Supporting Information for

A gold-triggered dearomative spirocarbocyclization/Diels−Alder reaction cascade towards diverse bridged *N*-heterocycles

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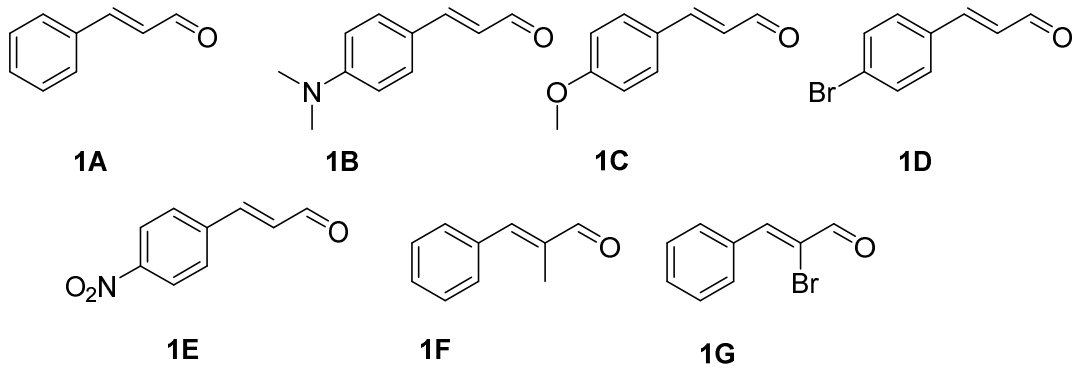
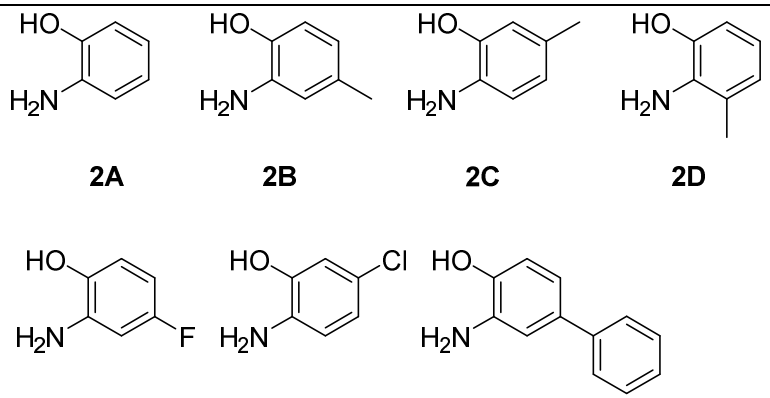
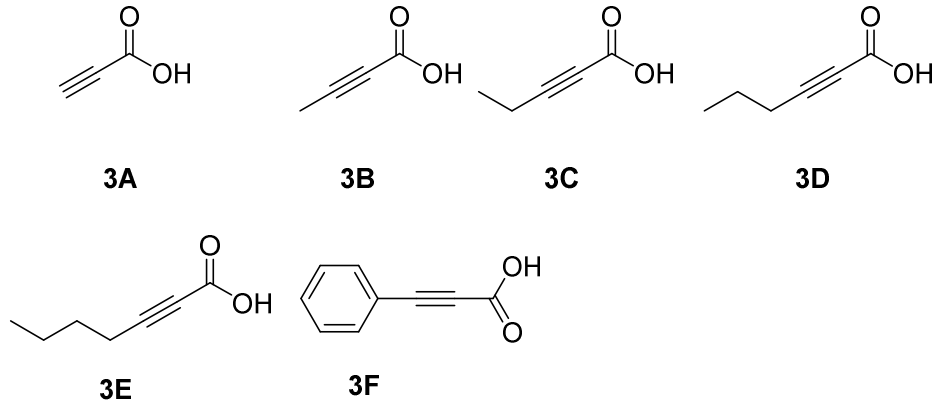
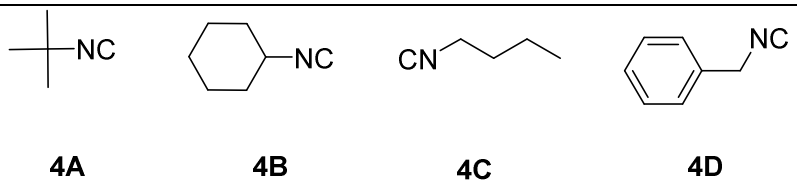
General Methods

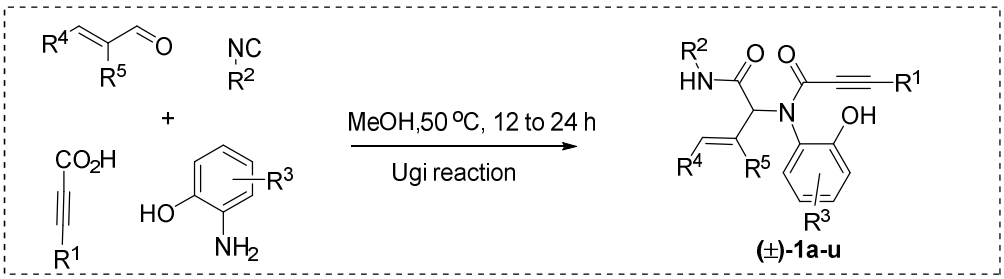
NMR spectra were recorded on a 300, 400 or 600 MHz instrument using $CDCl_3$ or DMSO-d_6 as solvent. The mixture of $CDCl_3$ and DMSO-d_6 was applied as solvent wherever was necessary. The ^{1}H and ^{13}C chemical shifts are reported in parts per million relative to tetramethylsilane as an internal standard. Spectra were acquired on a quadrupole orthogonal acceleration time-of-flight mass spectrometer (Synapt G2 HDMS, Waters, Milford, MA). Samples were infused at 3uL/min and spectra were obtained in positive (or: negative) ionization mode with a resolution of 15000 (FWHM) using leucine enkephalin as lock mass. For chromatography, analytical TLC plates and 70-230 mesh silica gel were used. All the solvents and chemicals were purchased and used as available. Data for ^{1}H NMR are recorded as follows: chemical shift (δ, ppm), multiplicity (s = singlet, d = doublet, t = triplet, m = multiplet or unresolved, coupling constant (s) in Hz, integration). Data for ^{13}C NMR are reported in terms of chemical shift (δ, ppm).

The microwave irradiation experiments were carried out in a dedicated CEM-Discover monomode microwave apparatus, operating at a frequency of 2.45GHz with continuous irradiation power from 0 to 300 W and utilization of the standard absorbance level of 100 W. The reactions were carried out in 10 mL glass tubes, sealed with Teflon septum and placed in the microwave cavity. The reactions were irradiated at the required set temperature for the stipulated time and then cooled to the ambient temperature with air jet cooling.

General procedure for the synthesis of Ugi products

Table S1: Starting materials for Ugi reaction

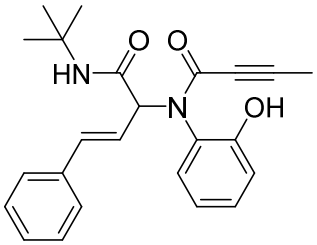
Aldehydes	 **1A** **1B** **1C** **1D** **1E** **1F** **1G**
Amines	 **2A** **2B** **2C** **2D** **2E** **2F** **2G**
Acids	 **3A** **3B** **3C** **3D** **3E** **3F**
Isonitriles	 **4A** **4B** **4C** **4D**



A screw-cap vial equipped with a magnetic stir bar was charged with aldehyde (0.8 mmol, 1.0 equiv.), amine (0.88 mmol, 1.1 equiv.), alkylnoic acid (0.88 mmol, 1.1 equiv), isonitrile (0.88 mmol, 1.1 equiv.), and methanol (3 mL). The reaction mixture was stirred at 50 °C for 12-24 h. The reaction solution was then concentrated under reduced pressure. The obtained residue was purified by column chromatography on silica gel with EtOAc/Heptane (v/v, 1/2) to provide the desired Ugi products **1a-u** as solid.

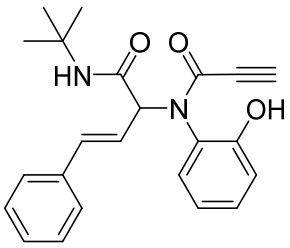
Ugi products were in many cases found to appear as mixture of two rotamers, so it should be noted that in this case, the ^{1}H and ^{13}C NMR spectra are not very characteristic.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1a)**



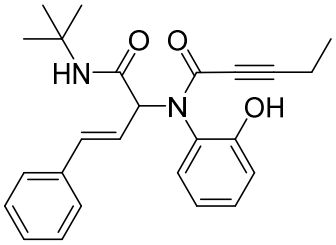
Pale yellow solid, Yield 78% (Mixture of rotamers ≈ 1.2: 1), Melting point: 86-88 °C. **^{1}H NMR (400 MHz, $CDCl_3$)** δ = 10.92 (s, 0.52H), 10.81 (s, 0.47H), 7.47 (d, *J* = 6.9 Hz, 0.98H), 7.41 – 7.32 (m, 1.62H), 7.26 (d, *J* = 3.5 Hz, 0.52H), 7.23 – 7.18 (m, 1.86H), 7.14 (dd, *J* = 7.0, 2.7 Hz, 1.14H), 7.03 (m, 1.53H), 6.94 – 6.87 (m, 0.76H), 6.86 – 6.80 (m, 0.55H), 6.79 – 6.70 (m, 1.06H), 6.64 (d, *J* = 15.7 Hz, 0.55H), 6.58 (d, *J* = 16.1 Hz, 0.51H), 5.86 (s, 0.53H), 5.83 (s, 0.54H), 5.73 (dd, *J* = 15.7, 9.5 Hz, 0.59H), 5.30 (d, *J* = 9.5 Hz, 0.55H), 4.19 (d, *J* = 9.0 Hz, 0.48H), 1.70 (s, 1.47H), 1.69 (s, 1.55H), 1.38 (s, 9H). **^{13}C NMR (101 MHz, $CDCl_3$)** δ = 171.6, 170.0, 156.0, 155.7, 154.8, 154.6, 138.6, 136.9, 135.5, 135.2, 132.1, 130.6, 130.6, 129.6, 129.1, 129.0, 128.8, 128.6, 128.6, 127.0, 126.8, 125.1, 121.4, 120.7, 119.1, 119.1, 118.0, 118.0, 90.4, 90.1, 69.6, 64.2, 52.7, 52.6, 28.5, 28.5, 3.9, 3.9. **HRMS** (ESI) calculated for $C_{24}H_{27}N_2O_3^+$ ($[M+H]^+$): 391.2021, found 391.2020.

(*E*)-*N*-(*tert*-butyl)-2-(N-(2-hydroxyphenyl)propiolamido)-4-phenylbut-3-enamide **(1b)**



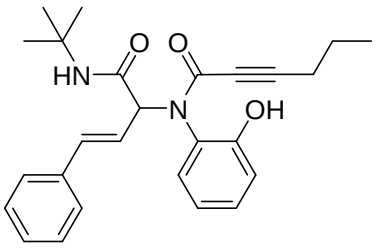
Pale yellow solid, Yield 66% (Mixture of rotamers ≈ 3: 1), Melting point: 79-81 ^{o}C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.39 (s, 1H), 8.58 (s, 1H), 7.48 – 7.18 (m, 6H), 7.17 – 7.04 (m, 2H), 6.88 (d, *J* = 8.2 Hz, 1H), 6.84 (t, *J* = 7.5 Hz, 0.32H), 6.77 (t, *J* = 7.5 Hz, 0.72H), 6.61 (d, *J* = 15.8 Hz, 0.75H), 6.55 (d, *J* = 16.0 Hz, 0.24H), 6.05 (dd, *J* = 15.8, 8.4 Hz, 0.22H), 5.72 (dd, *J* = 15.8, 8.5 Hz, 0.80H), 5.41 (d, *J* = 8.5 Hz, 0.76H), 5.08 (d, *J* = 8.3 Hz, 0.22H), 1.99 (s, 1H), 1.32 (s, 6.86H), 1.29 (s, 2.10H). **^{13}C NMR (101 MHz, CDCl$_3$)** δ = 171.9, 168.7, 156.1, 153.9, 136.6, 136.0, 135.7, 134.5, 132.9, 131.2, 129.2, 129.1, 129.0, 129.0, 129.0, 128.9, 128.8, 128.4, 126.8, 126.7, 125.6, 122.3, 119.4, 117.6, 82.7, 76.5, 63.2, 60.2, 51.8, 51.5, 51.0, 28.9, 28.7, 28.7, 21.2, 14.6. **HRMS** (ESI) calculated for $C_{23}H_{25}N_2O_3^+$ ([M+H]$^+$): 377.1865, found 377.1863.

(*E*)-*N*-(1-(*tert*-butylamino)-1-oxo-4-phenylbut-3-en-2-yl)-*N*-(2-hydroxyphenyl)pent-2-ynamide **(1c)**



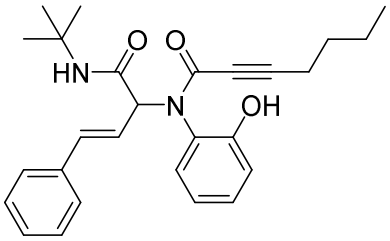
Pale yellow solid, Yield 63%, Melting point: 72-74 ^{o}C. **^{1}H NMR (300 MHz, DMSO-*d*$_6$)** δ = 11.38 (s, 1H), 8.53 (s, 1H), 7.32 – 7.15 (m, 5H), 7.14 – 7.04 (m, 2H), 6.86 (d, *J* = 8.1 Hz, 1H), 6.75 (t, *J* = 7.5 Hz, 1H), 6.60 (d, *J* = 15.9 Hz, 1H), 5.73 (dd, *J* = 15.9, 8.5 Hz, 1H), 5.39 (d, *J* = 8.5 Hz, 1H), 2.04 (q, *J* = 7.4 Hz, 2H), 1.31 (s, 9H), 0.73 (t, *J* = 7.4 Hz, 3H). **^{13}C NMR (75 MHz, DMSO-*d*$_6$)** δ = 171.7, 155.7, 154.2, 135.8, 135.0, 132.4, 130.1, 128.6, 128.4, 128.1, 126.2, 125.8, 122.4, 118.6, 116.9, 94.3, 74.1, 62.6, 59.6, 51.3, 28.4, 28.3, 14.0, 12.4, 11.4. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_3^+$ ([M+H]$^+$): 405.2178, found 405.2181.

(*E*)-*N*-(1-(*tert*-butylamino)-1-oxo-4-phenylbut-3-en-2-yl)-*N*-(2-hydroxyphenyl)hex-2-ynamide **(1d)**



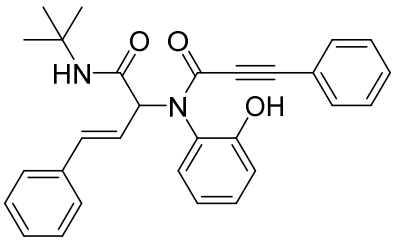
Pale yellow solid, Yield 49%, Melting point: 79-81 ^{o}C. **^{1}H NMR (300 MHz, DMSO-d_6)** δ = 11.39 (s, 1H), 8.56 (s, 1H), 7.30 – 7.16 (m, 5H), 7.14 – 7.05 (m, 2H), 6.86 (d, *J* = 8.2 Hz, 1H), 6.74 (t, *J* = 7.5 Hz, 1H), 6.59 (d, *J* = 15.9 Hz, 1H), 5.72 (dd, *J* = 15.9, 8.5 Hz, 1H), 5.39 (d, *J* = 8.5 Hz, 1H), 2.06 (t, *J* = 6.6 Hz, 2H), 1.31 (s, 9H), 1.17 – 1.04 (m, 2H), 0.62 (t, *J* = 7.1 Hz, 3H). **^{13}C NMR (75 MHz, DMSO-d_6)** δ = 171.7, 155.7, 154.2, 135.8, 135.0, 132.4, 130.1, 128.6, 128.4, 128.1, 126.2, 125.8, 122.4, 118.6, 116.9, 92.9, 62.7, 51.3, 28.3, 20.5, 19.7, 12.7. **HRMS** (ESI) calculated for $C_{26}H_{31}N_2O_3^+$ ([M+H]$^+$): 419.2334, found 419.2338.

(*E*)-*N*-(1-(*tert*-butylamino)-1-oxo-4-phenylbut-3-en-2-yl)-*N*-(2-hydroxyphenyl)hept-2-ynamide **(1e)**



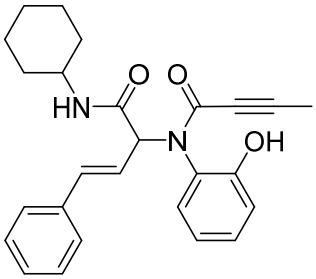
Pale yellow solid, Yield 39%, Melting point: 94-95 ^{o}C. **^{1}H NMR (300 MHz, DMSO-d_6)** δ = 11.38 (s, 1H), 8.55 (s, 1H), 7.30 – 7.15 (m, 5H), 7.13 – 7.05 (m, 2H), 6.86 (d, *J* = 8.2 Hz, 1H), 6.74 (t, *J* = 7.6 Hz, 1H), 6.59 (d, *J* = 15.9 Hz, 1H), 5.72 (dd, *J* = 15.9, 8.5 Hz, 1H), 5.39 (d, *J* = 8.5 Hz, 1H), 2.08 (t, *J* = 6.4 Hz, 2H), 1.31 (s, 9H), 1.14 – 0.86 (m, 4H), 0.70 (t, *J* = 7.0 Hz, 3H). **^{13}C NMR (75 MHz, DMSO-d_6)** δ = 171.7, 155.7, 154.2, 135.8, 135.0, 132.3, 130.1, 128.6, 128.4, 128.1, 126.2, 125.7, 122.4, 118.6, 116.9, 93.0, 74.7, 62.6, 51.3, 29.0, 28.3, 20.7, 17.4, 13.1. **HRMS** (ESI) calculated for $C_{27}H_{33}N_2O_3^+$ ([M+H]$^+$): 433.2491, found 433.2483.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)-3-phenylpropiolamido)-4-phenylbut-3-enamide **(1f)**



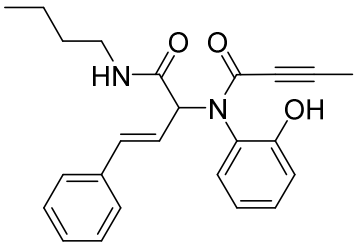
Pale yellow solid, Yield 59% (Mixture of rotamers ≈ 1.2: 1), Melting point: 118-120 °C. **^{1}H NMR (300 MHz, DMSO-*d*$_6$)** δ = 11.51 (s, 0.57H), 9.56 (s, 0.52H), 8.63 (s, 0.49H), 7.68 (s, 0.56H), 7.48 – 7.14 (m, 10H), 7.12 – 7.03 (m, 2H), 6.97 – 6.85 (m, 1H), 6.81 – 6.73 (m, 1H), 6.65 (d, *J* = 15.9 Hz, 1H), 6.15 (dd, *J* = 15.9, 8.3 Hz, 0.22H), 5.81 (dd, *J* = 15.9, 8.3 Hz, 0.73H), 5.48 (d, *J* = 8.3 Hz, 0.68H), 5.15 (d, *J* = 8.3 Hz, 0.23H), 1.33 (s, 5H), 1.12 (s, 4H). **^{13}C NMR (75 MHz, DMSO-*d*$_6$)** δ = 171.5, 169.1, 165.6, 155.9, 152.8, 147.9, 140.3, 135.8, 135.4, 135.4, 135.2, 132.6, 132.1, 130.4, 129.8, 128.7, 128.6, 128.6, 128.3, 128.1, 127.5, 127.4, 127.3, 126.9, 126.3, 125.5, 122.2, 118.9, 118.7, 117.0, 116.7, 66.8, 51.4, 50.5, 32.5, 28.3, 28.2. **HRMS** (ESI) calculated for $C_{29}H_{29}N_2O_3^+$ ([M+H]$^+$): 453.2178, found 453.2176.

(*E*)-*N*-cyclohexyl-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1g)**



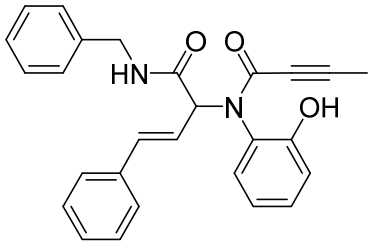
Pale yellow solid, Yield 60% (Mixture of rotamers ≈ 3.5: 1), Melting point: 78-80 °C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.41 (s, 1H), 8.79 (d, *J* = 7.9 Hz, 1H), 7.30 – 7.16 (m, 4H), 7.15 – 7.10 (m, 2H), 6.96 – 6.82 (m, 2H), 6.76 (t, *J* = 7.5 Hz, 1H), 6.60 (d, *J* = 15.6 Hz, 1H), 6.18 (dd, *J* = 15.9, 8.4 Hz, 0.22H), 5.73 (dd, *J* = 15.9, 8.5 Hz, 0.73H), 5.40 (d, *J* = 8.4 Hz, 0.67H), 4.98 (d, *J* = 8.3 Hz, 0.28H), 3.71 – 3.53 (m, 1H), 1.88 – 1.72 (m, 3H), 1.70 (s, 3H), 1.61 – 1.50 (m, 1H), 1.33 – 1.16 (m, 6H). **^{13}C NMR (101 MHz, DMSO-*d*$_6$)** δ = 171.7, 170.8, 156.0, 154.7, 136.7, 136.0, 135.7, 135.5, 132.9, 130.9, 129.2, 129.1, 129.0, 129.0, 128.9, 128.8, 128.4, 126.9, 126.8, 125.9, 123.2, 122.4, 119.2, 117.5, 90.1, 74.0, 62.7, 60.2, 49.1, 48.9, 48.7, 32.6, 32.4, 32.4, 25.6, 25.5, 25.0, 24.8, 21.2, 14.6, 3.9, 3.7, 3.6. **HRMS** (ESI) calculated for $C_{26}H_{29}N_2O_3^+$ ([M+H]$^+$): 417.2178, found 417.2179.

(*E*)-*N*-butyl-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1h)**



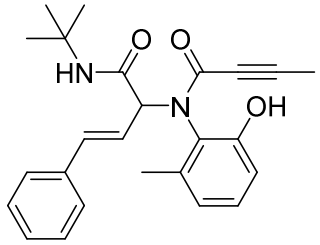
Pale yellow solid, Yield 38% (Mixture of rotamers ≈ 2.5: 1), Melting point: 61-63 °C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.37 (s, 0.69H), 10.42 (s, 0.29H), 8.88 (t, *J* = 5.8 Hz, 0.75H), 8.08 (t, *J* = 5.8 Hz, 0.32H), 7.38 – 7.15 (m, 4H), 7.15 – 7.02 (m, 2H), 6.96 – 6.46 (m, 4H), 6.21 (dd, *J* = 15.8, 8.5 Hz, 0.29H), 5.70 (dd, *J* = 15.8, 8.7 Hz, 0.67H), 5.39 (d, *J* = 8.7 Hz, 0.61H), 4.94 (d, *J* = 8.5 Hz, 0.32H), 3.22 – 3.03 (m, 2H), 1.97 (s, 0.60H), 1.69 (s, 2.45H), 1.50 – 1.36 (m, 2H), 1.33 – 1.24 (m, 2H), 0.85 (t, *J* = 7.3 Hz, 3H). **^{13}C NMR (101 MHz, DMSO-*d*$_6$)** δ = 172.7, 170.2, 156.0, 154.9, 154.7, 154.1, 144.4, 136.9, 136.6, 136.0, 135.8, 135.5, 132.9, 131.3, 130.9, 130.5, 129.2, 129.1, 128.8, 128.5, 128.4, 127.0, 126.8, 125.8, 122.6, 122.2, 119.9, 119.4, 119.3, 117.6, 117.0, 116.9, 114.9, 114.8, 90.1, 89.0, 74.6, 74.0, 65.2, 62.9, 31.5, 31.2, 19.9, 19.8, 14.2, 14.0, 3.6. **HRMS** (ESI) calculated for $C_{24}H_{27}N_2O_3^+$ ($[M+H]^+$): 391.2021, found 391.2015.

(*E*)-*N*-benzyl-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1i)**



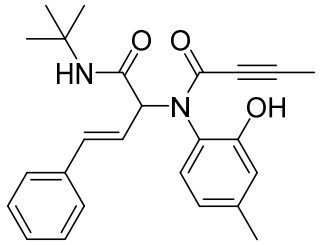
Pale yellow solid, Yield 53% (Mixture of rotamers ≈ 2: 1), Melting point: 117-119 °C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.19 (s, 0.65H), 10.28 (s, 0.40H), 9.44 (t, *J* = 6.1 Hz, 0.67H), 8.67 (t, *J* = 6.1 Hz, 0.33H), 7.43 – 7.18 (m, 10H), 7.11 (t, *J* = 7.7 Hz, 2H), 6.92 – 6.74 (m, 2H), 6.66 – 6.59 (m, 1H), 6.20 (dd, *J* = 15.8, 8.6 Hz, 0.28H), 5.74 (dd, *J* = 15.8, 8.6 Hz, 0.65H), 5.48 (d, *J* = 8.6 Hz, 0.60H), 5.11 (d, *J* = 8.6 Hz, 0.31H), 4.53 – 4.29 (m, 2H), 1.99 (s, 0.72H), 1.70 (s, 2.24H). **^{13}C NMR (101 MHz, DMSO-*d*$_6$)** δ = 173.1, 170.7, 155.9, 155.0, 154.8, 139.6, 138.8, 136.5, 136.0, 135.9, 135.6, 132.9, 131.5, 131.0, 130.5, 129.2, 129.1, 129.0, 129.0, 128.9, 128.8, 128.7, 128.7, 128.6, 128.5, 128.2, 127.7, 127.6, 127.5, 127.2, 127.0, 126.8, 126.1, 125.8, 122.5, 122.0, 119.4, 117.5, 90.3, 74.6, 74.0, 64.9, 63.0, 60.2, 43.2, 14.6, 3.8, 3.6. **HRMS** (ESI) calculated for $C_{27}H_{25}N_2O_3^+$ ($[M+H]^+$): 425.1865, found 425.1866.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxy-6-methylphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1j)**



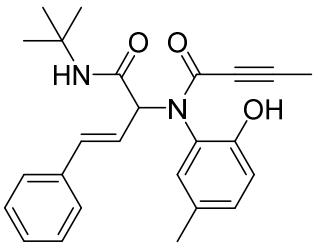
Pale yellow solid, Yield 31%, Melting point: 71-73 °C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 10.49 (s, 1H), 7.44 (s, 1H), 7.36 – 7.22 (m, 5H), 7.08 (t, *J* = 7.8 Hz, 1H), 6.75 – 6.68 (m, 2H), 6.60 (d, *J* = 15.8 Hz, 1H), 6.30 (dd, *J* = 15.8, 9.2 Hz, 1H), 4.65 (d, *J* = 9.2 Hz, 1H), 2.25 (s, 3H), 1.70 (s, 3H), 1.29 (s, 9H). **^{13}C NMR (101 MHz, DMSO-*d*$_6$)** δ = 169.5, 154.9, 154.4, 138.8, 136.6, 135.5, 129.8, 129.1, 129.0, 128.5, 128.2, 126.9, 126.8, 123.7, 121.1, 114.2, 87.5, 74.4, 66.8, 60.2, 51.2, 28.8, 28.7, 21.2, 18.7, 14.6, 3.6. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_3^+$ ([M+H]$^+$): 405.2178, found 405.2170.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxy-4-methylphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1k)**



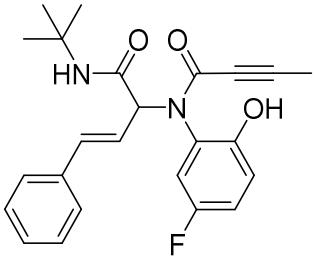
Pale yellow solid, Yield 89%, Melting point: 165-167 °C. **^{1}H NMR (600 MHz, DMSO-*d*$_6$)** δ = 11.27 (s, 1H), 8.51 (s, 1H), 7.31 – 7.18 (m, 4H), 7.14 (d, *J* = 7.1 Hz, 1H), 6.95 (d, *J* = 7.9 Hz, 1H), 6.69 (s, 1H), 6.62 – 6.51 (m, 2H), 5.72 (dd, *J* = 15.8, 8.5 Hz, 1H), 5.36 (d, *J* = 8.5 Hz, 1H), 2.21 (s, 3H), 1.71 (s, 3H), 1.31 (s, 9H). **^{13}C NMR (151 MHz, DMSO-*d*$_6$)** δ = 172.3, 155.6, 154.8, 140.3, 136.1, 135.3, 132.4, 129.2, 129.1, 129.0, 129.0, 128.9, 128.9, 128.7, 126.8, 123.3, 122.6, 120.1, 117.9, 90.0, 74.2, 63.2, 51.7, 28.9, 28.7, 28.7, 21.4, 3.7. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_3^+$ ([M+H]$^+$): 405.2178, found 405.2182.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxy-5-methylphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1l)**



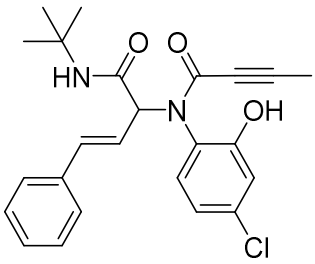
Pale yellow solid, Yield 67% (Mixture of rotamers ≈ 4: 1), Melting point: 95-97 °C. **^{1}H NMR (600 MHz, DMSO-*d*$_6$)** δ = 11.10 (s, 1H), 8.50 (s, 1H), 7.34 – 7.21 (m, 3H), 7.15 – 7.08 (m, 2H), 7.01 (dd, *J* = 8.3, 2.1 Hz, 1H), 6.90 (s, 1H), 6.76 (d, *J* = 8.3 Hz, 1H), 6.60 (d, *J* = 15.8 Hz, 1H), 6.17 (dd, *J* = 16.0, 8.3 Hz, 0.19H), 5.72 (dd, *J* = 15.8, 8.5 Hz, 0.82H), 5.36 (d, *J* = 8.5 Hz, 0.75H), 4.93 (d, *J* = 8.3 Hz, 0.18H), 2.13 (s, 3H), 1.71 (s, 3H), 1.30 (s, 9H). **^{13}C NMR (151 MHz, DMSO-*d*$_6$)** δ = 172.2, 154.6, 153.6, 136.1, 135.3, 132.8, 131.4, 129.2, 129.1, 129.0, 129.0, 128.9, 128.9, 128.7, 127.7, 126.8, 126.7, 125.5, 122.8, 117.1, 89.9, 74.2, 63.1, 51.7, 28.9, 28.7, 28.7, 20.3, 3.7. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_3^+$ ([M+H]$^+$): 405.2178, found 405.2179.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(5-fluoro-2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1m)**



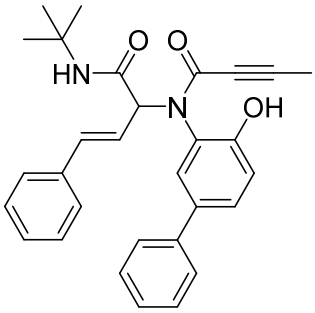
Pale yellow solid, Yield 49% (Mixture of rotamers ≈ 4: 1), Melting point: 93-95 °C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.38 (s, 1H), 8.58 (s, 1H), 7.37 – 7.21 (m, 4H), 7.18 – 6.95 (m, 3H), 6.95 – 6.80 (m, 1H), 6.58 (d, *J* = 16.1 Hz, 1H), 6.01 (dd, *J* = 15.9, 8.1 Hz, 0.20H), 5.78 (dd, *J* = 15.9, 8.3 Hz, 0.76H), 5.38 (d, *J* = 8.3 Hz, 0.72H), 5.16 (d, *J* = 8.1 Hz, 0.19H), 1.74 (s, 3H), 1.31 (s, 9H). **^{13}C NMR (101 MHz, DMSO-*d*$_6$)** δ = 172.1, 169.0, 155.8, 154.4, 153.5, 152.9, 136.6, 136.0, 135.7, 134.6, 129.2, 129.1, 129.0, 128.9, 128.8, 128.4, 126.7, 126.7, 126.2, 126.1, 123.5, 122.3, 119.2, 119.0, 118.0, 117.9, 117.8, 117.6, 90.3, 73.9, 63.0, 51.8, 51.5, 51.0, 28.9, 28.7, 28.6, 3.6. **HRMS** (ESI) calculated for $C_{24}H_{26}FN_2O_3^+$ ([M+H]$^+$): 409.1927, found 409.1926.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(4-chloro-2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1n)**



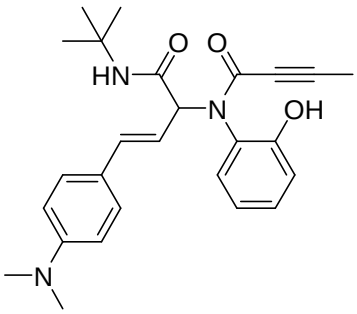
Pale yellow solid, Yield 52%, Melting point: 84-86 ^{o}C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.96 (s, 1H), 8.62 (s, 1H), 7.26 (m, 3H), 7.18 – 7.15 (m, 2H), 6.96 – 6.87 (m, 2H), 6.82 (dd, *J* = 8.5, 2.4 Hz, 1H), 6.58 (d, *J* = 16.0 Hz, 1H), 5.76 (dd, *J* = 16.0, 8.3 Hz, 1H), 5.40 (d, *J* = 8.3 Hz, 1H), 1.75 (s, 3H), 1.31 (s, 9H). **^{13}C NMR (75 MHz, DMSO-*d*$_6$)** δ = 171.7, 156.7, 154.0, 135.6, 135.4, 134.1, 133.7, 128.6, 128.3, 128.2, 126.3, 124.9, 121.9, 118.6, 116.8, 89.9, 78.5, 73.6, 62.5, 51.4, 28.5, 28.3, 28.2, 3.0. **HRMS** (ESI) calculated for $C_{24}H_{26}ClN_2O_3^+$ ($[M+H]^+$): 425.1631, found 425.1633.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(4-hydroxy-[1,1'-biphenyl]-3-yl)but-2-ynamido)-4-phenylbut-3-enamide **(1o)**



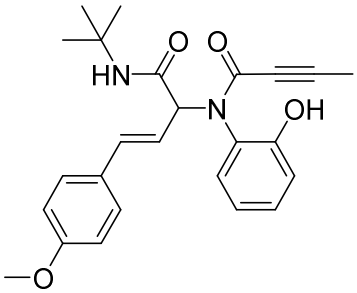
Pale yellow solid, Yield 54%, Melting point: 193-195 ^{o}C. **^{1}H NMR (400 MHz, DMSO-*d*$_6$)** δ = 11.55 (s, 1H), 8.60 (s, 1H), 7.57 – 7.46 (m, 4H), 7.36 (t, *J* = 7.5 Hz, 2H), 7.30 – 7.19 (m, 4H), 7.17 – 7.10 (m, 2H), 6.95 (d, *J* = 8.5 Hz, 1H), 6.62 (d, *J* = 15.8 Hz, 1H), 5.85 (dd, *J* = 15.8, 8.2 Hz, 1H), 5.45 (d, *J* = 8.2 Hz, 1H), 1.70 (s, 3H), 1.33 (s, 9H). **^{13}C NMR (75 MHz, DMSO-*d*$_6$)** δ =171.7, 155.2, 154.2, 139.4, 135.8, 135.2, 131.0, 130.6, 128.8, 128.7, 128.5, 128.3, 128.1, 126.5, 126.2, 126.1, 125.9, 125.8, 122.6, 117.4, 89.5, 62.6, 51.3, 28.3, 3.0. **HRMS** (ESI) calculated for $C_{30}H_{31}N_2O_3^+$ ($[M+H]^+$): 467.2334, found 467.2332.

(*E*)-*N*-(*tert*-butyl)-4-(4-(dimethylamino)phenyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)but-3-enamide **(1p)**



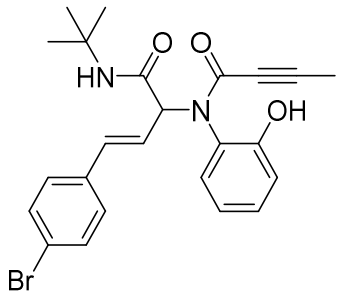
Pale yellow solid, Yield 50%, Melting point: 82-84 °C. **^{1}H NMR (400 MHz, DMSO-d_6)** δ = 11.43 (s, 1H), 8.47 (s, 1H), 7.18 (t, *J* = 7.7 Hz, 1H), 7.04 (d, *J* = 7.9 Hz, 1H), 6.93 (d, *J* = 8.4 Hz, 2H), 6.85 (d, *J* = 8.1 Hz, 1H), 6.73 (t, *J* = 7.6 Hz, 1H), 6.56 (d, *J* = 8.4 Hz, 2H), 6.45 (d, *J* = 15.3 Hz, 1H), 5.49 – 5.20 (m, 1H), 5.31 (s, 1H), 2.85 (s, 6H), 1.68 (s, 3H), 1.30 (s, 9H). **^{13}C NMR (101 MHz, DMSO-d_6)** δ = 172.8, 156.0, 154.6, 150.8, 135.7, 132.9, 130.7, 127.7, 126.1, 123.9, 119.1, 117.4, 117.2, 112.5, 89.8, 74.2, 63.5, 51.7, 28.7, 3.6. **HRMS** (ESI) calculated for $C_{26}H_{32}N_3O_3^+$ ([M+H]$^+$): 434.2443, found 434.2426.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-(4-methoxyphenyl)but-3-enamide **(1q)**



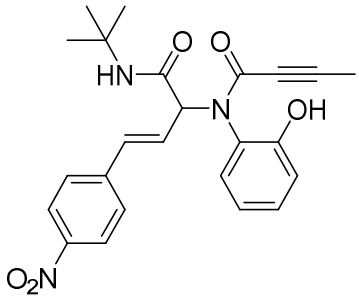
Pale yellow solid, Yield 28% (Mixture of rotamers ≈ 1.3: 1), Melting point: 138-139 °C. **^{1}H NMR (300 MHz, $CDCl_3$)** δ = 8.09 – 7.81 (m, 2.55H), 7.40 – 7.17 (m, 3H), 7.16 – 6.93 (m, 2H), 6.92 – 6.81 (m, 1.32H), 6.81 – 6.49 (m, 2H), 4.41 (s, 0.54H), 3.47 (s, 0.43H), 2.43 (s, 1.75H), 2.05 (s, 1.22H), 2.02 (s, 1.74H), 1.73 (s, 1.25H), 1.40 (s, 4.46H), 1.31 (s, 3.50H). **^{13}C NMR (75 MHz, $CDCl_3$)** δ = 167.4, 165.2, 155.3, 148.0, 144.5, 144.1, 134.4, 130.9, 130.1, 129.1, 129.0, 128.2, 126.9, 125.5, 121.9, 121.4, 120.6, 119.8, 119.3, 118.9, 118.7, 117.4, 115.5, 91.6, 67.1, 52.2, 52.2, 28.6, 28.5, 28.4, 28.3, 21.5, 3.6, 3.5. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_4^+$ ([M+H]$^+$): 421.2127, found 421.2129.

