Supporting Information

Coumarin thiazole derived Schiff base copper complex: Synthesis, characterization, applications of catalytic degradation of dyes, pearl millet seed germination for improved agricultural output and antioxidant assays

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Spectral characterization of coumarin thiazole derived Schiff base ligands

^{1}H NMR ($CDCl_3$) δ (ppm): 1.23 (6H, t, $NCH_2C\mathbf{H_3}$), 3.40 (4H, q, $NC\mathbf{H_2}CH_3$), 6.19 (1H, s, OH-C-C**H**), 6.32(1H, d, =C-C-CH=C**H**), 7.38 (1H, d, coumarin proton), 7.45 (1H, t, coumarin proton), 7.50 (1H, d, aldehyde ring proton), 7.60 (1H, t, coumarin ring), 7.86 (1H, d, coumarin ring proton), 8.25 (1H, s, coumarin ring), 8.74 (1H, s, thiazole ring proton), 8.91 (1H, s, N=C**H**), 12.64 (1H, s, OH). ^{13}C NMR ($CDCl_3$) δ (ppm): 12.27; 44.35; 96.98; 104.48; 108.00; 115.90; 116.83; 119.17; 120.50; 124.16; 127.95; 130.97; 135.08; 138.94; 145.28; 152.55; 152.80; 159.34; 162.92; 163.77; 170.22.

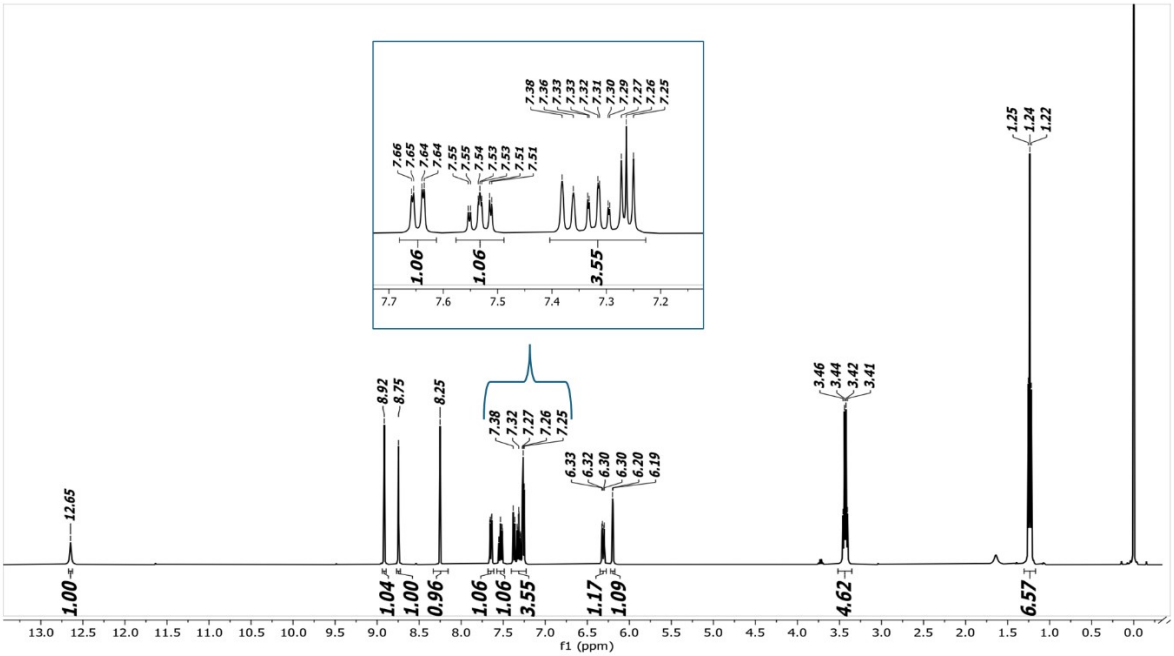

Figure S1: ^{1}H NMR spectra of synthesized coumarin thiazole derived Schiff base ligand (CTSB).

