Supporting information:

Lewis acid-base bifunctional aluminum-salen catalysts: synthesis of cyclic carbonates from carbon dioxide and epoxides

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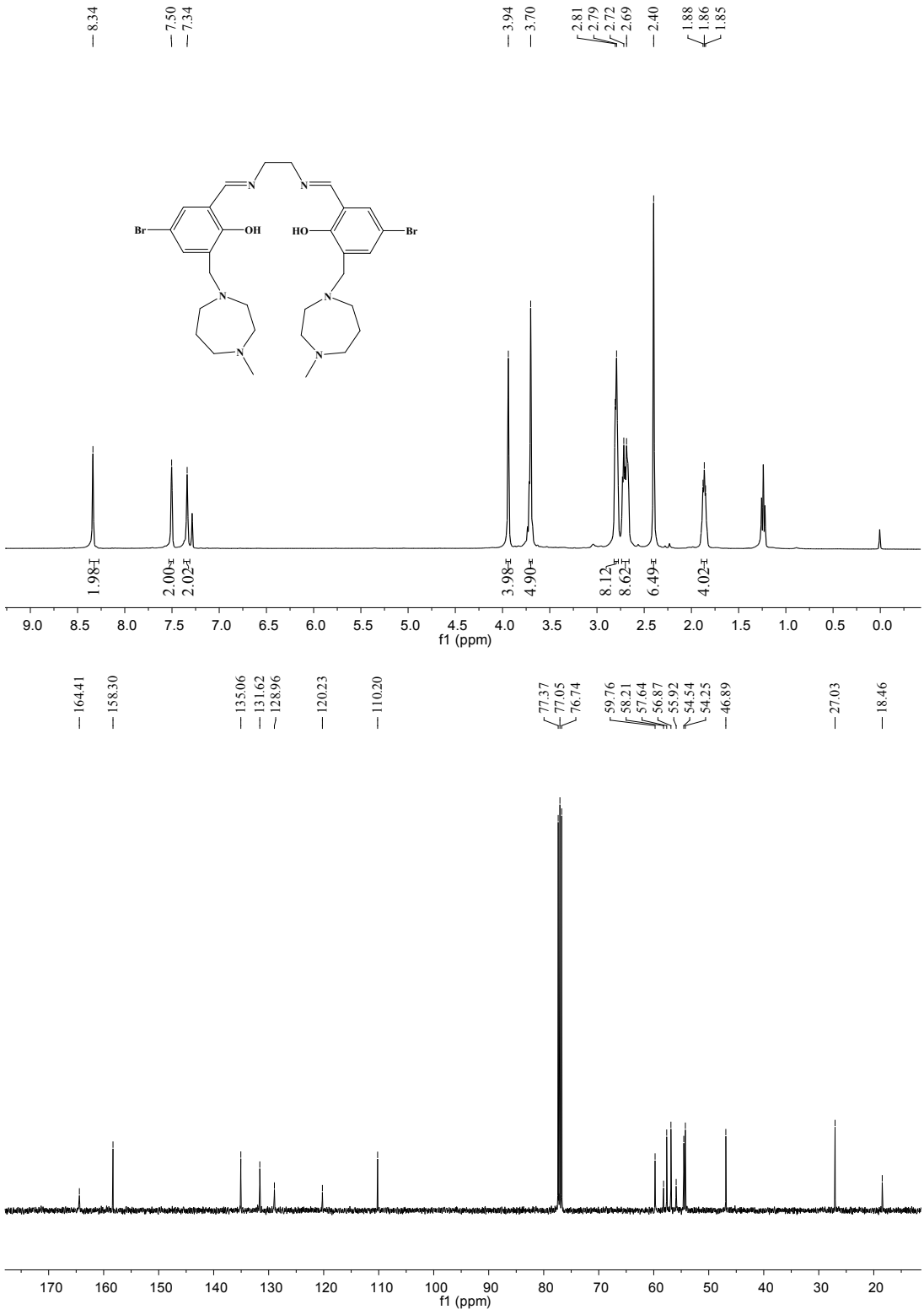

Fig. S1. ^{1}H NMR and ^{13}C NMR spectra ($CDCl_3$) for ligand $\mathbf{H_2L^{S1}}$

