Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Visible light assisted improved photocatalytic activity of combustion synthesized spongy-ZnO towards dye degradation and bacterial inactivation

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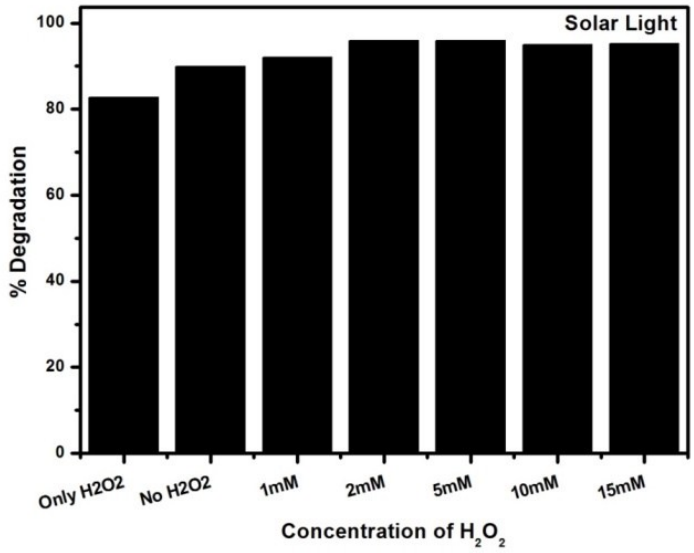

Figure S1: Effect of H_2O_2 on the degradation of Crystal Violet dye (Initial dye concentration = 20 mg L^{-1}, catalyst loading = 50 mg L^{-1}, temperature = 25 ± 2°C, pH ~7, and solar intensity = 0.768 kW m^{-2})

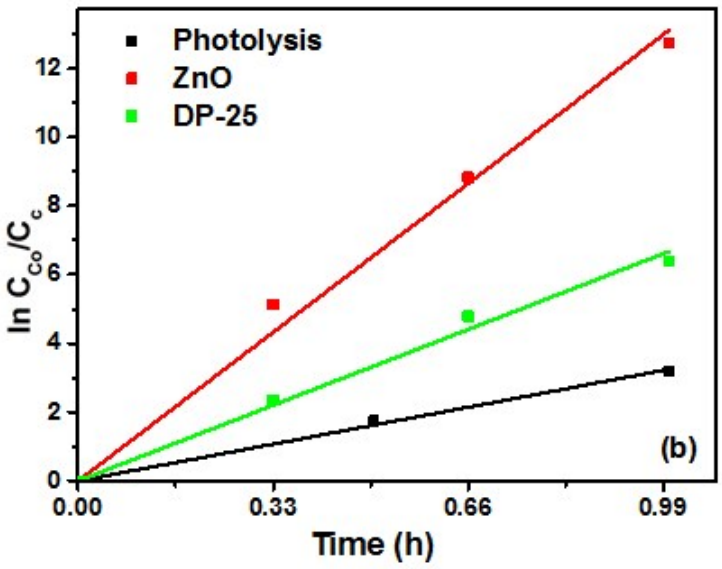

Figure S2. Pseudo first order kinetics for photolysis, spongy-ZnO and P-25 TiO_2. (Initial concentration ~10^8 CFU/ml, catalyst loading = 0.25 g/L, temperature = 25 ± 2^{o}C, and visible light intensity = 42800 lux)

