## Supporting information

# Reduction-Induced Synthesis of Reduced Graphene Oxide-Wrapped $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{Cu}$ Nanoparticles for Photodegradation of Methylene Blue 

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Figure S1 Absorption spectra of $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{rGO}$ composites having the reducing duration of 30 min and the inset shows the digital photographs of MB solution when irradiated to light with $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{rGO}$ composite produced at 30 min of reducing duration with ascorbic acid from the beginning to 120 min


Figure S2 Percentage degradation of MB under the irradiation of visible light with $\mathrm{Cu}_{2} \mathrm{O}, \mathrm{rGO}$, $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{rGO}$ and $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{Cu} / \mathrm{rGO}$ and composite


Figure $\mathbf{S 3} \mathrm{H}_{2}$ evolution rate of the $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{Cu} / \mathrm{rGO}$ composite synthesized at different reduction durations (20, 30, 40 min )


Figure S4 XRD patterns of chemically synthesized $\mathrm{Cu}_{2} \mathrm{O} / \mathrm{Cu} / \mathrm{rGO}$ nanocomposite before and after the $\mathrm{H}_{2}$ evolution process (irradiation time was 8 hrs .)

