Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

For the

Manuscript Entitled

Arene-based Fluorescent Probes for the Selective Detection of Iron

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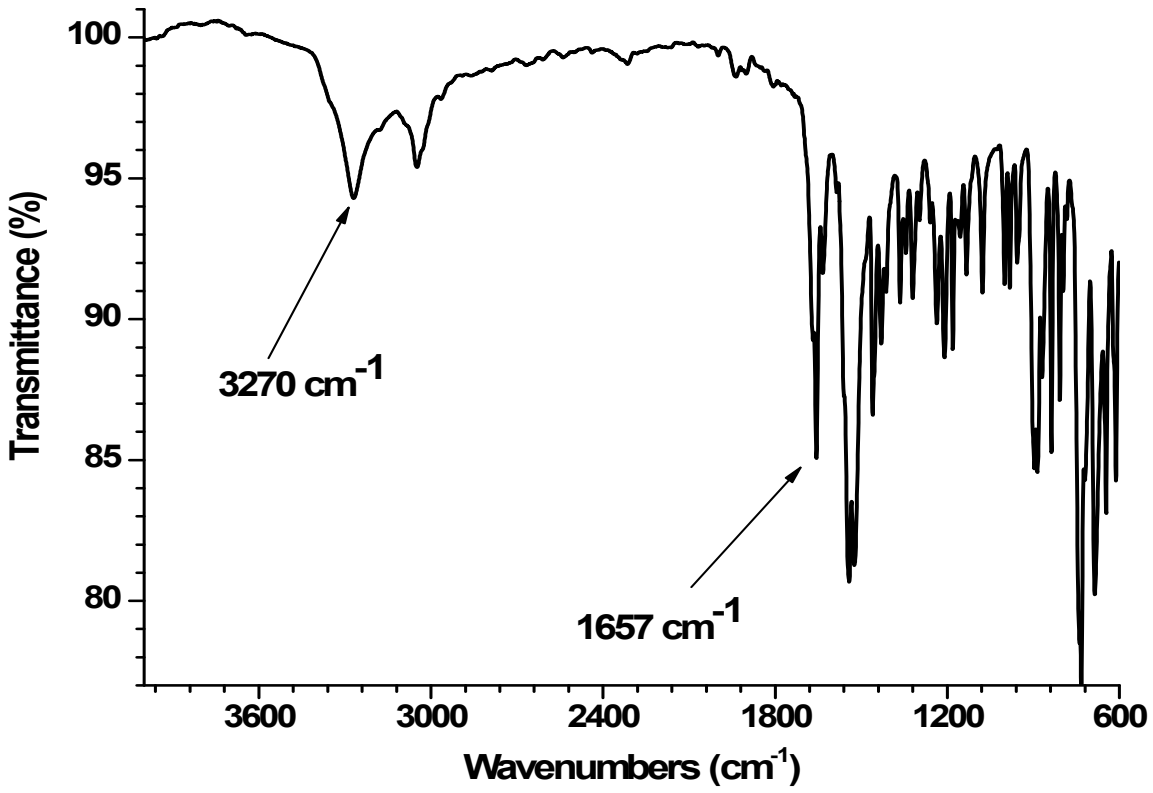

Figure S1. FTIR spectrum of probe L3.

