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Supporting Information

A Base-Free Copper-Assisted Synthesis of C_2-Symmetric Spirotelluranes and Biaryls Based on Divergent Stoichiometry of Na_2Te

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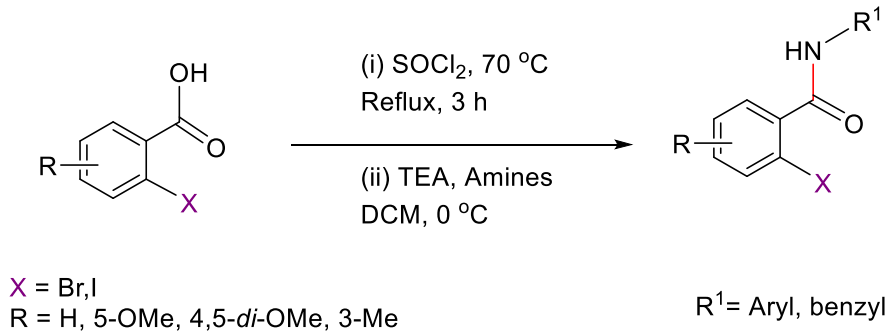
Material and Methods

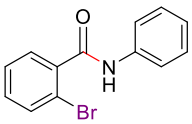
All reactions were accomplished in oven-dried glassware with magnetic stirring bar. Elemental tellurium (200 mesh size), sodium metal, lithium triethyl borohydride (1.0 M in THF), copper iodide, copper bromide, 2-iodobenzoic acid, benzoic acids, anilines and solvents were used without further purification as purchased unless otherwise specified (Aldrich, TCI, Alfa aeser). All NMR experiments were performed on Bruker 400/500/700 MHz spectrometer in $CDCl_3$/ DMSO-d_6 solvents to record respective ^{1}H, ^{13}C and ^{125}Te spectra. Solvents and chemical shifts are reported in ppm. The following abbreviations were used to indicate multiplicity: s (singlet), d (doublet), t (triplet), q (quartet), dd (doublet of doublet), td (triplet of doublet) and m (multiplet). High resolution mass spectra were recorded on quadrupole-time of flight Bruker MicroTOF-Q II mass spectrometer equipped with an electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI) condition. X-Ray single crystal structure data for **1b**, **1d**, **1k**, **1n**, **1q**, **1r**, **2o**, **2r**, and **2t** were collected on a Bruker D8 VENTURE diffractometer equipped with CMOS Photon 100 detector and MoKα (λ = 0.71073 Å) radiation was used, computed with Bruker APEX2. Absorption studies were performed on Agilent Carry 100 UV-Visible Spectrophotometer. Purification is done by column chromatography, loaded with silica gel (60-120 mesh size) purchased from RANKEM Pvt. Ltd. India. Progress of the reactions was monitores by thin layer chromatography (TLC) using Merck silica gel (60 F254) plates visualized by UV irradiation (254 nm). Melting points of the compounds were determined with an electro-thermal melting point apparatus in the capillary tubes. Starting material amides were prepared from corresponding benzoyl chlorides.[1]

General Experimental Details

A typical synthetic procedure of 2-halo-benzamides: 2-Halobenzoyl chlorides were prepared (Scheme S1) by following reported procedure[1] from respective 2-halobenzoic acids upon reflux with the thionyl chloride and were used for the preparation of amide without any further characterization. The freshly prepared 2-halo-benzoylchloride (1.0 equiv, 10.0 mmol) was dissolved in 10 mL of dry CH_2Cl_2 in a single neck 100 mL round bottom flask under N_2 atmosphere and flask cooled to 0 °C. for 10 minutes. In another single neck 50 mL round bottomed flask, aniline 1.1 mL (1.2 equiv, 12 mmol) was added in 10 mL dry CH_2Cl_2. After this 1.7 mL (1.2 equiv, 12 mmol) of triethyl amine (TEA) was also added to it. This resulting solution is then added drop wise via a syringe to the solution of the 2-halobenzoyl chloride over a period of 30 min at 0 °C. The resulted reaction mixture was brought to room temperature slowly and stirred for an additional hour. The reaction mixture was concentrated under vacuo and residue was washed with 10% aqueous HCl followed by the 200 mL distilled water, followed by the washing of 10% $NaHCO_3$ solution. The obtained solid compound was dried under high vacuum.

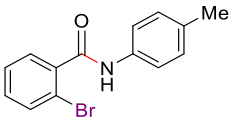
Scheme S1. Preparation of 2-halobenzamides





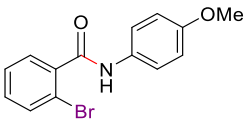
2-Bromo-*N*-phenylbenzamide[2a] (Substrate for **1a** and **2a**)

Off white solid, yield: 2.71 g (98%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.86 (s, 1H), 7.61 (dd, *J* = 16.2, 7.5 Hz, 4H), 7.37 (dd, *J* = 13.1, 7.0 Hz, 3H), 7.30 (t, *J* = 7.6 Hz, 1H), 7.17 (t, *J* = 7.4 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.6, 137.8, 137.6, 133.5, 131.6, 129.7, 129.1, 127.7, 124.9, 120.2, 119.3.



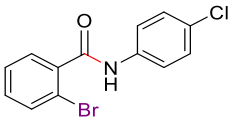
2-Bromo-*N*-(p-tolyl)benzamide[2a] (Substrate for **1b** and **2h**)

White solid, yield: 2.84 g (98%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.73 (s, 1H), 7.61 (d, *J* = 7.8 Hz, 2H), 7.51 (d, *J* = 8.0 Hz, 2H), 7.38 (t, *J* = 7.5 Hz, 1H), 7.30 (t, *J* = 7.6 Hz, 1H), 7.17 (d, *J* = 8.0 Hz, 2H) 2.34 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.5, 137.9, 135.0, 134.6, 133.5, 131.5, 129.8, 129.6, 127.7, 120.2, 119.3, 20.9.



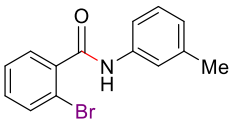
2-Bromo-*N*-(4-methoxyphenyl)benzamide[2b] (Substrate for **1c** and **2i**)

Off white solid, yield: 2.97 g (97%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.69 (s, 1H), 7.61 (d, *J* = 7.6 Hz, 2H), 7.53 (d, *J* = 8.4 Hz, 2H), 7.38 (t, *J* = 7.3 Hz, 1H), 7.30 (t, *J* = 7.4 Hz, 1H), 6.90 (d, *J* = 8.4 Hz, 2H), 3.81 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.4, 156.8, 137.9, 133.5, 131.5, 130.6, 129.8, 127.7, 122.0, 119.3, 114.3, 55.5.



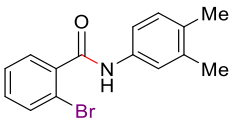
2-Bromo-*N*-(4-chlorophenyl)benzamide[2b] (Substrate for **1d**)

White solid, yield: 2.85 g (92%). ^{1}H NMR (700 MHz, DMSO-d_6) δ 10.65 (s, 1H), 7.80 – 7.74 (m, 2H), 7.72 (d, J = 8.0 Hz, 1H), 7.57 (d, J = 6.5 Hz, 1H), 7.50 (t, J = 7.4 Hz, 1H), 7.43 (t, J = 8.5 Hz, 3H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 166.4, 139.3, 138.4, 133.2, 131.8, 129.3, 129.2, 128.2, 127.9, 121.6, 119.4.



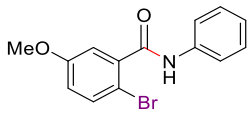
2-Bromo-*N*-(m-tolyl)benzamide (Substrate for **1e** and **2e**)

Off white solid, yield: 2.76 g (96%).^{1}H NMR (400 MHz, DMSO-d_6) δ 10.40 (s, 1H), 7.72 (d, J = 7.9 Hz, 1H), 7.60 (s, 1H), 7.52 (ddd, J = 14.7, 10.7, 4.5 Hz, 3H), 7.42 (td, J = 7.8, 1.9 Hz, 1H), 7.23 (t, J = 7.8 Hz, 1H), 6.94 (d, J = 7.5 Hz, 1H), 2.31 (s, 3H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 166.2, 139.7, 139.4, 138.4, 133.2, 131.6, 129.3, 129.1, 128.2, 125.0, 120.5, 119.5, 117.3, 21.7. HRMS (ESI) m/z calculated for $C_{14}H_{12}BrNO$ $[M+H]^+$ 290.0175, found 290.0150.



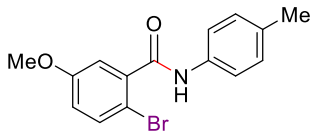
2-Bromo-*N*-(3,4-dimethylphenyl)benzamide (Substrate for **1f** and **2l**)

Off white solid, yield: 2.95 g (97%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.89 (d, J = 7.4 Hz, 1H), 7.53 – 7.37 (m, 4H), 7.34 (dd, J = 8.0, 1.6 Hz, 1H), 7.12 (d, J = 7.0 Hz, 2H), 2.27 (s, 3H), 2.25 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 167.1, 142.3, 140.0, 137.4, 135.3, 133.3, 131.4, 130.1, 128.5, 128.3, 121.4, 117.7, 92.4, 19.9, 19.3. HRMS (ESI) m/z calculated for $C_{15}H_{14}BrNO$ $[M+H]^+$ 326.0151, found 326.0130.



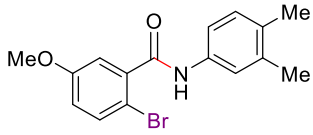
2-Bromo-5-methoxy-*N*-phenylbenzamide[2c] (Substrate for **1g**)

Pale yellow solid, yield: 2.97 g (97%).^{1}H NMR (500 MHz, $CDCl_3$) δ 7.83 (s, 1H), 7.64 (d, *J* = 7.9 Hz, 2H), 7.48 (d, *J* = 8.8 Hz, 1H), 7.37 (t, *J* = 7.7 Hz, 2H), 7.17 (dd, *J* = 10.5, 4.8 Hz, 2H), 6.86 (dd, *J* = 8.8, 2.8 Hz, 1H), 3.81 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.3, 159.1, 138.3, 137.5, 134.3, 129.1, 124.9, 120.1, 118.3, 114.9, 109.3, 55.7.



2-Bromo-5-methoxy-*N*-(p-tolyl)benzamide[2c] (Substrate for **1h**)

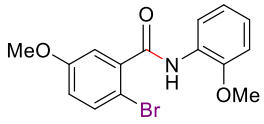
Pale yellow solid, yield: 3.04 g (95%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.79 (s, 1H), 7.51 (d, *J* = 8.3 Hz, 2H), 7.47 (d, *J* = 8.8 Hz, 1H), 7.19 – 7.12 (m, 3H), 6.85 (dd, *J* = 8.8, 3.1 Hz, 1H), 3.80 (s, 3H), 2.34 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.2, 159.1, 138.4, 135.0, 134.6, 134.3, 129.6, 120.2, 118.3, 114.8, 109.4, 55.7, 20.9.



2-Bromo-*N*-(3,4-dimethylphenyl)-5-methoxybenzamide (Substrate for **1i**)

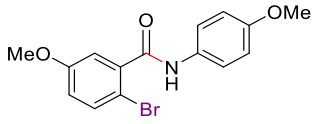
Off white solid, yield: 3.17 g (95%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.71 (s, 1H), 7.47 (d, *J* = 8.8 Hz, 1H), 7.43 (s, 1H), 7.35 (dd, *J* = 8.0, 1.7 Hz, 1H), 7.18 (d, *J* = 2.9 Hz, 1H), 7.12 (d, *J* = 8.1 Hz, 1H), 6.85 (dd, *J* = 8.8, 2.9 Hz, 1H), 3.81 (s, 3H), 2.27 (s, 3H), 2.25 (s, 3H). ^{13}C NMR (176 MHz, $CDCl_3$) δ 165.2, 159.0, 138.5, 137.4, 135.2, 134.3, 133.3, 130.1, 121.4, 118.2,

117.6, 114.8, 109.4, 55.7, 19.9, 19.3. HRMS (ESI) m/z calculated for $C_{16}H_{16}BrNO_2$ $[M+H]^+$ 334.0437, found 334.0422.



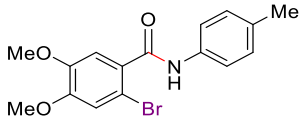
2-Bromo-5-methoxy-*N*-(2-methoxyphenyl)benzamide (Substrate for **1j**)

White solid, yield: 3.26 g (97%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.54 (d, *J* = 7.8 Hz, 1H), 8.38 (s, 1H), 7.51 (d, *J* = 8.7 Hz, 1H), 7.21 (s, 1H), 7.10 (t, *J* = 7.6 Hz, 1H), 7.03 (t, *J* = 7.6 Hz, 1H), 6.92 (d, *J* = 8.0 Hz, 1H), 6.86 (m, 1H), 3.88 (s, 3H), 3.82 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.1, 159.0, 148.2, 138.8, 134.4, 127.4, 124.3, 121.2, 120.0, 118.0, 114.9, 110.1, 109.5, 55.8, 55.7. HRMS (ESI) m/z calculated for $C_{15}H_{14}BrNO_3$ $[M+H]^+$ 336.0230, found 334.0236.



2-Bromo-5-methoxy-*N*-(4-methoxyphenyl)benzamide[2c] (Substrate for **1k**)

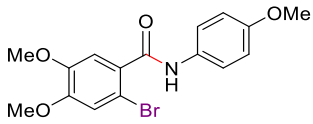
Off white solid, yield: 3.29 g (98%).^{1}H NMR (400 MHz, DMSO-d_6) δ 10.31 (s, 1H), 7.63 (d, *J* = 7.0 Hz, 2H), 7.58 (d, *J* = 8.7 Hz, 1H), 7.12 (s, 1H), 7.04 – 6.97 (m, 1H), 6.93 (d, *J* = 7.5 Hz, 2H), 3.81 (s, 3H), 3.74 (s, 3H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 165.5, 159.0, 156.0, 140.5, 134.0, 132.6, 121.6, 117.5, 114.7, 114.3, 109.7, 56.2, 55.7.



2-Bromo-4,5-dimethoxy-*N*-(p-tolyl)benzamide[2b] (Substrate for **1l**)

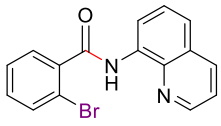
White solid, yield: 3.43 g (98%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.99 (s, 1H), 7.52 (d, *J* = 8.2 Hz, 2H), 7.26 (s, 1H), 7.16 (d, *J* = 8.1 Hz, 2H), 7.00 (s, 1H), 3.89 (s, 3H), 3.87 (s, 3H), 2.34 (s,

3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 164.8, 151.1, 148.5, 135.1, 134.4, 129.6, 129.3, 120.1, 115.8, 113.1, 109.8, 56.3, 56.2, 20.9.



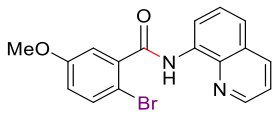
2-Bromo-4,5-dimethoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1m** or **2k**)

Pale yellow solid, yield: 3.48 g (95%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.92 (s, 1H), 7.55 (d, *J* = 8.8 Hz, 2H), 7.28 (s, 1H), 7.02 (s, 1H), 6.91 (d, *J* = 8.8 Hz, 2H), 3.91 (s, 3H), 3.89 (s, 3H), 3.81 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 164.7, 156.8, 151.1, 148.6, 130.8, 129.2, 121.8, 115.8, 114.3, 113.1, 109.8, 56.3, 56.2, 55.5. HRMS (ESI) m/z calculated for $C_{16}H_{16}BrNO_4$ $[M+H]^+$ 366.0335, found 366.0329.



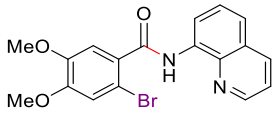
2-Bromo-*N*-(quinolin-8-yl)benzamide[2d] (Substrate for **1n** or **2q**)

Off white solid, yield: 3.14 g (96%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 10.29 (s, 1H), 8.95 (d, *J* = 7.2 Hz, 1H), 8.79 (d, *J* = 3.3 Hz, 1H), 8.18 (d, *J* = 8.1 Hz, 1H), 7.72 (d, *J* = 7.5 Hz, 1H), 7.69 (d, *J* = 8.0 Hz, 1H), 7.61 (t, *J* = 7.8 Hz, 1H), 7.57 (d, *J* = 7.9 Hz, 1H), 7.46 (m, 1H), 7.44 (d, *J* = 7.7 Hz, 1H), 7.35 (t, *J* = 7.5 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.9, 148.4, 138.6, 138.3, 136.4, 134.3, 133.7, 131.5, 129.6, 128.0, 127.7, 127.4, 122.2, 121.7, 119.7, 116.9.



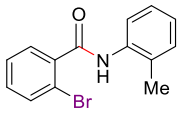
2-Bromo-5-methoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1o** or **2r**)

Pale yellow solid, yield: 3.35 g (94%). ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.28 (s, 1H), 8.91 (dd, *J* = 4.1, 1.6 Hz, 1H), 8.73 (d, *J* = 7.4 Hz, 1H), 8.47 (dd, *J* = 8.3, 1.6 Hz, 1H), 7.78 (d, *J* = 8.3 Hz, 1H), 7.72 – 7.60 (m, 3H), 7.32 (d, *J* = 2.9 Hz, 1H), 7.08 (dd, *J* = 8.8, 3.0 Hz, 1H), 3.84 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.7, 159.0, 148.4, 139.0, 138.6, 136.3, 134.5, 134.3, 128.0, 127.4, 122.2, 121.7, 118.0, 116.9, 114.8, 109.8, 55.7. HRMS (ESI) m/z calcd for $C_{17}H_{13}BrN_2O_2$ $[M+H]^+$ 357.0233, found 357.0201.



2-Bromo-4,5-dimethoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1p** or **2s**)

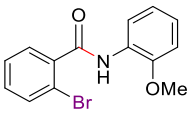
White solid, yield: 3.64 g (94%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 10.49 (s, 1H), 8.92 (d, *J* = 7.2 Hz, 1H), 8.80 (d, *J* = 1.6 Hz, 1H), 8.15 (d, *J* = 8.2 Hz, 1H), 7.55 (dd, *J* = 14.8, 7.9 Hz, 2H), 7.44 (dd, *J* = 7.7, 3.8 Hz, 1H), 7.31 (s, 1H), 7.08 (s, 1H), 3.92 (s, 6H). ^{13}C NMR (176 MHz, $CDCl_3$) δ 165.4, 165.4, 151.0, 151.00, 148.5, 148.4, 138.7, 136.3, 134.5, 130.0, 128.0, 127.4, 122.0, 121.7, 116.8, 116.0, 112.8, 110.4, 56.4, 56.2. HRMS (ESI) m/z calcd for $C_{18}H_{15}BrN_2O_3$ $[M+H]^+$ 387.0339, found 387.0338.



2-Bromo-*N*-(o-tolyl)benzamide[2a] (Substrate for **2b**)

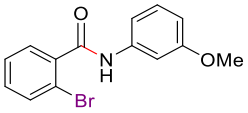
White solid, yield: 2.84 g (98%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.98 (d, *J* = 8.0 Hz, 1H), 7.68 (d, *J* = 7.5 Hz, 1H), 7.65 (d, *J* = 8.0 Hz, 1H), 7.56 (s, 1H), 7.42 (t, *J* = 7.5 Hz, 1H), 7.33 (t, *J* = 7.6 Hz, 1H), 7.28 (m, 1H), 7.23 (d, *J* = 7.4 Hz, 1H), 7.14 (t, *J* = 7.4 Hz, 1H), 2.35 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.6, 138.0, 135.4, 133.6, 131.6, 130.7, 130.0, 129.6, 127.8, 126.9, 125.7, 123.2, 119.1, 18.1. ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.01 (d, *J* = 8.0 Hz, 1H), 7.69 (dd, *J*

= 17.5, 7.8 Hz, 2H), 7.59 (s, 1H), 7.45 (t, *J* = 7.5 Hz, 1H), 7.36 (t, *J* = 7.6 Hz, 1H), 7.32 – 7.28 (m, 1H), 7.26 (d, *J* = 7.4 Hz, 1H), 2.38 (s, 3H).



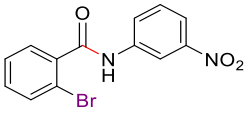
2-Bromo-*N*-(2-methoxyphenyl)benzamide[2b] (Substrate for **2c**)

White solid, yield: 2.95 g (96%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.70 (s, 1H), 7.63 (d, *J* = 7.6 Hz, 2H), 7.44 – 7.36 (m, 2H), 7.32 (t, *J* = 7.5 Hz, 1H), 7.26 (t, *J* = 8.0 Hz, 1H), 7.09 (d, *J* = 7.7 Hz, 1H), 6.73 (d, *J* = 7.8 Hz, 1H), 3.83 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.5, 160.3, 138.7, 137.8, 133.5, 131.7, 129.8, 127.8, 119.2, 112.1, 110.8, 105.7, 55.4.



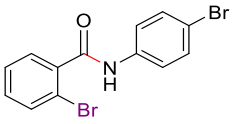
2-Bromo-*N*-(3-methoxyphenyl)benzamide[2b] (Substrate for **2f**)

White solid, yield: 2.96 g (97%). ^{1}H NMR (400 MHz, DMSO-d_6) δ 10.46 (s, 1H), 7.72 (d, *J* = 7.9 Hz, 1H), 7.55 (d, *J* = 7.0 Hz, 1H), 7.50 (t, *J* = 7.3 Hz, 1H), 7.43 (d, *J* = 7.0 Hz, 2H), 7.26 (d, *J* = 7.6 Hz, 2H), 6.70 (d, *J* = 7.0 Hz, 1H), 3.75 (s, 3H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 166.3, 156.0, 140.6, 139.6, 133.2, 131.6, 130.1, 129.3, 128.2, 119.4, 112.3, 109.7, 105.8, 55.5.



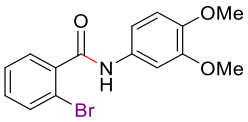
2-Bromo-*N*-(3-nitrophenyl)benzamide[3a] (Substrate for **2g**)

Light yellow solid, yield: 2.86 g (89%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.49 (s, 1H), 8.33 (s, 1H), 8.04 (d, *J* = 7.9 Hz, 1H), 7.99 (dd, *J* = 8.2, 1.4 Hz, 1H), 7.59 (d, *J* = 7.9 Hz, 2H), 7.52 (t, *J* = 8.1 Hz, 1H), 7.38 (t, *J* = 7.5 Hz, 1H), 7.30 (t, *J* = 7.3 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 166.1, 148.6, 138.7, 136.8, 133.6, 132.1, 130.0, 129.8, 127.8, 125.9, 119.4, 119.3, 114.9.



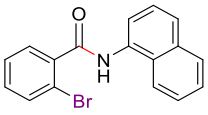
2-Bromo-*N*-(4-bromophenyl)benzamide[3b] (Substrate for **2j**)

Light brown solid, yield: 3.19 g (90%). ^{1}H NMR (400 MHz, DMSO-d_6) δ 10.62 (s, 1H), 7.77 – 7.67 (m, 3H), 7.57 (dd, *J* = 12.7, 5.1 Hz, 3H), 7.51 (t, *J* = 7.4 Hz, 1H), 7.44 (td, *J* = 7.7, 1.7 Hz, 1H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 166.4, 139.3, 138.8, 133.2, 132.1, 131.8, 129.3, 128.2, 121.9, 119.4, 115.9.



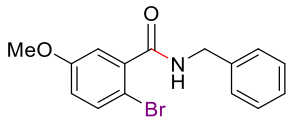
2-Bromo-*N*-(3,4-dimethoxyphenyl)benzamide[3c] (Substrate for **2m**)

White solid, yield: 3.26 g (97%). ^{1}H NMR (500 MHz, DMSO-d_6) δ 9.50 (s, 1H), 7.95 (d, *J* = 7.4 Hz, 1H), 7.58 (d, *J* = 8.6 Hz, 1H), 7.23 – 7.05 (m, 3H), 7.00 (d, *J* = 6.5 Hz, 2H), 3.82 (s, 3H), 3.82 (s, 3H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 165.9, 158.9, 151.1, 140.0, 134.1, 127.2, 125.9, 123.5, 120.7, 117.5, 115.1, 112.0, 109.7, 56.2, 56.1.



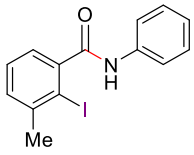
2-Bromo-*N*-(naphthalen-1-yl)benzamide (Substrate for **2o**)

Light pink solid, yield: 3.0 g (92%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.13 (d, *J* = 7.4 Hz, 1H), 8.10 (s, 1H), 8.00 (d, *J* = 7.7 Hz, 1H), 7.90 (d, *J* = 7.3 Hz, 1H), 7.77 (t, *J* = 7.0 Hz, 2H), 7.69 (d, *J* = 7.9 Hz, 1H), 7.57 – 7.49 (m, 3H), 7.46 (t, *J* = 7.4 Hz, 1H), 7.36 (t, *J* = 7.5 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 166.2, 137.9, 134.2, 133.6, 132.0, 131.8, 130.2, 128.8, 127.9, 127.2, 126.5, 126.3, 126.1, 125.8, 121.0, 120.8, 119.2. HRMS (ESI) m/z calcd for $C_{17}H_{12}BrNO$ $[M+Na]^+$ 347.9994, found 347.9978.



***N*-Benzyl-2-bromo-5-methoxybenzamide**[3d] (Substrate for **2p**)

Light yellow solid, yield: 2.98 g (93%). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.43 (d, *J* = 8.8 Hz, 1H), 7.36 (dt, *J* = 14.9, 7.4 Hz, 4H), 7.29 (t, *J* = 7.0 Hz, 1H), 7.12 (d, *J* = 3.0 Hz, 1H), 6.81 (dd, *J* = 8.8, 3.0 Hz, 1H), 6.38 (s, 1H), 4.64 (d, *J* = 5.7 Hz, 2H), 3.79 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 167.2, 159.0, 138.2, 137.6, 134.2, 128.8, 128.0, 127.7, 117.9, 114.9, 109.4, 55.7, 44.3.

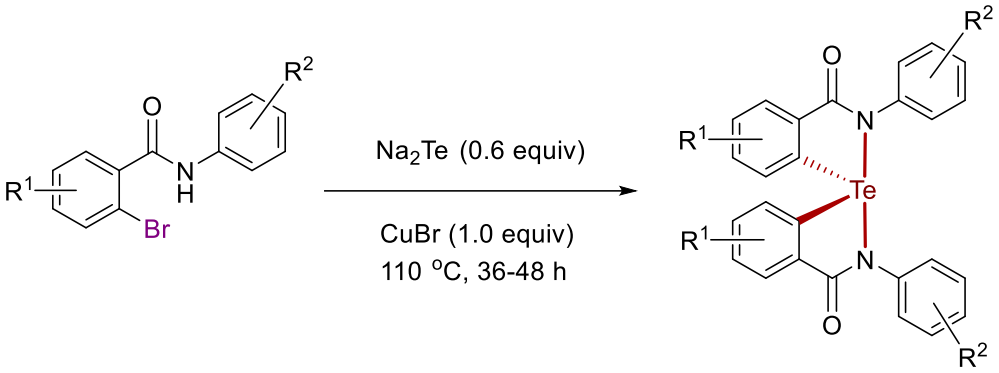


2-Iodo-3-methyl-*N*-phenylbenzamide[3e] (Substrate for **2t**)

White solid, yield: 0.98 g (97%) (reaction was performed at 3 mmol scale). ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.63 (d, *J* = 7.9 Hz, 2H), 7.38 (t, *J* = 7.7 Hz, 3H), 7.31 (d, *J* = 4.3 Hz, 2H), 7.25 (d, *J* = 6.5 Hz, 1H), 7.18 (t, *J* = 7.4 Hz, 1H), 2.52 (s, 3H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 168.2, 143.8, 143.1, 137.6, 130.8, 129.2, 128.3, 125.2, 124.9, 120.1, 99.2, 29.2.

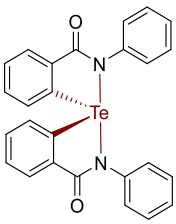
A typical synthetic procedure. of spirodiazatellurane:

Scheme S2. Preparation of spirodiazatellurane

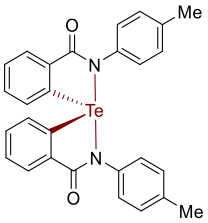


Synthesis of spirodiazatellurane

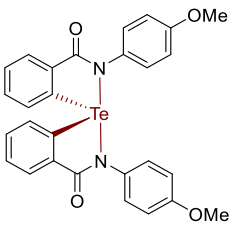
Under an argon atmosphere, 230 mg (0.6 equiv, 1.8 mmol) of well grinded tellurium powder and dry THF (5 mL) were taken in a single neck 50 mL of round bottom flask. The fresh small Na-pieces 83 mg (1.2 equiv, 3.6 mmol) was added cautiously with stirring to black suspension of tellurium in THF. Further, naphthalene 46 mg (0.36 mmol, 0.2 equiv. w.r.t. Te powder) was added to it.of. After this, reaction mixture was allowed to stir at room temperature for another 12 h. During this time, the colour of the reaction mixture changes from brown to off-white or gray. Next, THF was evaporated under vacuum followed by heating the reaction mixture to 70 °C under nitrogen. The reaction mixture was then cooled to room temperature and 0.83 g dry powder of 2-halo-*N*-arylbenzamides (1.0 equiv, 3.0 mmol) was added followed by the addition of HMPA (5.0 mL). The resulted reaction mixture was stirred for 10 minutes, then 431 mg (3.0 mmol) of CuBr was added and then resulted reaction mixture was stirred at 110 °C for 36-48 h (Scheme S2). The advance of the reaction was monitored by taking the aliquot of reaction mixture by using TLC at regular period of time. Reaction mixture was then added to 400 mL of brine and stirred vigorously for 3-4 h. Residue was filtered out and washed with distilled water. Crude product was dried under vacuum. The resultant selenides were purified by flash column chromatography using petroleum ether/ethyl acetate (8:2) as eluent.[4]



2,2'-Diphenyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1a:[5a] Off white solid, yield: 466 mg (60%), m.p.: 155-157 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.04 (d, *J* = 6.6 Hz, 2H), 7.83 (d, *J* = 7.8 Hz, 4H), 7.74 – 7.62 (m, 6H), 7.43 (t, *J* = 7.5 Hz, 4H), 7.18 (t, *J* = 7.2 Hz, 2H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 167.4, 141.6, 138.3, 134.1, 132.7, 130.8, 129.8, 129.7, 127.9, 125.2, 124.3;^{125}Te NMR (126 MHz, $CDCl_3$) δ 741.5; HRMS (ESI) m/z calculated for $C_{26}H_{18}N_2O_2Te$ $[M+H]^+$ 521.0505, found 521.0481.

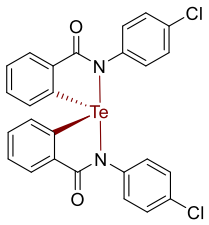


2,2'-Di-p-tolyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1b: White solid, yield: 491 mg (60%), m.p.: 240-241 °C. ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.22 (d, *J* = 6.3 Hz, 2H), 7.79 (d, *J* = 6.9 Hz, 2H), 7.61 (dd, *J* = 12.6, 7.5 Hz, 4H), 7.55 (d, *J* = 7.2 Hz, 4H), 7.21 (d, *J* = 7.1 Hz, 4H), 2.34 (s, 6H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 167.3, 138.9, 138.4, 134.9, 133.9, 132.6, 130.7, 130.3, 129.7, 127.9, 124.1, 21.0.; ^{125}Te NMR (126 MHz, $CDCl_3$) δ 736.5; HRMS (ESI) m/z calculated for $C_{28}H_{22}N_2O_2Te$ $[M+H]^+$ 549.0822, found 549.0818.



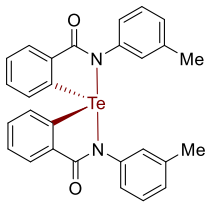
2,2'-Bis(4-methoxyphenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione

1c: Light brown solid, yield: 529 mg (61%), m.p.: 238-239 °C.^{1}H NMR (700 MHz, DMSO-d_6) δ 8.01 (d, *J* = 6.6 Hz, 2H), 7.76 – 7.61 (m, 10H), 7.00 (d, *J* = 8.6 Hz, 4H), 3.78 (s, 6H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 167.9, 156.4, 138.8, 136.1, 133.9, 133.2, 132.0, 129.7, 129.2, 126.3, 114.6, 55.7. ^{125}Te NMR (126 MHz, DMSO-d_6) δ 788.6. HRMS (ESI) m/z calculated for $C_{28}H_{22}N_2O_4Te$ $[M+H]^+$ 581.0717, found 581.0742.



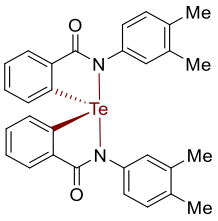
2,2'-Bis(4-chlorophenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione

1d: White solid, yield: 308 mg (35%), m.p.: 233-234 °C. ^{1}H NMR (700 MHz, DMSO-d_6) δ 8.05 (d, *J* = 6.6 Hz, 2H), 7.86 (d, *J* = 8.5 Hz, 4H), 7.69 (dd, *J* = 14.8, 7.2 Hz, 4H), 7.65 (d, *J* = 7.1 Hz, 2H), 7.49 (d, *J* = 8.5 Hz, 4H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 168.4, 142.2, 138.3, 134.2, 133.2, 132.2, 130.0, 129.2, 129.0, 128.4, 126.6. ^{125}Te NMR (126 MHz, $CDCl_3$) δ 746.5; HRMS (ESI) m/z calculated for $C_{26}H_{16}Cl_2N_2O_2Te$ $[M+H]^+$ 588.9706, found 588.9728.

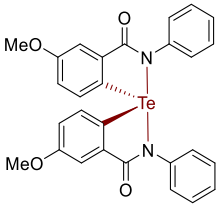


2,2'-Di-m-tolyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1e: Off white solid, yield: 491 mg (60%), m.p.: 248-250 °C. ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.25 (dd, *J* = 7.3, 1.2 Hz, 2H), 7.82 (d, *J* = 7.4 Hz, 2H), 7.66 (t, *J* = 6.9 Hz, 2H), 7.62 (td, *J* = 7.5, 1.4 Hz, 2H), 7.52 (s, 2H), 7.44 (d, *J* = 7.9 Hz, 2H), 7.30 (t, *J* = 7.8 Hz, 2H), 7.02 (d, *J* = 7.5 Hz, 2H), 2.38 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 167.4, 141.5, 139.8, 138.4, 134.0, 132.7, 130.8, 129.7,

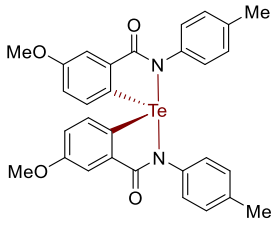
129.6, 128.0, 126.1, 124.9, 121.3, 21.6. ^{125}TeNMR (126 MHz, DMSO-d_6) δ 735.9. HRMS (ESI) m/z calculated for $C_{28}H_{22}N_2O_2Te$ $[M+H]^+$ 549.0818, found 549.0829.



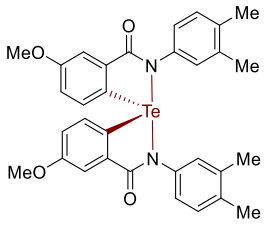
2,2'-Bis(3,4-dimethylphenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1f: Off white solid, yield: 516 mg (60%), m.p.: 210-212 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 8.01 (m, 2H), 7.69 – 7.60 (m, 10H), 7.17 (d, J = 8.1 Hz, 2H), 2.25 (s, 6H), 2.23 (s, 6H); ^{13}C NMR (126 MHz, DMSO-d_6) δ 167.9, 141.0, 139.0, 137.1, 133.7, 133.1, 132.2, 132.0, 130.3, 129.7, 129.2, 125.7, 122.1, 20.0, 19.3; ^{125}Te NMR (126 MHz, DMSO-d_6) δ 789.9; HRMS (APCI) m/z calculated for $C_{30}H_{26}N_2O_2Te$ $[M+H]^+$ 577.1132, found 577.1160.



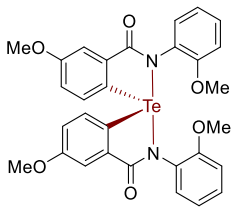
5,5'-Dimethoxy-2,2'-diphenyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1g: Yellowish brown solid, yield: 598 mg (69%), m.p.: 202-203 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 7.82 (d, J = 8.0 Hz, 4H), 7.57 – 7.51 (m, 4H), 7.42 (t, J = 7.8 Hz, 4H), 7.26 (dd, J = 8.6, 2.5 Hz, 2H), 7.17 (t, J = 7.3 Hz, 2H), 3.82 (s, 6H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 167.7, 162.7, 143.3, 140.8, 130.6, 129.4, 124.9, 124.5, 123.0, 120.1, 114.5, 56.1. ^{125}Te NMR (126 MHz, DMSO-d_6) δ 791.2. HRMS (ESI) m/z calculated for $C_{30}H_{26}N_2O_4Te$ $[M+H]^+$ 609.1030, found 609.1008.



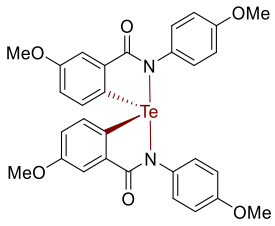
5,5'-Dimethoxy-2,2'-di-p-tolyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1h: Off white solid, yield: 590 mg (65%), m.p.: 230-232 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 7.72 (d, *J* = 8.3 Hz, 4H), 7.51 (dd, *J* = 5.6, 2.9 Hz, 4H), 7.23 (dd, *J* = 11.4, 5.5 Hz, 6H), 3.81 (s, 6H), 2.32 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 167.5, 162.7, 140.9, 140.7, 133.5, 130.7, 129.9, 124.7, 122.8, 120.0, 114.4, 56.1, 21.0. ^{125}Te NMR (126 MHz, DMSO-d_6) δ 785.3. HRMS (ESI) m/z calculated for $C_{30}H_{26}N_2O_4Te$ $[M+H]^+$ 609.1030, found 609.1008.



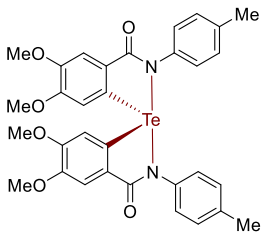
2,2'-Bis(3,4-dimethylphenyl)-5,5'-dimethoxy-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1i: Yellowish brown solid, yield: 618 mg (65%), m.p.: 252-255 °C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.76 (d, *J* = 2.6 Hz, 2H), 7.64 (d, *J* = 8.7 Hz, 2H), 7.47 (s, 2H), 7.36 (m, 2H), 7.16 (d, *J* = 8.1 Hz, 2H), 7.09 (dd, *J* = 8.7, 2.7 Hz, 2H), 3.85 (s, 6H), 2.28 (s, 6H), 2.25 (s, 6H).^{13}C NMR (126 MHz, $CDCl_3$) δ 167.1, 163.6, 140.6, 139.3, 138.0, 133.6, 130.9, 130.7, 125.3, 121.5, 121.1, 117.6, 114.5, 55.9, 20.1, 19.3. ^{125}Te NMR (126 MHz, $CDCl_3$) δ 739.3. HRMS (ESI) m/z calculated for $C_{32}H_{30}N_2O_4Te$ $[M+H]^+$ 637.1343, found 637.1366.



5,5'-Dimethoxy-2,2'-bis(2-methoxyphenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1j: Off white solid, yield: 631 mg (66%), m.p.: 238-240 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.81 (dd, *J* = 26.7, 8.1 Hz, 4H), 7.47 (s, 2H), 7.22 (dd, *J* = 14.0, 7.5 Hz, 4H), 7.15 (d, *J* = 7.8 Hz, 2H), 7.05 (t, *J* = 7.2 Hz, 2H), 3.81 (s, 6H), 3.80 (s, 6H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 168.6, 162.5, 153.0, 139.5, 131.9, 130.8, 127.9, 126.0, 123.9, 121.2, 120.1, 113.9, 112.5, 56.1, 55.9. ^{125}Te NMR (126 MHz, DMSO-d_6) δ 810.9. HRMS (ESI) m/z calculated for $C_{30}H_{26}N_2O_6Te$ $[M+H]^+$ 641.0928, found 641.0912.

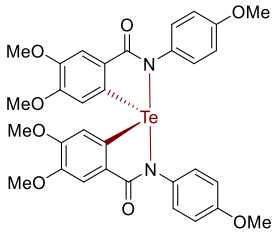


5,5'-Dimethoxy-2,2'-bis(4-methoxyphenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1k: Off white solid, yield: 650 mg (68%), m.p.: 225-227 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.72 (d, *J* = 8.6 Hz, 4H), 7.56 – 7.49 (m, 4H), 7.23 (d, *J* = 8.5 Hz, 2H), 6.99 (d, *J* = 8.7 Hz, 4H), 3.81 (s, 6H), 3.78 (s, 6H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 167.5, 162.7, 156.3, 140.8, 136.1, 130.6, 126.1, 122.9, 119.9, 114.6, 114.3, 56.1, 55.7. ^{125}Te NMR (126 MHz, DMSO-d_6) δ 782.4. HRMS (ESI) m/z calculated for $C_{30}H_{26}N_2O_6Te$ $[M+H]^+$ 641.0928, found 641.0931.

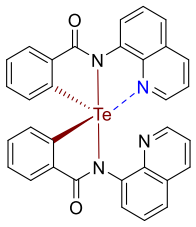


5,5',6,6'-Tetramethoxy-2,2'-di-p-tolyl-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1l: Yellowish white solid, yield: 659 mg (66%), m.p.: 171-173 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 7.68 (d, *J* = 8.2 Hz, 4H), 7.51 (s, 2H), 7.24 (d, *J* = 8.2 Hz, 4H),

7.05 (s, 2H), 3.83 (s, 6H), 3.58 (s, 6H), 2.32 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 167.3, 153.0, 152.0, 140.8, 133.4, 132.4, 129.9, 125.1, 122.9, 111.9, 111.7, 56.4, 56.3, 21.0. ^{125}Te NMR (126 MHz, $CDCl_3$) δ 719.2. HRMS (ESI) m/z calculated for $C_{32}H_{30}N_2O_6Te$ $[M+H]^+$ 669.1242, found 669.1267.

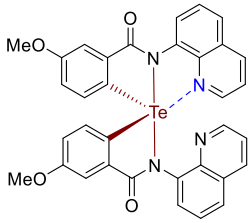


5,5',6,6'-Tetramethoxy-2,2'-bis(4-methoxyphenyl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1m: Off white solid, yield: 712 mg (68%), m.p.: 230-231 °C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.62 (d, *J* = 4.7 Hz, 4H), 7.59 (s, 2H), 7.04 (s, 2H), 6.91 (d, *J* = 8.8 Hz, 4H), 3.86 (s, 6H), 3.78 (s, 6H), 3.69 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 167.1, 156.8, 153.6, 152.7, 134.8, 132.1, 125.4, 117.9, 114.9, 112.1, 111.4, 56.6, 56.4, 55.5. ^{125}Te NMR (126 MHz, $CDCl_3$) δ 718.7. HRMS (APCI) m/z calculated for $C_{32}H_{30}N_2O_8Te$ $[M+H]^+$ 701.1140, found 701.1121.

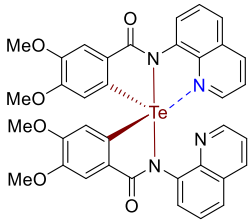


2,2'-Di(quinolin-8-yl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1n: Yellowish white, yield: 697 mg (75%), m.p.: 237-238 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 9.13 (t, *J* = 4.4 Hz, 2H), 8.61 (d, *J* = 4.0 Hz, 2H), 8.44 (d, *J* = 8.2 Hz, 2H), 8.09 (t, *J* = 9.0 Hz, 2H), 7.75 (d, *J* = 4.4 Hz, 4H), 7.62 (d, *J* = 7.6 Hz, 2H), 7.56 (t, *J* = 7.3 Hz, 2H), 7.52 – 7.45 (m, 4H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 171.0, 145.4, 141.4, 139.9, 138.9, 137.1, 136.6, 133.1,

130.5, 129.4, 129.2, 128.8, 128.3, 123.1, 121.6, 121.1; ^{125}Te NMR (126 MHz, $CDCl_3$) δ 865.6; HRMS (ESI) m/z calculated for $C_{32}H_{20}N_4O_2Te$ $[M+H]^+$ 623.0724, found 623.0706.



5,5'-Dimethoxy-2,2'-di(quinolin-8-yl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1o: Yellowish white, yield: 744 mg (73%), m.p.: 235-237 °C. ^{1}H NMR (500 MHz, $CDCl_3$) δ 9.31 (d, *J* = 7.9 Hz, 2H), 8.39 (d, *J* = 3.1 Hz, 2H), 8.19 (d, *J* = 8.1 Hz, 2H), 7.82 (d, *J* = 2.5 Hz, 2H), 7.74 (t, *J* = 8.0 Hz, 2H), 7.59 (d, *J* = 8.0 Hz, 2H), 7.55 (d, *J* = 8.6 Hz, 2H), 7.31 (dd, *J* = 8.2, 4.3 Hz, 2H), 6.88 (dd, *J* = 8.6, 2.5 Hz, 2H), 3.86 (s, 6H).^{13}C NMR (176 MHz, $CDCl_3$) δ 170.8, 161.9, 145.4, 141.4, 140.0, 138.5, 137.1, 130.8, 129.7, 129.2, 128.3, 123.0, 121.5, 121.1, 120.8, 112.2, 55.6. ^{125}Te NMR (126 MHz, $CDCl_3$) δ 870.0. HRMS (ESI) m/z calculated for $C_{34}H_{24}N_4O_4Te$ $[M+H]^+$ 683.0935, found 683.0967.

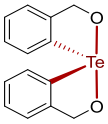


5,5',6,6'-Tetramethoxy-2,2'-di(quinolin-8-yl)-1λ^4-1,1'-spirobi[benzo[*d*][1,2]tellurazole]-3,3'(2H,2'H)-dione 1p: Yellowish white, yield: 810 mg (73%), m.p.: 242-243 °C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 9.23 (d, *J* = 7.8 Hz, 2H), 8.42 (d, *J* = 3.1 Hz, 2H), 8.16 (d, *J* = 8.1 Hz, 2H), 7.76 (s, 2H), 7.69 (t, *J* = 8.0 Hz, 2H), 7.54 (d, *J* = 8.0 Hz, 2H), 7.29 (dd, *J* = 8.1, 4.2 Hz, 2H), 7.10 (s, 2H), 3.95 (s, 6H), 3.39 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.9, 153.3, 151.3, 145.5, 141.6, 139.9, 137.1, 129.1, 128.3, 122.8, 121.4, 121.2, 110.9, 110.7, 56.2, 56.0.^{125}Te

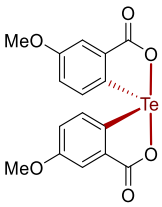
NMR (126 MHz, $CDCl_3$) δ 855.6. HRMS (APCI) m/z calculated for $C_{36}H_{28}N_4O_6Te$ $[M+H]^+$ 743.1147, found 701.1147.

Synthesis of spirodioxytellurane (1q and **1r)**

Spirotelluranes **1q** and **1r** were prepared from corresponding 2-iodobenzoyl alcohol (0.73 g, 3 mmol) and 2-bromo-5-methoxy-benzoic acid (0.7 g, 3.0 mmol) respectively; by using the same methodology as mentioned above for preparation of spirotellurane **1a-1p**.



3H,3'H-1λ^4-1,1'-Spirobi[benzo[*c*][1,2]oxatellurole] 1q:[5b] Creamy White solid, yield: 366 mg (72%), m.p.: 171-173 °C (171 °C)[5b]. ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.87 (dd, J = 8.2, 6.2 Hz, 2H), 7.39 (dtt, J = 10.5, 7.1, 3.7 Hz, 4H), 7.25 (d, J = 7.3 Hz, 2H), 5.45 – 5.37 (m, 4H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 148.1, 131.1, 130.7, 128.5, 128.0, 124.1, 72.1.^{125}Te NMR (126 MHz, $CDCl_3$) δ 768.6. HRMS (ESI) m/z calculated for $C_{14}H_{12}O_2Te$ $[M+H]^+$ 342.9973, found 342.9952.

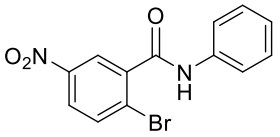


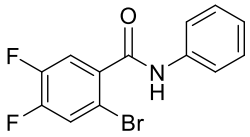
5,5'-Dimethoxy-3H,3'H-1λ^4-1,1'-spirobi[benzo[*c*][1,2]oxatellurole]-3,3'-dione 1r: Light brown solid, yield: 513 mg (80%), m.p.: 242-245 °C. ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.58 (d, *J* = 8.8 Hz, 2H), 7.53 (d, *J* = 3.1 Hz, 2H), 6.95 (dd, *J* = 8.8, 3.0 Hz, 2H), 3.84 (s, 6H). ^{13}C NMR (176 MHz, DMSO-d_6) δ 170.8, 162.9, 135.0, 131.0, 129.3, 122.0, 114.5, 56.3. ^{125}Te NMR (126

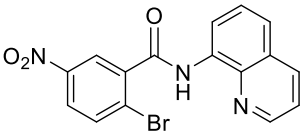
MHz, $CDCl_3$) δ1013.7. HRMS (APCI) m/z calculated for $C_{16}H_{12}O_6Te$ 430.9769 $[M+H]^+$ 430.9770, found 430.9778.

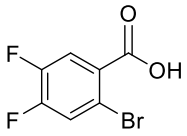
Chart S1: Substrates failed to provide spirotelluranes

Electron withdrawing groups in benzamide/ acid ring

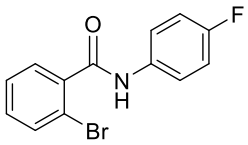


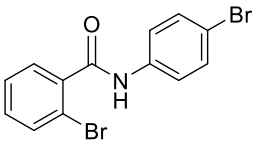






Electron withdrawing groups in aniline ring





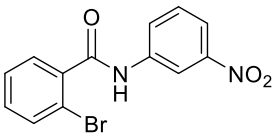
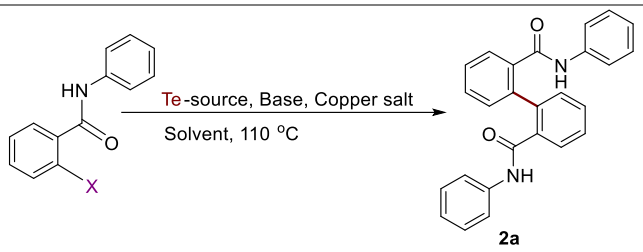


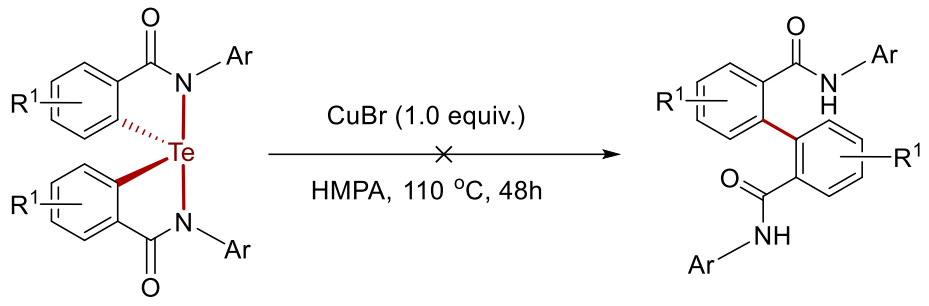
Table S1a. Optimization for the synthesis of biaryls

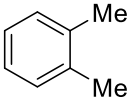
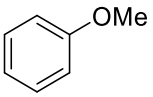
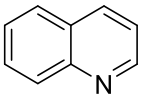


Entry	X	Te source (equiv)	Cu-salt (equiv)	Base (equiv)	Solvent	Yield of 2a[a]
1	Br	–	CuBr (1.0)	–	HMPA	–
2	Br	Te powder (3.0)	–	–	HMPA	–
3	Br	Na_2Te (3.0)	–	–	HMPA	–
4	Br	Na_2Te (3.0)	CuBr (1.0)	–	HMPA	95% (93%)[b]
5	Br	Na_2Te (3.0)	CuI (1.0)	–	HMPA	70%
6	Br	Na_2Te (3.0)	$CuBr_2$ (1.0)	–	HMPA	75%
7	I	Na_2Te (3.0)	CuBr (1.0)	–	HMPA	66%
8	Br	–	CuBr (1.0)	Na^tOBu (3.0)	HMPA	30%[c]
9	Br	Na_2Te (3.0)	CuBr (0.2)	Mg (3.0)	HMPA	25%
10	Br	–	CuBr (1.0)	Mg (3.0)	DMF	–
11	Br	Na_2Te (0.2)	CuBr (1.0)	Mg (3.0)	DMF	80%
12	H	Na_2Te (0.2)	CuBr (1.0)	Mg (3.0)	DMF	–
13	H	Na_2Te (3.0)	CuBr (1.0)	Mg (3.0)	DMF	–
14	H	Na_2Te (3.0)	CuBr (1.0)	–	HMPA	–

[a]NMR yields, reaction time 16 h. [b]Isolated yield. [c]Reaction time 24 h.

Table S1b. Control experiment for the synthesis of biaryls from respective spirotelluranes

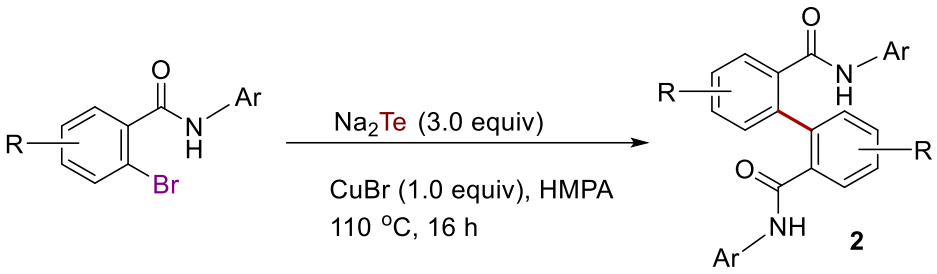


Entry	R^1	Ar	Spirotellurane	Yield of biaryl 1,1'-diamides
1	-H		**1a**	**2a** (none)
2	-H		**1f**	**2l** (none)
3	-OMe		**1k**	**2n** (none)
4	-H		**1n**	**2q** (none)

Also, we were curious to know whether the biaryl 1,1'-diamides formed from spirotelluranes under the copper mediated optimized reaction conditions. The reaction spirotellurane **1a** (21 mg, 0.04 mmol) with CuBr (6 mg, 0. 04 mmol) was carried out in HMPA (2 mL) under the argon atmosphere at 110 °C (entry 1, Table S1b). Even after 48h no conversion to corresponding biaryl 1,1'-diamide **2a** was noticed. Similarly, the reaction of the synthesized spirotelluranes **1f**, **1k**, and **1n** with copper(I) bromide failed to afford respective biaryls (entries 2-4, Table S1b).

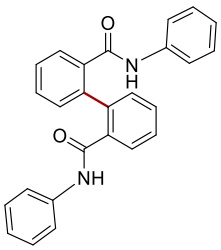
A typical synthetic procedure of biaryl 1,1'-diamides

Scheme S3. Preparation of C-C coupled biaryls

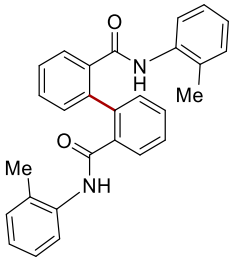


Synthesis of biaryl 1,1'-diamides

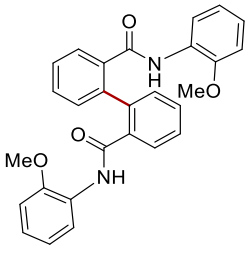
Under argon atmosphere, 383 mg (3 equiv, 3 mmol) of well grinded tellurium powder and dry THF (5 mL) were taken in a single neck 50 mL of round bottom flask. The fresh small Na-pieces 140 mg (6 equiv, 6 mmol) was added cautiously with stirring to that black suspension of tellurium in THF, and followed by addition of 78 mg (0.2 equiv, 0.6 mmol) of naphthalene. After this, reaction mixture was allowed to stir at room temperature for another 12 h. During this time, the colour of the reaction mixture changes from brown to off-white or gray. Next, THF was evaporated under vacuum followed by heating the reaction mixture to 70 °C under nitrogen. The reaction mixture was then cooled to room temperature and 277 mg dry powder of 2-halo-*N*-arylbenzamides (1.0 equiv, 1.0 mmol) was added followed by the addition of HMPA (5.0 mL). After this, 144 mg (1.0 mmol) of CuBr was added and then resulted reaction mixture was stirred at 110 °C for 16 h (Scheme S3). The advance of the reaction was monitored by taking aliquot of reaction mixture by using TLC at regular period of time. Reaction mixture was then added to 200 mL of brine and stirred vigorously for 3-4 h. Residue was filtered out and washed with distilled water. Crude product was dried under vacuum. The resultant Biaryl 1,1'-diamide **2a** were purified by flash column chromatography using petroleum ether/ethyl acetate (8:2) as eluent.



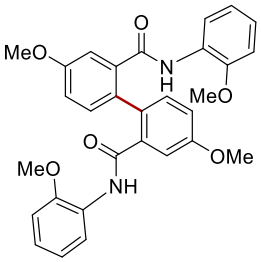
***N*²,*N*²′-Diphenyl-[1,1'-biphenyl]-2,2'-dicarboxamide 2a**:[6a,6c] Off white solid, yield: 182 mg (93%), m.p.: 227-228 °C (228-229 °C).[6a] ^{1}H NMR (500 MHz, $CDCl_3$) δ 9.04 (s, 2H), 7.67 (d, *J* = 6.9 Hz, 2H), 7.43 (d, *J* = 8.0 Hz, 4H), 7.41 – 7.34 (m, 4H), 7.26 – 7.23 (m, 4H), 7.15 (d, *J* = 7.0 Hz, 2H), 7.07 (t, *J* = 7.4 Hz, 2H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 168.4, 139.1, 137.9, 136.1, 130.2, 129.8, 128.9, 128.1, 127.2, 124.5, 120.0. HRMS (ESI) m/z calculated for $C_{26}H_{20}N_2O_2$ $[M+Na]^+$ 415.1417, found 415.1415.



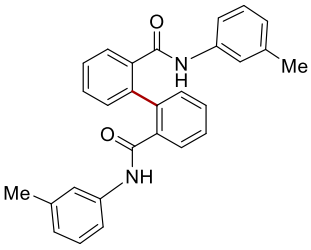
***N*²,*N*²′-Di-o-tolyl-[1,1'-biphenyl]-2,2'-dicarboxamide 2b**:[6a,6c] Off white solid, yield: 191 mg (91%), m.p.: 230-233 °C (230-232 °C).[6a] ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.45 (s, 2H), 7.65 (m, 2H), 7.48 – 7.43 (m, 4H), 7.41 (d, *J* = 8.0 Hz, 2H), 7.28 (m, 2H), 7.12 (t, *J* = 6.6 Hz, 4H), 7.05 (t, *J* = 7.3 Hz, 2H), 2.06 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 168.4, 139.2, 136.4, 135.4, 131.0, 130.5, 130.1, 129.9, 128.1, 127.4, 126.5, 125.8, 124.1, 17.9. HRMS (ESI) m/z calculated for $C_{28}H_{24}N_2O_2$ $[M+H]^+$ 421.1911, found 421.1897.



***N*²,*N*²′-Bis(2-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2c**: Off white solid, yield: 208 mg (92%), m.p.: 200-202 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 9.54 (s, 2H), 7.84 (d, *J* = 7.3 Hz, 2H), 7.74 (s, 2H), 7.47 (s, 4H), 7.20 (s, 2H), 7.04 (d, *J* = 7.3 Hz, 2H), 6.95 (d, *J* = 7.6 Hz, 2H), 6.86 (t, *J* = 6.8 Hz, 2H), 3.68 (s, 6H). ^{13}C NMR (101 MHz, DMSO-d_6) δ 167.7, 150.5, 139.6, 136.6, 130.2, 129.8, 128.3, 128.1, 127.5, 125.3, 122.3, 120.6, 111.6, 55.9. HRMS (ESI) m/z calculated for $C_{28}H_{24}N_2O_4$ $[M-H]^+$ 451.1652, found 451.1625.

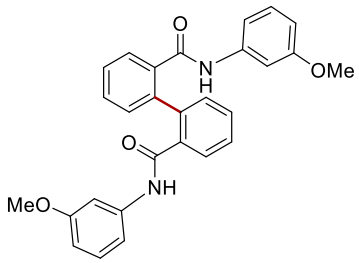


4,4'-Dimethoxy-*N*₂,*N*₂′-bis(2-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2d: Off white solid, yield: 237 mg (93%), m.p.: 118-120 °C. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.67 (s, 2H), 8.32 (m, 2H), 7.29 (d, *J* = 2.5 Hz, 2H), 7.17 (d, *J* = 8.4 Hz, 2H), 7.00 (td, *J* = 7.9, 1.5 Hz, 2H), 6.96 – 6.86 (m, 4H), 6.77 (d, *J* = 7.5 Hz, 2H), 3.84 (s, 6H), 3.74 – 3.62 (m, 6H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 167.1, 158.9, 148.4, 137.4, 131.8, 131.1, 127.7, 123.9, 120.8, 120.1, 115.9, 113.2, 109.9, 55.5, 55.4. HRMS (ESI) m/z calculated for $C_{30}H_{28}N_2O_6$ $[M+H]^+$ 513.2020, found 513.1997.

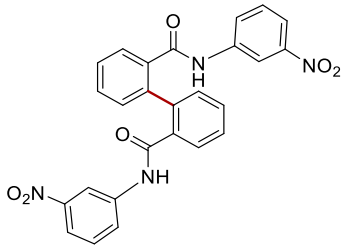


***N*²,*N*²′-Di-m-tolyl-[1,1'-biphenyl]-2,2'-dicarboxamide 2e**:[6a,6c] Yellowish white solid, yield: 187 mg (89%), m.p.: 207-209 °C (208-210 °C).[6a] ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.54 (s, 2H), 7.71 (dd, *J* = 5.3, 3.1 Hz, 2H), 7.49 (dd, *J* = 9.0, 5.4 Hz, 4H), 7.37 (s, 2H), 7.25 – 7.18 (m,

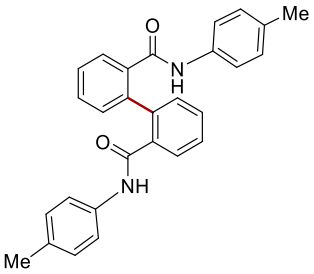
4H), 7.14 (t, *J* = 7.8 Hz, 2H), 6.87 (d, *J* = 7.4 Hz, 2H), 2.24 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 168.3, 139.1, 139.0, 138.4, 136.7, 130.3, 129.8, 129.0, 128.3, 128.1, 125.1, 120.4, 117.2, 21.6. HRMS (ESI) m/z calculated for $C_{28}H_{24}N_2O_2$ $[M+H]^+$ 421.1911 found, 421.1904.



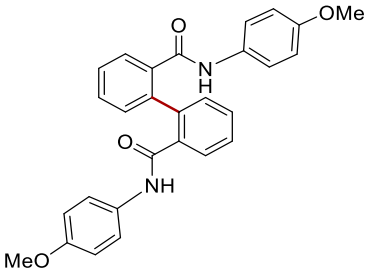
***N*^{2},*N*$^{2'}$-Bis(3-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2f**: White solid, yield: 199 mg (88%), m.p.:162-164 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.57 (s, 2H), 7.68 (m, 2H), 7.51 – 7.44 (m, 4H), 7.20 – 7.16 (m, 4H), 7.14 (d, *J* = 4.5 Hz, 2H), 6.99 (d, *J* = 8.1 Hz, 2H), 6.64 (dd, *J* = 8.2, 2.1 Hz, 2H), 3.71 (d, *J* = 14.3 Hz, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 168.4, 159.9, 140.1, 139.1, 136.6, 130.4, 130.1, 129.8, 128.4, 128.1, 112.2, 109.6, 105.9, 55.5.



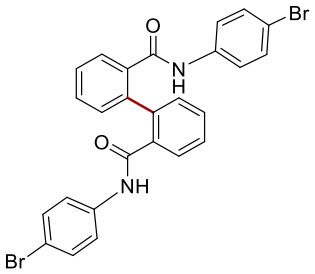
***N*^{2},*N*$^{2'}$-Bis(3-nitrophenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2g**:[7] Light yellow solid, yield: 180 mg (75%), m.p.: 190-191 °C (190-191°C).[7] ^{1}H NMR (400 MHz, $CDCl_3$) δ 9.27 (s, 2H), 8.30 (s, 2H), 7.92 (d, *J* = 7.6 Hz, 2H), 7.82 (d, *J* = 7.5 Hz, 2H), 7.71 (s, 2H), 7.43 (s, 6H), 7.19 (s, 2H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 168.9, 148.5, 138.8, 130.8, 129.9, 129.8, 128.5, 127.3, 125.6, 119.2, 114.7. HRMS (ESI) m/z calculated for $C_{26}H_{18}N_4O_6$ $[M+Na]^+$ 505.1119, found 505.1120.



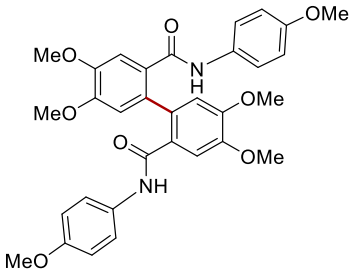
***N*²,*N*²'-Di-p-tolyl-[1,1'-biphenyl]-2,2'-dicarboxamide 2h**:[6c] White solid, yield: 185 mg (88%), m.p.: 175-177 °C (177-179 °C).[6c] ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.54 (s, 2H), 7.68 (d, *J* = 5.6 Hz, 2H), 7.45 (t, *J* = 15.8 Hz, 4H), 7.35 (d, *J* = 7.7 Hz, 4H), 7.16 (t, *J* = 12.0 Hz, 2H), 7.06 (d, *J* = 7.7 Hz, 4H), 2.25 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 168.2, 139.1, 136.7, 136.5, 133.3, 130.2, 129.7, 129.6, 128.3, 128.0, 119.9, 20.9. HRMS (ESI) m/z calculated for $C_{28}H_{24}N_2O_2$ $[M+H]^+$ 421.1911, found 421.1944.



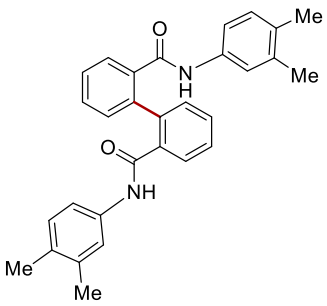
***N*²,*N*²'-Bis(4-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2i**:[6a] Off white solid, yield: 196 mg (87%), m.p.: 121-124 °C (120-122 °C).[6a] ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.93 (s, 2H), 7.65 (d, *J* = 6.8 Hz, 2H), 7.42 – 7.34 (m, 4H), 7.30 (d, *J* = 8.9 Hz, 4H), 7.15 (d, *J* = 6.7 Hz, 2H), 6.77 (d, *J* = 8.9 Hz, 4H), 3.75 (s, 6H). ^{13}C NMR (126 MHz, DMSO d_6) δ 167.9, 156.1, 139.1, 136.8, 132.2, 130.1, 129.7, 128.3, 128.0, 121.5, 114.3, 55.6. HRMS (ESI) m/z calculated for $C_{28}H_{24}N_2O_4$ $[M+Na]^+$ 475.1628, found 475.1629.



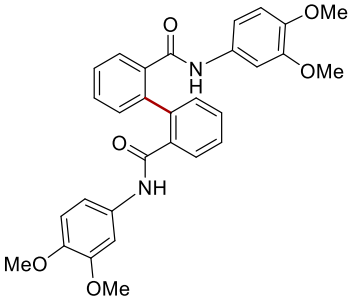
***N*²,*N*²'-Bis(4-bromophenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2j**:[6c] Yellowish white solid, yield: 205 mg (75%), m.p.: 182-184 °C (182-183 °C).[6c] ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.67 (s, 2H), 7.69 (m, 2H), 7.53 – 7.47 (m, 4H), 7.44 (s, 8H), 7.21 (m, 2H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 168.4, 139.1, 138.4, 136.3, 132.0, 130.5, 130.0, 128.3, 128.1, 121.7, 116.0. HRMS (ESI) m/z calculated for $C_{26}H_{18}Br_2N_2O_2$ $[M+H]^+$ 548.9808, found 548.9808.



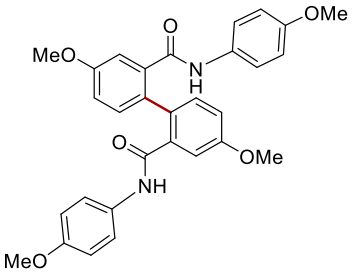
4,4',5,5'-Tetramethoxy-*N*²,*N*²'-bis(4-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2k: Yellowish white solid, yield: 263 mg (92%), m.p.: 168-170 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 10.27 (s, 2H), 7.40 (d, J = 8.9 Hz, 4H), 7.24 (s, 2H), 6.86 (d, J = 8.9 Hz, 4H), 6.73 (s, 2H), 3.85 (s, 6H), 3.71 (s, 6H), 3.69 (s, 6H). ^{13}C NMR (101 MHz, DMSO-d_6) δ 167.8, 156.0, 149.5, 148.2, 132.4, 131.9, 129.4, 121.4, 114.3, 113.5, 111.4, 56.2, 56.2, 55.6. HRMS (ESI) m/z calculated for $C_{32}H_{32}N_2O_8$ $[M+H]^+$ 573.2231, found 573.2220.



***N*²,*N*²'-Bis(3,4-dimethylphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2l**: Off white solid, yield: 192 mg (86%), m.p.: 190-191 °C. ^{1}H NMR (500 MHz, DMSO-*d*$_6$) δ 10.43 (s, 2H), 7.67 (d, *J* = 6.6 Hz, 2H), 7.52 – 7.41 (m, 4H), 7.26 (s, 2H), 7.14 (dd, *J* = 20.3, 7.2 Hz, 4H), 7.00 (d, *J* = 8.1 Hz, 2H), 2.14 (s, 12H). ^{13}C NMR (126 MHz, DMSO-*d*$_6$) δ 168.1, 139.1, 136.8, 136.8, 136.8, 132.2, 130.2, 130.0, 129.7, 128.3, 128.0, 121.1, 117.5, 20.1, 19.2. HRMS (ESI) m/z calculated for $C_{30}H_{28}N_2O_2$ $[M+Na]^+$ 471.2043, found 471.2054.

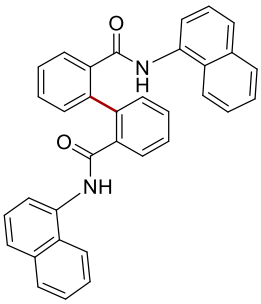


***N*²,*N*²'-Bis(3,4-dimethoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2m**:[7] Off white solid, yield: 222 mg (87%), m.p.: 225-228 °C (226-228 °C).[7] ^{1}H NMR (500 MHz, $CDCl_3$) δ 8.02 (s, 2H), 7.85 (d, *J* = 7.5 Hz, 4H), 7.51 (t, *J* = 7.4 Hz, 2H), 7.44 (dd, *J* = 13.3, 5.5 Hz, 6H), 7.01 (dt, *J* = 9.7, 4.9 Hz, 2H), 6.81 (d, *J* = 8.6 Hz, 2H), 3.85 (d, *J* = 1.5 Hz, 12H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 165.8, 149.1, 146.1, 134.9, 131.7, 131.6, 128.7, 127.0, 112.4, 111.3, 105.3, 56.1, 55.9.

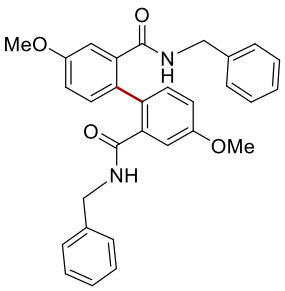


4,4'-Dimethoxy-*N*²-(3-methoxyphenyl)-*N*²'-(4-methoxyphenyl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2n: Off white solid, yield: 232 mg (91%), m.p.: 230-240 °C. ^{1}H NMR (500 MHz, DMSO-*d*$_6$) δ 10.49 (s, 2H), 7.40 (dd, *J* = 6.7, 2.0 Hz, 4H), 7.19 (s, 2H), 7.09 (m, 2H),

7.01 (dd, *J* = 8.4, 2.5 Hz, 2H), 6.85 (d, *J* = 8.9 Hz, 4H), 3.82 (s, 6H), 3.70 (s, 6H).[13]C NMR (126 MHz, DMSO-d_6) δ 167.8, 158.8, 156.1, 138.2, 132.2, 131.5, 130.9, 121.5, 115.6, 114.4, 113.2, 55.8, 55.6. HRMS (APCI) m/z calculated for $C_{30}H_{28}N_2O_6$ $[M+Na]^+$ 535.1840, found 535.1868.

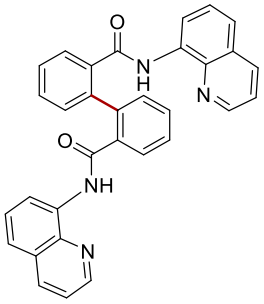


***N*²,*N*²-Di(naphthalen-1-yl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2o**:[7] Pinkish white solid, yield: 221 mg (90%), m.p.: 253-255 °C (254-256 °C).[7] [1]H NMR (500 MHz, $CDCl_3$) δ 10.81 (s, 2H), 8.98 (d, *J* = 7.3 Hz, 2H), 8.86 (d, *J* = 3.3 Hz, 2H), 8.21 (d, *J* = 8.2 Hz, 2H), 8.06 (d, *J* = 8.3 Hz, 2H), 7.95 (m, 2H), 7.61 (dt, *J* = 15.7, 8.0 Hz, 4H), 7.50 (dd, *J* = 8.2, 4.1 Hz, 2H), 7.38 – 7.36 (m, 4H). [13]C NMR (176 MHz, $CDCl_3$) δ 169.3, 139.4, 136.3, 134.0, 132.2, 130.3, 130.0, 128.4, 128.3, 127.9, 127.5, 126.4, 126.2, 126.0, 125.5, 121.8, 121.6. HRMS (ESI) m/z calculated for $C_{34}H_{24}N_2O_2$ $[M+H]^+$ 493.1911, found 493.1888.

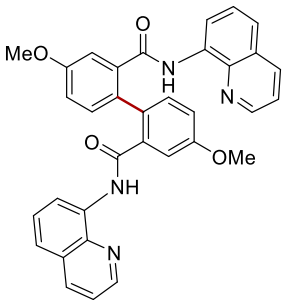


***N*²,*N*²′-Dibenzyl-4,4'-dimethoxy-[1,1'-biphenyl]-2,2'-dicarboxamide 2p**: Pale yellow solid, yield: 206 mg (86%), m.p.: 133-135 °C. [1]H NMR (400 MHz, DMSO-d_6) δ 9.06 (s, 2H), 7.19 (s, 6H), 7.00 (d, *J* = 9.3 Hz, 6H), 6.88 (s, 4H), 4.26 (s, 4H), 3.84 (s, 6H). [13]C NMR (101 MHz,

DMSO-d_6) δ 169.6, 158.8, 139.1, 138.2, 131.5, 131, 128.5, 127.2, 127.1, 115.1, 113.0, 55.8, 42.8. HRMS (ESI) m/z calculated for $C_{30}H_{28}N_2O_4$ $[M+H]^+$ 481.2122 found 481.2105.

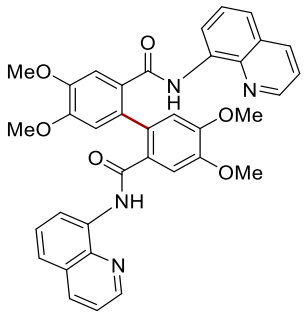


***N*²,*N*²'-Di(quinolin-8-yl)-[1,1'-biphenyl]-2,2'-dicarboxamide2q**:[2d,6b] Off white solid, yield: 210 mg (85%), m.p.: 212-214 °C (211-213 °C).[2d] ^{1}H NMR (500 MHz, $CDCl_3$) δ 10.36 (s, 2H), 8.69 (d, *J* = 7.3 Hz, 2H), 8.46 (m, 2H), 7.95 (m, 2H), 7.86 (d, *J* = 7.4 Hz, 2H), 7.46 (d, *J* = 4.1 Hz, 4H), 7.42 (dt, *J* = 12.0, 4.3 Hz, 2H), 7.30 (m, 2H), 7.25 (dd, *J* = 8.0, 3.8 Hz, 4H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 166.9, 148.8, 139.7, 138.0, 136.7, 136.4, 134.5, 131.1, 131, 128.4, 128.2, 127.8, 127.1, 122.4, 122.3, 116.2. HRMS (ESI) m/z calculated for $C_{32}H_{22}N_4O_2$ $[M+H]^+$ 495.1816, found 495.1805.

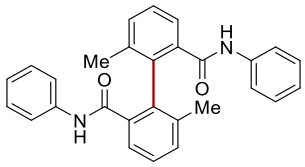


4,4'-Dimethoxy-*N*², *N*²'-di(quinolin-8-yl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2r: Off white solid, yield: 235 mg (85%), m.p.: 180-185 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.21 (s, 2H), 8.60 – 8.46 (m, 4H), 8.27 (d, *J* = 8.2 Hz, 2H), 7.50 (dd, *J* = 13.0, 5.9 Hz, 4H), 7.44 – 7.36 (m, 4H), 7.31 (d, *J* = 8.5 Hz, 2H), 7.09 (dd, *J* = 8.5, 2.5 Hz, 2H), 3.79 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 166.5, 159.1, 148.7, 138.1, 137.6, 136.7, 134.5, 132.9, 131.1, 127.8, 127.8, 122.4,

122.3, 116.5, 116.3, 113.9, 55.9. HRMS (ESI) m/z calculated for $C_{34}H_{26}N_4O_4$ $[M+H]^+$ 555.2027, found 555.2012.



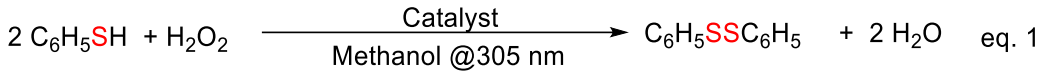
4,4',5,5'-Tetramethoxy-N^2,$N^{2'}$-di(quinolin-8-yl)-[1,1'-biphenyl]-2,2'-dicarboxamide 2s: White solid, yield: 258 mg (84%), m.p.: 170-173 °C.^{1}H NMR (500 MHz, DMSO-d_6) δ 10.01 (s, 2H), 8.61 (d, *J* = 7.5 Hz, 2H), 8.49 (s, 2H), 8.31 (d, *J* = 8.2 Hz, 2H), 7.58 (d, *J* = 8.1 Hz, 2H), 7.54 – 7.47 (m, 4H), 7.43 (s, 2H), 7.03 (s, 2H), 3.76 (s, 6H), 3.75 (s, 6H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 166.0, 150.9, 148.8, 148.6, 138.1, 136.8, 134.9, 131.8, 128.5, 127.9, 127.4, 122.4, 122.1, 116.1, 114.7, 112.7, 56.3, 56.1. HRMS (ESI) m/z calculated for $C_{36}H_{30}N_4O_6$ $[M+H]^+$ 615.2238, found 615.2246.



6,6'-Dimethyl-N^2,$N^{2'}$-diphenyl-[1,1'-biphenyl]-2,2'-dicarboxamide 2t: White solid, yield: 180 mg (86%), m.p.: 220-222 °C. ^{1}H NMR (500 MHz, $CDCl_3$) δ 9.16 (s, 2H), 7.52 (t, *J* = 9.0 Hz, 2H), 7.44 (d, *J* = 7.8 Hz, 4H), 7.35 (dd, *J* = 10.3, 7.0 Hz, 4H), 7.28 (dd, *J* = 10.7, 4.9 Hz, 4H), 7.09 (t, *J* = 7.4 Hz, 2H), 1.99 (s, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 169.0, 138.0, 136.9, 136.6, 136.4, 132.5, 128.9, 128.1, 124.8, 124.4, 120.1, 20.2. HRMS (APCI) m/z calculated for $C_{28}H_{24}N_2O_2$ $[M+H]^+$ 421.1911, found 421.1883.

GPx like antioxidant property

Peroxide decomposing antioxidant activity as a mimic for glutathione peroxidase (GPx) selenoenzyme was evaluated by thiol peroxidase assay by following eq. 1 (*vide infra*).[8a] In the thiol peroxidase assay, the oxidation of benzenethiol to diphenyl disulfide (PhSSPh) by H_2O_2 in the presence of various spirodiazatellurane catalysts **1k**, **1m**, **1n**, **1o**, and **1p** were monitored by UV-Visible spectrophotometry at 305 nm at 25 °C (Figure S1).



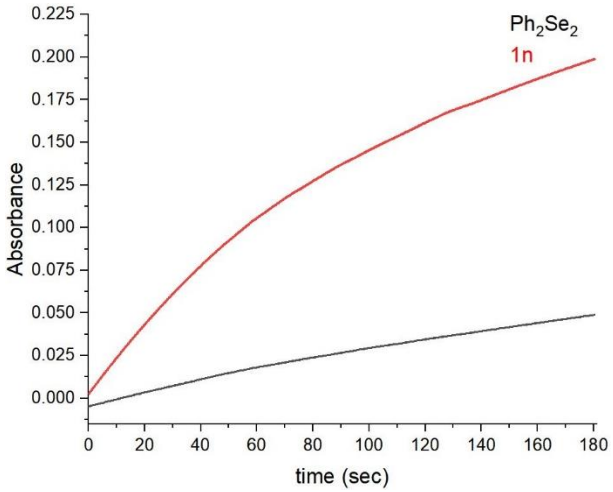
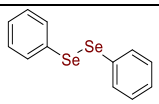
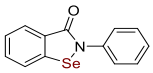
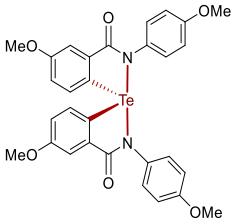
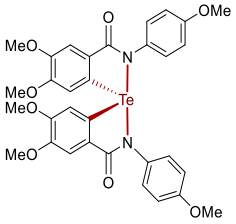
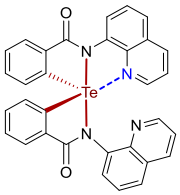
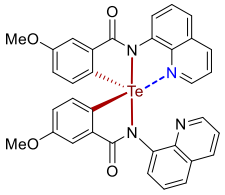
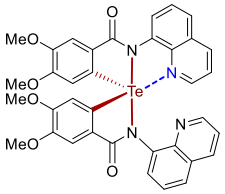


Figure S1. A model plot of absorbance *vs* time (sec). The initial concentration of benzenethiol, catalyst **1n** (0.1 mM) and H_2O_2 were fixed to 3.75 mM.

The tested spirotelluranes show the H_2O_2 decomposing activity. Chalcogen-bonded spirotelluranes **1n-1p** catalysed thiol oxidation reaction at faster reduction rate (v_o = 80.2±3.0, 78.1±2, and 78.3±1.7 µMmin^{-1}, respectively) as compared to standards Ph_2Se_2,[8b] ebselen[8c] (v_o = 24.1±2 and 22.3±2.1 µMmin^{-1}) and the tested spirotelluranes **1k** and **1m** (v_o = 28.2±1.8 and 27.8±1.6, µMmin^{-1}), respectively (Table S2).

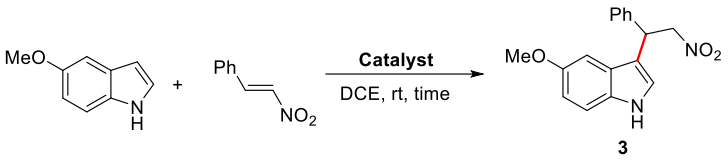
Table S2. Thiol peroxidase like activity of spirodiazatellurane

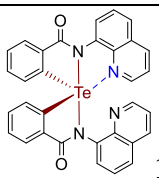
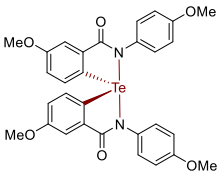
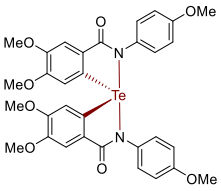
entry	**catalyst structure**	**catalyst** (mM)	**rate** (v_o = µMmin^{-1})
1		**Ph_2Se_2**	24.1±2[8b]
2		**Ebselen**	22.3±2.1[8c]
3		**1k**	28.3±1.8
4		**1m**	27.8±1.6
5		**1n**	80.2±3
6		**1o**	78.1±2
7		**1p**	78.3±1.7

Assay condition: The reactions were carried out in methanol at 25 °C and monitored by UV-Visible spectrophotometer at 305 nm. Catalyst (0.01 mM), PhSH (1.0 mM) and H_2O_2 (3.75 mM) respectively.[3,4] All experiments have been repeated triplicate.

Catalytic nitro-Michael reaction

Table S3. Optimization table

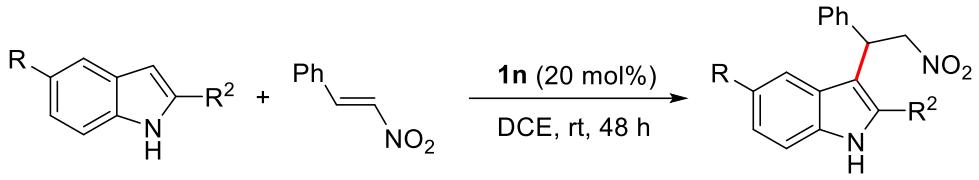


entry	catalyst	catalyst load	time	%yield
1	 1n	10 mol%	48 h	30
2	1n	20 mol%	24 h	50
3	**1n**	**20 mol%**	**48 h**	**91**
4	 1k	20 mol%	48 h	20
5	 1m	20 mol%	48 h	21
6	none	—	48 h	—

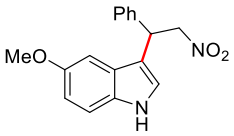
Nitro-Michael reaction between 5-methoxy indole and trans-*β*-nitrostyrene was firstly tried with 10 mol% of 8-aminoquinoline derived spirodiazatellurane **1n** in dry dichloroethane and yielded 30% after 48 h (entry 1, Table S3). Further, the increase in the catalytic load from 10 to 20 mol% lead to increase the yield to 50%, after 24 h (entry 2, Table S3). When the reaction was continued to 48h; an almost quantitative conversion (91%) was observed for **3** (entry 3, Table S3). Spirodiazatellurane **1k** and **1m** also catalysed the above reaction, albeit only 20-

21% yields were noticed (entries 4 and 5, Table S3). However, conversion to **3** was observed for uncatalyzed reactions (entry 6, Table S3).

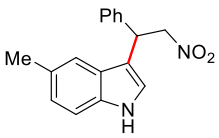
General experimental procedure



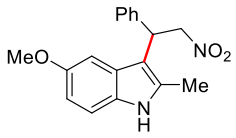
A dry capped reaction vial containing a magnetic stir bar was charged with trans-*β*-nitrostyrene (15 mg, 0.1 mmol) and catalyst (13mg, 0.02 mmol) in dry dichloroethane (2 mL). Next, 5-methoxy indole (23 mg, 0.15 mmol) was added in one portion as a solid and allowed to stir for 48 h at room temperature. The reaction was immediately purified by flash column chromatography on silica gel using petroleum ether/ethyl acetate (8:2) as eluent.



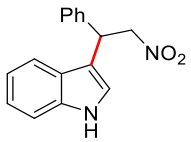
5-Methoxy-3-(2-nitro-1-phenylethyl)-1H-indole 3:[9] White solid, yield: 27 mg (91%). ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.89 (s, 1H), 7.48 (d, J = 7.7 Hz, 2H), 7.36 (d, J = 2.2 Hz, 1H), 7.30 (t, J = 7.6 Hz, 2H), 7.23 (t, J = 8.0 Hz, 2H), 6.98 (d, J = 2.0 Hz, 1H), 6.72 (dd, J = 8.7, 2.1 Hz, 1H), 5.45 – 5.13 (m, 2H), 5.03 (d, J = 8.2 Hz, 1H), 3.72 (s, 3H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 153.6, 141.2, 131.7, 128.9, 128.3, 127.3, 126.8, 123.4, 113.7, 112.6, 111.8, 100.9, 79.5, 55.8, 41.1. HRMS (ESI) m/z calculated for $C_{17}H_{16}N_2O_3$ 297.1234 $[M+H]^+$ found, 297.1234.



5-Methyl-3-(2-nitro-1-phenylethyl)-1H-indole 4:[9] White solid, yield: 21 mg (76%). ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.91 (s, 1H), 7.45 (d, J = 7.6 Hz, 2H), 7.36 (d, J = 2.2 Hz, 1H), 7.30 (t, J = 7.6 Hz, 3H), 7.25 – 7.18 (m, 2H), 6.89 (d, J = 8.2 Hz, 1H), 5.37 – 5.21 (m, 2H), 5.01 (t, J = 8.2 Hz, 1H), 2.33 (s, 3H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 141.2, 135.0, 128.9, 128.3, 127.6, 127.3, 126.7, 126.7, 123.4, 122.8, 118.3, 113.3, 111.7, 79.7, 41.1, 21.7. HRMS (ESI) m/z calculated for $C_{17}H_{16}N_2O_2$ 281.1285 $[M+H]^+$ found, 281.1291.

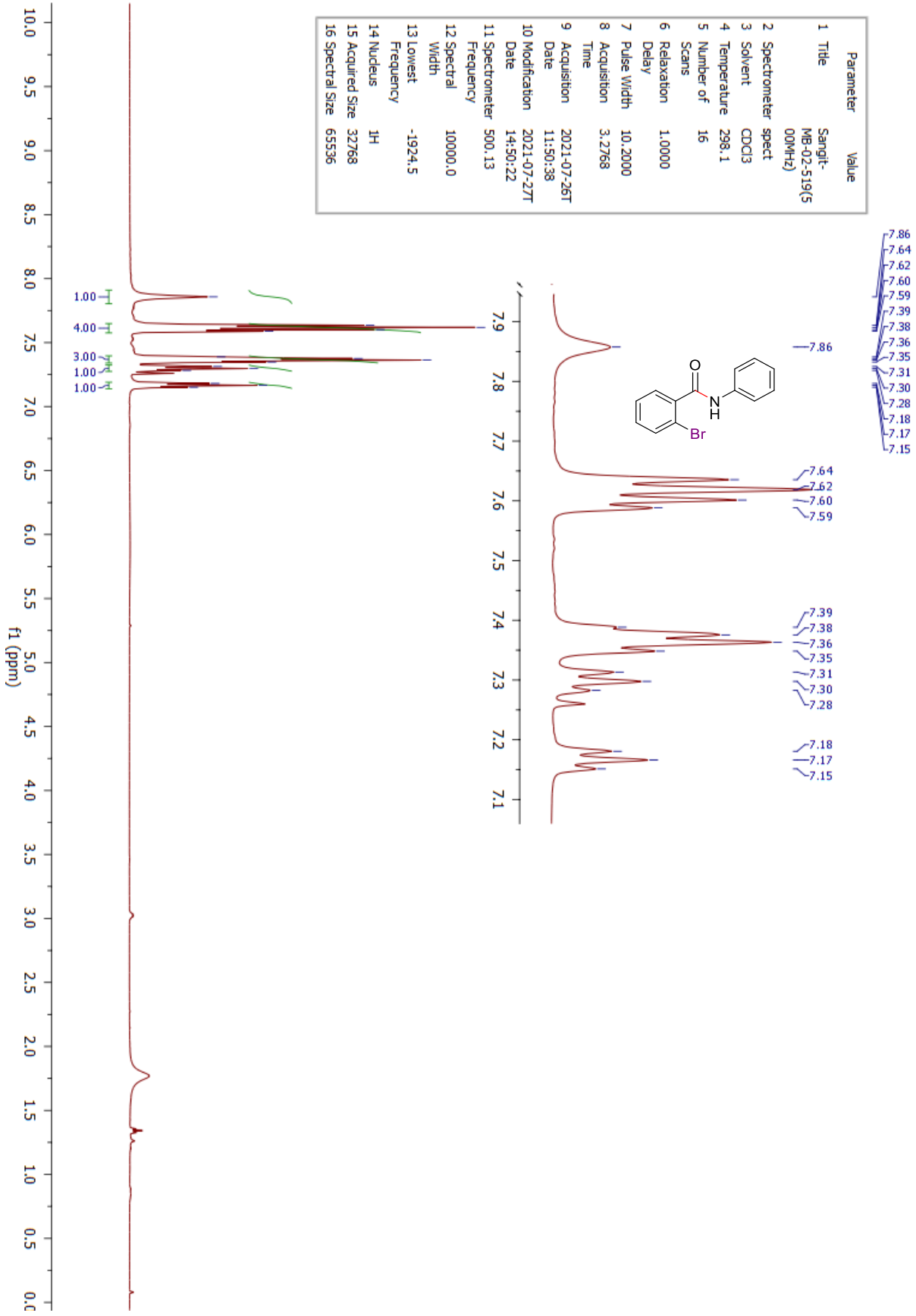


5-Methoxy-2-methyl-3-(2-nitro-1-phenylethyl)-1H-indole 5:[10] Yellow oil, yield: 26 mg (85%). ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.78 (s, 1H), 7.41 (d, J = 7.7 Hz, 2H), 7.31 (t, J = 7.5 Hz, 2H), 7.21 (t, J = 7.3 Hz, 1H), 7.14 (d, J = 8.7 Hz, 1H), 6.90 (s, 1H), 6.64 (d, J = 8.7 Hz, 1H), 5.52 (dd, J = 12.9, 7.3 Hz, 1H), 5.33 (dd, J = 12.8, 9.3 Hz, 1H), 5.06 (t, J = 8.2 Hz, 1H), 3.69 (s, 3H), 2.38 (s, 3H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 153.4, 140.8, 134.2, 130.9, 128.8, 127.8, 127.3, 127.0, 111.7, 109.8, 108.4, 101.5, 78.3, 55.8, 12.2. HRMS (ESI) m/z calculated for $C_{18}H_{18}N_2O_3$ $[M+H]^+$ 311.1390, found 311.1400.

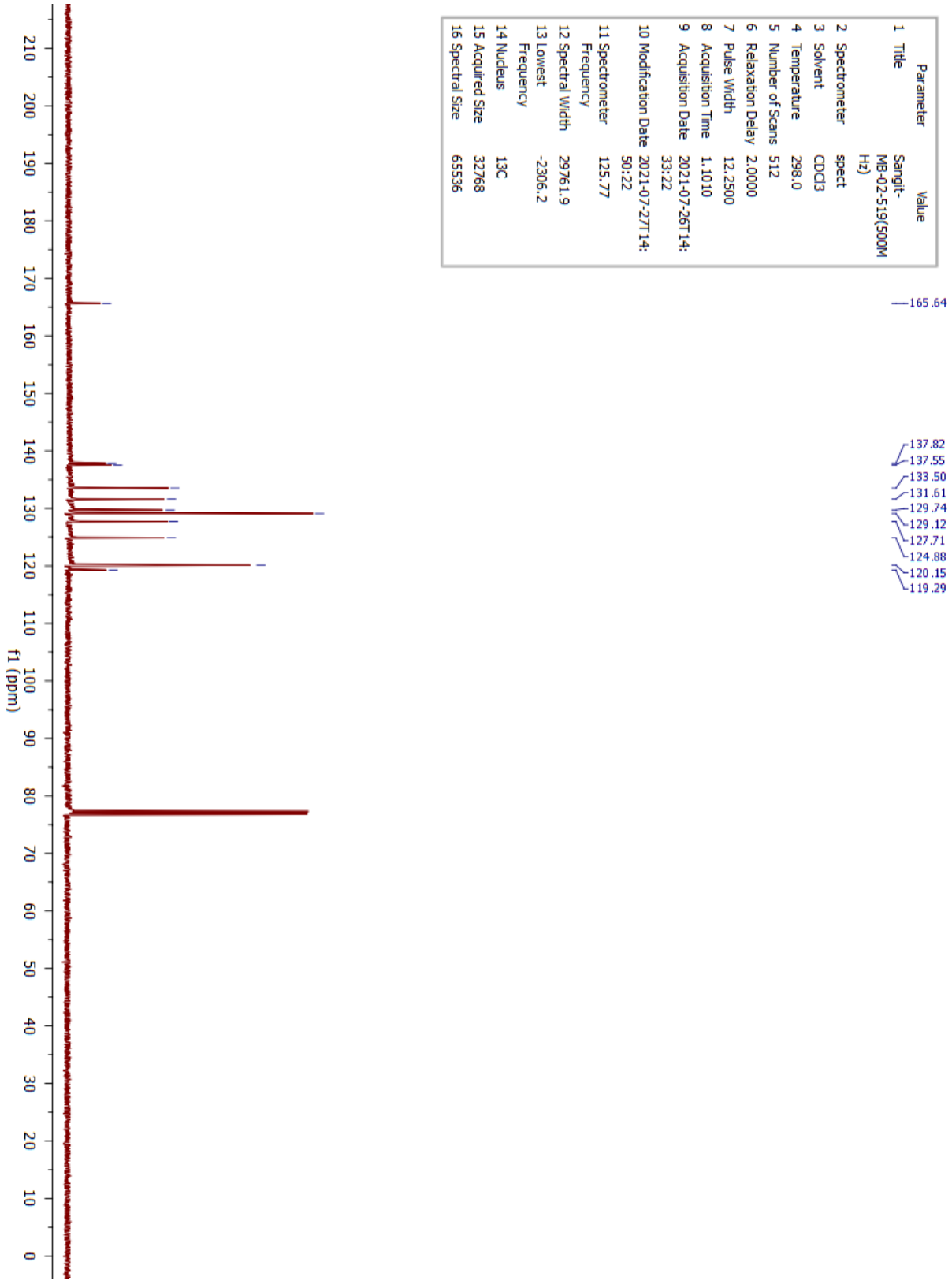


3-(2-Nitro-1-phenylethyl)-1H-indole 6:[9] Light yellow oil, yield: 18 mg (70%), ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.04 (s, 1H), 7.51 (d, J = 7.9 Hz, 1H), 7.46 (d, J = 7.4 Hz, 2H), 7.43 (d, J = 2.2 Hz, 1H), 7.34 (d, J = 8.1 Hz, 1H), 7.29 (t, J = 7.6 Hz, 2H), 7.20 (t, J = 7.3 Hz, 1H), 7.06 (t, J = 7.5 Hz, 1H), 6.94 (t, J = 7.5 Hz, 1H), 5.39 – 5.26 (m, 2H), 5.05 (t, J = 8.2 Hz, 1H). ^{13}C NMR (126 MHz, DMSO-d_6) δ 141.2, 136.6, 128.9, 128.3, 127.3, 126.4, 122.7, 121.8, 119.1, 118.9, 113.9, 112.0, 79.6, 41.1.

