

Supplementary material

Trimetallic rare earth metal complexes based on 1,3,5-triamino-1,3,5-trideoxy-*cis* inositol as catalysts for the hydrolysis of phosphodiester

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Description of kinetic experiments:

UV-Vis spectroscopy was used to examine the hydrolytic activity of taci complexes towards HPNP by following the increase in absorption at 400 nm due to the release of NP. The reaction solution was maintained at a constant temperature (usually 310 and 323 K) and the ionic strength was adjusted to 0.10 mol dm^{-3} using NaCl. The buffer MOPS (3-(N-morpholino) propanesulfonic acid) was used to maintain the pH at a constant value. In a typical experiment, 1.5 mL of a 50 mM stock solution of the complex and 1.5 mL of a 50 mM stock solution of HPNP were mixed in a 10mm UV-Vis cell, resulting in a 0.25 mM final concentration of 0.25 mM for the complex and the substrate. Figure 1 shows a UV-Vis spectra of the reaction mixture containing $\text{Y}_3(\text{taci})_2$ (0.25 mM) and HPNP (0.25 mM) at pH = 7.04 and $T = 50^\circ\text{C}$, recorded every 30 min upon mixing.

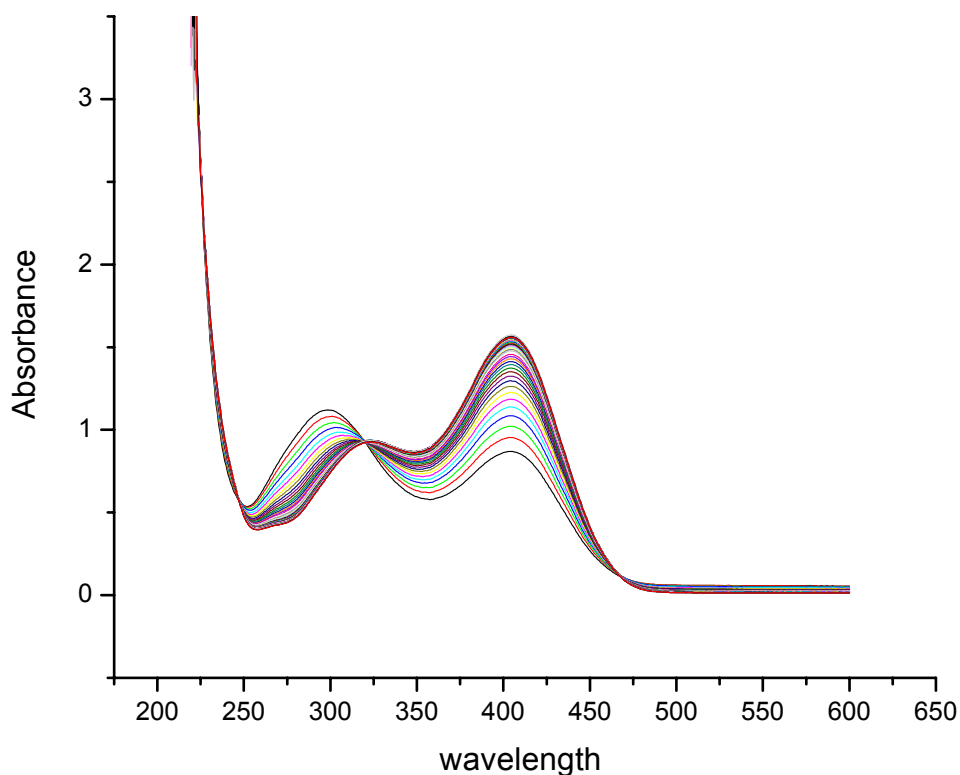


Figure 1

To obtain the kinetic parametiras the absorbance values recorded at different reaction times were plotted as shown in Figure 2. The plotted curve was fitted using a first order exponential decay fit,

$$y = A_1 \cdot e^{(-x/t_1)} + y_0.$$

The value of t_1 obtained from the fitting procedure was used to obtain k_{obs} via following equation:

$$k_{obs} = 1/t_1$$

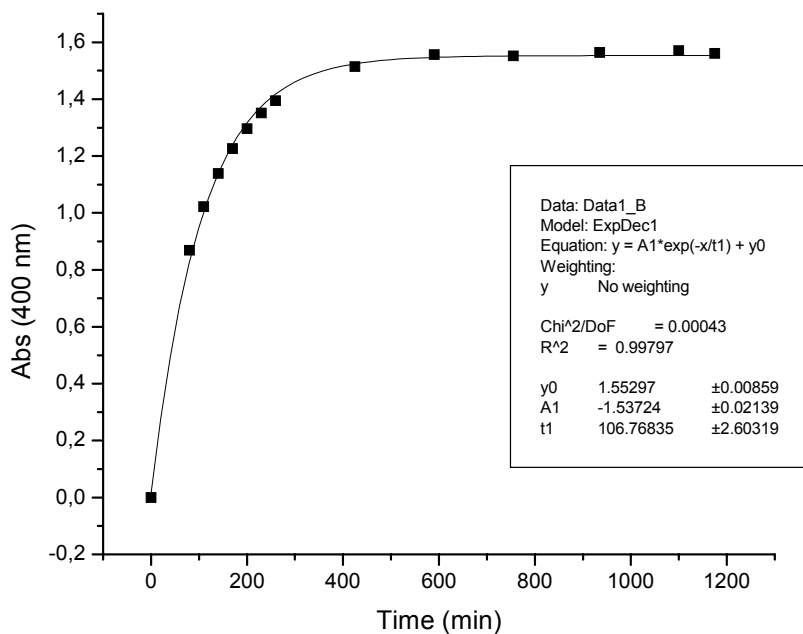


Figure 2