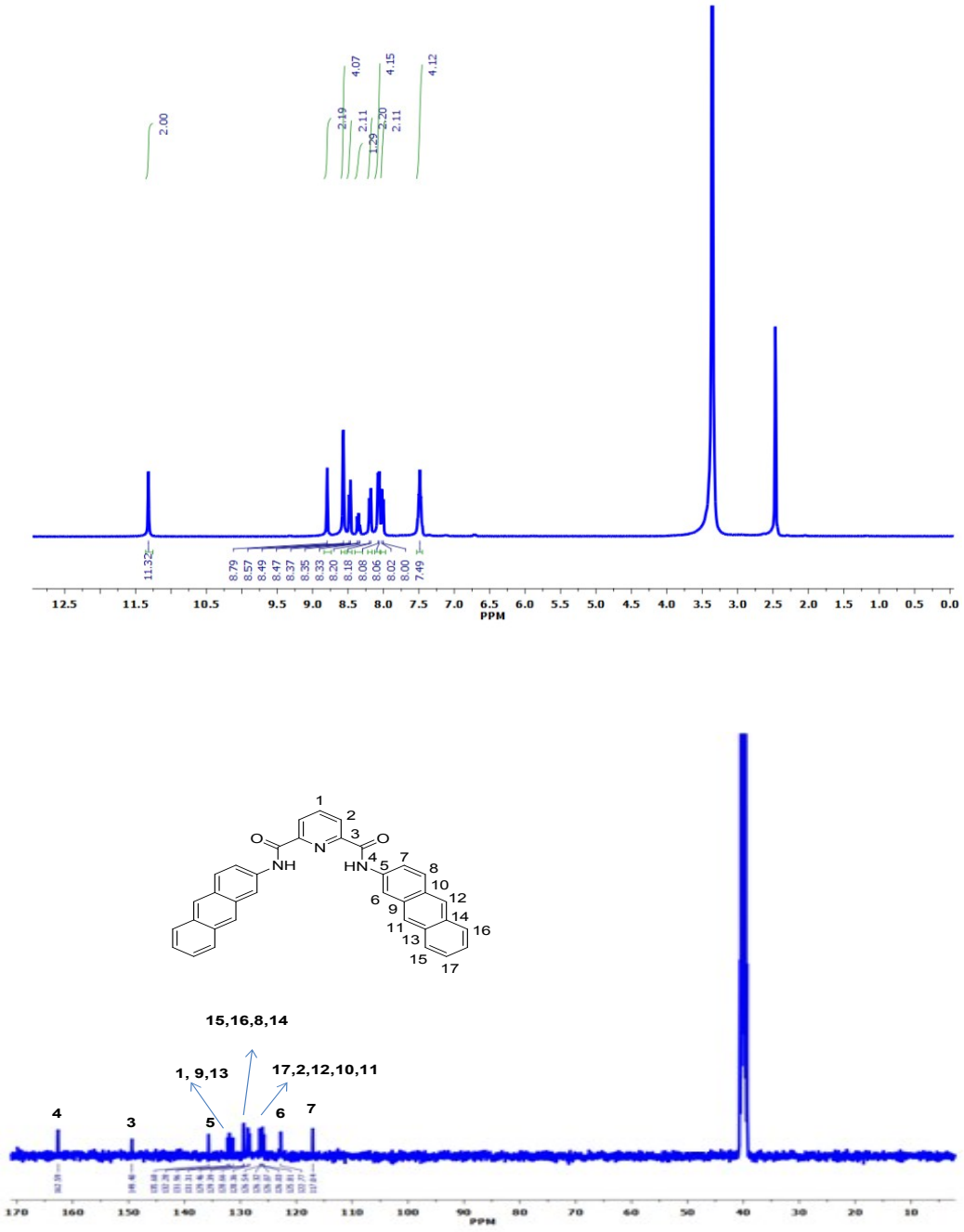

Figure S2. ^{1}H (top) and ^{13}C (bottom) NMR spectra of probe L3 in $CDCl_3$.

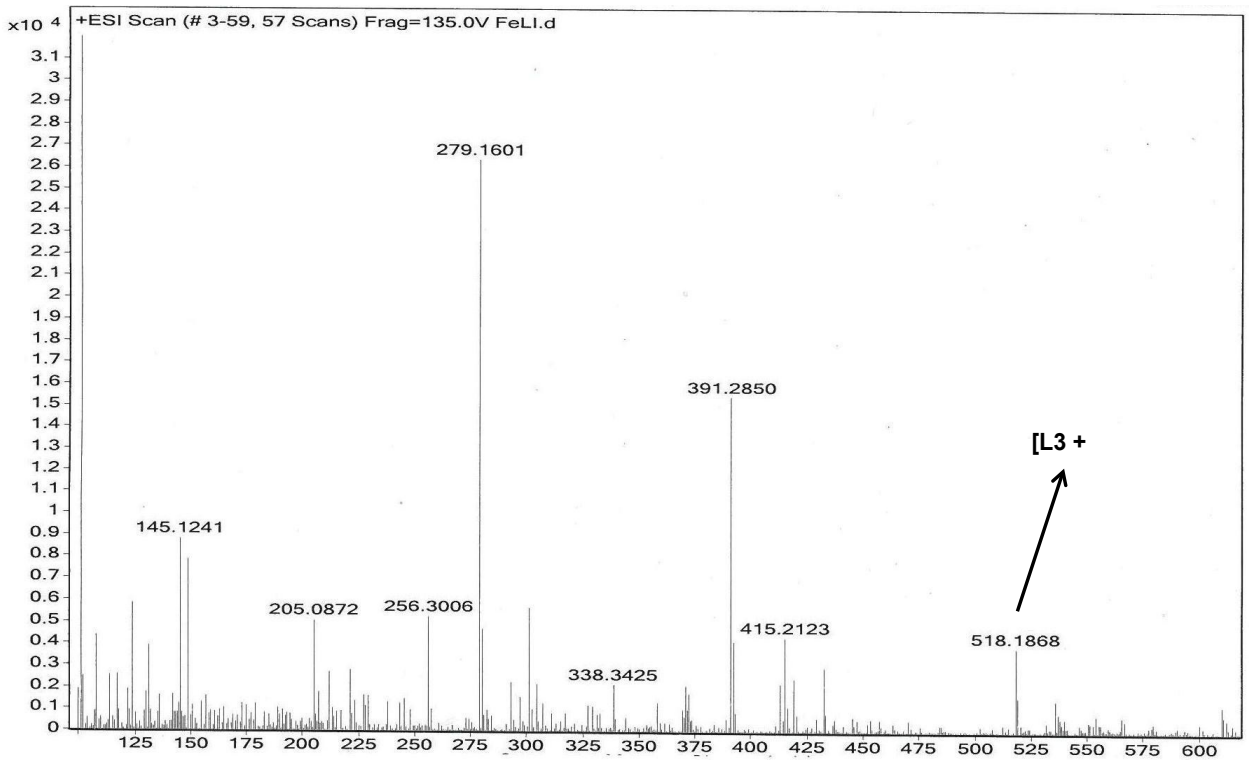

Figure S3. ESI$^+$-MS spectrum of probe L3 in THF.

