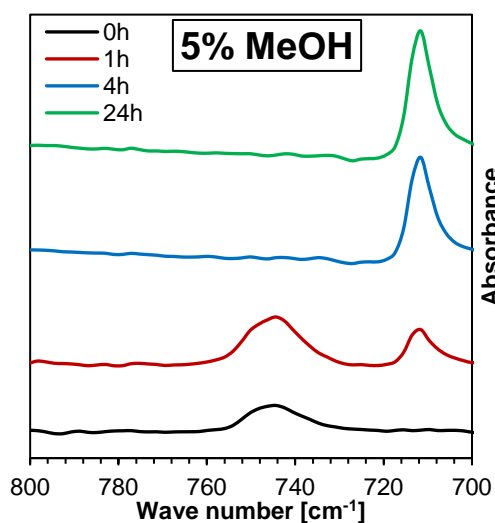


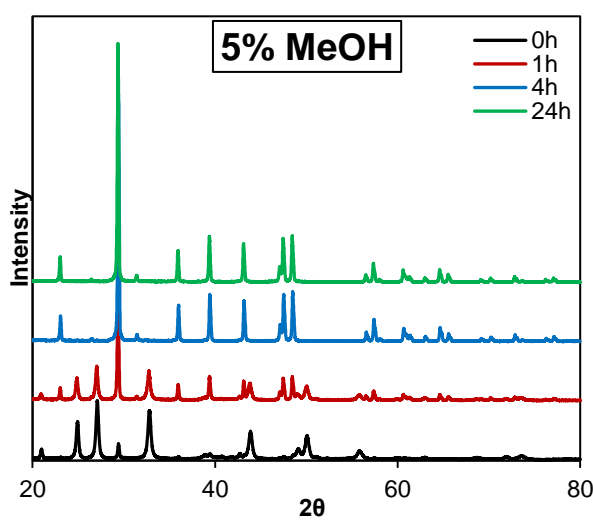
Supplementary Materials

Precipitation and Transformation of Vaterite Calcium Carbonate in the Presence of Some Organic Solvents

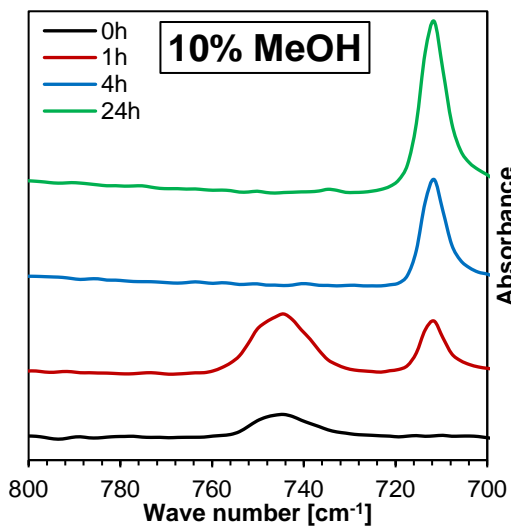
Donata Konopacka-Łyskawa, Natalia Czaplicka, Marcin Łapiński, Barbara Kościelska and Rafał Bray



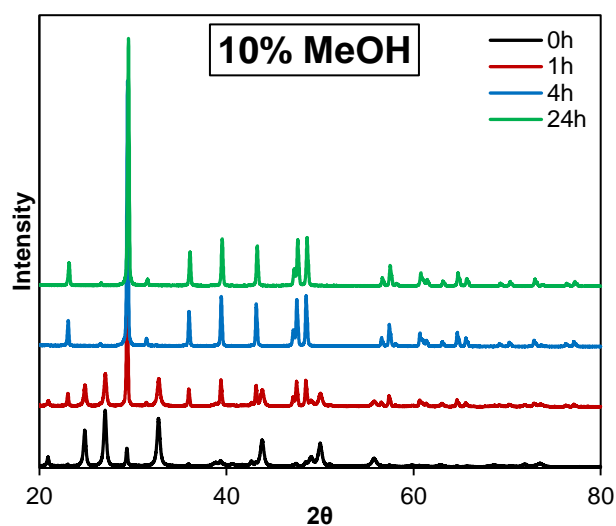
(a)



(b)



(c)



(d)

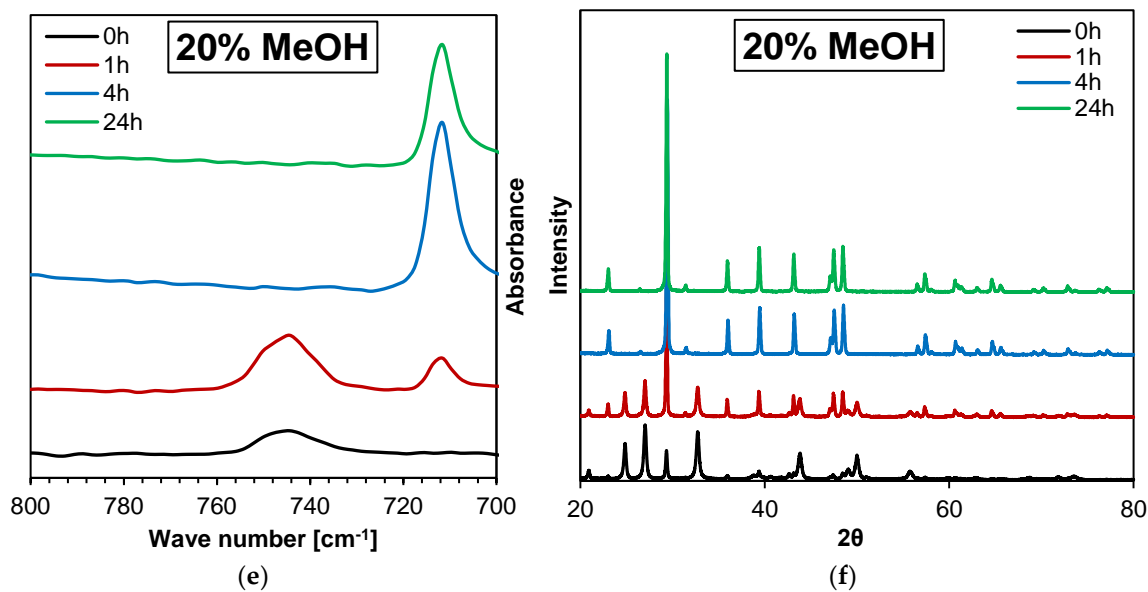
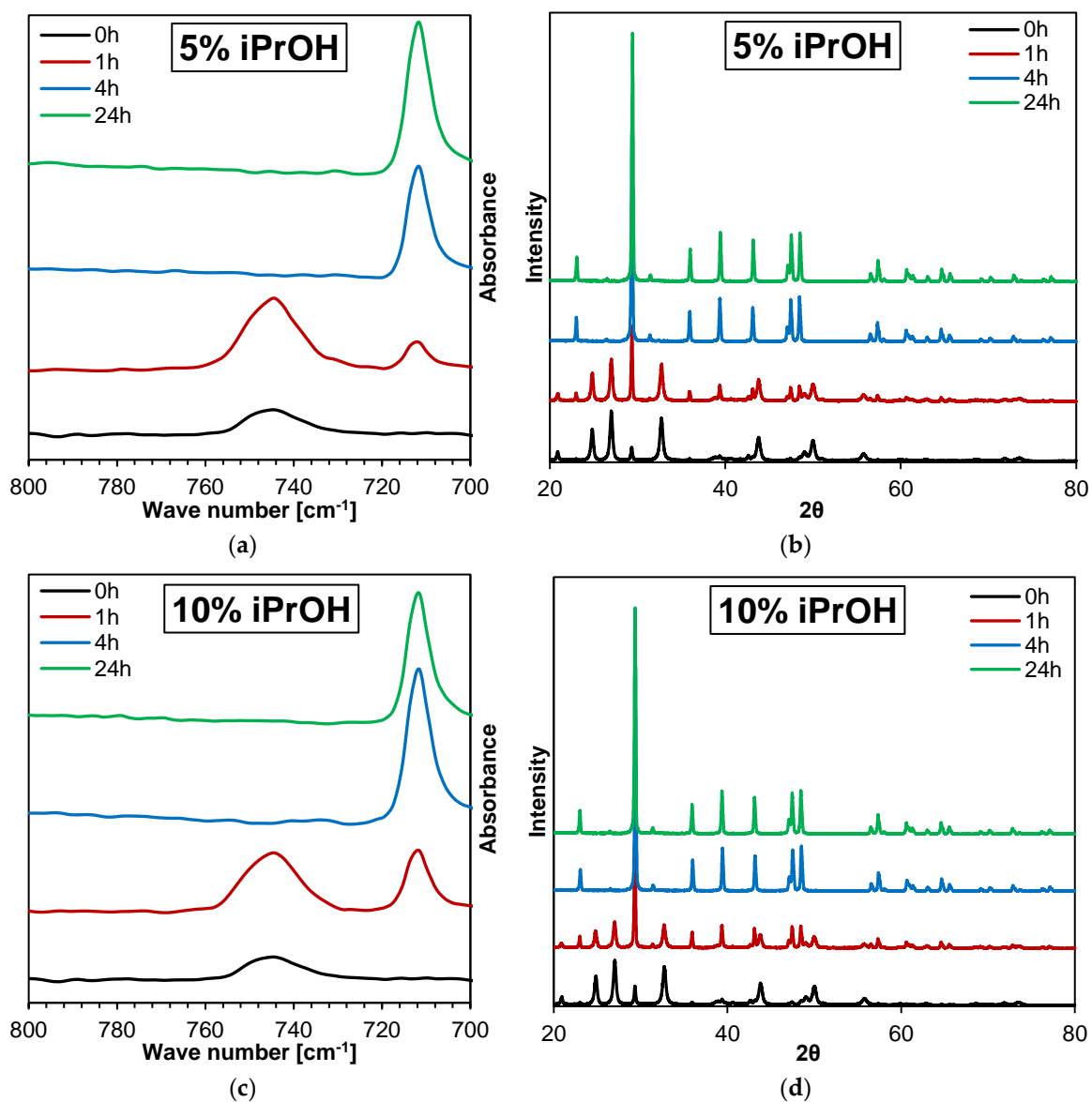


