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# Fabrication and Characterization of $Cu(OH)_2/CuO$ Nanowires as the Novel Sensitivity Enhancer of Luminol-$H_2O_2$ Chemiluminescence System: Determination of Cysteine in Human Plasma

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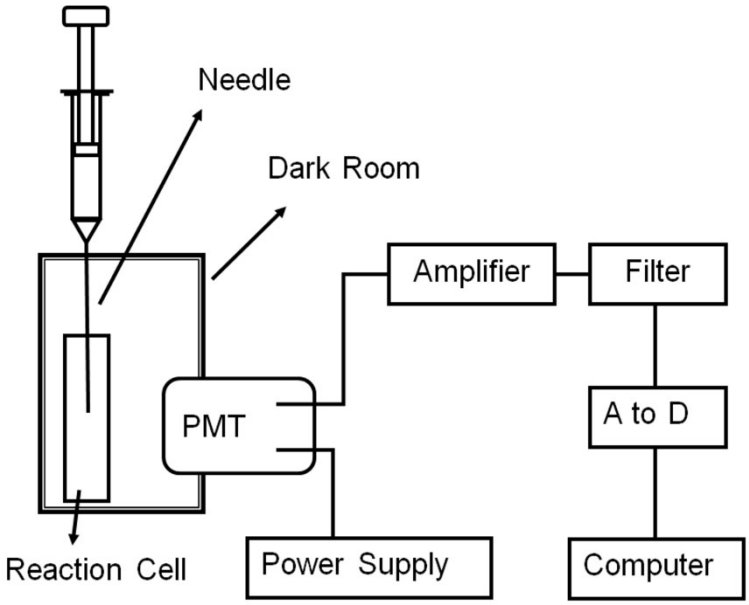


