

Electronic Supporting Information for

Nanoscale Structure and Superhydrophobicity of sp^2 -Bonded Boron Nitride Aerogels

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Figures

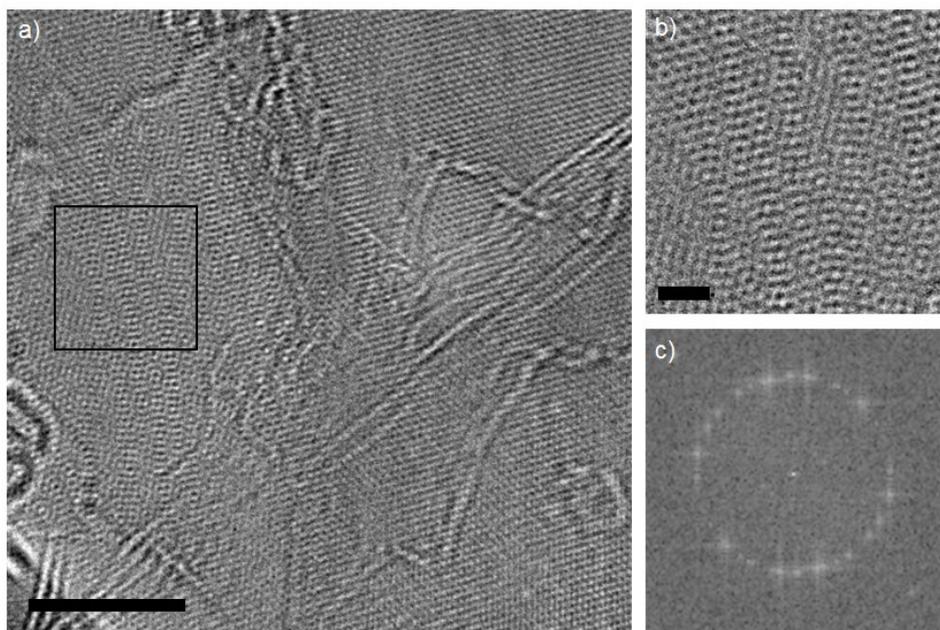


Fig. S1 (a) TEM of a portion of BN aerogel and (b) a magnified region of the image in part a, showing a portion of BN sheets lying parallel to the imaging plane. (c) FFT of this region with at least 5 overlapping hexagonal spot patterns. Scale bars are (a) 5 nm and (b) 1 nm.

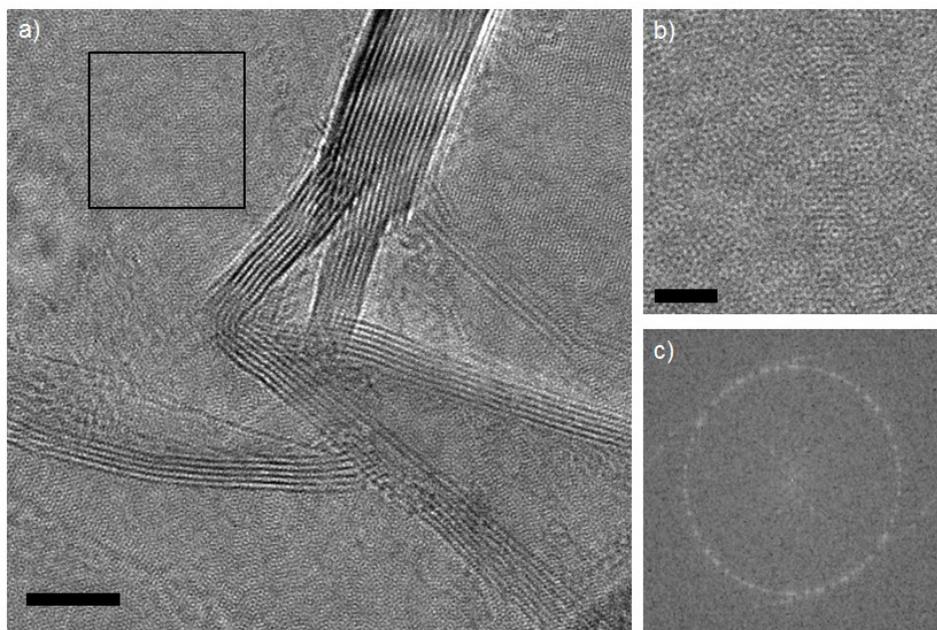


Fig. S2 (a) TEM of a portion of BN aerogel and (b) a magnified region of the image in part a, showing a portion of BN sheets lying parallel to the imaging plane. (c) FFT of this region with at least 10 overlapping hexagonal spot patterns. Scale bars are (a) 5 nm and (b) 2 nm.