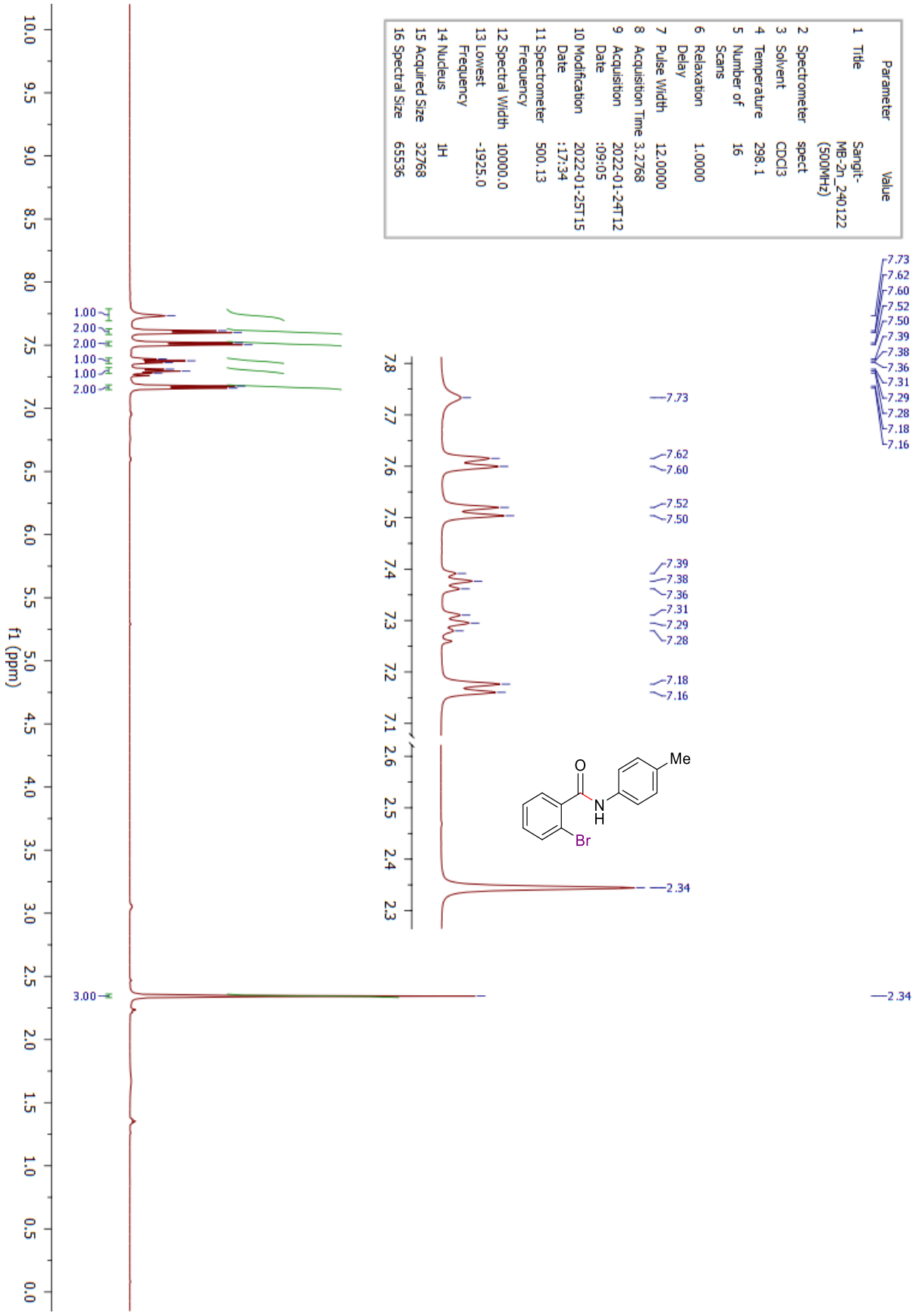
^{1}H NMR spectra of 2-bromo-*N*-phenylbenzamide (Substrate for **1a** and **2a**)



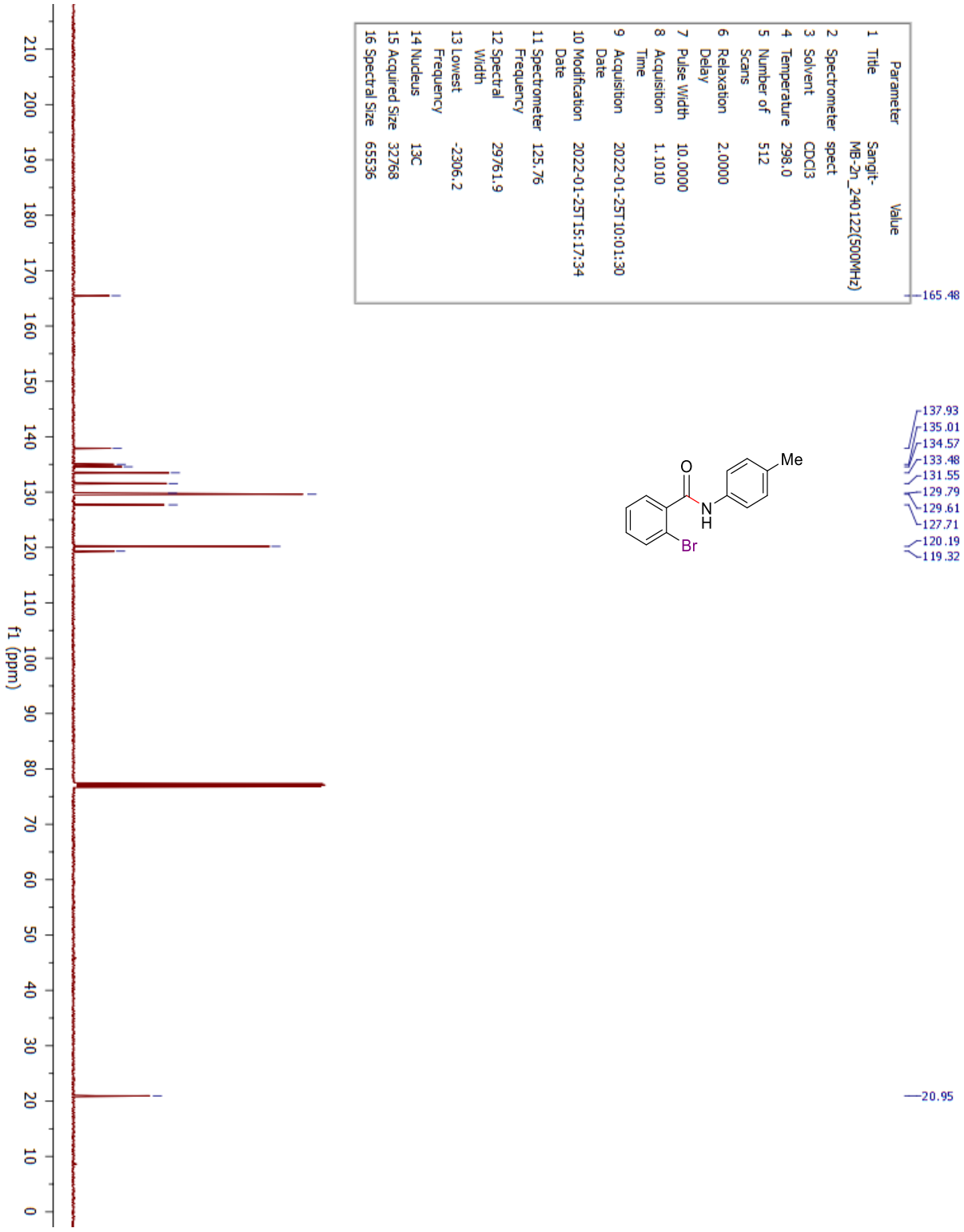
^{13}C NMR spectra of 2-bromo-*N*-phenylbenzamide (Substrate for **1a** and **2a**)



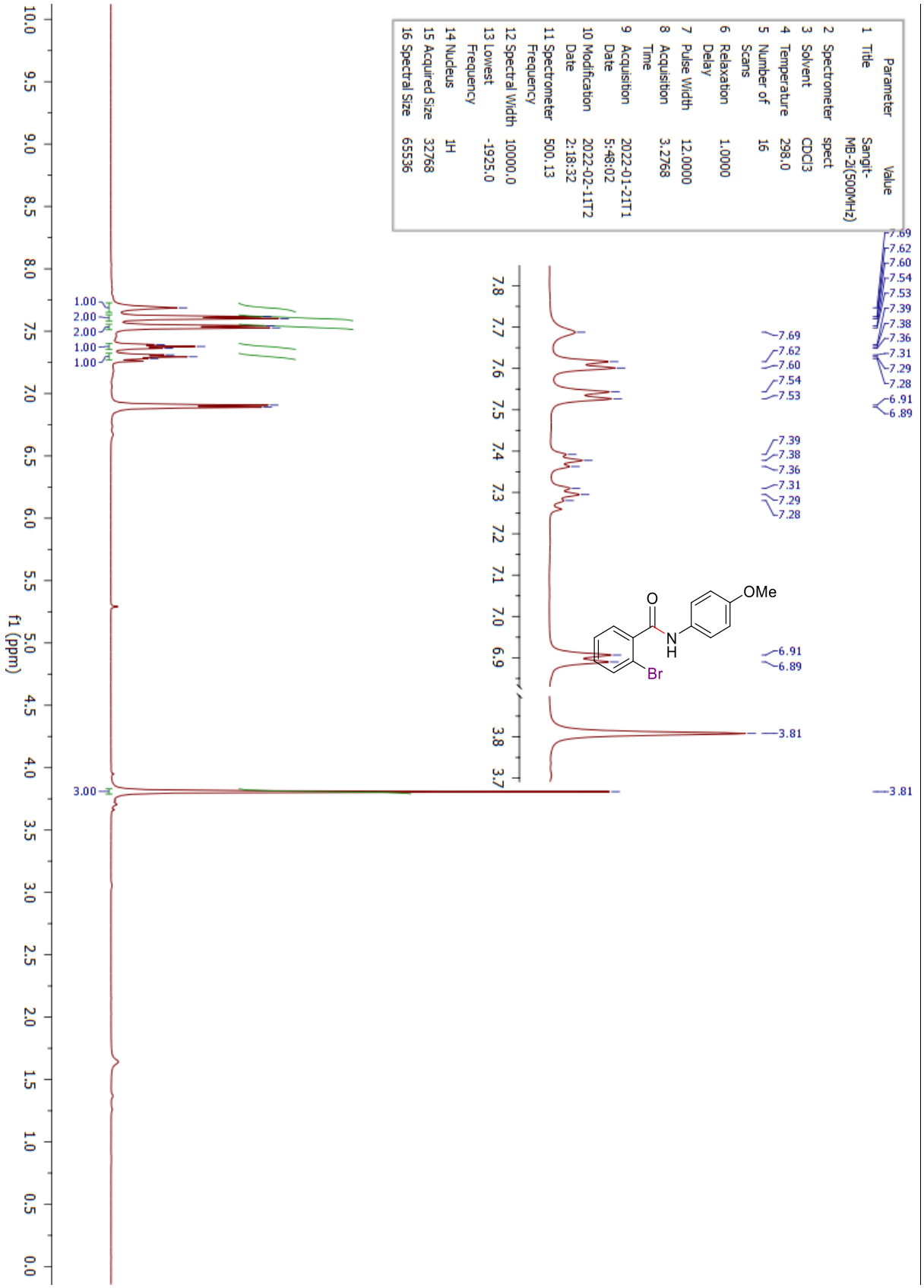
^{1}H NMR spectra of 2-bromo-*N*-(p-tolyl)benzamide (Substrate for **1b** and **2h**)



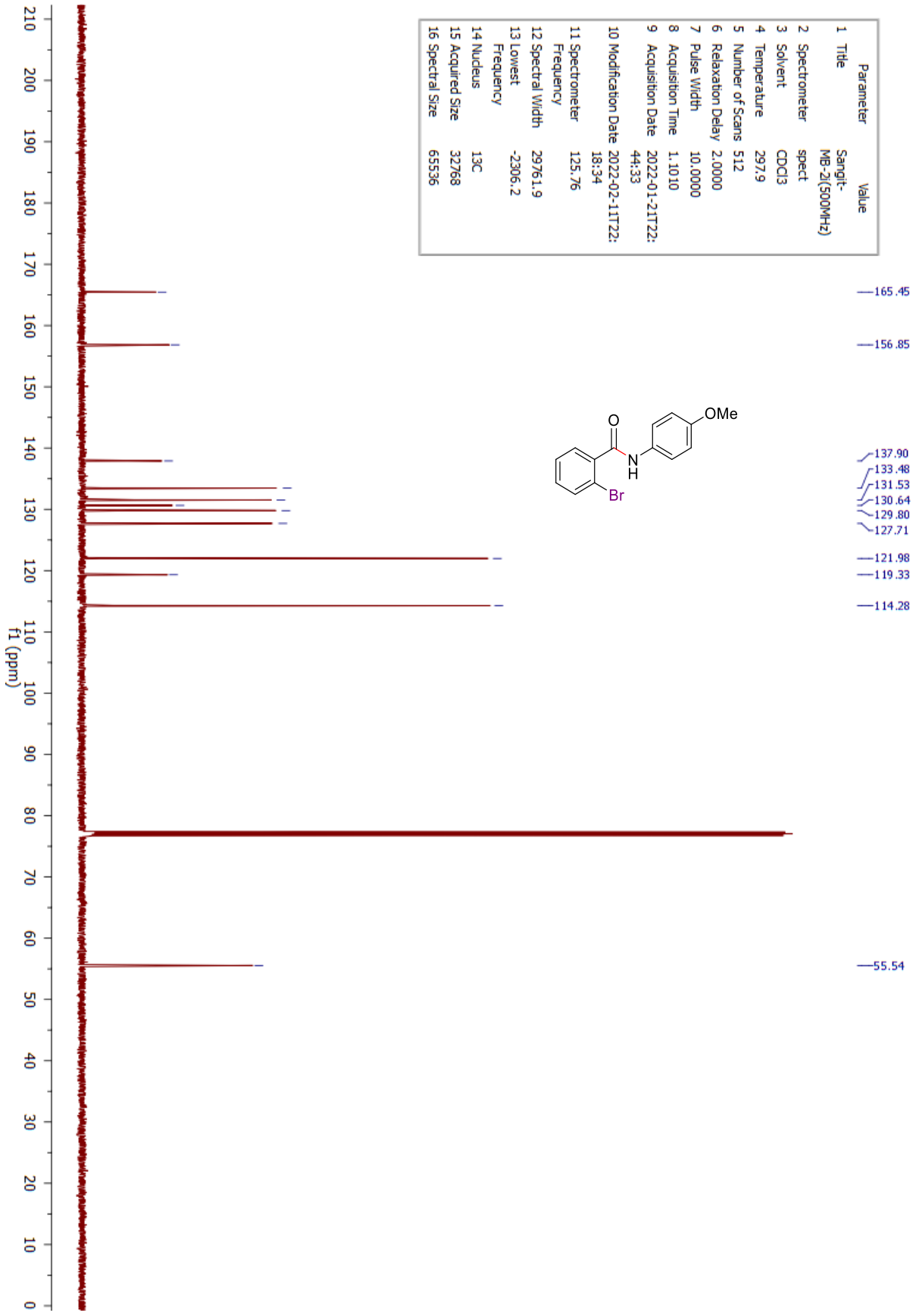
^{13}C NMR spectra of 2-bromo-*N*-(p-tolyl)benzamide (Substrate for **1b** and **2h**)



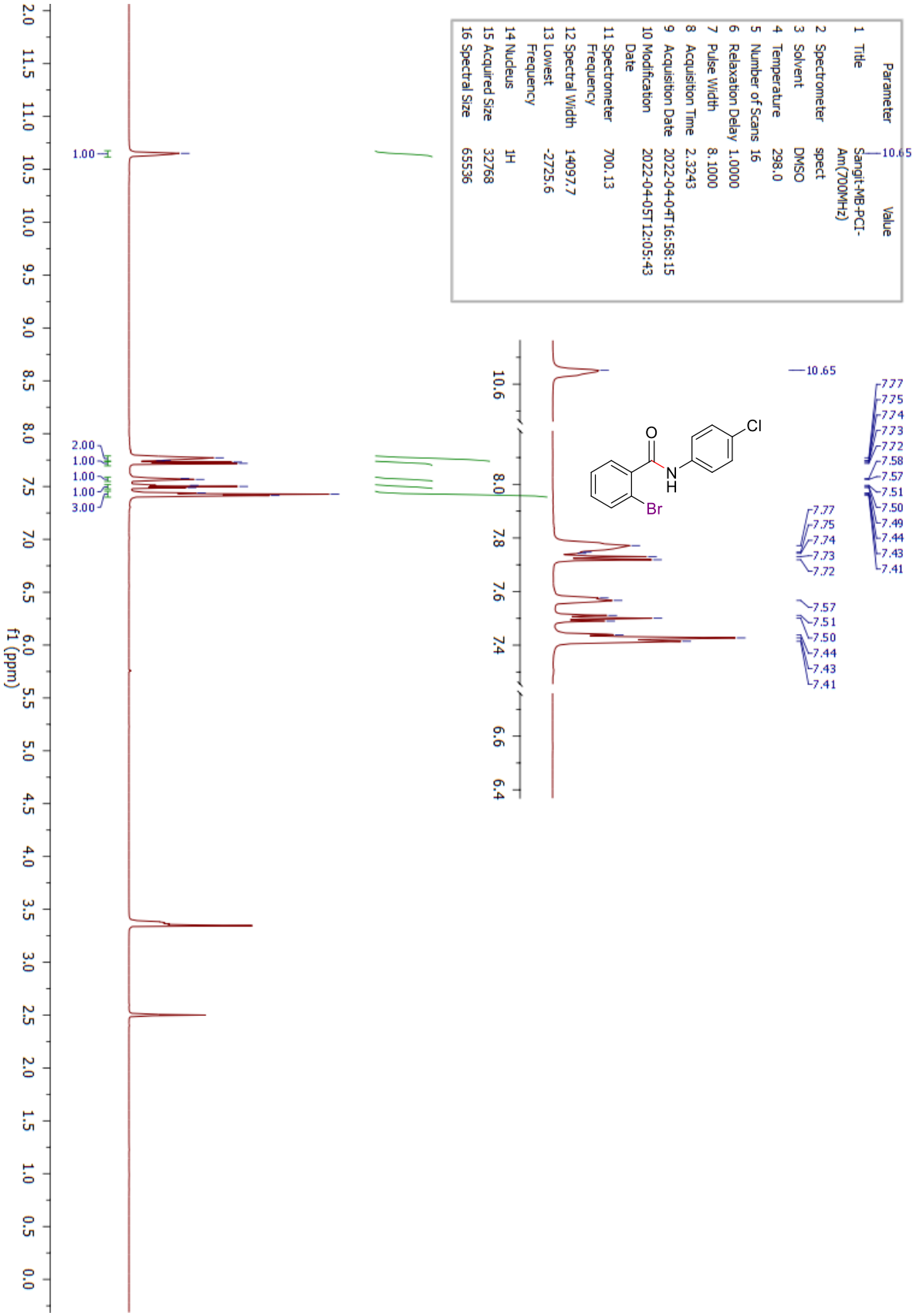
^{1}H NMR spectra of 2-bromo-*N*-(4-methoxyphenyl)benzamide (Substrate for **1c** and **2i**)



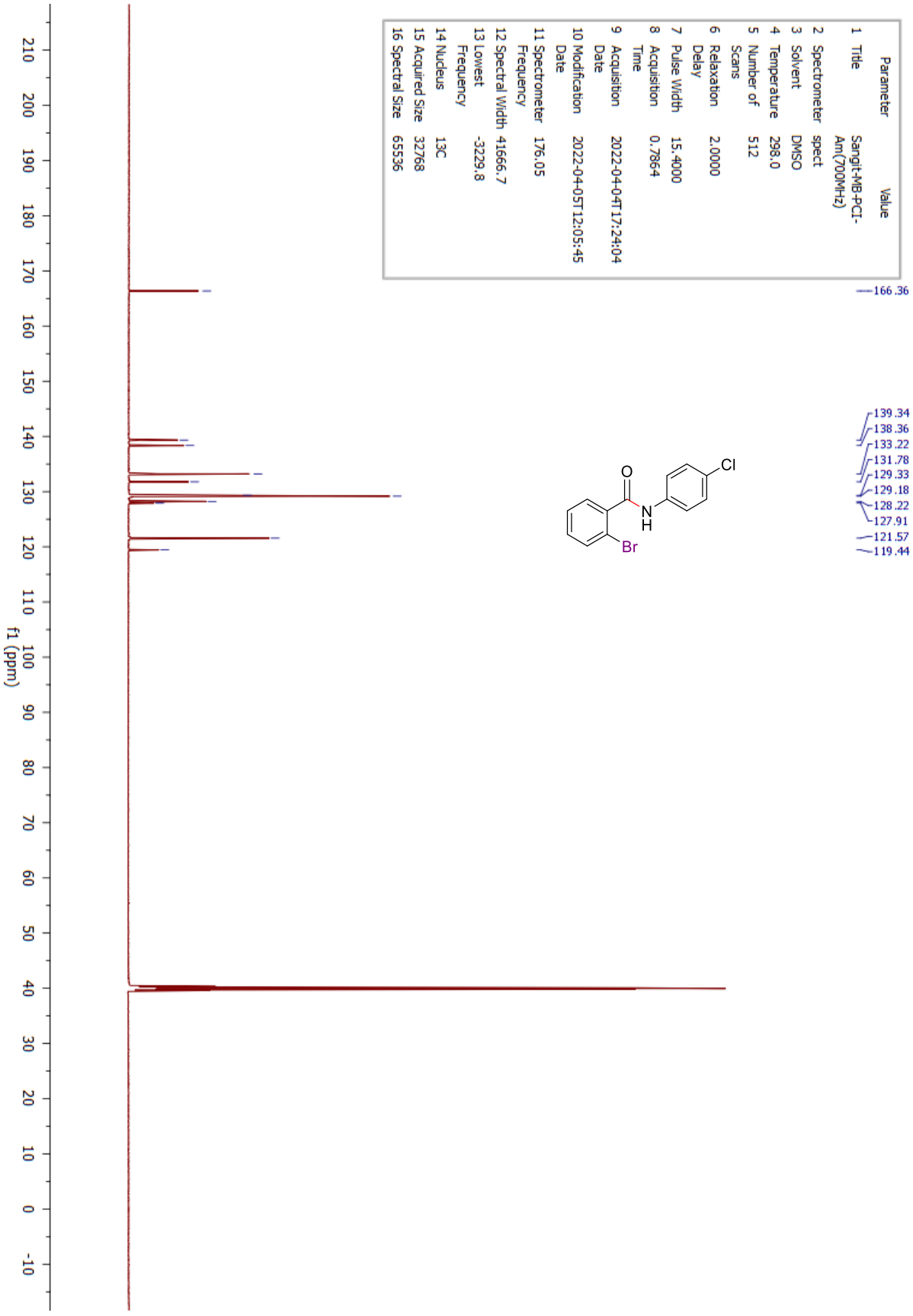
^{13}C NMR spectra of 2-bromo-*N*-(4-methoxyphenyl)benzamide (Substrate for **1c** and **2i**)



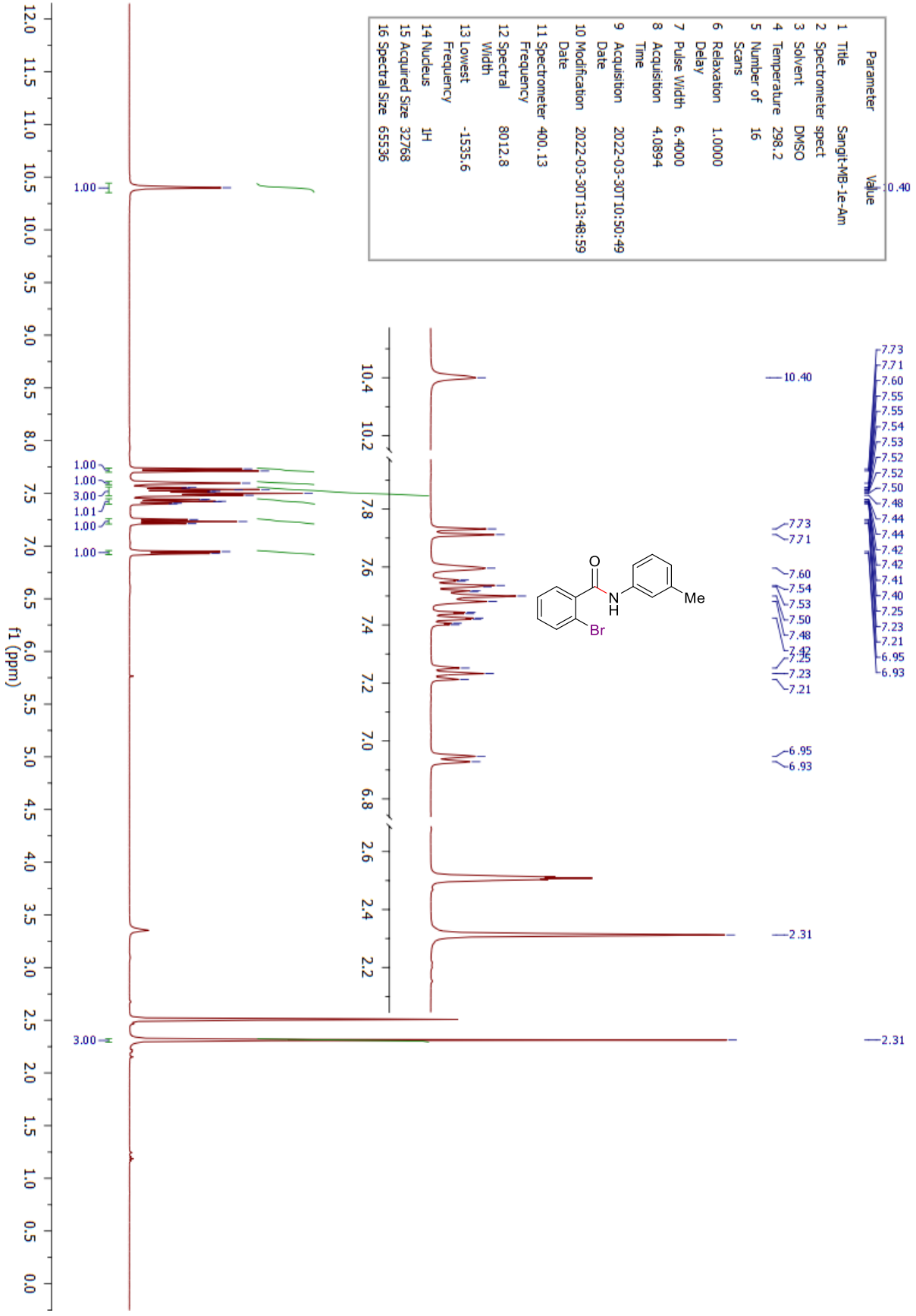
^{1}H NMR spectra of 2-bromo-*N*-(4-chlorophenyl)benzamide (Substrate for **1d**)



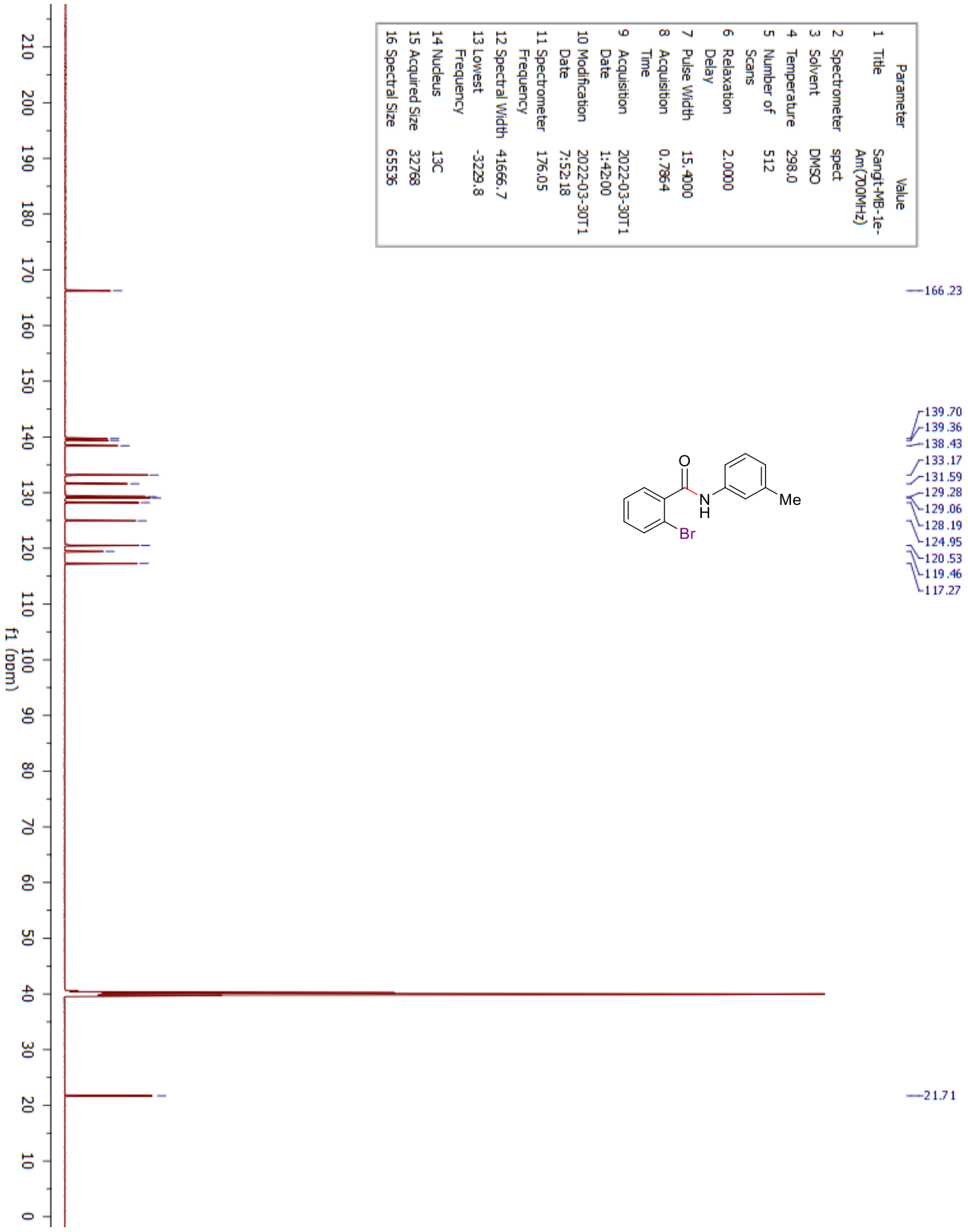
^{13}C NMR spectra of 2-bromo-*N*-(4-chlorophenyl)benzamide (Substrate for **1d**)



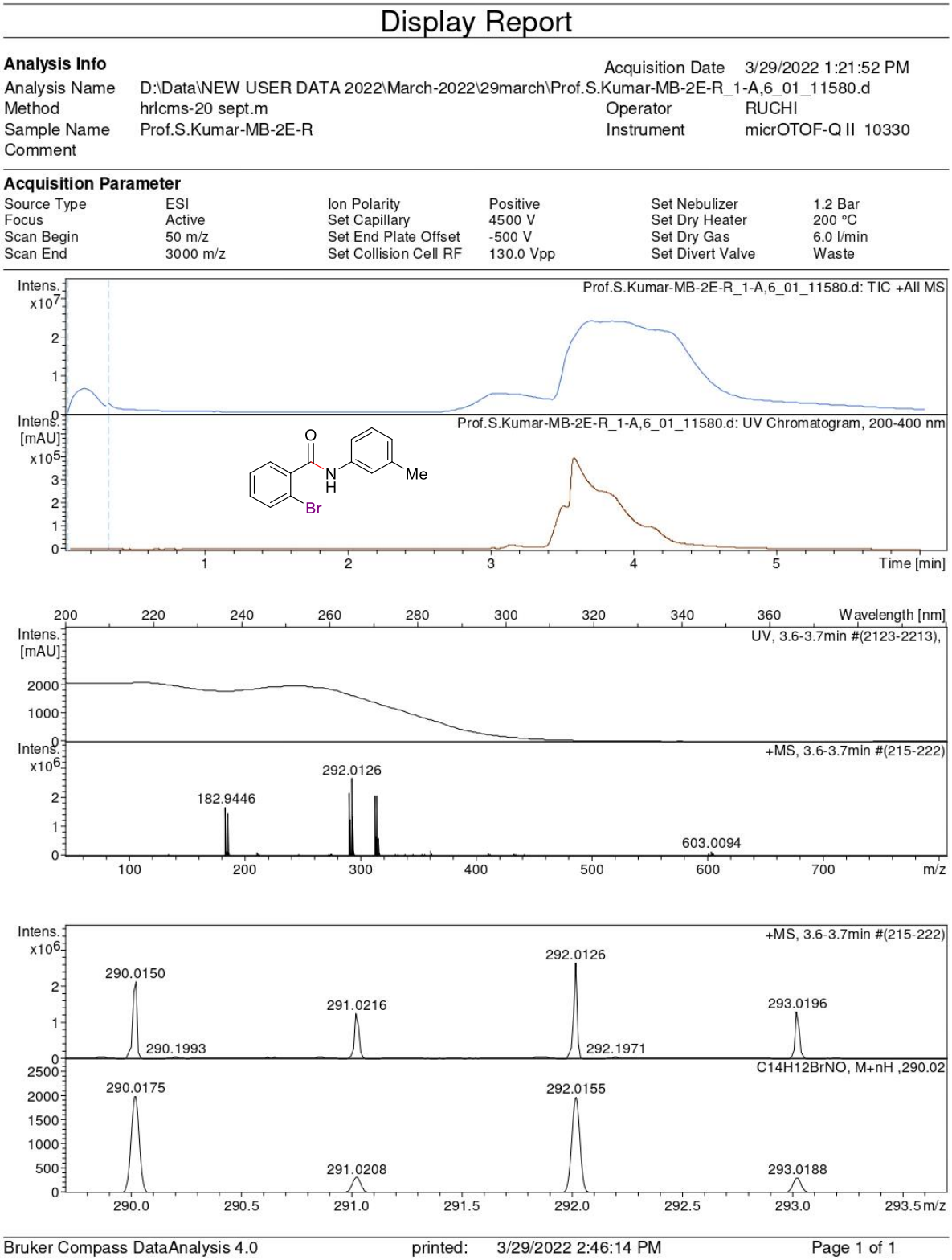
^{1}H NMR spectra of 2-bromo-*N*-(m-tolyl)benzamide (Substrate for **1e** and **2e**)



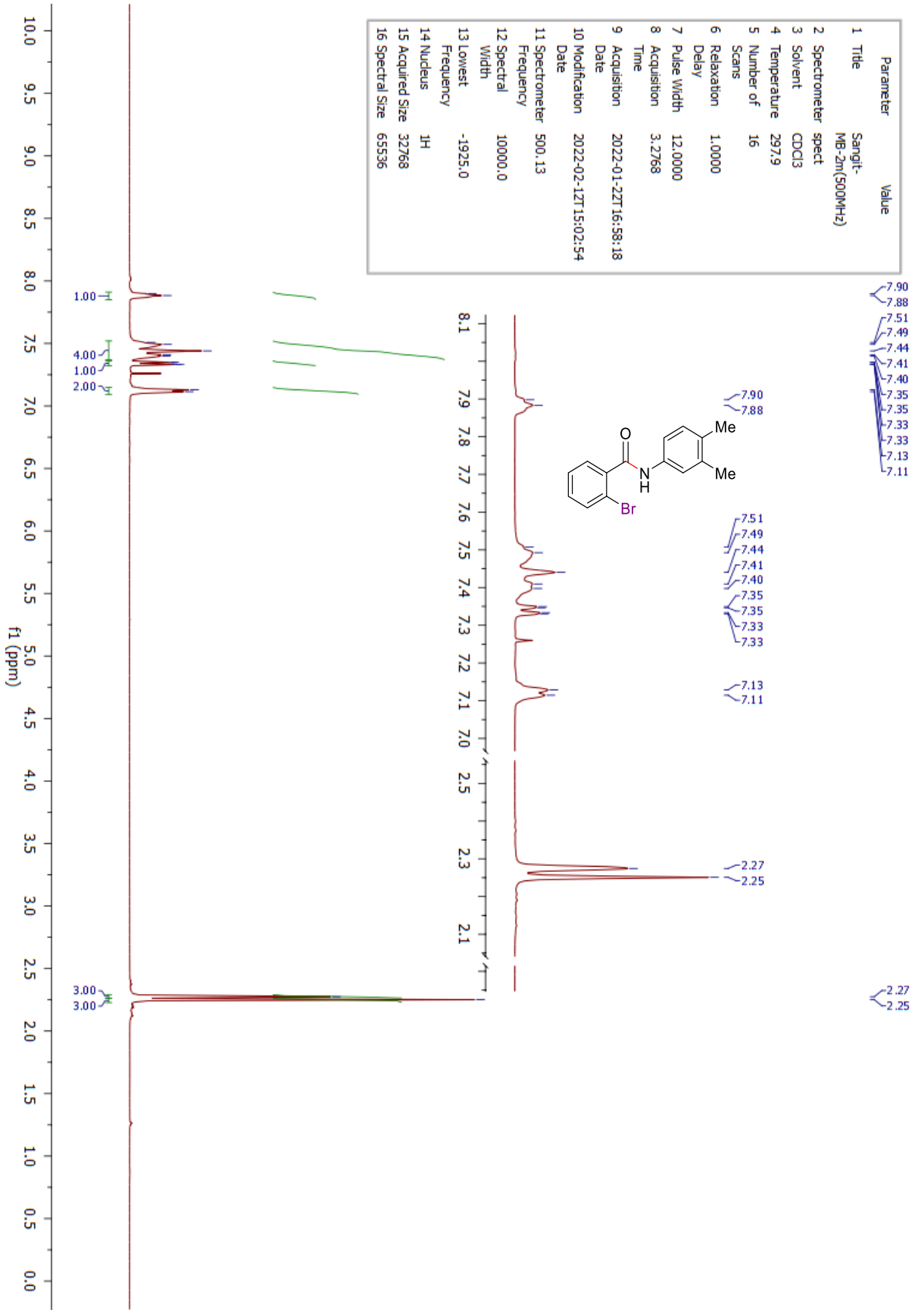
^{13}C NMR spectra of 2-bromo-*N*-(m-tolyl)benzamide (Substrate for **1e** and **2e**)



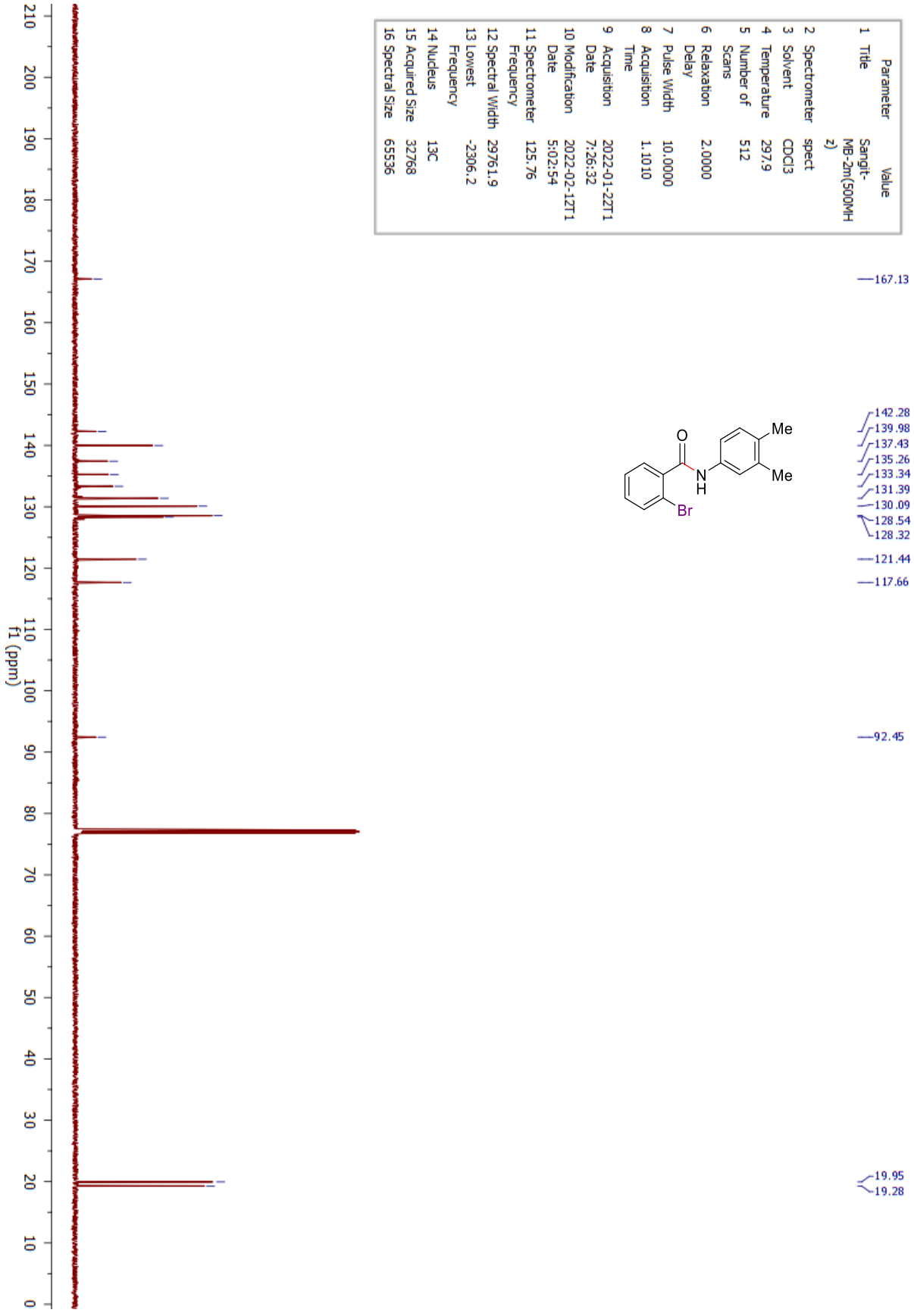
HRMS spectra of 2-bromo-*N*-(m-tolyl)benzamide (Substrate for **1e** and **2e**)



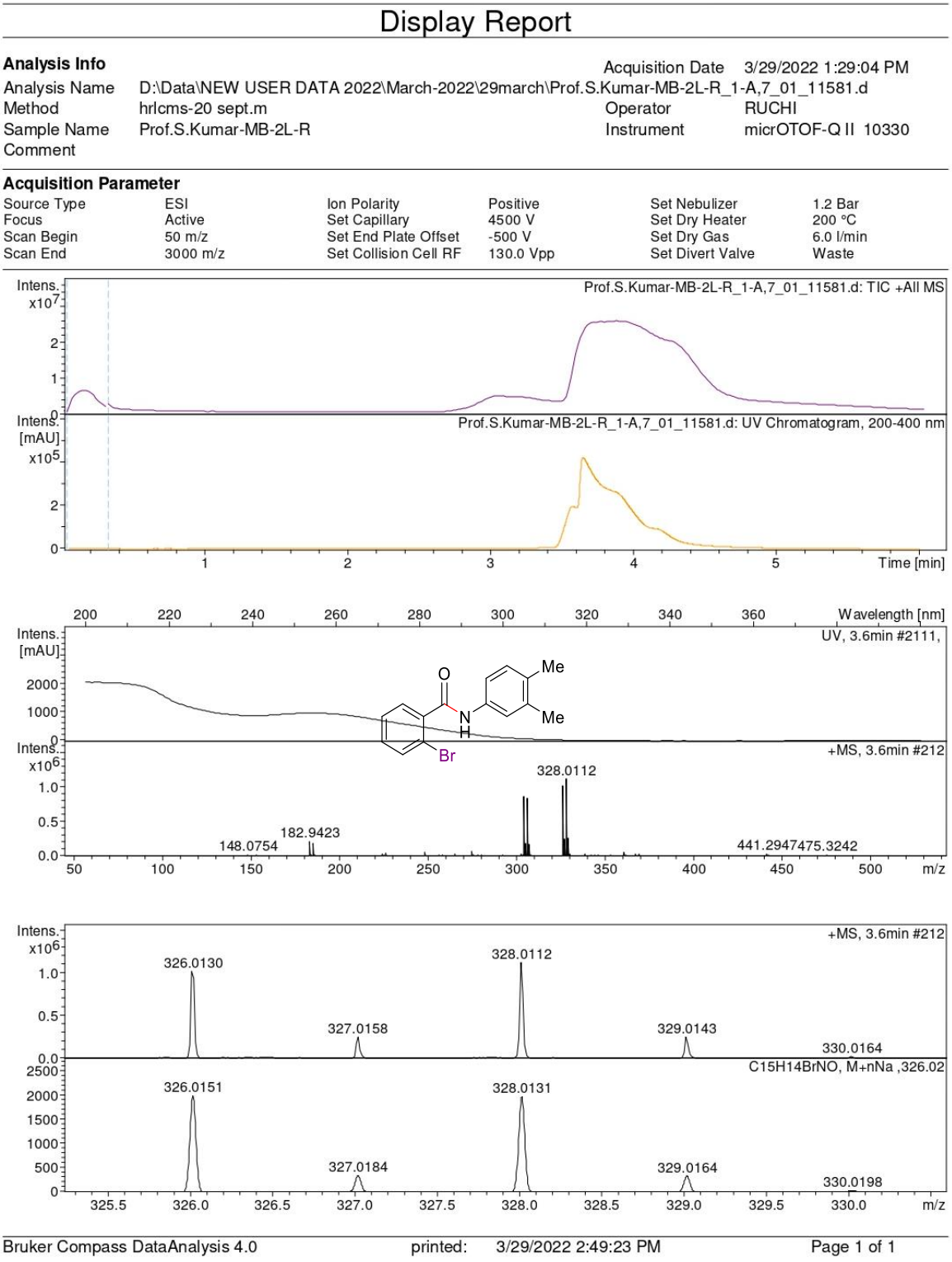
^{1}H NMR spectra of 2-bromo-*N*-(3,4-dimethylphenyl)benzamide (Substrate for **1f** and **2l**)



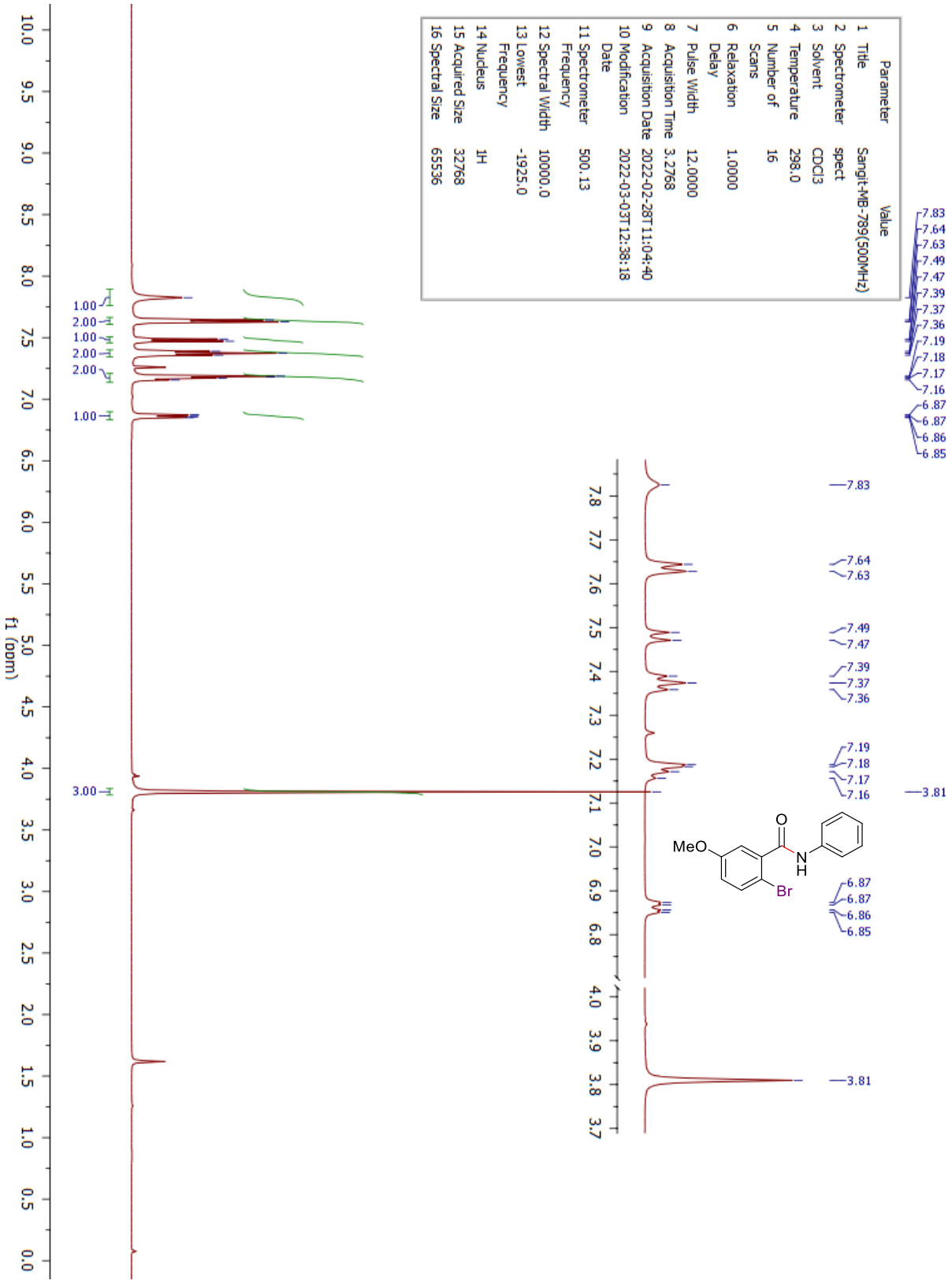
^{13}C NMR spectra of 2-bromo-*N*-(3,4-dimethylphenyl)benzamide (Substrate for **1f** and **2l**)



HRMS spectra of 2-bromo-*N*-(3,4-dimethylphenyl)benzamide (Substrate for **1f** and **2l**)

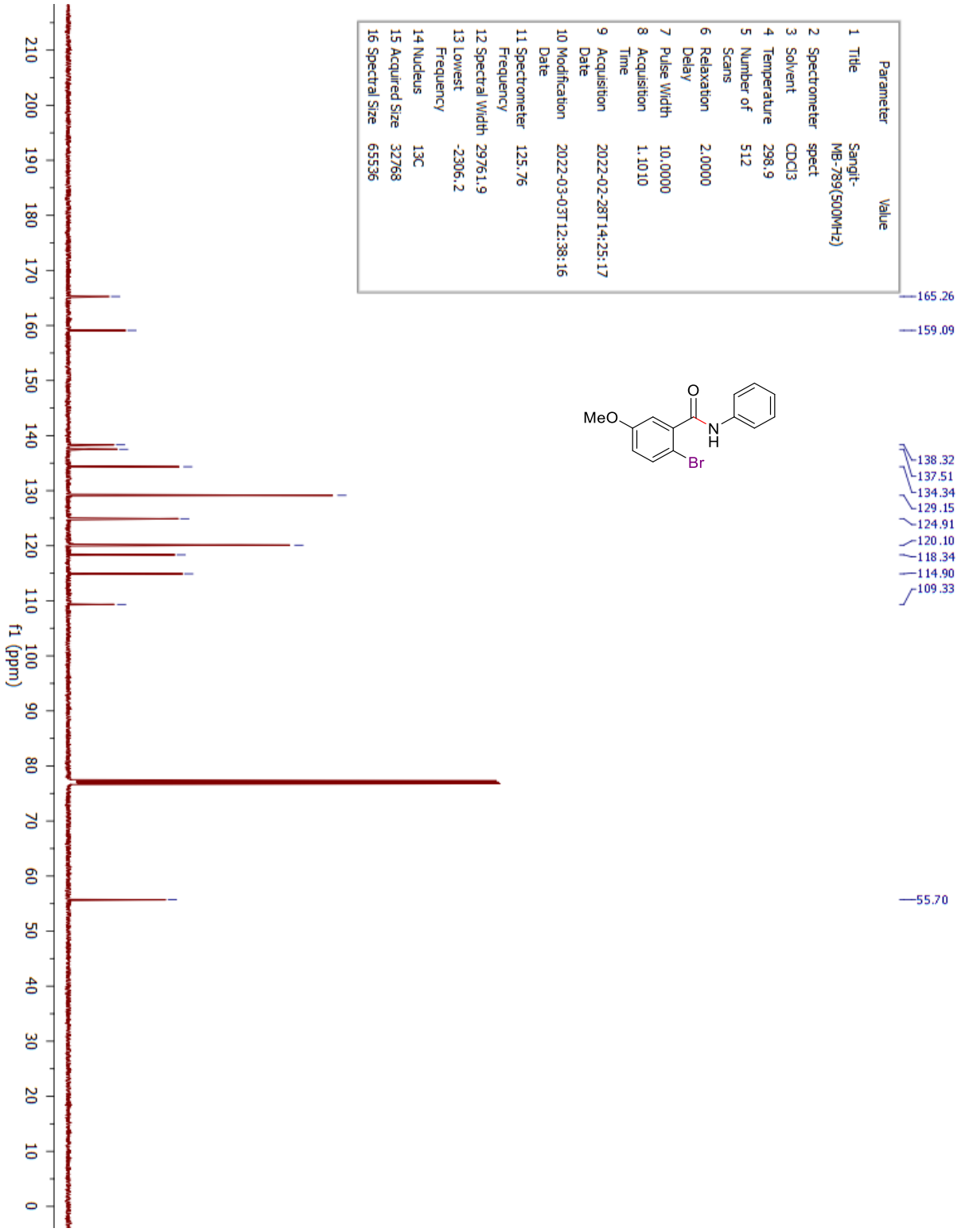


^{1}H NMR spectra of 2-bromo-5-methoxy-*N*-phenylbenzamide (Substrate for **1g**)

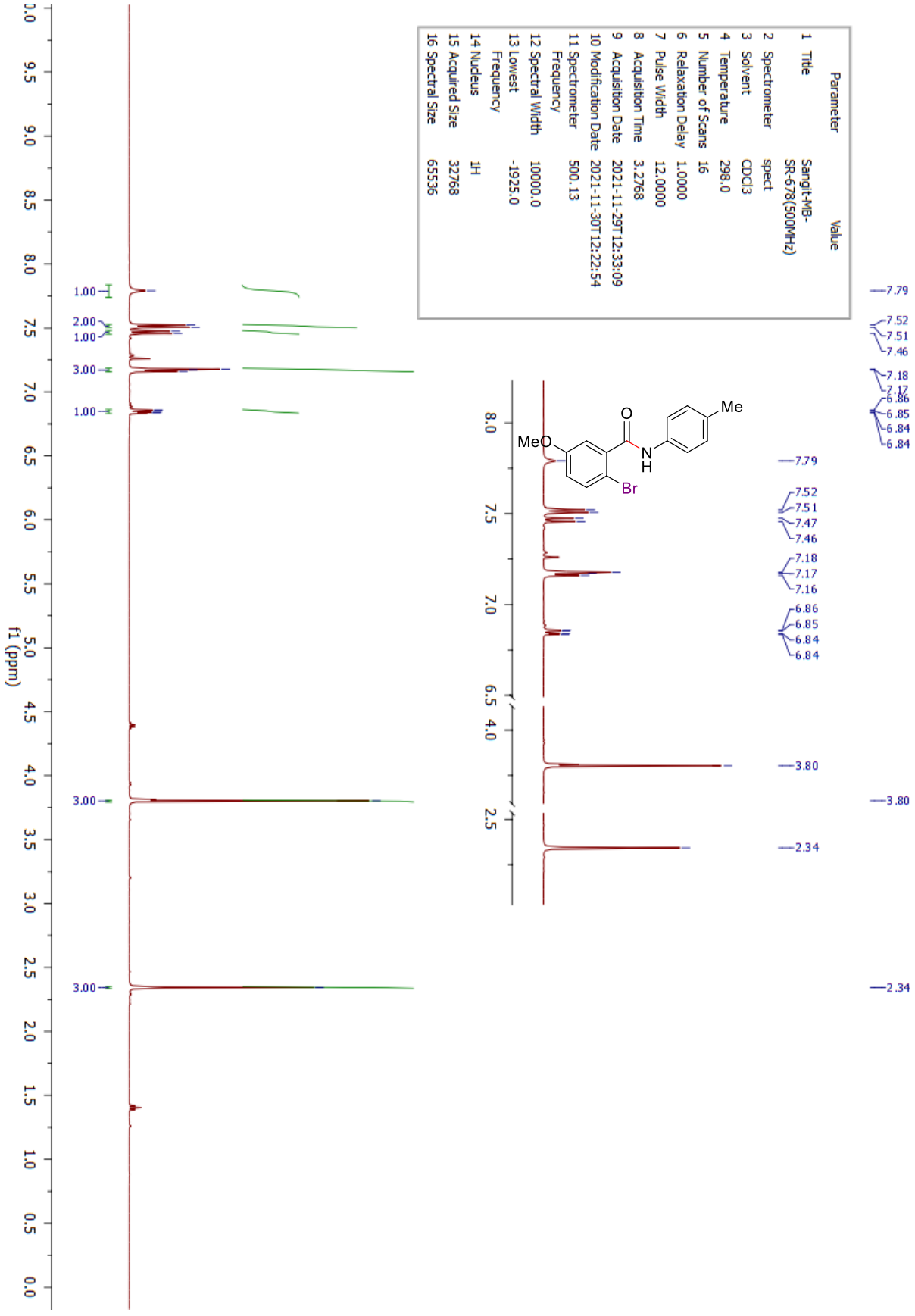


Peak at 1.66 ppm is corresponding to water associated in $CDCl_3$

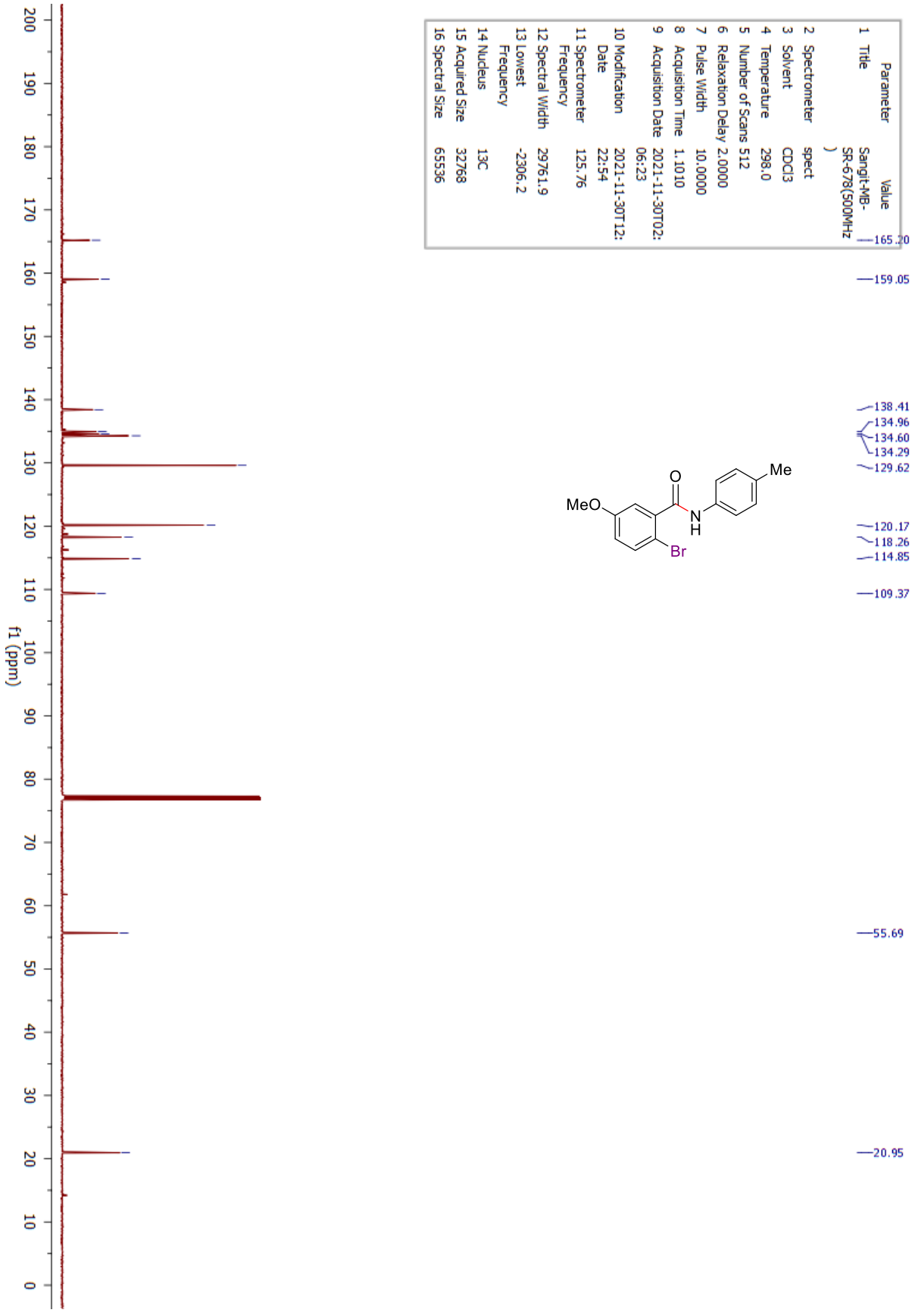
^{13}C NMR spectra of 2-bromo-5-methoxy-*N*-phenylbenzamide (Substrate for **1g**)



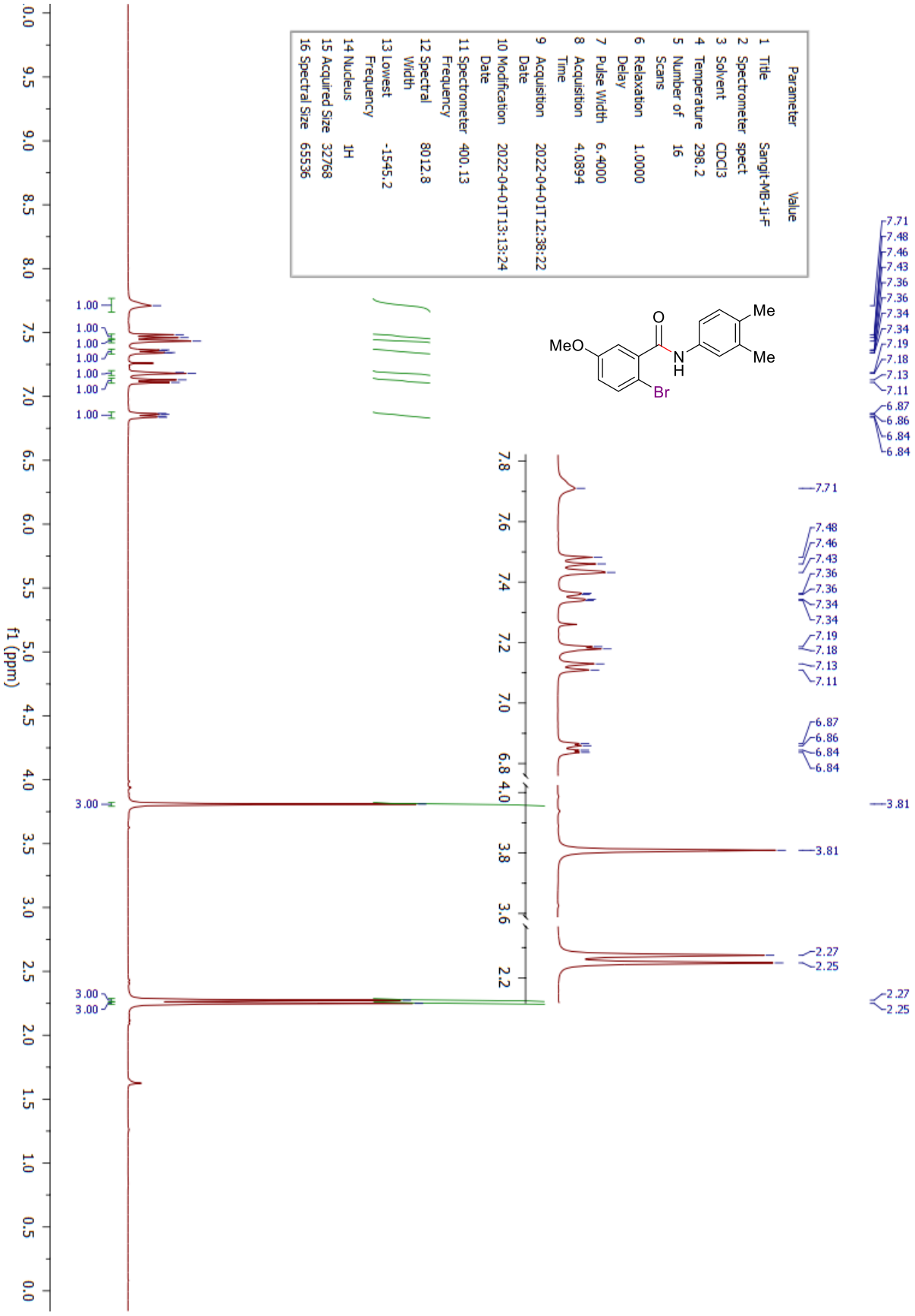
^{1}H NMR spectra of 2-bromo-5-methoxy-*N*-(p-tolyl)benzamide (Substrate for **1h**)



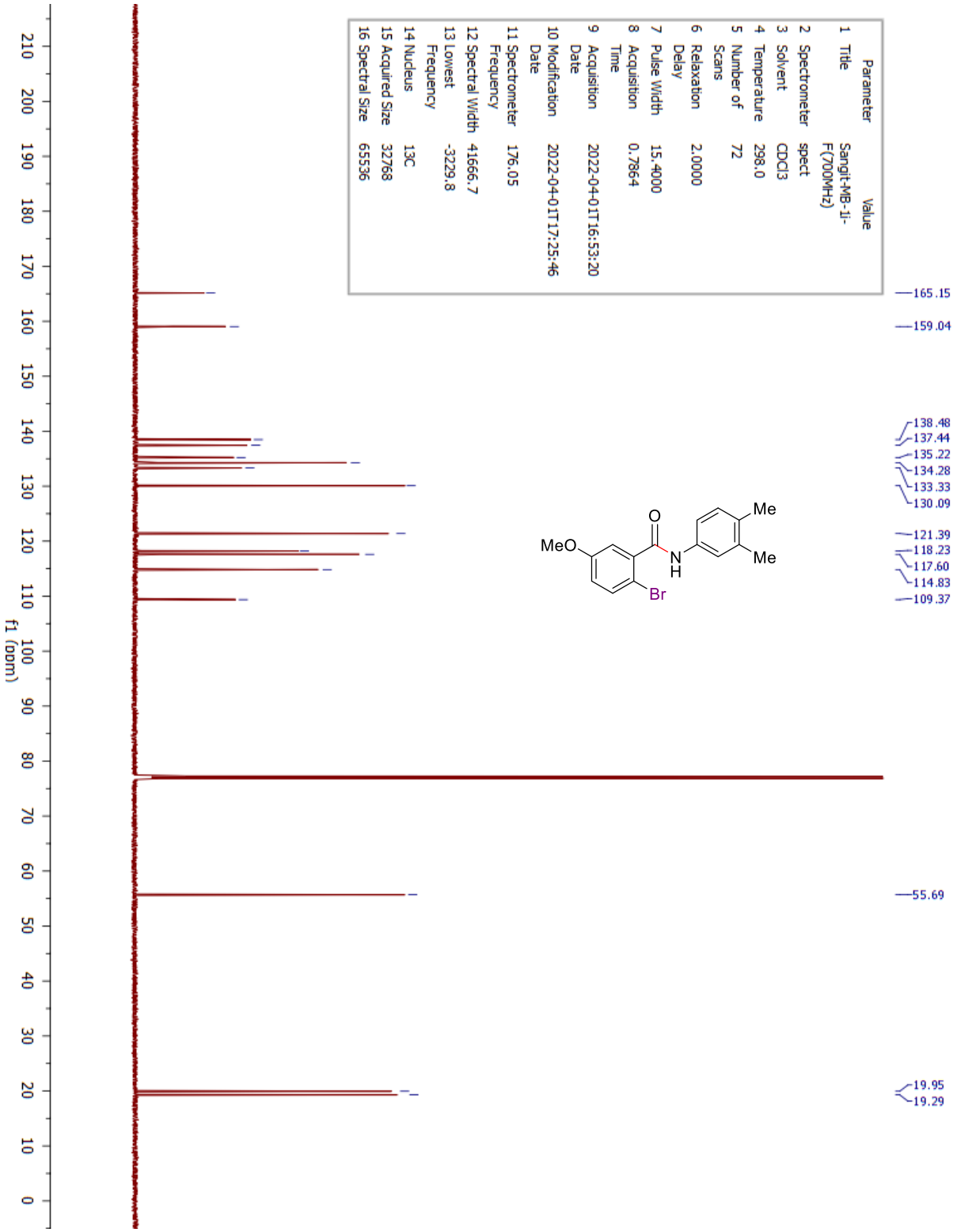
^{13}C NMR spectra of 2-bromo-5-methoxy-*N*-(p-tolyl)benzamide (Substrate for **1h**)



^{1}H NMR spectra of 2-bromo-*N*-(3,4-dimethylphenyl)-5-methoxybenzamide (Substrate for **1i**)



^{13}C NMR spectra of 2-bromo-*N*-(3,4-dimethylphenyl)-5-methoxybenzamide (Substrate for **1i**)



HRMS spectra of 2-bromo-*N*-(3,4-dimethylphenyl)-5-methoxybenzamide (Substrate for **1i**)

Display Report

Analysis Info

Analysis Name	D:\Data\NEW USER DATA 2022\April-2022\01-April\Prof.S.Kumar-MB-1i-Rpt.d	Acquisition Date	4/1/2022 11:23:24 AM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-1i-Rpt	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
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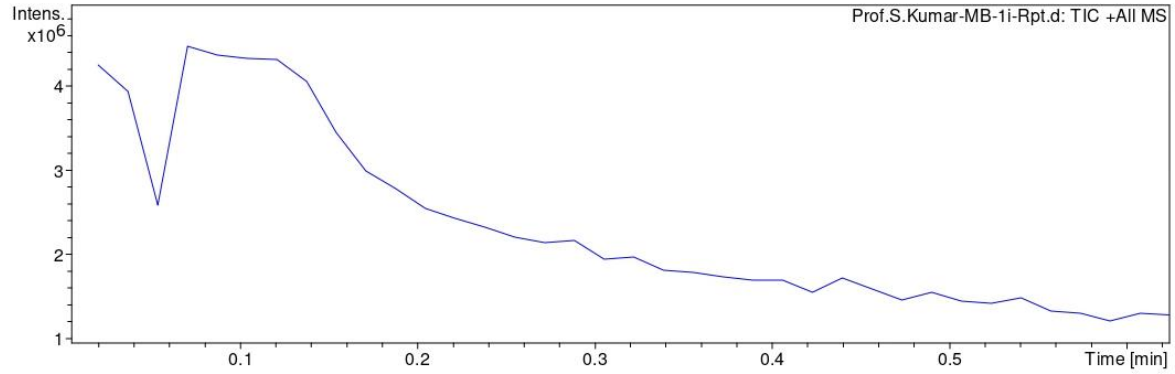
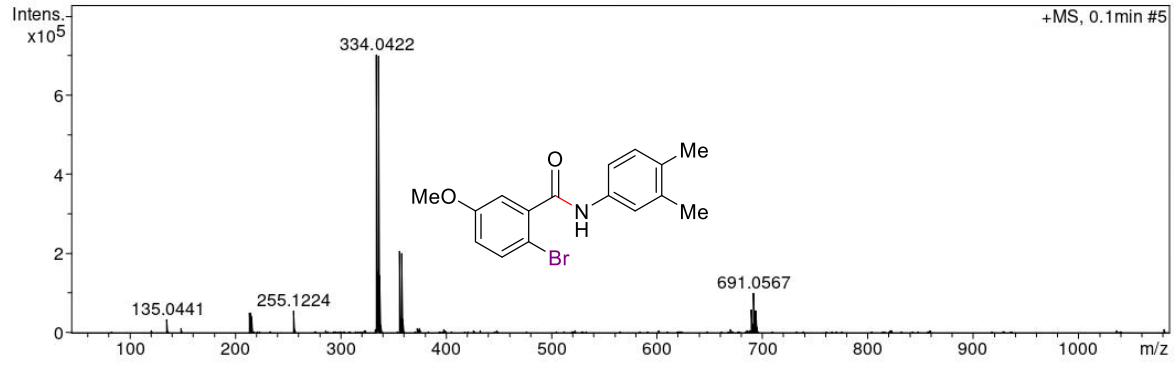
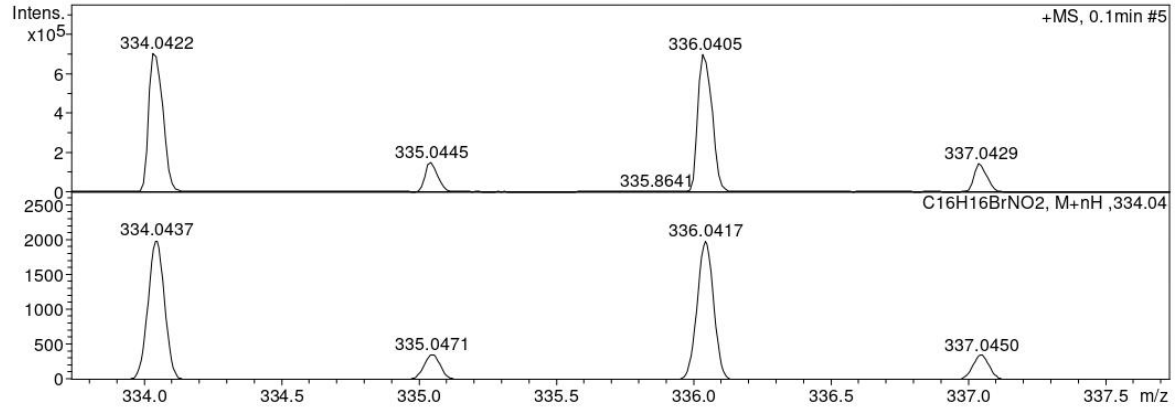
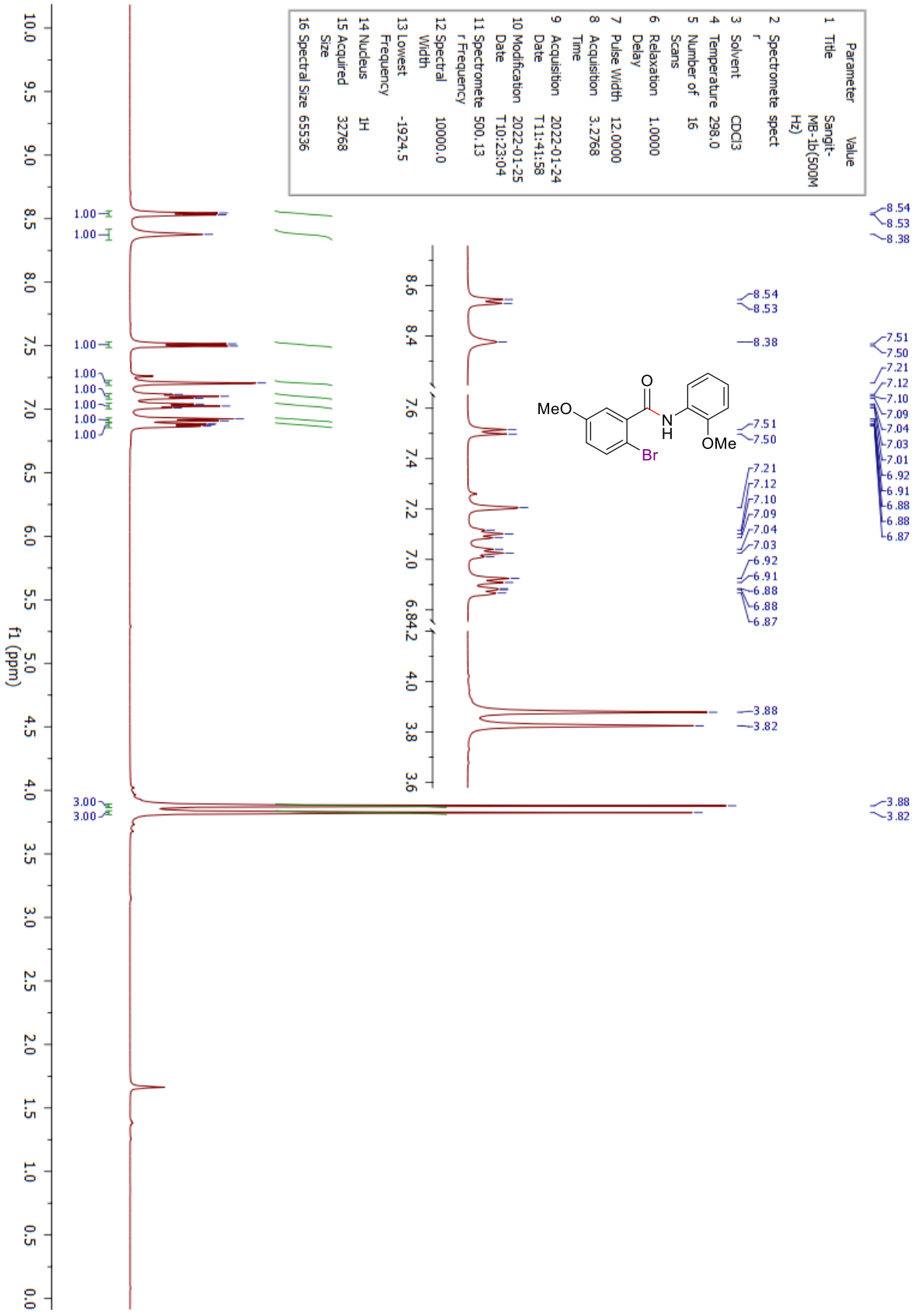




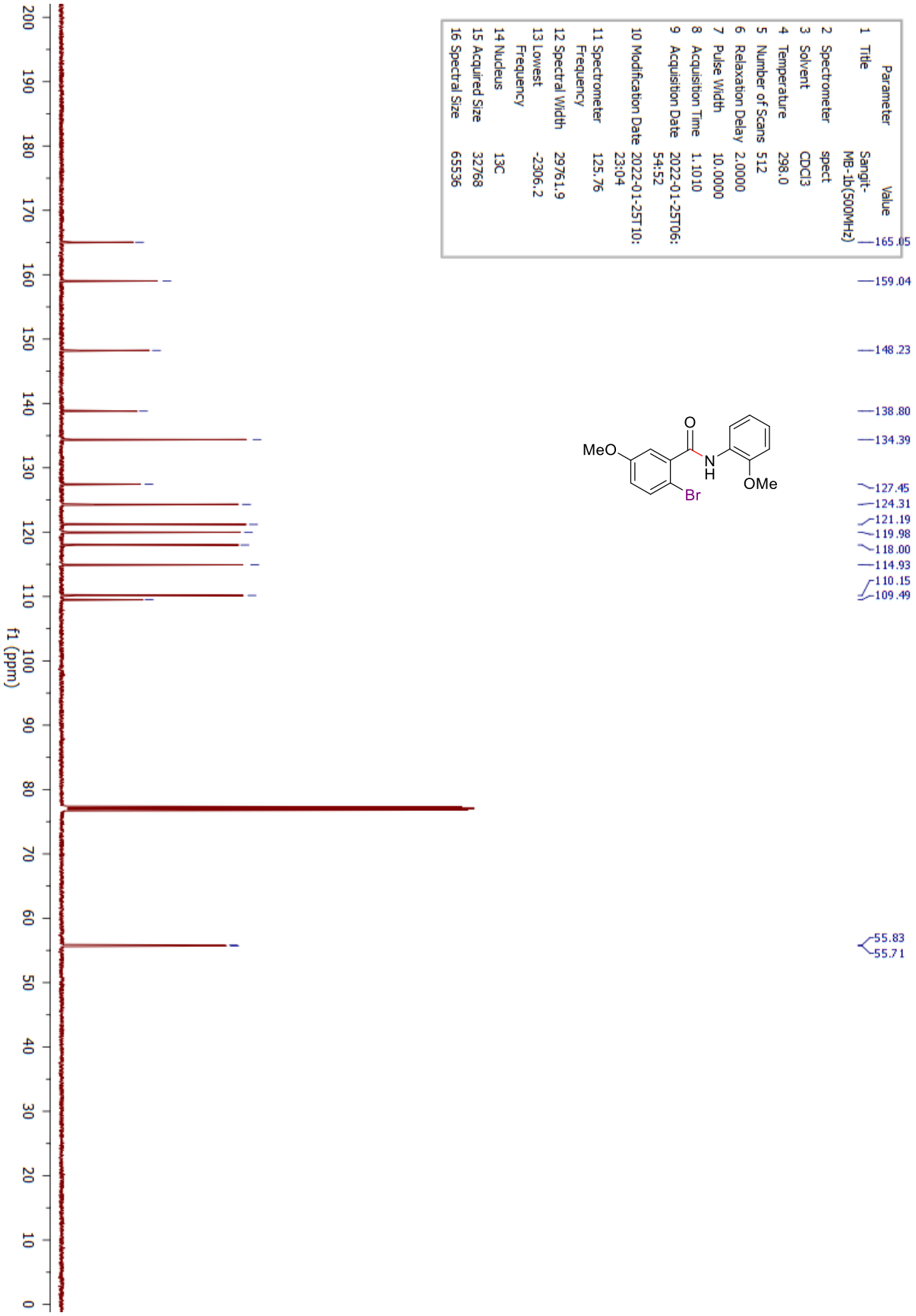


^{1}H NMR spectra of 2-bromo-5-methoxy-*N*-(2-methoxyphenyl)benzamide (Substrate for **1j**)



Peak at 1.66 ppm is corresponding to water associated in $CDCl_3$

^{13}C NMR spectra of 2-bromo-5-methoxy-*N*-(2-methoxyphenyl)benzamide (Substrate for **1j**)



HRMS spectra of 2-bromo-5-methoxy-*N*-(2-methoxyphenyl)benzamide (Substrate for **1j**)

Display Report

Analysis Info

Analysis Name	D:\Data\NEW USER DATA 2022\March-2022\29march\Prof.S.Kumar-MB-1J-R_1-A,8_01_11583.d	Acquisition Date	3/29/2022 1:43:29 PM
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-1J-R	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
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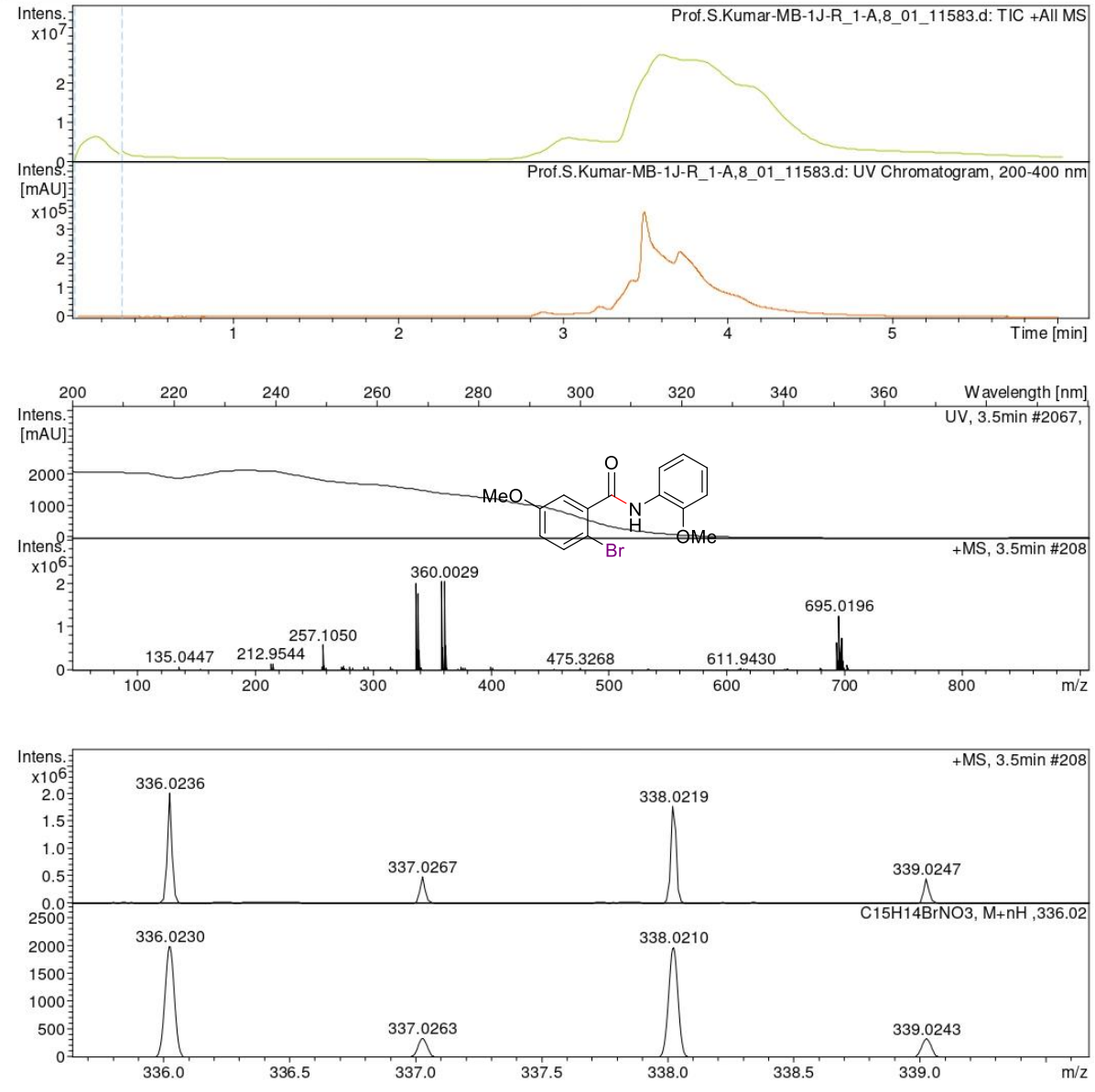
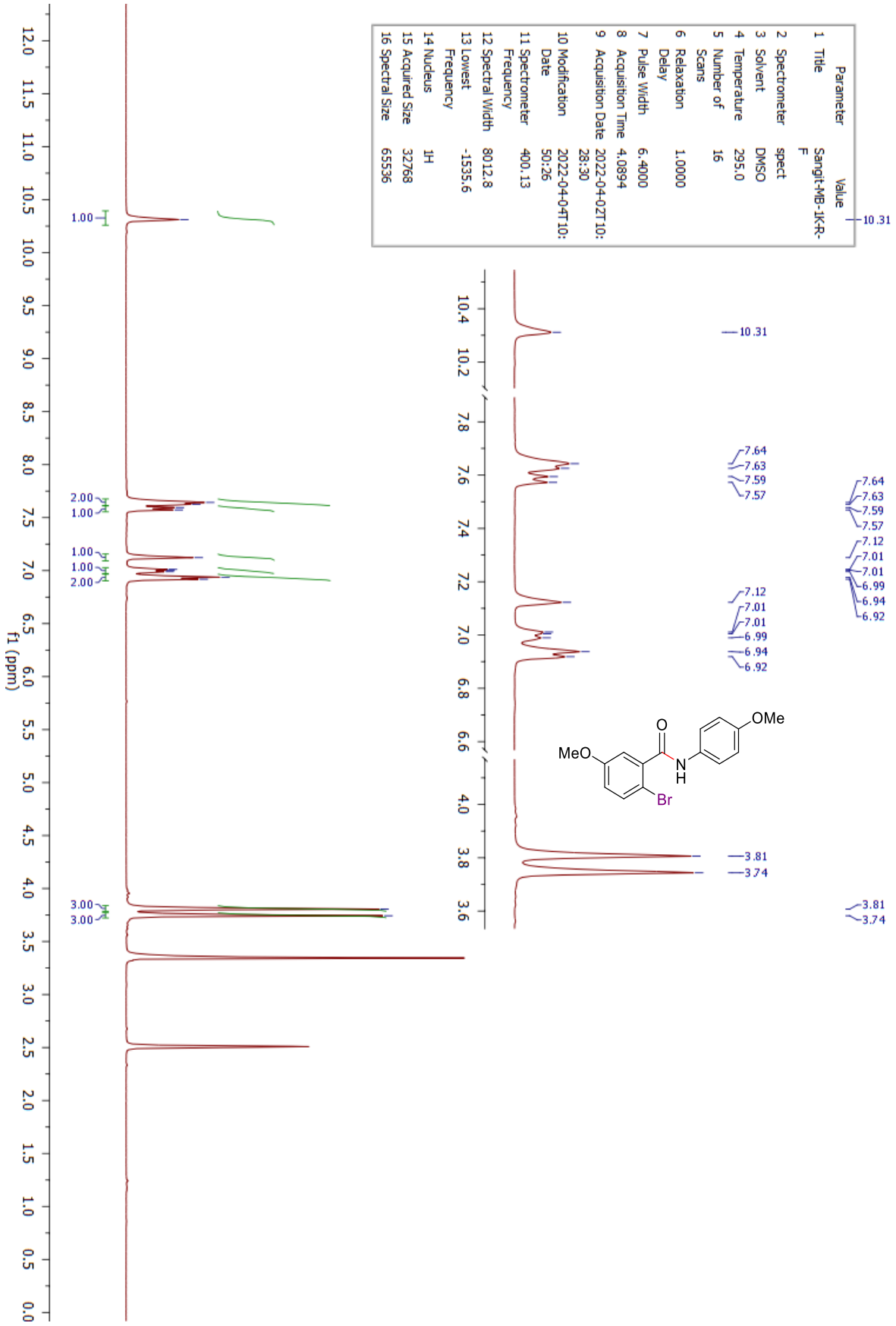
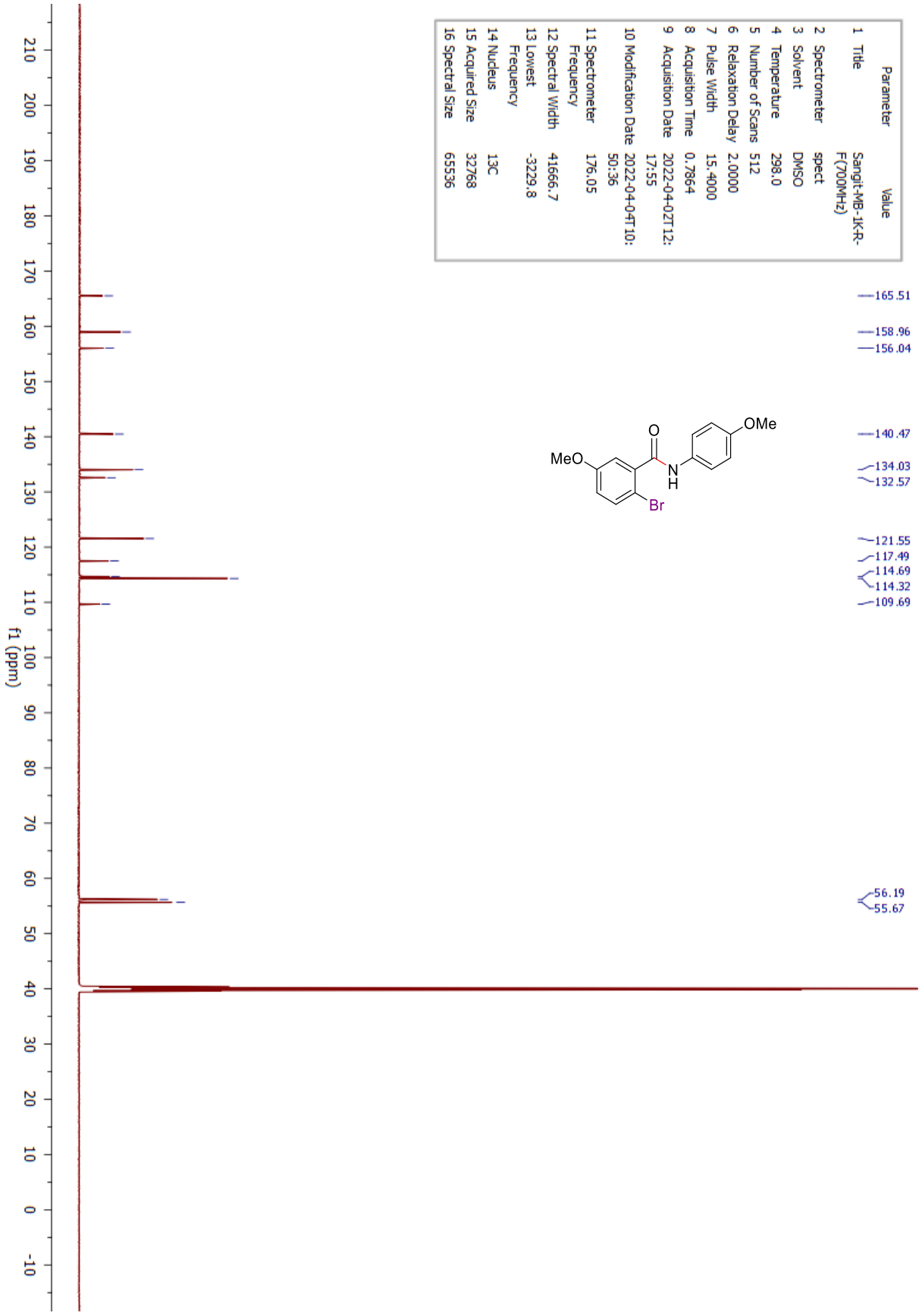
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste



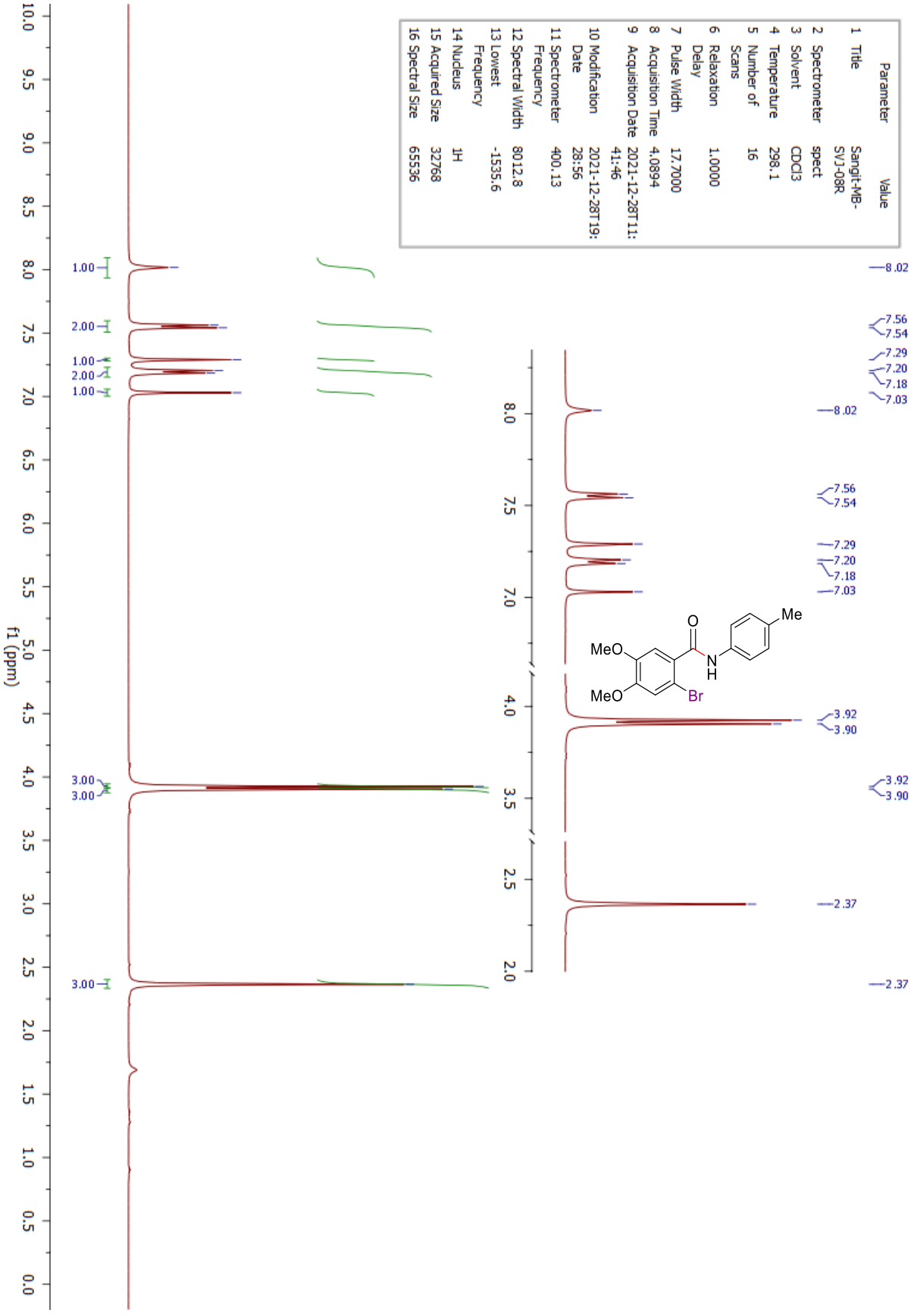
^{1}H NMR spectra of 2-bromo-5-methoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1k**)



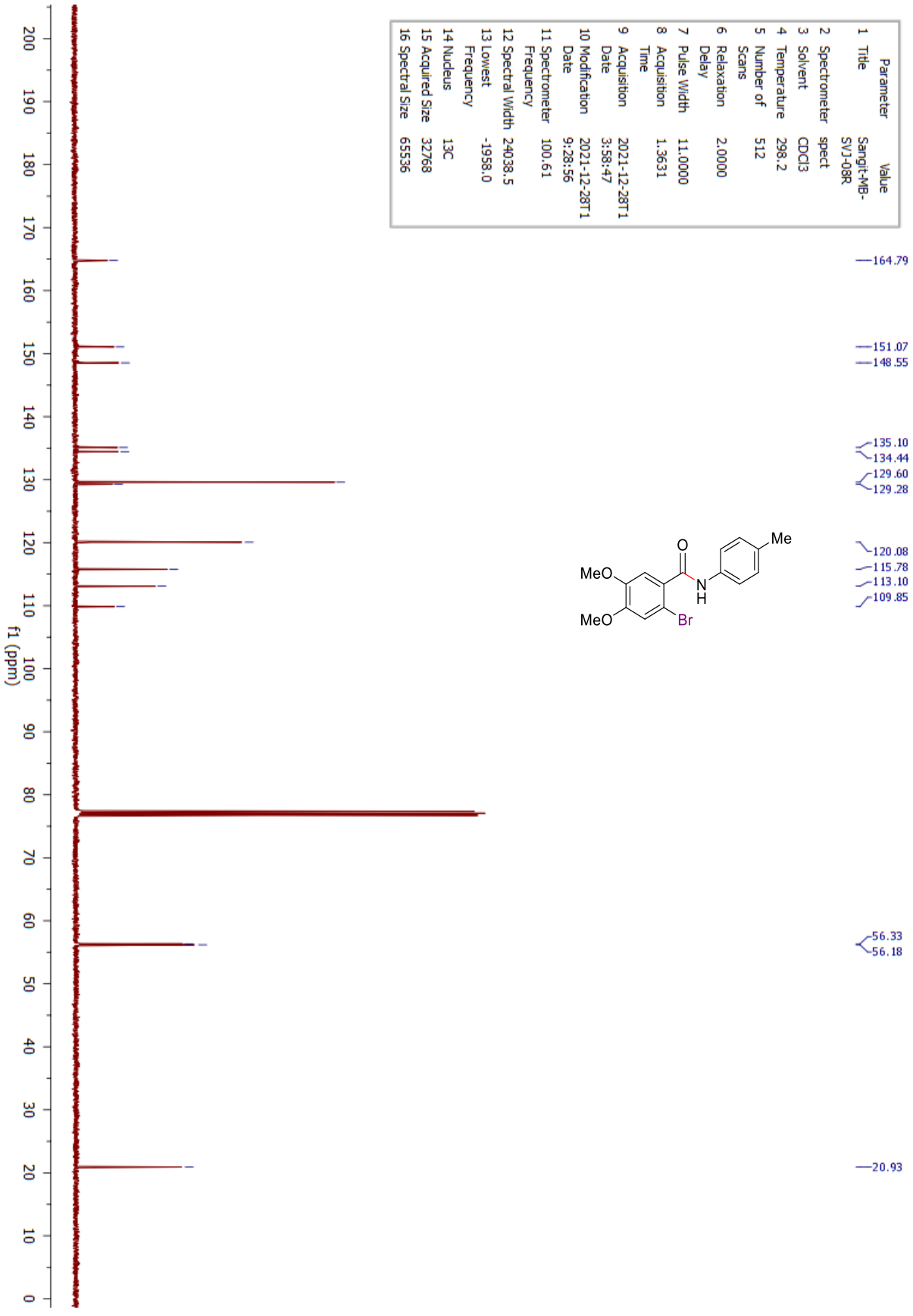
^{13}C NMR spectra of 2-bromo-5-methoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1k**)



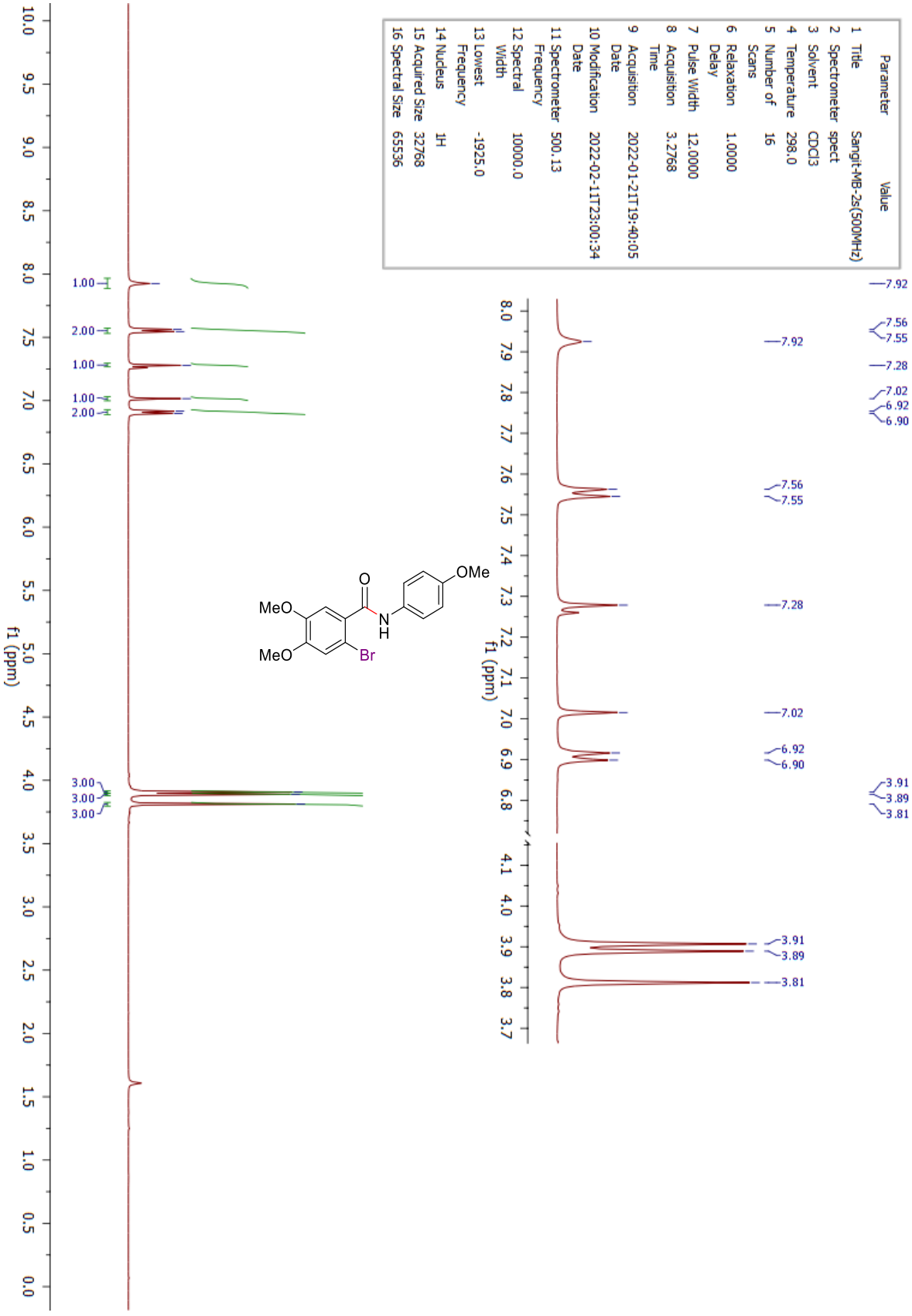
[1]H NMR spectra of 2-bromo-4,5-dimethoxy-*N*-(p-tolyl)benzamide (Substrate for **1l**)



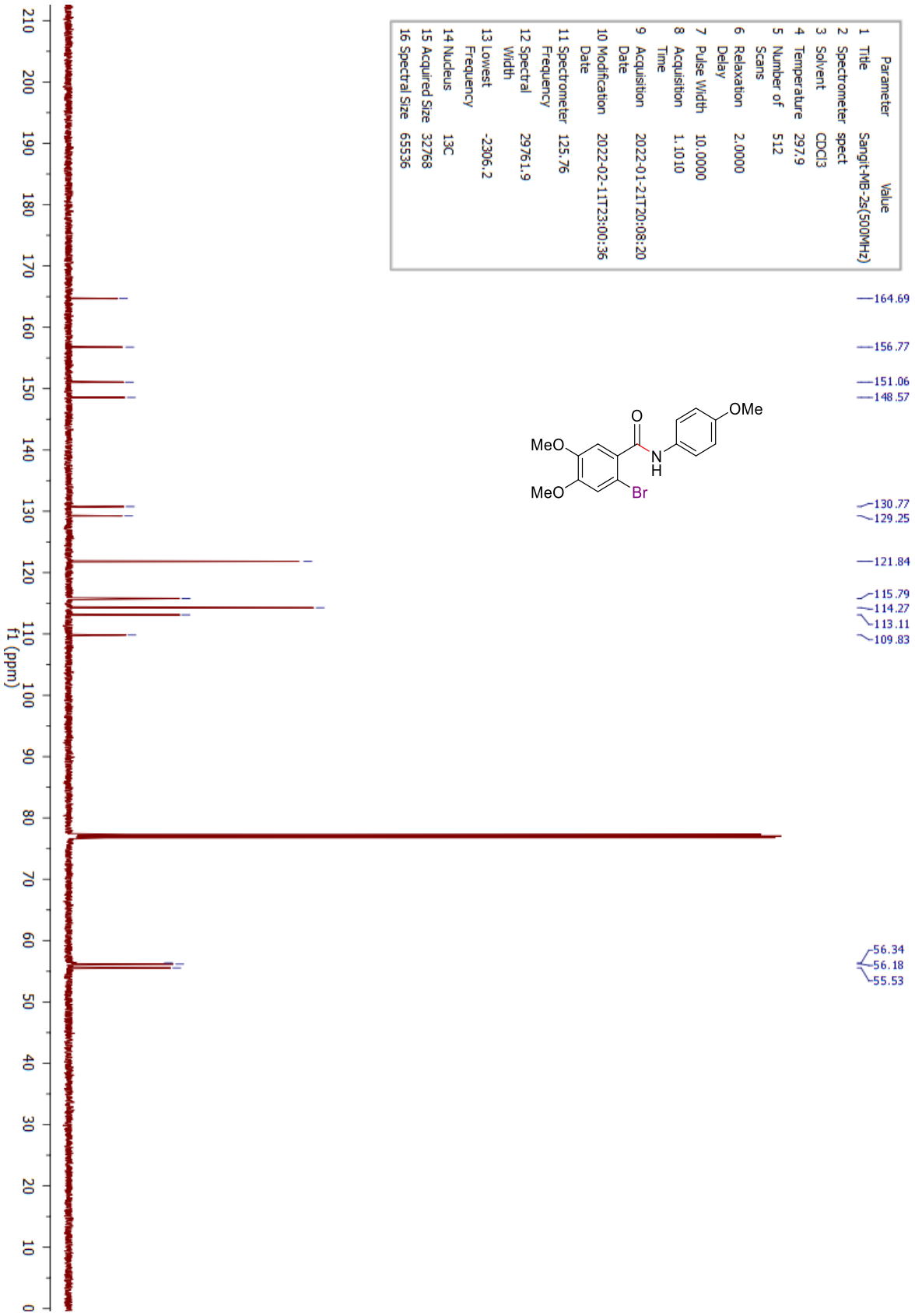
^{13}C NMR spectra of 2-bromo-4,5-dimethoxy-*N*-(p-tolyl)benzamide (Substrate for **1l**)



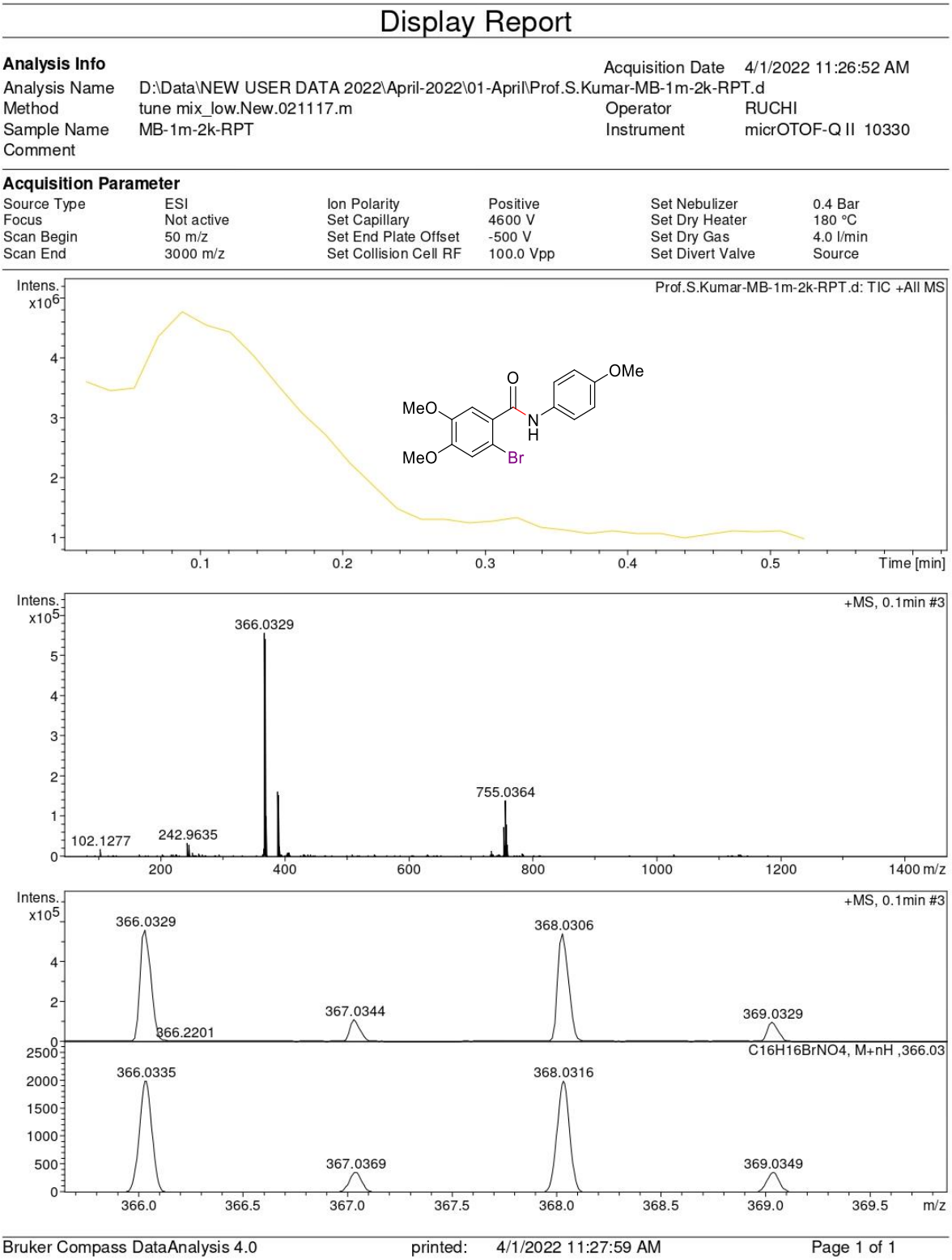
^{1}H NMR spectra of 2-bromo-4,5-dimethoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1m** or **2k**)



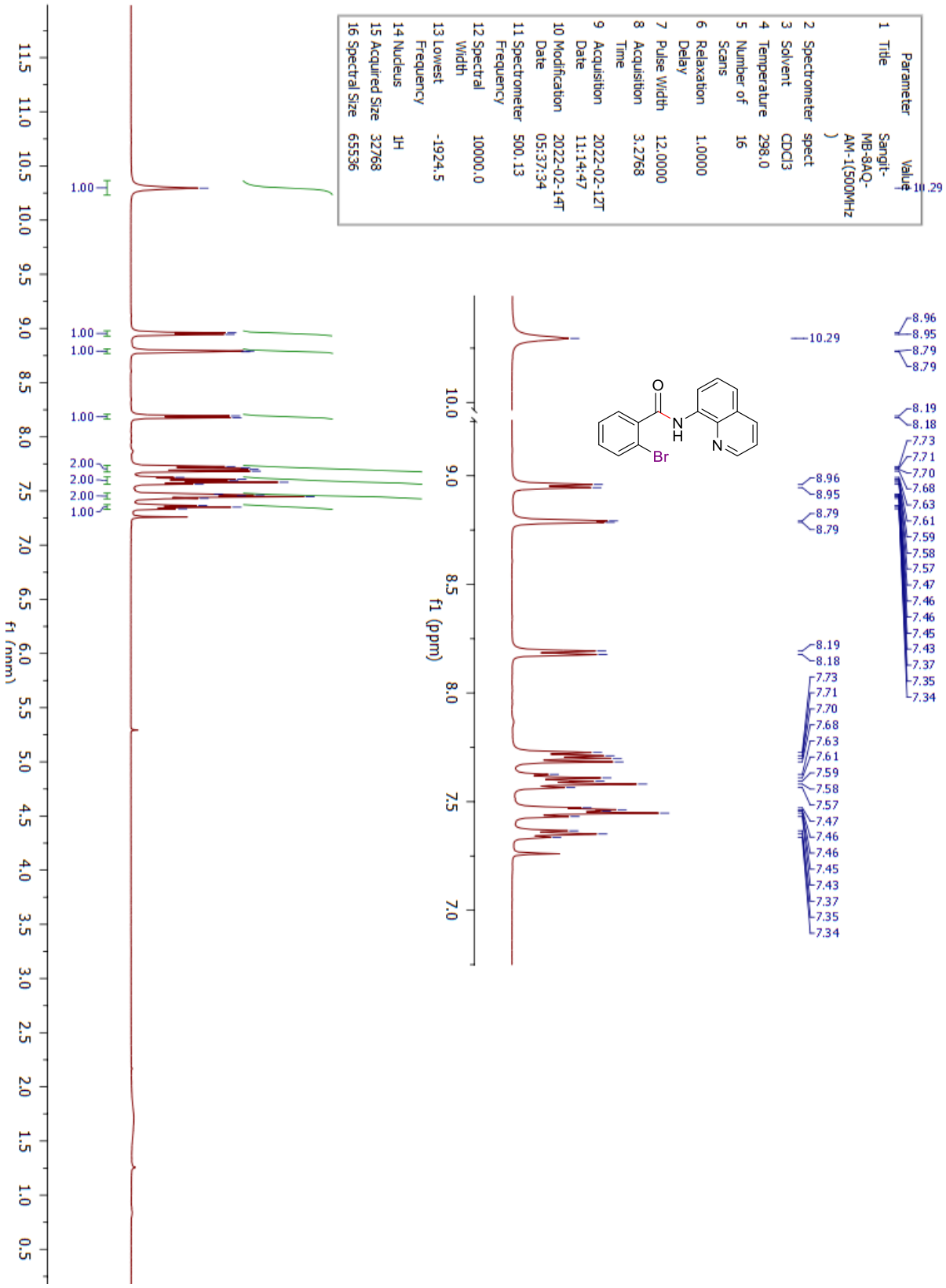
^{13}C NMR spectra of 2-bromo-4,5-dimethoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1m** or **2k**)



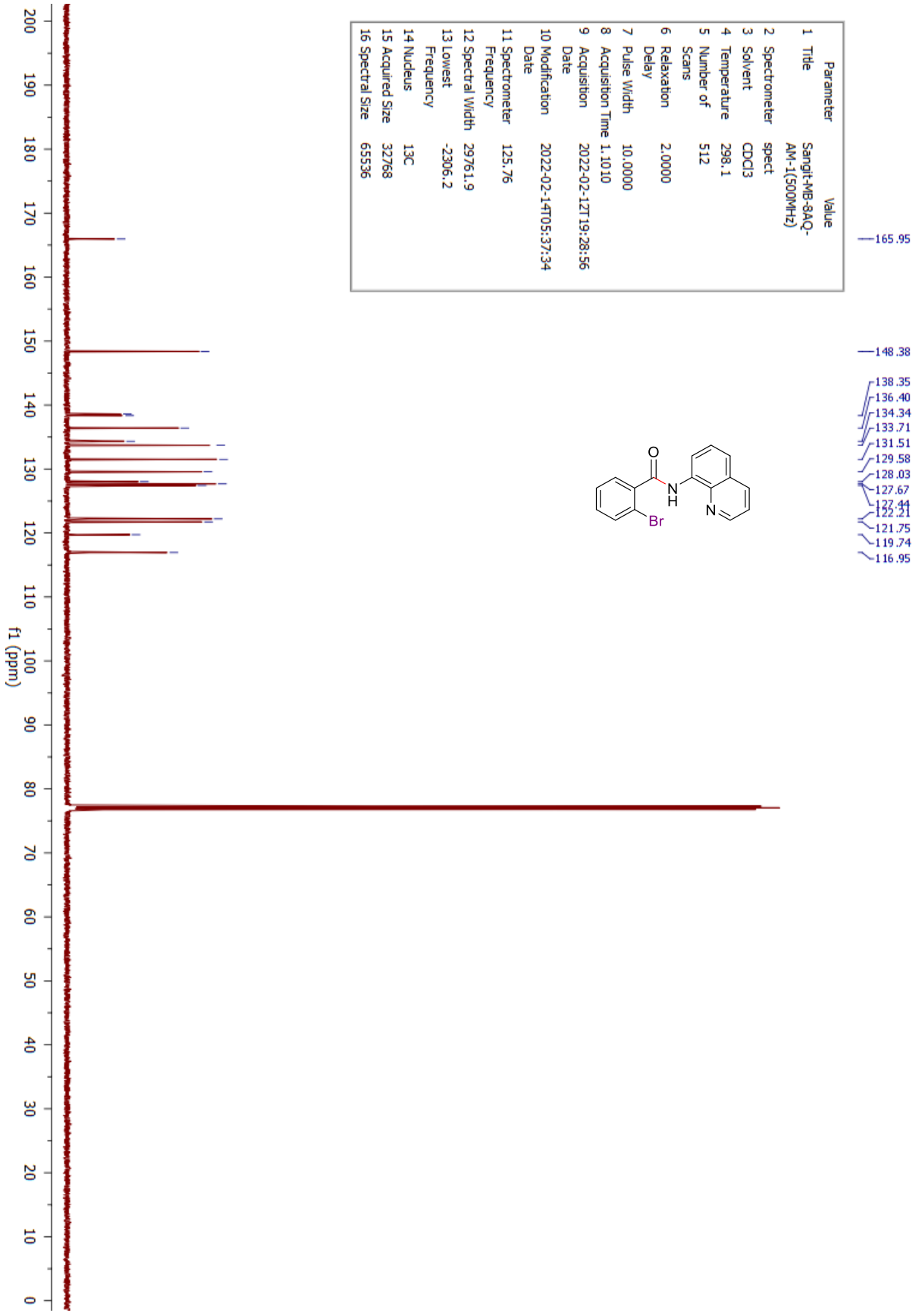
HRMS spectra of 2-bromo-4,5-dimethoxy-*N*-(4-methoxyphenyl)benzamide (Substrate for **1m** or **2k**)



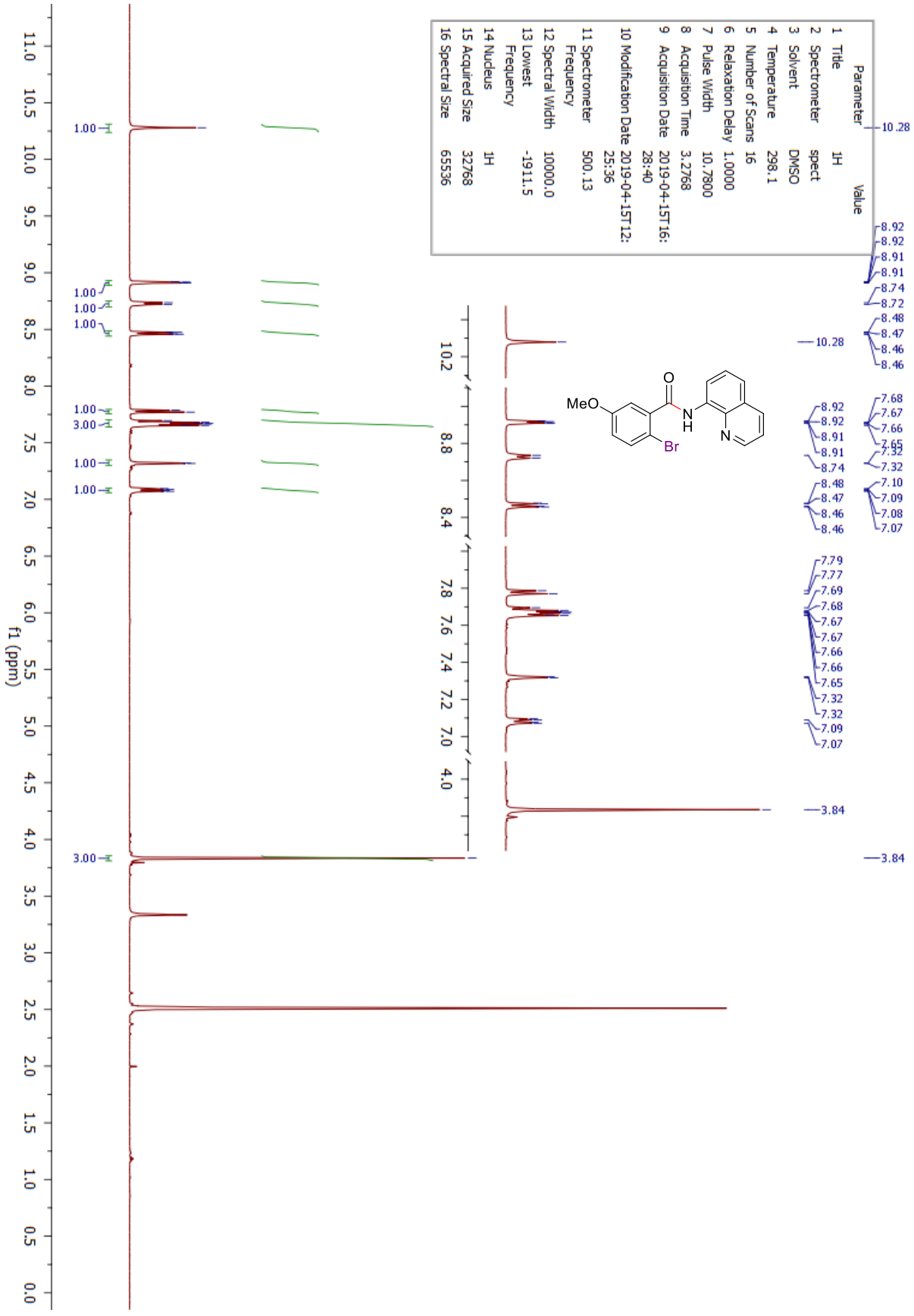
^{1}H NMR spectra of 2-bromo-*N*-(quinolin-8-yl)benzamide (Substrate for **1n** or **2q**)



