

Supplementary Data

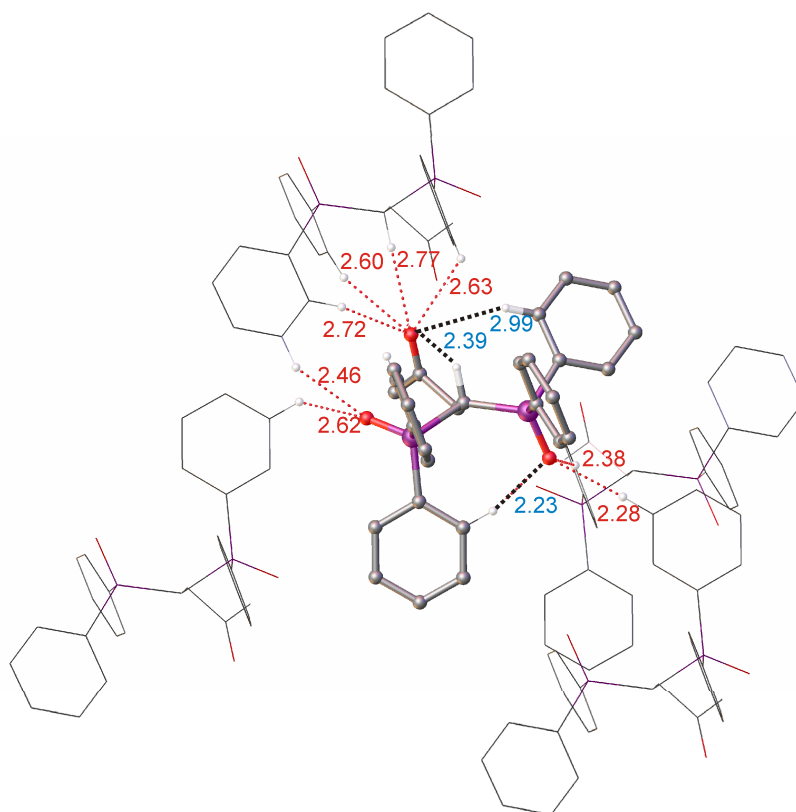


Fig. S1. C-H...O(C) intra- and intermolecular bonding in crystalline **L** (shown in blue and red, respectively). Hydrogen atoms not involved in H-bonding are omitted for clarity.

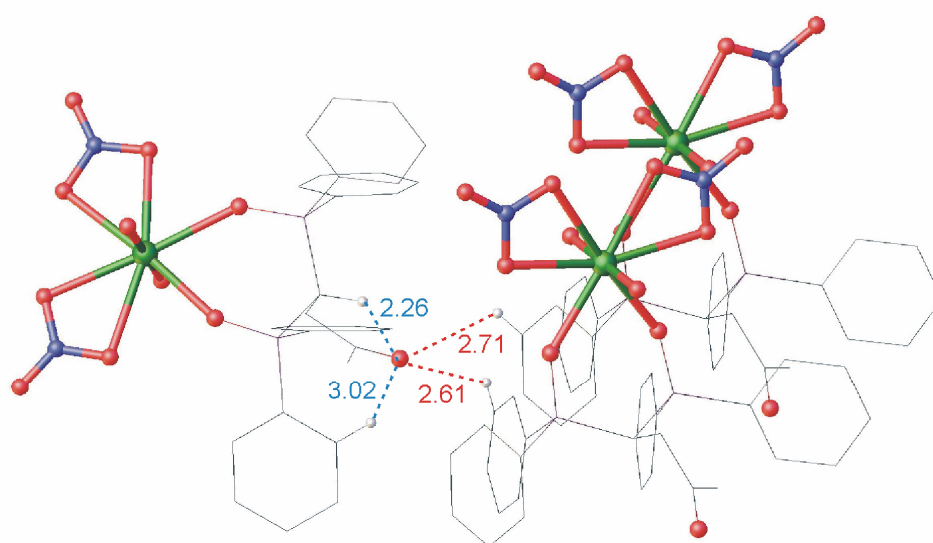


Fig. S2. C-H...O(C) intra- and intermolecular bonding in crystalline complex **1** (shown in blue and red, respectively). Hydrogen atoms not involved in H-bonding are omitted for clarity.

