Electronic Supplementary Information
(ESI)

Strong Photo-Response in a Flip-Chip Nanowire p-Cu$_2$O/n-ZnO Junction

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**Fig. S-1**: XRD showing thin films of $\text{Cu}_2\text{O}$ and ZnO on Cu and ITO substrates respectively.
Fig. S-2: XRD of as prepared Cu(OH)$_2$ nanoneedles on copper substrate.

* represents substrate peaks

Fig. S-3: SEM image showing as prepared Cu(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$_2$O nanoneedles corresponding to O 1s