Electronic Supplementary Material (ESI) for Nanoscale.
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Supporting Information

Tunable Floating-Base Bipolar Transistor Based on 2D Material Homojunction Realized by Solid Ionic Dielectric Material

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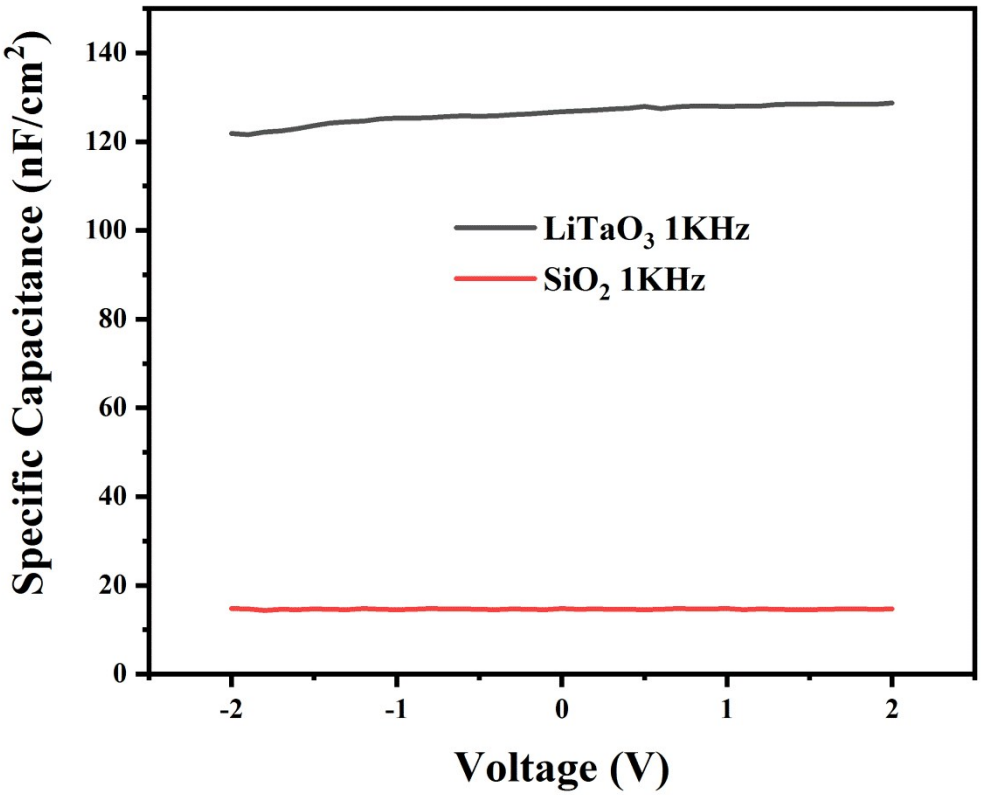

Fig. S1 The measure of capacitance-voltage results of 285 nm $LiTaO_3$ film and SiO_2 film at 1 KHz.

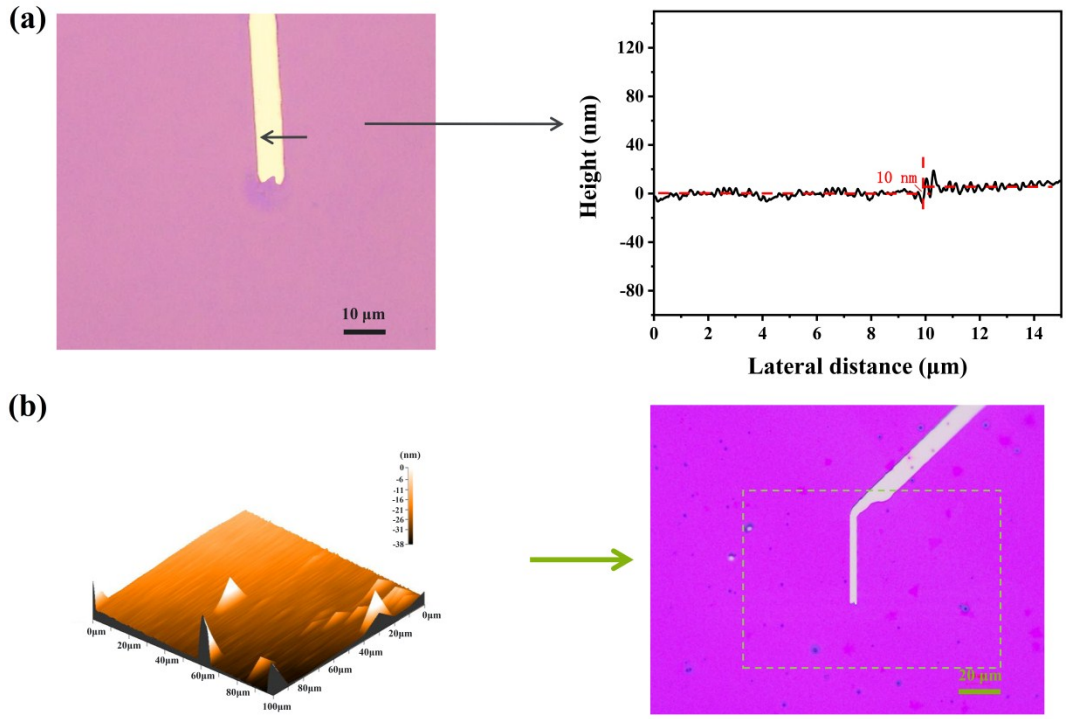

Fig. S2 (a) Optical microscopy image of buried gating electrode and the smoothness of the gating. (b) The roughness of $LiTaO_3$ film which covered the buried gating by magnet sputtering.

The optical microscopy image of buried gating electrode was shown in Fig. S2a. The height difference between the buried gate electrode and other positions is less than 10 nm. As shown by Fig. S2b, the roughness of sputtered $LiTaO_3$ film is less than 10 nm, indicating the high quality fabrication technology.