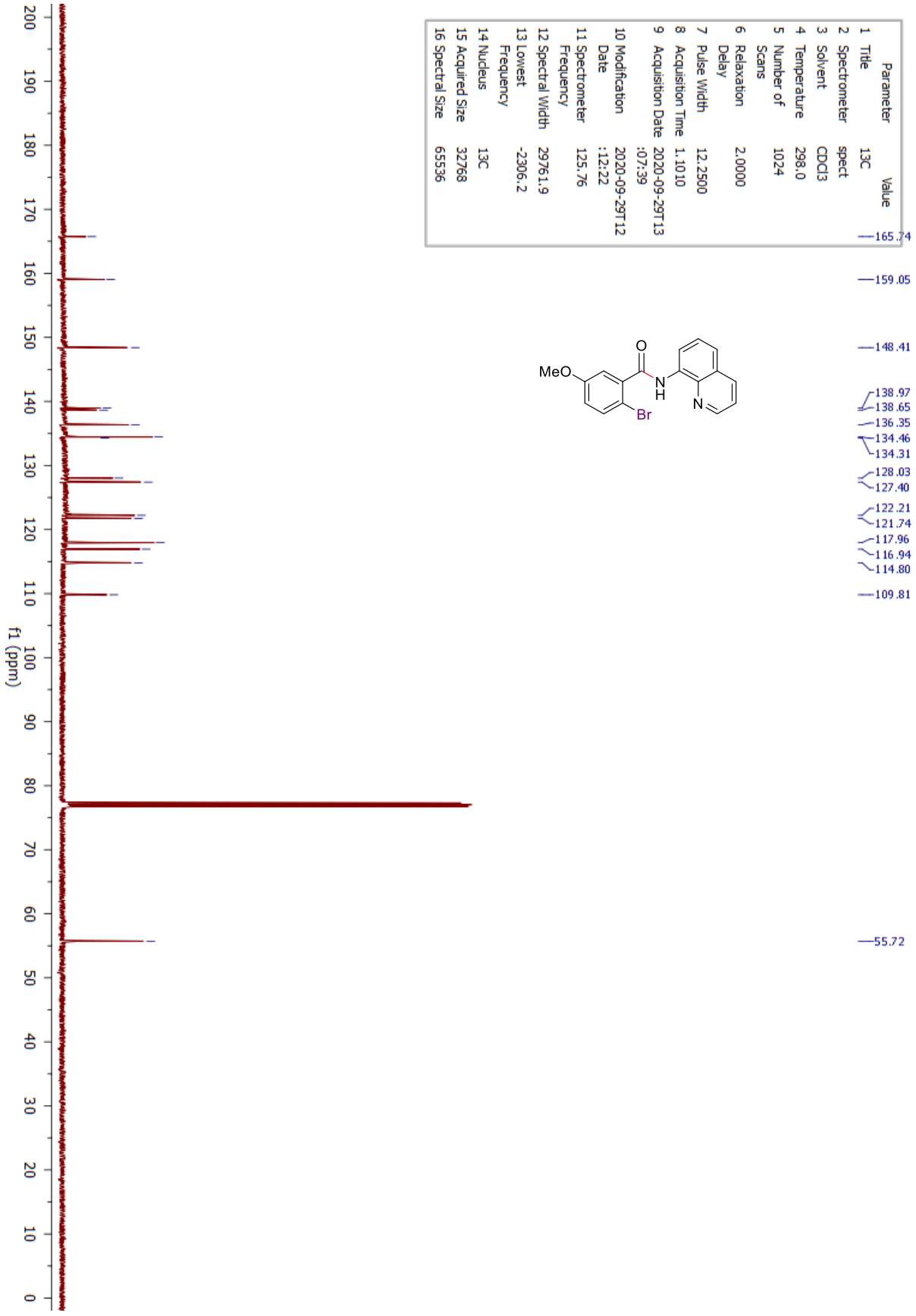
^{13}C NMR spectra of 2-bromo-*N*-(quinolin-8-yl)benzamide (Substrate for **1n** or **2q**)



[1]H NMR spectra of 2-bromo-5-methoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1o** or **2r**)



^{13}C NMR spectra of 2-bromo-5-methoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1o** or **2r**)



HRMS spectra of 2-bromo-5-methoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1o** or **2r**)

Display Report

Analysis Info

Analysis Name	D:\Data\NEW USER DATA 2022\March-2022\29march\Prof.S.Kumar-MB-20-R_1-A,5_01_11579.d	Acquisition Date	3/29/2022 1:14:41 PM
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-20-R	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
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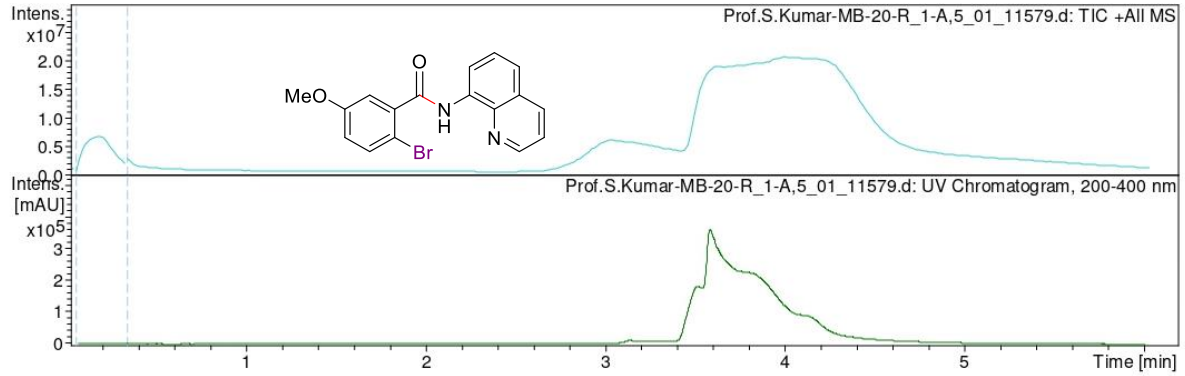
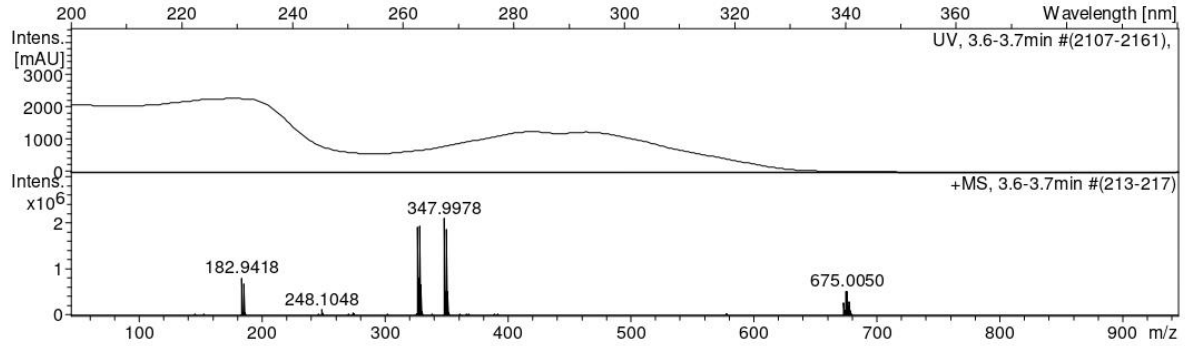
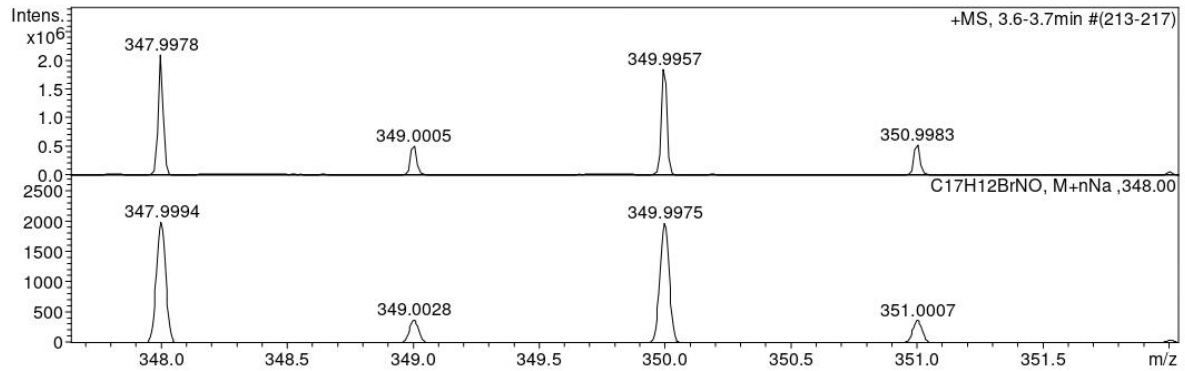
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste

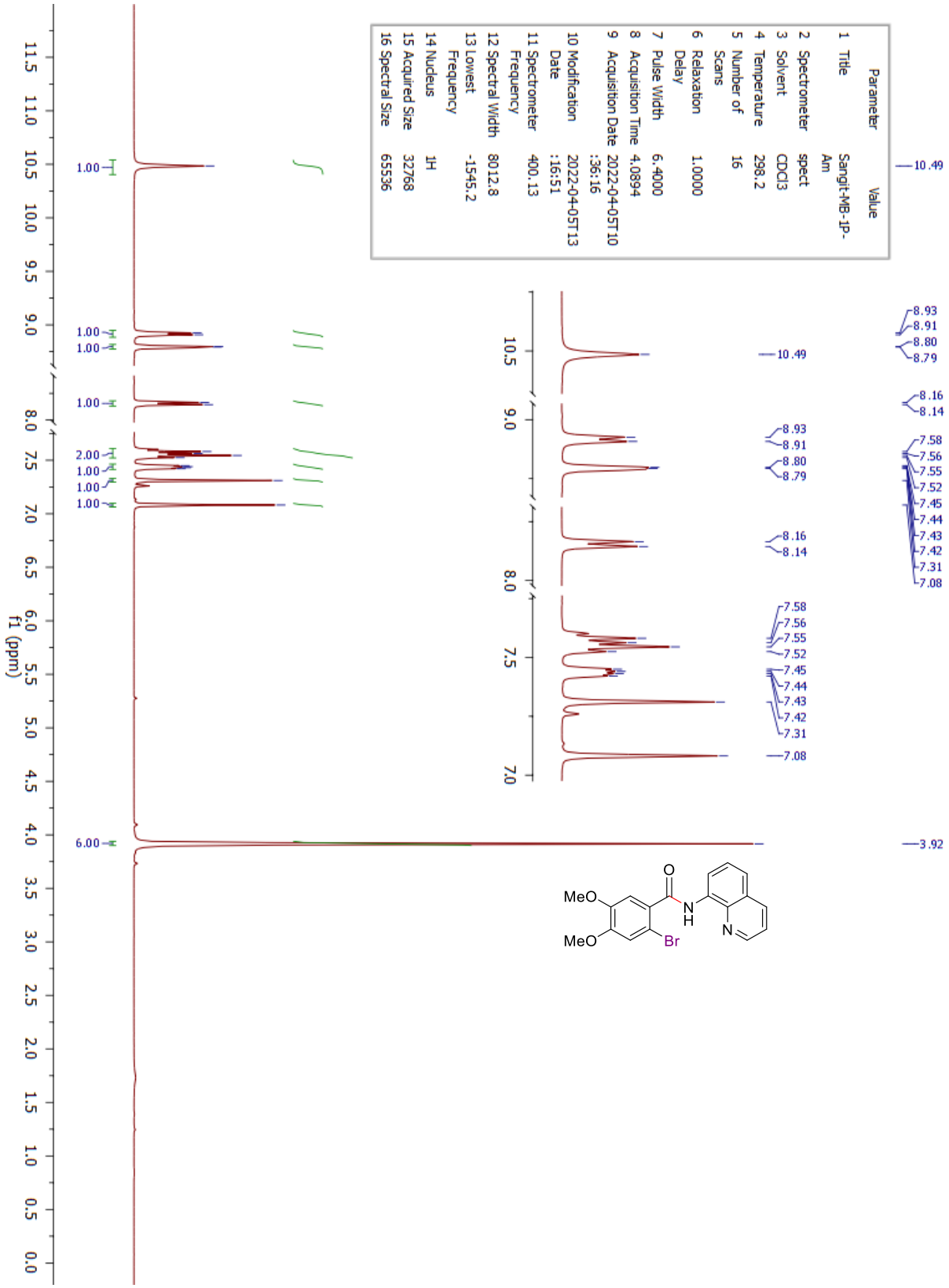




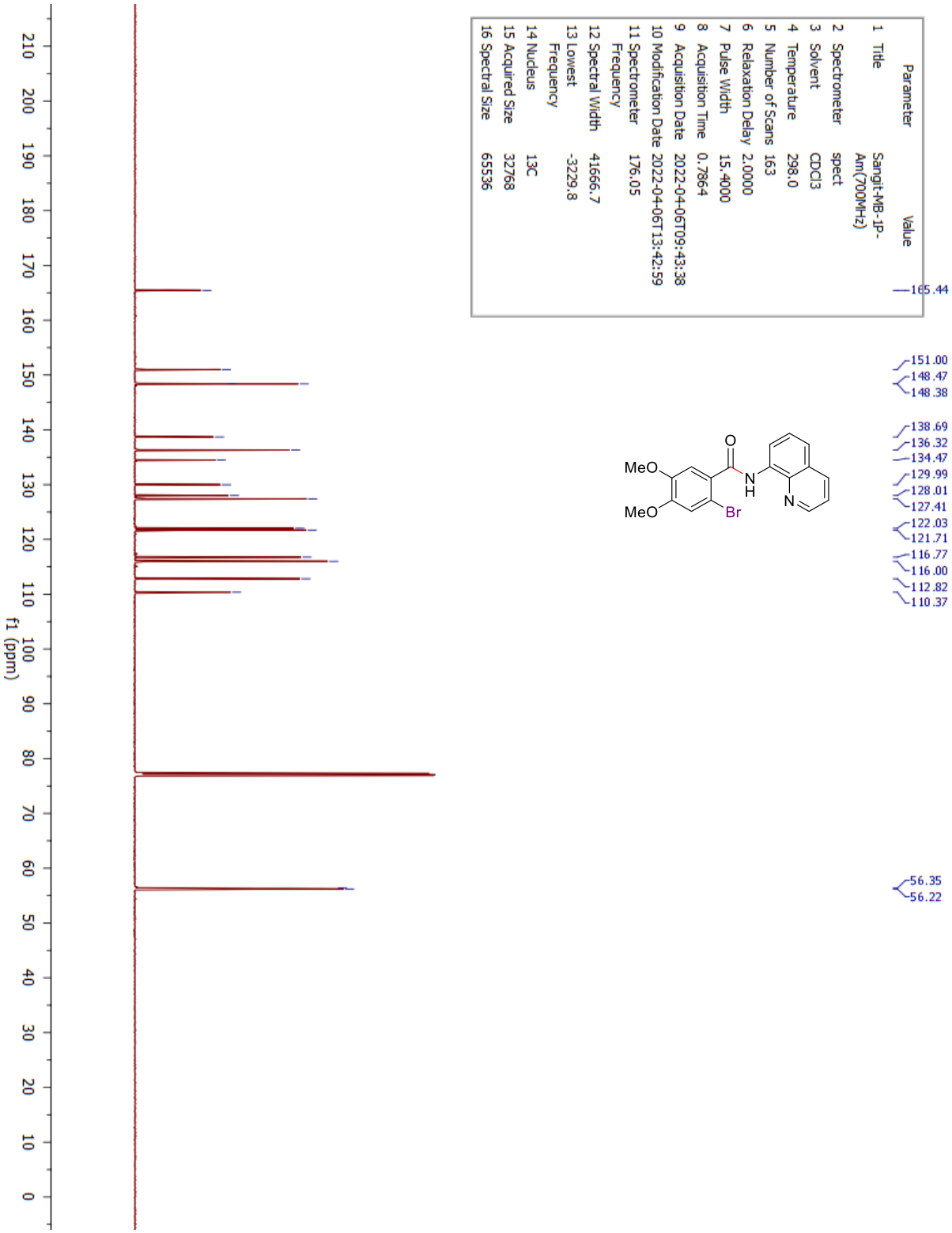


Bruker Compass DataAnalysis 4.0 printed: 3/29/2022 2:45:17 PM Page 1 of 1

^{1}H NMR of 2-bromo-4,5-dimethoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1p** or **2s**)



^{13}C NMR of 2-bromo-4,5-dimethoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1p** or **2s**)



HRMS spectra of 2-bromo-4,5-dimethoxy-*N*-(quinolin-8-yl)benzamide (Substrate for **1p** or **2s**)

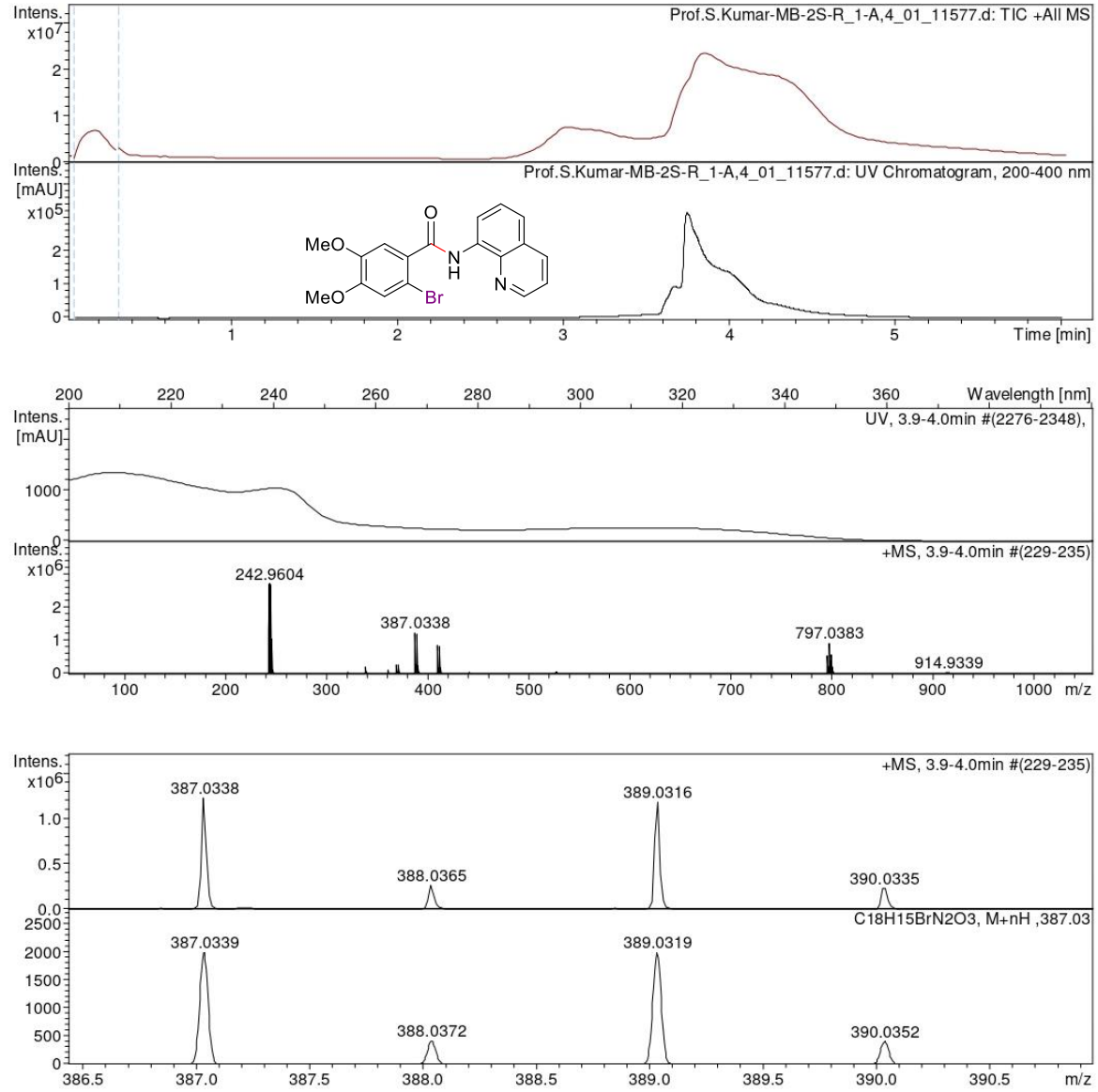
Display Report

Analysis Info

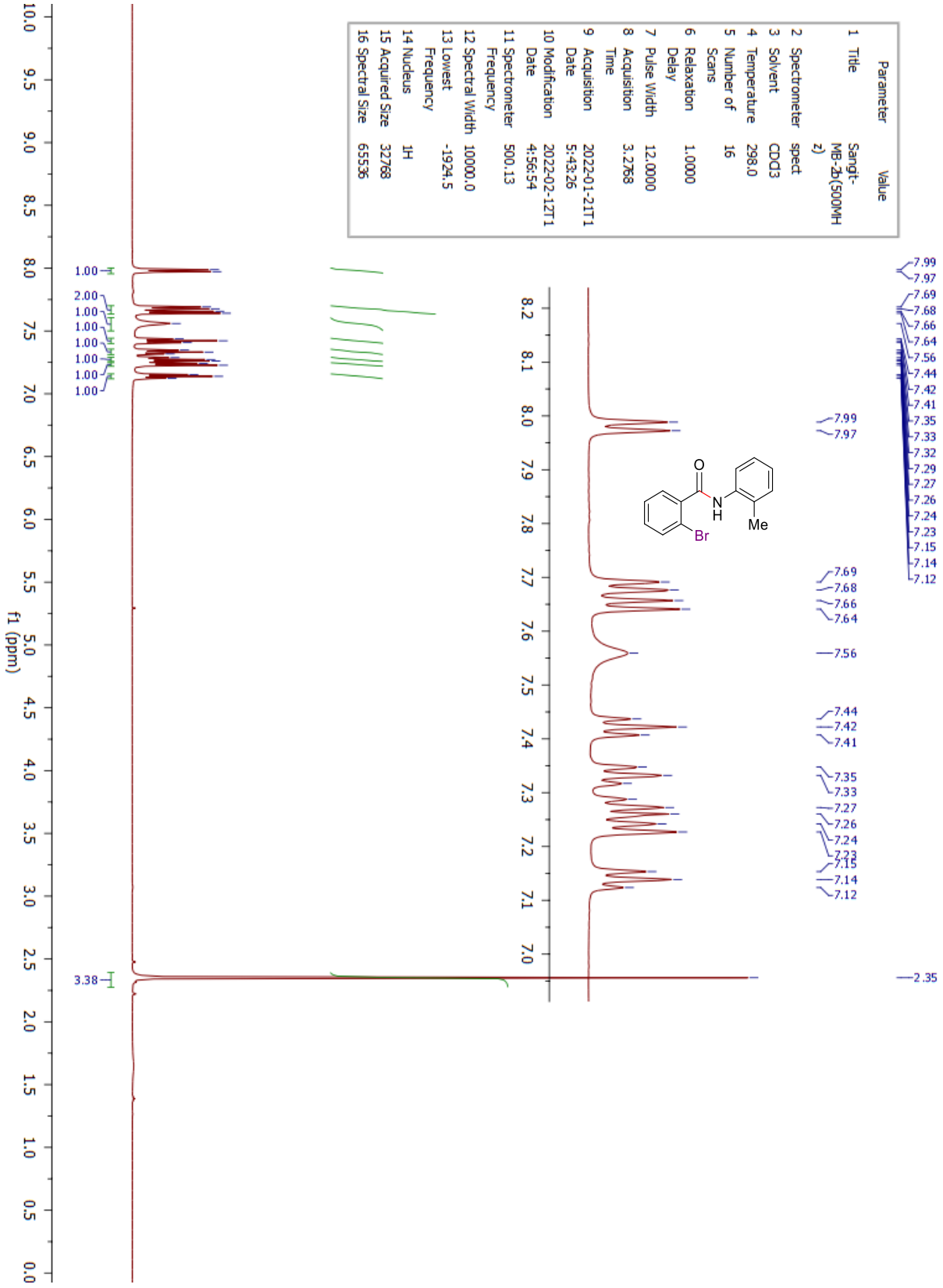
Analysis Name	D:\Data\NEW USER DATA 2022\March-2022\29march\Prof.S.Kumar-MB-2S-R_1-A,4_01_11577.d	Acquisition Date	3/29/2022 1:00:14 PM
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-2S-R	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

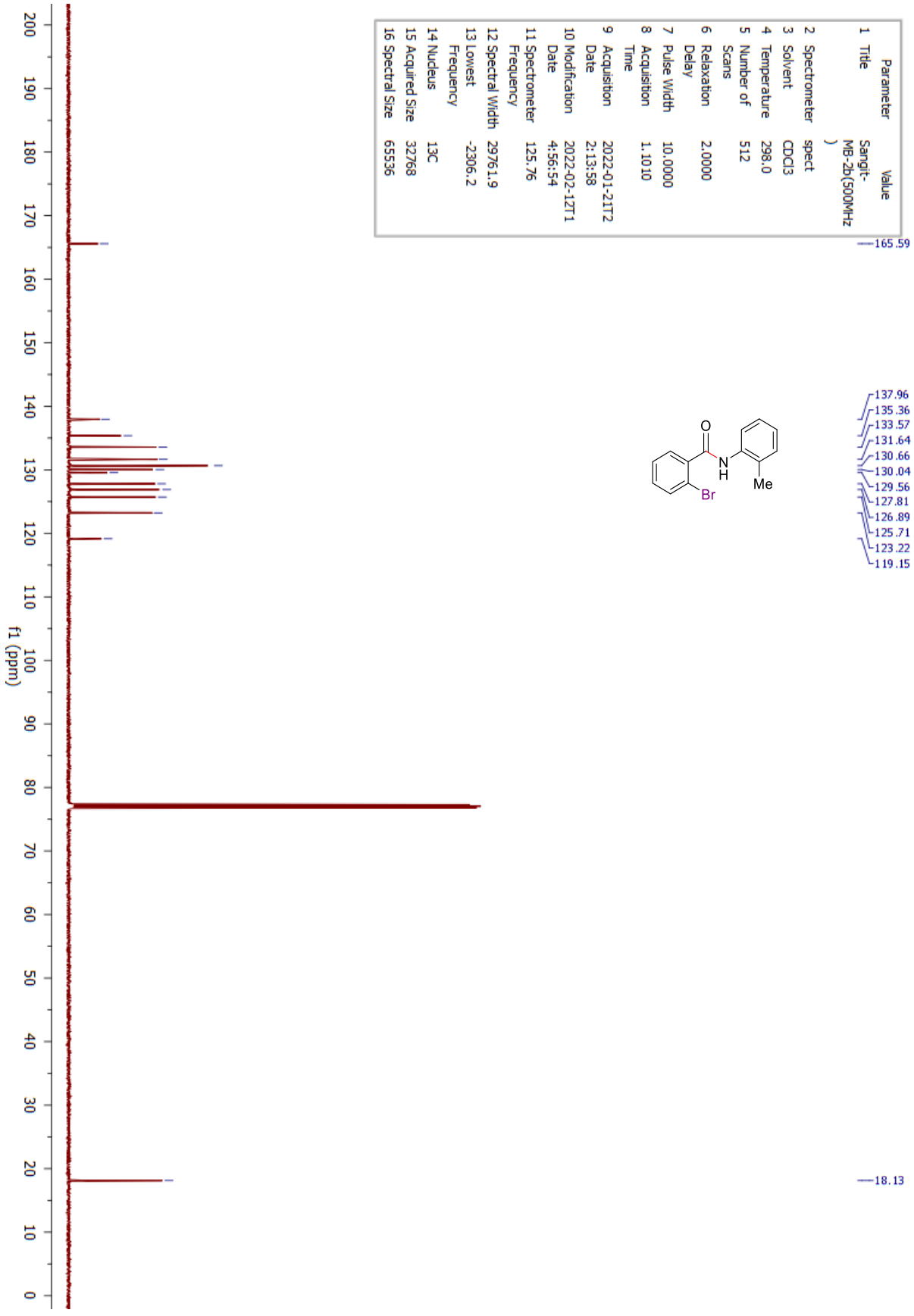
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	6.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste



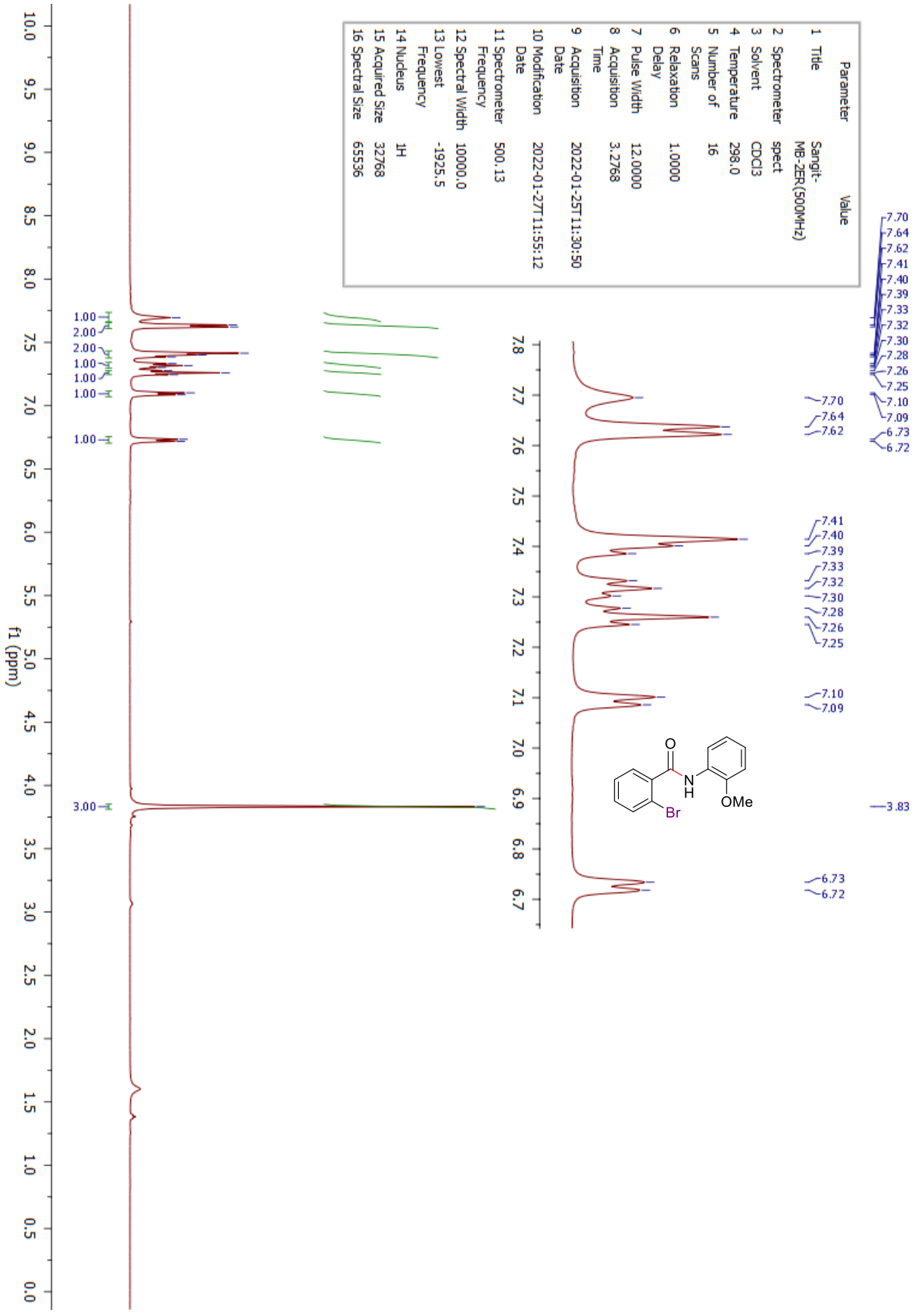
^{1}H NMR of 2-bromo-*N*-(o-tolyl)benzamide (Substrate for **2b**)



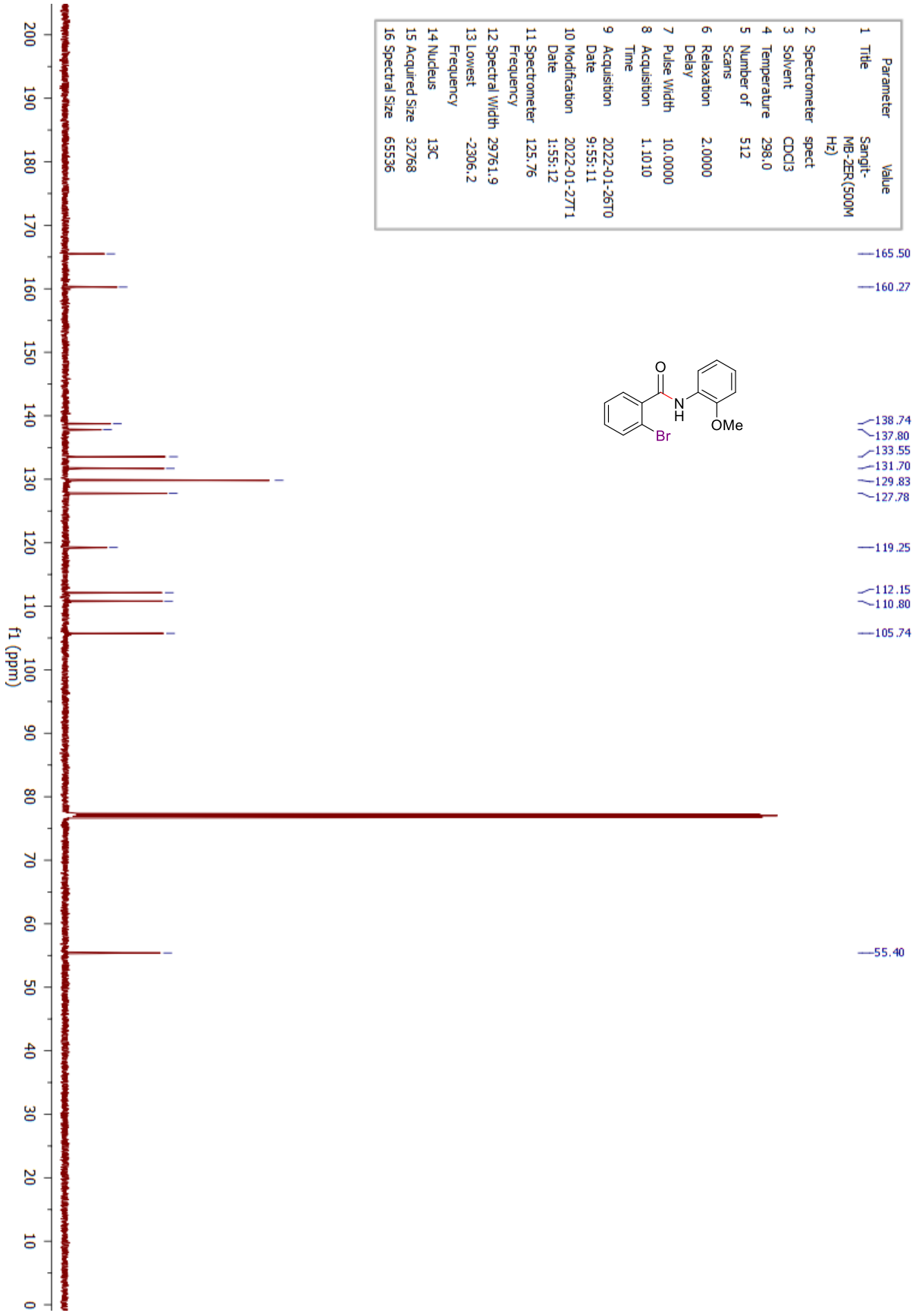
^{13}C NMR of 2-bromo-*N*-(o-tolyl)benzamide (Substrate for **2b**)



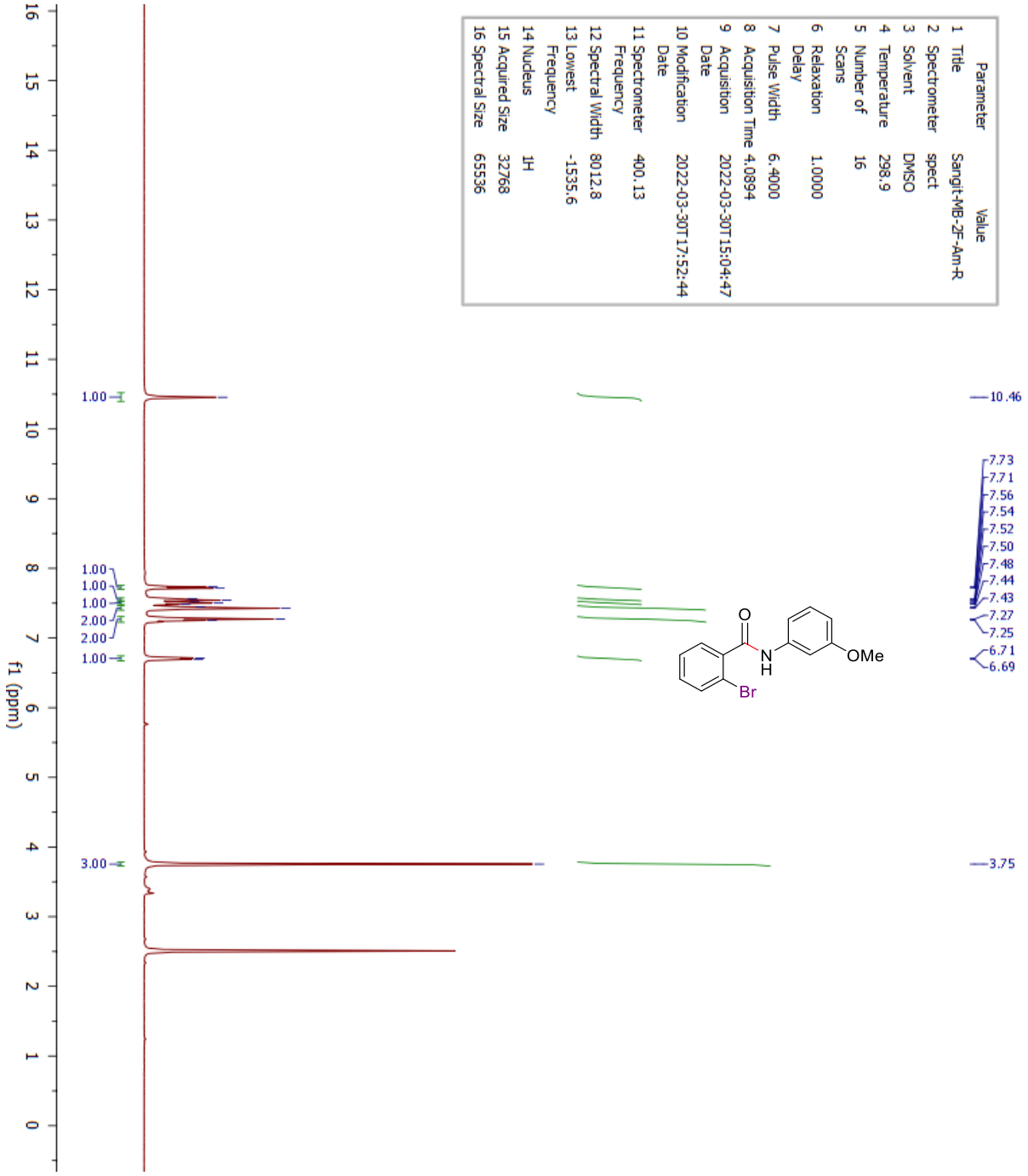
^{1}H NMR of 2-bromo-*N*-(2-methoxyphenyl)benzamide (Substrate for **2c**)



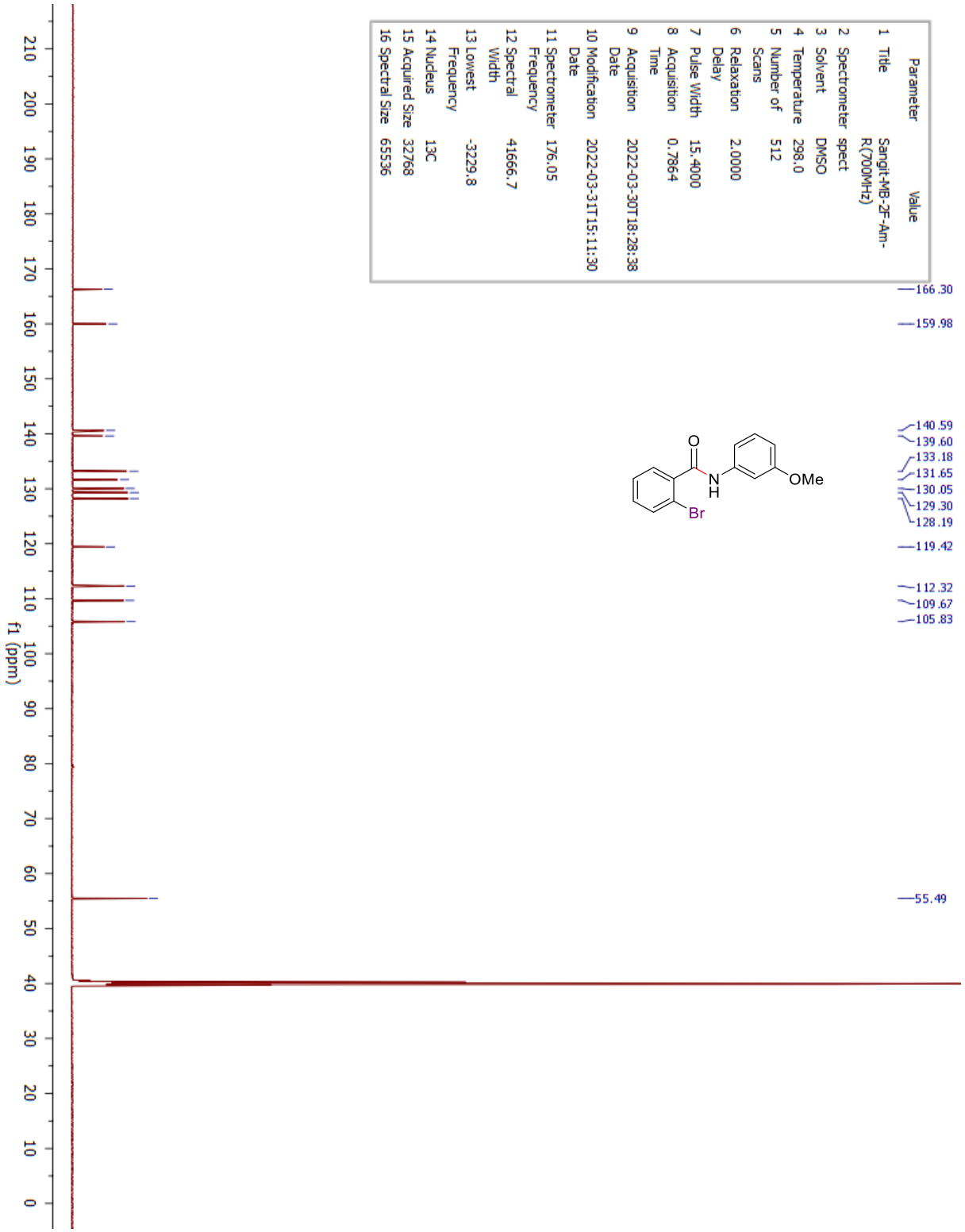
^{13}C NMR of 2-bromo-*N*-(2-methoxyphenyl)benzamide (Substrate for **2c**)



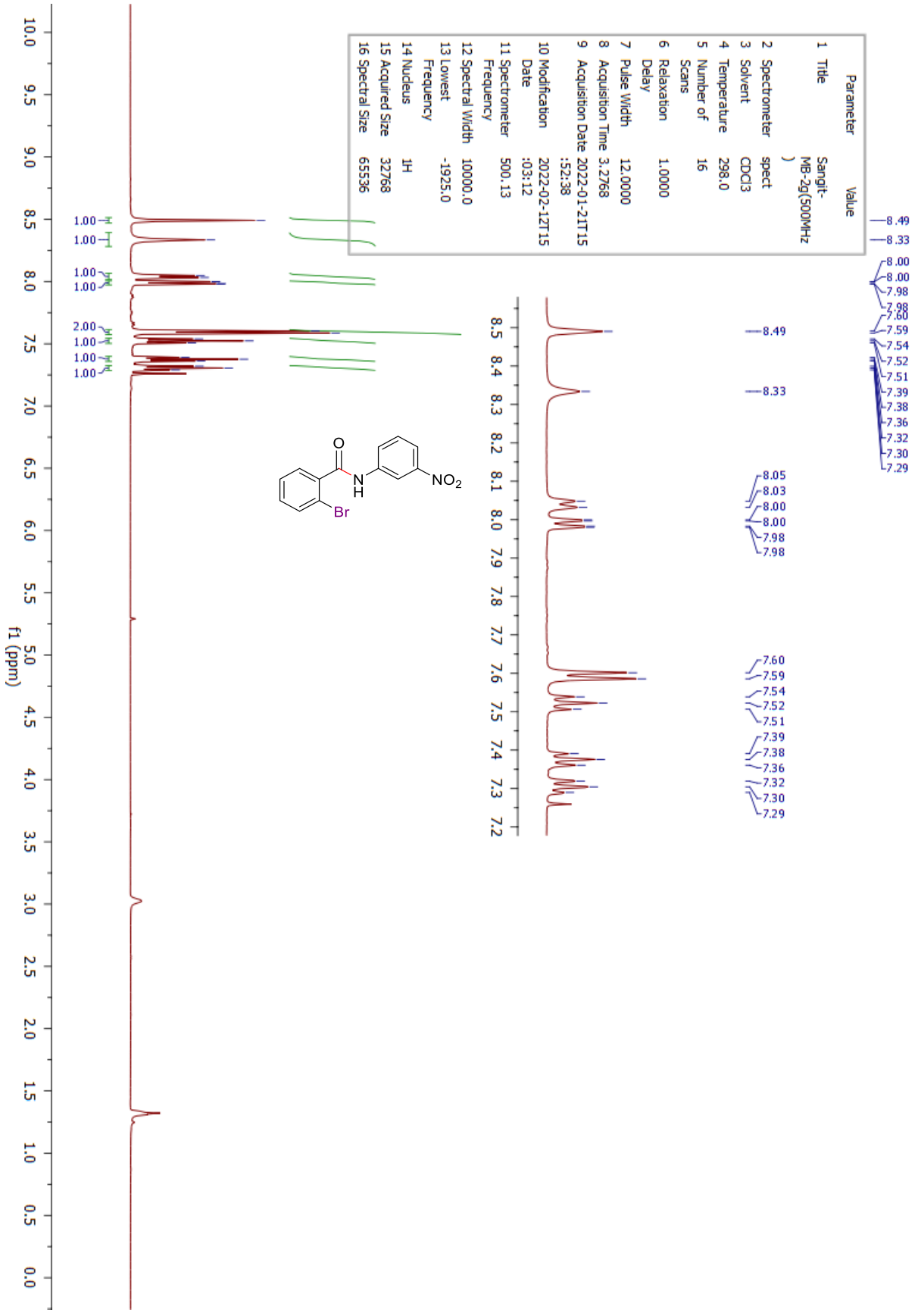
^{1}H NMR spectra of 2-bromo-*N*-(3-methoxyphenyl)benzamide (Substrate for **2f**)



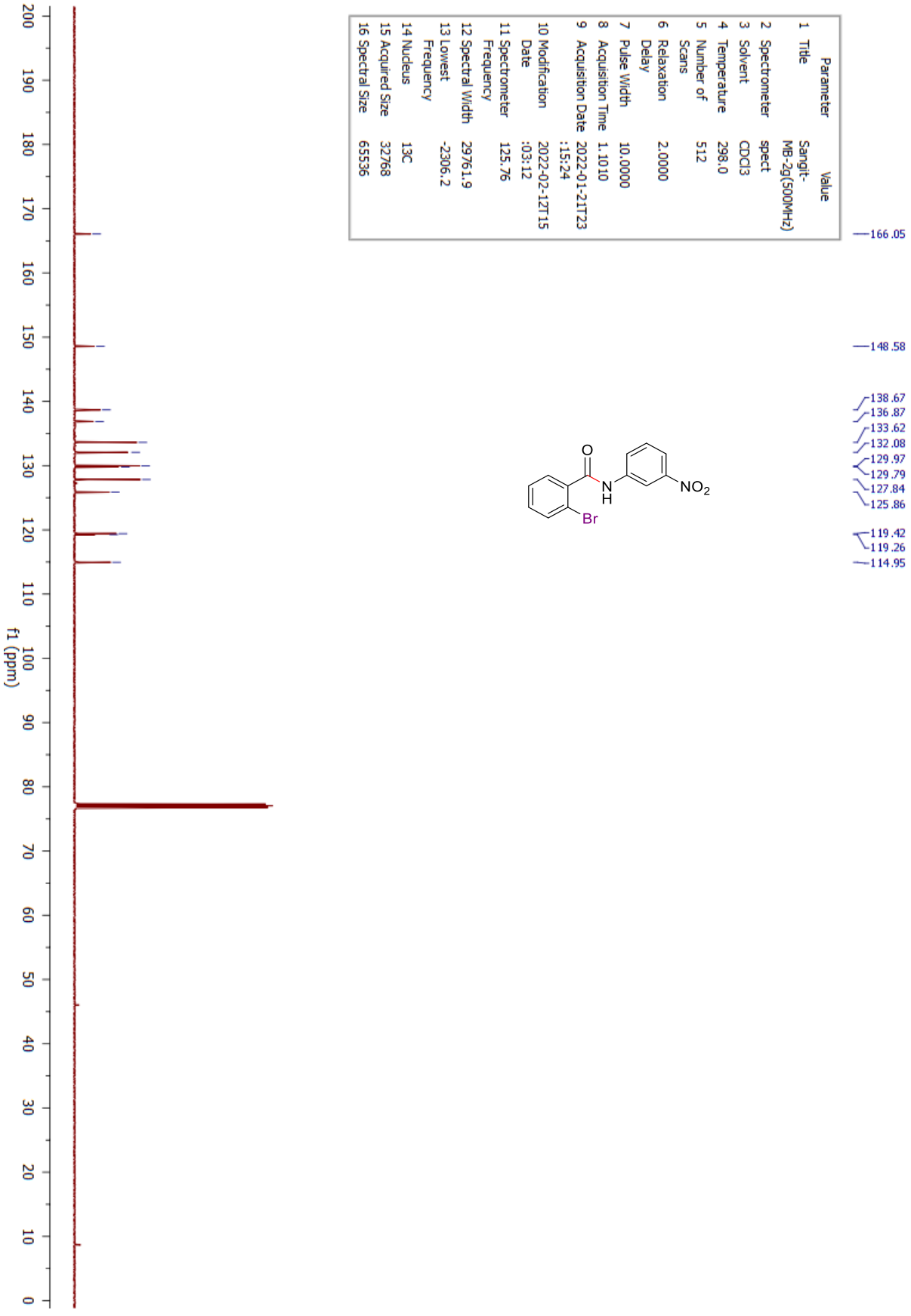
^{13}C NMR spectra of 2-bromo-*N*-(3-methoxyphenyl)benzamide (Substrate for **2f**)



[1]H NMR spectra of 2-bromo-*N*-(3-nitrophenyl)benzamide (Substrate for **2g**)



^{13}C NMR spectra of 2-bromo-*N*-(3-nitrophenyl)benzamide (Substrate for **2g**)



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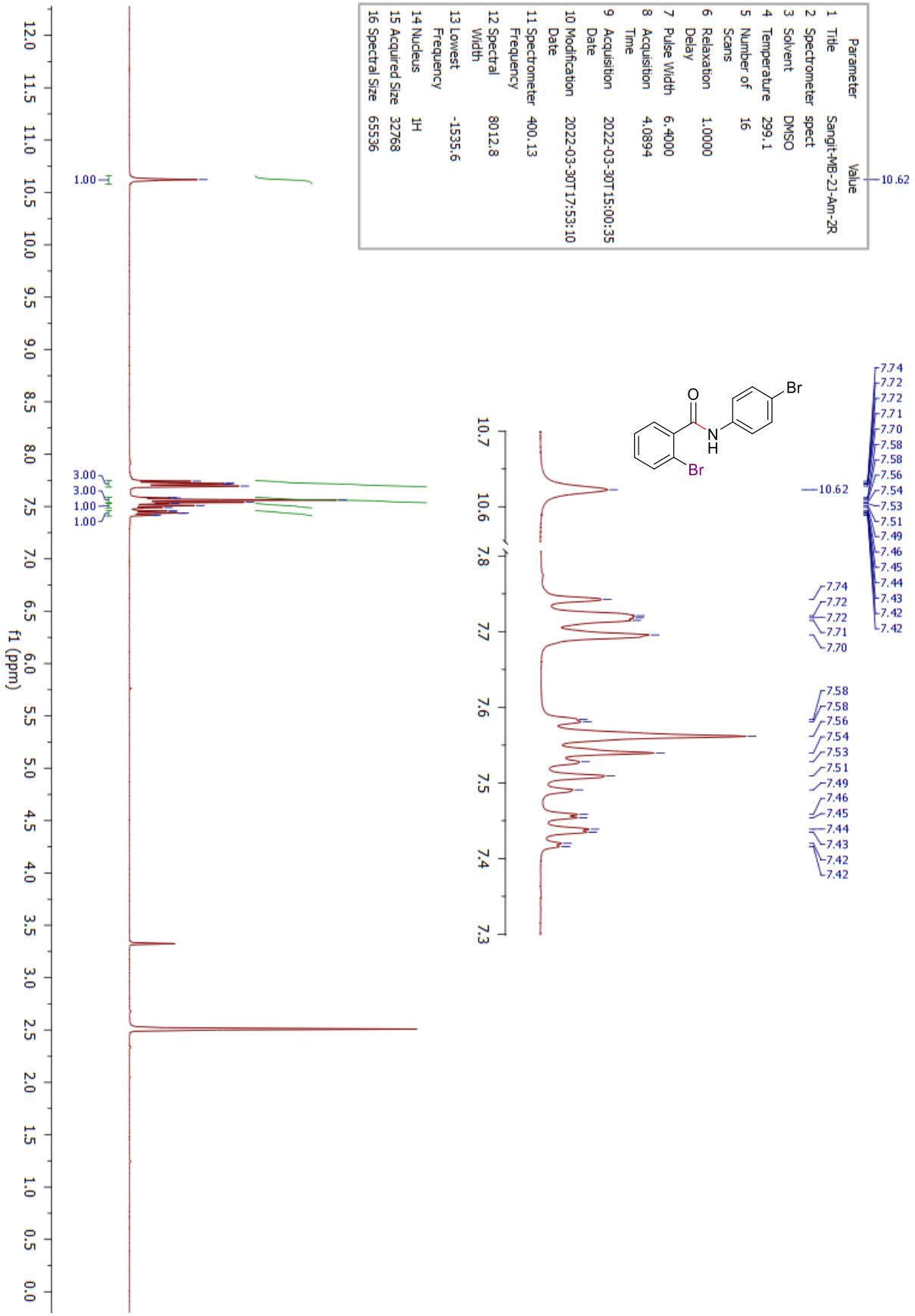
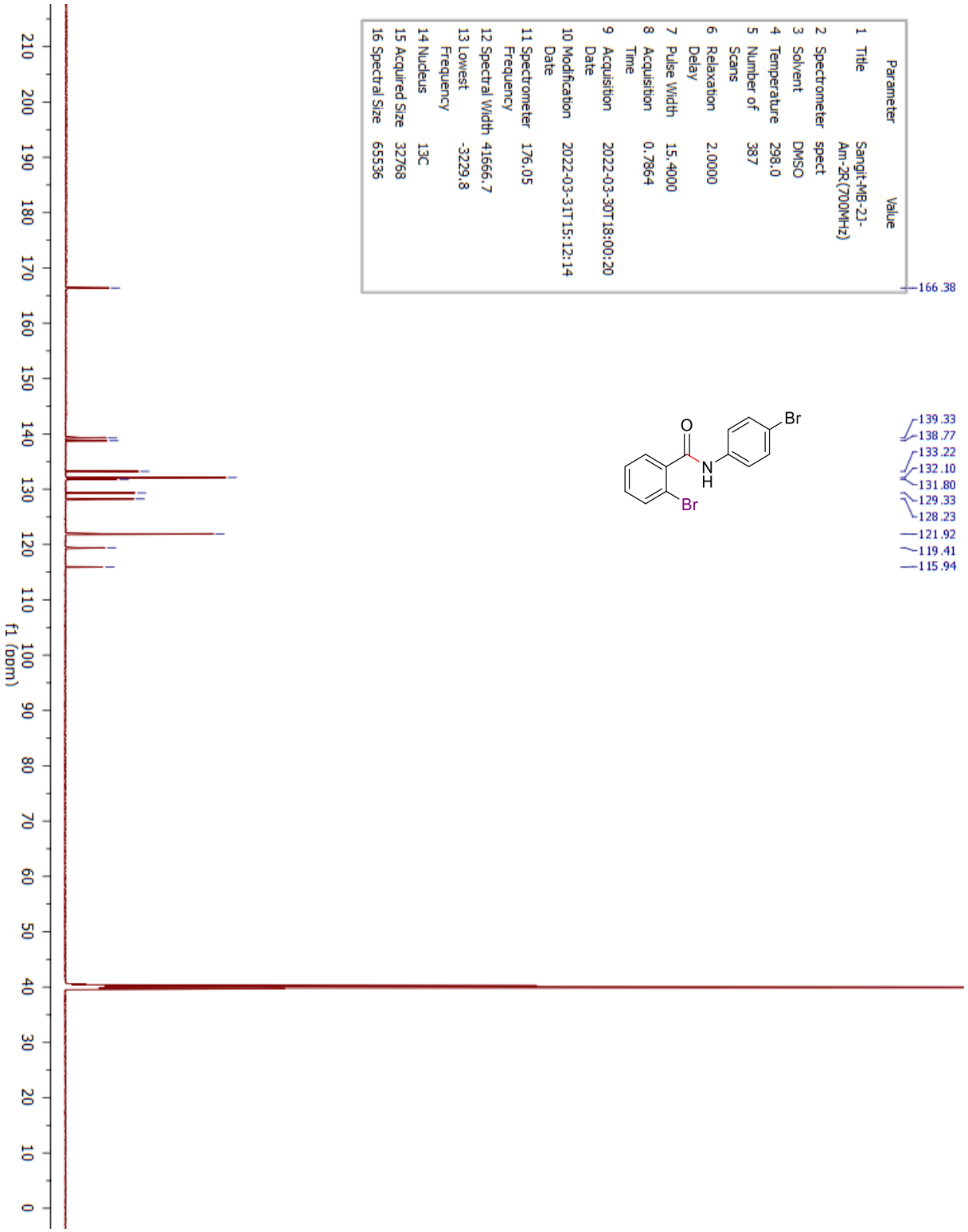
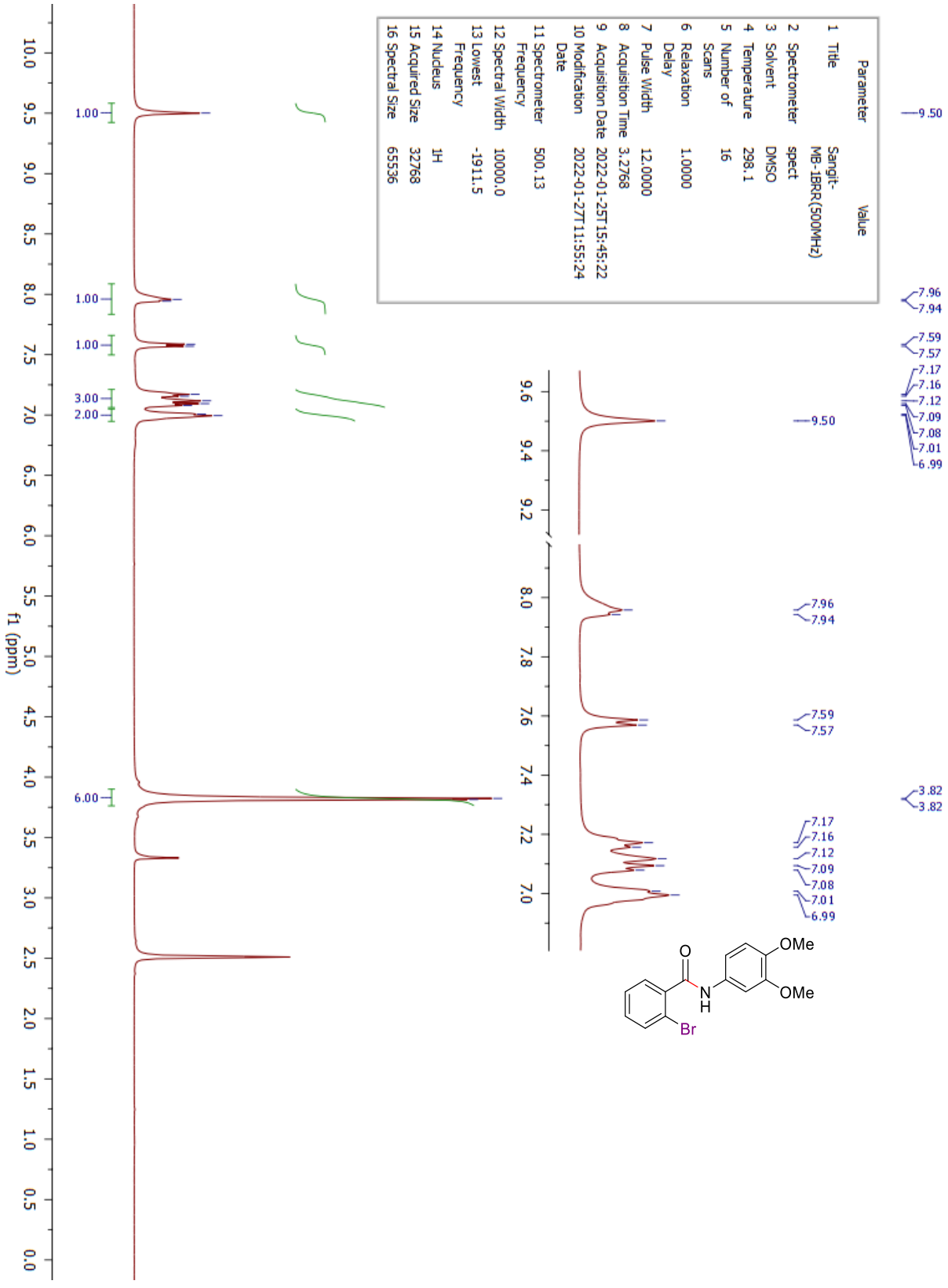


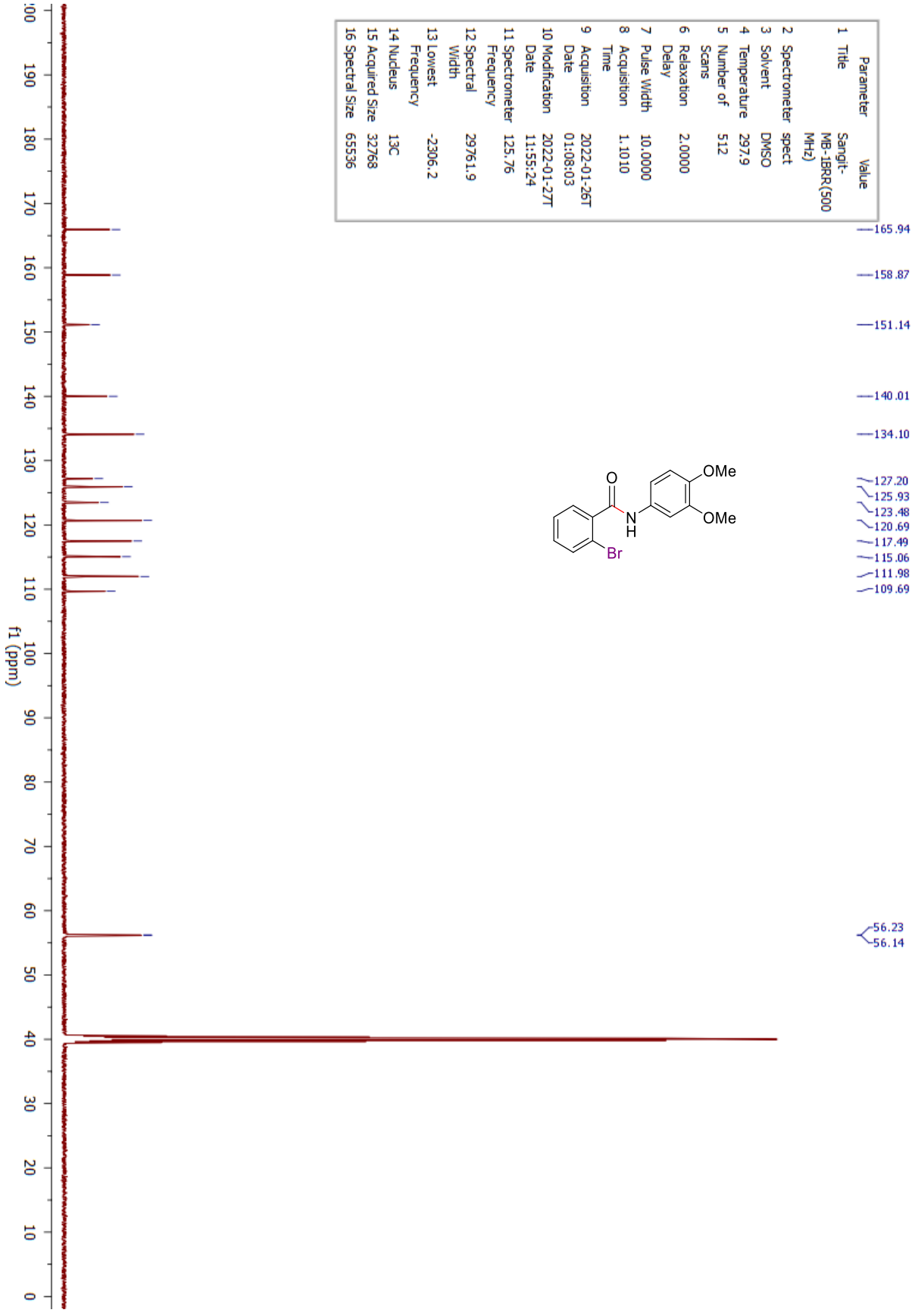
^{13}C NMR spectra of 2-bromo-*N*-(4-bromophenyl)benzamide (Substrate for **2j**)



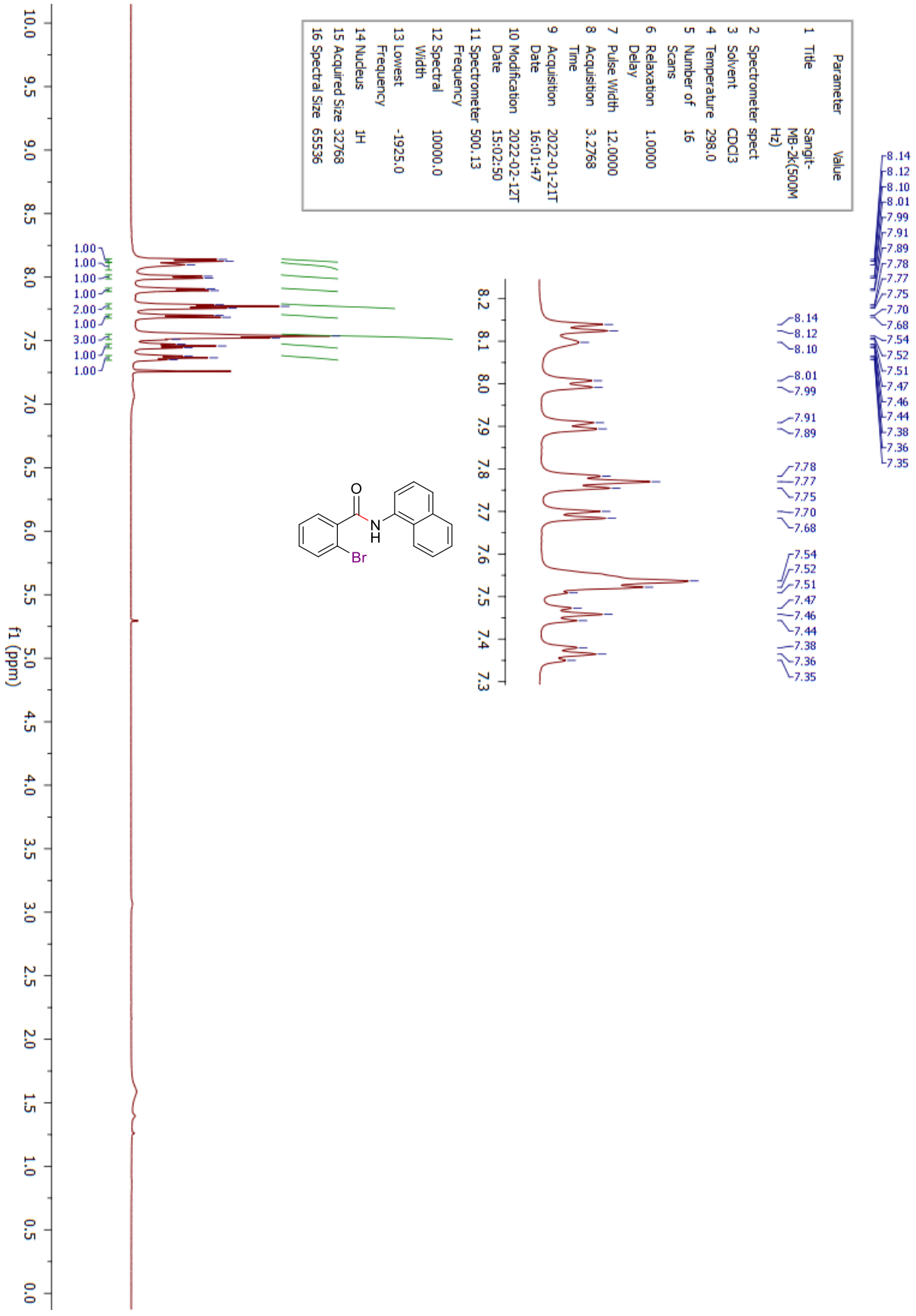
^{1}H NMR spectra of 2-bromo-*N*-(3,4-dimethoxyphenyl)benzamide (Substrate for **2m**)



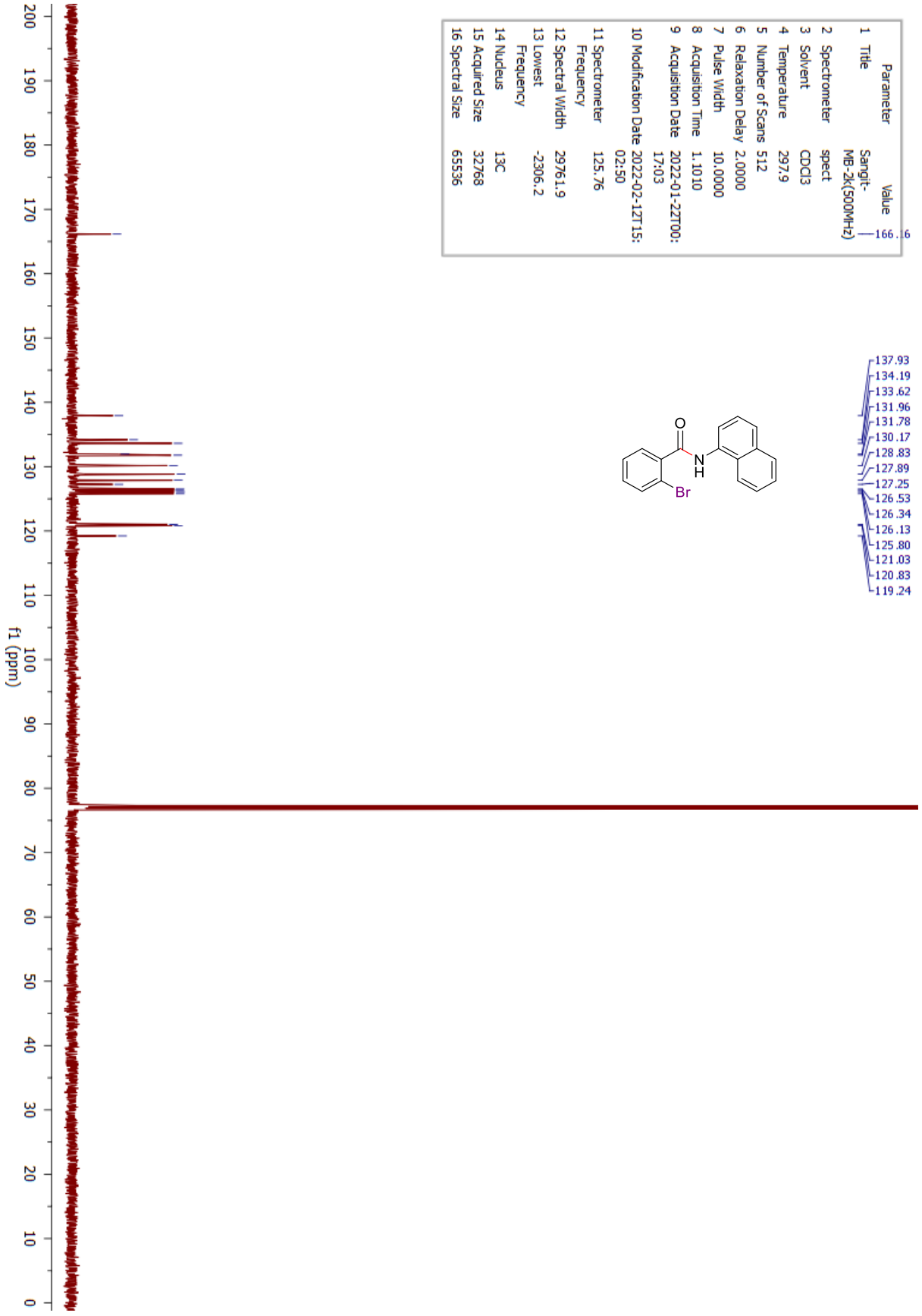
^{13}C NMR spectra of 2-bromo-*N*-(3,4-dimethoxyphenyl)benzamide (Substrate for **2m**)



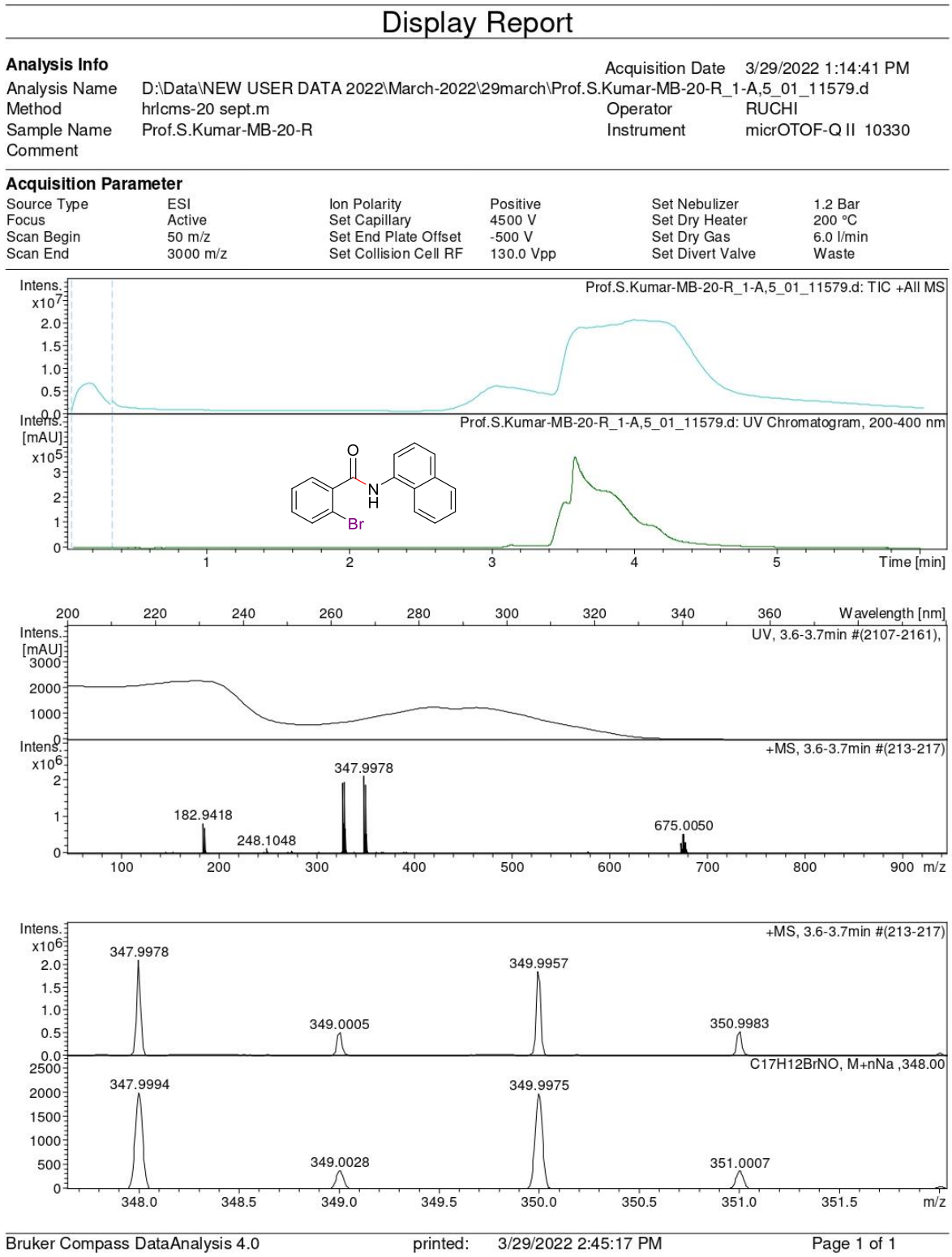
^{1}H NMR spectra of 2-bromo-*N*-(naphthalen-1-yl)benzamide (Substrate for **2o**)



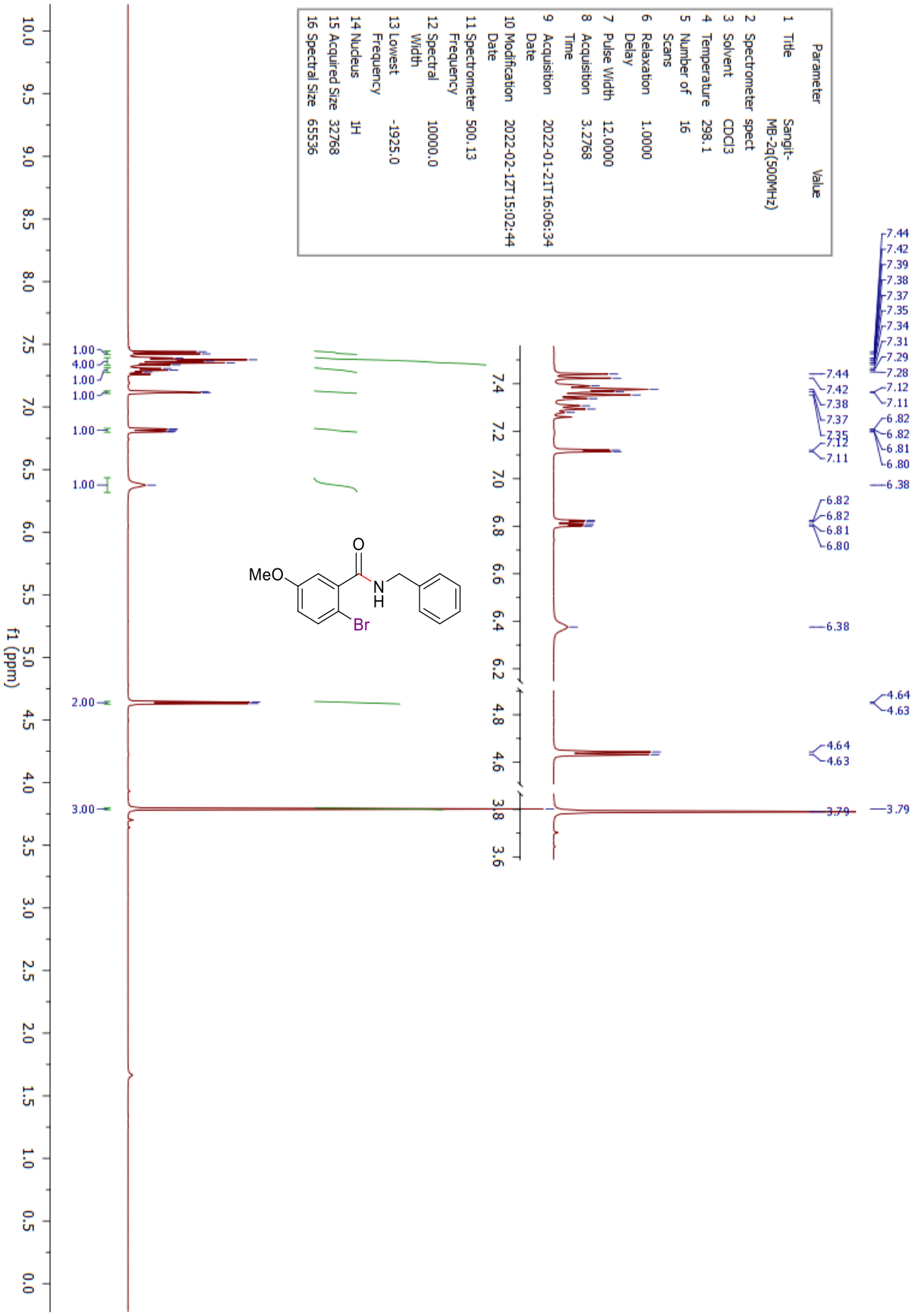
^{13}C NMR spectra of 2-bromo-*N*-(naphthalen-1-yl)benzamide (Substrate for **2o**)



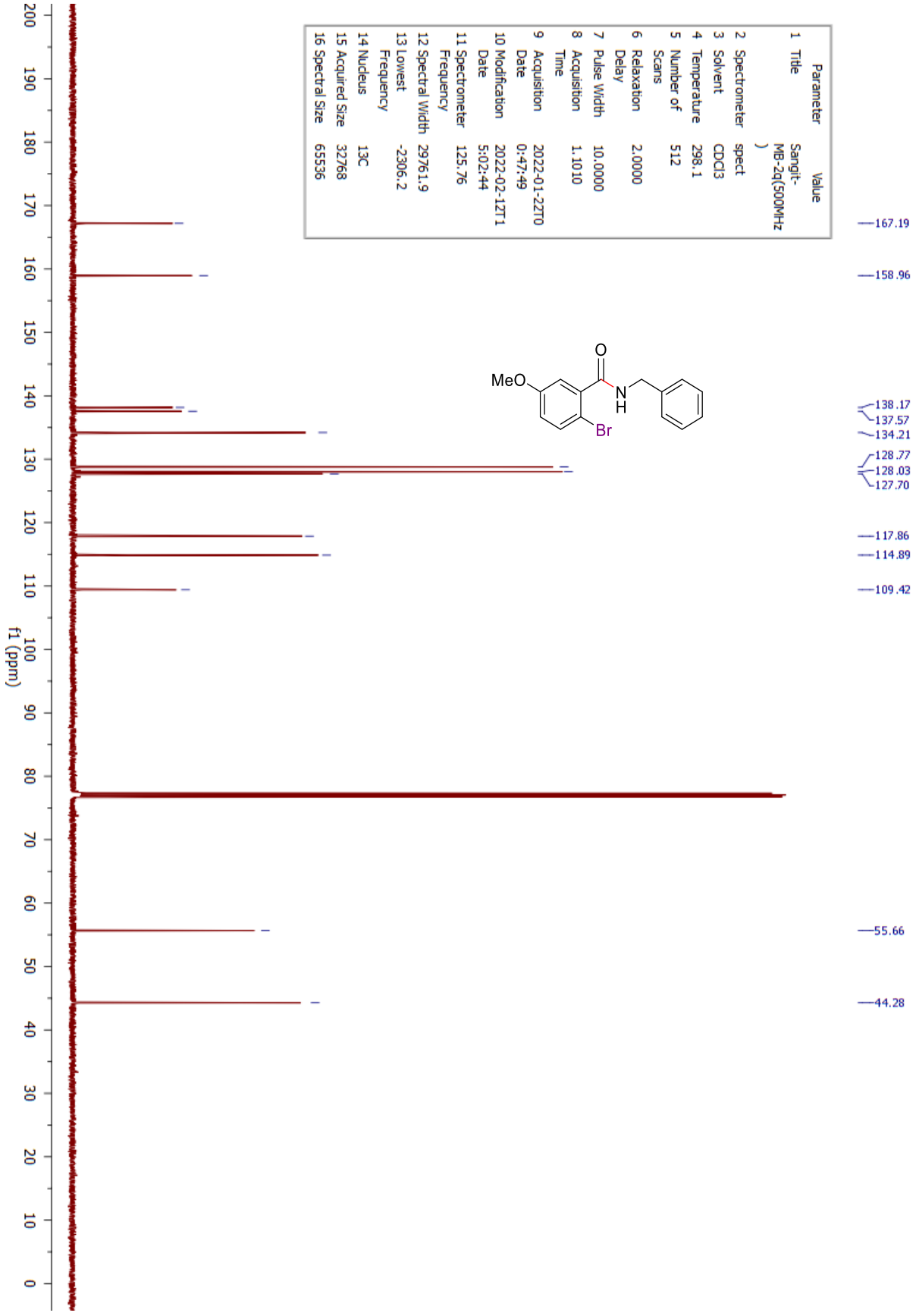
HRMS spectra of 2-bromo-*N*-(naphthalen-1-yl)benzamide (Substrate for **2o**)



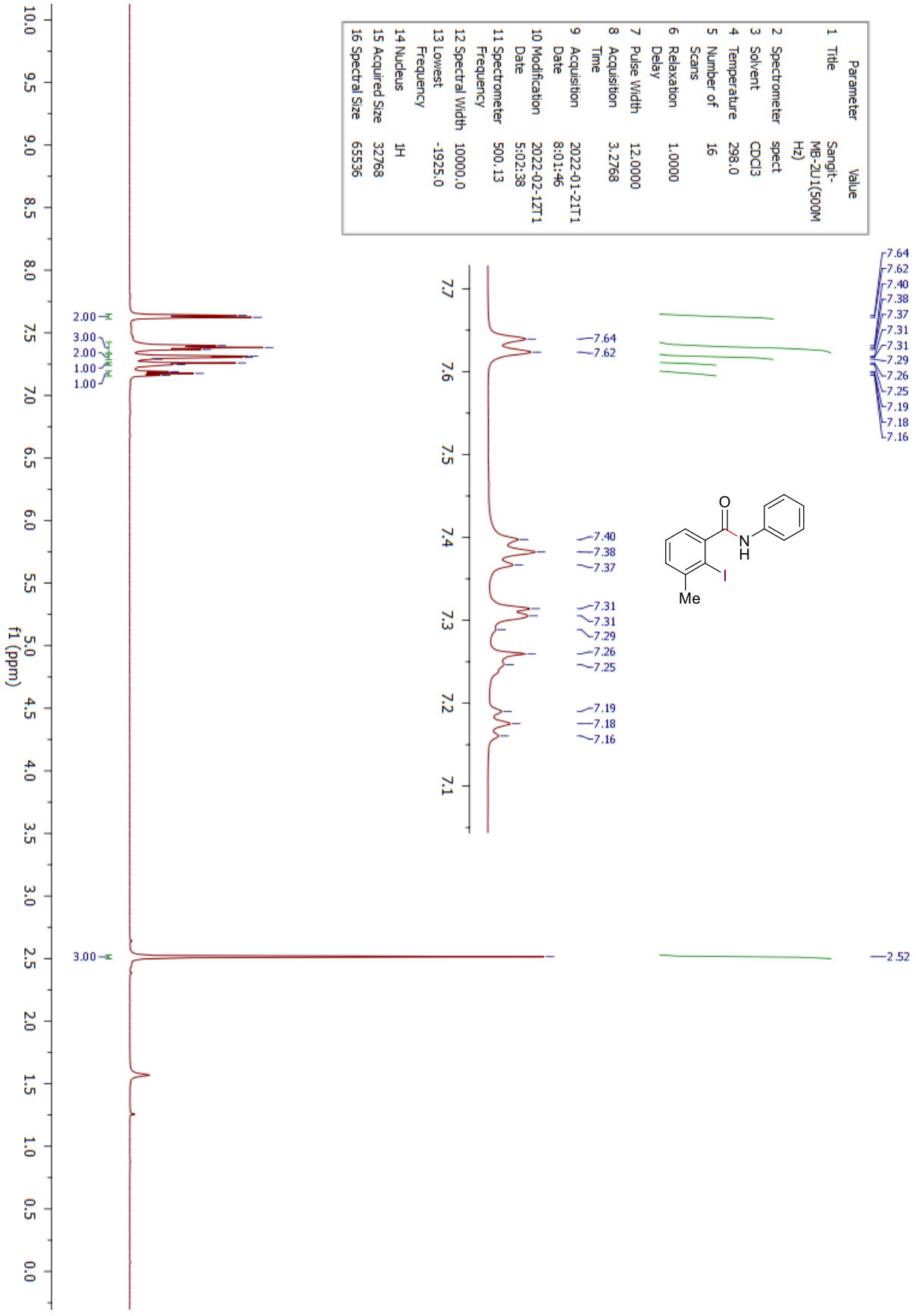
^{1}H NMR spectra of *N*-benzyl-2-bromo-5-methoxybenzamide **(**Substrate for **2p)**



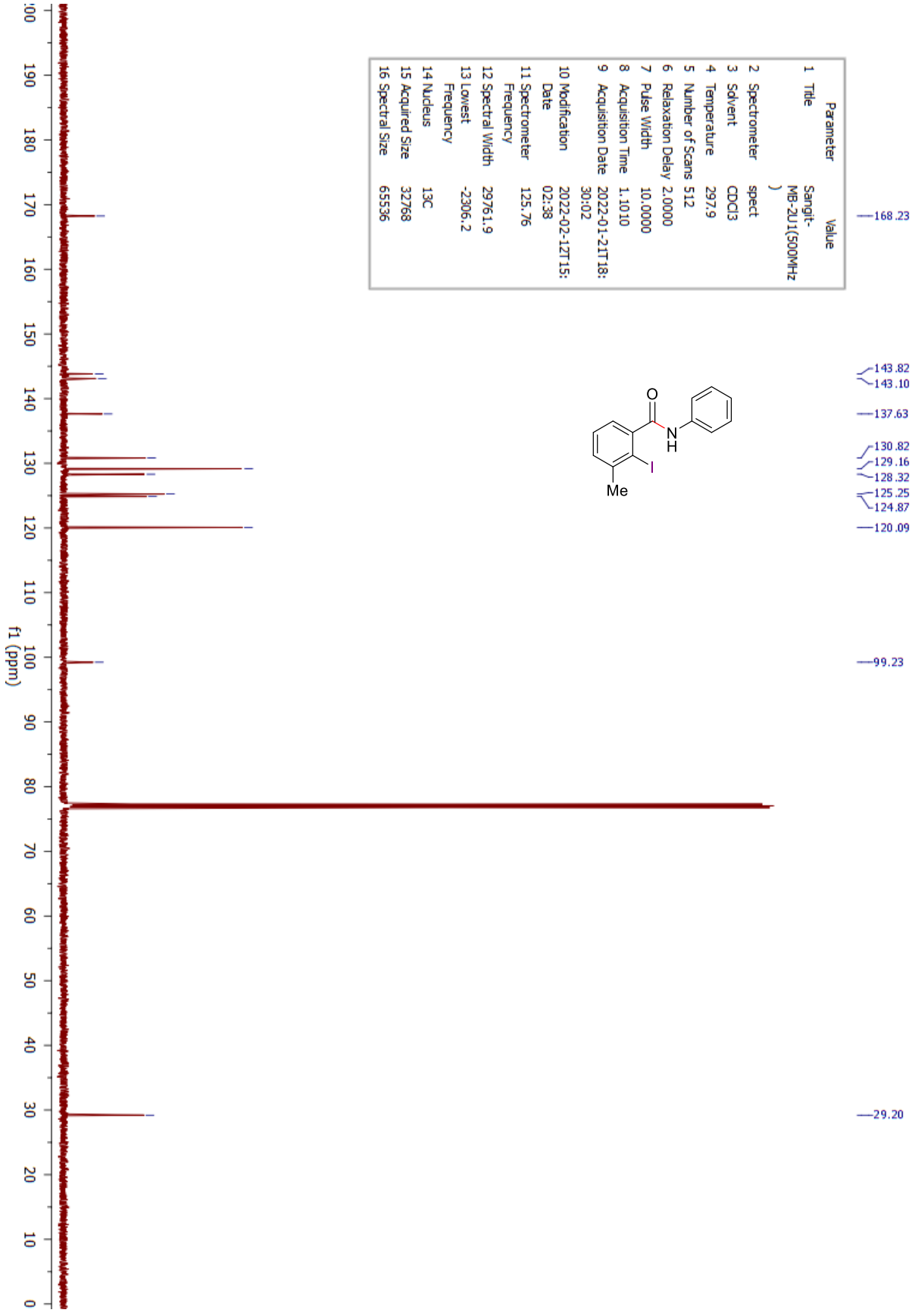
^{13}C NMR spectra of *N*-benzyl-2-bromo-5-methoxybenzamide (Substrate for **2p**)



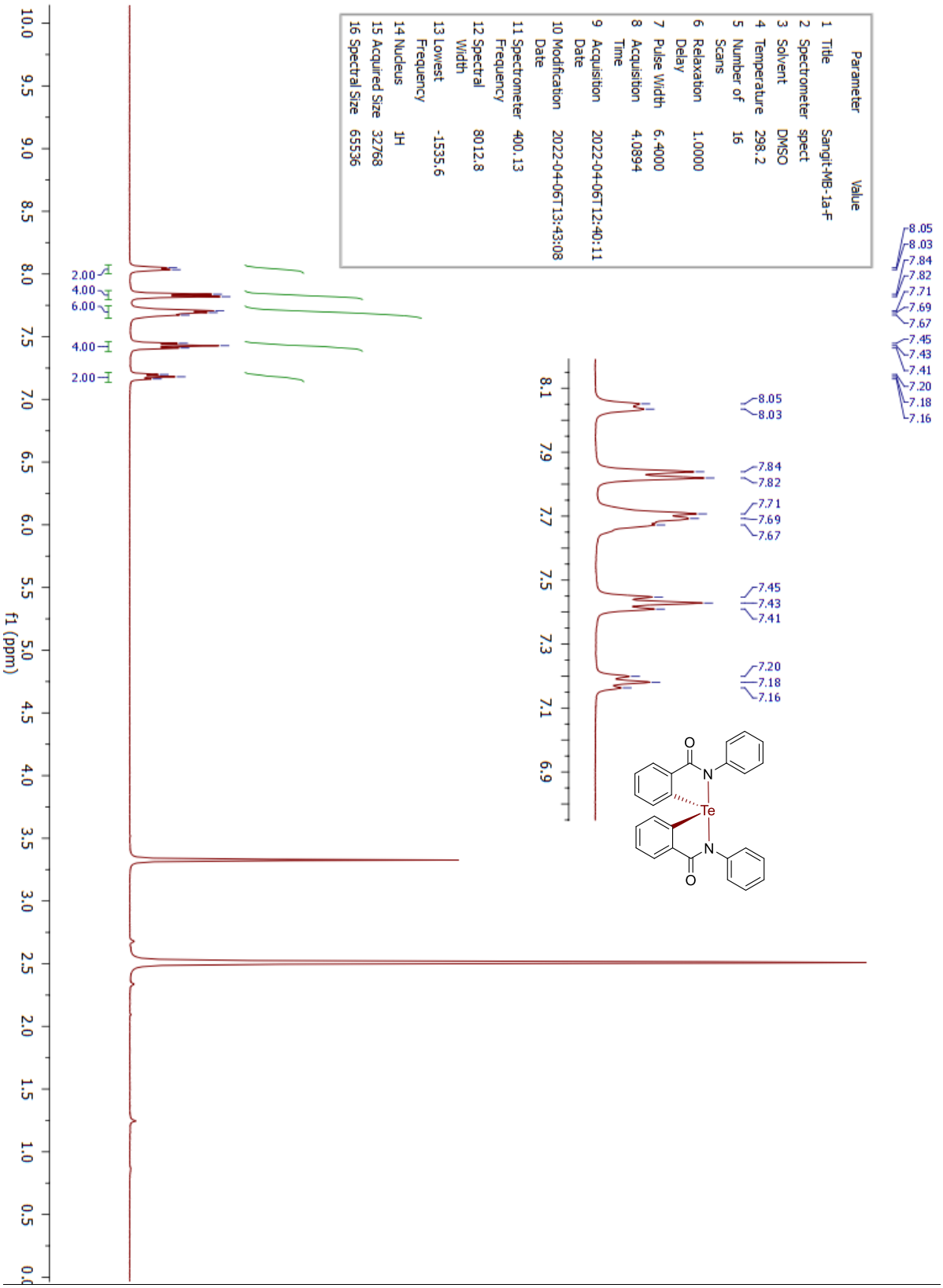
^{1}H NMR spectra of 2-iodo-3-methyl-*N*-phenylbenzamide (Substrate for **2t**)



^{13}C NMR spectra of 2-iodo-3-methyl-*N*-phenylbenzamide (Substrate for **2t**)

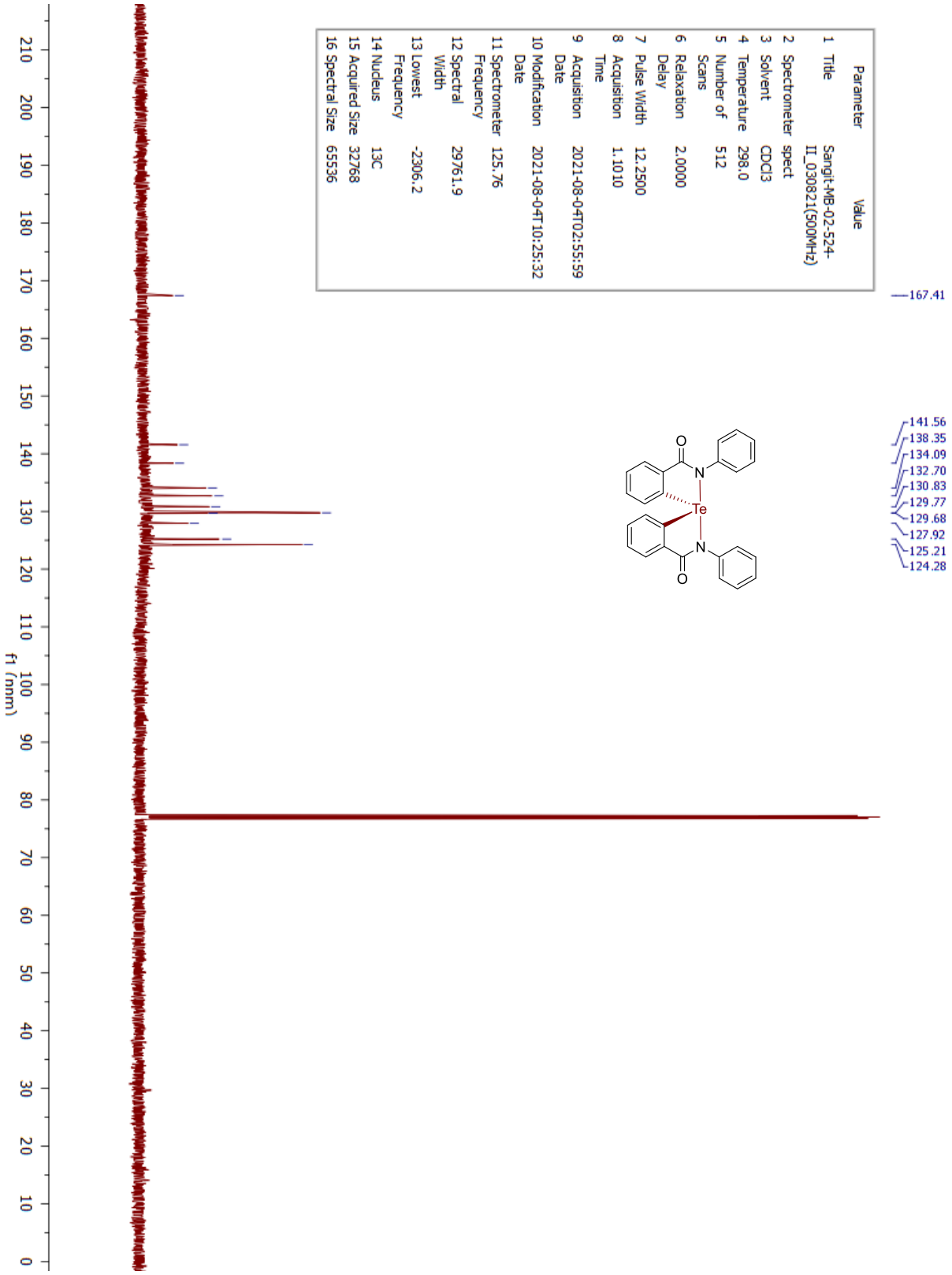


^{1}H NMR spectra of **1a**

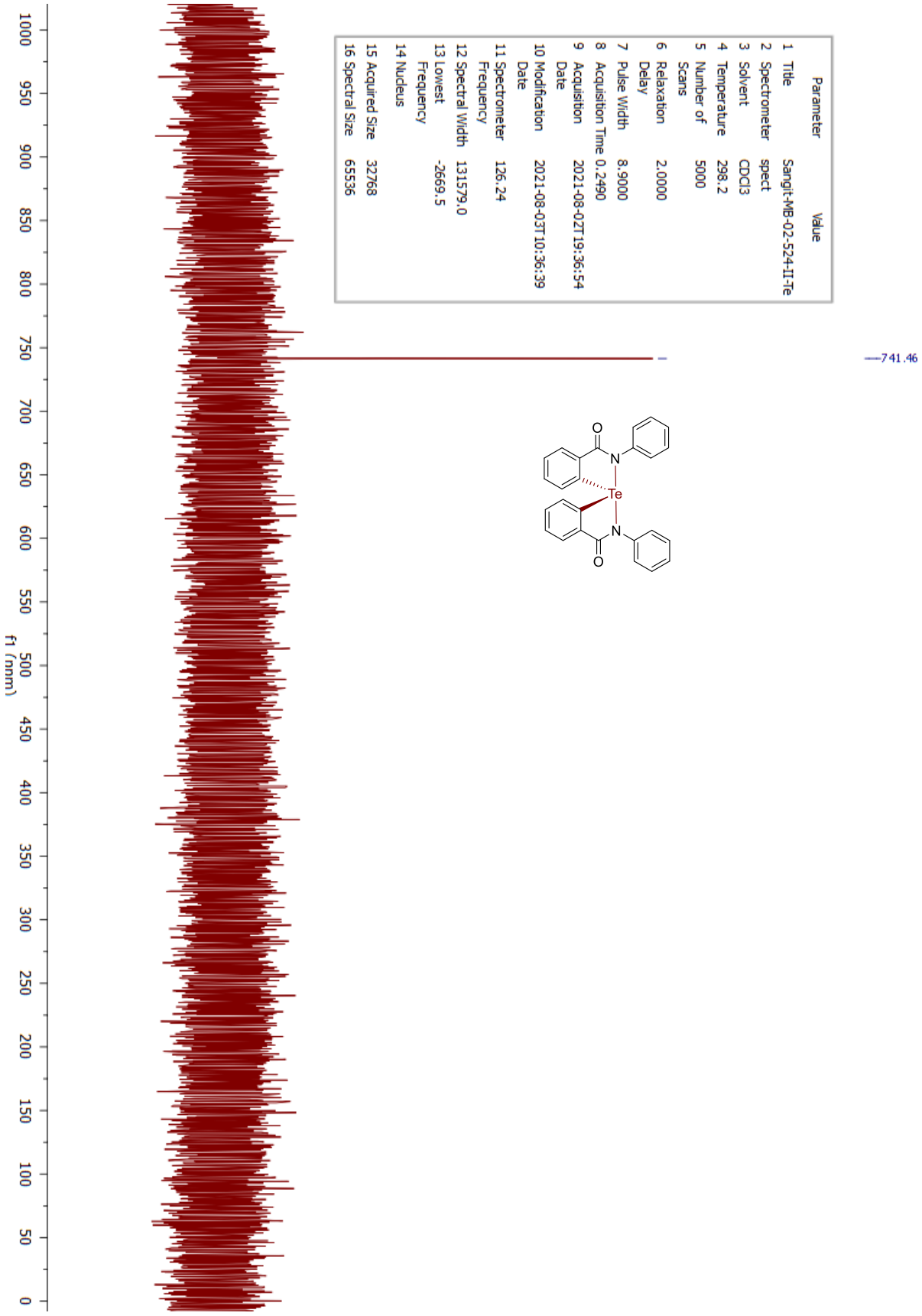


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **1a**



^{125}Te NMR spectra of **1a**



HRMS spectra of **1a**

Display Report

Analysis Info

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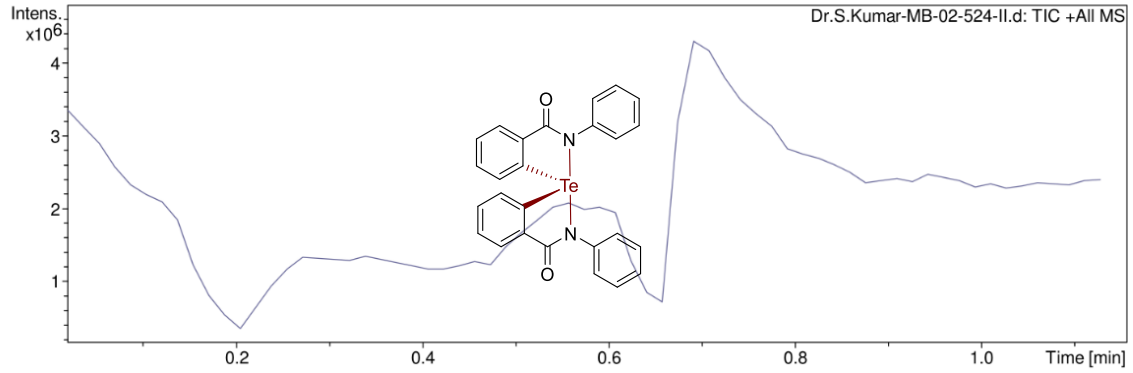
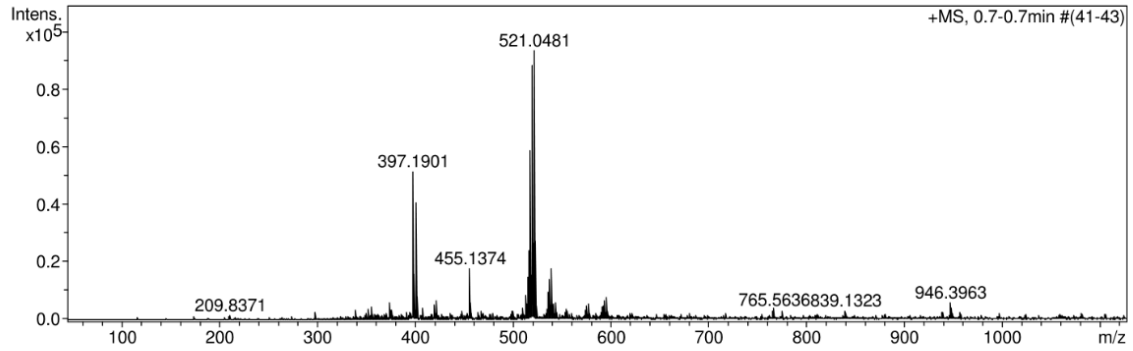
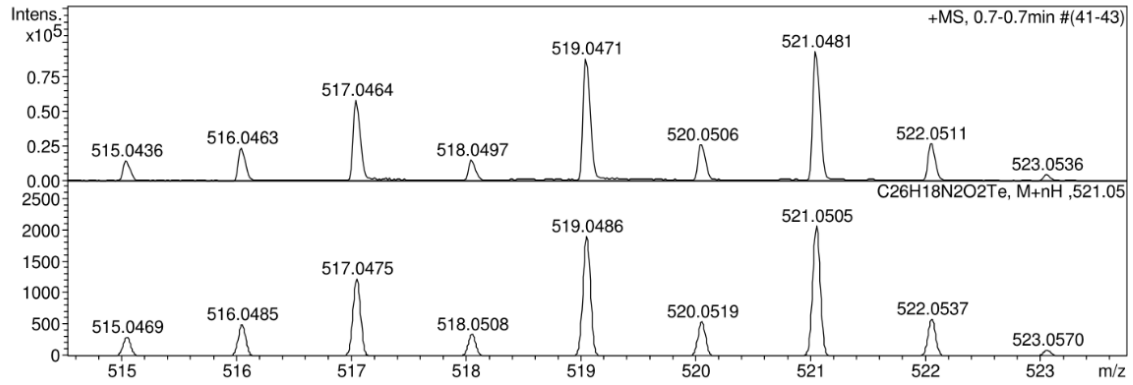
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-02-524-II	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste

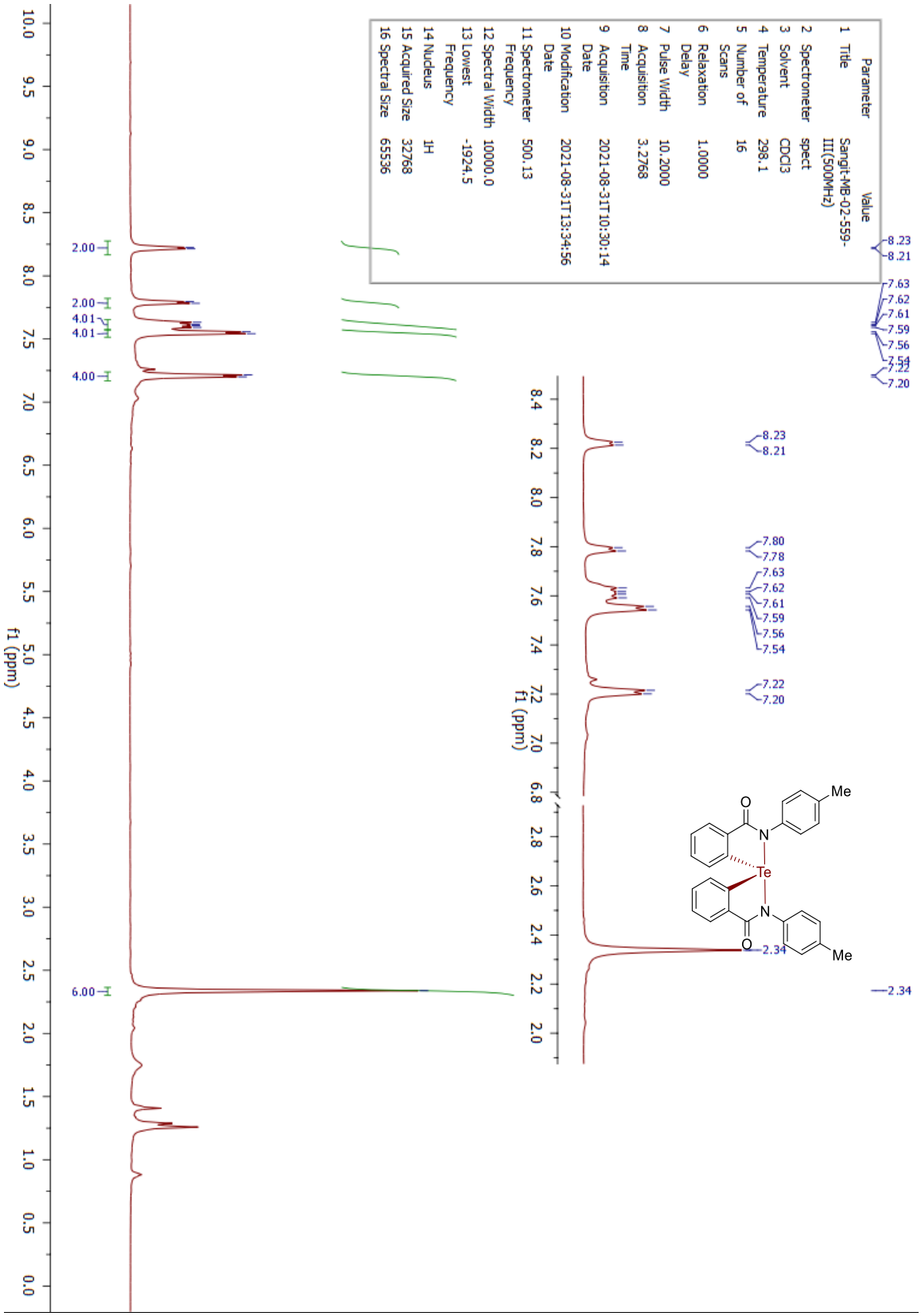






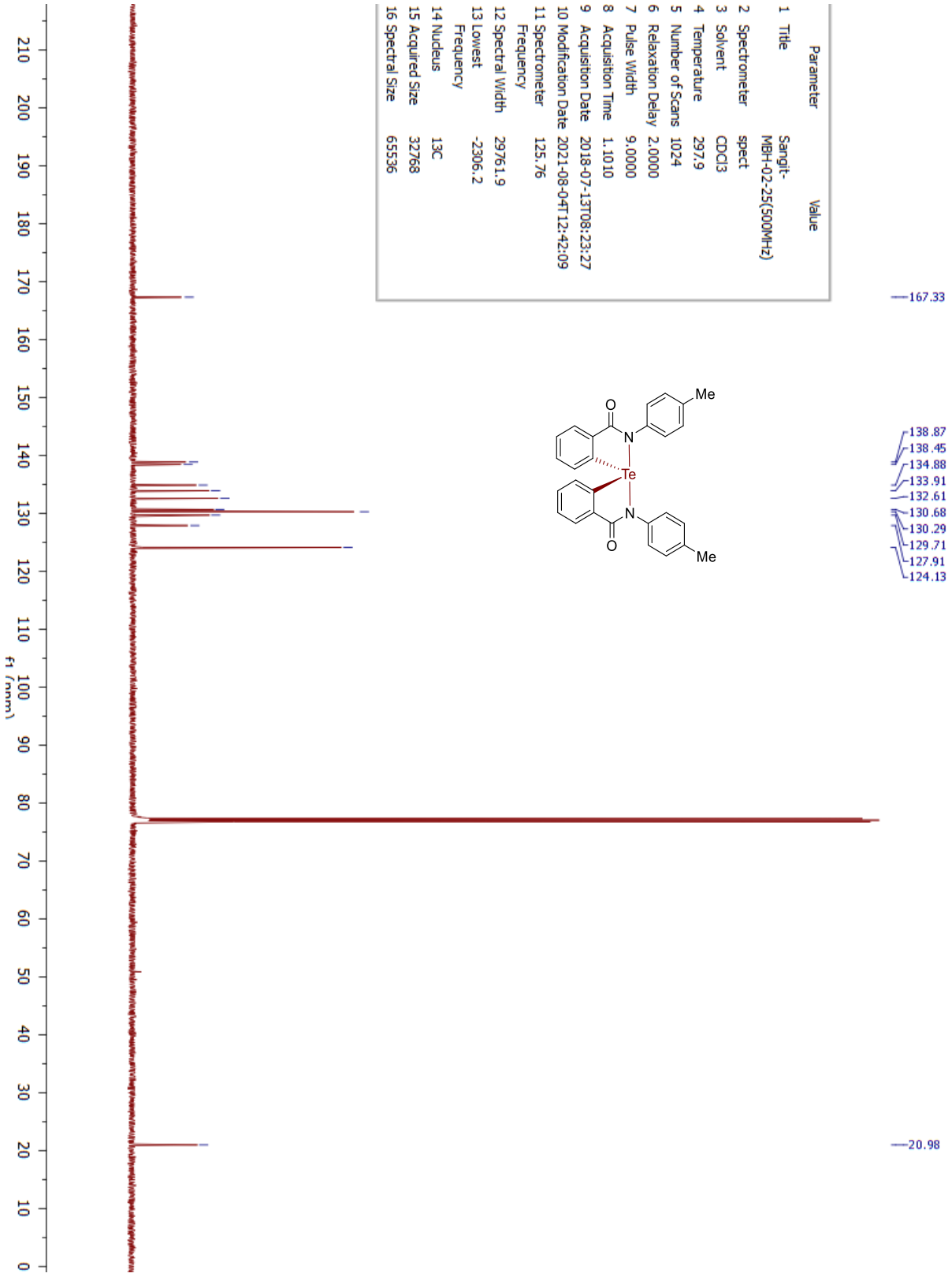
Bruker Compass DataAnalysis 4.0 printed: 8/3/2021 4:00:12 PM Page 1 of 1

^{1}H NMR spectra of **1b**

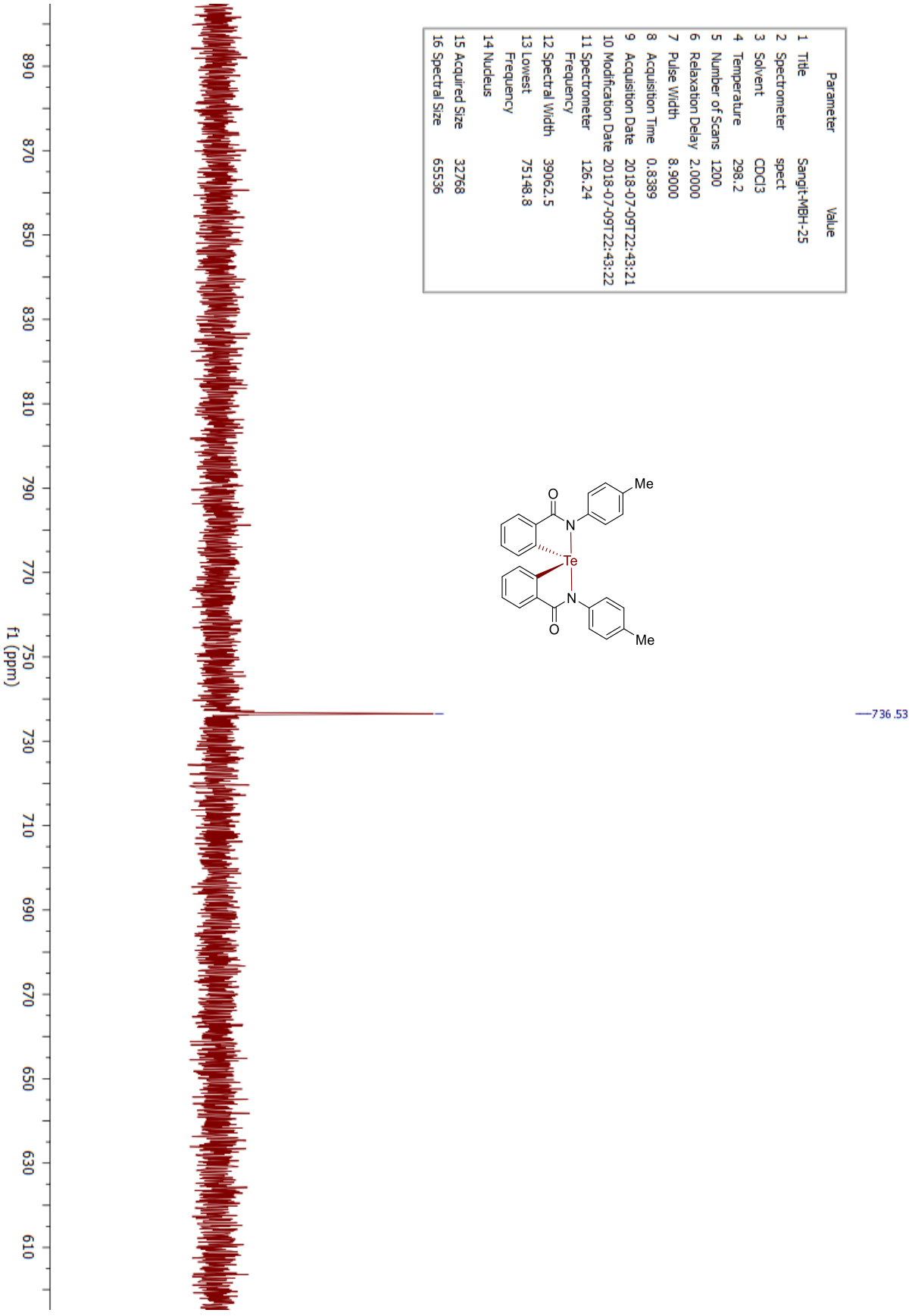


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively. Peaks at 0.86 and 1.26 correspond to grease.

