Electronic Supplementary Material (ESI) for Green Chemistry

Supplementary Information for

Synthesis of polyurethane particles in supercritical carbon dioxide using organocatalysts or organocatalytic surfactants

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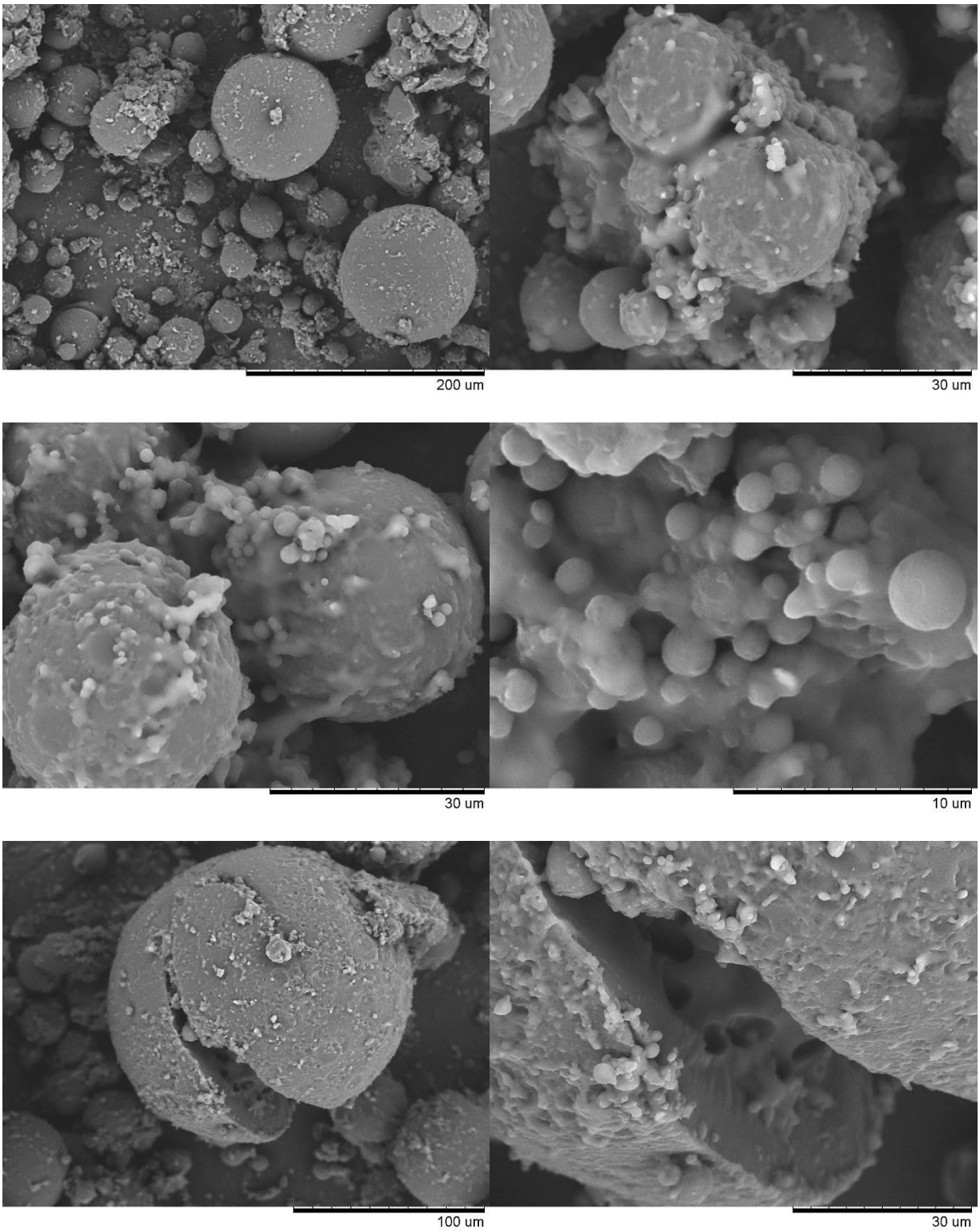

Fig. S1 SEM images of polyurethane particles produced in the absence of catalyst (table 1, entry 2).

