Supplementary Information

Large-area niobium disulfide thin films as transparent electrodes for devices based on two-dimensional materials

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NbS_2 film thickness

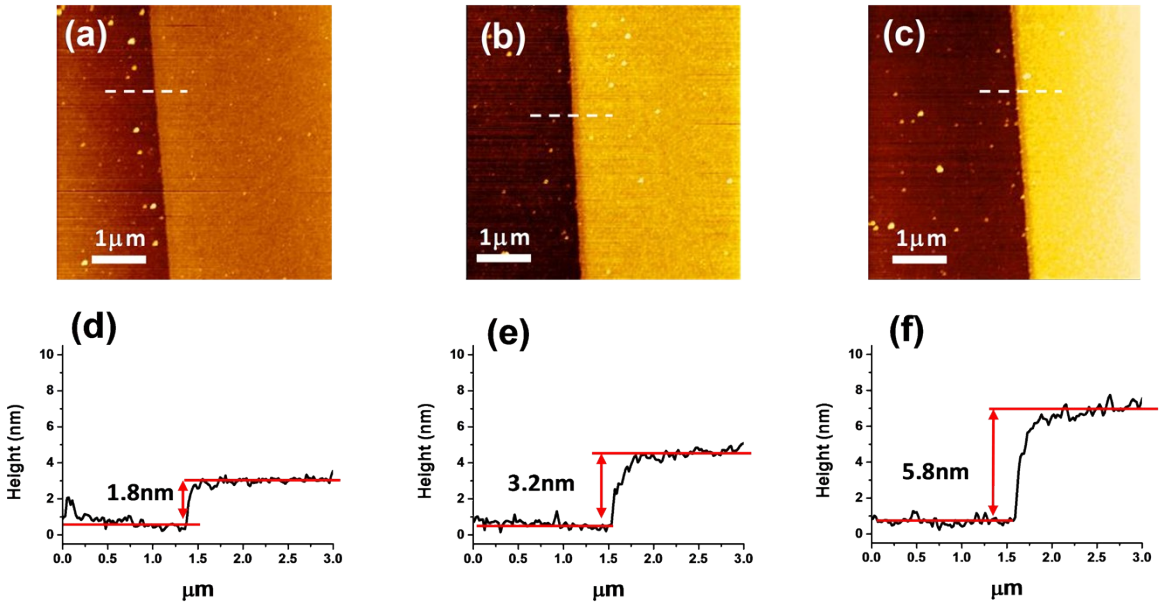

Figure S1. Atomic force microscopy (AFM) images of synthesized NbS_2 films with various thicknesses. (a,b,c) Topological images and (d,e,f) line profiles of 2-, 4-, and 8-layer NbS_2 films, respectively.

Device fabrication process

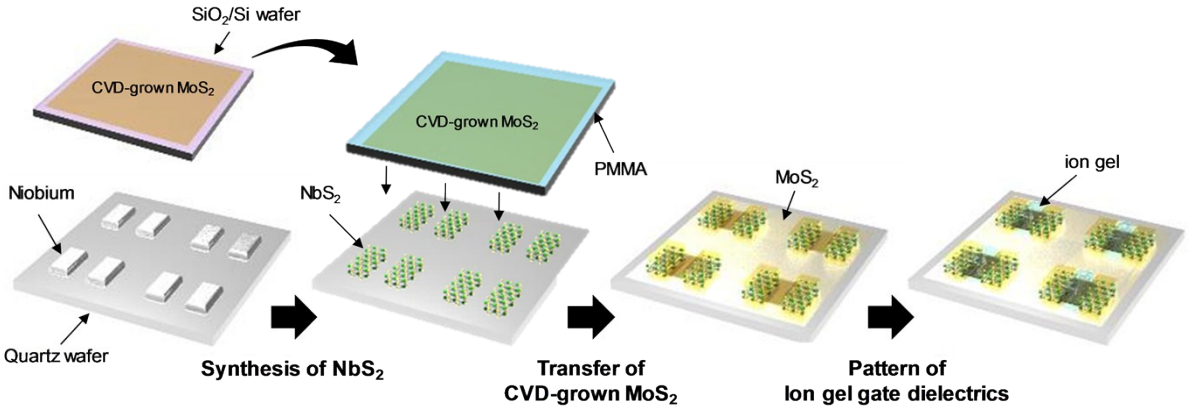

Figure S2. Schematic of the process used to fabricate an ion-gel gated MoS_2 FET with an NbS_2 electrode.

Photographic image of a fabricated device

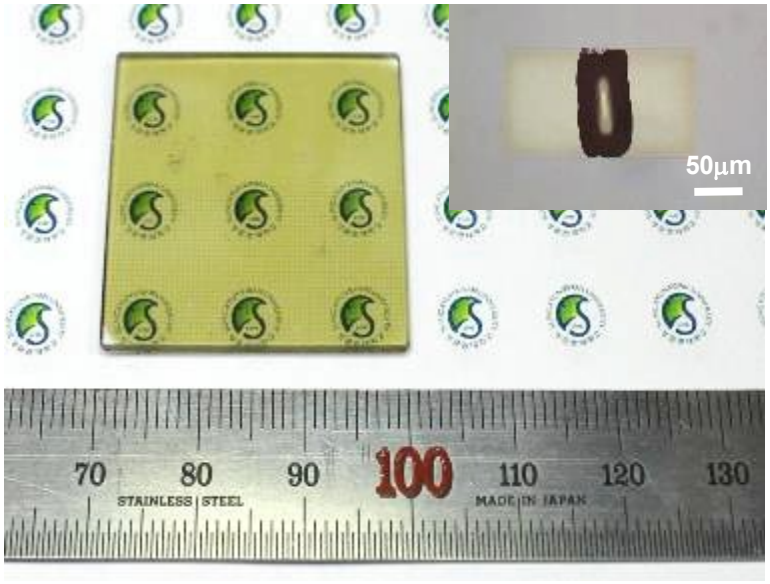

Figure S3. Photograph of an array of ion-gel gated MoS_2 FETs using NbS_2 electrode. The inset shows an optical microscope image of a single device.