

Layered double hydroxides oriented assembly by negatively charged graphene oxide for NO₂ sensing at ppb level

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Supplementary data

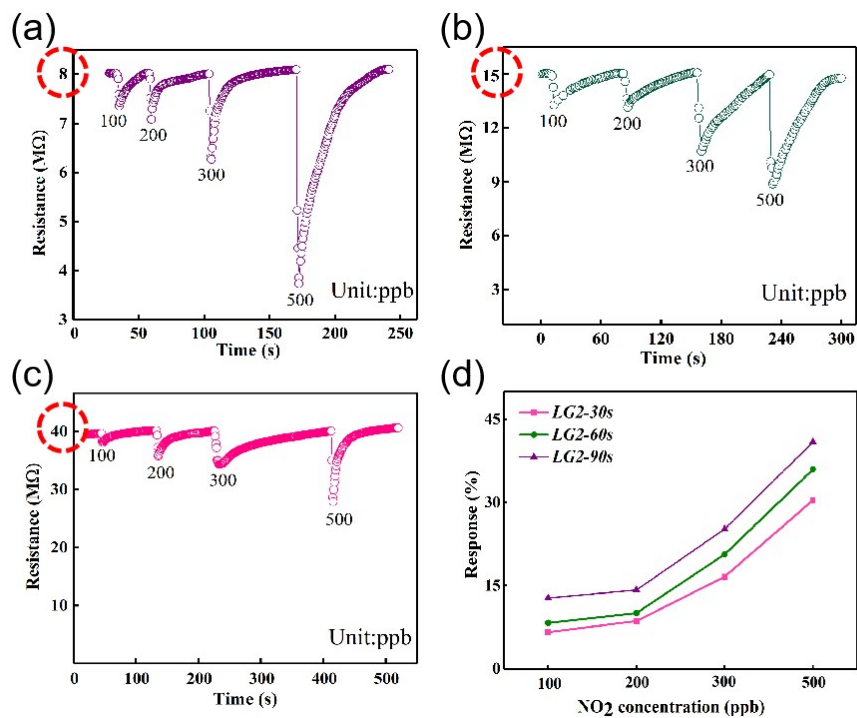


Fig. S1. (a-c) Dynamic responses of the LG2 sensors developed with 90 s-, 60 s- and 30 s-spinning to varying concentrations of NO₂; (d) Response comparisons of the three sensors.

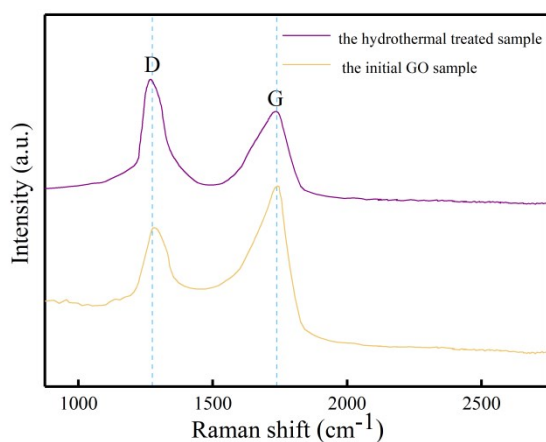


Fig. S2. Raman spectra of GO before and after hydrothermal treatment.

The hydrothermally-treated sample shows much higher I_D/I_G ratio (1.21) than the initial sample of GO (0.78). The increased ratio of I_D/I_G demonstrates the fact that rGO has been formed in the hydrothermal process.

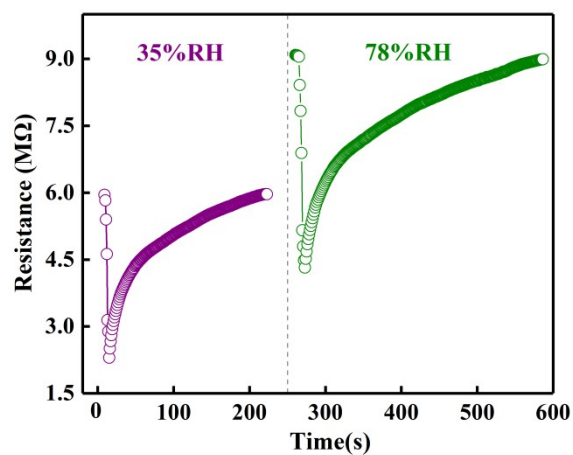


Fig. S3. Sensing response of a new prepared LG2 sensor to 1 ppm NO₂ under different relative humidity.

The calculated response values $((R_a - R_g)/R_a * 100\%)$ for the newly prepared LDHs/rGO sensor are 66% and 57% in the ambient with 35%RH and 78%RH respectively. It demonstrates that the relative humidity has little influence on the performance of the present nanocomposite of LDHs/rGO.