# Electronic Supplementary Information

## Incorporation of triazole into a quinoline-rhodamine conjugate imparts iron (III) selective complexation permitting detection at nano molar levels

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**Table of contents** **Page**

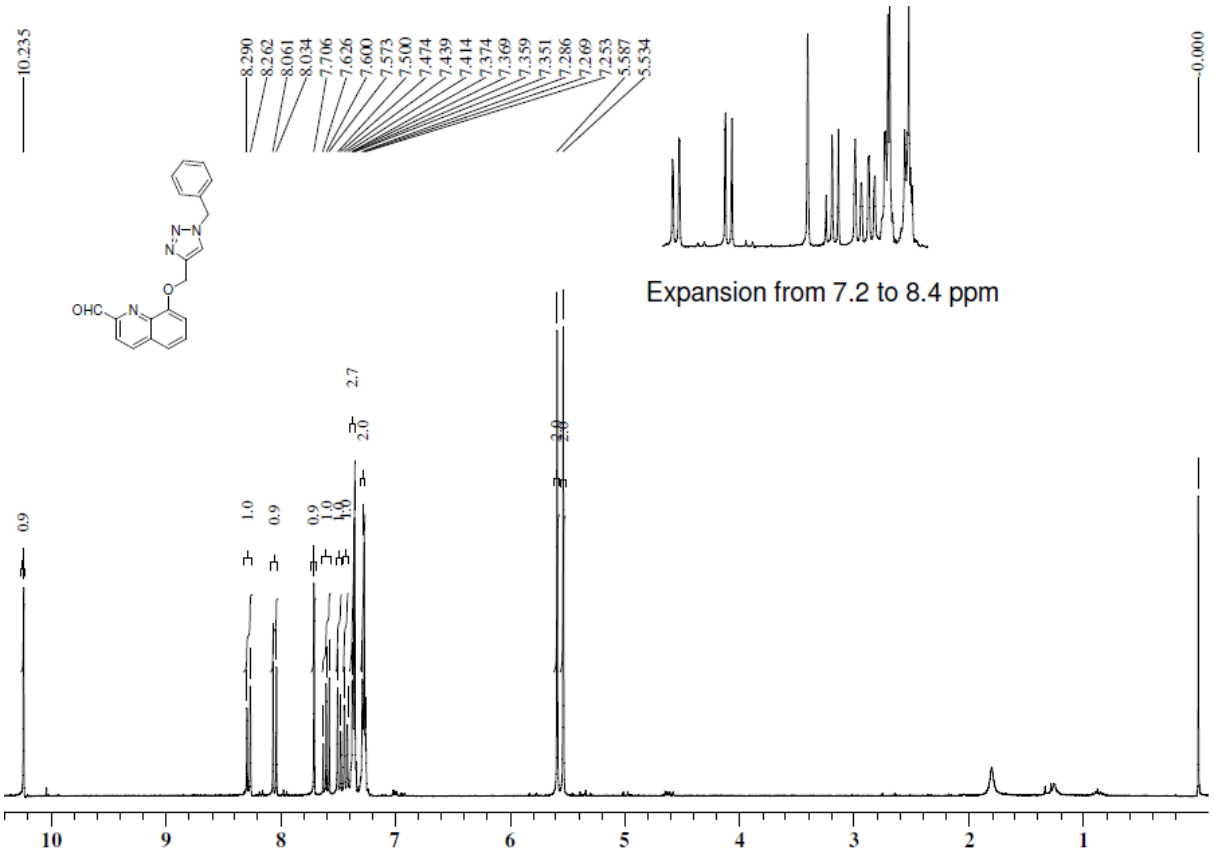



**Fig. S1.** $^{1}$H NMR spectrum of **C** in $CDCl_3$

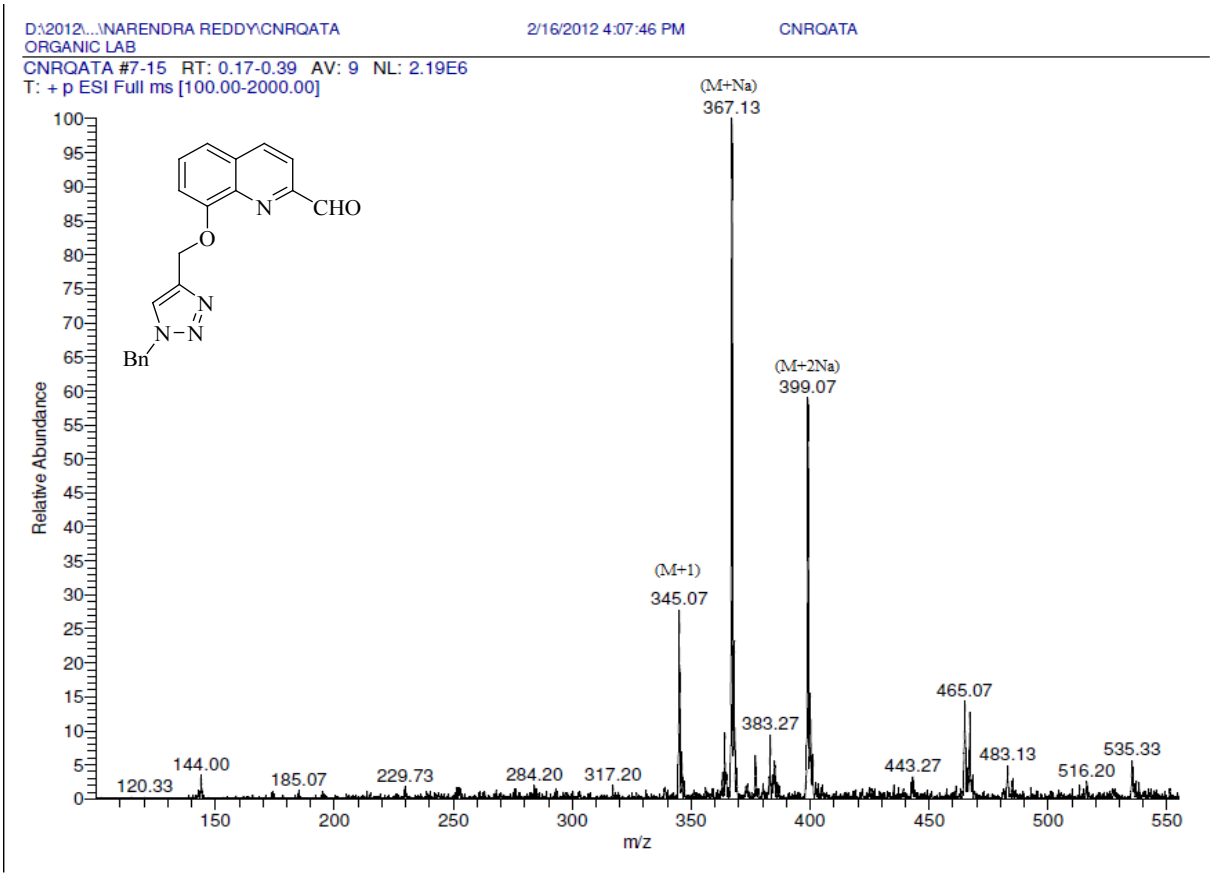



**Fig. S2.** ESI Mass spectrum of **C**

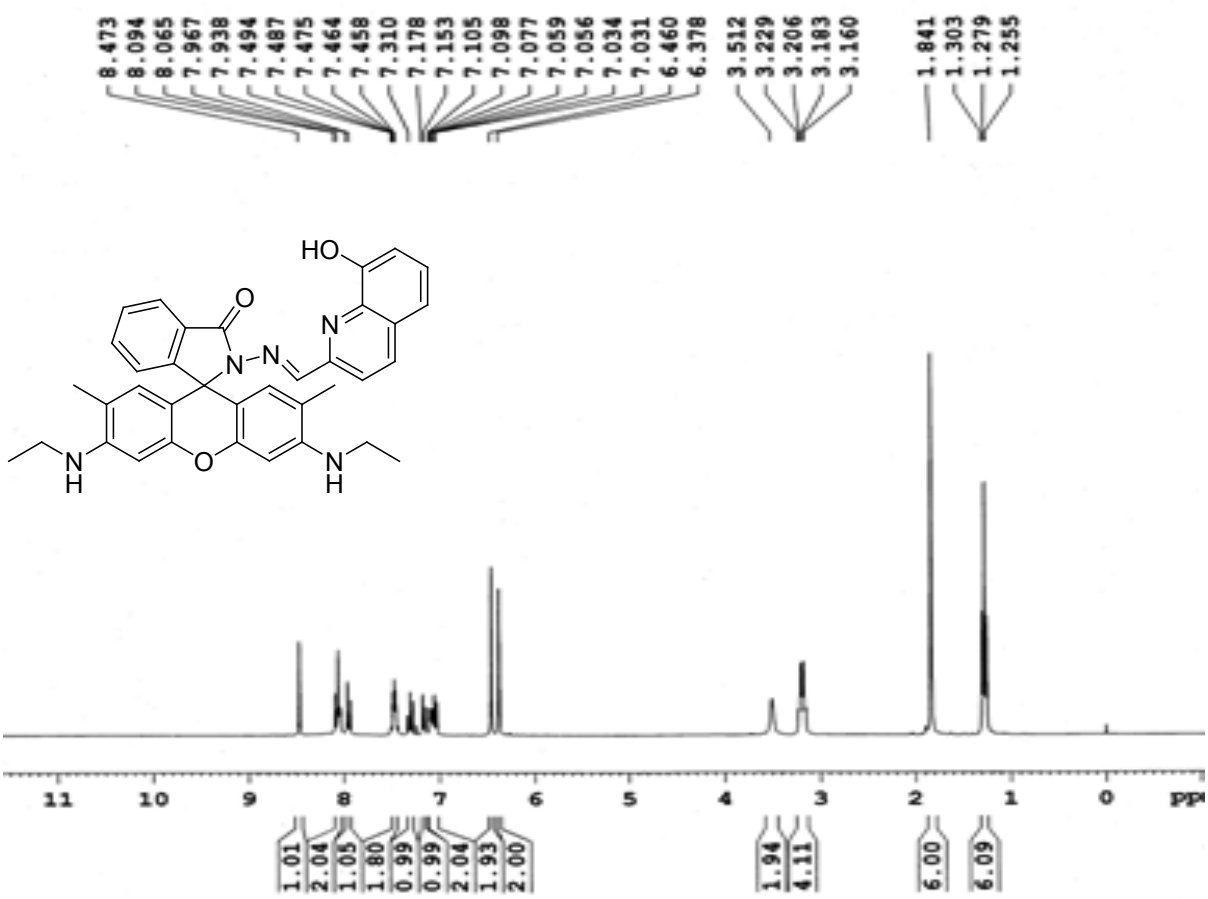



**Fig. S3.** $^{1}$H NMR spectrum of **1** in $CDCl_3$

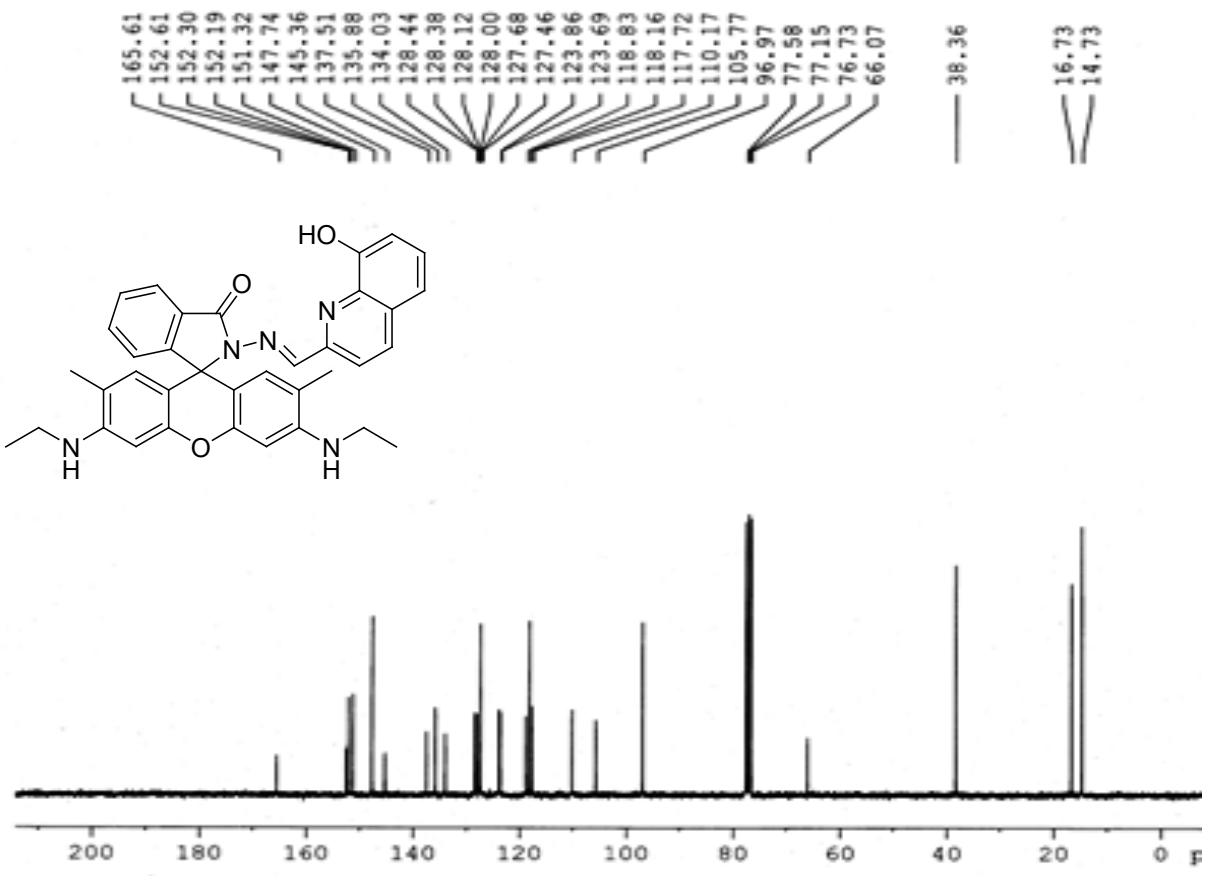