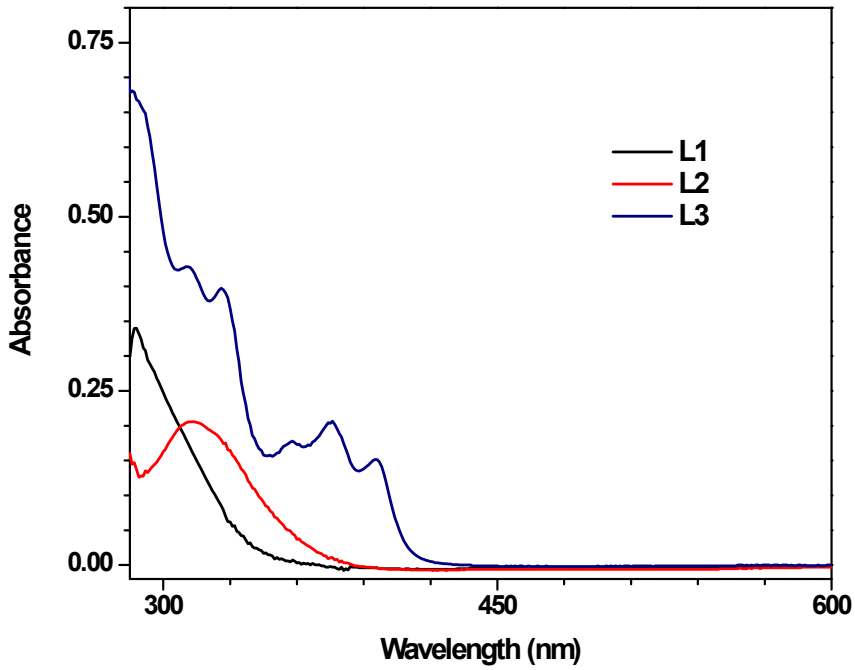

Figure S4. UV-Vis spectra of probes L1, L2 and L3 (20 μM) in THF.

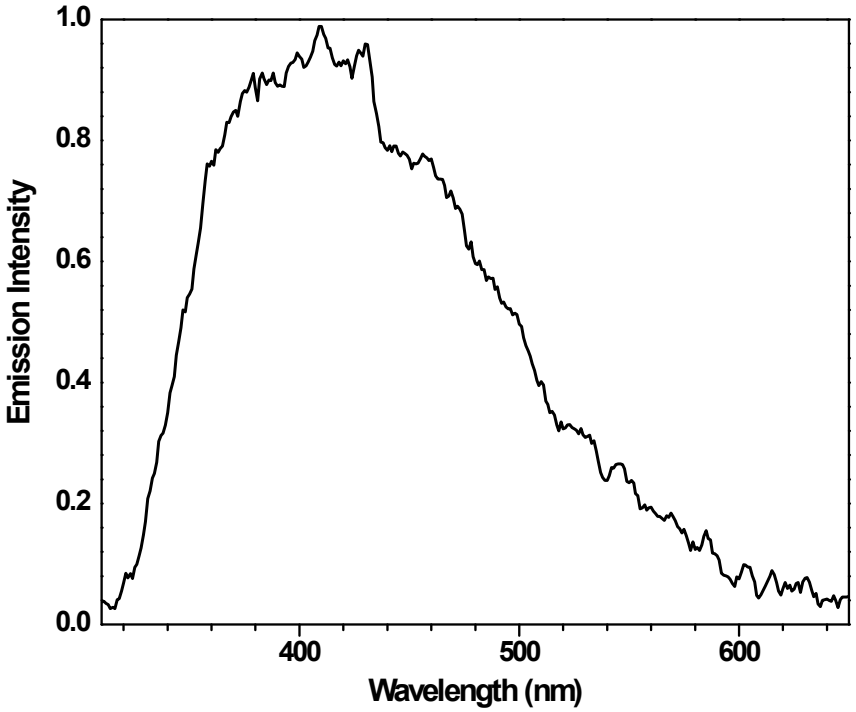

Figure S5. Fluorescence emission spectrum of L1 (100 μM) in MeOH (Ex- 300 nm).

