

Supporting Information

N,N-diphenylanilino-heterocyclic aldehydes based chemosensors for UV-vis/NIR and fluorescence Cu(II) detection

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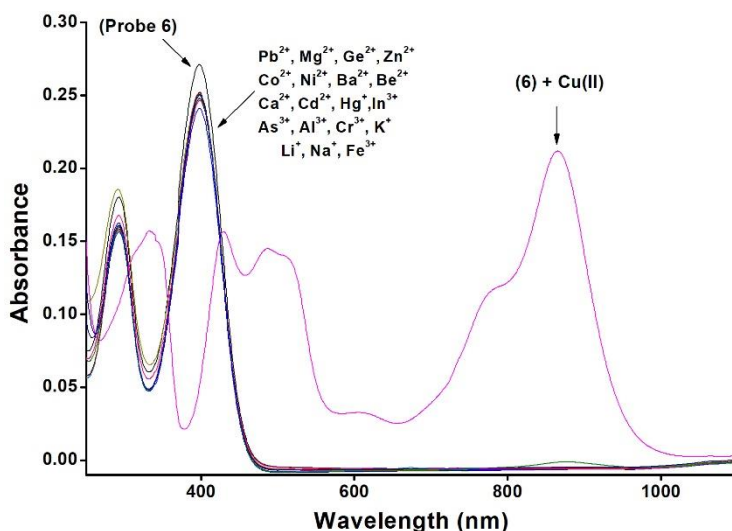


Figure S1. UV/visible spectra of probe **6** (1.0×10^{-5} mol L⁻¹) in acetonitrile alone and in the presence of 10 eq. of selected metal cations.

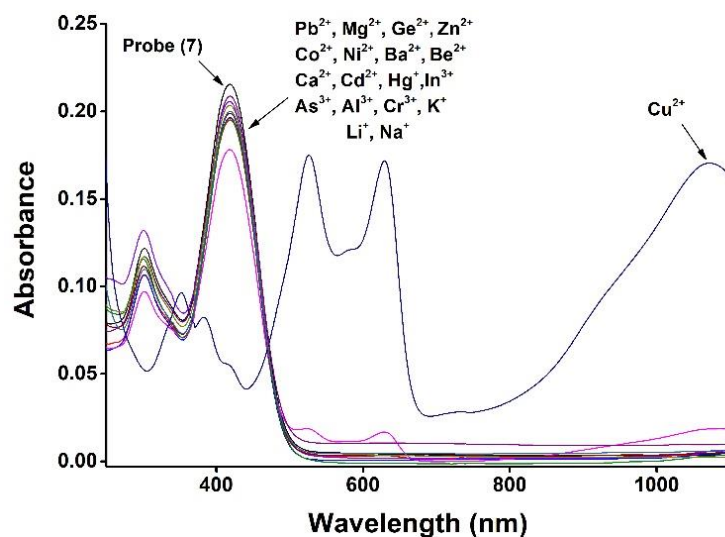


Figure S2. UV/visible spectra of probe **7** ($1.0 \times 10^{-5} \text{ mol L}^{-1}$) in acetonitrile alone and in the presence of 10 eq. of selected metal cations.

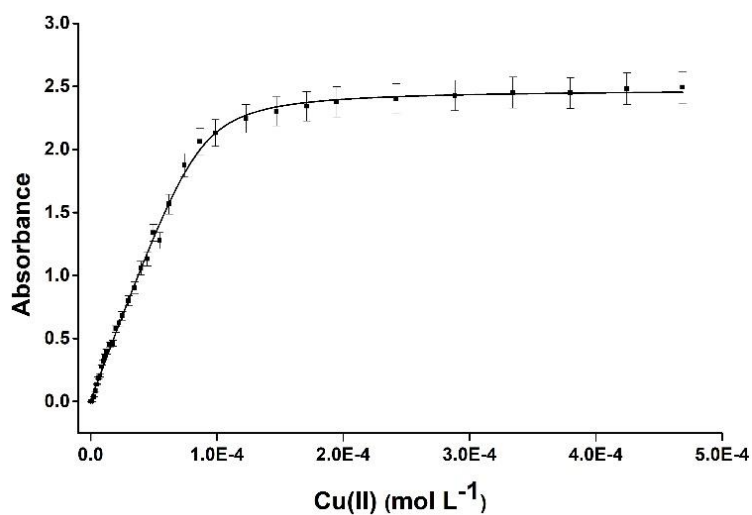


Figure S3. Absorbance of probe **5** ($1.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 756 nm vs Cu(II) concentration.

