

Supplementary Material

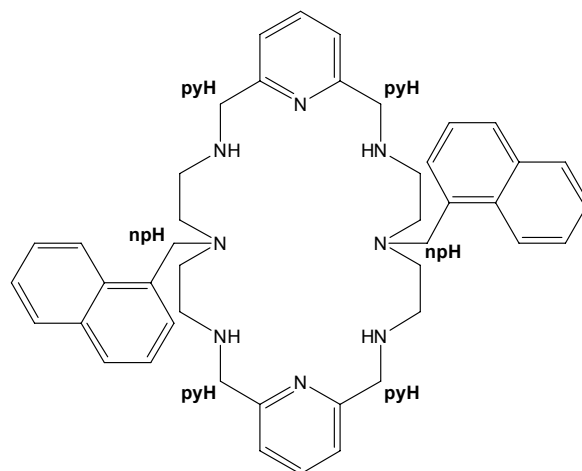


Figure S1. Labelling chart for **L1**.

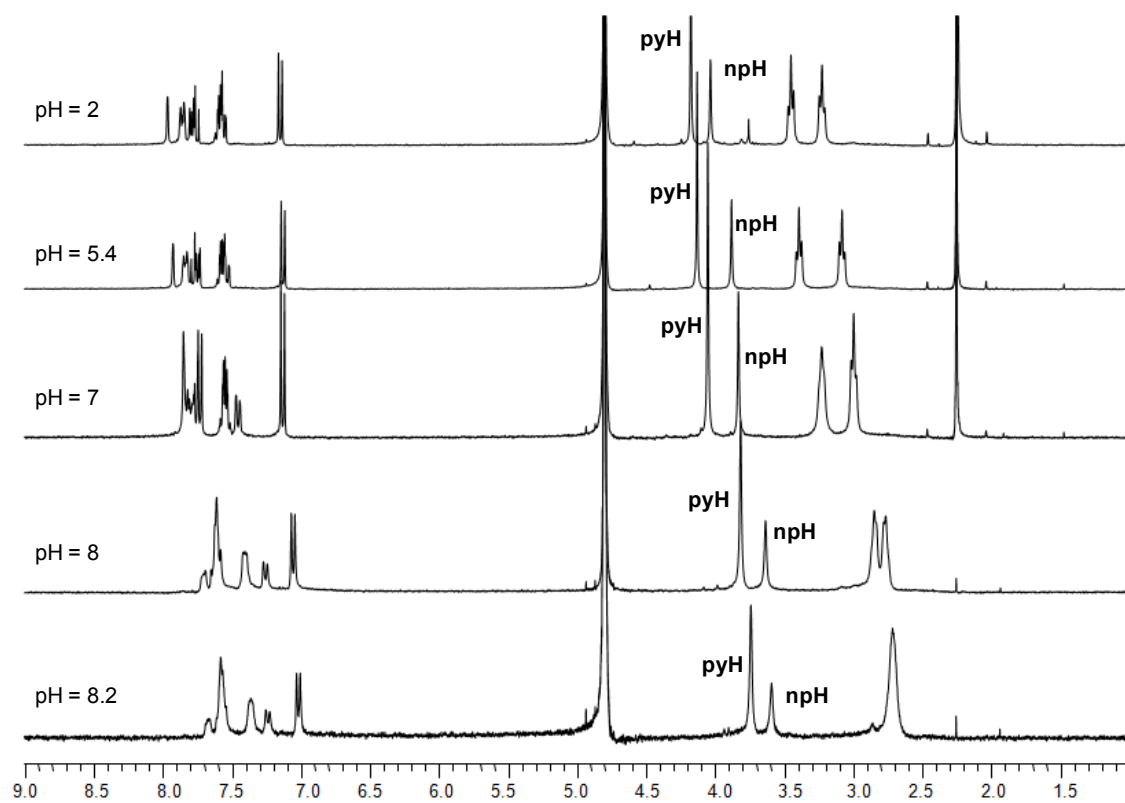


Figure S2. ^1H NMR spectra of compound **L1** recorded at different pH values.

