Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting information

For

Synthesis of CuS flowers exhibiting versatile photo-catalyst response

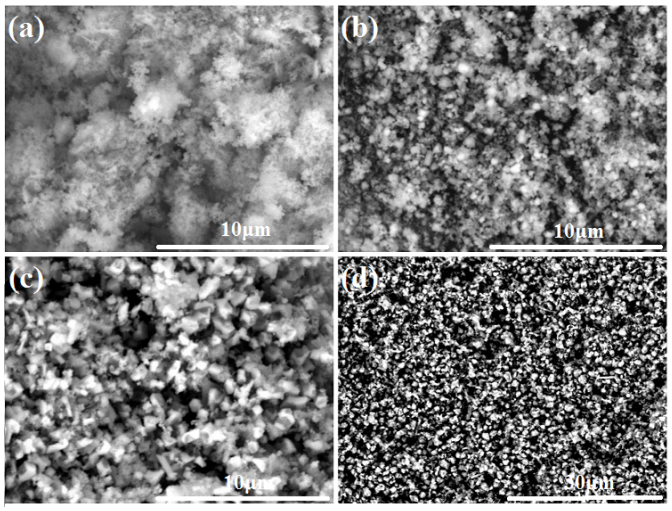

Figure S1. SEM images of the as prepared products in the open system employing sonochemical synthesis, under the same typical experimental conditions at different reaction durations (a) 10min, (b) 20min, (c) 30min, (d) 40nin.

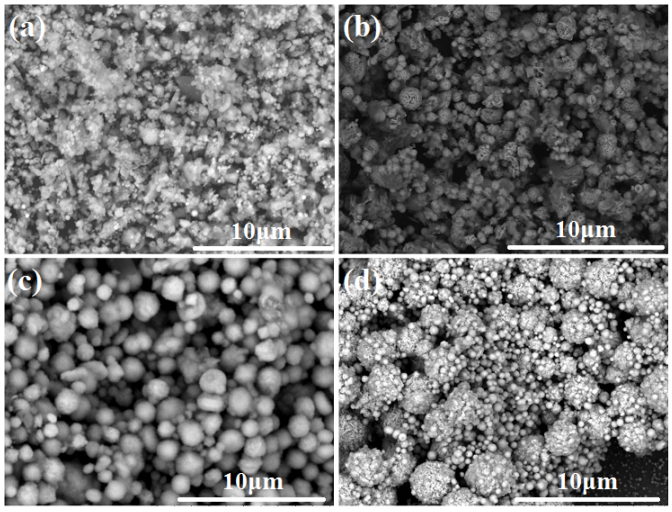

Figure S2. SEM images of the as prepared products using hydrothermal technique, under the same typical experimental conditions (80°C) at different reaction durations. (a) 10min, (b) 20min, (c) 30min, (d) 40min.

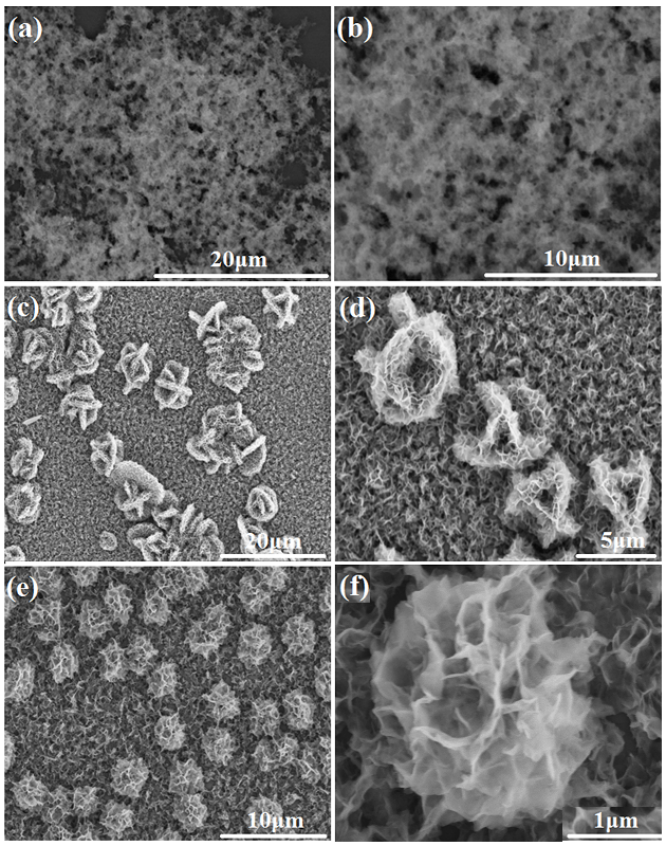

Figure S3. SEM images of the as prepared products employing green sonochemical synthetic technique at different reaction durations, under the same typical experimental conditions. (a, b) 10Min, (c, d) 20Min, (e, f) 30Min.

