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Organic & Biomolecular Chemistry
Supporting Information

A Receptor Incorporating OH, NH and CH Binding Motifs: Dual-Modal Sensing Fluoride

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S1. Materials

All reagents were obtained from commercial suppliers and used as received unless otherwise noted.

S2. Instruments

Column chromatography was performed on silica gel (160 - 200 mesh), and thin-layer chromatography (TLC) was performed on precoated silica gel plates and observed under UV light. Nuclear magnetic resonance (NMR) spectra were recorded on Bruker Avance DPS-400 and Bruker Avance DPS-600 spectrometers at room temperature (298 K). Chemical shifts were referenced to the residual solvent peaks. Electrospray ionization (EI) mass spectrometry was performed on a Waters QP-2010 gas chromatography mass spectrometer. UV/Vis spectra were measured on a Hitachi U-3010 spectrometer. Fluorescence excitation and emission spectra were recorded using a Hitachi F-4500.

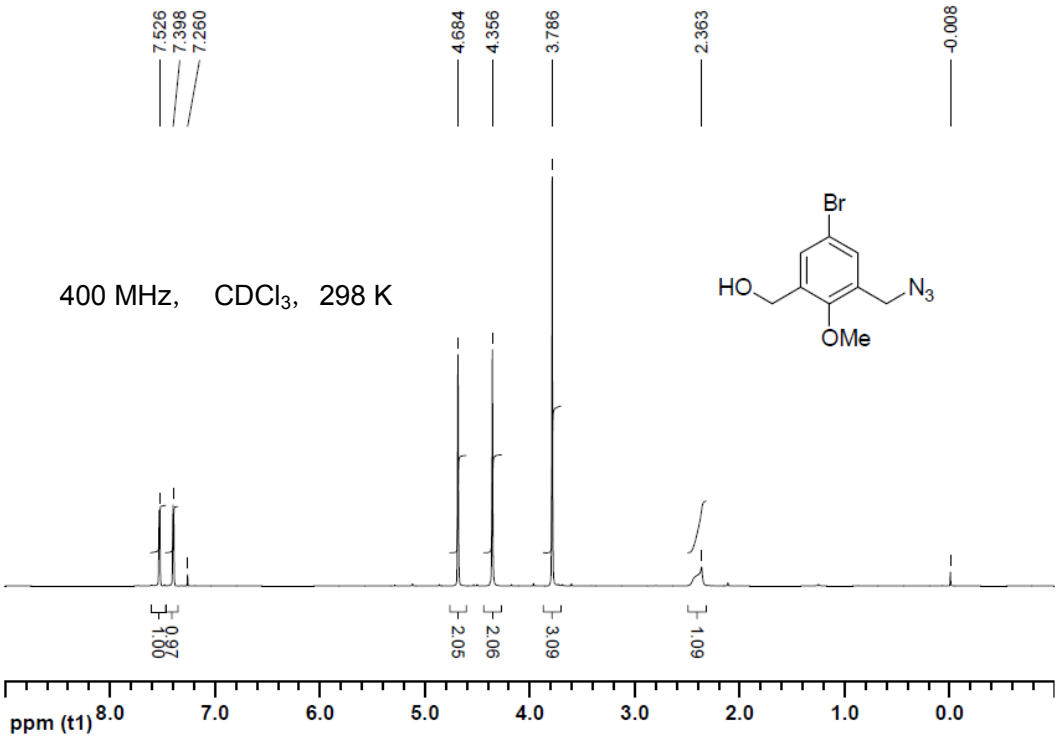
S3. Synthesis of Compound 7

Compound **7** ((5-Bromo-3-hydroxymethyl-2-methoxy-phenyl)-methanol) was synthesized in