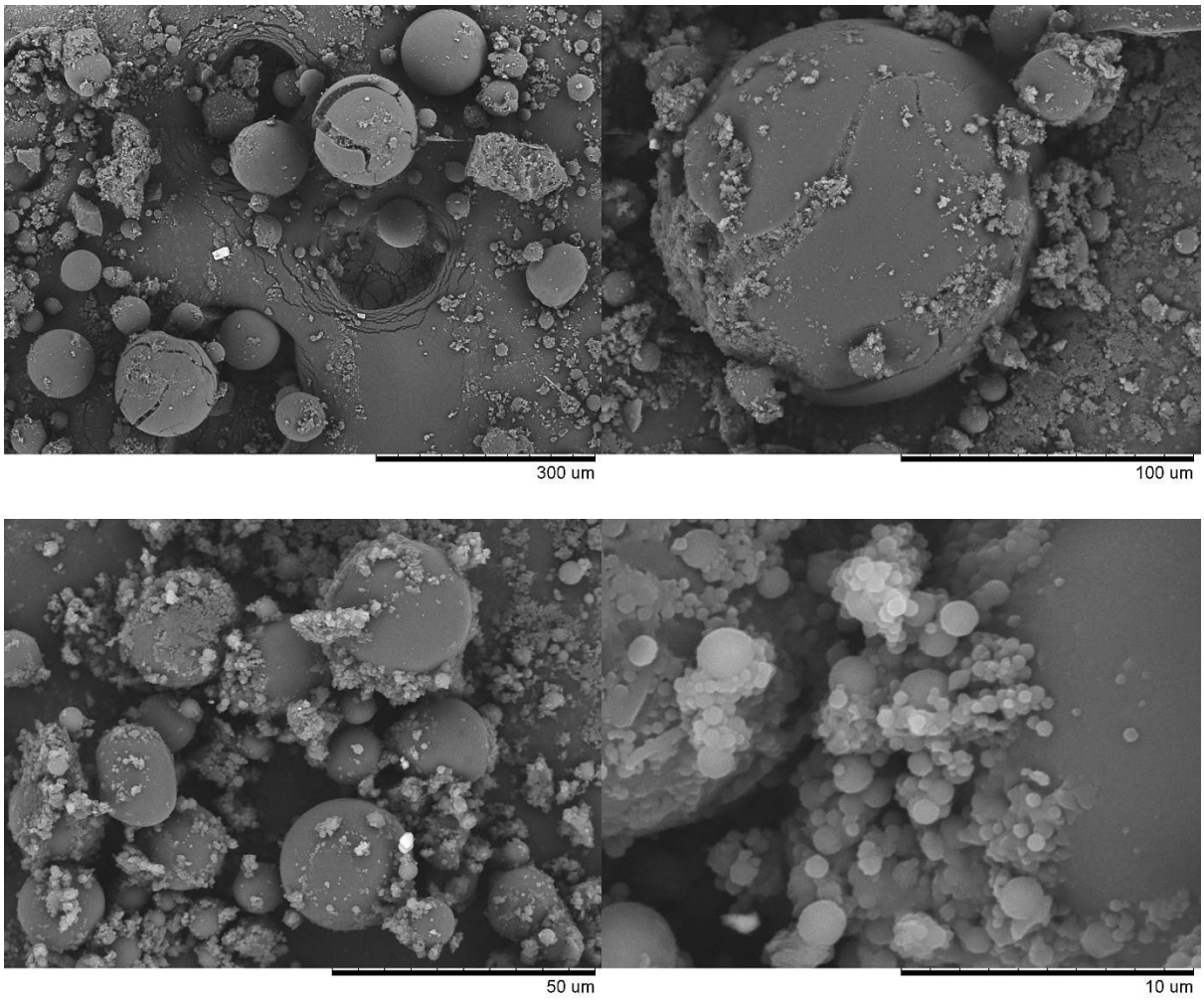

Fig. S2 SEM images of polyurethane particles produced in the presence of 0.2 mol% NMO (table 1, entry 3).

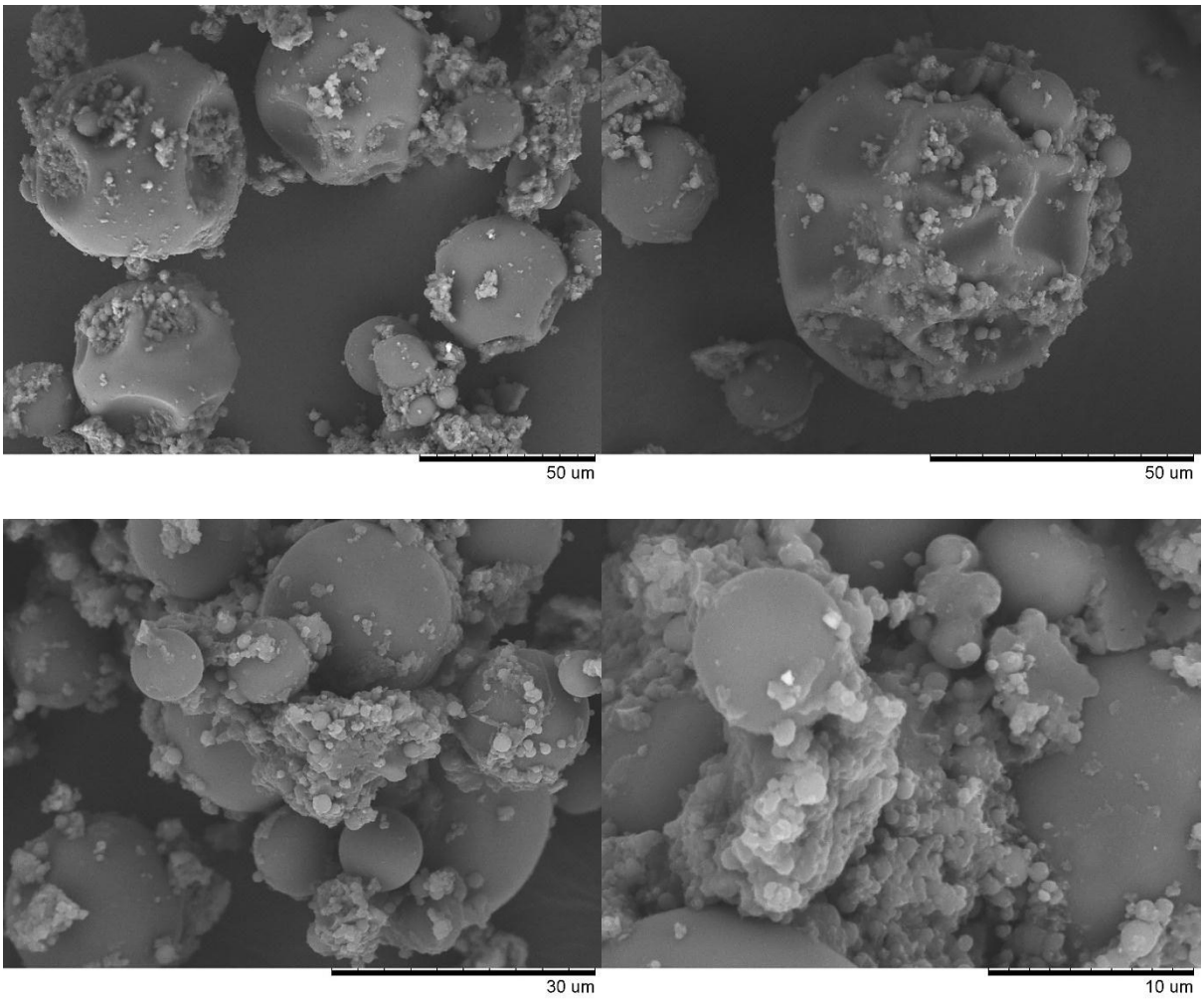

Fig. S3 SEM images of polyurethane particles produced in the presence of 1 mol% NMO (table 1, entry 4).

