Electronic Supplementary Material (ESI) for ChemComm.

N-Heterocyclic Carbene-Catalyzed β-Addition of Enals to 3-Alkylenyloxindoles: Synthesis of Oxindoles with All-Carbon Quaternary Stereocenters

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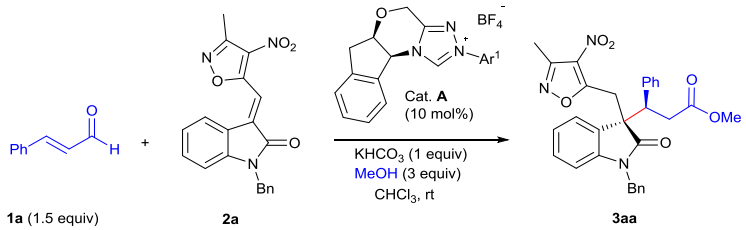
Part I General Information

Unless otherwise indicated, reactions were carried out under an N_2 atmosphere in oven-dried glassware with magnetic stirring. Anhydrous THF, Et_2O, 1,4-dioxane and toluene were distilled from sodium and benzophenone. CH_3CN and CH_2Cl_2 were distilled from CaH_2. $CHCl_3$ was dried over the activated 4 Å MS. Pre-catalysts **A**-**D** were synthesized according to the literatures.[1] 3-alkylenyloxindoles[2] were synthesized according to the literatures. The enals were used as received from comercially available sourses. Column chromatograph was performed on silica gel 200~300 mesh. All ^1H, ^{13}C NMR spectra were recorded on a Bruker AV 400 and 500 spectrometer. Chemical shifts were reported in parts per million (ppm, δ), and the residual solvent peak was used as internal reference. ^{1}HNMR Spectroscopy splitting patterns were designated as singlet (s), doublet (d) and triplet (t). Splitting patterns that could not be interpreted or easily visualized were designated as multiplet (m) or broad (br). Coupling constants were reported in Herz (Hz). Infrared spectra were recorded on a JASCO FT/IR-480 spectrophotometer and reported as wave number (cm^{-1}).

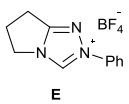
Part II Experimental Part

1. NHC-catalyzed synthesis of oxindoles with all-carbon quaternary stereocenters (Scheme 2 and 3)

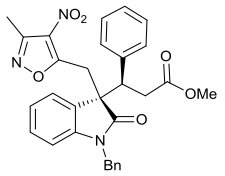


Typical procedure. To an oven-dried 25 ml Schlenk tube equipped with a stir bar was charged with enal **1a** (39.6 mg, 0.3 mmol), 3-alkylenyloxindole **2a** (72.2 mg, 0.2 mmol), $KHCO_3$ (20 mg, 0.2 mmol), and Cat. **A** (7.5 mg, 0.02 mmol). This tube was closed with a septum, evacuated, back-filled with nitrogen. To this mixture was added methanol (24 μL, 0.6 mmol) and then $CHCl_3$ (2 mL). The reaction mixtrue was stirred at room tempreture until complete consumption of the starting material as monitored by TLC (typically 72h), the reaction mixture was concentrated under reduced pressure. The residue was purified by column chromatography on silica gel (petroleum ether/ethyl acetate = 10:1–5:1) to furnish the corresponding product **3aa** (83 mg, 79% yield).

All racemic samples were obtained according to the general procedure by using achiral NHC precursor **E**.



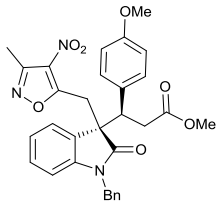
E



3aa (ZCL-1552)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-phenylpropanoate

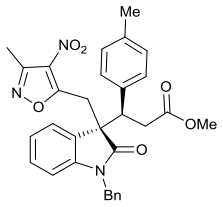
Yield: 83 mg, 79%, wax, 6:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -137 (*c* = 0.5, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 24.1 min (major), 31.2 min (minor)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.30 (d, J = 7.5 Hz, 1H), 7.21 (t, J = 7.5 Hz, 1H), 7.17 – 7.14 (m, 3H), 7.12 – 7.09 (m, 3H), 7.00 – 6.97 (m, 1H), 6.87 (d, J = 7.6 Hz, 2H), 6.67 – 6.52 (m, 2H), 6.38 (d, J = 7.8 Hz, 1H), 4.71 (d, J = 15.9 Hz, 1H), 4.44 (d, J = 15.9 Hz, 1H), 4.33 (d, J = 15.0 Hz, 1H), 3.88 (dd, J = 11.4, 3.9 Hz, 1H), 3.73 (d, J = 15.0 Hz, 1H), 3.53 (s, 3H), 3.22 (dd, J = 15.5, 3.9 Hz, 1H), 3.02 (dd, J = 15.4, 11.4 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.7, 171.7, 170.4, 159.1, 155.3, 143.4, 135.0, 129.5, 129.2, 128.6, 127.4, 127.3, 126.8, 123.9, 122.6, 113.5, 109.8, 55.3, 55.1, 52.1, 47.3, 44.0, 36.0, 32.2, 11.7. IR (KBr) ν 1715, 1609, 1522, 1489, 1467, 1378, 1363, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{27}O_6N_3Na$ ($[M+Na]^+$) 548.1788, Found 548.1792.



3ba (ZCL-1555)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-methoxyphenyl)propanoate

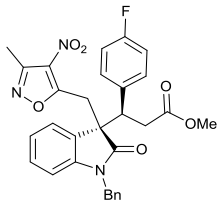
Yield: 71 mg, 64%, wax, 8:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -186 (*c* = 0.5, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 11.2 min (minor), 19.5 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.30 (d, *J* = 7.3 Hz, 1H), 7.18 – 7.14 (m, 3H), 7.10 (t, *J* = 7.5 Hz, 1H), 6.99 (t, *J* = 7.6 Hz, 1H), 6.77 (d, *J* = 6.5 Hz, 2H), 6.64 – 6.62 (m, 4H), 6.39 (d, *J* = 7.8 Hz, 1H), 4.83 (d, *J* = 15.9 Hz, 1H), 4.40 (d, *J* = 16.0 Hz, 1H), 4.32 (d, *J* = 14.9 Hz, 1H), 3.84 (dd, *J* = 11.6, 3.7 Hz, 1H), 3.74 – 3.71 (m, 4H), 3.54 (s, 3H), 3.20 (dd, *J* = 15.3, 3.7 Hz, 1H), 2.97 (dd, *J* = 15.2, 11.6 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.7, 171.7, 170.4, 159.1, 155.3, 143.4, 135.0, 130.8, 129.5, 129.2, 129.0, 128.6, 127.4, 127.3, 126.8, 123.9, 122.6, 113.5, 109.8, 55.3, 55.1, 52.1, 47.3, 44.0, 36.0, 32.2, 11.7. IR (KBr) ν 1715, 1609, 1513, 1364, 1250, 1179, 1034, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_7N_3Na$ ($[M+Na]^+$) 578.1895, Found 578.1898.



3ca (ZCL-1556)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(p-tolyl)propanoate

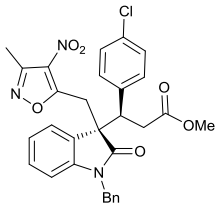
Yield: 80 mg, 74%, wax, 5:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -146 (*c* = 0.6, $CHCl_3$); HPLC analysis: 96% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.0 min (minor), 13.4 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.28 (d, *J* = 7.5 Hz, 1H), 7.18– 7.14 (m, 3H), 7.10 (t, *J* = 7.8 Hz, 1H), 6.98 (t, *J* = 7.7 Hz, 1H), 6.91 (d, *J* = 7.8 Hz, 2H), 6.77 (d, *J* = 7.7 Hz, 2H), 6.69 (d, *J* = 7.5 Hz, 2H), 6.39 (d, *J* = 7.8 Hz, 1H), 4.80 (d, *J* = 15.9 Hz, 1H), 4.42 (d, *J* = 15.8 Hz, 1H), 4.31 (d, *J* = 15.0 Hz, 1H), 3.84 (dd, *J* = 11.5, 3.7 Hz, 1H), 3.71 (d, *J* = 15.0 Hz, 1H), 3.53 (d, *J* = 1.4 Hz, 3H), 3.19 (dd, *J* = 15.4, 3.8 Hz, 1H), 2.99 (dd, *J* = 15.3, 11.4 Hz, 1H), 2.37 (s, 3H), 2.28 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.7, 171.7, 170.4, 155.3, 143.4, 137.3, 135.1, 134.2, 130.8, 129.4, 129.1, 128.9, 128.6, 127.4, 126.9, 123.9, 122.6, 109.8, 55.1, 52.1, 47.6, 44.1, 35.8, 32.2, 21.3, 11.7. IR (KBr) ν 1715, 1609, 1521, 1488, 1467, 1378, 1364, 1175, 829, 756. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_6N_3Na$ ($[M+Na]^+$) 562.1950, Found 562.1949.



3da (ZCL-1558)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-fluorophenyl)propanoate

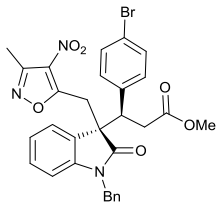
Yield: 90 mg, 83%, wax, 10:1 dr, R_f = 0.25 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -161 (*c* = 0.5, $CHCl_3$); HPLC analysis: 95% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.6 min (minor), 17.8 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.31 (d, *J* = 7.5 Hz 1H), 7.19– 7.18 (m, 3H), 7.12 (t, *J* = 7.5 Hz, 1H), 7.00 (t, *J* = 7.5 Hz, 1H), 6.82 – 6.81 (m, 2H), 6.78 – 6.75 (m, 2H), 6.70 – 6.69 (m, 2H), 6.44 (d, *J* = 7.8 Hz, 1H), 4.73 (d, *J* = 15.8 Hz, 1H), 4.43 (d, *J* = 15.8 Hz, 1H), 4.29 (d, *J* = 14.9 Hz, 1H), 3.87 (dd, *J* = 11.6, 3.8 Hz, 1H), 3.73 (d, *J* = 14.9 Hz, 1H), 3.54 (s, 3H), 3.21 (dd, *J* = 15.4, 3.8 Hz, 1H), 2.96 (dd, *J* = 15.4, 11.5 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.5, 171.4, 170.1, 162.4 (d, *J* = 247 Hz), 155.3, 143.5, 135.0, 133.1 (d, *J* = 3 Hz), 130.8, 129.7, 128.7, 127.6, 127.0, 126.9, 124.0, 122.7, 115.1 (d, *J* = 21 Hz), 109.9, 55.1, 52.1, 47.3, 44.1, 35.9, 32.1, 11.6. ^{19}F NMR (377 MHz, $CDCl_3$) δ -114.3. IR (KBr) ν 1737, 1715, 1608, 1521, 1509, 1488, 1467, 1378, 1364, 1255, 1175, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{26}O_6N_3FNa$ ($[M+Na]^+$) 566.1694, Found 566.1698.



3ea (ZCL-1560)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-chlorophenyl)propanoate

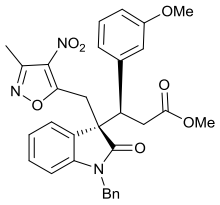
Yield: 101 mg, 90%, wax, 6:1 dr, R_f = 0.24 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -185 (*c* = 0.6, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 9.2 min (minor), 21.3 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.31 (d, *J* = 7.0 Hz, 1H), 7.23 – 7.20 (m, 3H), 7.12 (t, *J* = 7.8 Hz, 1H), 7.06 (d, *J* = 8.3 Hz, 2H), 7.00 (t, *J* = 7.5 Hz, 1H), 6.78 (d, *J* = 8.0 Hz, 2H), 6.69 – 6.66 (m, 2H), 6.43 (d, *J* = 7.8 Hz, 1H), 4.80 (d, *J* = 15.8 Hz, 1H), 4.39 (d, *J* = 15.9 Hz, 1H), 4.29 (d, *J* = 14.9 Hz, 1H), 3.87 (dd, *J* = 11.5, 3.7 Hz, 1H), 3.72 (d, *J* = 14.9 Hz, 1H), 3.54 (s, 3H), 3.22 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.96 (dd, *J* = 15.5, 11.5 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.4, 171.4, 170.0, 155.3, 143.5, 135.9, 134.9, 133.8, 130.9, 130.6, 129.7, 128.8, 128.4, 127.6, 126.9, 126.8, 124.0, 122.7, 110.0, 55.0, 52.1, 47.3, 44.2, 35.7, 32.2, 11.6. IR (KBr) ν 1715, 1609, 1522, 1490, 1467, 1378, 1363, 1175, 1014, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{26}O_6N_3ClNa$ ($[M+Na]^+$) 582.1401, Found 582.1402.



3fa (ZCL-1559)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

Yield: 110 mg, 91%, yellow solid, m.p. 134-135 ^{o}C, 6:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -196 (*c* = 0.5, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 10.3 min (minor), 25.9 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.31 (d, *J* = 7.4 Hz, 1H), 7.25 – 7.20 (m, 5H), 7.12 (t, *J* = 7.7 Hz, 1H), 7.00 (t, *J* = 7.6 Hz, 1H), 6.73 (d, *J* = 8.0 Hz, 2H), 6.67 (d, *J* = 7.0 Hz, 2H), 6.43 (d, *J* = 7.8 Hz, 1H), 4.81 (d, *J* = 15.9 Hz, 1H), 4.39 (d, *J* = 15.8 Hz, 1H), 4.29 (d, *J* = 15.0 Hz, 1H), 3.86 (dd, *J* = 11.5, 3.7 Hz, 1H), 3.72 (d, *J* = 15.0 Hz, 1H), 3.55 (s, 3H), 3.22 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.96 (dd, *J* = 15.5, 11.6 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.4, 171.3, 170.0, 155.3, 143.5, 136.4, 134.9, 131.3, 130.9, 129.7, 128.9, 127.6, 126.9, 126.8, 124.0, 122.8, 122.0, 110.0, 55.0, 52.2, 47.3, 44.2, 35.7, 32.2, 11.6. IR (KBr) ν 1735, 1715, 1609, 1521, 1489, 1467, 1378, 1363, 1175, 1010, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{26}O_6N_3BrNa$ ($[M+Na]^+$) 626.0892, Found 626.0897.



3ga (ZCL-1641)

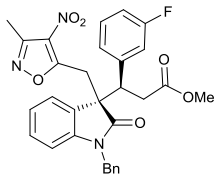
methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(3-methoxyphenyl)propanoate

Yield: 98 mg, 88%, wax, 4:1 dr, R_f = 0.23 (petroleum ether/ethyl acetate, 5:1).

The major diasteroisomer: $[\alpha]_D^{25}$ = -136 (*c* = 0.8, $CHCl_3$); HPLC analysis: 96% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 12.1 min (minor), 18.4 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.34 – 7.31 (m, 1H), 7.20 – 7.19 (m, 3H), 7.12 (t, *J* = 7.8 Hz, 1H), 7.07 – 7.00 (m, 2H), 6.78 – 6.73 (m, 3H), 6.58 (d, *J* = 7.6 Hz, 1H), 6.43 (d, *J* = 7.8 Hz, 1H), 6.34 (s, 1H), 4.77 (d, *J* = 16.0 Hz, 1H), 4.48 (d, *J* = 15.9 Hz, 1H), 4.33 (d, *J* = 14.9 Hz, 1H), 3.89 (dd, *J* = 11.2, 3.9 Hz, 1H), 3.76 (d, *J* = 15.0 Hz, 1H), 3.57 (s, 3H), 3.51 (s, 3H), 3.22 (dd, *J* = 15.5, 4.0 Hz, 1H), 3.00 (dd, *J* = 15.4, 11.1 Hz, 1H), 2.40 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.6, 171.6, 170.3, 159.2, 155.2, 143.6, 138.8, 135.1, 129.5, 129.1, 128.8, 127.5, 127.4, 126.8, 123.9, 122.6, 114.4, 109.8, 55.13, 55.09, 52.1, 48.1, 44.1, 35.9, 32.2, 11.6. IR (KBr) ν 1715, 1609, 1522, 1489, 1467, 1435, 1378, 1364, 1258, 1174, 829, 756, 700. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_7N_3Na$ ($[M+Na]^+$) 578.1897, Found 578.1898.

The minor diasteroisomer: $[\alpha]_D^{25}$ = -46.8 (*c* = 0.3, $CHCl_3$); HPLC analysis: 77% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL

/min, 254 nm, 9.4 min (major), 21.6 min (minor)); ^{1}H NMR (500 MHz, $CDCl_3$) δ 7.30 – 7.27 (m, 4H), 7.25 – 7.21 (m, 3H), 7.09 – 7.06 (m, 1H), 7.02 (d, *J* = 7.6 Hz, 1H), 6.96 – 6.93 (m, 2H), 6.82 – 6.80 (m, 1H), 6.50 (d, *J* = 7.8 Hz, 1H), 5.08 – 5.05 (m, 1H), 4.73 – 4.62 (m, 2H), 4.53 – 4.48 (m, 1H), 3.80 (s, 3H), 3.62 – 3.61 (m, 1H), 3.46 (s, 3H), 2.71 – 2.66 (m, 1H), 2.47 (s, 3H), 2.42 – 2.38 (m, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 174.4, 172.7, 171.0, 159.8, 155.5, 143.5, 141.3, 135.7, 129.9, 128.9, 128.8, 127.7, 127.5, 125.1, 124.1, 122.6, 120.7, 114.2, 113.6, 109.2, 55.4, 51.8, 45.6, 44.1, 44.0, 41.5, 39.4, 11.8. IR (KBr) ν 1714, 1601, 1524, 1490, 1468, 1435, 1378, 1363, 1261, 1163, 828, 753, 702. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_7N_3Na$ ($[M+Na]^+$) 578.1898, Found 578.1899.

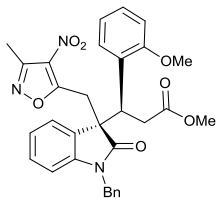


3ha (ZCL-1565)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(3-fluorophenyl)propanoate

Yield: 85 mg, 78%, wax, 7:1 dr, R_f = 0.24 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -145 (*c* = 0.6, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 9.8 min (minor), 16.2 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.29 (d, *J* = 7.5 Hz, 1H), 7.20 – 7.18 (m, 3H), 7.13 (t, *J* = 7.5 Hz 1H), 7.09 – 7.05 (m, 1H), 7.00 (t, *J* = 7.5 Hz, 1H), 6.88 (td, *J* = 8.4,

2.5 Hz, 1H), 6.79 – 6.78 (m, 2H), 6.73 (d, *J* = 7.8 Hz, 1H), 6.55 (d, *J* = 10.1 Hz, 1H), 6.45 (d, *J* = 7.7 Hz, 1H), 4.68 (d, *J* = 15.8 Hz, 1H), 4.50 (d, *J* = 15.8 Hz, 1H), 4.29 (d, *J* = 14.9 Hz, 1H), 3.87 (dd, *J* = 11.4, 3.8 Hz, 1H), 3.72 (d, *J* = 14.9 Hz, 1H), 3.54 (s, 3H), 3.17 (dd, *J* = 15.6, 3.9 Hz, 1H), 2.95 (dd, *J* = 15.6, 11.4 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.4, 171.3, 170.0, 162.3 (d, *J* = 246 Hz), 155.3, 143.4, 139.9 (d, *J* = 7 Hz), 135.1, 130.9, 129.7, 129.5 (d, *J* = 8 Hz), 128.8, 127.6, 127.0, 126.9, 125.2, 123.9, 122.8, 116.0 (d, *J* = 21 Hz), 114.8 (d, *J* = 21 Hz), 109.9, 54.9, 52.1, 47.8, 44.1, 35.7, 32.1, 11.6. ^{19}F NMR (377 MHz, $CDCl_3$) δ -112.8. IR (KBr) ν 1715, 1610, 1522, 1488, 1378, 1364, 1177, 1151, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{26}O_6N_3FNa$ ($[M+Na]^+$) 566.1694, Found 566.1698.

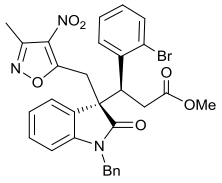


3ia (ZCL-1576)

methyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(2-methoxyphenyl)propanoate

Yield: 92 mg, 83%, wax, 5:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -47 (*c* = 0.6, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.2 min (minor), 10.9 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.32 – 7.27 (m, 5H), 7.20 (d, *J* = 7.1 Hz, 2H), 7.12 – 7.06 (m, 2H), 6.94 – 6.89 (m, 3H), 6.57 (d, *J* = 7.9 Hz, 1H), 4.96 (d, *J* = 15.7

Hz, 1H), 4.79 (d, *J* = 15.8 Hz, 1H), 4.58 (d, *J* = 8.9 Hz, 1H), 4.49 (d, *J* = 15.2 Hz, 1H), 3.86 (s, 3H), 3.43 – 3.37 (m, 4H), 2.87 – 2.82 (m, 1H), 2.65 (d, *J* = 14 Hz, 1H), 2.31 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.9, 171.8, 171.2, 157.9, 155.1, 143.1, 135.6, 131.1, 130.5, 129.1, 129.0, 128.9, 127.7, 127.4, 126.1, 123.5, 122.8, 120.6, 110.9, 109.3, 55.9, 53.8, 51.8, 44.3, 38.9, 34.8, 31.1, 11.7. IR (KBr) ν 1718, 1606, 1522, 1481, 1423, 1377, 1363, 1171, 828. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_7N_3Na$ ($[M+Na]^+$) 578.1895, Found 578.1898.

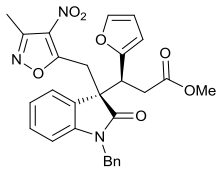


3ja (ZCL-1566)

methyl (S)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(2-bromophenyl)propanoate

Yield: 105 mg, 87%, wax, 8:1 dr, R_f = 0.30 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -26 (*c* = 0.5, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.9 min (minor), 11.4 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.61 (d, *J* = 8.1 Hz, 1H), 7.50 (d, *J* = 7.9 Hz, 1H), 7.31 – 7.25 (m, 4H), 7.24 – 7.21 (m, 1H), 7.18 – 7.17 (m, 2H), 7.15 – 7.11 (m, 2H), 6.96 (t, *J* = 7.6 Hz, 1H), 6.60 (d, *J* = 7.8 Hz, 1H), 4.95 (d, *J* = 15.7 Hz, 1H), 4.75

(d, *J* = 15.7 Hz, 1H), 4.60 (dd, *J* = 11.5, 3.9 Hz, 1H), 4.42 (d, *J* = 14.8 Hz, 1H), 3.45 (s, 3H), 3.39 (d, *J* = 14.8 Hz, 1H), 2.85 (dd, *J* = 15.6, 11.5 Hz, 1H), 2.70 (dd, *J* = 15.6, 3.9 Hz, 1H), 2.30 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.5, 171.1, 170.3, 155.1, 143.1, 137.3, 135.5, 133.3, 130.7, 129.9, 129.5, 129.4, 128.9, 128.5, 127.8, 127.7, 127.4, 126.9, 123.8, 123.2, 109.5, 54.0, 51.9, 46.0, 44.4, 35.8, 31.6, 11.5. IR (KBr) ν 1737, 1712, 1609, 1521, 1488, 1467, 1378, 1363, 1172, 1026, 828, 754. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{26}O_6N_3BrNa$ ($[M+Na]^+$) 626.0893, Found 626.0897.

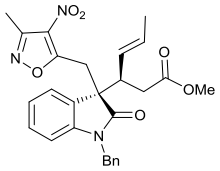


3ka (ZCL-1572)

methyl (S)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(furan-2-yl)propanoate

Yield: 69 mg, 67%, wax, 12:1 dr, R_f = 0.26 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -61 (*c* = 0.6, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 9.6 min (minor), 13.6 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.32 – 7.29 (m, 3H), 7.25 – 7.24 (m, 1H), 7.18 (d, *J* = 7.2 Hz, 2H), 7.10 – 7.07 (m, 1H), 6.91 – 6.87 (m, 2H), 6.57 (d, *J* = 7.8 Hz, 1H), 6.27 – 6.26 (m, 1H), 6.09 (d, *J* = 3.2 Hz, 1H), 4.83 (s, 2H), 4.39 (d, *J* = 15.1 Hz, 1H), 3.87 (dd, *J* = 11.3, 3.7 Hz, 1H), 3.69 (d, *J* = 15.1 Hz, 1H), 3.57 (s, 3H), 3.06 (dd, *J* = 15.8, 3.7 Hz, 1H), 2.93 (dd, *J* = 15.8, 11.3 Hz, 1H), 2.35 (s, 3H). ^{13}C NMR (101

MHz, $CDCl_3$) δ 176.5, 171.5, 170.3, 155.2, 151.7, 142.8, 142.1, 135.4, 129.3, 128.9, 128.8, 127.9, 127.7, 127.4, 123.9, 122.6, 110.5, 109.5, 109.3, 53.8, 52.1, 44.3, 42.2, 33.6, 31.0, 11.6. IR (KBr) ν 1725, 1714, 1610, 1522, 1489, 1467, 1378, 1363, 1170, 1013, 828, 754. HRMS (ESI) *m/z*: Calc. For $C_{28}H_{25}O_7N_3Na$ ($[M+Na]^+$) 538.1584, Found 538.1585.

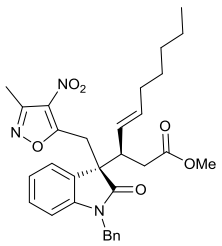


3la (ZCL-1639)

methyl (R,E)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoind-olin-3-yl)hex-4-enoate

Yield: 66 mg, 67%, wax, 6:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -85 (*c* = 0.5, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.5 min (minor), 10.1 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.34 – 7.31 (m, 2H), 7.29 – 7.24(m, 3H), 7.16 (d, *J* = 7.5 Hz, 1H), 7.10 (t, *J* = 7.8 Hz, 1H), 6.94 (, *J* = 7.6 Hz, 1H), 6.62 (d, *J* = 7.7 Hz, 1H), 5.78 – 5.71 (m, 1H), 5.58 – 5.54 (m, 1H), 4.98 (d, *J* = 15.7 Hz, 1H), 4.81 (d, *J* = 15.6 Hz, 1H), 4.07 (d, *J* = 15.2 Hz, 1H), 3.71 (d, *J* = 15.1 Hz, 1H), 3.56 (s, 3H), 3.18 – 3.13 (m, 1H), 2.36 (s, 3H), 2.26 – 2.24 (m, 2H), 1.69 (dd, *J* = 6.4, 1.6 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.8, 171.9, 170.8, 155.2, 143.2, 135.6, 131.4, 129.3, 129.0, 128.1, 127.8, 127.5, 127.0, 123.4, 123.0, 109.5, 53.8, 51.8, 47.6, 44.3, 35.5,

32.8, 18.2, 11.6. IR (KBr) ν 1737, 1714, 1609, 1522, 1498, 1466, 1417, 1378, 1363, 1173, 828, 755. HRMS (ESI) *m/z*: Calc. For $C_{27}H_{27}O_6N_3Na$ ($[M+Na]^+$) 512.1793, Found 512.1792.

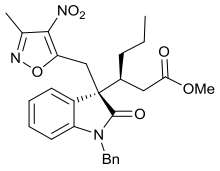


3ma (ZCL-1643)

methyl (R,E)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)dec-4-enoate

Yield: 71 mg, 65%, wax, 10:1 dr, R_f = 0.33 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -70 (*c* = 0.7, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 90:10, 1.0 mL /min, 254 nm, 26.7 min (major), 39.5 min (minor)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.36 – 7.27 (m, 5H), 7.18 (d, *J* = 7.5 Hz, 1H), 7.13 (t, *J* = 7.8 Hz, 1H), 6.96 (m t, *J* = 7.6 Hz 1H), 6.64 (d, *J* = 7.8 Hz, 1H), 5.77 –5.71 (m, 1H), 5.59 (dd, *J* = 15.3, 9.6 Hz, 1H), 4.97 – 4.85 (m, 2H), 4.09 (d, *J* = 15.2 Hz, 1H), 3.74 (d, *J* = 15.2 Hz, 1H), 3.58 (s, 3H), 3.19 – 3.14 (m, 1H), 2.38 (s, 3H), 2.28 – 2.22 (m, 2H), 2.07 – 2.00 (m, 2H), 1.38 – 1.24 (m, 6H), 0.89 (t, *J* = 7.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.8, 171.8, 170.8, 155.2, 143.2, 137.0, 135.6, 129.2, 129.0, 128.1, 127.8, 127.5, 125.6, 123.4, 123.0, 109.5, 53.8, 51.7, 47.8, 44.3, 35.5, 32.8, 32.6, 31.4, 29.1, 22.6, 14.2, 11.6. IR (KBr) ν 1738, 1714, 1609, 1522, 1488,

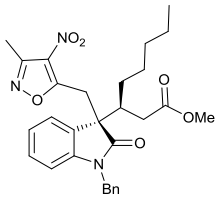
1466, 1435, 1378, 1363, 1173, 828, 754. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{35}O_6N_3Na$ ($[M+Na]^+$) 568.2417, Found 568.2418.



3na (ZCL-1653)

methyl (S)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)hexanoate

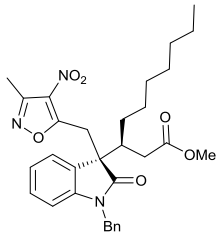
Yield: 63 mg, 64%, wax, 20:1 dr, R_f = 0.31 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -86 (*c* = 0.5, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 8.1 min (minor), 9.6 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.32 (m, 4H), 7.30 – 7.28 (m, 1H), 7.17 (d, *J* = 7.6 Hz, 1H), 7.13 (t, *J* = 7.8 Hz, 1H), 6.94 (t, *J* = 7.6 Hz, 1H), 6.68 (d, *J* = 7.8 Hz, 1H), 5.04 (d, *J* = 15.6 Hz, 1H), 4.82 (d, *J* = 15.6 Hz, 1H), 4.18 (d, *J* = 14.8 Hz, 1H), 3.78 (d, *J* = 14.8 Hz, 1H), 3.63 (s, 3H), 2.76 – 2.73 (m, 1H), 2.54 (dd, *J* = 16.0, 4.7 Hz, 1H), 2.38 (s, 3H), 2.36 – 2.31 (m, 1H), 1.55 – 1.51 (m, 1H), 1.31 – 1.21 (m, 3H), 0.86 (t, *J* = 6.9 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.5, 173.2, 170.6, 155.2, 143.2, 135.7, 129.2, 128.9, 128.3, 127.8, 127.6, 123.8, 122.7, 109.6, 54.8, 52.0, 44.4, 42.3, 35.4, 32.7, 32.2, 20.8, 14.3, 11.6. IR (KBr) ν 1715, 1609, 1522, 1488, 1466, 1434, 1417, 1378, 1363, 1173, 1016, 829, 756. HRMS (ESI) *m/z*: Calc. For $C_{27}H_{29}O_6N_3Na$ ($[M+Na]^+$) 514.1948, Found 514.1949.



3oa (ZCL-1640)

methyl (S)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)octanoate

Yield: 75 mg, 72%, wax, 18:1 dr, R_f = 0.32 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -89 (*c* = 0.8, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 8.0 min (minor), 9.2 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.34 – 7.30 (m, 4H), 7.28 – 7.25 (m, 1H), 7.15 (d, *J* = 7.5 Hz, 1H), 7.11 (t, *J* = 7.8 Hz, 1H), 6.91 (t, *J* = 7.6 Hz, 1H), 6.65 (d, *J* = 7.8 Hz, 1H), 5.02 (d, *J* = 15.6 Hz, 1H), 4.80 (d, *J* = 15.6 Hz, 1H), 4.16 (d, *J* = 14.8 Hz, 1H), 3.75 (d, *J* = 14.8 Hz, 1H), 3.61 (s, 3H), 2.71 (brs, 1H), 2.52 (dd, *J* = 15.9, 4.8 Hz, 1H), 2.35 – 2.30 (m, 4H), 1.54 – 1.52 (m, 1H), 1.22 – 1.15 (m, 7H), 0.84 (t, *J* = 6.8 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.4 173.2, 170.6, 155.1, 143.2, 135.7, 129.1, 128.9, 128.3, 127.8, 127.6, 123.8, 122.7, 109.5, 54.8, 52.0, 44.4, 42.5, 35.4, 32.2, 32.0, 30.5, 27.3, 22.6, 14.1, 11.6. IR (KBr) ν 1736, 1714, 1609, 1520, 1489, 1466, 1377, 1363, 1172, 828, 754. HRMS (ESI) *m/z*: Calc. For $C_{29}H_{33}O_6N_3Na$ ($[M+Na]^+$) 542.2259, Found 542.2262.

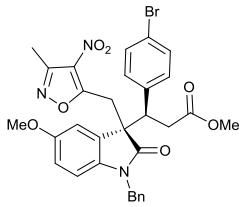


3pa (ZCL-1654)

methyl

(S)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)decanoate

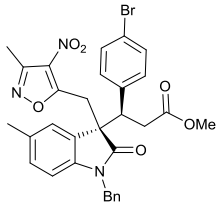
Yield: 76 mg, 69%, wax, 20:1 dr, R_f = 0.33 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -87 (*c* = 0.5, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 7.5 min (minor), 8.6 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.36 – 7.32 (m, 4H), 7.30 – 7.27 (m, 1H), 7.17 (d, *J* = 7.2 Hz, 1H), 7.13 (td, *J* = 7.8 Hz, 1H), 6.93 (t, *J* = 7.6 Hz, 1H), 6.67 (d, *J* = 7.8 Hz, 1H), 5.03 (d, *J* = 15.6 Hz, 1H), 4.82 (d, *J* = 15.6 Hz, 1H), 4.18 (d, *J* = 14.7 Hz, 1H), 3.77 (d, *J* = 14.8 Hz, 1H), 3.63 (s, 3H), 2.90 – 2.64 (brs, 1H), 2.53 (dd, *J* = 16.0, 4.9 Hz, 1H), 2.38 – 2.32 (m, 4H), 1.56 – 1.55 (m, 1H), 1.30 – 1.23 (m, 11H), 0.88 (t, *J* = 7.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.5, 173.2, 170.6, 155.2, 143.2, 135.7, 129.1, 128.9, 128.3, 127.8, 127.6, 123.9, 122.7, 109.6, 54.8, 52.0, 44.4, 42.5, 35.4, 32.2, 31.9, 30.5, 29.8, 29.2, 27.7, 22.7, 14.2, 11.6. IR (KBr) ν 1737, 1715, 1609, 1522, 1488, 1466, 1378, 1363, 1173, 829. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{37}O_6N_3Na$ ($[M+Na]^+$) 570.2572, Found 570.2575.



3fb (ZCL-1615)

methyl (R)-3-((S)-1-benzyl-5-methoxy-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

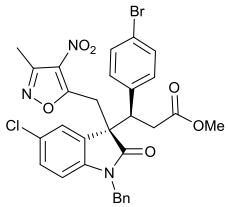
Yield: 110 mg, 87%, yellow solid, m.p. 56-57 ^{o}C, 10:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -177 (*c* = 0.5, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 10.7 min (minor), 17.3 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.25 – 7.20 (m, 5H), 6.90 (d, *J* = 2.5 Hz, 1H), 6.78 (d, *J* = 8.0 Hz, 2H), 6.68 (d, *J* = 8.4 Hz, 2H), 6.64 (dd, *J* = 8.6, 2.5 Hz, 1H), 6.33 (d, *J* = 8.6 Hz, 1H), 4.78 (d, *J* = 15.8 Hz, 1H), 4.37 (d, *J* = 15.8 Hz, 1H), 4.25 (d, *J* = 14.9 Hz, 1H), 3.84 (dd, *J* = 11.6, 3.8 Hz, 1H), 3.74 (s, 3H), 3.72 – 3.68 (m, 1H), 3.55 (s, 3H), 3.18 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.96 (dd, *J* = 15.5, 11.6 Hz, 1H), 2.40 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.1, 171.3, 170.0, 155.8, 155.3, 136.8, 136.5, 135.0, 131.3, 131.0, 128.8, 128.2, 127.6, 126.9, 122.0, 114.0, 111.3, 110.4, 55.9, 55.2, 52.1, 47.4, 44.3, 35.5, 32.2, 11.6. IR (KBr) ν 1737, 1710, 1698, 1520, 1489, 1435, 1363, 1182, 829. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{28}O_7N_3BrNa$ ($[M+Na]^+$) 656.0998, Found 656.1003.



3fc (ZCL-1613)

methyl (R)-3-((S)-1-benzyl-5-methyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

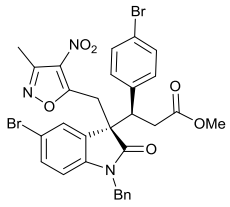
Yield: 105 mg, 85%, wax, 20:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -170 (*c* = 0.9, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 7.7 min (minor), 20.4 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.25 – 7.19 (m, 5H), 7.11 (s, 1H), 6.91 (d, *J* = 8.0 Hz, 1H), 6.76 (d, *J* = 8.0 Hz, 2H), 6.66 (d, *J* = 7.0 Hz, 2H), 6.31 (d, *J* = 7.9 Hz, 1H), 4.79 (d, *J* = 15.8 Hz, 1H), 4.36 (d, *J* = 15.9 Hz, 1H), 4.23 (d, *J* = 15.0 Hz, 1H), 3.84 (dd, *J* = 11.7, 3.7 Hz, 1H), 3.69 (d, *J* = 15.0 Hz, 1H), 3.55 (s, 3H), 3.19 (dd, *J* = 15.5, 3.7 Hz, 1H), 2.96 (dd, *J* = 15.5, 11.6 Hz, 1H), 2.38 (s, 3H), 2.29 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.3, 171.4, 170.0, 155.3, 141.0, 136.5, 135.0, 132.4, 131.3, 131.0, 130.0, 128.8, 127.5, 127.1, 126.8, 124.6, 122.0, 109.7, 55.0, 52.1, 47.3, 44.1, 35.7, 32.4, 21.3, 11.6. IR (KBr) ν 1737, 1713, 1603, 1520, 1496, 1378, 1363, 829, 754. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{28}O_6N_3BrNa$ ($[M+Na]^+$) 640.1050, Found 640.1054.



3fd (ZCL-1614)

methyl (R)-3-((S)-1-benzyl-5-chloro-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

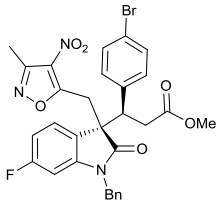
Yield: 61 mg, 48%, yellow solid, m.p. 60-61 ^{o}C, 5:1 dr, R_f = 0.26 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -113 (*c* = 0.5, $CHCl_3$); HPLC analysis: 91% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.9 min (major), 41.2 min (minor)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.30 – 7.29 (m, 1H), 7.25 – 7.23 (m, 5H), 7.11 (dd, *J* = 8.4, 2.0 Hz, 1H), 6.75 (d, *J* = 8.0 Hz, 2H), 6.65 (d, *J* = 8.2 Hz, 2H), 6.36 (d, *J* = 8.4 Hz, 1H), 4.76 (d, *J* = 15.9 Hz, 1H), 4.39 (d, *J* = 15.9 Hz, 1H), 4.20 (d, *J* = 15.3 Hz, 1H), 3.85 (dd, *J* = 11.5, 3.8 Hz, 1H), 3.76 (d, *J* = 15.2 Hz, 1H), 3.57 (s, 3H), 3.20 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.95 (dd, *J* = 15.6, 11.7 Hz, 1H), 2.43 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.1, 171.1, 169.5, 155.5, 142.1, 136.0, 134.4, 131.5, 131.0, 130.8, 129.8, 129.0, 128.3, 127.8, 126.8, 124.4, 122.2, 111.0, 55.0, 52.3, 47.4, 44.3, 35.5, 32.2, 11.6. IR (KBr) ν 1718, 1608, 1522, 1486, 1432, 1378, 1363, 1171, 829, 755. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{25}O_6N_3BrClNa$ ($[M+Na]^+$) 660.0505, Found 660.0508.



3fe (ZCL-1616)

methyl (R)-3-((S)-1-benzyl-5-bromo-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

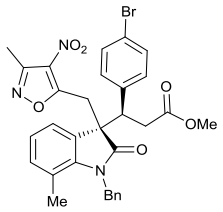
Yield: 96 mg, 70%, yellow solid, m.p. 69-70 ^{o}C, 6:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -108 (*c* = 0.6, $CHCl_3$); HPLC analysis: 88% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.9 min (minor), 32.5 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.42 (d, *J* = 2.0 Hz, 1H), 7.27 – 7.23 (m, 6H), 6.75 (d, *J* = 8.0 Hz, 2H), 6.66 – 6.65 (m, 2H), 6.32 (d, *J* = 8.4 Hz, 1H), 4.76 (d, *J* = 15.9 Hz, 1H), 4.39 (d, *J* = 15.9 Hz, 1H), 4.19 (d, *J* = 15.3 Hz, 1H), 3.84 (dd, *J* = 11.5, 3.8 Hz, 1H), 3.75 (d, *J* = 15.2 Hz, 1H), 3.57 (s, 3H), 3.19 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.95 (dd, *J* = 15.5, 11.5 Hz, 1H), 2.43 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 175.9, 171.1, 169.5, 155.5, 142.6, 136.0, 134.4, 132.7, 131.5, 131.0, 130.8, 129.4, 129.0, 127.8, 127.1, 126.8, 122.2, 115.4, 111.5, 54.9, 52.3, 47.4, 44.3, 35.5, 32.3, 11.6. IR (KBr) ν 1729, 1718, 1607, 1520, 1481, 1362, 1171, 828. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{25}O_6N_3Br_2Na$ ($[M+Na]^+$) 704.0012, Found 704.0002.



3ff (ZCL-1619)

methyl (R)-3-((S)-1-benzyl-6-fluoro-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

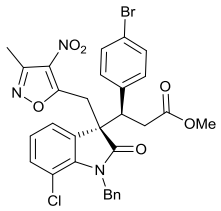
Yield: 107 mg, 86%, wax, 8:1 dr, R_f = 0.26 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -133 (*c* = 0.6, $CHCl_3$); HPLC analysis: 95% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 13.8 min (minor), 17.4 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.28 – 7.22 (m, 6H), 6.73 (d, *J* = 7.7 Hz, 2H), 6.71 – 6.66 (m, 3H), 6.16 (dd, *J* = 8.8, 2.3 Hz, 1H), 4.78 (d, *J* = 15.8 Hz, 1H), 4.37 (d, *J* = 15.9 Hz, 1H), 4.29 (d, *J* = 14.9 Hz, 1H), 3.84 (dd, *J* = 11.4, 3.8 Hz, 1H), 3.72 (d, *J* = 15.0 Hz, 1H), 3.55 (s, 3H), 3.20 (dd, *J* = 15.5, 3.8 Hz, 1H), 2.93 (dd, *J* = 15.5, 11.4 Hz, 1H), 2.40 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.8, 171.2, 169.8, 163.5 (d, *J* = 248 Hz), 155.4, 145.1 (d, *J* = 12 Hz), 136.2, 134.3, 131.5, 130.9, 130.8, 129.0, 127.8, 126.8, 125.1 (d, *J* = 10 Hz), 122.3 (d, *J* = 3 Hz), 122.2, 109.1 (d, *J* = 23 Hz), 98.9 (d, *J* = 28 Hz), 54.7, 52.2, 47.3, 44.4, 35.6, 32.2, 11.7. ^{19}F NMR (377 MHz, $CDCl_3$) δ -108.8. IR (KBr) ν 1736, 1723, 1609, 1522, 1498, 1450, 1379, 1362, 1164, 1010, 829. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{25}O_6N_3BrFNa$ ($[M+Na]^+$) 644.0797, Found 644.0803.



3fg (ZCL-1626)

methyl (R)-3-((S)-1-benzyl-7-methyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

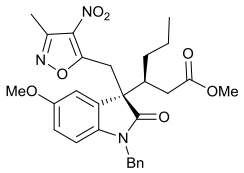
Yield: 54 mg, 44%, wax, 5:1 dr, R_f = 0.26 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -130 (*c* = 0.6, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH/methanol = 90:5:5, 0.7 mL /min, 254 nm, 31.5 min (minor), 33.0 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.27 – 7.24 (m, 3H), 7.242– 7.17 (m, 3H), 6.95 – 6.94 (m, 2H), 6.74 (d, *J* = 8.0 Hz, 2H), 6.57– 6.55 (m, 2H), 4.93 (d, *J* = 17.0 Hz, 1H), 4.72 (d, *J* = 17.0 Hz, 1H), 4.26 (d, *J* = 15.0 Hz, 1H), 3.83 (dd, *J* = 11.7, 3.7 Hz, 1H), 3.70 (d, *J* = 15.0 Hz, 1H), 3.55 (s, 3H), 3.21 (dd, *J* = 15.5, 3.7 Hz, 1H), 2.95 (dd, *J* = 15.5, 11.6 Hz, 1H), 2.42 (s, 3H), 2.03 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.6, 171.4, 170.1, 155.4, 141.8, 137.2, 136.6, 133.6, 131.3, 131.0, 128.9, 127.9, 127.1, 125.4, 122.8, 122.0, 121.8, 120.6, 54.1, 52.1, 47.7, 45.6, 35.7, 32.4, 18.7, 11.7. IR (KBr) ν 1737, 1710, 1602, 1522, 1489, 1443, 1377, 1362, 1187, 1010, 828, 749. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{29}O_6N_3Br$ ($[M+H]^+$) 618.1229 Found 618.1234.



3fh (ZCL-1627)

methyl (R)-3-((S)-1-benzyl-7-chloro-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

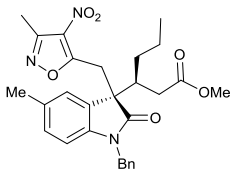
Yield: 91 mg, 71%, yellow solid, m.p. 74-75 ^{o}C, 6:1 dr, R_f = 0.21 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -105 (*c* = 0.5, $CHCl_3$); HPLC analysis: 90% ee (Daicel CHIRALPAK IC column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH/methanol = 90:5:5, 0.7 mL /min, 254 nm, 24.3 min (minor), 25.6 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.27 – 7.25 (m, 3H), 7.24 – 7.17 (m, 4H), 6.99 (t, *J* = 7.8 Hz, 1H), 6.75 – 6.70 (m, 4H), 5.00 (d, *J* = 2.4 Hz, 2H), 4.22 (d, *J* = 15.1 Hz, 1H), 3.81 (dd, *J* = 11.5, 3.8 Hz, 1H), 3.71 (d, *J* = 15.2 Hz, 1H), 3.54 (s, 3H), 3.13 (dd, *J* = 15.5, 3.7 Hz, 1H), 2.90 (dd, *J* = 15.5, 11.5 Hz, 1H), 2.42 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.1, 171.1, 169.5, 155.4, 139.8, 137.0, 136.0, 132.4, 131.5, 130.9, 130.2, 128.6, 127.1, 126.1, 123.6, 122.5, 122.3, 116.2, 54.4, 52.2, 47.9, 45.4, 35.5, 32.2, 11.7. IR (KBr) ν 1718, 1603, 1522, 1489, 1458, 1417, 1377, 1362, 1167, 1134, 1010, 829, 738. HRMS (ESI) *m/z*: Calc. For $C_{30}H_{25}O_6N_3BrClNa$ ($[M+Na]^+$) 660.0510, Found 660.0508.



3nb (ZCL-1658)

methyl (S)-3-((S)-1-benzyl-5-methoxy-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)hexanoate

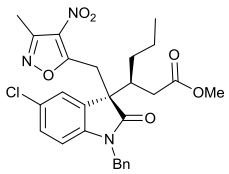
Yield: 80 mg, 77%, wax, 20:1 dr, R_f = 0.31 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -48 (*c* = 0.6, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 9.3 min (minor), 10.5 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ7.35 – 7.28 (m, 5H), 6.79 (d, *J* = 2.5 Hz, 1H), 6.65 (dd, *J* = 8.6, 2.5 Hz, 1H), 6.55 (d, *J* = 8.5 Hz, 1H), 5.00 (d, *J* = 15.6 Hz, 1H), 4.80 (d, *J* = 15.6 Hz, 1H), 4.15 (d, *J* = 14.7 Hz, 1H), 3.78 (d, *J* = 14.9 Hz, 1H), 3.71 (s, 3H), 3.63 (s, 3H), 2.73 – 2.72 (m 1H), 2.48 (dd, *J* = 16.1, 4.7 Hz, 1H), 2.39 (s, 3H), 2.33 (dd, *J* = 16.0, 7.2 Hz, 1H), 1.56 – 1.53 (m, 1H), 1.32 – 1.23 (m, 3H), 0.86 (t, *J* = 7.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.0, 173.1, 170.6, 155.8, 155.2, 136.4, 135.7, 130.7, 129.5, 128.9, 127.8, 127.6, 113.9, 110.6, 110.0, 55.8, 55.1, 52.0, 44.4, 42.4, 35.3, 32.6, 32.2, 20.9, 14.4, 11.7. IR (KBr) ν 1736, 1709, 1603, 1521, 1495, 1435, 1377, 1364, 1197, 1180, 829. HRMS (ESI) *m/z*: Calc. For $C_{28}H_{30}O_7N_3$ ($[M-H]^-$) 520.2081, Found 520.2089.



3nc (ZCL-1659)

methyl (S)-3-((S)-1-benzyl-5-methyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)hexanoate

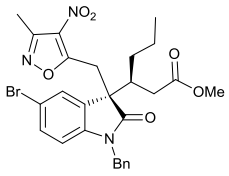
Yield: 72 mg, 71%, wax, 20:1 dr, R_f = 0.32 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -57 (*c* = 0.6, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 19.3 min (minor), 22.9 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.27 (m, 5H), 6.97 (s, 1H), 6.92 (d, *J* = 8.1 Hz, 1H), 6.55 (d, *J* = 7.9 Hz, 1H), 5.02 (d, *J* = 15.6 Hz, 1H), 4.79 (d, *J* = 15.6 Hz, 1H), 4.14 (d, *J* = 14.8 Hz, 1H), 3.76 (d, *J* = 14.7 Hz, 1H), 3.64 (s, 3H), 2.75 – 2.71 (m, 1H), 2.54 (dd, *J* = 15.9, 4.6 Hz, 1H), 2.38 (s, 3H), 2.34 (dd, *J* = 16.0, 7.4 Hz, 1H), 2.24 (s, 3H), 1.54 – 1.48 (m, 1H), 1.33 – 1.17 (m, 3H), 0.85 (t, *J* = 7.0 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.3, 173.2, 170.6, 155.1, 140.7, 135.7, 132.3, 130.8, 129.4, 128.8, 128.3, 127.7, 127.6, 124.5, 109.3, 54.8, 52.0, 44.3, 42.2, 35.4, 32.7, 32.3, 21.2, 20.9, 14.3, 11.6. IR (KBr) ν 1736, 1711, 1603, 1522, 1495, 1434, 1417, 1377, 1363, 1194, 828. HRMS (ESI) *m/z*: Calc. For $C_{28}H_{31}O_6N_3Na$ ($[M+Na]^+$) 528.2105, Found 528.2105.



3nd (ZCL-1660)

methyl (S)-3-((S)-1-benzyl-5-chloro-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)hexanoate

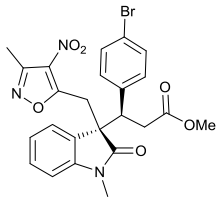
Yield: 56 mg, 53%, wax, 20:1 dr, R_f = 0.30 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -13 (*c* = 0.5, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 14.7 min (minor), 17.0 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.36 – 7.35 (m, 2H), 7.31 – 7.29 (m, 3H), 7.16 (d, *J* = 2.1 Hz, 1H), 7.13 (dd, *J* = 8.4, 2.1 Hz, 1H), 6.61 (d, *J* = 8.4 Hz, 1H), 5.00 (d, *J* = 15.6 Hz, 1H), 4.84 (d, *J* = 15.6 Hz, 1H), 4.11 (d, *J* = 15.2 Hz, 1H), 3.81 (d, *J* = 15.2 Hz, 1H), 3.67 (s, 3H), 2.75 – 2.70 (m, 1H), 2.52 (dd, *J* = 15.9, 5.1 Hz, 1H), 2.43 (s, 3H), 2.36 (dd, *J* = 16.0, 6.9 Hz, 1H), 1.51 – 1.44 (m, 1H), 1.33 – 1.17 (m, 3H), 0.85 (t, *J* = 7.1 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.0, 172.9, 170.1, 155.4, 141.7, 135.1, 130.1, 129.2, 129.0, 128.2, 128.0, 127.5, 124.3, 110.6, 54.8, 52.2, 44.5, 42.3, 35.2, 32.6, 32.1, 20.8, 14.3, 11.7. IR (KBr) ν 1717, 1608, 1522, 1484, 1430, 1378, 1363, 1171, 828. HRMS (ESI) *m/z*: Calc. For $C_{27}H_{28}O_6N_3ClNa$ ($[M+Na]^+$) 548.1560, Found 548.1559.



3ne (ZCL-1661)

methyl (S)-3-((S)-1-benzyl-5-bromo-3-((3-methyl-4-nitroisoxazol-5-yl)methyl) -2-oxoindolin-3-yl)hexanoate

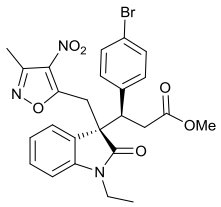
Yield: 60 mg, 52%, wax, 20:1 dr, R_f = 0.32 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -2 (*c* = 0.6, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 14.9 min (minor), 16.7 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.35 – 7.34 (m, 2H), 7.31 – 7.28 (m, 5H), 6.57 (d, *J* = 8.3 Hz, 1H), 5.00 (d, *J* = 15.7 Hz, 1H), 4.84 (d, *J* = 15.7 Hz, 1H), 4.10 (d, *J* = 15.2 Hz, 1H), 3.81 (d, *J* = 15.2 Hz, 1H), 3.67 (s, 3H), 2.75 – 2.70 (m, 1H), 2.53 – 2.50 (m, 1H), 2.43 (s, 3H), 2.38 – 2.34 (m, 1H), 1.54 – 1.45 (m, 1H), 1.34 – 1.17 (m, 3H), 0.86 (t, *J* = 7.1 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.9, 172.9, 170.1, 155.4, 142.3, 135.1, 132.1, 130.5, 129.0, 128.0, 127.6, 127.0, 115.5, 111.1, 54.8, 52.2, 44.5, 42.3, 35.3, 32.6, 32.2, 20.8, 14.3, 11.7. IR (KBr) ν 1717, 1606, 1522, 1423, 1363, 1195, 1171, 829. HRMS (ESI) *m/z*: Calc. For $C_{27}H_{28}O_6N_3BrNa$ ($[M+Na]^+$) 592.1055, Found 592.1054.



3fi (ZCL-1592)

methyl (R)-3-(4-bromophenyl)-3-((S)-1-methyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)propanoate

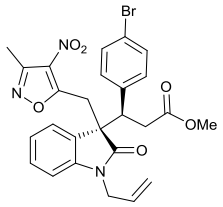
Yield: 70 mg, 66%, wax, 10:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -115 (*c* = 0.5, $CHCl_3$); HPLC analysis: 97% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 9.5 min (minor), 20.4 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ7.28 – 7.21 (m, 4H), 7.02 (t, *J* = 7.6 Hz, 1H), 6.78 (d, *J* = 8.1 Hz, 2H), 6.62 (d, *J* = 7.8 Hz, 1H), 4.20 (d, *J* = 15.1 Hz, 1H), 3.74 (dd, *J* = 11.3, 4.0 Hz, 1H), 3.60 (d, *J* = 15.1 Hz, 1H), 3.52 (s, 3H), 3.00 (dd, *J* = 15.6, 4.0 Hz, 1H), 2.90 – 2.83 (m, 4H), 2.36 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.3, 171.4, 170.3, 155.2, 144.1, 136.2, 131.0, 130.8, 129.7, 127.1, 123.7, 122.7, 121.9, 108.7, 54.7, 52.1, 47.8, 35.2, 31.6, 26.2, 11.6. IR (KBr) ν 1714, 1610, 1522, 1490, 1470, 1377, 1363, 1152, 1010, 829, 756. HRMS (ESI) *m/z*: Calc. For $C_{24}H_{22}O_6N_3BrNa$ ($[M+Na]^+$) 550.0585, Found 550.0584.



3fj (ZCL-1593)

methyl (R)-3-(4-bromophenyl)-3-((S)-1-ethyl-3-((3-methyl-4-nitroisoxazol-5-yl)-methyl)-2-oxoindolin-3-yl)propanoate

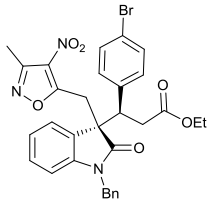
Yield: 96 mg, 89%, wax, 7:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -138 (*c* = 0.8, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.3 min (minor), 19.7 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.27 (d, *J* = 7.6 Hz, 2H), 7.21 (d, *J* = 8.2 Hz, 2H), 7.04 – 7.00 (m, 1H), 6.73 (d, *J* = 8.0 Hz, 2H), 6.64 – 6.62 (m, 1H), 4.22 (d, *J* = 15.1 Hz, 1H), 3.75 (dd, *J* = 11.5, 3.8 Hz, 1H), 3.63 (d, *J* = 15.1 Hz, 1H), 3.54 – 3.47 (m 4H), 3.42 – 3.35 (m, 1H), 3.08 (dd, *J* = 15.6, 3.9 Hz, 1H), 2.88 (dd, *J* = 15.6, 11.5 Hz, 1H), 2.36 (s, 3H), 0.81 (t, *J* = 7.2 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 175.8, 171.4, 170.2, 155.2, 143.2, 136.2, 131.0, 130.8, 129.7, 127.2, 124.0, 122.5, 121.8, 108.8, 54.6, 52.1, 47.6, 35.3, 34.6, 31.6, 11.61, 11.56. IR (KBr) ν 1738, 1712, 1610, 1521, 1489, 1467, 1377, 1364, 1153, 1010, 829, 756. HRMS (ESI) *m/z*: Calc. For $C_{25}H_{24}O_6N_3BrNa$ ($[M+Na]^+$) 564.0739, Found 564.0741.



3fk (ZCL-1594)

methyl (R)-3-((S)-1-allyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

Yield: 91 mg, 82%, wax, 4:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -136 (*c* = 0.8, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.5 min (minor), 22.1 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.28 – 7.27 (m, 1H), 7.25 – 7.19 (m, 3H), 7.03 (t, *J* = 7.6 Hz, 1H), 6.71 (d, *J* = 8.1 Hz, 2H), 6.61 (d, *J* = 7.8 Hz, 1H), 5.30 – 5.20 (m, 1H), 5.04 (dd, *J* = 10.3, 1.4 Hz, 1H), 4.82 (dd, *J* = 17.1, 1.5 Hz, 1H), 4.24 (d, *J* = 15.1 Hz, 1H), 4.10 (dd, *J* = 16.2, 5.3 Hz, 1H), 3.93 – 3.87 (m, 1H), 3.78 (dd, *J* = 11.4, 3.8 Hz, 1H), 3.66 (d, *J* = 15.1 Hz, 1H), 3.53 (s, 3H), 3.12 (dd, *J* = 15.6, 3.9 Hz, 1H), 2.90 (dd, *J* = 15.6, 11.5 Hz, 1H), 2.37 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 175.9, 171.3, 170.1, 155.2, 143.4, 136.2, 131.1, 130.8, 130.7, 129.6, 126.9, 123.9, 122.7, 121.9, 117.8, 109.7, 54.8, 52.1, 47.6, 42.5, 35.3, 31.7, 11.6. IR (KBr) ν 1737, 1714, 1610, 1522, 1489, 1467, 1378, 1363, 1175, 1010, 829, 757. HRMS (ESI) *m/z*: Calc. For $C_{26}H_{24}O_6N_3BrNa$ ($[M+Na]^+$) 576.0740, Found 576.0741.

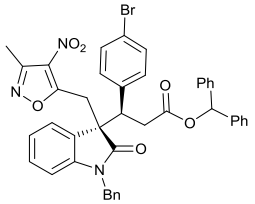


3fa'

(ZCL-1634)

ethyl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxoindolin-3-yl)-3-(4-bromophenyl)propanoate

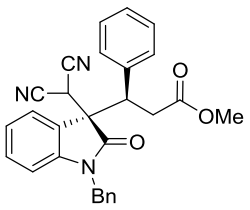
Yield: 89 mg, 72%, white solid, m.p. 127-128 ^{o}C, 9:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -153 (*c* = 0.5, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IB column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 70:30, 1.0 mL /min, 254 nm, 8.4 min (minor), 11.6 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.32 (d, *J* = 7.5 Hz, 1H), 7.26 – 7.19 (m, 5H), 7.13 – 7.10 (m, 1H), 7.00 (t, *J* = 7.6 Hz, 1H), 6.72 (d, *J* = 8.0 Hz, 2H), 6.69 – 6.62 (m, 2H), 6.42 (d, *J* = 7.9 Hz, 1H), 4.81 (d, *J* = 15.9 Hz, 1H), 4.38 (d, *J* = 15.9 Hz, 1H), 4.31 (d, *J* = 14.8 Hz, 1H), 4.02 – 3.95 (m, 2H), 3.86 (dd, *J* = 11.7, 3.7 Hz, 1H), 3.73 (d, *J* = 14.9 Hz, 1H), 3.21 (dd, *J* = 15.4, 3.8 Hz, 1H), 2.95 (dd, *J* = 15.3, 11.7 Hz, 1H), 2.38 (s, 3H), 1.09 (t, *J* = 7.1 Hz, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.5, 170.8, 170.0, 155.3, 143.5, 136.4, 134.9, 131.2, 131.0, 131.9, 129.7, 128.8, 127.6, 126.9, 126.8, 124.0, 122.7, 121.9, 110.0, 61.0, 55.0, 47.4, 44.2, 35.9, 32.2, 14.1, 11.6. IR (KBr) ν 1718, 1609, 1522, 1489, 1467, 1417, 1377, 1364, 1174, 1010, 829, 756. HRMS (ESI) *m/z*: Calc. For $C_{31}H_{28}O_6N_3BrNa$ ($[M+Na]^+$) 640.1049, Found 640.1054.



3fa" (ZCL-1636)

benzhydryl (R)-3-((S)-1-benzyl-3-((3-methyl-4-nitroisoxazol-5-yl)methyl)-2-oxo-indo-lin-3-yl)-3-(4-bromophenyl)propanoate

Yield: 102 mg, 67%, yellow solid, m.p. 66-67 ^{o}C, 16:1 dr, R_f = 0.30 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = -126 (*c* = 0.5, $CHCl_3$); HPLC analysis: 98% ee (Daicel CHIRALPAK IC column, 25 ^{o}C, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 14.4 min (minor), 21.0 min (major)); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.31 – 7.27 (m, 5H), 7.24 – 7.19 (m, 6H), 7.13 – 7.10 (m, 5H), 7.00 (t, *J* = 7.6 Hz, 1H), 6.96 – 6.94 (m, 2H), 6.69 (s, 1H), 6.66 – 6.64 (m, 3H), 6.42 (d, *J* = 7.8 Hz, 1H), 4.80 (d, *J* = 15.9 Hz, 1H), 4.37 (d, *J* = 15.9 Hz, 1H), 4.29 (d, *J* = 14.9 Hz, 1H), 3.85 (dd, *J* = 12.4, 3.4 Hz, 1H), 3.71 (d, *J* = 14.9 Hz, 1H), 3.29 (dd, *J* = 14.9, 3.4 Hz, 1H), 3.09 (dd, *J* = 14.9, 12.4 Hz, 1H), 2.38 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 176.4, 170.0, 169.9, 155.3, 143.4, 139.5, 139.4, 136.0, 134.9, 131.4, 130.9, 129.7, 128.8, 128.6, 128.5, 128.2, 127.9, 127.6, 127.5, 126.82, 126.80, 124.0, 122.8, 122.1, 110.0, 77.8, 55.0, 47.6, 44.2, 36.2, 32.1, 11.6. IR (KBr) ν 1718, 1609, 1520, 1489, 1466, 1454, 1377, 1363, 1174, 1148, 829, 756, 697. HRMS (ESI) *m/z*: Calc. For $C_{42}H_{33}O_6N_3Br$ ($[M-H]^-$) 754.1549, Found 754.1558.

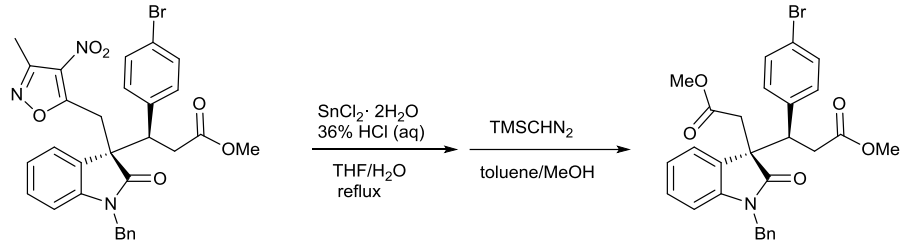


5 (ZCL1693)

methyl (R)-3-((R)-1-benzyl-3-(dicyanomethyl)-2-oxoindolin-3-yl)-3-phenyl -propanoate

Yield: 74 mg, 84%, wax, 5:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 5:1). $[\alpha]_D^{25}$ = +10 (*c* = 0.3, $CHCl_3$); HPLC analysis: 95% ee (Daicel CHIRALPAK IC column, 25 ^oC, 254 nm, hexane/*i*-PrOH = 80:20, 1.0 mL /min, 254 nm, 9.9 min (major), 11.7 min (minor)); ^1H NMR (500 MHz, $CDCl_3$) δ 7.82 (d, *J* = 7.5 Hz, 1H), 7.50 – 7.44 (m, 2H), 7.38 – 7.36 (m, 4H), 7.35 – 7.32 (m, 2H), 7.31 – 7.25 (m, 2H), 7.24 – 7.20 (m, 2H), 6.80 (d, *J* = 8.0 Hz, 1H), 4.96 – 4.4.86 (m, 2H), 4.06 (s, 1H), 4.04 – 4.01 (m, 1H), 3.41 (s, 3H), 2.75 (dd, *J* = 15.5, 10.6 Hz, 1H), 2.40 (dd, *J* = 15.5, 4.3 Hz, 1H). ^{13}C NMR (126 MHz, $CDCl_3$) δ 172.9, 170.8, 143.5, 135.4, 134.6, 131.2, 129.1, 128.9, 128.8, 128.2, 127.5, 124.9, 124.3, 111.3, 110.4, 110.2, 54.6, 52.1, 47.2, 44.7, 36.1, 29.8.. IR (KBr) ν 1739, 1718, 1612, 1489, 1468, 1455, 1369, 1224, 1175, 756, 700. HRMS (ESI) *m/z*: Calc. For $C_{28}H_{23}O_3N_3Na$ ($[M+Na]^+$) 472.1632, Found 472.1634.

2. Synthesis of the oxindole-derived adipate (Scheme 4)



3fa, 20:1 d.r., 97% ee

4fa, 82% yield
20:1 d.r., 99% ee

To the solution of compound **3fa** (121 mg, 0.2 mmol) in THF/H_2O (5 mL, 1:1) was added $SnCl_2$ $2H_2O$ (136 mg, 0.6 mmol), and 36% HCl (aq, 0.2 mL, 2.4 mmol). The reaction mixture was refluxed for 20 h and then cooled to room temperature. THF was evaporated off and the aqueous layer was extracted with ethyl acetate (3 ×10 mL). The combined organic layer was dried over Na_2SO_4. After evaporation of the solvent, the crude product was dissolved in 5 mL toluene and 2 mL methanol, then 1.0 mL TMS-diazomethane (2.0 M in hexane) was added. After stirring at room temperature for 30 min, the reaction was quenched by addition of several drops of conc. acetic acid to removal the excess TMS-diazomethane. The product **4fa** was obtained in 82% yield (88 mg) after purification by flash column chromatography on silica gel (petroleum ether/ethyl acetate = 20:1-5:1). Wax, 20:1 dr, R_f = 0.22 (petroleum ether/ethyl acetate, 10:1). $[\alpha]_D^{25}$ = -87 (*c* = 0.7, $CHCl_3$); HPLC analysis: 99% ee (Daicel CHIRALPAK IB column, 25 ^oC, 254 nm, hexane/*i*-PrOH/methanol = 95:2:3, 0.5 mL /min, 254 nm, 35.6 min (minor), 37.6 min (major)); ^1H NMR (400 MHz, $CDCl_3$) δ 7.30 – 7.28 (m, 3H), 7.25 – 7.22 (m, 3H), 7.20 – 7.17 (m, 1H), 7.07 (t, *J* = 7.6 Hz, 1H), 6.82 (d, *J* = 7.0 Hz, 2H), 6.72 – 6.71 (m, 2H), 6.51 (d, *J* = 7.5 Hz, 1H),

4.85 (d, *J* = 15.9 Hz, 1H), 4.48 (d, *J* = 15.9 Hz, 1H), 3.70 (dd, *J* = 11.6, 3.9 Hz, 1H), 3.51 (s, 3H), 3.41 (s, 3H), 3.19 – 3.09 (m, 2H), 3.00 (dd, *J* = 15.4, 4.0 Hz, 1H), 2.86 (dd, *J* = 15.4, 11.6 Hz, 1H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 177.9, 171.5, 169.8, 144.4, 136.7, 135.5, 131.1, 129.1, 128.8, 128.4, 127.4, 127.0, 123.4, 122.3, 121.8, 109.6, 52.8, 52.0, 51.9, 47.7, 44.2, 39.8, 35.6. IR (KBr) ν 1739, 1714, 1611, 1489, 1466, 1435, 1356, 1200, 1175, 1010, 756. HRMS (ESI) *m/z*: Calc. For $C_{28}H_{26}O_5NBr$ ($[M+Na]^+$) 558.0886, Found 558.0887.

3. X-ray Structure of Compound 3fa

The crystal suitable for X-ray analysis was prepared by slow evaporation of the solution of **3fa** in petroleum ether/ethyl acetate (10:1) at room temperature (Figure S1). CCDC 1907021 contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.

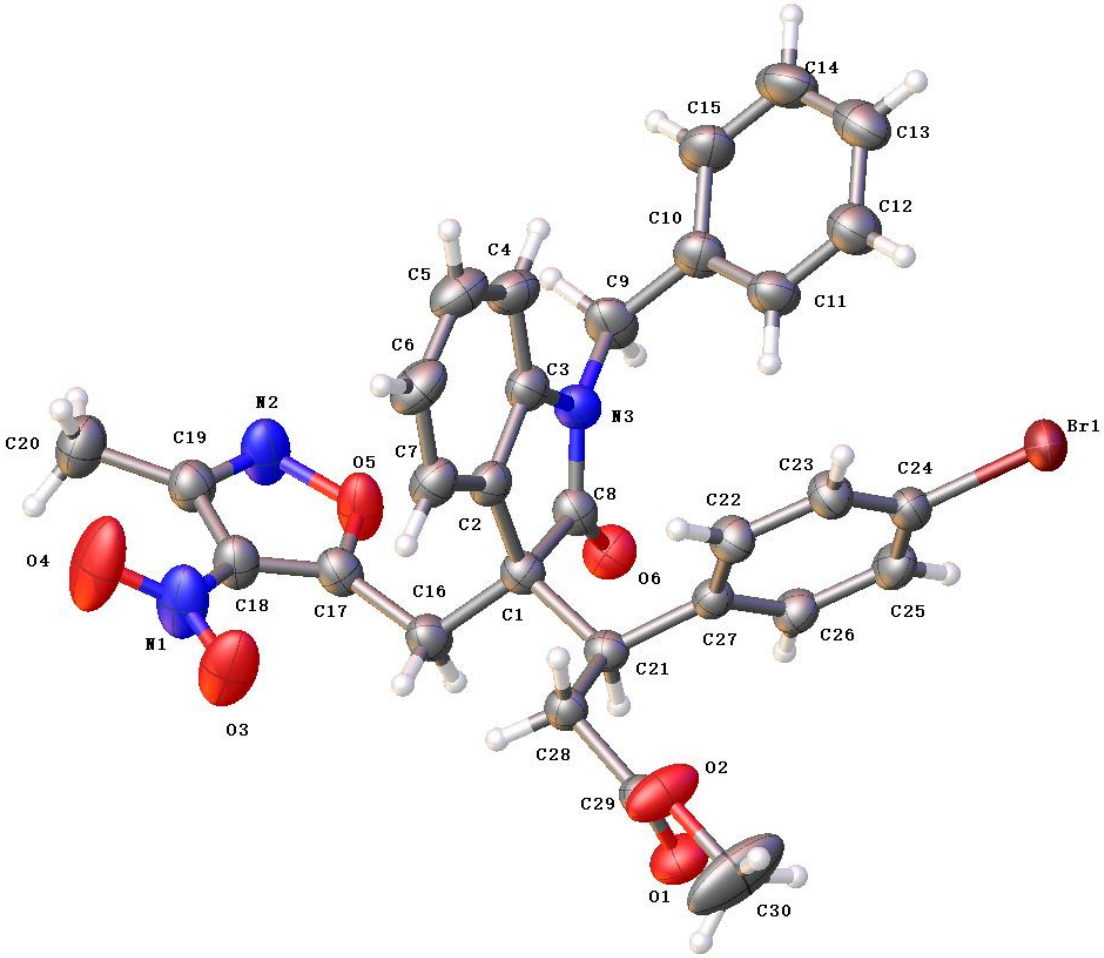
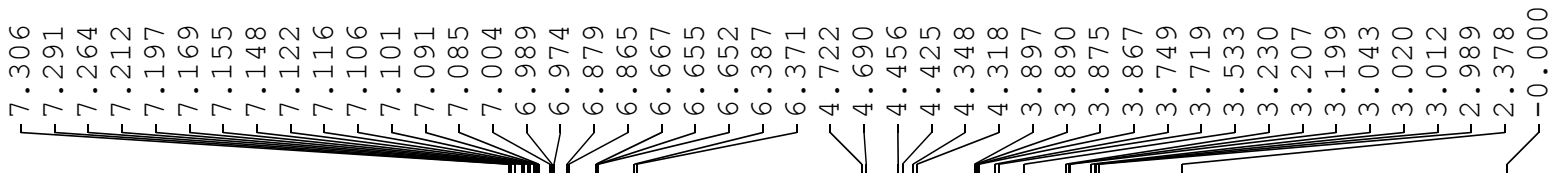
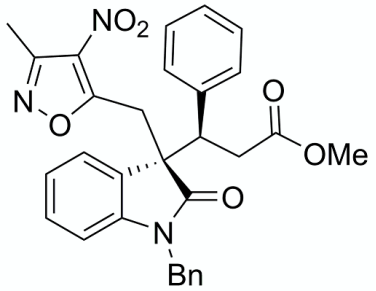


Figure S1. X-ray structure of compound **3fa**.

4. Reference

1. a) M. S. Kerr, J. R. de Alaniz, T. Rovis *J. Am. Chem. Soc.* 2002, **124**, 10298; b) M. He, J. R. Struble, J. W. Bode *J. Am. Chem. Soc.* 2006, **128**, 8418; c) Y.-R. Zhang, L. He, X. Wu, P.-L. Shao, S. Ye *Org. Lett.* 2008, **10**, 277.
2. Y. Zhang, B.-W. Wei, H. Lin, L. Zhang, J.-X. Liu, H.-Q. Luo, X.-L. Fan *Green Chem.* 2015, **17**, 3266.





