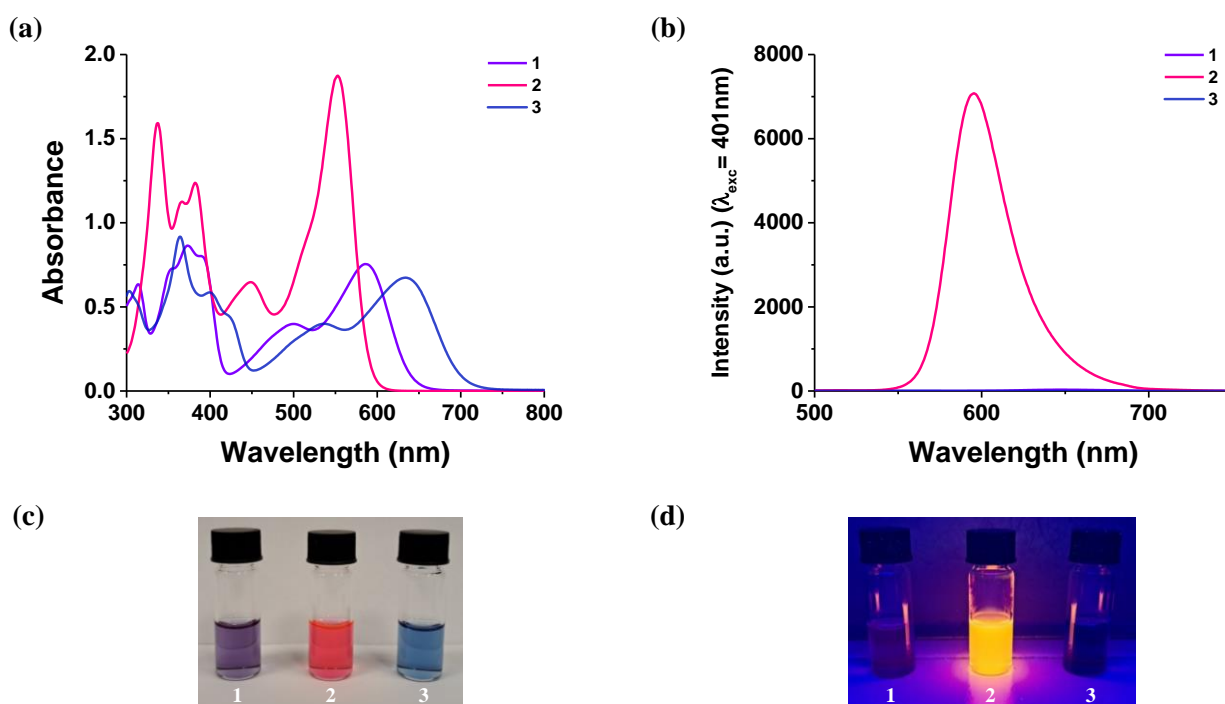


**Figure S1.** (a) Optical absorption and (b) fluorescence emission ( $\lambda_{exc} = 411\text{ nm}$ ) spectra of complexes **1-3** ( $40\text{ }\mu\text{M}$  solution in MeCN). Photographs under natural light (c) and under 365 nm light (d).