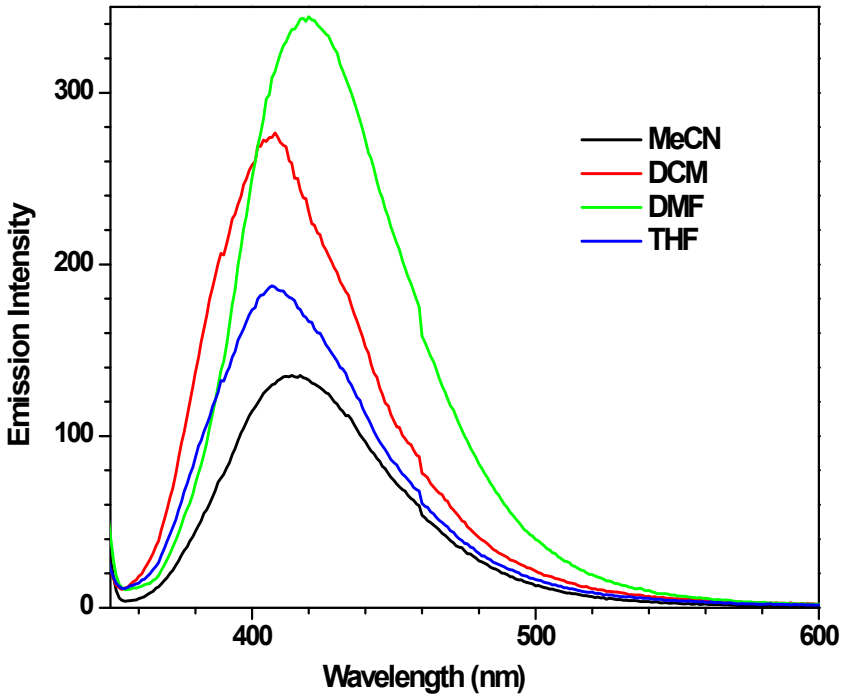

Figure S6. Fluorescence emission spectra of probe L2 (40 μM) in different solvents.

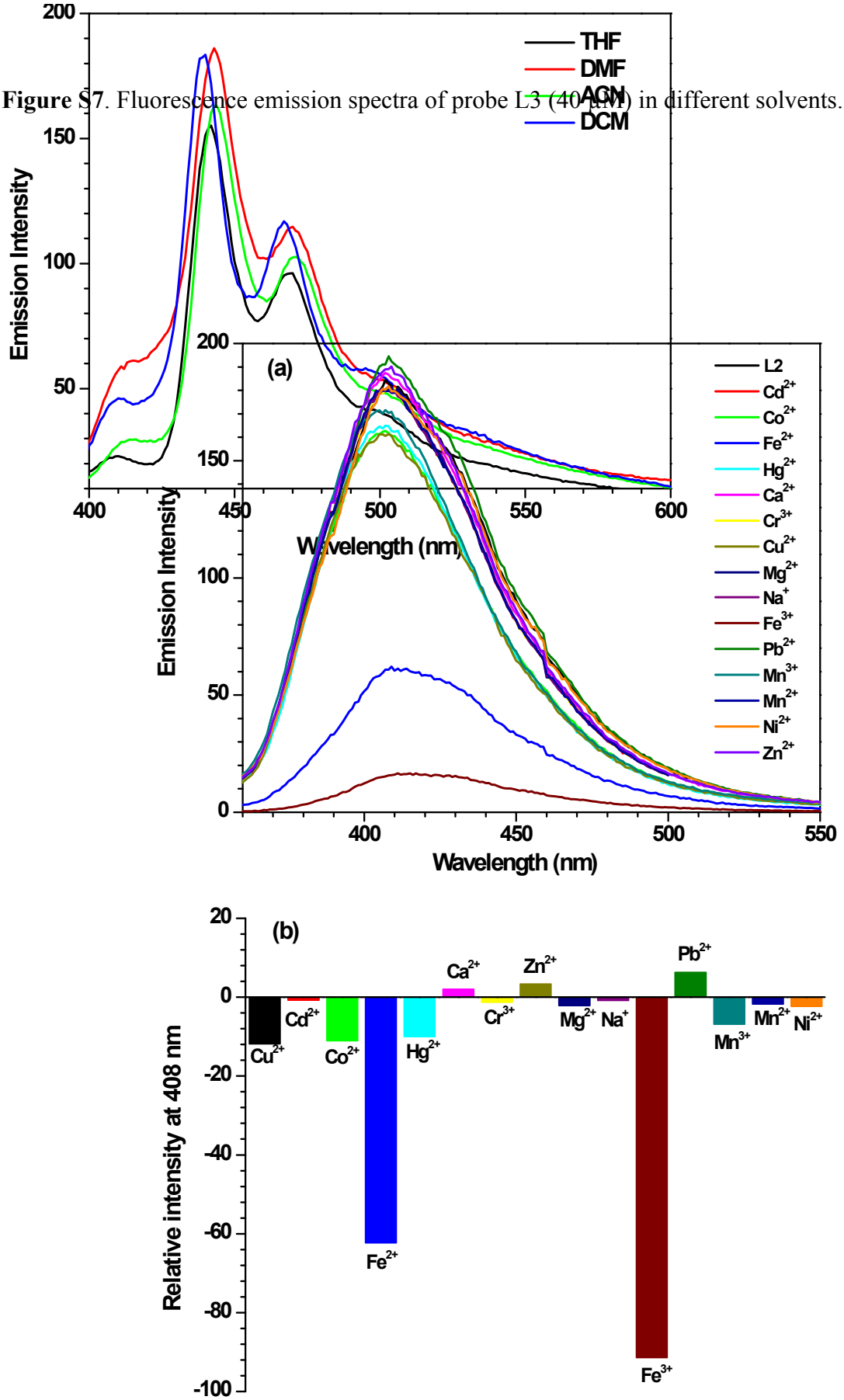

Figure S7. Fluorescence emission spectra of probe L3 (40 μM) in different solvents.