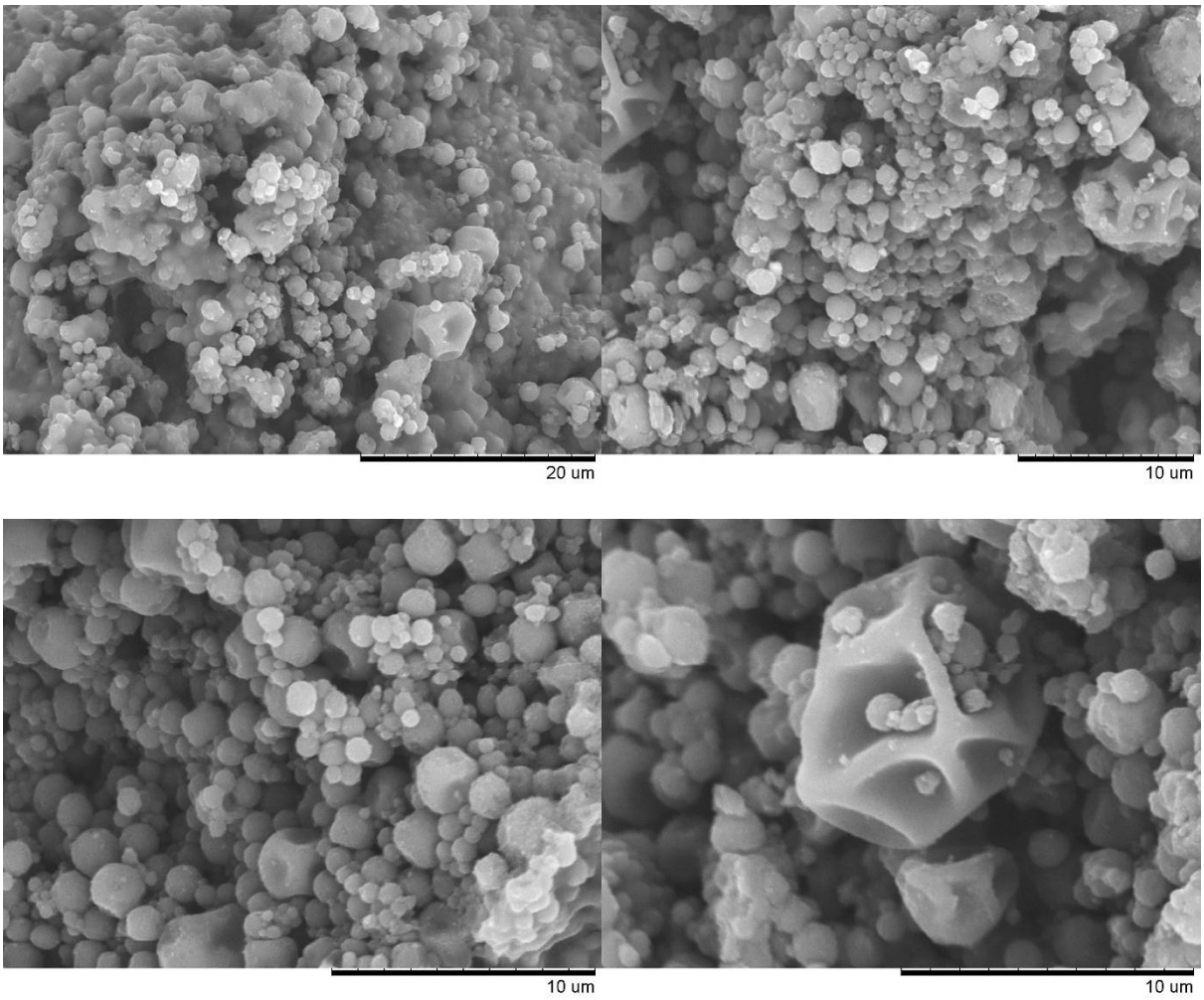

Fig. S4 SEM images of polyurethane particles produced in the presence of 5 mol% NMO (table 1, entry 5).

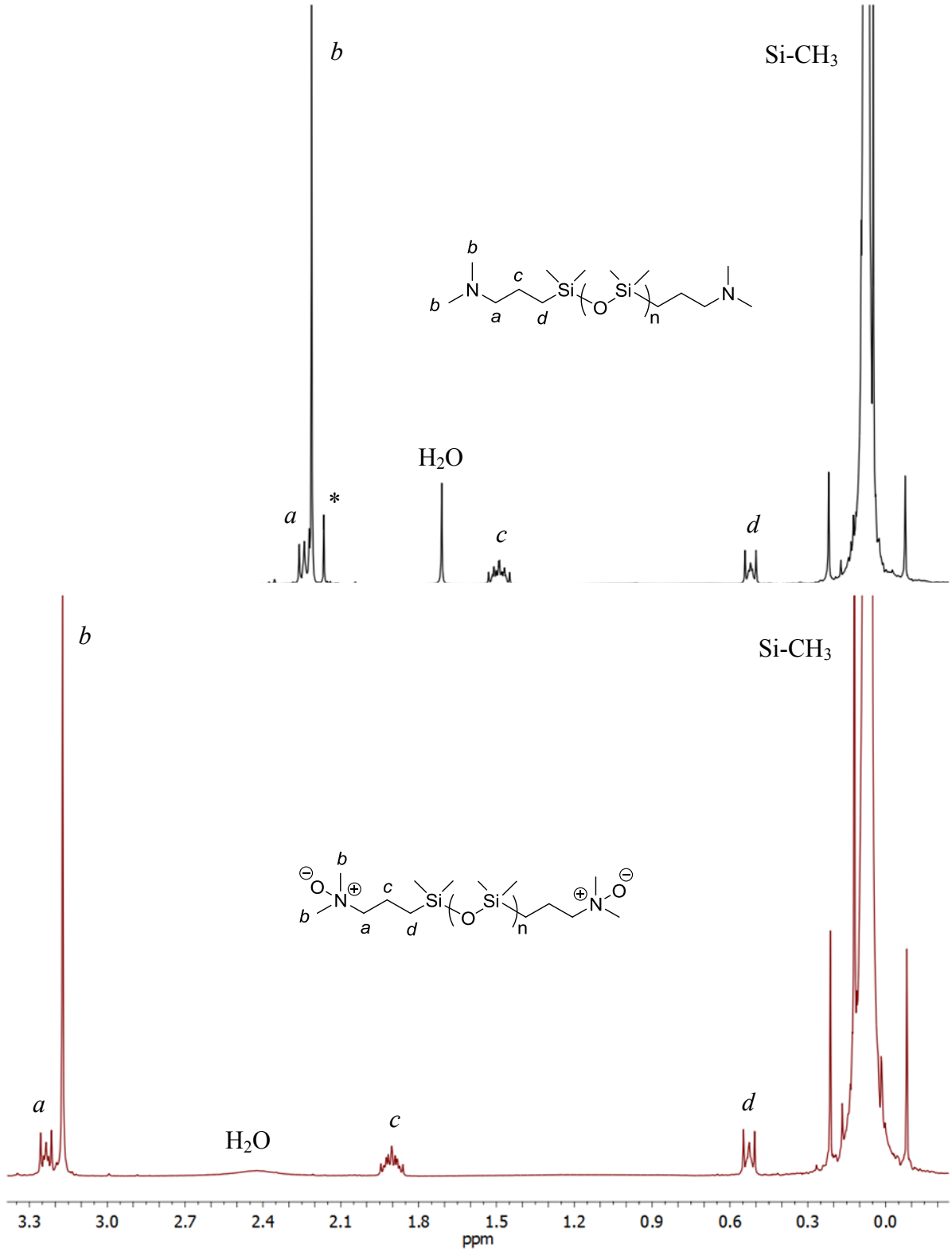

Fig. S5 ^{1}H NMR spectra of the telechelic amine-oxide terminated PDMS (red) and the amine terminated precursor (black) [* impurity].

