Supporting Information

for

8-(Dichloromethylene)-3,4,7,8-tetrahydro-6*H*-imidazo-[5,1-*c*][1,2,4,6]thiatriazin-6-one 2,2-dioxides: synthesis, structure and antiproliferative activity evaluation

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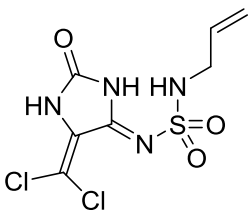
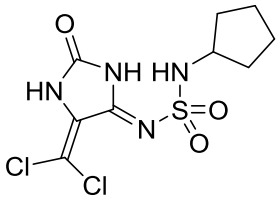
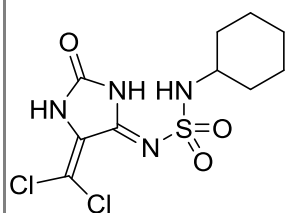
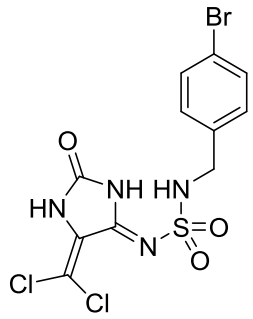
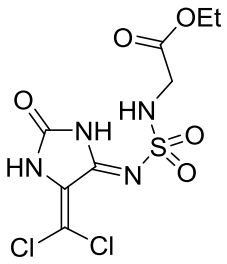
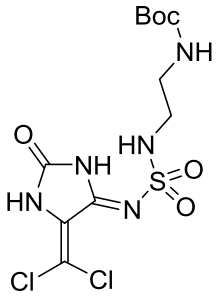
1. Synthesis and description of compounds 1–4

General information

All chemical reagents and solvents were kindly provided by Enamine Ltd. as a support of Ukrainian science. The reaction progress was monitored using the thin-layer chromatography (TLC) method on Silica gel 60 F254 Merck. Column chromatography was carried out using Silica gel (200–300 mesh). Melting points were determined using an automated melting point System Opti Melt. NMR spectra of obtained products were recorded on Varian Unity Plus 400 spectrometer (400 MHz for ^{1}H and 101 MHz for ^{13}C), Bruker 170 spectrometer (500 MHz for ^{1}H and 126 MHz for ^{13}C), and Agilent ProPulse 600 spectrometer (600 MHz for ^{1}H, 151 MHz for ^{13}C), with chemical shifts reported in ppm using the solvent residual signal as an internal standard. The mass spectra (MS) were recorded on an Agilent 1100 Series high-performance liquid chromatograph equipped with a diode matrix with an Agilent LC\MSD SL mass selective detector; in compounds description found and calculated data for ions with ^{35}Cl and ^{79}Br isotopes are given.

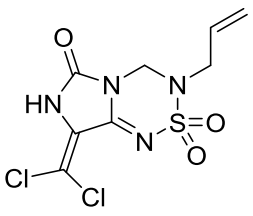
The substrates **1a-h** were obtained according to the procedure, described in Ref. [11]. For the description of compound **1b** see [10], **1e** see [11], **1g** see [12, 13].

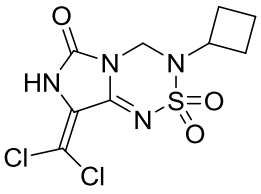
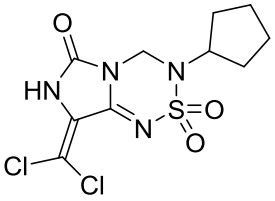
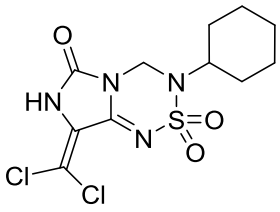
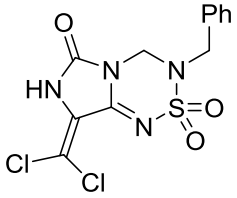
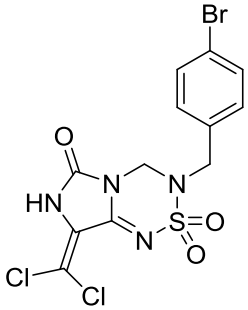
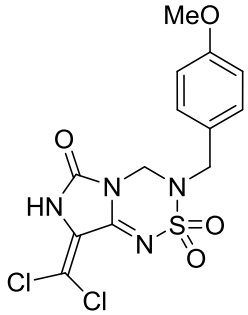
	***(Z)-4-(Dichloromethylene)-5-((allylaminosulfonyl)imino)imidazolidin-2-one (1a)***. White solid; yield 54%; mp 214 °C decomp. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.16 (br. s, 1H), 11.10 (br. s, 1H), 7.51 (t, J = 6.0 Hz, 1H), 5.83 (ddt, J = 16.8, 10.6, 5.6 Hz, 1H), 5.21 (dd, J = 16.8, 1.8 Hz, 1H), 5.08 (dd, J = 10.6, 1.8 Hz, 1H), 3.60 (t, J = 5.8 Hz, 2H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.3, 150.3, 134.3, 129.8, 116.3, 106.8, 45.3 ppm; ESI-MS m/z: found 298.8 $[M+1]^+$, calc. 299.0 $[M+1]^+$.
	***(Z)-4-(Dichloromethylene)-5-((cyclopentylaminosulfonyl)imino)-imidazolidin-2-one (1c)***. Yellow solid; yield 72%; mp 208 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.09 (br. s, 2H), 7.42 – 7.25 (m, 1H), 3.69 – 3.58 (m, 1H), 1.85 – 1.72 (m, 2H), 1.64 – 1.53 (m, 2H), 1.53 – 1.38 (m, 4H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.4, 150.1, 129.8, 106.5, 54.9, 32.5 (2C), 22.9 (2C) ppm; ESI-MS m/z: found 327.0 $[M+1]^+$, calc. 327.0 $[M+1]^+$.
	***(Z)-4-(Dichloromethylene)-5-((cyclohexylaminosulfonyl)imino)-imidazolidin-2-one (1d)***. Yellow solid; yield 78%; mp 201 °C decomp. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.09 (br. s, 2H), 7.45 – 7.14 (m, 1H), 3.21 – 3.04 (m, 1H), 1.97 – 1.77 (m, 2H), 1.74 – 1.55 (m, 2H), 1.53 – 1.39 (m, 1H), 1.32 – 1.04 (m, 5H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.3, 149.9, 129.8, 106.4, 52.4, 33.1 (2C), 25.0 (2C), 24.3 ppm; ESI-MS m/z: found 341.0 $[M+1]^+$, calc. 341.0 $[M+1]^+$.

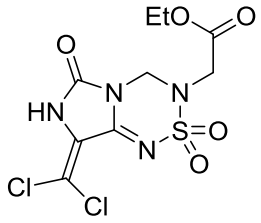
	***(Z)-4-(Dichloromethylene)-5-[{(4-bromobenzyl)aminosulfonyl}imino]-imidazolidin-2-one (1f)***. Ligth yellow solid; yield 85%; mp 195 °C decomp. ^{1}H NMR (500 MHz, DMSO-d_6) δ 10.56 (br. s, 2H, partly exchanged with HOD), 7.69 (br. s, 1H), 7.48 (d, J = 8.0 Hz, 2H), 7.28 (d, J = 8.0 Hz, 2H), 4.10 (s, 2H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 154.5, 153.2, 137.4, 130.9 (2C), 130.5, 130.0 (2C), 120.2, 105.5, 53.3 ppm; ESI-MS m/z: found 426.8 $[M+1]^+$, calc. 426.8 $[M+1]^+$.
	***Ethyl (Z)-(N-(5-(dichloromethylene)-2-oxoimidazolidin-4-ylidene)-sulfamoyl)glycinate (1h)***. White solid; yield 66%; mp 165 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.22 (br. s, 1H), 11.17 (s, 1H), 7.76 (t, J = 6.1 Hz, 1H), 4.07 (q, J = 7.1 Hz, 2H), 3.83 (d, J = 6.1 Hz, 2H), 1.17 (t, J = 7.1 Hz, 3H) ppm; ^{13}C NMR (151 MHz, DMSO-d_6) δ 169.1, 152.3, 151.2, 129.8, 107.3, 60.8, 44.1, 13.9 ppm; ESI-MS m/z: found 345.0 $[M+1]^+$, calc. 345.0 $[M+1]^+$.
	***tert-Butyl (Z)-(2-((N-(5-(dichloromethylene)-2-oxoimidazolidin-4-ylidene)sulfamoyl)amino)ethyl)carbamate (1i).*** White solid; yield 67%; mp 180 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.22 (br. s, 1H), 11.09 (s, 1H), 7.34 (t, J = 6.0 Hz, 1H), 6.77 (t, J = 6.0 Hz, 1H), 3.06 (q, J = 6.8 Hz, 2H), 2.98 (q, J = 6.8 Hz, 2H), 1.36 (s, 9H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 155.6, 152.8, 150.9, 130.0, 106.6, 77.9, 42.7, 39.6, 28.3 (3C) ppm; ESI-MS m/z: found 400.0 $[M-1]^-$, calc. 400.0 $[M-1]^-$.

General procedure for compounds 2a-h synthesis

To a suspension of substrate **1a-h** (1 mmol) in *i*-PrOH (10 mL) formalin (0.4 mL, 5 mmol) and conc. HCl (0.05 mL) were added at room temperature; then the temperature was raised to 80 °C, and the reaction mixture was stirred for 48 h in a closed vial. After that the reaction mixture was cooled, the volatile components were evaporated *in vacuo*. The residue was treated with water (50 mL) and extracted with ethyl acetate (2×25 mL). The organic layer was washed with water (25 mL), dried with anhydrous Na_2SO_4, and evaporated *in vacuo*. The crude product was purified by column chromatography on a silica gel with AcOEt / hexane 4 : 6 as an eluent.

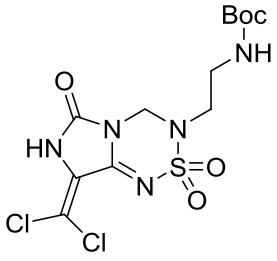
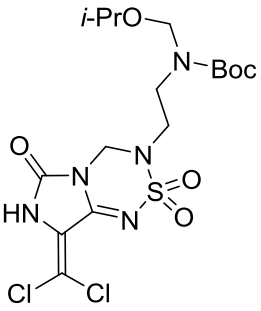
	***3-Allyl-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo[5,1-c]-[1,2,4,6]thiatriazin-6-one 2,2-dioxide (2a).*** White solid; yield 64%; mp 225 °C decomp. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.49 (br. s, 1H), 5.82 (ddt, J = 17.2, 10.2, 6.5 Hz, 1H), 5.34 (d, J = 17.2 Hz, 1H), 5.29 (d, J = 10.2 Hz, 1H), 5.12 (s, 2H), 3.76 (d, J = 6.5 Hz, 2H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.3, 149.9, 131.7, 127.5, 120.8, 109.0, 55.8, 50.7 ppm; ^{13}C APT NMR (151 MHz, DMSO-d_6) δ 152.4 (C), 150.0 (C), 131.7 (CH), 127.6 (C), 121.0 (CH_2), 109.7 (C), 55.8 (CH_2), 50.7 (CH_2) ppm; ESI-MS m/z: found 311.0 $[M+1]^+$, calc. 311.0 $[M+1]^+$.

	***3-Cyclobutyl-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo-[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (2b).*** White solid; yield 31%; mp 230–235 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.54 (br. s, 1H), 5.08 (s, 2H), 3.92 – 3.72 (m, 1H), 2.18 – 1.89 (m, 4H), 1.74 – 1.44 (m, 2H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.0, 149.9, 127.4, 109.0, 54.6, 51.9, 28.4 (2C), 13.8 ppm; ESI-MS m/z: found 323.0 $[M-1]^-$, calc. 323.0 $[M-1]^-$.
	***3-Cyclopentyl-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo-[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (2c).*** White solid; yield 37%; mp 225–230 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.58 (s, 1H), 5.21 (s, 2H), 3.76 (p, J = 7.9 Hz, 1H), 1.90 – 1.75 (m, 2H), 1.69 – 1.56 (m, 2H), 1.57 – 1.41 (m, 4H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.1, 149.6, 127.3, 109.2, 59.9, 55.1, 30.0 (2C), 22.3 (2C) ppm; ESI-MS m/z: found 339.0 $[M+1]^+$, calc. 339.0 $[M+1]^+$.
	***3-Cyclohexyl-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo-[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (2d).*** White solid; yield 41%; mp 230 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.60 (br. s, 1H), 5.22 (s, 2H), 3.68 – 3.47 (m, 1H), 1.84 – 1.60 (m, 4H), 1.59 – 1.48 (m, 1H), 1.43 – 1.16 (m, 4H), 1.12 – 0.98 (m, 1H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 152.2, 149.6, 127.3, 109.4, 58.9, 53.1, 30.3 (2C), 25.3 (2C), 24.6 ppm; ESI-MS m/z: found 353.0 $[M+1]^+$, calc. 353.0 $[M+1]^+$.
	***3-Benzyl-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo[5,1-c]-[1,2,4,6]thiatriazin-6-one 2,2-dioxide (2e).*** White solid; yield 53%; mp 235 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.43 (br. s, 1H), 7.35 (s, 5H), 5.08 (s, 2H), 4.36 (s, 2H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 152.3, 149.9, 134.3, 129.1 (2C), 128.5 (2C), 128.3, 127.4, 109.0, 56.0, 52.1 ppm; ESI-MS m/z: found 361.0 $[M+1]^+$, calc. 361.0 $[M+1]^+$.
	***3-(4-Bromobenzyl)-8-(dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (2f).*** White solid; yield 64%; mp 210 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.48 (br. s, 1H), 7.54 (d, J = 8.0 Hz, 2H), 7.32 (d, J = 8.0 Hz, 2H), 5.11 (s, 2H), 4.35 (s, 2H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 152.3, 149.9, 133.9, 131.4 (2C), 131.2 (2C), 127.3, 121.6, 109.2, 56.4, 51.5 ppm; ESI-MS m/z: found 438.8 $[M+1]^+$, calc. 438.9 $[M+1]^+$.
	***8-(Dichloromethylene)-3-(4-methoxybenzyl)-3,4,7,8-tetrahydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (2g).*** White solid; yield 53%; mp 225 °C decomp. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.40 (s, 1H), 7.28 (d, J = 8.6 Hz, 2H), 6.88 (d, J = 8.6 Hz, 2H), 5.09 (s, 2H), 4.30 (s, 2H), 3.74 (s, 3H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 159.4, 152.2, 149.9, 130.6 (2C), 127.3, 125.7, 113.9 (2C), 109.0, 55.8, 55.1, 51.8 ppm; ESI-MS m/z: found 390.8 $[M+1]^+$, calc. 391.0 $[M+1]^+$.

	***Ethyl 2-(8-(dichloromethylene)-2,2-dioxido-6-oxo-7,8-dihydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-3(4H)-yl)acetate (2h).*** White solid; yield 53%; mp 175–177 °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.54 (br. s, 1H), 5.30 (s, 2H), 4.20 – 4.06 (m, 4H), 1.19 (t, J = 7.1 Hz, 3H) ppm; ^{13}C NMR (151 MHz, DMSO-d_6) δ 168.2, 152.5, 150.0, 127.6, 109.0, 61.0, 57.9, 50.5, 13.9 ppm; ESI-MS m/z: found 357.0 $[M+1]^+$, calc. 357.0 $[M+1]^+$.

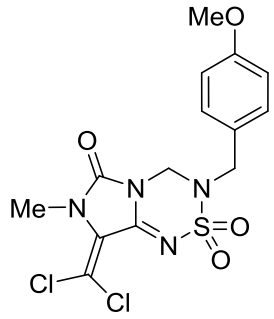
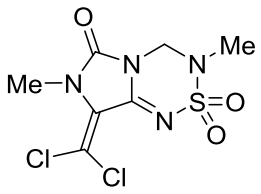
Procedure for compounds 2i,j synthesis and separation

To a suspension of substrate **1i** (1.0 g, 2.49 mmol) in *i*-PrOH (30 mL) 37% formalin (0.808 g, 9.96 mmole) and 36% aq HCl (0.0126 g, 0.05 mmole) were added. The reaction mixture was stirred at 80 °C for 48 h; then $NaHCO_3$ (0.021 g, 0.25 mmol) was added and volatiles were evaporated *in vacuo* (12 mmHg). Water (50 mL) and CH_2Cl_2 (50 mL) were added to the residue, the products mixture was extracted in organic phase, which was separated and evaporated. Separation of the products **2i,j** were performed by column chromatography on a silica gel (50 g) with the mixture CH_2Cl_2 / MTBE (gradient 0 to 20 v/v) as an eluent.

	***tert-Butyl (2-(8-(dichloromethylene)-2,2-dioxido-6-oxo-7,8-dihydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-3(4H)-yl)ethyl)carbamate (2i).*** White solid; yield 50%; mp 180 (dec.) °C. ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.52 (br. s, 1H), 6.93 (br. s, 1H), 5.17 (s, 2H), 3.13 (br. s, 4H), 1.38 (s, 9H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 155.7, 152.2, 150.1, 127.6, 108.9, 77.8, 57.4, 48.0, 38.3, 28.2 (3C) ppm; ESI-MS m/z: found 412.0 $[M-1]^-$, calc. 412.0 $[M-1]^-$.
	***tert-Butyl (2-(8-(dichloromethylene)-2,2-dioxido-6-oxo-7,8-dihydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-3(4H)-yl)ethyl)(isopropoxymethyl)carbamate (2j).*** White solid; yield 10%; mp 130 (dec.) °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.53 (br. s, 1H), 5.19 (s, 2H), 4.66 (s, 2H), 3.62 (h, J = 6.2 Hz, 1H), 3.40 (br. t, J = 6.5 Hz, 2H), 3.26 (br. t, J = 6.5 Hz, 2H), 1.41 (s, 9H), 1.08 (d, J = 6.2 Hz, 6H) ppm; ^{13}C NMR (151 MHz, DMSO-d_6) δ 154.5 and 154.4, 152.3, 150.1, 127.6, 108.9, 79.7, 74.8, 68.0 and 67.4, 58.1 and 57.7, 47.6 and 46.9, 44.3 and 43.6, 27.8 (3C), 22.1 and 22.0 (2C) ppm; ESI-MS m/z: found 484.0 $[M-1]^-$, calc. 484.1 $[M-1]^-$.

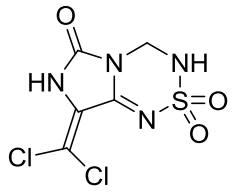
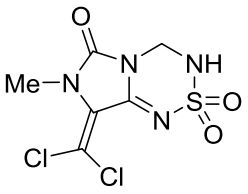
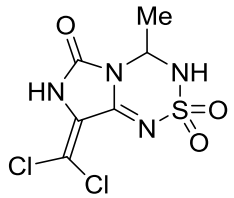
General procedure for compounds 3g,3l synthesis

Compound **2g** or **2k** (1 mmol) was dissolved in acetone (25 mL) and milled K_2CO_3 (0.21 g, 1.5 mmol for **2g**; 0.415 g, 3 mmol for **2k**) with KI (cat.) were added. The reaction mixture was stirred at 25 °C for 30 min, and then MeI (0.095 mL, 0.21 g, 1.5 mmol for **2g**; 0.19 mL, 0.43 g, 3 mmol) was added portion wise. Reaction mixture was stirred at 25 °C for about 16 h (until full conversion according to LCMS), then the acetone was evaporated from the reaction mixture, H_2O (20 mL) and 5% aq HCl were added to pH 5–6, and product was extracted with EtOAc (2×20 mL). Combined extracts were dried with anhydrous K_2CO_3, and the solvent was evaporated *in vacuo* to produce crude product, which was purified by flash chromatography (hexane–MTBE, gradient 20–100%).

	***8-(Dichloromethylene)-3-(4-methoxybenzyl)-7-methyl-3,4,7,8-tetrahydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (3g).*** Light yellow solid; yield 79%; mp 149–150 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 7.27 (d, J = 8.2 Hz, 2H), 6.89 (d, J = 8.2 Hz, 2H), 5.13 (s, 2H), 4.30 (s, 2H), 3.75 (s, 3H), 3.27 (s, 3H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 159.4, 152.2, 150.5, 130.6 (2C), 127.8, 125.6, 113.7 (2C), 111.0, 56.2, 55.1, 51.8, 30.6 ppm; ESI-MS m/z: found 405.0 $[M+1]^+$, calc. 405.0 $[M+1]^+$.
	***8-(Dichloromethylene)-3,7-dimethyl-3,4,7,8-tetrahydro-6H-imidazo-[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (3l).*** Light yellow solid; yield 75%; mp 221–222 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 5.24 (s, 2H), 3.37 (s, 3H), 2.81 (s, 3H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.1, 151.1, 128.2, 110.8, 59.8, 36.5, 30.8 ppm; ESI-MS m/z: found 299.0 $[M+1]^+$, calc. 299.0 $[M+1]^+$.

General procedure for compounds 2k-4k synthesis

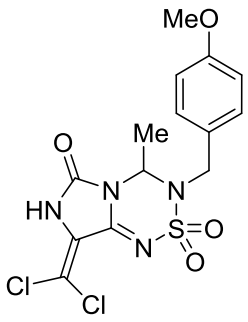
To a solution of compound **2g**, **3g** or **4g** (1 mmol) in CH_2Cl_2 (10 mL) CF_3CO_2H (0.46 mL, 6 mmol) was added at 0 °C, and the mixture was stirred at 25 °C for 16 h. After evaporation the solvent, CH_2Cl_2 (20 mL) was added to the dry residue, then the resulting precipitate was filtered off, washed with CH_2Cl_2 (10 mL), the precipitate dried on air to afford pure target product.

	***8-(Dichloromethylene)-3,4,7,8-tetrahydro-6H-imidazo[5,1-c][1,2,4,6]-thiatriazin-6-one 2,2-dioxide (2k).*** Colorless solid; yield 83%; mp 215–216 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.51 (br. s, 1H), 7.60 (s, 1H), 5.00 (s, 2H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.0, 149.9, 127.4, 108.8, 53.0 ppm; ESI-MS m/z: found 268.8 $[M-1]^-$, calc. 268.9 $[M-1]^-$.
	***8-(Dichloromethylene)-7-methyl-3,4,7,8-tetrahydro-6H-imidazo[5,1-c]-[1,2,4,6]thiatriazin-6-one 2,2-dioxide (3k).*** Light yellow solid; yield 88%; mp 210–211 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 7.76 (t, J = 8.4 Hz, 1H), 5.03 (d, J = 8.4 Hz, 2H), 3.37 (s, 3H, with HDO signal) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 152.1, 150.7, 128.0, 110.8, 53.4, 30.7 ppm; ESI-MS m/z: found 282.8 $[M-1]^-$, calc. 282.9 $[M-1]^-$.
	***8-(Dichloromethylene)-4-methyl-3,4,7,8-tetrahydro-6H-imidazo[5,1-c]-[1,2,4,6]thiatriazin-6-one 2,2-dioxide (4k).*** Light yellow solid; yield 84%; mp 200–201 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.49 (br. s, 1H), 7.84 (d, J = 6.8 Hz, 1H), 5.32 (p, J = 6.7 Hz, 1H)1.63 (d, J = 6.6 Hz, 3H) ppm; ^{13}C NMR (126 MHz, DMSO-d_6) δ 151.6, 150.3, 127.5, 108.5, 63.0, 18.5 ppm; ESI-MS m/z: found 284.8 $[M+1]^+$, calc. 285.0 $[M+1]^+$.

Procedure for compound 4g synthesis

To a suspension of substrate **1g** (0.38 g, 1 mmol) in *i*-PrOH (10 ml) acetaldehyde (0.15 g, 5 mmol) and conc. HCl (0.05 mL) were added at room temperature; then the temperature was raised to 80 °C, and the reaction mixture was stirred for 48 h in a closed vial. After that the reaction mixture was cooled, the volatile components were evaporated *in vacuo*. The

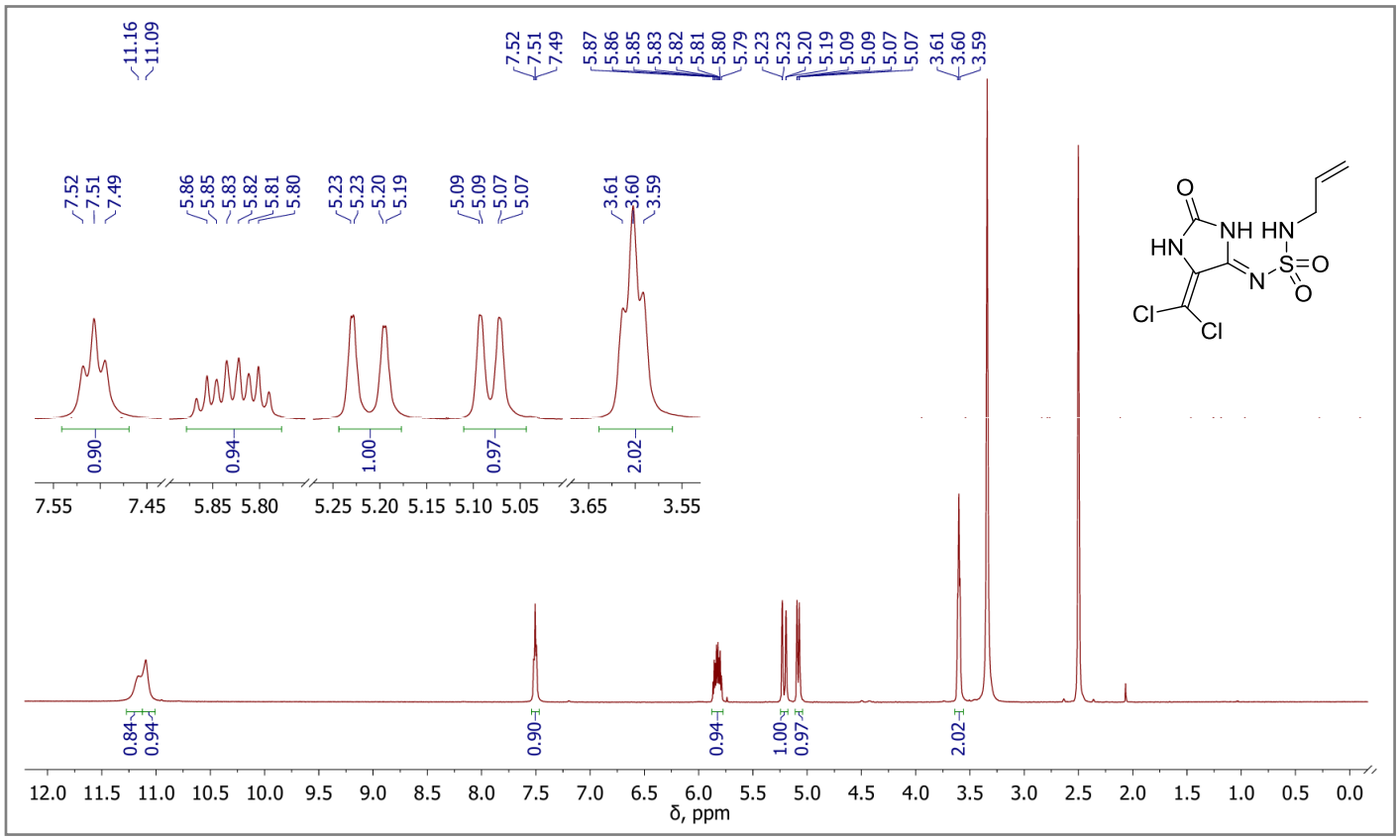
residue was treated with water (50 mL) and extracted with ethyl acetate (2×25 mL). The organic layer was washed with water (25 mL), dried with anhydrous Na_2SO_4, and evaporated *in vacuo*. The crude product was purified by column chromatography on a silica gel with AcOEt / hexane 3 : 7 as an eluent.

	***8-(Dichloromethylene)-3-(4-methoxybenzyl)-4-methyl-3,4,7,8-tetra-hydro-6H-imidazo[5,1-c][1,2,4,6]thiatriazin-6-one 2,2-dioxide (4g).*** Colorless solid; yield 53%; mp 228–229 °C. ^{1}H NMR (500 MHz, DMSO-d_6) δ 11.39 (s, 1H), 7.29 (d, *J* = 8.2 Hz, 2H), 6.87 (d, *J* = 8.2 Hz, 2H), 5.47 (q, *J* = 6.8 Hz, 1H), 4.40 (s, 2H), 3.73 (s, 3H), 1.56 (d, *J* = 6.8 Hz, 3H) ppm; ^{13}C NMR (101 MHz, DMSO-d_6) δ 159.3, 151.3, 150.0, 130.3 (2C), 127.3, 126.1, 113.7 (2C), 109.0, 65.9, 55.2, 54.3, 20.3 ppm; ESI-MS m/z: found 405.0 $[M+1]^+$, calc. 405.0 $[M+1]^+$.

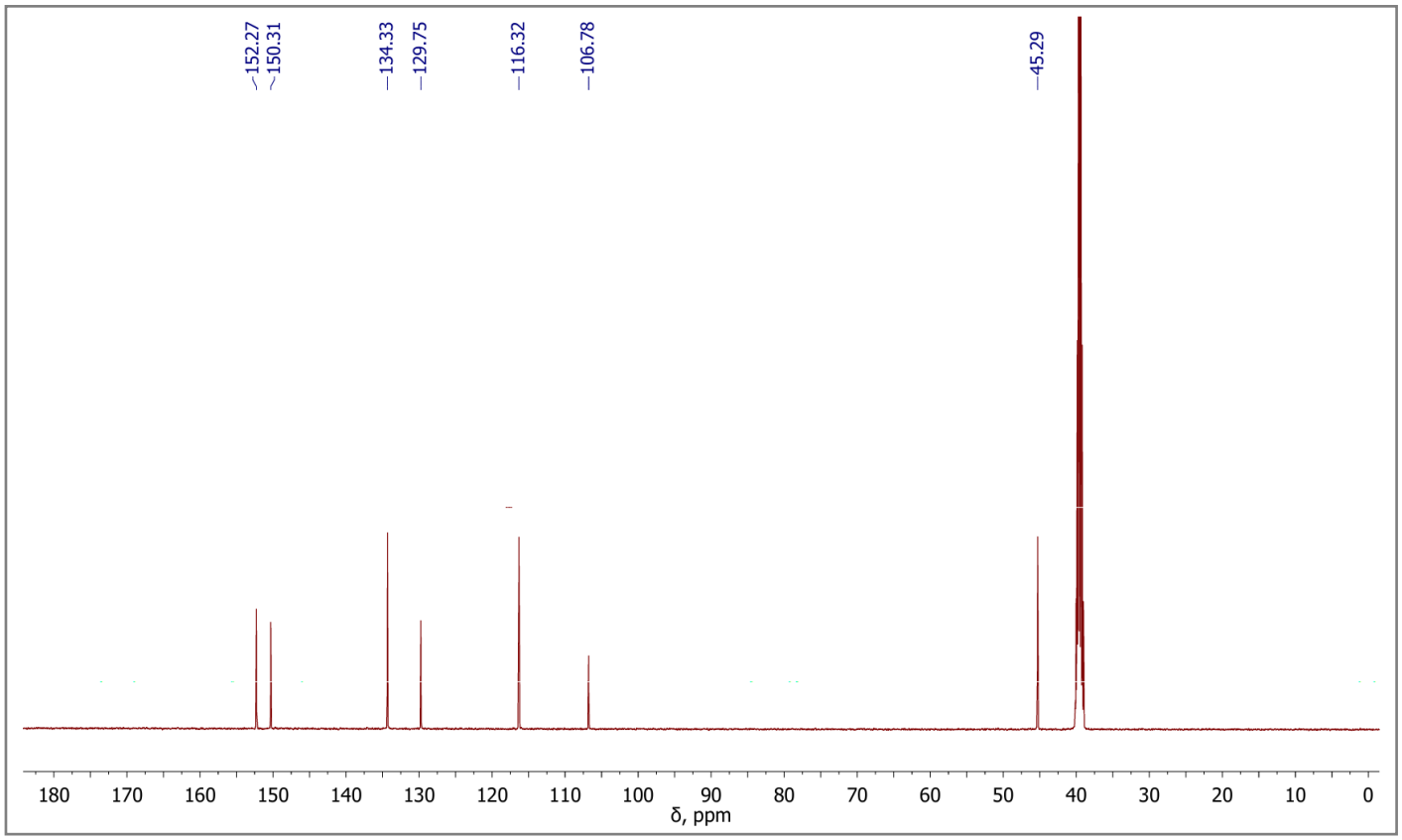
2. X-Ray analysis of compound 2k

The light yellow crystals of compound **2k** ($C_5H_4Cl_2N_4O_3S$) are monoclinic. At 173 K *a* = 5.5579(3), *b* = 8.9643(5), *c* = 18.3288(9) Å, *β* = 98.437(2)°, V = 903.31(8) Å^3, M_r = 271.08, Z = 4, space group $P2_1/n$, d_{calc}= 1.993 g/cm^3, μ(MoK_α) = 0.940 mm^{-1}, F(000) = 544. Intensities of 11551 reflections (1590 independent, R_{int}=0.0342) were measured on the Bruker APEX II diffractometer (graphite monochromated MoK_α radiation, CCD detector, φ- and ω-scaning, $2\Theta_{max}$ = 50°). The structure was solved by direct method using OLEX2 [16] package with SHELXT [17] and SHELXL modules [18]. Positions of the hydrogen atoms were located from electron density difference maps and refined using “riding” model with U_{iso} = 1.2U_{eq} of the carrier atom for the methylene group. The hydrogen atoms of the NH groups were refined using isotropic approximation. Full-matrix least-squares refinement against F^2 in anisotropic approximation for non-hydrogen atoms using 1590 reflections was converged to wR_2 = 0.0725 (R_1 = 0.0285 for 1481 reflections with F>4σ(F), S = 1.063). The final atomic coordinates, and crystallographic data for molecule **2k** have been deposited to with the Cambridge Crystallographic Data Centre, 12 Union Road, CB2 1EZ, UK (fax: +44-1223-336033; e-mail: deposit@ccdc.cam.ac.uk) and are available on request quoting the deposition numbers CCDC 2501426).