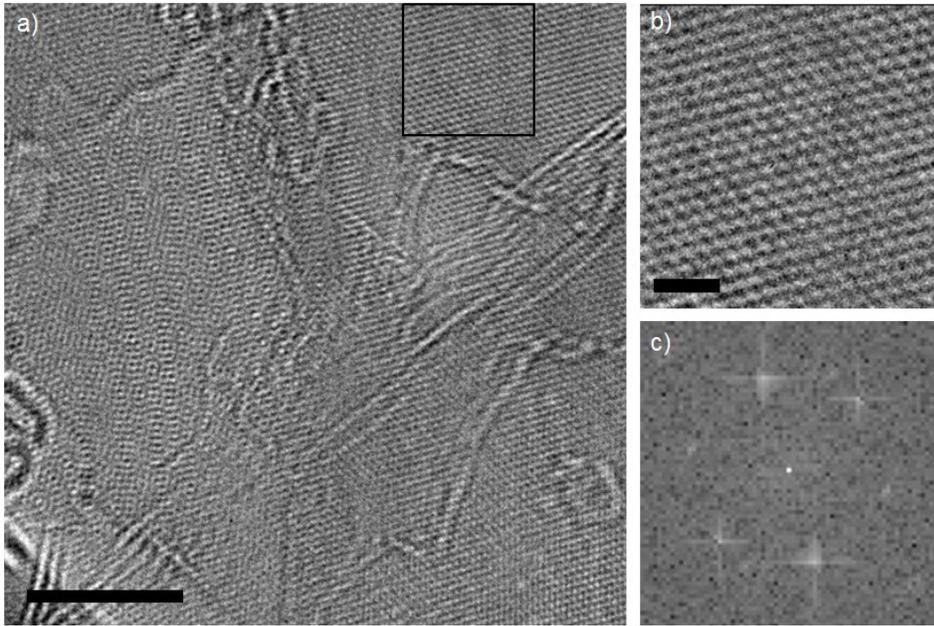


Fig. S3 (a) The TEM image from Figure S1a and (b) a different magnified region of the image. (c) FFT of this region with a single hexagonal spot pattern. Scale bars are (a) 5 nm and (b) 1 nm.

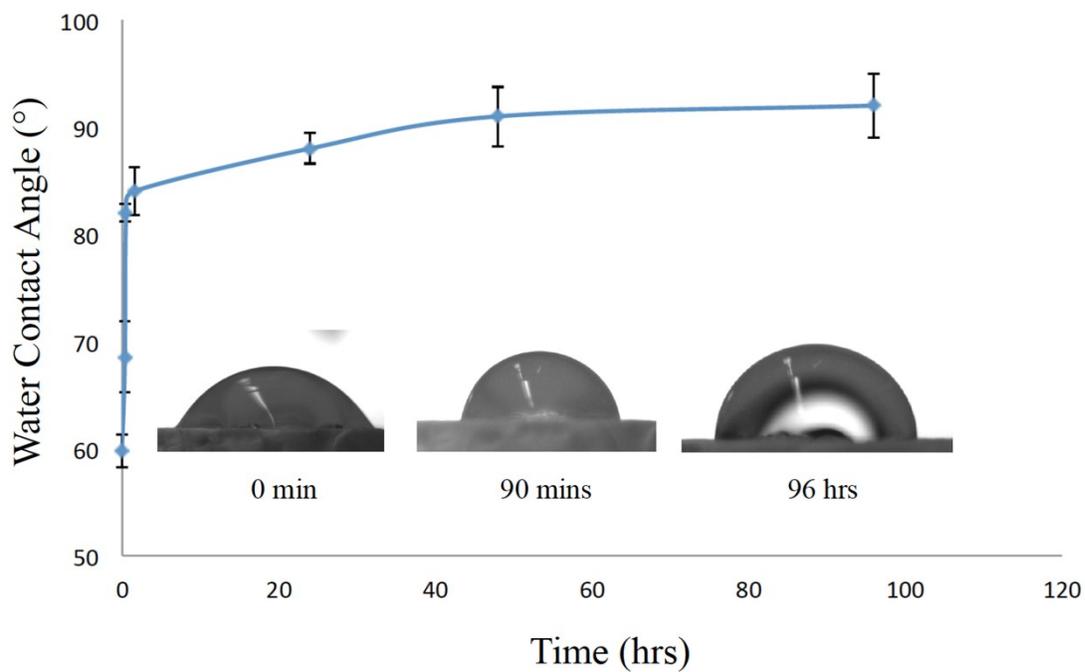


Fig. S4 Time – evolution of WCA of BN aerogel treated in UV – ozone plasma for 90 minutes. Right after treatment, WCA drops down to 59 °. After 4 days, WCA recovers and saturates at 92 °.

