Electronic Supplementary Information

for

Thermodynamic study of lanthanide(III) complexes with bifunctional monophosphinic acid analogues of H_4dota and comparative kinetic study of yttrium(III) complexes with H_4dota-like ligands

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Figure S1 Dependence of ^{1}H (A) and ^{31}P (B) NMR chemical shift on pH.

Figure S2 An example of the data obtained for the formation of yttrium(III)-macrocycle complexes in the presence of Arsenazo III (c_Y = 7.8×10^{-7} mol dm^{-3}, c_{Lig} = 1.7×10^{-5} mol dm^{-3}, pH 6.07).

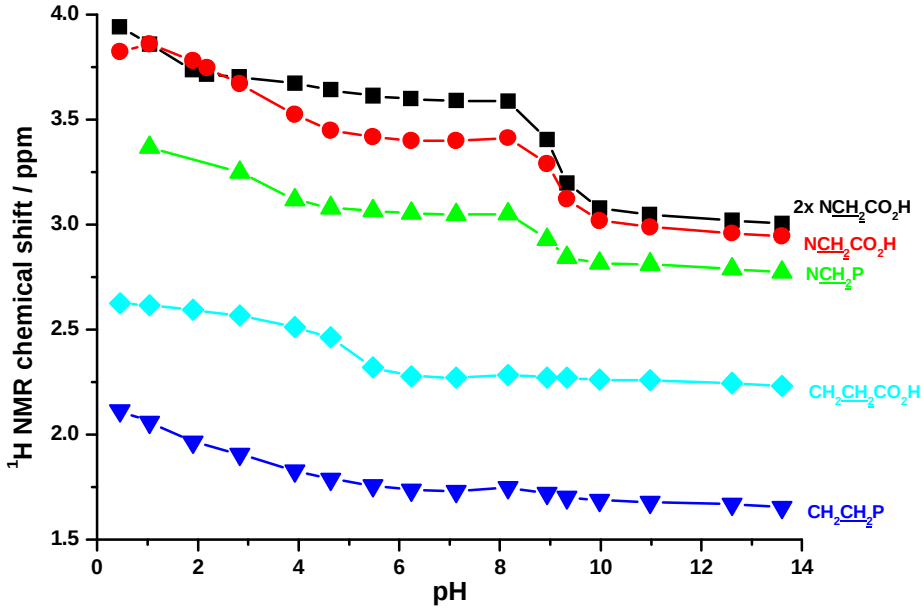
Figure S3 An example of the experimental data obtained for the formation of the yttrium(III) complex of H_5do3ap^{PrA} in presence of Arsenazo III (c_Y = 7.8×10^{-7} mol dm^{-3}, c_{Lig} = 1.7×10^{-5} mol dm^{-3}) at different pH values.

Figure S4 Correlation of rate constant k_H for dissociation of the yttrium(III) complexes with the first protonation constant of the ligands. The solid line was fitted for all the studied ligands and the dotted line was fitted only through three the most similar ligands (H_4dota, H_5do3ap^{PrA} and H_4do3ap^{ABn}).

Figure S1

Dependence of ^{1}H (**A**) and ^{31}P (**B**) NMR chemical shift on pH.

A



B

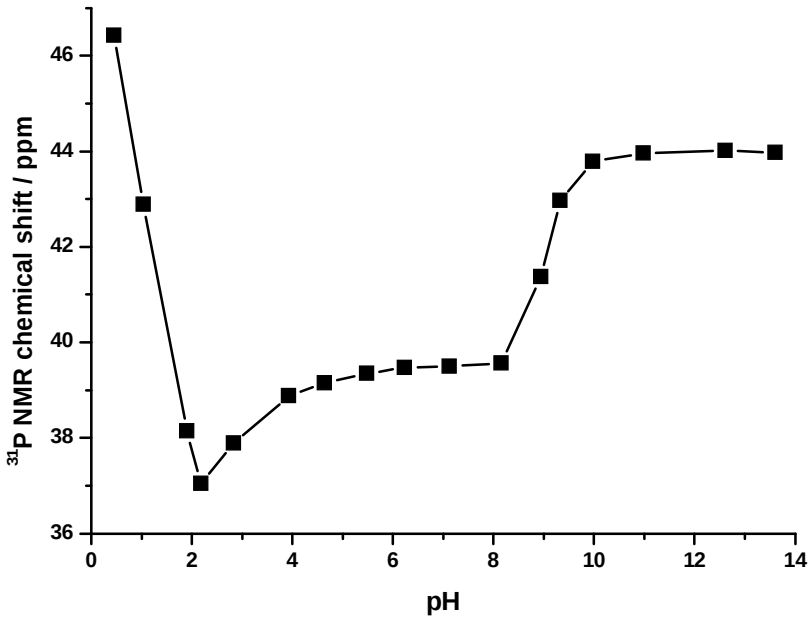


Figure S2

An example of the data obtained for the formation of yttrium(III)-macrocycle complexes in the presence of Arsenazo III (c_Y = 7.8×10^{-7} mol dm^{-3}, c_{Lig} = 1.7×10^{-5} mol dm^{-3}, pH 6.07).