Figure S8. (**a**) Fluorescence emission spectra of L2 (40 μM) in THF and after its interaction with 10 equivalents of assorted metal ions. (**b**) Bar diagram exhibiting change in emission intensity of L2 (40 μM) in THF after addition of 10 equivalents of assorted metal ions.

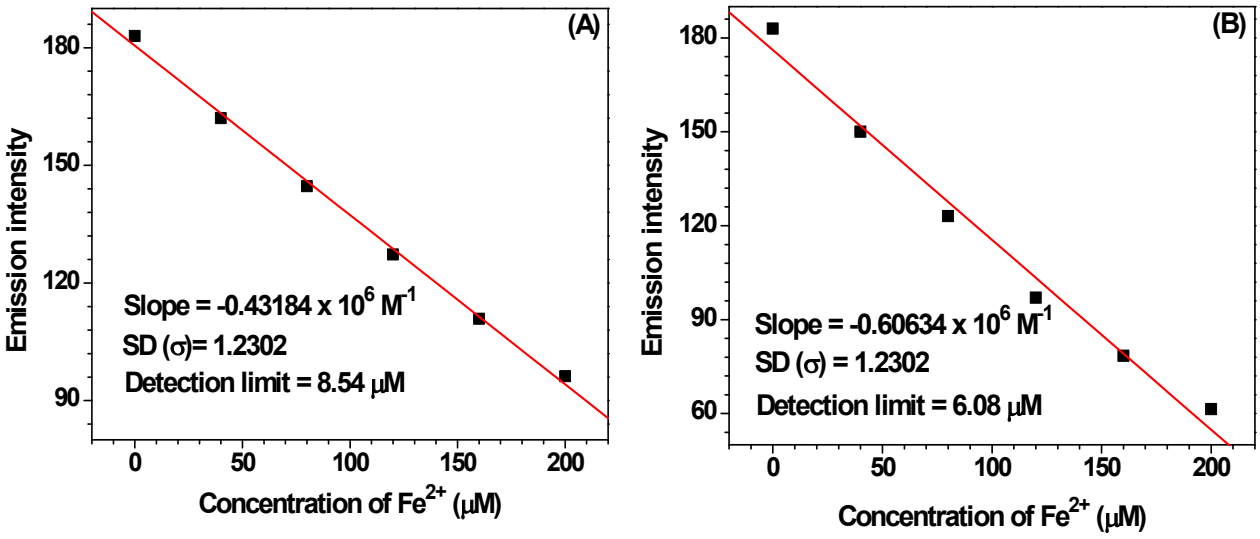

Figure S9. Determination of detection limit of probe L2 towards (**A**) Fe^{2+} (**B**) Fe^{3+} ions (Concentration was linear from 0 - 200 μM).

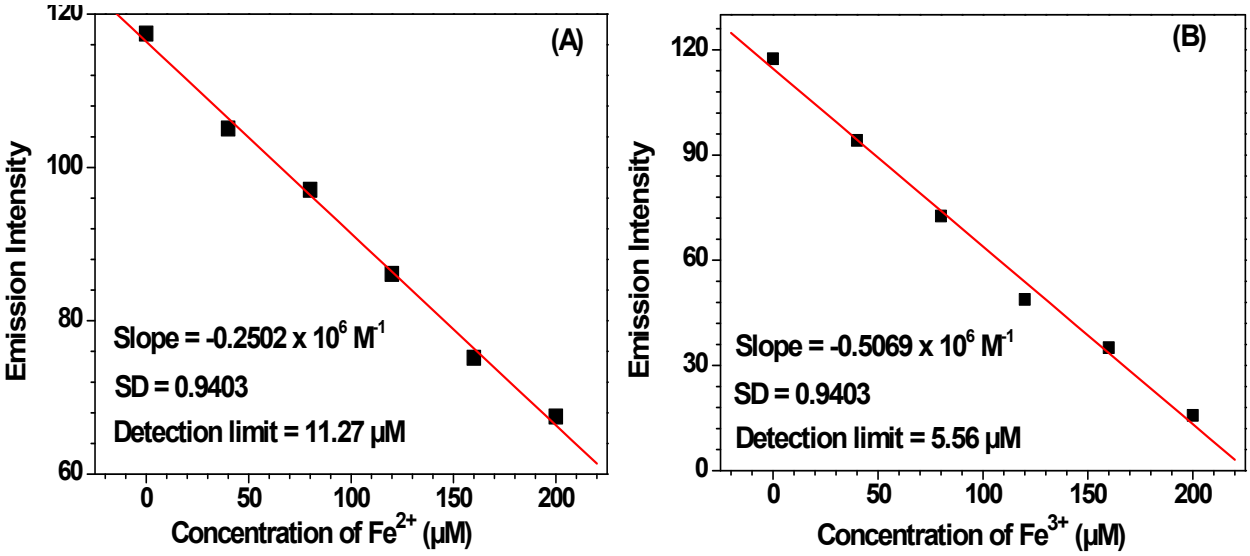

Figure S10. Determination of detection limit of probe L3 towards (**A**) Fe^{2+} (**B**) Fe^{3+} (Concentration was linear from 0 - 200 μM).