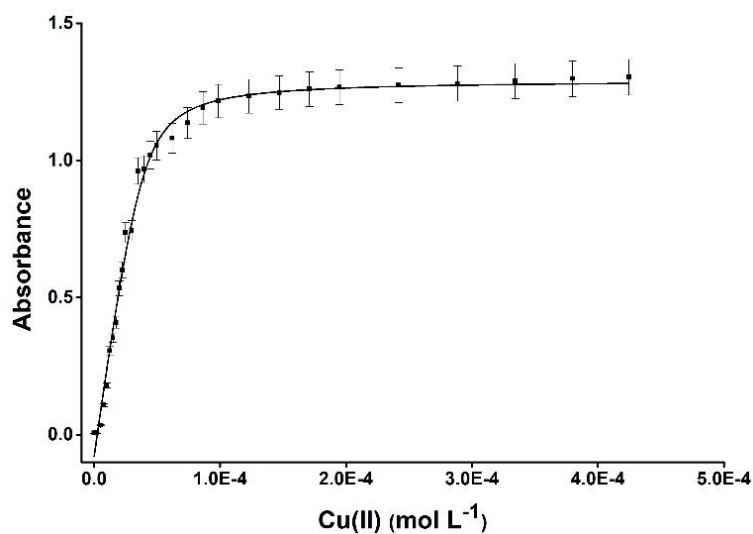


Figure S4. Absorbance of probe **6** ($1.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 852 nm vs Cu(II) concentration.

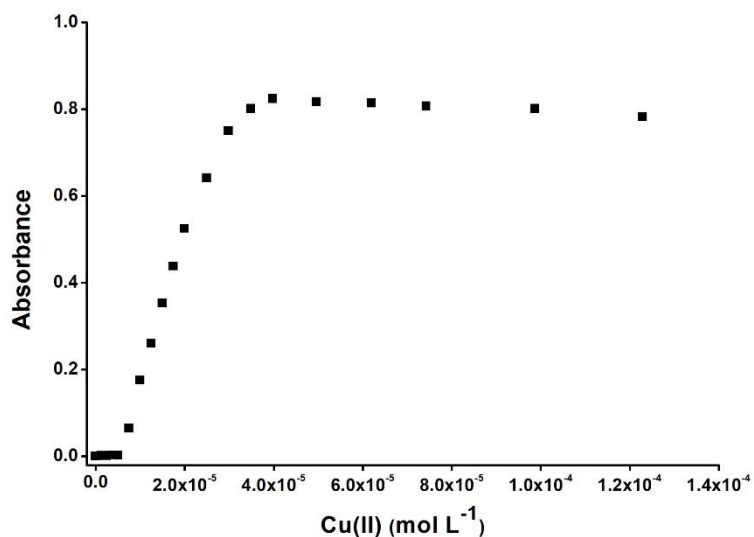


Figure S5. Absorbance of probe **7** ($1.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 852 nm vs Cu(II) concentration.

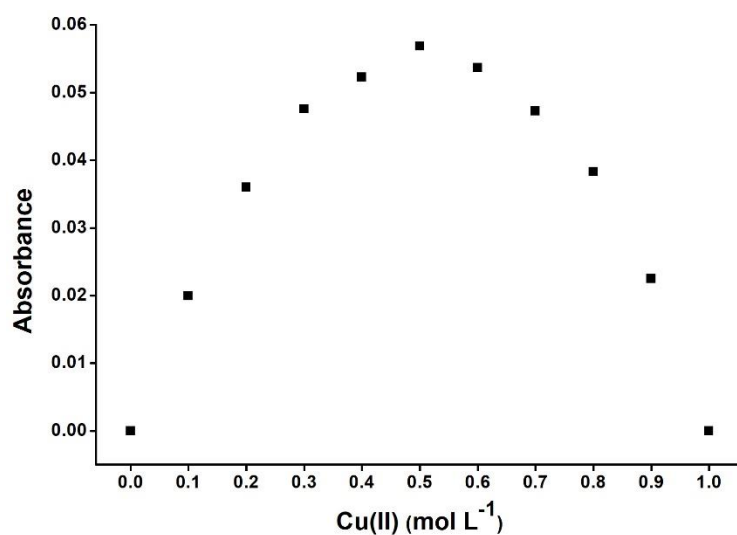


Figure S6. Job's plot for probe **6** and Cu(II) in acetonitrile. Total concentration of **6** and Cu(II) of $2.0 \times 10^{-5} \text{ mol L}^{-1}$.

