

Electronic supplementary information

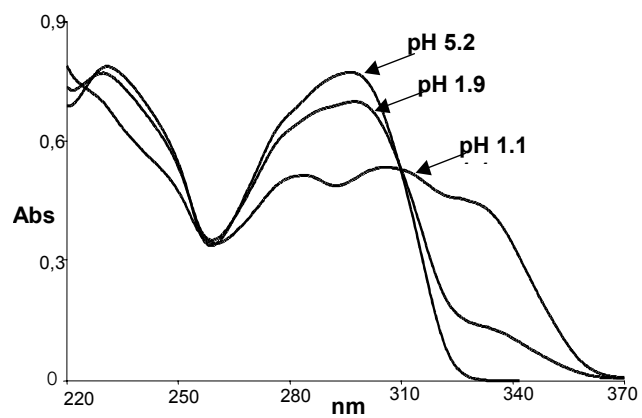


Figure S1. UV spectra of L at selected pH values ($[L] = 5 \cdot 10^{-5}$ M, $T = 298$ K, 0.1 M NMe_4Cl)

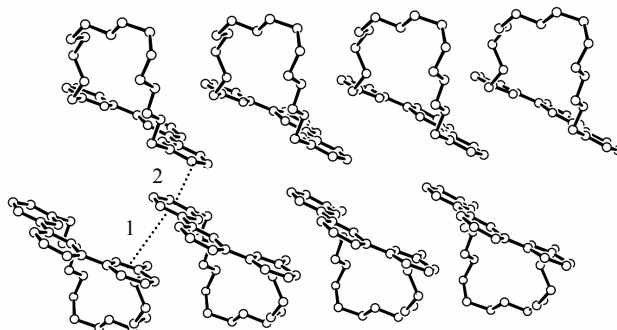
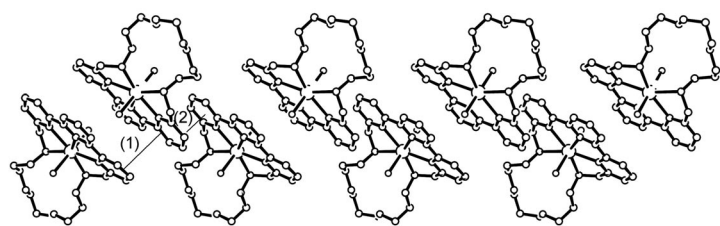
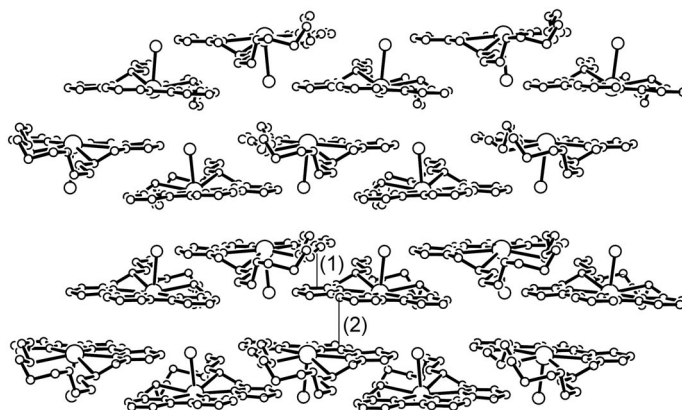


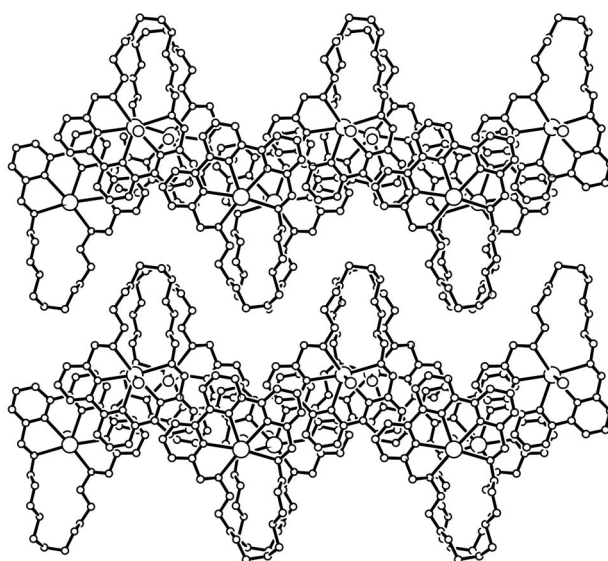
Figure S2. Crystal packing of [H₅L]Br₅·2H₂O, displaying the two different π - π interactions between terpyridine units of symmetry related cations (1: symmetry operation $1+x, y, z$, interplanar distance: 3.6 Å; 2: symmetry operation $-x, -y, -z$, interplanar distance 3.7 Å).



