Electronic Supporting Information

Zinc complexes bearing BIAN ligands as efficient catalysts for the formation of cyclic carbonates from CO_2 and epoxides.

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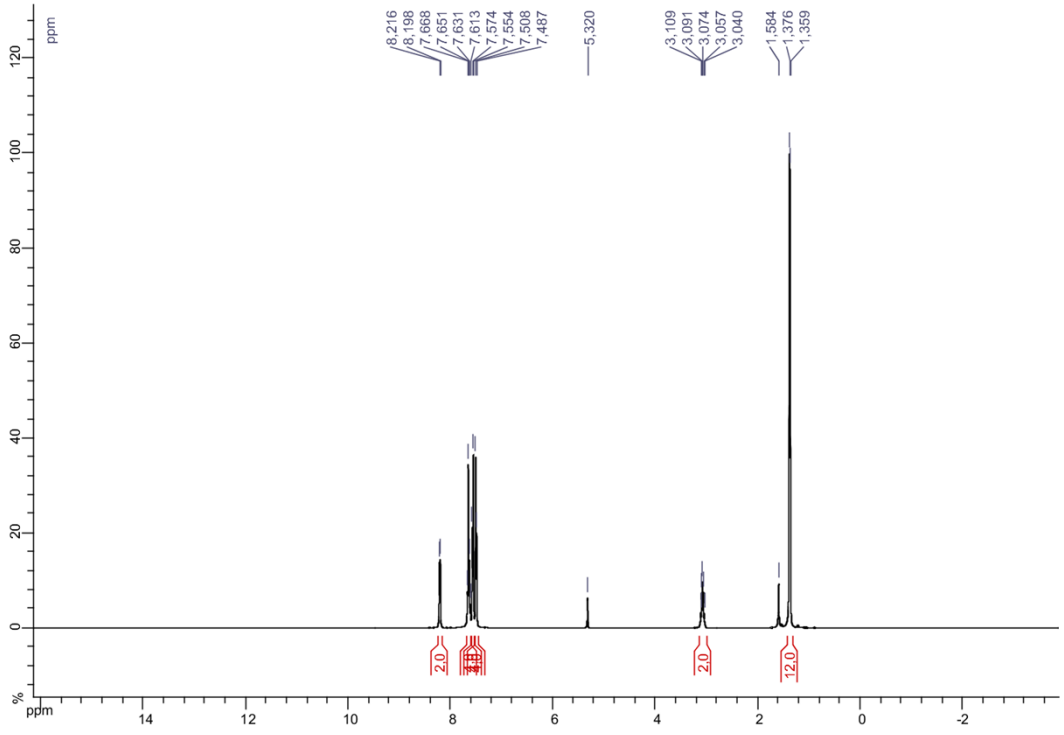

Figure S1. ^{1}H-NMR spectra of complex **1** in CD_2Cl_2.

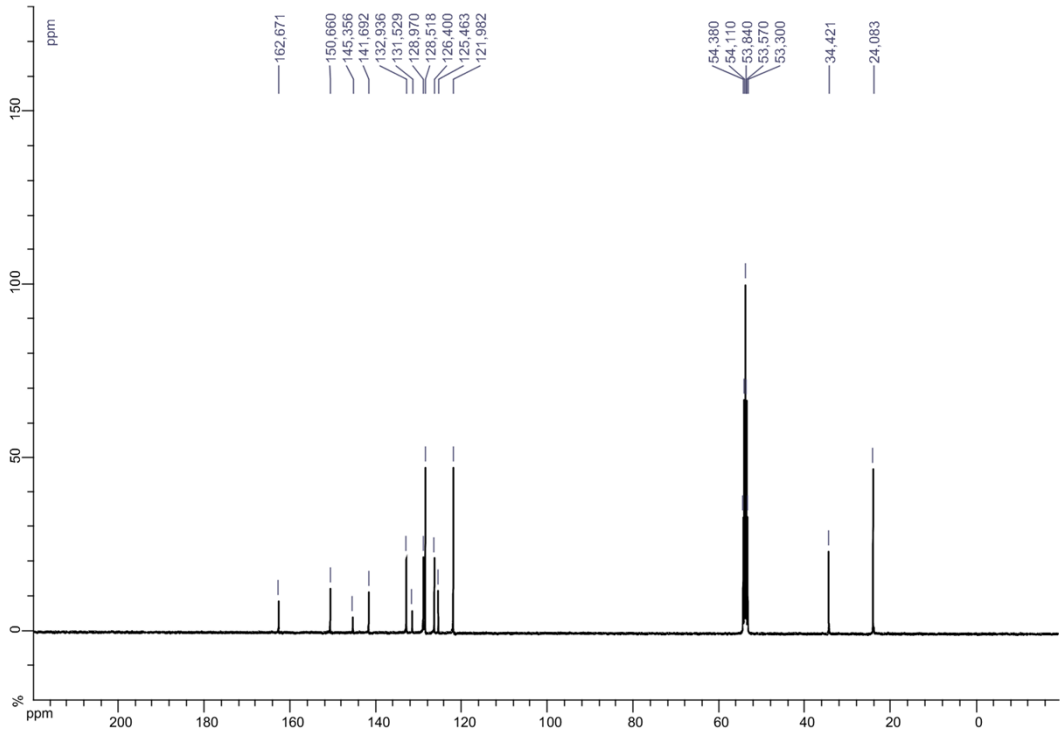

Figure S2. ^{13}C-NMR spectra of complex **1** in CD_2Cl_2.

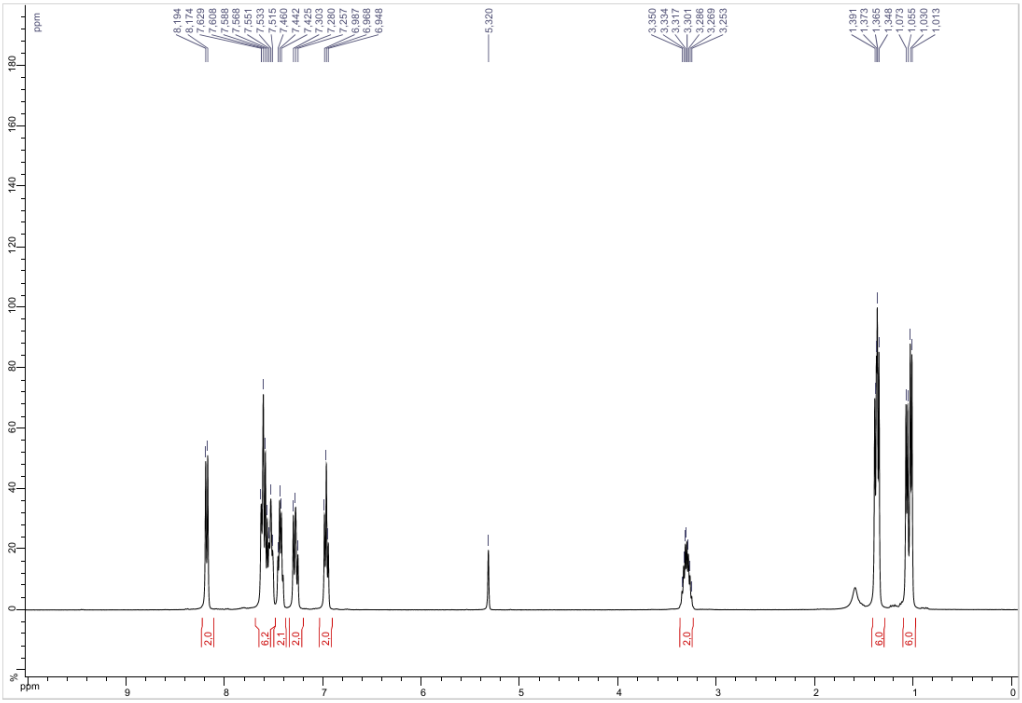

Figure S3. ^{1}H-NMR spectra of complex **2** in CD_2Cl_2.