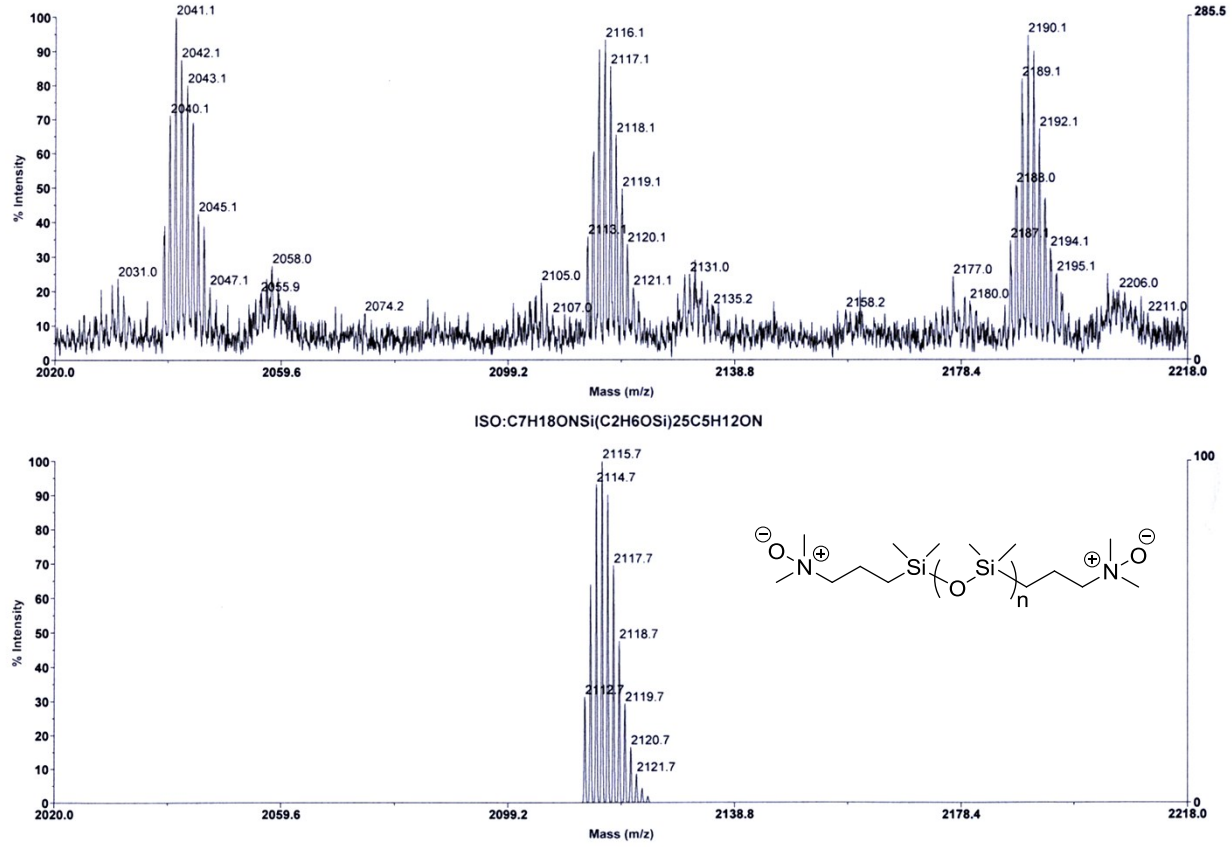

Fig. S6 MALDI-TOF mass spectrum of the telechelic catasurf between 2020 and 2218 m/z (top) and calculated spectum for n = 25 (bottom).

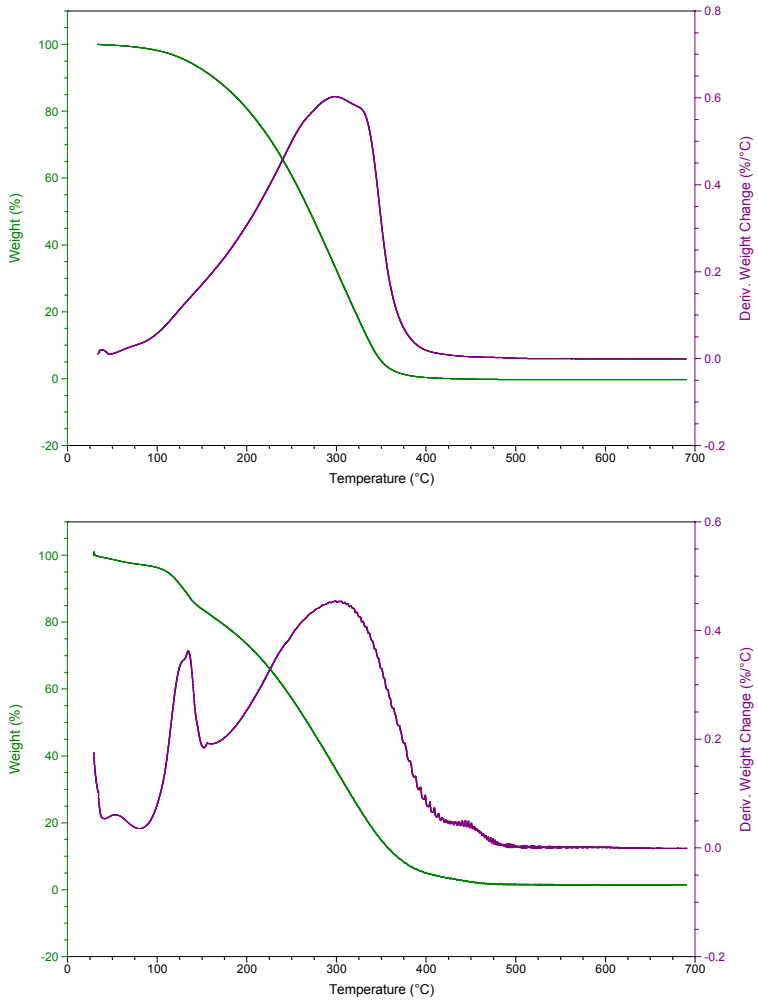

Fig. S7 Thermogravimetric analysis curve (green) and differential thermogravimetric analysis curve (purple) of the mono-amino functionalised PDMS (top) and the mono-amine oxide functionalised PDMS (bottom) [M_n = 1600 g mol^{-1}].

