

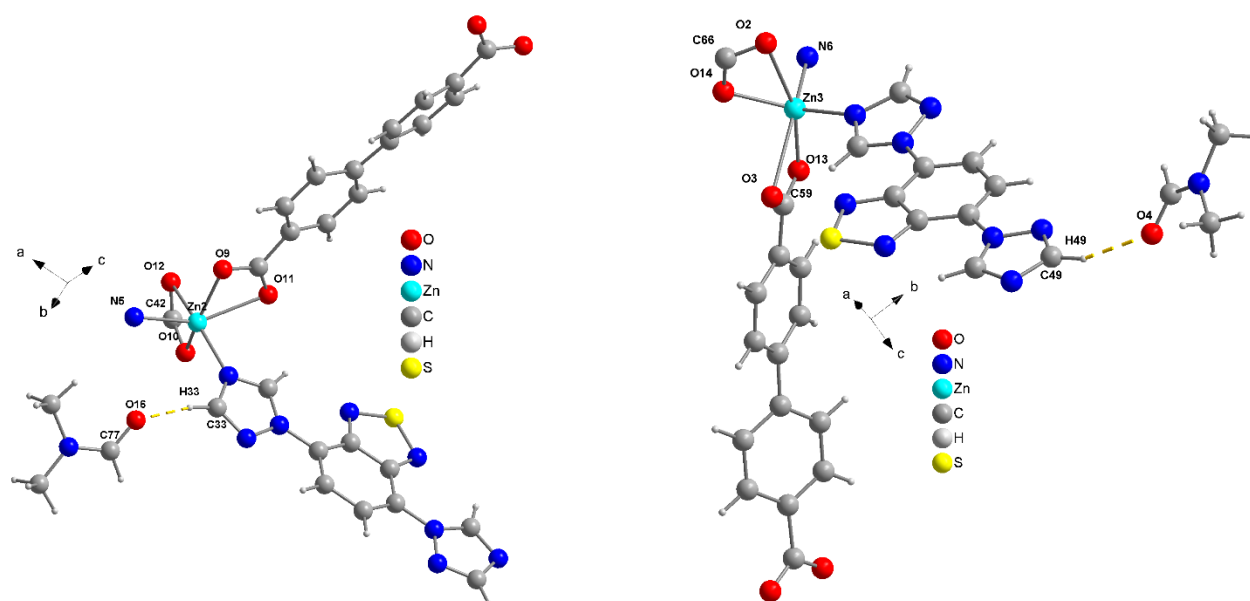
# Supplementary Materials

## A Zn(II)-based sql type 2D coordination polymer as a highly sensitive and selective turn-on fluorescent probe for $\text{Al}^{3+}$

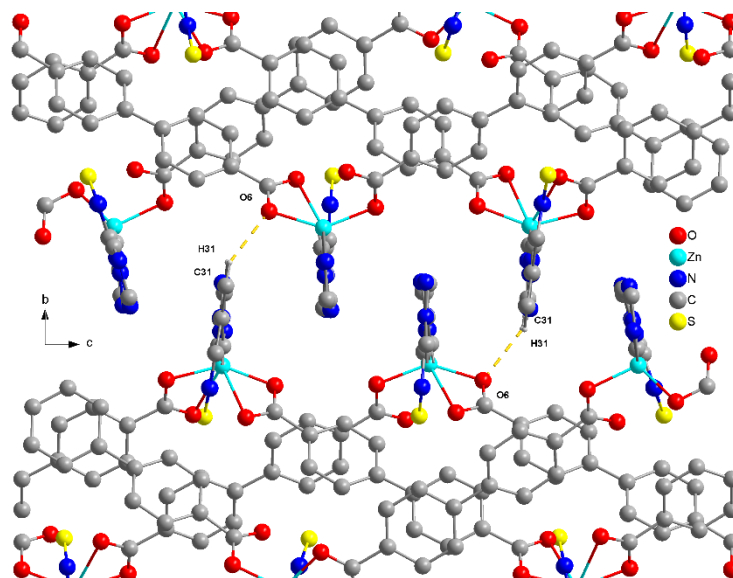
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<sup>1</sup> Nikolaev Institute of Inorganic Chemistry, Siberian Branch of the Russian Academy of Sciences, 3 Lavrentiev Ave., 630090 Novosibirsk, Russia; pavlov@niic.nsc.ru (D.I.P.), potapov@niic.nsc.ru (A.S.P.), ryadun@niic.nsc.ru (A.A.R.)