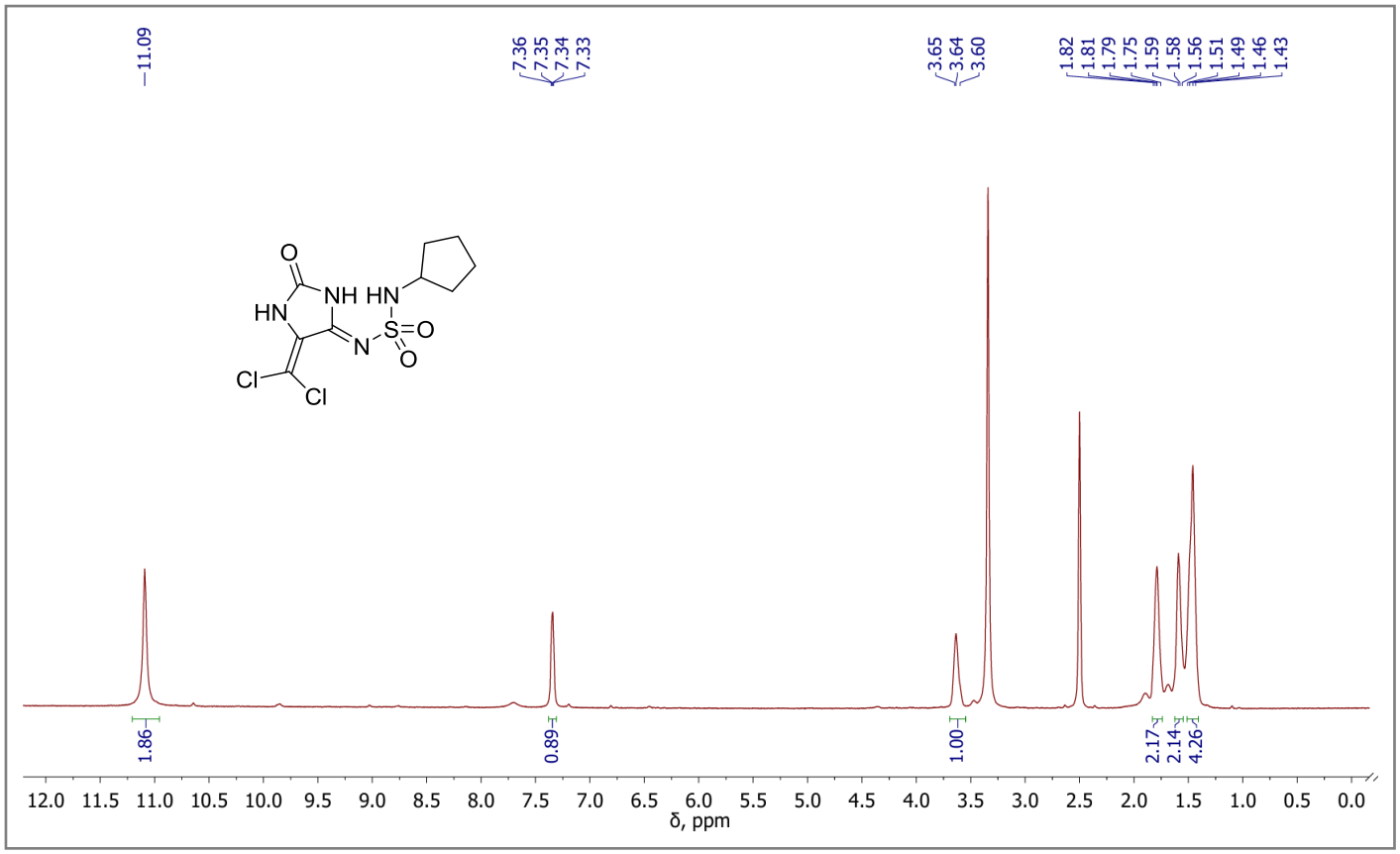
3. Copies of NMR spectra



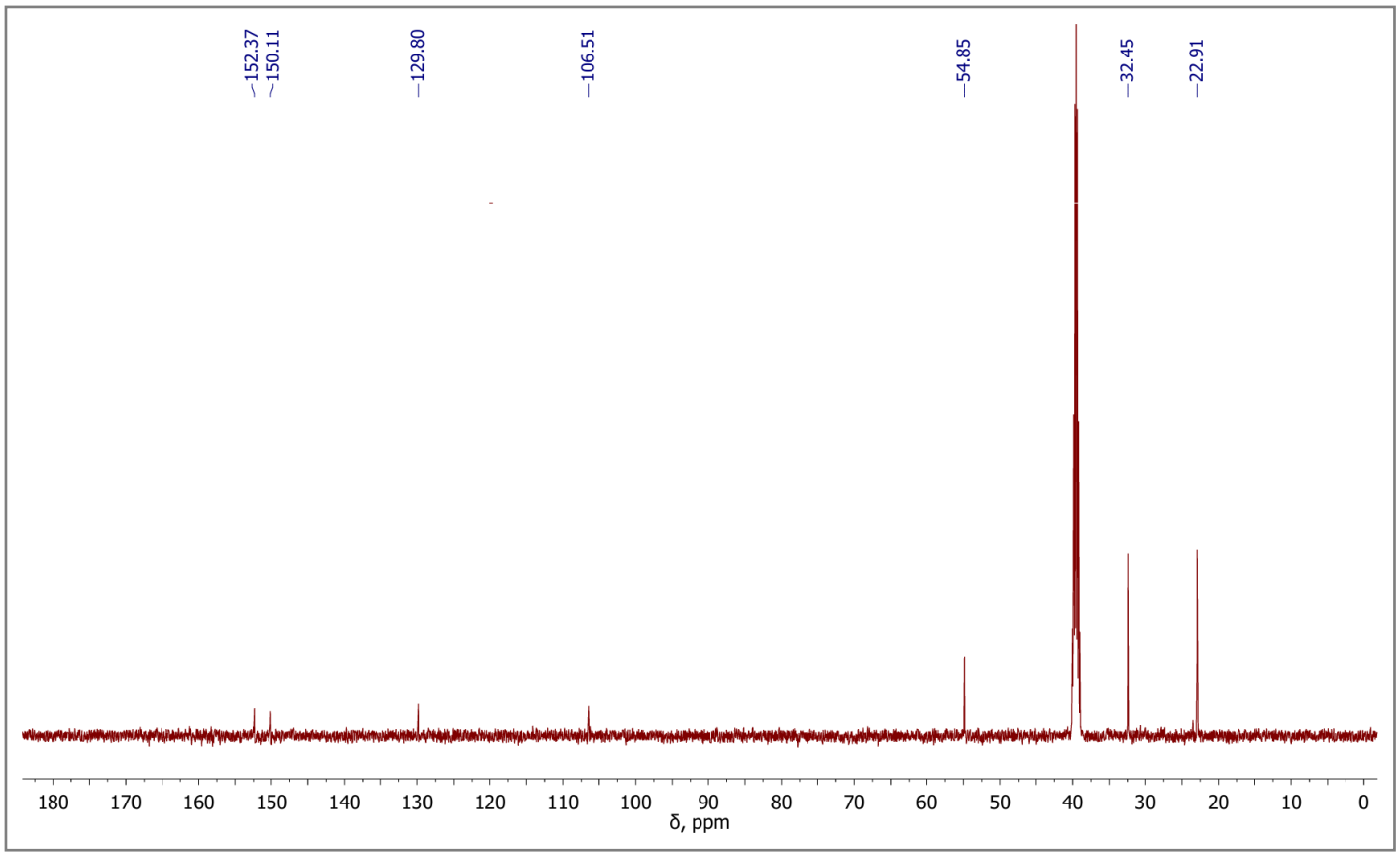
^{1}H NMR spectrum of **1a**



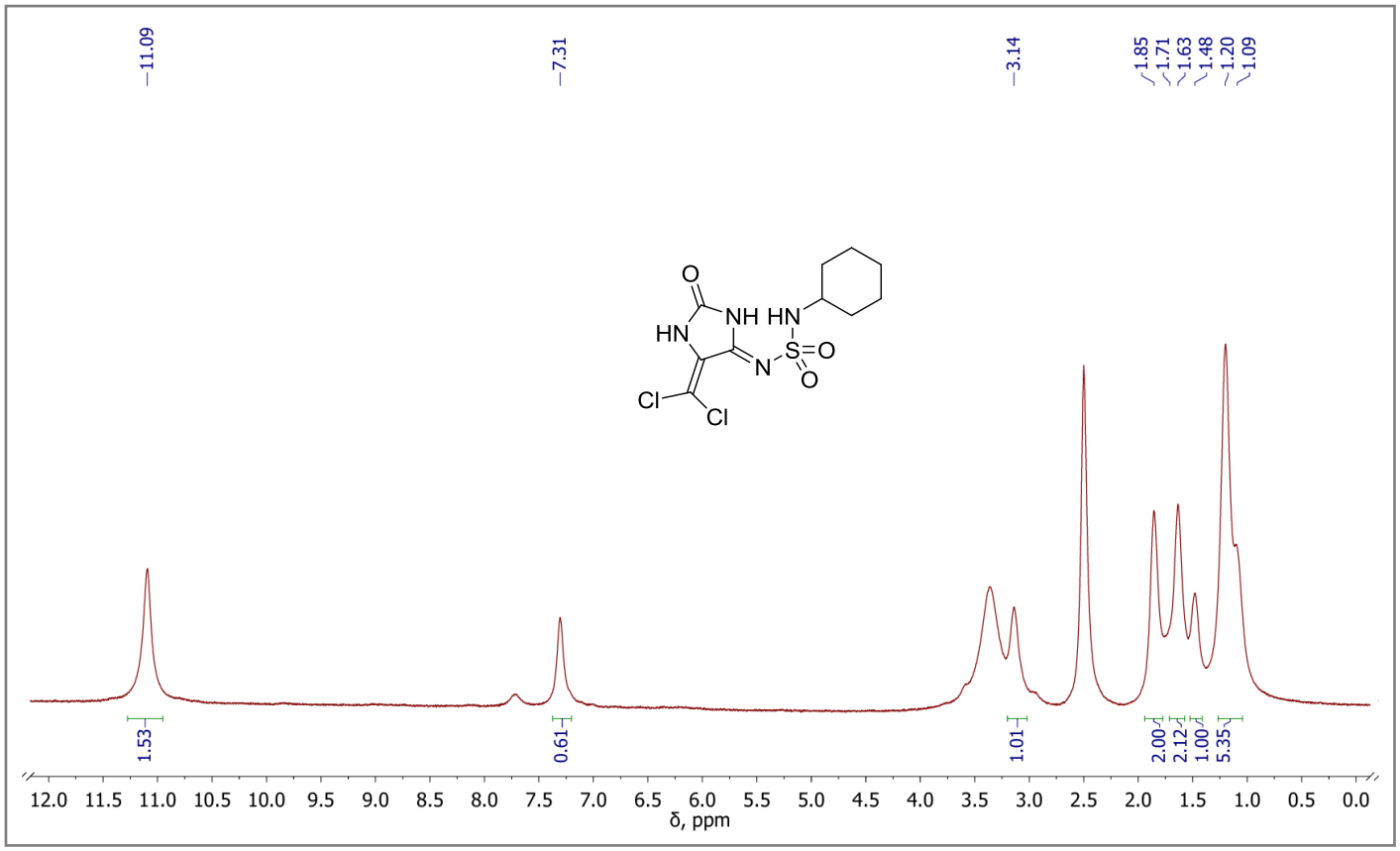
^{13}C NMR spectrum of **1a**



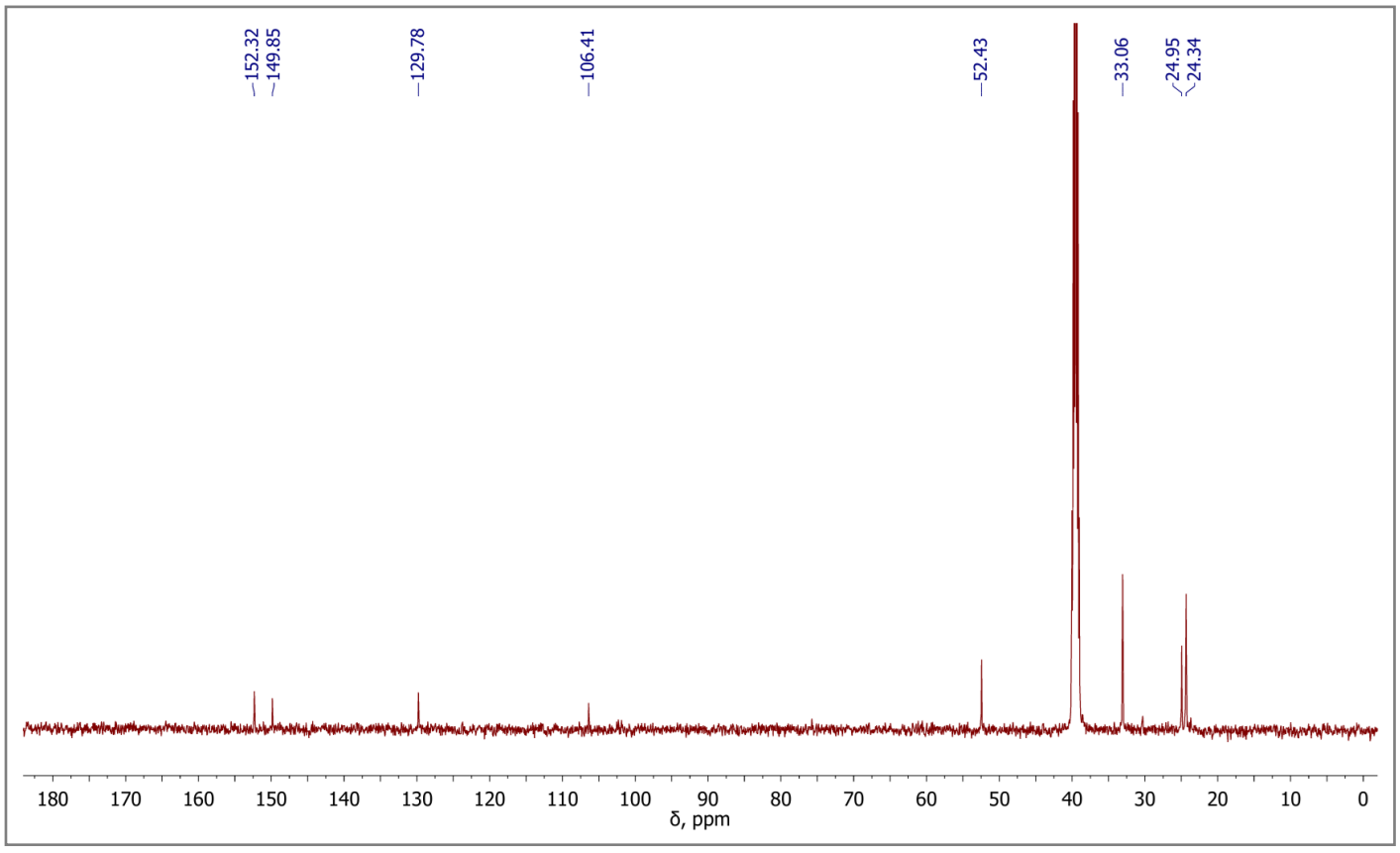
^{1}H NMR spectrum of **1c**



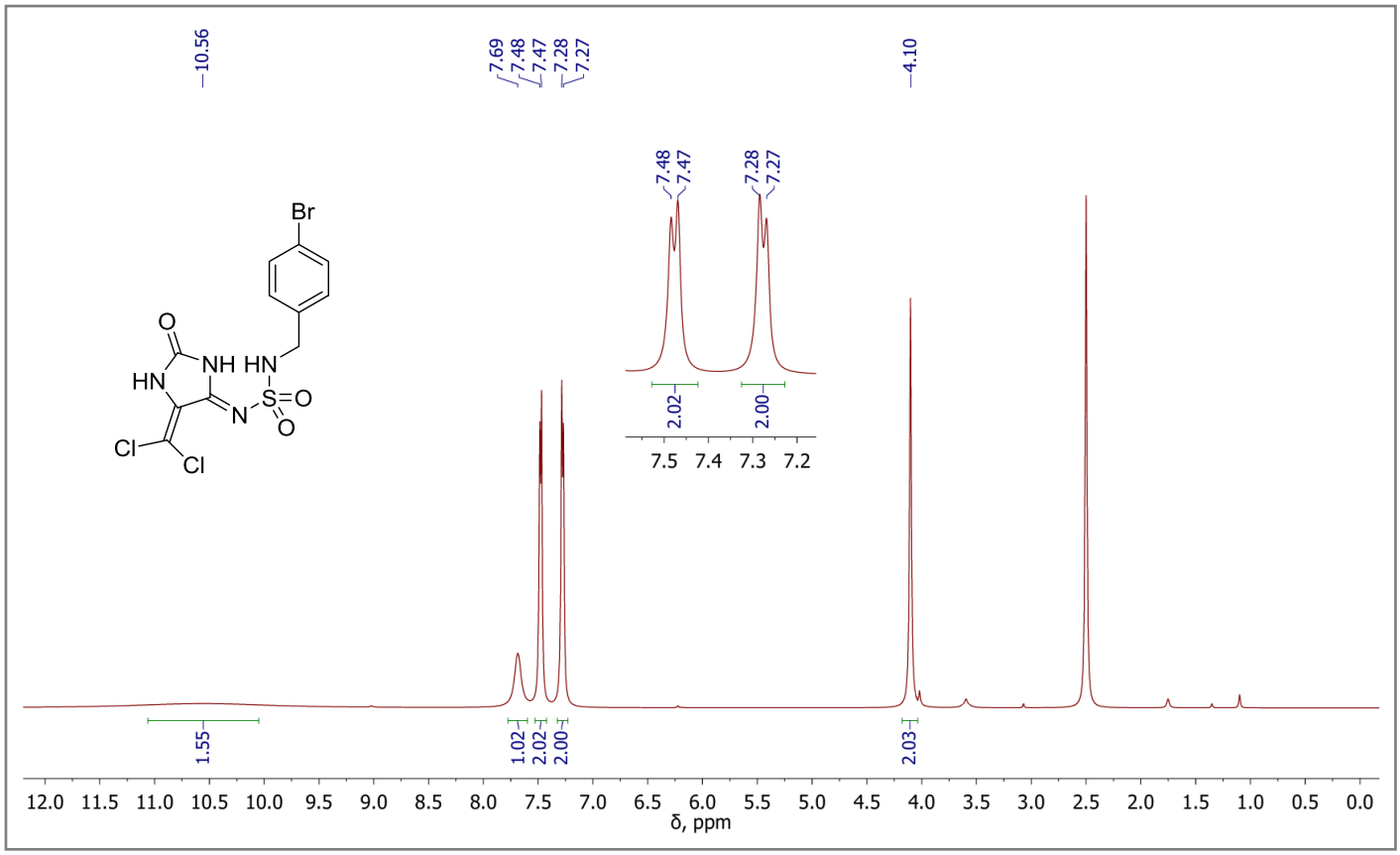
^{13}C NMR spectrum of **1c**



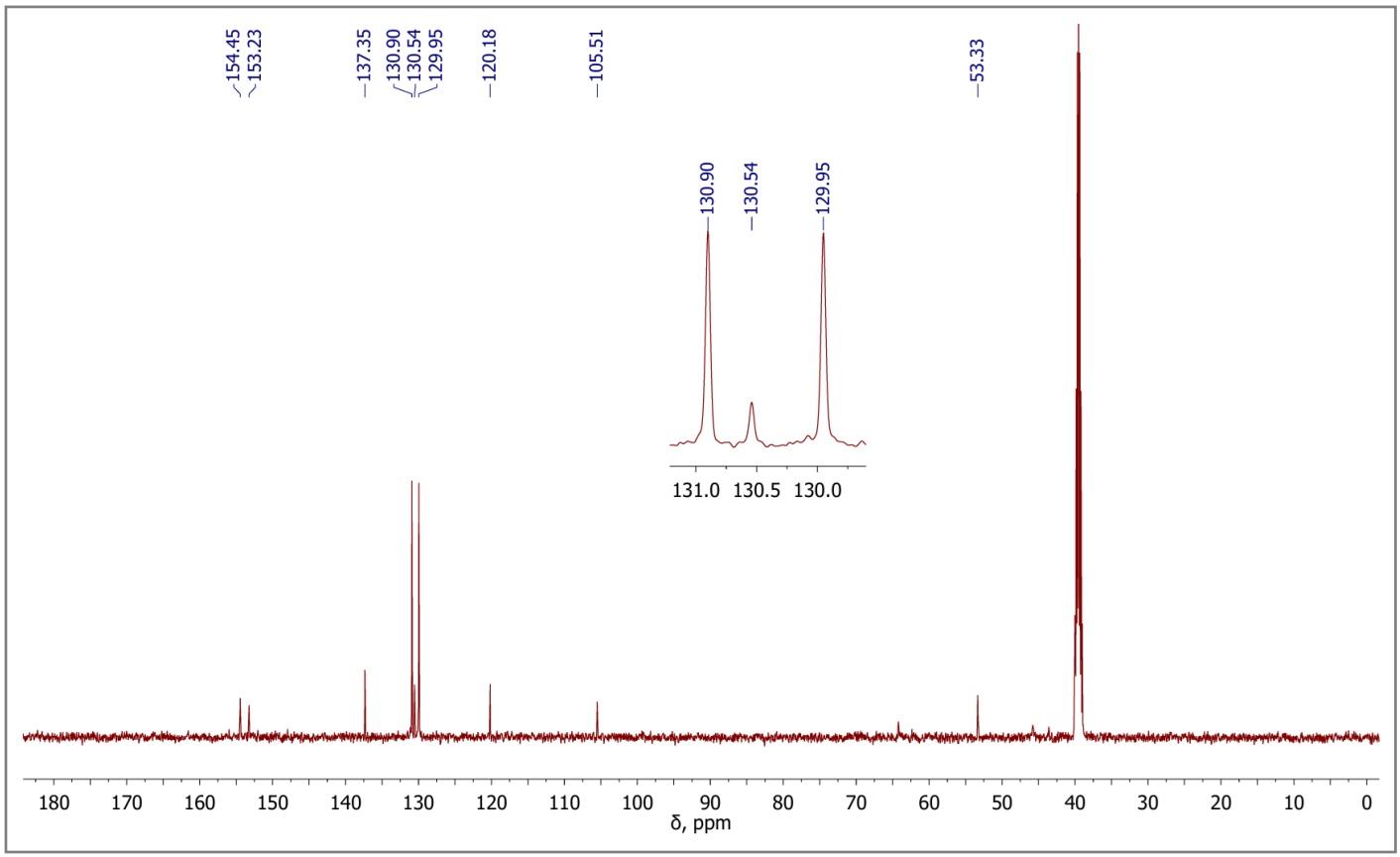
^{1}H NMR spectrum of **1d**



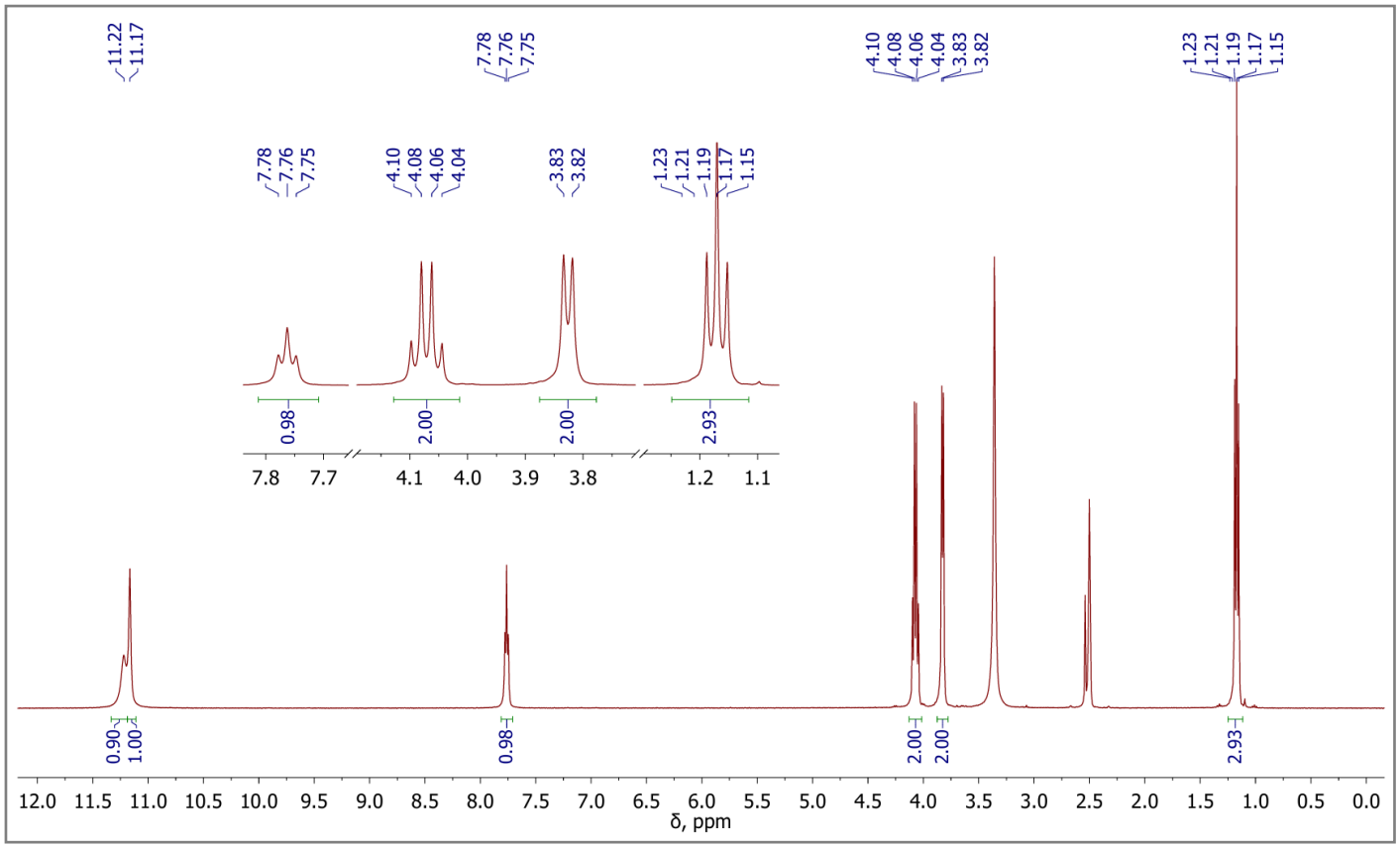
^{13}C NMR spectrum of **1d**



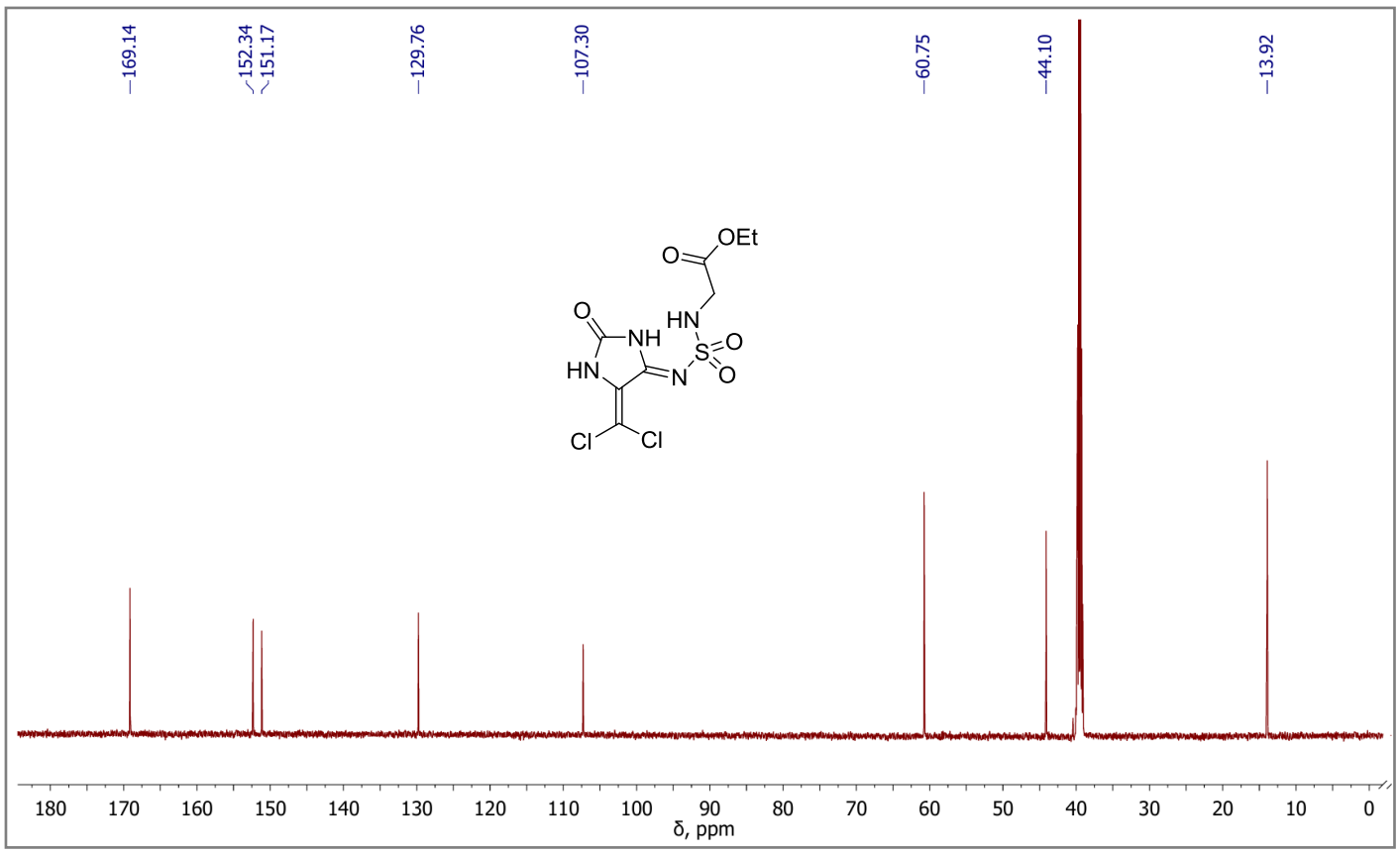
^{1}H NMR spectrum of **1f**



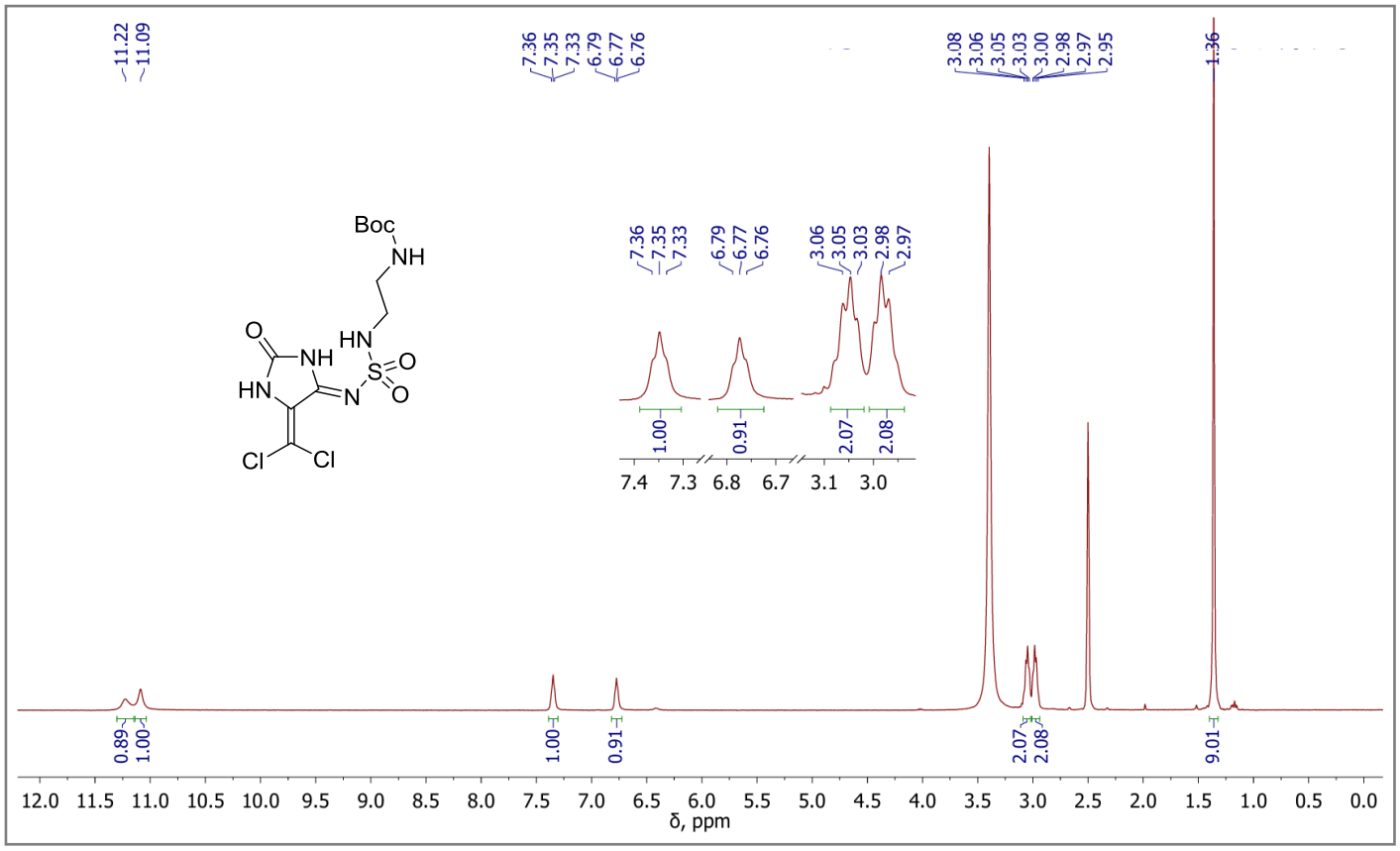
^{13}C NMR spectrum of **1f**



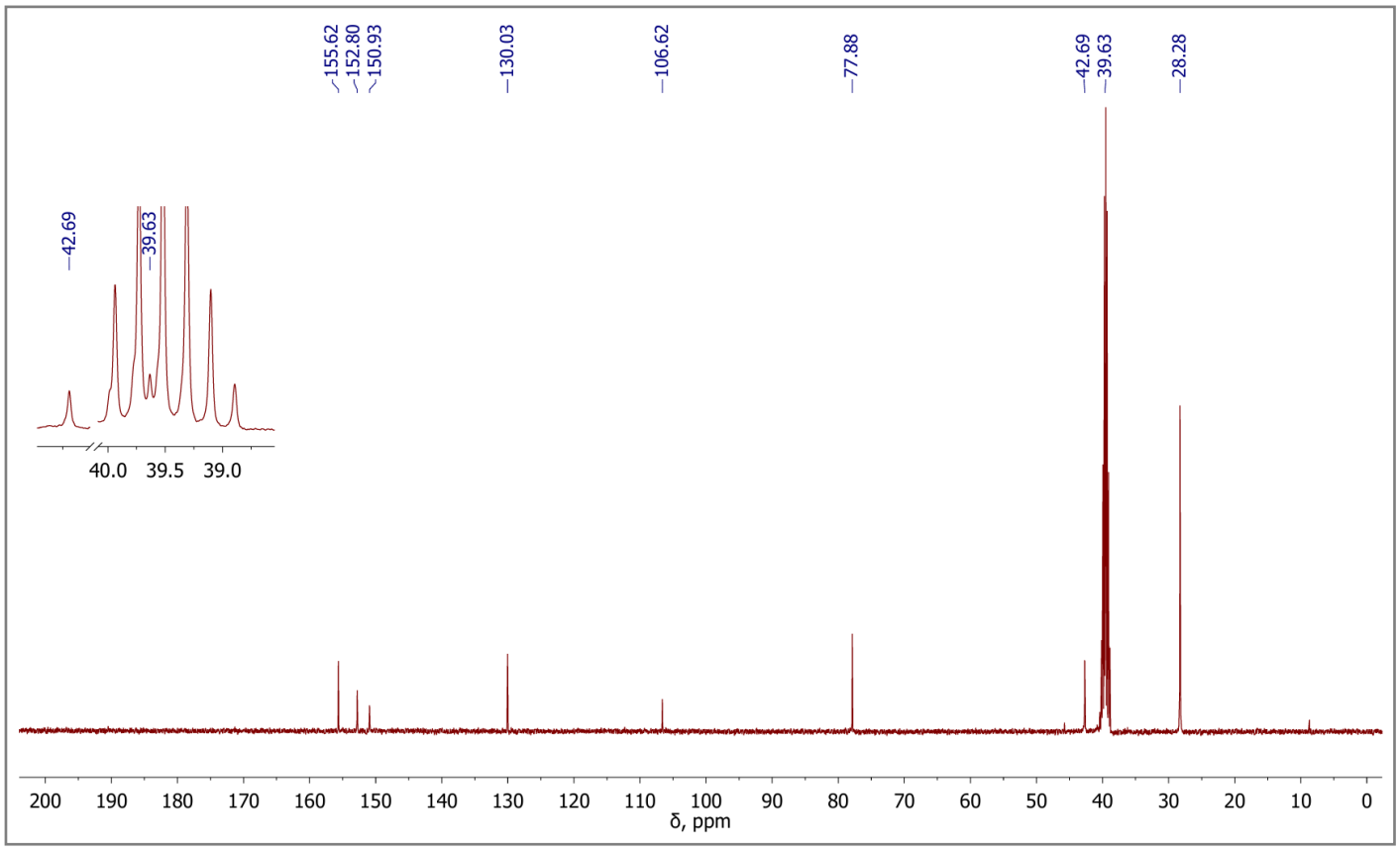
^{1}H NMR spectrum of **1h**