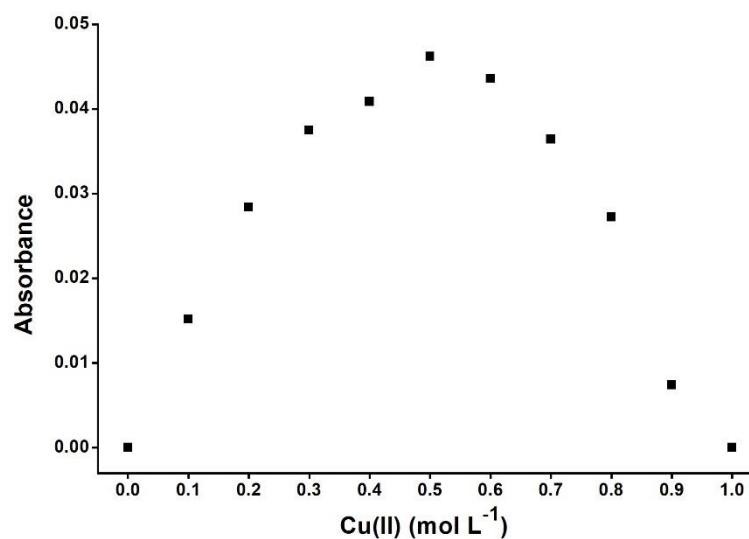


Figure S7. Job's plot for probe **7** and Cu(II) in acetonitrile. Total concentration of **7** and Cu(II) of $2.0 \times 10^{-5} \text{ mol L}^{-1}$.

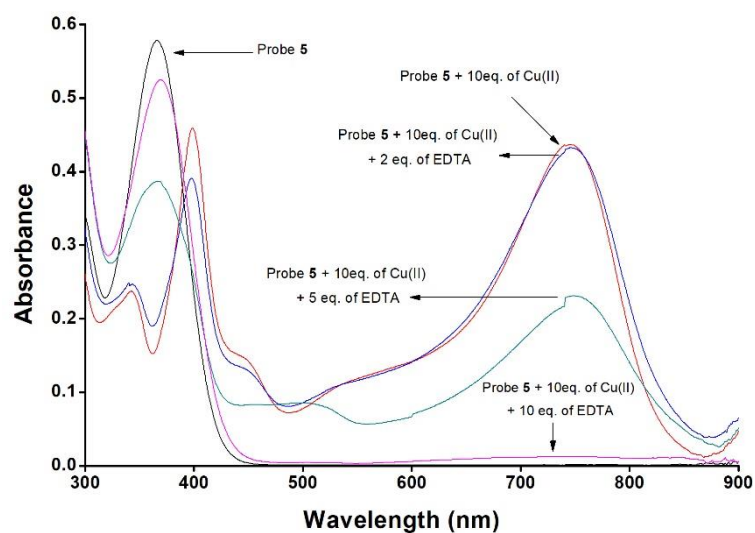


Figure S8. UV-visible profile of probe **5** in acetonitrile ($1.0 \times 10^{-5} \text{ mol L}^{-1}$) and of Cu(II)-**5** complex alone and upon addition of EDTA (2, 5 and 10 eq.).