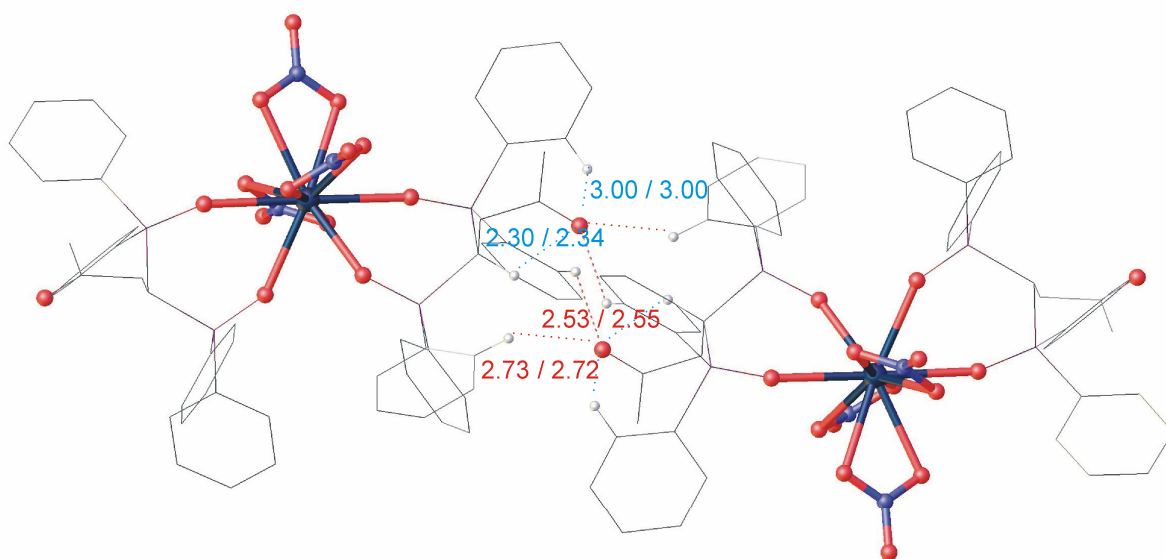


Fig. S3. C–H...O(C) intra- and intermolecular bonding in crystalline isostructural complexes **3**, **4** (shown in blue and red, respectively). Hydrogen atoms and solvate molecules not involved in H-bonding are omitted for clarity. For **3** and **4** the values of bond lengths are divided by slash.

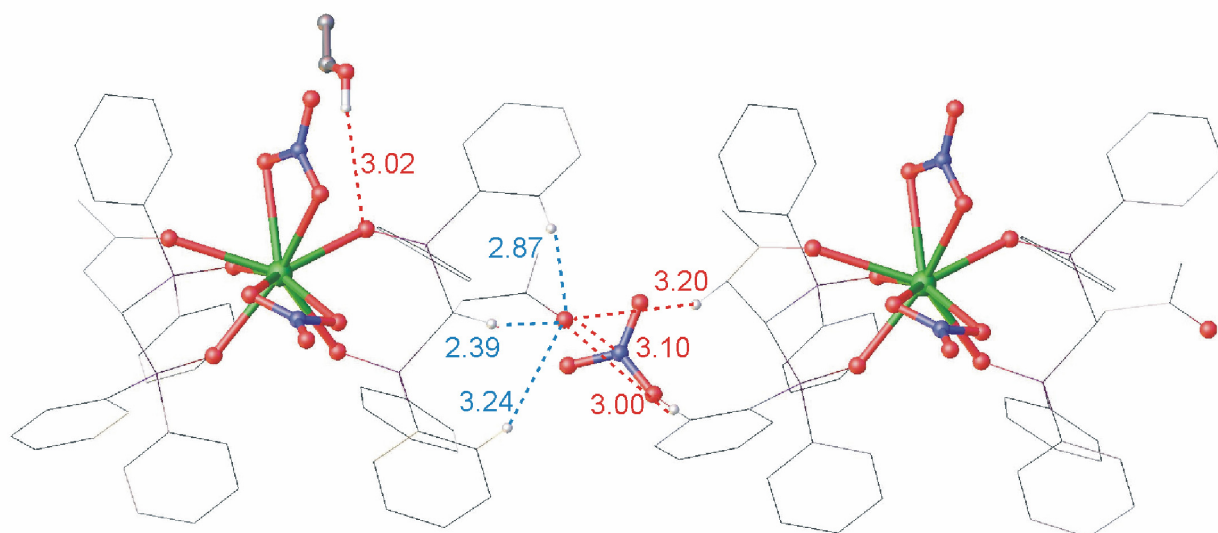


Fig. S4. C–H...O(C) and O–H...O(P) intra- and intermolecular bonding in crystalline complex **5** (shown in blue and red, respectively). Hydrogen atoms not involved in H-bonding are omitted for clarity.