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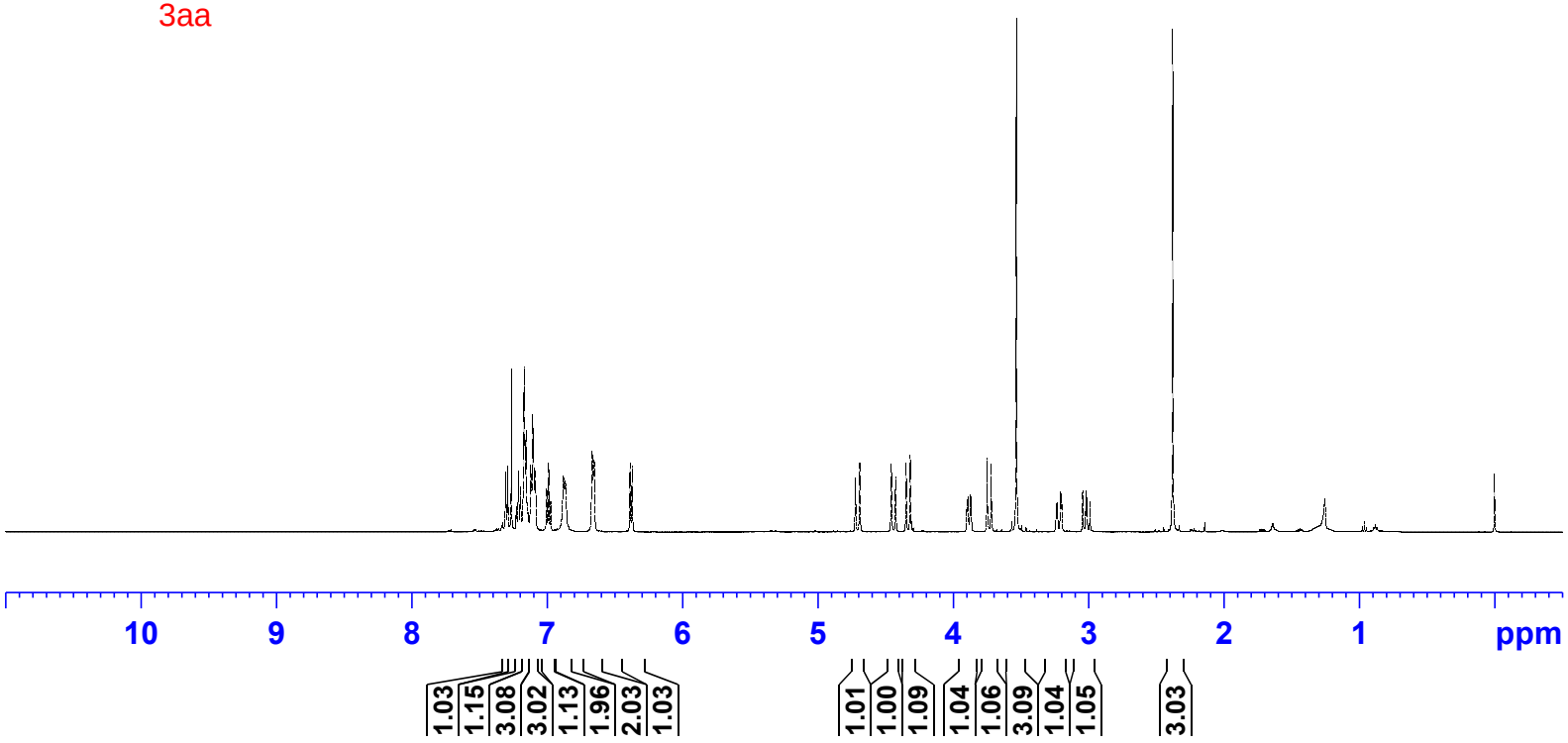


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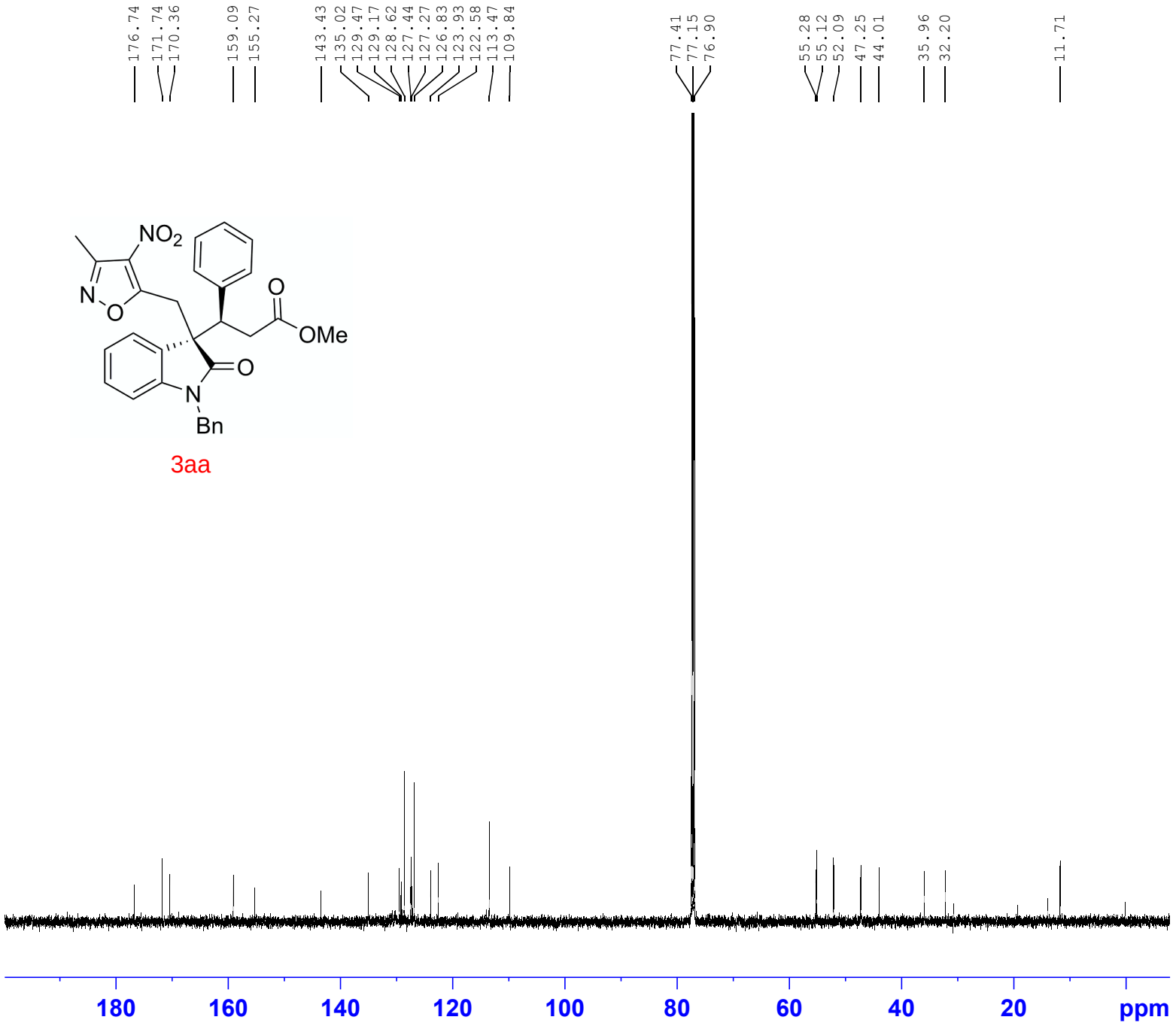


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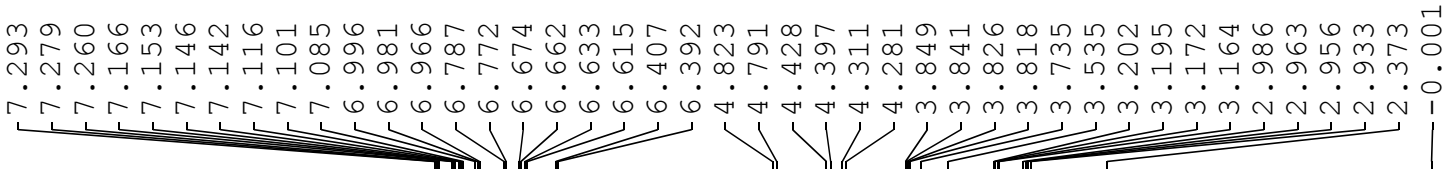
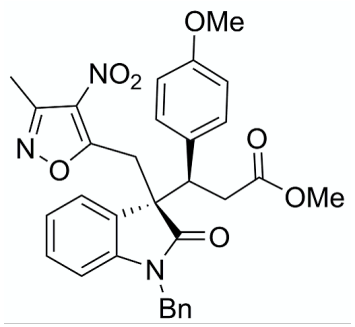
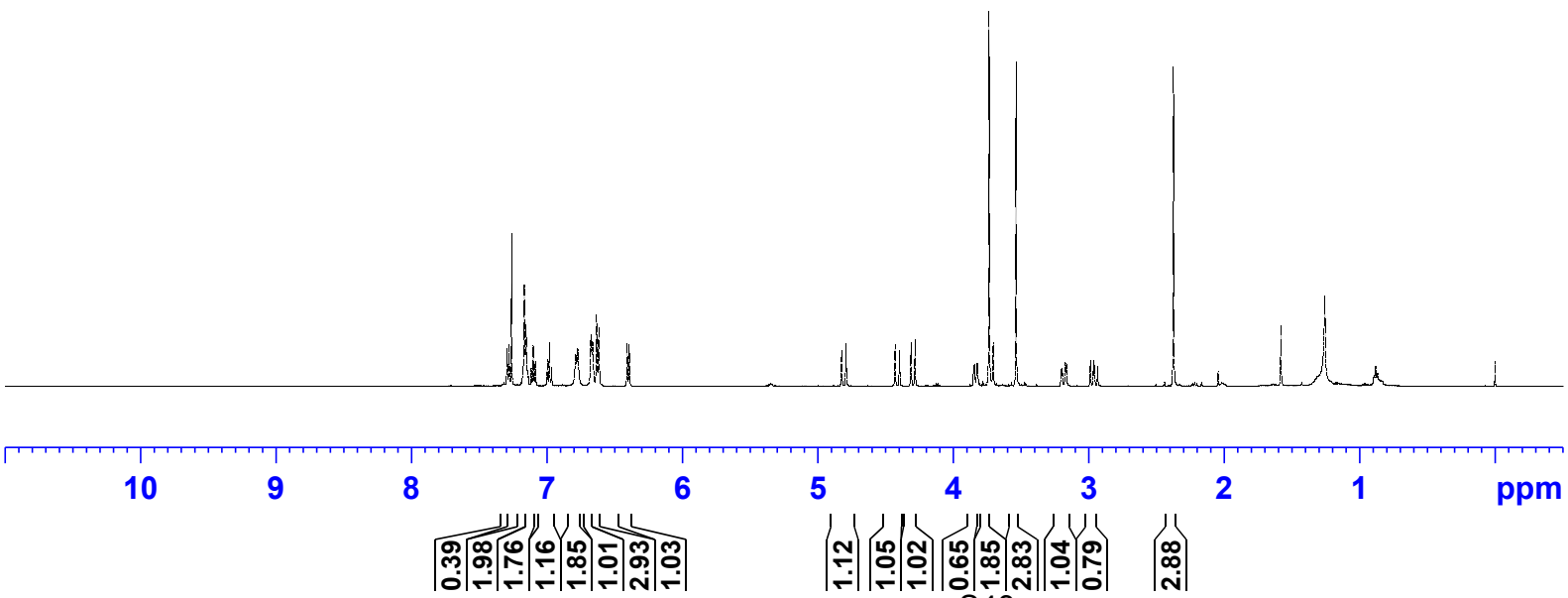
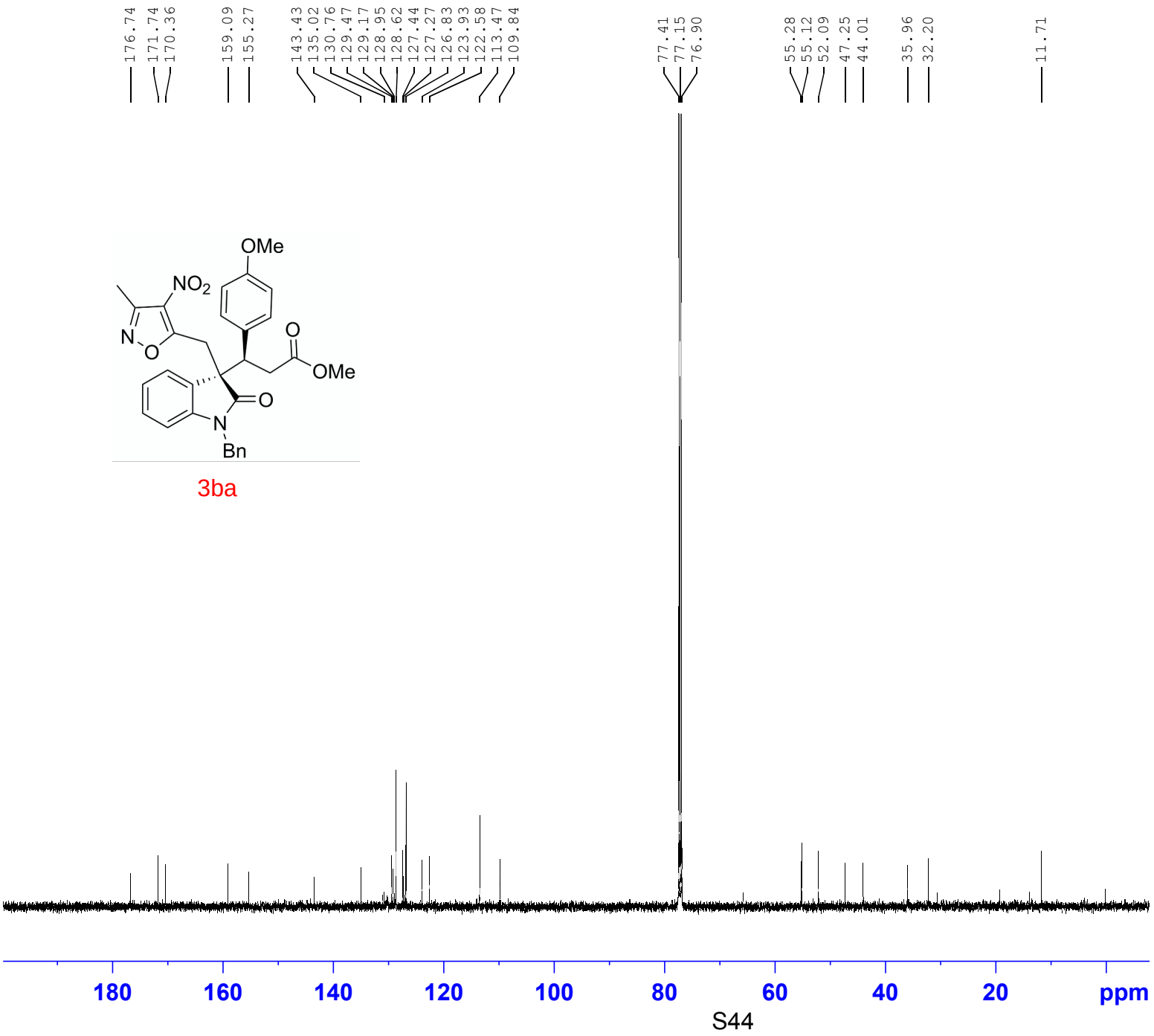




3ba




```
Current Data Parameters
NAME                  ZCL-1555
EXPNO                       33
PROCNO                       1

F2 - Acquisition Parameters
Date_               20190528
Time                   18.09
INSTRUM                spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                 3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                    298.2 K
D1              1.00000000 sec
D11        0 sec
TD0                          1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                     off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300119 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```



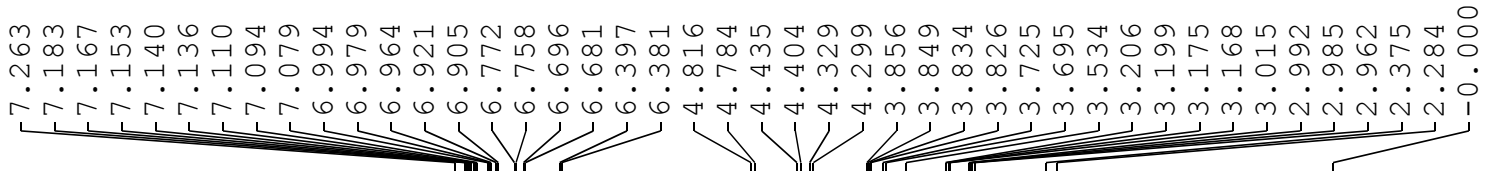
Current Data Parameters
NAME ZCL-1555
EXPNO 105
PROCNO 1

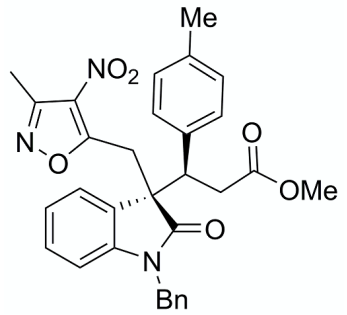
F2 - Acquisition Parameters
Date_ 20190214
Time 16.56
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 28
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 286.5 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

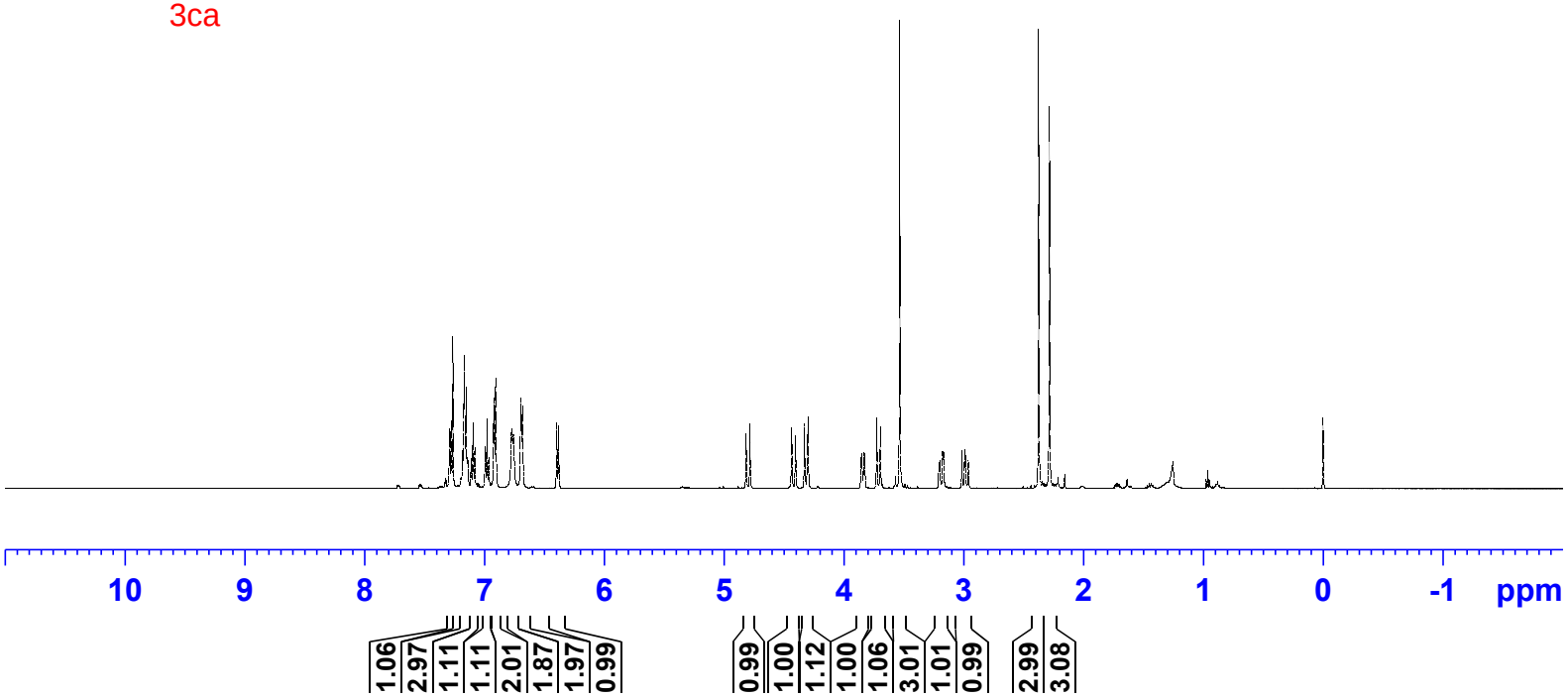
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577783 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

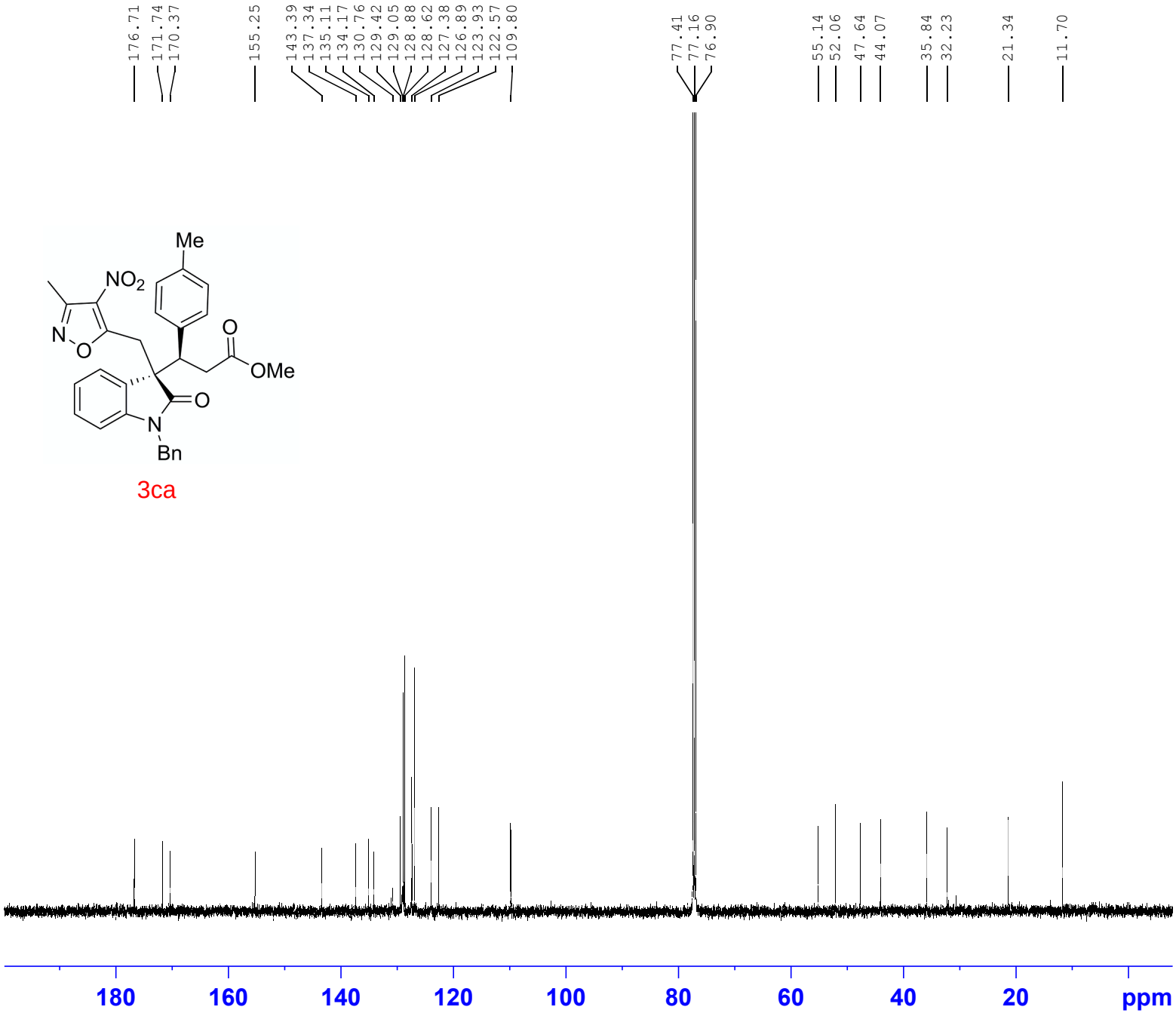




3ca




```
Current Data Parameters
NAME                  ZCL-1556
EXPNO                      100
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190214
Time                   16.40
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     286.7 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF             500.1300111 MHz
WDW                       EM
SSB        0
LB                    0.30 Hz
GB         0
PC                    1.00
```



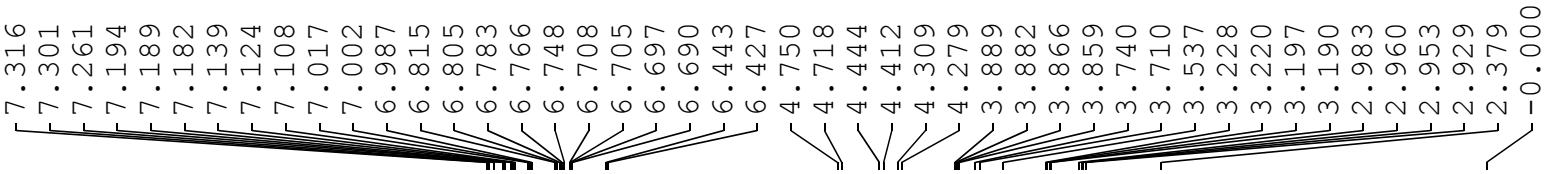
Current Data Parameters
NAME ZCL-1556
EXPNO 101
PROCNO 1

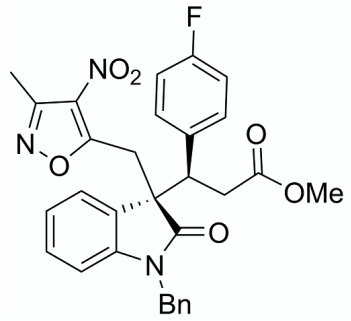
F2 - Acquisition Parameters
Date_ 20190214
Time 16.42
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 23
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 286.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

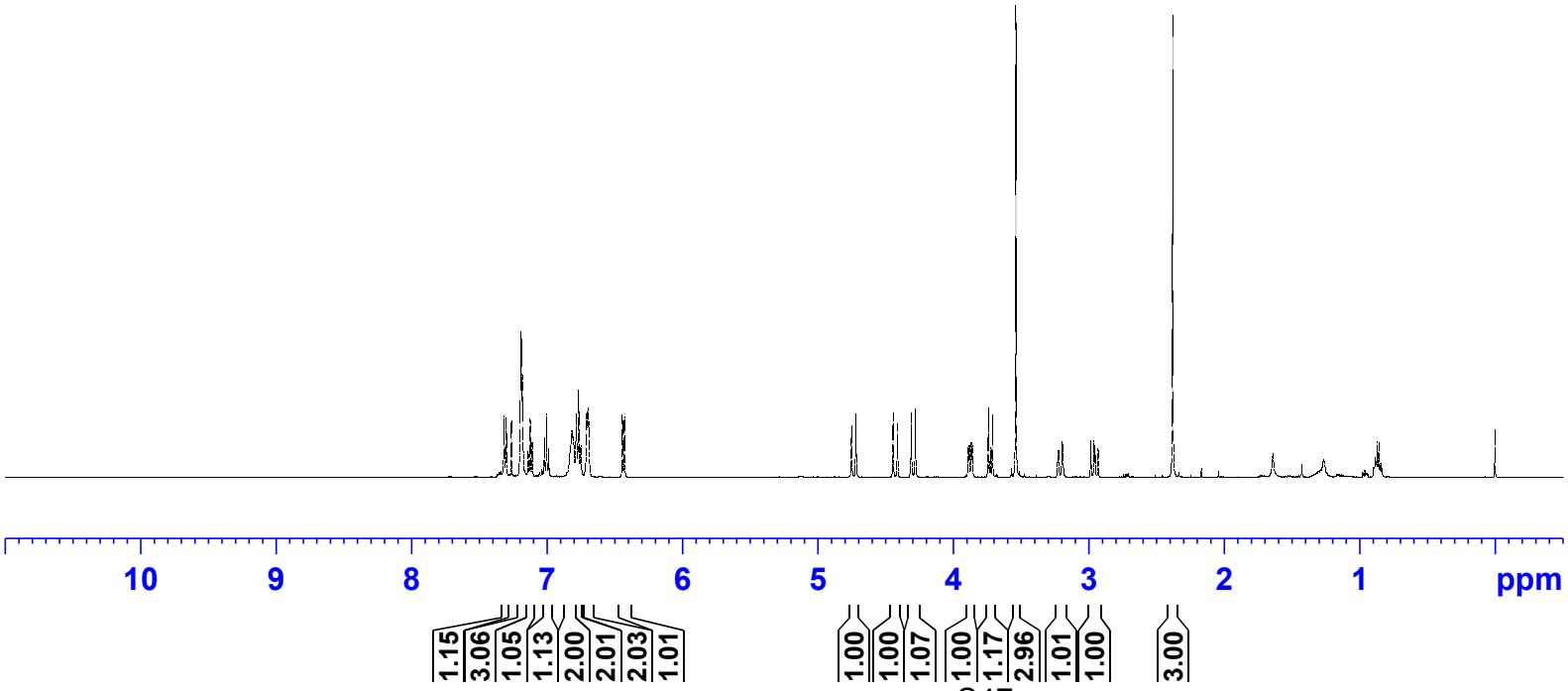
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577792 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

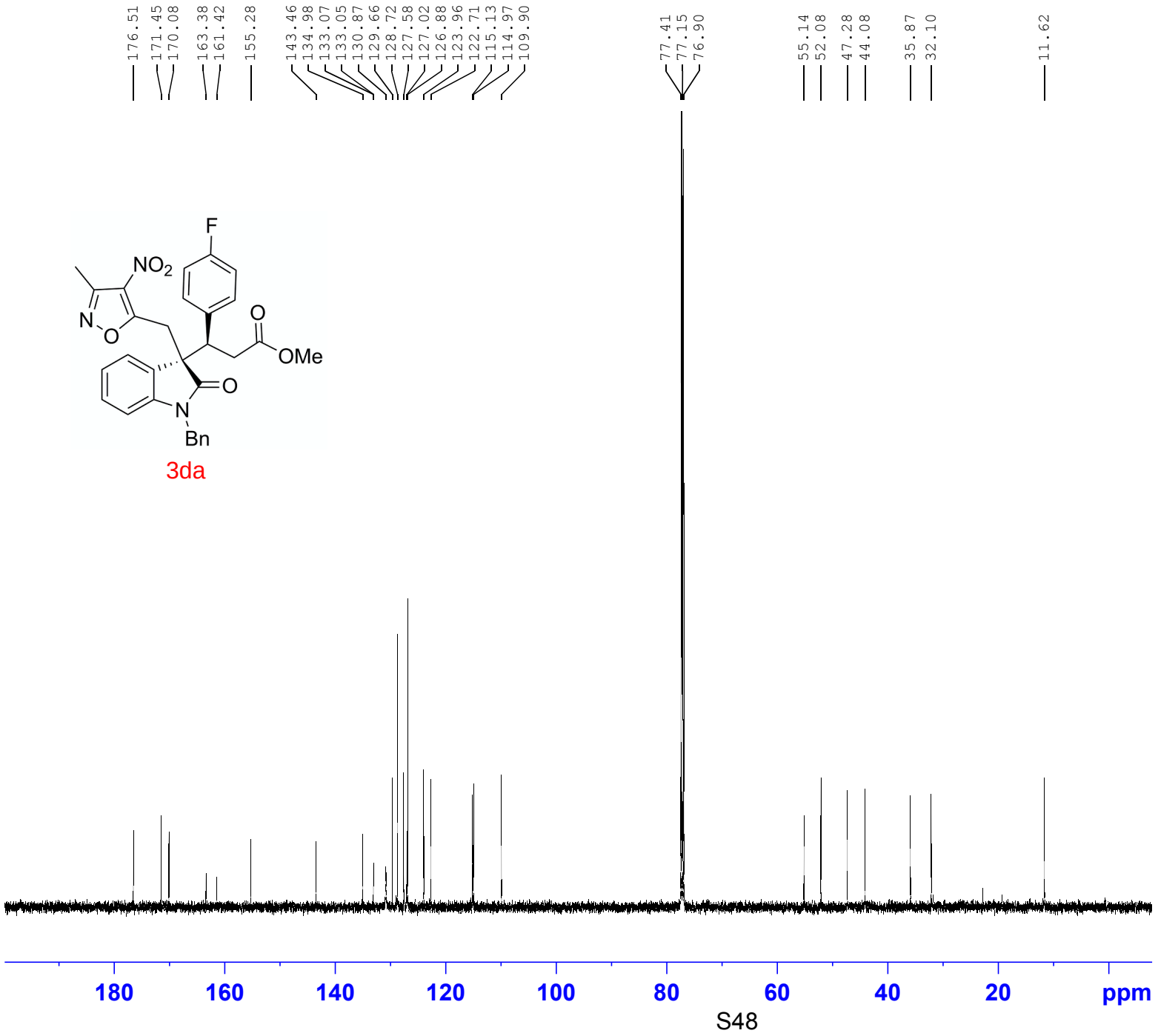




3da



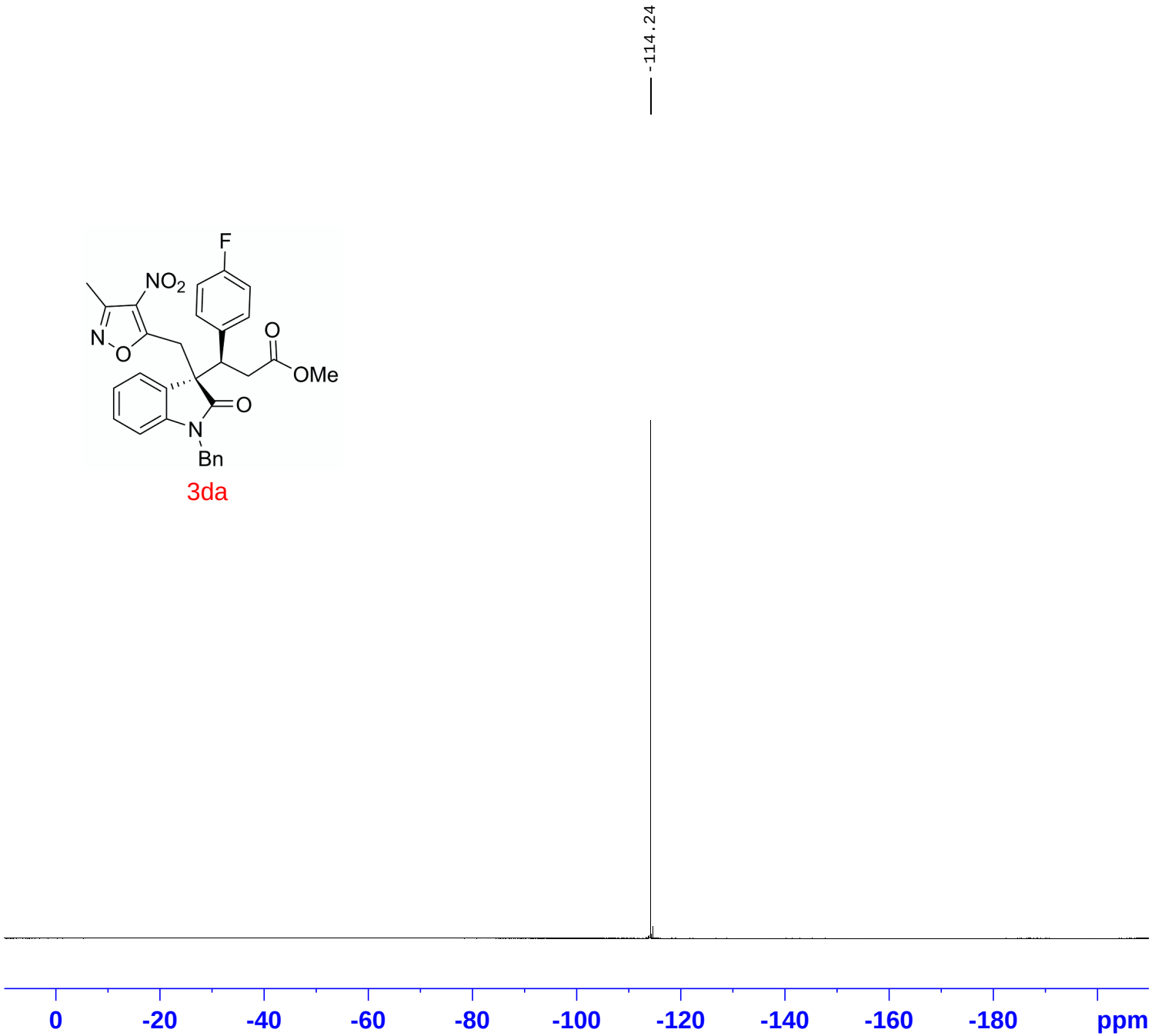

```
Current Data Parameters
NAME                  ZCL-1558
EXPNO                        6
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181016
Time                   10.14
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                   50.000 usec
DE                     6.50 usec
TE                     298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                     off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                     65536
SF              500.1300118 MHz
WDW                       EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```



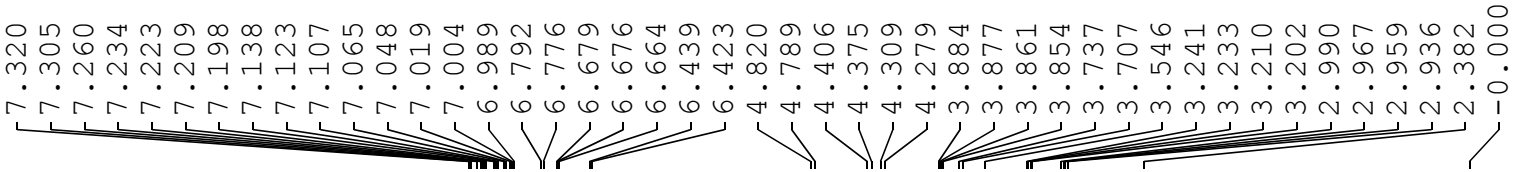
BRUKER

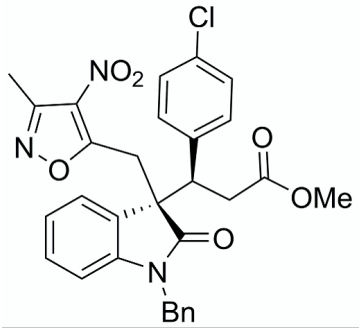
```
Current Data Parameters
NAME                  ZCL-1558
EXPNO                        7
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181016
Time                   10.15
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                       18
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    192.89
DW                    16.800 usec
DE                    18.00 usec
TE                    298.1 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            125.7703637 MHz
NUC1                      13C
P1                        9.80 usec
PLW1           57.00000000 W

======== CHANNEL f2 ========
SFO2            500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                  80.00 usec
PLW2           20.00000000 W
PLW12           0.35778001 W
PLW13           0.22898000 W

F2 - Processing parameters
SI                       32768
SF              125.7577756 MHz
WDW                         EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```

3da

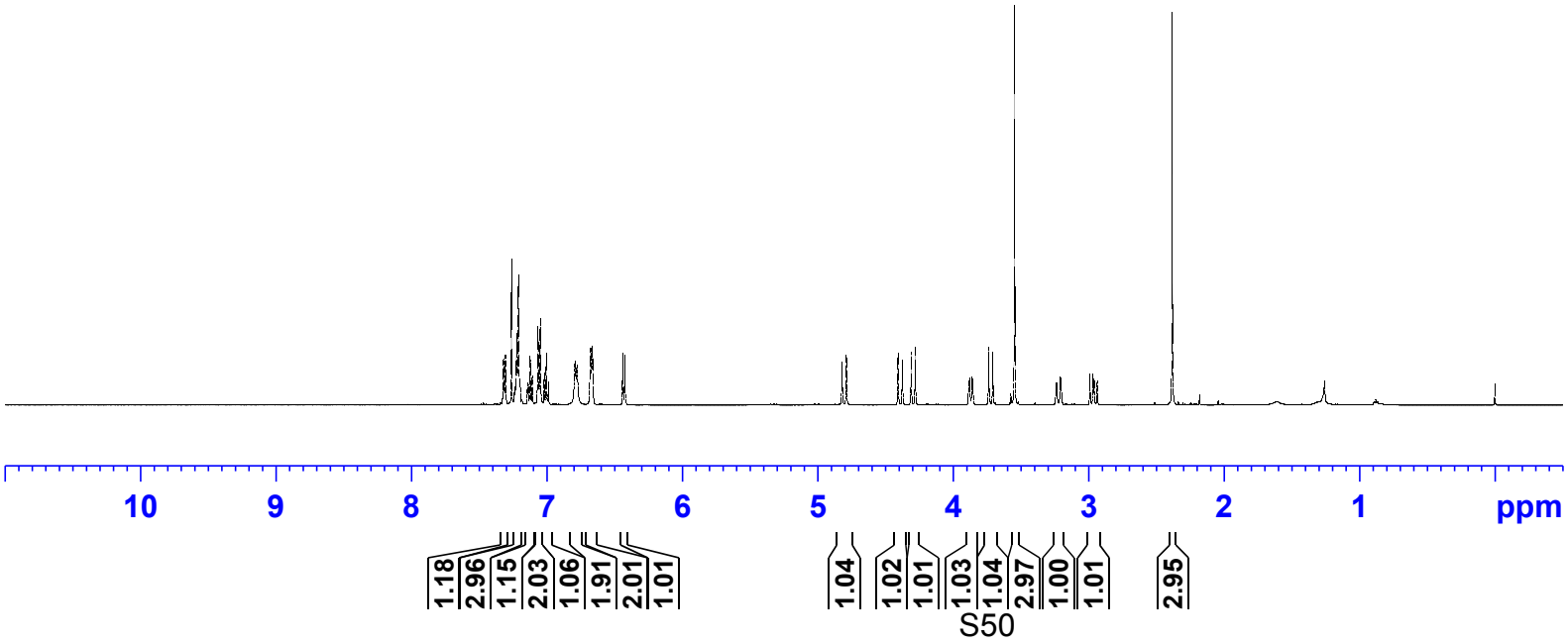



```
Current Data Parameters
NAME                  ZCL-16F
EXPNO                       4
PROCNO                      1

F2 - Acquisition Parameters
Date_                20181022
Time                    19.43
INSTRUM                 spect
PROBHD   5 mm PABBO BB/
PULPROG            zgfhigqn.2
TD                     131072
SOLVENT                 CDCl3
NS                         14
DS                          4
SWH                 89285.711 Hz
FIDRES               0.681196 Hz
AQ                   0.7340032 sec
RG                      206.33
DW                       5.600 usec
DE                       6.50 usec
TE                      298.1 K
D1                  1.00000000 sec
D11                 0.03000000 sec
TD0                         1

======== CHANNEL f1 ========
SFO1               376.5642094 MHz
NUC1                       19F
P1                       14.50 usec
PLW1               17.98900032 W

======== CHANNEL f2 ========
SFO2               400.2416010 MHz
NUC2                       1H
CPDPRG[2                waltz16
PCPD2                    90.00 usec
PLW2               12.00000000 W
PLW12               0.34680000 W
PLW13               0.28090999 W

F2 - Processing parameters
SI                         65536
SF                 376.6018696 MHz
WDW                        EM
SSB             0
LB                       0.30 Hz
GB              0
PC                       1.00
```

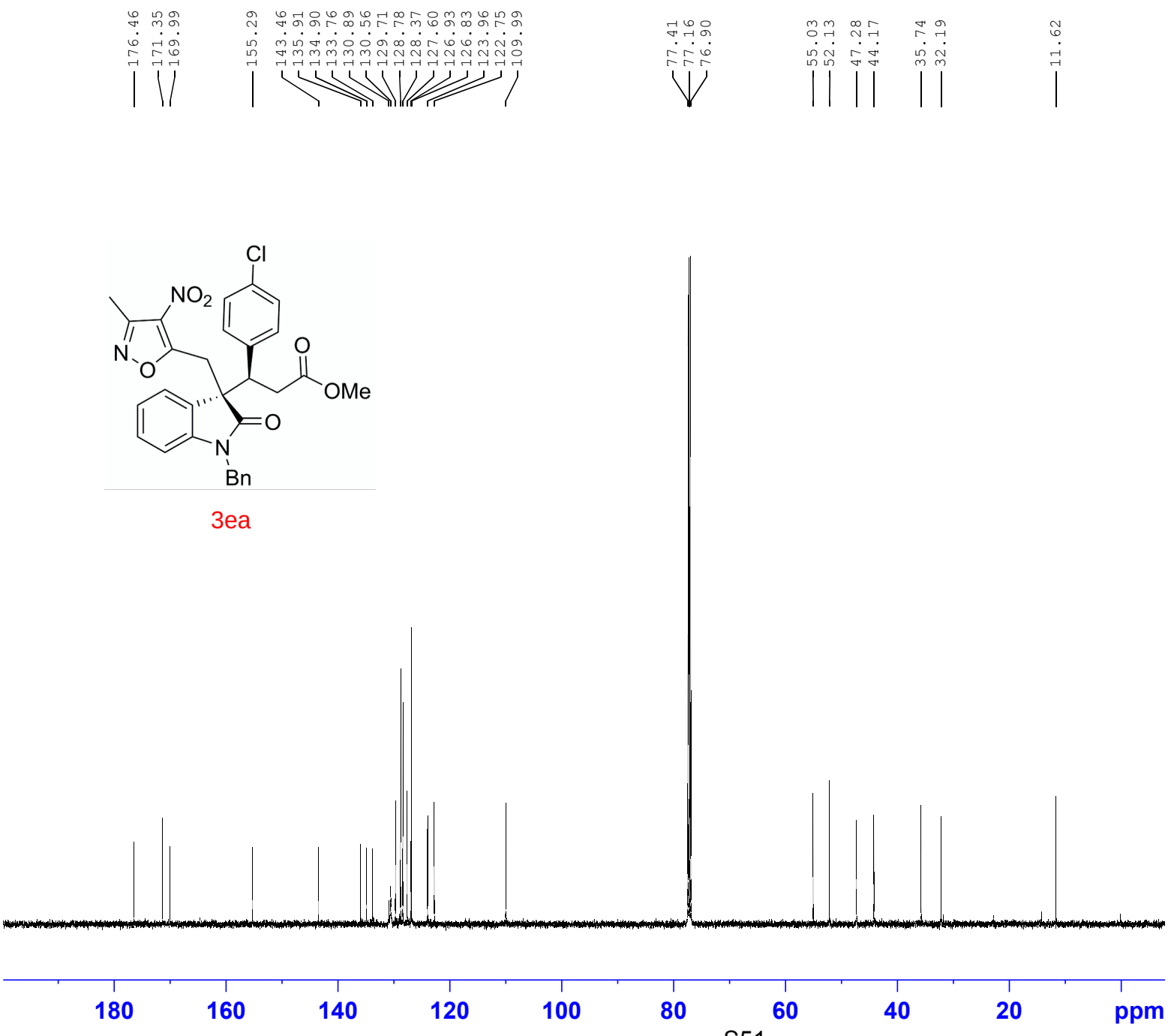




3ea




```
Current Data Parameters
NAME                  ZCL-1560
EXPNO                       18
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190521
Time                    18.29
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES              0.152588 Hz
AQ                  3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                      298.1 K
D1                 1.00000000 sec
D11        0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1            20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                      65536
SF              500.1300118 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```



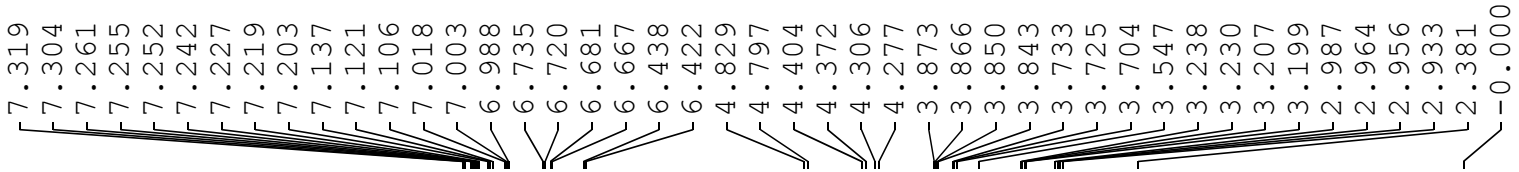
Current Data Parameters
NAME ZCL-1560
EXPNO 15
PROCNO 1

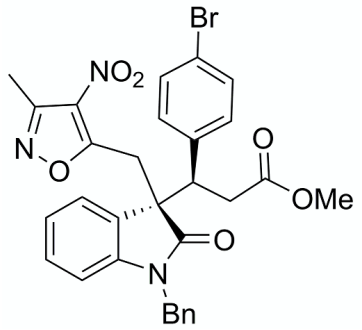
F2 - Acquisition Parameters
Date_ 20181016
Time 10.38
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 35
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

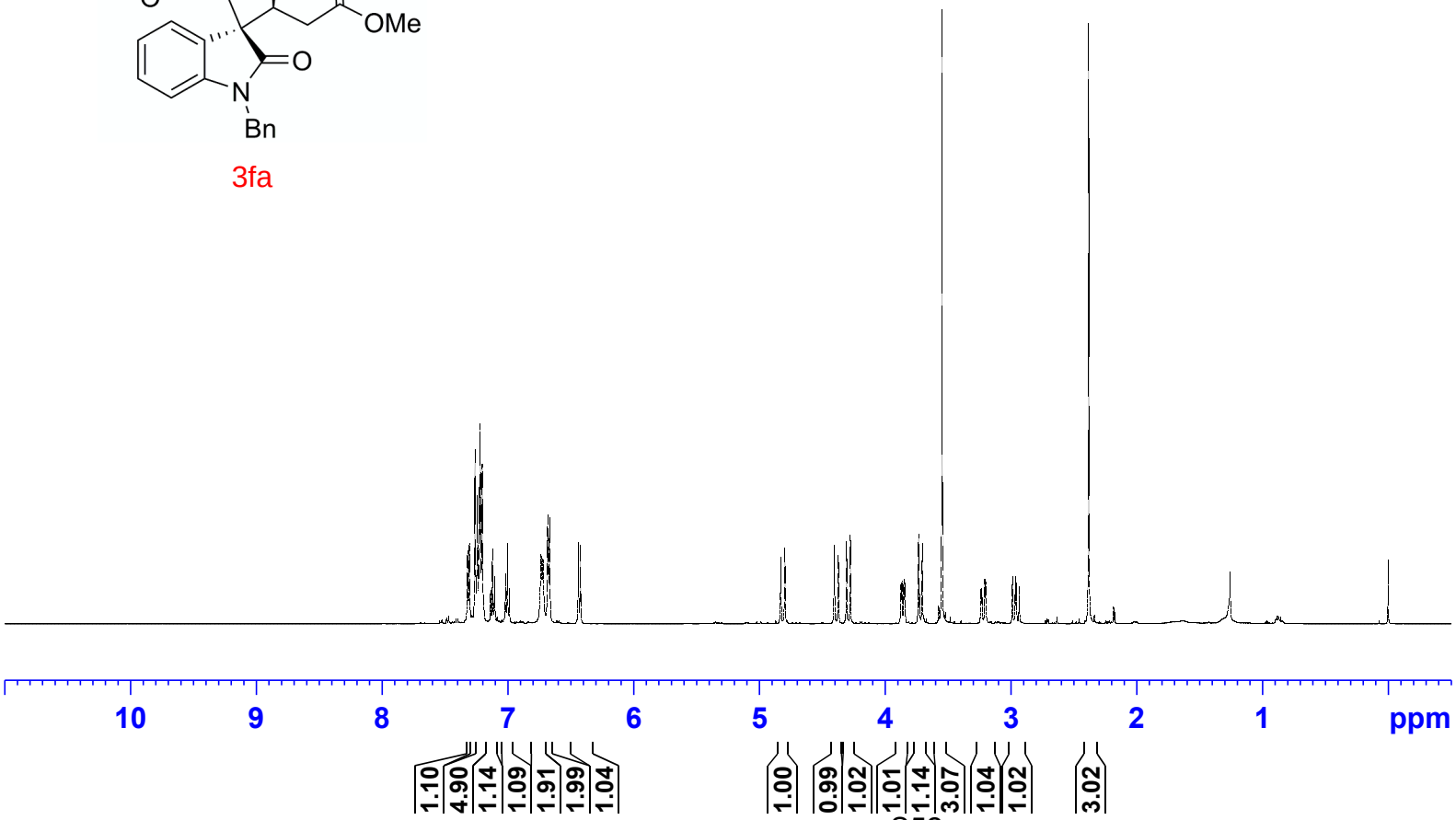
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577756 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

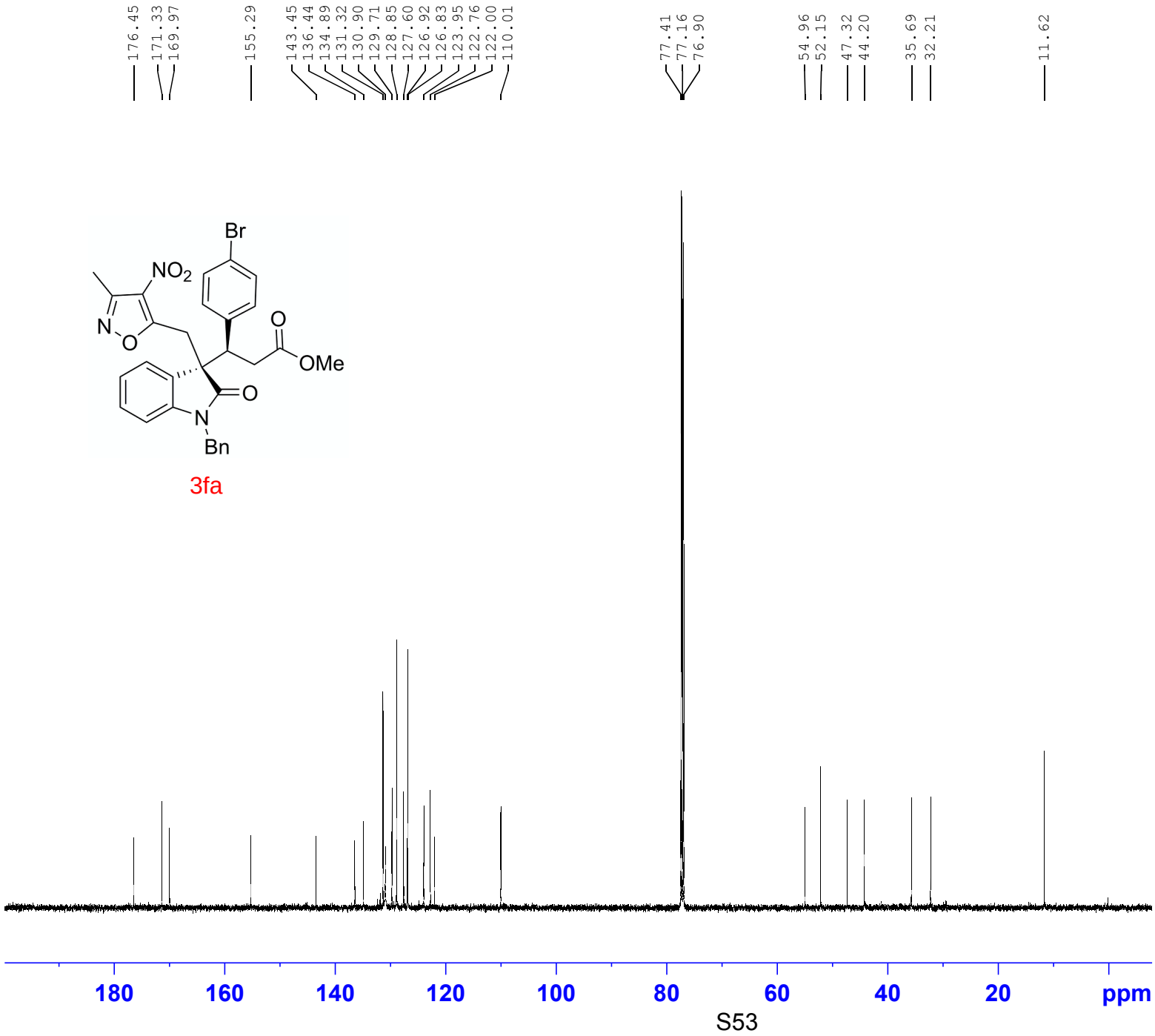




3fa




```
Current Data Parameters
NAME                  ZCL-1559
EXPNO                       17
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181022
Time                   16.36
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH              10000.000 Hz
FIDRES               0.152588 Hz
AQ               3.2767999 sec
RG                     31.72
DW                  50.000 usec
DE                   6.50 usec
TE                   298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          500.1330885 MHz
NUC1                     1H
P1                   11.50 usec
PLW1          20.00000000 W

======== CHANNEL f2 ========
SFO2          500.1330885 MHz
NUC2                   off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF            500.1300115 MHz
WDW                      EM
SSB        0
LB                    0.30 Hz
GB         0
PC                    1.00
```



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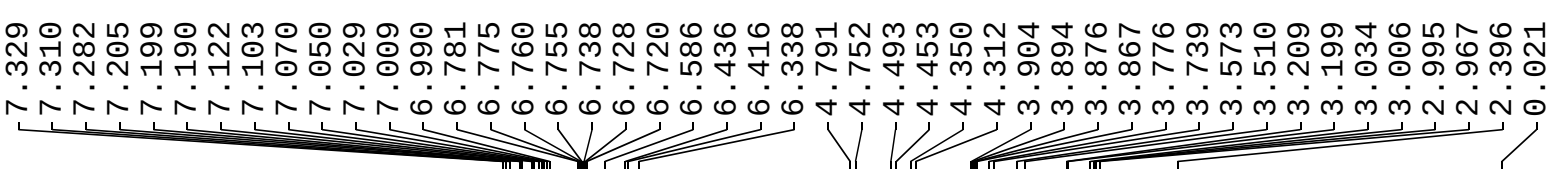
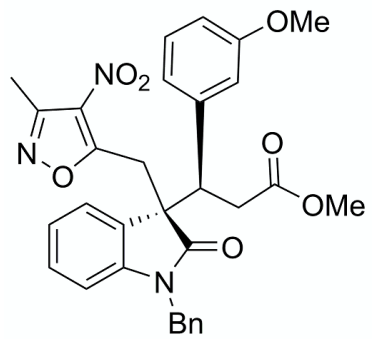
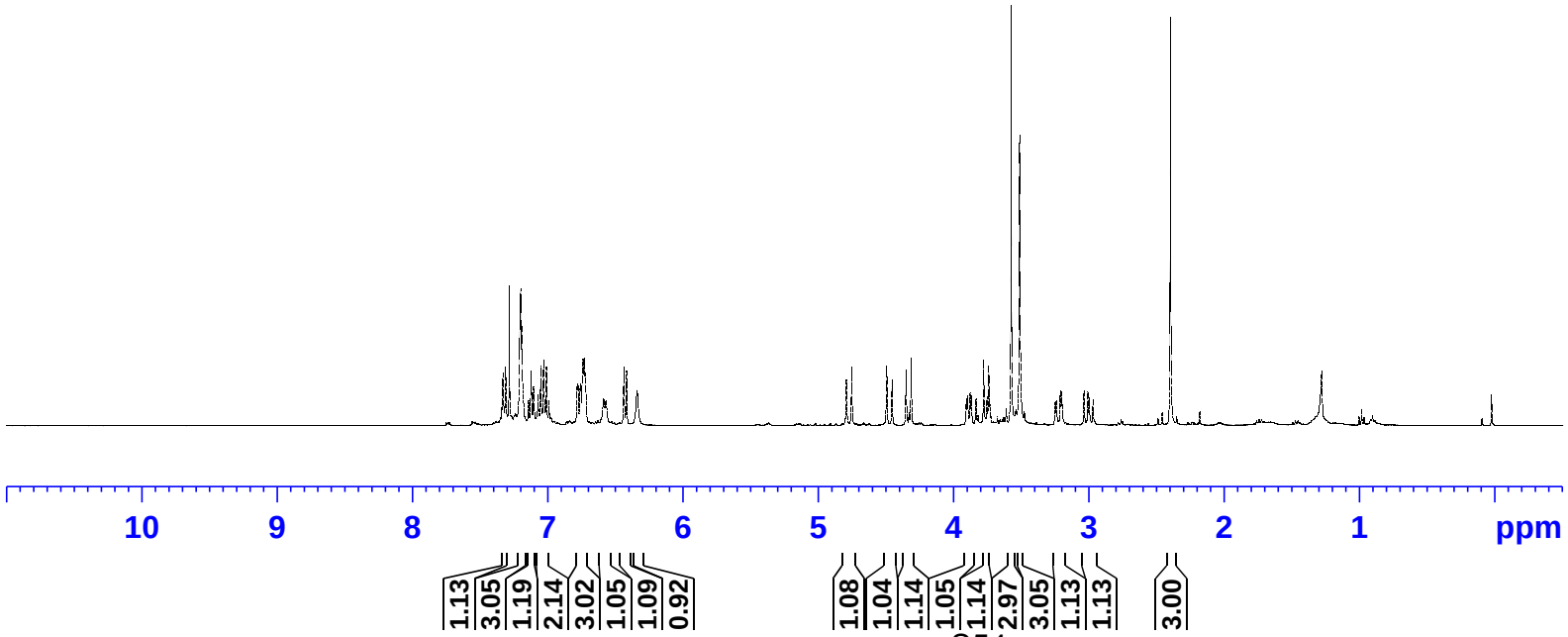
```
Current Data Parameters
NAME                  ZCL-1559
EXPNO                       18
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181022
Time                   16.38
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                       51
DS                        4
SWH              29761.904 Hz
FIDRES            0.454131 Hz
AQ               1.1010048 sec
RG                   192.89
DW                   16.800 usec
DE                   18.00 usec
TE                   298.1 K
D1              2.00000000 sec
D11             0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           125.7703637 MHz
NUC1                    13C
P1                    9.80 usec
PLW1           57.00000000 W

======== CHANNEL f2 ========
SFO2           500.1320005 MHz
NUC2                    1H
CPDPRG[2            waltz16
PCPD2                80.00 usec
PLW2           20.00000000 W
PLW12           0.35778001 W
PLW13           0.22898000 W

F2 - Processing parameters
SI                    32768
SF             125.7577756 MHz
WDW                      EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

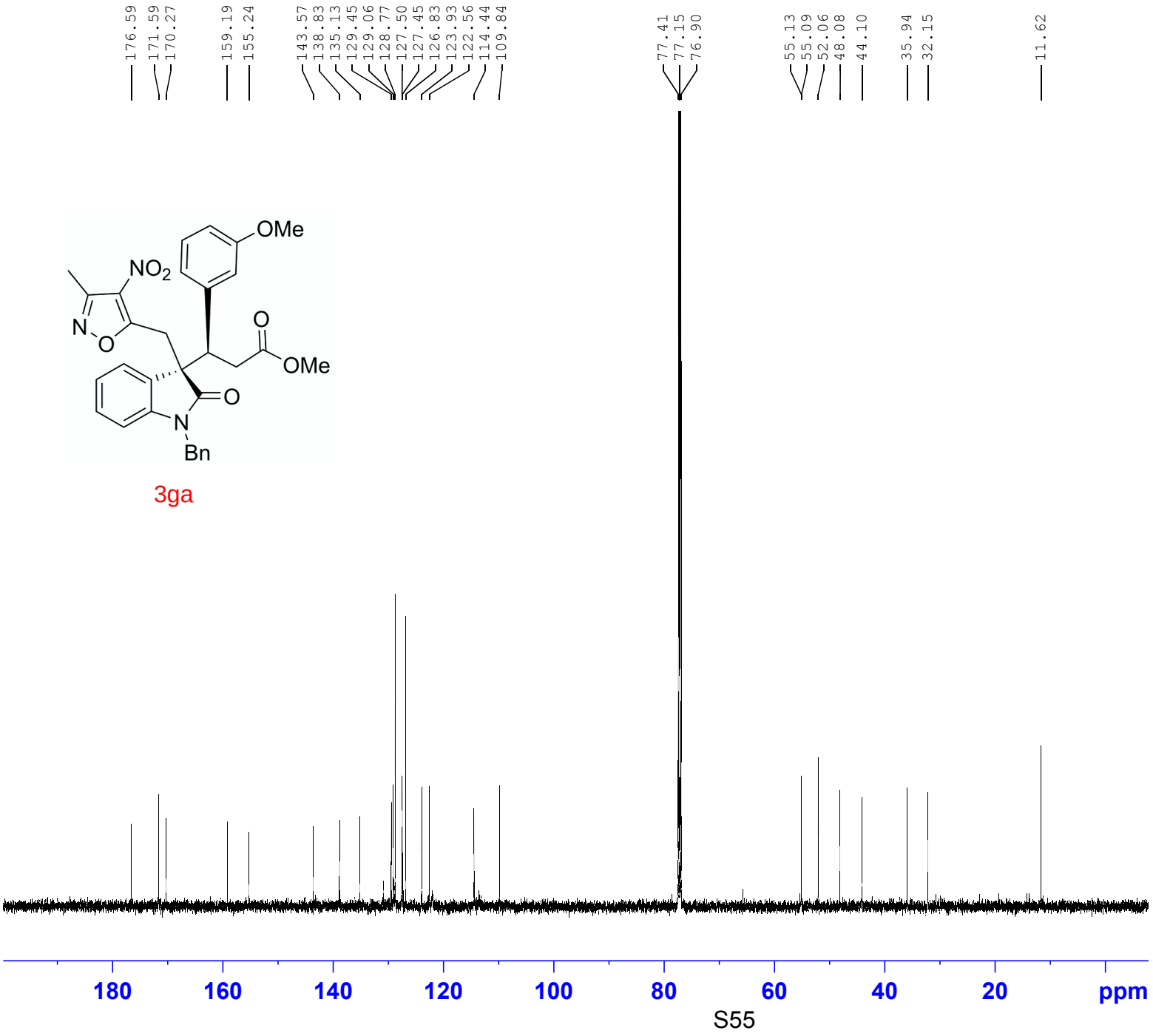




3ga




```
Current Data Parameters
NAME                  ZCL-1641
EXPNO                       27
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190522
Time                    18.55
INSTRUM                 spect
PROBHD   5 mm PABBO BB/
PULPROG                  zg30
TD                      32768
SOLVENT                 CDCl3
NS                         16
DS                          0
SWH                  8012.820 Hz
FIDRES               0.244532 Hz
AQ                   2.0447233 sec
RG                      125.02
DW                      62.400 usec
DE                       6.50 usec
TE                      298.0 K
D1                2.00000000 sec
D11       0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            400.2424716 MHz
NUC1                       1H
P1                      14.30 usec
PLW1             12.00000000 W

======== CHANNEL f2 ========
SFO2            400.2424716 MHz
NUC2                      off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                        65536
SF              400.2400005 MHz
WDW                        EM
SSB       0
LB                      0.30 Hz
GB        0
PC                      1.00
```



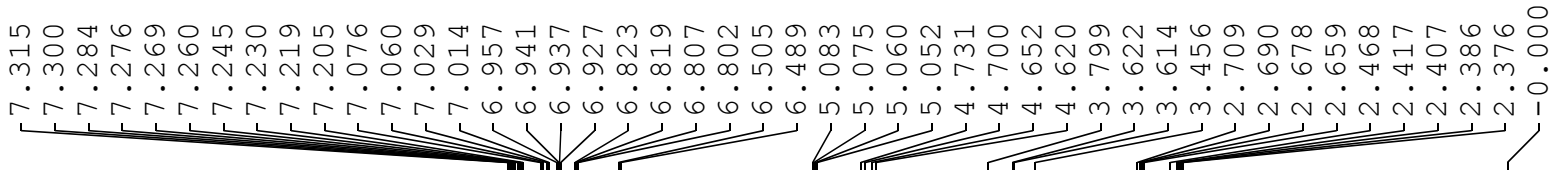
Current Data Parameters
NAME ZCL-1641
EXPNO 40
PROCNO 1

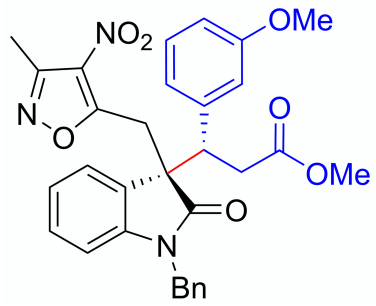
F2 - Acquisition Parameters
Date_ 20190121
Time 15.55
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 25
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

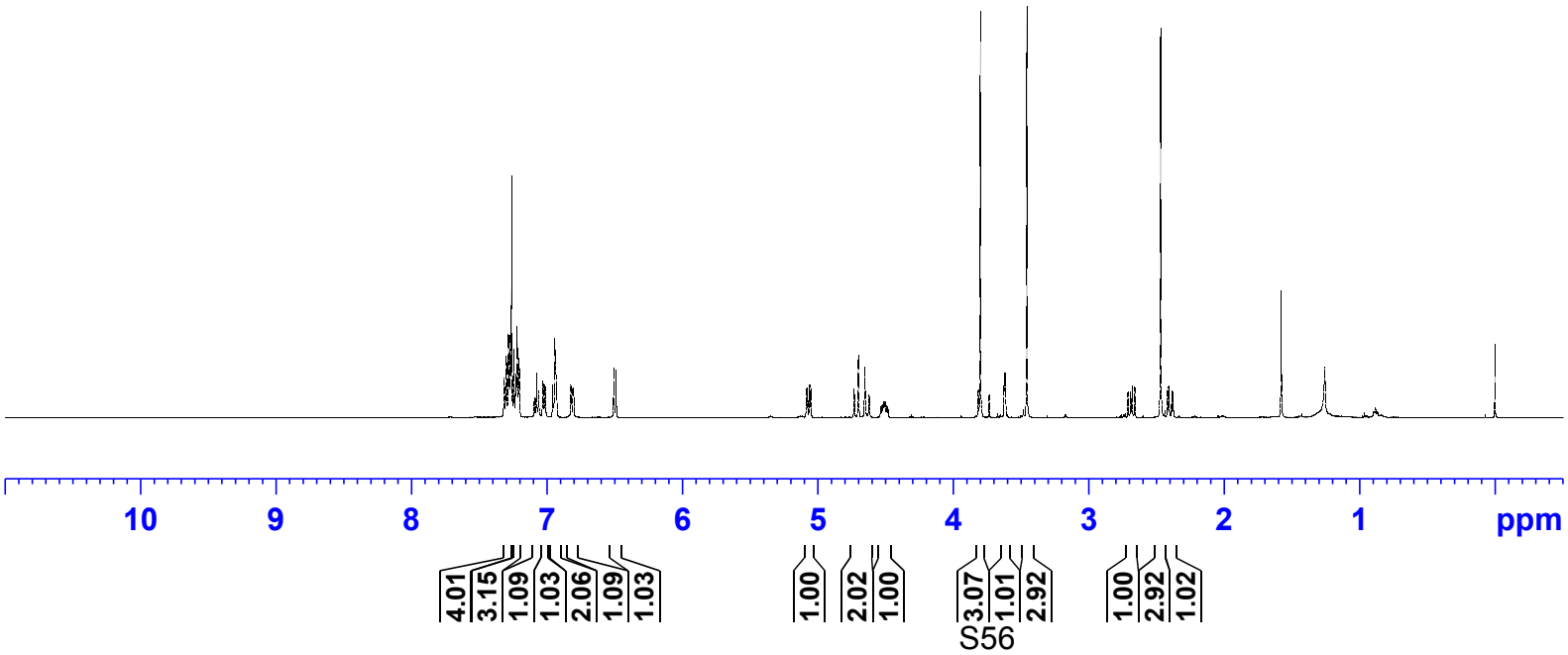
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577755 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

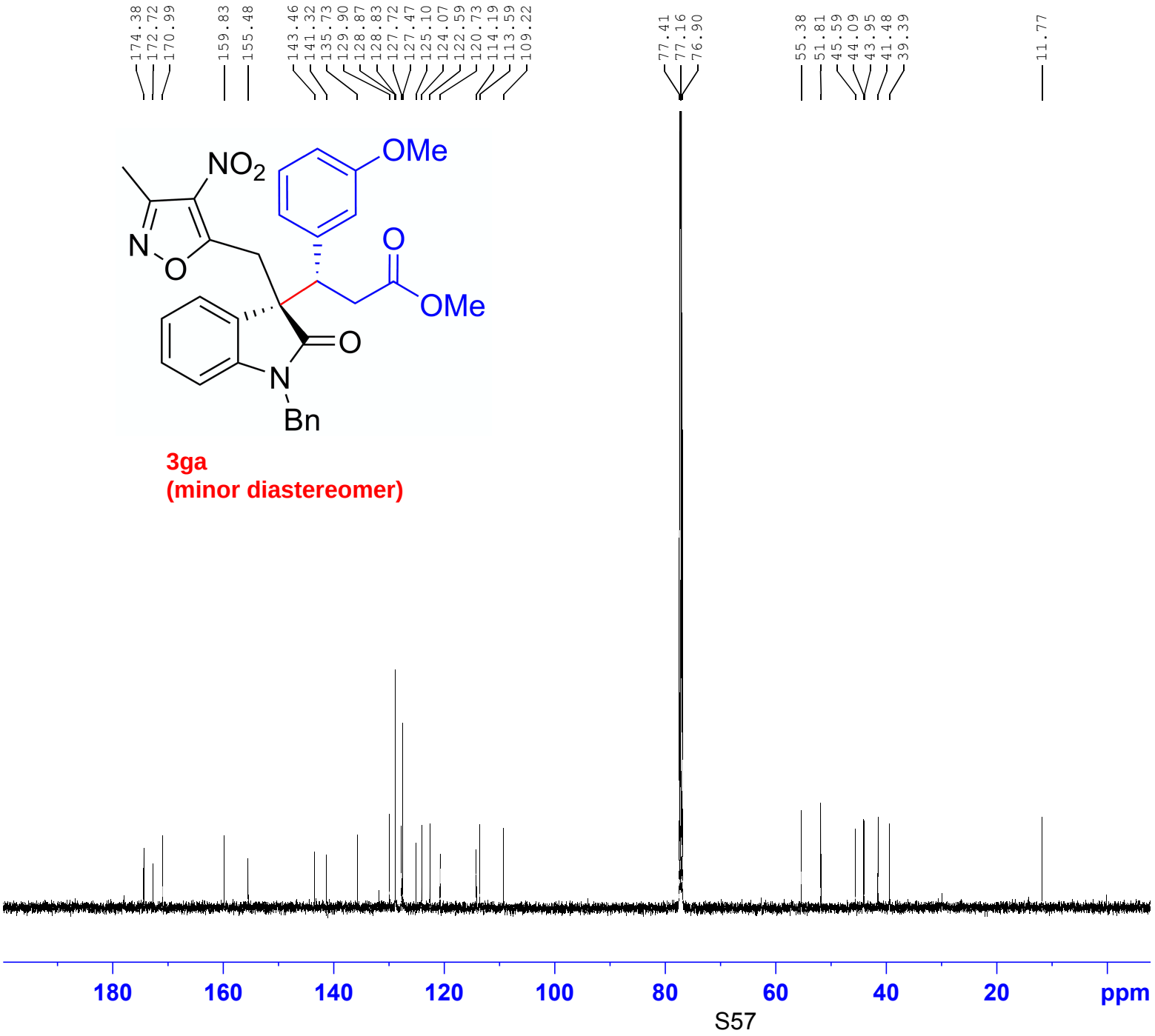




3ga
(minor diastereomer)

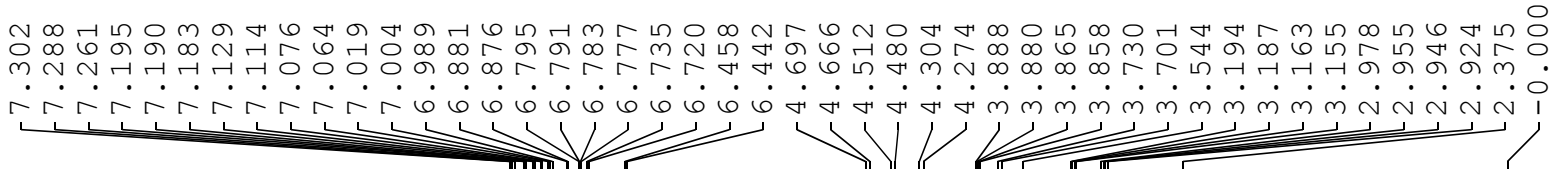


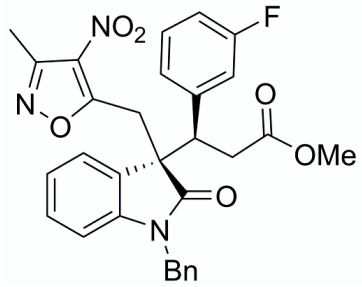

```
Current Data Parameters
NAME           ZCL-1641 minor
EXPNO                  38
PROCNO                  1

F2 - Acquisition Parameters
Date_           20190603
Time              20.49
INSTRUM           spect
PROBHD   5 mm CPPBBO BB
PULPROG            zg30
TD                65536
SOLVENT           CDCl3
NS                   16
DS                    2
SWH           10000.000 Hz
FIDRES         0.152588 Hz
AQ            3.2767999 sec
RG                31.72
DW               50.000 usec
DE                6.50 usec
TE                298.2 K
D1          1.00000000 sec
D11       0 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        500.1330885 MHz
NUC1                1H
P1                11.50 usec
PLW1        20.00000000 W

======== CHANNEL f2 ========
SFO2        500.1330885 MHz
NUC2               off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                 65536
SF          500.1300120 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



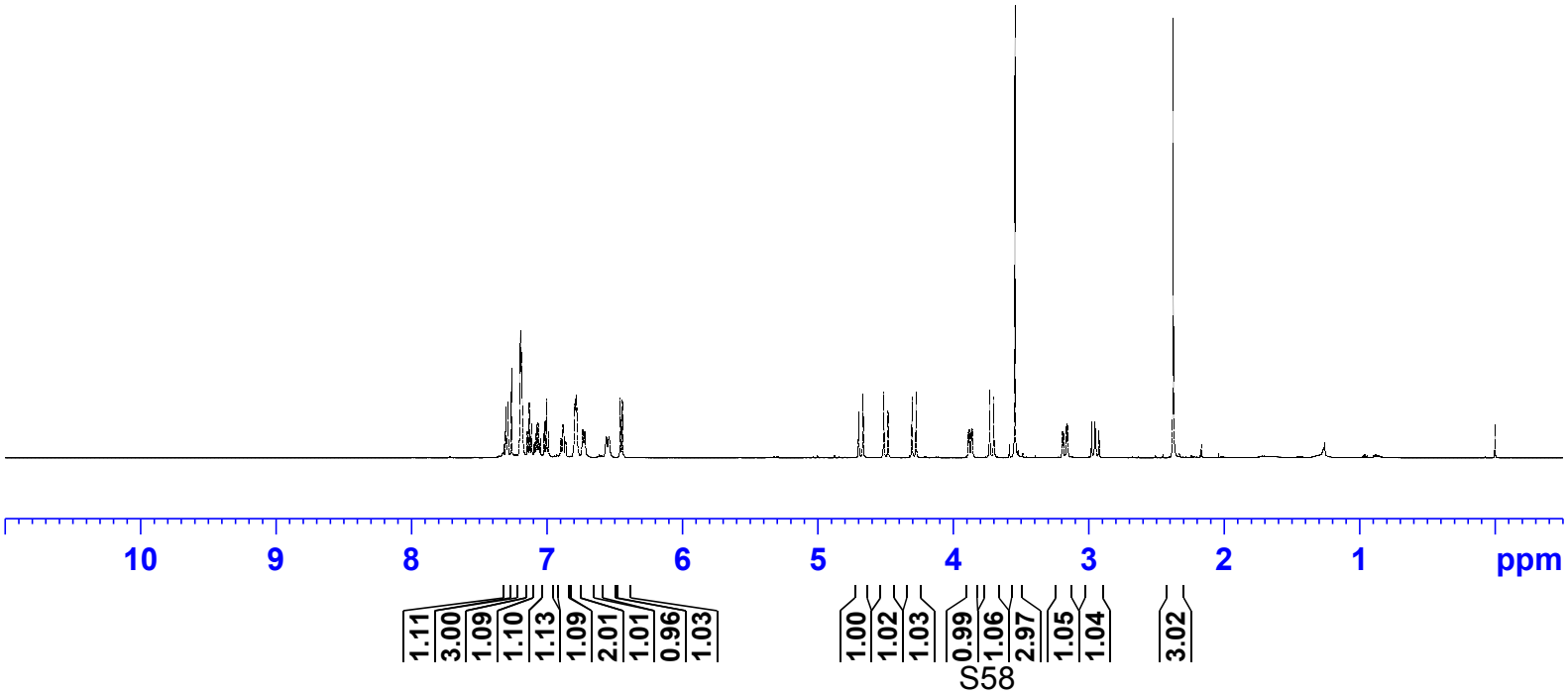
3ga
(minor diastereomer)

```
Current Data Parameters
NAME          ZCL-1641 minor
EXPNO                 39
PROCNO                 1

F2 - Acquisition Parameters
Date_           20190603
Time               20.54
INSTRUM            spect
PROBHD   5 mm CPPBBO BB
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                   76
DS                    4
SWH           29761.904 Hz
FIDRES         0.454131 Hz
AQ             1.1010048 sec
RG                192.89
DW                16.800 usec
DE                18.00 usec
TE                298.2 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         125.7703637 MHz
NUC1                13C
P1                 9.80 usec
PLW1        57.00000000 W

======== CHANNEL f2 ========
SFO2         500.1320005 MHz
NUC2                1H
CPDPRG[2         waltz16
PCPD2             80.00 usec
PLW2        20.00000000 W
PLW12        0.35778001 W
PLW13        0.22898000 W

F2 - Processing parameters
SI                32768
SF          125.7577720 MHz
WDW                EM
SSB       0
LB                1.00 Hz
GB        0
PC                1.40
```

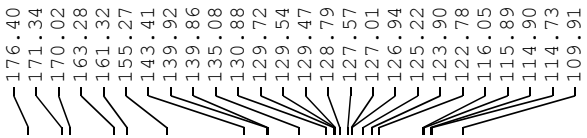


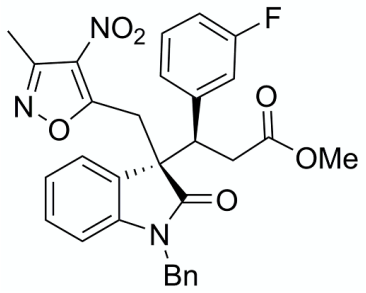


3ha

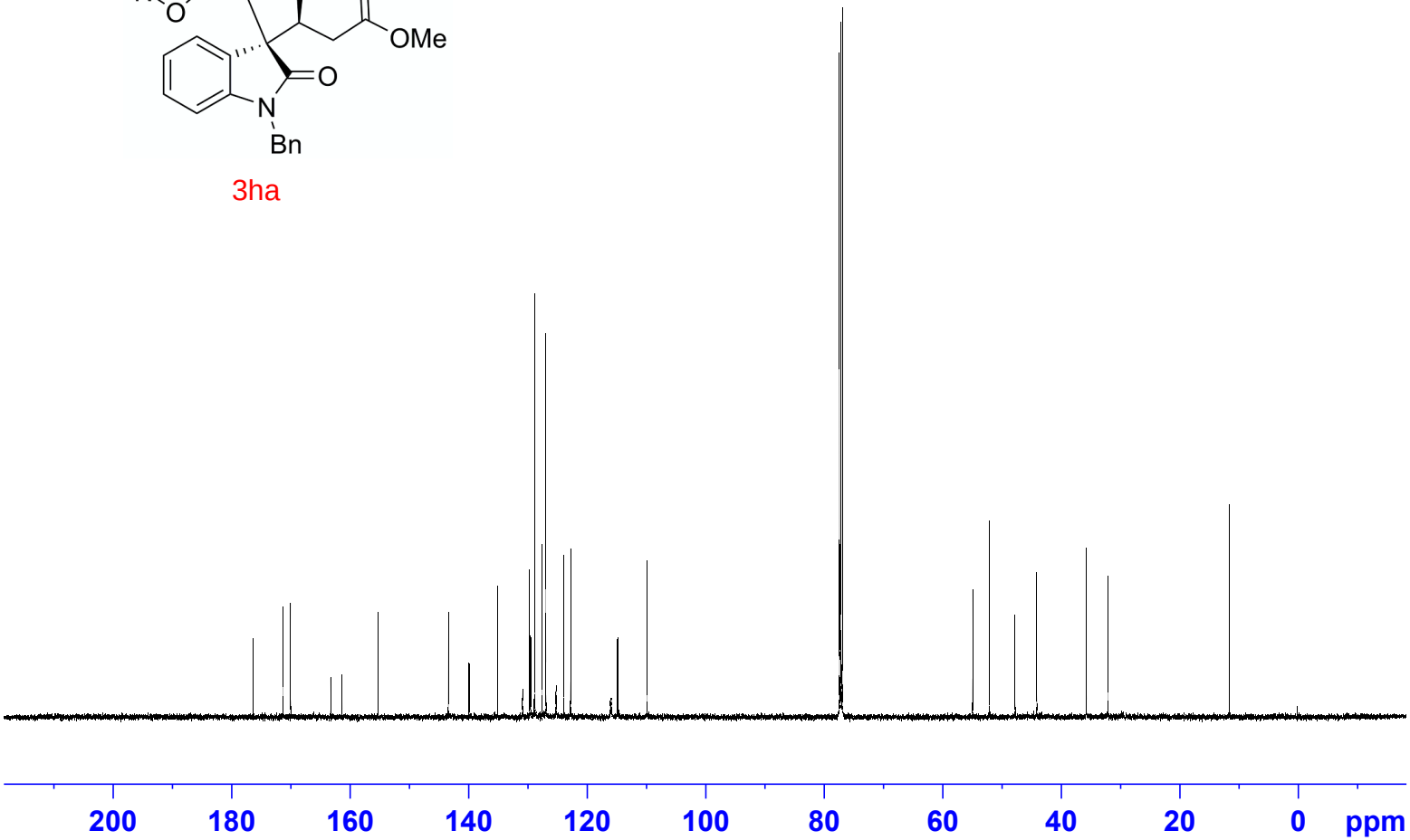



```
Current Data Parameters
NAME                  ZCL-1565
EXPNO                       19
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181022
Time                   16.44
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES             0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                   50.000 usec
DE                    6.50 usec
TE                    298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          500.1330885 MHz
NUC1                     1H
P1                    11.50 usec
PLW1          20.00000000 W

======== CHANNEL f2 ========
SFO2          500.1330885 MHz
NUC2                  off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                     65536
SF            500.1300116 MHz
WDW                       EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

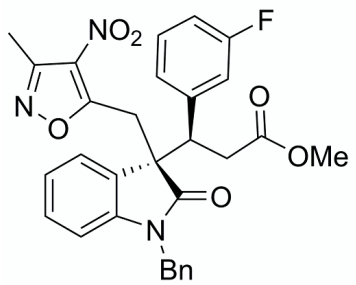




3ha

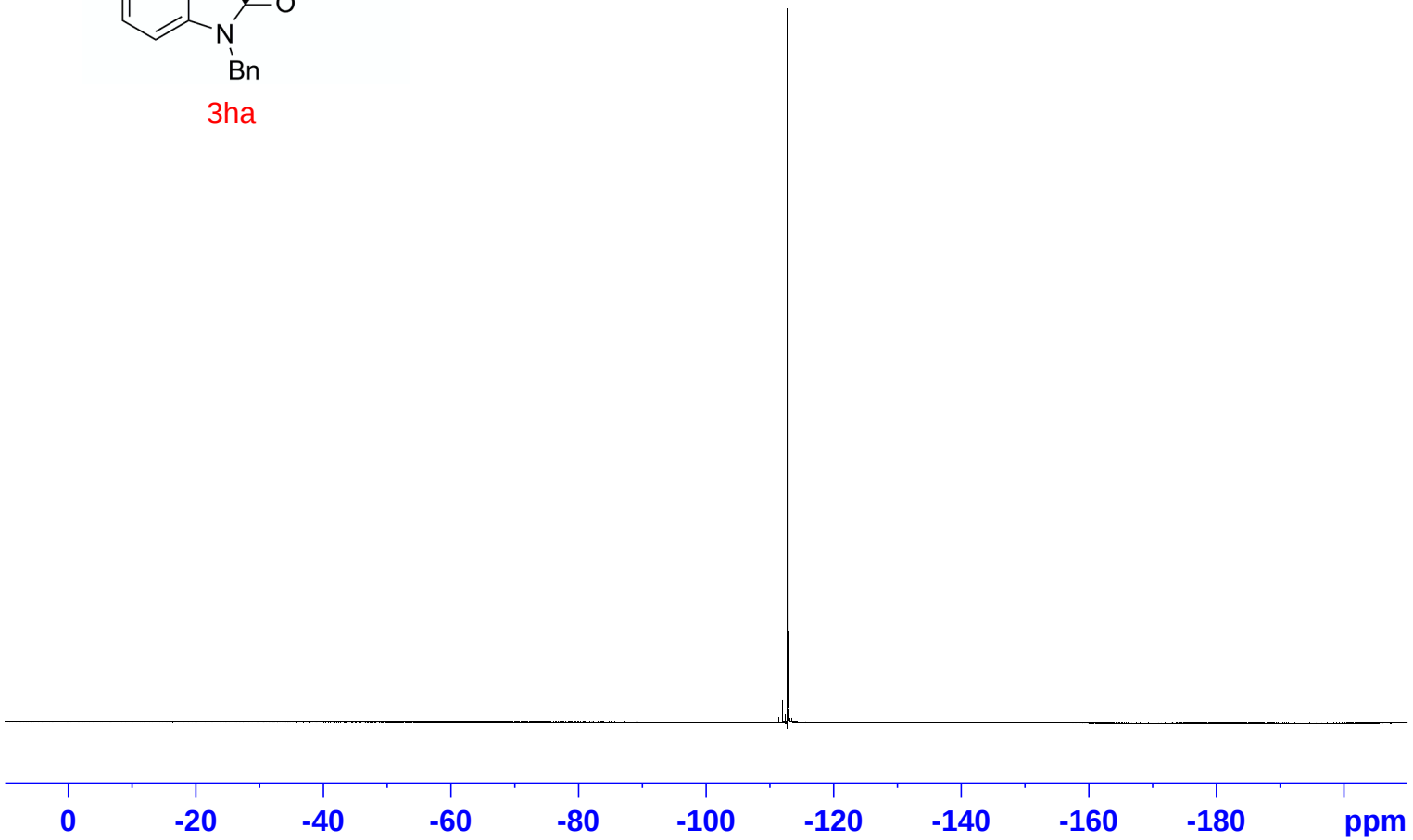



```
Current Data Parameters
NAME                  ZCL-1565
EXPNO                       20
PROCNO                       1

F2 - Acquisition Parameters
Date_                 20181022
Time                     16.47
INSTRUM                  spect
PROBHD    5 mm CPPBBO BB
PULPROG                zgpg30
TD                        65536
SOLVENT                  CDCl3
NS                           75
DS                            4
SWH                29761.904 Hz
FIDRES              0.454131 Hz
AQ                  1.1010048 sec
RG                      192.89
DW                      16.800 usec
DE                      18.00 usec
TE                      298.1 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1             125.7703637 MHz
NUC1                      13C
P1                       9.80 usec
PLW1             57.00000000 W

======== CHANNEL f2 ========
SFO2             500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                   80.00 usec
PLW2             20.00000000 W
PLW12             0.35778001 W
PLW13             0.22898000 W

F2 - Processing parameters
SI                        32768
SF               125.7577756 MHz
WDW                          EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

