Supplementary Material (ESI) for Dalton Transactions

Supplementary Information for

Equilibrium and NMR spectroscopic studies on the gadolinium(III), yttrium(III), copper(II) and zinc(II) complexes formed with the DTPA-N,N''-bis(amide), -bis(n-butylamide) and –bis[bis(n-butylamide)] ligands. Kinetic stabilities of the gadolinium(III) complexes

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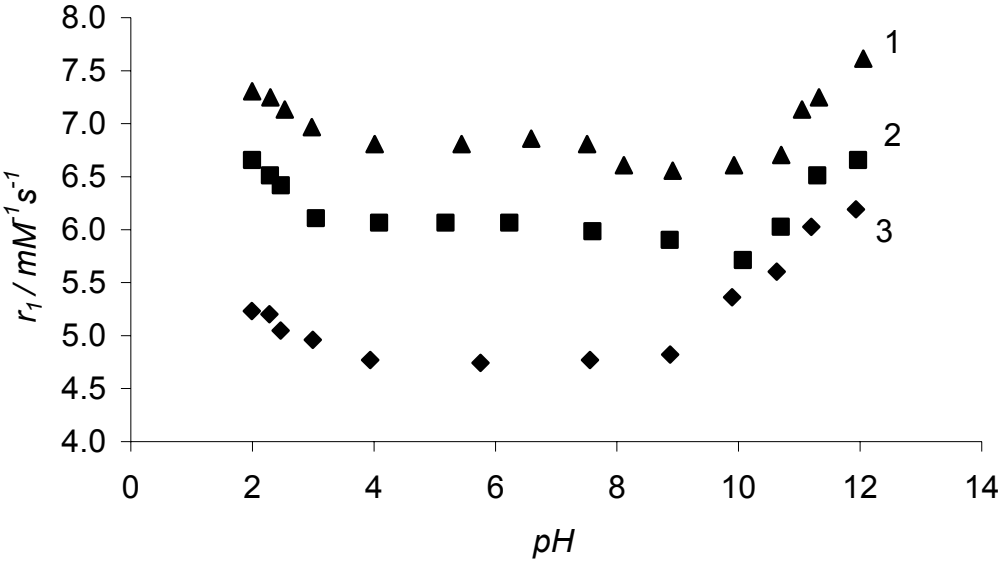

Figure S1 pH dependence of the relaxivities of the Gd^{3+} complexes [(**1**) GdL^{2}, (**2**) GdL^{1}, (**3**) GdL^{0}, 25°C, [GdL] = 1×10^{-3} M, 9 MHz]

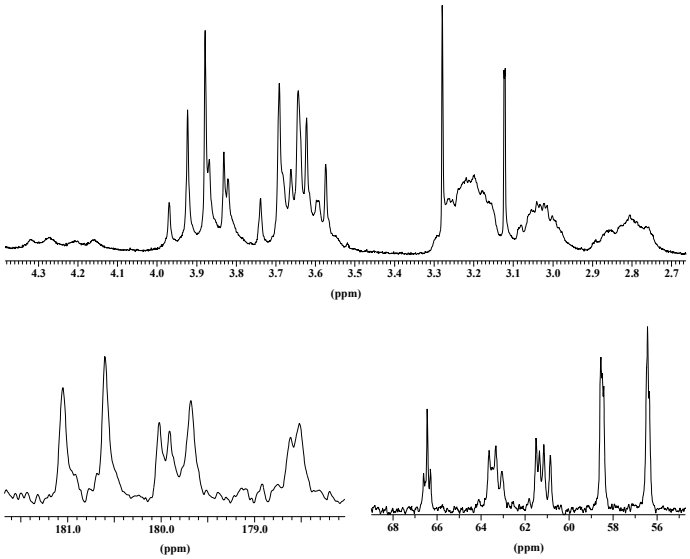

Figure S2 ^{1}H (upper) and ^{13}C NMR spectra of YL^{0} complex. The bottom left spectrum shows the *C*O region while the *C*H_2 peaks are shown in the bottom right spectrum. T= 323 K, pH = 5.8 and *c*= 0.05 M in D_2O solution.

