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SUPPLEMENTARY INFORMATION

Aspect ratio-controlled ZnO nanorods for highly sensitive wireless ultraviolet sensor applications

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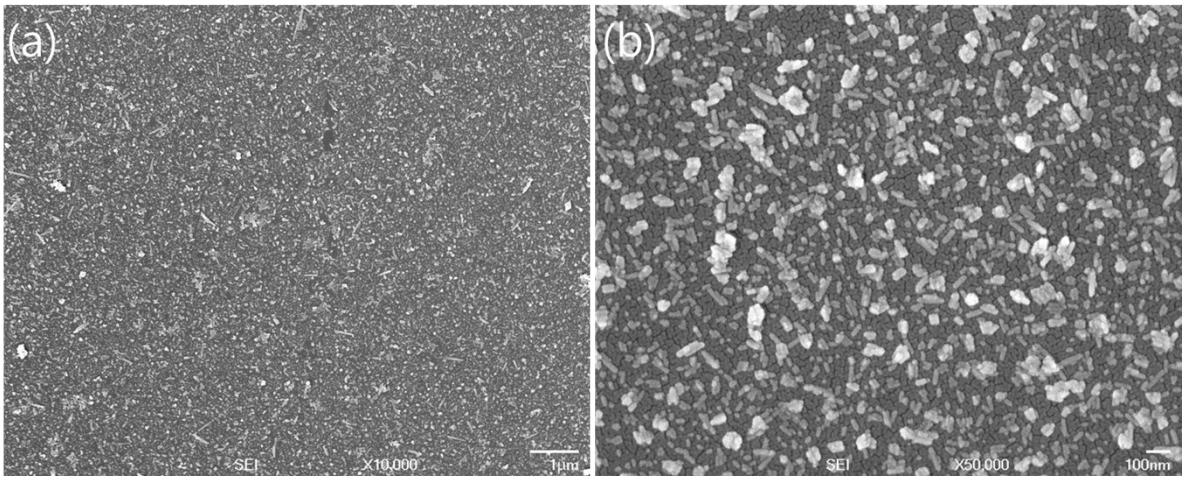

Fig. S1 FE-SEM images of the ZnO nanomaterials synthesized through half zinc precursor concentration (12 mmol in 60 ml MeOH) during the seeding reaction and 1 M concentration during the of the growth reaction. (a) 10,000x and (b) 50,000x magnification.