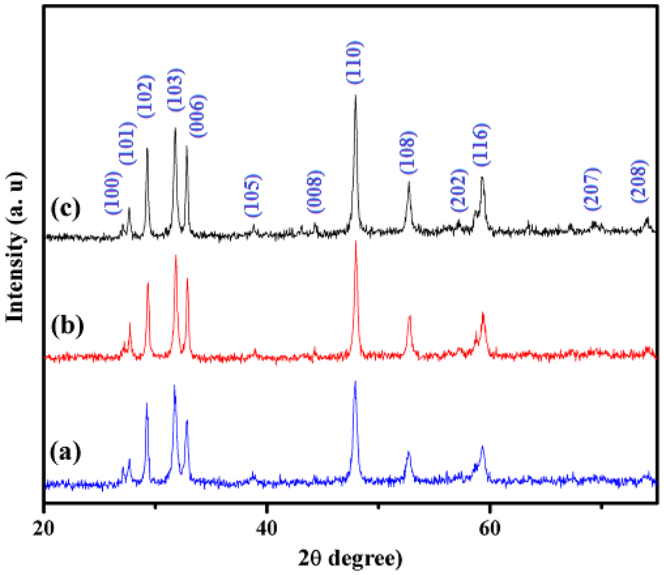

Figure S4. XRD patterns of the as prepared CuS products at different reaction durations under the same typical experimental conditions; (a) 10Min, (b) 20Min, (c) 30Min.

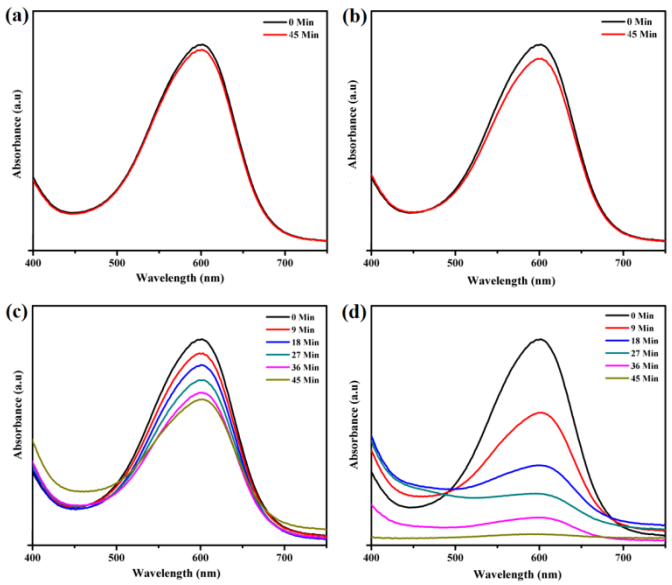

Figure S5. Absorption spectra of photo degradation of MB by different catalysts under natural light (a) without any catalyst + H_2O_2, (b) CuS microflowers + no H_2O_2, (c) commercial CuS powder + H_2O_2, (d) CuS microflowers + H_2O_2.

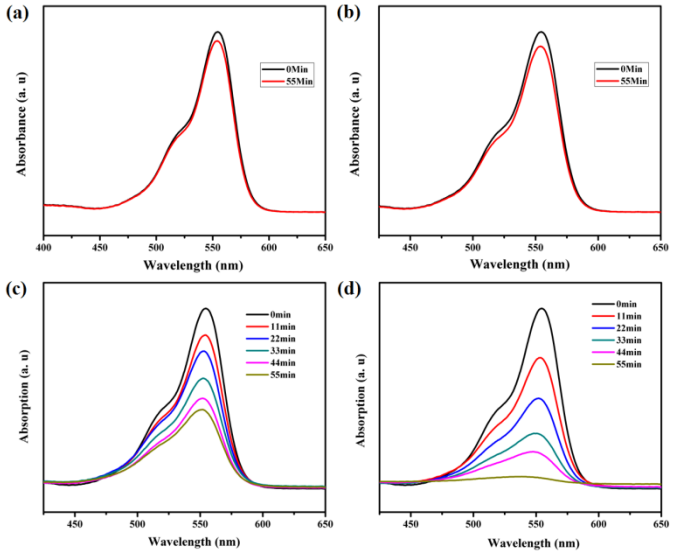

Figure S6. Absorption spectra of photo degradation of RhB by different catalysts under natural light (a) without any catalyst + H_2O_2, (b) CuS microflowers + no H_2O_2, (c) commercial CuS powder + H_2O_2, (d) CuS microflowers + H_2O_2.

