Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Annealing effect on UV-illuminated recovery in gas response of graphene-based NO_2 sensors

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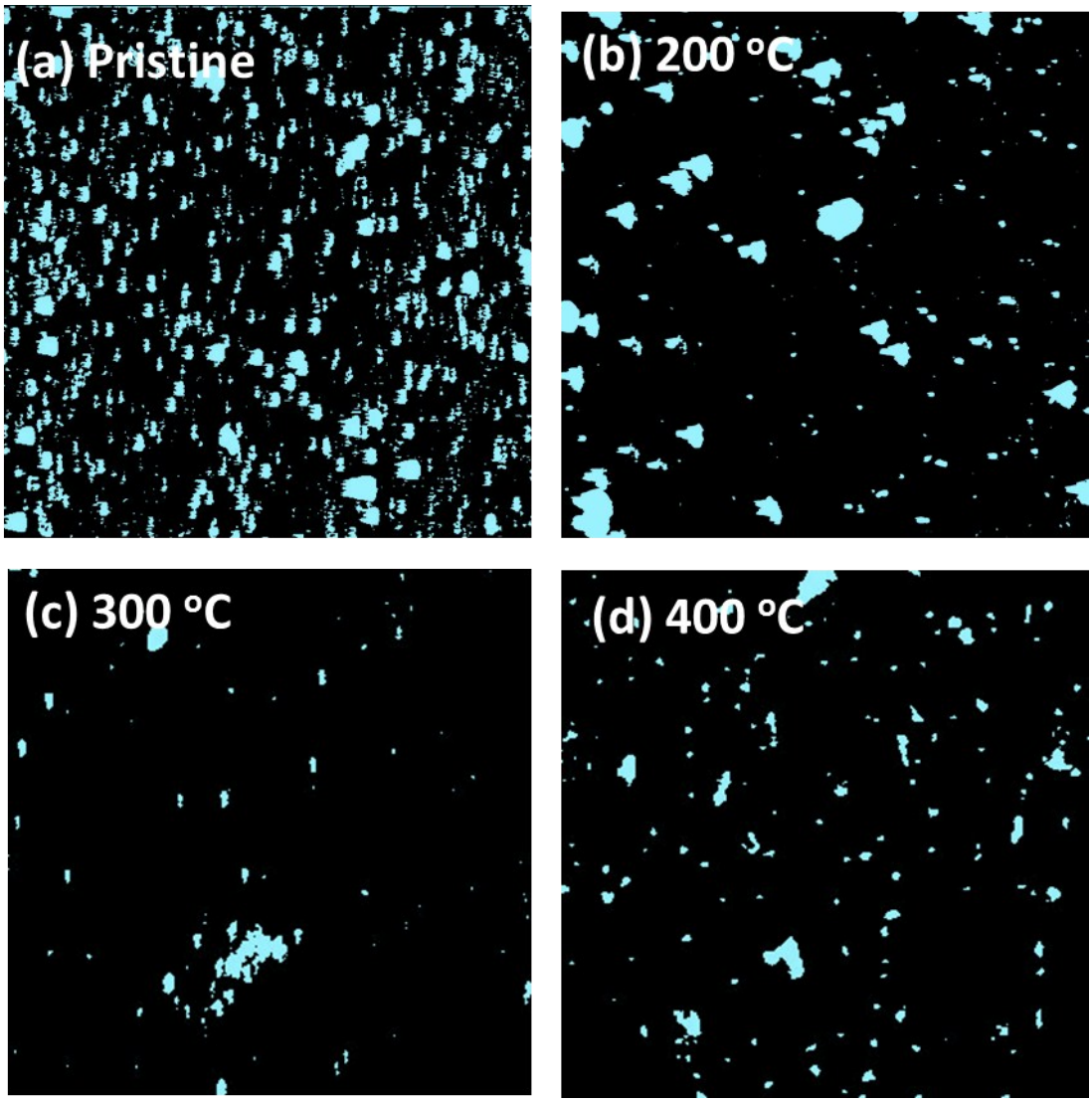

Fig. S1 AFM images analyzed in imageJ software: (a) pristine graphene and with annealing at (b) 200 °C, (c) 300 °C and (d) 400 °C. The red area could be referred to PMMA residues with a threshold value setting.