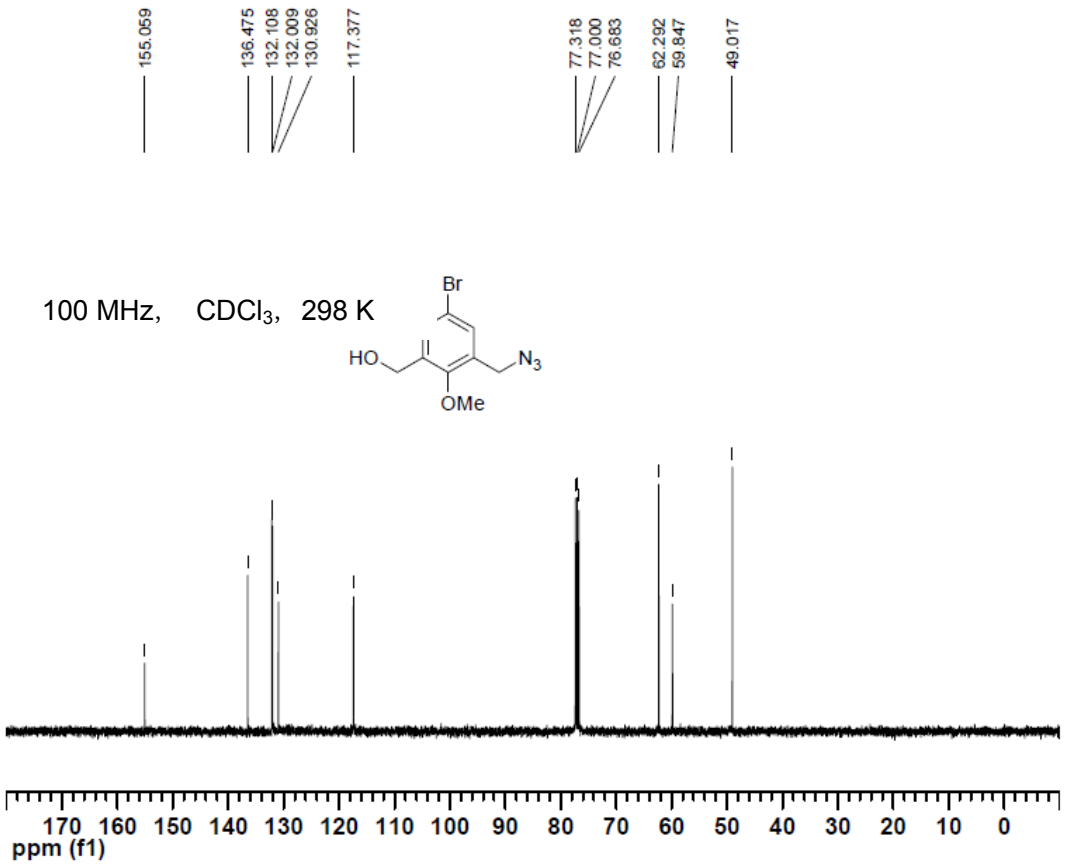
accordance with literature procedures.[23]

S4. ^{1}H NMR and ^{13}C NMR of compound 1, 2, 3, 4, 5, and 6.

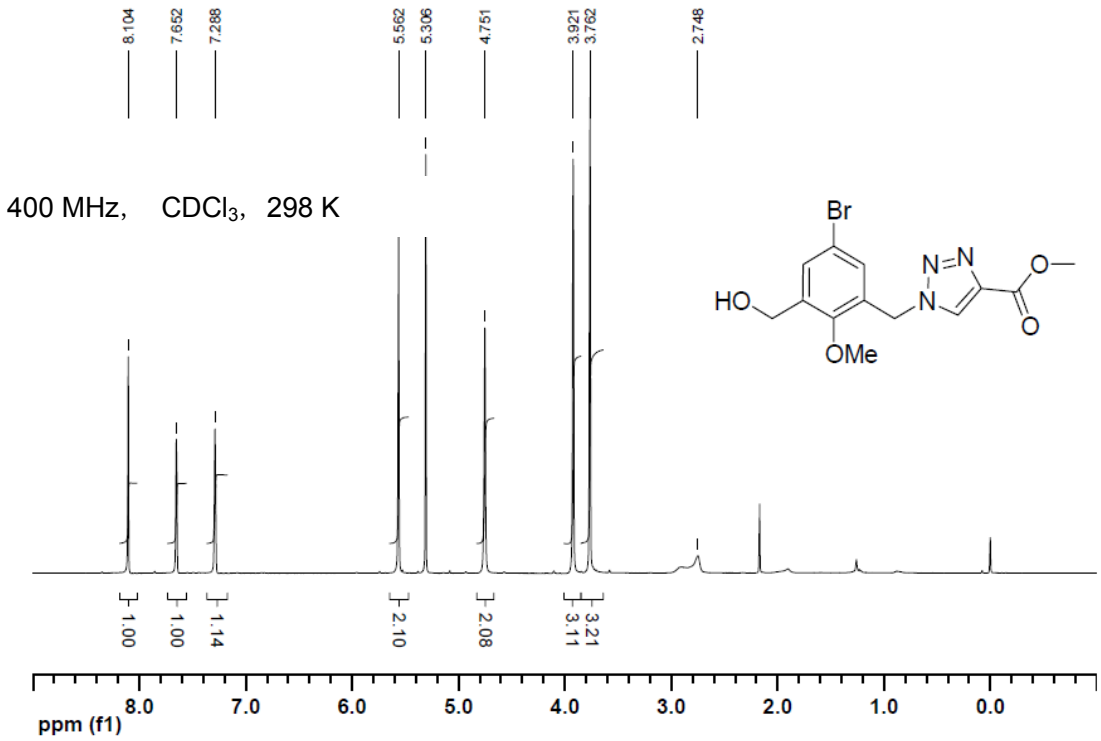
^{1}H NMR spectrum (400 MHz, 298 K, $CDCl_3$) of compound **6**



