Supplementary Materials

Sensing Zn^{2+} in aqueous solution with a fluorescent scorpiand macrocyclic ligand decorated with an anthracene bearing tail.

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Content

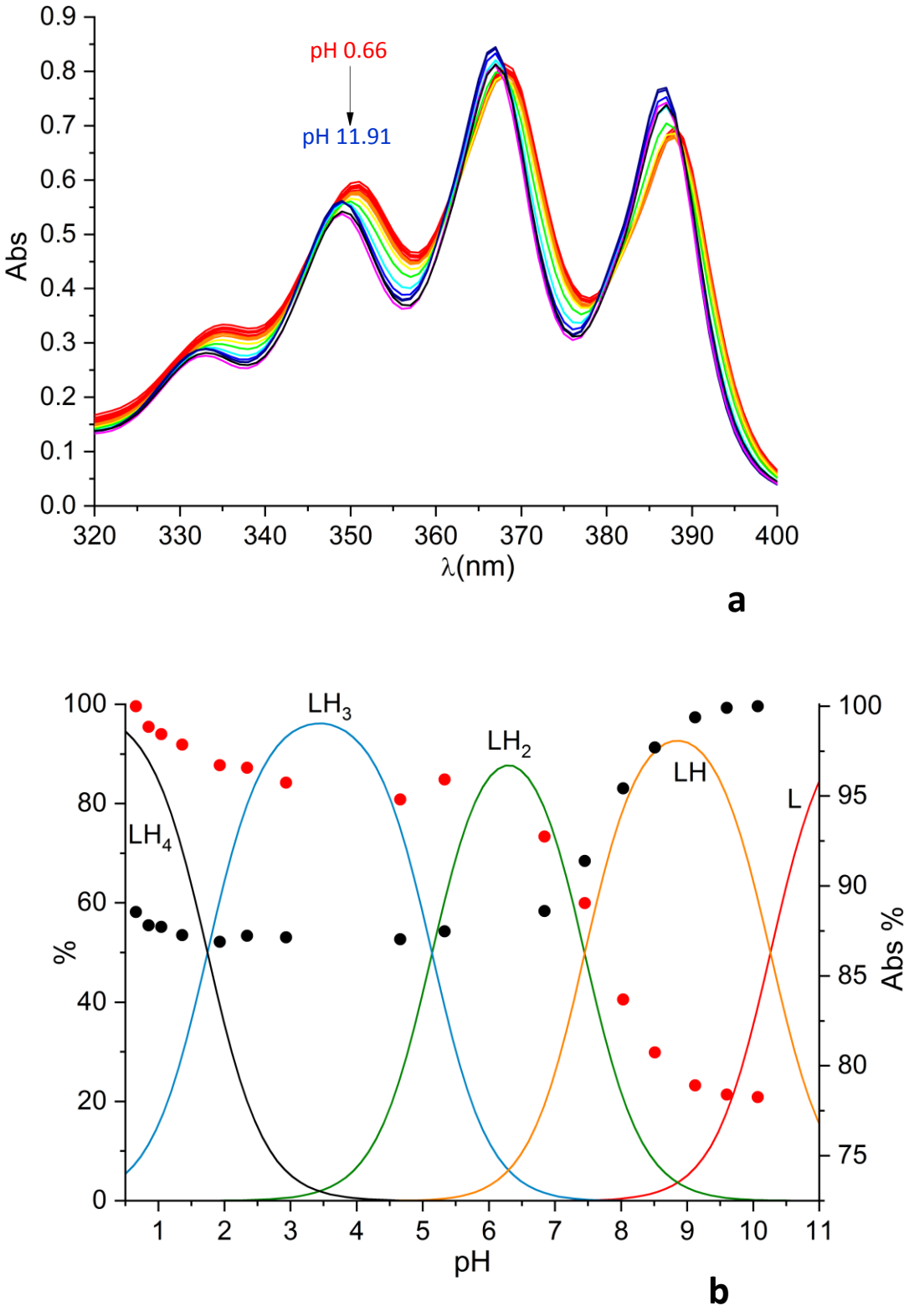

Figure S1. a) Absorption spectra of L at different pH values. [L] = 1×10^{-4} M. b) Absorbances at 387 nm (black dots) and 356 nm (red dots) superimposed to the distribution diagram of the species formed by L as a function of pH. [L] = 1×10^{-4} M).