(*E*)-4-(4-bromophenyl)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)but-3-enamide **(1r)**



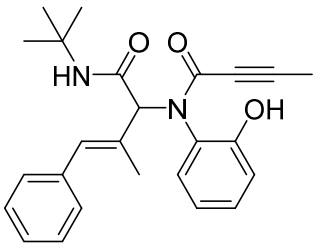
Pale yellow solid, Yield 62% (Mixture of rotamers ≈ 3.5: 1), Melting point: 159-161 °C. **^{1}H NMR (300 MHz, DMSO-d_6)** δ = 11.37 (s, 1H), 8.55 (s, 1H), 7.53 – 7.35 (m, 2.4H), 7.25 7.16 (m, 1.25H), 7.09 (d, *J* = 7.7 Hz, 2.26H), 6.94 – 6.69 (m, 2.06H), 6.63 – 6.47 (m, 1.07H), 6.18 (dd, *J* = 15.8, 8.2 Hz, 0.21H), 5.76 (dd, *J* = 15.8, 8.2 Hz, 0.74H), 5.37 (d, *J* = 8.4 Hz, 0.76H), 4.94 (d, *J* = 8.4 Hz, 0.20H), 1.70 (s, 3H), 1.30 (s, 9H). **^{13}C NMR (75 MHz, DMSO-d_6)** δ = 171.4, 155.6, 154.2, 135.0, 133.8, 132.3, 131.6, 130.6, 130.2, 128.2, 125.6, 123.4, 121.2, 118.7, 117.0, 114.6, 89.4, 73.7, 62.6, 51.3, 28.3. **HRMS** (ESI) calculated for $C_{24}H_{26}BrN_2O_3^+$ ([M+H]$^+$): 469.1126, found 469.1123.

(*E*)-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-(4-nitrophenyl)but-3-enamide **(1s)**



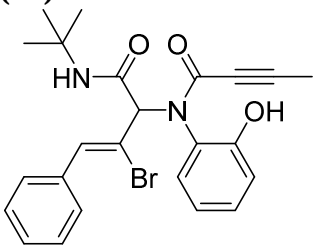
Pale yellow solid, Yield 41% (Mixture of rotamers ≈ 2: 1), Melting point: 108-110 °C. **^{1}H NMR (400 MHz, DMSO-d_6)** δ = 11.32 (s, 1H), 8.57 (s, 1H), 8.26 – 8.06 (m, 2H), 7.61 – 7.09 (m, 4H), 6.99 – 6.60 (m, 3H), 6.50 – 6.35 (m, 0.43H), 6.01 (dd, *J* = 15.9, 8.4 Hz, 0.60H), 5.44 (d, *J* = 8.4 Hz, 0.63H), 4.98 (d, *J* = 8.4 Hz, 0.30H), 1.70 (s, 3H), 1.31 (s, 9H). **^{13}C NMR (101 MHz, DMSO-d_6)** δ = 171.6, 155.9, 154.7, 147.3, 142.5, 133.6, 132.8, 131.0, 130.2, 130.1, 129.0, 128.3, 128.2, 127.8, 127.8, 127.5, 125.8, 124.5, 124.4, 124.0, 123.9, 119.3, 117.6, 90.2, 74.0, 62.9, 51.8, 51.6, 51.6, 51.1, 28.9, 28.7, 28.7, 28.5, 28.5, 14.6, 13.9, 4.0, 3.7, 3.6. **HRMS** (ESI) calculated for $C_{24}H_{26}N_3O_5^+$ ([M+H]$^+$): 436.1872, found 436.1873.

(*E*)-*N*-(*ter*t-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-3-methyl-4-phenylbut-3-enamide **(1t)**



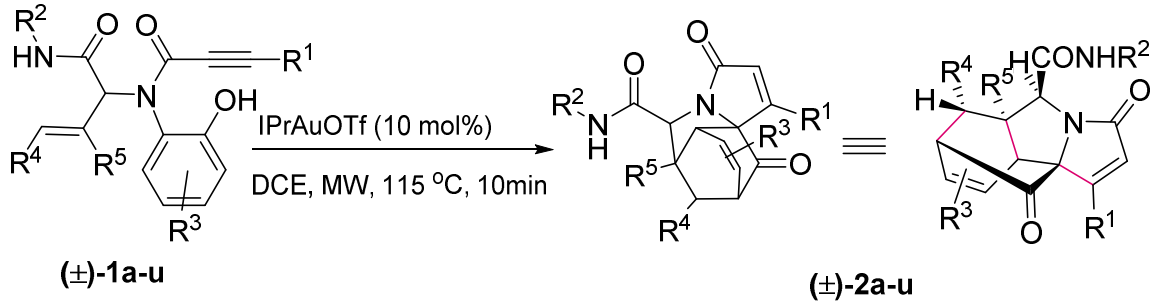
Pale yellow solid, Yield 44%, Melting point: 144-147 °C. **^{1}H NMR (400 MHz, DMSO-d_6)** δ = 11.50 (s, 1H), 8.50 (s, 1H), 7.27 (t, *J* = 7.4 Hz, 2H), 7.19 (dd, *J* = 7.5, 4.4 Hz, 2H), 7.12 (dd, *J* = 7.8, 1.6 Hz, 1H), 6.88 (d, *J* = 7.5 Hz, 2H), 6.81 (d, *J* = 8.1 Hz, 1H), 6.74 (s, 1H), 6.46 (s, 1H), 5.35 (s, 1H), 1.69 (s, 3H), 1.50 (s, 3H), 1.32 (s, 9H). **^{13}C NMR (101 MHz, DMSO-d_6)** δ = 172.2, 156.3, 155.1, 136.8, 133.0, 133.0, 131.4, 130.8, 128.8, 128.8, 128.8, 128.7, 128.6, 127.5, 125.9, 118.7, 117.2, 90.0, 74.3, 68.0, 51.7, 28.6, 28.5, 17.9, 3.6. **HRMS** (ESI) calculated for $C_{25}H_{29}N_2O_3^+$ ($[M+H]^+$): 405.2178, found 405.2175.

(*Z*)-3-bromo-*N*-(*tert*-butyl)-2-(*N*-(2-hydroxyphenyl)but-2-ynamido)-4-phenylbut-3-enamide **(1u)**



Pale yellow solid, Yield 37%, Melting point: 96-98 °C. **^{1}H NMR (400 MHz, DMSO-d_6)** δ = 11.25 (s, 1H), 8.74 (s, 1H), 7.34 – 7.28 (m, 3H), 7.26 – 7.21 (m, 3H), 7.17 – 7.10 (m, 2H), 6.82 (d, *J* = 7.8 Hz, 1H), 6.76 (td, *J* = 7.6, 1.4 Hz, 1H), 5.80 (s, 1H), 1.70 (s, 3H), 1.33 (s, 9H). **^{13}C NMR (101 MHz, DMSO-d_6)** δ = 169.7, 156.5, 155.1, 136.2, 135.1, 133.6, 131.1, 129.1, 128.9, 128.7, 128.6, 125.1, 118.8, 117.8, 117.2, 90.6, 74.0, 69.5, 52.0, 28.5, 3.7. **HRMS** (ESI) calculated for $C_{24}H_{26}BrN_2O_3^+$ ($[M+H]^+$): 469.1126, found 469.1114.

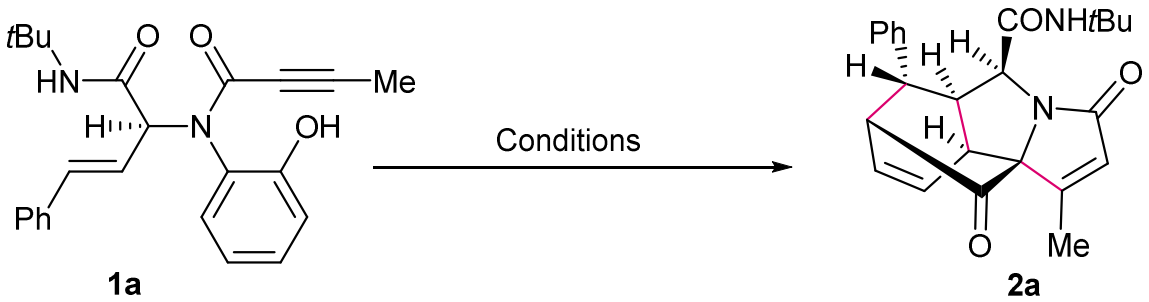
General procedure for the Microwave-assisted Intramolecular Diels-Alder Reaction



(±)-1a-u **(±)-2a-u**

The cationic gold catalyst IPrAuOTf was first generated *in situ* by mixing of (IPr)AuCl (10 mol%) and AgOTf (10 mol%) along with dichloroethane (2 mL) in a 10 mL microwave vial loaded with a stirring bar and kept stirring for 5 min and used without filtration. To this vial Ugi products **1a**-**u** (0.20 mmol) was subsequently loaded and the reaction vessel was sealed and irradiated in the cavity of a CEM-Discover microwave reactor for 10 min at the set temperature of 115 °C. After completion, the reaction mixture was diluted with dichloromethane and evaporated under reduced pressure. The obtained residue was purified by silica gel column chromatography (EtOAc/Heptane = 1: 1) to afford the bridged compounds **2a**-**u**.

Table S2: Extended optimizations for the cascade dearomative spirocarbocyclization/ Diels−Alder reaction process[a]

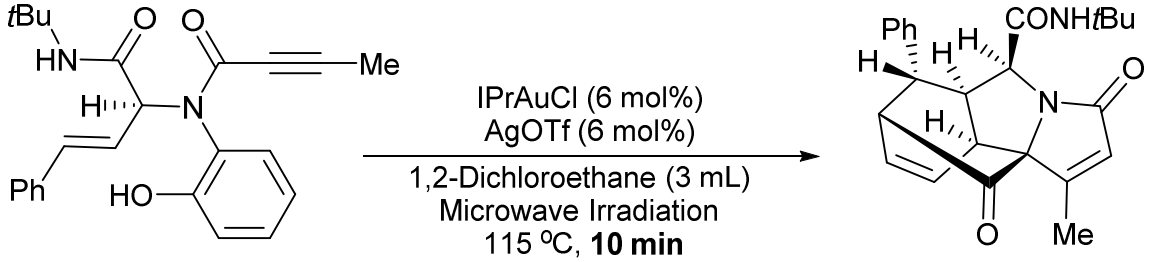


1a **2a**

Entry	Catalysts (10%)	Solvent	T/℃	Time	Conversion[b]	Yield[b] of **2a**%	d.r
1	(IMes)AuCl/AgOTf	$CDCl_3$	r.t.	16 h	75	52/43[c]	3.3: 1
2	(IMes)AuCl/AgOTf	$MeNO_2$	r.t.	16 h	43	Trace	0
3	(IMes)AuCl/AgOTf	Toluene	r.t.	16 h	54	30	15: 1
4	(IMes)AuCl/AgOTf	DCM	r.t.	16 h	65	38	7.6:1
5	(IMes)AuCl/AgOTf	DCE	r.t.	16 h	70	45	16: 1
6	HOTf (3 equiv.)	DCE	60	3h	100[d]	0	0
7	H_2SO_4 (3 equiv.)	DCE	60	3h	100[d]	0	0

[a] The reactions were run with **1a** (0.05 mmol) and a catalyst loading of 10 mol% in a screw-cap vial with solvent (1 mL).The catalyst was prepared by mixing the corresponding gold catalyst (10 mol%) and silver catalyst (10 mol%) *in situ*. [b] Conversion and yields based on ^{1}H NMR analysis using 2,4,6-trimethoxybenzaldehyde as internal standard. [c] Isolated yields. IMes = 1,3-bis(2,4,6-trimethylphenyl) imidazol-2-ylidene. [d]The decomposed of the starting material was observed.

Scale-up synthesis of bridged compound 2a

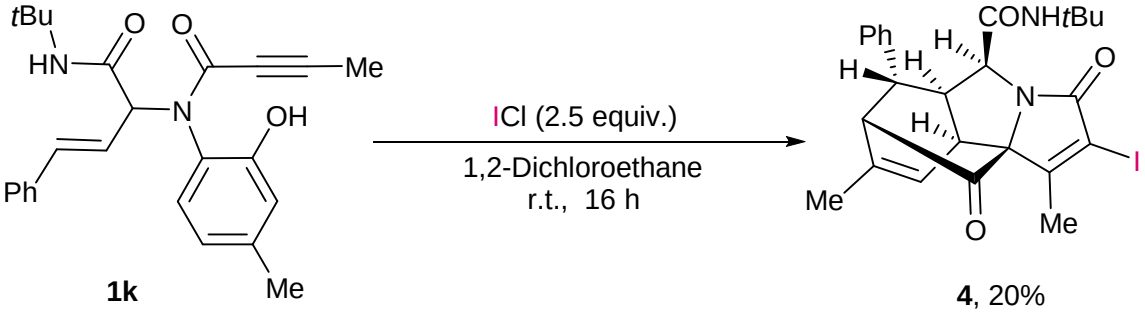


1a, 2.82 mmol, 1.10 g

2a, 0.78 g, 72%

The cationic gold catalyst IPrAuOTf was first generated *in situ* by mixing of IPrAuCl (6 mol%) and AgOTf (6 mol%) along with dichloroethane (3 mL) in a 10 mL microwave vial loaded with a stirring bar and kept stirring for 5 min and used without filtration. To this vial the Ugi product **1a** (1.10 g, 2.82 mmol) was subsequently loaded and the reaction vessel was sealed and irradiated in the cavity of a CEM-Discover microwave reactor for 10 min at the set temperature of 115 °C. After completion, the reaction mixture was diluted with dichloromethane and evaporated under reduced pressure. The obtained residue was purified by silica gel column chromatography (EtOAc/Heptane = 1: 1) to afford the bridged *N*-heterocycle **2a** in 72% yield (0.78 g, 2.0 mmol).

Preliminary investigation on the cascade dearomative spirocarbocyclization/iodination process

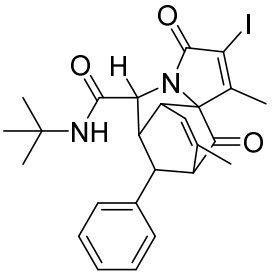


1k

4, 20%

To a screw capped vial equipped with a magnetic stir bar contained Ugi adducts **1k** (0.1 mmol) in DCE (2 mL) solvent, added iodine monochloride (2.5 equiv) dissolved in DCE (1 mL) slowly dropwise at 0 °C. The resulting reaction mixture allows reaching at rt. The reaction was stirred for 16 h. After completion, dilute the reaction mixture with DCM (25 mL) and washed with aqueous $Na_2S_2O_3$ solution (30 mL), and the aqueous solution was extracted with DCM. The combined organic layers dried over sodium sulfate and evaporated under reduced pressure. The subsequent residue obtained was purified by silica gel chromatography (15−30% EtOAc in hexane) to afford pure compounds **4** in yield of 20%.

N-(*tert*-butyl)-2-iodo-1,8-dimethyl-3,10-dioxo-6-phenyl-5a,6,7,9a-tetrahydro-3*H*,5*H*-7,9*b*-methanopyrrolo[2,1-*a*]isoindole-5-carboxamide (**4**)



Brown solid, Yield 20% (d.r.≈ 10: 1), Melting point: 162-163 ^{o}C. NMR data of the major diastereoisomer: **^{1}H NMR (400 MHz, $CDCl_3$)** δ = 7.26 – 7.18 (m, 3H), 7.10 – 7.03 (m, 2H), 6.66 (s, 1H), 6.12 (dt, *J* = 6.6, 1.7 Hz, 1H), 4.29 (d, *J* = 5.2 Hz, 1H), 3.50 – 3.40 (m, 1H), 3.37 (t, *J* = 2.7 Hz, 1H), 3.27 (dd, *J* = 3.2, 1.7 Hz, 1H), 3.01 (dd, *J* = 6.6, 4.1 Hz, 1H), 1.89 (s, 3H), 1.55 (s, 3H), 1.38 (s, 9H). **^{13}C NMR (101 MHz, $CDCl_3$)** δ = 201.7, 174.6, 167.5, 164.4, 140.9, 139.1, 129.4, 128.3, 126.8, 126.7, 126.4, 120.6, 94.4, 66.7, 66.7, 61.4, 59.9, 51.7, 49.7, 45.2, 31.9, 30.6, 29.3, 28.0, 22.3 15.9. **HRMS (ESI)** calculated for $C_{25}H_{28}IN_2O_3^+$ ($[M+H]^+$): 531.1141, found 531.1146.

Crystallographic data for compound 2a and 2k

Single crystals suitable for X-ray diffraction were obtained by slow evaporation at room temperature from a d1-chloroform-heptane mixture (1:2 v/v) for **2a and 2k**. X-ray intensity data were collected at room temperature for **2a** and **2k** on a Rigaku Ultra 18S generator (Xenocs mirrors, Mo Kα radiation, λ = 0.71073 Å) using a MAR345 image plate. The images were interpreted and integrated with CrysAlisPRO[9] and the implemented absorption correction was applied. The structures were solved using Olex2[10] with the ShelXS[11] structure solution program by Direct Methods and refined with the ShelXL[12] refinement package using full-matrix least-squares minimization on F^2. Non-hydrogen atoms were refined anisotropically and hydrogen atoms in the riding mode with isotropic temperature factors fixed at 1.2 times U_{eq} of the parent atoms (1.5 for methyl groups). CCDC 1900532 (compound **2a**), CCDC 1900531 (compound **2k**) contain the supplementary crystallographic data for this paper and can be obtained free of charge via http://www.ccdc.cam.ac.uk/getstructures or from the Cambridge Crystallographic Data Centre, 12, Union Road, Cambridge CB2 1EZ, UK; fax: +44-1223-336033; deposit@ccdc.cam.ac.uk).

Table S3: Crystal data and structure refinement details for compound 2a

Compound reference	**2a**
Empirical formula	$C_{24}H_{26}N_2O_3$
Formula weight	390.47
Crystal system	triclinic
Space group	P-1
a/Å	11.7236(5)
b/Å	11.7540(5)
c/Å	17.2404(8)
α/°	73.252(4)
β/°	73.789(4)
γ/°	71.074(4)
Volume/Å^3	2106.23(18)
Temperature/K	294.15
Z	4
ρ_{calc}g/cm^3	1.231
Crystal size/mm^3	0.3 × 0.15 × 0.05
Radiation	MoKα (λ = 0.71073 Å)
Absorption coefficient/mm^{-1}	0.081
F(000)	832.0
Reflections collected	22533
Independent reflections	8322 [Rint = 0.0276, Rsigma = 0.0464]
Data/restraints/parameters	8322/54/544
Final R indexes [I>=2σ (I)]	R1 = 0.0580, wR2 = 0.1230
Final R indexes [all data]	R1 = 0.0900, wR2 = 0.1407
Goodness-of-fit	1.044
Largest diff. peak/hole	0.24/-0.31 e.Å^{-3}
CCDC	1900532

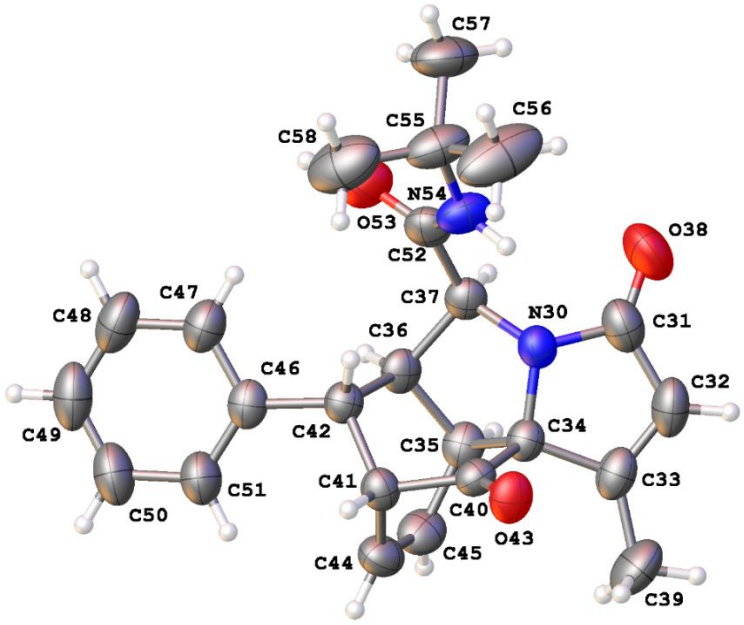


Figure S1. Crystal structure of compound **2a**. Thermal ellipsoids are drawn at the 50% probability level.

Table S4: Crystal data and structure refinement details for compound 2k

Compound reference	**2k**
Empirical formula	$C_{25}H_{28}N_2O_3$
Formula weight	404.49
Crystal system	monoclinic
Space group	$P2_1/n$
a/Å	13.4238(5)
b/Å	10.0908(3)
c/Å	16.9778(7)
α/°	90
β/°	96.486(4)
γ/°	90
Volume/Å^3	2285.05(15)
Temperature/K	294
Z	4
ρ_{calc}g/cm^3	1.176
Crystal size/mm^3	0.25 × 0.2 × 0.15
Radiation	MoKα (λ = 0.71073 Å)
Absorption coefficient/mm^{-1}	0.077
F(000)	864.0
Reflections collected	36041
Independent reflections	4653 [Rint = 0.0525, Rsigma = 0.0326]
Data/restraints/parameters	4653/0/277
Final R indexes [I>=2σ (I)]	R1 = 0.0677, wR2 = 0.1724
Final R indexes [all data]	R1 = 0.1043, wR2 = 0.1975
Goodness-of-fit	1.052
Largest diff. peak/hole	0.33/-0.21 e.Å^{-3}
CCDC	1900531

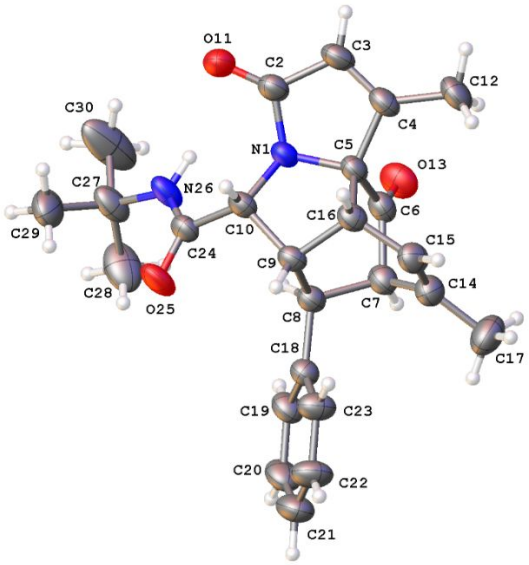


Figure S2. Crystal structure of compound **2k**. Thermal ellipsoids are drawn at the 50% probability level.

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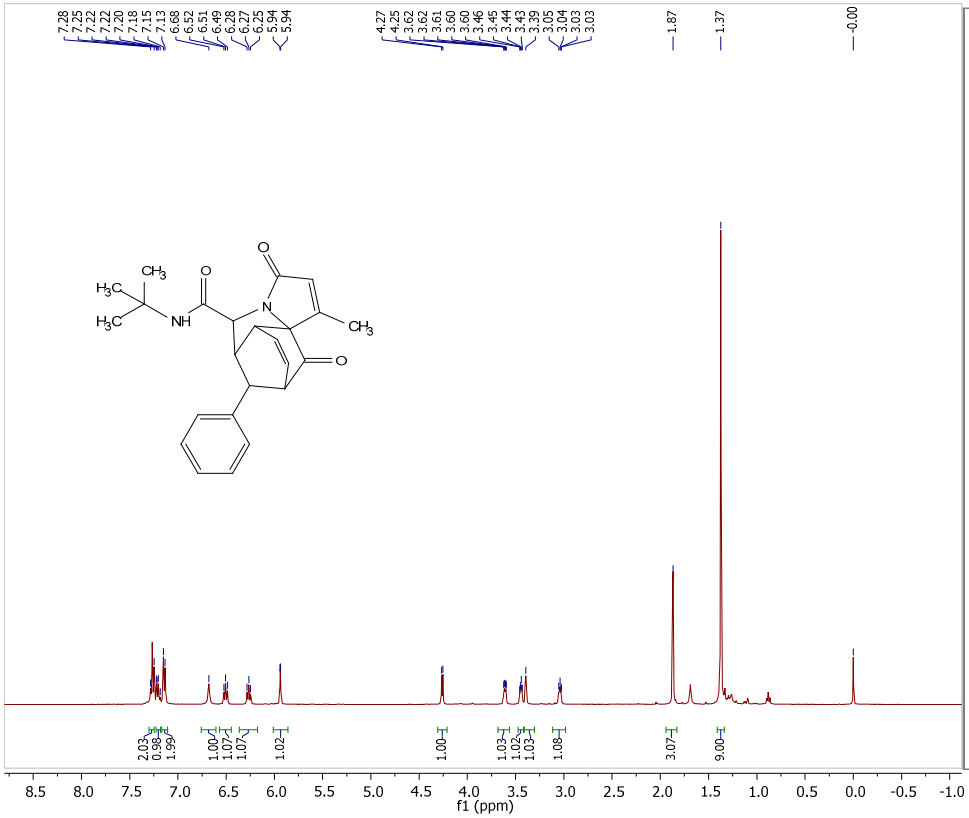
Copies of NMR spectra (Post-Ugi products)

^{1}H and ^{13}C NMR spectra of compound **2a**



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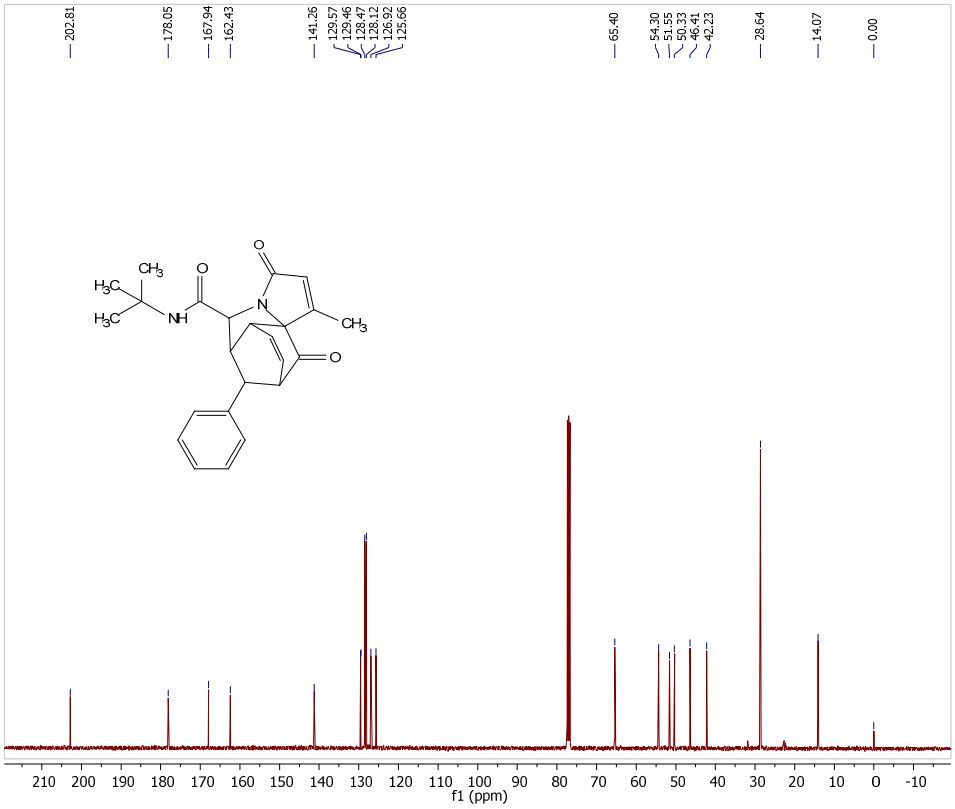

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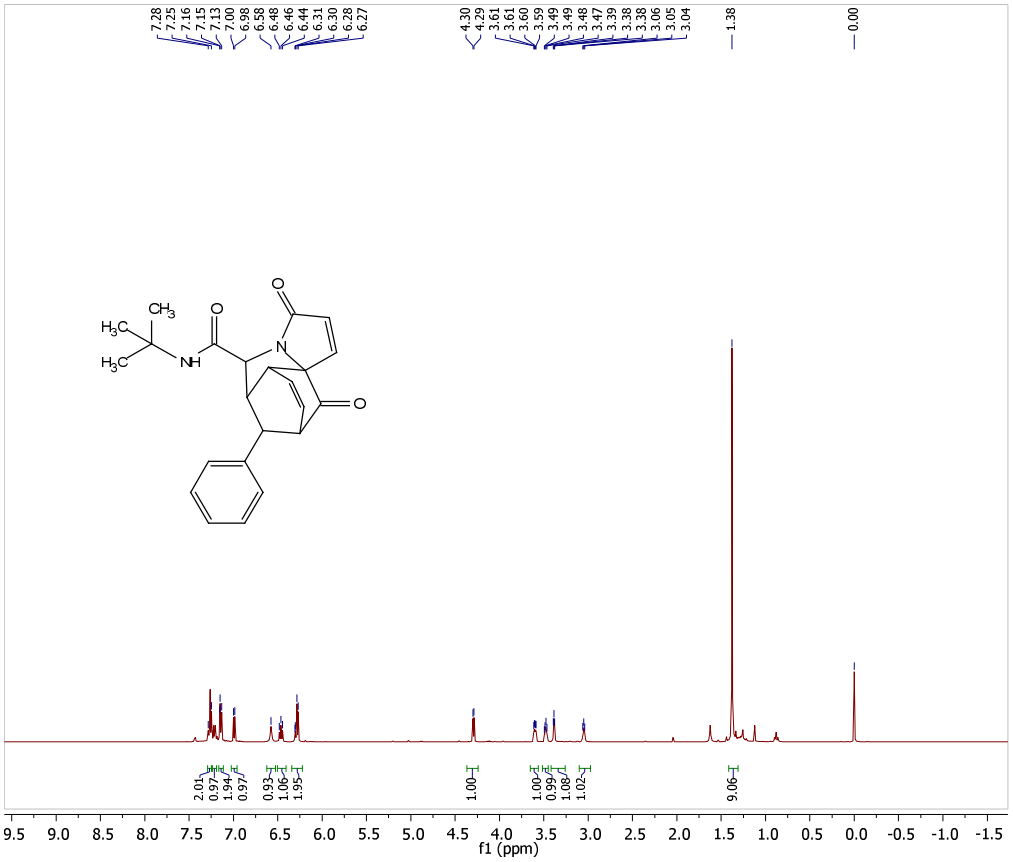
^{1}H and ^{13}C NMR spectra of compound **2b**



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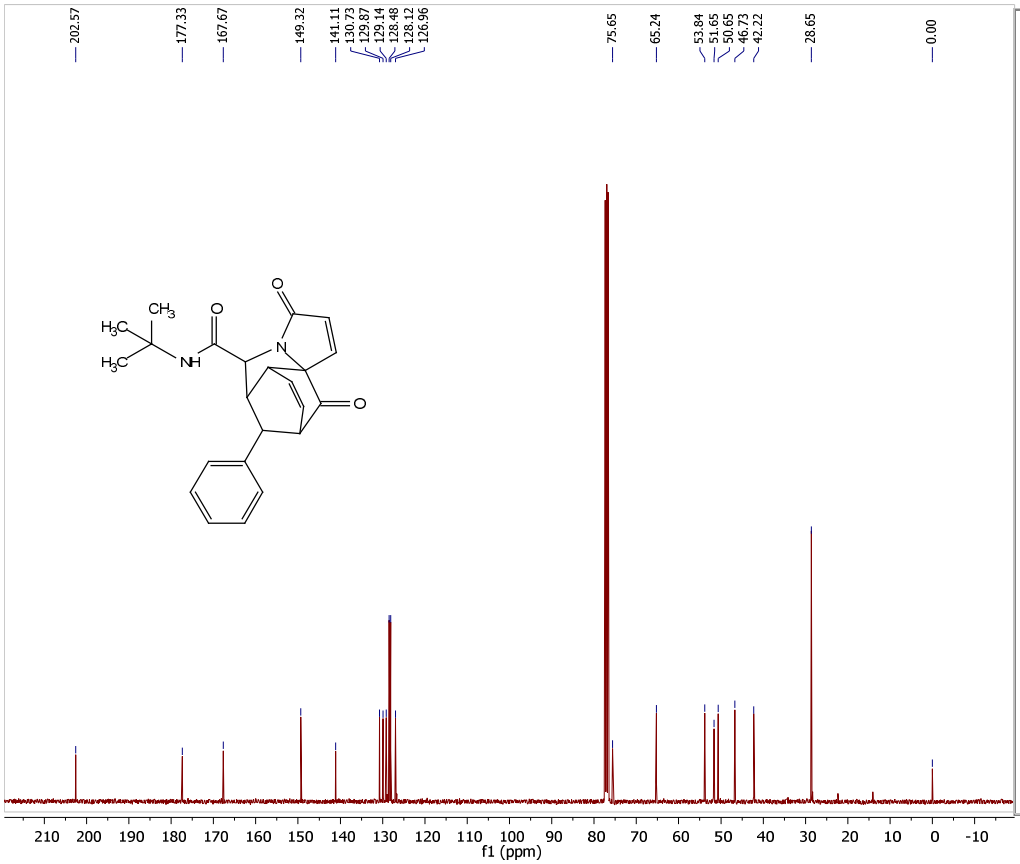

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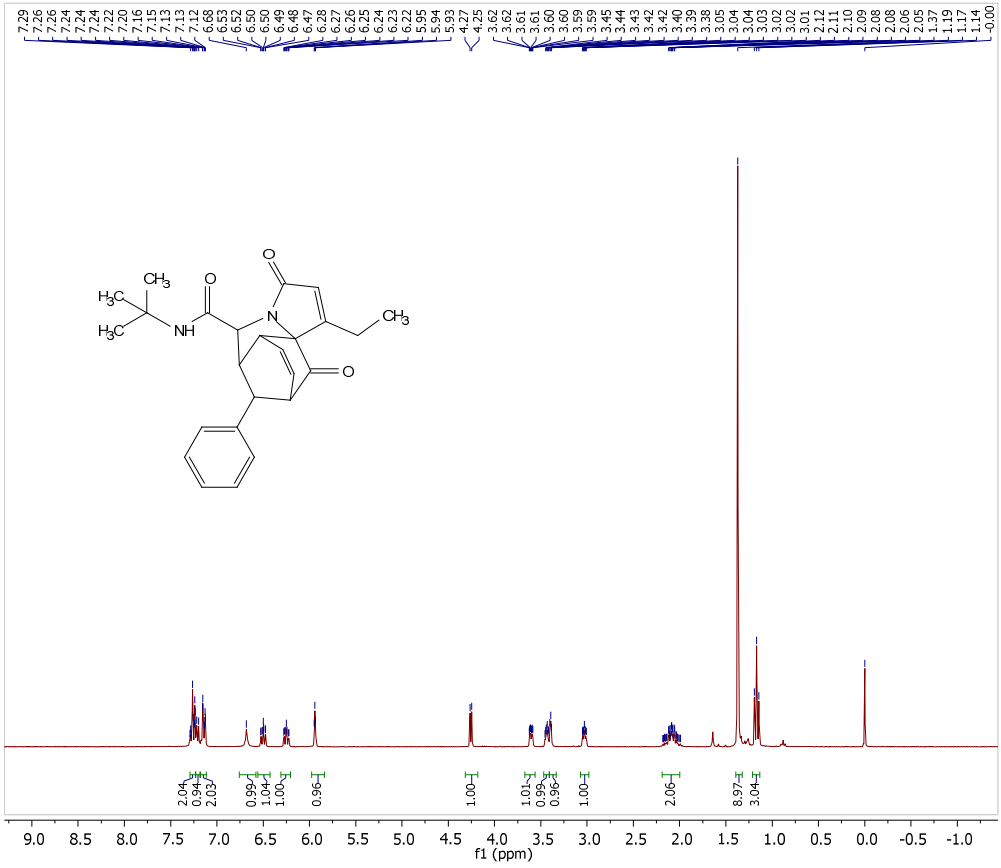
^{1}H and ^{13}C NMR spectra of compound **2c**



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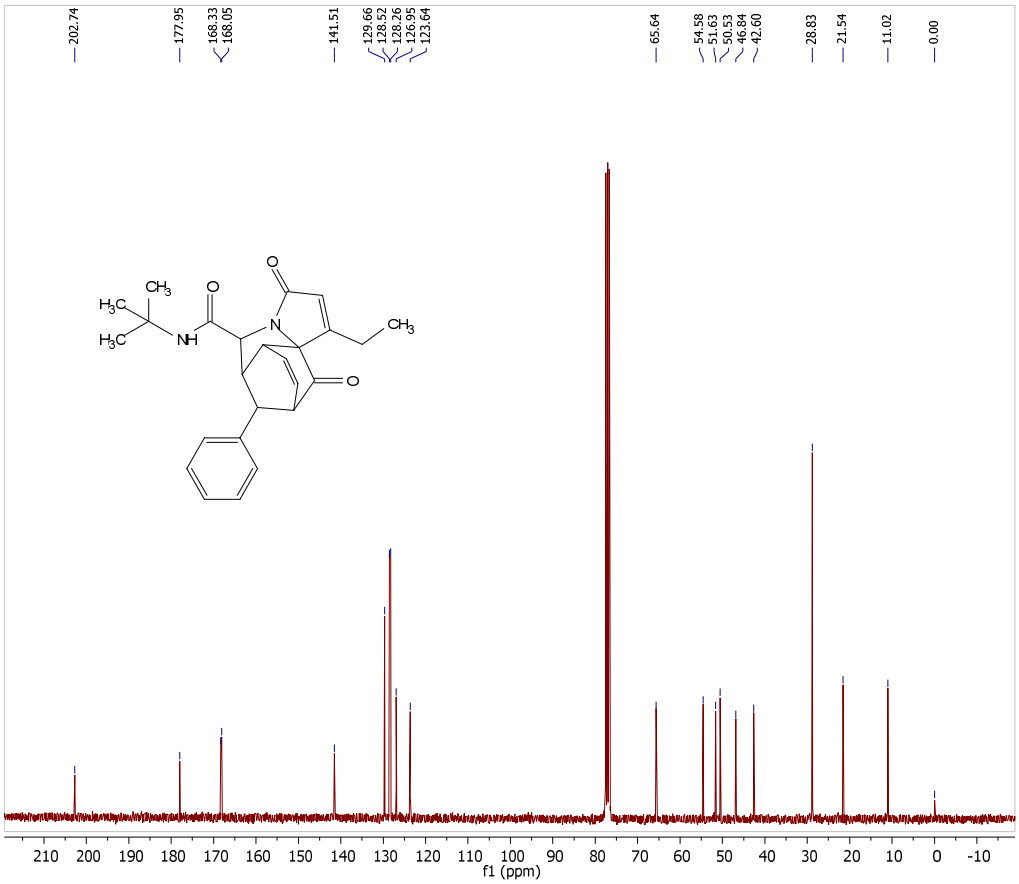

