

Circularly polarized Luminescence activity in the Near Infrared spectral region from a water-soluble Ytterbium(III) complex containing a conjugated chromophoric ligand

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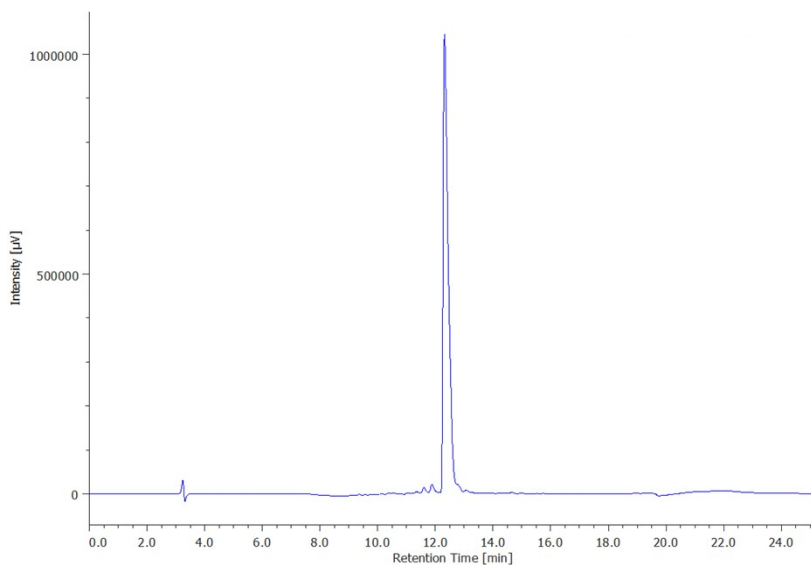
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Electronic Supporting information



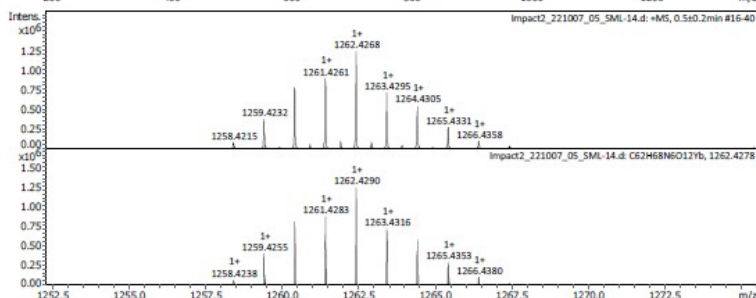
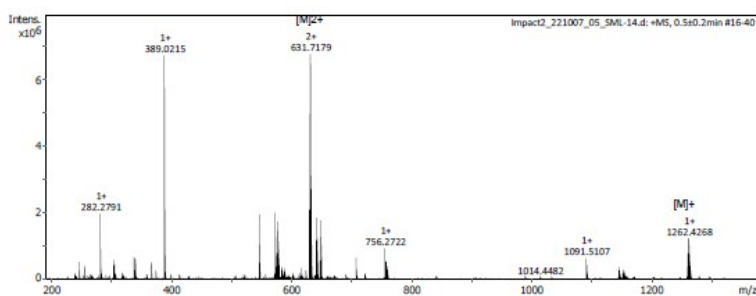
CENTRE COMMUN DE SPECTROMETRIE DE MASSE

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Acquisition Parameter

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Scan End	1500 m/z	Set Collision Cell RF	1500.0 Vpp	Set Divert Valve	Source



Meas. m/z	Ion Formula	m/z	Sum Formula	err [ppm]	mSigma	Adduct	z
1262.4268	C62H68N6O12Yb	1262.4278	C62H68N6O12Yb	1.7	12.2	M	1+