Table S1. Selected IR data (ν , δ and γ , cm^{-1}) and assignments^a for complexes **1**, **3–6**^b

Compound	$\nu(\text{N=O})$	$\nu_{\text{as}}(\text{NO}_2)$	$\nu_{\text{s}}(\text{NO}_2)$	δ (out-of-plane)	γ (bending in plane)
1	1518, 1483	1308,1282	1039,1032	812	748
3	1458br	1313,1295sh	1031	820	732
4	1503,1468	1300	1031	818	730
6	1518sh, 1494	1310	1030	815	747

^a K. Nakamoto, *Infrared and Raman Spectra of Inorganic and Coordination Compounds, Part B, Applications in Coordination, Organometallic, and Bioinorganic Chemistry*, Wiley, New York, 6th Edition, 2009, 424 pp.

^b Spectral data for coordinated nitrate ions in complexes **4** and **5** are identical.

Table S2. Extraction of *f*-block elements by ligandes **L** and **L'** (0.01 M solutions in CHCl_3) from 3.75 M HNO_3 ; the initial concentration of lanthanide and uranyl nitrates in the aqueous phase is $2.5 \cdot 10^{-4}$ M.

Ligand	Distribution ratios (D_M)				
	U(VI)	La(III)	Nd(III)	Ho(III)	Yb(III)
L	37.2 ± 1.5	0.58 ± 0.01	0.65 ± 0.01	0.69 ± 0.01	1.05 ± 0.01
L'	6.4 ± 0.2		0.18 ± 0.01	0.20 ± 0.01	

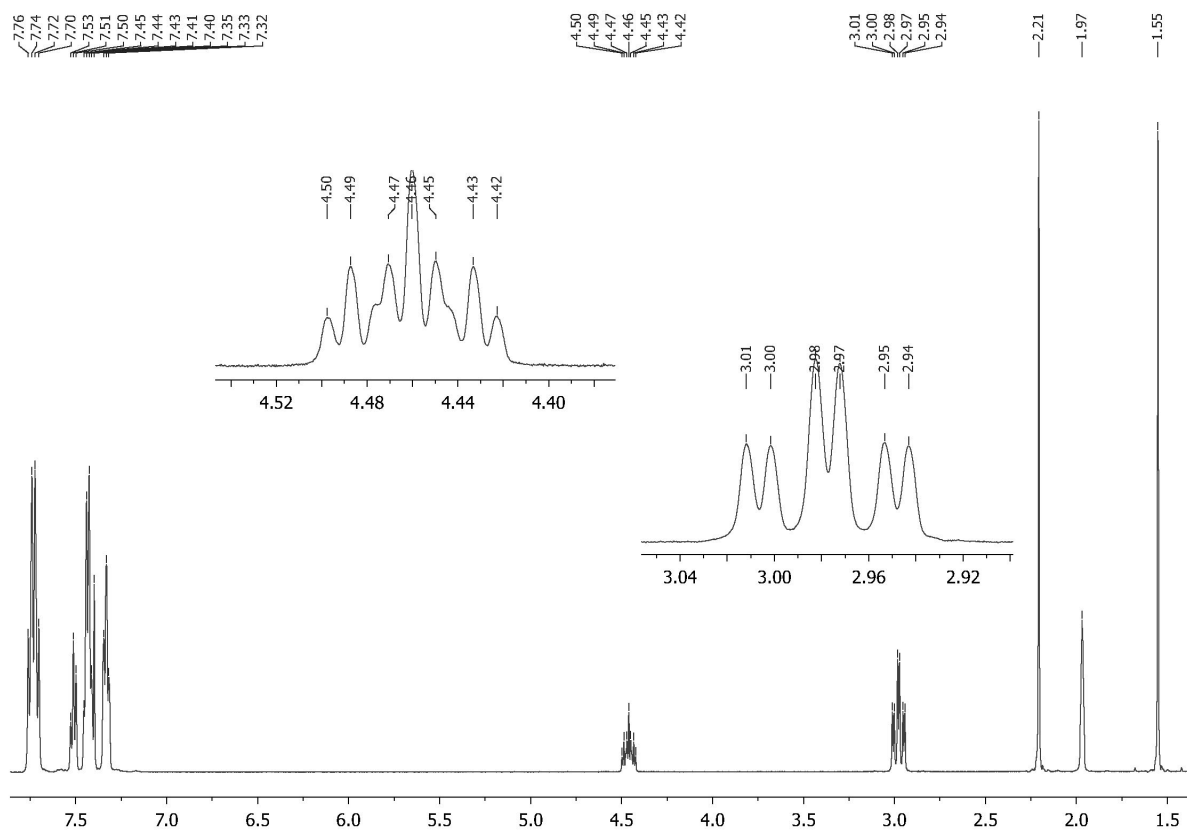


Fig. S5. ^1H NMR spectrum of **L** (0.02 M solution in CD_3CN).