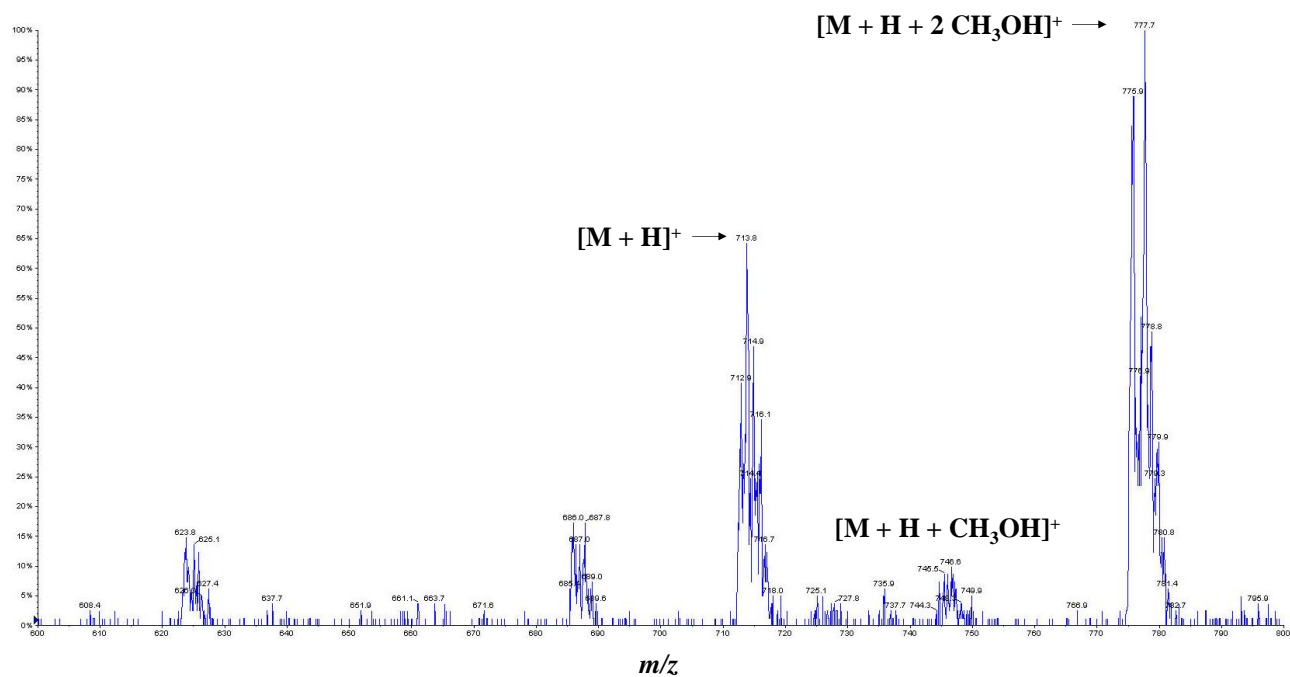


**Figure S2.** (a) Optical absorption and (b) fluorescence emission ( $\lambda_{exc} = 401\text{ nm}$ ) spectra of complexes **1-3** ( $40\text{ }\mu\text{M}$  solution in THF). Photographs under natural light (c) and under 365 nm light (d).

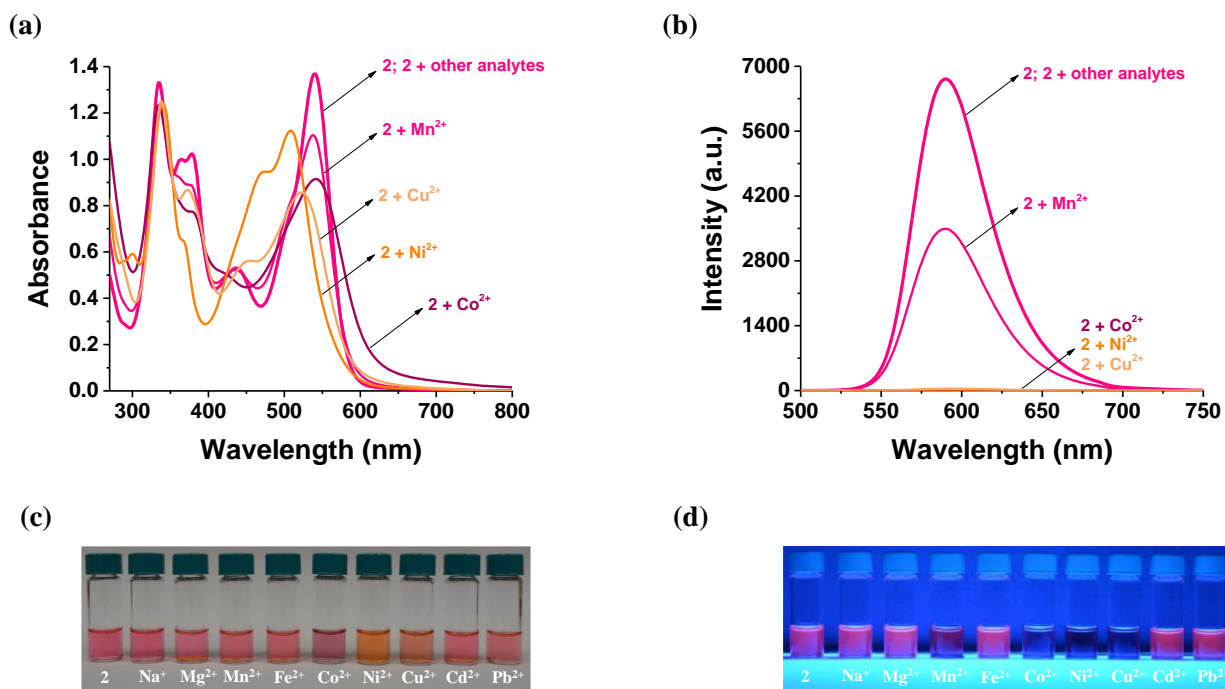
**Table S1.** Absorption and emission data for complexes **1-3** (40  $\mu$ M in MeCN and THF).