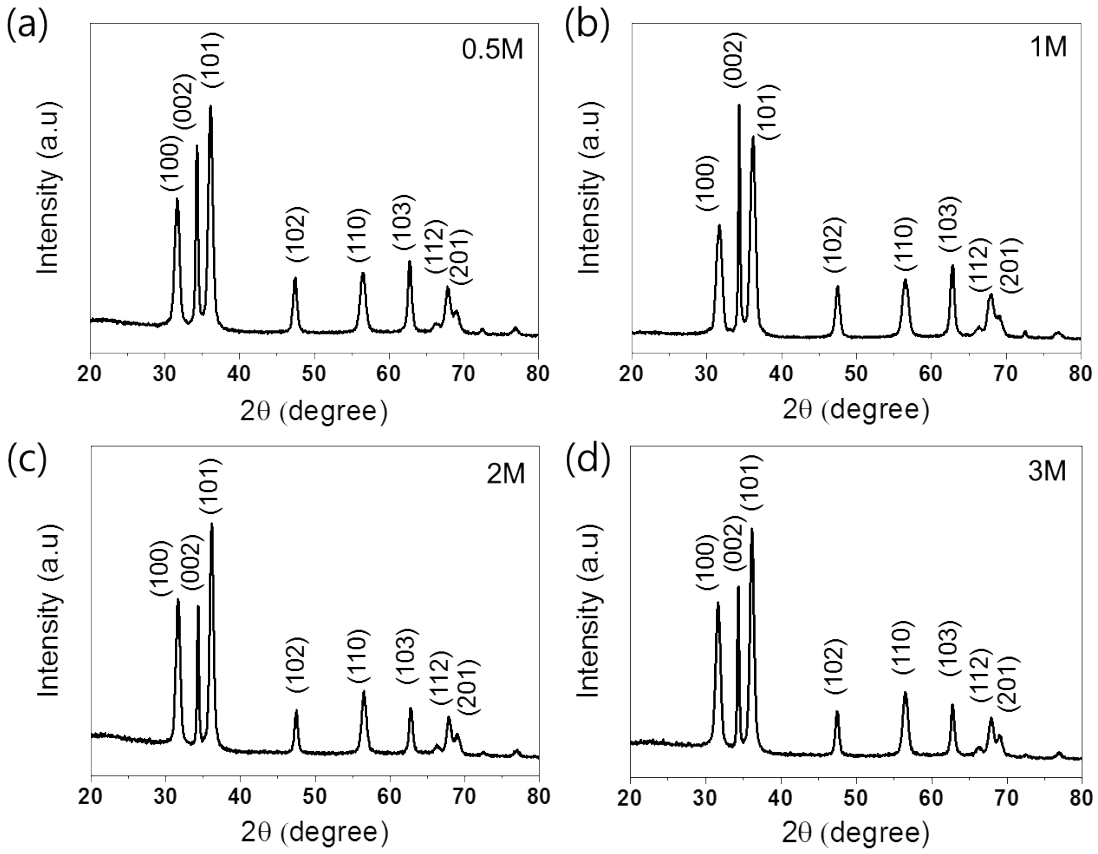

Fig. S2 XRD spectra of ZnO nanomaterials with different aspect ratio synthesized from various precursor concentration (a) 0.5 M, (b) 1 M, (c) 2 M, and (d) 3 M respectively.

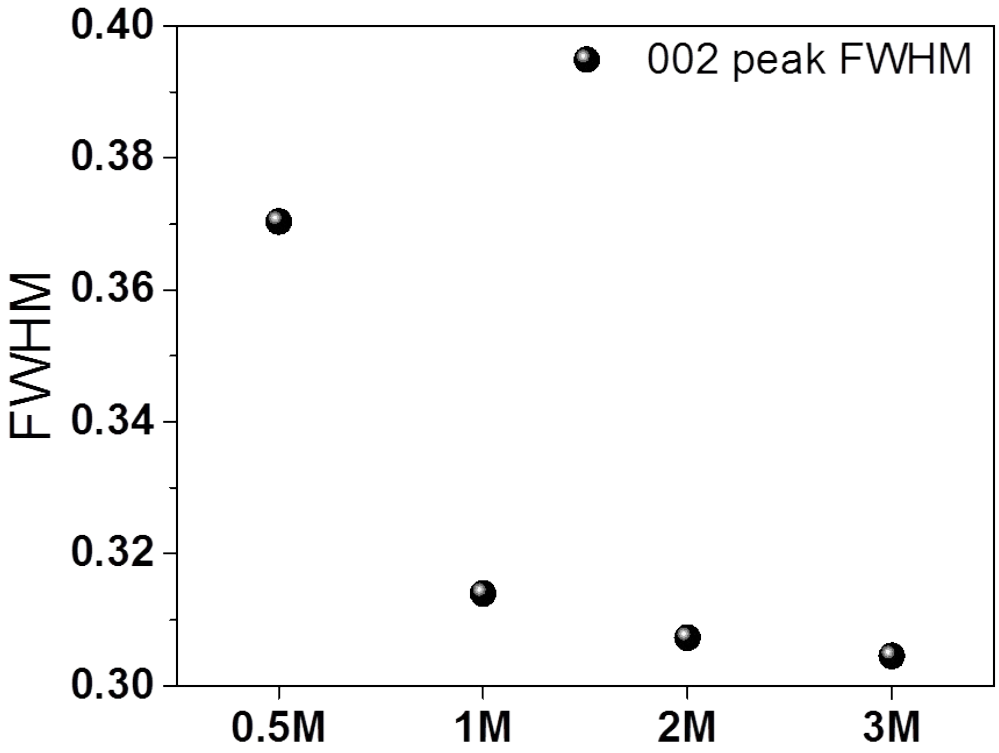

Fig. S3 The calculated FWHM value of 002 peak in XRD spectra of ZnO nanostructures synthesized by different concentration conditions.