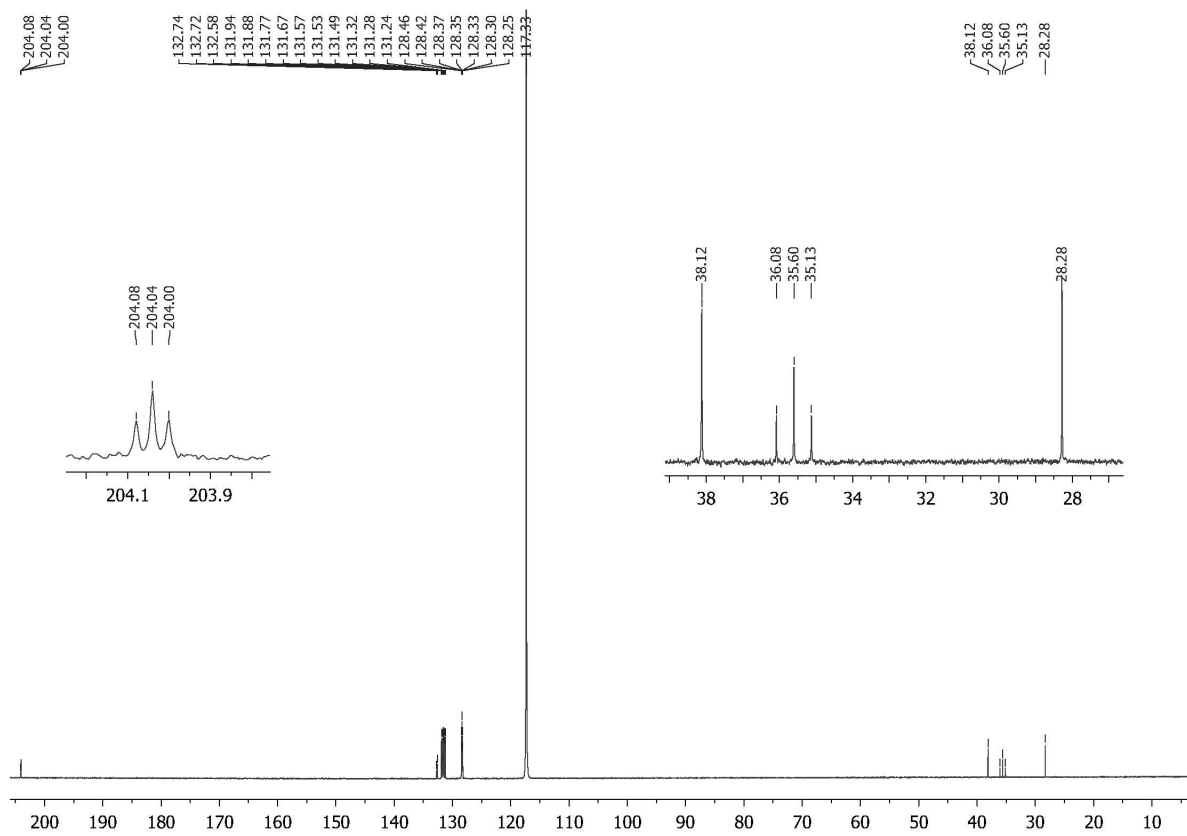


Fig. S6. ^{13}C NMR spectrum of **L** (0.02 M solution in CD_3CN).