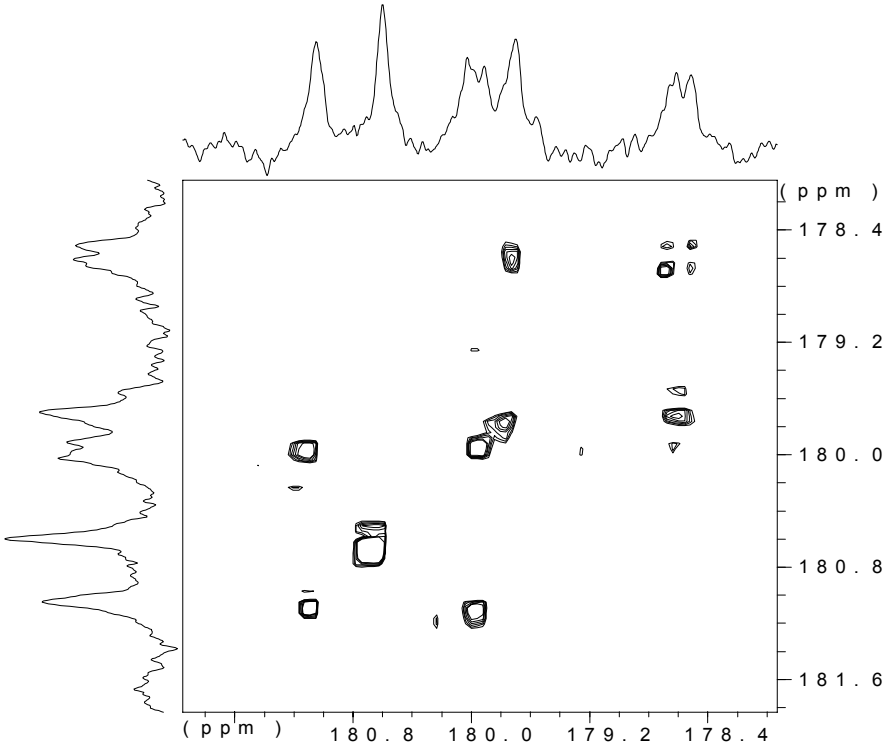

Figure S3. ^{13}C 2D EXSY NMR spectrum of YL^0 complex. The carbonyl region is shown. T= 323 K, pH = 5.8 and *c*= 0.05 M in D_2O solution.

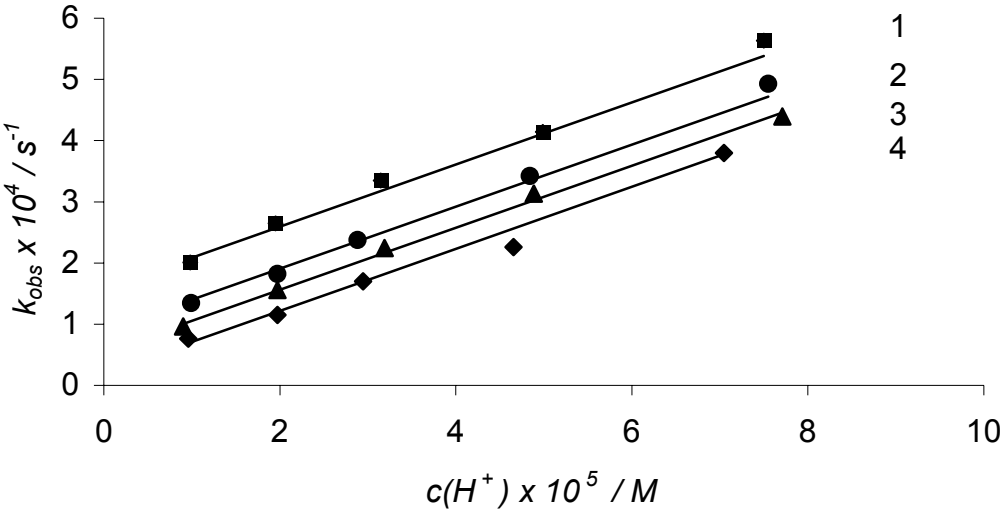

Figure S4 Pseudo-first-order rate constants of the exchange reactions between GdL^1 (5×10^{-4} M) and Zn^{2+}. $[Zn^{2+}]$= 0.03 M (**1**), 0.02 M (**2**), 0.015 M) (**3**) and 0.01 M (**4**) (25 °C, 1.0 M KCl)

