Supporting Information

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Differential sensing of Zn(II)/Cu(II) via two independent mechanisms

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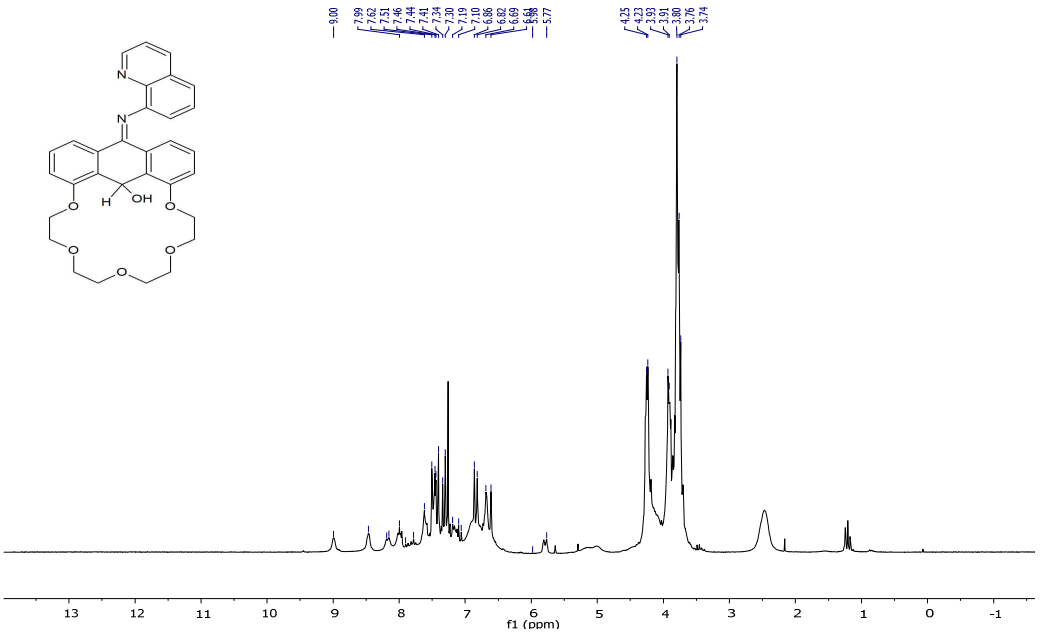

