Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.
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Supporting Information

NMR Analysis: The weight fraction of each monomer unit was determined using ^{1}H-NMR analysis. Copolymer composition was determined through quantitative analysis by integrating distinct monomer peaks within the ^{1}H-NMR spectra, δ = 3.75 ppm (f') for MPC, and δ = 0.63 ppm (e, g) for PDMS (Figure 3). The integration of these peaks was used to calculate the weight fraction of each monomer unit in the copolymer.

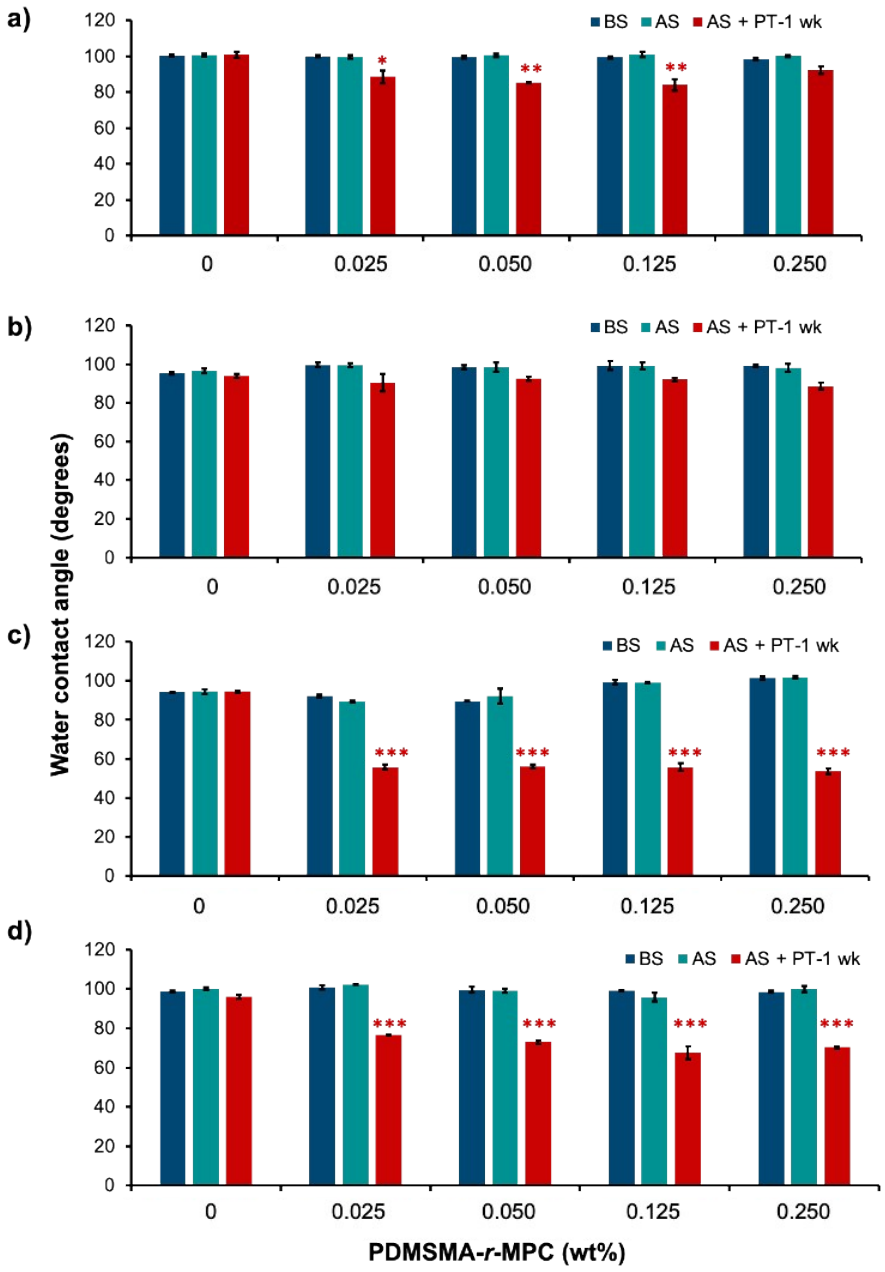

Figure S1. Final (t=45) WCA comparison of CP-blended PDMS samples (0.025 - 0.25 wt %) before IPA soaking (BS), and after IPA soaking (AS). PDMS prepolymer blended with PDMSMA: MPC mass ratio of **a)** 90/10 (CP-5), **b)** 80/20 (CP-6), **c)** 70/30 (CP-7), and **d)** 60/40 (CP-8). The data are the mean ± SE (N = 3). We use *≤ 0.05, **≤ 0.01, ***: p ≤ 0.001 by Tukey-test for significance comparisons between the controls and CP-blended PDMS groups. Unless specified, non-significant (n.s.) differences were obtained between the PDMS and CP-blended PDMS groups by Tukey-test for significance comparisons.