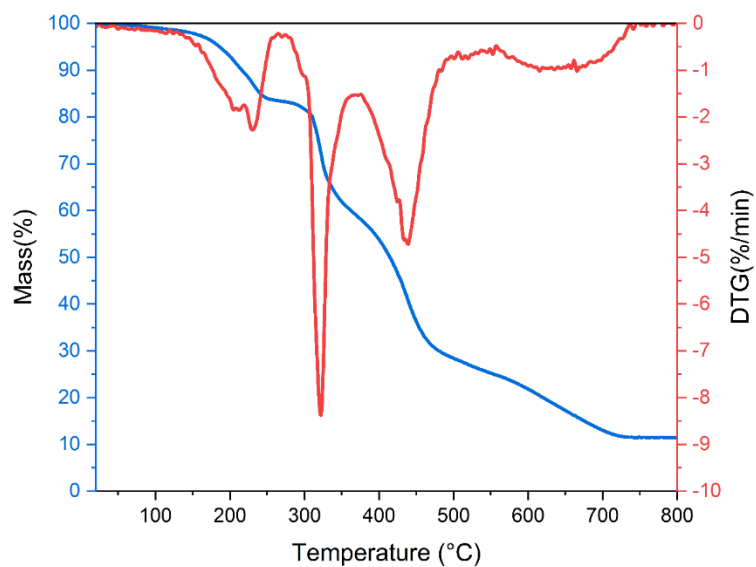
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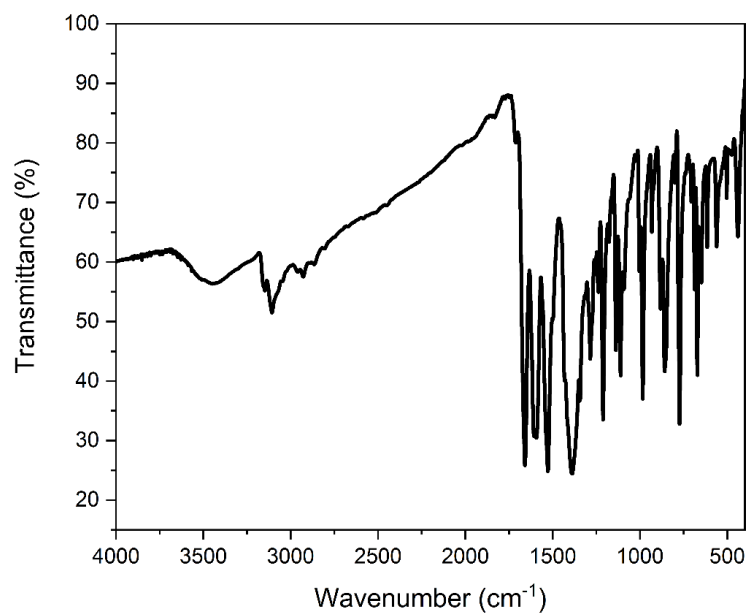
**Figure S1.** Hydrogen bonds between DMF molecules and 1,2,4-triazole fragments in the crystal structure of **1**.