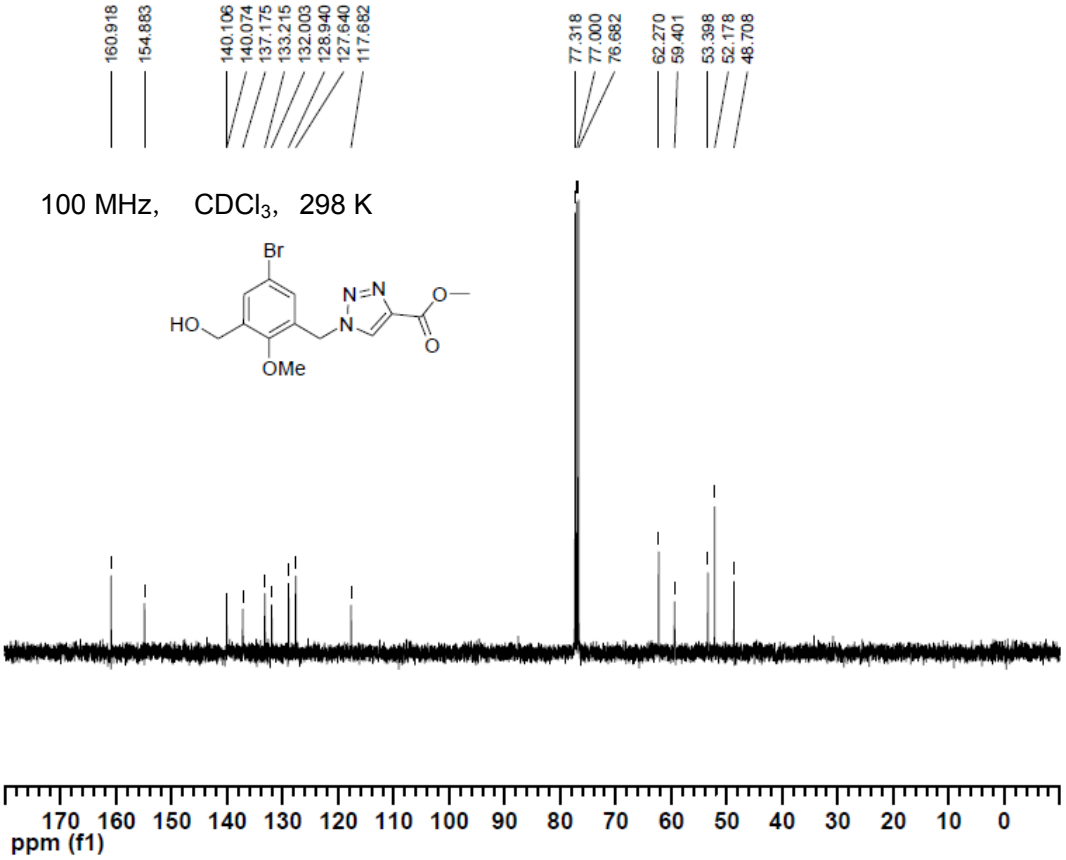
^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **6**