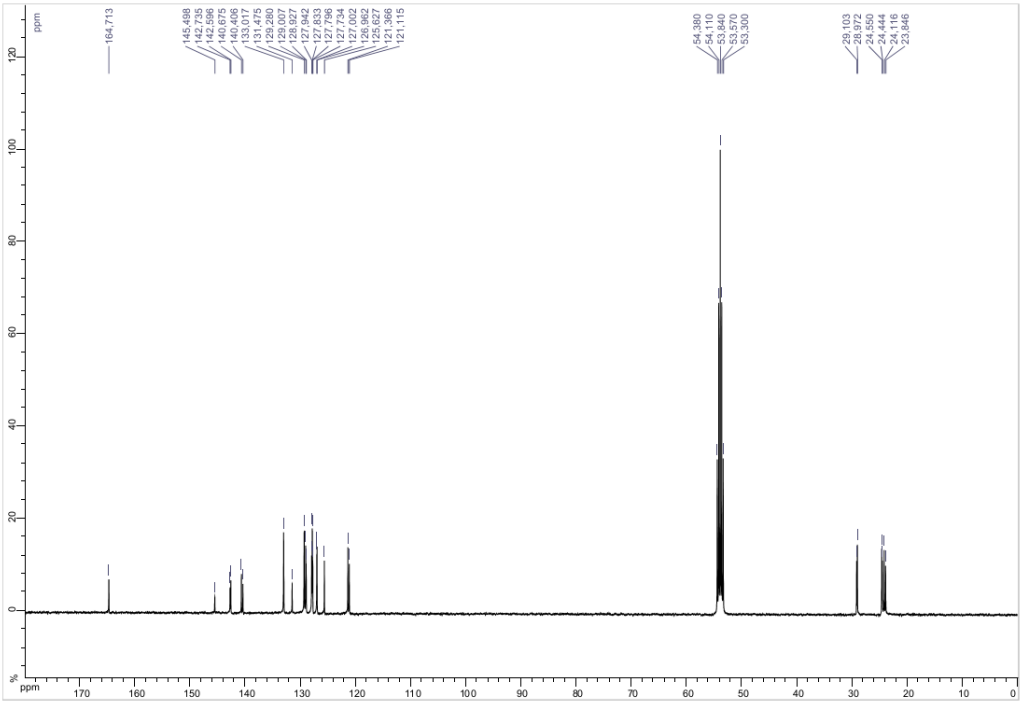

Figure S4. ^{13}C-NMR spectra of complex **2** in CD_2Cl_2.

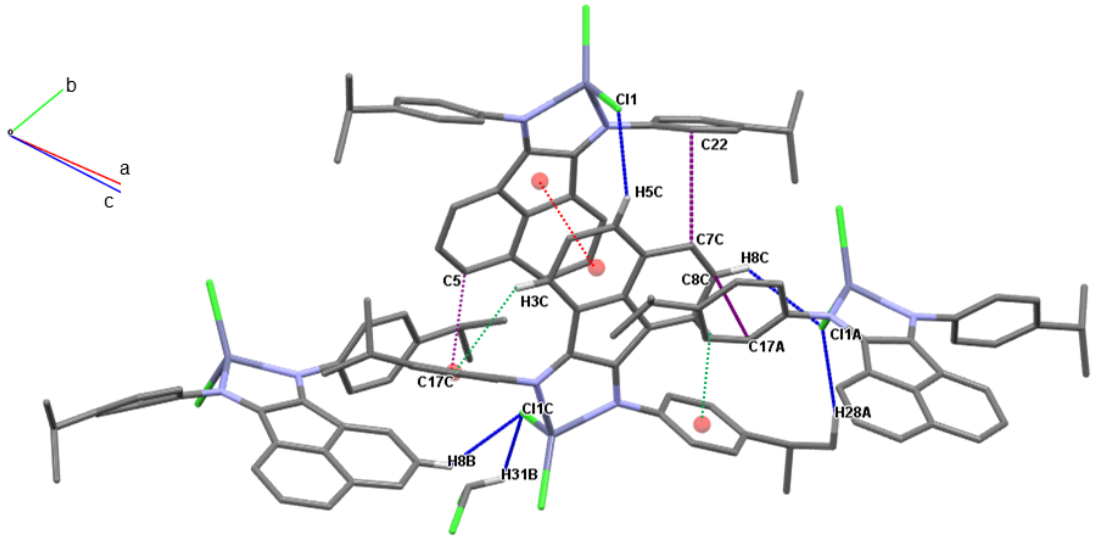

Figure S5. View of the 3D arrangement in the crystal structure of complex **1**. Donor and acceptor atoms are identified. Blue, green, red and purple dashed lines represent C–H…Cl, C–H…π_{Cg}, π_{Cg}…π_{Cg} and π…π interactions, respectively.

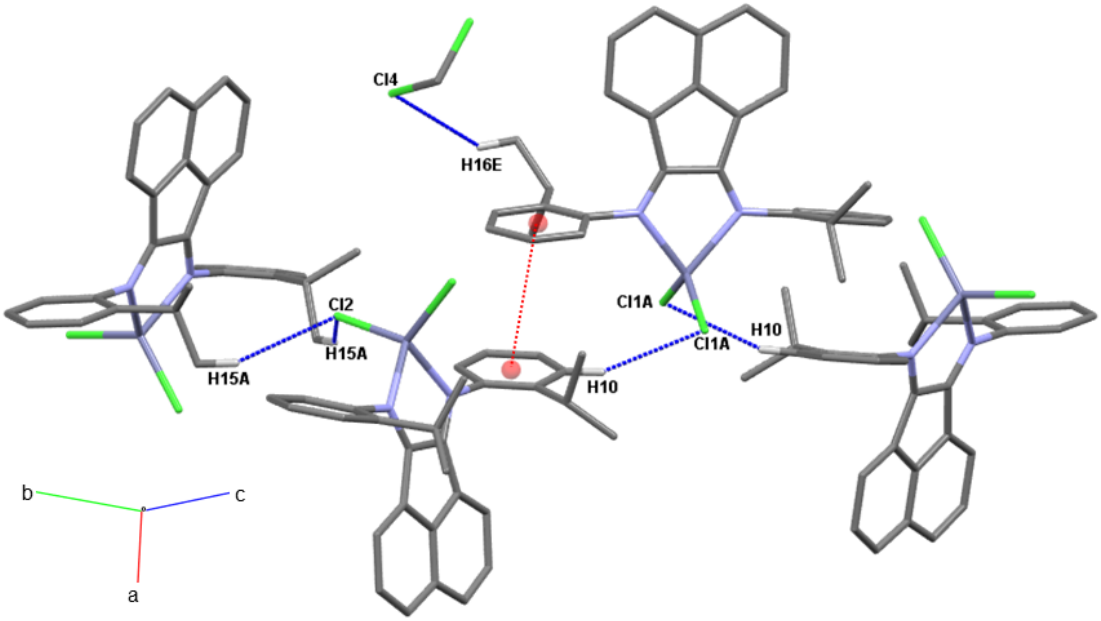

Figure S6. View of the 3D arrangement in the crystal structure of complex **2**. Donor and acceptor atoms are identified. Blue and red dashed lines represent C–H…Cl and π_{Cg}…π_{Cg} interactions, respectively.

