Supporting Information

Sensitized ZnO Nanorod assemblies to detect heavy metal contaminated phytomedicines: Spectroscopic and Simulation Studies

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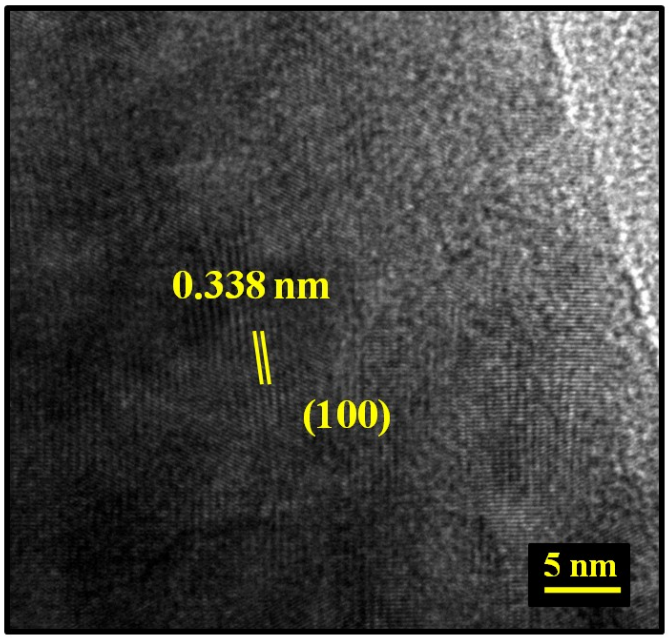

Figure S1: HRTEM image of ZnO NR. The observed inter-fringe distance of 0.338 nm is consistent with (100) planes of the ZnO NRs.

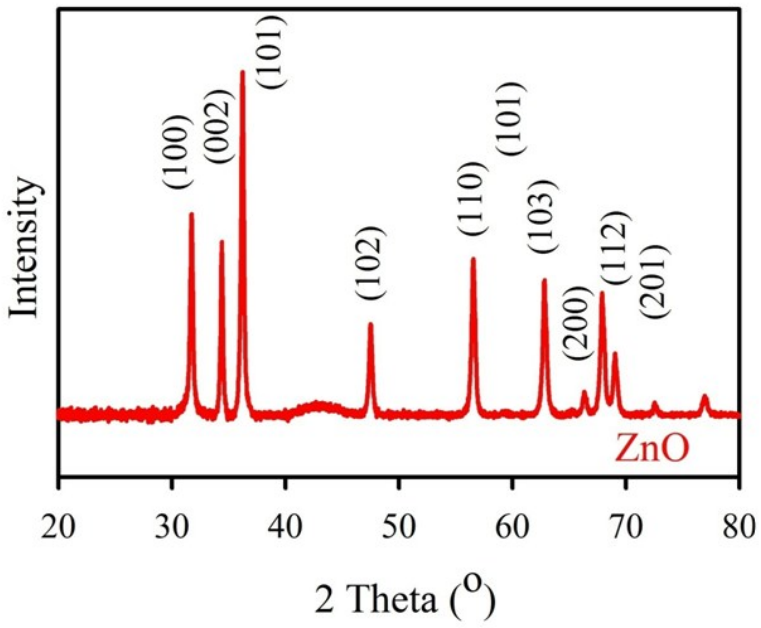

Figure S2: XRD of ZnO NRs, which is consistent with data in the literature.

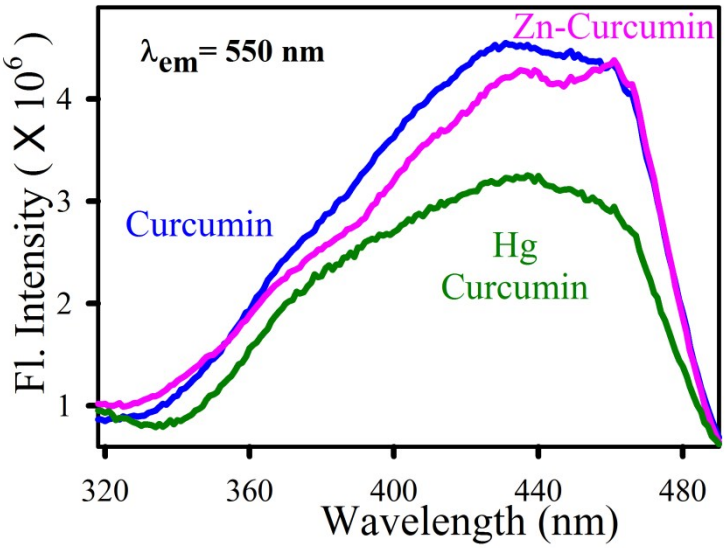

Figure S3: Excitation spectra of Curcumin (blue), Zn-Curcumin (pink) and Hg-Curcumin (green) monitoring emission at 550 nm.

