

Supplementary information

Photo-physical and Opto-electronical Studies of 1.06 and 13.3 μm Emissive Neodymium complexes

Zubair Ahmed,^{1,2*} Asgar Ali,³ Faisal Imam,⁴ Rafael S. Carvalho,⁵ Marco Cremona⁵

¹Department of Chemistry, School of Basic and Applied Sciences, Galgotias University, Greater Noida, India.
zubairchem011@gmail.com.

²Institute of Organic Synthesis and Photoreactivity (ISOF), National Research Council of Italy (CNR), Bologna, 40129, Italy.

³Lanthanide Research Laboratory, Department of Chemistry, Jamia Millia Islamia, New Delhi 110025, India.

⁴Department of Pharmacology and Toxicology, College of Pharmacy, King Saud University, Riyadh 11451, Saudi Arabia.

⁵Department of Physics, Pontifical Catholic University of Rio de Janeiro, PUC-Rio, Rio de Janeiro, RJ 22453-970, Brazil.

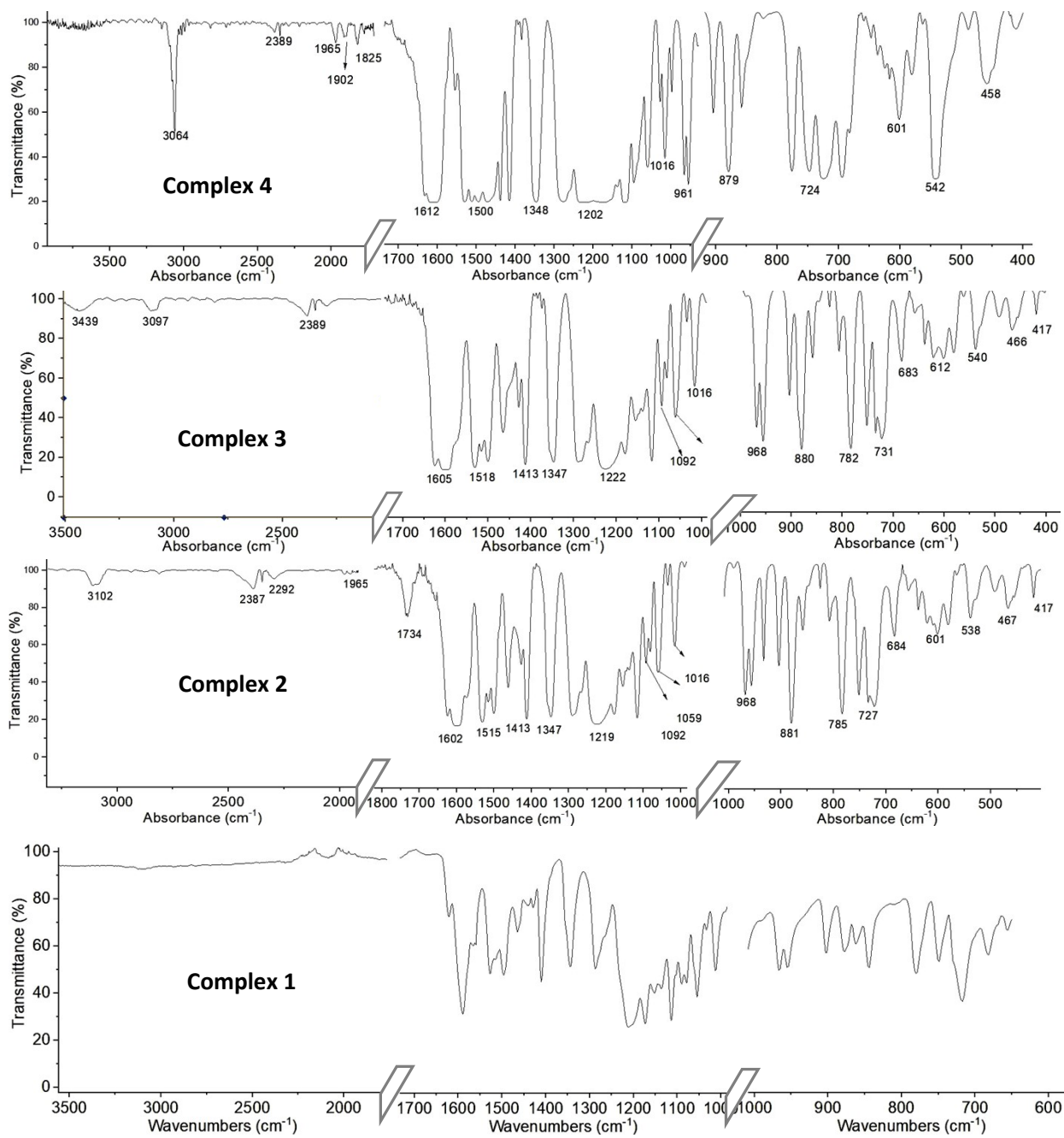


Fig. S1. FTIR spectra of the complexes, (1–4).