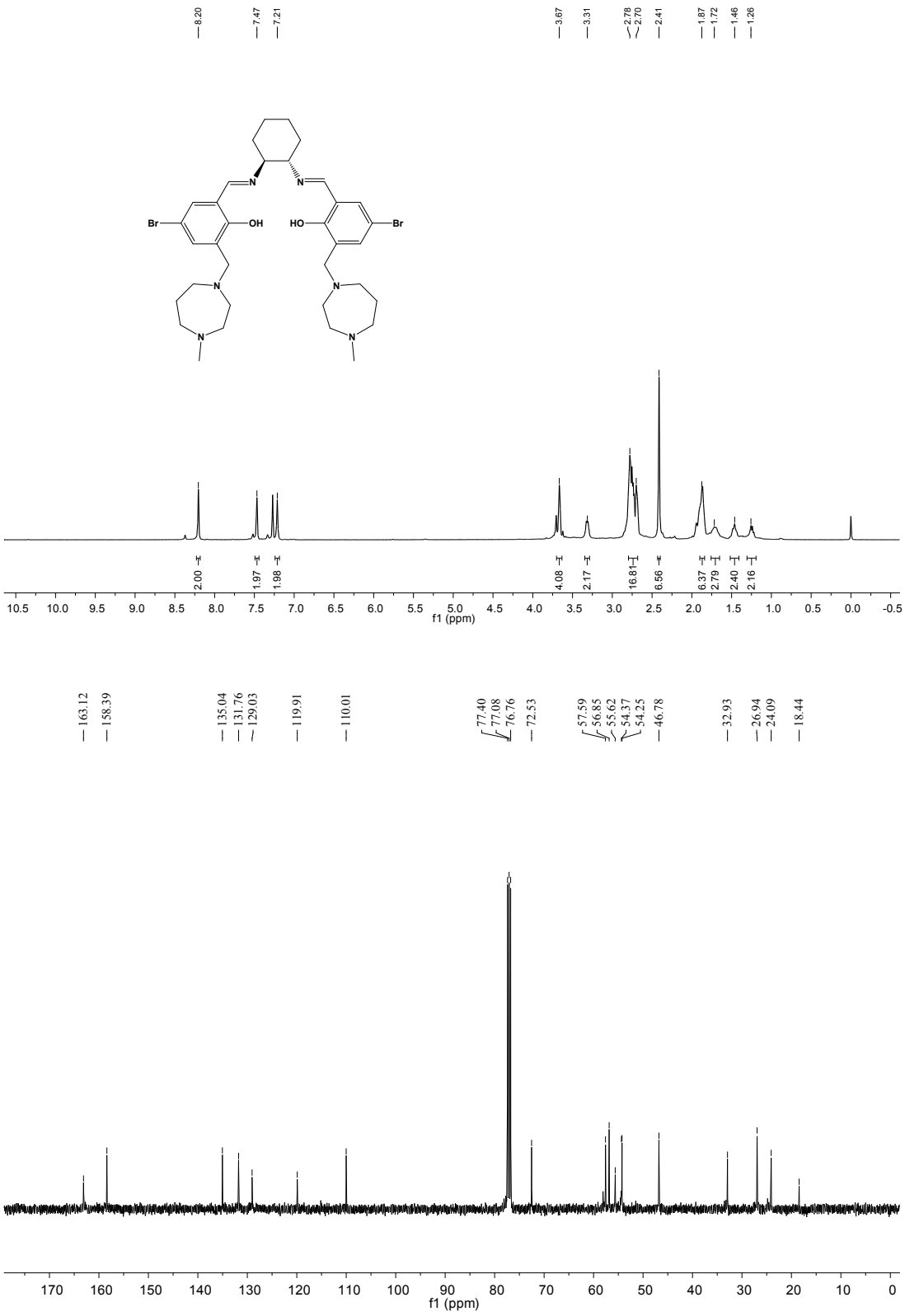

Fig. S2. ^{1}H NMR and ^{13}C NMR spectra ($CDCl_3$) for ligand $\mathbf{H_2L^{S2}}$