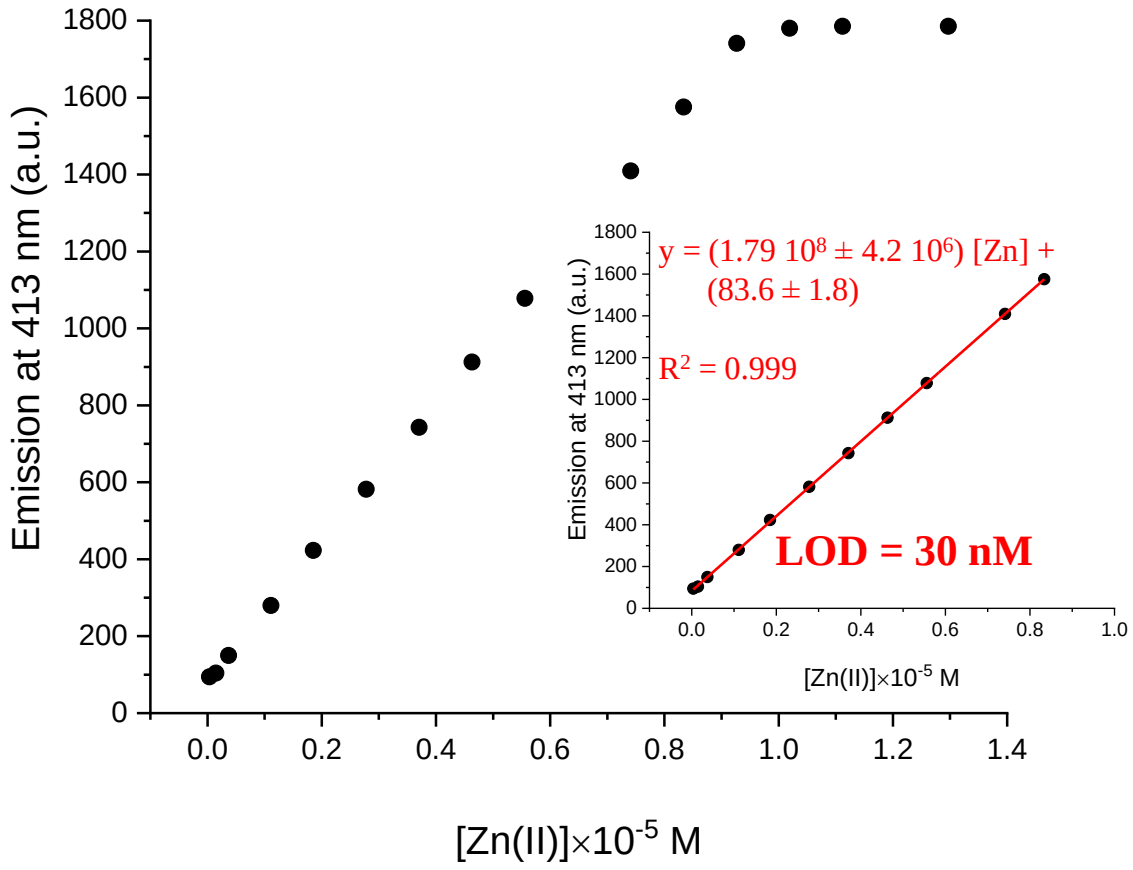

Figure S2. Plot of the fluorescence intensity at 413 nm (λ_{exc} 362 nm) of L (1×10^{-5}M, pH 9) versus the concentration of Zn^{2+}. Inset: data fitting for the determination of the limit of detection (LOD) based on the 3σ/slope.