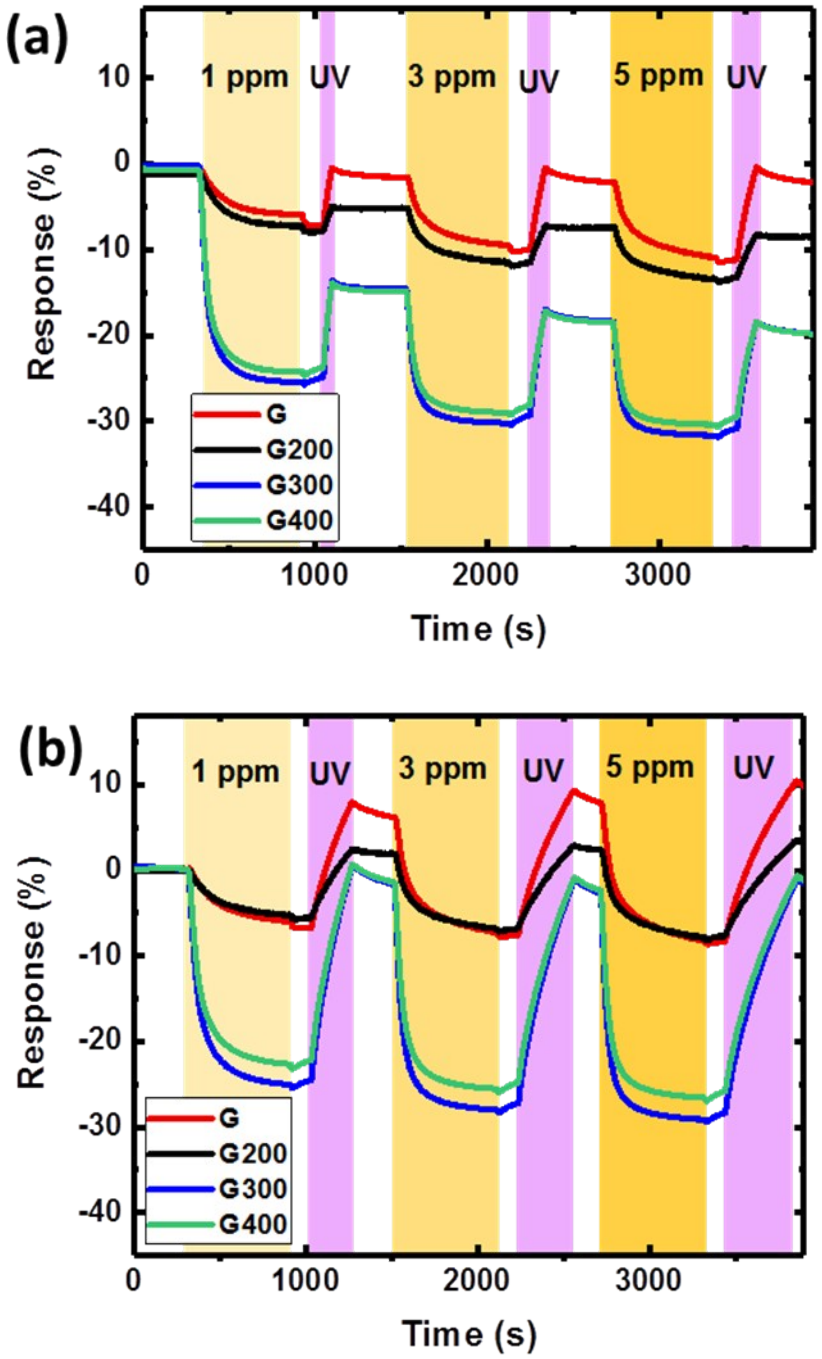

Fig. S2 Dynamic response versus time for the device treated with RTA at different temperatures and exposure to various concentrations of NO_2 with UV illumination during the recovery time. The illumination time is decided by the full recovery of the response of (a) the "G" device and (b) the "G300" device.

