

## Supplementary Information

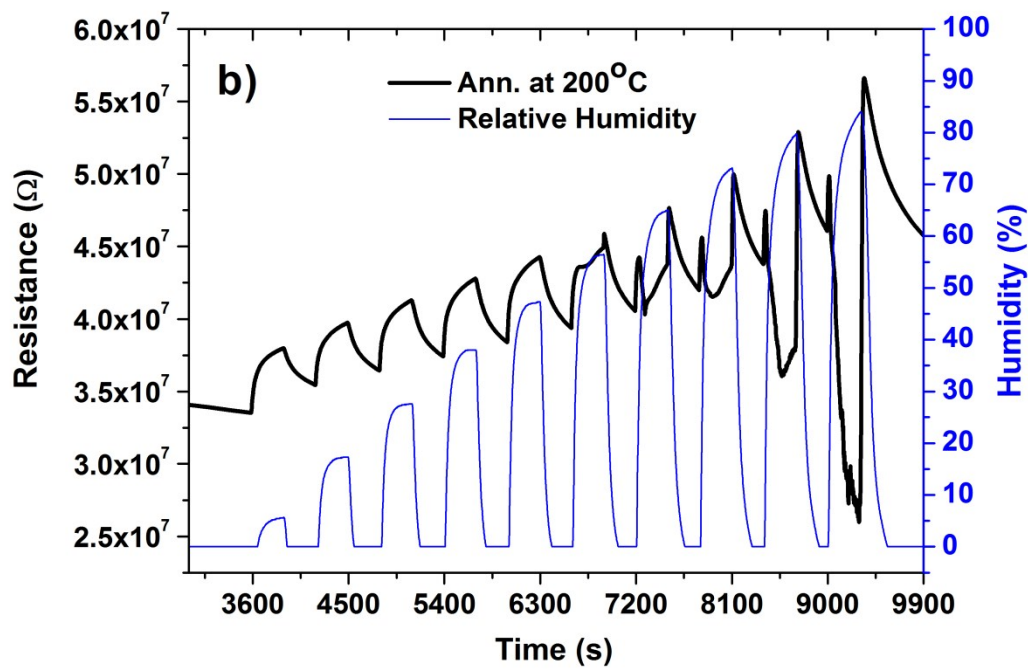
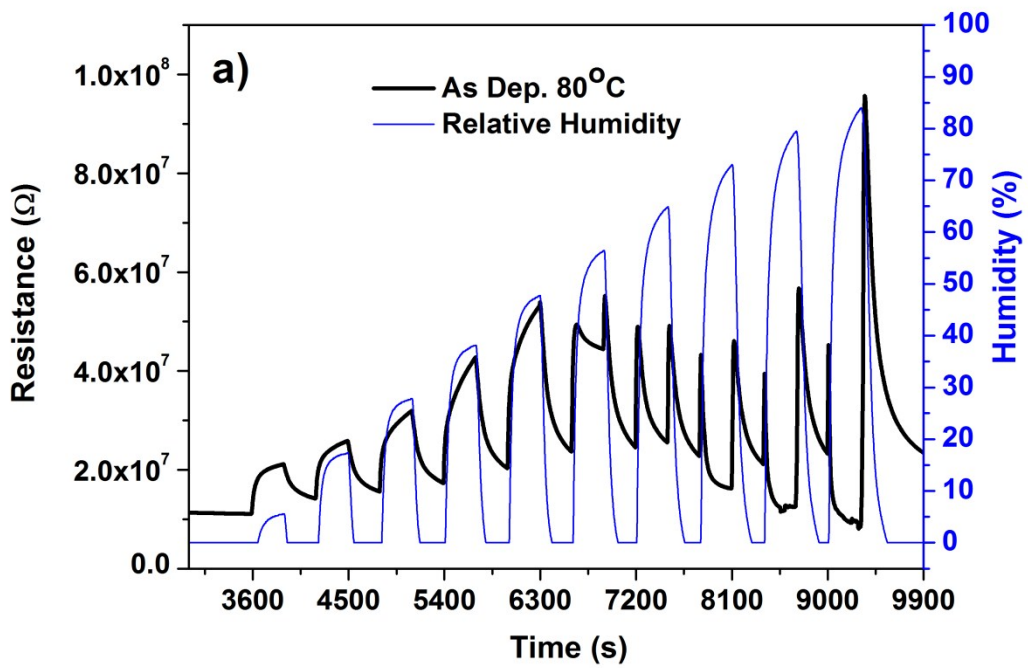
### Electronic to protonic conduction switching in Cu<sub>2</sub>O nanostructured porous film: The effect of humidity exposure

Baban P. Dhonge,<sup>a\*</sup> Suprakas Sinha Ray,<sup>a,b\*</sup> and Bonex Mwakikunga<sup>a</sup>