^{13}C NMR spectra of **1b**



^{125}Te NMR spectra of **1b**



HRMS spectra of **1b**

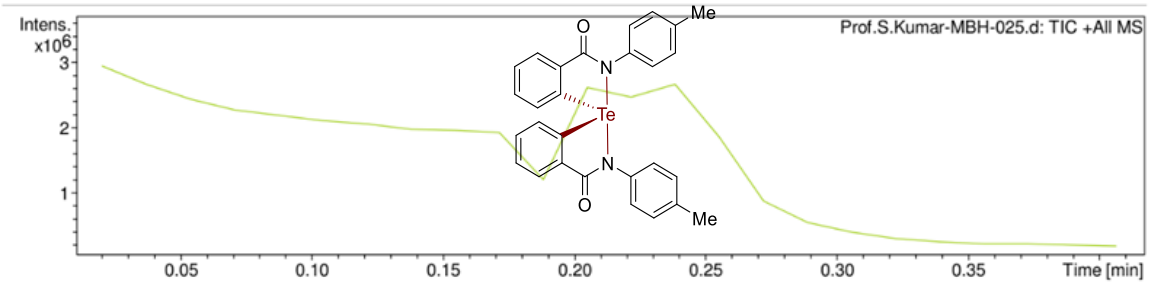
Display Report

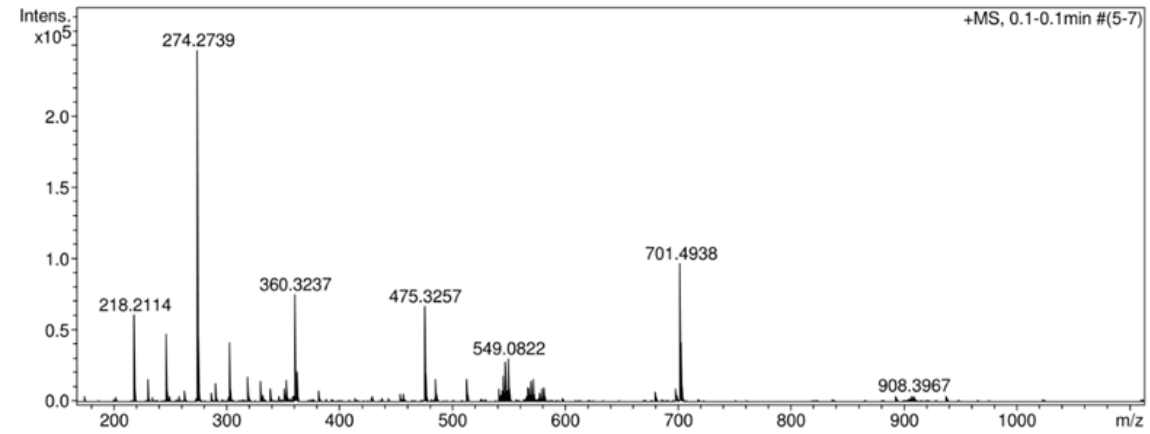
Analysis Info

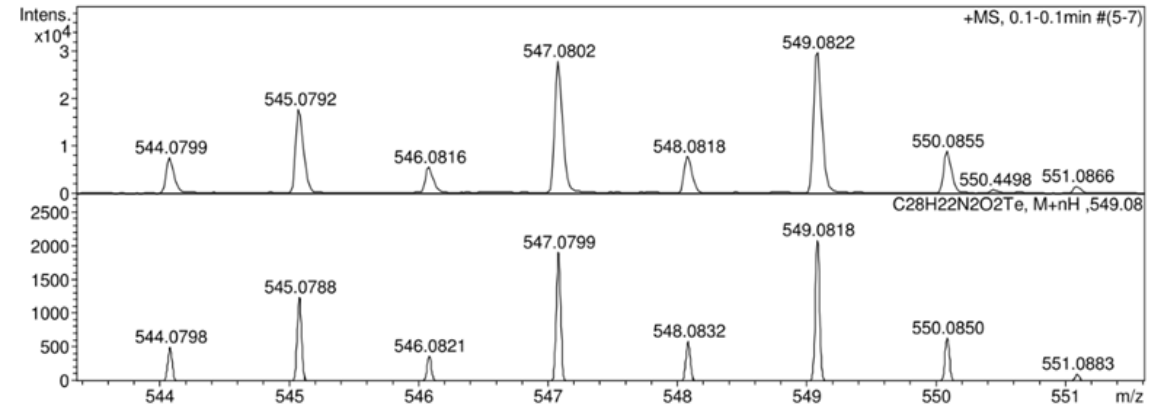
Analysis Name	D:\Data\NEW USER DATA 2017\2018\JULY-2018\09-07-2018\Prof.S.Kumar-MBH-025.d	Acquisition Date	7/9/2018 3:37:43 PM
Method	tune_low.m	Operator	RUCHI
Sample Name	BH-025	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

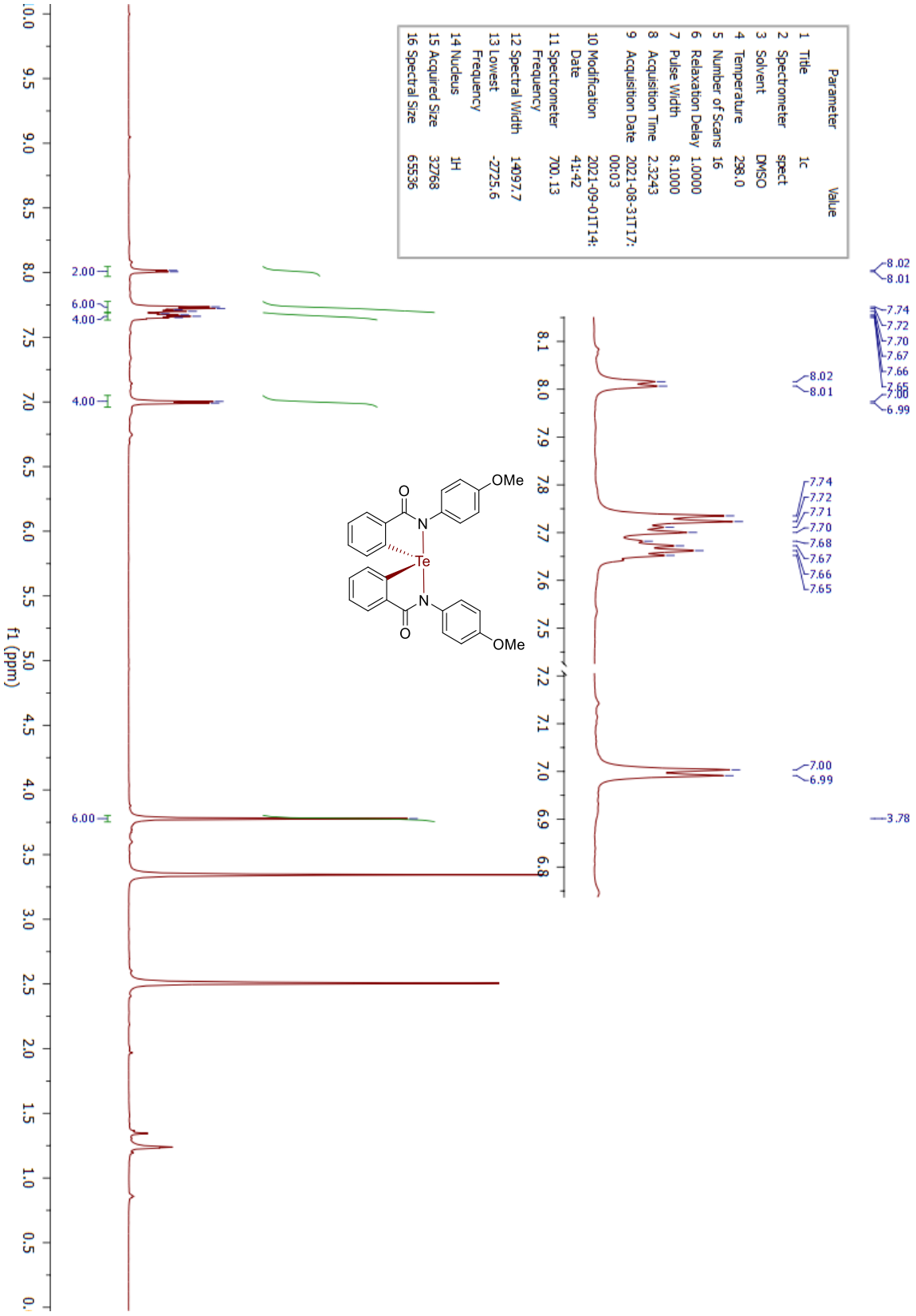
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





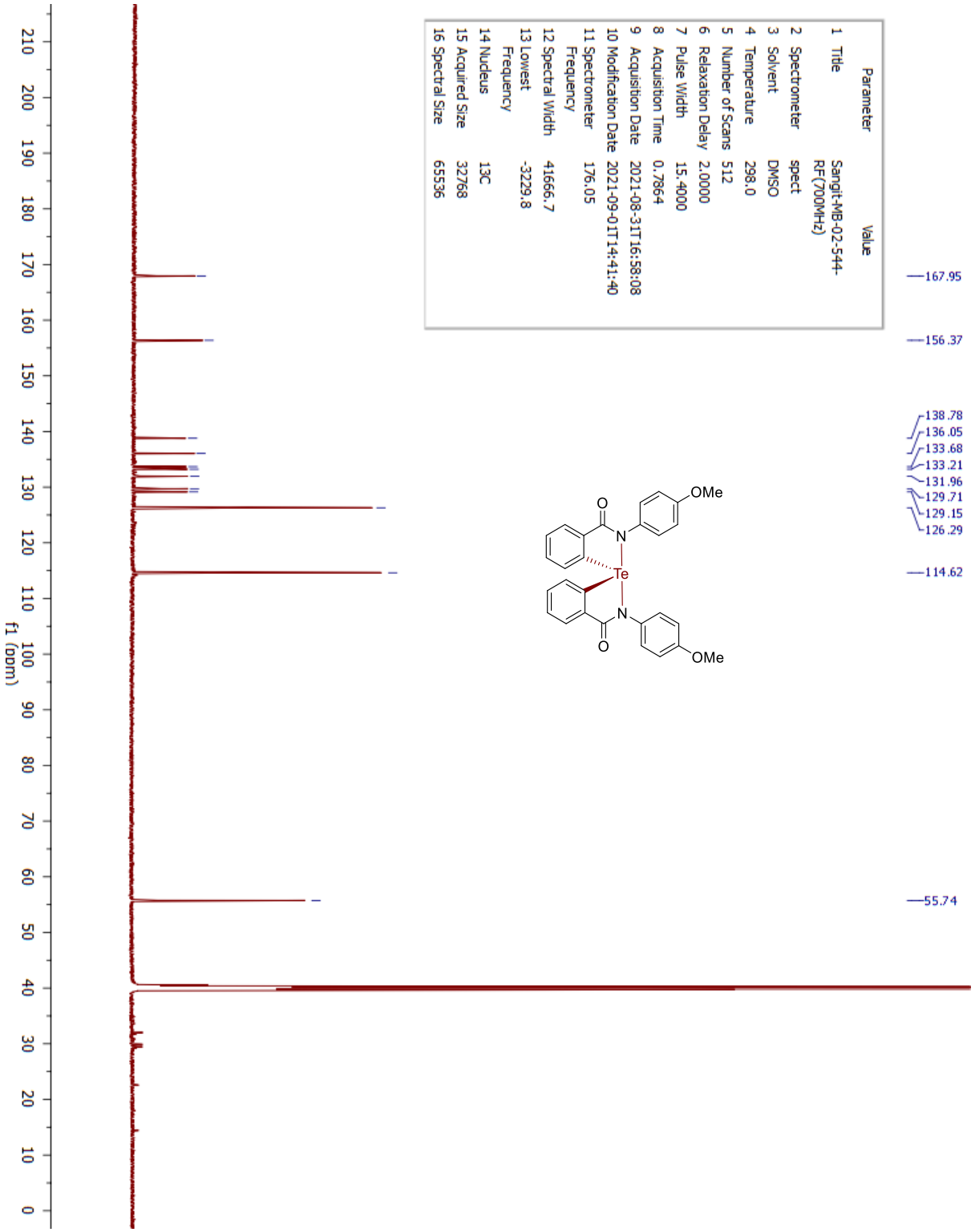


^{1}H NMR spectra of **1c**

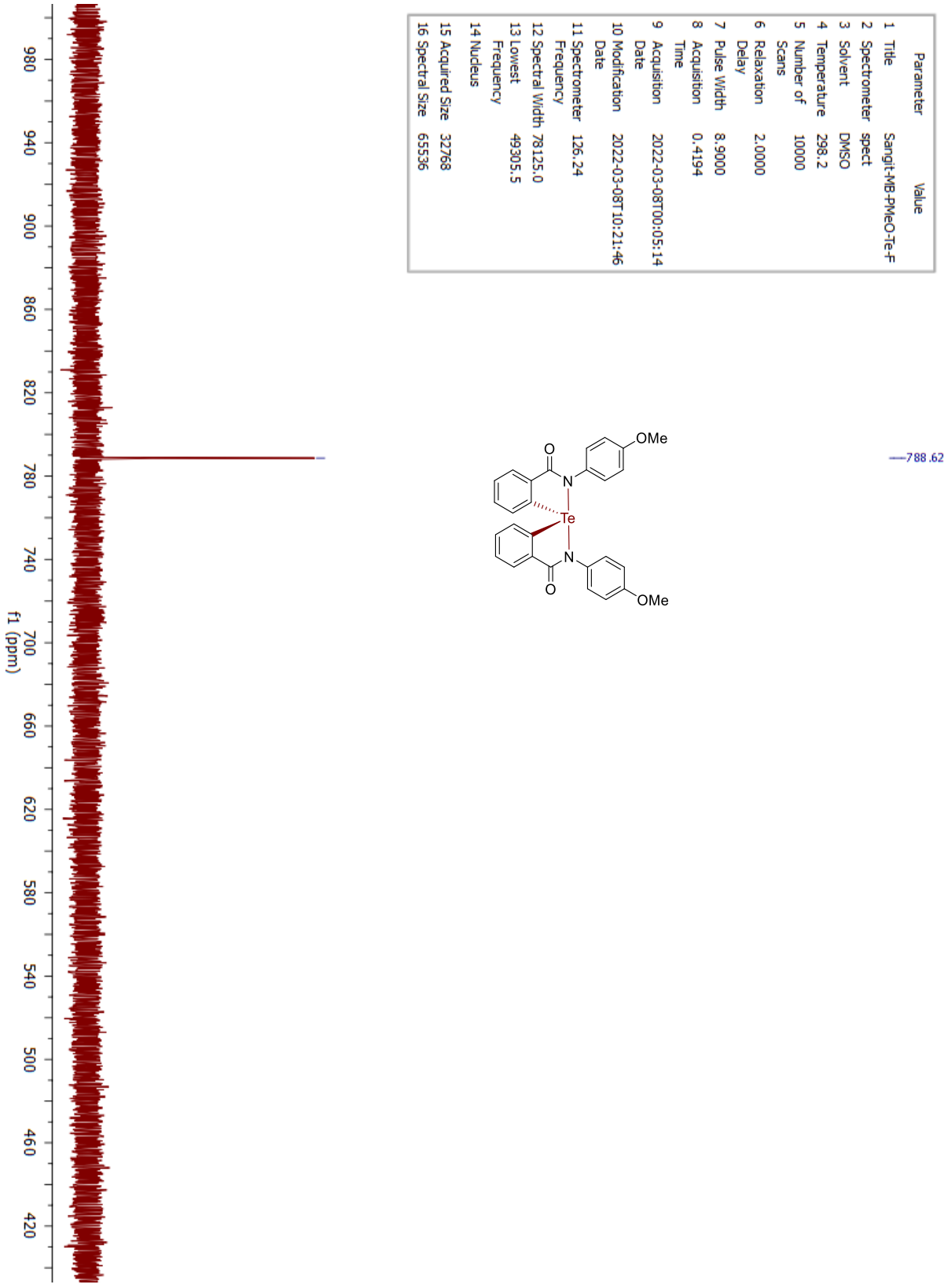


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **1c**



^{125}Te NMR spectra of **1c**



HRMS spectra of **1c**

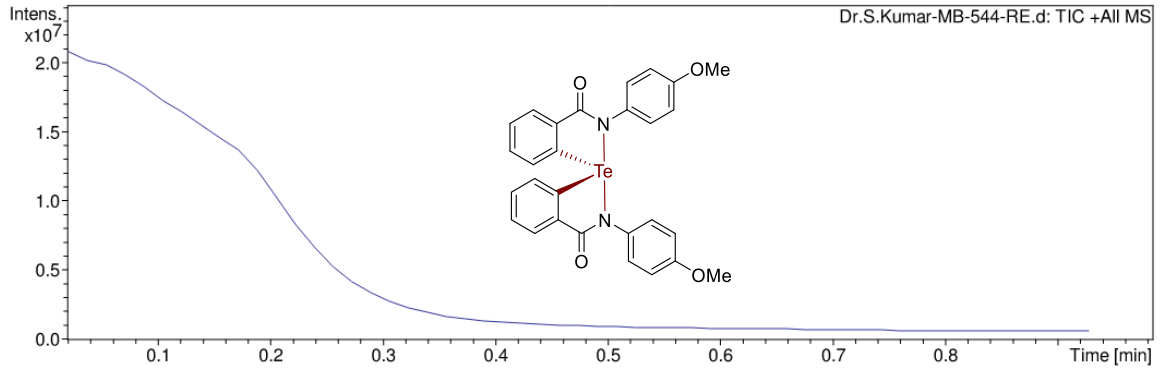
Display Report

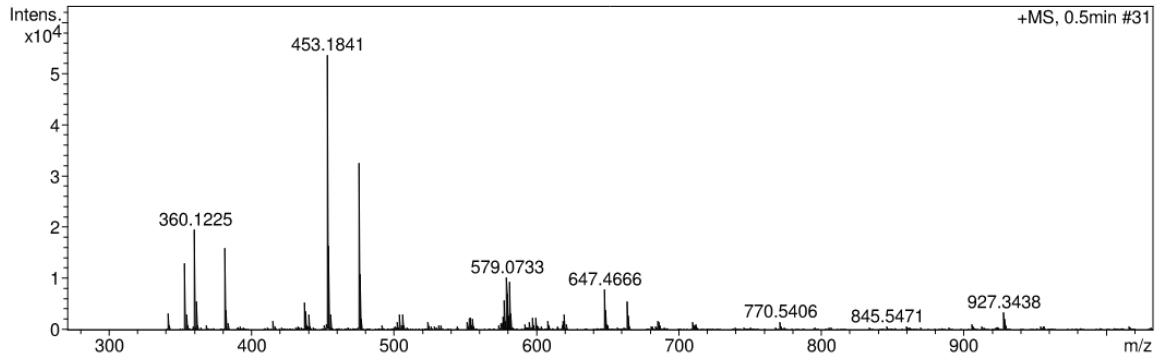
Analysis Info

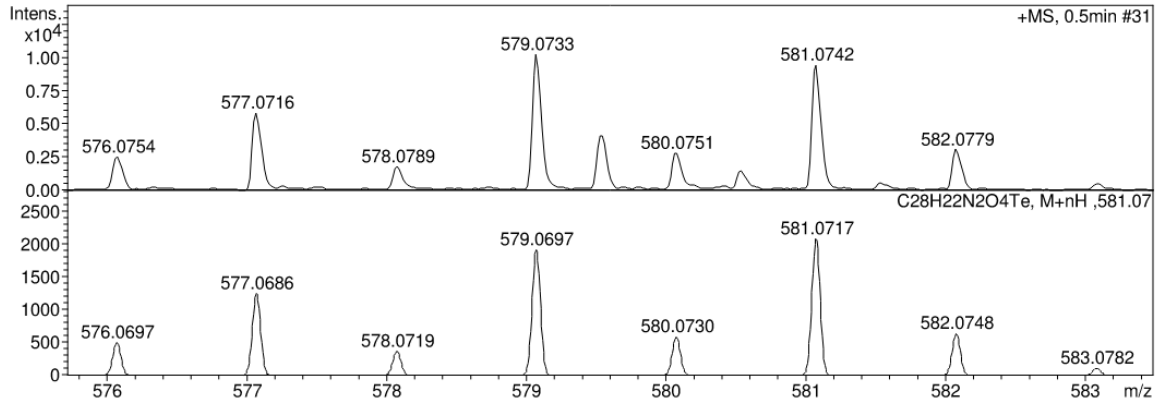
Analysis Name	D:\Data\NEW USER DATA 2022\April-2022\11-april\Dr.S.Kumar-MB-544-RE.d	Acquisition Date	4/11/2022 2:40:25 PM
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-544-RE	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

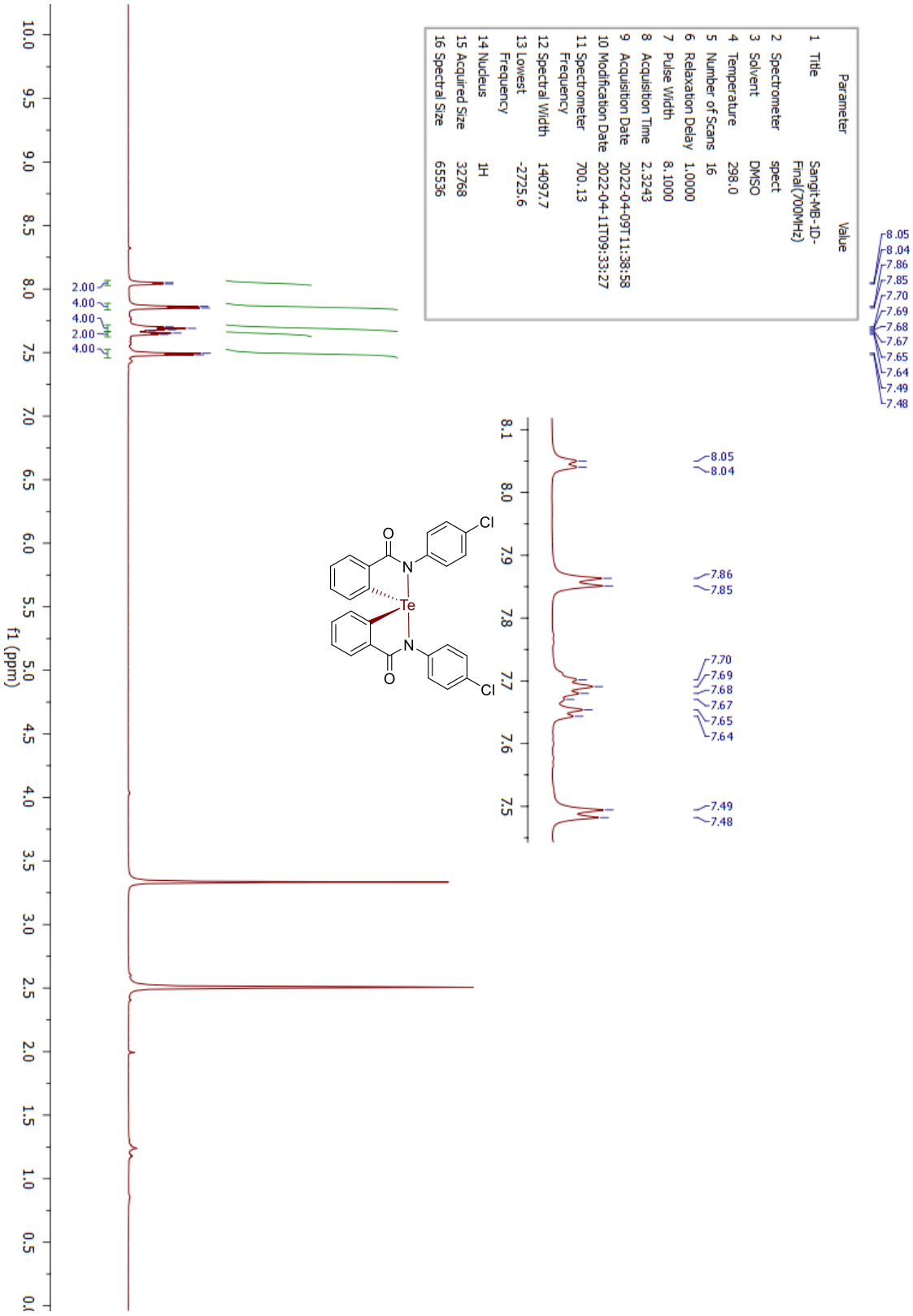
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Source





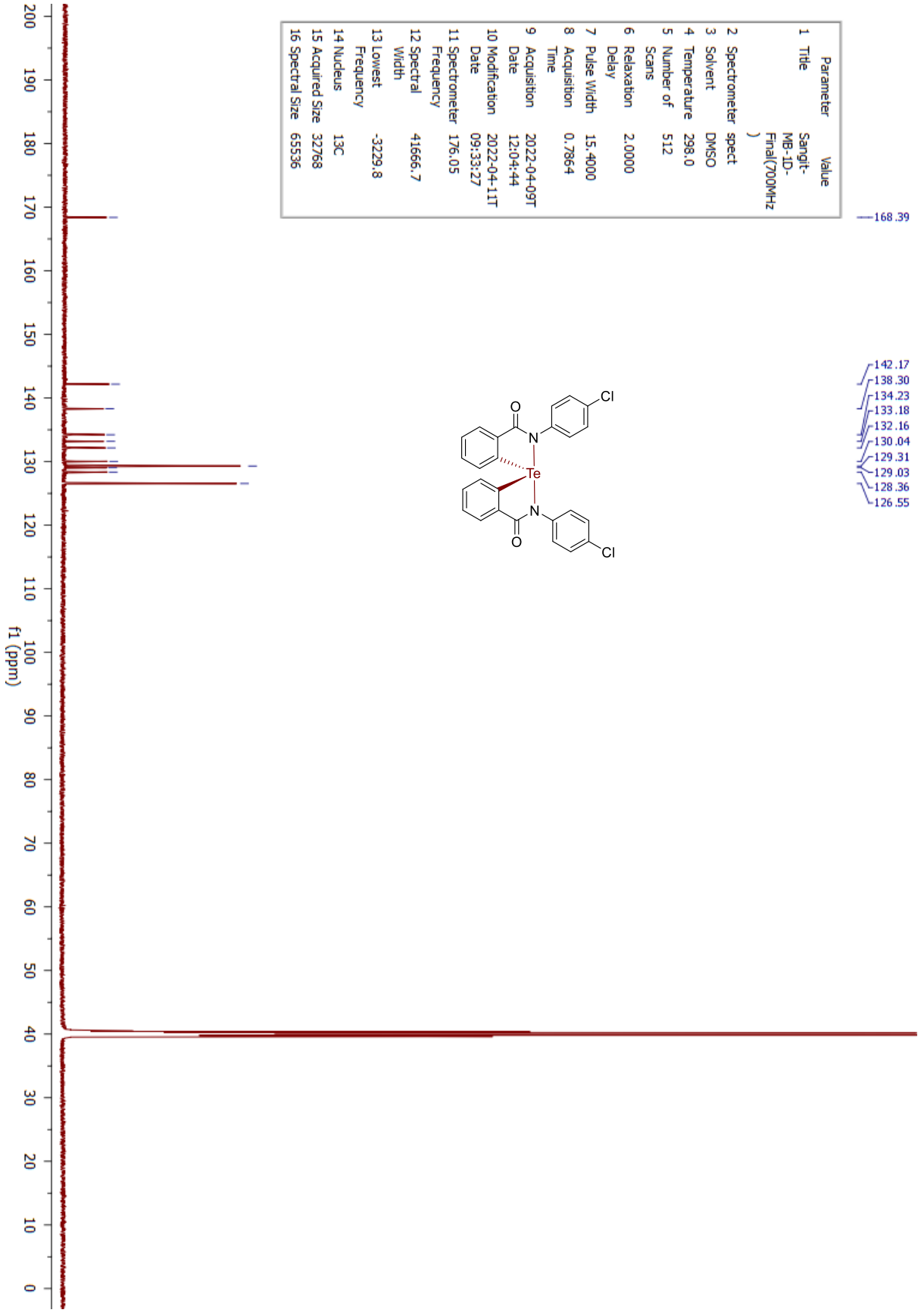


^{1}H NMR spectra of **1d**

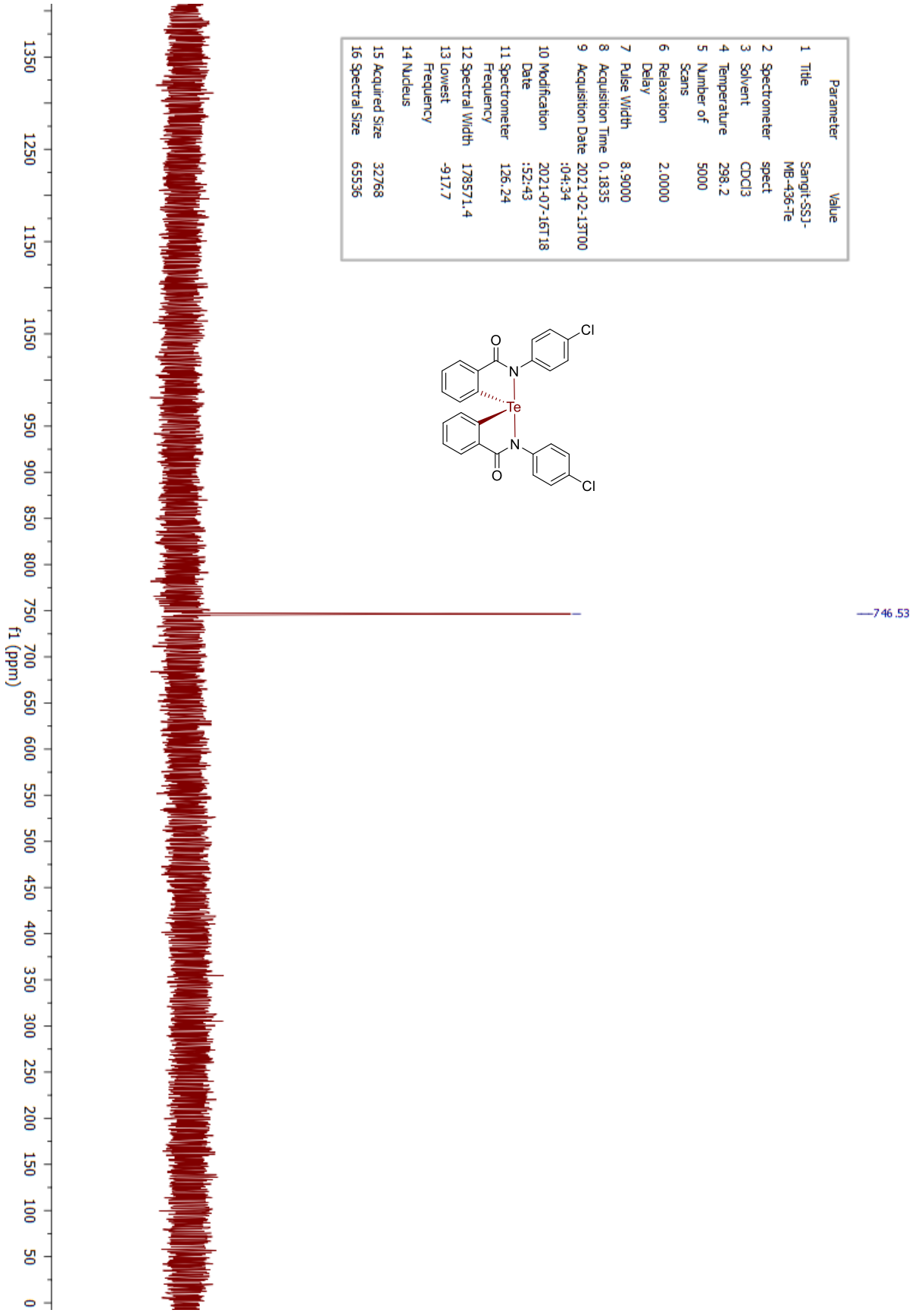


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively. Peaks at 0.88 and 1.27 correspond to grease.

^{13}C NMR spectra of **1d**



^{125}Te NMR spectra of **1d**



HRMS spectra of **1d**

Display Report

nalysis Info

		Acquisition Date	4/6/2022 4:01:55 PM
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lethod	tune_wide.m	Operator	RUCHI
ample Name	MB-1D-SP-TE	Instrument	micrOTOF-Q II 10330
omment			

cquisition Parameter

ource Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
ocus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
can Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
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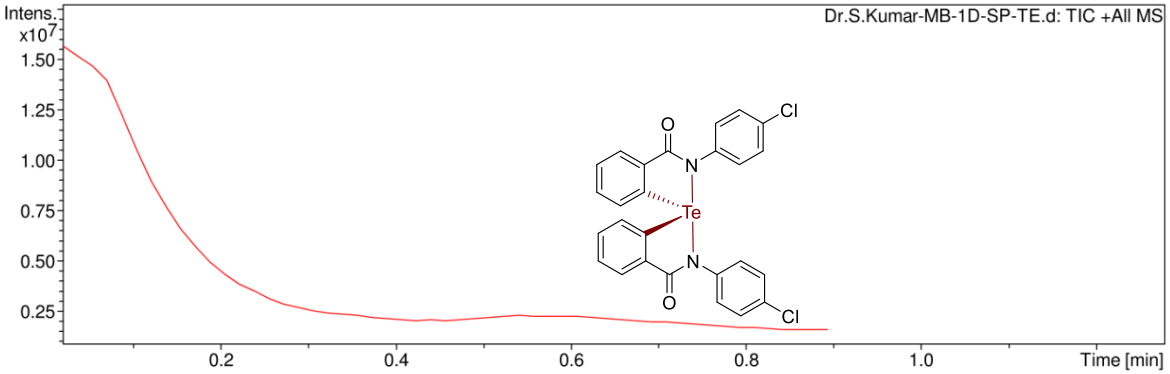
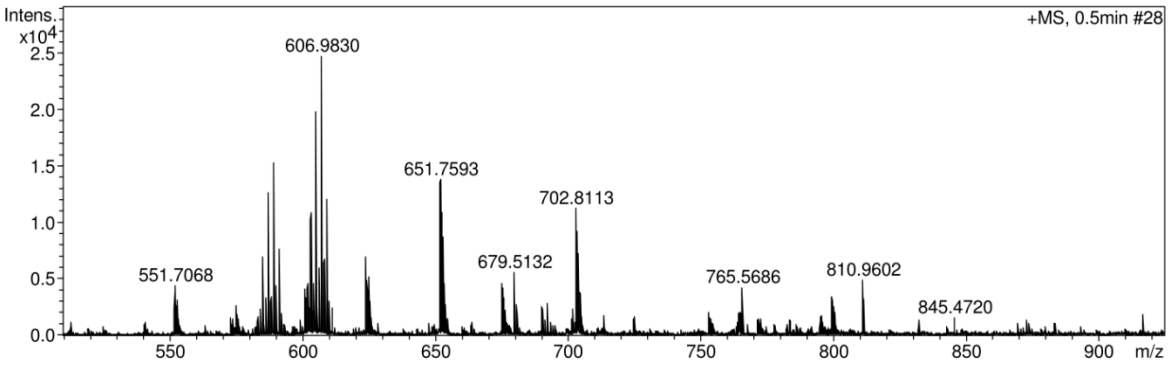
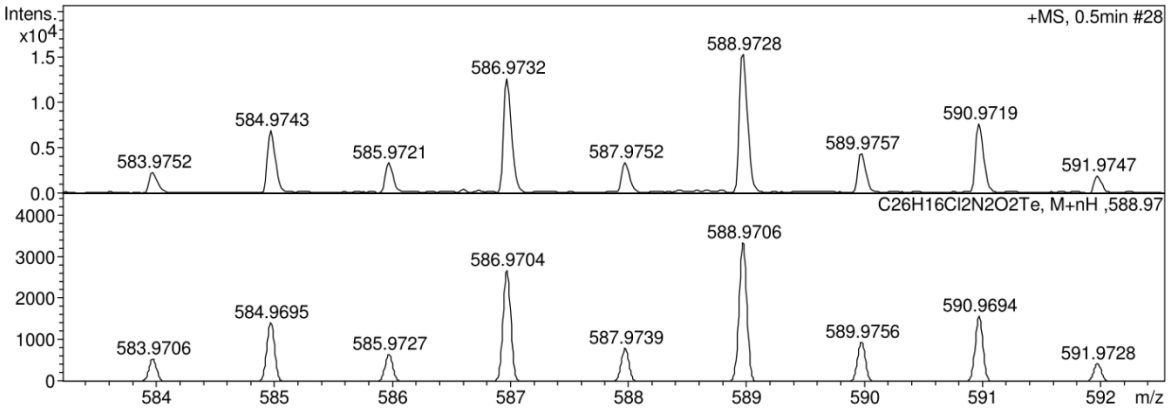
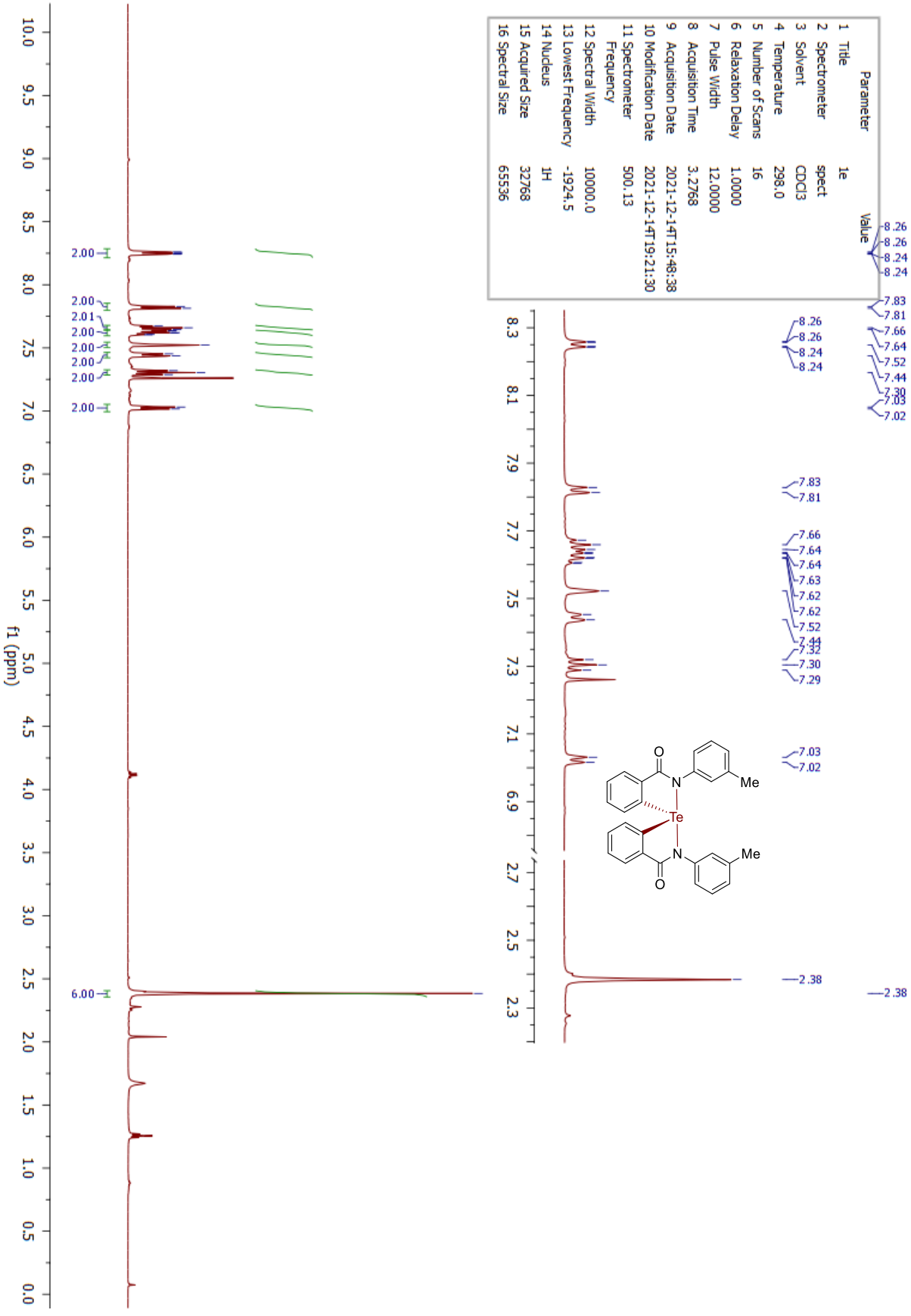


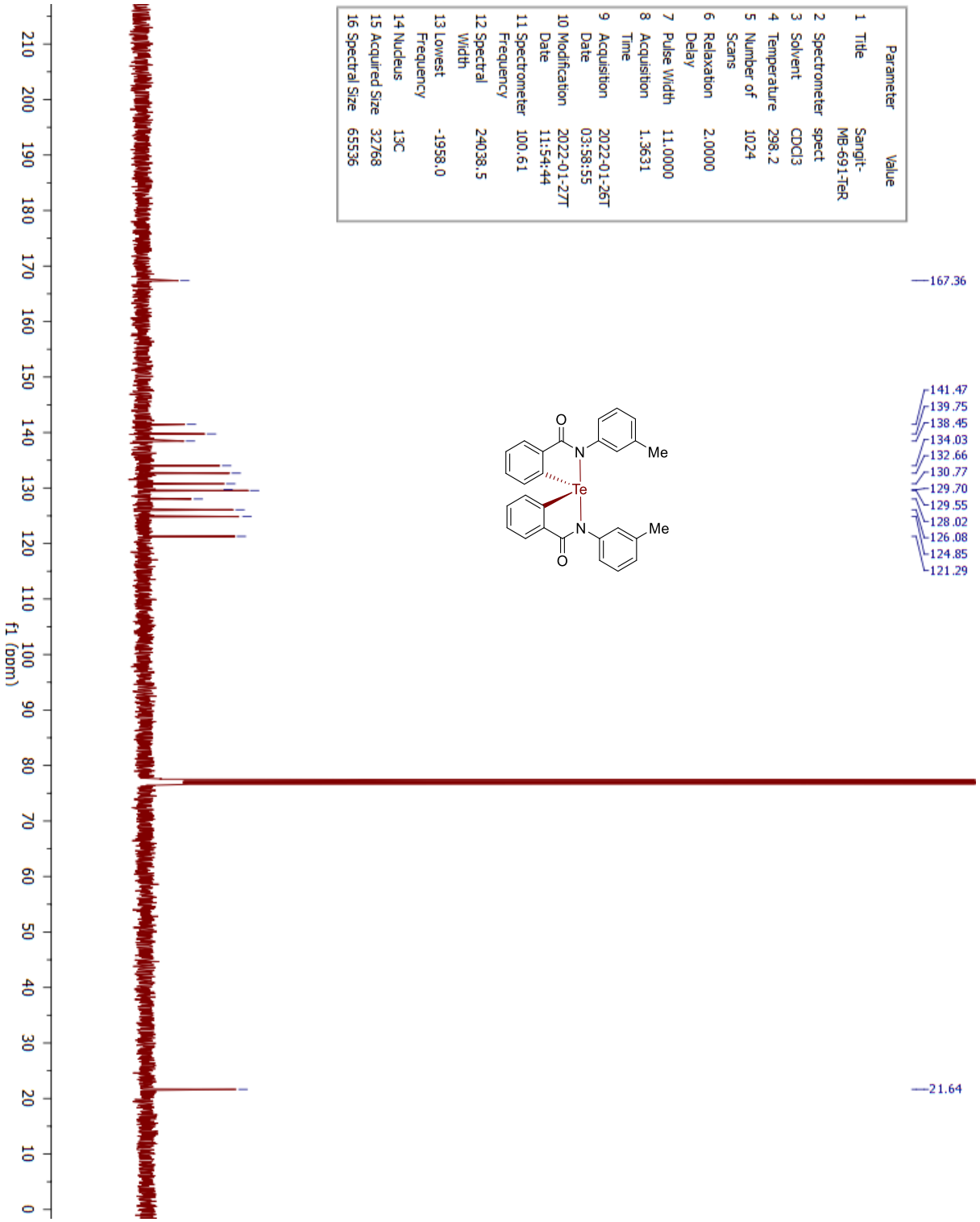




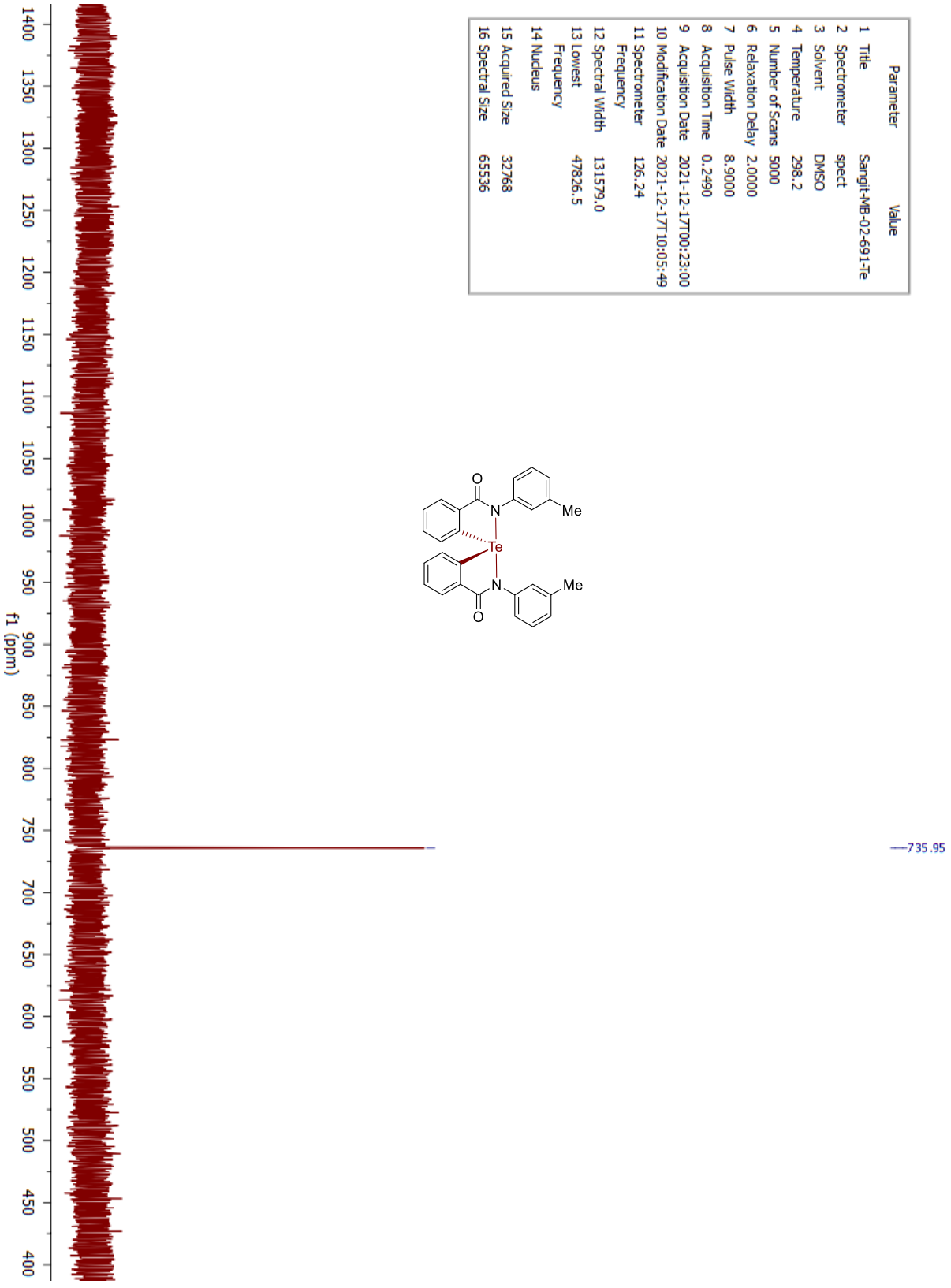
^{1}H NMR spectra of **1e**



^{13}C NMR spectra of **1e**



^{125}Te NMR spectra of **1e**



HRMS spectra of **1e**

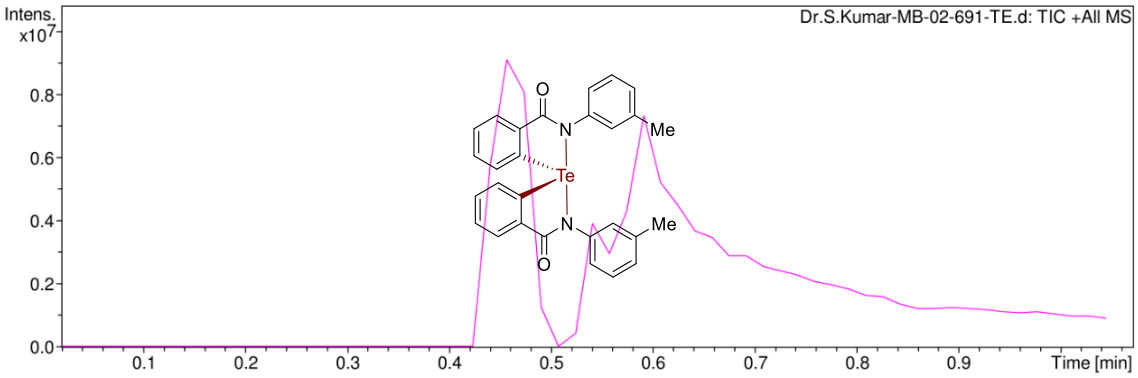
Display Report

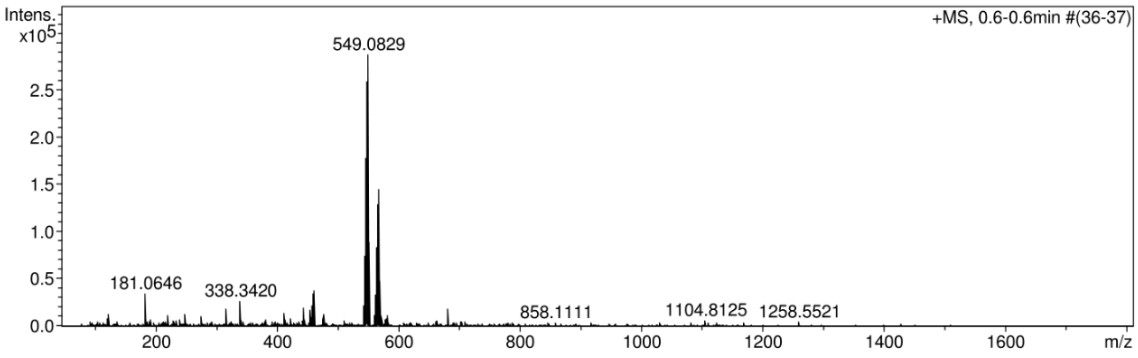
Analysis Info

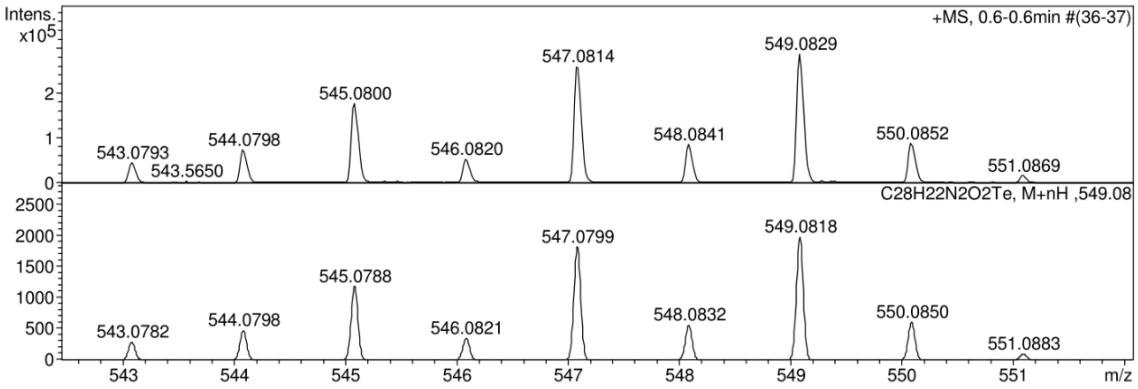
Analysis Name	D:\Data\new user data 2021\Dec-2021\20-dec\Dr.S.Kumar-MB-02-691-TE.d	Acquisition Date	12/20/2021 3:46:58 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-691-TE	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

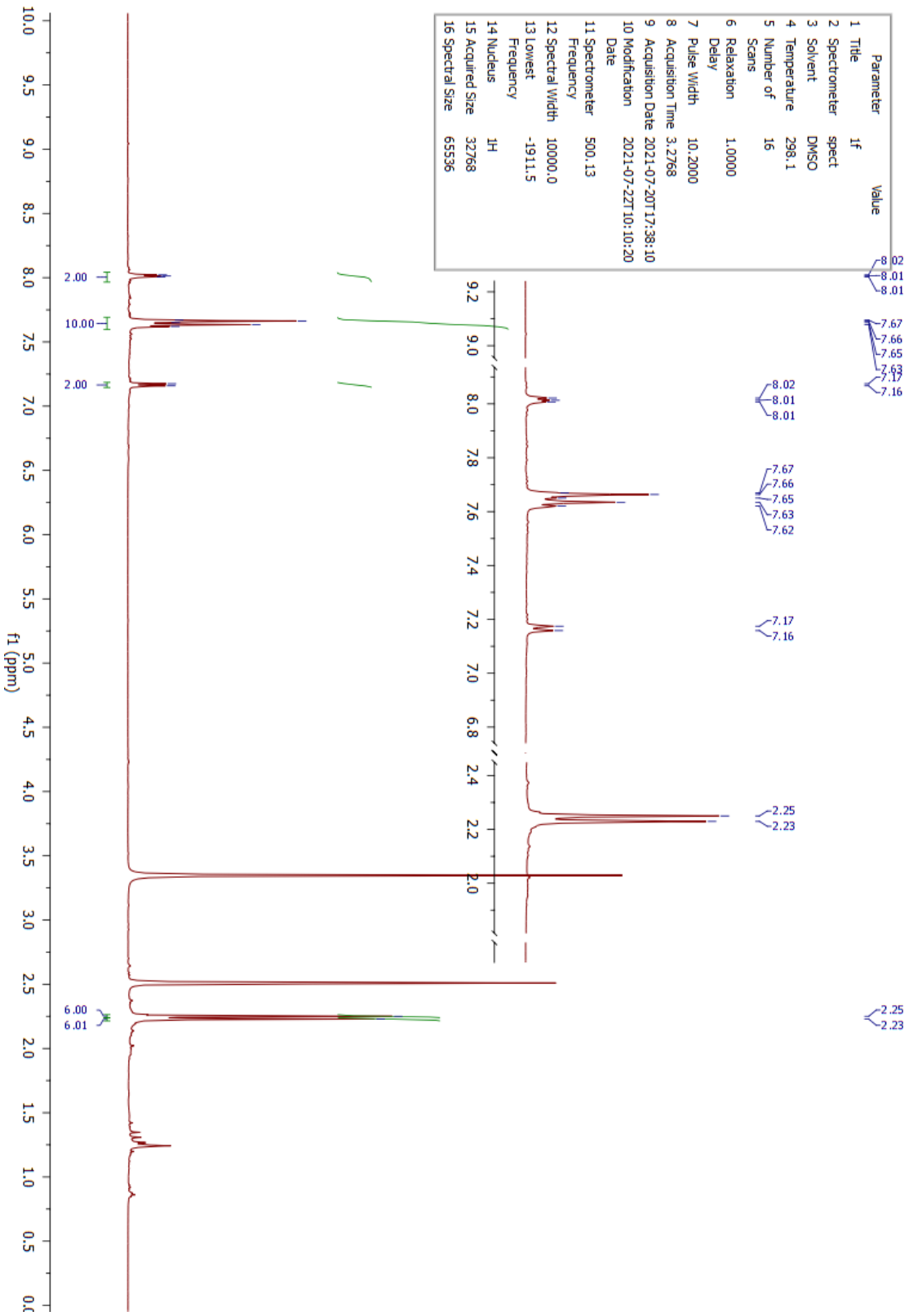
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





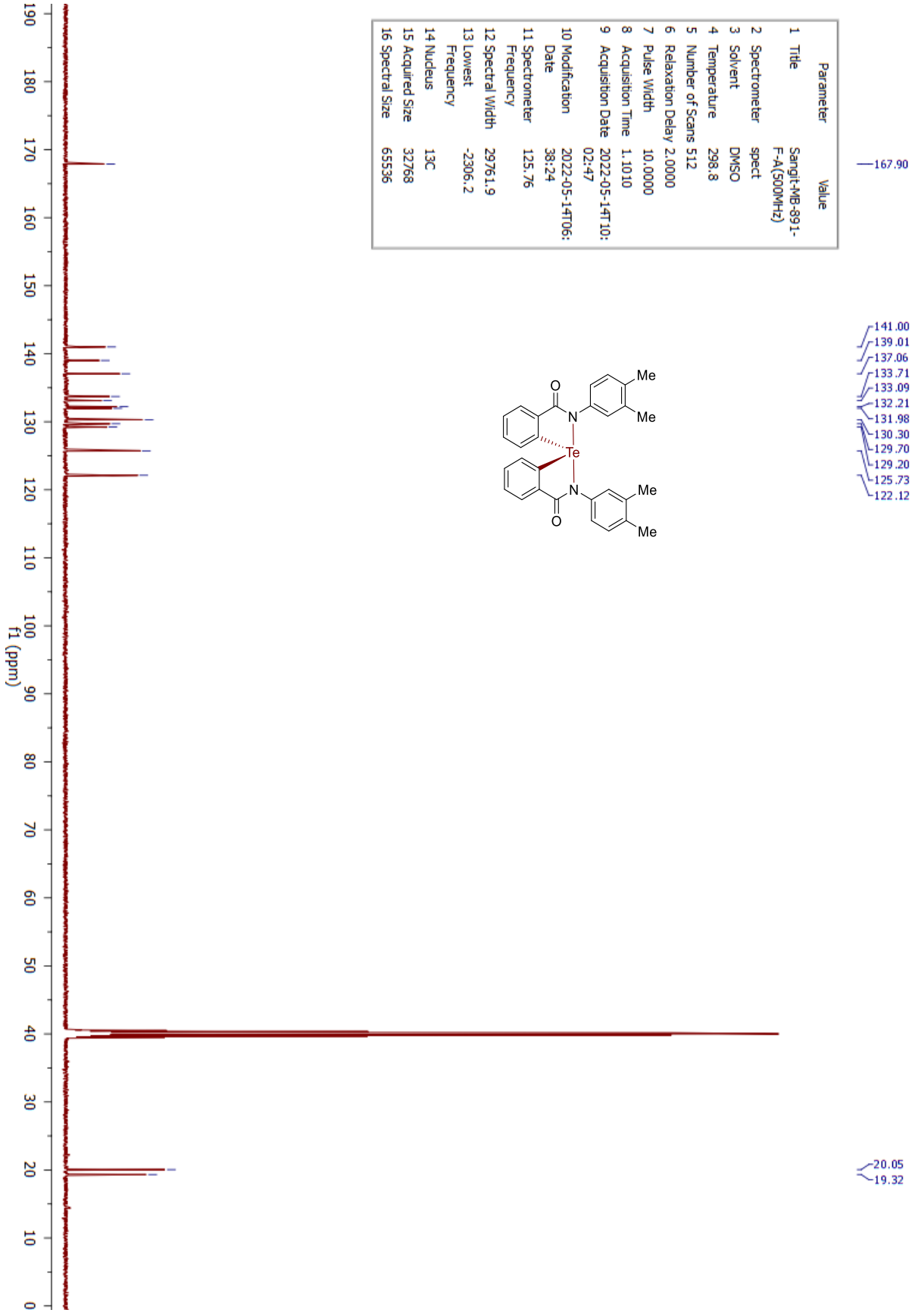


^{1}H NMR spectra of **1f**

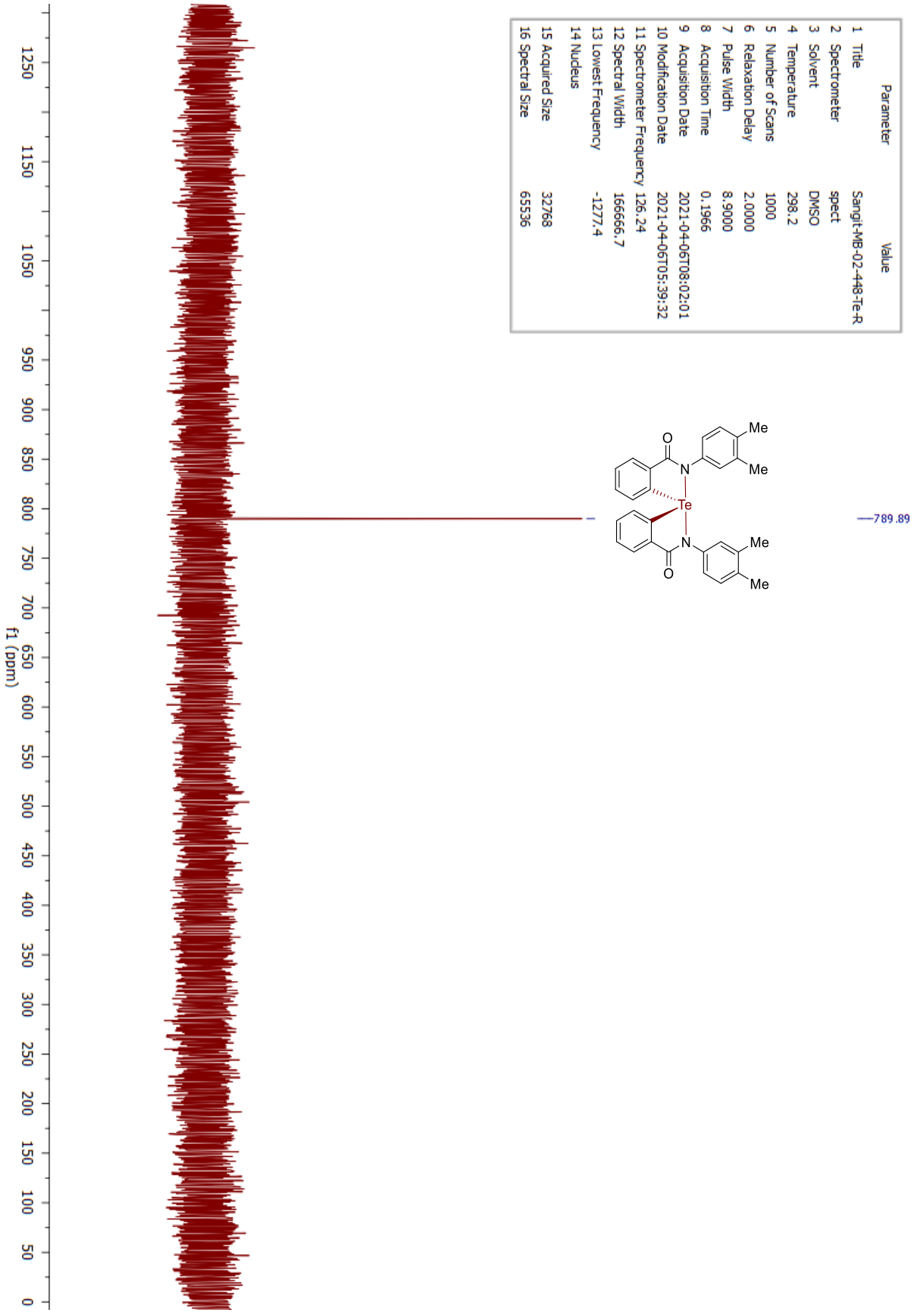


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively. Peaks at 0.88 and 1.27 correspond to grease.

^{13}C NMR spectra of **1f**



^{125}Te NMR spectra of **1f**



HRMS spectra of **1f**

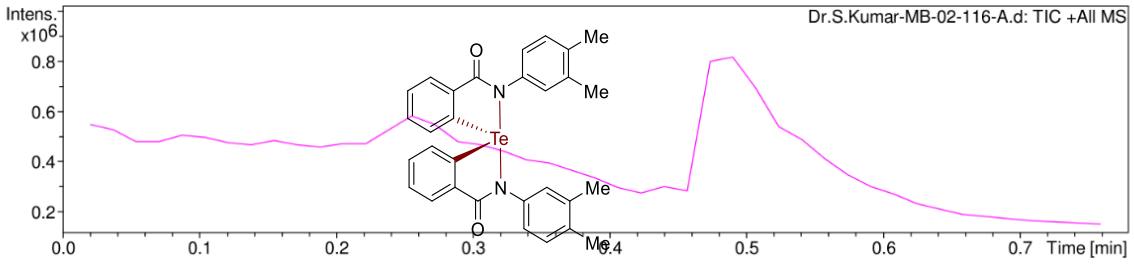
Display Report

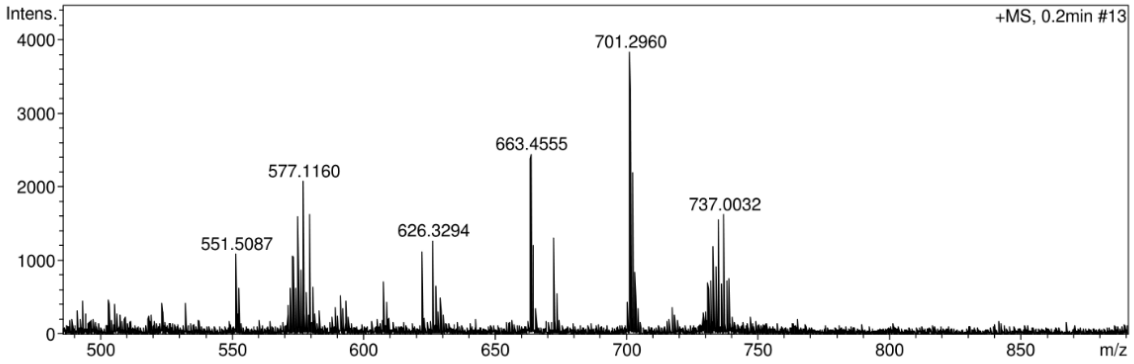
Analysis Info

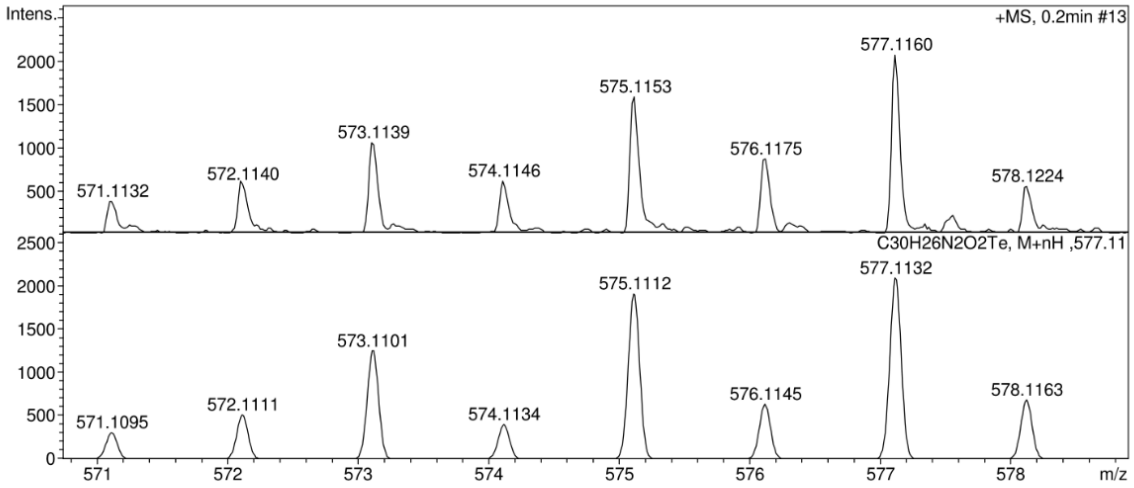
Analysis Name	D:\Data\NEW USER DATA 2017\2019\MAY\30 may\Dr.S.Kumar-MB-02-116-A.d	Acquisition Date	5/30/2019 4:36:37 PM
Method	tune_wide _APCI_23.06.m	Operator	RUCHI
Sample Name	MB-02-116-A	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	APCI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4000 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste

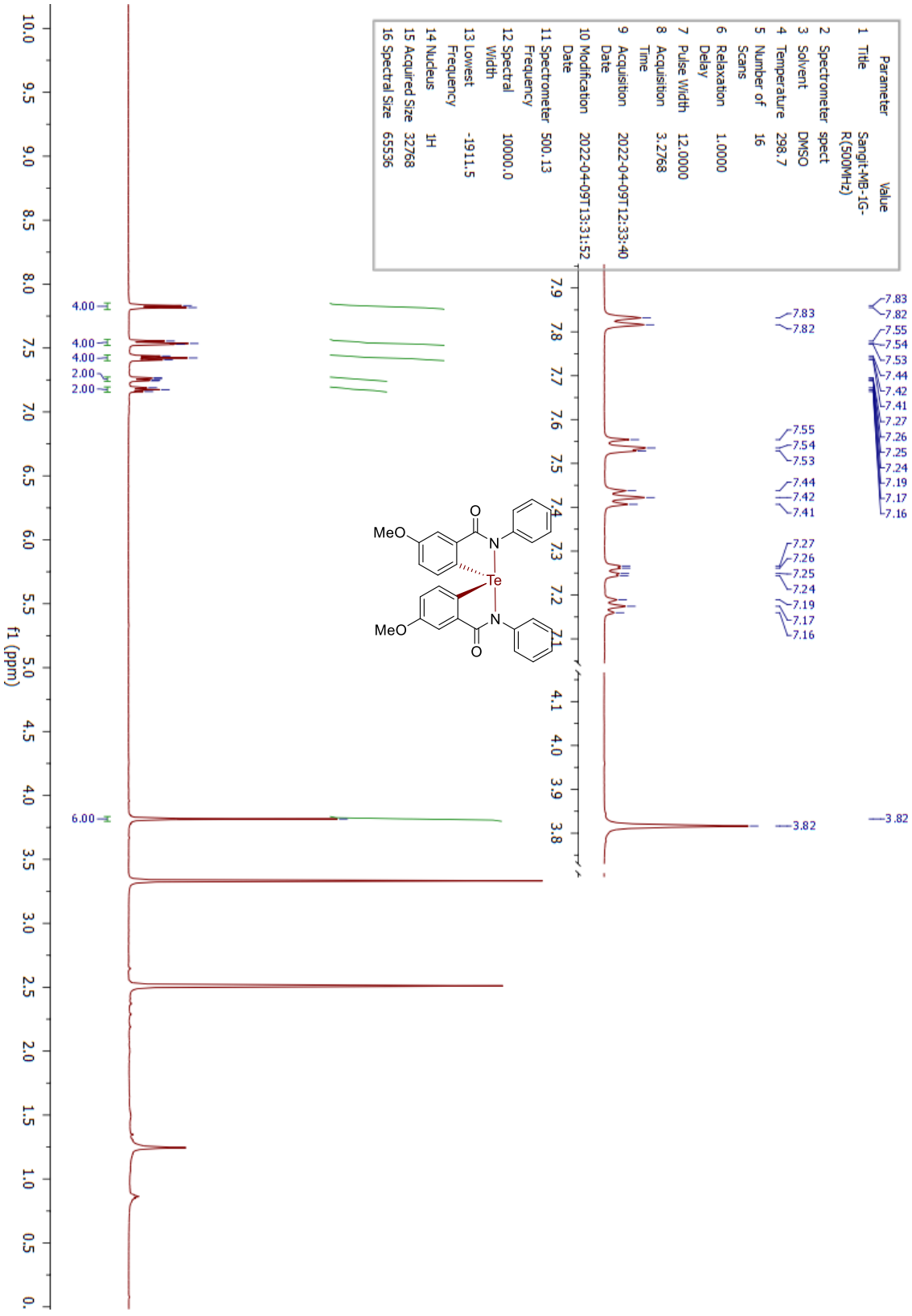






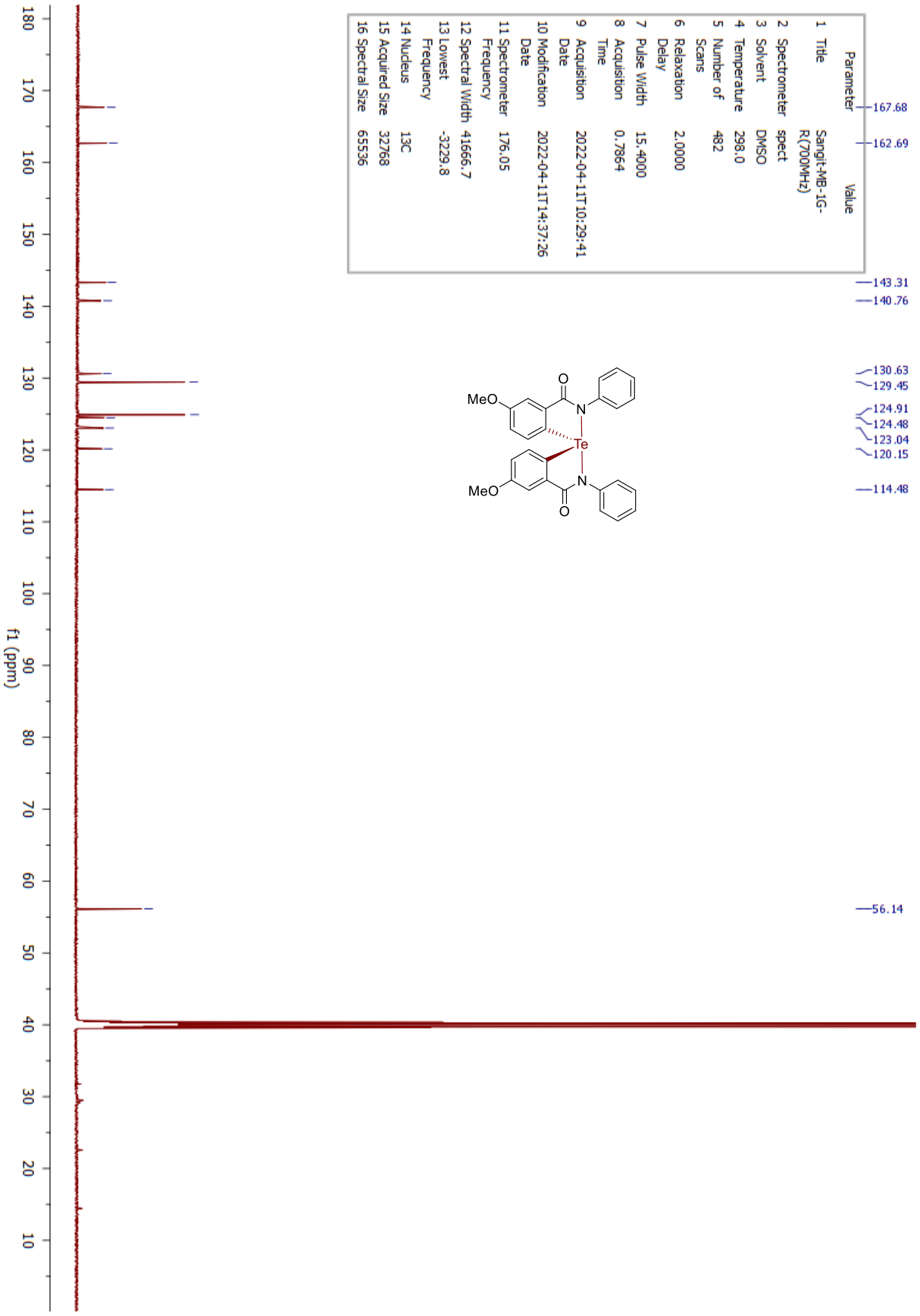
Bruker Compass DataAnalysis 4.0 printed: 5/30/2019 4:38:18 PM Page 1 of 1

^{1}H NMR spectra of **1g**

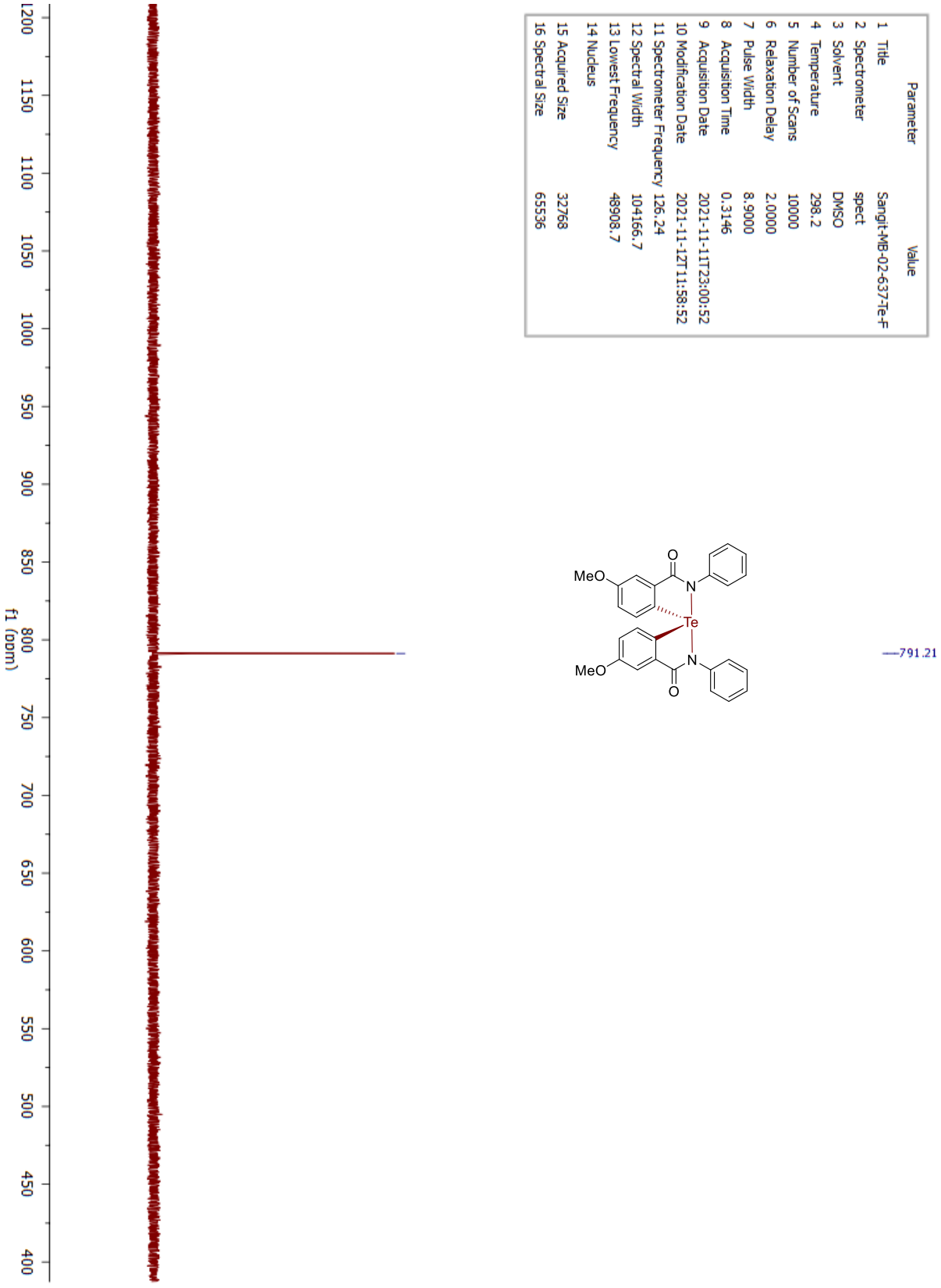


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **1g**



^{125}Te NMR spectra of **1g**



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3	Solvent	DMSO
4	Temperature	298.2
5	Number of Scans	10000
6	Relaxation Delay	2.0000
7	Pulse Width	8.9000
8	Acquisition Time	0.3146
9	Acquisition Date	2021-11-11T23:00:52
10	Modification Date	2021-11-12T11:58:52
11	Spectrometer Frequency	126.24
12	Spectral Width	104166.7
13	Lowest Frequency	48908.7
14	Nucleus	
15	Acquired Size	32768
16	Spectral Size	65536

HRMS spectra of **1g**

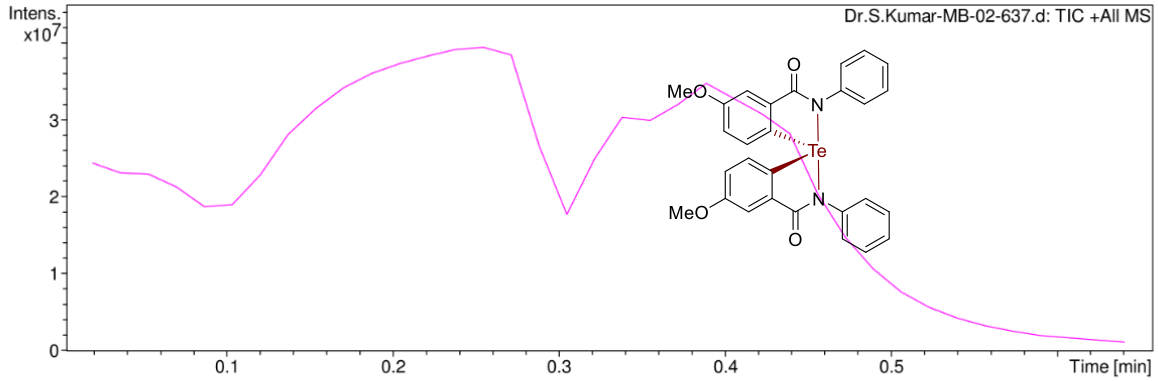
Display Report

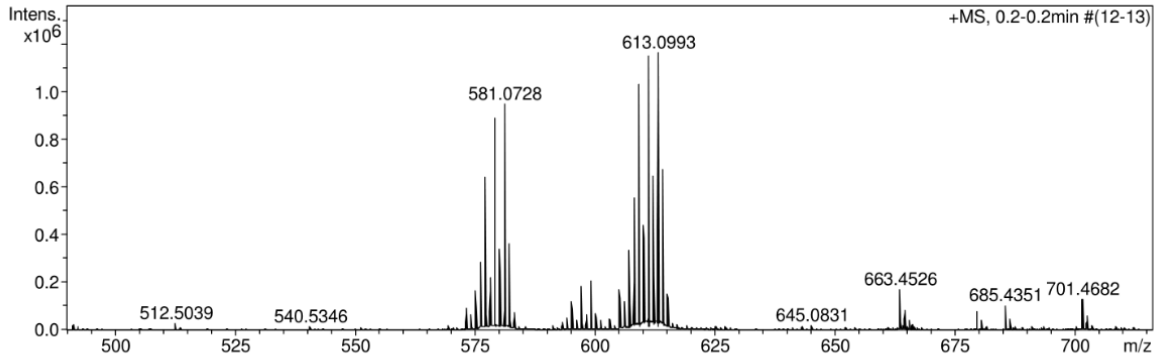
Analysis Info

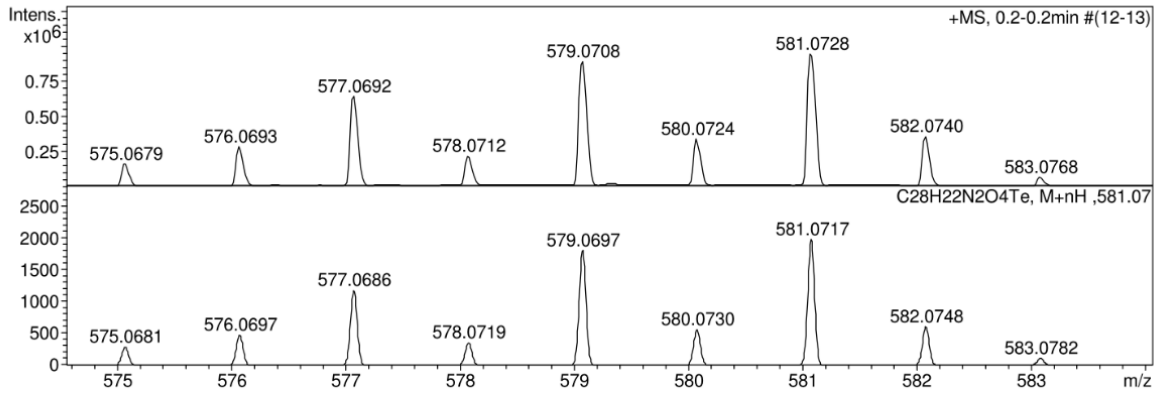
Analysis Name	D:\Data\new user data 2021\Nov-2021\09-nov\Dr.S.Kumar-MB-02-637.d	Acquisition Date	11/9/2021 4:07:26 PM
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-02-637	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

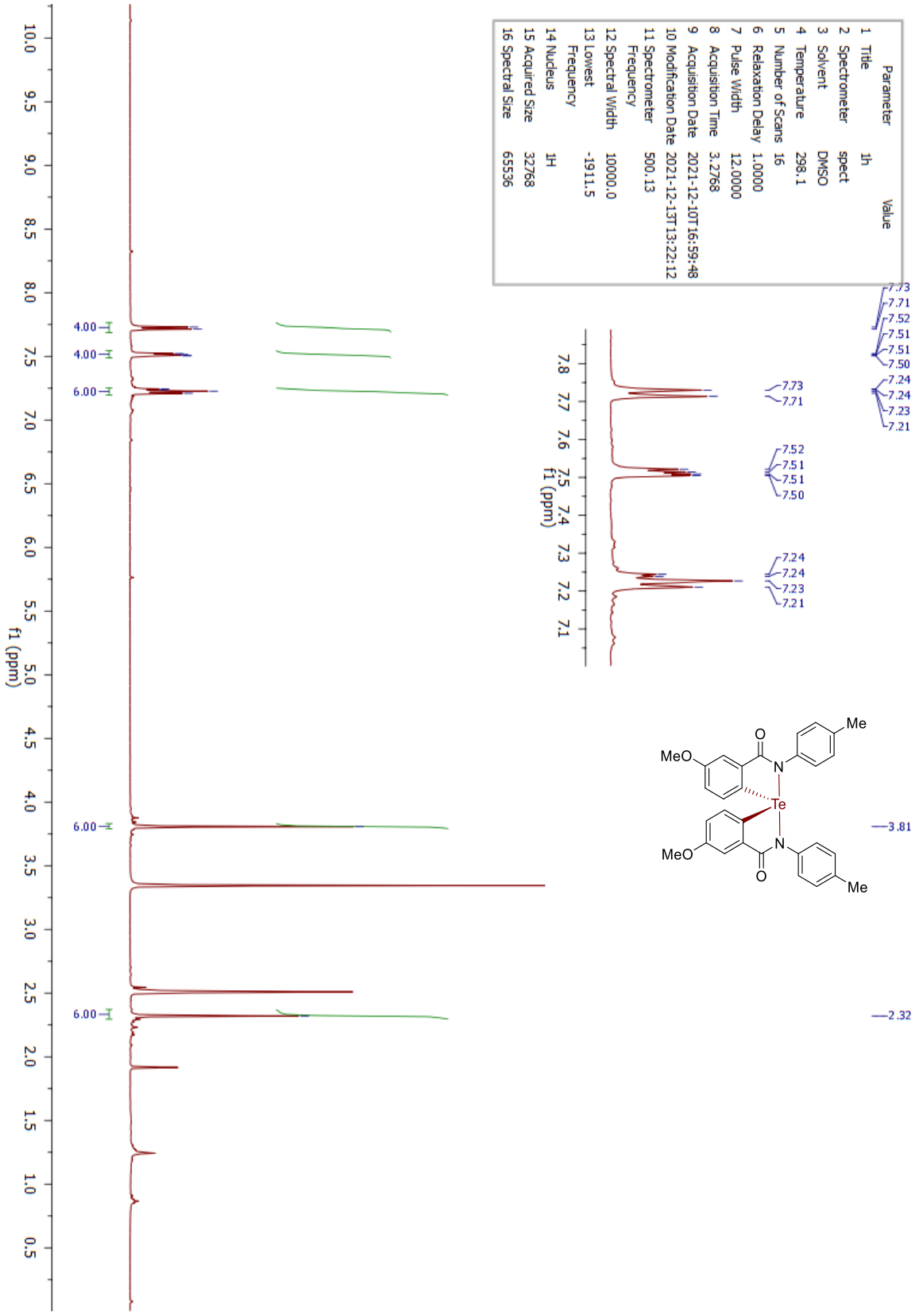
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste





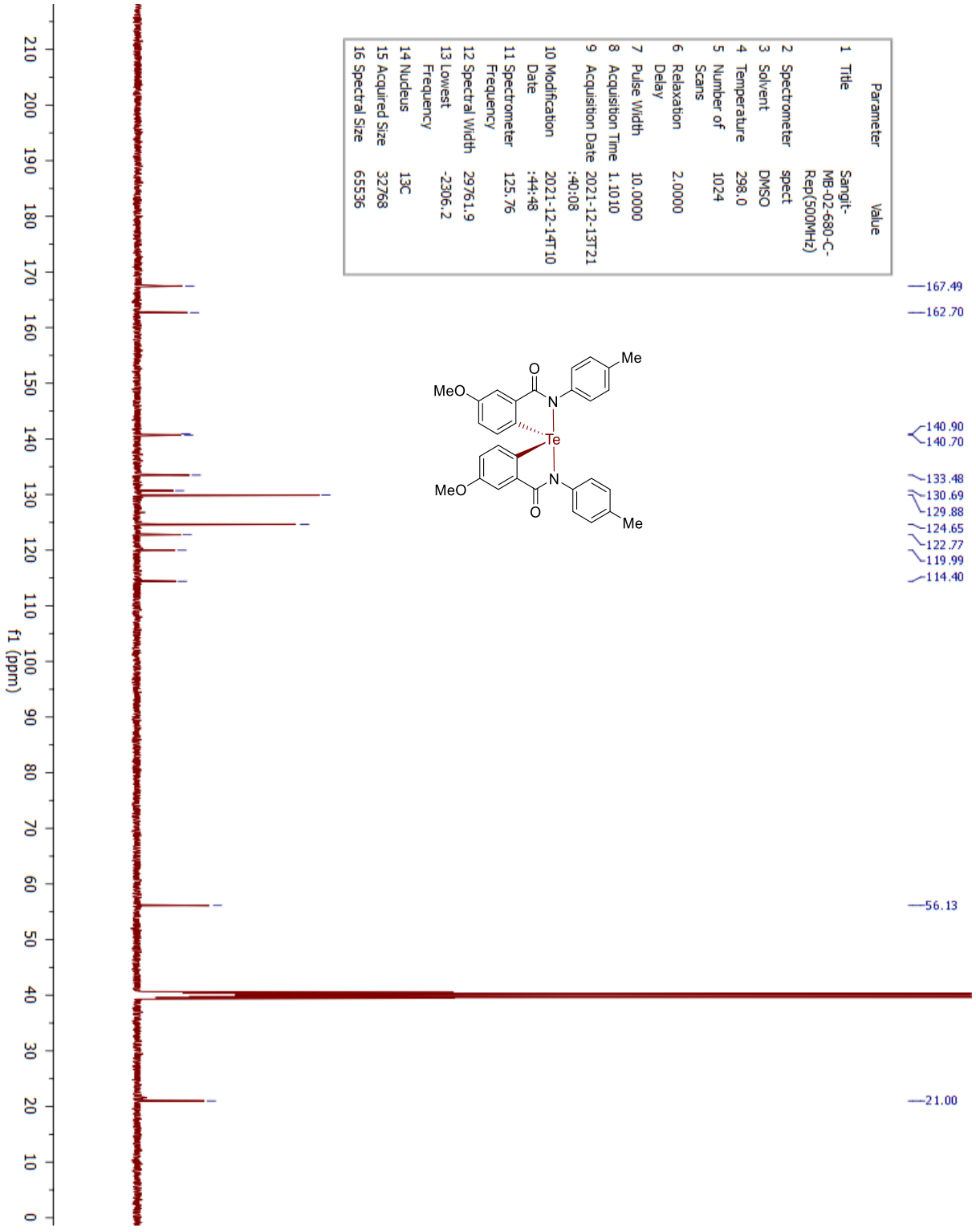


[1]H NMR spectra of **1h**

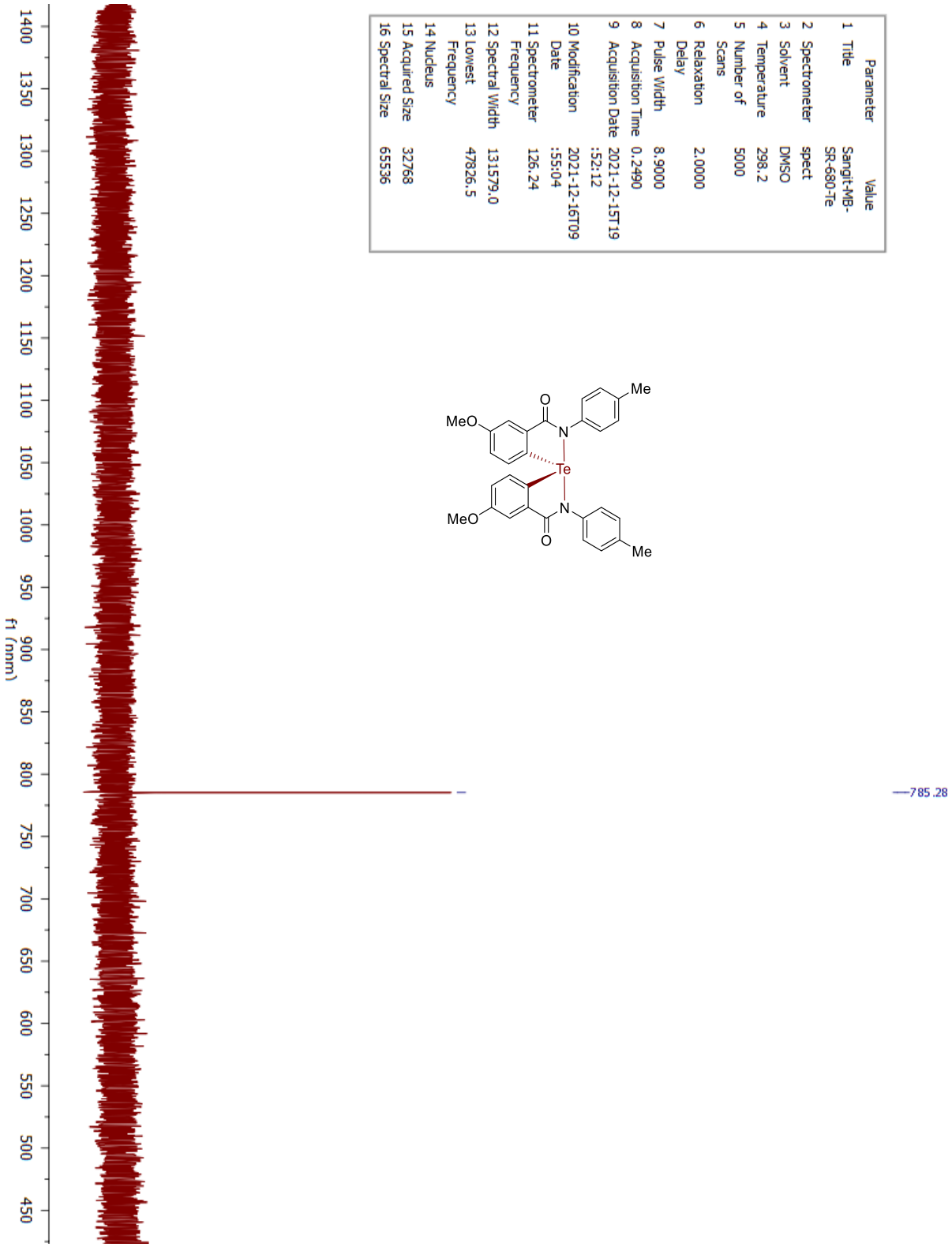


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **1h**



^{125}Te NMR spectra of **1h**



HRMS spectra of **1h**

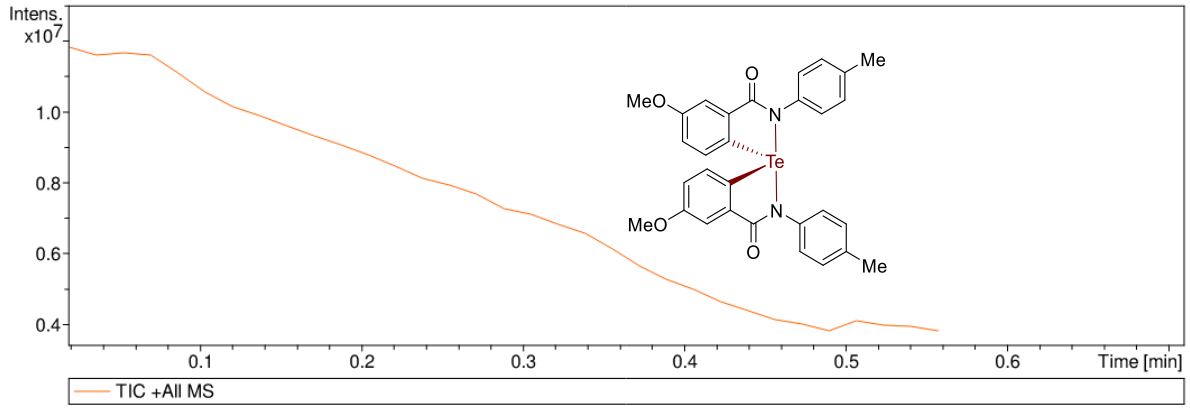
Display Report

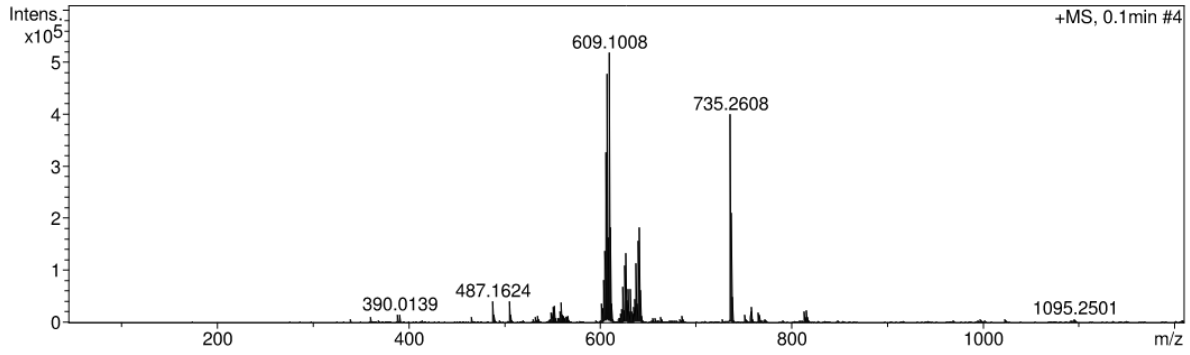
Analysis Info

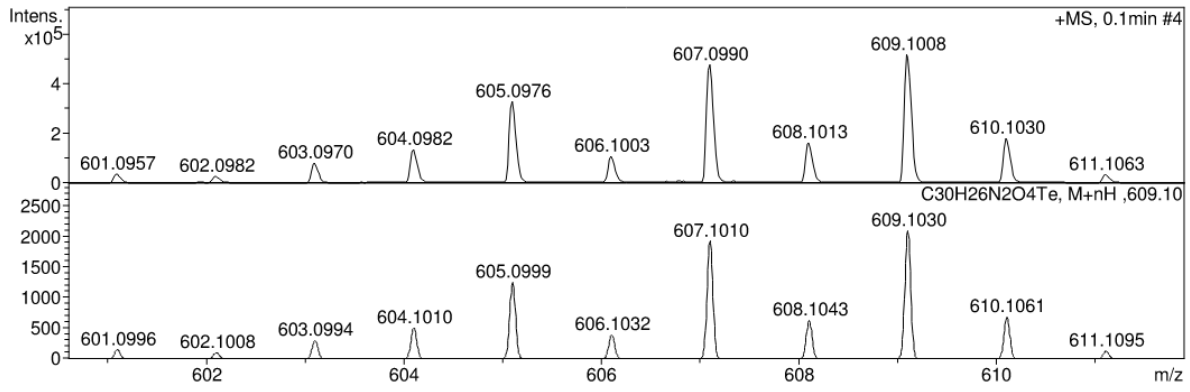
Acquisition Date	1/25/2022 2:19:32 PM		
Analysis Name	D:\Data\NEW USER DATA 2022\Jan-2022\25-jan-2022\Dr.S.Kumar-MB-SR-680.d		
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-SR-680	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

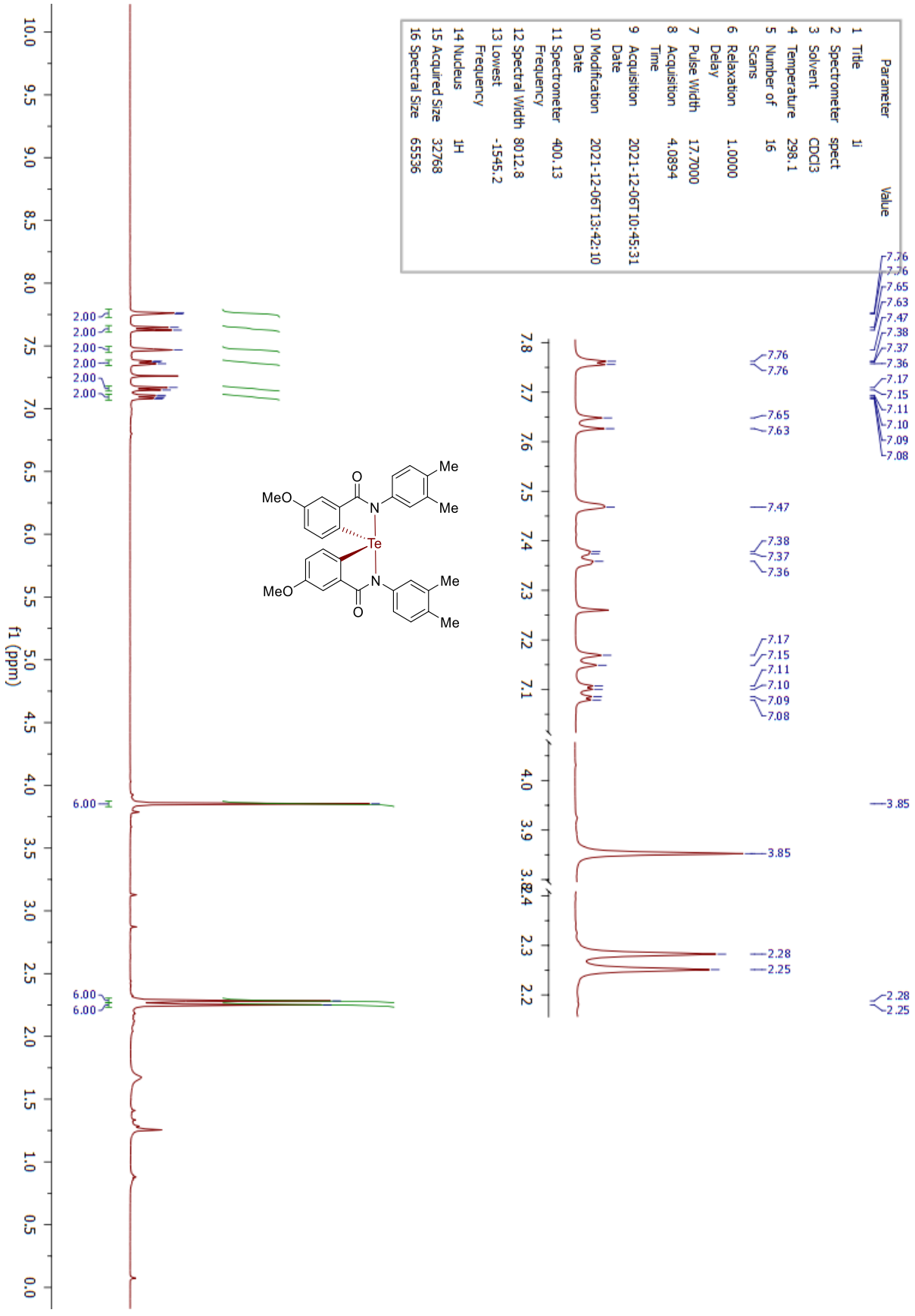
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Source



