

# Supporting Information

## Photostable self-cleaning cotton by a copper (II) porphyrin /TiO<sub>2</sub> visible-light photocatalytic system

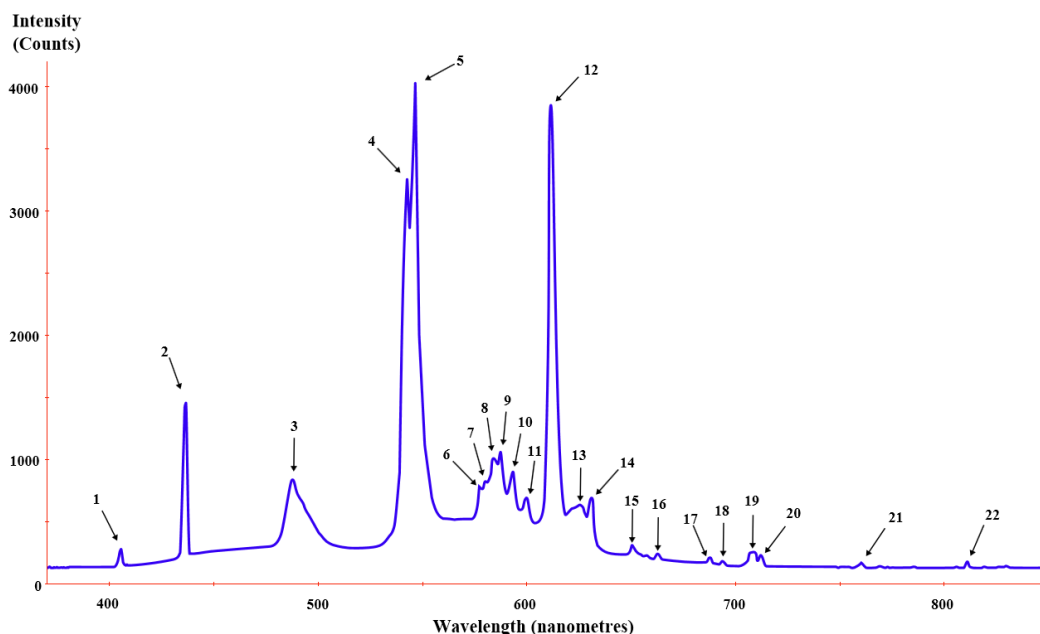
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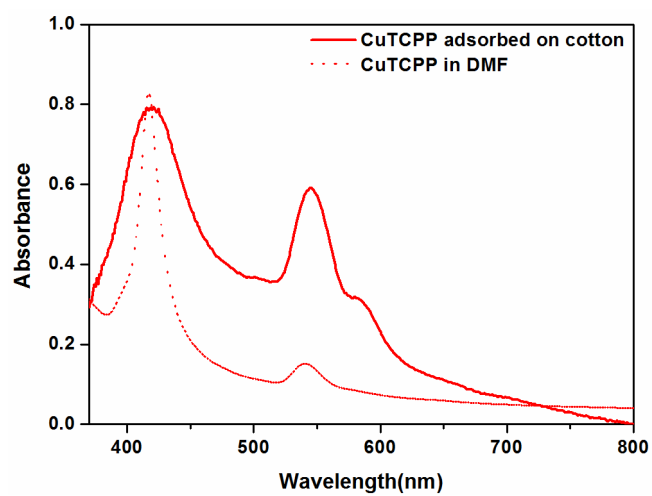
### 1. Spectrum of fluorescent lamp used in the photodegradation experiments



**Fig. S1:** Spectrum of a typical fluorescent lamp (Source:

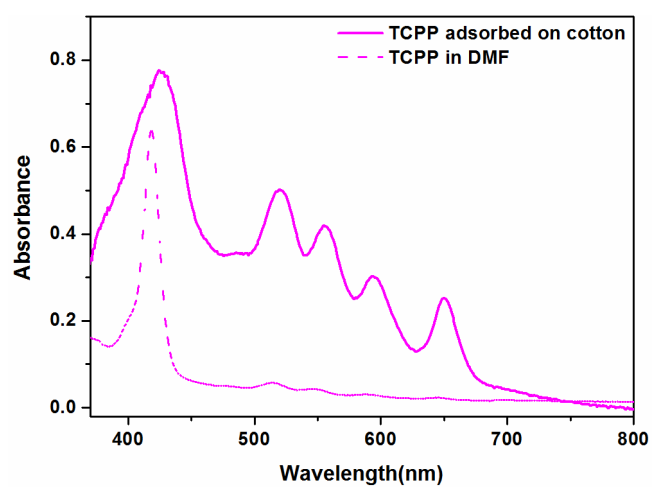
[http://en.wikipedia.org/wiki/File:Fluorescent\\_lighting\\_spectrum\\_peaks\\_labelled.svg](http://en.wikipedia.org/wiki/File:Fluorescent_lighting_spectrum_peaks_labelled.svg))