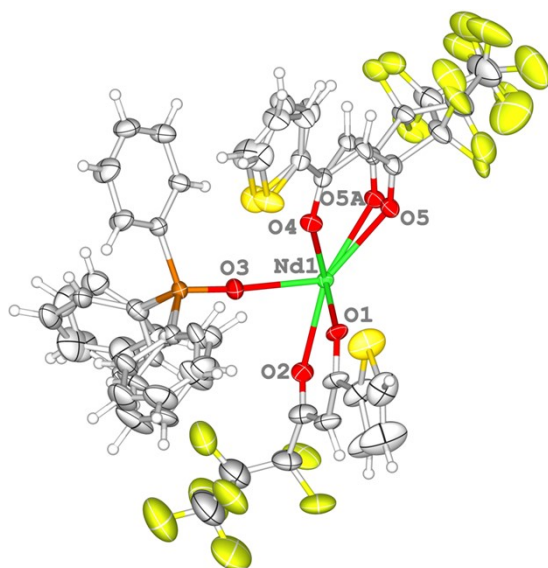


Fig. S2. ORTEP diagram drawn in 20% thermal probability ellipsoids showing asymmetric unit with partial atomic numbering scheme.

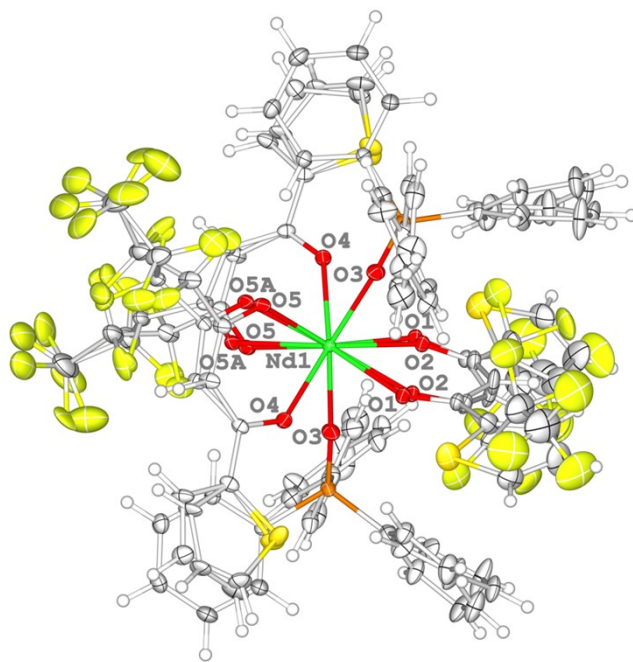


Fig. S3. ORTEP diagram of complete molecule showing partial atomic numbering scheme. Both the disordered components are drawn in 10% thermal probability ellipsoids for the sake of clarity.

