

## **Supporting Information**

# Zwitterionic niobium and tantalum complexes with bidentate aminophenol scaffolds: Synthesis, structural characterization and use in the ring opening polymerization of lactides

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Nadu, India

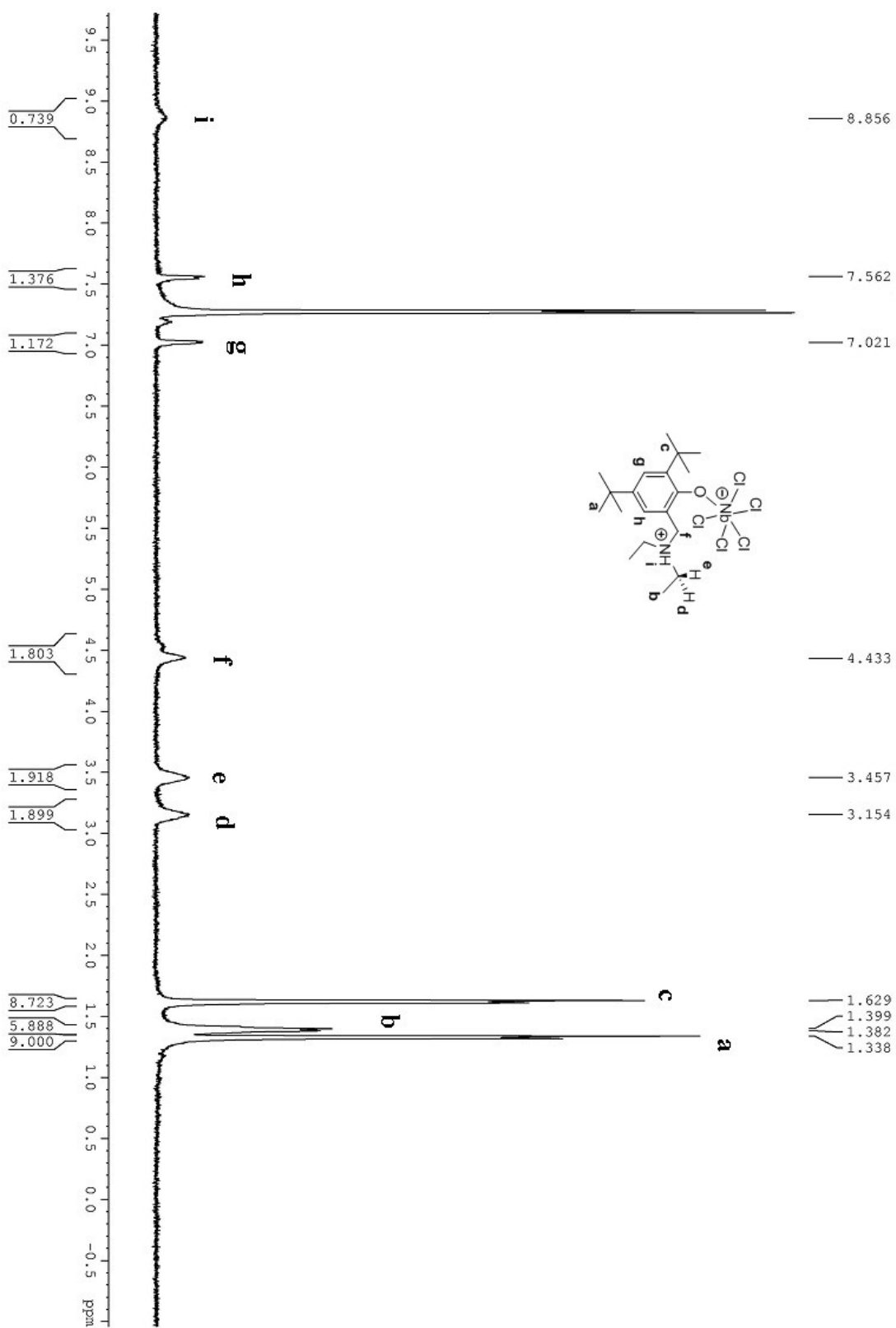


Fig. S1.  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) of Compound 1

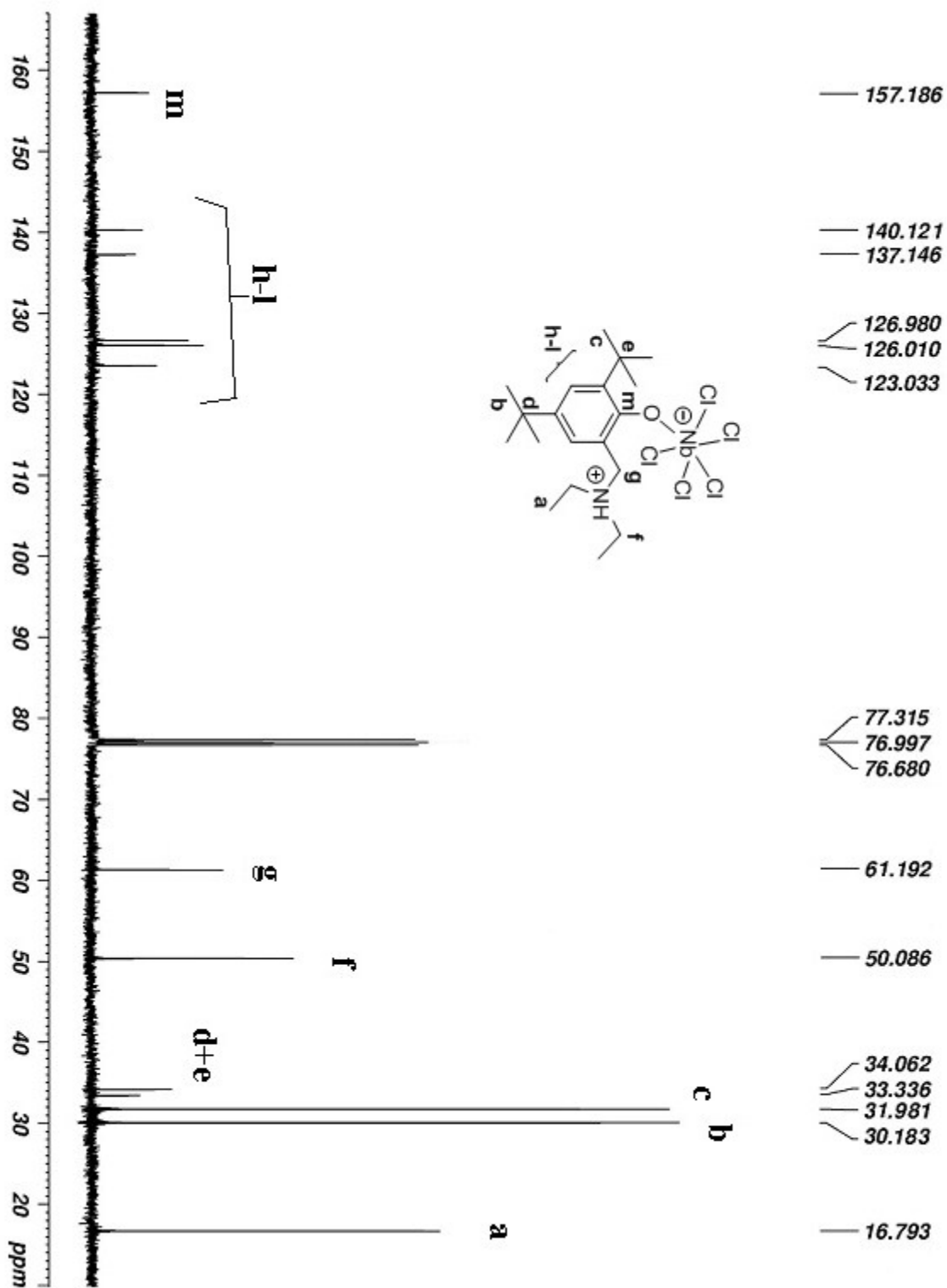
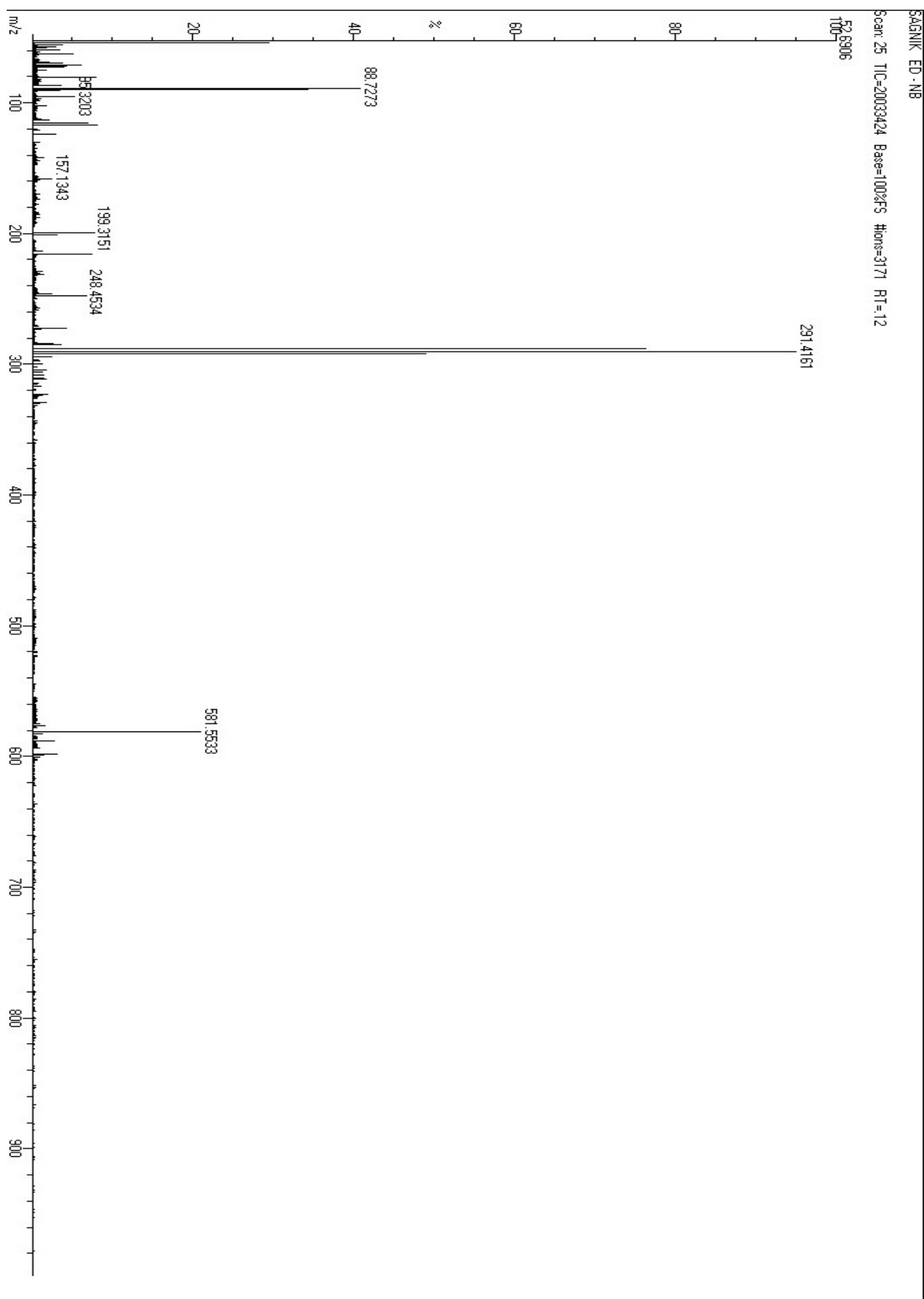