**Fig. S4.** $^{13}C$ NMR spectrum of **1** in $CDCl_3$

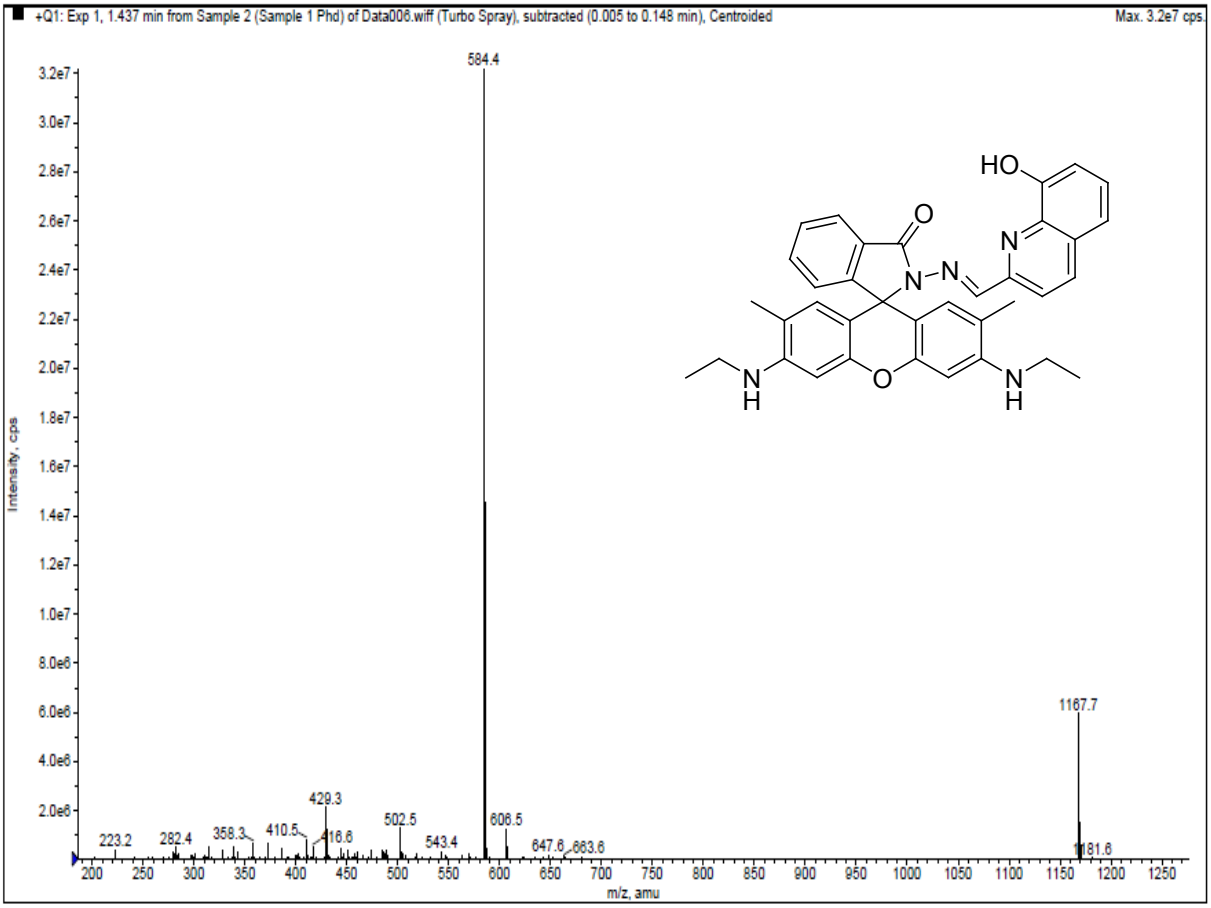



**Fig. S5.** ESI Mass spectrum of **1**

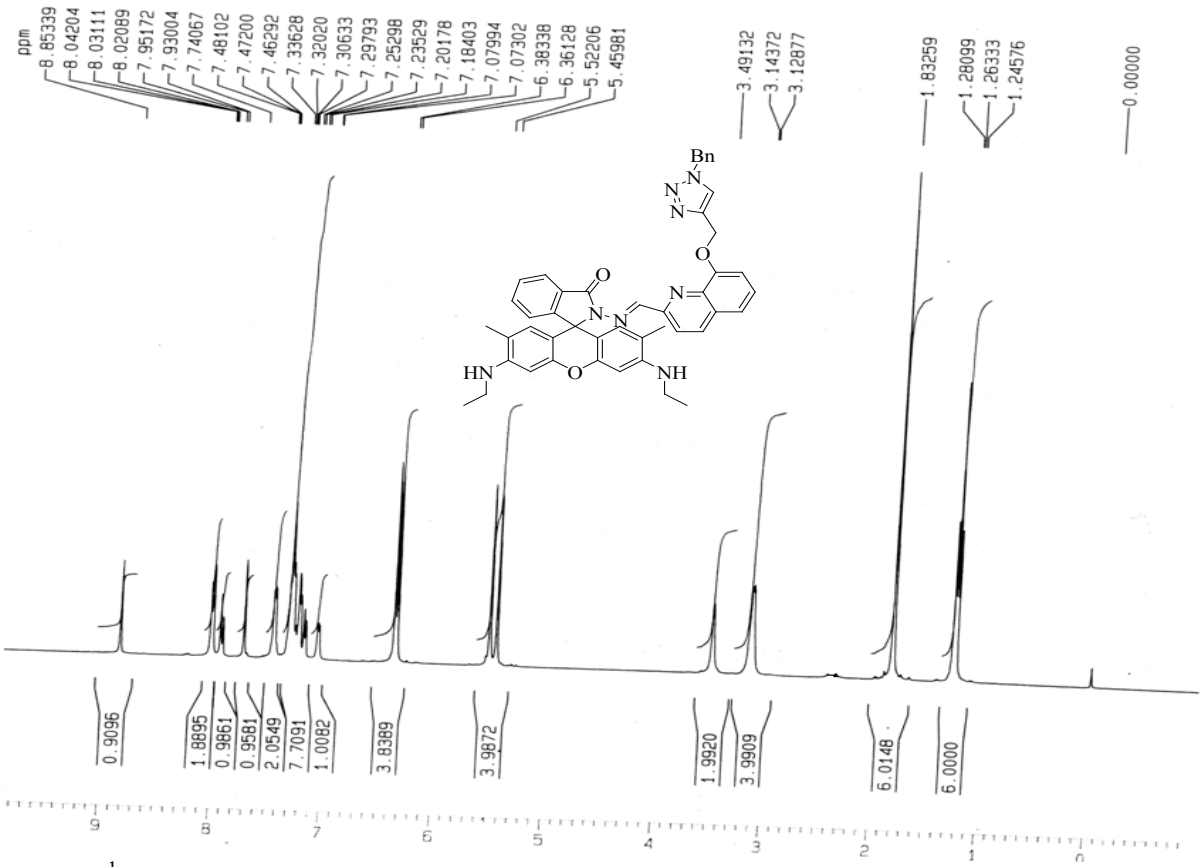



**Fig. S6.** $^{1}$H NMR spectrum of **2** in $CDCl_3$

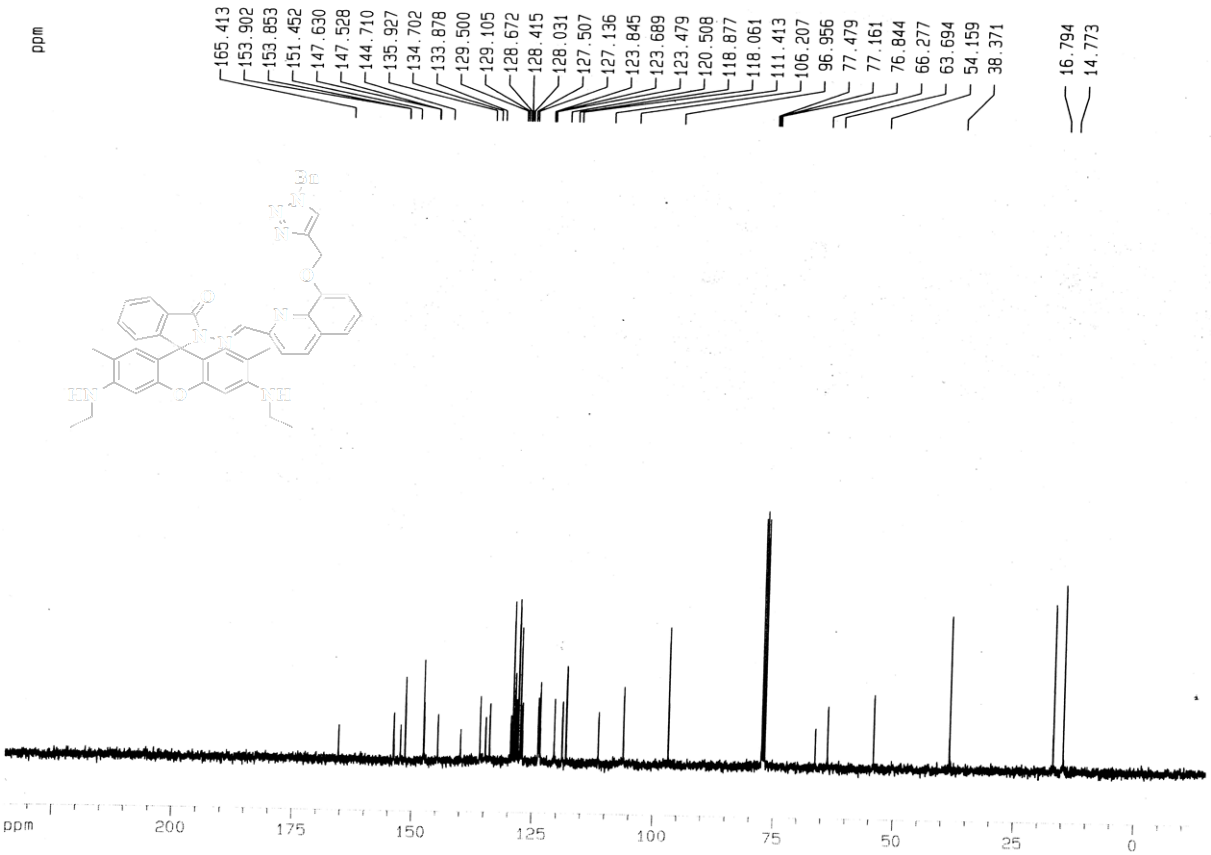