Figure S1: ^{1}H NMR spectrum of compound **3**

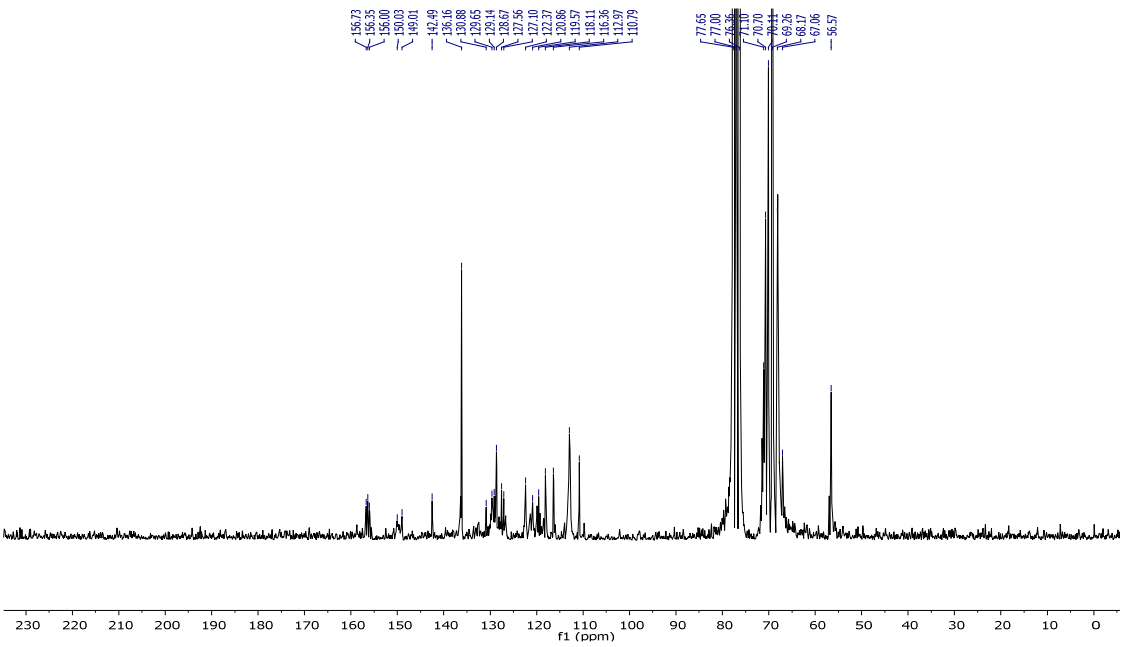

Figure S2: ^{13}C NMR spectrum of compound **3.**

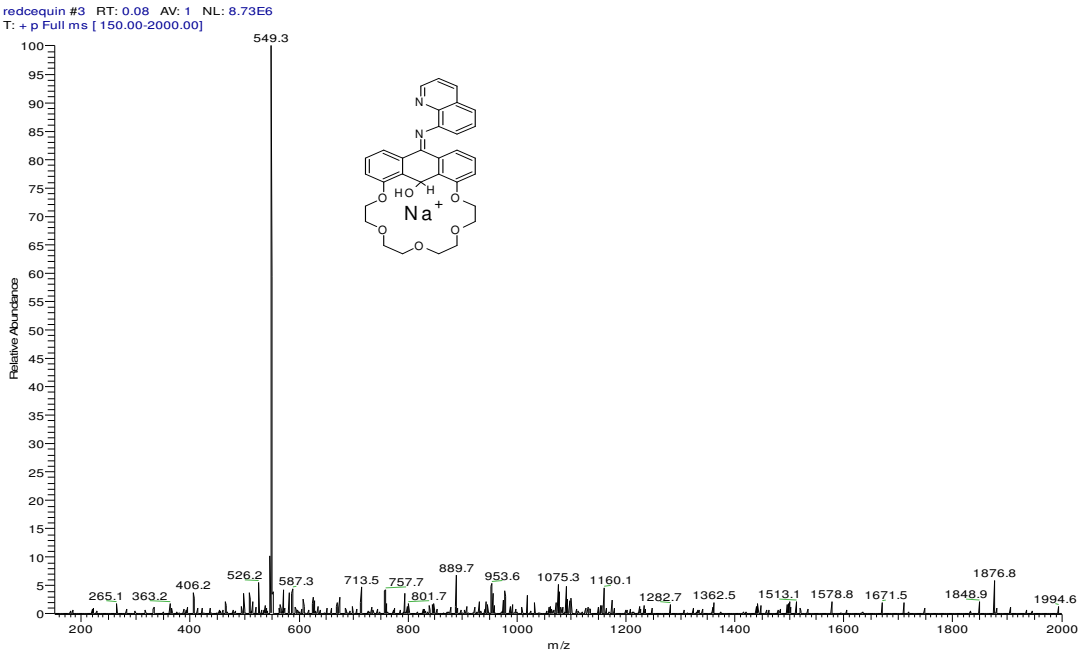

Figure S3: ESI-MS spectrum of compound **3.**

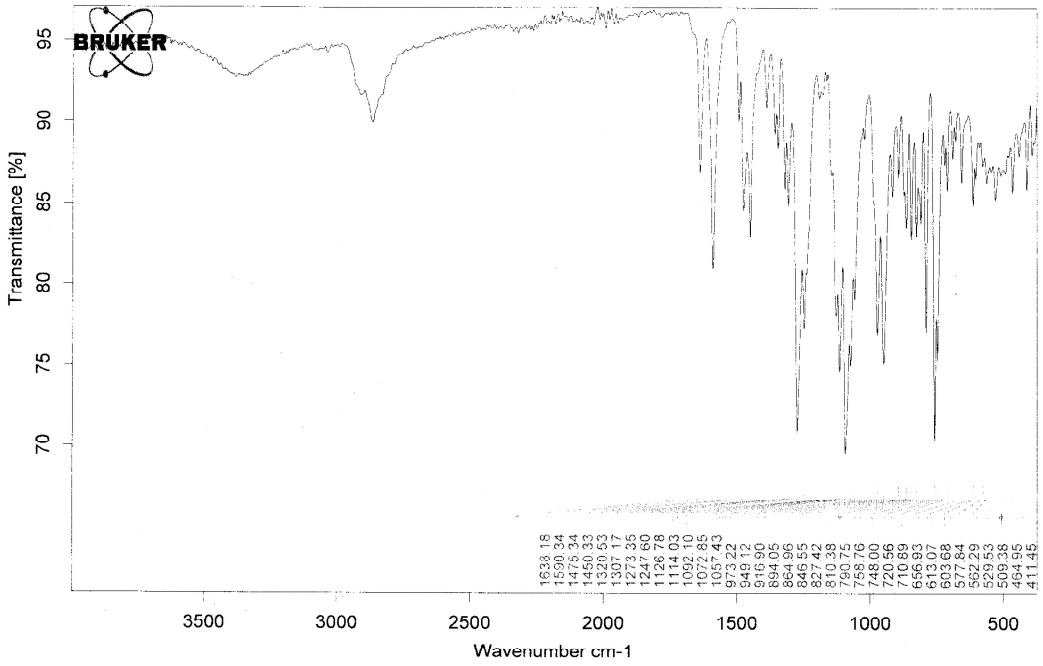

