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Accessory Publication

Complexation of Zn^{2+} by the fluorophore 2-((*E*)-2-phenyl)ethenyl-8-(*N*-4-methylbenzenesulfonyl)aminoquinol-6-yloxyacetic acid: A preparative, potentiometric, Uv-visible and fluorescence study.

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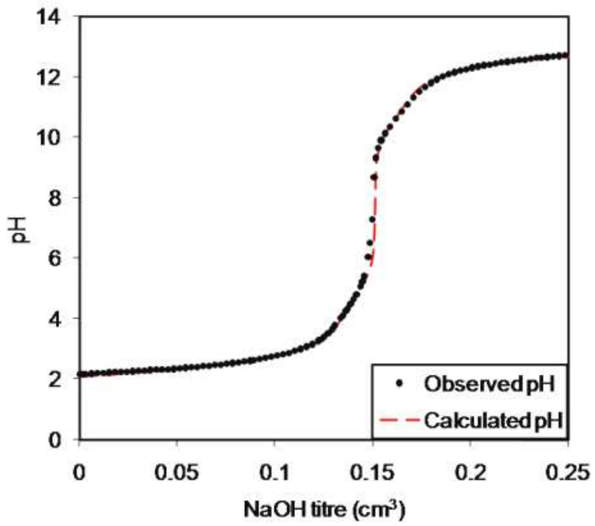

Fig. A1. Titration of a mol dm^{-3} solution of $H_3\mathbf{3}^+$ with a mol dm^{-3} NaOH solution at 298.2 K. Both solutions are in 25% v/v aqueous ethanol 0.10 mol dm^{-3} in $NaClO_4$. Experimental data and the best fit of an algorithm for the variation of pH with the progressive deprotonation of $H_3\mathbf{3}^+$ to form $\mathbf{3}^{2-}$ are shown in black and red, respectively.

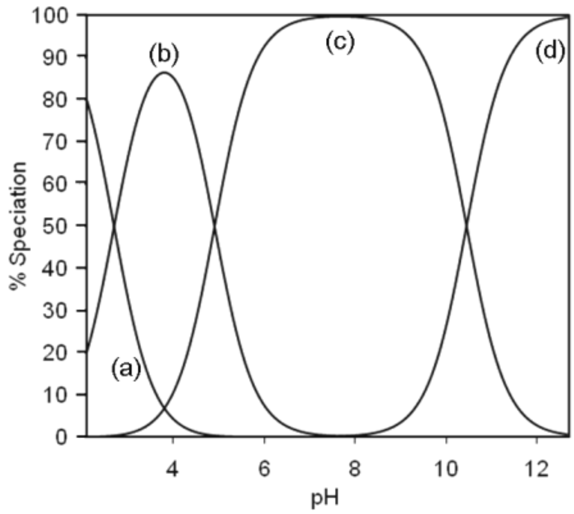

Fig. A2. Variation of % speciation of (a) $H_3\mathbf{3}^+$, (b) $H_2\mathbf{3}$, (c) $H\mathbf{3}^-$ and (d) $\mathbf{3}^{2-}$ with pH in 25% v/v aqueous ethanol 0.10 mol dm^{-3} in $NaClO_4$ at 298.2 K where 100% = $[H_n\mathbf{3}^{(n-2)+}]_{total}$.