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Analysis Info

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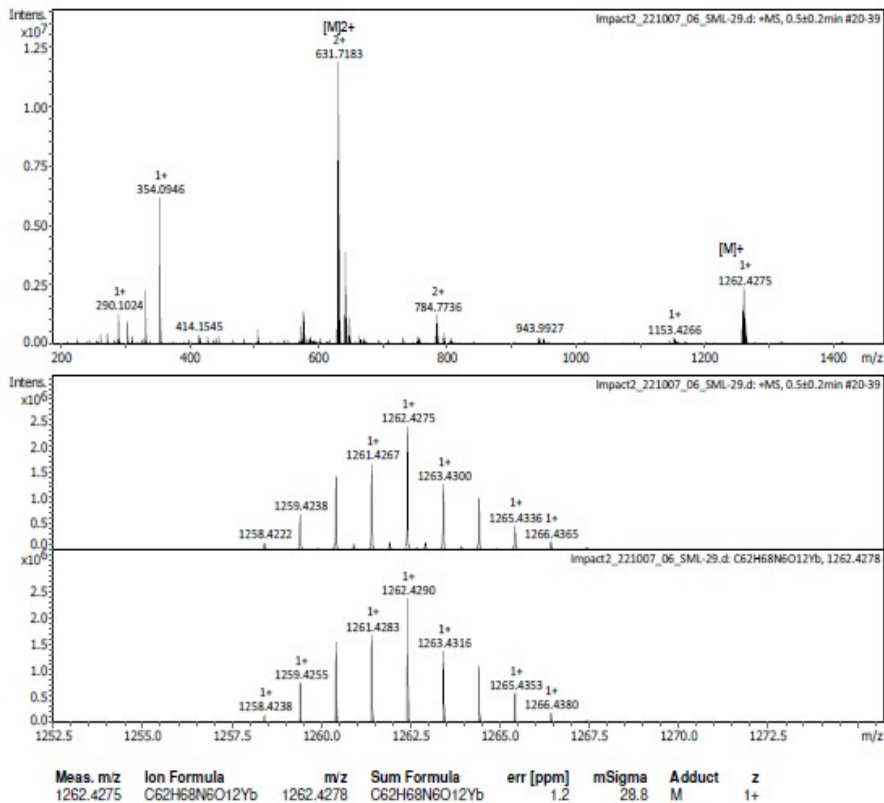


Figure S1. HPLC trace of **1** (*R,R*) (the one of the (*S,S*) enantiomer is superimposable), $t_R = 12.40$ min., C-18 column, mobile phase: gradient from 15% to 100% of acetonitrile in 0.25 M ammonium formate water solution (up); HR-MS spectra of (*S,S*)-[YbL]Cl (middle) and (*R,R*)-[YbL]Cl (bottom) complexes.