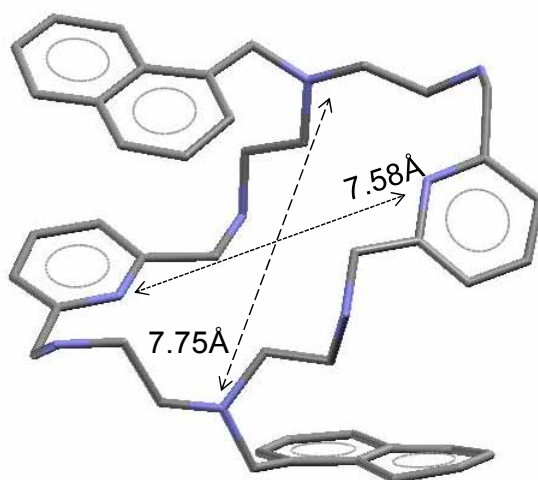


Figure S3. Depth-cued stick molecular model for receptor **L1** in order to calculate distances within the macrocyclic cavity. Calculation was carried out using HyperChem 7.5 program with MM⁺ parameters.

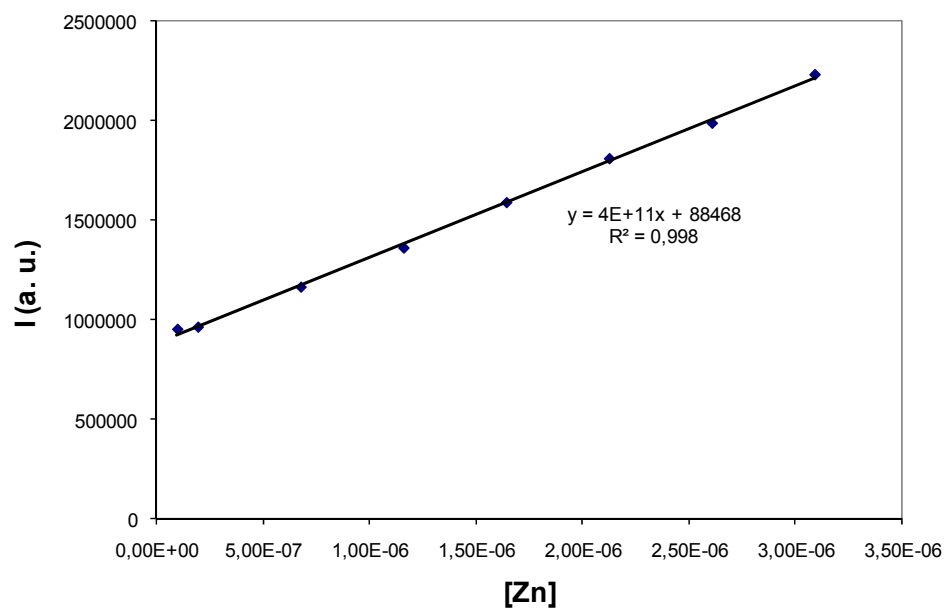


Figure S4. Plot of the variation of the fluorescence intensity with respect to the added concentration of Zn^{2+} . Experiment performed in $0.15 \text{ mol}\cdot\text{dm}^{-3}$ NaCl at $298.1 \pm 0.1 \text{ K}$ in ethanol/water 30/70 v/v for $[L1] = 1 \times 10^{-5} \text{ M}$, $\lambda_{\text{exc}} = 280 \text{ nm}$. The black line represents the linear regression calculated by the least squared method (R -squared = 0.998). Detection limit is calculated as the amount of zinc(II) required to overcome three times the standard deviation of the blank.