**Fig. S1** Schematic block diagram of the CL instrument. PMT: photomultiplier tube, A to D: analog to digital interface

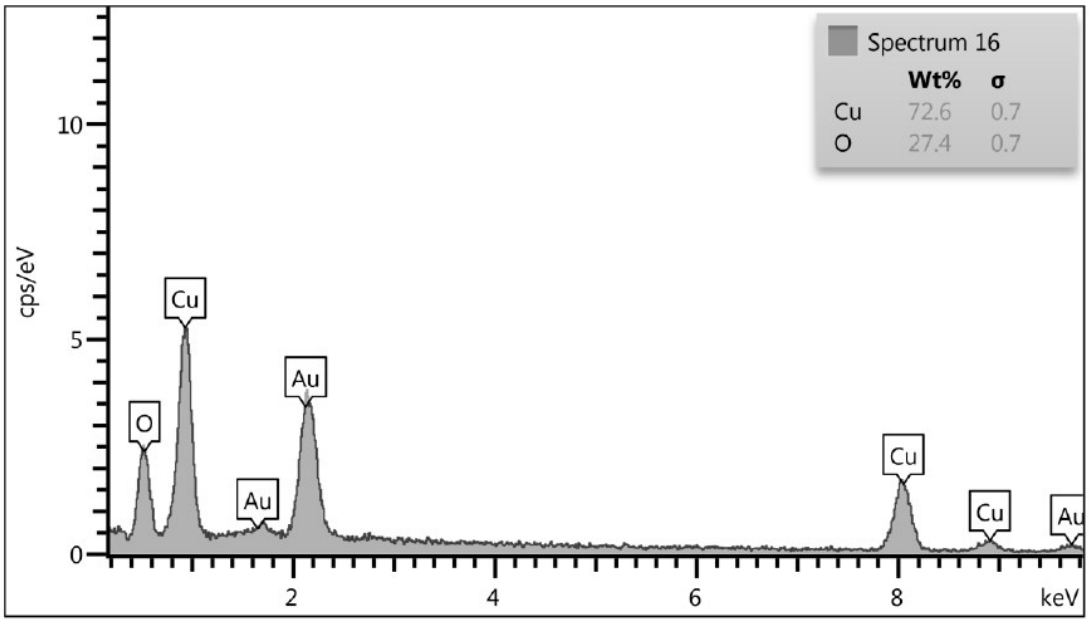


**Fig. S2** EDX spectrum of prepared $Cu(OH)_2$/CuO nanowires

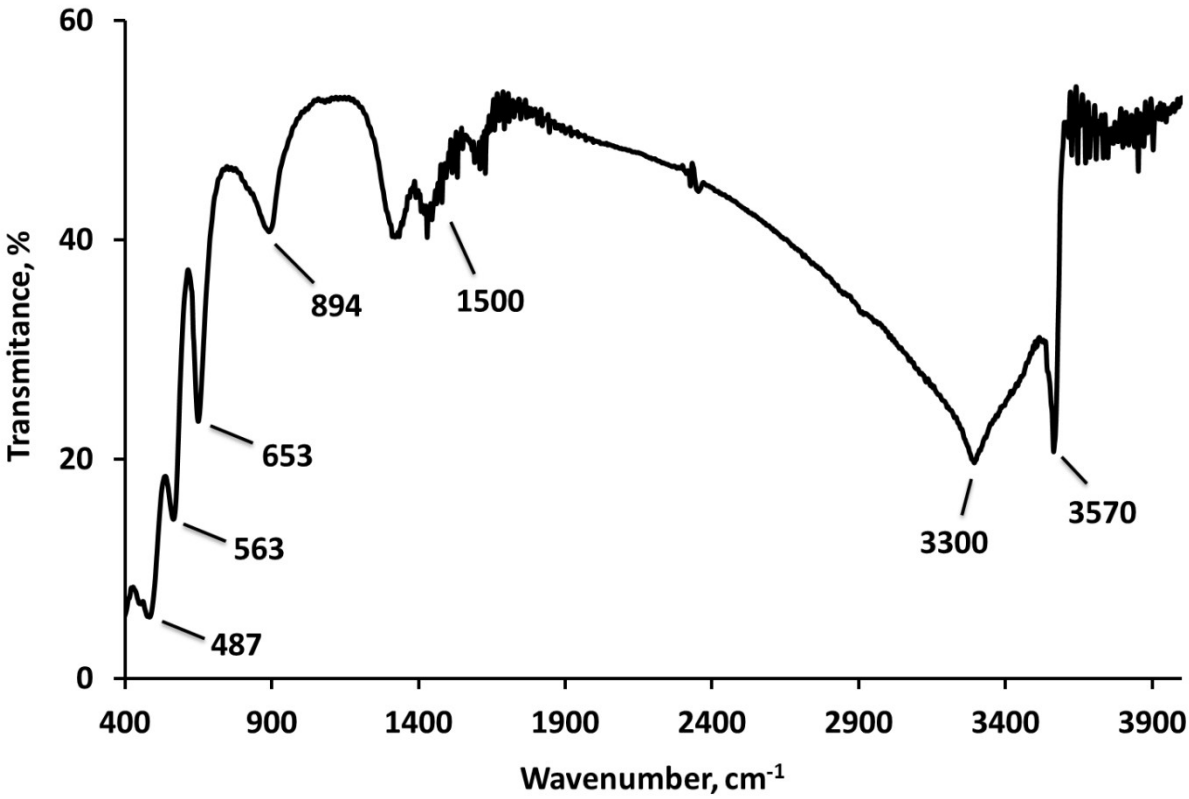


**Fig. S3** FT-IR spectrum of the prepared $Cu(OH)_2$/CuO NWs.

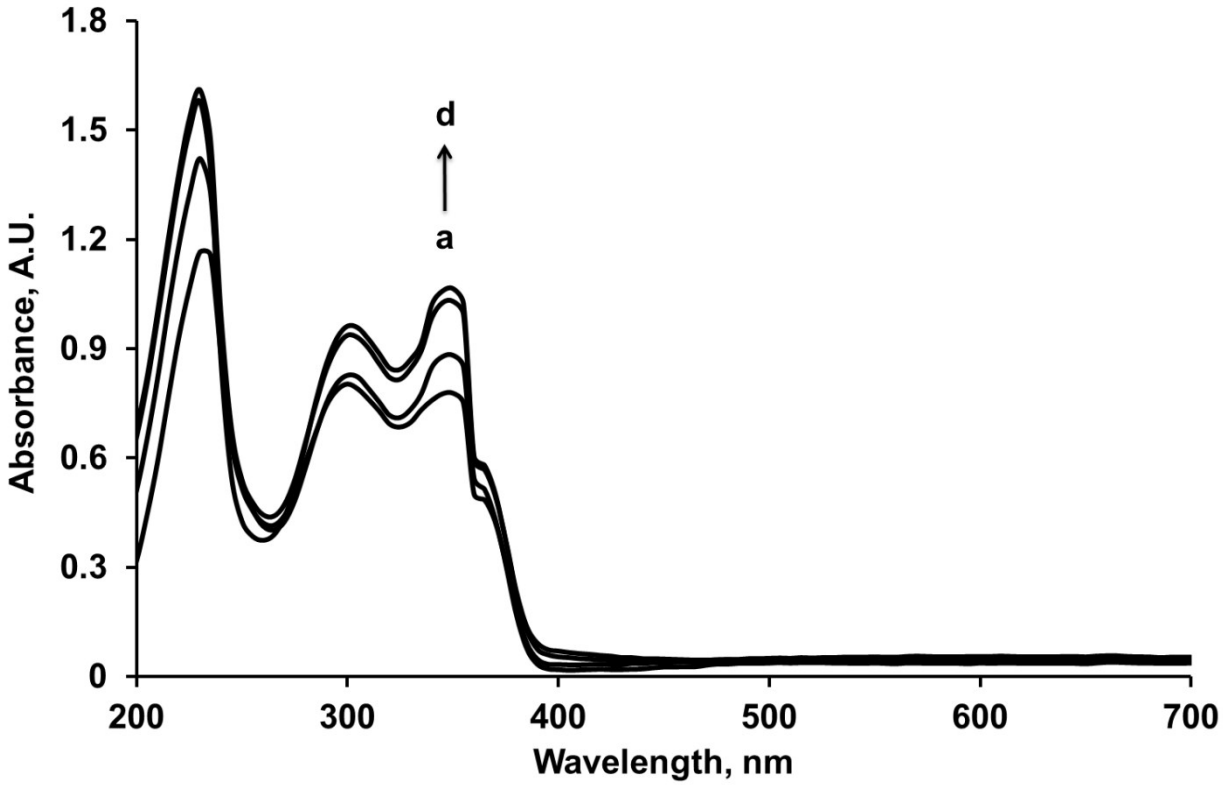


**Fig. S4** UV-Vis spectra of a) luminol-cysteine-$H_2O_2$-$Cu(OH)_2$/CuO NWs