Kinetic Control of Particle-Mediated Calcium Carbonate Crystallization

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Supplementary Information (4 pages)

SEM micrographs, kinetic dependencies for relative amounts $CaCO_3$ polymorphs when using PAMPS, and TGA data

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Figure SI 1.0 SEM micrographs of CaCO₃ samples synthesized without polymeric additives using different stirring rate at different reaction time. Left column presents results for slow stirring (150 rpm); 1a) 5 min, 1b) 10 min 1c) 15 min, 1d) 20 min, 1e) 30 min, and 1f) 60 min. Right column presents micrographs obtained at 1000 rpm; 2a) 5min, 2b) 10 min, 2c) 15 min, 2d) 20 min, 2e) 30 min and 2f) 60 min.



Figure SI 2.0 Time evolution of relative amounts of precipitated CaCO₃ polymorphs when using PAMPS as additive: vaterite(\blacklozenge) and calcite(\blacksquare) a) stirring rate of 150 rpm and b) stirring rate of 1000 rpm. The reaction temperature was 70 °C.



Figure SI 3.0 SEM images of particles of precipitated CaCO3 particles: a) after 10 minutes of reaction at stirring of 150 rpm b) after 60 minutes of reaction at stirring of 150 rpm c) after 10 minutes of reaction at stirring of 1000 rpm d) after 60 minutes of reaction at stirring of 1000 rpm; The temperature was 70°C.

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Figure SI 4.0 TGA trace for vaterite-PAMPS particles synthesized at 70°C using PAMPS as additive.