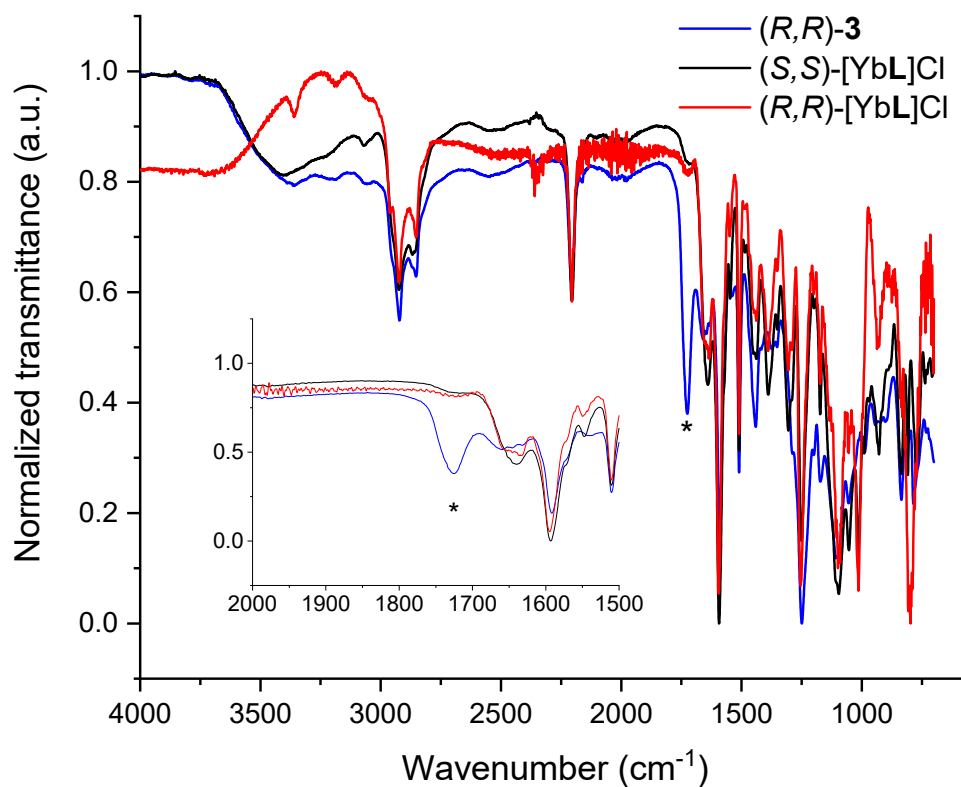


Figure S2. Overlap of FT-IR spectra of both the enantiomers of [YbL]Cl complex and the ligand (R,R)-1, with enlarged region of C=O vibrations.

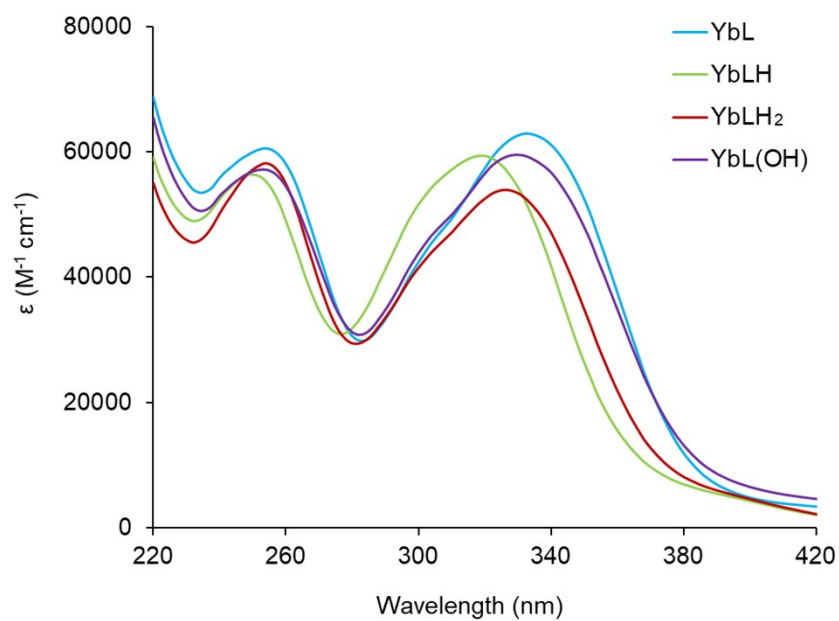


Figure S3. Molar absorbances of the Yb(III) species in Table 1 calculated by fitting the experimental titration data.