**Fig. S7.** $^{13}C$ NMR spectrum of **2** in $CDCl_3$

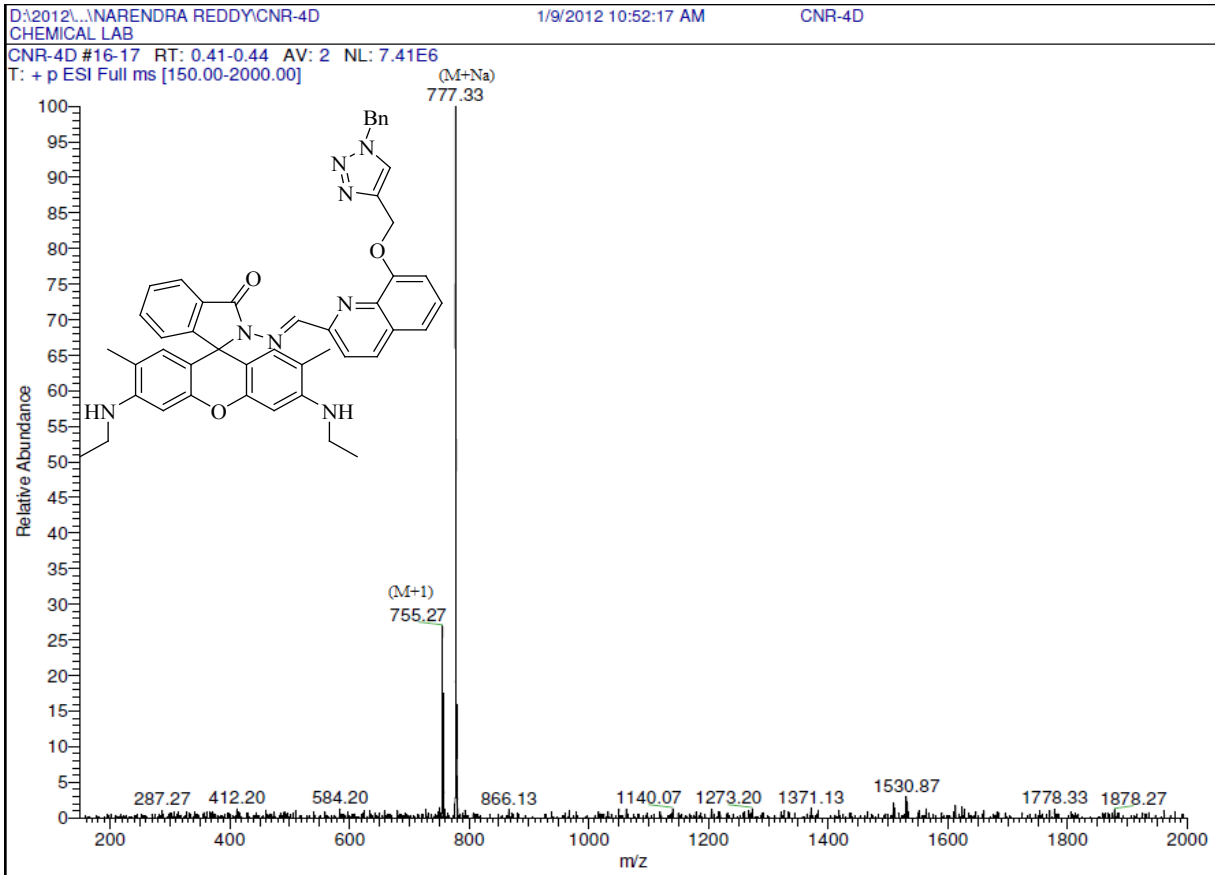
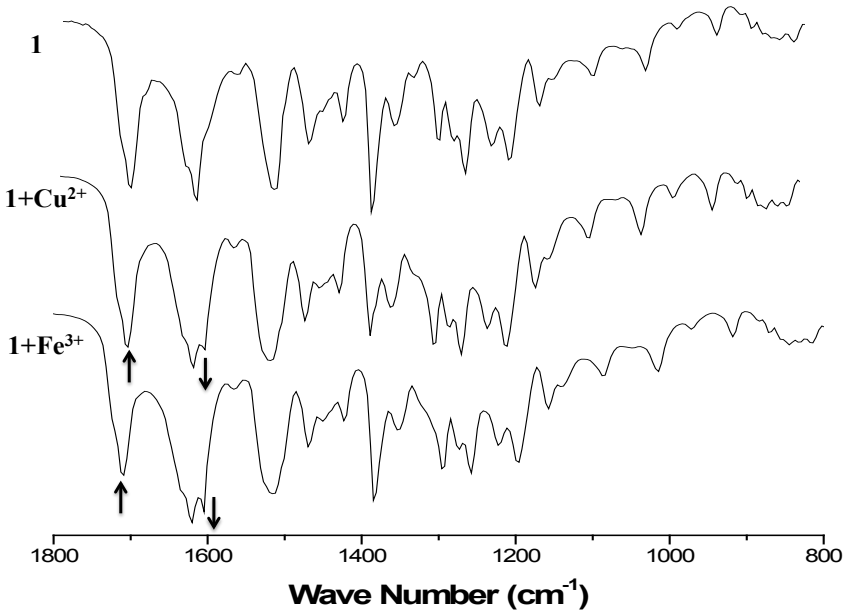
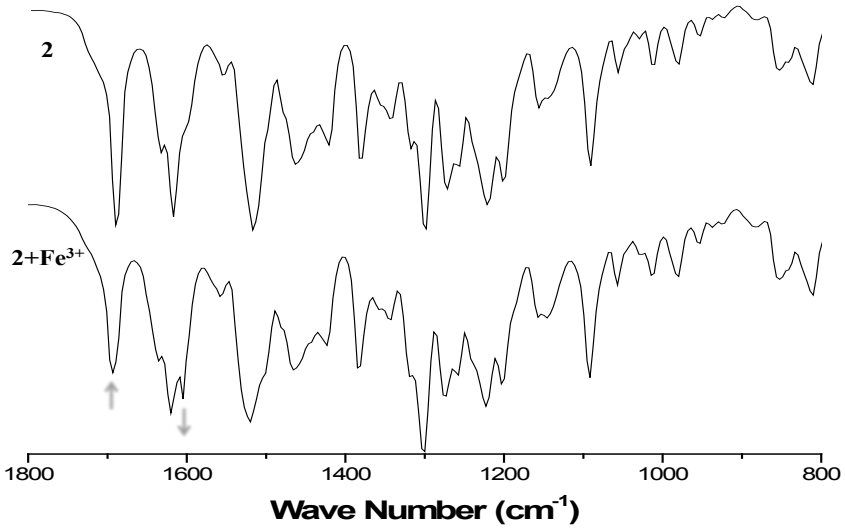



**Fig. S8.** ESI Mass spectrum of **2**




**(a)**




**(b)**

**Fig. S9**. IR spectra of 2 mM probe **1** (**a**), probe **2** (**b**) alone and upon addition of 1mM metal ions. Upward arrow shows the decrement in the intensity of spitolactam ring 'C=O' and downward arrow shows the increment in the intensity of metal bound ring opened 'C-O'.

