SUPPORTING INFORMATION

Synthesis of Poly(dimethylsiloxane)-*block*-Poly[3-(triisopropyloxysilyl)propyl methacrylate] and its use in the Facile Coating of Hydrophilically Patterned Superhydrophobic Fabrics

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Contact Angle Measurements.

Static, advancing, and receding contact angles were measured at room temperature (21 ± 1 °C) using deionized water. The measurement were performed using a Dataphysics OCA 15 Pro optical contact angle measuring system. All static contact angles were measured using 5.0 μL droplets of water. The contact angles reported for each sample represented the average of at least three measurements together with the calculated standard deviations.

Synthesis of IPSMA

The IPSMA monomer was synthesized according to a literature method[1] and the ^{1}H NMR spectrum of IPSMA is shown in Figure S1. Isopropanol (40 mL) was added into a 250 mL flask along with *p*-toluenesulfonic acid (0.10 g). 3-(trimethoxysilyl)propyl methacrylate (10.0 g) was added and this reaction mixture was stirred at 100 °C for 5 h. At ~30 min intervals, isopropanol (20 mL) were added to the reaction mixture and continually distilled to remove the methanol by-product along with excess isopropanol. After 5 h, the flask was cooled down to room temperature and was poured into a saturated aqueous $NaHCO_3$ solution (100 mL). This was followed by extraction with hexane (3 × 50 mL). The combined hexane layer was washed with a

saturated aqueous NaCl solution and dried over $MgSO_4$ for 5 h. The hexane was removed via rotary evaporation and the product was distilled under vacuum using an oil bath that was heated to a temperature of 120-130 °C. IPSMA was obtained as clear liquid in a 68% yield. ^{1}H NMR (400 MHz, $CDCl_3$, δ): 0.58 (dd, J = 11.3, 5.4 Hz, 1.10 (d, J = 6.2 Hz, 18 H, 1.70 (m, 2H, CH_2), 1.80 (m, 2H, $CO_2CH_2CH_2CH_2$,), -$COOCH_2$), 1.91 (s, -3H, CH_3), 4.10 (t, J = 6.7 Hz, 2H, -[$OCH(CH_3)_2]_3$), 4.20 (m, $OCH(CH_3)_2)_3$, 3H], 2H, CH_2-Si), 5.60 (s, 1 H, CH_2=$CCR(CH_3)$), 6.10 (s, 1 H, CH_2=$CCR(CH_3)$) ppm.

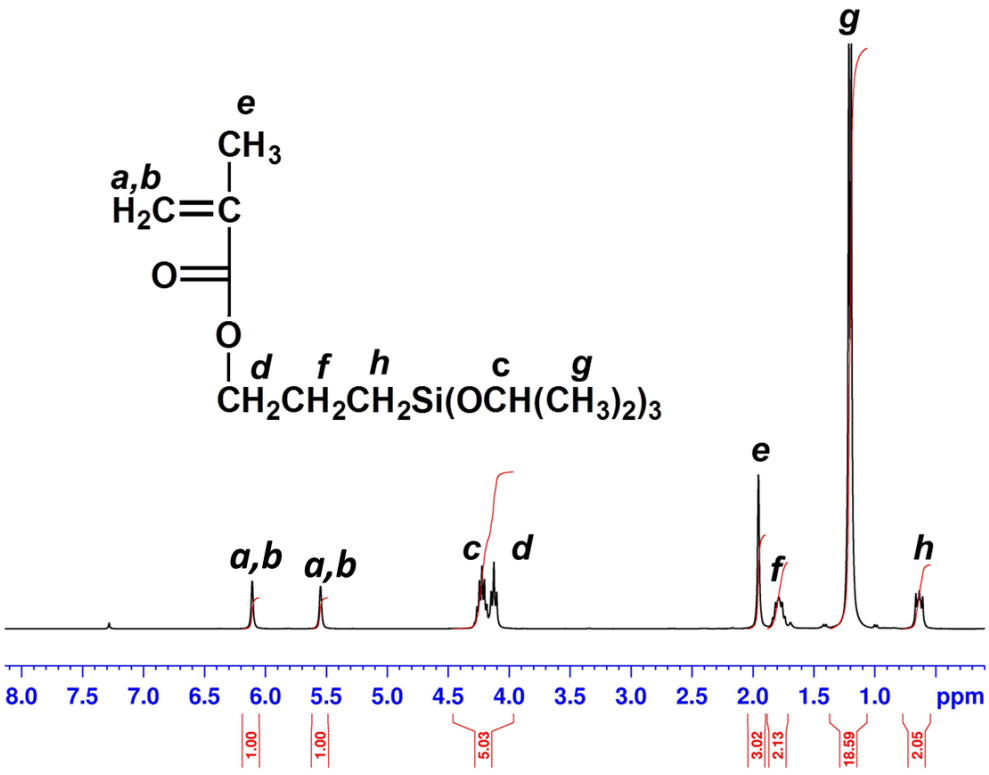

Figure S1. ^{1}H NMR spectrum (recorded in $CDCl_3$ at 400 MHz) of IPSMA.