Fig. S2.  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) of Compound 1



**Fig. S3.** ESI mass spectrum of Compound 1

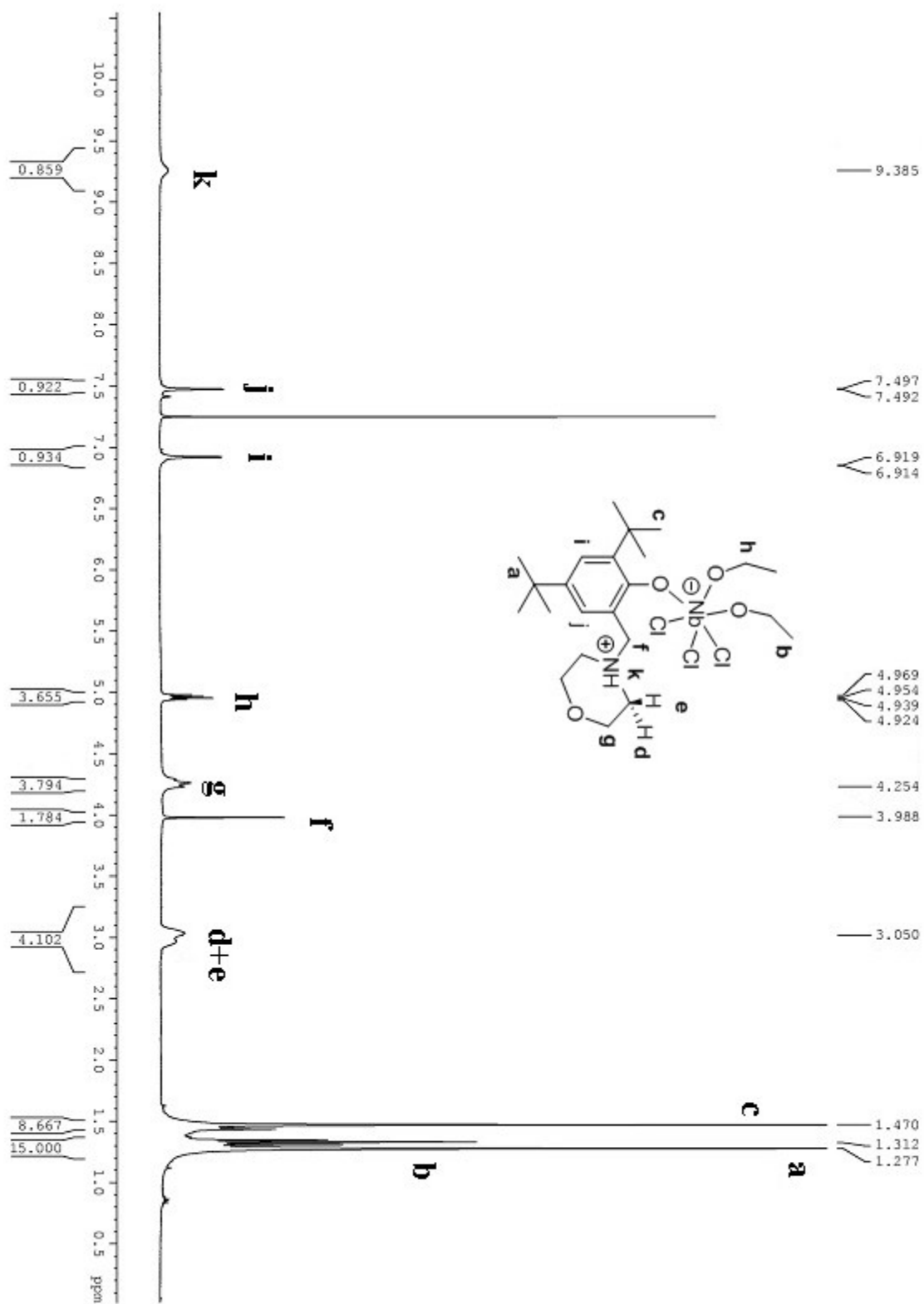


Fig. S4. <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) of Compound 2a