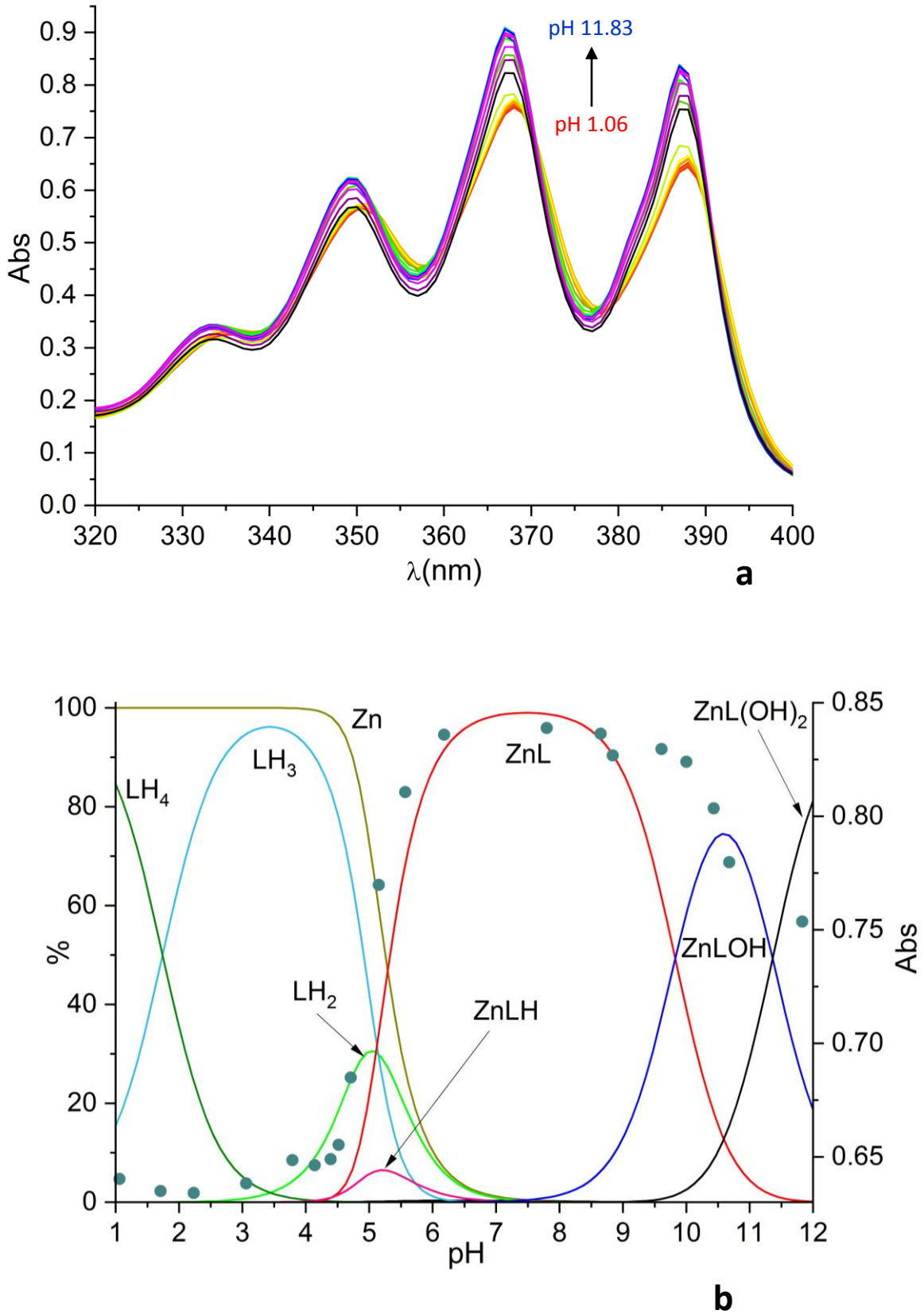

Figure S3. a) Absorption spectra of the Zn^{2+}/L system at different pH values. [L] = [Zn^{2+}] = 1×10^{-4} M. b) Absorbance at 367 nm (green dots) superimposed to the distribution diagram of the species formed in the Zn^{2+}/L system ([L] = [Zn^{2+}] = 1×10^{-4} M).

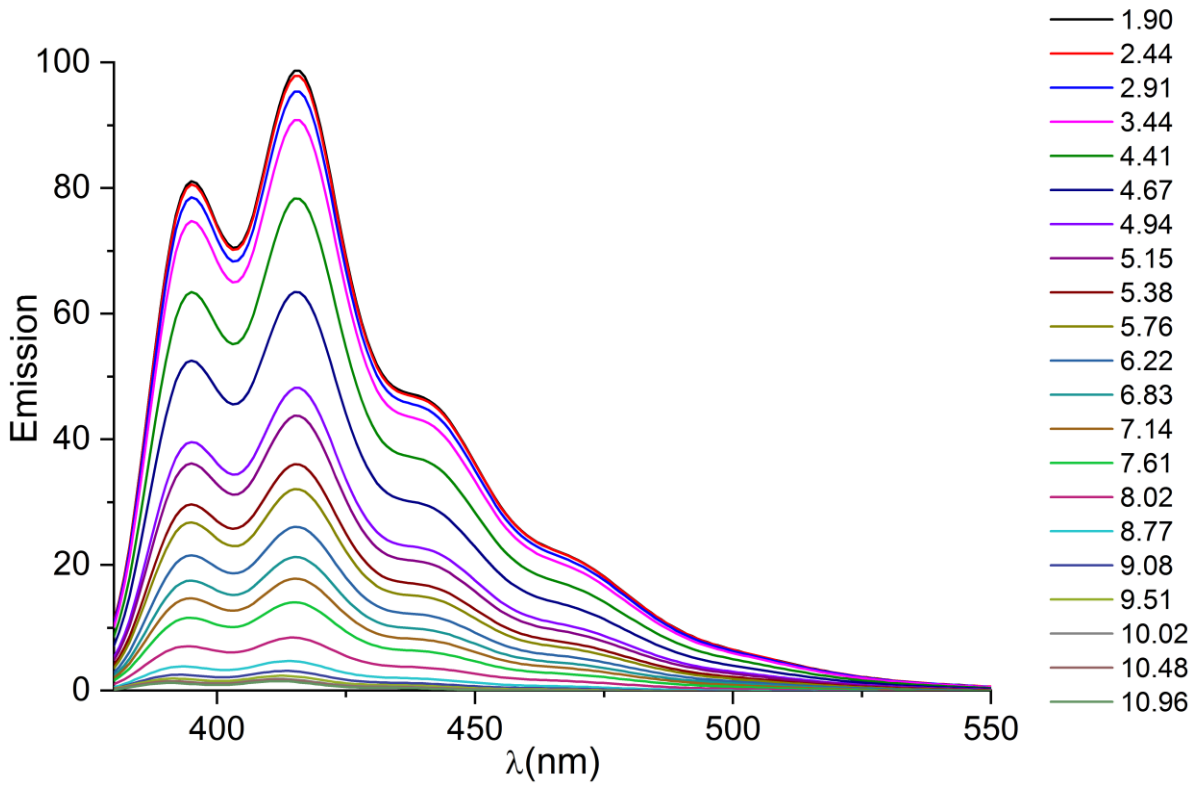

Figure S4. Emission spectra of the system L/phosphate at different pH values. [L] = [phosphate] = 1×10^{-5} M. λ_{exc} 362 nm.