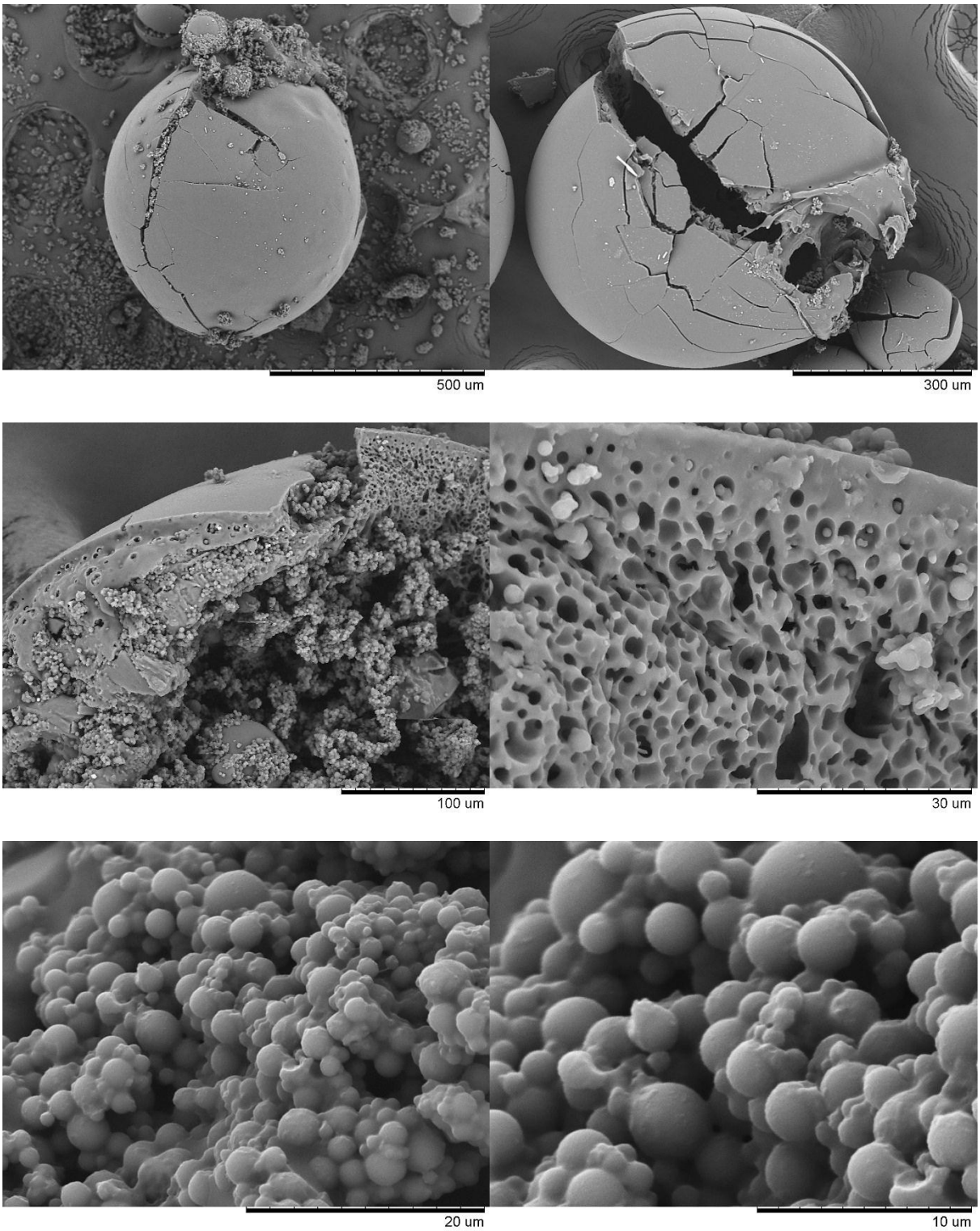

Fig. S8 SEM images of polyurethane particles produced in the presence of 0.2 mol% of the telechelic catasurf with an M_n of 15,000 g mol^{-1} (table 2, entry 1a).