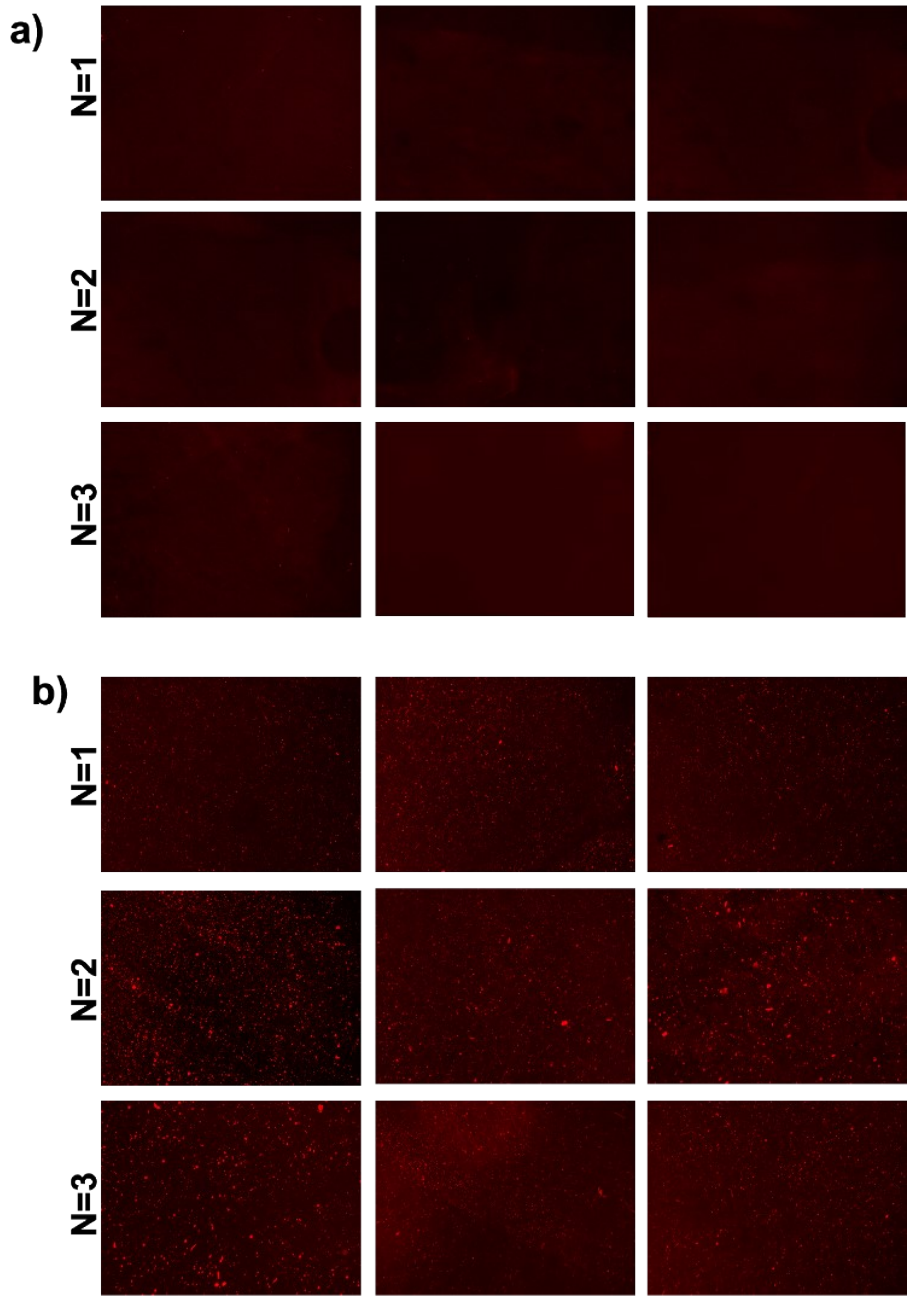

Figure S2. Rhodamine 6G staining confirmed the presence of MPC units on the surface of CP-blended PDMS. Staining images of **a)** PDMS and **b)** CP-blended PDMS (0.25 wt%). The specific interaction of rhodamine 6G with MPC enabled clear visualization of the copolymer on the surfaces. The images were captured using a fluorescence microscope (RFP filter) from three different batches (N=3), with three different areas in each sample. Experiments were performed 1 day after plasma treatment

and subsequently after 24 h IPA soaking. PDMSMA/MPC wt%: 70/30 (CP-7). Image scale bar: 400 μm.