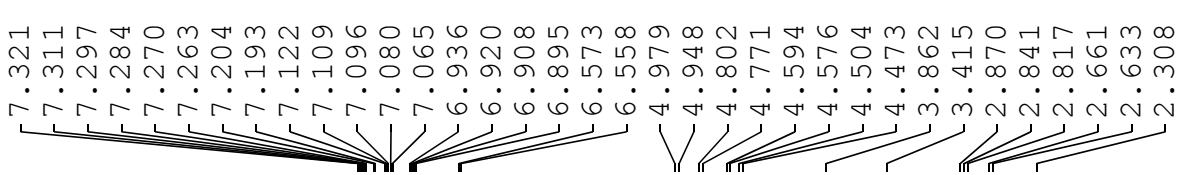


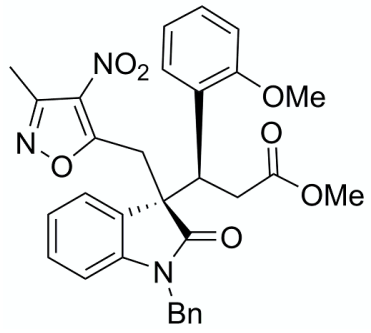
3ha

-112.79




```
Current Data Parameters
NAME            ZCL-16F
EXPNO                 3
PROCNO                1

F2 - Acquisition Parameters
Date_          20181022
Time              19.39
INSTRUM           spect
PROBHD   5 mm PABBO BB/
PULPROG      zgfhigqn.2
TD               131072
SOLVENT            CDCl3
NS                    16
DS                     4
SWH           89285.711 Hz
FIDRES         0.681196 Hz
AQ             0.7340032 sec
RG                206.33
DW                 5.600 usec
DE                 6.50 usec
TE                298.1 K
D1            1.00000000 sec
D11           0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1        376.5642094 MHz
NUC1                19F
P1                14.50 usec
PLW1        17.98900032 W

======== CHANNEL f2 ========
SFO2        400.2416010 MHz
NUC2                1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2        12.00000000 W
PLW12        0.34680000 W
PLW13        0.28090999 W

F2 - Processing parameters
SI                 65536
SF          376.6018696 MHz
WDW                   EM
SSB       0
LB                 0.30 Hz
GB        0
PC                 1.00
```





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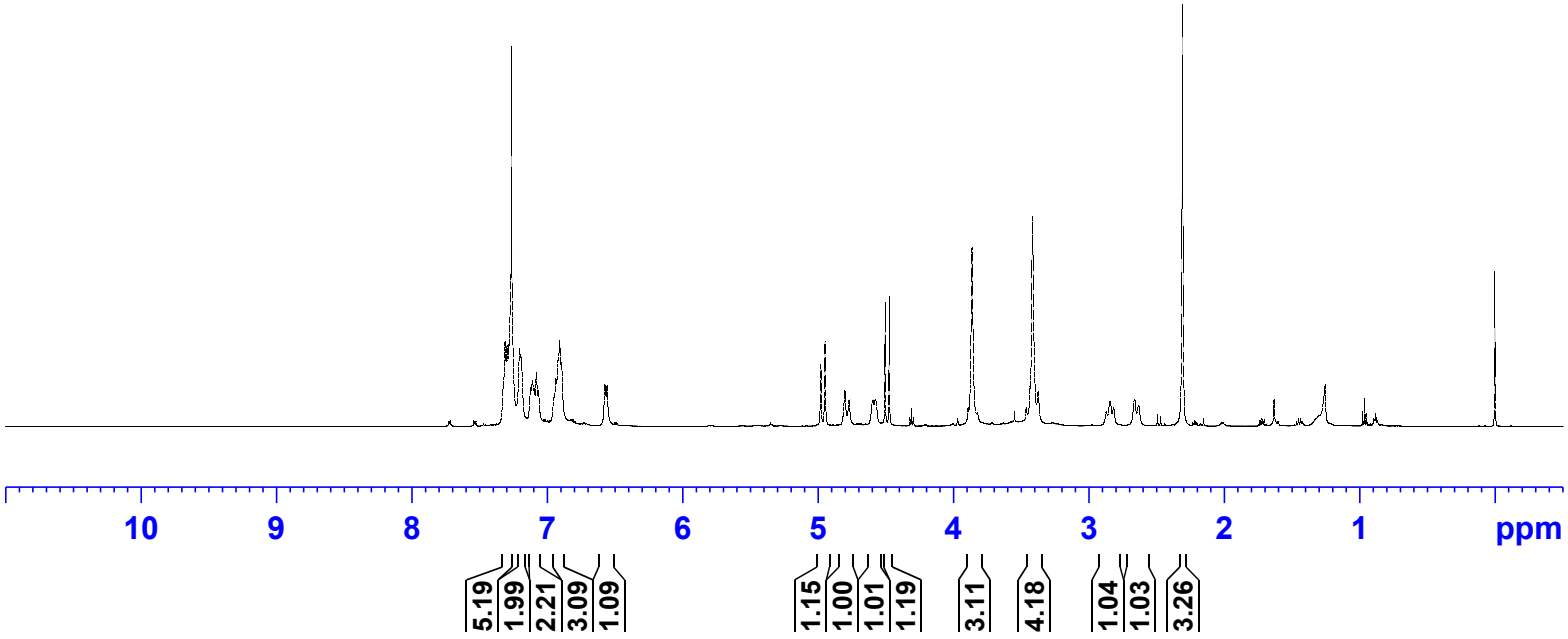
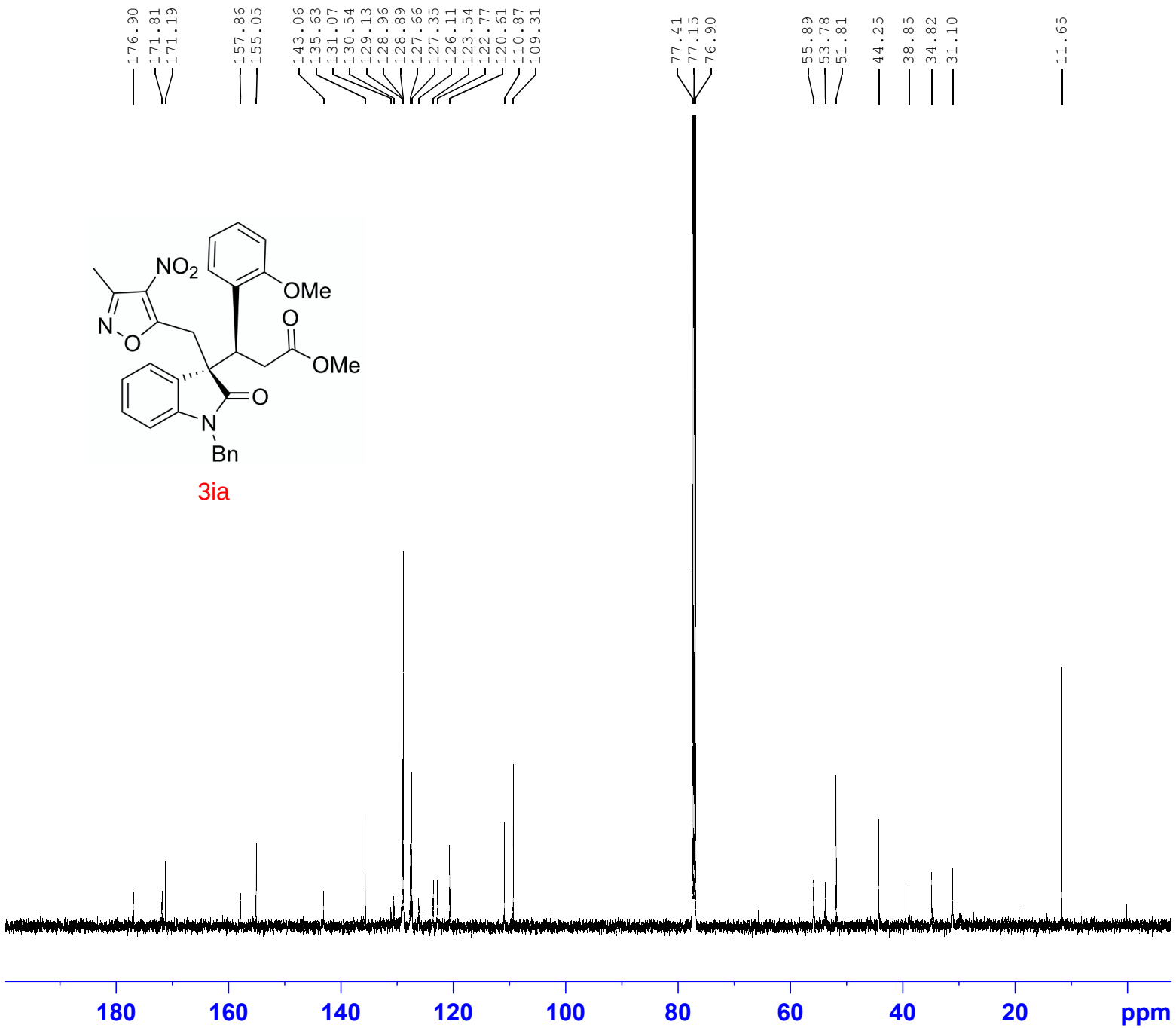



```
Current Data Parameters
NAME                  ZCL-1576
EXPNO                      106
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190214
Time                   16.58
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     286.4 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300109 MHz
WDW                        EM
SSB        0
LB                    0.30 Hz
GB         0
PC                     1.00
```



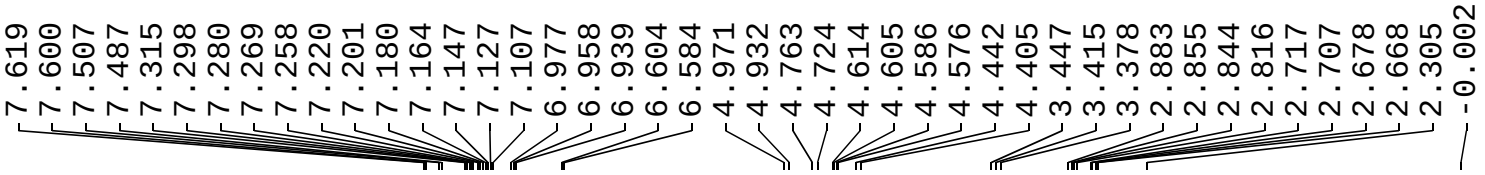
Current Data Parameters
NAME ZCL-1576
EXPNO 103
PROCNO 1

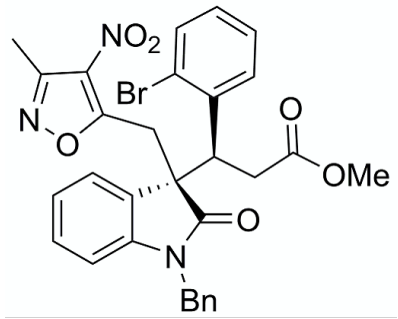
F2 - Acquisition Parameters
Date_ 20190214
Time 16.48
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 77
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 286.6 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

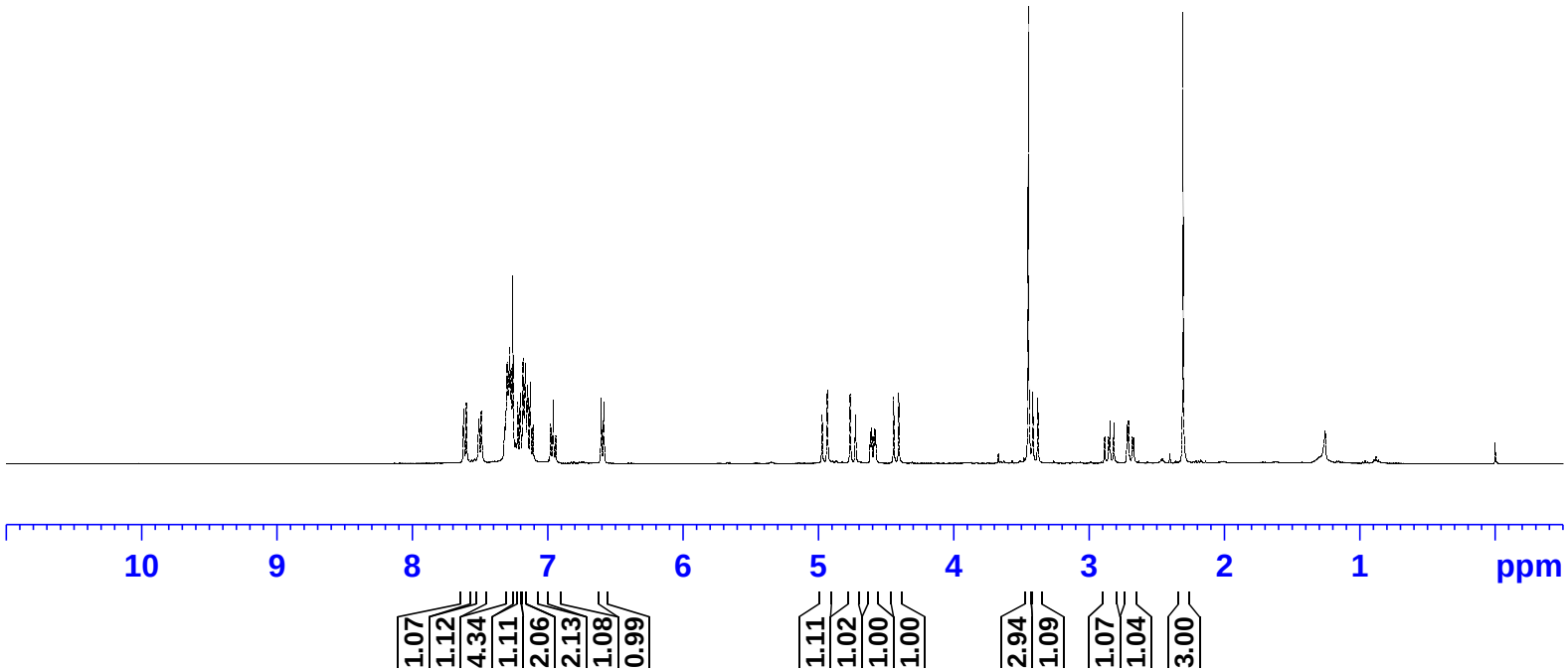
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577792 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

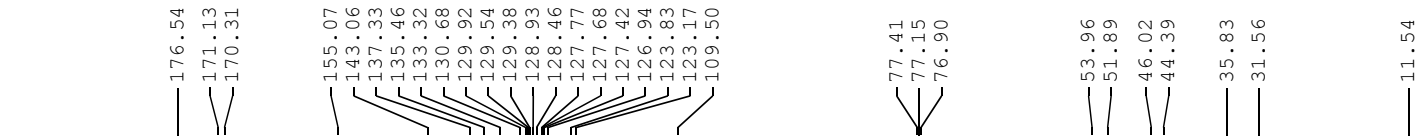


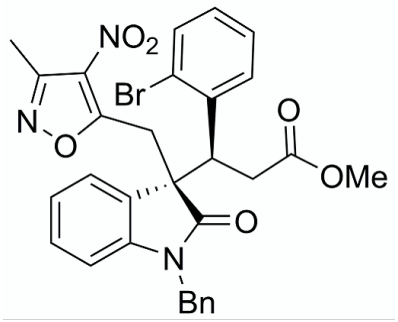


3ja

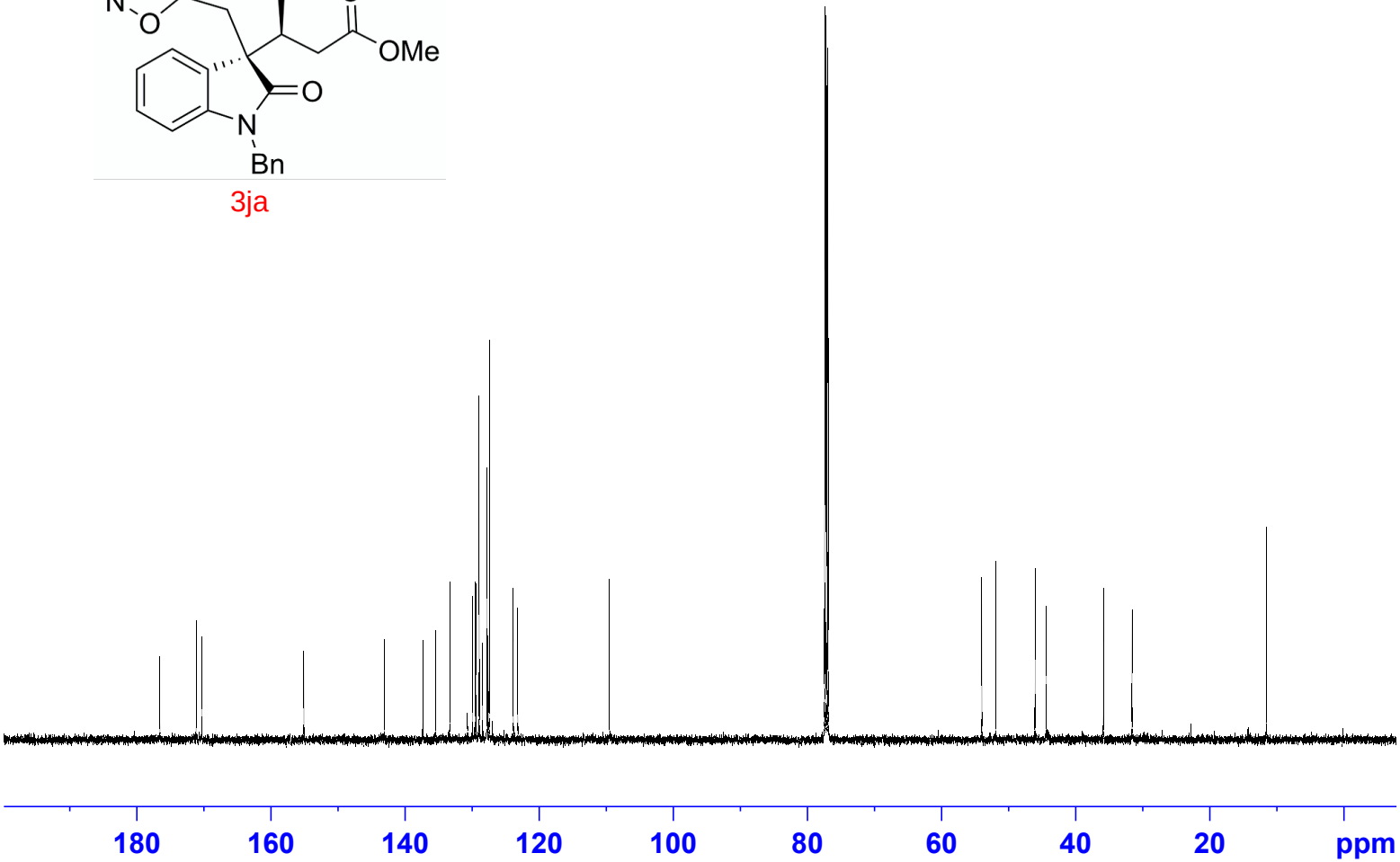



```
Current Data Parameters
NAME                ZCL-1566
EXPNO                     23
PROCNO                     1

F2 - Acquisition Parameters
Date_            20190522
Time                 18.29
INSTRUM              spect
PROBHD   5 mm PABBO BB/
PULPROG               zg30
TD                   32768
SOLVENT              CDCl3
NS                      16
DS                       0
SWH               8012.820 Hz
FIDRES            0.244532 Hz
AQ               2.0447233 sec
RG                  125.02
DW                  62.400 usec
DE                    6.50 usec
TE                   298.0 K
D1             2.00000000 sec
D11      0 sec
TD0                      1

======== CHANNEL f1 ========
SFO1          400.2424716 MHz
NUC1                    1H
P1                   14.30 usec
PLW1          12.00000000 W

======== CHANNEL f2 ========
SFO2          400.2424716 MHz
NUC2                   off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                    65536
SF            400.2400105 MHz
WDW                     EM
SSB       0
LB                   0.30 Hz
GB        0
PC                   1.00
```

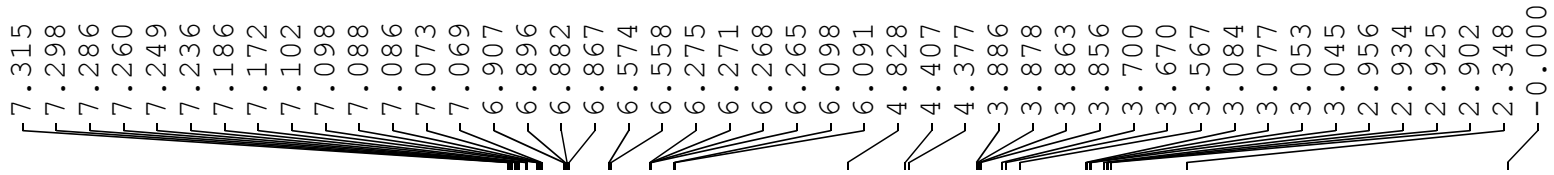


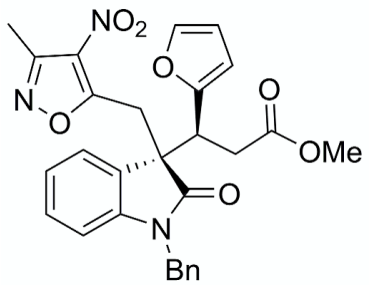


3ja

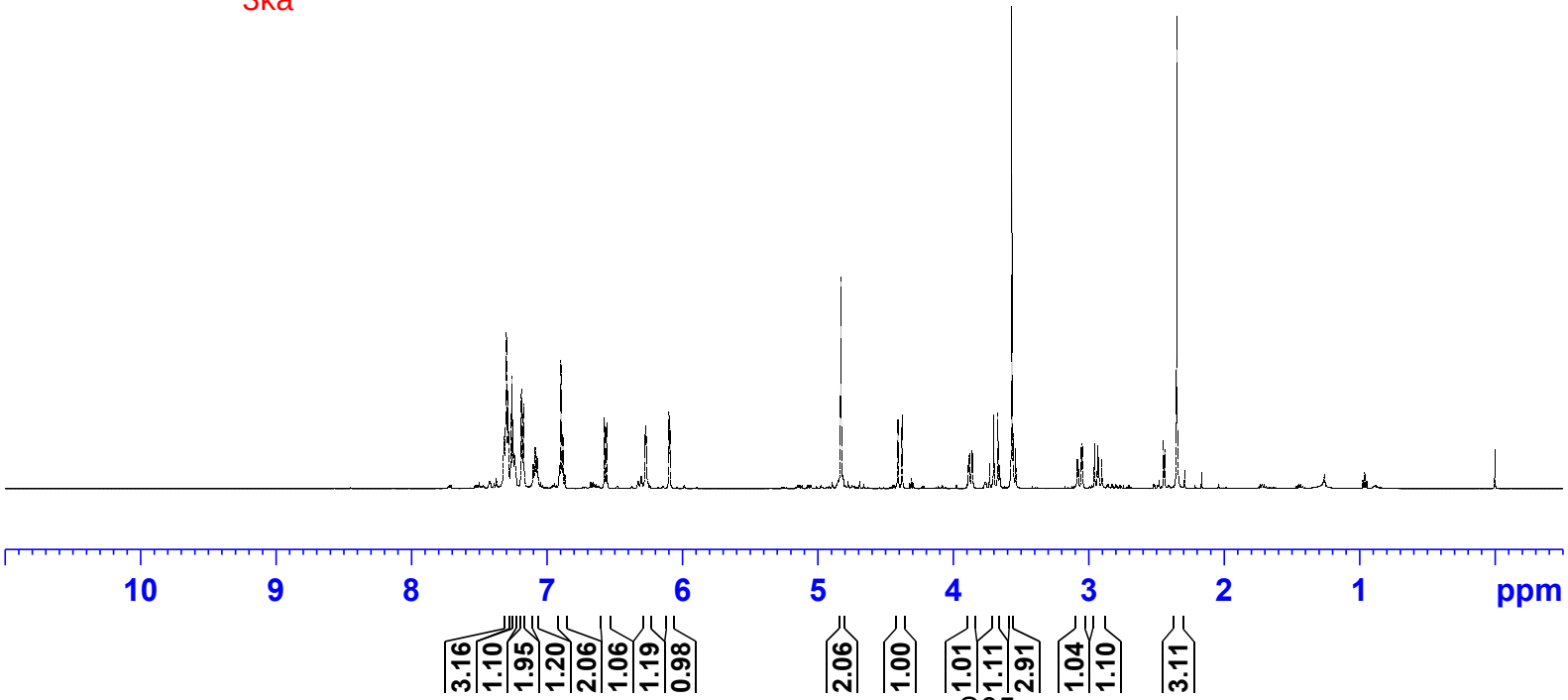



```
Current Data Parameters
NAME                  ZCL-1566
EXPNO                       22
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181022
Time                   16.55
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG             zgpg30
TD                      65536
SOLVENT                 CDCl3
NS                         24
DS                          4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    192.89
DW                    16.800 usec
DE                    18.00 usec
TE                    298.2 K
D1               2.00000000 sec
D11              0.03000000 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            125.7703637 MHz
NUC1                    13C
P1                     9.80 usec
PLW1            57.00000000 W

======== CHANNEL f2 ========
SFO2            500.1320005 MHz
NUC2                    1H
CPDPRG[2             waltz16
PCPD2                 80.00 usec
PLW2            20.00000000 W
PLW12            0.35778001 W
PLW13            0.22898000 W

F2 - Processing parameters
SI                      32768
SF              125.7577774 MHz
WDW                        EM
SSB          0
LB                     1.00 Hz
GB           0
PC                     1.40
```

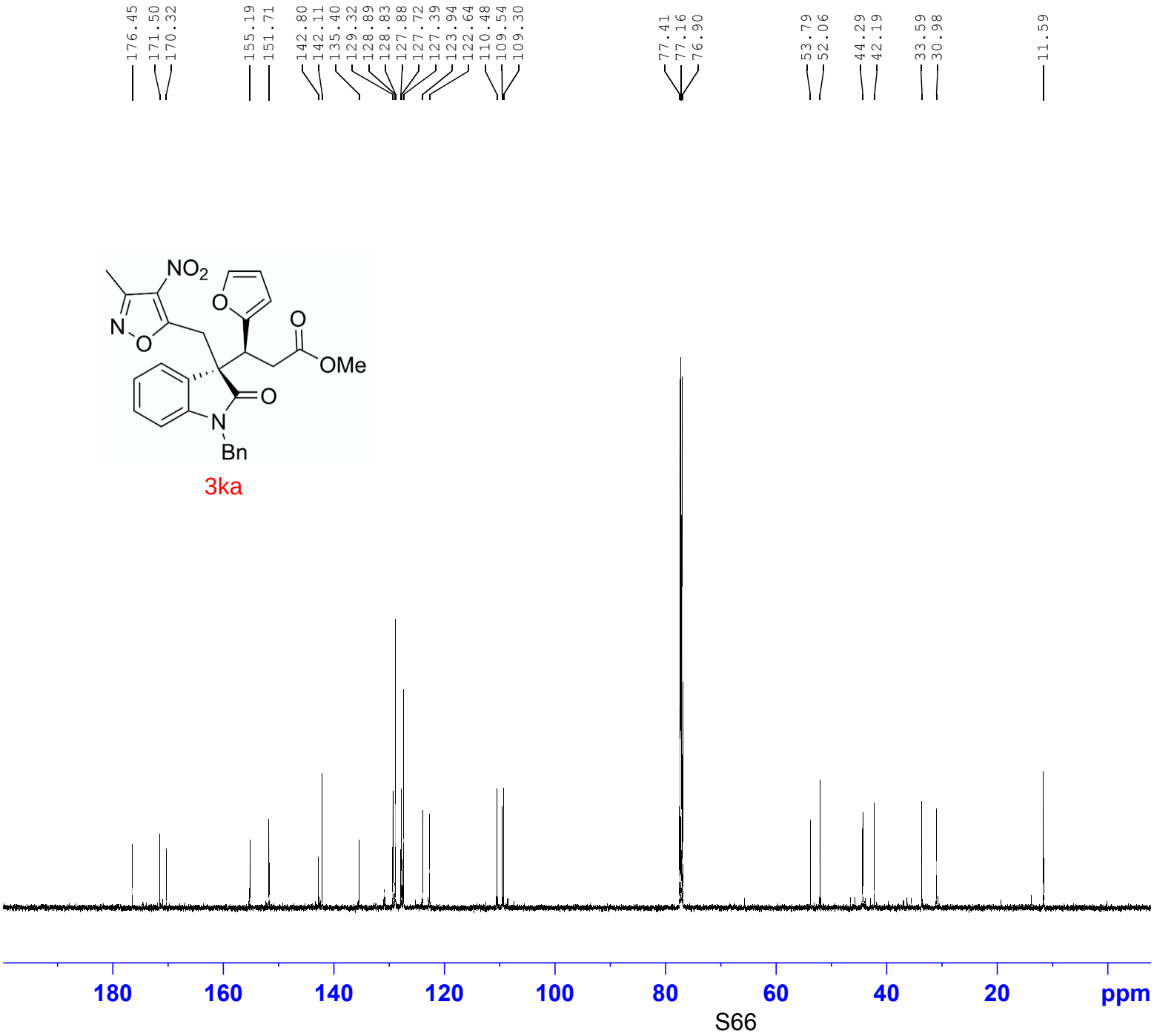




3ka




```
Current  Data Parameters
NAME                 ZCL-1572
EXPNO                      23
PROCNO                      1

F2 - Acquisition Parameters
Date_              20181024
Time                   13.02
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH              10000.000 Hz
FIDRES               0.152588 Hz
AQ               3.2767999 sec
RG                     31.72
DW                  50.000 usec
DE                   6.50 usec
TE                   298.1 K
D1             1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          500.1330885 MHz
NUC1                     1H
P1                    11.50 usec
PLW1          20.00000000 W

======== CHANNEL f2 ========
SFO2          500.1330885 MHz
NUC2                   off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                     65536
SF            500.1300121 MHz
WDW                      EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```



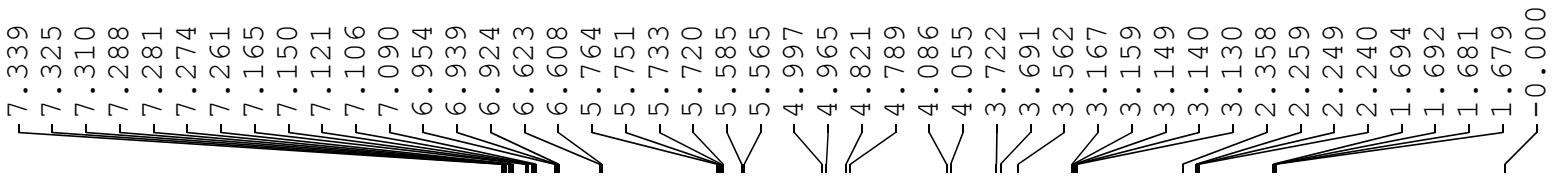
Current Data Parameters
NAME ZCL-1572
EXPNO 24
PROCNO 1

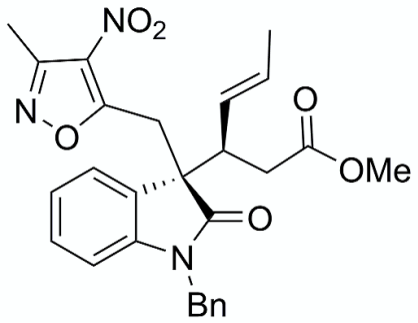
F2 - Acquisition Parameters
Date_ 20181024
Time 13.05
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 33
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

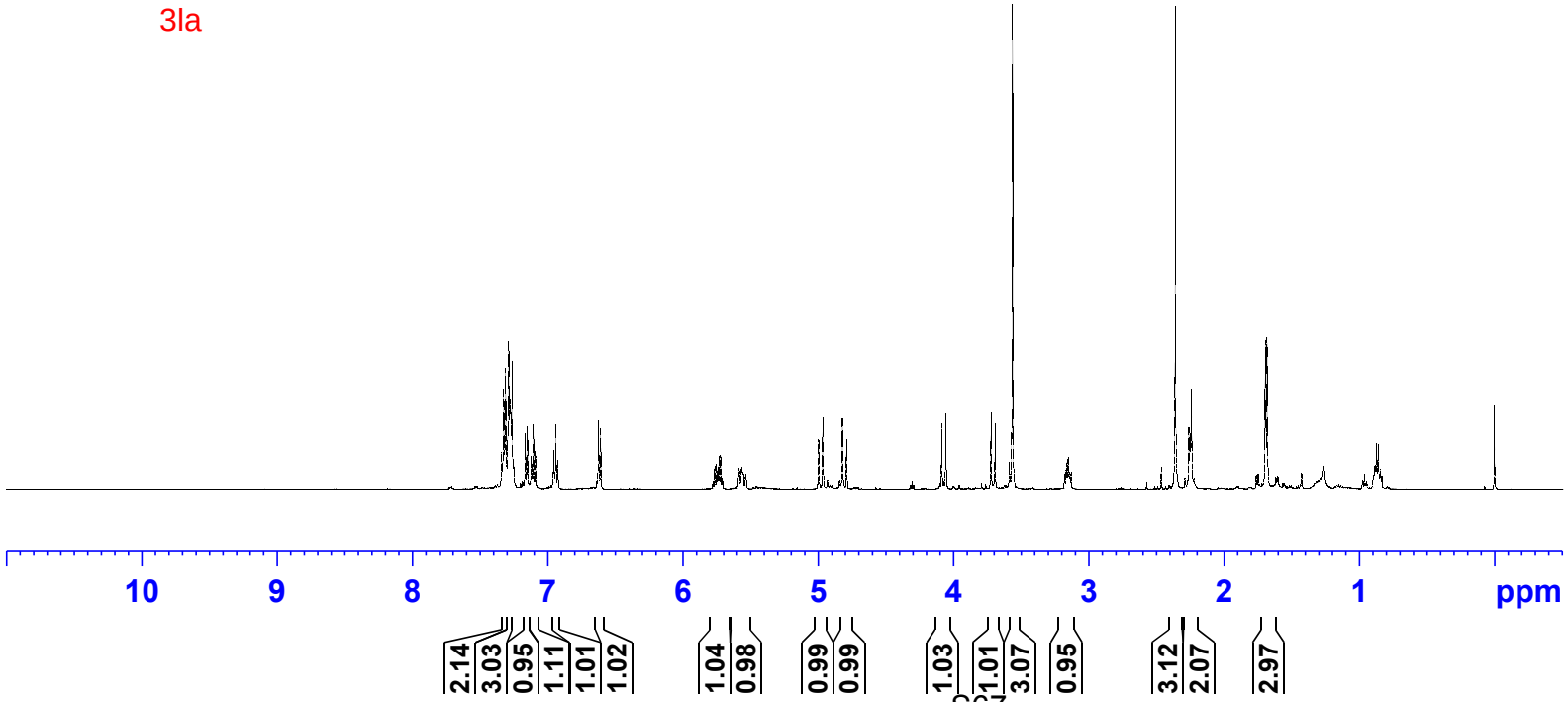
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577774 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

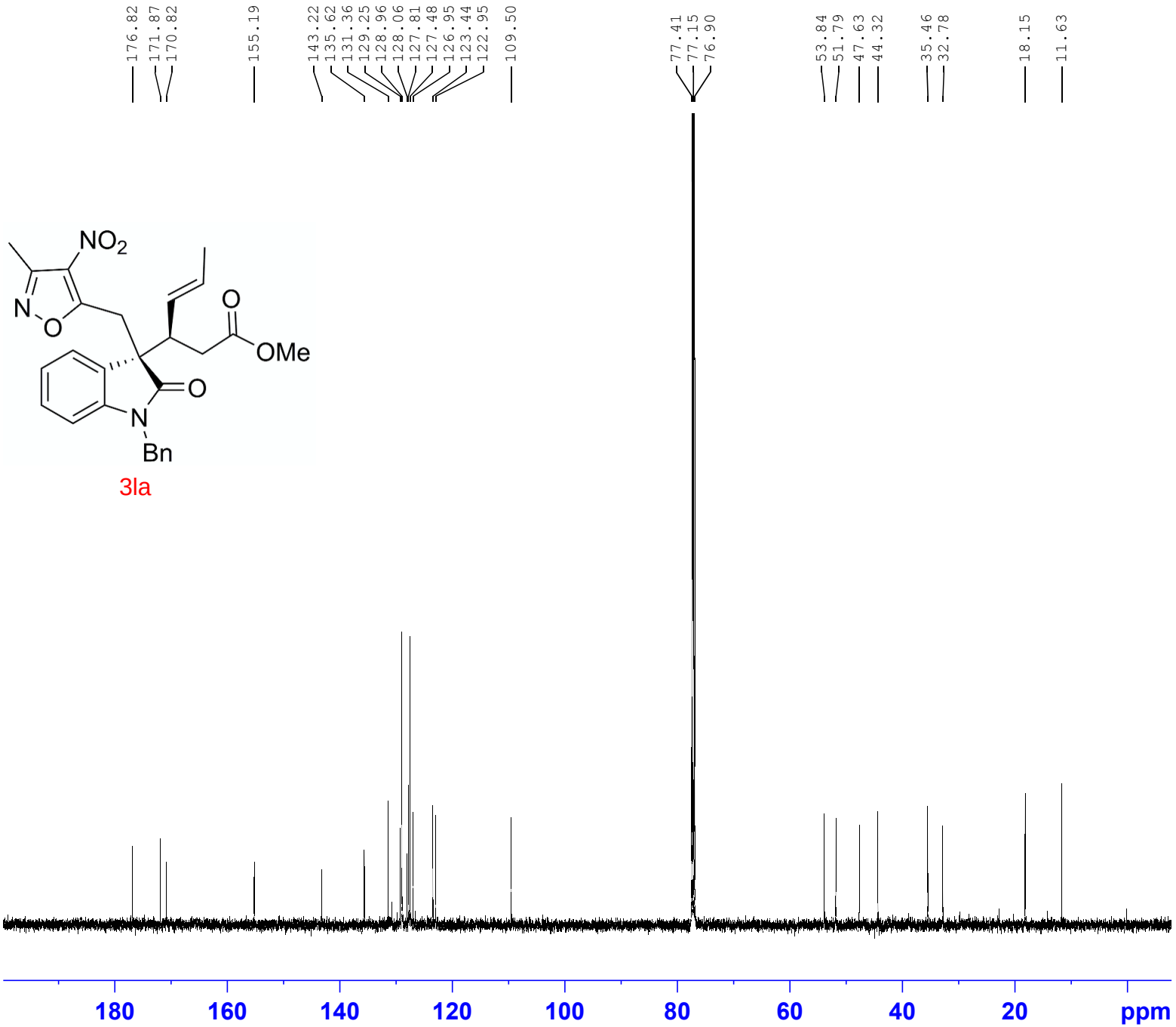




3la




```
Current Data Parameters
NAME                  ZCL-1639
EXPNO                       33
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190121
Time                    15.34
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES             0.152588 Hz
AQ                 3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                     298.2 K
D1               1.00000000 sec
D11        0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1            20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                      65536
SF              500.1300112 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```



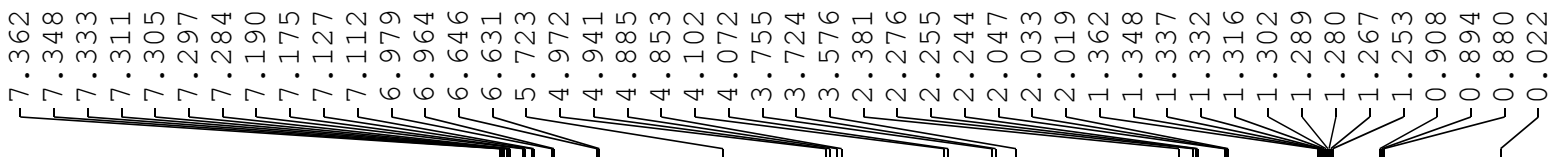
Current Data Parameters
NAME ZCL-1639
EXPNO 34
PROCNO 1

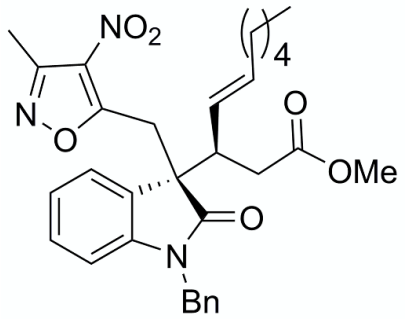
F2 - Acquisition Parameters
Date_ 20190121
Time 15.36
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 54
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

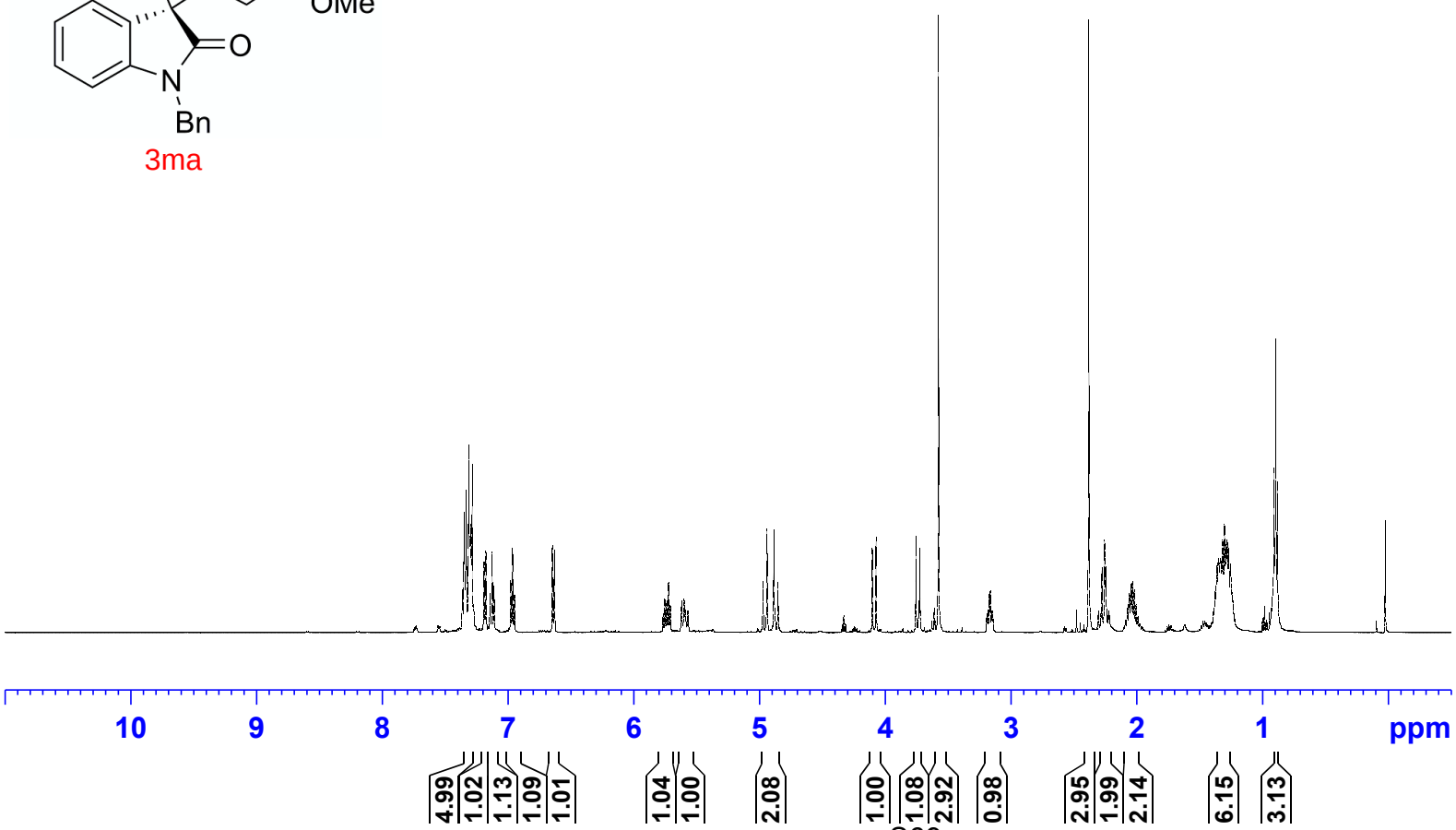
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577738 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

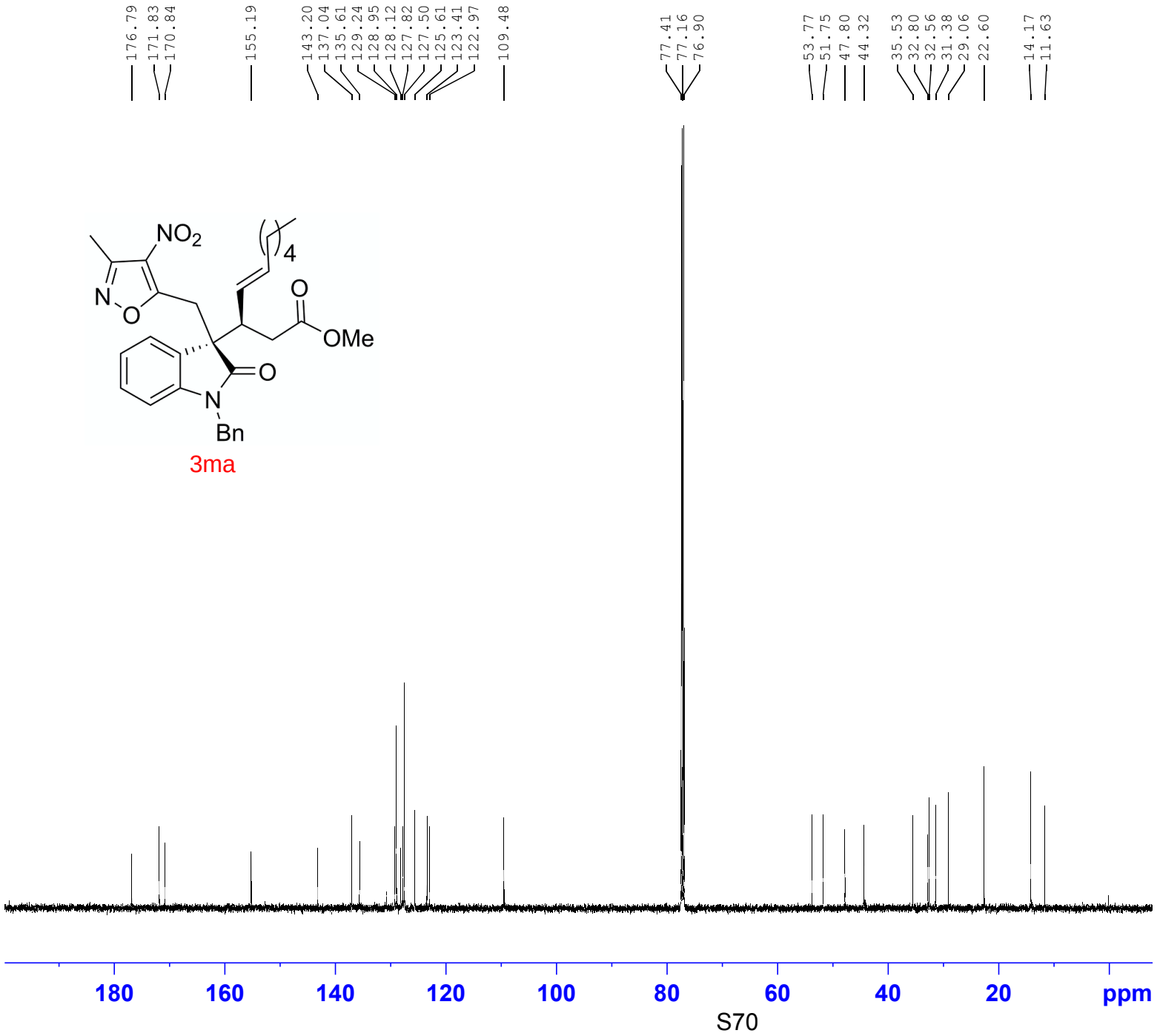




3ma




```
Current Data Parameters
NAME                  ZCL-1643
EXPNO                       41
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190121
Time                   16.00
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH              10000.000 Hz
FIDRES           0.152588 Hz
AQ               3.2767999 sec
RG                     31.72
DW                  50.000 usec
DE                   6.50 usec
TE                   298.2 K
D1             1.00000000 sec
D11       0 sec
TD0                          1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                     off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF               500.1300000 MHz
WDW                       EM
SSB        0
LB                     0.30 Hz
GB         0
PC                     1.00
```



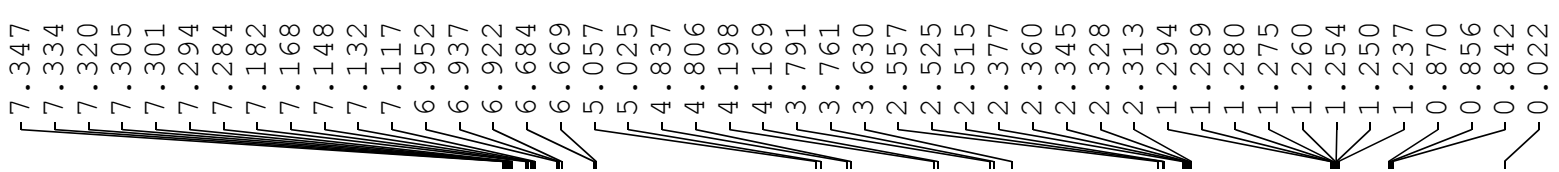
Current Data Parameters
NAME ZCL-1643
EXPNO 44
PROCNO 1

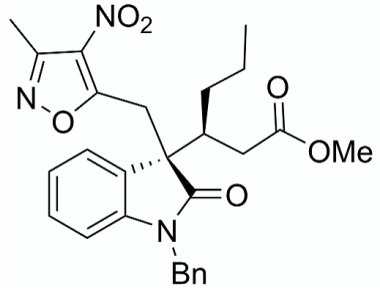
F2 - Acquisition Parameters
Date_ 20190121
Time 16.09
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 45
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

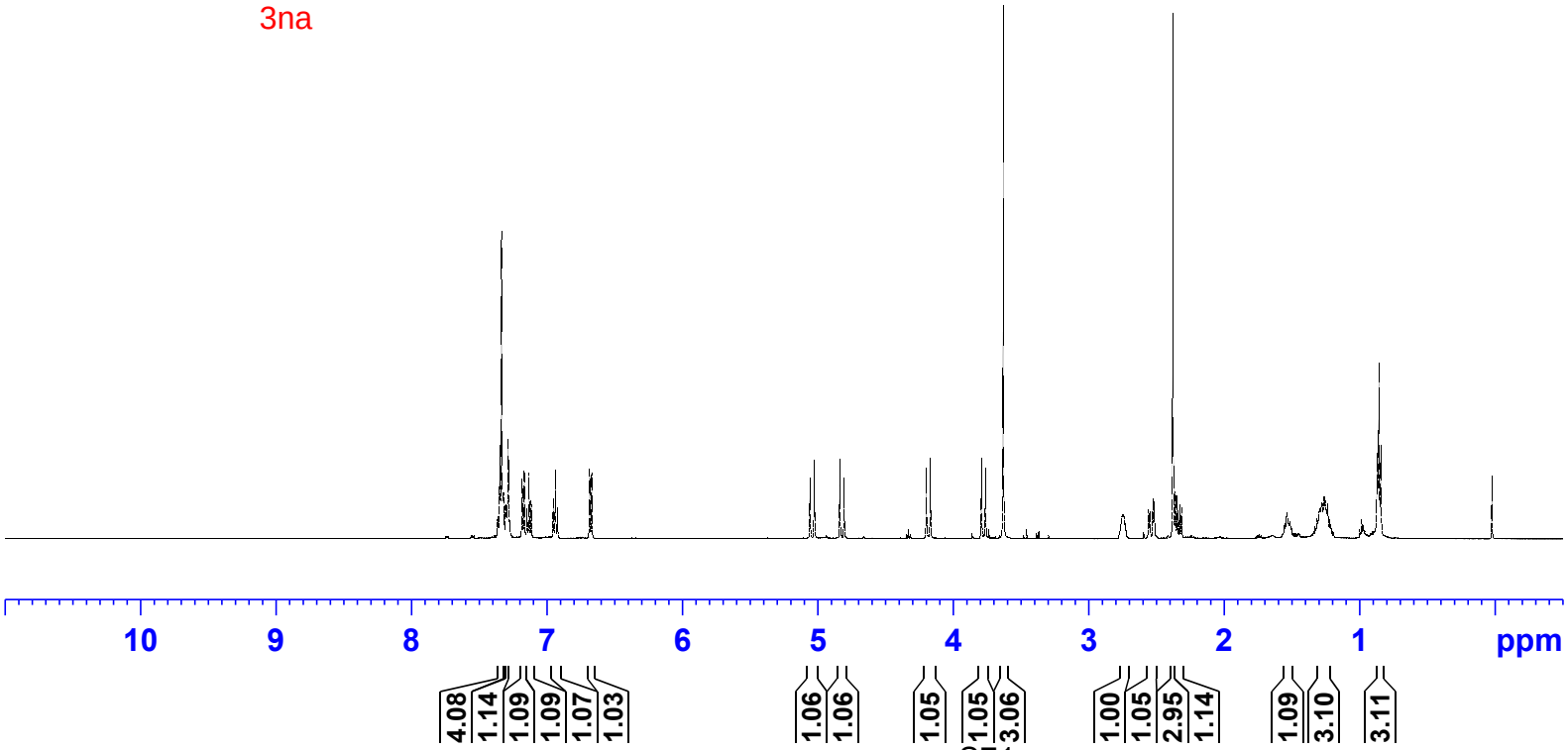
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577738 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

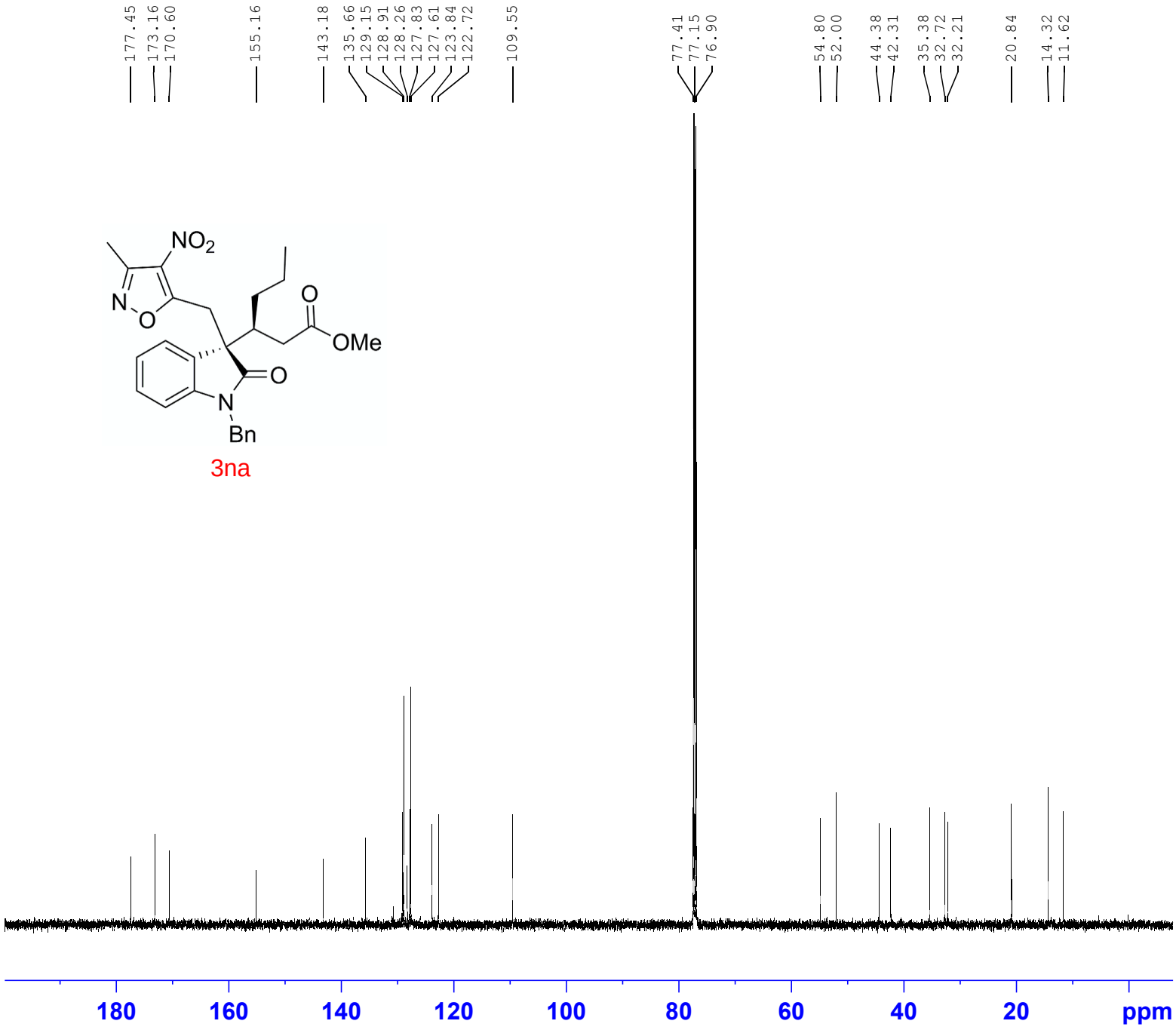




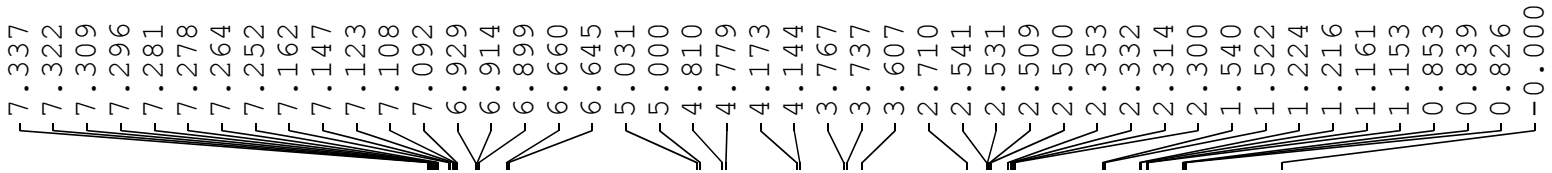
3na

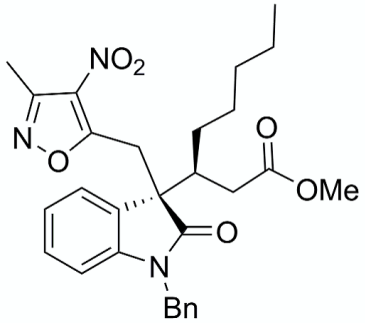



```
Current Data Parameters
NAME                  ZCL-1653
EXPNO                       48
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190125
Time                    21.06
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                          9
DS                          2
SWH                10000.000 Hz
FIDRES              0.152588 Hz
AQ                 3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                      298.1 K
D1                1.00000000 sec
D11          0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2        0 usec
PLW2         0 W
PLW12        0 W
PLW13        0 W

F2 - Processing parameters
SI                        65536
SF              500.1300000 MHz
WDW                         EM
SSB          0
LB                       0.30 Hz
GB           0
PC                       1.00
```

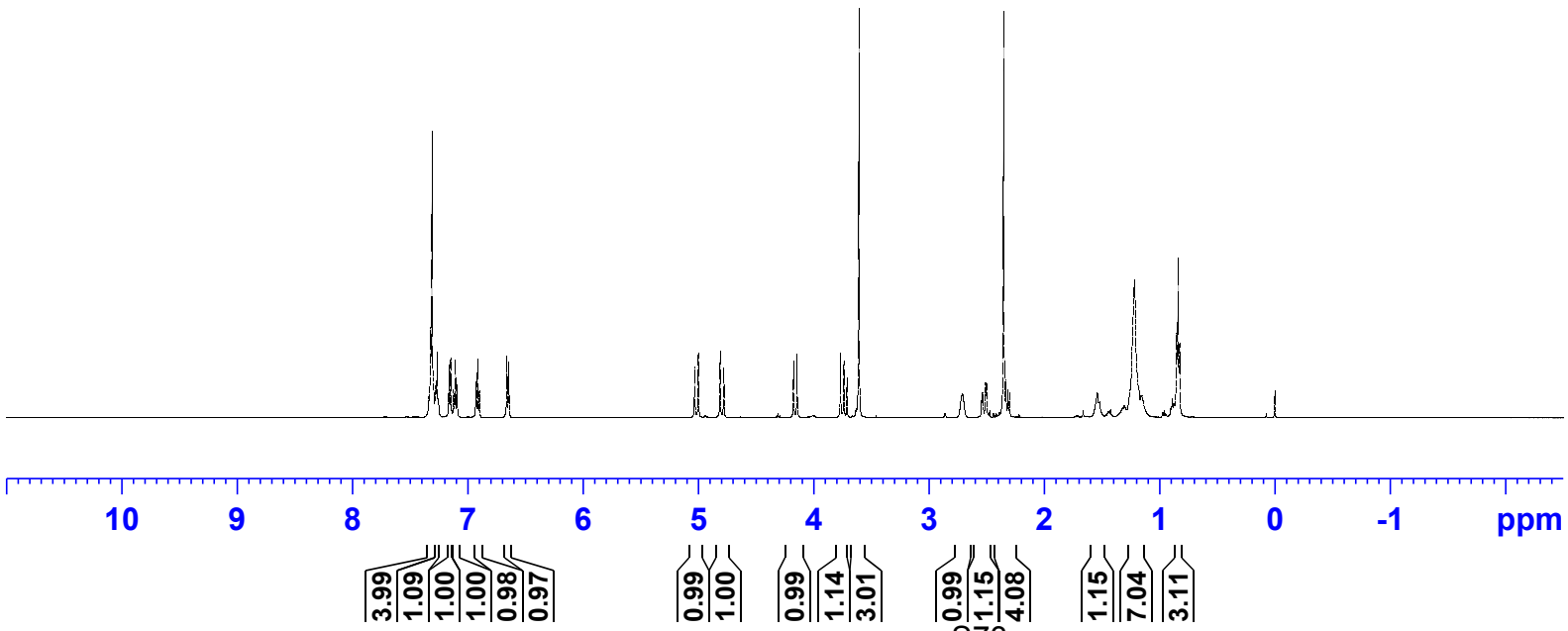



```
Current Data Parameters
NAME                  ZCL-1653
EXPNO                       49
PROCNO                       1

F2 - Acquisition Parameters
Date_                 20190125
Time                     21.07
INSTRUM                  spect
PROBHD    5 mm CPPBBO BB
PULPROG                zgpg30
TD                        65536
SOLVENT                  CDCl3
NS                           27
DS                            4
SWH                29761.904 Hz
FIDRES              0.454131 Hz
AQ                  1.1010048 sec
RG                      192.89
DW                      16.800 usec
DE                      18.00 usec
TE                      298.1 K
D1                 2.00000000 sec
D11                0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1             125.7703637 MHz
NUC1                       13C
P1                        9.80 usec
PLW1            57.00000000 W

======== CHANNEL f2 ========
SFO2             500.1320005 MHz
NUC2                       1H
CPDPRG[2              waltz16
PCPD2                  80.00 usec
PLW2            20.00000000 W
PLW12            0.35778001 W
PLW13            0.22898000 W

F2 - Processing parameters
SI                        32768
SF               125.7577746 MHz
WDW                          EM
SSB          0
LB                        1.00 Hz
GB           0
PC                        1.40
```

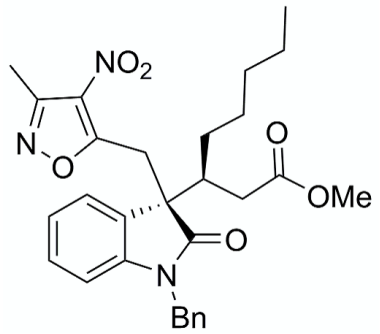




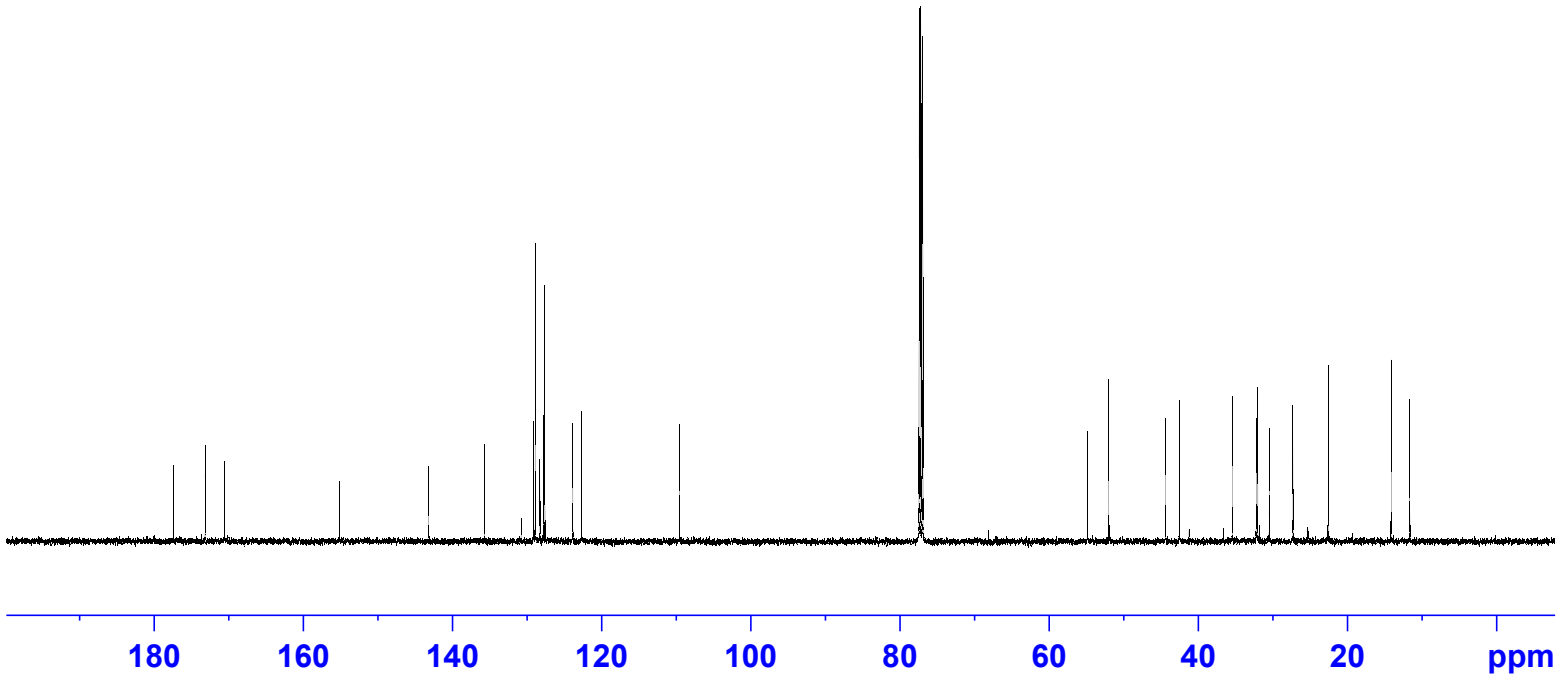
3oa



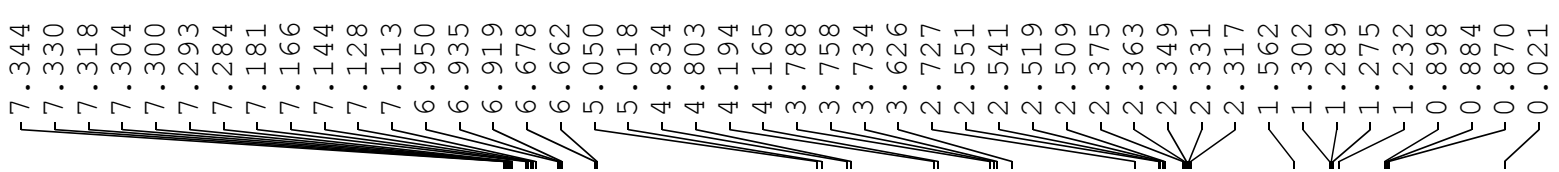

```
Current Data Parameters
NAME                  ZCL-1640
EXPNO                       19
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190121
Time                   15.20
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES             0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                   50.000 usec
DE                    6.50 usec
TE                    298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          500.1330885 MHz
NUC1                     1H
P1                    11.50 usec
PLW1          20.00000000 W

======== CHANNEL f2 ========
SFO2          500.1330885 MHz
NUC2                   off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                     65536
SF            500.1300095 MHz
WDW                       EM
SSB       0
LB                    0.30 Hz
GB        0
PC                    1.00
```

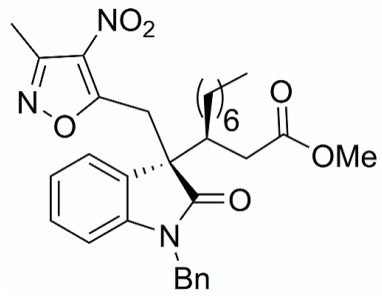


3oa

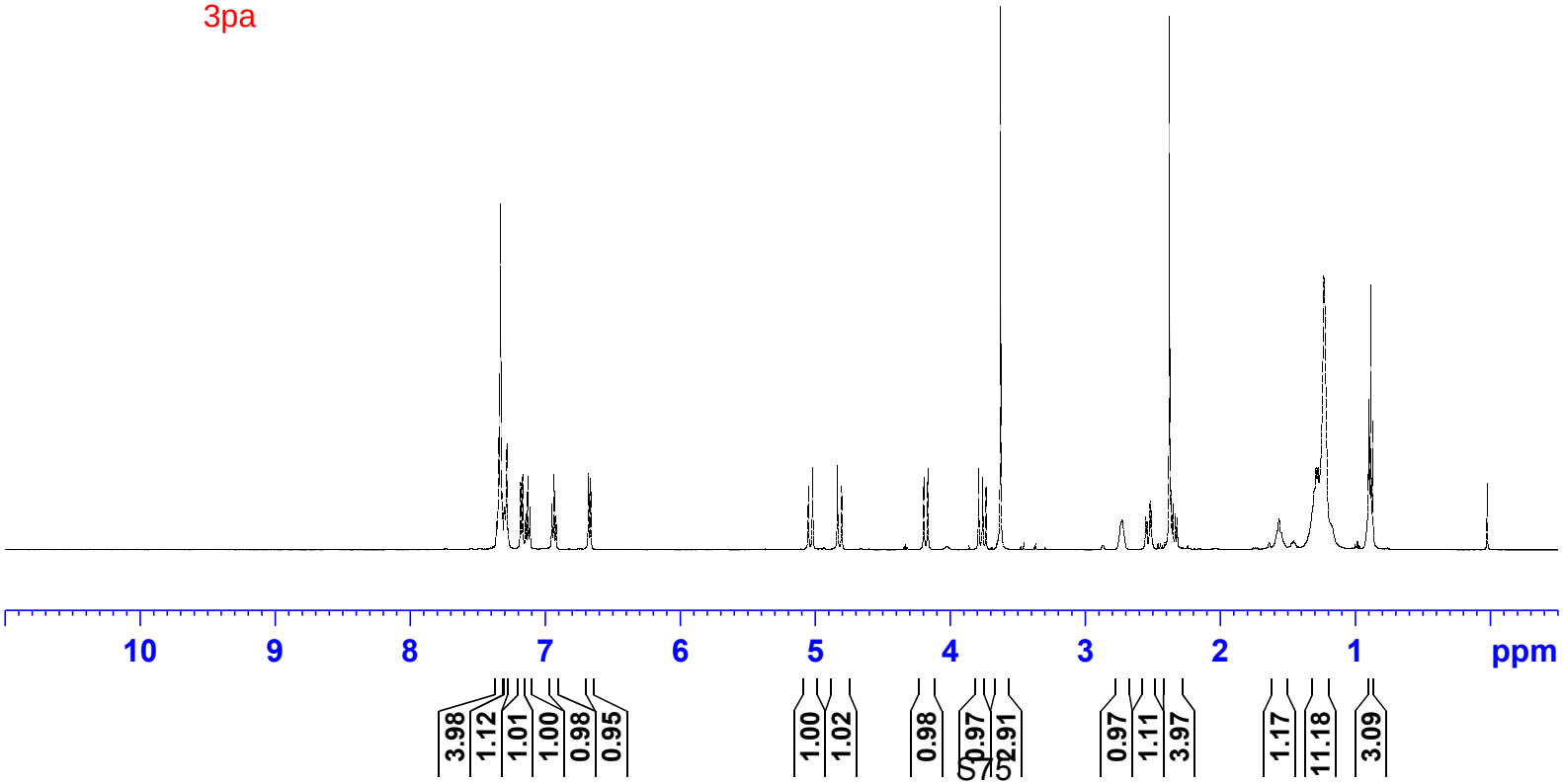



```
Current Data Parameters
NAME                  ZCL-1640
EXPNO                       46
PROCNO                       1

F2 - Acquisition Parameters
Date_                 20190121
Time                     16.14
INSTRUM                  spect
PROBHD    5 mm CPPBBO BB
PULPROG                zgpg30
TD                        65536
SOLVENT                  CDCl3
NS                           24
DS                            4
SWH                29761.904 Hz
FIDRES              0.454131 Hz
AQ                  1.1010048 sec
RG                      192.89
DW                      16.800 usec
DE                      18.00 usec
TE                      298.2 K
D1                 2.00000000 sec
D11                0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1             125.7703637 MHz
NUC1                      13C
P1                       9.80 usec
PLW1             57.00000000 W

======== CHANNEL f2 ========
SFO2             500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                   80.00 usec
PLW2             20.00000000 W
PLW12             0.35778001 W
PLW13             0.22898000 W

F2 - Processing parameters
SI                        32768
SF               125.7577764 MHz
WDW                          EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

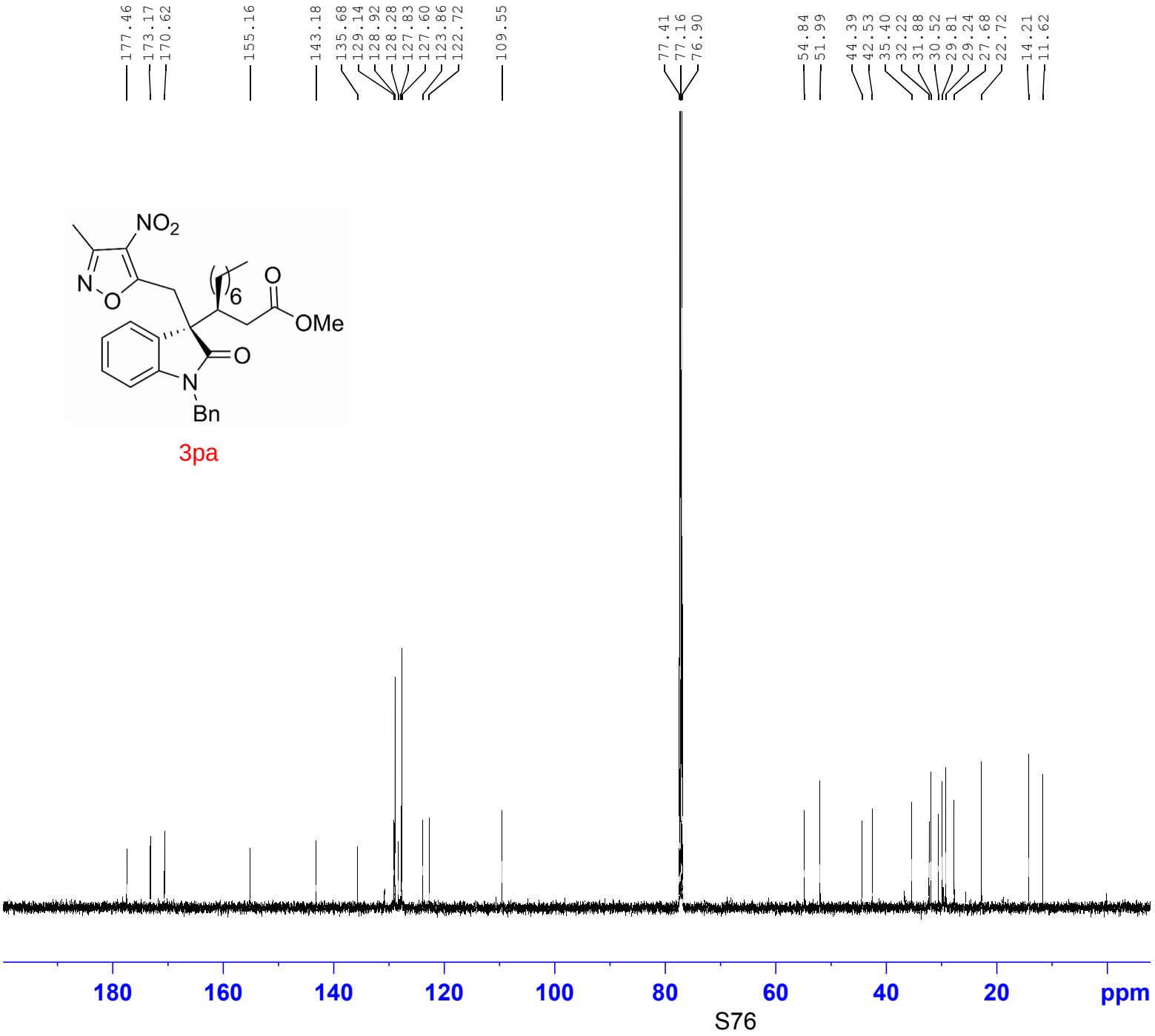




3pa




```
Current Data Parameters
NAME                  ZCL-1654
EXPNO                       54
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190125
Time                    21.31
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES              0.152588 Hz
AQ                  3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                      298.2 K
D1                 1.00000000 sec
D11        0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1            20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                      65536
SF              500.1300000 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```



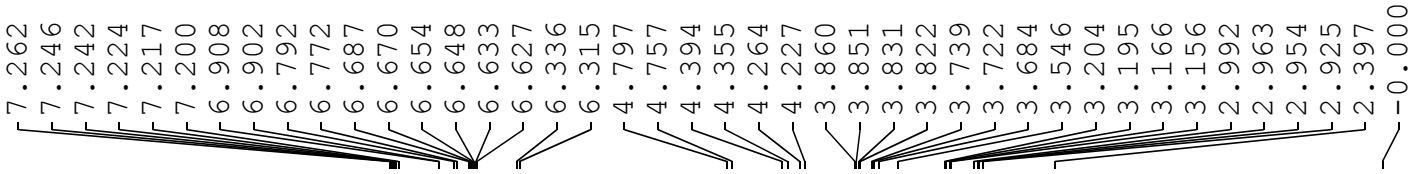
Current Data Parameters
NAME ZCL-1654
EXPNO 55
PROCNO 1

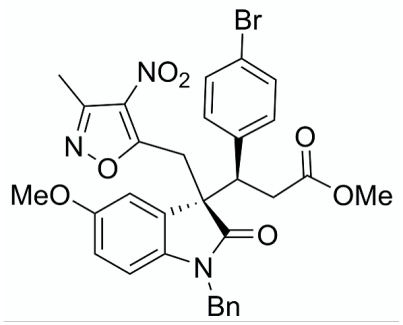
F2 - Acquisition Parameters
Date_ 20190125
Time 21.33
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 23
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

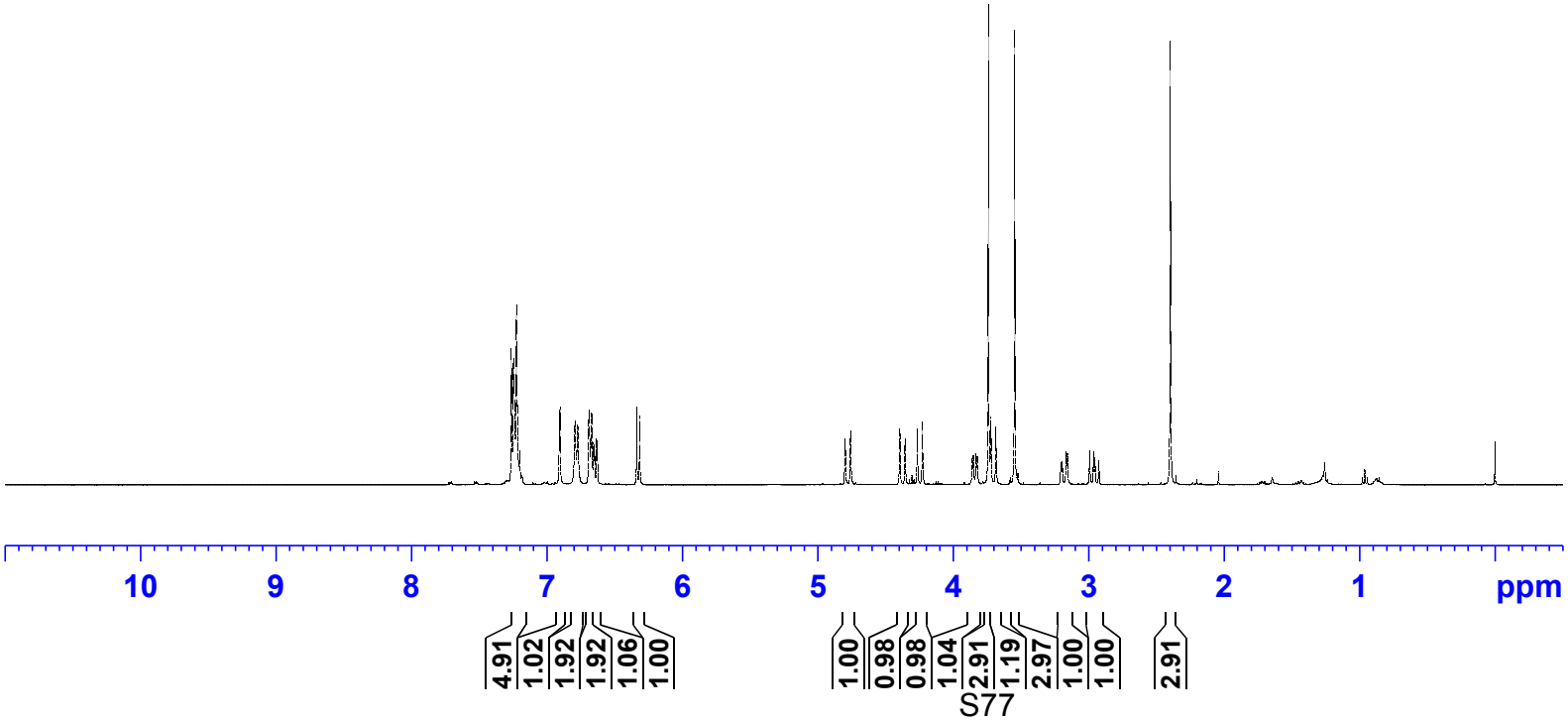
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577738 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

