APPENDIX

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Figure A.1. Dubinin–Radushkevich (D–R) isotherm plots for adsorption of MO, BTB, EBT and CR on CuMgAl4 LDH ($V_{solution}$ = 20 mL, adsorbent amount = 5 mg, T = 25 °C, pH = 7).

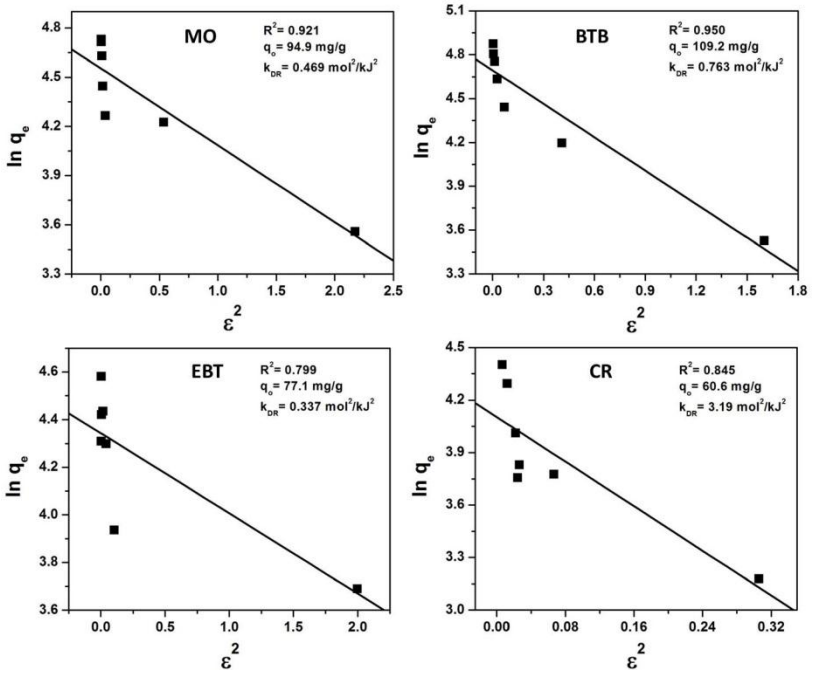

Figure A.2. Scanning Electron Microscopy (SEM) images of NiAl-R, NiAl-$S_{0.5}$ and NiAl-S_2 LDH.

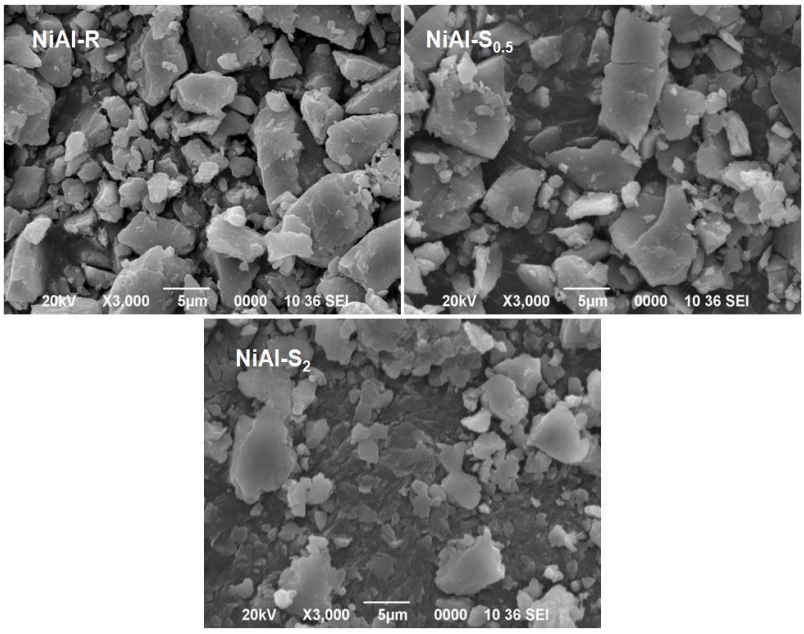

Figure A.3. UV-visible spectra for photocatalytic degradation of (a) 2CP, (b) 3CP and (c) 4CP; (d) Degradation (%) of 2CP, 3CP and 4CP with irradiation time over ZnFe LDH under UV light irradiation.