Figure S4: FT-IR spectrum of compound **3.**

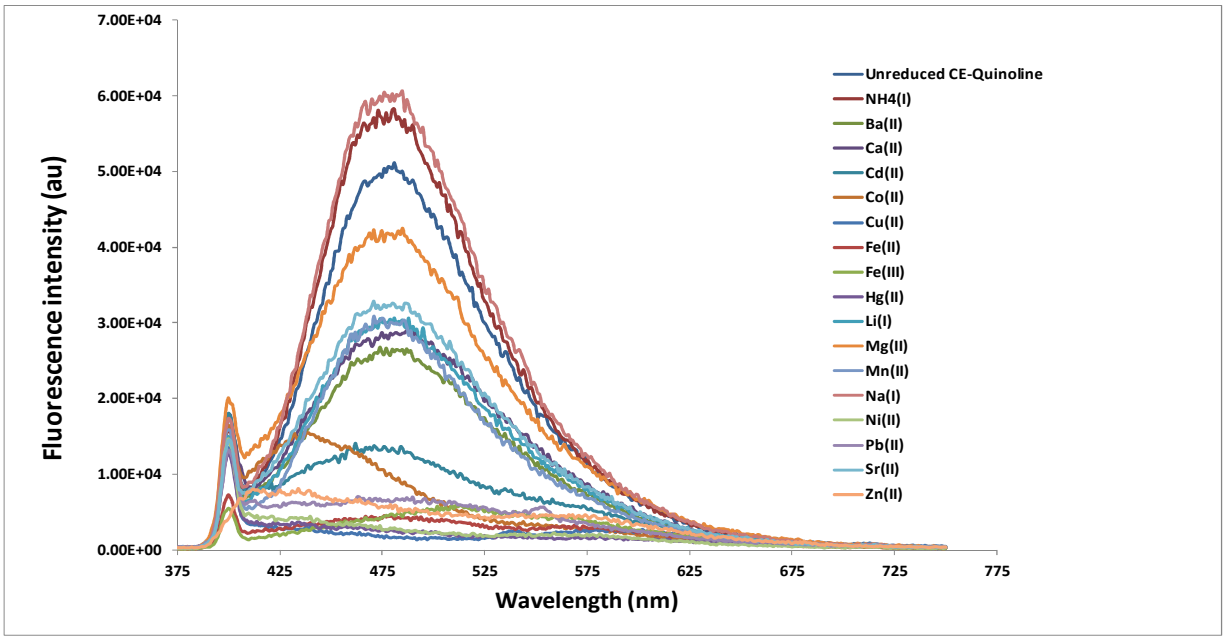

Figure S5: Fluorescence spectra of metal ion selectivity study of 4.0 x 10^{-5} M of unreduced 8-quinoline imine, **2**, in presence of series of metal cations. λ_{ext} = 367 nm.

