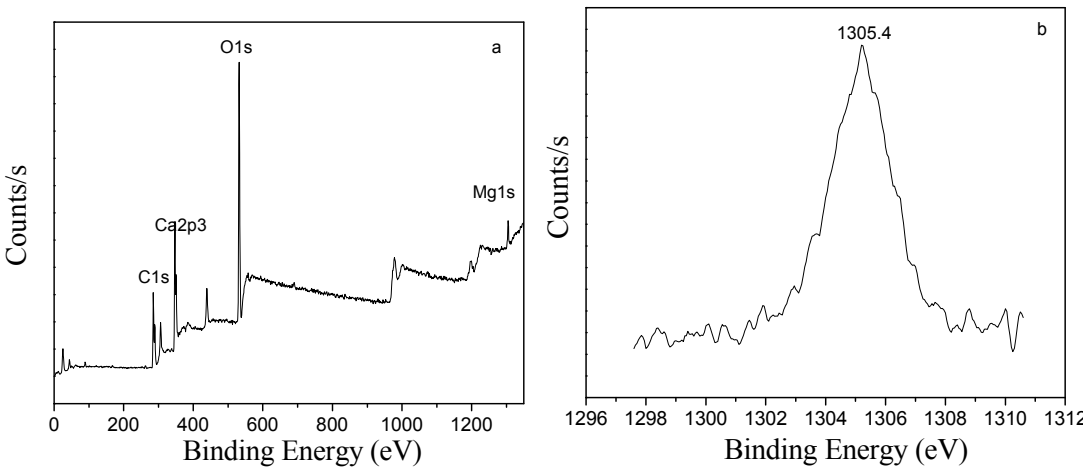


Figure S3 XRD patterns of crystals obtained in dual template (microemulsion/ Mg^{2+}) after 72h of reaction. ((Mg^{2+} / Ca^{2+}) (molar ratio): (a) 1, (b) 3, and (c) 4.



Scheme S1 Possible structural formula of octyl phyenyl poly(ethylene Oide)-n (n= 4 or 10)



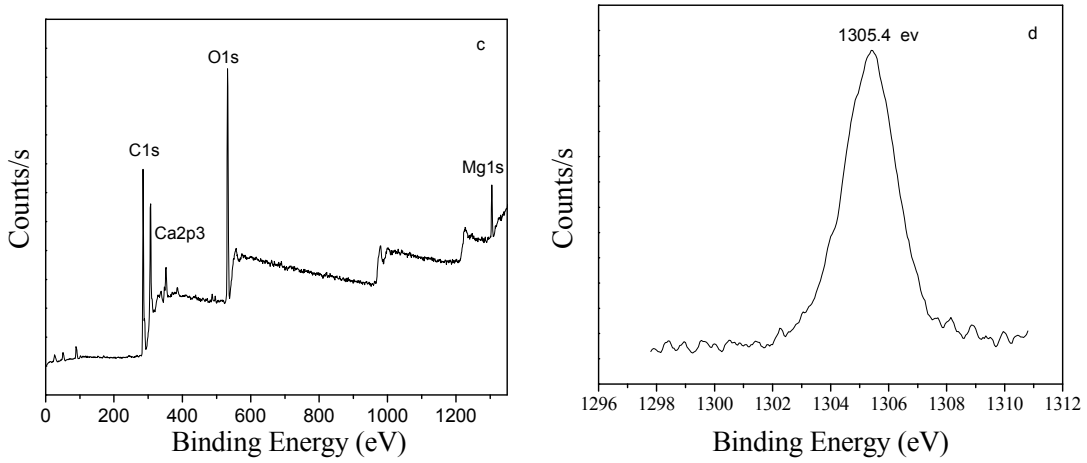


Figure S4 XPS spectra of crystals obtained in dual template (microemulsion / Mg^{2+}) ((Mg^{2+} / Ca^{2+}) (molar ratio): a 1; c 4). (a, c) XPS survey scan of the crystals, (b, d) the high-resolution XPS spectrum of particles for Mg). The peaks at 1305.4 eV displayed in Figure S4b and d can be attributed to Mg 1s. The amount of Mg^{2+}, determined through XPS quantification, was 3.5 wt % corresponding to sample(a) (figure S4 a), and the 5.23 wt % of Mg^{2+} could be coated on the surface of sample(c) (figure S4 c).

Table S1 Percentage content of Mg in the crystals obtained in dual template (microemulsion / Mg^{2+}) ((Mg^{2+} / Ca^{2+}) (molar ratio): a 0.025; b 4) derermined by ICP-AES measurement.

Sample	Percentage Content (wt %)
a	5.65
b	6.71