Figure S1. Fingerprint regions of FTIR spectra and XRD patterns of CaCO₃ precipitated from a mixture containing 5% (a,b), 10% (c,d) and 20% (e,f) of methanol.



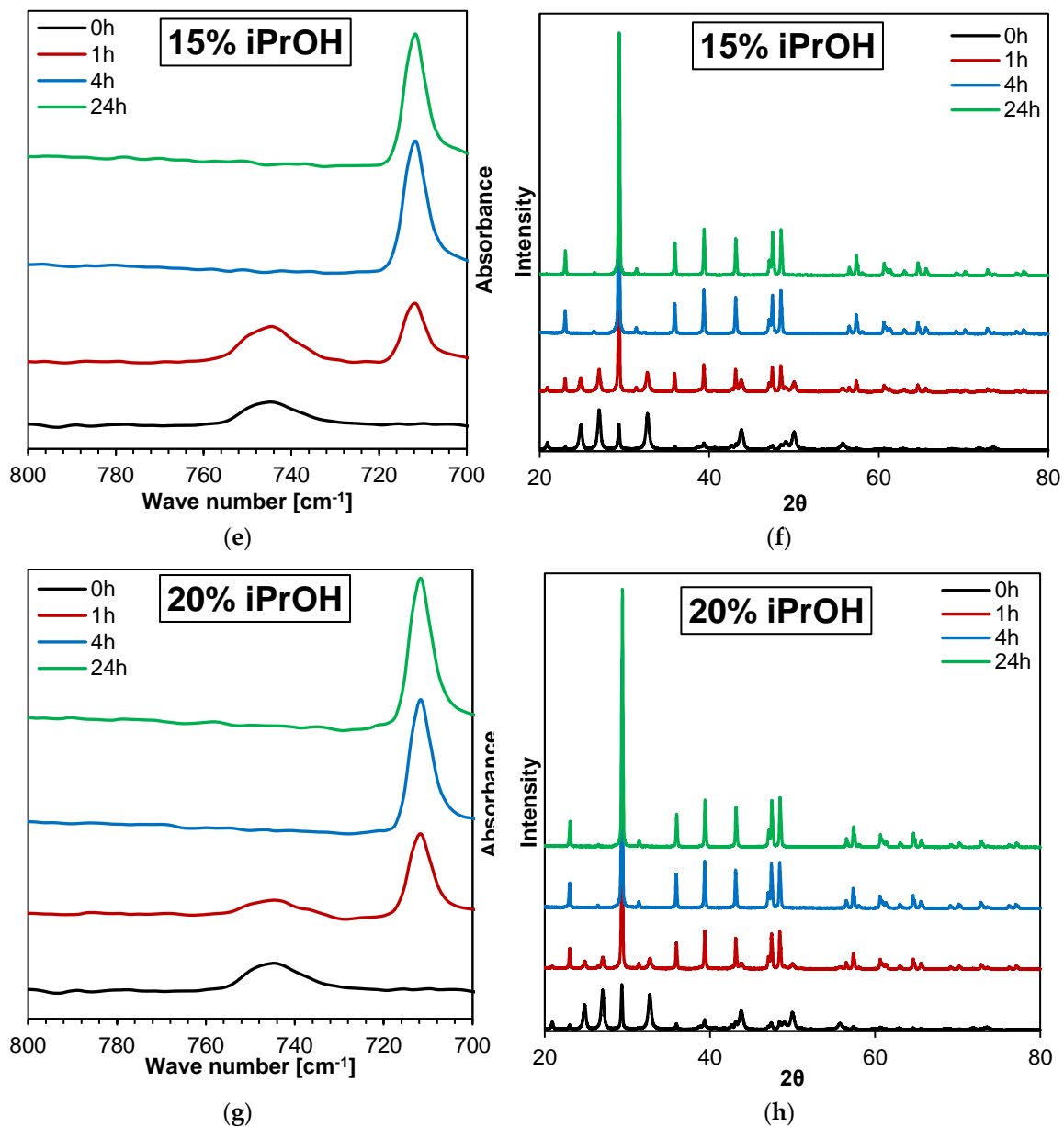
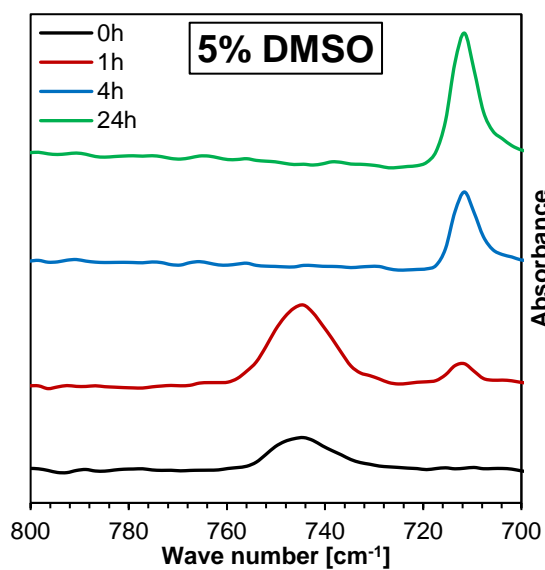
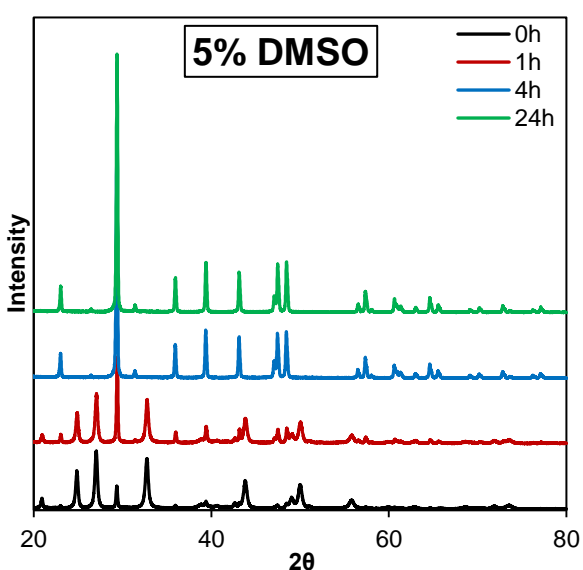