complex	solvent	Absorption		Emission	
		$\lambda_{\text{max}}$ (nm)	Color	$\lambda_{\text{max}}$ (nm)	$\Phi$
<b>1</b>	MeCN	568 (487)	violet	-	< 0.01 <sup>a</sup>
<b>1</b>	THF	586 (499)	blue-violet	-	< 0.01 <sup>a</sup>
<b>2</b>	MeCN	542	fuchsia	593	0.07 <sup>b</sup>
<b>2</b>	THF	551	fuchsia	594	0.24 <sup>b</sup>
<b>3</b>	MeCN	614 (527)	indigo-blue	-	< 0.01
<b>3</b>	THF	634 (535)	indigo-blue	-	< 0.01

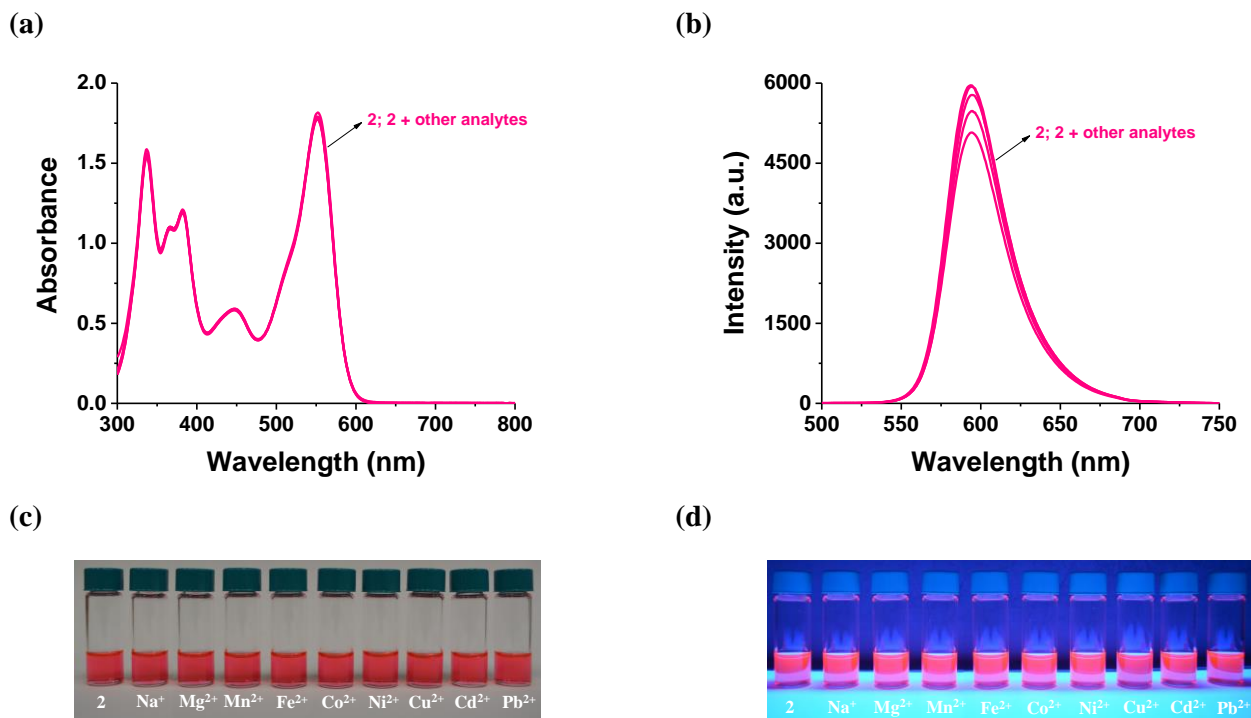
<sup>a</sup> From reference [37] in the main text; <sup>b</sup> From reference [39] in the main text.



