

Supporting Information

Cobalt phthalocyanine sensitized MOF on MOF: UiO-66@MIL-88B(Fe)/CoTAPc, photocatalytic activity in the degradation of Acid black 210

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Materials

Iron nitrate hexahydrate ($\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$, $\geq 98.5\%$), sodium sulfate anhydrous (Na_2SO_4 , $\geq 99.0\%$), ammonium molybdate ($(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$, $\geq 99.0\%$), ammonium chloride (NH_4Cl , $\geq 99.5\%$), L-ascorbic acid ($\text{C}_6\text{H}_8\text{O}_6$, $\geq 99.7\%$), N, N-dimethylformamide (DMF, $\geq 99.5\%$) and glacial acetic acid (CH_3COOH , $\geq 99.5\%$) were purchased from Tianjin Damao Chemical Reagent Factory (China). p-Phthalic acid (PTA, 99.0%), cobalt chloride hexahydrate ($\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$), urea ($\text{CH}_4\text{N}_2\text{O}$, 99.0%) were obtained from Aladdin reagent Co. Ltd. (China). Absolute ethanol (EtOH , $\geq 99.7\%$), Isopropyl alcohol ($(\text{CH}_3)_2\text{CHOH}$, $\geq 99.7\%$) and acetonitrile (CH_3CN , $\geq 99.5\%$) were purchased from Tianjin Fuyu Fine Chemical Co. Ltd (China). Zirconium (IV) chloride (ZrCl_4 , 99.5%), N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride ($\text{C}_8\text{H}_{18}\text{ClN}_3$, 98.5%), ammonium oxalate monohydrate ($(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot \text{H}_2\text{O}$, 99.8%), N-hydroxysuccinimide ($\text{C}_4\text{H}_5\text{NO}_3$, 99%), acid Black 210 ($\text{C}_{34}\text{H}_{25}\text{K}_2\text{N}_{11}\text{O}_{11}\text{S}_3$, 100%), 4-nitrophthalic acid ($\text{C}_8\text{H}_5\text{NO}_6$, 98.0%) and sodium sulfide nonhydrate ($\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$, $\geq 98.0\%$) were purchased from Shanghai Macklin Biochemical Co. Ltd (China). Sodium hydroxide (NaOH , $\geq 96.0\%$) and hydrochloric acid (HCl) were obtained from Tianjin Yongda Chemical Reagent Co. Ltd. (China).