Electronic Supplementary Material (ESI) for RSC Advances

Imine-Linked Chemosensors for the Estimation of Zn^{2+} in Biological Samples

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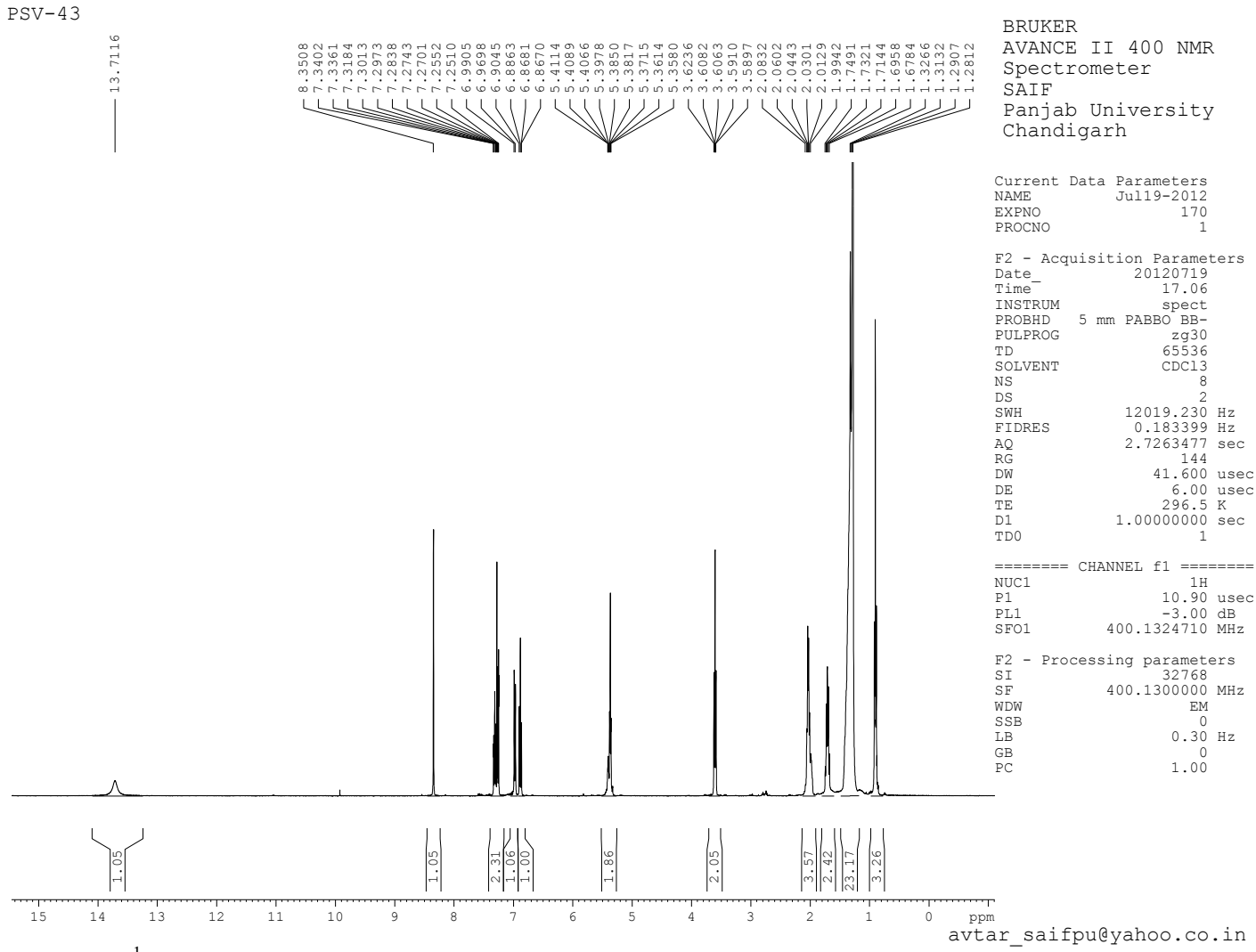