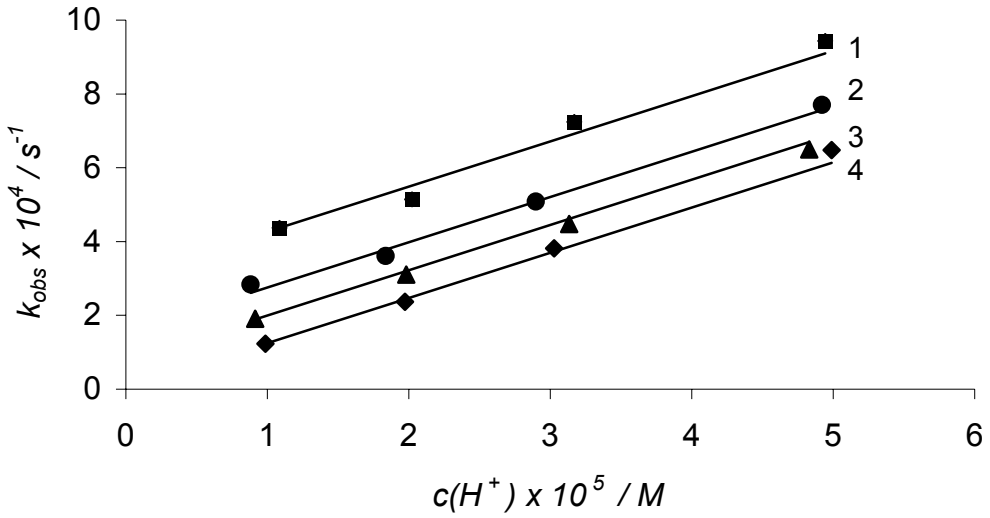

Figure S5. Pseudo-first-order rate constants of exchange reactions between GdL^0 (5×10^{-4} M) and Zn^{2+}. $[Zn^{2+}]$= 0.03 M (**1**), 0.02 M (**2**), 0.015 M (**3**) and 0.01 M (**4**) (25 °C, 1.0 M KCl)

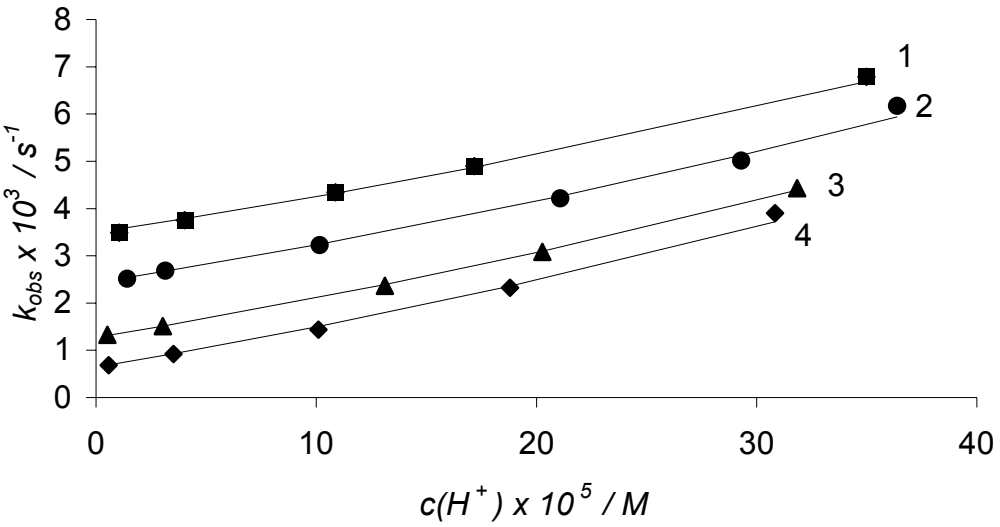

Figure S6. Pseudo-first-order rate constants of exchange reactions between GdL^1 (2×10^{-4} M) and Cu^{2+}. $[Cu^{2+}]= 6\times10^{-3}$ M (**1**), 4×10^{-3} M (**2**), 2×10^{-3} M (**3**) and 1×10^{-3} M (**4**) (25 °C, 1.0 M KCl)