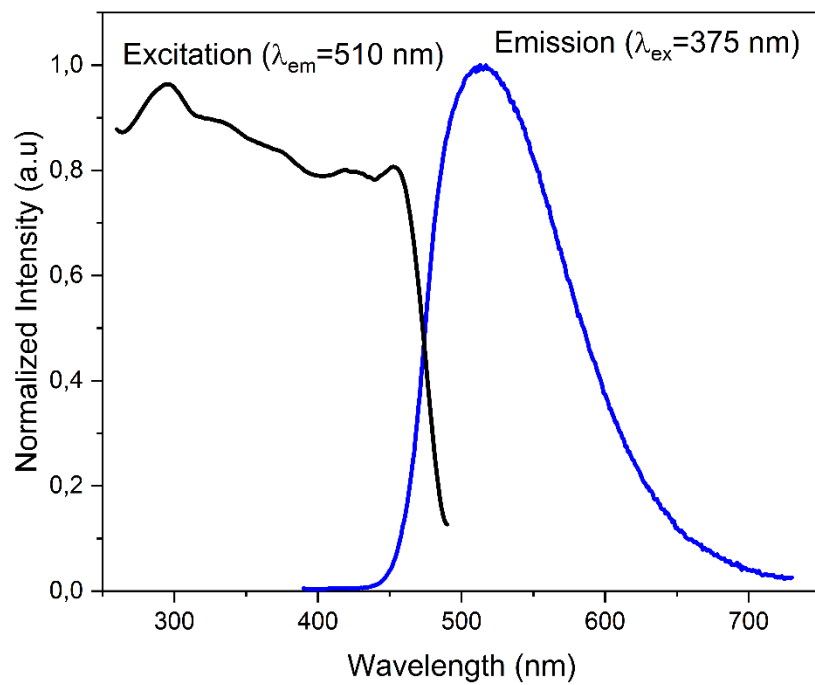
**Figure S2.** Interlayer hydrogen bonds in the crystal structure of **1**.



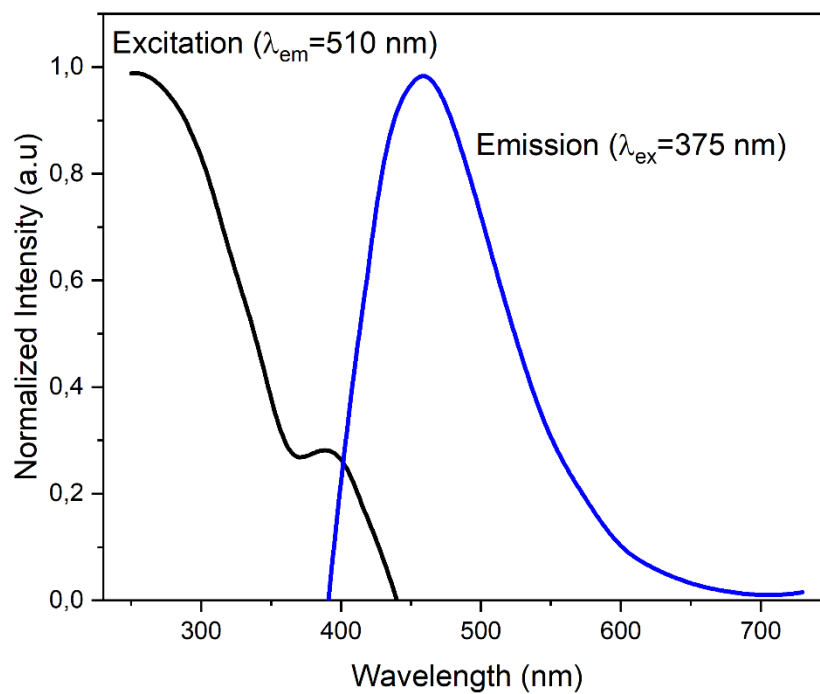
**Figure S3.** TGA curves of the coordination polymer 1.



