Electronic Supplementary Information for

Reducing Adhesion and Friction Forces of Si by Coating Ultra-thin Al₂O₃ Films

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The NP-10 probe tip was characterized by scanning a calibration grating TGT01 (Mikromasch) in a contact mode in an area of 10×10 μm². An array of bumps was obtained thereafter, as shown in Figure 1S (a). Each bump was a image of the same region of the probe tip contacting with the grating during the scanning. Figure 1S (b) shows a cross sectional profile of one of the bump indicated in Figure 1S (a) as a green line. The tip radius was obtained by fitting the cross sectional profile using a circle. The resulting tip radius was ~50 nm.

Figure 1S. (a) A AFM image of the TGT01 calibration grating obtained with the NP-10 probe tip. (b) Cross sectional profile of a single bump indicated in (a) as a green line. By fitting this profile with a circle, the tip radius is calculated.