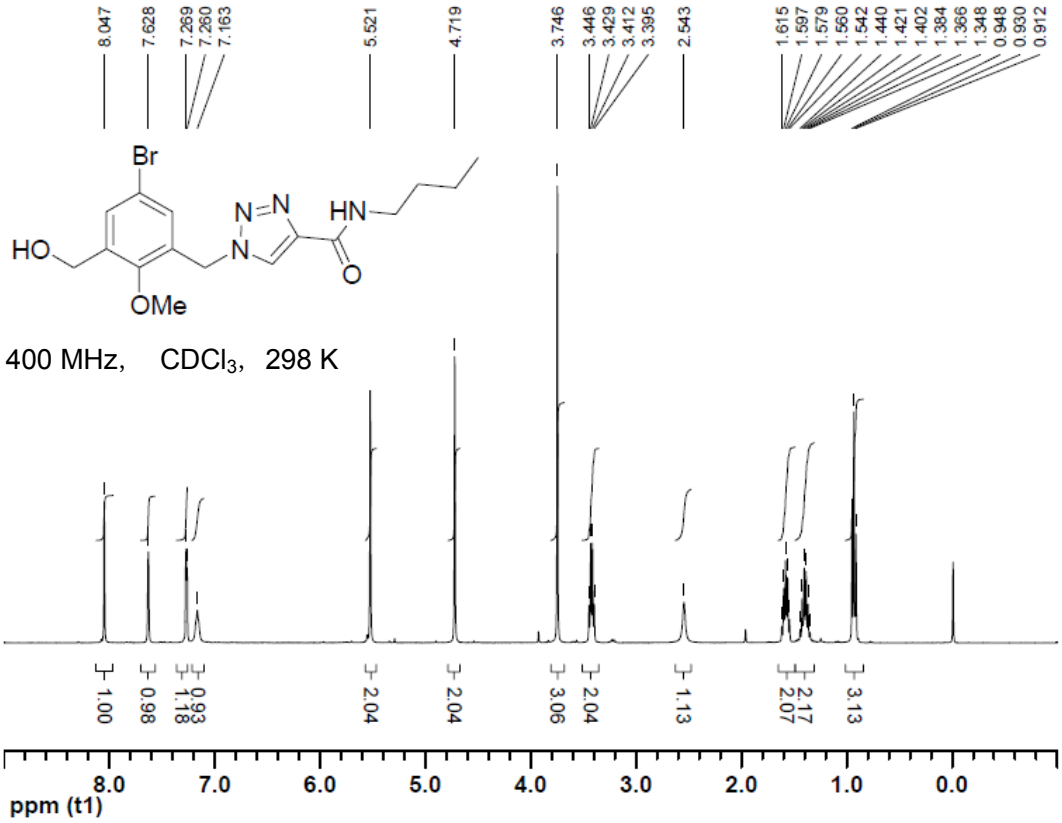
^{1}H NMR spectrum (400 MHz, 298 K, $CDCl_3$) of compound **5**



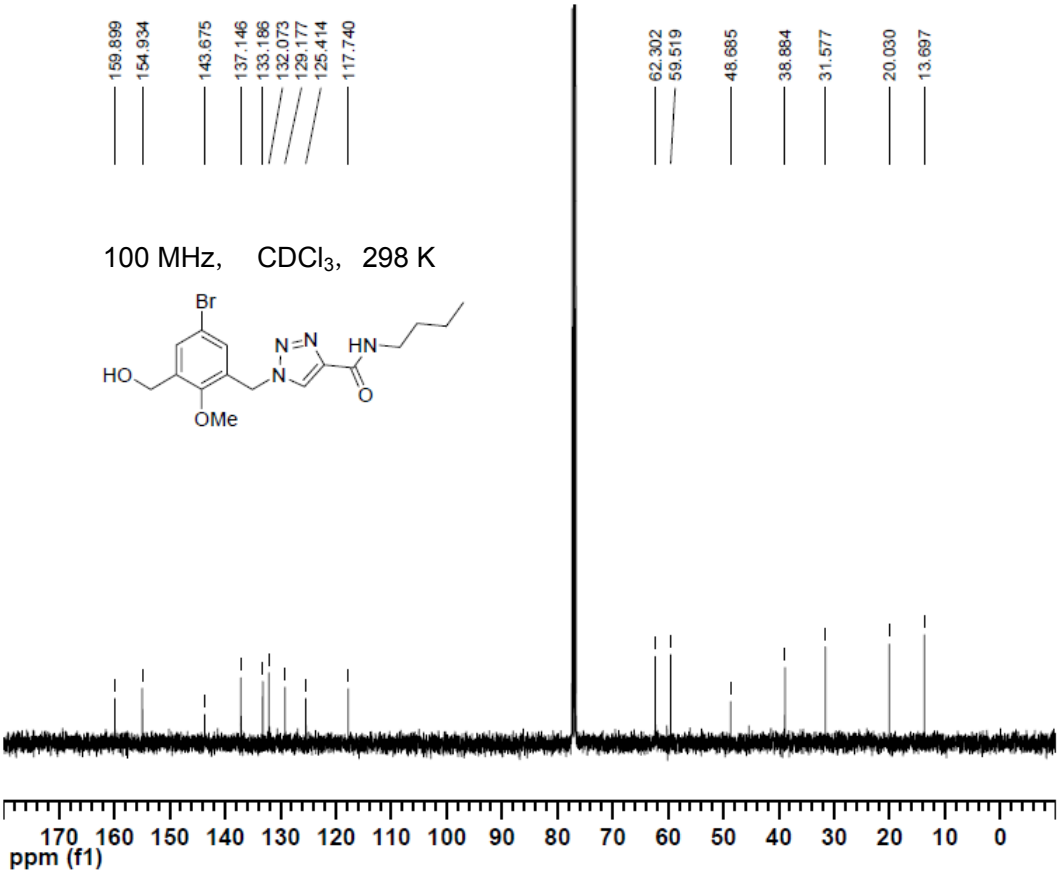
^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **5**



