

## Supporting Information

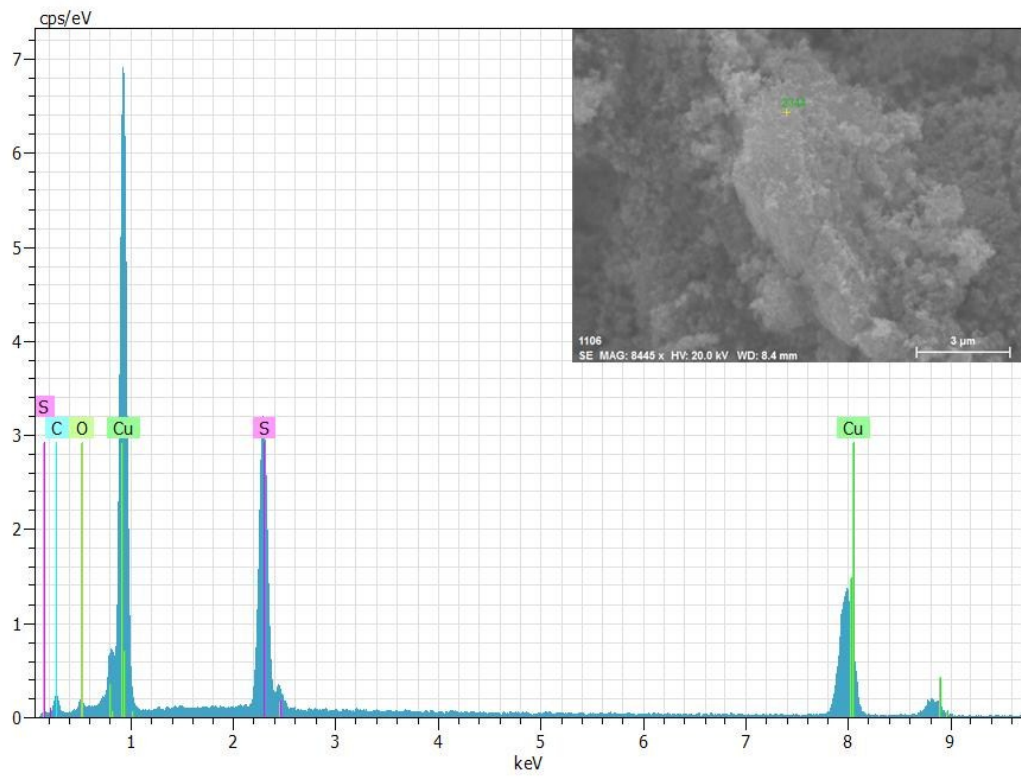
### **Surfactant-free synthesis of hollow CuS nanospheres via clean Cu<sub>2</sub>O templates and its catalytic oxidation of dye molecules with H<sub>2</sub>O<sub>2</sub>**

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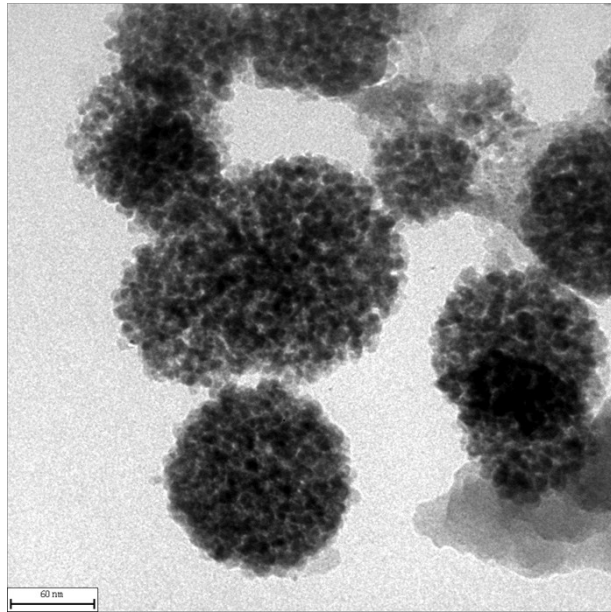
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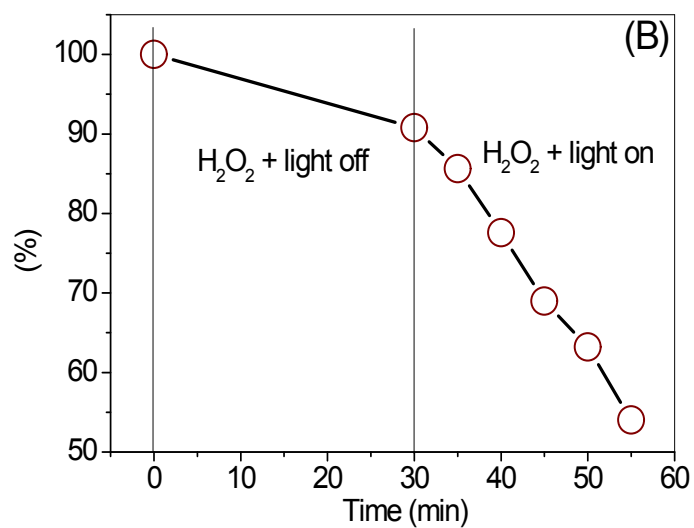
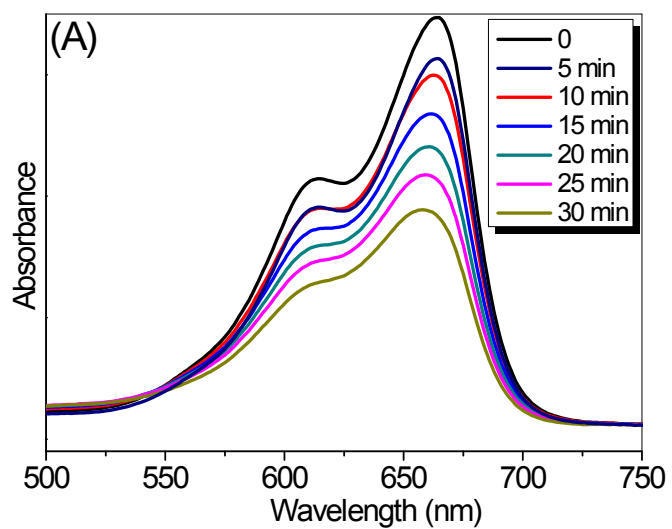
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SFigure 1. SEM-EDX result of hollow CuS nanospheres.



SFig. 2. TEM image of Cu<sub>2</sub>O nanoaggregates.



SFig.3. UV-Vis spectra (A) and degradation efficiency (B) of MB (10 ppm, 100 mL) in the presence of H<sub>2</sub>O<sub>2</sub> without CuS hollow nanospheres.