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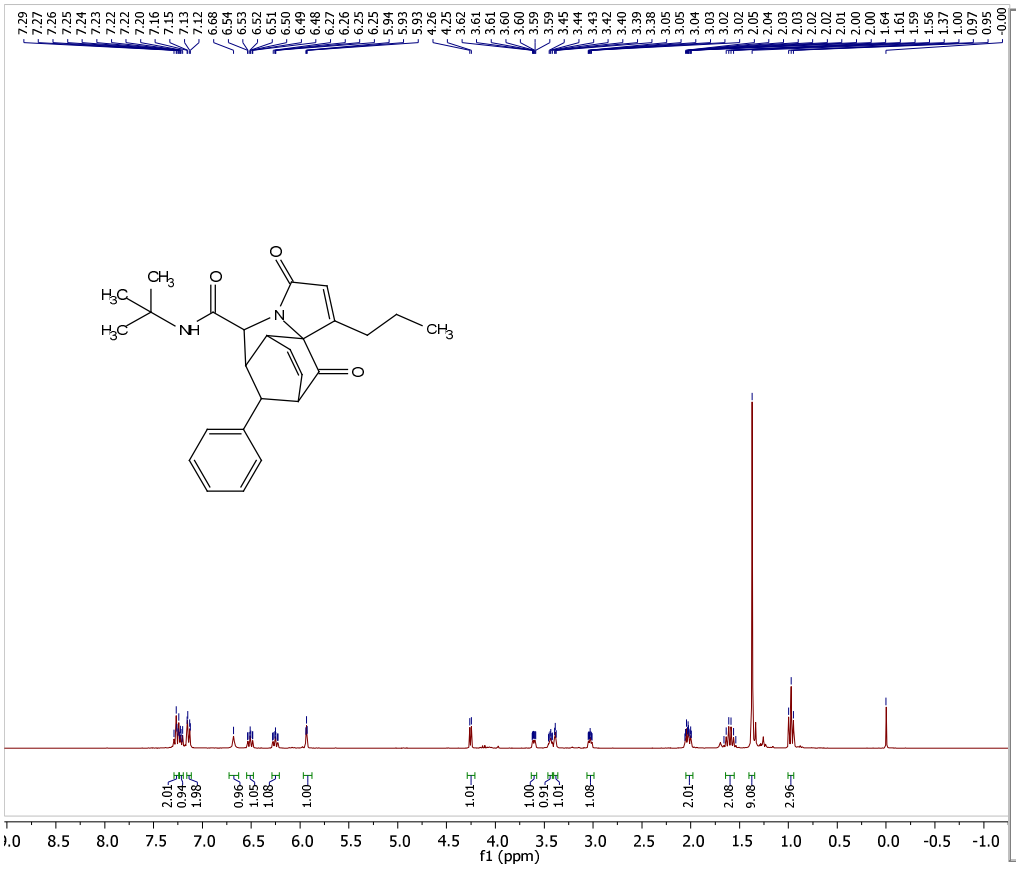
^{1}H and ^{13}C NMR spectra of compound **2d**



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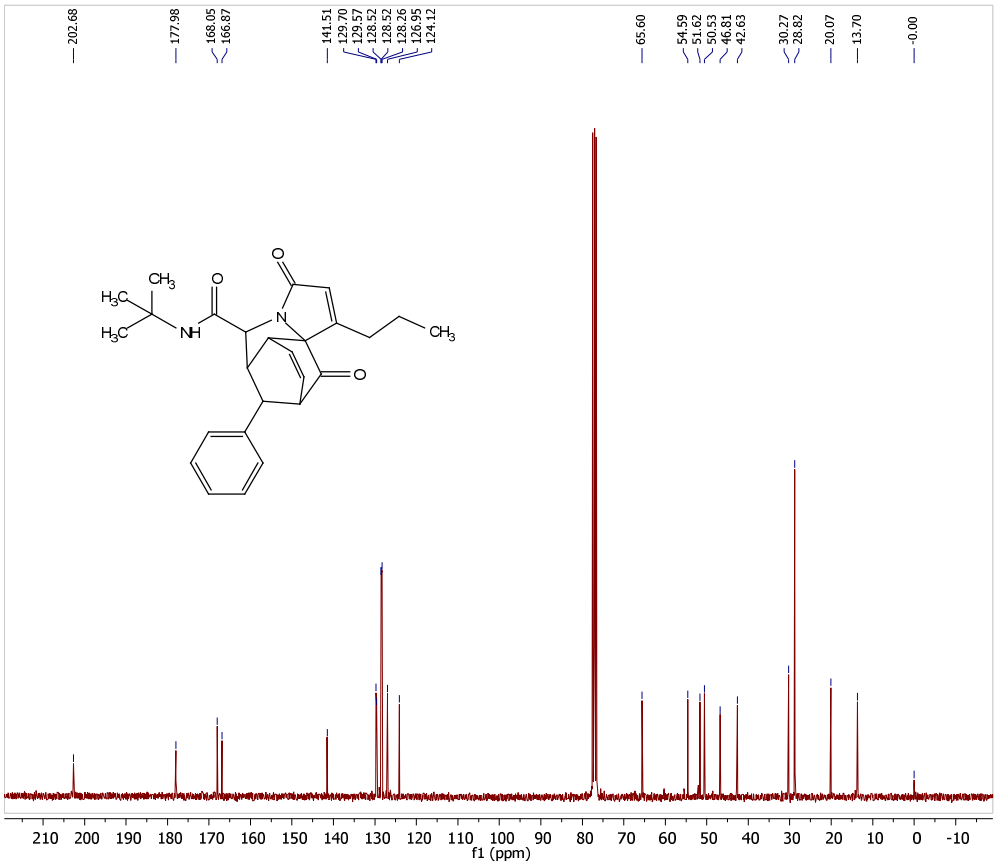

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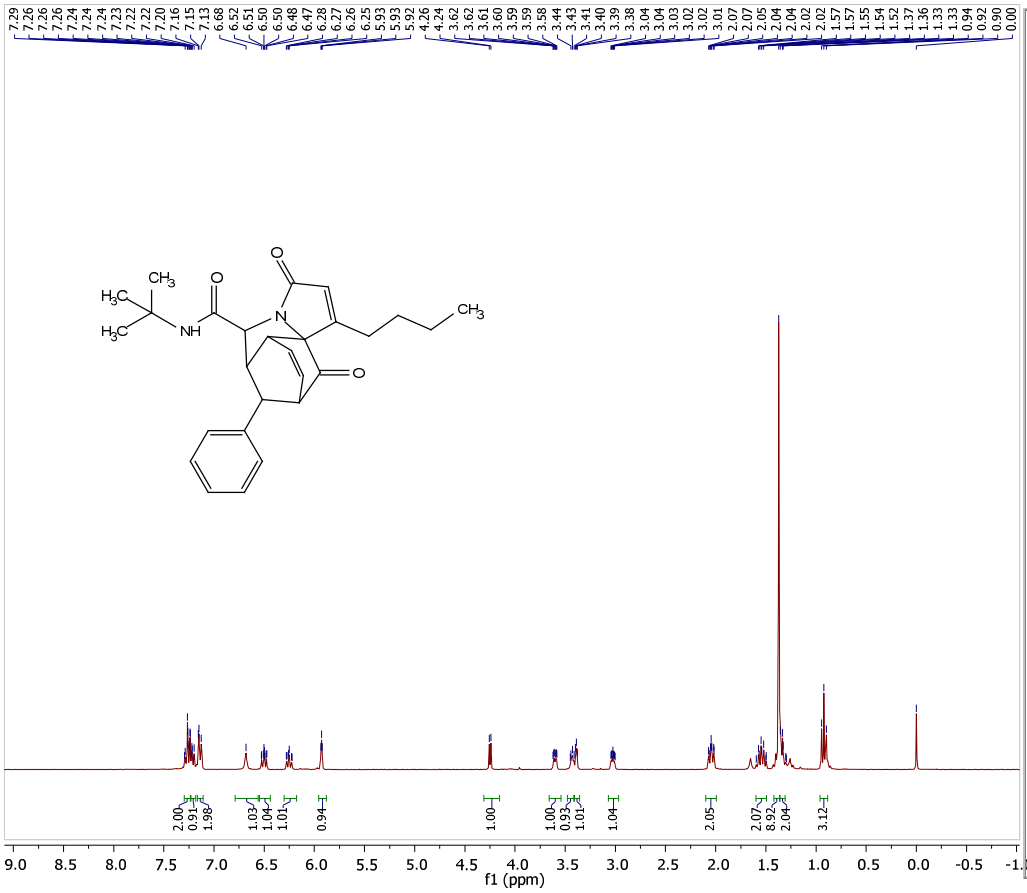
^{1}H and ^{13}C NMR spectra of compound **2e**



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12	Experiment	1D
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14	Number of Scans	8
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23	Spectrometer Frequency	300.13
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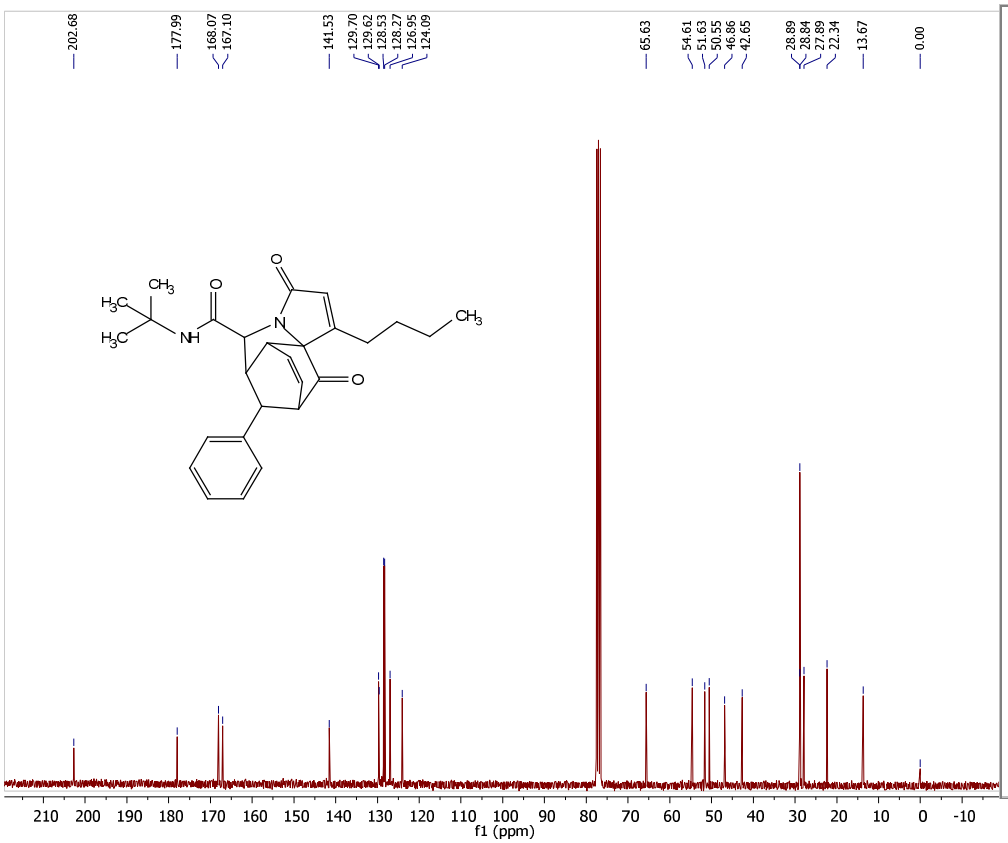
25	Lowest Frequency	-1246.0
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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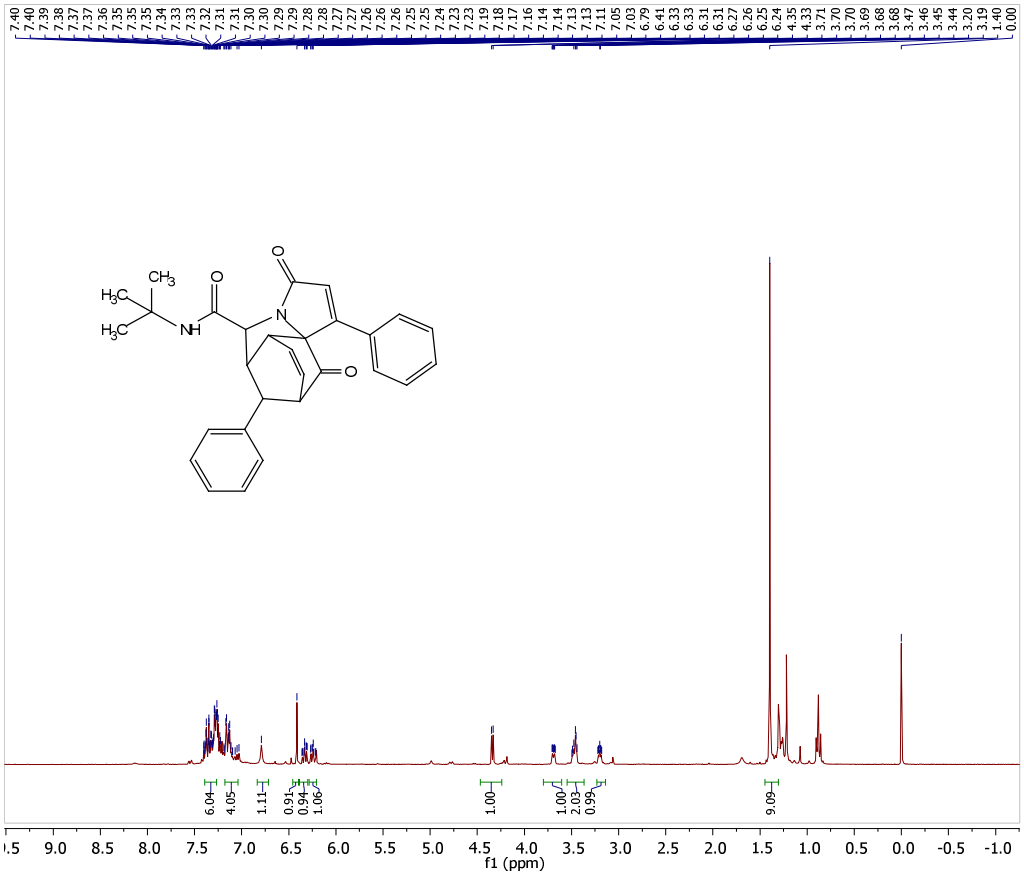
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-08T06:46:00
21	Modification Date	2018-11-08T06:46:56
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.0
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2f**



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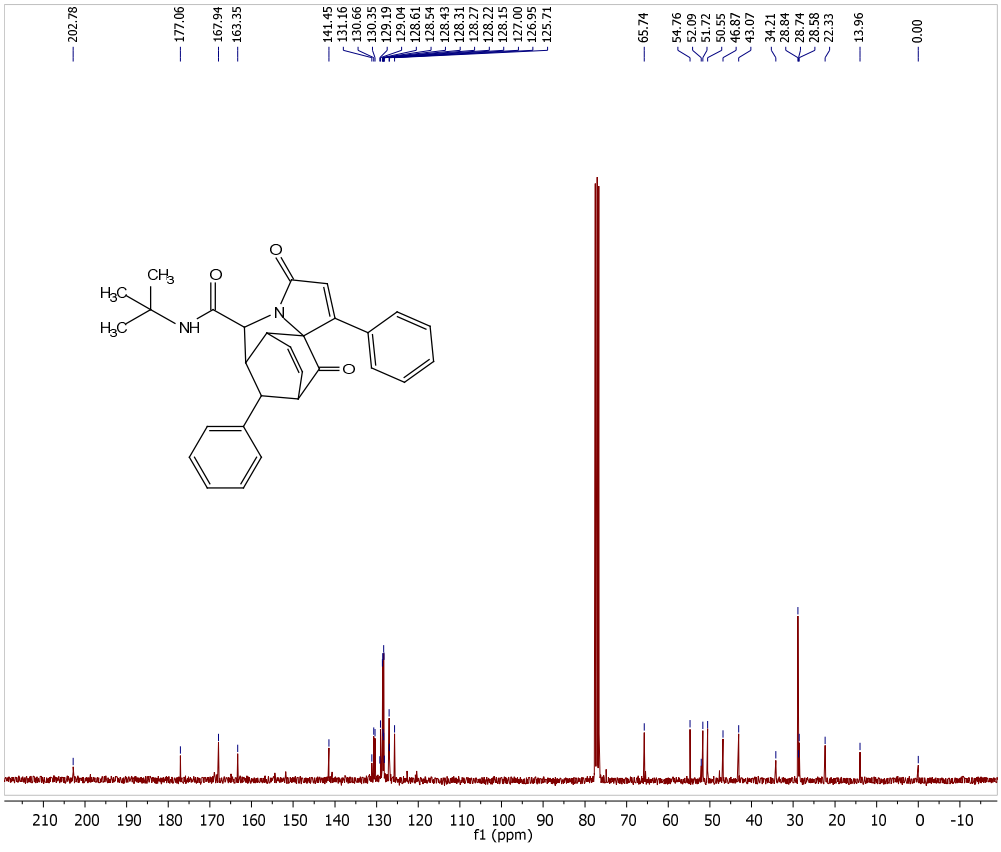
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-08T12:42:00
21	Modification Date	2018-11-08T12:42:56
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1246.8
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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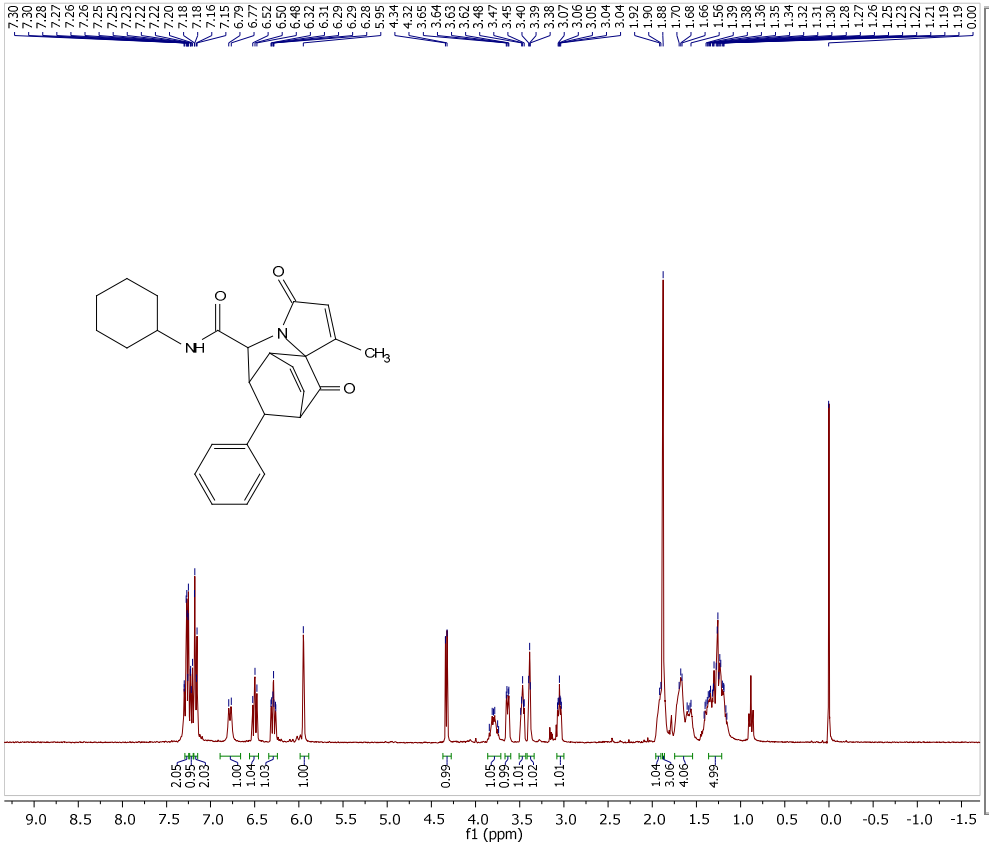
2	Title	EVDE_TN001_R59B. 11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-09T21:29:00
21	Modification Date	2018-11-09T21:29:22
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.9
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2g**



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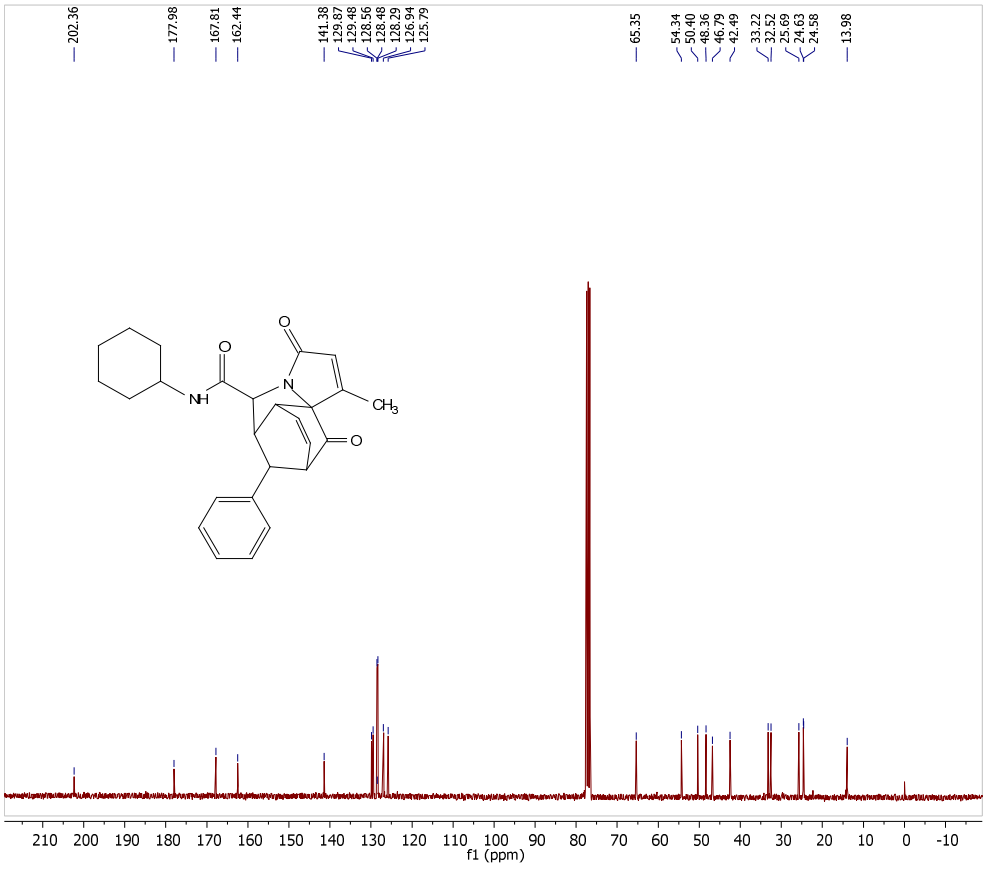
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-15T12:45:00
21	Modification Date	2018-11-15T12:45:32
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.1
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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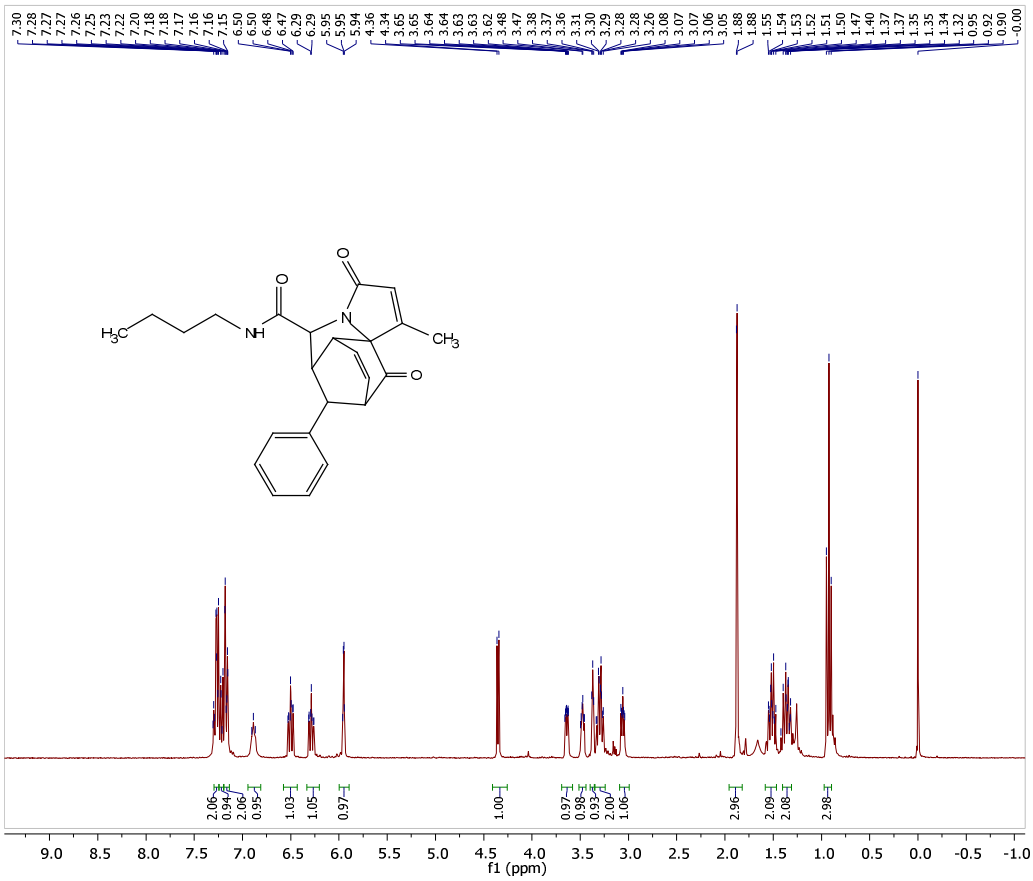
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2500
15	Receiver Gain	13004.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-15T00:27:00
21	Modification Date	2018-11-15T00:27:36
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2h**



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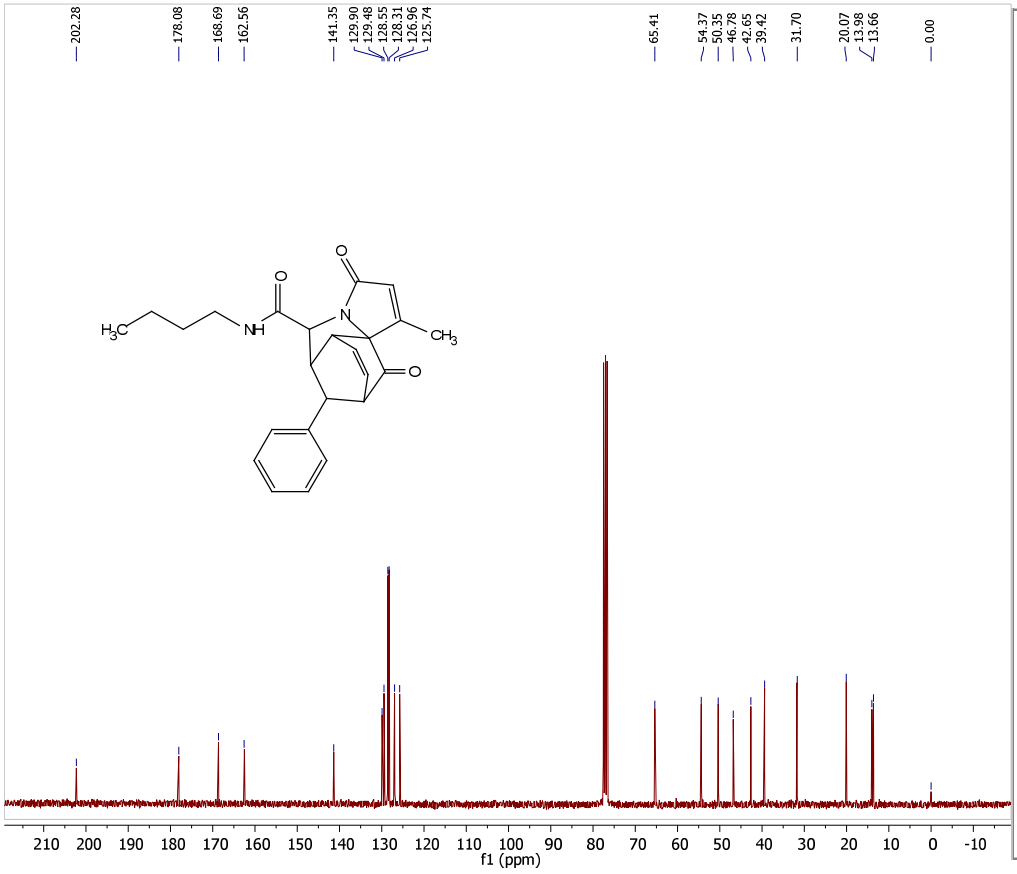
2	Title	EVDE_TN_001R68 H. 10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-15T12:39:00
21	Modification Date	2018-11-15T12:39:22
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.4
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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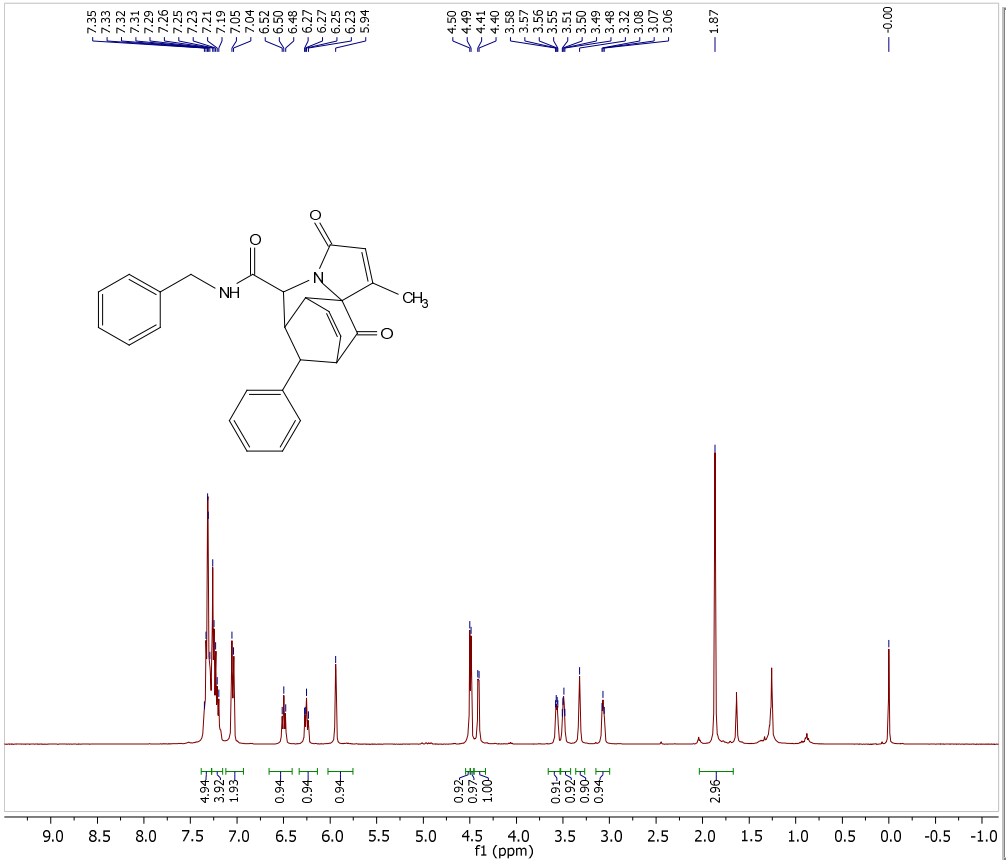
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2500
15	Receiver Gain	14596.5
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-14T21:49:00
21	Modification Date	2018-11-14T21:49:50
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1432.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2i**



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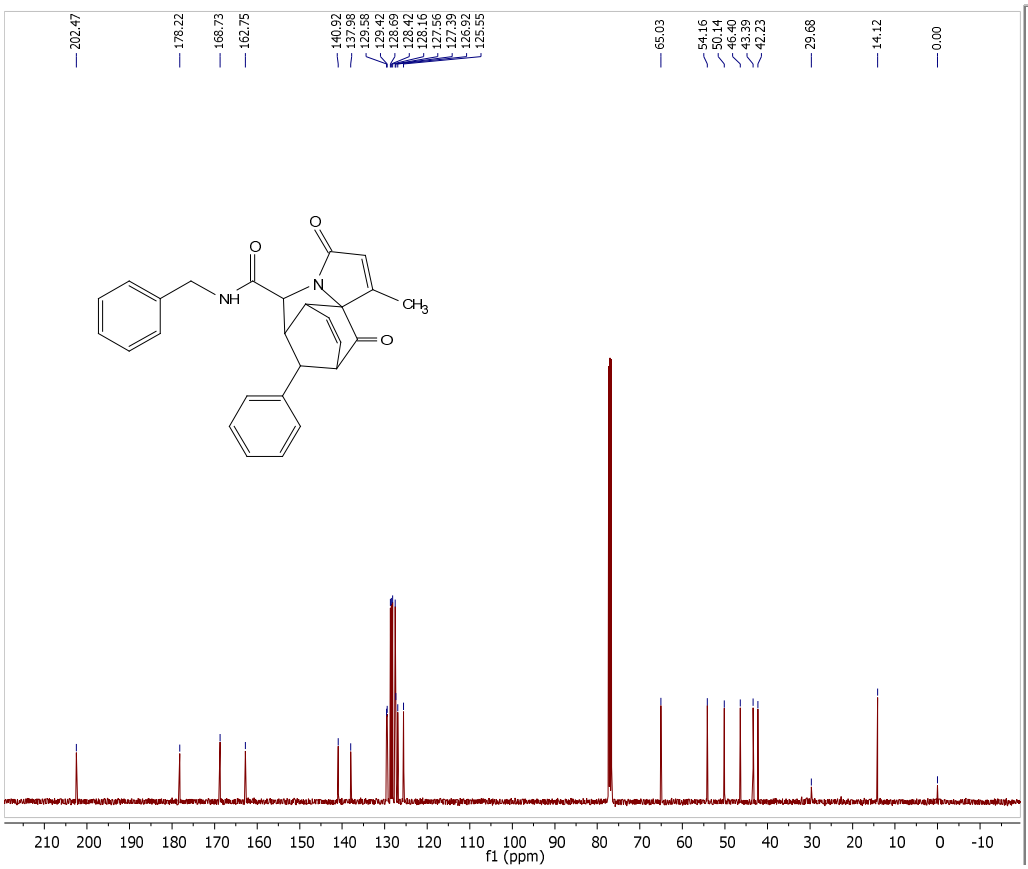
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	48.4
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2019-01-09T13:06:00
21	Modification Date	2019-01-09T13:06:23
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2538.9
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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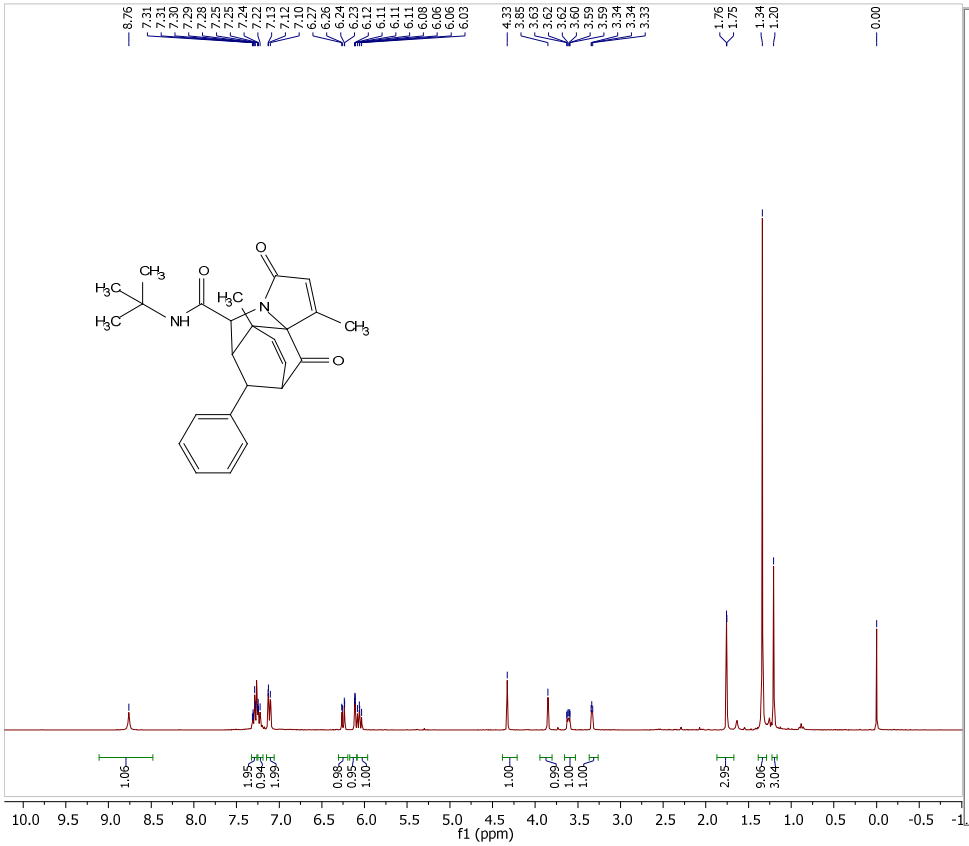
2	Title	EVDE-TN-001R84.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2019-01-11T04:55:00
21	Modification Date	2019-01-11T04:55:59
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1959.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2j**