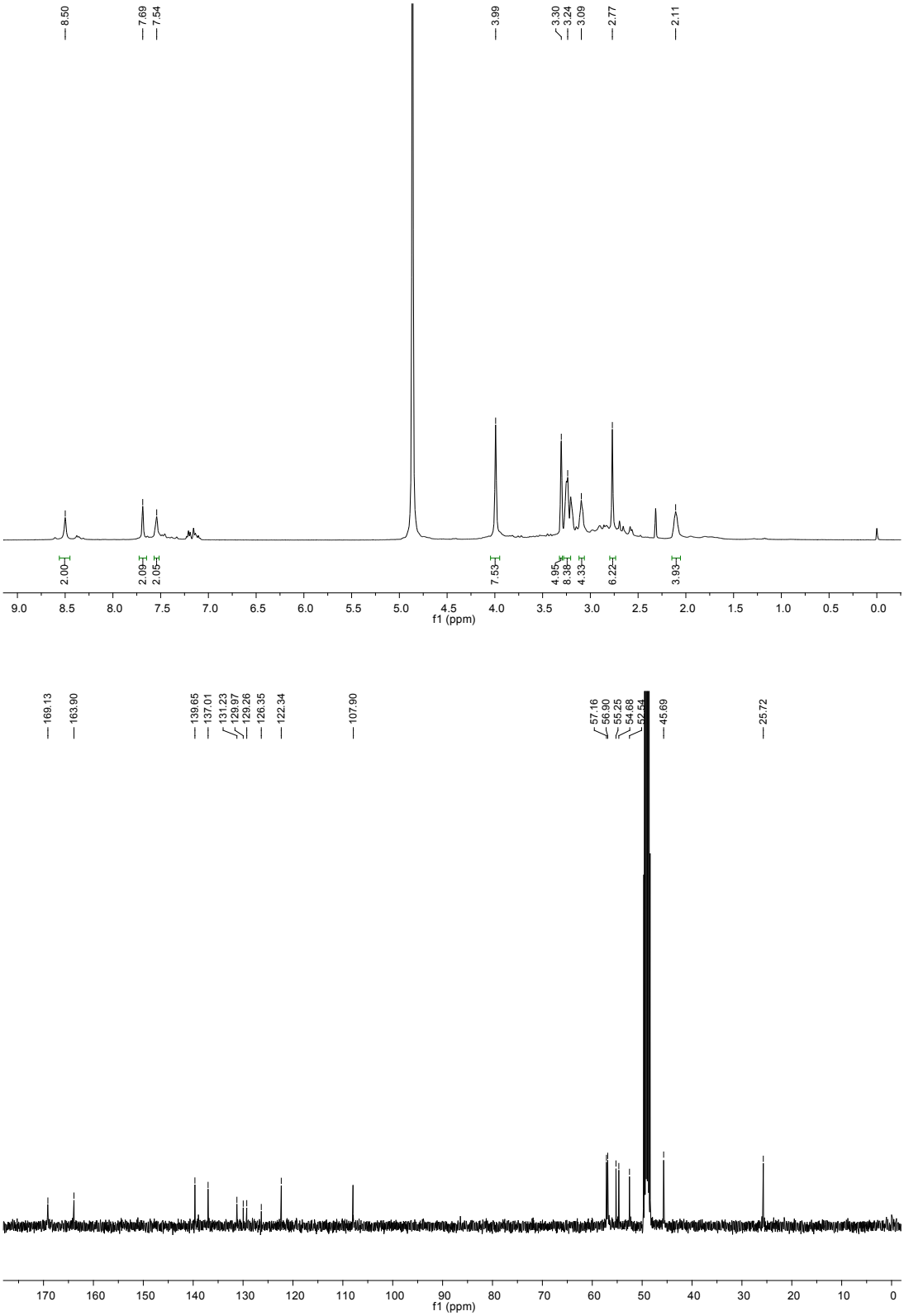

Fig. S3. ^{1}H NMR and ^{13}C NMR spectra (CD_3OD) for **1a**

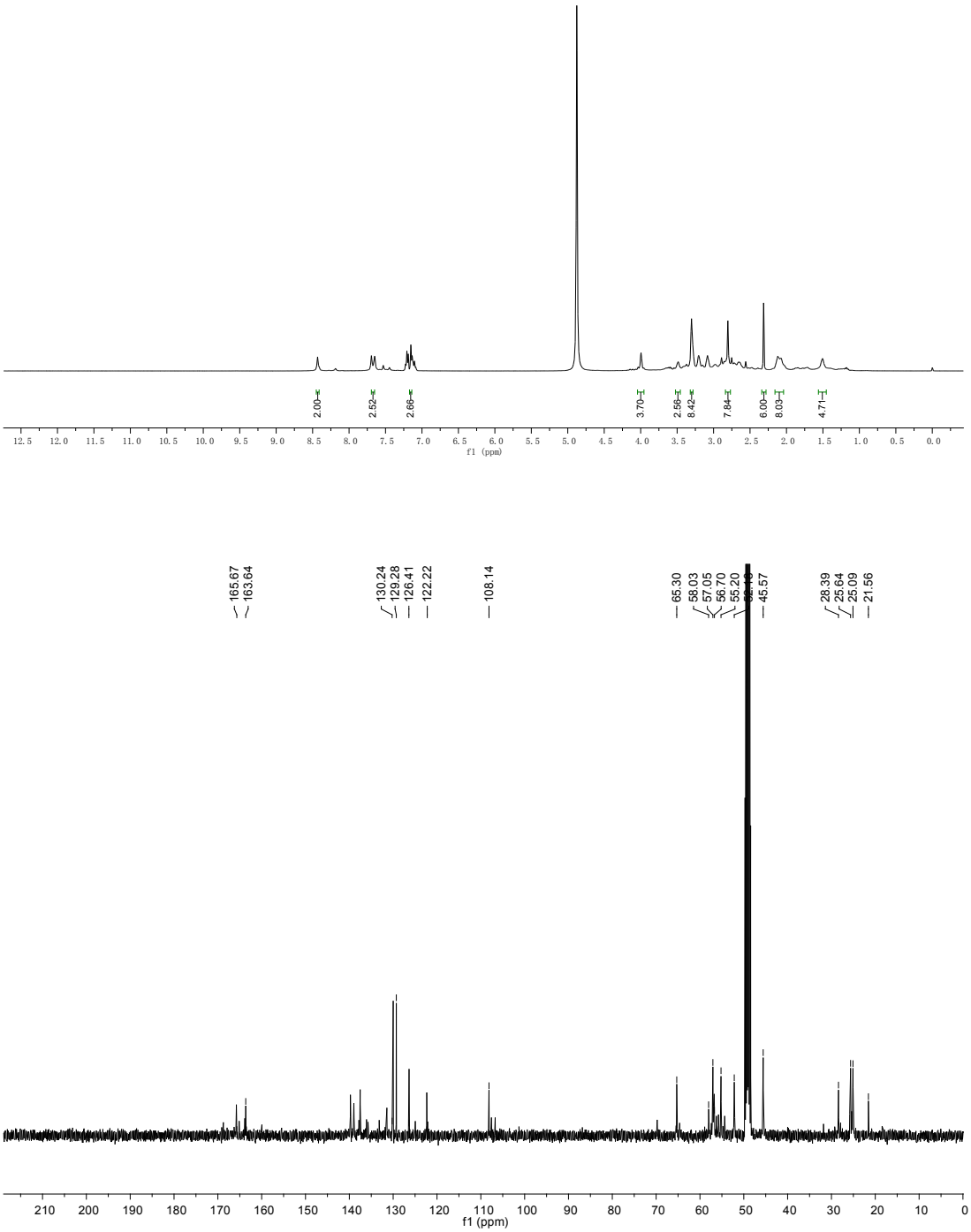

Fig. S4. ^{1}H NMR and ^{13}C NMR spectra (CD_3OD) for **1b**