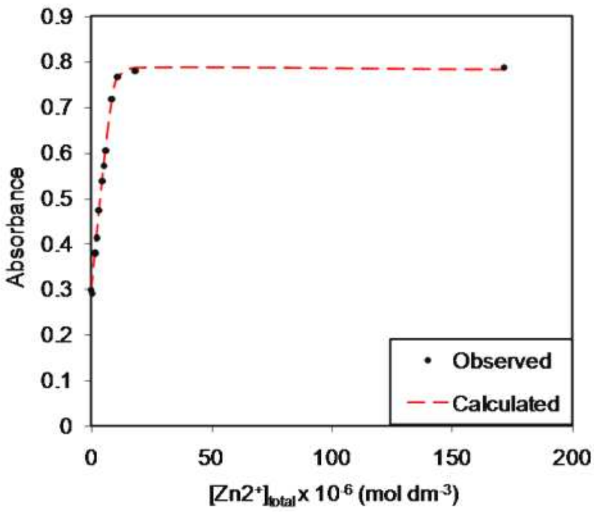

Fig. A3. Observed increase in absorbance at 313 nm (black) with increase in $[Zn^{2+}]_{total}$ at pH 6.6 in 25% v/v aqueous ethanol 0.10 mol dm^{-3} in $NaClO_4$ buffered at pH 6.6 (1.0 × 10^{-3} mol dm^{-3} NaPIPES) at 298.2 K and the best fit of an algorithm for the absorbance variation over the range 270 – 450 nm expected for equilibria 1 and 2 (red).

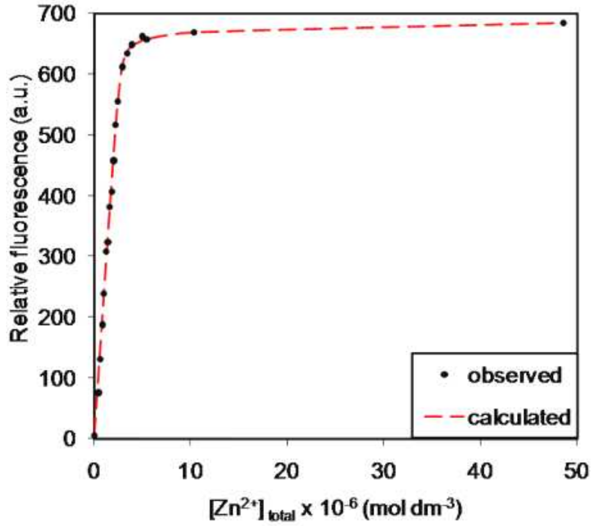

Fig. A4. Observed increase in relative fluorescence at 534 nm (black) with increase in $[Zn^{2+}]_{total}$ at pH 6.6 in 25% v/v aqueous ethanol 0.10 mol dm^{-3} in $NaClO_4$ buffered at pH 6.6 (1.0 × 10^{-3} mol dm^{-3} NaPIPES) at 298.2 K and the best fit of an algorithm for the absorbance variation expected for equilibria 1 and 2 (red).

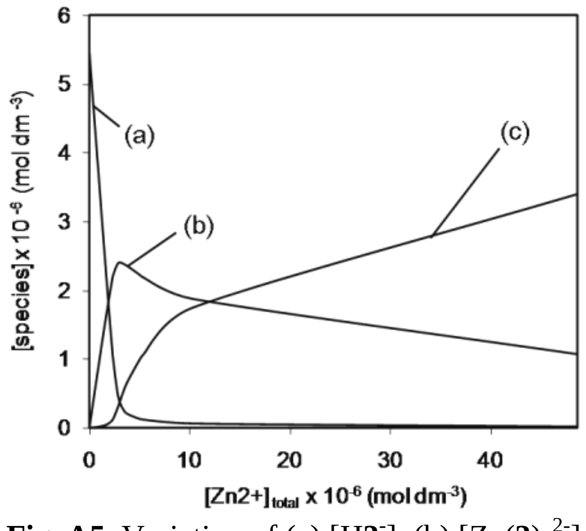

Fig. A5. Variation of (a) [H**3**$^-$], (b) [Zn(**3**)$_2$$^{2-}$] (NB the concentration of **3**$^{2-}$ contained in [Zn(**3**)$_2$$^{2-}$] is twice this complexes concentration) and (c) [Zn(**3**)] for a solution initially 5.56 x 10^{-6} mol dm^{-3} in H**3**$^-$ with increasing $[Zn^{2+}]_{total}$ in 25% v/v aqueous ethanol 0.10 mol dm^{-3} in $NaClO_4$ buffered at pH 6.6 (1.0 × 10^{-3} mol dm^{-3} NaPIPES) at 298.2 K.