Figure S1: ^{1}H NMR spectrum of sensor **1** in $CDCl_3$

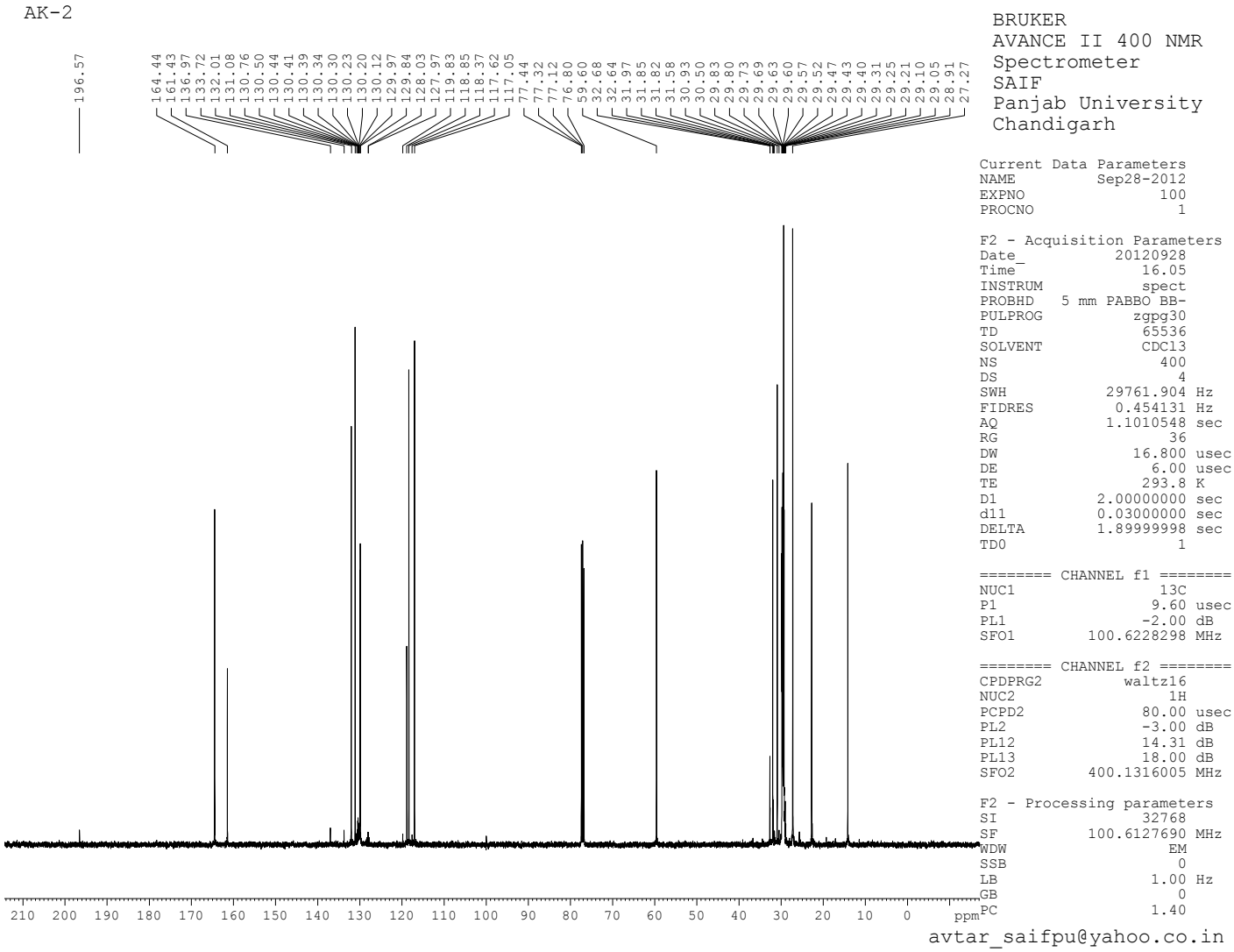

Figure S2: ^{13}C NMR spectrum of sensor **1** in $CDCl_3$.

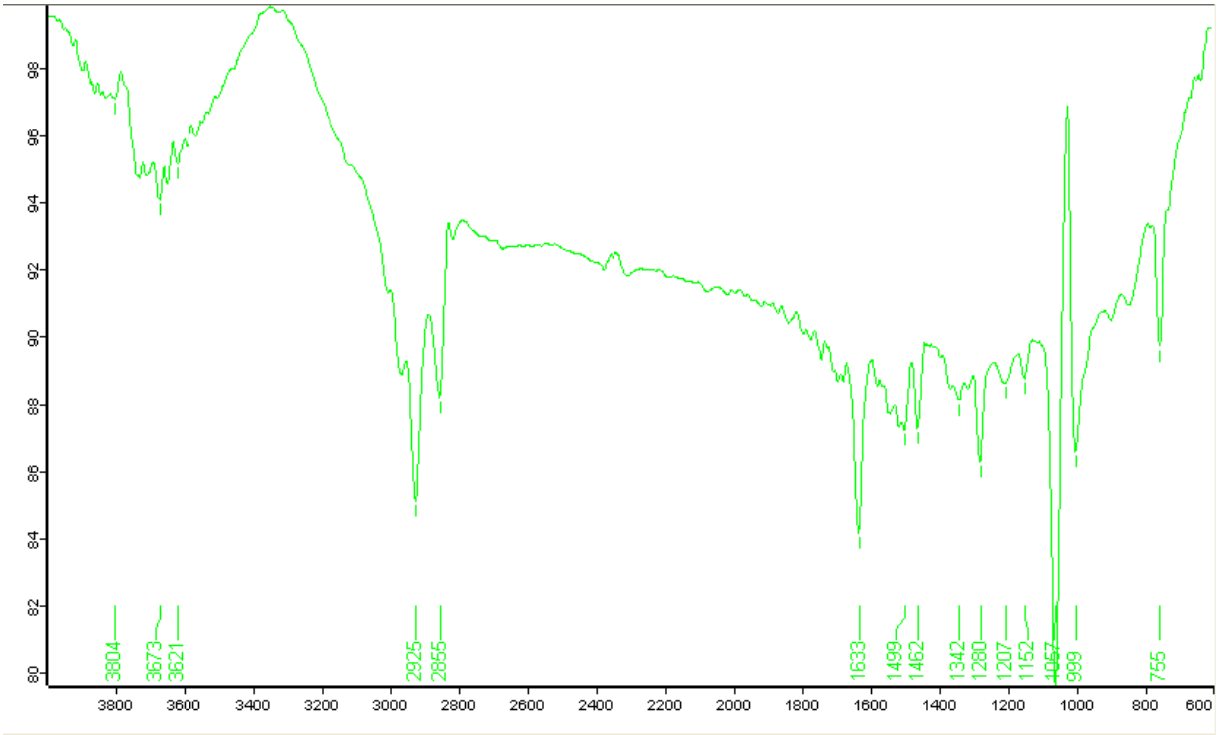

Figure S3: IR spectrum of sensor **1**.