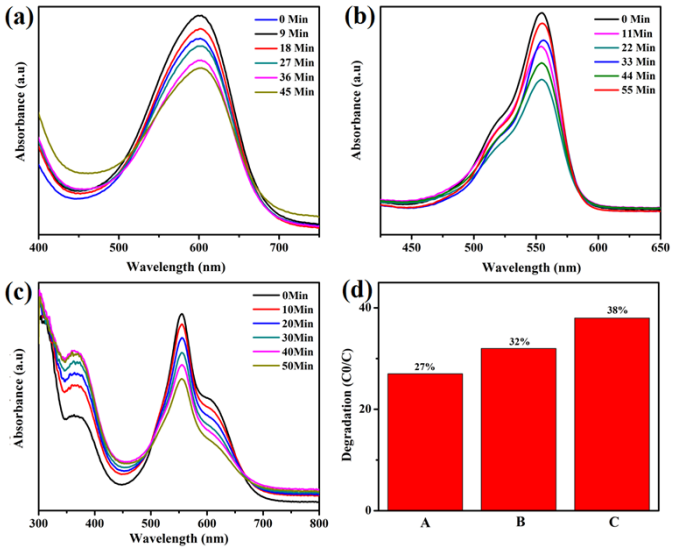

Figure S7. Absorption spectra of photo degradation of different organic dyes under natural light using TiO_2 (P25) as catalyst under the same typical photodegration conditions. (a) MB, (b) RhB, (c) MB+RhB, (d) photodegradation percentage of different organic dyes Panel A (MB), Panel B (RhB), Panel C (MB+RhB).

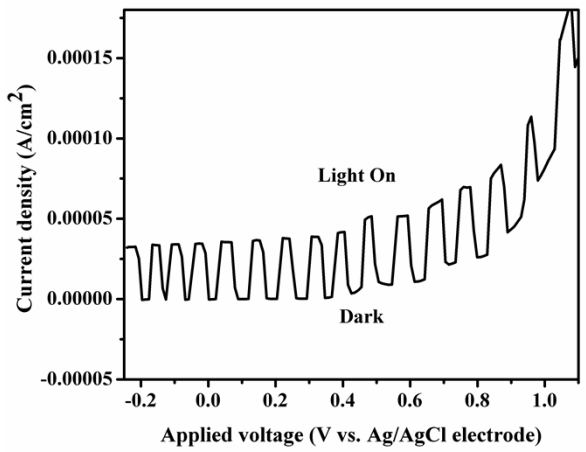

Figure S8. The photocurrent density–applied voltages plot of CuS microflowers in a sodium sulfate electrolyte solution (0.2 M).

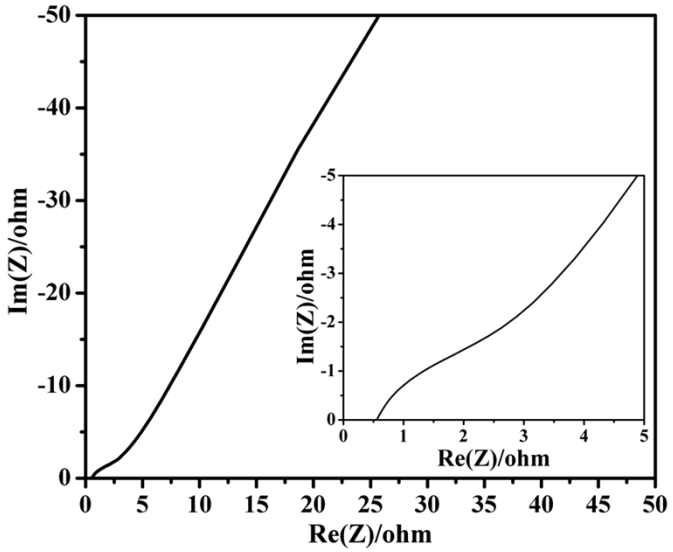

Figure S9. Nyquist impedance plots of CuS microflowers.