

## Electronic Supplementary Information (ESI)

### Strong Photo-Response in a Flip-Chip Nanowire p-Cu<sub>2</sub>O/n-ZnO Junction

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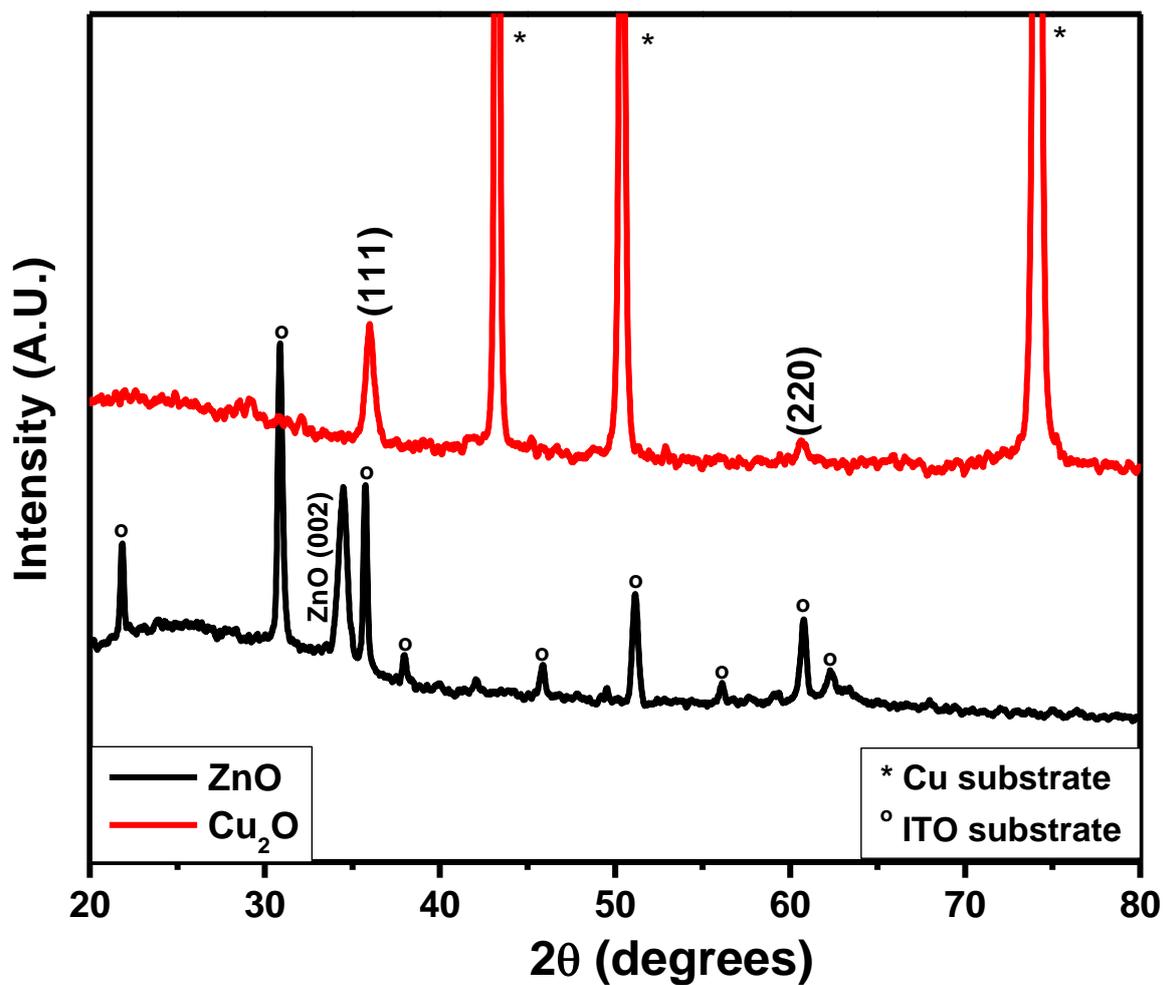
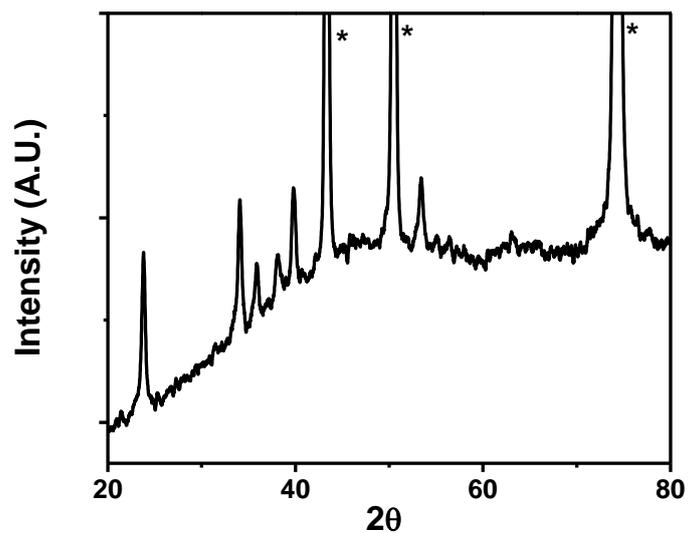
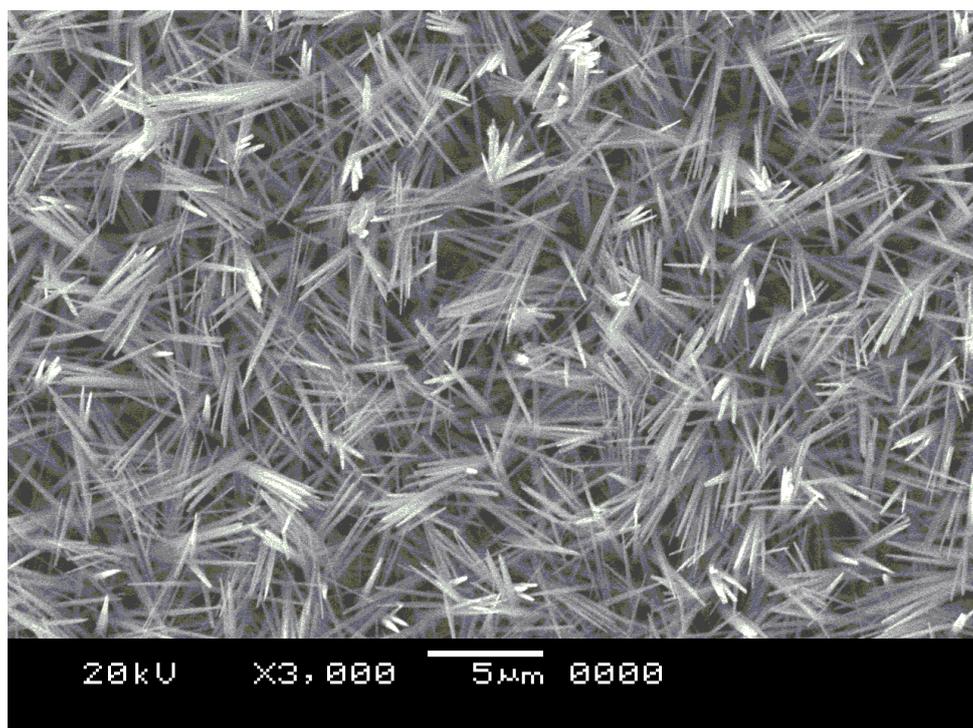