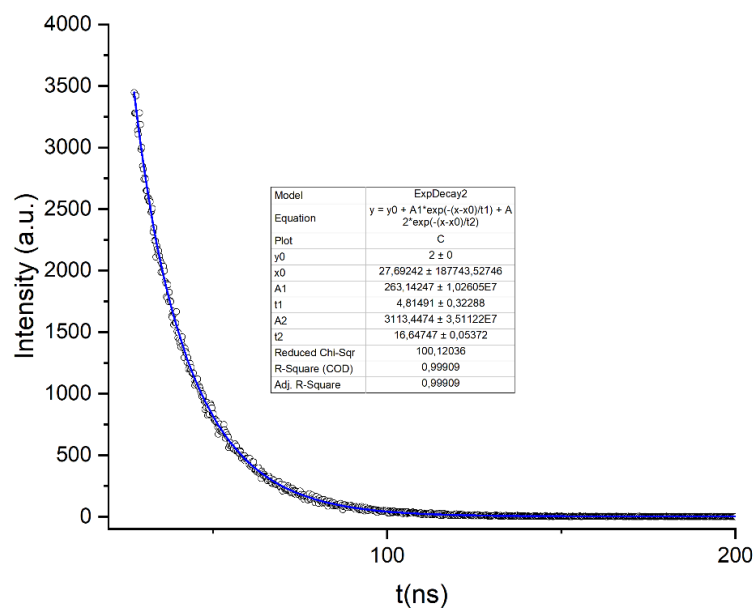
**Figure S4.** IR spectrum of the coordination polymer 1 in KBr pellet.



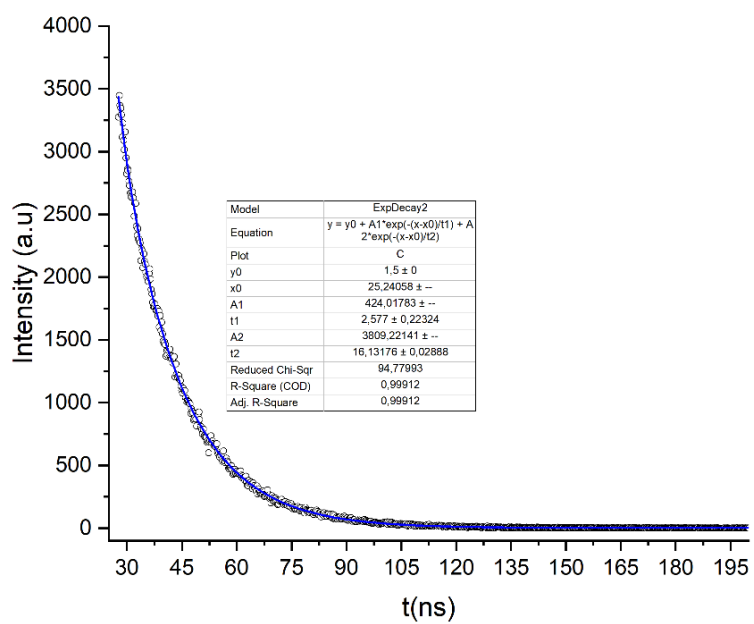
**Figure S5.** Excitation and emission spectra of the tr2btd ligand.



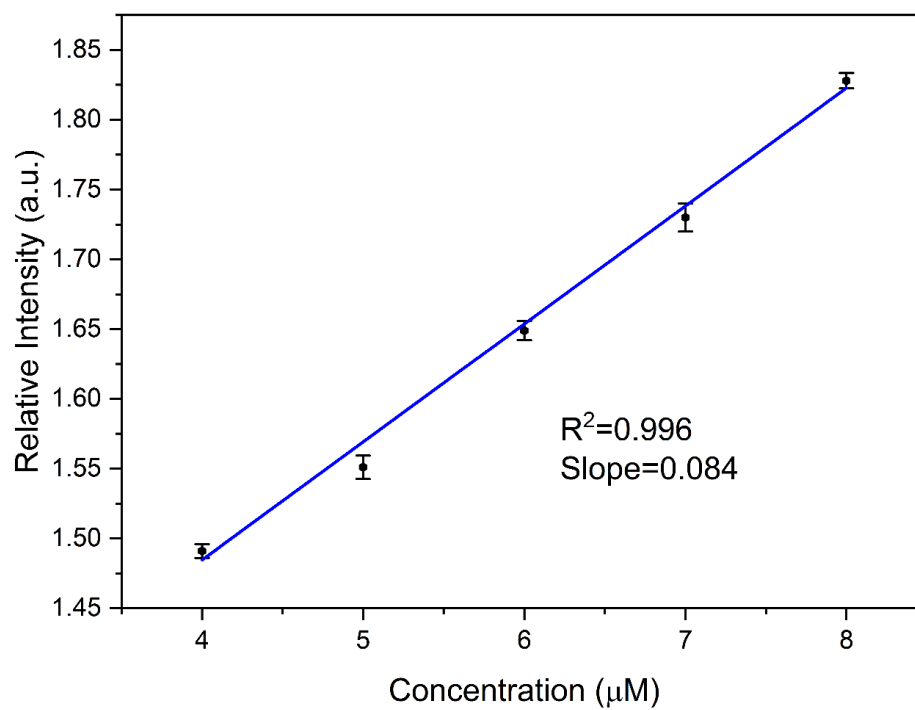
**Figure S6** Excitation and emission spectra of the H2bpdc ligand.



