S1 Table. Size distribution and SEM images of CaCO₃ microparticles with and without PAA surface coating.

| Description                           | Dv10 (µm) | Dv50 (µm) | Dv90 (µm) | Observations and SEM image                                                                 |
|---------------------------------------|-----------|-----------|-----------|--------------------------------------------------------------------------------------------|
| CaCO₃ microparticles                   | 2.0       | 3.8       | 7.2       | Mainly spherical morphology Relatively rough surface structure, but homogenous. Surface structure indicates a degree of porosity |
| CaCO₃ microparticles with PAA coating  | 1.8       | 3.2       | 5.5       | Mainly spherical morphology Somewhat smoother surface structure than corresponding CaCO₃ microparticles without PAA coating, but more irregular. Surface structure indicates a degree of porosity |

*The size distribution is described by the Dv10, Dv50 and Dv90 values, which represent the volume based diameters where 10, 50, and 90% of the population lie below.