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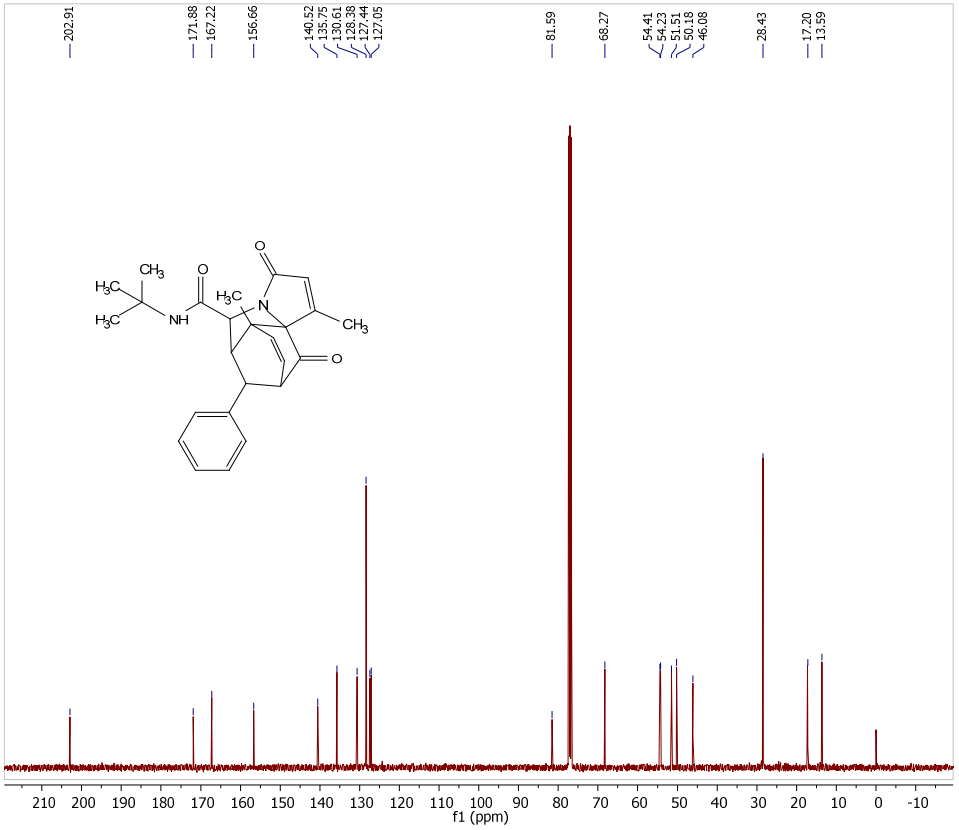
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	322.5
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-25T11:28:00
21	Modification Date	2018-10-25T11:28:58
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.2
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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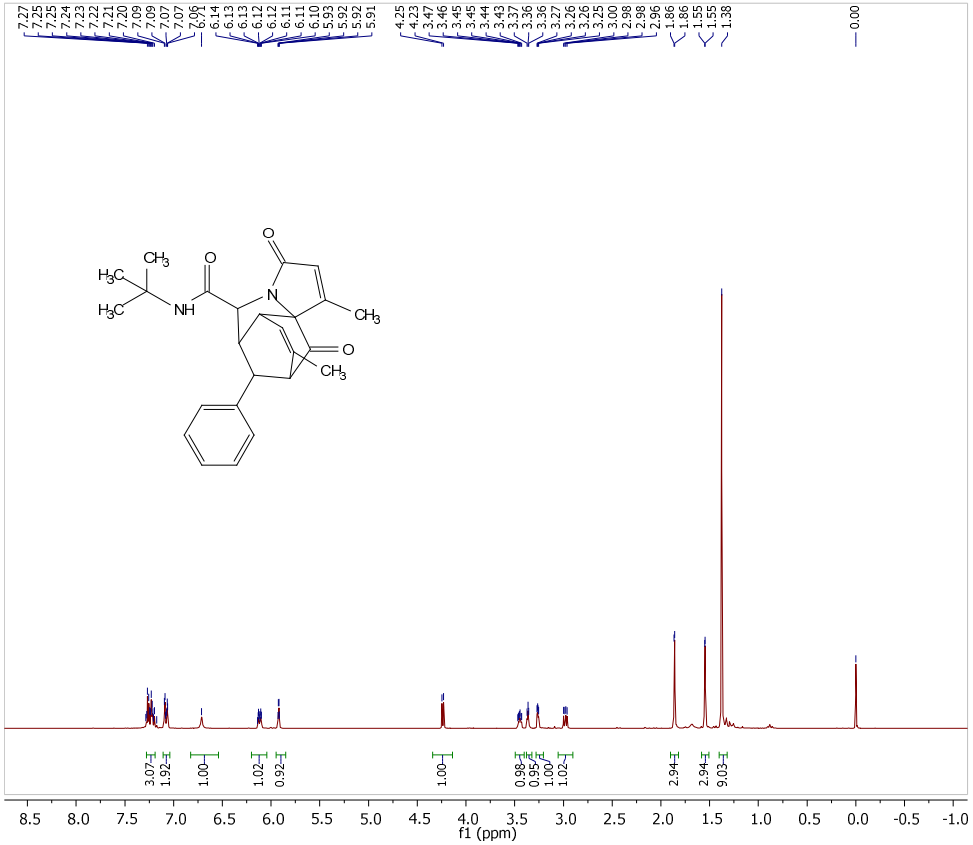
2	Title	EVDE-TN001-R46.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	297.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-28T23:49:00
21	Modification Date	2018-10-28T23:49:36
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1958.6
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2k**



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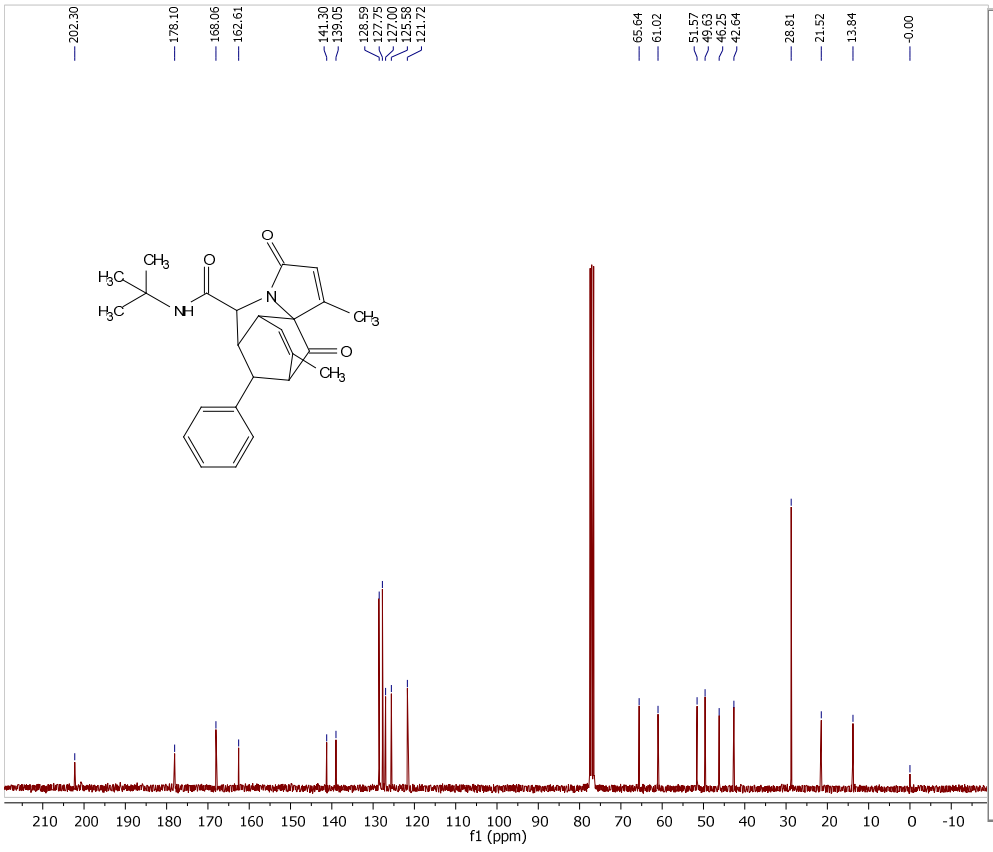
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	181.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-28T20:33:00
21	Modification Date	2018-10-28T20:33:24
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1244.7
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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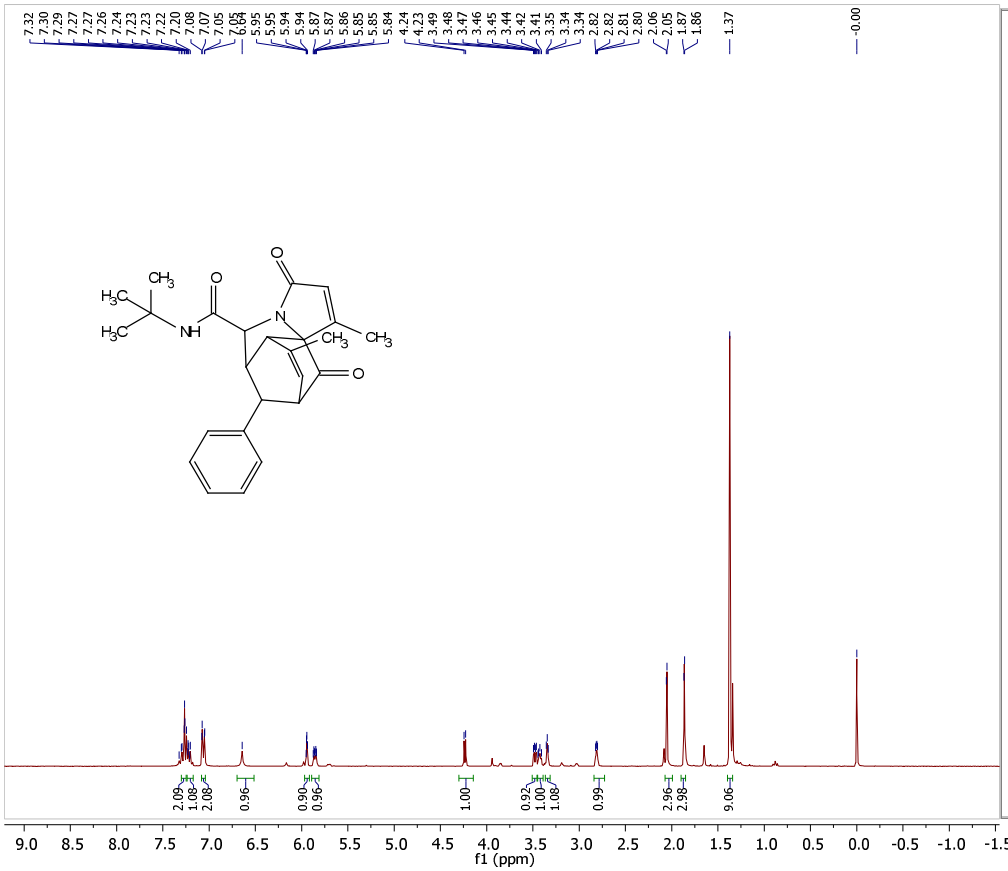
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2000
15	Receiver Gain	11585.2
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-10-28T22:35:00
21	Modification Date	2018-10-28T22:35:52
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1434.0
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2l**



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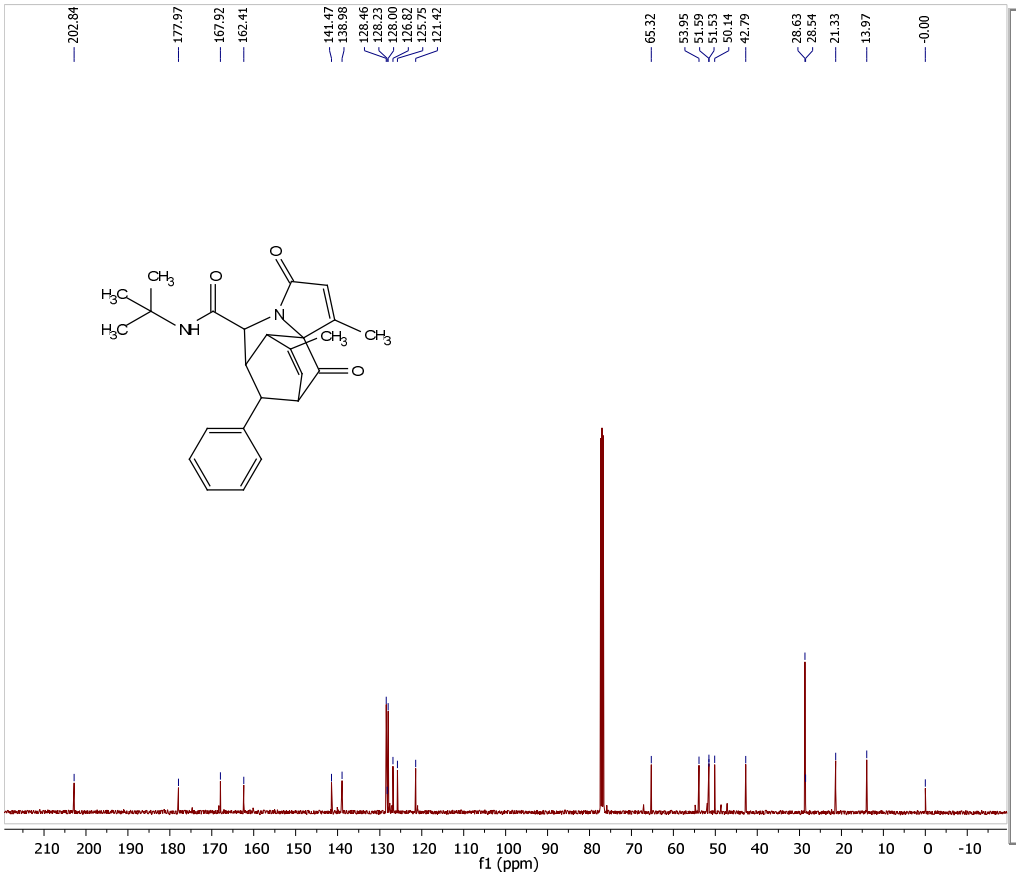
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-25T11:35:00
21	Modification Date	2018-10-25T11:35:16
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.4
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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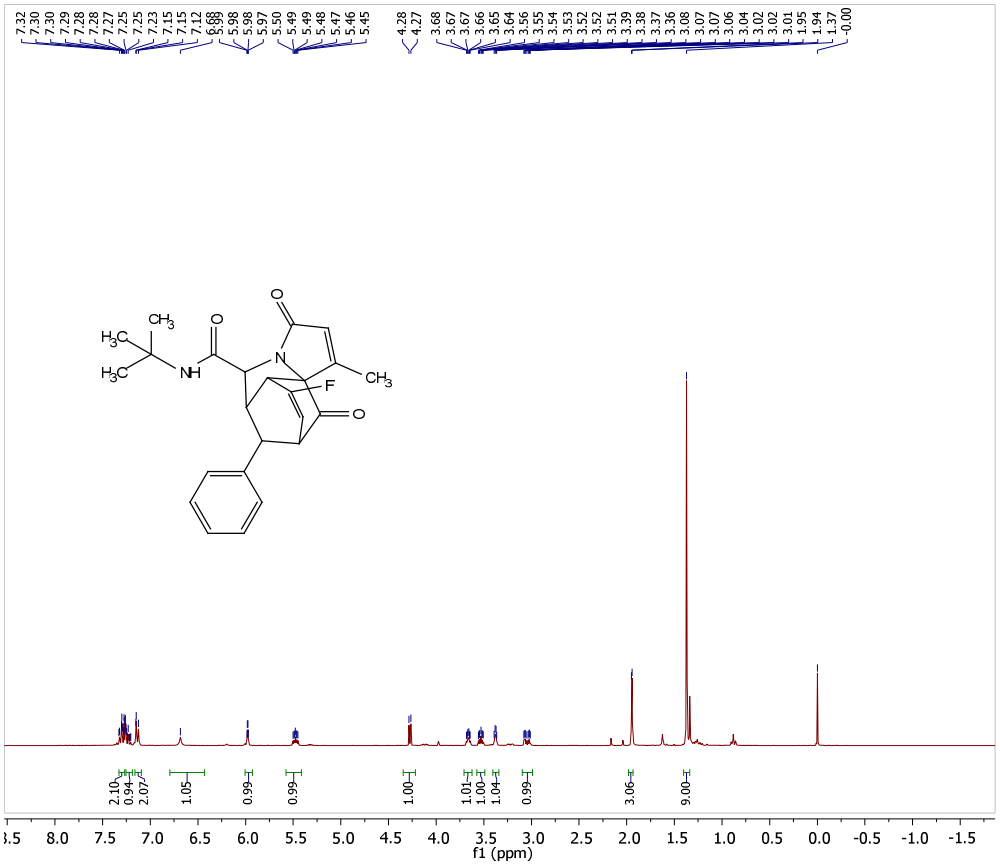
2	Title	EVDE-TN-001-R47.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	297.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-28T02:22:00
21	Modification Date	2018-10-28T02:22:30
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1958.7
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2m**



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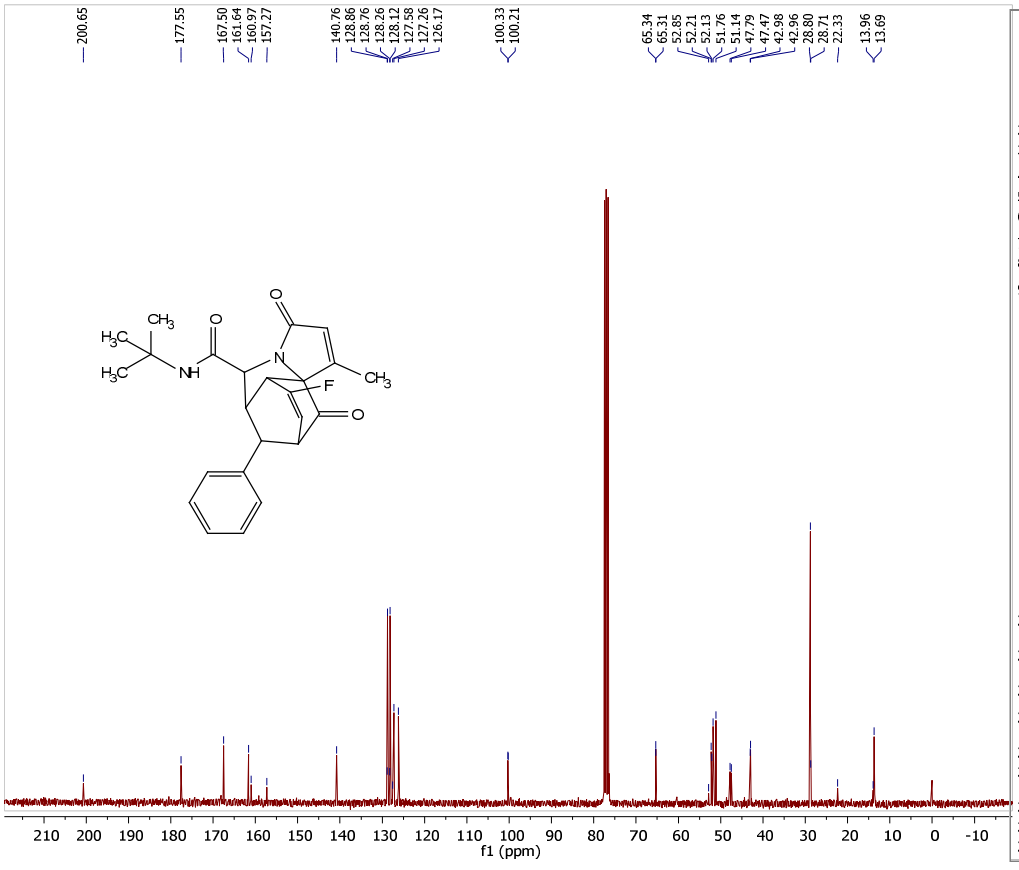
2	Title	EVDE_TN_001R51.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	322.5
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-31T02:45:00
21	Modification Date	2018-10-31T02:46:04
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1246.3
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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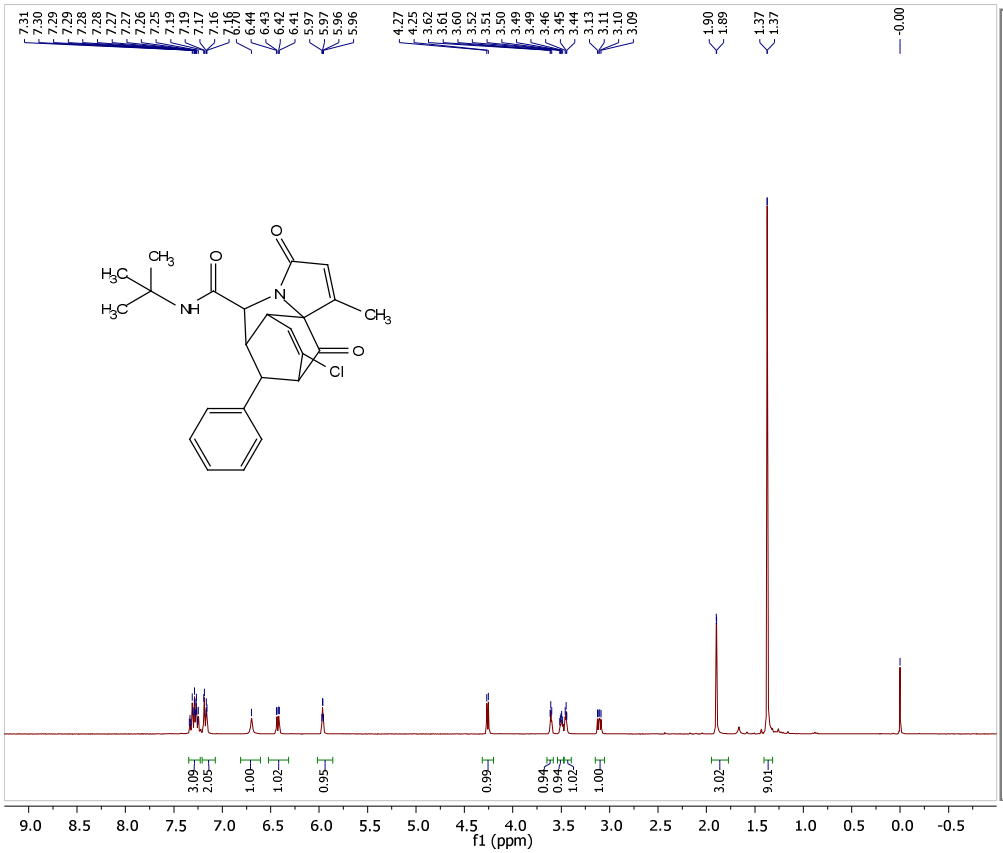
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2500
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-10-31T05:18:00
21	Modification Date	2018-10-31T05:18:42
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1432.9
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2n**



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3	Comment	
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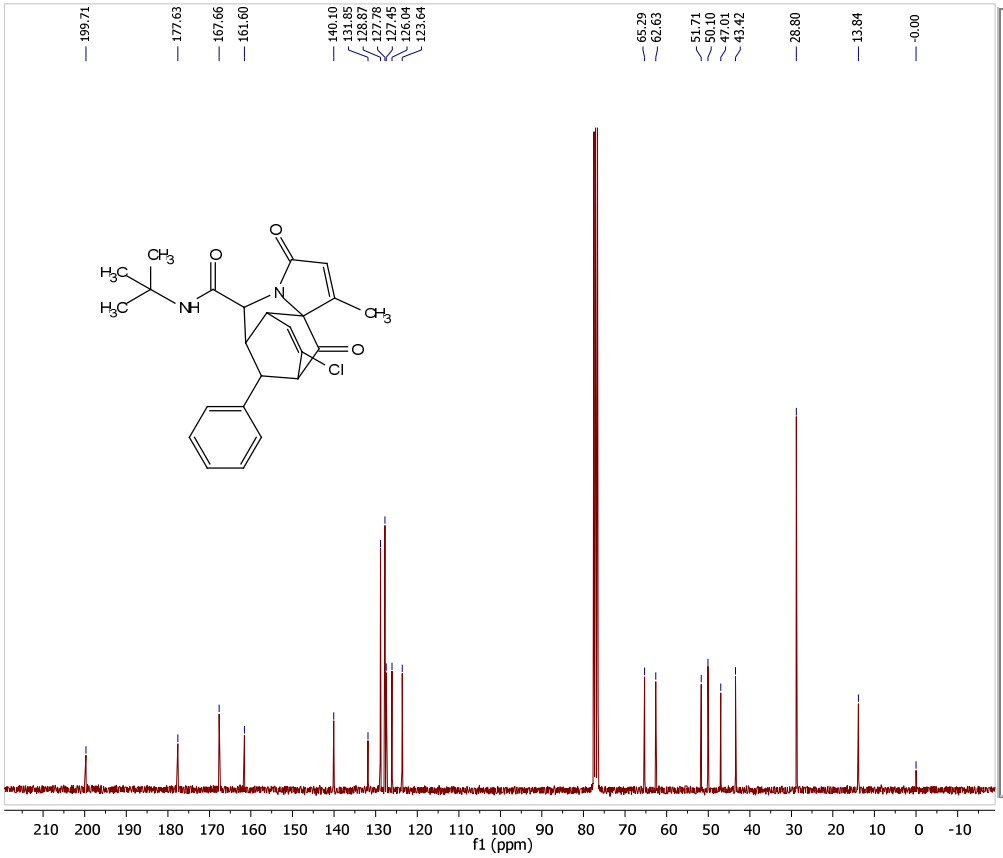
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-31T00:07:00
21	Modification Date	2018-10-31T00:07:10
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.1
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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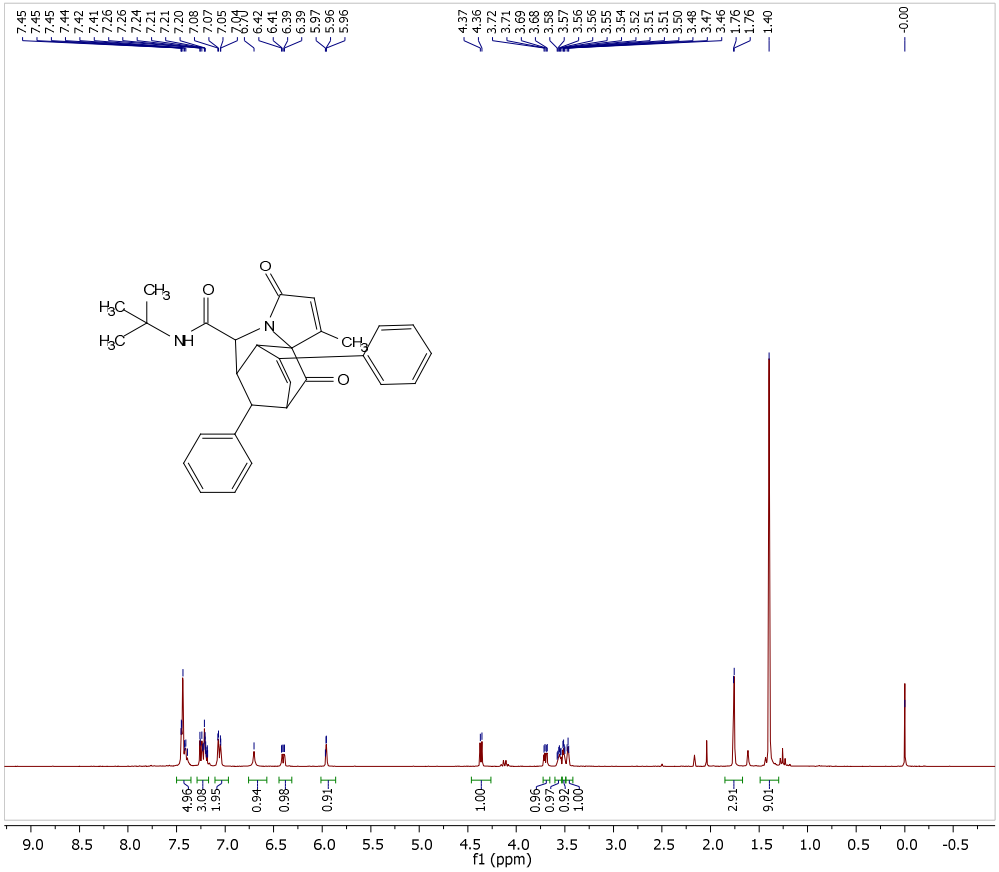
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2500
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-10-31T02:39:00
21	Modification Date	2018-10-31T02:39:48
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.8
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2o**



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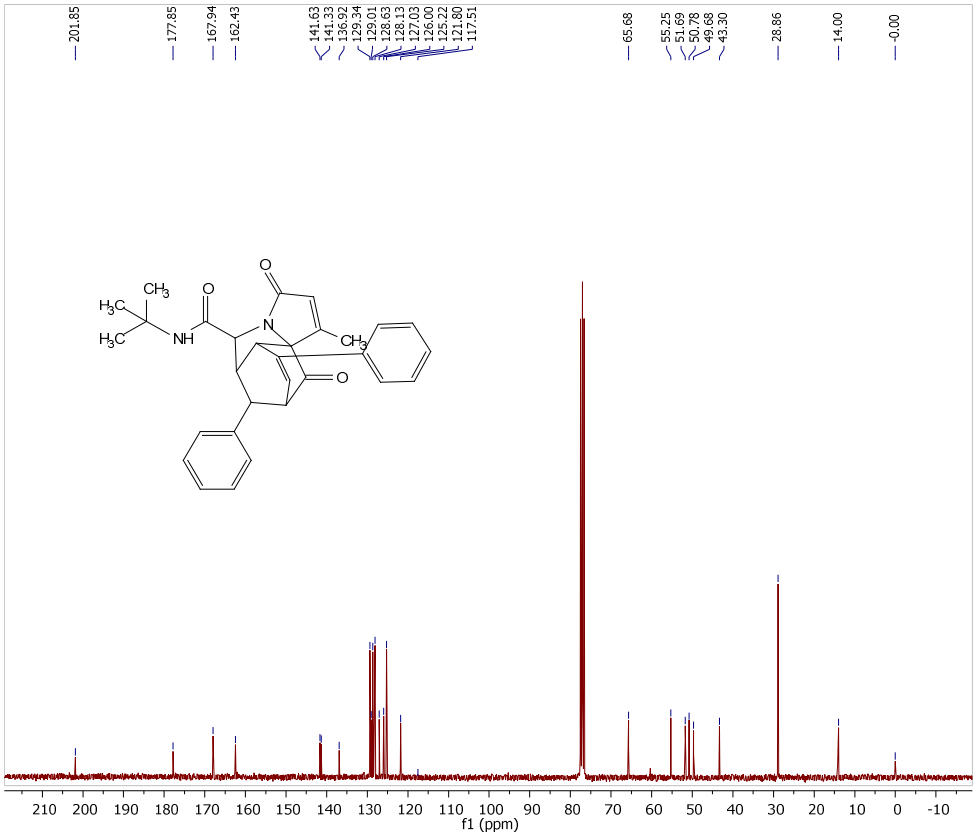
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	322.5
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-31T05:24:00
21	Modification Date	2018-10-31T05:24:50
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1247.3
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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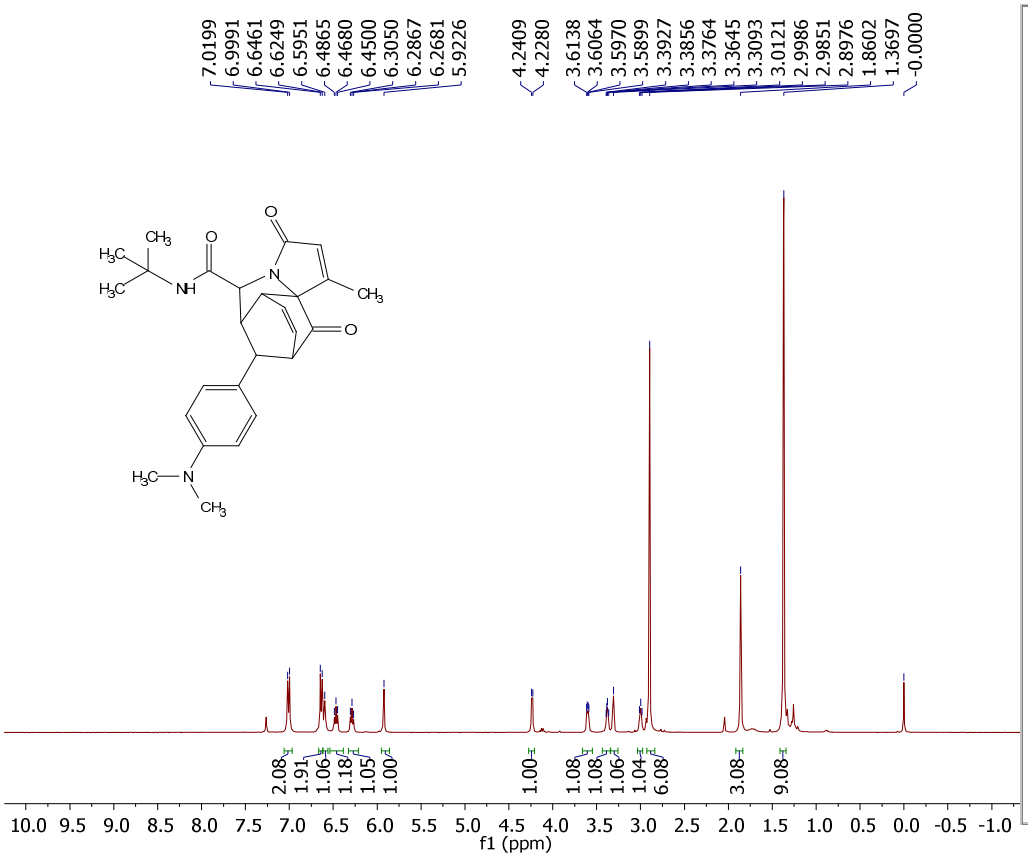
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2500
15	Receiver Gain	14596.5
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-10-31T21:47:00
21	Modification Date	2018-10-31T21:47:38
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.0
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2p**



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1	Data File Name	C:/ Users/ moke/ Desktop/ EVDE-TN001-R80B/ 10/ fid
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3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-12-05T10:45:00
21	Modification Date	2018-12-05T10:45:50
22	Class	
23	Spectrometer Frequency	400.17
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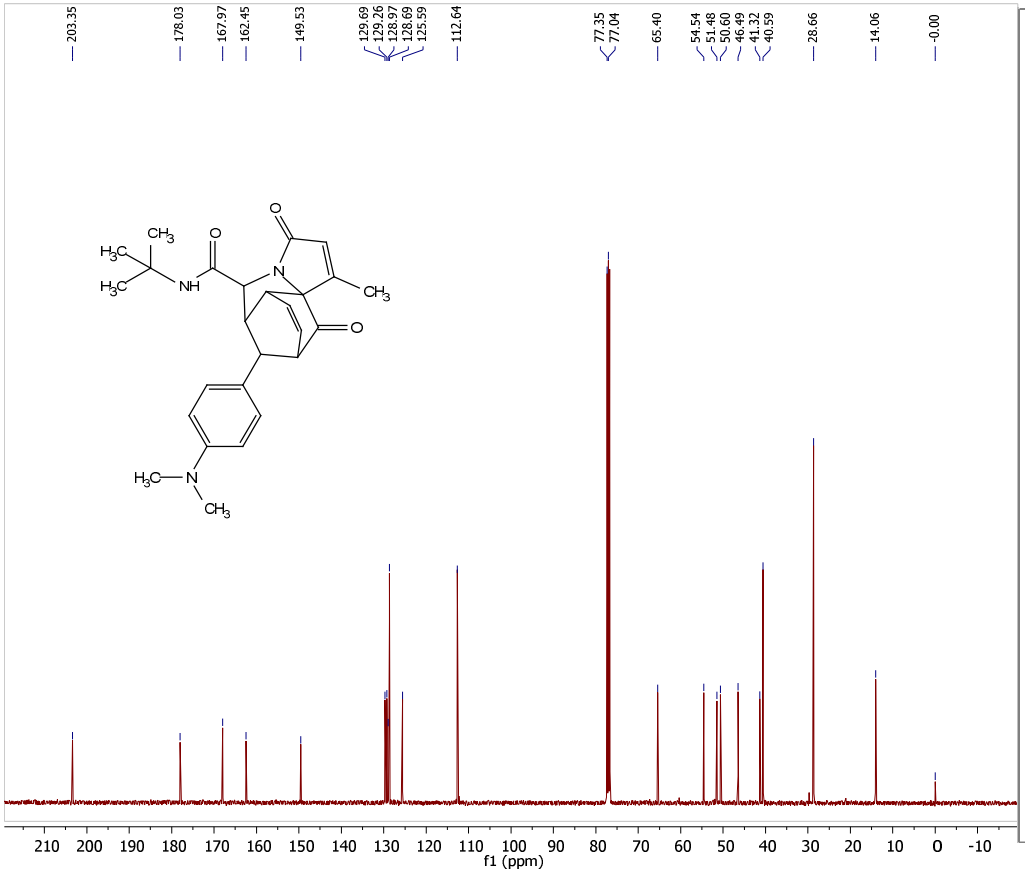
25	Lowest Frequency	-2536.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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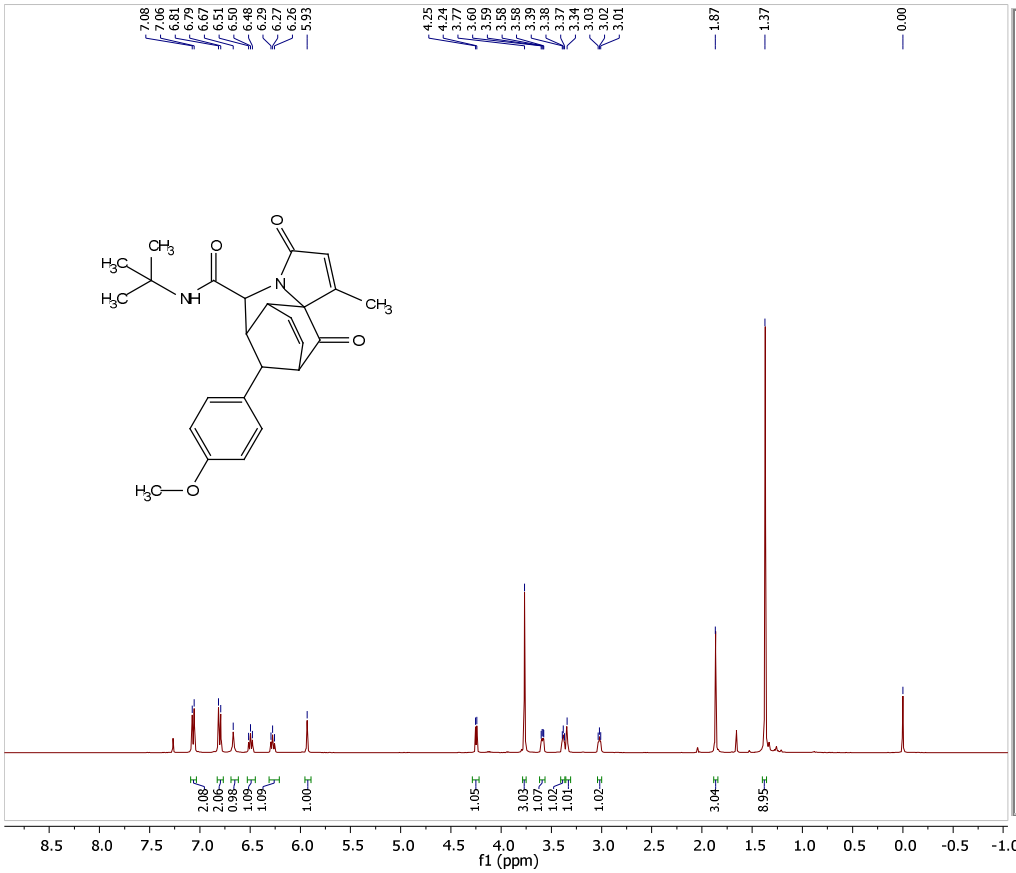
2	Title	EVDE-TN001-R80B.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	2048
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-12-07T00:03:00
21	Modification Date	2018-12-07T00:03:06
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1958.7
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2q**