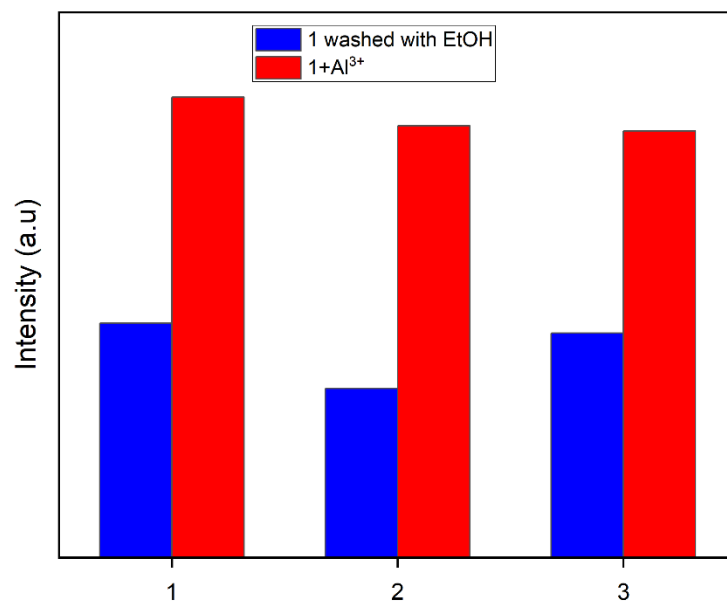
**Figure S7.** Fluorescence decay for **1** suspension in DMA.



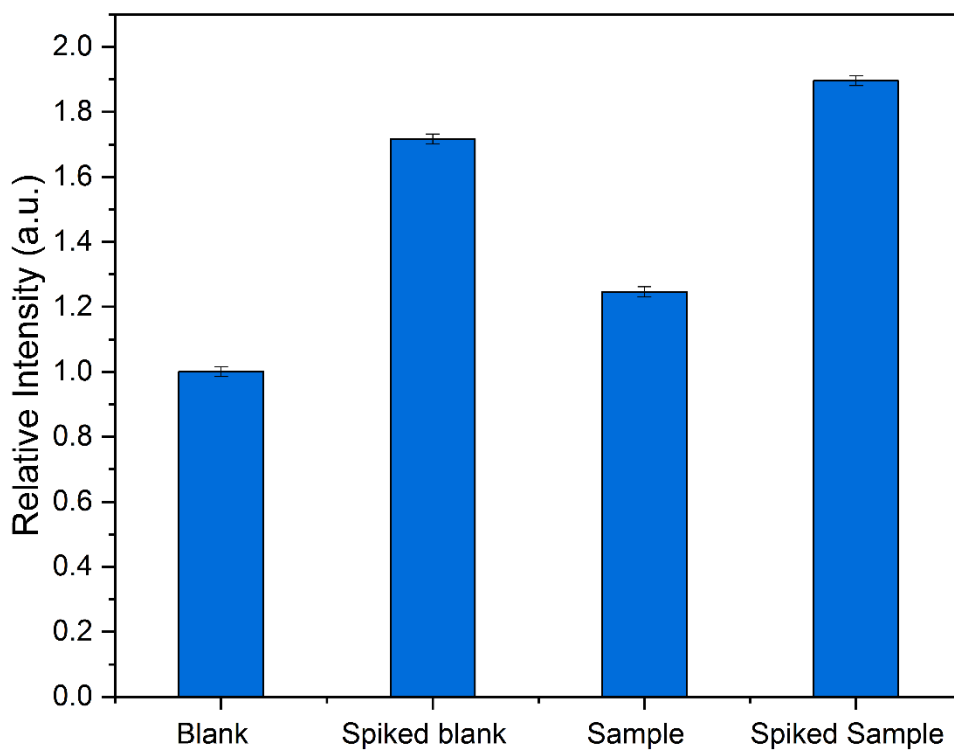
**Figure S8.** Fluorescence decay for **1** suspension in DMA in the presence of  $\text{Al}^{3+}$ .



