Electronic Supplementary Material (ESI) for Polymer Chemistry.
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Surface modification of silicone via colloidal deposition of amphiphilic block copolymers

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Supplementary information

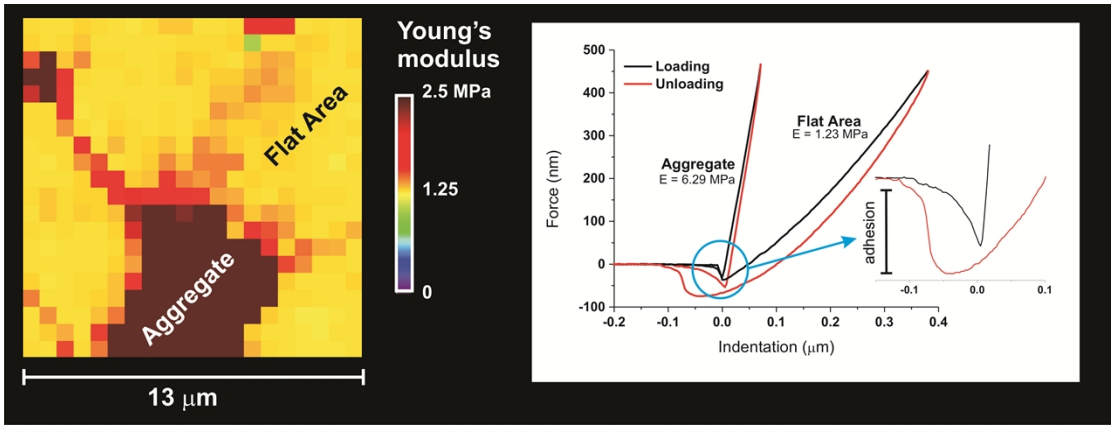

Figure 1SI. Nanoindentation curves of an aggregate and of a flat area on a Sil-GMMA1-coated S10 surface in air.

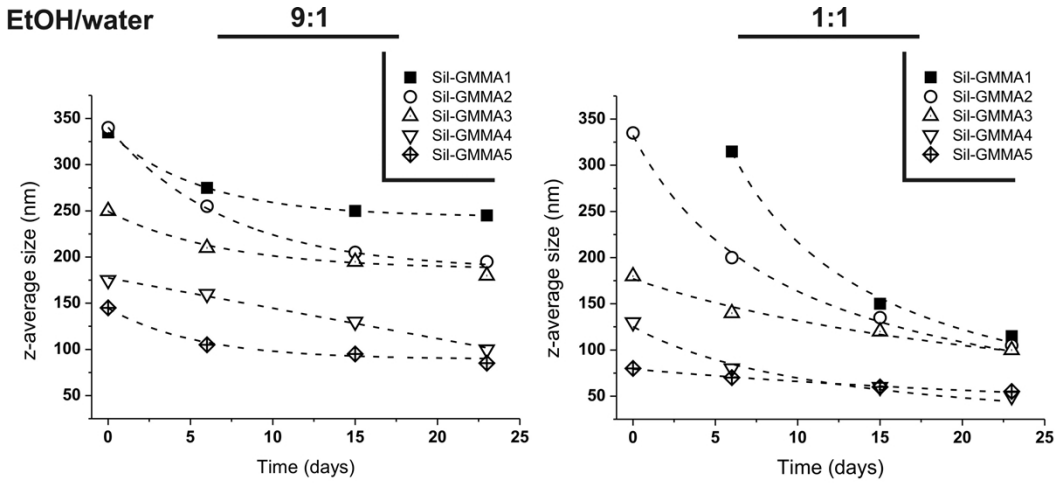

Figure 2SI. Time dependency of the size of Sil-GMMA aggregates in 10 mg/mL water/ethanol 9:1 (left) and 1:1 (right) mixtures. Please note that in 1:1 water/ethanol the final size of the aggregates is comparable to that obtained in pure water; a deposition time of 3 days was chosen to employ the time window when maximum evolution is recorded.