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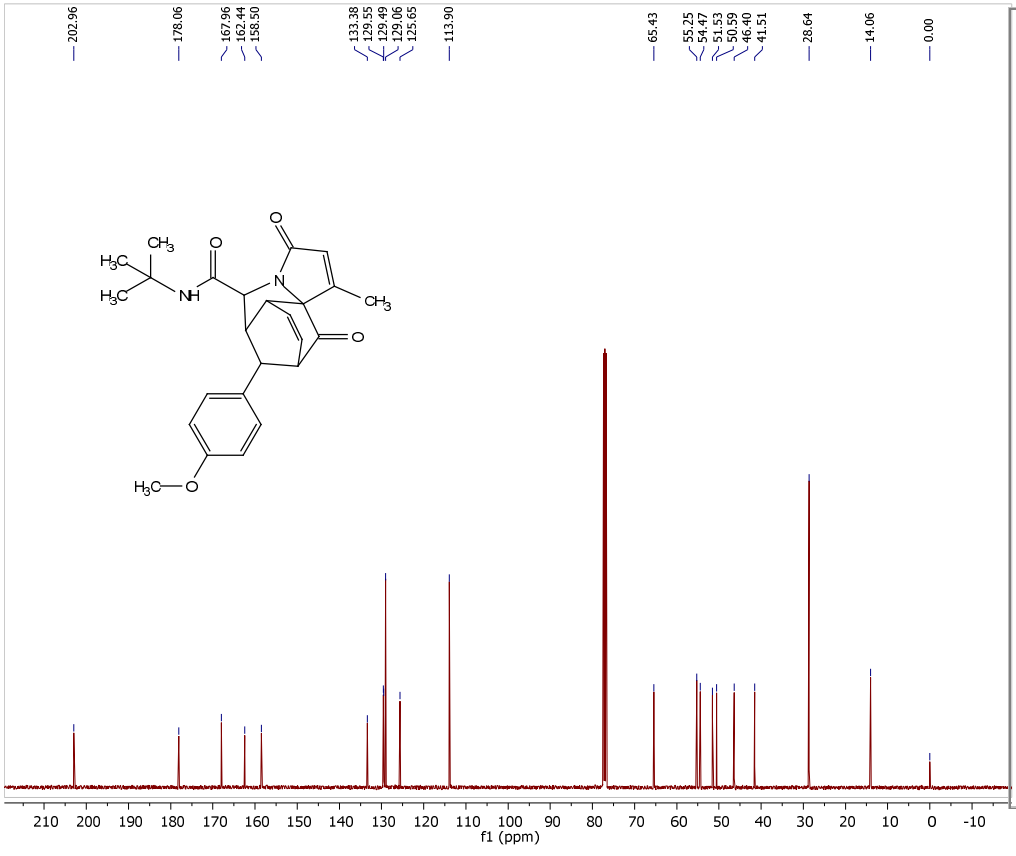
2	Title	EVDE-TN-001R79.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	48.4
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-11-28T13:09:00
21	Modification Date	2018-11-28T13:09:58
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2536.1
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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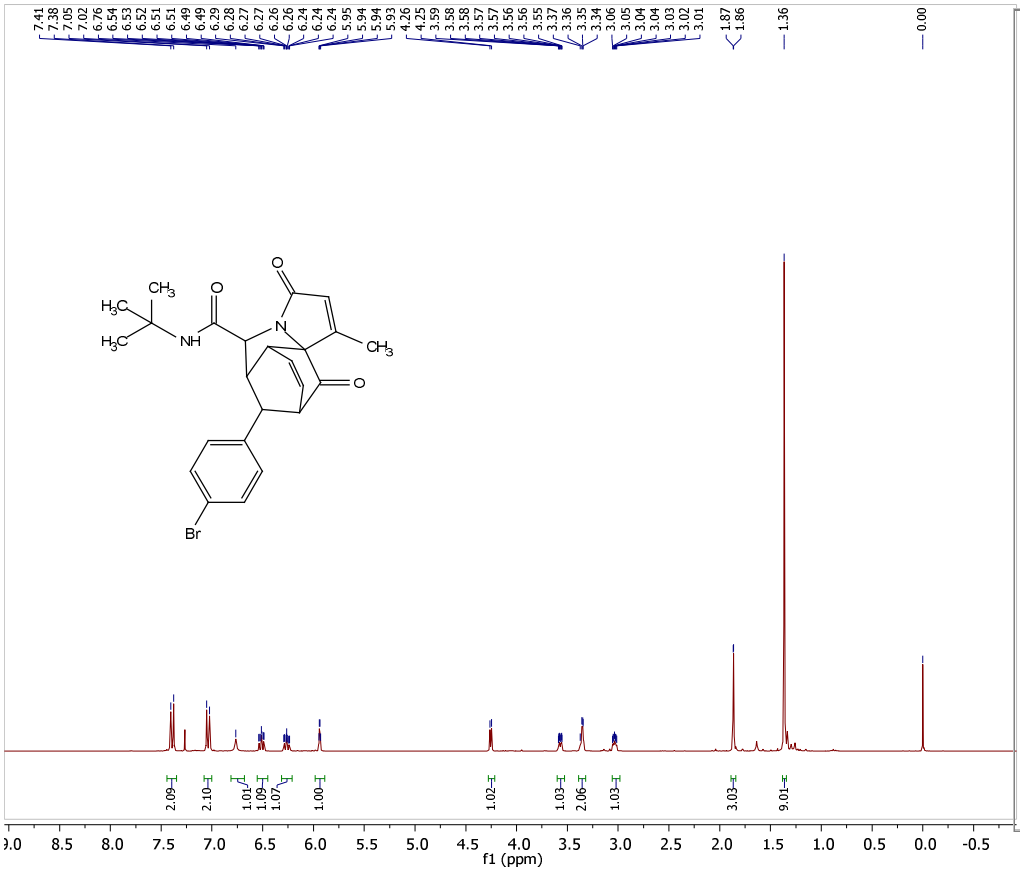
2	Title	EVDE-TN-001R79.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1800
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-12-01T04:27:00
21	Modification Date	2018-12-01T04:27:18
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1958.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2r**



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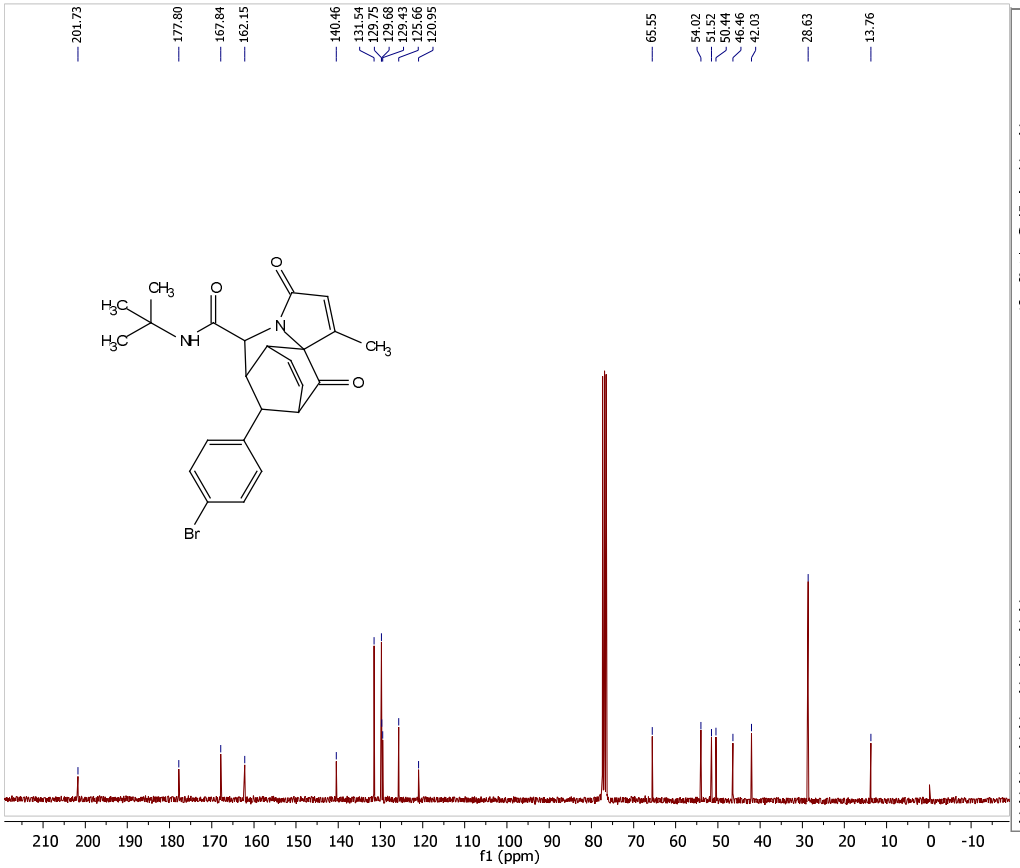
2	Title	EVDE_TN_001TN66B. 10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	322.5
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-08T02:23:00
21	Modification Date	2018-11-08T02:23:46
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.3
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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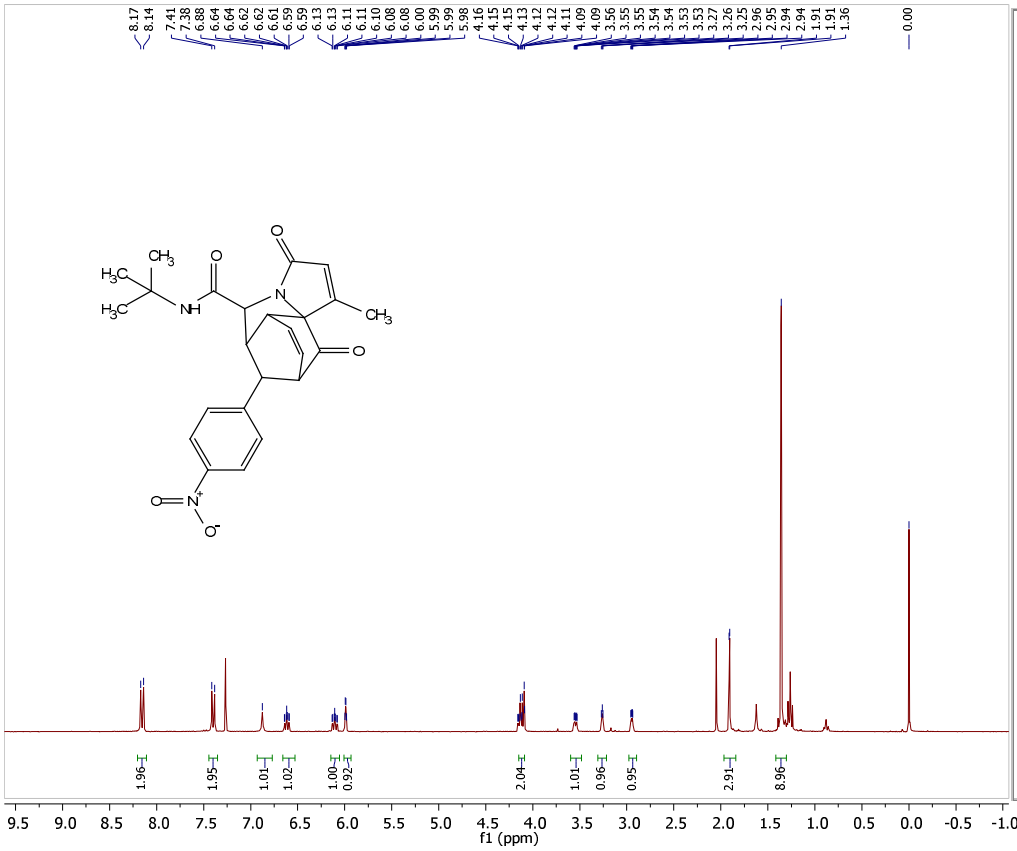
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2000
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-08T04:26:00
21	Modification Date	2018-11-08T04:26:10
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1446.5
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2s**



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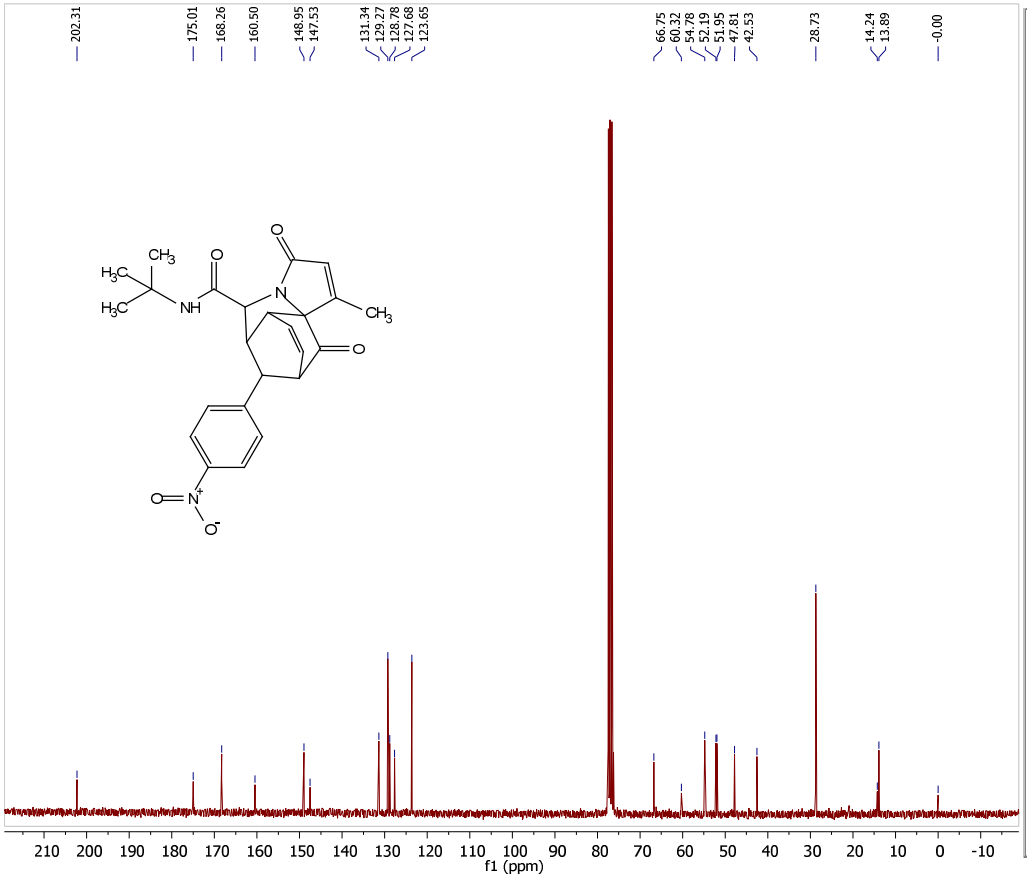
2	Title	EVDE-TN001R73A.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	456.1
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-16T17:23:00
21	Modification Date	2018-11-16T17:23:10
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.4
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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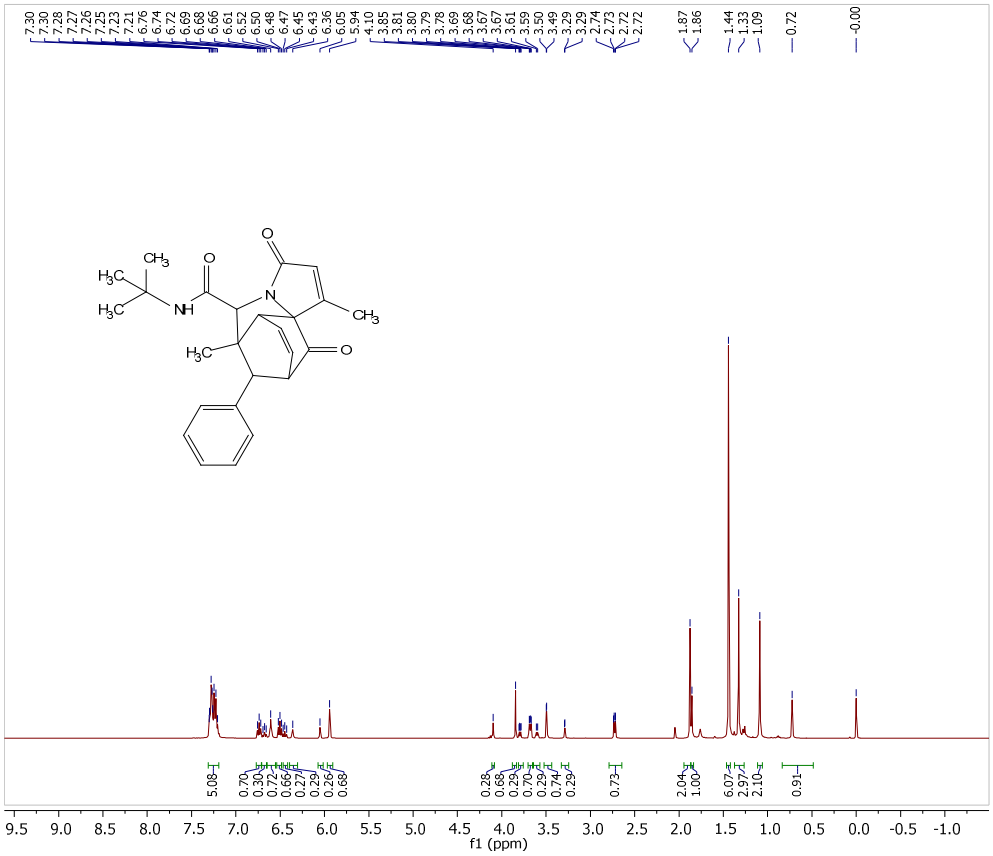
2	Title	EVDE-TN001R73A.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	3000
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-18T18:20:00
21	Modification Date	2018-11-18T18:20:36
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1433.1
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **2t**



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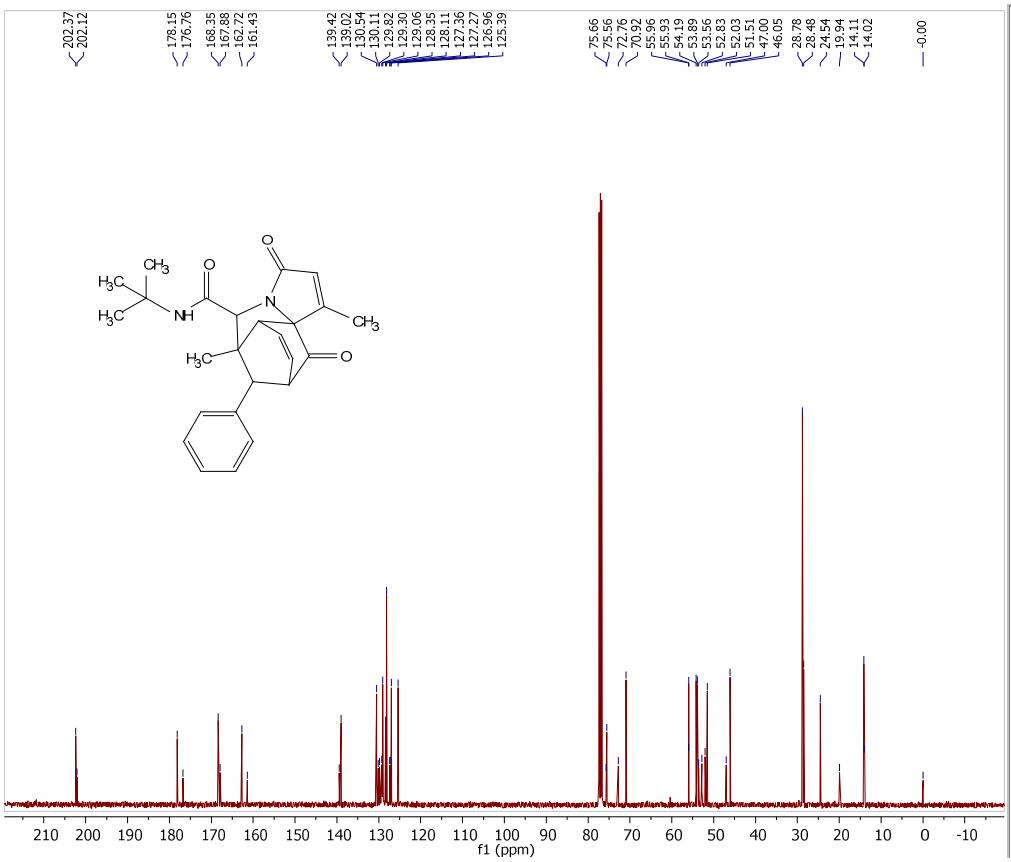
2	Title	EVDE-TN001R44.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	295.2
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	38.6
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-24T13:22:00
21	Modification Date	2018-10-24T13:22:32
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2534.5
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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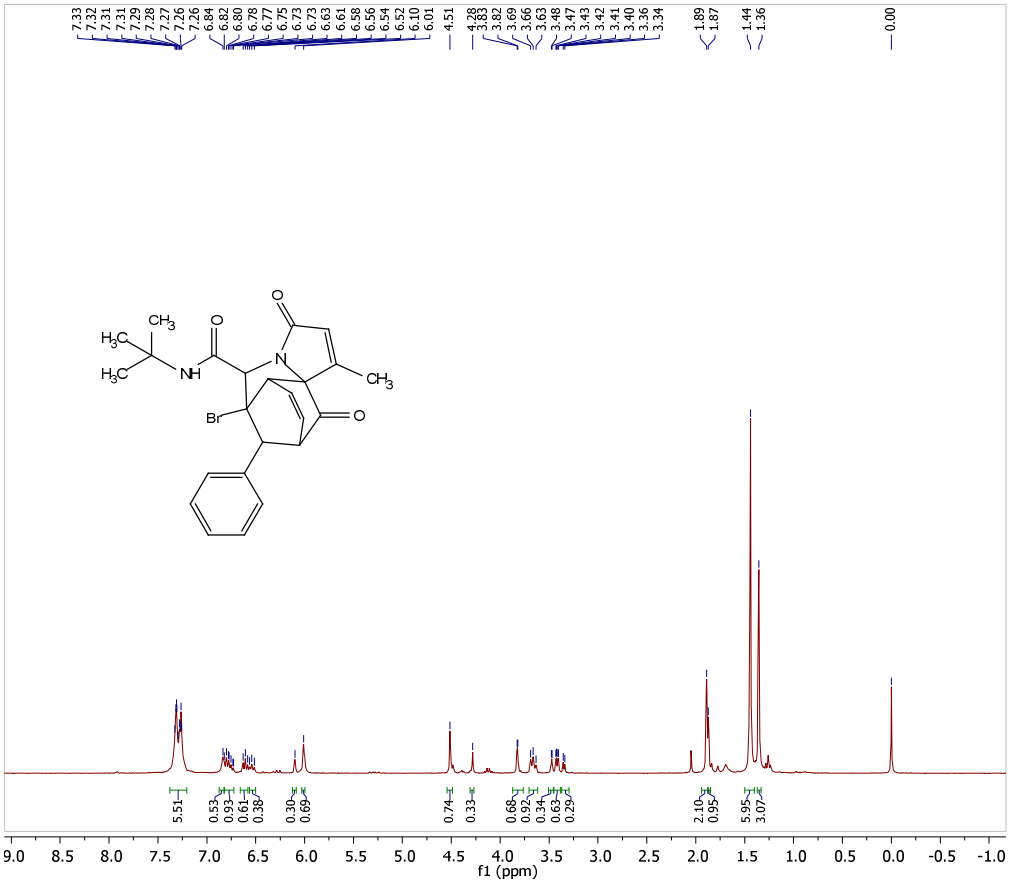
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	295.7
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-25T05:17:00
21	Modification Date	2018-10-25T05:17:24
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1959.3
26	Nucleus	13C
27	Acquired Size	32768

^{1}H and ^{13}C NMR spectra of compound **2u**



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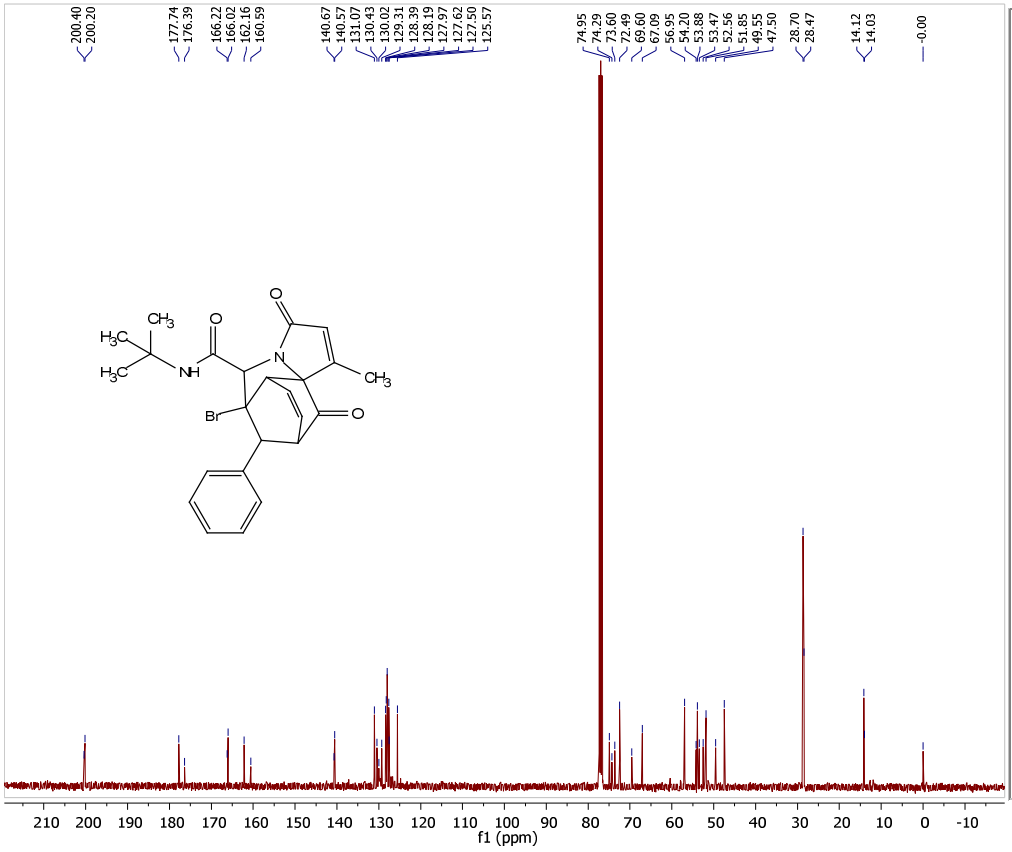
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	228.1
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-25T11:22:00
21	Modification Date	2018-10-25T11:22:18
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1245.2
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	296.9
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
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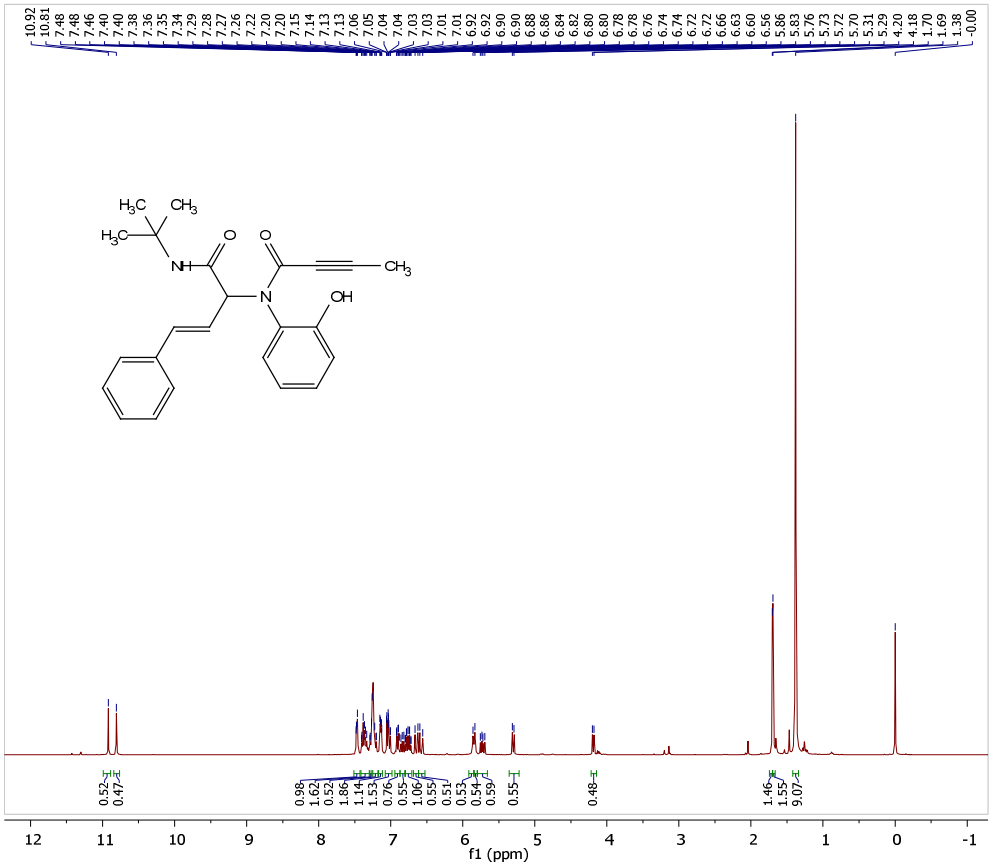
21	Modification Date	2018-10-28T22:45:50
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1959.1
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

Copies of NMR spectra (Ugi products)

^{1}H and ^{13}C NMR spectra of compound **1a**



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5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	48.4
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-09-25T11:23:00
21	Modification Date	2018-09-25T11:23:34
22	Class	
23	Spectrometer Frequency	400.17
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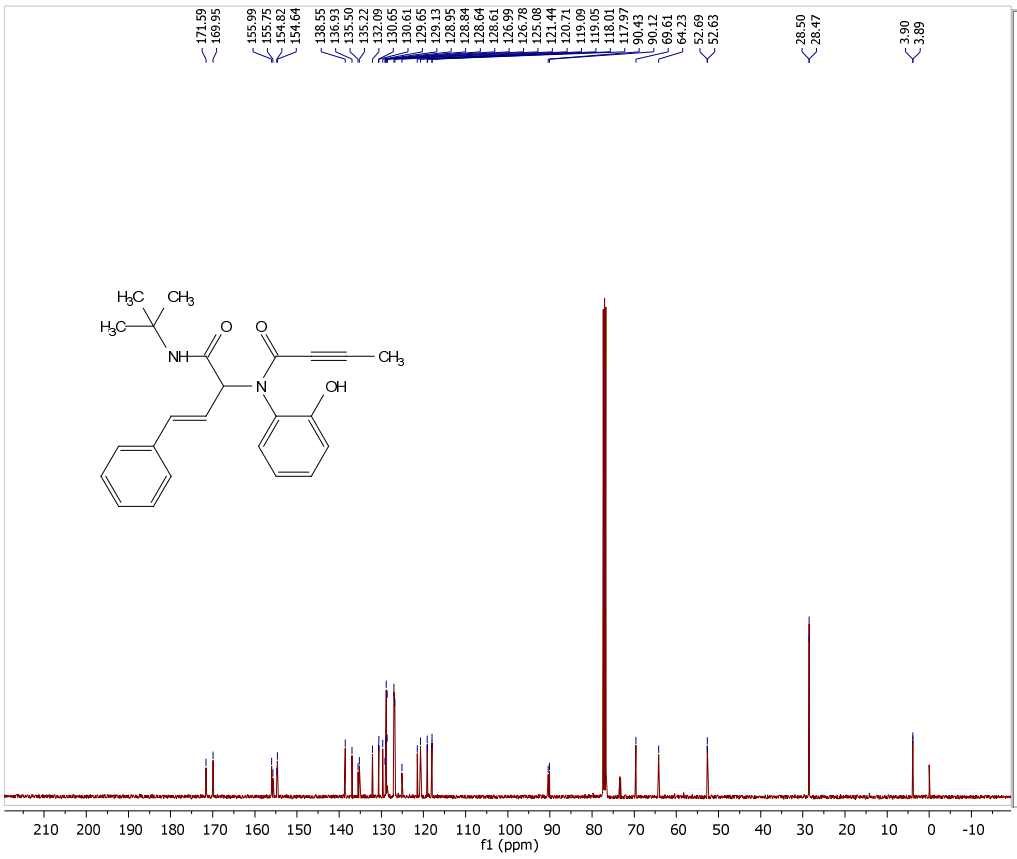
25	Lowest Frequency	-2538.5
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	2048
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
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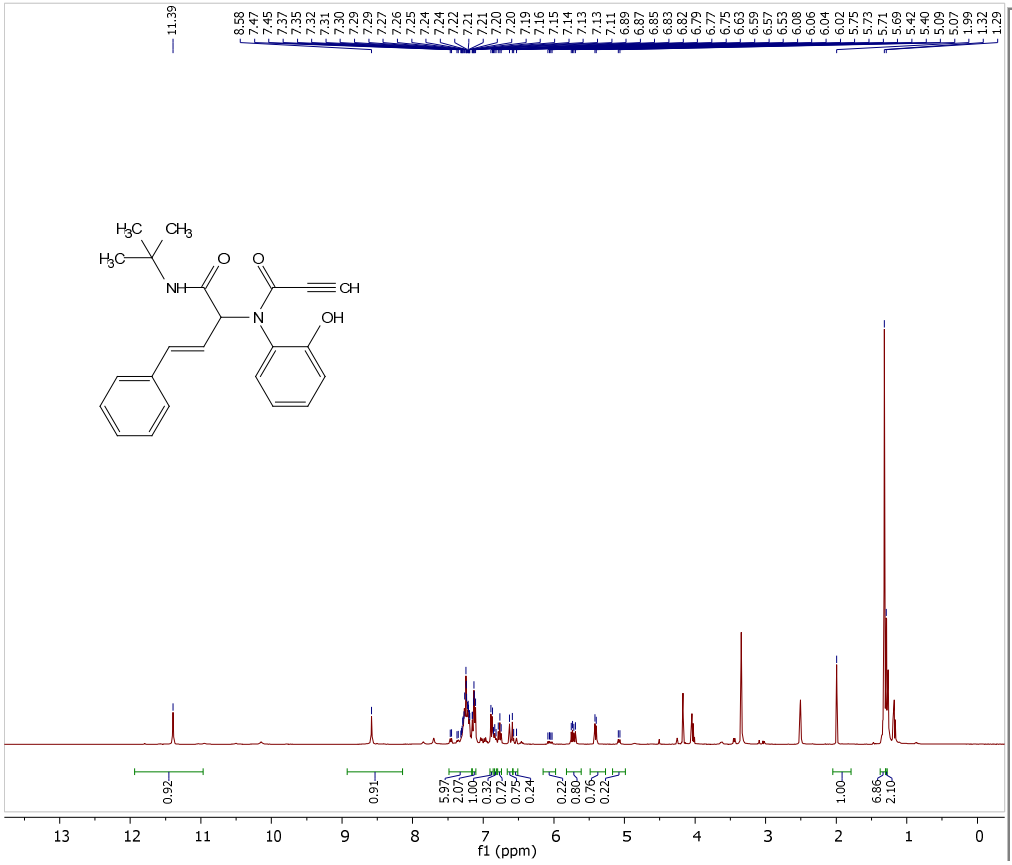
21	Modification Date	2018-09-27T02:23:00
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1958.7
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1b**