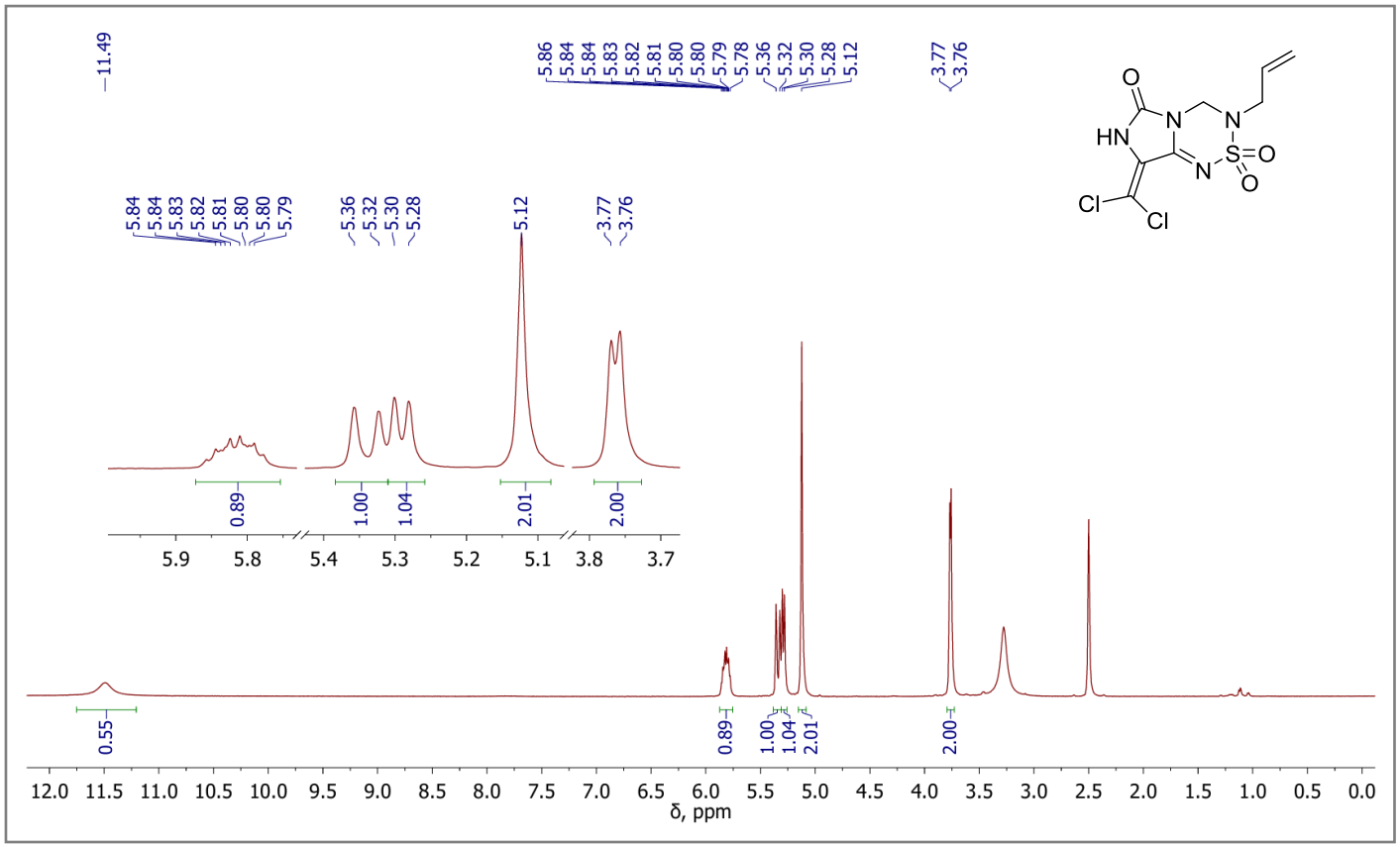
^{13}C NMR spectrum of **1h**



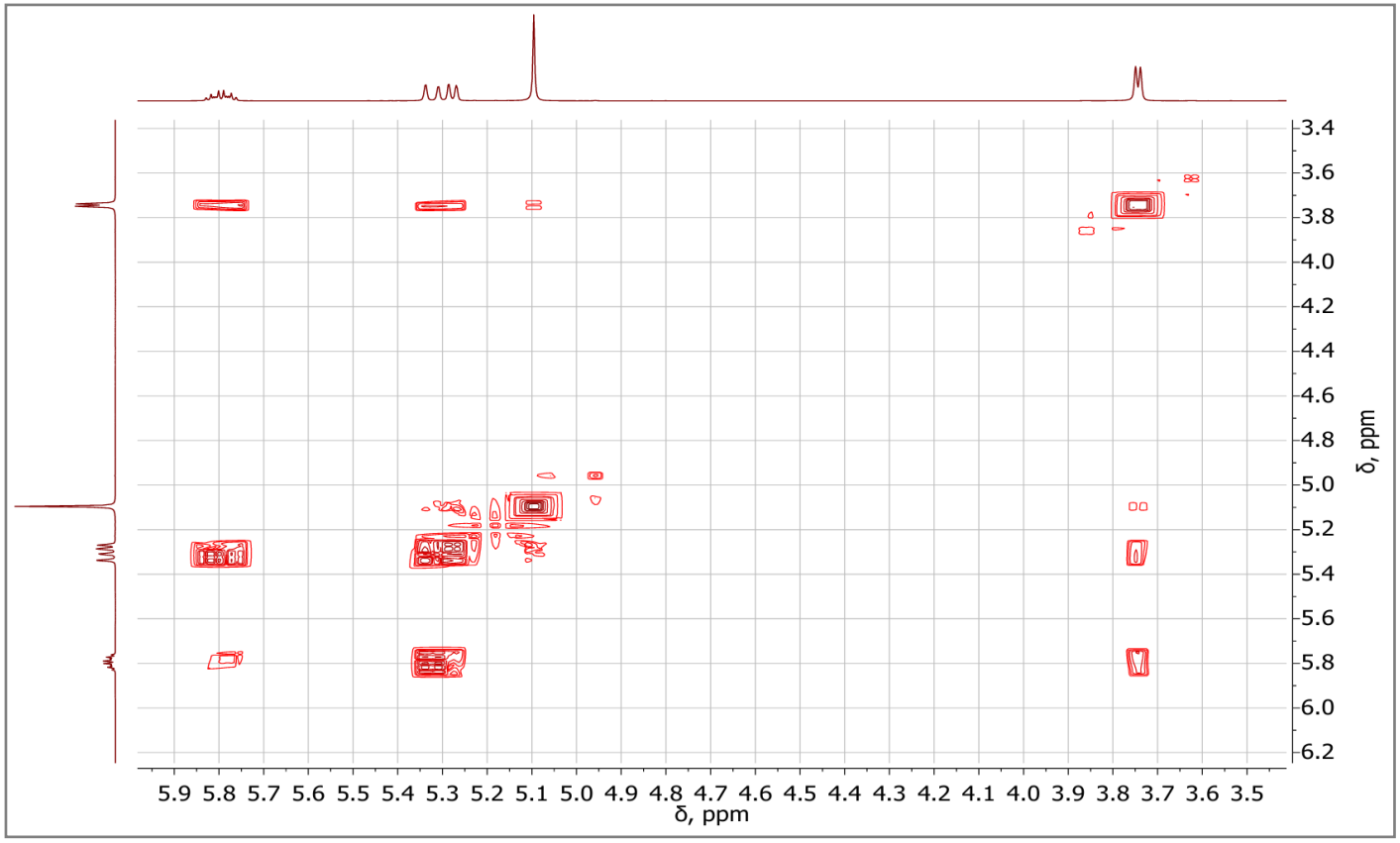
^{1}H NMR spectrum of **1i**



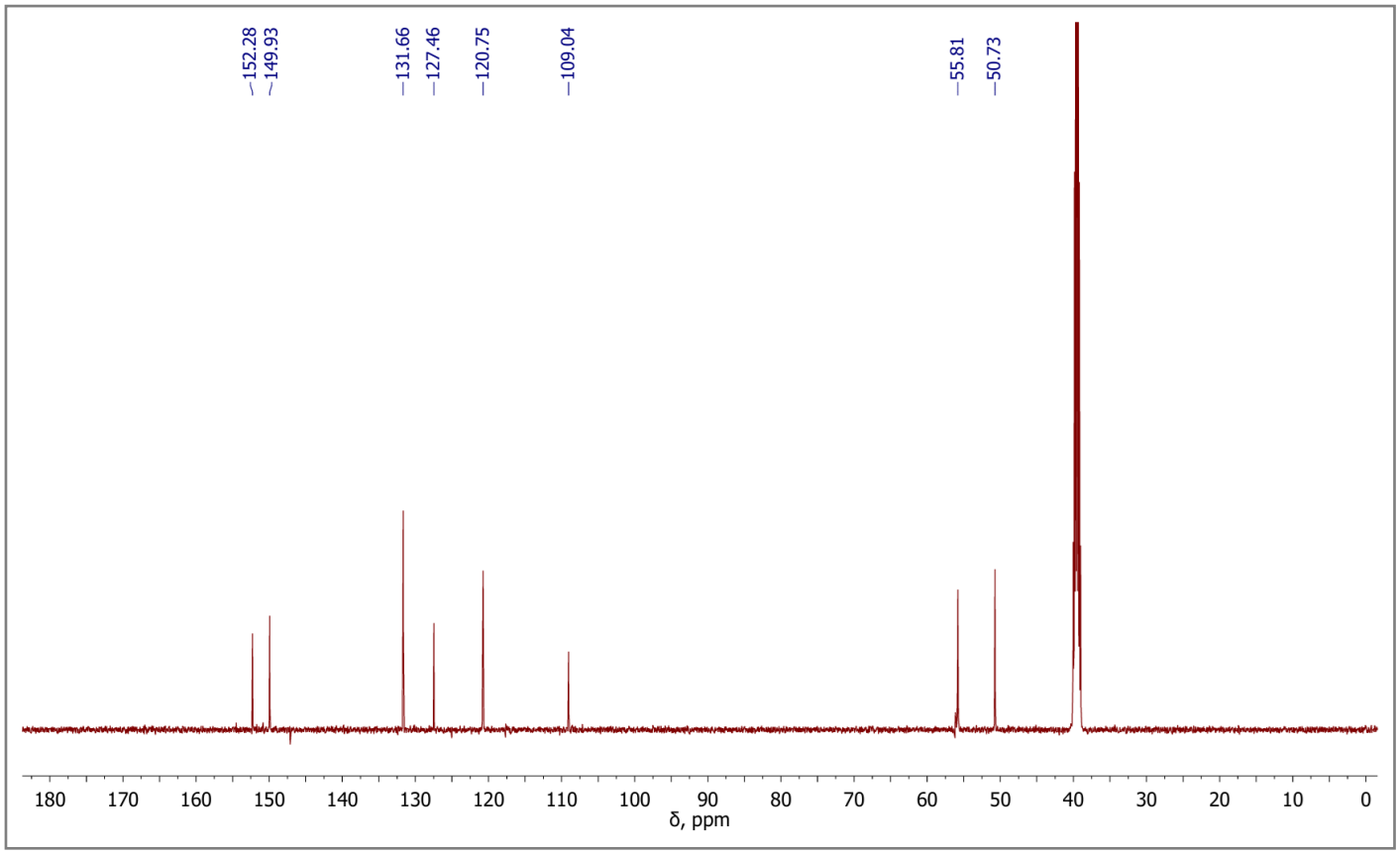
^{13}C NMR spectrum of **1i**



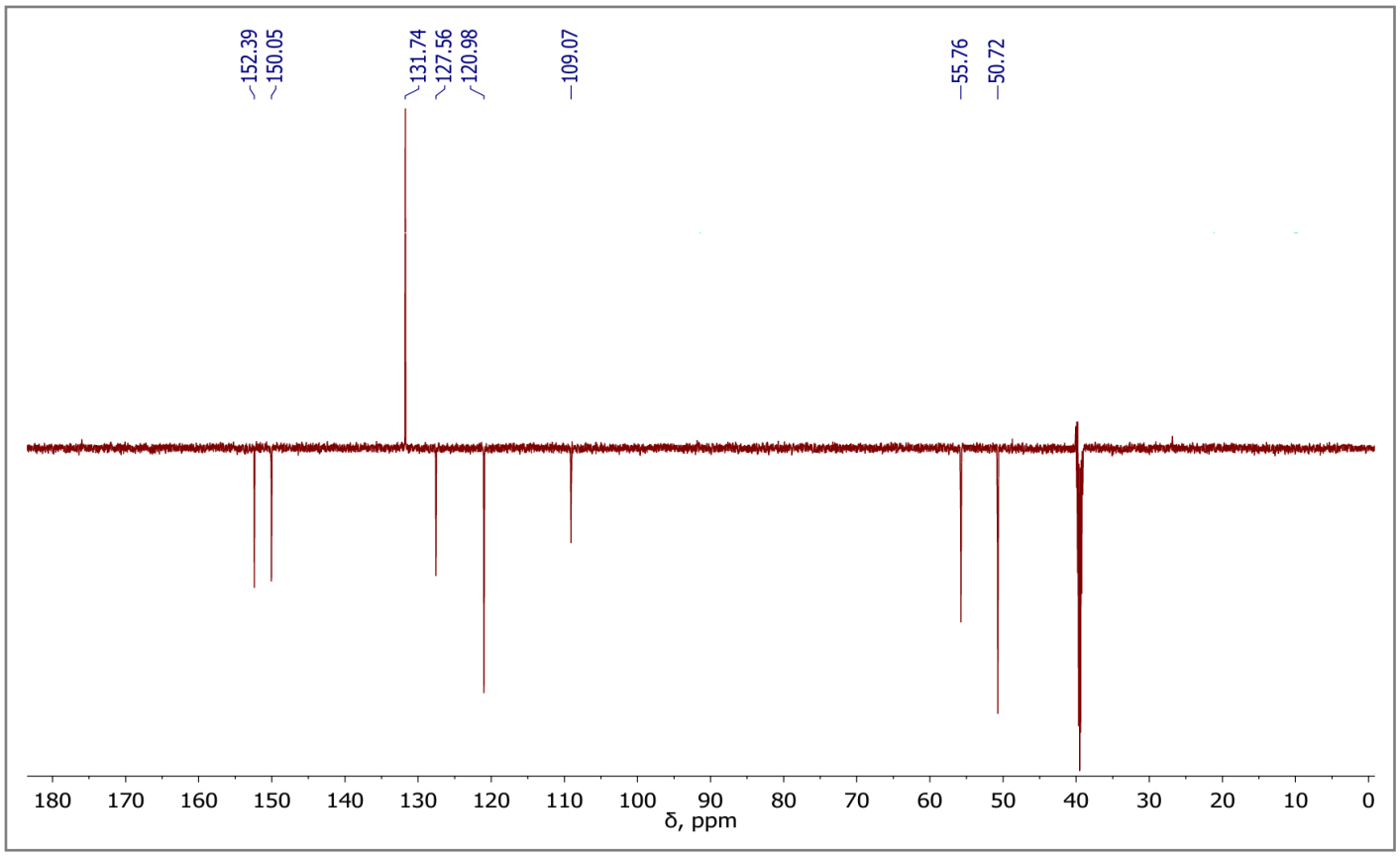
^{1}H NMR spectrum of **2a**



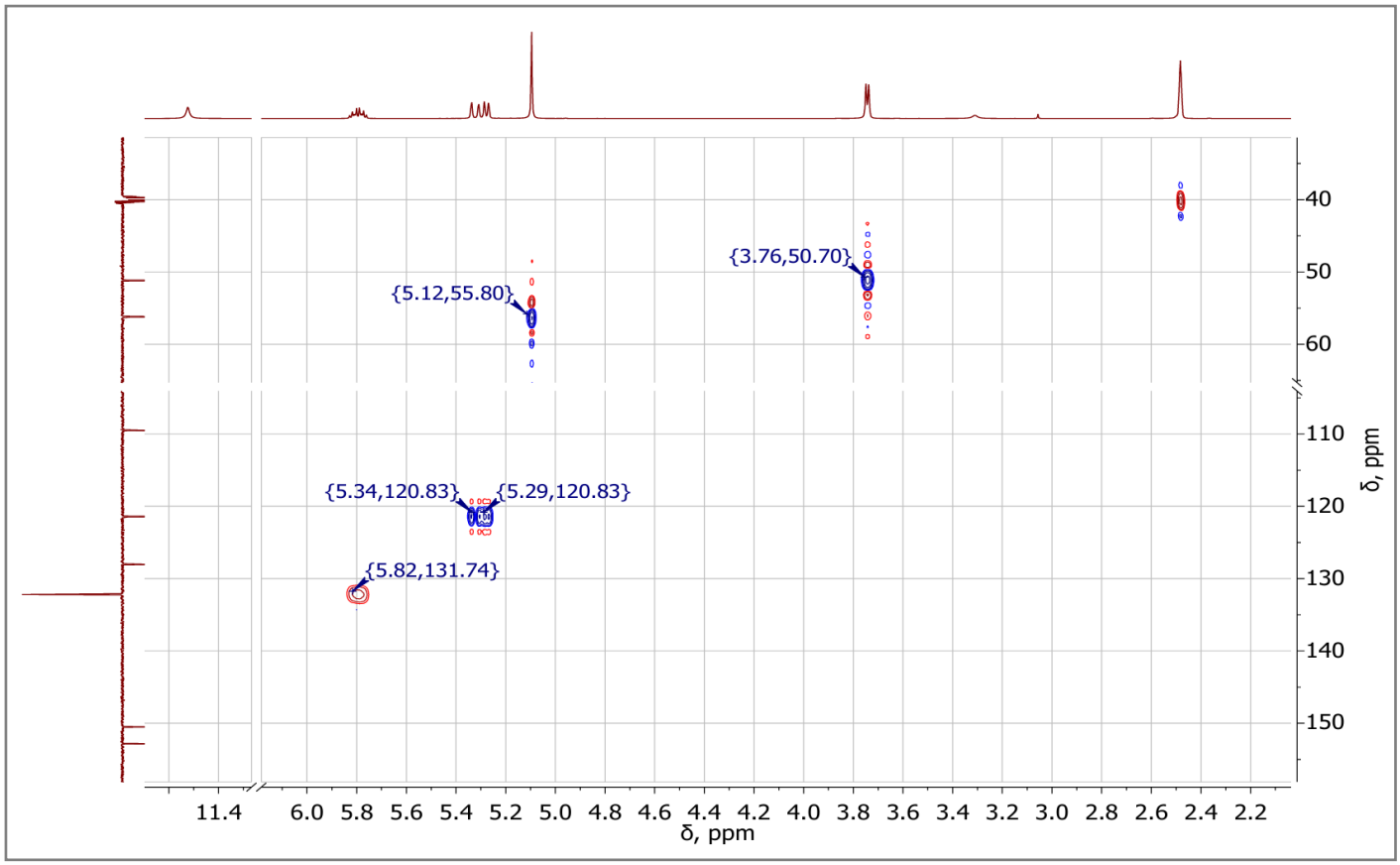
COSY spectrum of **2a**



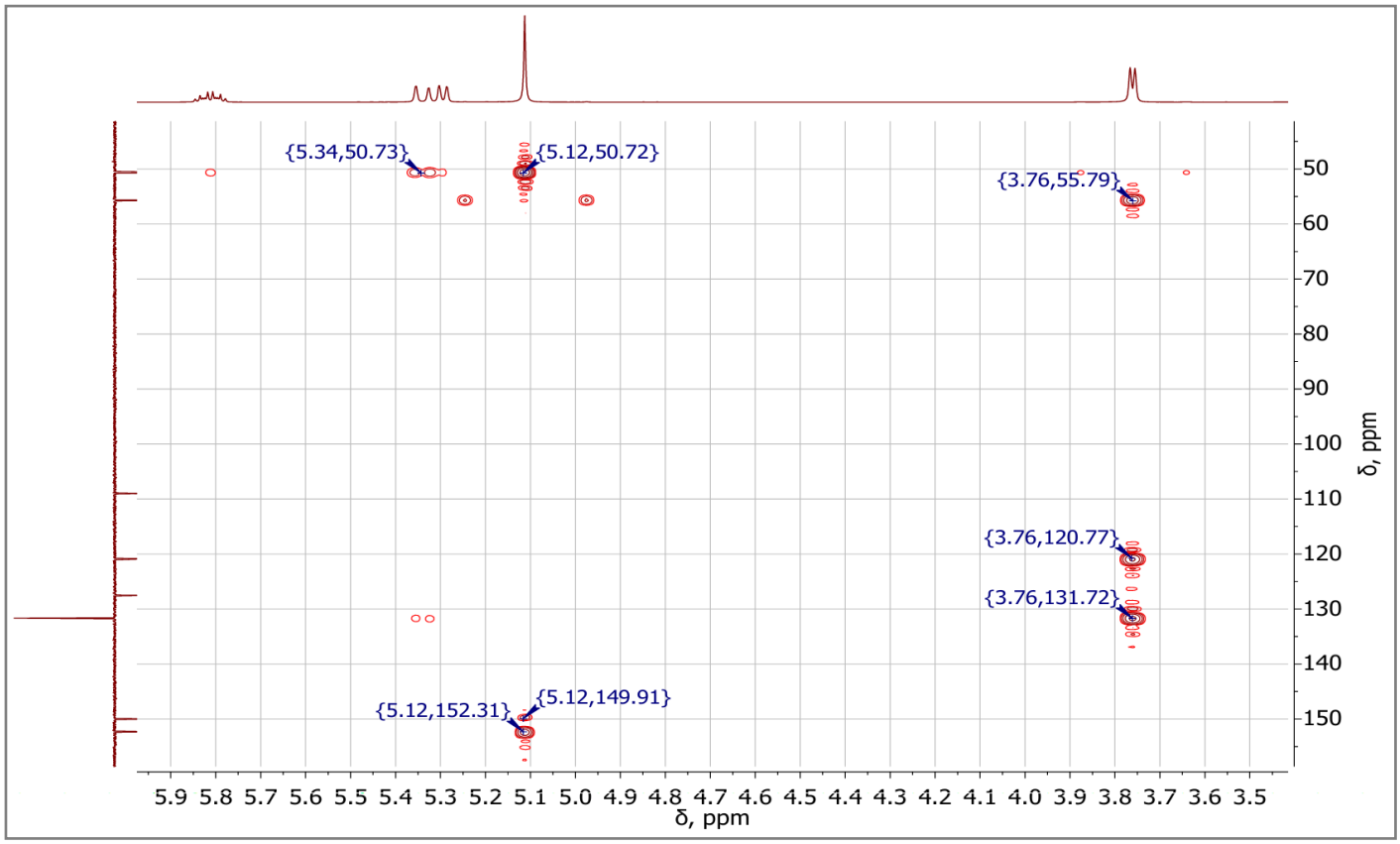
^{13}C NMR spectrum of **2a**



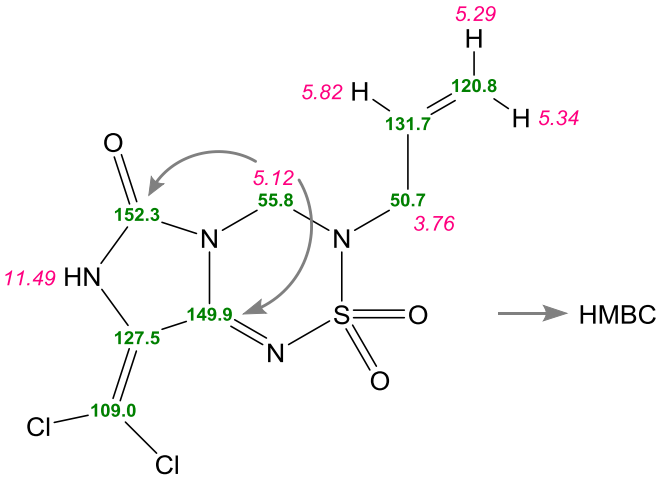
^{13}C APT NMR spectrum of **2a**



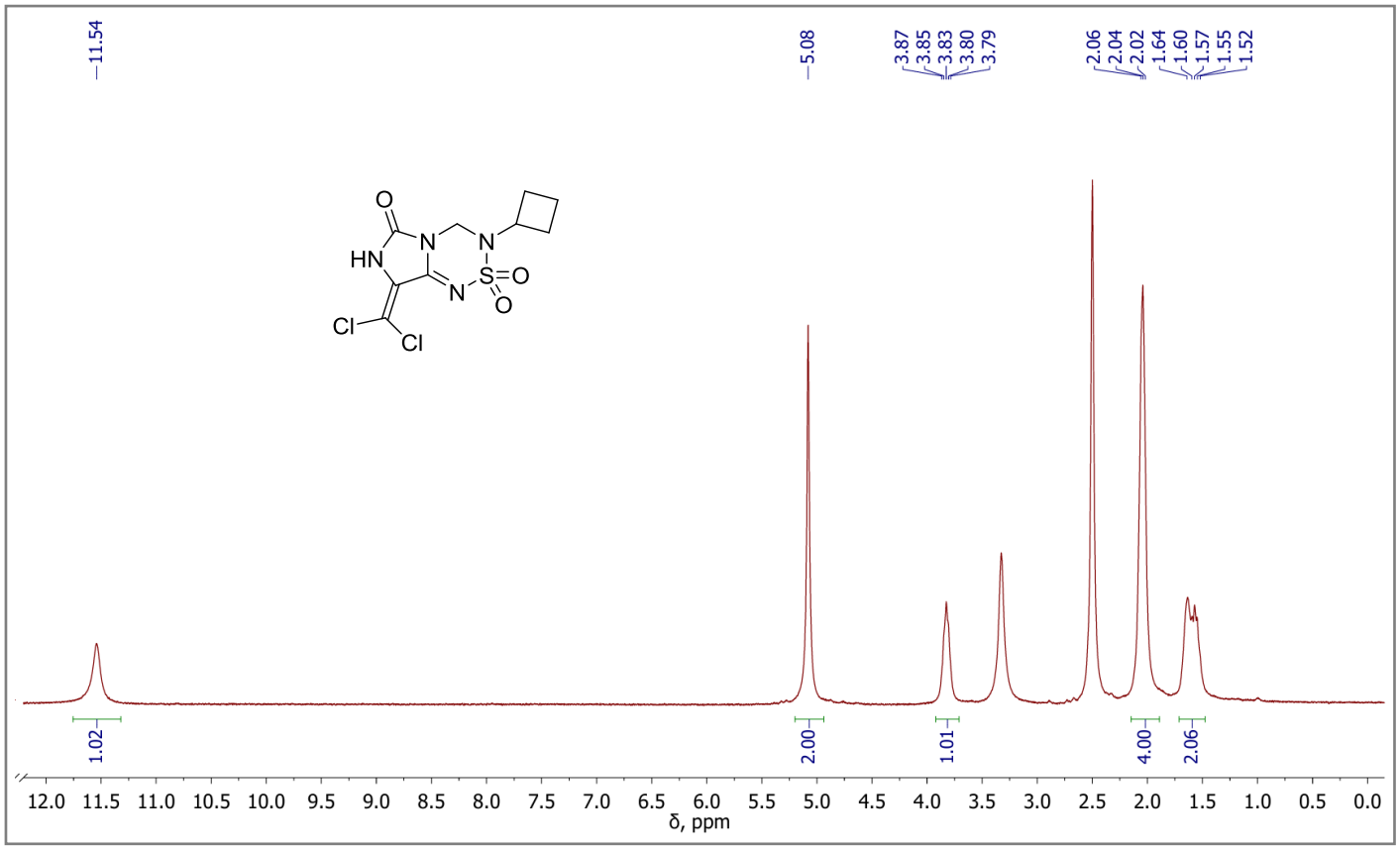
HSQC spectrum of **2a**



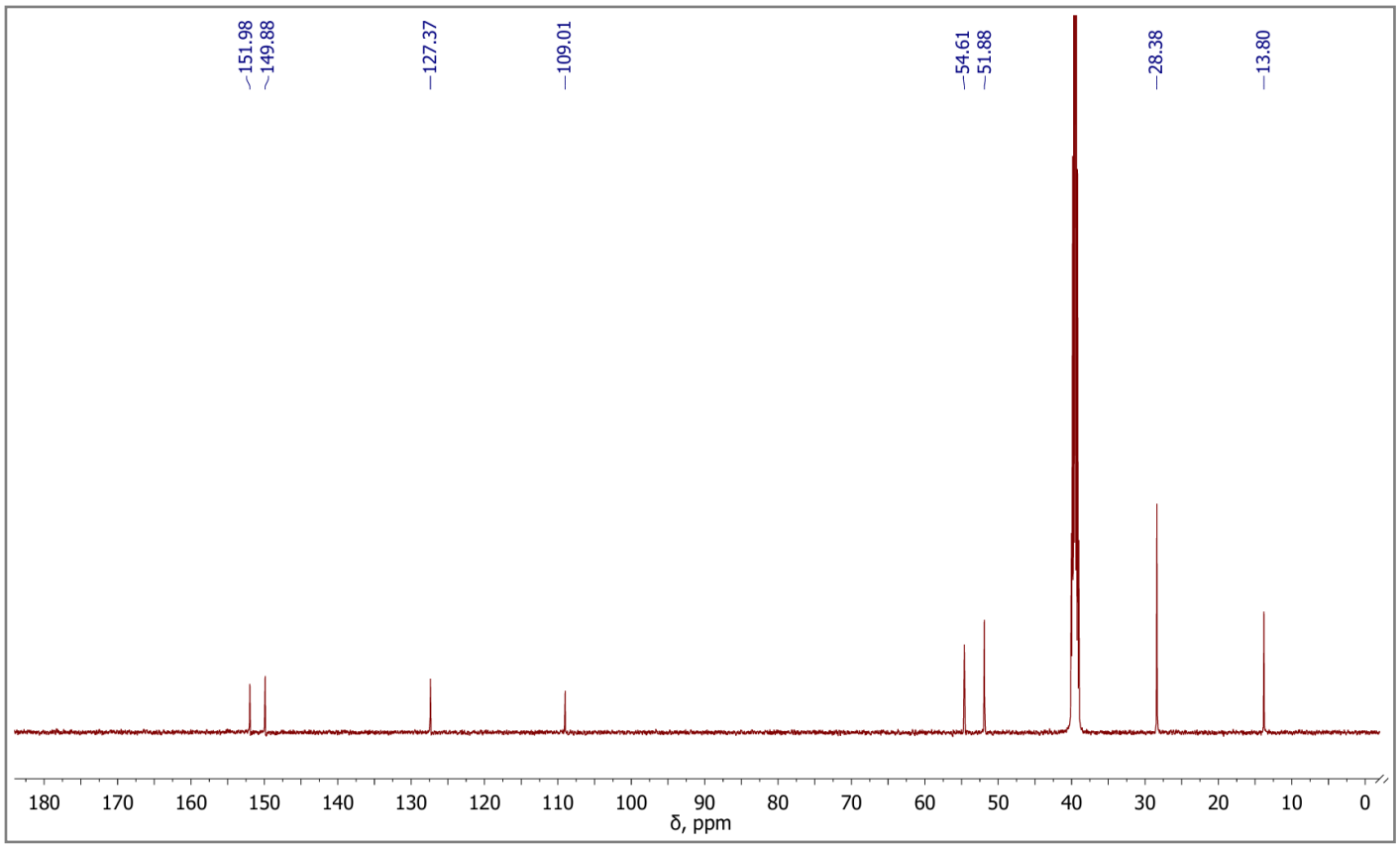
HMBC spectrum of **2a**



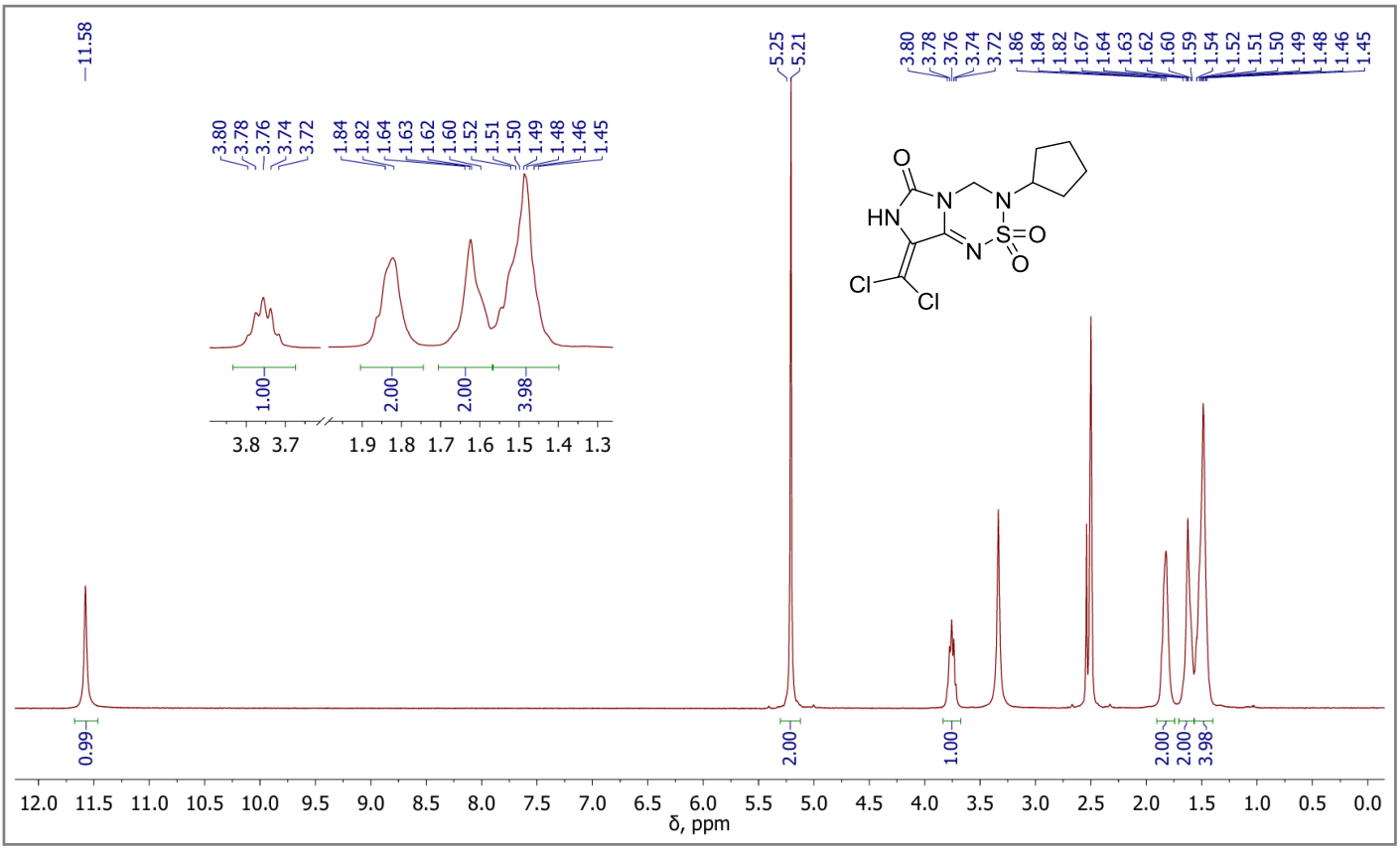
NMR spectra of **2a** (all data)