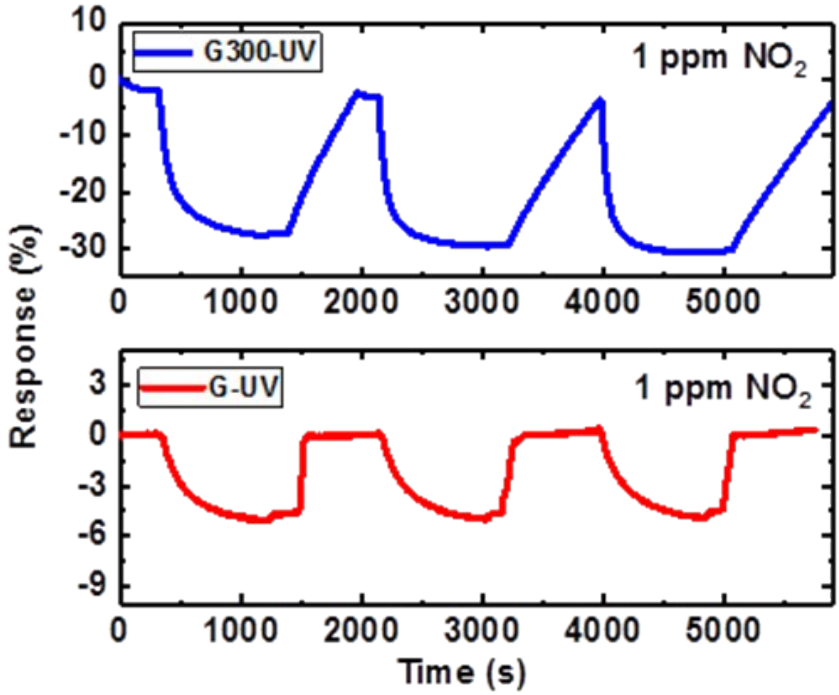

Fig. S3 Repeatability and stability studies of the graphene sensors exposed to 1 ppm of NO_2.

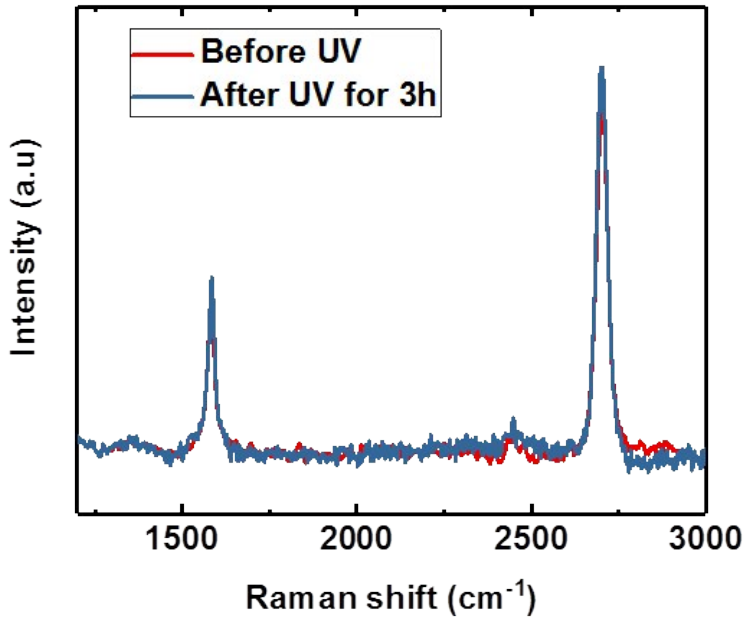

Fig. S4 Raman spectra of the pristine monolayer graphene before and after UV illumination for 3h.