

Supporting Information for

Chromogenic and fluorescent chemodosimeter for fluoride ion based on novel anion-catalyzed intramolecular hydrogen transfer

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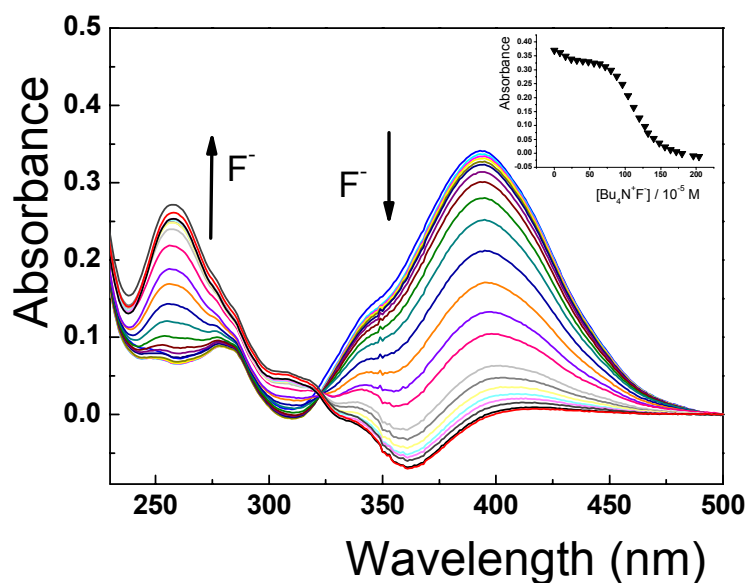


Fig. S1. UV-vis titration of **3** (20 μM) with $\text{Bu}_4\text{N}^+\text{F}^-$ in CH_3CN . Arrows show changes due to increasing concentration of F^- . The inset shows the absorbance at 390 nm as a function of $[\text{F}^-]$. $\text{F}^-(\text{equiv}) = 0, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100$.

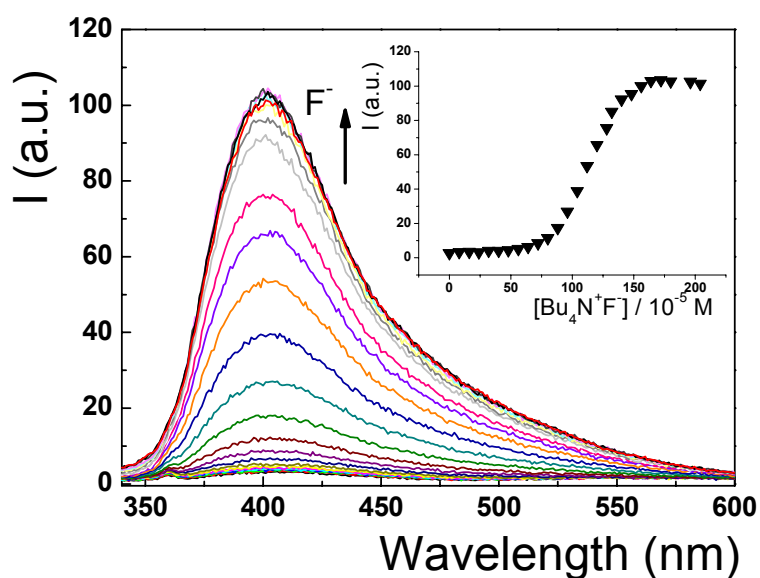


Fig. S2. Increase in fluorescence emission intensity ($\lambda_{\text{ex}} = 324 \text{ nm}$) when sensor **3** (20 μM in CH_3CN) is titrated with increasing concentration of F^- . $\text{F}^-(\text{equiv}) = 0, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100$.