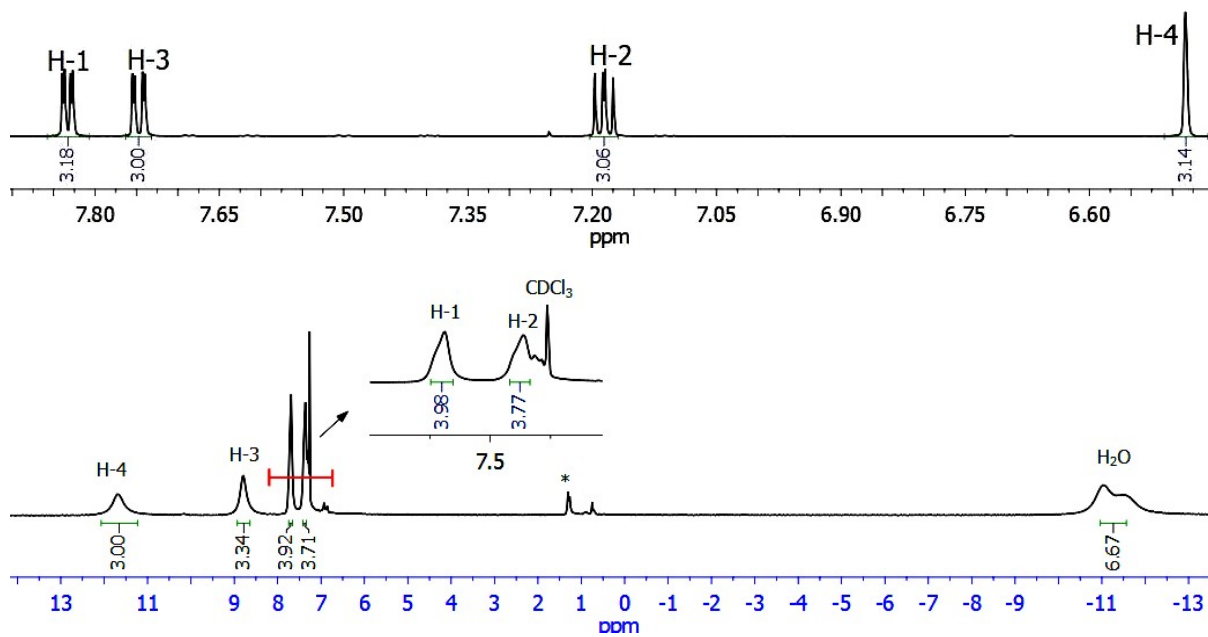


Fig. S4. ^1H NMR spectra of the free hth and chelate in CDCl_3 . Inset: resolution.

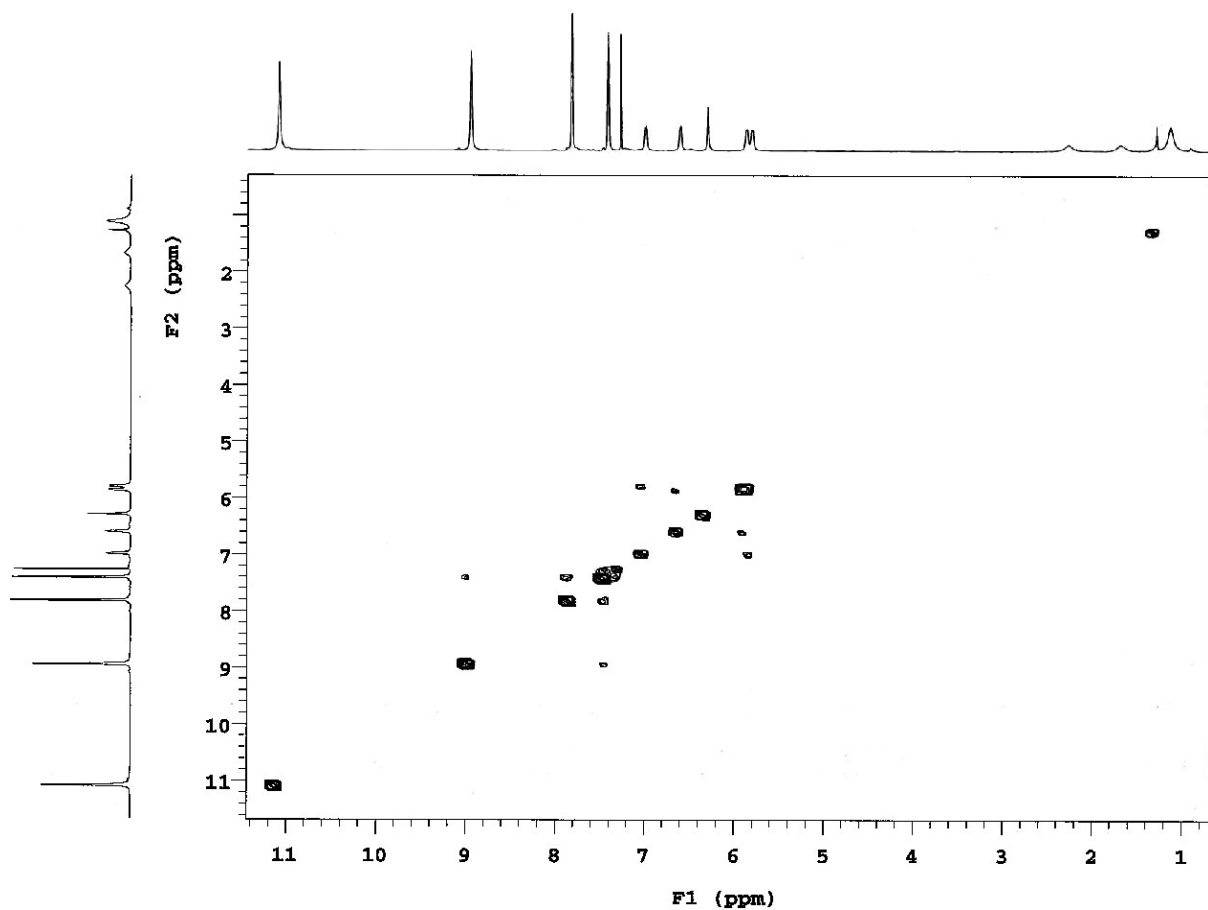


Fig. S5. COSY NMR spectrum of the complex **3** in CDCl_3 .