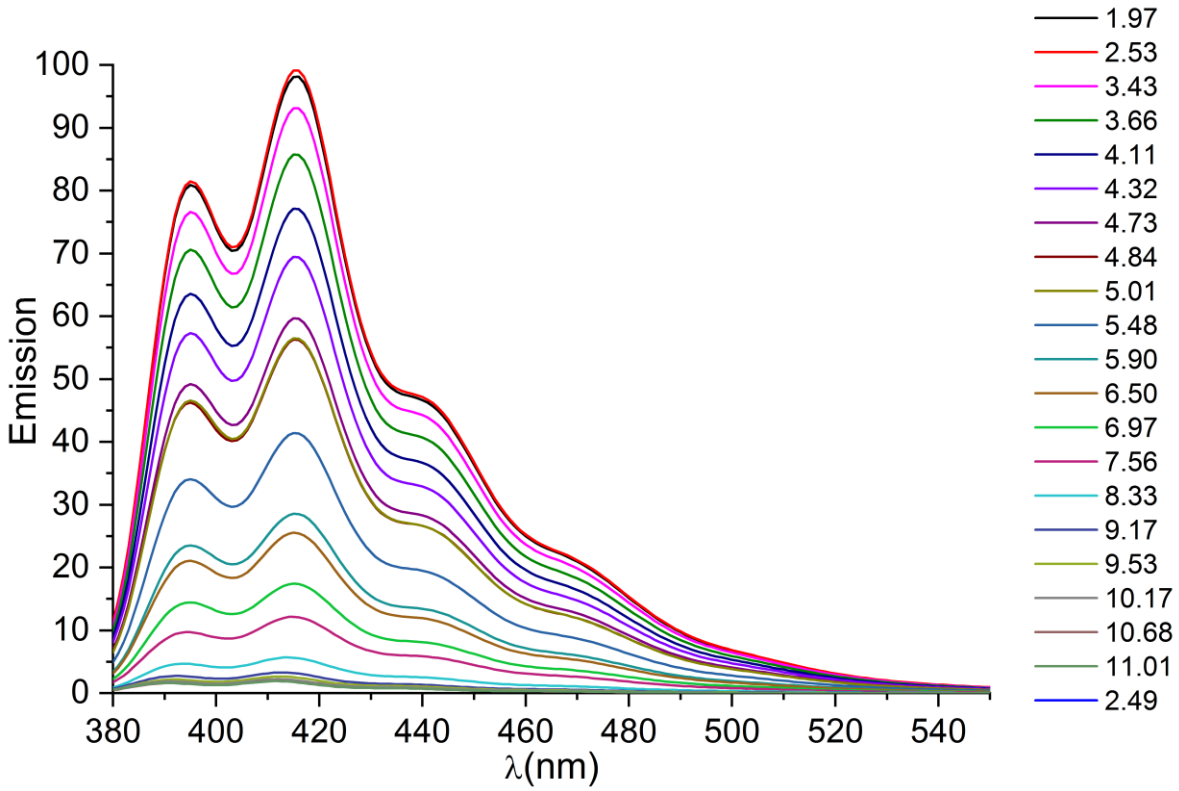

Figure S5. Emission spectra of the system L/benzoate at different pH values. [L] = [benzoate] = 1×10^{-5} M. λ_{exc} 362 nm.