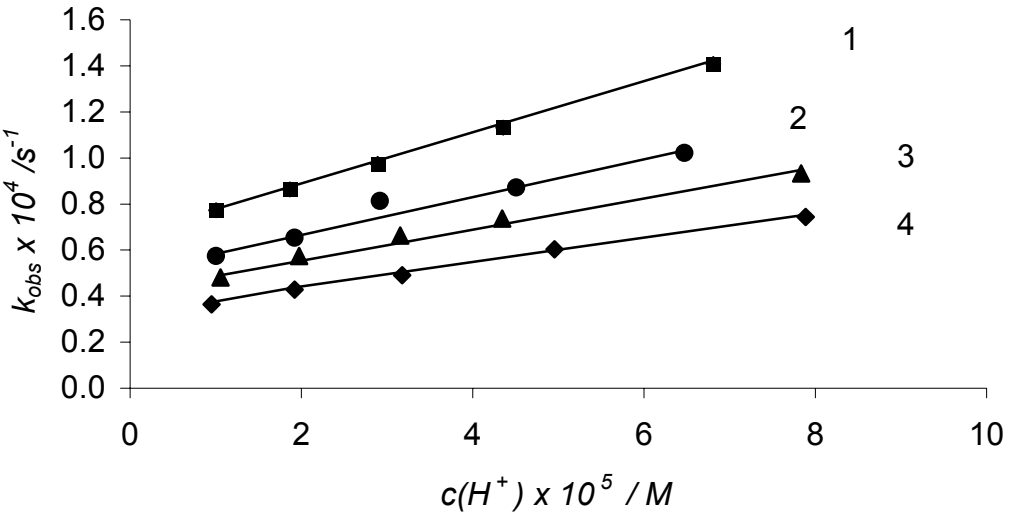

Figure S7. Pseudo-first-order rate constants of exchange reactions between GdL^2 (5×10^{-4} M) and Zn^{2+}. $[Zn^{2+}]$= 0.03 M (**1**), 0.02 M (**2**), 0.015 M (**3**) and 0.01 M (**4**) (25 °C 1.0 M KCl)

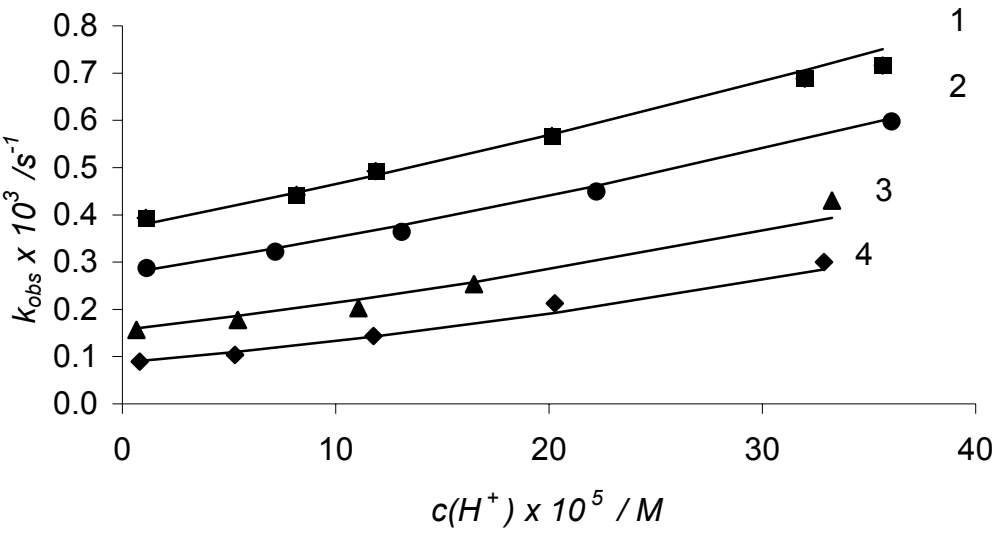

Figure S8. Pseudo-first-order rate constants of exchange reactions between GdL^2 (2×10^{-4} M) and Cu^{2+}. $[Cu^{2+}]= 6\times10^{-3}$ M (**1**), 4×10^{-3} M (**2**), 2×10^{-3} M (**3**) and 1×10^{-3} M (**4**) (25 °C, 1.0 M KCl)