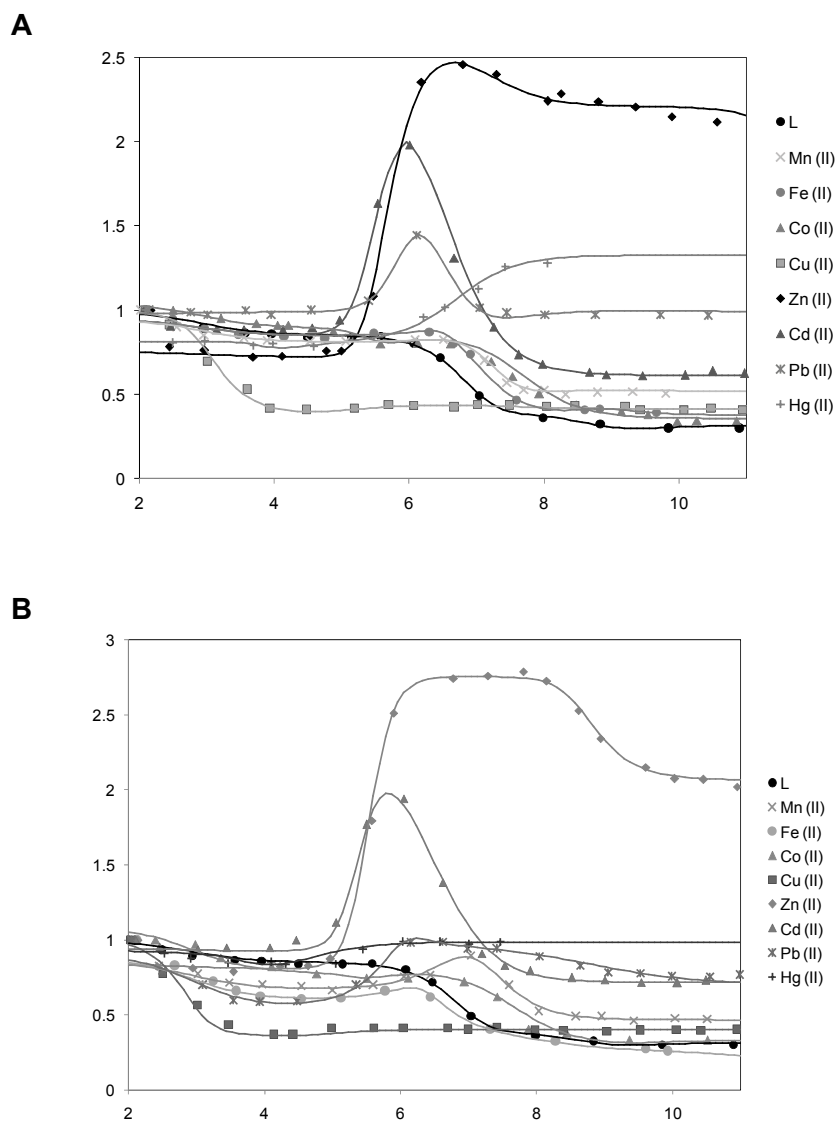


Figure S5. Fluorescence emission titration curves of **L1** in the presence of Cd^{2+} , Co^{2+} , Hg^{2+} , Mn^{2+} and Zn^{2+} performed in $0.15 \text{ mol}\cdot\text{dm}^{-3}$ NaCl at $298.1 \pm 0.1 \text{ K}$ in water/ethanol 70/30 v/v for $[\text{L1}] = 1 \times 10^{-5} \text{ M}$, $\lambda_{\text{exc}} = 280 \text{ nm}$) (A) 1:1 M:L molar ratio and (B) 2:1 M:L molar ratio.