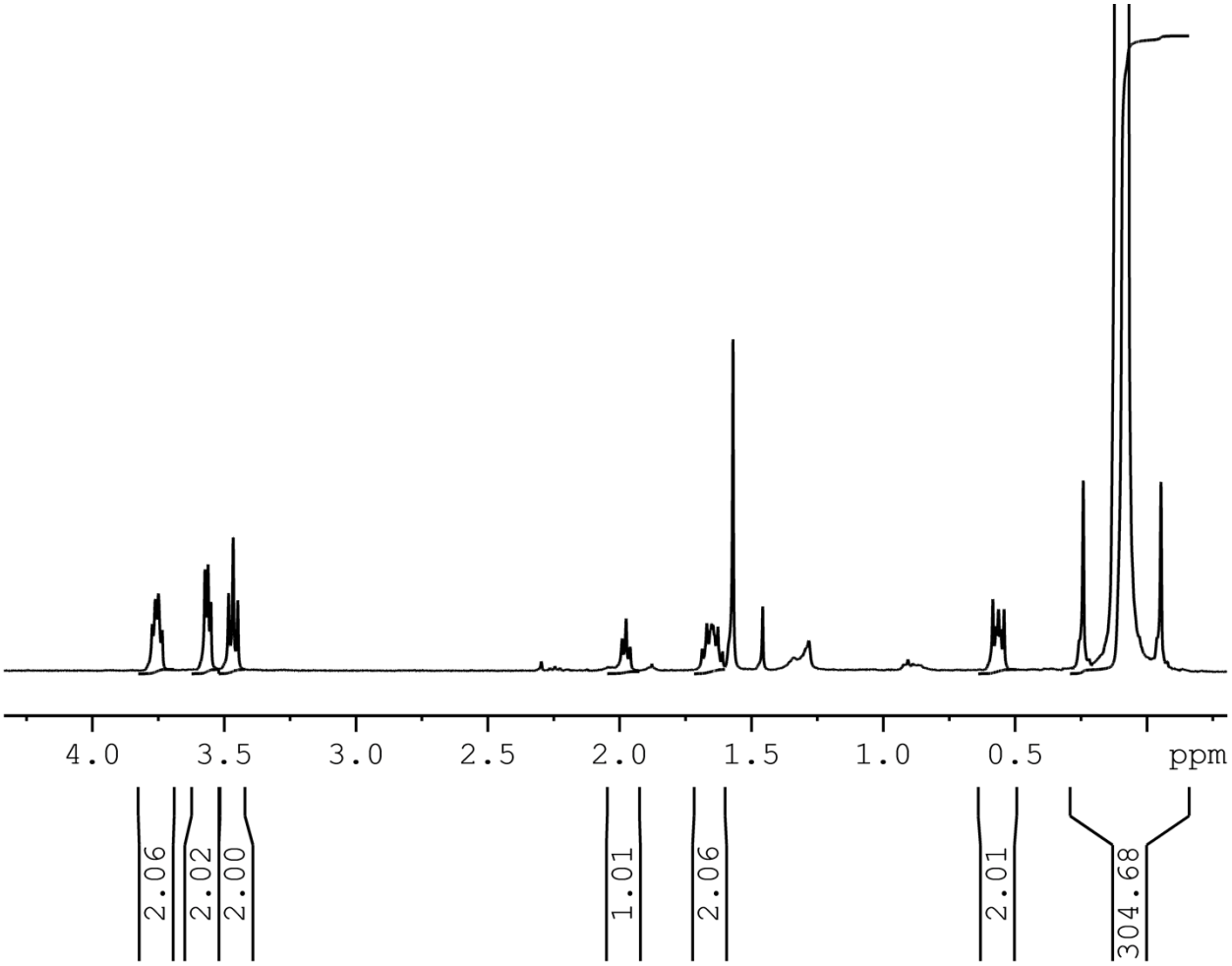

Figure S2. ^{1}H NMR spectrum (recorded in $CDCl_3$ at 400 MHz) of fractionated $PDMS_{50}$-OH. The integrations of different signals were measured for quantitative analysis.