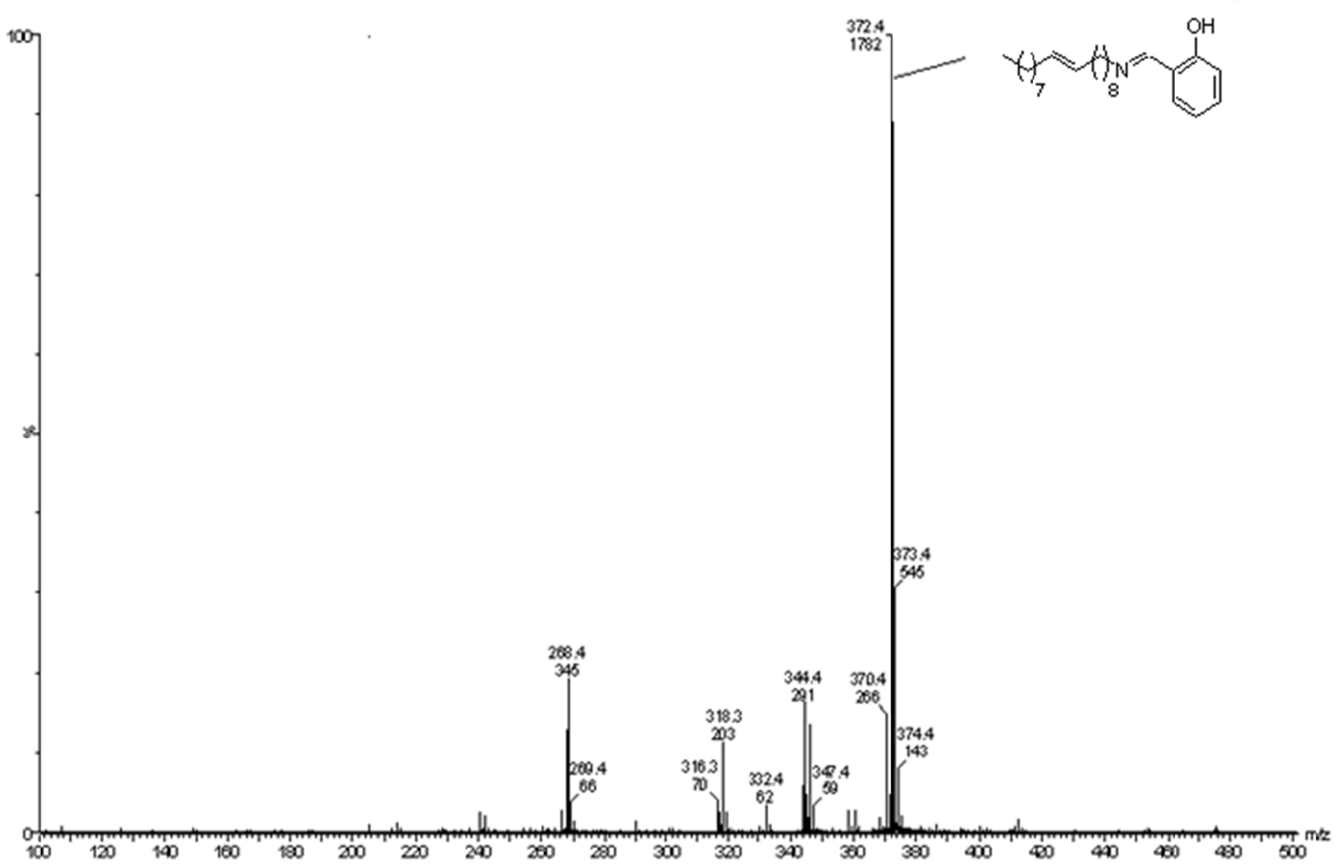

Figure S4: Mass spectrum of sensor **1**with peak at 372.4 corresponds to $[M+1]^+$ peak.

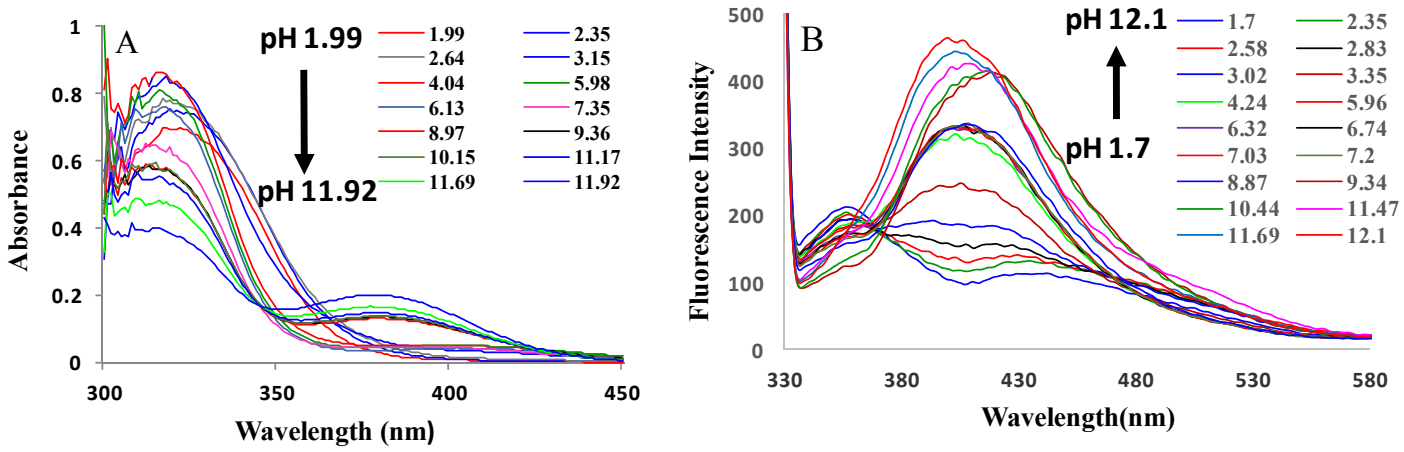

Figure S5: (A) UV-Vis absorption spectrum of sensor **1** (5 μM) and (B) Fluorescent response of sensor **3** (5μM); with variation of pH in aqueous 1% triton-X-100 solution (inset showing the pH values).

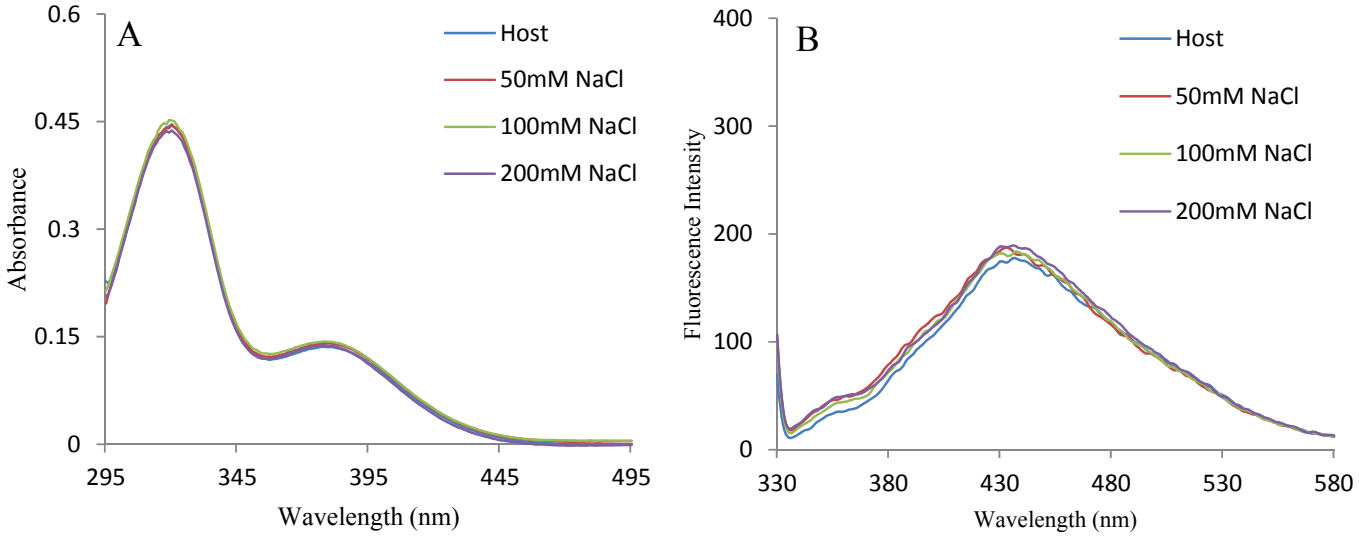

Figure S6: Effect of increasing ionic strength on (A) UV-Vis absorption profile; (B) Fluorescence emission profile of sensor **1**(5 μM) in aqueous 1% triton-X-100 solution.

