

## Electronic Supplementary Information

### Integrated Co-axial Electrospinning for Single-Step Production of 1D Aligned Bimetallic Carbon Fibers@AuNPs-PtNPs/NiNPs-PtNPs Towards H<sub>2</sub> Detection

Keerthi G. Nair<sup>a</sup>, Ramakrishnan Vishnuraj<sup>a</sup> and Biji Pullithadathil<sup>a\*</sup>

<sup>a</sup> Nano sensor Laboratory, PSG Institute of Advanced Studies, Coimbatore-641004, Tamil Nadu, INDIA

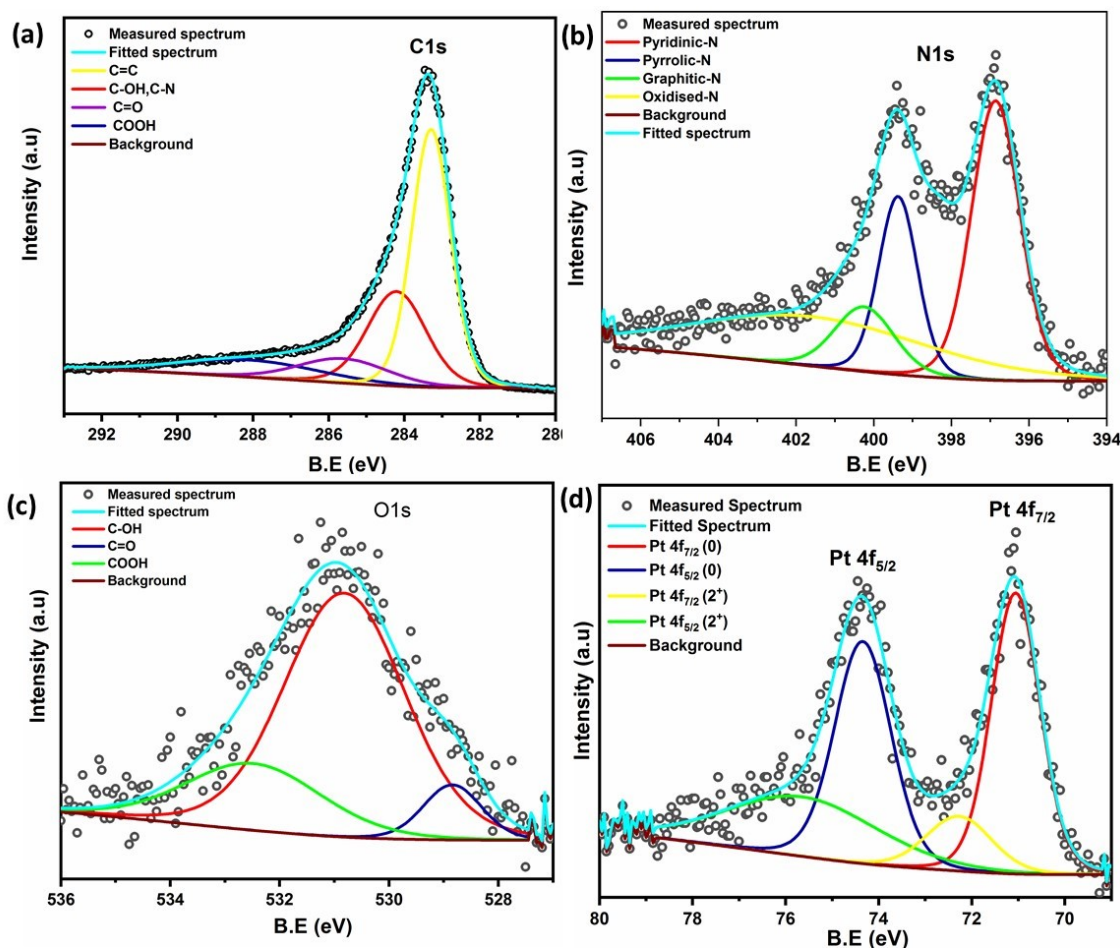


Figure S1. High resolution XPS spectrum of (a) C1s (b) N1s (c) O1s and (d) Pt 4f of co-axial CFs@PtNPs