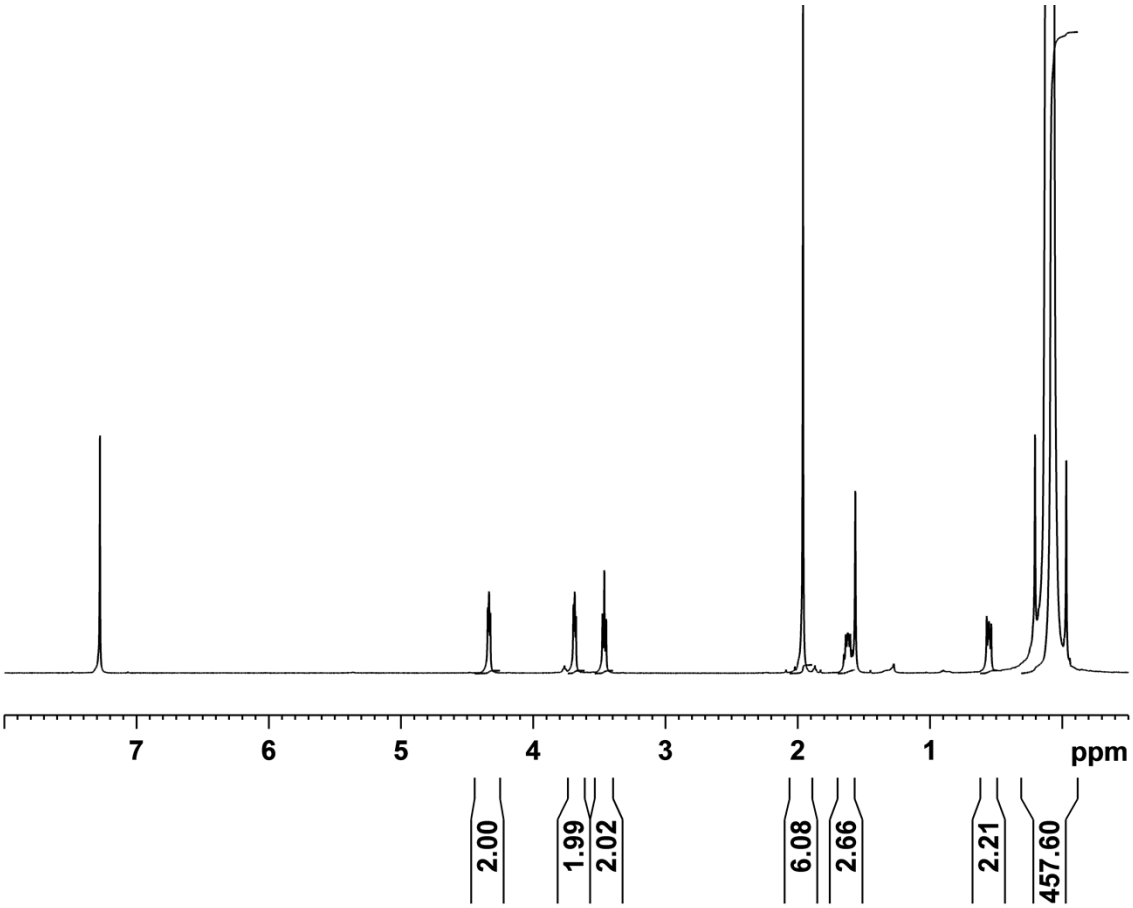

Figure S3. ^{1}H NMR spectrum (recorded in $CDCl_3$ at 400 MHz) of PDMS-Br. The integrations of different signals were measured for quantitative analysis.