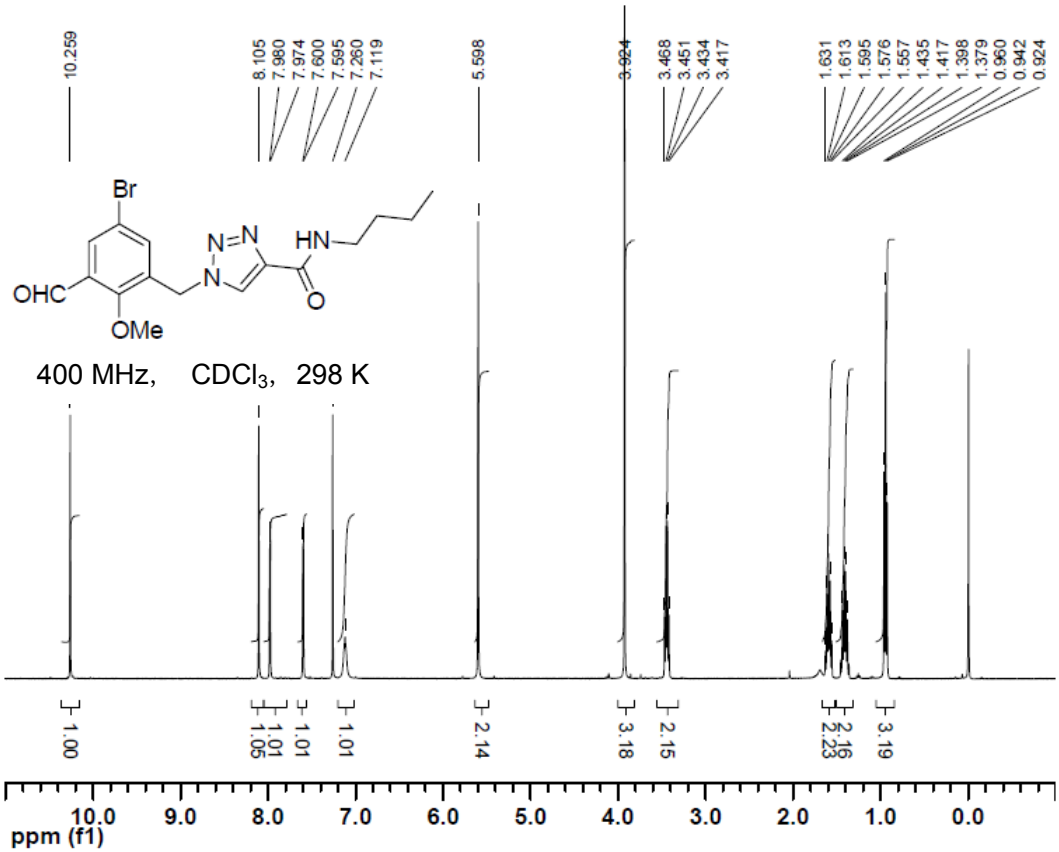
^{1}H NMR spectrum (400 MHz, 298 K, $CDCl_3$) of compound **4**



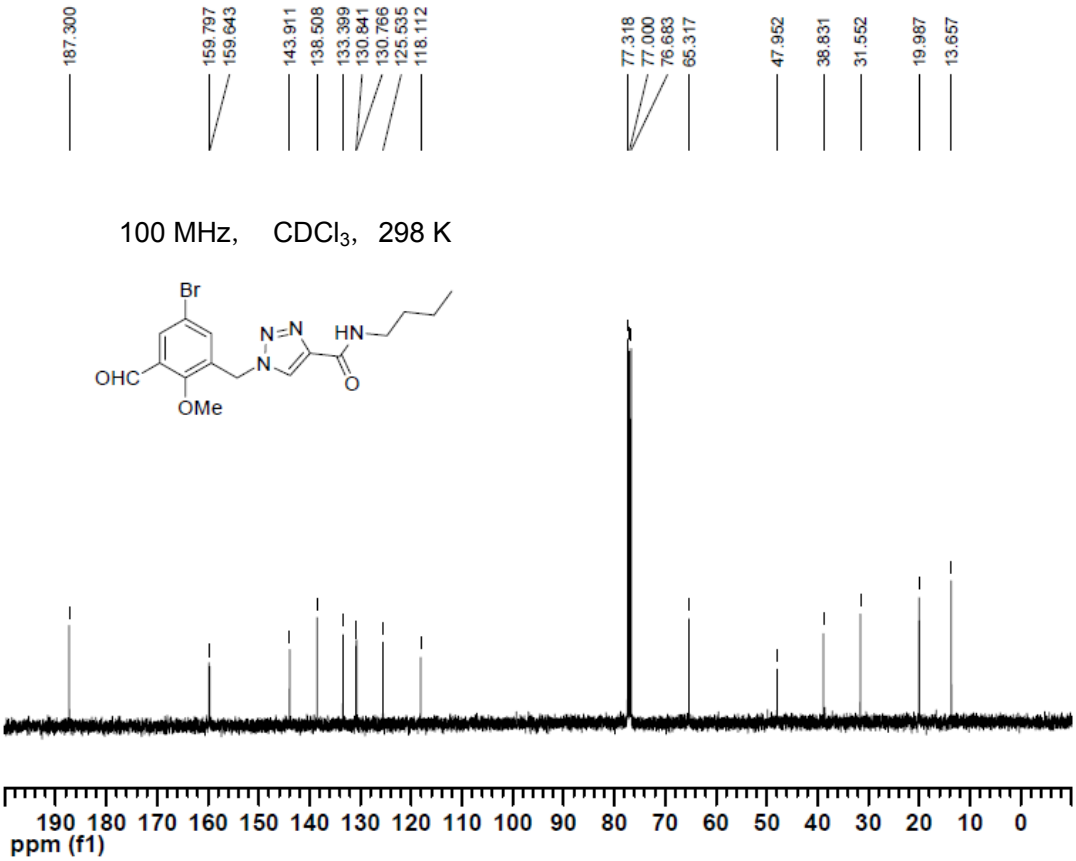
^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **4**



