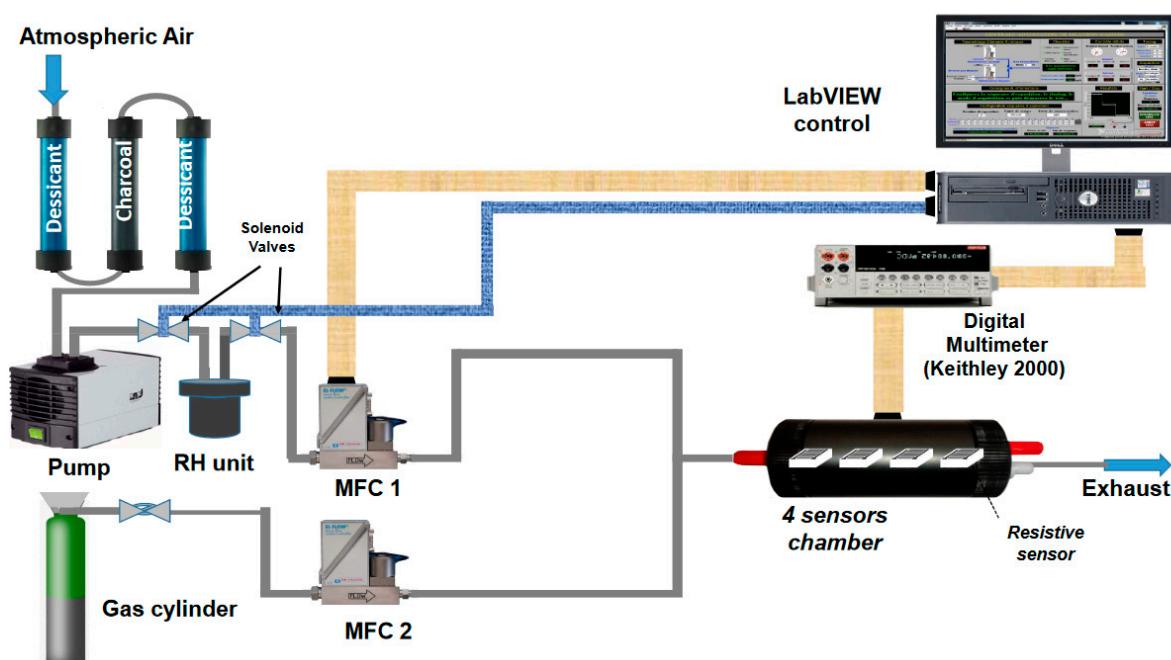


Supplementary

# Investigating the Metallic Nanoparticles Decoration on Reduced Graphene Oxide-Based Sensors Used to Detect Sulfur Dioxide

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**Scheme S1.** Experimental test bench used for the gas sensing experiment.

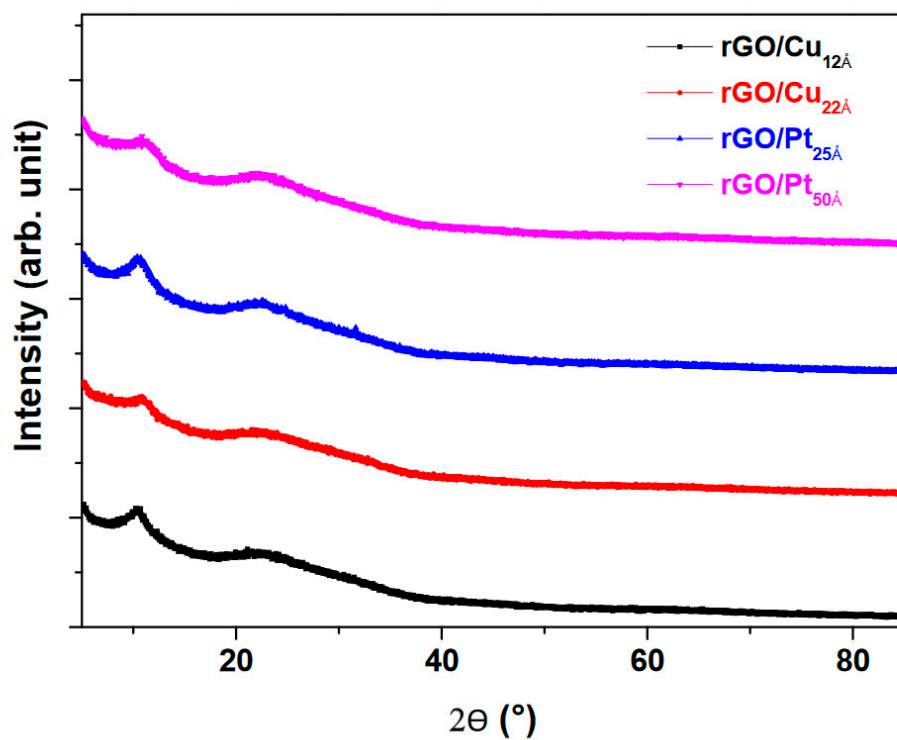


Figure S1. XRD patterns of the physically decorated composites rGO/Cu and rGO/Pt.

