

Supporting Information

Fixation of carbon dioxide by macrocyclic lanthanide(III) complexes under neutral condition producing self-assembled trimeric carbonato-bridged compounds with $\mu_3\text{-}\eta^2\text{:}\eta^2\text{:}\eta^2$ bonding † ‡

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Fig. S1 ^1H NMR spectra of $[\{\text{Lu}(\text{LH}_2)(\text{H}_2\text{O})\text{Cl}\}_3(\mu_3\text{-CO}_3)](\text{ClO}_4)_4 \cdot 7\text{H}_2\text{O}$ (**7**) in (a) CD_3CN and (b) $(\text{CD}_3)_2\text{SO}$. The solvent and water peaks are marked with asterisks.

Fig. S2 ^1H NMR spectra of $[\{\text{Nd}(\text{LH}_2)(\text{H}_2\text{O})\text{Cl}\}_3(\mu_3\text{-CO}_3)](\text{ClO}_4)_4 \cdot \text{H}_2\text{O}$ (**2**) in (a) CD_3CN and (b) $(\text{CD}_3)_2\text{SO}$.

Fig. S3 The structural representing for the complex cations (a) $[\{\text{Nd}(\text{LH}_2)(\text{H}_2\text{O})\text{Cl}\}_3(\mu_3\text{-CO}_3)]^{4+}$ (b) $[\{\text{Tb}(\text{LH}_2)(\text{H}_2\text{O})\text{Cl}\}_3(\mu_3\text{-CO}_3)]^{4+}$.