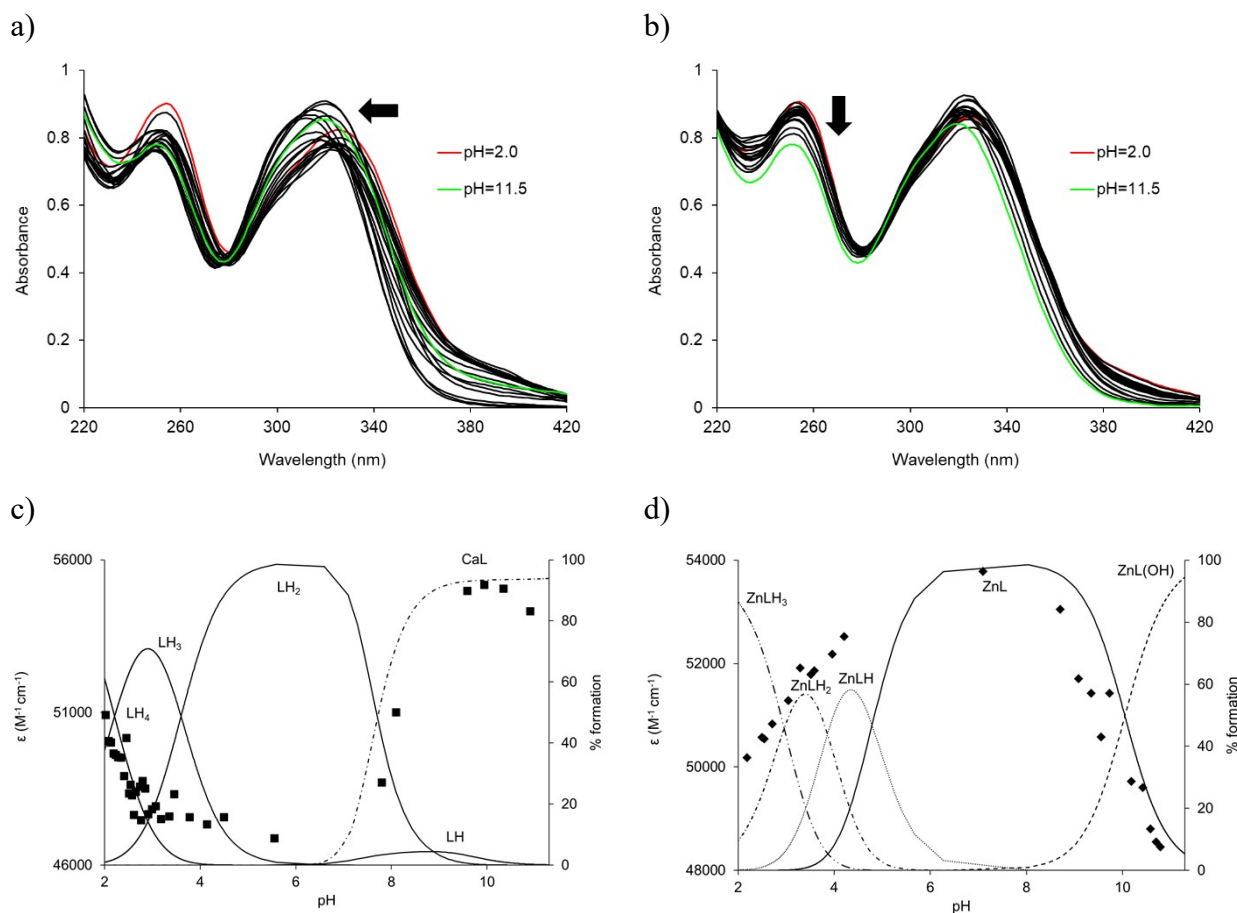


Figure S4. UV-vis absorption spectra changes during the acid-base titration of the ligand L (0.016 mM) in presence of an equimolar quantity of Ca(II) (a) and Zn(II) (b); (c) evolution of the molar absorptance (ϵ) at $\lambda = 332$ nm during the titration of Ca(II) (■) and Zn(II) (◆) respectively. Species distribution relative to the total metal in solution calculated on the basis of the equilibrium constants in Table 1.