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3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-11-23T17:25:00
21	Modification Date	2018-11-23T17:25:12
22	Class	
23	Spectrometer Frequency	400.17
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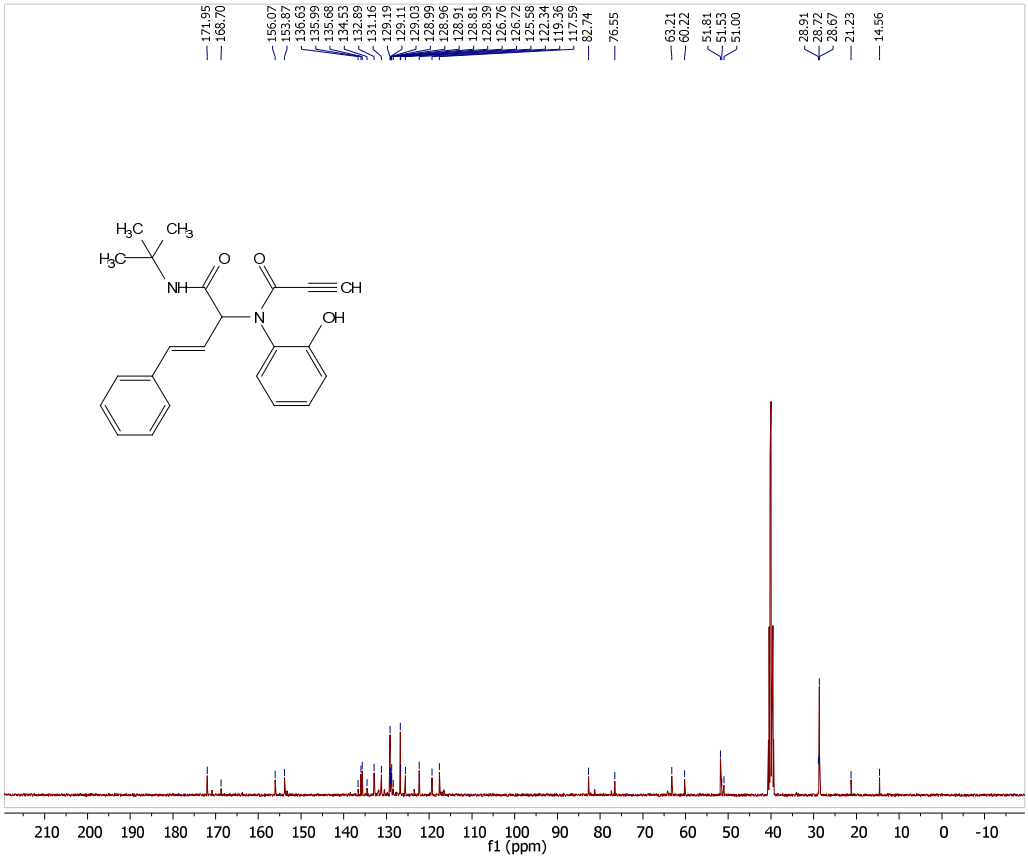
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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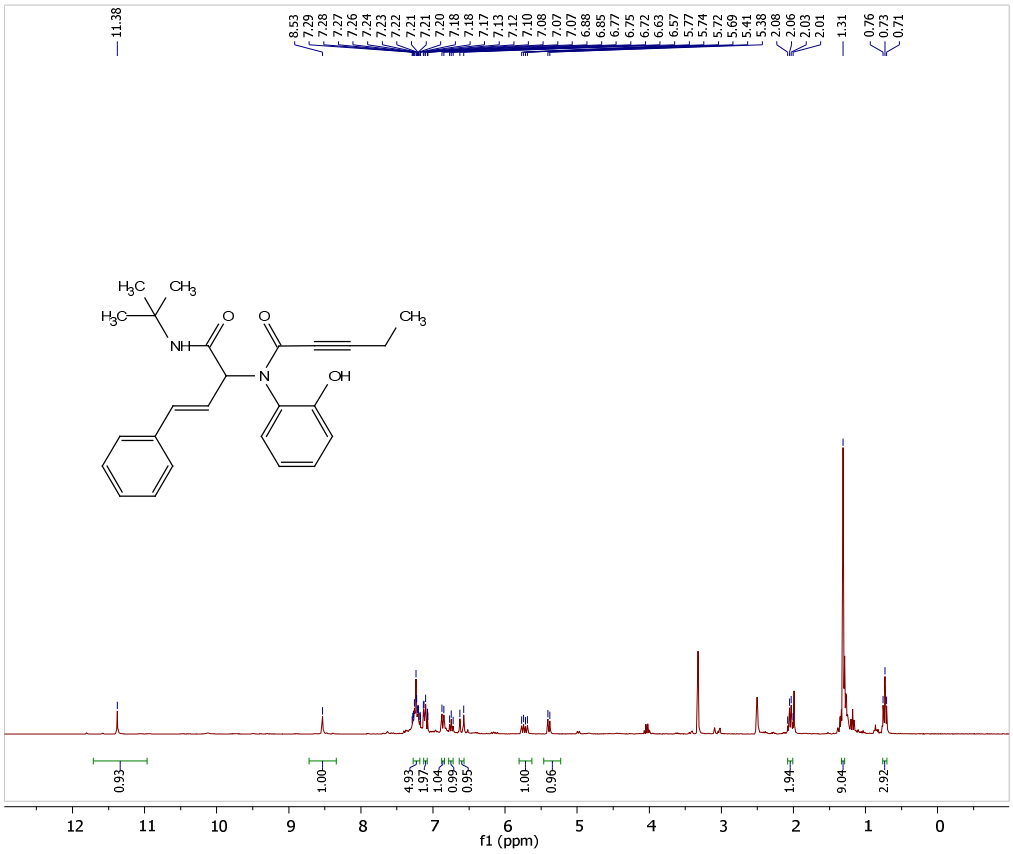
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-11-24T01:20:00
21	Modification Date	2018-11-24T01:20:36
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768

^{1}H and ^{13}C NMR spectra of compound **1c**



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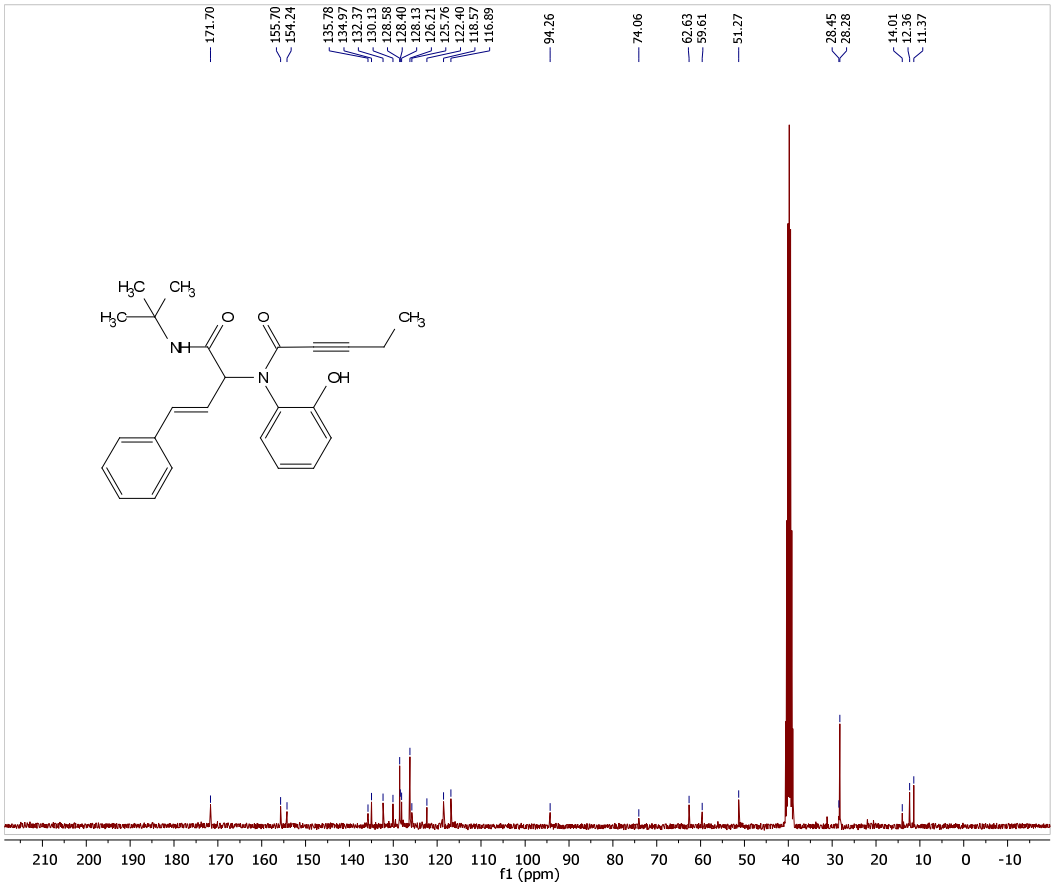
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	181.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-10-31T22:47:00
21	Modification Date	2018-10-31T22:47:16
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1240.6
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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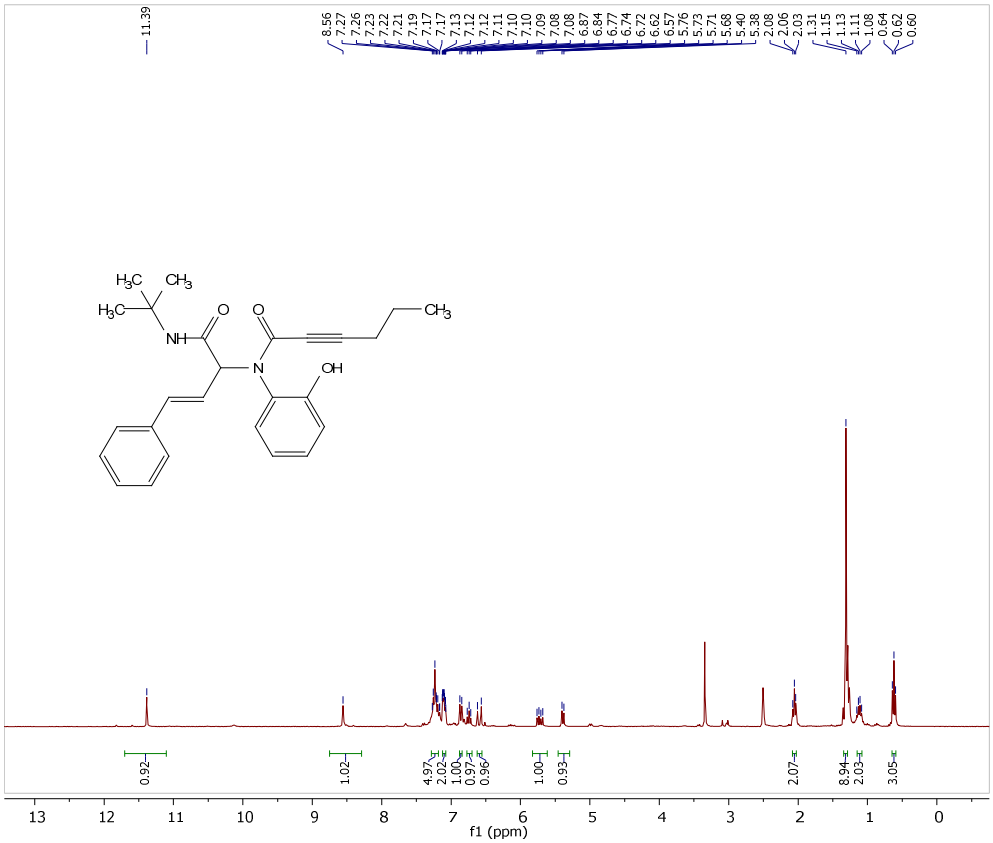
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2000
15	Receiver Gain	14596.5
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-01T00:49:00
21	Modification Date	2018-11-01T00:49:38
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1d**



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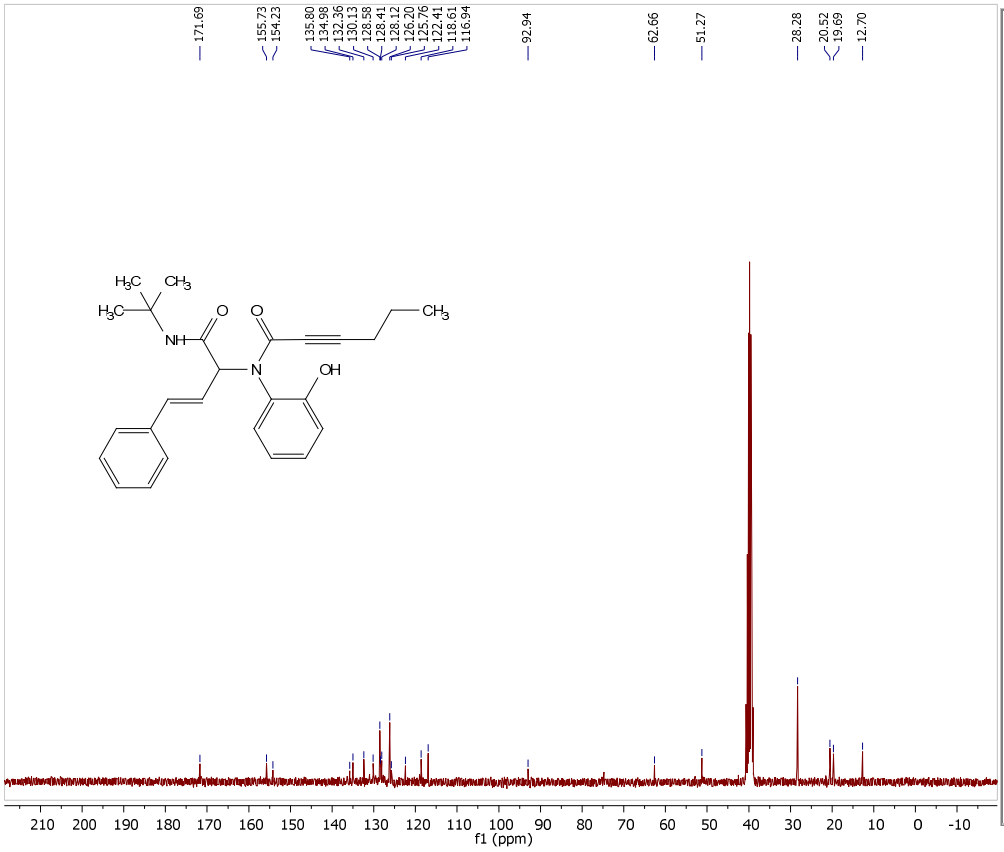
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	181.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-06T12:38:00
21	Modification Date	2018-11-06T12:38:26
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1240.6
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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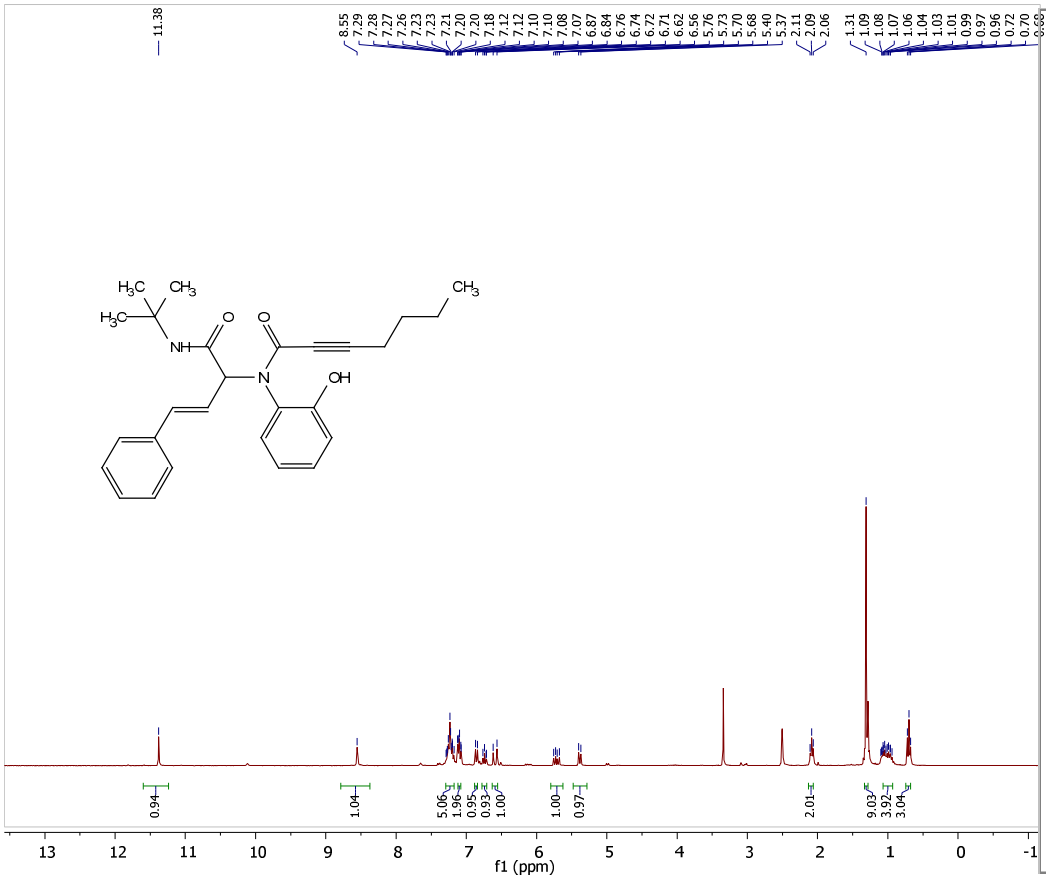
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	768
15	Receiver Gain	9195.2
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-06T20:57:00
21	Modification Date	2018-11-06T20:57:58
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1e**



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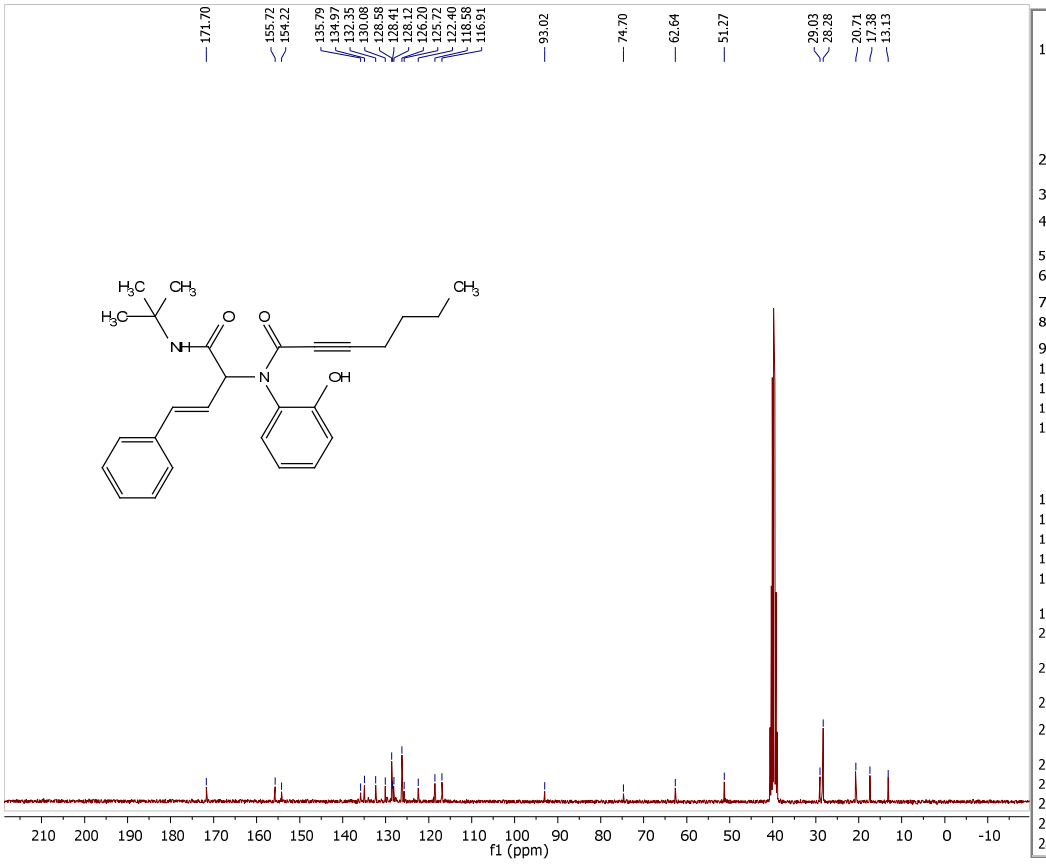
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	256.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-07T11:58:00
21	Modification Date	2018-11-07T11:58:08
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1240.6
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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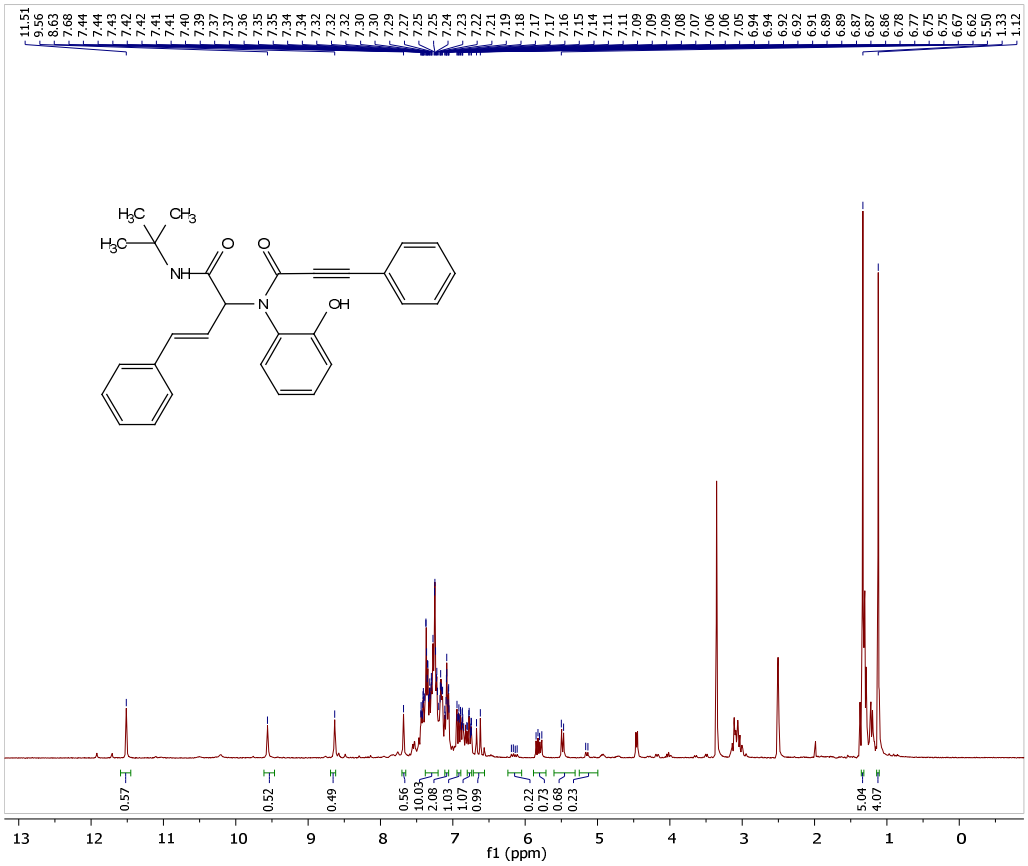
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	16384.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-09T04:25 :00
21	Modification Date	2018-11-09T04:25 :56
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1f**



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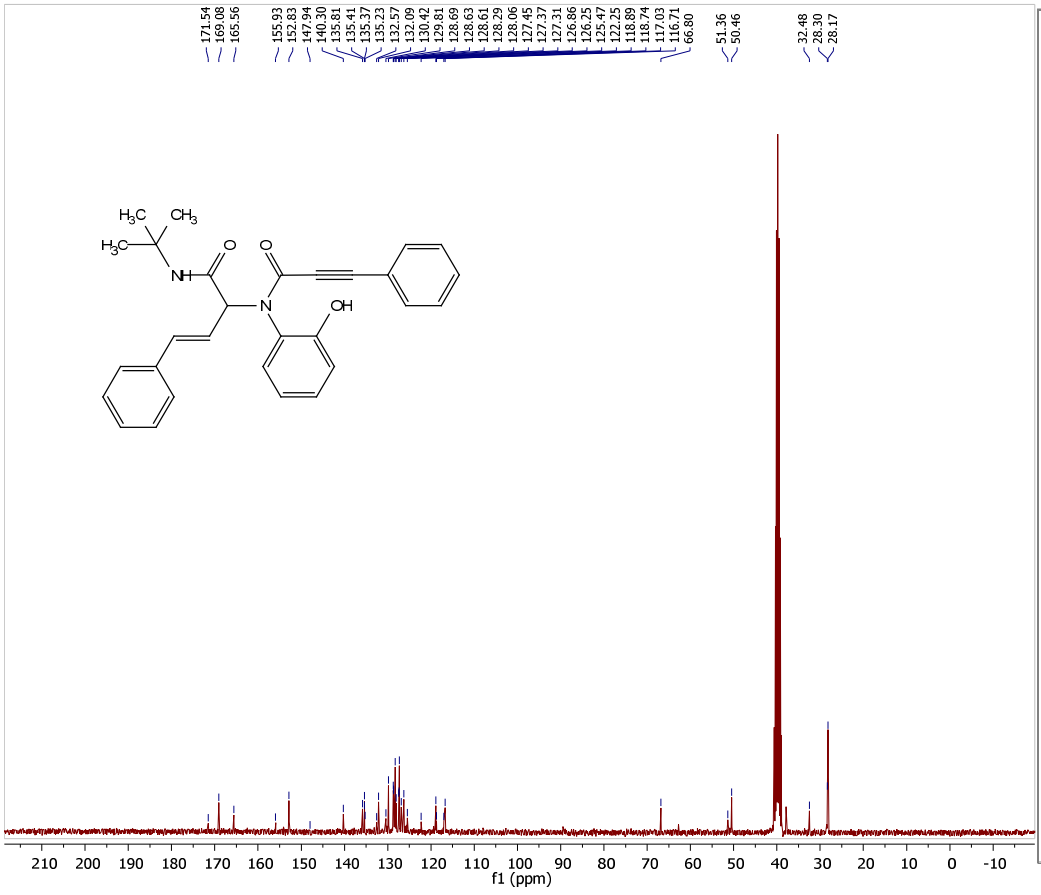
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	181.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-06T12:32:00
21	Modification Date	2018-11-06T12:32:28
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1240.6
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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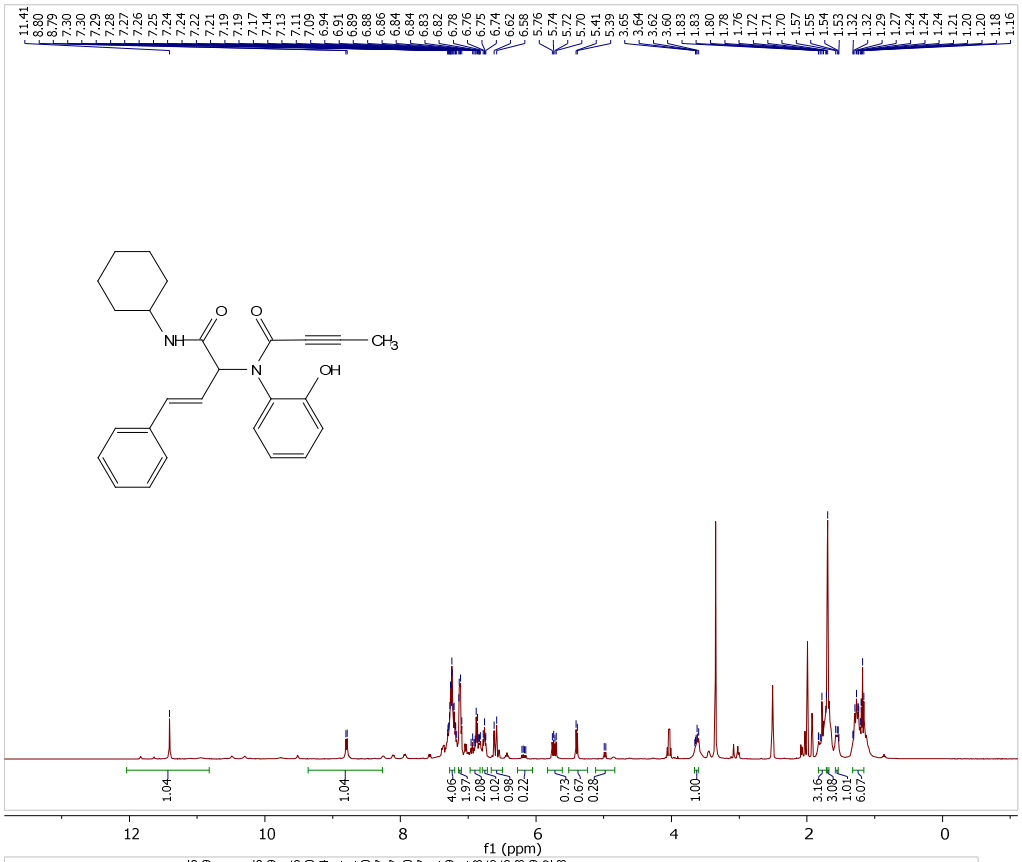
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	13004.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-09T02:06:00
21	Modification Date	2018-11-09T02:06:50
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1g**



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5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	296.2
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-11-12T08:33:00
21	Modification Date	2018-11-12T08:33:24
22	Class	
23	Spectrometer Frequency	400.17
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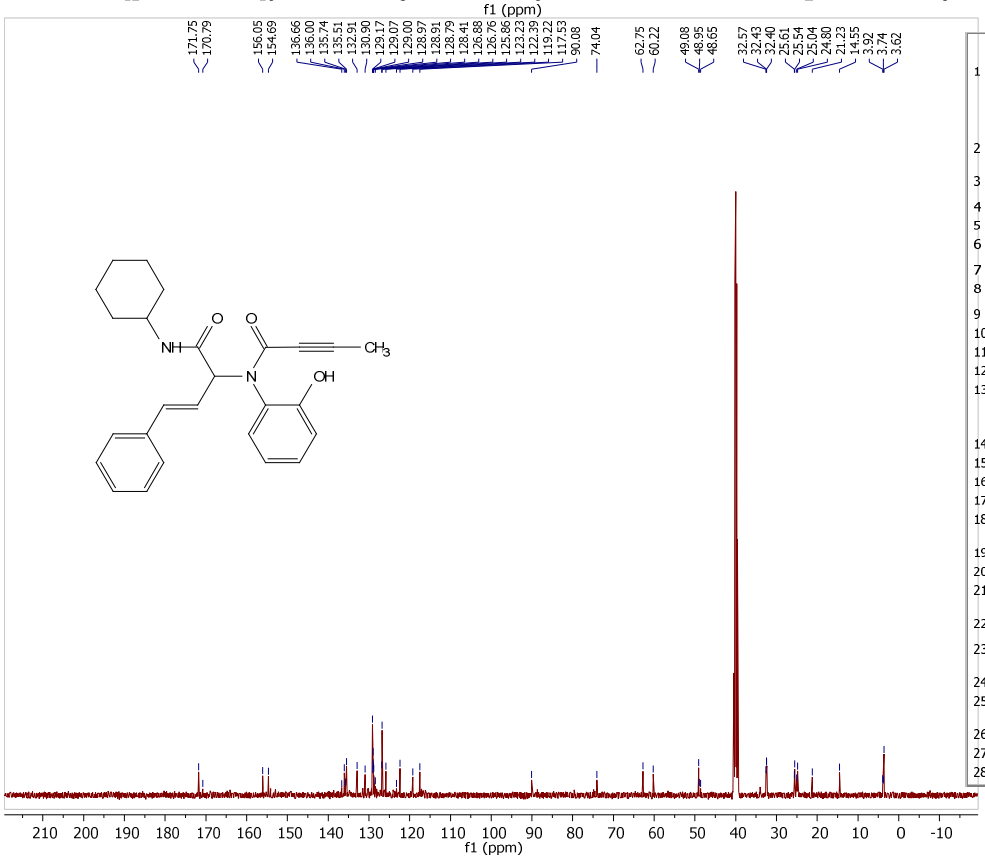
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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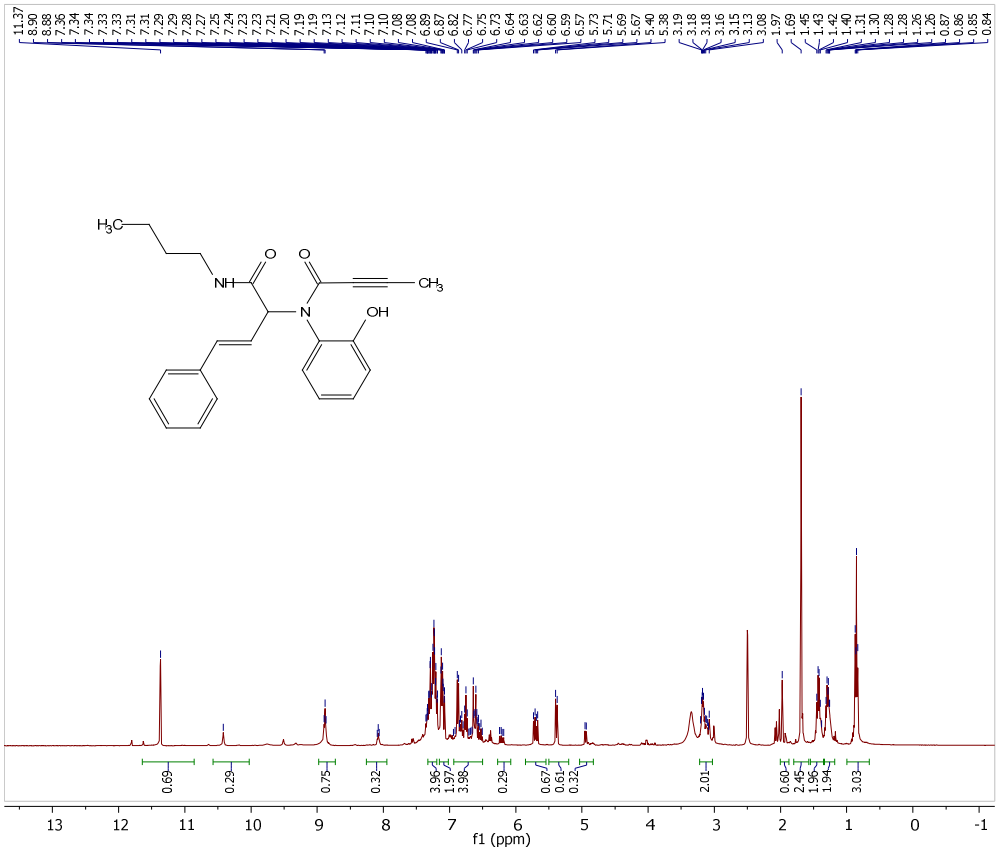
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	296.7
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	512
15	Receiver Gain	201.3
16	Relaxation Delay	1.5000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-11-12T10:13:12
21	Modification Date	2018-11-12T10:24:30
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1h**



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5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	296.2
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-11-12T08:29:00
21	Modification Date	2018-11-12T08:29:48
22	Class	
23	Spectrometer Frequency	400.17
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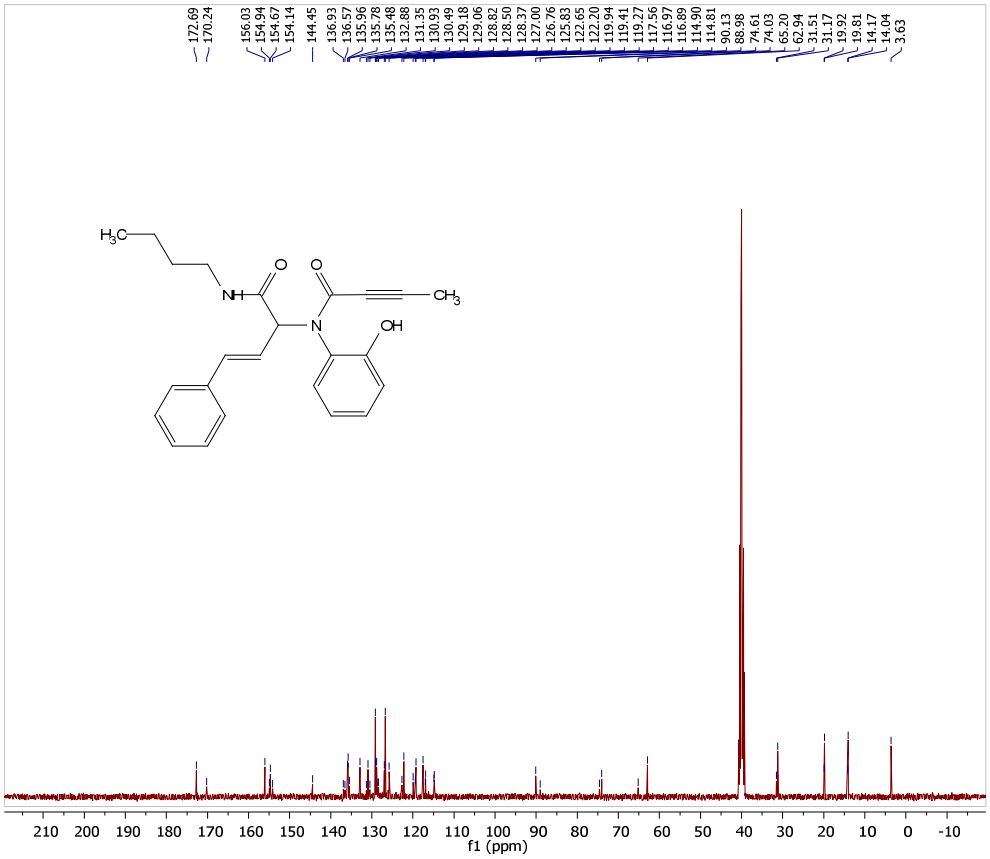
25	Lowest Frequency	-2532.4
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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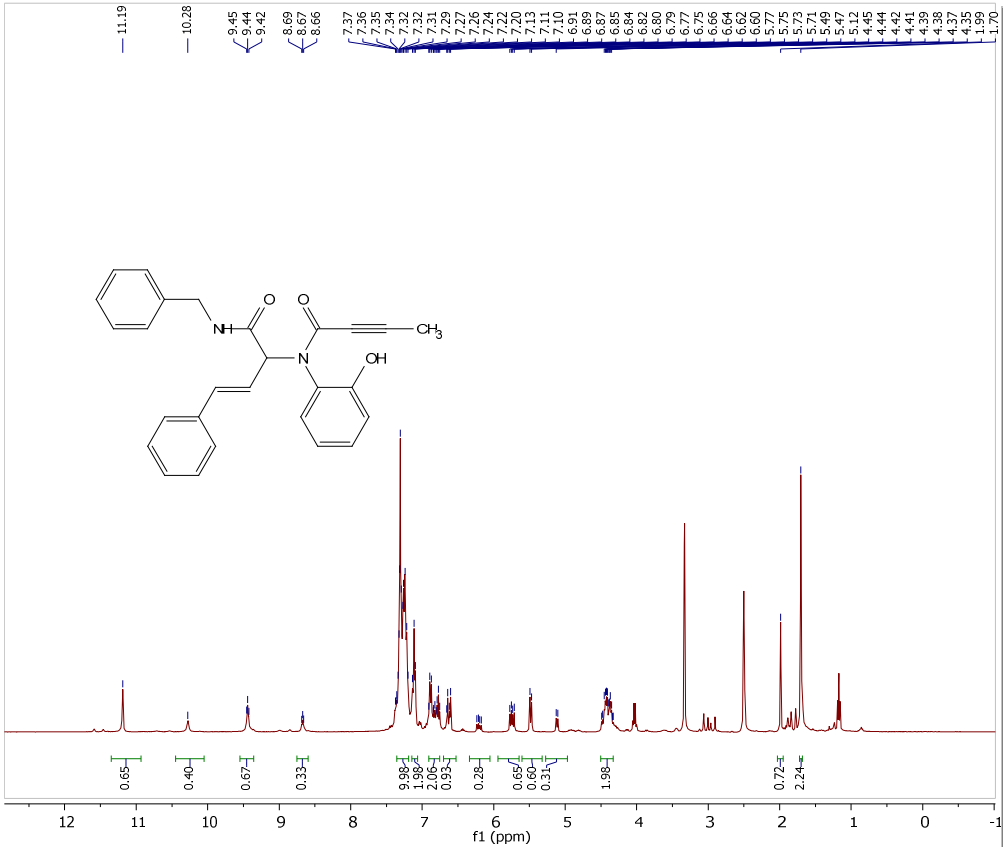
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	296.7
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	512
15	Receiver Gain	201.3
16	Relaxation Delay	1.5000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-11-12T09:56:52
21	Modification Date	2018-11-12T09:56:54
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1i**