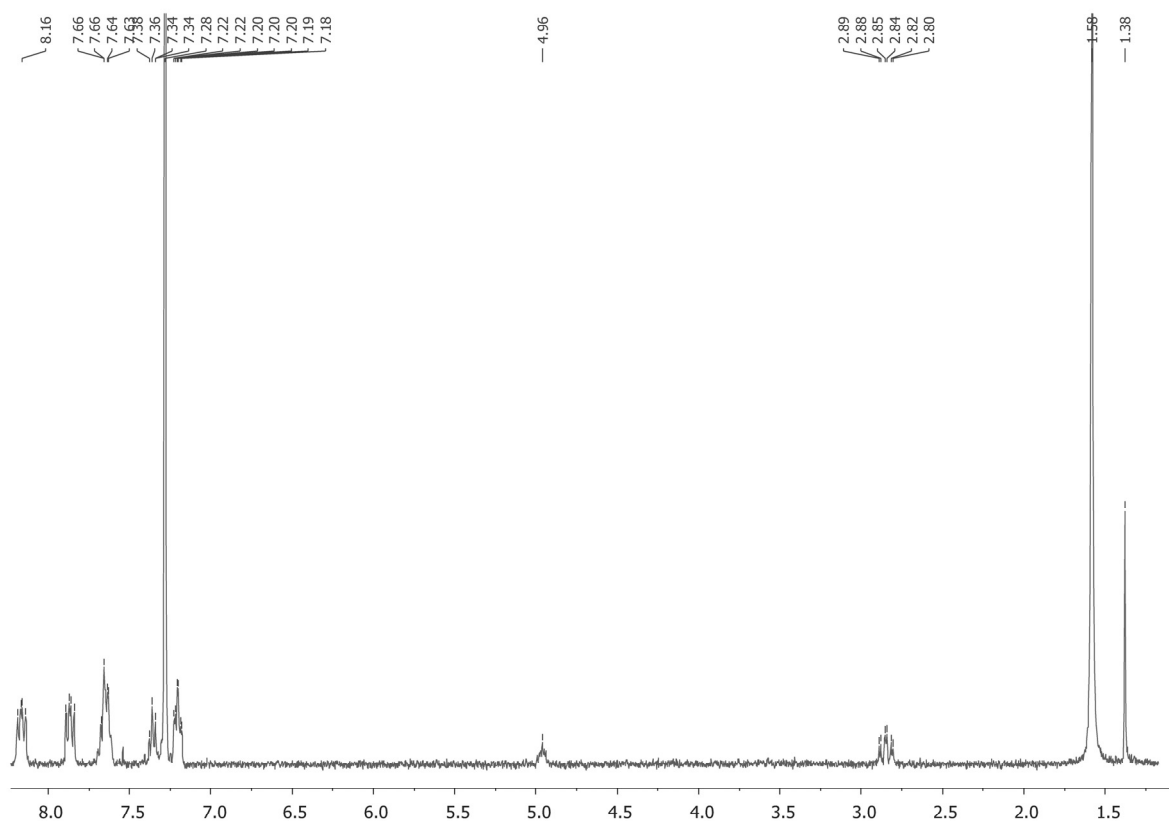


Fig. S7. ^1H NMR spectrum of complex 1 (saturated solution, ~ 0.003 M, in CDCl_3).

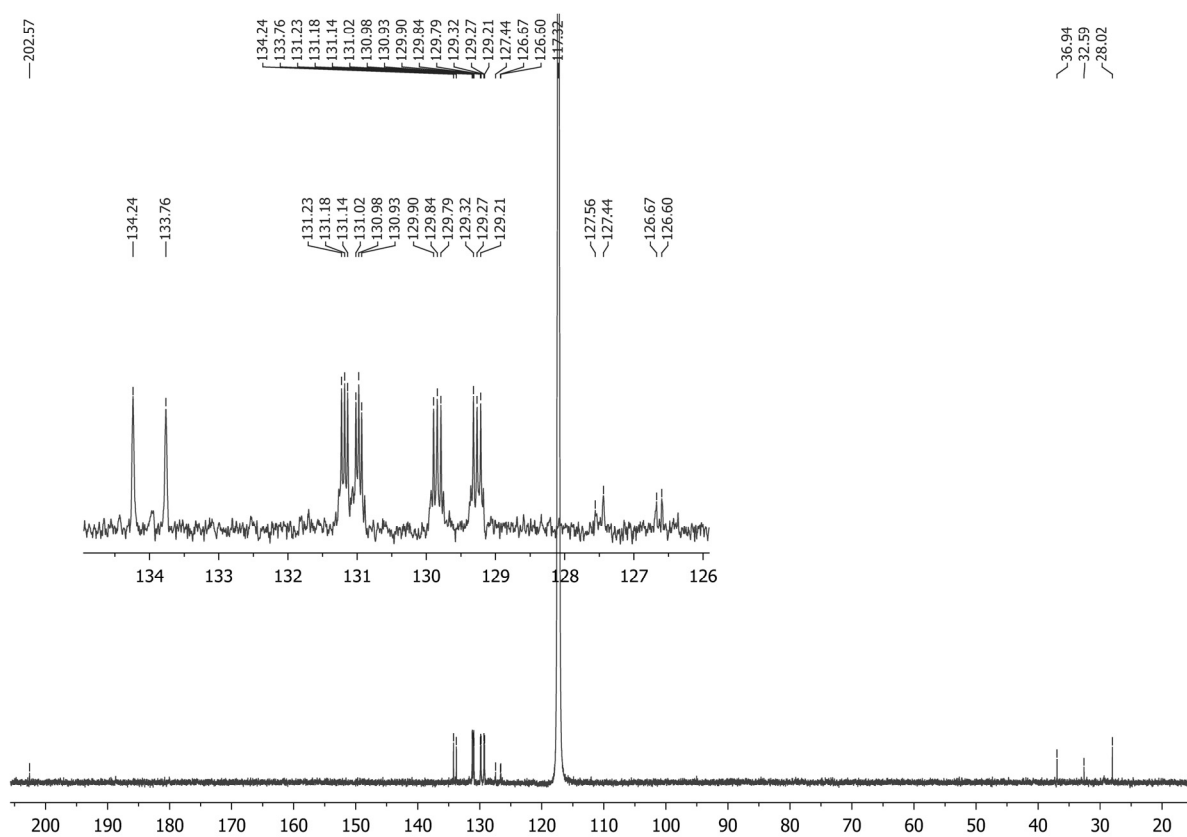


Fig. S8. ^{13}C NMR spectrum of complex 1 (saturated solution, ~ 0.003 M, in CD_3CN).