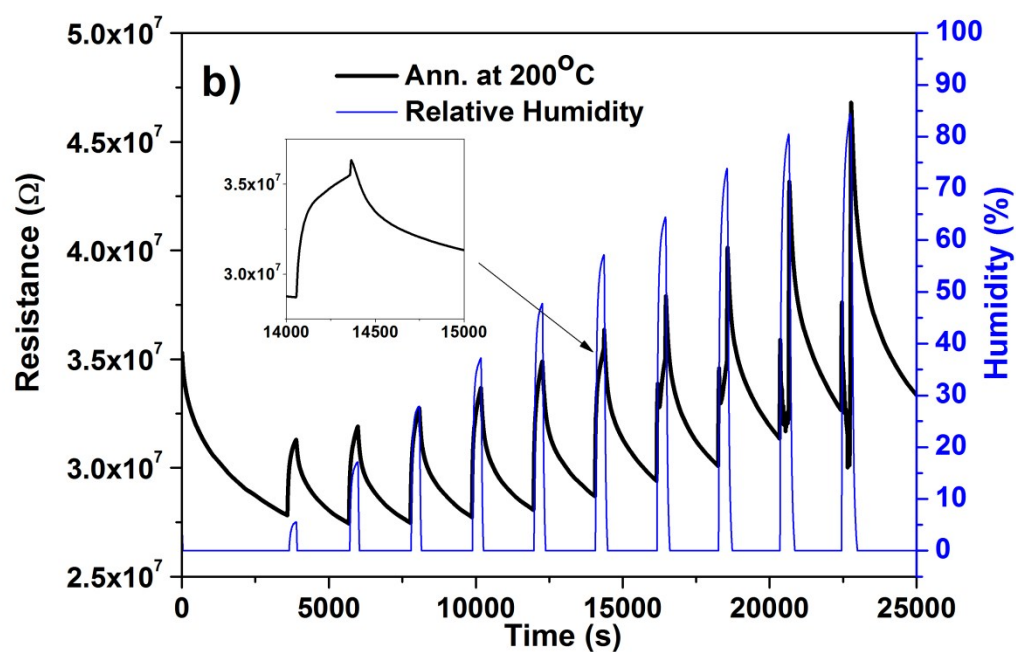
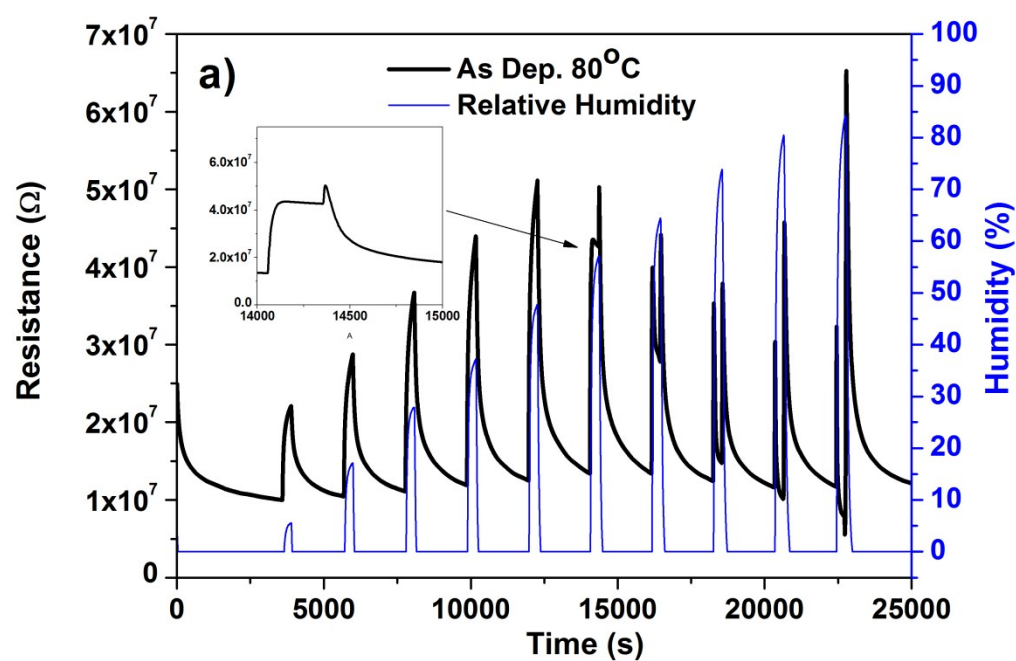
<sup>a</sup>DST-CSIR National Centre for Nanostructured Materials, Council for Scientific and Industrial Research, Pretoria 0001, South Africa

<sup>b</sup>Department of Applied Chemistry, University of Johannesburg, Doornfontein 2028, Johannesburg, South Africa

\*Corresponding authors. E-mail address: bpdhonge@gmail.com; rsuprakas@csir.co.za



**Fig. S1:** The change in resistance of second set of (a) as-deposited and (b) annealed  $\text{Cu}_2\text{O}$  films on expose to the humidity and dry air for 5 minutes each.



**Fig. S2:** The change in resistance of second set of (a) as-deposited and (b) annealed  $\text{Cu}_2\text{O}$  films on expose to the humidity and dry air for 5 and 30 minutes respectively.