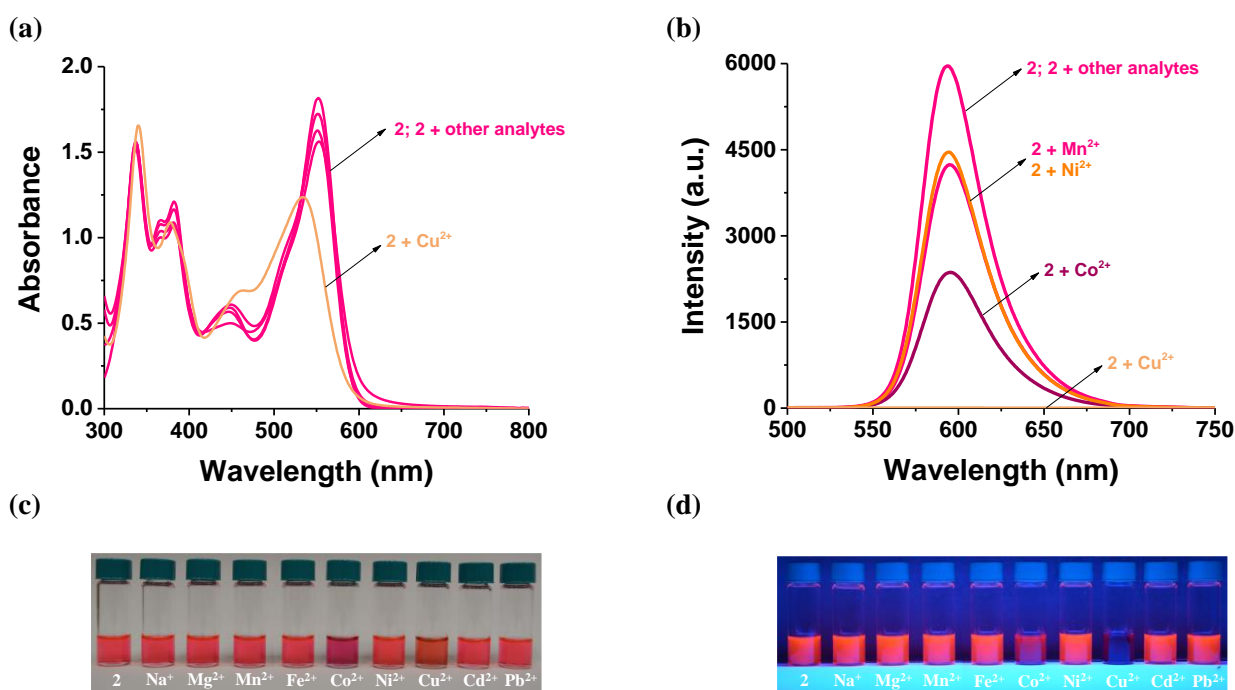
**Figure S3.** ESI-MS spectrum of MeCN solutions of **2** recorded immediately after the addition of 2 equiv. of an aqueous solution of  $\text{Cu}(\text{NO}_3)_2$ .