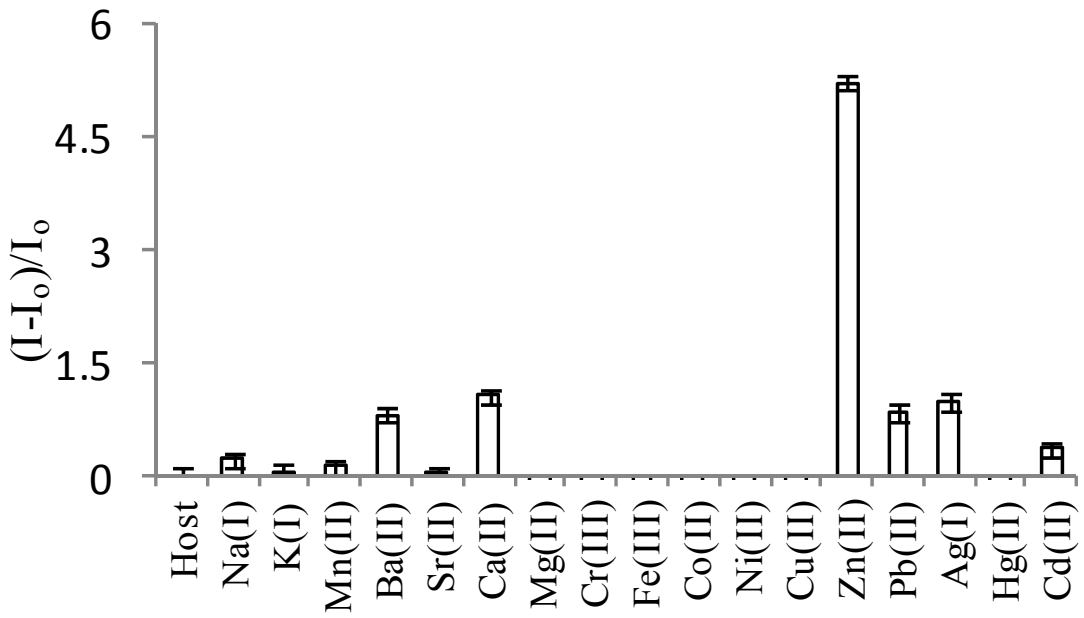

Figure S7: Fluorescence ratio $(I-I_o)/I_o$ of sensor **3** (5 μM) at 440 nm upon addition of 50 μM of different metal ions in aqueous 1% triton-X-100 solution; excitation wavelength was 320 nm

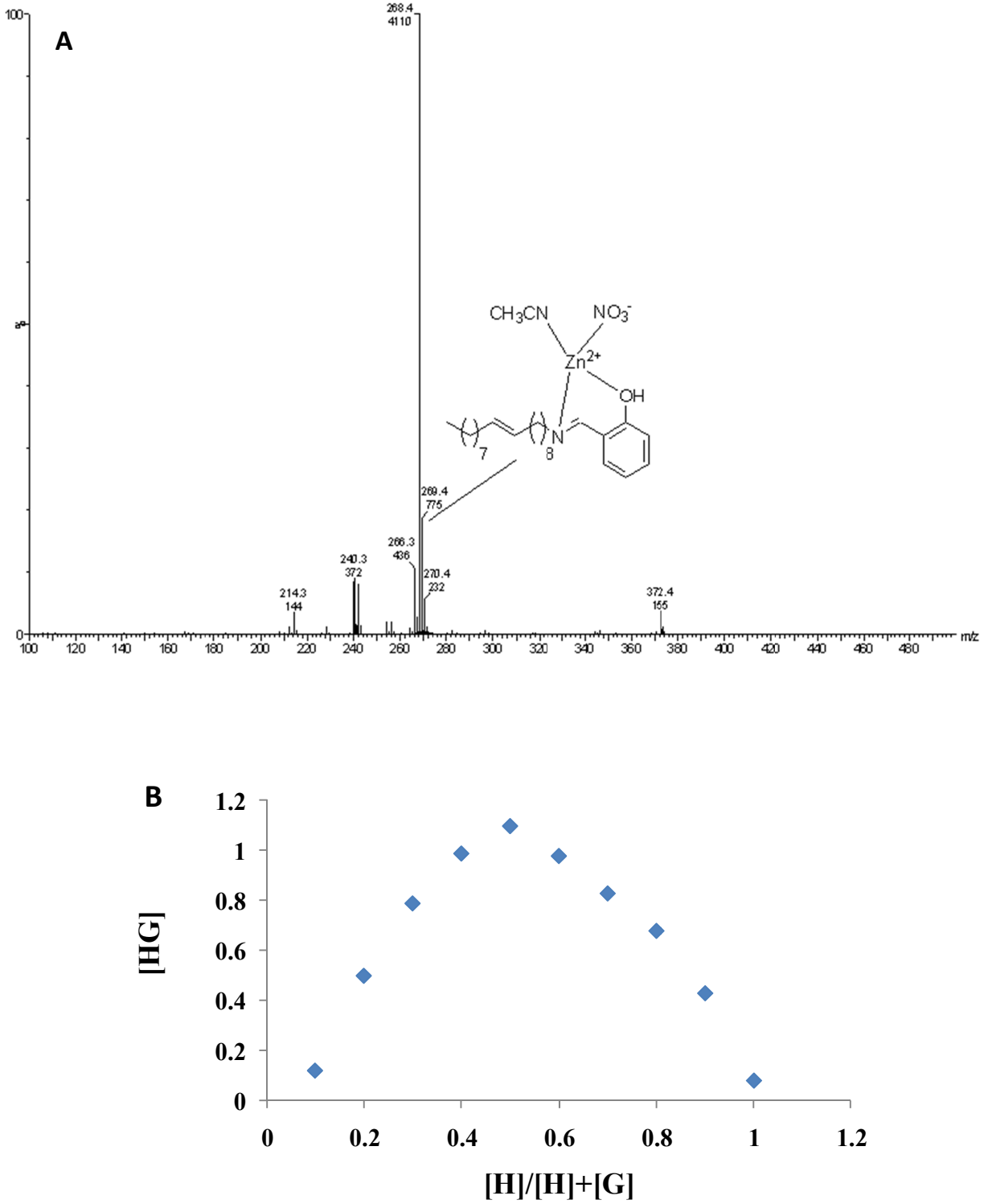

Figure S8: (A) Mass spectra of complex **1**.$Zn^{2+}$with peak at m/z value 269.4 corresponds to $[M+1]^{2+}$, where M is [**1**+Zn^{2+}+NO_3^-+CH_3CN] (B) Job's plot for complex formed between receptor **1** and Zn^{2+}. The fluorescence intensity at 440 nm was used for calculations. The concentration of [HG] was calculated by the equation [HG] = $\Delta I/I_0 X$ [H].

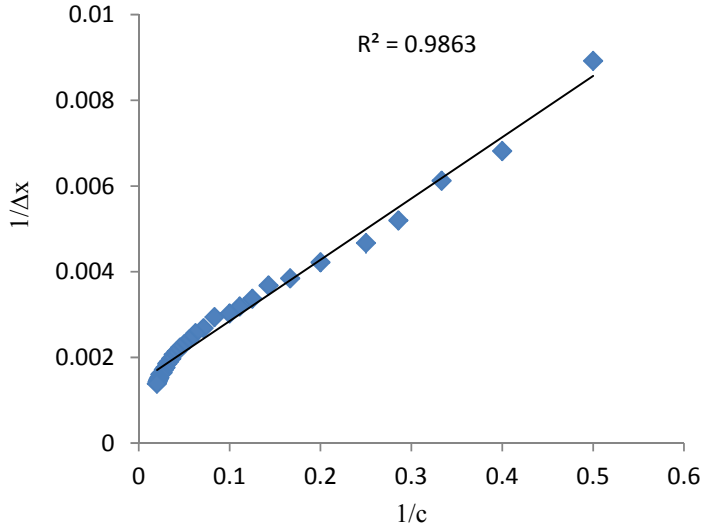

Figure S9: Calculation of binding constant using Benesi-Hildebrand plot with fluorescence titration data.