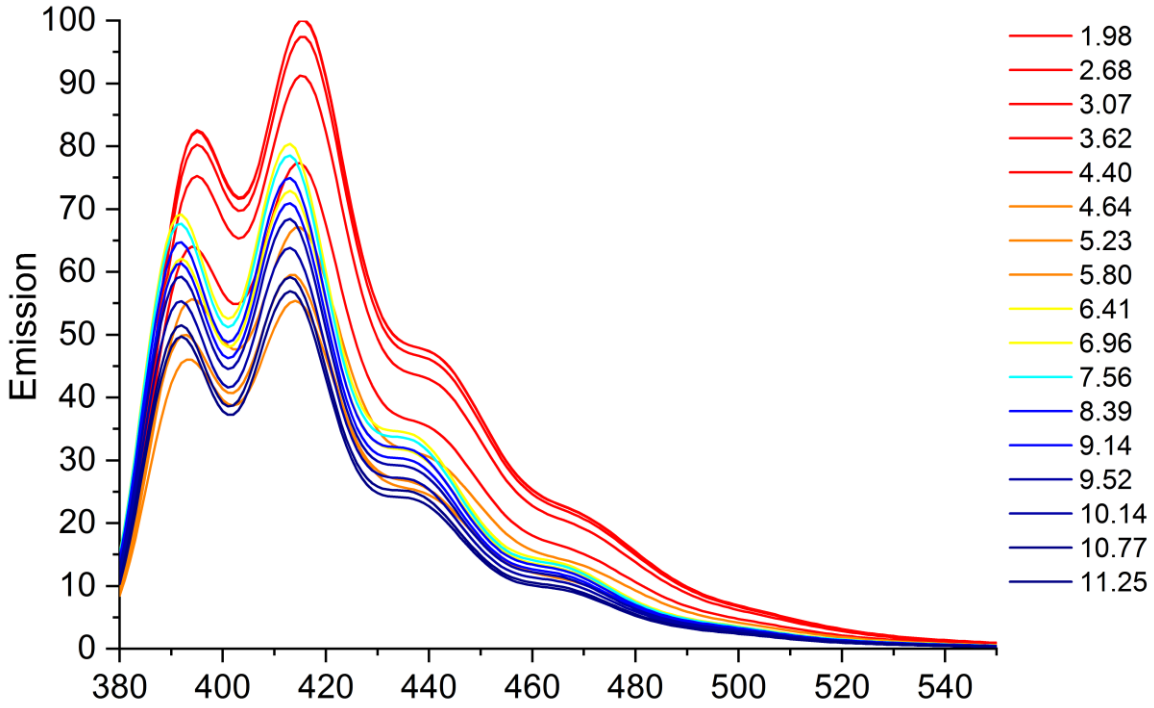

Figure S6. Emission spectra of the system L/Zn^{2+}/phosphate at different pH values. [L] = [Zn^{2+}] = [phosphate] = 1×10^{-5} M. λ_{exc} 362 nm.

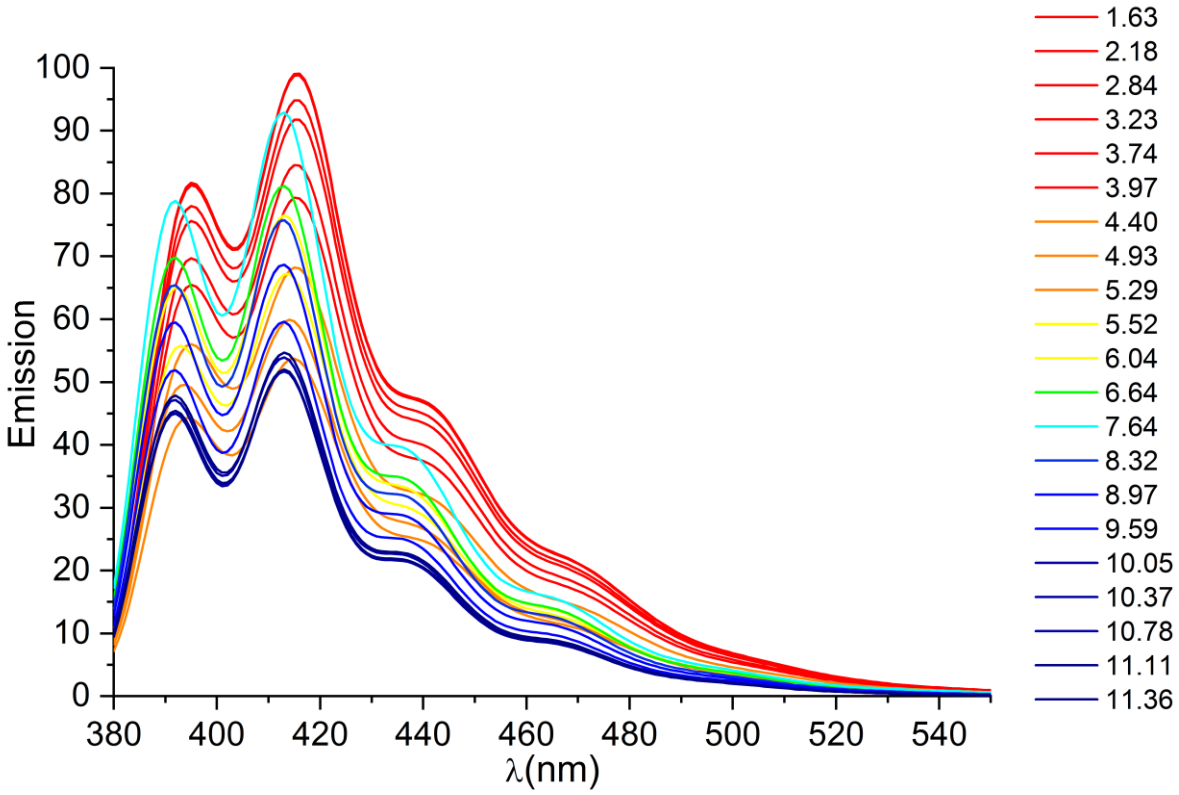

Figure S7. Emission spectra of the system L/Zn^{2+}/benzoate at different pH values. [L] = [Zn^{2+}] = [benzoate] = 1×10^{-5} M. λ_{exc} 362 nm.