Fig. S-1 : XRD showing thin films of Cu<sub>2</sub>O and ZnO on Cu and ITO substrates respectively

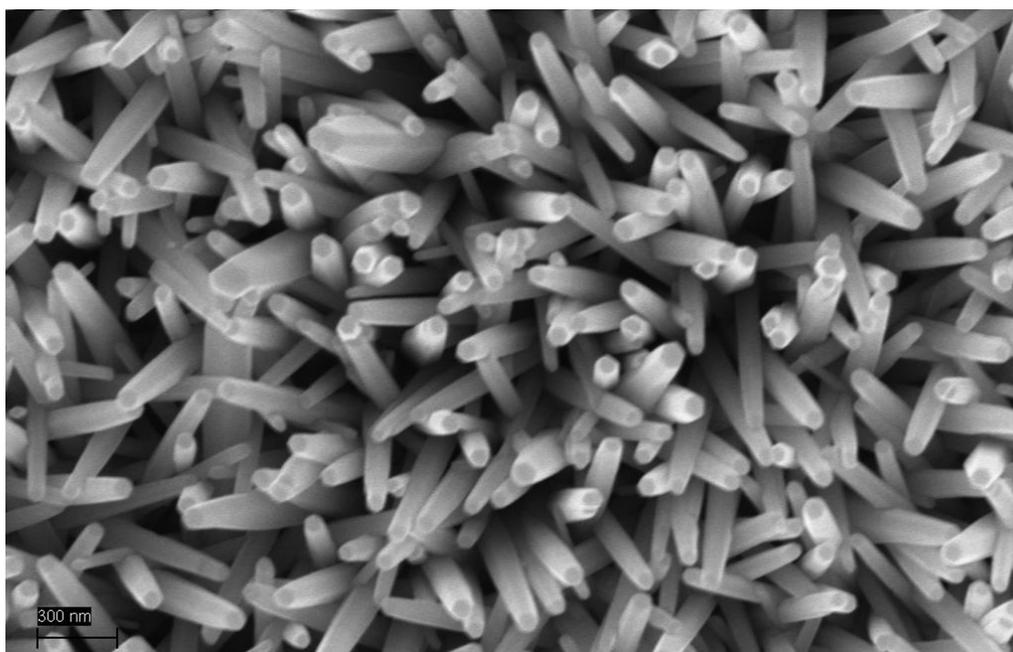


**Fig. S-2 : XRD of as prepared  $\text{Cu}(\text{OH})_2$  nanoneedles on copper substrate.**

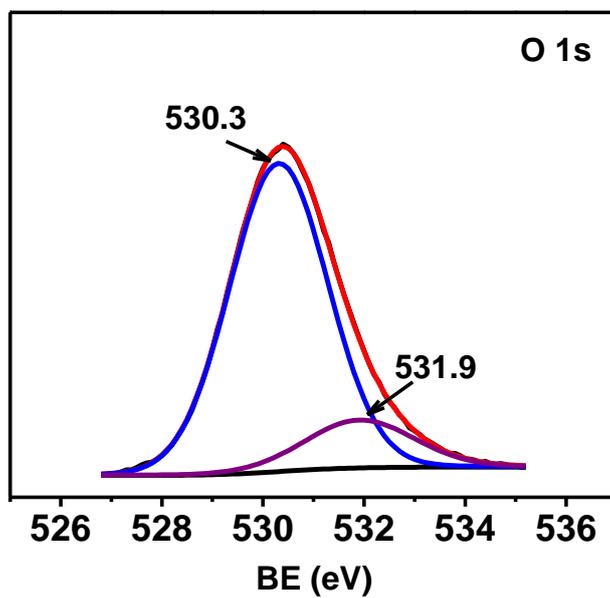
**\* represents substrate peaks**



**Fig. S-3 : SEM image showing as prepared  $\text{Cu}(\text{OH})_2$  nanoneedles on Cu substrate**



**Fig. S-4** : SEM image showing ZnO nanorods on ITO coated glass substrate



**Fig. S-5** : XPS spectra of Cu<sub>2</sub>O nanoneedles corresponding to O 1s