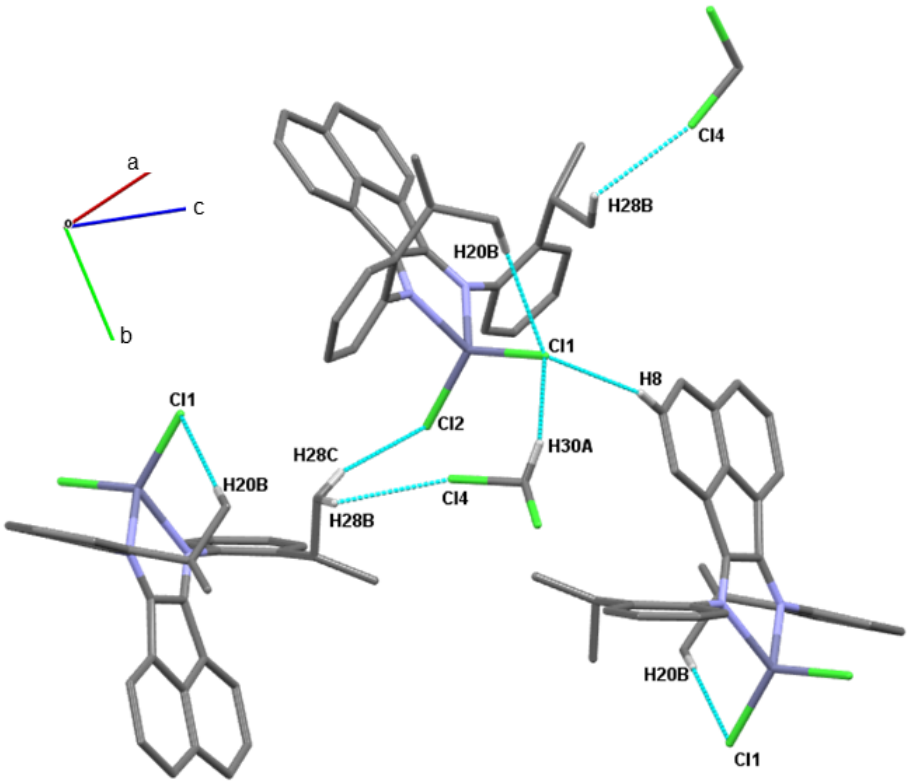

Figure S7. View of the 3D arrangement in the crystal structure of complex **2A**, generated by C–H…Cl interactions (light blue dashed lines). Donor and acceptor atoms are identified.

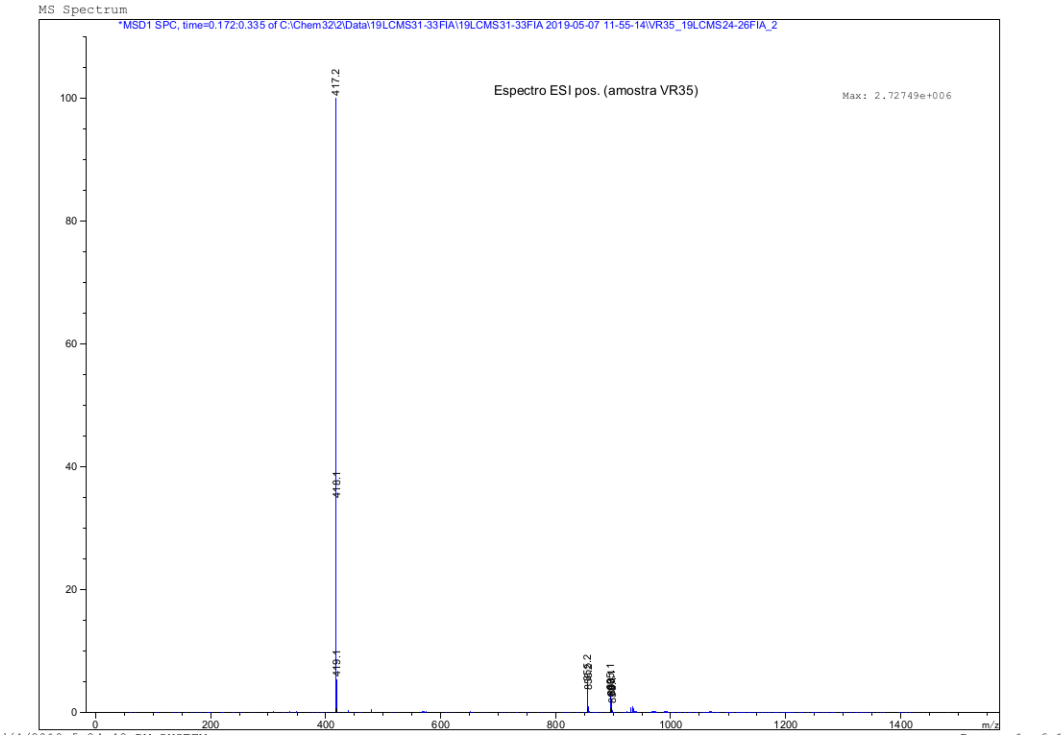

Figure S8. Mass spectrum of complex **1**.

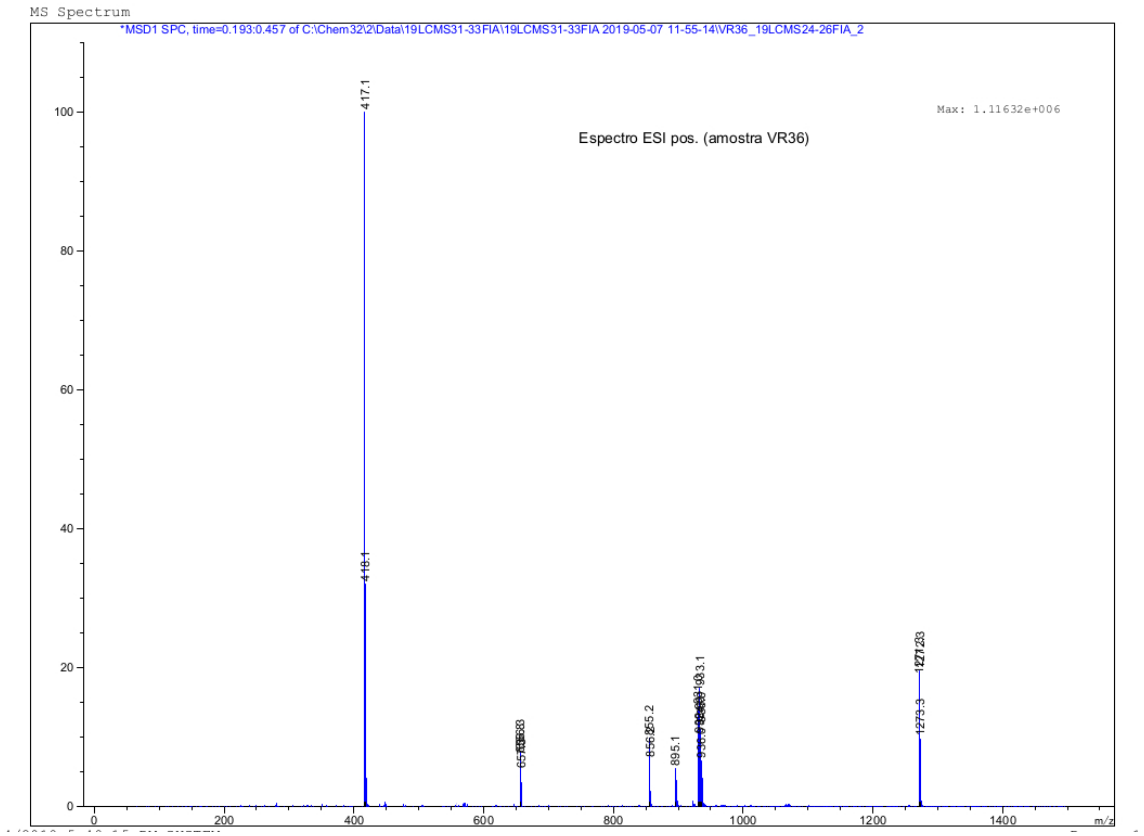

Figure S9. Mass spectrum of complex **2**.