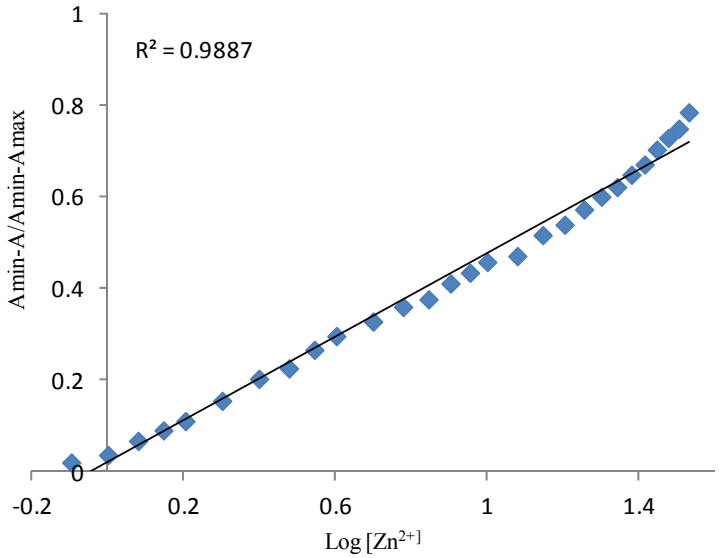

Figure S10: Calculation of detection limit for estimation of Zn^{2+} by sensor **1**.