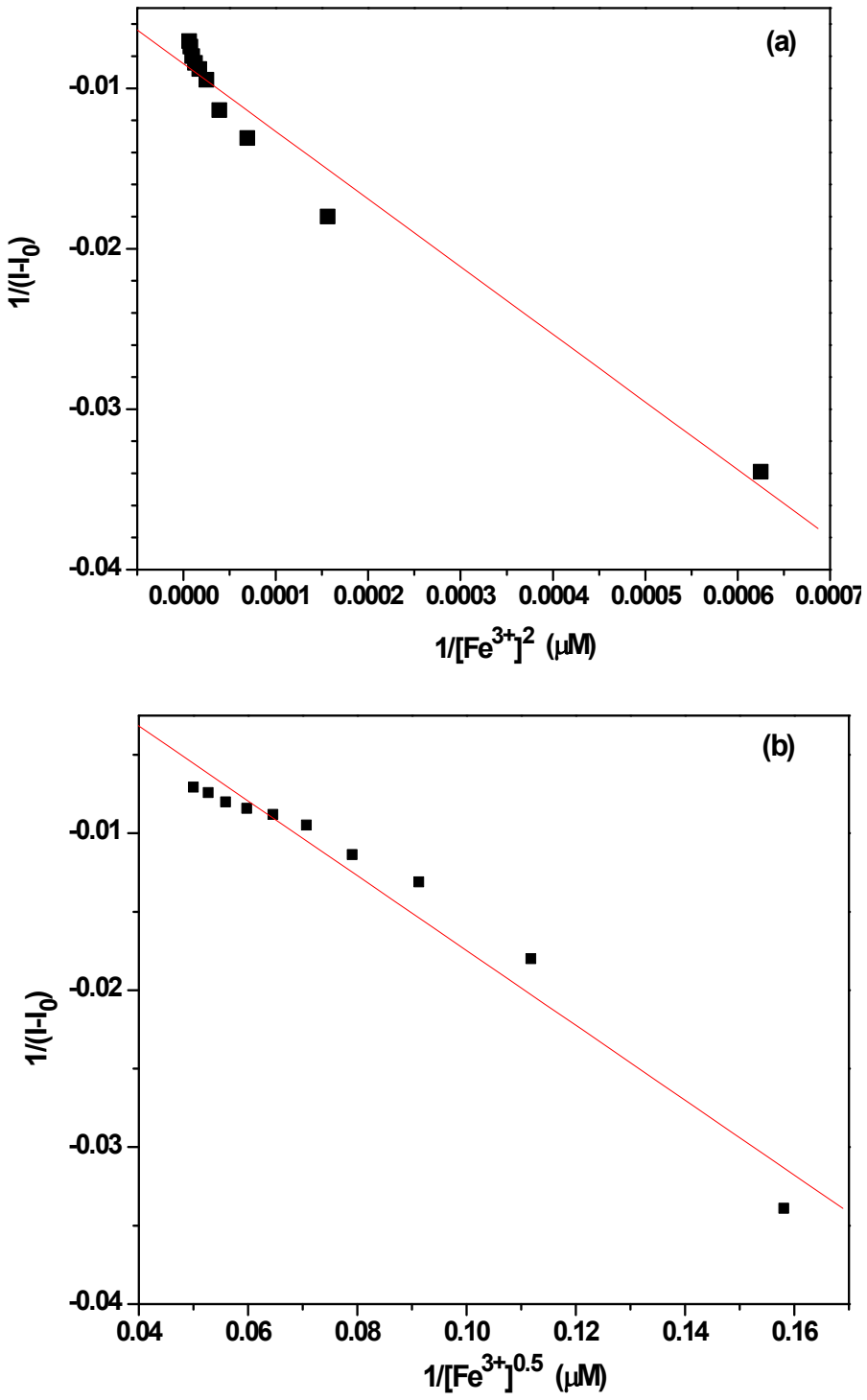

Figure S11. Benesi-Hildebrand plots for binding of Fe^{3+} ion with probe L3 for (a) 1:2 and (b) 2:1 ratio of L3 and Fe^{3+} ion.

