## Supporting Information

for

## Blister formation during graphite surface oxidation by Hummers' method

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## Additional atomic force microscopy results



**Figure S1:** a) AFM image of a screw dislocation with the Burgers vector perpendicular to the basal plane. The location of the screw dislocation on the HAPG surface is marked by a white arrow. An edge dislocation (ED) and a cleavage step (CS) start from this point. Line profiles of the cleavage step and the edge dislocation are shown in b) and c), respectively.



**Figure S2:** AFM image of the blisters on the HAPG surface after it was treated with the oxidation mixture for 3 minutes.



**Figure S3:** AFM image of grain boundaries on the HAPG surface after it was treated with the oxidation mixture for 3 minutes, and a line profile, which was taken from a dotted line marked in the image.



c)

**Figure S4:** a) AFM image of the blisters on the HAPG surface after it was treated with the oxidation mixture for 30 minutes. The profiles of large (the diameter is 500 nm and the height is 48 nm) and small (the diameter is 80 nm and the height is 35 nm) blisters are shown in b) and c), respectively.