a



b



c

Figure S3. (a) Crystal packing of the complex **a**, displaying the two different π - π interactions, (1) and (2), between terpyridine units of symmetry related complexes [(1): symmetry operation $-x, -y, 1-z$, interplanar distance: 3.6 Å; (2): symmetry operation $-x, 1-y, 1-z$, interplanar distance 3.8 Å]. (b) side view of the crystal packing of complex **b**, displaying the two different π - π interactions, (1) and (2), between symmetry related complexes [(1): symmetry operation $0.5-x, 0.5+y, -z$, interplanar distance: 3.6 Å; (2): symmetry operation $-x, -y, -z$, interplanar distance 3.6 Å]. (c) Top view of the crystal packing of **b**. In all cases the perchlorate anions have been omitted for clarity.

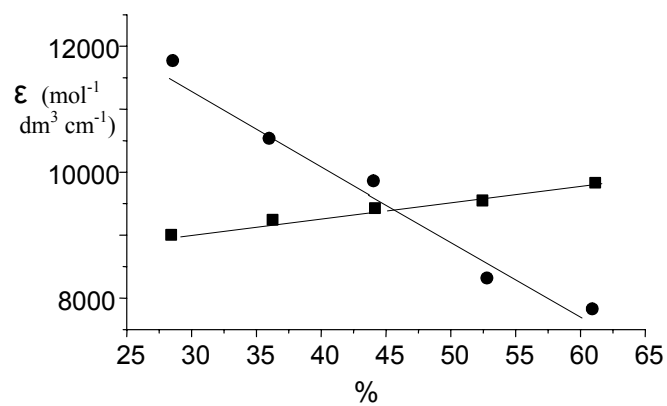


Figure S4. ϵ values at 320 nm (■) and 344 nm (●) measured on solutions with different concentrations of the Cu(II) complex with L (Cu(II) and L in equimolecular ratio) at pH 6 as a function of the percentage of the dimeric species ($[\text{Cu}_2\text{L}_2]^{4+}$) calculated on the basis of the potentiometric results.

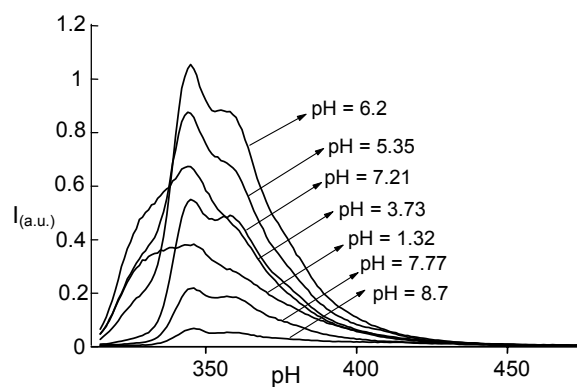


Figure S5. Fluorescence emission spectra recorded on aqueous solutions containing L and Zn(II) in 1:1 molar ratio at different pH values ($[L] = 5.0 \cdot 10^{-5}$ M, 0.1 M NMe₄Cl, 298.1 K)

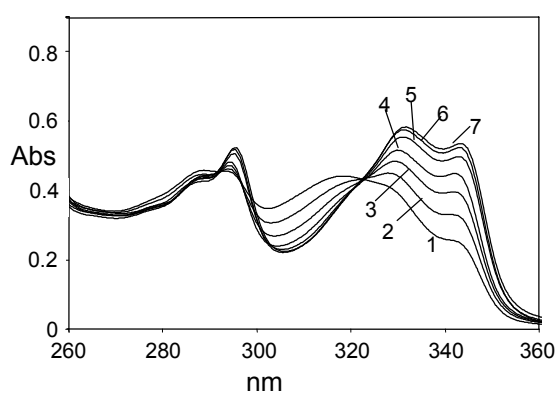


Figure S6. UV-Vis spectra recorded on aqueous solutions at pH 8 containing L and Cu²⁺ at different molar ratio: (1) 1:1, (2) 1:1.25, (3) 1:1.5, (4) 1:1.75, (5) 1:2, (6) 1:2.25, (7) 1:2.5 (0.1 mol dm⁻³ NMe₄Cl, T = 298.1 K).