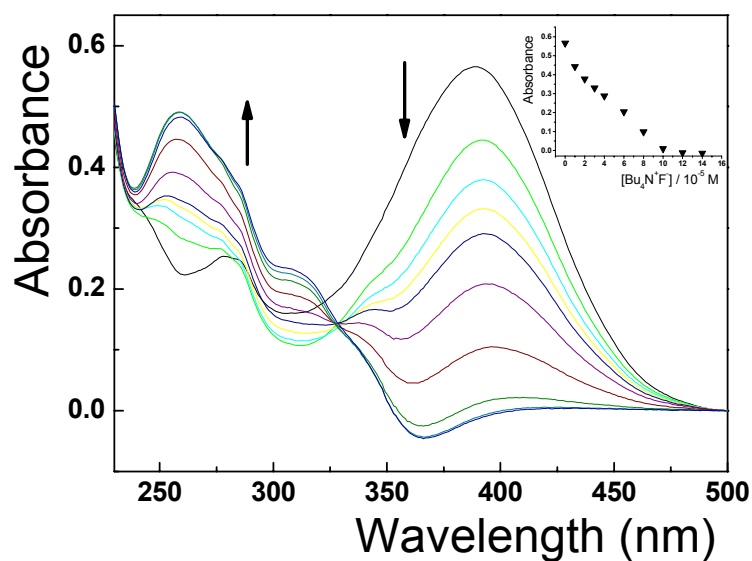


Fig. S3. UV-vis titration of **3** (20 μM) with $\text{Bu}_4\text{N}^+\text{OH}^-$ (10% aqueous) in CH_3CN . Arrows show changes due to increasing concentration of OH^- . The inset shows the absorbance at 390 nm as a function of $[\text{OH}^-]$. OH^- (equiv) = 0, 0.5, 1, 1.5, 2, 3, 4, 5, 6, 7.

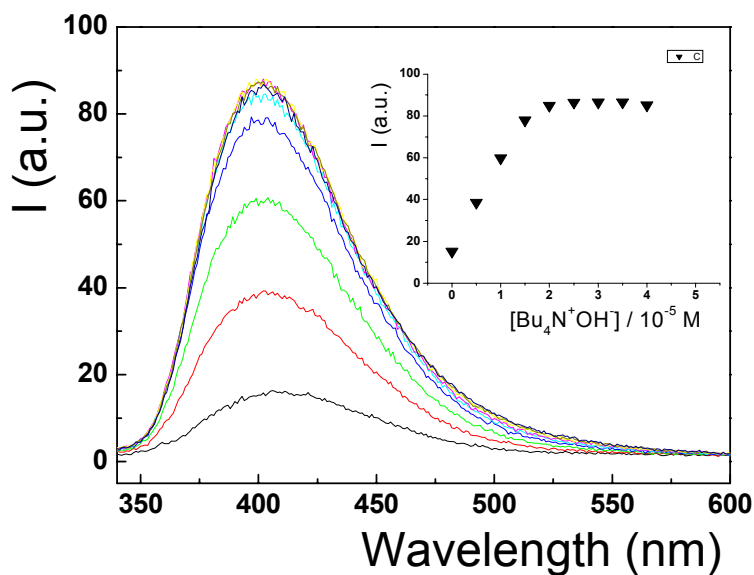


Fig. S4. Increase in fluorescence emission intensity ($\lambda_{\text{ex}} = 324 \text{ nm}$) when sensor **3** (20 μM in CH_3CN) is titrated with increasing concentration of OH^- . OH^- (equiv) = 0, 0.5, 1, 1.5, 2, 3, 4, 5, 6, 7.

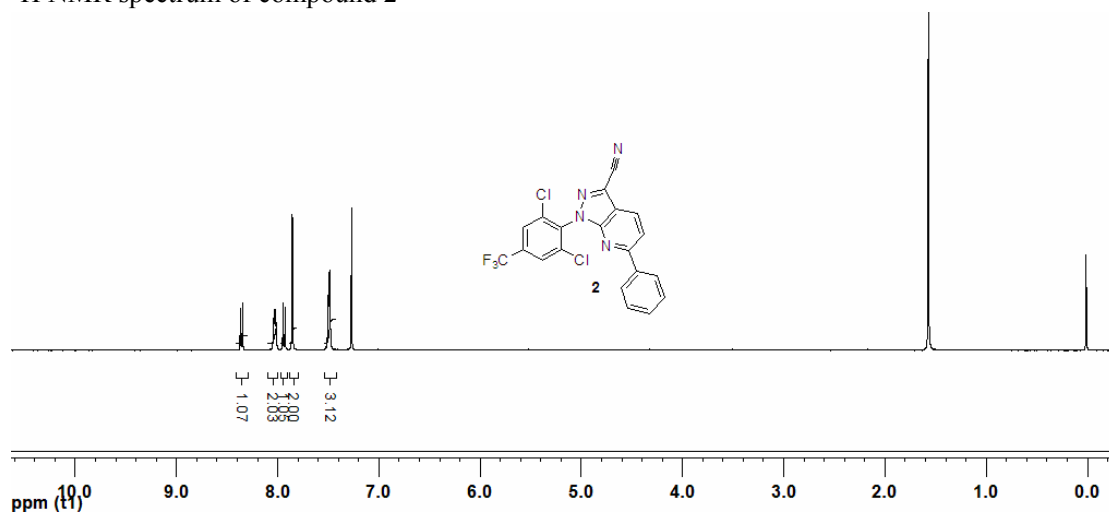
[illegible]