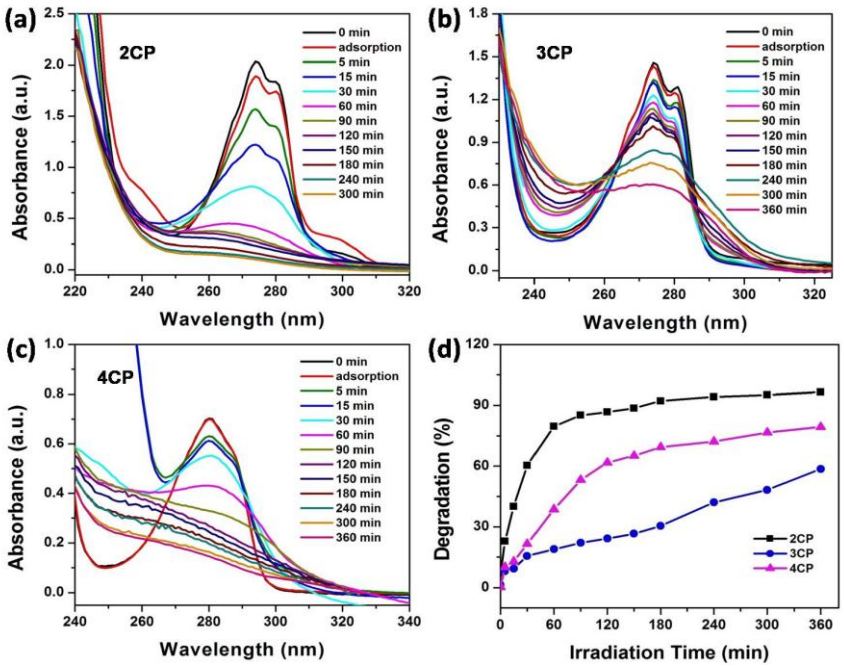

Figure A.4. UV-visible spectra for photocatalytic degradation of (a) 2CP, (b) 3CP and (c) 4CP; (d) Degradation (%) of 2CP, 3CP and 4CP with irradiation time over ZnFe LDH under UV light irradiation.

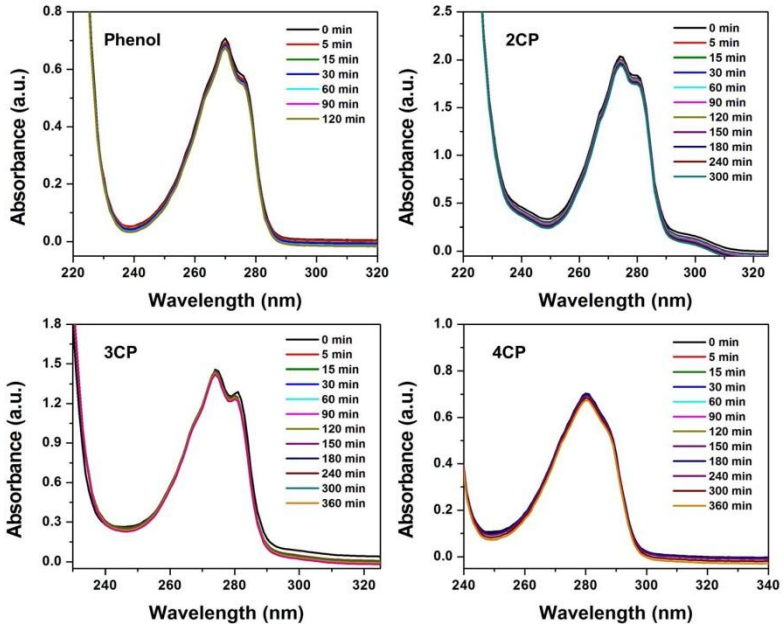

Figure A.5. Pseudo-first order kinetic plots for photocatalytic degradation of phenol, 2CP, 3CP and 4CP over ZnFe-LDH under UV light irradiation (Condition: C_o = 0.5 mM, V = 20 mL, Catalyst amount = 10 mg, pH = 7).