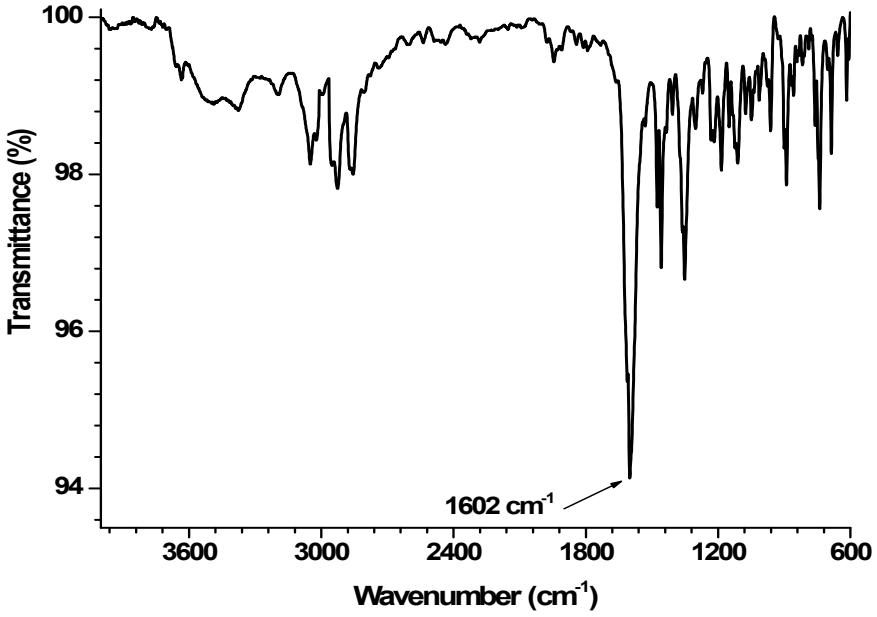

Figure S12. FTIR spectrum of complex **1**.

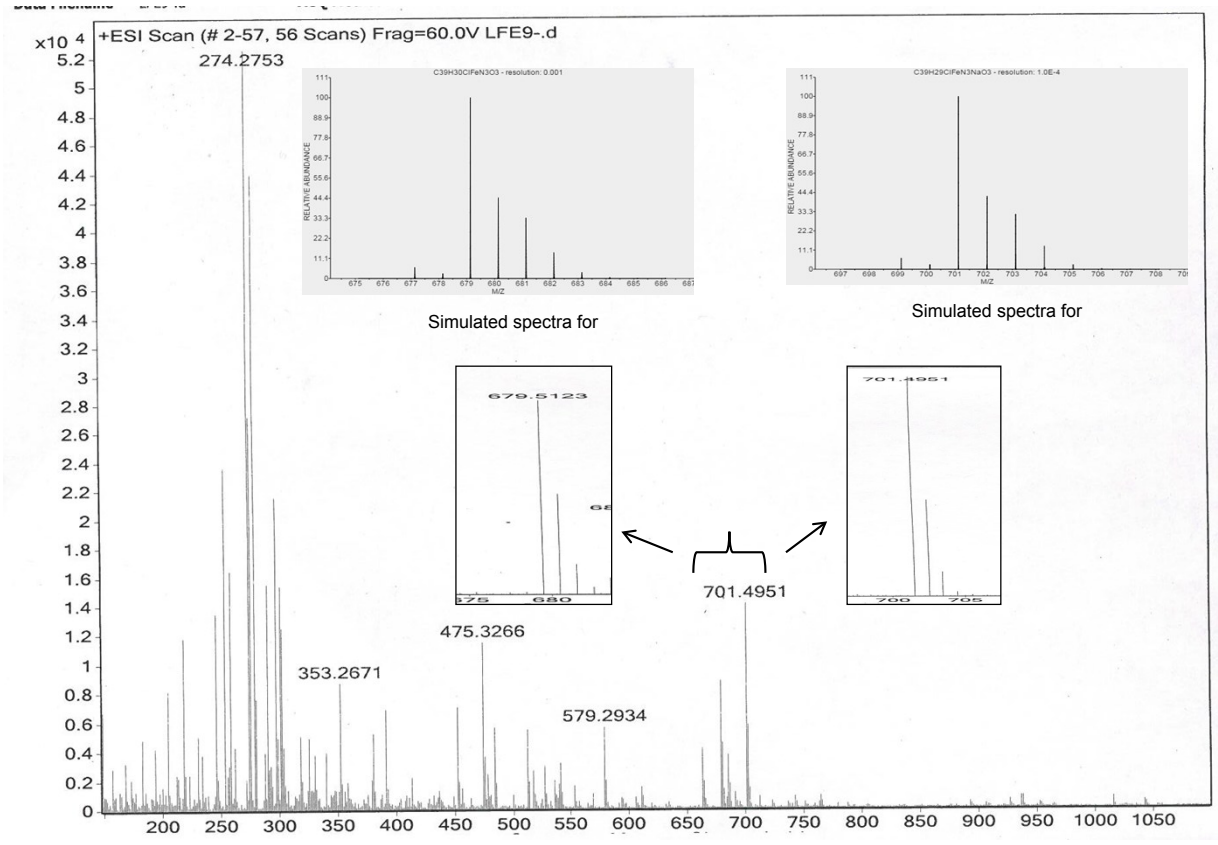

Figure S13. ESI^{+}-MS spectrum of a mixture of L3 and $FeCl_3$ in THF along with the simulated spectrum.