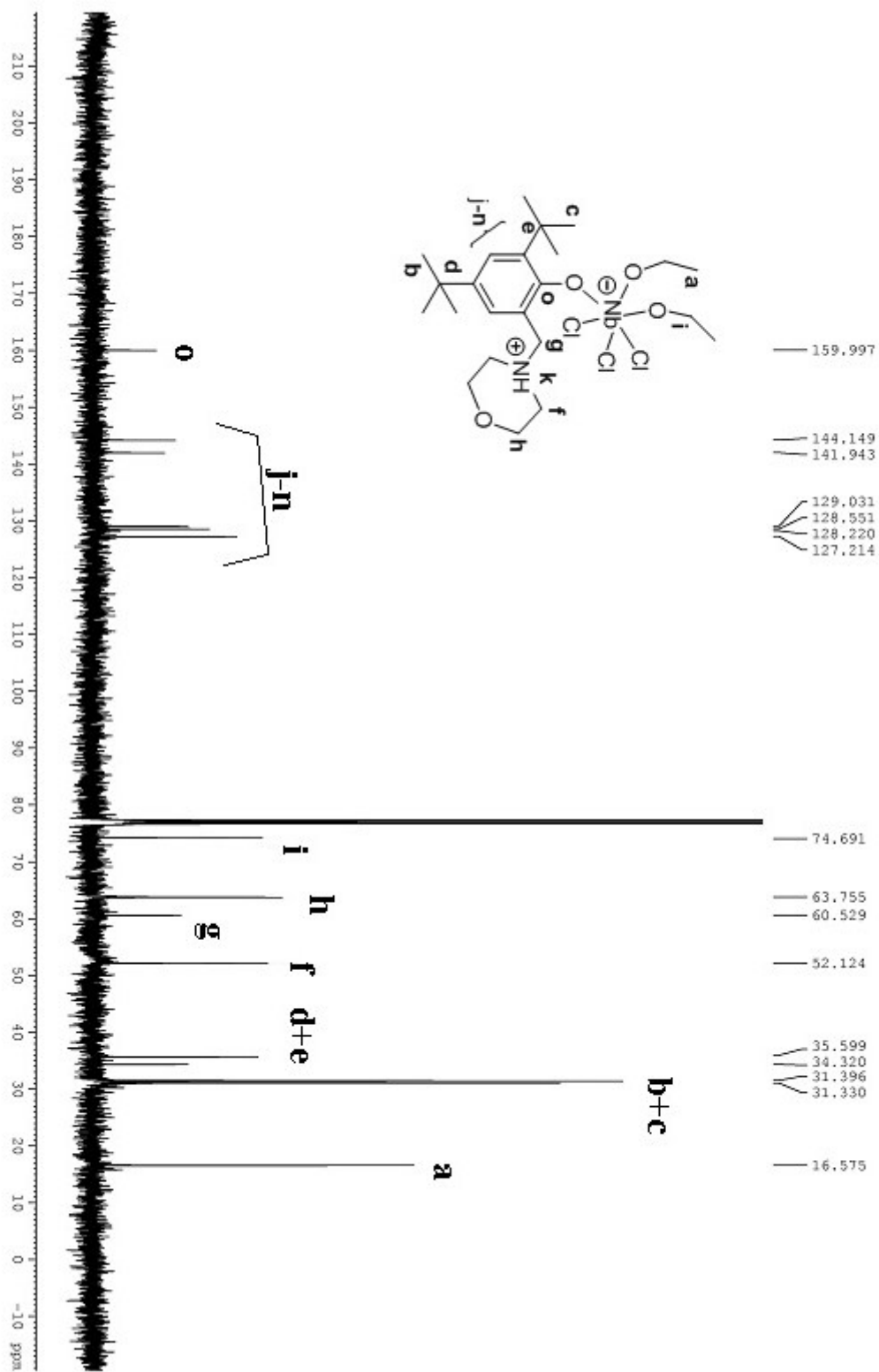


Fig. S5. <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>) of Compound 2a

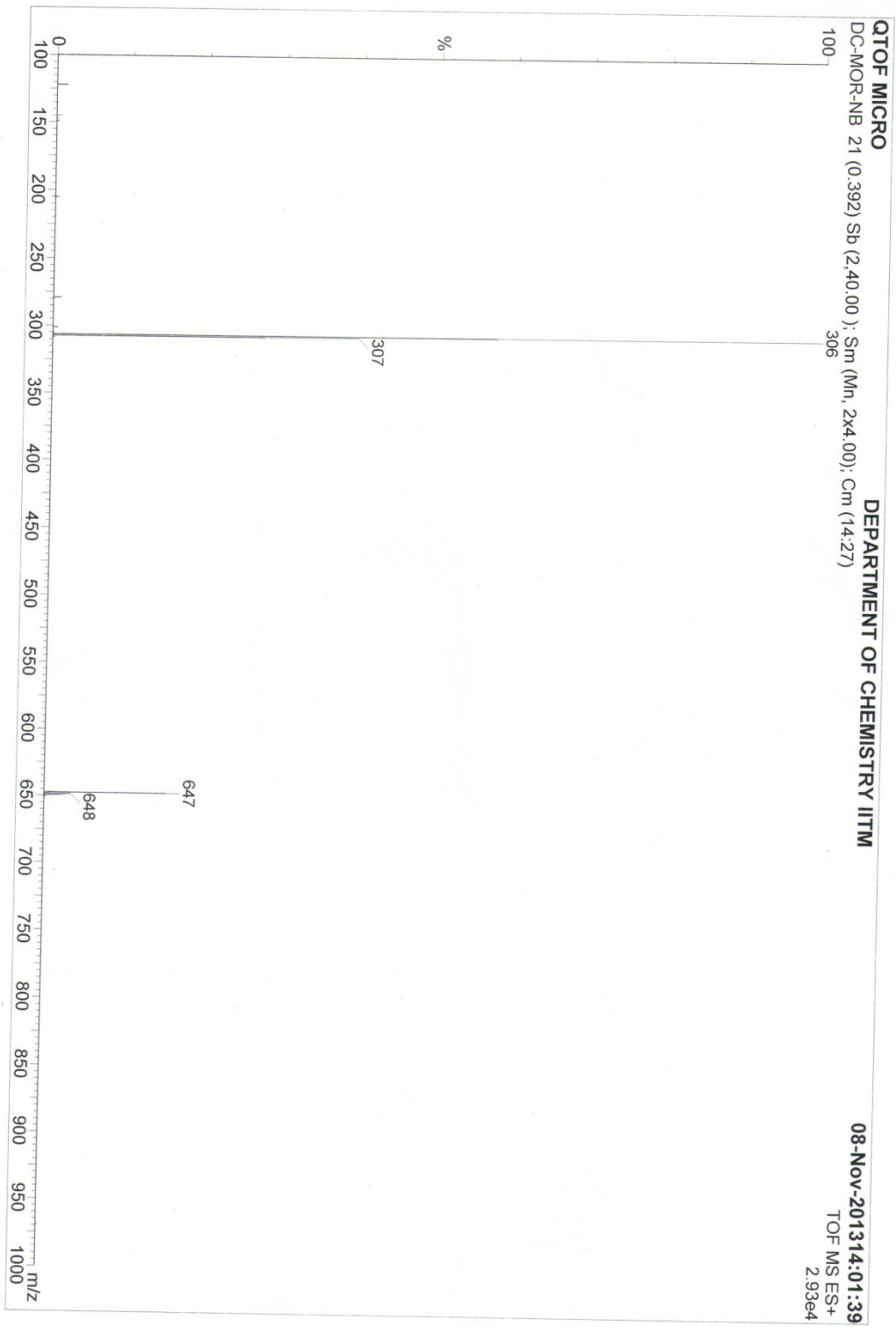


Fig. S6. ESI mass spectrum of Compound 2

