Figure S1-S2 - Species distribution for solutions 2.21×10^{-4} M of **L**, as a function of Cu^{+} concentration. Each curve represent the % of **L** employed in the relative species with respect to the total concentration of **L**. Accordingly, the % of $[\mathbf{L}_2Cu]^{+}$ and $[\mathbf{L}_2Cu_2]^{2+}$ species is obtained by multiplying their molar concentration by 2, dividing by the total concentration of **L**, and multiplying by 100. Cu^{+}/L molar ratio = 1 is reached at $[Cu^{+}] = 2.21 \times 10^{-4}$ M.

Figure S1. **L** = **L1**. At a 1:1 Cu^{+}/**L1** molar ratio, the helicate $[\mathbf{L1}_2Cu_2]^{2+}$ species represent the 96.3% of the ligand.

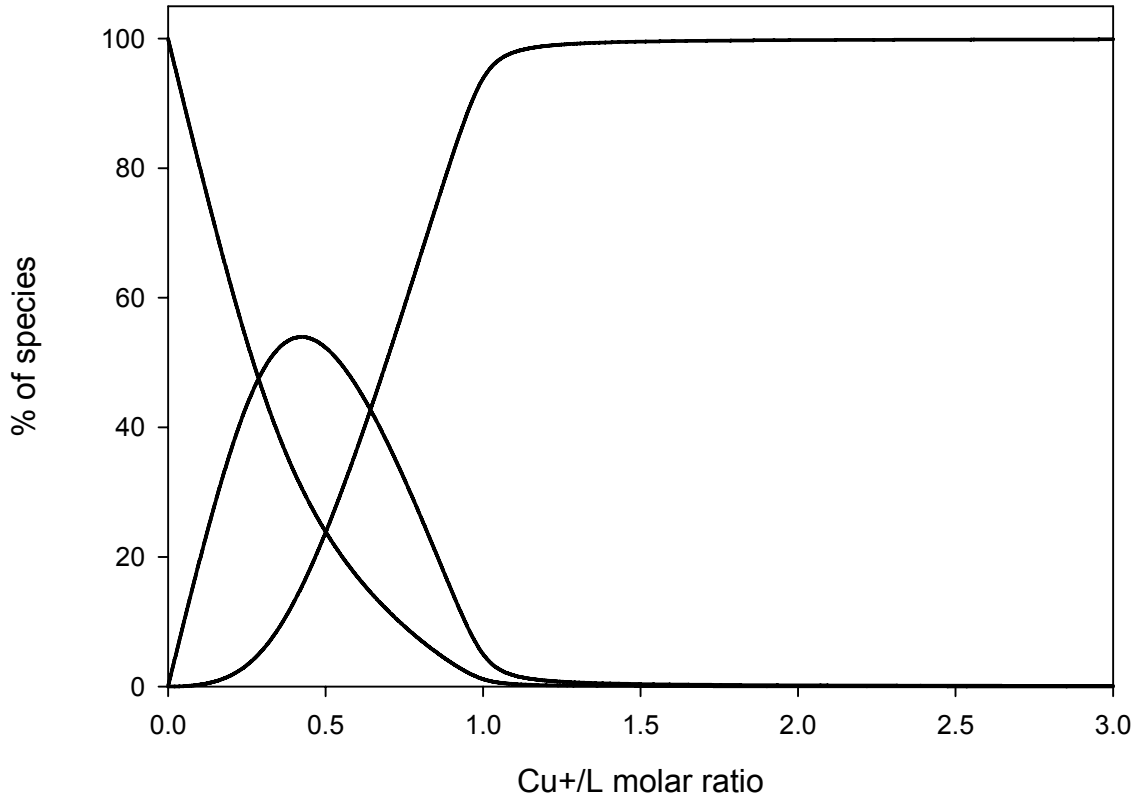


Figure S2. **L** = **L2**. At a 1:1 Cu^{+}/**L2** molar ratio, the helicate $[\mathbf{L2}_2Cu_2]^{2+}$ species represent the 94.2% of the ligand.

