

2-(((4-([2,2':6',2'']-Terpyridin]-4'-yl)phenyl)imino)methyl)-6-methoxyphenol

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S1. Materials

2-Acetylpyridine, *o*-vanillin, 4-nitrobenzaldehyde, sodium hydroxide, pyridine, iodine, NH₄OAc, Pd-C(10 wt%), N₂H₄•H₂O, CH₃OH, BuOH, Ti(OEt)₄, Cu(OAc)₂•H₂O, NaCl, Sr(NO₃)₂, AgNO₃, ZnCl₂, CoCl₂•6H₂O, FeCl₃, Pb(OAc)₂, AlCl₃, Bi(NO₃)₃, Gd(NO₃)₃•6H₂O, Nd(NO₃)₃•6H₂O were purchased from Shanghai Aladdin Bio-Chem Technology Co, LTD and used without further purification.

S2. Instrument

NMR spectra were recorded on a Bruker Avance AV400 (400/100 MHz ¹H/¹³C)spectrometer (Bruker, Billerica, MA, USA) and chemical shifts (δ, ppm) were down field from TMS. The chemical shifts are reported relative to the solvent residue in part per million (δ) (CDCl₃ ¹H: δ 7.26, ¹³C: δ 77.23) For the ¹H-NMR and ¹³C-NMR spectra, data are assumed to be first order with apparent singlet, doublet, triplet, quartets and multiplet reported as s, d, t, q, and m, respectively. Doublet of doublet was reported as dd, triplet of doublet was reported as td, and the resonance that appears broad was designated as br. Infrared spectra were recorded on an Alpha II spectrometer (Bruker, Wissembourg, France) as KBr discs.

S3. UV-Vis spectra measurement

Absorption spectra were recorded on a UV-6300 spectrophotometer, with the scanning voltage 250 V, scanning accuracy 0.5 nm, scanning speed 10 nm/s. The spectrophotometric characterizations and titrations were performed by preparing stock solutions of compounds **1** in absolute methanol (ca. 1 mM) and metal ions (Na⁺, Ag⁺, Cu²⁺, Sr²⁺, Zn²⁺, Co²⁺, Pb²⁺, Fe³⁺, Al³⁺, Bi³⁺, Gd³⁺, Nd³⁺, ca. 10 mM) in deionized water. The testing solutions were prepared by appropriate dilution of the stock solutions up to 100 μM.

S4. NMR spectrum of compound 1

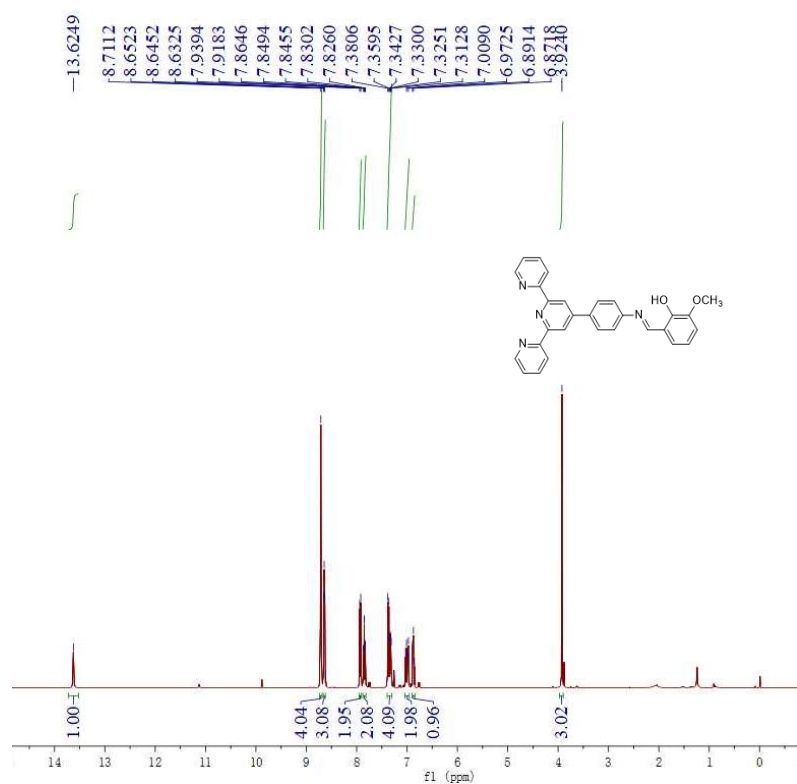


Figure S1. ¹H NMR spectra of compound 1.

