Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Hydrogen Evolution from Silicon Nanowire Surfaces

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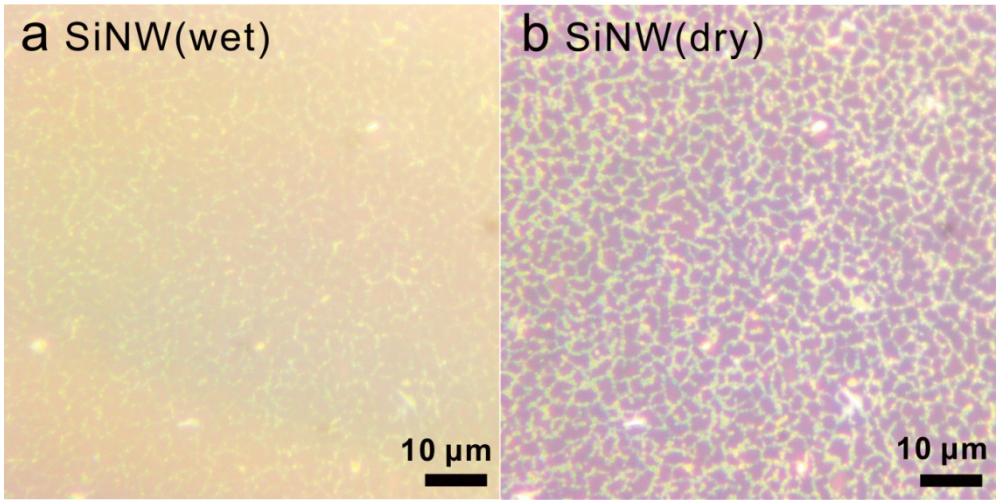

Figure S1. The optical images of micro-structured (clustered SiNWs and micropores) SiNWs in both wet and dry states. (a) and (b) are the optical images of 7.9 μm-SiNWs in water (wet by 10 uL water) and without water (dry), respectively.