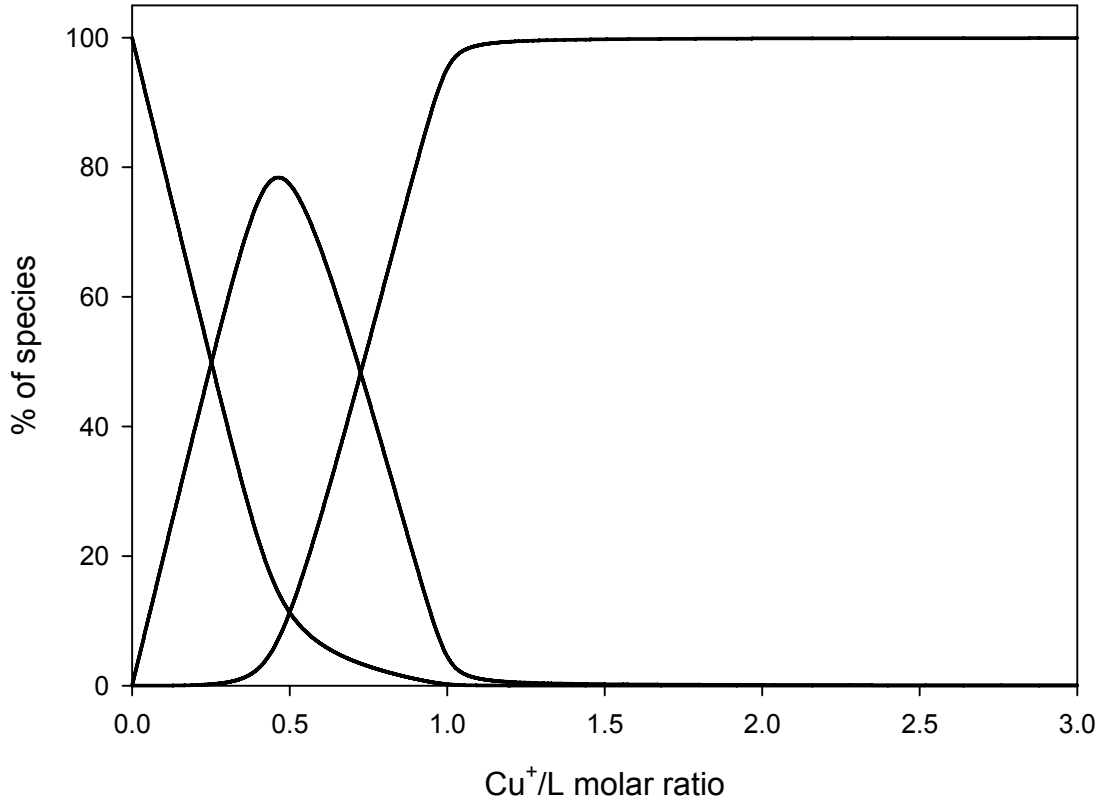


Figure S3: NMR spectrum (aromatic zone) of $[\mathbf{L1}_2Cu_2]^{2+}$ in CD_3CN. $[\mathbf{L1}_2Cu_2](ClO_4)_2$: δ 8.68 (d, 4H, J=8.3 Hz), 8.18 (4H, **H**C=N), 8.13 (d, 4H, J=8.3 Hz), 7.54 (m, 8H), 6.90 (d, 4H, J=6.4)