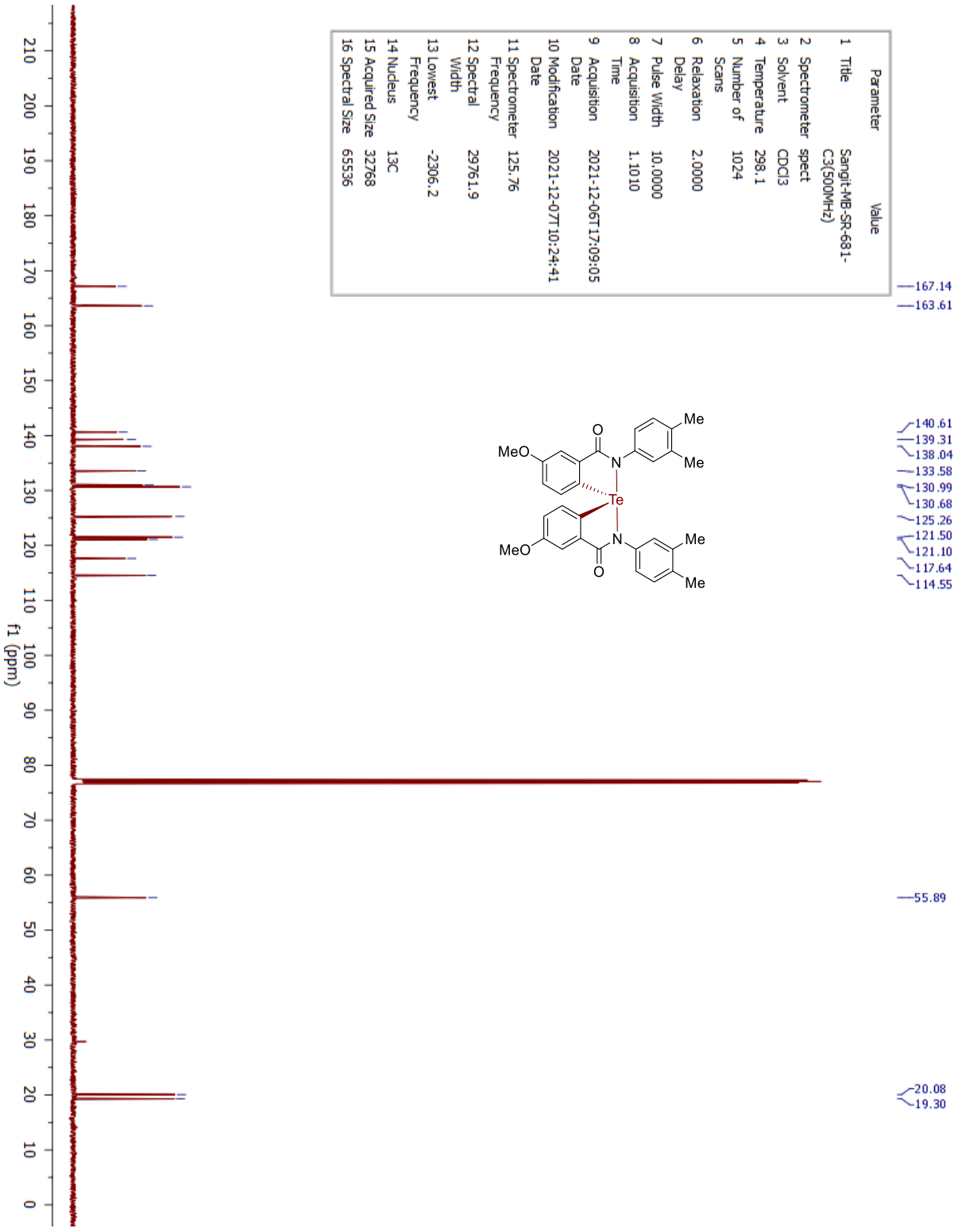




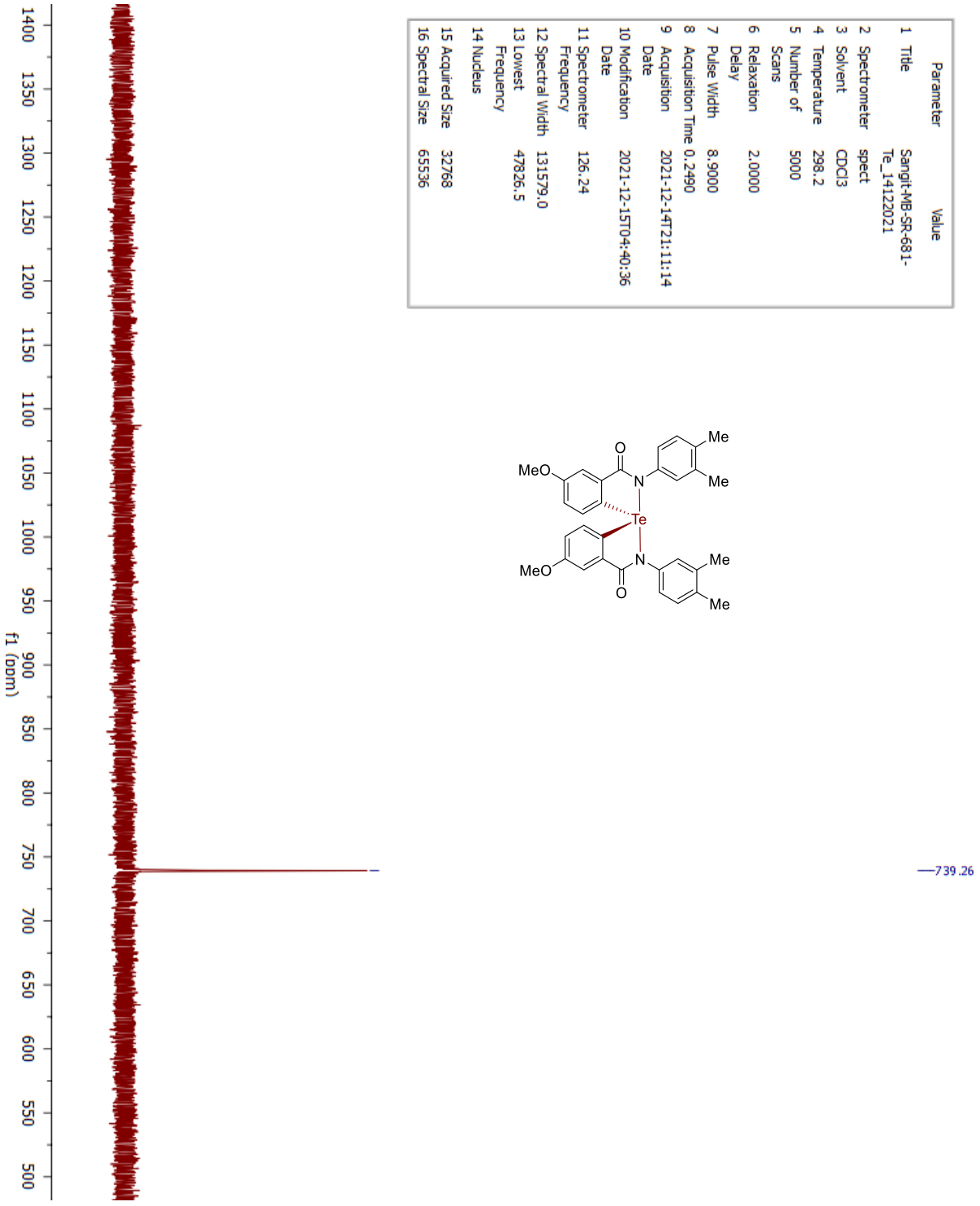
^{1}H NMR spectra of **1i**



^{13}C NMR spectra of **1i**



^{125}Te NMR spectra of **1i**



HRMS spectra of **1i**

Display Report

Analysis Info

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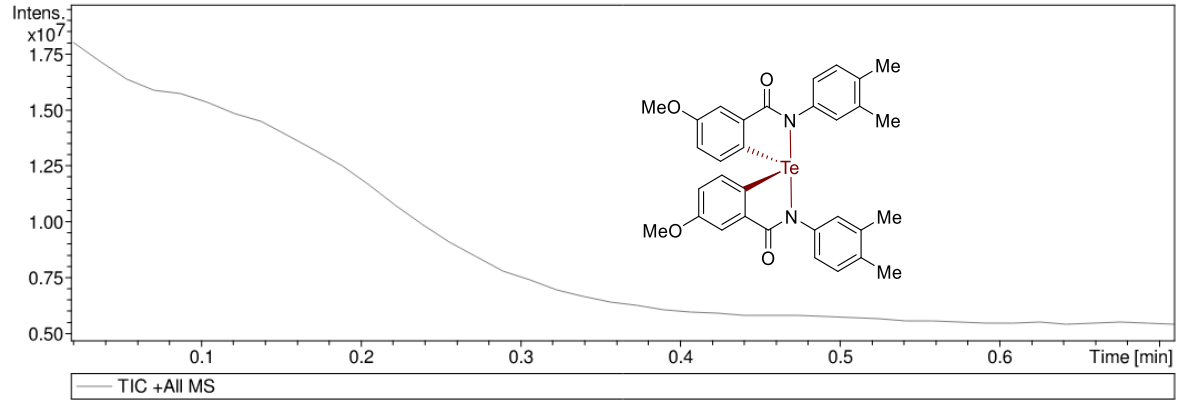
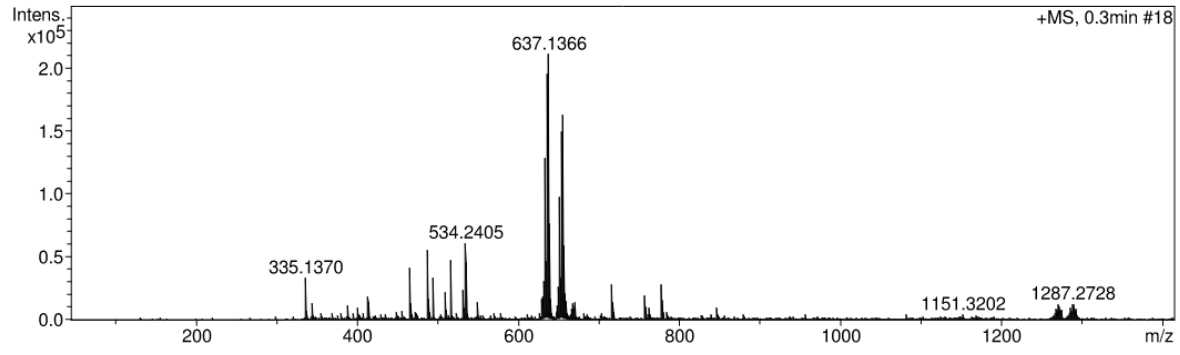
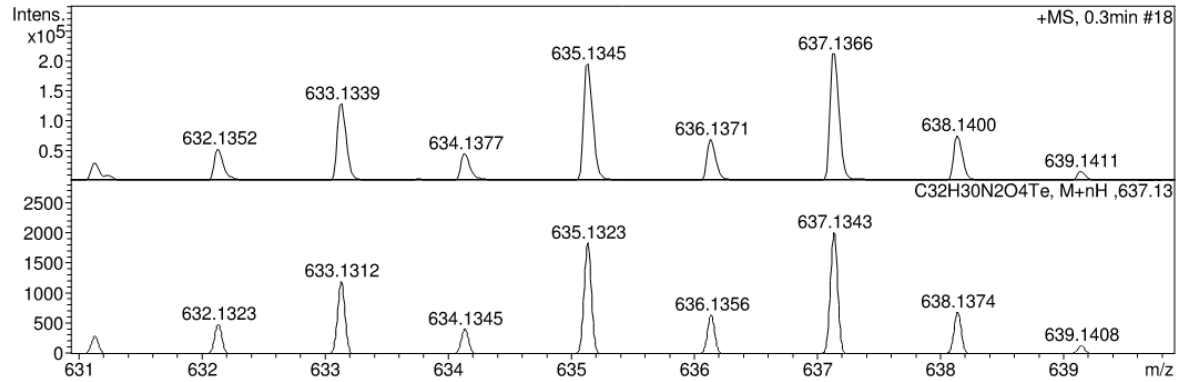
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-02681-C3-REP	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

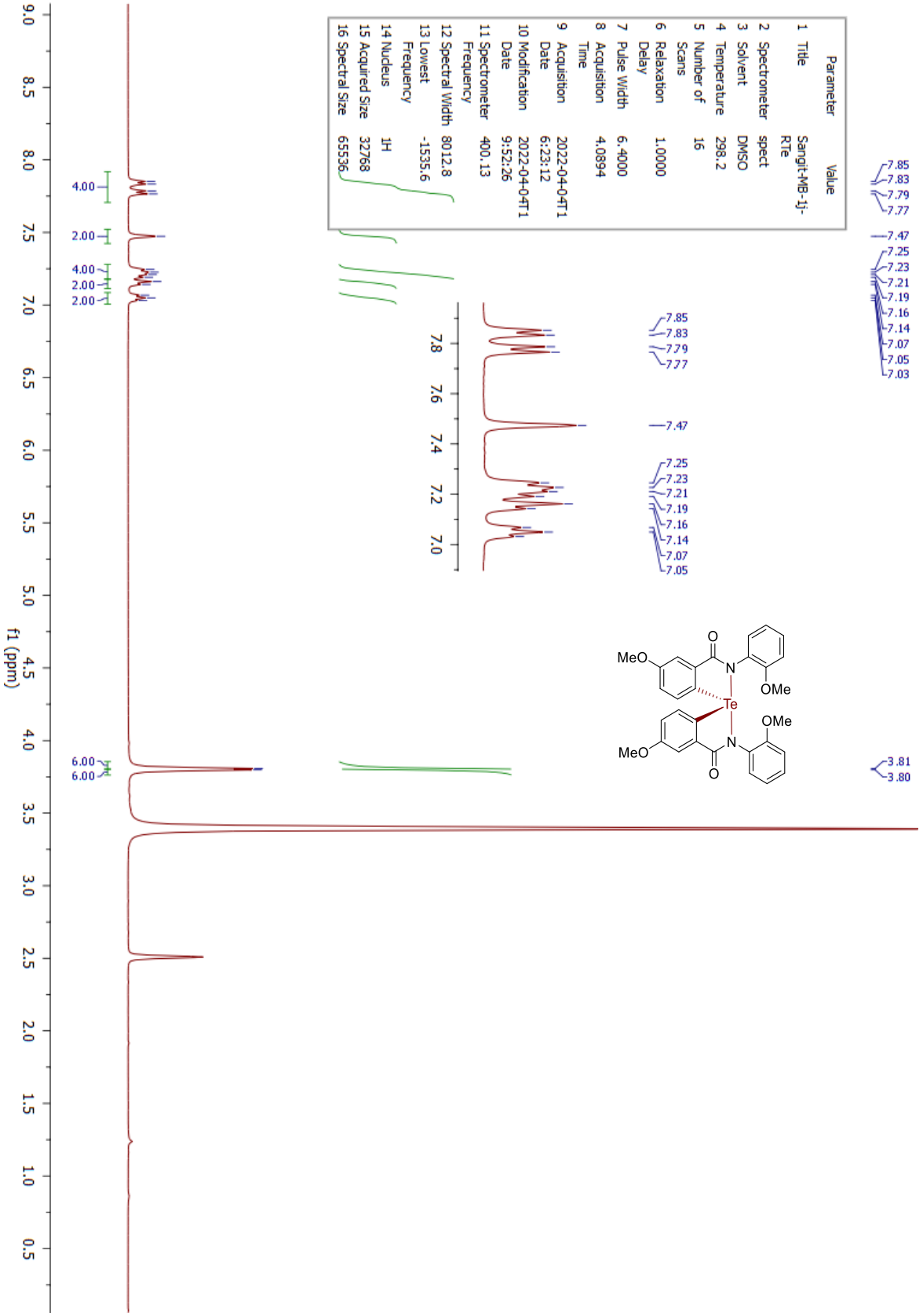
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Source





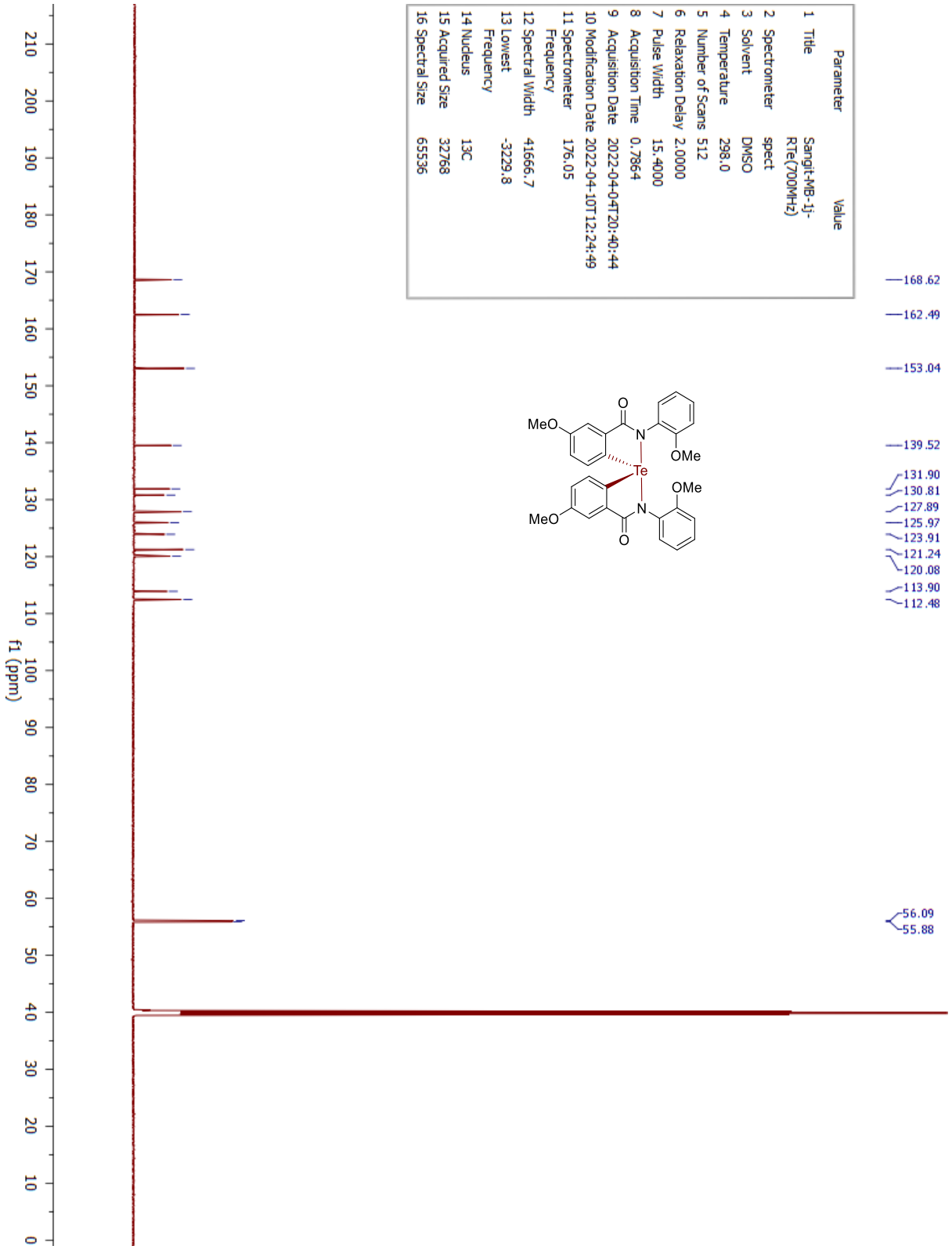


^{1}H NMR spectra of **1j**

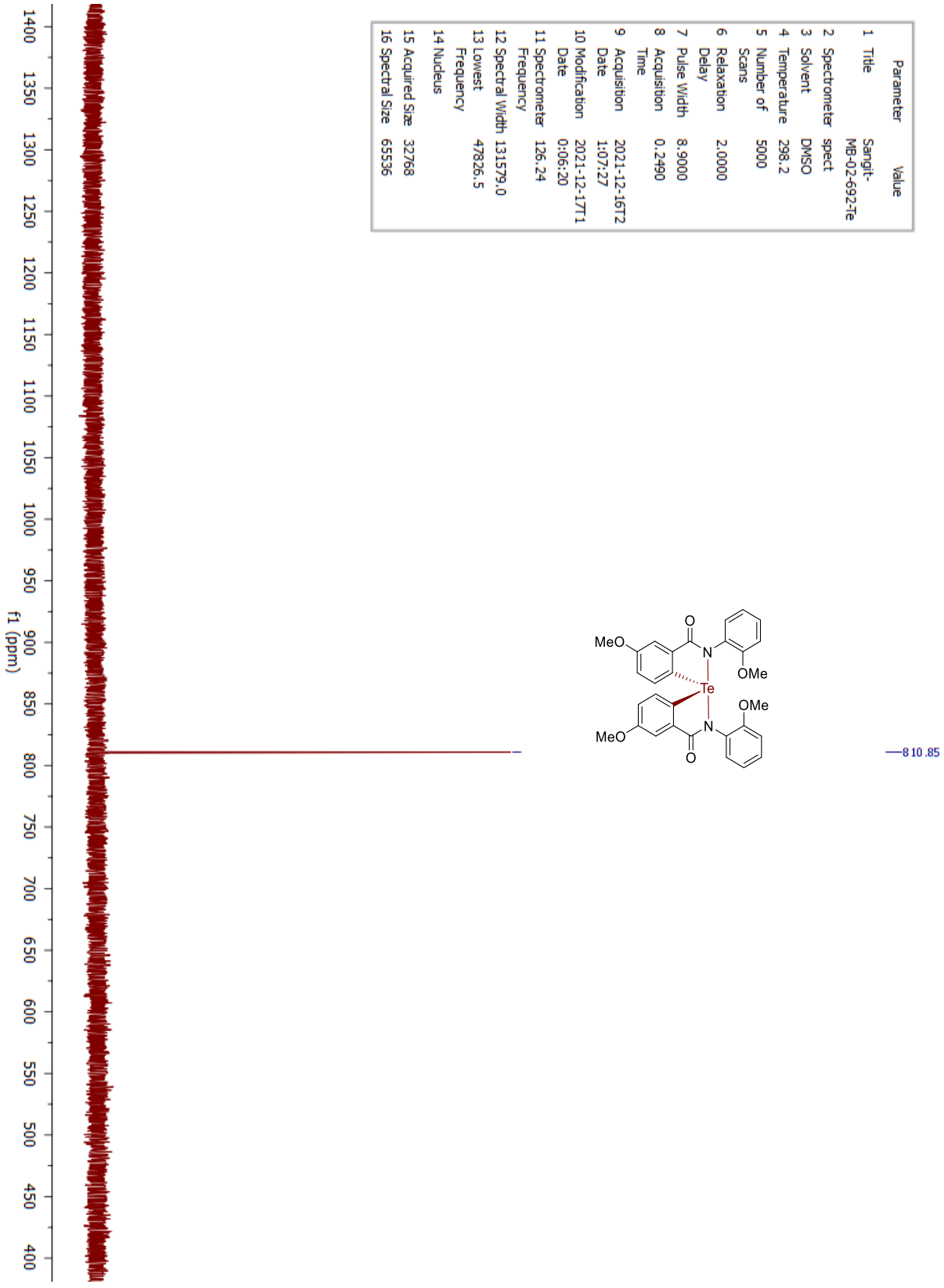


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **1j**



^{125}Te NMR spectra of **1j**



HRMS spectra of **1j**

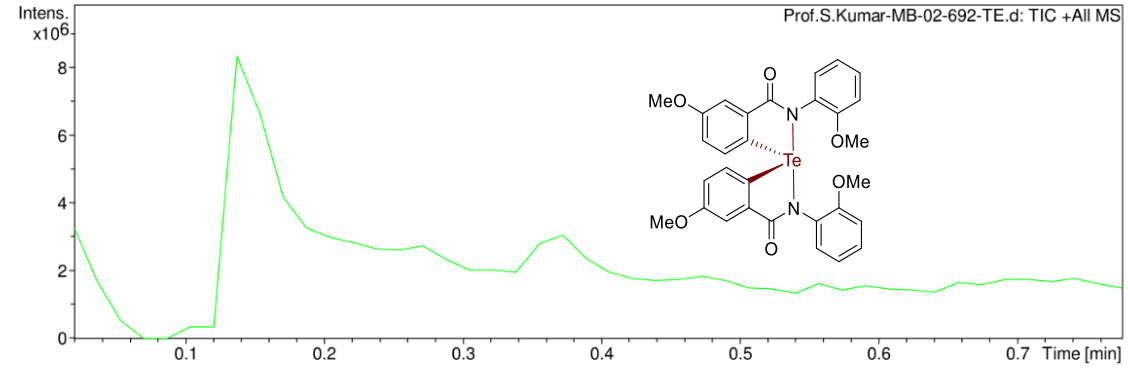
Display Report

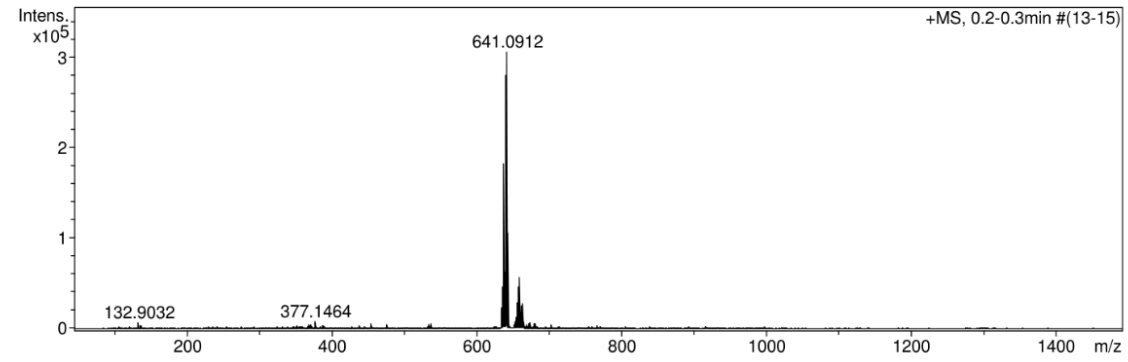
Analysis Info

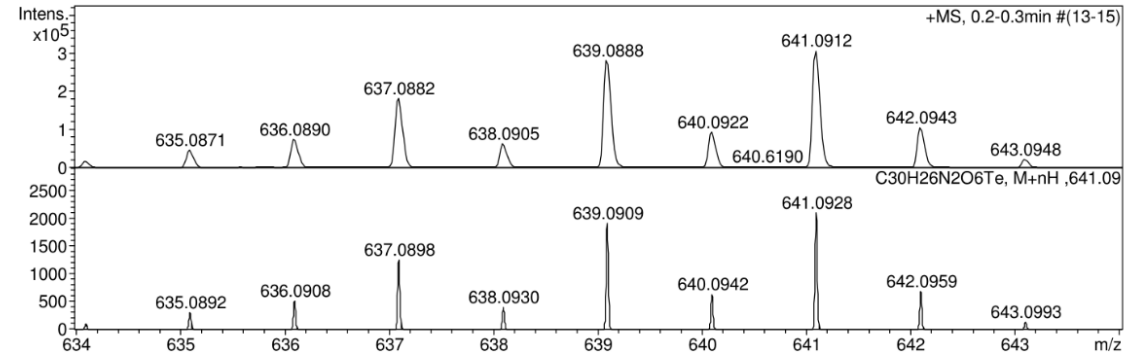
Analysis Name	D:\Data\new user data 2021\Dec-2021\17-dec\Prof.S.Kumar-MB-02-692-TE.d	Acquisition Date	12/17/2021 4:01:05 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-692-TE	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

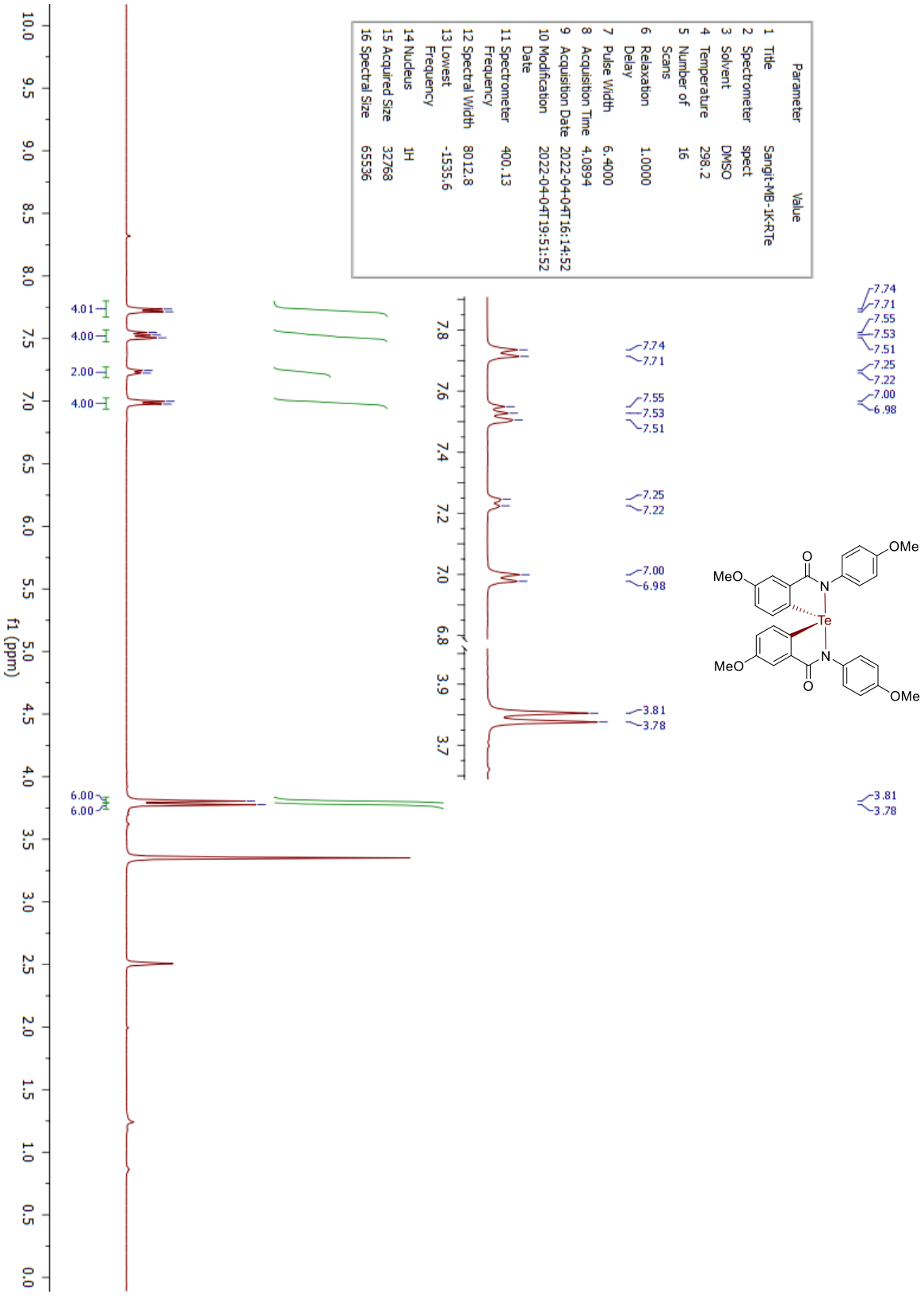
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





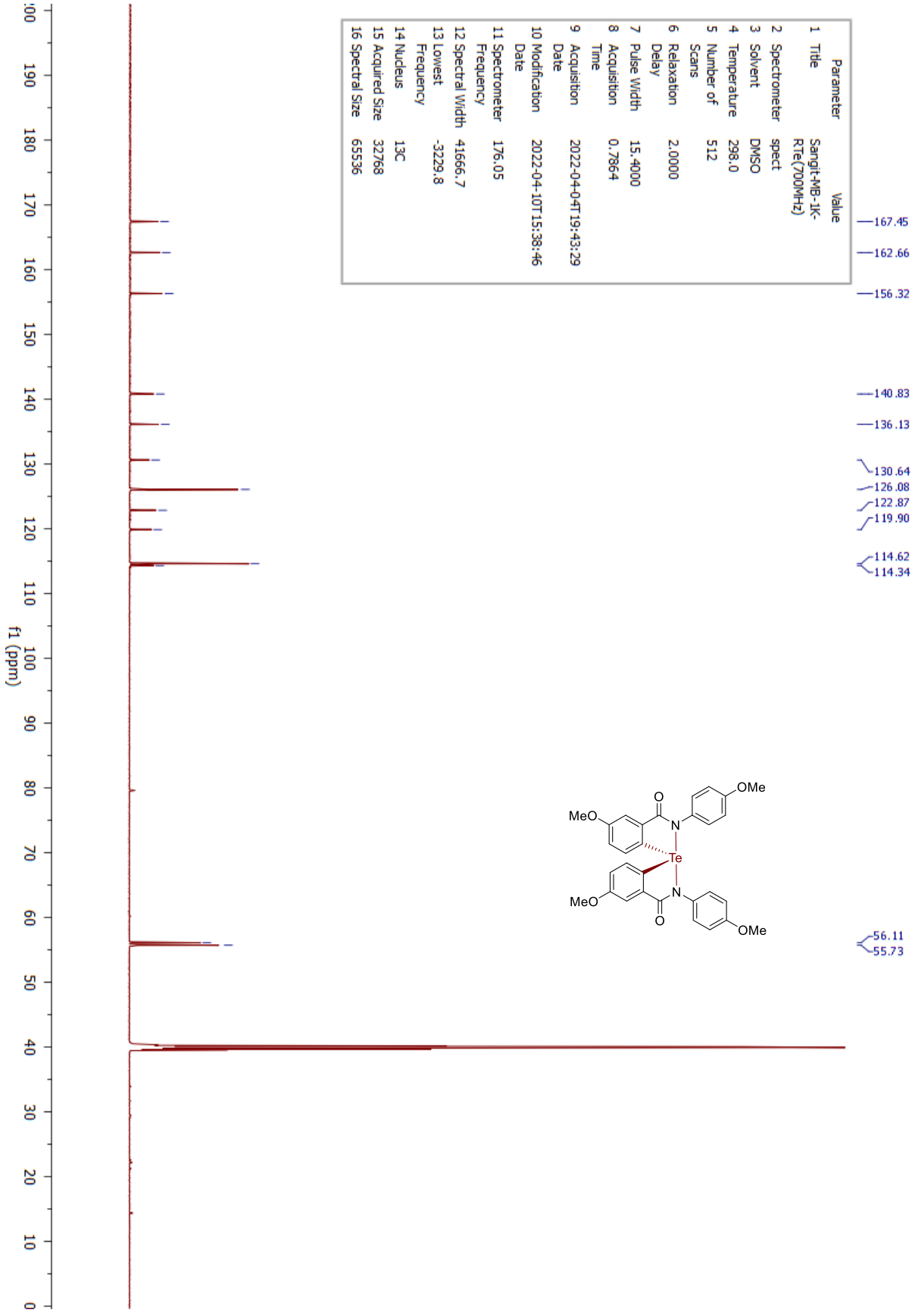


^{1}H NMR spectra of **1k**

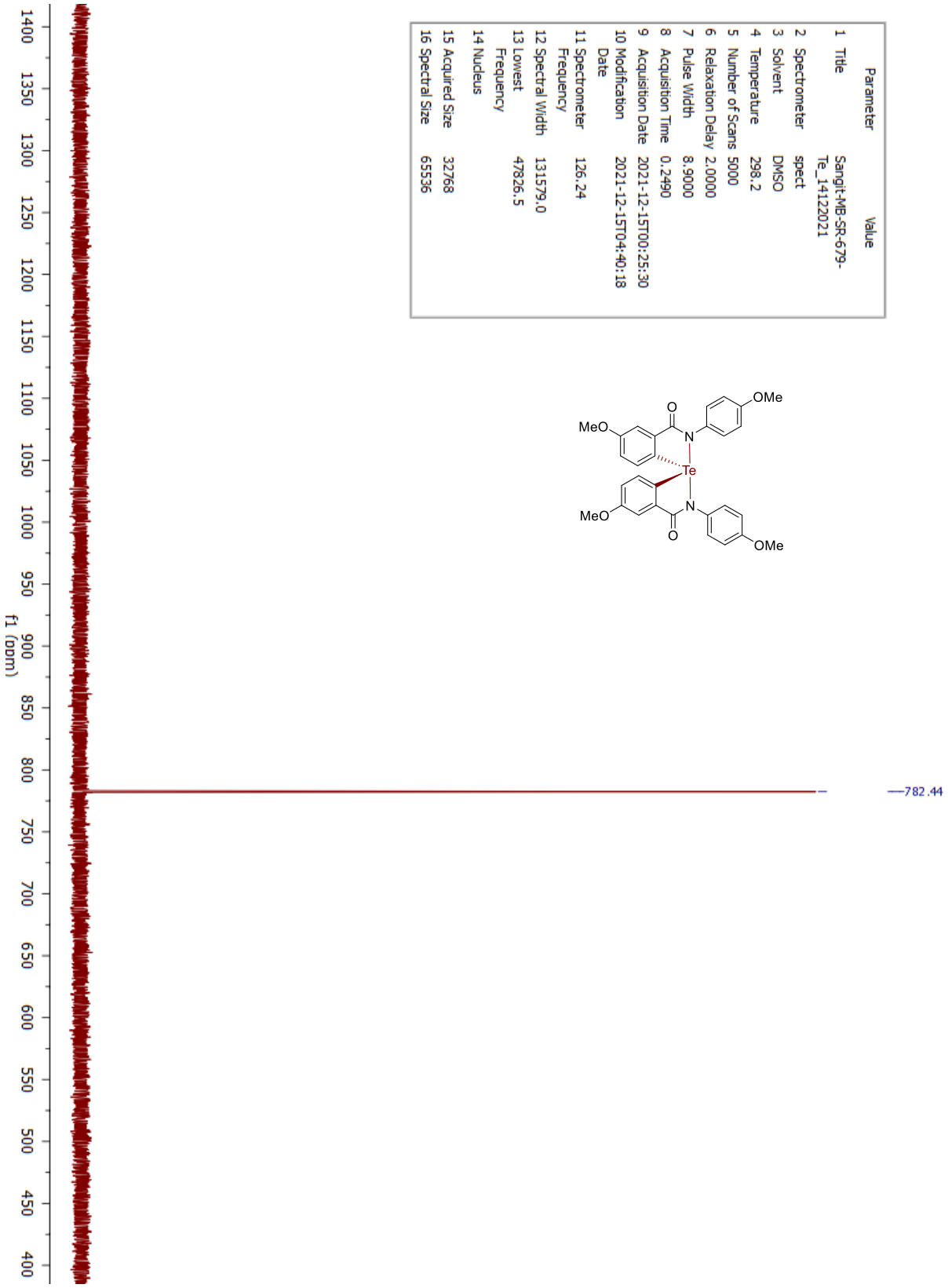


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **1k**



^{125}Te NMR spectra of **1k**



HRMS spectra of **1k**

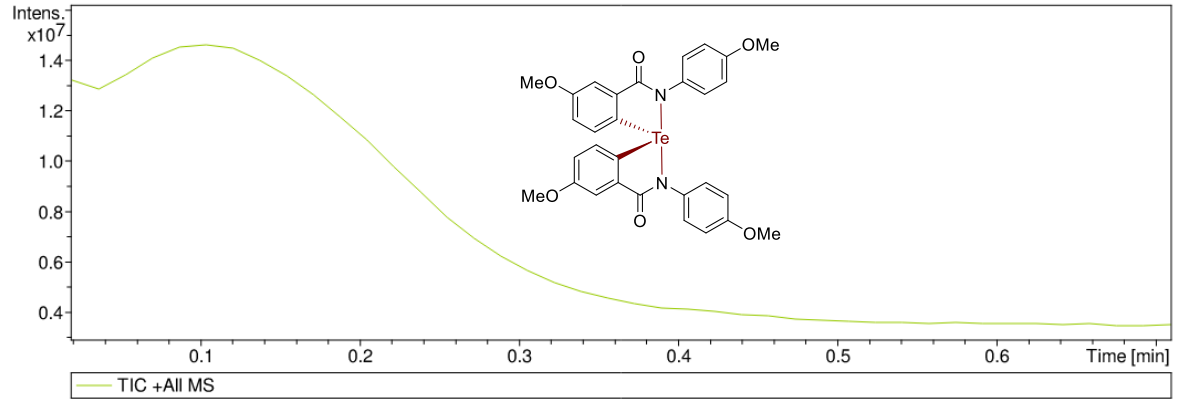
Display Report

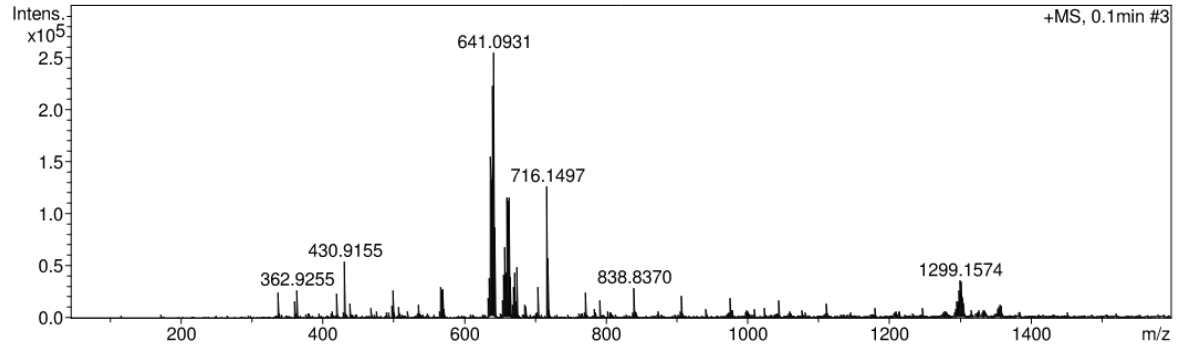
Analysis Info

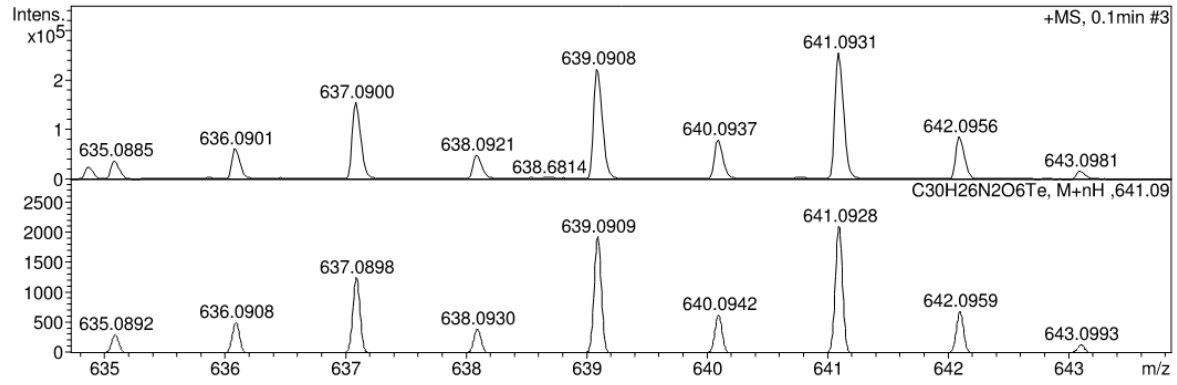
Analysis Name	D:\Data\NEW USER DATA 2022\Jan-2022\25-jan-2022\Dr.S.Kumar-MB-02-679-C2-REP-1.d	Acquisition Date	1/25/2022 2:16:24 PM
Method	tune_wide.m	Operator	RUCHI
Sample Name	MB-02-679-C2-REP-1	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

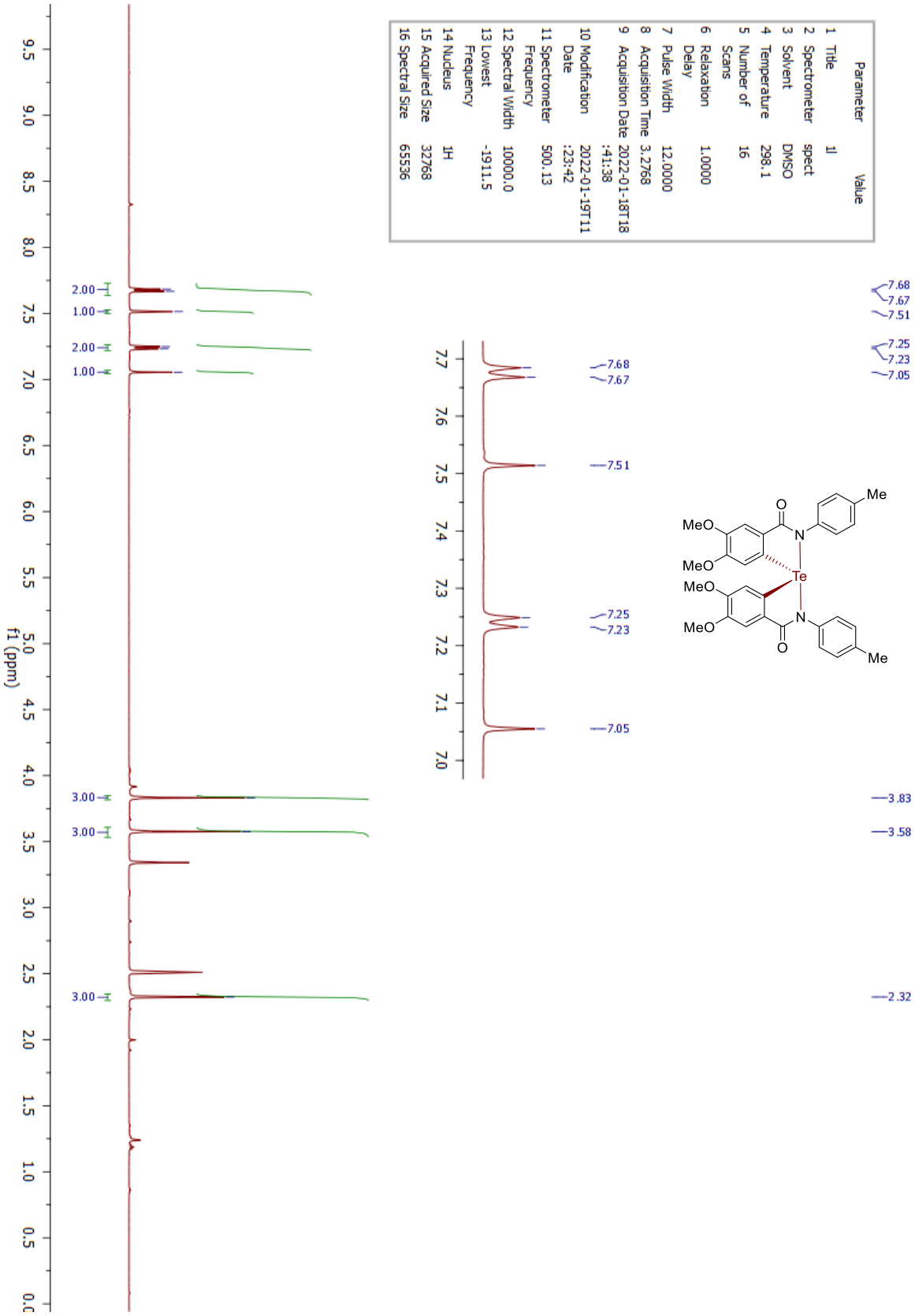
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Source





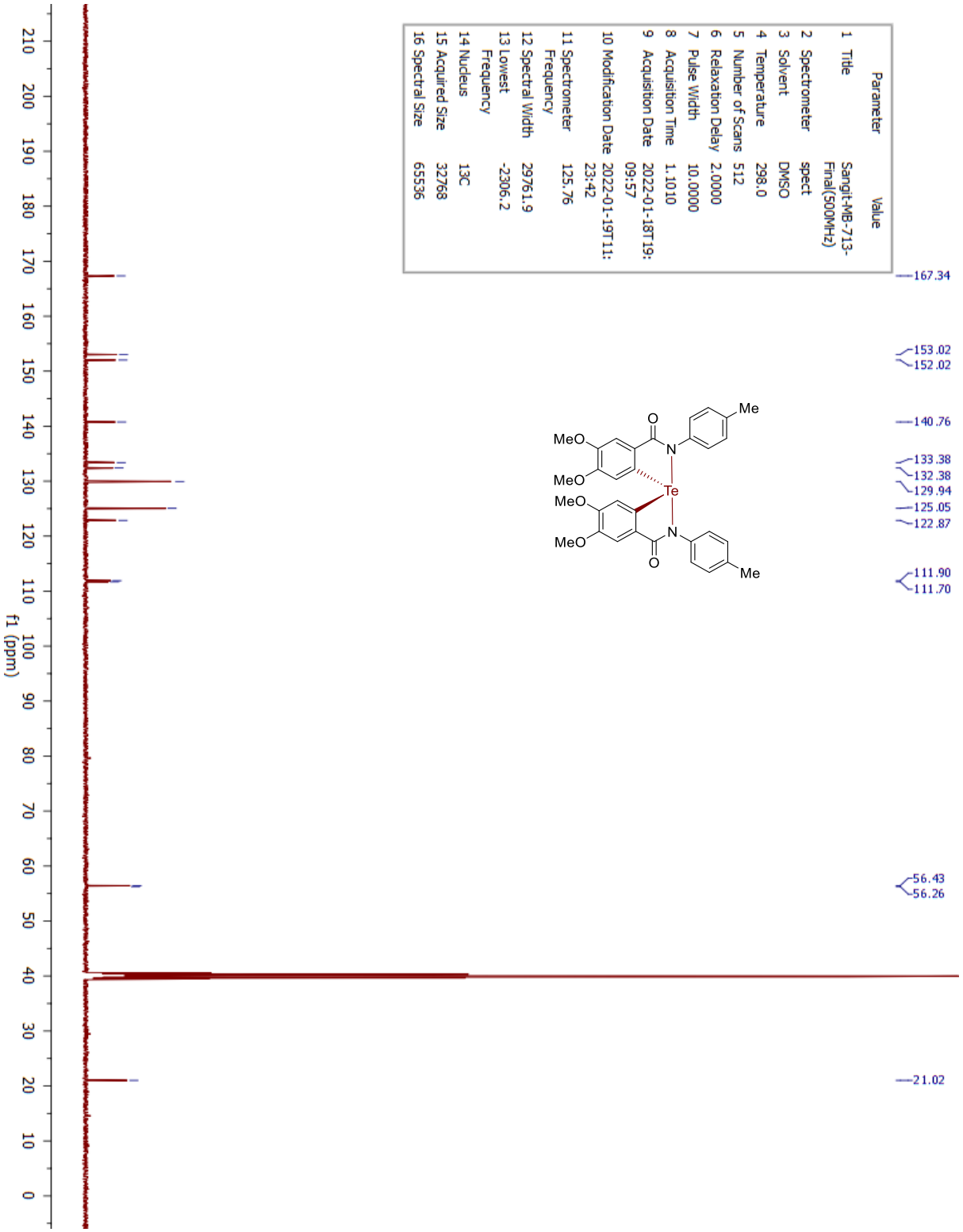


^{1}H NMR spectra of **1l**

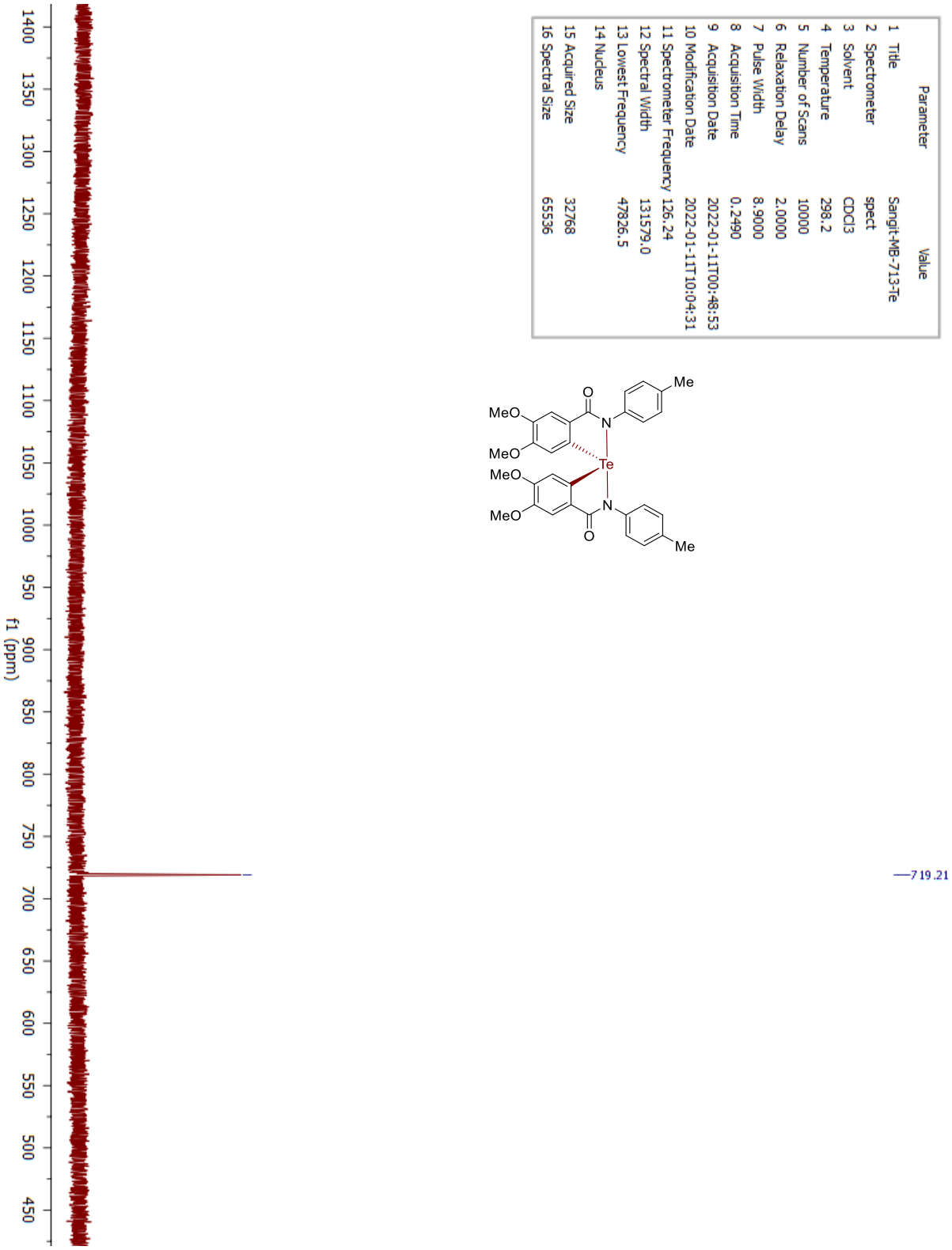


Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **1l**



^{125}Te NMR spectra of **1l**



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7	Pulse Width	8.9000
8	Acquisition Time	0.2490
9	Acquisition Date	2022-01-11T00:48:53
10	Modification Date	2022-01-11T10:04:31
11	Spectrometer Frequency	126.24
12	Spectral Width	131579.0
13	Lowest Frequency	47826.5
14	Nucleus	
15	Acquired Size	32768
16	Spectral Size	65536

HRMS spectra of **1l**

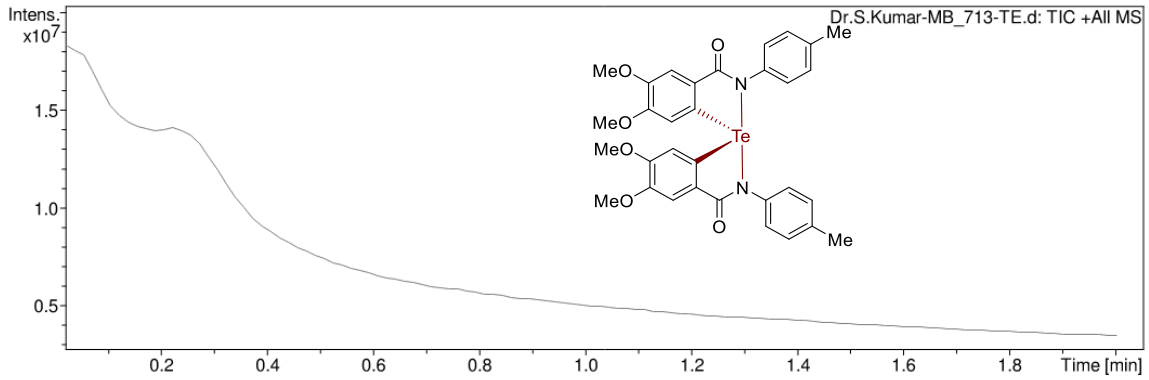
Display Report

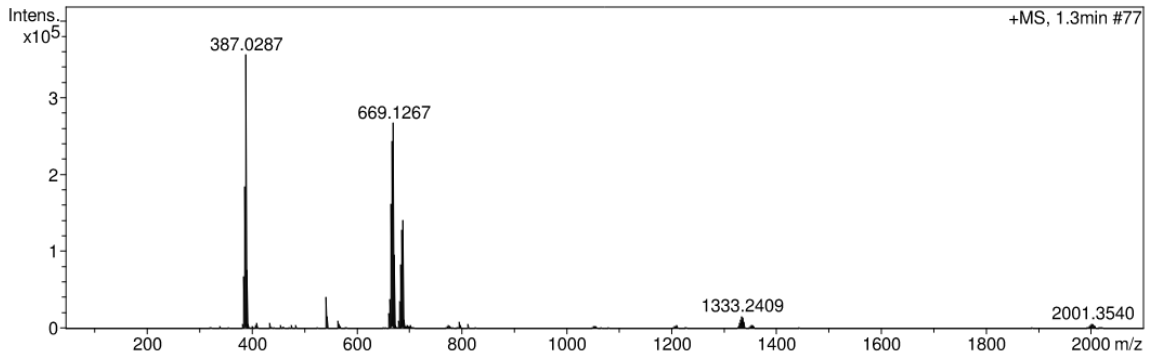
Analysis Info

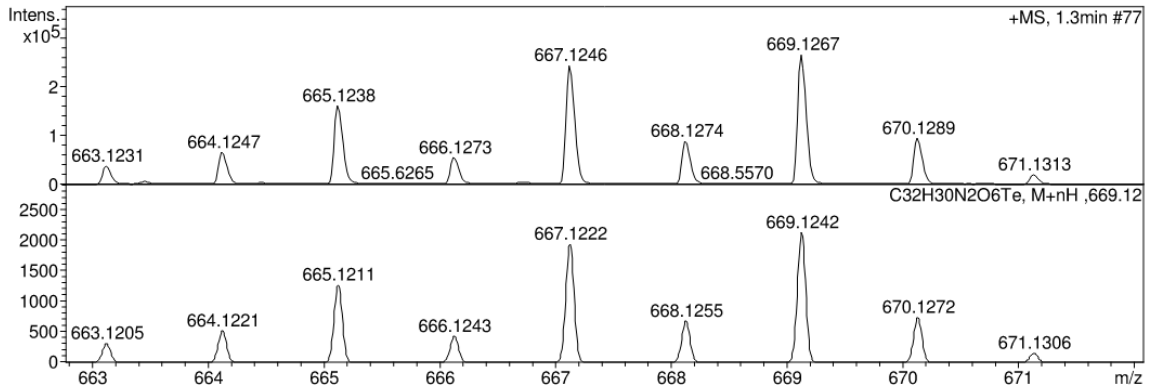
Acquisition Date	1/21/2022 3:14:31 PM		
Analysis Name	D:\Data\NEW USER DATA 2022\Jan-2022\21-jan-2022\Dr.S.Kumar-MB_713-TE.d		
Method	tune_wide.m	Operator	RUCHI
Sample Name	-MB_713-TE	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

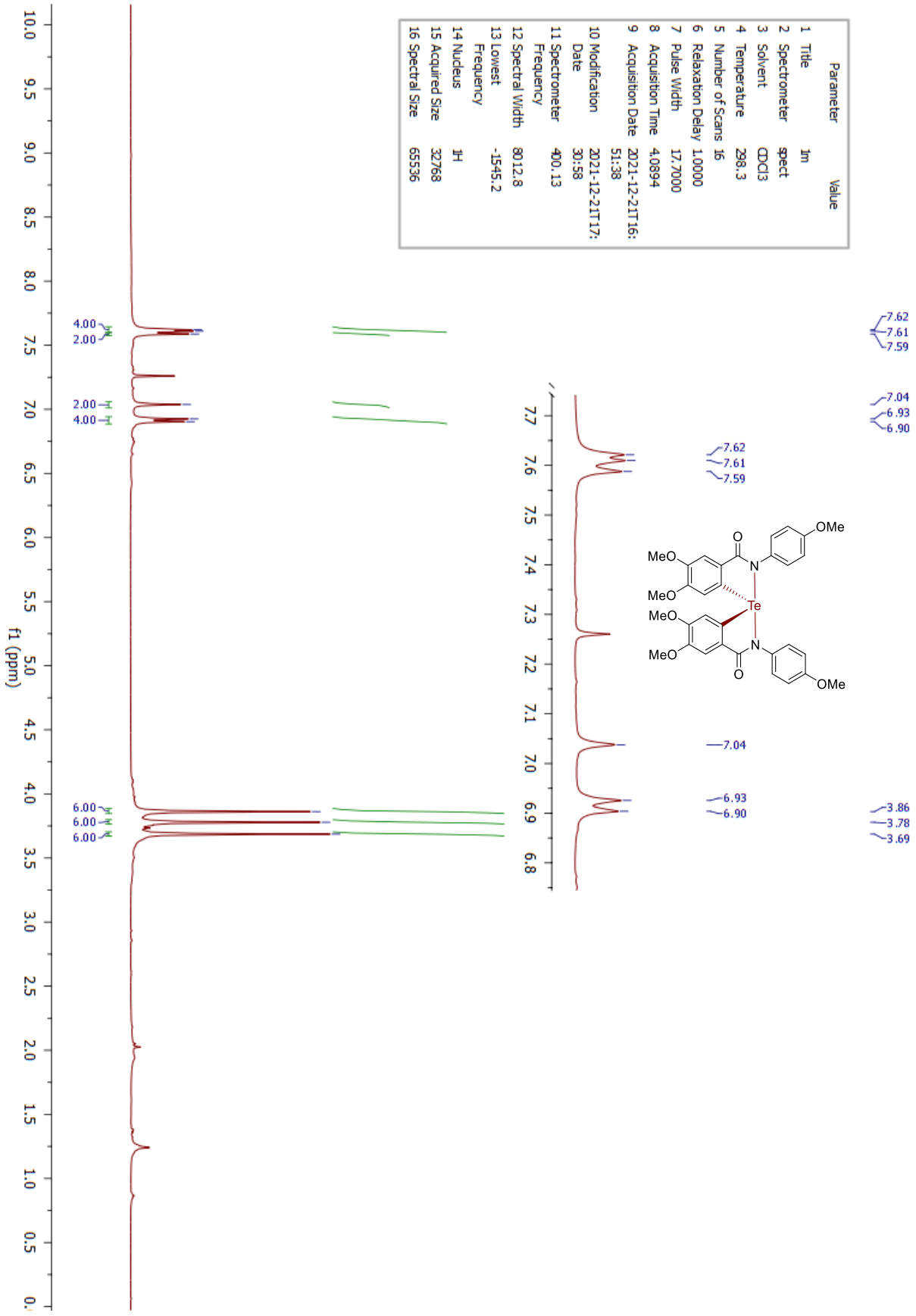
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Source



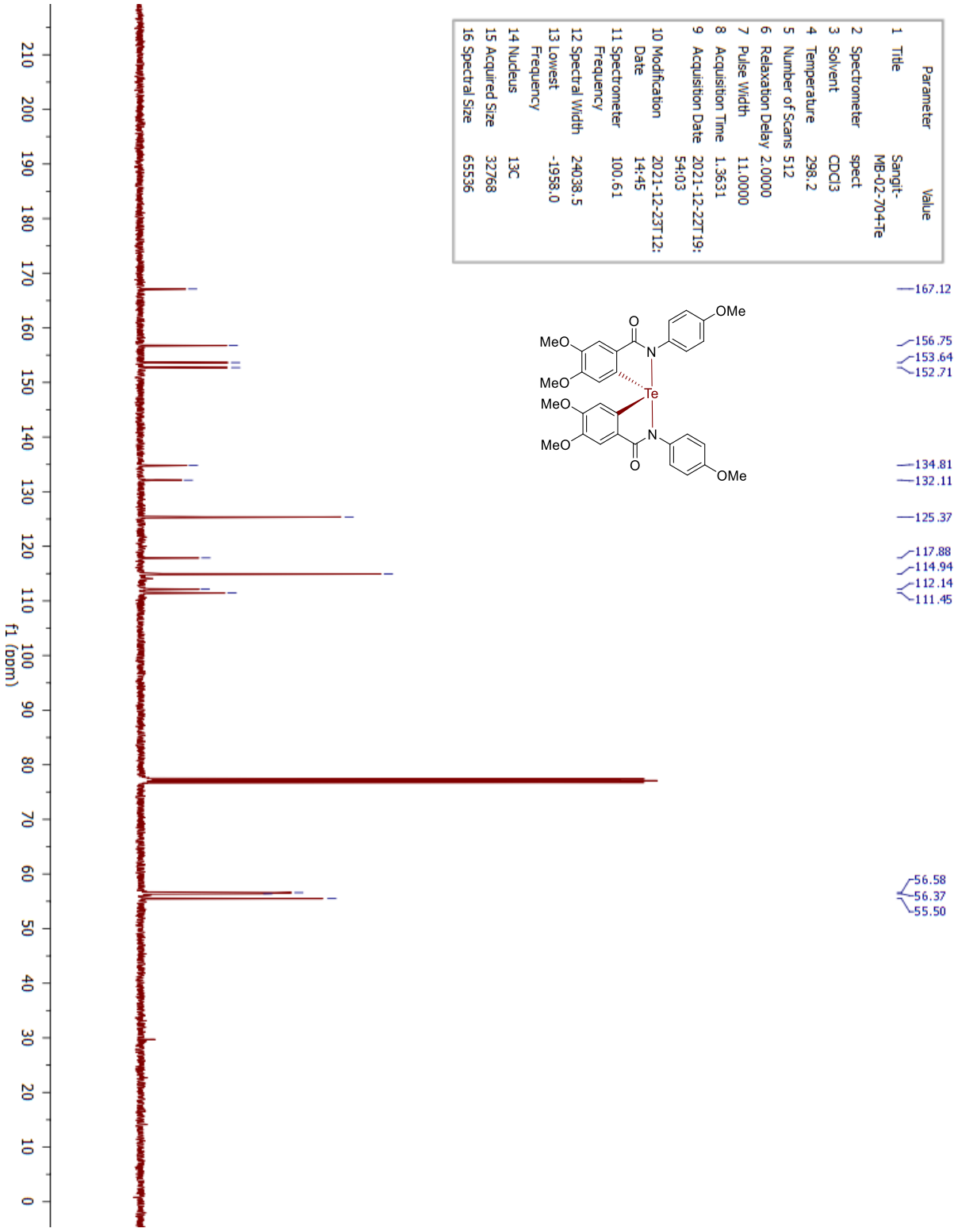




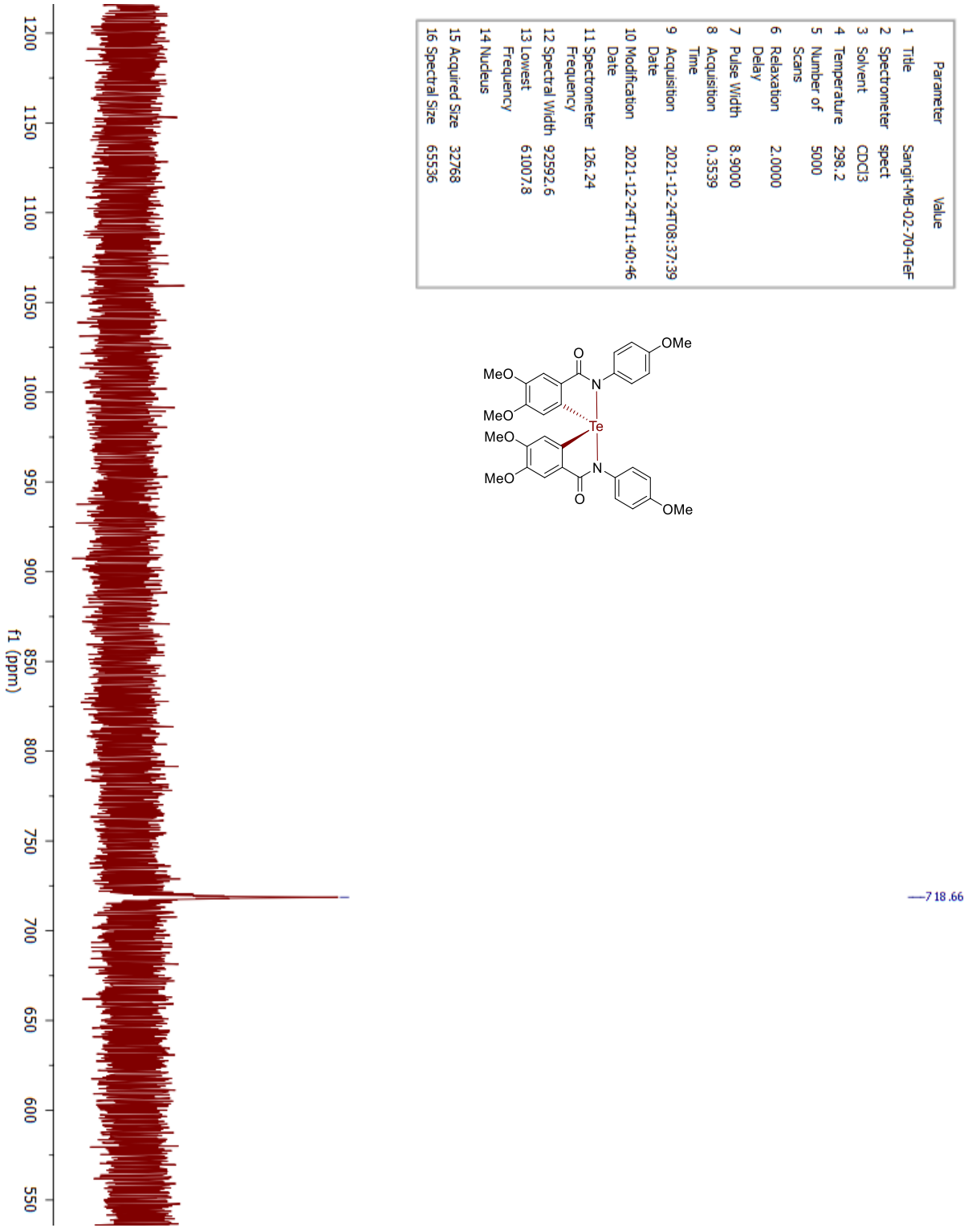
^{1}H NMR spectra of **1m**



^{13}C NMR spectra of **1m**



^{125}Te NMR spectra of **1m**



	Parameter	Value
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6	Relaxation Delay	2.0000
7	Pulse Width	8.9000
8	Acquisition Time	0.3539
9	Acquisition Date	2021-12-24T08:37:39
10	Modification Date	2021-12-24T11:40:46
11	Spectrometer Frequency	126.24
12	Spectral Width	92592.6
13	Lowest Frequency	61007.8
14	Nucleus	
15	Acquired Size	32768
16	Spectral Size	65536

HRMS spectra of **1m**

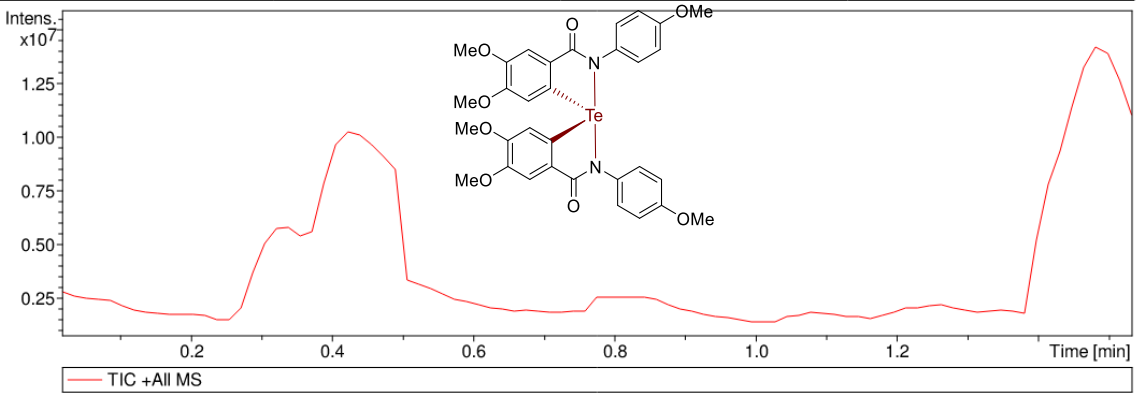
Display Report

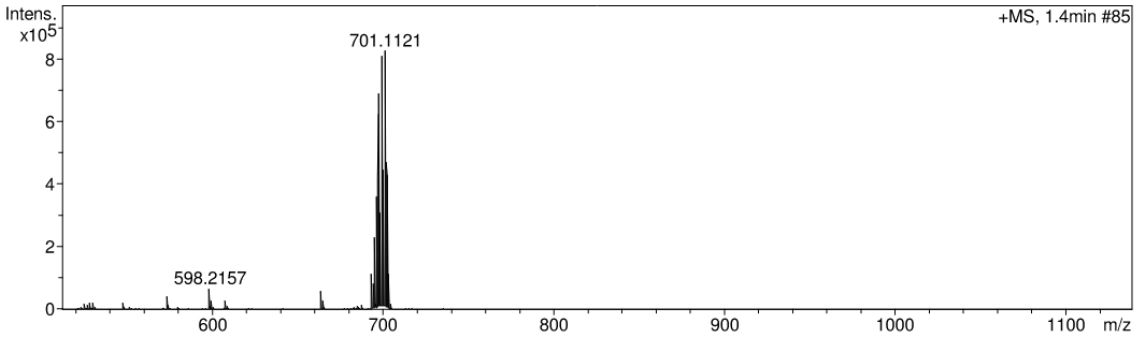
Analysis Info

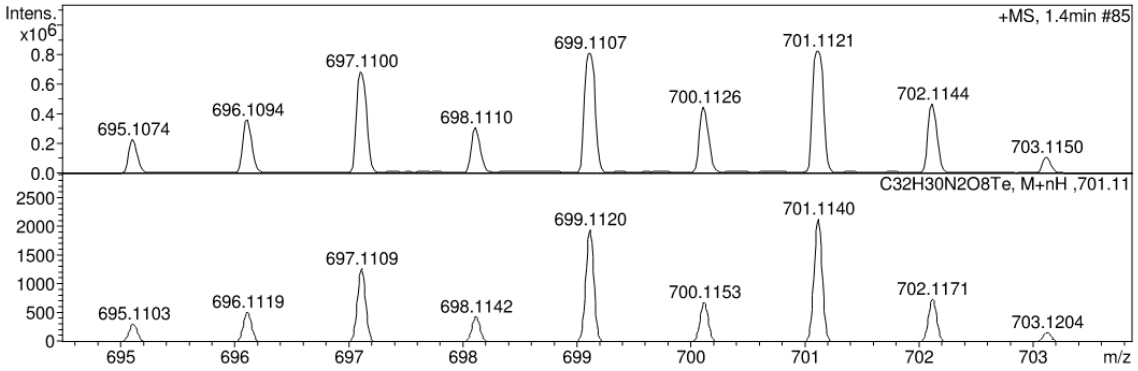
Analysis Name	D:\Data\new user data 2021\Dec-2021\30-dec\Prof S Kumar-MB-702-Te-.d	Acquisition Date	12/30/2021 2:21:17 PM
Method	tune_wide _APCI_23.06.m	Operator	RUCHI
Sample Name	MB-702-Te-	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

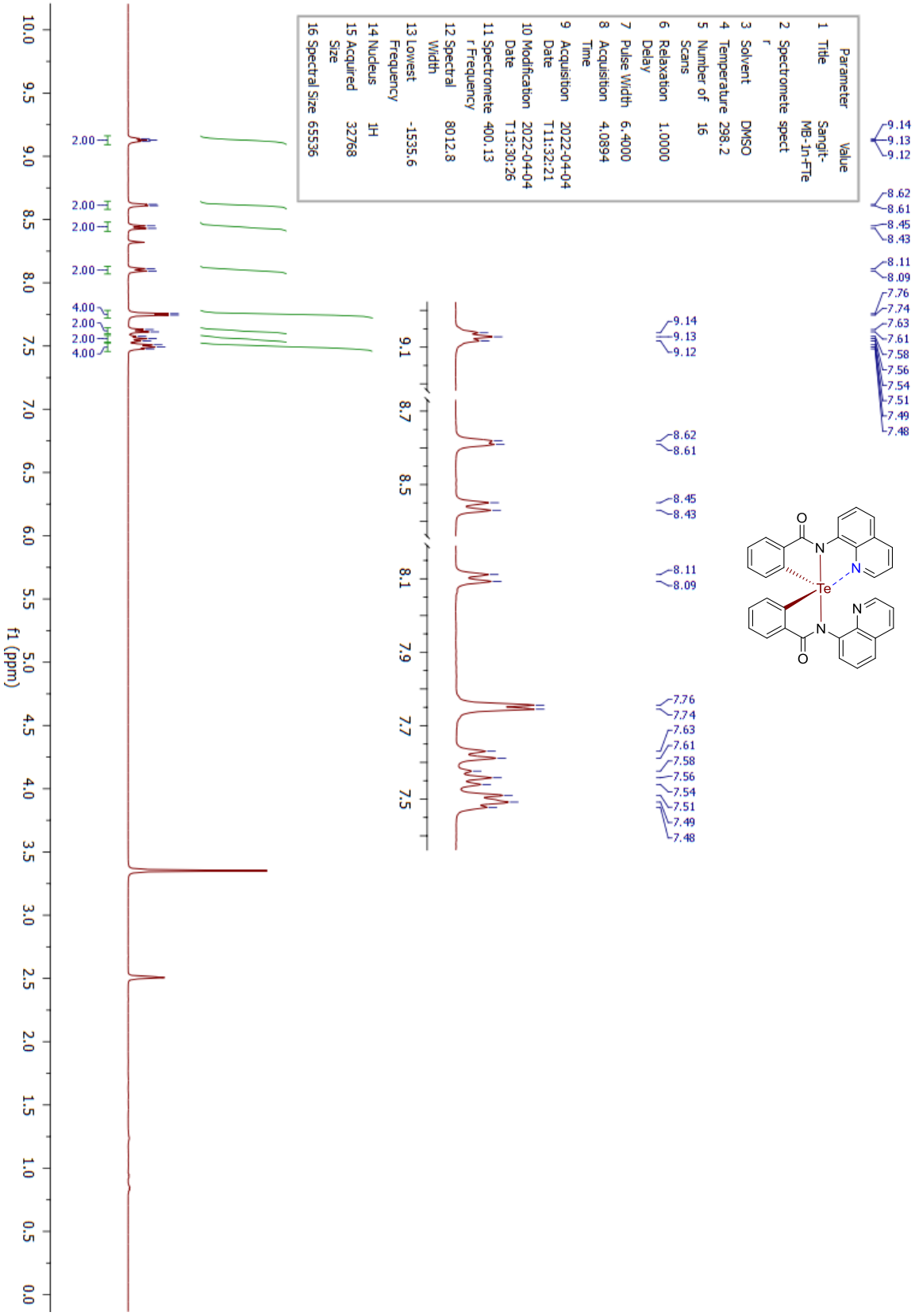
Source Type	Multi Mode	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active	Set Capillary	2500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	5.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste





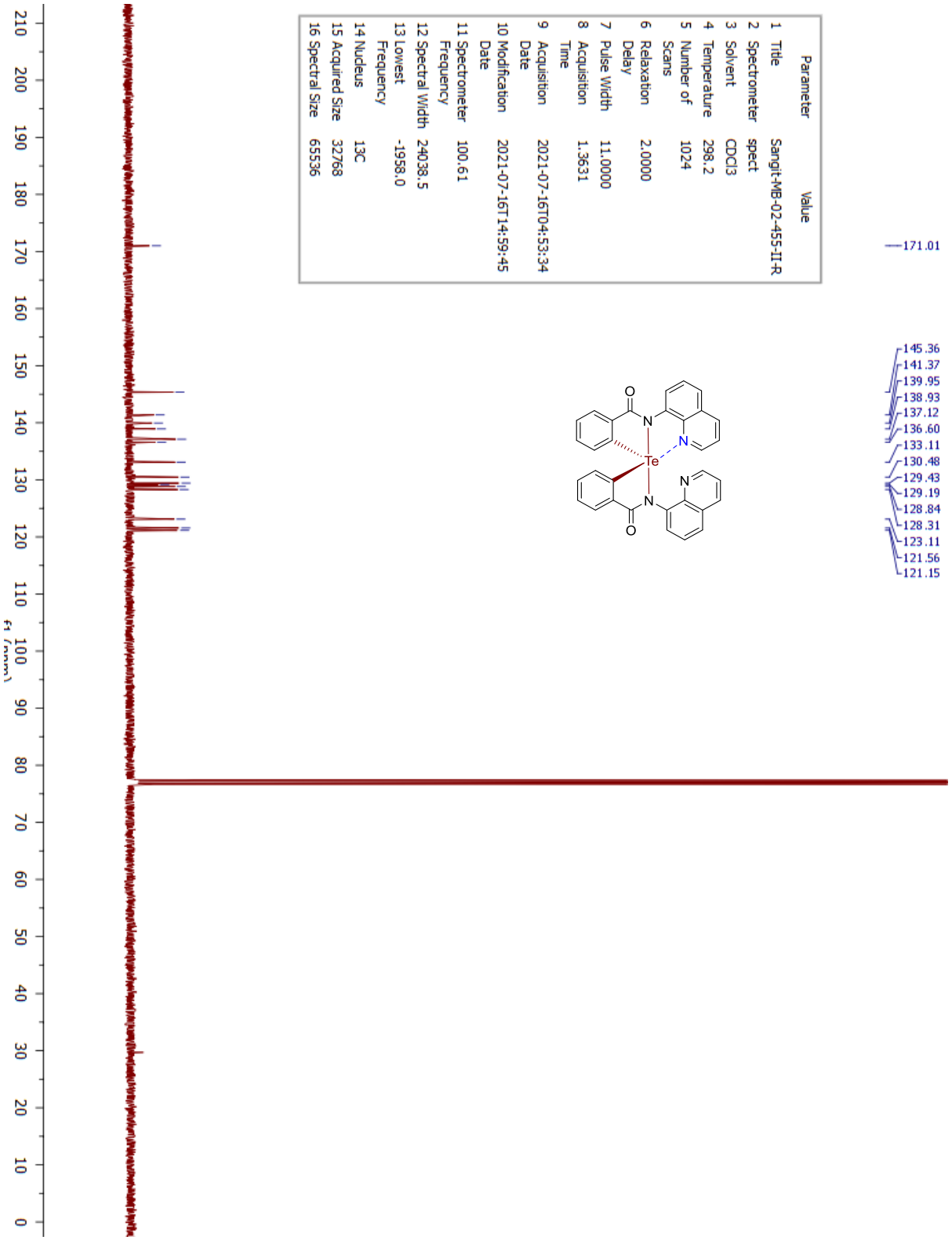


^{1}H NMR spectra of **1n**

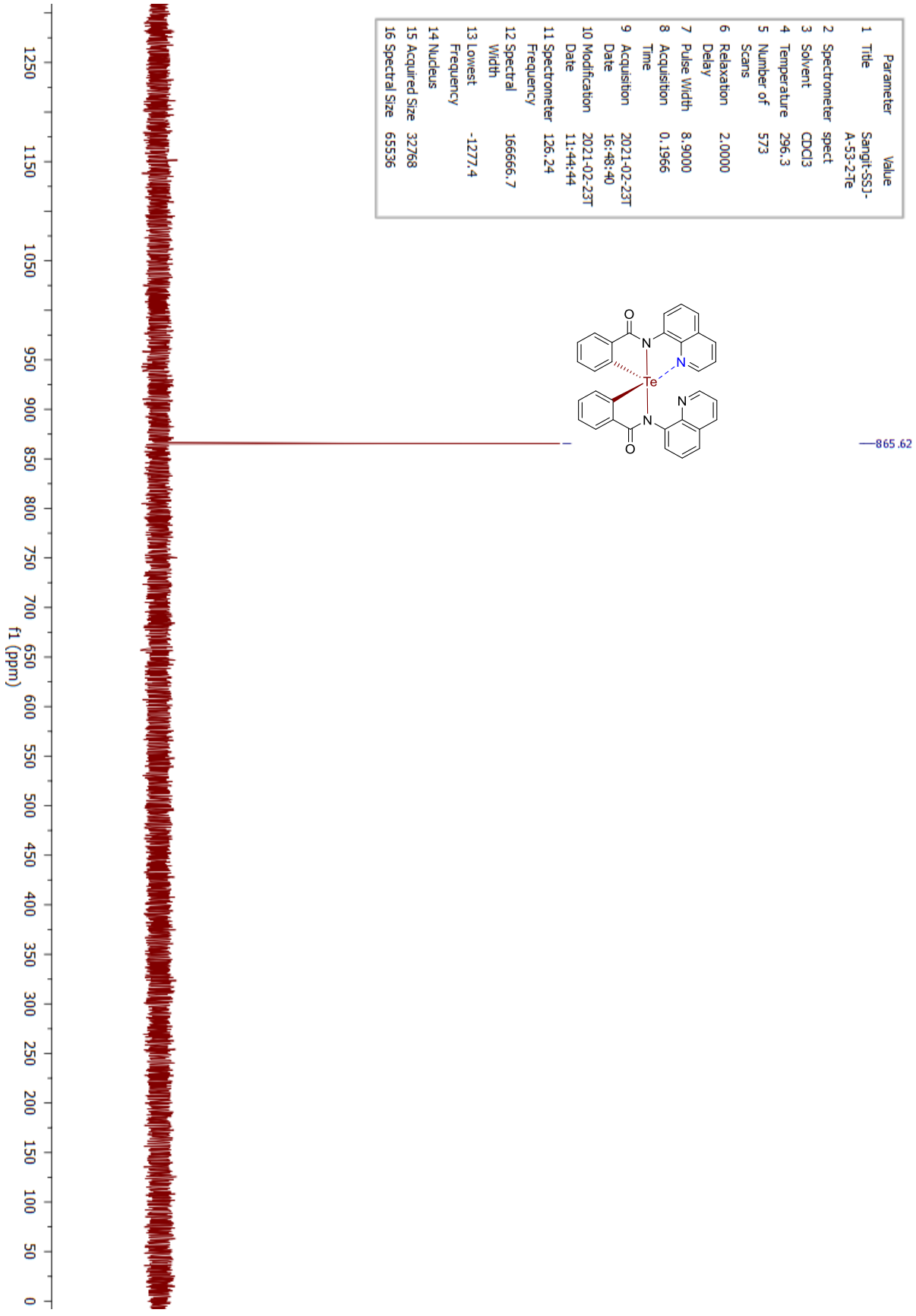


Peak at 3.33 and 2.50 ppm correspond to DMSO-d_6 and water residual peak respectively.

^{13}C NMR spectra of **1n**



^{125}Te NMR spectra of **1n**



HRMS spectra of **1n**

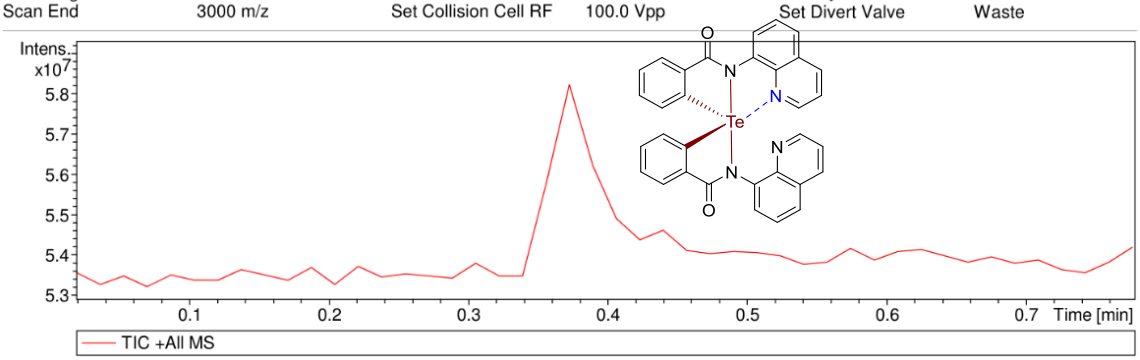
Display Report

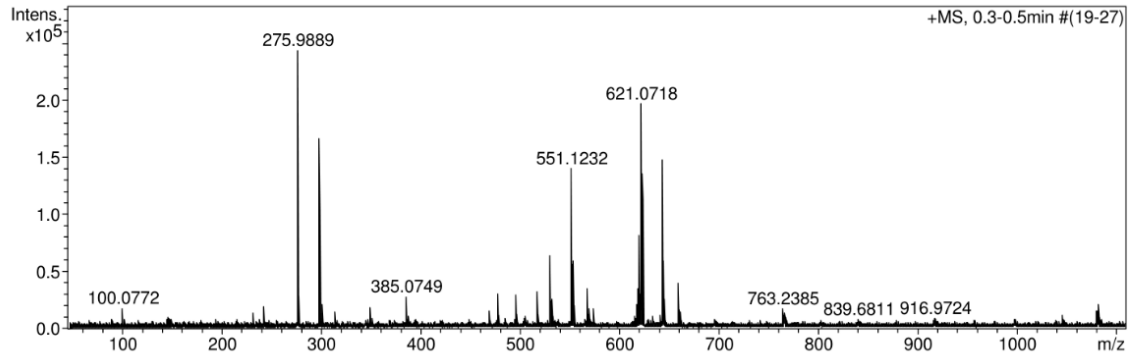
Analysis Info

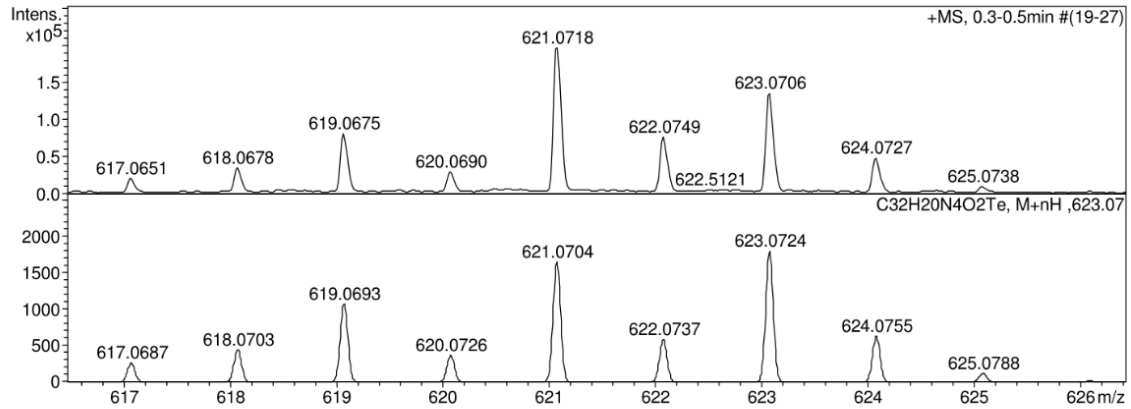
Analysis Name	D:\Data\NEW USER DATA 2020\DEC-2020\07-dec\Prof.S.Kumar-MB-385-II.d	Acquisition Date	12/7/2020 4:30:19 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-385-II	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste

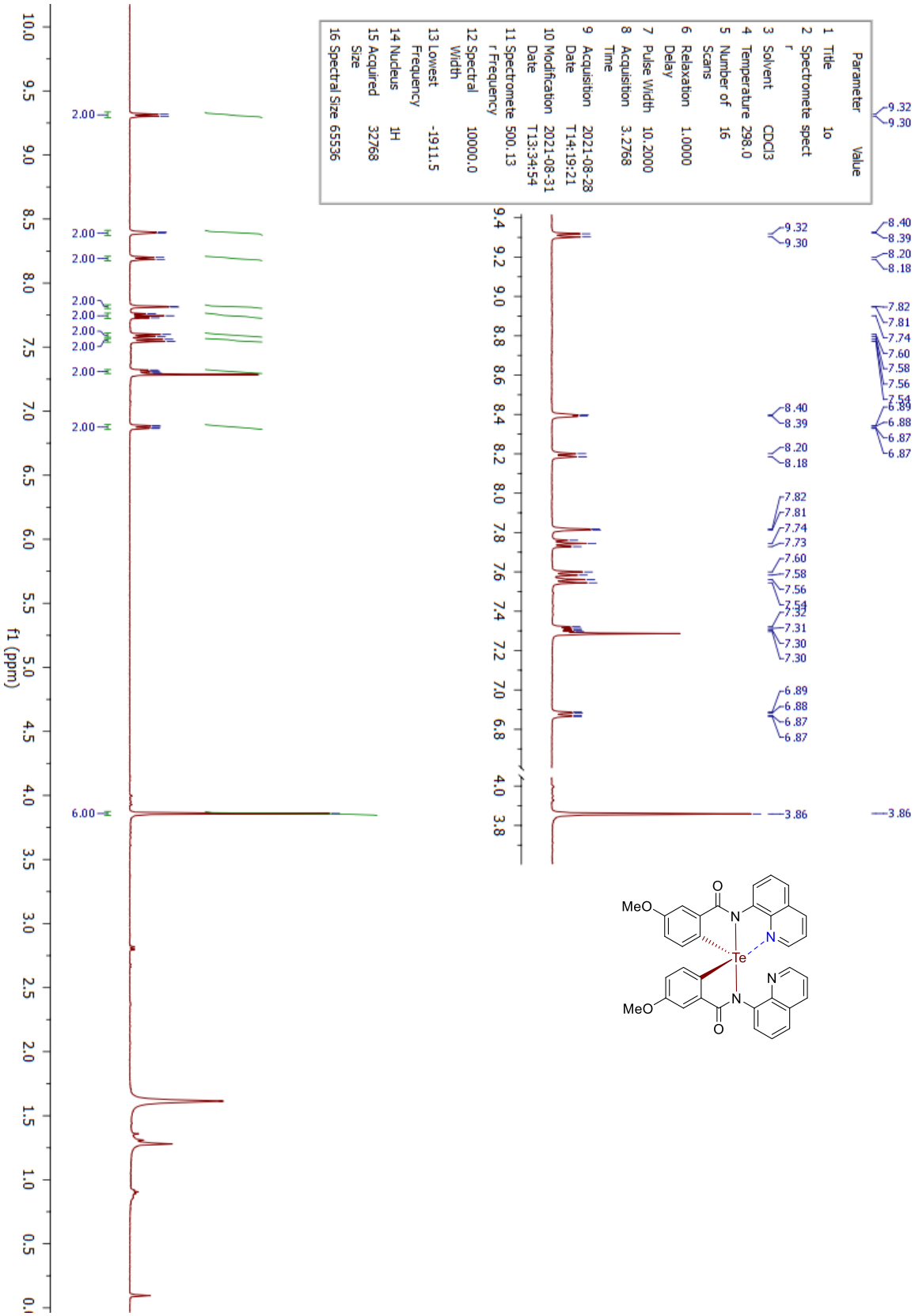






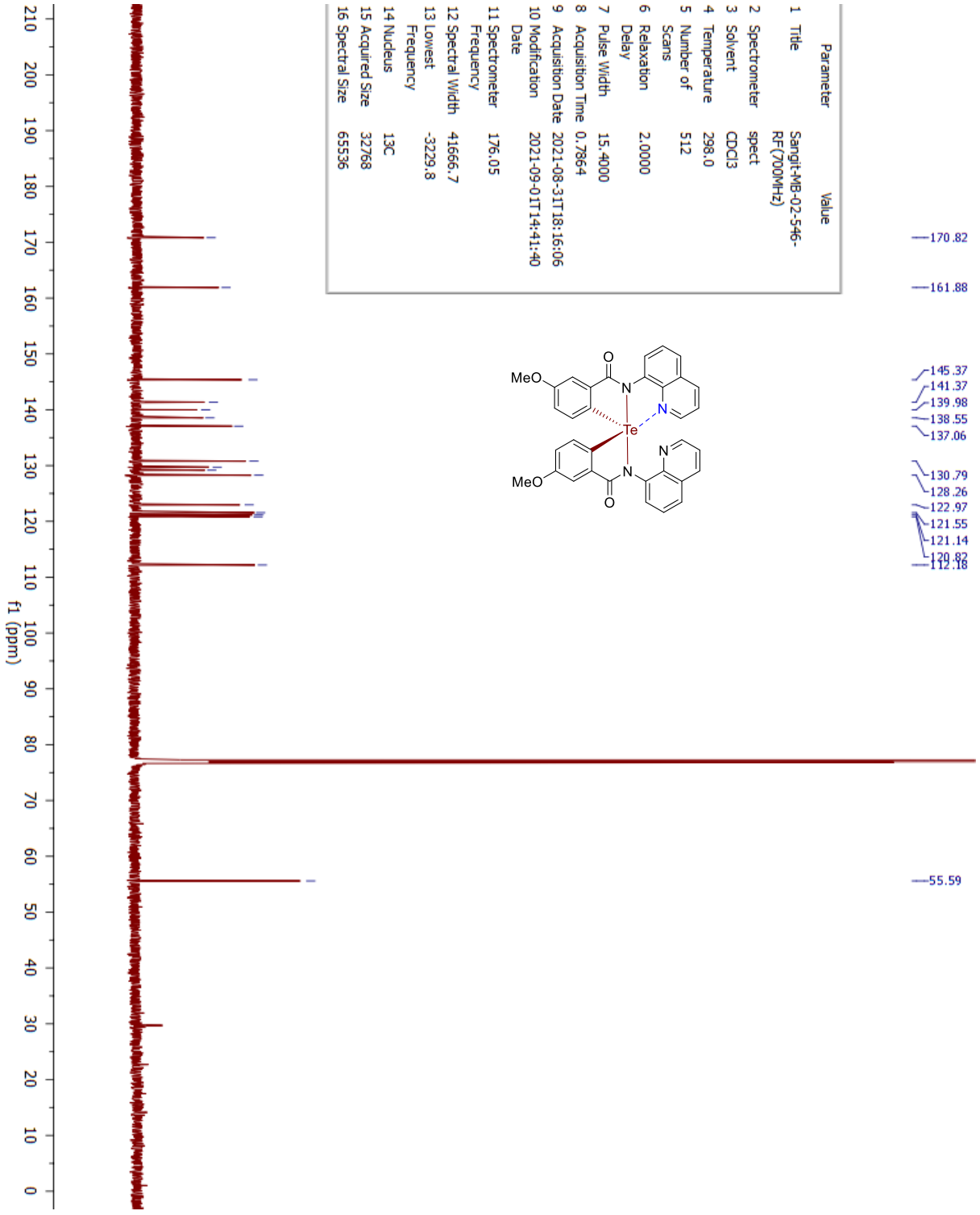
Bruker Compass DataAnalysis 4.0 printed: 12/15/2020 9:23:05 AM Page 1 of 1

^{1}H NMR spectra of **1o**

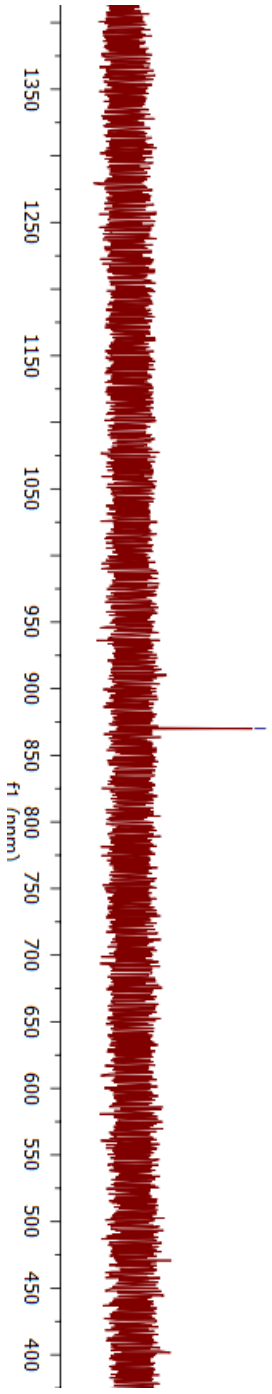


Peaks at 7.26 and 1.56 correspond to $CDCl_3$ residual and water.

