Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Low-operating temperature ammonia sensor based on Cu_2O nanoparticles decorated with p-type MoS_2 nanosheets

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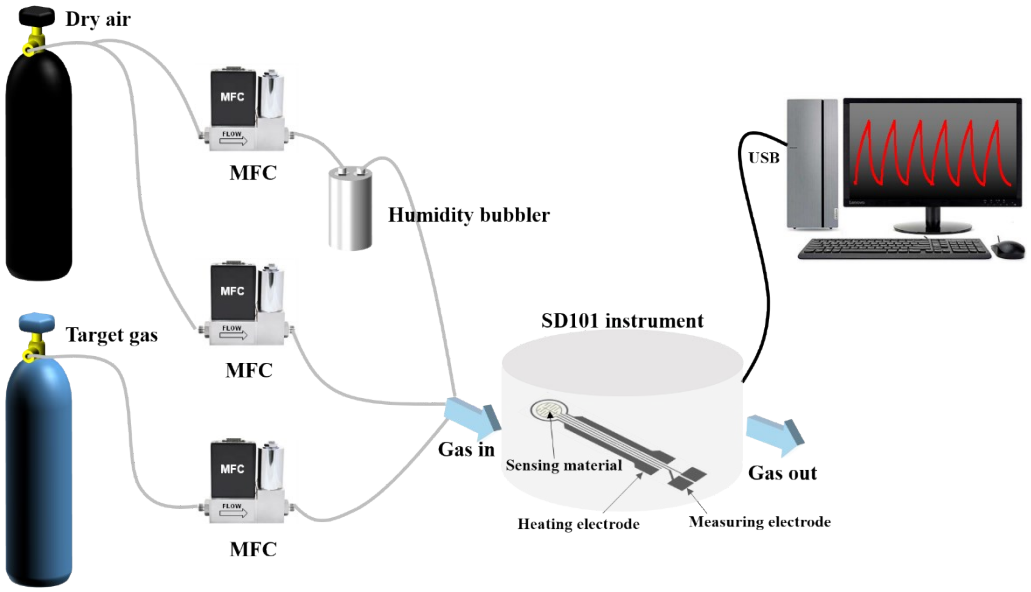

Figure S1 The schematic of gas sensor device and measuring system.

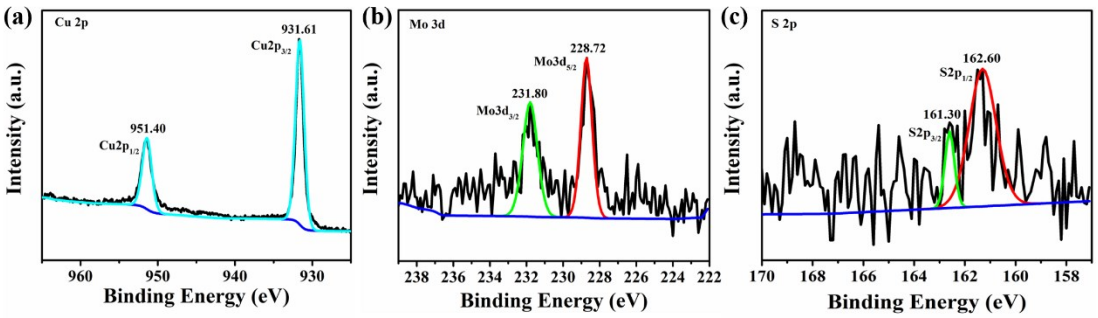

Figure S2 XPS spectra of Cu 2p (a), Mo 3d (b) and S 2p (c) in M-5 nanohybrid.

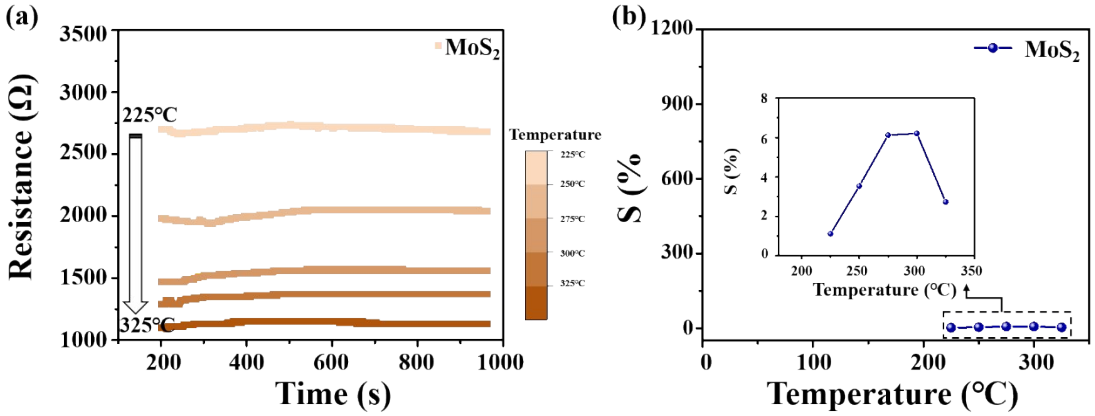

Figure S3 Transient resistance and sensing response of pure MoS_2 to 100 ppm NH_3 at different operating temperatures.

