## **Electronic Supplementary Information**

## Ultrathin Bi<sub>2</sub>O<sub>2</sub>S Nanosheets Near-Infrared Photodetectors

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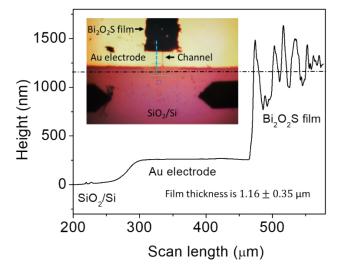


Fig. S1. Bi<sub>2</sub>O<sub>2</sub>S film thickness measurement using a profilometer. The scan direction and length are shown with a blue dotted line. Inset depicts the optical image of the device collected during profilometer measurement.

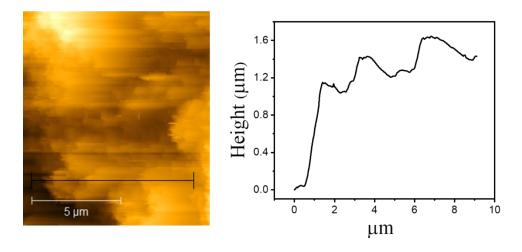


Fig. S2. Bi<sub>2</sub>O<sub>2</sub>S film thickness measurement by AFM with corresponding thickness profile.

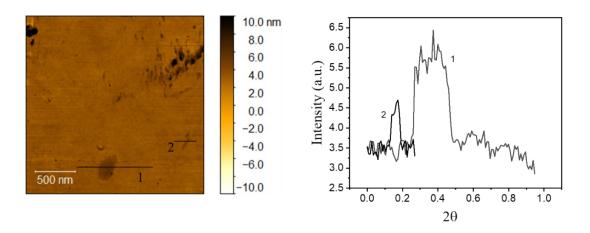


Fig. S3. AFM of the  $Bi_2O_2S$  nanosheets with height profiles taken at two different locations.