

## Supplementary Material

# A Three Dimensional Dual-band Terahertz Perfect Absorber as a Highly Sensitive Sensor

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### **1** Supplementary Figures

**Figure S1** (A) The schematic diagram of the incident angle of terahertz waves for the planar absorber. (B) Absorption spectra with different polarization angles  $\phi$  under normal incidence. Absorption spectra under different incident angles  $\theta$  under (C) TE mode and (D) TM mode.

We have investigated the impact of polarization states and incident angles on the planar absorber as shown in **Figure S1**. The spectra variation with respect to the polarization angle and the incident angle under TE mode and TM mode exhibits considerable consistency with the meta-absorber. Both absorption spectra for different polarization angles demonstrate their independence to the polarization states as shown in **Figure S1B**. However, as shown in **Figure S1C** and **Figure S1D**, the absorption spectra regarding the incident angles under TE mode and TM mode between two absorbers are quite different in the absorption amplitudes and the frequency shift.