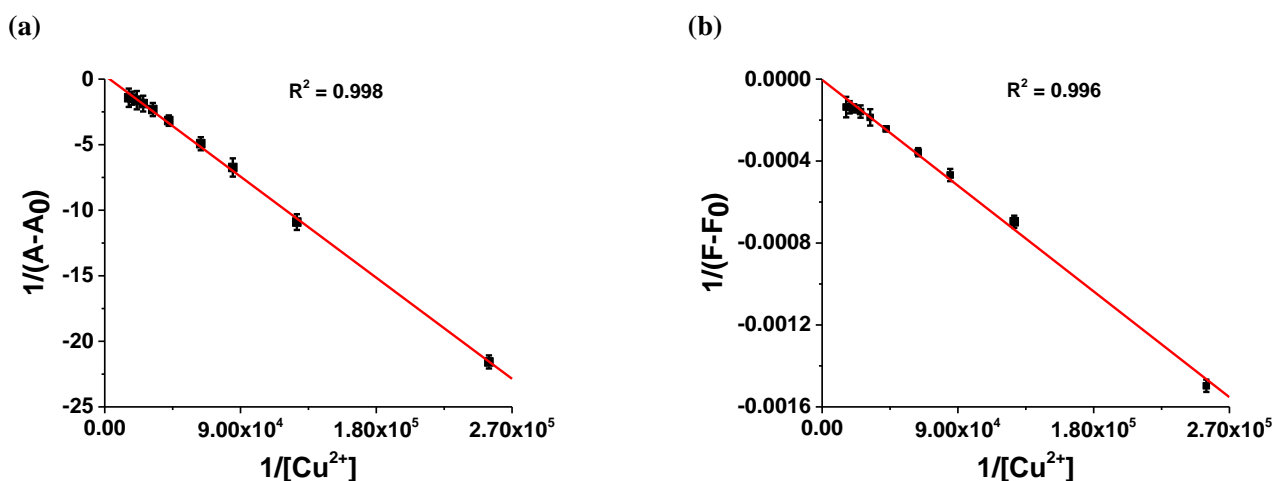
**Figure S4.** (a) Optical absorption and (b) fluorescence emission ( $\lambda_{\text{exc}} = 421$  nm) spectra of **2** (40  $\mu\text{M}$  solution in MeCN) and after the addition of 2.0 equiv. of various metal cations (as aqueous solutions of nitrate or perchlorate salts) recorded after 30 hours. Photographs under natural light (c) and under 365 nm light (d) after the addition of 2.0 equiv. of various metal cations recorded after 30 hours.



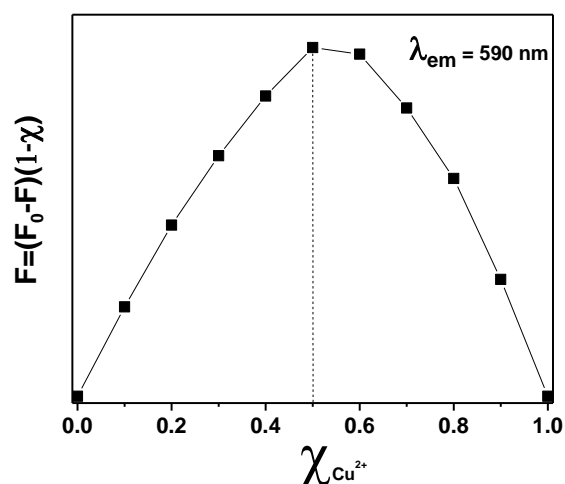
**Figure S5.** (a) Optical absorption and (b) fluorescence emission ( $\lambda_{\text{exc}} = 408$  nm) spectra of **2** (40  $\mu\text{M}$  solution in THF) and after the addition of 2.0 equiv. of various metal cations (as aqueous solutions of nitrate or perchlorate salts). Photographs under natural light (c) and under 365 nm light (d) after the addition of 2.0 equiv. of various metal cations.



**Figure S6.** (a) Optical absorption and (b) fluorescence emission ( $\lambda_{\text{exc}} = 408 \text{ nm}$ ) spectra of **2** ( $40 \mu\text{M}$  solution in THF) and after the addition of 2.0 equiv. of various metal cations (as aqueous solutions of nitrate or perchlorate salts) recorded after 30 hours. Photographs under natural light (c) and under 365 nm light (d) after the addition of 2.0 equiv. of various metal cations recorded after 30 hours.



