

**Supporting Information**  
**for**  
**Energy Efficient Hydrogenated-Zinc Oxide Nanoflakes for High Performance**  
**Self-Powered Ultraviolet Photodetector**

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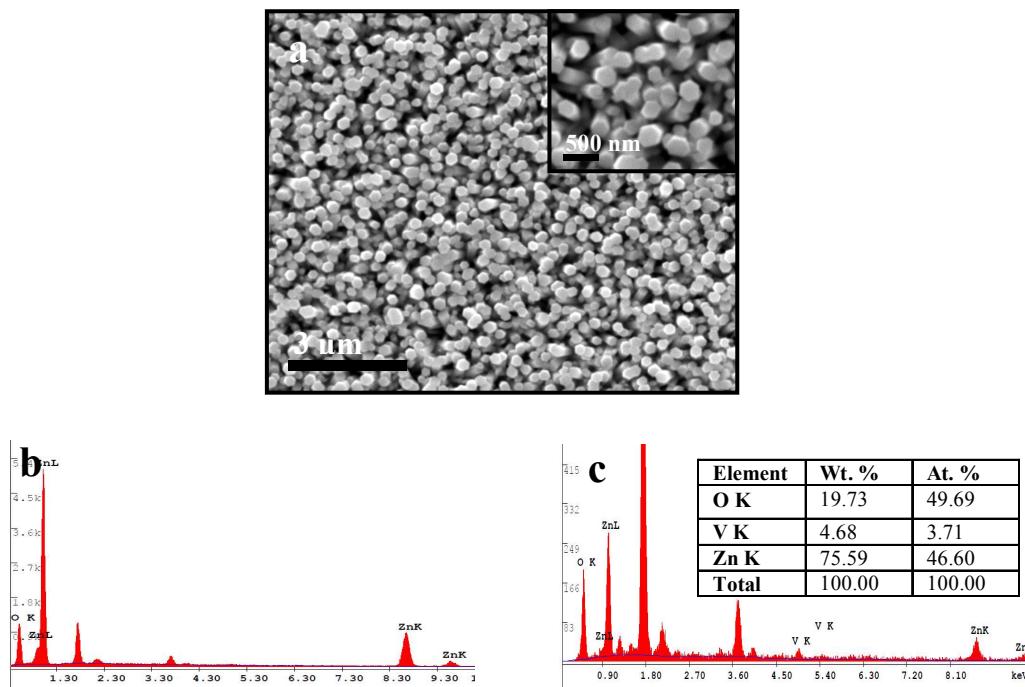


Figure S1: (a) SEM image of H:ZnO NRs. An EDS spectra of both pristine b) ZnO NRs and c) VZnO NFs samples.

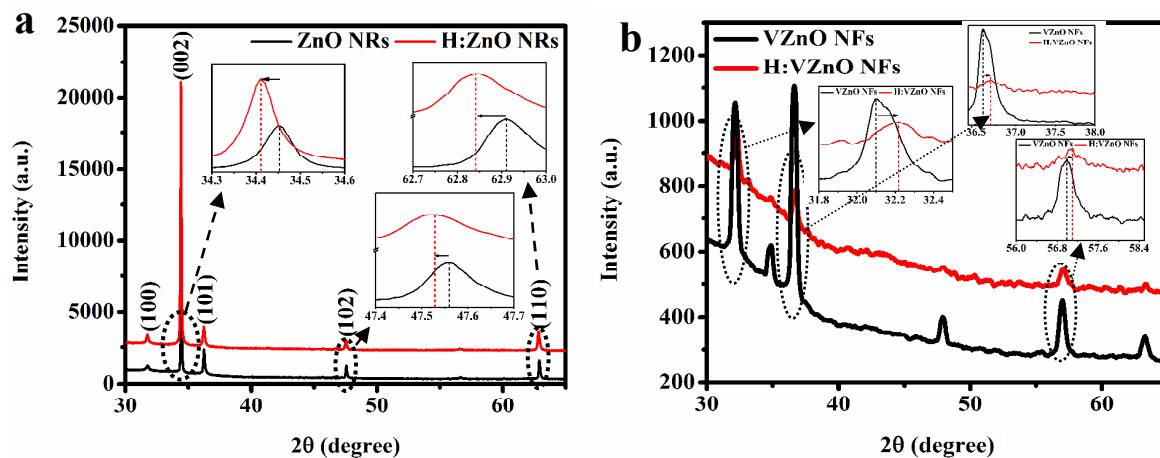


Figure S2: XRD pattern of a) ZnO and H:ZnO NRs and b) VZnO and H:VZnO NFs.

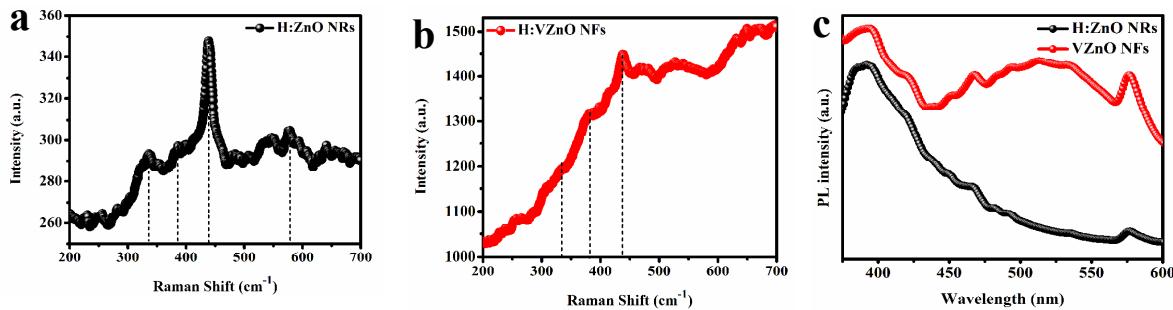


Figure S3: Raman analysis of a) H:ZnO NRs and b) H:VZnO NFs samples. c) PL analysis of H:ZnO NRs and VZnO NFs.

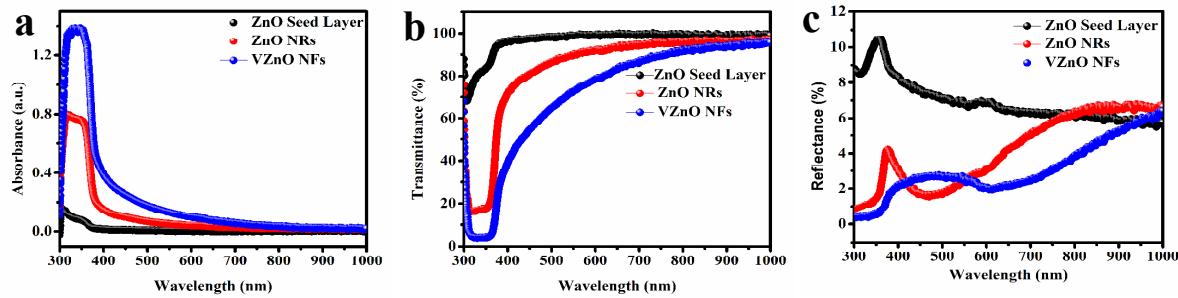


Figure S4: Room-temperature optical studies: a) absorbance, b) Transmittance and c) reflectance of ZnO seed layer, ZnO NRs and VZnO NFs, respectively.