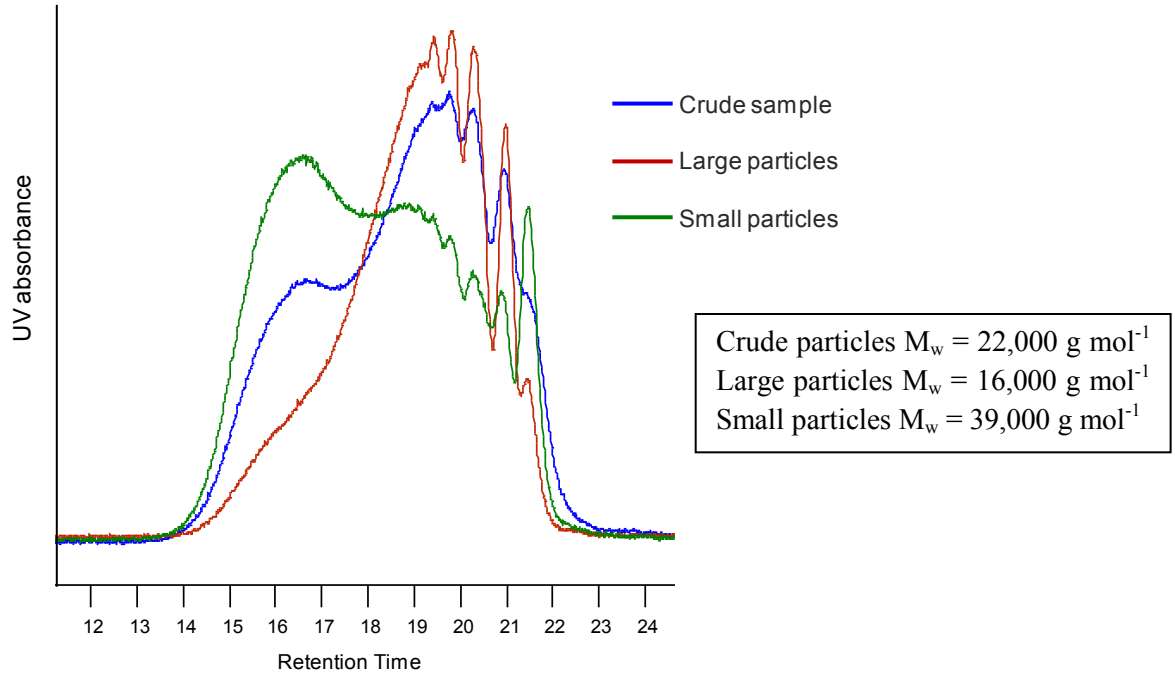

Fig. S9 SEC traces of the polyurethane particles produced in the presence of 0.2 mol% of the telechelic catasurf with an M_n of 15,000 g mol^{-1} (table 2, entry 1a).

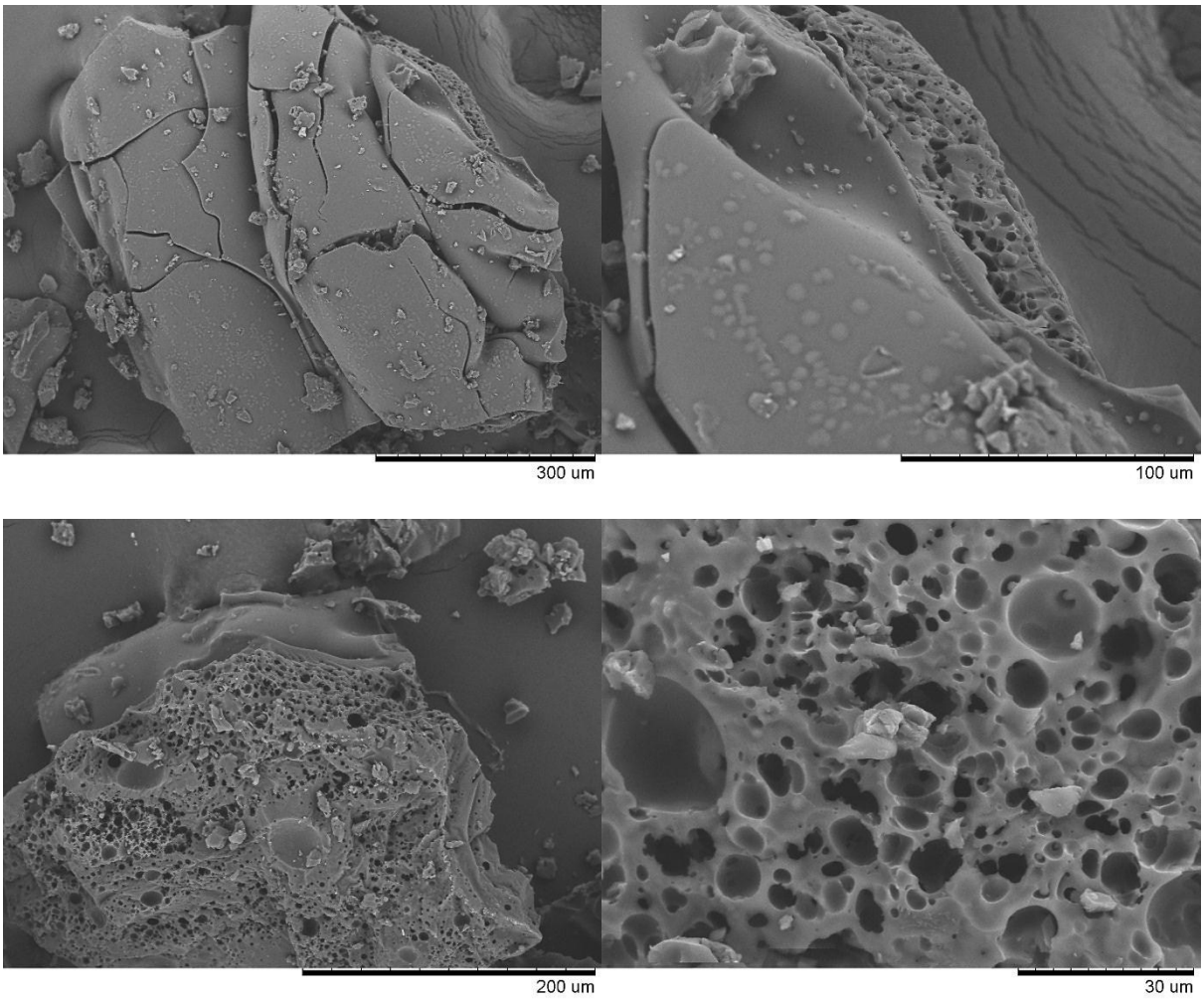

Fig. S10 SEM images of polyurethane microcellular foam produced in the presence of the monofunctional catasurf with an M_n of 1600 g mol^{-1} (table 2, entry 4).