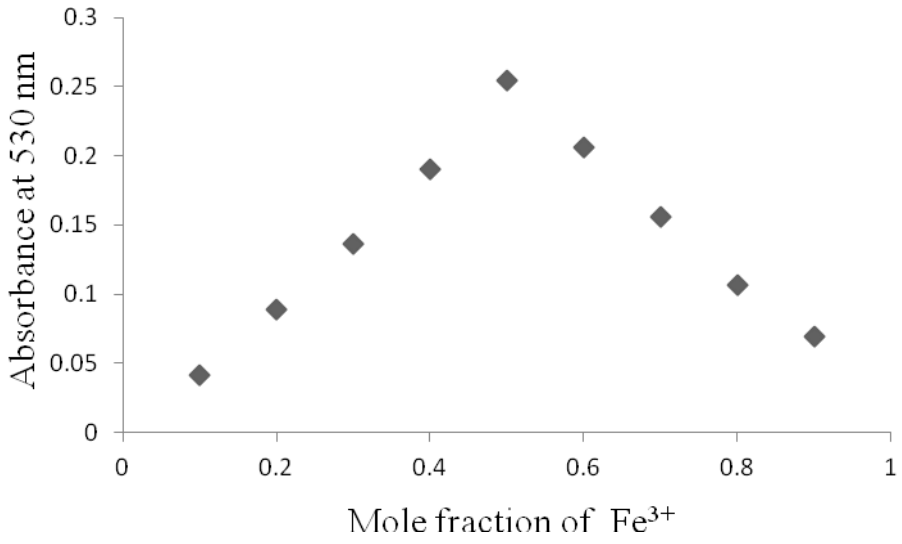



**Fig. S10.** Job plot of **2**-$Fe^{3+}$ complex

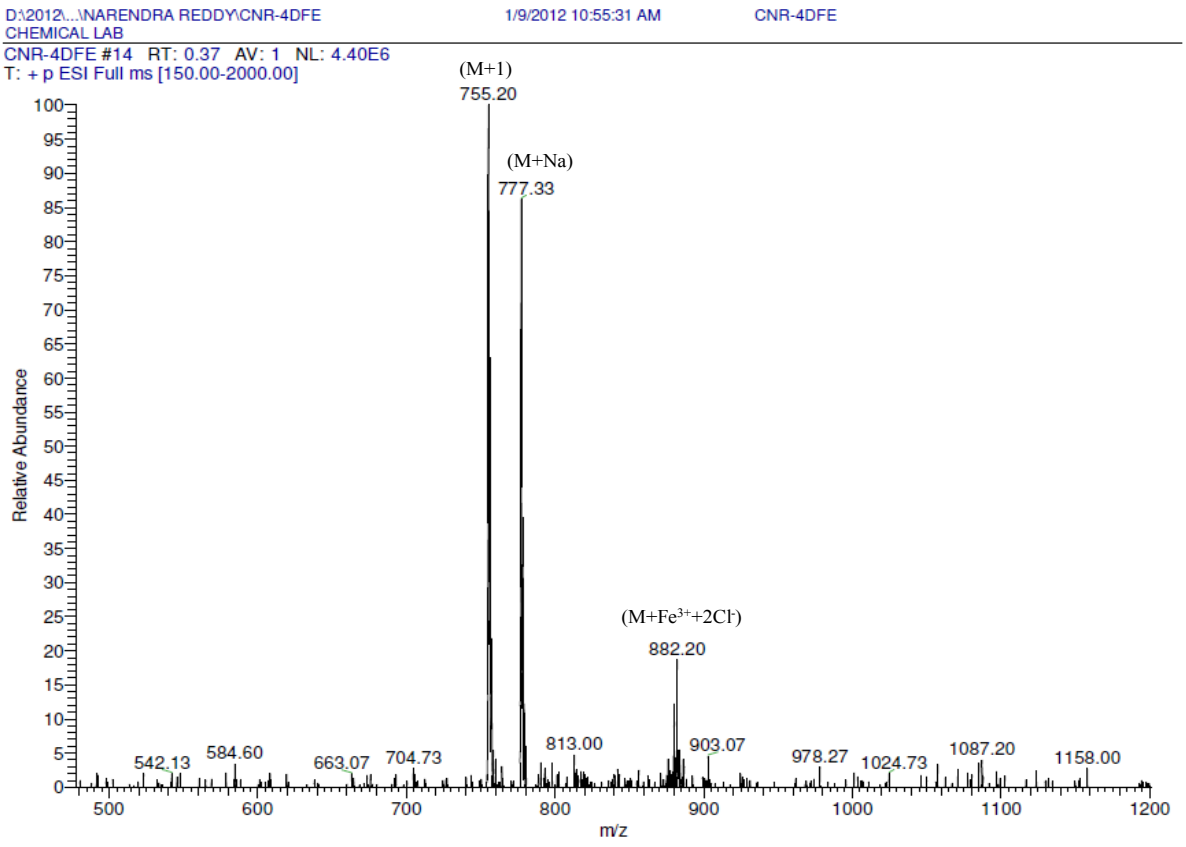



**Fig. S11.** ESI Mass spectrum of **2**-$Fe^{3+}$ complex

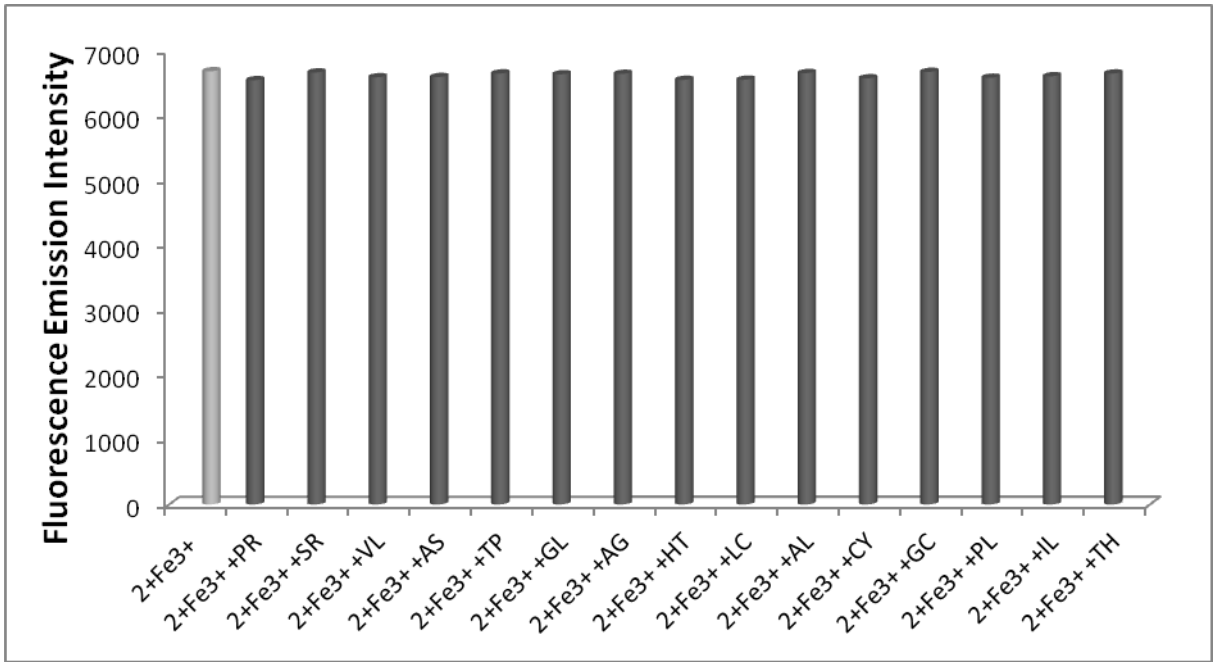



**Fig. S12.** $Fe^{3+}$ ion selectivity of **2** (10 μM) in 1:1v/v 0.01M Tris HCl-$CH_3CN$ pH 7.4 in the presence of various amino acids. The grey bar shows the fluorescence emission intensity upon addition of 1 equiv of Fe(III) to **2** (10 μM). The dark bars represent the fluorescence emission upon addition of 1 equiv