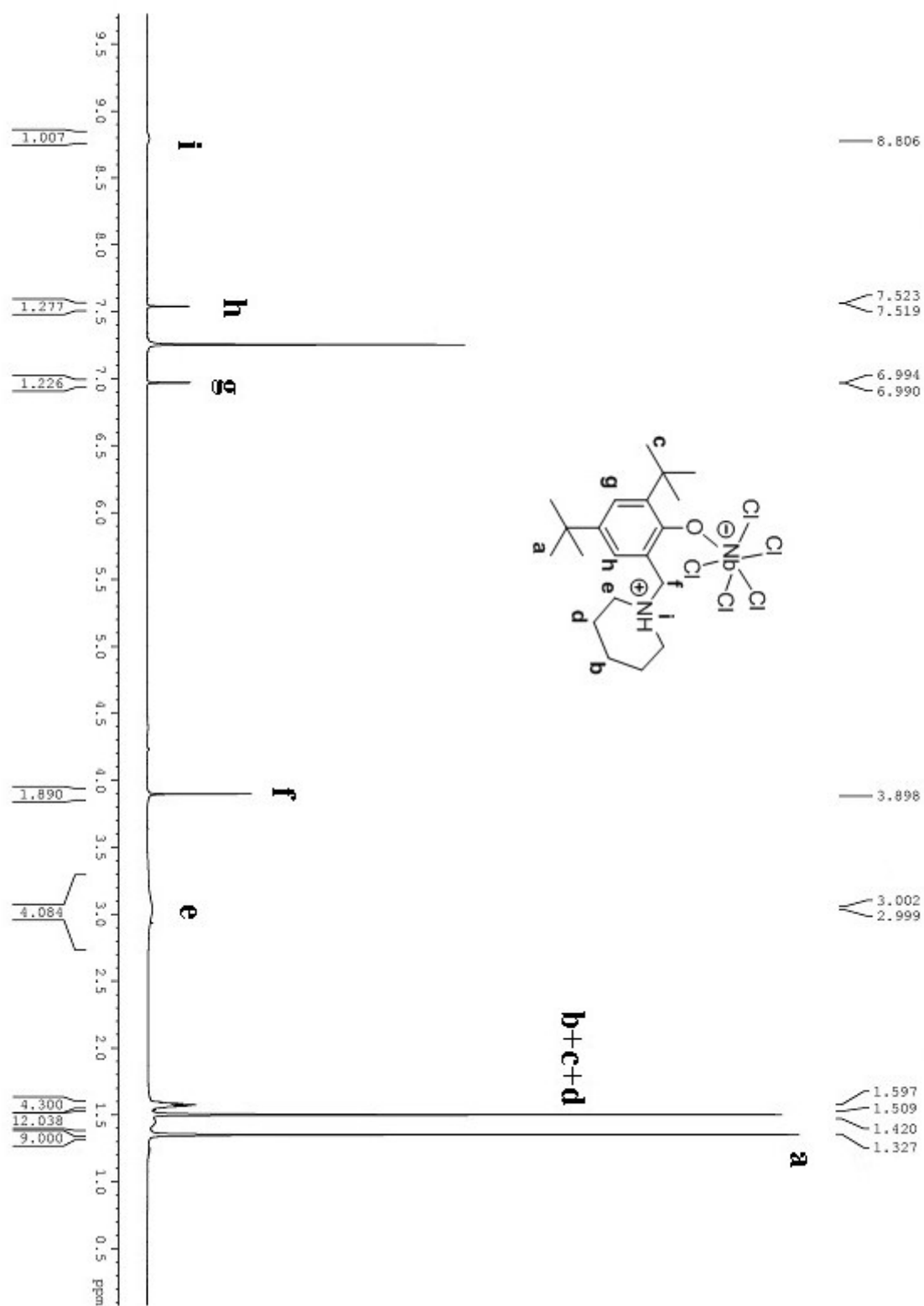


Fig. S7.  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) of Compound 3



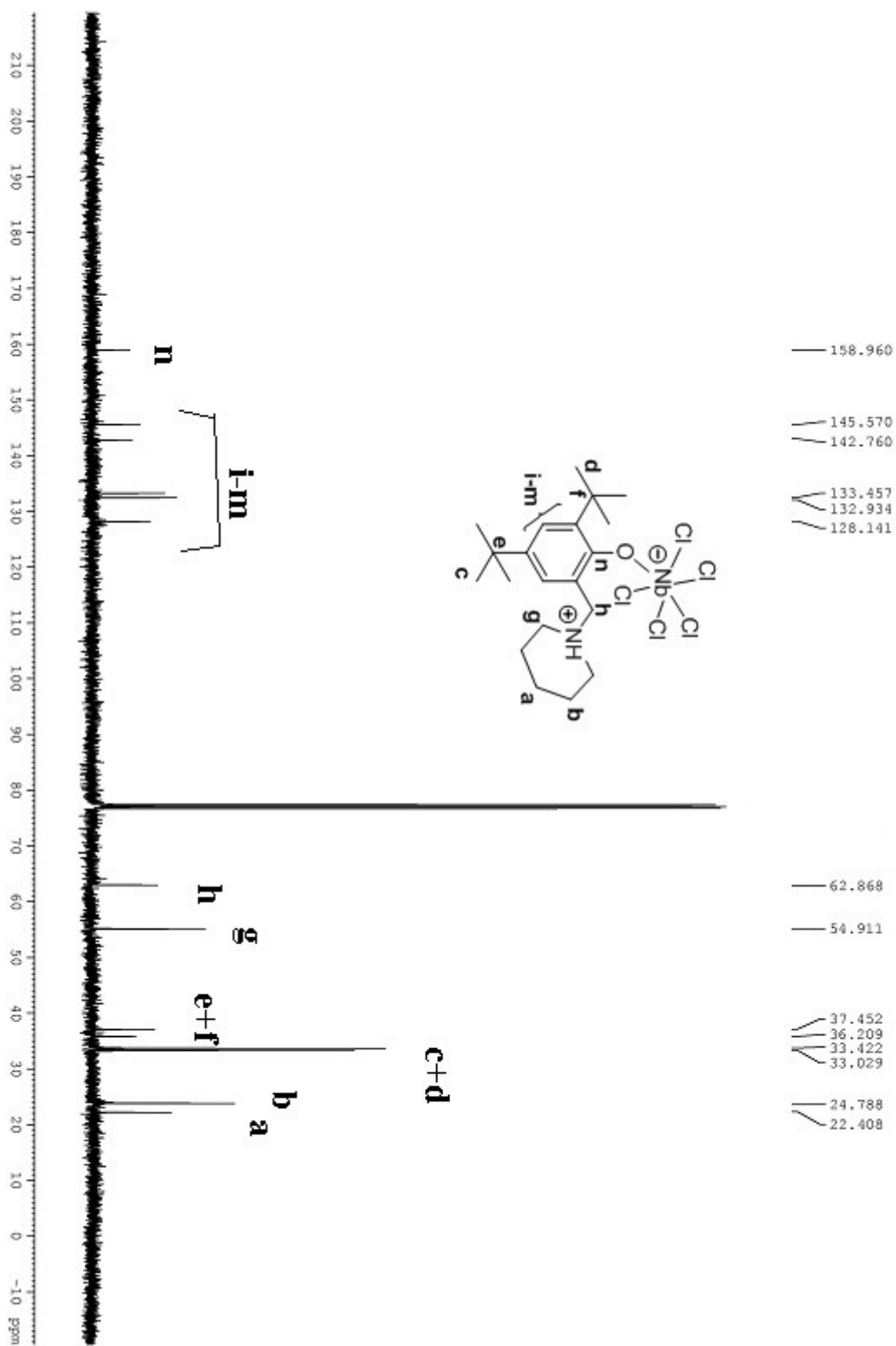
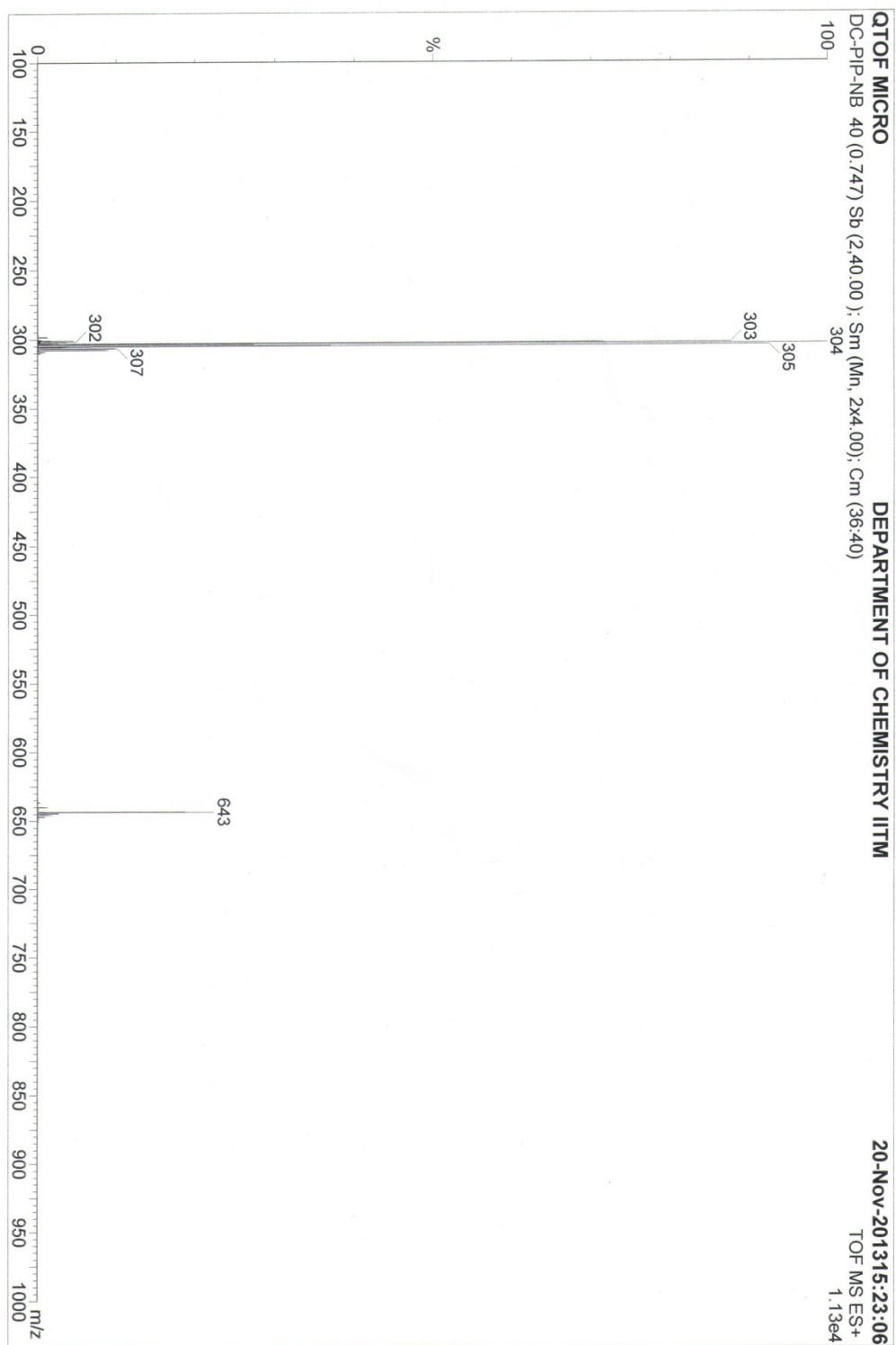
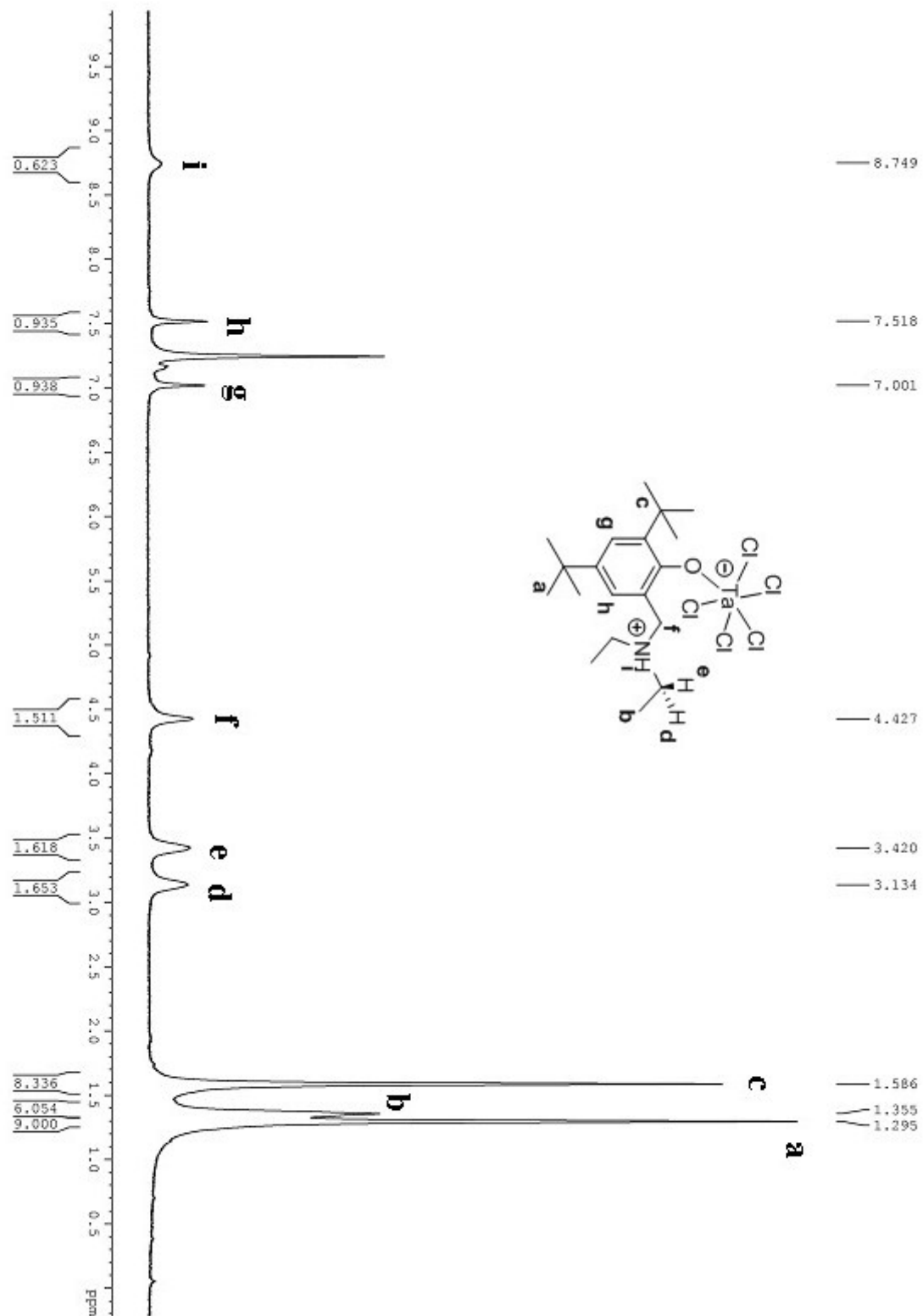