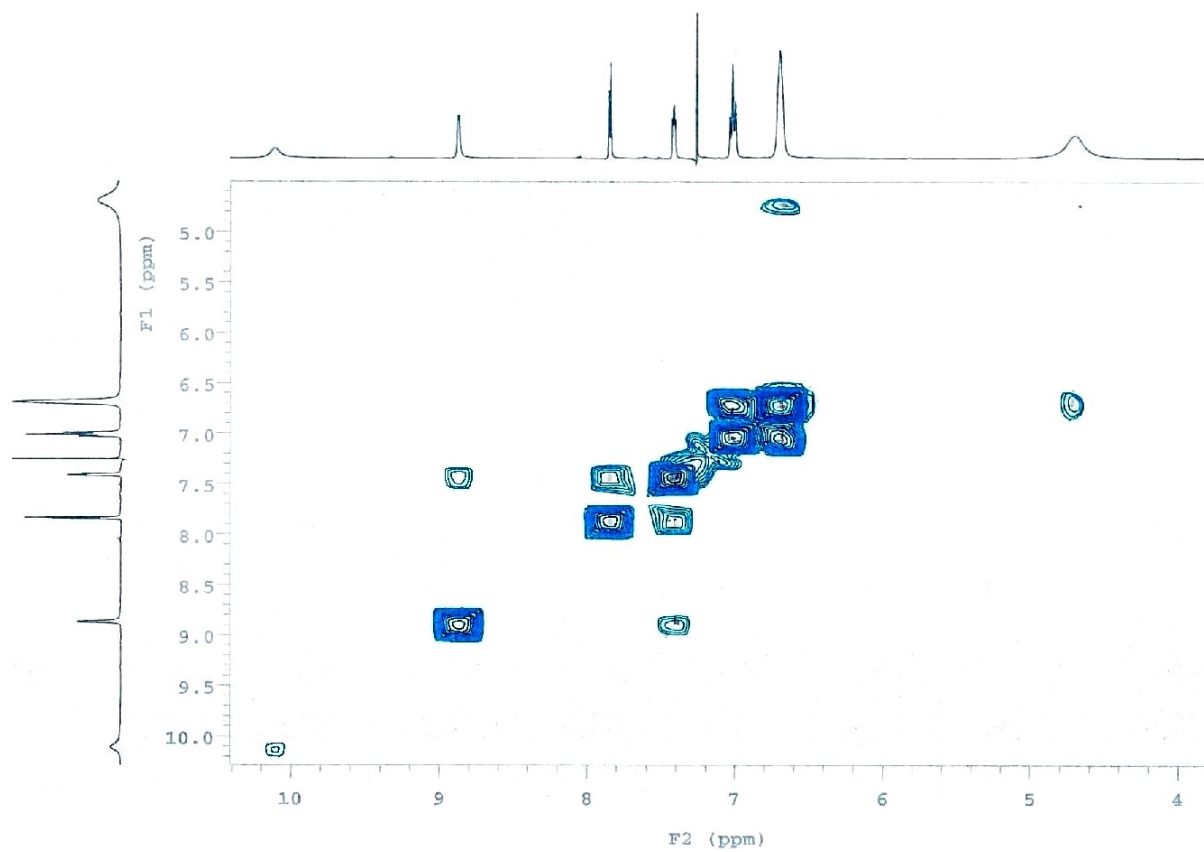


Fig. S6. COSY NMR spectrum of the complex 4 in CDCl₃.

