

Supplementary Information

Surfactant Assisted Exfoliation of Near Infrared Fluorescent Silicate Nanosheets

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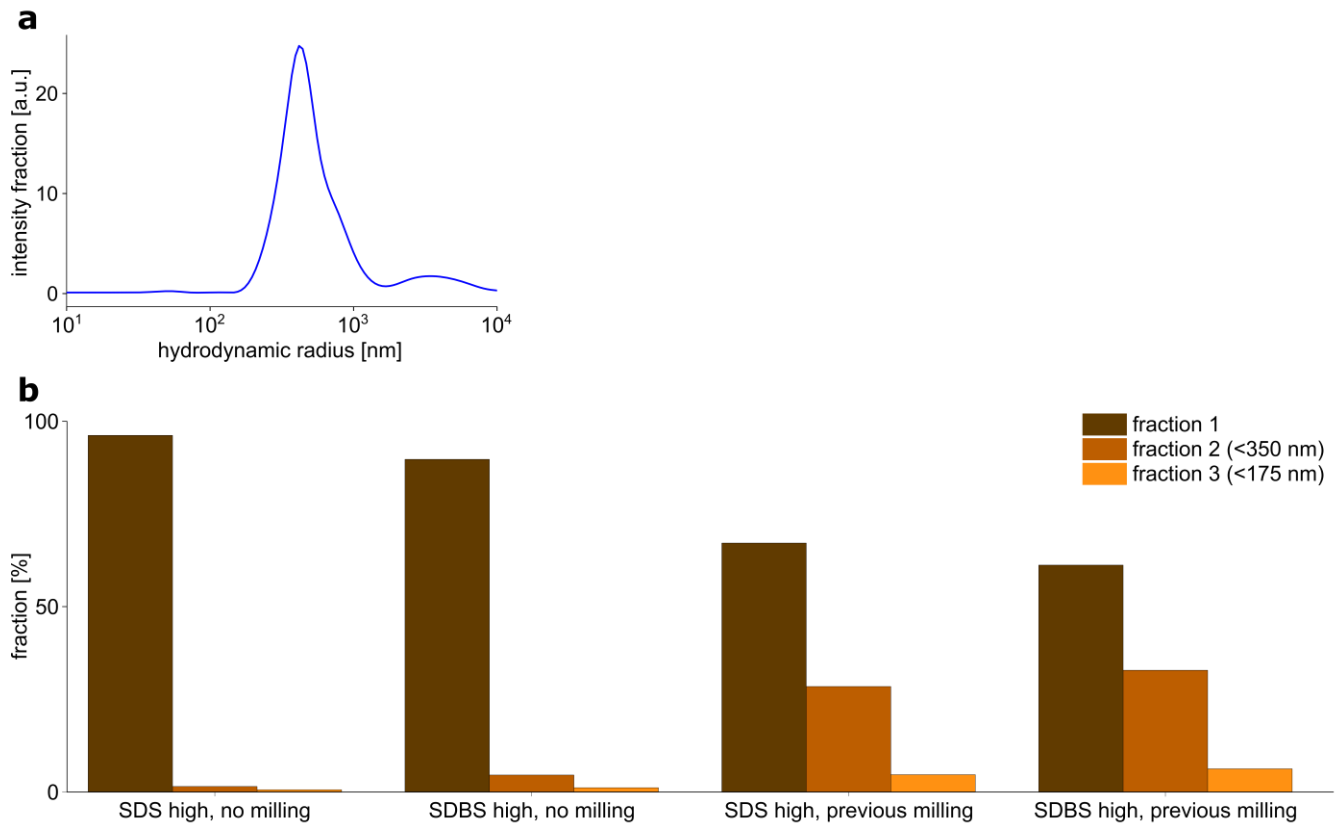


Figure S1: Liquid phase exfoliation of EB-NS a) Size distribution of EB-NS after planetary ball milling and size-selective centrifugation, measured by DLS. b) Size distribution of EB-NS exfoliated with and without previous planetary ball-milling exfoliated by bath sonication in different surfactants. After sonication, the samples were divided by liquid cascade centrifugation. Larger particles are enriched in fraction 1, fraction 2 contains only particles $r_{\text{hyd}} < 350$ nm, fraction 3 contains only particles $r_{\text{hyd}} < 175$ nm. The samples were dispersed at constant volume and their fluorescence intensity was measured.

