**Supporting Information**

**Heterostructured Ti3C2Tx/carbon nanohorn based gas sensor for NH3 detection at room temperature**

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**Fig. S1** FT-IR spectra of Ti3C2Tx, CNH, and Ti3C2Tx/CNH.



**Fig. S2** The dynamic response/recovery characteristic of the (a) CNH sensor, (b) Ti3C2Tx/CNH (0.1 wt%), (c) Ti3C2Tx/CNH (1 wt%), and (d) Ti3C2Tx/CNH (5 wt%) to 100 ppm NH3 at room temperature.



**Fig. S3** Dynamic response/recovery curve of Ti3C2Tx/CNH (0.5 wt%) sensor to 100 ppm NH3 at different RHs.