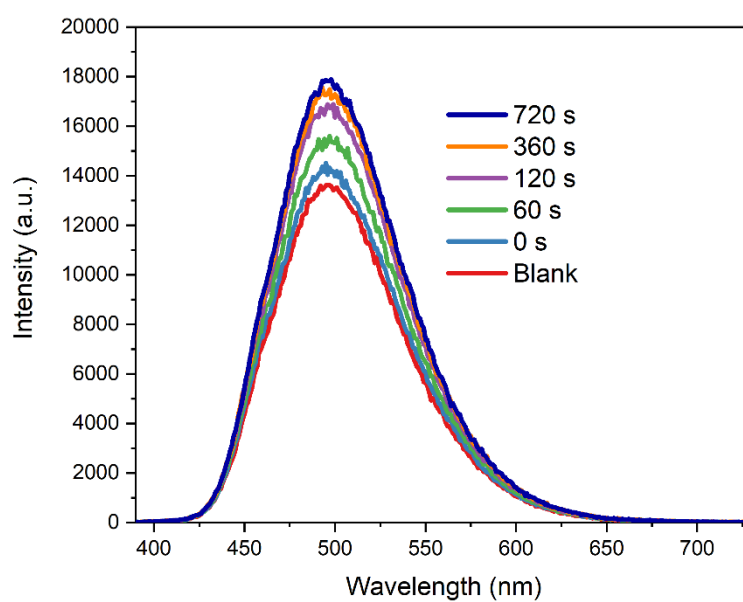
**Figure S9.** Linear fit for higher concentration range of intensity-concentration correlation.



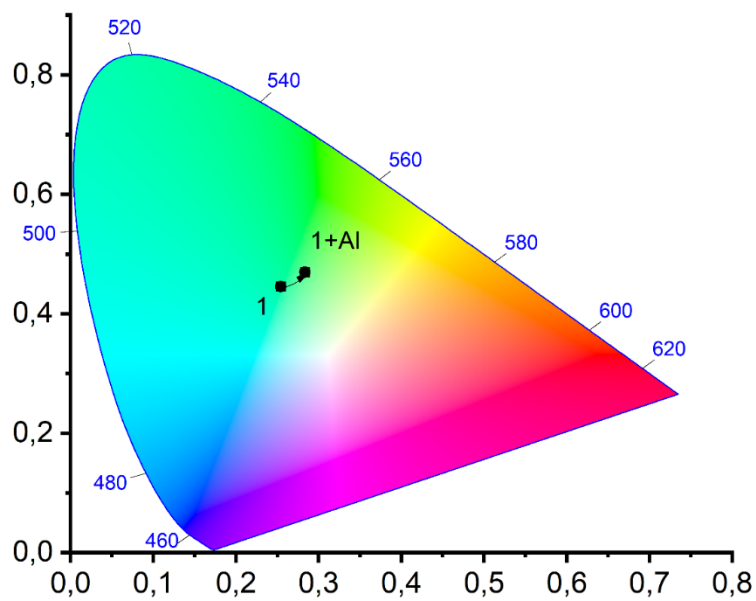
**Figure S10.** Fluorescence intensity of 1 in sensor recycling experiments.