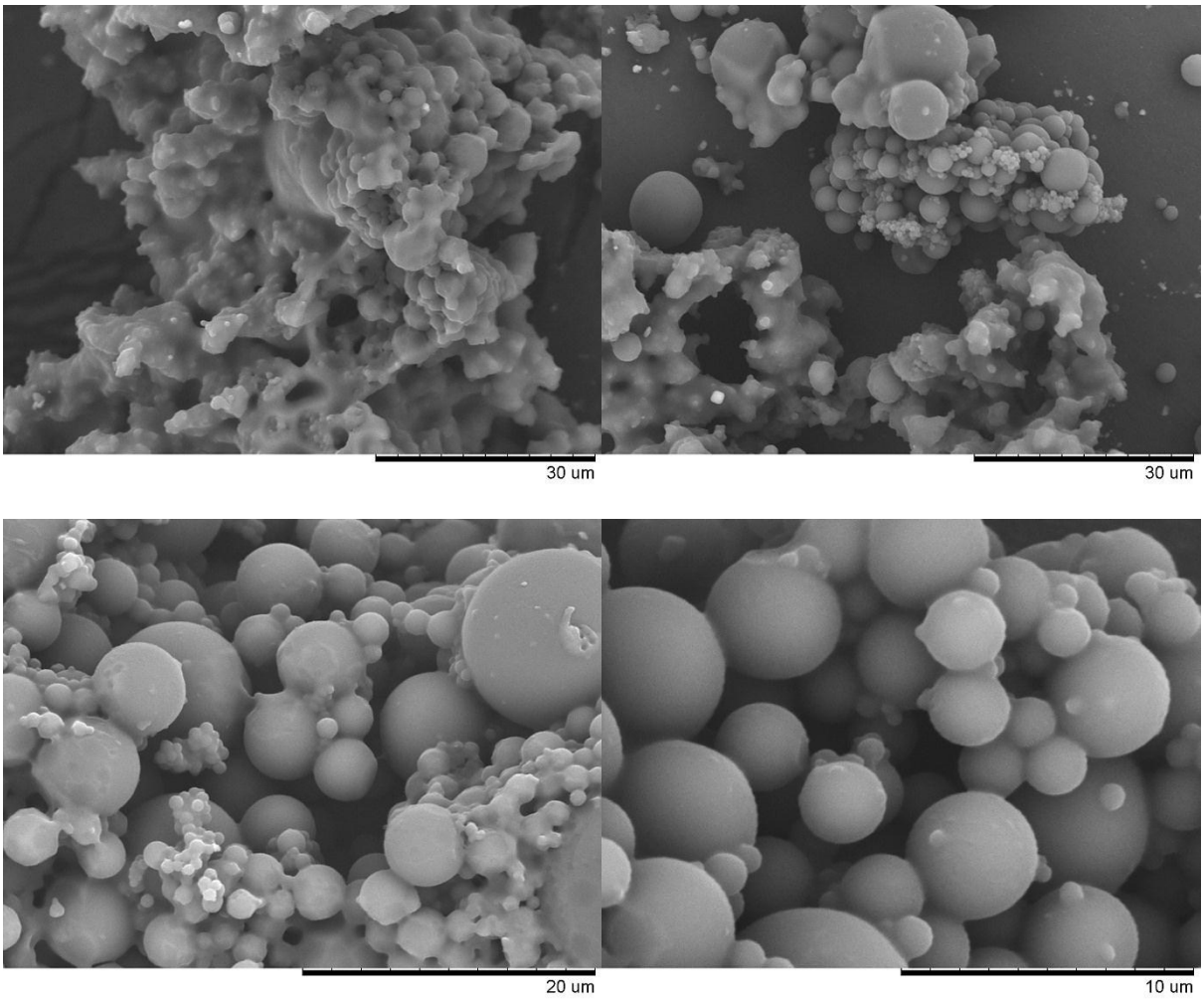

Fig. S11 SEM images of polyurethane particles produced in the presence of 1.0 mol% of the telechelic catasurf with an M_n of 12,000 g mol^{-1} (table 2, entry 6).

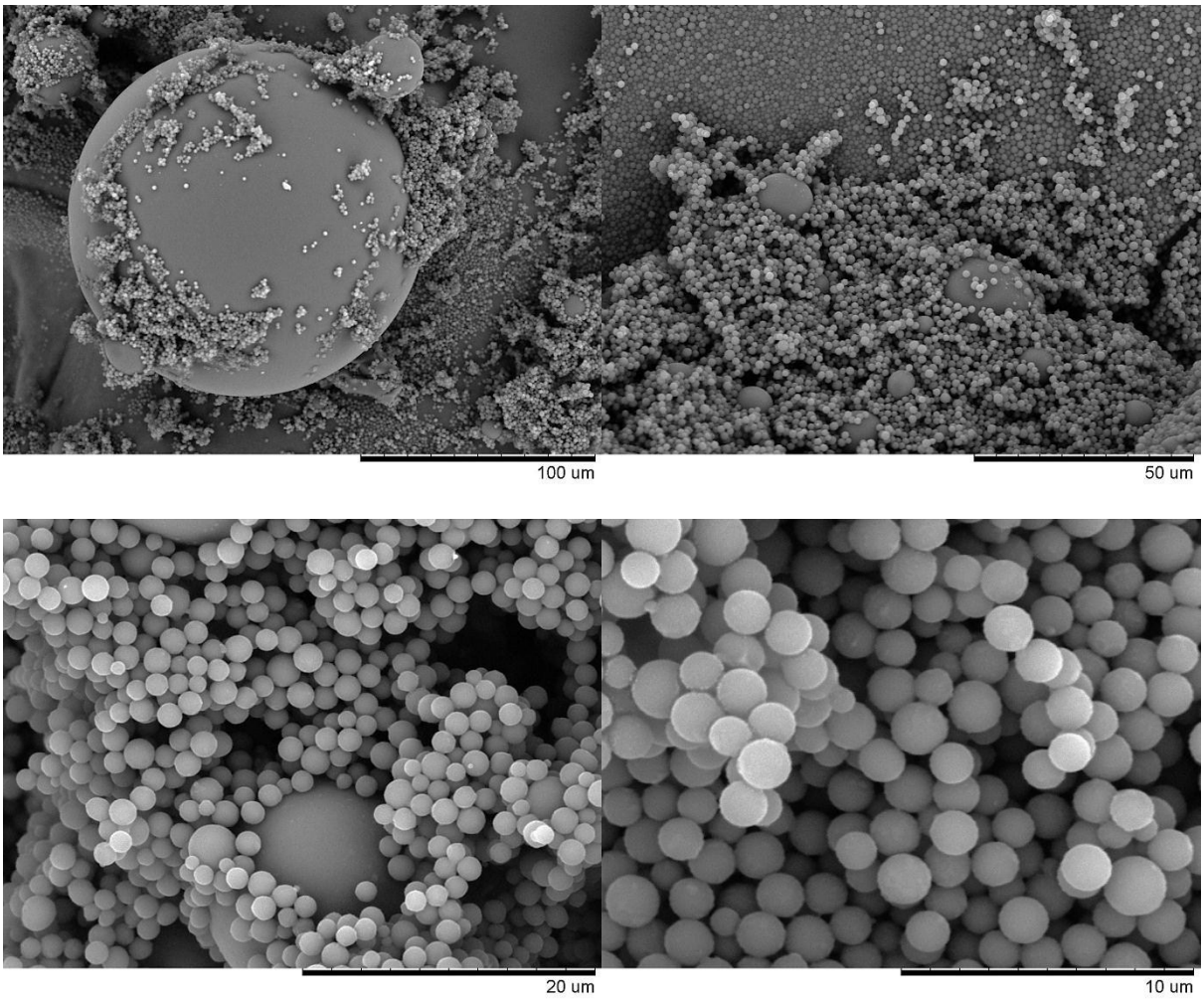

Fig. S12 SEM images of polyurethane particles produced in the presence of 1.0 mol% of the monofunctional catasurf with an M_n of 10,000 g mol^{-1} (table 2, entry 7).