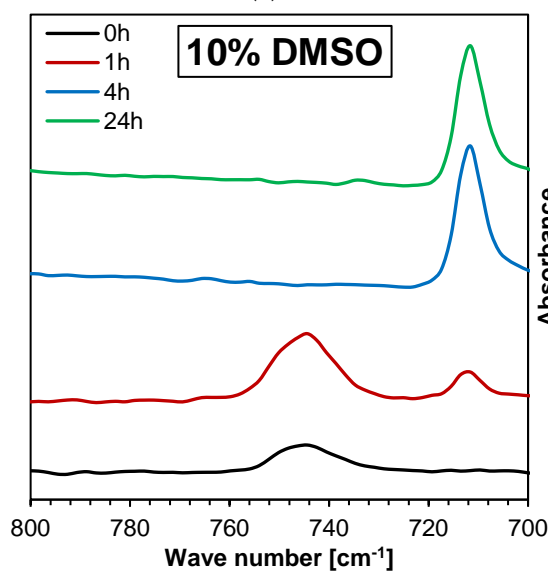
Figure S2. Fingerprint regions of FTIR spectra and XRD patterns of CaCO₃ precipitated from a mixture containing 5% (a,b), 10% (c,d), 15% (e,f) and 20% (g,h) of isopropanol.



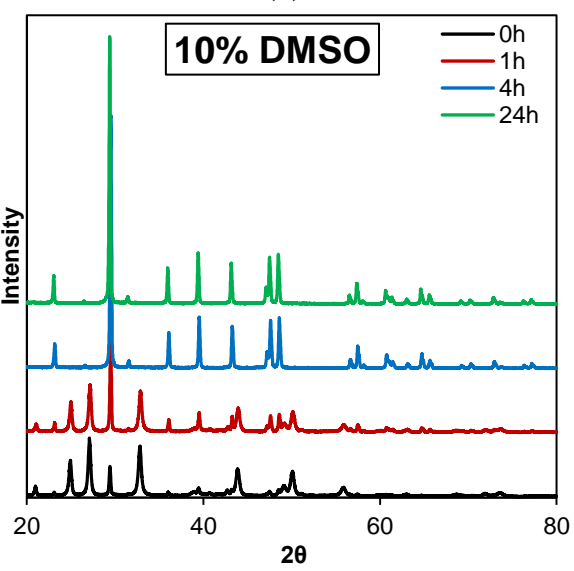
(a)



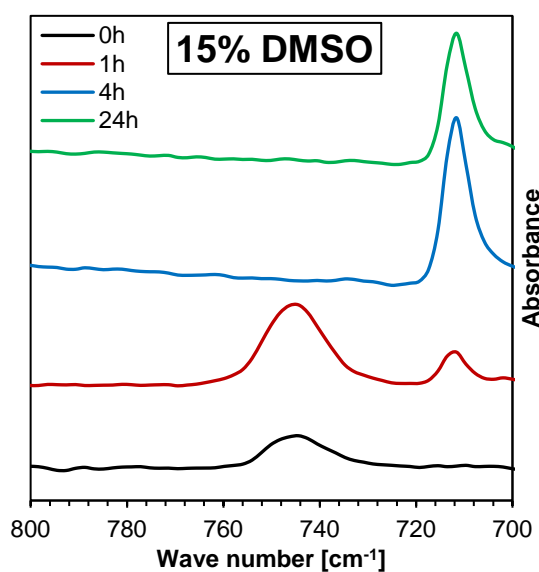
(b)



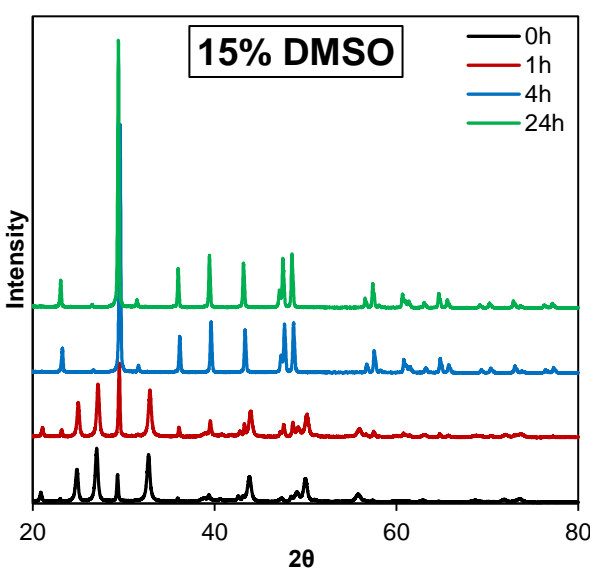
(c)



(d)



(e)



(f)

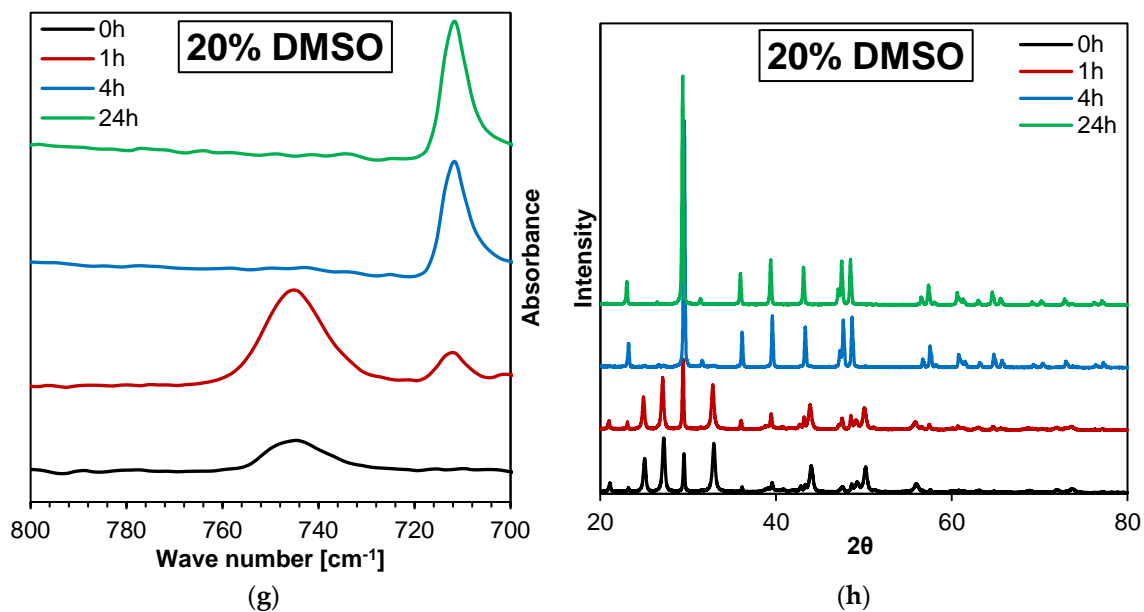
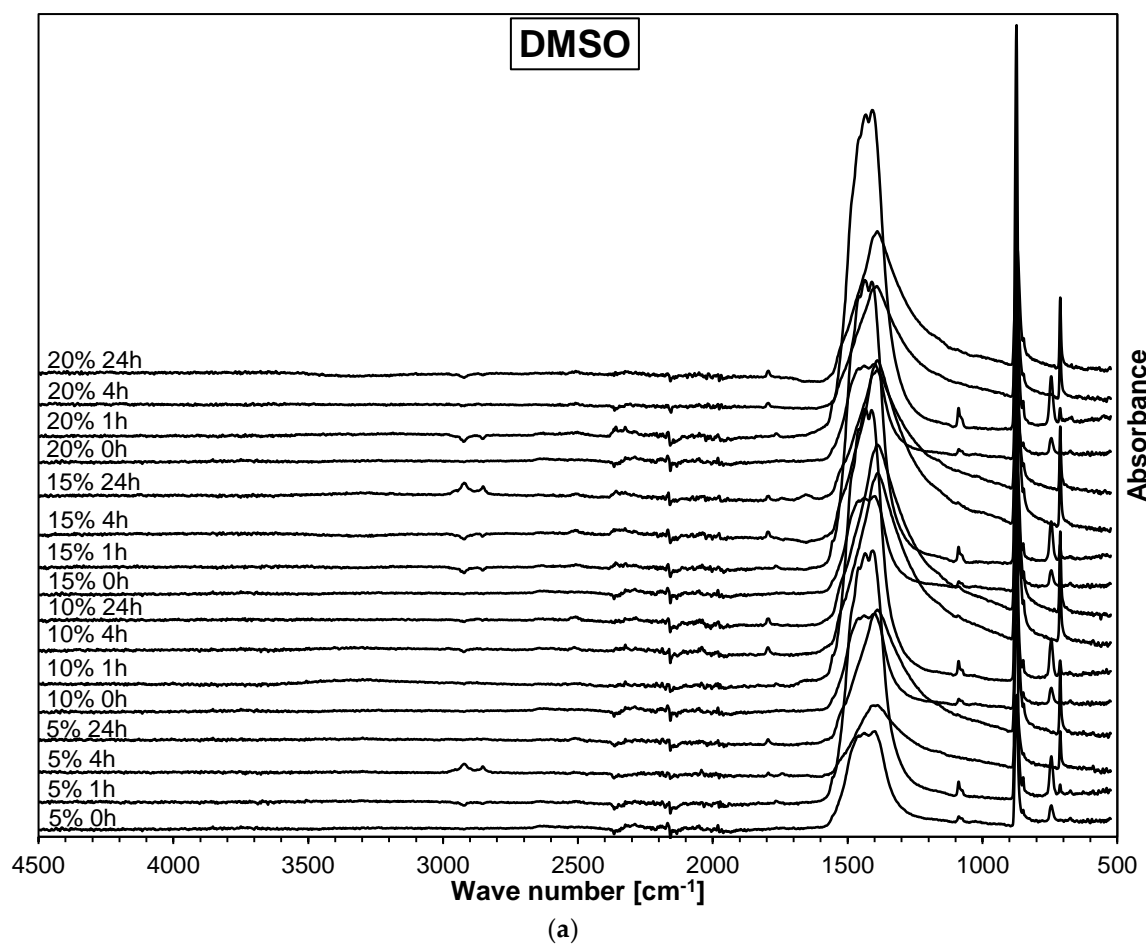