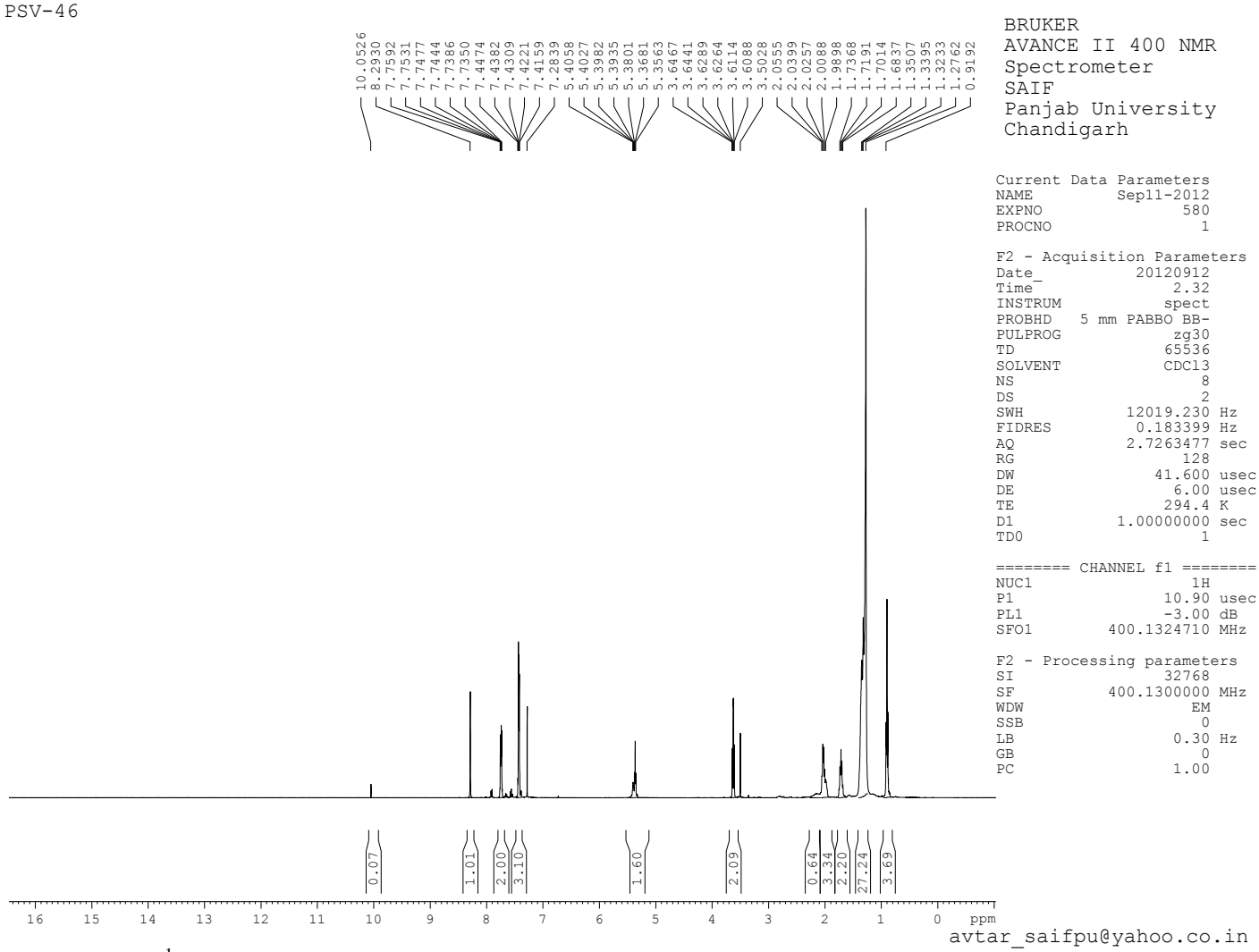

Figure S11A: ^{1}H NMR spectrum of sensor **2** in $CDCl_3$

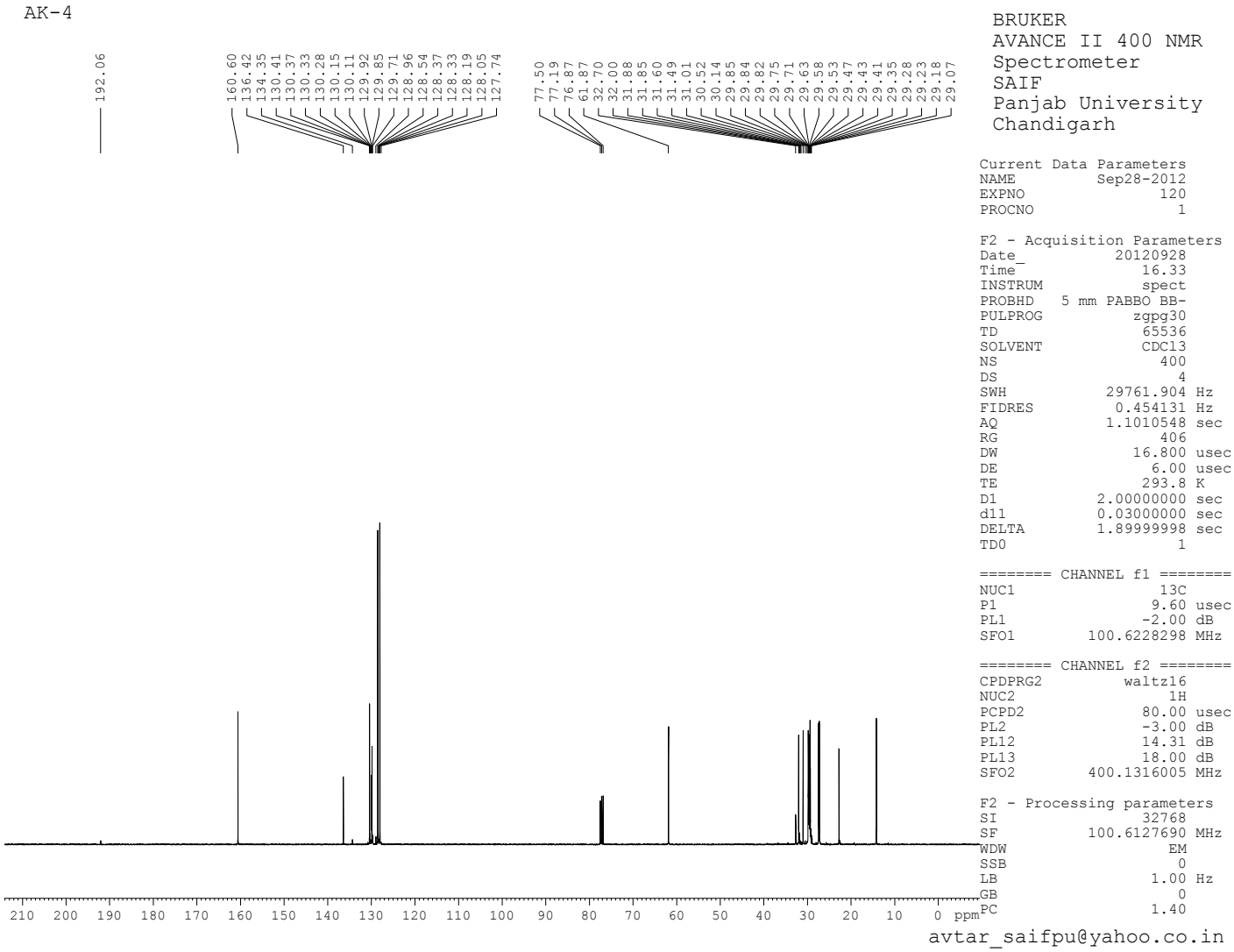

Figure S11B: ^{13}C NMR spectrum of sensor **2** in $CDCl_3$.

Figure S11C: IR spectrum of sensor **2**.

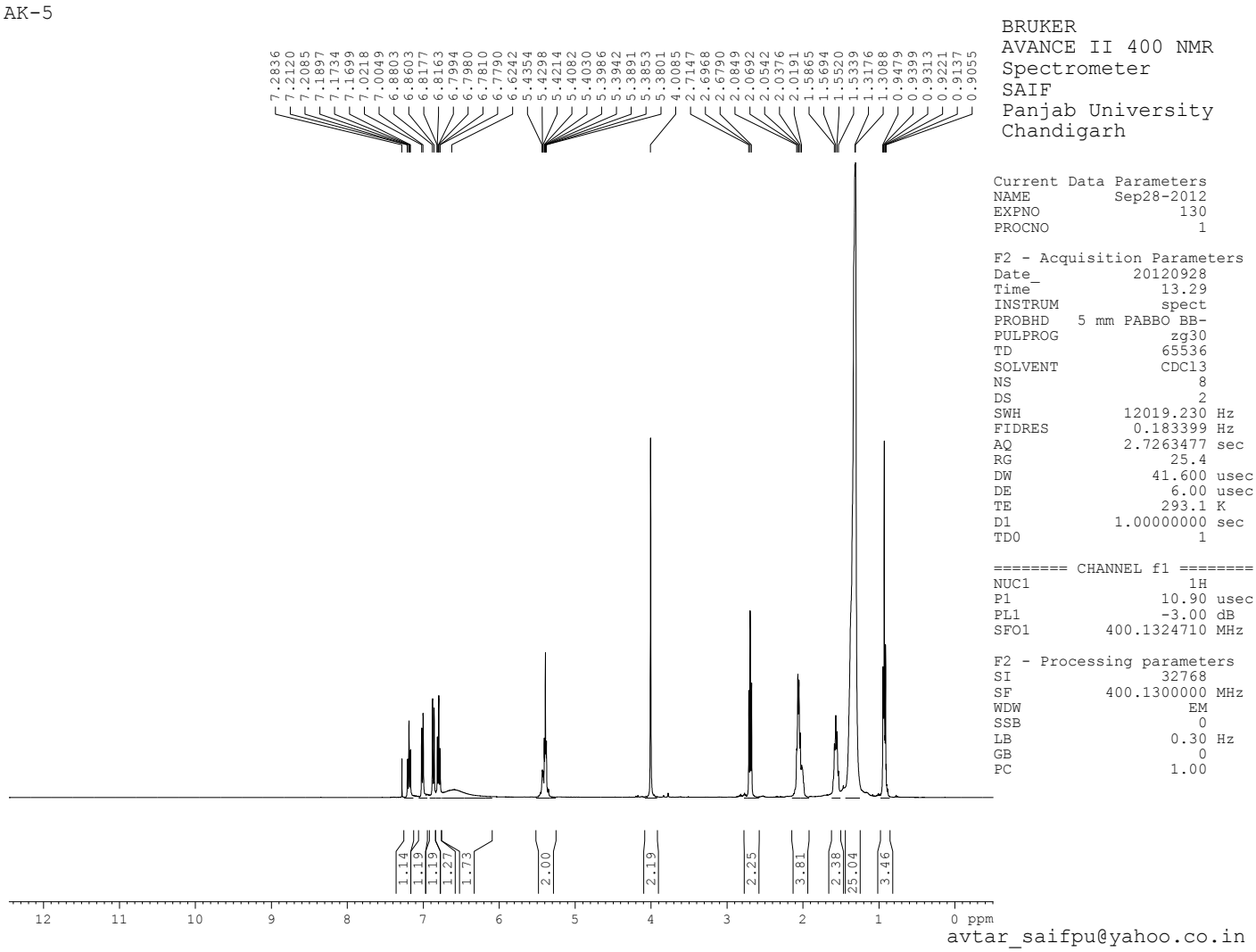

Figure S12A: ^{1}H NMR spectrum of sensor **3** in $CDCl_3$.