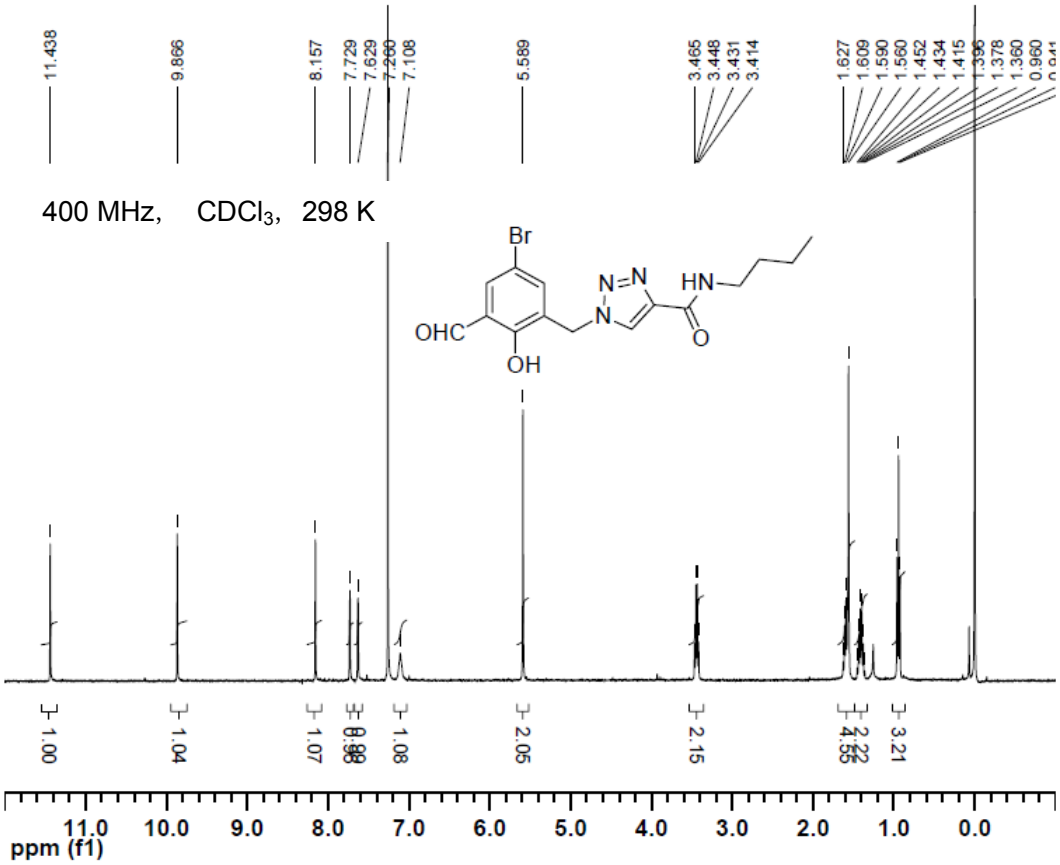
^{1}H NMR spectrum (400 MHz, 298 K, $CDCl_3$) of compound **3**