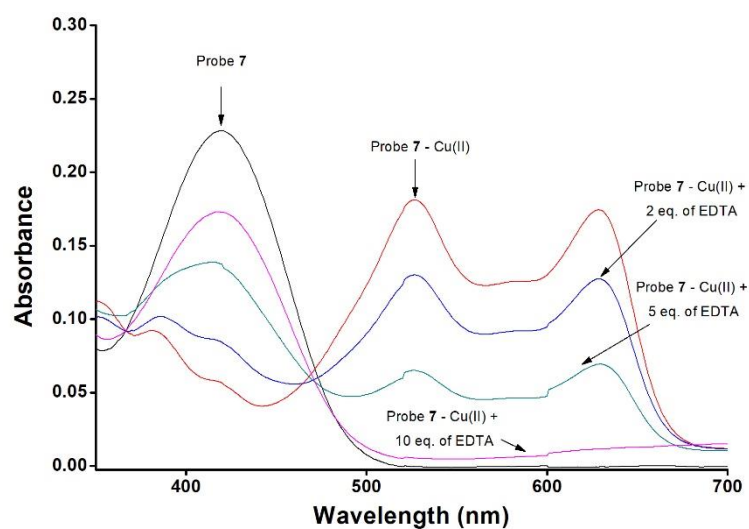


Figure S9. UV-visible profile of probe **7** in acetonitrile ($1.0 \times 10^{-5} \text{ mol L}^{-1}$) and of Cu(II)-**7** complex alone and upon addition of EDTA (2, 5 and 10 eq.).

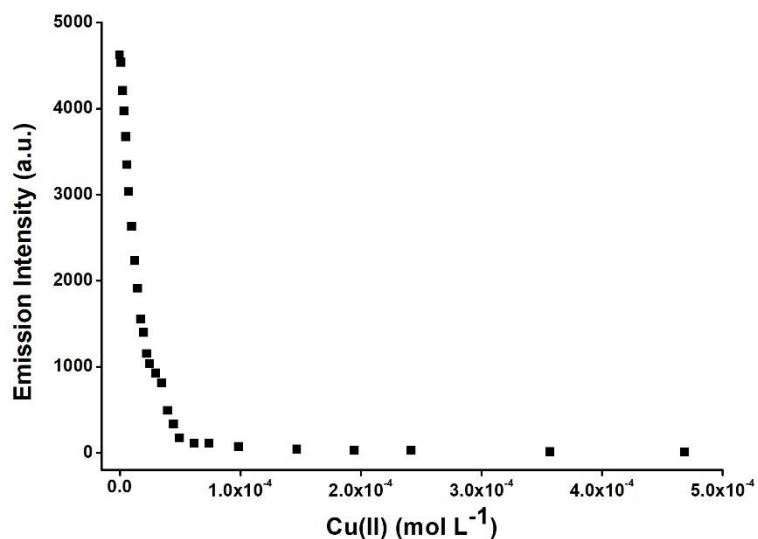


Figure S10. Emission intensity of probe **5** ($5.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 554 nm vs Cu(II) concentration.

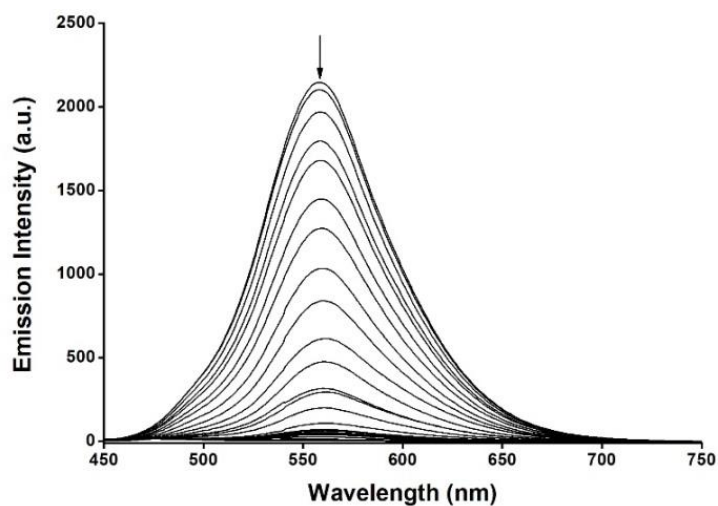


Figure S11. Fluorescence titration profile of **6** in acetonitrile ($5.0 \times 10^{-5} \text{ mol L}^{-1}$) upon addition of increasing amounts of Cu(II) cation (from 0 to 10 eq.) ($\lambda_{\text{ex}} = 440 \text{ nm}$).