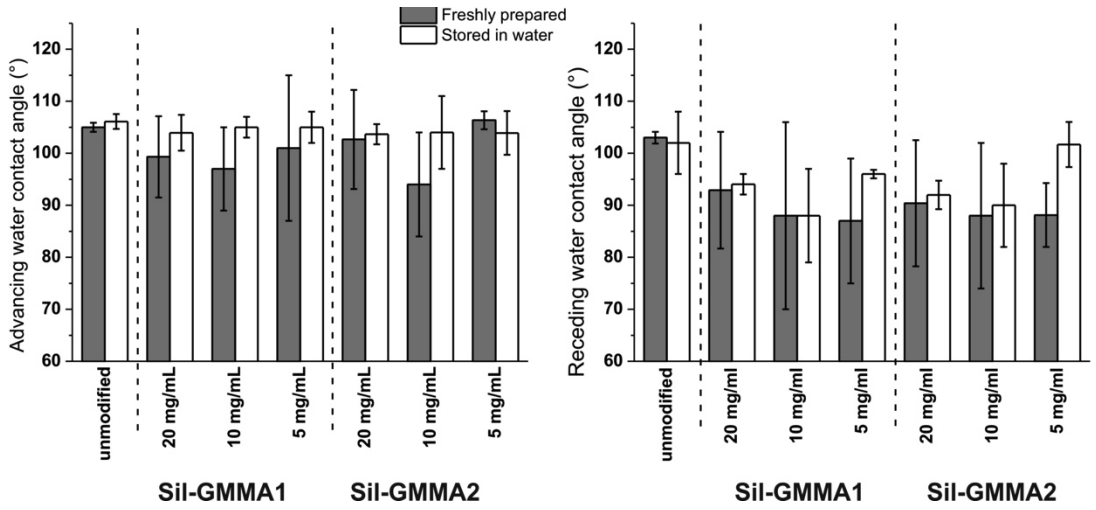

Figure 3SI. Advancing (left) and receding (right) water contact angles of silicone substrates (S10) unmodified and after 3 days in SilGMMA dispersions (various concentrations in EtOH/H_2O 1:1), on freshly prepared samples (grey columns) and after storage in water for 14 days (white columns).

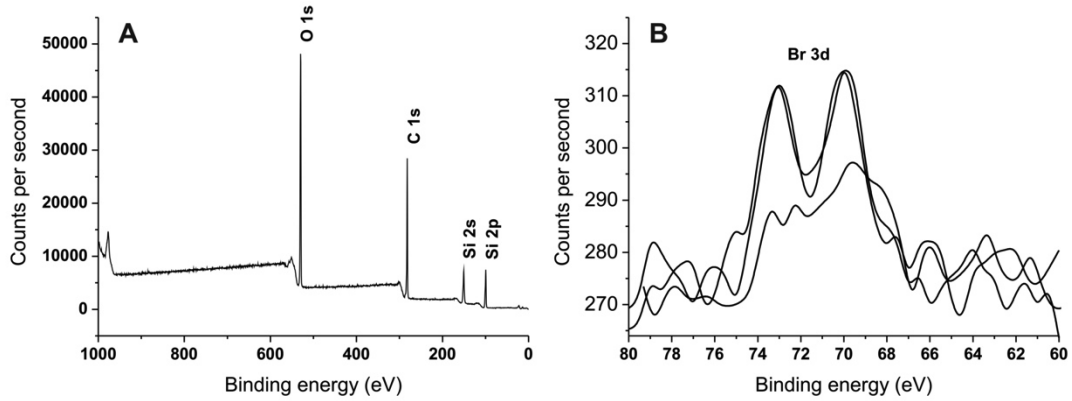

Figure 4SI. *Left (A)*: wide scan (t.o.a. 10°) of an unmodified silicone disk (S10) stored for 14 days in water. *Right (B)*: Br 3d scans (t.o.a. 10°, 3 different positions) of silicone substrate (S10) modified with Sil-GMMA1 and stored in water for 14 days.

