Supporting Information

Anion-Dominated Copper Salicyaldimine Complexes: Structures, Coordination Mode of Nitrate, and Decolorization Properties toward Acid Orange 7 Dye

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Figure S1. ¹H NMR spectrum of $H_2L_{salpyca}$ in DMSO- d_6 at room temperature.



Figure S2. MALDI-TOF mass spectrum of H₂L_{salpyca}.



Figure S3. MALDI-TOF mass spectrum of [Cu(HL_{salpyca})Cl] (1).



Figure S4. XRPD patterns of 1 and 2.



Figure S5. Solid-state excitation and emission spectra of $H_2L_{salpyca}$ (λ_{em} = 505 nm, λ_{ex} = 360 nm).





Figure S6. Time-dependent UV/vis spectra of AO7 aqueous solutions under various degradation conditions: (a) AO7 only in dark; (b) AO7 only under daylight, (c) AO7+H₂O₂ in dark; (d) AO7+H₂O₂ under daylight; (e) AO7+1 in dark; (f) AO7+1 under daylight; (g) AO7+2 in dark; (h) AO7+2 under daylight; (i) AO7+1+H₂O₂ in dark; (j) AO7+1+H₂O₂ under daylight; (k) AO7+2+H₂O₂ in dark.



Figure S7. Concentrations of AO7 after degradation by $2/H_2O_2$ versus degradation time in dark conditions and under daylight. Solid lines show the first-order exponential decay.



Figure S8. Time-dependent UV/vis spectra of AO7 aqueous solution after the photocatalytic degradation by $2/H_2O_2$ under daylight in different concentrations of 2: (a) 1 mg 2/6 mL AO7_(aq); (b) 1 mg 2/15 mL AO7_(aq); (c) 1 mg 2/30 mL AO7_(aq).



Figure S9. Time-dependent UV/vis spectra of AO7 aqueous solutions for the recycling experiments with the simultaneous existence of **2** and H_2O_2 under daylight.