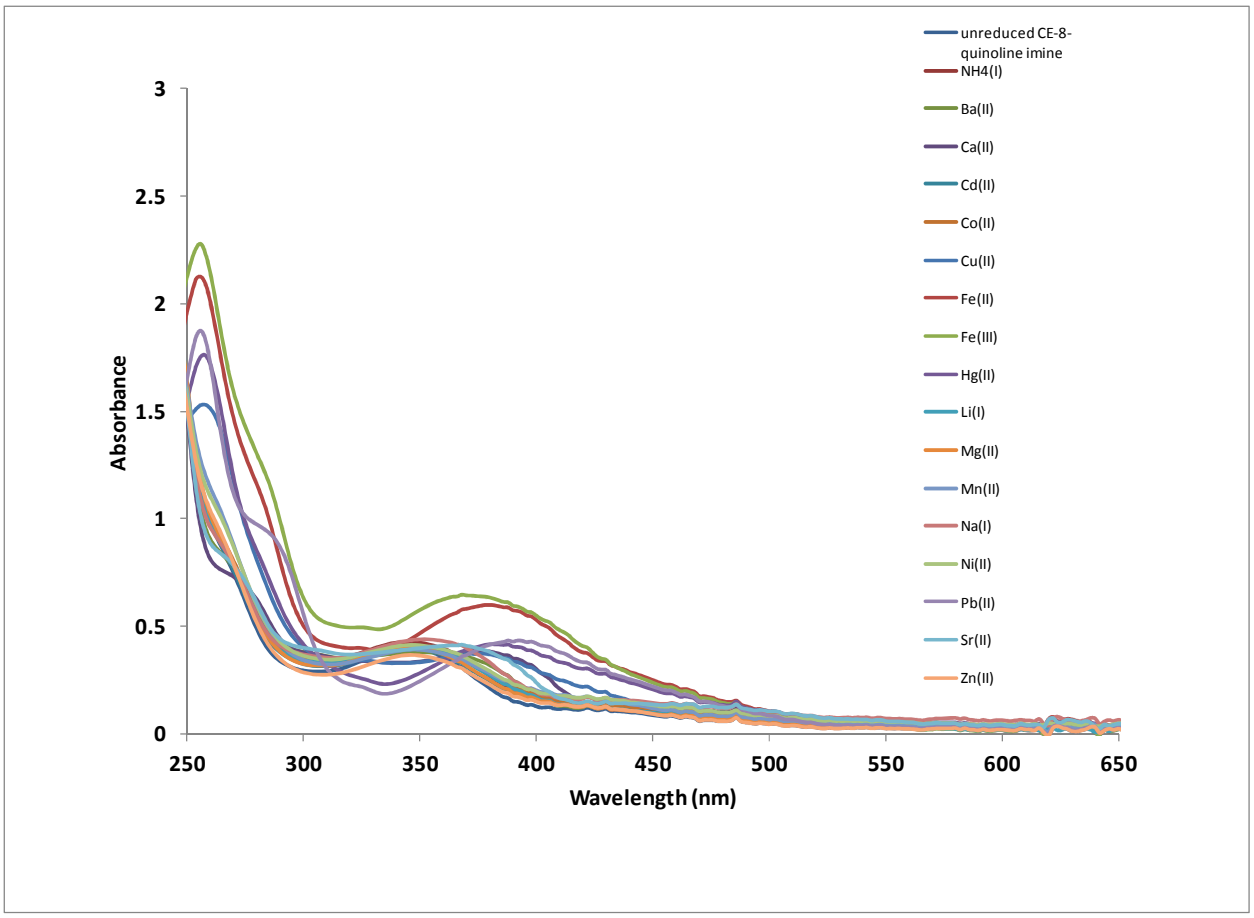

Figure S6: UV-Vis absorbance spectra metal ion selectivity study of 4.0 x 10^{-5} M of unreduced 8-quinoline imine, **2**, in presence of series of metal cations.