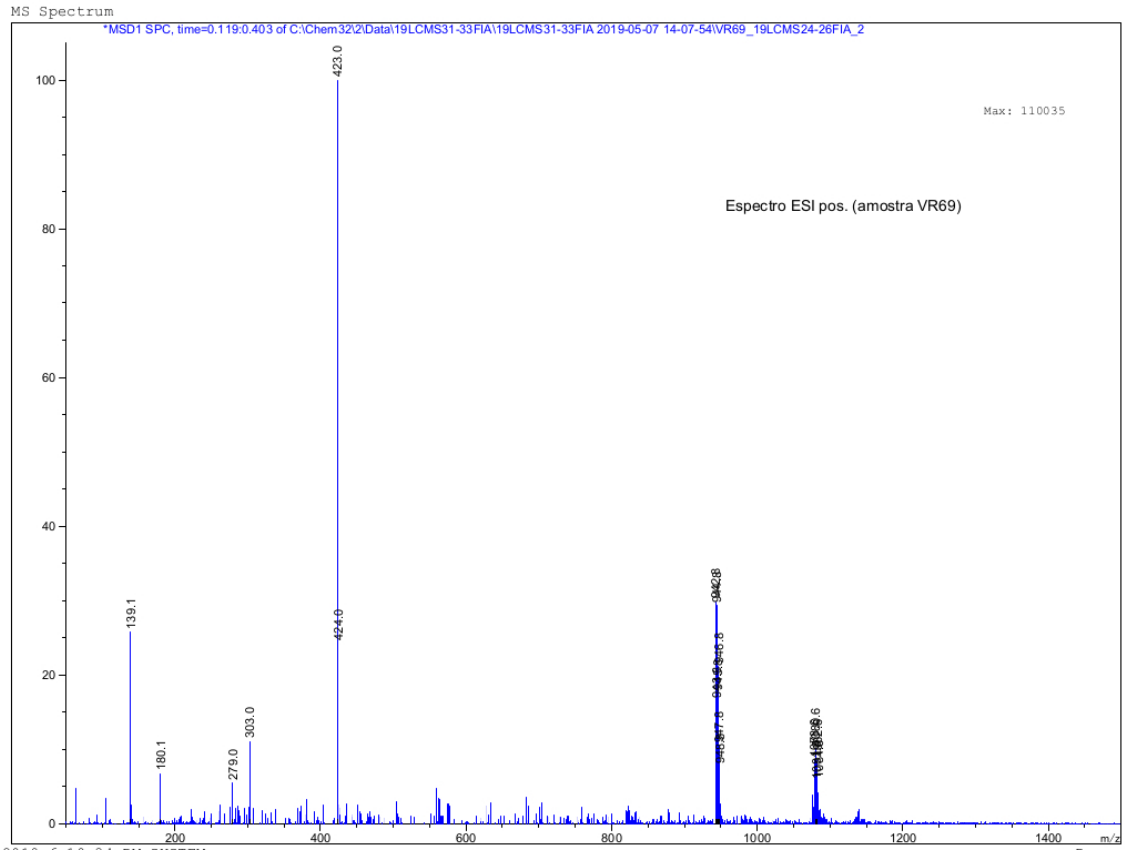

Figure S10 Mass spectrum of complex **3**.

Catalysis NMR: General conditions 0.5 ml of epoxide, 0.2% mol of both catalyst and co-catalyst (TBABr), 4 MPa and 333K

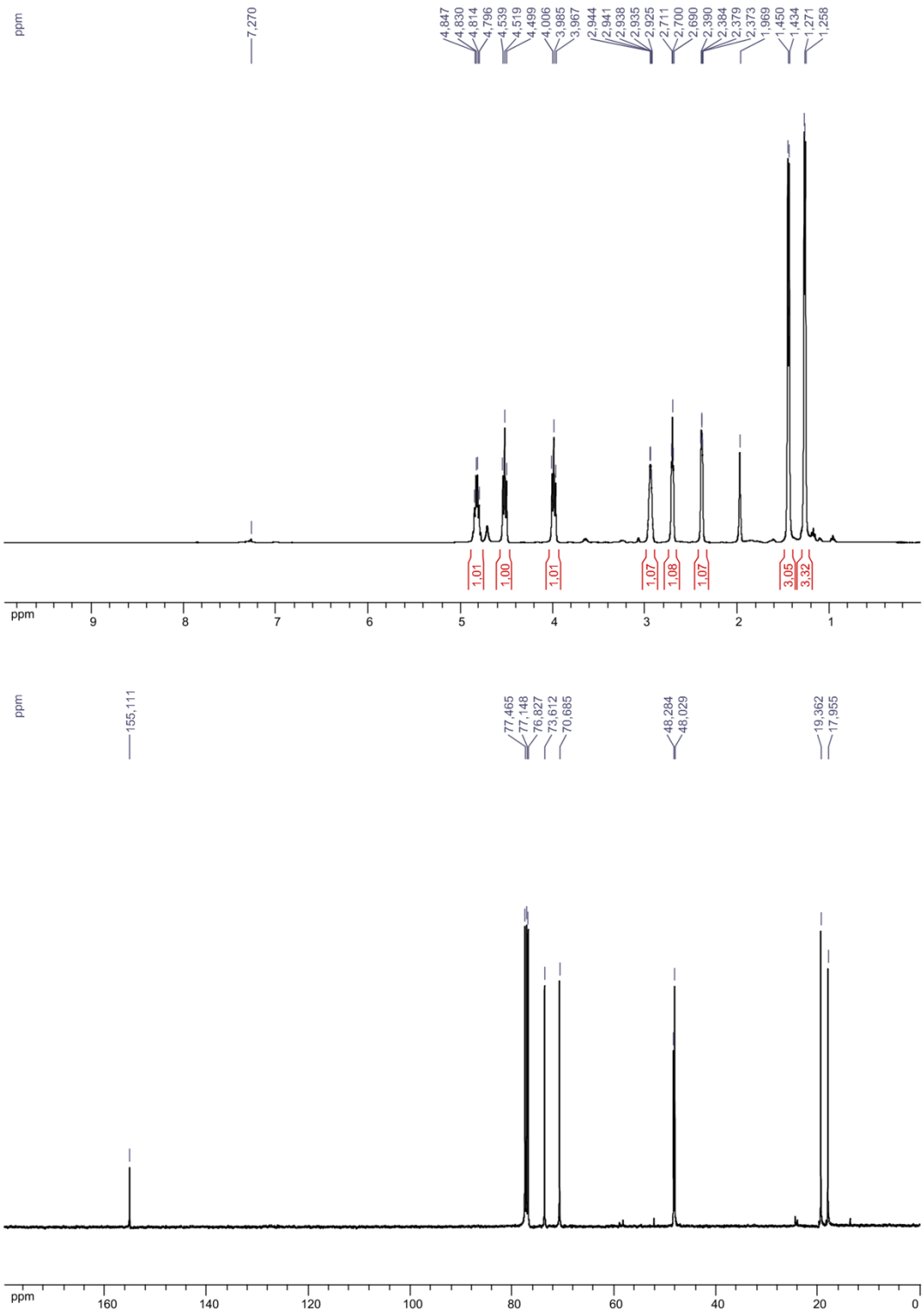

Figure S11: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 1-Table 2. Epoxide = propylene oxide; Cat = **1**, 3h.