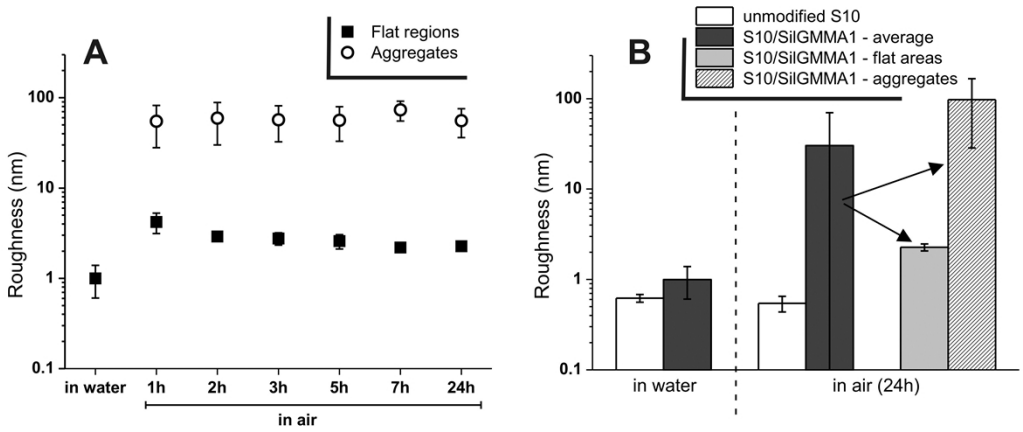

Figure 5SI. ***A:*** average roughness calculated for flatter areas and large aggregates on Sil-GMMA1-coated S10 surfaces as a function of drying time. The roughness of the surface under deionized water is provided as a reference. ***B:*** comparison of the average roughness under water and after 24 drying in air for the pristine substrate (S10 – no significant difference upon drying), and the Sil-GMMA1-coated one; the latter underwent a significant reorganisation, but almost solely in the areas where large aggregates are present. Please note that similar results are obtained after the adsorption of Sil-GMMA1 on S20 (see Figure 6SI below).

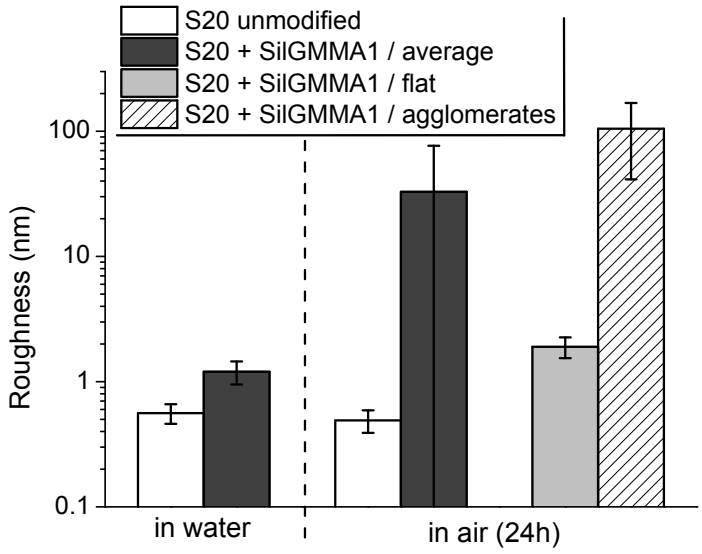

Figure 6SI. Roughness values obtained from images of unmodified S20 (white bars) and S20 treated with SilGMMA1 (average values in dark grey bars) samples in water and in air 24h after water removal. In air, the results were also separated in "flat" regions (light grey bars) and agglomerates regions (patterned bars) for SilGMMA1-S20 samples (averages and standard deviation from 8 images).