Figure S3. Fingerprint regions of FTIR spectra and XRD patterns of CaCO_3 precipitated from a mixture containing 5% (a,b), 10% (c,d), 15% (e,f) and 20% (g,h) of DMSO.



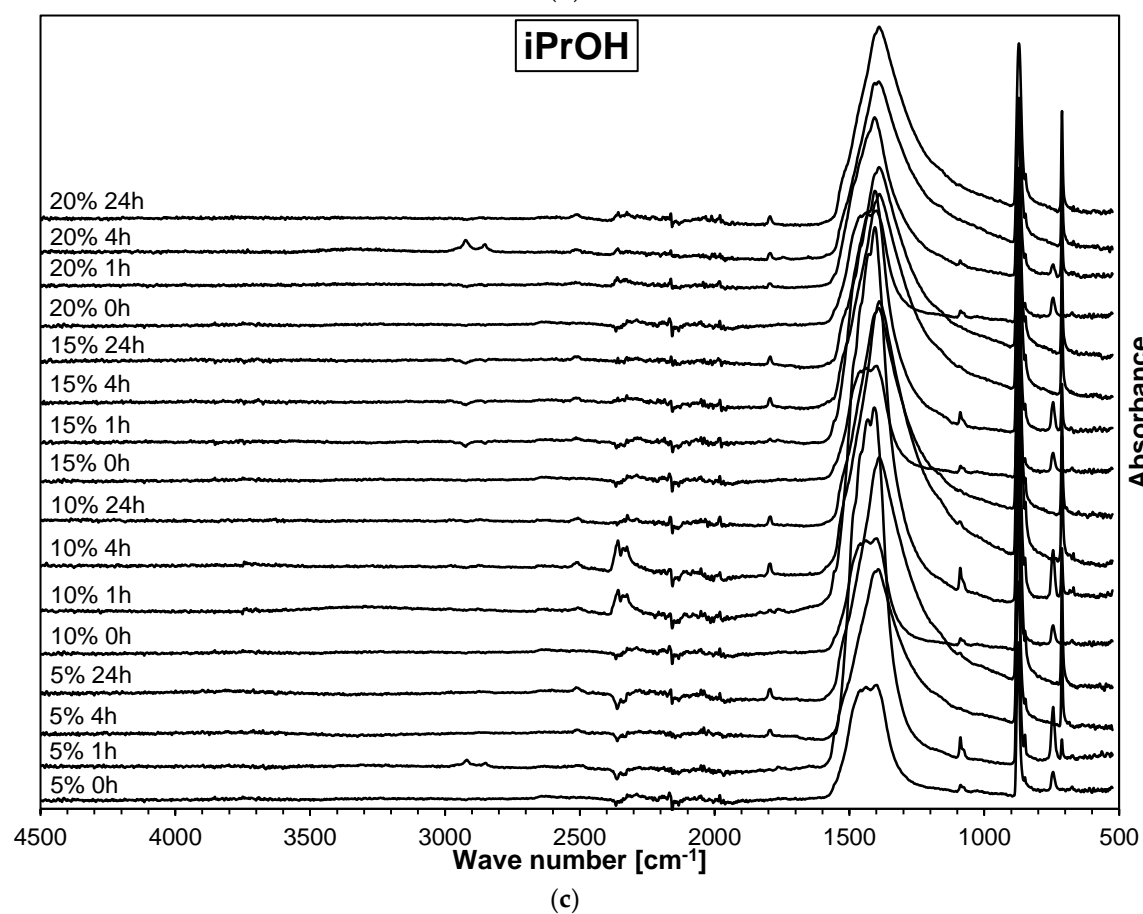
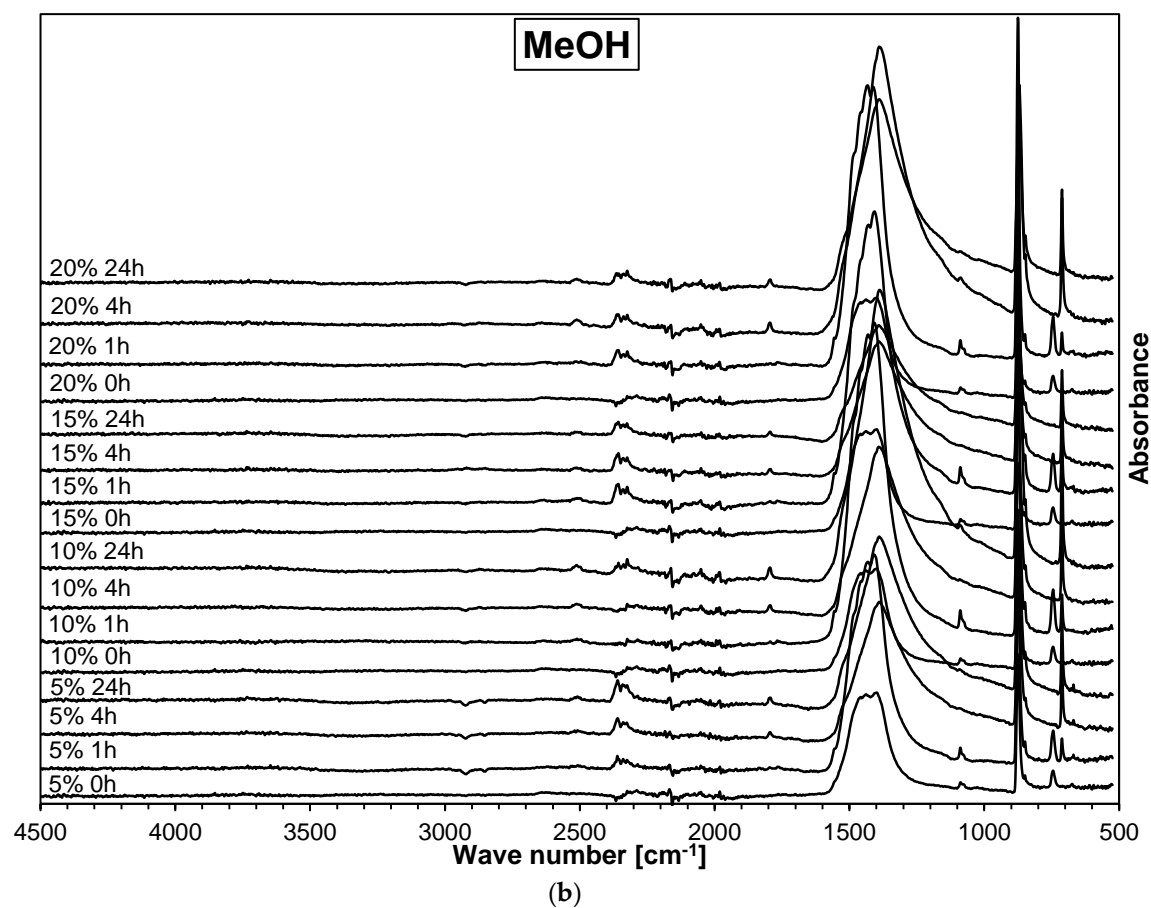
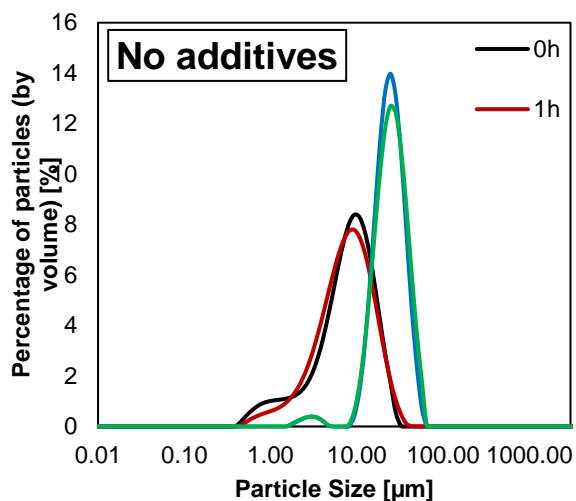
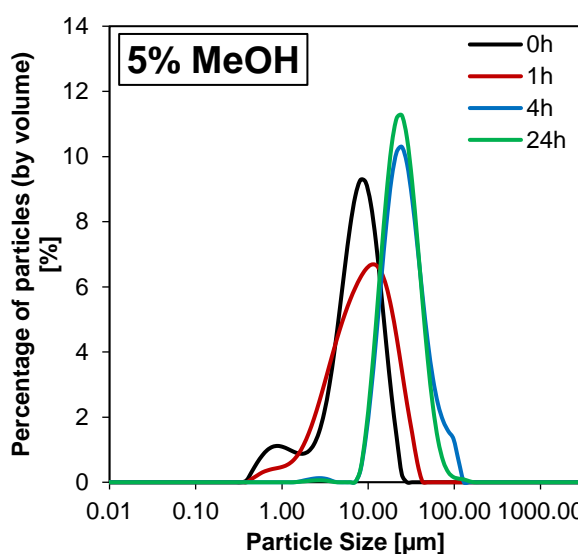