b) luminol-cysteine-$H_2O_2$ c) luminol-$H_2O_2$ d) luminol. Conditions: luminol ($1.25\times10^{-4}$ mol $L^{-1}$) in $Na_2CO_3$ (0.025 mol $L^{-1}$), $H_2O_2$ ($2.5\times10^{-3}$ mol $L^{-1}$), NWs (8.0 mg $L^{-1}$), cysteine ($2.5\times10^{-4}$ mol $L^{-1}$).

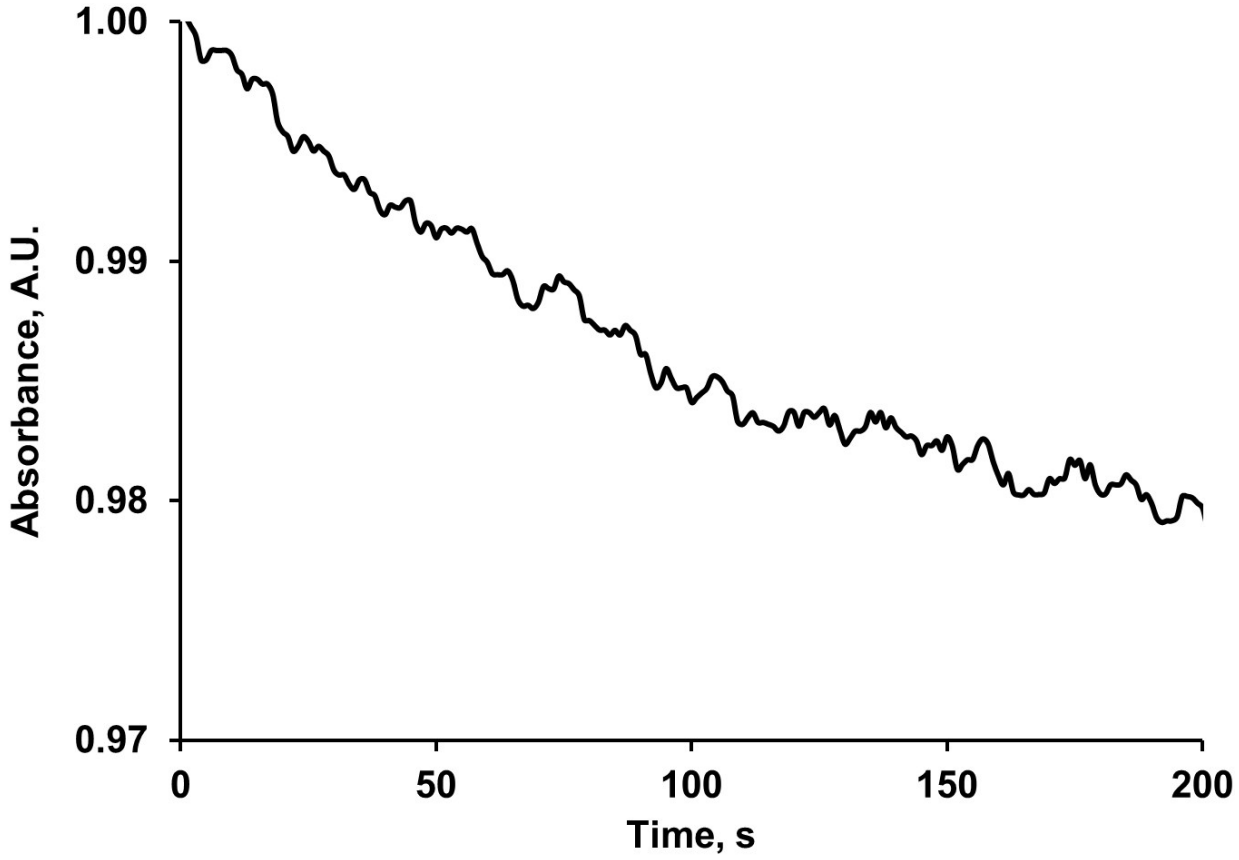


**Fig. S5** Time course curve for luminol ($1.25\times10^{-4}$ mol $L^{-1}$) in $Na_2CO_3$ (0.025 mol $L^{-1}$) at 350 nm in presence of $Cu(OH)_2$/CuO NWs (8.0 mg $L^{-1}$).