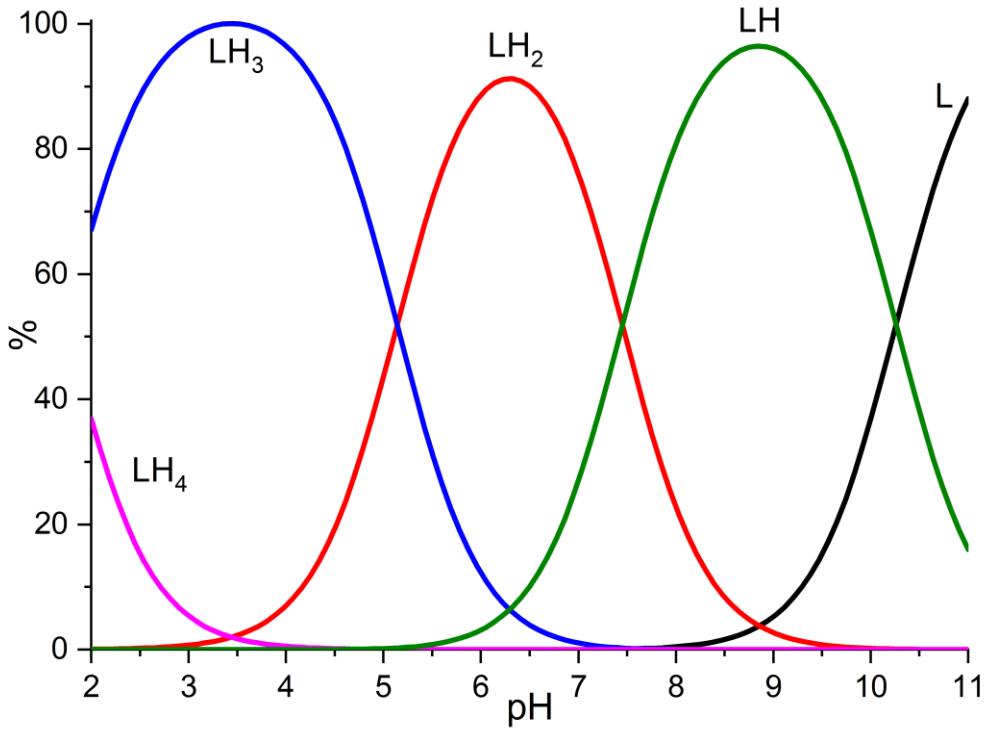

Figure S8. Distribution diagram of the species formed by L as a function of pH. [L] = 1×10^{-3} M. Charges omitted.

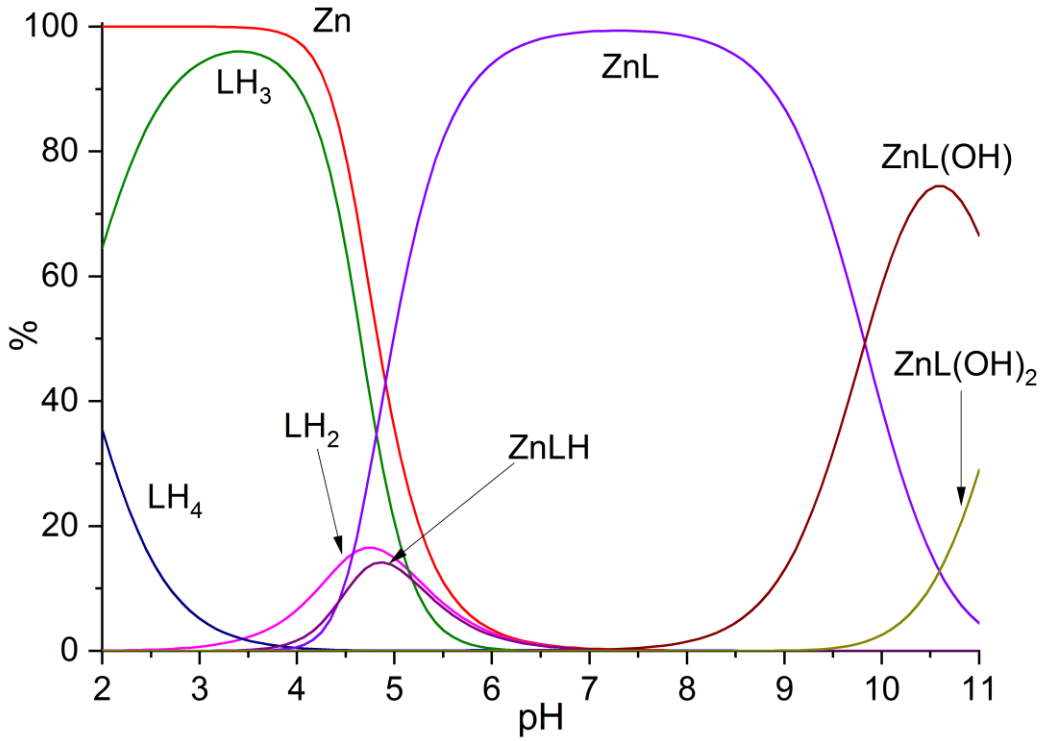

Figure S9. Distribution diagram of the species formed by L with Zn^{2+} as a function of pH. [L] = [Zn^{2+}] = 1×10^{-3} M. Charges omitted.