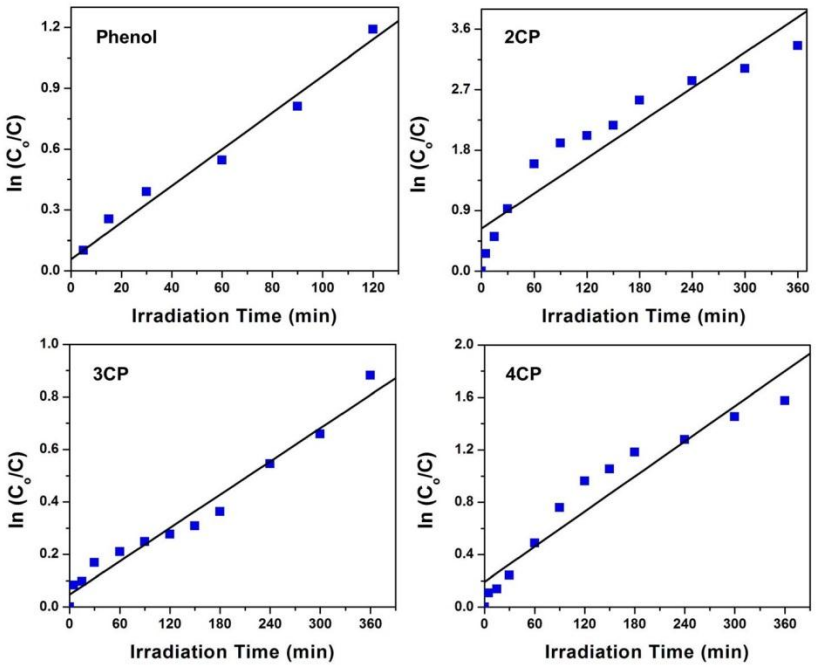

Figure A.6. Degradation (%) of MB and RhB for photocatalytic degradation over ZnFe LDH under different light irradiations (C_o = 10 mg/L, $V_{solution}$ = 50 mL, catalyst amount = 5 mg for MB and 10 mg for RhB, pH = 7).

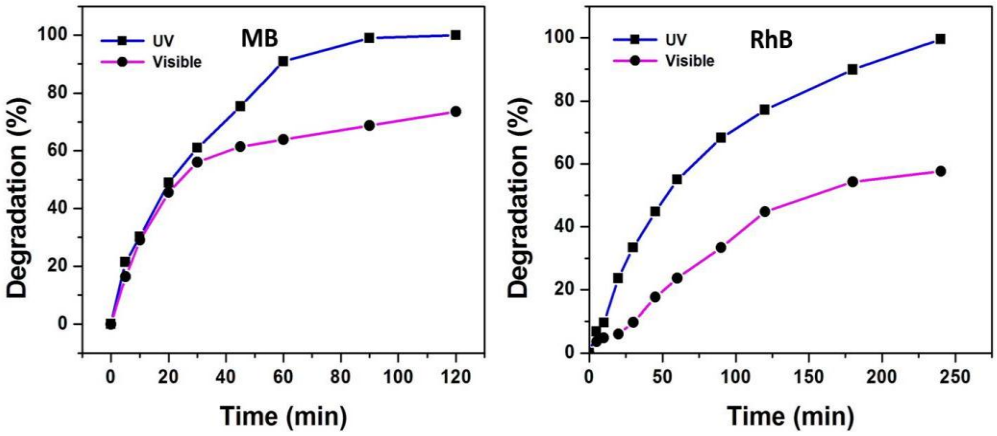

Image A.1. ^{1}H NMR of 2-Nitro-1-(4-nitrophenyl) ethan-1-ol.

