

## Article

# High-Performance CVD Bilayer MoS<sub>2</sub> Radio Frequency Transistors and Gigahertz Mixers for Flexible Nanoelectronics

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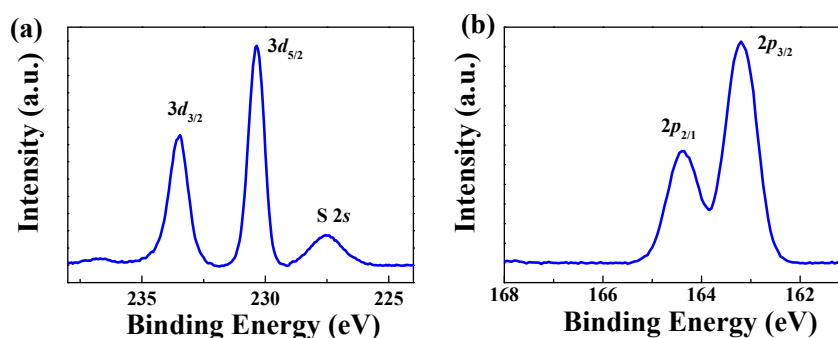
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## S1 XPS analysis

Figure S1 shows the X-ray photoelectron spectroscopy (XPS) of the CVD grown MoS<sub>2</sub>. In Fig. S1(a), the XPS spectra shows two peaks at 230.3 and 233.4 eV, corresponding to the Mo 3d<sub>5/2</sub> and Mo 3d<sub>3/2</sub> state, respectively. As shown in Figure S1(b), the binding energy for S 2p<sub>3/2</sub> and S 2p<sub>1/2</sub> are 163.2 and 164.4 eV. The data of Mo 3d, and S 2p states are in agreement with the reported data of MoS<sub>2</sub> samples with 2H crystalline structure[1,2]. The atomic concentration of Mo (3d) to S (2p) in MoS<sub>2</sub> was estimated to be 34.36 to 65.64, respectively.



**Figure S1.** (a) The XPS spectra of the Mo 3d state, (b) S 2s state.

## References

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