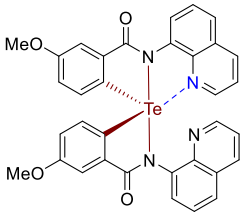
^{13}C NMR spectra of **1o**



^{125}Te NMR spectra of **1o**



	Parameter	Value
1	Title	Sangit-MB-02-546-Te
2	Spectrometer	spect
3	Solvent	CDCl3
4	Temperature	298.2
5	Number of Scans	10000
6	Relaxation Delay	2.0000
7	Pulse Width	8.9000
8	Acquisition Time	0.2097
9	Acquisition Date	2021-09-11T07:11:16
10	Modification Date	2021-09-11T12:16:21
11	Spectrometer Frequency	126.24
12	Spectral Width	156250.0
13	Lowest Frequency	22867.0
14	Nucleus	
15	Acquired Size	32768
16	Spectral Size	65536



870.04

HRMS spectra of **1o**

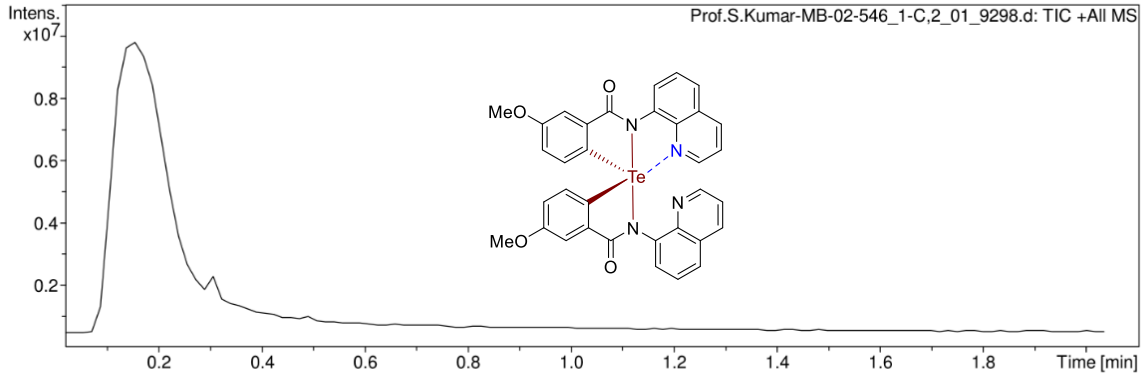
Display Report

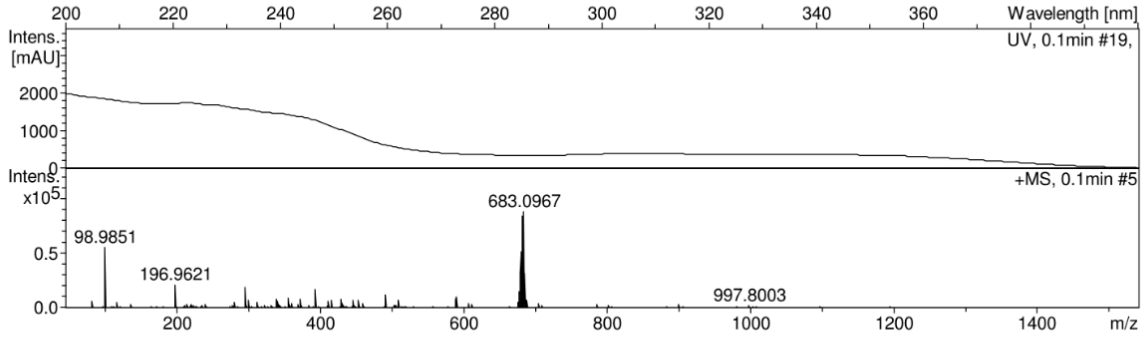
Analysis Info

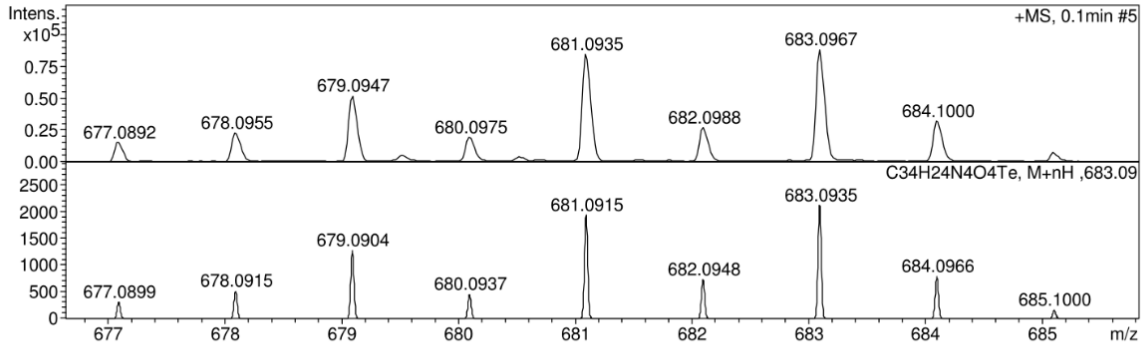
Acquisition Date	9/15/2021 1:02:11 PM		
Analysis Name	D:\Data\new user data 2021\Sept-2021\15-sept\Prof.S.Kumar-MB-02-546_1-C,2_01_9298.d		
Method	hrlcms-20 sept--union-esi-tune low 01-sept-2021.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-546	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

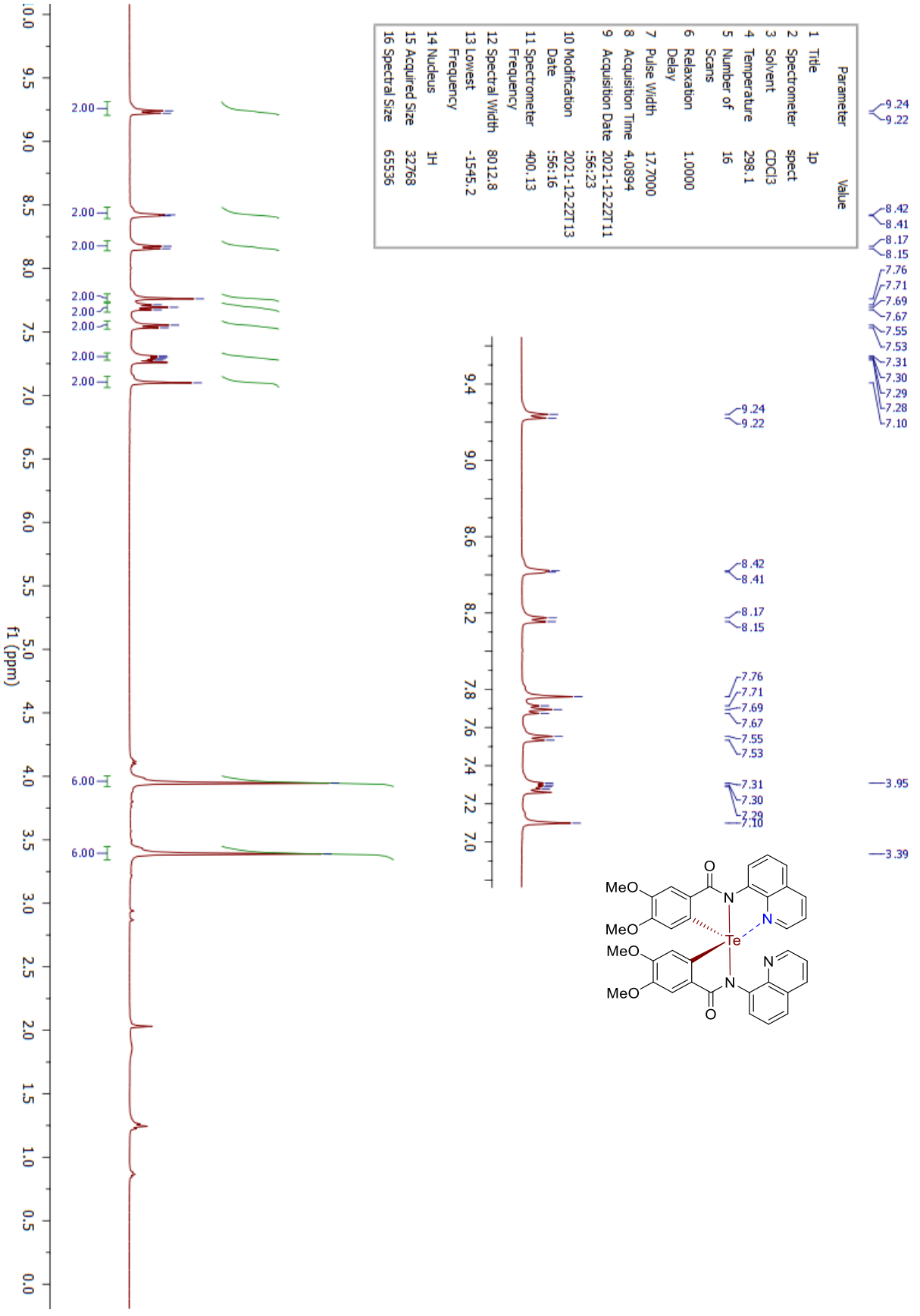
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste



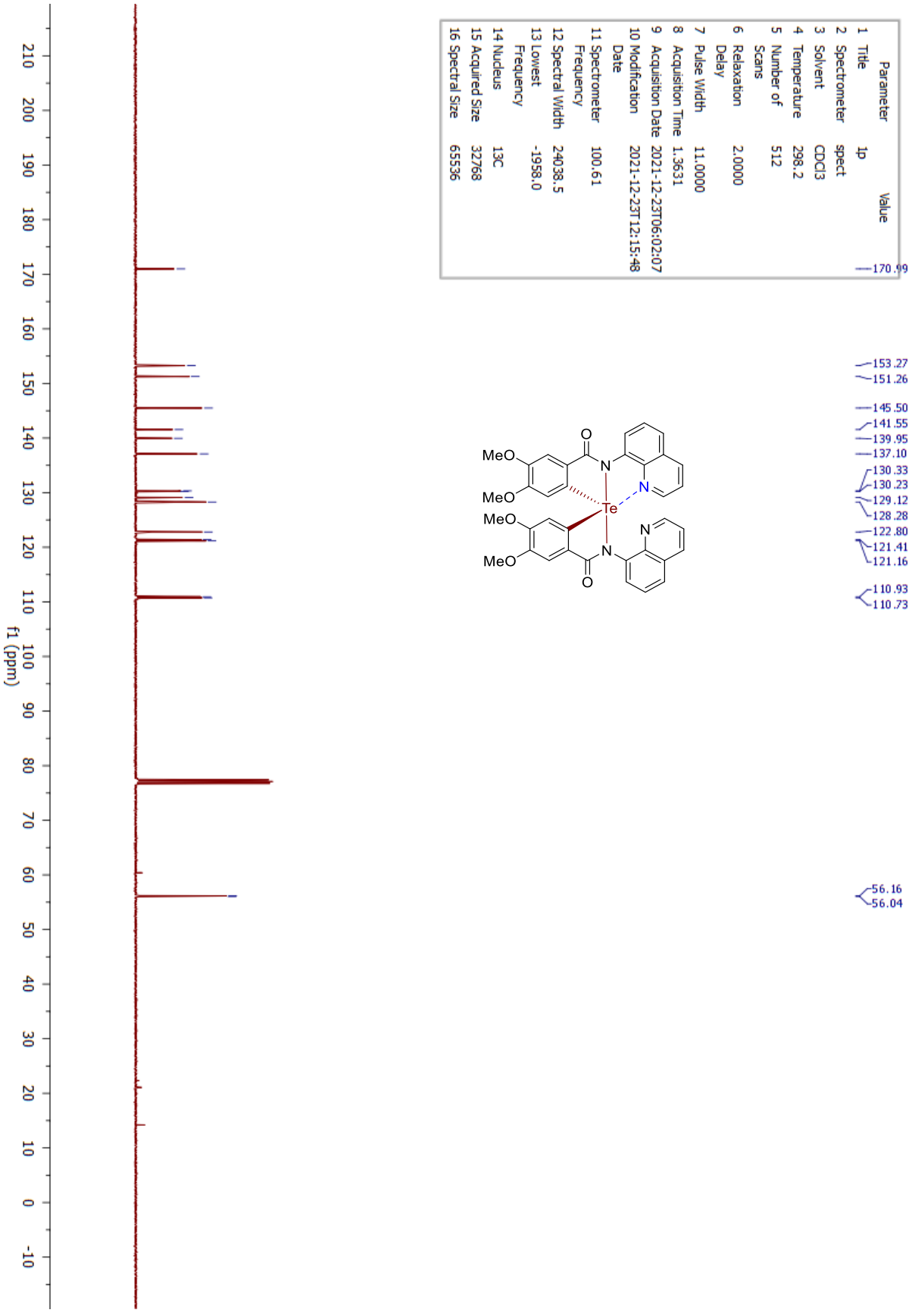




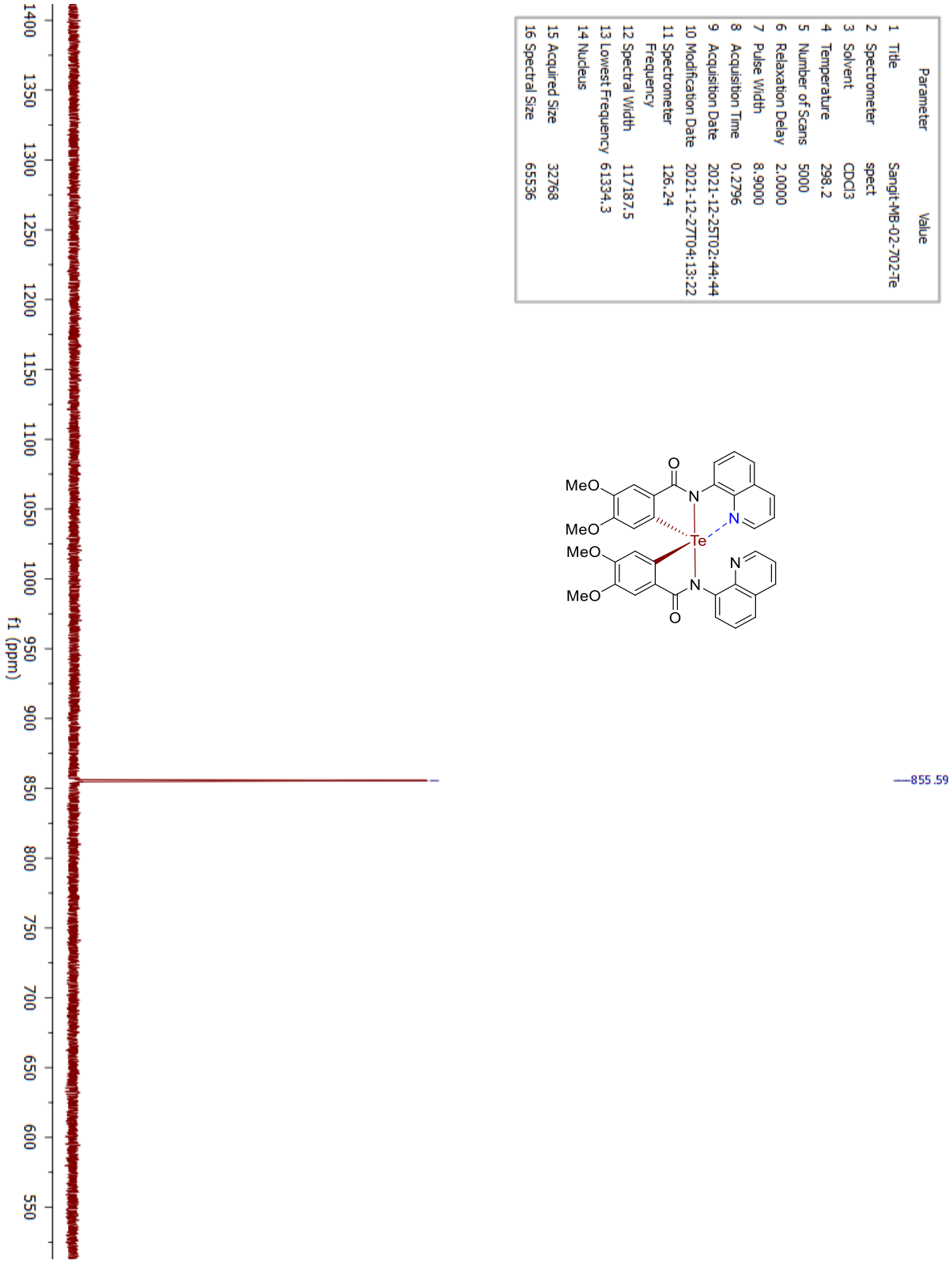
^{1}H NMR spectra of **1p**



^{13}C NMR spectra of **1p**



^{125}Te NMR spectra of **1p**



HRMS spectra of **1p**

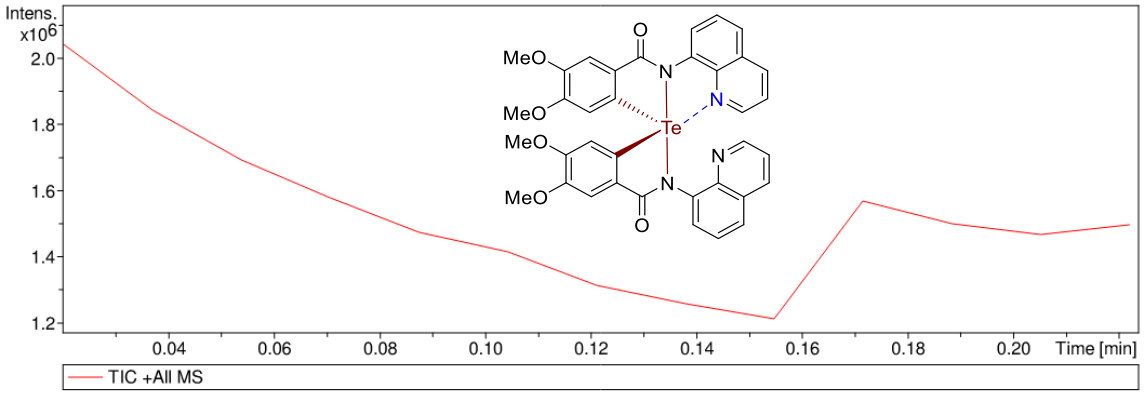
Display Report

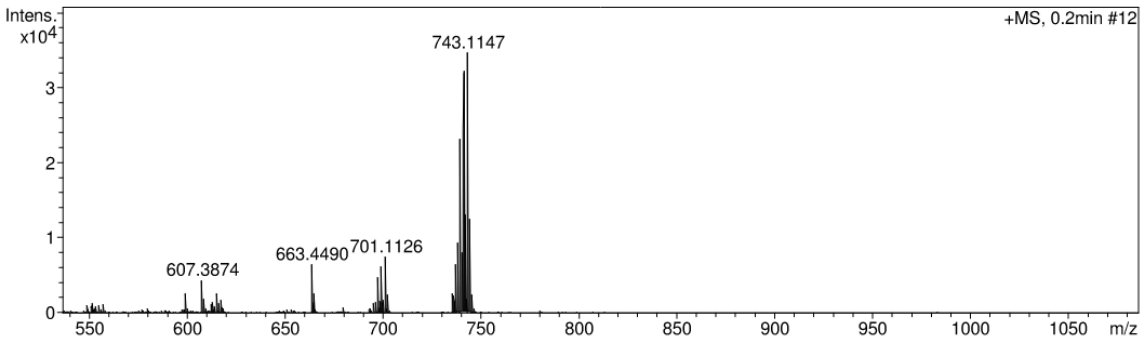
Analysis Info

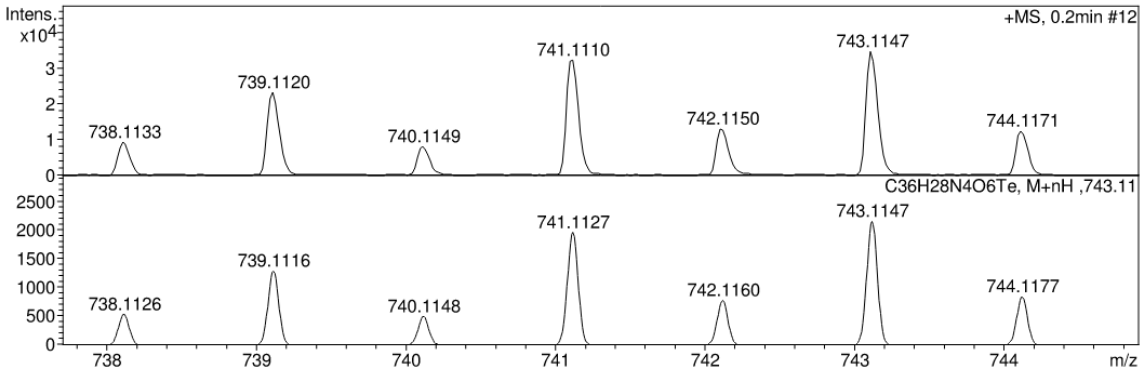
Acquisition Date	12/30/2021 2:30:21 PM		
Analysis Name	D:\Data\new user data 2021\Dec-2021\30-dec\Prof S Kumar-MB-704-Te.d		
Method	tune_wide _APCI_23.06.m	Operator	RUCHI
Sample Name	MB-704-Te	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

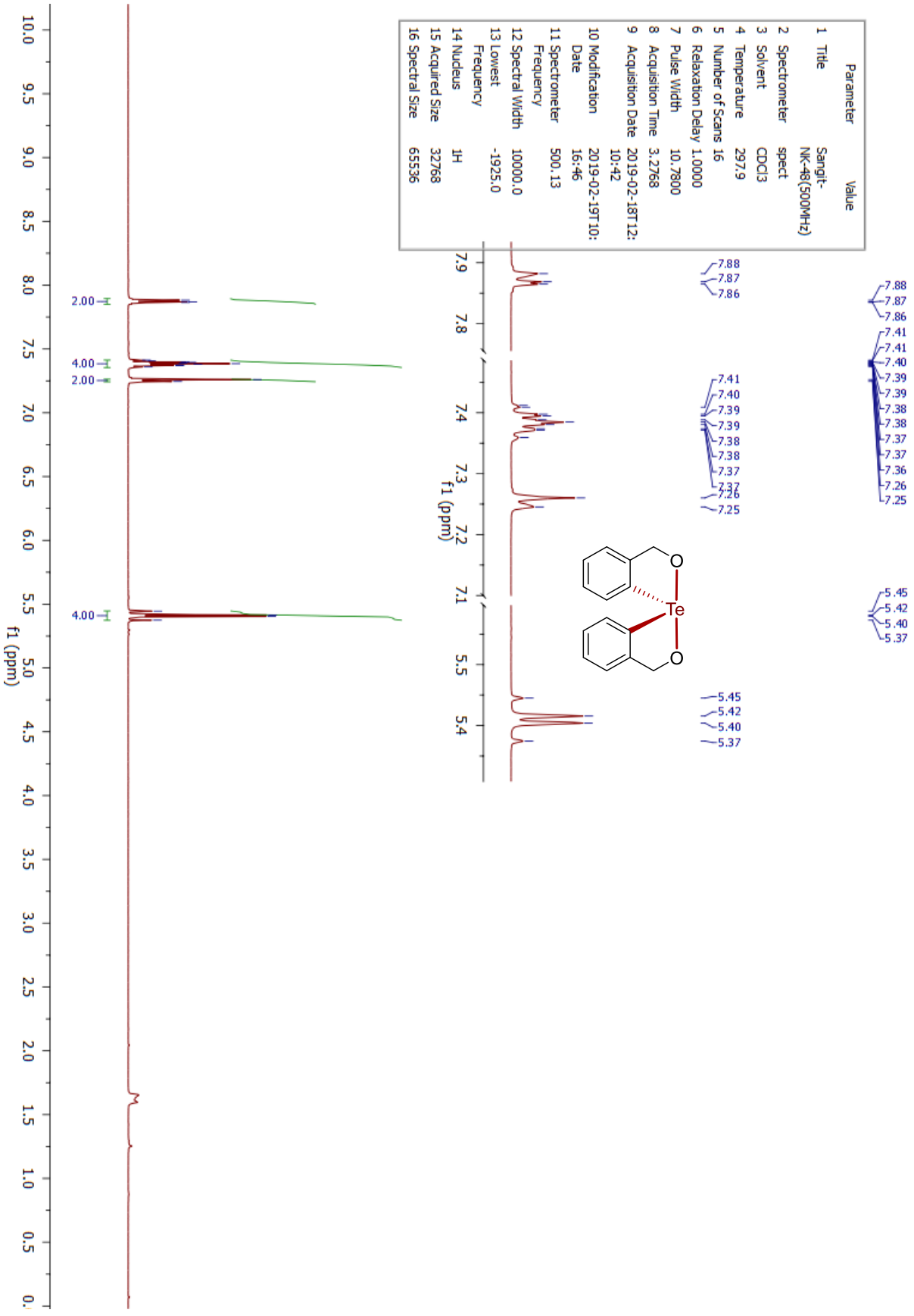
Source Type	Multi Mode	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active	Set Capillary	2500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	5.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste



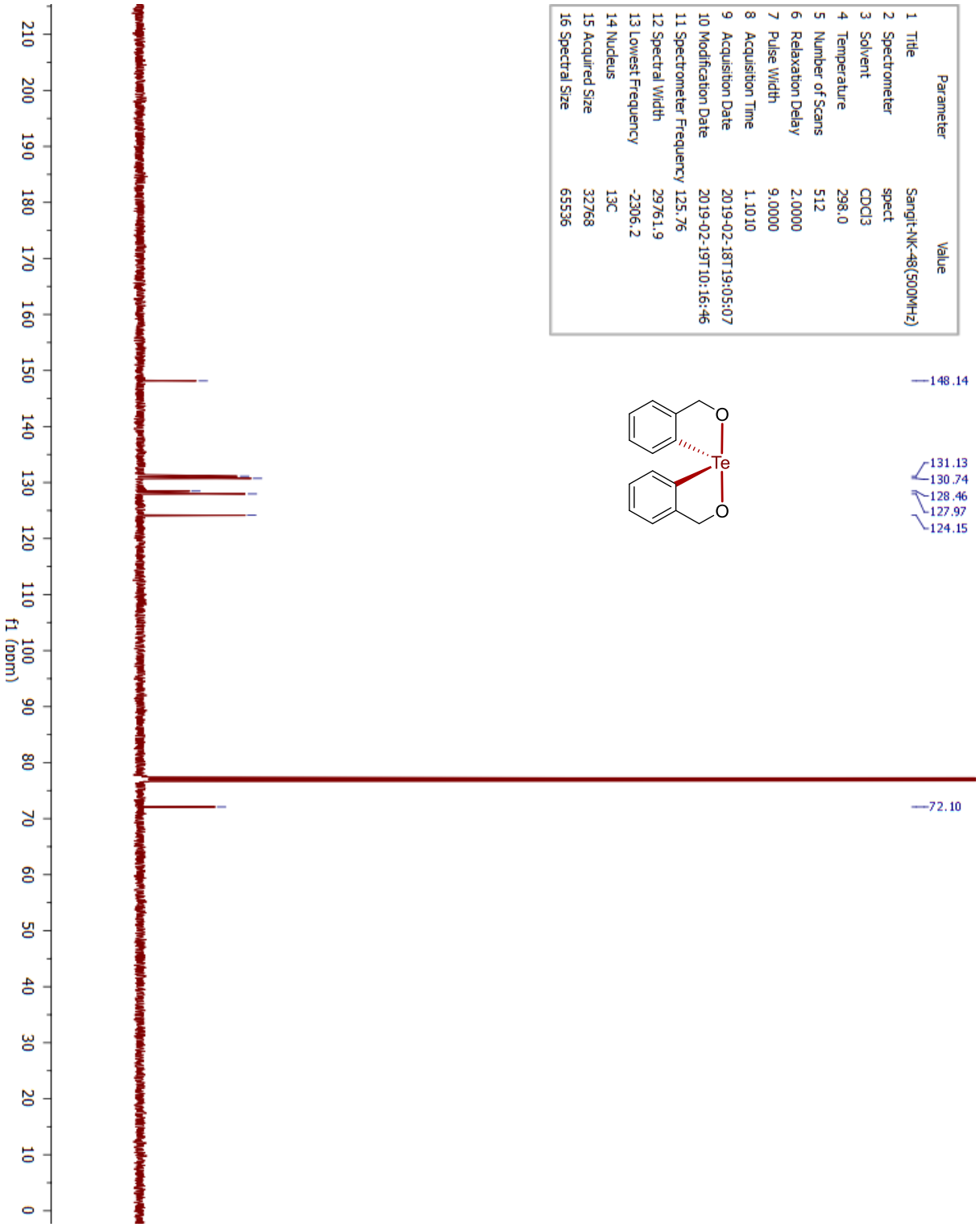




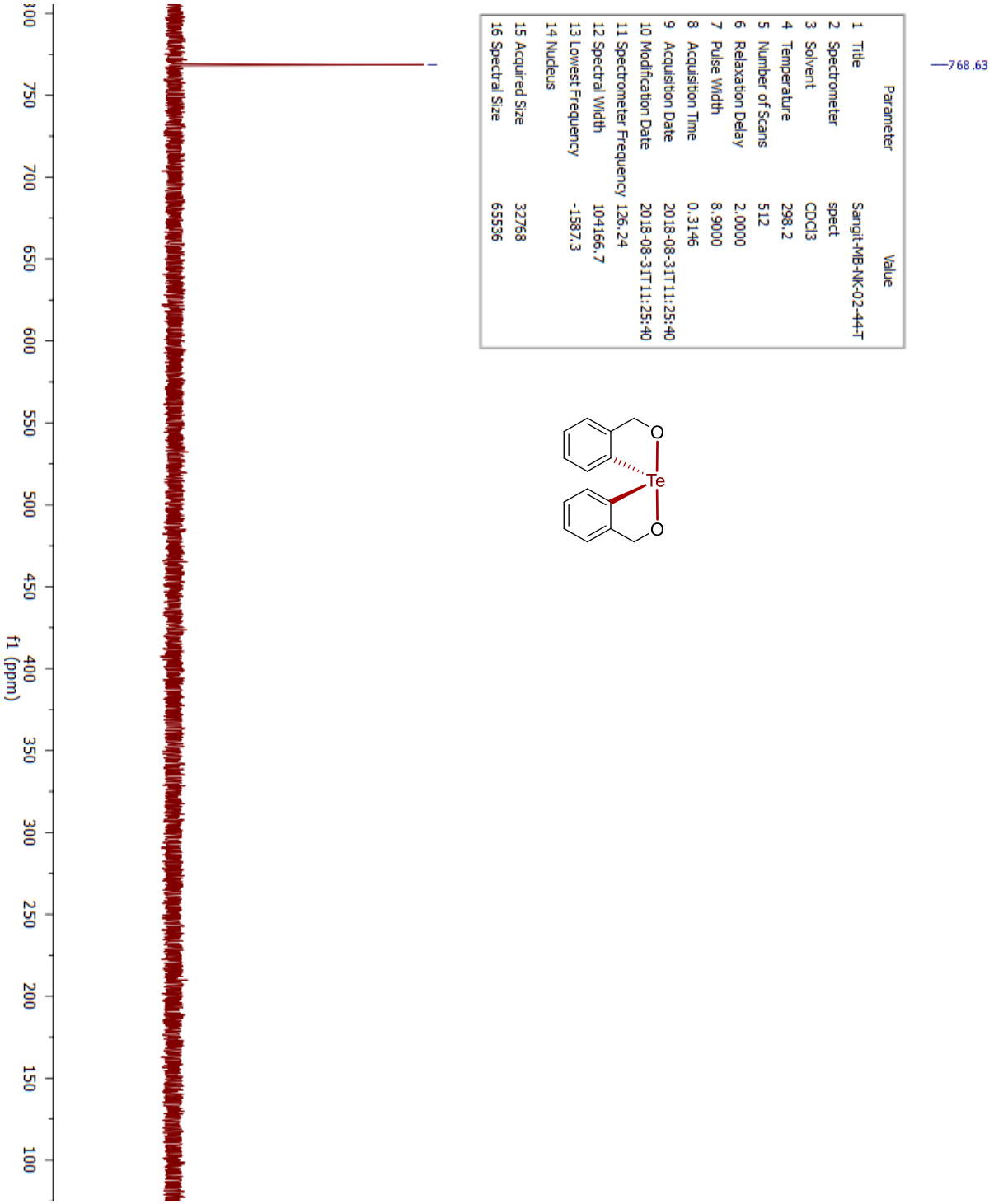
^{1}H NMR spectra of **1q**



^{13}C NMR spectra of **1q**



^{125}Te NMR spectra of **1q**



HRMS spectra of **1q**

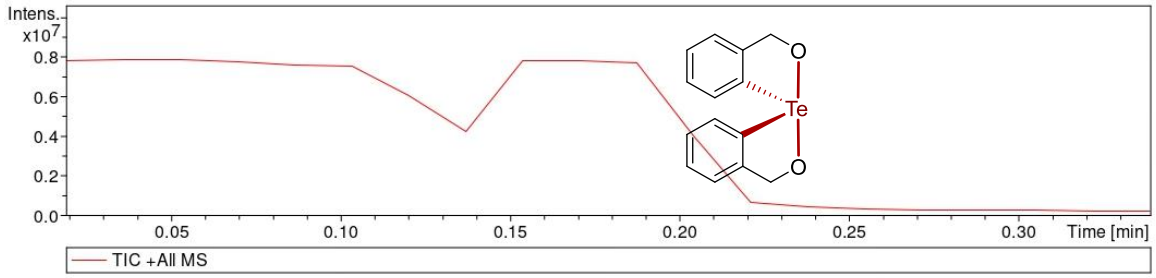
Display Report

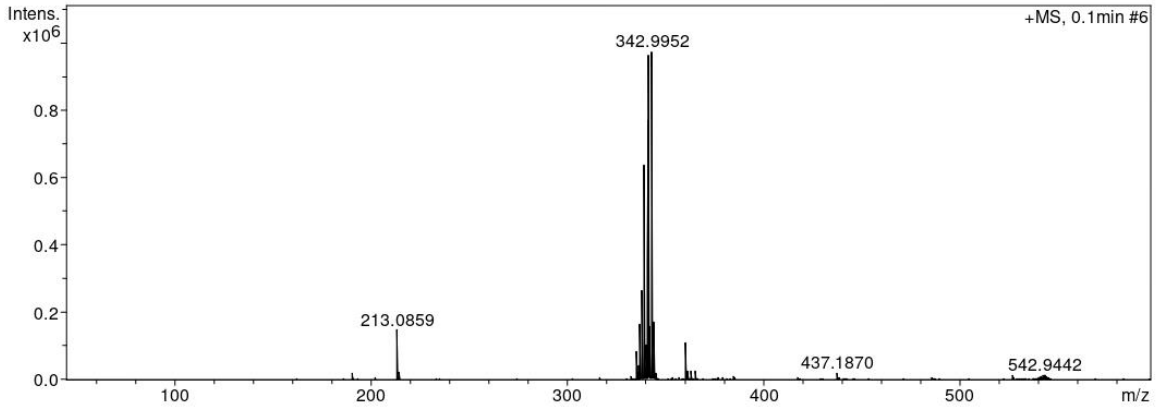
Analysis Info

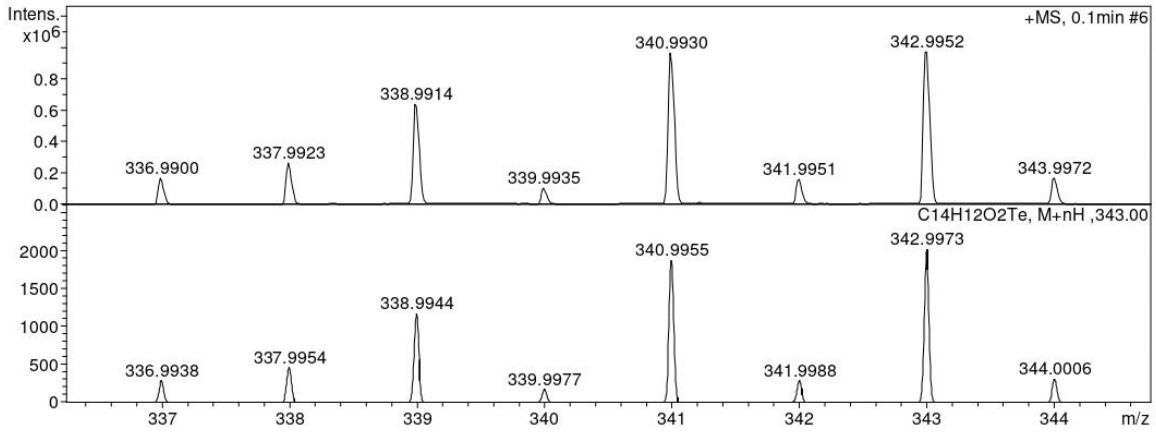
Analysis Name	D:\Data\NEW USER DATA 2017\2019\FEB\18 feb\Dr S Kimar-NK-48-2-LS.d	Acquisition Date	2/19/2019 11:17:28 AM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	NK-48-2-LS	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

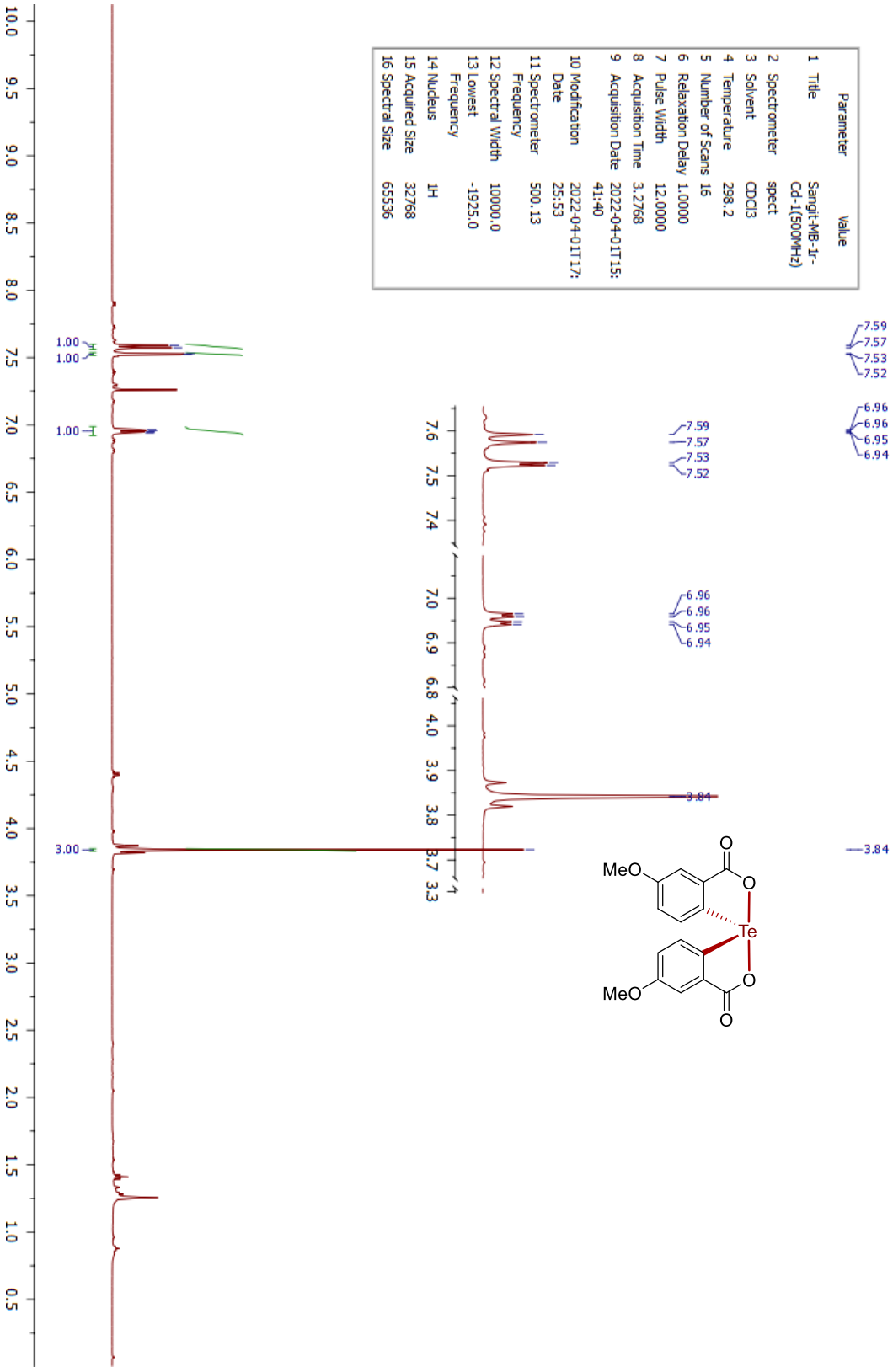
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





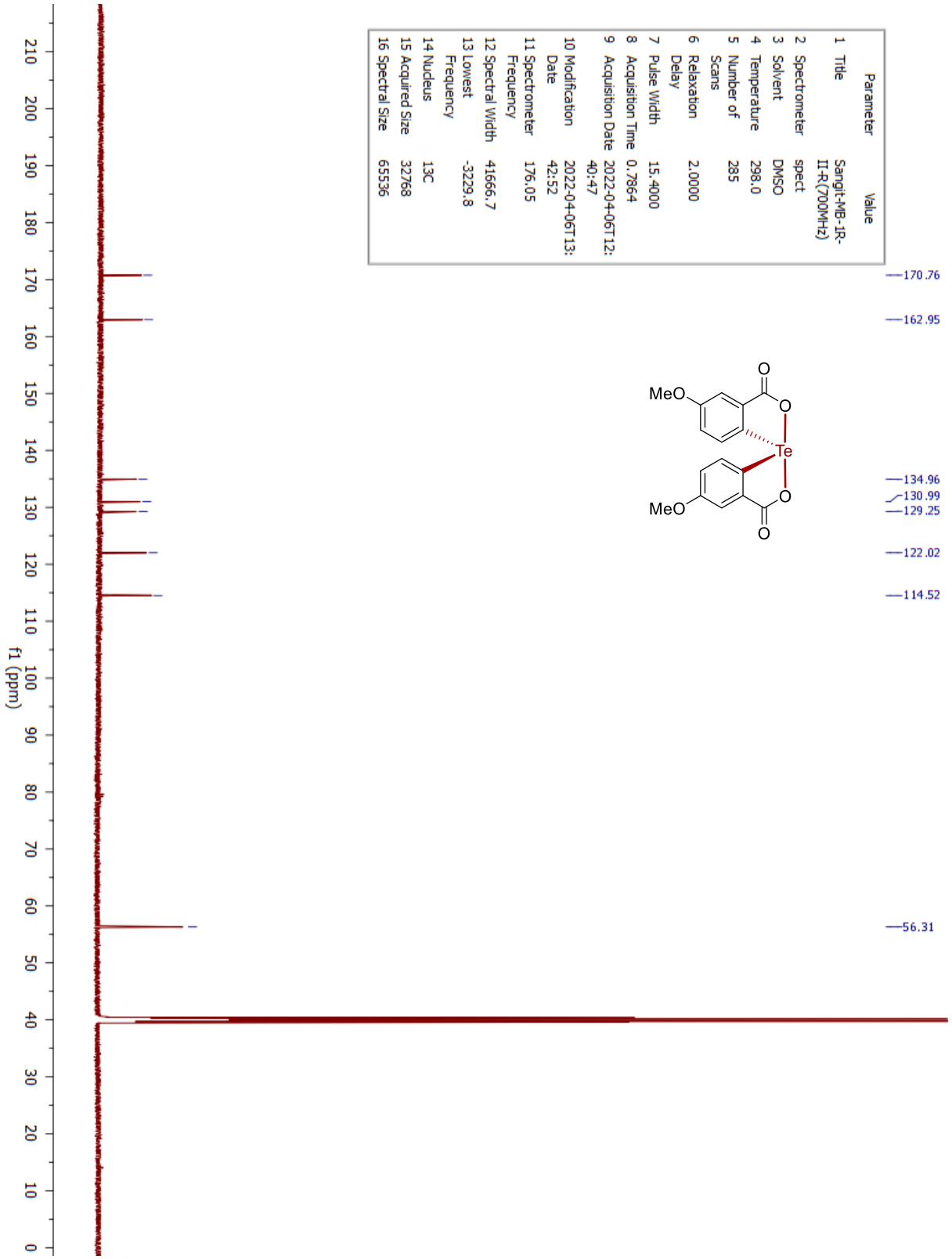


^{1}H NMR spectra of **1r**

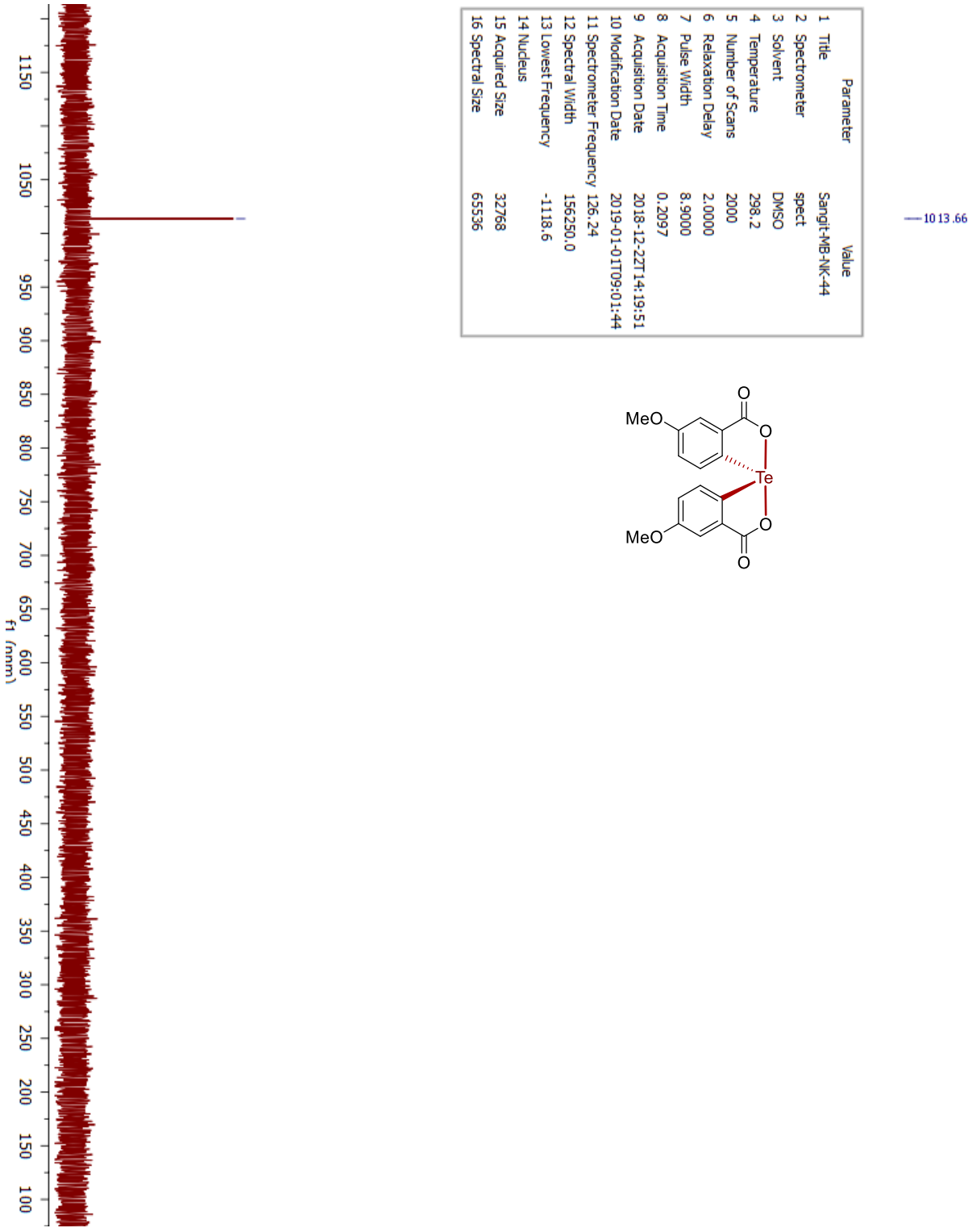


Traces of grease peak at 0.86 and 1.26 ppm.

^{13}C NMR spectra of **1r**



^{125}Te NMR spectra of **1r**



	Parameter	Value
1	Title	Sangit-MB-NK-44
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3	Solvent	DMSO
4	Temperature	298.2
5	Number of Scans	2000
6	Relaxation Delay	2.0000
7	Pulse Width	8.9000
8	Acquisition Time	0.2097
9	Acquisition Date	2018-12-22T14:19:51
10	Modification Date	2019-01-01T09:01:44
11	Spectrometer Frequency	126.24
12	Spectral Width	156250.0
13	Lowest Frequency	-1118.6
14	Nucleus	
15	Acquired Size	32768
16	Spectral Size	65536

HRMS spectra of **1r**

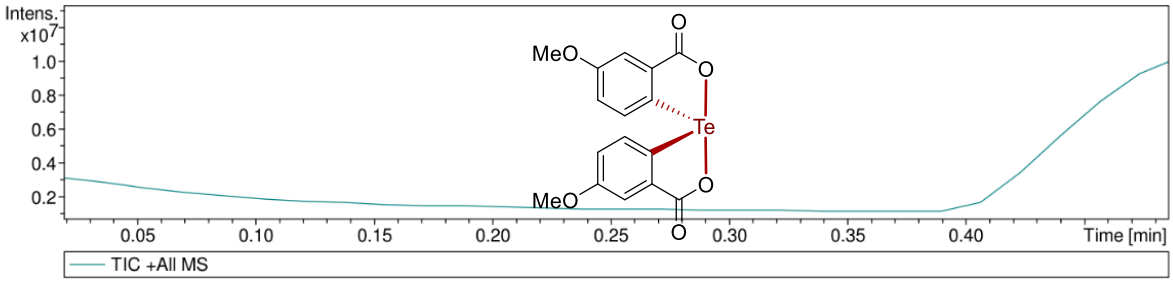
Display Report

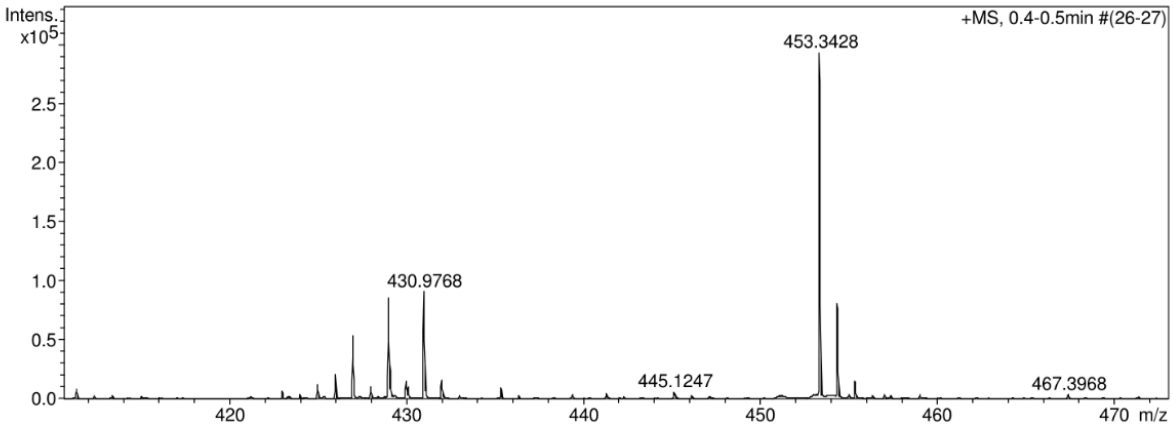
Analysis Info

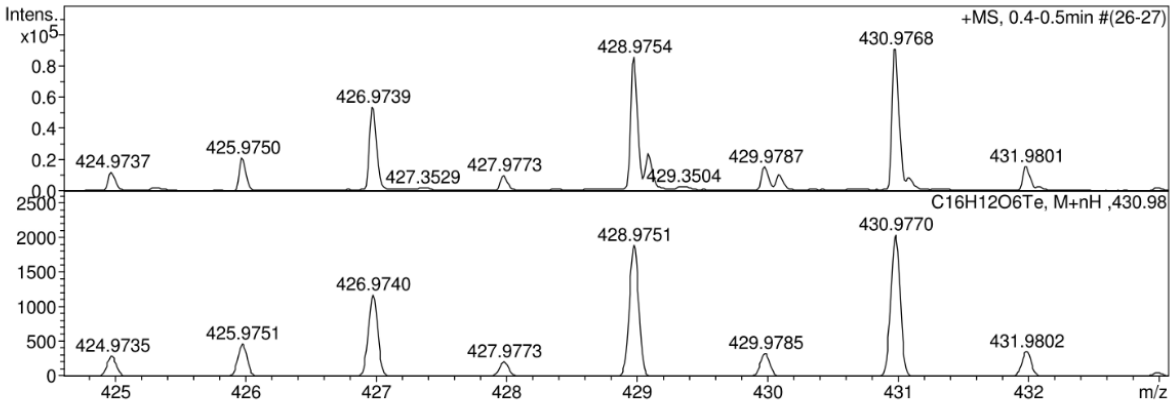
Analysis Name	D:\Data\NEW USER DATA 2017\2018\NOVEMBER\8\Dr.S.Kumar-NK-40.d		
Method	tune_wide _APCI_23.06.m	Operator	RUCHI
Sample Name	NK-40	Instrument	micrOTOF-Q II 10330
Comment		Acquisition Date	11/8/2018 2:50:29 PM

Acquisition Parameter

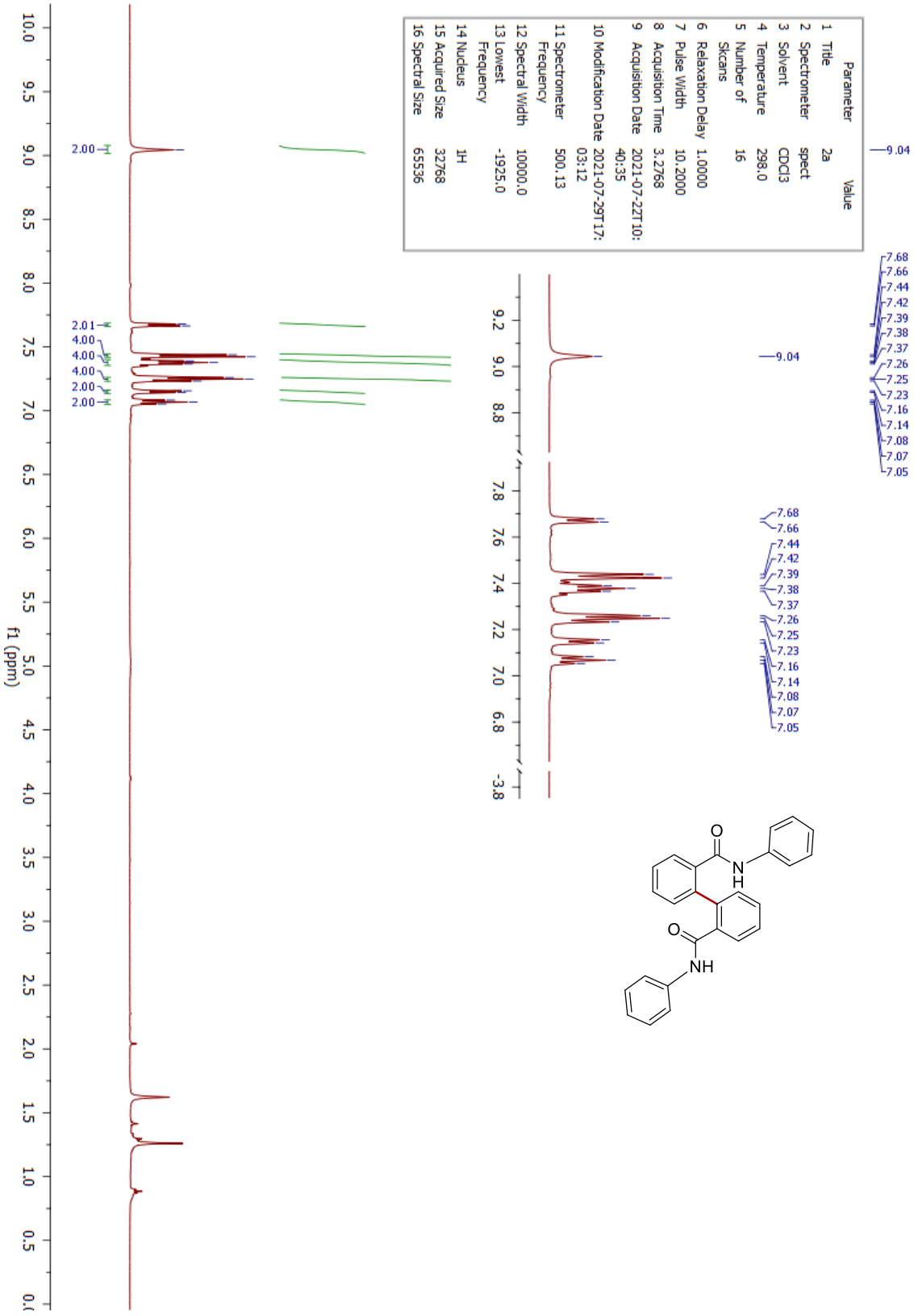
Source Type	APCI	Ion Polarity	Positive	Set Nebulizer	2.5 Bar
Focus	Not active	Set Capillary	4000 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	500.0 Vpp	Set Divert Valve	Waste





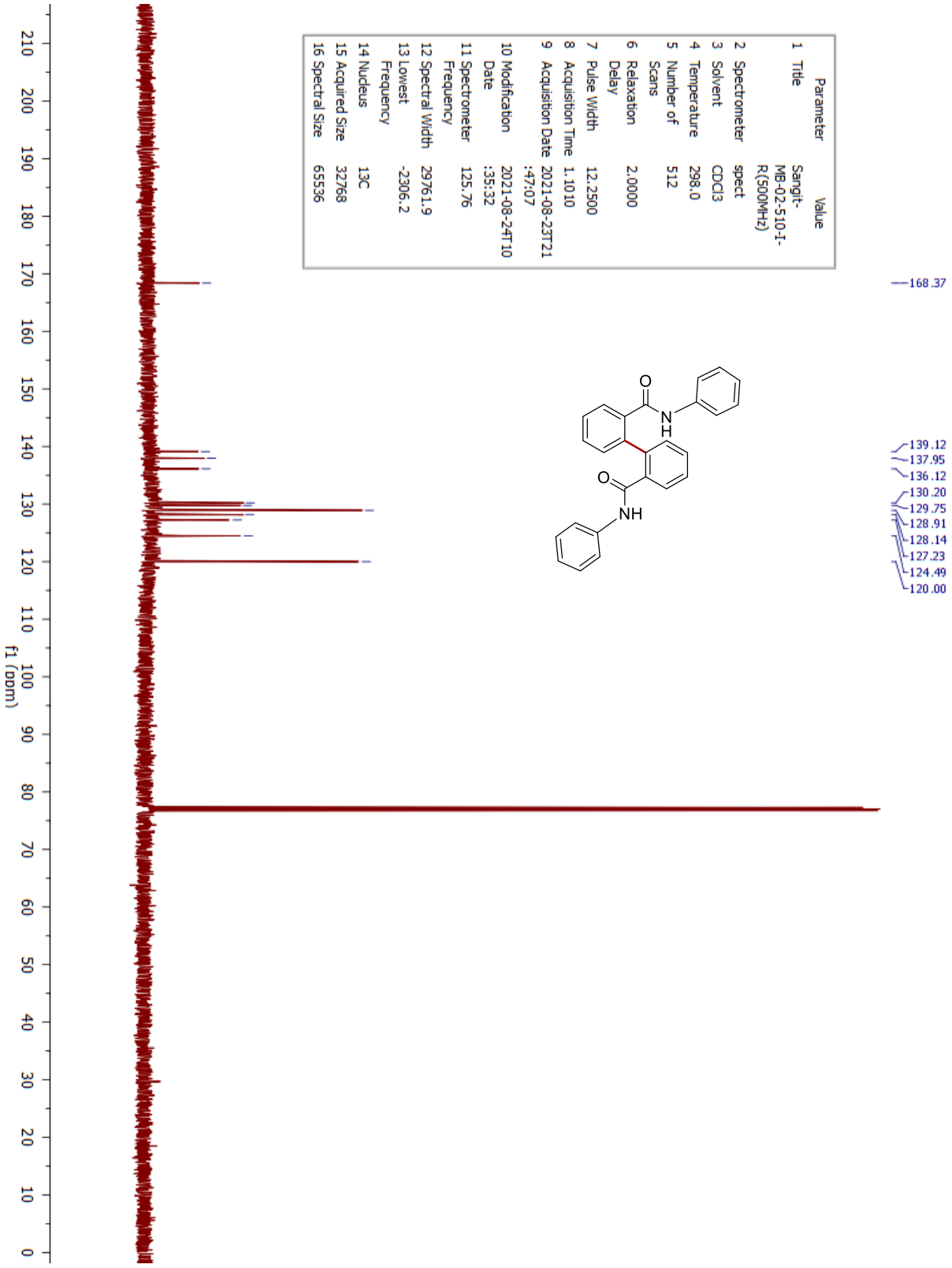


^{1}H NMR spectra of **2a**



Peaks at 7.26 and 1.56 correspond to $CDCl_3$ residual peak and water respectively. Peaks at 0.86 and 1.26 correspond to grease.

^{13}C NMR spectra of **2a**



HRMS spectra of **2a**

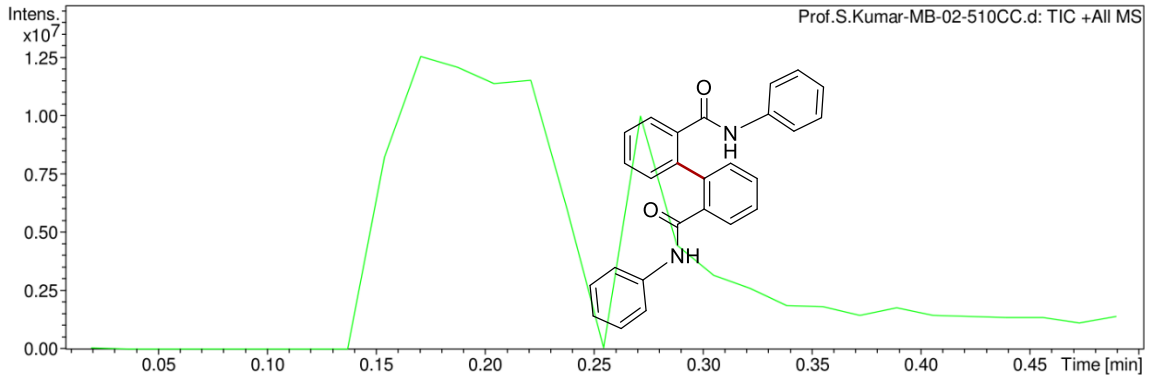
Display Report

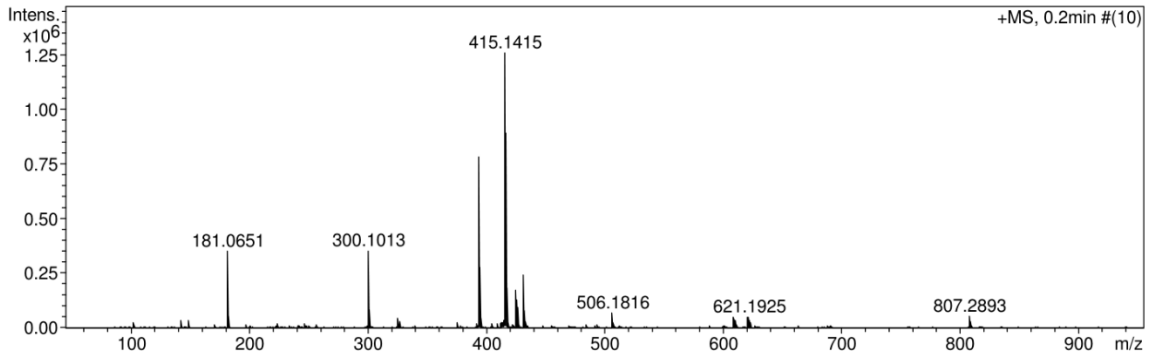
Analysis Info

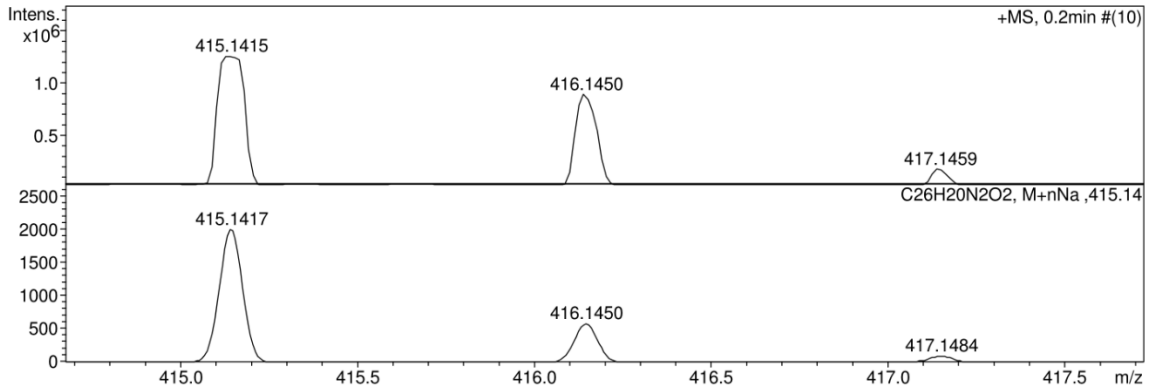
Analysis Name	D:\Data\new user data 2021\August-2021\23 Aug\Prof.S.Kumar-MB-02-510CC.d	Acquisition Date	8/23/2021 2:26:45 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-510CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

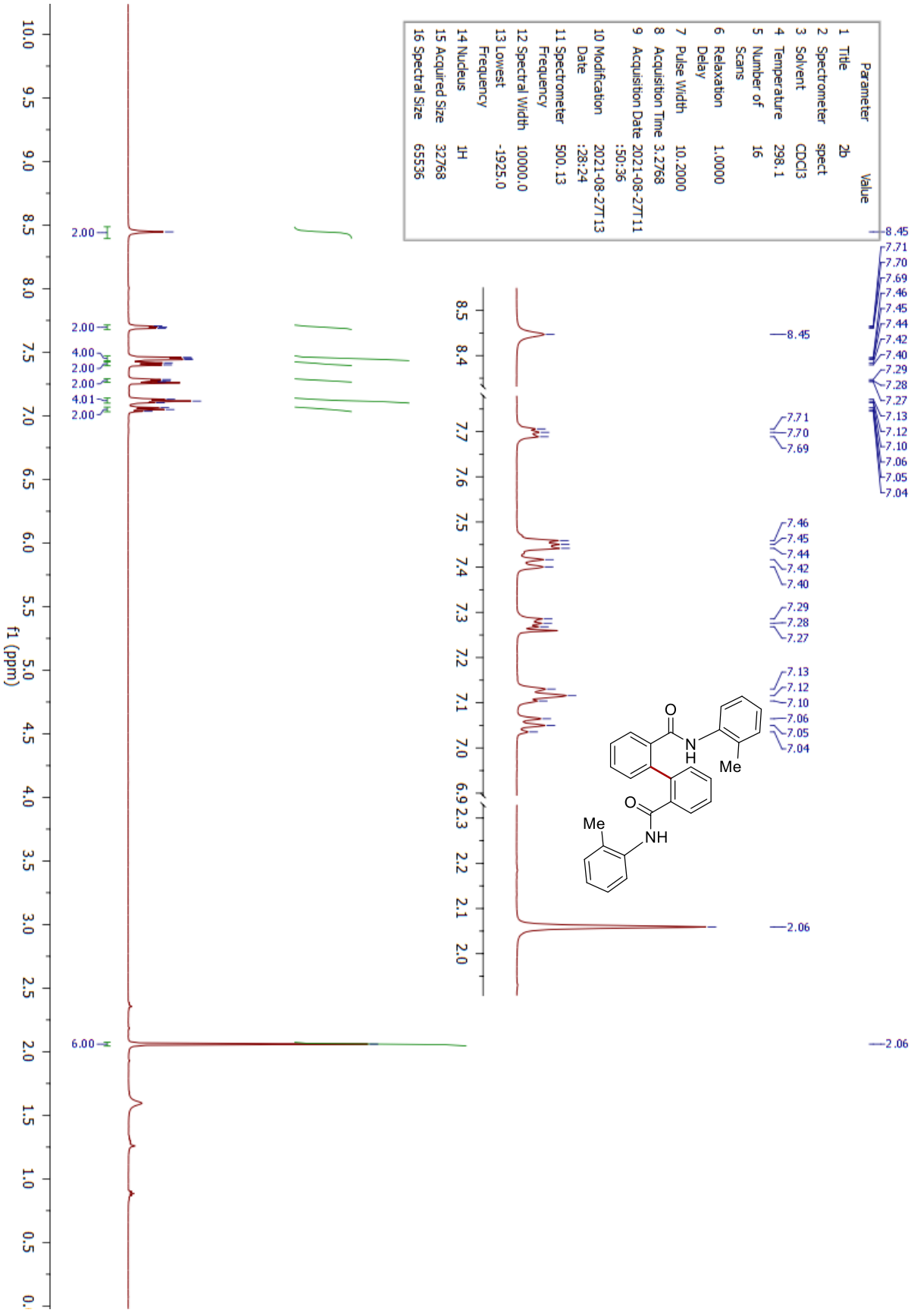
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste



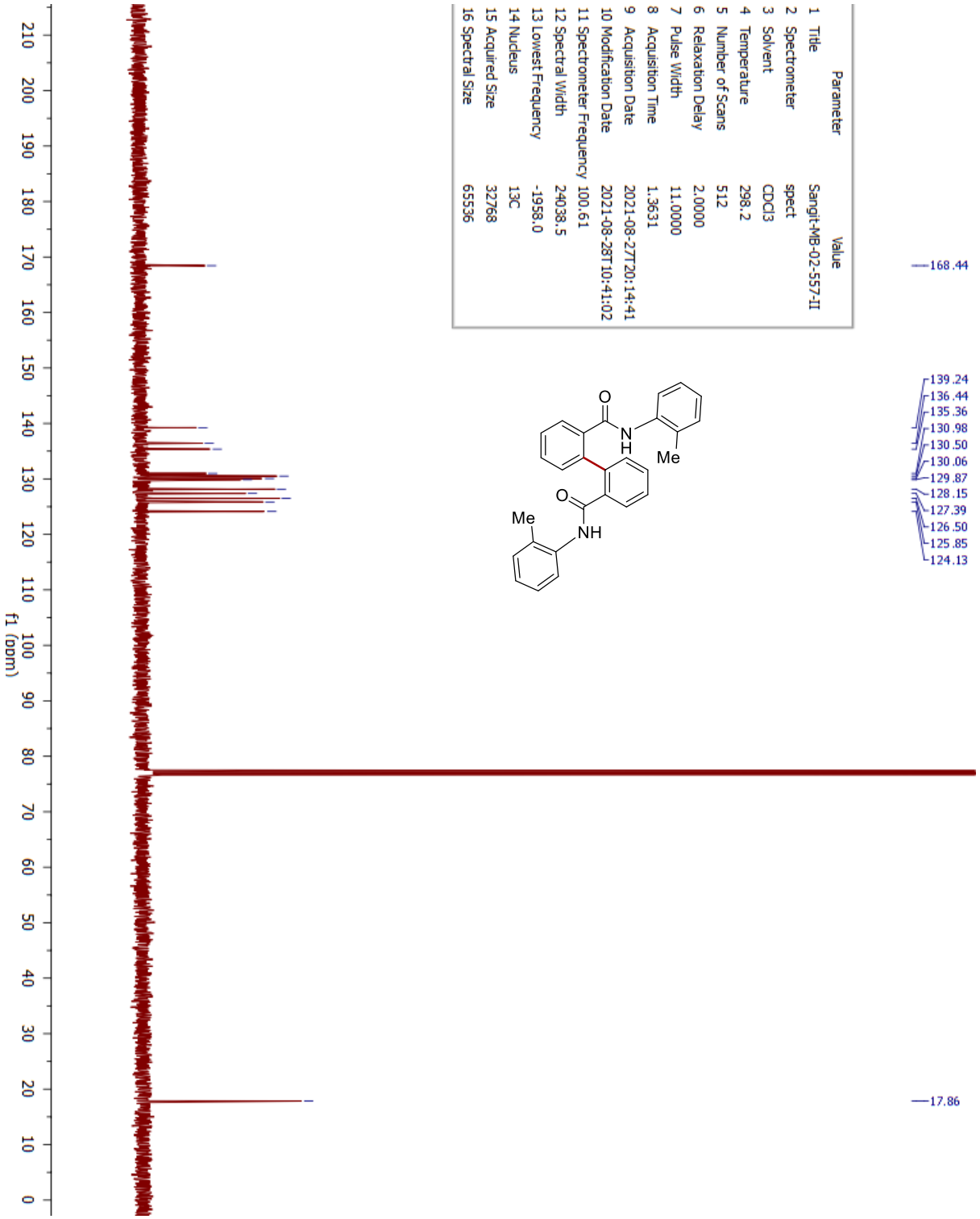




^{1}H NMR spectra of **2b**



^{13}C NMR spectra of **2b**



HRMS spectra of **2b**

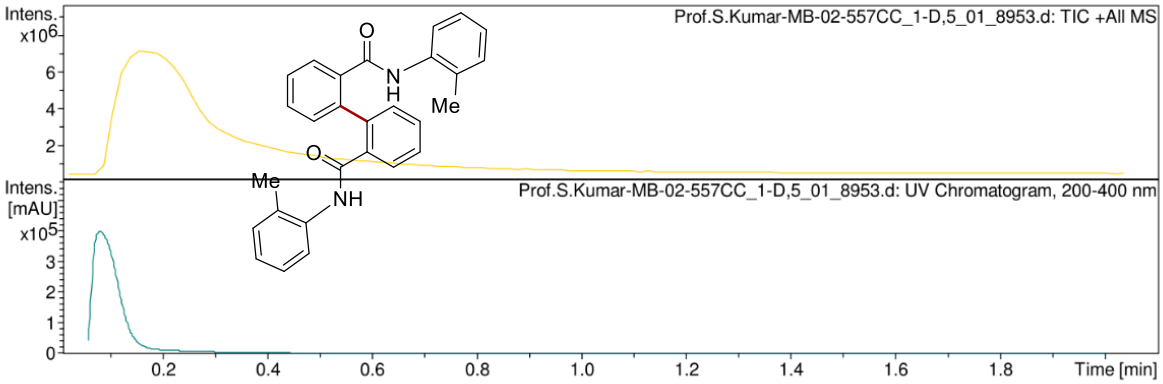
Display Report

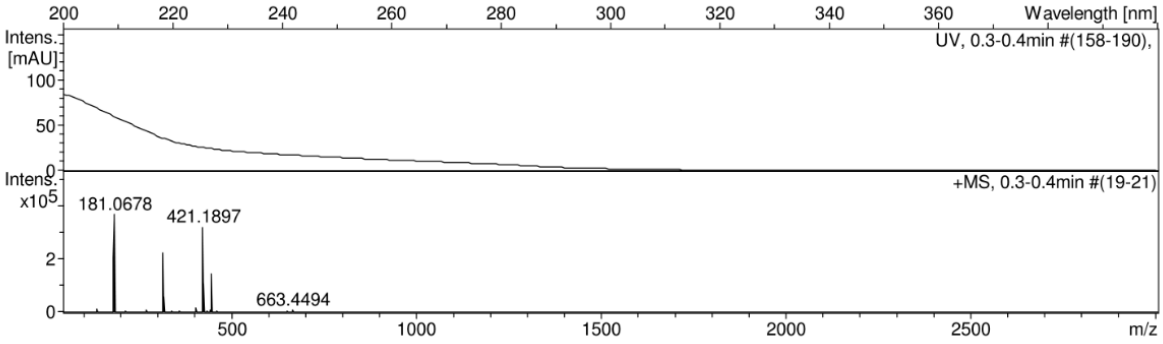
Analysis Info

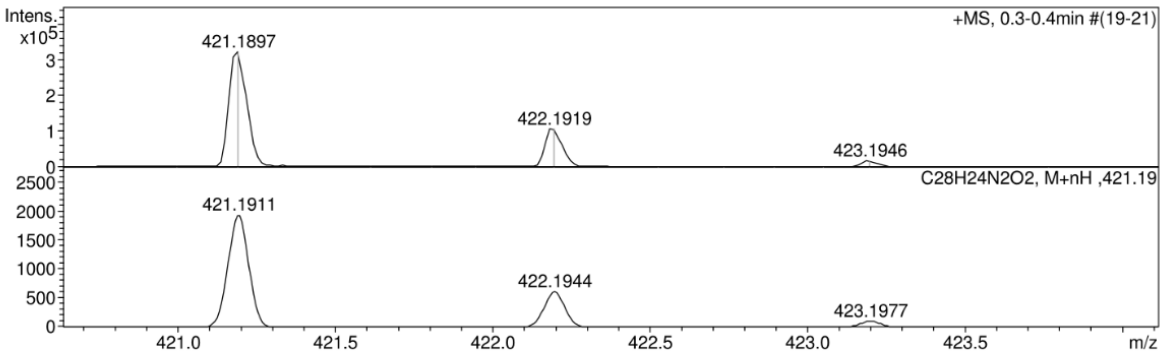
		Acquisition Date	9/7/2021 1:33:04 PM
Analysis Name	D:\Data\new user data 2021\Sept-2021\07-sept\Prof.S.Kumar-MB-02-557CC_1-D,5_01_8953.d		
Method	hrlcms-20 sept--union-small molecules 01-sept-2021.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-557CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

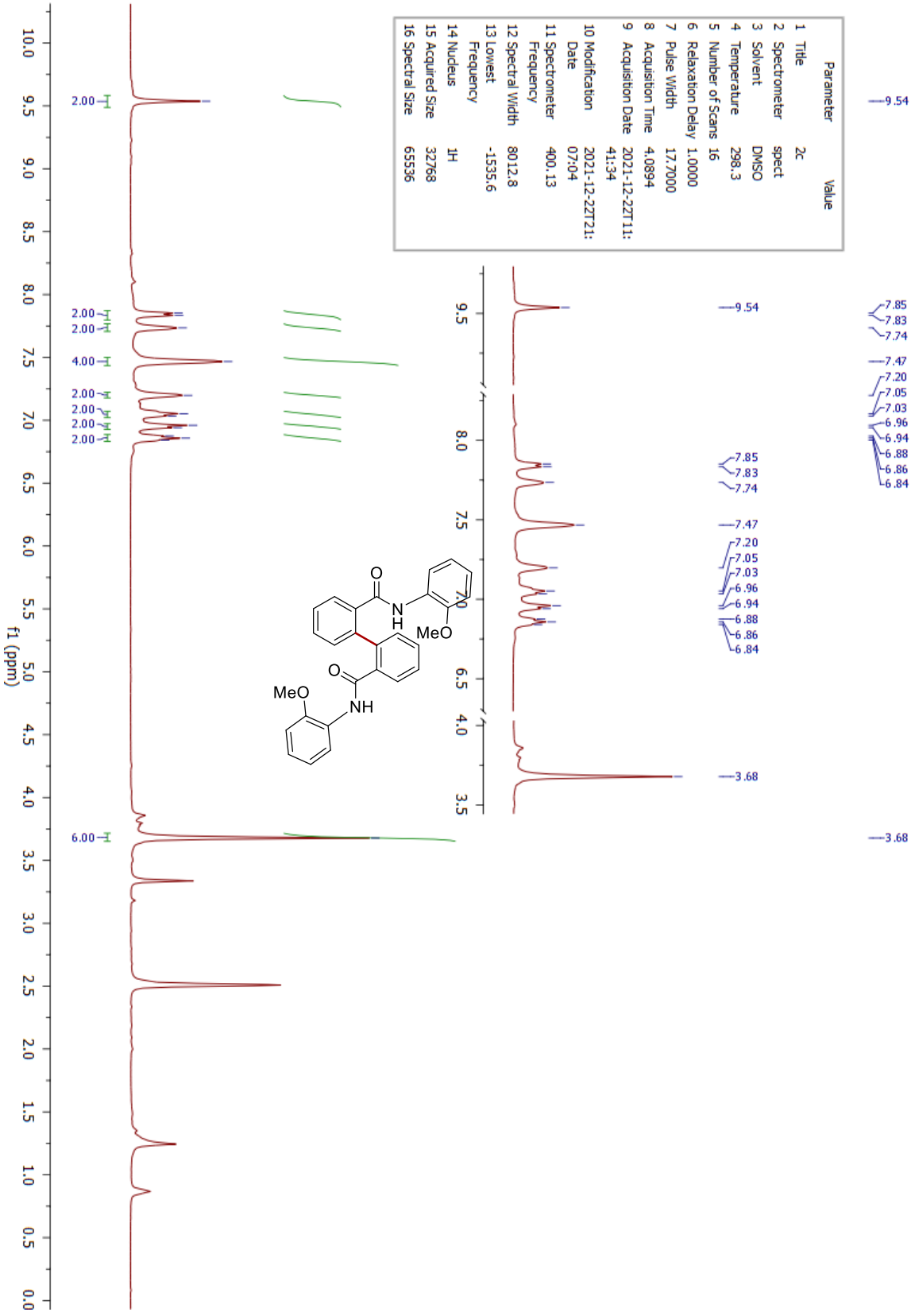
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





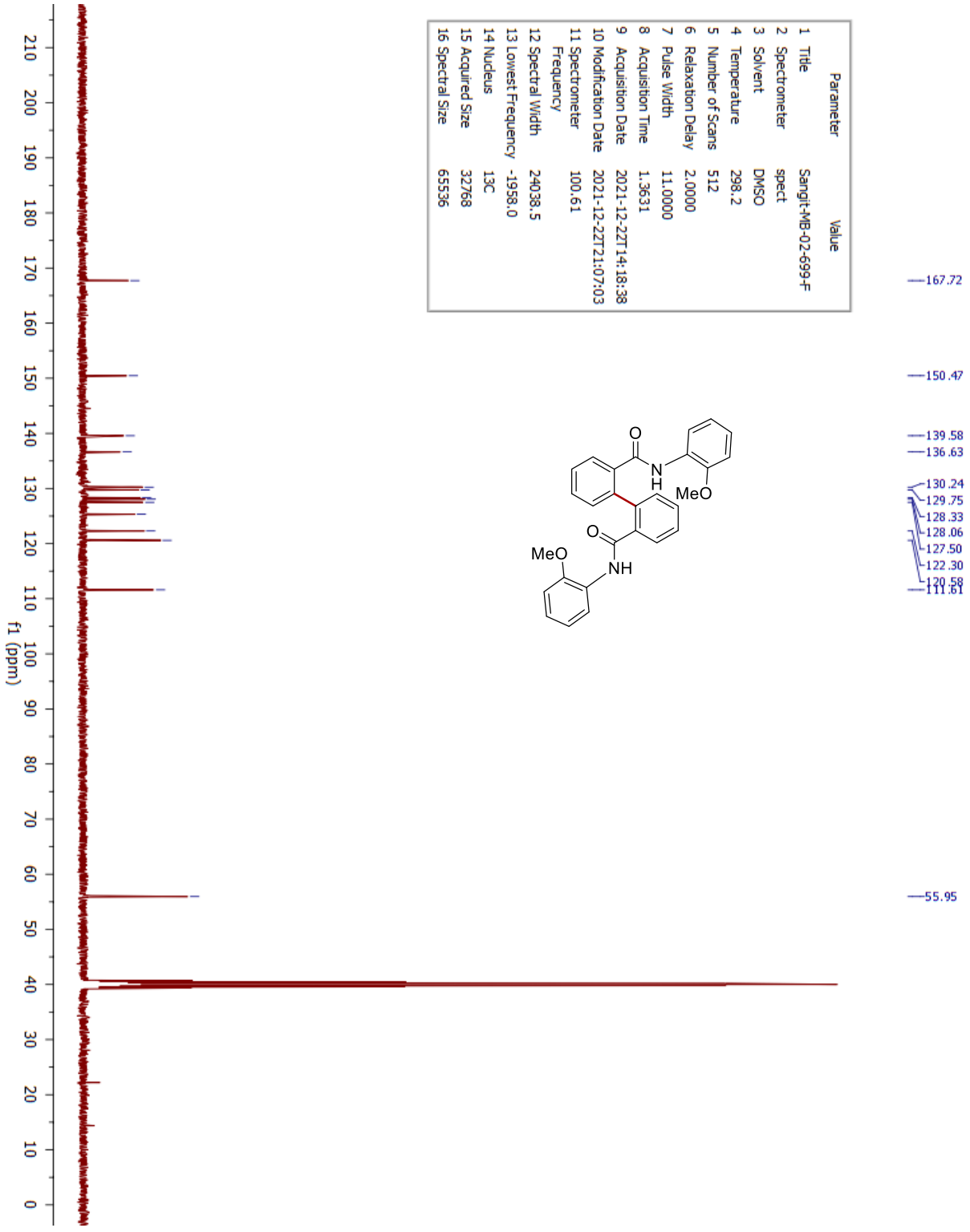


^{1}H NMR spectra of **2c**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **2c**



HRMS spectra of **2c**

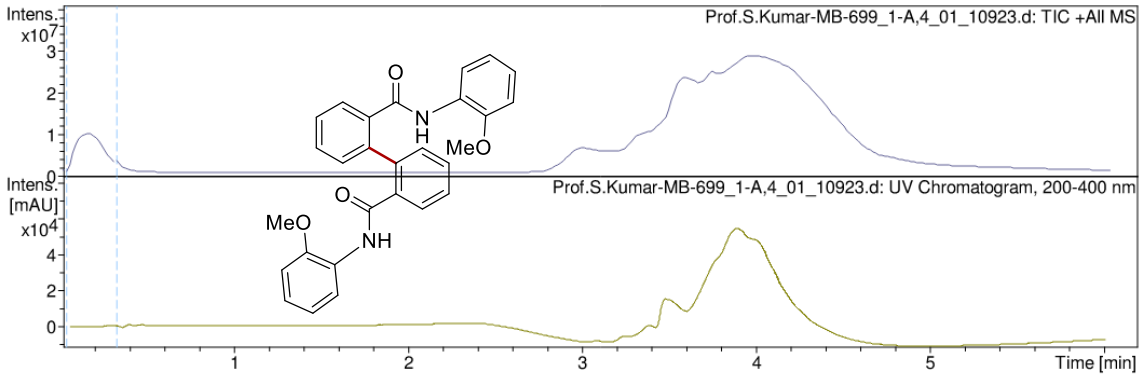
Display Report

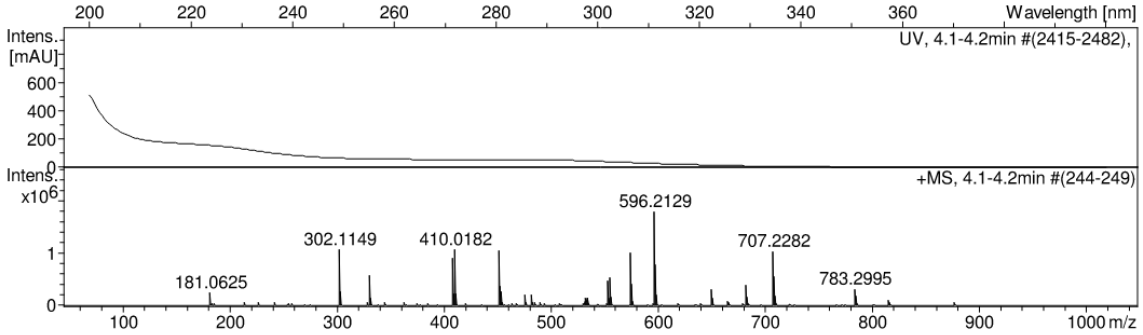
Analysis Info

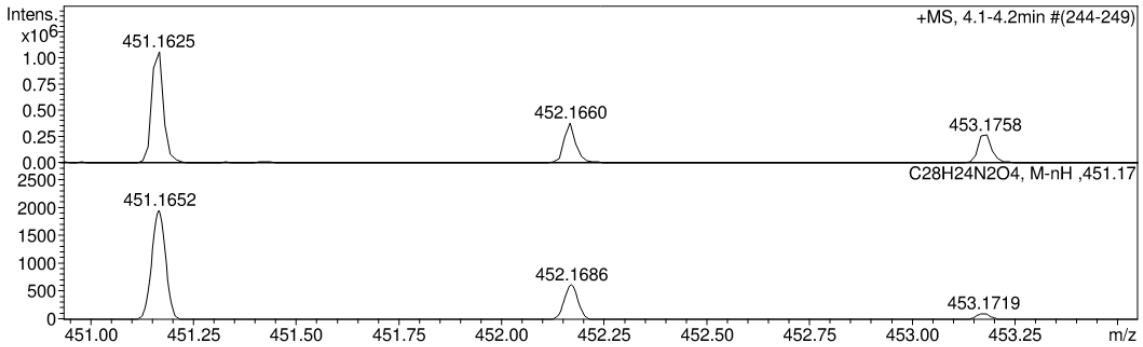
Acquisition Date	1/18/2022 12:12:58 PM		
Analysis Name	D:\Data\NEW USER DATA 2022\Jan-2022\18-jAN-2022\Prof.S.Kumar-MB-699_1-A,4_01_10923.d		
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-699	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

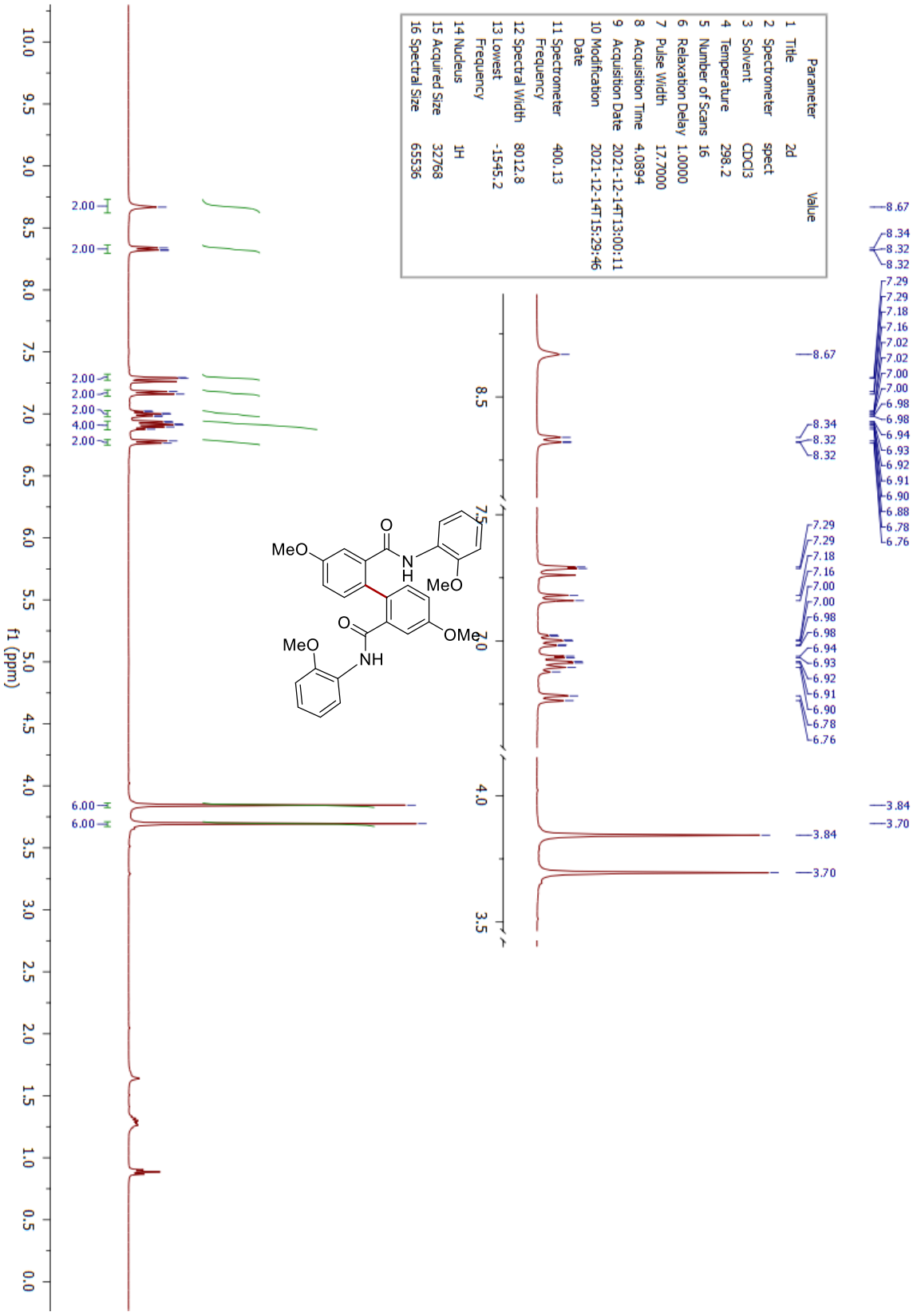
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	6.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste





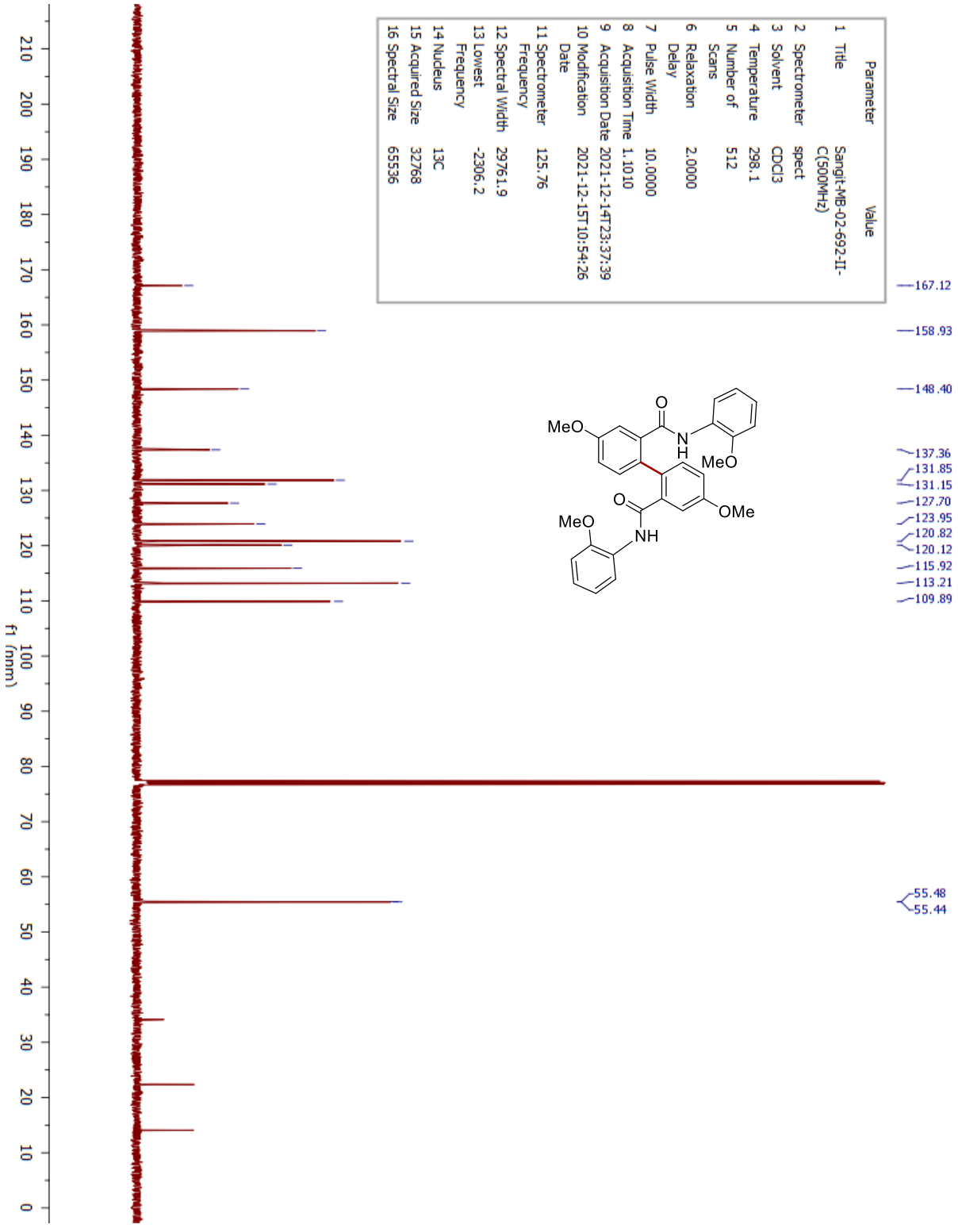


^{1}H NMR spectra of **2d**



Peaks at 0.86 and 1.26 correspond to grease and pentane.

^{13}C NMR spectra of **2d**



Peaks at 13.3, 21.7 and 33. 5 correspond to grease and pentane.

HRMS spectra of **2d**

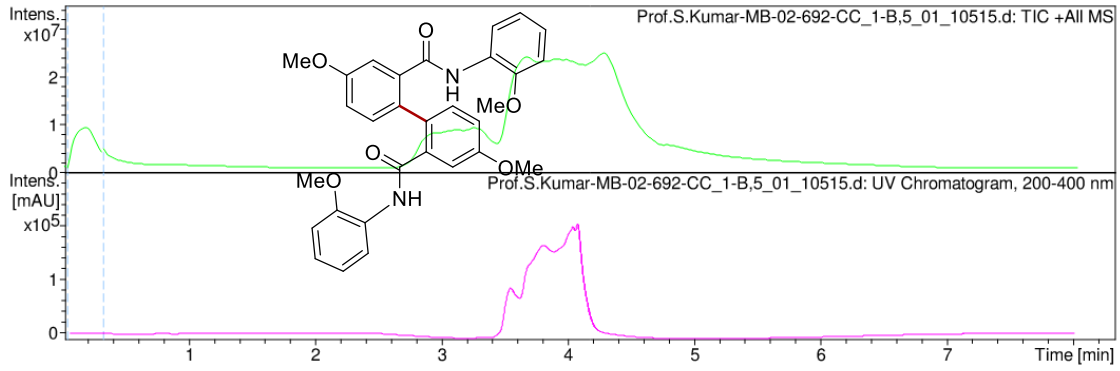
Display Report

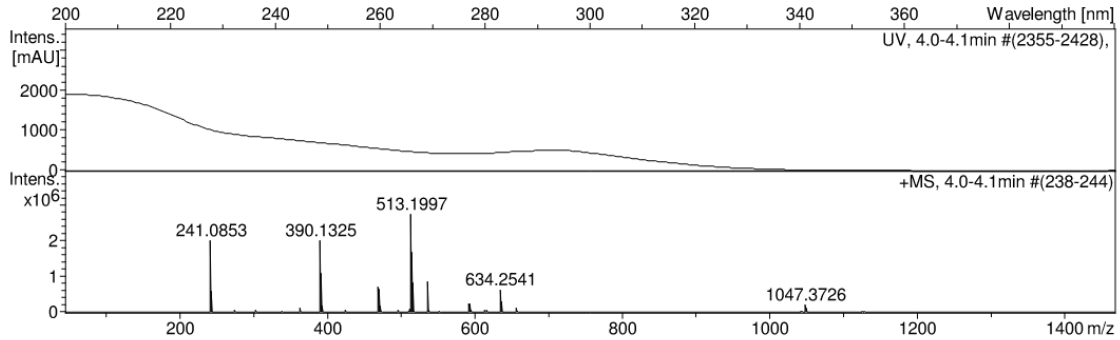
Analysis Info

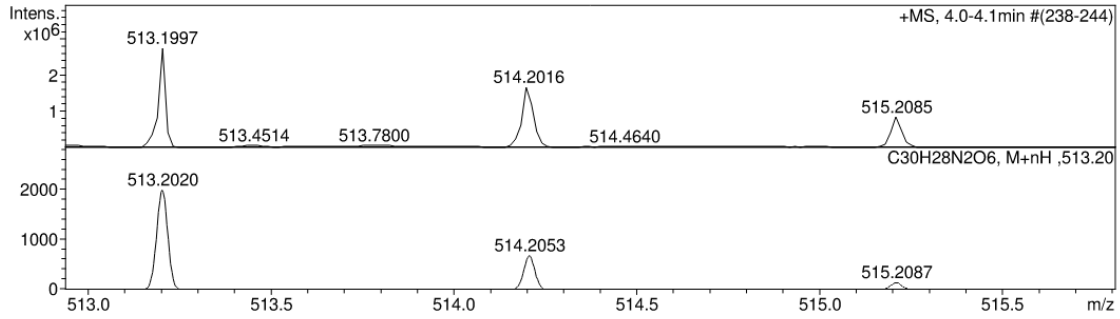
Analysis Name	D:\Data\new user data 2021\Dec-2021\15-dec\Prof.S.Kumar-MB-02-692-CC_1-B,5_01_10515.d	Acquisition Date	12/15/2021 12:25:23 PM
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-692-CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

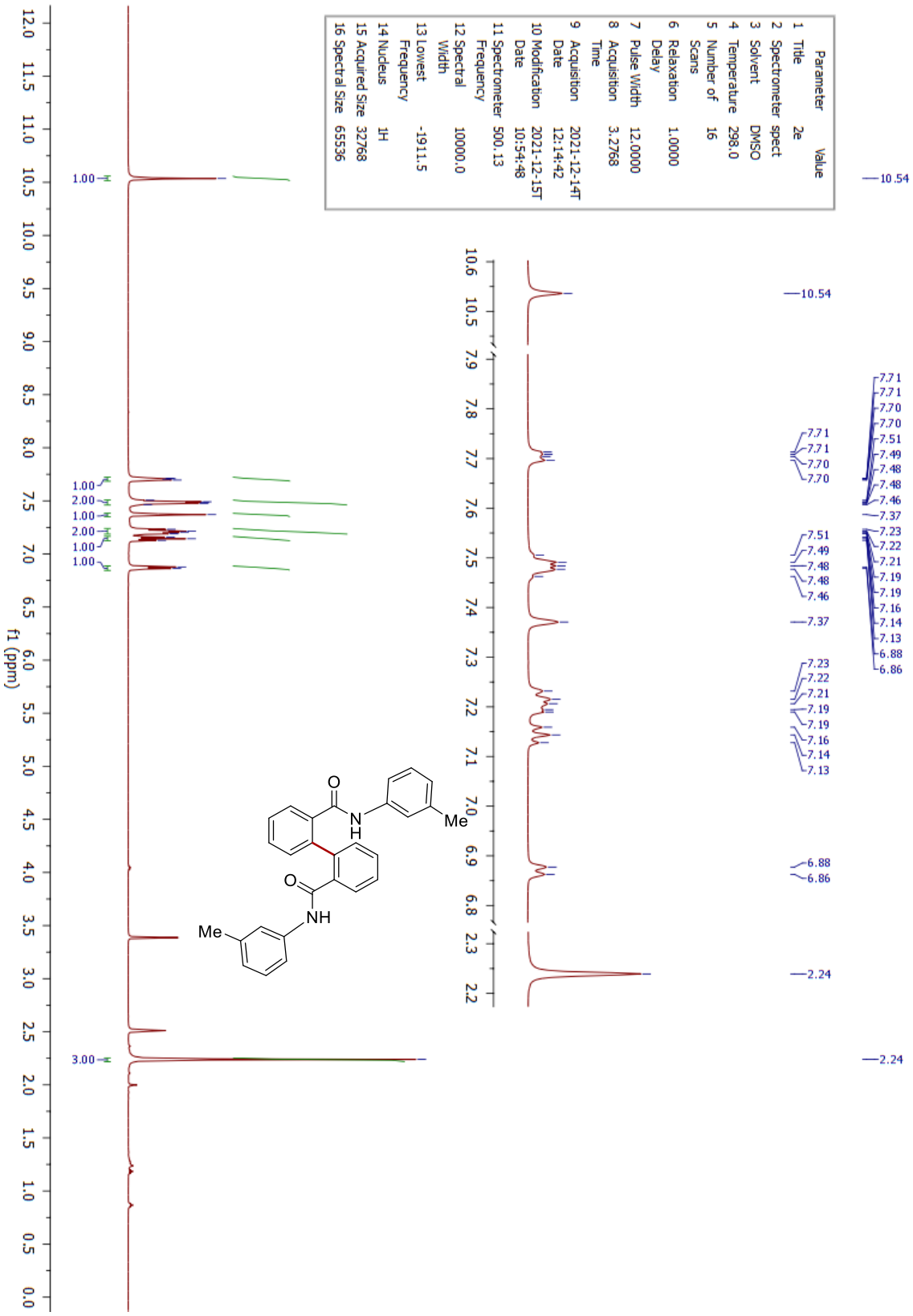
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	6.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste





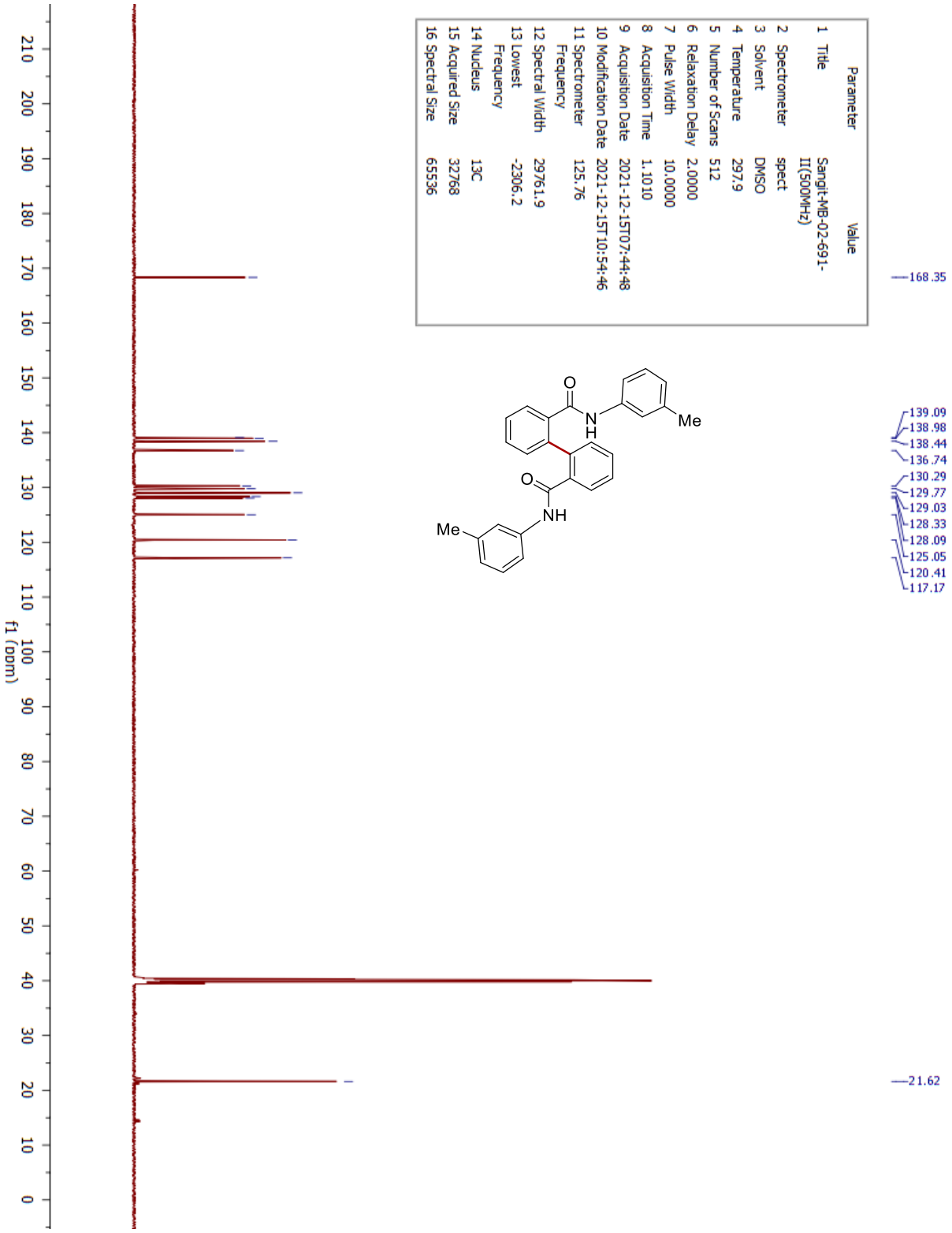


^{1}H NMR of **2e**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR of **2e**


Parameter Value
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2 Spectrometer spect
3 Solvent DMSO
4 Temperature 297.9
5 Number of Scans 512
6 Relaxation Delay 2.0000
7 Pulse Width 10.0000
8 Acquisition Time 1.1010
9 Acquisition Date 2021-12-15T07:44:48
10 Modification Date 2021-12-15T10:54:46
11 Spectrometer Frequency 125.76
12 Spectral Width 29761.9
13 Lowest Frequency -2306.2
14 Nucleus 13C
15 Acquired Size 32768
16 Spectral Size 65536
O
N
H
Me
O
NH
Me
168.35
139.09
138.98
138.44
136.74
130.29
129.77
129.03
128.33
128.09
125.05
120.41
117.17
21.62
f1 (ppm)

HRMS spectra of **2e**

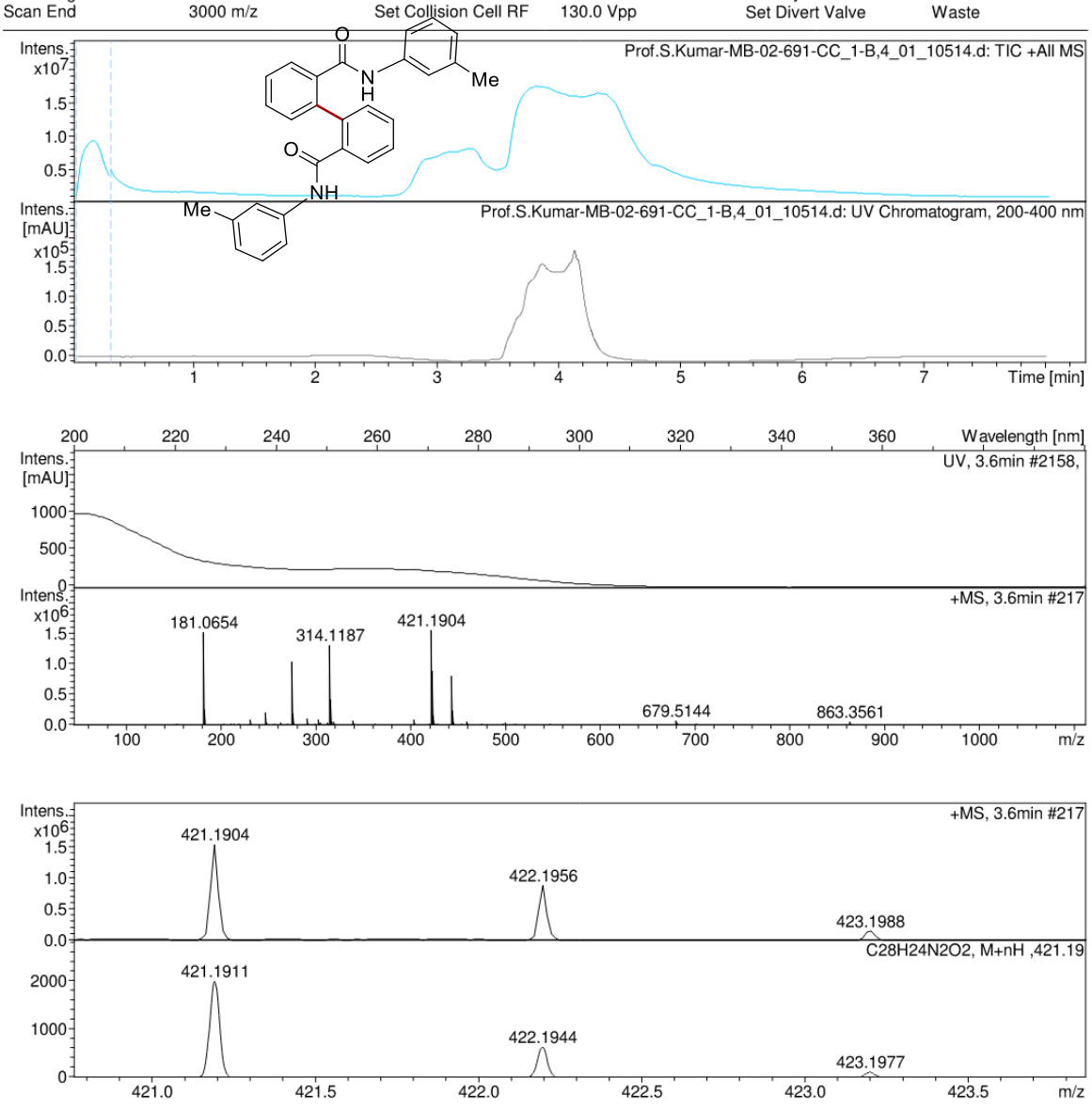
Display Report

Analysis Info

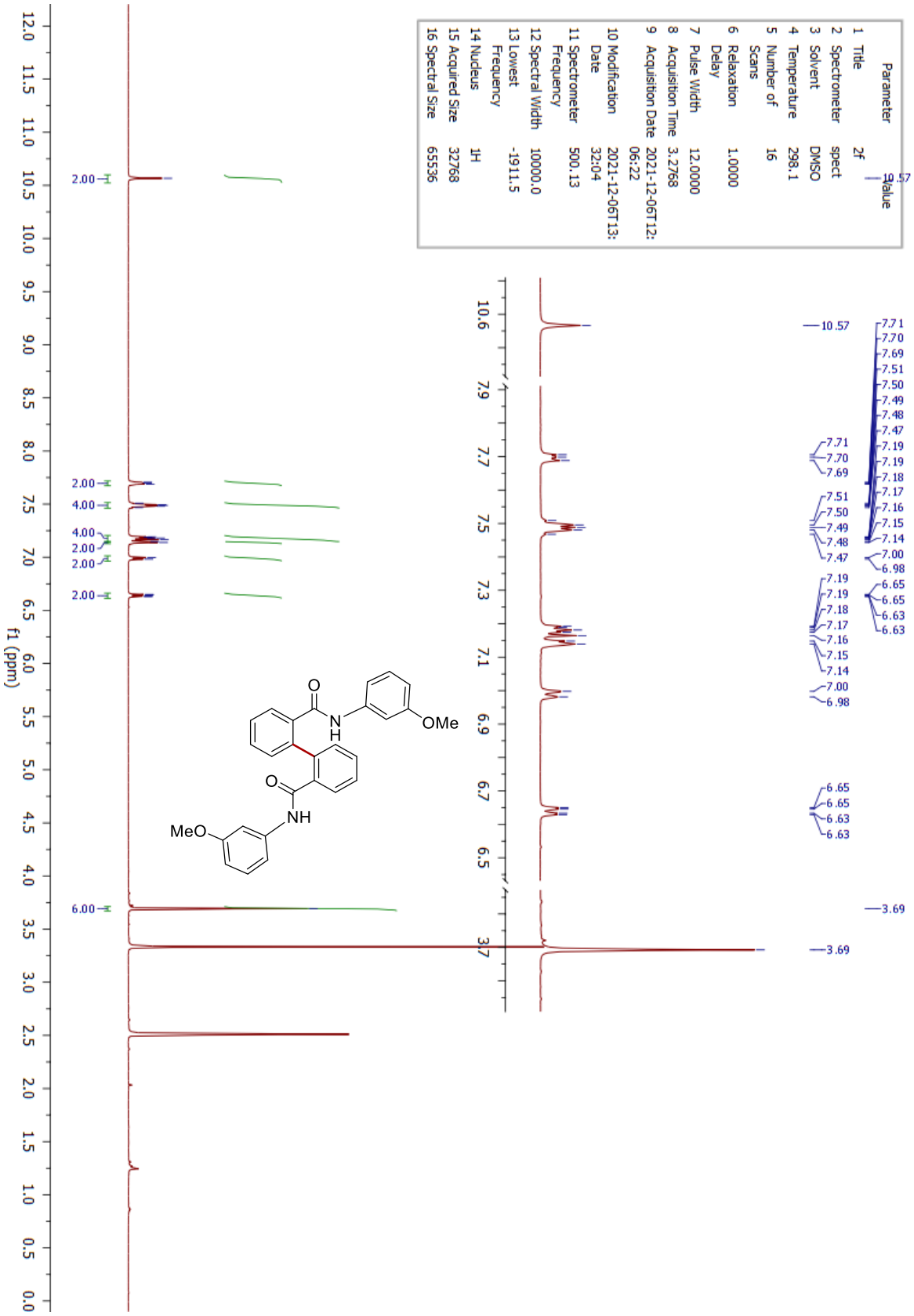
Analysis Name	D:\Data\new user data 2021\Dec-2021\15-dec\Prof.S.Kumar-MB-02-691-CC_1-B,4_01_10514.d	Acquisition Date	12/15/2021 12:16:10 PM
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-691-CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	6.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste

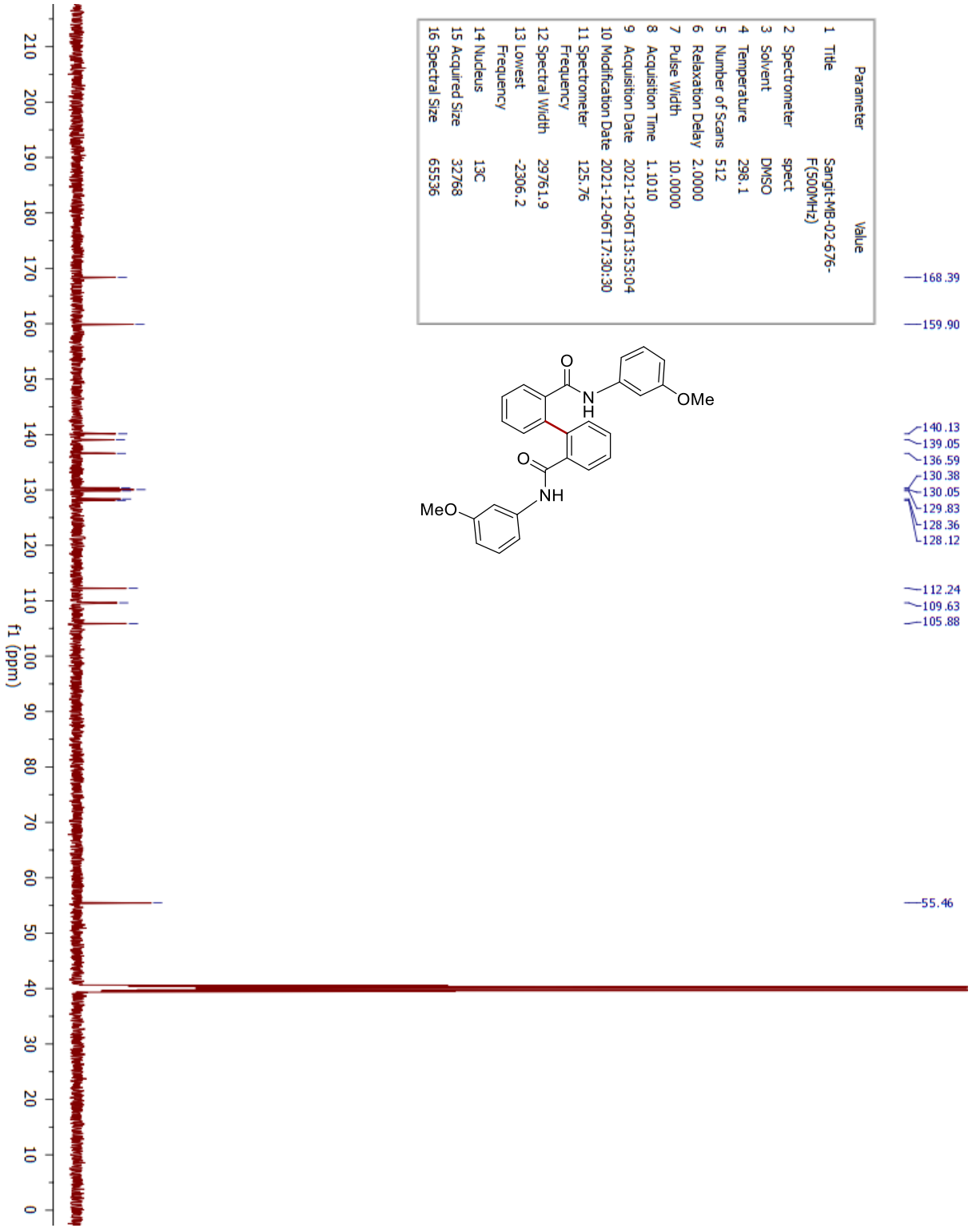


^{1}H NMR of **2f**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR of **2f**