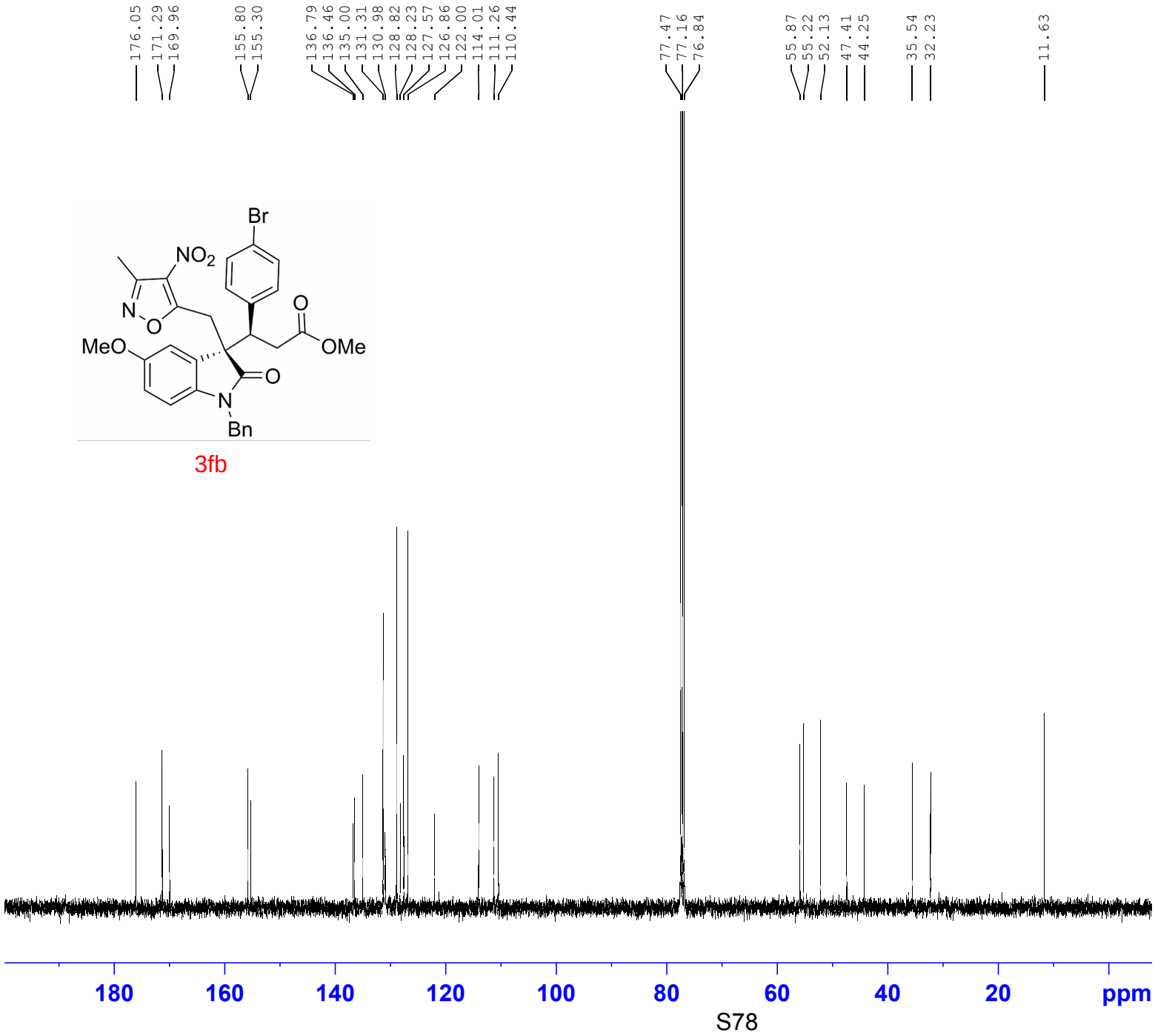




3fb




```
Current Data Parameters
NAME                  ZCL-1615
EXPNO                        3
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181205
Time                   17.04
INSTRUM                spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     32768
SOLVENT                CDCl3
NS                        16
DS                         0
SWH                 8012.820 Hz
FIDRES              0.244532 Hz
AQ                2.0447233 sec
RG                    102.73
DW                    62.400 usec
DE                     6.50 usec
TE                    298.0 K
D1              2.00000000 sec
D11        0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           400.2424716 MHz
NUC1                      1H
P1                     14.80 usec
PLW1           12.00000000 W

======== CHANNEL f2 ========
SFO2           400.2424716 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF             400.2400087 MHz
WDW                       EM
SSB        0
LB                   0.30 Hz
GB         0
PC                   1.00
```



Current Data Parameters

NAME	ZCL-1615
EXPNO	4
PROCNO	1

F2 - Acquisition Parameters

Date_	20181205
Time	17.08
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	207
DS	4
SWH	24038.461 Hz
FIDRES	0.366798 Hz
AQ	1.3631488 sec
RG	206.33
DW	20.800 usec
DE	6.50 usec
TE	298.0 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1

======== CHANNEL f1 ========

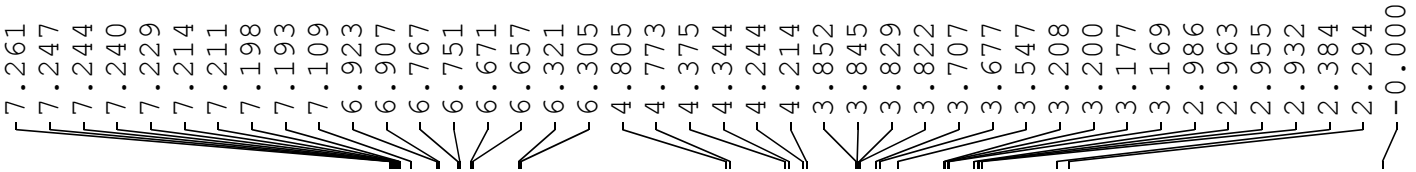
SFO1	100.6504916 MHz
NUC1	13C
P1	10.00 usec
PLW1	54.00000000 W

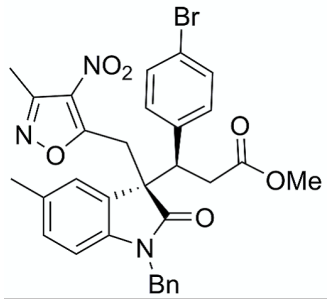
======== CHANNEL f2 ========

SFO2	400.2416010 MHz
NUC2	1H
CPDPRG[2	waltz16
PCPD2	90.00 usec
PLW2	12.00000000 W
PLW12	0.34680000 W
PLW13	0.28090999 W

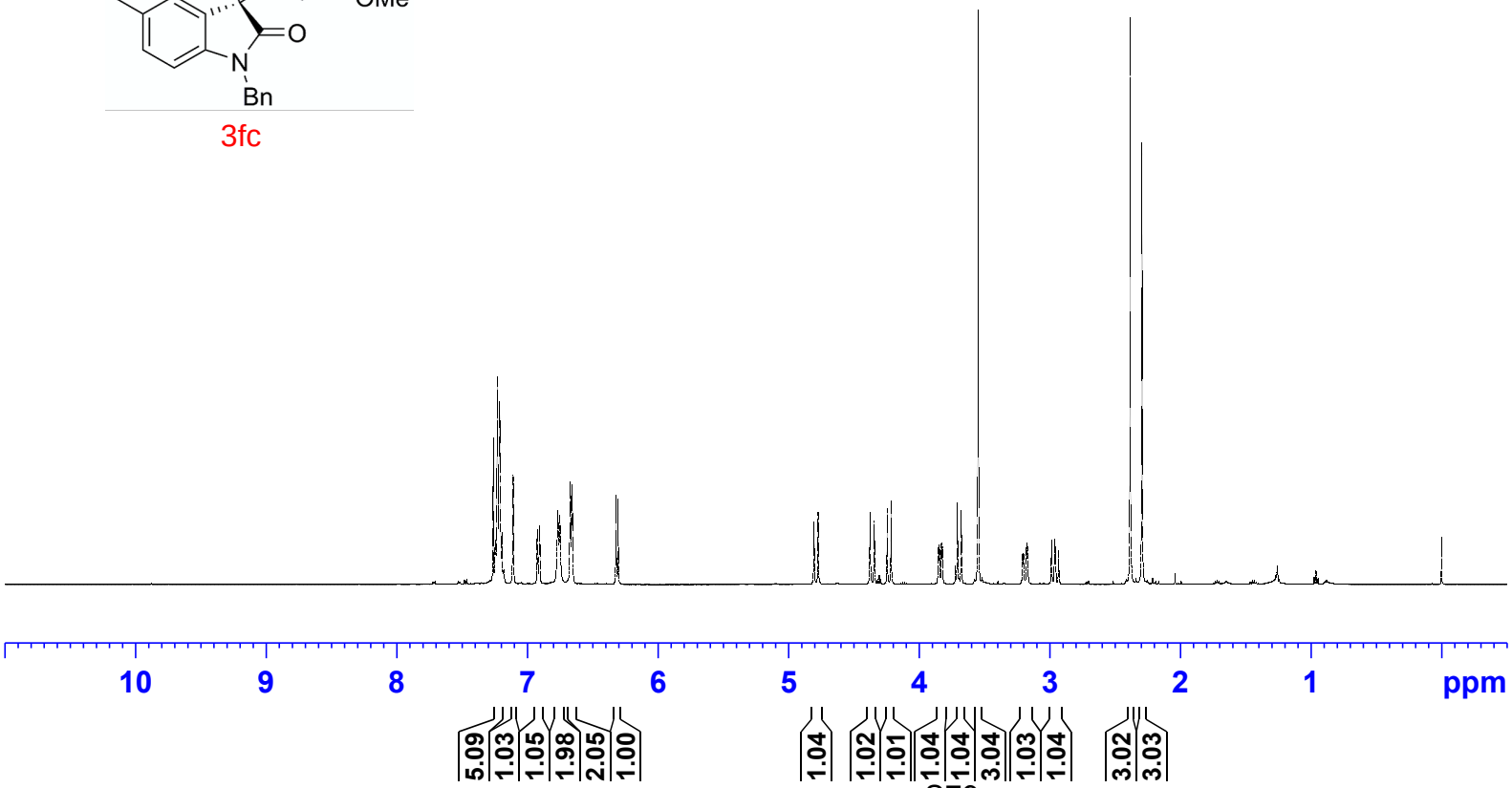
F2 - Processing parameters

SI	32768
SF	100.6404183 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

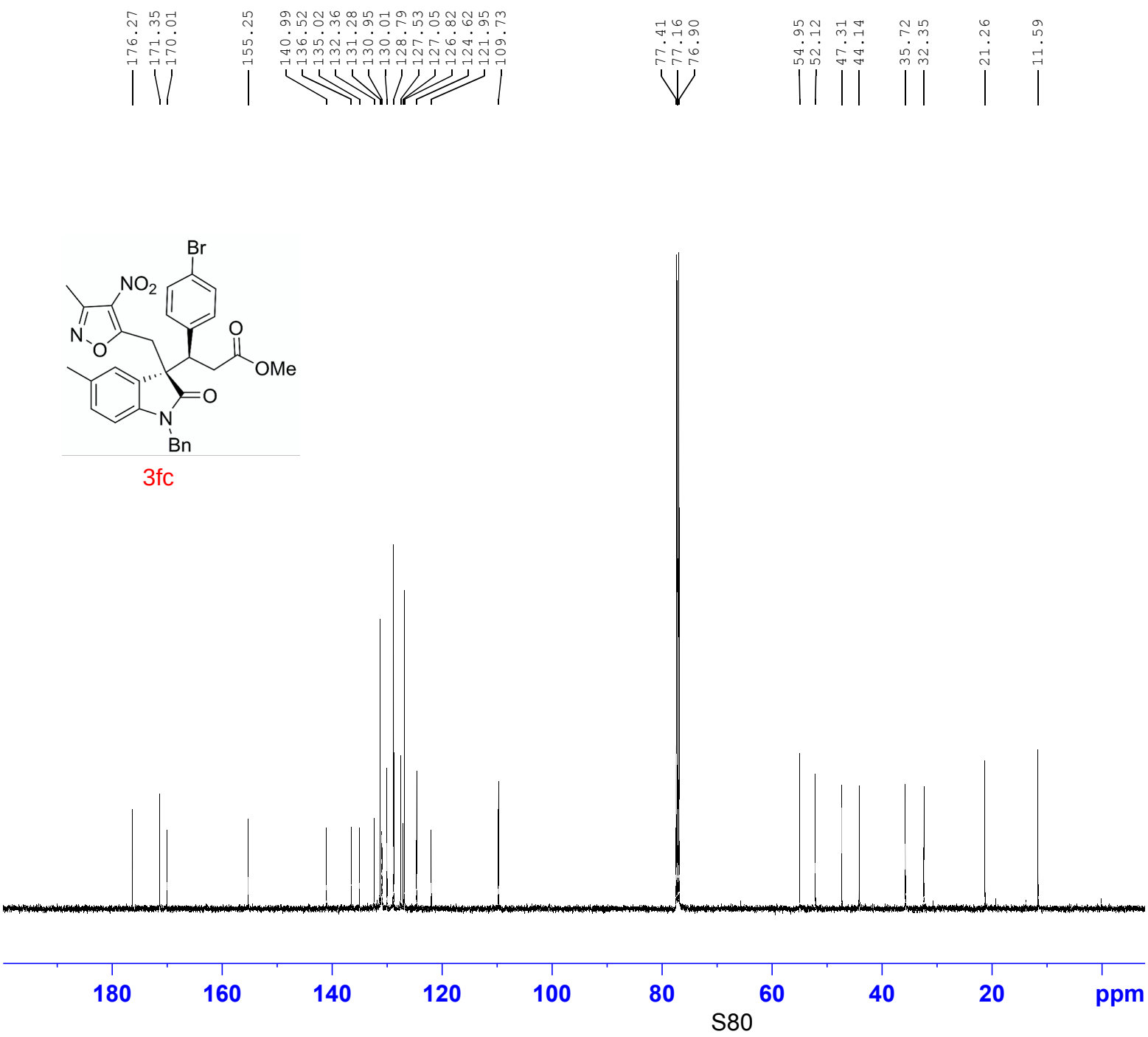




3fc




```
Current Data Parameters
NAME                  ZCL-1613
EXPNO                       37
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181130
Time                    17.39
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES             0.152588 Hz
AQ                 3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                     298.2 K
D1                1.00000000 sec
D11         0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2       0 usec
PLW2        0 W
PLW12       0 W
PLW13       0 W

F2 - Processing parameters
SI                        65536
SF              500.1300116 MHz
WDW                        EM
SSB         0
LB                      0.30 Hz
GB          0
PC                      1.00
```



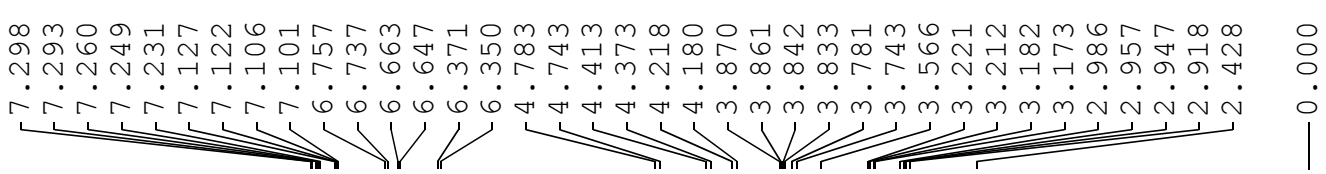
Current Data Parameters
NAME ZCL-1613
EXPNO 38
PROCNO 1

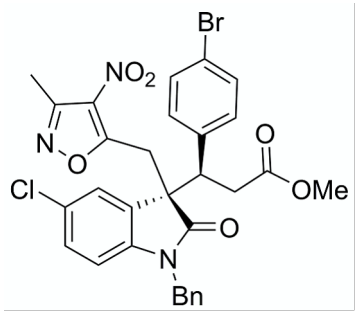
F2 - Acquisition Parameters
Date_ 20181130
Time 17.42
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 43
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

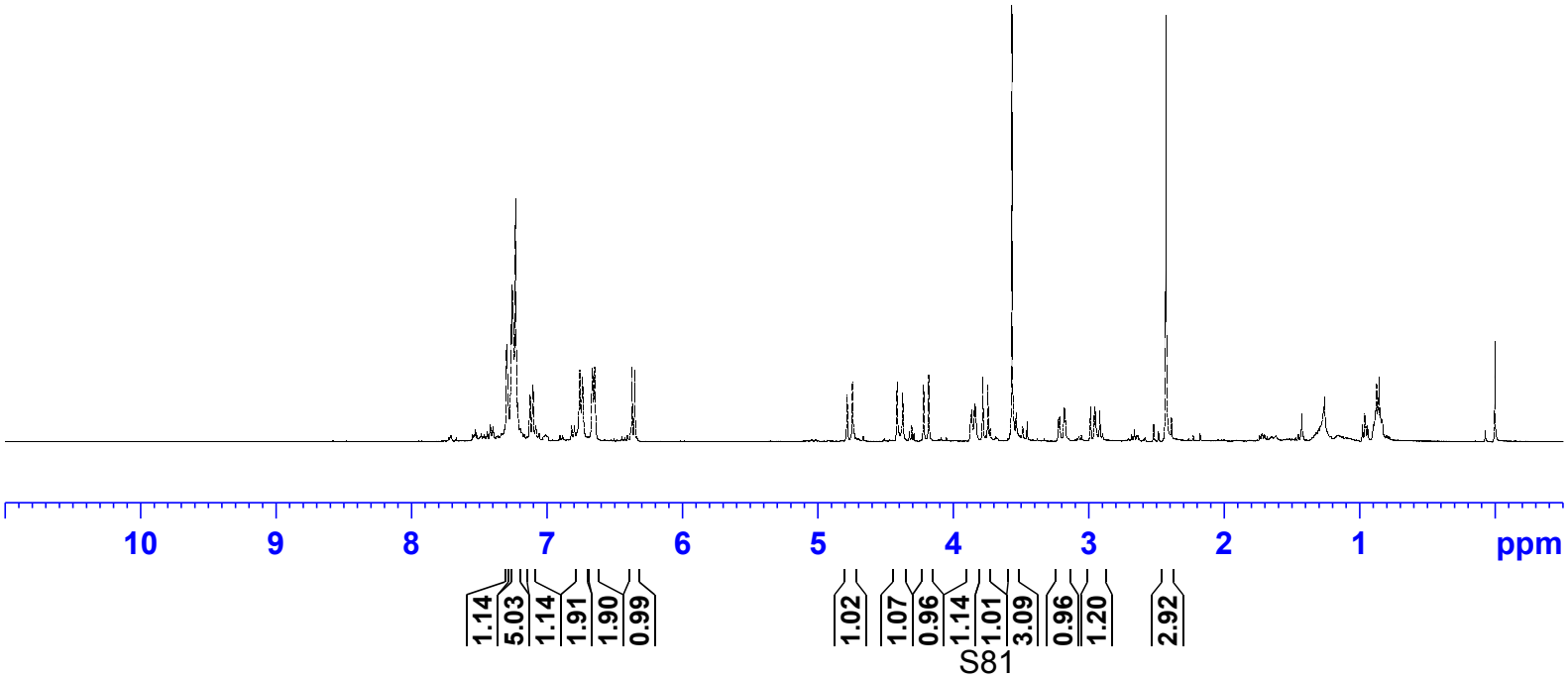
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577770 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

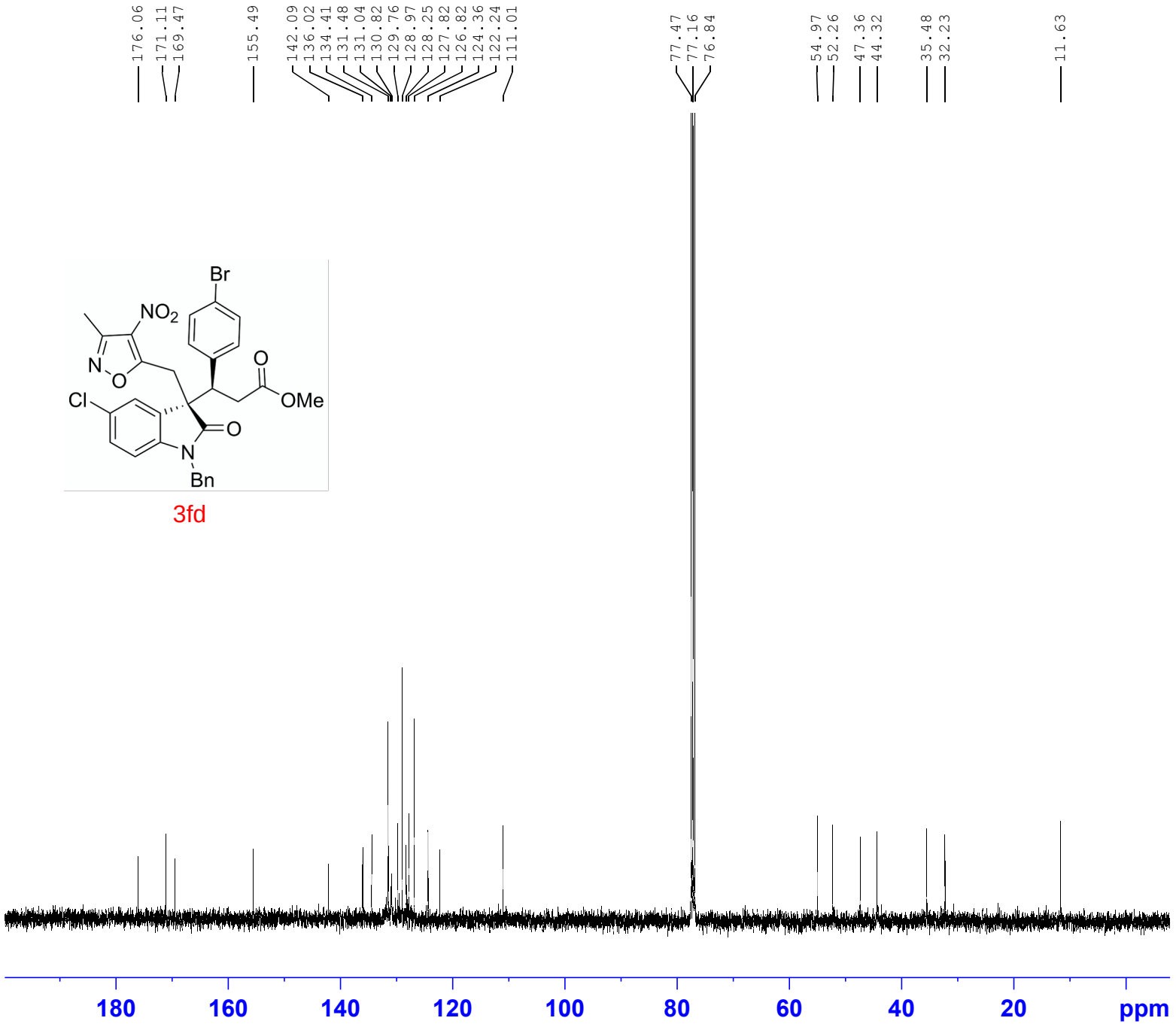




3fd




```
Current Data Parameters
NAME                  ZCL-1614
EXPNO                       11
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181218
Time                    21.03
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     32768
SOLVENT                CDCl3
NS                        16
DS                         0
SWH                 8012.820 Hz
FIDRES              0.244532 Hz
AQ                2.0447233 sec
RG                     206.33
DW                    62.400 usec
DE                     6.50 usec
TE                    298.2 K
D1              2.00000000 sec
D11        0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           400.2424716 MHz
NUC1                      1H
P1                     14.80 usec
PLW1           12.00000000 W

======== CHANNEL f2 ========
SFO2           400.2424716 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                      65536
SF             400.2400096 MHz
WDW                        EM
SSB        0
LB                    0.30 Hz
GB         0
PC                     1.00
```



3fd

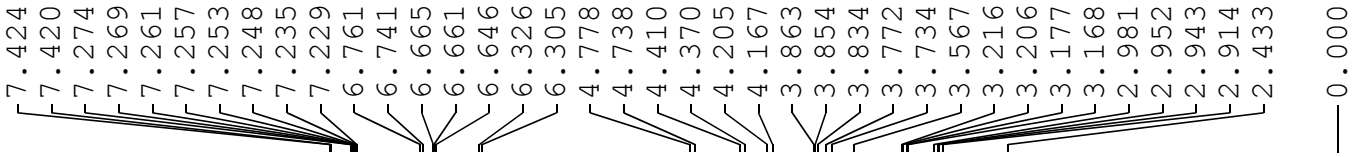
Current Data Parameters
NAME ZCL-1614
EXPNO 10
PROCNO 1

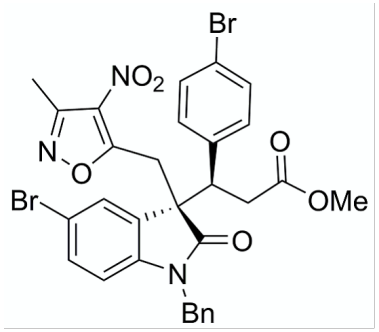
F2 - Acquisition Parameters
Date_ 20181218
Time 20.53
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 162
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.33
DW 20.800 usec
DE 6.50 usec
TE 298.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6504916 MHz
NUC1 13C
P1 10.00 usec
PLW1 54.00000000 W

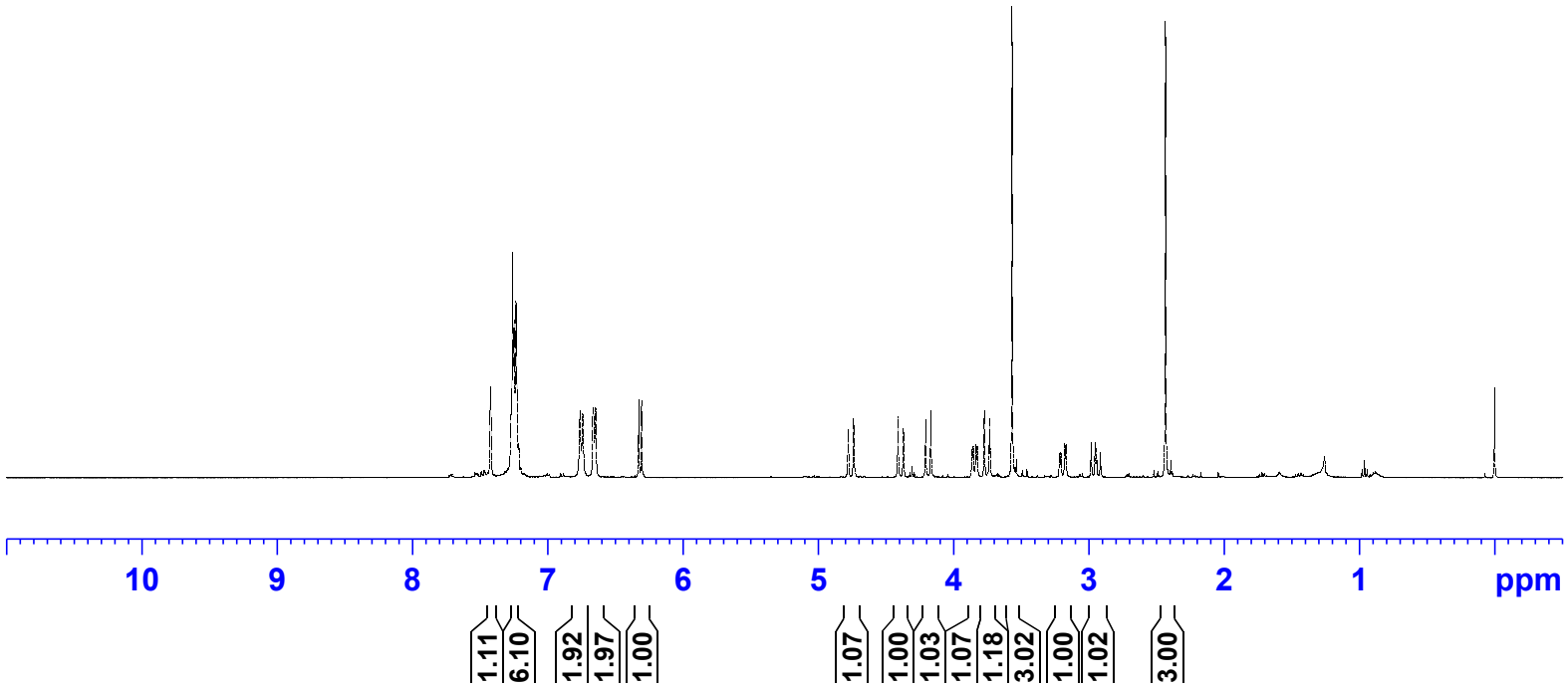
======== CHANNEL f2 ========
SFO2 400.2416010 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.34680000 W
PLW13 0.28090999 W

F2 - Processing parameters
SI 32768
SF 100.6404161 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

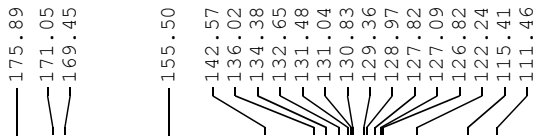




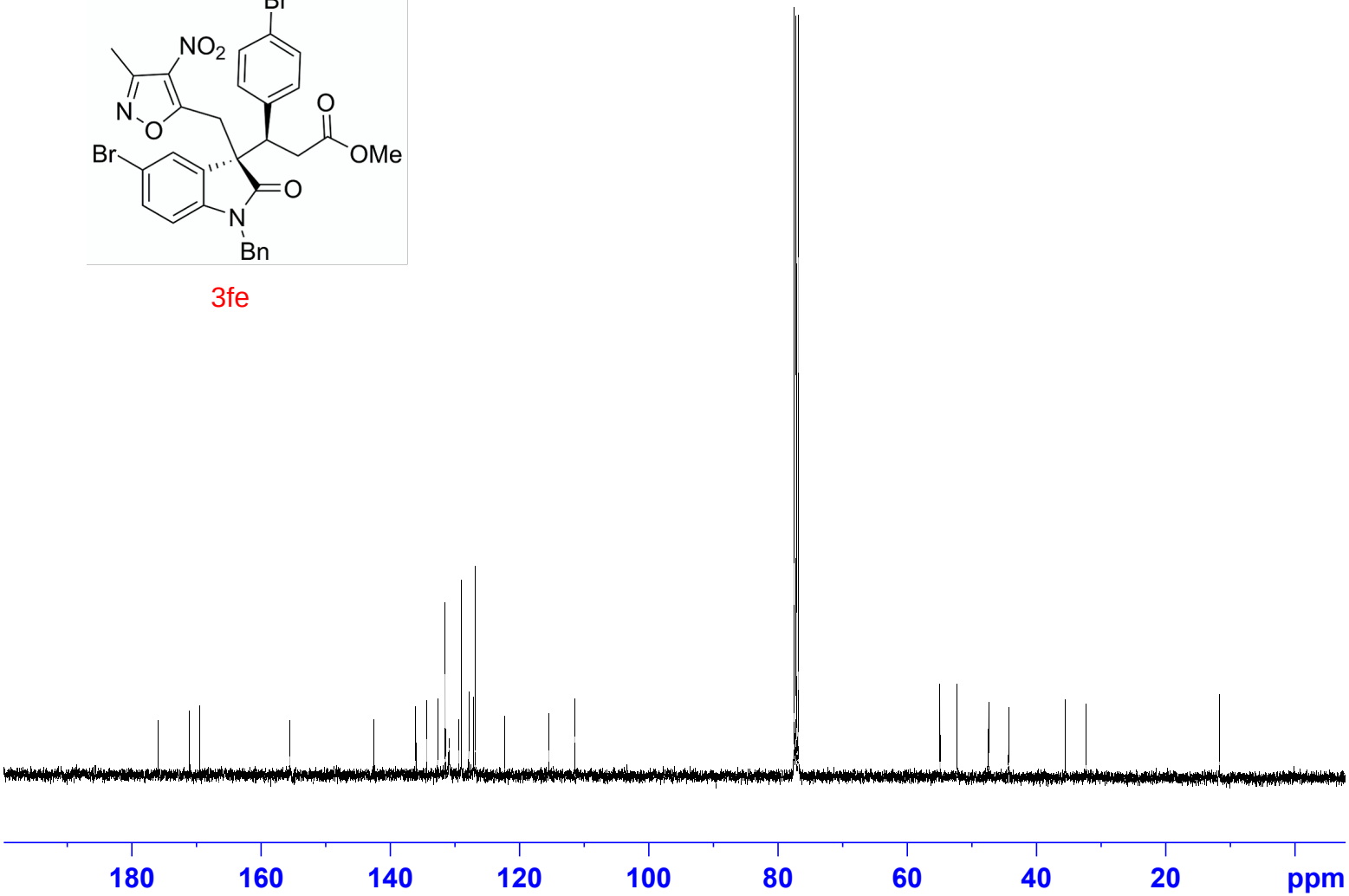
3fe



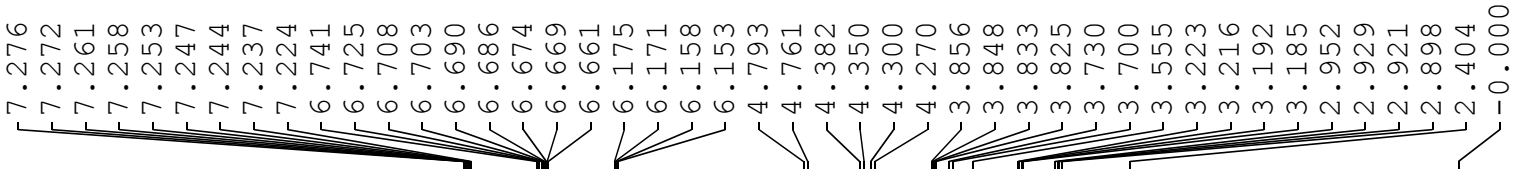

```
Current Data Parameters
NAME                  ZCL-1616
EXPNO                       12
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181218
Time                    21.06
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     32768
SOLVENT                CDCl3
NS                        16
DS                         0
SWH                 8012.820 Hz
FIDRES              0.244532 Hz
AQ                  2.0447233 sec
RG                     206.33
DW                     62.400 usec
DE                      6.50 usec
TE                     298.1 K
D1                2.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1            400.2424716 MHz
NUC1                       1H
P1                      14.80 usec
PLW1             12.00000000 W

======== CHANNEL f2 ========
SFO2            400.2424716 MHz
NUC2                      off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                        65536
SF              400.2400000 MHz
WDW                        EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

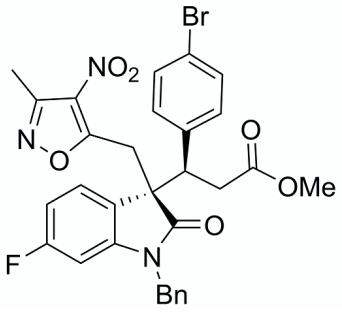


3fe

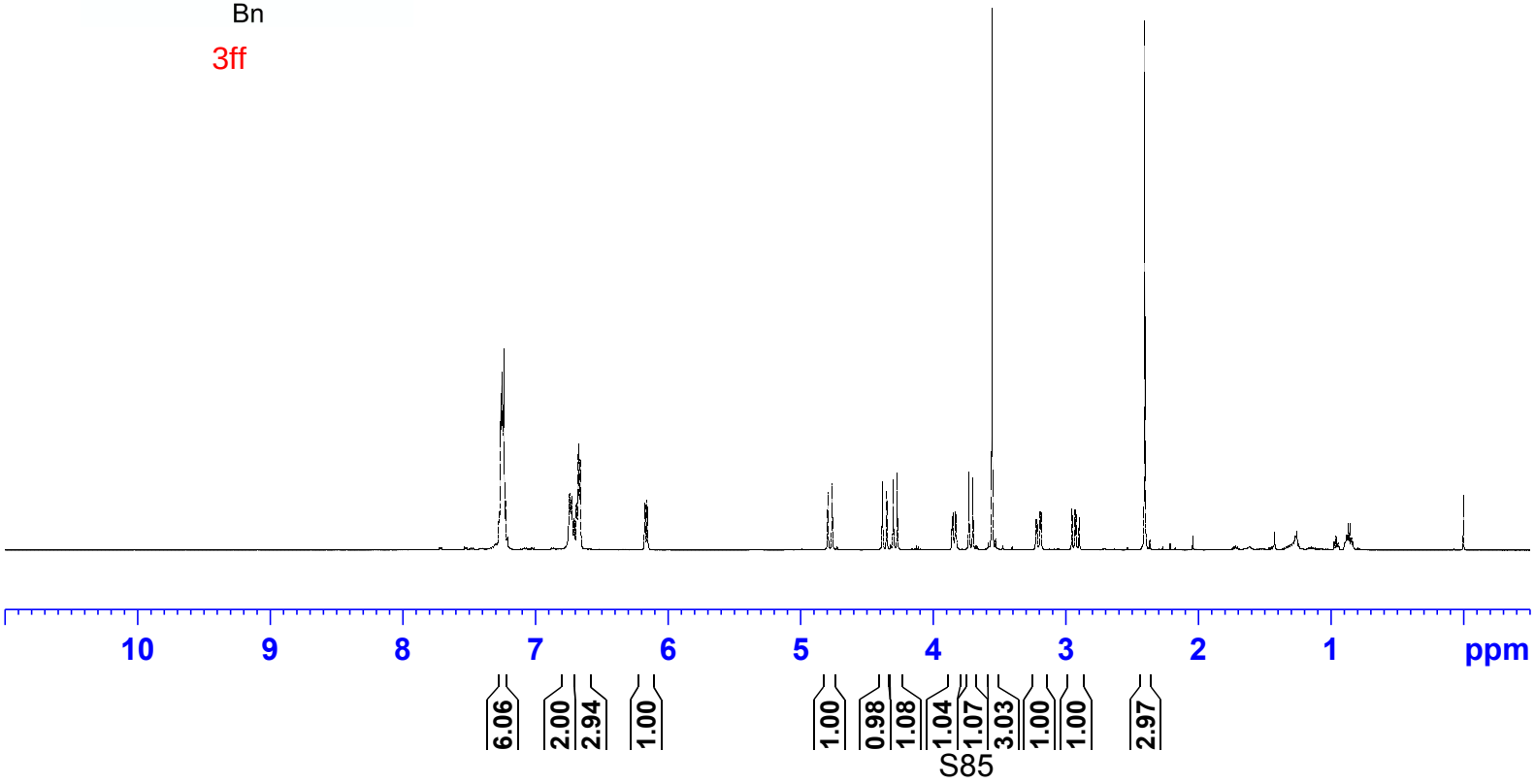



```
Current Data Parameters
NAME                  ZCL-1616
EXPNO                       13
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181218
Time                   21.08
INSTRUM                spect
PROBHD   5 mm PABBO BB/
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                      163
DS                        4
SWH              24038.461 Hz
FIDRES            0.366798 Hz
AQ                1.3631488 sec
RG                   206.33
DW                   20.800 usec
DE                    6.50 usec
TE                   298.9 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1           100.6504916 MHz
NUC1                    13C
P1                    10.00 usec
PLW1           54.00000000 W

======== CHANNEL f2 ========
SFO2           400.2416010 MHz
NUC2                    1H
CPDPRG[2            waltz16
PCPD2                 90.00 usec
PLW2           12.00000000 W
PLW12           0.34680000 W
PLW13           0.28090999 W

F2 - Processing parameters
SI                    32768
SF             100.6404161 MHz
WDW                      EM
SSB          0
LB                    1.00 Hz
GB           0
PC                    1.40
```

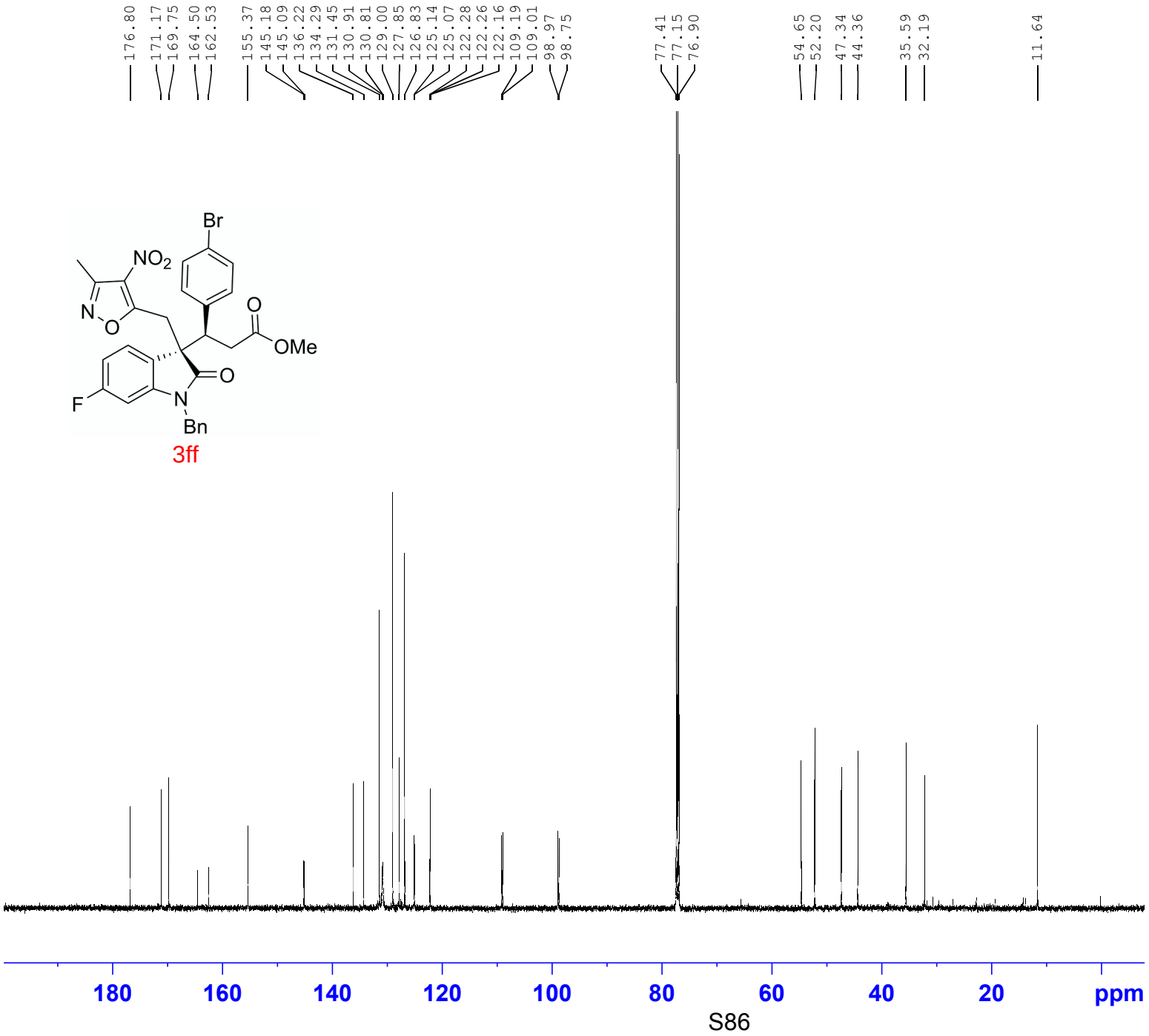




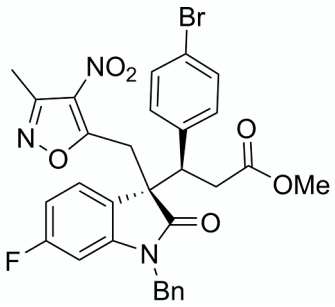
3ff




```
Current Data Parameters
NAME                  ZCL-1619
EXPNO                       12
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                    11.51
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES             0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                   50.000 usec
DE                    6.50 usec
TE                    298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF             500.1300113 MHz
WDW                       EM
SSB        0
LB                     0.30 Hz
GB         0
PC                     1.00
```

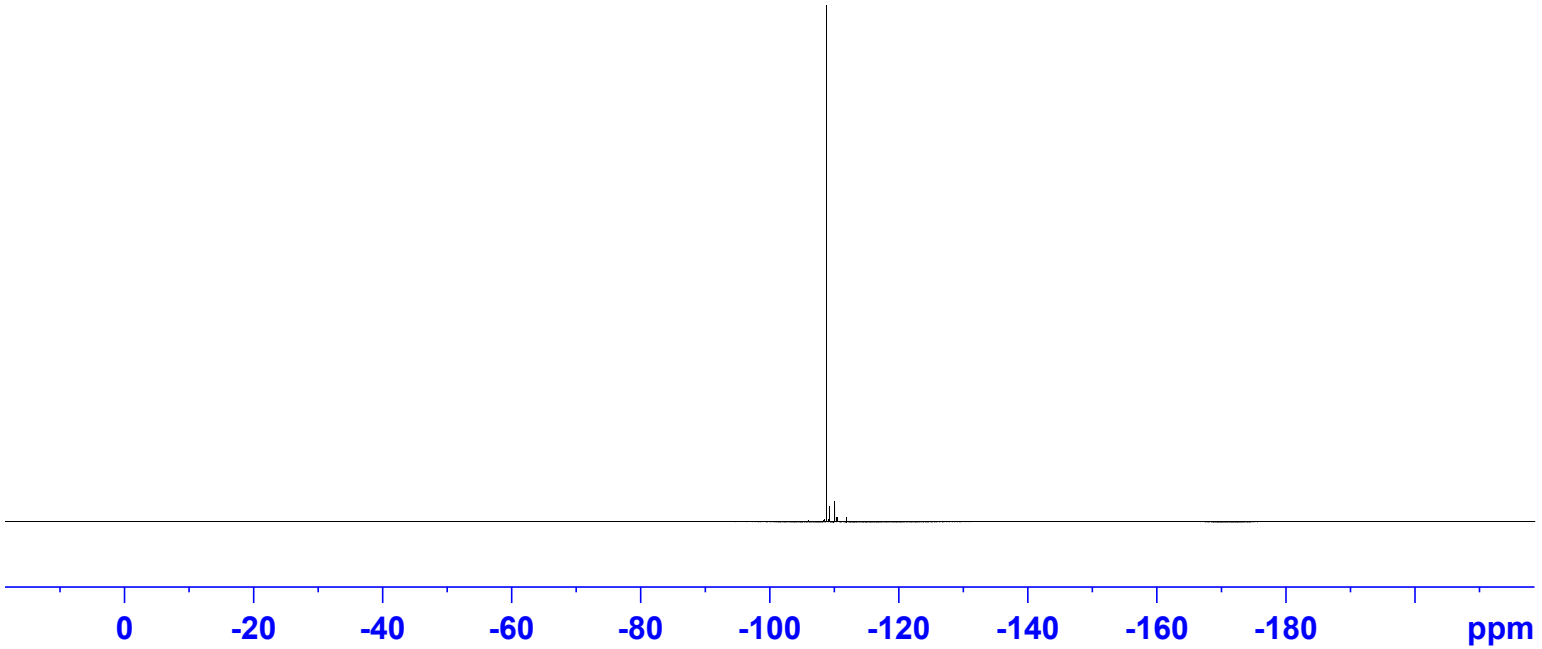



```
Current Data Parameters
NAME                  ZCL-1619
EXPNO                       13
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                   11.53
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                       98
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    192.89
DW                    16.800 usec
DE                    18.00 usec
TE                    298.2 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            125.7703637 MHz
NUC1                      13C
P1                       9.80 usec
PLW1           57.00000000 W

======== CHANNEL f2 ========
SFO2            500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                 80.00 usec
PLW2           20.00000000 W
PLW12           0.35778001 W
PLW13           0.22898000 W

F2 - Processing parameters
SI                       32768
SF              125.7577756 MHz
WDW                         EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

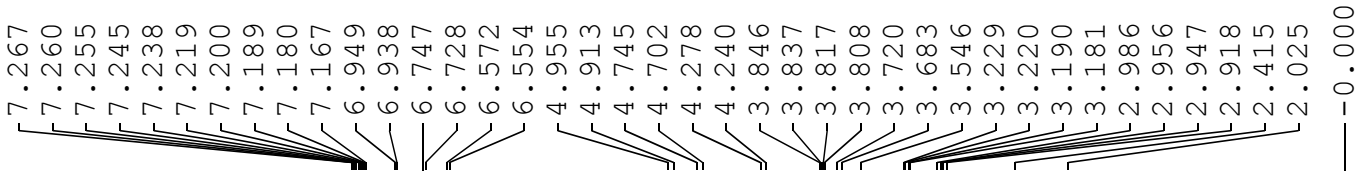


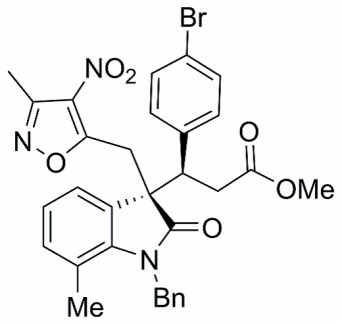
3ff

-108.79

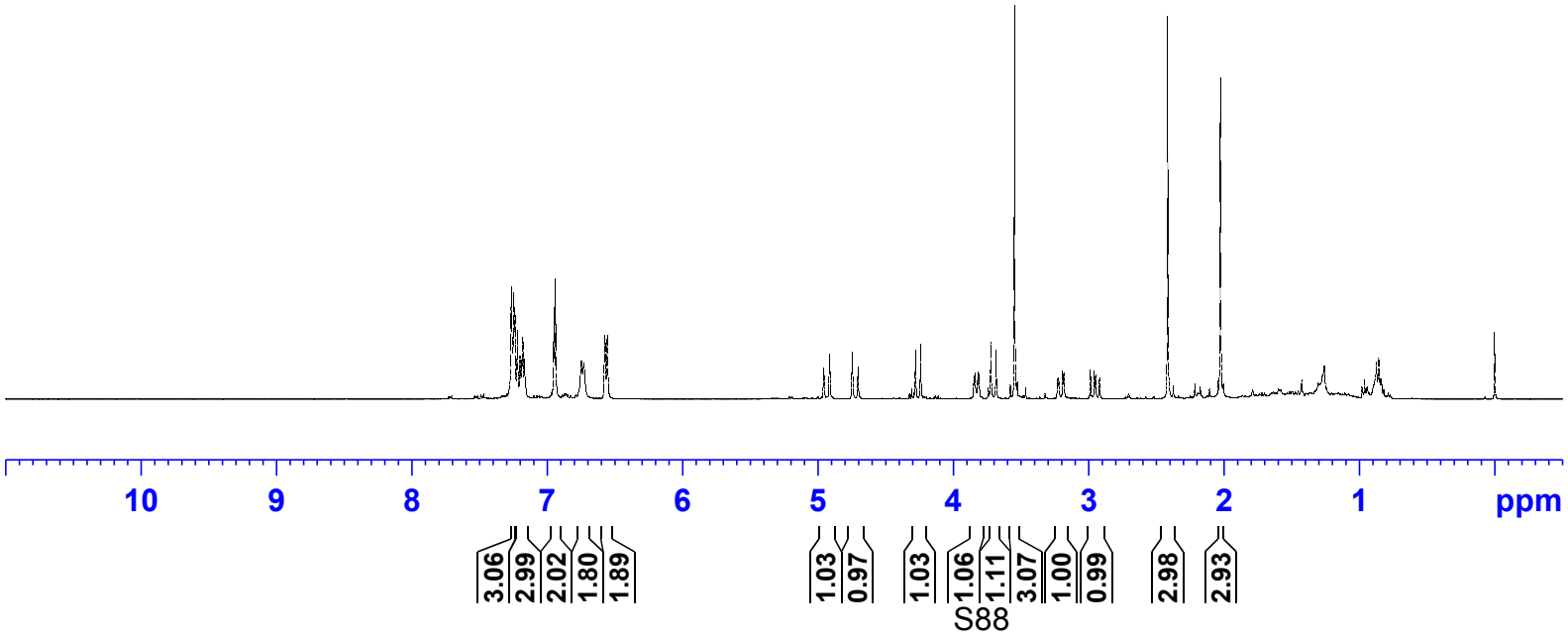



```
Current Data Parameters
NAME                  ZCL-1619
EXPNO                        1
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190318
Time                   15.54
INSTRUM                spect
PROBHD    5 mm PABBO BB/
PULPROG         zgfhigqn.2
TD                     131072
SOLVENT                CDCl3
NS                        83
DS                         4
SWH                89285.711 Hz
FIDRES             0.681196 Hz
AQ                 0.7340032 sec
RG                    206.33
DW                     5.600 usec
DE                     6.50 usec
TE                     298.0 K
D1                 1.00000000 sec
D11                0.03000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1            376.5642094 MHz
NUC1                     19F
P1                     14.50 usec
PLW1            17.98900032 W

======== CHANNEL f2 ========
SFO2            400.2416010 MHz
NUC2                     1H
CPDPRG[2             waltz16
PCPD2                  90.00 usec
PLW2            12.00000000 W
PLW12            0.30294999 W
PLW13            0.24539000 W

F2 - Processing parameters
SI                     65536
SF              376.6018696 MHz
WDW                       EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

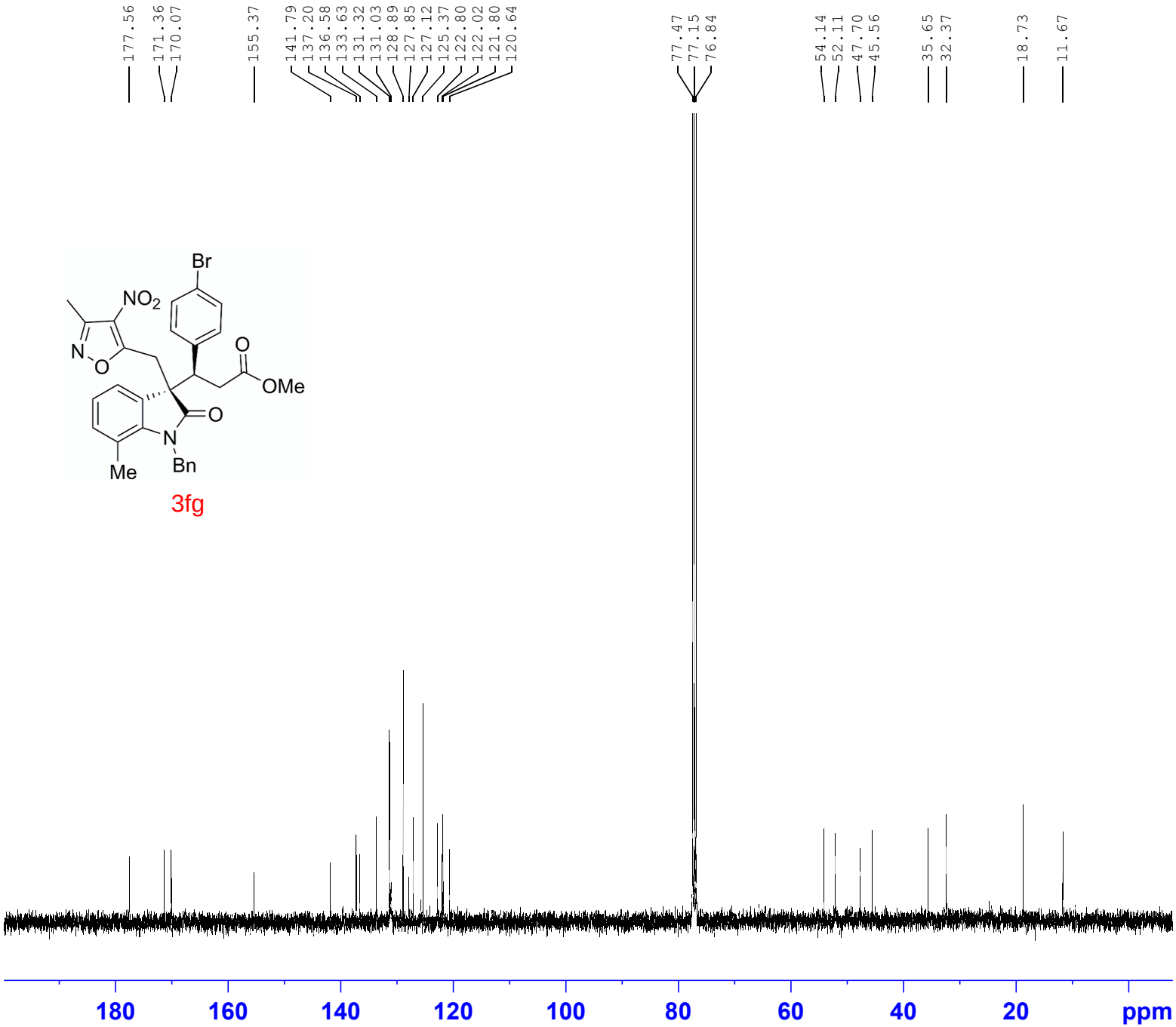




3fg




```
Current Data Parameters
NAME                  ZCL-1626
EXPNO                       26
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                    15.00
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                  zg30
TD                      32768
SOLVENT                 CDCl3
NS                         16
DS                          0
SWH                  8012.820 Hz
FIDRES               0.244532 Hz
AQ                 2.0447233 sec
RG                       73.9
DW                     62.400 usec
DE                      6.50 usec
TE                     297.7 K
D1                2.00000000 sec
D11       0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            400.2424716 MHz
NUC1                       1H
P1                      14.80 usec
PLW1             12.00000000 W

======== CHANNEL f2 ========
SFO2            400.2424716 MHz
NUC2                      off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                        65536
SF              400.2400096 MHz
WDW                        EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```



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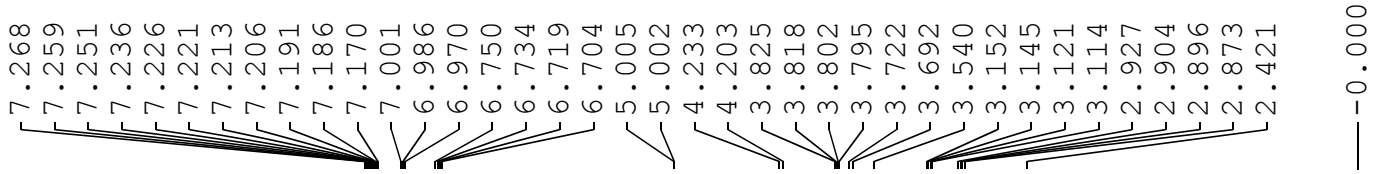
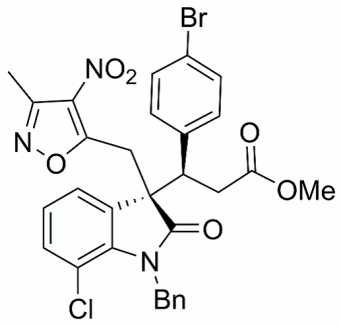
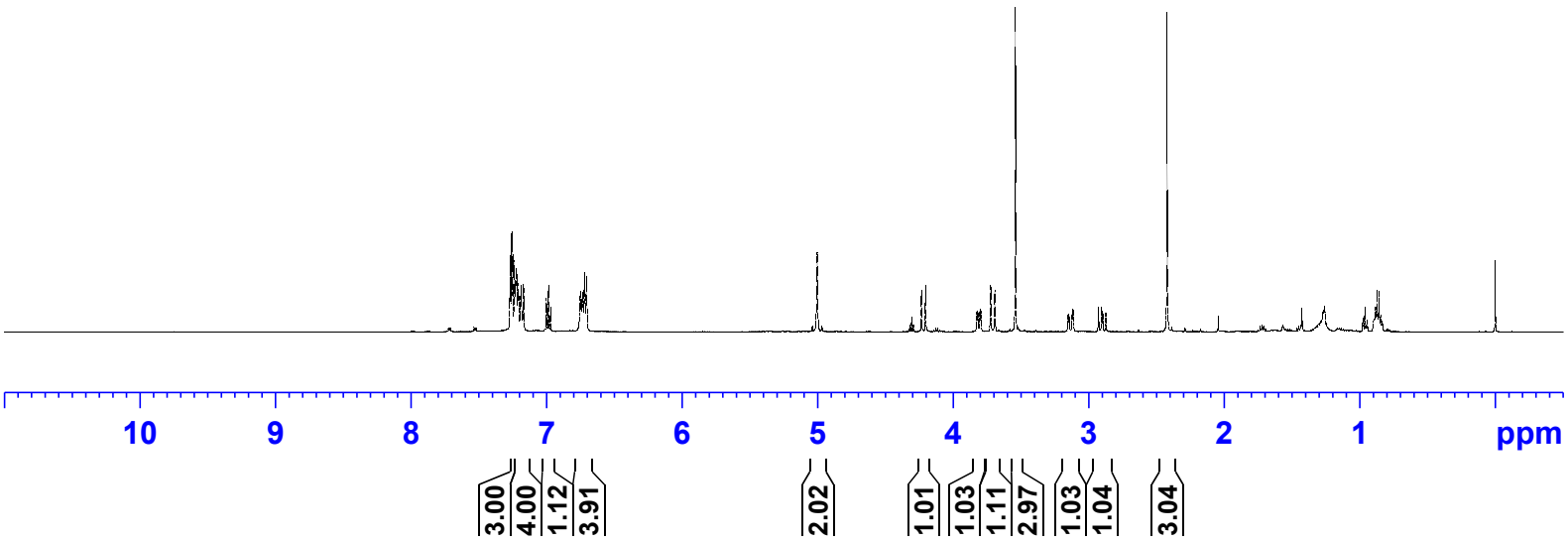
```
Current Data Parameters
NAME                  ZCL-1626
EXPNO                       27
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                    15.01
INSTRUM                 spect
PROBHD   5 mm PABBO BB/
PULPROG                zgpg30
TD                      65536
SOLVENT                 CDCl3
NS                        100
DS                          4
SWH                24038.461 Hz
FIDRES              0.366798 Hz
AQ                  1.3631488 sec
RG                     206.33
DW                     20.800 usec
DE                      6.50 usec
TE                     297.8 K
D1                 2.00000000 sec
D11                0.03000000 sec
TD0                         1

======== CHANNEL f1 ========
SFO1             100.6504916 MHz
NUC1                      13C
P1                      10.00 usec
PLW1             54.00000000 W

======== CHANNEL f2 ========
SFO2             400.2416010 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                   90.00 usec
PLW2             12.00000000 W
PLW12             0.34680000 W
PLW13             0.28090999 W

F2 - Processing parameters
SI                        32768
SF               100.6404161 MHz
WDW                          EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

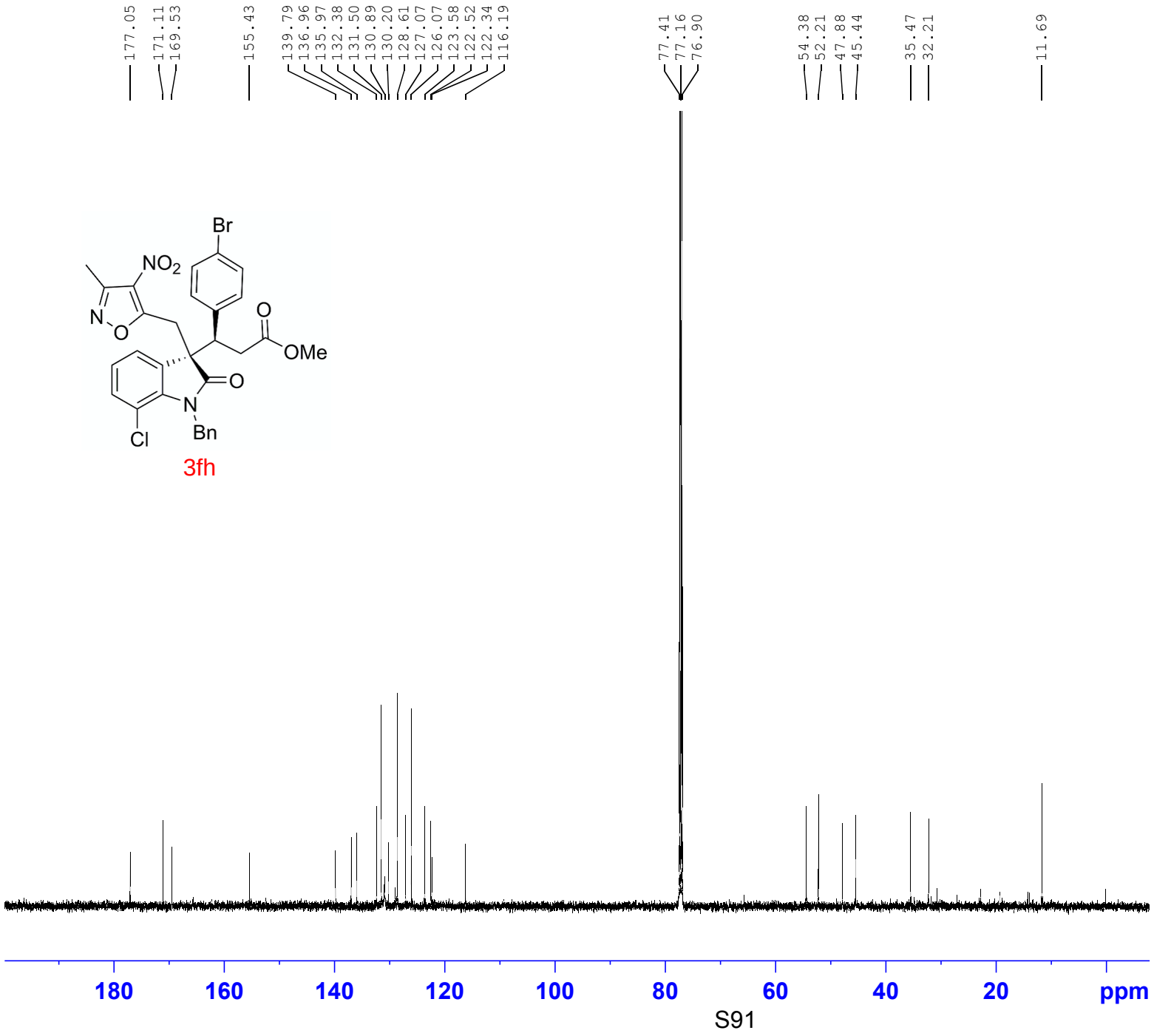




3fh




```
Current Data Parameters
NAME                  ZCL-1627
EXPNO                       16
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                   12.06
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     49.27
DW                    50.000 usec
DE                     6.50 usec
TE                     298.2 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                         65536
SF             500.1300124 MHz
WDW                        EM
SSB       0
LB                      0.30 Hz
GB        0
PC                      1.00
```



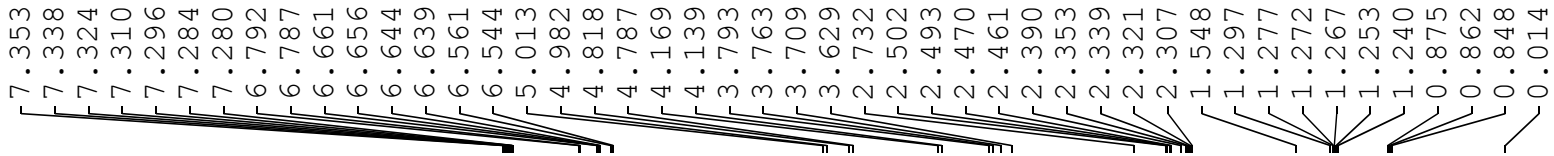
Current Data Parameters
NAME ZCL-1627
EXPNO 17
PROCNO 1

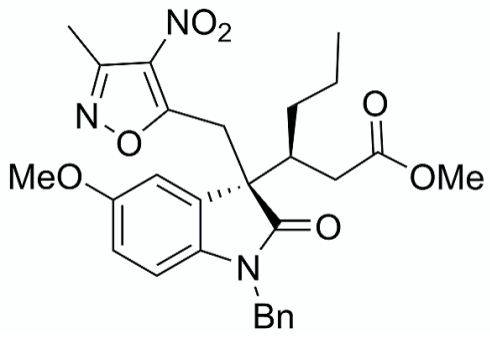
F2 - Acquisition Parameters
Date_ 20181228
Time 12.07
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 67
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

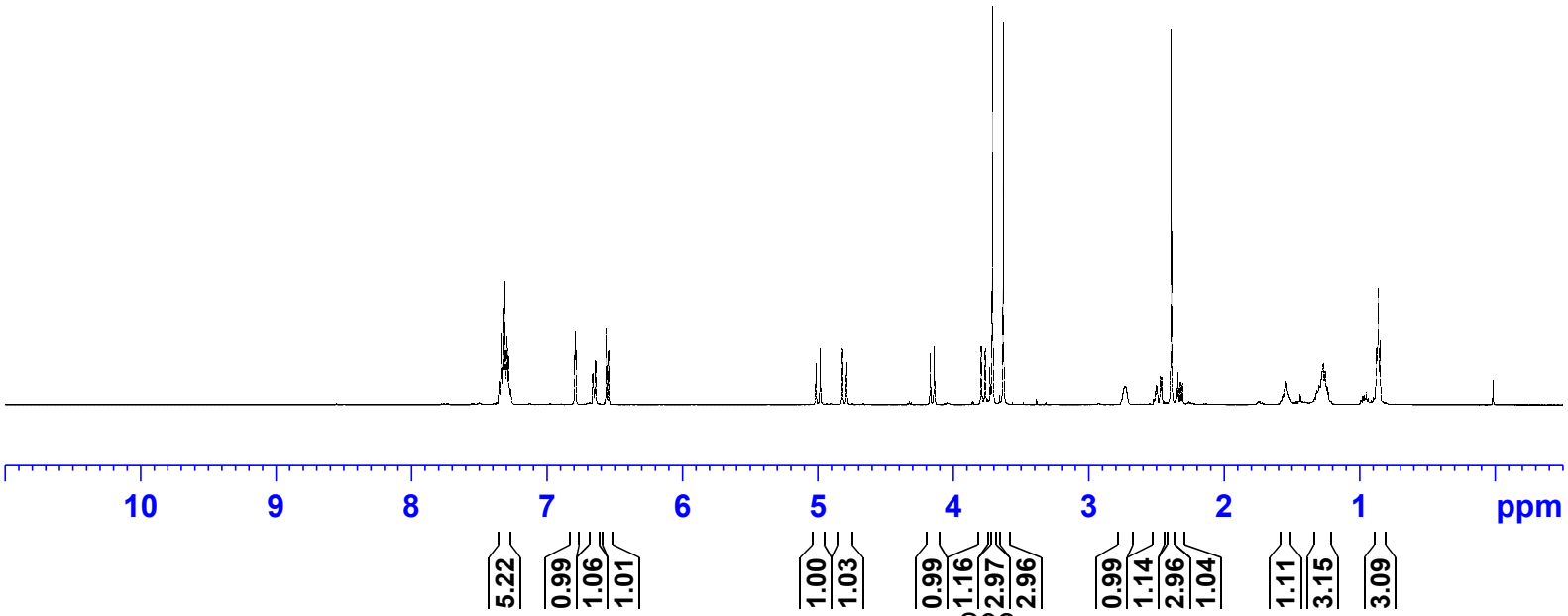
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577729 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

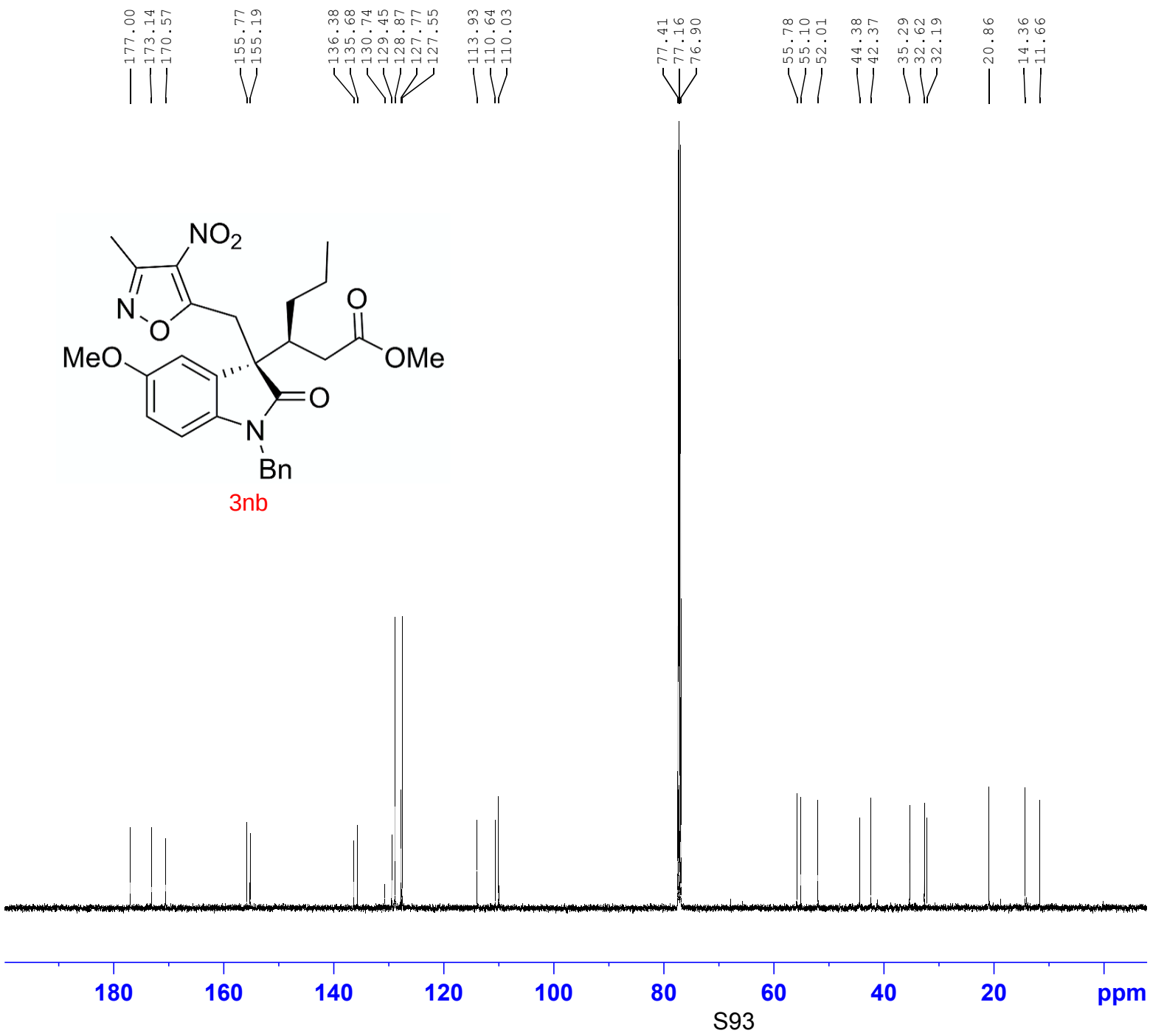




3nb




```
Current Data Parameters
NAME                  ZCL-1658
EXPNO                       67
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190211
Time                    16.04
INSTRUM                 spect
PROBHD    5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES              0.152588 Hz
AQ                 3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                     289.0 K
D1                1.00000000 sec
D11         0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2       0 usec
PLW2        0 W
PLW12       0 W
PLW13       0 W

F2 - Processing parameters
SI                      65536
SF              500.1300000 MHz
WDW                        EM
SSB         0
LB                      0.30 Hz
GB          0
PC                      1.00
```



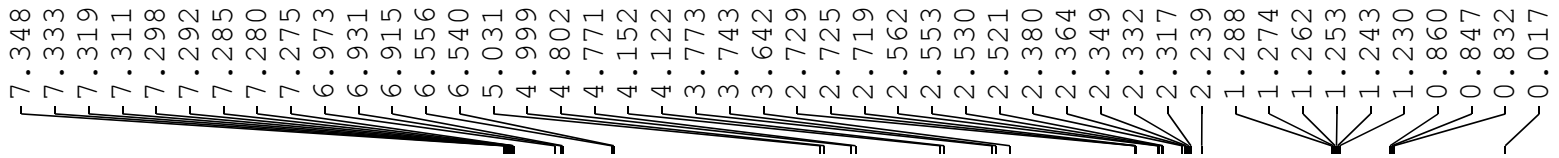
Current Data Parameters
NAME ZCL-1658
EXPNO 68
PROCNO 1

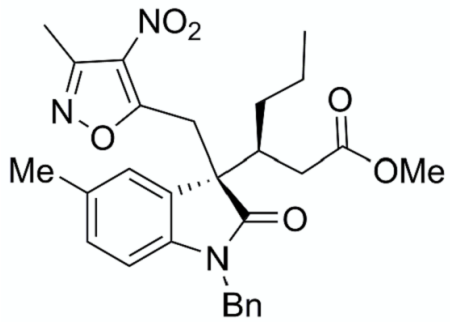
F2 - Acquisition Parameters
Date_ 20190211
Time 16.06
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 29
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 289.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

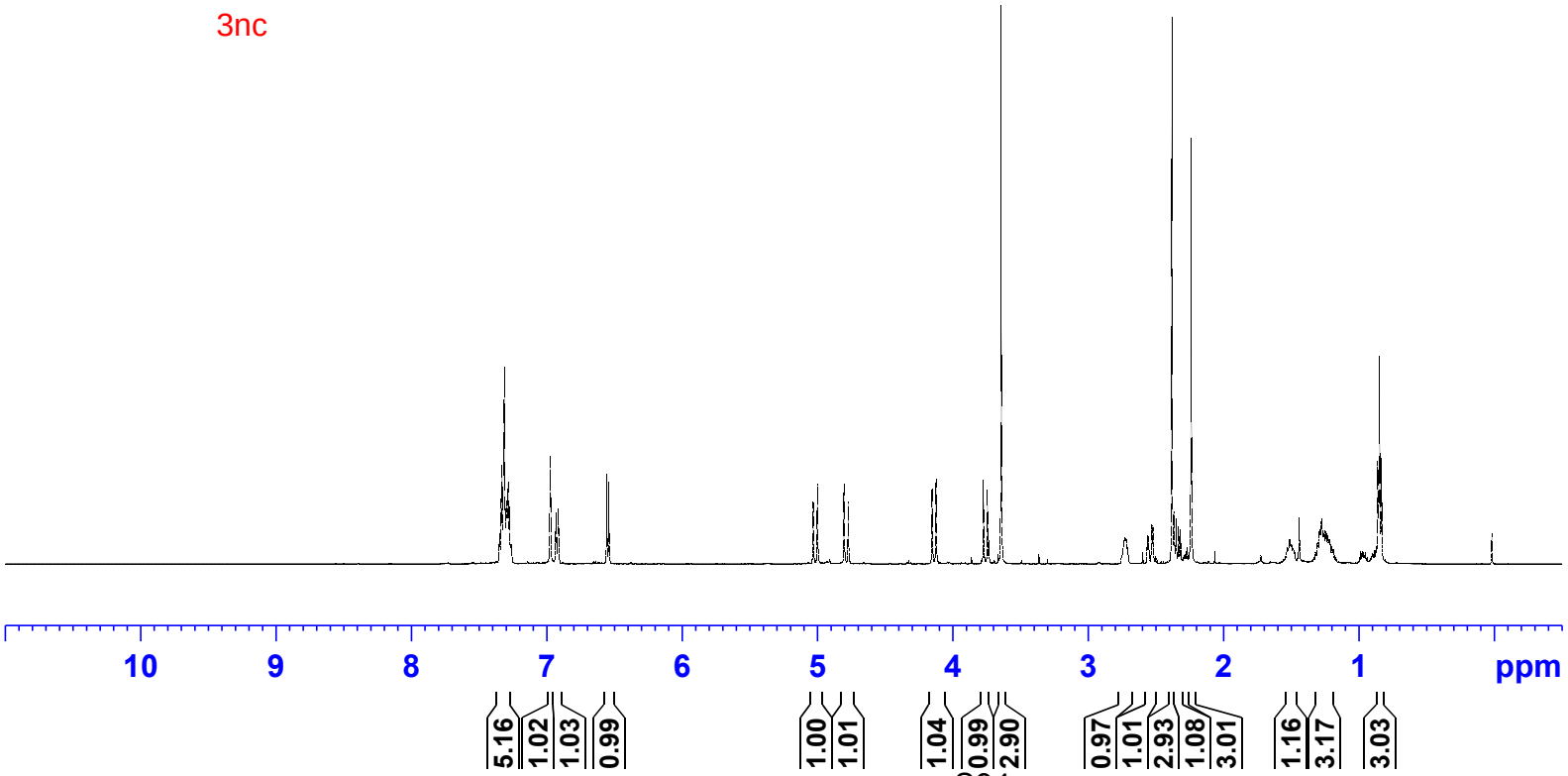
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577801 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



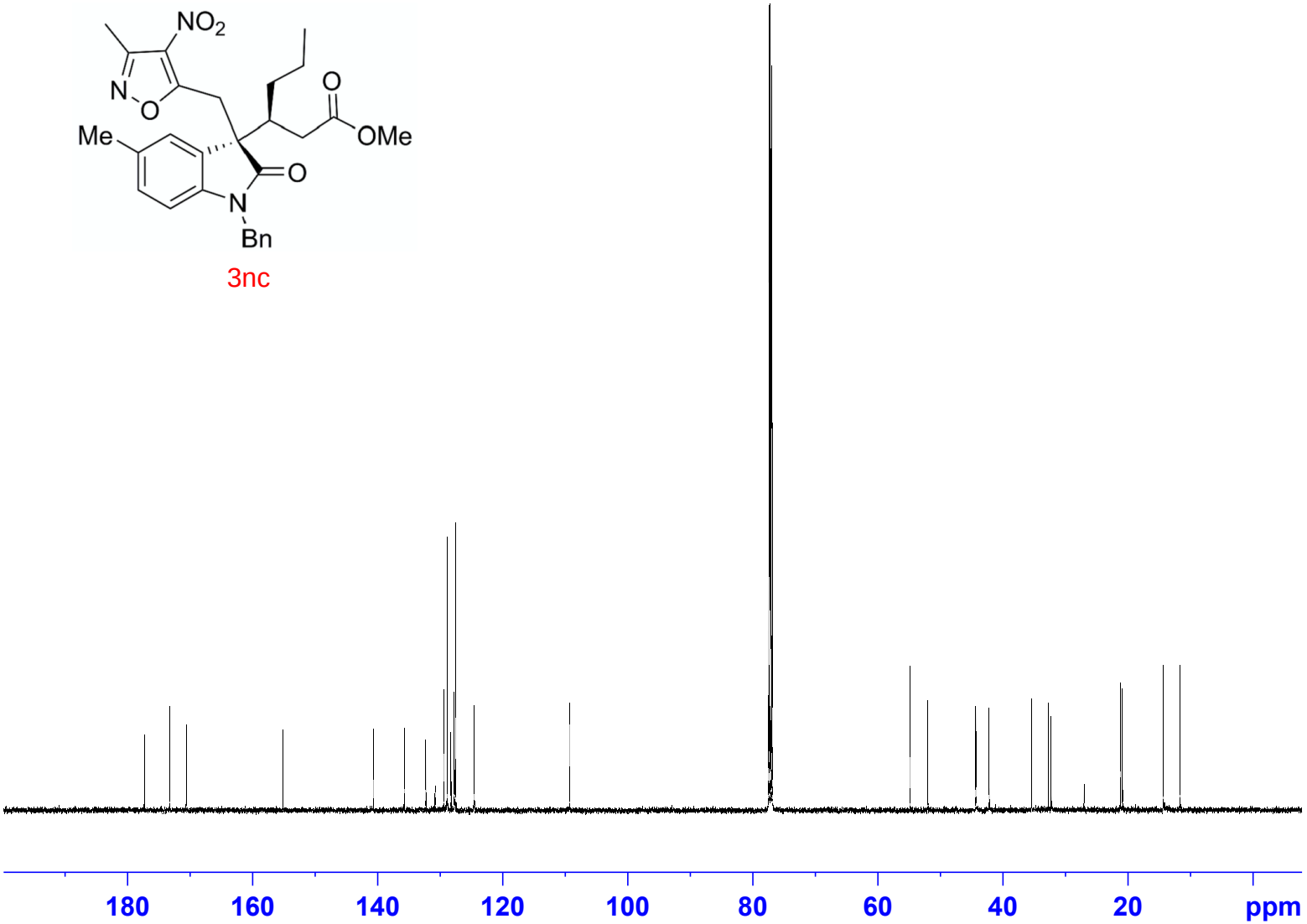


3nc