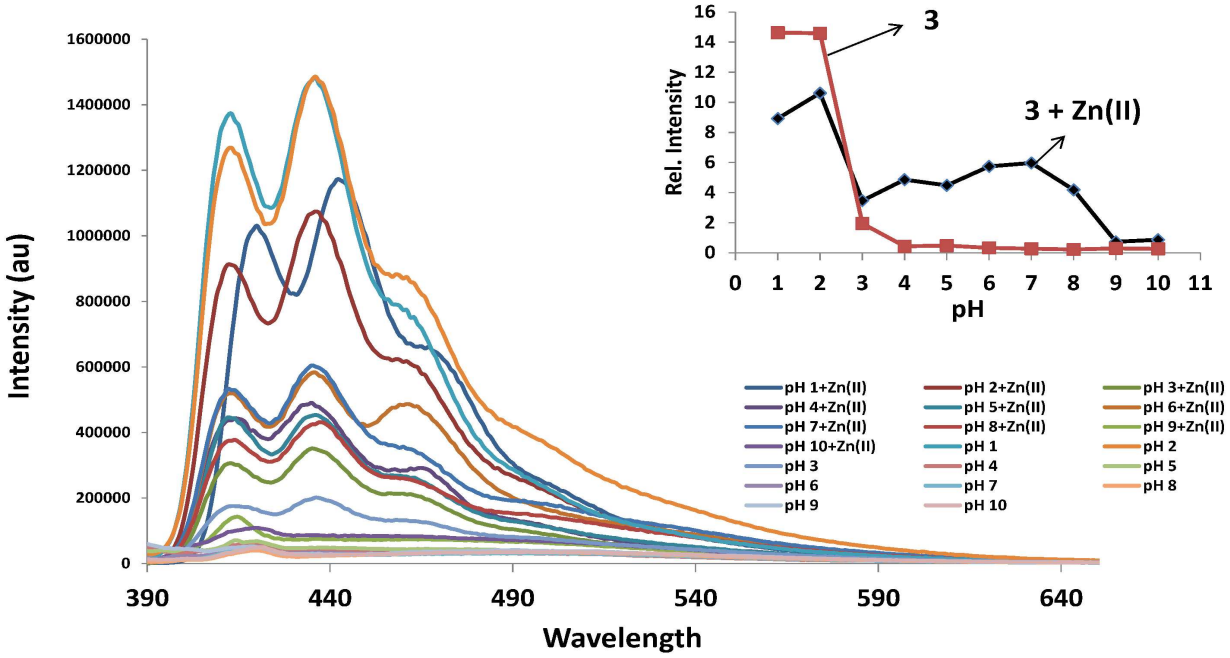

Figure S7: Fluorescence emission profile of compound **3** (50:50 CH_3CN/H_20) in the presence and absence of Zn(II) at varying buffered pH solutions (1-10). Inset showing the graph rel. fluorescence intensity vs pH, monitored at 434 nm.

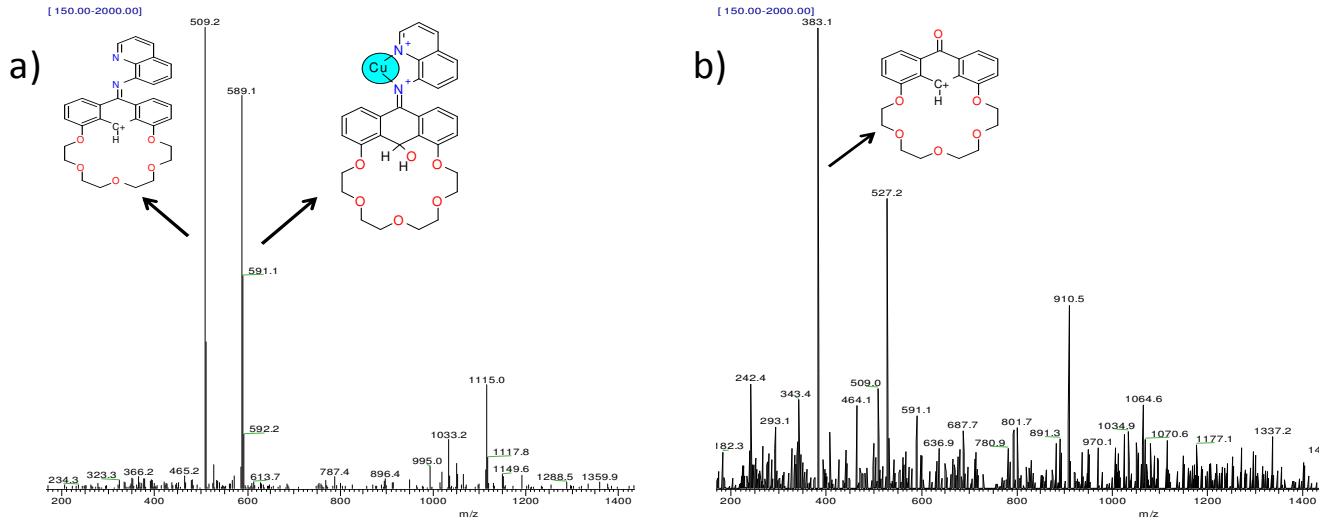

Figure S8: An ESI-MS spectrum of 1:1 copper (II) complex solution of compound **3c** in acetonitrile. b) Compound **3** in mixture of acetonitrile and water (10:1)