**Figure S7.** Benesi-Hildebrand plots obtained from optical absorption ( $\lambda_{\text{max}} = 540 \text{ nm}$ ) (a) and fluorescence emission ( $\lambda_{\text{em}} = 590 \text{ nm}$ ) (b) for the calculation of the binding constant of **2** ( $40 \mu\text{M}$  solution in MeCN) with  $\text{Cu}^{2+}$ .

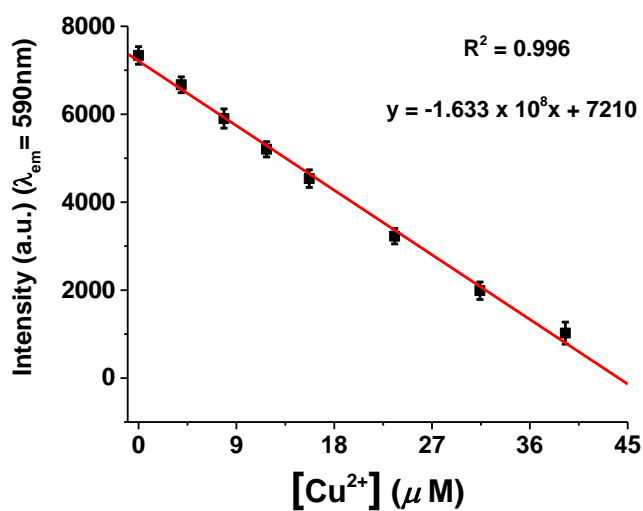


**Figure S8.** Job plot for the transmetalation of **2** with  $\text{Cu}^{2+}$  in MeCN ( $\lambda_{\text{em}}=590$  nm). The total concentration of **2** and  $\text{Cu}^{2+}$  is 40  $\mu\text{M}$ .

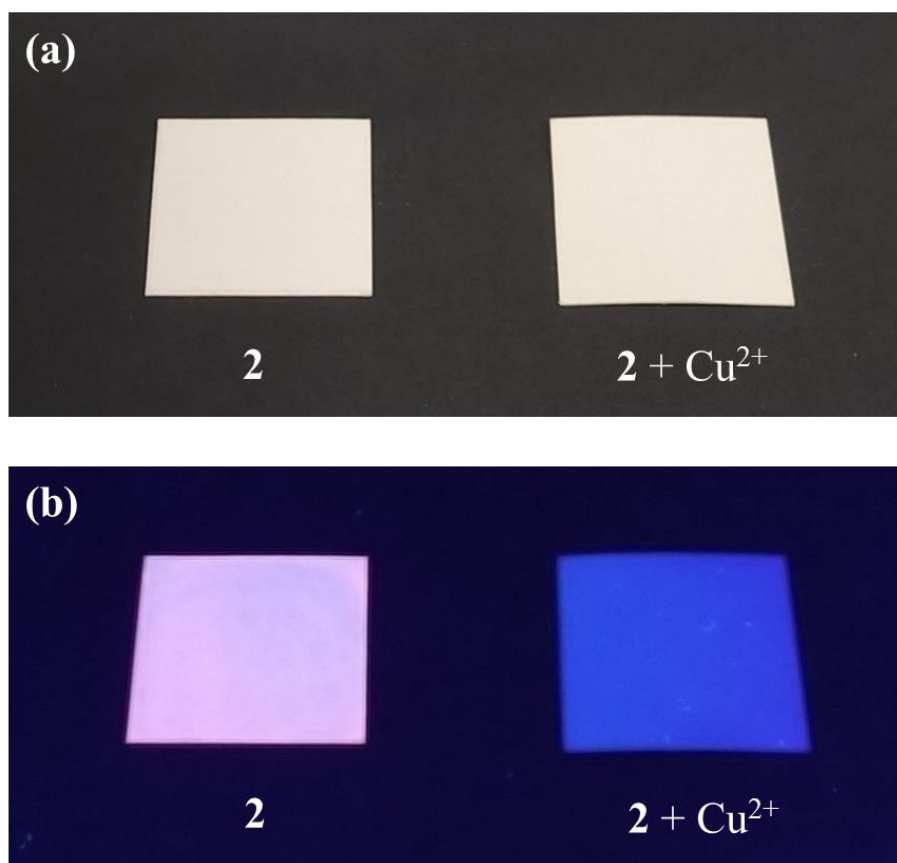
**Table S2.** Binding constants,  $\log K$ , of complexes **1** and **2** for the transmetalation process with  $\text{Cu}^{2+}$  achieved by Benesi-Hildebrand plots.