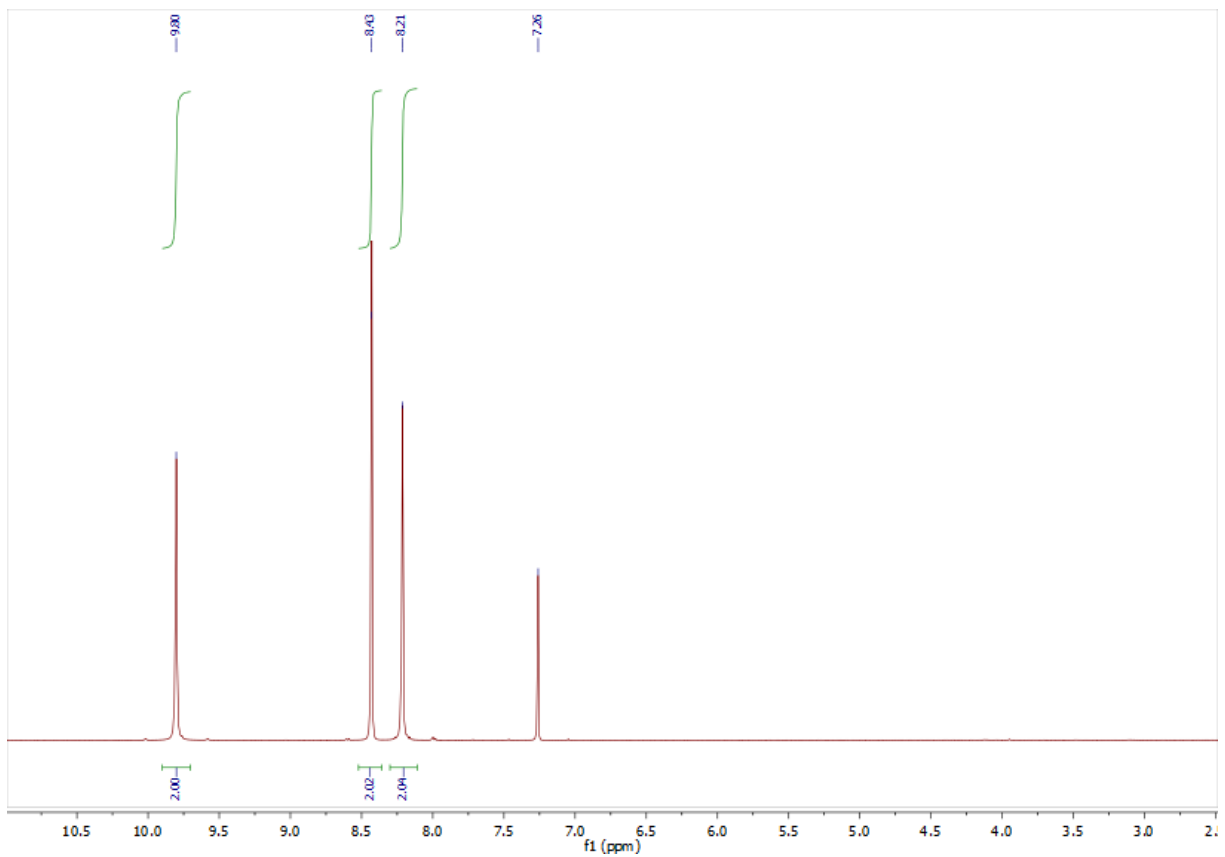
**Figure S11.** Fluorescence intensity of **1** in experiments with real sample and spiking.