```
Current Data Parameters
NAME                  ZCL-1659
EXPNO                       73
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190211
Time                   16.22
INSTRUM                spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     289.0 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300000 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```

3nc



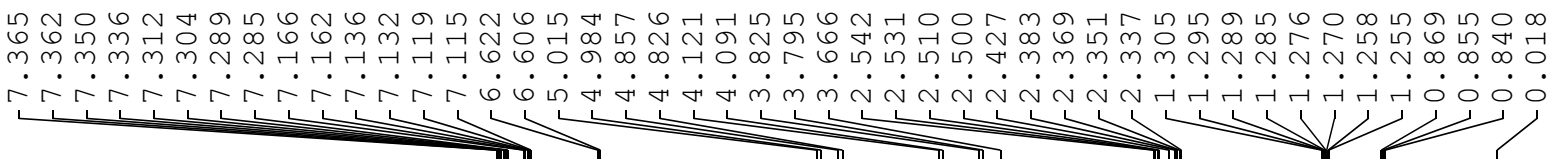
Current Data Parameters
NAME ZCL-1659
EXPNO 74
PROCNO 1

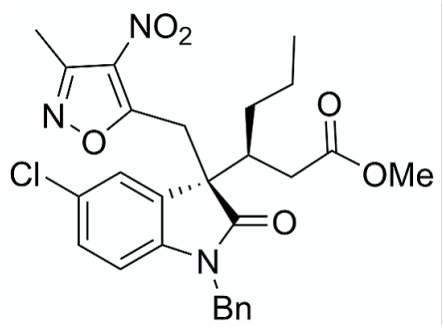
F2 - Acquisition Parameters
Date_ 20190211
Time 16.25
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 46
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 289.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

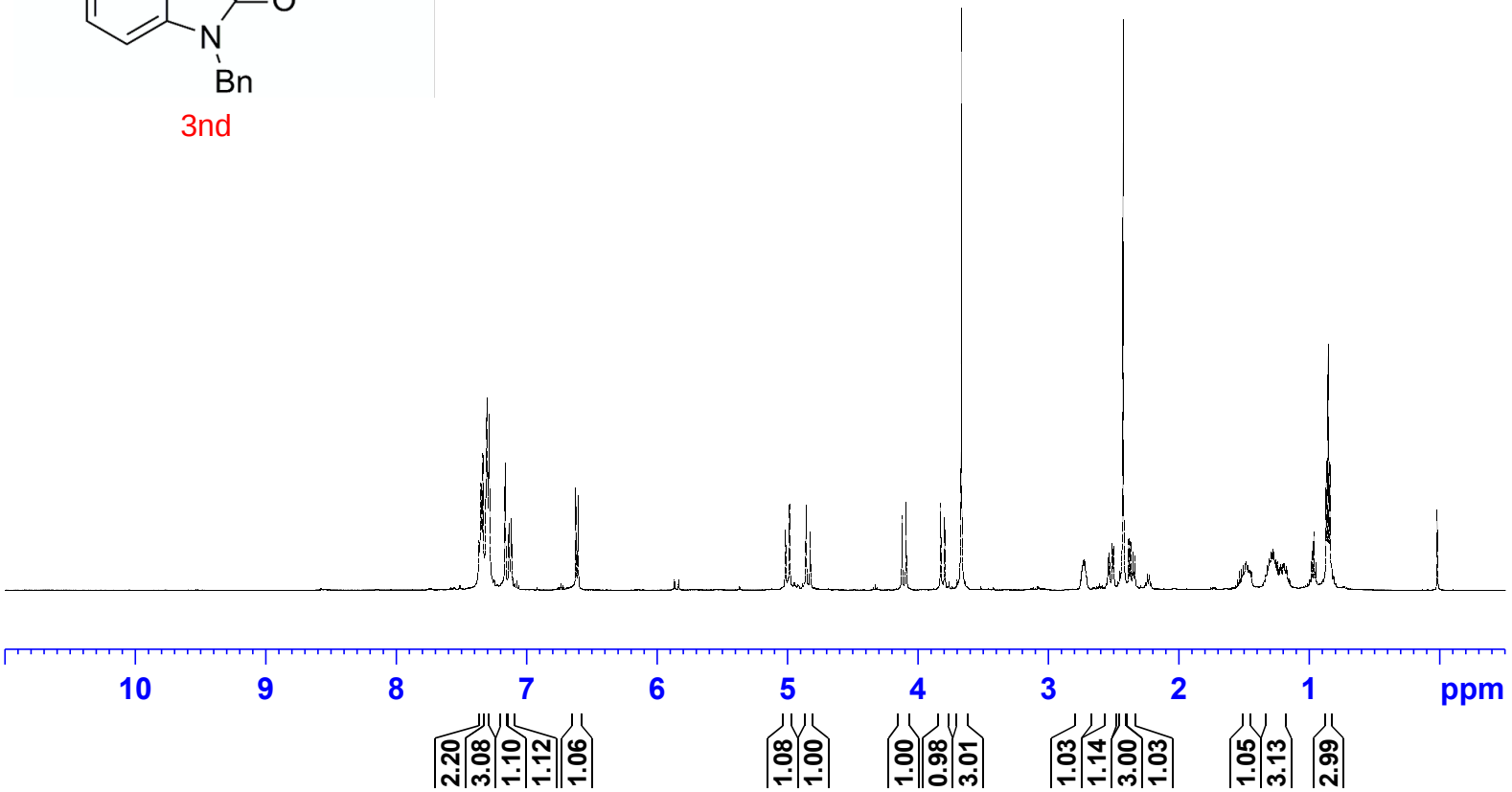
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577801 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

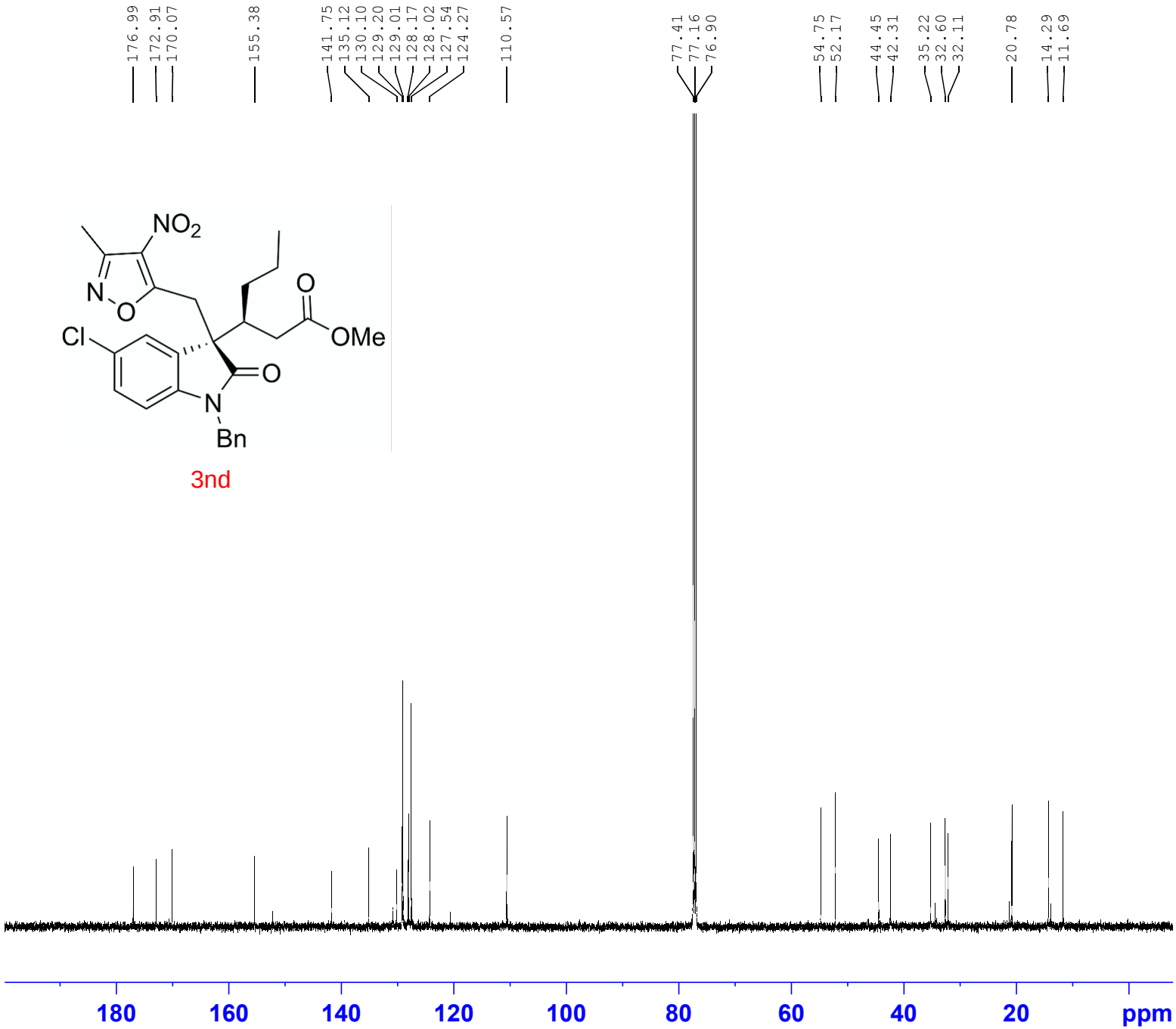




3nd




```
Current Data Parameters
NAME                  ZCL-1660
EXPNO                       79
PROCNO                       1

F2 - Acquisition Parameters
Date_               20190211
Time                   16.37
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES             0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                   50.000 usec
DE                    6.50 usec
TE                    288.0 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF             500.1300000 MHz
WDW                       EM
SSB        0
LB                    0.30 Hz
GB         0
PC                    1.00
```



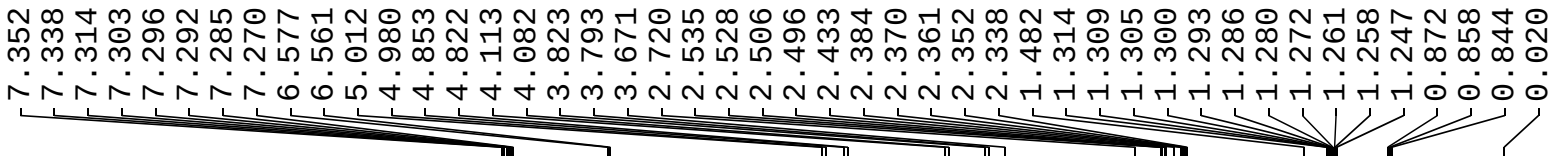
Current Data Parameters
NAME ZCL-1660
EXPNO 80
PROCNO 1

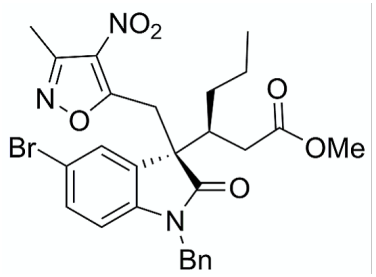
F2 - Acquisition Parameters
Date_ 20190211
Time 16.39
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 62
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 287.9 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

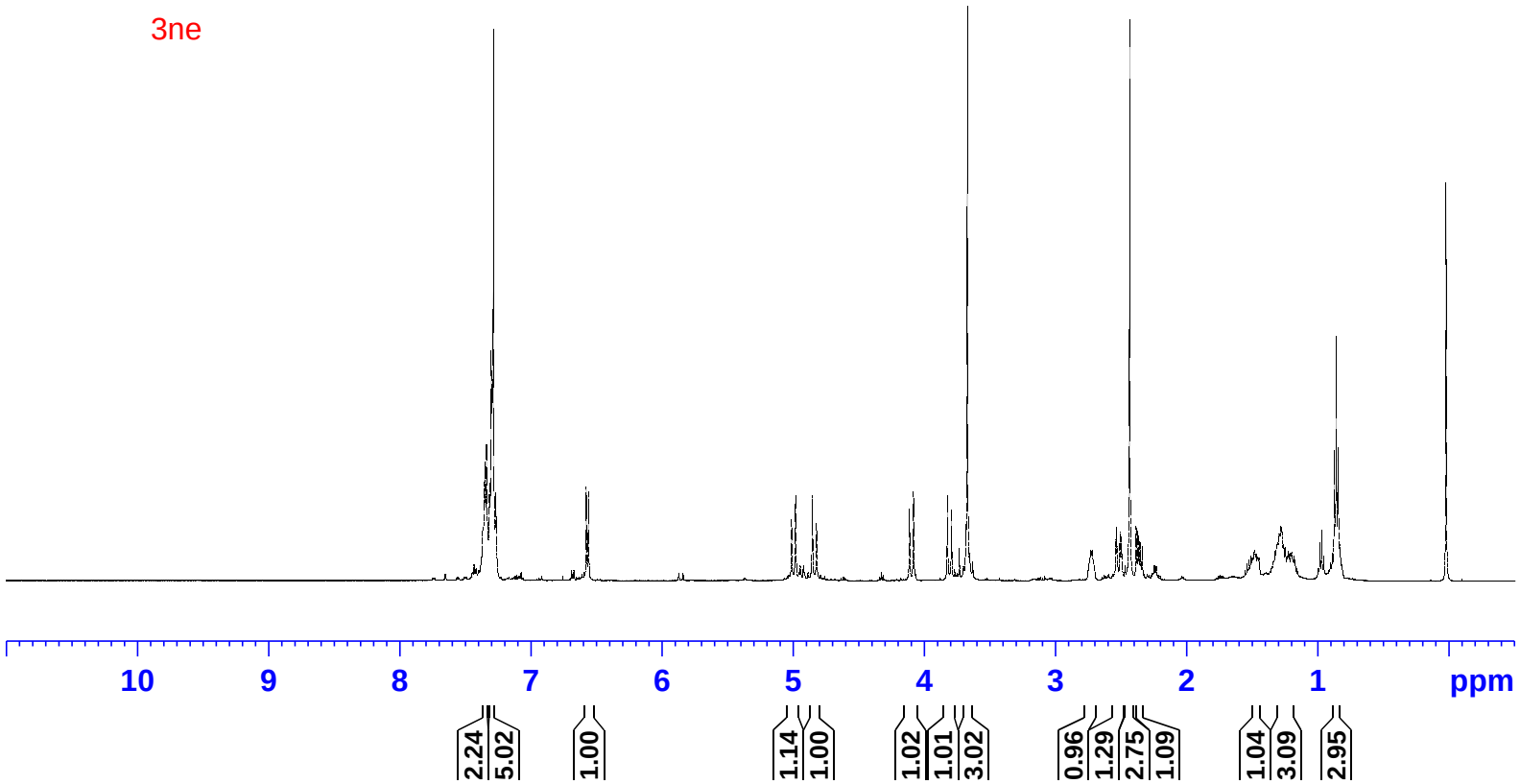
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577783 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

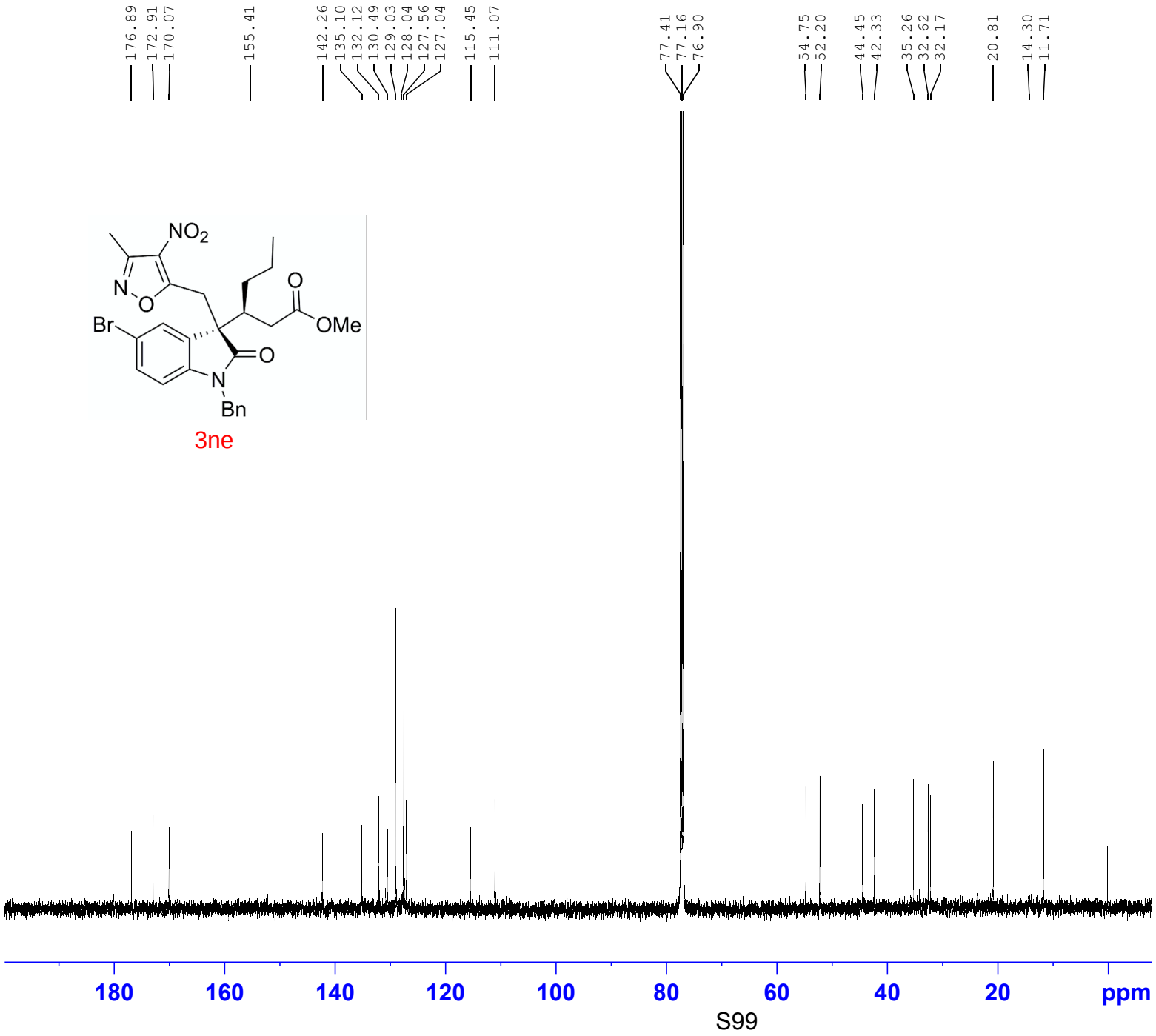




3ne




```
Current Data Parameters
NAME                  ZCL-1661
EXPNO                       85
PROCNO                       1

F2 - Acquisition Parameters
Date_              20190211
Time                    16.57
INSTRUM                 spect
PROBHD   5 mm CPPBBO BB
PULPROG                  zg30
TD                      65536
SOLVENT                 CDCl3
NS                         16
DS                          2
SWH                10000.000 Hz
FIDRES                 0.152588 Hz
AQ                 3.2767999 sec
RG                      31.72
DW                     50.000 usec
DE                      6.50 usec
TE                      288.9 K
D1                 1.00000000 sec
D11          0 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            500.1330885 MHz
NUC1                       1H
P1                      11.50 usec
PLW1            20.00000000 W

======== CHANNEL f2 ========
SFO2            500.1330885 MHz
NUC2                      off
CPDPRG[2
PCPD2        0 usec
PLW2         0 W
PLW12        0 W
PLW13        0 W

F2 - Processing parameters
SI                        65536
SF              500.1300000 MHz
WDW                        EM
SSB          0
LB                      0.30 Hz
GB           0
PC                      1.00
```



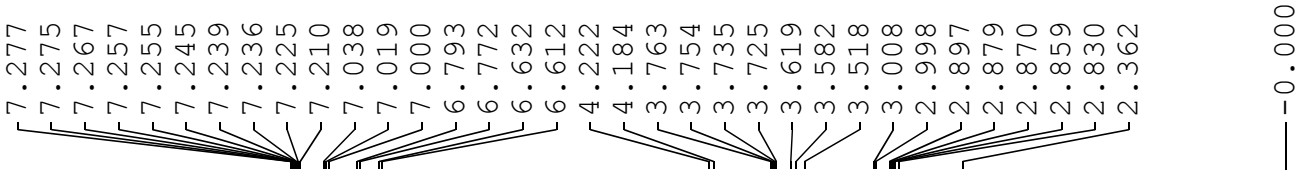
Current Data Parameters
NAME ZCL-1661
EXPNO 86
PROCNO 1

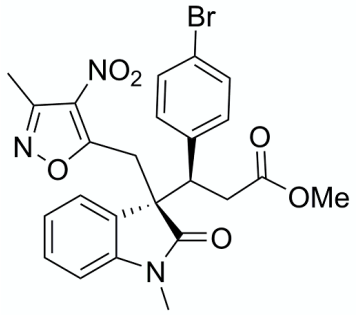
F2 - Acquisition Parameters
Date_ 20190211
Time 16.58
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 283
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 288.9 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

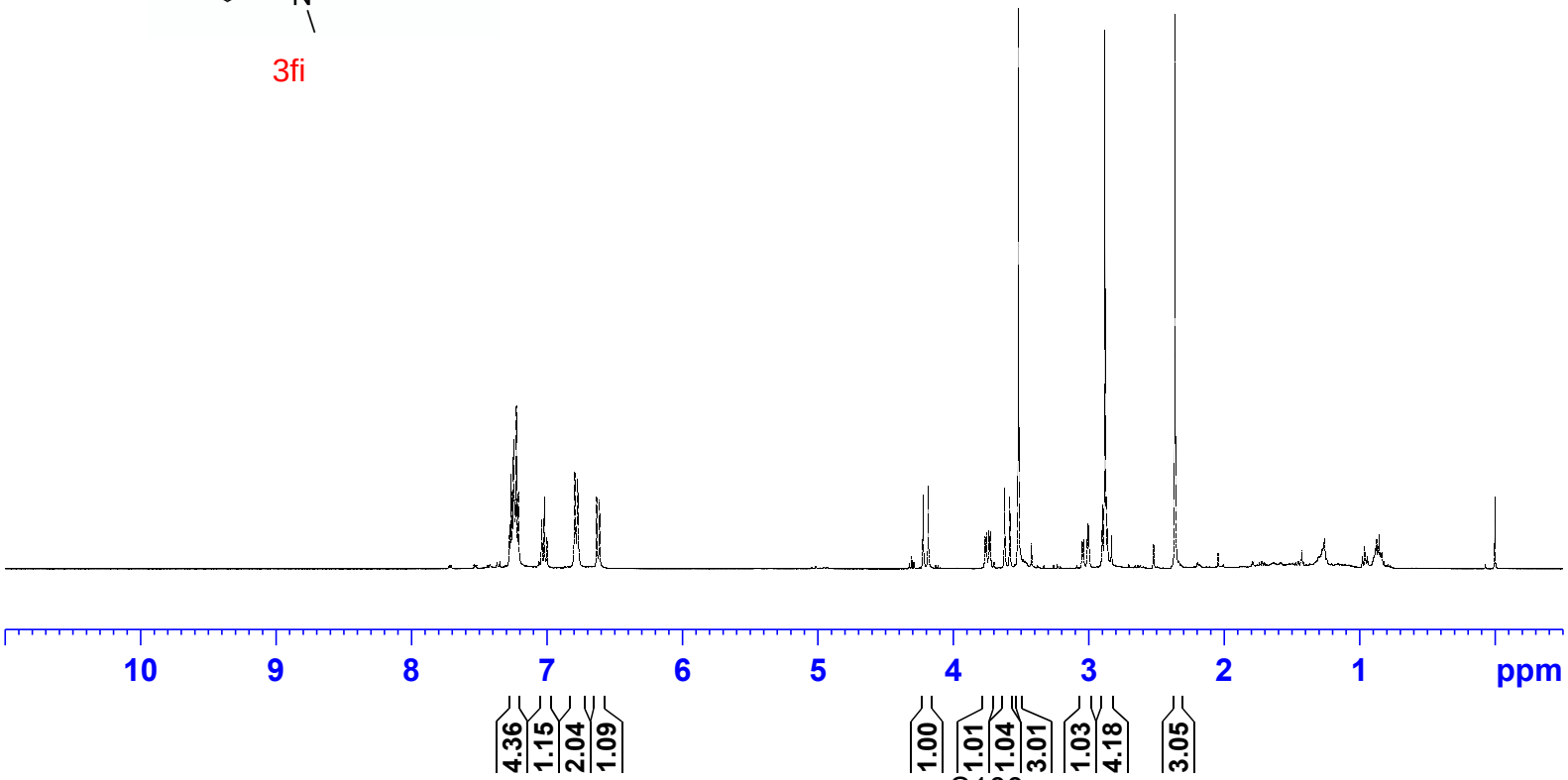
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577756 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

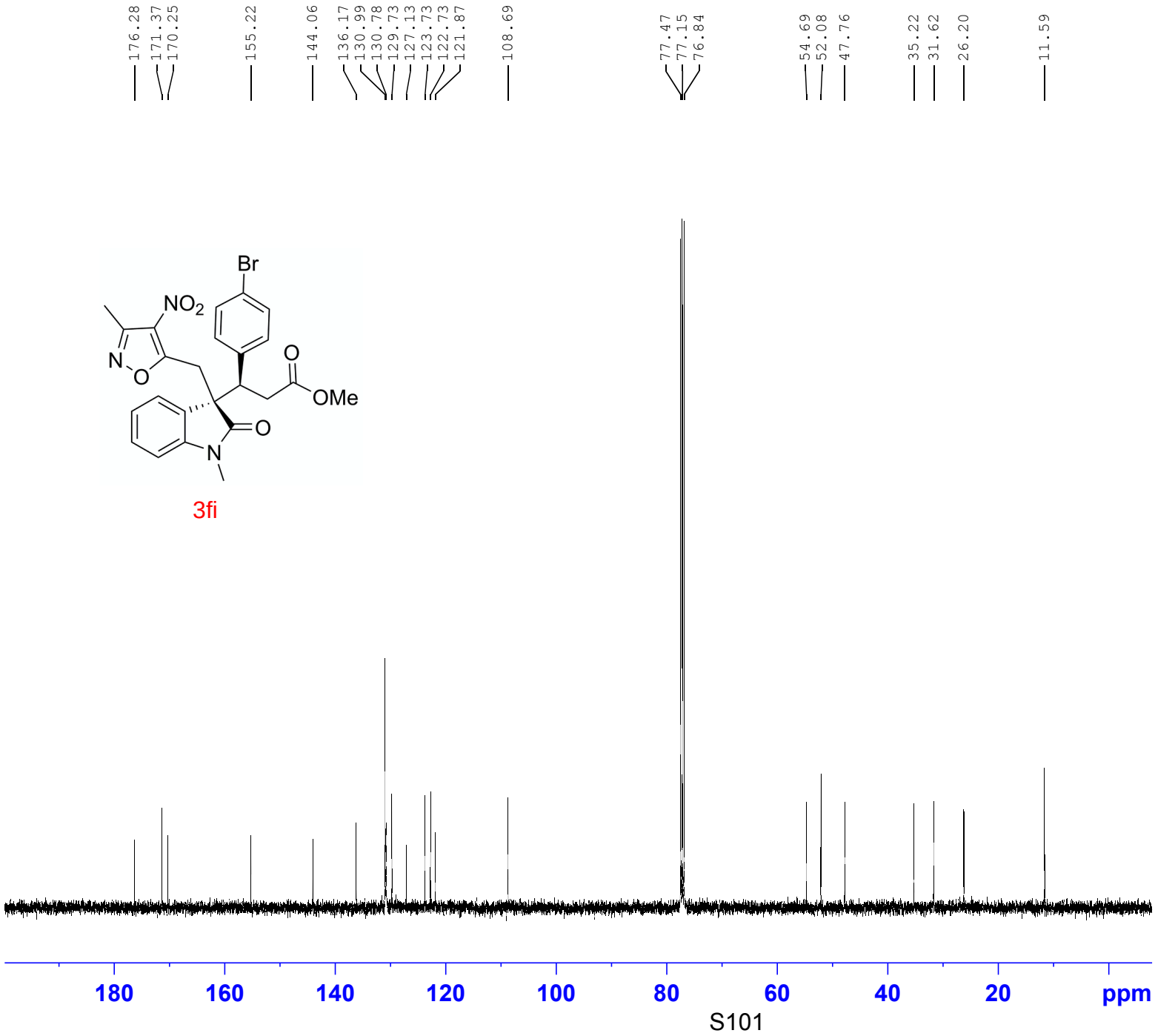




3fi




```
Current Data Parameters
NAME                  ZCL-1592
EXPNO                       42
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181127
Time                    20.24
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                  zg30
TD                      32768
SOLVENT                 CDCl3
NS                         16
DS                          0
SWH                  8012.820 Hz
FIDRES               0.244532 Hz
AQ                   2.0447233 sec
RG                      140.59
DW                      62.400 usec
DE                       6.50 usec
TE                      298.0 K
D1                 2.00000000 sec
D11        0 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            400.2424716 MHz
NUC1                       1H
P1                      14.80 usec
PLW1            12.00000000 W

======== CHANNEL f2 ========
SFO2            400.2424716 MHz
NUC2                      off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                        65536
SF              400.2400070 MHz
WDW                        EM
SSB        0
LB                     0.30 Hz
GB         0
PC                     1.00
```



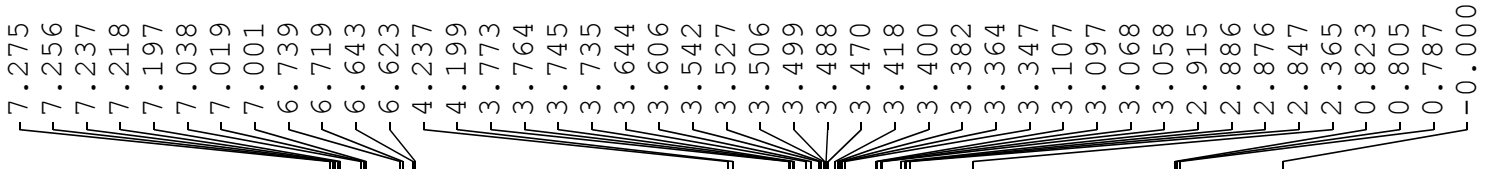
Current Data Parameters
NAME ZCL-1592
EXPNO 43
PROCNO 1

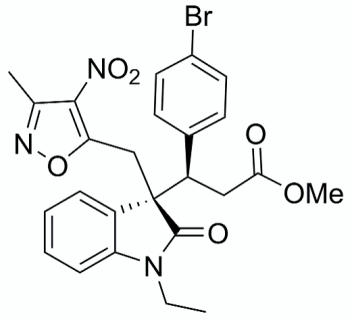
F2 - Acquisition Parameters
Date_ 20181127
Time 20.27
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 142
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.33
DW 20.800 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6504916 MHz
NUC1 13C
P1 10.00 usec
PLW1 54.00000000 W

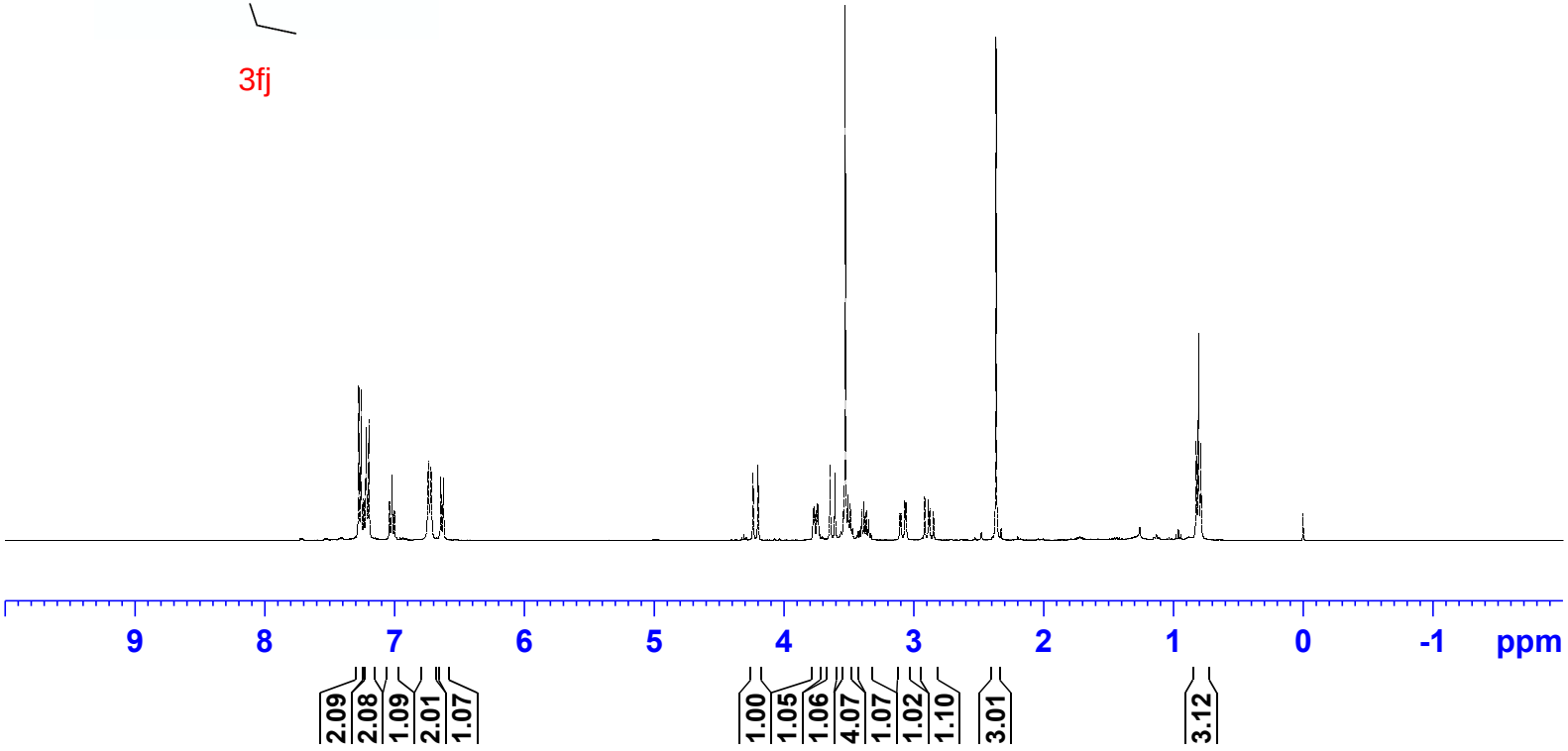
======== CHANNEL f2 ========
SFO2 400.2416010 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.34680000 W
PLW13 0.28090999 W

F2 - Processing parameters
SI 32768
SF 100.6404168 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

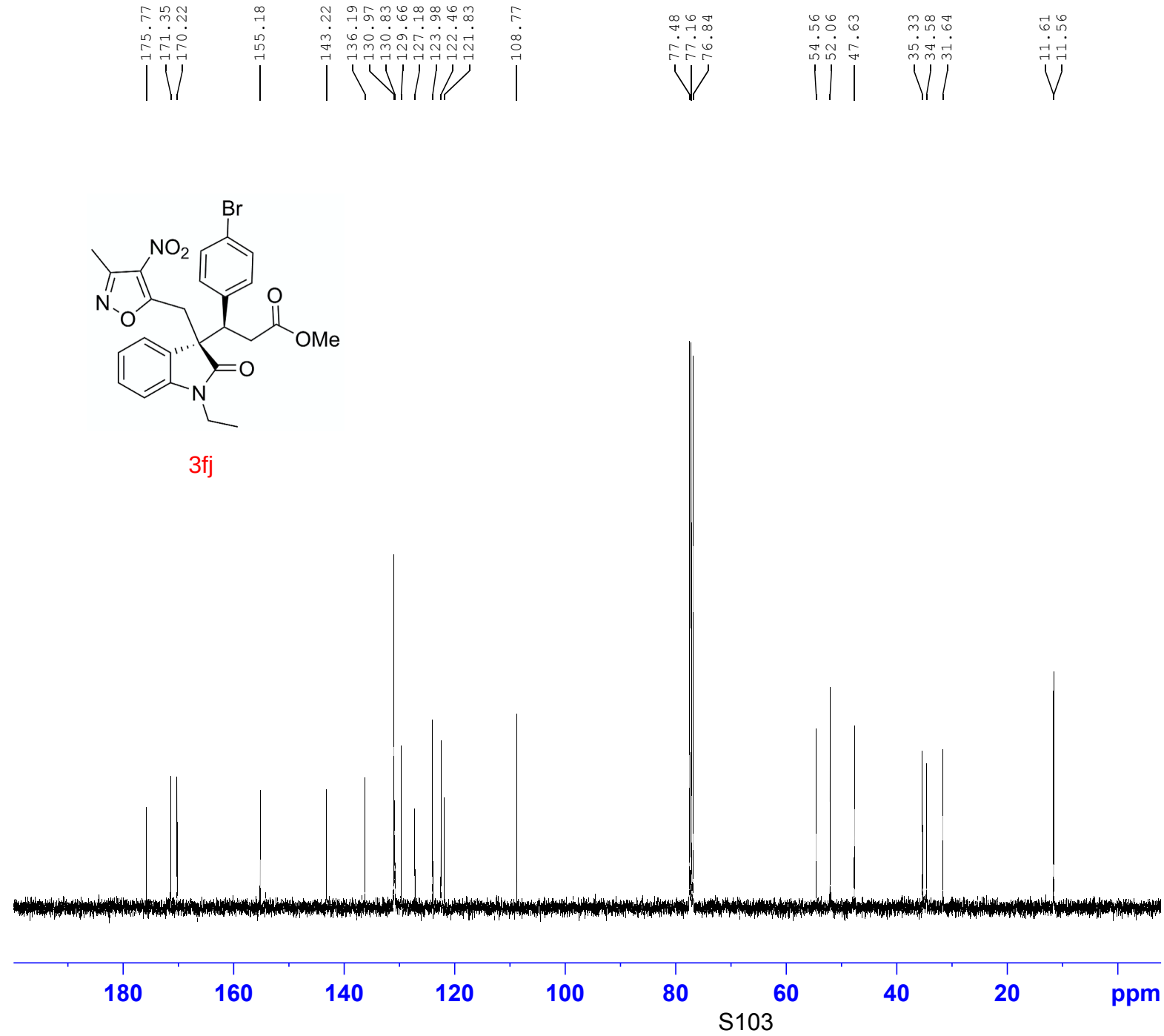




3fj




```
Current Data Parameters
NAME                  ZCL-1593
EXPNO                       55
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181127
Time                    21.37
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     32768
SOLVENT                CDCl3
NS                        16
DS                         0
SWH                 8012.820 Hz
FIDRES              0.244532 Hz
AQ                2.0447233 sec
RG                     55.55
DW                    62.400 usec
DE                     6.50 usec
TE                    298.0 K
D1              2.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           400.2424716 MHz
NUC1                      1H
P1                     14.80 usec
PLW1           12.00000000 W

======== CHANNEL f2 ========
SFO2           400.2424716 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                      65536
SF             400.2400037 MHz
WDW                        EM
SSB        0
LB                   0.30 Hz
GB         0
PC                   1.00
```



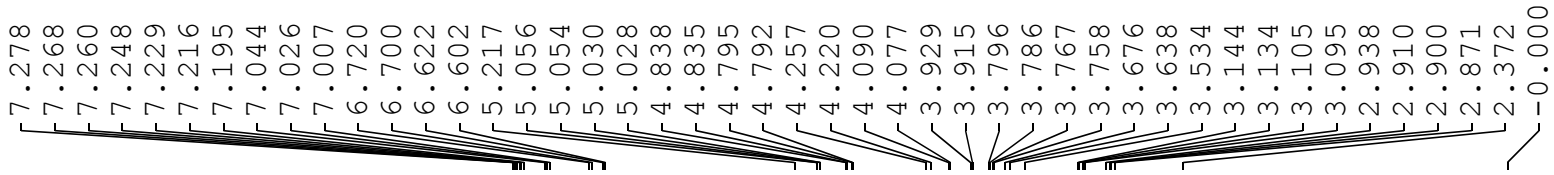
Current Data Parameters
NAME ZCL-1593
EXPNO 56
PROCNO 1

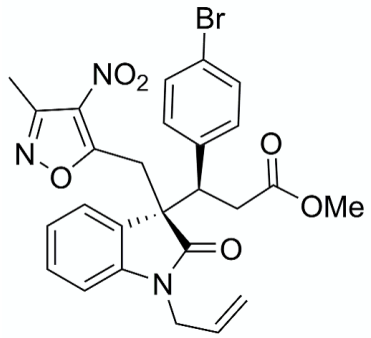
F2 - Acquisition Parameters
Date_ 20181127
Time 21.40
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 55
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.33
DW 20.800 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6504916 MHz
NUC1 13C
P1 10.00 usec
PLW1 54.00000000 W

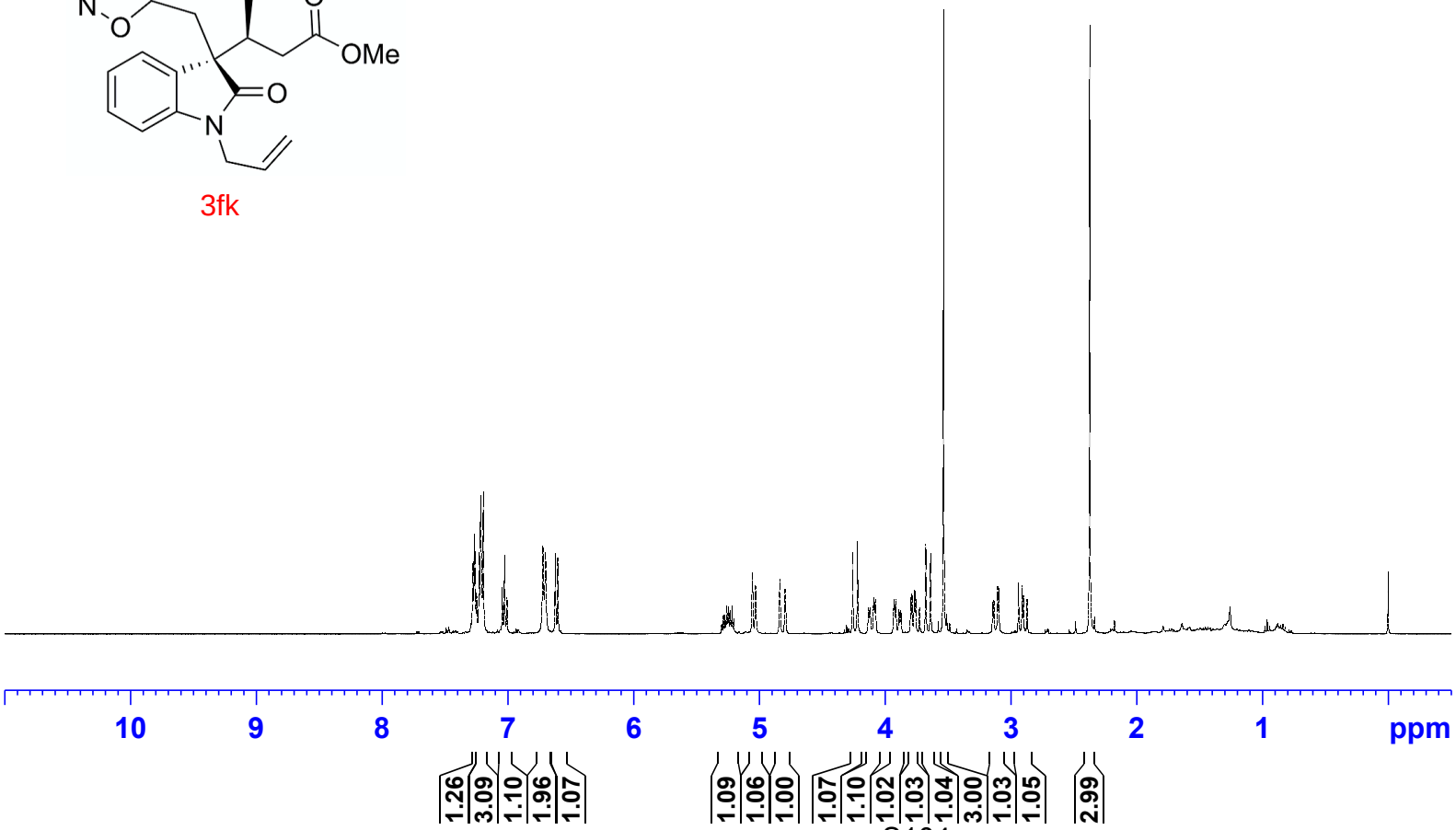
======== CHANNEL f2 ========
SFO2 400.2416010 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.34680000 W
PLW13 0.28090999 W

F2 - Processing parameters
SI 32768
SF 100.6404190 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

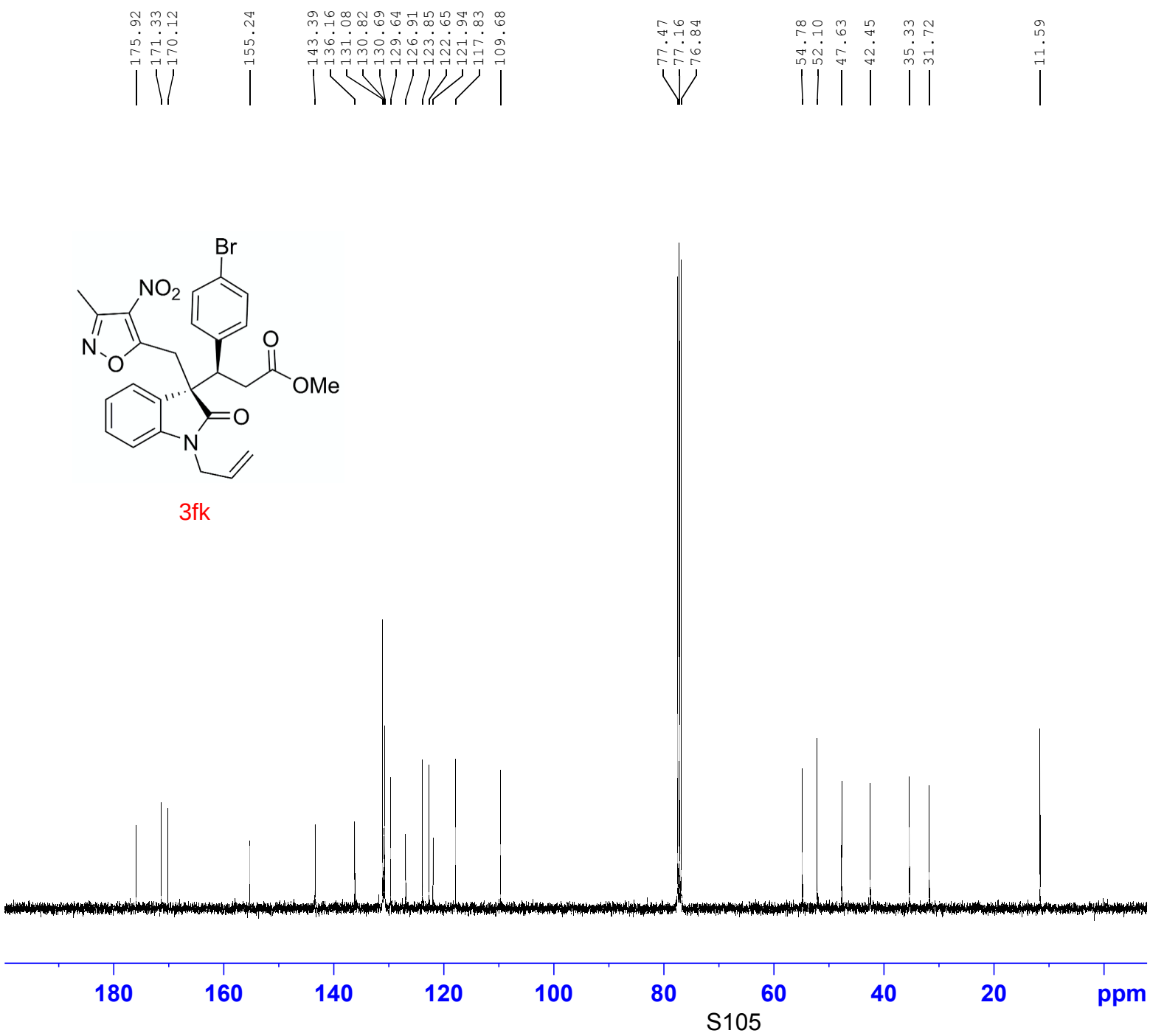




3fk




```
Current Data Parameters
NAME                  ZCL-1594
EXPNO                       49
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181127
Time                    21.00
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                  zg30
TD                      32768
SOLVENT                 CDCl3
NS                         16
DS                          0
SWH                  8012.820 Hz
FIDRES               0.244532 Hz
AQ                   2.0447233 sec
RG                        73.9
DW                     62.400 usec
DE                      6.50 usec
TE                      298.0 K
D1                2.00000000 sec
D11       0 sec
TD0                         1

======== CHANNEL f1 ========
SFO1            400.2424716 MHz
NUC1                       1H
P1                      14.80 usec
PLW1             12.00000000 W

======== CHANNEL f2 ========
SFO2            400.2424716 MHz
NUC2                      off
CPDPRG[2
PCPD2     0 usec
PLW2      0 W
PLW12     0 W
PLW13     0 W

F2 - Processing parameters
SI                        65536
SF              400.2400066 MHz
WDW                        EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```



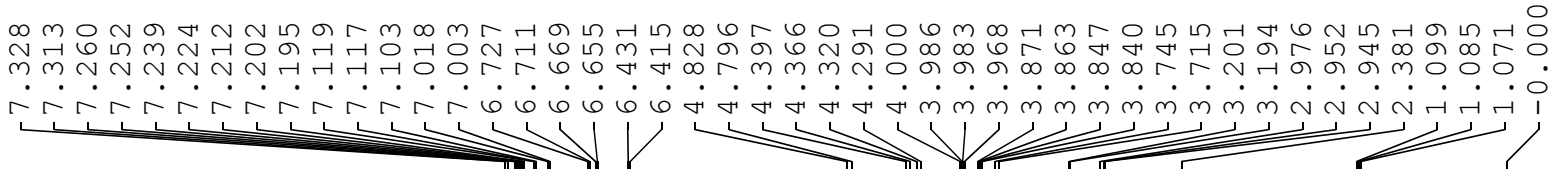
Current Data Parameters
NAME ZCL-1594
EXPNO 50
PROCNO 1

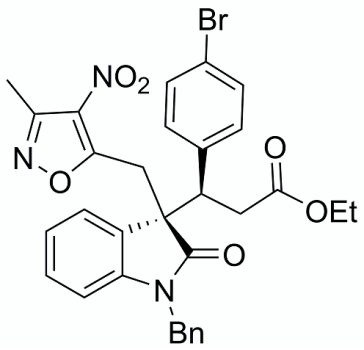
F2 - Acquisition Parameters
Date_ 20181127
Time 21.10
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 164
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.33
DW 20.800 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 100.6504916 MHz
NUC1 13C
P1 10.00 usec
PLW1 54.00000000 W

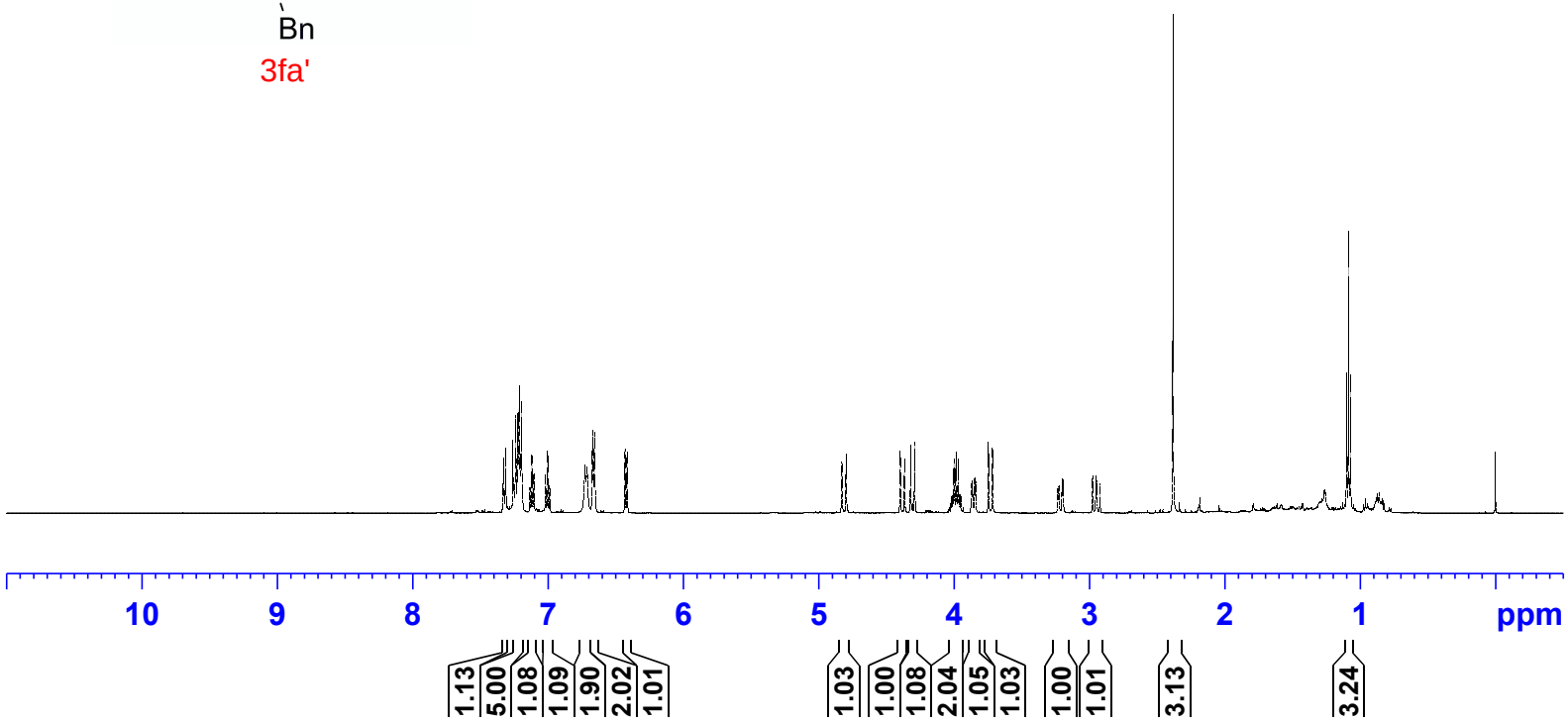
======== CHANNEL f2 ========
SFO2 400.2416010 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 90.00 usec
PLW2 12.00000000 W
PLW12 0.34680000 W
PLW13 0.28090999 W

F2 - Processing parameters
SI 32768
SF 100.6404176 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

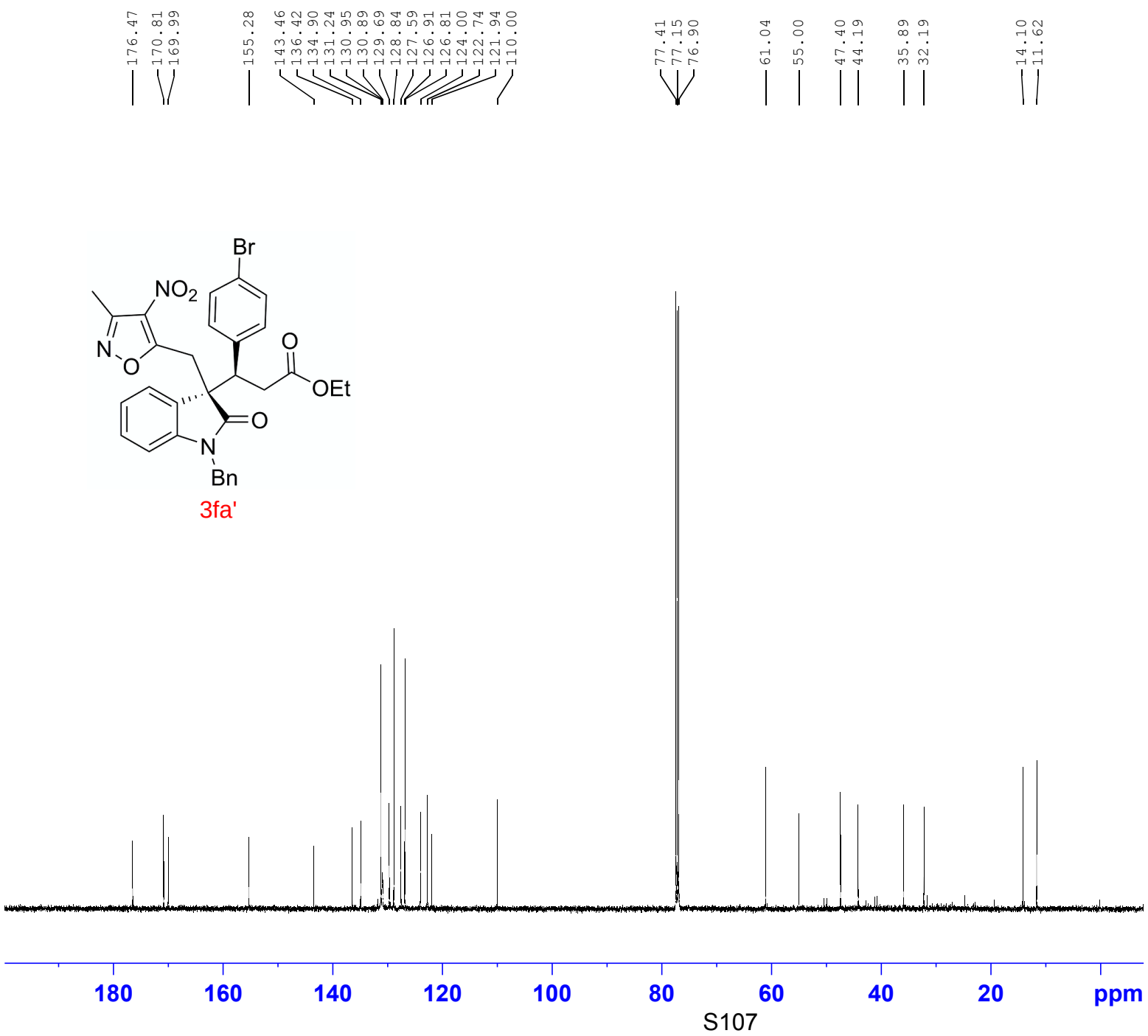




3fa'




```
Current Data Parameters
NAME                  ZCL-1634
EXPNO                       22
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                   12.20
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300120 MHz
WDW                        EM
SSB        0
LB                    0.30 Hz
GB         0
PC                     1.00
```



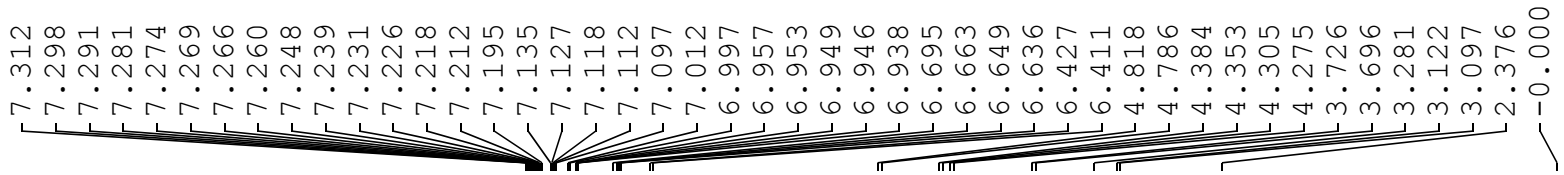
Current Data Parameters
NAME ZCL-1634
EXPNO 23
PROCNO 1

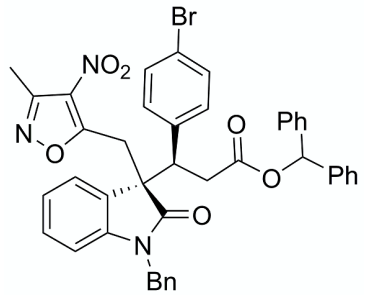
F2 - Acquisition Parameters
Date_ 20181228
Time 12.24
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 67
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

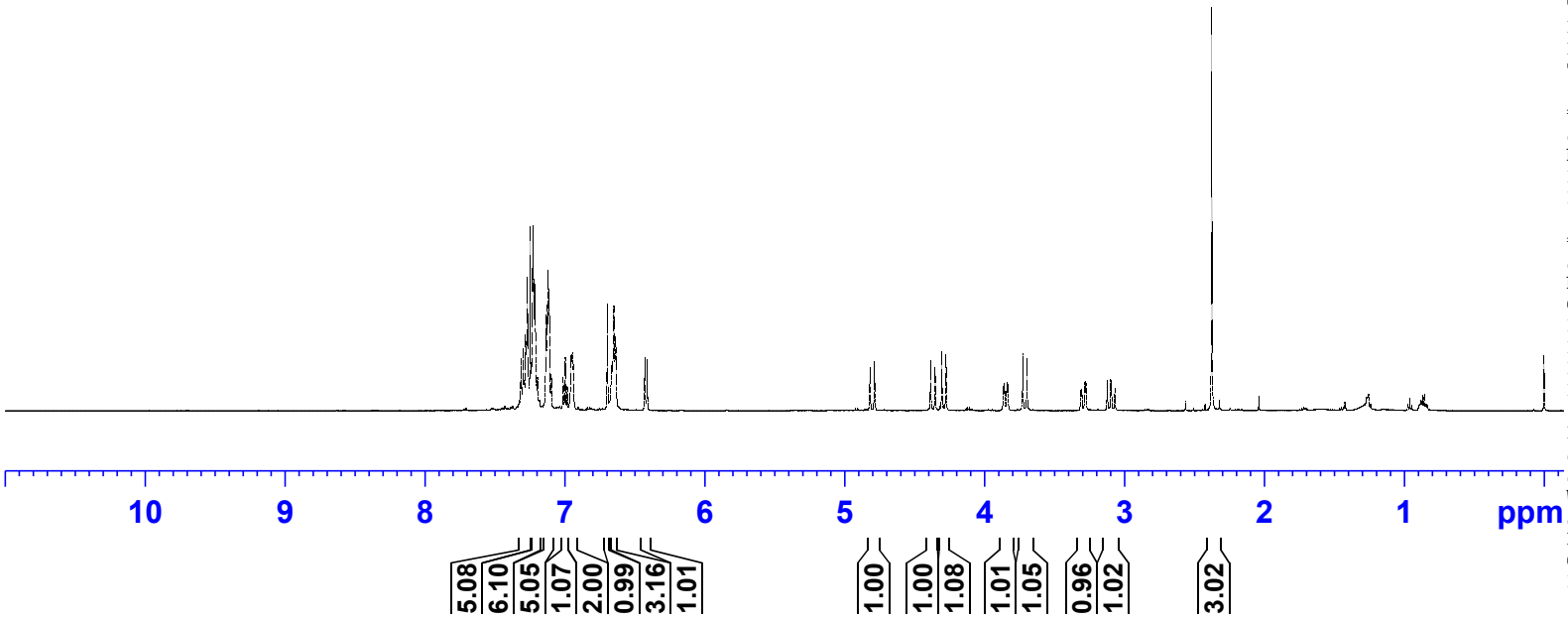
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577756 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

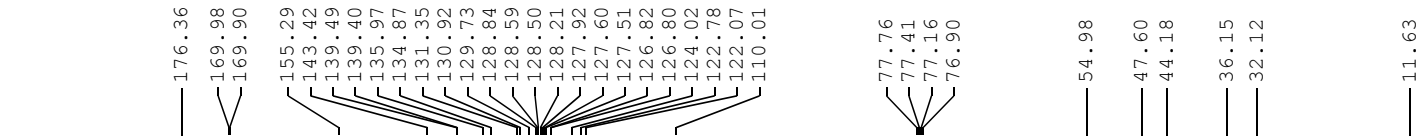




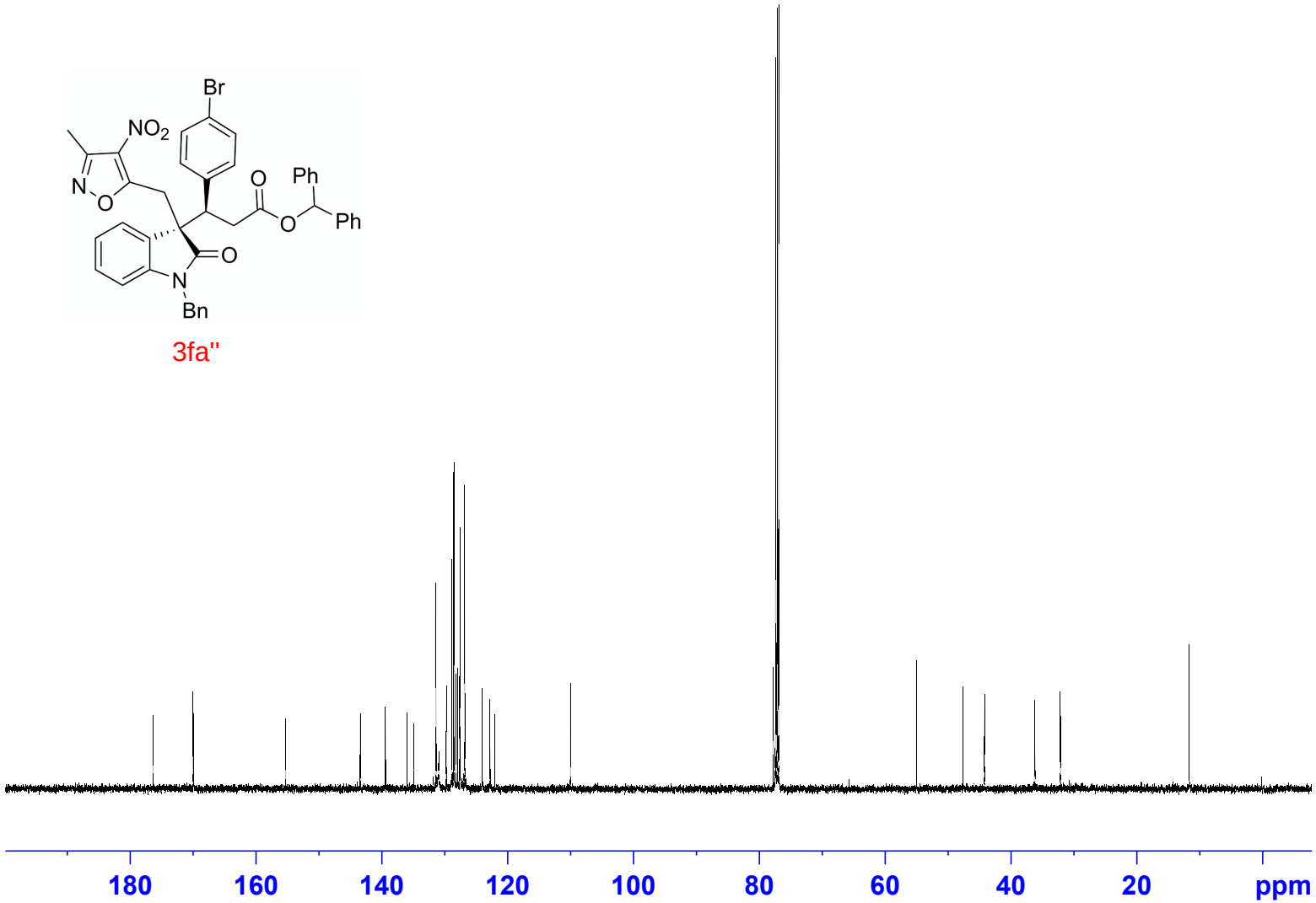
3fa''



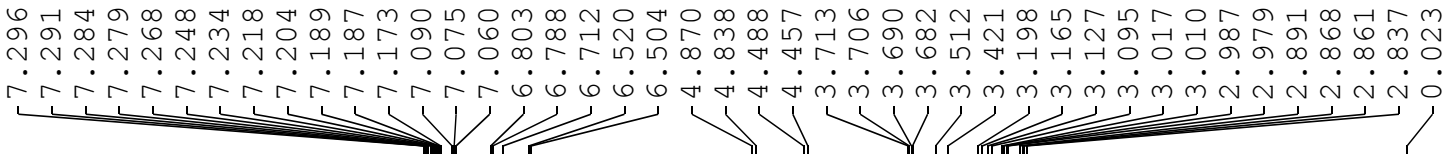

```
Current Data Parameters
NAME                  ZCL-1636
EXPNO                       24
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                   12.27
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH              10000.000 Hz
FIDRES               0.152588 Hz
AQ               3.2767999 sec
RG                     31.72
DW                  50.000 usec
DE                    6.50 usec
TE                   298.2 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                     off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300182 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```

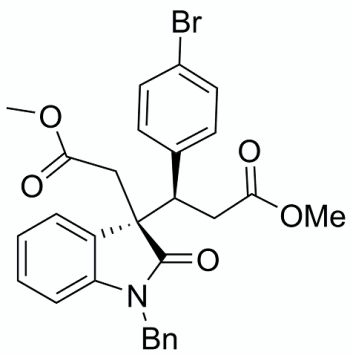


3fa''

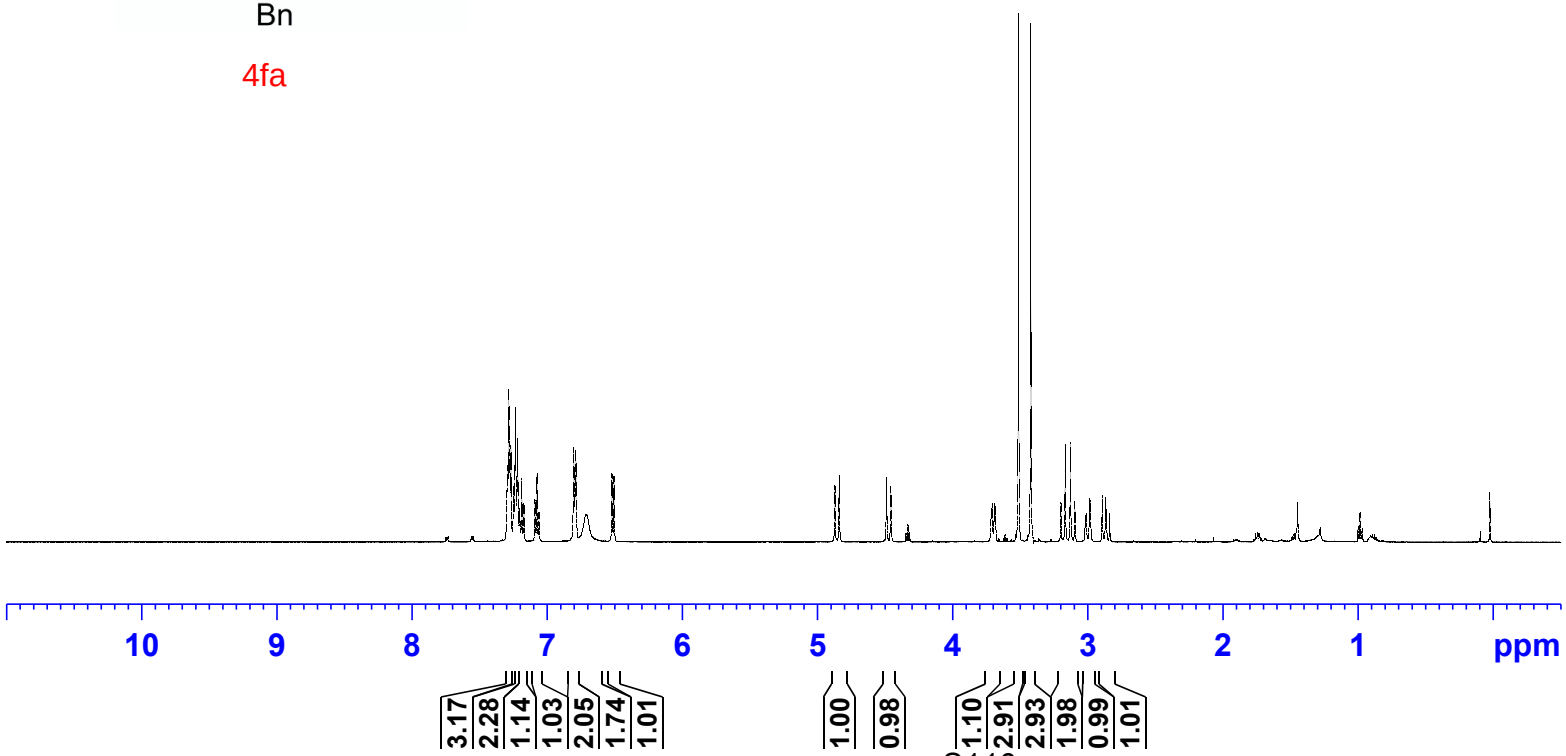



```
Current Data Parameters
NAME                  ZCL-1636
EXPNO                       25
PROCNO                       1

F2 - Acquisition Parameters
Date_              20181228
Time                   12.30
INSTRUM                spect
PROBHD   5 mm CPPBBO BB
PULPROG              zgpg30
TD                    65536
SOLVENT               CDCl3
NS                       54
DS                        4
SWH               29761.904 Hz
FIDRES             0.454131 Hz
AQ                 1.1010048 sec
RG                    192.89
DW                    16.800 usec
DE                    18.00 usec
TE                    298.1 K
D1                2.00000000 sec
D11               0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1            125.7703637 MHz
NUC1                      13C
P1                       9.80 usec
PLW1           57.00000000 W

======== CHANNEL f2 ========
SFO2            500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                 80.00 usec
PLW2           20.00000000 W
PLW12           0.35778001 W
PLW13           0.22898000 W

F2 - Processing parameters
SI                       32768
SF              125.7577765 MHz
WDW                         EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

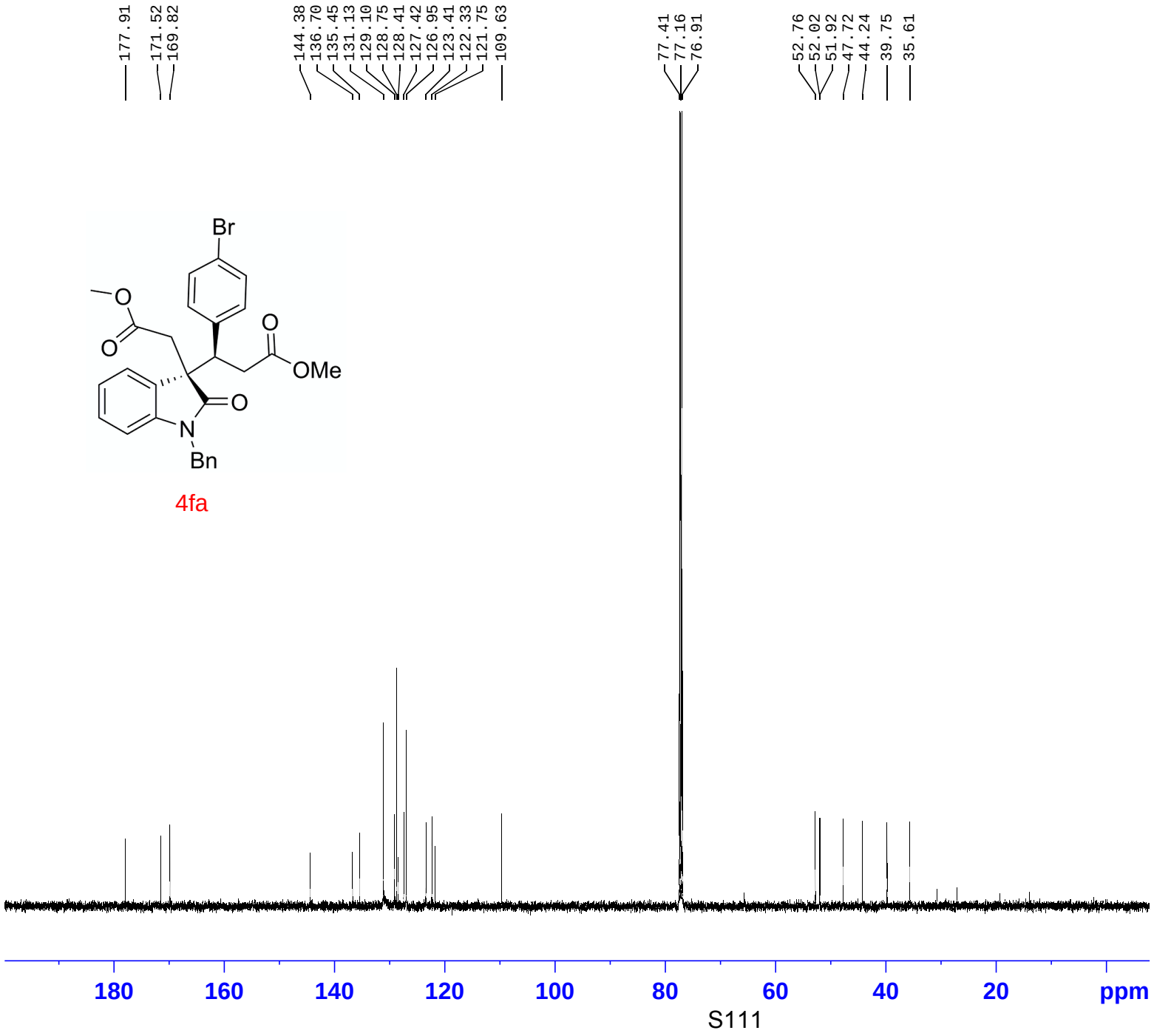




4fa




```
Current Data Parameters
NAME                  ZCL-1656
EXPNO                       53
PROCNO                       1

F2 - Acquisition Parameters
Date_               20190211
Time                   15.55
INSTRUM                spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES                0.152588 Hz
AQ                3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     289.0 K
D1              1.00000000 sec
D11       0 sec
TD0                          1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                      1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                    off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                         65536
SF             500.1300000 MHz
WDW                        EM
SSB        0
LB                      0.30 Hz
GB         0
PC                      1.00
```



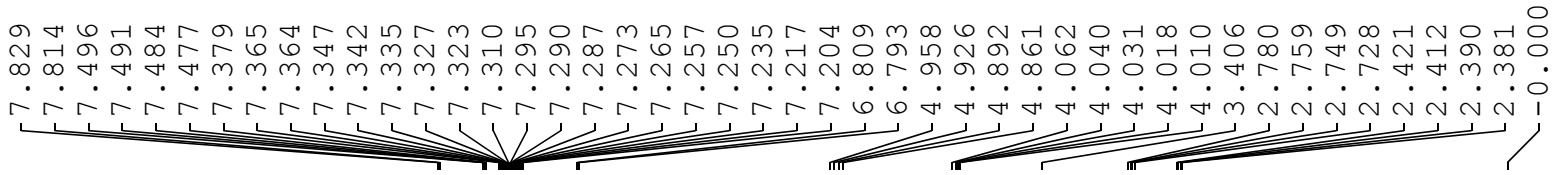
Current Data Parameters
NAME ZCL-1656
EXPNO 64
PROCNO 1

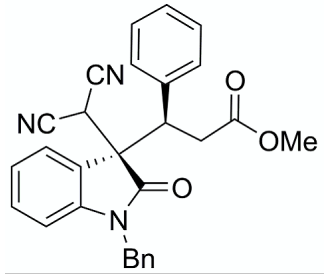
F2 - Acquisition Parameters
Date_ 20190211
Time 15.57
INSTRUM spect
PROBHD 5 mm CPPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 14
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 289.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLW1 57.00000000 W

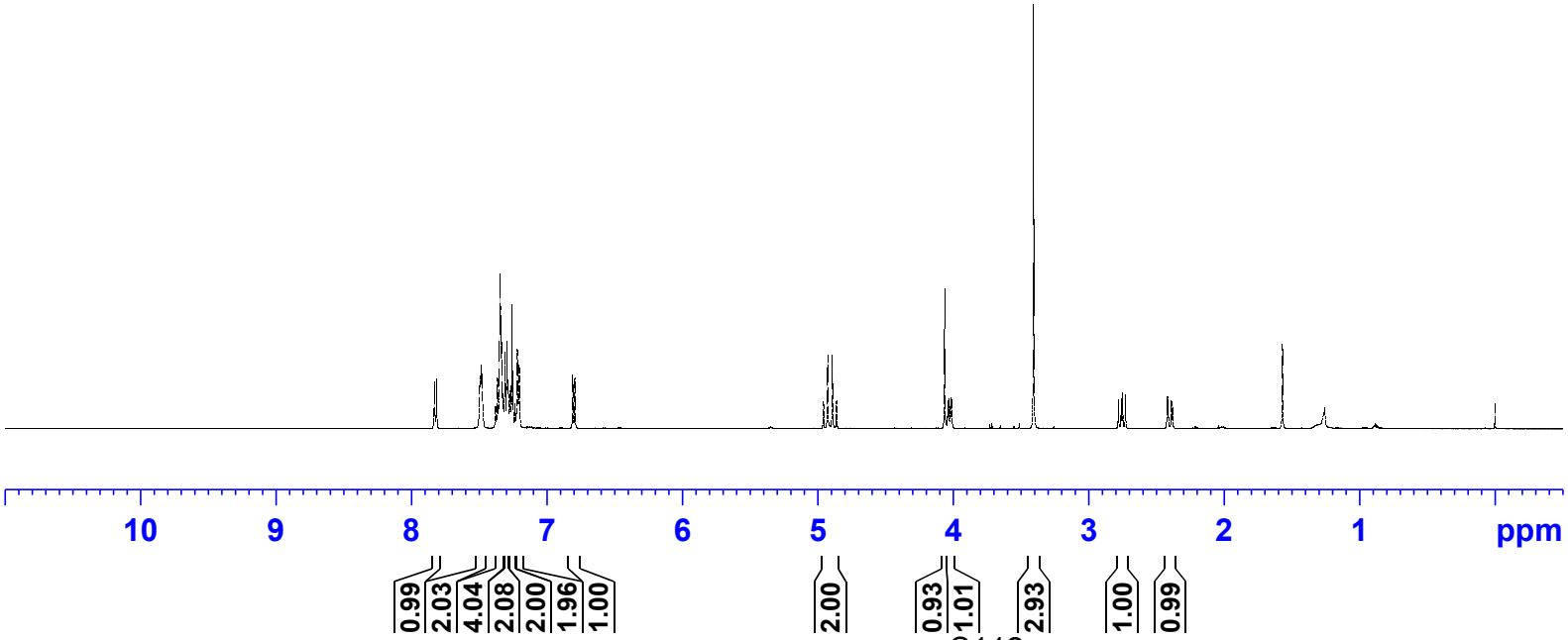
======== CHANNEL f2 ========
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 20.00000000 W
PLW12 0.35778001 W
PLW13 0.22898000 W

F2 - Processing parameters
SI 32768
SF 125.7577793 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

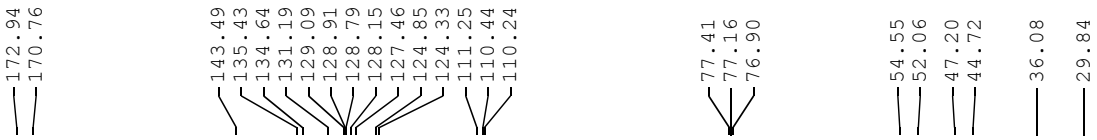


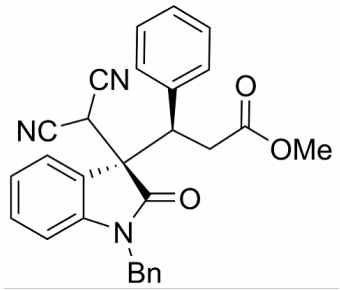


5

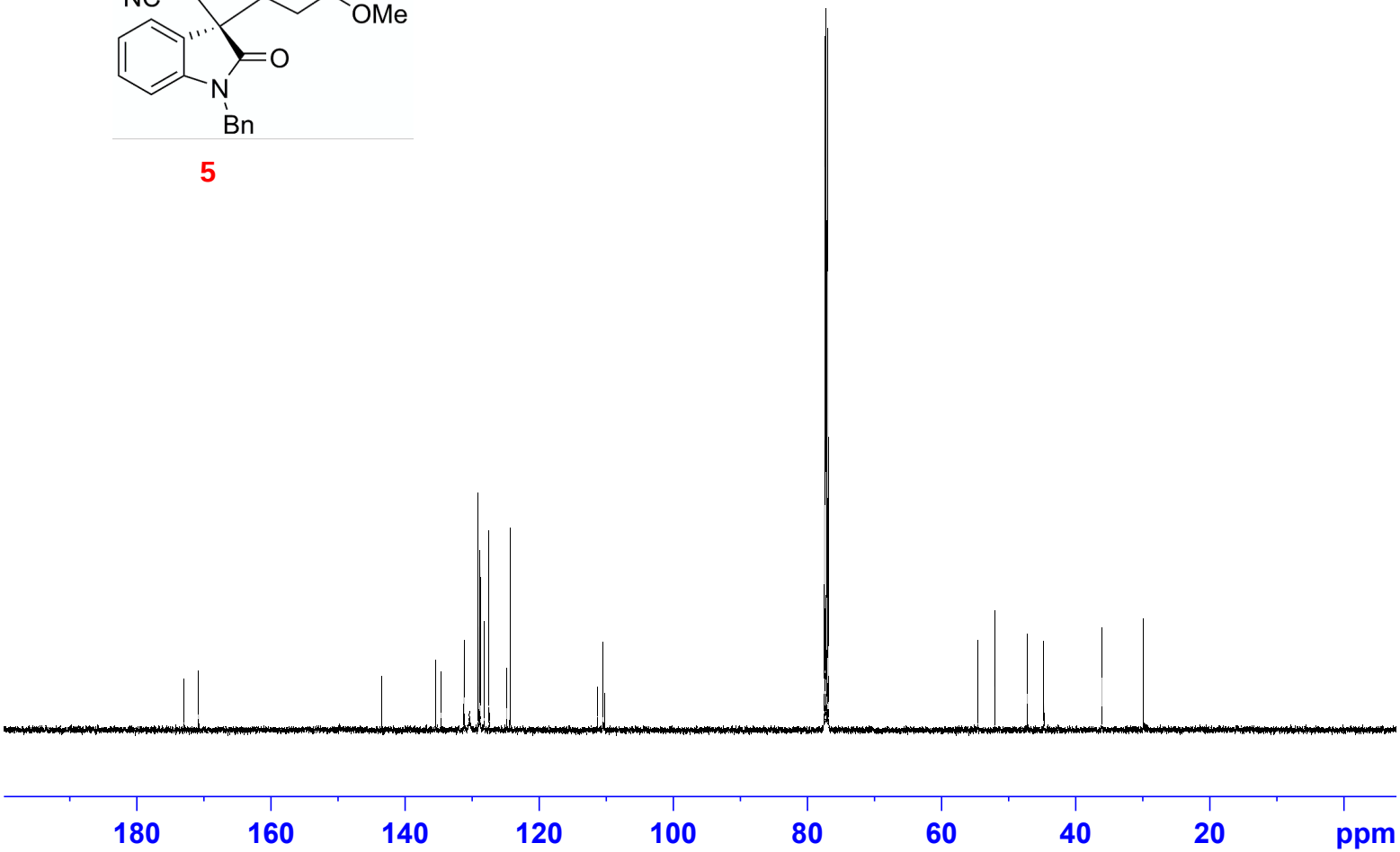