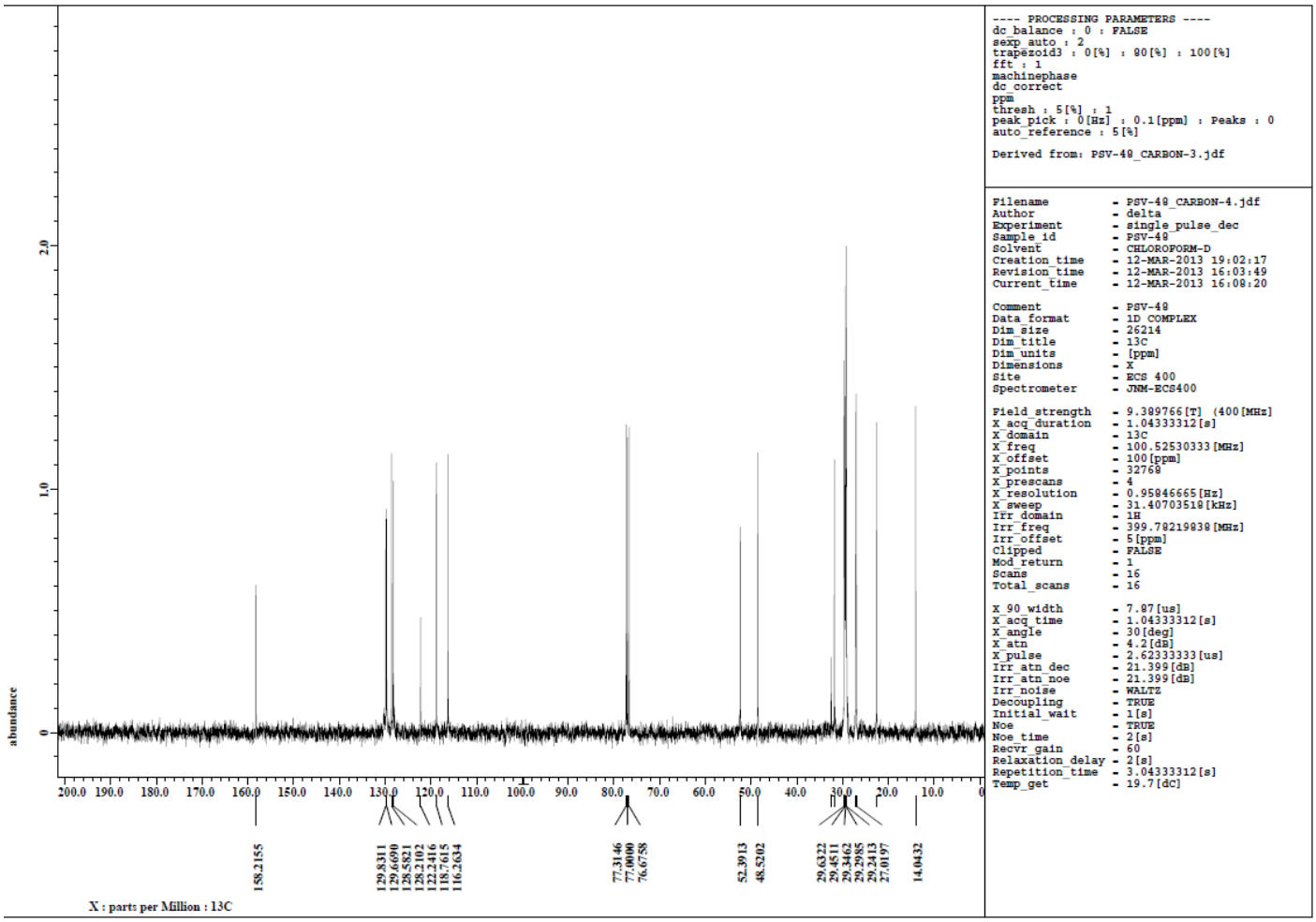

Figure S12B: ^{13}C NMR spectrum of sensor **3** in $CDCl_3$.

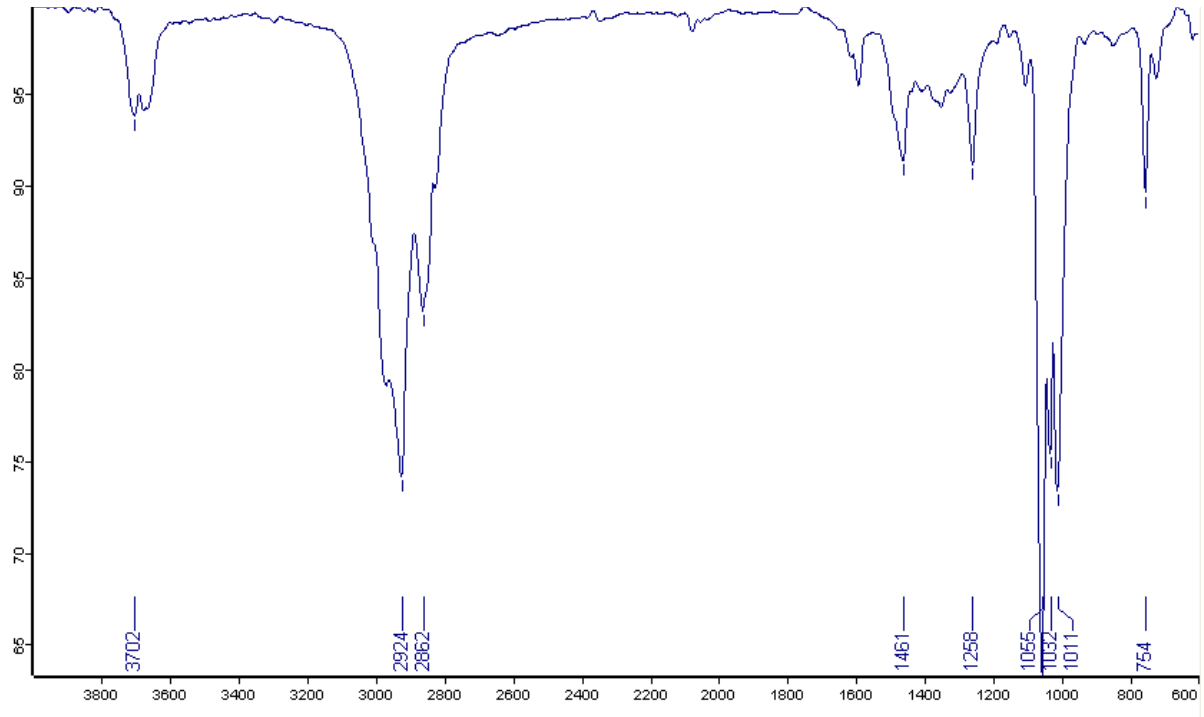

Figure S12C: IR spectrum of sensor **3**.