Parameter Value
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2 Spectrometer spect
3 Solvent DMSO
4 Temperature 298.1
5 Number of Scans 512
6 Relaxation Delay 2.0000
7 Pulse Width 10.0000
8 Acquisition Time 1.1010
9 Acquisition Date 2021-12-06T13:53:04
10 Modification Date 2021-12-06T17:30:30
11 Spectrometer Frequency 125.76
12 Spectral Width 29761.9
13 Lowest Frequency -2306.2
14 Nucleus 13C
15 Acquired Size 32768
16 Spectral Size 65536
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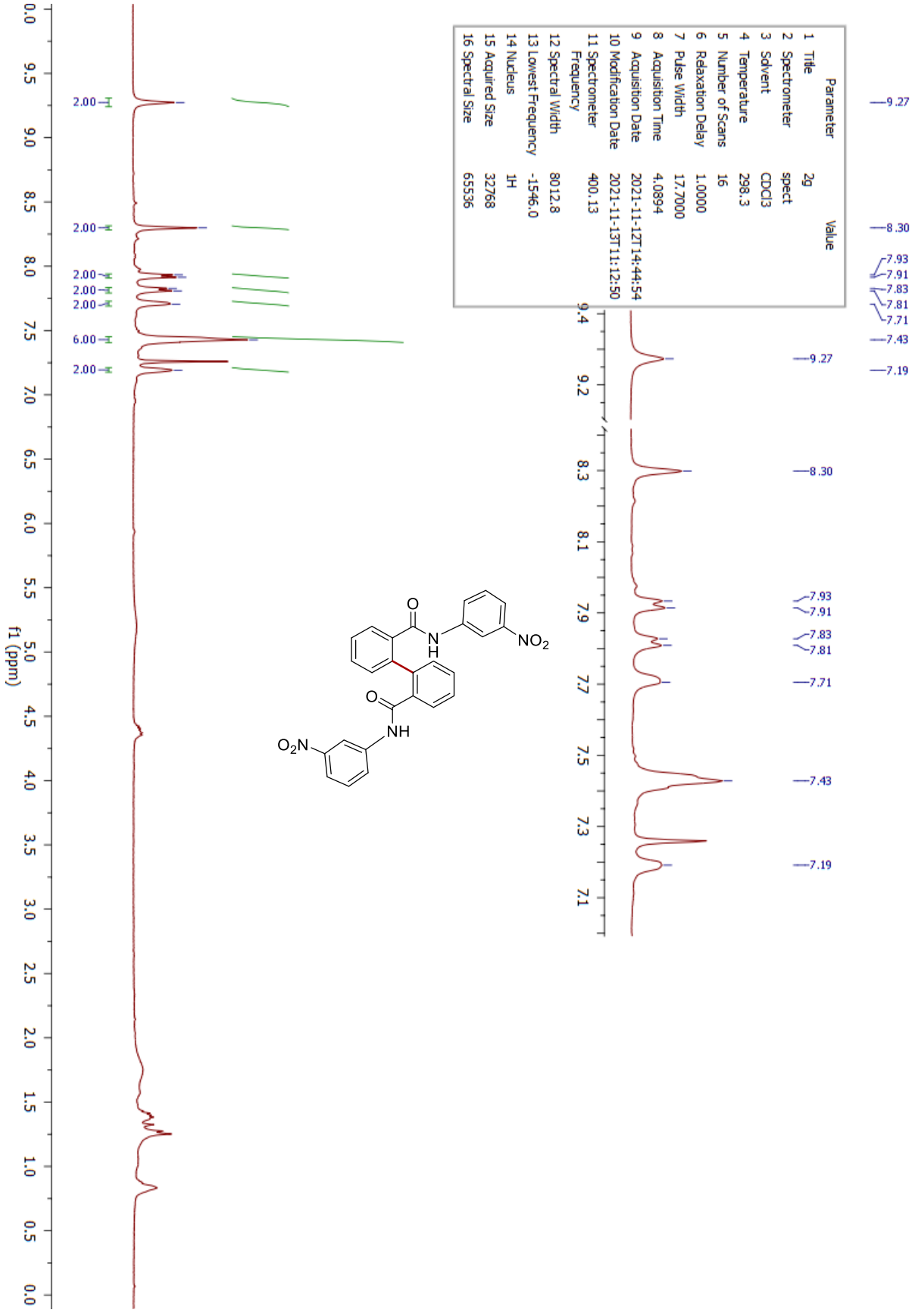
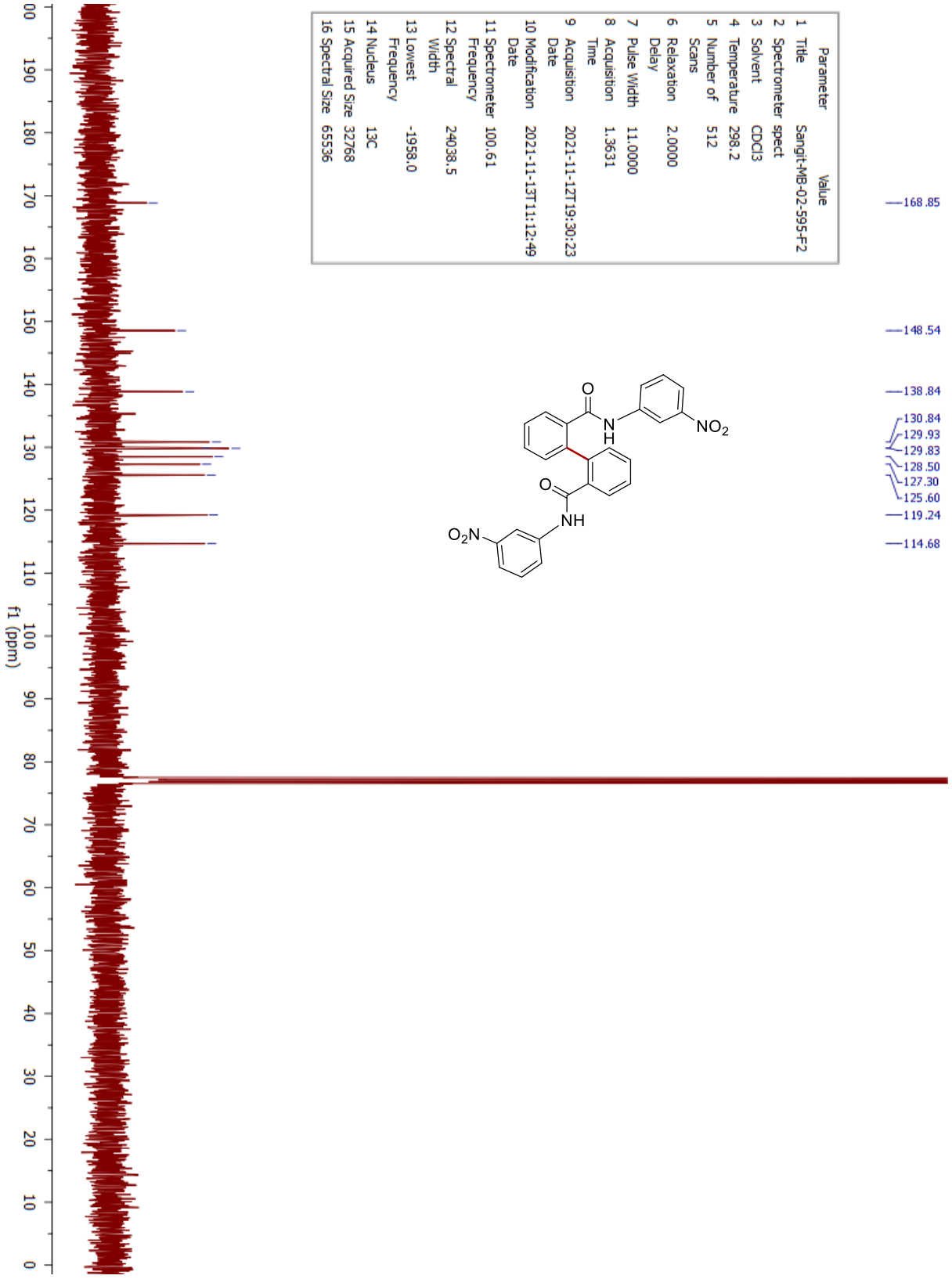
H
OMe
O
NH
MeO
168.39
159.90
140.13
139.05
136.59
130.38
130.05
129.83
128.36
128.12
112.24
109.63
105.88
55.46
f1 (ppm)

^{1}H NMR spectra of **2g**



^{13}C NMR spectra of **2g**



HRMS spectra of **2g**

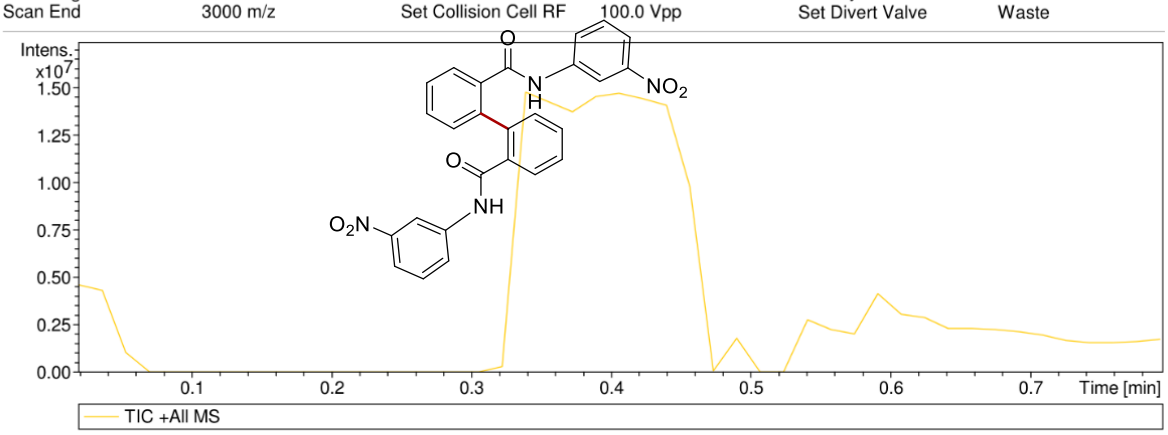
Display Report

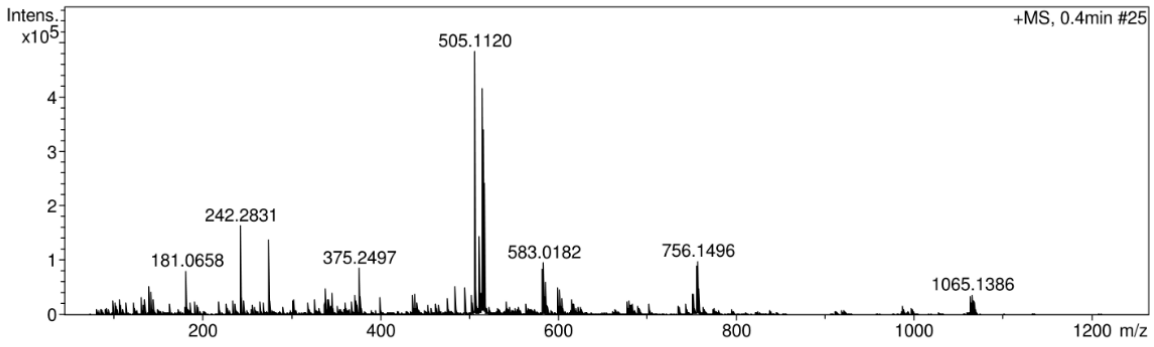
Analysis Info

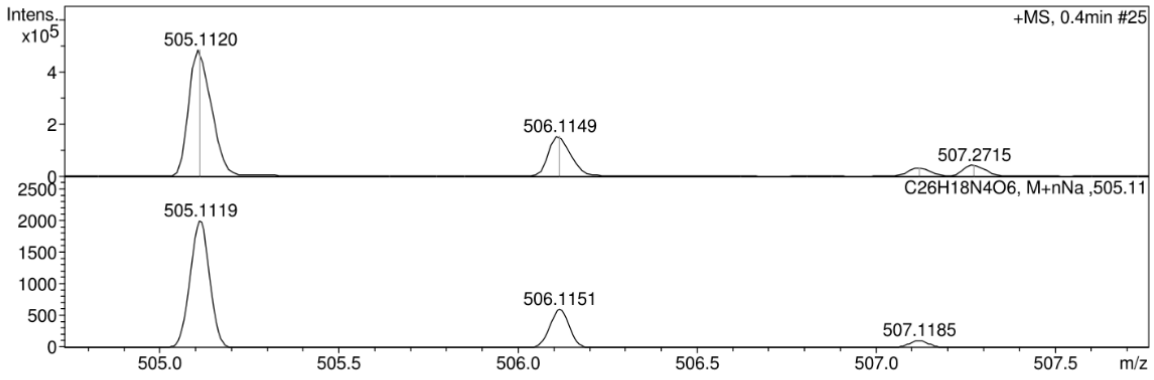
Analysis Name	D:\Data\new user data 2021\Nov-2021\15-nov\Prof.S.Kumar-MB-02-595F.d	Acquisition Date	11/15/2021 2:11:25 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-595F	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

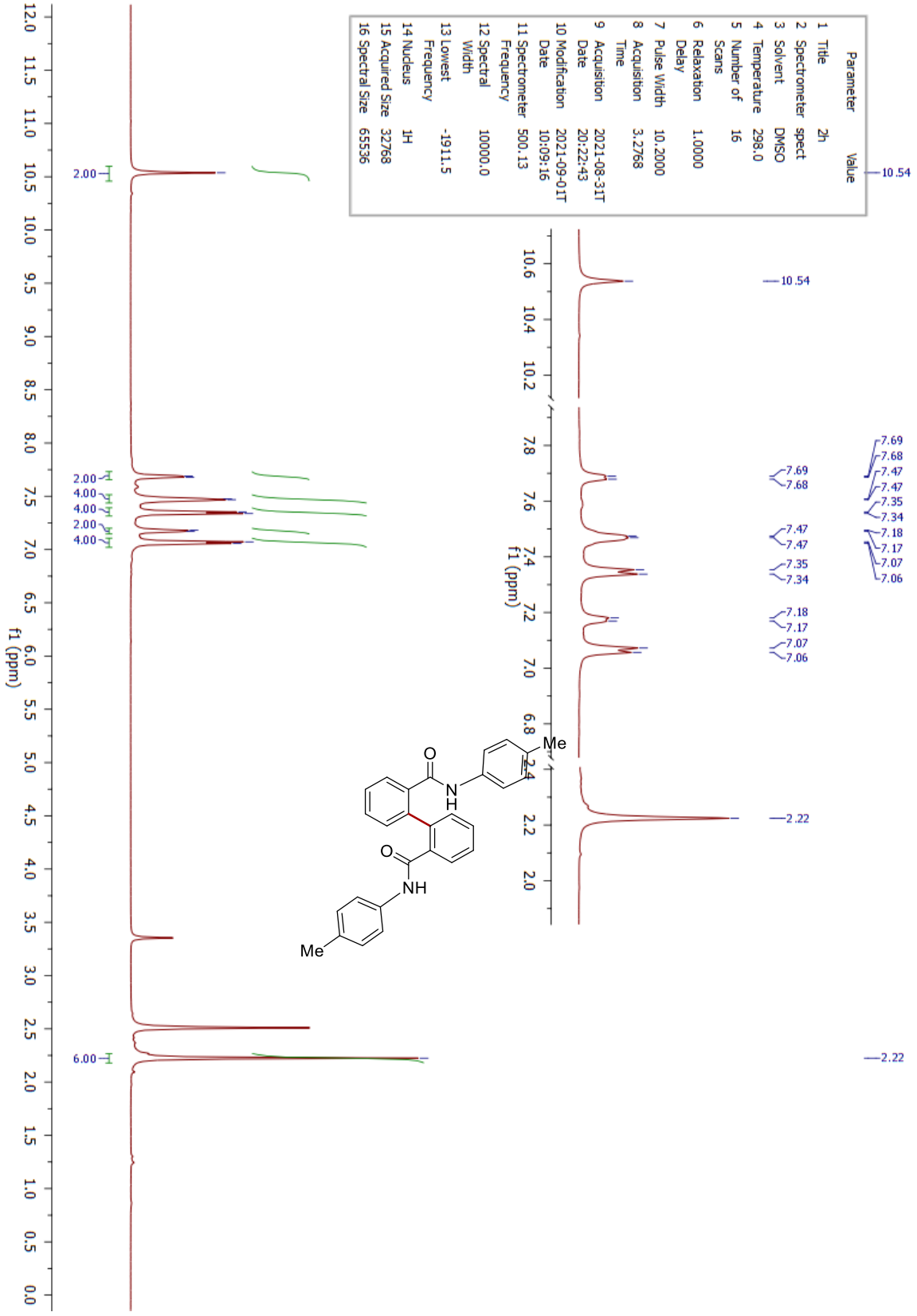
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	5.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste





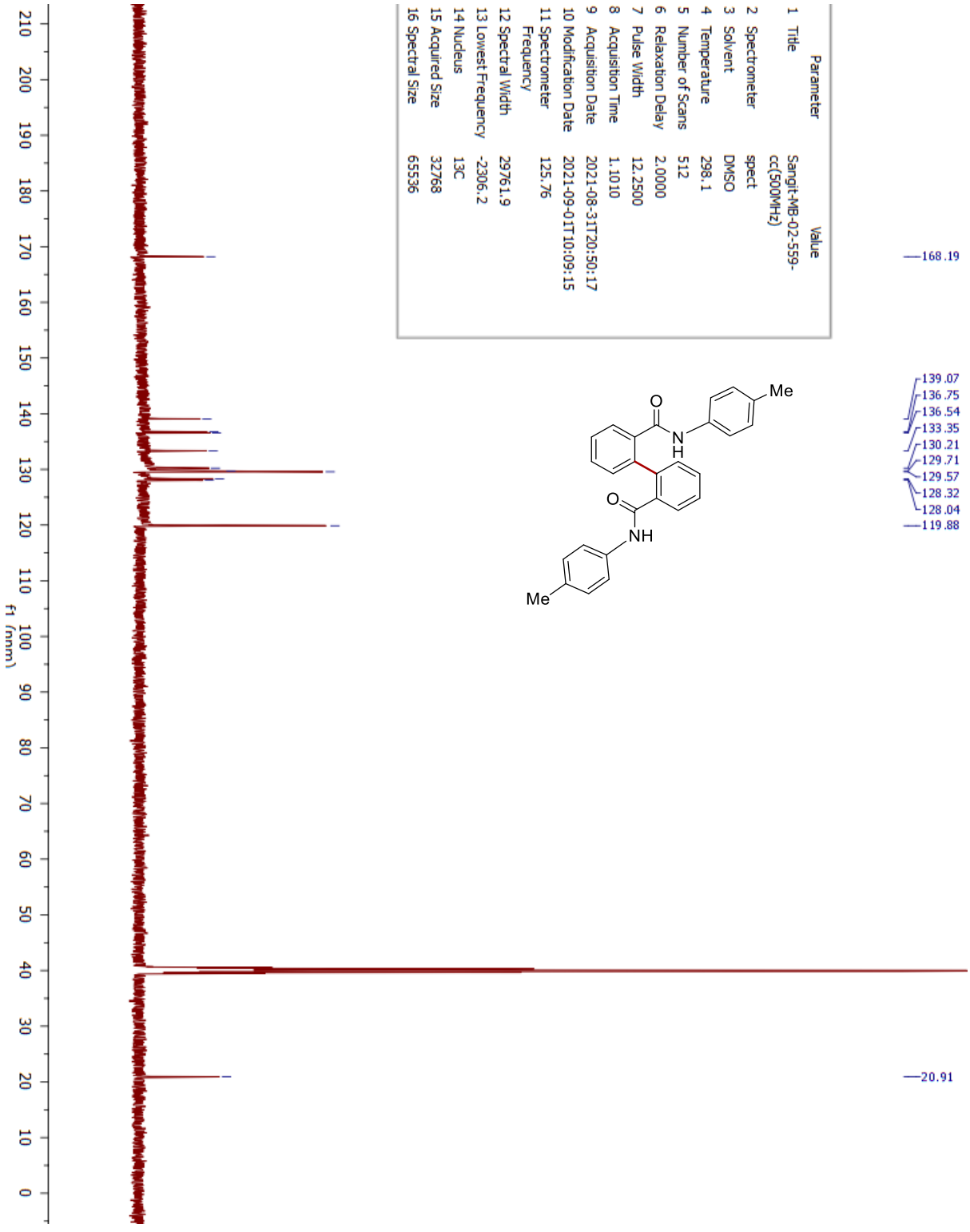


^{1}H NMR spectra of **2h**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **2h**



HRMS spectra of **2h**

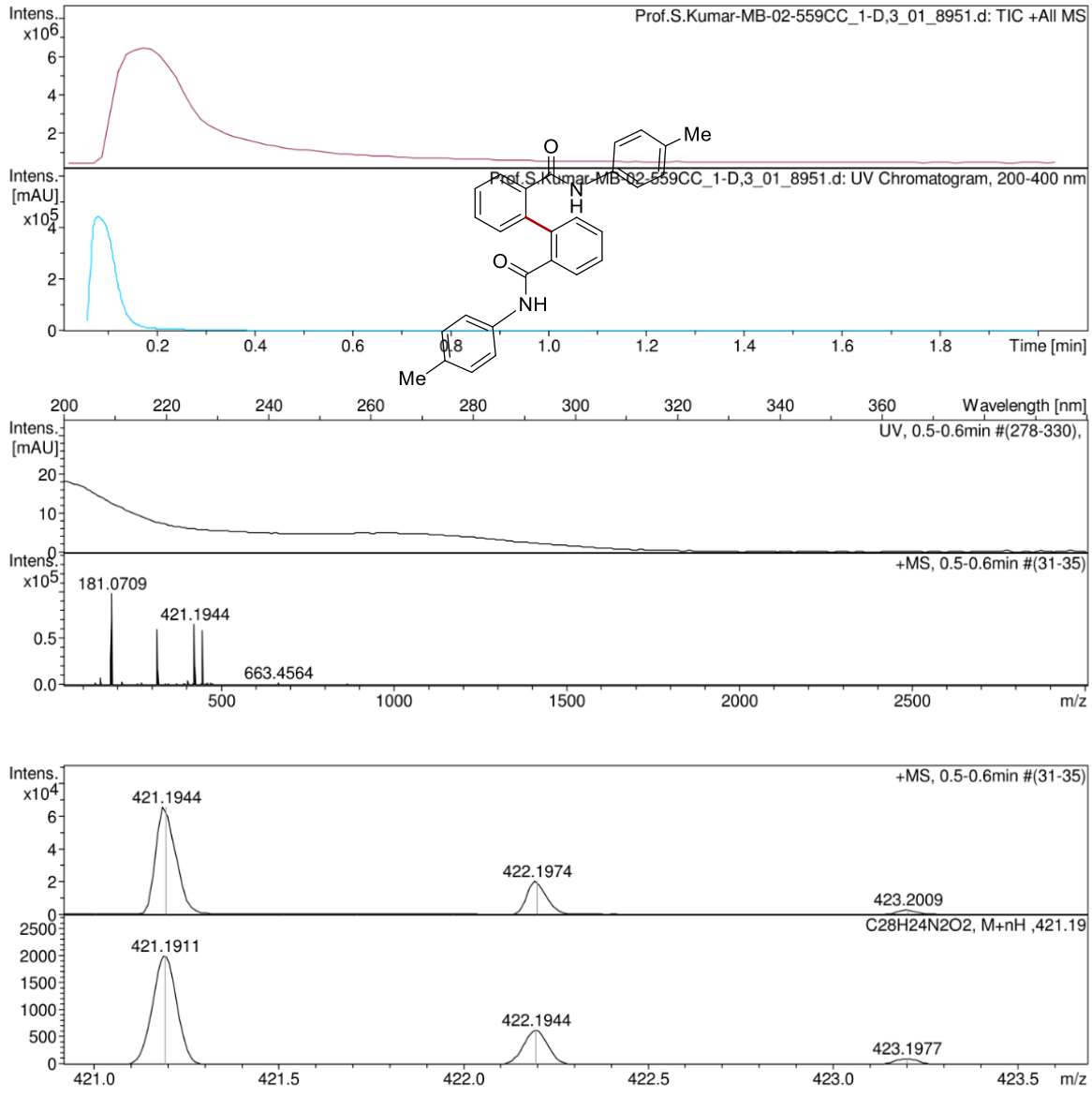
Display Report

Analysis Info

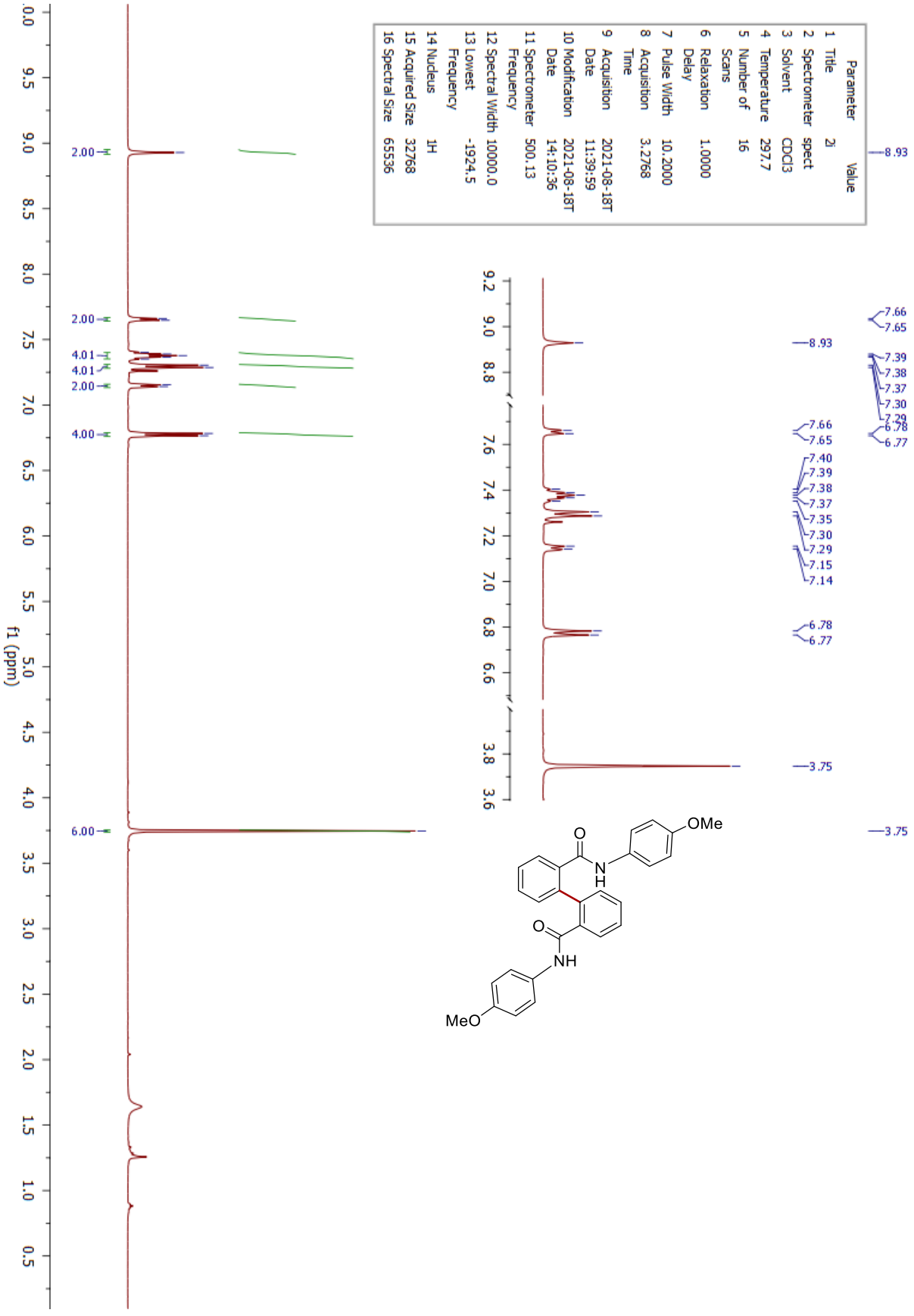
Analysis Name	D:\Data\new user data 2021\Sept-2021\07-sept\Prof.S.Kumar-MB-02-559CC_1-D,3_01_8951.d	Acquisition Date	9/7/2021 1:26:41 PM
Method	hrlcms-20 sept--union-small molecules 01-sept-2021.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-559CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

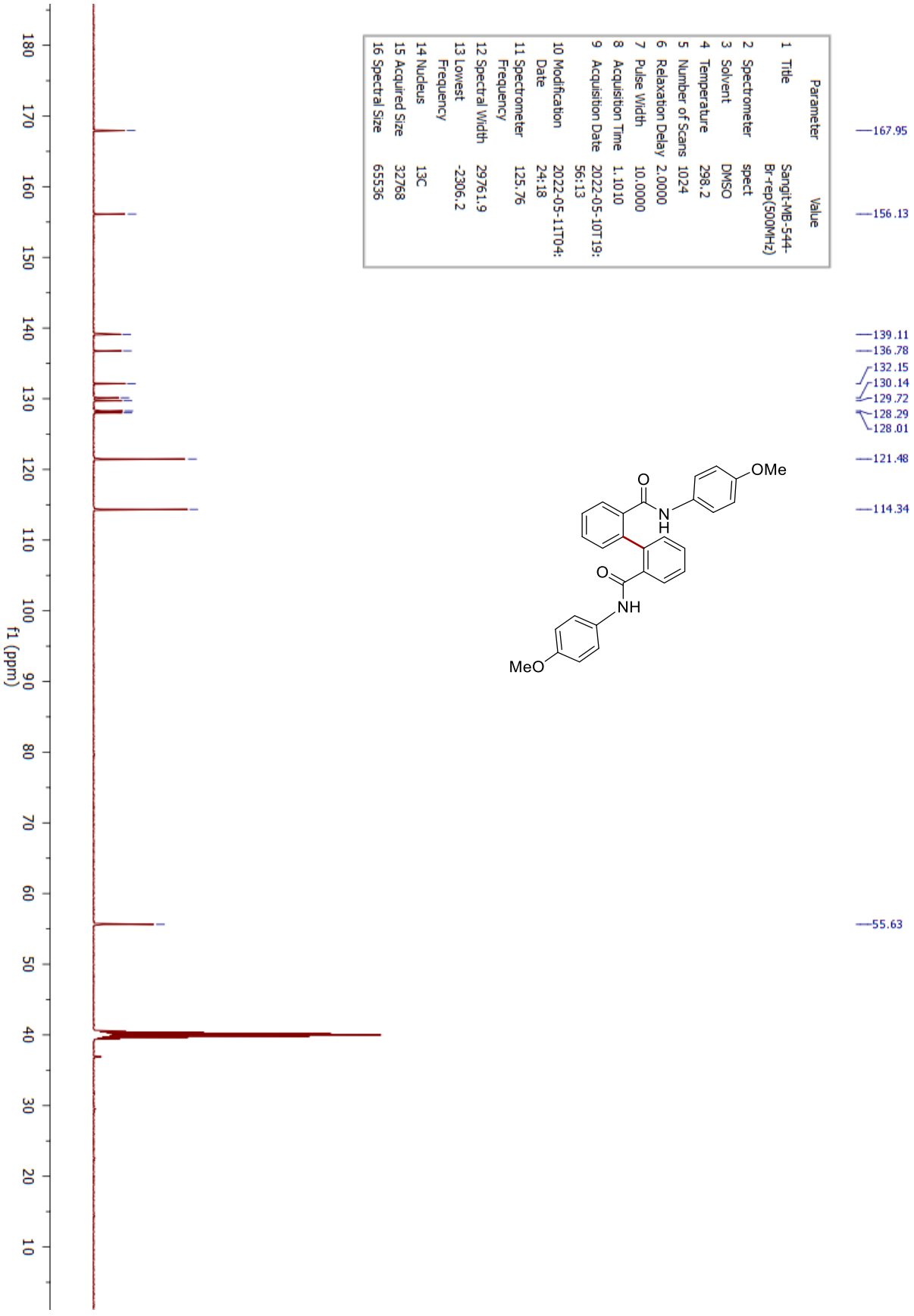
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste



^{1}H NMR spectra of **2i**



^{13}C NMR of spectra of **2i**



HRMS of spectra of **2i**

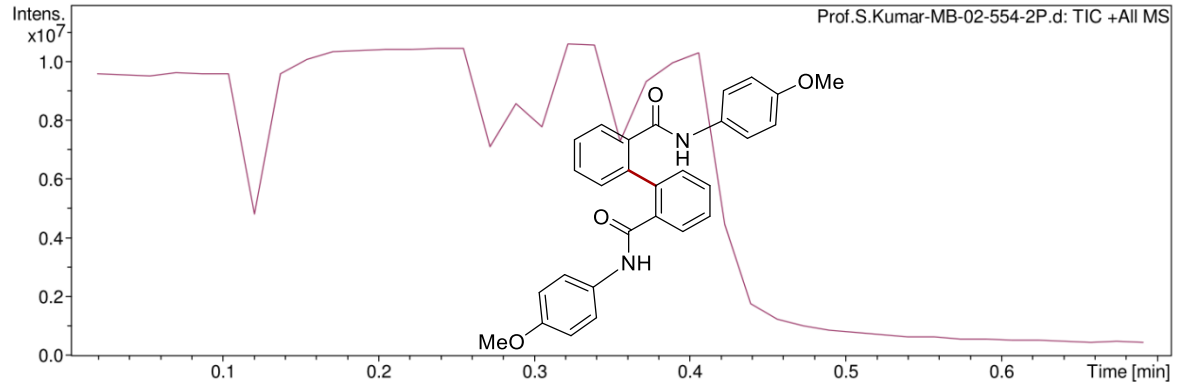
Display Report

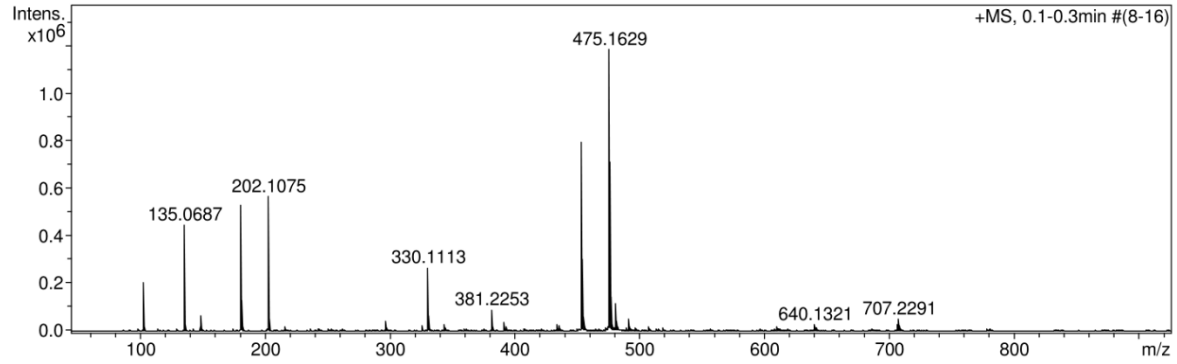
Analysis Info

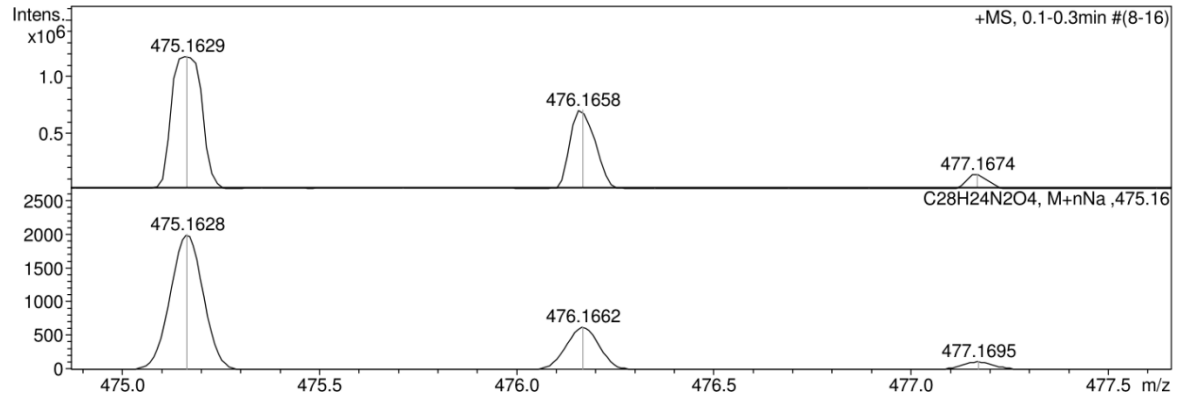
Analysis Name	D:\Data\new user data 2021\August-2021\18aug\Prof.S.Kumar-MB-02-554-2P.d	Acquisition Date	8/18/2021 4:33:59 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-554-2P	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Source

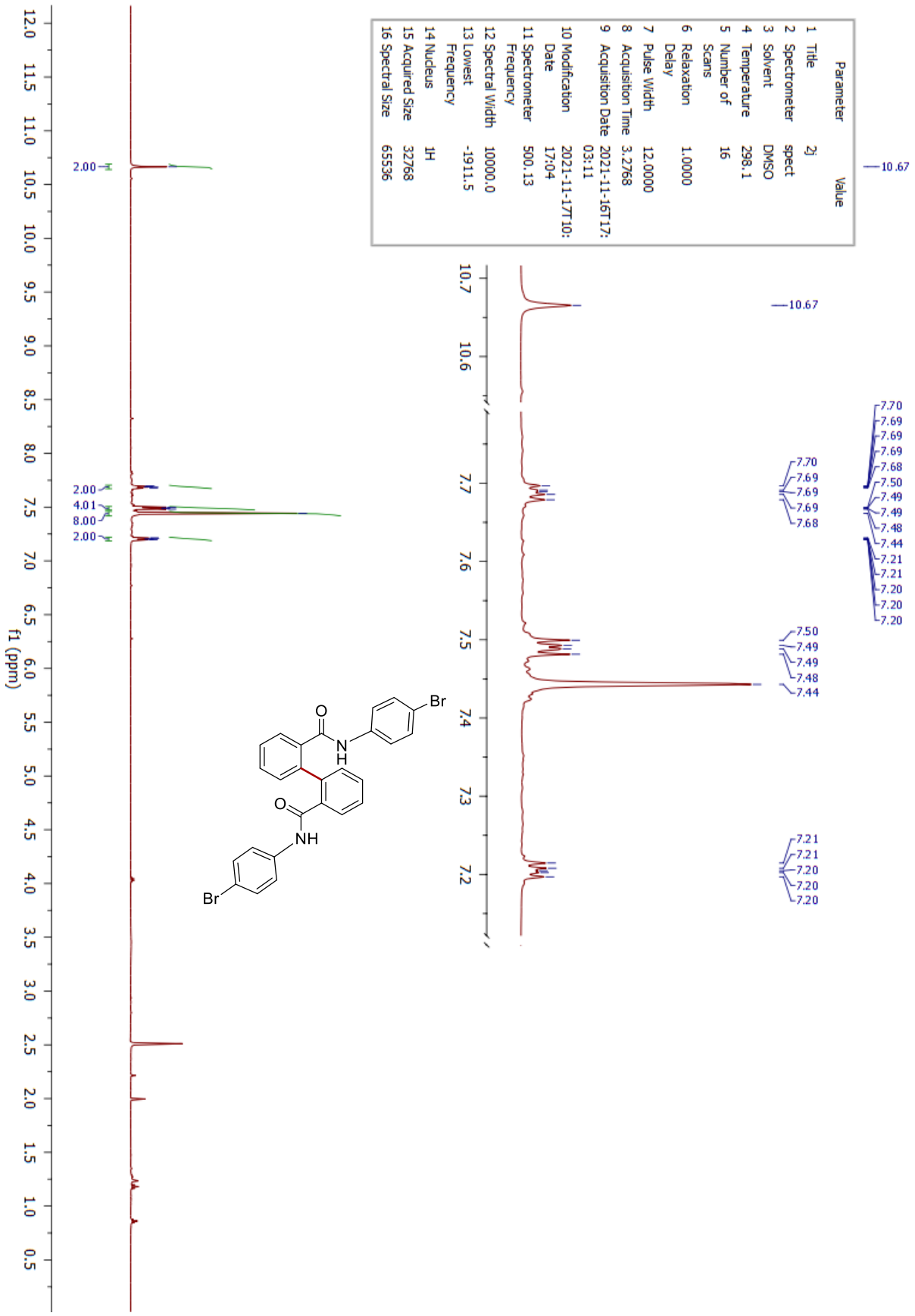




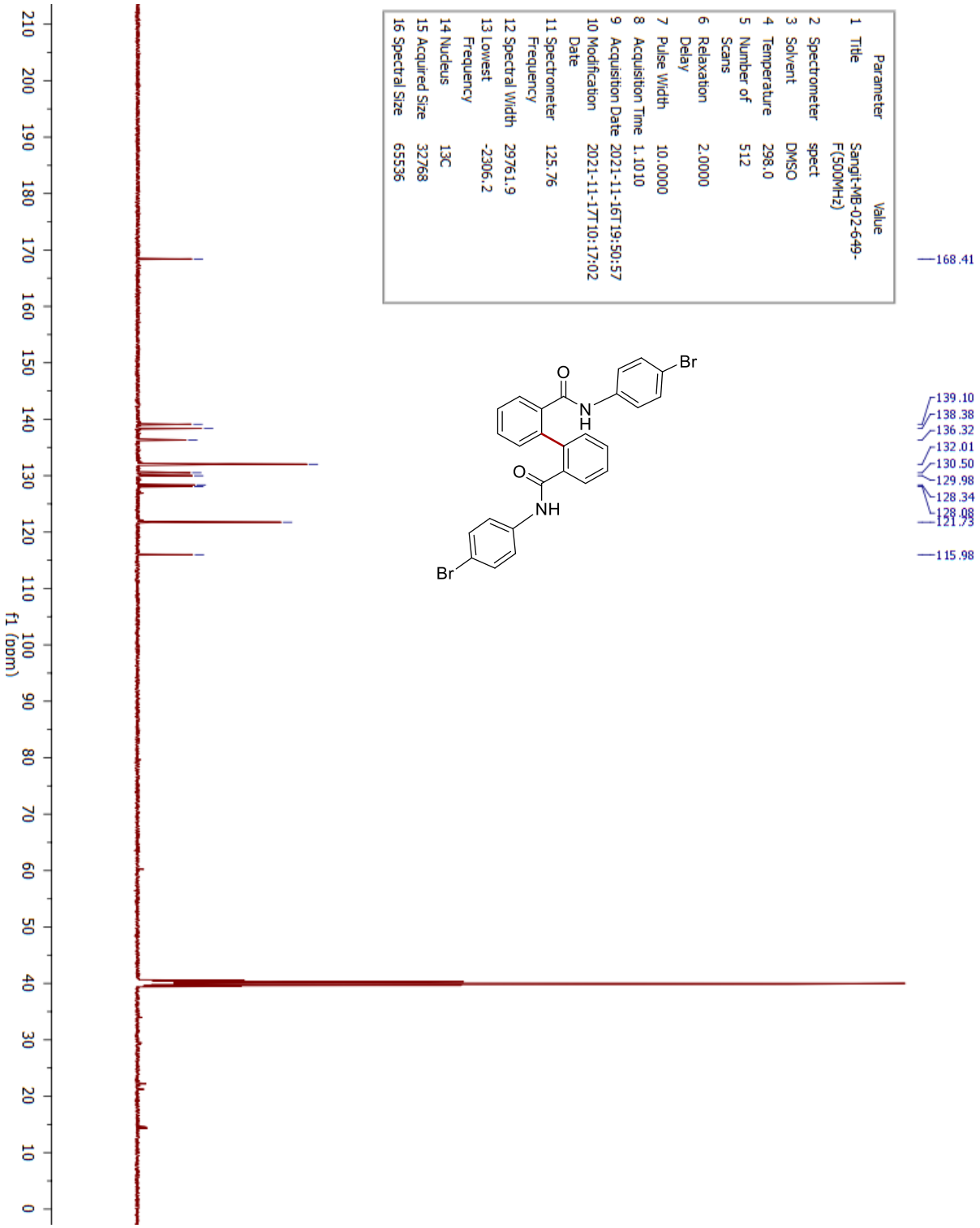


Bruker Compass DataAnalysis 4.0 printed: 8/19/2021 10:02:19 AM Page 1 of 1

^{1}H NMR spectra of **2j**



^{13}C NMR spectra of **2j**



HRMS spectra of **2j**

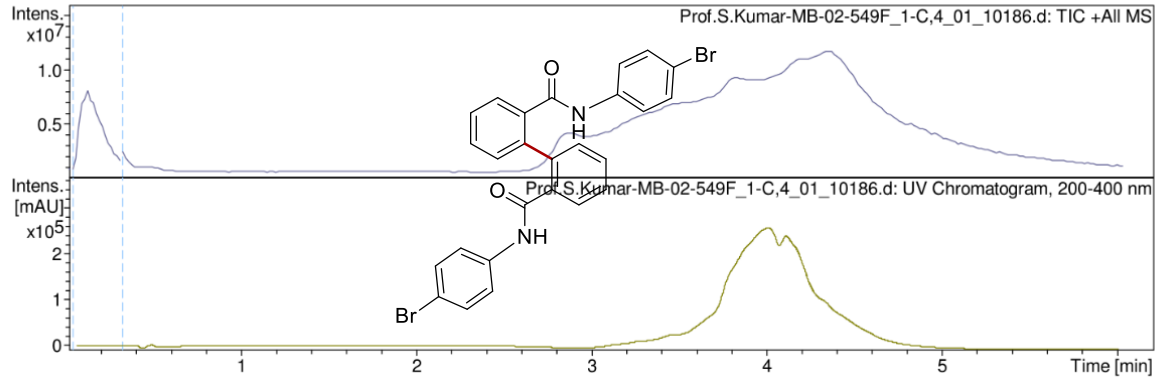
Display Report

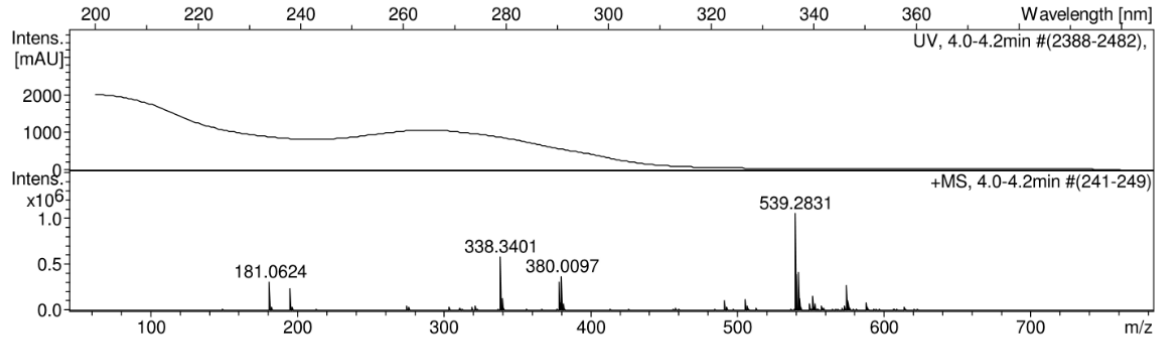
Analysis Info

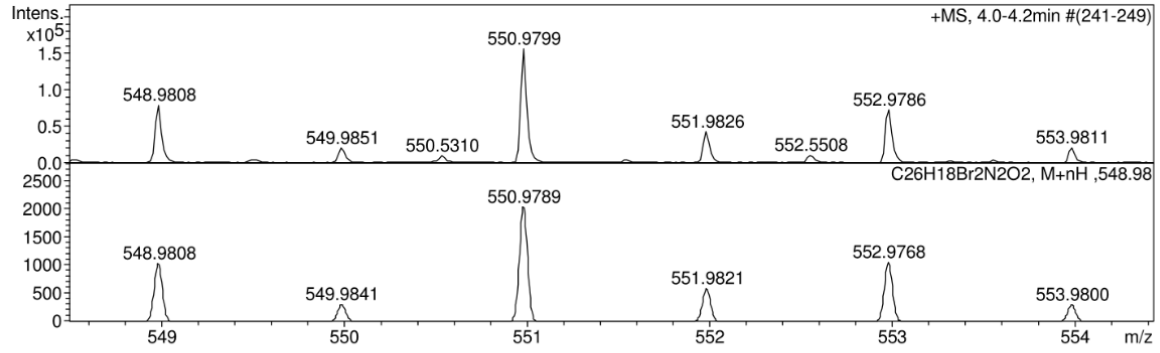
Acquisition Date	11/16/2021 3:55:01 PM		
Analysis Name	D:\Data\new user data 2021\Nov-2021\16-nov\Prof.S.Kumar-MB-02-549F_1-C,4_01_10186.d		
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-02-549F	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

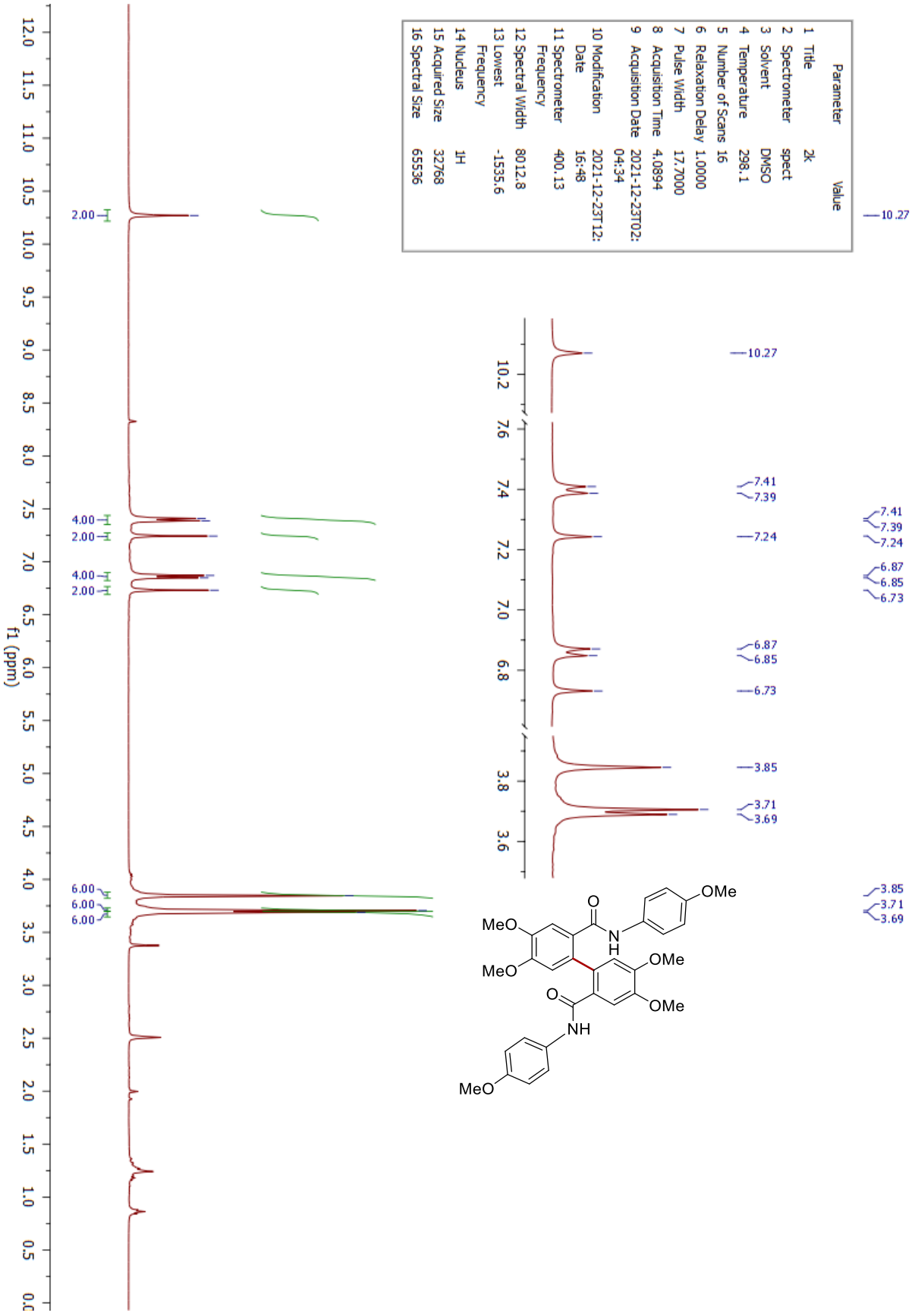
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	7.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste



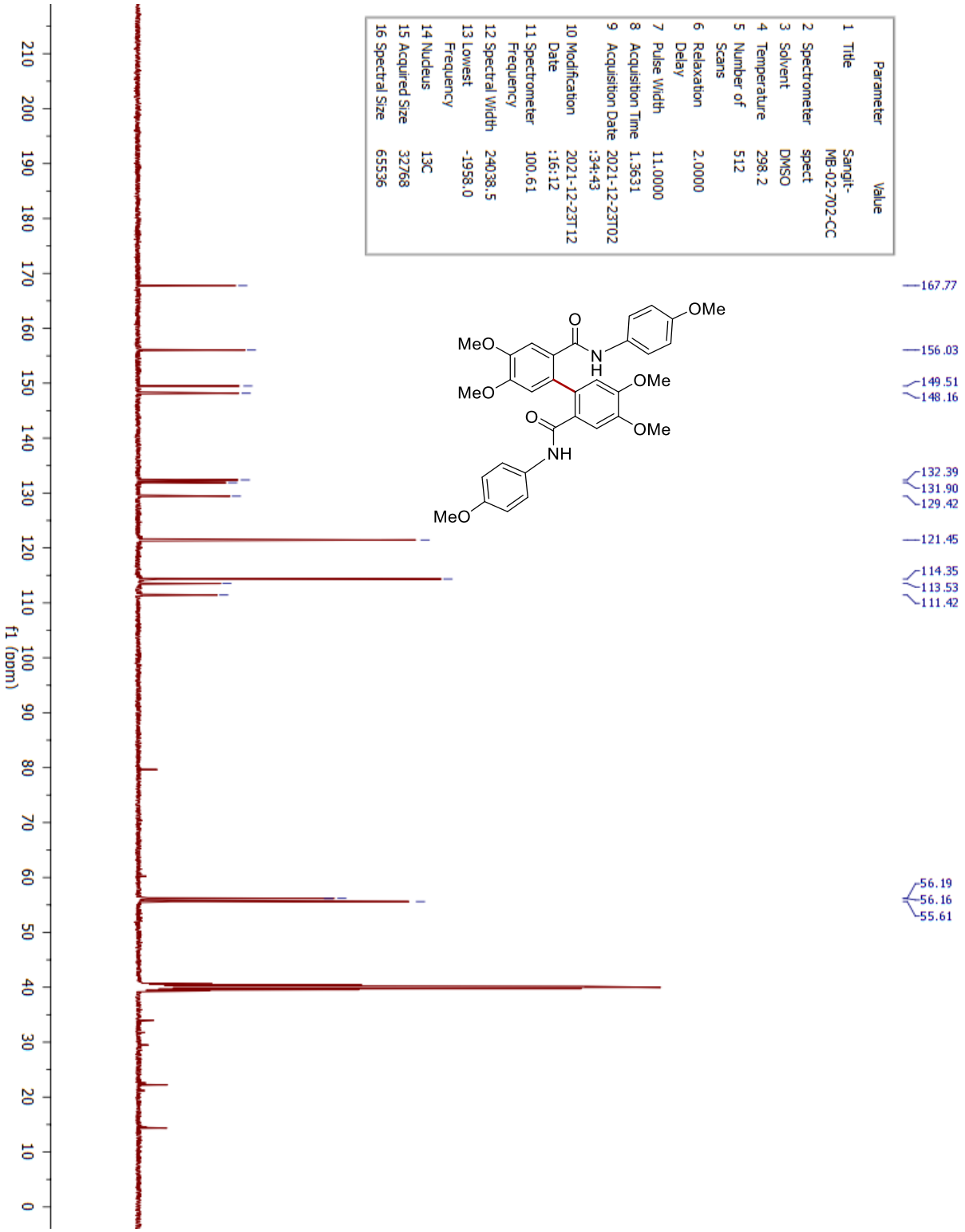




^{1}H NMR spectra of **2k**



^{13}C NMR spectra of **2k**



HRMS spectra of **2k**

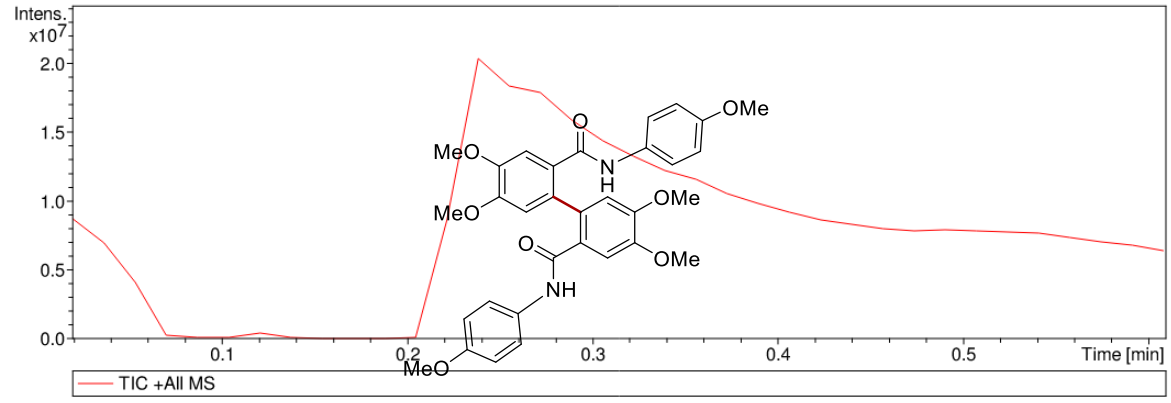
Display Report

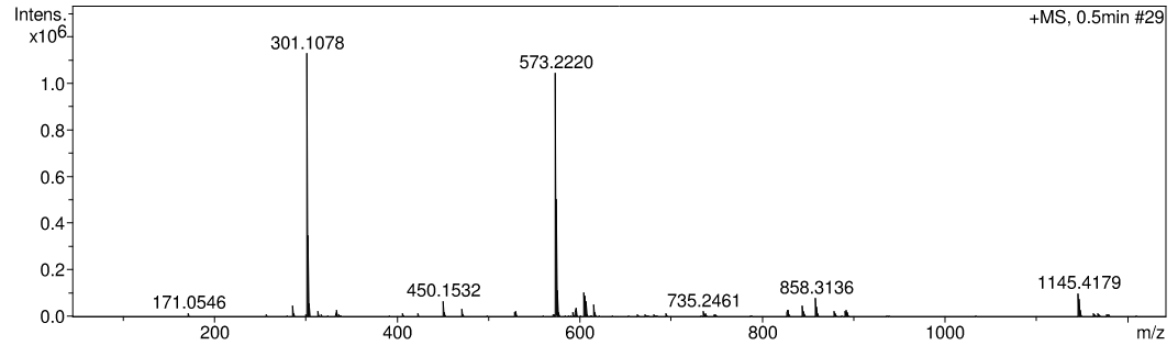
Analysis Info

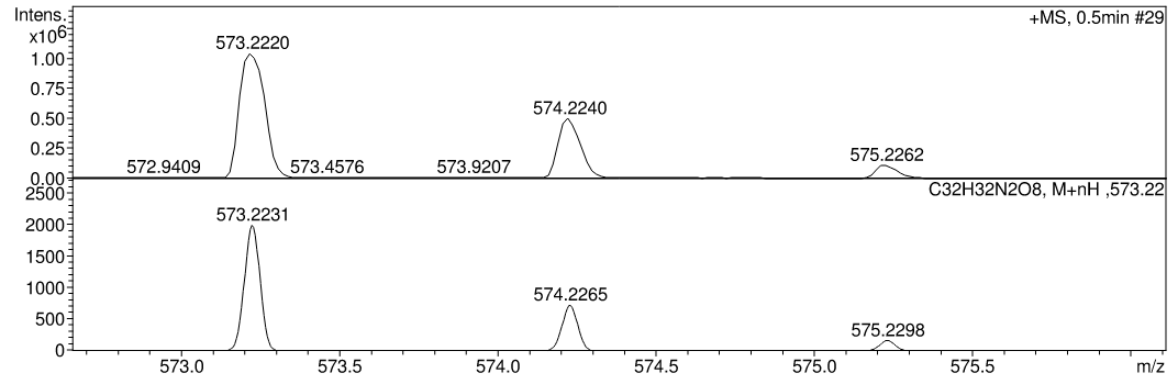
Analysis Name	D:\Data\new user data 2021\Dec-2021\29-dec\Prof S Kumar-MB-704-CCR.d	Acquisition Date	12/29/2021 12:43:43 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-704-CCR	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

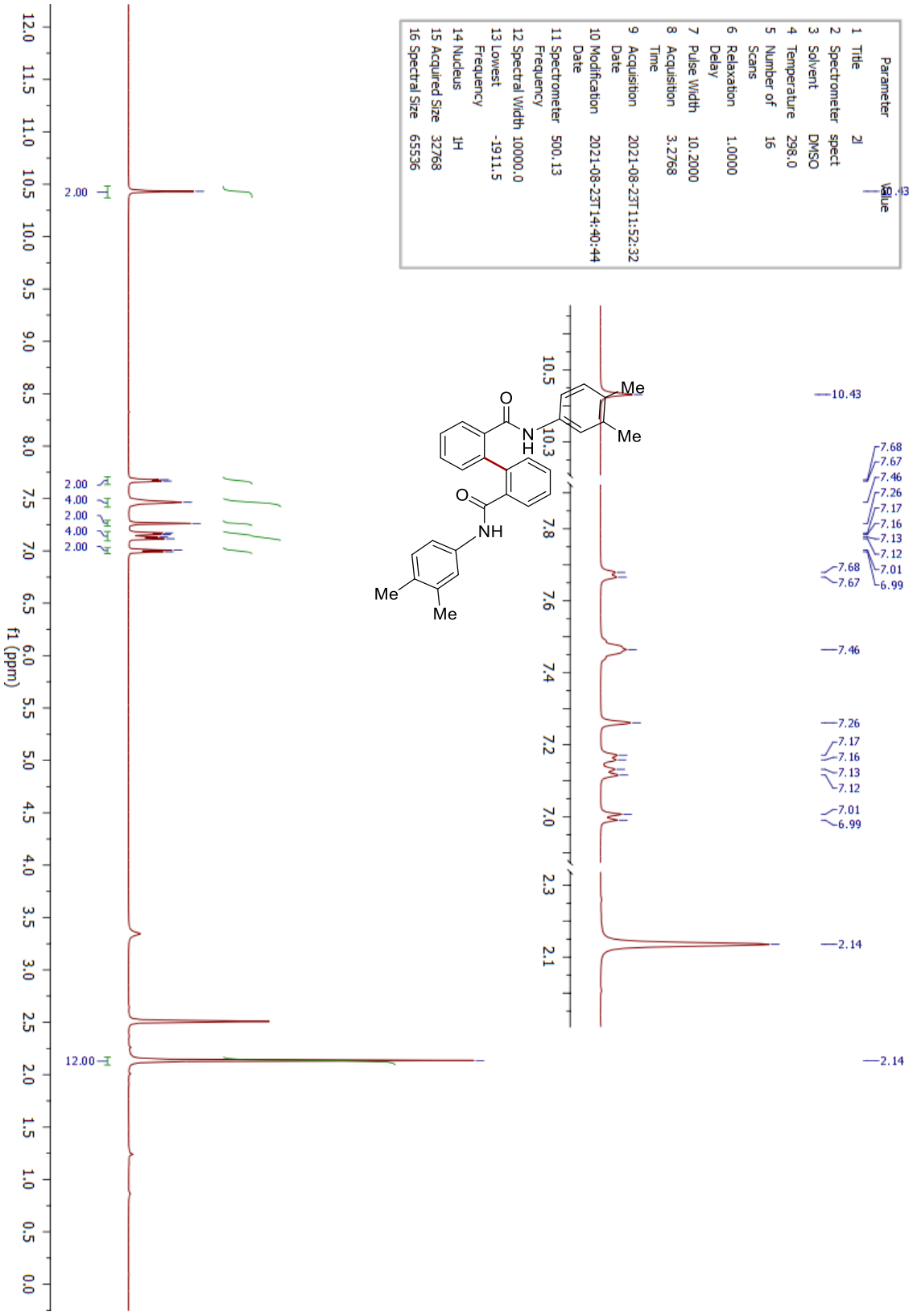
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	300.0 Vpp	Set Divert Valve	Waste





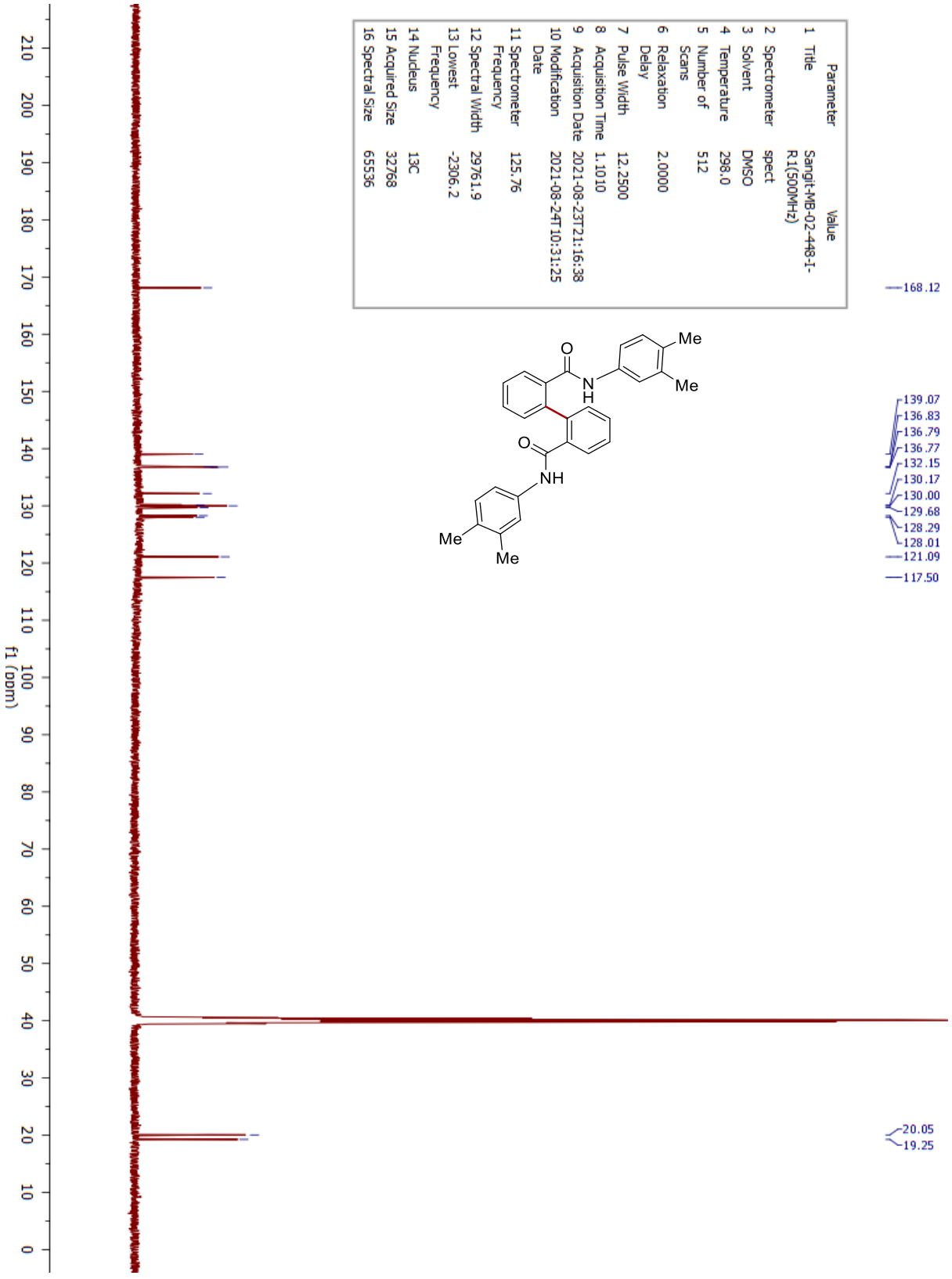


^{1}H NMR spectra of **2l**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **2l**



HRMS spectra of **2l**

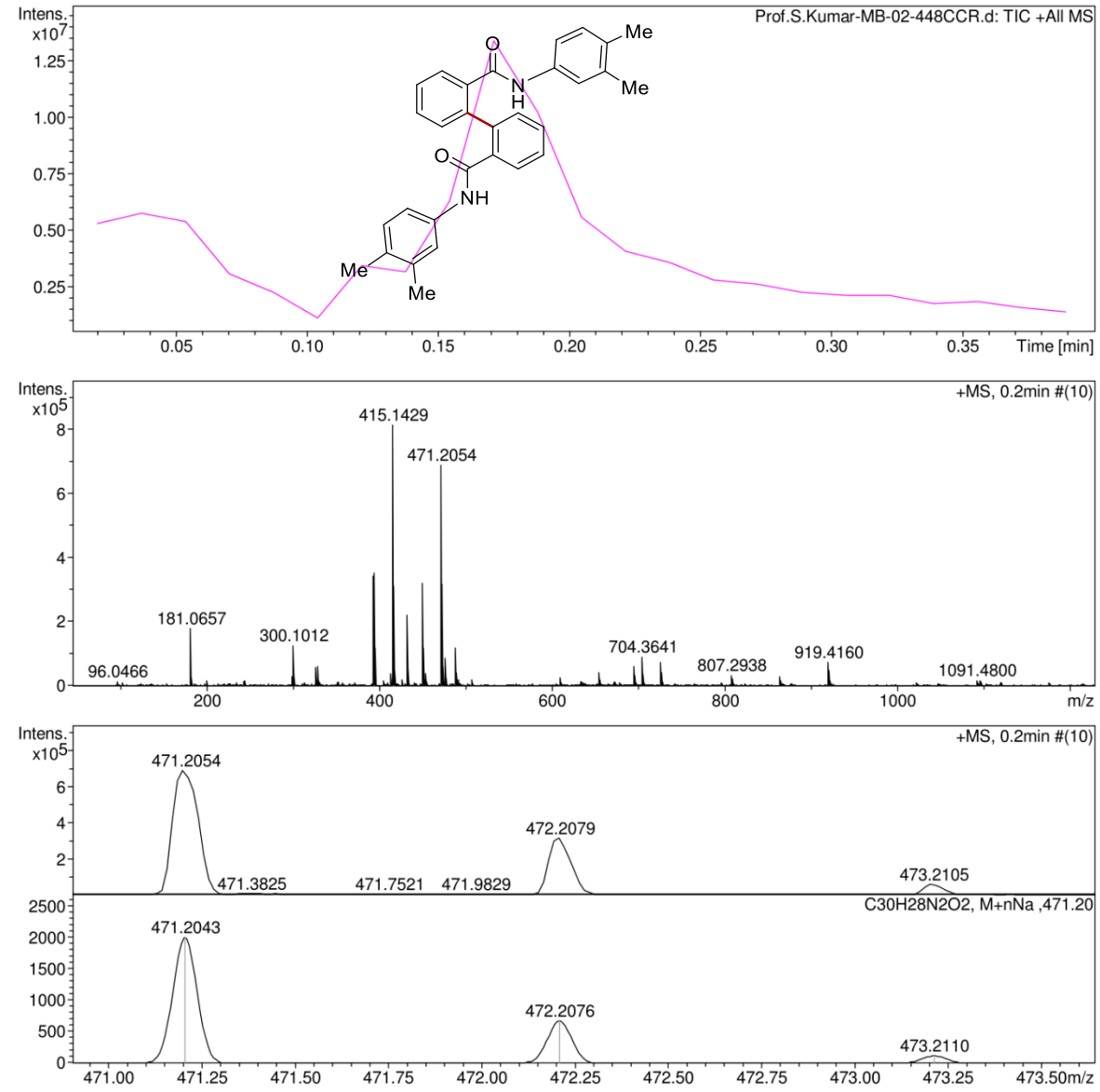
Display Report

Analysis Info

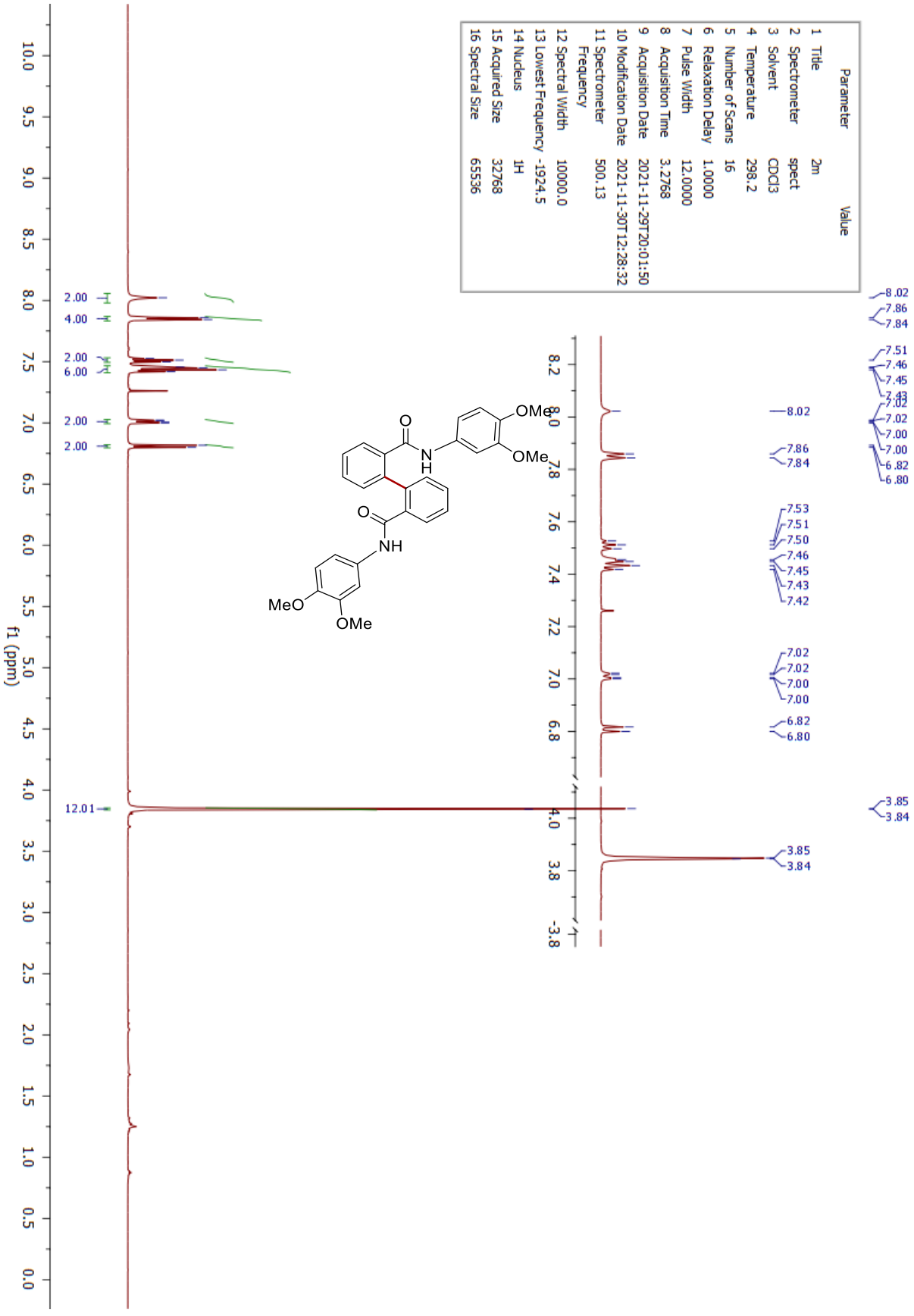
Acquisition Date	8/23/2021 2:29:03 PM		
Analysis Name	D:\Data\new user data 2021\August-2021\23 Aug\Prof.S.Kumar-MB-02-448CCR.d		
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-448CCR	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

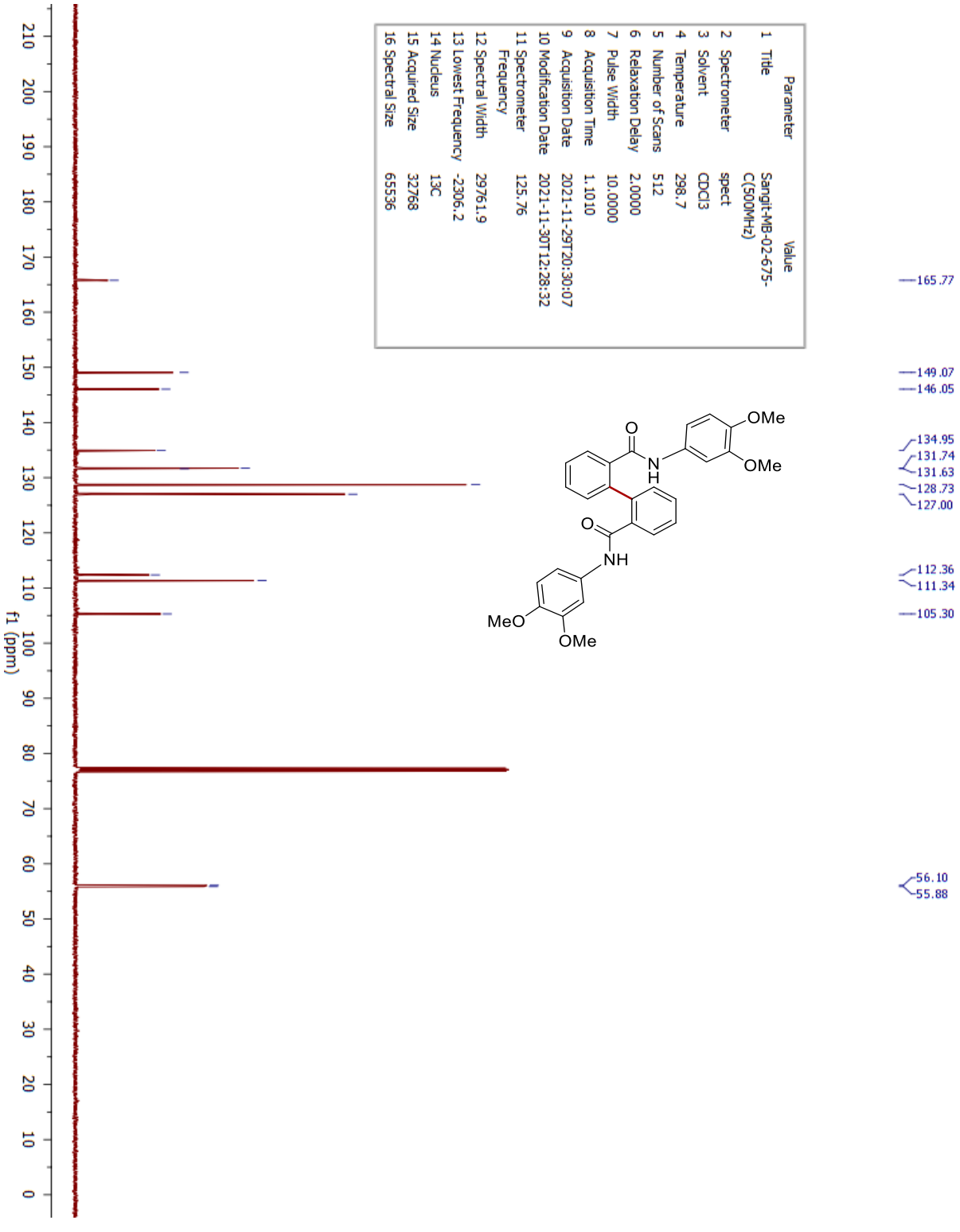
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Waste



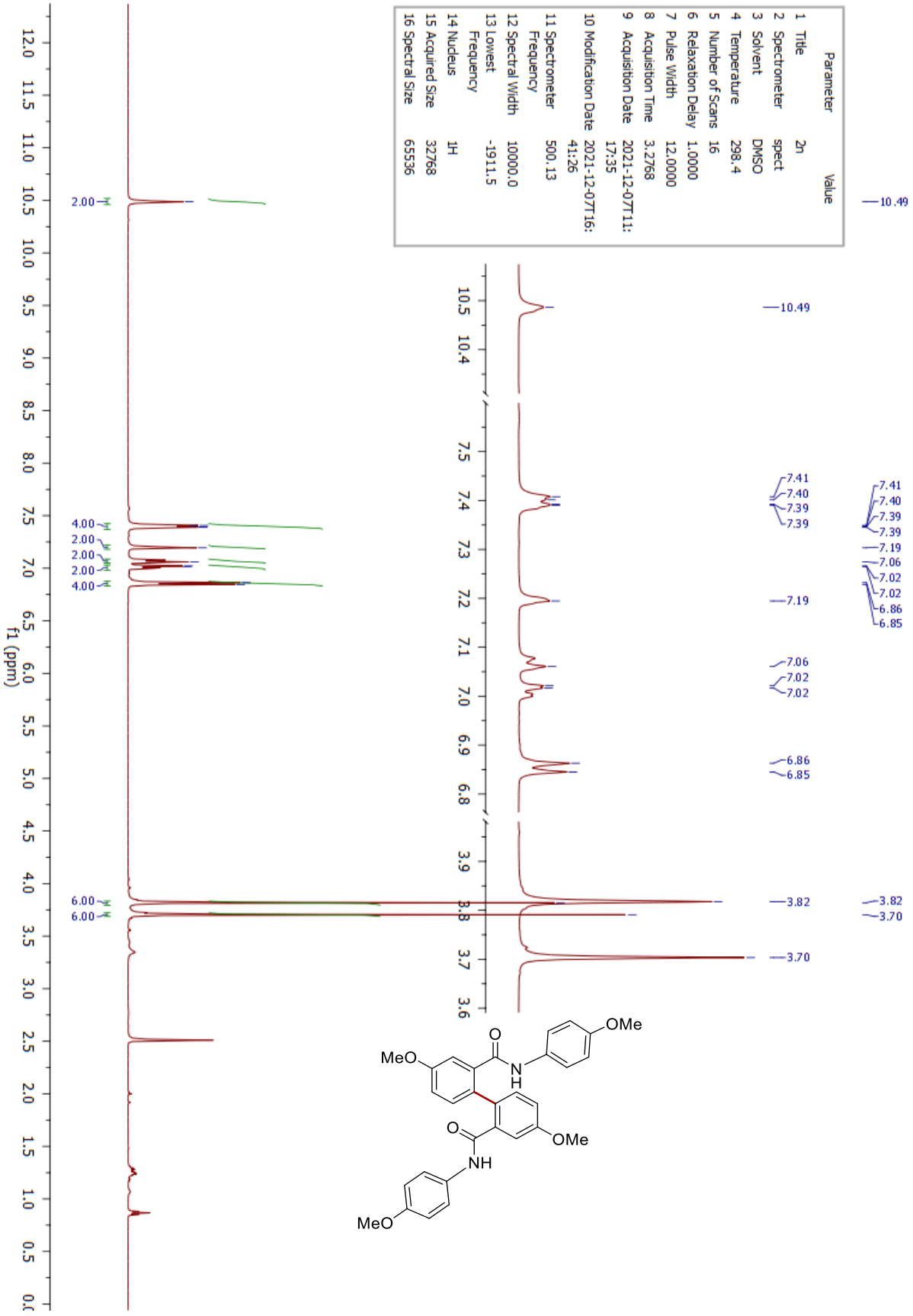
^{1}H NMR spectra of **2m**



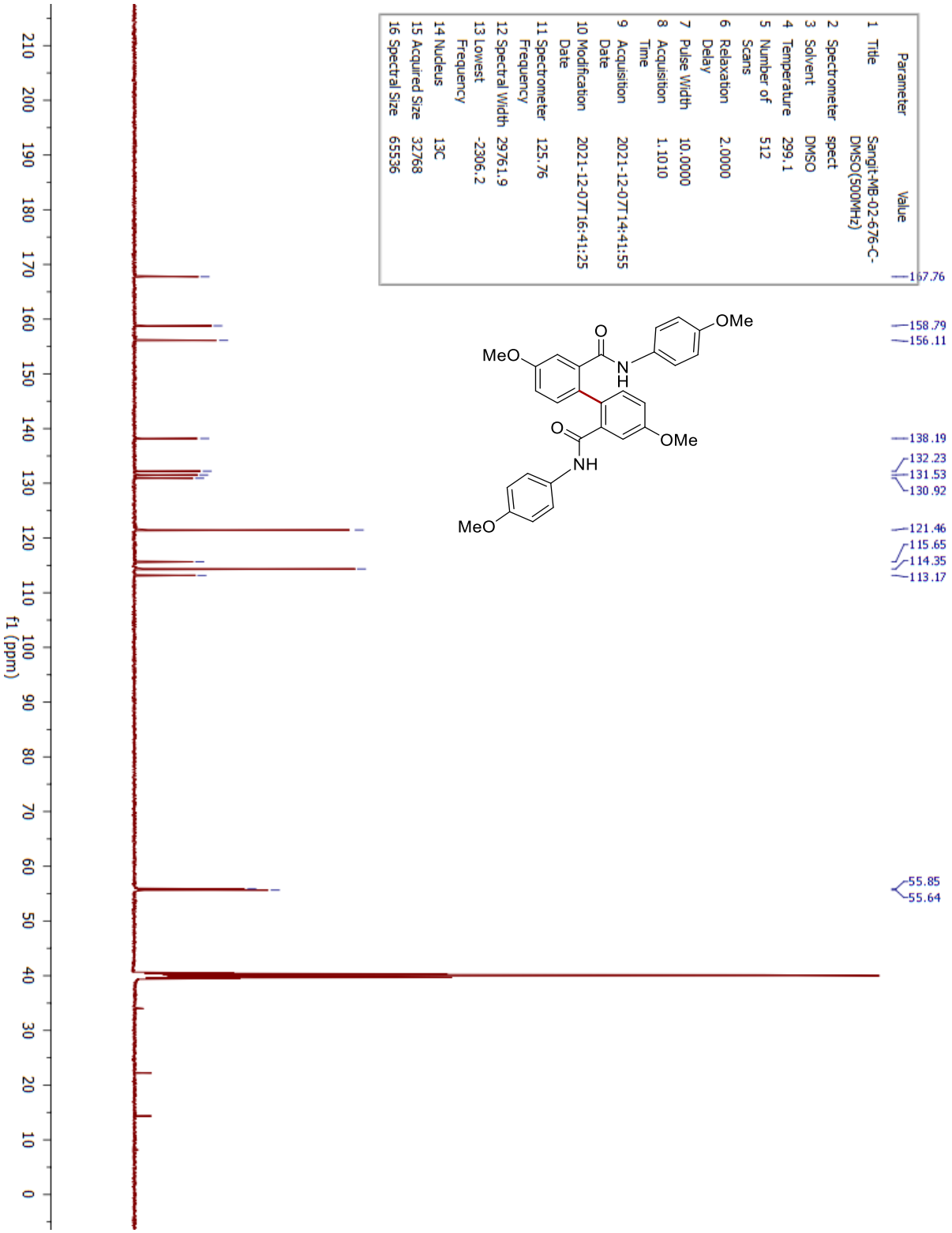
^{13}C NMR spectra of **2m**



^{1}H NMR spectra of **2n**



^{13}C NMR spectra of **2n**



HRMS spectra of **2n**

Display Report

Analysis Info

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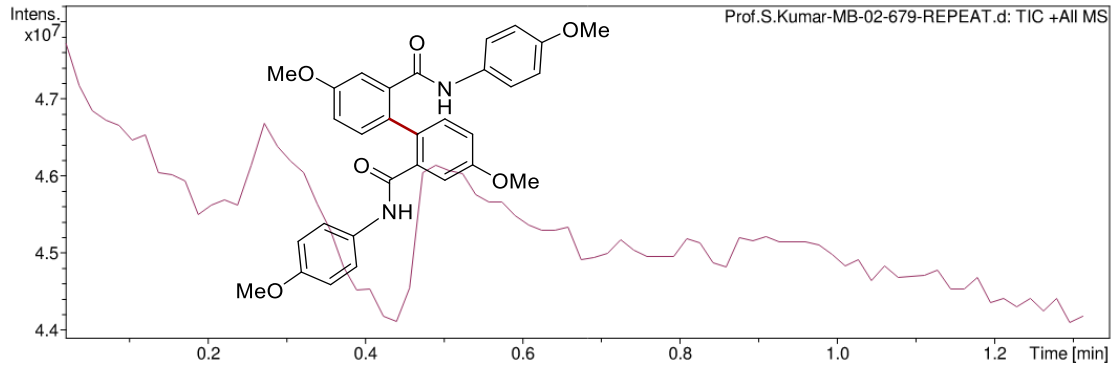
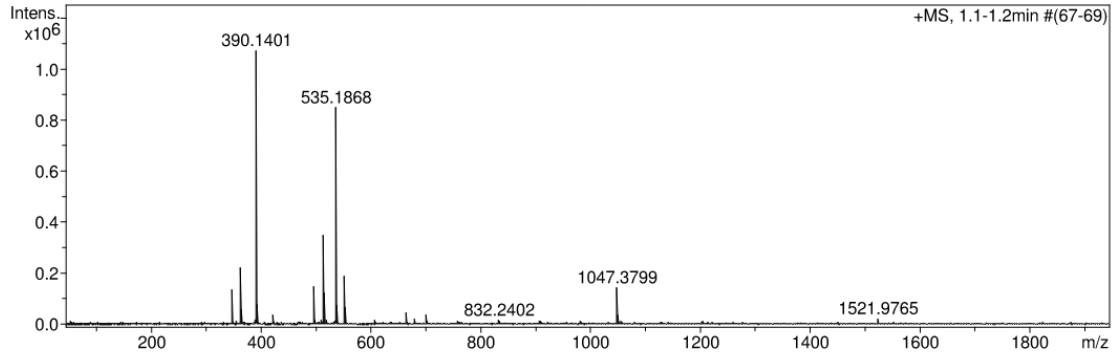
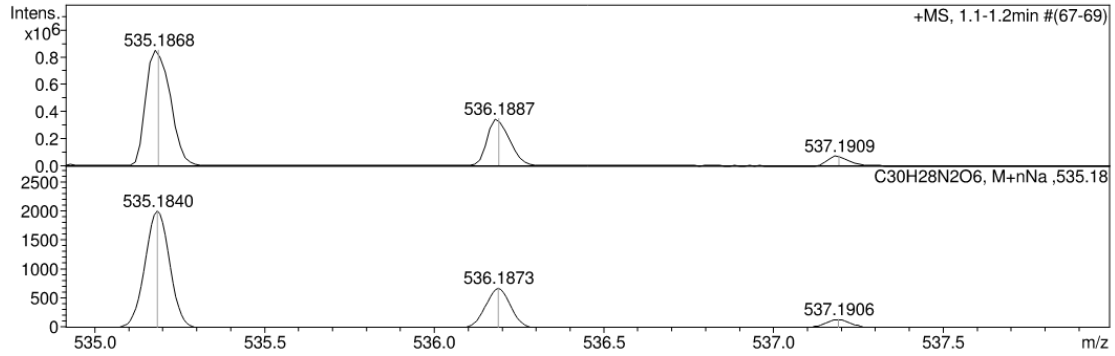
Analysis Name	D:\Data\new user data 2021\Dec-2021\09-dec\Prof.S.Kumar-MB-02-679-REPEAT.d		
Method	tune_wide _APCI_23.06.m	Operator	RUCHI
Sample Name	MB-02-679-REPEAT	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

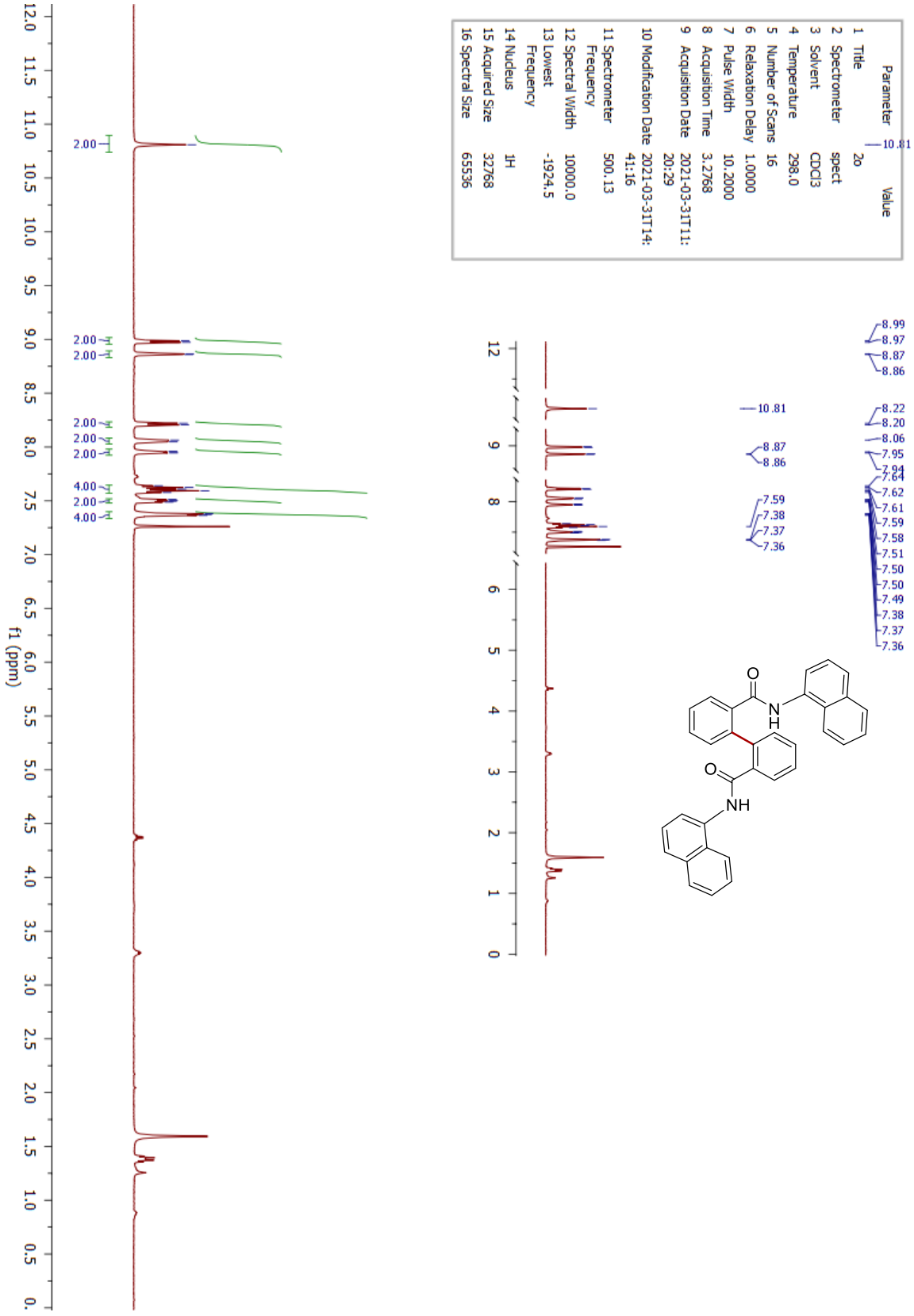
Source Type	Multi Mode	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active	Set Capillary	2500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	5.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste





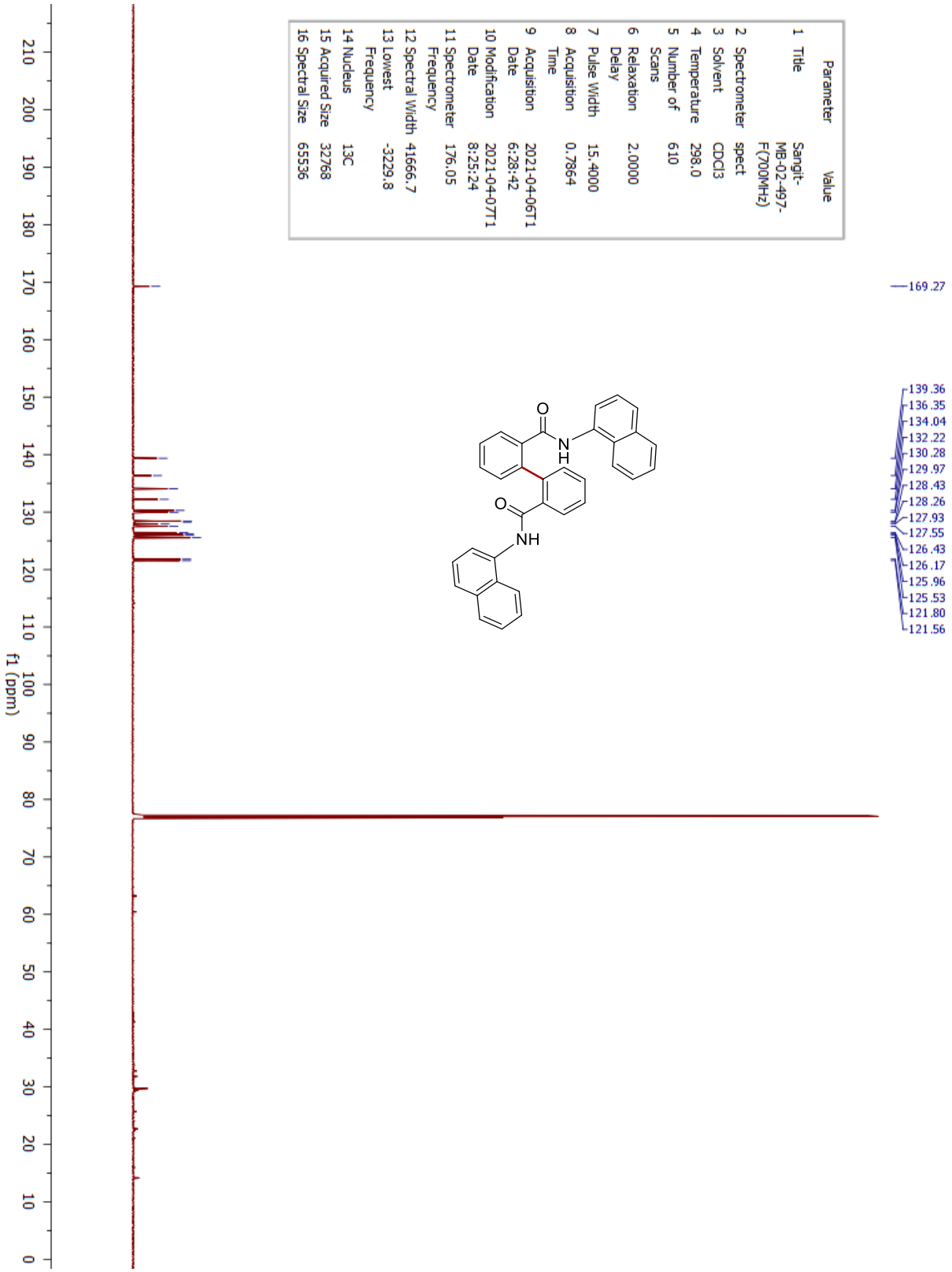


^{1}H NMR spectra of **2o**



Peaks at 7.26 and 1.5 correspond to $CDCl_3$ residual peak and water respectively

^{13}C NMR spectra of **2o**



HRMS spectra of **2o**

Display Report

Analysis Info

Analysis Name	D:\Data\new user data 2021\july-2021\14-july\Dr.S.Kumar-MB-02-497-CC.d	Acquisition Date	7/14/2021 4:07:08 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-497-CC	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
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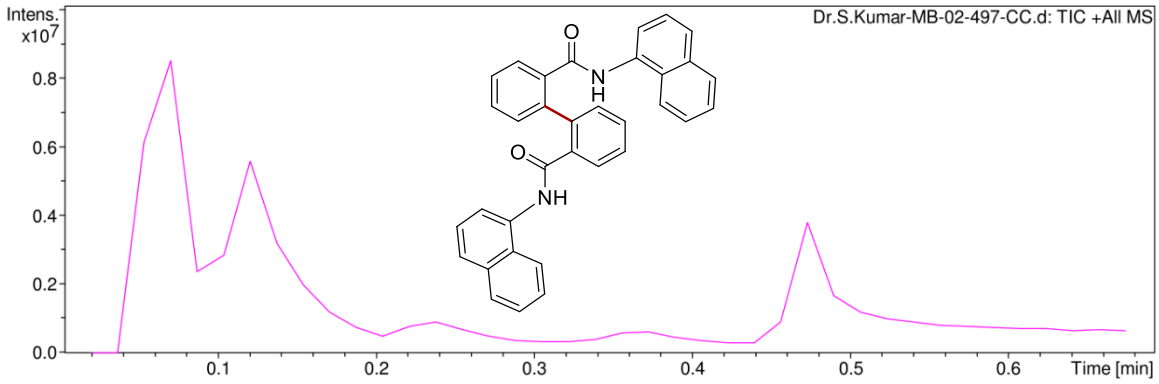
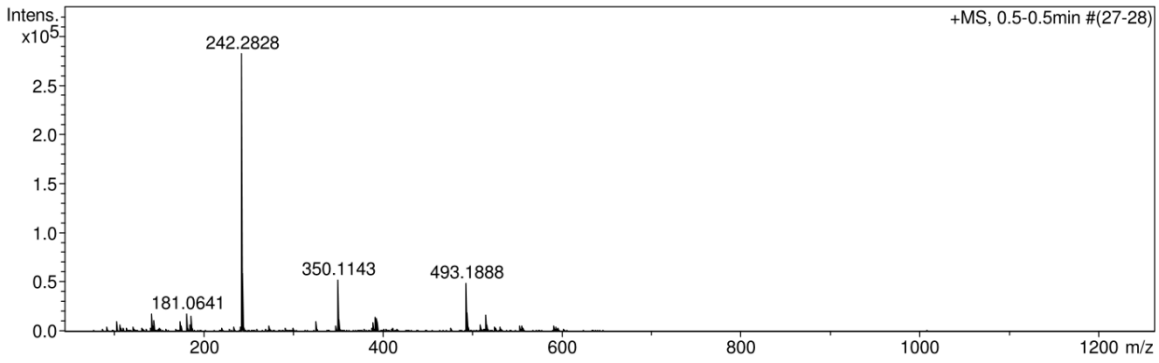
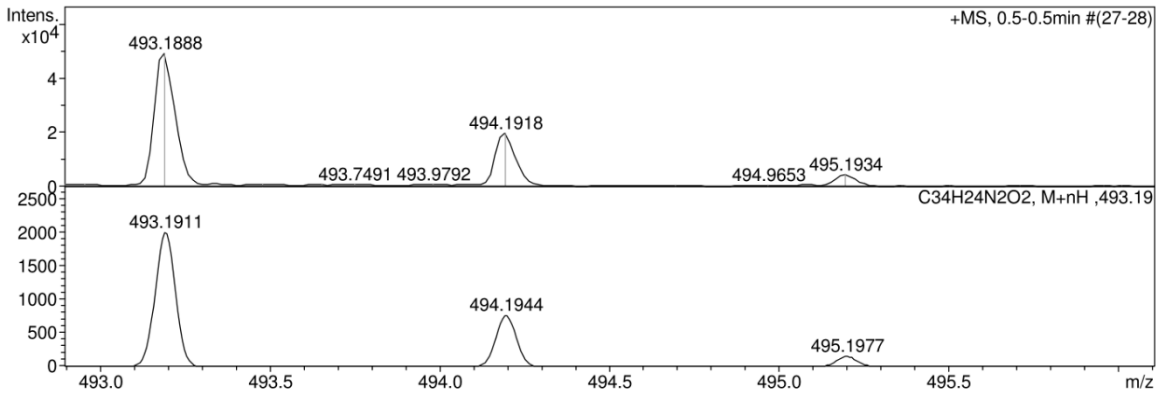
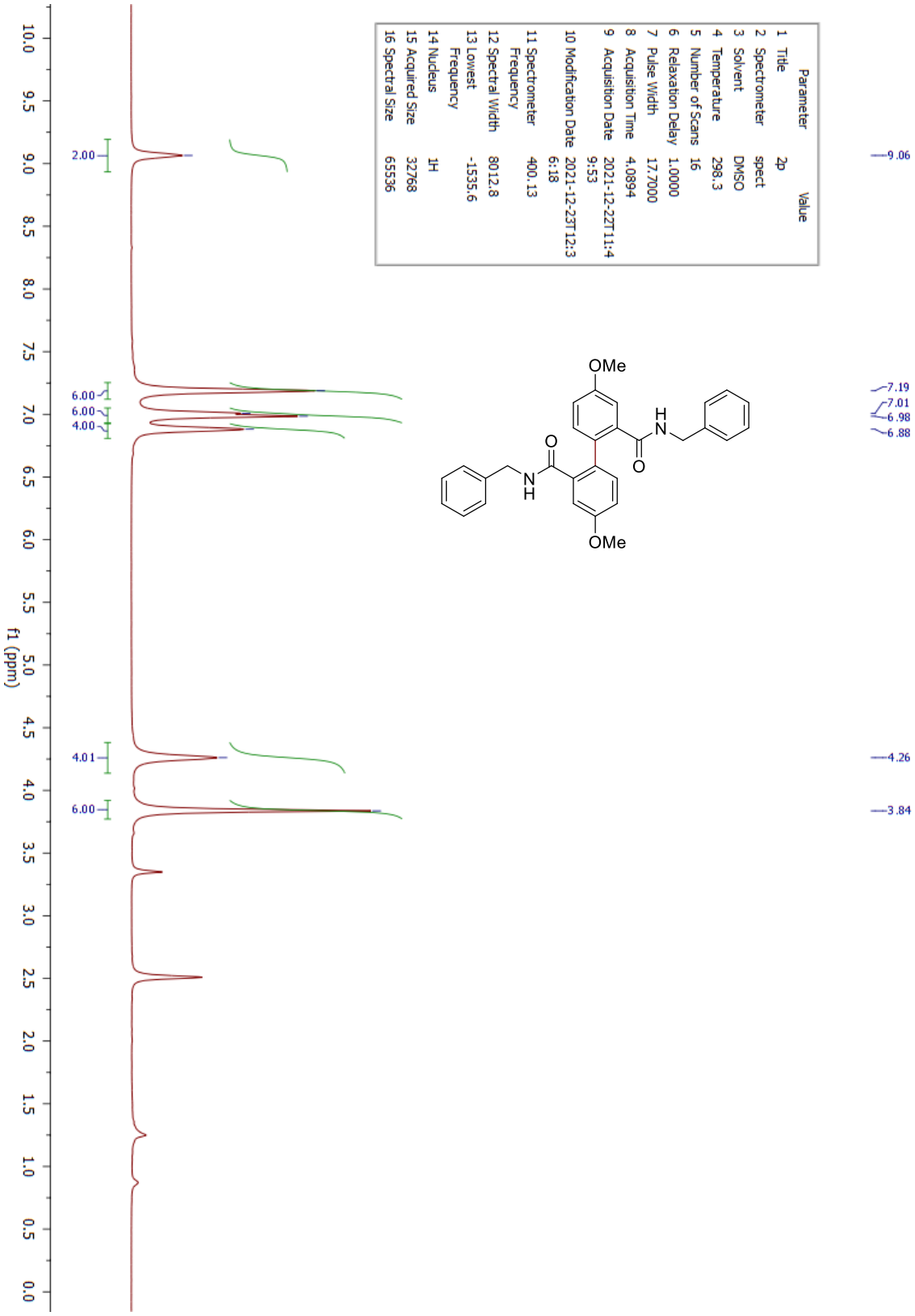
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Source





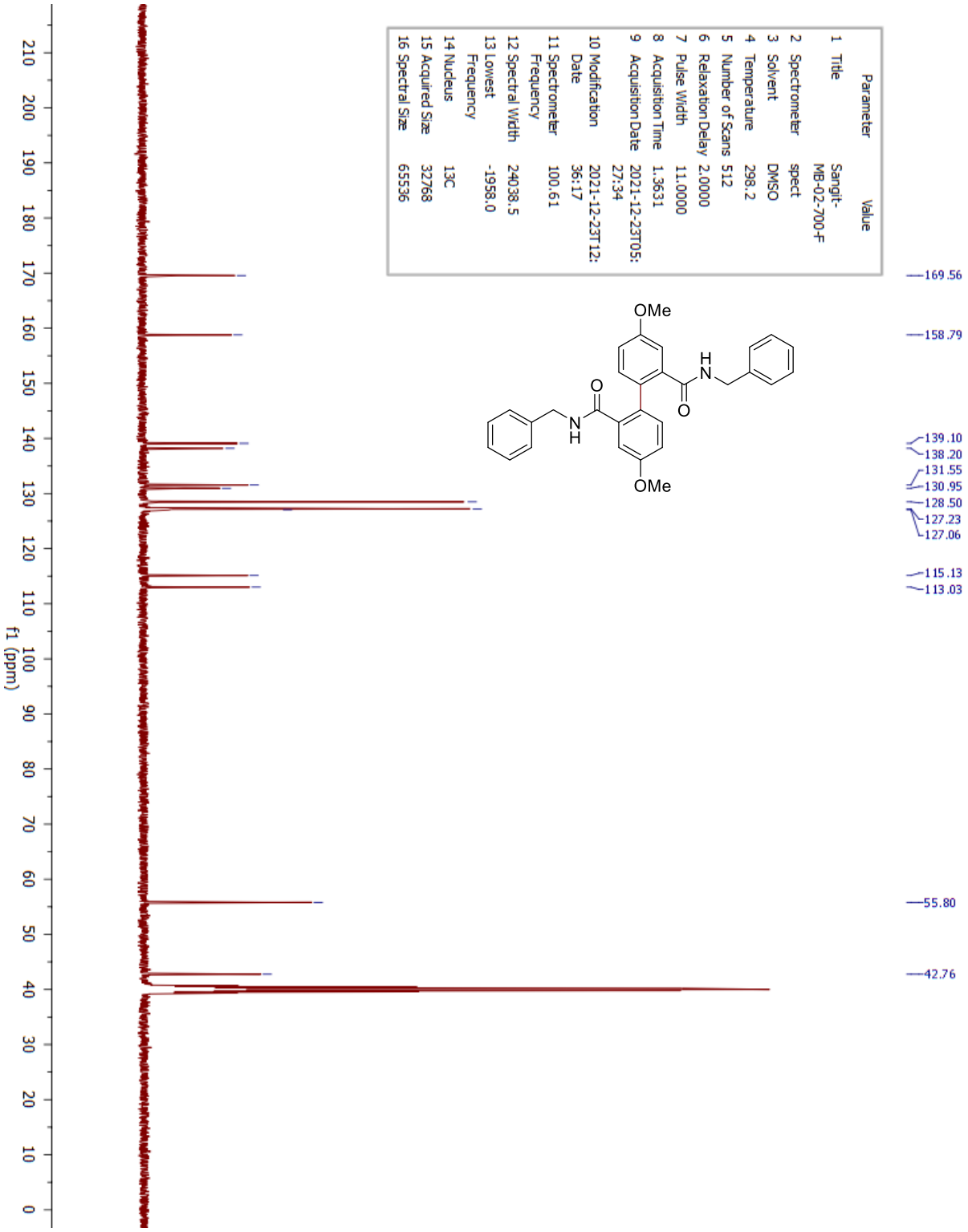


^{1}H NMR spectra of **2p**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **2p**