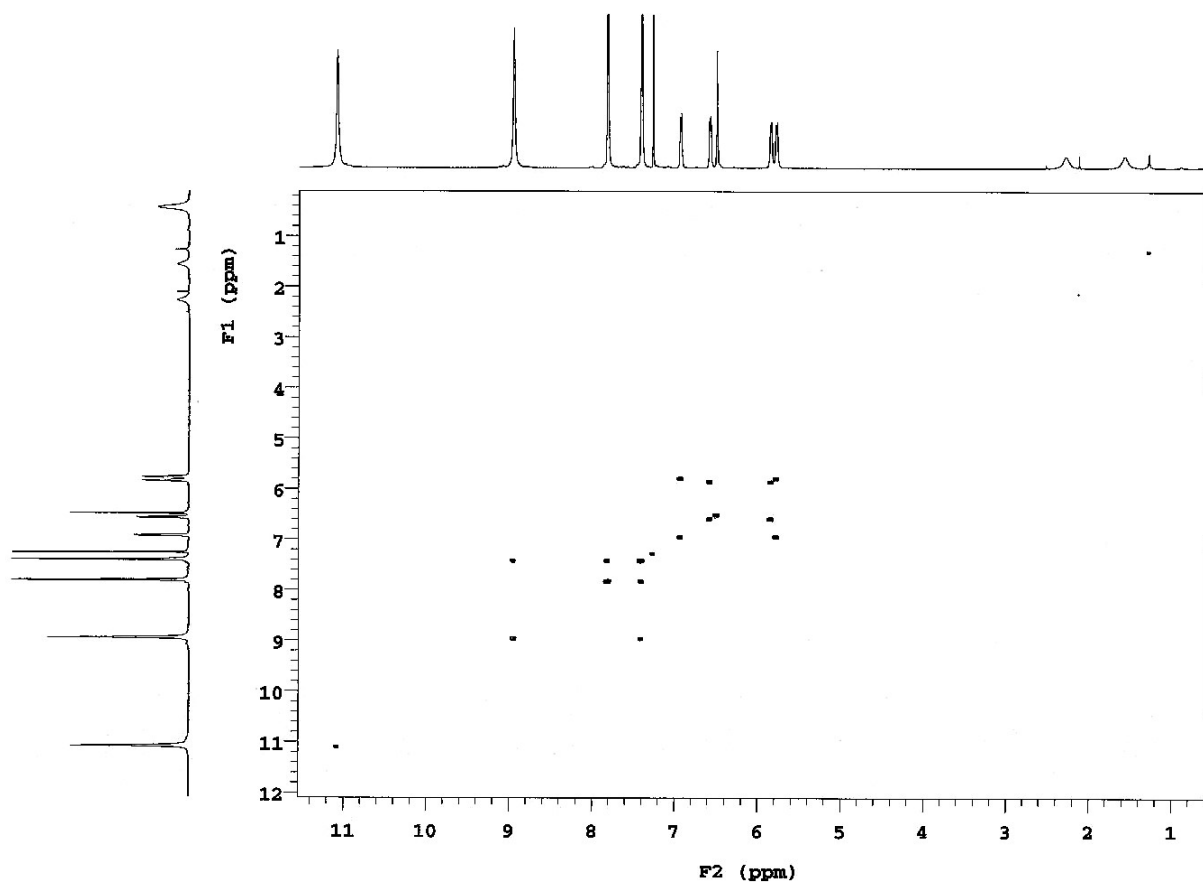


Fig. S7. COSY NMR spectrum of the complex 2 in CDCl₃.

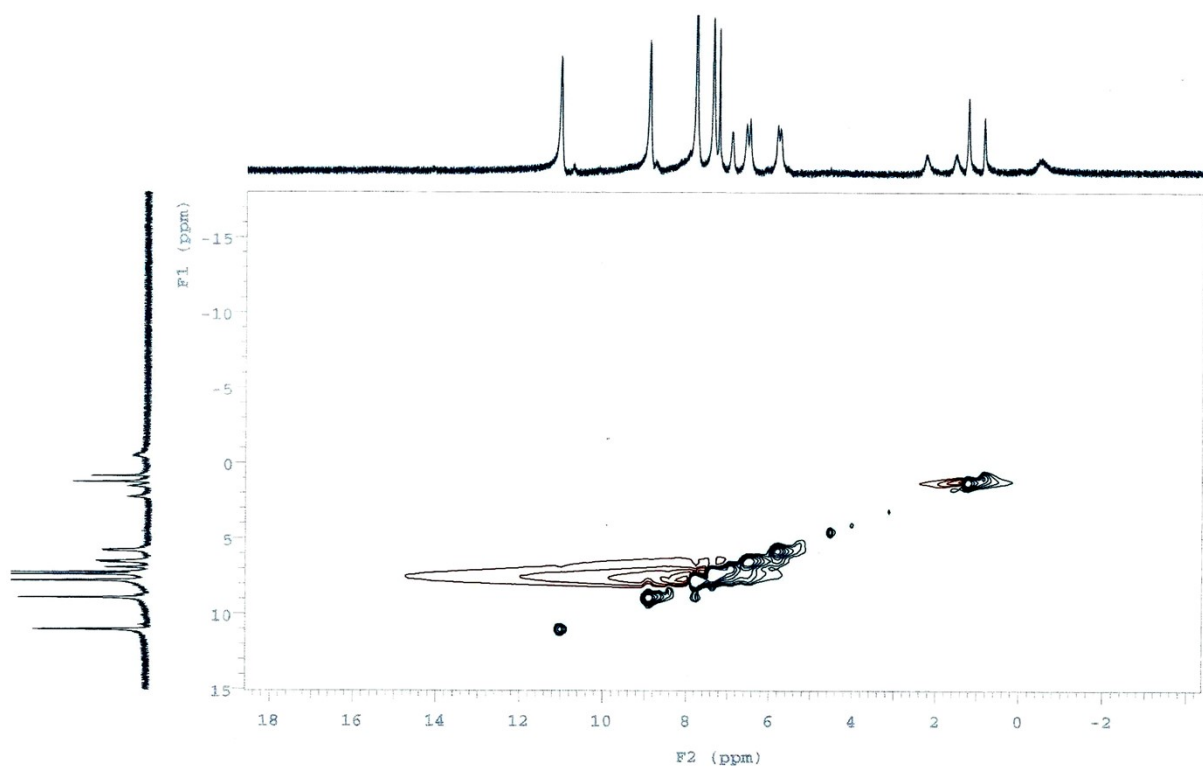


Fig. S8. NOESY NMR spectrum of the complex 1 in CDCl₃.