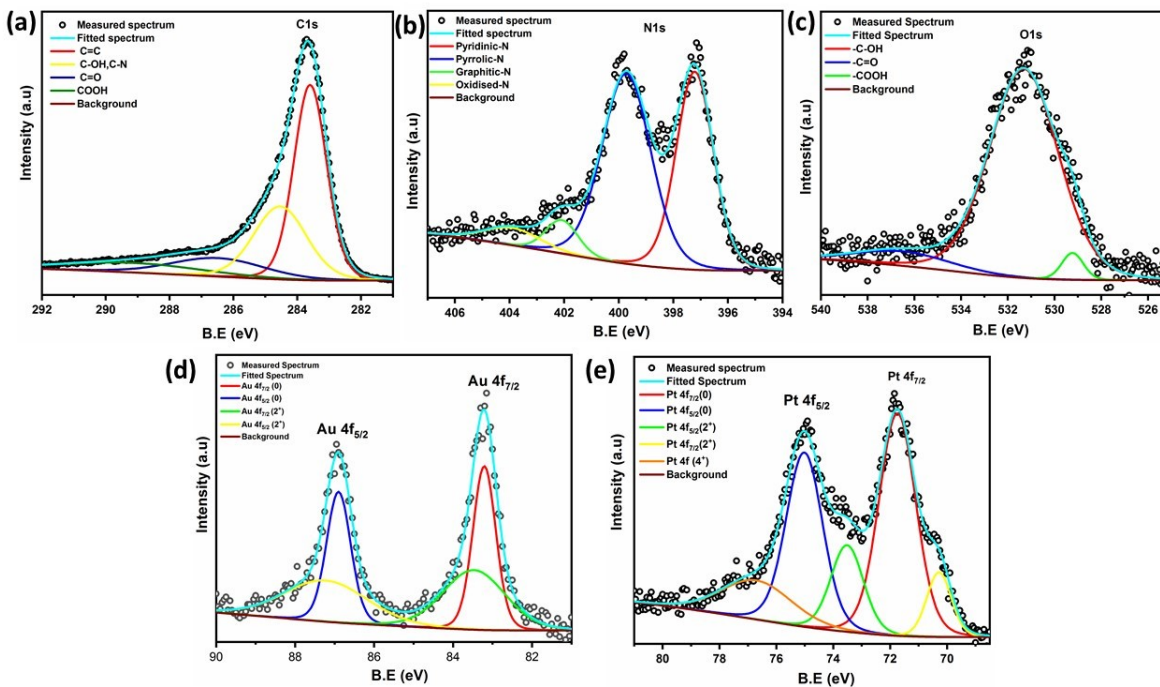


Figure S2. High resolution XPS spectrum of (a) C1s (b) N1s (c) O1s (d) Au 4f and (e) Pt 4f of co-axial CFs@AuNPs-PtNPs

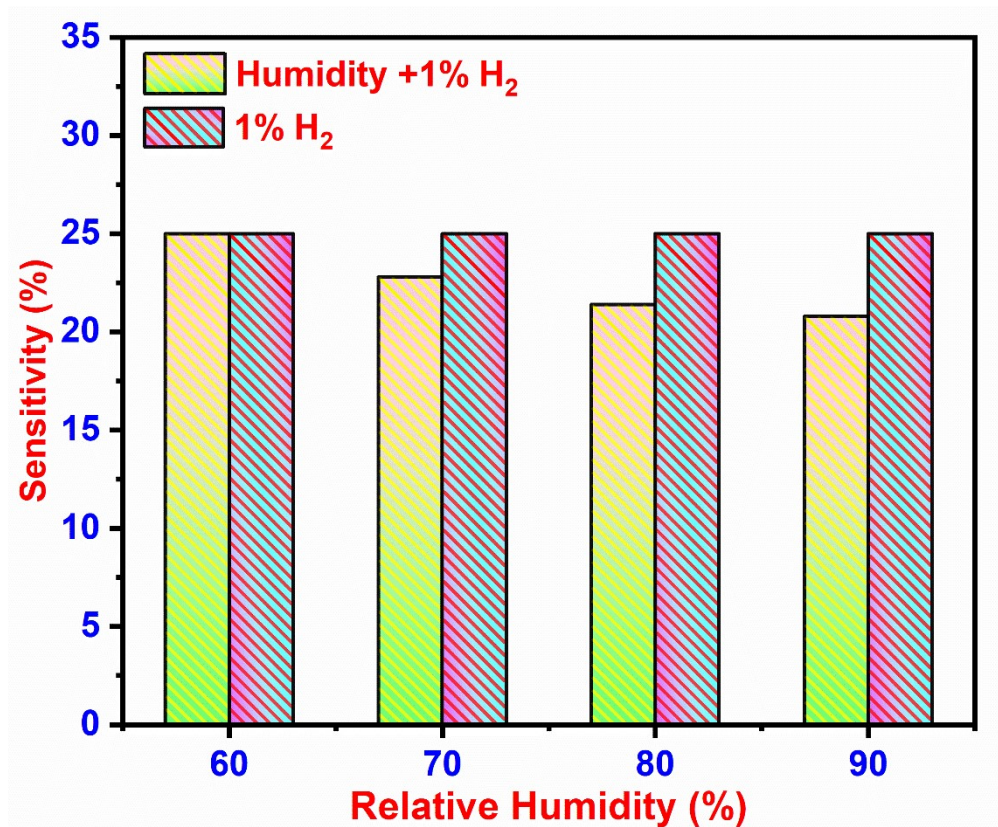


Figure S3. Effect of humidity on gas sensing properties of 1D aligned co-axial CFs@NiNPs-PtNPs.

**Table S1.** Sensor Parameters of co-axial CFs@PtNPs, CFs@AuNPs-PtNPs and CFs@NiNPs-PtNPs

<b>Sensor</b>	<b>LOD (%)</b>	<b>Sensitivity (%)</b>
<b>Co-axial CFs@PtNPs</b>	0.1	5.7
<b>Co-axial CFs@AuNPs-PtNPs</b>	0.1	8.9
<b>Co-axial CFs@NiNPs-PtNPs</b>	0.1	10.8