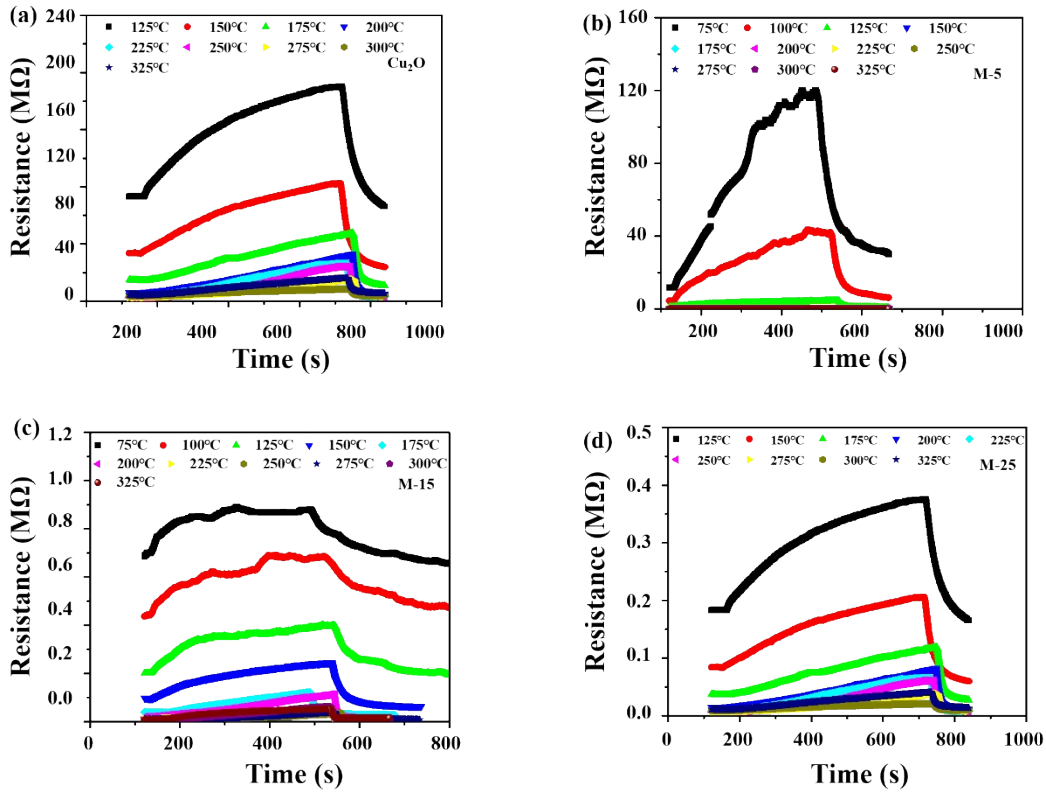

Figure S4 Transient resistance in the dotted box to 100 ppm NH_3 at different operating temperatures (a) Cu_2O; (b) M-5 nanohybrid; (c) M-15 nanohybrid; (d) M-25 nanohybrid.

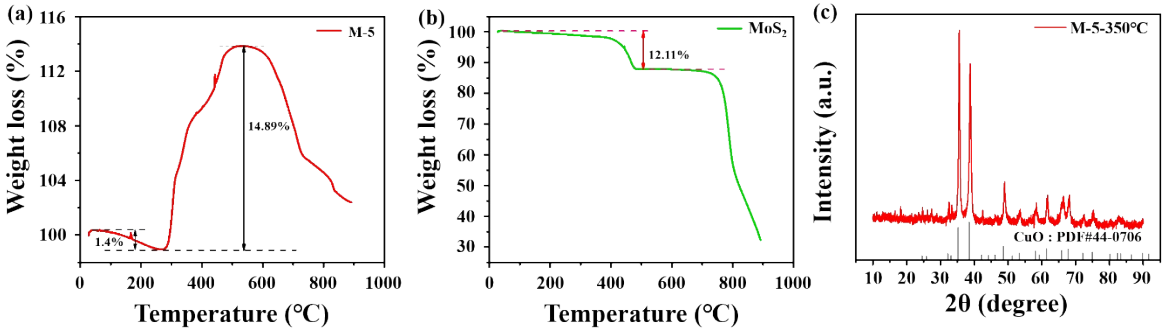

Figure S5 TGA analysis under air atmosphere with a heating rate of 10 °C/min (a) M-5; (b) MoS_2; (c) The XRD pattern of M-5 calcined at 350°C under air atmosphere for 30 min.

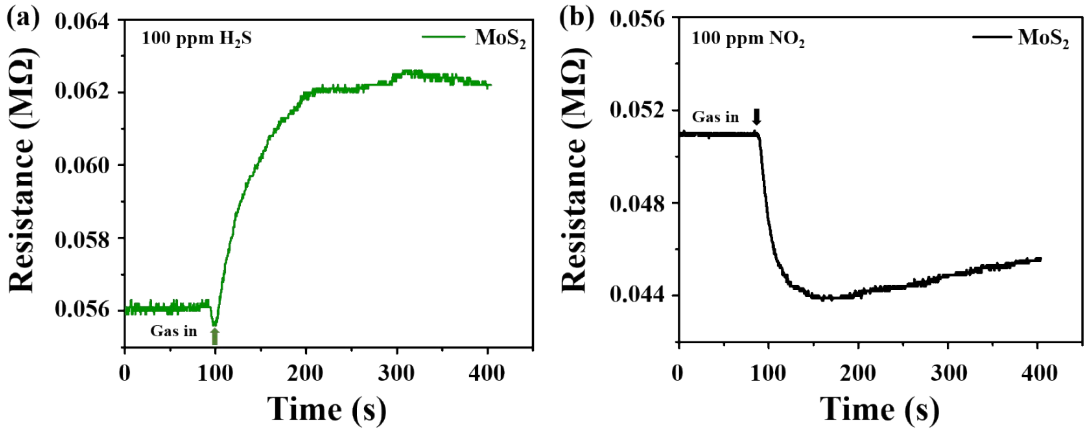

Figure S6 Response towards 100 ppm gas at 25°C (a) H_2S; (b) NO_2.