

Supporting Information

1. Experimental

1.1. Materials and Methods

5-Bromosalicylaldehyde, 2-methyl-3-butyn-2-ol, 4-aminoantipyrine, CuI, PPh₃, Pd(PPh₃)₂Cl₂, tetrahydrofuran, triethylamine, anhydrous ethanol, petroleum ether, ethyl acetate, CuSO₄·5H₂O, MgSO₄, ZnSO₄, CoCl₂·6H₂O, Al₂(SO₄)₃, Fe₂(SO₄)₃·9H₂O, Ce(NO₃)₃·6H₂O, NiSO₄·6H₂O, Pb(NO₃)₂, AgNO₃, Sr(NO₃)₂, Eu(NO₃)₃·6H₂O, Pr(NO₃)₃·6H₂O, Gd(NO₃)₃·6H₂O (Shanghai Aladdin Biochemical Technology Co., Ltd.); all reagents used are of analytical purity. The testing solvents were prepared with deionized water. Ganjiang river water, rainwater, tap water were collected by water sampler and pretreated according to literatures [36,37].

1.2. General Instrumentation

FA1004 Electronic Analytical Balance (Shanghai Liangping Instrument & Meter Co., Ltd.), DF-101Z Heat Collection Constant Temperature Heating Magnetic Stirrer (Jintan Fuhua Instrument Co., Ltd.), RE-201 Rotary Evaporator (Shanghai Hongguan Instrument Equipment Co., Ltd.), DZG-6020 Vacuum Drying Oven (Shanghai Senxin Laboratory Instrument Co., Ltd.), F-4600 Fluorescence Spectrophotometer (Hitachi Technology Corporation), Nuclear magnetic resonance spectra were obtained using a Bruker AV 400 NMR instrument, FT-IR spectra were recorded on a Bruker Tensor 27 spectrophotometer.

1.3. NMR and FT-IR spectra of P1 and P2

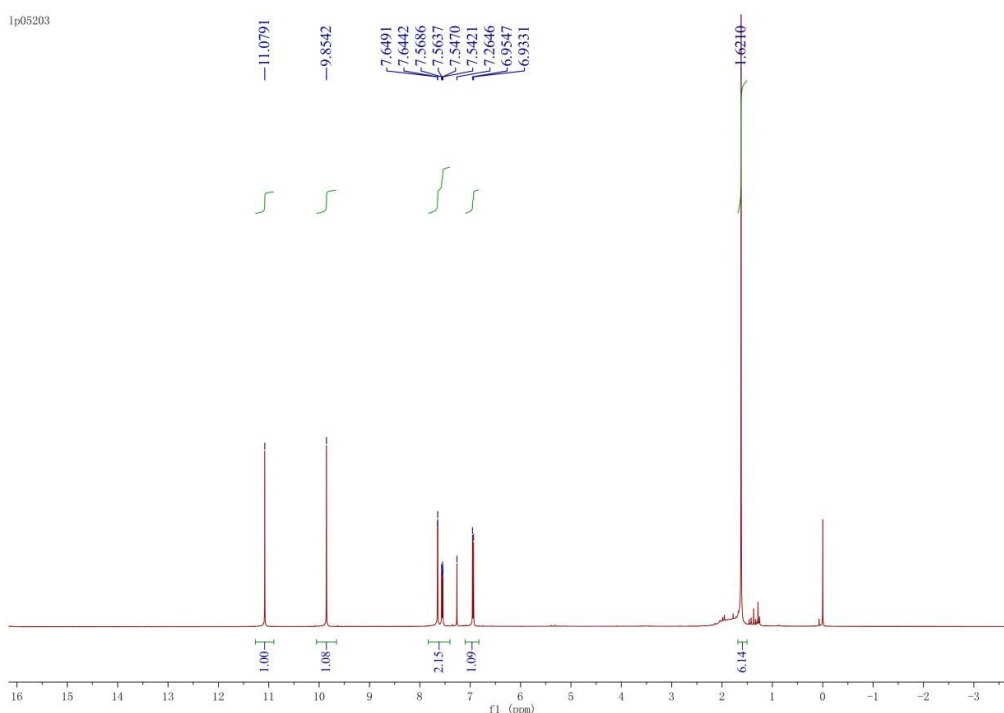


Figure S1. ¹H NMR spectrum (400 MHz, CDCl₃) of P1.