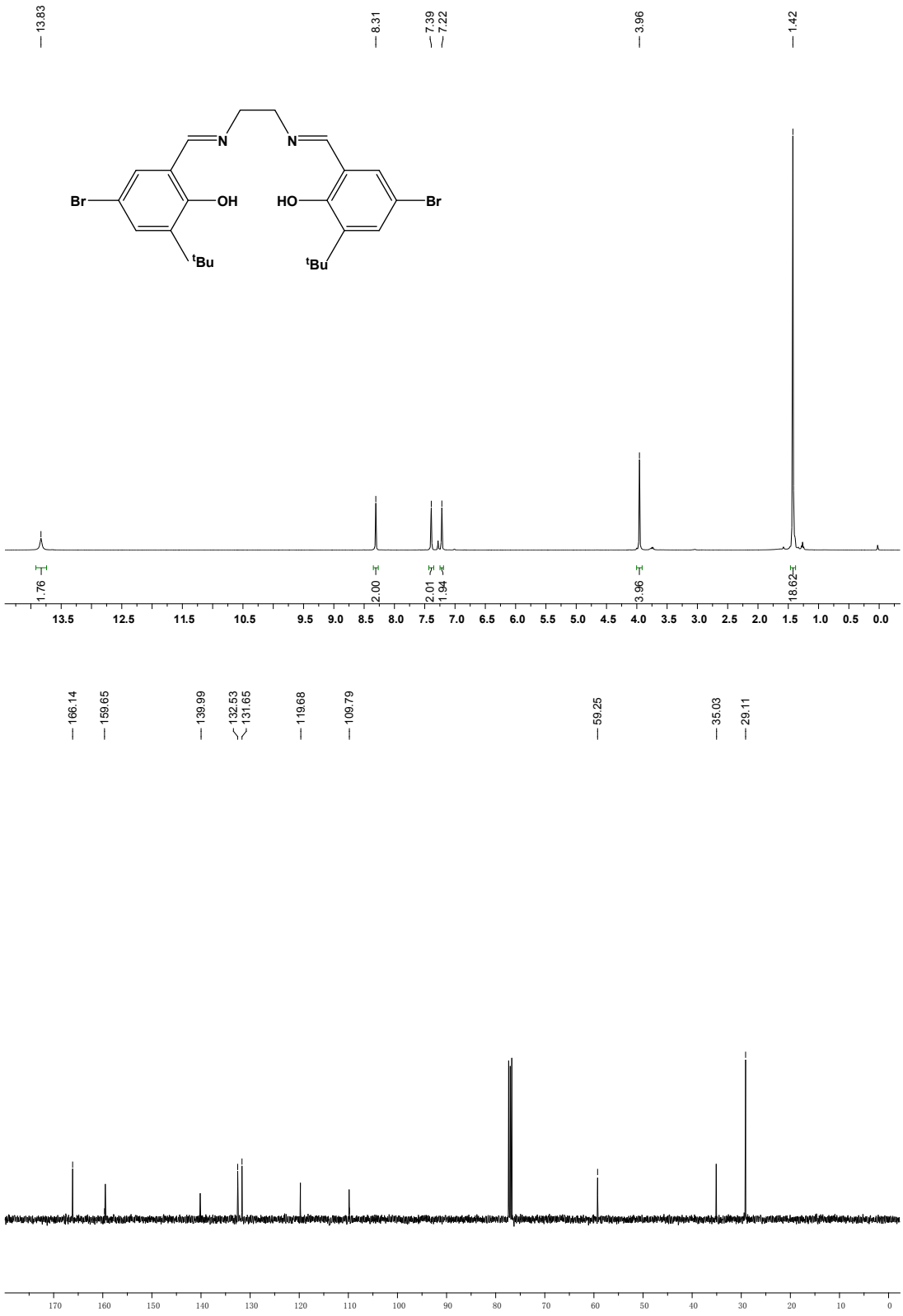

Fig. S5. ^{1}H NMR and ^{13}C NMR spectra ($CDCl_3$) for salen ligand of **3a**

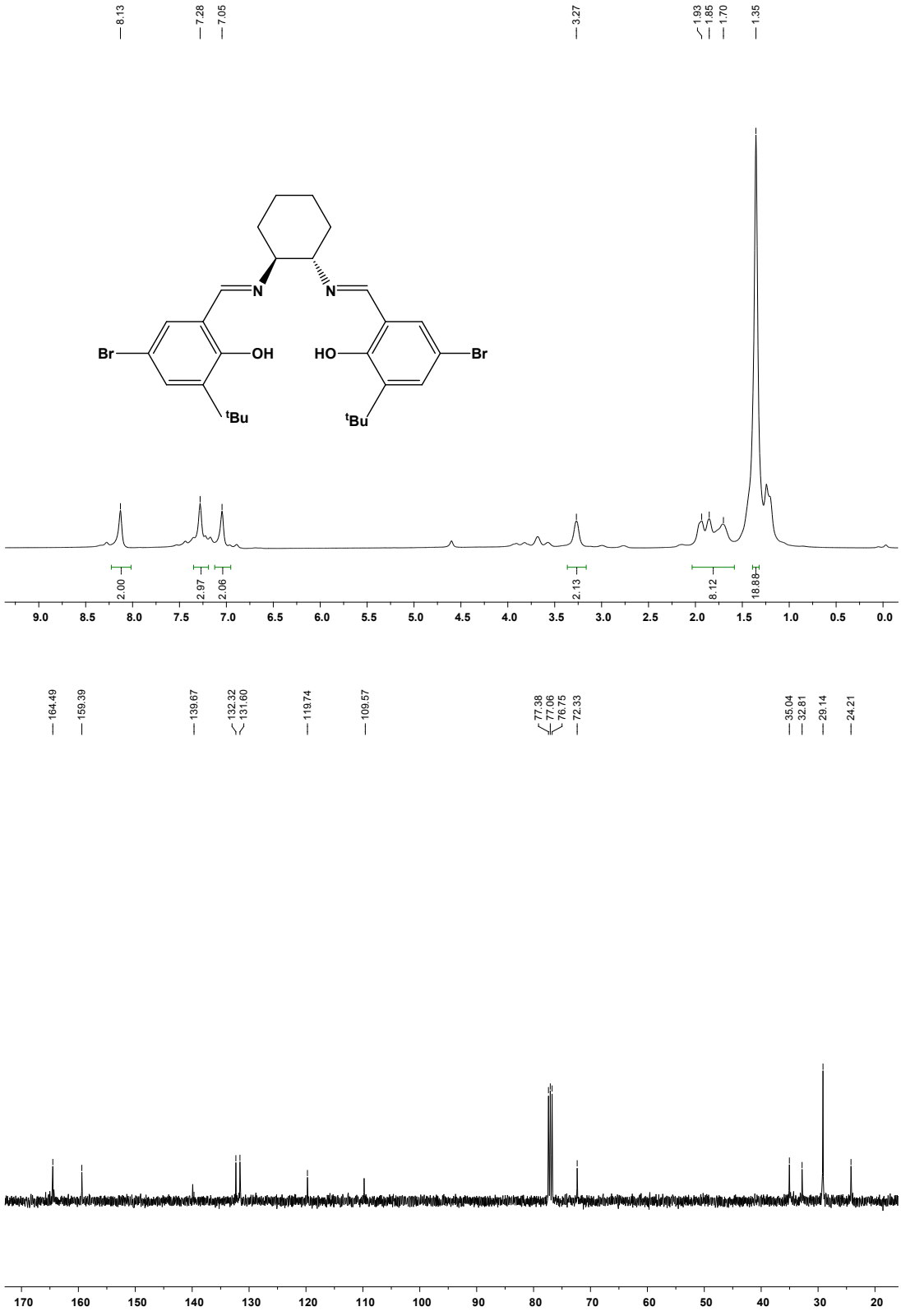

Fig. S6. ^{1}H NMR and ^{13}C NMR spectra ($CDCl_3$) for salen ligand of **3b**