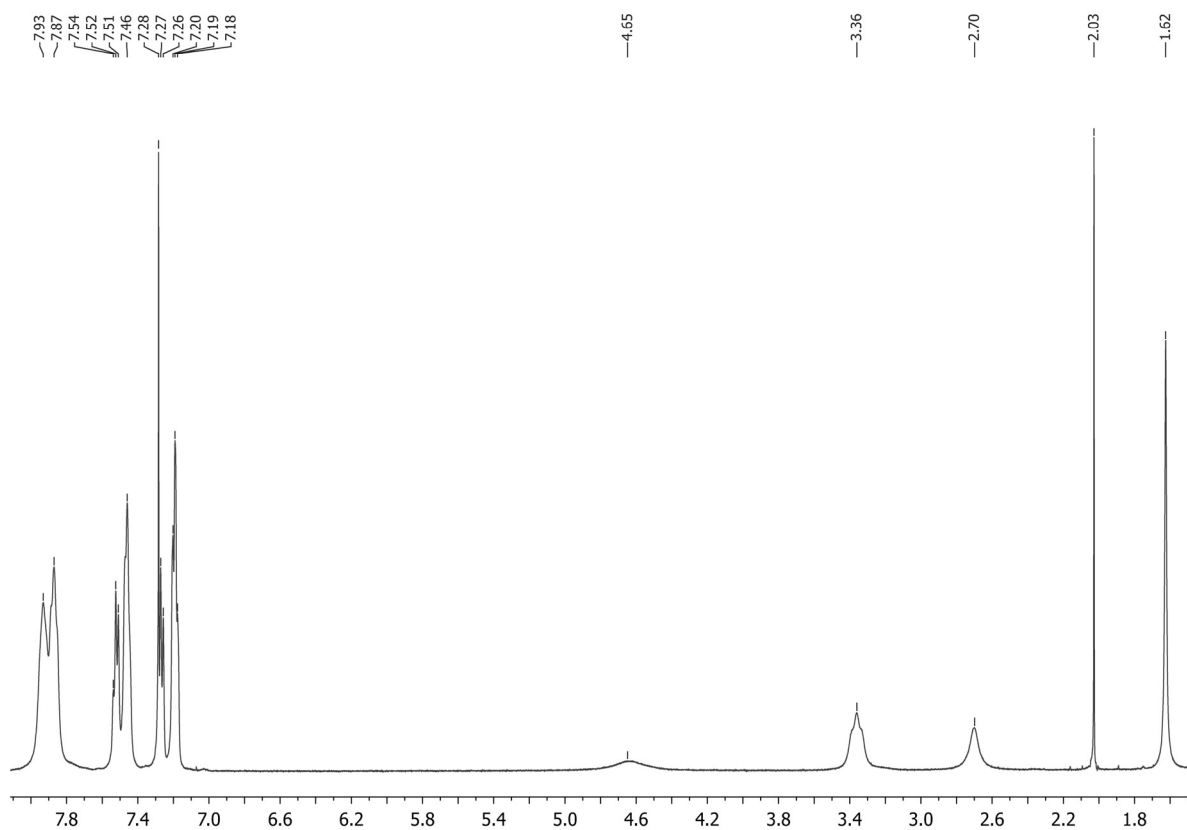


Fig. S9. ^1H NMR spectrum of complex **3** (0.01 M, in CDCl_3).