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3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	48.4
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
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21	Modification Date	2019-01-04T15:43:10
22	Class	
23	Spectrometer Frequency	400.17
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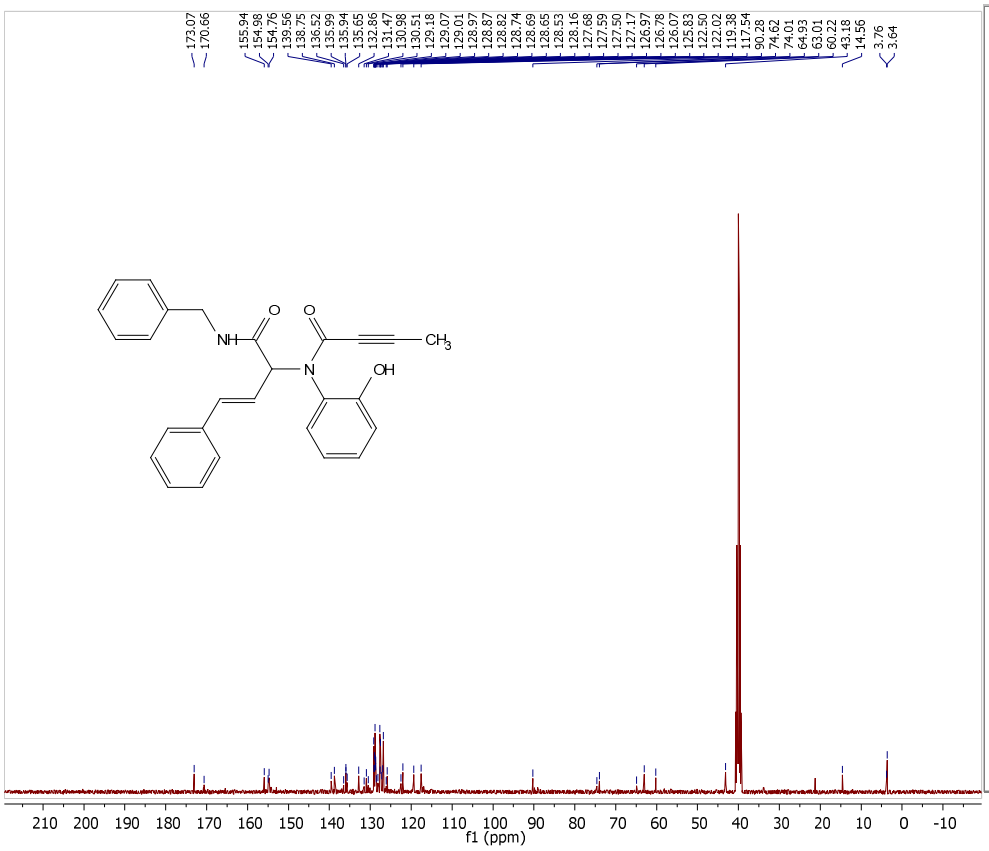
25	Lowest Frequency	-2532.4
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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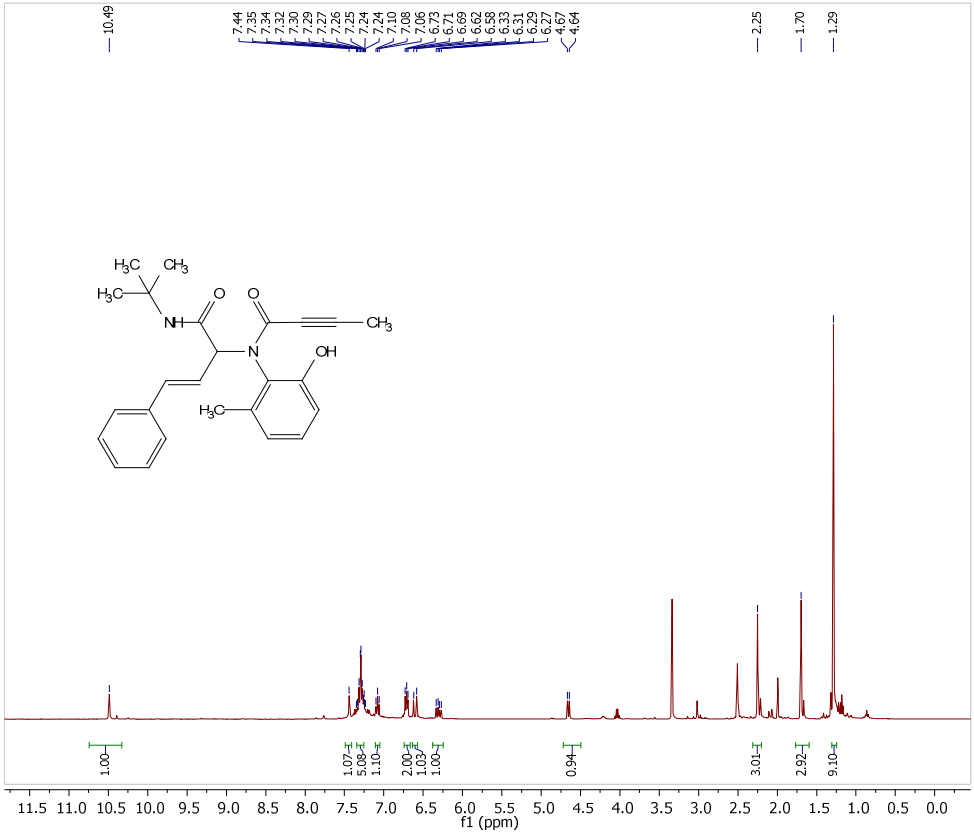
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2019-01-06T19:02:00
21	Modification Date	2019-01-06T19:02:27
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1j**



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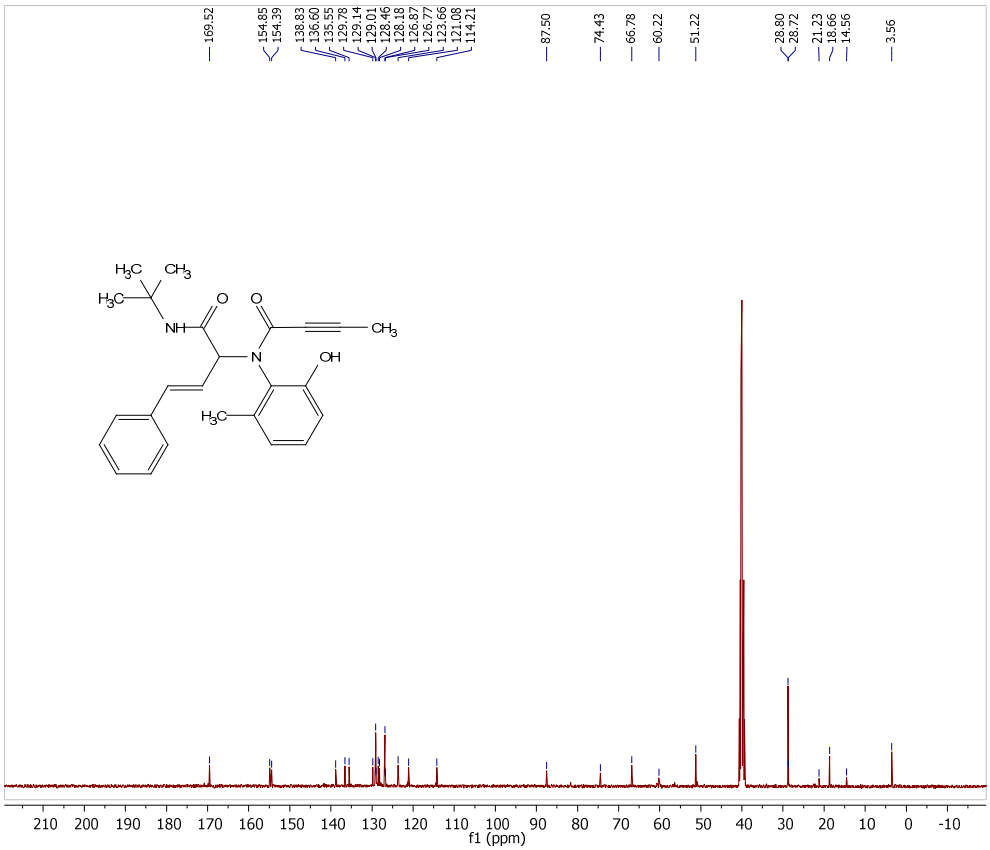
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-19T12:25:00
21	Modification Date	2018-10-19T12:25:42
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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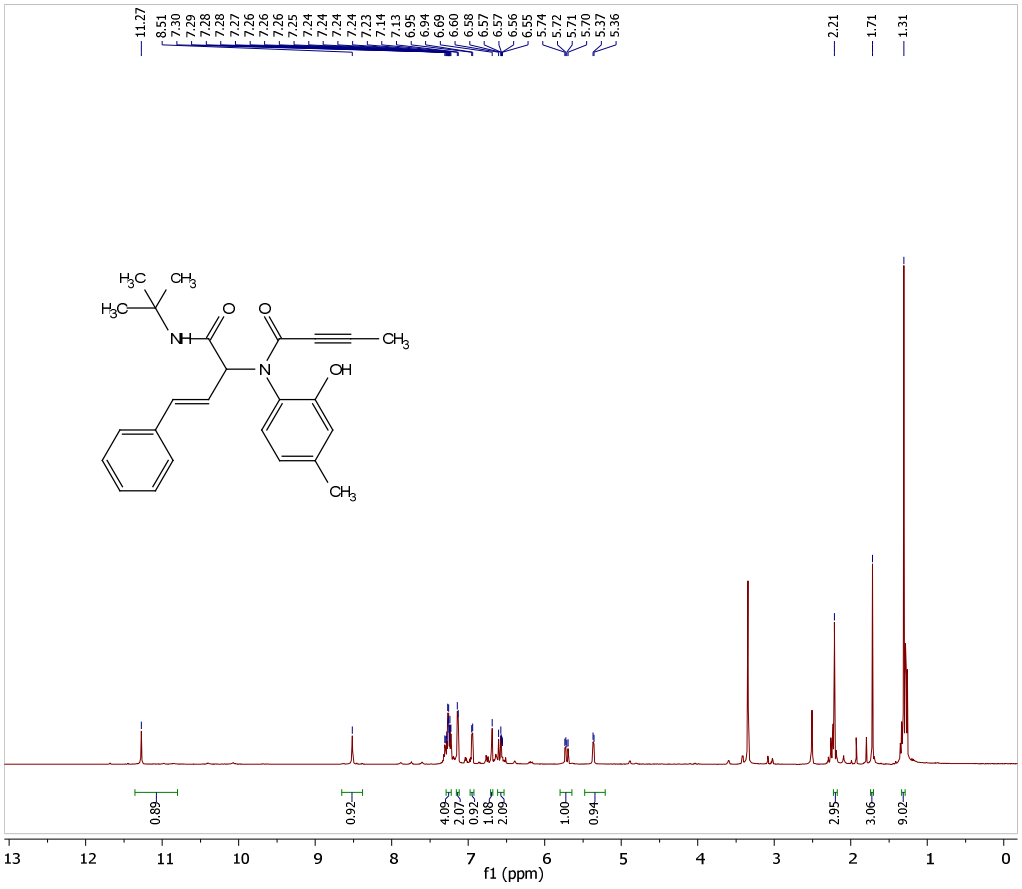
2	Title	EVDE-TN001R24A.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-19T22:52:00
21	Modification Date	2018-10-19T22:52:18
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1k**



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1	Data File Name	C:/ Users/ u0106987/ Desktop/ Proj 001/ NMR/ ugi/ EVDE-TN001-R26-1H-13C-BBO5-600/ 1/ fid
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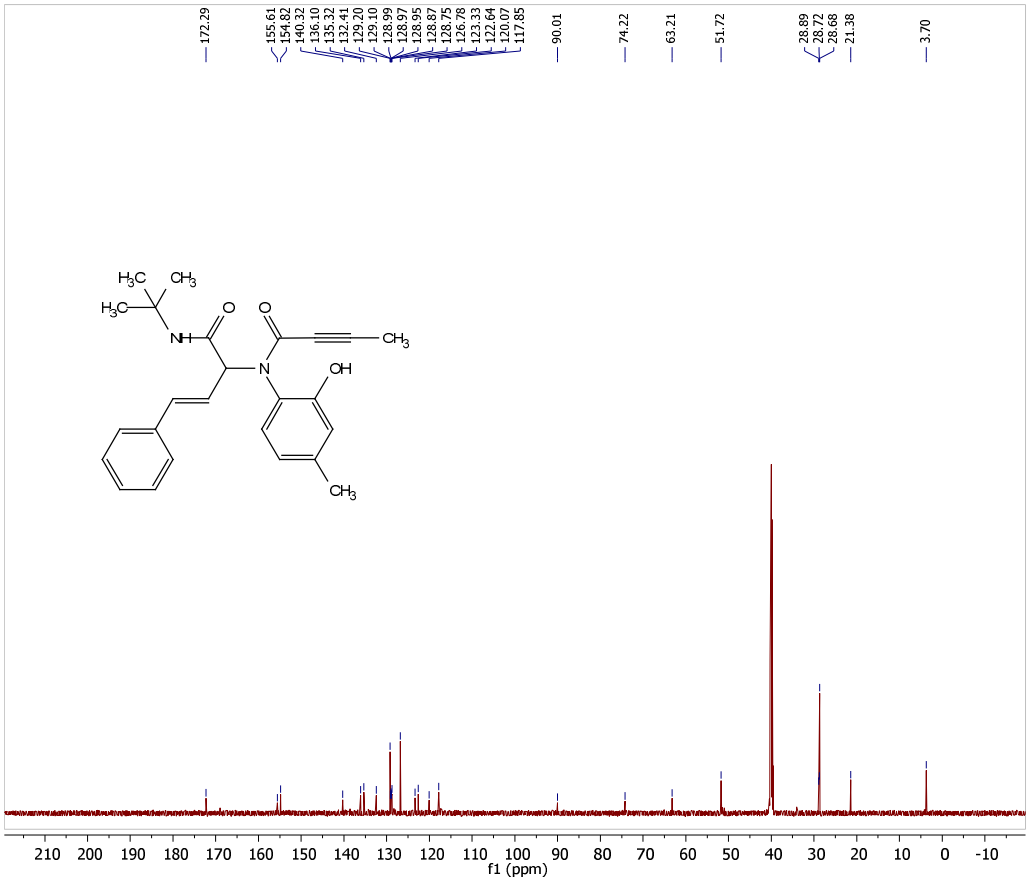
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	Z856701_0015 (PA BBO 600S3 BB-H-D-05 Z BTO)
14	Number of Scans	16
15	Receiver Gain	71.8
16	Relaxation Delay	2.0000
17	Pulse Width	15.2500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-01-09T10:29:00
21	Modification Date	2018-10-17T11:01:42
22	Class	
23	Spectrometer Frequency	600.13
24	Spectral Width	13227.5
25	Lowest Frequency	-2907.7
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	131072



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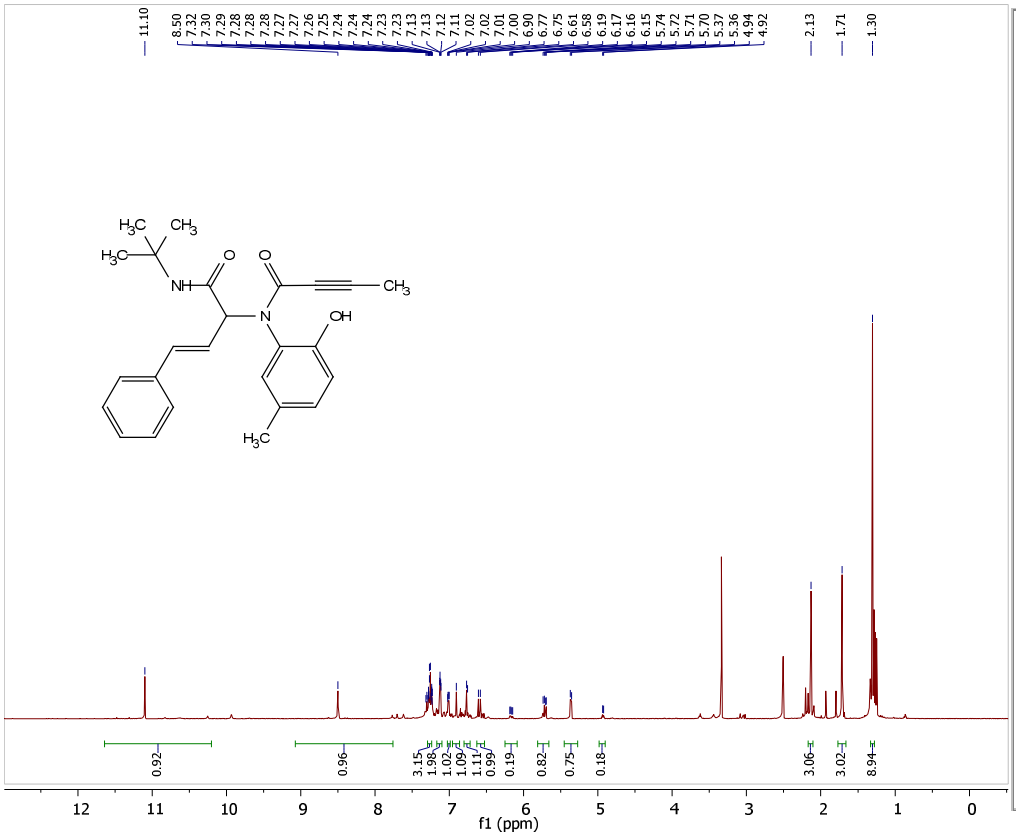
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.3
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	Z856701_0015 (PA BBO 600S3 BB-H-D-05 Z BTO)
14	Number of Scans	401
15	Receiver Gain	2050.0
16	Relaxation Delay	1.5000
17	Pulse Width	12.0000
18	Presaturation Frequency	
19	Acquisition Time	1.1360
20	Acquisition Date	2018-10-17T09:25:38
21	Modification Date	2018-10-17T11:25:42
22	Class	
23	Spectrometer Frequency	150.92
24	Spectral Width	36057.7
25	Lowest Frequency	-2939.8
26	Nucleus	13C
27	Acquired Size	40960
28	Spectral Size	131072

^{1}H and ^{13}C NMR spectra of compound **1l**



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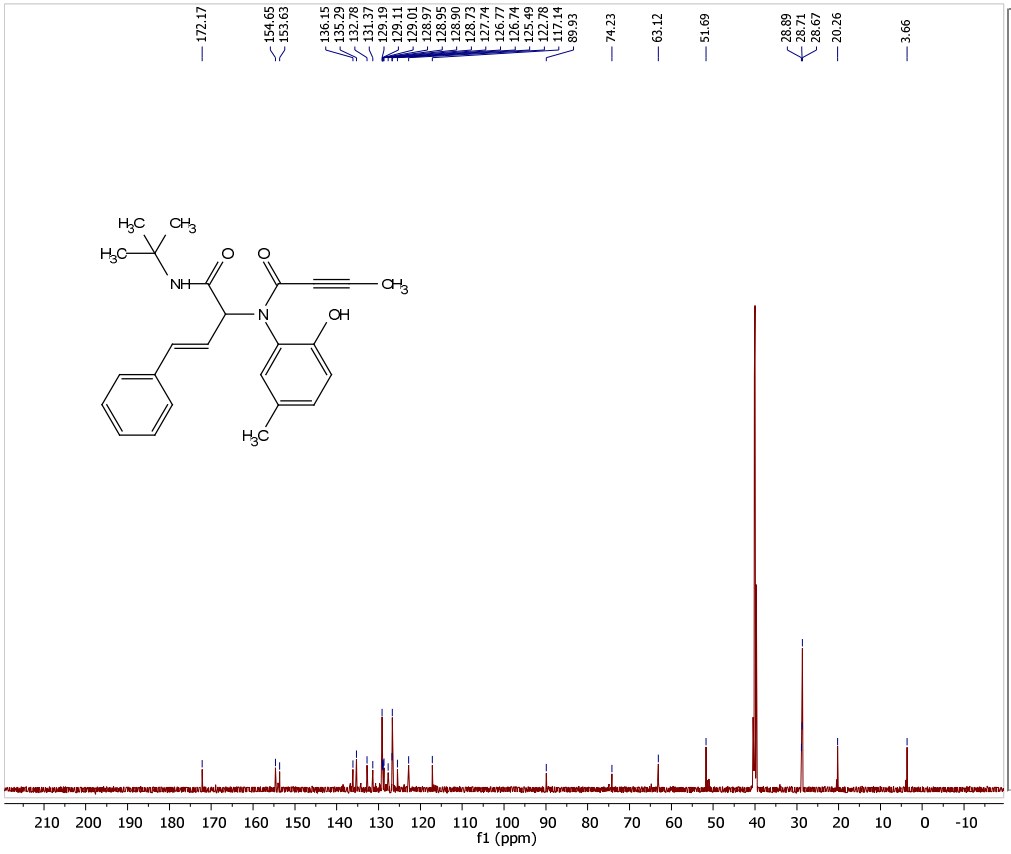
2	Title	DDV-TV-PUR-73UP. 600.1.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.2
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	Z856701_0015 (PA BBO 600S3 BB-H-D-05 Z BTO)
14	Number of Scans	16
15	Receiver Gain	71.8
16	Relaxation Delay	2.0000
17	Pulse Width	15.2500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-01-09T10:29:00
21	Modification Date	2018-10-17T10:29:52
22	Class	
23	Spectrometer Frequency	600.13
24	Spectral Width	13227.5
25	Lowest Frequency	-2907.7
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	131072



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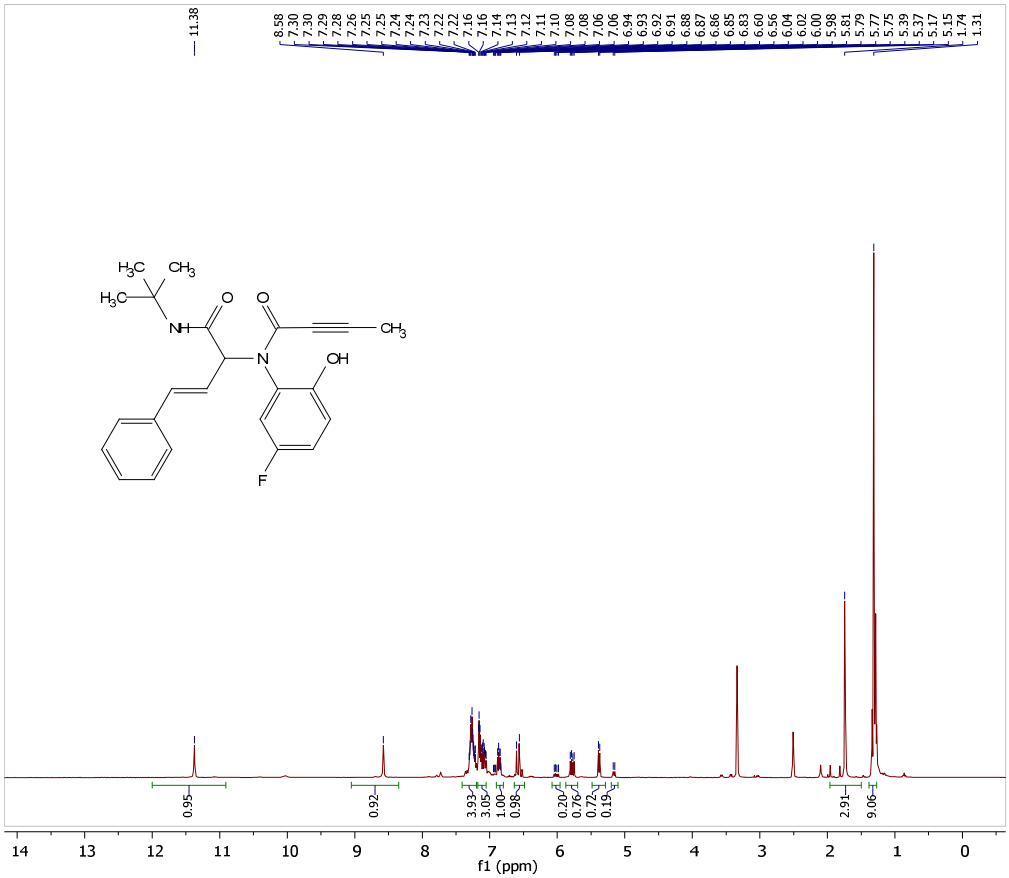
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.8
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	Z856701_0015 (PA BBO 600S3 BB-H-D-05 Z BTO)
14	Number of Scans	578
15	Receiver Gain	2050.0
16	Relaxation Delay	1.5000
17	Pulse Width	12.0000
18	Presaturation Frequency	
19	Acquisition Time	1.1360
20	Acquisition Date	2018-10-17T08:57:56
21	Modification Date	2018-10-17T10:57:56
22	Class	
23	Spectrometer Frequency	150.92
24	Spectral Width	36057.7
25	Lowest Frequency	-2939.8
26	Nucleus	13C
27	Acquired Size	40960
28	Spectral Size	131072

^{1}H and ^{13}C NMR spectra of compound **1m**



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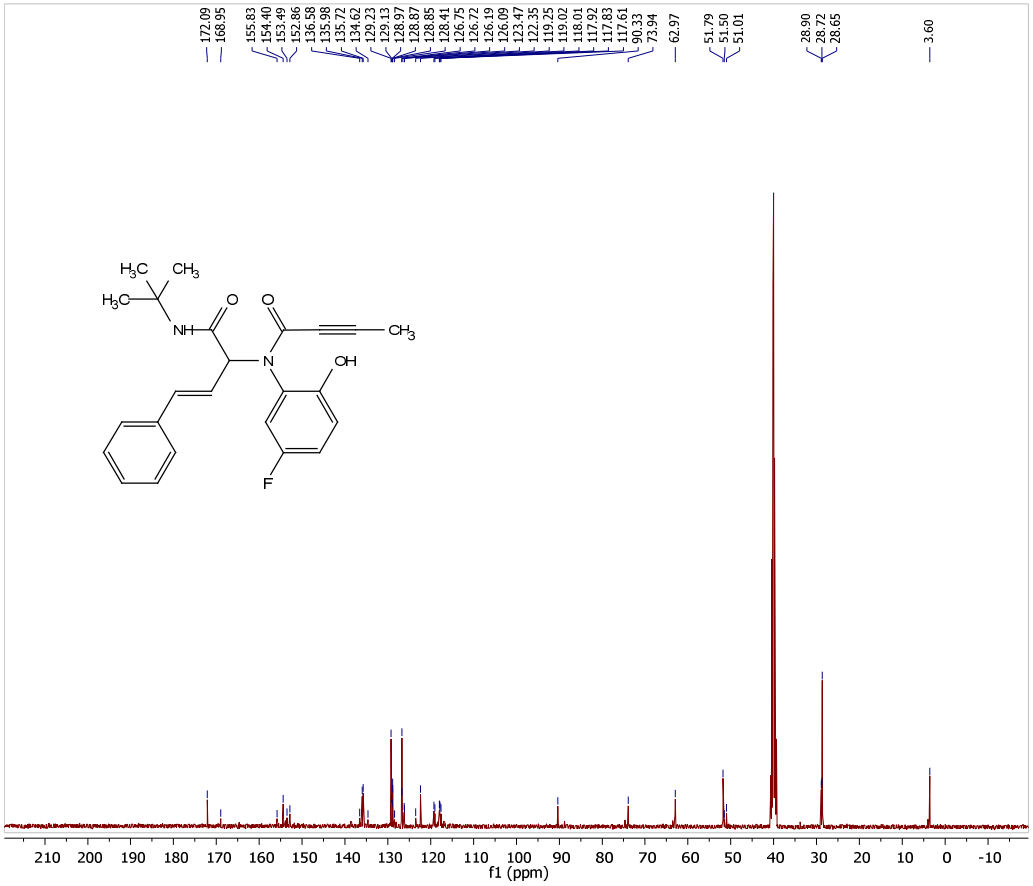
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-19T12:16:00
21	Modification Date	2018-10-19T12:16:58
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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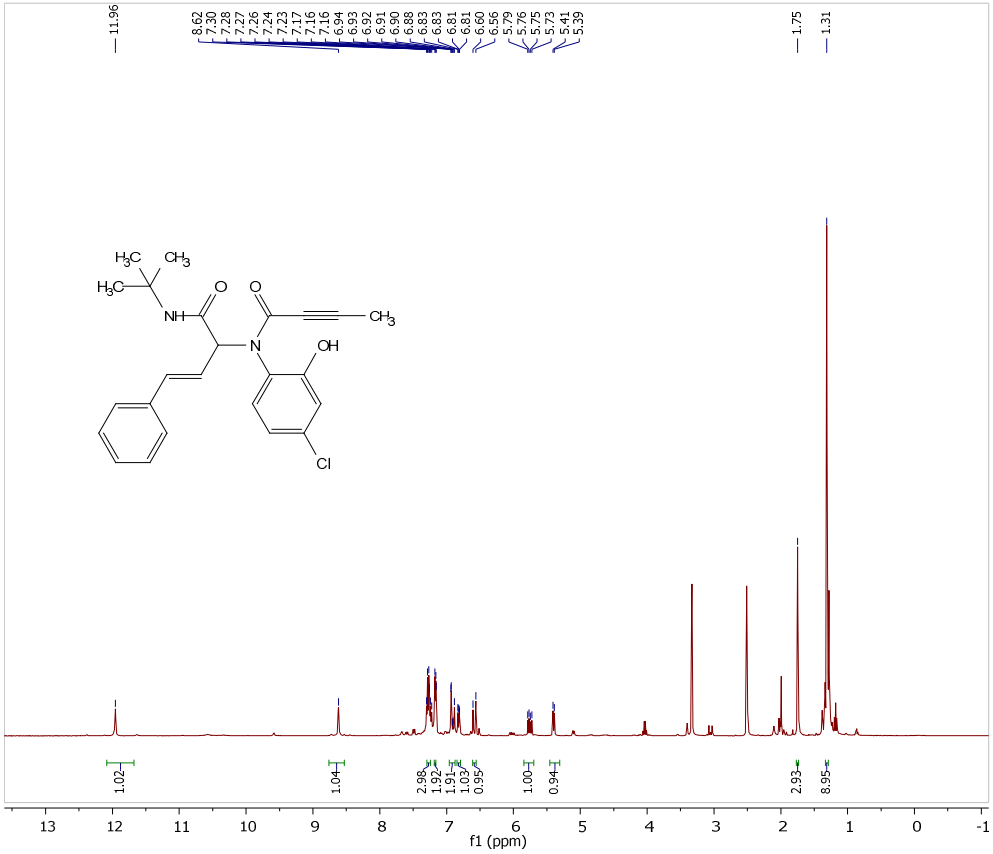
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-19T20:48:00
21	Modification Date	2018-10-19T20:48:40
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1n**



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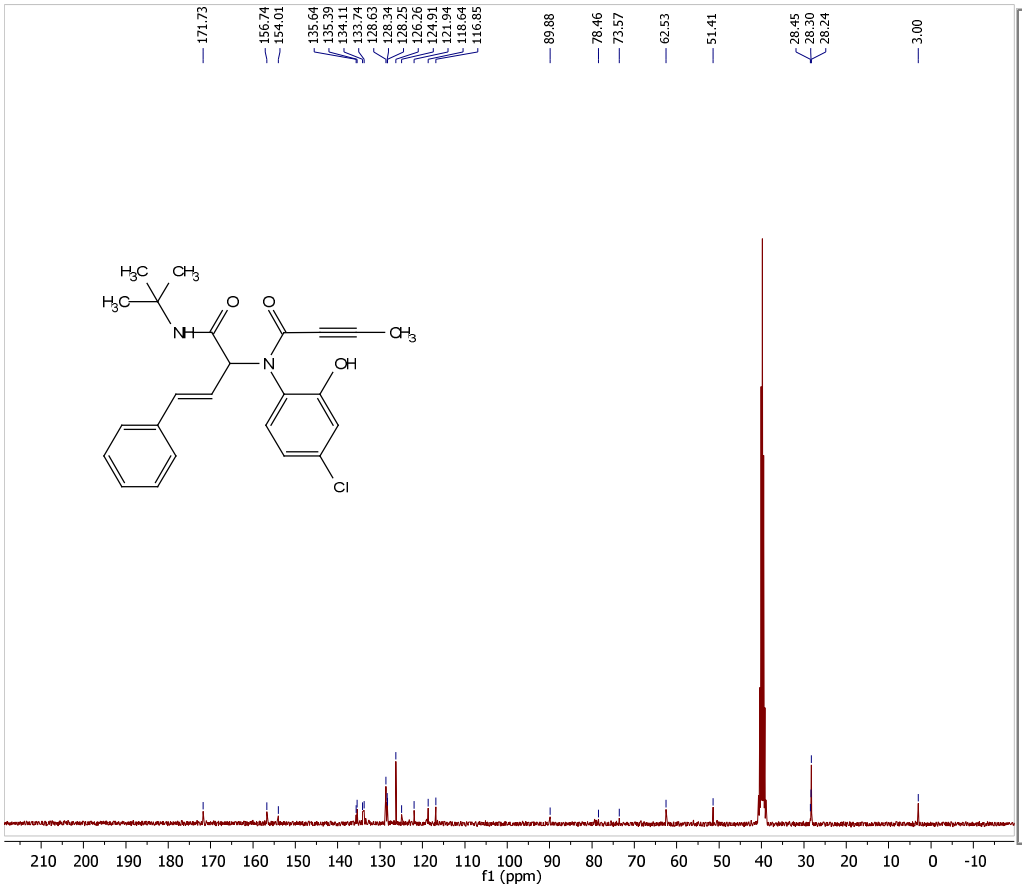
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	54.5
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-19T12:21:00
21	Modification Date	2018-10-19T12:21:22
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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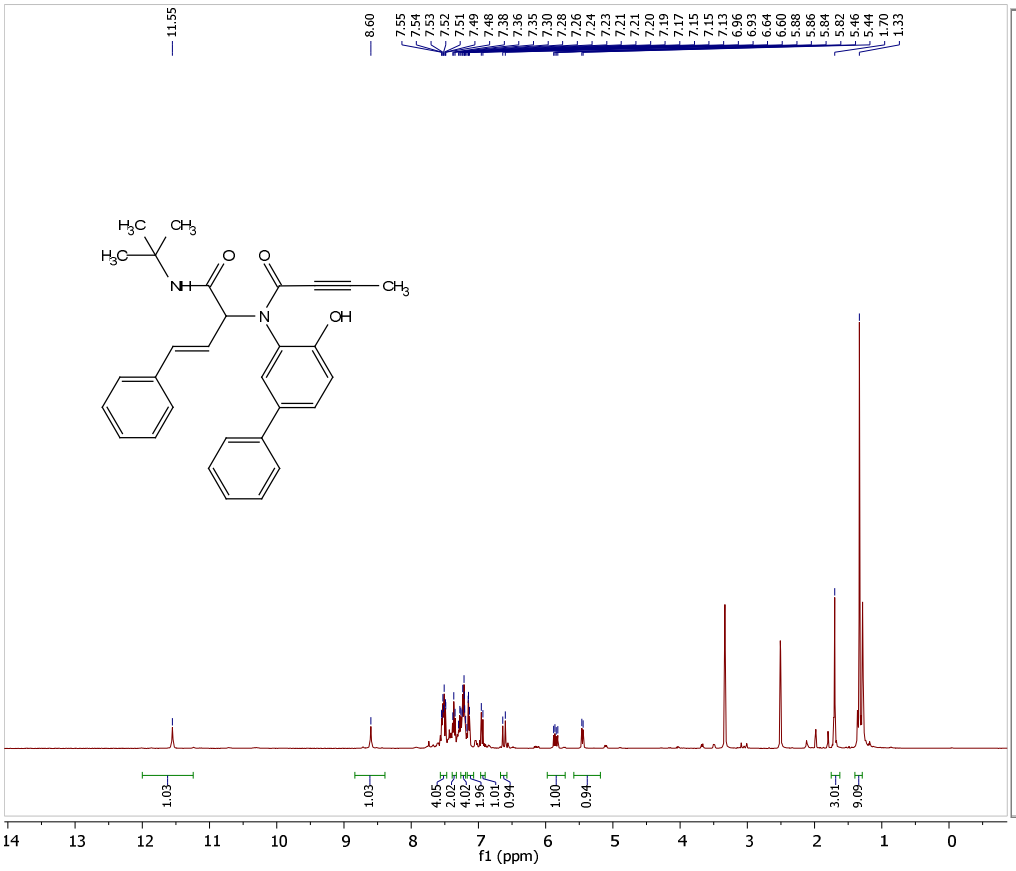
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	13004.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-08T23:47:00
21	Modification Date	2018-11-08T23:47:42
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1o**