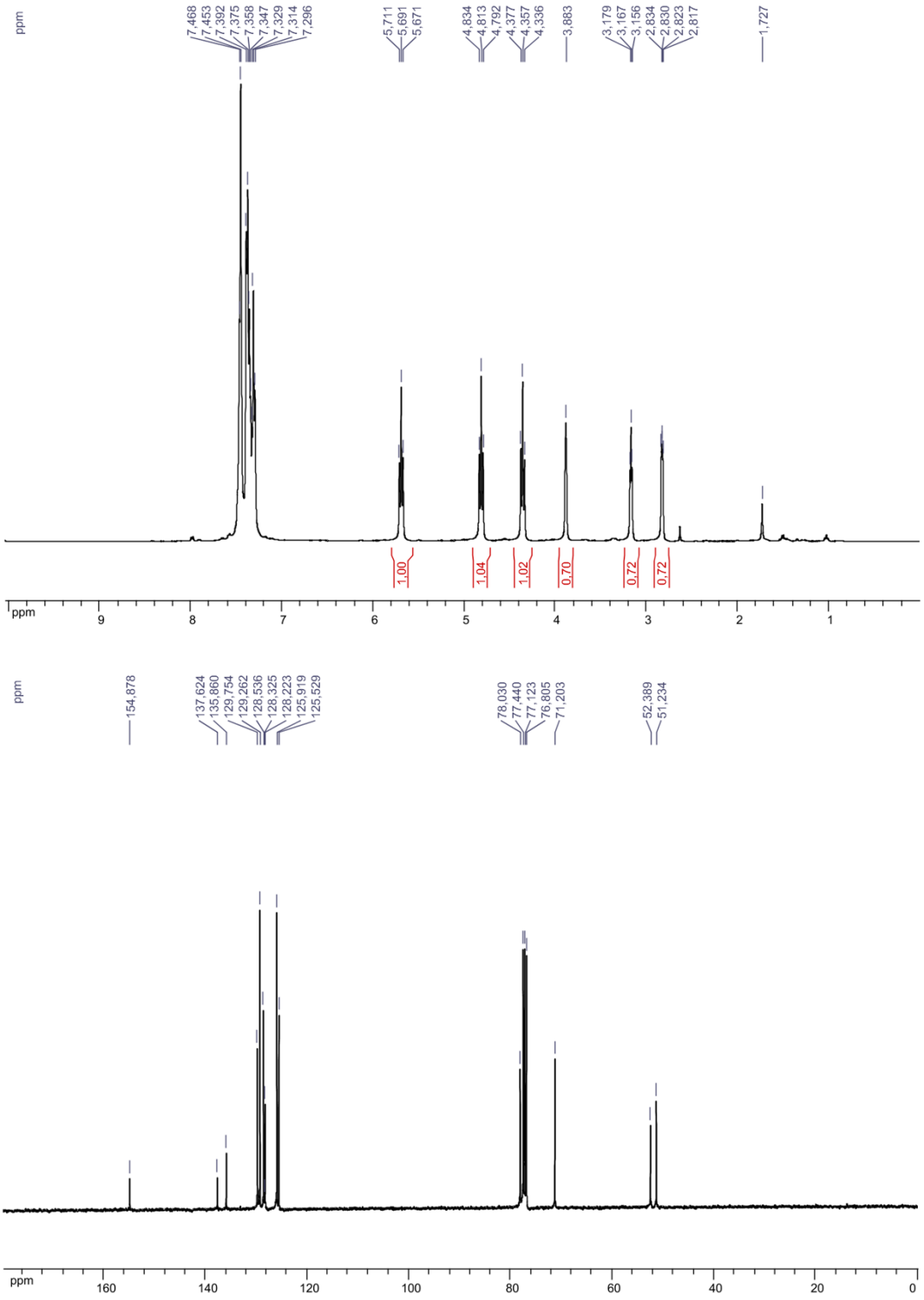

Figure S12: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 10-Table 2. Epoxide = styrene oxide; Cat = **3**; 18h.

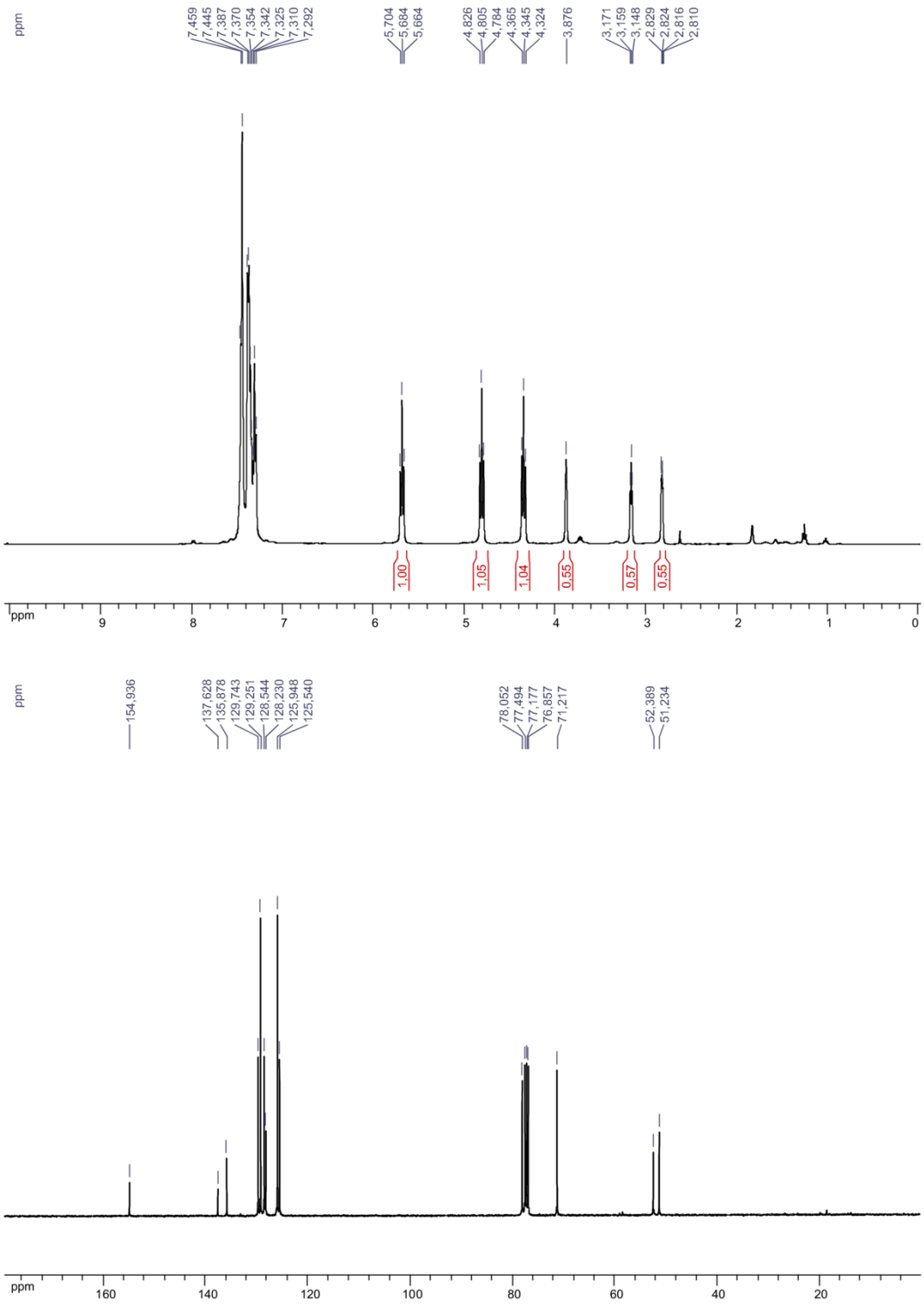

Figure S13: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 11-Table 2. Epoxide = styrene oxide; Cat = **3**; 24h.

