## Supporting information



Figure S1. pH dependence of the absorption spectra of Terpyridine in aqueous solution [L]=  $1.95.10^{-5}$ 



Figure S2. Distribution diagrams of the species for the systems  $L\setminus Zn(II)$  at different concentrations in NMe<sub>4</sub>Cl 0.1 mol dm<sup>-3</sup> at 298.1 K;  $[L] = [Zn^{2+}] = 1 \cdot 10^{-2} \text{ M}$  (a),  $[L] = [Zn^{2+}] = 1 \cdot 10^{-3} \text{ M}$  (b),  $[L] = [Zn^{2+}] = 1 \cdot 10^{-4} \text{ M}$  (c),  $[L] = [Zn^{2+}] = 1 \cdot 10^{-5} \text{ M}$  (d).



Figure S3.  $\varepsilon$  values at 310 nm (**n**) and 335 nm (**•**) measured on solutions with different concentrations of the Zn(II) complex with **L** at pH 9.9 (a) and 11.0 (b) as a function of the overall percentage of the dimeric species ( $[Zn_2L_2H]^{5+} + [Zn_2L_2(OH)]^{3+}$ ) calculated on the basis of the potentiometric results.