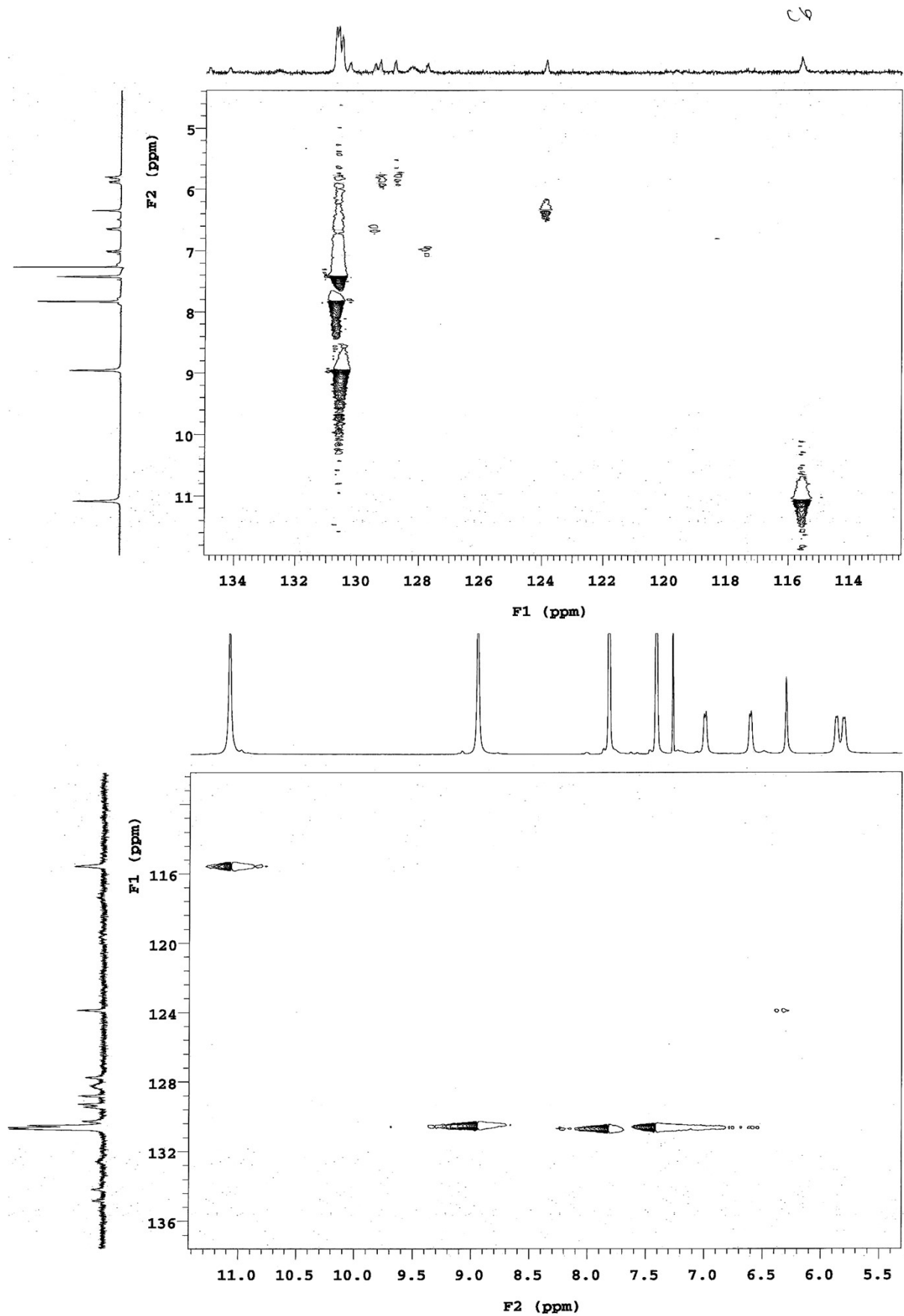


Fig.S9. HSQC NMR spectra of the complex 1 in CDCl₃.

