Electronic Supplementary Material for PCCP

On The superhydrophobic properties of nickel nanocarpets

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Supplementary Information

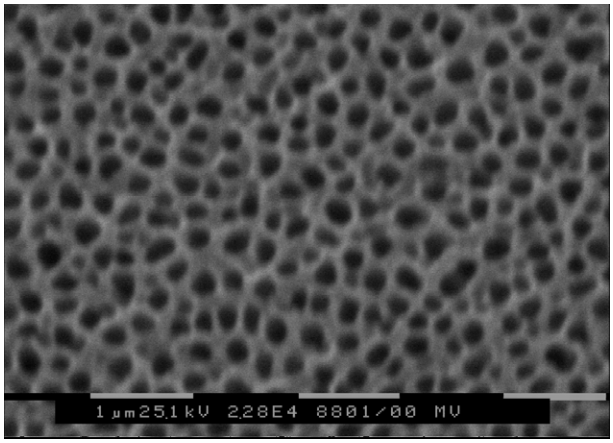

Figure S1 SEM micrograph of the Anodisc alumina membrane surface employed as a template.

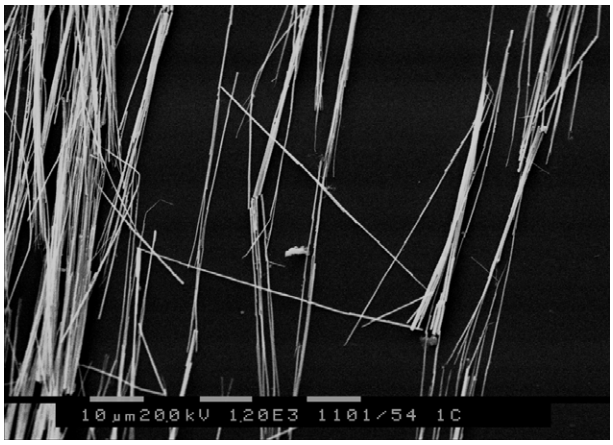

Figure S2 SEM micrograph of the nickel nanowires electrodeposited for 50 minutes and then detached from the Anodisc membrane and metal backing. The average length of the nanowires is 50 ± 3 μm and the average diameter is 200 ± 20 nm.

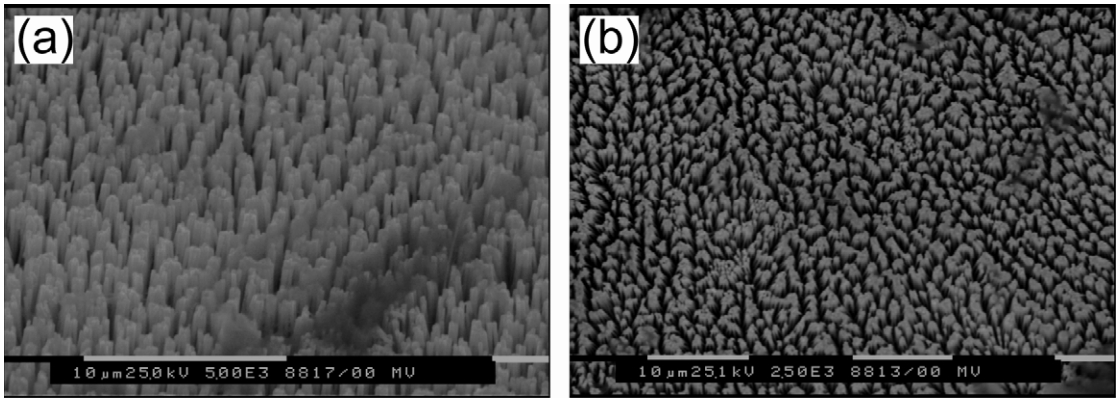

Figure S3 SEM micrographs showing different samples of nickel nanocarpets 5 µm long prepared on gold backing.

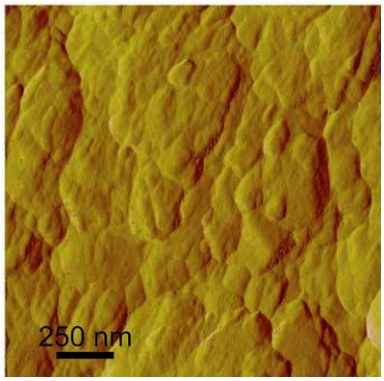

Figure S4 AFM amplitude image of a "flat" nickel surface prepared by electrodepositing nickel directly onto a flat copper plate for 15 minutes.

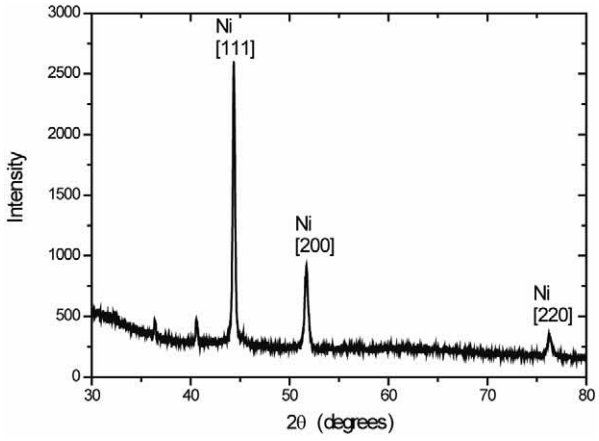

Figure S5 X ray diffraction patterns of nickel nanowires. A droplet of a nanowire suspension in chloroform was deposited on a glass slide and dried. The data were obtained using a Shimadzu XRD 6000 powder X-ray diffractometer with Cu K-α radiation, a tube voltage of 40 kV, and a tube current of 20 mA, at a rate of 1 degree/min, and step size of 0.02 degrees.

The intensity and position of the three nickel peaks match the literature values (e.g. Mazza, Masini, *Philos. Mag*., 1929, **7**, 301).