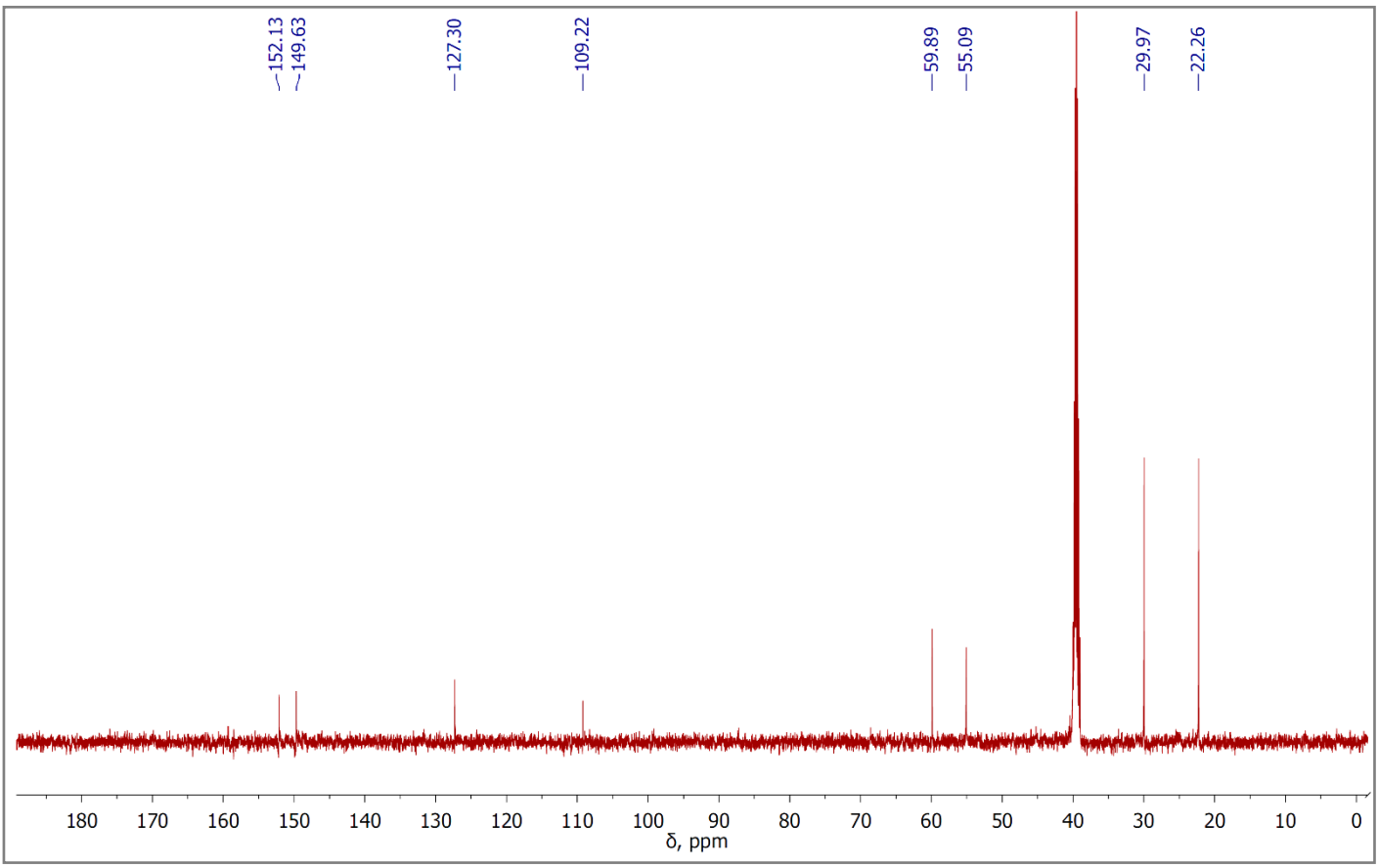
^{1}H NMR spectrum of **2b**



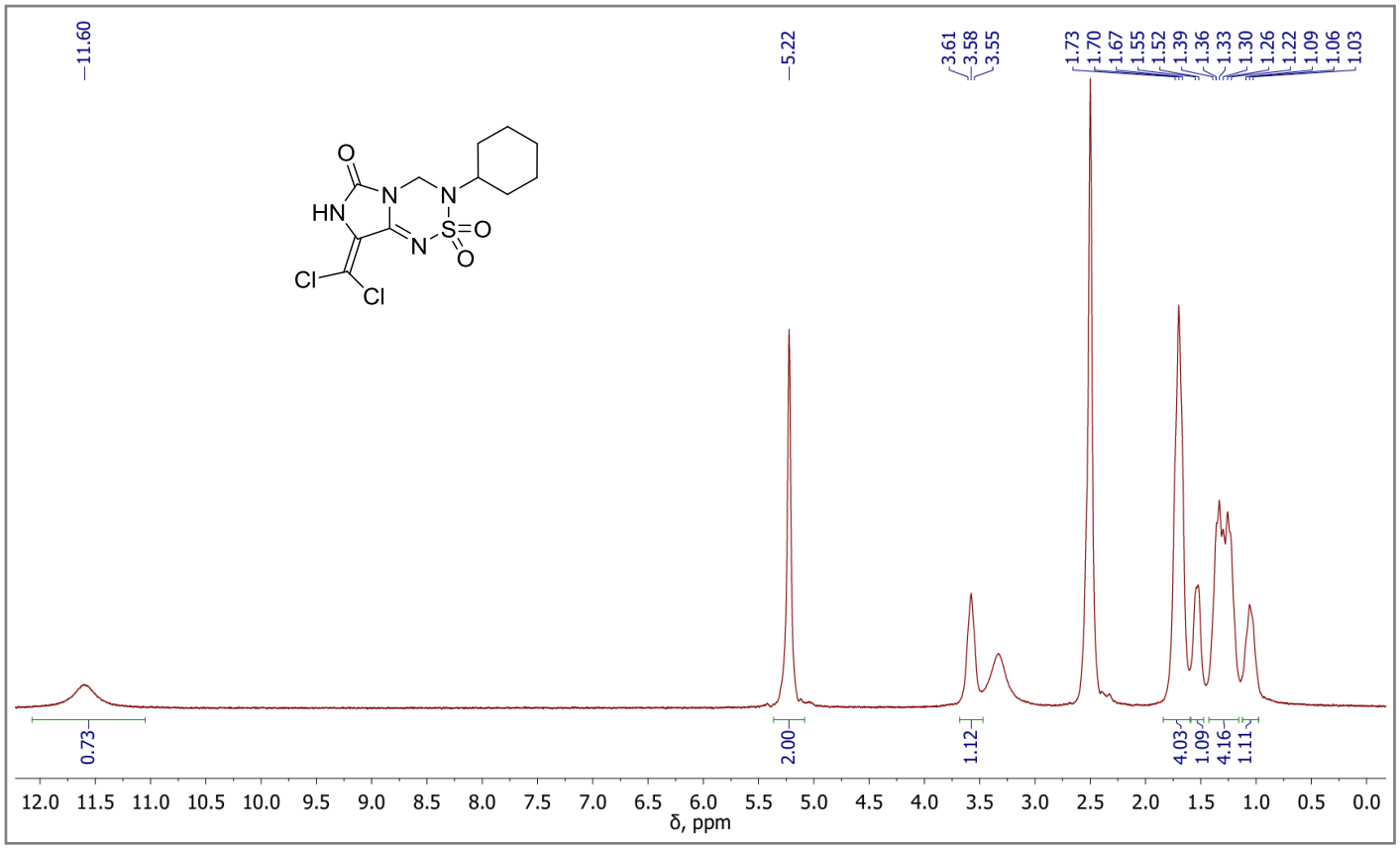
^{13}C NMR spectrum of **2b**



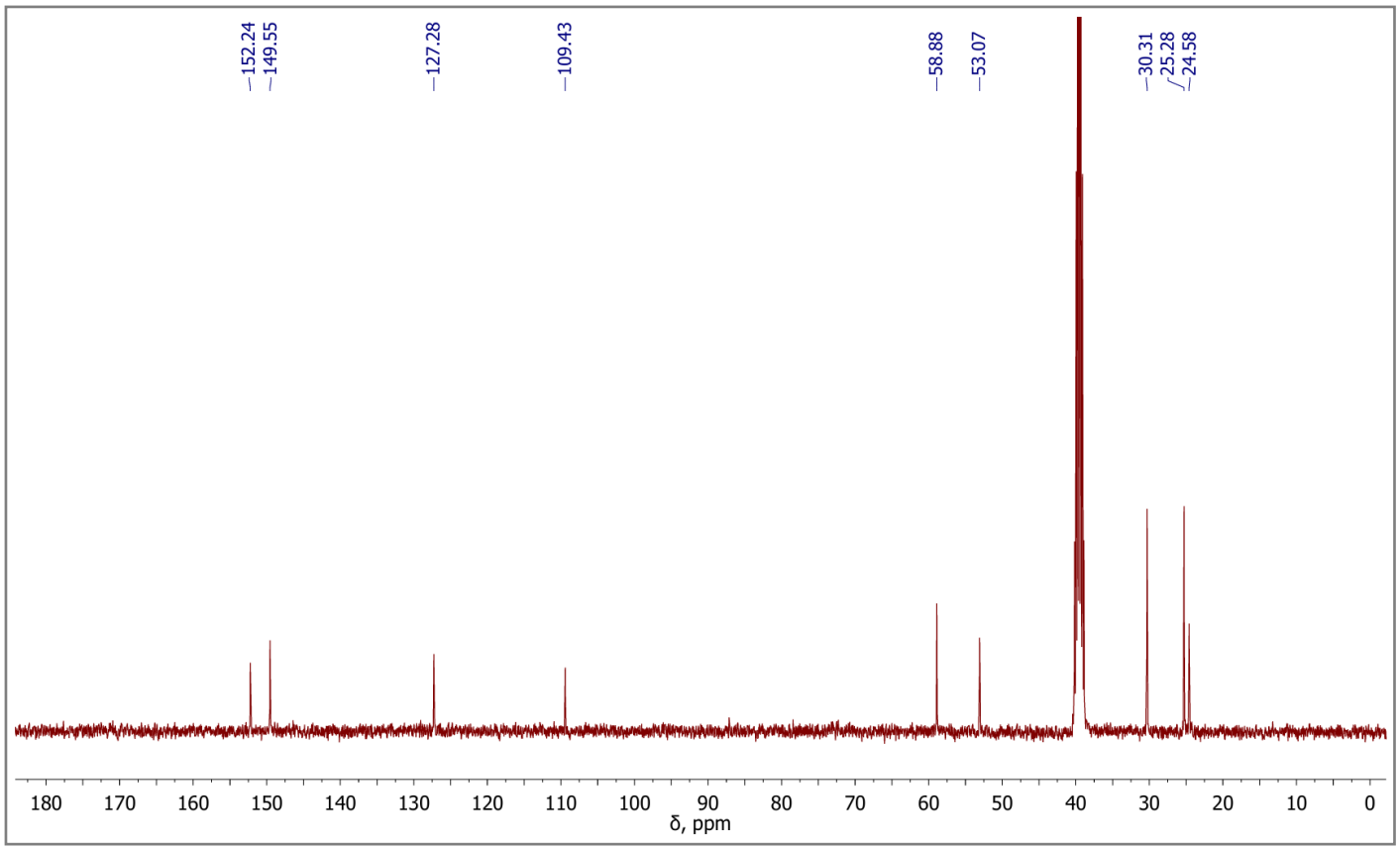
^{1}H NMR spectrum of **2c**



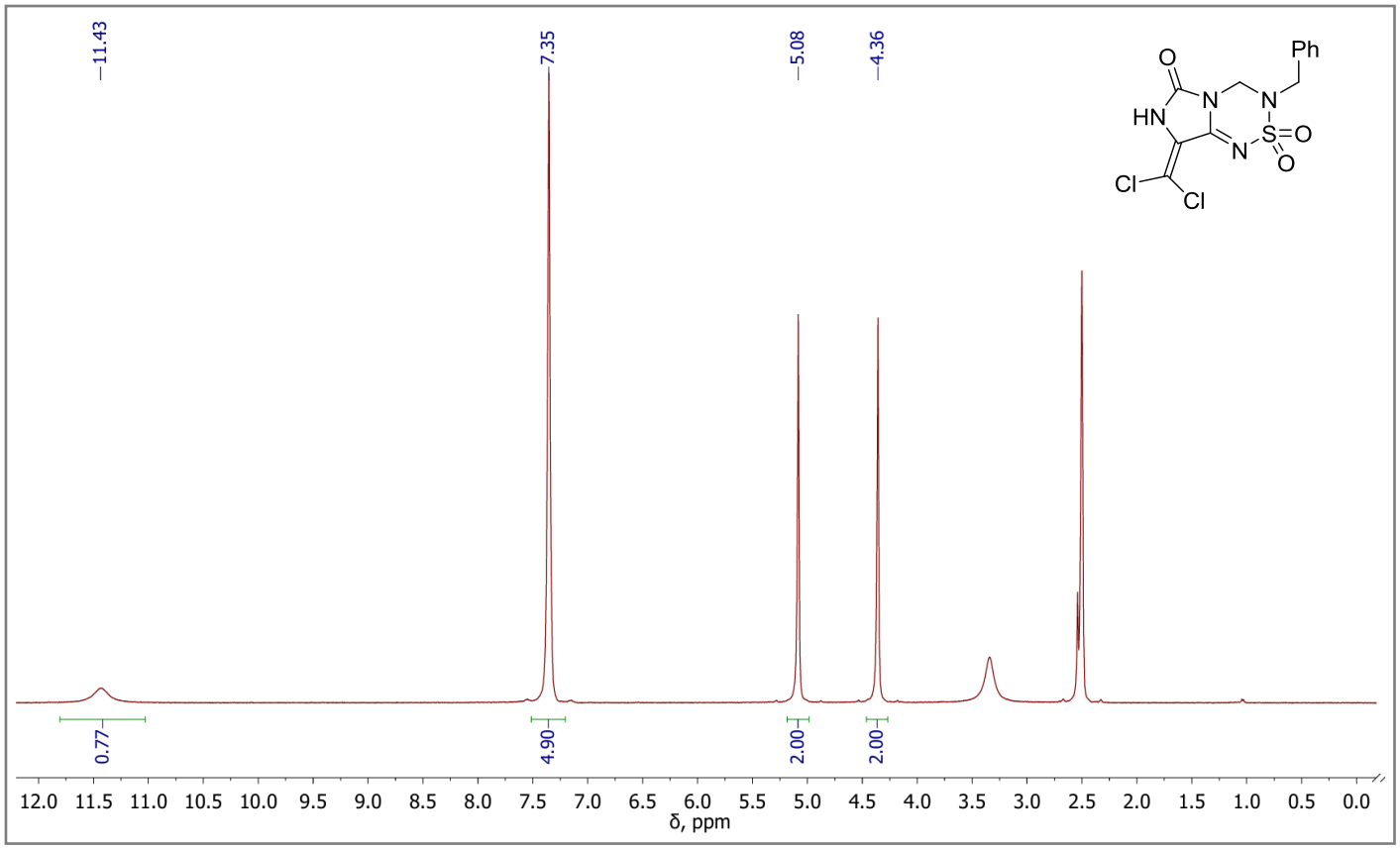
^{13}C NMR spectrum of **2c**



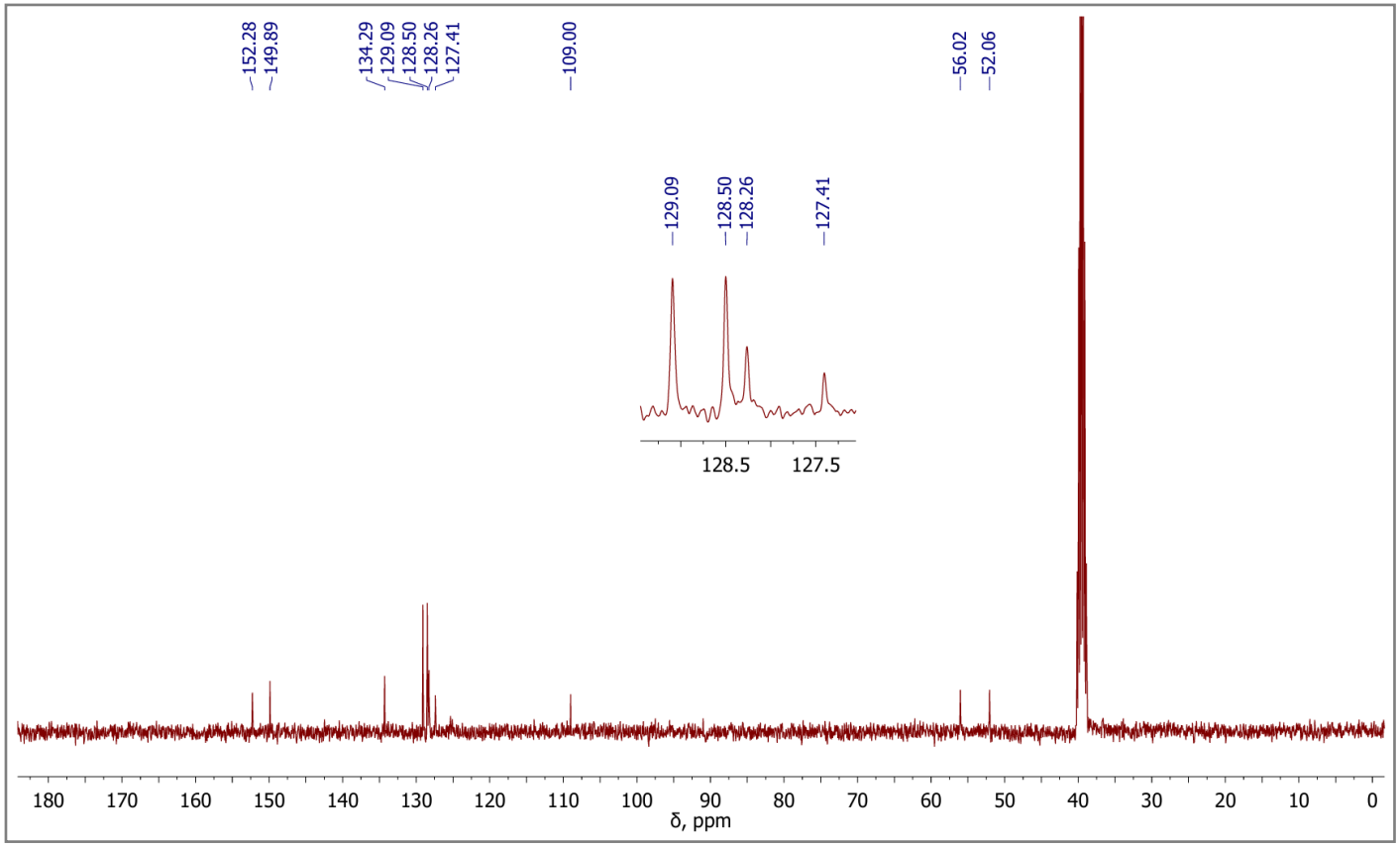
^{1}H NMR spectrum of **2d**



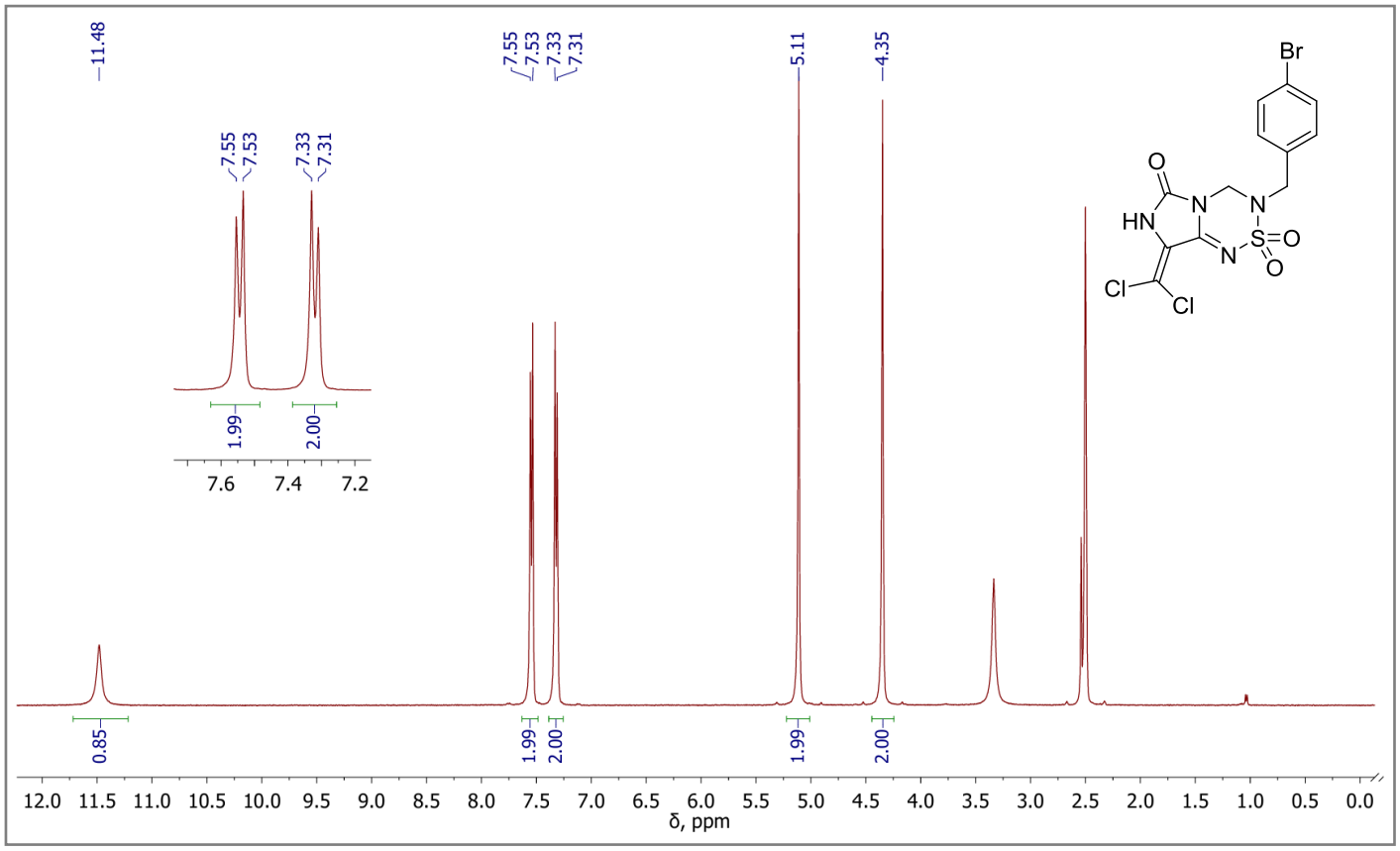
^{13}C NMR spectrum of **2d**



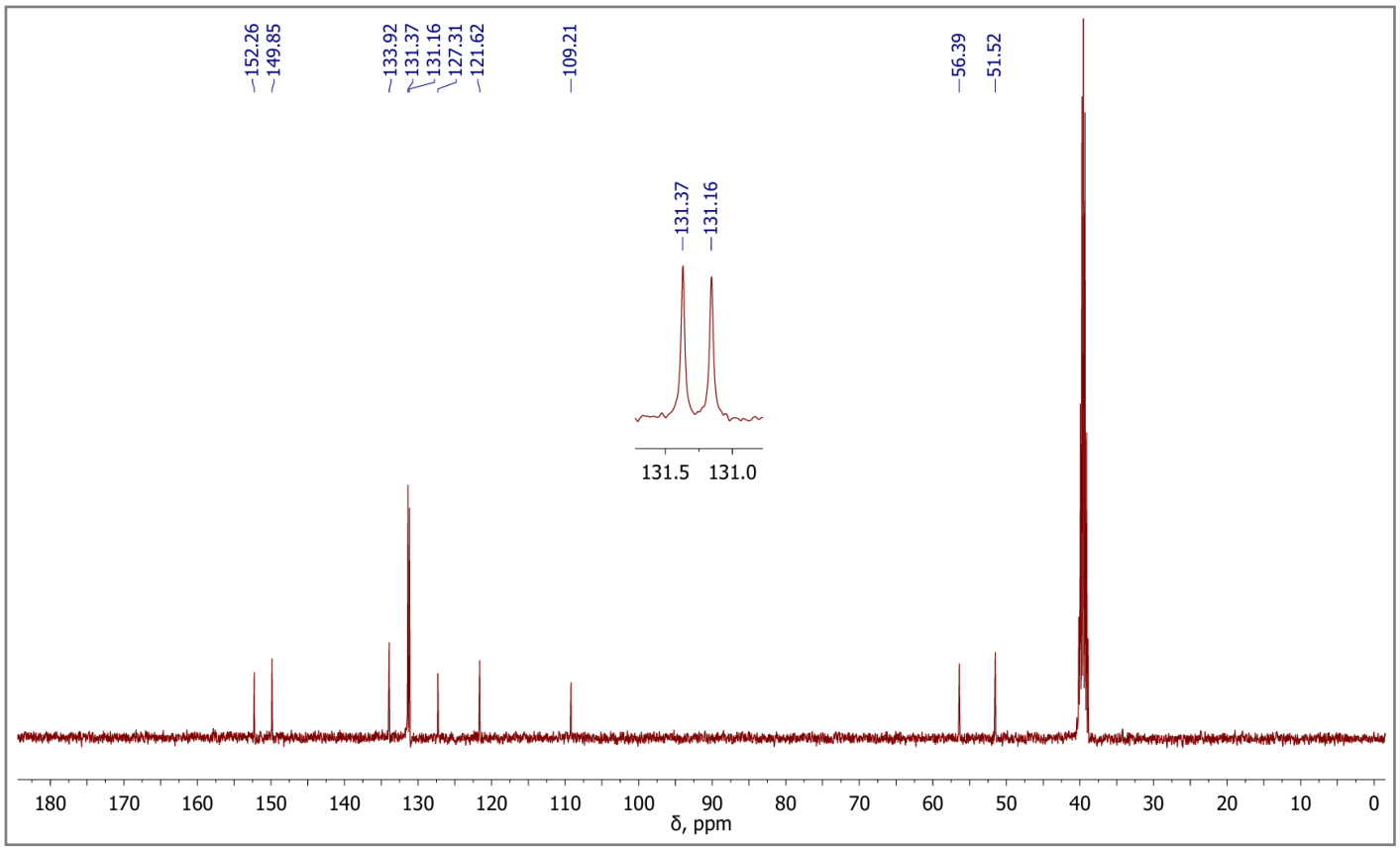
^{1}H NMR spectrum of **2e**



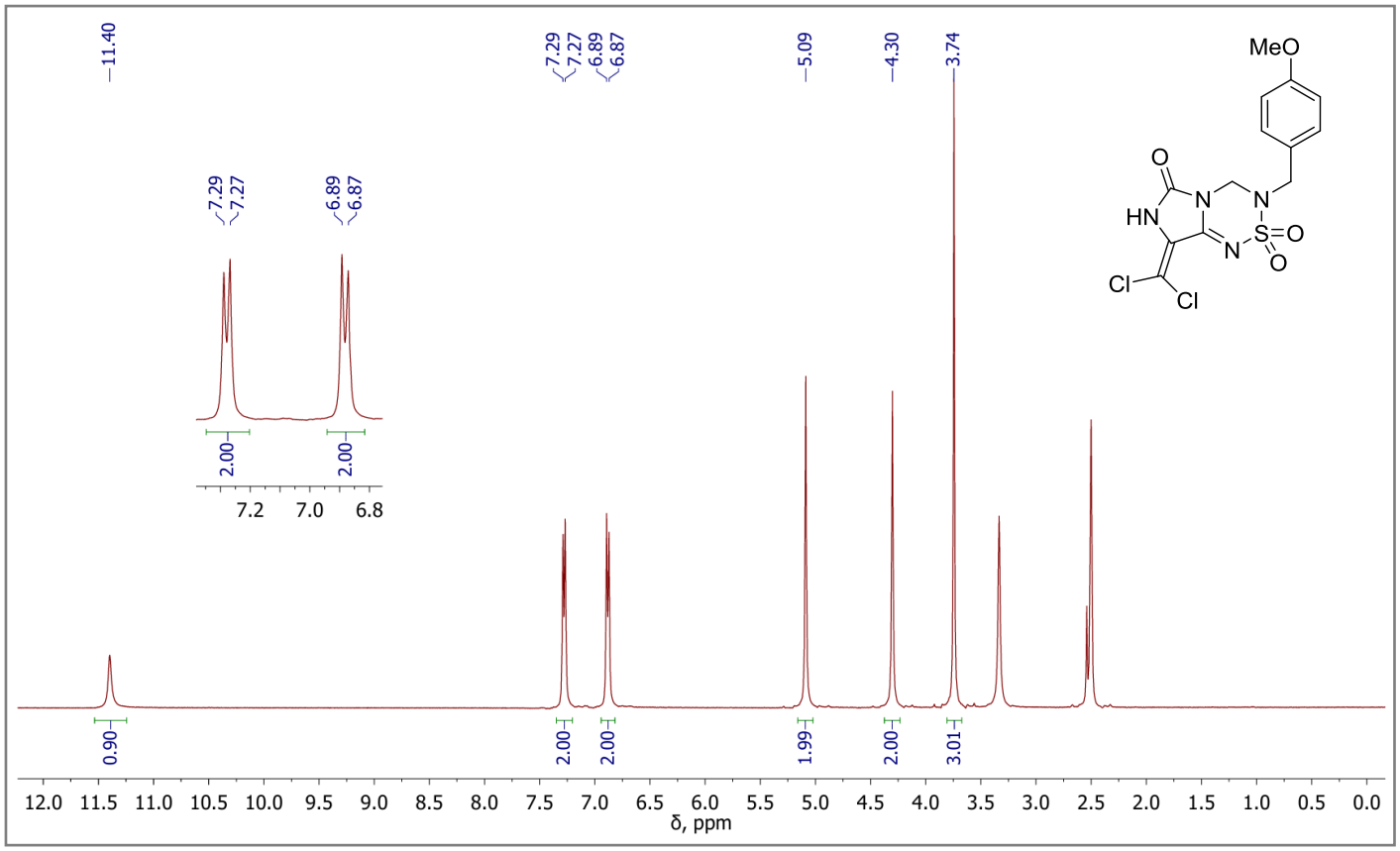
^{13}C NMR spectrum of **2e**



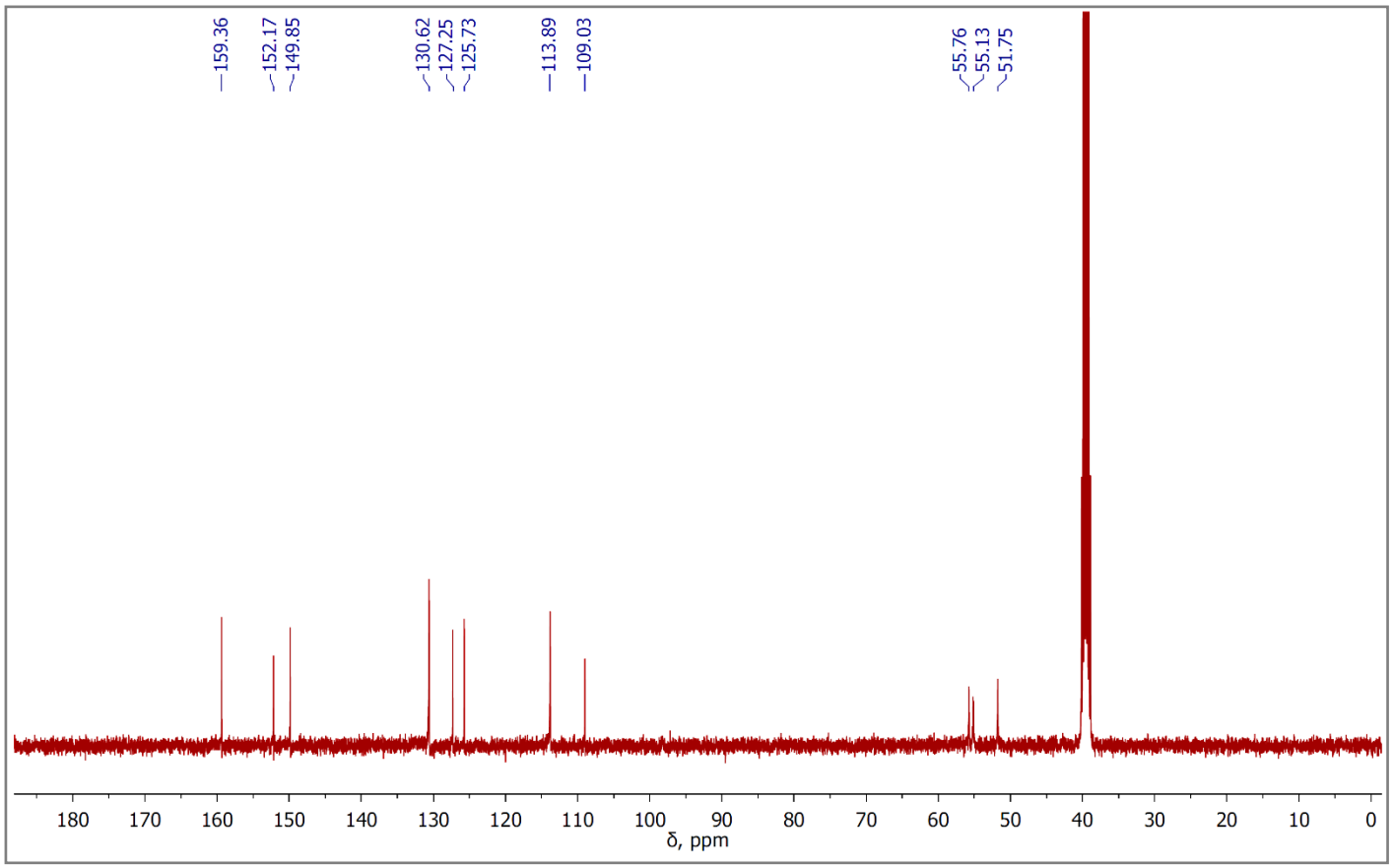
^{1}H NMR spectrum of **2f**



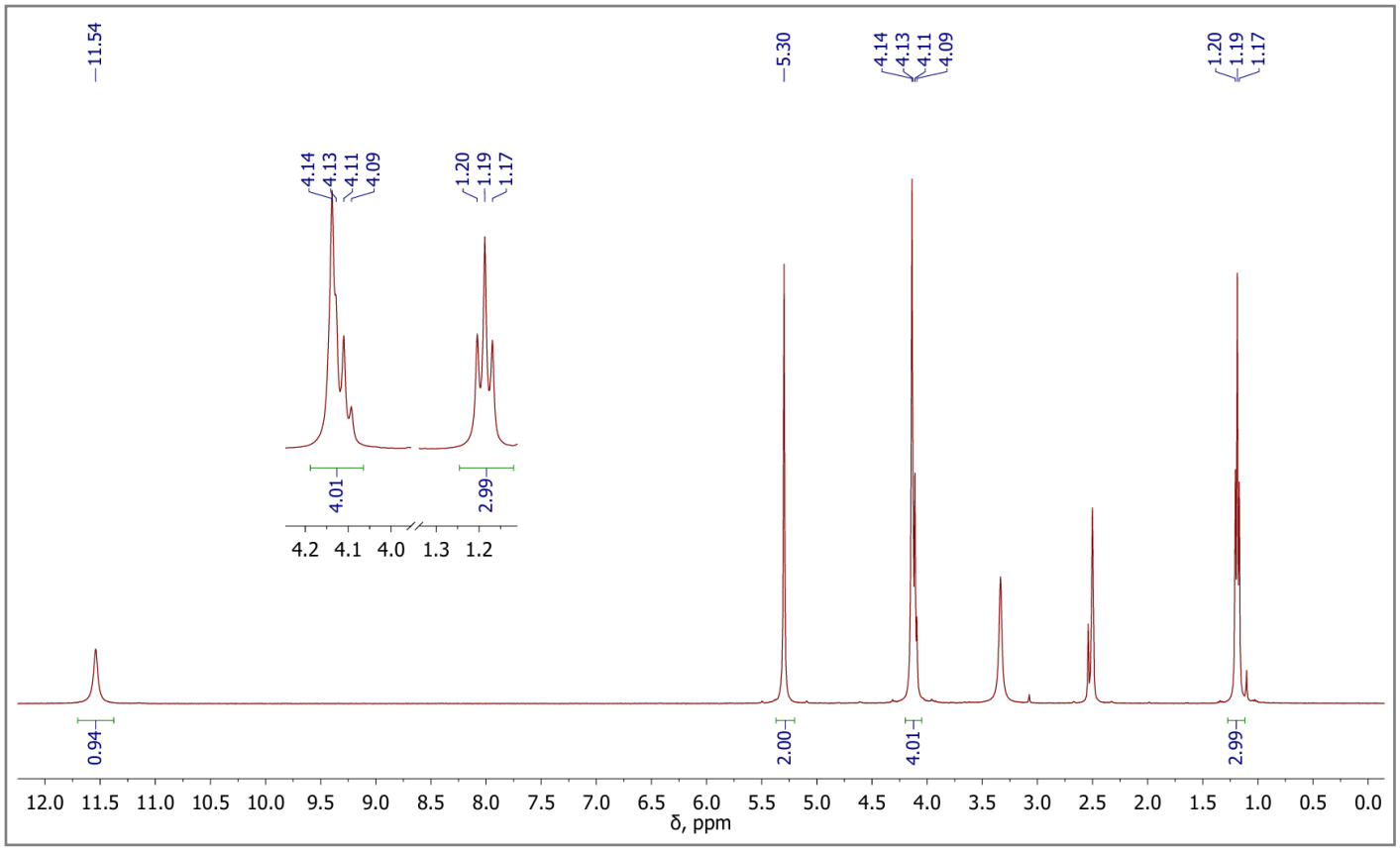
^{13}C NMR spectrum of **2f**



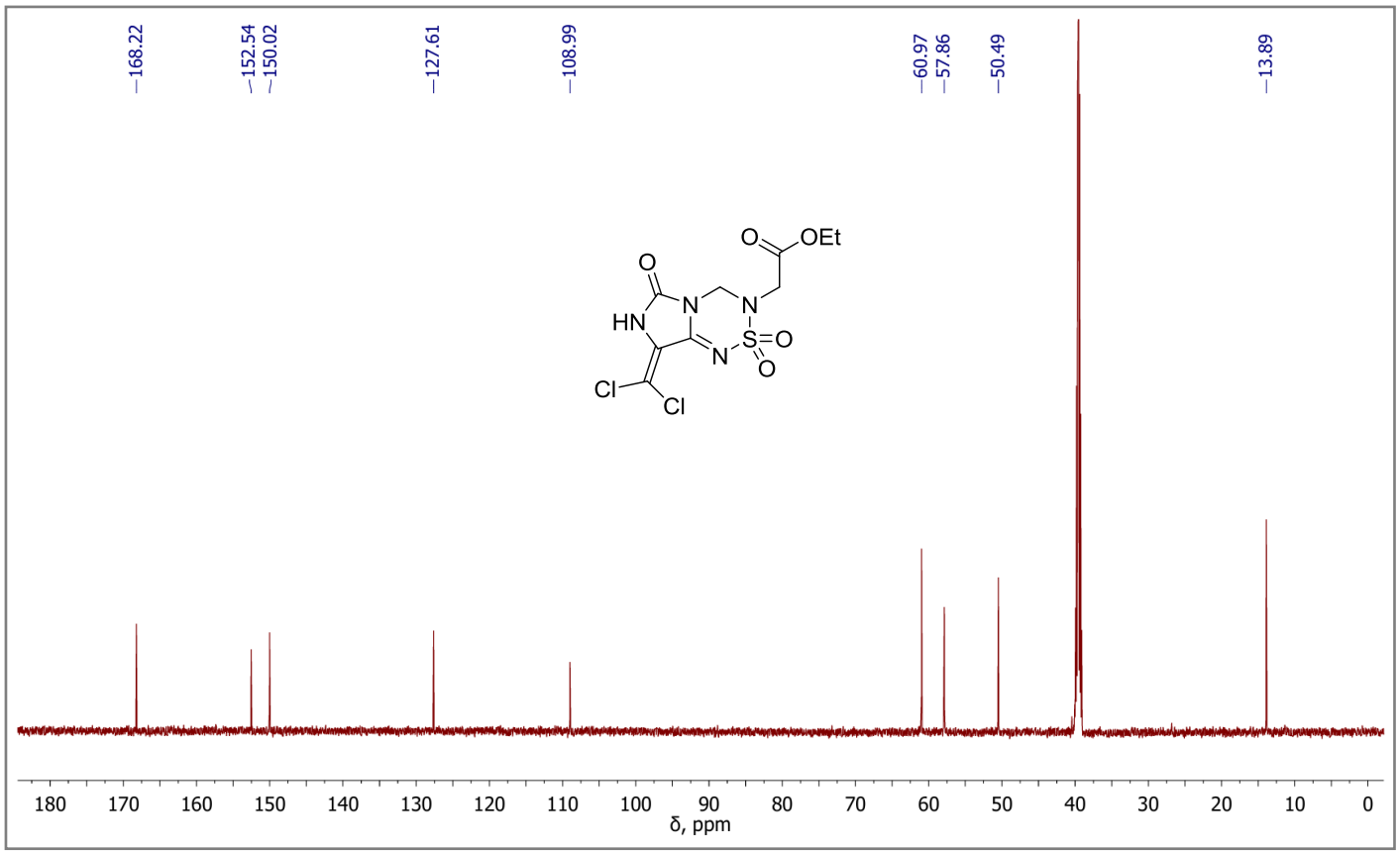
^{1}H NMR spectrum of **2g**



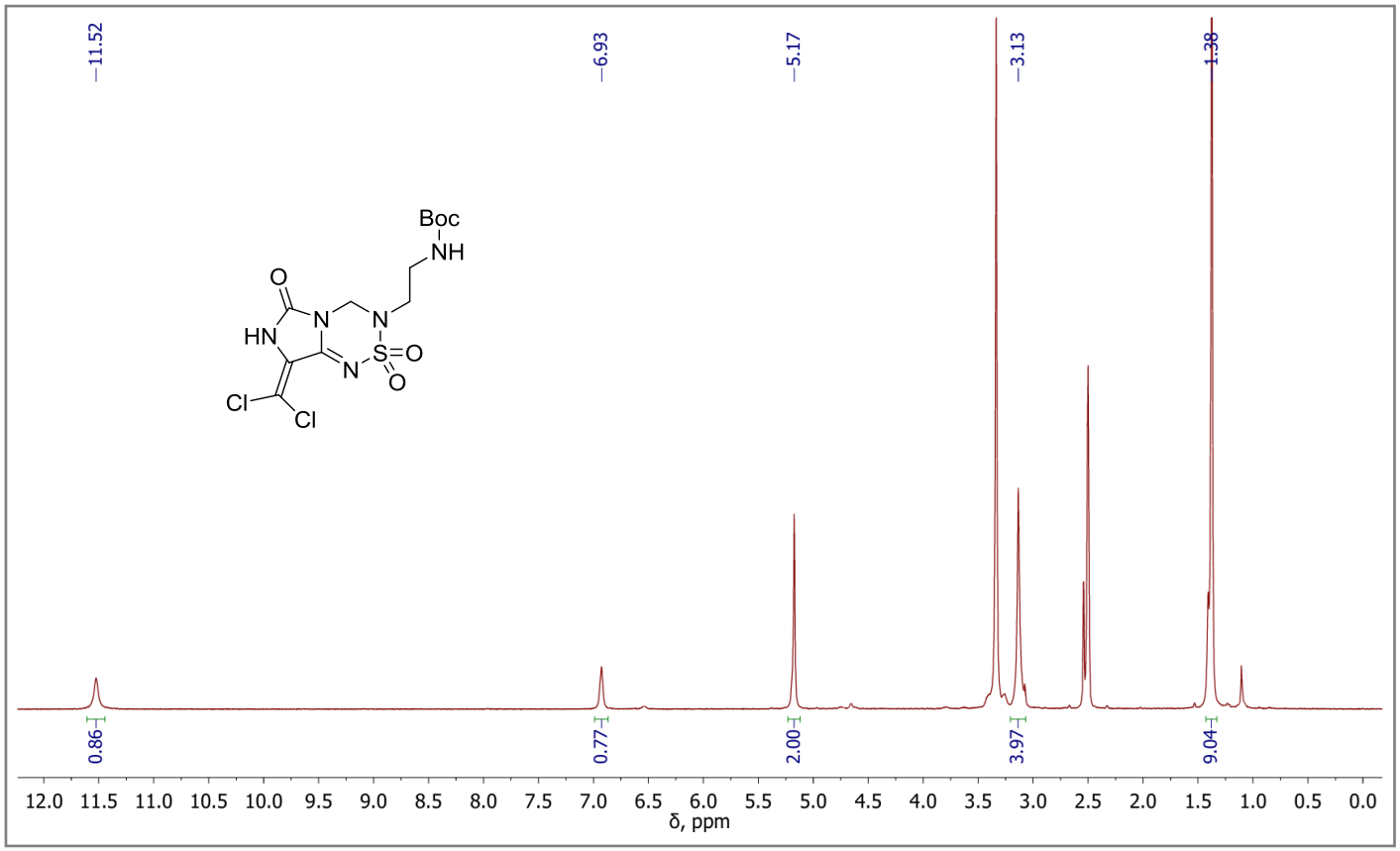