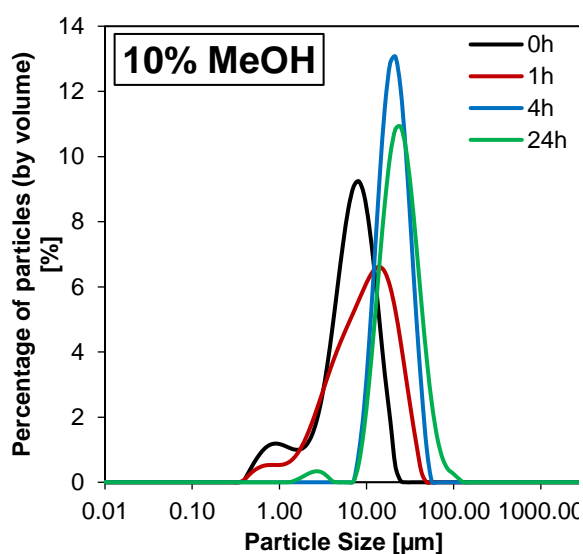
Figure S4. FTIR spectra of precipitated CaCO_3 depending on solvent concentration and incubation time for DMSO (a), methanol (b) and isopropanol (c).



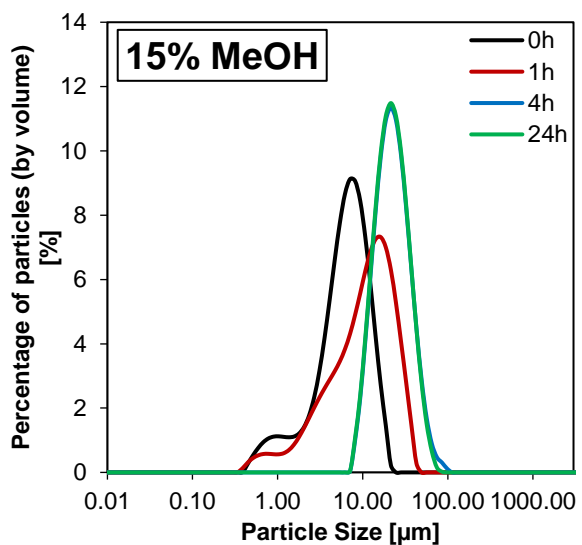
(a)



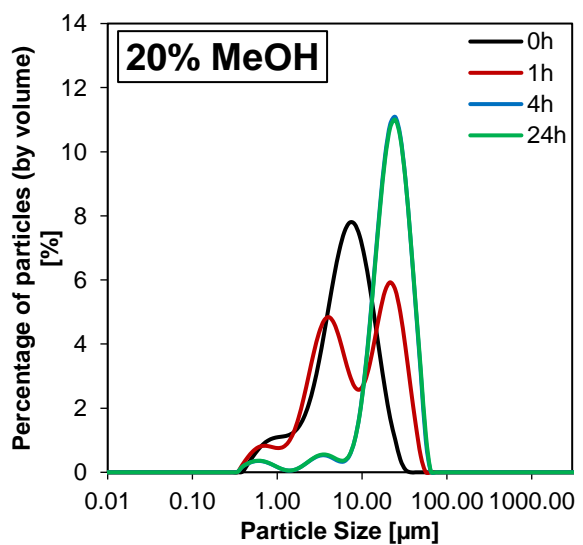
(b1)



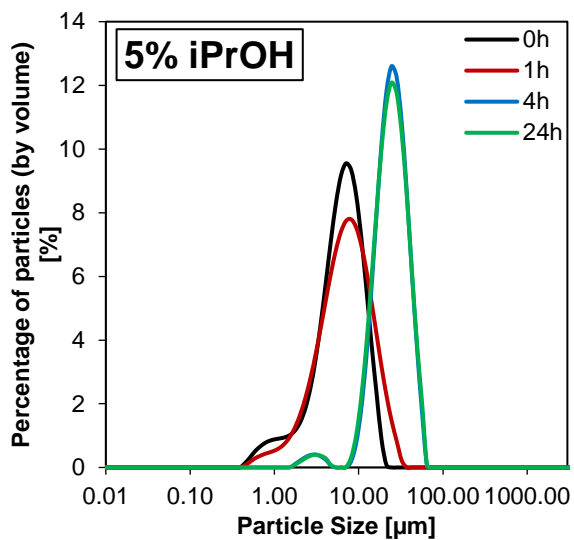
(b2)



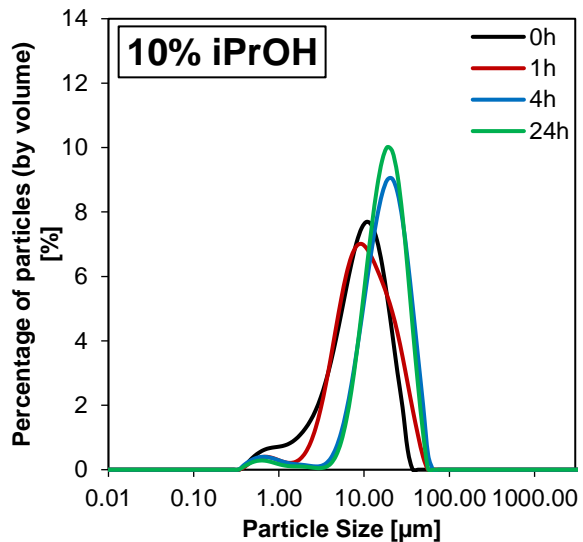
(b3)