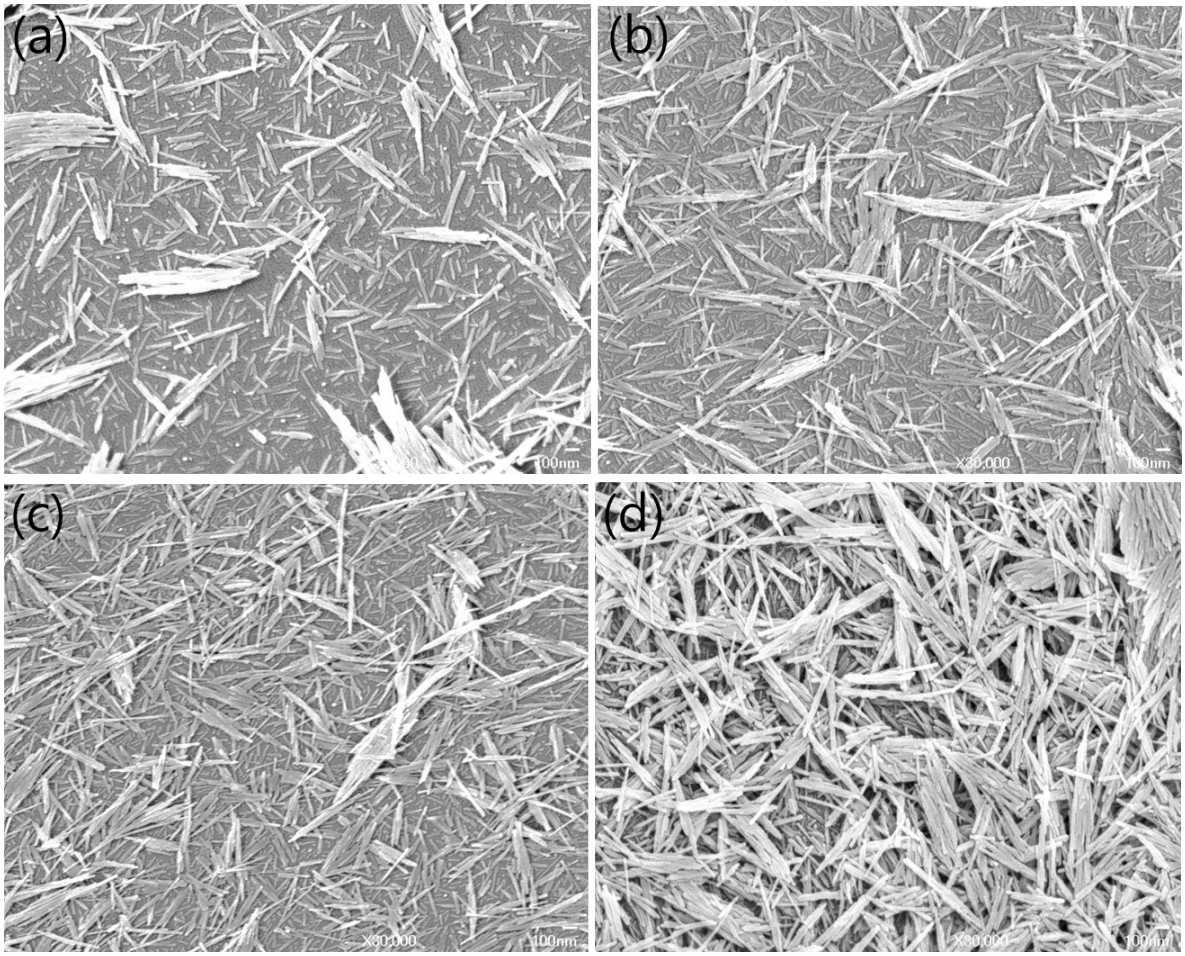

Fig. S4 FE-SEM images of ZnO NRs (3M) morphology spin-coated on the Si wafer substrate. (a) Single spin-coating, and multi spin-coating (b) 3 times, (c) 5 times, and (d) 10 times.