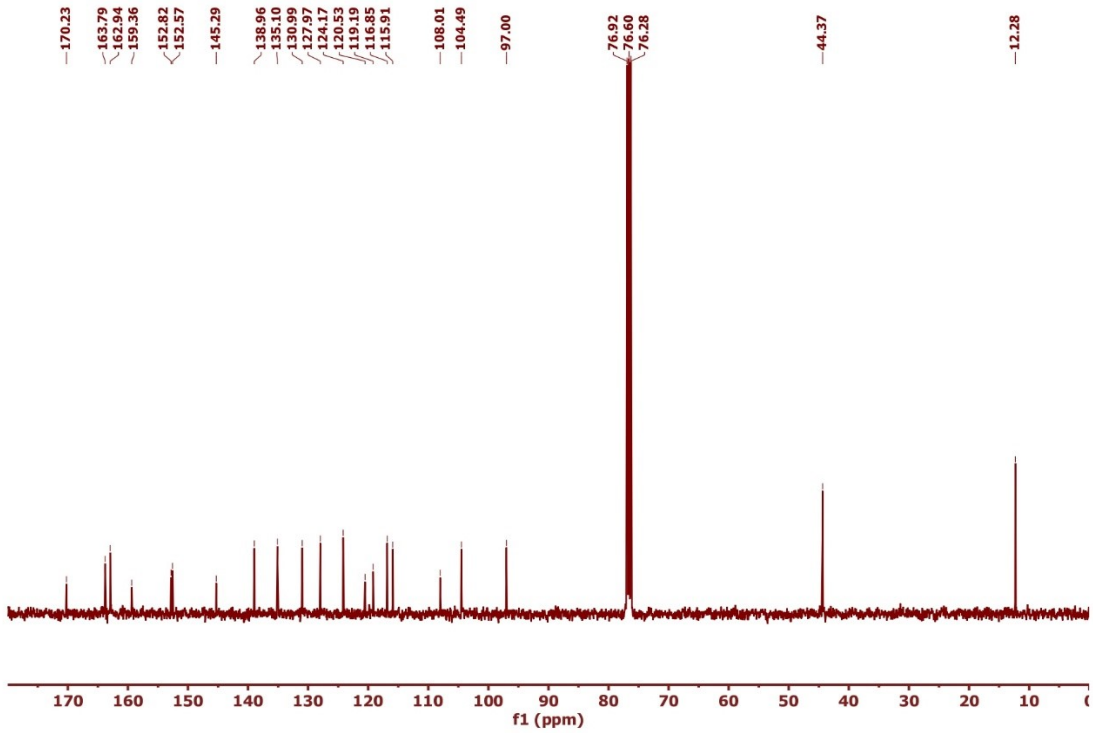

Figure S2: ^{13}C NMR spectra of synthesized coumarin thiazole derived Schiff base ligand (CTSB).

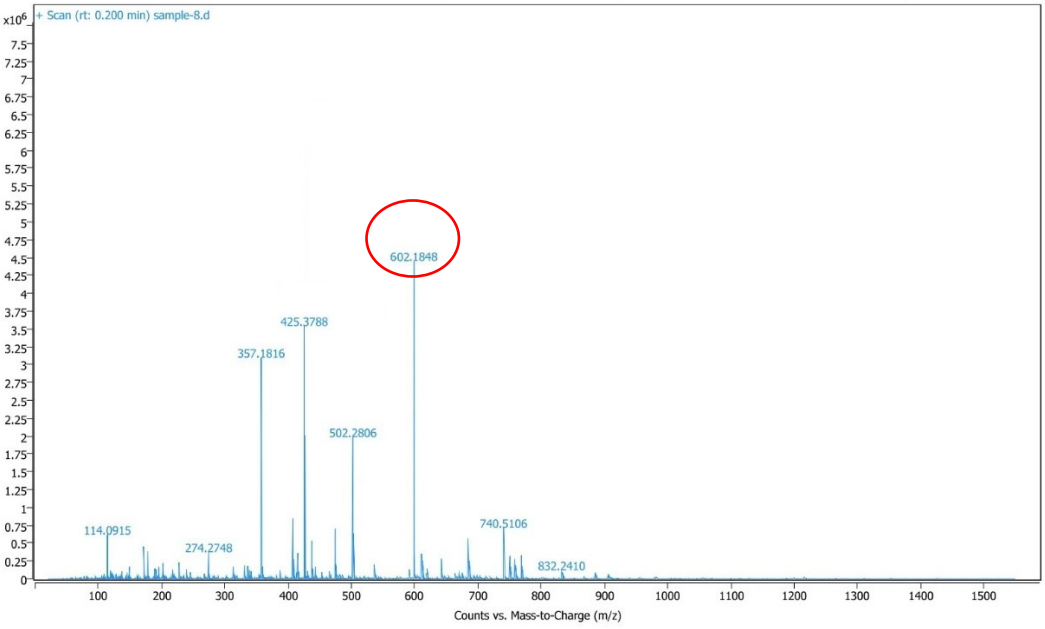

Figure S3: Mass spectra of synthesized coumarin thiazole derived Schiff base (CTSB)-copper complex