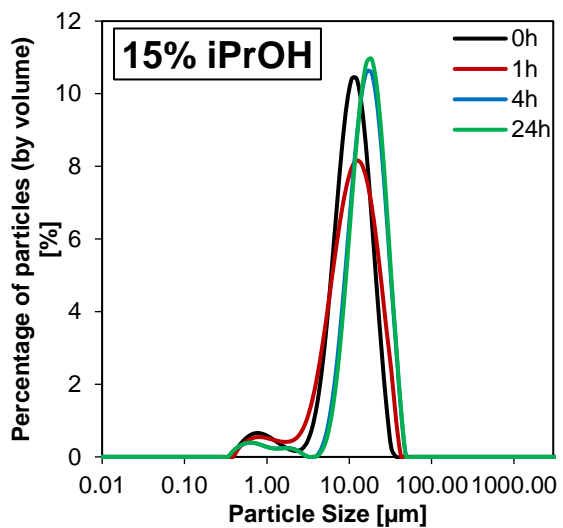
(b4)



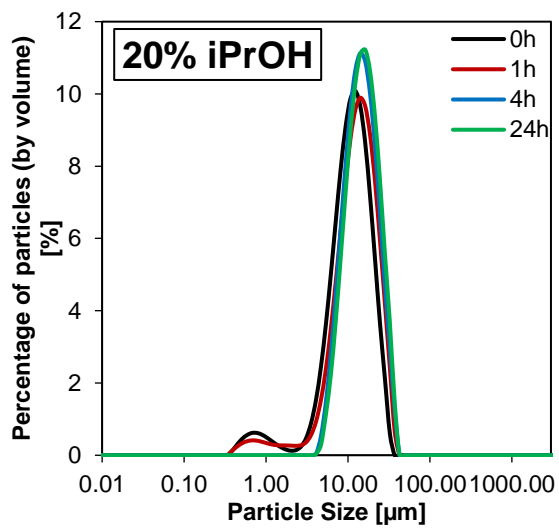
(c1)



(c2)



(c3)



(c4)

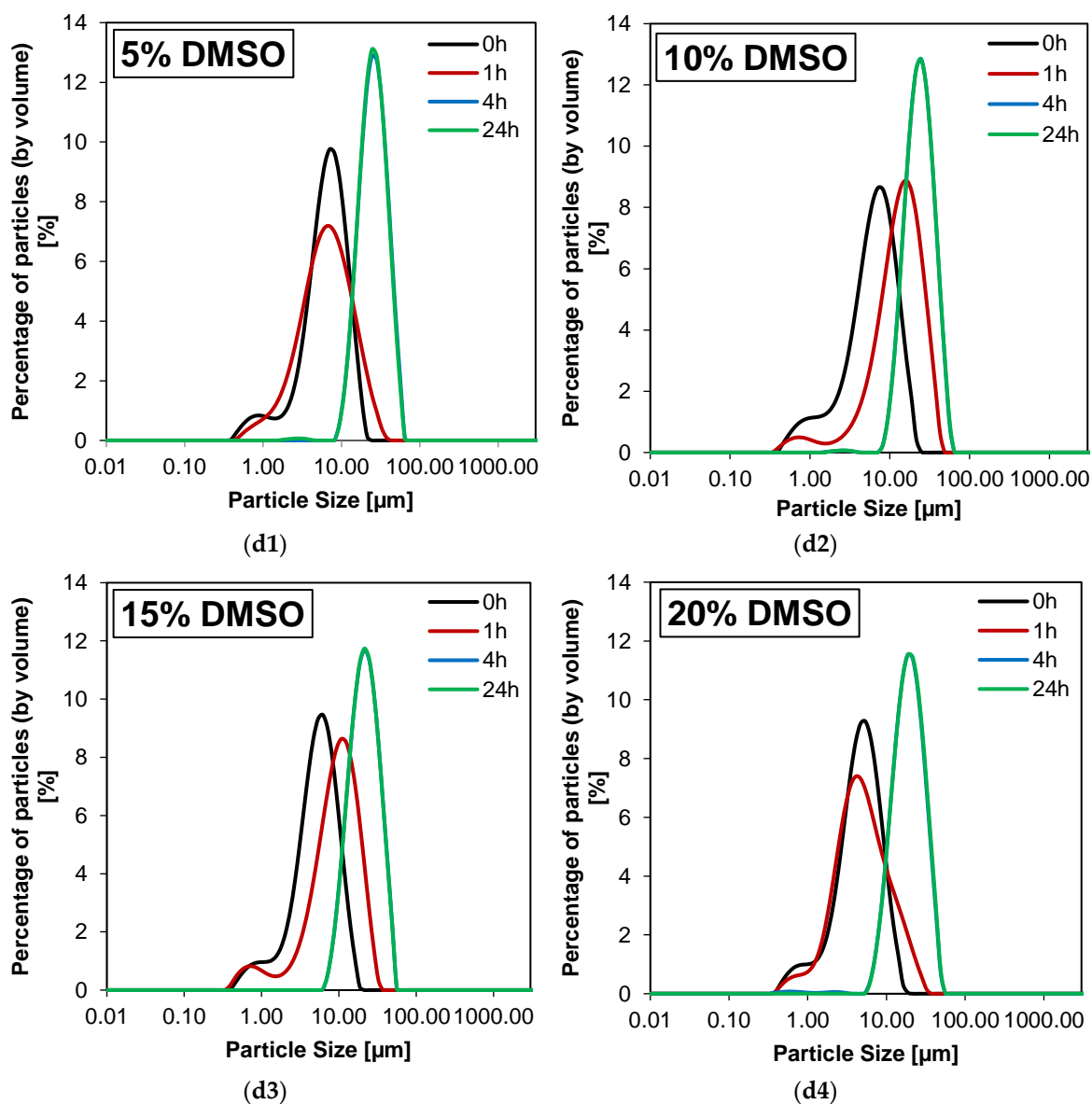


Figure S5. Particles size distributions (PSDs) depending on incubation time and solvent concentration for process without additives (a) and with addition of methanol (b1)–(b4), isopropanol (c1)–(c4) and DMSO (d1)–(d4).