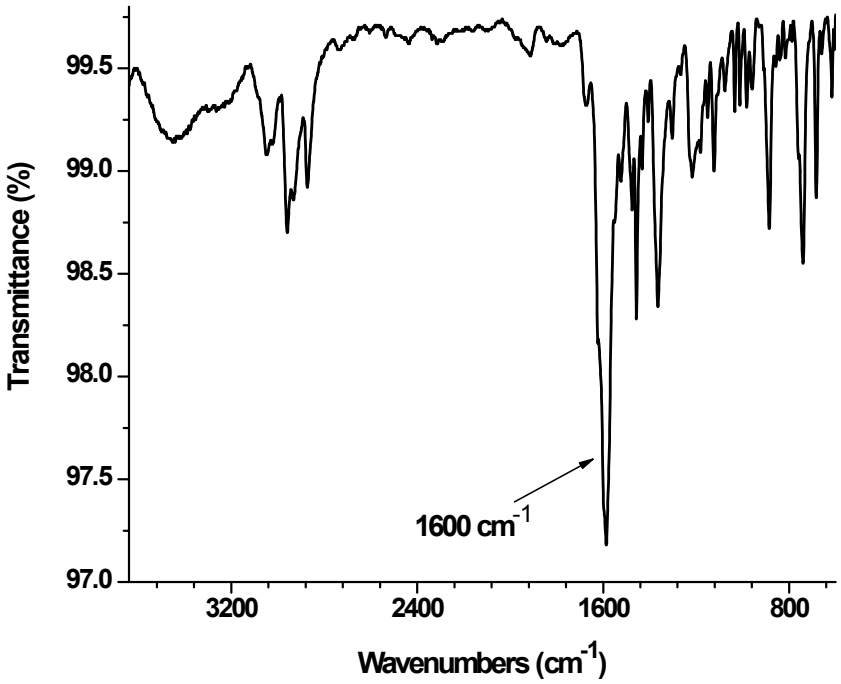

Figure S14. FTIR spectrum of complex **2**.

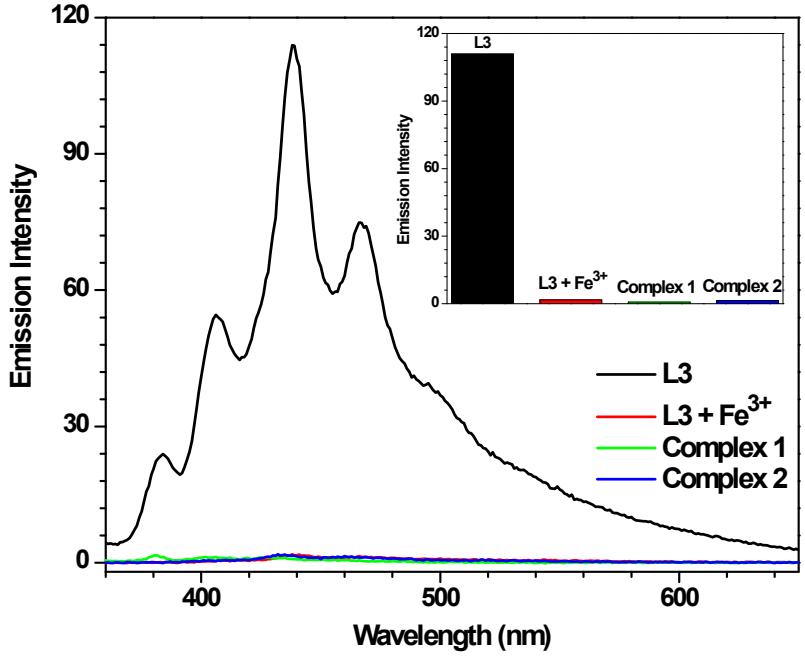

Figure S15. Emission spectra of probe L3 (40 μM); in presence of 10 equiv of Fe^{3+} ion; complex **1**; and complex **2** (40 μM) in THF.

Table S1. Crystallographic data collection and structure solution parameters for complex **2**.

	2
Formula	$C_{84}H_{74}FeN_7O_4$
Formula weight	1301.35
T (K)	298(2)
System	Monoclinic
Space group	I 2
a (Å)	13.412(3)
b (Å)	10.469(2)
c (Å)	29.031(7)
α (°)	90
β (°)	100.999(19)
γ (°)	90
V (Å^3)	4001.4(15)
Z	2
ρ_{calc} (mg/m^3)	1.080
F (000)	1370
Goodness-of-fit (GOF) on F^2	0.871
Final *R* indices [$I > 2\sigma(I)$]	R_1= 0.1190, WR_2= 0.2699
R indices (all data)	R_1= 0.2560, WR_2= 0.3413