Fig. S8.  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) of Compound 3



**Fig. S9.** ESI mass spectrum of Compound 3



**Fig. S10.**  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) of Compound 4

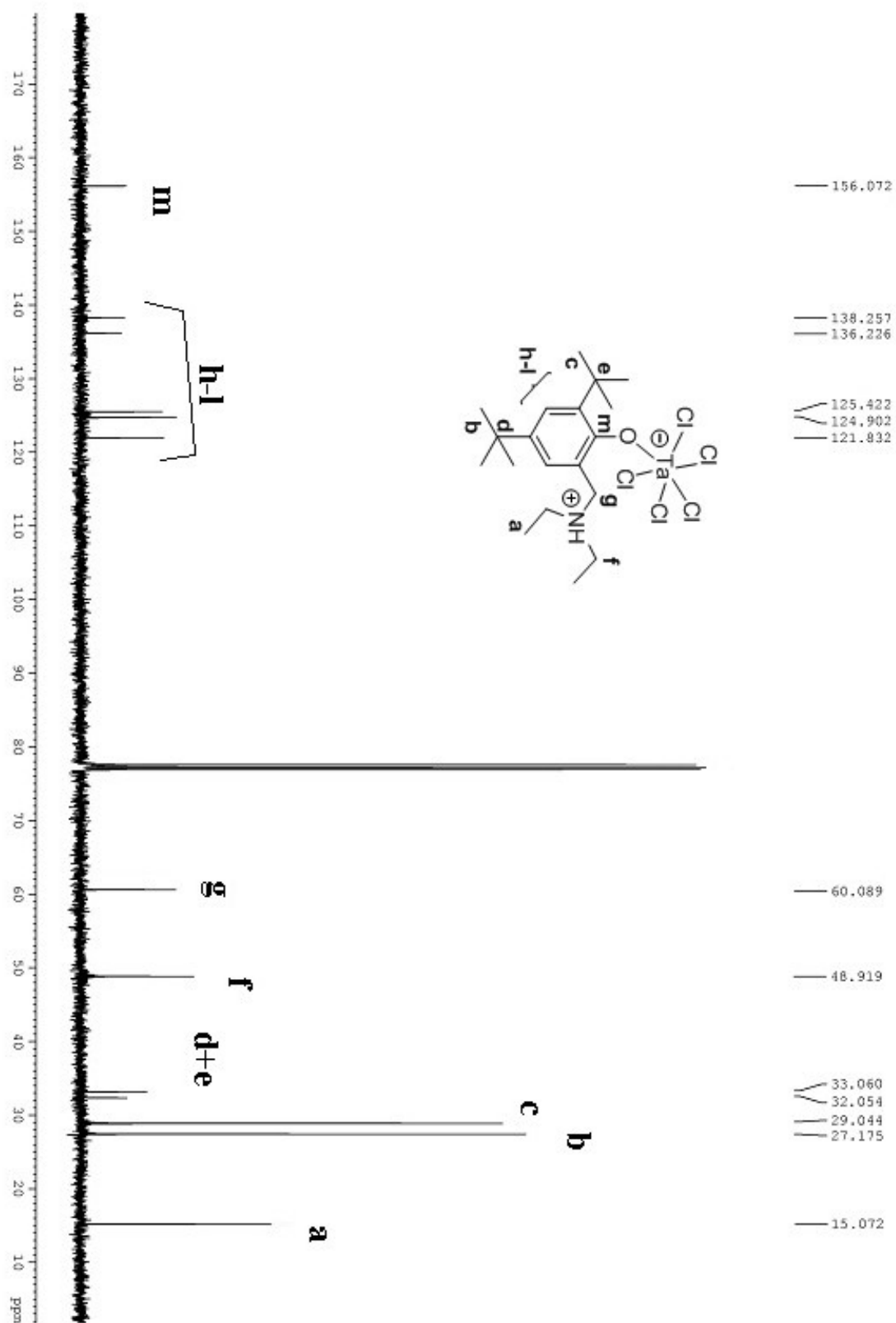
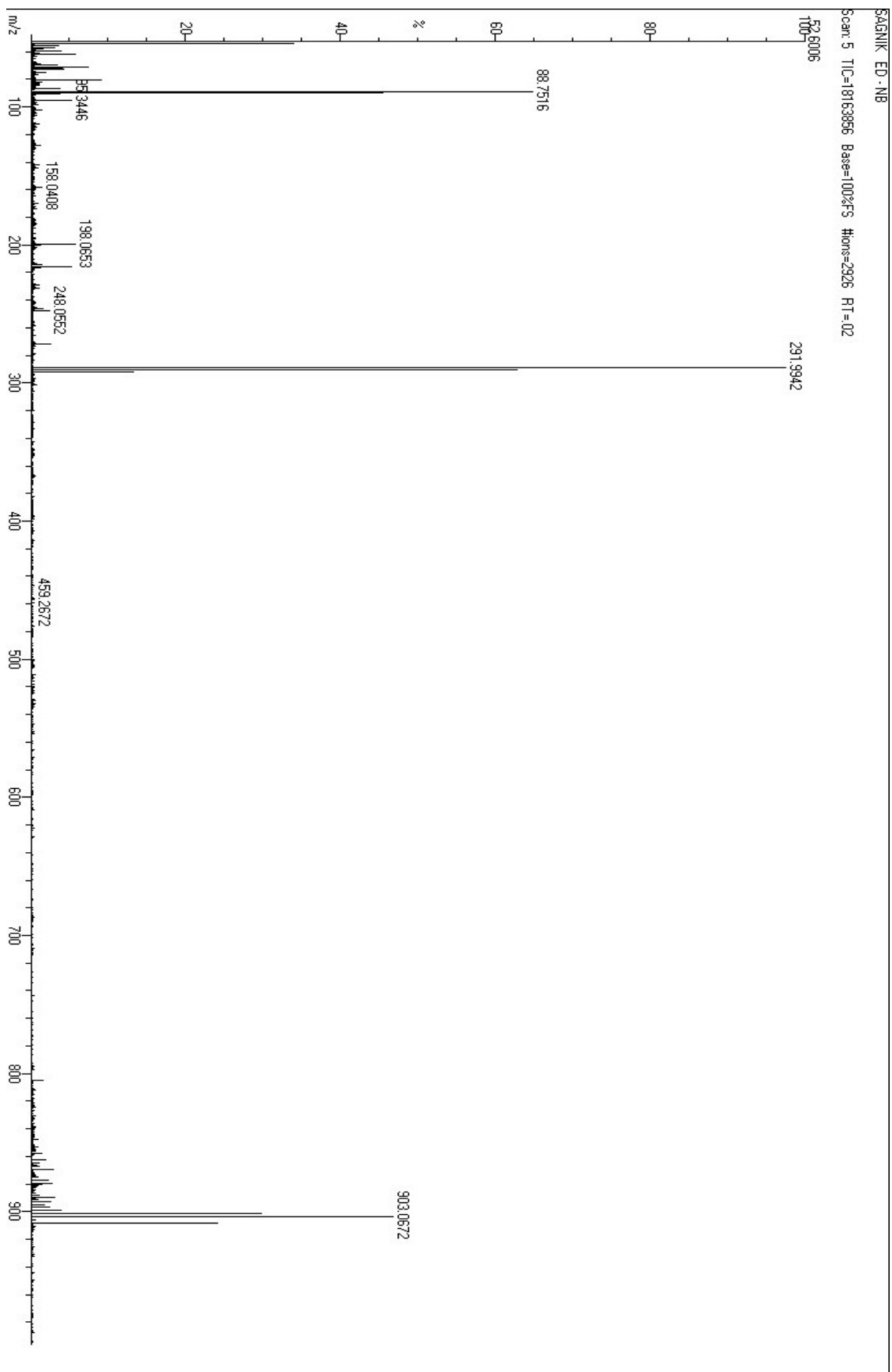