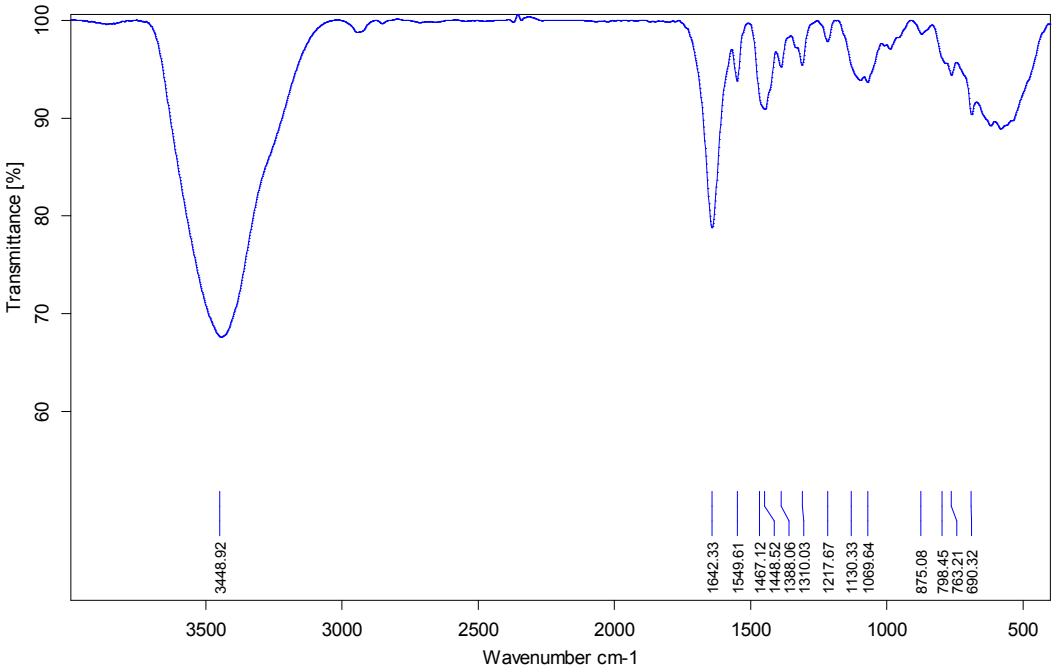

Fig. S7 FT-IR spectrum **of 1a.**

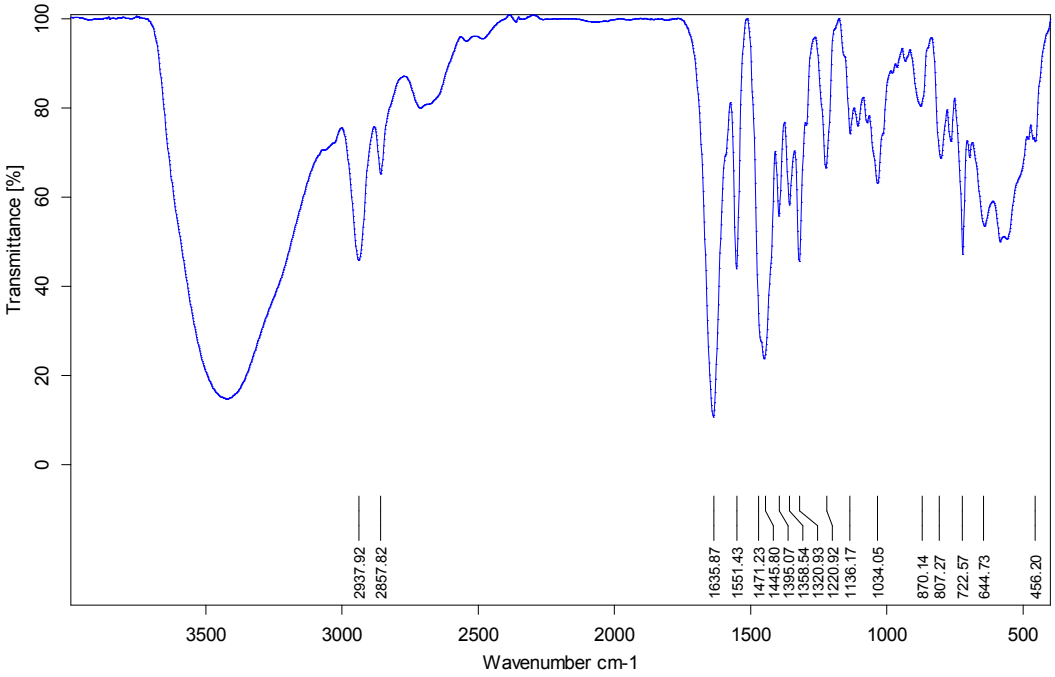

Fig. S8 FT-IR spectrum **of 1b.**

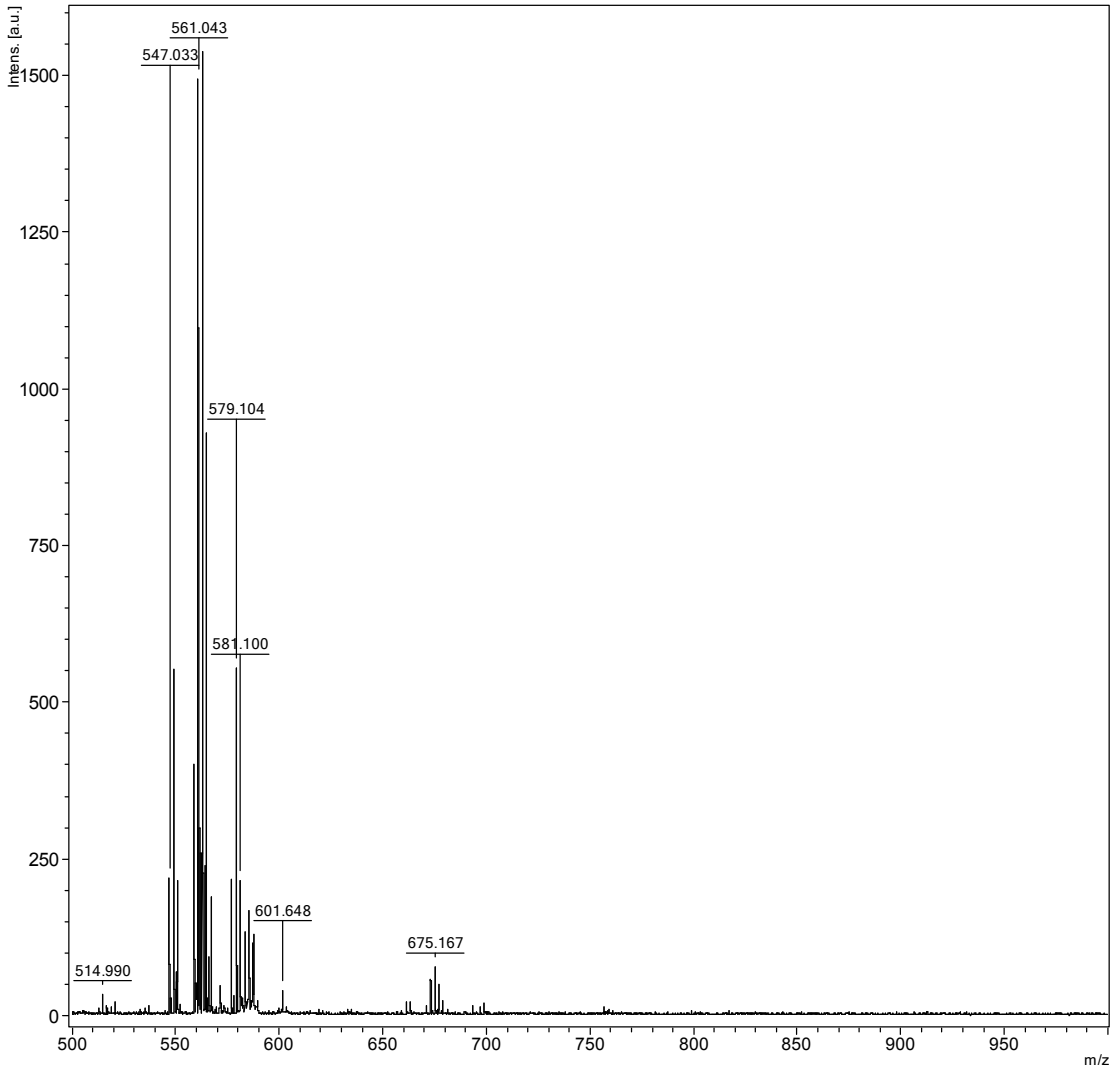

