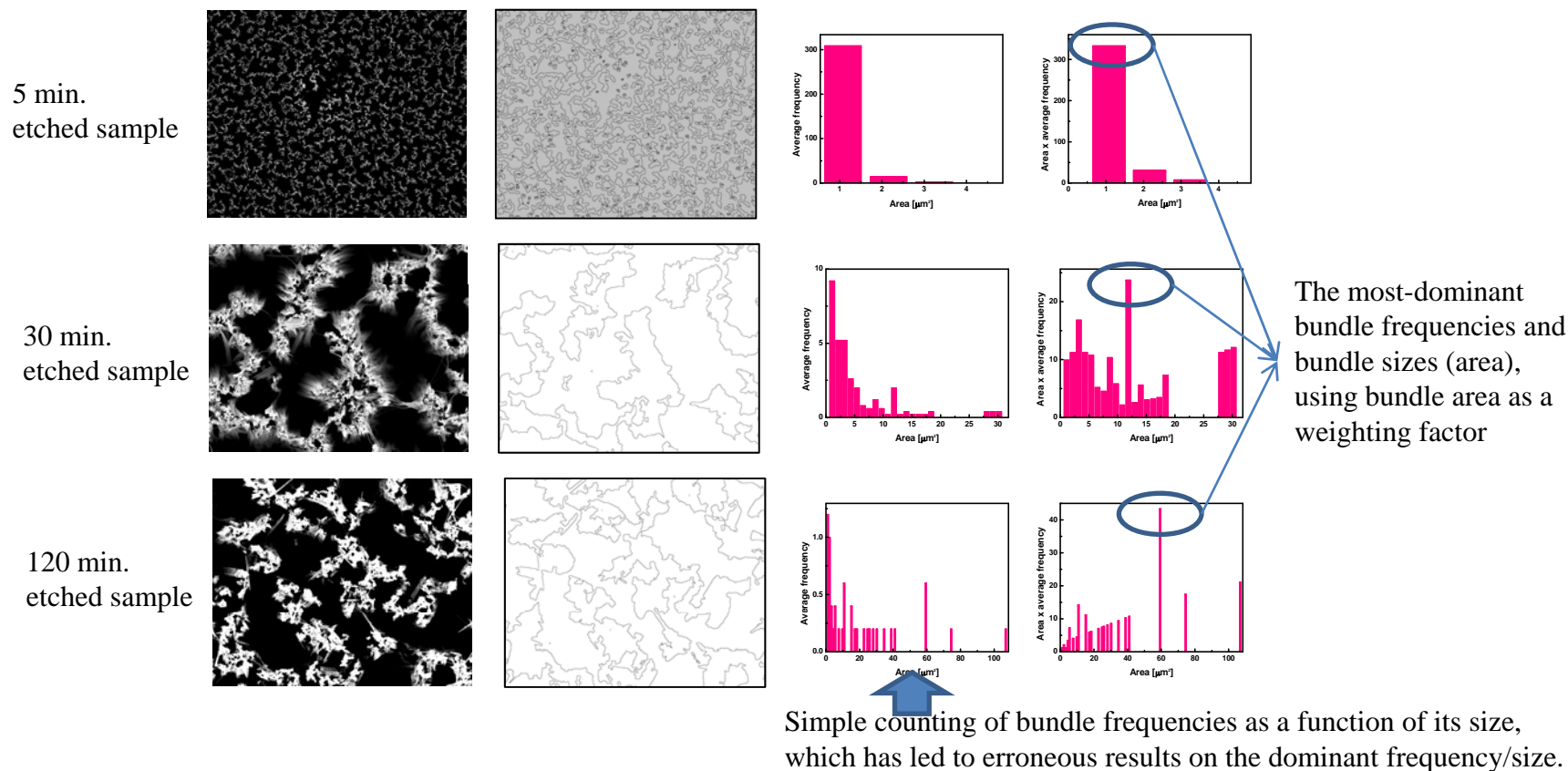# Electronic Supplementary Information
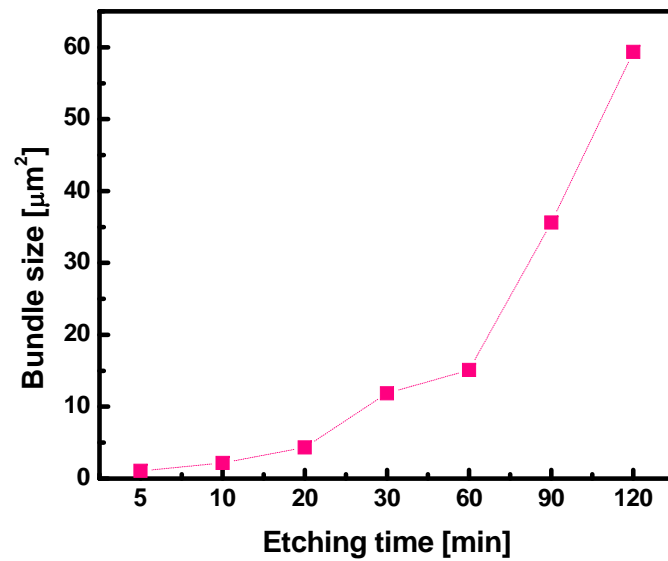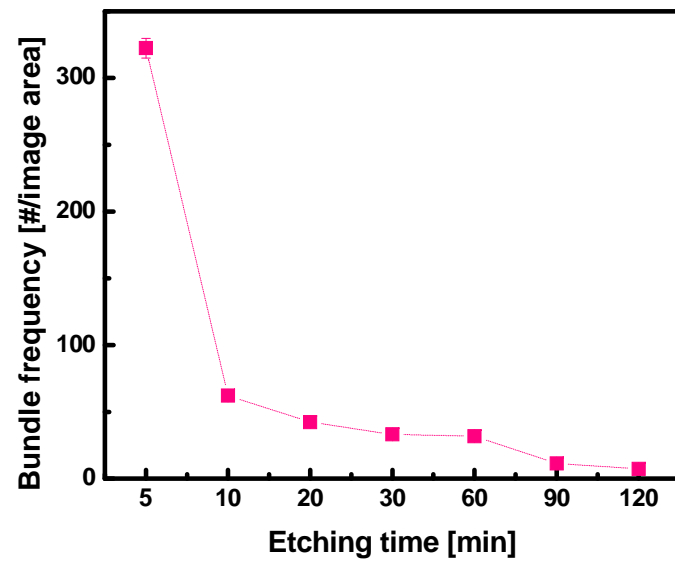
Switchable wettability of vertical Si nanowires array surface
by simple contact printing of siloxane oligomers and chemical washing

