

## Untangling interactions of a Zinc(II) complex containing a coumarin-porphyrin unit with alkaloids in water solutions: A Photophysical study

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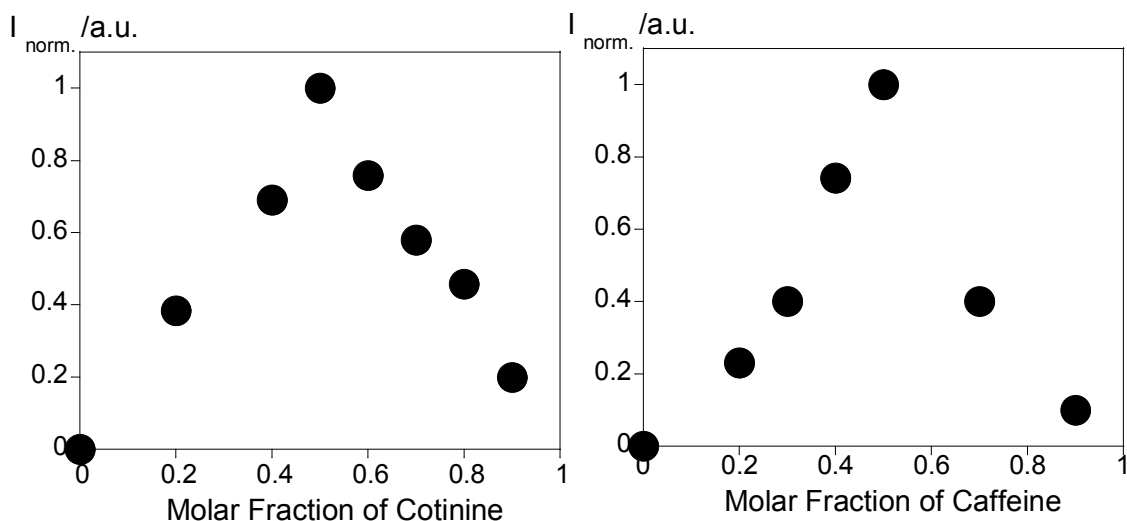
**Determination of the detection (LOD) limit.** Ten different measurements of a solution containing the selected probe were collected, without addition of any alkaloid. For these values, the LOD was determined by the formula:

$Y_{dl} = y_{blank} + 3std$  where  $y_{dl}$  = signal detection limit and  $std$  = standard deviation

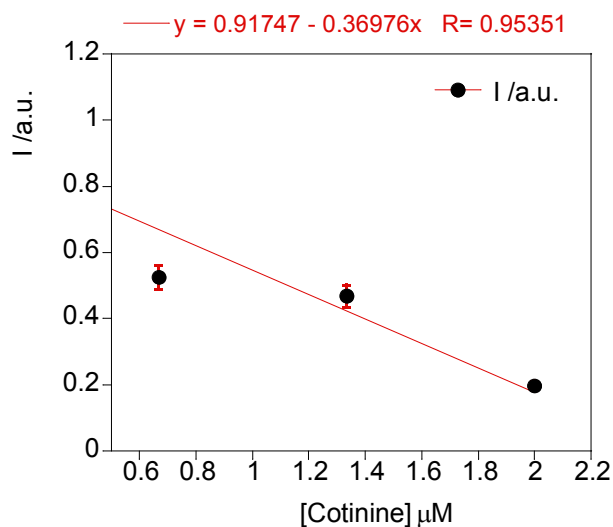
Additionally to a solution containing complex **1**, small amounts of the alkaloids were added in order to determine the minimal detectable amount out of the LOD value.

**Determination of the amount detectable in real samples by the Standard Addition Method.**

In the standard addition method, known quantities of the alkaloid are added to a solution of dam water containing the complex **1**. This method requires a linear response to analyte. A linear regression is plotted, and when  $y=0$ , the value of the unknown concentration of the alkaloid is obtained.



**Figure S11** – Job's plot of complex **1** upon addition of cotinine and caffeine in EtOH:H<sub>2</sub>O (50:50), ( $\lambda_{\text{exc}} = 608 \text{ nm}$ ).



**Figure S12** – Standard addition method by emission of complex **1** upon the increasing addition of cotinine in dam water from the Vigia Dam located in the region of Montoito village, Alentejo district, Portugal ( $[1] = 5 \times 10^{-6} \text{ M}$ ,  $\lambda_{\text{exc}} = 555 \text{ nm}$ ,  $T = 298 \text{ K}$ ). Relative standard deviation (RSD) of the values was below 15 %,  $n = 3$ .