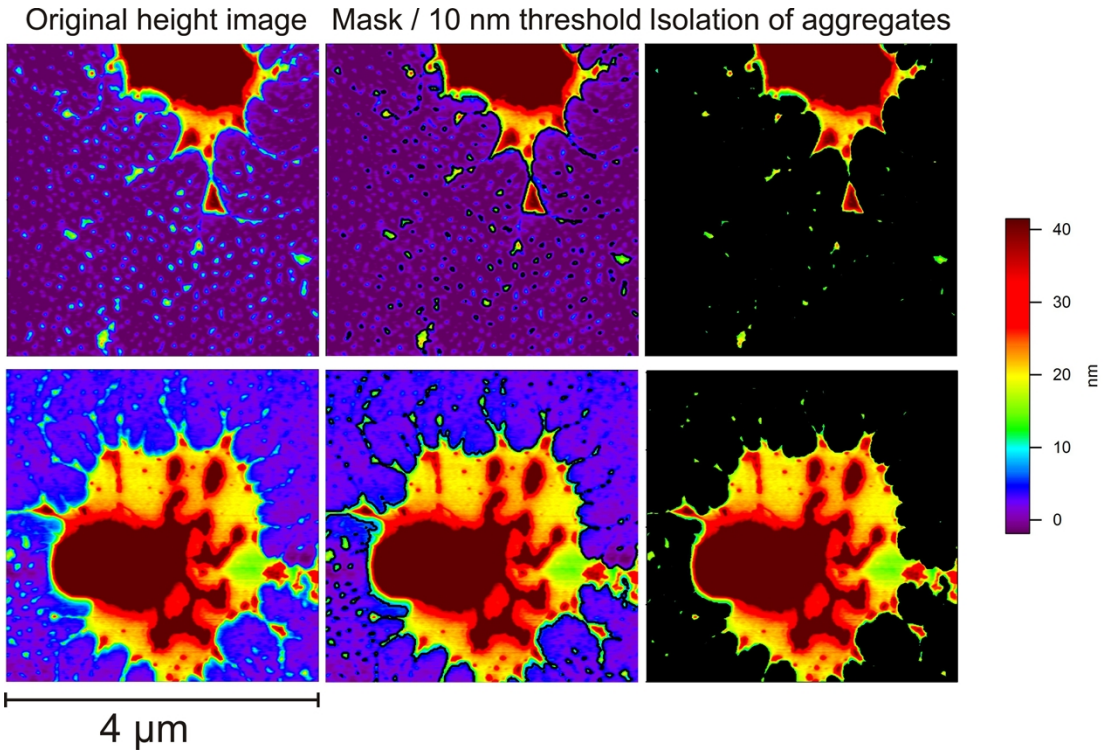

Figure 7SI. Segmentation of height images to separately analyze aggregate or flat areas. Typically, a mask is used to highlight regions with height above or below a certain threshold (in the picture: 10 nm); the regions outside the mask can then be easily removed from the image

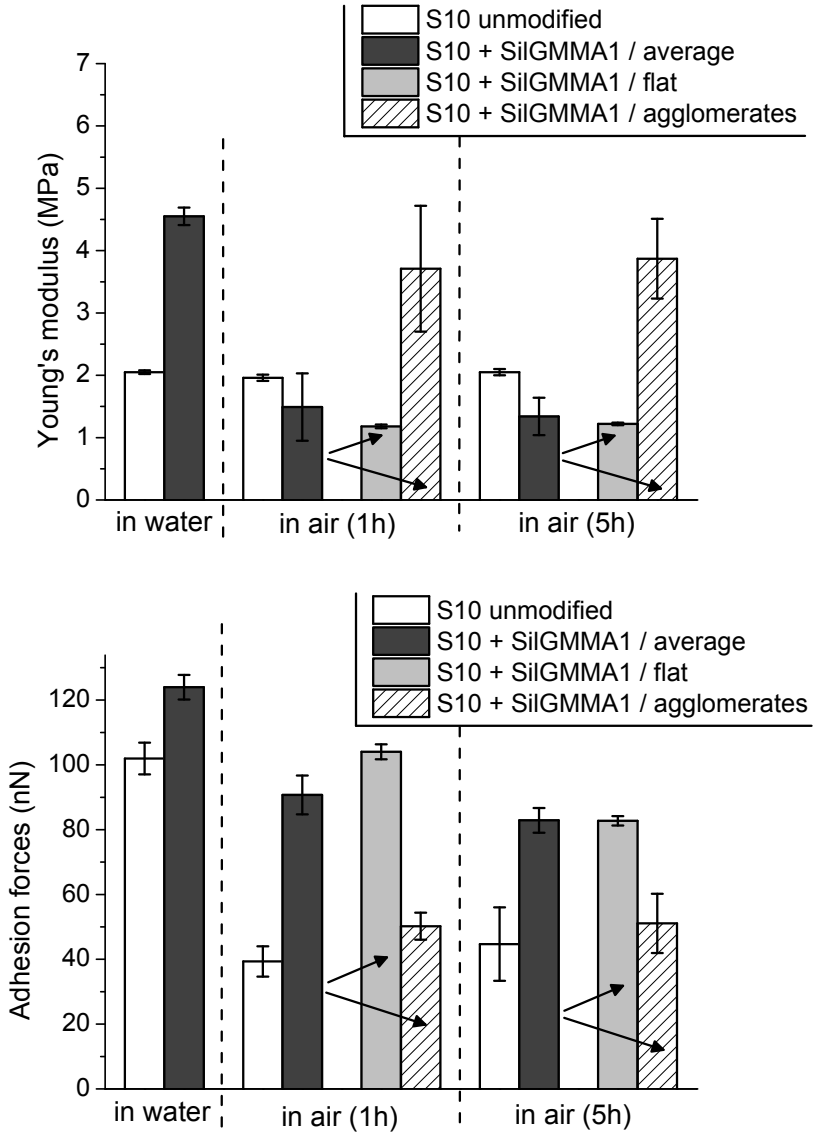

Figure 8SI. Young's modulus (top) and unloading adhesion forces (bottom) data obtained from unmodified S10 (white bars) and S10 treated with SilGMMA1 (average values in dark grey bars) samples in water and in air 1h and 5h after water removal. In air, the results were also separated in "flat" regions (light grey bars) and agglomerates regions (patterned bars) for SilGMMA1-S10 samples (averages and standard deviation from 12 images).