^{13}C NMR spectrum of **2g**



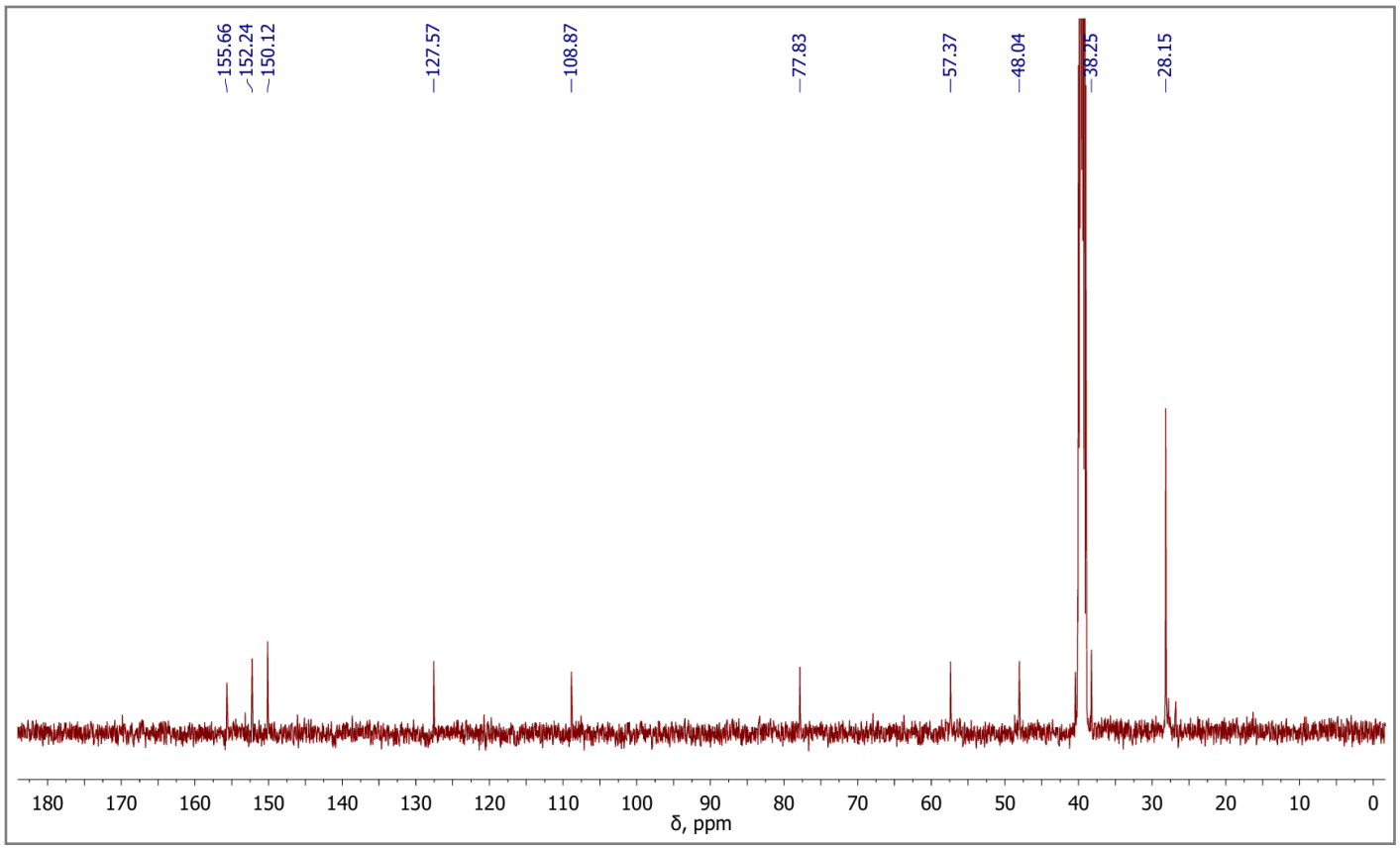
^{1}H NMR spectrum of **2h**



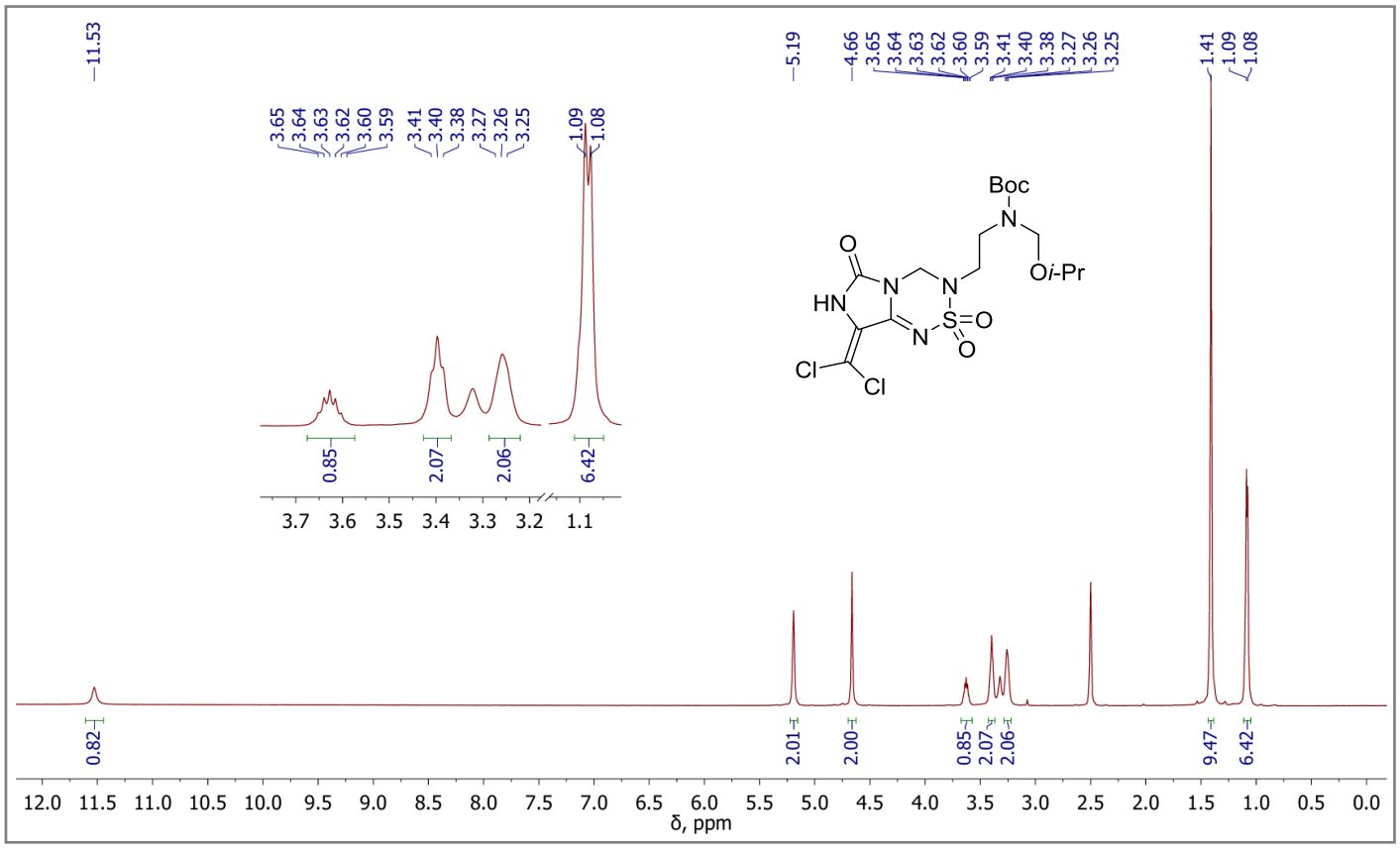
^{13}C NMR spectrum of **2h**



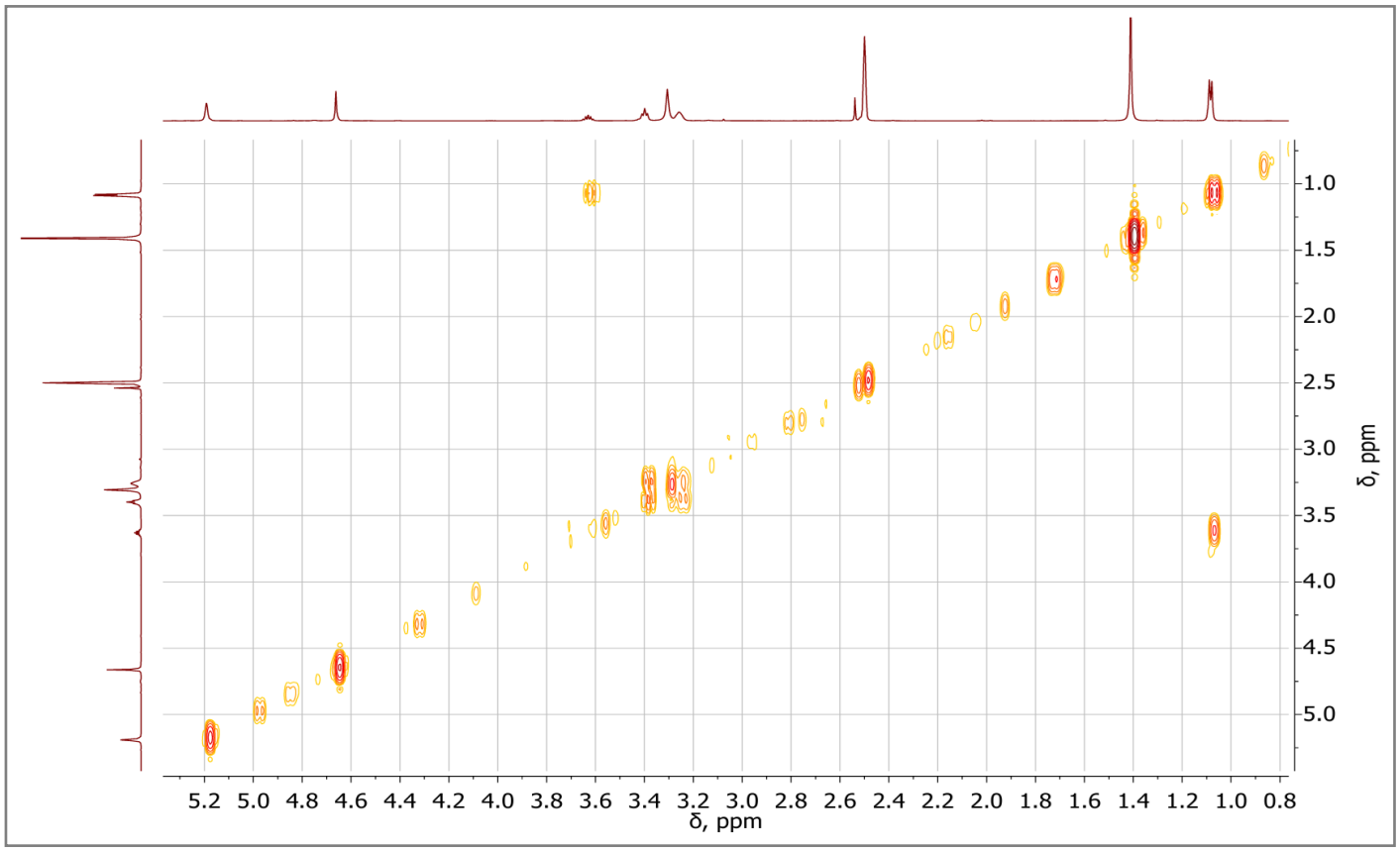
^{1}H NMR spectrum of **2i**



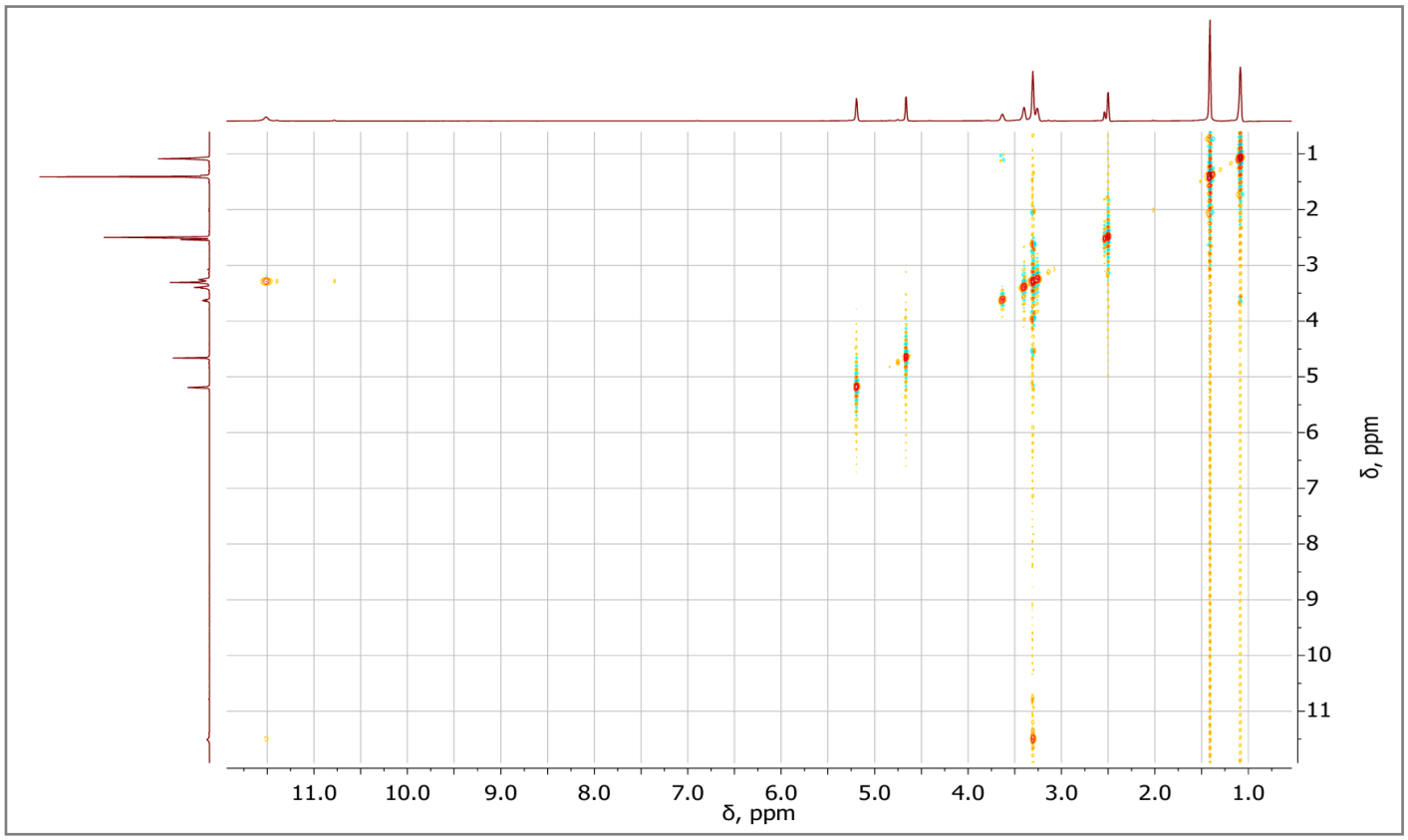
^{13}C NMR spectrum of **2i**



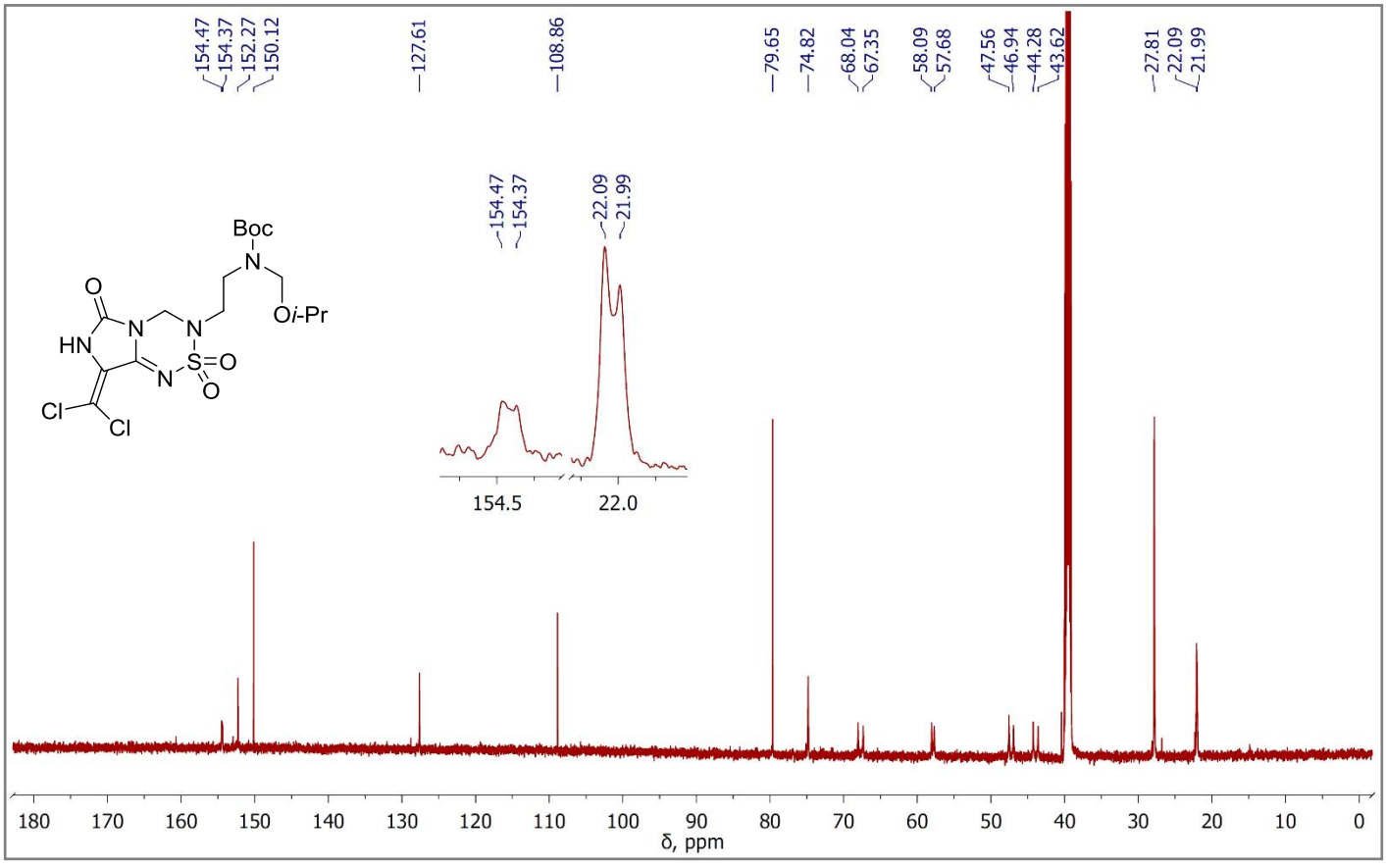
^{1}H NMR spectrum of **2j**



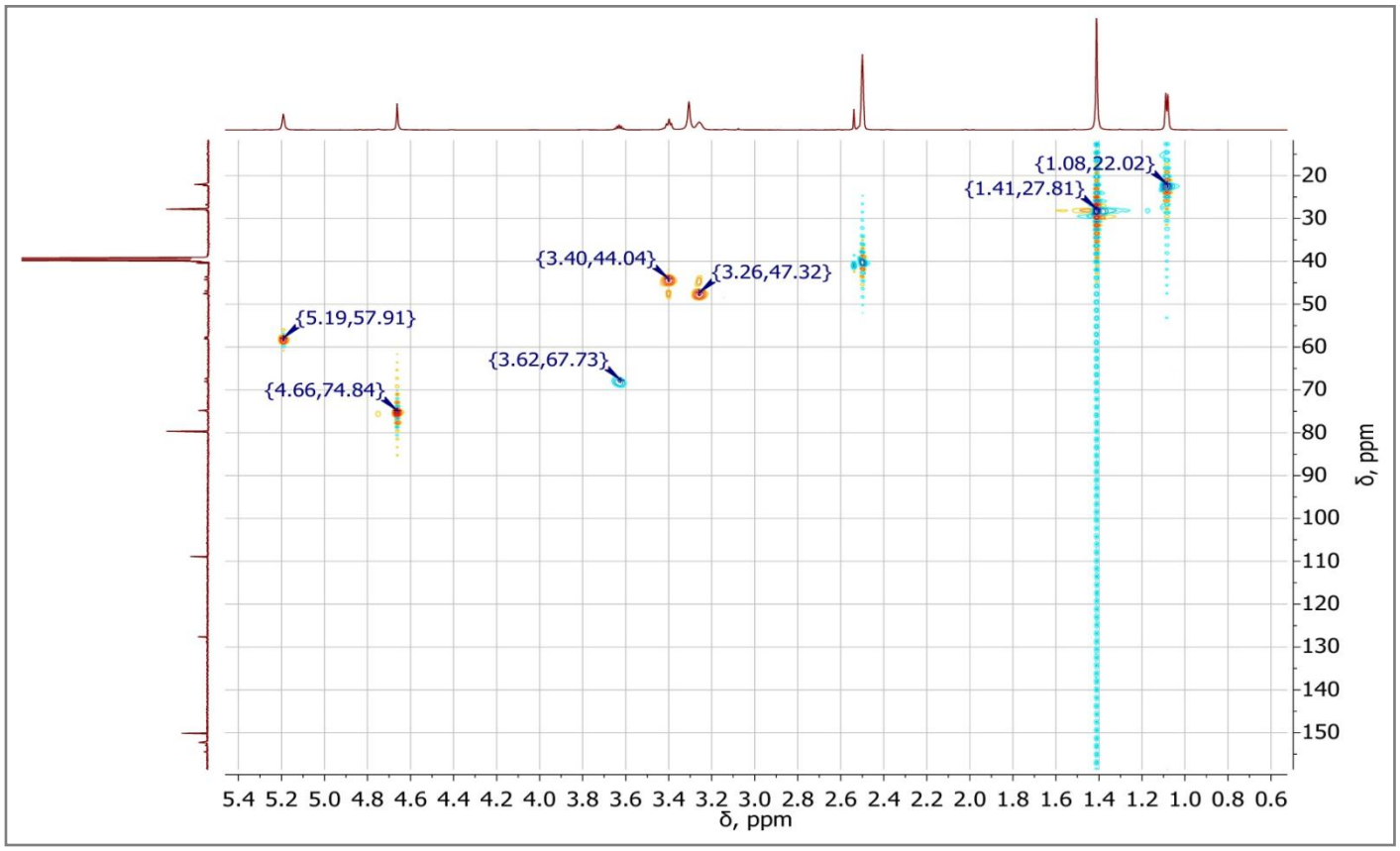
COSY spectrum of **2j**



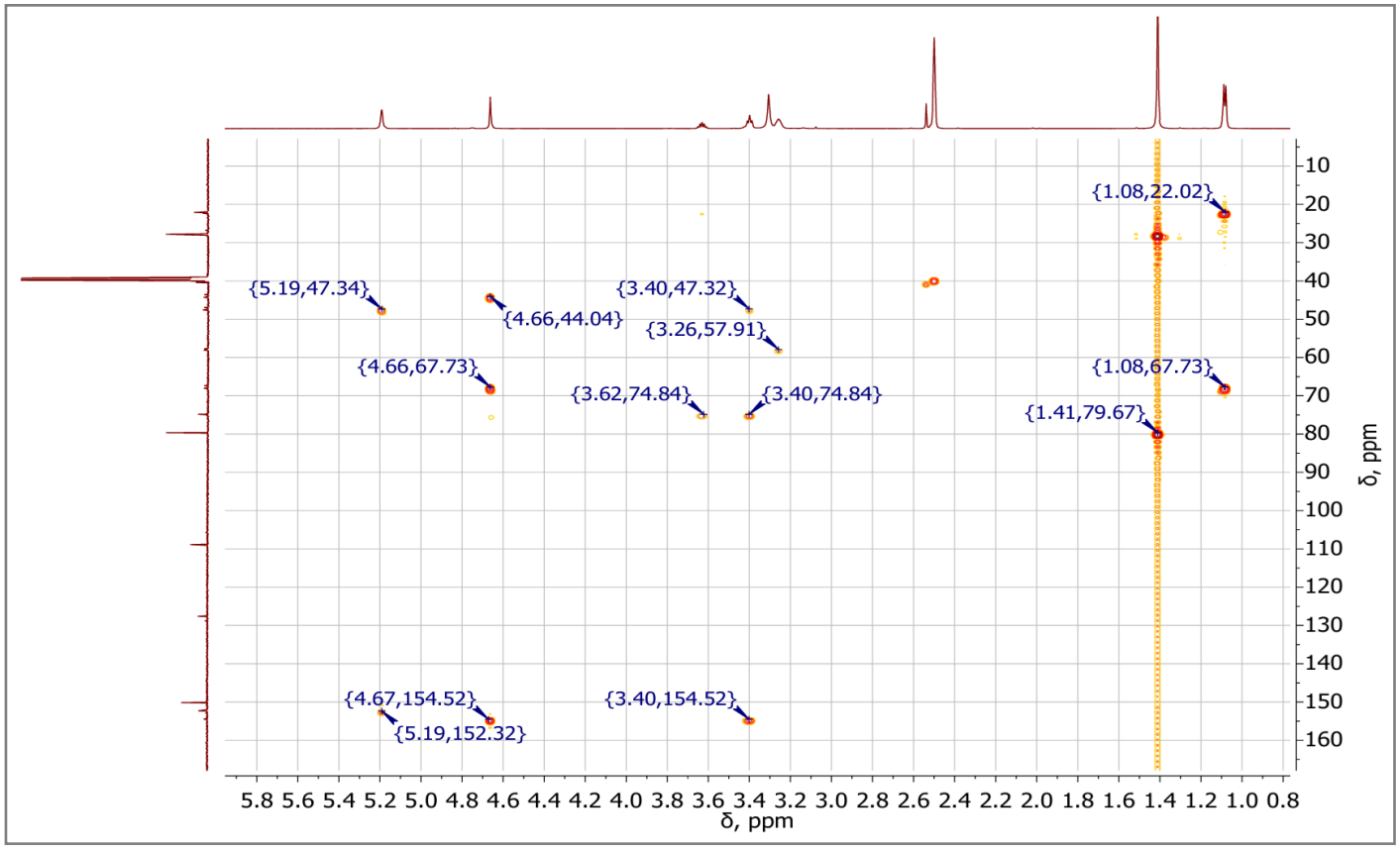
NOESY spectrum of **2j**



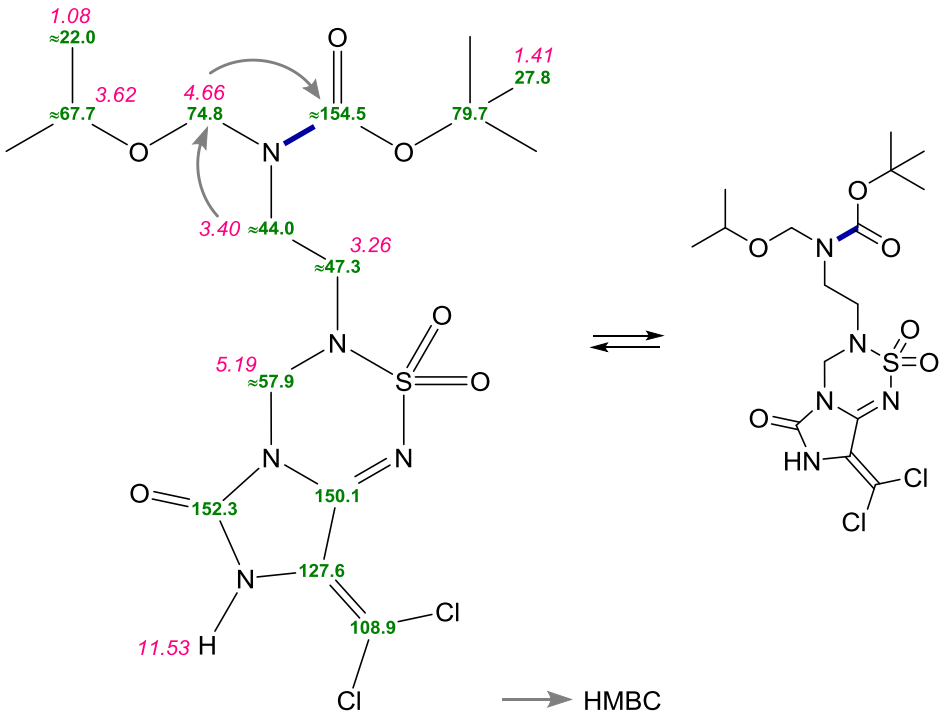
^{13}C NMR spectrum of **2j**



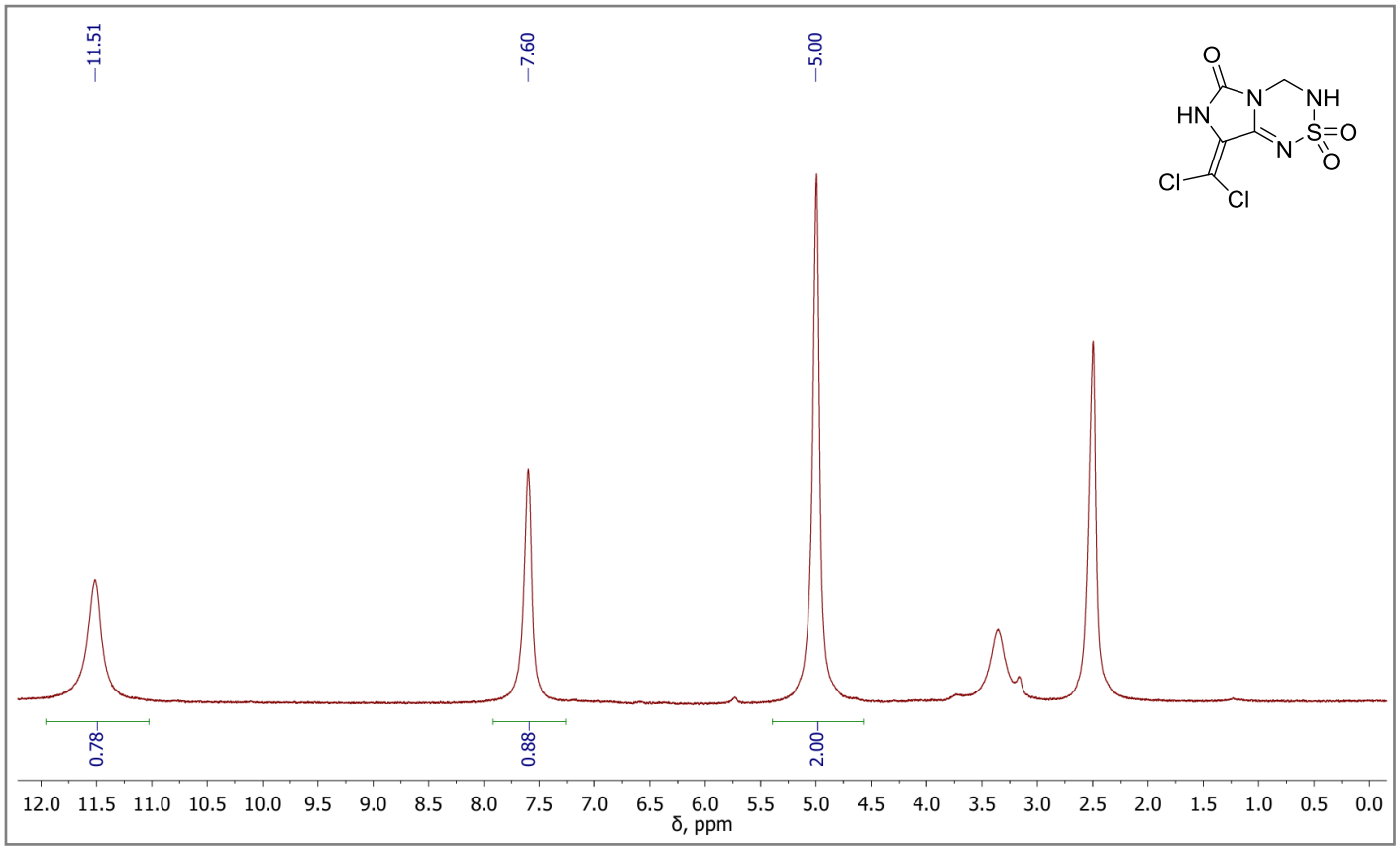
HSQC spectrum of **2j**



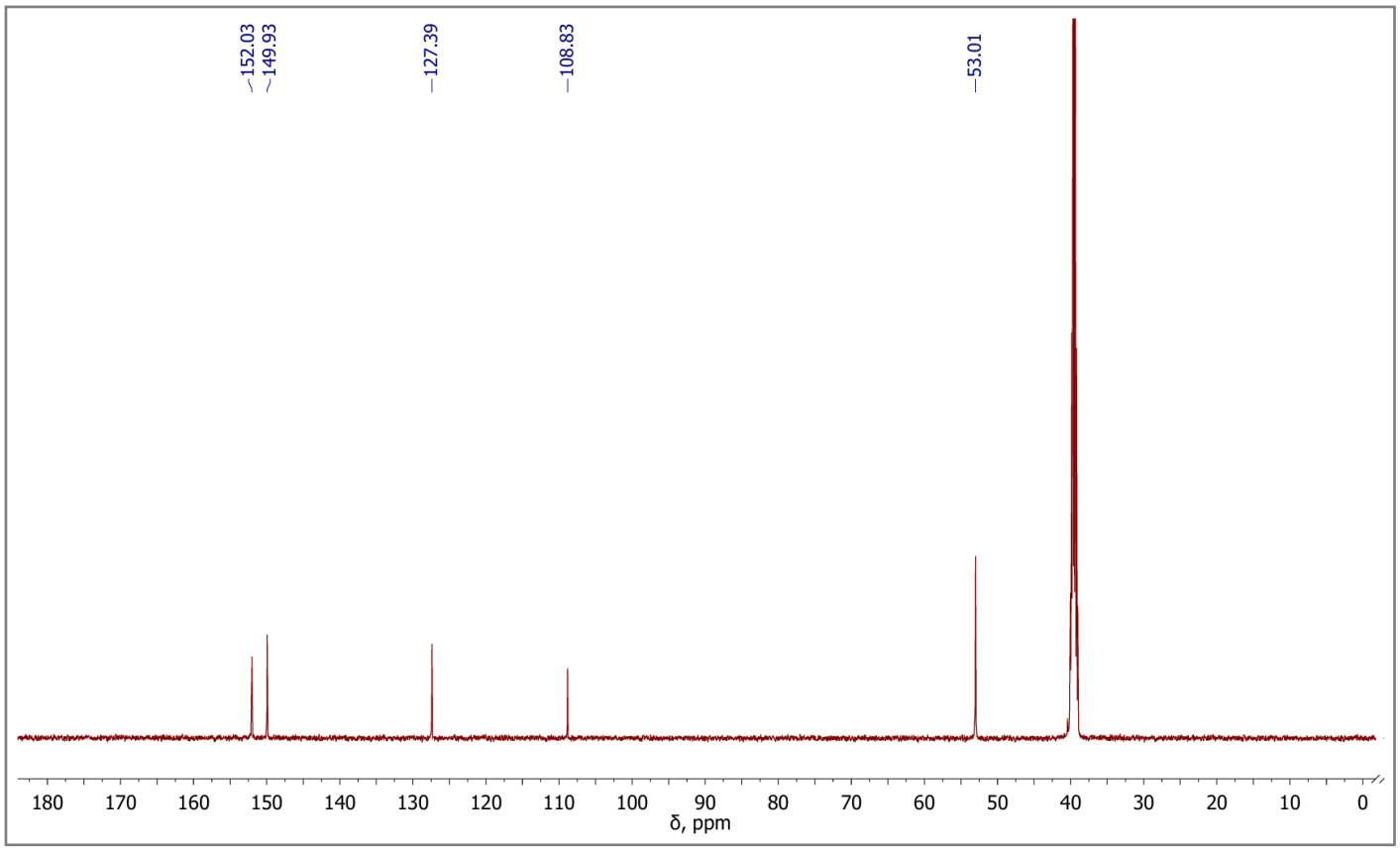
HMBC spectrum of **2j**



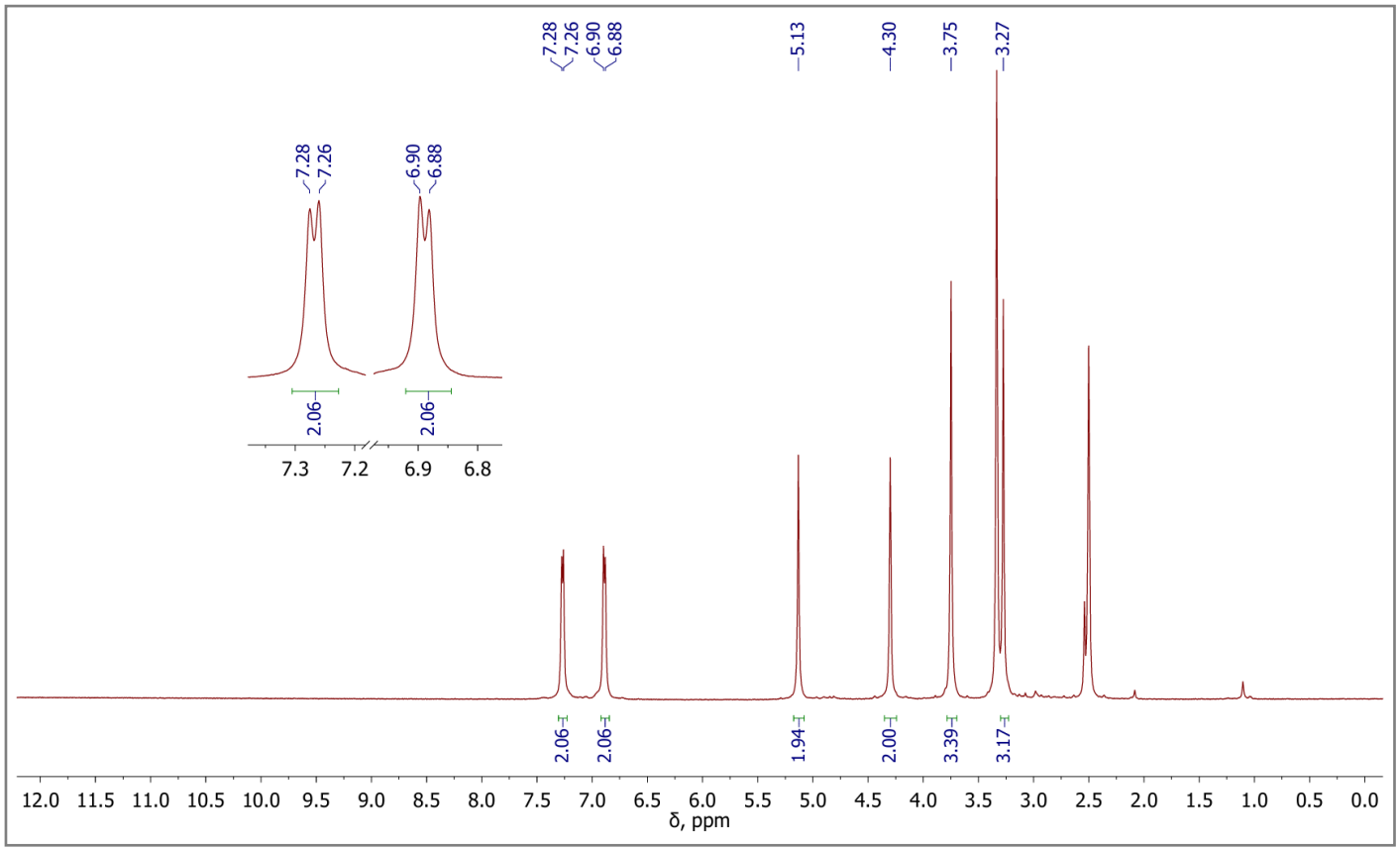
NMR spectra of **2j** (all data)