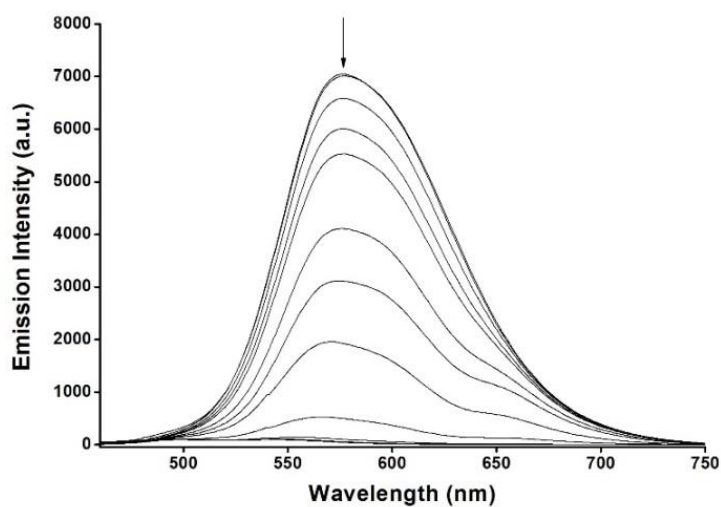


Figure S12. Fluorescence titration profile of **7** in acetonitrile ($5.0 \times 10^{-5} \text{ mol L}^{-1}$) upon addition of increasing amounts of Cu(II) cation (from 0 to 10 eq.) ($\lambda_{\text{ex}} = 450 \text{ nm}$).

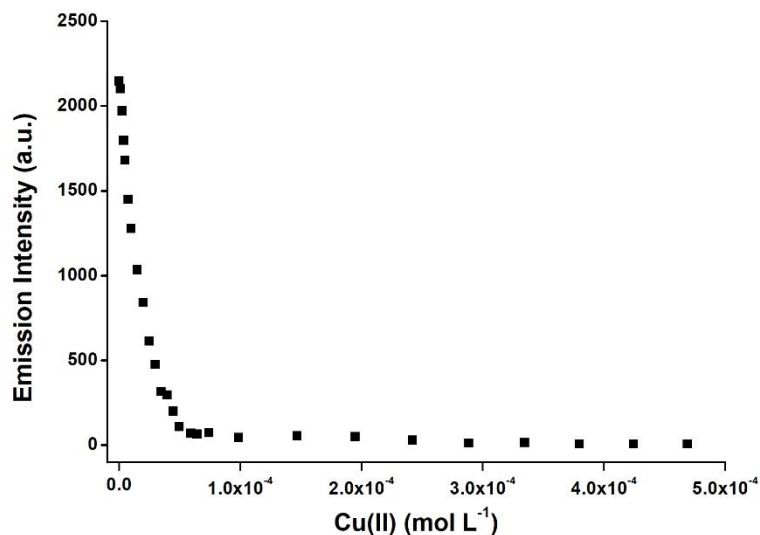


Figure S13. Emission intensity of probe **6** ($5.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 559 nm vs Cu(II) concentration.

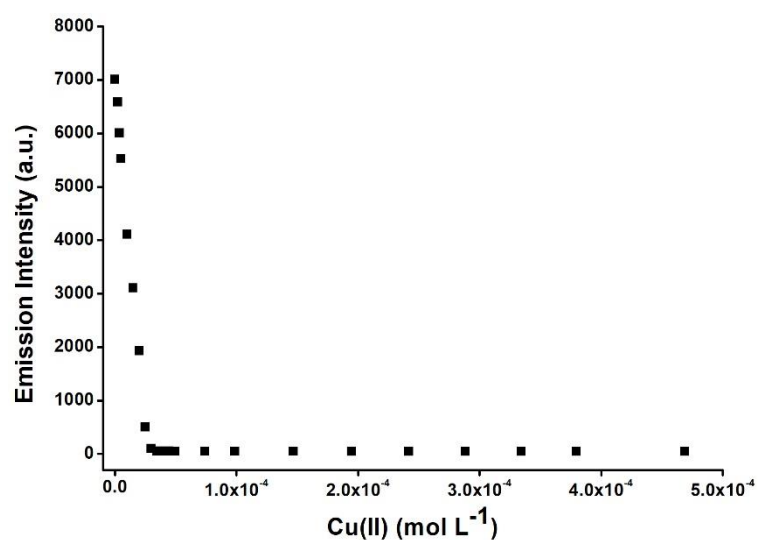


Figure S14. Emission intensity of probe **7** ($5.0 \times 10^{-5} \text{ mol L}^{-1}$ in acetonitrile) at 577 nm vs Cu(II) concentration.