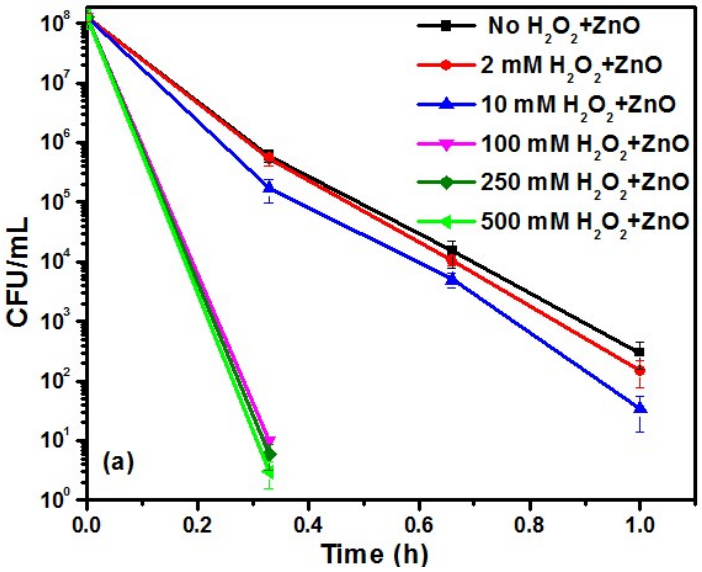

Figure S3. Effect of hydrogen peroxide on inactivation of *E.coli* under visible irradiation with initial concentration 10^8 CFU/mL for 0, 2.0, 10.0, 100.0, 250.0 and 500.0 mM concentration of H_2O_2 in presence of 0.25 g/L ZnO.

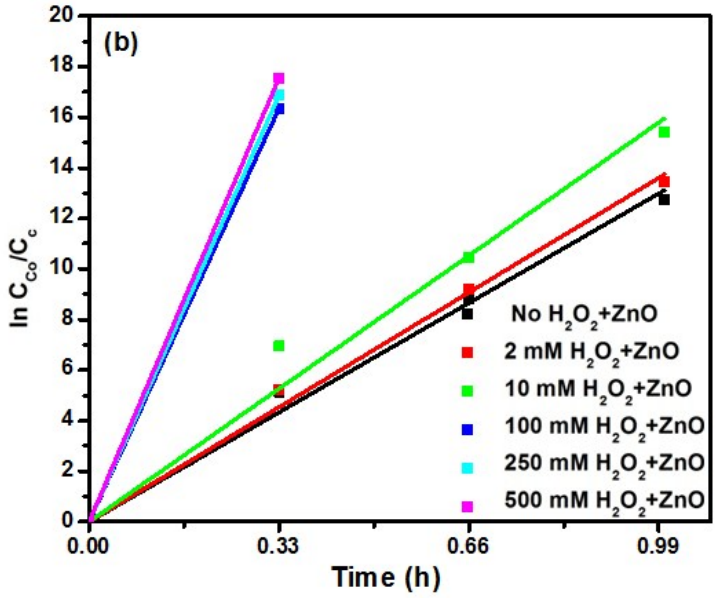

Figure S4. Pseudo first order kinetics 0, 2.0, 10.0, 100.0, 250.0 and 500.0 mM concentration of H_2O_2 in presence of 0.25 g/L ZnO.

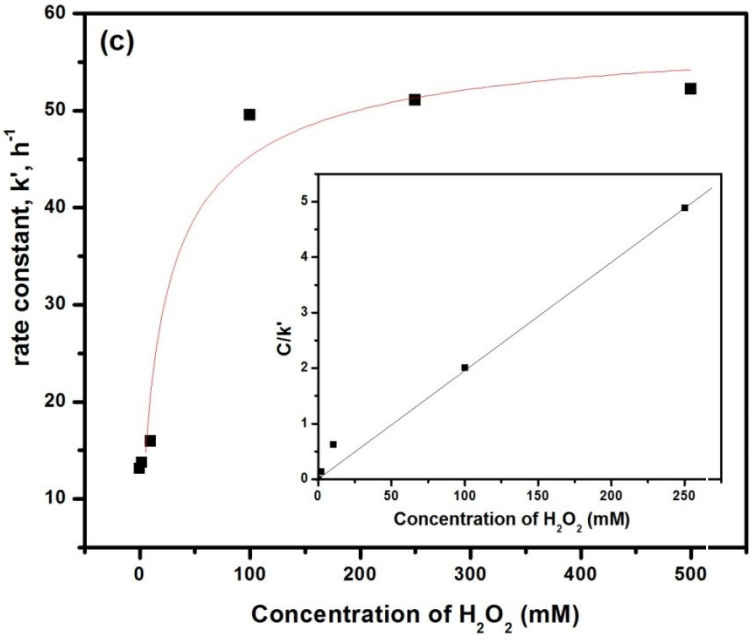

Figure S5. Variation of rate constant with H_2O_2 concentration. (The inset represents the relationship between concentration/rate constant of the reactions performed at 0, 2.0, 10.0, 100.0, 250.0 and 500.0 mM concentration of H_2O_2)