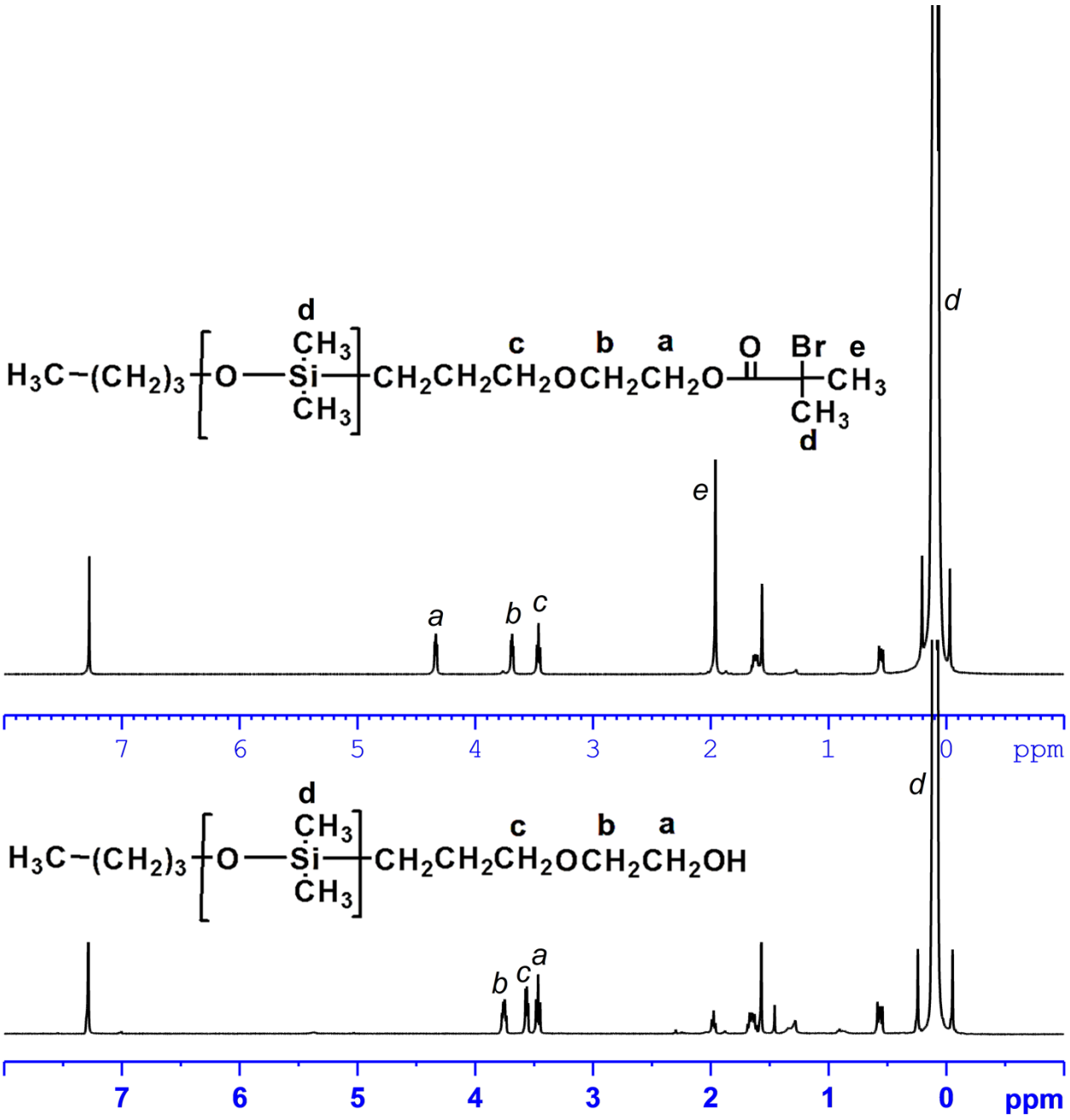

Figure S4. ^{1}H NMR spectrum (recorded in $CDCl_3$) of PDMS-*OH (bottom), and PDMS-Br (Top)*.