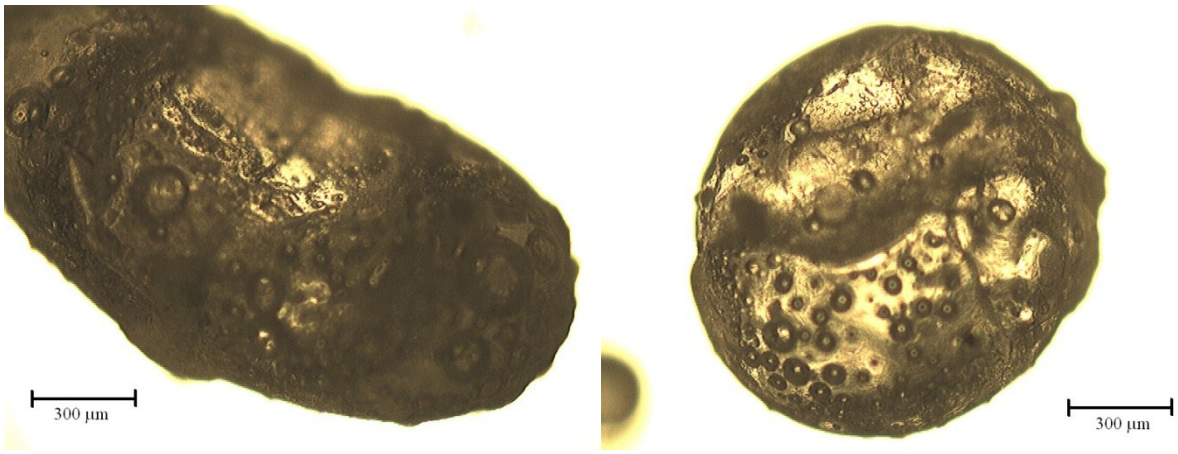

Fig. S13 Optical microscope images of the large spheriodal beads produced with 1.0 mol% of the telechelic amino-terminated PDMS (table 2, entry 8).

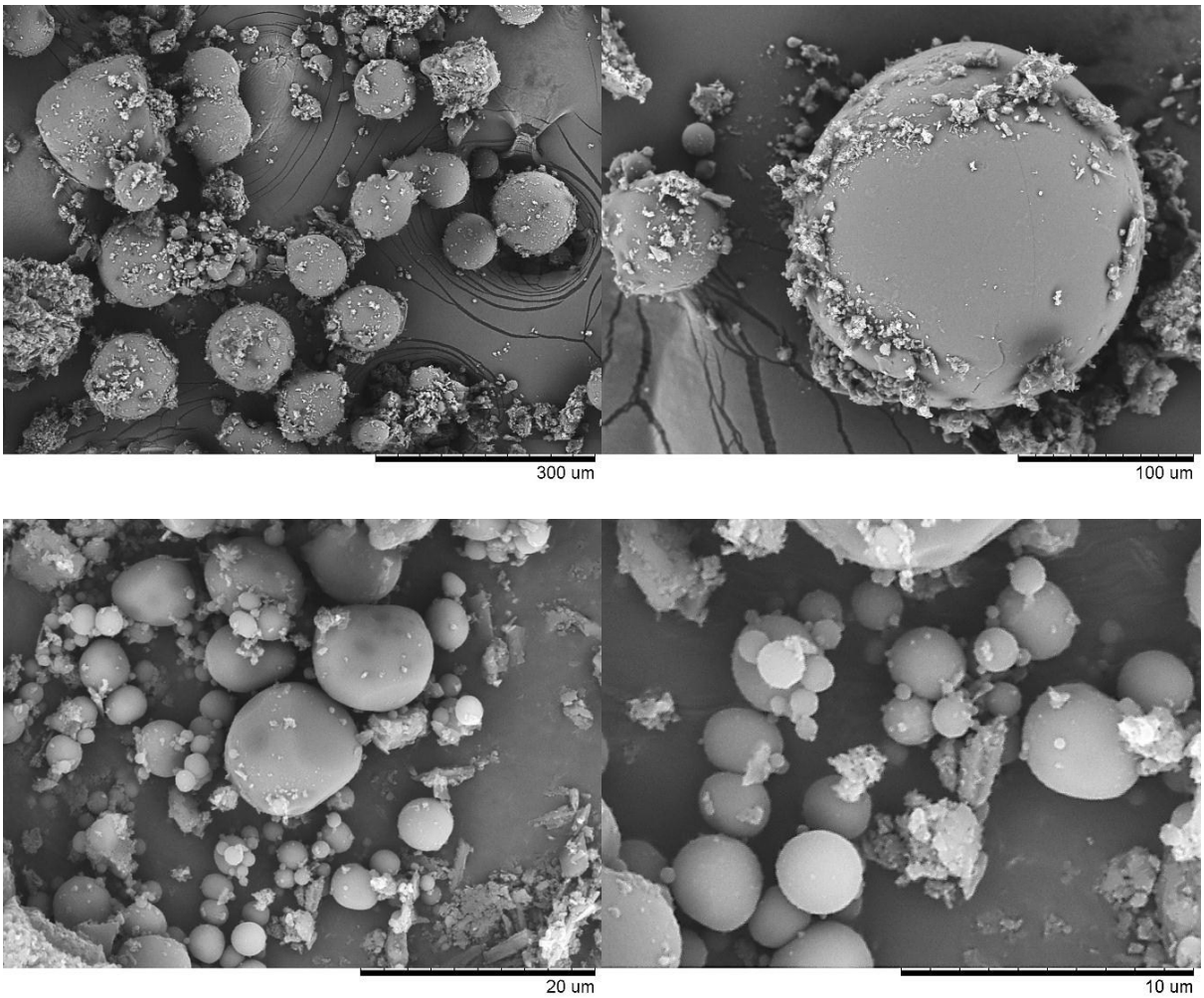

Fig. S14 SEM images of polyurethane particles produced in the presence of 1.0 mol% of the telechelic amino-terminated PDMS (table 2, entry 8).