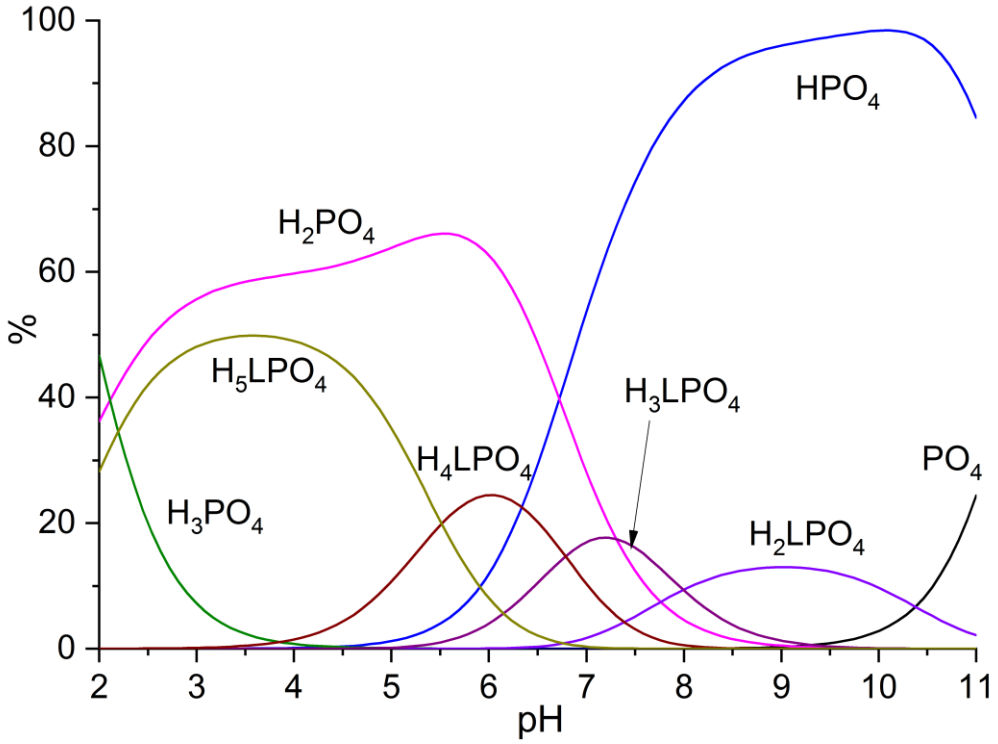

Figure S10. Distribution diagram of the species formed by L with phosphate as a function of pH. [L] = [phosphate] = 1×10^{-3} M. Charges omitted.

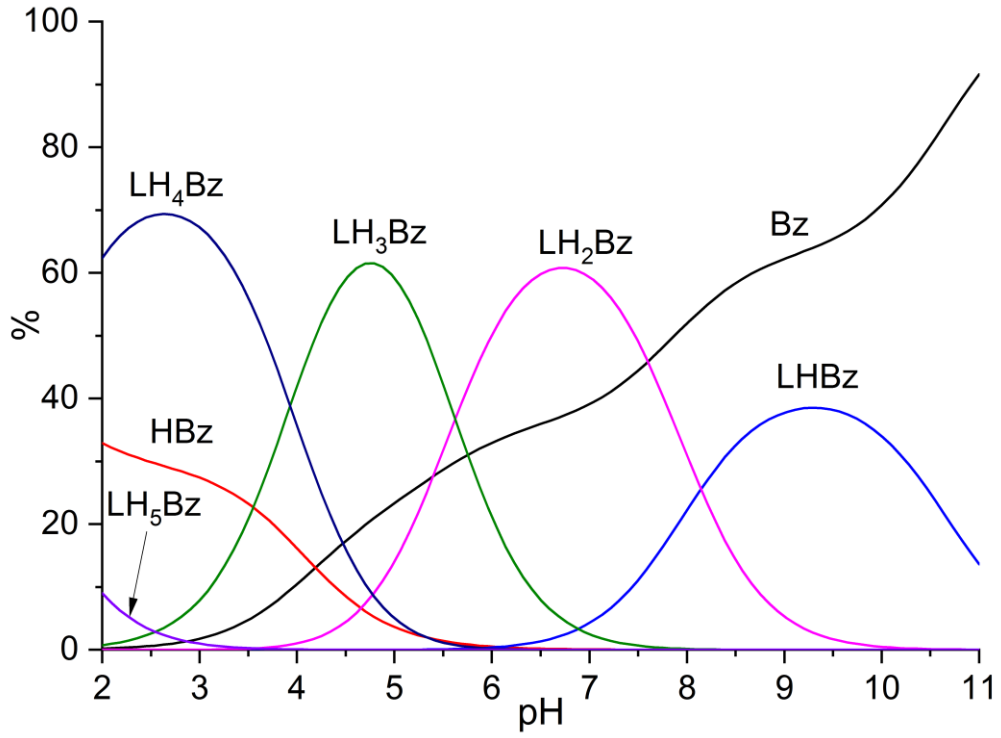

Figure S11. Distribution diagram of the species formed by L with benzoate as a function of pH. [L] = [benzoate] = 1×10^{-3} M. Charges omitted.