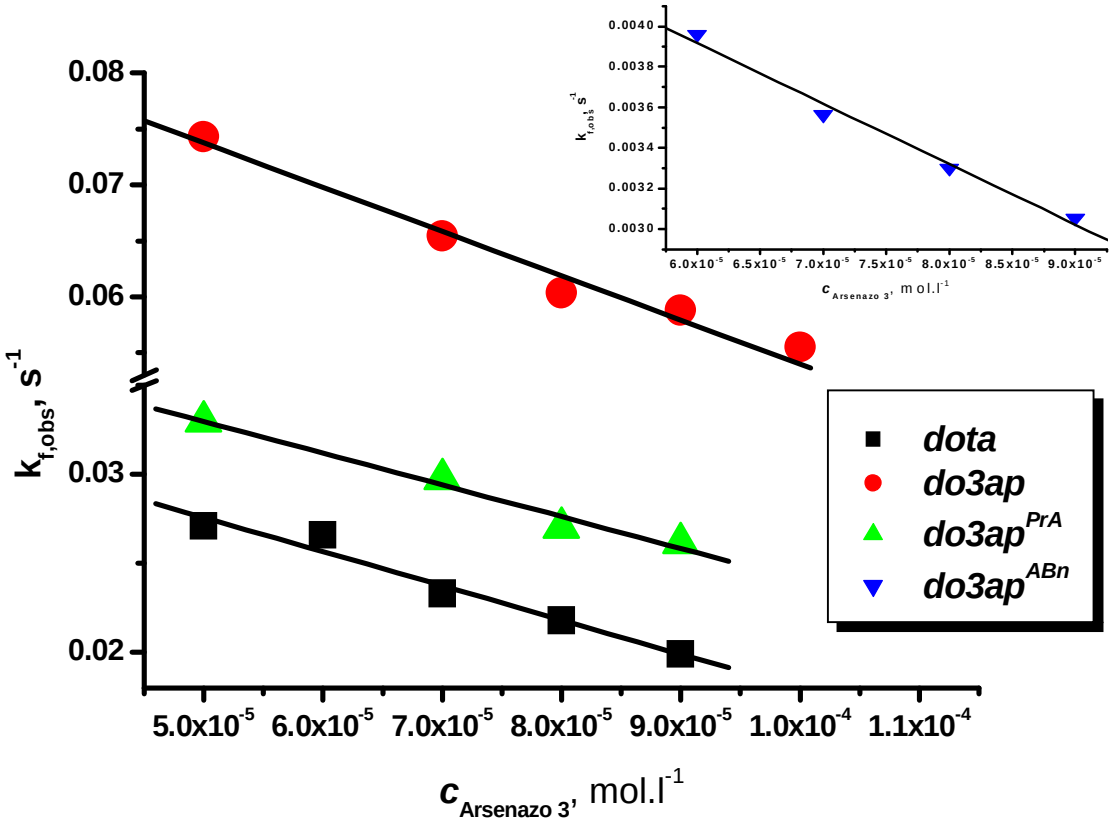


Figure S3

An example of the experimental data obtained for the formation of the yttrium(III) complex of H_5do3ap^{PrA} in presence of Arsenazo III (c_Y = 7.8×10^{-7} mol dm^{-3}, c_{Lig} = 1.7×10^{-5} mol dm^{-3}) at different pH values.

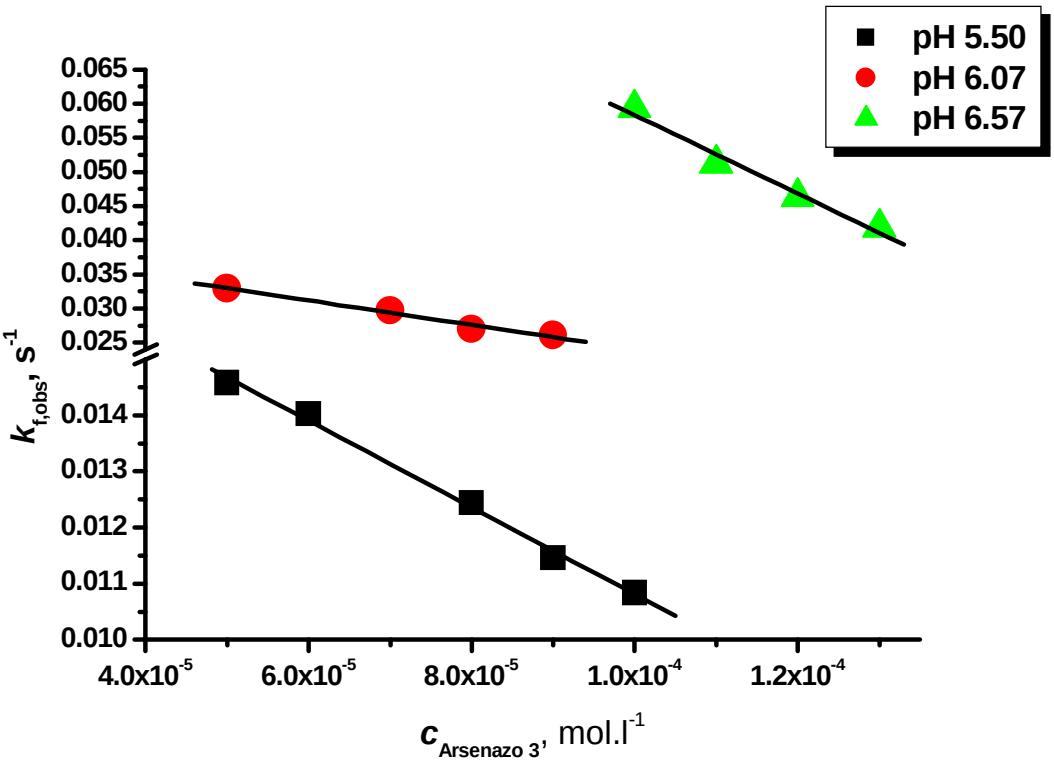


Figure S4

Correlation of rate constant k_H for dissociation of the yttrium(III) complexes with the first protonation constant of the ligands. The solid line was fitted for all the studied ligands and the dotted line was fitted only through three the most similar ligands (H_4dota, H_5do3ap^{PrA} and H_4do3ap^{ABn}).