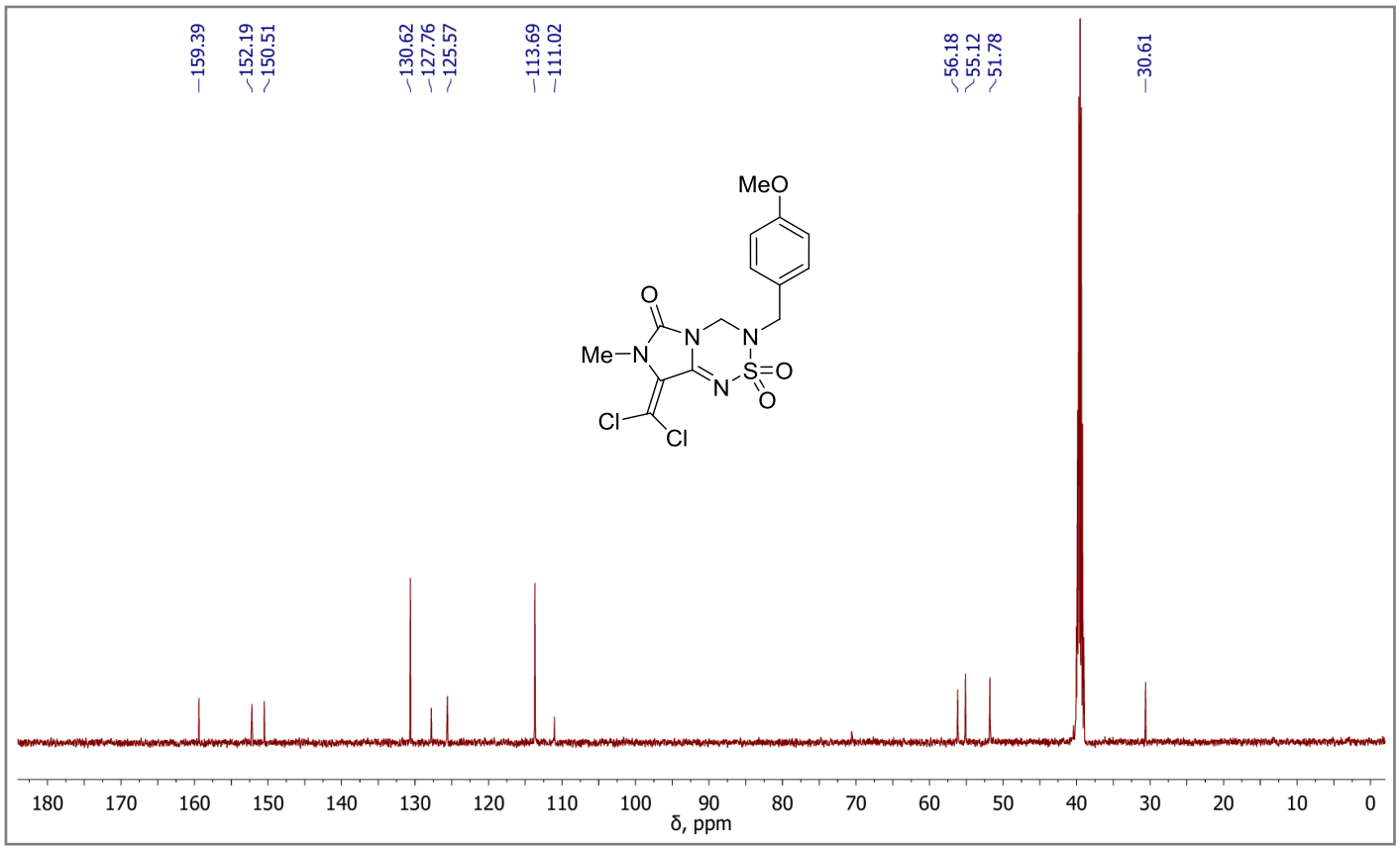
^{1}H NMR spectrum of **2k**



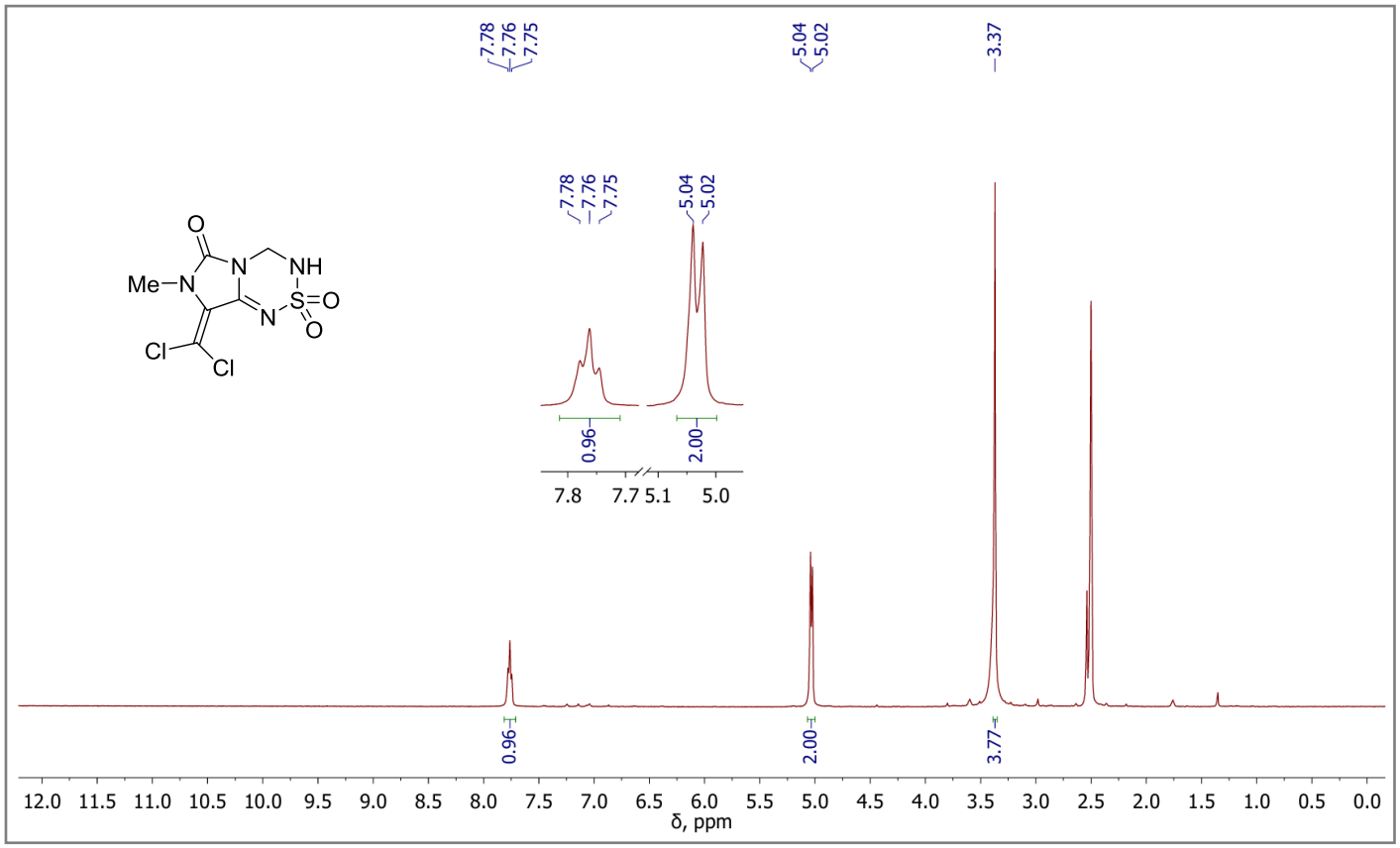
^{13}C NMR spectrum of **2k**



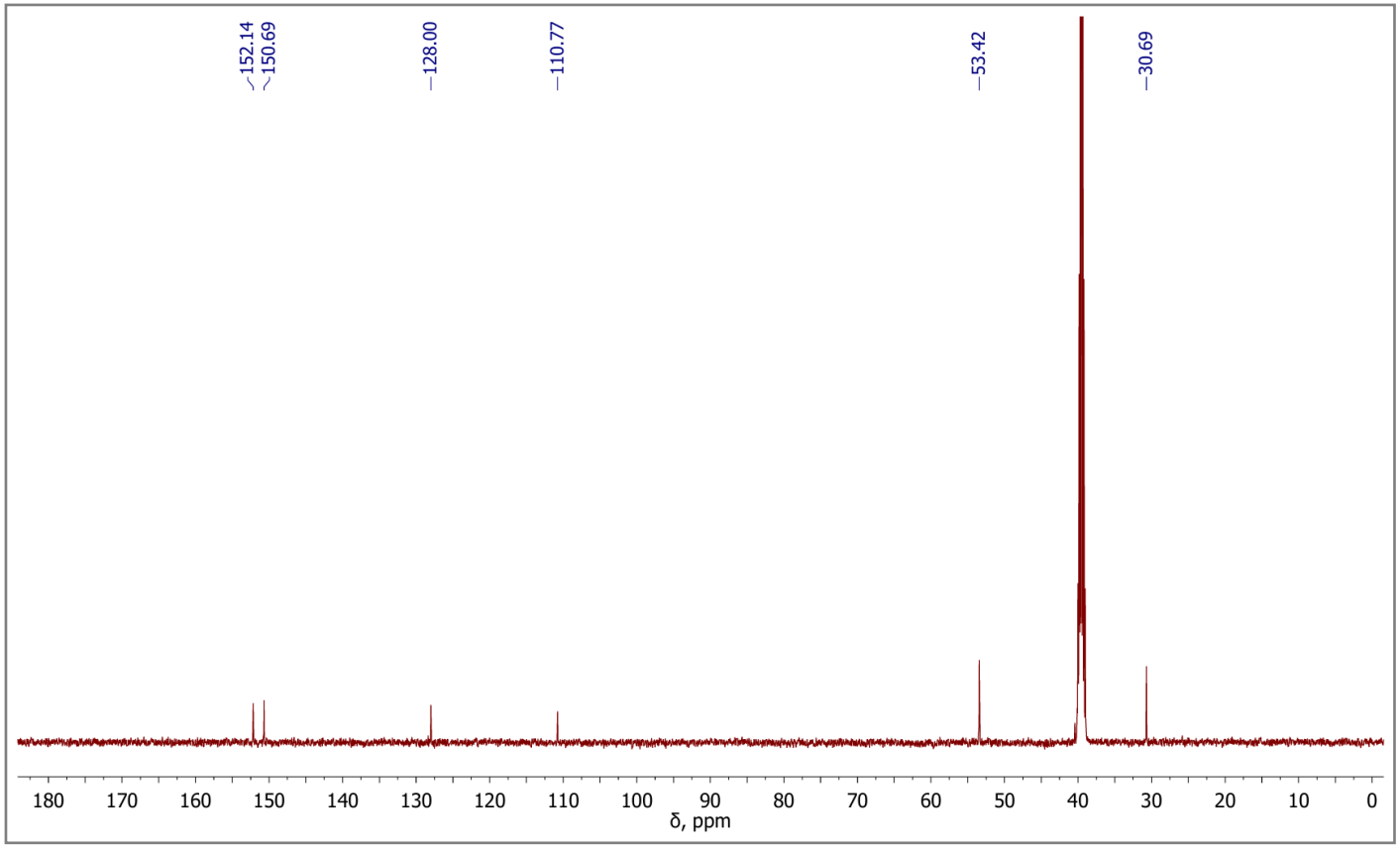
^{1}H NMR spectrum of **3g**



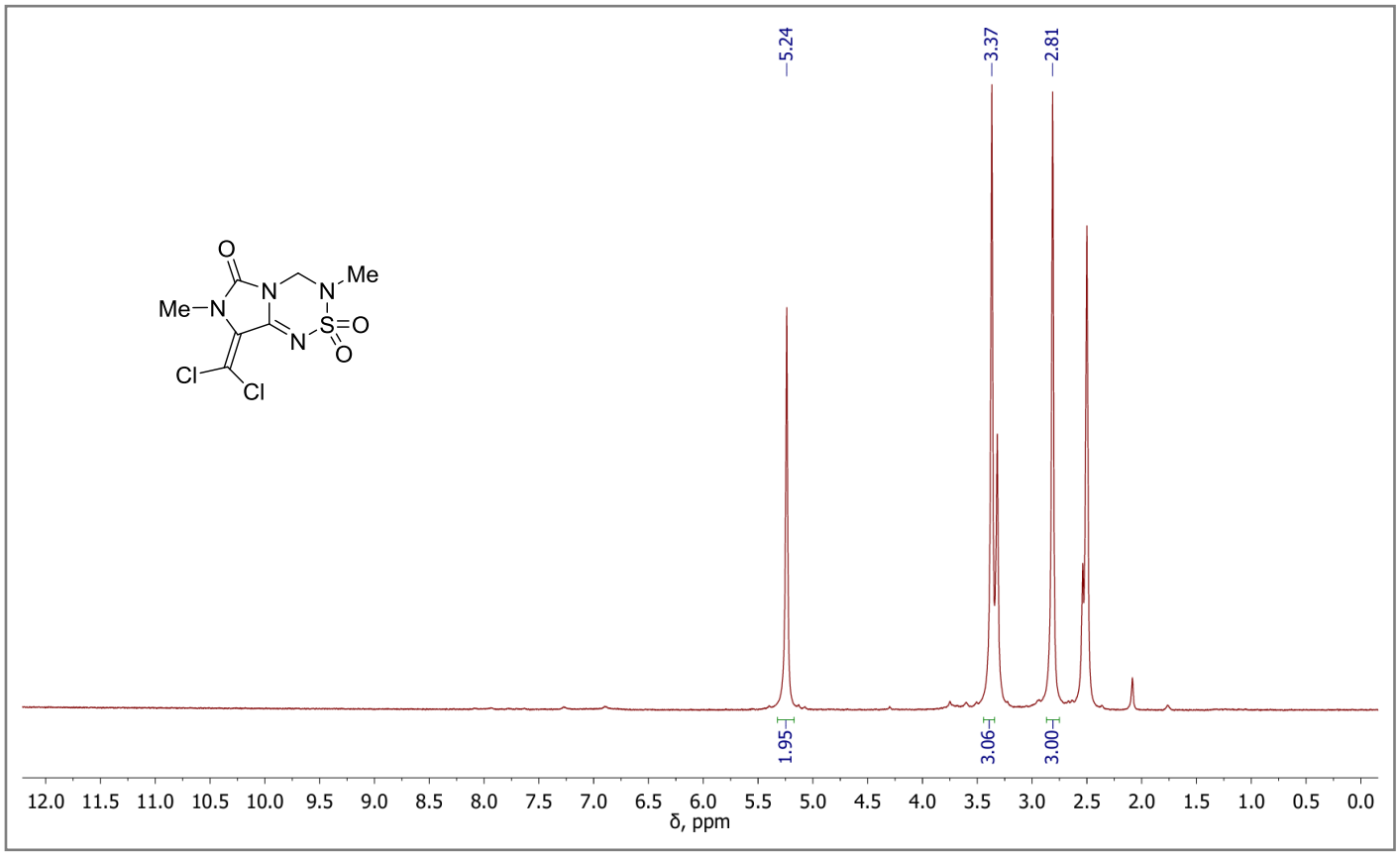
^{13}C NMR spectrum of **3g**



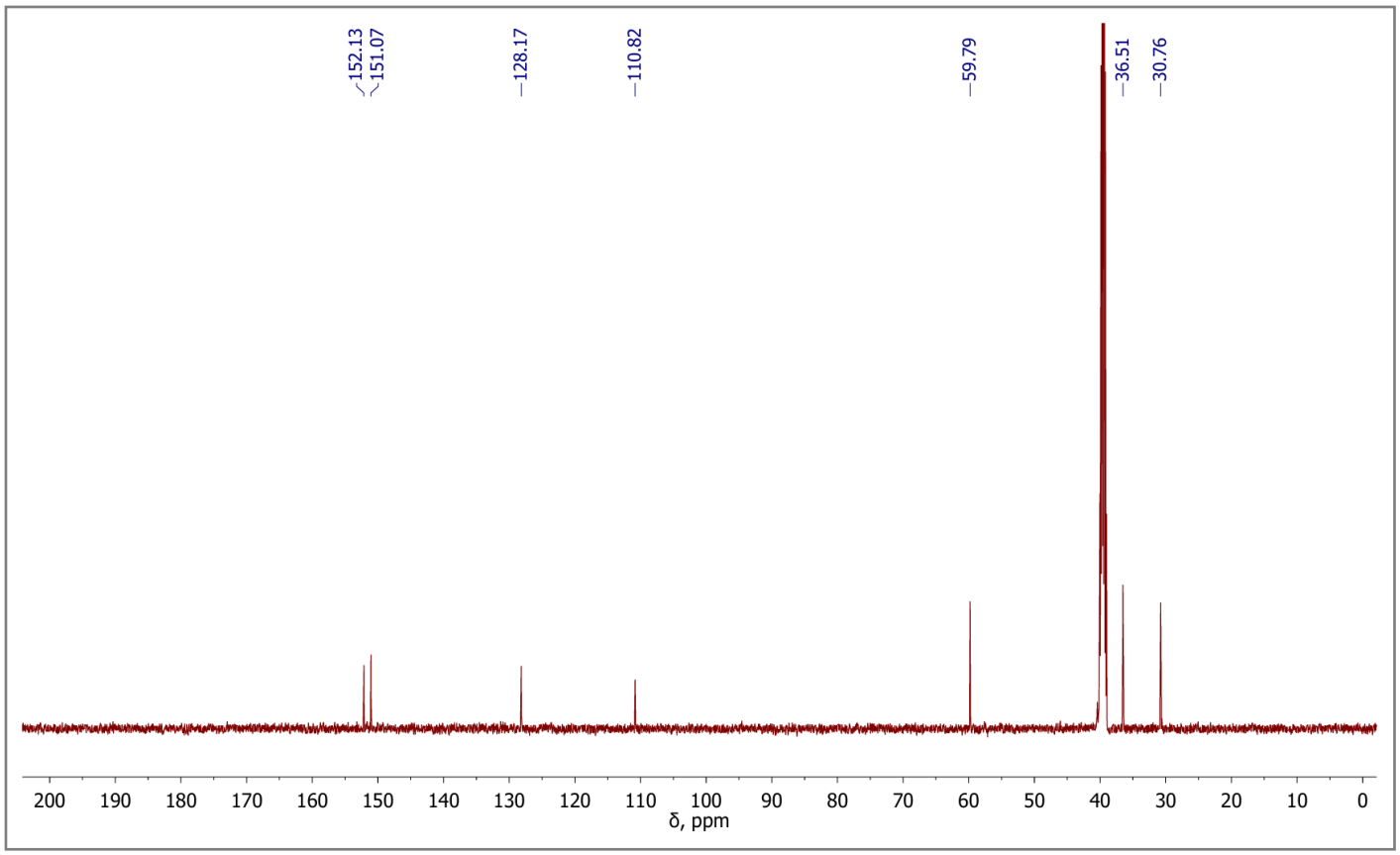
^{1}H NMR spectrum of **3k**



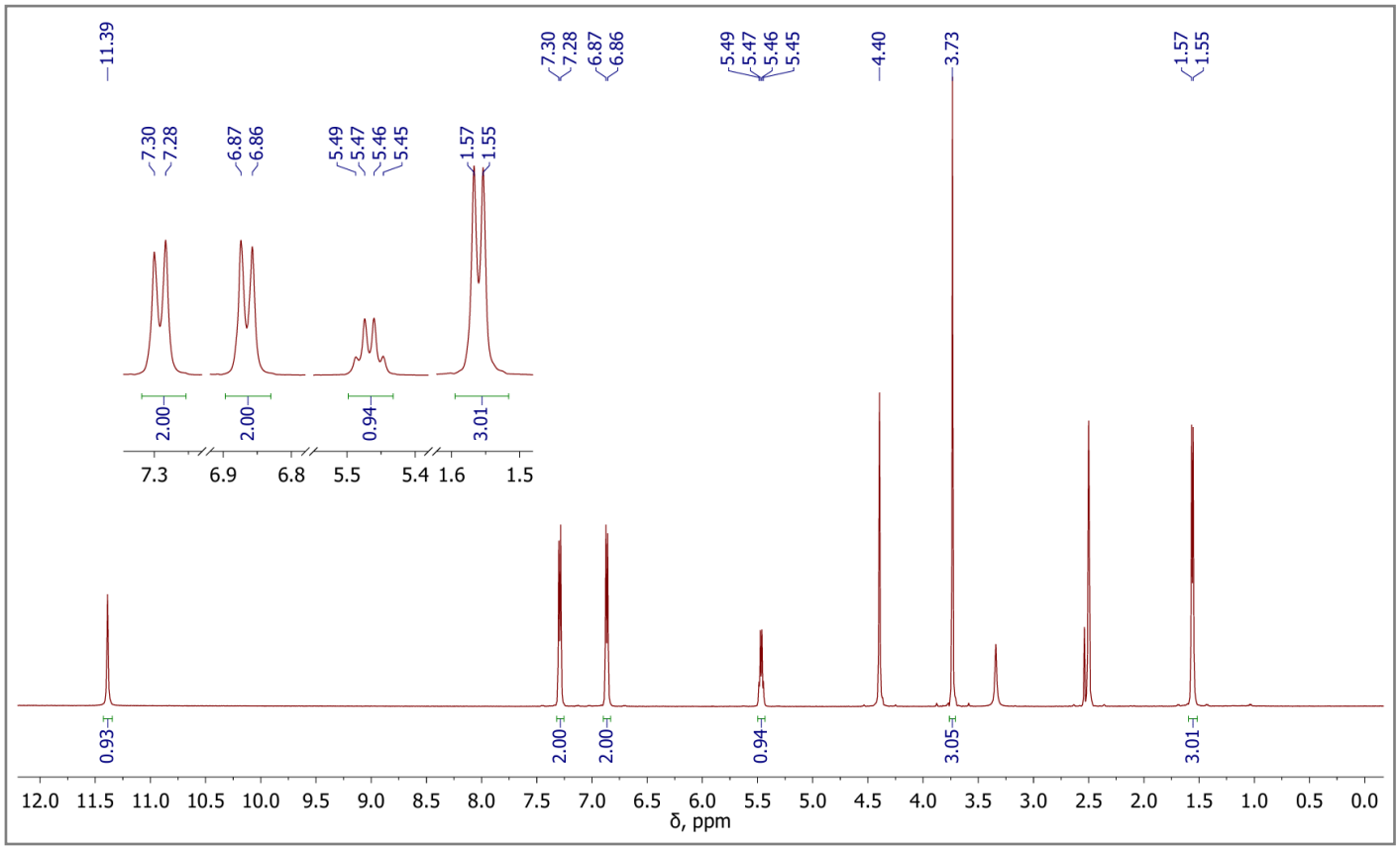
^{13}C NMR spectrum of **3k**



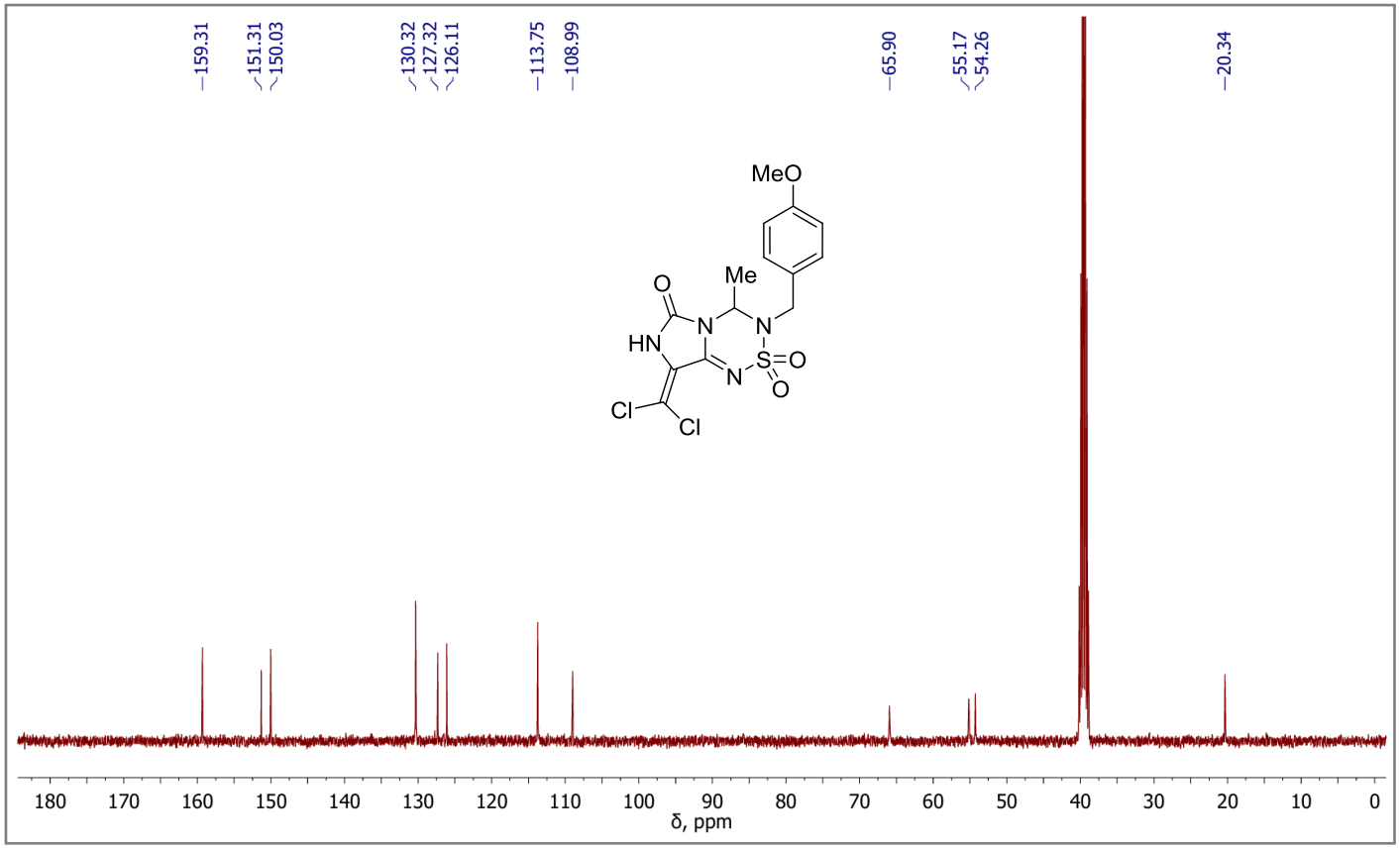
^{1}H NMR spectrum of **3l**



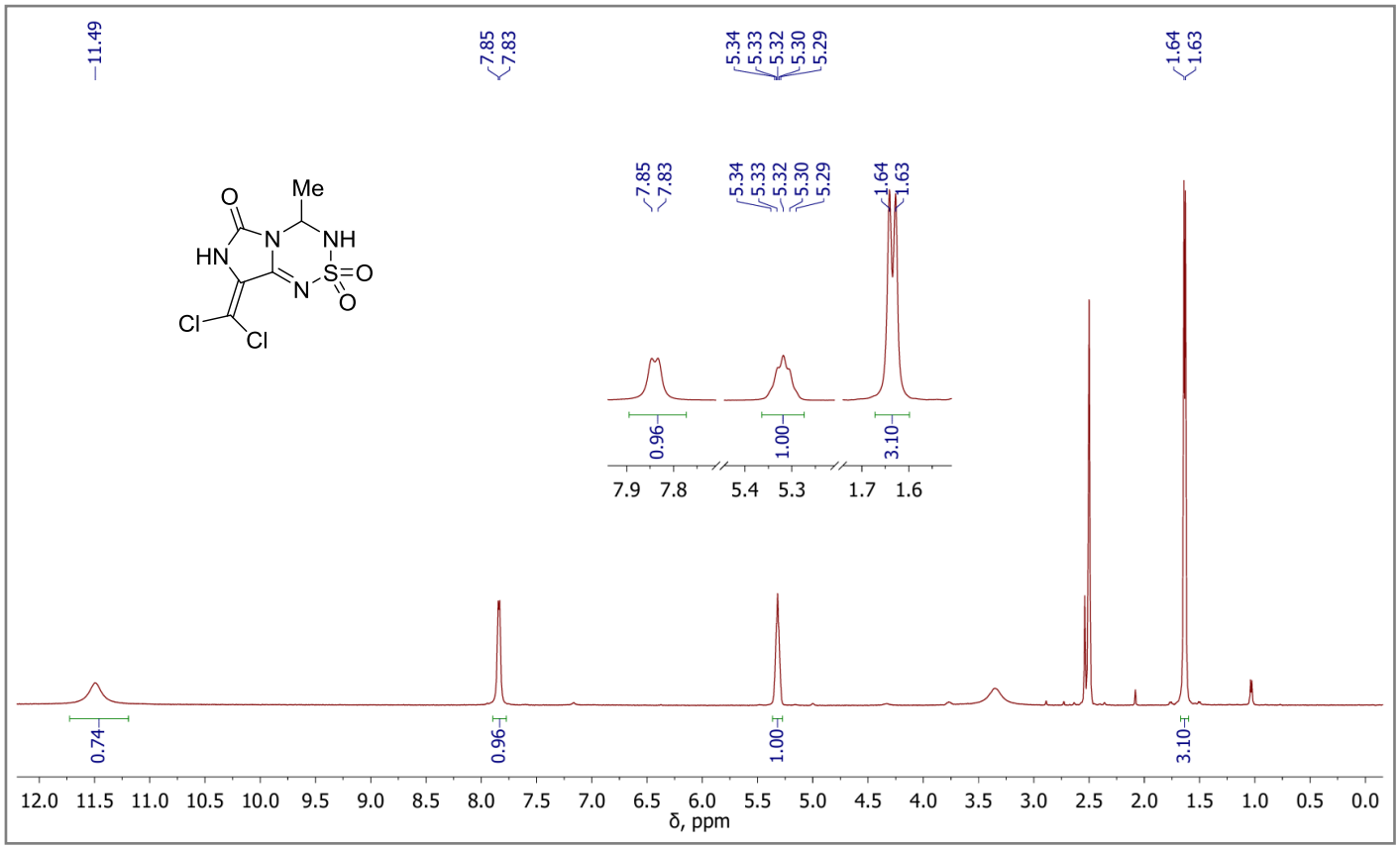
^{13}C NMR spectrum of **3l**



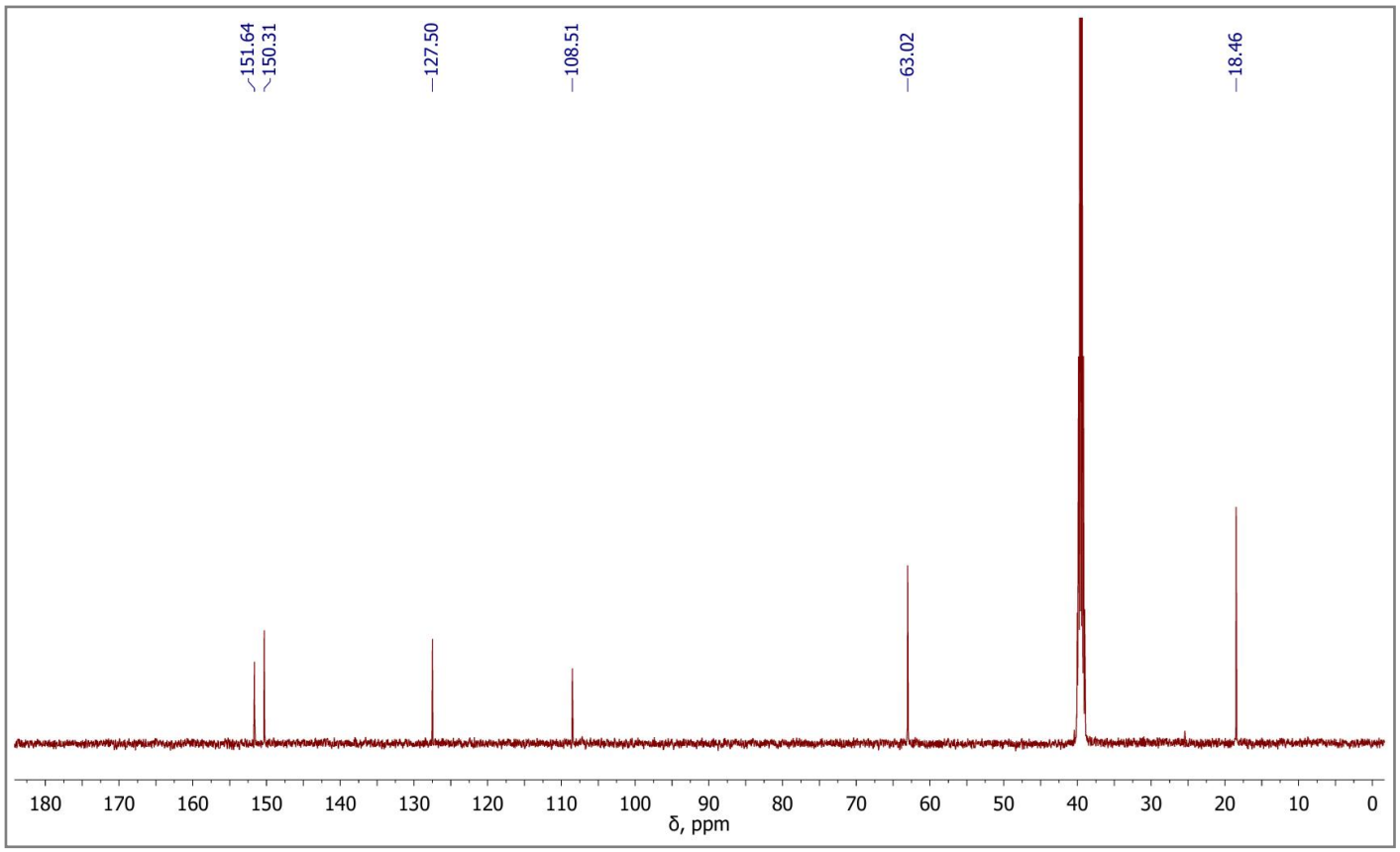
^{1}H NMR spectrum of **4g**



^{13}C NMR spectrum of **4g**



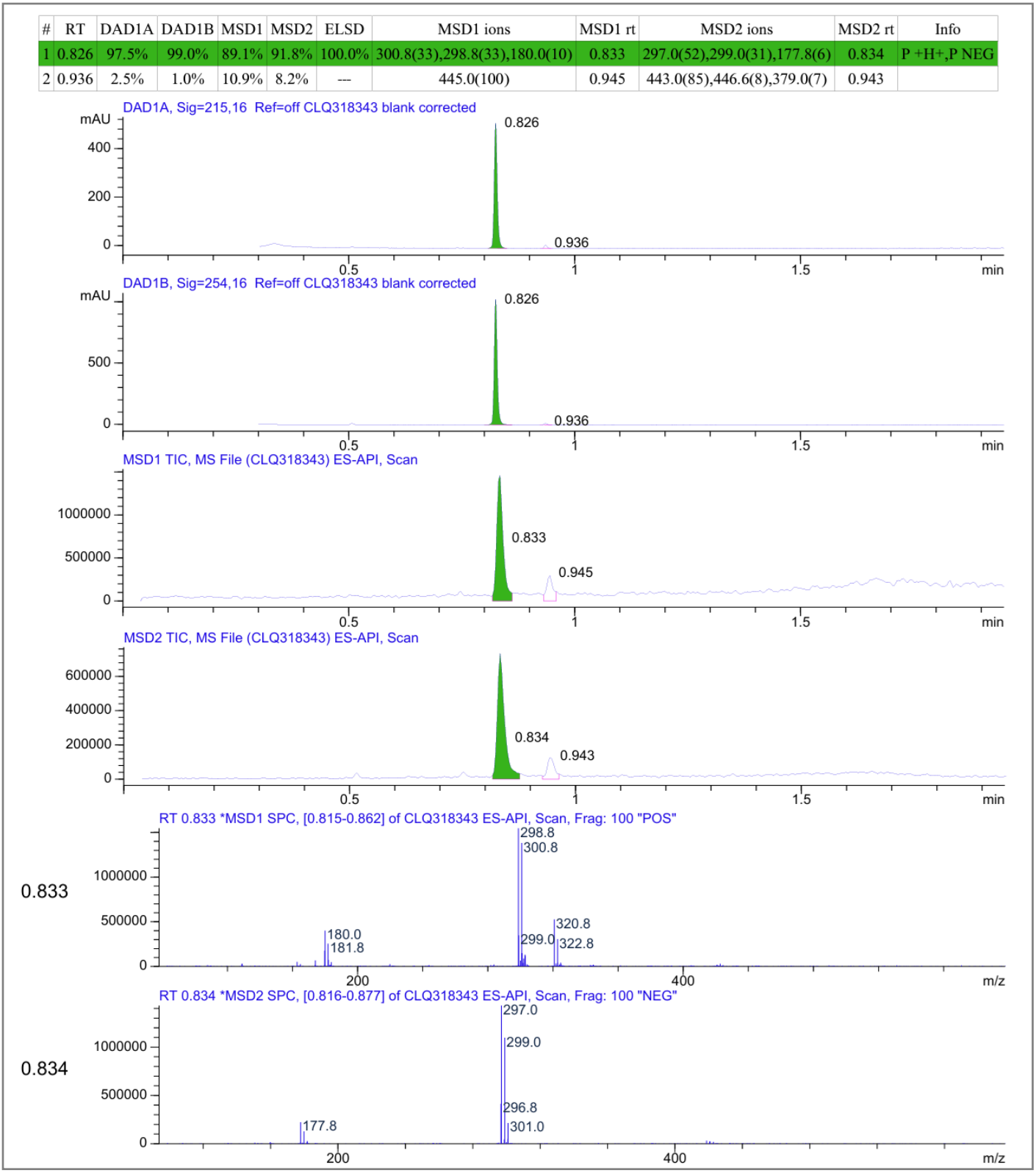
^{1}H NMR spectrum of **4k**

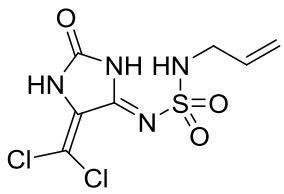


^{13}C NMR spectrum of **4k**

4. Copies of LCMS spectra

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	0.826	97.5%	99.0%	89.1%	91.8%	100.0%	300.8(33),298.8(33),180.0(10)	0.833	297.0(52),299.0(31),177.8(6)	0.834	P +H+,P NEG
2	0.936	2.5%	1.0%	10.9%	8.2%	---	445.0(100)	0.945	443.0(85),446.6(8),379.0(7)	0.943	

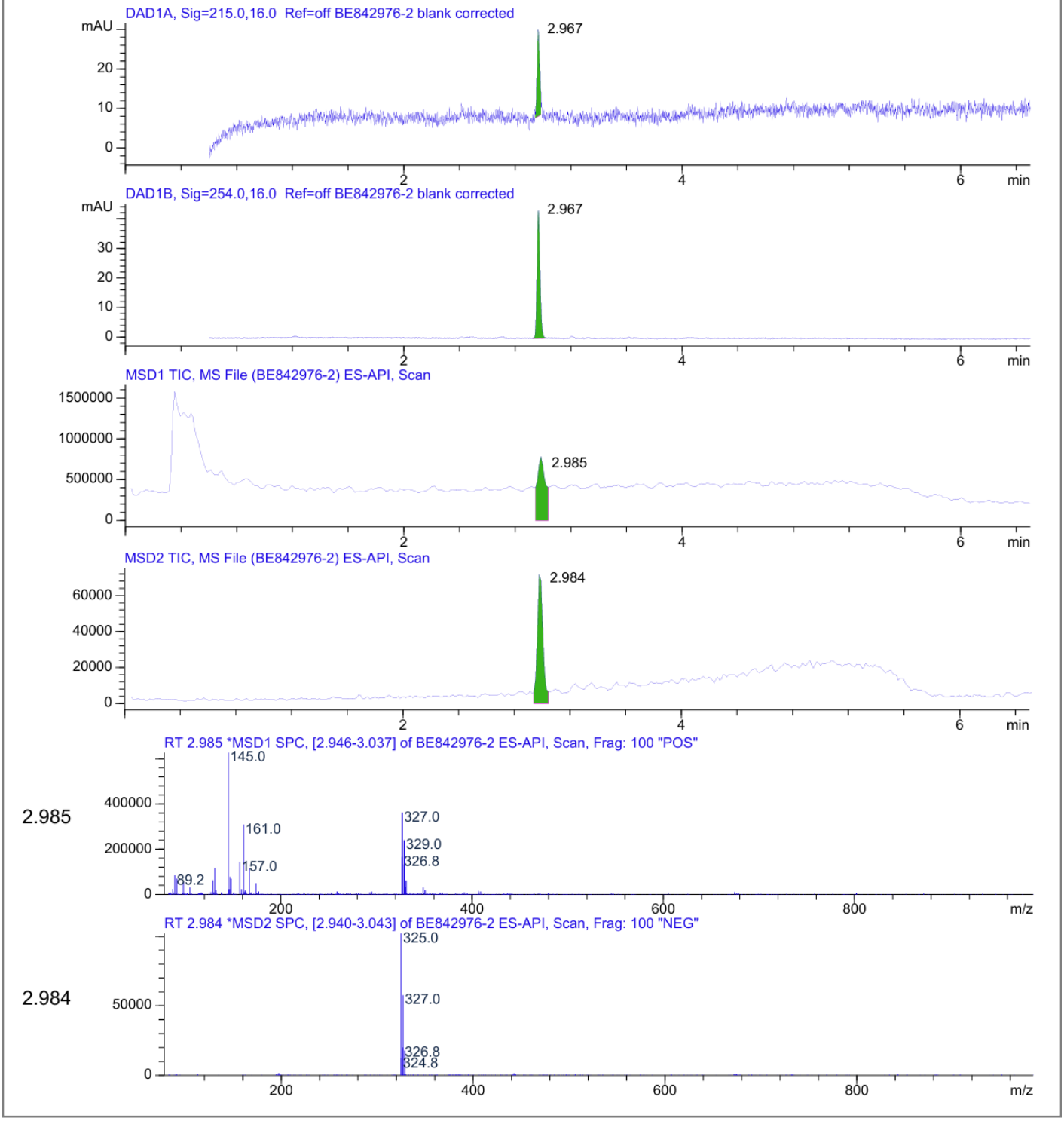


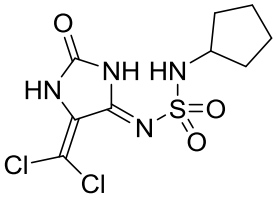


calc. $[M+1]^+$ 299.0 (100.0%), 301.0 (63.9%), 303.0 (10.2%)

LCMS spectrum of **1a**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	2.967	100.0%	100.0%	100.0%	100.0%	---	327.0(59),329.0(41)	2.985	325.0(54),327.0(37),328.8(9)	2.984	P +H+,P NEG

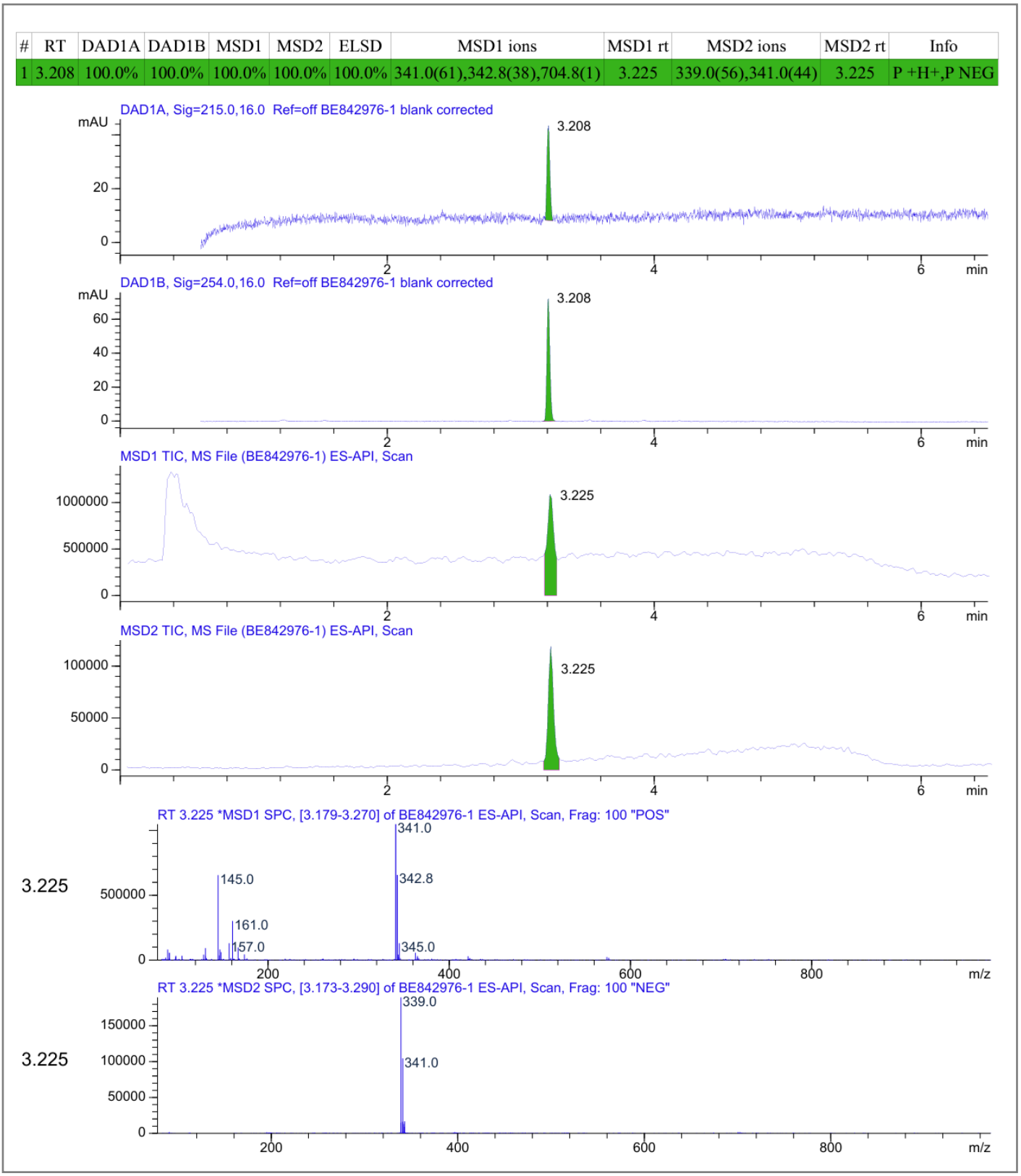


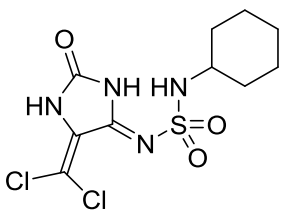


calc. $[M+1]^+$ 327.0 (100.0%), 329.0 (63.9%), 331.0 (10.2%)

LCMS spectrum of **1c**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	3.208	100.0%	100.0%	100.0%	100.0%	100.0%	341.0(61),342.8(38),704.8(1)	3.225	339.0(56),341.0(44)	3.225	P +H+,P NEG

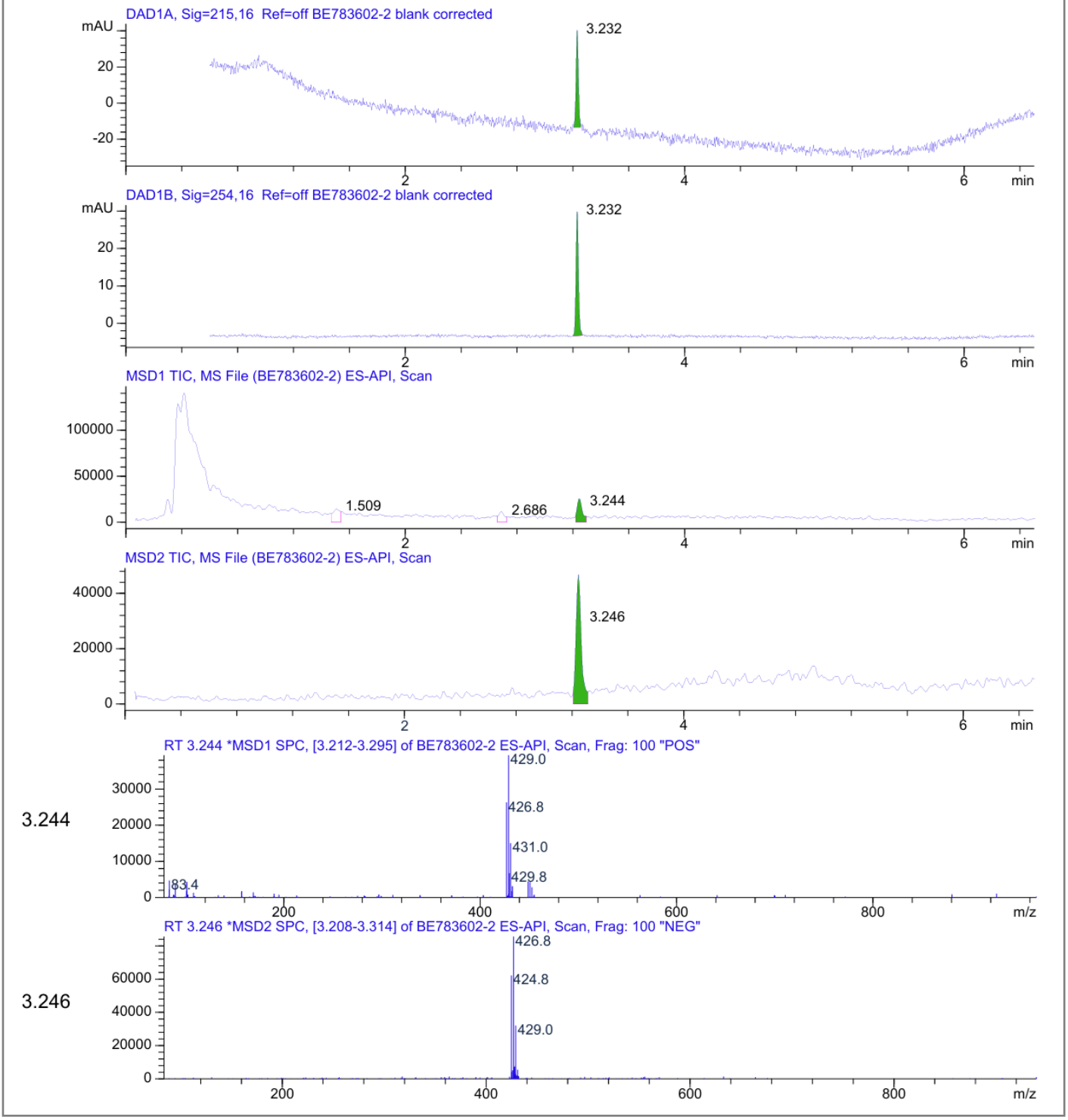


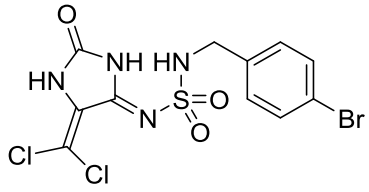


calc. $[M+1]^+$ 341.0 (100.0%), 343.0 (63.9%), 345.0 (10.2%)

LCMS spectrum of **1d**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.495	---	---	13.6%	---	---	188.0(54),171.0(46)	1.509	---	---	
2	2.671	---	---	12.6%	---	---	241.4(100)	2.686	---	---	
3	3.232	100.0%	100.0%	73.8%	100.0%	100.0%	429.0(70),426.8(30)	3.244	426.8(62),424.8(33),430.8(3)	3.246	P +H+,P NEG

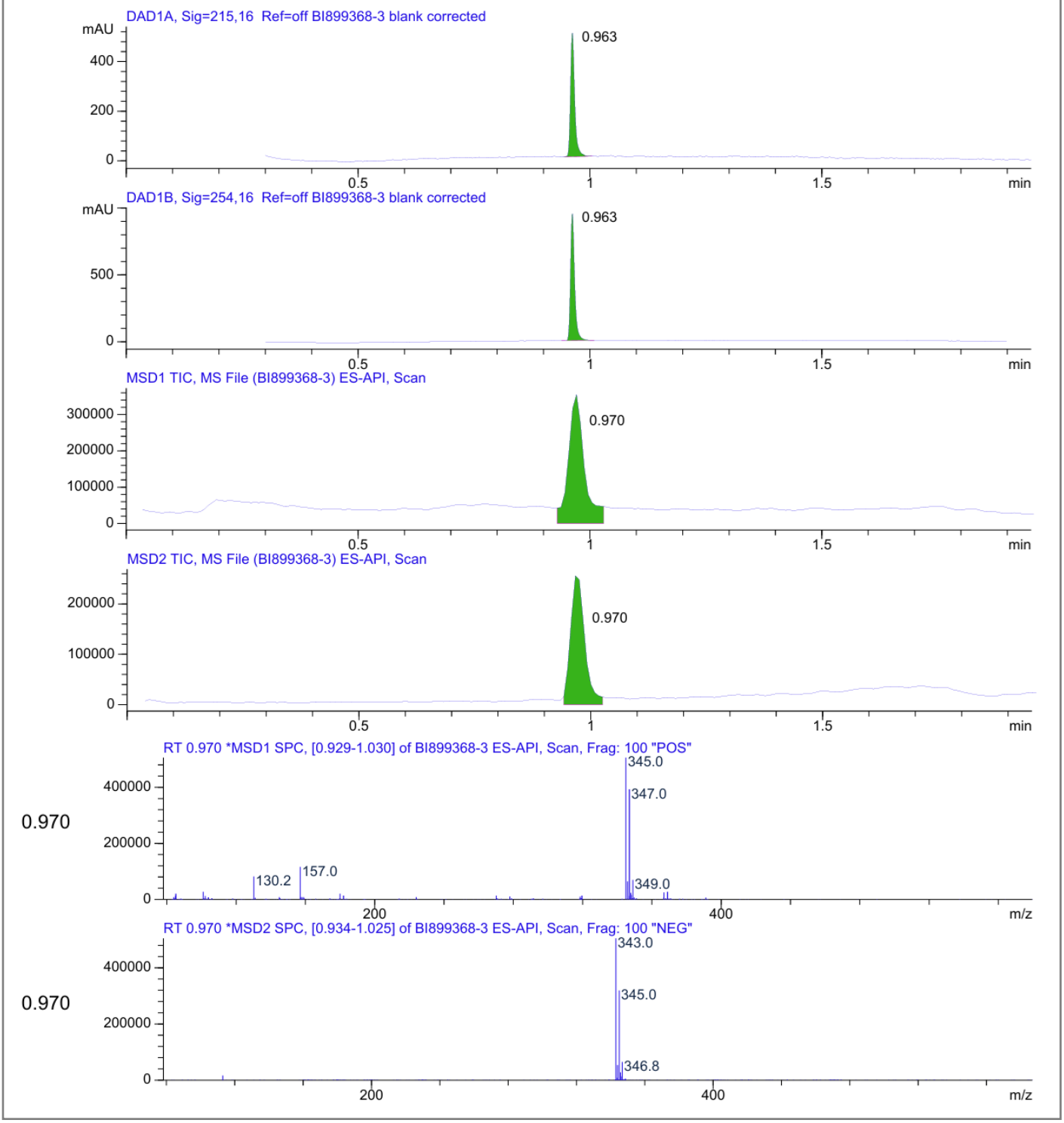


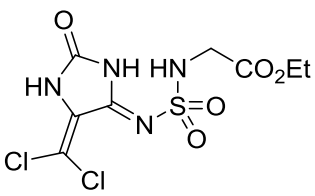


calc. $[M+1]^+$ 426.9 (62.0%), 428.9 (100.0%), 430.9 (44.9%), 432.9 (6.1%)

LCMS spectrum of **1f**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	0.963	100.0%	100.0%	100.0%	100.0%	100.0%	345.0(91),367.0(6),180.0(2)	0.970	343.0(100)	0.970	P +H+,P NEG

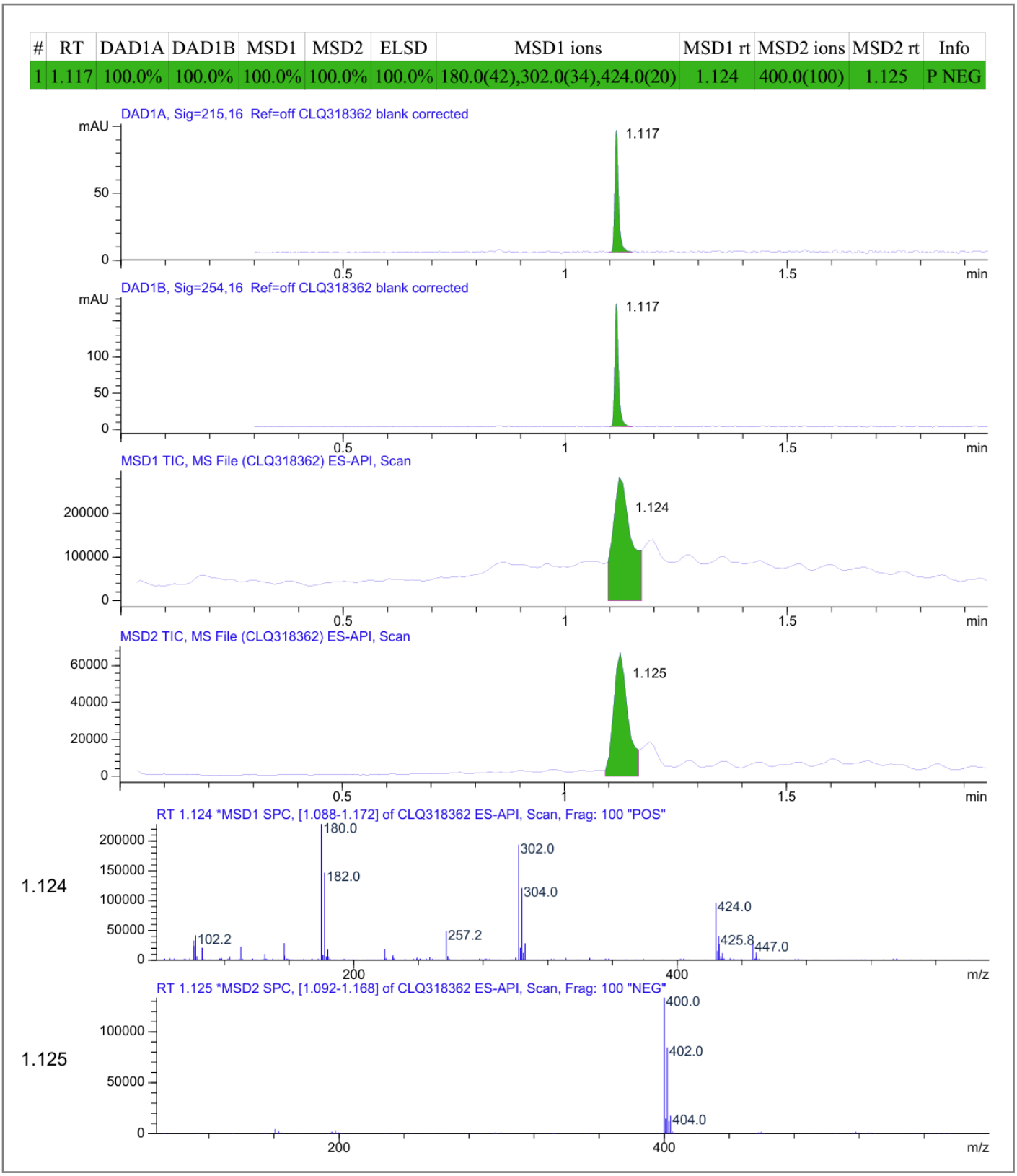


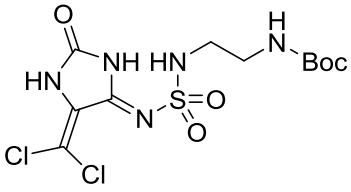


calc. $[M+1]^+$ 345.0 (100.0%), 347.0 (63.9%), 349.0 (10.2%)

LCMS spectrum of **1h**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.117	100.0%	100.0%	100.0%	100.0%	100.0%	180.0(42),302.0(34),424.0(20)	1.124	400.0(100)	1.125	P NEG

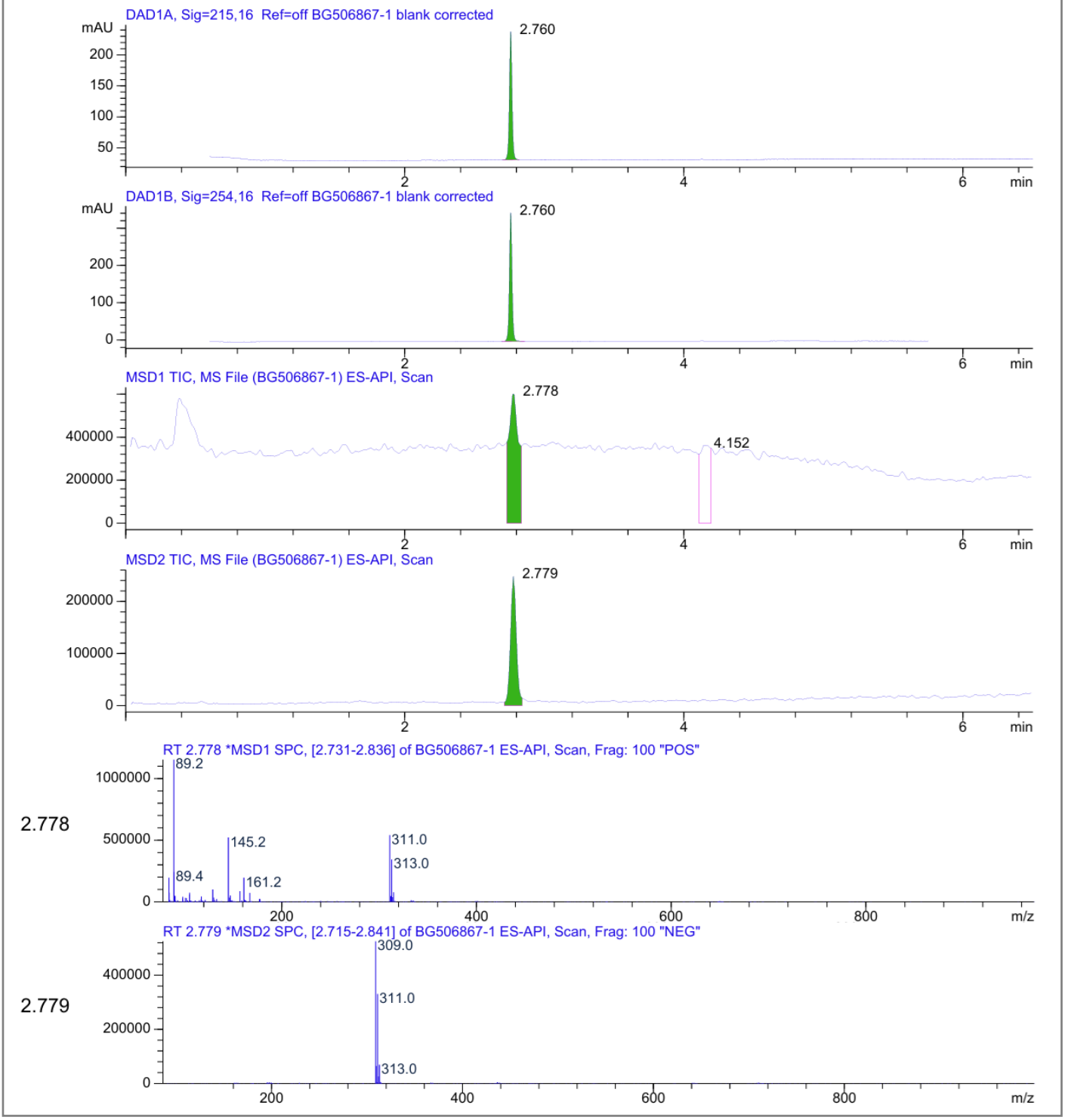


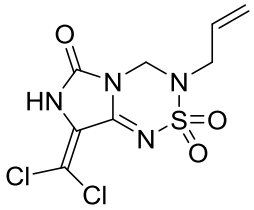


calc. $[M-1]^-$ 400.0 (100.0%), 402.0 (63.9%), 404.0 (10.2%)

LCMS spectrum of **1i**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	2.760	100.0%	100.0%	87.8%	100.0%	100.0%	311.0(92),315.0(8)	2.778	309.0(100)	2.779	P +H+,P NEG
2	4.134	---	---	12.2%	---	---	454.0(52),452.2(48)	4.152	---	---	

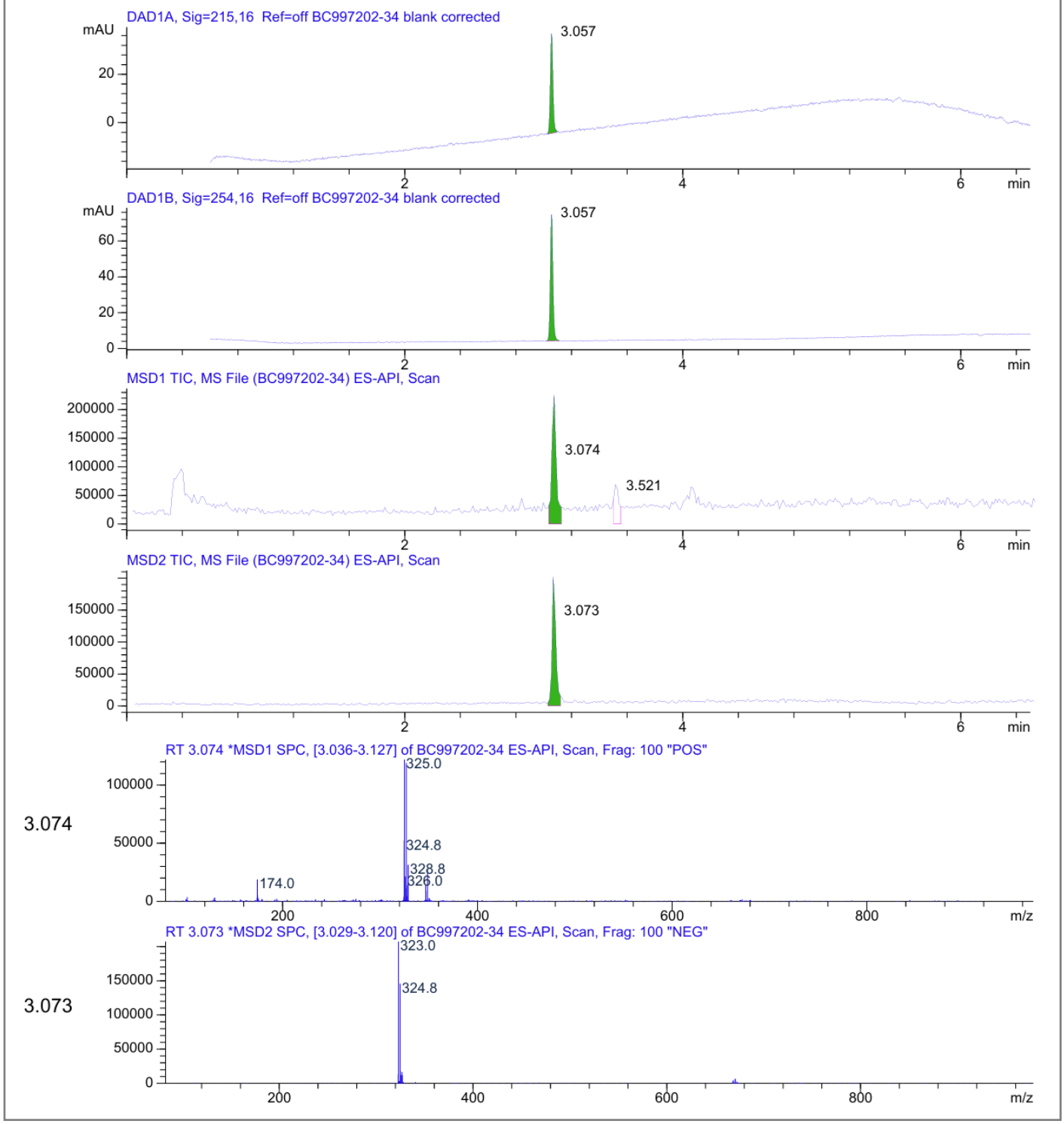


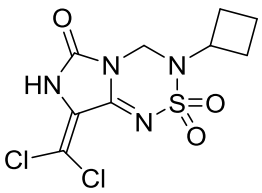


calc. $[M+1]^+$ 311.0 (100.0%), 313.0 (63.9%), 315.0 (10.2%)