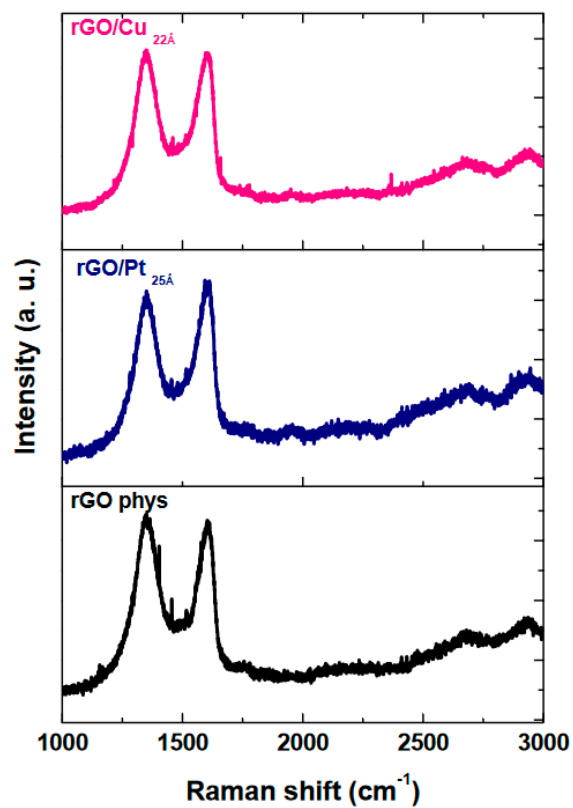


Figure S2. Raman spectra of the rGO and the physically decorated composites rGO/Cu and rGO/Pt.

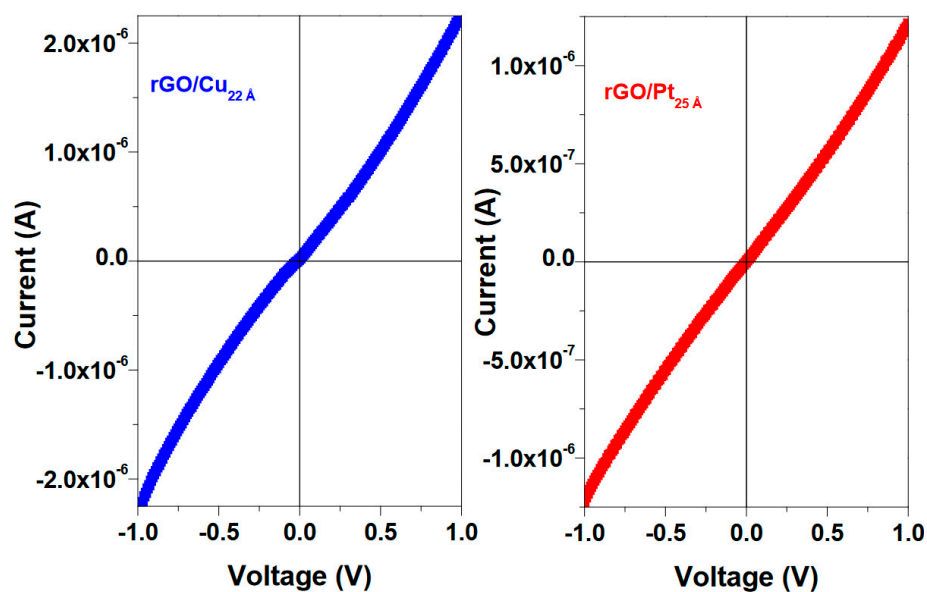


Figure S3. Current-voltage characteristic of rGO/Cu<sub>22Å</sub> and rGO/Pt<sub>25Å</sub> nanocomposites obtained by physical decoration.