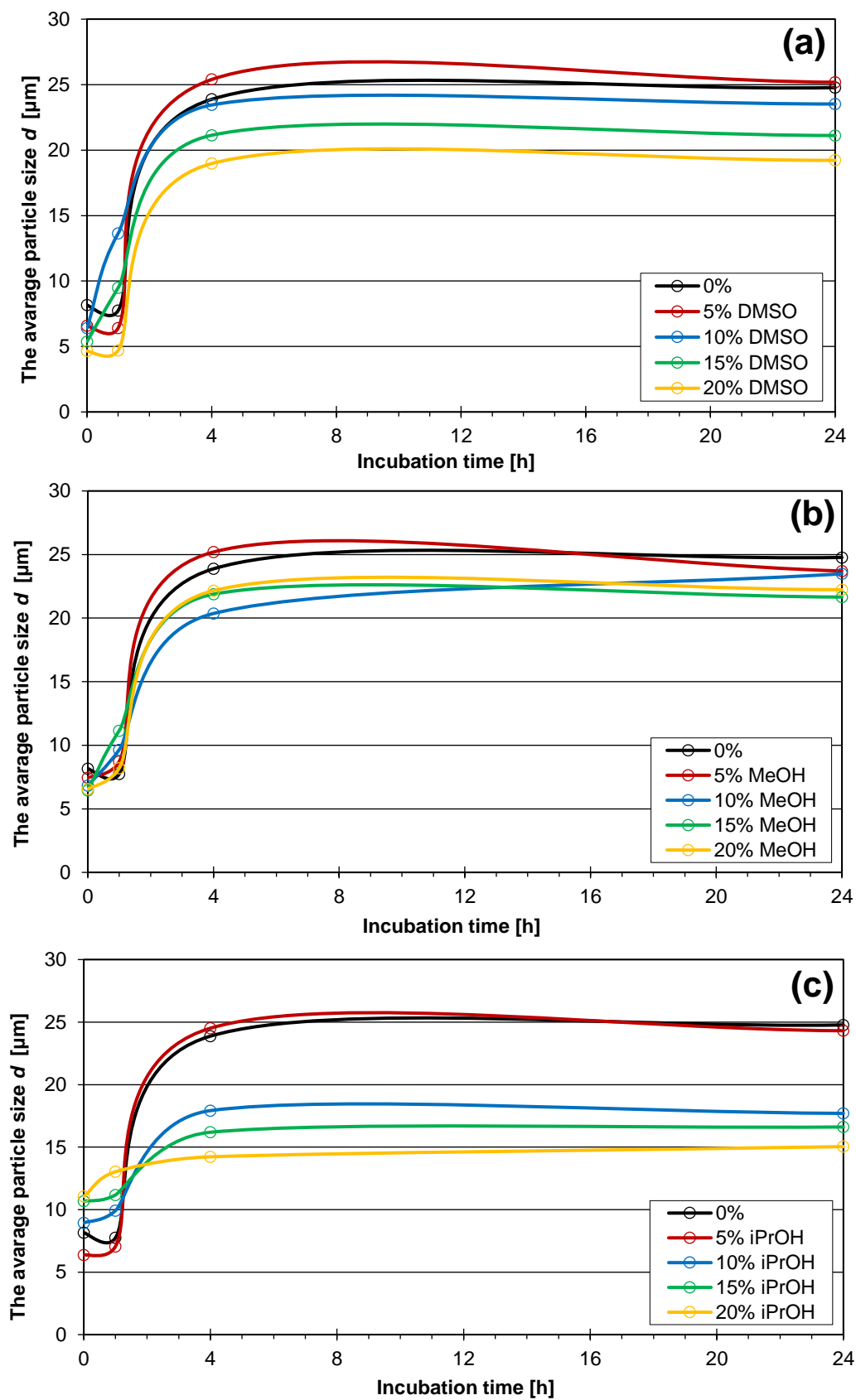


Figure S6. The average particle size curves versus incubation time for DMSO (a), methanol (b) and isopropanol (c) depending on solvent concentration.

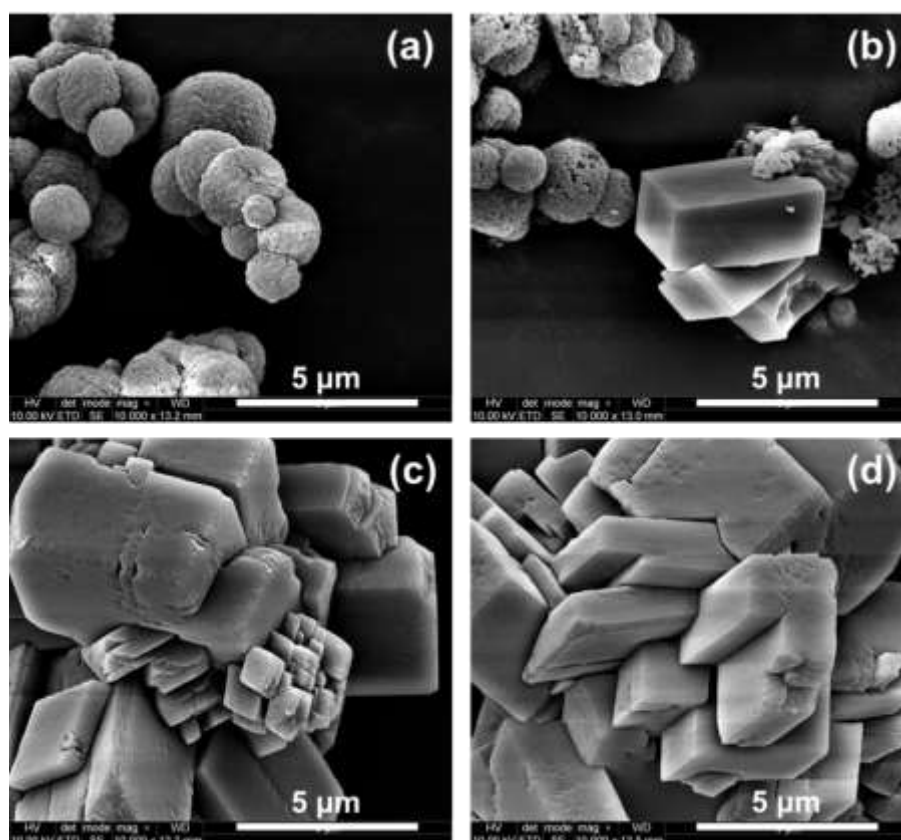


Figure S7. SEM photographs of calcium carbonate particles obtained from an aqueous solution and filtered immediately after completion of the reaction (a) and after 1 h (b), 4 h (c) and 24 h (d) incubation.

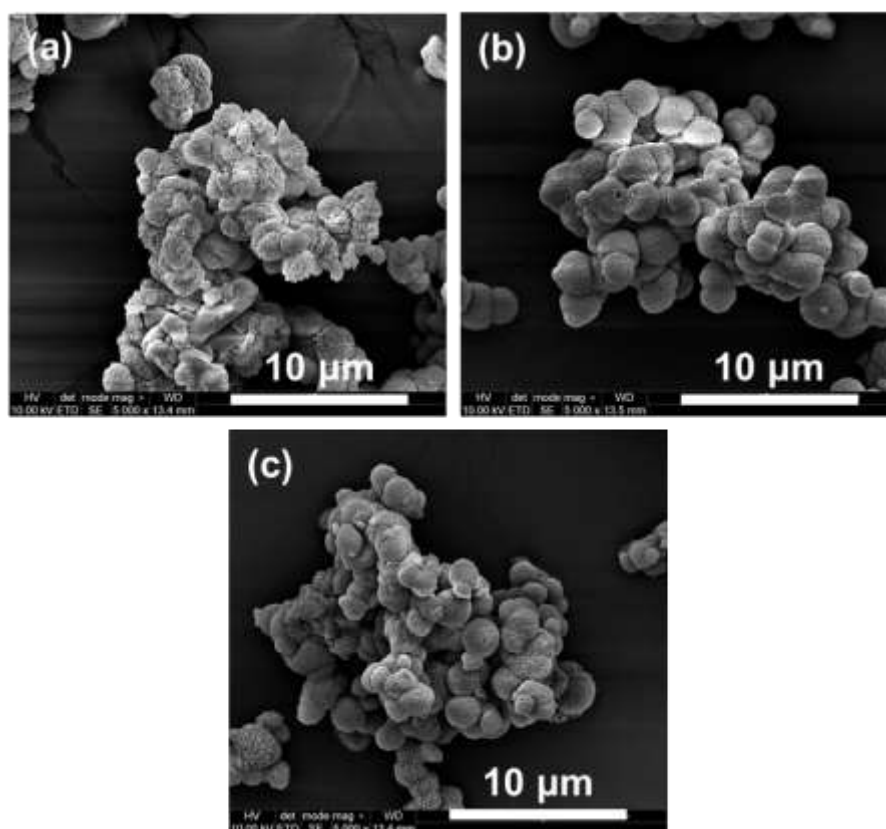


Figure S8. SEM photographs of CaCO₃ particles precipitated in the presence of 5% of DMSO (a), isopropanol (b) and methanol (c) and not incubated.