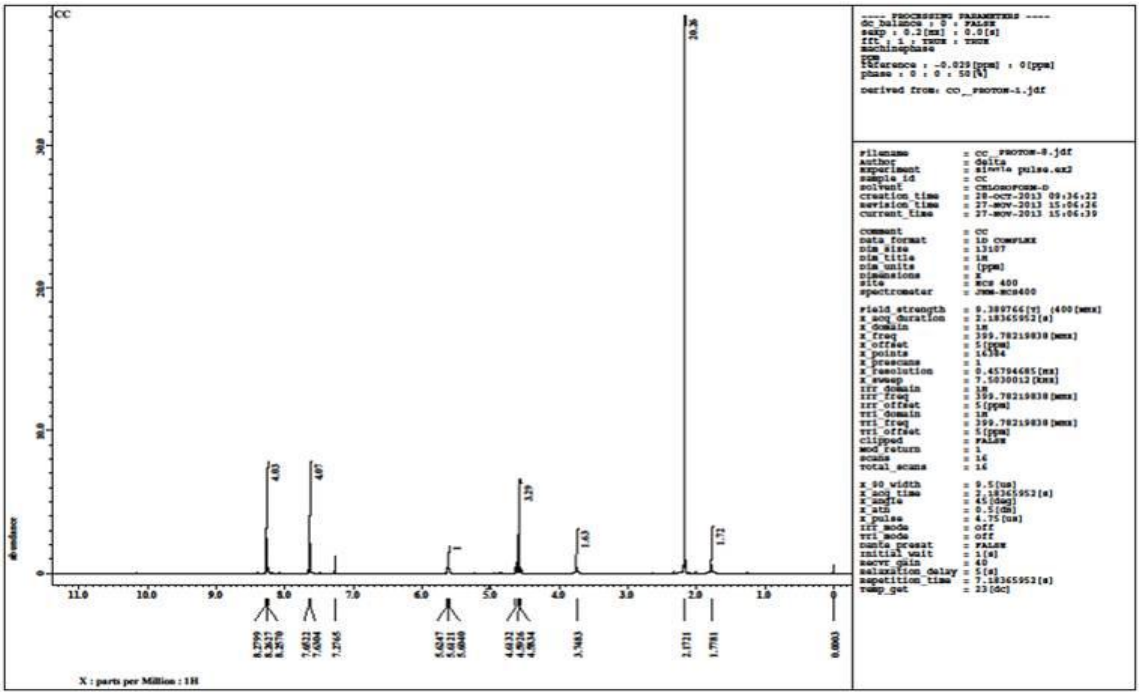

Image A.2. ^{13}C NMR of 2-Nitro-1-(4-nitrophenyl) ethan-1-ol.

