Supporting Information

Sensitized terbium (III) macrocyclic-phthalimide complexes as luminescent pH switches
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\(^1\)H NMR study on the kinetics of the hydrolysis of lanthanum (III) complexes of \(L^{1a}\)

The samples of \(\text{LaL}^{1a}\) were prepared by mixing 0.02 M stock solutions of \(\text{La}(\text{III})\) and \(L^{1a}\) in \(\text{D}_2\text{O}\) in equivolumes. The initial pD was 2.5 and the \(^1\)H NMR spectrum, recorded at room temperature, was obtained after a period 5 minutes after the pD had stabilized. The \(^1\)H NMR of the sample was then re-run every 5 minutes for a total period of 1 hour. A second, fresh solution \(\text{LaL}^{1a}\) in \(\text{D}_2\text{O}\) was prepared in the same way and then the pD was adjusted by addition of \(\text{NaOD}\) (0.5 M) to 4.6. The \(^1\)H NMR spectrum was recorded 5 minutes after the pD had stabilized and the \(^1\)H NMR of the sample was re-recorded every 5 minutes for a total period of 1 hour. Similar experiments were carried out at pD 6.5, 8.2, 9.8 and 11.1 respectively.

![Figure S1. \(^1\)H NMR (D\(_2\)O) spectra of LaL\(^{1a}\) at various pD recorded 5 minutes after stabilization of pD; all subsequent NMR spectra from later time points were identical indicating equilibrium established within 5 minutes.](image-url)