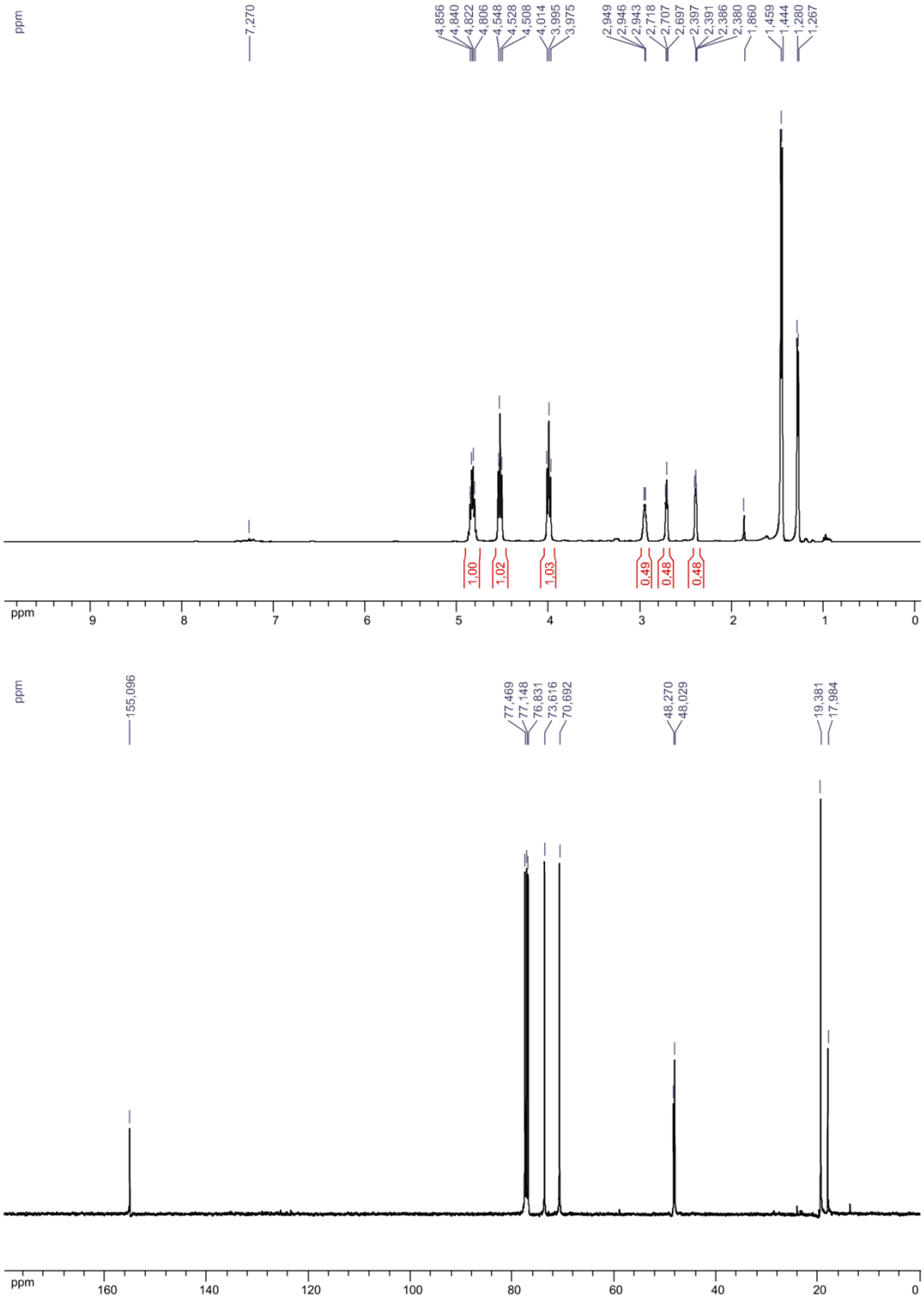

Figure S14: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 13-Table 2. Epoxide = propylene oxide; Cat = **4**; 3h.

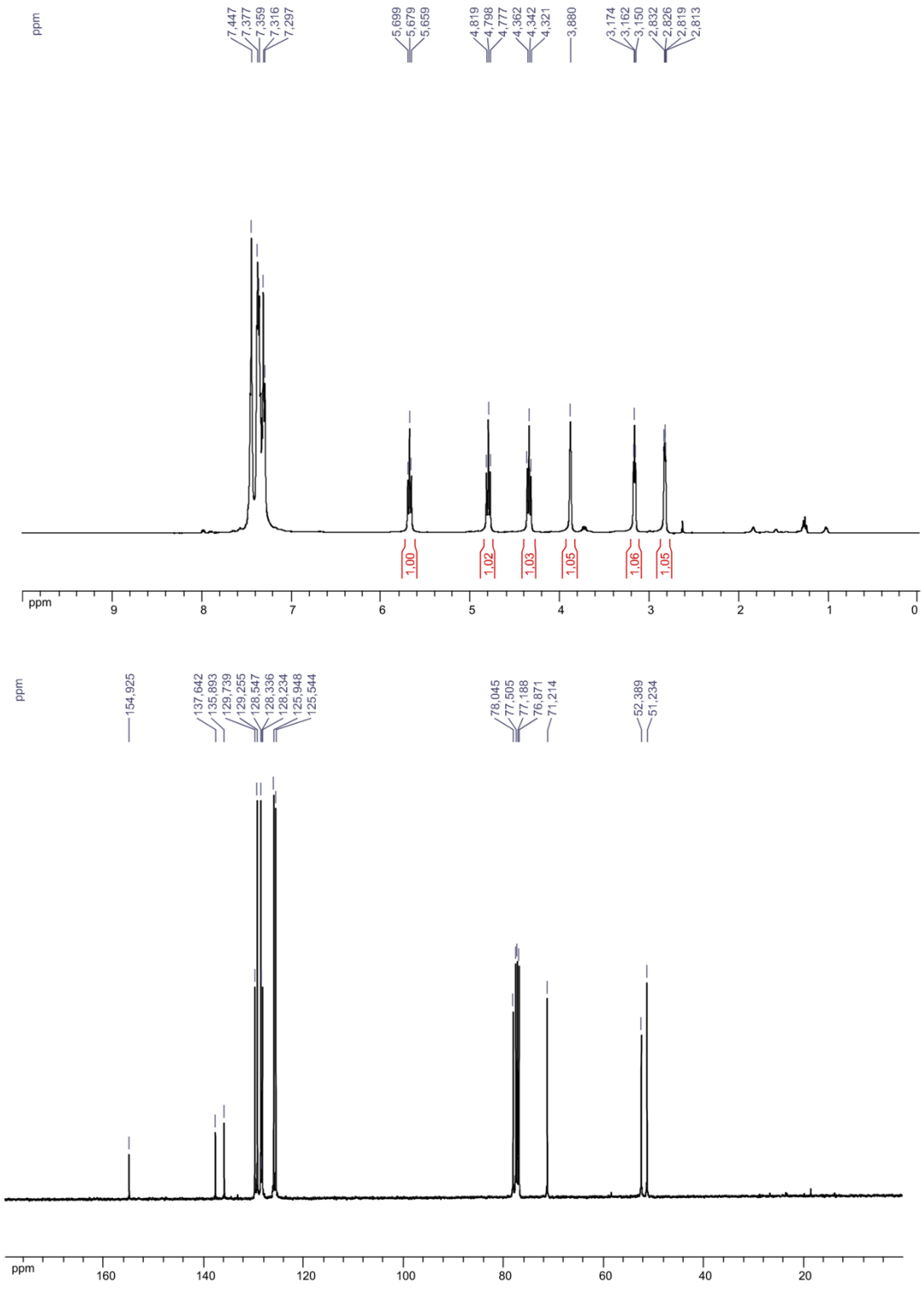

Figure S15: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 14-Table 2. Epoxide = styrene oxide; Cat = **4**; 18h.