LCMS spectrum of **2a**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	3.057	100.0%	100.0%	80.4%	100.0%	100.0%	325.0(57),327.0(43)	3.074	323.0(52),324.8(40),326.8(8)	3.073	P +H+,P NEG
2	3.506	---	---	19.6%	---	---	280.2(100)	3.521	---	---	

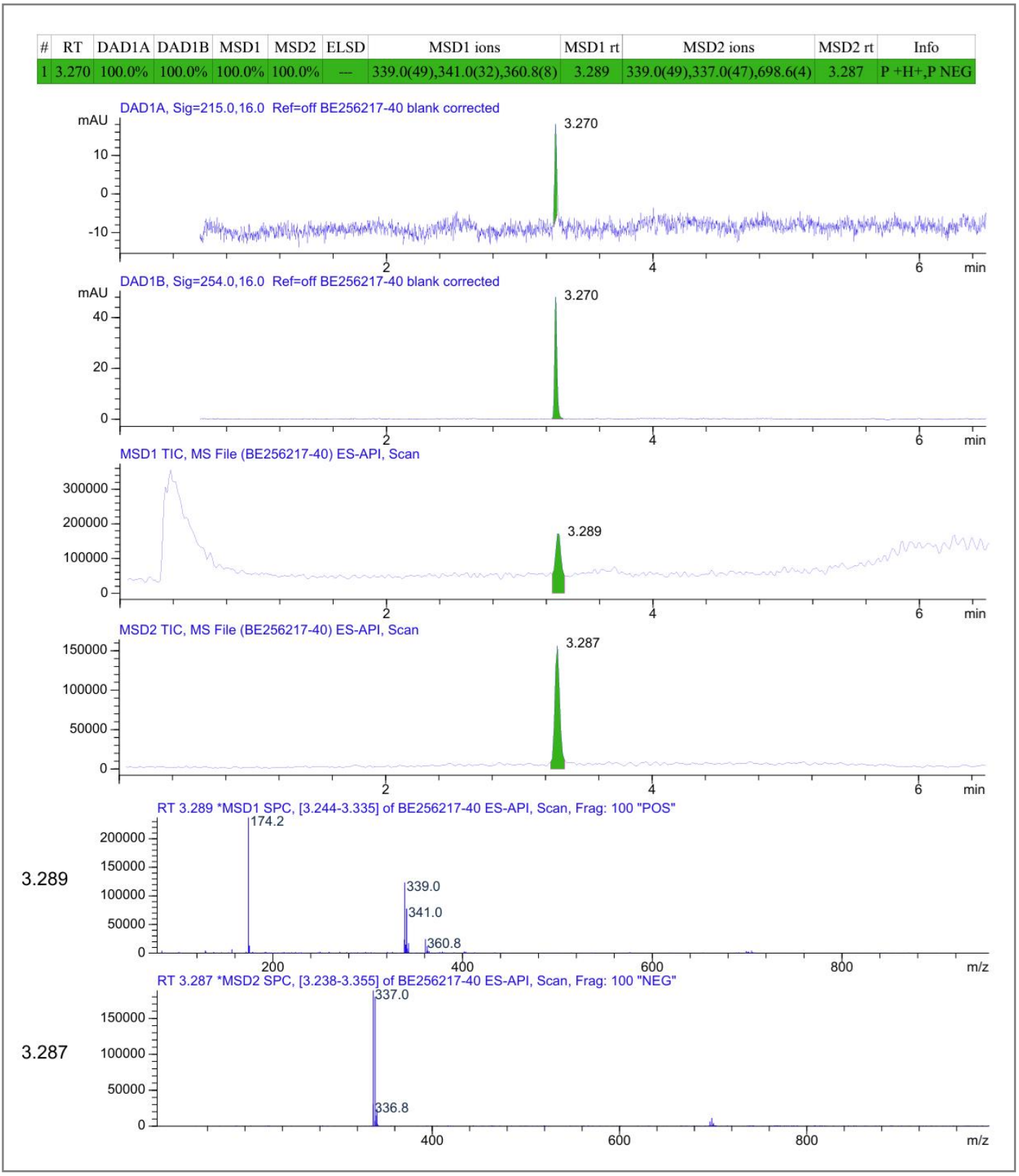


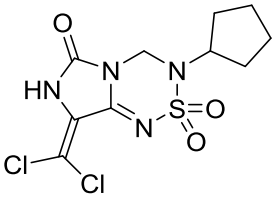


calc. $[M-1]^-$ 323.0 (100.0%), 325.0 (63.9%), 327.0 (10.2%)

LCMS spectrum of **2b**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	3.270	100.0%	100.0%	100.0%	100.0%	---	339.0(49),341.0(32),360.8(8)	3.289	339.0(49),337.0(47),698.6(4)	3.287	P +H+,P NEG

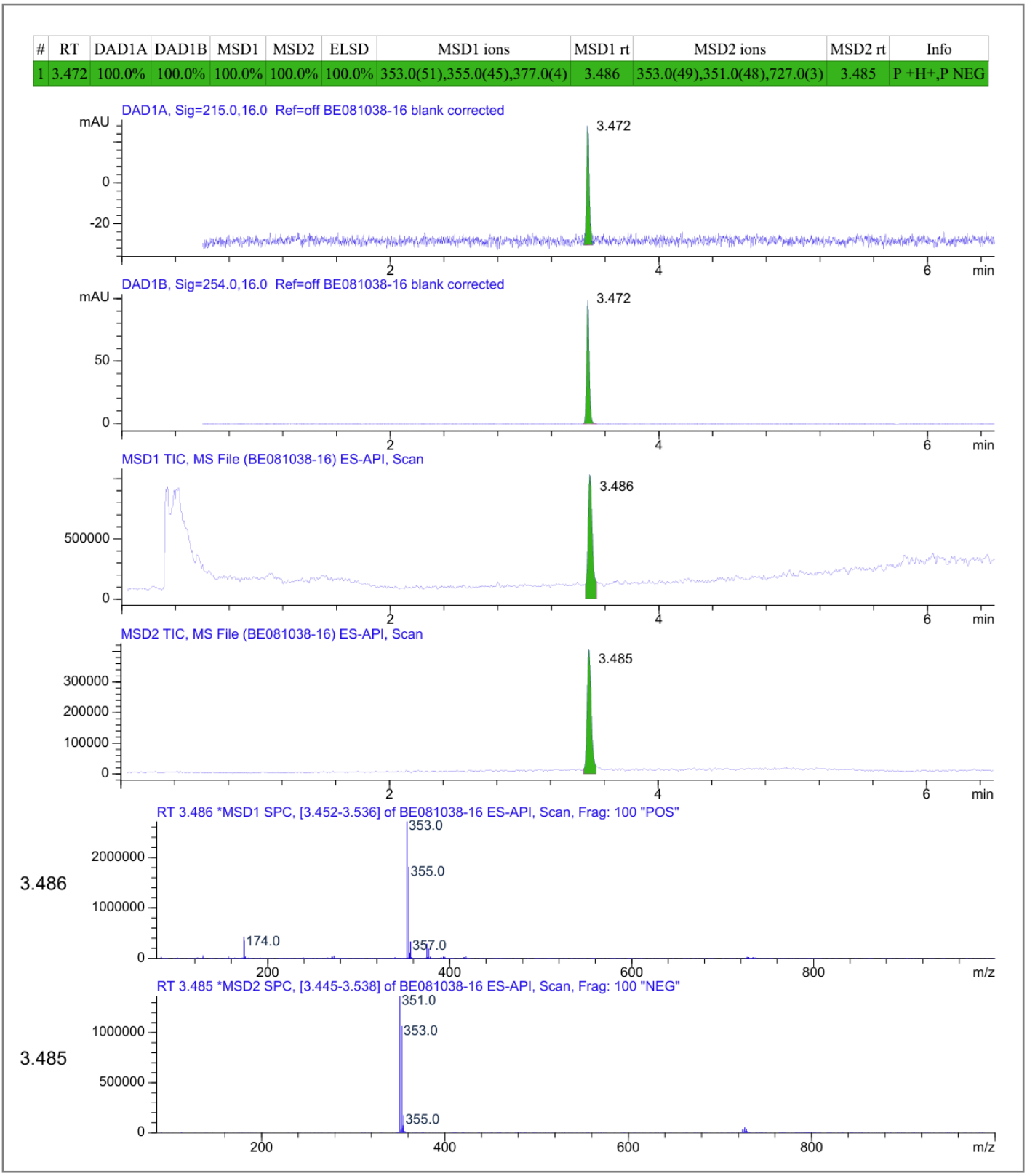


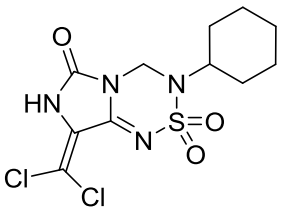


calc. $[M+1]^+$ 339.0 (100.0%), 341.0 (63.9%), 343.0 (10.2%)

LCMS spectrum of **2c**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	3.472	100.0%	100.0%	100.0%	100.0%	100.0%	353.0(51),355.0(45),377.0(4)	3.486	353.0(49),351.0(48),727.0(3)	3.485	P +H+,P NEG

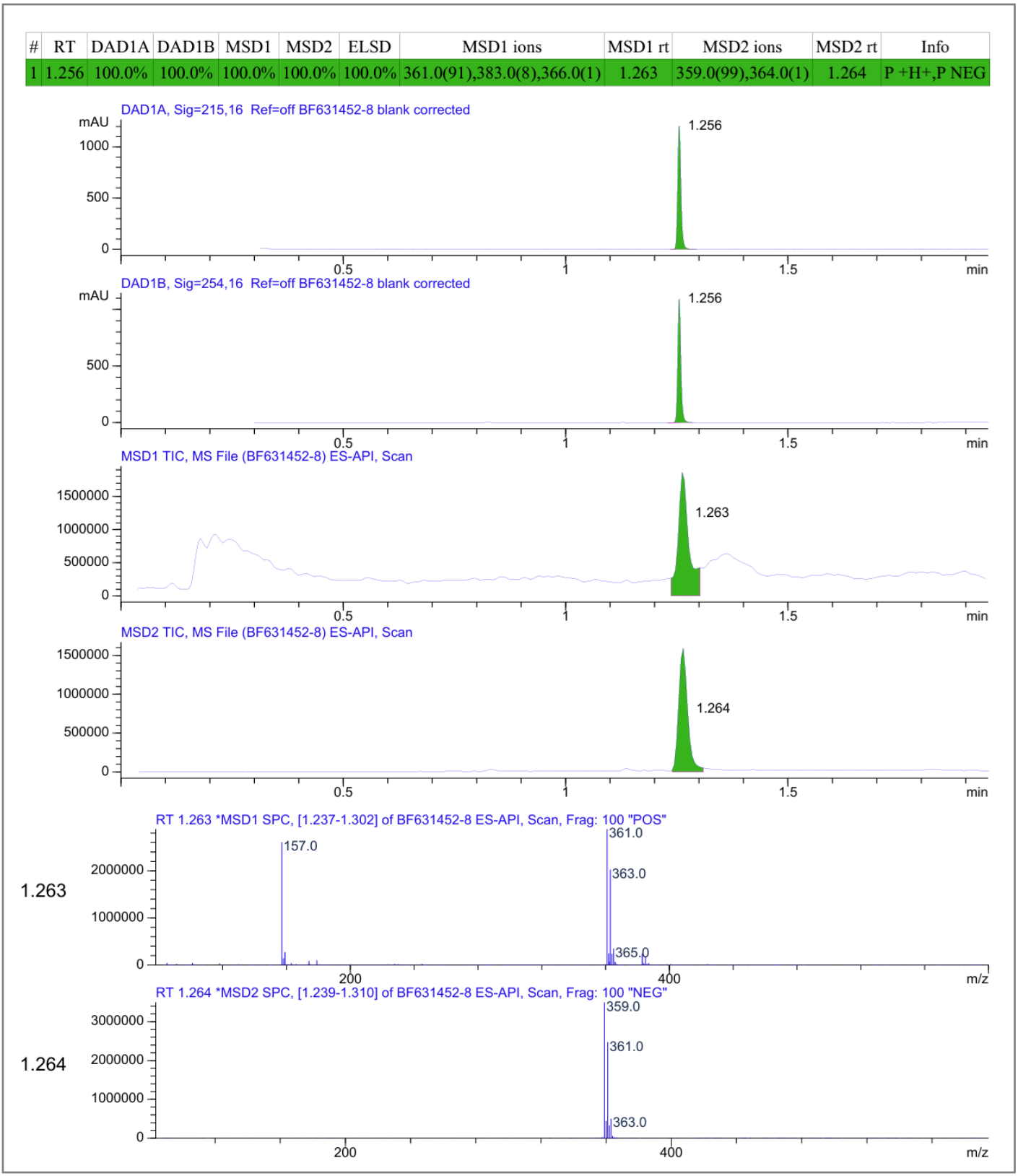


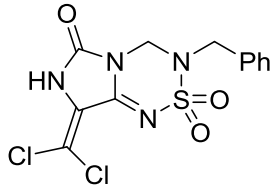


calc. $[M+1]^+$ 353.0 (100.0%), 355.0 (63.9%), 357.0 (10.2%)

LCMS spectrum of **2d**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.256	100.0%	100.0%	100.0%	100.0%	100.0%	361.0(91),383.0(8),366.0(1)	1.263	359.0(99),364.0(1)	1.264	P +H+,P NEG

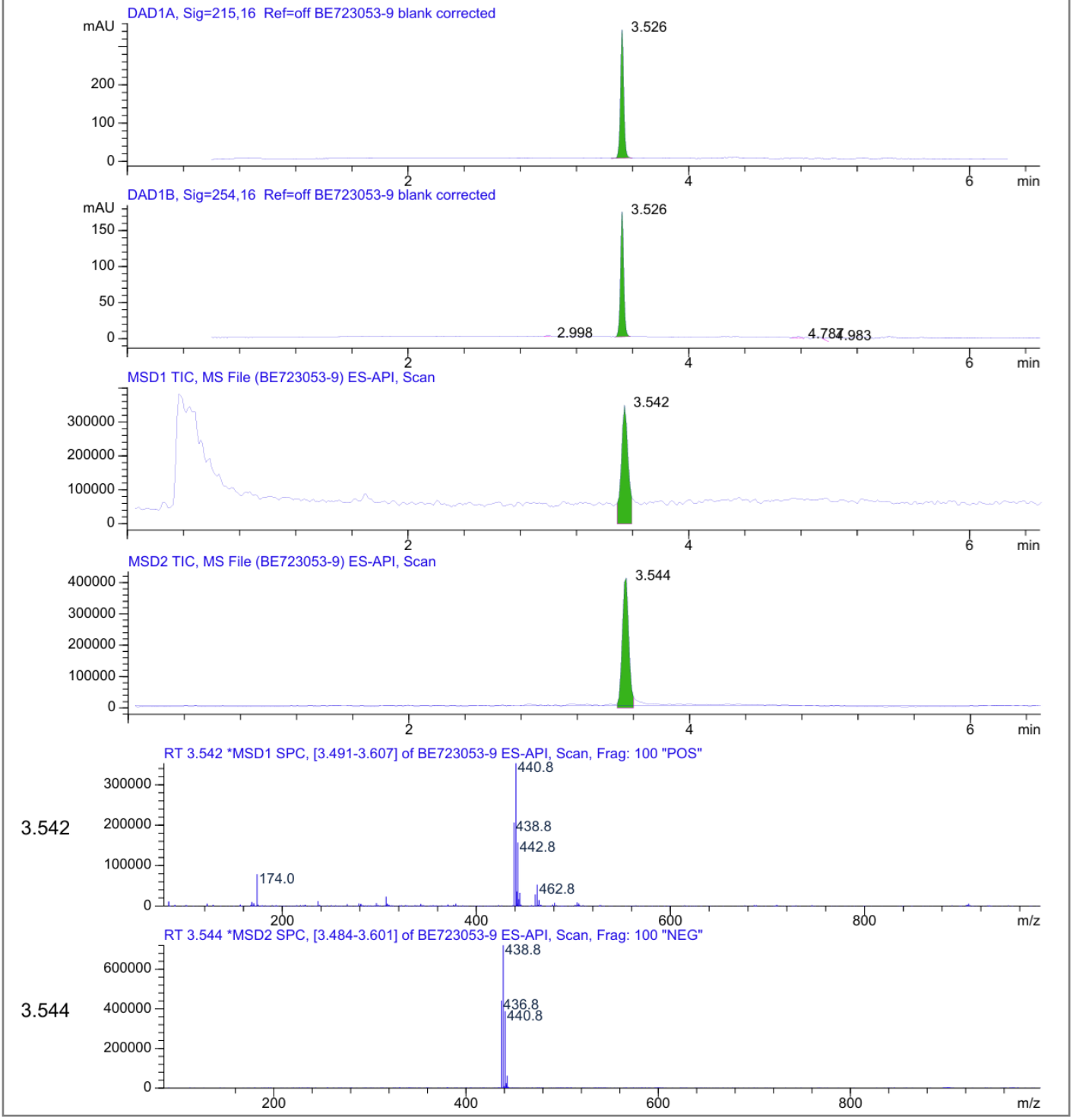


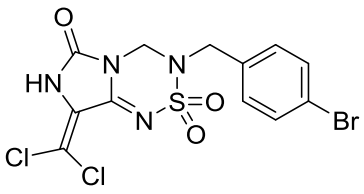


calc. $[M+1]^+$ 361.0 (100.0%), 363.0 (63.9%), 365.0 (10.2%)

LCMS spectrum of **2e**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	2.998	---	1.0%	---	---	---	---	---	---	---	
2	3.526	100.0%	94.9%	100.0%	100.0%	100.0%	440.8(64),438.8(22),462.8(6)	3.542	438.8(43),440.8(30),436.8(27)	3.544	P +H+,P NEG
3	4.787	---	1.9%	---	---	---	---	---	---	---	
4	4.983	---	2.1%	---	---	---	---	---	---	---	

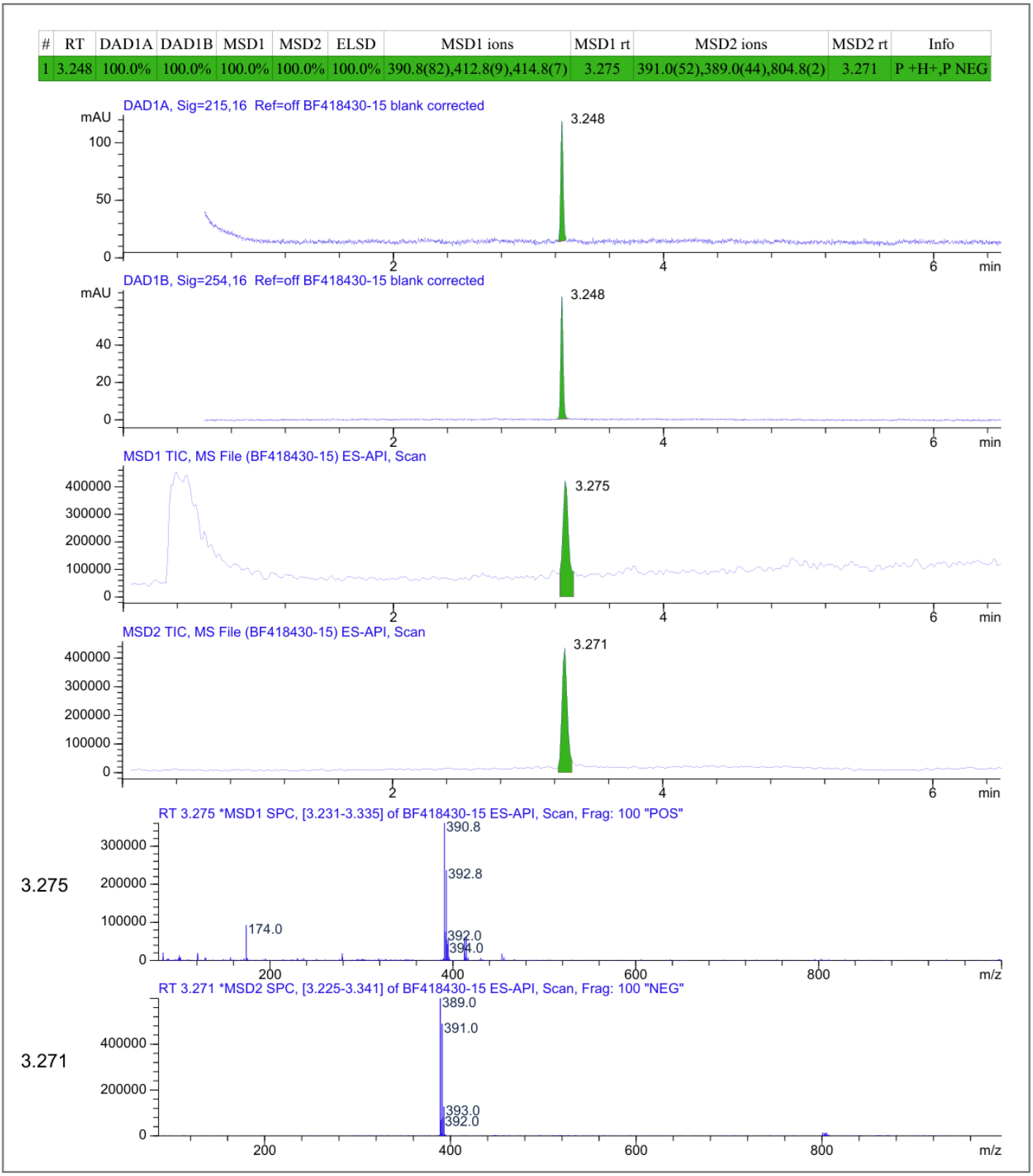


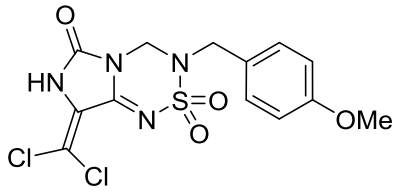


calc. $[M+1]^+$ 438.9 (62.0%), 440.9 (100.0%), 442.9 (44.9%), 444.9 (6.1%)

LCMS spectrum of **2f**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	3.248	100.0%	100.0%	100.0%	100.0%	100.0%	390.8(82),412.8(9),414.8(7)	3.275	391.0(52),389.0(44),804.8(2)	3.271	P +H+,P NEG

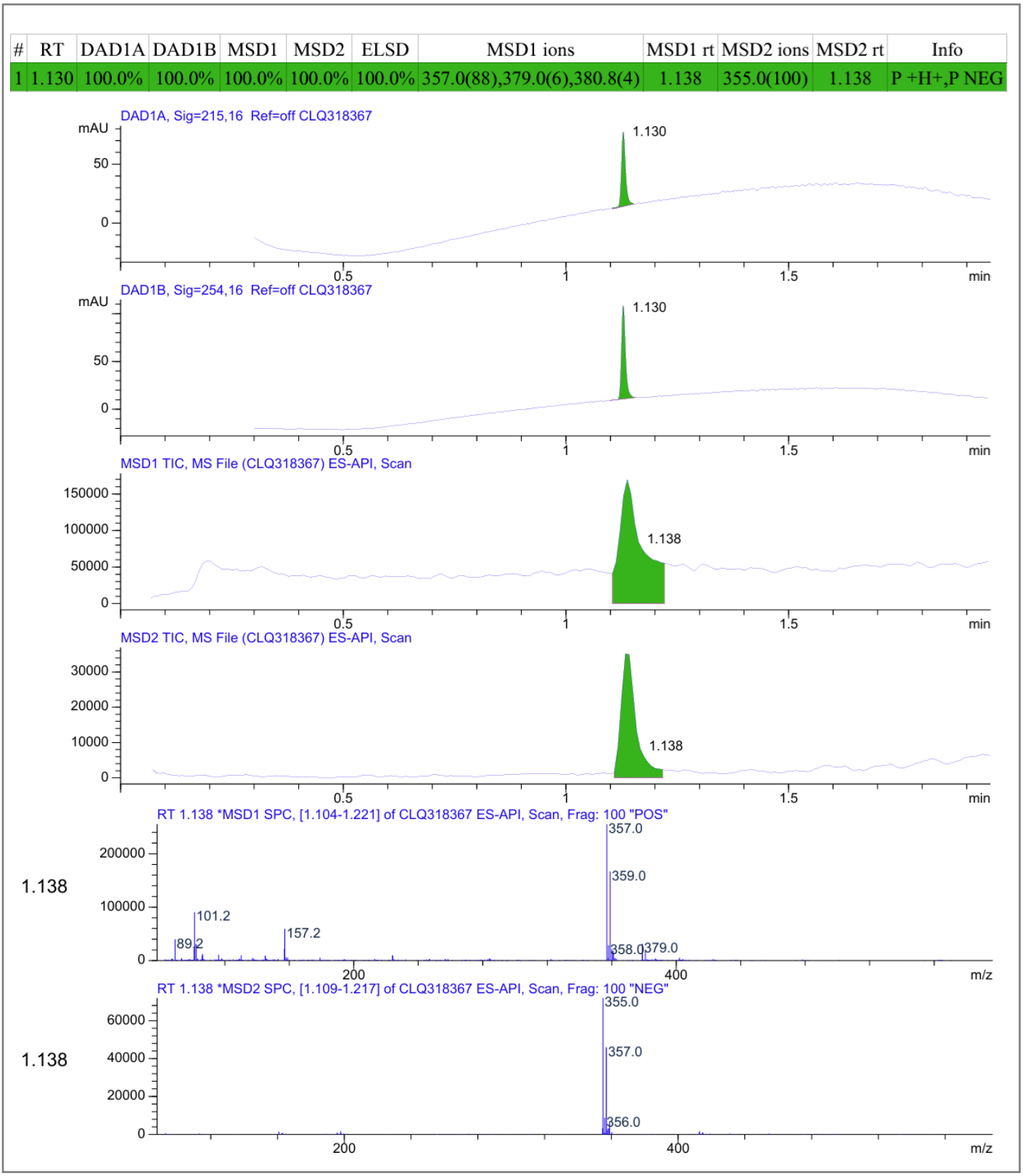


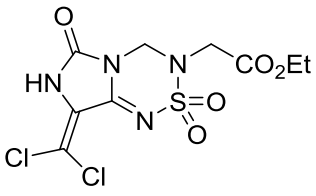


calc. $[M+1]^+$ 391.0 (100.0%), 393.0 (63.9%), 395.0 (10.2%)

LCMS spectrum of **2g**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.130	100.0%	100.0%	100.0%	100.0%	100.0%	357.0(88),379.0(6),380.8(4)	1.138	355.0(100)	1.138	P +H+,P NEG

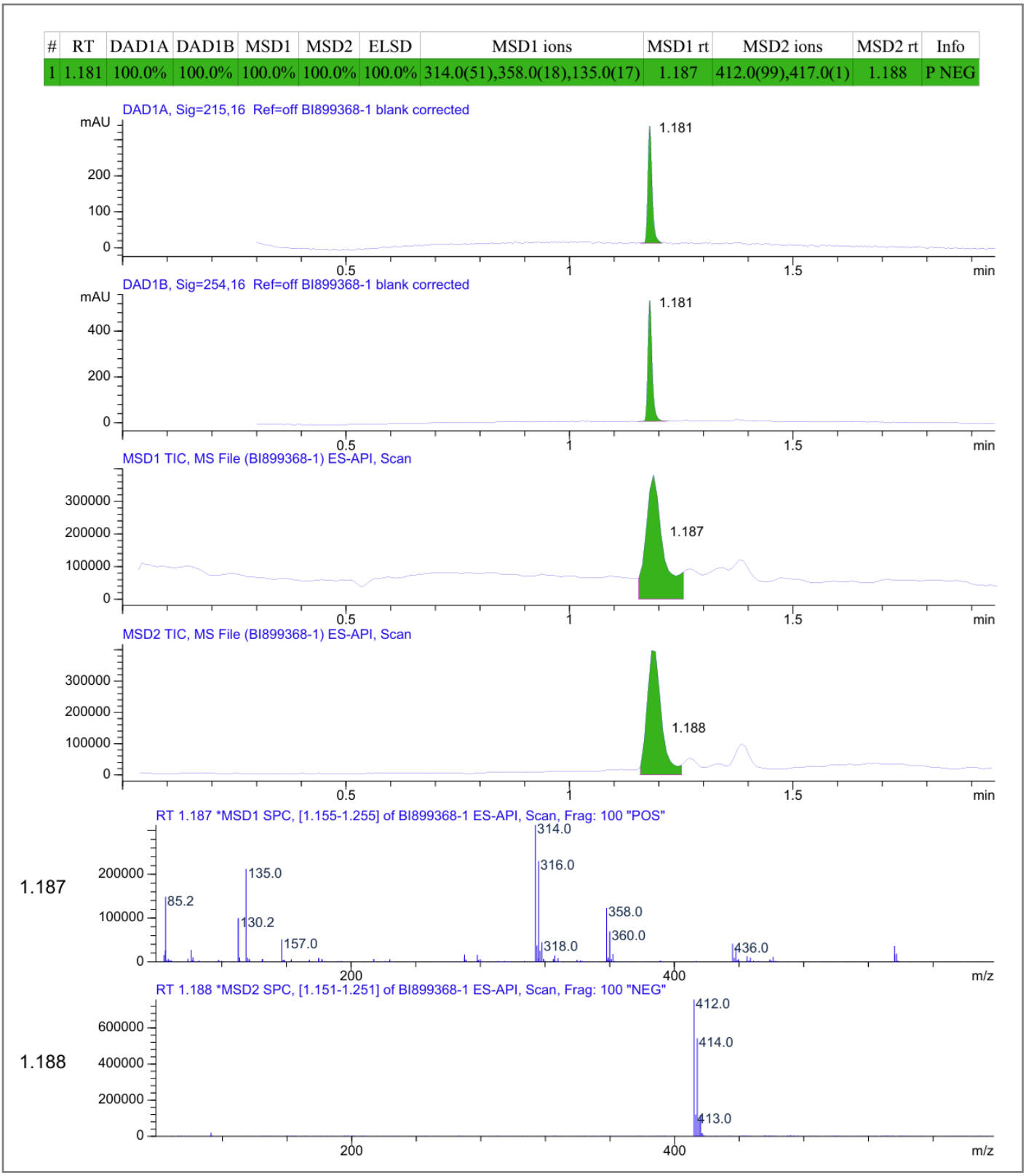


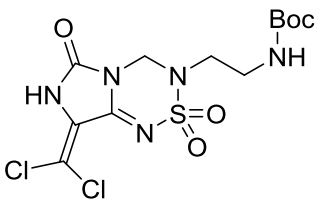


calc. $[M+1]^+$ 357.0 (100.0%), 359.0 (63.9%), 361.0 (10.2%)

LCMS spectrum of **2h**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.181	100.0%	100.0%	100.0%	100.0%	100.0%	314.0(51),358.0(18),135.0(17)	1.187	412.0(99),417.0(1)	1.188	P NEG

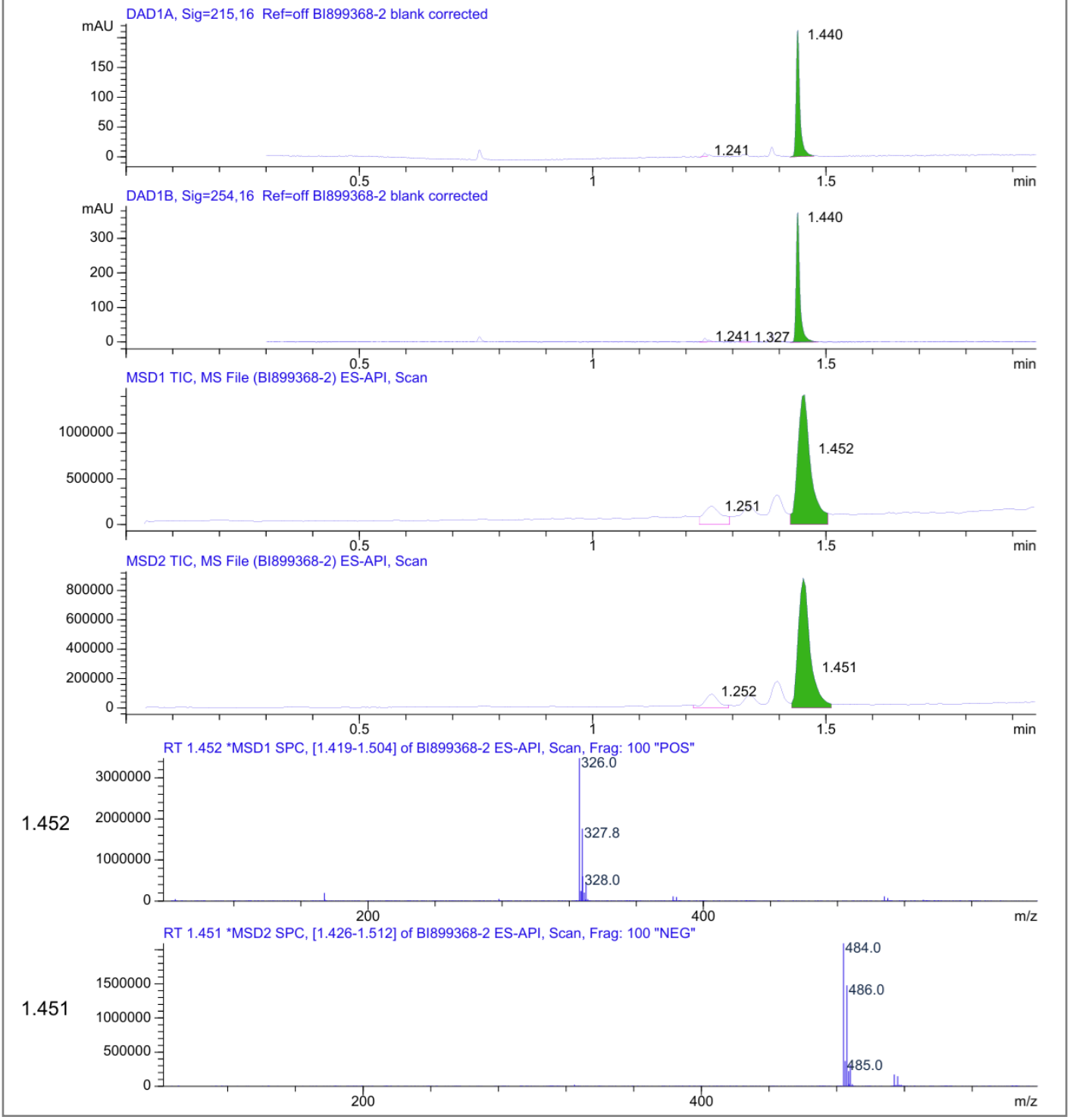


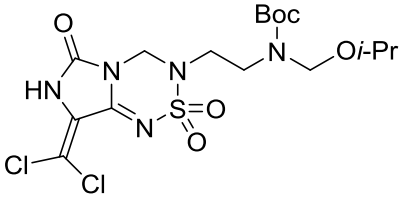


calc. $[M-1]^-$ 412.0 (100.0%), 414.0 (63.9%), 416.0 (10.2%)

LCMS spectrum of **2i**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.241	2.0%	3.3%	4.1%	6.0%	---	313.8(32),315.8(28),358.0(22)	1.251	412.0(50),414.0(50)	1.252	
2	1.327	---	2.1%	---	---	---	---	---	---	---	
3	1.440	98.0%	94.6%	95.9%	94.0%	100.0%	326.0(93),508.0(3),382.0(2)	1.452	484.0(100)	1.451	P NEG

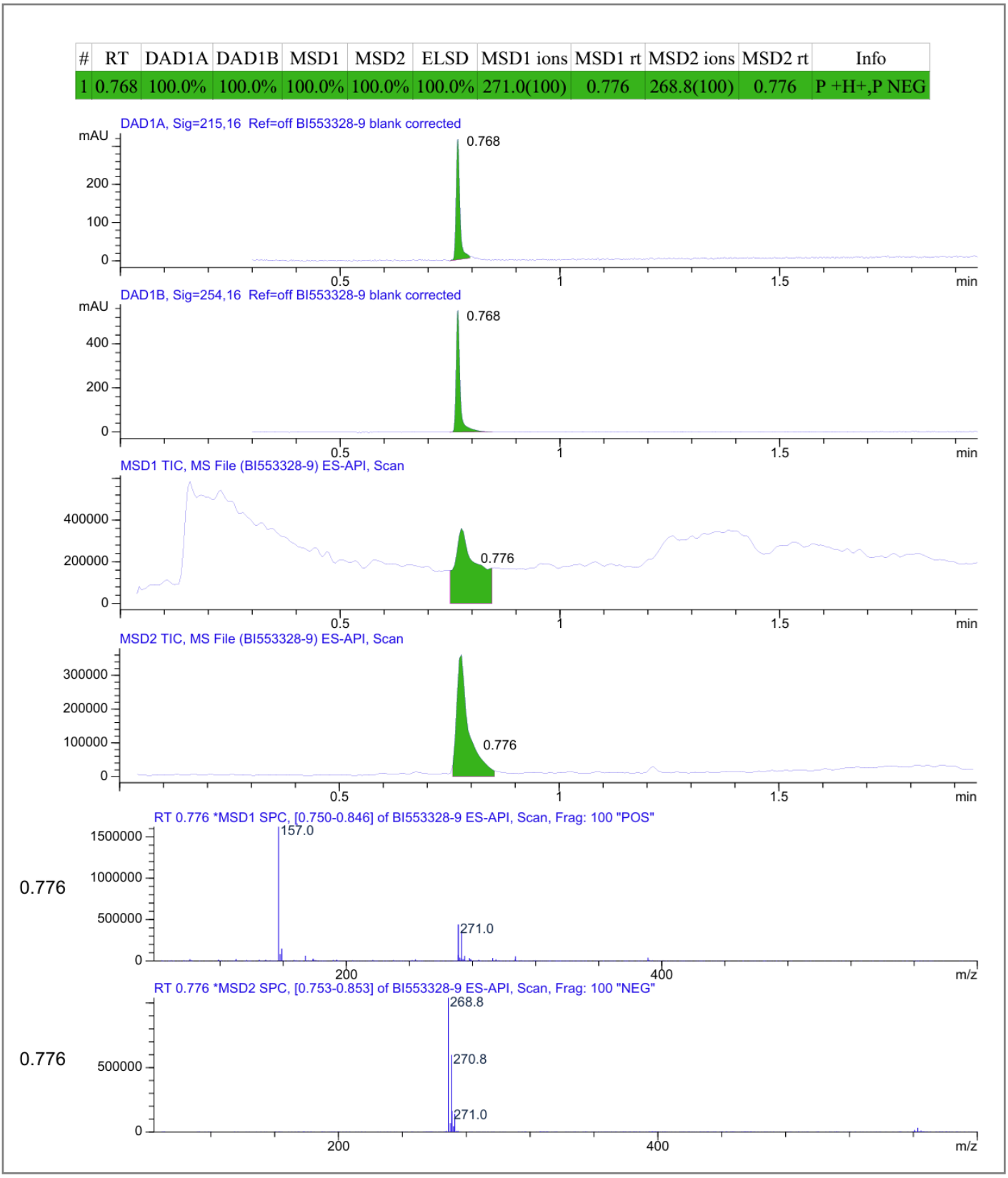


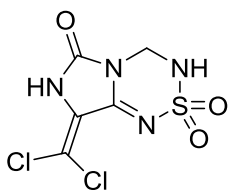


calc. $[M-1]^-$ 484.1 (100.0%), 486.1 (63.9%), 488.1 (10.2%)

LCMS spectrum of **2j**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	0.768	100.0%	100.0%	100.0%	100.0%	100.0%	271.0(100)	0.776	268.8(100)	0.776	P +H+,P NEG