Fig. S9 MS spectrum of ligand H_2L^{S1}.

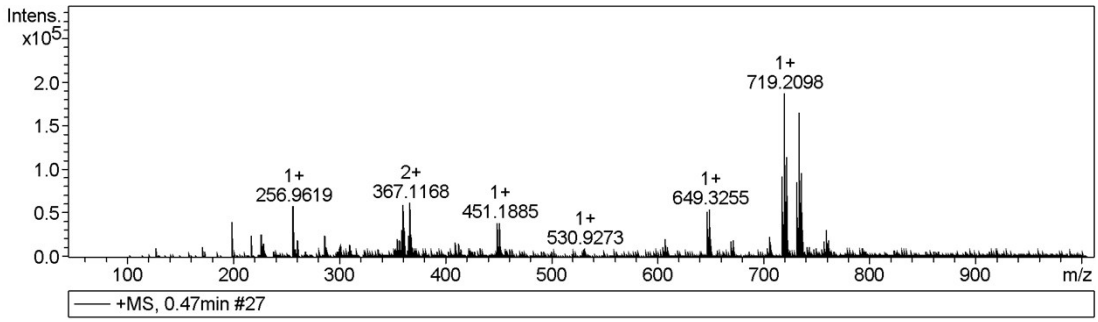

Fig. S10 MS spectrum of ligand H_2L^{S2}.

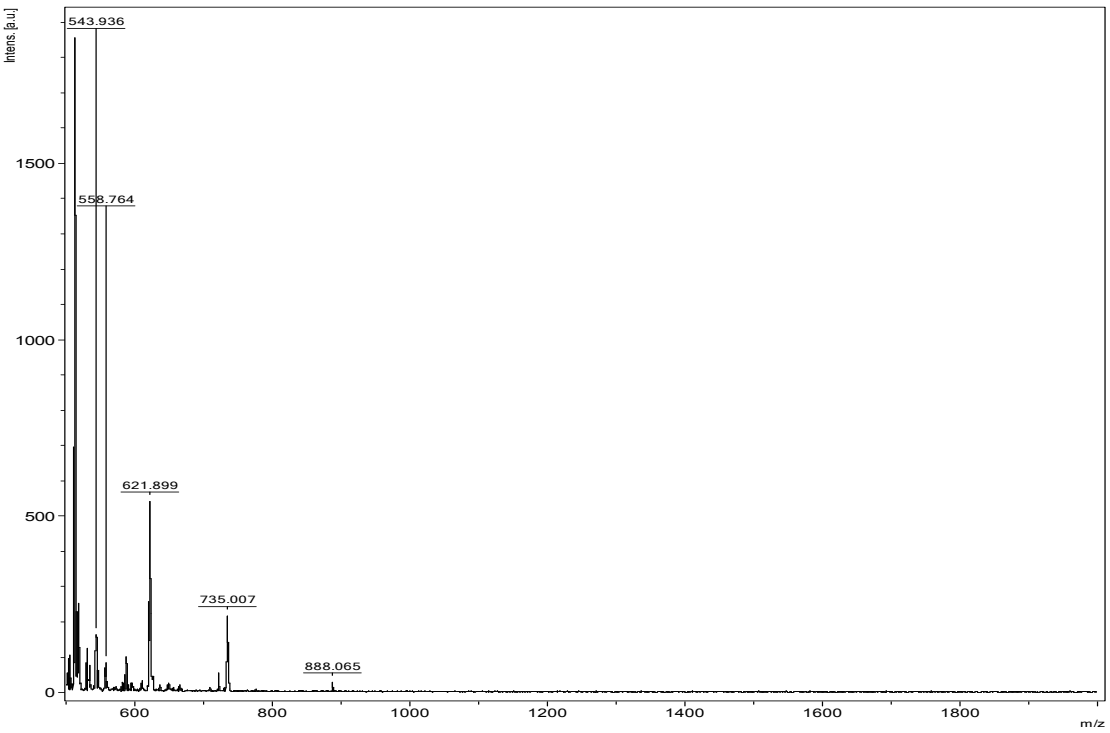

Fig. S11 MS spectrum of **1a**.