Fig. S11. <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>) of Compound 4



**Fig. S12.** ESI mass spectrum of Compound 4

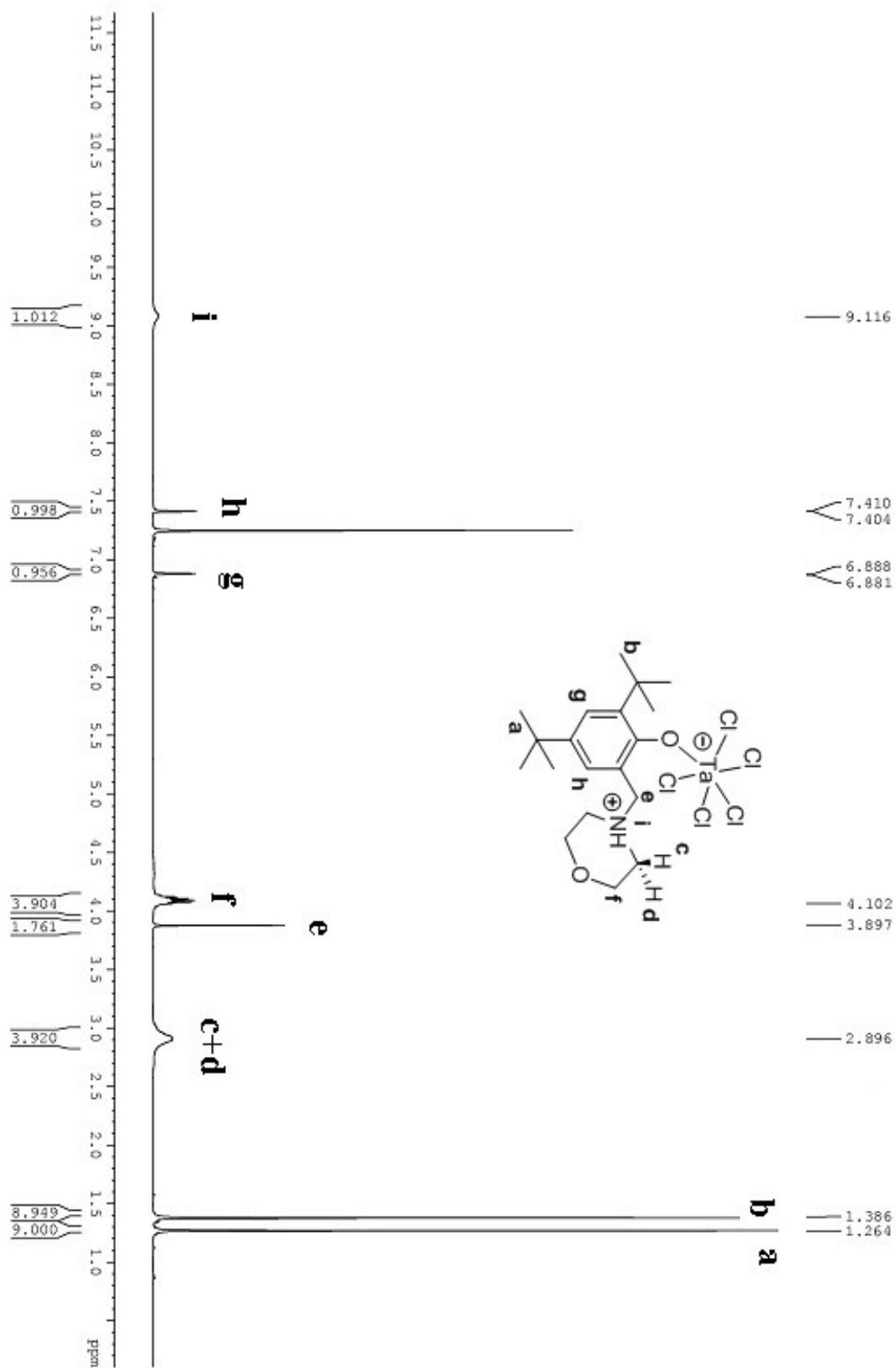


Fig. S13.  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) of Compound 5

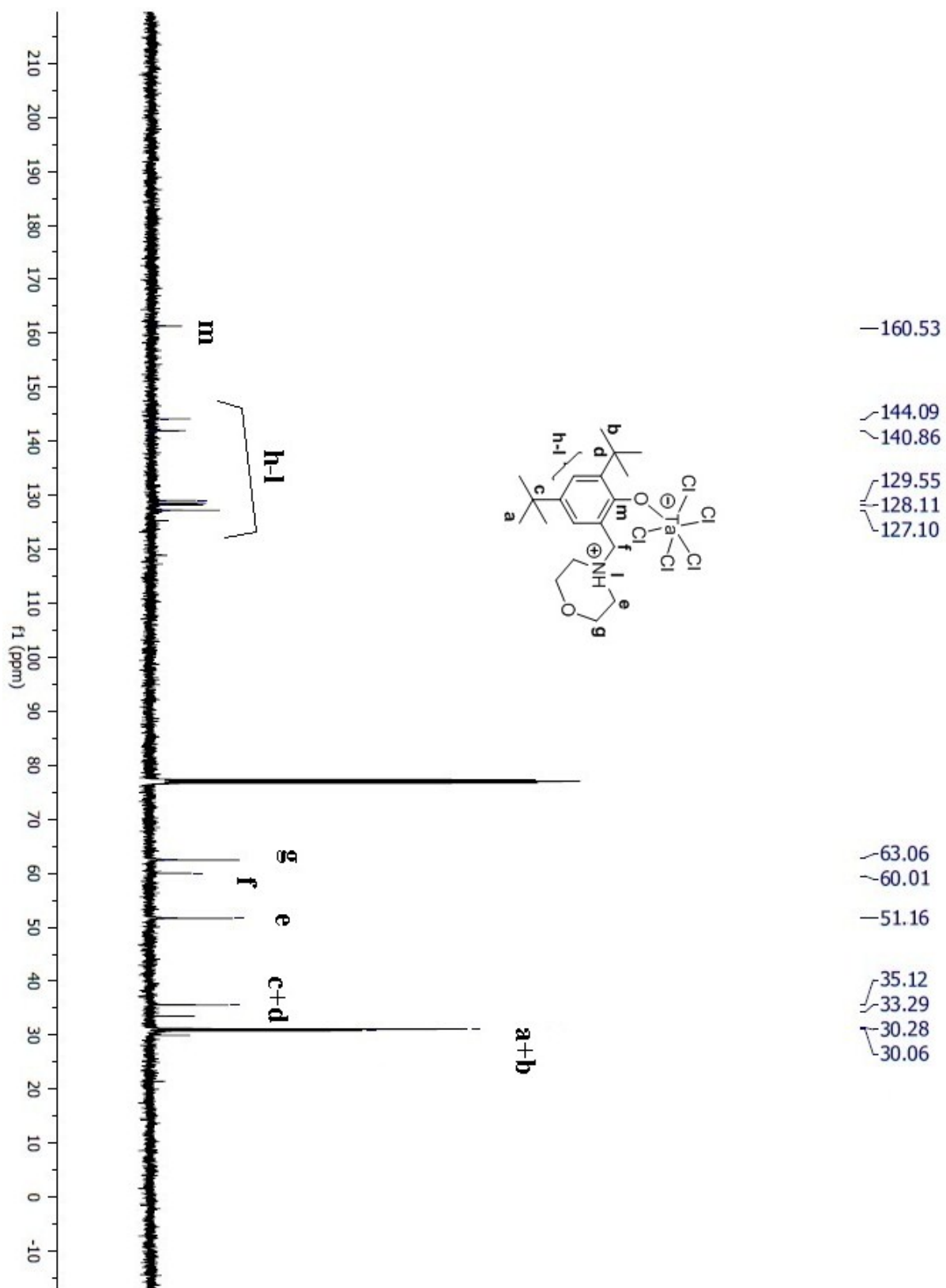
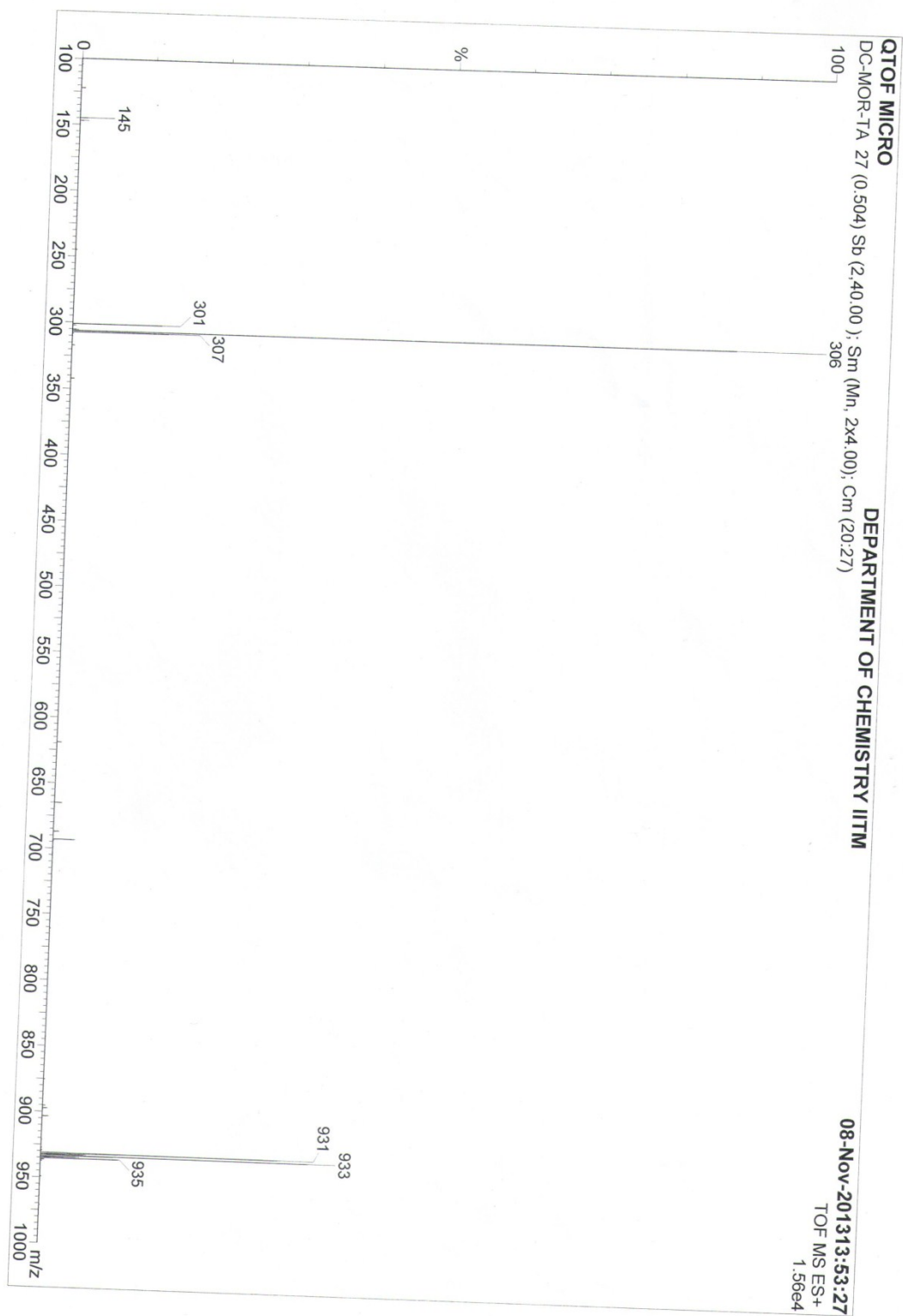