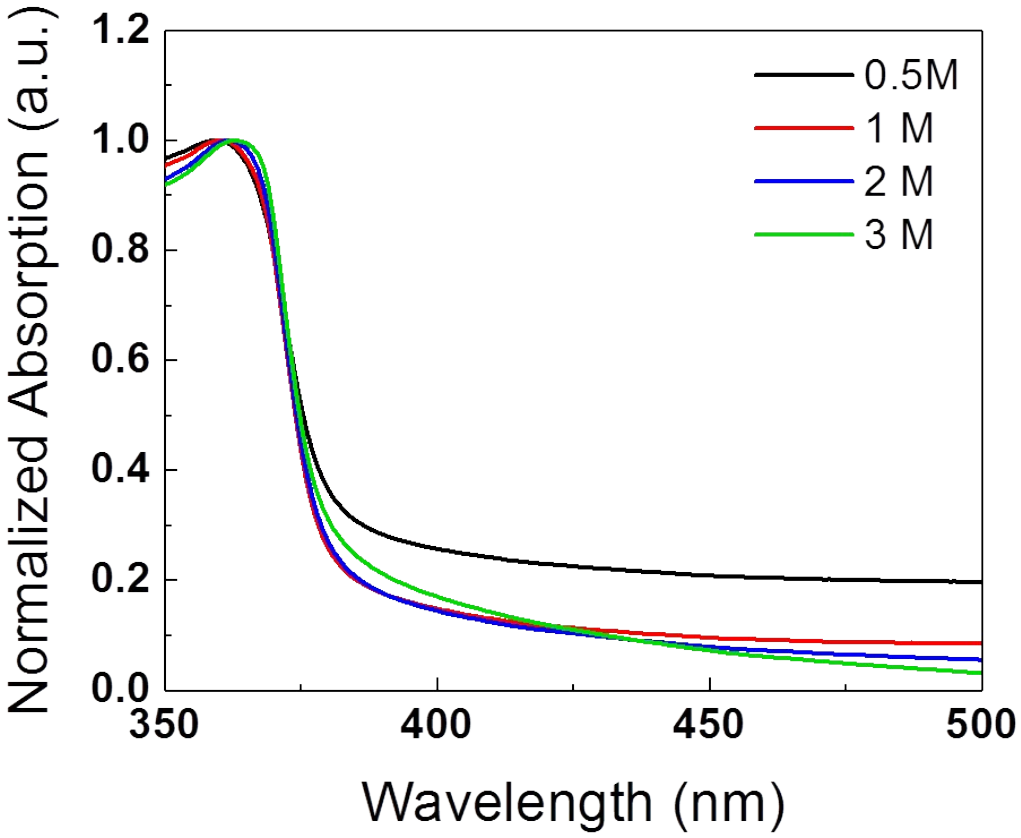

Fig. S5 UV-Vis spectra of ZnO nanostructures synthesized by different growth reaction concentrations.

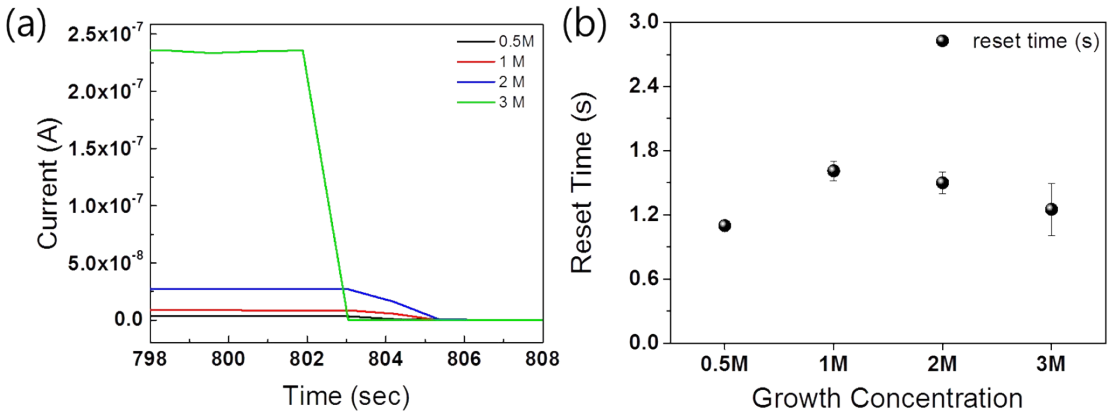

Fig. S6 (a) An enlarged decay time plot of ZnO nanomaterials and (b) the calculated reset time of ZnO UV sensors.

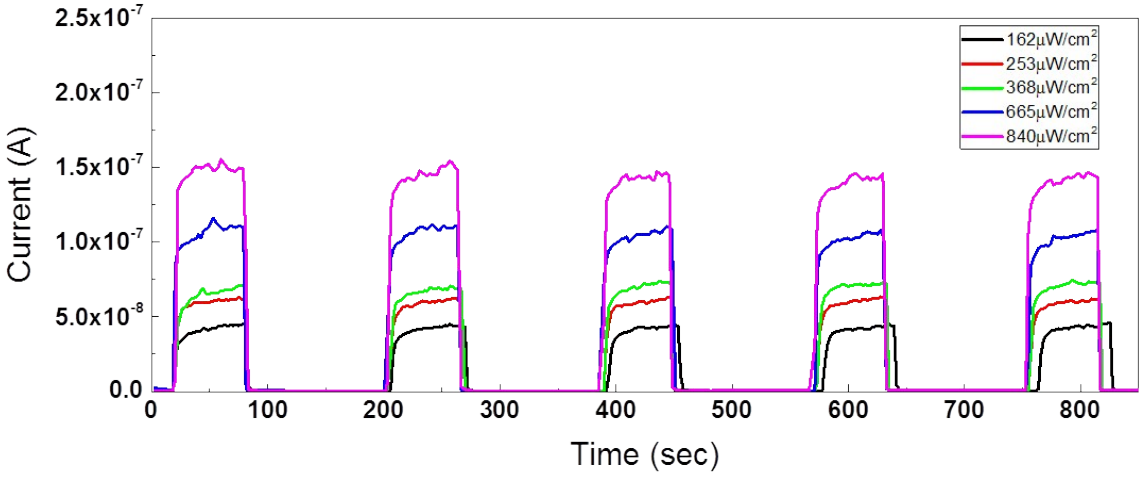

Fig. S7. Five times repeatedly measured photocurrent values of the 3M ZnO NR UV sensor under different UV intensity irradiation (162–840 μW/cm^2)