```
Current Data Parameters
NAME                  ZCL-1693
EXPNO                       40
PROCNO                       1

F2 - Acquisition Parameters
Date_               20190603
Time                   20.56
INSTRUM                spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH               10000.000 Hz
FIDRES             0.152588 Hz
AQ                 3.2767999 sec
RG                     31.72
DW                    50.000 usec
DE                     6.50 usec
TE                     298.1 K
D1              1.00000000 sec
D11       0 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           500.1330885 MHz
NUC1                    1H
P1                     11.50 usec
PLW1           20.00000000 W

======== CHANNEL f2 ========
SFO2           500.1330885 MHz
NUC2                   off
CPDPRG[2
PCPD2      0 usec
PLW2       0 W
PLW12      0 W
PLW13      0 W

F2 - Processing parameters
SI                     65536
SF             500.1300136 MHz
WDW                     EM
SSB        0
LB                    0.30 Hz
GB         0
PC                    1.00
```





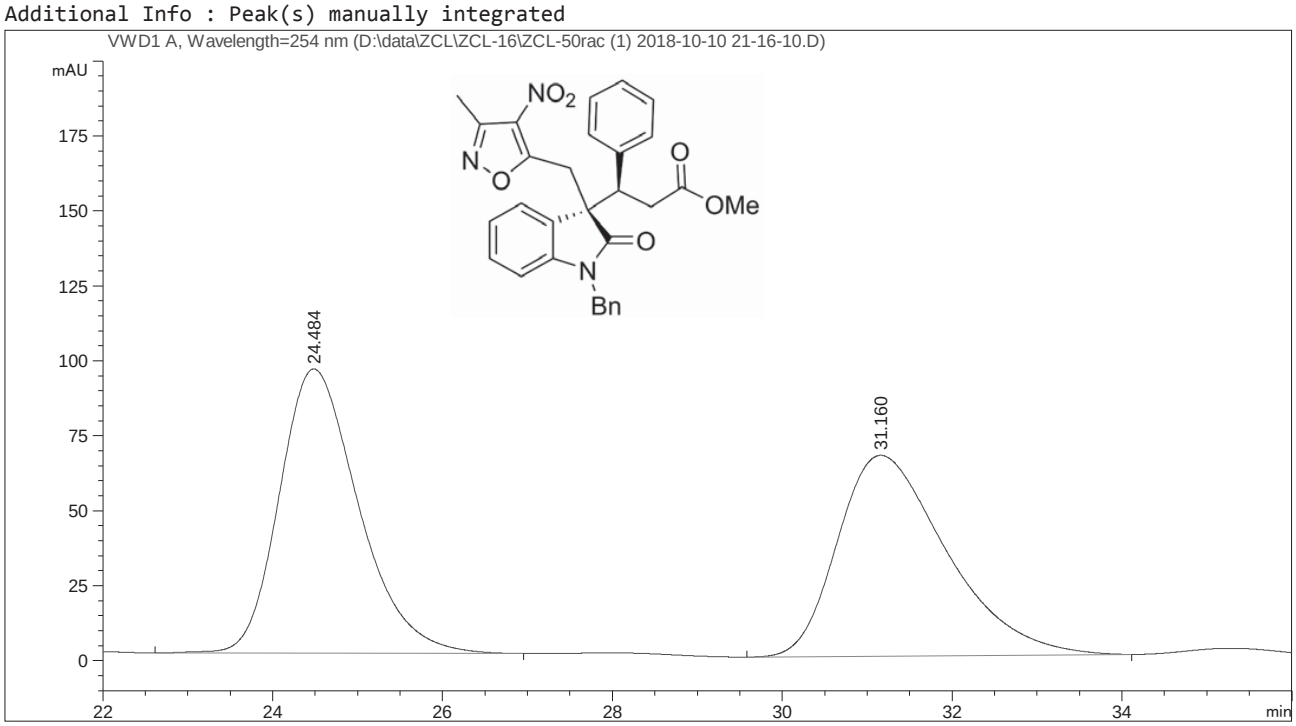
5




```
Current Data Parameters
NAME                  ZCL-1693
EXPNO                       41
PROCNO                       1

F2 - Acquisition Parameters
Date_                 20190603
Time                     21.00
INSTRUM                  spect
PROBHD    5 mm CPPBBO BB
PULPROG                 zgpg30
TD                       65536
SOLVENT                  CDCl3
NS                          56
DS                           4
SWH                29761.904 Hz
FIDRES              0.454131 Hz
AQ                  1.1010048 sec
RG                      192.89
DW                      16.800 usec
DE                      18.00 usec
TE                      298.2 K
D1                 2.00000000 sec
D11                0.03000000 sec
TD0                          1

======== CHANNEL f1 ========
SFO1             125.7703637 MHz
NUC1                      13C
P1                       9.80 usec
PLW1             57.00000000 W

======== CHANNEL f2 ========
SFO2             500.1320005 MHz
NUC2                      1H
CPDPRG[2              waltz16
PCPD2                   80.00 usec
PLW2             20.00000000 W
PLW12             0.35778001 W
PLW13             0.22898000 W

F2 - Processing parameters
SI                       32768
SF               125.7577738 MHz
WDW                         EM
SSB          0
LB                       1.00 Hz
GB           0
PC                       1.40
```

Data File D:\data\ZCL\ZCL-16\ZCL-50rac (1) 2018-10-10 21-16-10.D
Sample Name: ZCL-50rac

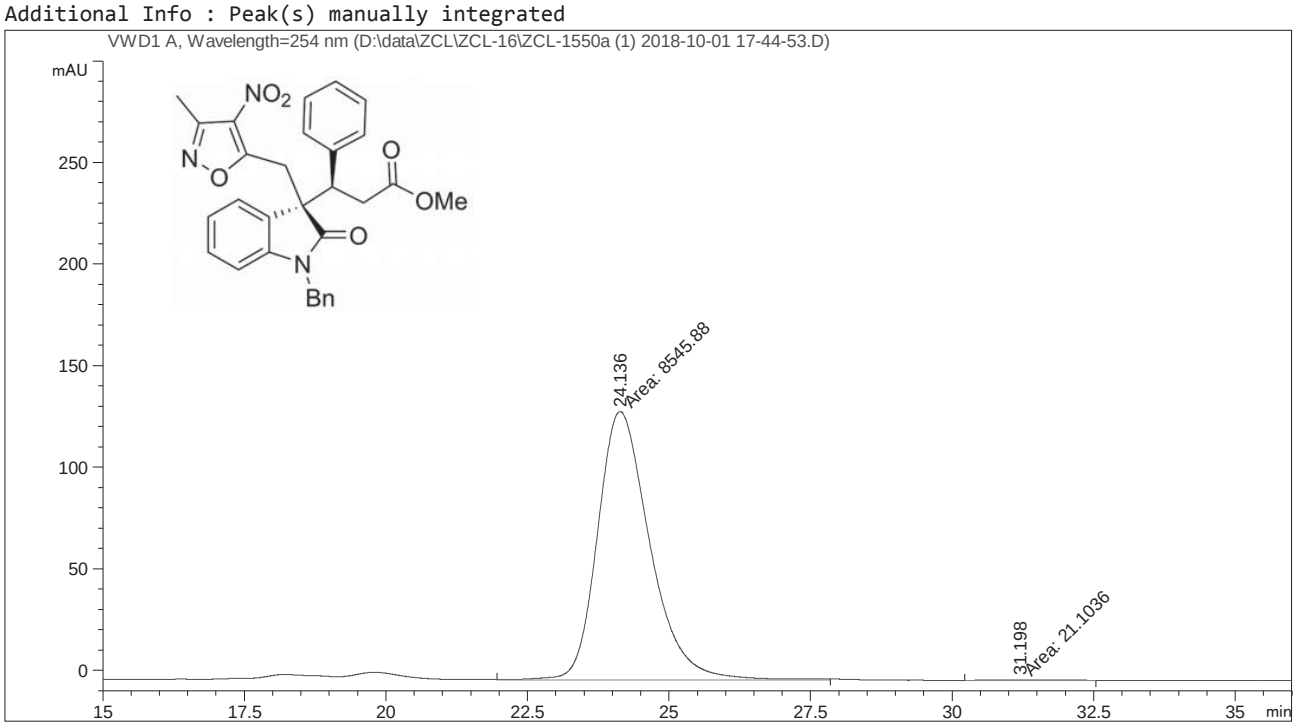
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-A-05
Injection Date  : 10/10/2018 9:16:50 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/10/2018 9:14:57 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:23:09 AM by System
                  (modified after loading)
Sample Info     : IC, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  24.484 BB    0.9950 6144.40381   94.82429  50.7112
   2  31.160 BB    1.3641 5972.06152   66.98724  49.2888
```

Data File D:\data\ZCL\ZCL-16\ZCL-1550a (1) 2018-10-01 17-44-53.D
Sample Name: ZCL-1550a

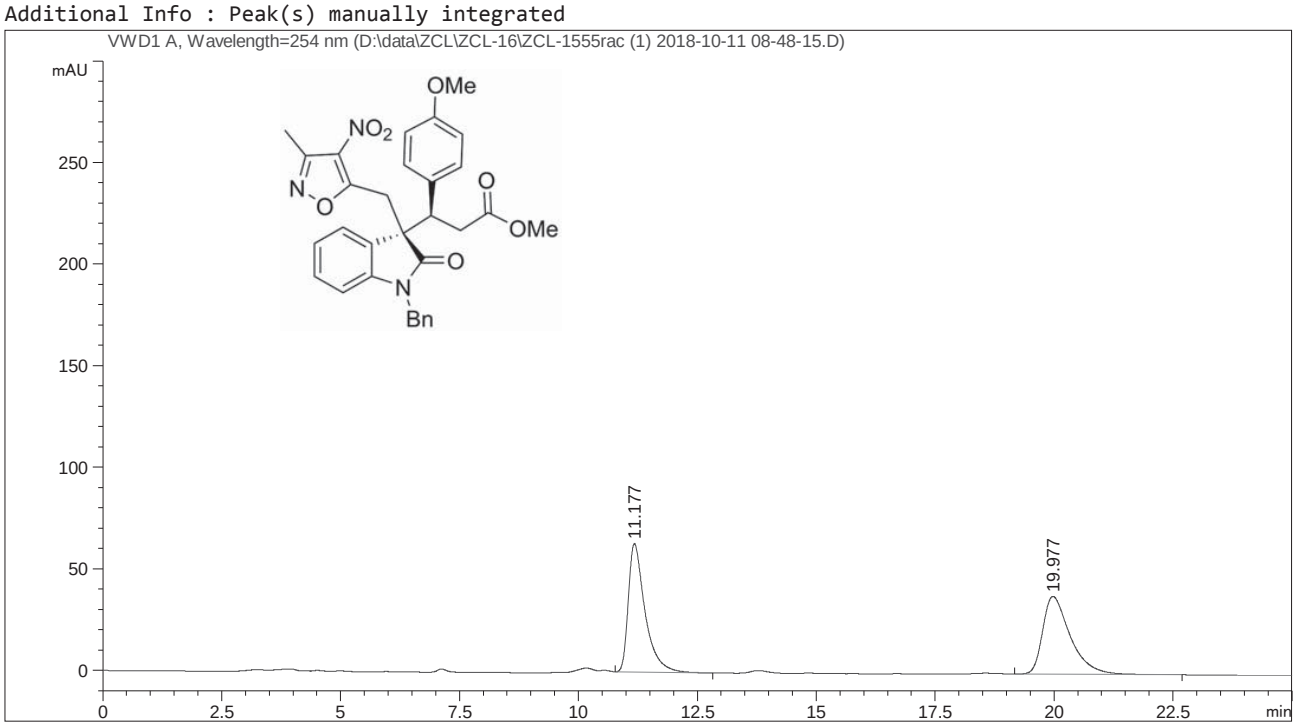
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-A-06
Injection Date  : 10/1/2018 5:45:28 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/1/2018 5:43:17 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:27:51 AM by System
                  (modified after loading)
Sample Info     : IC, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  24.136 MM    1.0768 8545.87793  132.27167  99.7537
   2  31.198 MM    1.2227   21.10363 2.87661e-1   0.2463
```

Data File D:\data\ZCL\ZCL-16\ZCL-1555rac (1) 2018-10-11 08-48-15.D
Sample Name: ZCL-1555rac

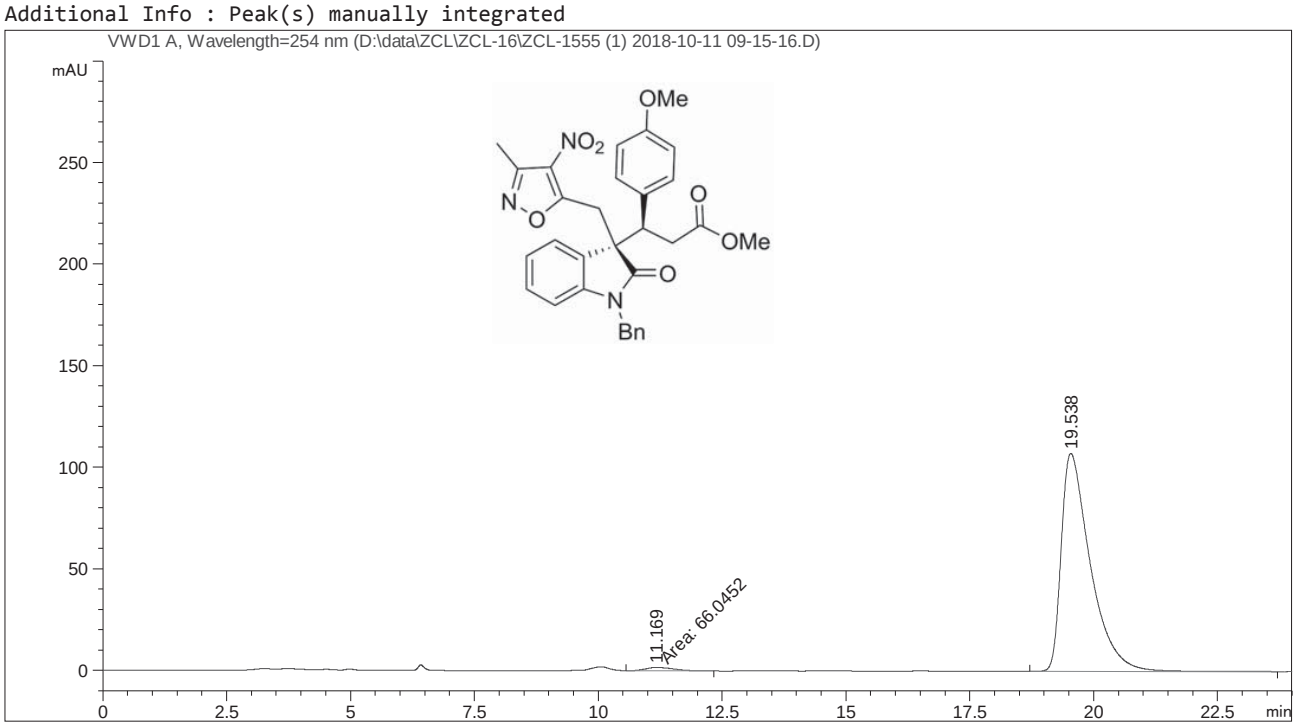
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-01
Injection Date  : 10/11/2018 8:48:54 AM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/11/2018 8:47:53 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:29:11 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  11.177 BB    0.3628 1549.91553   63.26940  50.1063
   2  19.977 BB    0.6022 1543.34094   38.29433  49.8937
```

Data File D:\data\ZCL\ZCL-16\ZCL-1555 (1) 2018-10-11 09-15-16.D
Sample Name: ZCL-1555

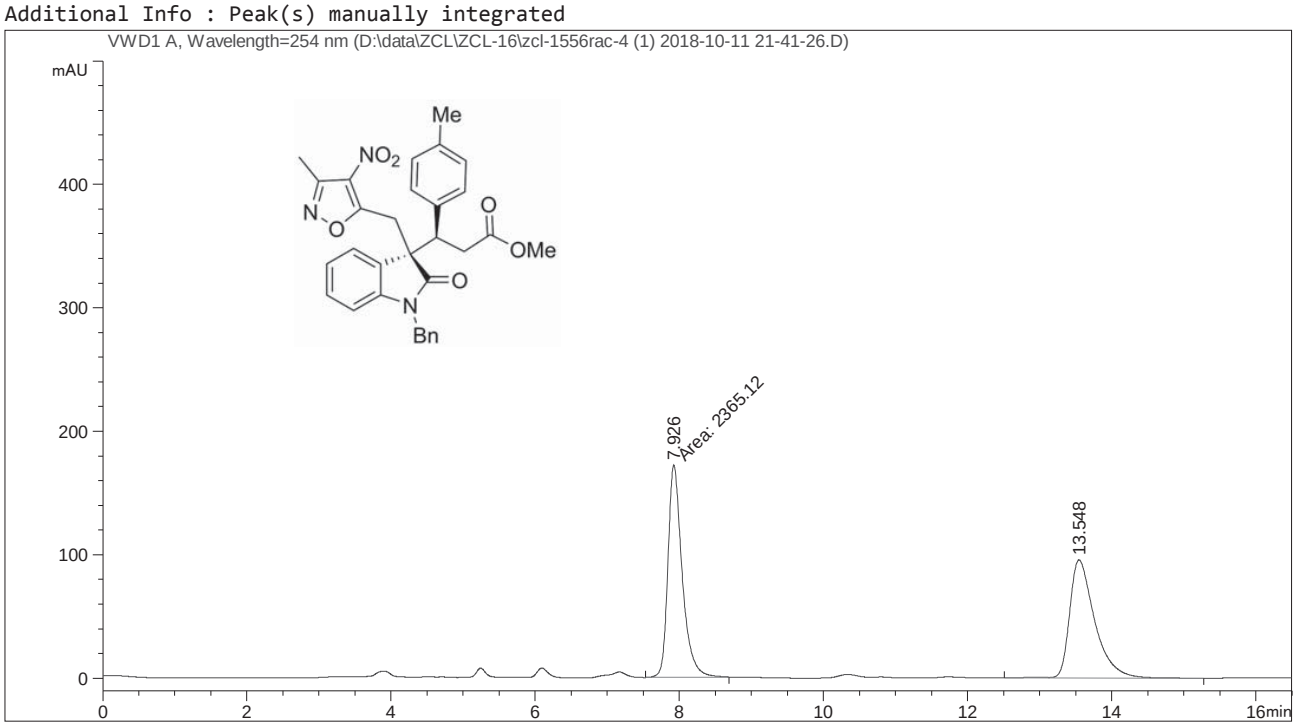
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-02
Injection Date  : 10/11/2018 9:15:58 AM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/11/2018 8:47:53 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:30:15 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  11.169 MM    0.6397   66.04517    1.72075   1.4833
   2  19.538 BB    0.6067 4386.52588  107.34983  98.5167
```

Data File D:\data\ZCL\ZCL-16\zcl-1556rac-4 (1) 2018-10-11 21-41-26.D
Sample Name: zcl-1556rac-4

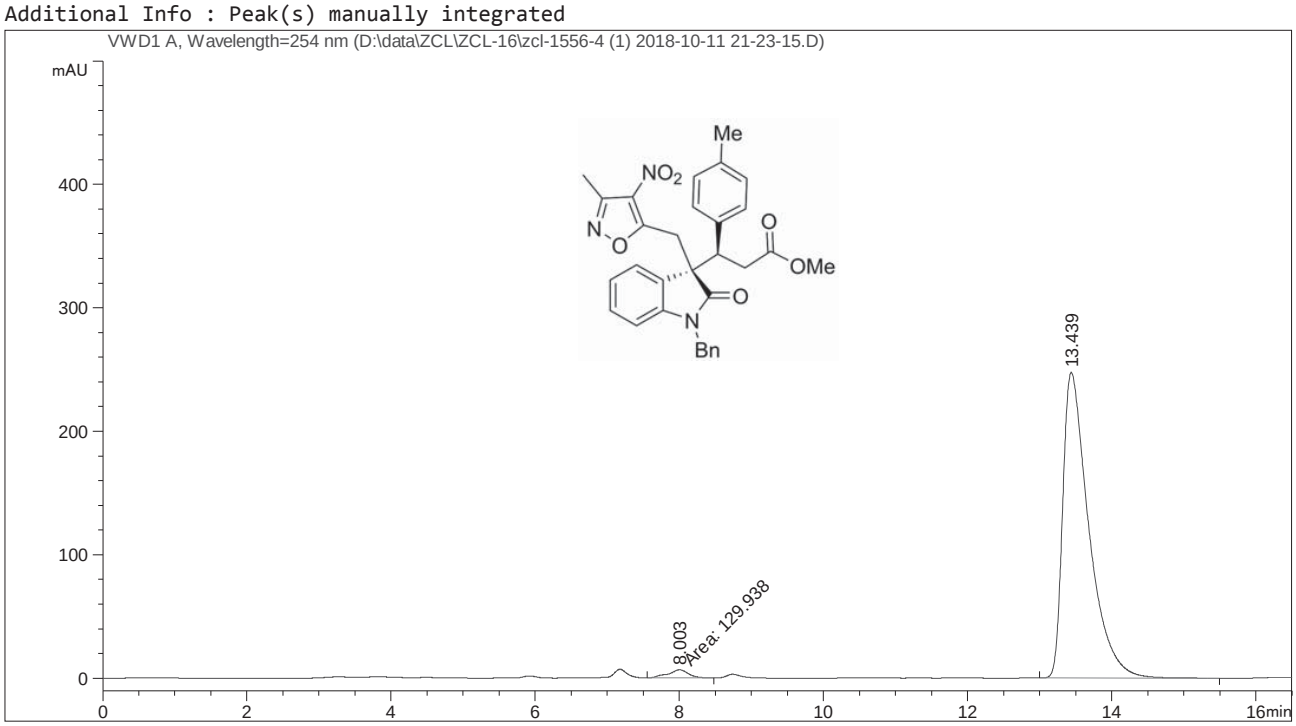
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P1-F-03
    Injection Date  : 10/11/2018 9:42:09 PM              Inj :   1
                                                  Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
    Last changed    \DEF_LC.M : 10/11/2018 9:23:34 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed: 2/20/2019 9:36:12 AM by System
                      (modified after loading)
    Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   7.926 MM    0.2292 2365.11597  171.96790  50.4909
       2  13.548 VB R  0.3626 2319.12964   95.75536  49.5091
```

Data File D:\data\ZCL\ZCL-16\zcl-1556-4 (1) 2018-10-11 21-23-15.D
Sample Name: zcl-1556-4

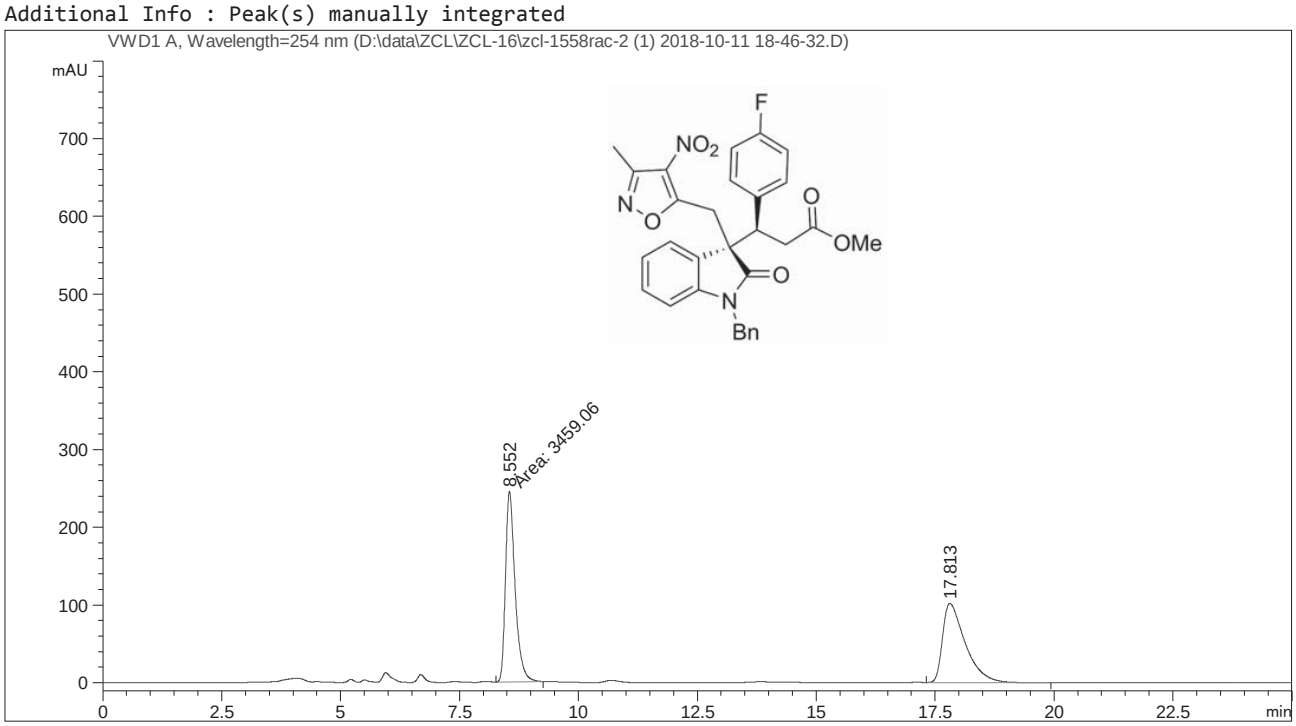
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-01
Injection Date  : 10/11/2018 9:23:55 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/11/2018 9:23:34 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:36:12 AM by System
                  (modified after loading)
Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.003 MM    0.3286  129.93808    6.59077   2.0486
   2  13.439 BB    0.3729 6212.72852  247.49010  97.9514
```

Data File D:\data\ZCL\ZCL-16\zcl-1558rac-2 (1) 2018-10-11 18-46-32.D
Sample Name: zcl-1558rac-2

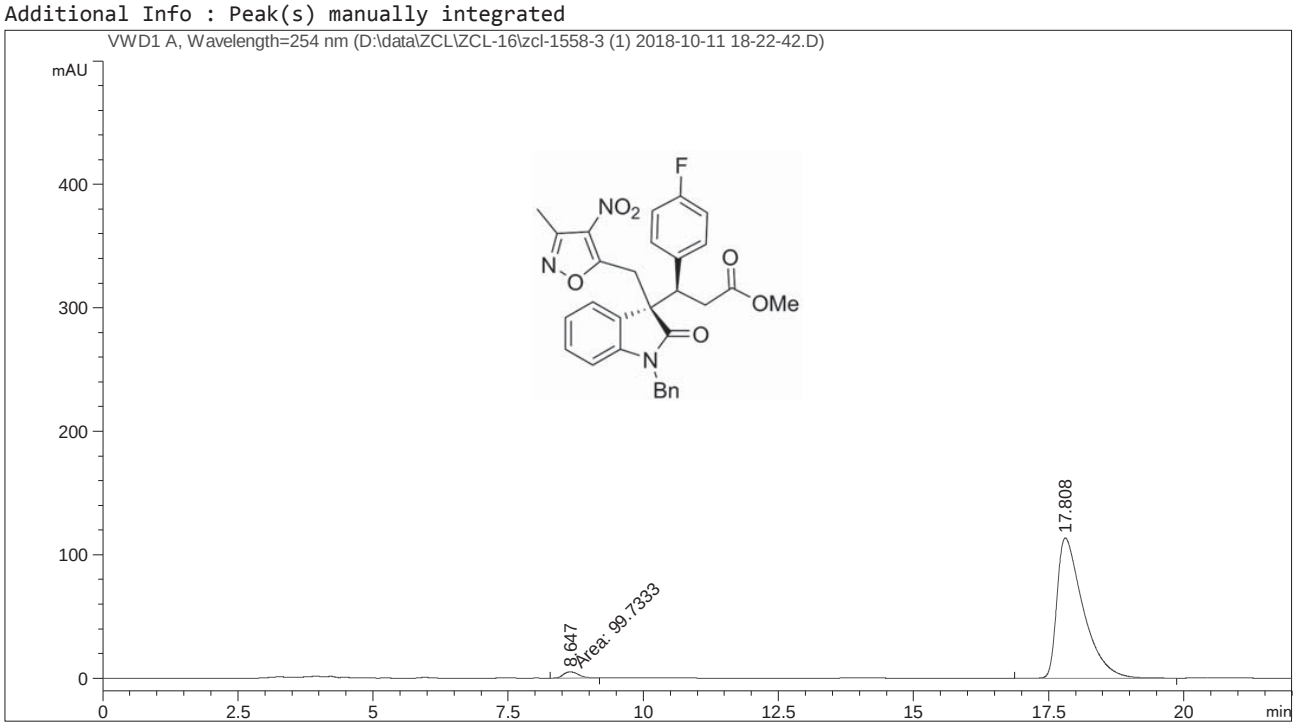
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-05
Injection Date  : 10/11/2018 6:47:16 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/11/2018 5:04:29 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 9:33:36 AM by System
                  (modified after loading)
Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.552 MM    0.2350 3459.05664  245.34254  50.6756
   2  17.813 BB    0.4930 3366.82666  101.75330  49.3244
```

Data File D:\data\ZCL\ZCL-16\zcl-1558-3 (1) 2018-10-11 18-22-42.D
Sample Name: zcl-1558-3

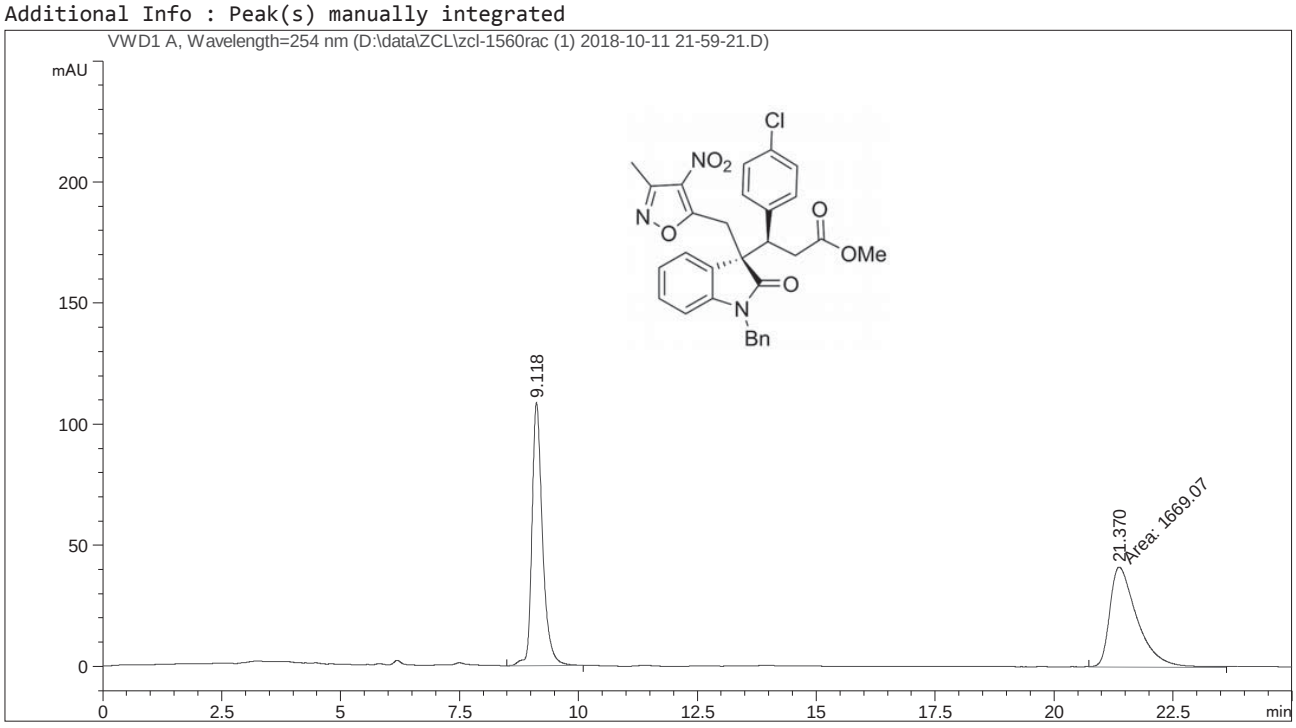
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P1-F-08
    Injection Date  : 10/11/2018 6:23:25 PM              Inj :   1
                                                  Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
    Last changed    \DEF_LC.M : 10/11/2018 5:04:29 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed: 2/20/2019 9:34:36 AM by System
                      (modified after loading)
    Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   8.647 MM    0.3357   99.73332    4.95146   2.5437
       2  17.808 BB    0.4992 3821.06494  113.67313  97.4563
```

Data File D:\data\ZCL\zcl-1560rac (1) 2018-10-11 21-59-21.D
Sample Name: zcl-1560rac

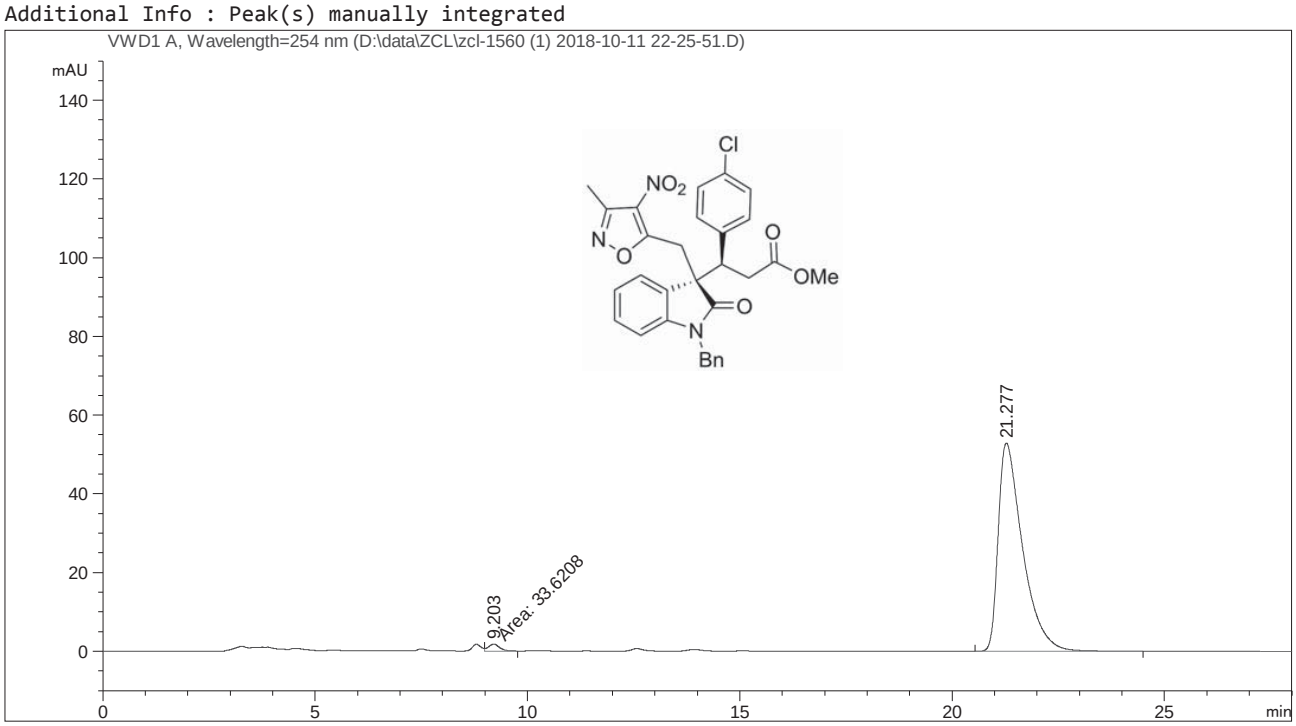
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-02
Injection Date  : 10/11/2018 9:59:59 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods
Last changed    \DEF_LC.M : 10/11/2018 9:23:34 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed: 2/20/2019 5:08:45 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.118 BB    0.2323 1678.78064  108.62923  50.1450
   2  21.370 MM    0.6729 1669.07251   41.34145  49.8550
```

Data File D:\data\ZCL\zcl-1560 (1) 2018-10-11 22-25-51.D
Sample Name: zcl-1560

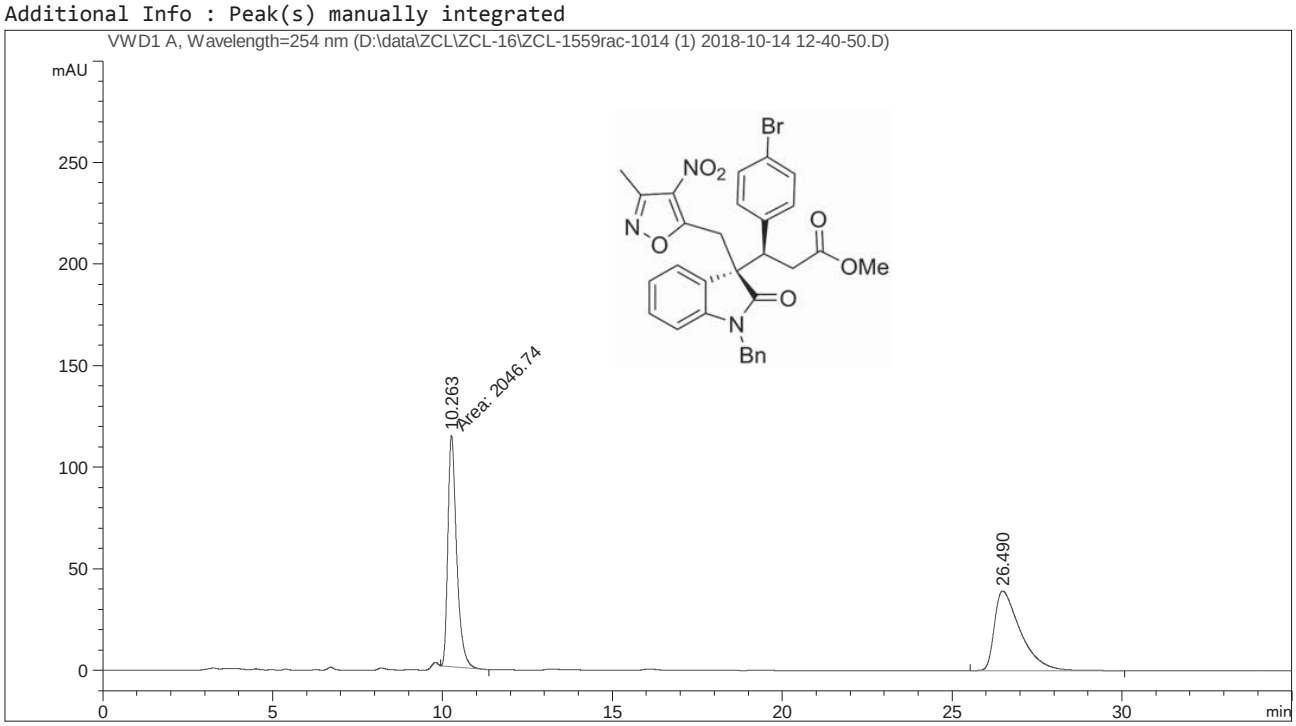
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-03
Injection Date  : 10/11/2018 10:26:29 PM             Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/11/2018 9:23:34 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 5:07:52 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.203 MM    0.3075   33.62076    1.82214   1.5651
   2  21.277 BB    0.5940 2114.50391   52.94137  98.4349
```

Data File D:\data\ZCL\ZCL-16\ZCL-1559rac-1014 (1) 2018-10-14 12-40-50.D
Sample Name: ZCL-1559rac-1014

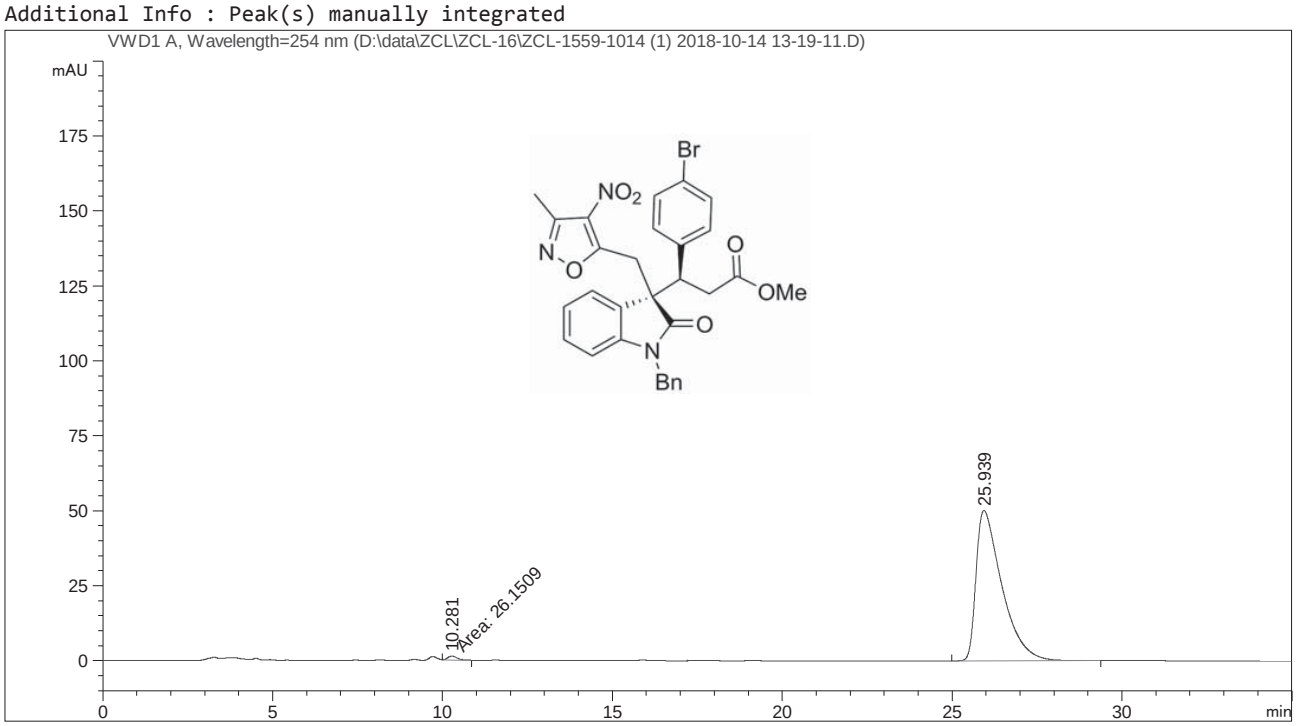
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-10
Injection Date  : 10/14/2018 12:41:30 PM             Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/14/2018 11:26:21 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:38:11 AM by System
                  (modified after loading)
Sample Info     : IB, H/I= 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.263 MM    0.2995 2046.74426  113.90974  49.5988
   2  26.490 BB    0.7866 2079.85864   39.22380  50.4012
```

Data File D:\data\ZCL\ZCL-16\ZCL-1559-1014 (1) 2018-10-14 13-19-11.D
Sample Name: ZCL-1559-1014

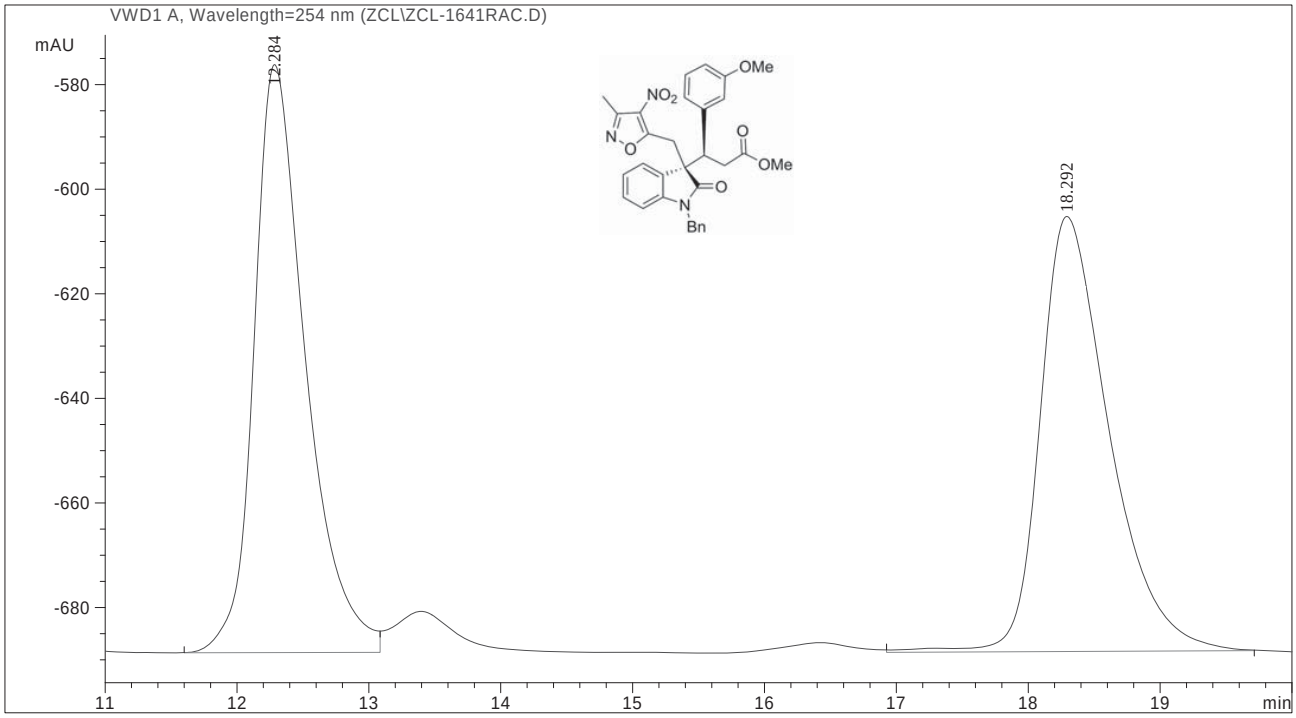
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-11
Injection Date  : 10/14/2018 1:19:50 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/14/2018 11:26:21 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:38:55 AM by System
                  (modified after loading)
Sample Info     : IB, H/I= 70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.281 MM    0.3296   26.15090    1.32242   0.9779
   2  25.939 BB    0.7789 2648.15112   50.16407  99.0221
```

Data File C:\CHEM32\1\DATA\ZCL\ZCL-1641RAC.D
Sample Name: ZCL-1641RAC

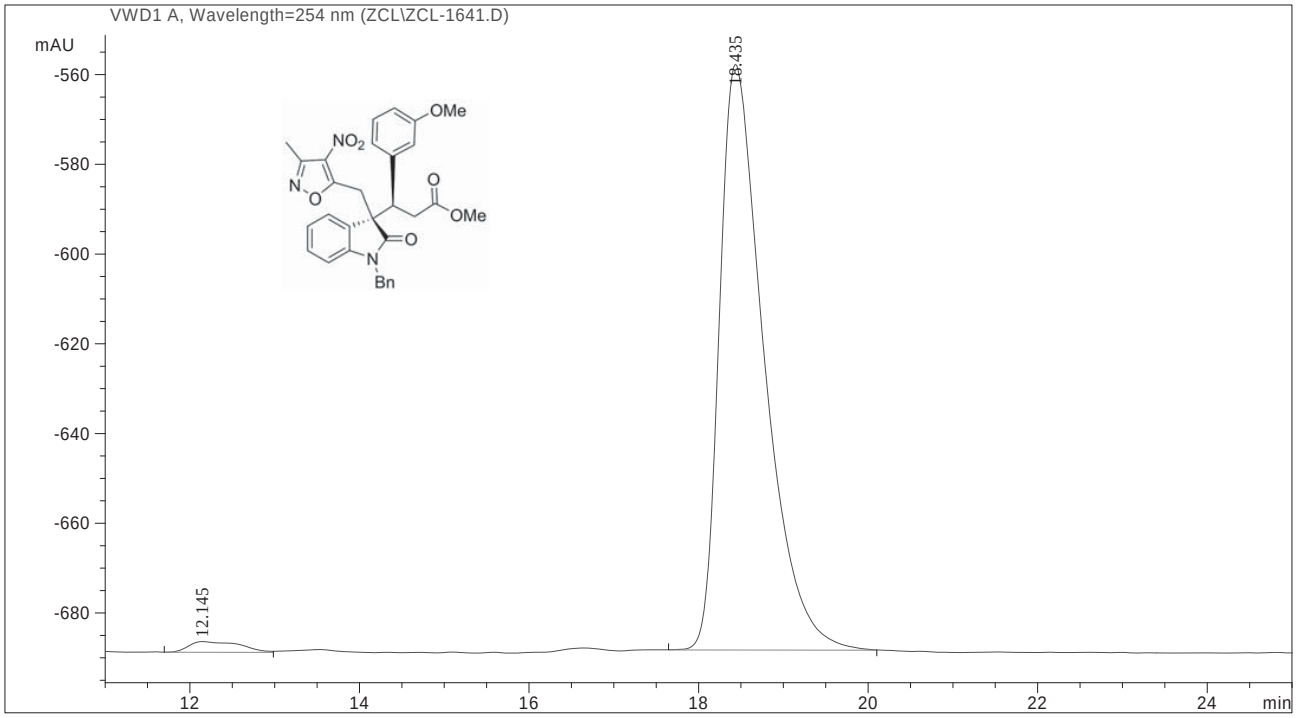
```
    ======================================================================
    Acq. Operator   : ZCL
    Acq. Instrument : Instrument 1                    Location : Vial 1
    Injection Date  : 2019-1-2 17:01:10
    Acq. Method     : C:\CHEM32\1\METHODS\HPLC.M
    Last changed    : 2019-1-2 16:59:04  by ZCL
                      (modified after loading)
    Analysis Method : C:\CHEM32\1\METHODS\HPLC.M
    Last changed    : 2019-2-20 17:17:05  by gzh
                      (modified after loading)
    Sample Info     : IB, H/I=70:30, 1.0 mL/min, 254nm
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]       %
    ----|-------|----|-------|----------|----------|--------|
       1  12.284 BV    0.4060 3057.74780  112.45795  50.2502
       2  18.292 VB    0.5497 3027.29810   83.21175  49.7498

    Totals :                  6085.04590  195.66969

    ======================================================================
                              *** End of Report ***
```

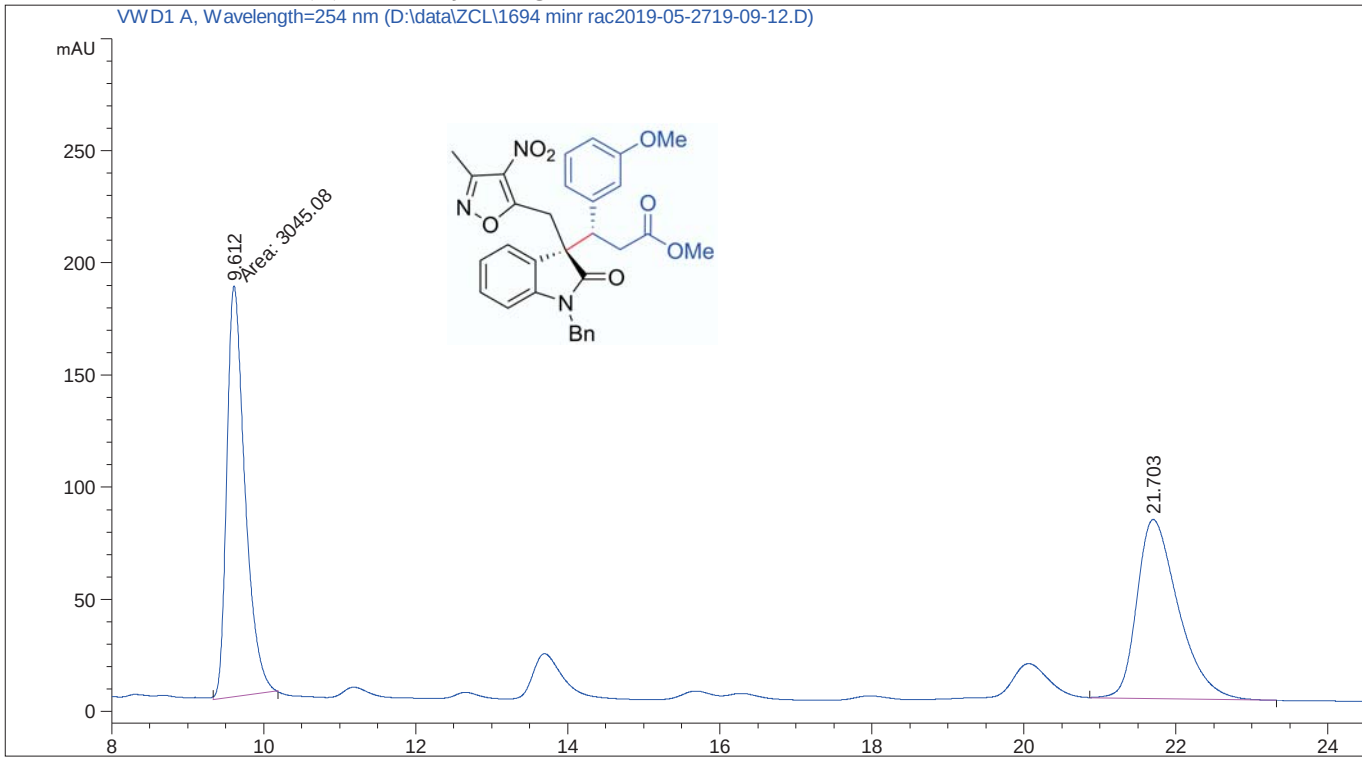
Data File C:\CHEM32\1\DATA\ZCL\ZCL-1641.D
Sample Name: ZCL-1641

```
==========================================================================
Acq. Operator   : ZCL
Acq. Instrument : Instrument 1                    Location : Vial 1
Injection Date  : 2019-1-2 17:23:12
Acq. Method     : C:\CHEM32\1\METHODS\HPLC.M
Last changed    : 2019-1-2 16:59:04  by ZCL
                  (modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\HPLC.M
Last changed    : 2019-2-20 17:15:33  by gzh
                  (modified after loading)
Sample Info     : IB, H/I=70:30, 1.0 mL/min, 254nm
```



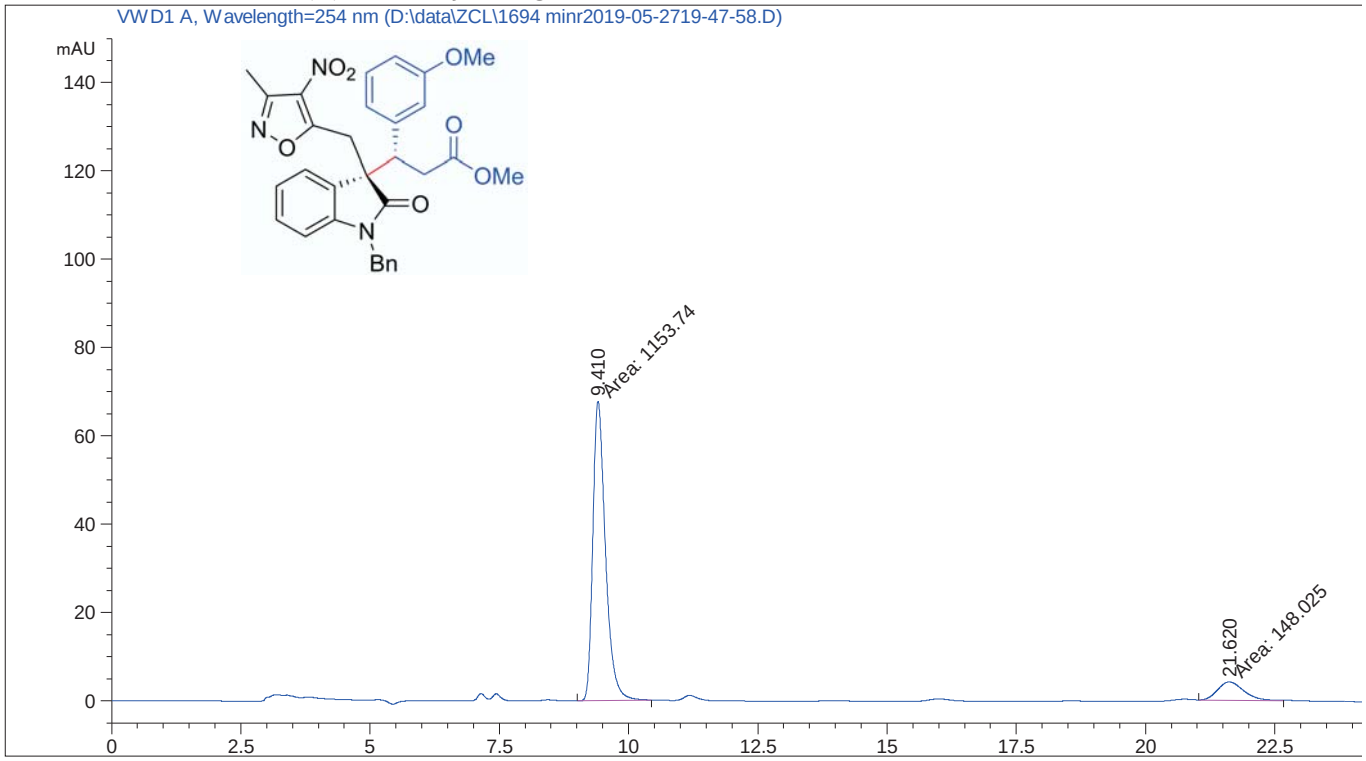

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1  12.145 BV    0.5737   99.65933    2.38341   2.0473
   2  18.435 BB    0.5457 4768.27539  130.49380  97.9527

Totals :                  4867.93472  132.87722

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-C-06
Injection Date  : 5/27/2019 7:09:49 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/27/2019 7:09:06 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/29/2019 6:52:33 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80:20, 1 mL/min   254 nm

Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.612 MM    0.2771 3045.07593  183.13365  50.2362
   2  21.703 BB    0.5751 3016.43628   79.77472  49.7638
```

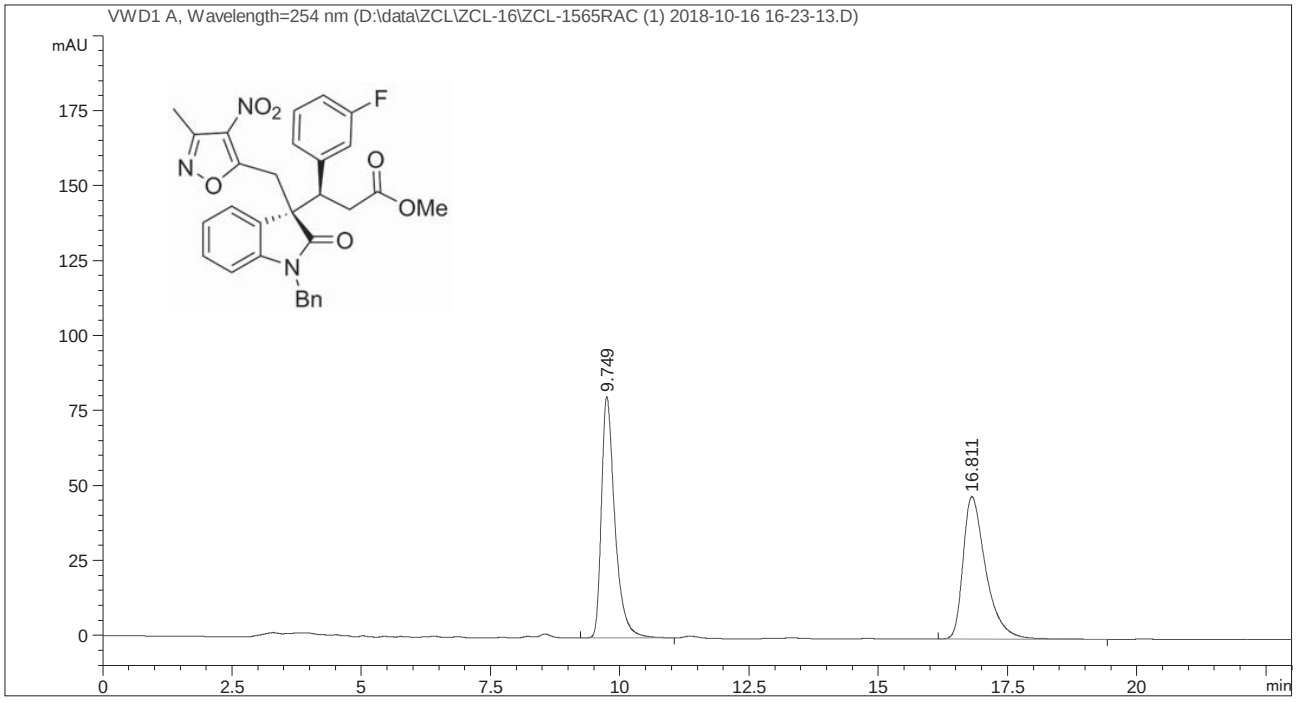
```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-C-07
Injection Date  : 5/27/2019 7:48:35 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/27/2019 7:09:06 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/29/2019 6:49:47 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80:20, 1 mL/min   254 nm

Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.410 MM    0.2836 1153.73779   67.79565  88.6289
   2  21.620 MM    0.5933  148.02536    4.15810  11.3711
```

Data File D:\data\ZCL\ZCL-16\ZCL-1565RAC (1) 2018-10-16 16-23-13.D
Sample Name: ZCL-1565RAC

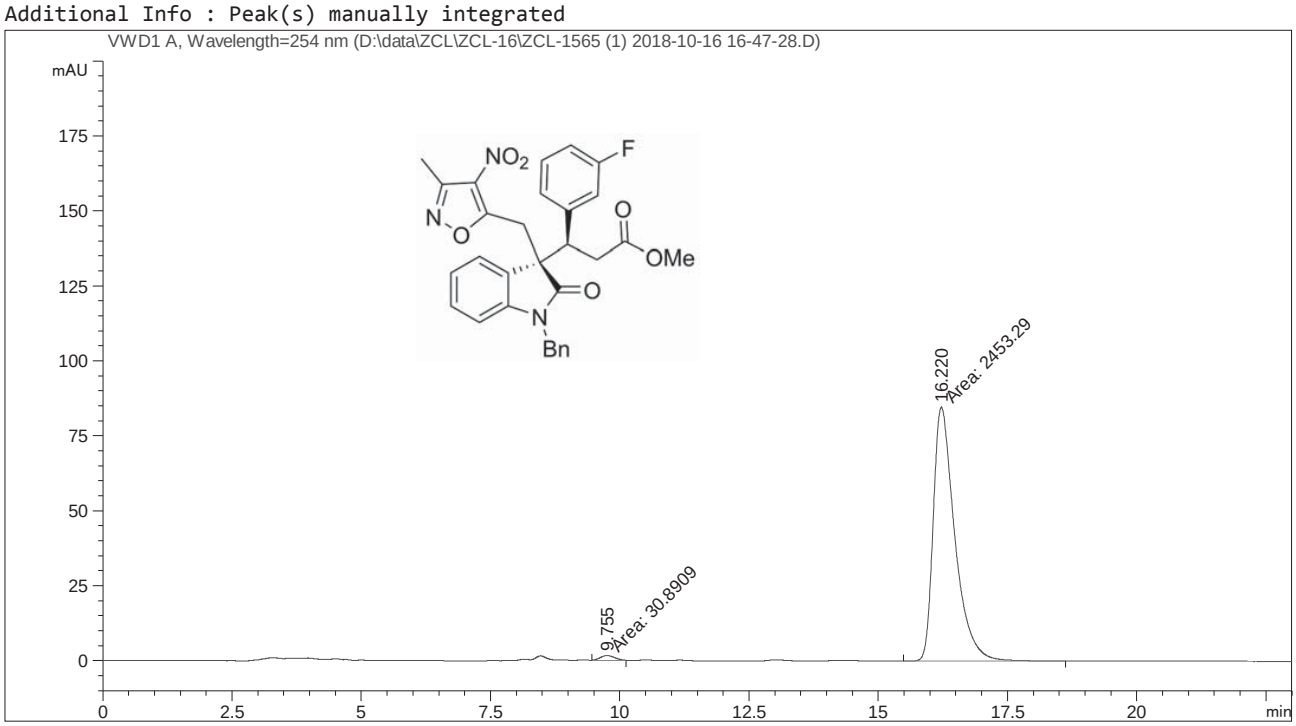
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P2-B-04
    Injection Date  : 10/16/2018 4:23:46 PM              Inj :   1
                                                   Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 10/16/2018 4:10:22 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 9:40:20 AM by System
                      (modified after loading)
    Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   9.749 BB    0.2718 1460.87964   80.47076  50.1557
       2  16.811 BB    0.4598 1451.81238   47.46751  49.8443

    Totals :                  2912.69202  127.93827
```

Data File D:\data\ZCL\ZCL-16\ZCL-1565 (1) 2018-10-16 16-47-28.D
Sample Name: ZCL-1565

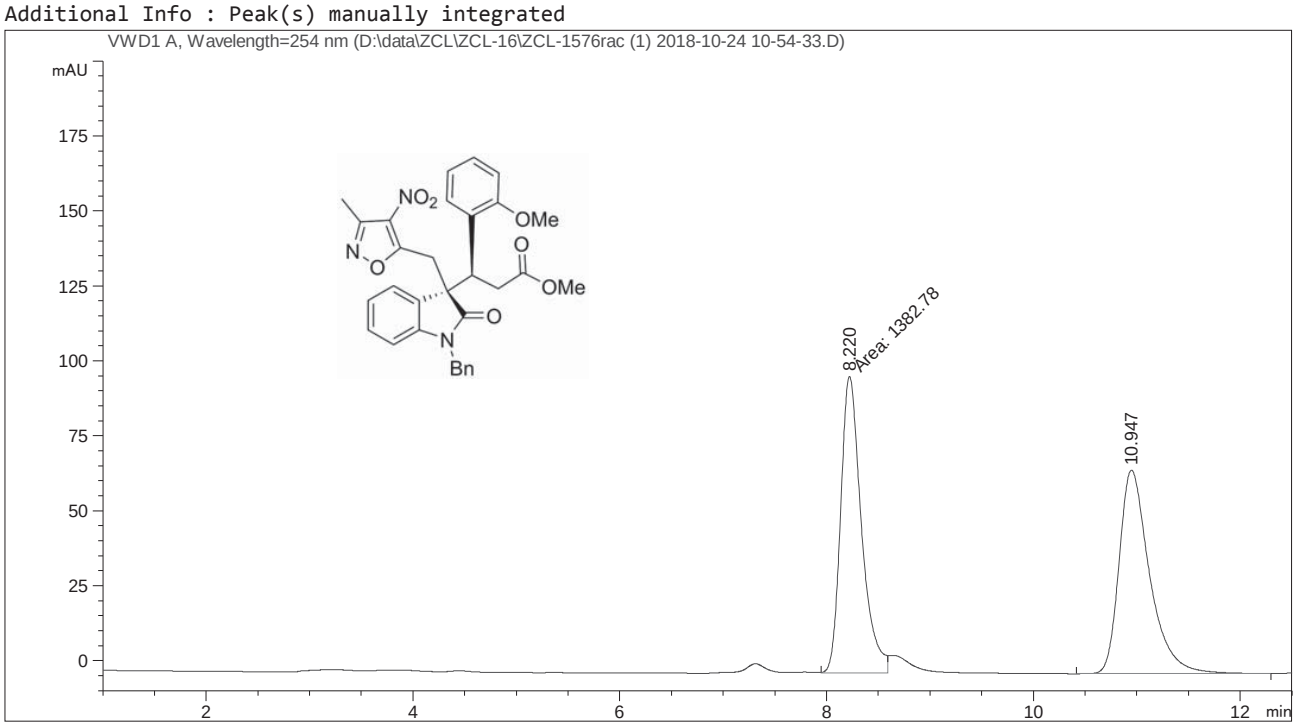
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-05
Injection Date  : 10/16/2018 4:48:42 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/16/2018 4:47:48 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:40:20 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.755 MM    0.3227   30.89090    1.59560   1.2435
   2  16.220 MM    0.4829 2453.28833   84.67664  98.7565
```

Data File D:\data\ZCL\ZCL-16\ZCL-1576rac (1) 2018-10-24 10-54-33.D
Sample Name: ZCL-1576rac

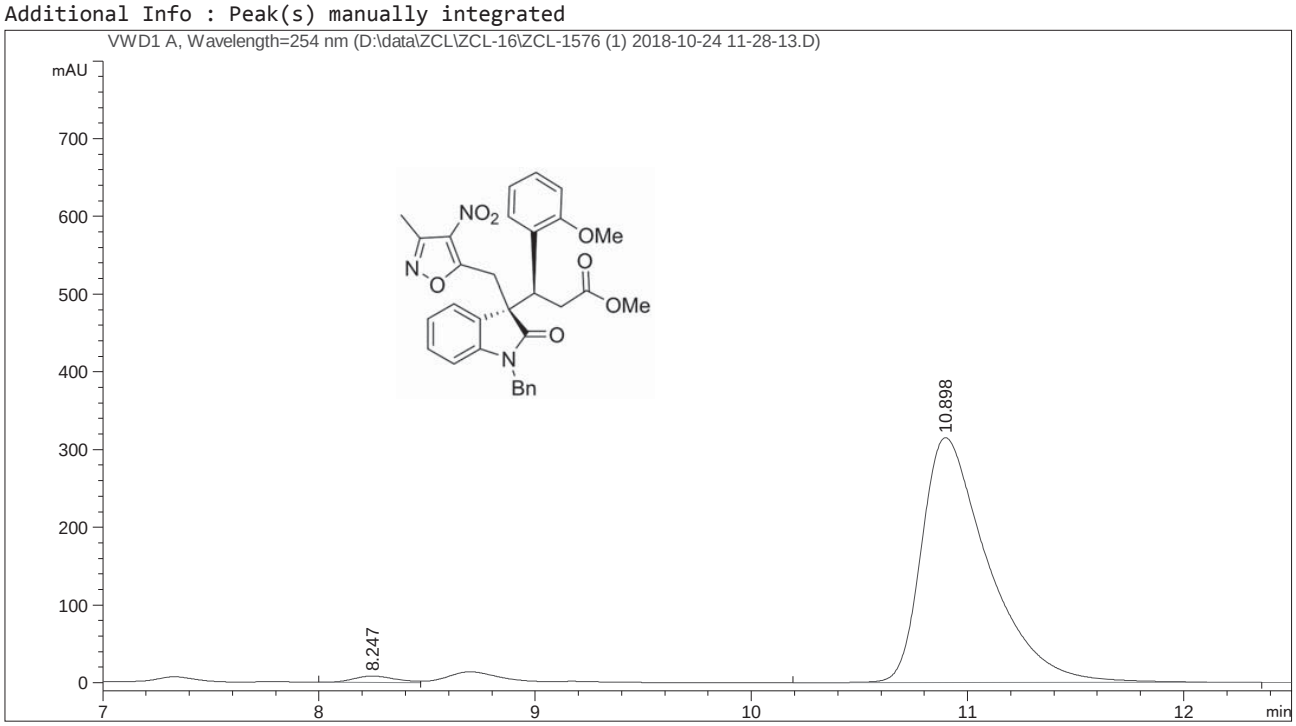
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-E-04
Injection Date  : 10/24/2018 10:55:07 AM             Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/24/2018 10:49:04 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:51:08 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254 nm, 1.0  mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.220 MM    0.2330 1382.78040   98.90932  49.8343
   2  10.947 BB    0.3071 1391.97632   67.92183  50.1657
```

Data File D:\data\ZCL\ZCL-16\ZCL-1576 (1) 2018-10-24 11-28-13.D
Sample Name: ZCL-1576

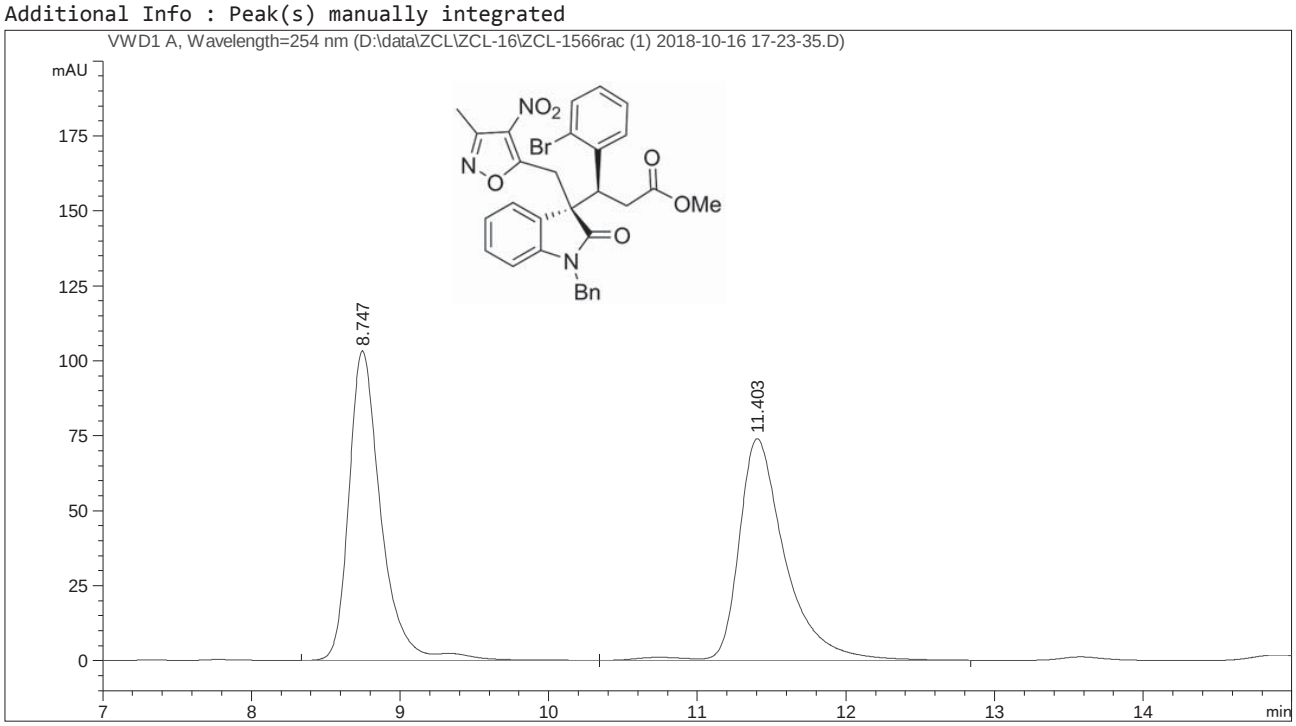
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-E-05
Injection Date  : 10/24/2018 11:28:46 AM             Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/24/2018 10:49:04 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:55:01 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254 nm, 1.0  mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.247 BV    0.2059  109.41993    8.18988   1.5993
   2  10.898 BB    0.3151 6732.42822  315.25491  98.4007
```

Data File D:\data\ZCL\ZCL-16\ZCL-1566rac (1) 2018-10-16 17-23-35.D
Sample Name: ZCL-1566rac

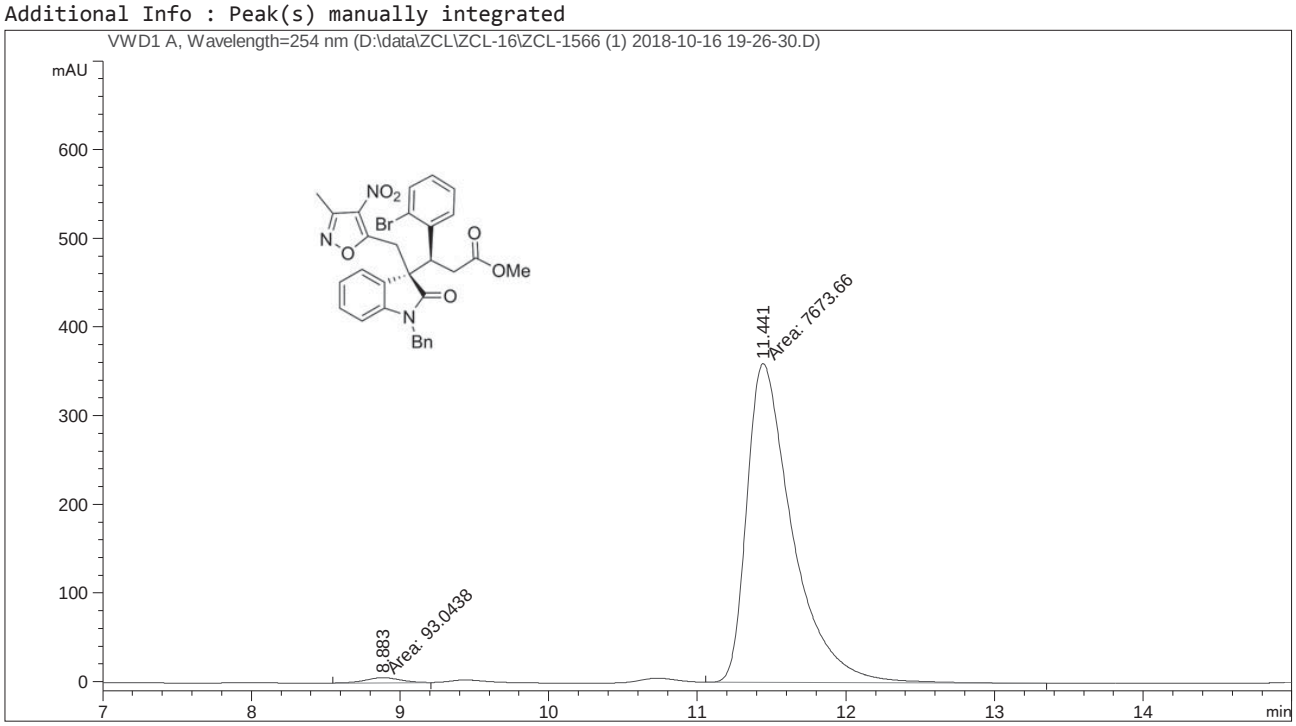
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-06
Injection Date  : 10/16/2018 5:24:08 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/16/2018 4:47:48 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:42:00 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.747 BV R  0.2206 1551.00256  103.34671  49.3032
   2  11.403 VB R  0.3196 1594.84155   73.95093  50.6968
```

Data File D:\data\ZCL\ZCL-16\ZCL-1566 (1) 2018-10-16 19-26-30.D
Sample Name: ZCL-1566

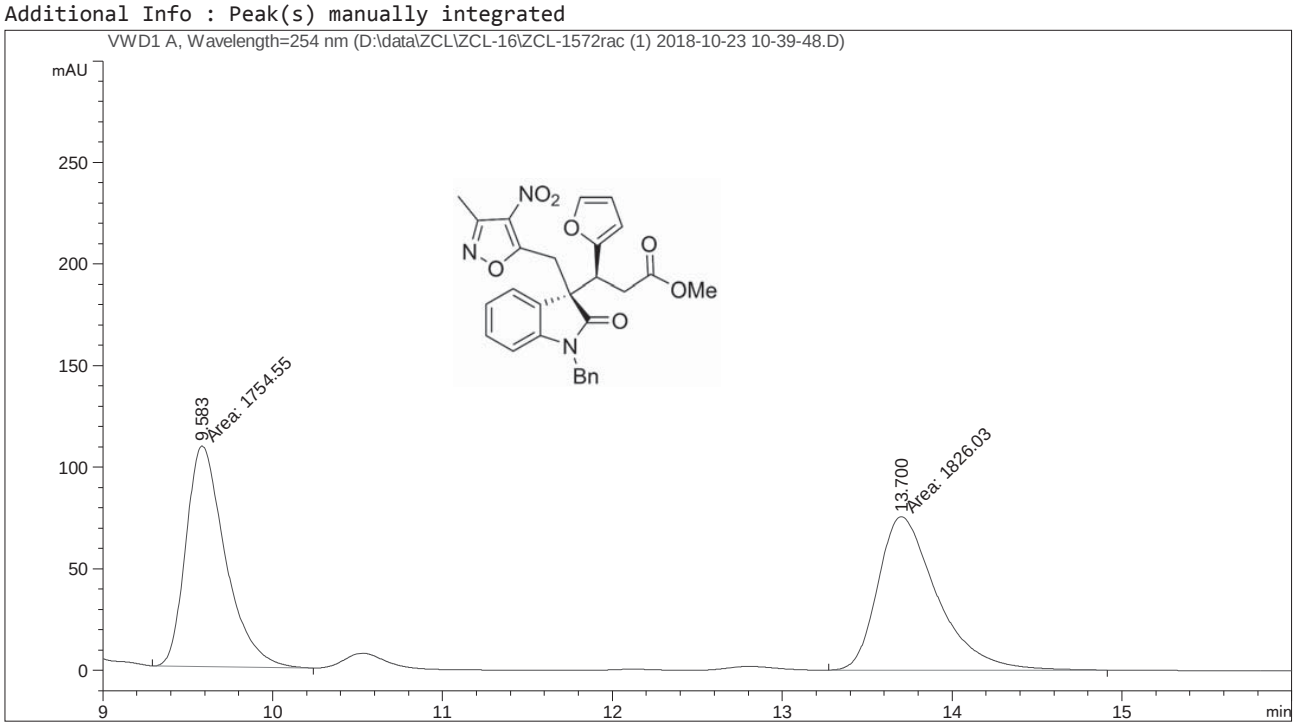
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-07
Injection Date  : 10/16/2018 7:27:03 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/16/2018 4:47:48 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:43:14 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30. 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.883 MM    0.2657   93.04384    5.83706   1.1980
   2  11.441 MM    0.3557 7673.65576  359.53653  98.8020
```