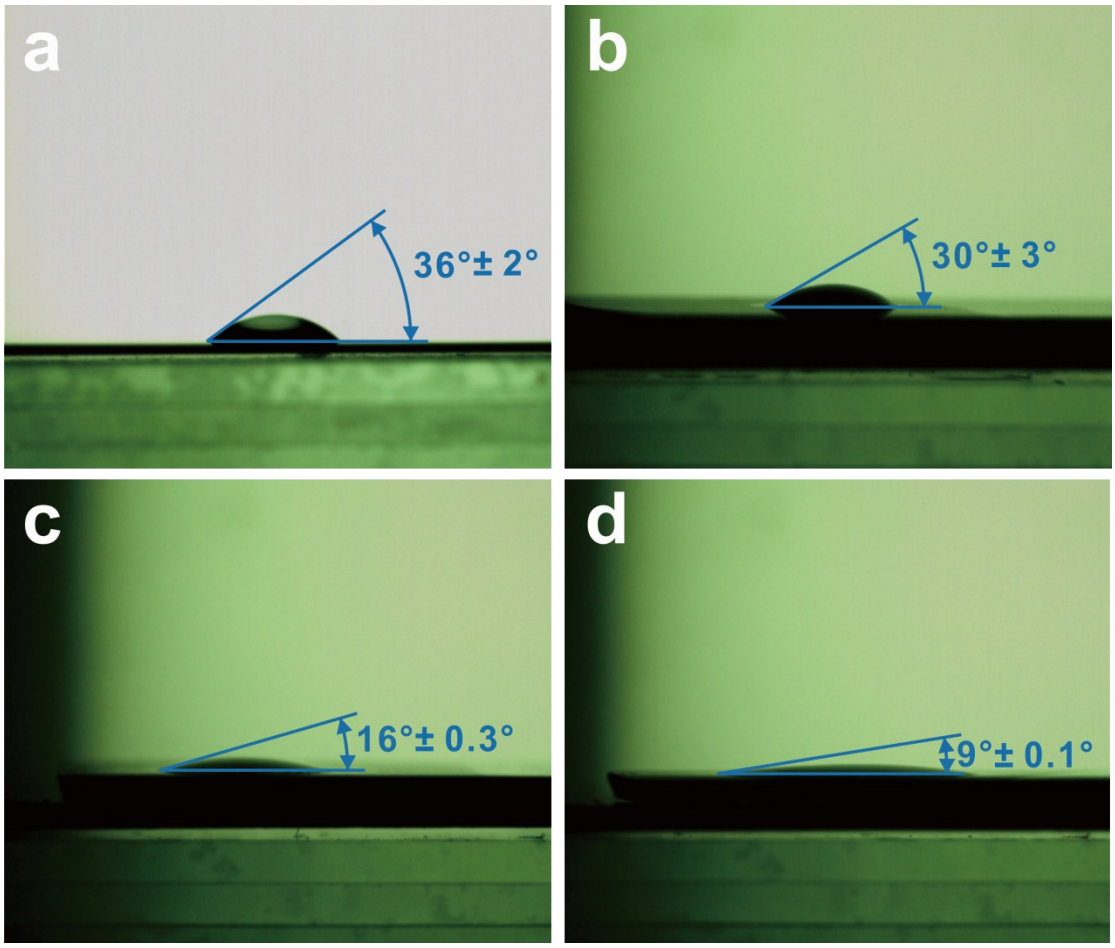

Figure S2. The contact angle (CA) measurements for SiNW samples with different lengths. (a) The contact angle for flat Si surface. (b) The contact angle for 1.5 μm-SiNWs. (c) The contact angle for 4.6 μm-SiNWs. (d) The contact angle for 7.9 μm-SiNWs.

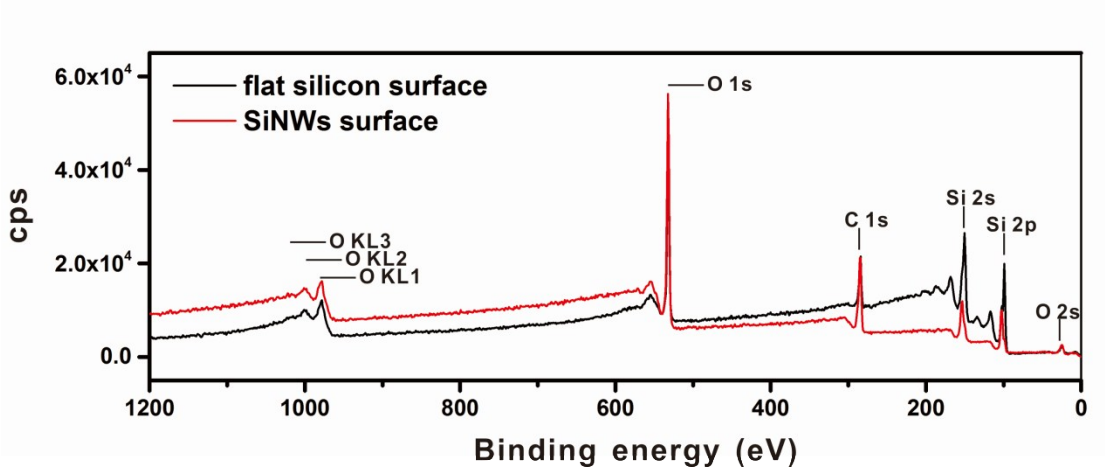

Figure S3. The full-scan X-ray Photoelectron Spectroscopy (XPS) spectra of flat silicon surface and SiNWs surface. The surface chemistry of both samples is very similar, mainly composed of the Si and the O elements. The black spectral line is the spectrum of flat silicon surface and the red spectral line is the spectrum of the SiNWs surface.

Video S1. The CCD video captures the release of H_2 bubbles at -1.5 V applied bias potential from the flat Si surface and also various SiNW surfaces.