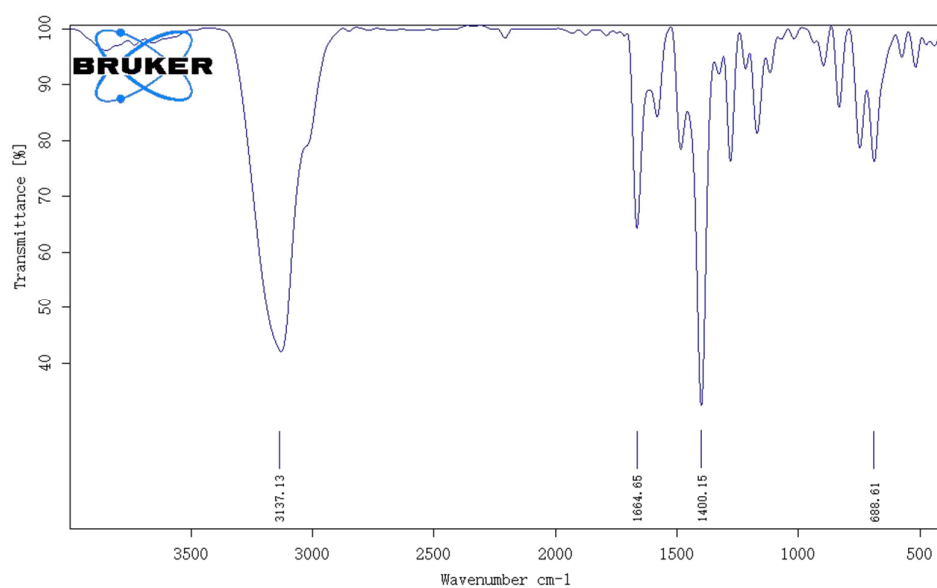


Figure S2. FT-IR spectrum (KBr) of P1.

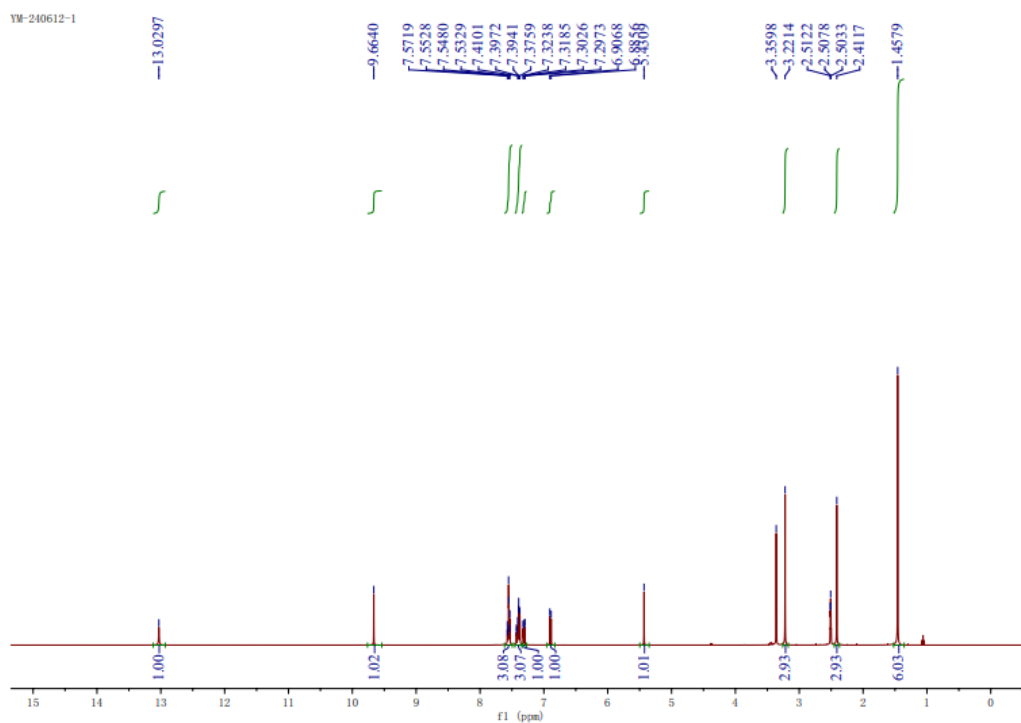


Figure S3. ^1H NMR spectrum (400 MHz, DMSO-d_6) of P2.