HRMS spectra of **2p**

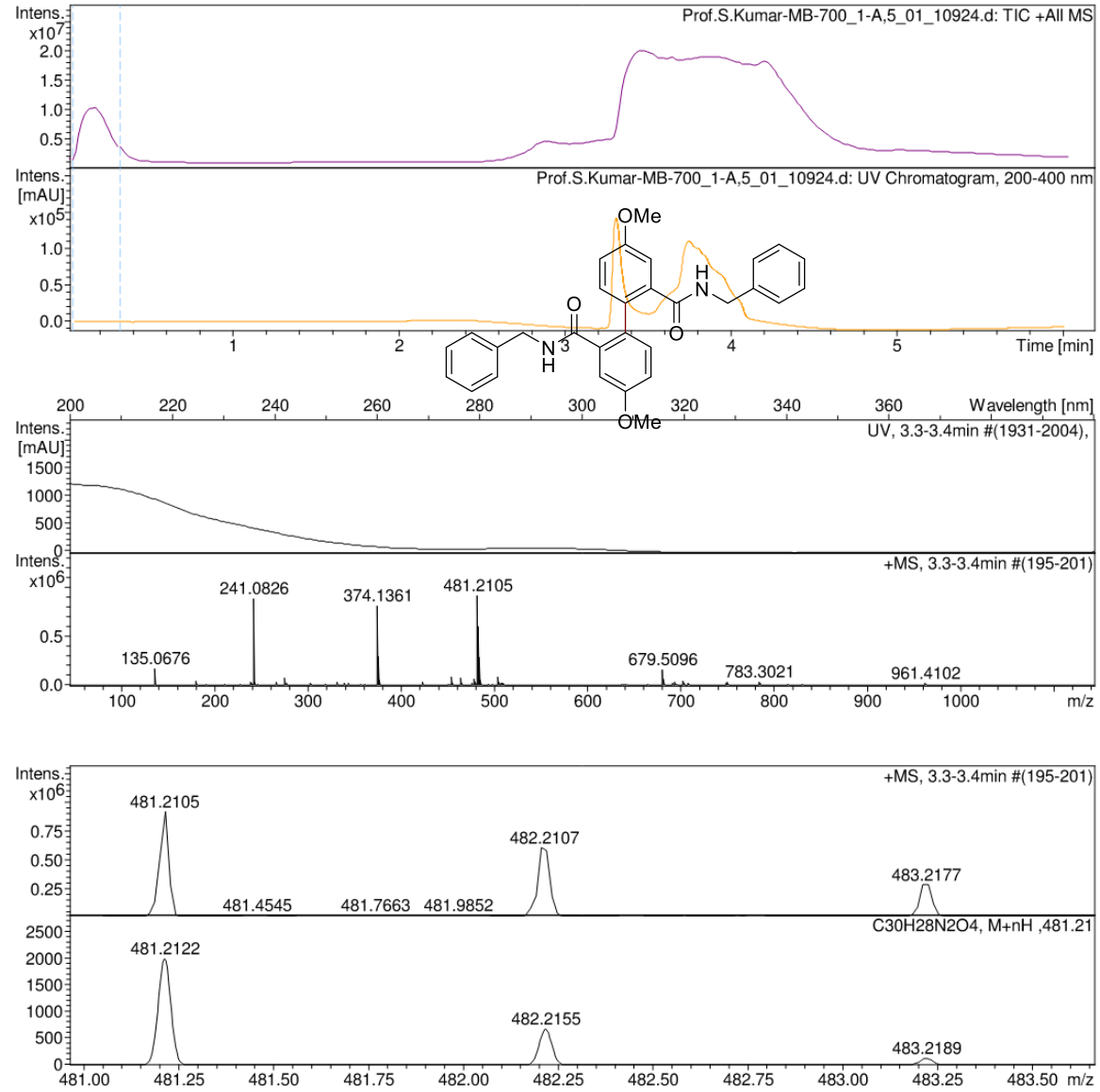
Display Report

Analysis Info

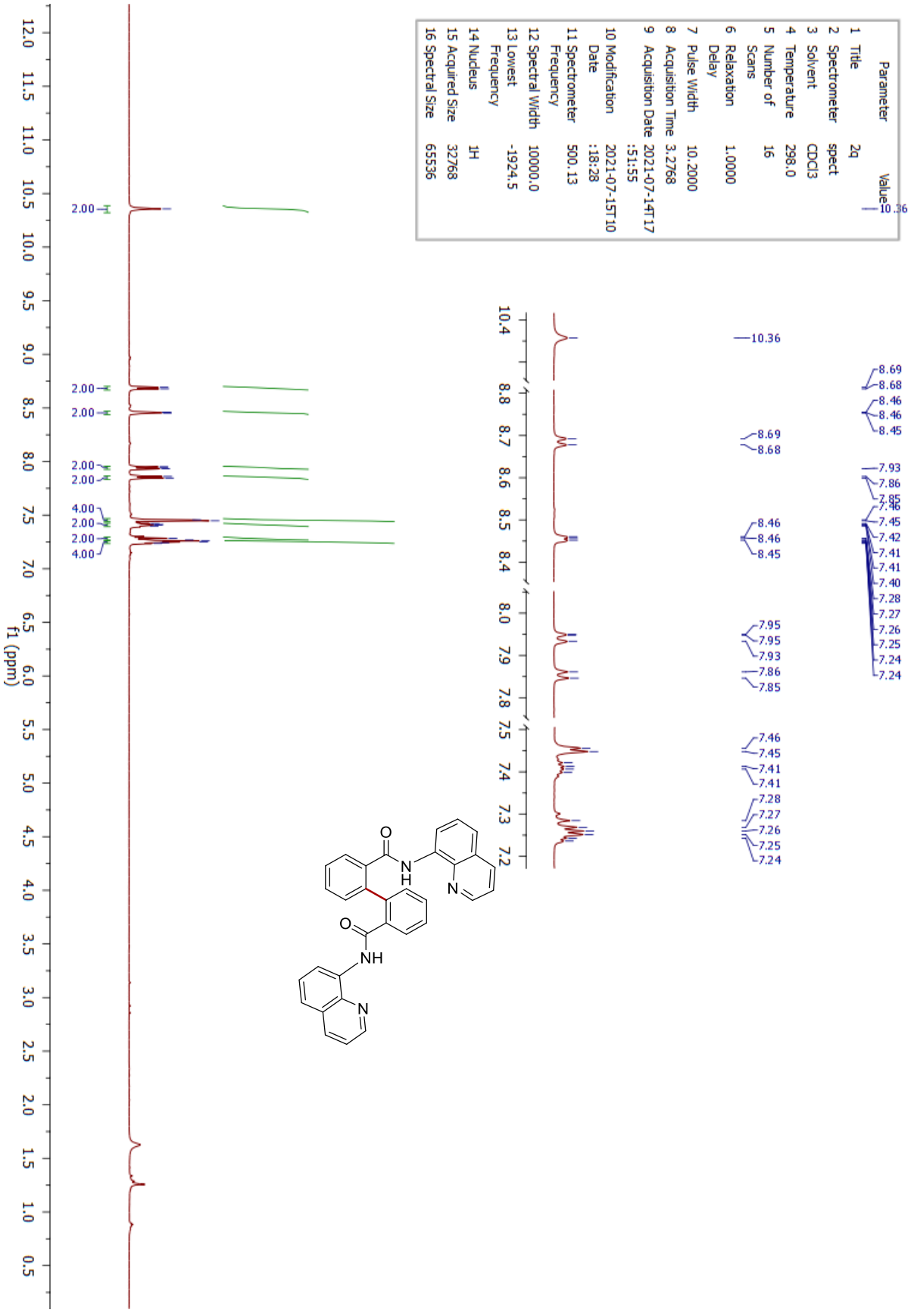
Acquisition Date	1/18/2022 12:20:10 PM		
Analysis Name	D:\Data\NEW USER DATA 2022\Jan-2022\18-jAN-2022\Prof.S.Kumar-MB-700_1-A,5_01_10924.d		
Method	hrlcms-20 sept.m	Operator	RUCHI
Sample Name	Prof.S.Kumar-MB-700	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

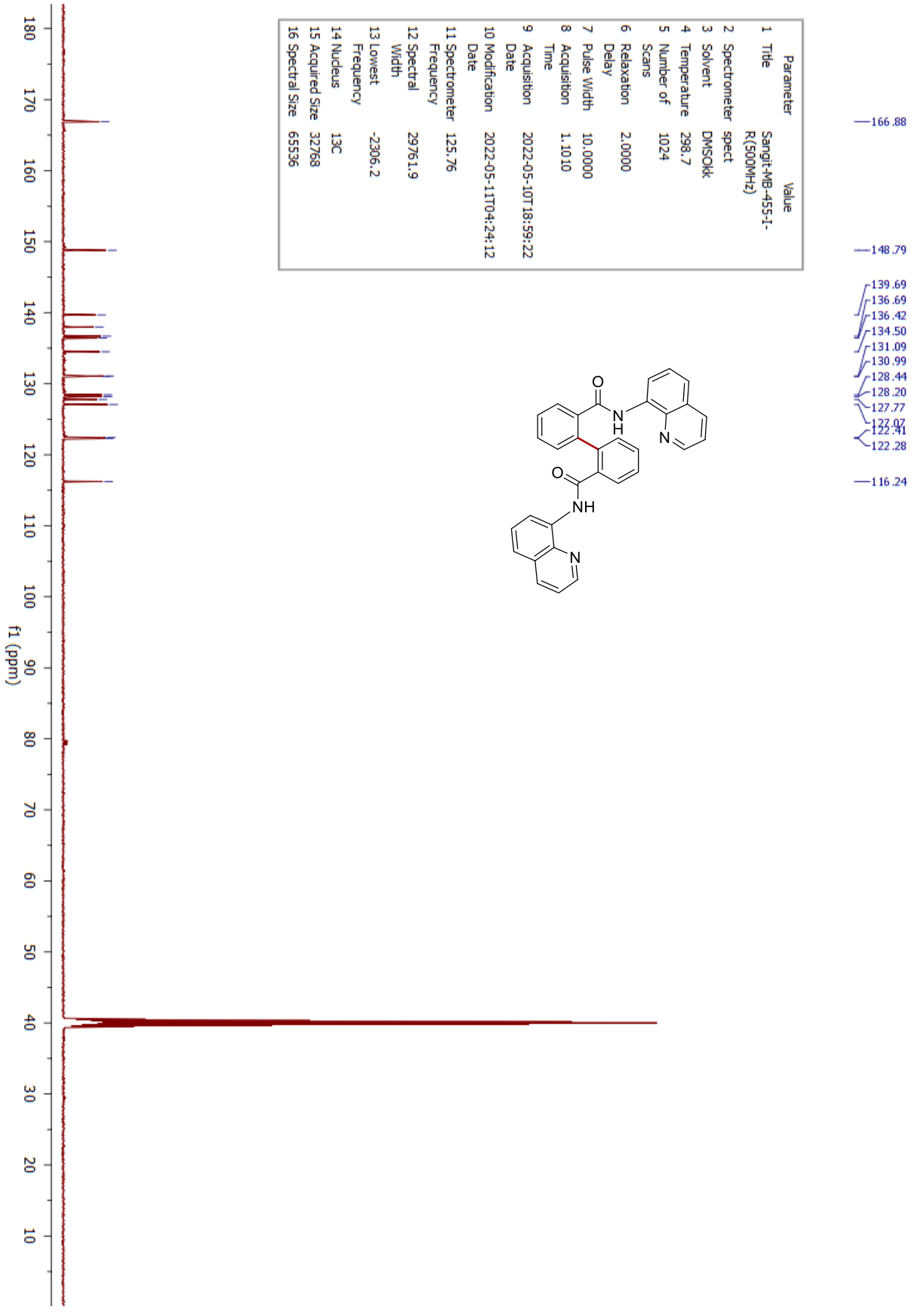
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.2 Bar
Focus	Active	Set Capillary	4500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	6.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	130.0 Vpp	Set Divert Valve	Waste



^{1}H NMR spectra of **2q**



^{13}C NMR spectra of **2q**



HRMS spectra of **2q**

Display Report

Analysis Info

Analysis Name	D:\Data\new user data 2021\july-2021\14-july\Dr.S.Kumar-MB-02-445-IR.d	Acquisition Date	7/14/2021 4:12:00 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-02-445-IR	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
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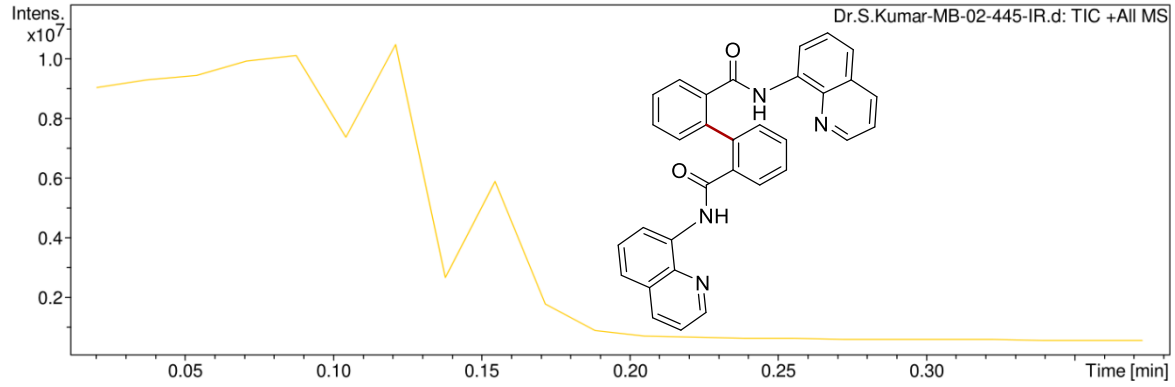
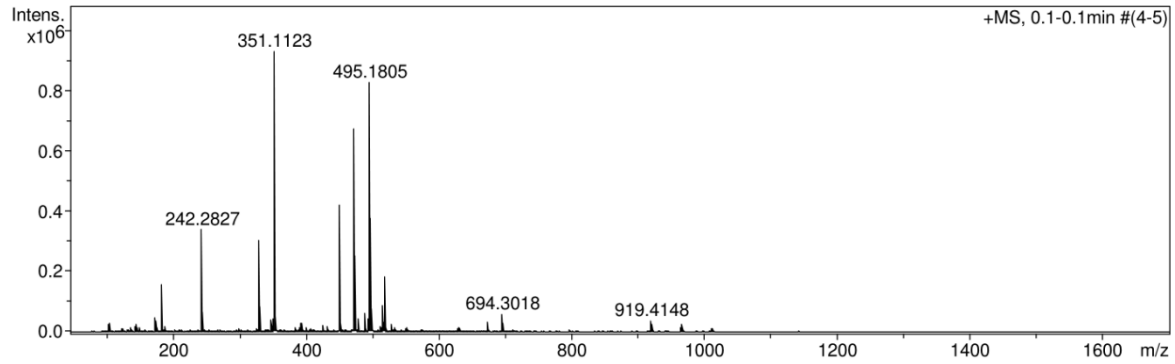
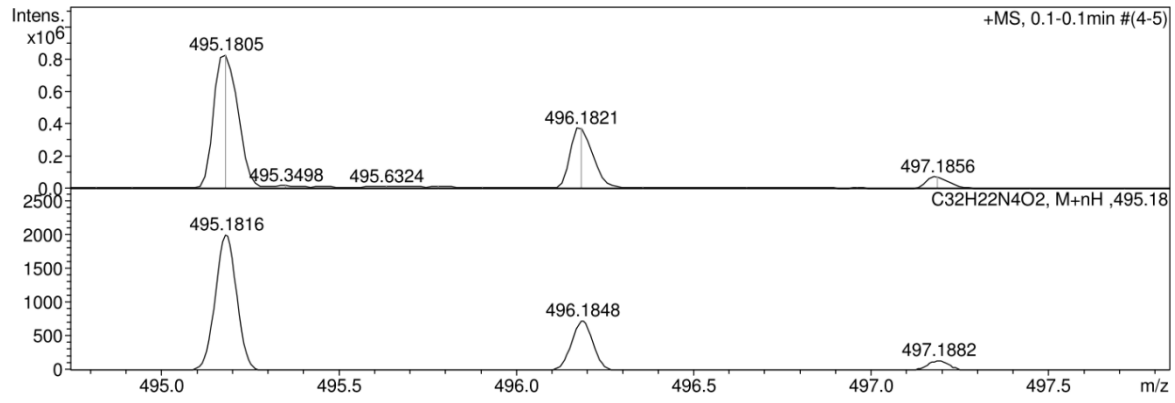
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Source







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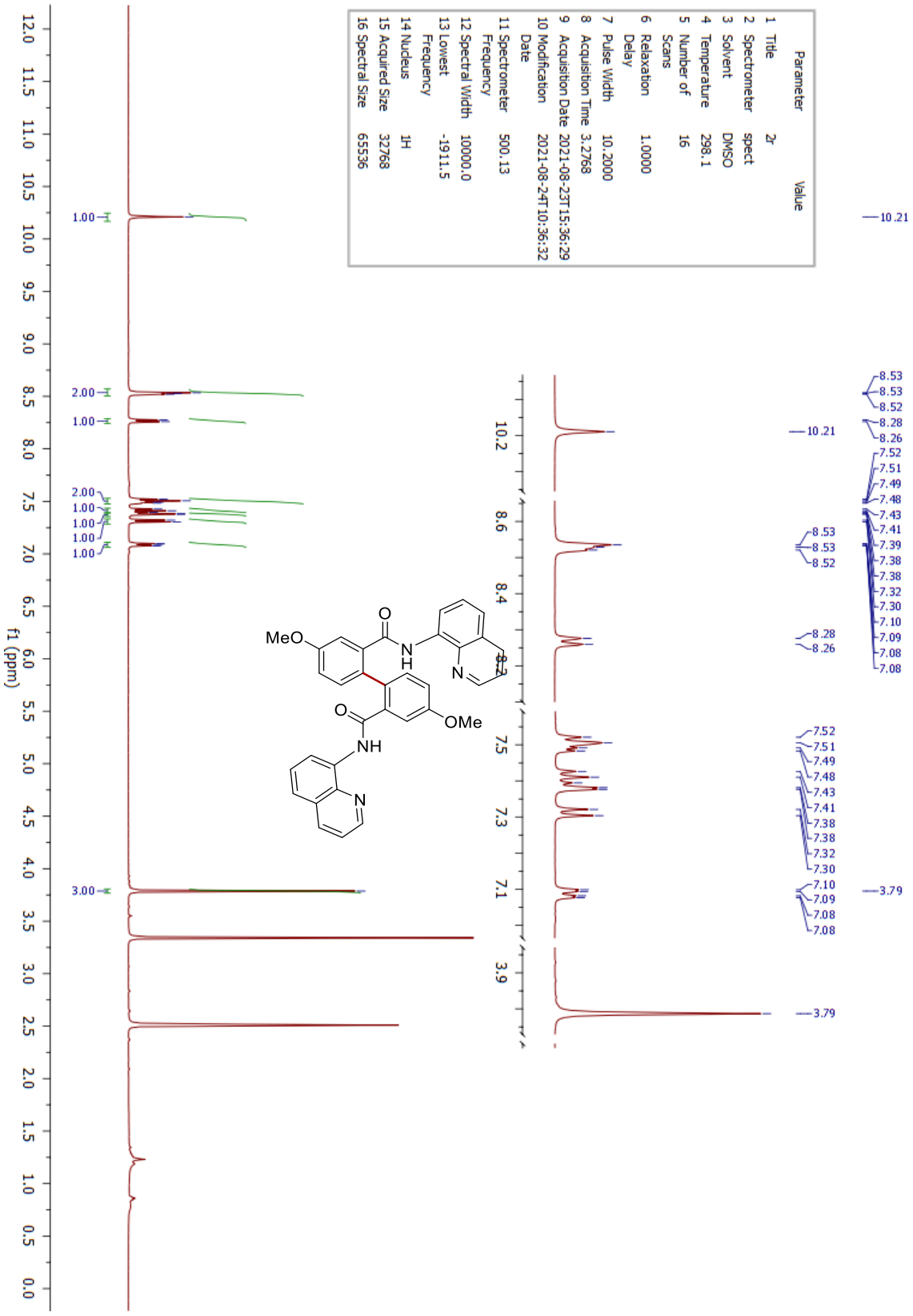
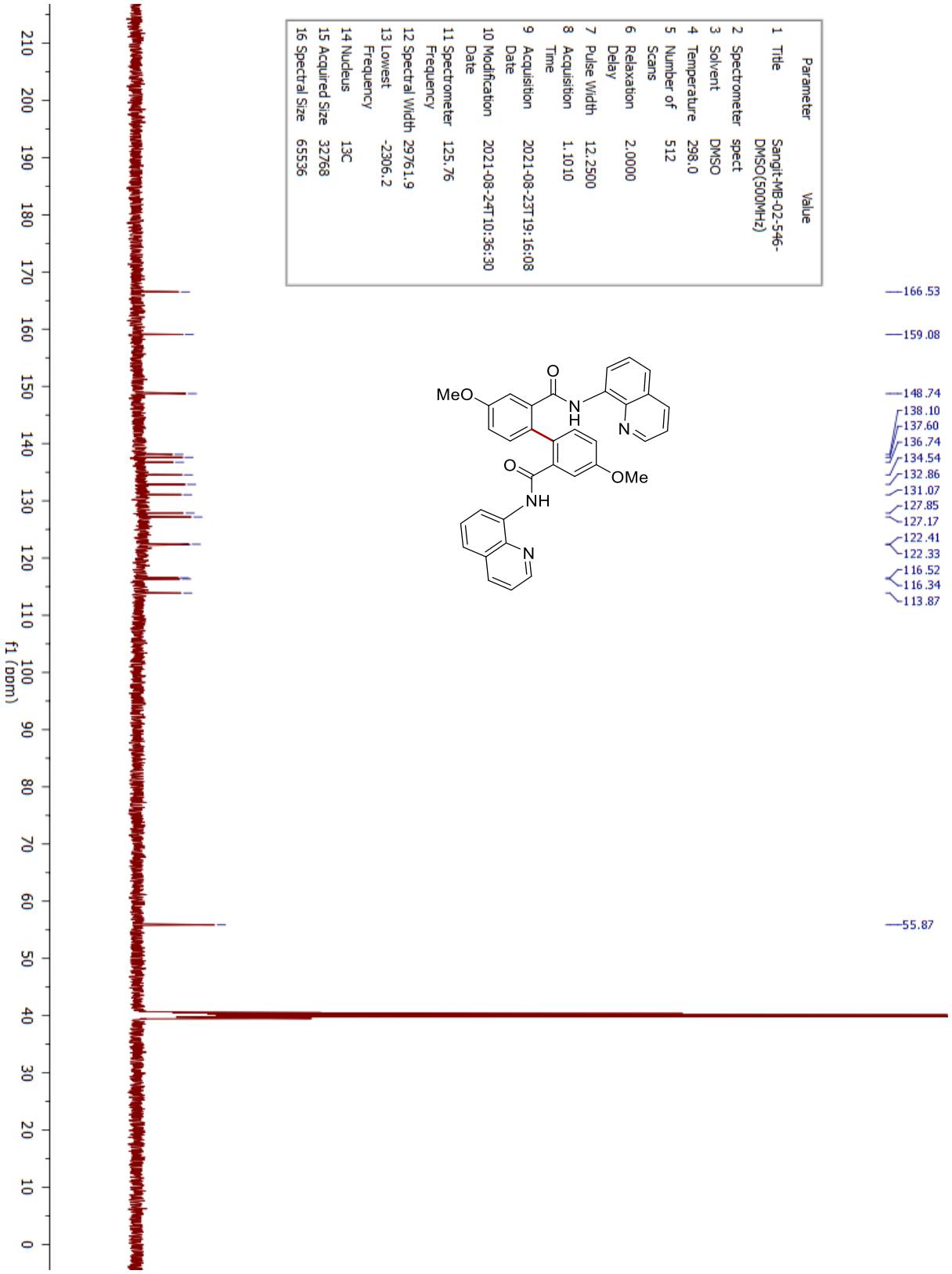
^{1}H NMR spectra of **2r**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **2r**



HRMS spectra of **2r**

Display Report

Analysis Info

Acquisition Date	9/1/2021 12:52:43 PM		
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Method	hrlcms-20 sept--union-01-sept-2021.m	Operator	RUCHI
Sample Name	Dr.S.Kumar-MB-02-556B	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
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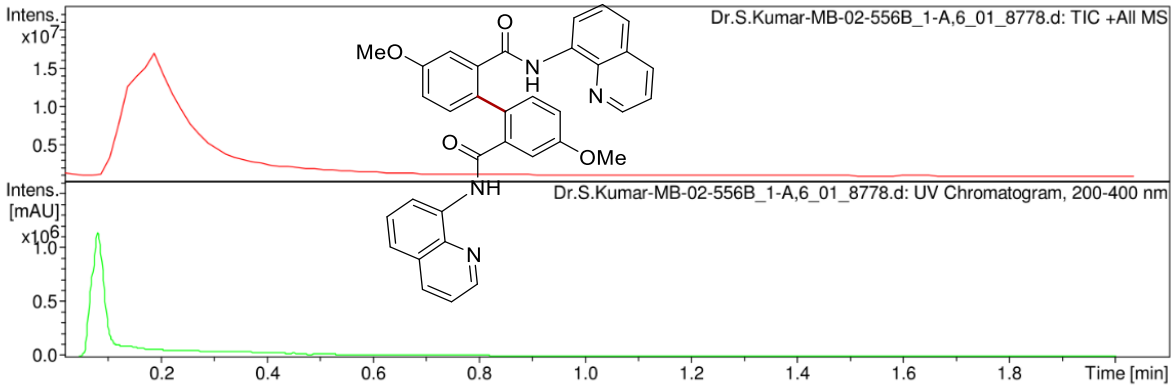
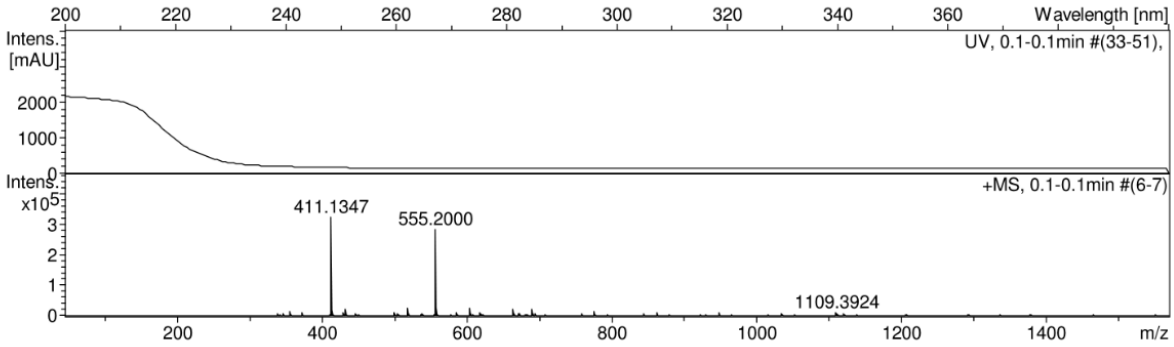
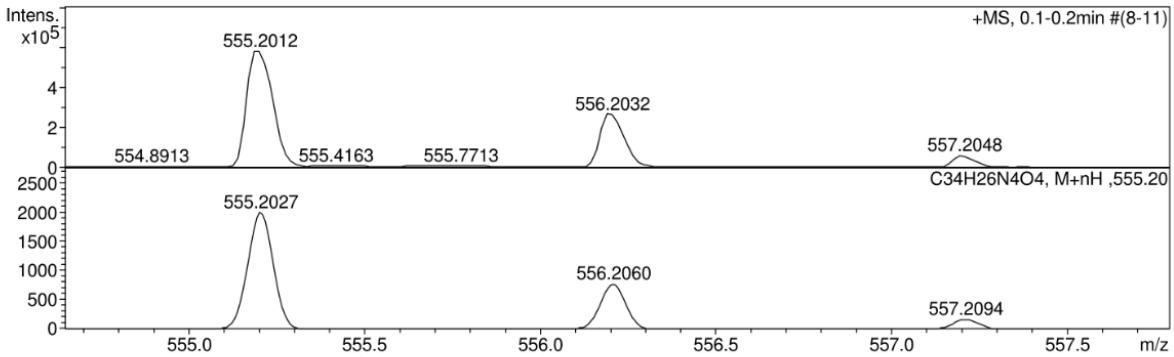
Scan End	3000 m/z	Set Collision Cell RF	600.0 Vpp	Set Divert Valve	Waste







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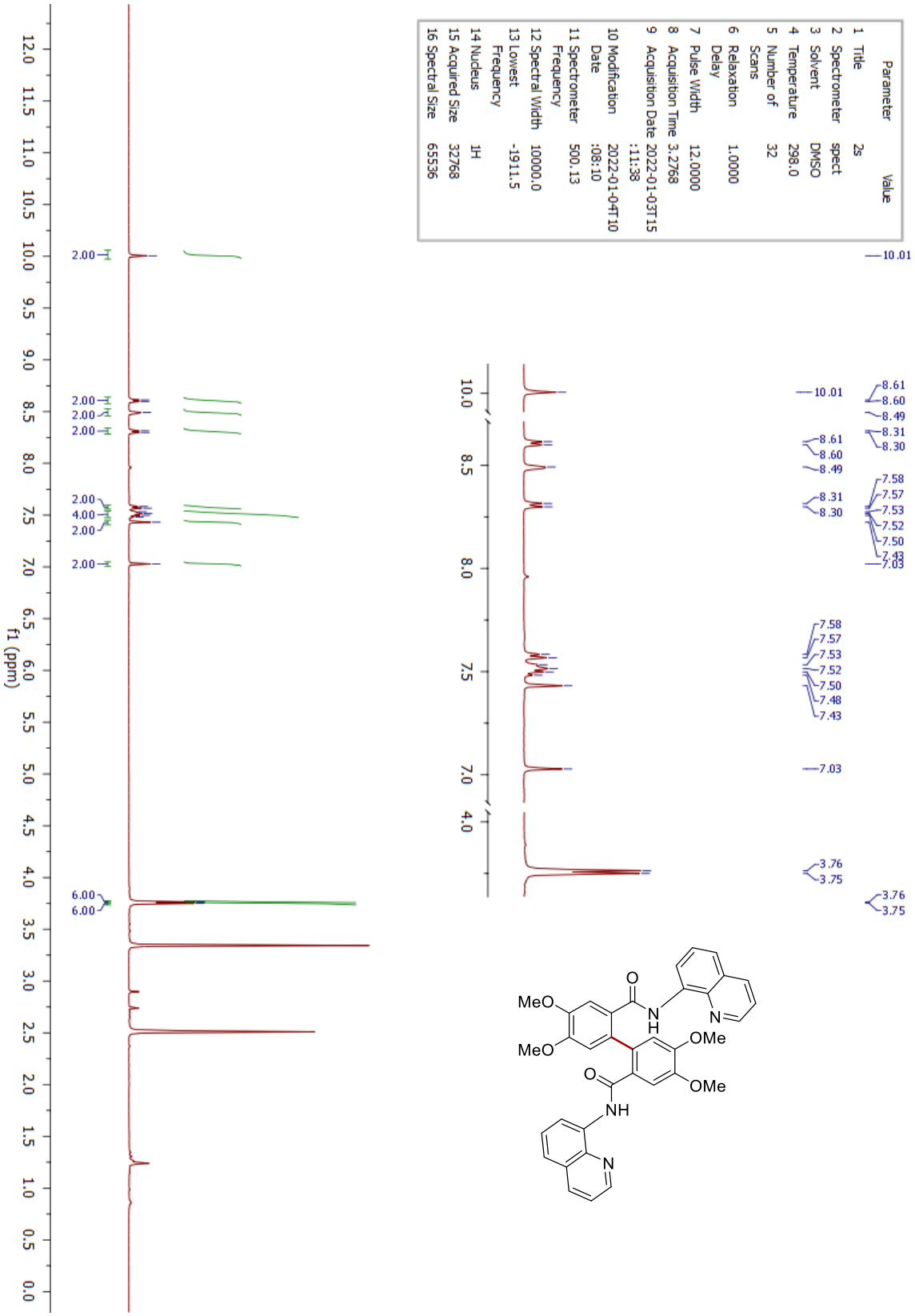
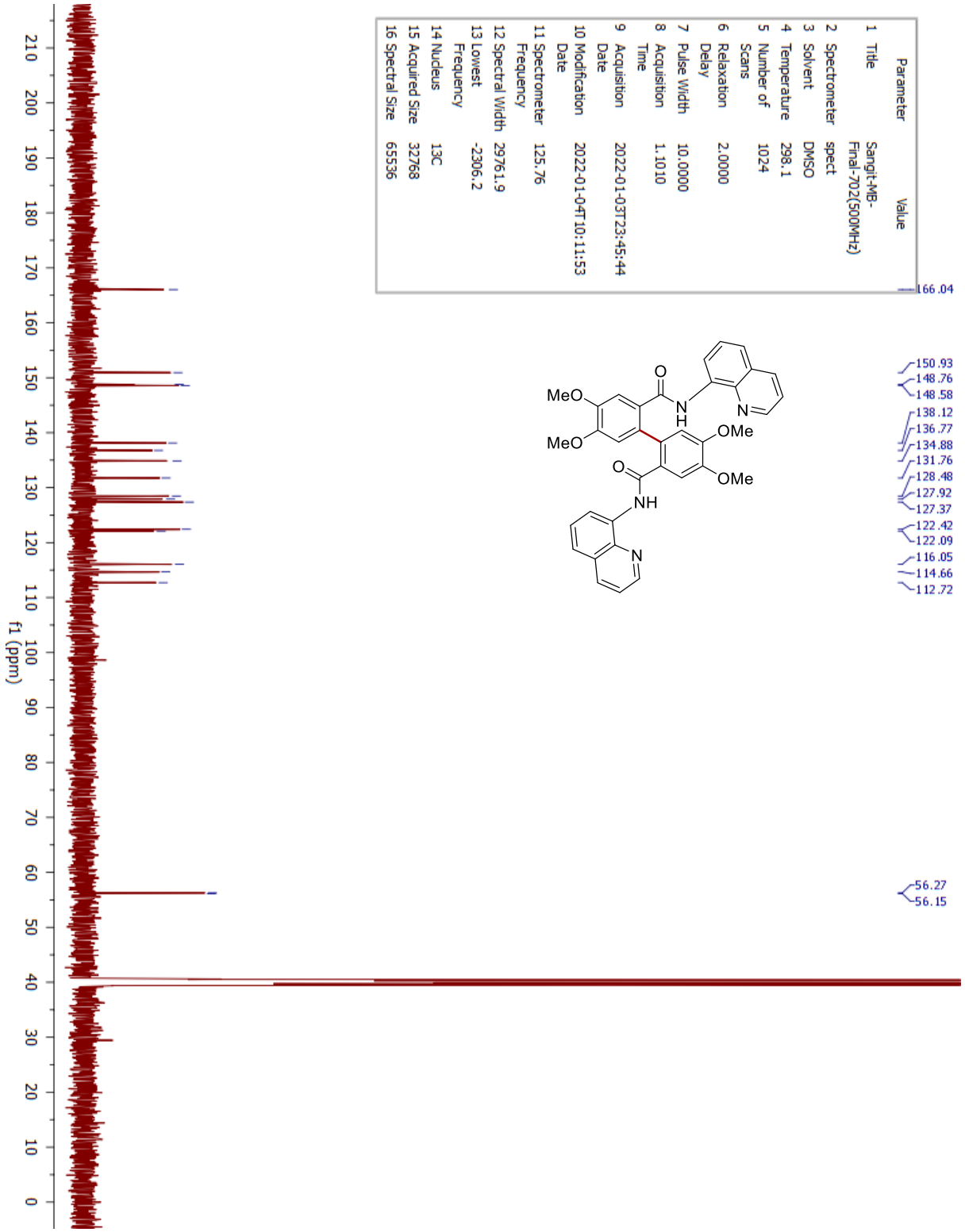
^{1}H NMR of **2s**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR of **2s**


Parameter Value
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2 Spectrometer spect
3 Solvent DMSO
4 Temperature 298.1
5 Number of Scans 1024
6 Relaxation Delay 2.0000
7 Pulse Width 10.0000
8 Acquisition Time 1.1010
9 Acquisition Date 2022-01-03T23:45:44
10 Modification Date 2022-01-04T10:11:53
11 Spectrometer Frequency 125.76
12 Spectral Width 29761.9
13 Lowest Frequency -2306.2
14 Nucleus 13C
15 Acquired Size 32768
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166.04
150.93
148.76
148.58
138.12
136.77
134.88
131.76
128.48
127.92
127.37
122.42
122.09
116.05
114.66
112.72
56.27
56.15
MeO
MeO
OMe
OMe
O
N
H
NH
N
O
N
f1 (ppm)

HRMS spectra of **2s**

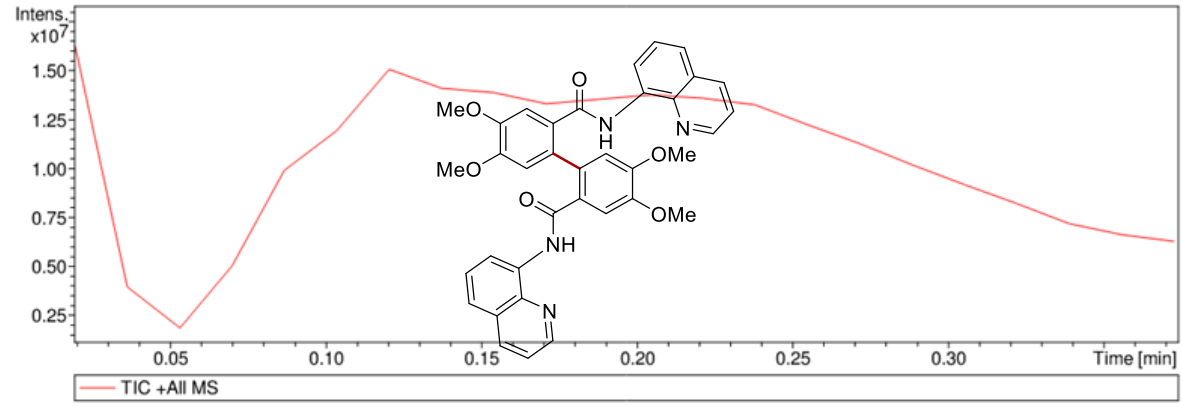
Display Report

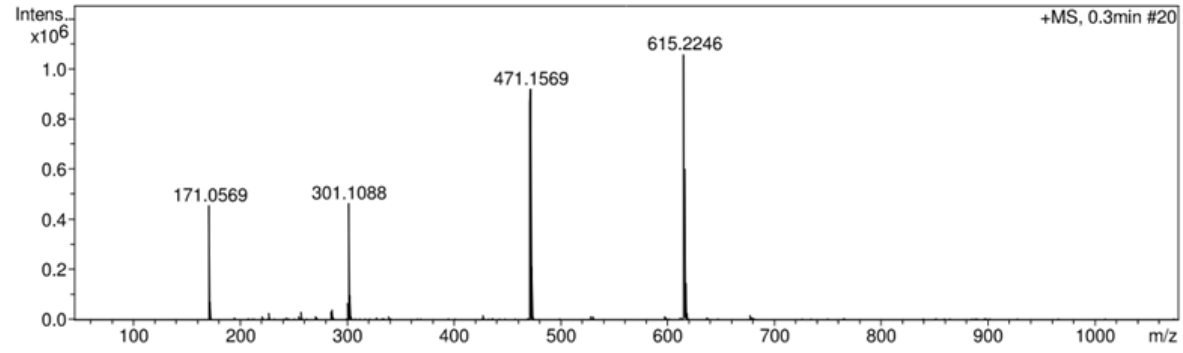
Analysis Info

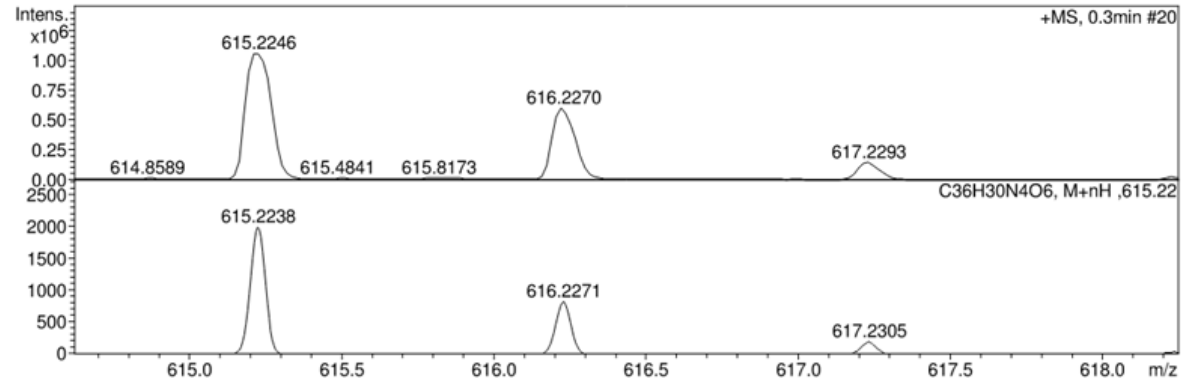
Analysis Name	D:\Data\new user data 2021\Dec-2021\29-dec\Prof S Kumar-MB-702-CCR.d	Acquisition Date	12/29/2021 12:28:04 PM
Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-702-CCR	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

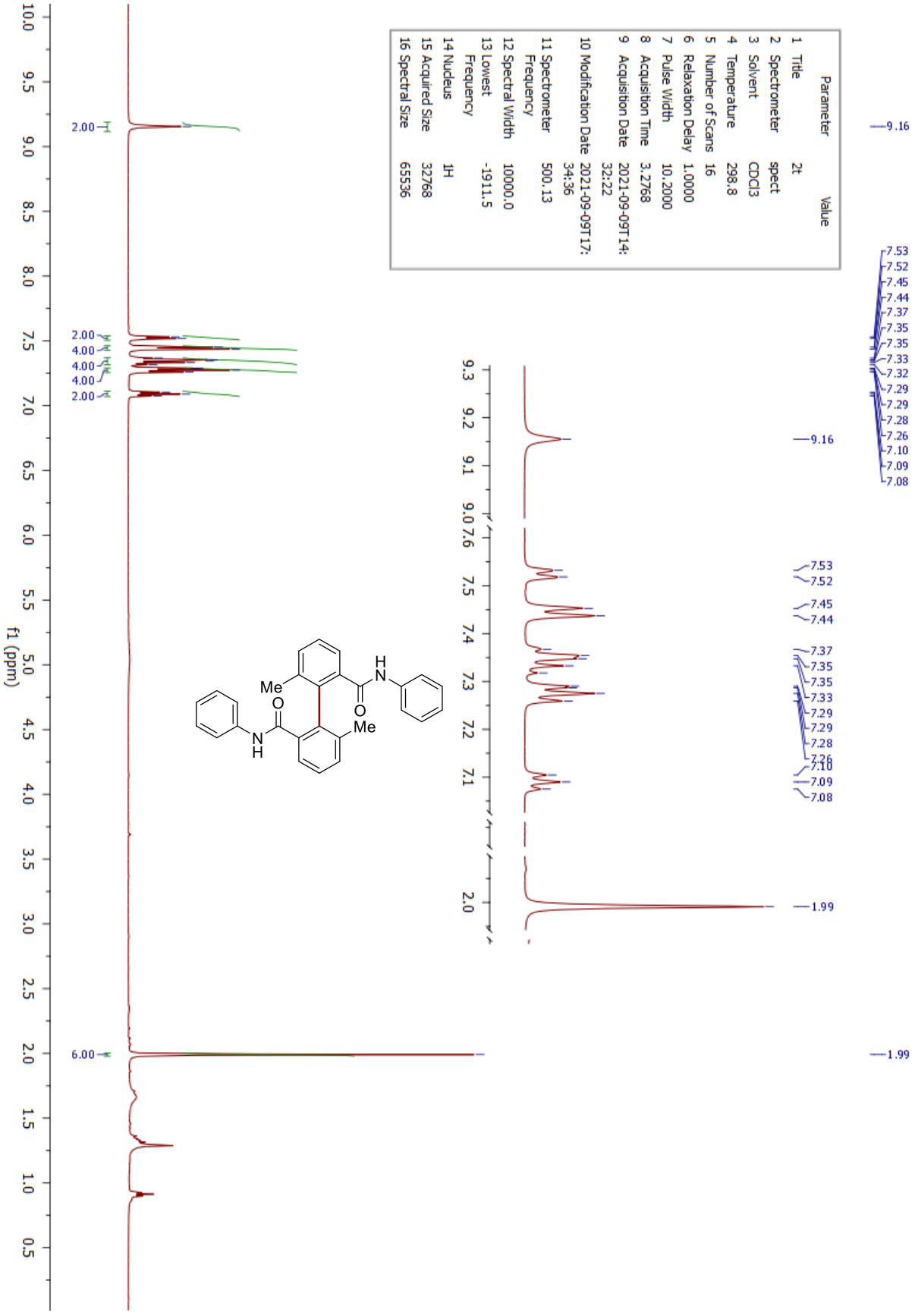
Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
Focus	Not active	Set Capillary	4600 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	300.0 Vpp	Set Divert Valve	Waste



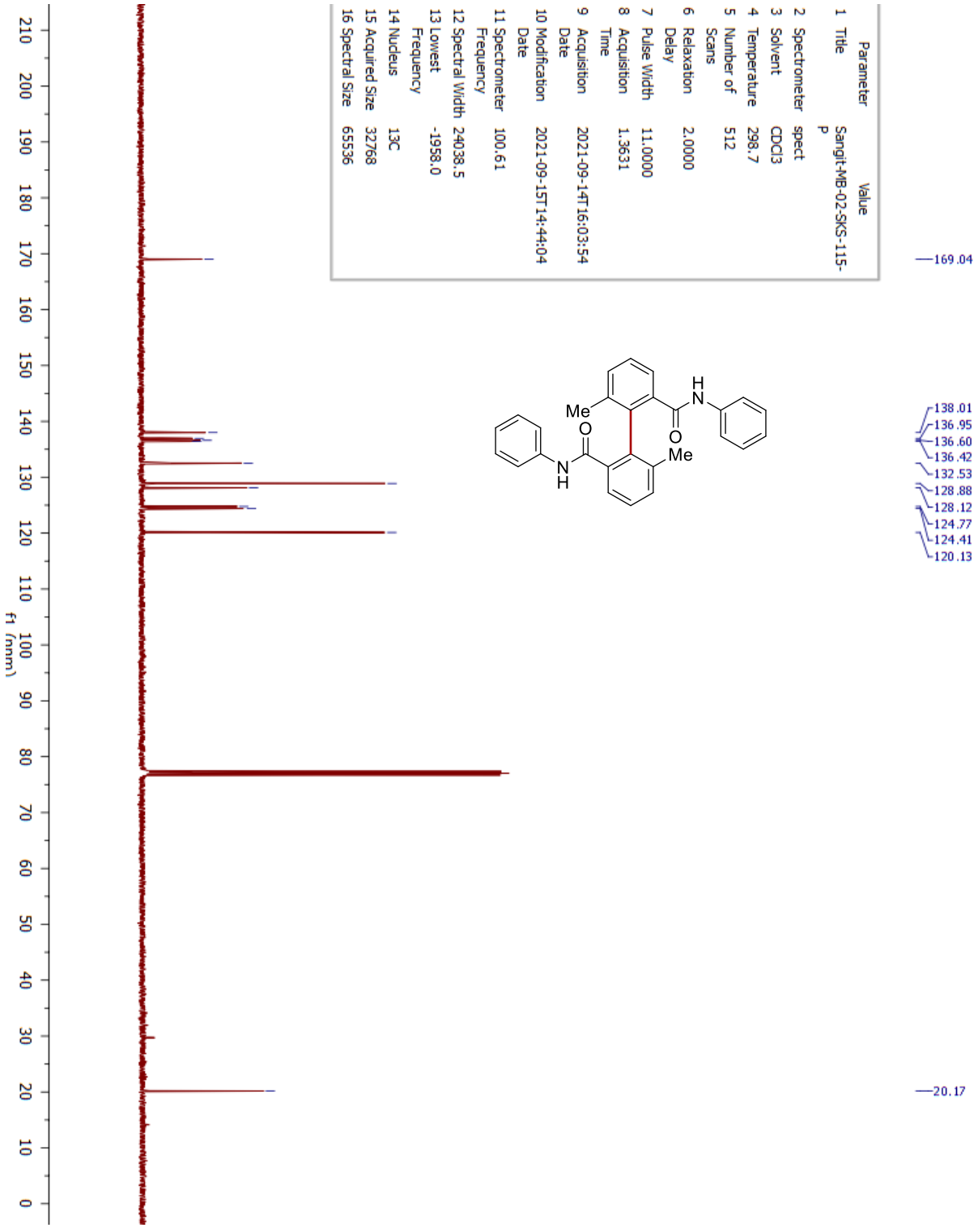




^{1}H NMR spectra of **2t**



^{13}C NMR spectra of **2t**



HRMS spectra of **2t**

Display Report

Analysis Info

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Analysis Name	D:\Data\new user data 2021\Sept-2021\09-sept\Dr.S.Kumar-SKS-MB-115_1-B,4_01_9083.d		
Method	hrlcms-20 sept--union-tune low apci-02-sept-2021.m	Operator	RUCHI
Sample Name	Dr.S.Kumar-SKS-MB-115	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	Multi Mode	Ion Polarity	Positive	Set Nebulizer	2.0 Bar
Focus	Not active	Set Capillary	2500 V	Set Dry Heater	200 °C
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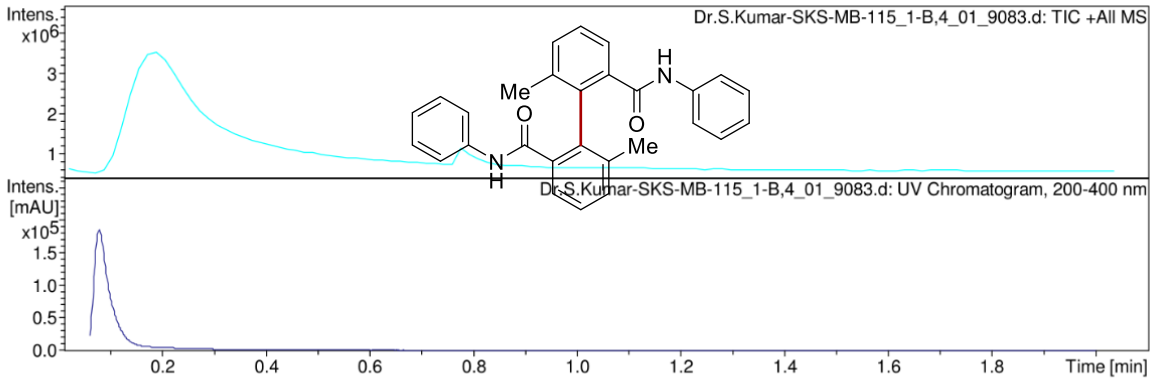
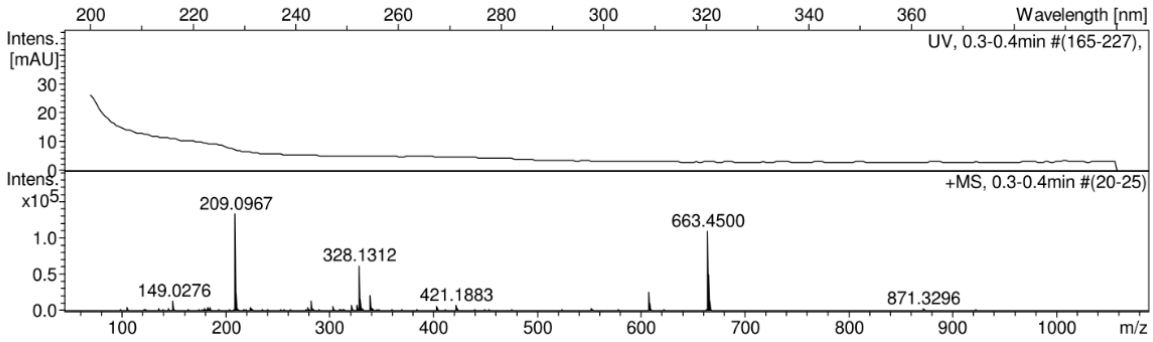
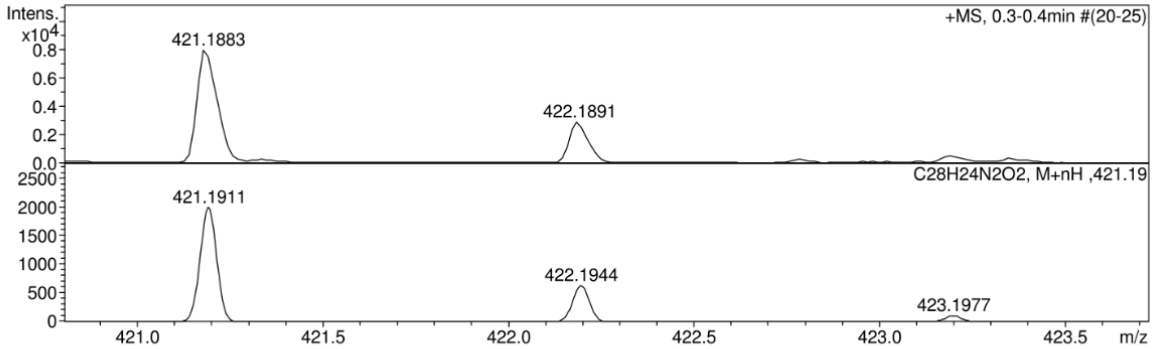
Scan End	3000 m/z	Set Collision Cell RF	150.0 Vpp	Set Divert Valve	Waste







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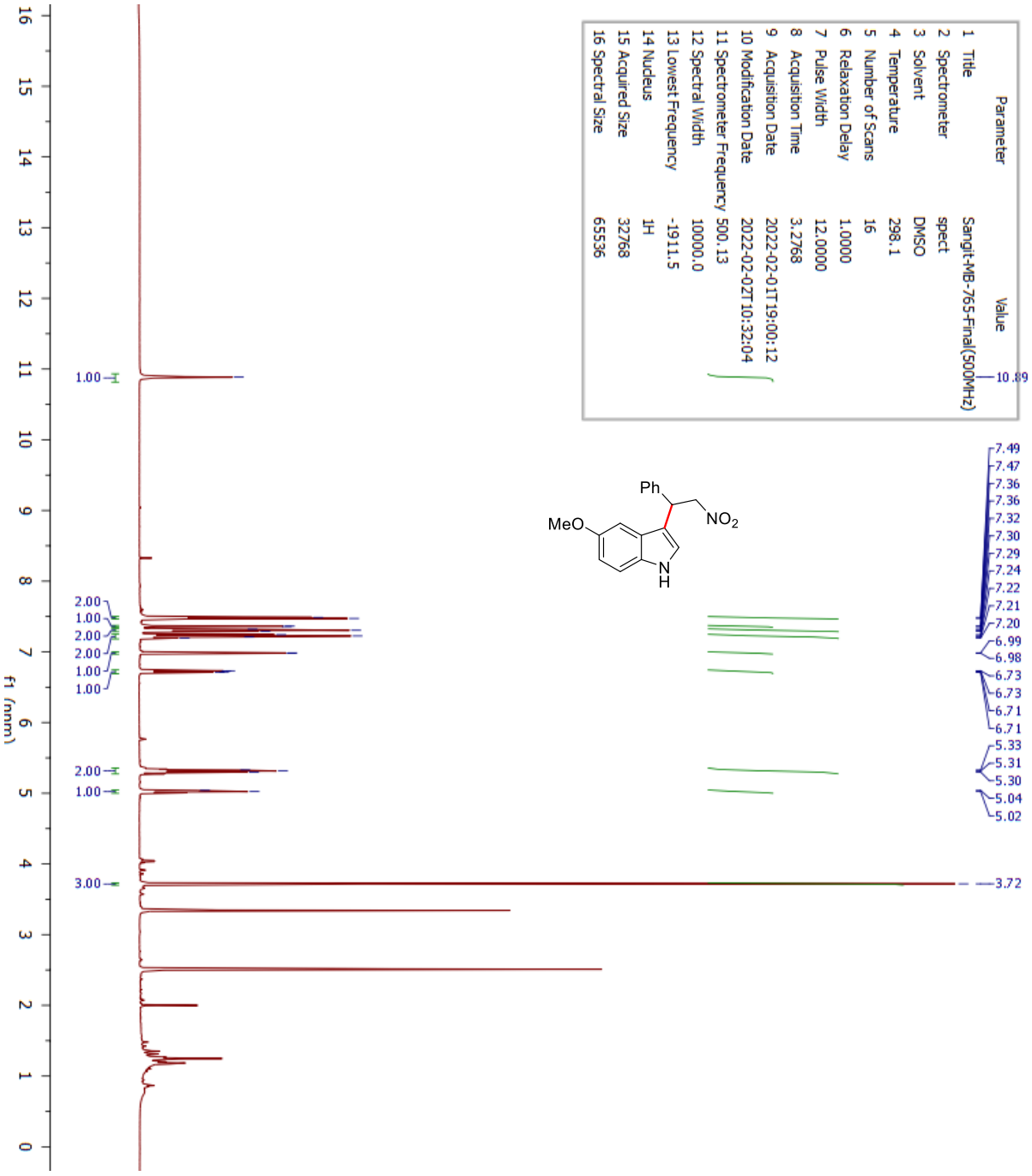
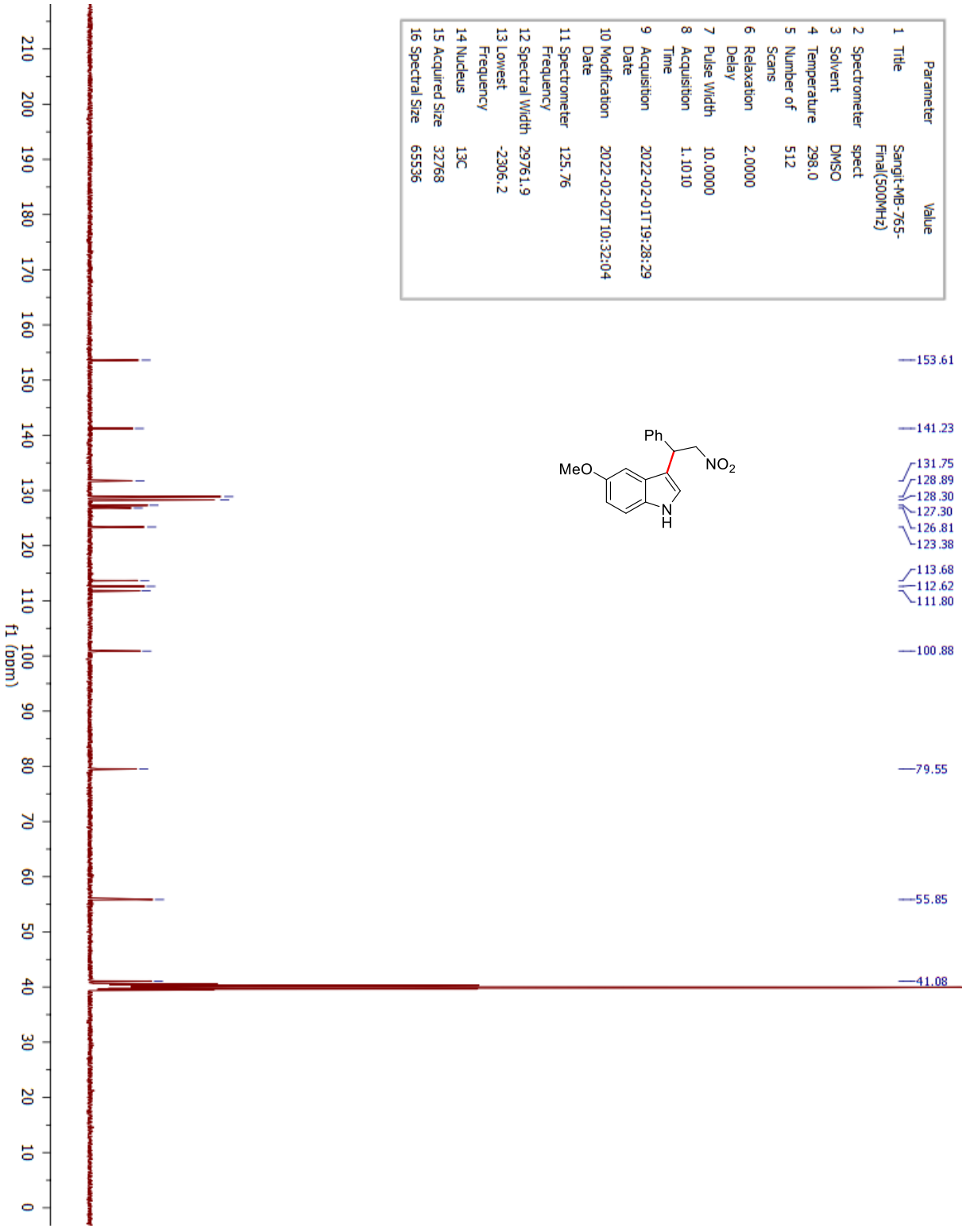
^{1}H NMR spectra of **3**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively.

^{13}C NMR spectra of **3**



HRMS specta of **3**

Display Report

Analysis Info

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Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-765-R	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

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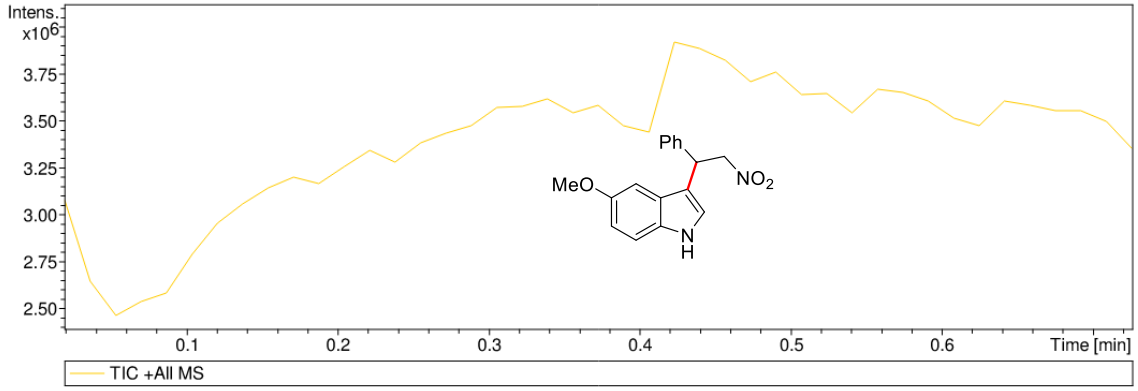
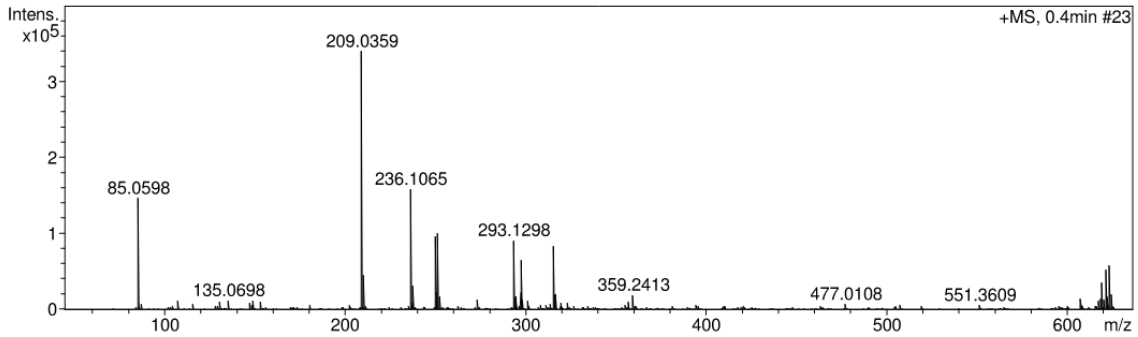
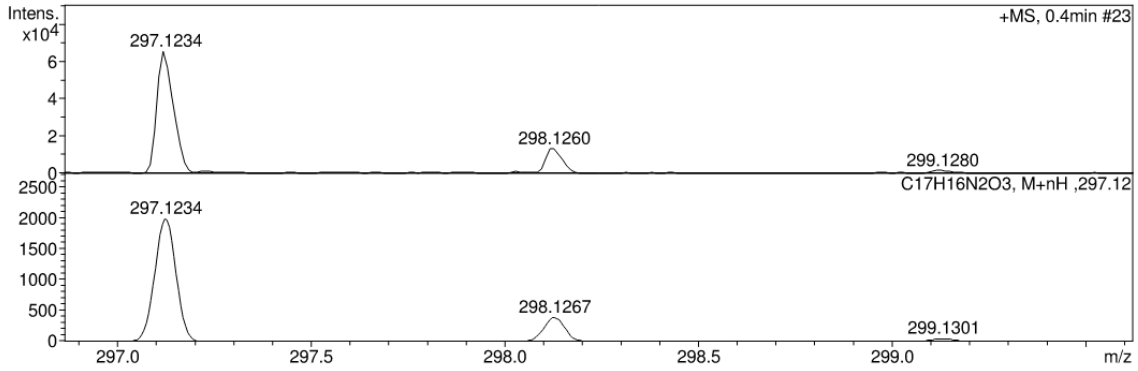
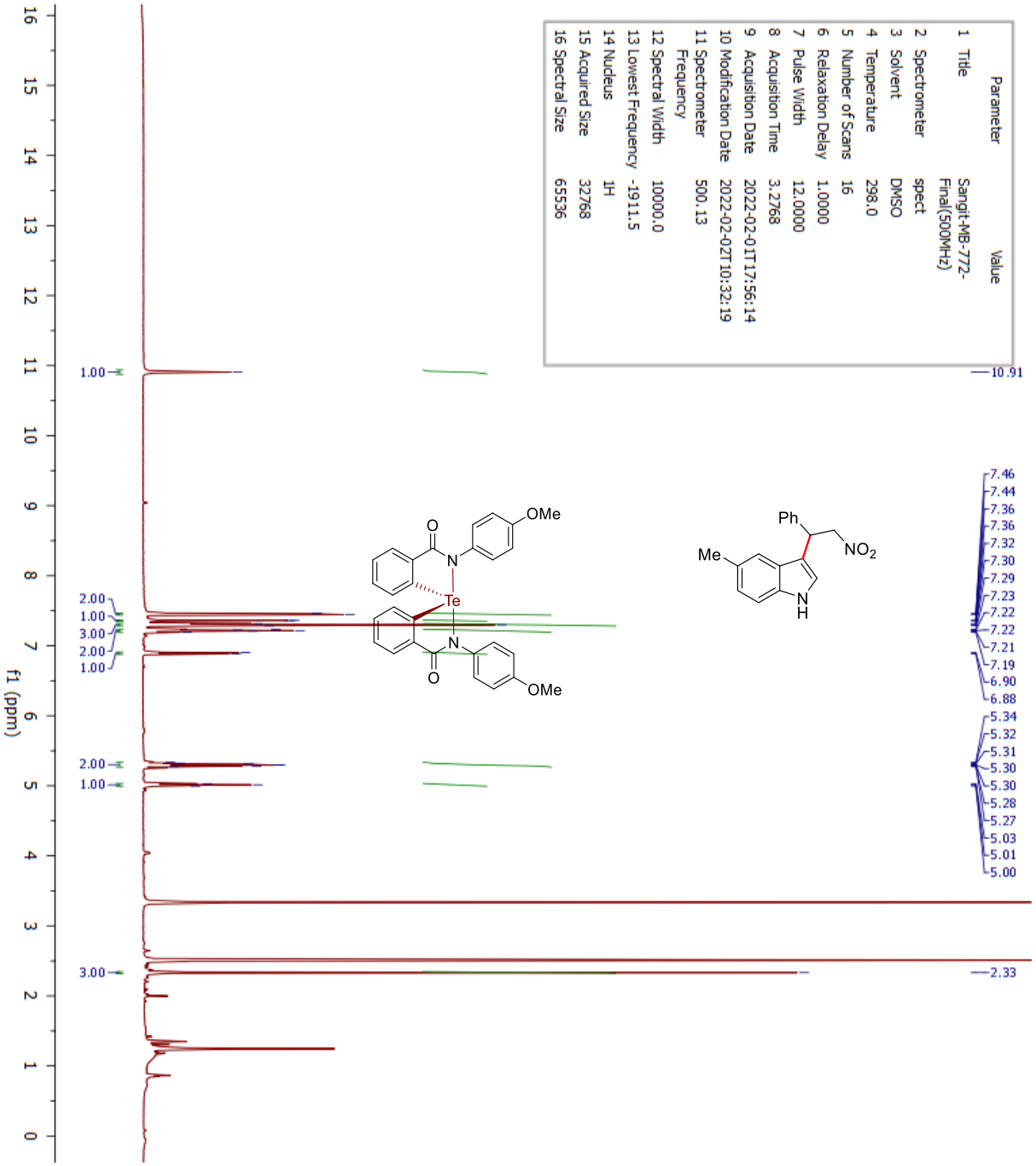




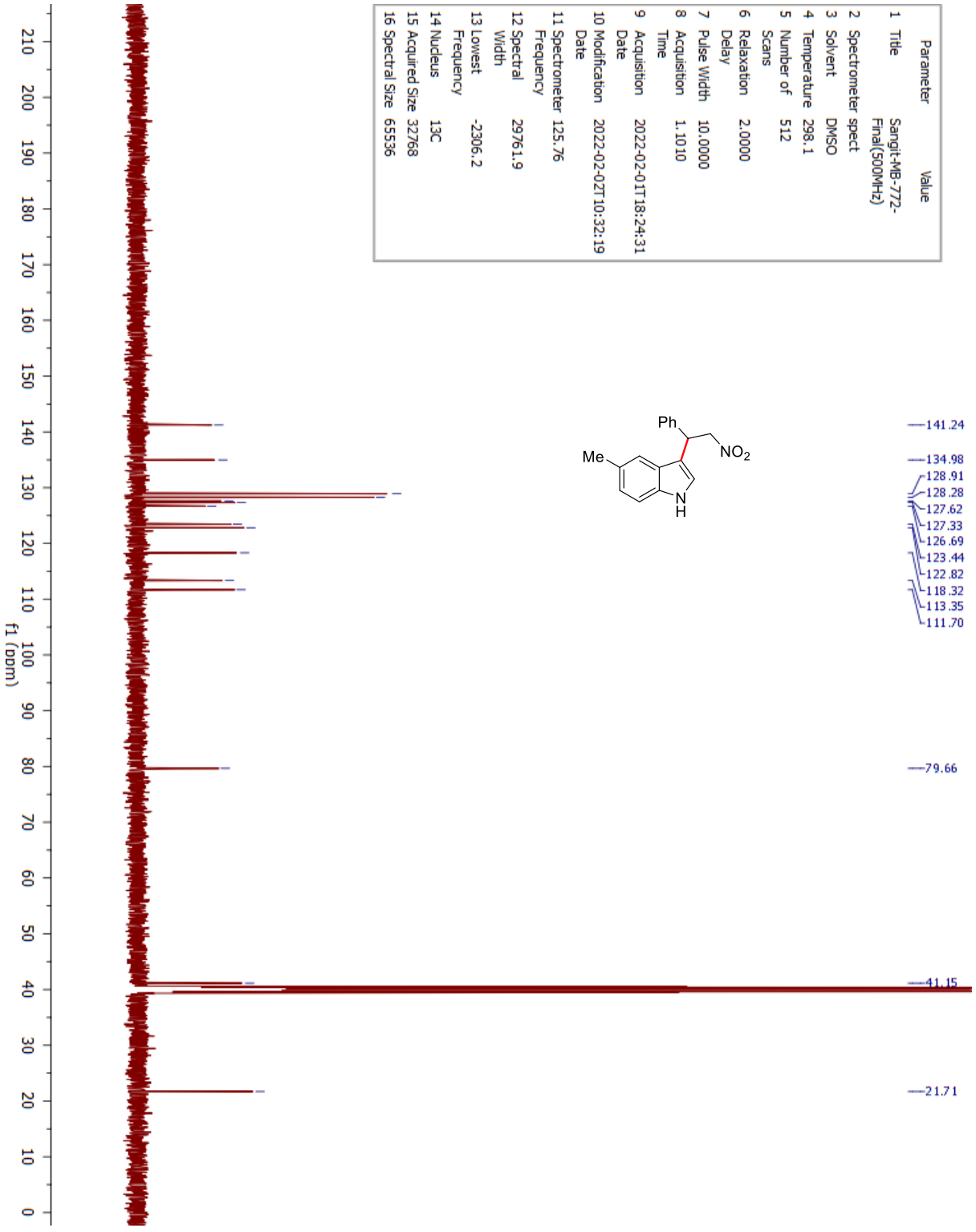


^{1}H NMR spectra of **4**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively. Peaks at 0.88 and 1.27 correspond to grease

^{13}C NMR spectra of **4**



HRMS specta of **4**

Display Report

Analysis Info

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Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-772	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	0.4 Bar
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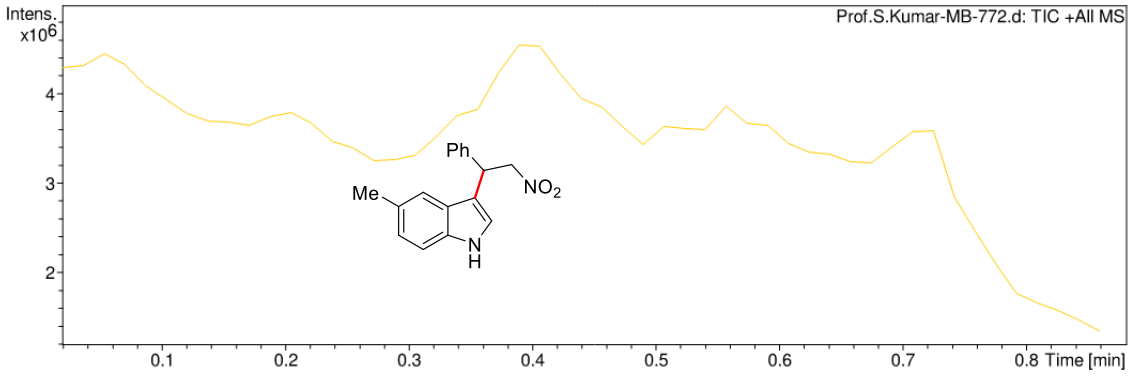
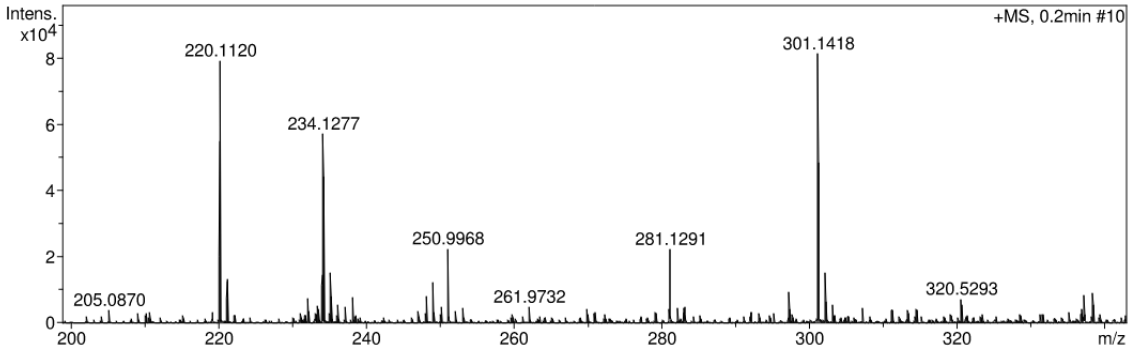
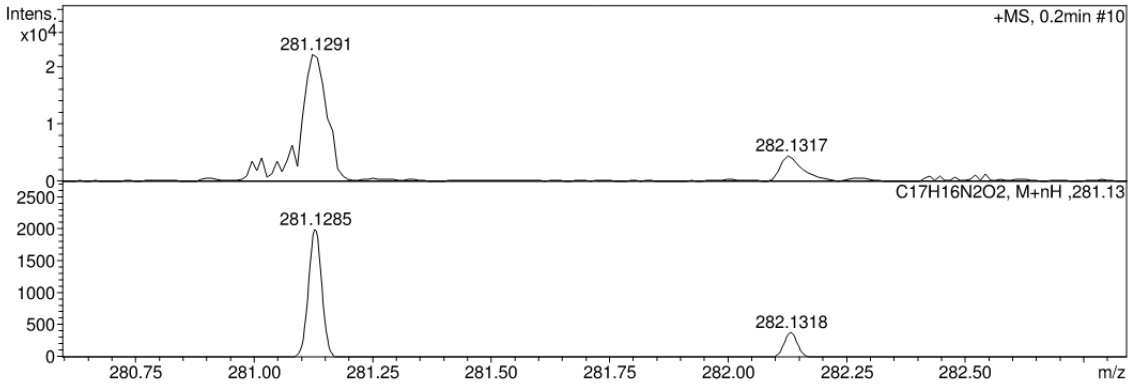
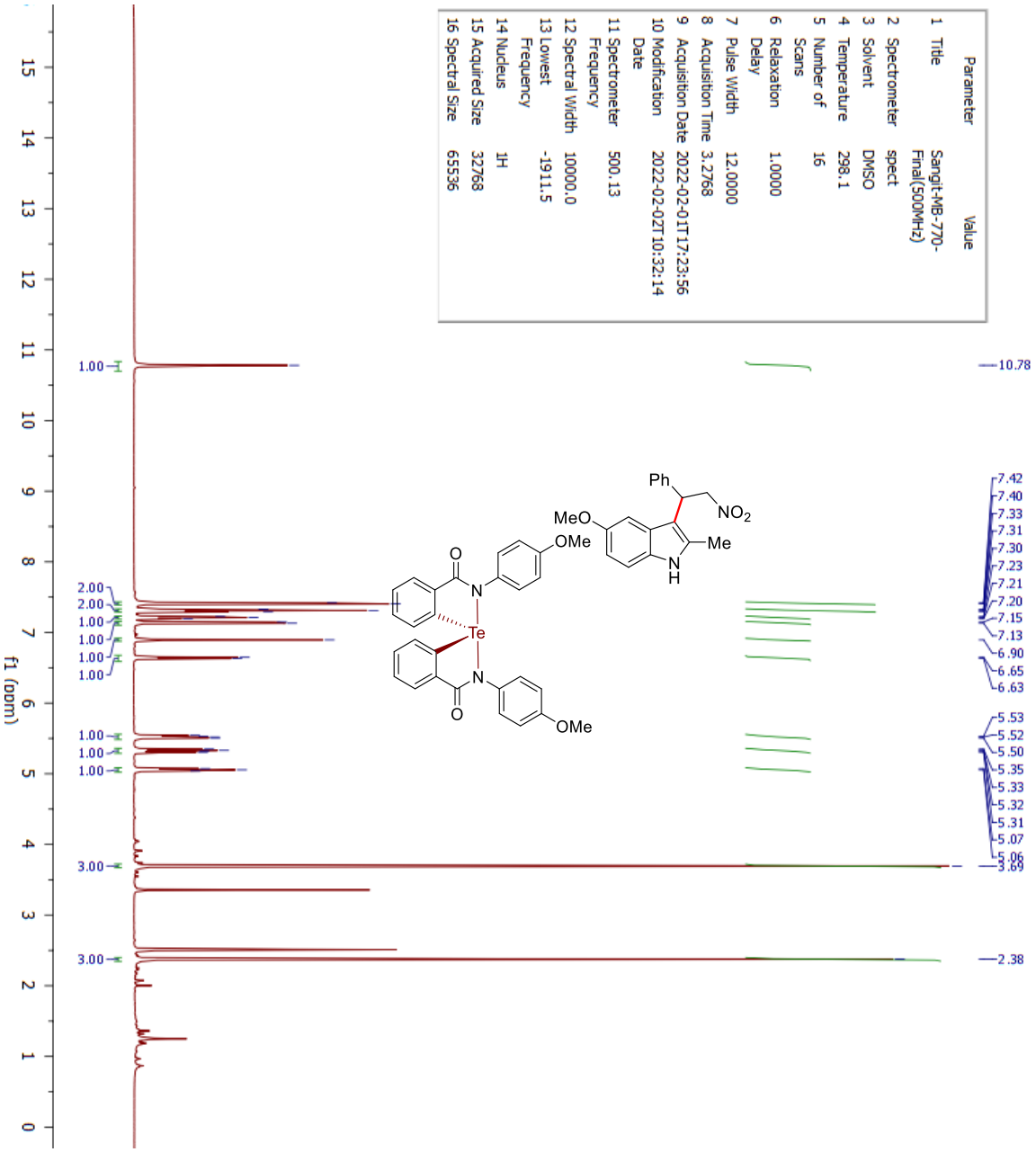
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Source





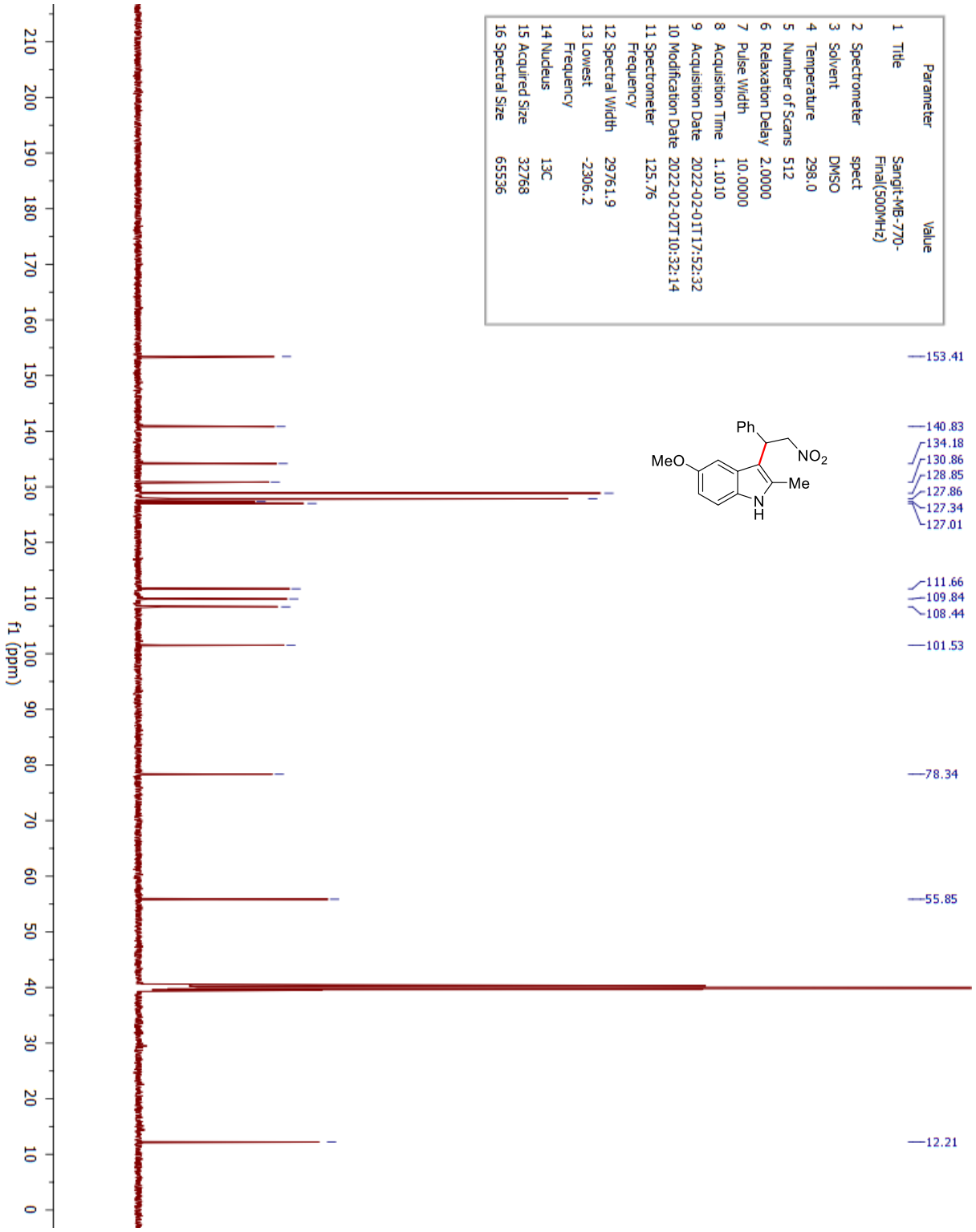


^{1}H NMR spectra of **5**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **5**



HRMS spectra of **5**

Display Report

Analysis Info

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Method	tune mix_low.New.021117.m	Operator	RUCHI
Sample Name	MB-770	Instrument	micrOTOF-Q II 10330
Comment			

Acquisition Parameter

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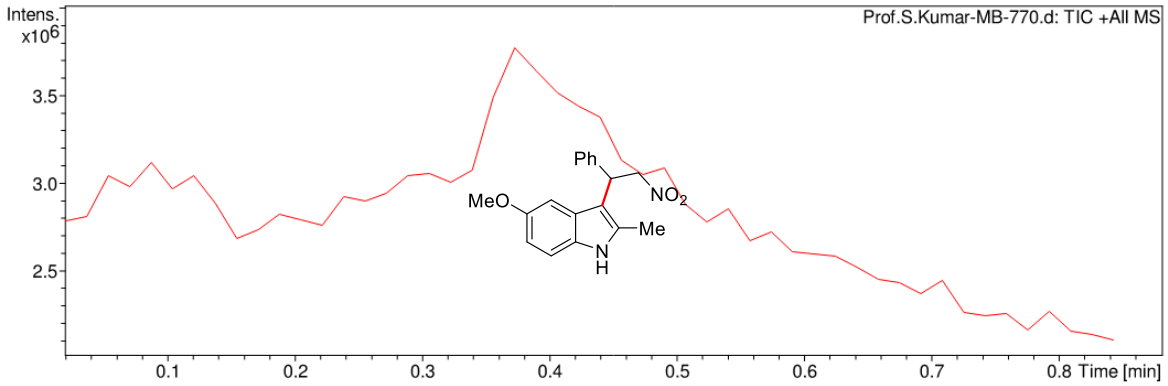
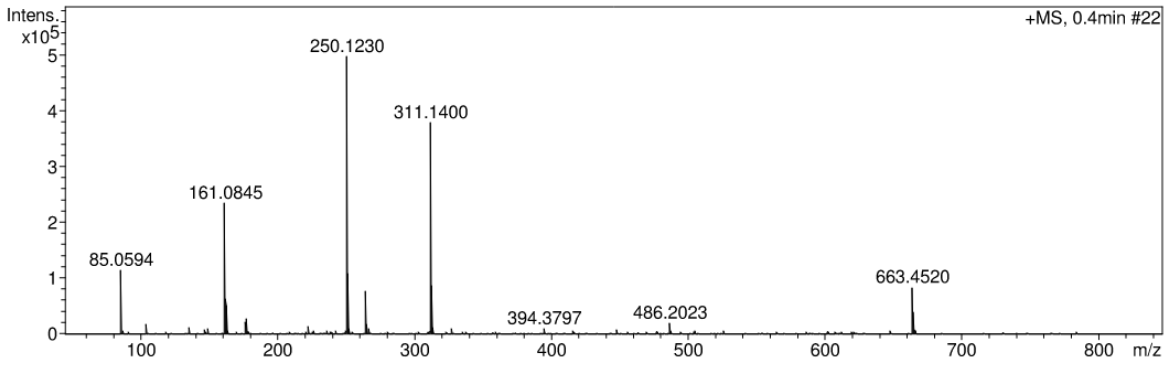
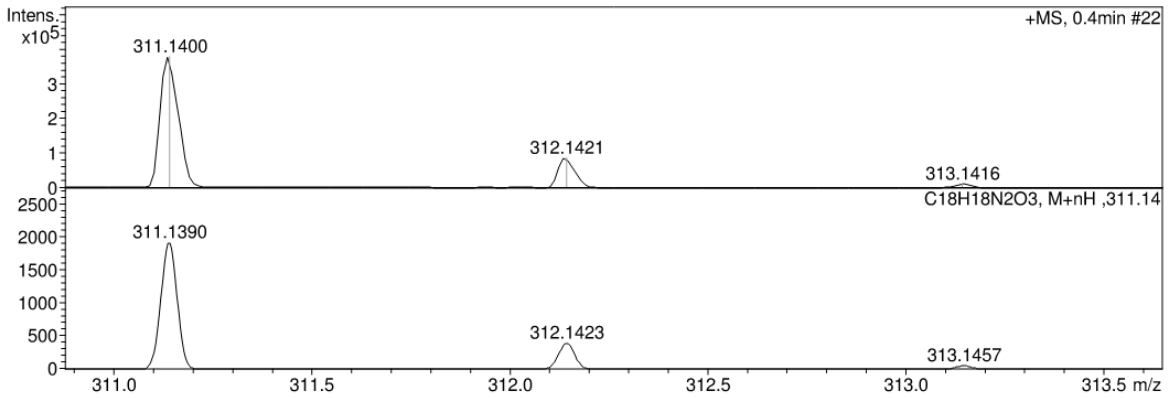
Scan End	3000 m/z	Set Collision Cell RF	100.0 Vpp	Set Divert Valve	Source







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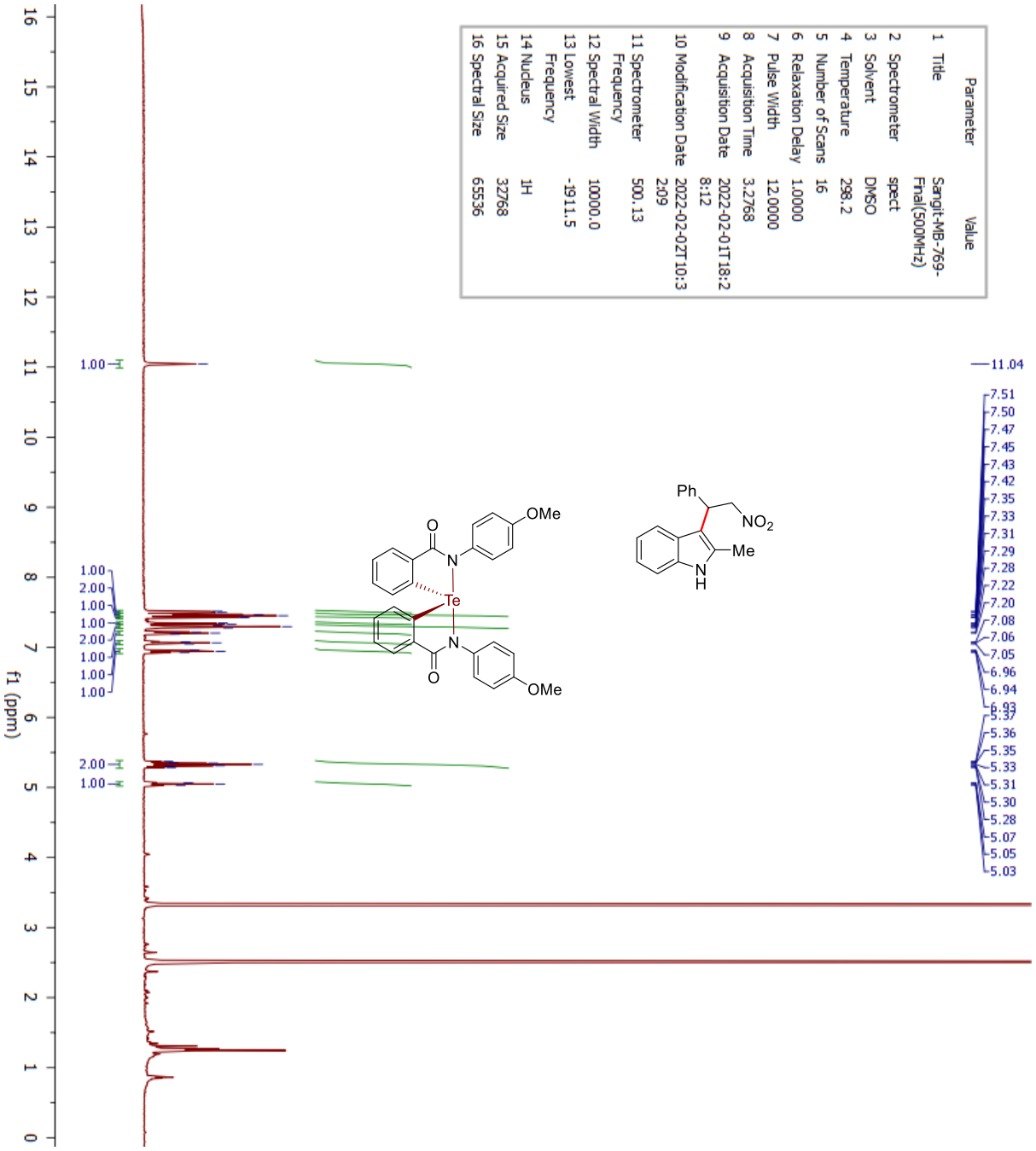
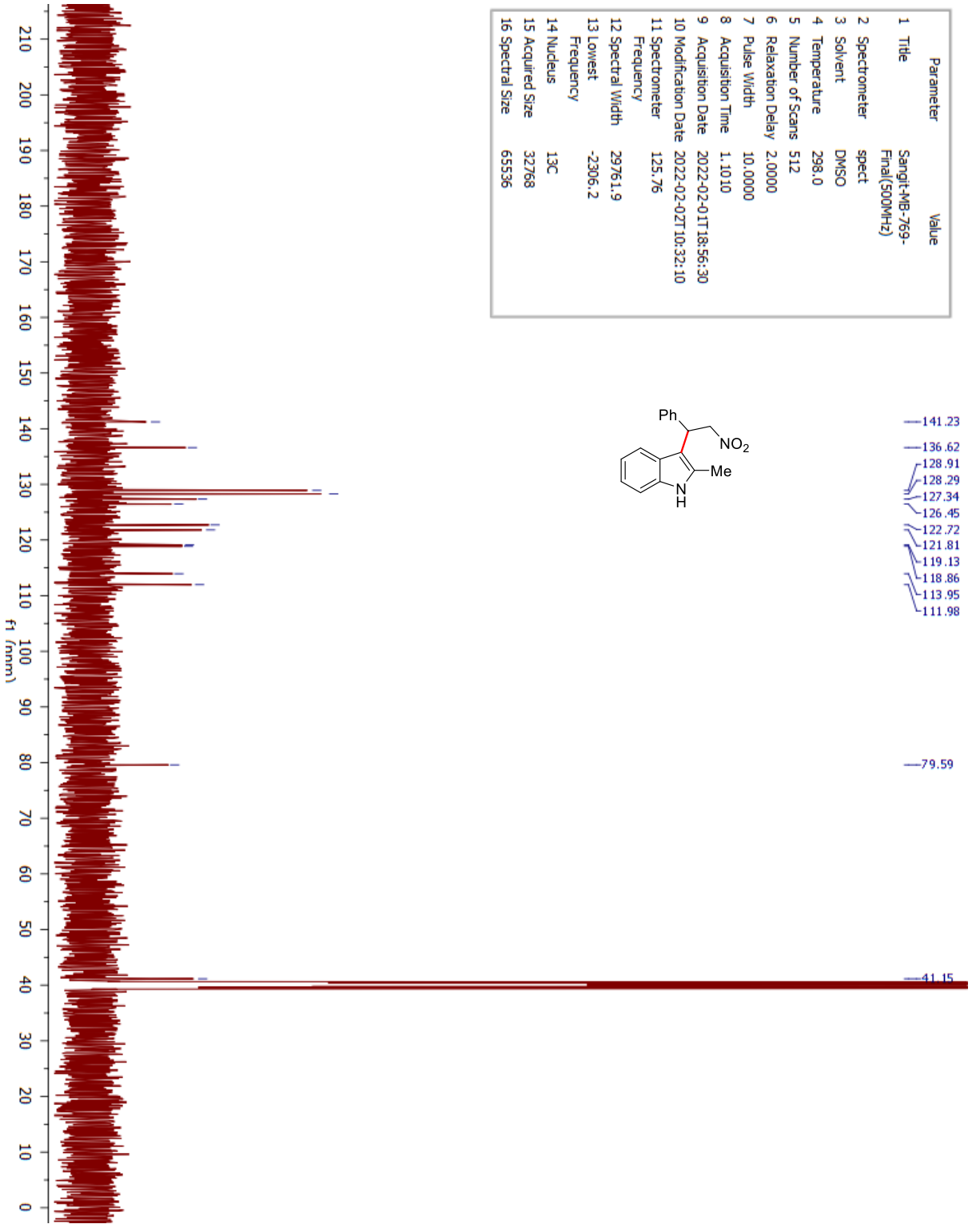
^{1}H NMR spectra of **6**



Peaks at 2.51 and 3.33 correspond to DMSO-d_6 residual peak and water respectively

^{13}C NMR spectra of **6**



Crystallographic details:

Table S4. Crystal data of spirodiazatellurane **1b**, **1d** and **1k**

Parameters	**1b**	**1d**	**1k**
Emperical form	$C_{29}H_{24}Cl_2N_2O_2Te$	$C_{14}H_9Cl_2NOTe_{0.5}$	$C_{34}H_{26}D_{12}N_2O_8S_2Te$
Formula weight	631.00	341.92	806.46
Temperature/K	140(2)	140(2)	140(2)
Crystal System	triclinic	orthorhombic	monoclinic
Space group	P-1	Pbcn	C2/c
a/Å	9.0873(12)	14.5391(13)	22.1733(16)
b/Å	9.2550(11)	14.2888(13)	12.0567(8)
c/Å	15.856(2)	12.0108(12)	27.174(2)
α/°	79.731(5)	90	90
β/°	85.169(5)	90	110.649(3)
γ/°	88.589(5)	90	90
Volume/Å^3	1307.5(3)	2495.2(4)	6798.0(9)
Z	2	8	8
μ/mm^{-1}	1.372	1.653	1.052
F(000)	628	1344	3232
Radiation	Mo Kα λ = 0.71073 Å	Mo Kα λ = 0.71073 Å	Mo Kα λ = 0.71073 Å
2Θ range for data collection/°	2.249-30.558	3.392-30.083	1.976-29.583
Index ranges	-12<=*h*<=12,-11<=*k*<=13, -22<=*l*<=22	-16<=h<=20,-20<=k<=19,-16<=l<=16	-30<=h<=30,-16<=k<=16, -37<=l<=37
Reflection collected	33537	40257	75251
Independent reflections	7852	3648	9532
Data/restrains/parameters	7852 / 0 / 331	3648 / 0 / 168	9532 /294 /445
Goodness-of-fit on F^2	1.068	1.105	1.035

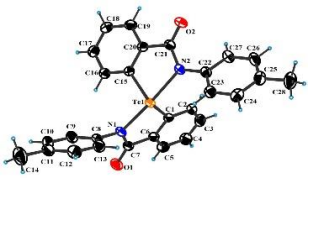
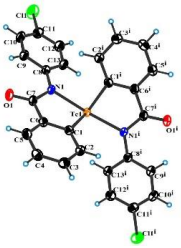
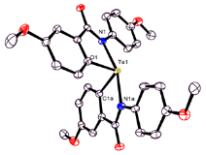
Final R indexes [$I \geq 2\sigma(I)$]	R1 = 0.0405, wR2 = 0.0872	R1 = 0.0334, wR2 = 0.0779	R1 = 0.0382, wR2 = 0.0913
Final R indexes [all data]	R1 = 0.0580, wR2 = 0.0951	R1 = 0.0417, wR2 = 0.0833	R1 = 0.0566, wR2 = 0.1037
R_{int}	0.0622	0.0752	0.0811
CCDC	2157185	2157184	2157189
ORTEP image			

Table S5. List of selected bond length (Å) and bond angles (°) of spirodiazatellurane **1b**, **1d** and **1k**

Atom	**1b**	**1d**	**1k**
C-Te	2.103(3)	2.104(2)	2.096(3)
C´-Te	2.115(3)	2.104(2)	2.096(3)
N-Te	2.163(2)	2.2178(18)	2.214(2)
N´-Te	2.197(2)	2.2178(18)	2.214(2)
C-Te-C´	98.14(10)	101.18(13)	97.76(10)
C-Te-N´	91.86(10)	90.91 (8)	90.25(9)
C´-Te-N´	78.22(9)	78.22(8)	77.99(9)
C-Te-N	77.87(10)	78.22(8)	78.54(9)
C´-Te-N	91.45(9)	90.91(8)	91.05(9)
N-Te-N´	164.36(9)	162.95(11)	163.21(8)

Table S6. Crystal data of spirodiazatellurane **1n**

Parameters	**1n**
Emperical form	$C_{33}H_{24}Cl_2N_4O_3Te$
Formula weight	723.06
Temperature/K	140(2)
Crystal System	triclinic
Space group	P-1
a/Å	11.0974(8)
b/Å	11.6191(7)
c/Å	11.6886(6)
α/°	81.846(3)
β/°	70.846(2)
γ/°	81.139(2)
Volume/Å^3	1399.98(15)
Z	2
μ/mm^{-1}	1.298
F(000)	720
Radiation	Mo Kα λ = 0.71073 Å
2Θ range for data collection/°	2.443-28.708
Index ranges	-14<=*h*<=12,-14<=*k*<=14, -15<=*l*<=15
Reflection collected	37477
Independent reflections	7163
Data/restrains/parameters	7163 / 0 / 391
Goodness-of-fit on F^2	1.035
Final R indexes [$I \geq 2\sigma(I)$]	R1 = 0.0283, wR2 = 0.0640
Final R indexes [all data]	R1 = 0.0340, wR2 = 0.0676
R_{int}	0.0573
CCDC	2157186

ORTEP image

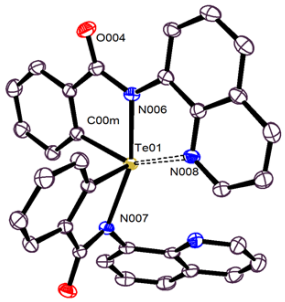


Table S7. List of selected bond length (Å) and bond angles (°) of spirodiazatellurane **1n**

Atom	**1n**
C-Te	2.128(2)
C´-Te	2.112(2)
N-Te	2.2298(18)
N´-Te	2.2213(18)
N(008)....Te(01)	2.620(2)
C-Te-C´	91.18(8)
C-Te-N´	89.64(7)
C´-Te-N´	76.59(8)
C-Te-N	77.80(17)
C´-Te-N	89.14(8)
N-Te-N´	160.85(7)

Table S8. Crystal data of spirobenzyloxytellurane **1q** and spirobenoxytellurane **1r**

Parameters	**1q**	**1r**
Emperical form	$C_7H_5OTe_{0.5}$	$C_{16}H_{12}O_6Te$
Formula weight	168.91	427.86
Temperature/K	296(2)	140(2)
Crystal System	monoclinic	orthorhombic
Space group	C2/c	$Pca2_1$
a/Å	20.507(4)	19.2430(14)

b/Å	4.8515(8)	4.7234(3)
c/Å	14.046(2)	15.8545(12)
α/°	90	90
β/°	118.957(8)	90
γ/°	90	90
Volume/Å^3	1222.8(4)	1441.05(18)
Z	8	4
μ/mm^{-1}	2.418	2.095
F(000)	648.0	832
Radiation	Mo Kα λ = 0.71073 Å	Mo Kα λ = 0.71073 Å
2Θ range for data collection/°	8.258-57.336	4.952-55.848
Index ranges	-27<=*h*<=26,-4<=*k*<=6, -18<=*l*<=18	-25<=h<=25,-6<=k<=6,-20<=l<=20
Reflection collected	4171	14409
Independent reflections	1563	3399
Data/restrains/parameters	1563 / 0 / 79	3399 / 1 / 196
Goodness-of-fit on F^2	1.069	1.023
Final R indexes [$I \geq 2\sigma(I)$]	R1 = 0.0316, wR2 = 0.0717	R1 = 0.0515, wR2 = 0.1028
Final R indexes [all data]	R1 = 0.0369, wR2 = 0.0749	R1 = 0.0821, wR2 = 0.1149
R_{int}	0.0254	0.0764
Flack parameter	—	0.49(3)
CCDC	2157182	2157187

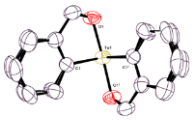
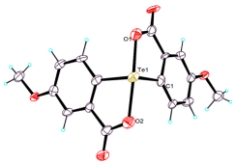
ORTEP image		

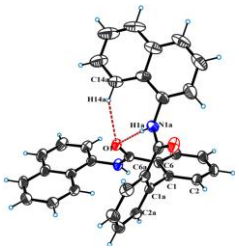
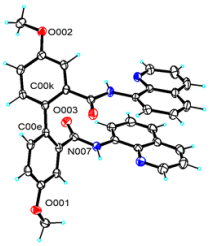
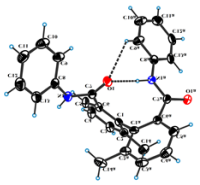
Table S9. List of selected bond length (Å) and bond angles (º) of **1q** and **1r**

Atom	**1q**	**1r**
C-Te	2.128(3)	2.084(5)
C´-Te	2.112(19)	2.075(6)
O-Te	2.2298(2)	2.089(8)
O´-Te	2.2213(2)	2.102(8)
C-Te-C´	97.9(6)	97.2(3)
C-Te-O´	89.74(10)	88.1(3)
C´-Te-O´	80.0(4)	79.8(3)
C-Te-O	79.96(10)	79.4(3)
C´-Te-O	89.7(5)	87.4(3)
O-Te-O´	164.35(15)	160.9(3)

Table S10. Crystal data of C-C coupled biaryl 1,1'-diamide **2o**, **2r** and **2t**

Parameters	**2o**	**2r**	**2t**
Emperical form	$C_{68}H_{48}N_4O_4$	$C_{34}H_{26}N_4O_4$	$C_{28}H_{24}N_2O_2$
Formula weight	985.10	554.59	420.49
Temperature/K	140(2)	140(2)	140(2)
Crystal System	monoclinic	triclinic	monoclinic
Space group	$Pna2_1$	P-1	C2/c
a/Å	8.8678(11)	7.2109(3)	29.849(6)
b/Å	34.130(4)	13.1523(5)	8.7958(18)
c/Å	8.4805(9)	14.1608(6)	17.216(4)

α/°	90	79.21(10)	90
β/°	90	83.65(2)	97.164(9)
γ/°	90	85.01(10)	90
Volume/Å^3	2566.7(5)	1308.18(9)	4484.6(16)
Z	2	2	8
μ/mm^{-1}	0.080	0.094	0.079
F(000)	1032.0	580.0	1776.0
Radiation	Mo Kα λ = 0.71073 Å	Mo Kα λ = 0.71073 Å	Mo Kα λ = 0.71073 Å
2Θ range for data collection/°	4.746-51.378	5.698-57.398	4.77-50.05
Index ranges	-10<=*h*<=10,-41<=*k*<=41, -10<=*l*<=9	-9<=h<=9,-17<=k<=17,--19<=l<=19	-34<=h<=35,-10<=k<=10,-20<=l<=20
Reflection collected	22557	20958	29735
Independent reflections	4528	6689	3968
Data/restrains/parameters	4528 / 1 / 343	6689 / 0 / 381	3968 /0./ 291
Goodness-of-fit on F^2	1.059	1.011	1.000
Final R indexes [$I \geq 2\sigma(I)$]	R1 = 0.0461, wR2 = 0.0964	R1 = 0.0517, wR2 = 0.1041	R1 = 0.0621, wR2 = 0.1185
Final R indexes [all data]	R1 = 0.0556, wR2 = 0.1035	R1 = 0.0822, wR2 = 0.1164	R1 = 0.1563, wR2 = 0.1582
R_{int}	0.0990	0.0445	0.1953
Flack parameter	-2.8(10)	—	—
CCDC	2157183	2157188	2157190

ORTEP image			

Additionally, Crystal structure of **2o** suggests that it possesses atropisomerism and crystalize in chiral space group *Pna2*$_1$, and only one enantiomer is observed.

Table S11. List of selected bond length (Å) and tortion angles (°) of C-C coupled biaryl 1,1'-diamide **2o**, **2r** and **2t**

Atom	**2o**	**2r**	**2t**
C-C´	1.497(4)	1.494(2)	1.51(5)
N-H.....O-C	2.01(0)	—	1.85(3)
C´´´-C-C´-C´´	78.3(4)	-62.60(2)	89.8(4)

Computational Details:

The DFT calculations were carried out using Gaussian 09 package by without optimization. The geometrical coordinations were extracted from respective crystal structure and the calculation perform in the level of B3PW91. The basis sets defz-tzvp used for tellurium and 6-311+g** used for C, H, N, and O. The AIM analysis performed by using the wave function file generated from Gaussian 09 and the bond topological properties of electron density ($\rho_{(r)}$), Laplacian electron density ($\nabla^2\rho_{(r)}$), Total energy density ($H\rho_{(r)}$) were analysed by using bond critical points (bcp) of respective bonds.

Table S12. AIM analysis of spirodizatellurane **1n** was used without further optimization, the coordinates of the crystal **1n** were directly used.

Bond	Bond length Å		$\boldsymbol{\rho_{(r)}}$ a.u.	$\boldsymbol{\nabla^2\rho_{(r)}}$ a.u.	$\boldsymbol{H\rho_{(r)}}$ a.u.
	Expt.	Calc.			
Te01-N006	2.231(2)	2.2292	0.086	0.131	-0.026
Te01-N007	2.221(2)	2.2212	0.087	0.133	-0.027
Te01-N008	**2.620(2)**	**2.6171**	**0.040**	**0.084**	**-0.0032**
Te01-N1	3.145(2)	3.1459	0.015	0.040	-0.00066

The quantum theory of atoms in molecules (AIM) analysis afforded low electron density value ($\boldsymbol{\rho_{(r)}}$ = 0.04 a.u.; 0.04 x 6.748 = 0.26992 eÅ^{-3}) at bond critical point (bcp) of the Te01···N008 bond (Table S12, Figure S2).[11] Thes e parameter is suggesting that one of the quinoline nitrogen (N008) atom is strongly interacting with Te (01). Also the most significant parameter Laplasian electron density ($\nabla^2\rho_{(r)}$), Total energy density ($H\rho_{(r)}$) values are strongly supporting for strong Te01···N008 intramolecualr interaction.

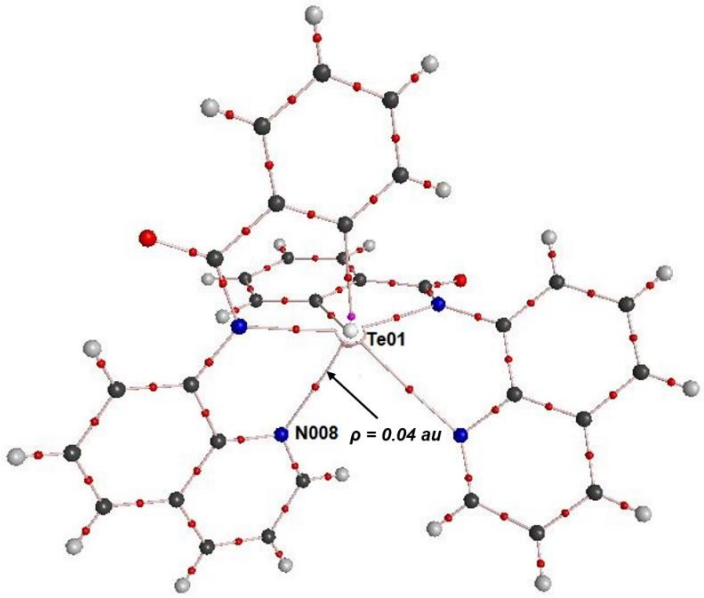


Figure S2. Bond topological diagram of **1n** with bond critical points (bcp).

Energy: -1609.10949524

Te	0.009568000	-0.229141000	-0.326128000
O	-3.591688000	-2.226658000	-1.435172000
O	2.993758000	-0.976021000	2.646001000
N	-2.127758000	-0.514697000	-0.891670000
N	-1.476493000	1.818126000	0.344511000
N	1.995294000	-0.565918000	0.610518000
N	2.126076000	2.088012000	-0.107098000
C	-0.020136000	-2.259882000	-0.961198000
C	1.078988000	-3.102864000	-1.023666000
H	1.935600000	-2.803017000	-0.743368000
C	0.904043000	-4.396231000	-1.504134000
H	1.649392000	-4.983480000	-1.553288000
C	-0.339332000	-4.837322000	-1.911268000
H	-0.441499000	-5.719708000	-2.248470000
C	-1.439623000	-3.999955000	-1.830025000
H	-2.297603000	-4.309152000	-2.094409000
C	-1.276313000	-2.698660000	-1.357011000
C	-2.457559000	-1.793668000	-1.241966000

C	-3.104660000	0.506661000	-0.816999000
C	-4.382671000	0.421929000	-1.342440000
H	-4.659535000	-0.379703000	-1.770218000
C	-5.281382000	1.507575000	-1.253821000
H	-6.154735000	1.415739000	-1.616248000
C	-4.926255000	2.685775000	-0.660546000
H	-5.546766000	3.403994000	-0.611198000
C	-3.632590000	2.827376000	-0.123527000
C	-2.724443000	1.733186000	-0.187714000
C	-1.087190000	2.943512000	0.907746000
H	-0.213849000	2.985889000	1.279922000
C	-1.904538000	4.085543000	0.983635000
H	-1.584009000	4.885225000	1.382619000
C	-3.163065000	4.019863000	0.473708000
H	-3.730402000	4.781129000	0.518168000
C	-0.471364000	-0.795207000	1.651544000
C	-1.759709000	-0.882697000	2.148086000
H	-2.498769000	-0.608005000	1.617124000
C	-1.960785000	-1.376774000	3.429846000
H	-2.840022000	-1.425323000	3.785234000
C	-0.884819000	-1.798828000	4.191923000
H	-1.032197000	-2.166693000	5.055473000
C	0.407089000	-1.687227000	3.700908000
H	1.143782000	-1.966818000	4.231299000
C	0.621406000	-1.165115000	2.427298000
C	2.000139000	-0.911930000	1.903591000
C	3.184298000	-0.067835000	0.013300000
C	4.281815000	-0.864153000	-0.194889000
H	4.257523000	-1.775672000	0.069734000
C	5.451491000	-0.342223000	-0.800713000
H	6.206957000	-0.903840000	-0.926668000
C	5.501826000	0.958752000	-1.203411000
H	6.287228000	1.296340000	-1.618483000
C	4.387470000	1.809571000	-1.006752000

C	3.215981000	1.305658000	-0.376747000
C	2.178507000	3.350858000	-0.477566000
H	1.424853000	3.900986000	-0.298131000
C	3.284669000	3.934851000	-1.121775000
H	3.265168000	4.851698000	-1.371323000
C	4.378971000	3.176282000	-1.383999000
H	5.133419000	3.557582000	-1.818062000

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