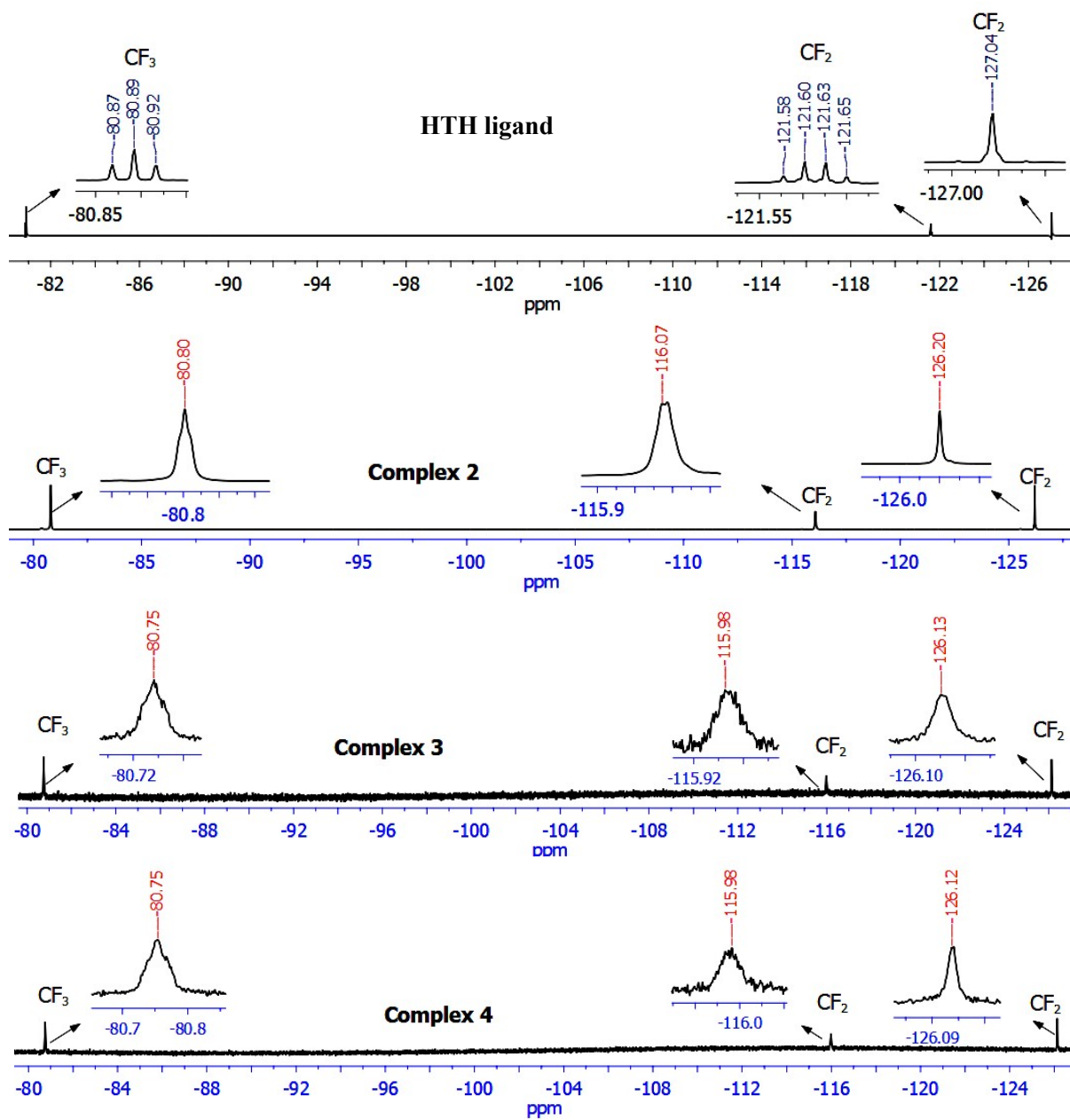


Fig. S10. ^{13}F NMR spectra of the free hth ligand and the complexes in CDCl_3 .