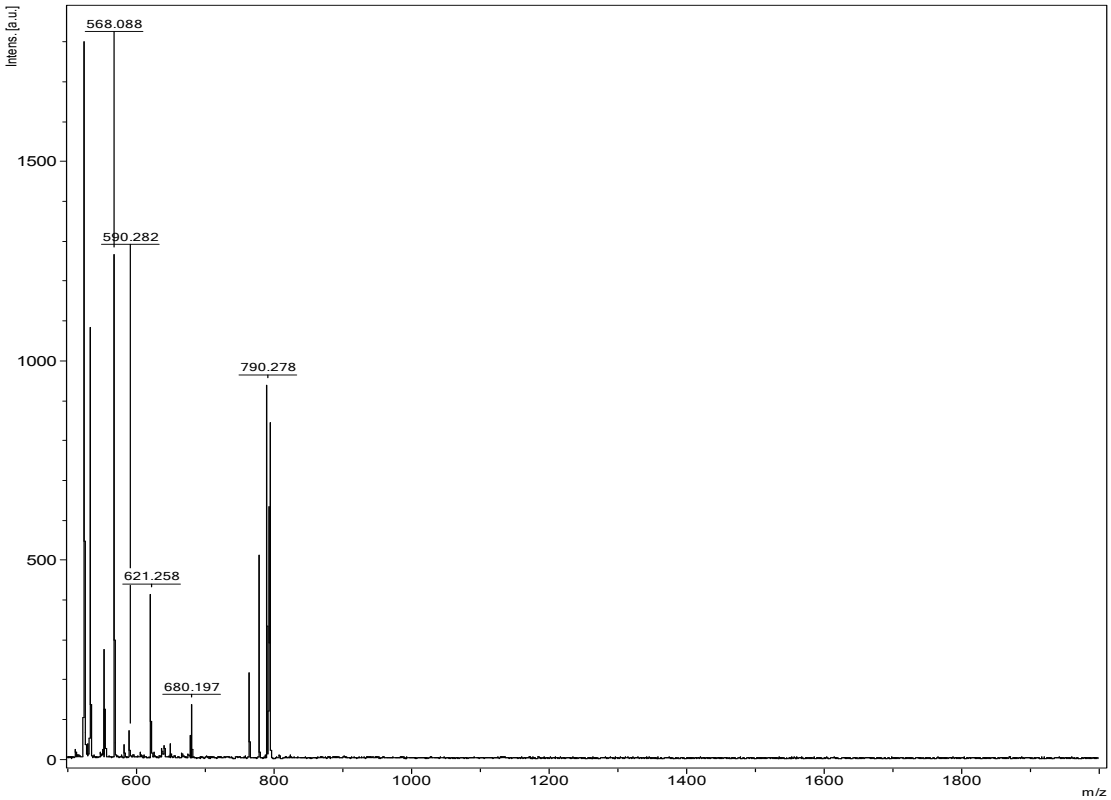

Fig. S12 MS spectrum of **1b**.

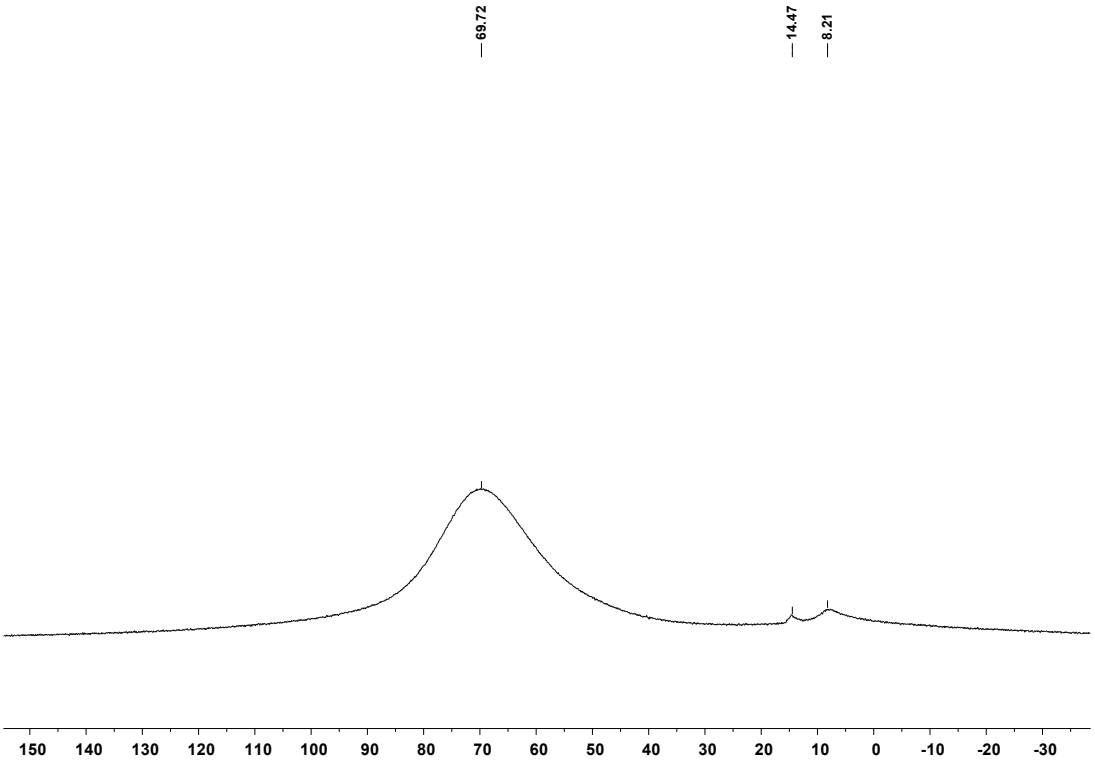

Fig. S13 ^{27}Al NMR spectrum of **1a**.