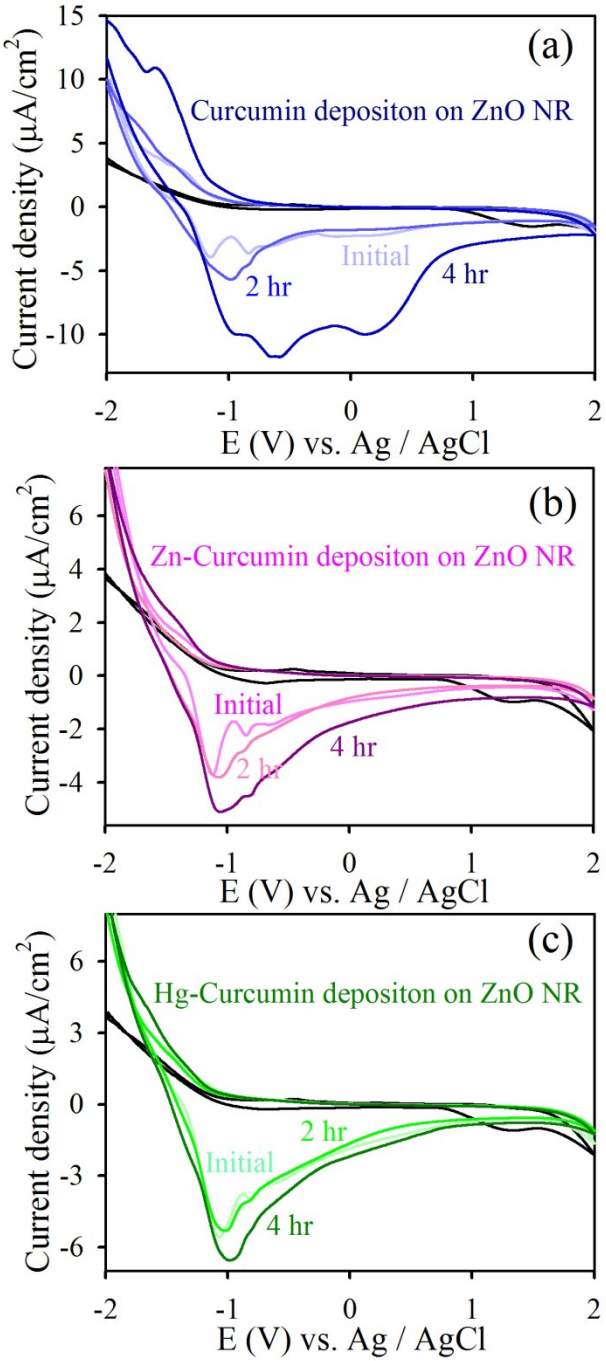

Figure S4: Cyclic voltammograms with varying time intervals initial, 2 hrs, 4 hrs of (a) Curcumin, (b) Zn-Curcumin and (c) Hg-Curcumin.

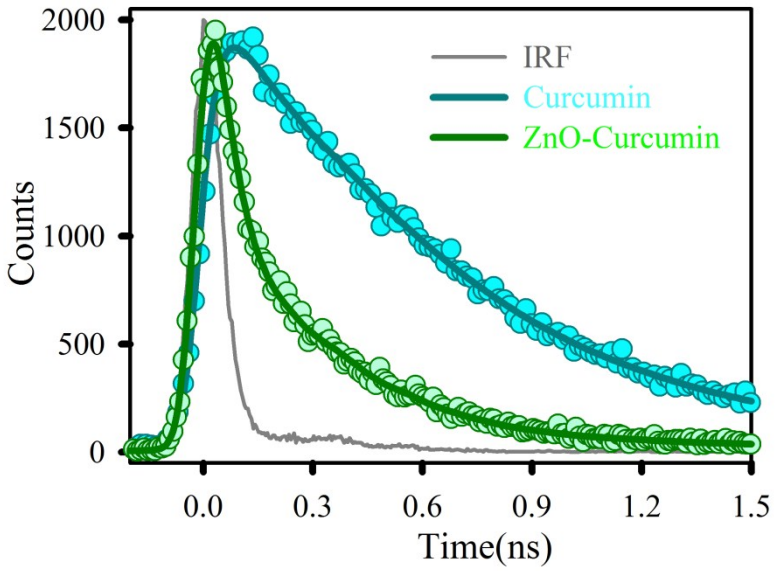

Figure S5: The picosecond-resolved fluorescence transients of Curcumin (excitation at 445 nm) in the absence (cyan) and presence of ZnO NPs (green) collected at 550 nm are shown. The lifetimes are as follows:

Samples	τ_1 (ps)	τ_2 (ps)	τ_{avg} (ps)
Curcumin	589(100%)		589
ZnO-curcumin	30(77%)	257(23%)	82

The faster timescale in ZnO-Curcumin is attributed to excited state electron transfer from Curcumin to ZnO. The IRF is 70 ps and thus excited state electron transfer from M-Curcumin to ZnO, which is even faster, cannot be determined in present experimental settings. There are plenty of literature available that suggest electron transfer process from dye (here Cur or M-Cur) to ZnO upon light irradiation.