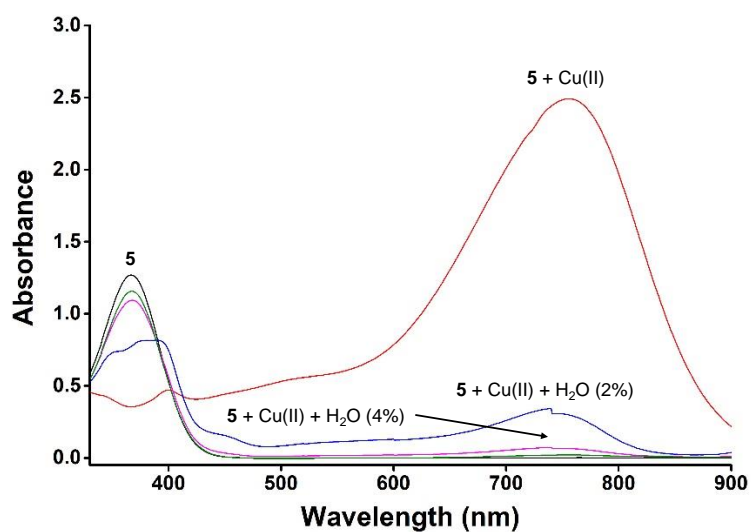


Figure S15. UV-visible profile of probe **5** in acetonitrile ($5.0 \times 10^{-5} \text{ mol L}^{-1}$) alone and containing water (2 and 4 %) upon addition of 10 eq. of Cu(II) cation.

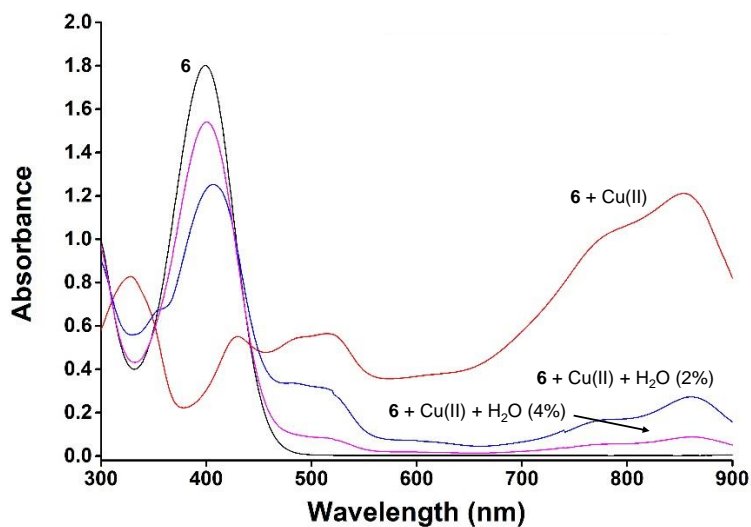


Figure S16. UV-visible profile of probe **6** in acetonitrile ($5.0 \times 10^{-5} \text{ mol L}^{-1}$) alone and containing water (2 and 4 %) upon addition of 10 eq. of Cu(II) cation.

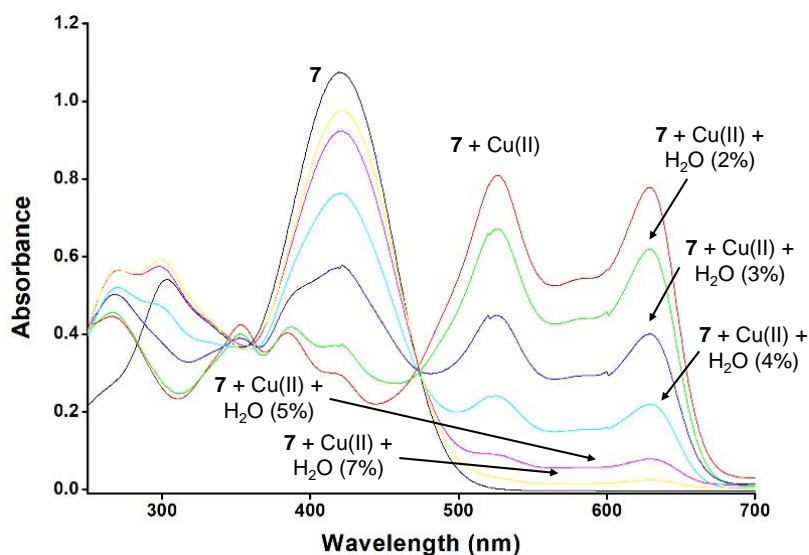


Figure S17. UV-visible profile of probe **7** in acetonitrile ($5.0 \times 10^{-5} \text{ mol L}^{-1}$) alone and containing water (2, 3, 4, 5 and 7 %) upon addition of 10 eq. of Cu(II) cation.