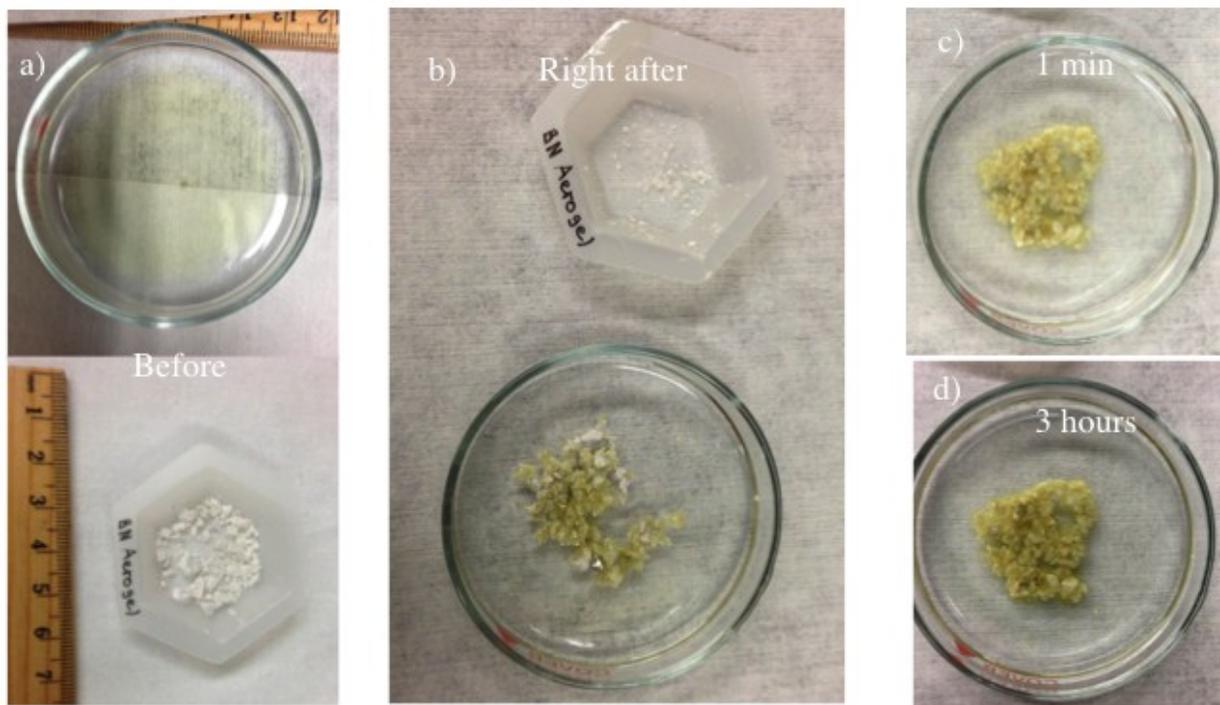


Fig. S5 Oil absorption of as-synthesized BN aerogels. a) Vacuum pump oil floating in a water bath and the white BN aerogels. b) Right after putting the BN aerogels into the bath. Due to its superhydrophobicity, BN aerogels float on the water surface and quickly absorb the pump oil. It bears the color of the oil. c) After 1 minute, all of oil is almost absorbed. d) After 3 hours, the water becomes clear with floating oil-BN aerogels. The aerogels was easy to pickup and regenerate by heat treatment.