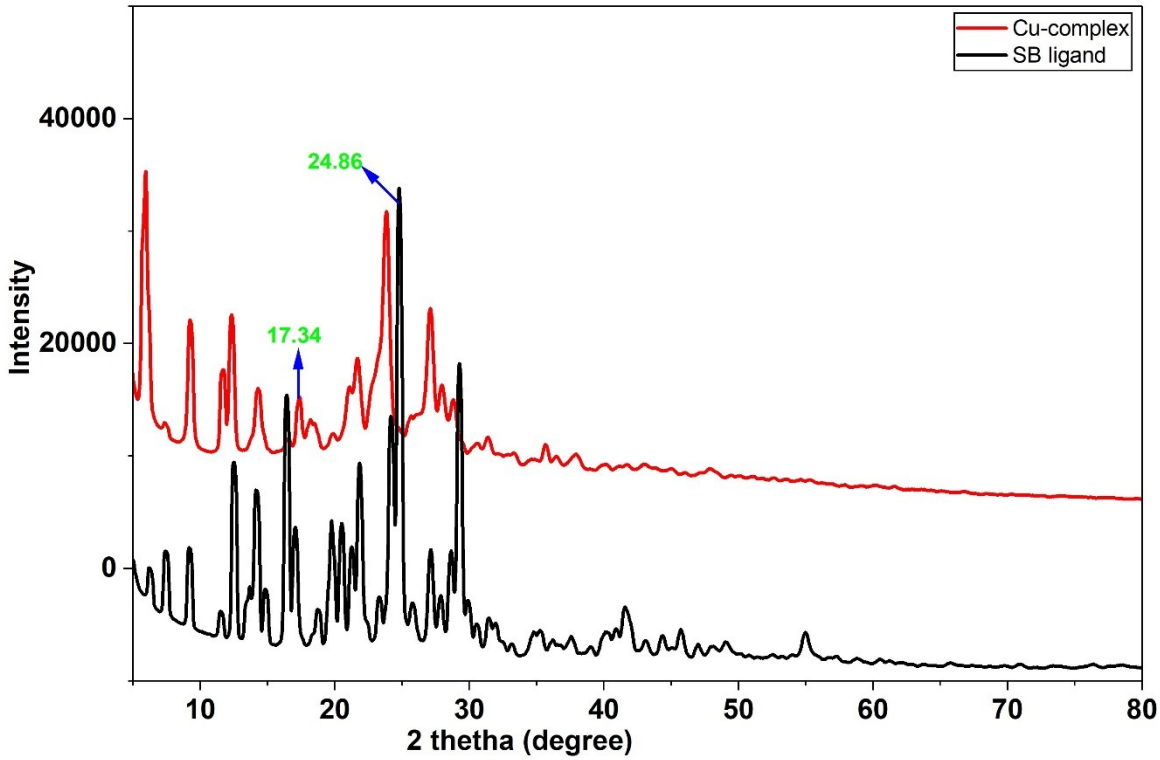

Figure S4: XRD analysis of coumarin thiazole derived Schiff base (CTSB) ligand and its copper complex