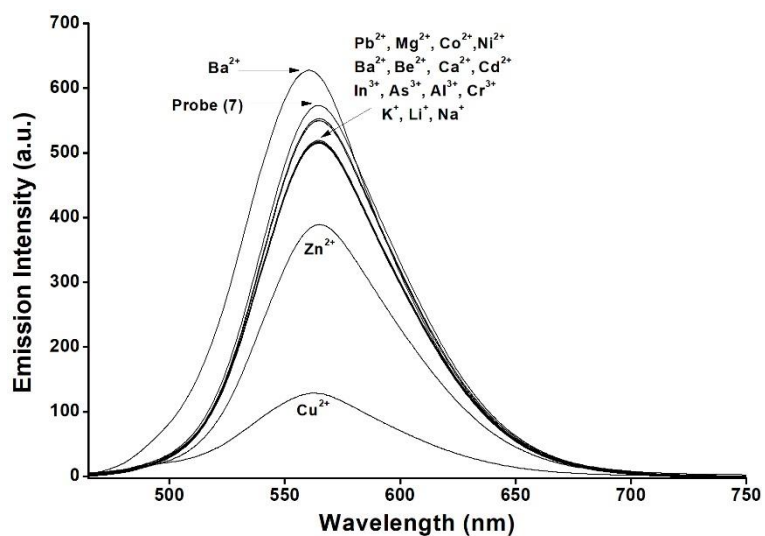


Figure S18. Emission spectra (excitation at 450 nm) of SDS (20 mM, pH 7.5)-acetonitrile 90:10 v/v solutions of probe **7** ($1.0 \times 10^{-5} \text{ mol L}^{-1}$) in the presence of 10 eq. of selected cations.

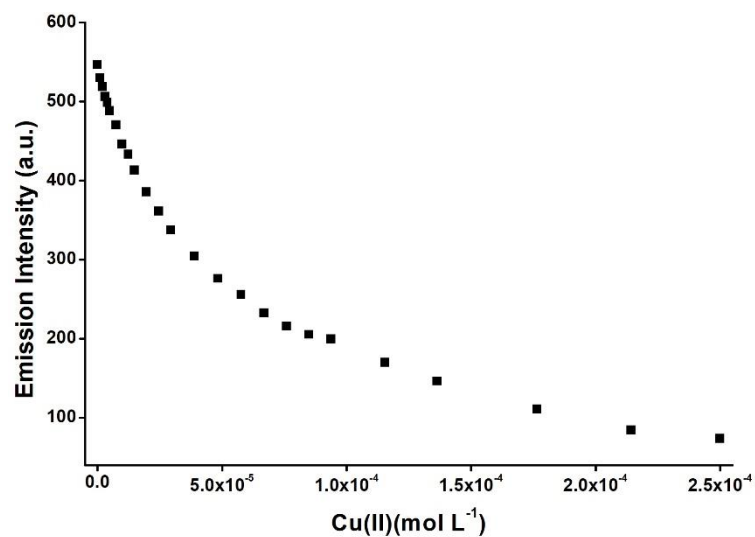


Figure S19. Plot of the emission intensity of **7** in SDS (20 mM, pH 7.5)-acetonitrile 90:10 v/v at 565 nm vs Cu(II) concentration.

Table S1. UV-visible and fluorescence data for *N,N*-diphenylanilino aldehydes **5**, **6** and **7** in ethanol.

	UV/Vis		Fluorescence		
	log	λ_{\max}	λ_{em}	Φ_F	Stokes' shift (nm)
	ϵ	(nm)	(nm)		
5	4.00	368	498	0.01	130
6	4.08	402	566	0.02	164
7	3.85	423	600	0.22	177