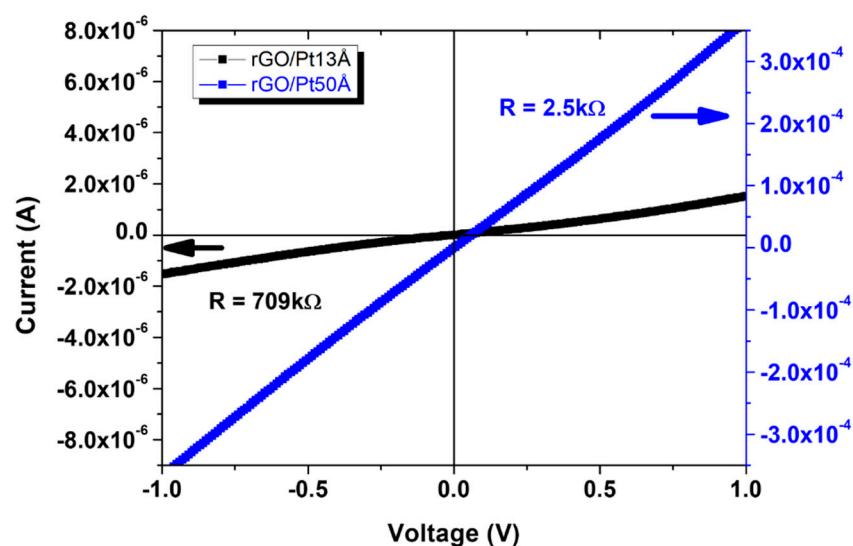


Figure S4. Current-voltage characteristic of rGO/Pt<sub>13Å</sub> and rGO/Pt<sub>50Å</sub> nanocomposites obtained by physical decoration showing the lower resistance value when the deposition time increases.