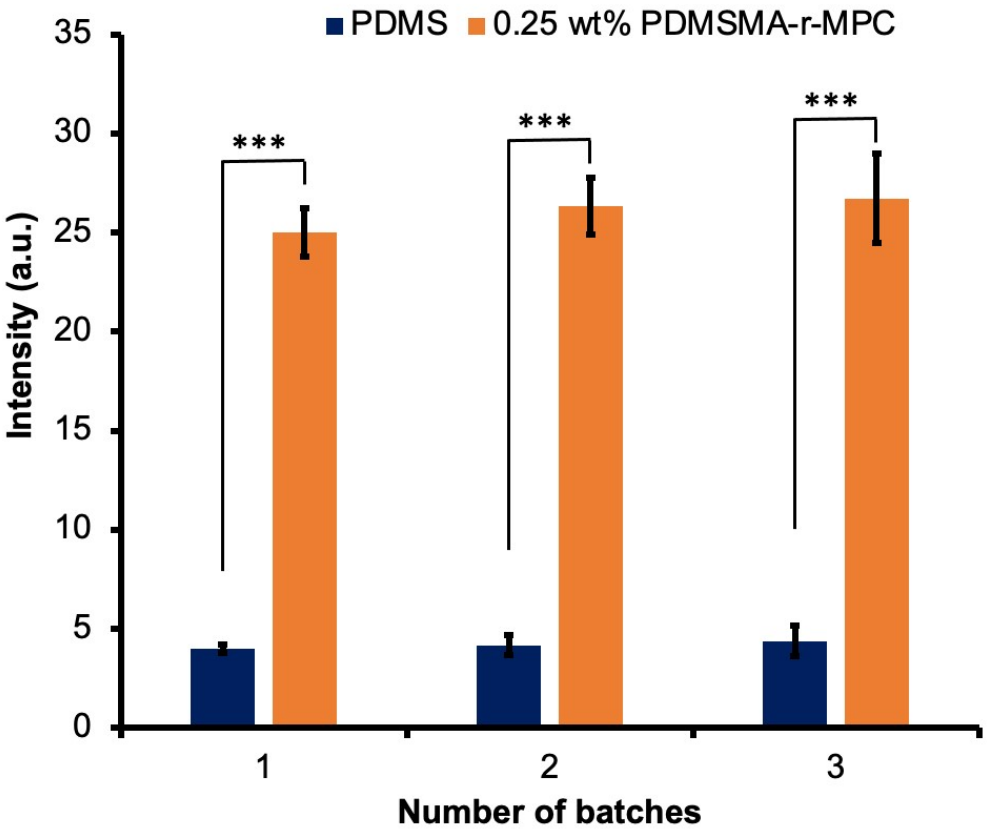

Figure S3. Fluorescence microscope image intensities of PDMS and CP-blended PDMS (0.25 wt%) after Rhodamine 6G staining. No significant difference was observed among different batches of CP-blended PDMS, confirming the homogeneous distribution of MPC on the surface. The fluorescence image intensity of samples was quantified using ImageJ. Three different batches (N=3), with three distinct areas in each sample were analyzed. PDMSMA/MPC wt%: 70/30 (CP-7). We use ***: $p \leq 0.001$ by Tukey-test for significance comparisons between the PDMS and CP-blended PDMS groups. Unless specified, non-significant (n.s.) differences were obtained among PDMS batches and CP-blended PDMS batches by Tukey-test for significance comparisons.

Table S1. Transmittance of PDMS and CP-blended PDMS at 450 and 540 nm. PDMSMA: MPC wt%: 70/30 (CP-7). The data are the mean ± SE (N = 3).

PDMSMA-*r*-MPC (wt%)	**@ 480 nm (BS)**	**@ 480 nm (AS)**	**@ 540 nm (BS)**	**@ 540 nm (AS)**
0	99.8 ± 0.002	100 ± 0.001	99.8 ± 0.002	100 ± 0.001
0.025	98.9 ± 0.001	98.6 ± 0.001	98.9 ± 0.001	98.7 ± 0.001
0.050	98.1 ± 0.004	97.0 ± 0.002	98.3 ± 0.004	97.3 ± 0.002
0.125	95.5 ± 0.005	94.4 ± 0.002	95.9 ± 0.005	94.8 ± 0.001
0.250	93.7 ± 0.002	84.0 ± 0.006	90.4 ± 0.002	85 ± 0.005

Table S2. Mechanical properties of PDMS and CP-blended PDMS. PDMSMA: MPC wt%: 70/30 (CP-7). The data are the mean ± SE (N = 3).

PDMSMA-r-MPC (wt%)	**Young's modulus (MPa)**	**Young's modulus (MPa) (6 months storage)**
0[a]	1.3 ± 0.1	1.3 ± 0.1
0	1.2 ± 0.10	1.3 ± 0.02
0.025	1.2 ± 0.03	1.1 ± 0.05
0.050	1.4 ± 0.02	1.3 ± 0.02
0.125	1.3 ± 0.02	1.4 ± 0.04
0.250	1.3 ± 0.10	1.4 ± 0.03

[a]Young's modulus of PDMS from literature. BS: Before IPA Soaking

The high compliance and flexibility of PDMS are one of its major advantages in microfluidics applications. The Young's modulus of a frequently used formulation, prepared with a prepolymer to curing agent ratio of 10:1, ranges from ~1.63 to 2.12 MPa. Preserving these mechanical properties during any modification is important.