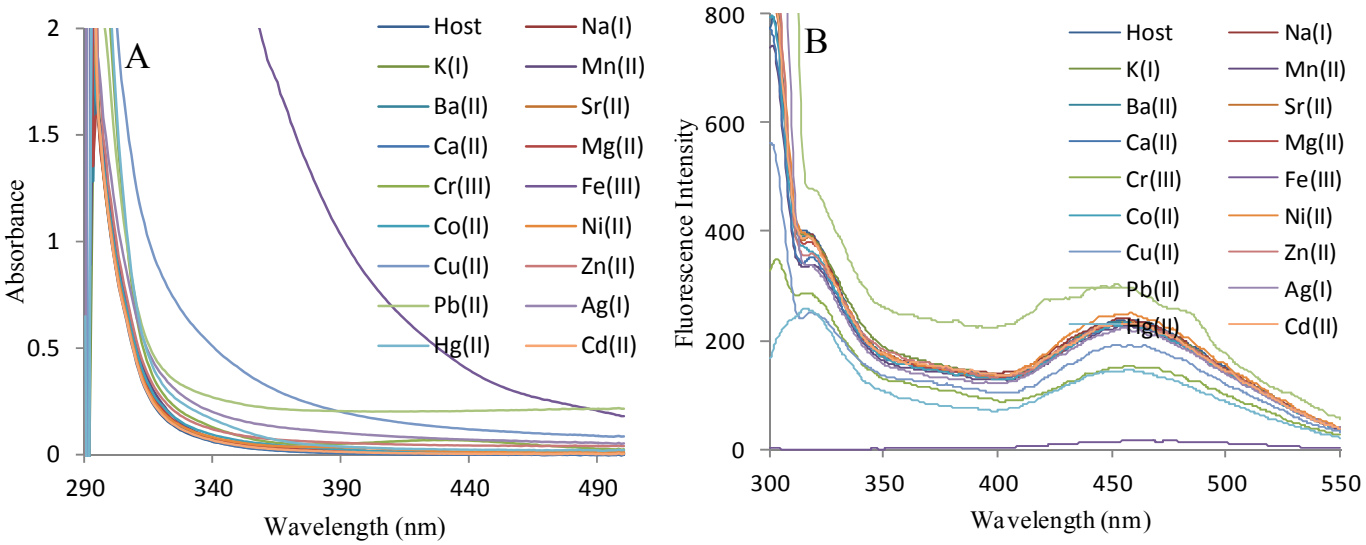

Figure S13:(A)UV-Vis absorption spectra of **2** (10 μM); (B) Fluorescence emission spectra of **2**(10 μM) in presence of different metal ions (50 μM) in aqueous 1% triton-X-100 solution; excitation wavelength was 310 nm.

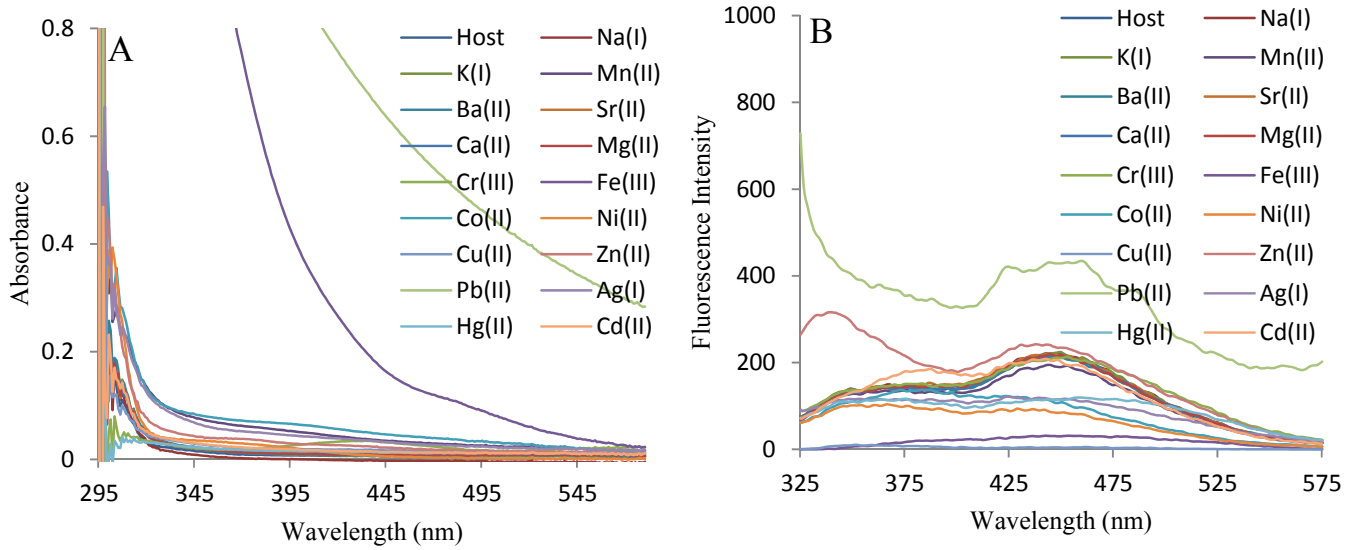

Figure S14:(A)UV-Vis absorption spectra of **3** (10 μM); (B) Fluorescence emission spectra of **3**10 μM) in presence of different metal ions (50 μM) in aqueous 1% triton-X-100 solution; excitation wavelength was 320 nm

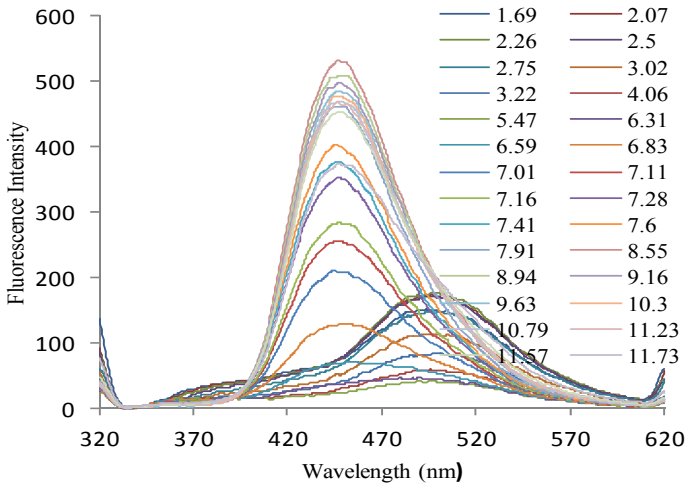

Figure S15: Fluorescence behaviour of **1**.Zn^{2+}complex with variation of pH in aqueous 1% triton-X-100 solution.

Table S1. Total energy values of the keto and enol forms of **3.**

Molecule	Total Energy (a.u.)
Enol form of **3**	-1107.0415
Keto form of **3**	-1107.0422