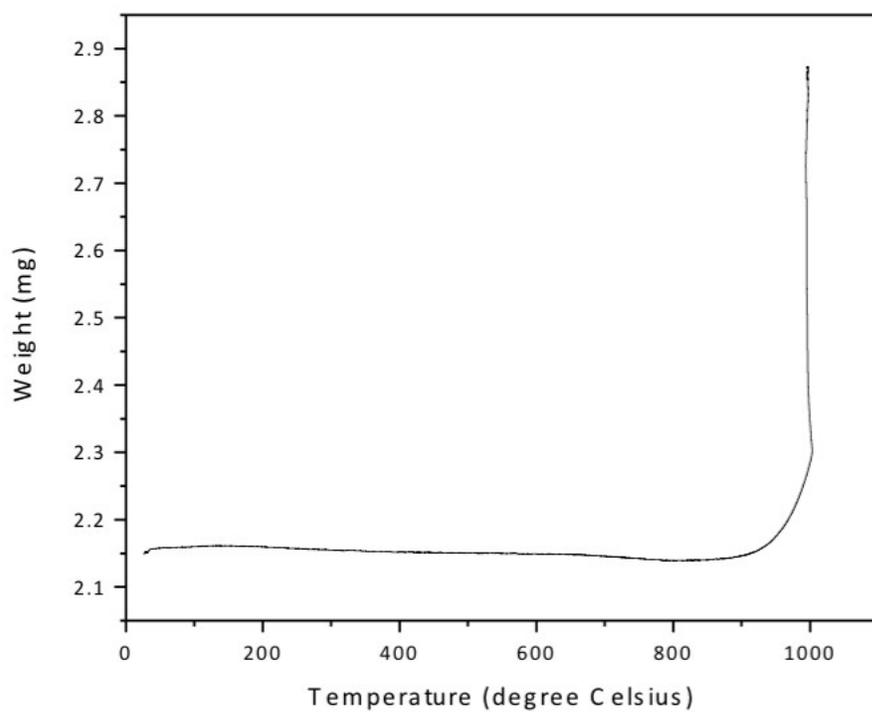


Fig. S6 TGA data for BN aerogel. The aerogel is stable up to 1000 °C.

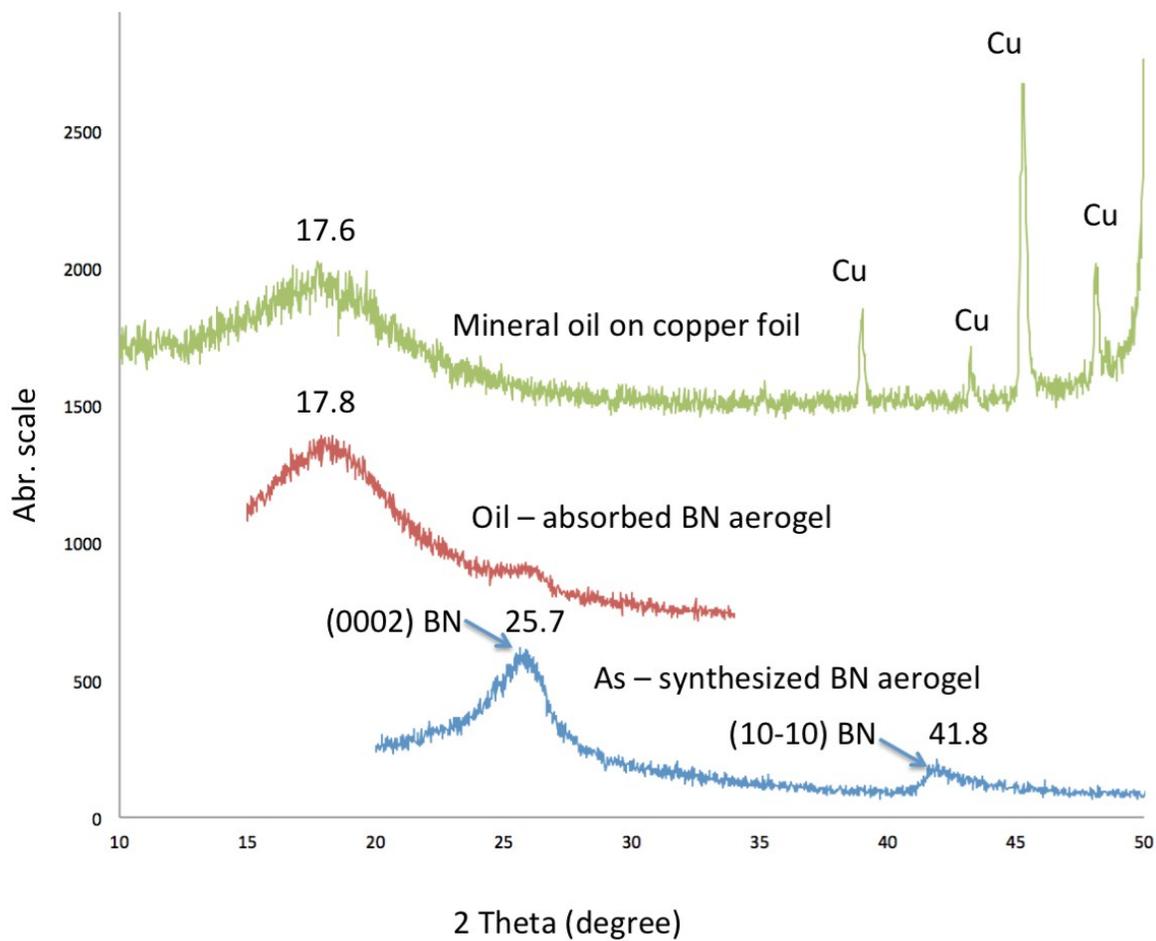


Fig. S7 XRD patterns of as-synthesized BN aerogel, oil-absorbed BN aerogels and a mineral oil droplet on a copper foil. The broad peak approximately at 18° in oil-absorbed BN aerogel is apparently attributed to the mineral oil.