## 2. UV-Vis absorption spectra of CuTCPP



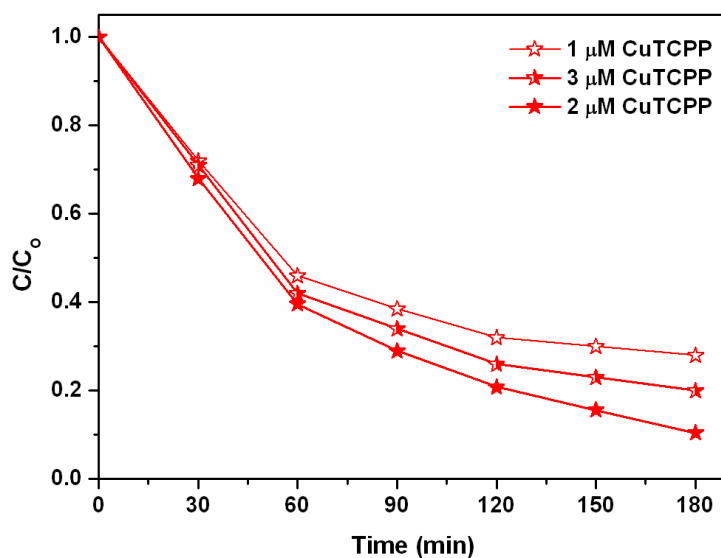
**Fig. S2:** UV-Vis spectra of CuTCPP in DMF and CuTCPP adsorbed on TiO<sub>2</sub>-coated cotton

## 3. UV-Vis absorption spectra of TCPP



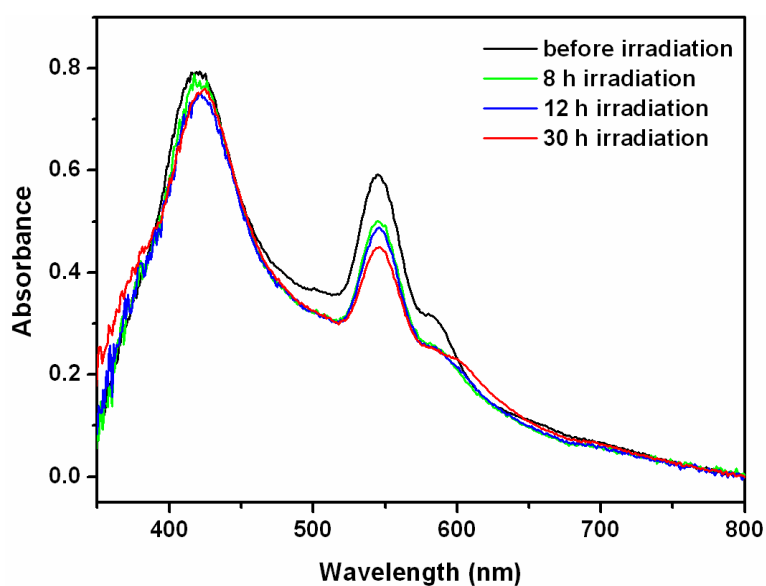
**Fig. S3:** UV-Vis spectra of TCPP in DMF and TCPP adsorbed on TiO<sub>2</sub>-coated cotton