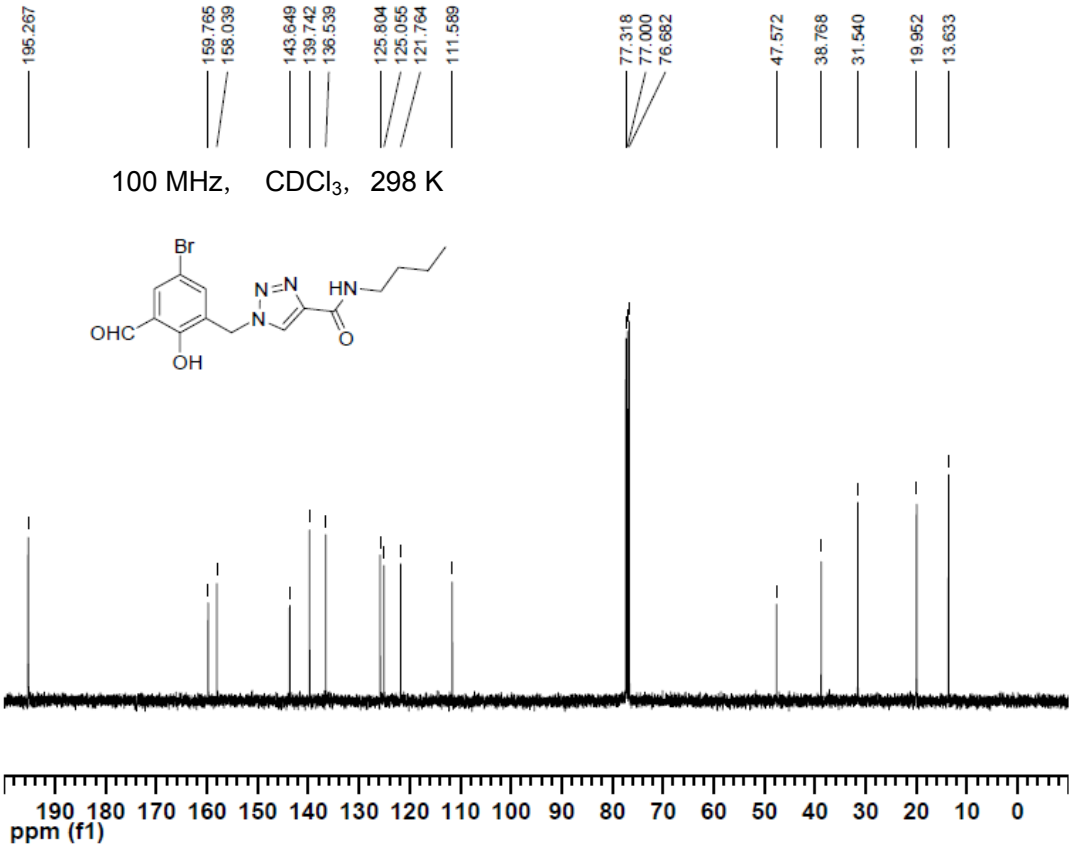
^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **3**



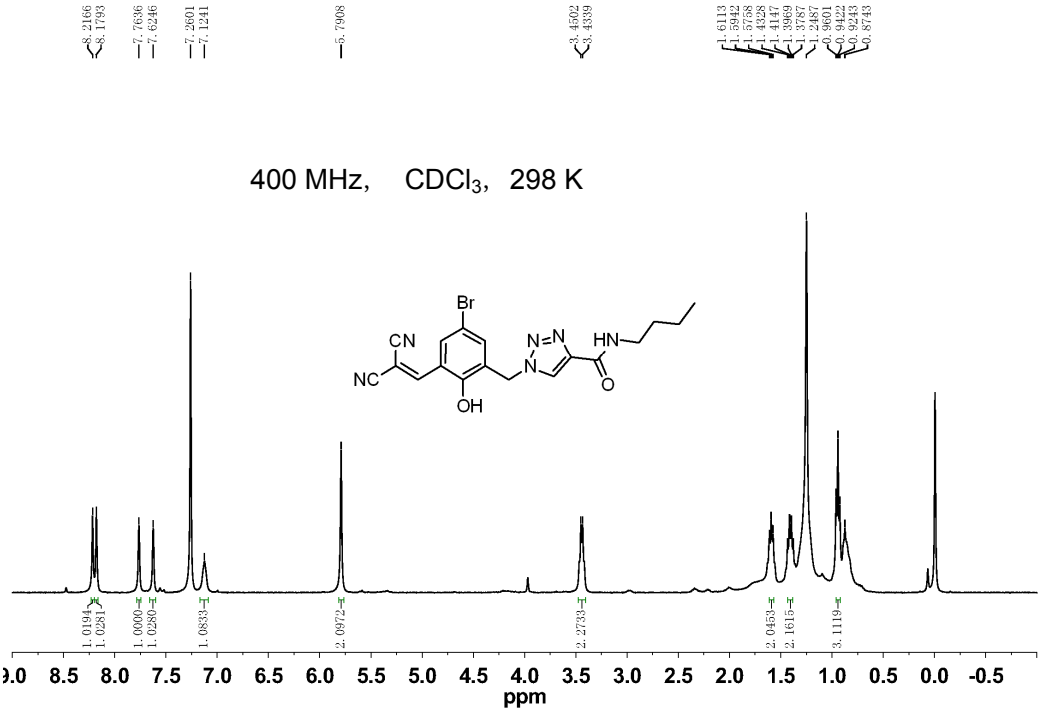
^{1}H NMR spectrum (400 MHz, 298 K, $CDCl_3$) of compound **2**