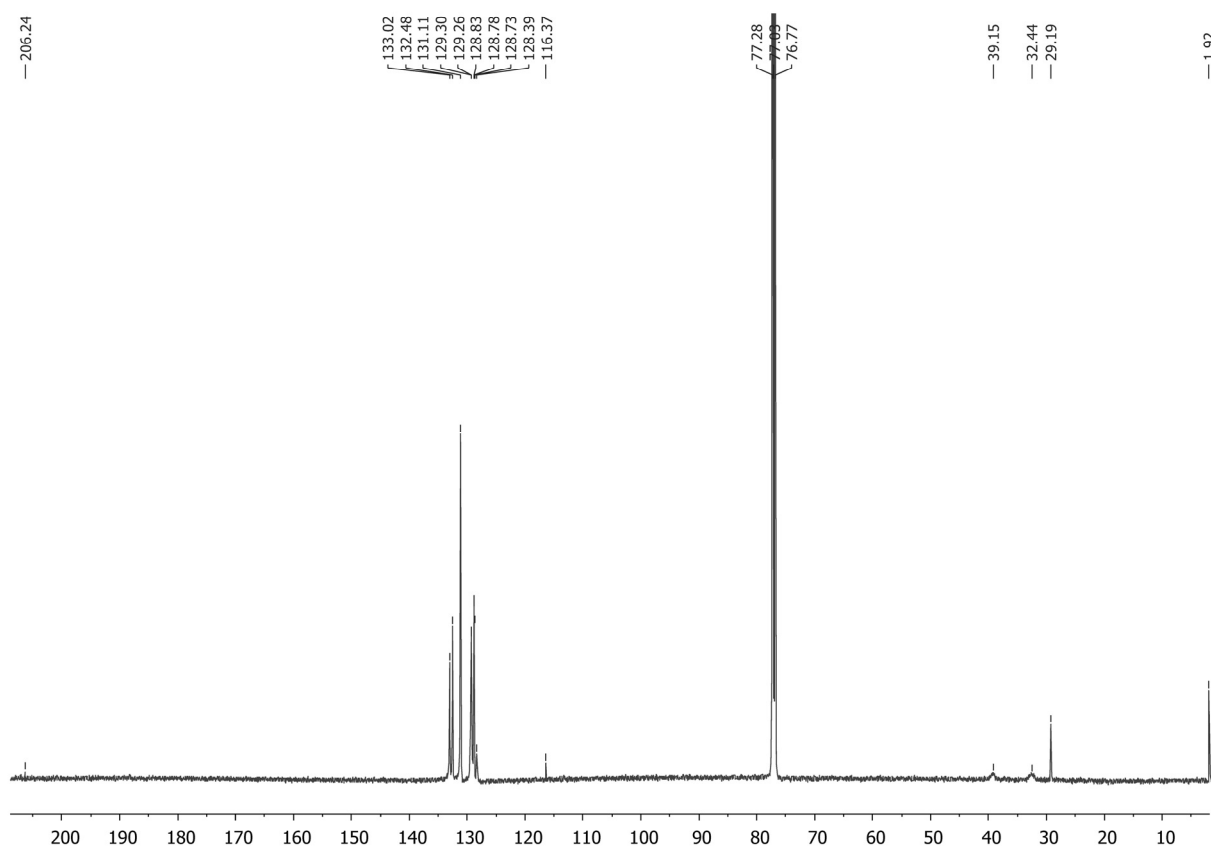


Fig. S10. ^{13}C NMR spectrum of complex **3** (0.01 M, in CDCl_3).