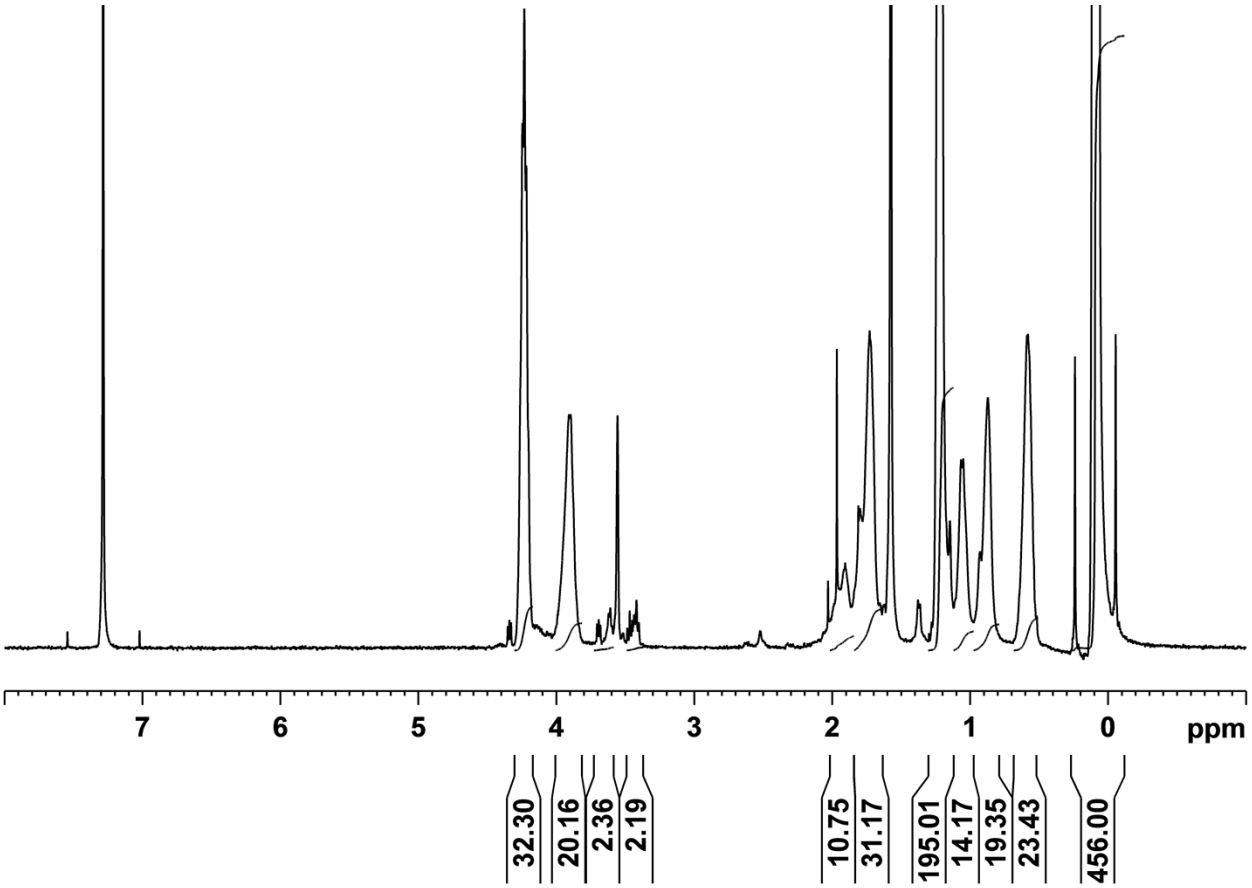

Figure S5. ^{1}H NMR spectrum (recorded in $CDCl_3$ at 400 MHz) of PDMS-*b*-PIPSMA. The integrations of each signal was measured for quantitative analysis.

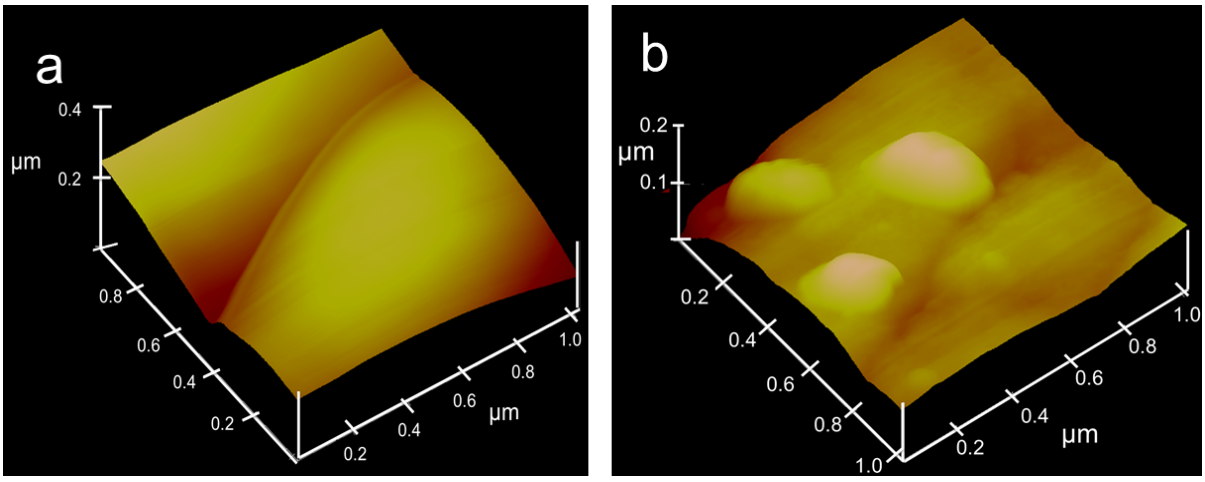

Figure S6. AFM images (a) uncoated cotton, (b) Coated cotton after extraction with THF at 60 ^{o}C for 1 h.

References.

(1) Macoretta, D.; Rabnawaz, M.; Grozea, C. M.; Liu, G.; Wang, Y.; Crumblehulme, A.; Wyer, M. *ACS Appl. Mater. Interfaces* **2014**, *6*, 21435.