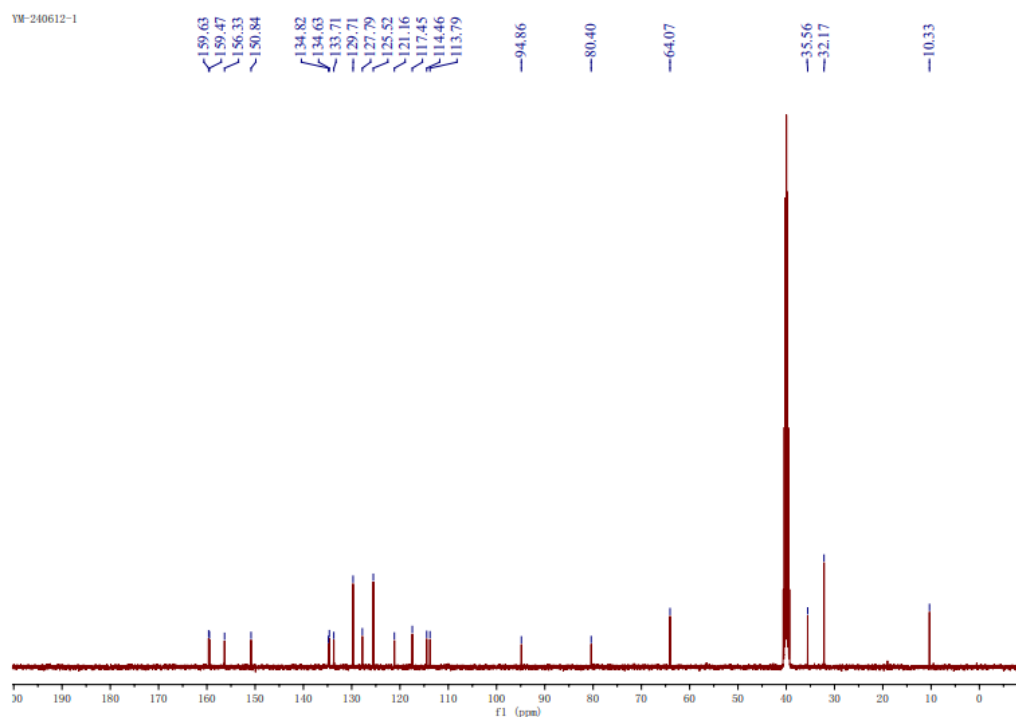


Figure S4. ^{13}C NMR spectrum (400 MHz, DMSO- d_6) of P2.

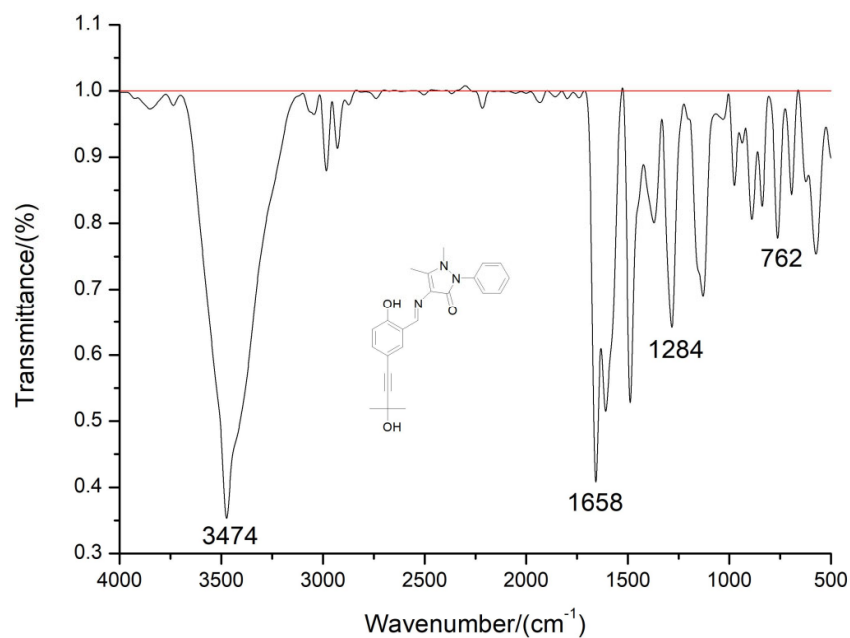


Figure S5. FT-IR spectrum (KBr) of P2.

1.4. The trend of fluorescence intensity at 462 nm with changing zinc ion concentration.

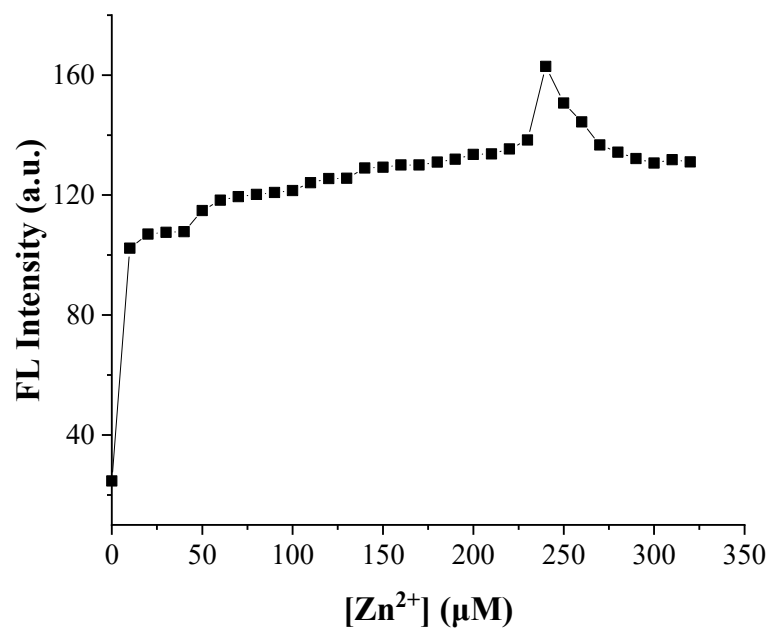


Figure S6. Fluorescent intensity change of P2 to Zn²⁺ concentration.