Fig. S14.  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) of Compound 5



**Fig. S15.** ESI mass spectrum of Compound 5



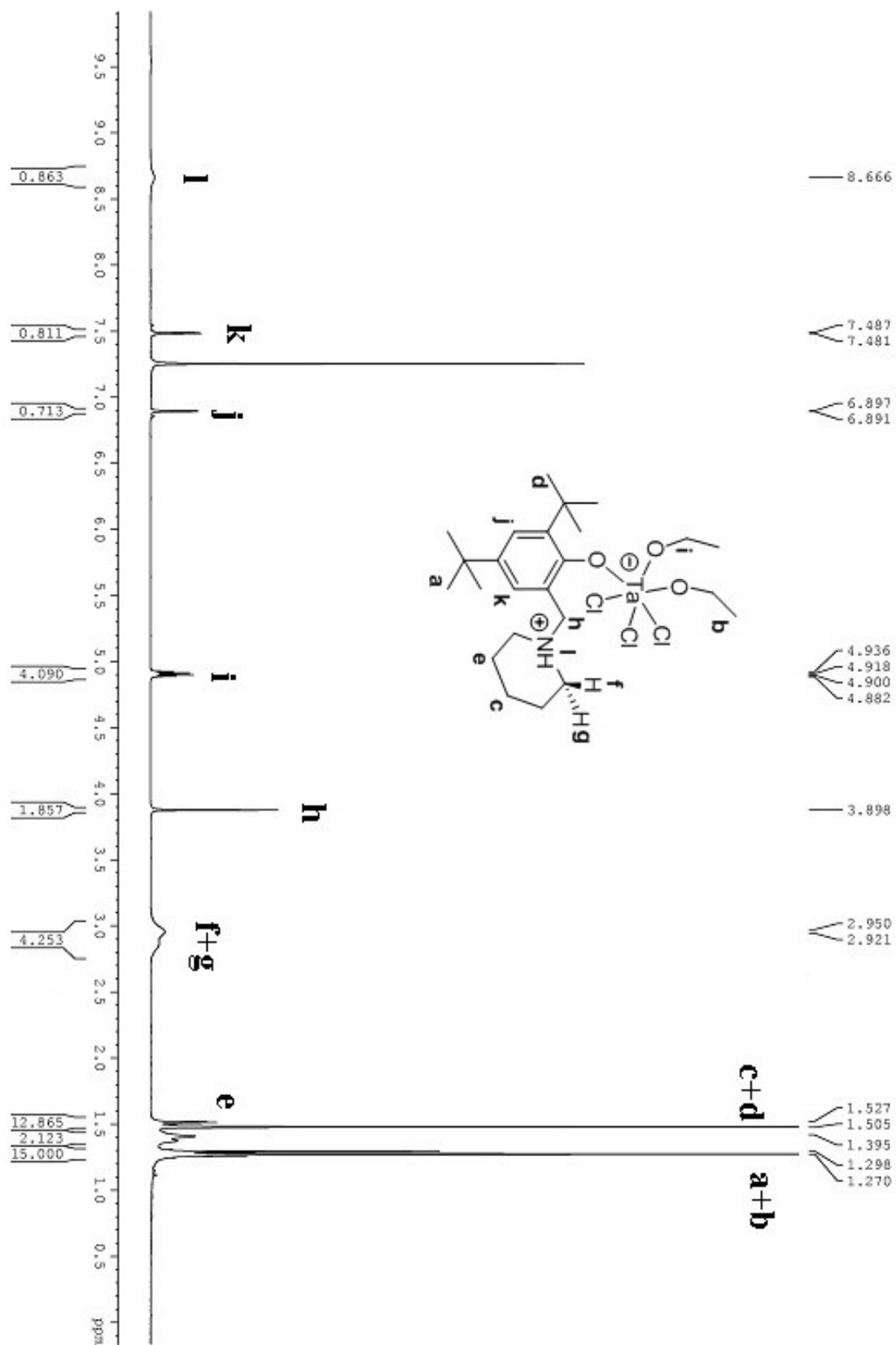


Fig. S16.  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ) of Compound 6a

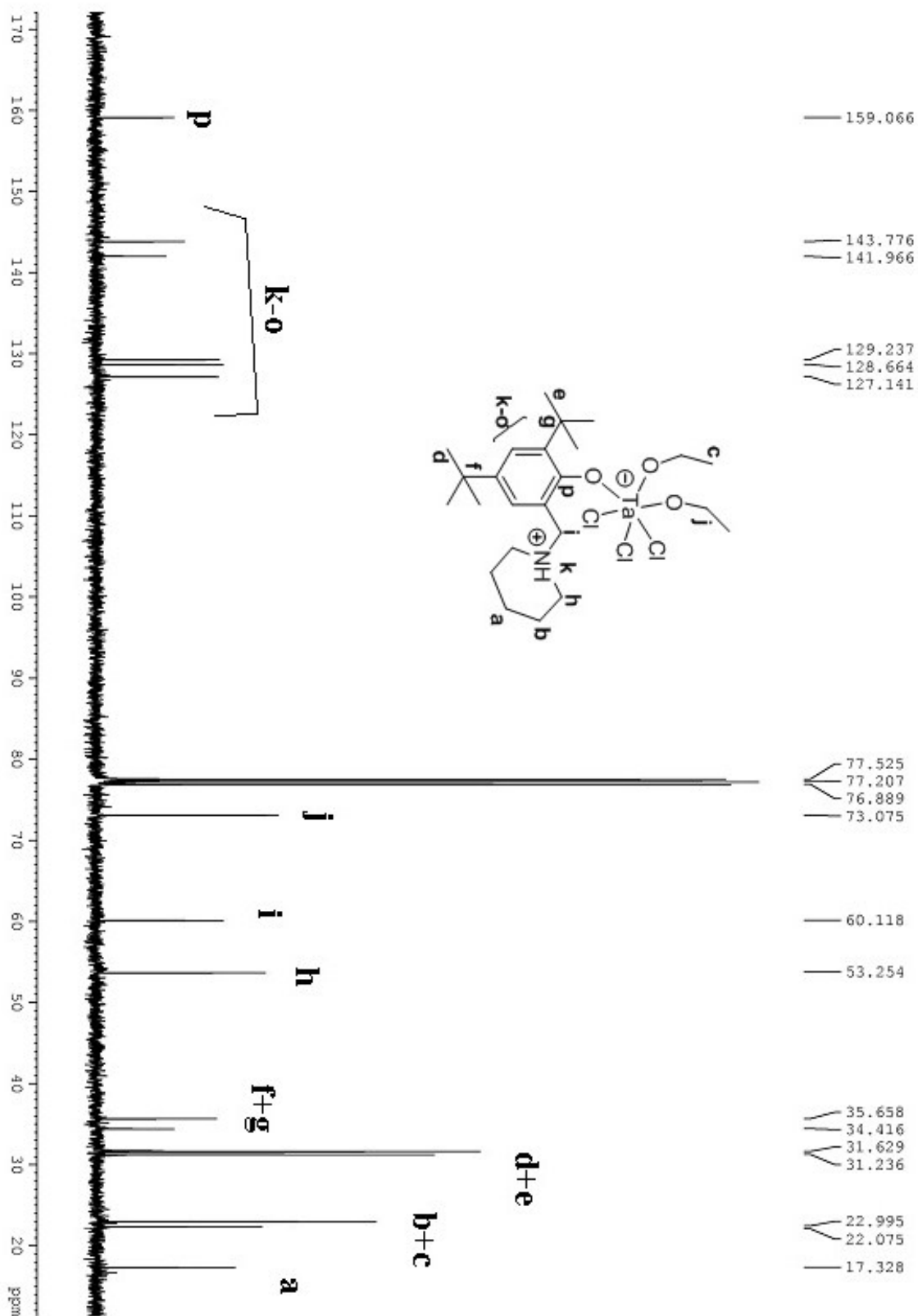
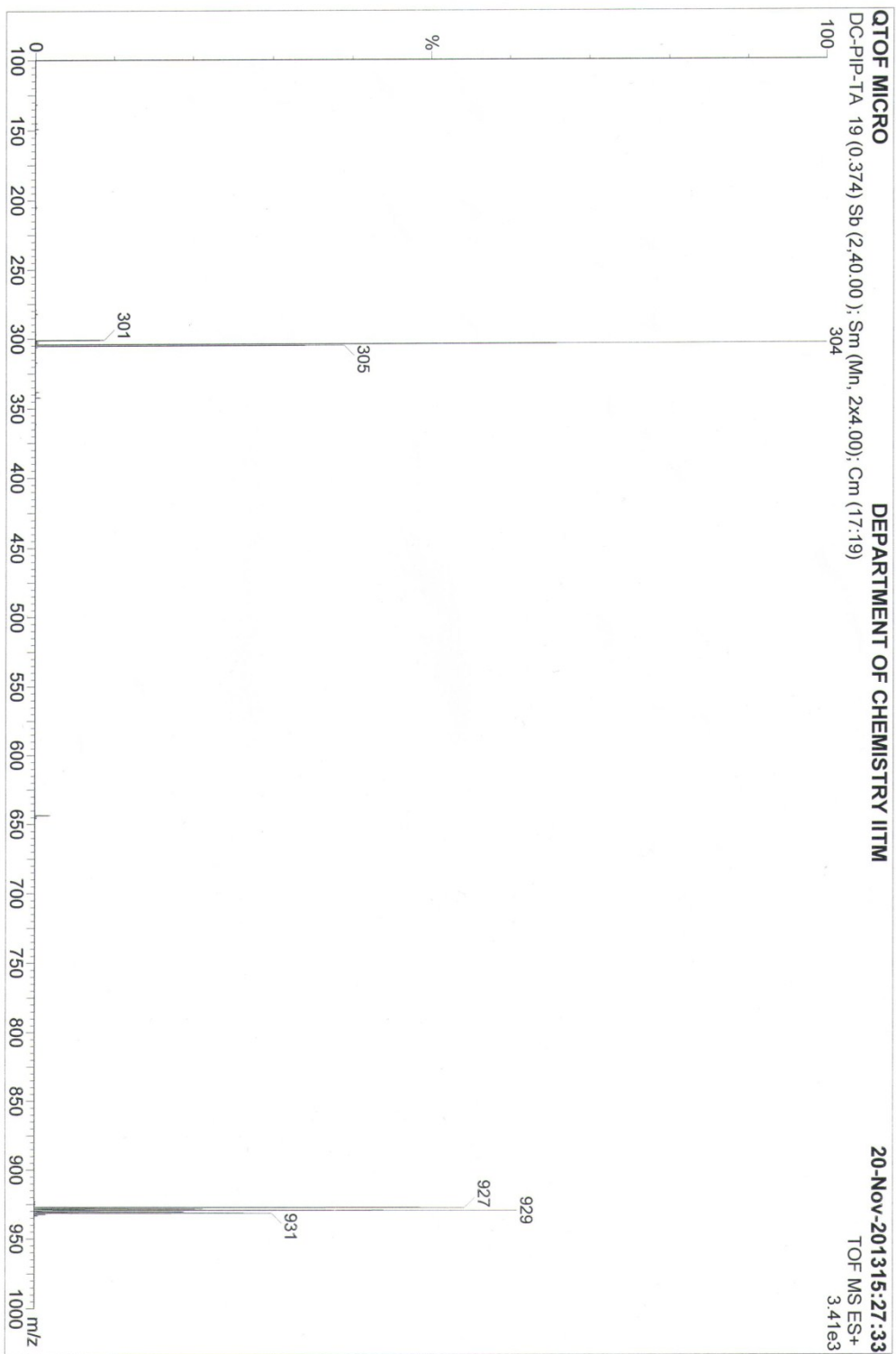
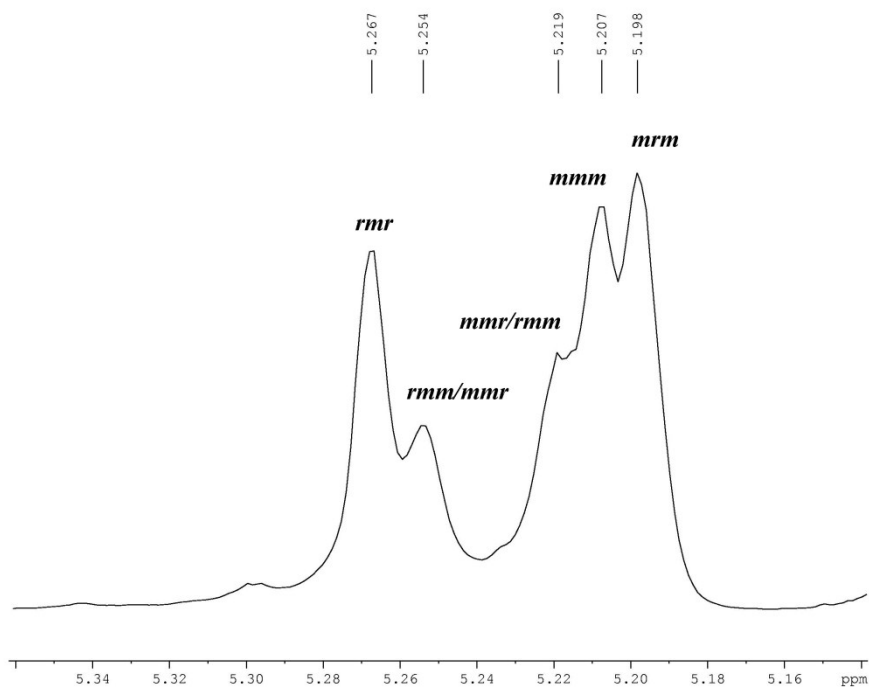