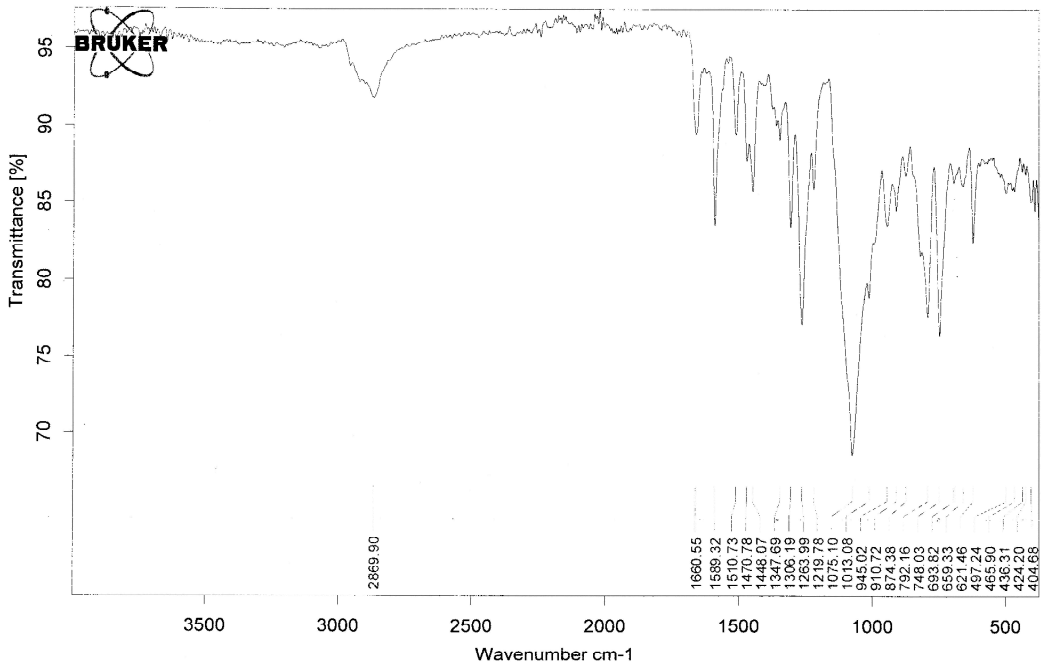

Figure S9: FT-IR spectrum of [compound **3.**Cu(II)] complex.

	4
Empirical formula	C_{22} H_{26} O_8
Formula weight	418.43
Temperature, K	100
Crystal system	Monoclinic
Space group	P 21/c
a, Å	13.3608(8)
b, Å	11.5312(7)
c, Å	14.2727(9)
α, °	90.00
β, °	113.29
γ, °	90.00
Volume, Å ^{3}	2019.7(2)
Z	4
Density (calc)g.cm^{-3}	1.376
Absorb.coef.mm^{-1}	0.105
F(000)	888.0
θ range	2.35-25.31
Index ranges	±15±13±16
Reflections collected	19211
Independent reflections	3549
Observed reflections	2533
Max/Min trans.	0.968/0.956
Restr./ Param.	0/283
Goodness-of-fit	1.021
Final R indices[I>2σ(I)]	0.0430
R indices (all data)	0.1121
Peak/hole	0.23/-0.19

Table S1: Crystallographic collection and refinement data of compound **4.H_2O.**