Chemical structure of compound 3: N#Cc1nc2c(c[nH]2C(=O)c3ccccc3)c4ccccc41

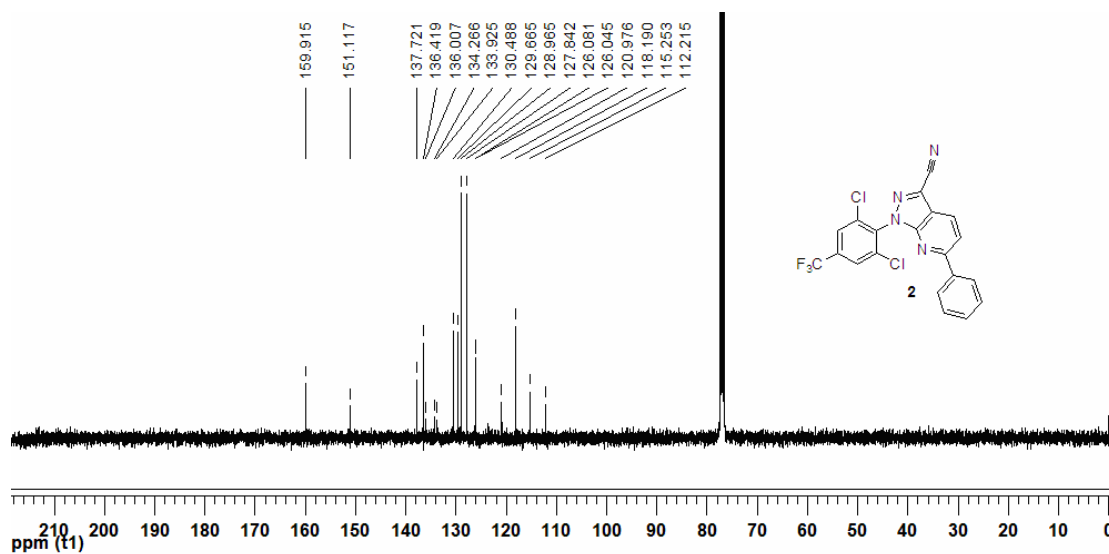
¹H NMR spectrum (top): The spectrum shows peaks in the aromatic region (7.0-8.5 ppm). The chemical shifts (ppm) are listed below the spectrum:

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^1H NMR spectrum of compound **2**

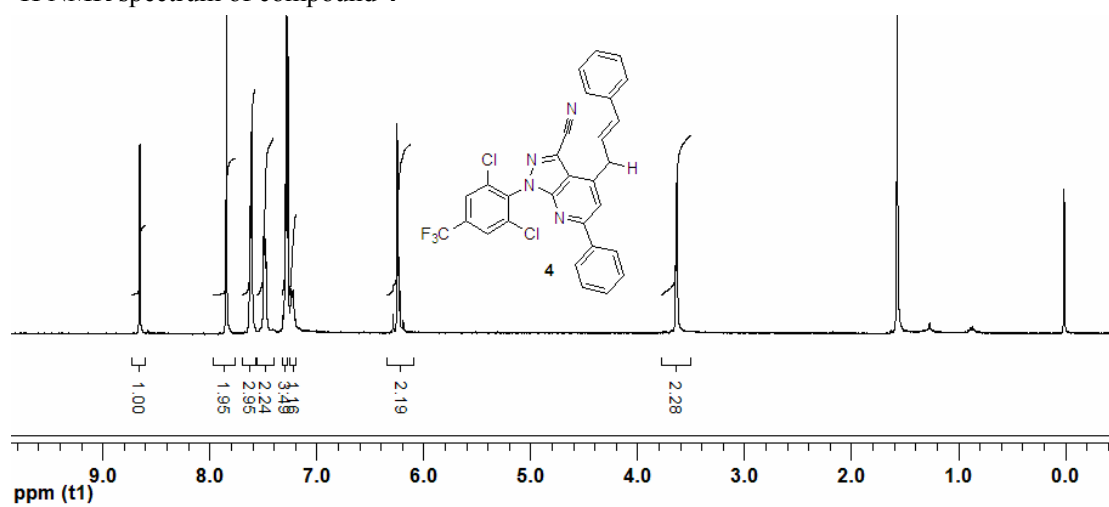


^{13}C NMR spectrum of compound **2**



S6

¹H NMR spectrum of compound 4



¹³C NMR spectrum of compound 4