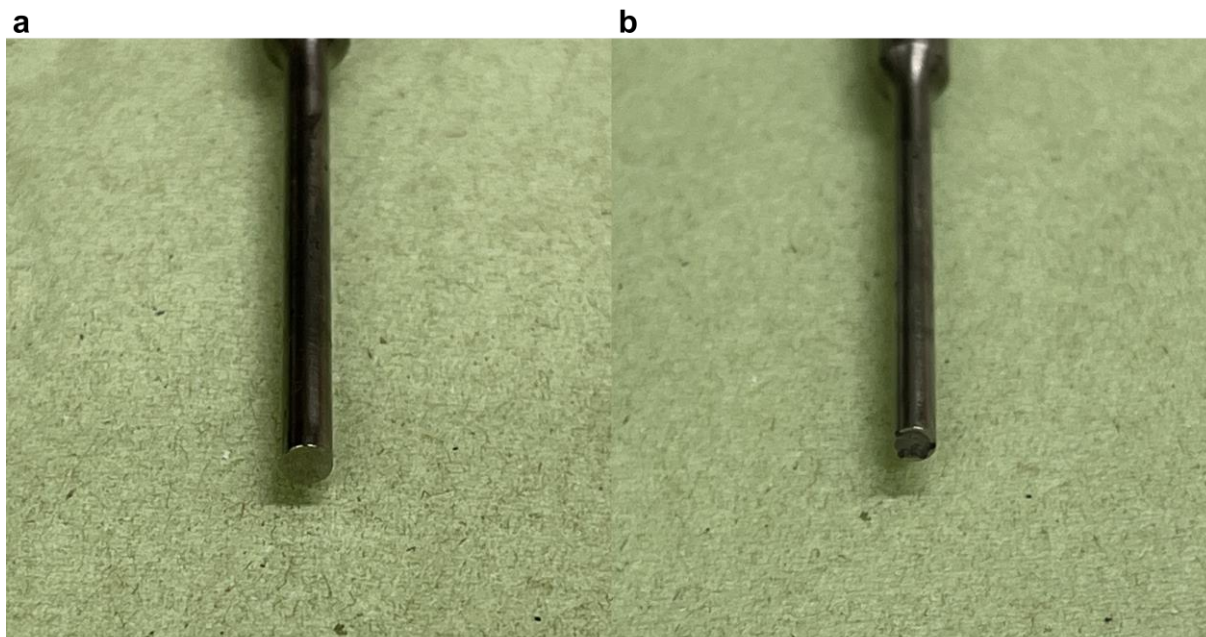


Figure S2: Tip erosion upon tip sonication of EB a) Photograph of a sonication tip for a sonic dismembrator. The tip is freshly ground and has a flat, smooth surface. b) Photograph of the same sonication tip for a sonic dismembrator after sonicating EB dispersion. 50 ml EB-NS dispersion diluted with deionized water to 0.6 mg ml^{-1} were sonicated in an ice bath for 6 h at 72 W amplitude. The tip shows abrasions, it has small cavities in the surface. The weight of the tip has decreased by 4 mg after sonication.