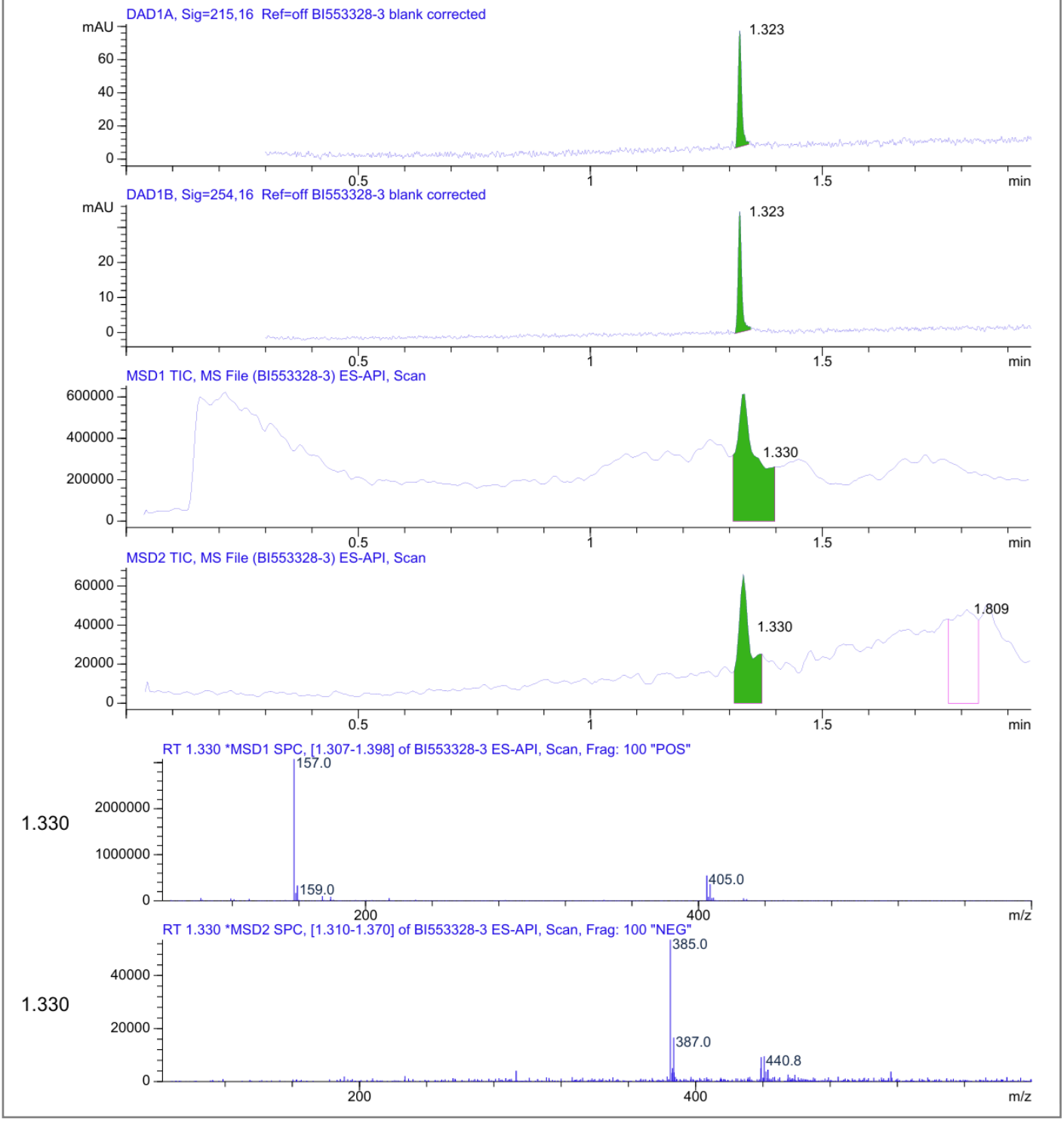


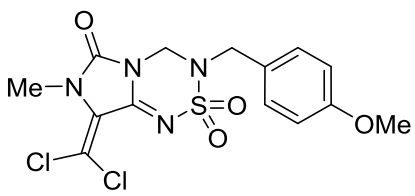


calc. $[M-1]^-$ 268.9 (100.0%), 270.9 (63.9%), 272.9 (10.2%)

LCMS spectrum of **2k**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.323	100.0%	100.0%	100.0%	63.2%	100.0%	405.0(91),427.0(7),410.0(1)	1.330	385.0(83),440.8(11),443.0(6)	1.330	P +H+
2	1.804	---	---	---	36.8%	---	---	---	489.2(43),457.4(38),377.0(10)	1.809	

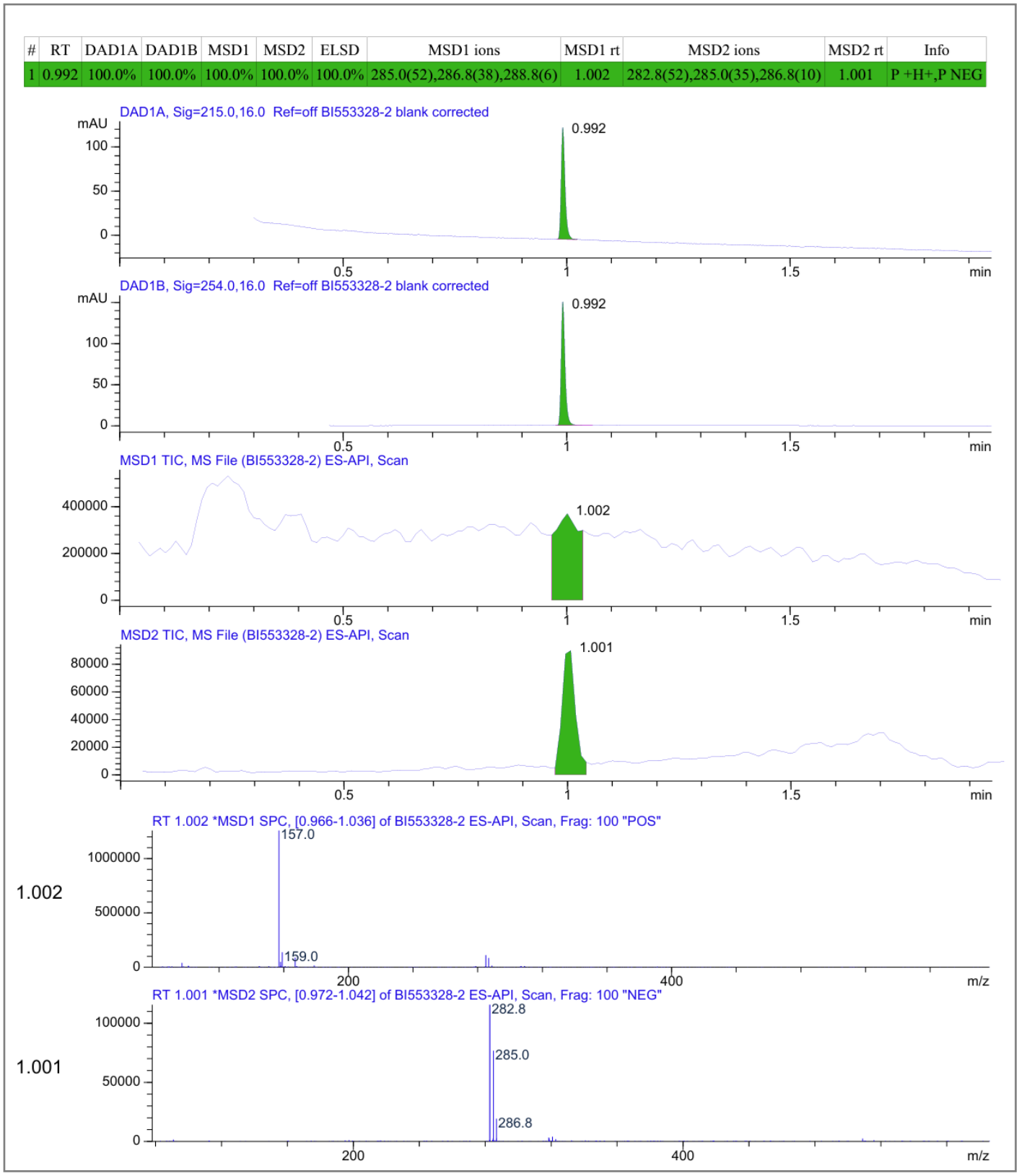


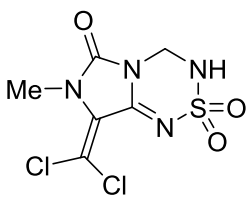


calc. $[M+1]^+$ 405.0 (100.0%), 407.0 (63.9%), 409.0 (15.1%)

LCMS spectrum of **3g**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	0.992	100.0%	100.0%	100.0%	100.0%	100.0%	285.0(52),286.8(38),288.8(6)	1.002	282.8(52),285.0(35),286.8(10)	1.001	P +H+,P NEG

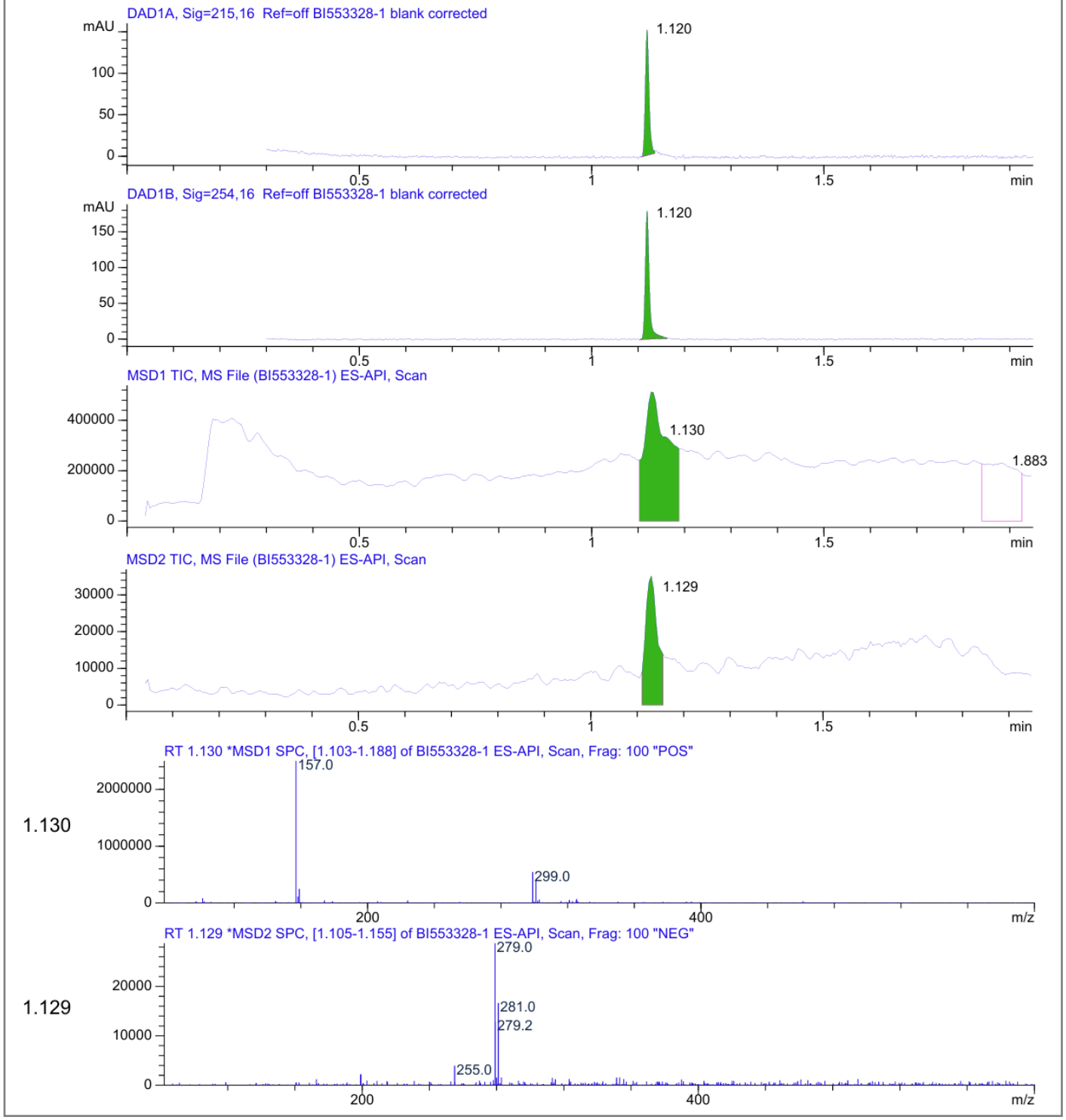


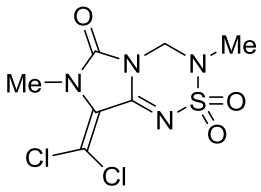


calc. $[M-1]^-$ 282.9 (100.0%), 284.9 (63.9%), 286.9 (10.2%)

LCMS spectrum of **3k**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.120	100.0%	100.0%	82.0%	100.0%	100.0%	299.0(45),301.0(40),321.0(8)	1.130	279.0(71),281.0(29)	1.129	P +H+
2	1.874	---	---	18.0%	---	---	472.2(93),419.2(7)	1.883	---	---	

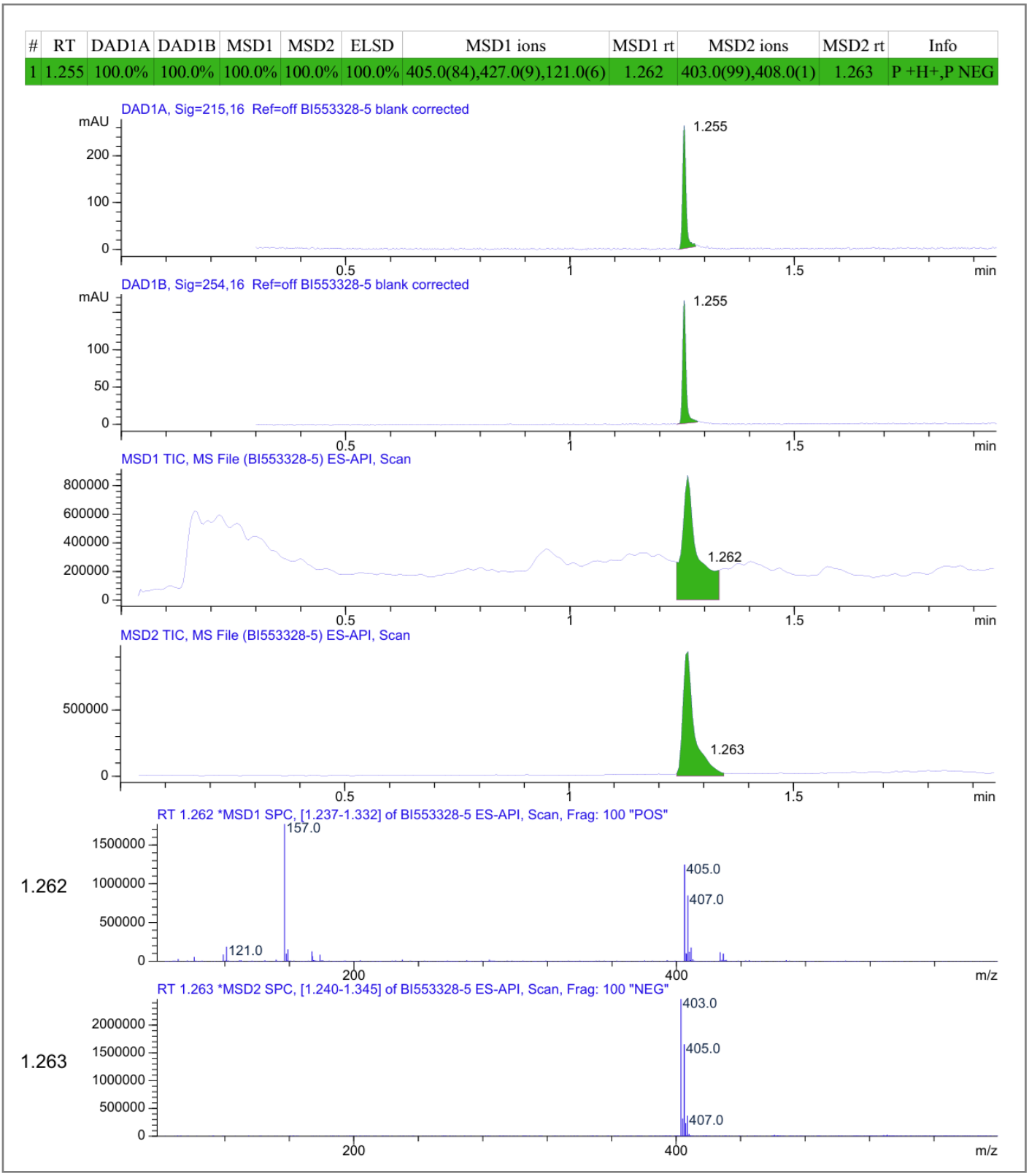


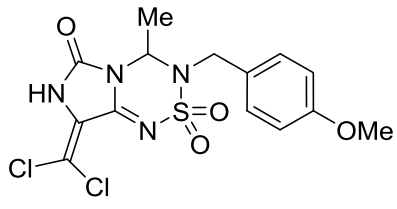


calc. $[M+1]^+$ 299.0 (100.0%), 301.0 (63.9%), 303.0 (10.2%)

LCMS spectrum of **3l**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	1.255	100.0%	100.0%	100.0%	100.0%	100.0%	405.0(84),427.0(9),121.0(6)	1.262	403.0(99),408.0(1)	1.263	P +H+,P NEG

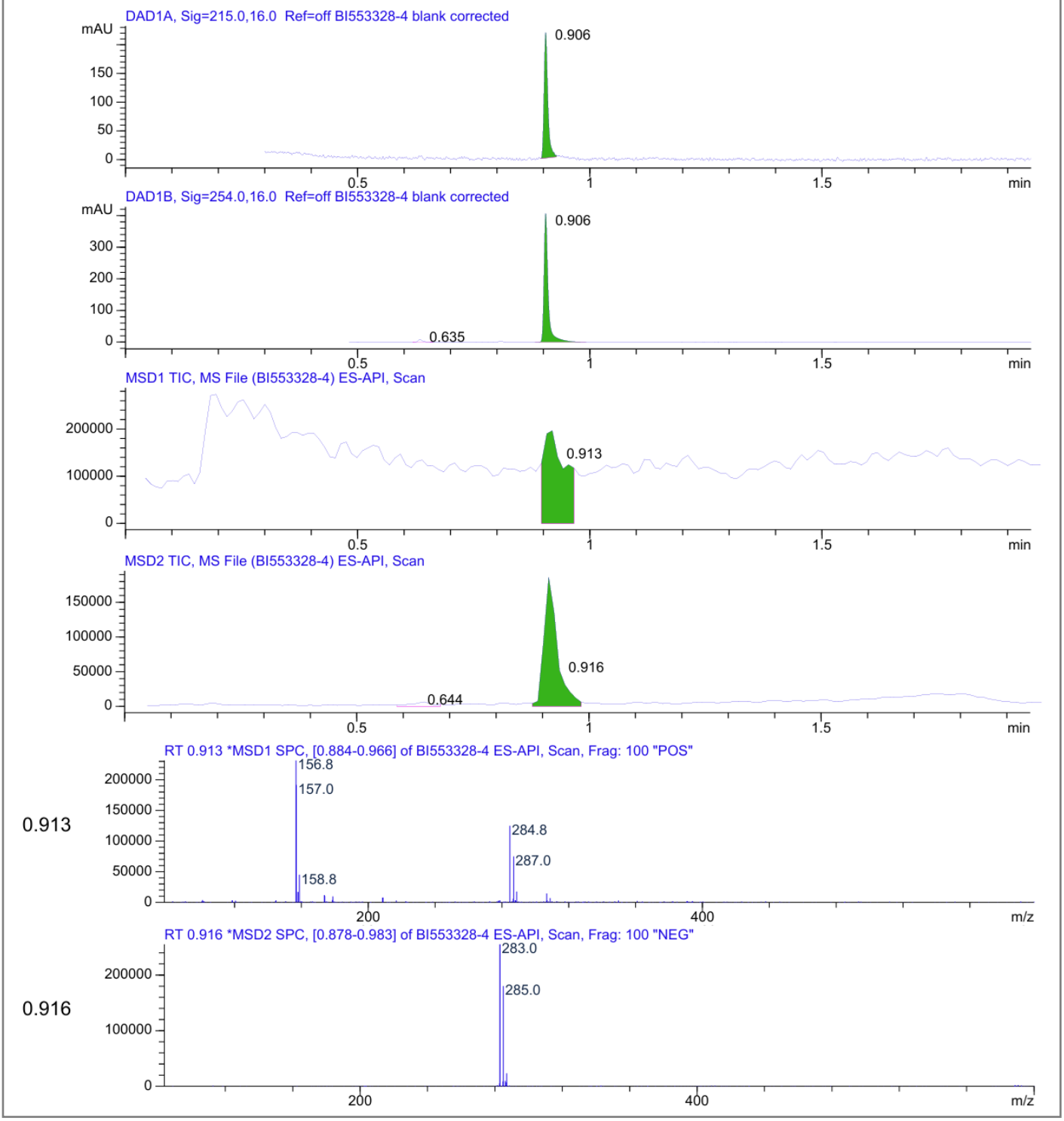


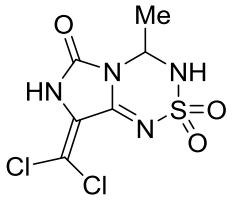


calc. $[M+1]^+$ 405.0 (100.0%), 407.0 (63.9%), 409.0 (10.2%)

LCMS spectrum of **4g**

#	RT	DAD1A	DAD1B	MSD1	MSD2	ELSD	MSD1 ions	MSD1 rt	MSD2 ions	MSD2 rt	Info
1	0.635	---	2.0%	---	1.2%	---	---	---	256.8(100)	0.644	
2	0.906	100.0%	98.0%	100.0%	98.8%	100.0%	284.8(59),287.0(37),308.8(3)	0.913	283.0(53),285.0(47)	0.916	P +H+,P NEG



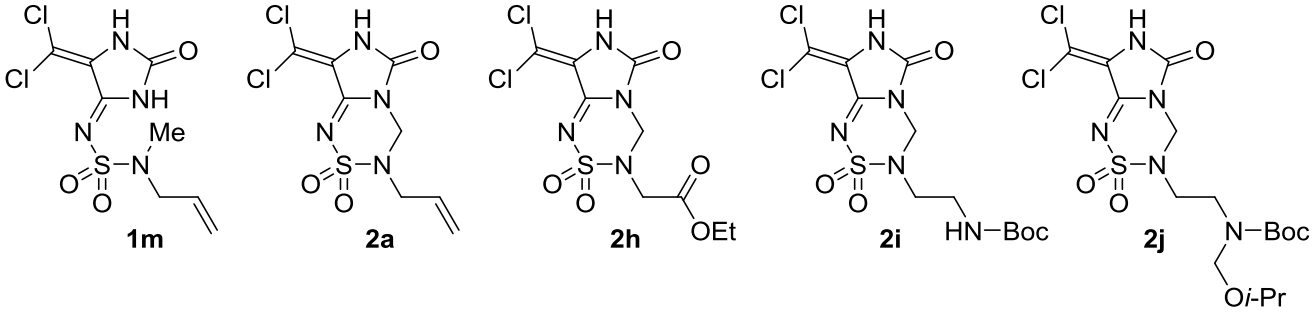


calc. $[M+1]^+$ m/z: 285.0 (100.0%), 287.0 (63.9%), 289.0 (10.2%)

LCMS spectrum of **4k**

5. *In vitro* assay compounds 1l, 2a, 2h-j cancer cells growth inhibition

Full data of primary *in vitro* assay of compounds **1m, 2a**, **2h-j** action in single high dose (10^{-5} M) against full NCI 60 cells panel; GP – Growth Percent, %

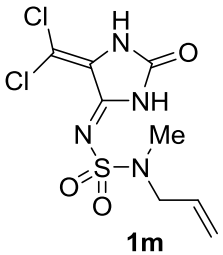


	1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568 / 1)	**2j** (NSC D – 843037 / 1)
GP, Mean	**20.9**	**-35.5**	**-9.1**	**5.6**	**-55.8**
GP, Range	**200.4**	**215.4**	**236.5**	**202.0**	**209.6**
GP of the separate cell line					
Leukemia					
CCRF-CEM	-27.1	-67.5	-51.7	-3.2	-59.8
HL-60(TB)	-51.7	-63.3	-51.8	1.1	-51.6
K-562	-3.5	-39.2	-10.0	3.5	-19.0
MOLT-4	-19.7	-61.6	-37.8	8.6	-51.0
RPMI-8226	5.2	-19.1	7.1	23.8	-20.5
SR	-18.7	-60.8	-43.2	-32.3	-45.4
Non-Small Cell Lung Cancer					
A549/ATCC	102.5	85.0	102.0	92.1	62.5
EKVX	62.8	-81.2	-81.0	76.9	-83.6
HOP-62	76.5	106.8	137.4	87.8	103.3
HOP-92	-23.4	-78.4	-70.2	-74.1	-82.7
NCI-H226	89.0	-45.2	-17.3	82.8	-59.6
NCI-H23	37.5	-82.7	-5.8	25.3	-78.4
NCI-H322M	95.0	–	–	98.8	–
NCI-H460	45.6	17.4	76.3	89.9	-57.3
NCI-H522	-57.0	-80.8	-58.6	-82.3	-77.4
Colon Cancer					
COLO 205	-40.8	-73.4	-73.7	-84.8	-76.1
HCC-2998	40.1	-83.2	-2.8	12.4	-90.6
HCT-116	1.5	-74.6	-52.6	-4.8	-77.1

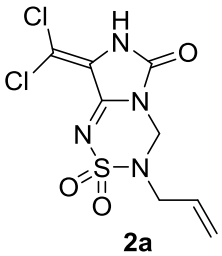
	1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568 / 1)	**2j** (NSC D – 843037 / 1)
HCT-15	-77.2	-89.1	-88.4	-83.5	-89.5
HT29	5.9	-66.7	1.4	-50.8	-58.9
KM12	7.3	88.2	91.3	98.6	23.2
SW-620	-61.9	-77.6	-80.7	11.6	-77.9
CNS Cancer					
SF-268	32.2	18.9	-17.6	41.2	-16.9
SF-295	102.1	87.1	94.5	96.7	53.4
SF-539	-23.6	-86.5	-29.8	10.7	-94.2
SNB-19	58.4	81.0	84.2	92.1	22.7
SNB-75	100.3	110.5	44.7	-3.0	-35.2
U251	-10.2	-38.1	20.0	17.4	-82.6
Melanoma					
LOX IMVI	-88.3	-92.2	-88.2	-77.4	-95.6
MALME-3M	-69.4	-90.8	-90.7	-72.9	-90.3
M14	–	-77.3	-27.4	-46.1	-85.0
MDA-MB-435	34.4	-68.6	-47.9	-62.8	-80.6
SK-MEL-2	90.0	-48.3	42.5	-2.2	-65.1
SK-MEL-28	-83.6	-94.7	-96.4	-56.2	-96.0
SK-MEL-5	91.6	46.1	67.8	69.9	-58.1
UACC-257	57.4	-57.3	-17.0	-76.1	-82.5
UACC-62	32.9	-93.9	-58.6	-2.7	-93.7
Ovarian Cancer					
IGROV1	-37.4	-14.5	46.2	19.2	-67.1
OVCAR-3	-84.3	-82.5	-99.2	-94.0	-94.8
OVCAR-4	89.2	-52.5	11.2	-1.1	-76.4
OVCAR-5	-37.5	-94.3	-68.4	40.9	-95.2
OVCAR-8	61.2	-68.8	2.9	51.4	-85.3
NCI/ADR-RES	72.5	-21.8	68.3	32.8	-33.4
SK-OV-3	103.7	89.8	111.2	97.0	85.4
Renal Cancer					
786-0	32.2	-50.9	40.2	-15.1	-87.0
A498	97.6	117.4	112.4	107.9	111.0
ACHN	-96.7	-98.0	-97.2	-84.2	-98.7
CAKI-1	2.8	-82.3	-98.6	-81.5	-94.2
RXF 393	–	-97.0	-95.2	-67.0	-98.0
SN12C	-22.5	-92.5	5.1	20.2	-94.1

	1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568 / 1)	**2j** (NSC D – 843037 / 1)
TK-10	65.7	3.14	41.4	88.5	-85.9
UO-31	92.5	-85.2	24.0	38.3	-89.3
Prostate Cancer					
PC-3	47.0	14.9	67.6	31.1	-52.3
DU-145	72.8	33.2	65.8	70.7	-88.9
Breast Cancer					
MCF7	11.9	12.1	10.8	23.9	-68.6
MDA-MB-231/ATCC	-25.5	-87.2	-89.4	-63.7	-91.6
HS 578T	80.5	26.5	5.1	58.1	-2.9
BT-549	89.1	-90.4	-55.3	-41.7	-94.4
T-47D	55.1	-34.9	-32.5	-37.6	-36.9
MDA-MB-468	28.7	-85.2	-81.9	-83.3	-85.3

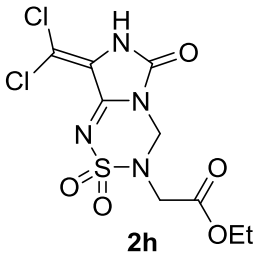
Full data of *in vitro* assay of compounds **1m, 2a**, **2h-j** action in five doses (10^{-4}, 10^{-5}, 10^{-6}, 10^{-7} and 10^{-8} M) against full NCI 60 cells panel; GI_{50} (growth inhibitory activity) – concentration of the compound causing 50 % decrease in cell growth; TGI (cytostatic activity) – concentration of the compound resulting in total growth inhibition; LC_{50} (cytotoxic activity) – concentration of the compound causing 50 % loss of initial cells at the end of the incubation period of 48 h



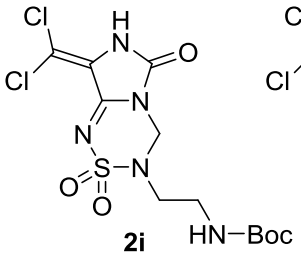
1m



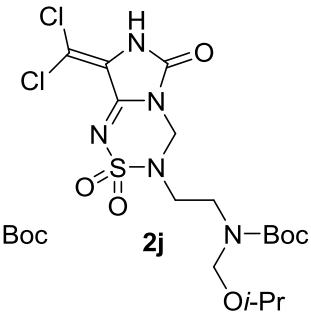
2a



2h



2i



2j

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
MID	-lg GI_{50}	5.66	5.51	5.4	5.28	5.71
	-lg TGI	5.14	5.13	4.99	4.82	5.33
	-lg LC_{50}	4.61	4.67	4.49	4.4	4.85
Separate cell lines						
Leukemia						
CCRF-CEM	-lg GI_{50}	5.71	5.85	5.70	5.22	6.14
	-lg TGI	5.33	5.48	5.29	<4.00	5.54
	-lg LC_{50}	<4.00	5.12	<4.00	<4.00	<4.00
HL-60(TB)	-lg GI_{50}	5.69	5.78	5.68	5.56	5.98
	-lg TGI	5.27	5.3	5.33	<4.00	5.48
	-lg LC_{50}	<4.00	<4.00	<4.00	<4.00	<4.00
K-562	-lg GI_{50}	5.72	5.63	5.59	5.47	6.17
	-lg TGI	–	<4.00	<4.00	<4.00	5.23
	-lg LC_{50}	<4.00	<4.00	<4.00	<4.00	<4.00
MOLT-4	-lg GI_{50}	5.63	5.61	5.70	5.52	5.89
	-lg TGI	5.23	5.18	5.28	<4.00	5.39
	-lg LC_{50}	<4.00	<4.00	<4.00	<4.00	<4.00
RPMI-8226	-lg GI_{50}	6.39	5.56	5.49	4.66	5.60
	-lg TGI	5.01	5.11	4.73	<4.00	5.10
	-lg LC_{50}	<4.00	<4.00	<4.00	<4.00	<4.00
SR	-lg GI_{50}	6.16	–	–	–	–
	-lg TGI	5.18	–	–	–	–
	-lg LC_{50}	<4.00	–	–	–	–

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
Non-Small Cell Lung Cancer						
A549/ATCC	-lg GI_{50}	5.28	4.88	4.79	4.70	5.47
	-lg TGI	4.62	4.47	4.46	4.35	4.88
	-lg LC_{50}	4.05	4.06	4.14	<4.00	4.34
EKVX	-lg GI_{50}	5.74	5.41	4.87	5.43	5.73
	-lg TGI	5.44	4.82	4.56	4.80	5.41
	-lg LC_{50}	5.14	4.34	4.24	4.22	5.08
HOP-62	-lg GI_{50}	5.48	4.86	4.88	4.78	5.35
	-lg TGI	4.84	4.53	4.52	4.50	4.76
	-lg LC_{50}	4.17	4.21	4.16	4.22	4.32
HOP-92	-lg GI_{50}	5.76	5.76	5.78	5.73	5.76
	-lg TGI	5.47	5.45	5.45	5.36	5.46
	-lg LC_{50}	5.18	–	5.11	<4.00	5.16
NCI-H226	-lg GI_{50}	5.68	4.84	4.95	4.76	5.60
	-lg TGI	5.33	4.52	4.61	4.42	5.13
	-lg LC_{50}	<4.00	4.2	4.28	4.08	4.51
NCI-H23	-lg GI_{50}	5.73	5.76	5.69	5.43	5.75
	-lg TGI	5.44	5.48	5.33	4.80	5.46
	-lg LC_{50}	5.15	5.2	4.85	4.26	5.18
NCI-H322M	-lg GI_{50}	5.46	4.83	4.82	4.73	5.36
	-lg TGI	4.87	4.55	4.55	4.38	4.76
	-lg LC_{50}	4.34	4.27	4.27	4.04	4.38
NCI-H460	-lg GI_{50}	5.57	4.99	4.84	4.71	5.71
	-lg TGI	5.15	4.56	4.52	4.42	5.39
	-lg LC_{50}	4.42	4.14	4.19	4.12	5.06
NCI-H522	-lg GI_{50}	5.71	6.57	5.90	5.77	6.09
	-lg TGI	5.38	6.06	5.56	5.43	5.65
	-lg LC_{50}	5.06	5.45	5.23	5.09	5.28
Colon Cancer						
COLO 205	-lg GI_{50}	5.69	5.7	5.66	5.77	5.70
	-lg TGI	5.36	5.43	5.38	5.49	5.41
	-lg LC_{50}	5.03	5.16	–	5.21	5.12
HCC-2998	-lg GI_{50}	5.76	5.76	5.61	5.05	5.75
	-lg TGI	5.47	5.47	5.20	4.67	5.50
	-lg LC_{50}	5.18	5.18	4.66	4.32	5.24

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
HCT-116	-lg GI_{50}	5.73	5.62	5.53	5.53	5.65
	-lg TGI	5.45	5.21	5.08	5.05	5.31
	-lg LC_{50}	5.17	<4.00	<4.00	4.32	<4.00
HCT-15	-lg GI_{50}	5.79	5.83	5.79	5.77	6.35
	-lg TGI	5.49	5.53	5.51	5.48	5.78
	-lg LC_{50}	5.20	5.23	5.24	5.19	5.35
HT29	-lg GI_{50}	5.67	5.68	5.71	5.58	5.80
	-lg TGI	5.31	5.40	5.39	5.06	5.48
	-lg LC_{50}	<4.00	5.12	–	<4.00	5.15
KM12	-lg GI_{50}	6.36	4.81	4.84	4.73	5.12
	-lg TGI	4.59	4.49	4.49	4.46	4.68
	-lg LC_{50}	<4.00	4.16	4.15	4.19	4.32
SW-620	-lg GI_{50}	5.72	5.77	5.79	5.71	5.91
	-lg TGI	5.43	5.48	5.50	5.43	5.56
	-lg LC_{50}	5.14	5.19	5.20	5.14	5.22
CNS Cancer						
SF-268	-lg GI_{50}	5.50	4.99	4.94	4.83	5.57
	-lg TGI	4.97	4.62	4.60	4.53	5.04
	-lg LC_{50}	4.02	4.24	4.26	4.22	4.42
SF-295	-lg GI_{50}	4.87	4.78	4.80	4.79	4.81
	-lg TGI	4.57	4.52	4.53	4.51	4.54
	-lg LC_{50}	4.28	4.26	4.27	4.24	4.27
SF-539	-lg GI_{50}	5.75	5.73	5.51	–	5.75
	-lg TGI	5.48	5.35	4.89	–	5.48
	-lg LC_{50}	5.22	4.92	4.44	–	5.21
SNB-19	-lg GI_{50}	5.54	4.85	4.85	4.84	5.45
	-lg TGI	5.03	4.56	4.57	4.56	4.87
	-lg LC_{50}	4.50	4.28	4.28	4.27	4.43
SNB-75	-lg GI_{50}	5.74	4.93	4.99	5.08	5.78
	-lg TGI	4.88	4.61	4.65	4.67	4.98
	-lg LC_{50}	4.44	4.28	4.30	4.32	4.48
U251	-lg GI_{50}	5.73	5.5	5.30	5.48	5.78
	-lg TGI	5.39	4.96	4.76	4.86	5.51
	-lg LC_{50}	5.06	4.42	4.37	4.22	5.24

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
Melanoma						
LOX IMVI	-lg GI_{50}	–	5.79	5.76	5.75	5.87
	-lg TGI	–	5.51	5.47	5.45	5.57
	-lg LC_{50}	–	5.22	5.19	5.16	5.27
MALME-3M	-lg GI_{50}	5.73	5.78	5.78	5.76	5.80
	-lg TGI	5.45	5.49	5.50	5.46	5.52
	-lg LC_{50}	5.16	5.2	5.21	5.15	5.23
M14	-lg GI_{50}	5.72	5.73	5.54	5.47	5.74
	-lg TGI	5.43	5.45	4.93	4.91	5.47
	-lg LC_{50}	5.13	5.17	4.35	4.37	5.21
MDA-MB-435	-lg GI_{50}	5.71	5.68	5.49	5.35	5.77
	-lg TGI	5.41	5.31	4.87	4.79	5.48
	-lg LC_{50}	5.11	4.83	4.38	4.35	5.19
SK-MEL-2	-lg GI_{50}	5.54	5.69	5.71	5.22	5.76
	-lg TGI	5.11	5.36	5.33	4.68	5.46
	-lg LC_{50}	4.35	5.03	4.86	4.26	5.15
SK-MEL-28	-lg GI_{50}	5.75	5.79	5.77	5.78	5.75
	-lg TGI	5.49	5.52	5.51	5.51	5.50
	-lg LC_{50}	5.22	5.25	5.25	5.25	5.24
SK-MEL-5	-lg GI_{50}	5.70	5.08	4.98	4.82	5.72
	-lg TGI	5.38	4.68	4.65	4.55	5.39
	-lg LC_{50}	5.05	4.34	4.32	4.27	5.05
UACC-257	-lg GI_{50}	5.45	5.79	5.77	5.60	5.79
	-lg TGI	4.77	5.51	5.47	5.10	5.51
	-lg LC_{50}	4.09	5.22	5.16	4.47	5.23
UACC-62	-lg GI_{50}	5.76	5.77	5.71	5.70	5.79
	-lg TGI	5.47	5.46	5.35	5.32	5.52
	-lg LC_{50}	5.18	5.16	4.95	4.84	5.25
Ovarian Cancer						
IGROV1	-lg GI_{50}	5.73	5.72	5.64	5.64	5.83
	-lg TGI	5.44	5.43	5.23	5.32	5.52
	-lg LC_{50}	5.14	5.13	4.54	–	5.22
OVCAR-3	-lg GI_{50}	5.72	5.73	5.68	5.41	5.77
	-lg TGI	5.42	5.48	5.29	4.82	5.51
	-lg LC_{50}	–	5.23	4.80	4.35	5.25

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
OVCAR-4	-lg GI_{50}	5.74	5.7	4.92	4.82	5.77
	-lg TGI	5.47	5.37	4.37	4.53	5.48
	-lg LC_{50}	5.21	–	<4.00	4.23	5.18
OVCAR-5	-lg GI_{50}	5.77	5.78	5.60	5.61	5.78
	-lg TGI	5.50	5.49	5.14	5.18	5.51
	-lg LC_{50}	5.24	5.2	4.53	4.60	5.24
OVCAR-8	-lg GI_{50}	5.63	5.74	5.48	5.22	5.73
	-lg TGI	5.24	5.45	4.93	4.67	5.46
	-lg LC_{50}	<4.00	5.16	4.21	4.21	5.20
NCI/ADR-RES	-lg GI_{50}	5.67	5.69	5.47	4.81	5.71
	-lg TGI	5.31	5.34	4.76	4.43	5.37
	-lg LC_{50}	<4.00	<4.00	<4.00	4.05	
SK-OV-3	-lg GI_{50}	4.77	4.82	4.72	4.76	4.84
	-lg TGI	4.51	4.53	4.45	4.50	4.52
	-lg LC_{50}	4.25	4.23	4.18	4.24	4.20
Renal Cancer						
786-0	-lg GI_{50}	5.62	5.49	4.87	5.28	5.65
	-lg TGI	5.24	4.85	4.47	4.72	5.27
	-lg LC_{50}	4.56	<4.00	4.06	4.28	4.11
A498	-lg GI_{50}	4.92	4.74	4.76	4.75	4.78
	-lg TGI	4.61	4.49	4.51	4.50	4.52
	-lg LC_{50}	4.30	4.24	4.25	4.24	4.25
ACHN	-lg GI_{50}	5.75	5.77	5.76	5.40	5.75
	-lg TGI	5.50	5.52	5.50	4.84	5.50
	-lg LC_{50}	5.24	5.26	5.24	4.42	5.25
CAKI-1	-lg GI_{50}	5.77	5.77	5.78	5.46	5.82
	-lg TGI	5.50	5.51	5.50	4.90	5.55
	-lg LC_{50}	5.24	5.25	5.23	4.40	5.27
RXF 393	-lg GI_{50}	5.77	5.77	5.84	5.80	5.80
	-lg TGI	5.47	5.5	5.54	5.43	5.53
	-lg LC_{50}	5.18	5.23	5.25	5.06	5.26
SN12C	-lg GI_{50}	5.75	5.81	5.64	5.61	5.81
	-lg TGI	5.48	5.53	5.17	5.16	5.52
	-lg LC_{50}	5.21	5.24	4.60	4.60	5.24

		1m (NSC D – 828791 / 1)	**2a** (NSC D – 843034 / 1)	**2h** (NSC D – 843031 / 1)	**2i** (NSC D – 848568/ 1)	**2j** (NSC D – 843037 / 1)
TK-10	-lg GI_{50}	5.04	5.18	5.00	4.87	5.73
	-lg TGI	<4.00	4.71	4.65	4.55	5.46
	-lg LC_{50}	<4.00	4.34	4.31	4.23	5.20
UO-31	-lg GI_{50}	5.55	5.83	5.33	4.96	5.83
	-lg TGI	4.93	5.5	4.75	4.55	5.54
	-lg LC_{50}	4.33	5.16	4.37	4.15	5.26
Prostate Cancer						
PC-3	-lg GI_{50}	5.63	5.41	4.98	4.89	5.64
	-lg TGI	5.21	4.82	4.62	4.45	5.24
	-lg LC_{50}	4.59	4.32	4.26	4.01	4.60
DU-145	-lg GI_{50}	5.39	5.09	4.91	4.79	5.76
	-lg TGI	4.87	4.68	4.60	4.51	5.49
	-lg LC_{50}	4.42	4.32	4.30	4.23	5.22
Breast Cancer						
MCF7	-lg GI_{50}	6.41	5.45	5.55	5.34	5.78
	-lg TGI	<4.00	4.79	4.84	4.71	5.47
	-lg LC_{50}	<4.00	4.18	4.13	4.11	5.17
MDA-MB-231/ATCC	-lg GI_{50}	5.73	5.75	5.76	5.68	5.78
	-lg TGI	5.47	5.49	5.46	5.37	5.52
	-lg LC_{50}	5.20	5.24	5.16	5.06	5.26
HS 578T	-lg GI_{50}	5.44	5.55	5.66	4.89	5.56
	-lg TGI	4.52	4.68	5.01	4.56	4.93
	-lg LC_{50}	<4.00	<4.00	<4.00	4.23	<4.00
BT-549	-lg GI_{50}	5.68	5.52	5.22	5.54	5.73
	-lg TGI	5.35	5.04	4.66	5.04	5.41
	-lg LC_{50}	5.02	4.32	4.24	4.49	5.09
T-47D	-lg GI_{50}	5.49	5.71	5.75	5.70	5.72
	-lg TGI	<4.00	5.34	5.35	5.35	5.35
	-lg LC_{50}	<4.00	<4.00	<4.00	–	<4.00
MDA-MB-468	-lg GI_{50}	6.24	5.81	5.84	5.78	6.06
	-lg TGI	4.81	5.51	5.54	5.49	5.65
	-lg LC_{50}	<4.00	5.21	5.24	5.20	5.28