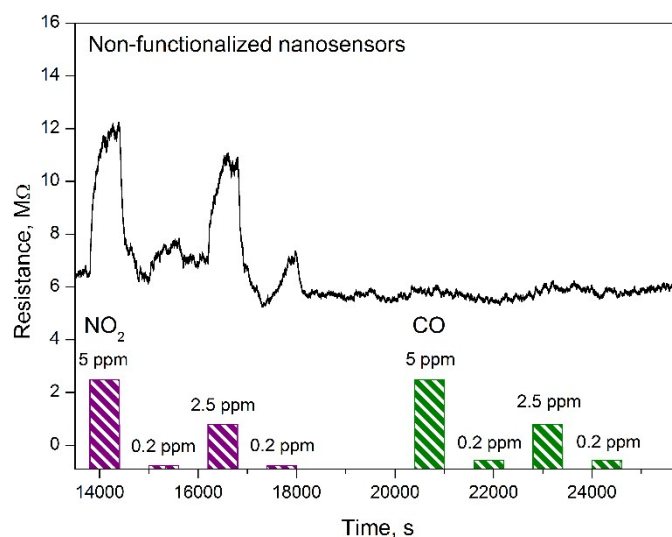


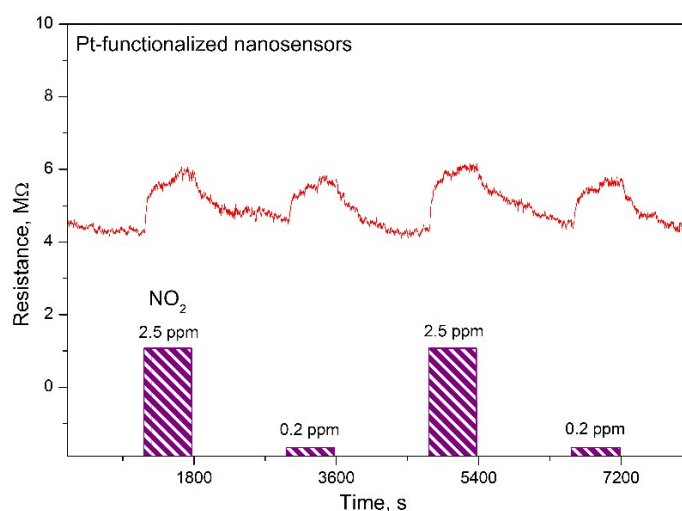
## Supplementary Information

### Selectively arranged single-wire based nanosensor array systems for gas monitoring

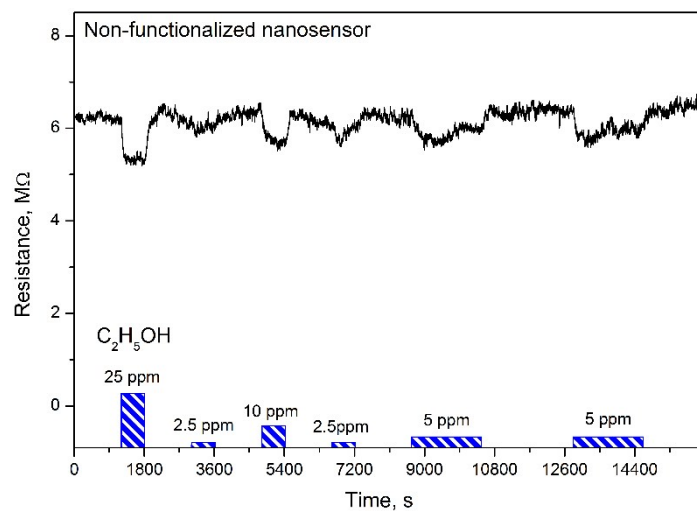
O. Chmela,<sup>a,b</sup> J. Sadílek,<sup>a</sup> G. Domènech-Gil,<sup>c,d</sup> J. Samà,<sup>c,d</sup> J. Somer,<sup>b</sup> R. Mohan,<sup>a</sup> A. Romano-Rodriguez,<sup>c,d</sup>  
J. Hubálek,<sup>a,b</sup> S. Vallejos<sup>a,e\*</sup>



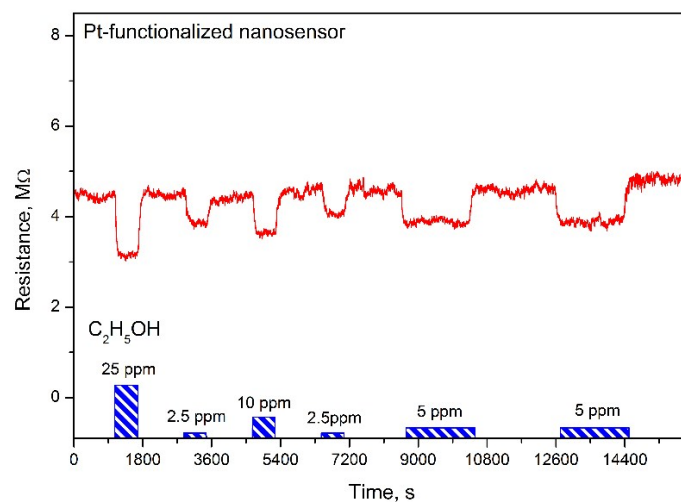
**Figure S1.** Electrical resistance changes (black color line) of the non-functionalized nanosensors towards various concentrations of NO<sub>2</sub> and CO in air, showing negligible resistance changes (i.e., response) during the exposure of the sensors to CO. Purple and green color bars represent the concentration and exposure time to NO<sub>2</sub> and CO, respectively.