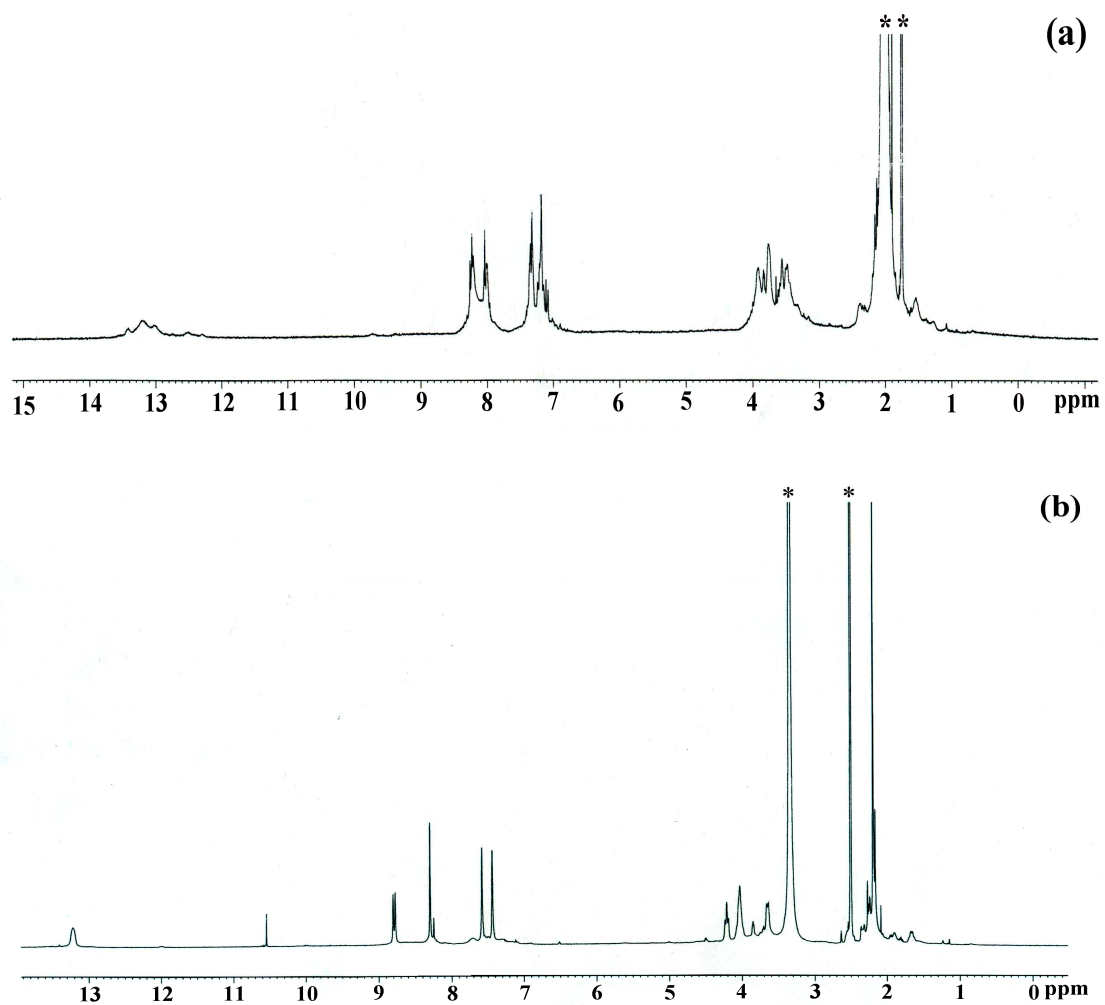


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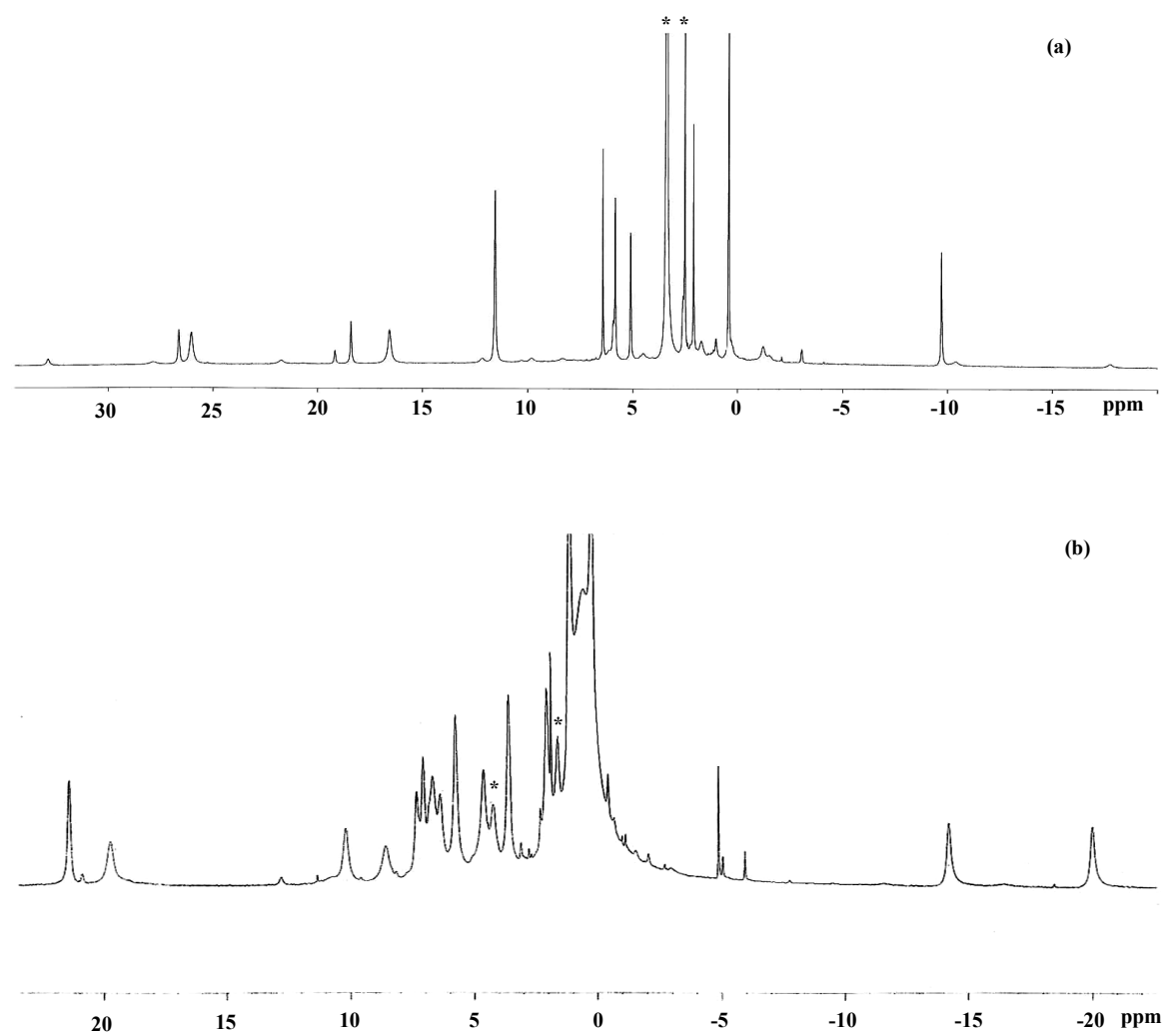