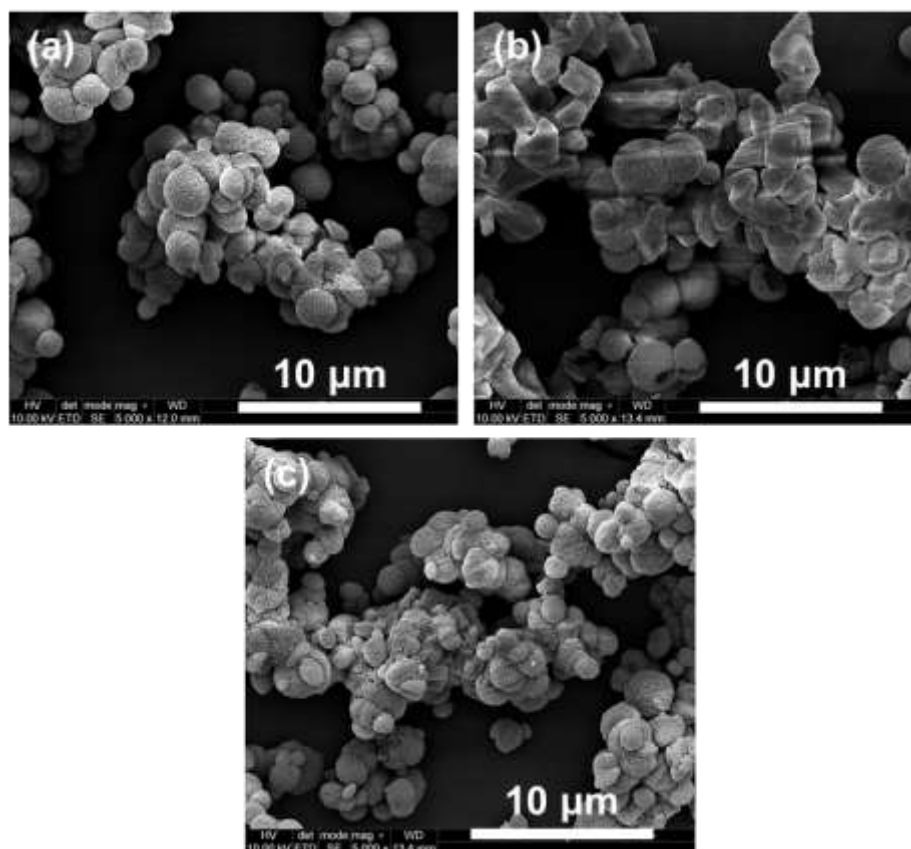


Figure S9. SEM photographs of CaCO₃ particles precipitated in the presence of 10% of DMSO (a), isopropanol (b) and methanol (c) and not incubated.

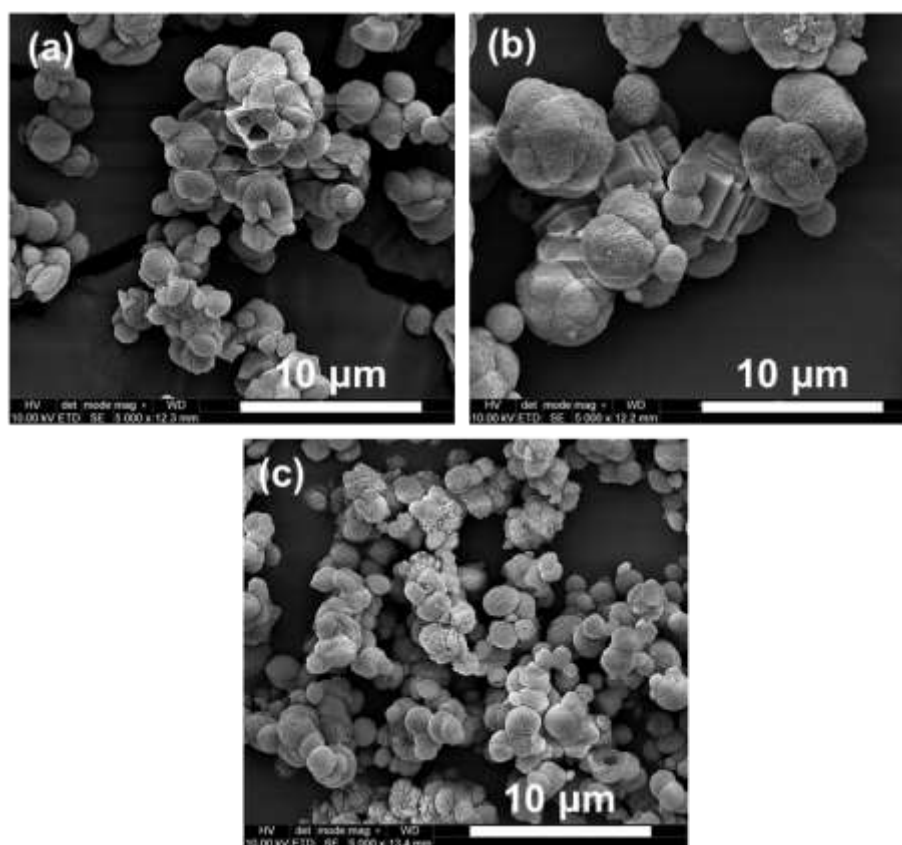


Figure S10. SEM photographs of CaCO₃ particles precipitated in the presence of 20% of DMSO (a), isopropanol (b) and methanol (c) and not incubated.

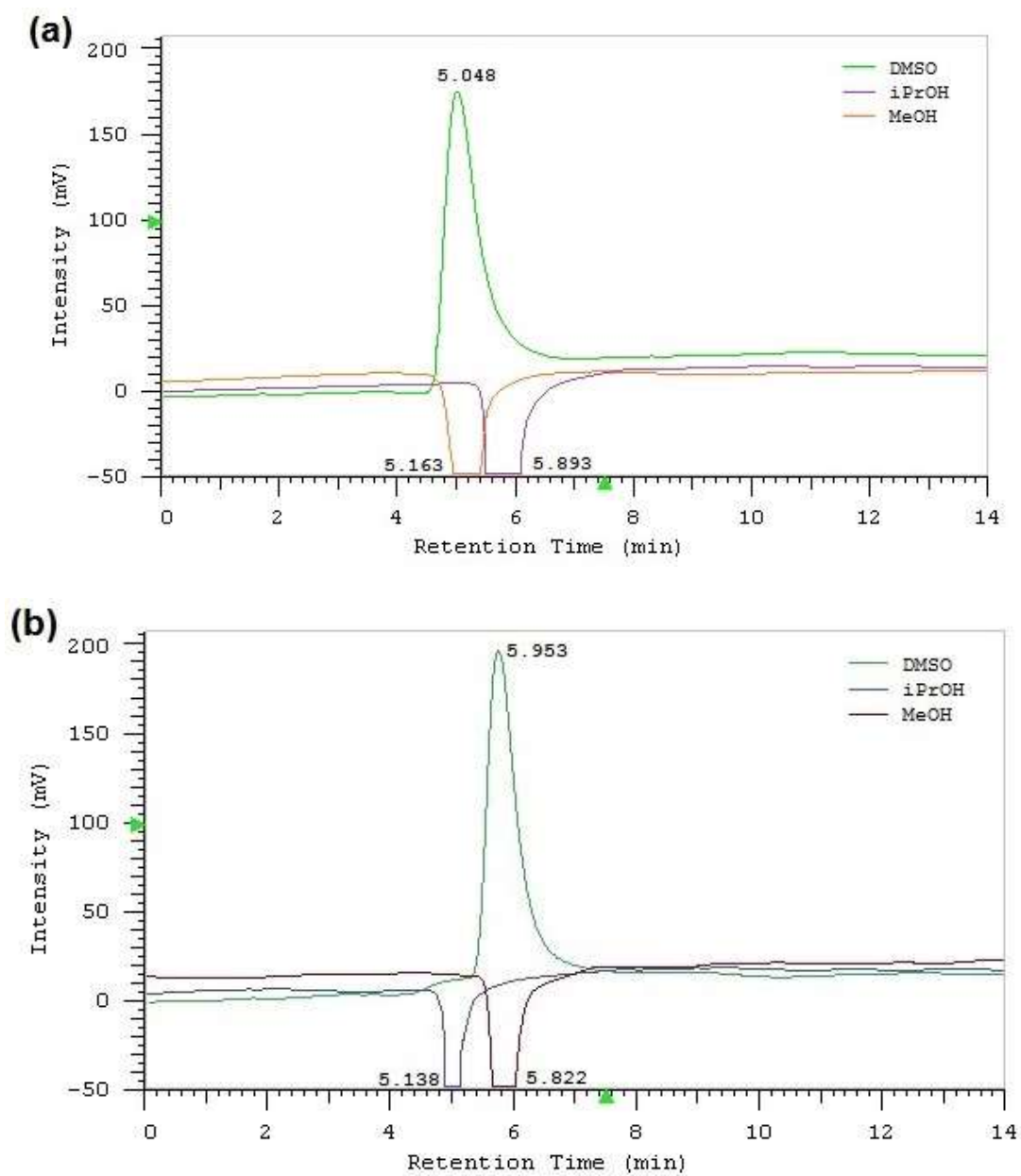


Figure S11. NP-HPLC chromatograms for the investigated solvents in columns loaded with calcite (a) and vaterite (b) particles.



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