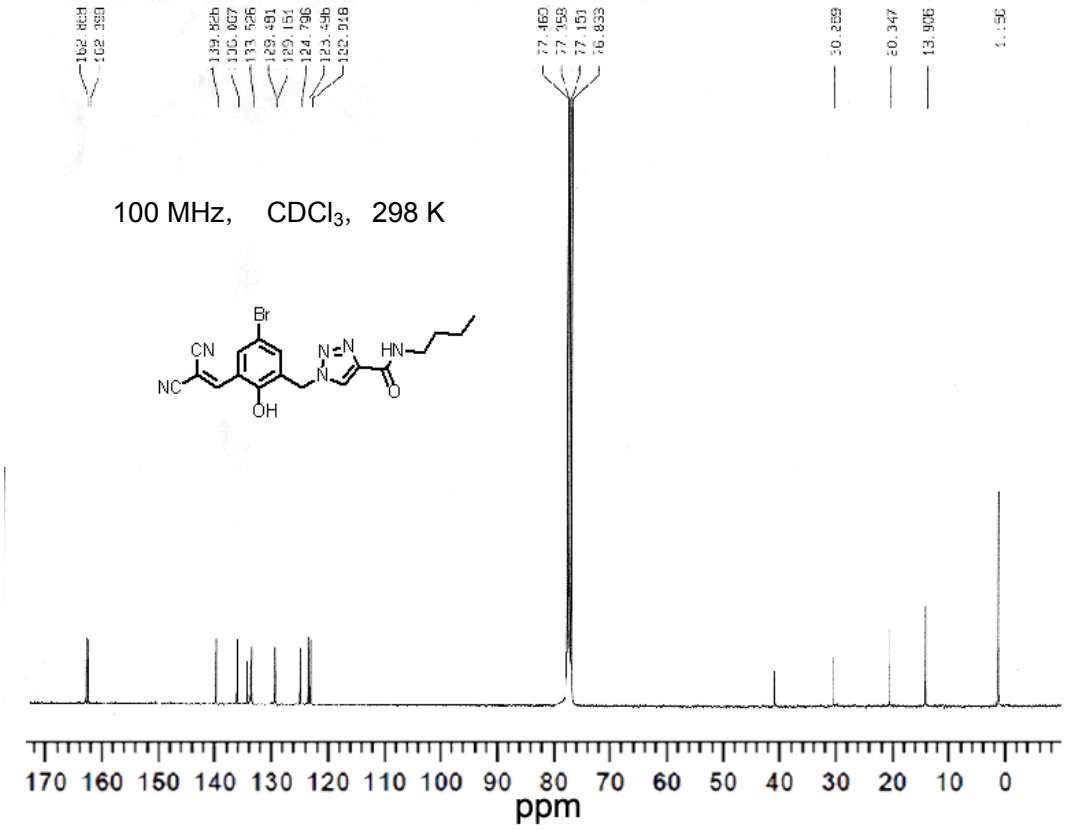
^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **2**



^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **1**



^{13}C NMR ($CDCl_3$, 298 K, 100 MHz) of compound **1**



S5. Emission spectra of compound 1 (1×10^{-5} M) upon addition of 60 equivalents of various anions.

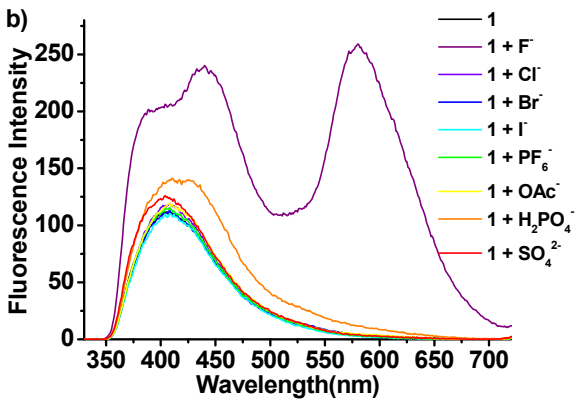


Fig S5 Emission spectra of compound **1** (1×10^{-5} M) upon addition of 60 equivalents of tetrabutylammonium fluoride, chloride, bromide, iodide, hexafluorophosphate, acetate, dihydrogen phosphate, and sulfate in CH_2Cl_2. Excitation wavelength was 320 nm with 10.0 nm slit widths.