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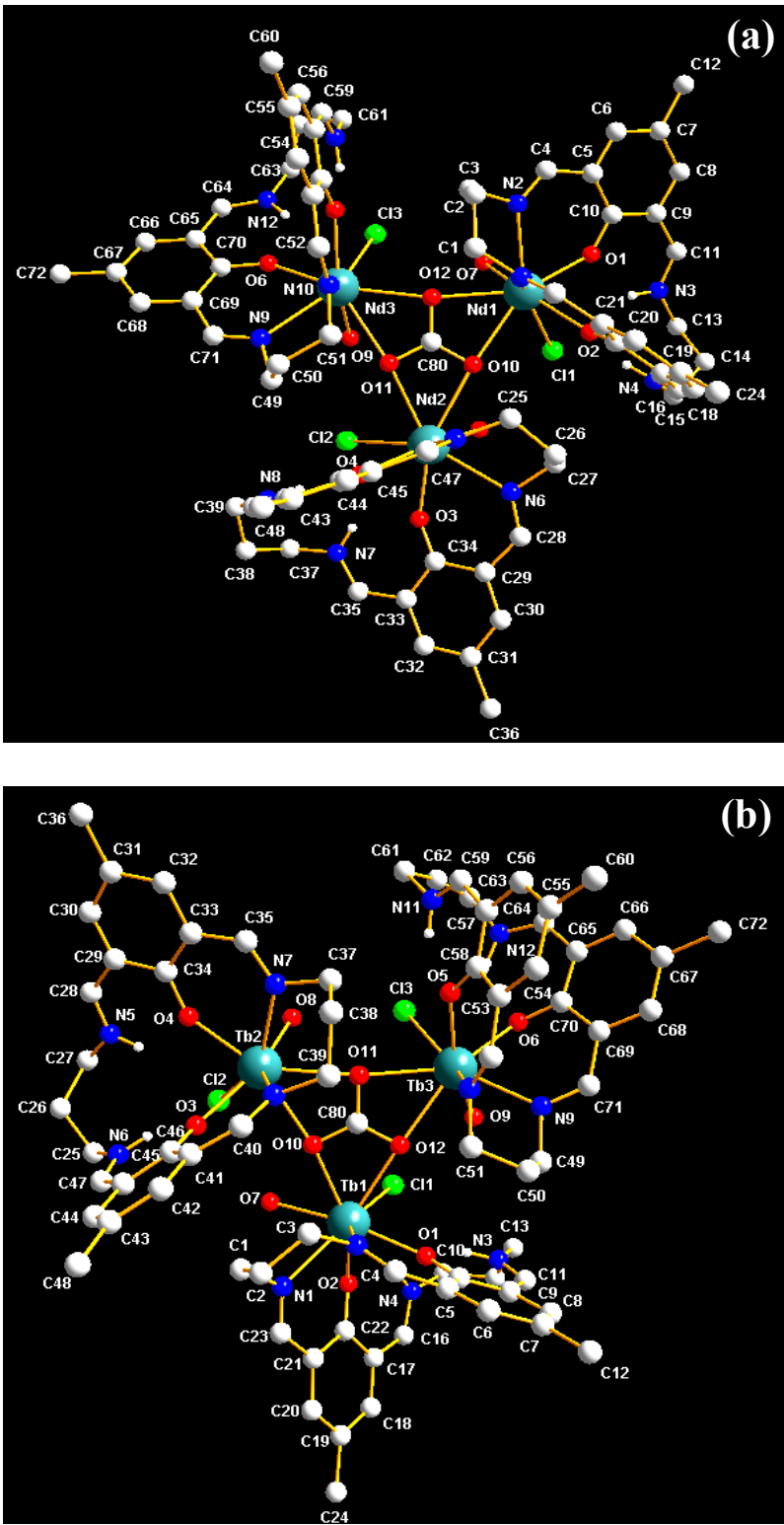


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