#### 4. Effect of concentration of CuTCPP on photocatalytic degradation of MB



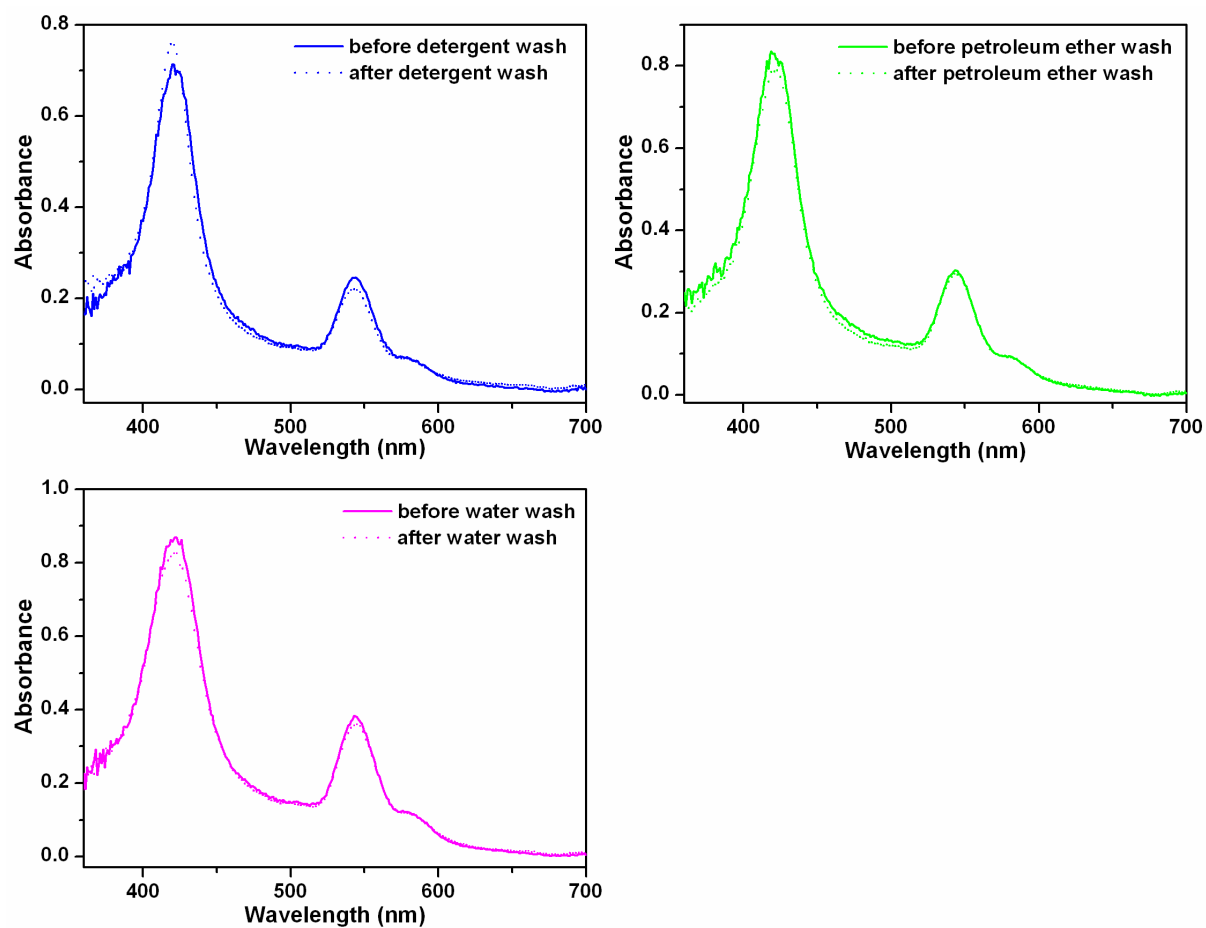
**Fig. S4:** Degradation of MB (10 ml, 15.6  $\mu\text{M}$ , pH = 1) by 0.5 g of: CuTCPP/TiO<sub>2</sub>-coated cotton (CuTCPP = 1, 2 and 3  $\mu\text{M}$ ) under visible-light irradiation (5.02  $\text{mWcm}^{-2}$  irradiance) for 180 min

#### 5. UV-Vis spectroscopy for photostability evaluation of CuTCPP/TiO<sub>2</sub> catalyst



**Fig. S5:** UV-Vis spectra of CuTCPP/TiO<sub>2</sub>-coated cotton before and after light irradiation at different time intervals

6. UV-Vis spectroscopy for stability evaluation of CuTCPP/TiO<sub>2</sub> coating after washing with different solvents



**Fig. S6:** UV-Vis spectra CuTCPP/TiO<sub>2</sub>-coated cotton before and after washing with detergent, petroleum ether and water for 45 min