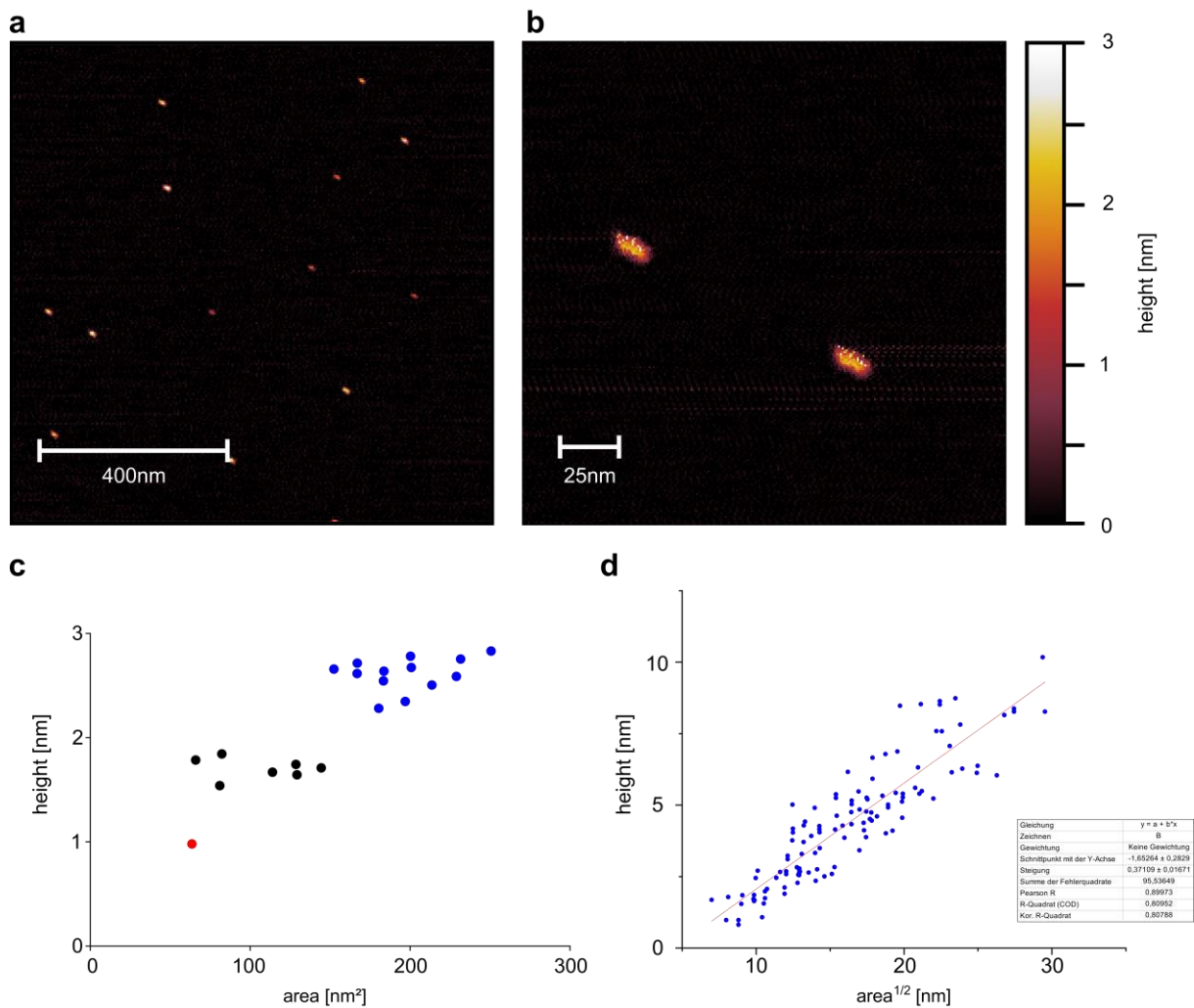


Figure S3: Height and morphology of exfoliated EB-NS a) Zoom in Figure 2a) shows the EB-NS in more detail. EB-NS are shaped slightly elongated. b) Detailed image of two EB-NS. c) Surface area and maximum height distribution of $n=21$ analyzed EB-NS from a) and Figure 2a). The different colors show particles expected to consist of 1, 2 and 3 monolayers. c) Zoom in image a) shows the EB-NS in more detail. EB-NS are shaped slightly elongated. d) Surface area and maximum height distribution of $n=118$ analyzed EB-NS from Figure 2b). On the x-axis, the root of the base area is given. Red line: linear fit.