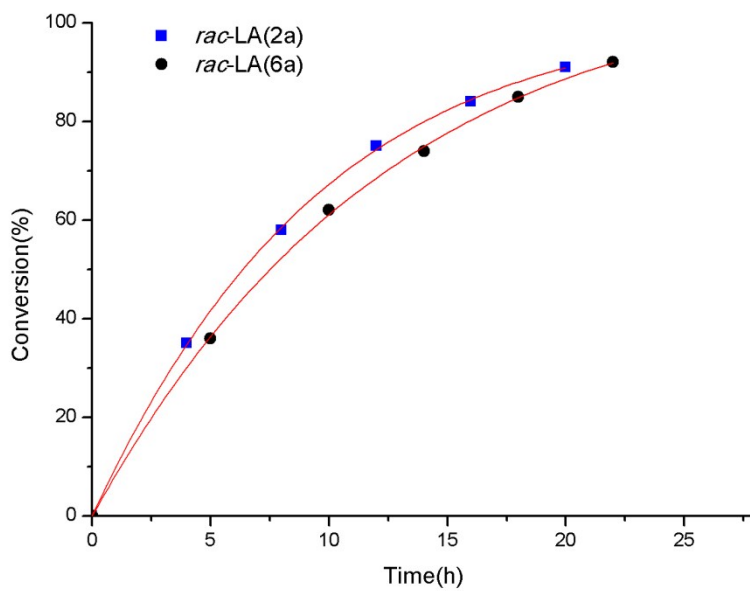
Fig. S17.  $^{13}\text{C}$  NMR (100 MHz,  $\text{CDCl}_3$ ) of Compound 6a



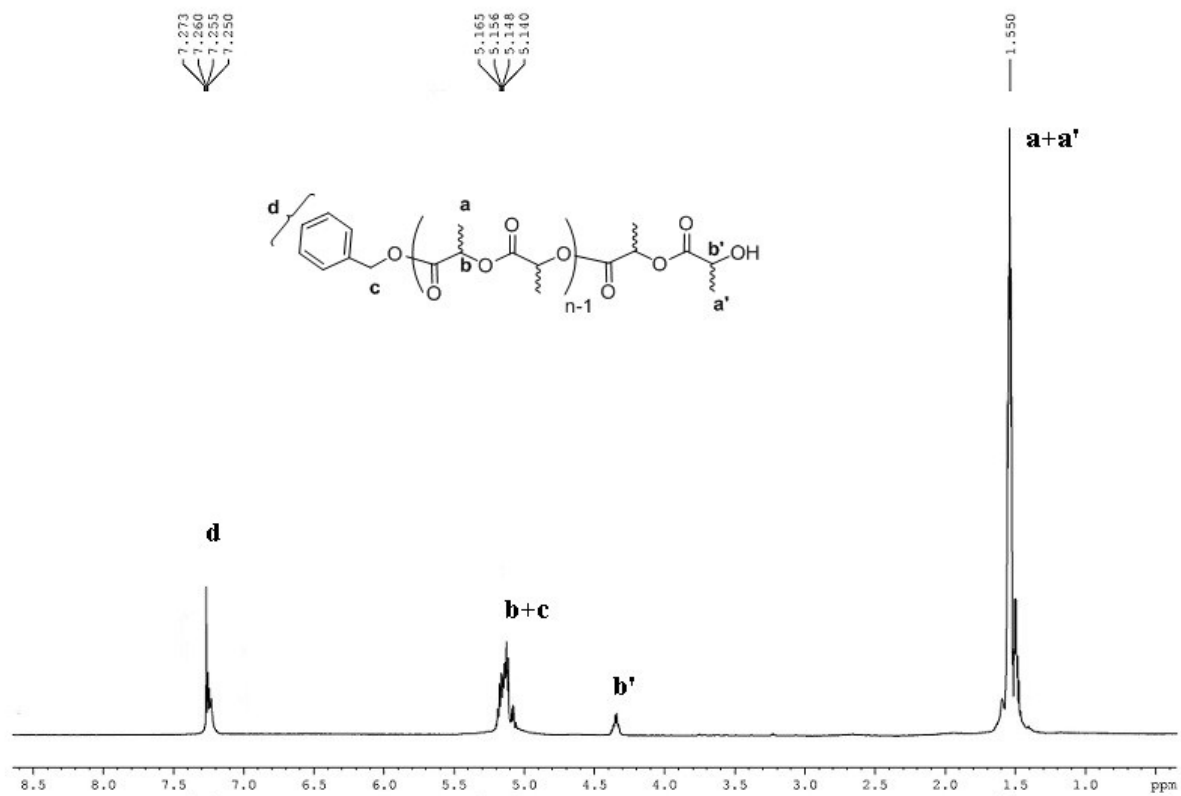
**Fig. S18.** ESI mass spectrum of Compound 6



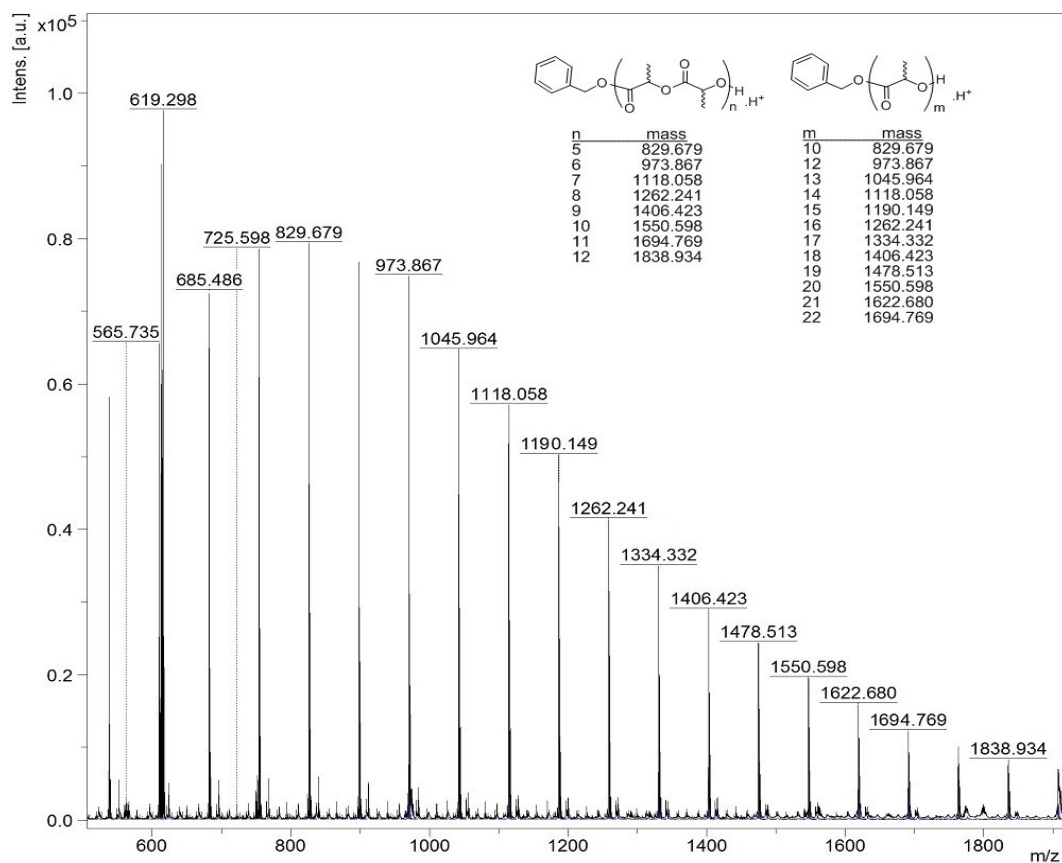
**Fig. S19.** Homonuclear decoupled  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of the methine region of PLA obtained using **1**



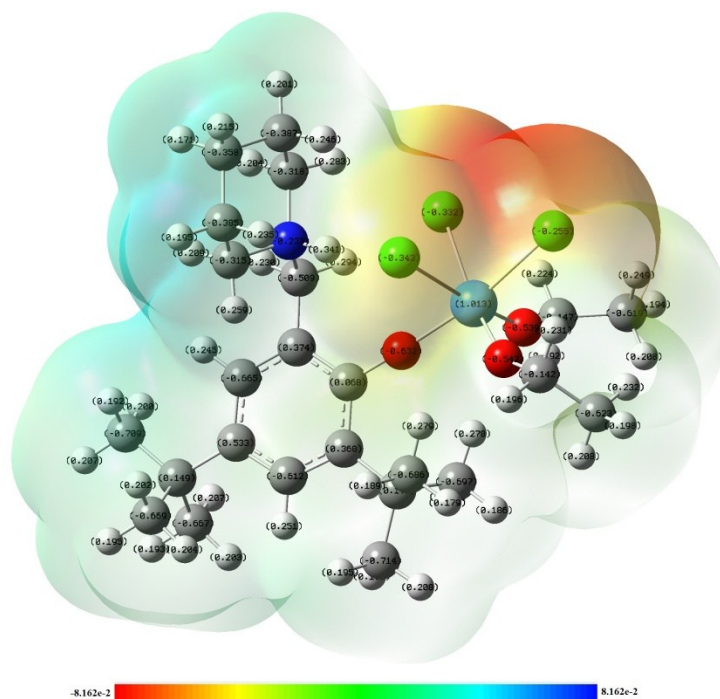
**Fig. S20.** *rac*-LA conversion vs time plot using **2a** and **6a**:  $[\text{M}]_0/[\text{Cat}]_0 = 200$  at  $140\text{ }^\circ\text{C}$



**Fig. S21.** <sup>1</sup>H NMR spectrum (400 MHz, CDCl<sub>3</sub>) of the crude product obtained from a reaction between *rac*-LA and **2a** and BnOH in 20:1:5 ratio at 140 °C.



**Fig. S22.** MALDI-TOF mass spectrum of the crude product obtained from a reaction between *rac*-LA and **2a** and BnOH in 20:1:5 ratio at 140 °C.



**Fig. S23.** The MEP mapped surface of **6a** calculated at an isovalue of 0.004 representing electrostatic potential.