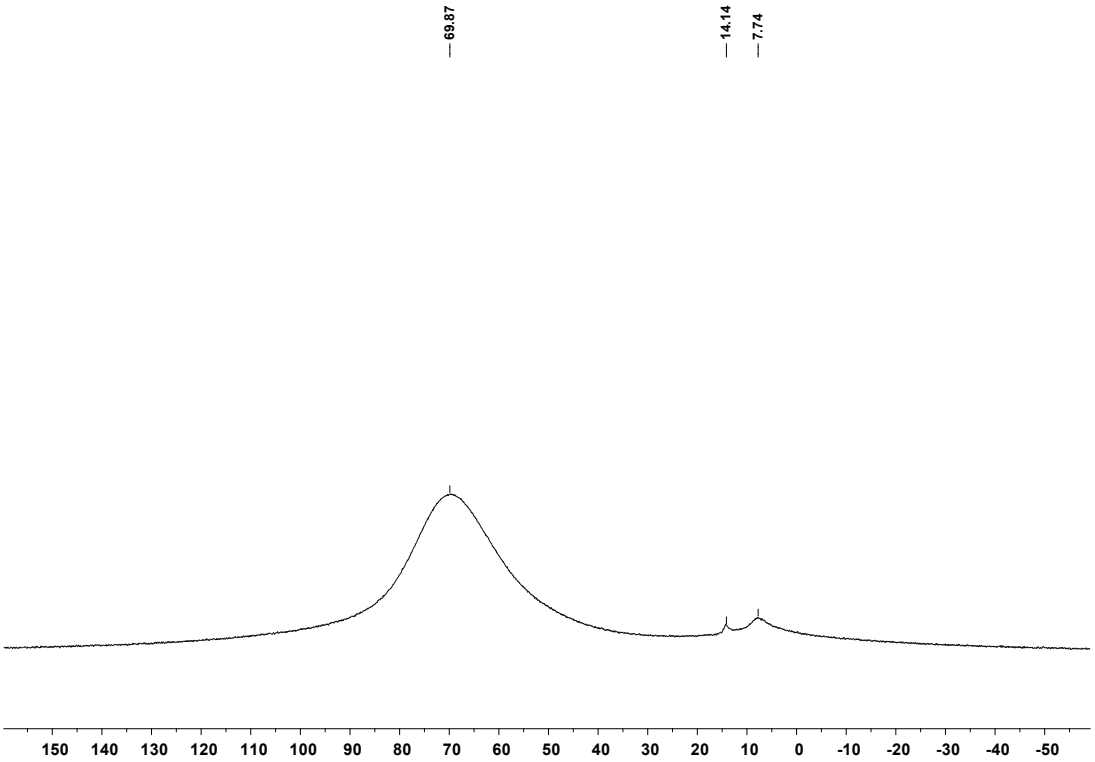

Fig. S14 ^{27}Al NMR spectrum of **1b**.

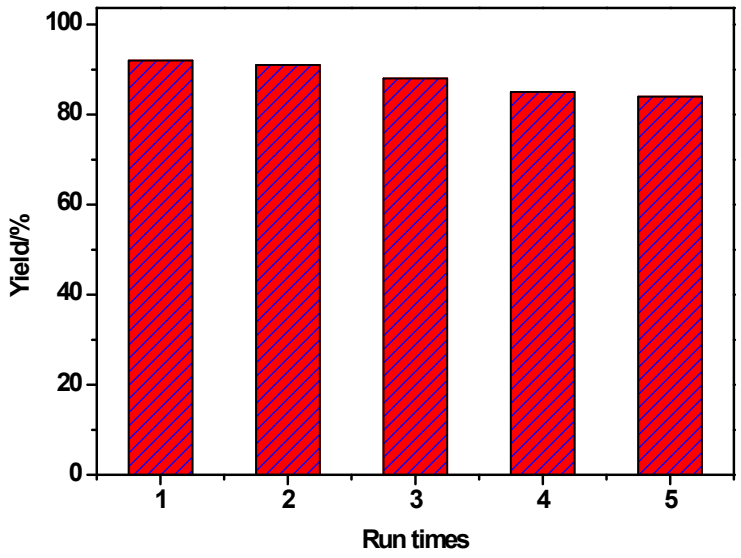

Fig. S15 Recyclability and reusability of the catalyst **1b** in the coupling reaction of PO with CO_2. Reaction conditions: 10 mmol PO with 1 mol% **1b**, CO_2 pressure 2 MPa, reaction time 4 h.

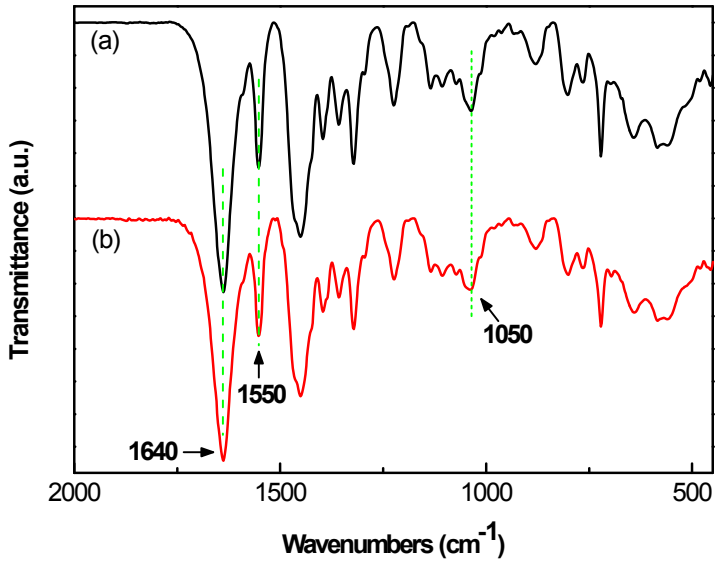

Fig. S16 FT-IT spectra of **1b** (a) and the recovered **1b** after the 5th reuse in the coupling reaction of PO with CO_2 (b).