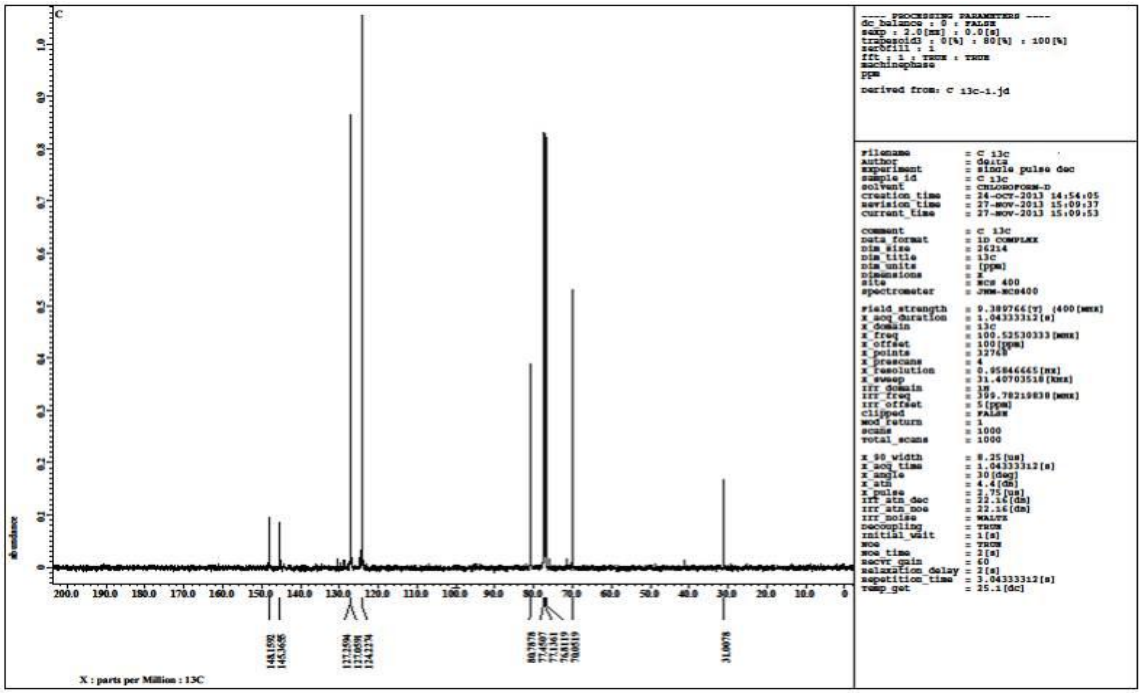

Image A.3. ^{1}H NMR of 2-Nitro-1-(4-nitrophenyl) ethan-1-ol.

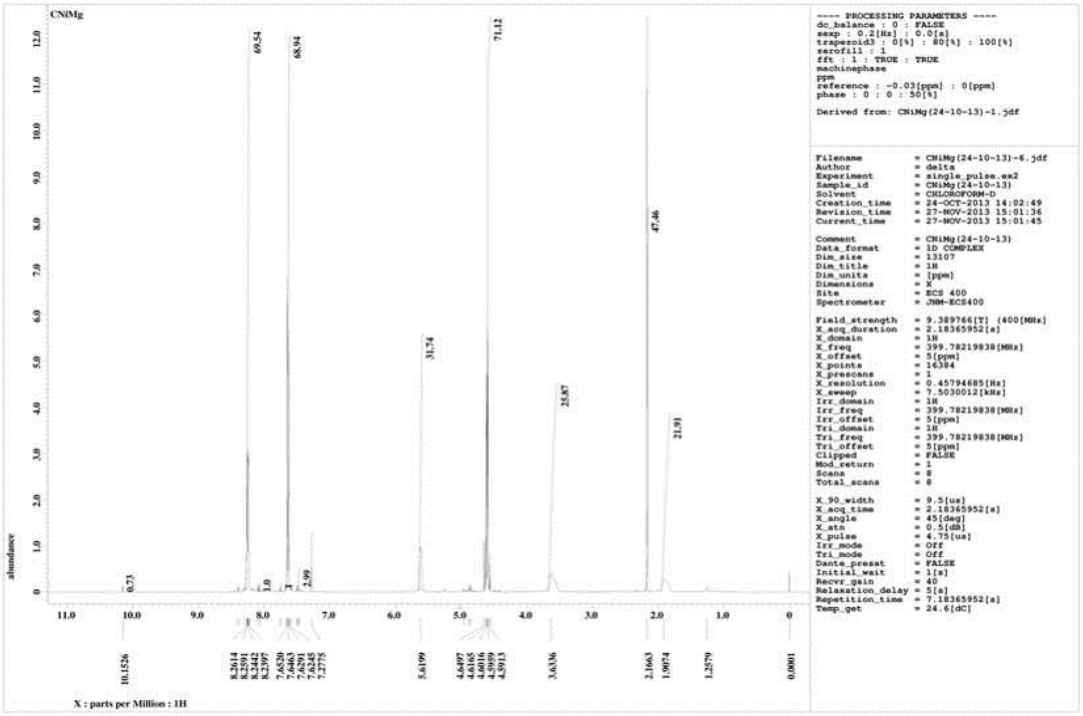

Image A.4. ^{13}C NMR of 2-Nitro-1-(4-nitrophenyl) ethan-1-ol.