Data File D:\data\ZCL\ZCL-16\ZCL-1572rac (1) 2018-10-23 10-39-48.D
Sample Name: ZCL-1572rac

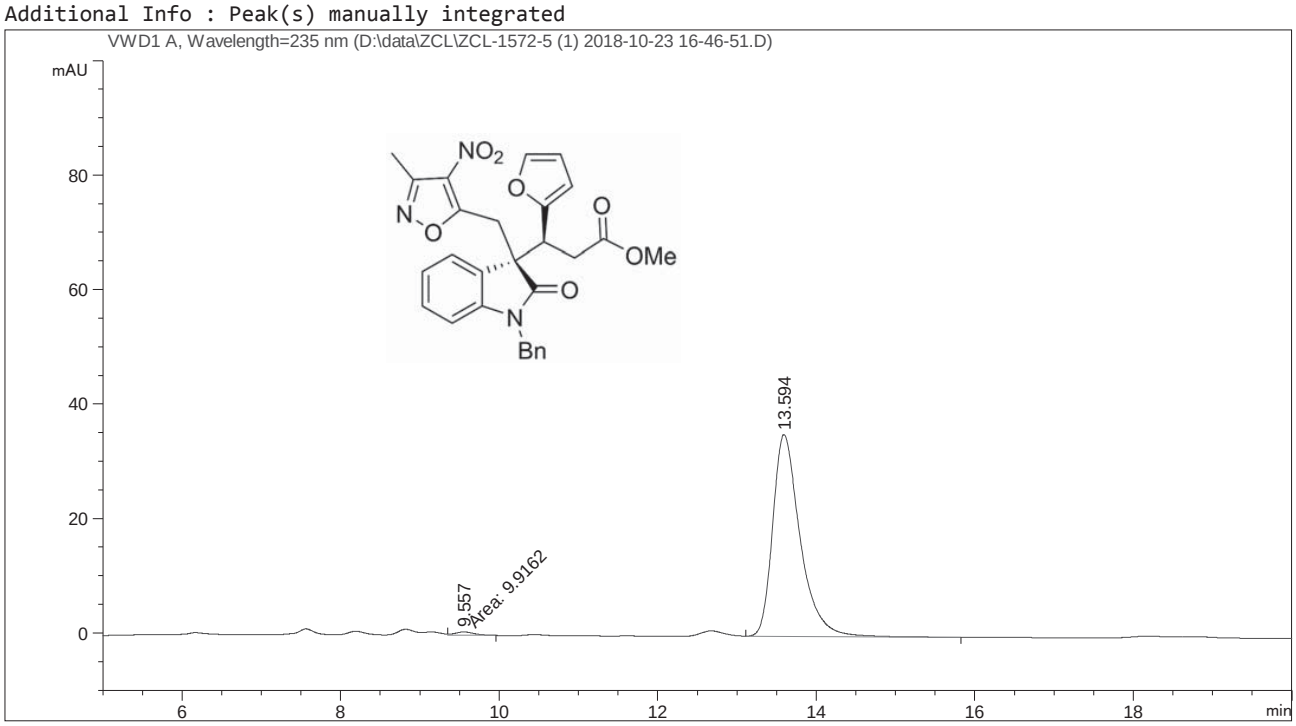
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-09
Injection Date  : 10/23/2018 10:40:20 AM             Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 10/23/2018 10:11:03 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:46:23 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.583 MM    0.2692 1754.55066  108.61162  49.0019
   2  13.700 MM    0.4027 1826.02722   75.57188  50.9981
```

Data File D:\data\ZCL\ZCL-1572-5 (1) 2018-10-23 16-46-51.D
Sample Name: ZCL-1572-5

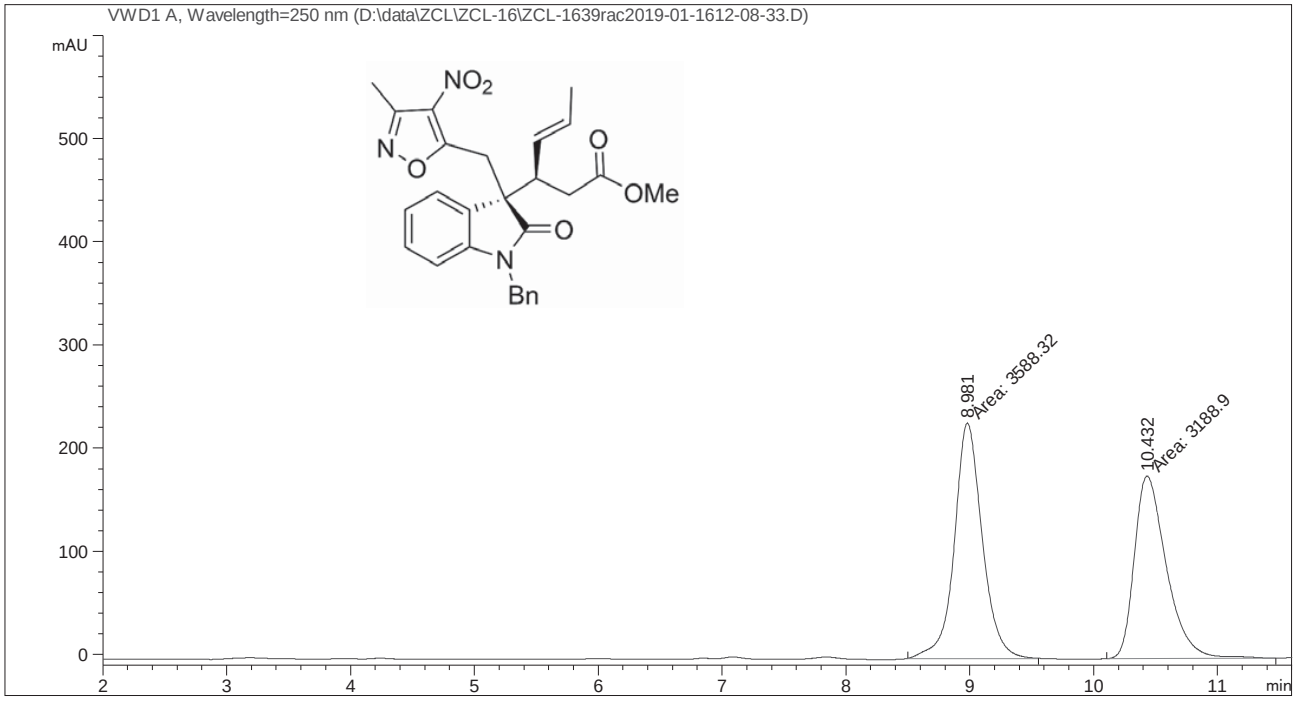
```
=====================================================================
Acq. Operator   : System
                                                  Location :   P2-E-02
Injection Date  : 10/23/2018 4:48:05 PM               Inj :   1
Acq. Method     : DEF_LC.M
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 5:10:17 PM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 235 nm, 1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=235 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.557 MM    0.2790    9.91620 5.92276e-1   1.1548
   2  13.594 BB    0.3629  848.80914   35.25224  98.8452

Totals :                   858.72534   35.84452

=====================================================================
```

Data File D:\data\ZCL\ZCL-16\ZCL-1639rac2019-01-1612-08-33.D
Sample Name: ZCL-1639rac

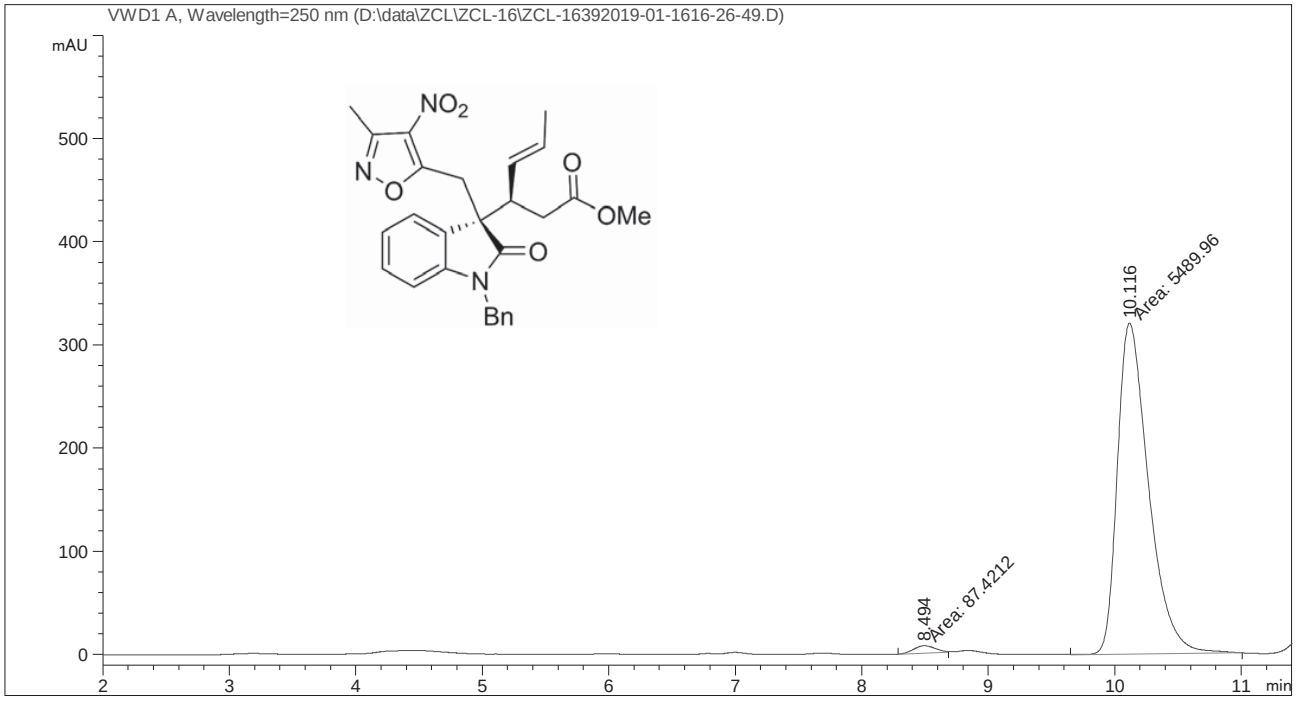
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P2-B-01
    Injection Date  : 1/16/2019 12:09:11 PM              Inj :   1
                                                   Inj Volume : 5.000 µl
    Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 1/16/2019 12:06:53 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 4:39:15 PM by System
                      (modified after loading)
    Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=250 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   8.981 MM    0.2621 3588.32446  228.16446  52.9468
       2  10.432 MM    0.3002 3188.89551  177.04486  47.0532
```

Data File D:\data\ZCL\ZCL-16\ZCL-16392019-01-1616-26-49.D
Sample Name: ZCL-1639

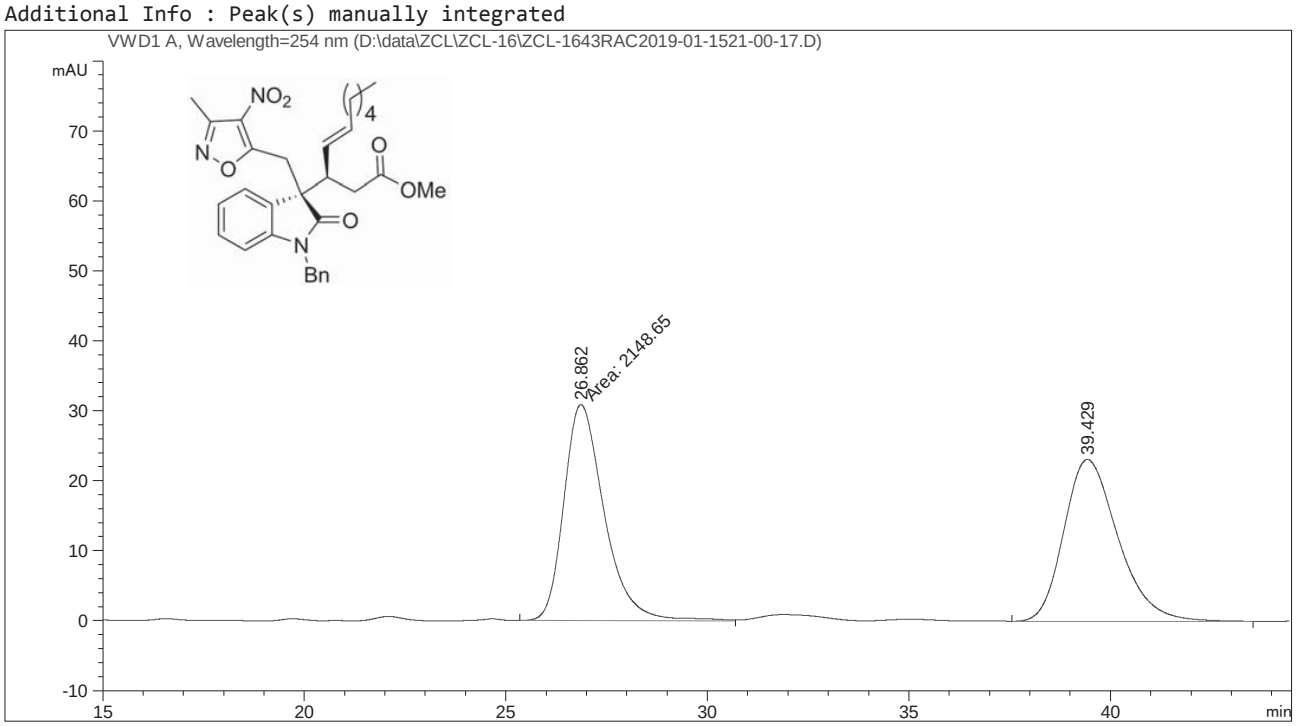
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P2-B-04
    Injection Date  : 1/16/2019 4:27:27 PM               Inj :   1
                                                  Inj Volume : 5.000 µl
    Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 1/16/2019 4:10:07 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 4:40:29 PM by System
                      (modified after loading)
    Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=250 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   8.494 MM    0.2015   87.42117    7.23028   1.5674
       2  10.116 MM    0.2852 5489.96387  320.81110  98.4326
```

Data File D:\data\ZCL\ZCL-16\ZCL-1643RAC2019-01-1521-00-17.D
Sample Name: ZCL-1643RAC

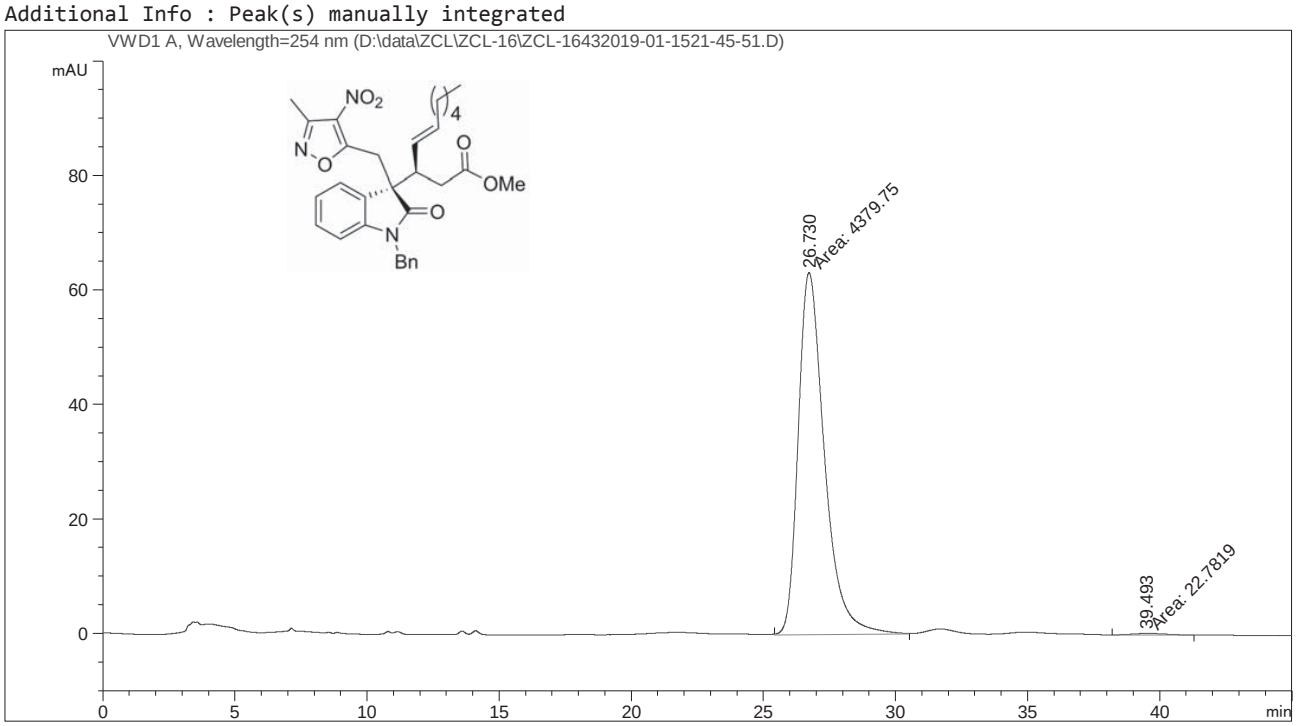
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-E-10
Injection Date  : 1/15/2019 9:00:55 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/15/2019 7:19:26 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:34:15 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 90/10, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  26.862 MM    1.1604 2148.65332   30.85966  49.8490
   2  39.429 BB    1.3996 2161.66943   23.14477  50.1510
```

Data File D:\data\ZCL\ZCL-16\ZCL-16432019-01-1521-45-51.D
Sample Name: ZCL-1643

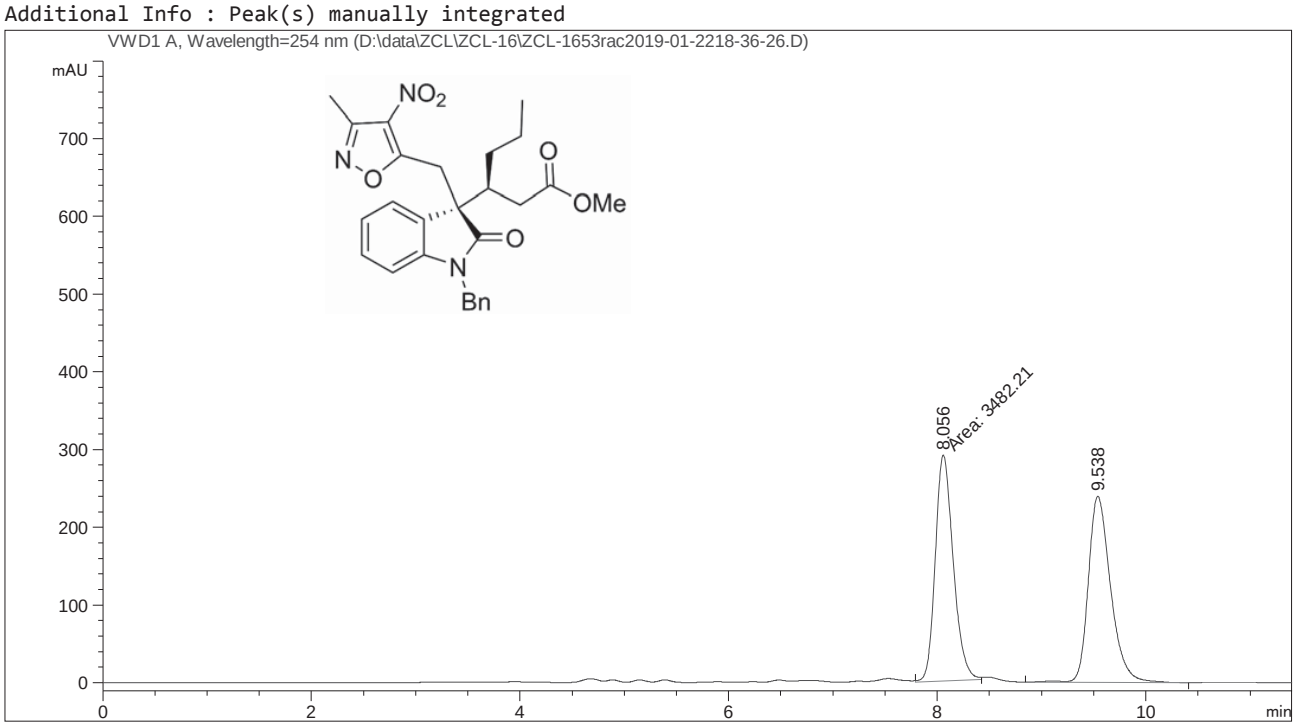
```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-E-11
Injection Date  : 1/15/2019 9:46:30 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/15/2019 7:19:26 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:36:30 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 90/10, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  26.730 MM    1.1535 4379.75244   63.28477  99.4825
   2  39.493 MM    1.4250   22.78188 2.66457e-1   0.5175
```

Data File D:\data\ZCL\ZCL-16\ZCL-1653rac2019-01-2218-36-26.D
Sample Name: ZCL-1653rac

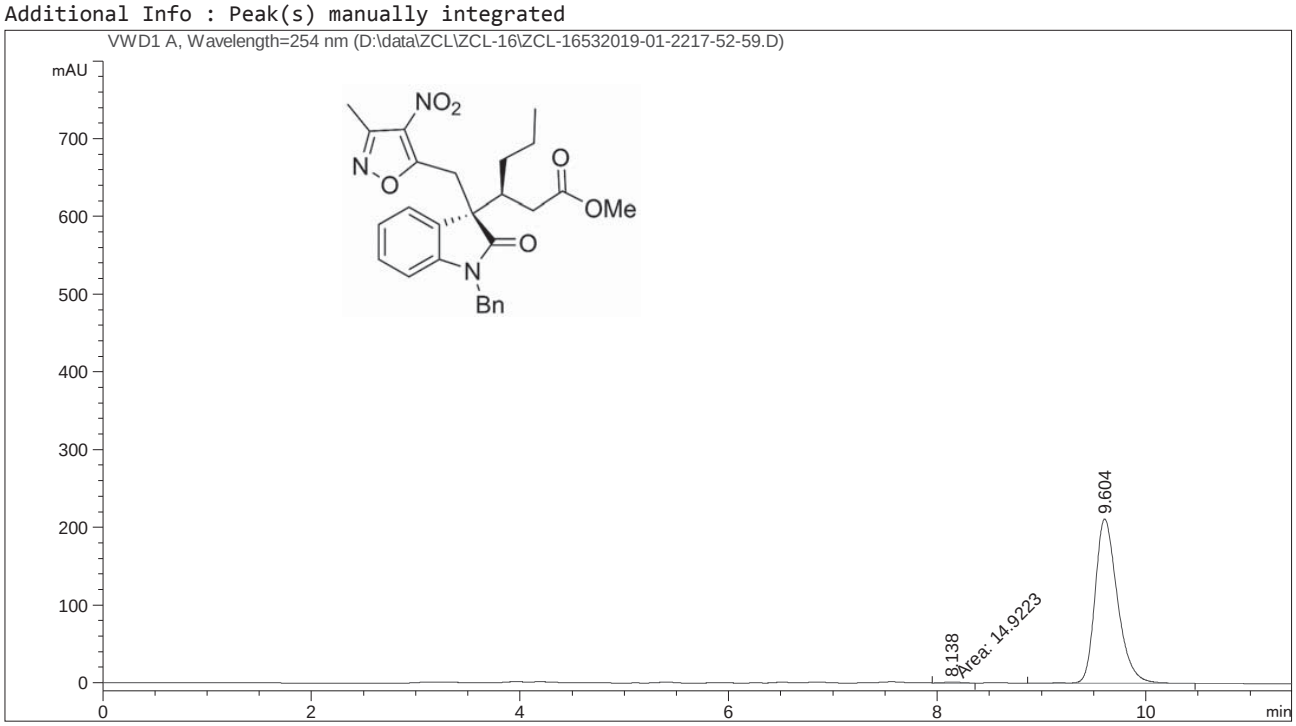
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-08
Injection Date  : 1/22/2019 6:37:04 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/22/2019 5:34:27 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:43:33 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.056 MM    0.1998 3482.21118  290.40384  49.5486
   2   9.538 VB R  0.2270 3545.65234  239.11395  50.4514
```

Data File D:\data\ZCL\ZCL-16\ZCL-16532019-01-2217-52-59.D
Sample Name: ZCL-1653

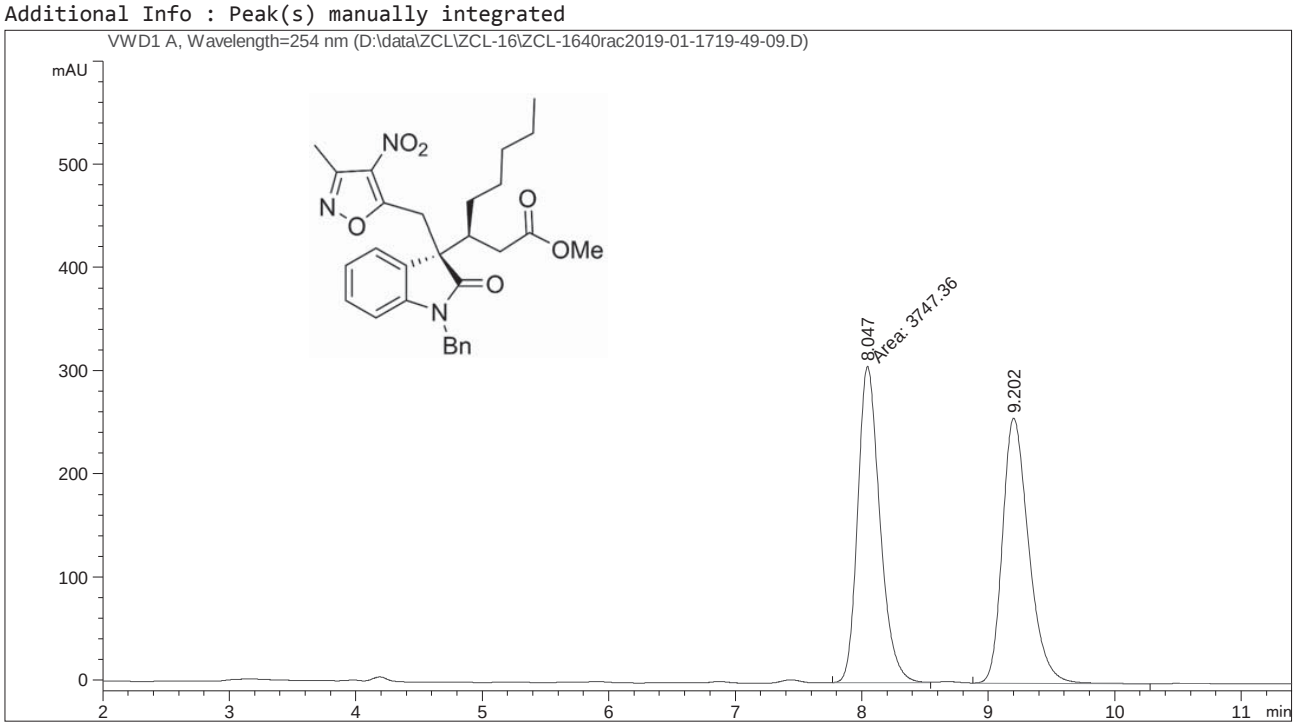
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-09
Injection Date  : 1/22/2019 5:53:36 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/22/2019 5:34:27 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:43:33 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.138 MM    0.1867   14.92231    1.33238   0.4717
   2   9.604 VB R  0.2266 3148.91968  211.59648  99.5283
```

Data File D:\data\ZCL\ZCL-16\ZCL-1640rac2019-01-1719-49-09.D
Sample Name: ZCL-1640rac

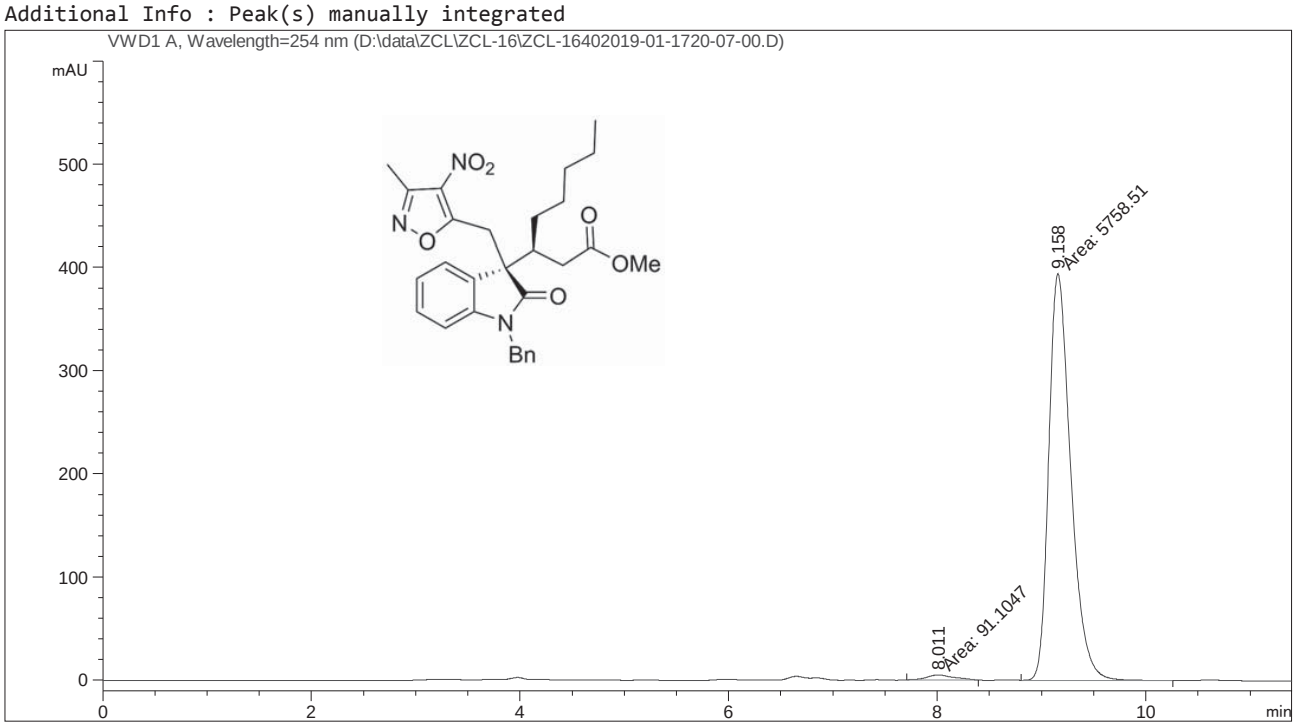
```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-05
Injection Date  : 1/17/2019 7:49:42 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/17/2019 7:48:44 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:41:03 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.047 MM    0.2037 3747.35913  306.56018  50.1699
   2   9.202 VB    0.2218 3721.98022  257.17303  49.8301
```

Data File D:\data\ZCL\ZCL-16\ZCL-16402019-01-1720-07-00.D
Sample Name: ZCL-1640

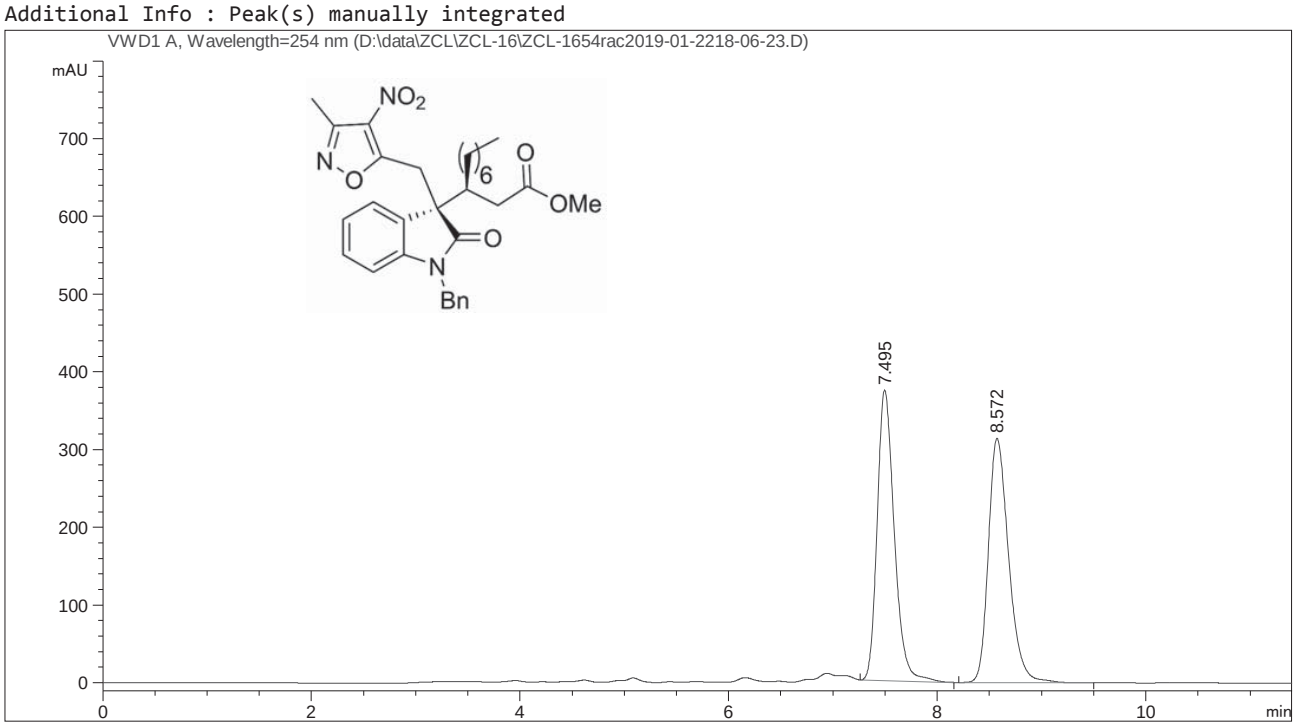
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-06
Injection Date  : 1/17/2019 8:07:38 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/17/2019 7:48:44 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:42:13 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.011 MM    0.3083   91.10472    4.92589   1.5574
   2   9.158 MM    0.2436 5758.50586  393.98608  98.4426
```

Data File D:\data\ZCL\ZCL-16\ZCL-1654rac2019-01-2218-06-23.D
Sample Name: ZCL-1654rac

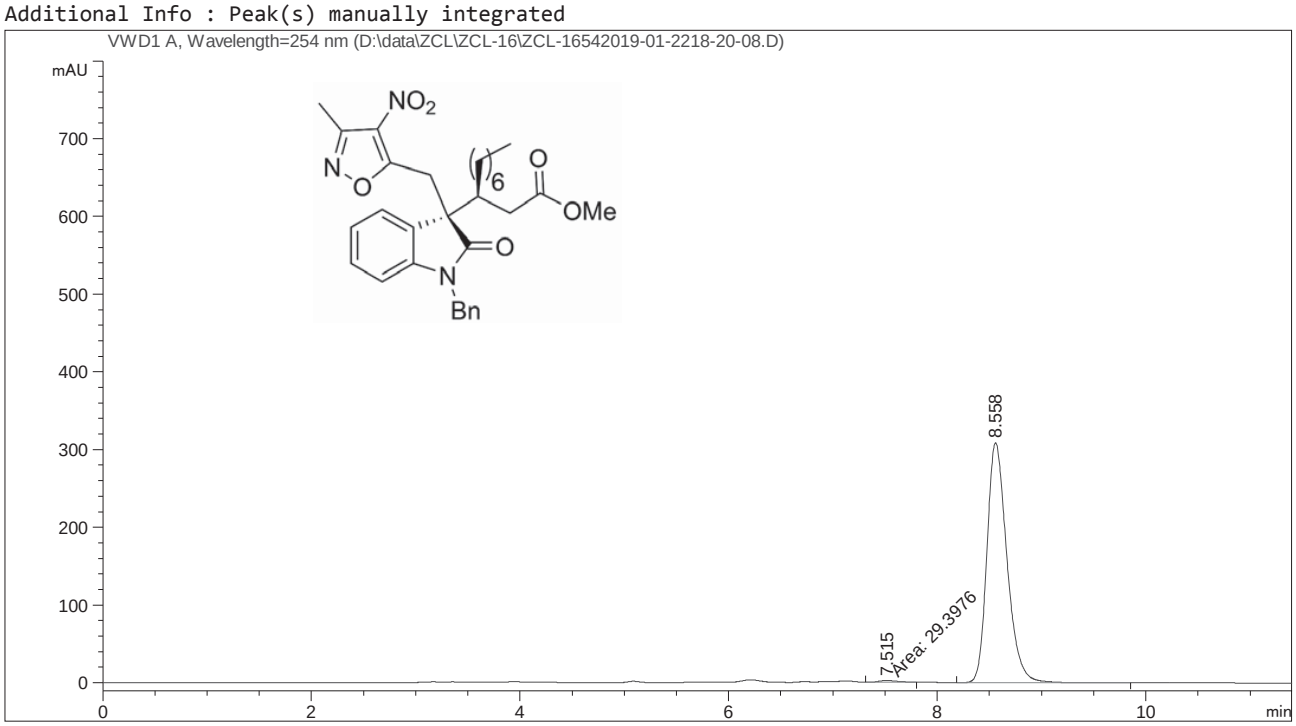
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-10
Injection Date  : 1/22/2019 6:07:00 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/22/2019 5:34:27 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:43:33 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   7.495 BB    0.1739 4254.81348  373.51791  50.0904
   2   8.572 BB    0.2063 4239.45947  314.33502  49.9096
```

Data File D:\data\ZCL\ZCL-16\ZCL-16542019-01-2218-20-08.D
Sample Name: ZCL-1654

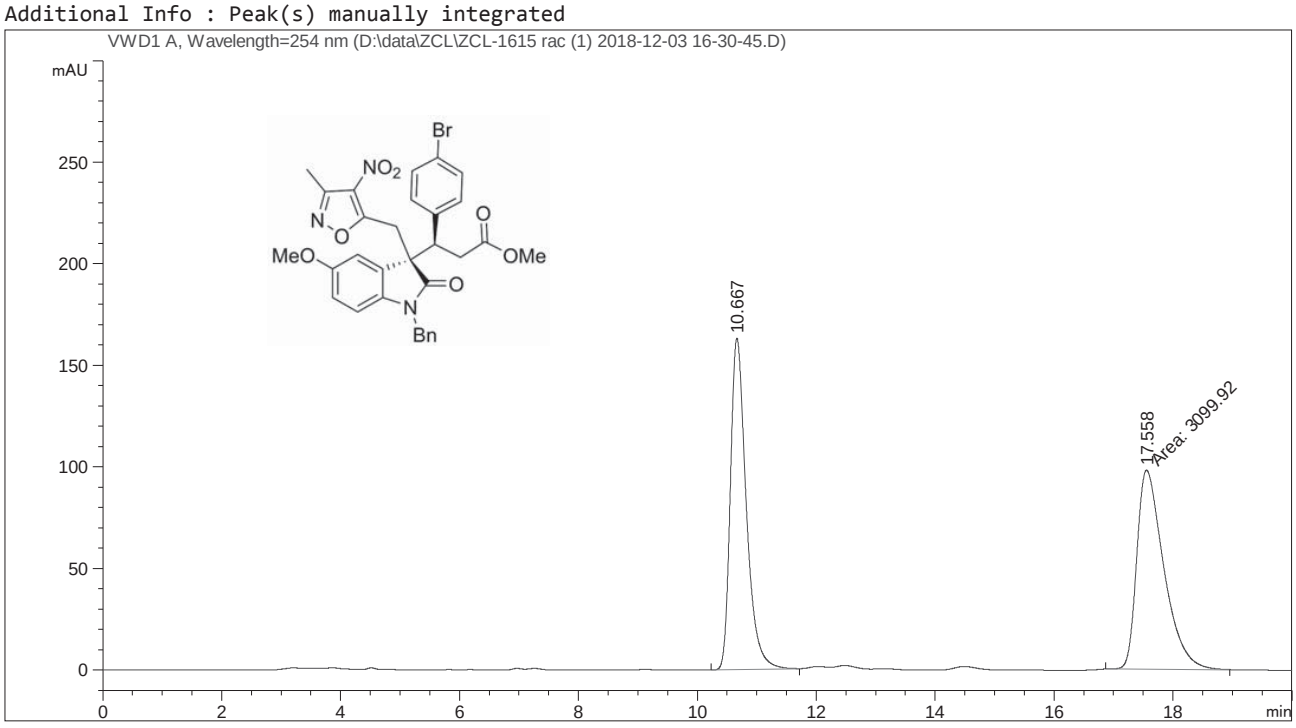
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-11
Injection Date  : 1/22/2019 6:20:46 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/22/2019 5:34:27 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:43:33 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   7.515 MM    0.2057   29.39761    2.38187   0.7078
   2   8.558 BB    0.2048 4124.12012  308.72818  99.2922
```

Data File D:\data\ZCL\ZCL-1615 rac (1) 2018-12-03 16-30-45.D
Sample Name: ZCL-1615 rac

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-07
Injection Date  : 12/3/2018 4:31:26 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 12/3/2018 4:10:49 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:02:34 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm
```

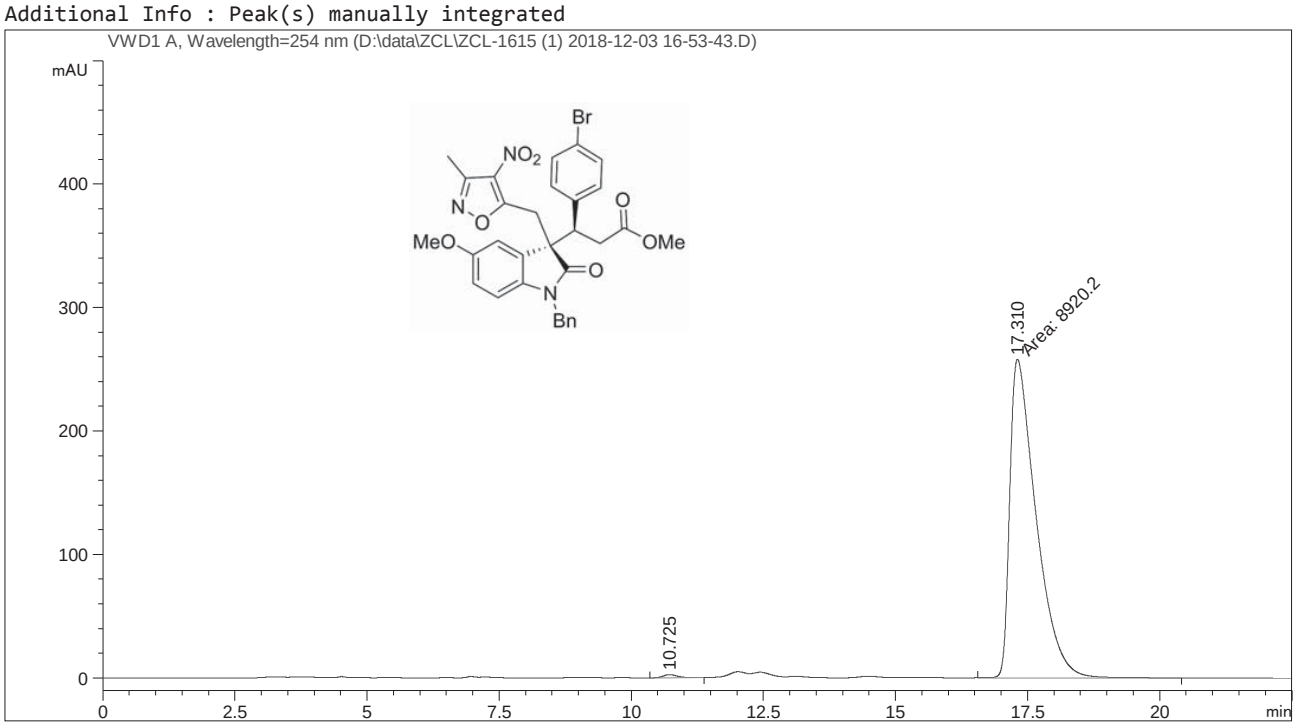
Data File D:\data\ZCL\ZCL-1615 rac (1) 2018-12-03 16-30-45.D
Sample Name: ZCL-1615 rac

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.667	BB	0.2815	3021.95435	163.24023	49.3632
2	17.558	MM	0.5275	3099.92236	97.93683	50.6368
Totals :				6121.87671	261.17706	

*** End of Report ***

Data File D:\data\ZCL\ZCL-1615 (1) 2018-12-03 16-53-43.D
Sample Name: ZCL-1615

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-08
Injection Date  : 12/3/2018 4:54:27 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 12/3/2018 4:10:49 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:03:44 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm
```

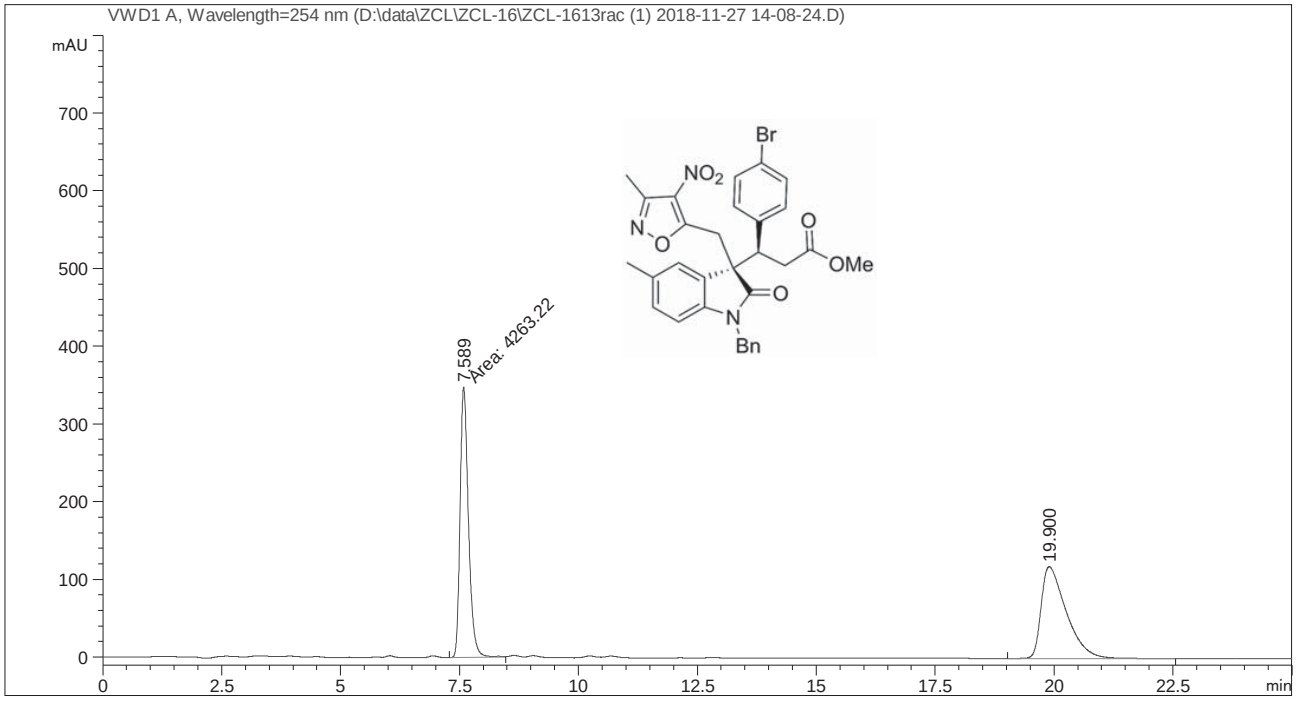
Data File D:\data\ZCL\ZCL-1615 (1) 2018-12-03 16-53-43.D
Sample Name: ZCL-1615

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.725	BB	0.2880	50.56004	2.63949	0.5636
2	17.310	MM	0.5761	8920.19531	258.06381	99.4364
Totals :				8970.75535	260.70330	

*** End of Report ***

Data File D:\data\ZCL\ZCL-16\ZCL-1613rac (1) 2018-11-27 14-08-24.D
Sample Name: ZCL-1613rac

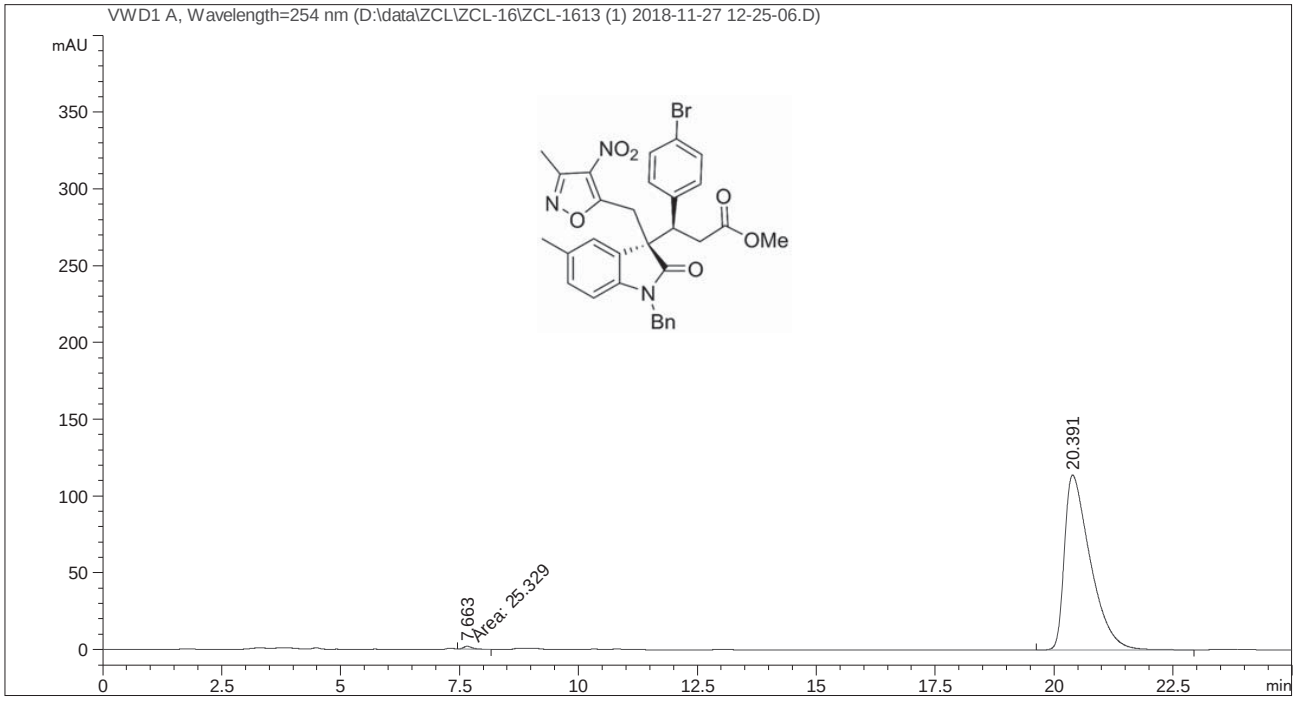
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-01
Injection Date  : 11/27/2018 2:10:03 PM              Inj :   1
                                                Inj Volume : 1.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/27/2018 12:09:33 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:01:14 PM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   7.589 MM    0.2045 4263.21826  347.53049  49.6484
   2  19.900 BB    0.5481 4323.60400  118.10307  50.3516
```

Data File D:\data\ZCL\ZCL-16\ZCL-1613 (1) 2018-11-27 12-25-06.D
Sample Name: ZCL-1613

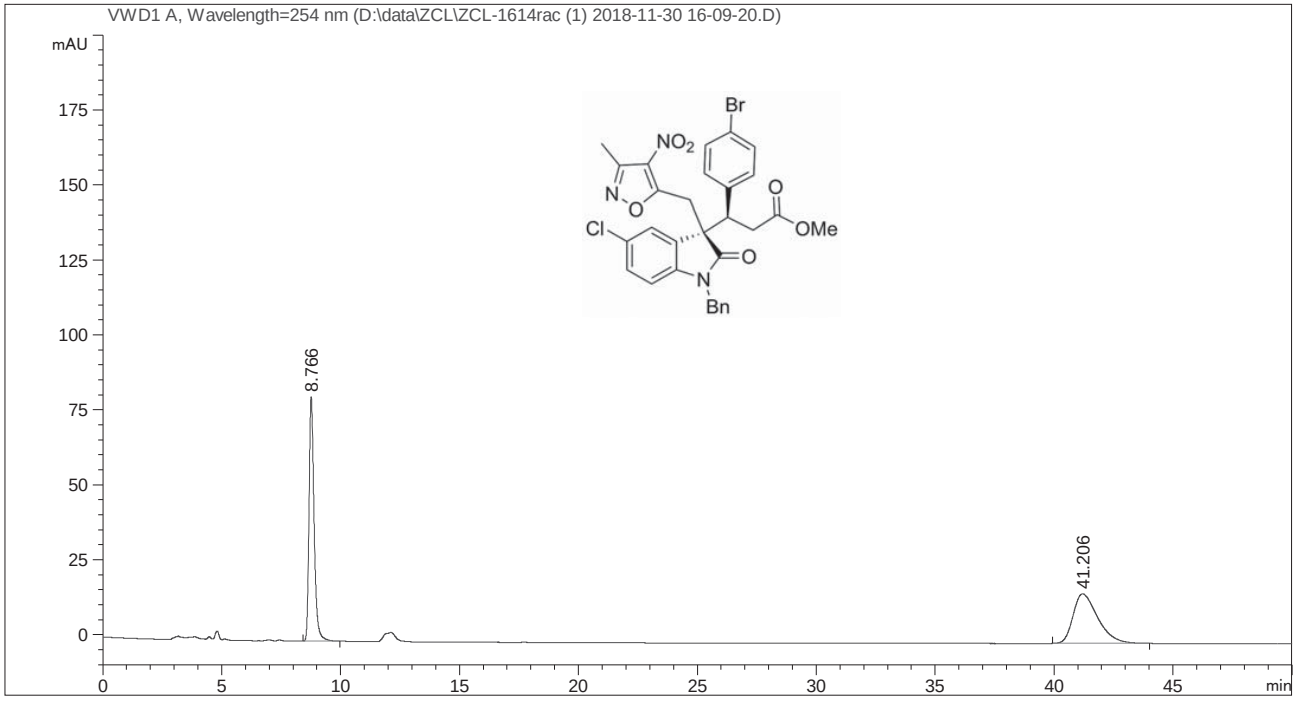
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-02
Injection Date  : 11/27/2018 12:25:43 PM             Inj :   1
                                                Inj Volume : 1.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/27/2018 12:09:33 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:01:45 PM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   7.663 MM    0.2220   25.32902    1.90123   0.5855
   2  20.391 BB    0.5629 4301.08105  113.81281  99.4145
```

Data File D:\data\ZCL\ZCL-1614rac (1) 2018-11-30 16-09-20.D
Sample Name: ZCL-1614rac

```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-03
Injection Date  : 11/30/2018 4:10:02 PM              Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 11/30/2018 4:03:56 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:00:00 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Data File D:\data\ZCL\ZCL-1614rac (1) 2018-11-30 16-09-20.D
Sample Name: ZCL-1614rac

Signal 1: VWD1 A, Wavelength=254 nm

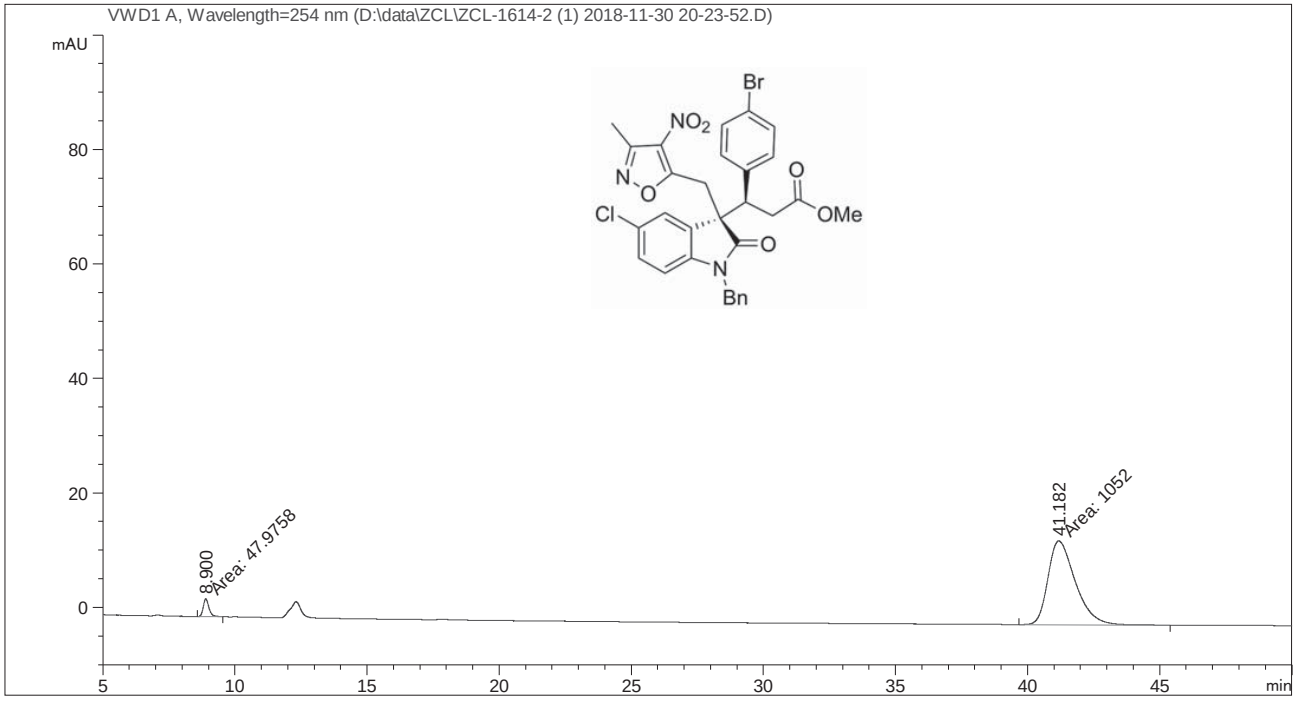
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	8.766	BB	0.2244	1207.95361	81.49160	50.2986
2	41.206	BB	1.0068	1193.61096	16.54234	49.7014
Totals :				2401.56458	98.03394	

==========

*** End of Report ***

Data File D:\data\ZCL\ZCL-1614-2 (1) 2018-11-30 20-23-52.D
Sample Name: ZCL-1614-2

```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-05
Injection Date  : 11/30/2018 8:24:38 PM              Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 11/30/2018 4:03:56 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:01:49 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Data File D:\data\ZCL\ZCL-1614-2 (1) 2018-11-30 20-23-52.D
Sample Name: ZCL-1614-2

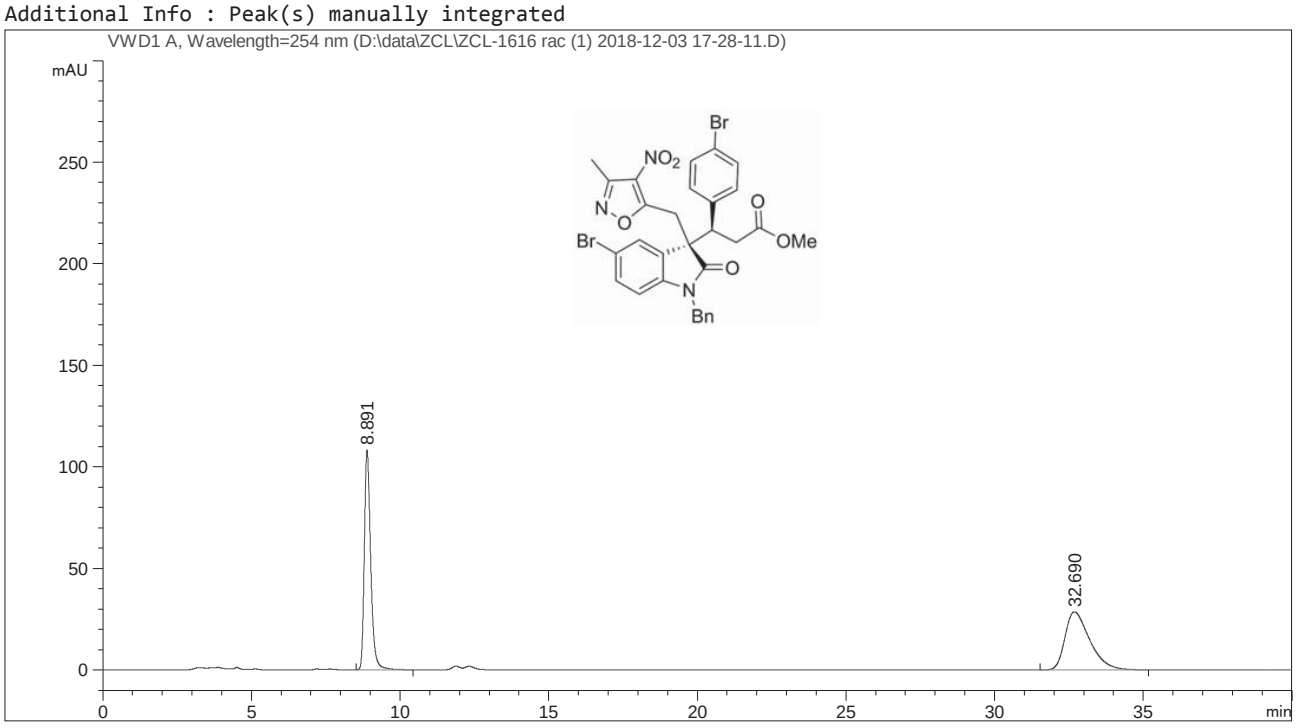
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	8.900	MM	0.2548	47.97578	3.13842	4.3615
2	41.182	MM	1.1976	1051.99976	14.64060	95.6385
Totals :				1099.97553	17.77902	

*** End of Report ***

Data File D:\data\ZCL\ZCL-1616 rac (1) 2018-12-03 17-28-11.D
Sample Name: ZCL-1616 rac

```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-09
Injection Date  : 12/3/2018 5:28:55 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 12/3/2018 4:10:49 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:04:46 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm
```

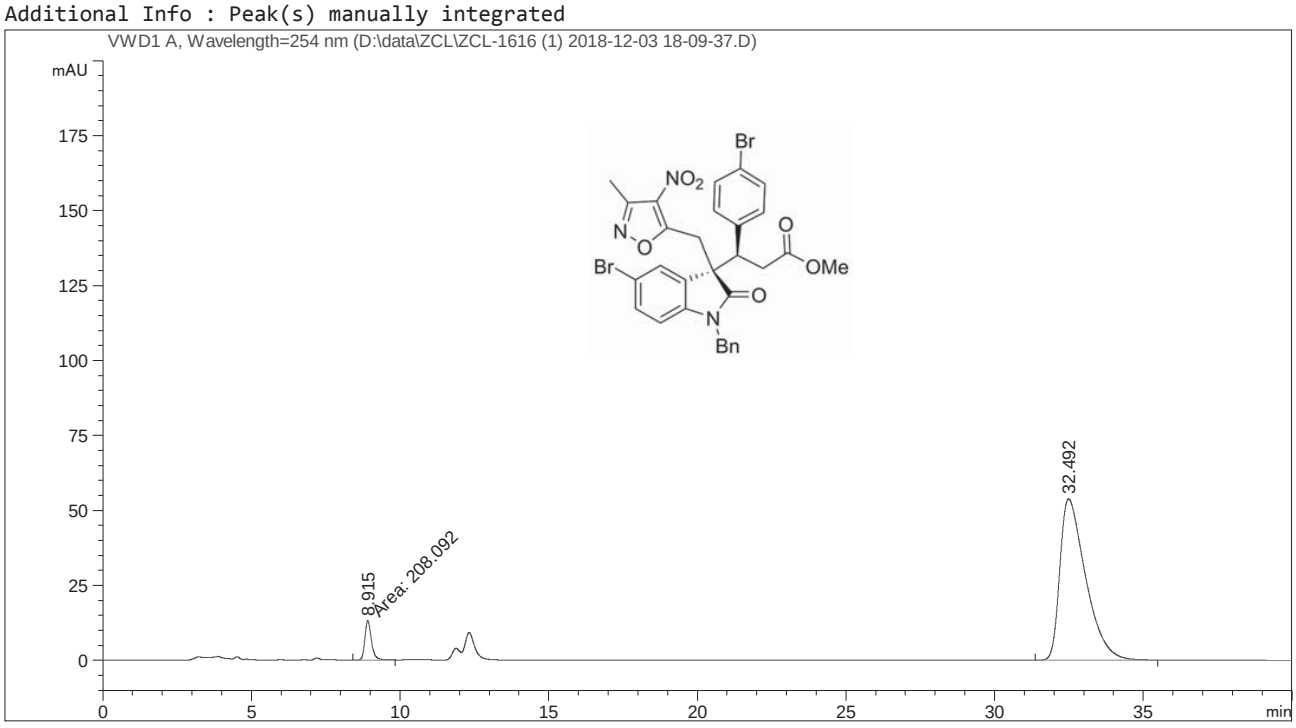
Data File D:\data\ZCL\ZCL-1616 rac (1) 2018-12-03 17-28-11.D
Sample Name: ZCL-1616 rac

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	8.891	BB	0.2256	1612.82471	108.36674	49.3372
2	32.690	BB	0.8541	1656.15735	28.63981	50.6628
Totals :				3268.98206	137.00656	

*** End of Report ***

Data File D:\data\ZCL\ZCL-1616 (1) 2018-12-03 18-09-37.D
Sample Name: ZCL-1616

```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-F-10
Injection Date  : 12/3/2018 6:10:21 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\TEST20180509.M
Last changed    : 12/3/2018 4:10:49 PM by System
                  (modified after loading)
Analysis Method : C:\USERS\PUBLIC\DOCUMENTS\CHEMSTATION\1\METHODS\TEST20180509.M
Last changed    : 2/20/2019 5:06:25 PM by System
                  (modified after loading)
Method Info     : TEST

Sample Info     : IB, H/I=70/30, 254  nm,1 mL/min

Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm
```

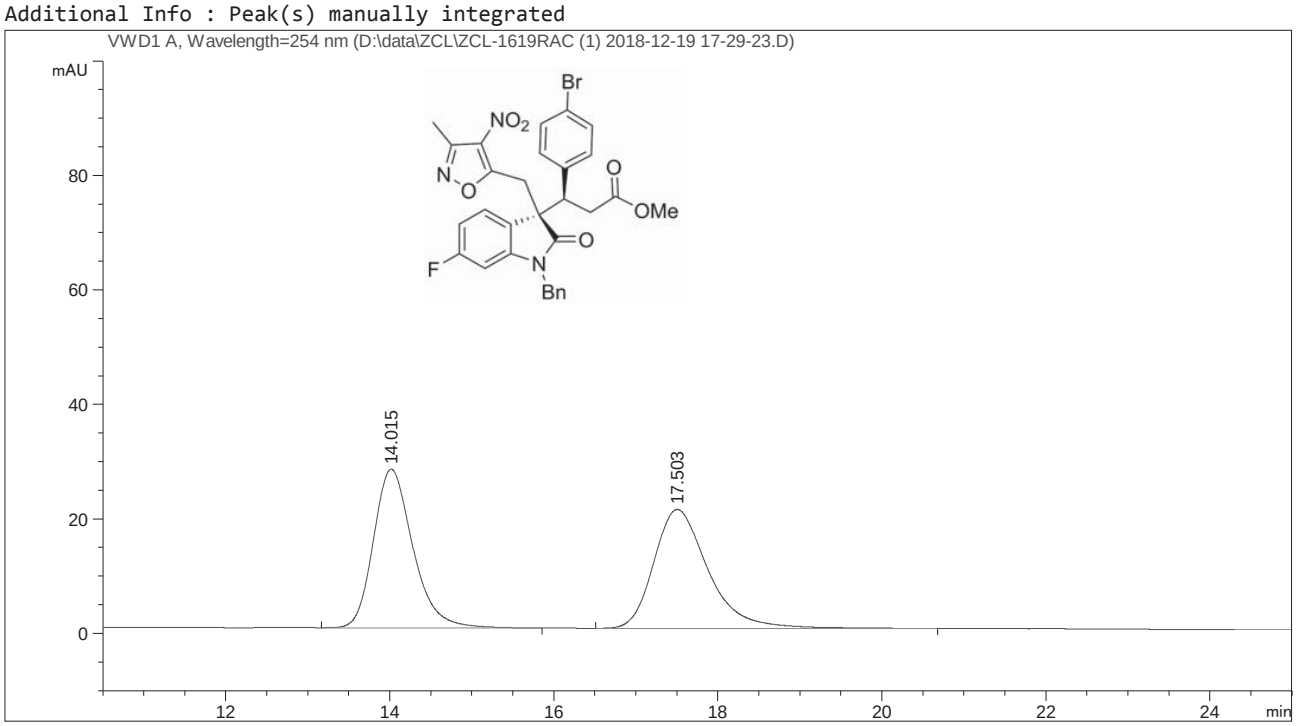
Data File D:\data\ZCL\ZCL-1616 (1) 2018-12-03 18-09-37.D
Sample Name: ZCL-1616

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	8.915	MM	0.2624	208.09250	13.21960	6.0333
2	32.492	BB	0.9015	3240.99487	53.82467	93.9667
Totals :				3449.08737	67.04427	

*** End of Report ***

Data File D:\data\ZCL\ZCL-1619RAC (1) 2018-12-19 17-29-23.D
Sample Name: ZCL-1619RAC

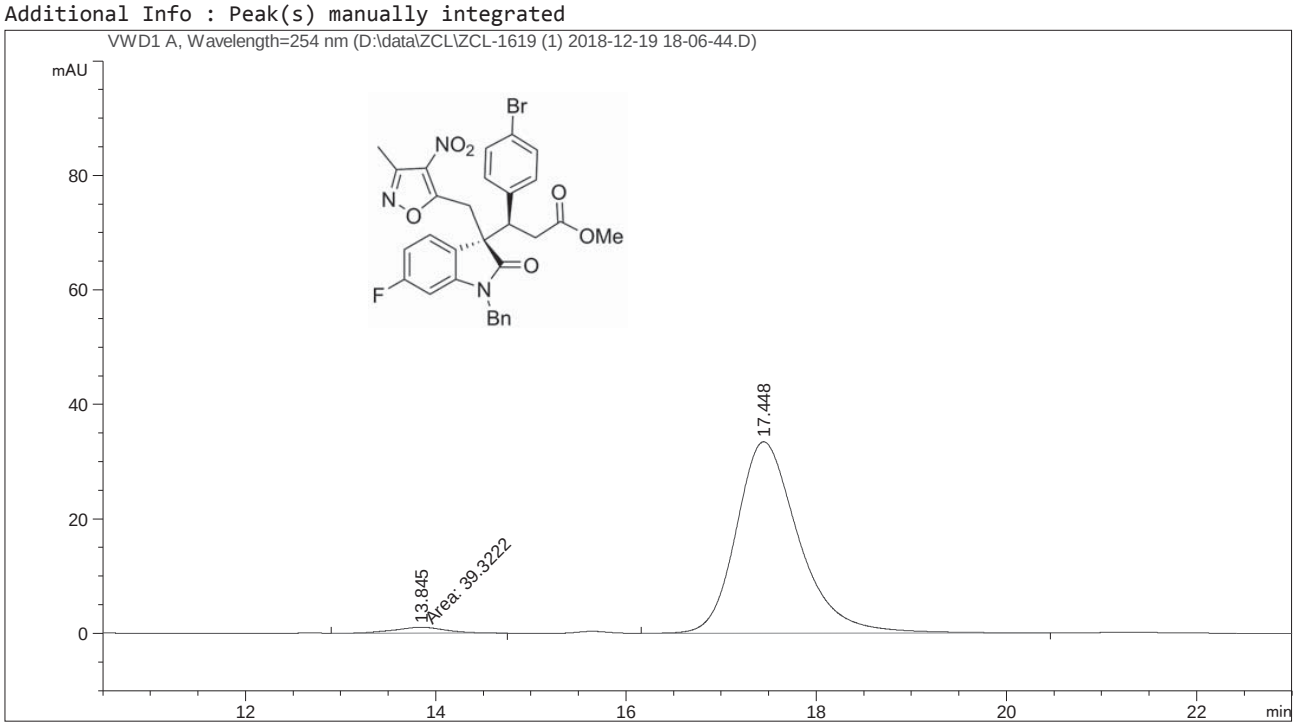
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-10
Injection Date  : 12/19/2018 5:29:56 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 12/19/2018 5:18:09 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:13:10 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  14.015 BB    0.5122  927.56873   27.73299  49.1663
   2  17.503 BB    0.7016  959.02521   20.77473  50.8337
```

Data File D:\data\ZCL\ZCL-1619 (1) 2018-12-19 18-06-44.D
Sample Name: ZCL-1619

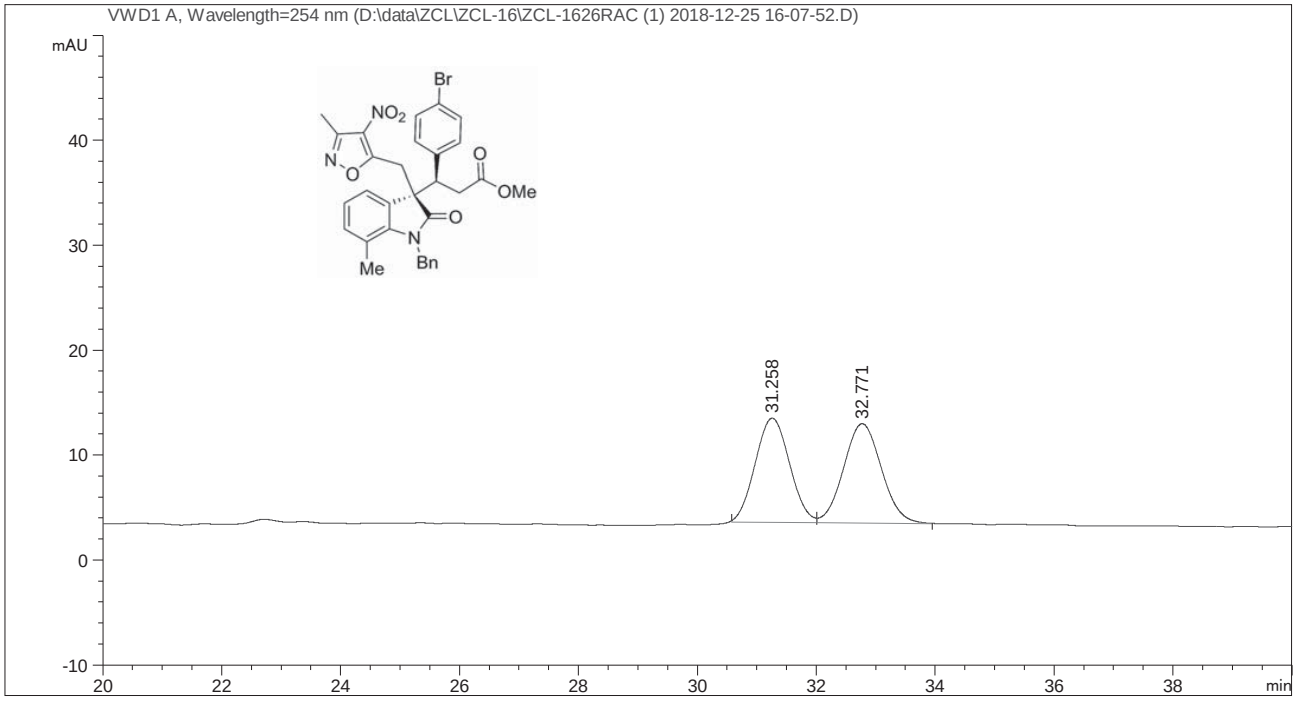
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-B-11
Injection Date  : 12/19/2018 6:07:21 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 12/19/2018 5:18:09 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:14:27 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  13.845 MM    0.6279   39.32216    1.04383   2.5131
   2  17.448 BB    0.6901 1525.34912   33.44443  97.4869
```

Data File D:\data\ZCL\ZCL-16\ZCL-1626RAC (1) 2018-12-25 16-07-52.D
Sample Name: ZCL-1626RAC

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-F-08
Injection Date  : 12/25/2018 4:08:30 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/25/2018 4:08:07 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:28:53 PM by System
                  (modified after loading)
Sample Info     : IC, H/I/M= 90/5/5, 0.7
                  mL/min   254nm

Additional Info : Peak(s) manually integrated
```

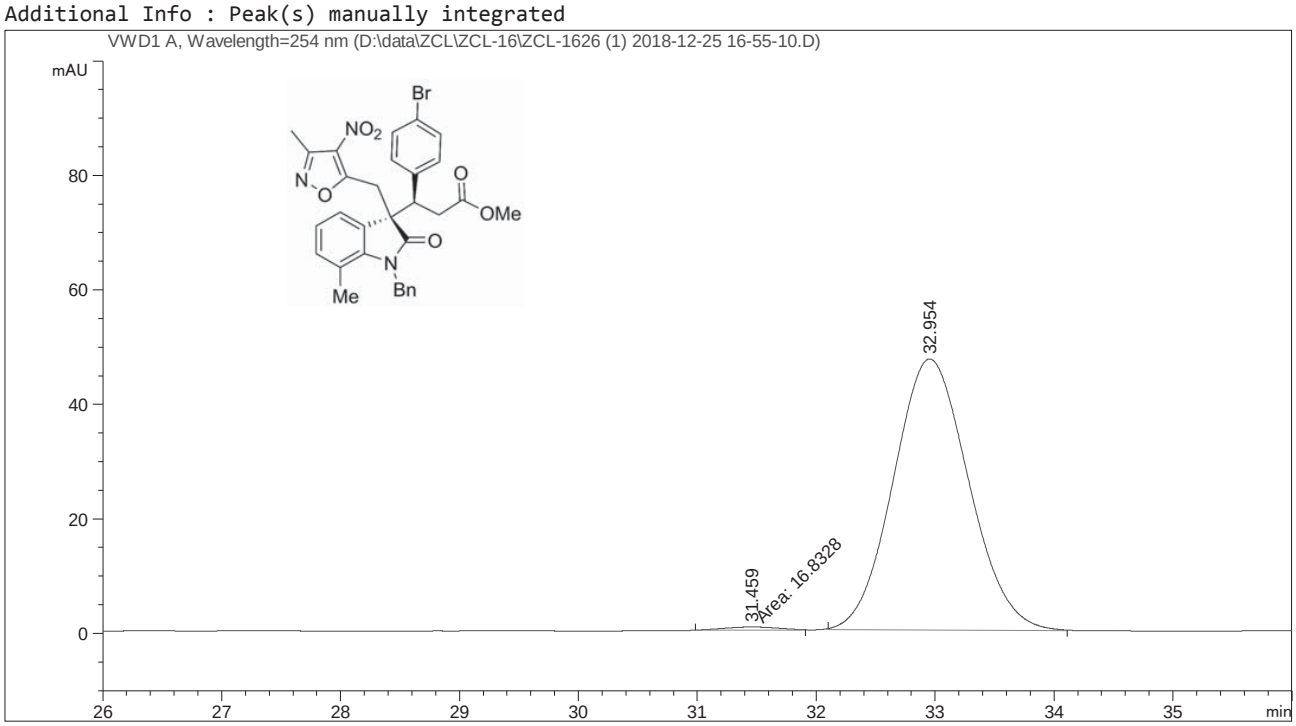



```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm
```

Peak #	RetTime [min]	Sig	Type	Area [mAU*s]	Height [mAU]	Area %
1	31.258	1	BV	399.87457	9.93828	48.8824
2	32.771	1	VB	418.15918	9.46936	51.1176

Data File D:\data\ZCL\ZCL-16\ZCL-1626 (1) 2018-12-25 16-55-10.D
Sample Name: ZCL-1626

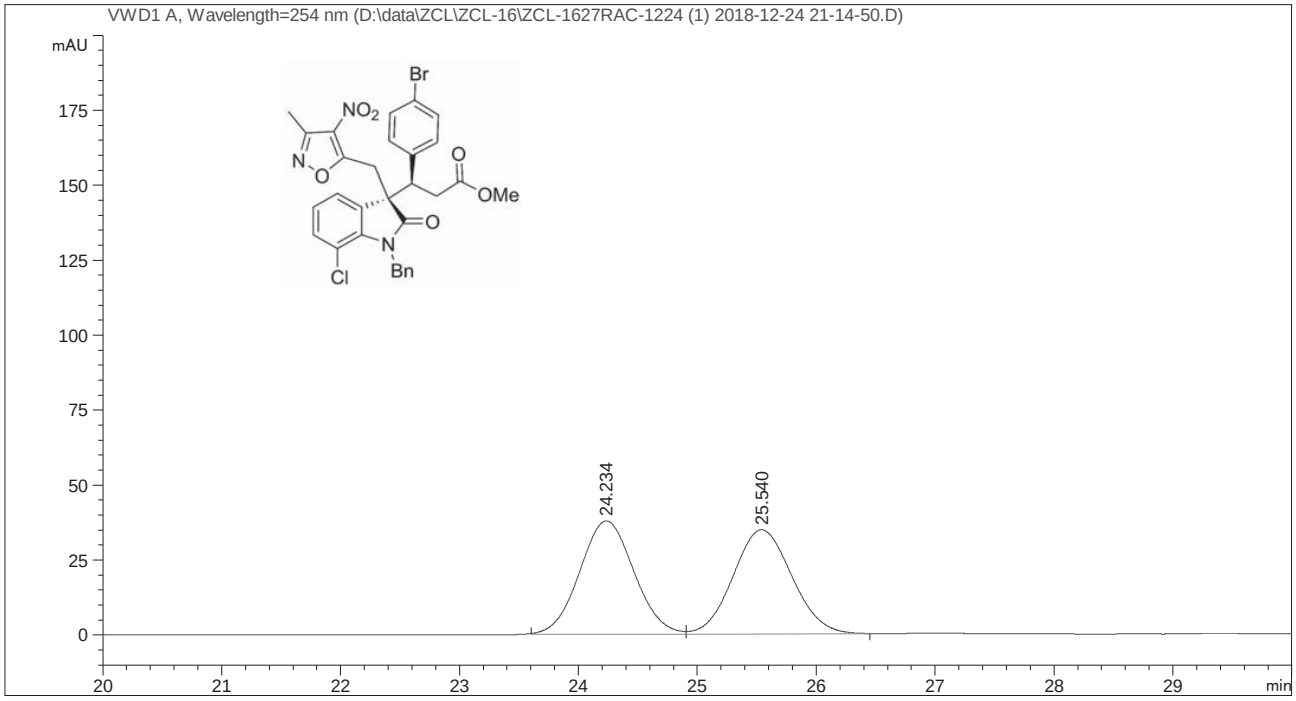
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-F-09
Injection Date  : 12/25/2018 4:55:48 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/25/2018 4:08:07 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:29:48 PM by System
                  (modified after loading)
Sample Info     : IC, H/I/M= 90/5/5, 0.7 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Sig Type    Area      Height     Area
  #   [min]            [mAU*s]     [mAU]       %
----|-------|---|----|----------|----------|--------|
   1  31.459  1  MM     16.83276 5.38301e-1   0.8020
   2  32.954  1  BB   2082.14258   47.35285  99.1980