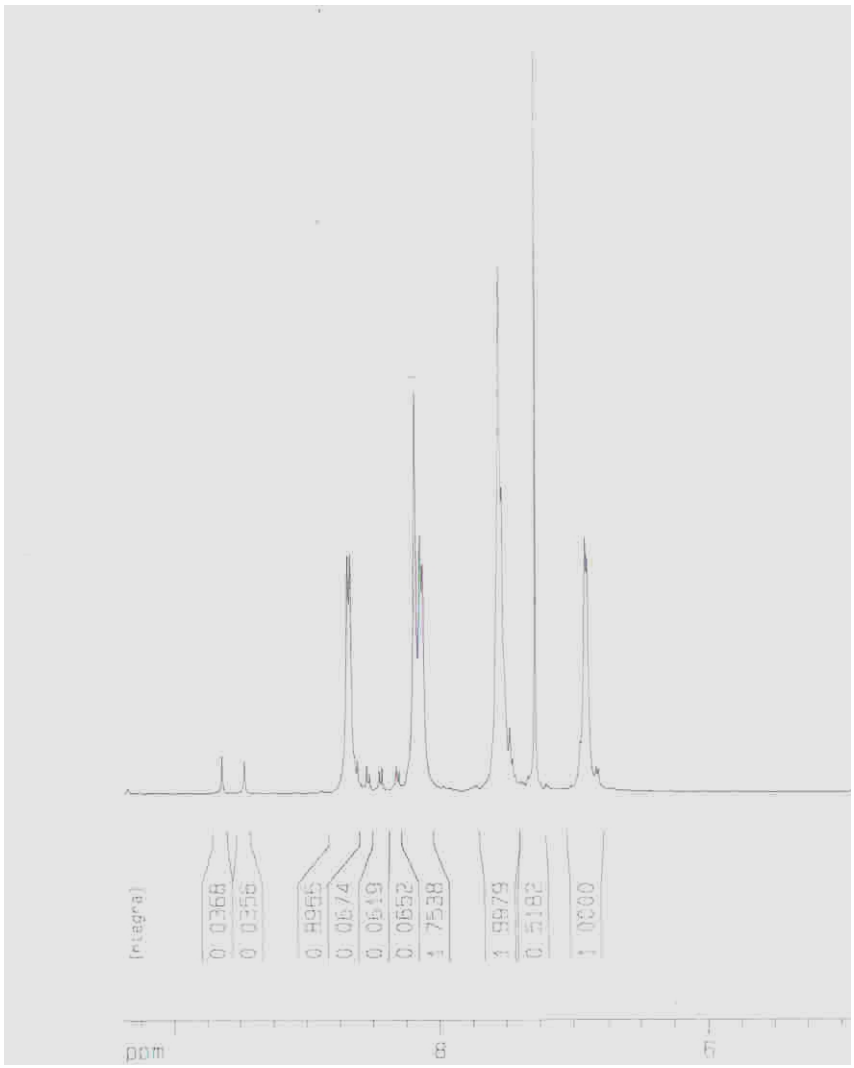
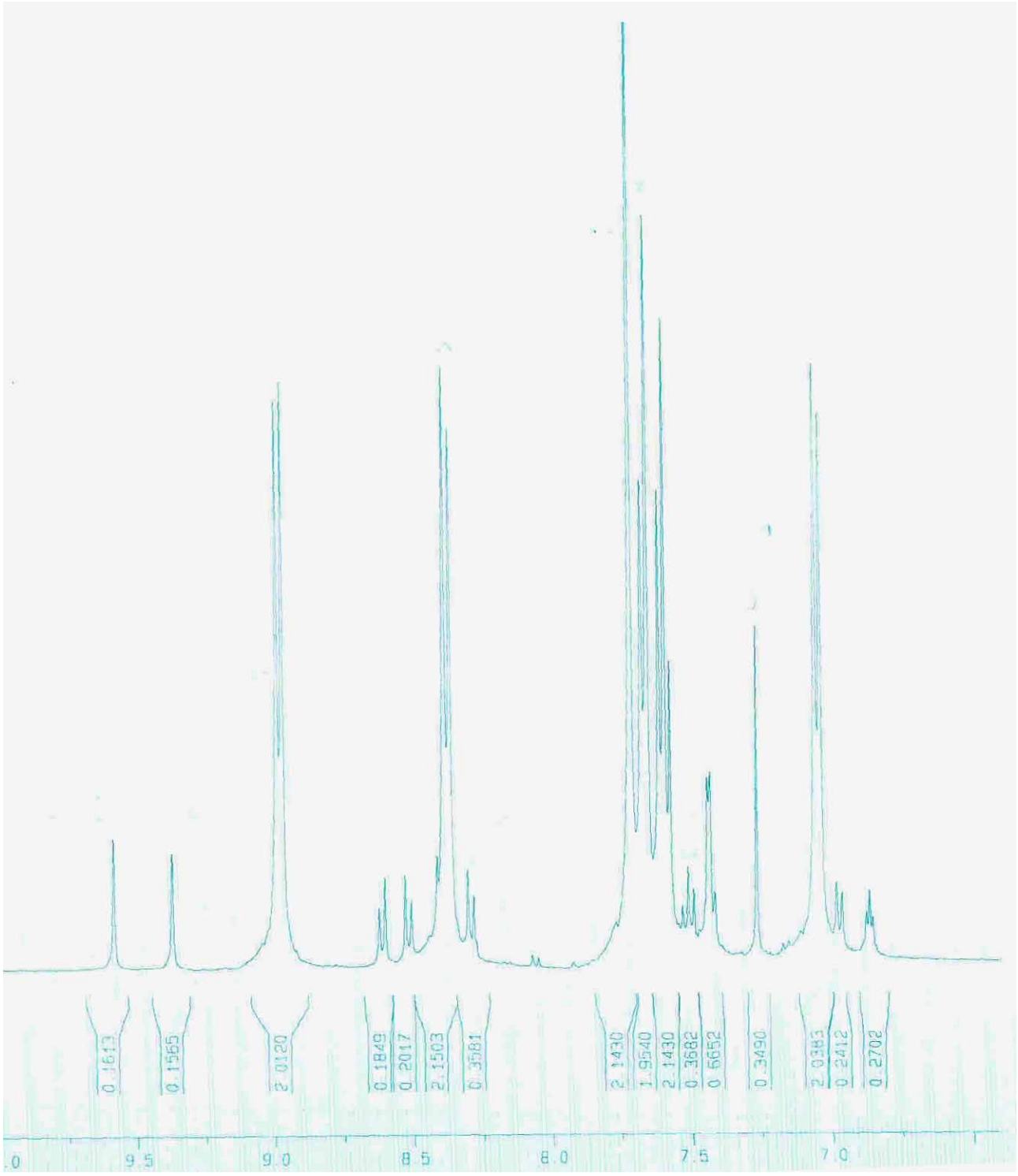


Figure S4: NMR spectrum (aromatic zone) of $[\mathbf{L2}_2Cu_2]^{2+}$ in CD_3CN. $[\mathbf{L2}_2Cu_2](ClO_4)_2$: δ 8.98 (d, 4H, J=7.8 Hz), 8.38 (4H, d, J=7.8 Hz), 7.72 (s, 4H, **H**C=N), 7.67 (d, 4H, J=7.8 Hz), 7.60 (t, 4H, J=7.8 Hz), 7.05 (d, 4H, J=7.8 Hz)



Supplementary Material (ESI) for New Journal of Chemistry

Figure S5. Series of spectra relative to the Controlled potential coulometry (oxidation) of $[\mathbf{L1}_2Cu_2]^{2+}$. The band at ~ 400 nm and at 580 nm decreases in intensity, the band under 350 nm increases. In the inset, the quantity of charge passed through the electrode is plotted versus time. 1 Q.C. corresponds to the full oxidation of the complex (two moles of electrons per mol of complex)..