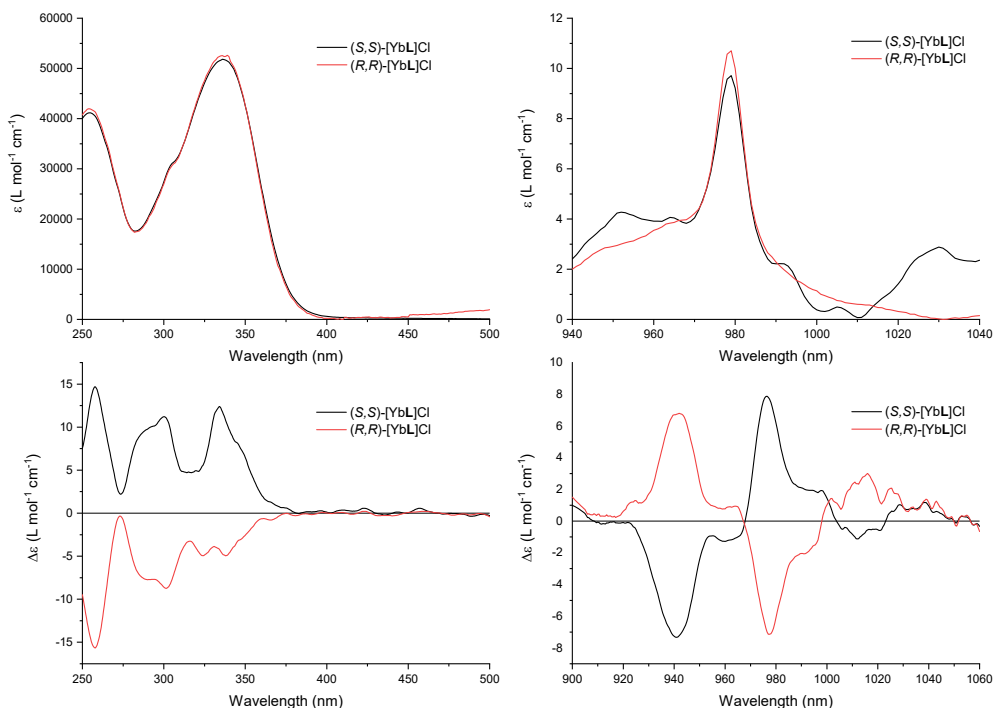


Figure S5. Room temperature absorption spectra of both the enantiomers of [YbL]Cl in the UV-Vis range (10^{-6} M methanol solution) (up, left) and in the IR range (1.5 M methanol solution) (up, right) and their ECD spectra in the UV-Vis range (10^{-5} M methanol solution) (bottom, left) and in the IR range (1.5 M methanol solution) (bottom, right).

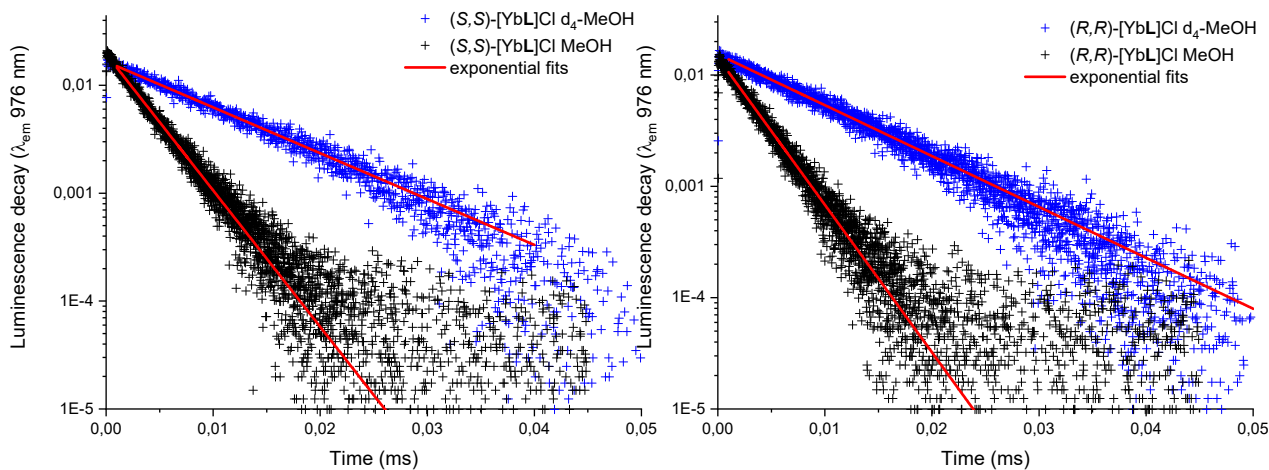


Figure S6. Luminescence decay of both enantiomers of [YbL]Cl in methanol and deuterated methanol. Excitation at 336 nm.