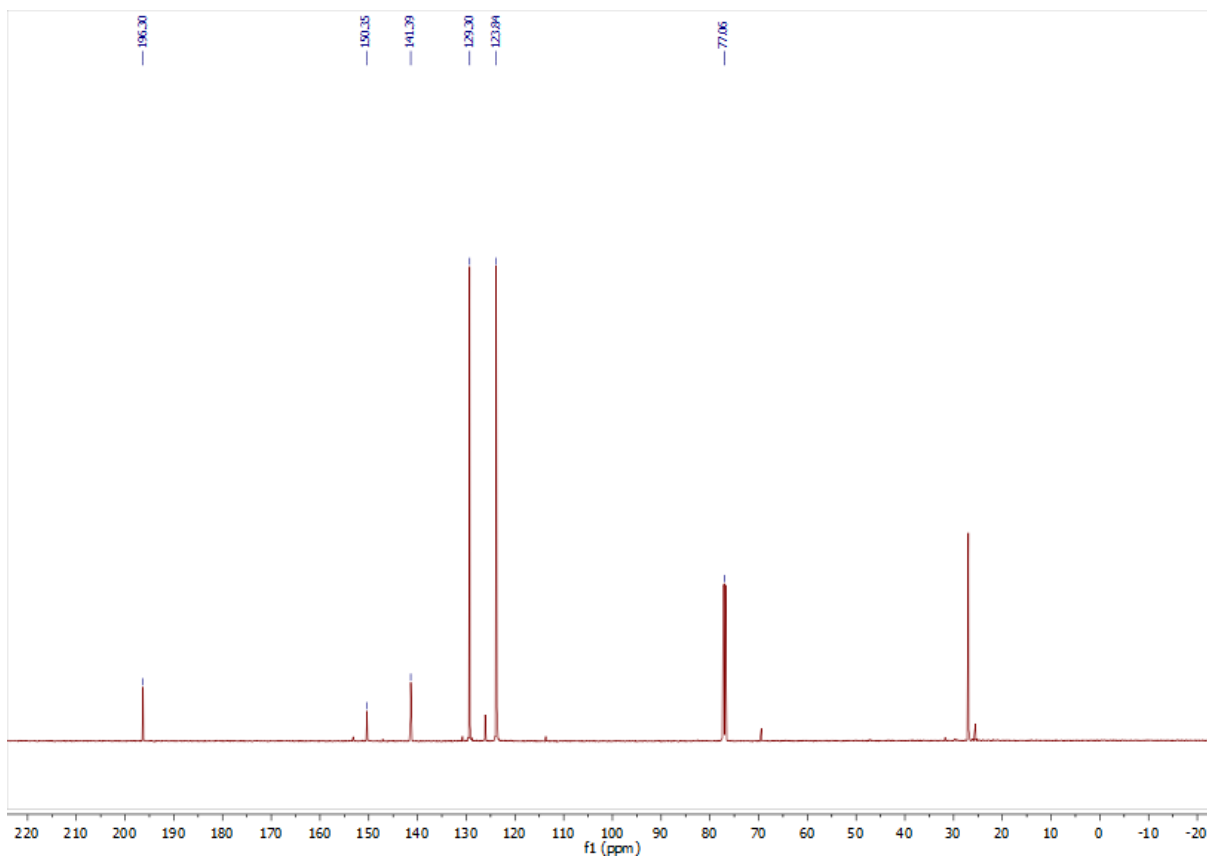
**Figure S12.** Time-dependent emission spectra of **1** DMA suspension upon addition of  $\text{Al}^{3+}$ .



**Figure S13.** CIE 1931 chromaticity diagram with color coordinates for **1** and **1 + Al<sup>3+</sup>**.



**Figure S14.** <sup>1</sup>H NMR spectra of tr2btd ligand in CDCl<sub>3</sub> recorded at 500 MHz.



**Figure S15.**  $^{13}\text{C}$  NMR spectra of  $\text{tr}_2\text{btd}$  ligand in  $\text{CDCl}_3$  recorded at 125 MHz.