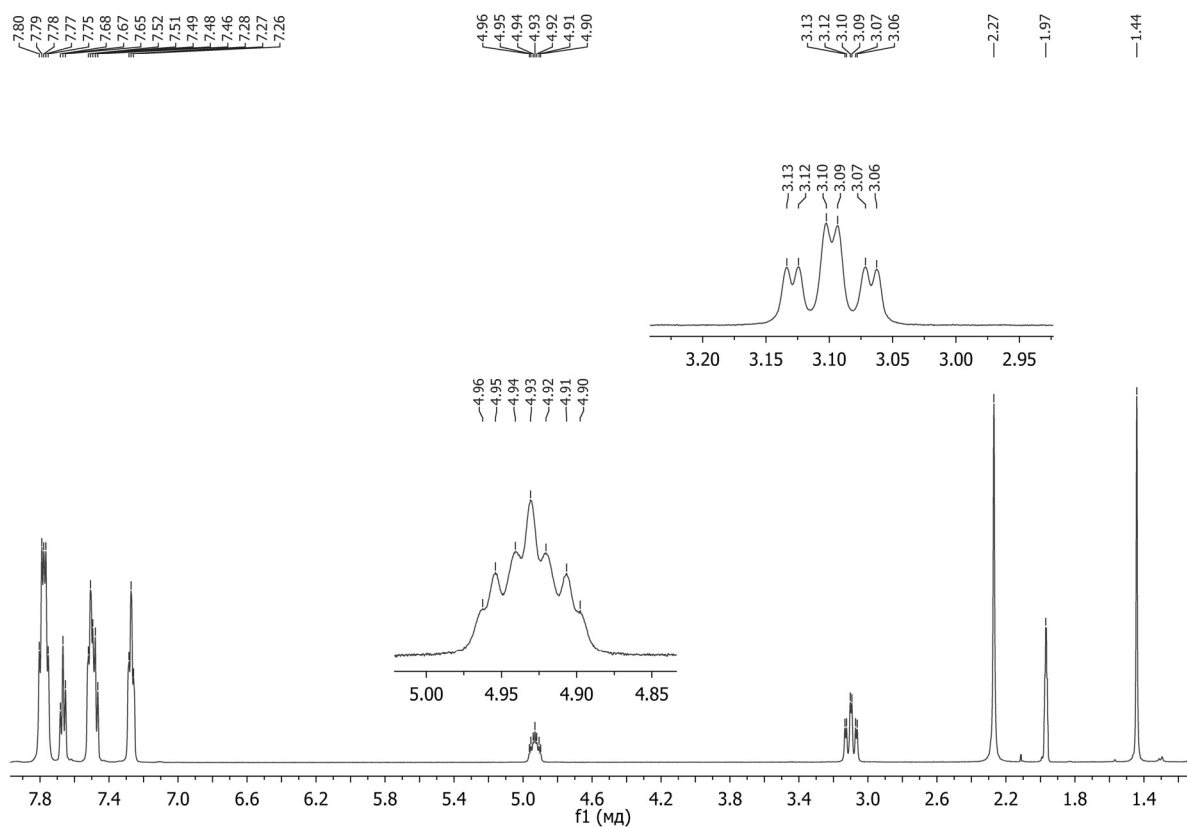


Fig. S11. ^1H NMR spectrum of complex **6** (0.01 M, in CD_3CN).

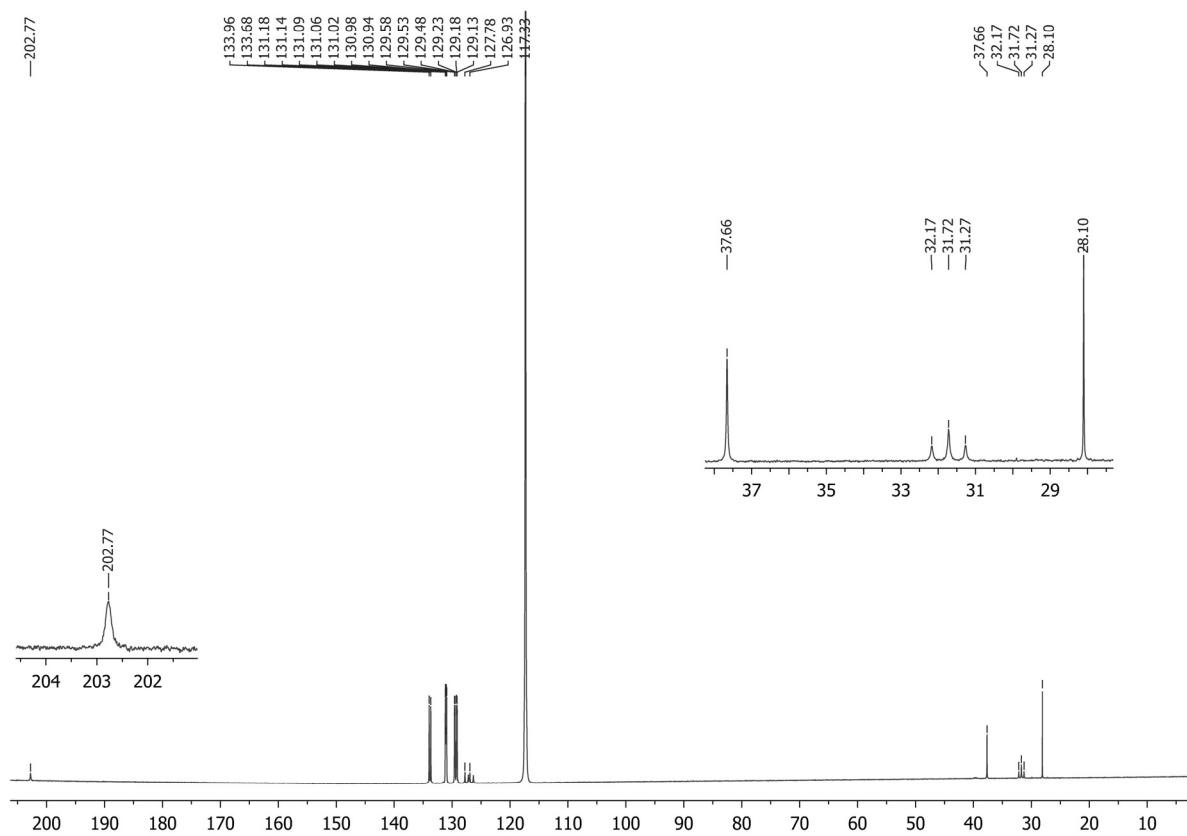


Fig. S12. ^{13}C NMR spectrum of complex **6** (0.01 M, in CD_3CN).