of Fe(III) to a solution containing **2** (10 μM) and 5 equiv of the amino acid of interest.

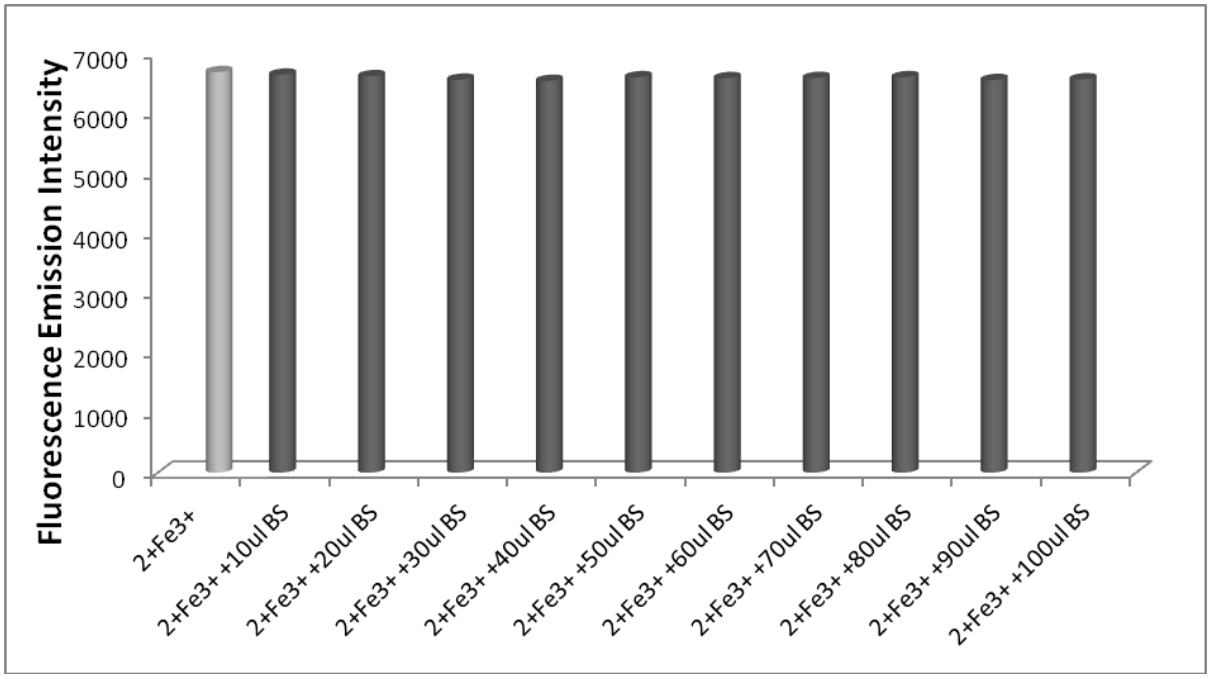



**Fig. S13.** $Fe^{3+}$ ion selectivity of **2** (10 μM) in 1:1v/v 0.01M Tris HCl-$CH_3CN$ pH 7.4 in the presence of various amounts of human blood serum. The grey bar shows the fluorescence emission intensity upon addition of 1 equiv of Fe(III) to **2** (10 μM). The dark bars represent the fluorescence emission upon addition of 1 equiv of Fe(III) to a solution of **2** (10 μM) and various amounts of human blood serum.