Sung-Soo Yoon and Dahl-Young Khang

S1. Image analysis for the extraction of bundle frequency and size

The SEM images for image analysis were obtained for each sample by adjusting the focal plane to the tips of SiNWs bundles as far as possible. Representative original SEM images are shown below at left-most column. Then, those images were converted to black and white (B/W) and the tip portion were selected by adjusting the threshold contrast value. The 2nd column from the left, shown below, is the result of this step. The number of chosen tips, counted automatically, represents the dominant bundle frequency/size for rather short SiNWs (5min. sample below). In the meanwhile, the dominant bundle frequency/size for a longer SiNWs has led to erroneous result, due to equal weighting between small and large bundles (30min. & 120min. samples below in the 3rd column from the left, for example). Therefore, we have calculated the bundle frequency using bundle size as a weighting factor, then the dominant frequency and corresponding bundle size were determined, as shown in the right-most column below. Due to the very irregular shape of bundles, we counted the # of pixels of those irregularly-shaped bundles and it was used to find the radius of a circle that has the same # of pixels; that is, we found an equivalent circle that has the same area as the irregularly-shaped bundle. Note that more than 4 SEM images were used for the image analysis for each sample. The extracted bundle frequency and bundle area were plotted as a function of etching time (or SiNWs length) on the next page for clarity, while these data were plotted together as one graph in Fig. 3a of the main text.

The most-dominant bundle frequencies and bundle sizes (area), using bundle area as a weighting factor

Simple counting of bundle frequencies as a function of its size, which has led to erroneous results on the dominant frequency/size.

S2. Area fraction of bundled tips

The fractional area of bundled SiNWs were extracted from the image analysis described above: counting the # of pixels of bundle tips from the images converted to black/white contrast, and then dividing by the total # of pixels in the given image. As shown below, the areal fraction of bundled SiNWs tips remains constant as a function of PDMS printing time, within experimental error.