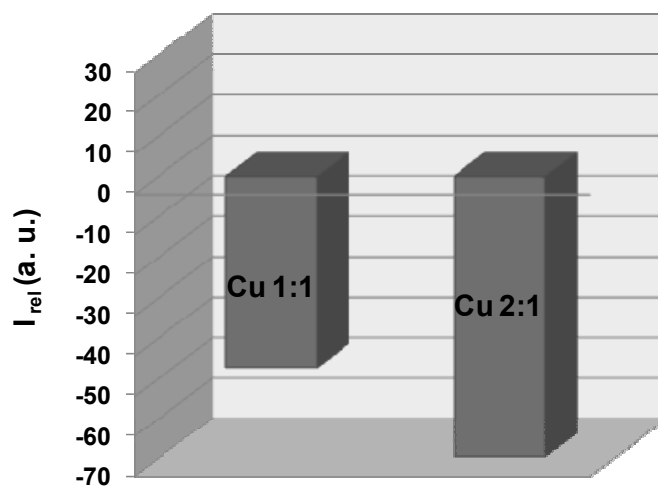


Figure S6. Fluorescence quenching efficiency of **L1** in the presence of Cu²⁺ performed in 0.15 mol·dm⁻³ NaCl at 298.1 ± 0.1 K in water/ethanol 70/30 v/v at pH 4.0, [L1] = 1×10⁻⁵ M, λ_{exc} = 280 nm) in 1:1 and 2:1 M:L molar ratio.

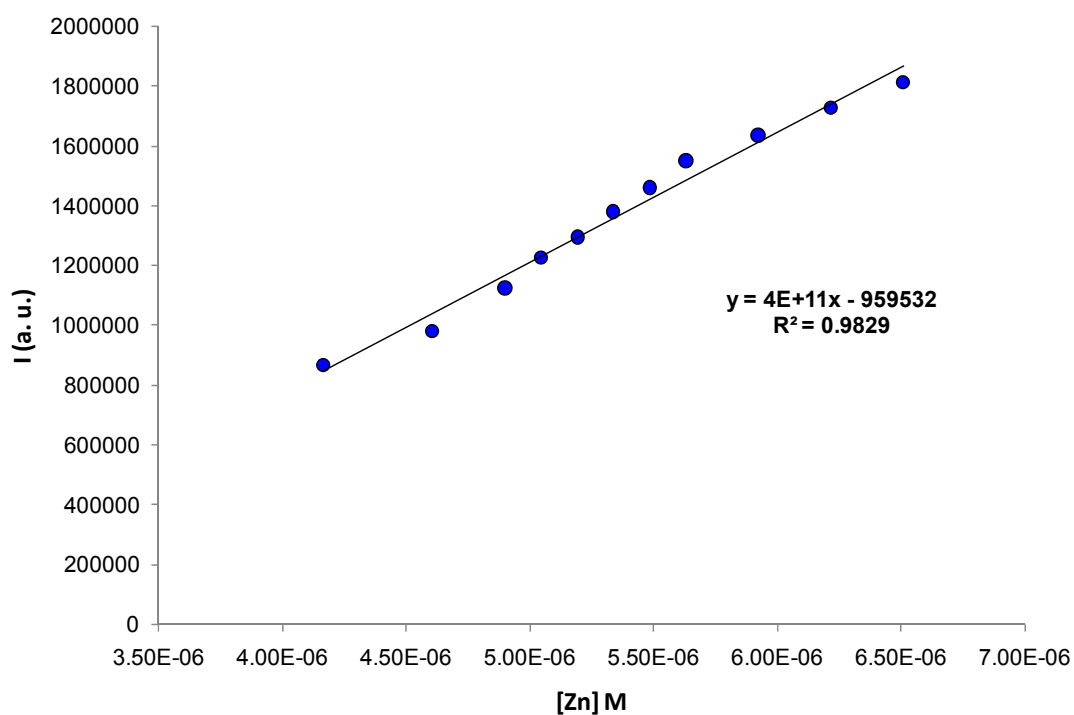


Figure S7. Plot of the variation of the fluorescence intensity with respect to the added concentration of Zn^{2+} in a solution containing a ten-fold excess of Cu^{2+} and Fe^{2+} with respect to the detection limit. Experiment performed in $0.15 \text{ mol}\cdot\text{dm}^{-3}$ NaCl at $298.1 \pm 0.1 \text{ K}$ in ethanol/water 30/70 v/v for $[\text{L1}] = 1 \times 10^{-5} \text{ M}$, $\lambda_{\text{exc}} = 280 \text{ nm}$. The black line represents the linear regression calculated by the least squared method ($R\text{-squared} = 0.98$).