Micro-wheels Composed of Self-Assembled Tungsten Oxide Nanorods for Highly Sensitive Detection of Low Level Toxic Chlorine Gas

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**Figure S1.** Apparatus for gas sensor testing. The black chamber ensures the gas-sensing measurements were not influenced by light.
Figure S2. SEM images of the products obtained by different experiments under a fixed hydrothermal condition.
Figure S3. XRD pattern of the synthesized micro-wheels made of self-assembled tungsten oxide nanorods.
Figure S4. EDS analysis of the fabricated tungsten oxide: composition estimated from the EDS confirmed the WO$_{2.9}$
Figure S5. Raman spectra of the synthesized micro-wheels made of self-assembled tungsten oxide nanorods.
Figure S6. Photoluminescence (PL) spectrum of synthesized micro-wheels made of self-assembled tungsten oxide nanorods
Figure S7: Transient resistance vs. time of the nanosensor upon exposure to different concentration of NH$_3$ measured at different temperatures
Figure S8: (A) sensor response as a function of temperatures; (B) sensor response as a function of NH$_3$ measured at different temperatures.
Figure S9. Light response of the sensor measured at different temperatures
Figure S10. Transient resistance vs. time of the sensor measured at 150°C