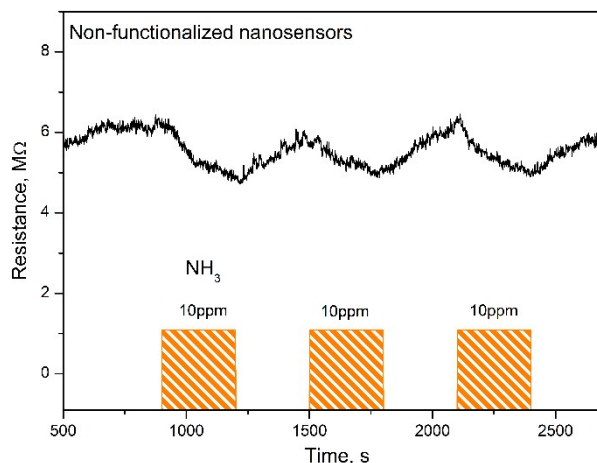
**Figure S2.** Electrical resistance changes (red color line) of the non-functionalized nanosensors towards various concentrations of NO<sub>2</sub>. Purple color bars represent the concentration and exposure time to NO<sub>2</sub>.



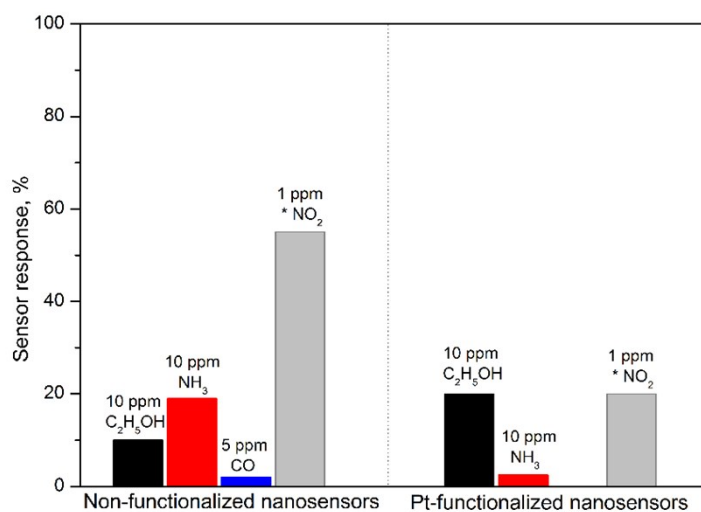
**Figure S3.** Electrical resistance changes (black color line) of the non-functionalized nanosensors towards various concentrations of C<sub>2</sub>H<sub>5</sub>OH. Blue color bars represent the concentration and exposure time to C<sub>2</sub>H<sub>5</sub>OH.



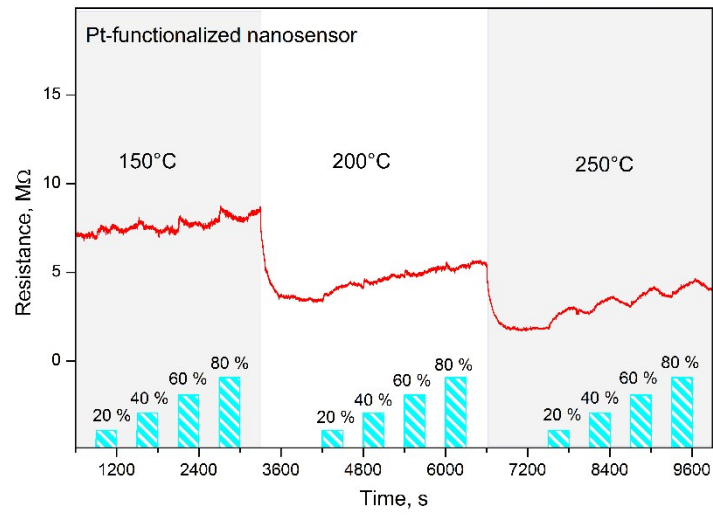
**Figure S4.** Electrical resistance changes (red color line) of the non-functionalized nanosensors towards various concentrations of C<sub>2</sub>H<sub>5</sub>OH. Blue color bars represent the concentration and exposure time to C<sub>2</sub>H<sub>5</sub>OH.



**Figure S5.** Electrical resistance changes of the non-functionalized (black color line) nanosensors towards 10 ppm of NH<sub>3</sub>. Orange color bars represent the concentration and exposure time to NH<sub>3</sub>. Generally, the response to NH<sub>3</sub> using both the non-functionalized and Pt-functionalized nanosensors displayed large response and recovery times as noticed in the figure.



**Figure S6.** Summary of the sensor response towards various analytes including C<sub>2</sub>H<sub>5</sub>OH, NH<sub>3</sub>, CO and NO<sub>2</sub> (\*oxidative gas) showing the possible cross-responses among them.



**Figure S7.** Electrical resistance changes of the Pt-functionalized nanosensors (red color line) towards various RH (relative humidity, cyan color bars) at different sensor operating temperatures.