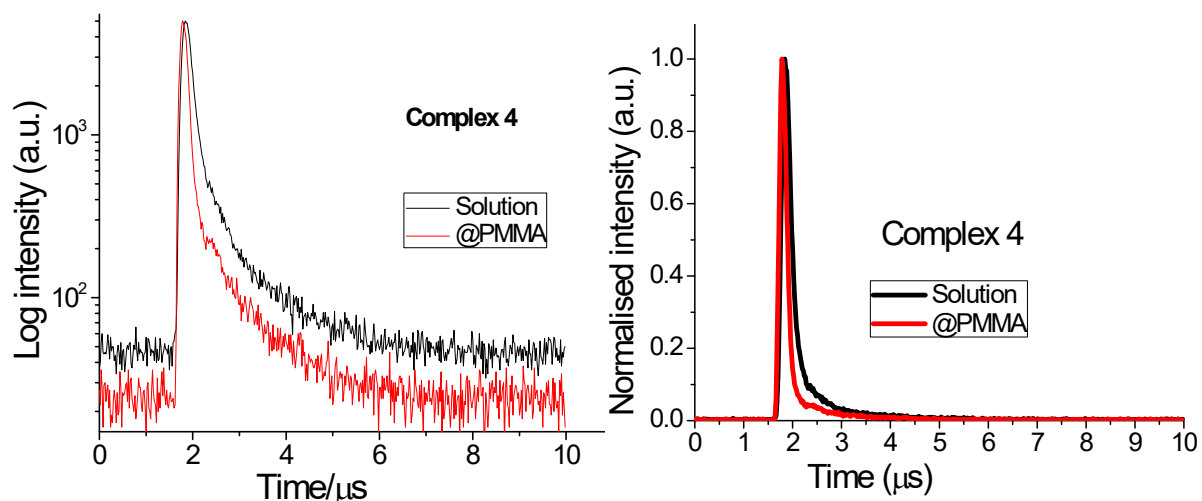


Fig. S11. Decay curves (left) and normalized curves (right) of the complexes in solution and solid state.

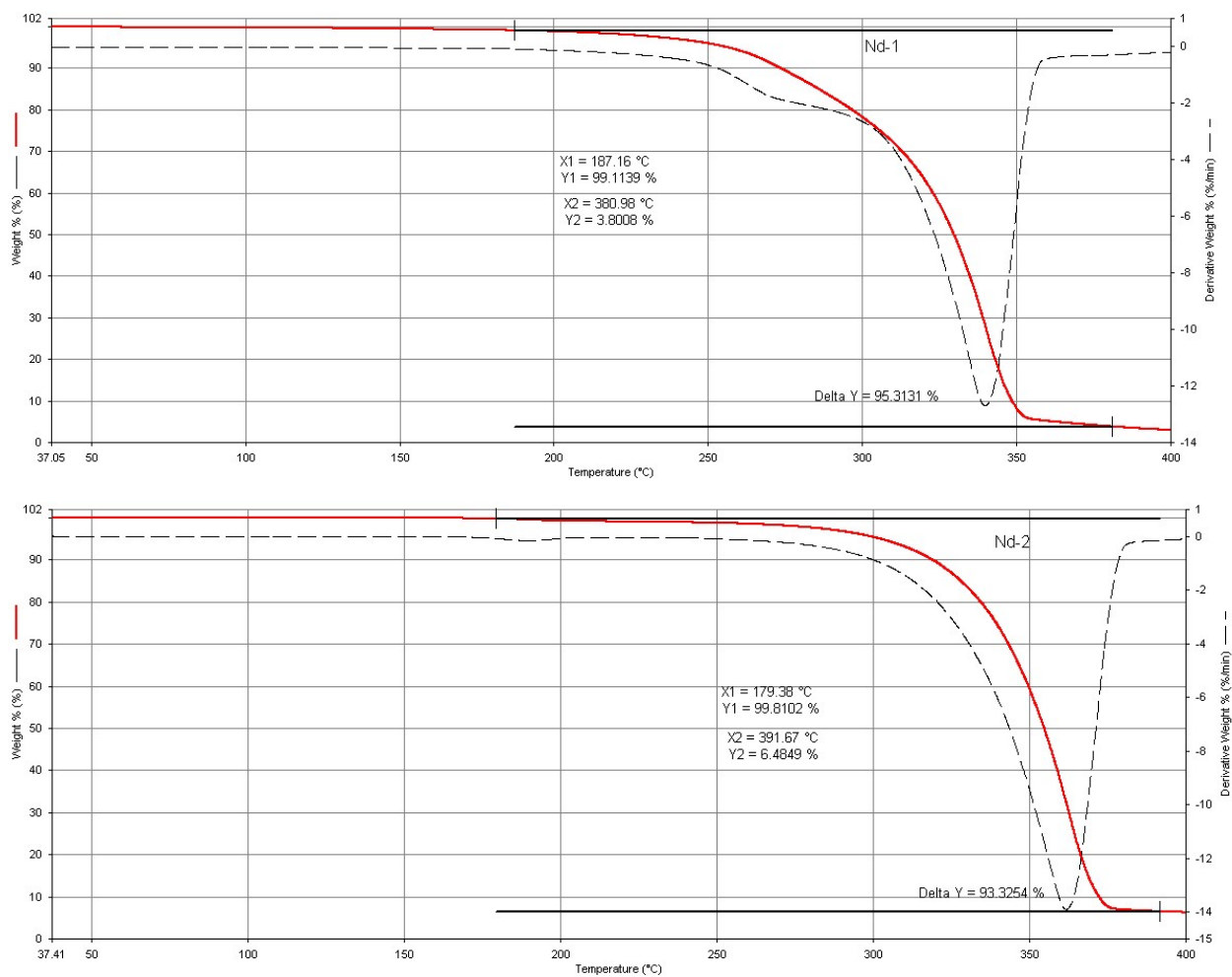


Fig. S12. TGA/DTA curves of the complexes).