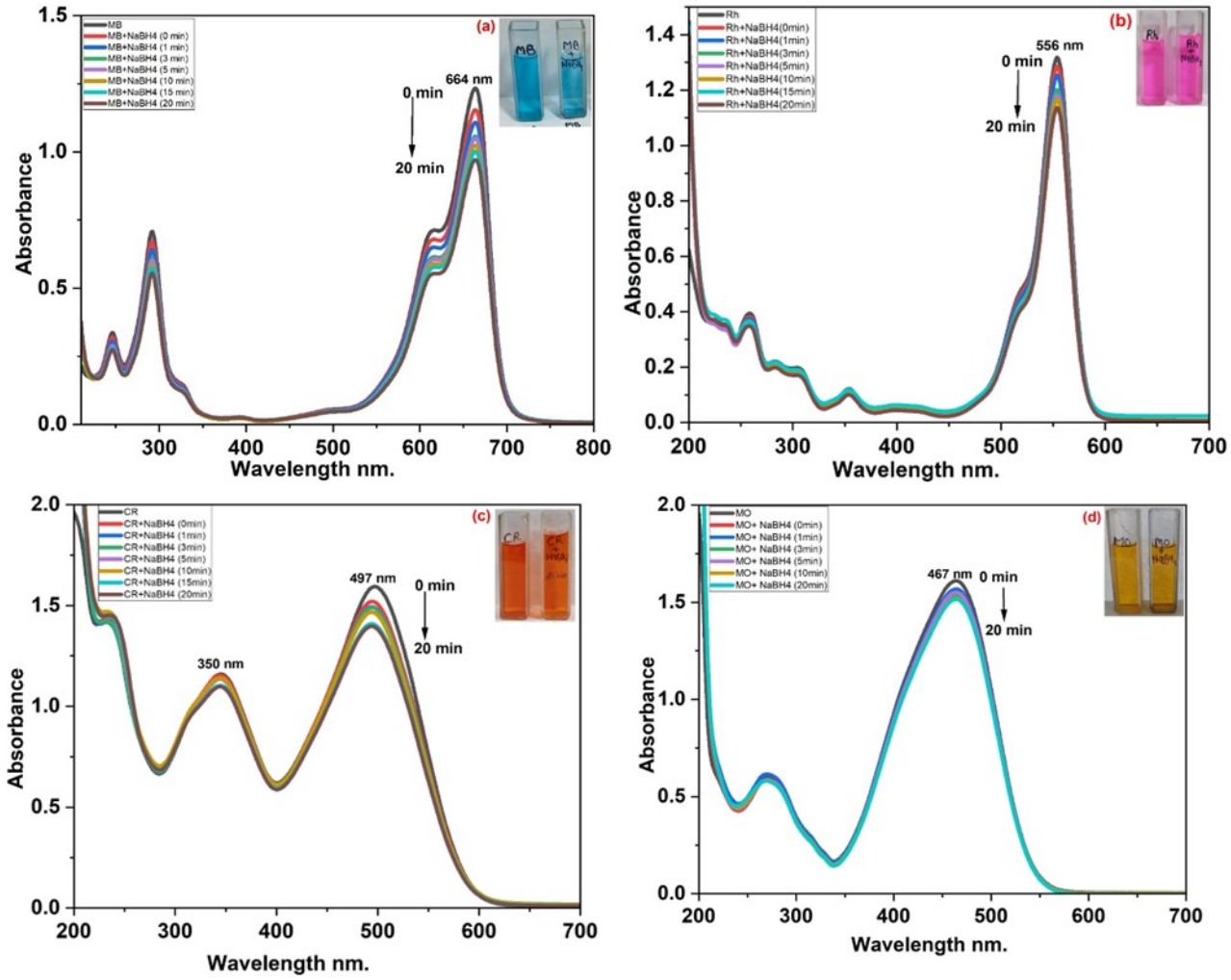

Figure S5: The UV-visible studies of (a) Methylene Blue, (b) Rhodamine B, (c) Congo red, and (d) Methyl orange dyes in presence of only $NaBH_4$

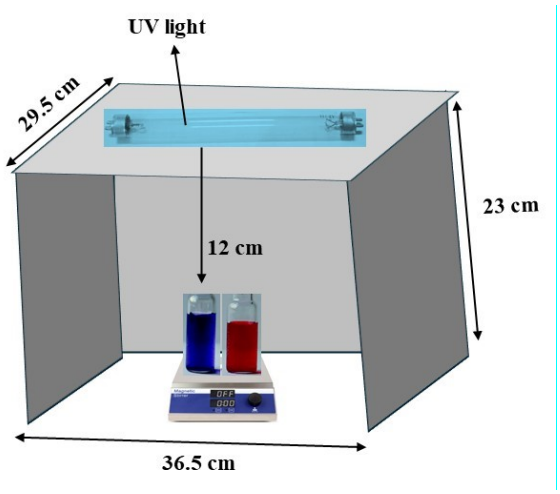

Figure S6. Design of Photocatalytic reactor used for degradation of dyes