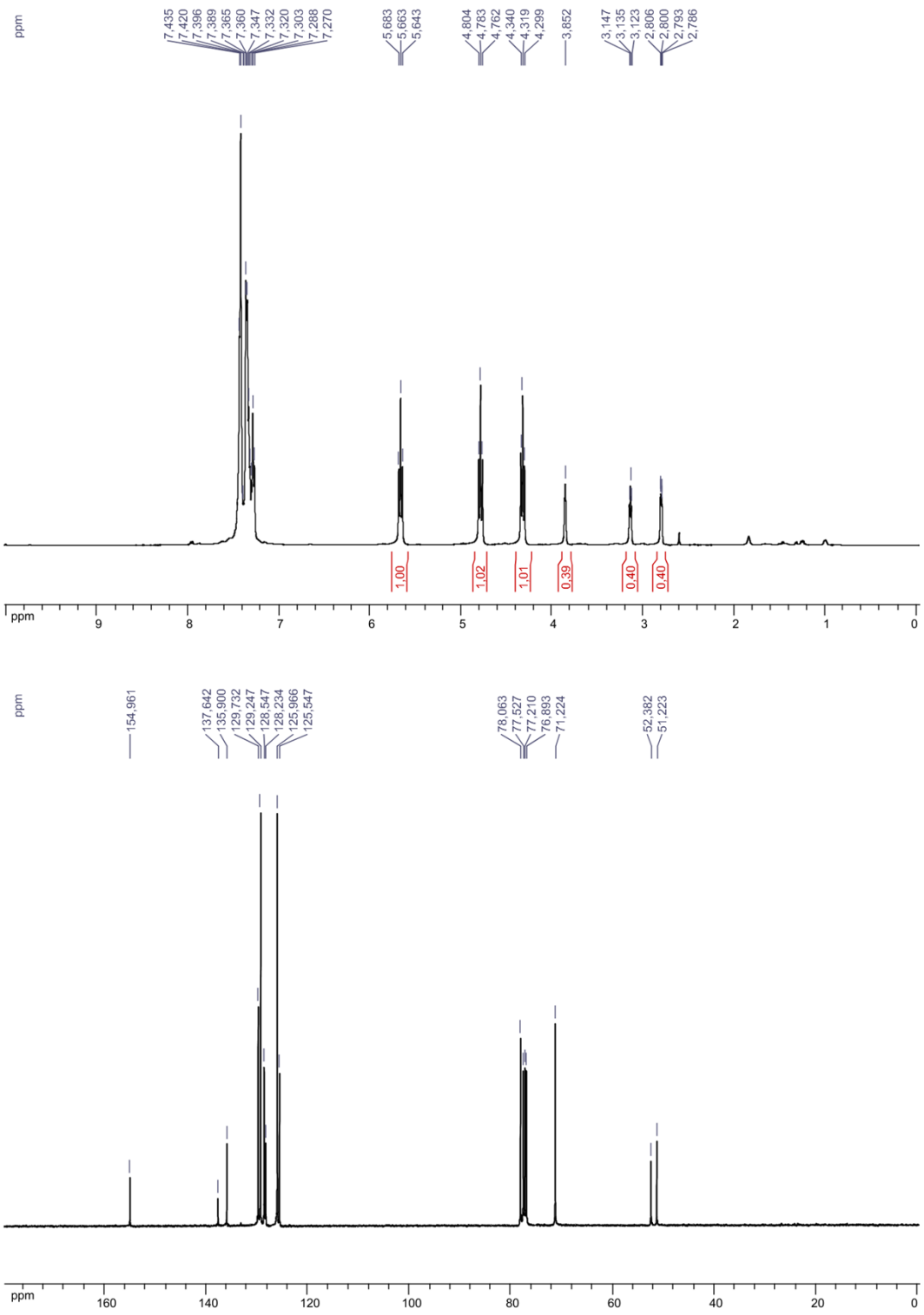

Figure S16: Crude ^{1}H-NMR (top) and ^{13}C-NMR (bottom) spectra of entry 15-Table 2. Epoxide = styrene oxide; Cat = **4**; 24h.

RMN Kinetics:

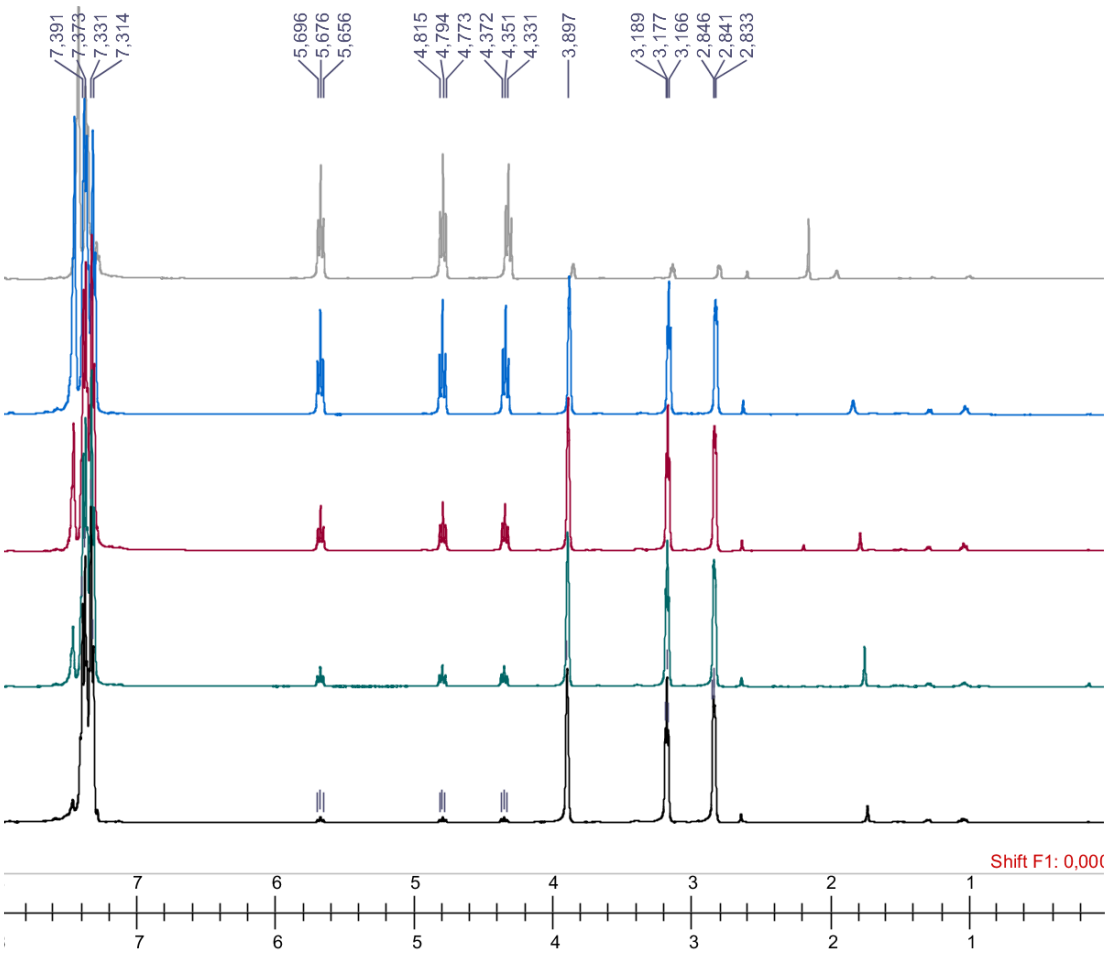

Figure S17: ^{1}H-NMR spectra of kinetic data for styrene oxide cycloaddition reaction with CO_2 to at 4 MPa, 333 K, and 0.2% mol of catalyst **4** and TBABr co-catalyst.

Bottom to top: 1h, 3h, 5h, 8h and 36h reaction time.