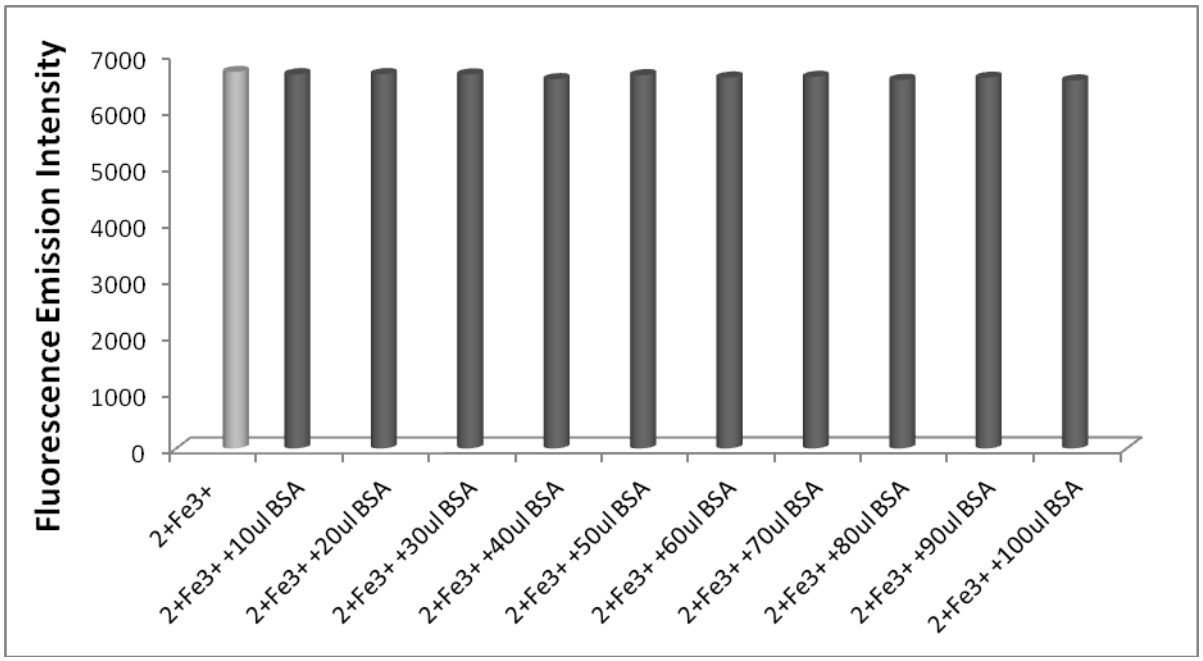



**Fig. S14.** $Fe^{3+}$ ion selectivity of **2** (10 μM) in 1:1v/v 0.01M Tris HCl-$CH_3CN$ pH 7.4 in the presence of various amounts of Bovine Serum Albumin (BSA). The grey bar shows the fluorescence emission intensity upon addition of 1 equiv of Fe(III) to **2** (10 μM). The dark bars represent the fluorescence emission upon addition of 1 equiv of Fe(III) to a solution of **2** (10 μM) and various amounts of BSA.

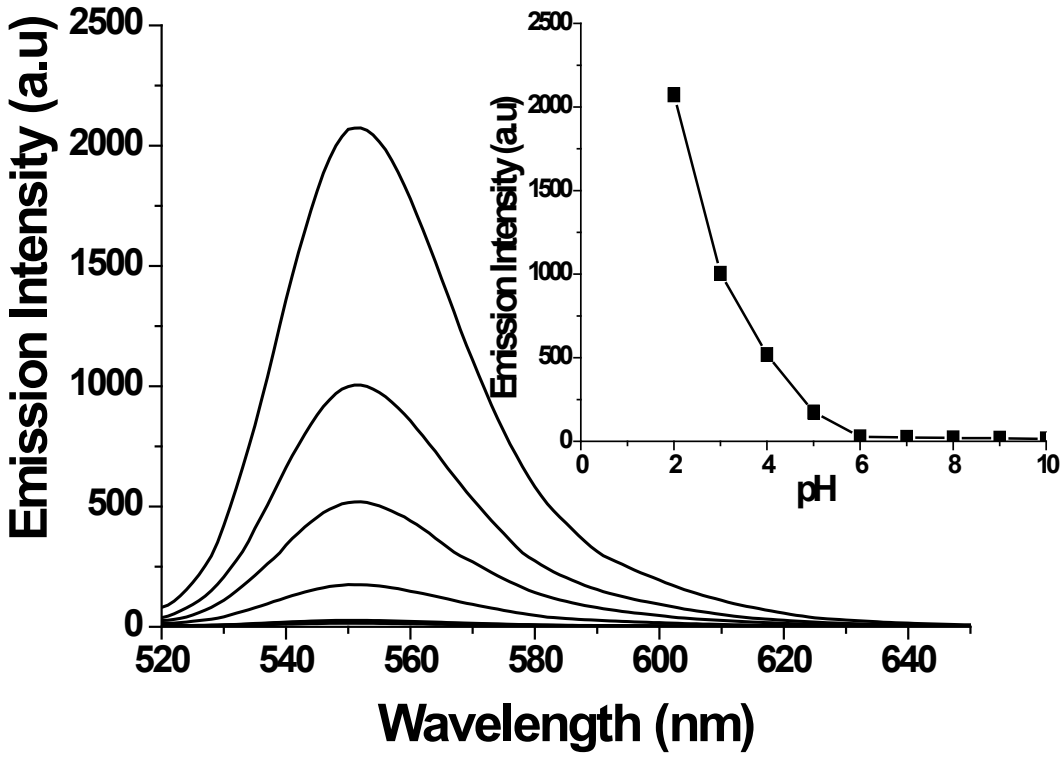



**Fig. S15.** pH dependant variation in fluorescence intensity of **2** (10 μM).

**Cell viability assay**

The cell viability assay of probe **2** on NIH3T3 cells was determined by MTT (3-(4, 5-Dimethylthiazol-2-yl)-2, 5- diphenyltetrazolium bromide) assay (*J Immunol Methods*, 1983, **65**, 55.). The NIH3T3 cells were trypsinised and seeded in 48-well flat-bottom culture plates at a density of 4 x $10^3$ cells per well in 250 µL DMEM supplemented with 10% FBS, 100 IU/mL penicillin, 100 µg/mL streptomycin, 30 µg/mL gentamicin. The cells were allowed for 24 hours to adhere and grow at 37 ºC in $CO_2$ incubator. Then the medium was replaced with 250 µL fresh medium containing various concentrations of probe **2** (0 to 6 µM) and incubated for 12 hours in a humidified chamber with 5% $CO_2$ after which the medium was removed. The cells were further incubated for 3 hours with 250 µL of fresh medium containing 1 mg/mL MTT reagent. The medium was then removed to eliminate non-reacted MTT reagent. DMSO (100 µL) was added into each well to dissolve the formazan precipitate formed and was measured spectrophotometrically using a microplate reader at 570 nm. The assay was performed in quadruplet for each concentration. The cytotoxicity of the probe **2** was expressed in terms of percentage of cell viability relative to the untreated control cells which was taken as 100 percent viable.