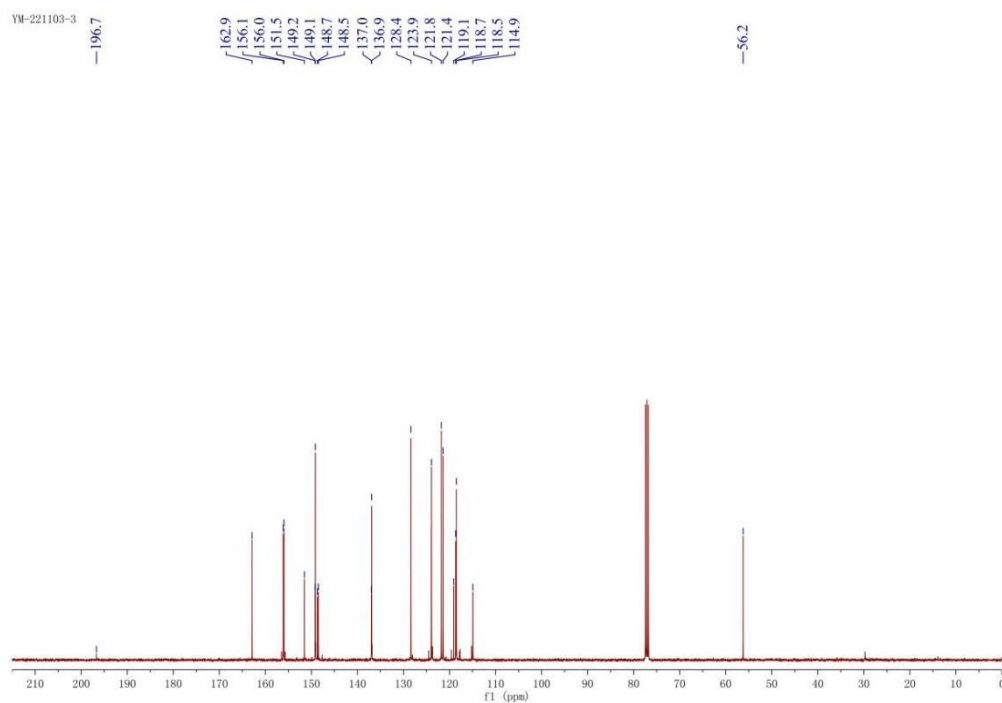


Figure S2. ¹³C NMR spectra of compound 1.

S5. FT-IR spectra of compound

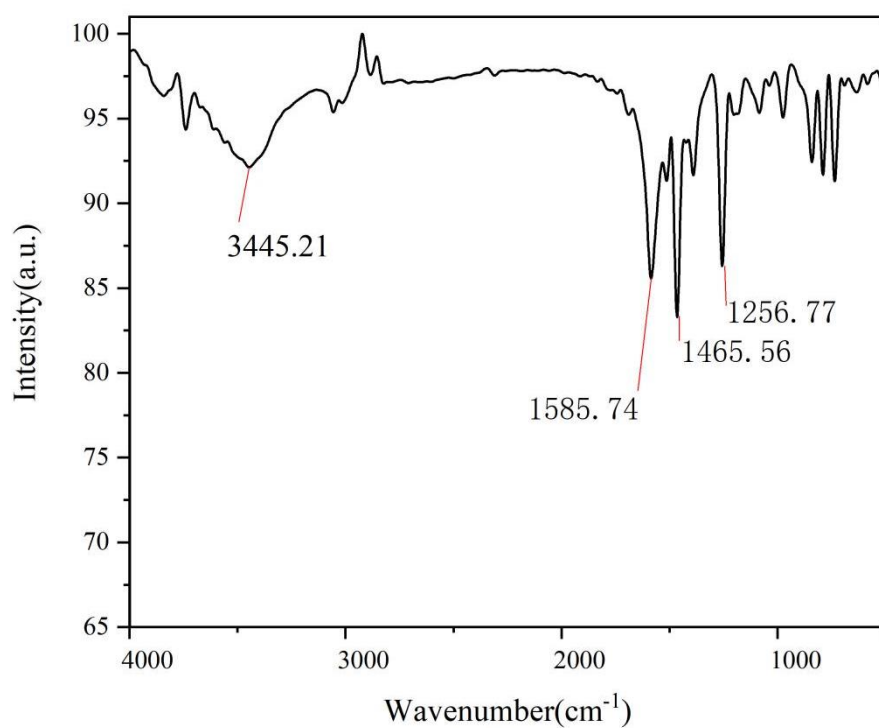


Figure S3. FT-IR spectra of compound 1.

S6. UV-Vis spectra of compound 1 with different metal ions

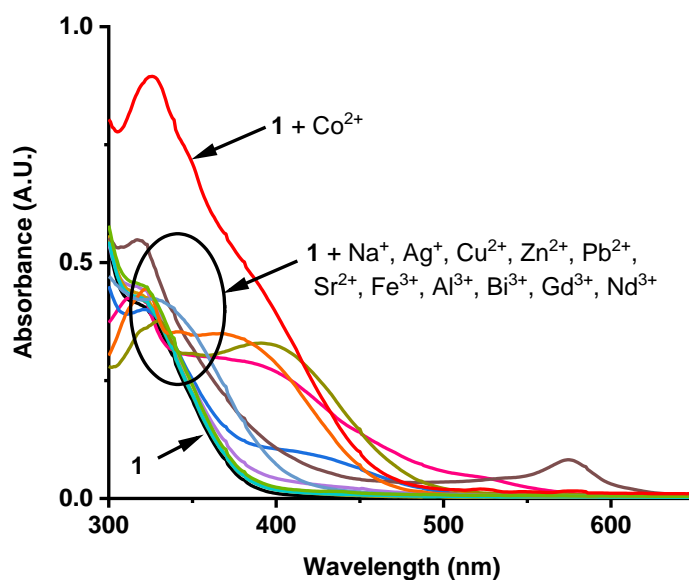


Figure S4. UV-Vis spectra of compound 1 (100 μM) with different metal ions (100 μM).