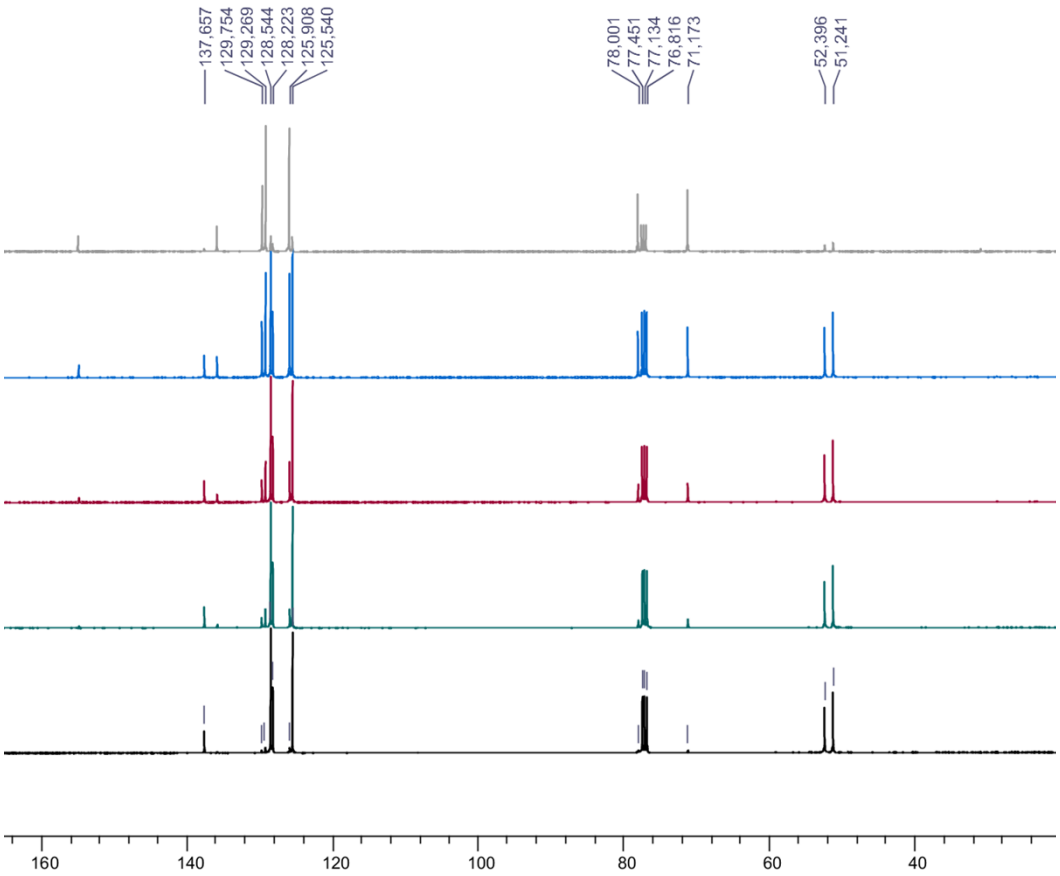

Figure 18: ^{13}C-NMR spectra of kinetic data for styrene oxide cycloaddition reaction with CO_2 to at 4 MPa, 333 K, and 0.2% mol of catalyst **4** and TBABr co-catalyst.

Bottom to top: 1h, 3h, 5h, 8h and 36h reaction time.

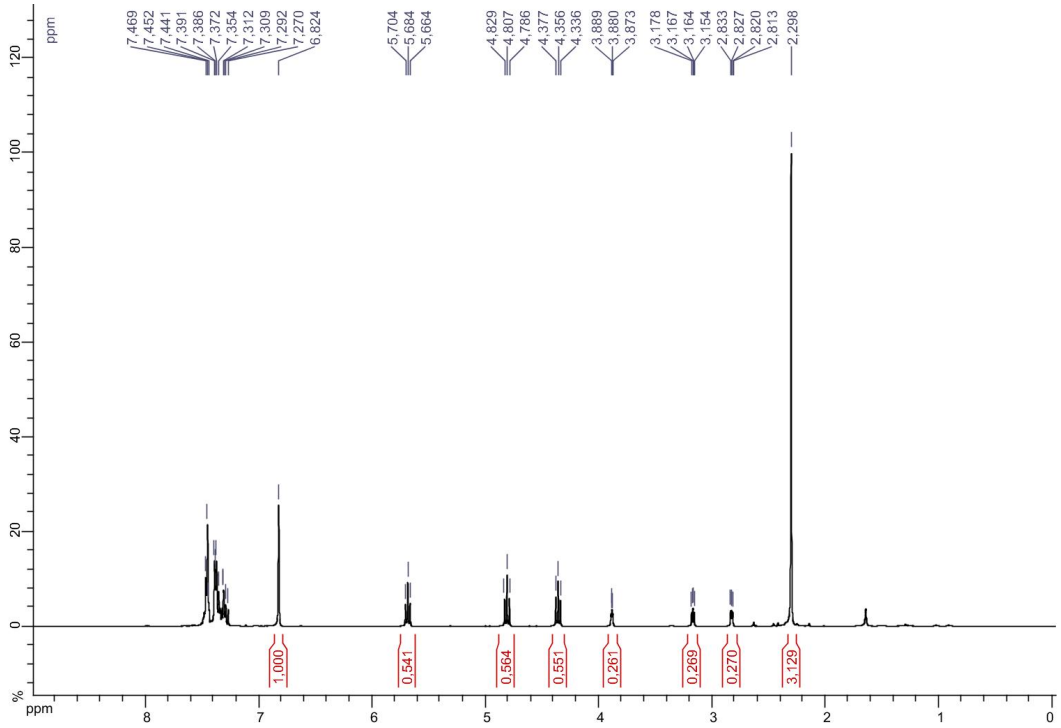

Figure 19: Crude ^{1}H-NMR spectrum of entry 11-Table 2 experiment using mesitylene as internal standard. Conversion 67%.

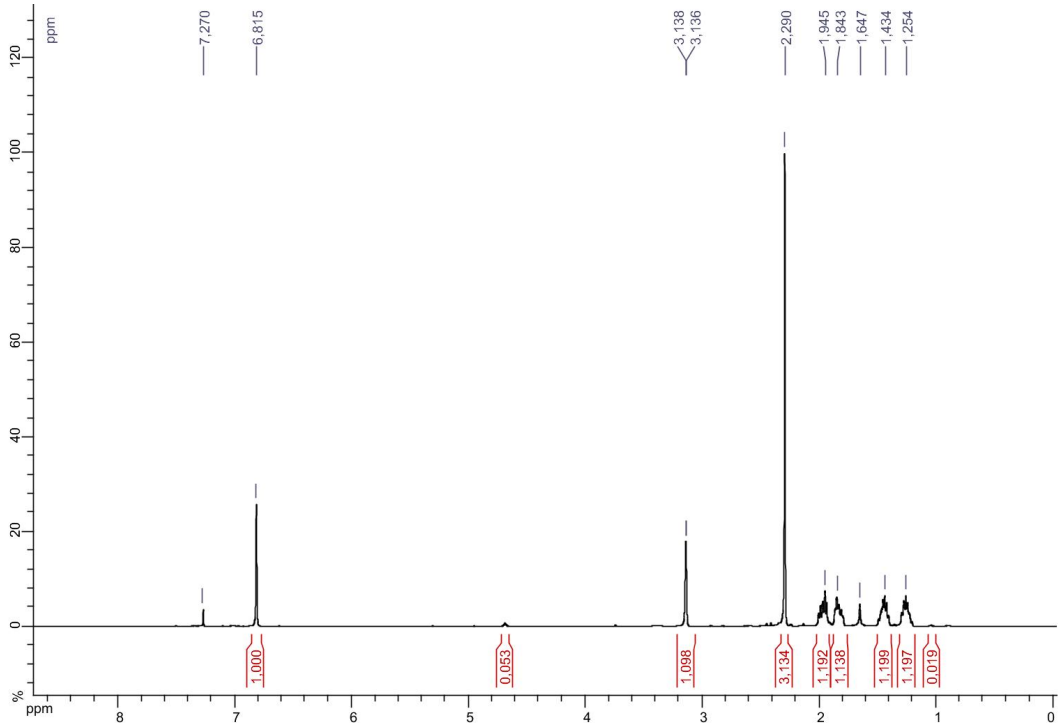

Figure 20: Crude ^{1}H-NMR spectrum of entry 4-Table 2 experiment using mesitylene as internal standard. Conversion 5%.