Totals :              2098.97534   47.89115
```

Data File D:\data\ZCL\ZCL-16\ZCL-1627RAC-1224 (1) 2018-12-24 21-14-50.D
Sample Name: ZCL-1627RAC-1224

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-F-06
Injection Date  : 12/24/2018 9:15:28 PM              Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/24/2018 8:05:07 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:27:50 PM by System
                  (modified after loading)
Sample Info     : IC, H/I/M = 90/5/5, 0.7 mL/min   254nm

Additional Info : Peak(s) manually integrated
```

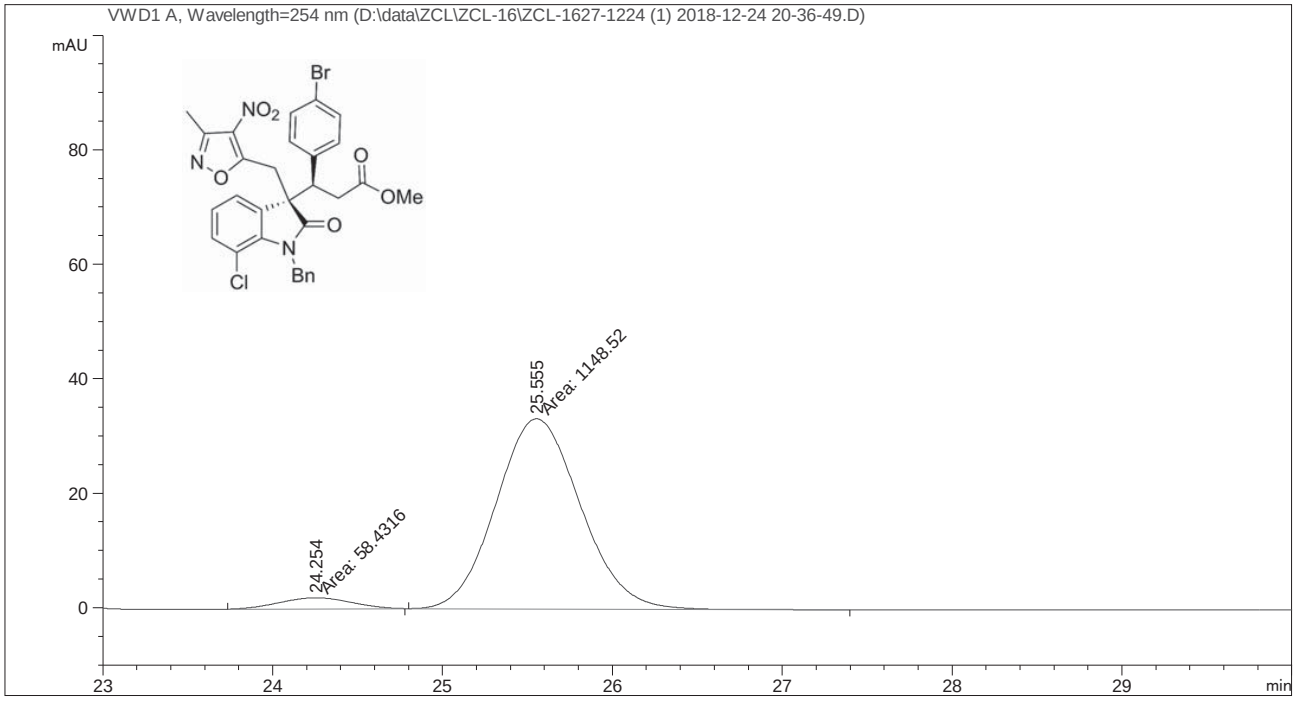



```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm
```

Peak #	RetTime [min]	Sig	Type	Area [mAU*s]	Height [mAU]	Area %
1	24.234	1	BV	1199.65234	37.81601	50.1303
2	25.540	1	VB	1193.41516	34.72873	49.8697

Data File D:\data\ZCL\ZCL-16\ZCL-1627-1224 (1) 2018-12-24 20-36-49.D
Sample Name: ZCL-1627-1224

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-F-07
Injection Date  : 12/24/2018 8:37:28 PM              Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/24/2018 8:05:07 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:21:53 PM by System
                  (modified after loading)
Sample Info     : IC, H/I/M = 90/5/5, 0.7 mL/min   254nm

Additional Info : Peak(s) manually integrated
```

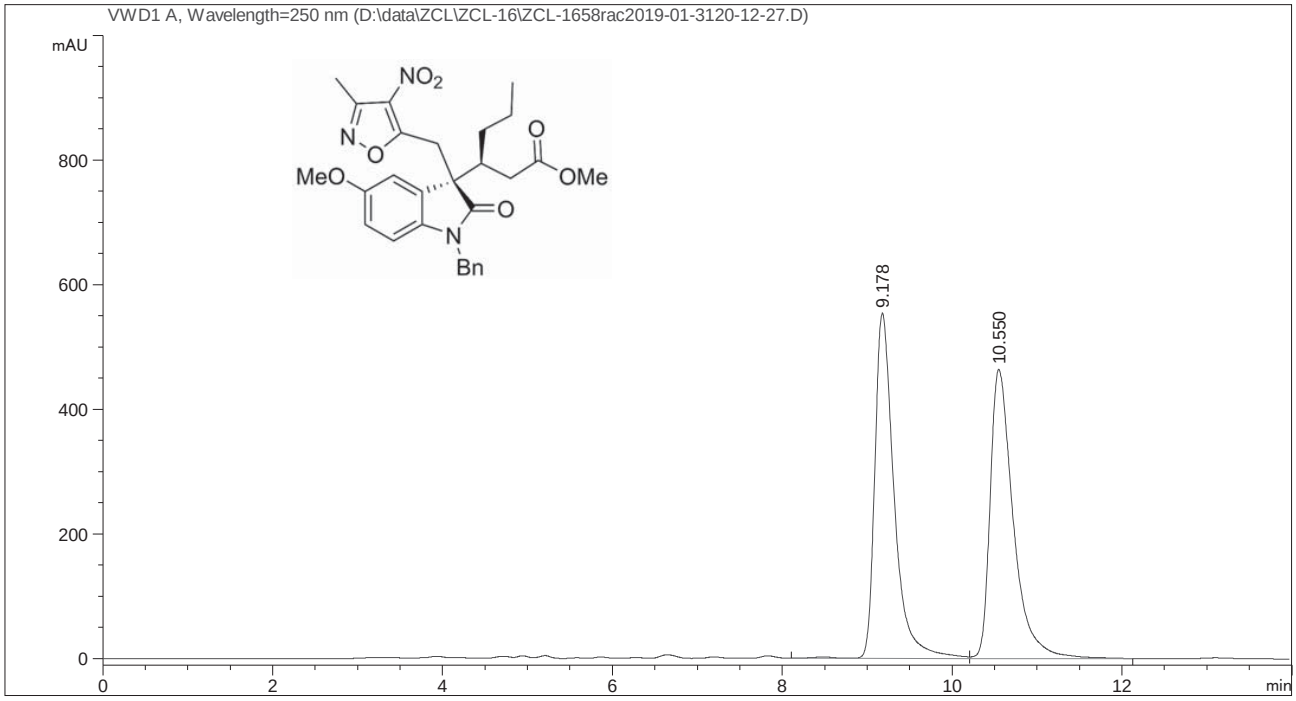



```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm
```

Peak #	RetTime [min]	Sig	Type	Area [mAU*s]	Height [mAU]	Area %
1	24.254	1	MM	58.43158	1.96342	4.8412
2	25.555	1	MM	1148.52100	33.25194	95.1588

Data File D:\data\ZCL\ZCL-16\ZCL-1658rac2019-01-3120-12-27.D
Sample Name: ZCL-1658rac

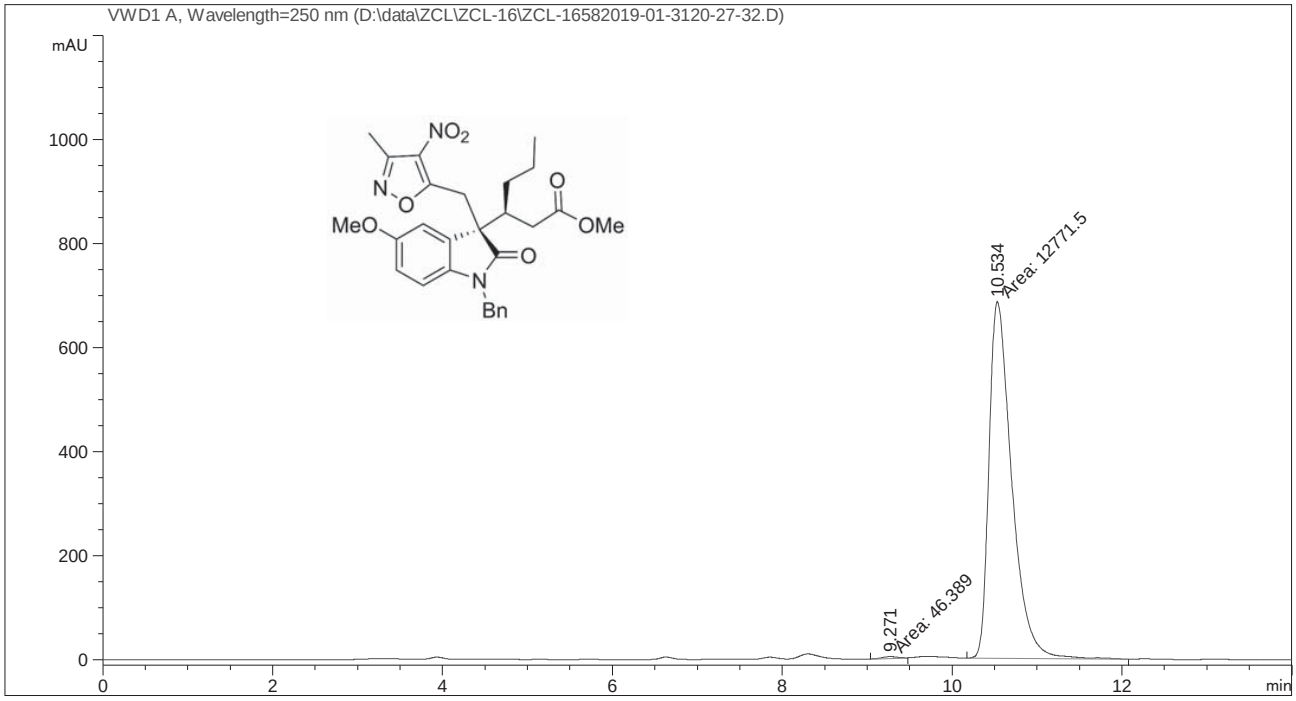
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-03
Injection Date  : 1/31/2019 8:13:06 PM               Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/31/2019 8:12:20 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:45:34 PM by System
                  (modified after loading)
Sample Info     : IB, H/I = 80/20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=250 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.178 VV R  0.2387 8810.97559  553.82996  50.1276
   2  10.550 VB    0.2845 8766.12012  463.79675  49.8724
```

Data File D:\data\ZCL\ZCL-16\ZCL-16582019-01-3120-27-32.D
Sample Name: ZCL-1658

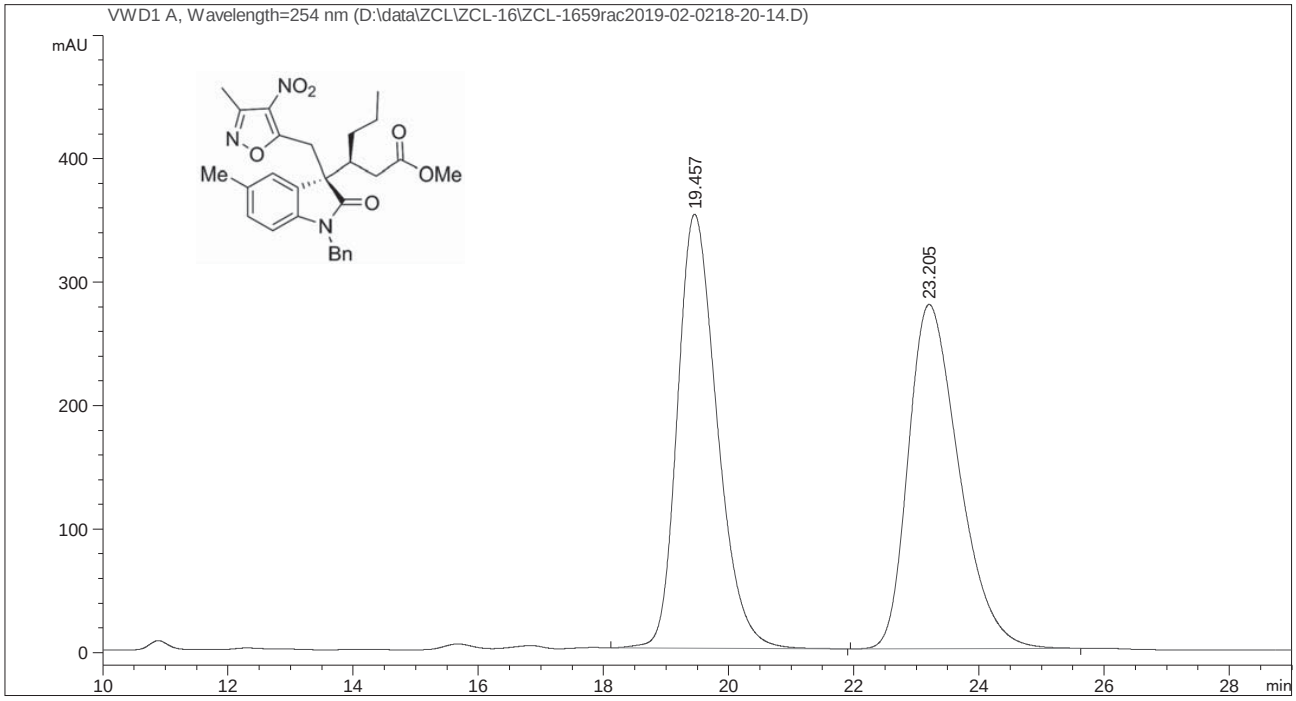
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P1-E-04
    Injection Date  : 1/31/2019 8:28:13 PM               Inj :   1
                                                  Inj Volume : 5.000 µl
    Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 1/31/2019 8:12:20 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 4:46:14 PM by System
                      (modified after loading)
    Sample Info     : IB, H/I = 80/20, 1 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=250 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1   9.271 MM    0.2142   46.38897    3.61026   0.3619
       2  10.534 MM    0.3105 1.27715e4   685.60028  99.6381
```

Data File D:\data\ZCL\ZCL-16\ZCL-1659rac2019-02-0218-20-14.D
Sample Name: ZCL-1659rac

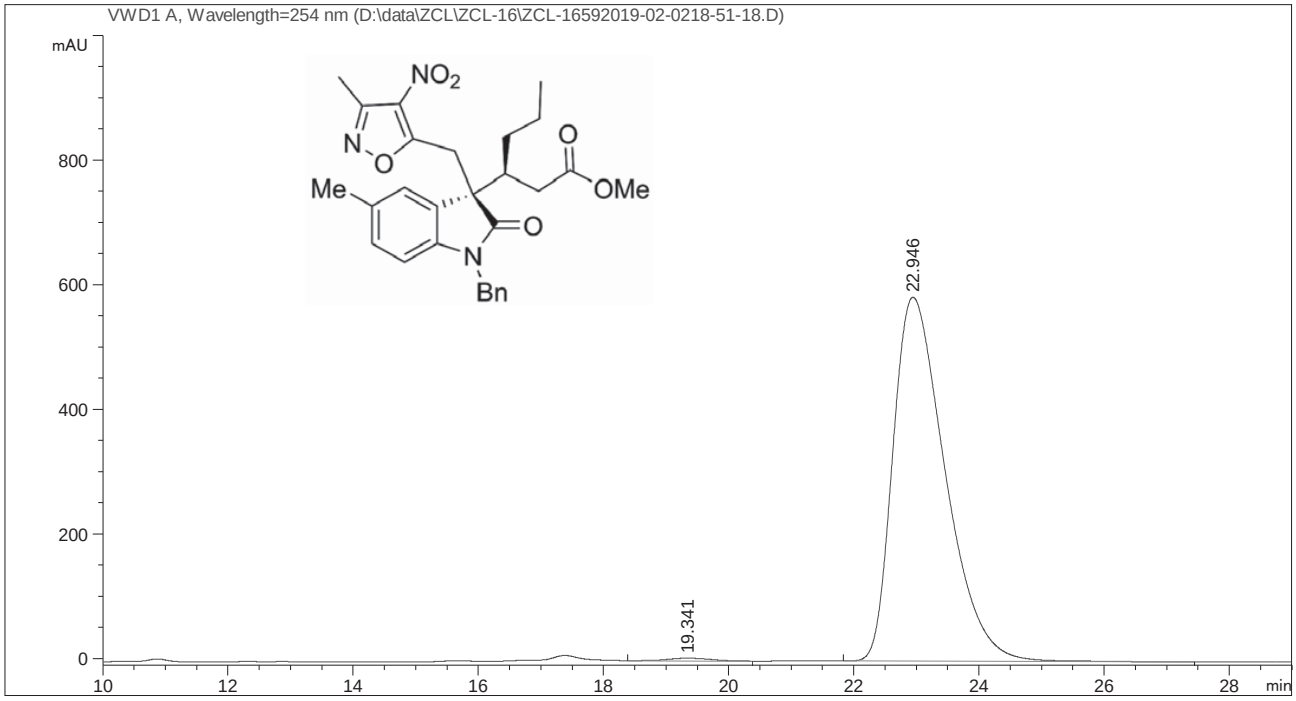
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-05
Injection Date  : 2/2/2019 6:20:56 PM                Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/2/2019 6:19:13 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:48:34 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  19.457 BB    0.6788 1.54499e4   351.50592  49.6652
   2  23.205 BB    0.8662 1.56582e4   278.81250  50.3348
```

Data File D:\data\ZCL\ZCL-16\ZCL-16592019-02-0218-51-18.D
Sample Name: ZCL-1659

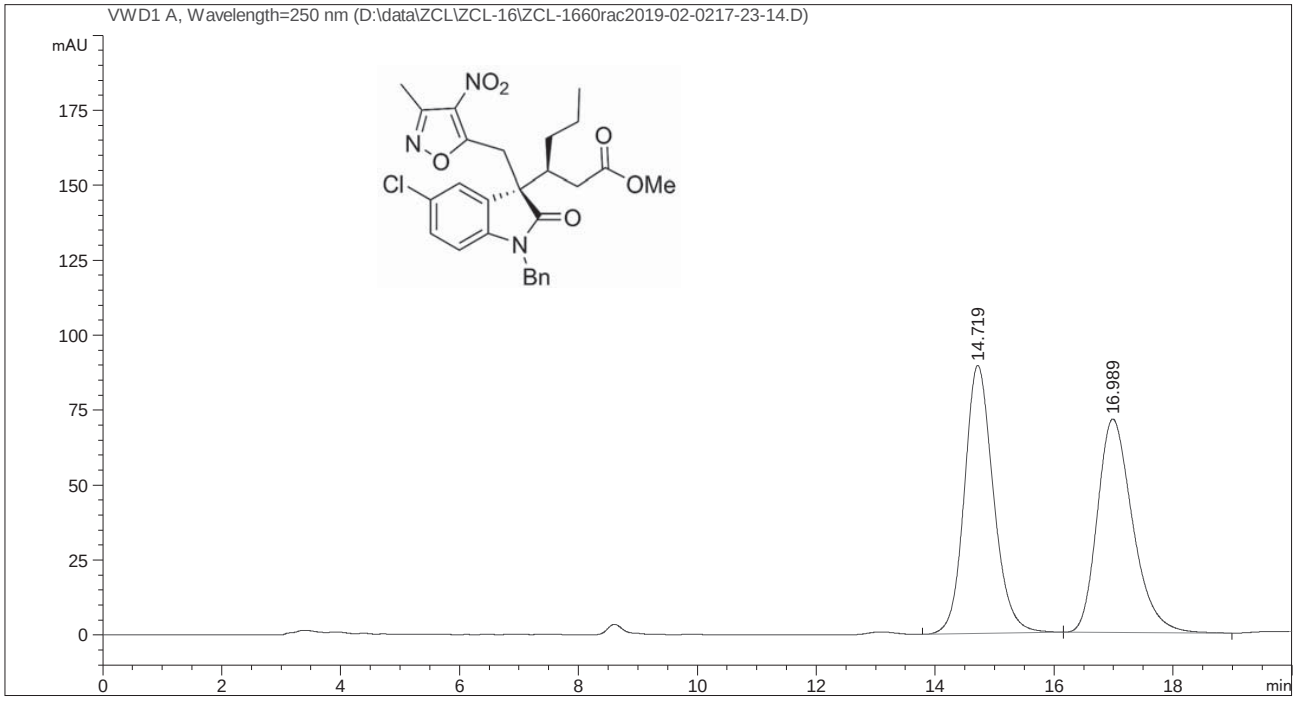
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P1-E-06
    Injection Date  : 2/2/2019 6:52:00 PM                Inj :   1
                                                  Inj Volume : 5.000 µl
    Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/2/2019 6:19:13 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 4:49:08 PM by System
                      (modified after loading)
    Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1  19.341 BB    0.7111  195.85869    4.23103   0.5761
       2  22.946 BB    0.8913 3.38029e4   583.98682  99.4239
```

Data File D:\data\ZCL\ZCL-16\ZCL-1660rac2019-02-0217-23-14.D
Sample Name: ZCL-1660rac

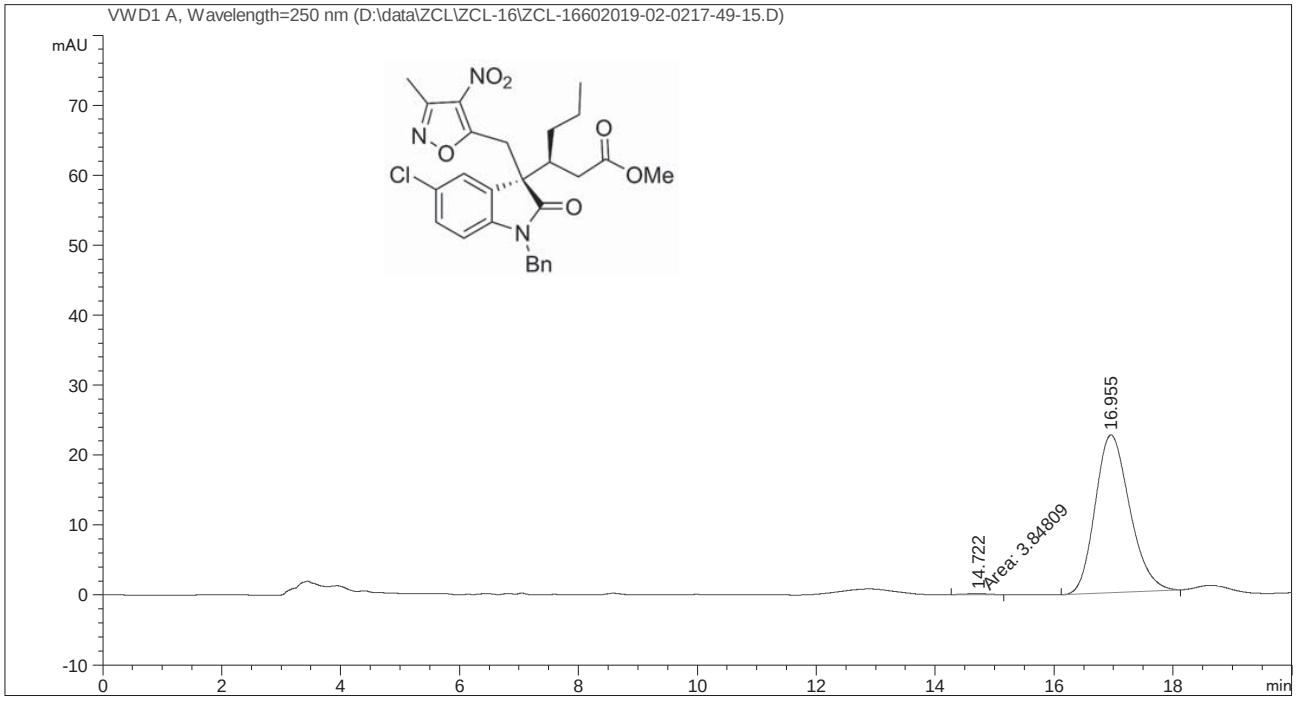
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-07
Injection Date  : 2/2/2019 5:23:55 PM                Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/2/2019 2:56:17 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:46:59 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=250 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  14.719 BB    0.5198 3035.71533   89.48450  50.8318
   2  16.989 BB    0.6331 2936.36841   71.21150  49.1682
```

Data File D:\data\ZCL\ZCL-16\ZCL-16602019-02-0217-49-15.D
Sample Name: ZCL-1660

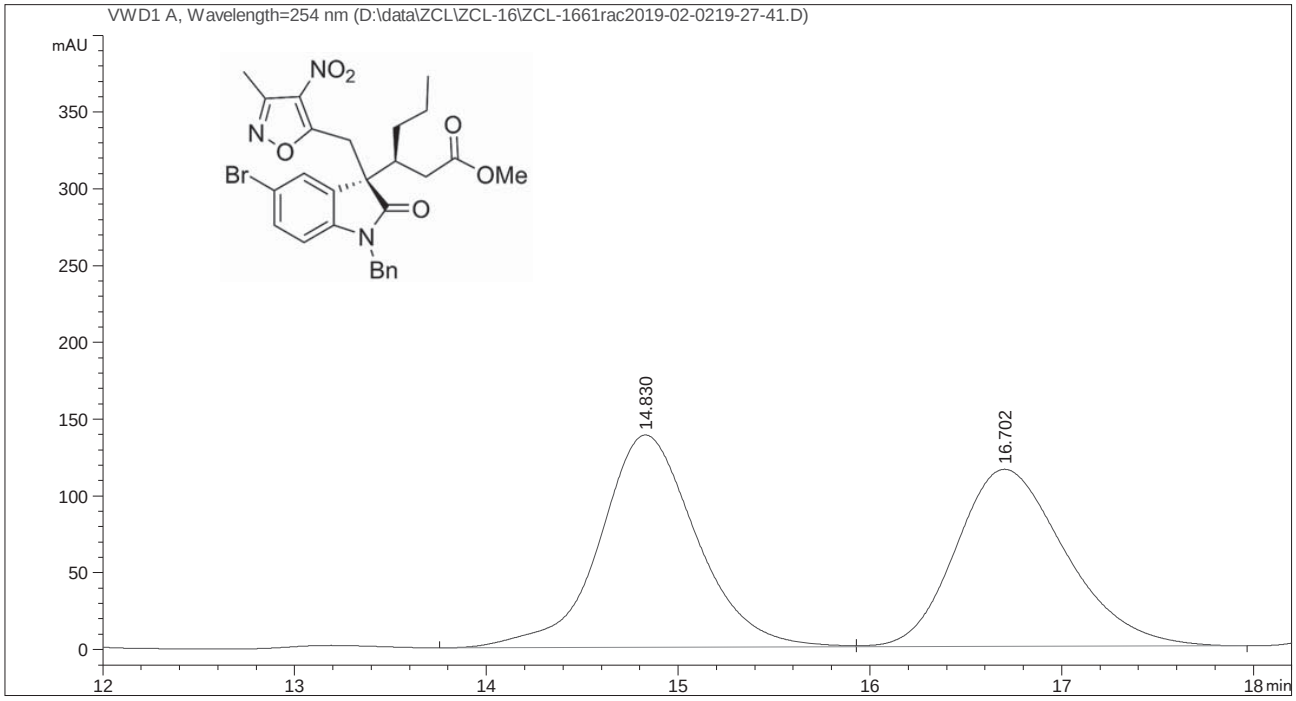
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-08
Injection Date  : 2/2/2019 5:49:56 PM                Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/2/2019 2:56:17 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:47:38 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=250 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  14.722 MM    0.4420    3.84809 1.45094e-1   0.4212
   2  16.955 BB    0.6206  909.79272   22.55629  99.5788
```

Data File D:\data\ZCL\ZCL-16\ZCL-1661rac2019-02-0219-27-41.D
Sample Name: ZCL-1661rac

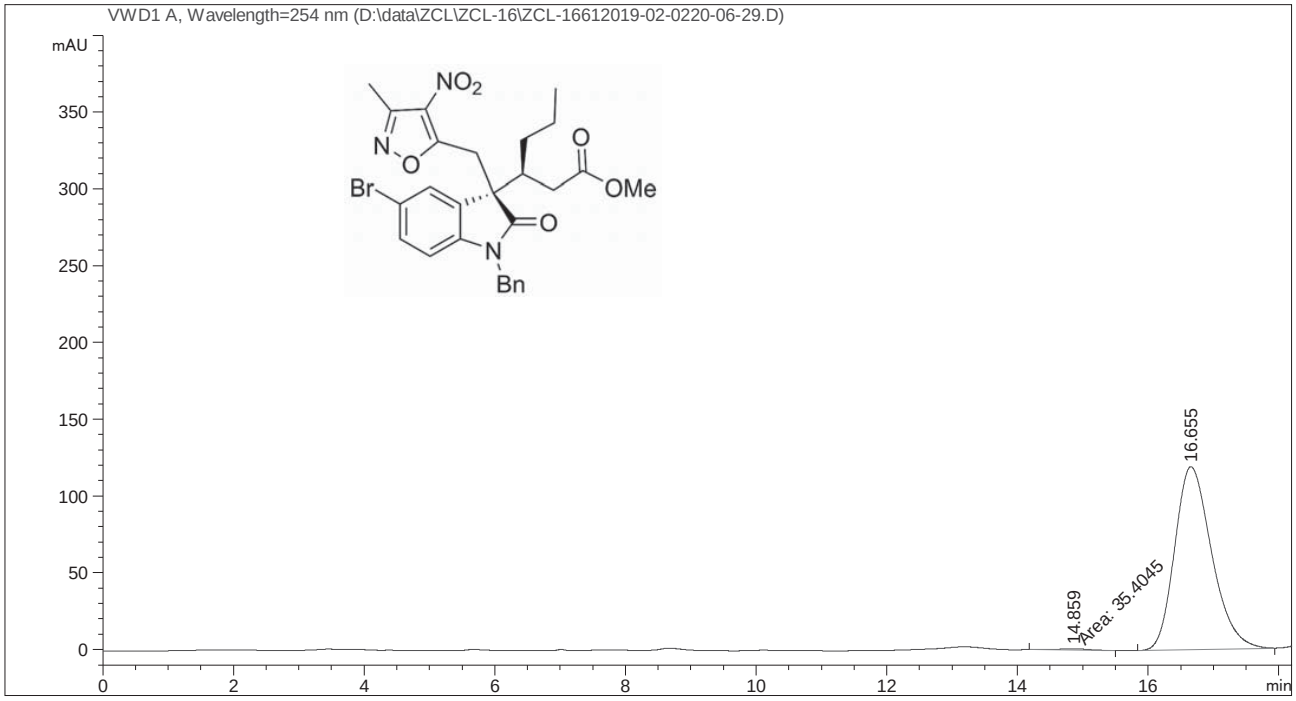
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-09
Injection Date  : 2/2/2019 7:28:21 PM                Inj :   1
                                                Inj Volume : 5.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/2/2019 6:19:13 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 4:50:21 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  14.830 BV    0.5338 4870.56152  138.32455  51.4961
   2  16.702 VB    0.6137 4587.54736  115.41302  48.5039
```

Data File D:\data\ZCL\ZCL-16\ZCL-16612019-02-0220-06-29.D
Sample Name: ZCL-1661

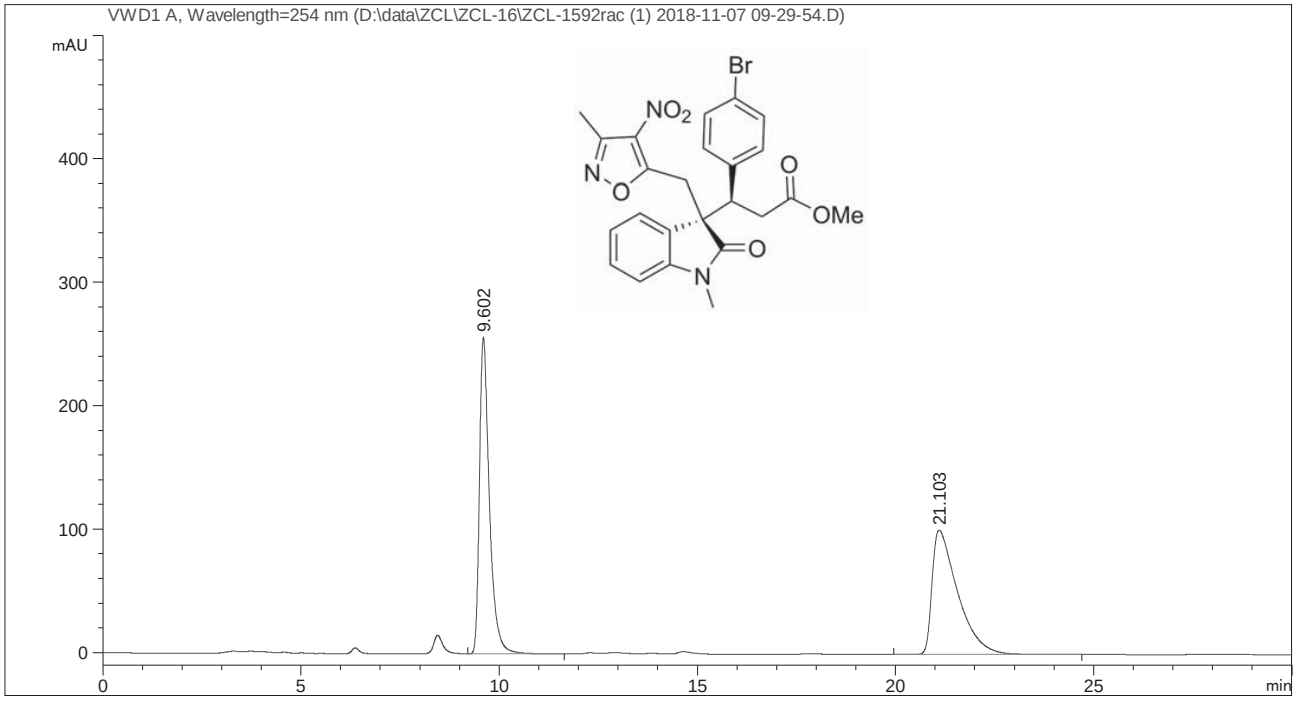
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P1-E-10
    Injection Date  : 2/2/2019 8:07:09 PM                Inj :   1
                                                  Inj Volume : 5.000 µl
    Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/2/2019 6:19:13 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
    Last changed    : 2/20/2019 4:51:09 PM by System
                      (modified after loading)
    Sample Info     : IC, H/I = 80/20, 1 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1  14.859 MM    0.5997   35.40448 9.83966e-1   0.7507
       2  16.655 BB    0.6063 4680.74658  119.14654  99.2493
```

Data File D:\data\ZCL\ZCL-16\ZCL-1592rac (1) 2018-11-07 09-29-54.D
Sample Name: ZCL-1592rac

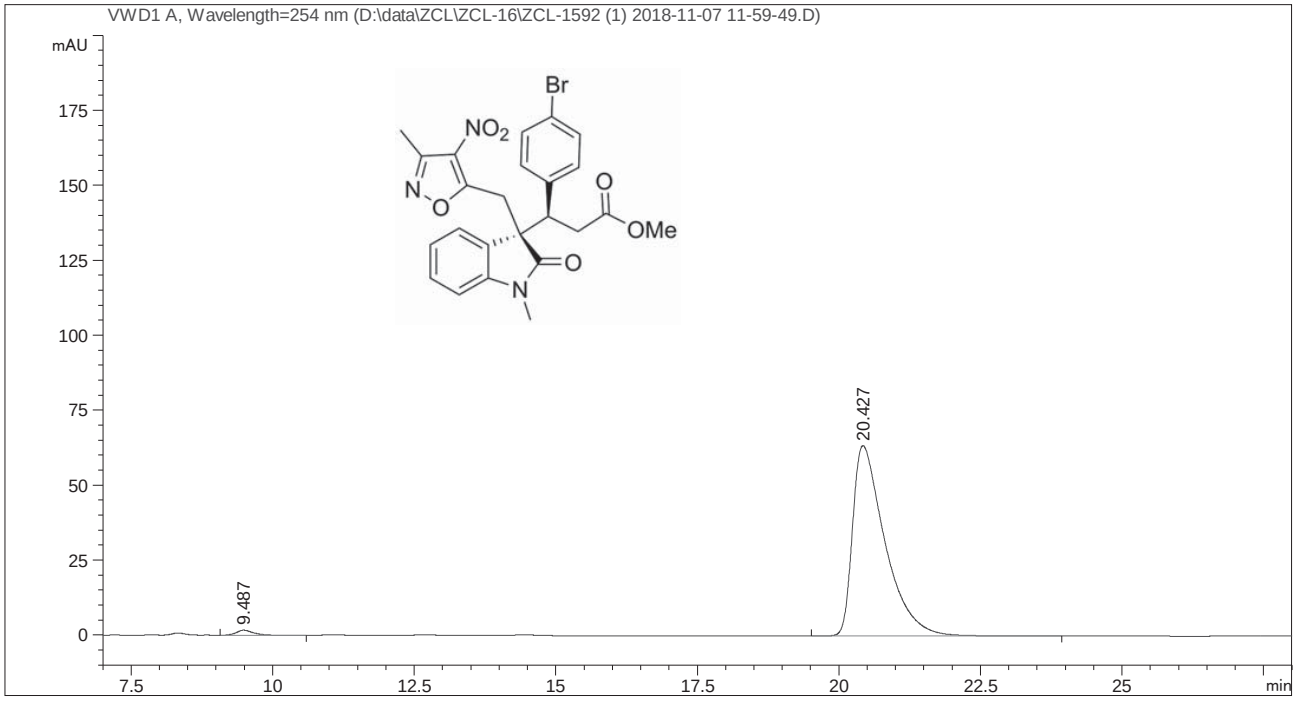
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-01
Injection Date  : 11/7/2018 9:30:35 AM               Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 9:59:48 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.602 BB    0.2623 4490.86182  256.42435  49.8239
   2  21.103 BB    0.6585 4522.60742  100.78925  50.1761
```

Data File D:\data\ZCL\ZCL-16\ZCL-1592 (1) 2018-11-07 11-59-49.D
Sample Name: ZCL-1592

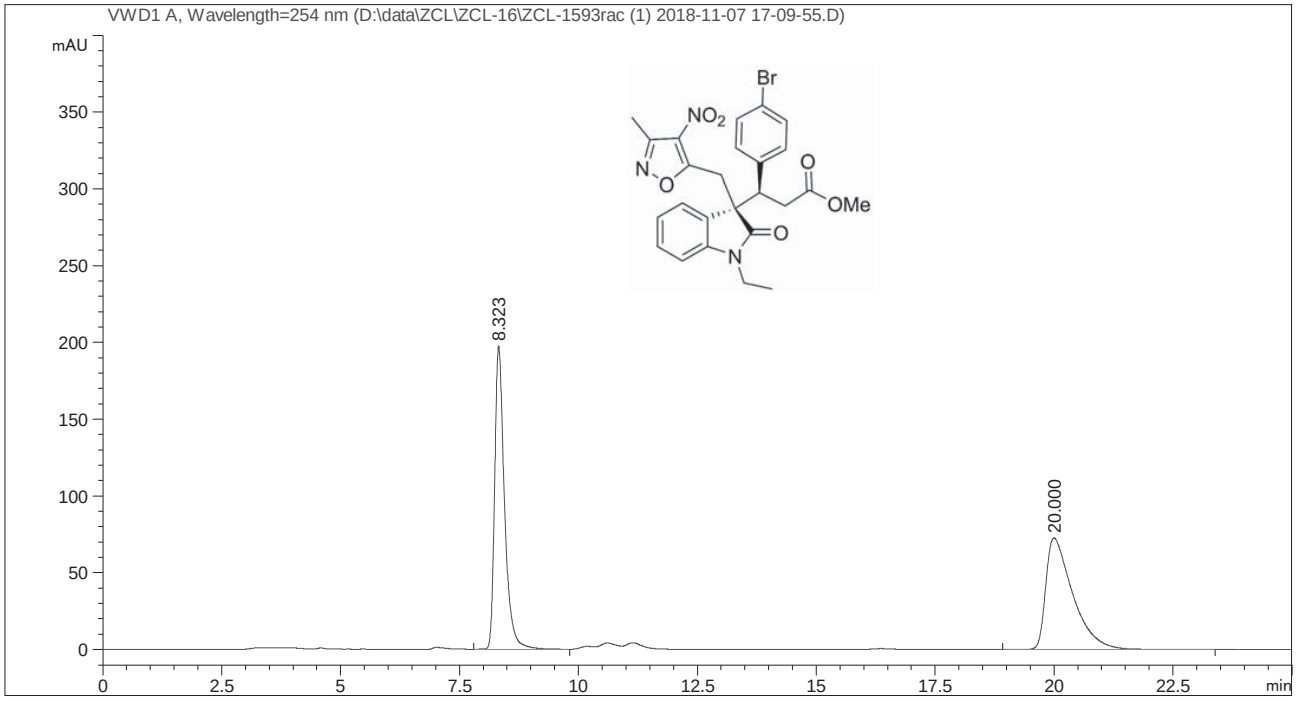
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-02
Injection Date  : 11/7/2018 12:00:27 PM              Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 10:01:02 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.487 BB    0.3167   39.02456    1.75300   1.5195
   2  20.427 BB    0.5895 2529.28442   63.53005  98.4805
```

Data File D:\data\ZCL\ZCL-16\ZCL-1593rac (1) 2018-11-07 17-09-55.D
Sample Name: ZCL-1593rac

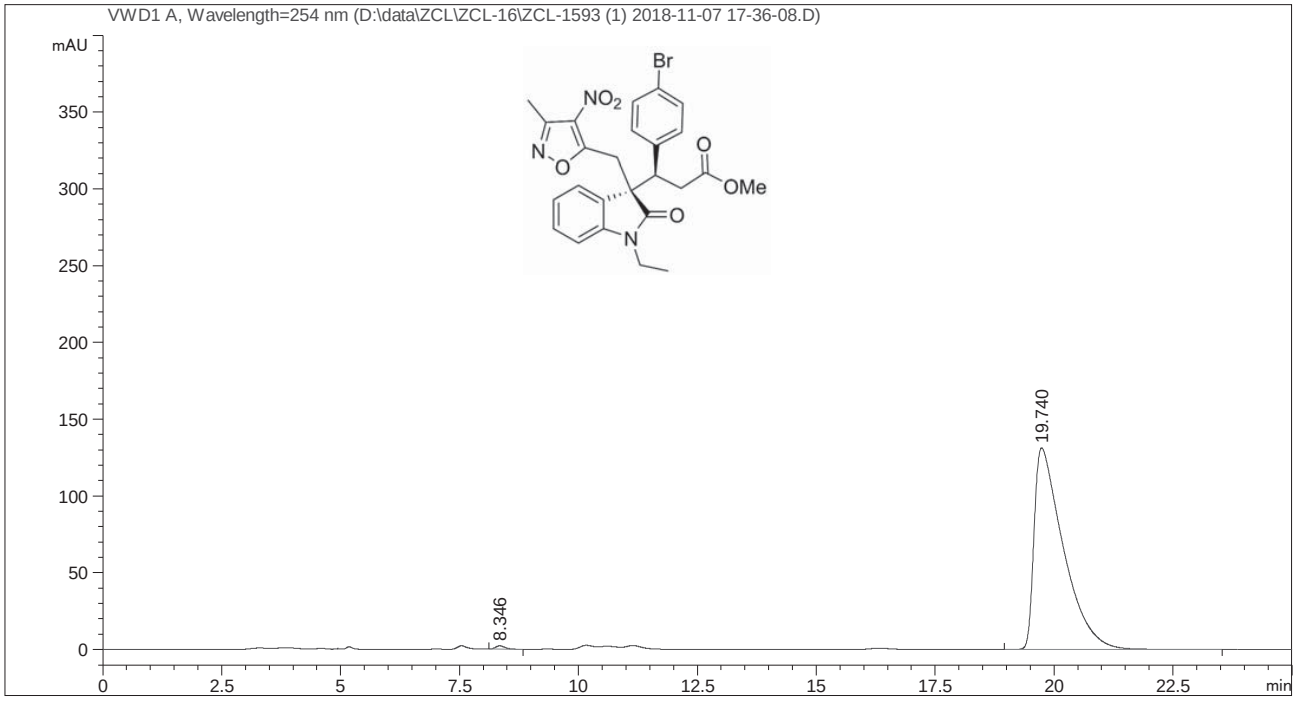
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-09
Injection Date  : 11/7/2018 5:10:33 PM               Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 3:59:55 PM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.323 BB    0.2166 2856.88452  197.67291  49.9721
   2  20.000 BB    0.5804 2860.06934   72.62614  50.0279
```

Data File D:\data\ZCL\ZCL-16\ZCL-1593 (1) 2018-11-07 17-36-08.D
Sample Name: ZCL-1593

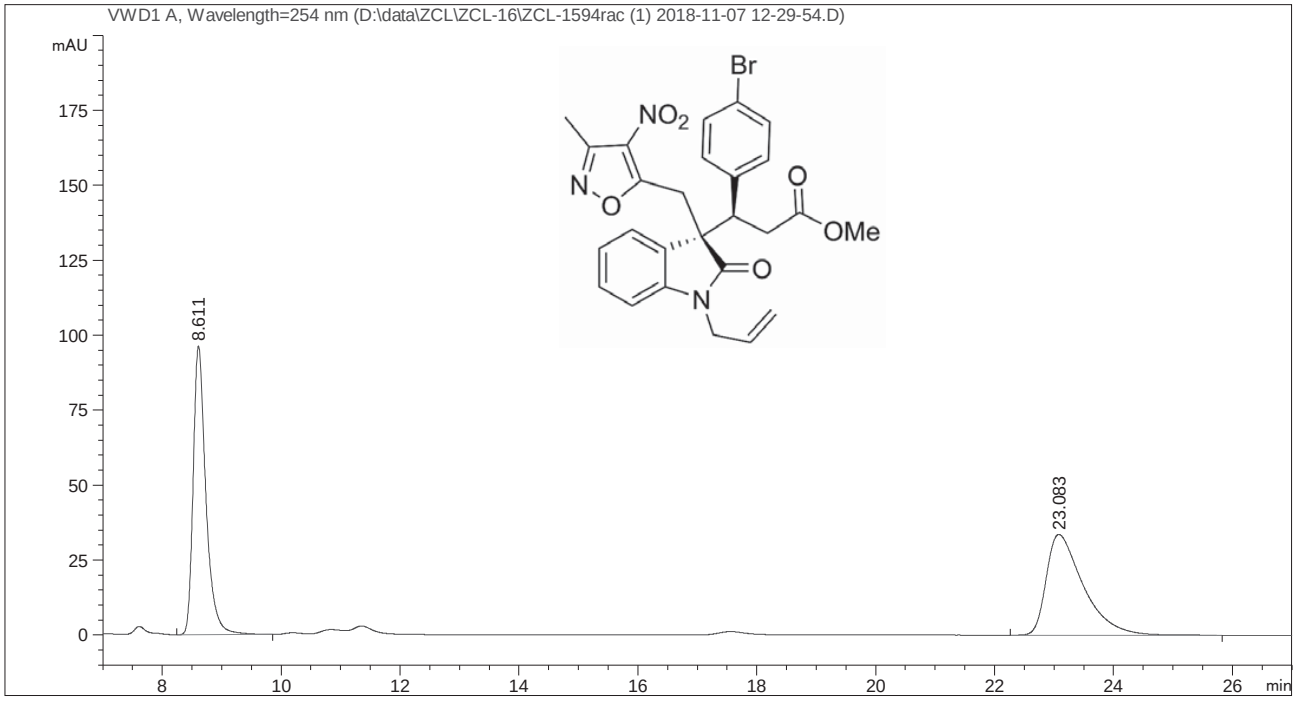
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-10
Injection Date  : 11/7/2018 5:36:47 PM               Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 10:25:41 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.346 BB    0.2073   29.29507    2.14497   0.5193
   2  19.740 BB    0.6240 5612.16797  131.21341  99.4807
```

Data File D:\data\ZCL\ZCL-16\ZCL-1594rac (1) 2018-11-07 12-29-54.D
Sample Name: ZCL-1594rac

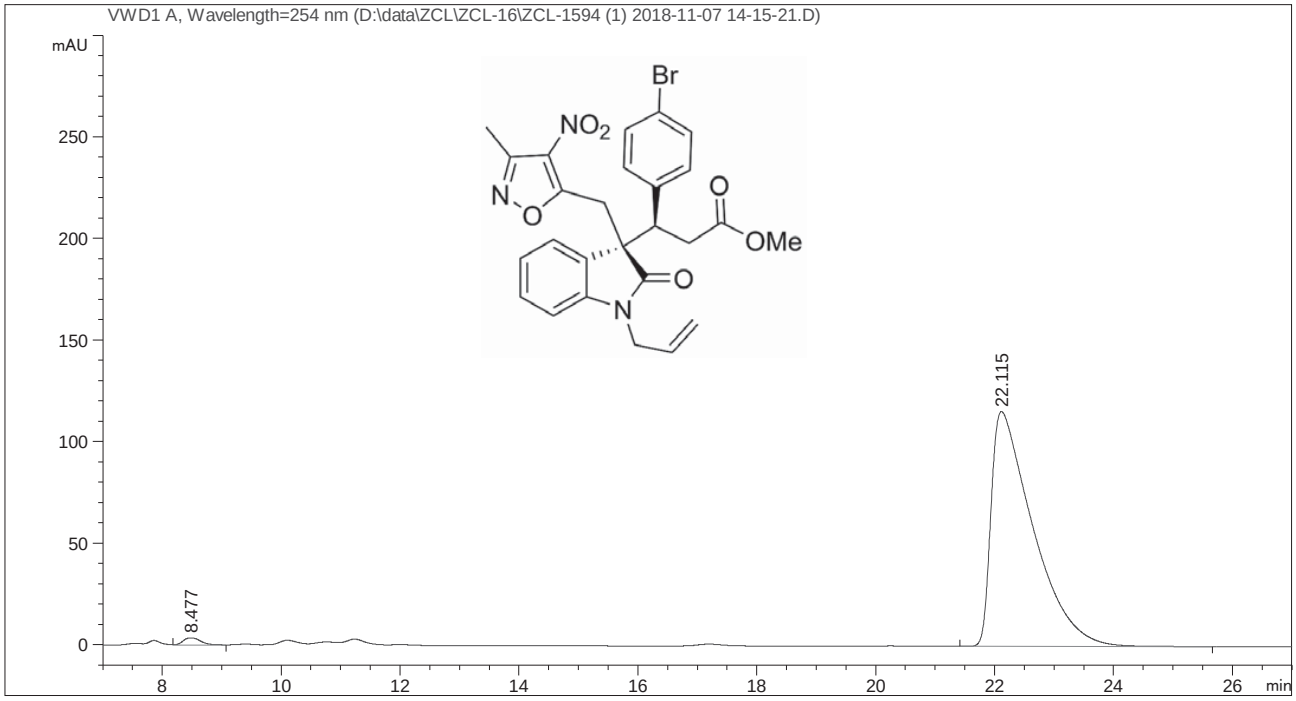
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-03
Injection Date  : 11/7/2018 12:30:32 PM              Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 10:02:07 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.611 BB    0.2239 1435.24170   96.29839  49.7173
   2  23.083 BB    0.6409 1451.56165   33.61096  50.2827
```

Data File D:\data\ZCL\ZCL-16\ZCL-1594 (1) 2018-11-07 14-15-21.D
Sample Name: ZCL-1594

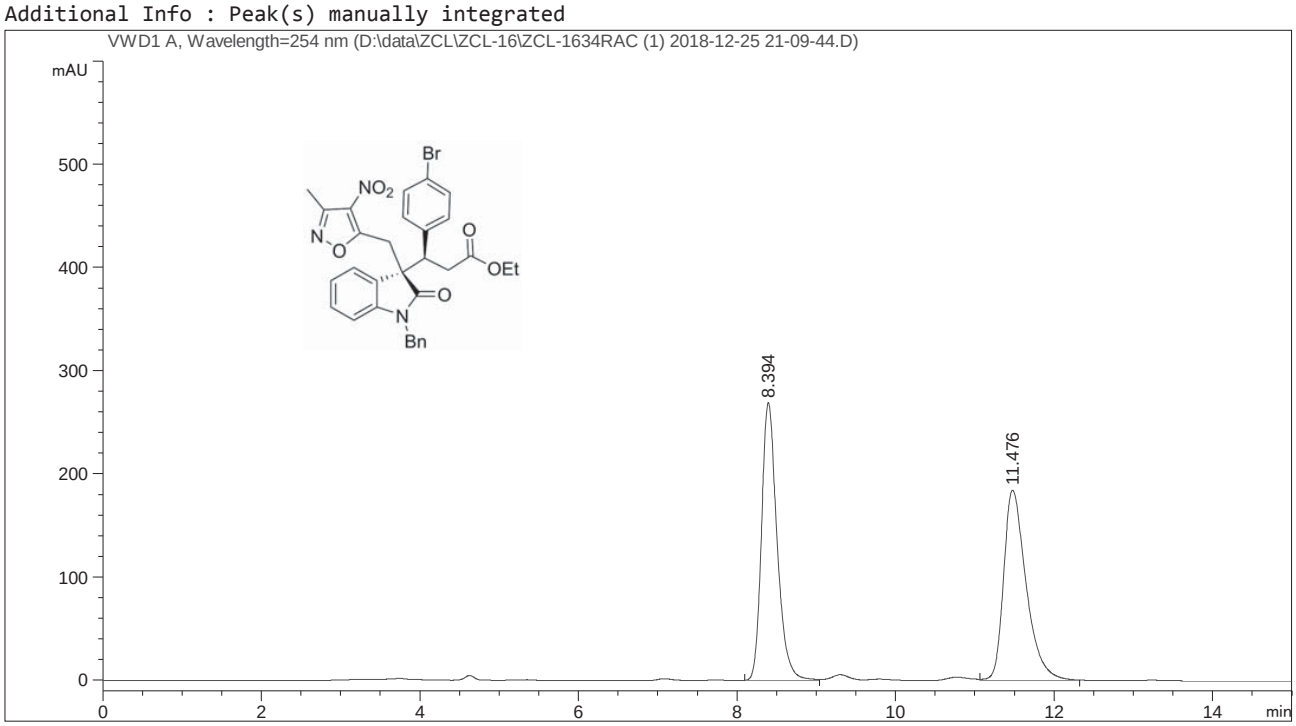
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-D-04
Injection Date  : 11/7/2018 2:15:56 PM               Inj :   1
                                                Inj Volume : 15.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 11/7/2018 9:29:46 AM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 2/20/2019 10:03:00 AM by System
                  (modified after loading)
Sample Info     : IB, H/I=70/30, 254  nm, 1  mL/min

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   8.477 VB    0.3218   68.85171    3.40585   1.2028
   2  22.115 BB    0.7073 5655.35742  115.68954  98.7972
```

Data File D:\data\ZCL\ZCL-16\ZCL-1634RAC (1) 2018-12-25 21-09-44.D
Sample Name: ZCL-1634RAC

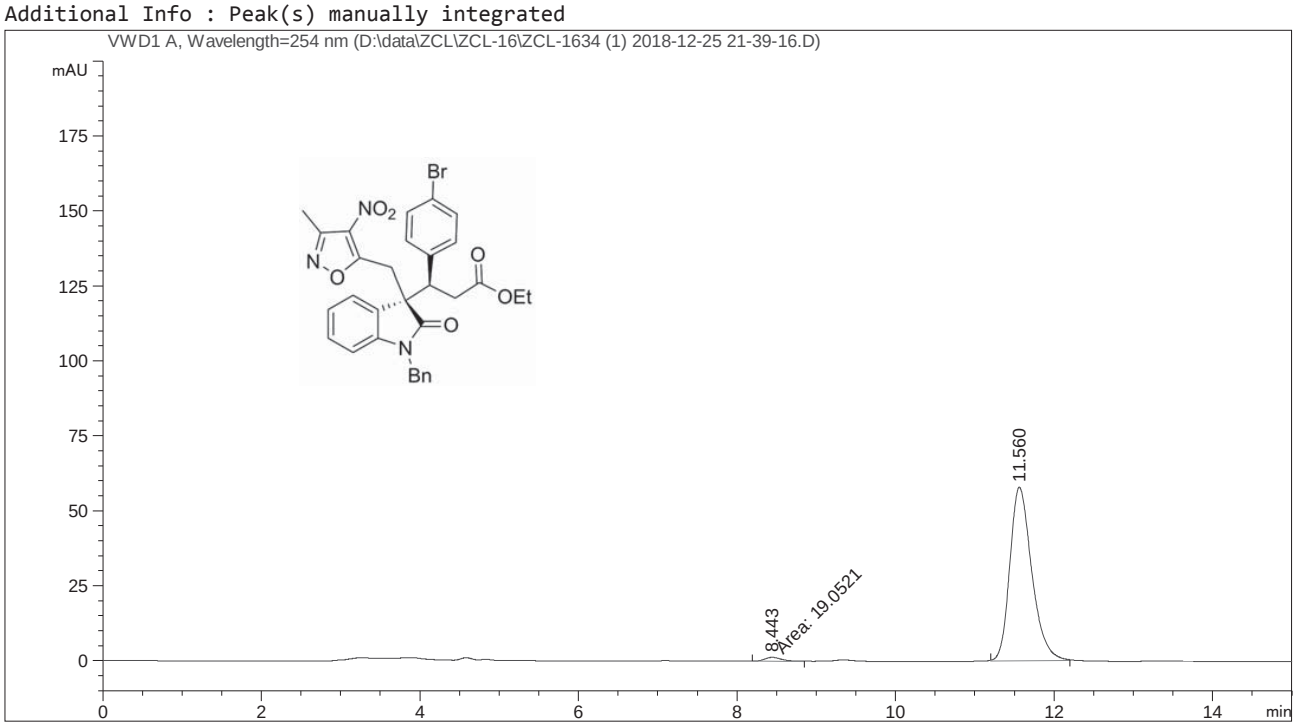
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-F-10
Injection Date  : 12/25/2018 9:10:23 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/25/2018 8:42:11 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:30:40 PM by System
                  (modified after loading)
Sample Info     : IB, H/I= 70/30, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Sig Type    Area      Height     Area
  #   [min]            [mAU*s]     [mAU]       %
----|-------|---|----|----------|----------|--------|
   1   8.394  1  BB   3670.21655  269.19516  50.1409
   2  11.476  1  VB   3649.59180  184.50598  49.8591

Totals :              7319.80835  453.70114
```

Data File D:\data\ZCL\ZCL-16\ZCL-1634 (1) 2018-12-25 21-39-16.D
Sample Name: ZCL-1634

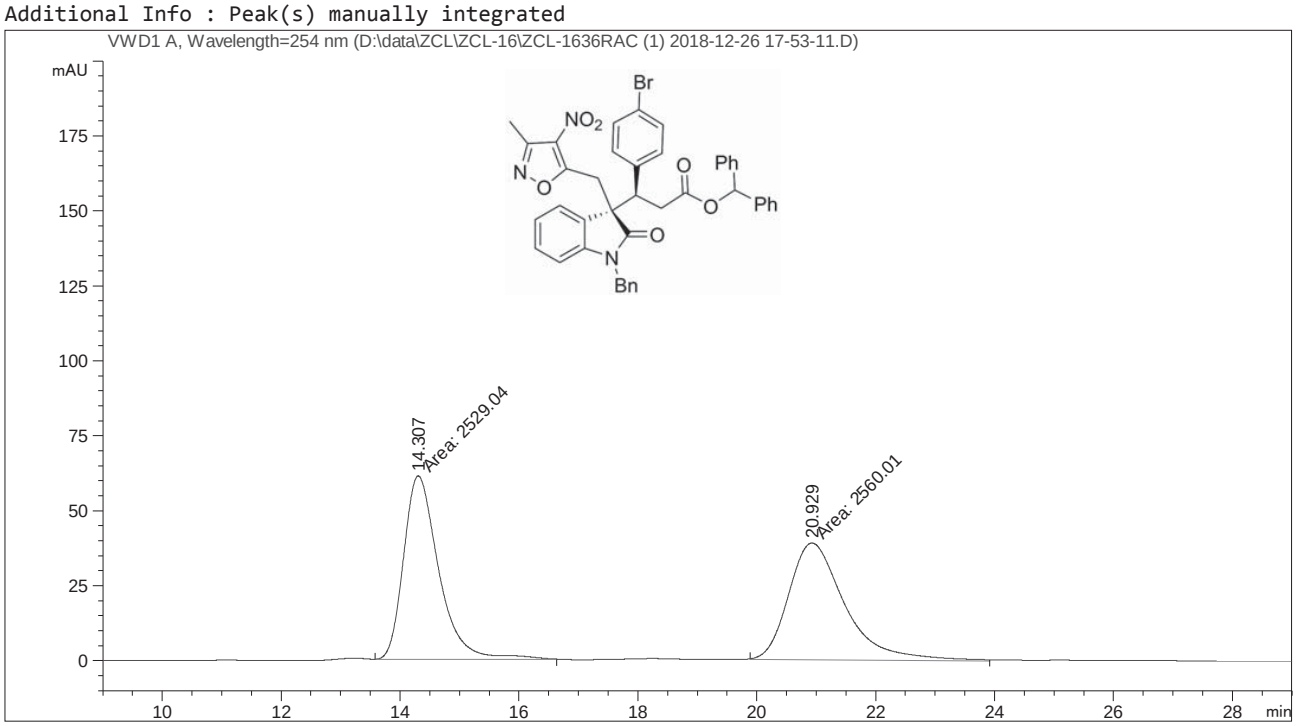
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P2-F-11
    Injection Date  : 12/25/2018 9:39:56 PM              Inj :   1
                                                   Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
    Last changed    : 12/25/2018 9:53:22 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
    Last changed    : 2/20/2019 4:31:16 PM by System
                      (modified after loading)
    Sample Info     : IB, H/I= 70/30, 1.0 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Retention Time
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Do not use Multiplier & Dilution Factor with ISTDs

    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Sig Type    Area      Height     Area
      #   [min]            [mAU*s]     [mAU]       %
    ----|-------|---|----|----------|----------|--------|
       1   8.443  1  MM     19.05213    1.29215   1.6811
       2  11.560  1  BB   1114.25757   57.94738  98.3189

    Totals :              1133.30970   59.23953
```

Data File D:\data\ZCL\ZCL-16\ZCL-1636RAC (1) 2018-12-26 17-53-11.D
Sample Name: ZCL-1636RAC

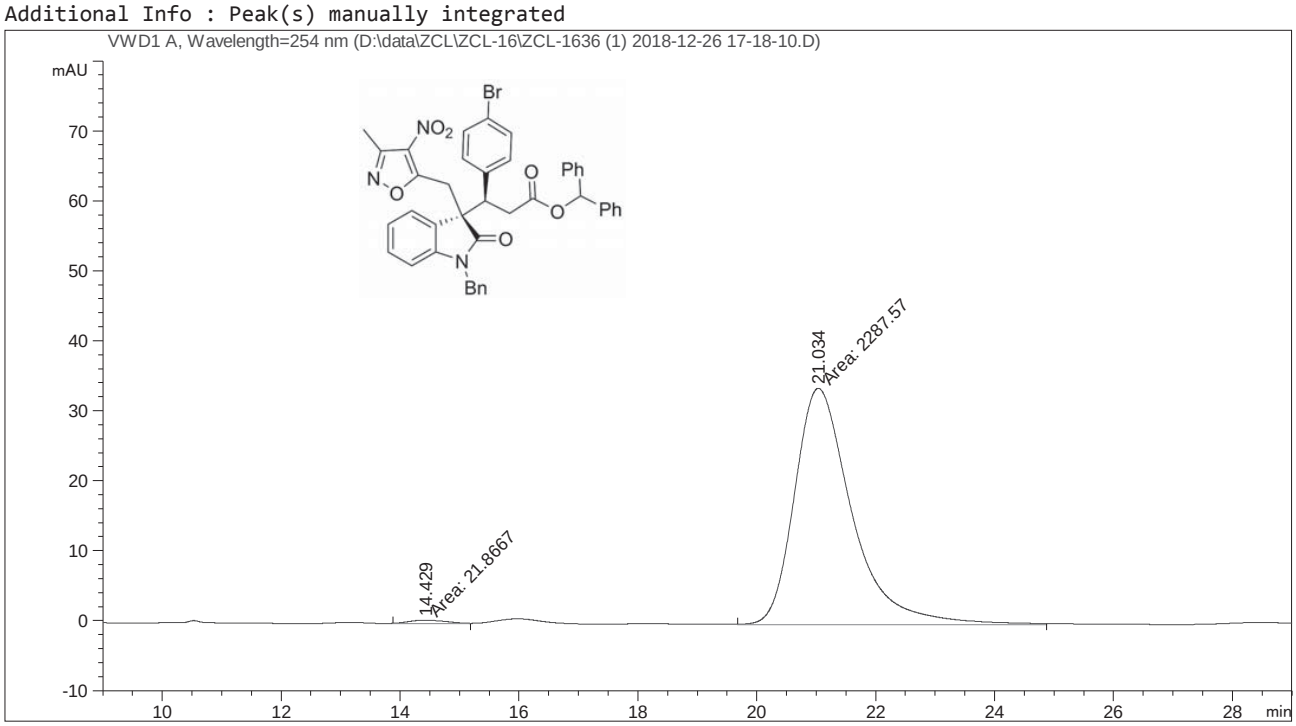
```
    ======================================================================
    Acq. Operator   : System
    Sample Operator : System
    Acq. Instrument : HPLC                          Location :   P2-E-05
    Injection Date  : 12/26/2018 5:53:48 PM              Inj :   1
                                                   Inj Volume : 10.000 µl
    Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
    Last changed    : 12/26/2018 4:50:05 PM by System
                      (modified after loading)
    Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
    Last changed    : 2/20/2019 4:32:09 PM by System
                      (modified after loading)
    Sample Info     : IC, H/I= 80/20, 1.0 mL/min   254nm

    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Retention Time
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Do not use Multiplier & Dilution Factor with ISTDs

    Signal 1: VWD1 A, Wavelength=254 nm

    Peak RetTime Sig Type    Area      Height     Area
      #   [min]            [mAU*s]     [mAU]       %
    ----|-------|---|----|----------|----------|--------|
       1  14.307  1  MM   2529.04053   61.22857  49.6957
       2  20.929  1  MM   2560.00830   38.96988  50.3043

    Totals :              5089.04883  100.19844
```

Data File D:\data\ZCL\ZCL-16\ZCL-1636 (1) 2018-12-26 17-18-10.D
Sample Name: ZCL-1636

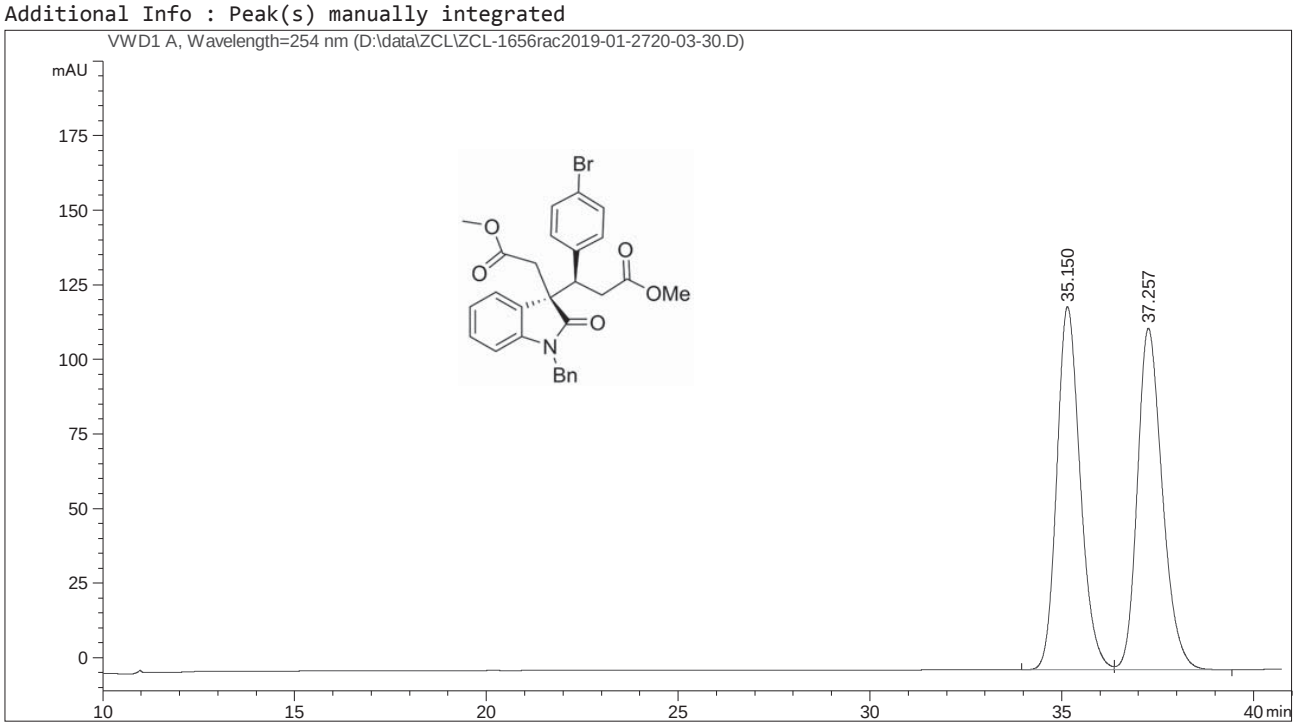
```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-E-06
Injection Date  : 12/26/2018 5:18:48 PM              Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 12/26/2018 4:50:05 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DGCalPS.M
Last changed    : 2/20/2019 4:32:57 PM by System
                  (modified after loading)
Sample Info     : IC, H/I= 80/20, 1.0 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Retention Time
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Sig Type    Area      Height     Area
  #   [min]            [mAU*s]     [mAU]       %
----|-------|---|----|----------|----------|--------|
   1  14.429  1  MM     21.86666 4.99691e-1   0.9468
   2  21.034  1  MM   2287.57349   33.80958  99.0532

Totals :              2309.44014   34.30927
```

Data File D:\data\ZCL\ZCL-1656rac2019-01-2720-03-30.D
Sample Name: ZCL-1656rac

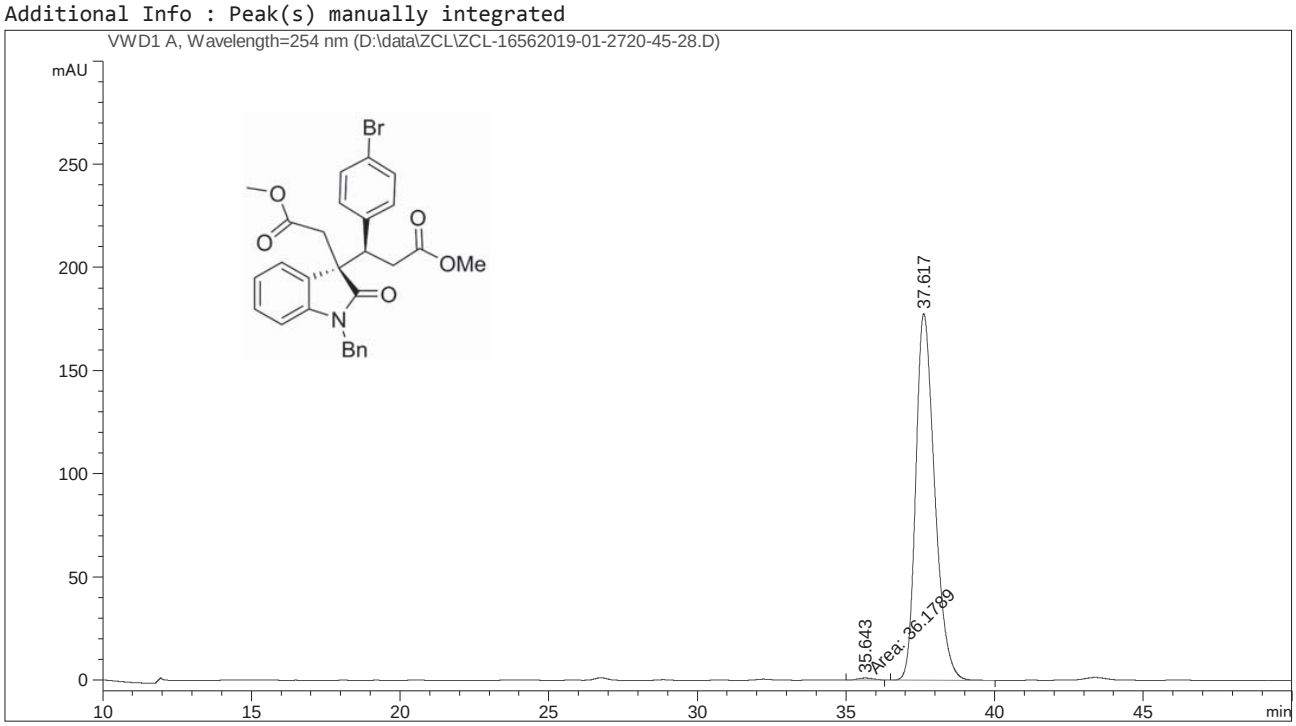
```
======================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-01
Injection Date  : 1/27/2019 8:04:09 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/27/2019 8:03:20 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 3/4/2019 6:15:00 PM by System
                  (modified after loading)
Sample Info     : IB, H/I/m = 95/2/3, 0.5 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  35.150 BV    0.6505 5158.16895  121.69266  49.8921
   2  37.257 VB    0.6941 5180.47217  114.43932  50.1079
```

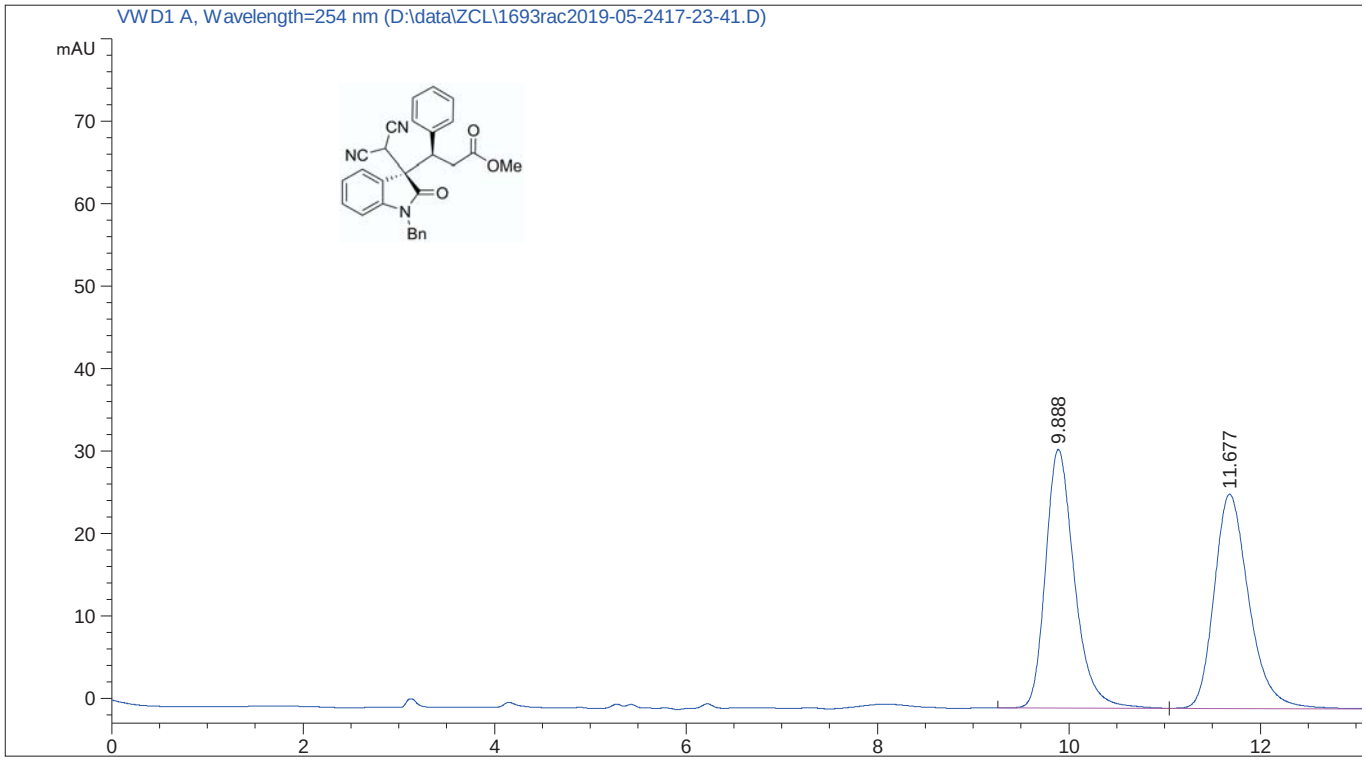
Data File D:\data\ZCL\ZCL-16562019-01-2720-45-28.D
Sample Name: ZCL-1656

```
=====================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P1-E-02
Injection Date  : 1/27/2019 8:46:09 PM               Inj :   1
                                                Inj Volume : 10.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 1/27/2019 8:03:20 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 3/4/2019 6:13:51 PM by System
                  (modified after loading)
Sample Info     : IB, H/I/m = 95/2/3, 0.5 mL/min   254nm

Additional Info : Peak(s) manually integrated
```



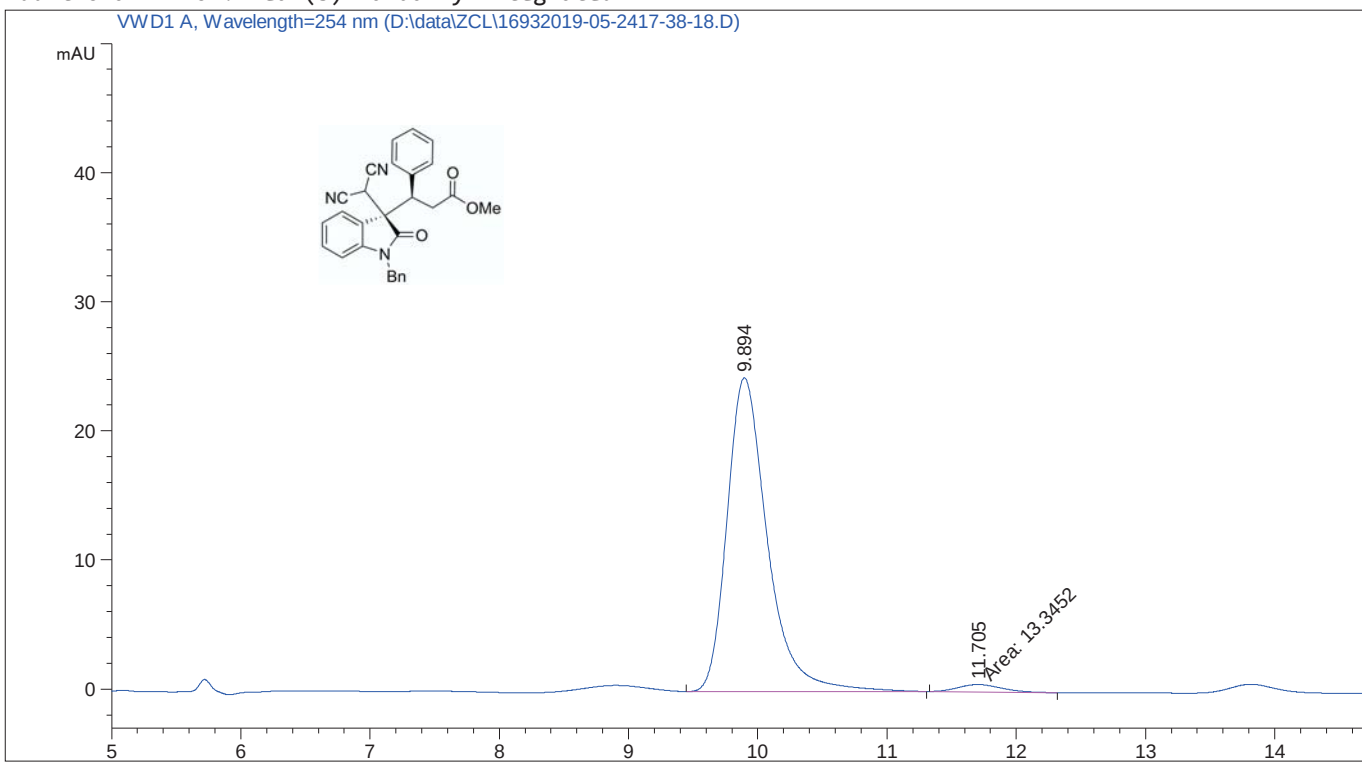

```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  35.643 MM    0.6123   36.17886 9.84764e-1   0.4585
   2  37.617 BB    0.6749 7854.60938  177.62747  99.5415
```

```
==========================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-C-03
Injection Date  : 5/24/2019 5:24:13 PM               Inj :   1
                                                Inj Volume : 2.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/24/2019 5:07:48 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/24/2019 5:57:21 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80;20, 1 mL/min   254nm
```




```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.888 BB    0.3201  656.20563   31.36461  50.1103
   2  11.677 BB    0.3844  653.31805   25.97938  49.8897

Totals :                  1309.52368   57.34399
```

```
==================================================================
Acq. Operator   : System
Sample Operator : System
Acq. Instrument : HPLC                          Location :   P2-C-04
Injection Date  : 5/24/2019 5:38:49 PM               Inj :   1
                                                Inj Volume : 2.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/24/2019 5:07:48 PM by System
                  (modified after loading)
Analysis Method : C:\Users\Public\Documents\ChemStation\1\Methods\DEF_LC.M
Last changed    : 5/24/2019 5:56:08 PM by System
                  (modified after loading)
Sample Info     : IC, H/I = 80;20, 1 mL/min   254nm

Additional Info : Peak(s) manually integrated
```




```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.894 BB    0.3294  527.68304   24.29725  97.5334
   2  11.705 MM    0.3915   13.34520 5.68126e-1   2.4666
```