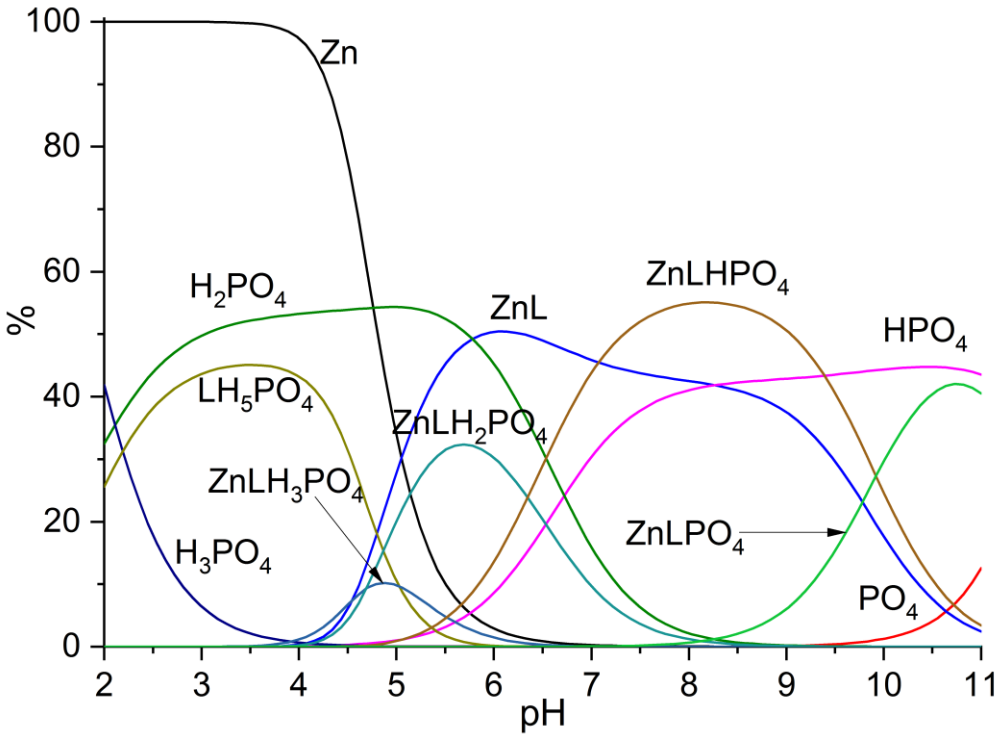

Figure S12. Distribution diagram of the species formed by L with Zn^{2+} and phosphate as a function of pH. [L] = $[Zn^{2+}]$ = [phosphate] = 1×10^{-3} M. Charges omitted.

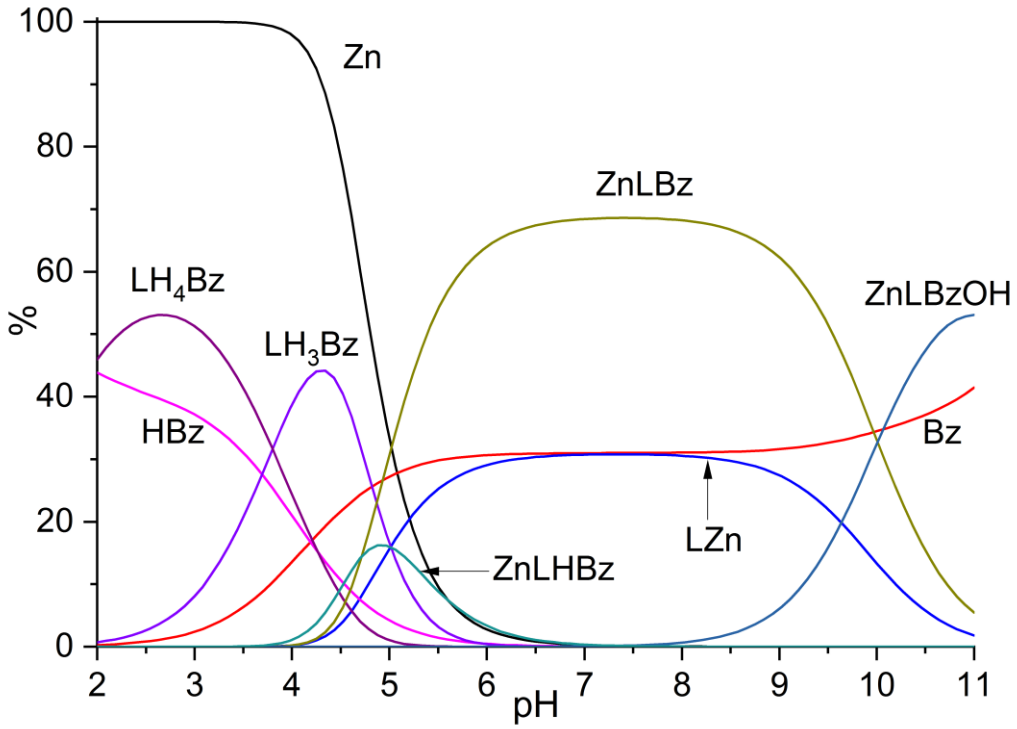

Figure S13. Distribution diagram of the species formed by L with Zn^{2+} and benzoate as a function of pH. [L] = $[Zn^{2+}]$ = [benzoate] = 1×10^{-3} M. Charges omitted.