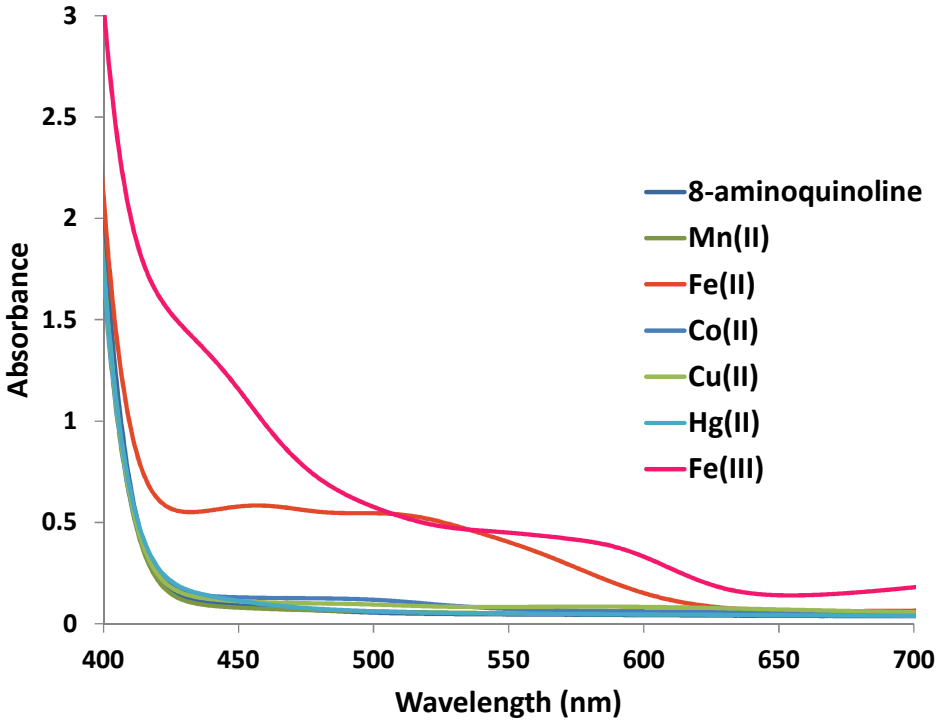

Figure S10: UV-vis absorbance spectra of 1.0 x 10^{-4} M 8-aminoquinoline, and was tested with solutions of select metal perchlorate salts (Co^{2+}, Cu^{2+}, Fe^{2+}, Fe^{3+}, Hg^{2+}, and Mn^{2+}).

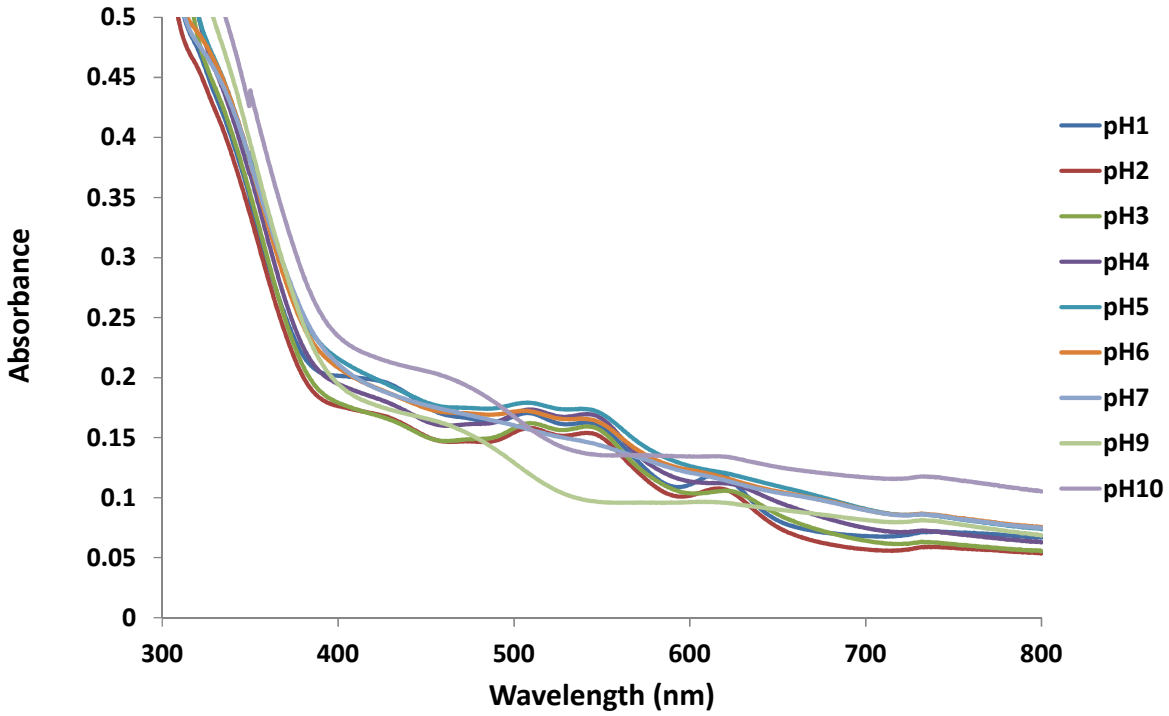

Figure S11: UV-vis absorbance spectra of compound **3** (4.0×10^{-5}M) and 5.0 equiv of Cu(II), at various pH conditions.