

Supporting information for

Atomic-scale etching of hexagonal boron nitride for device integration based on two-dimensional materials

*Hamin Park, Gwang Hyuk Shin, Khang June Lee, and Sung-Yool Choi**

School of Electrical Engineering, Center for Advanced Materials Discovery towards 3D Display, KAIST, Daejeon 34141, Korea

*Corresponding author: sungyool.choi@kaist.ac.kr

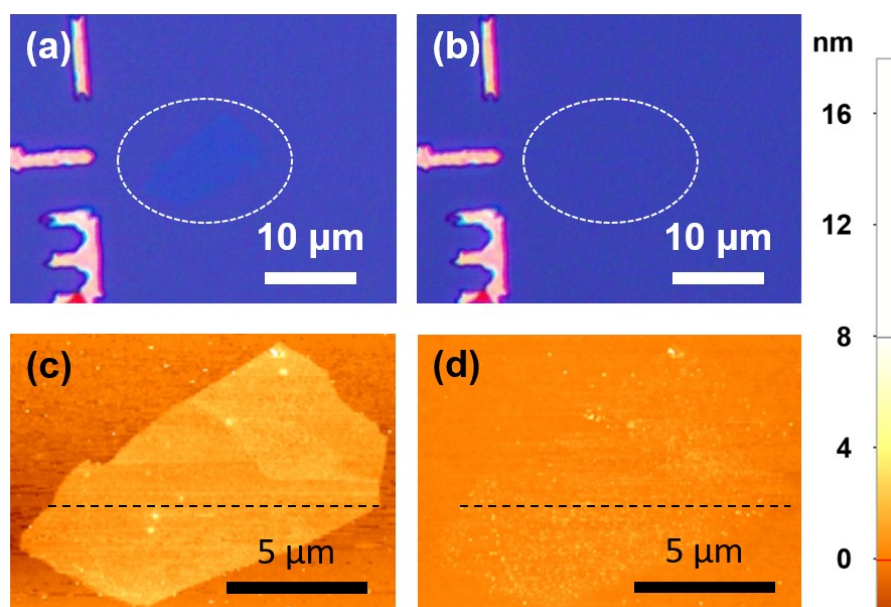


Fig. S1 The optical images of the h-BN flake (a) before and (b) after the etching for the monolayer formation. The AFM images of the h-BN flake (c) before and (d) after the etching for the monolayer formation. The thickness of the h-BN flake before the etching was 20 Å (6 layers) as shown in (a) and (c), and the thickness was reduced to 4 Å (monolayer) as shown in (b) and (d) after the etching.

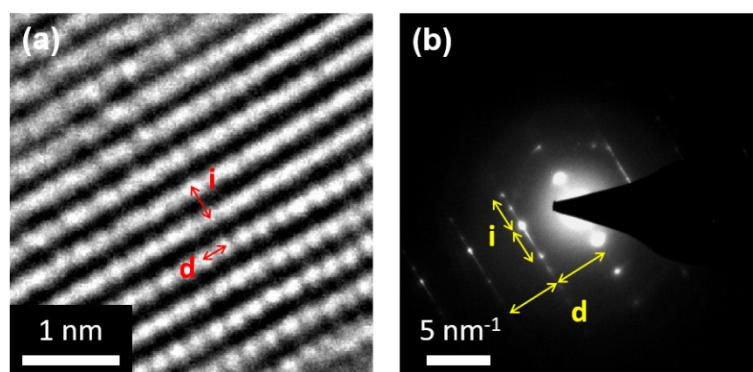


Fig. S2 (a) The cross-sectional high-resolution TEM (HRTEM) image showing the atomic structure of the h-BN film. Interlayer spacing between the h-BN layer (labelled as 'i') is 0.33 nm and d-spacing between two consecutive B or N atoms within the basal plane (labelled as 'd') is 0.22 nm. (b) The selected area electron diffraction (SAED) pattern of the corresponding HRTEM image. There is a periodic arrangement of the dots (labelled as 'i') of 3.0 nm⁻¹ gap corresponding to the interlayer spacing of 0.33 nm. Also, the periodic arrangement of the lines (labelled as 'd') of 4.5 nm⁻¹ gap corresponds to the d-spacing of 0.22 nm.