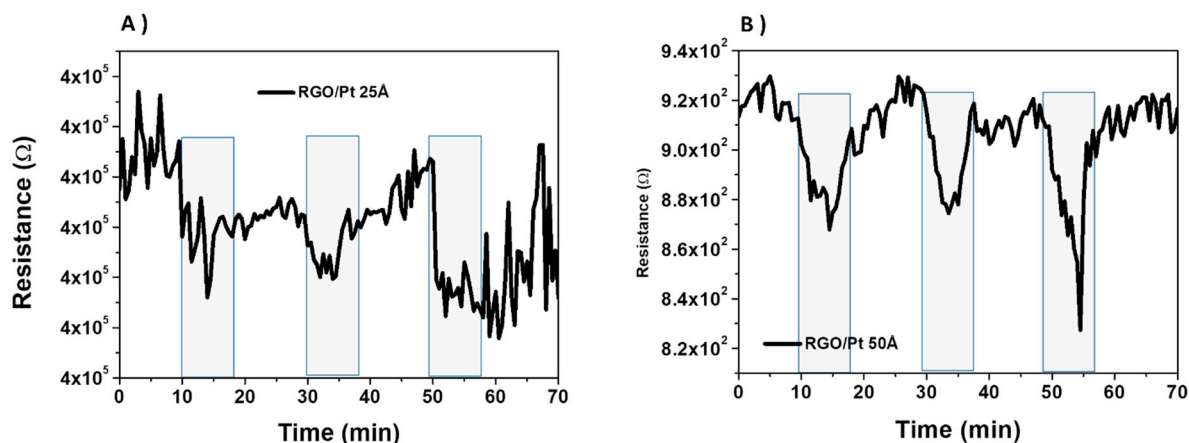
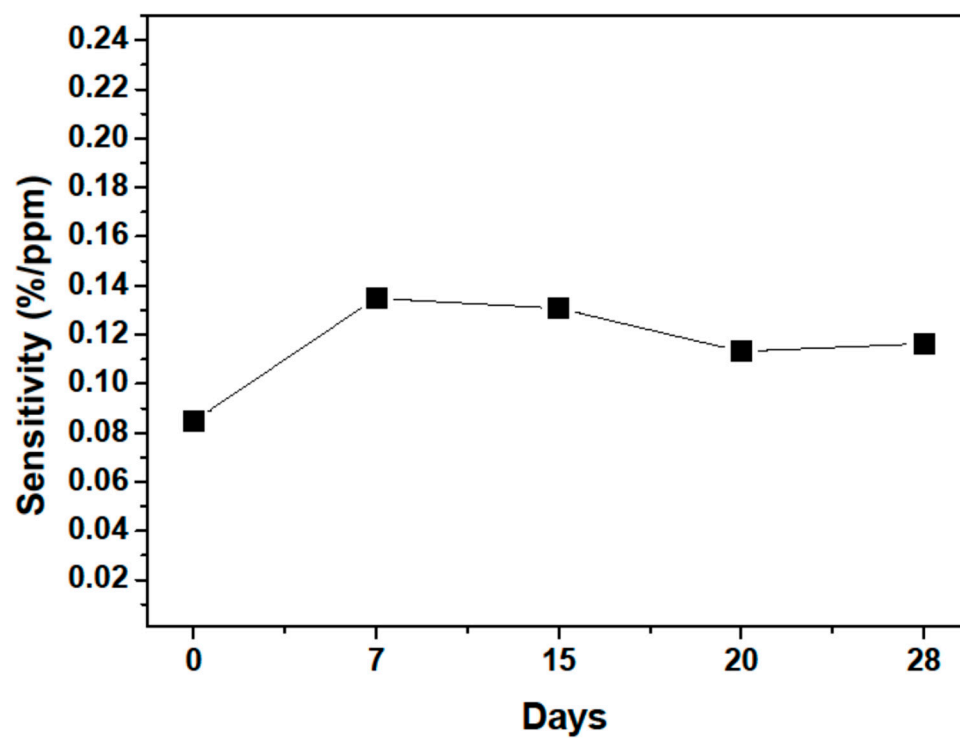
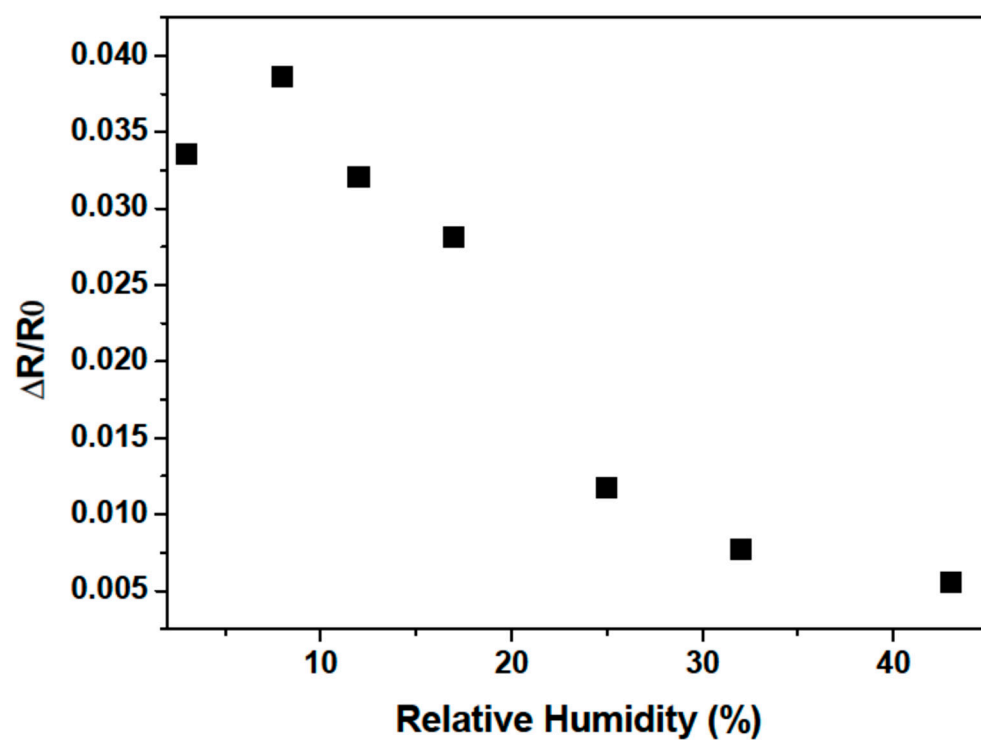


Figure S5. Sensor response of the physically decorated nanocomposites rGO/Pt<sub>25Å</sub> (A); and rGO/Pt<sub>50Å</sub> (B) exposed to SO<sub>2</sub> concentrations of 50, 70 and 90 ppm.



**Figure S6.** Long-term stability experiment of the chemically decorated composites rGO/Cu<sub>2</sub>mg/ml sensor exposed to 30–90 ppm of SO<sub>2</sub> taken at different time intervals.



**Figure S7.** Relative resistance variation of the chemically decorated composites rGO/Cu<sub>2</sub>mg/ml sensor exposed to 10 ppm of SO<sub>2</sub> at different humidity levels.