	$\log K^a$	$\log K^b$
<b>1</b> <sup>c</sup>	3.8	3.4
<b>2</b>	3.5	3.3

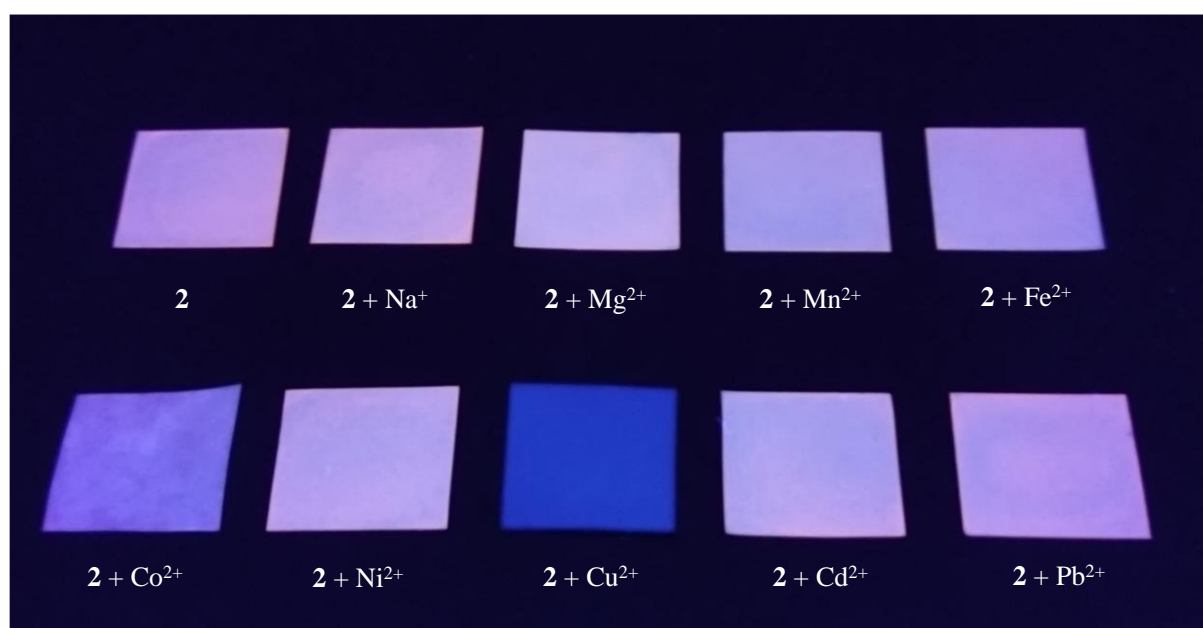
<sup>a</sup> From absorption data; <sup>b</sup> From fluorescence data; <sup>c</sup> From reference [37] in the main text.



**Figure S9.** Linear best fit in the linear dynamic range for the titration of the 40  $\mu\text{M}$  solution of **2** in MeCN (fluorescence intensity at  $\lambda_{\text{em}} = 590$  nm as a function of the concentration of  $\text{Cu}^{2+}$  added) for the determination of LOD. LOD =  $3\sigma/k$  where  $\sigma$  is the standard deviation of the blank ( $\sigma = 10$  considering fifteen blank replicates), and  $k$  is the slope of the calibration line from the spectrofluorometric titration data.



**Figure S10.** Photographs under natural light (a) and under 365 nm light (b) of PBS strips before (left) and after (right) dipping in an aqueous solution of  $\text{Cu}^{2+}$  ( $5.0 \times 10^{-3}$  M).



**Figure S11.** Photographs under 365 nm light of PBS strips before and after dipping in aqueous solutions ( $5.0 \times 10^{-3}$  M) of the metal cations (as nitrate or perchlorate salts).