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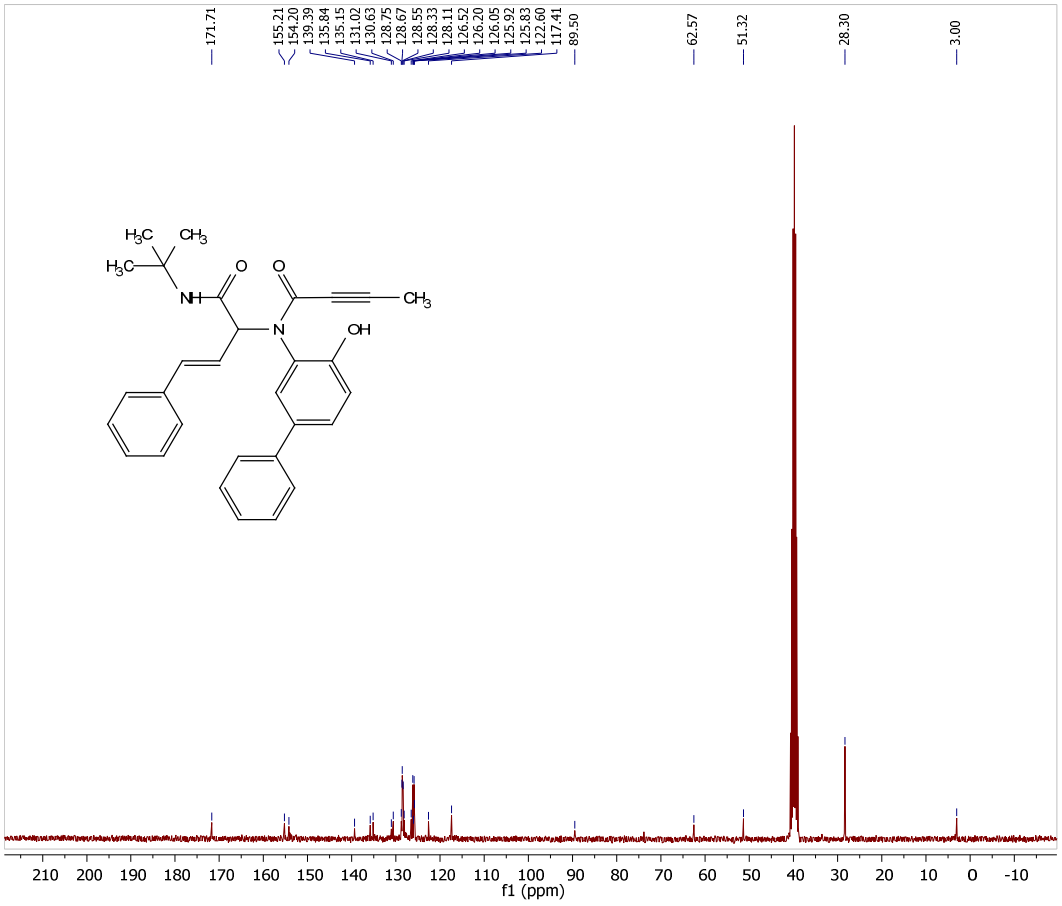
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	48.4
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-19T12:12:00
21	Modification Date	2018-10-19T12:12:38
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2528.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



	Parameter	Value
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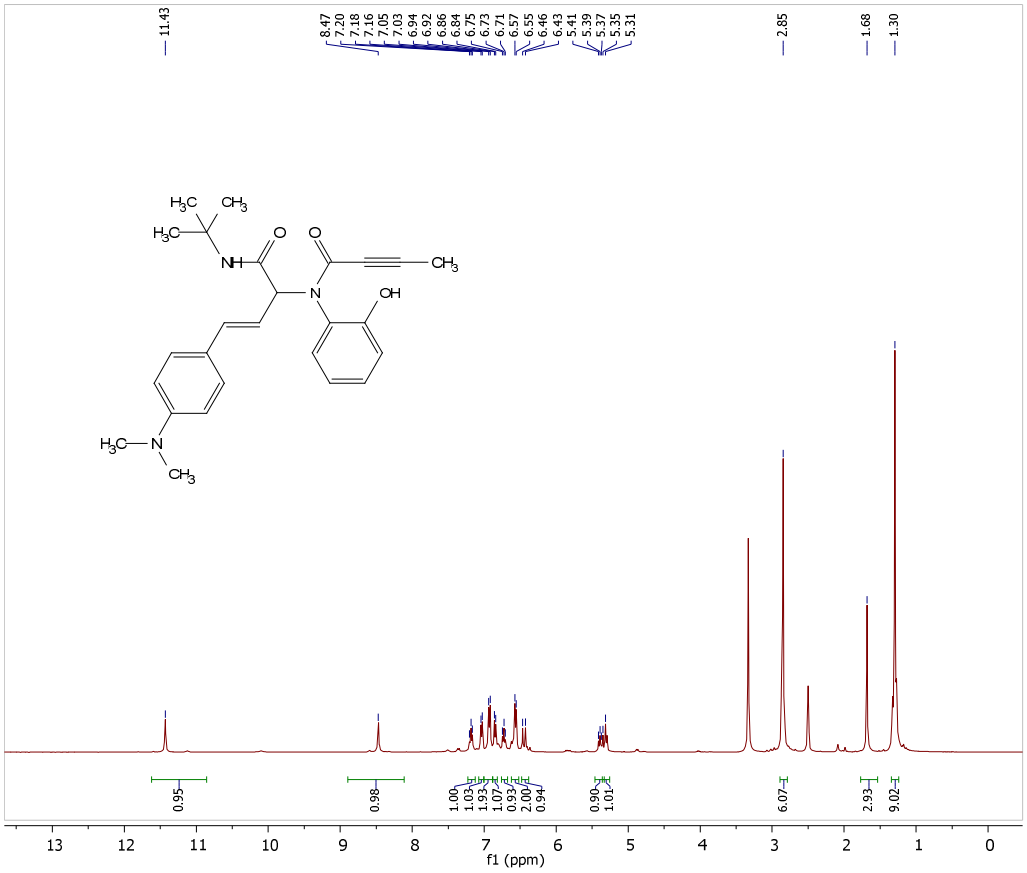
2	Title	EVDE_TN_001R30.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	13004.0
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-08T21:28:00
21	Modification Date	2018-11-08T21:28:38
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1p**



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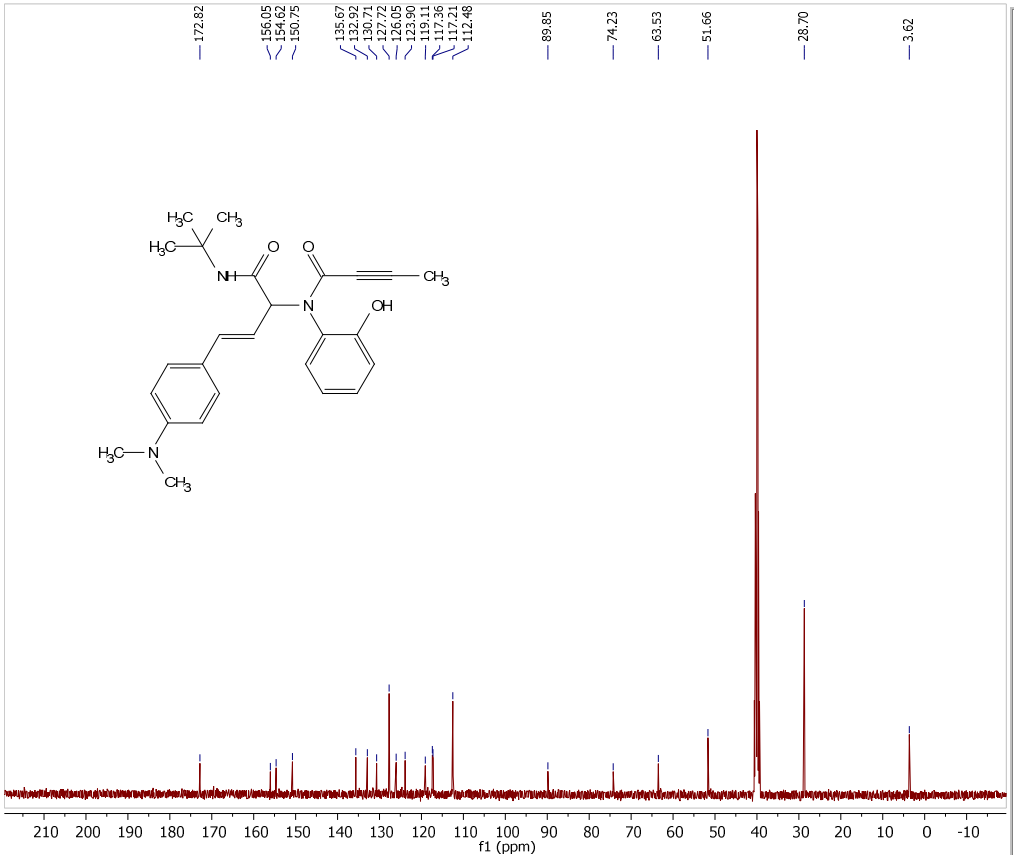
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-12-03T12:57:00
21	Modification Date	2018-12-03T12:57:24
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2532.4
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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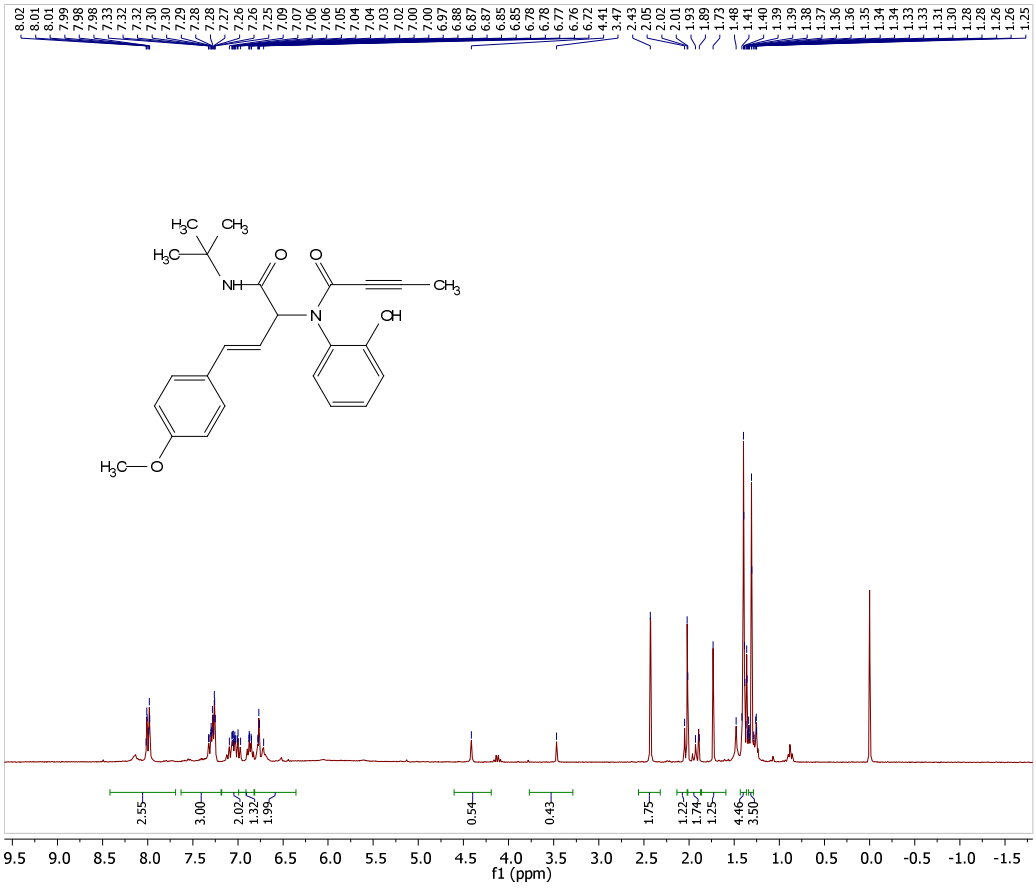
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	417
15	Receiver Gain	201.3
16	Relaxation Delay	1.3750
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-12-04T08:52:00
21	Modification Date	2018-12-04T09:04:34
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768

^{1}H and ^{13}C NMR spectra of compound **1q**



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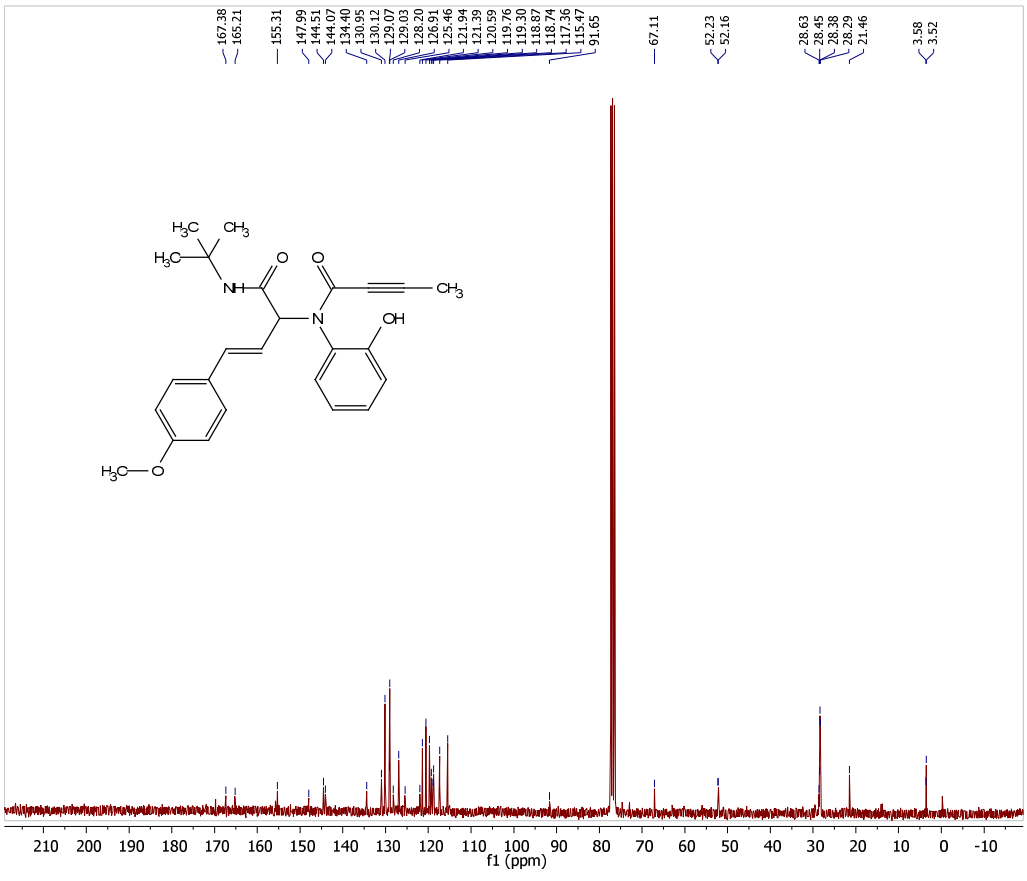
2	Title	EVDE-TN001R71B. 10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	362.0
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-16T17:07:00
21	Modification Date	2018-11-16T17:07:28
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1246.7
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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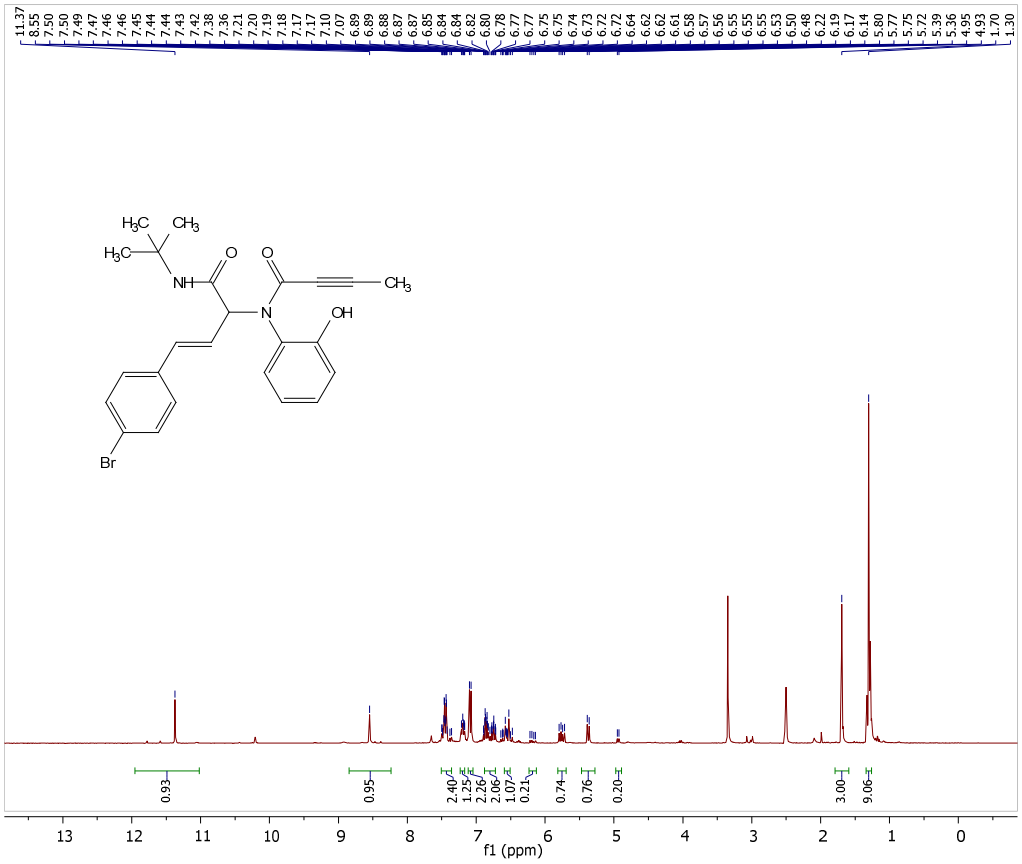
2	Title	EVDE-TN001R71B. 11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	3000
15	Receiver Gain	9195.2
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-18T11:54:00
21	Modification Date	2018-11-18T11:54:18
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1446.5
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1r**



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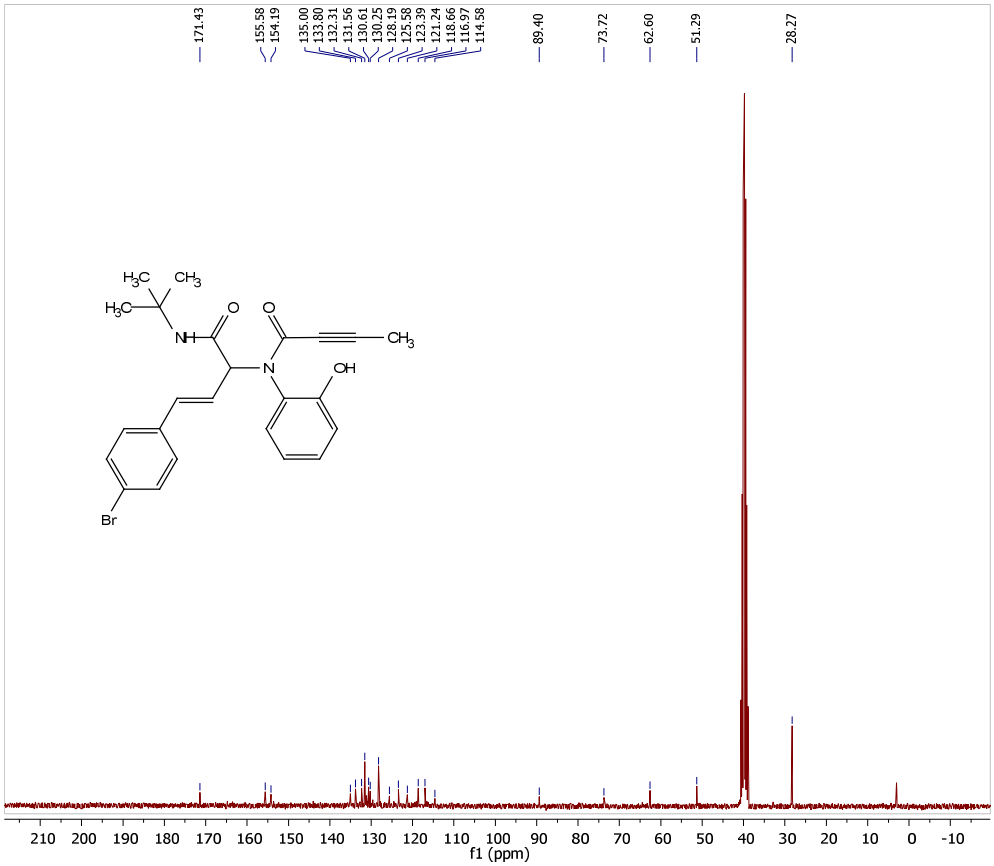
2	Title	EVDE-TN001R60.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	8
15	Receiver Gain	322.5
16	Relaxation Delay	1.0000
17	Pulse Width	6.1875
18	Presaturation Frequency	
19	Acquisition Time	2.6478
20	Acquisition Date	2018-11-07T12:03:00
21	Modification Date	2018-11-07T12:04:02
22	Class	
23	Spectrometer Frequency	300.13
24	Spectral Width	6188.1
25	Lowest Frequency	-1240.6
26	Nucleus	1H
27	Acquired Size	16384
28	Spectral Size	65536



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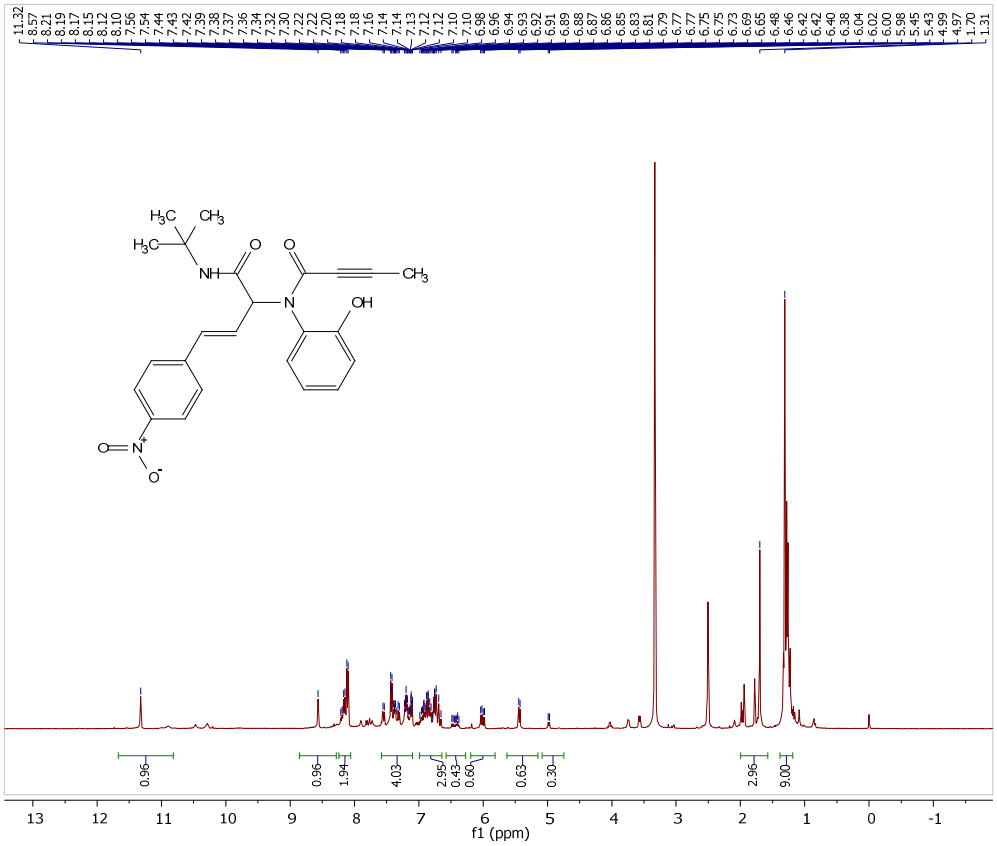
2	Title	EVDE_TN_001R60.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmruser
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	300.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm BBO BB-1H Z-GRD Z8284015/ 1
14	Number of Scans	2200
15	Receiver Gain	11585.2
16	Relaxation Delay	1.7500
17	Pulse Width	6.5000
18	Presaturation Frequency	
19	Acquisition Time	1.8220
20	Acquisition Date	2018-11-09T06:44:00
21	Modification Date	2018-11-09T06:44:54
22	Class	
23	Spectrometer Frequency	75.48
24	Spectral Width	17985.6
25	Lowest Frequency	-1484.2
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1s**



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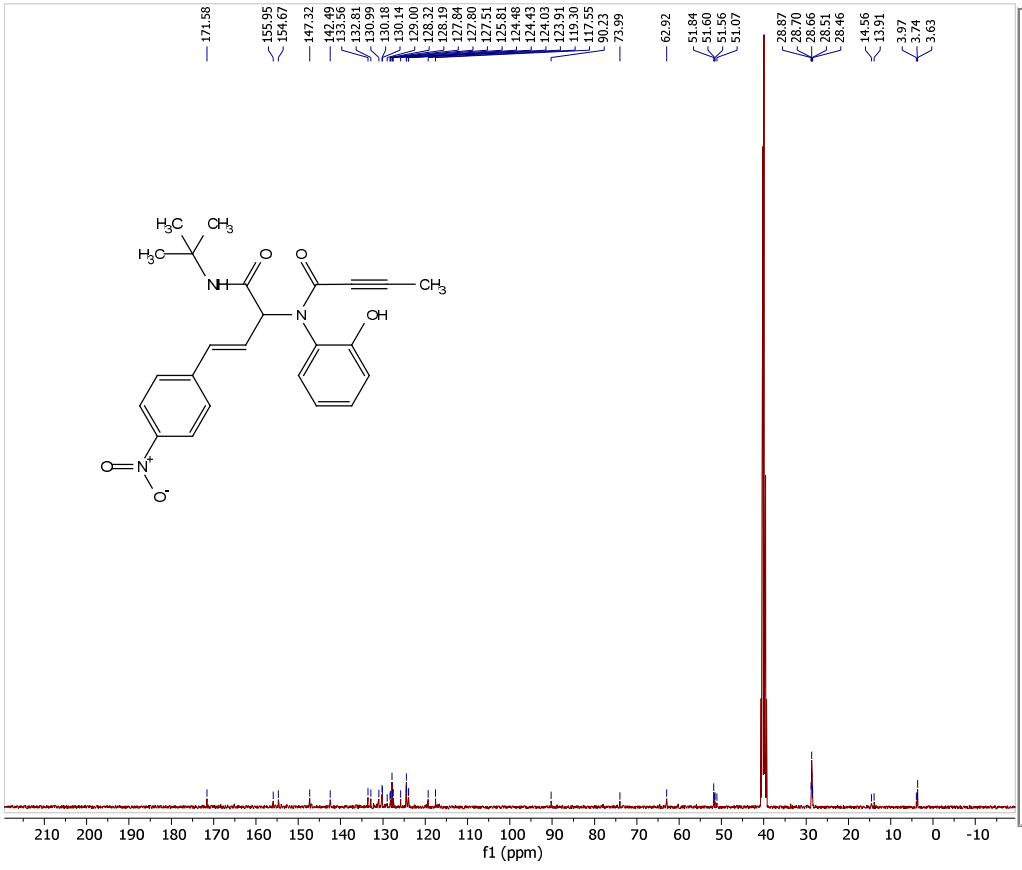
2	Title	EVDE-TN-001R70.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	126.9
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2019-02-26T09:18:00
21	Modification Date	2019-02-26T09:18:21
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2530.8
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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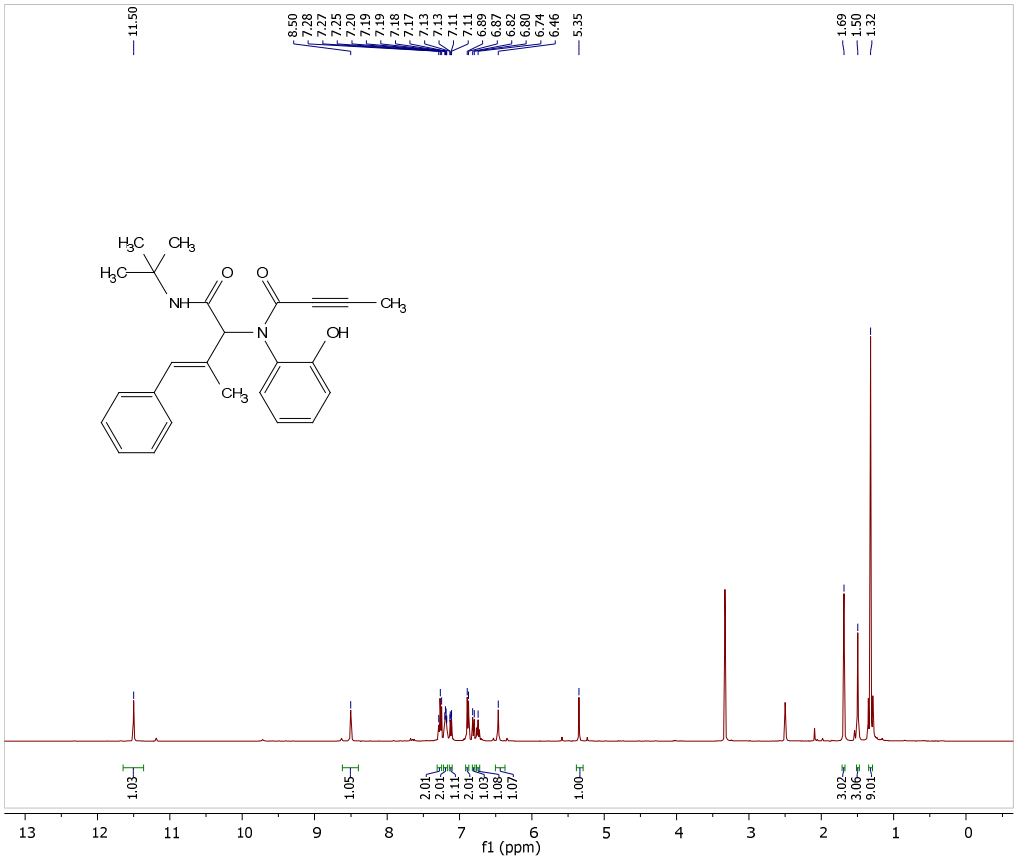
2	Title	EVDE-TN-001R70.11.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	3072
15	Receiver Gain	201.3
16	Relaxation Delay	2.0000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2019-02-27T07:38:00
21	Modification Date	2019-02-27T07:38:26
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1t**



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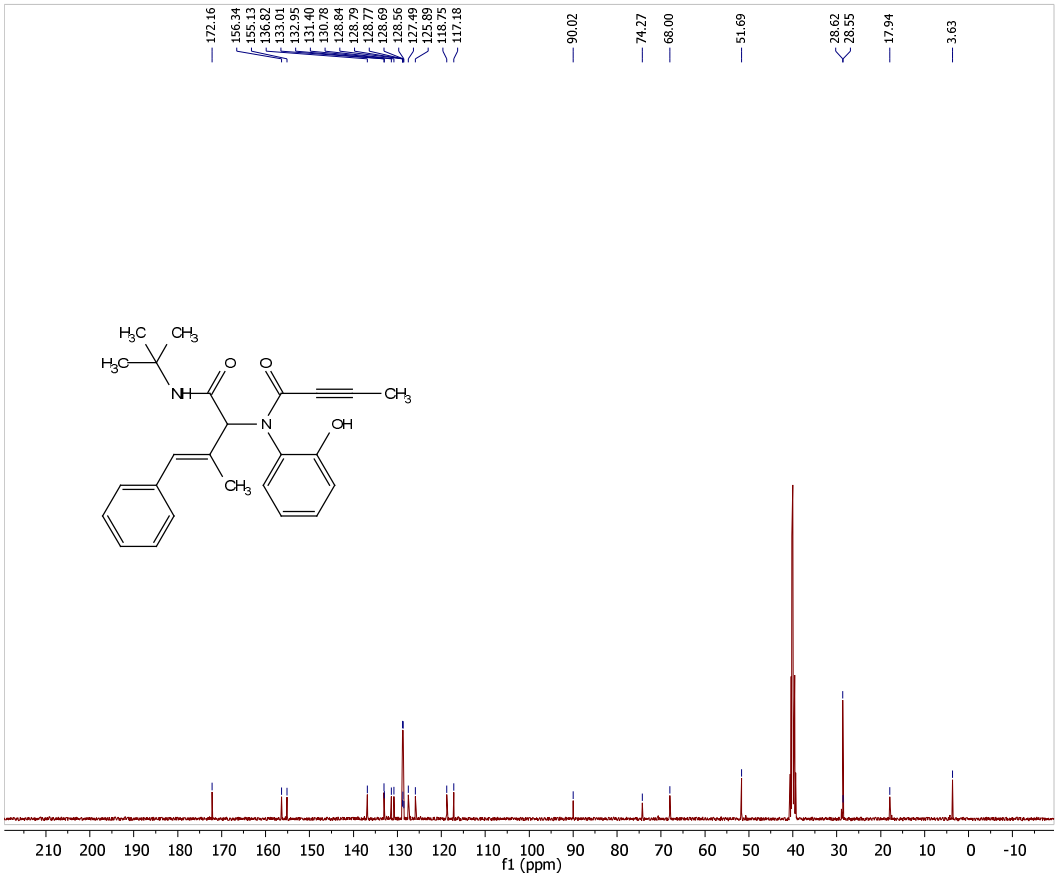
2	Title	EVDE-TN001R22.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-11T09:40:00
21	Modification Date	2018-10-11T09:40:52
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2531.2
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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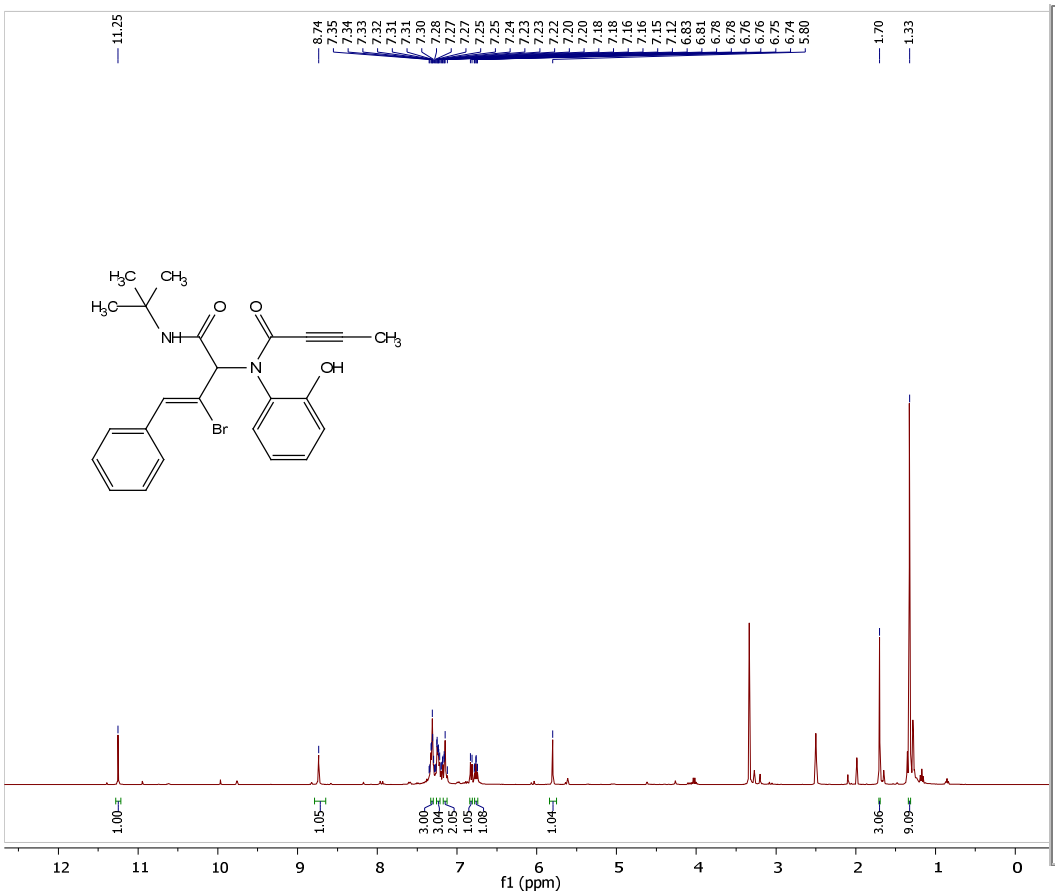
2	Title	EVDE-TN001R22.12.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	512
15	Receiver Gain	201.3
16	Relaxation Delay	1.5000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-12T09:39:00
21	Modification Date	2018-10-12T10:01:14
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **1u**



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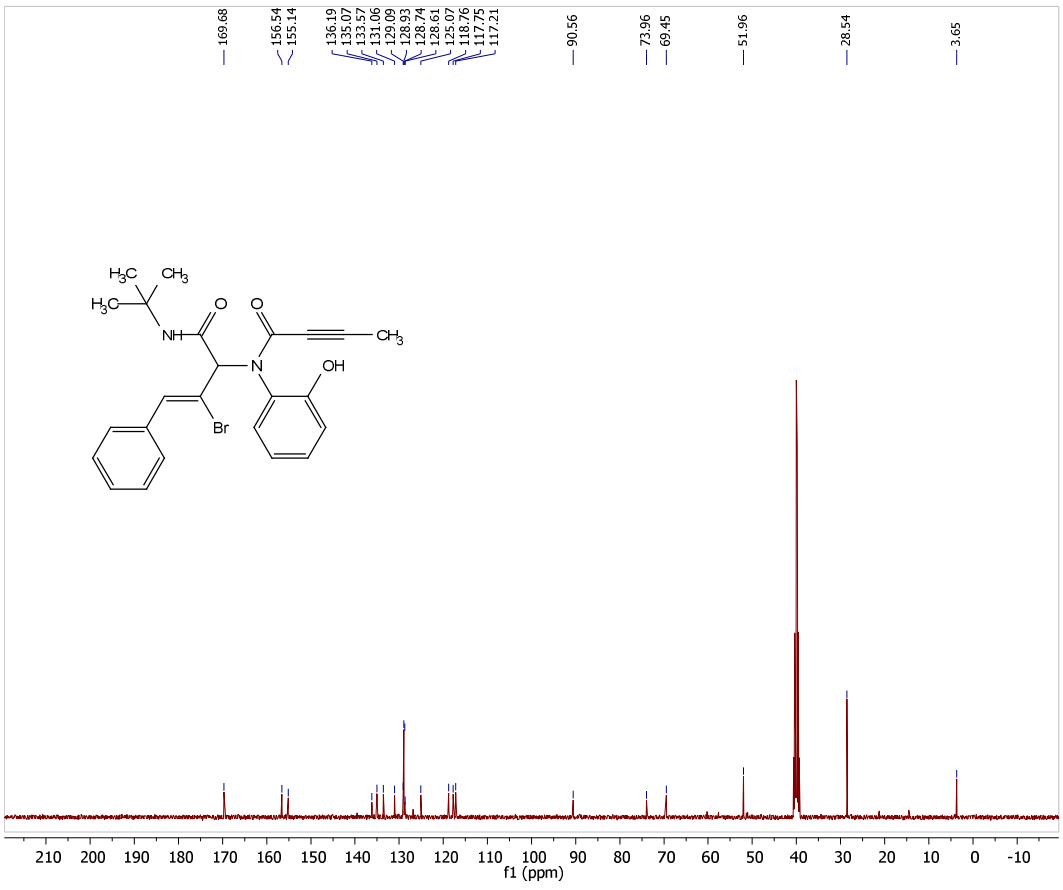
2	Title	EVDE-TN001R23.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	9.7500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2018-10-11T09:44:00
21	Modification Date	2018-10-11T09:44:34
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2531.2
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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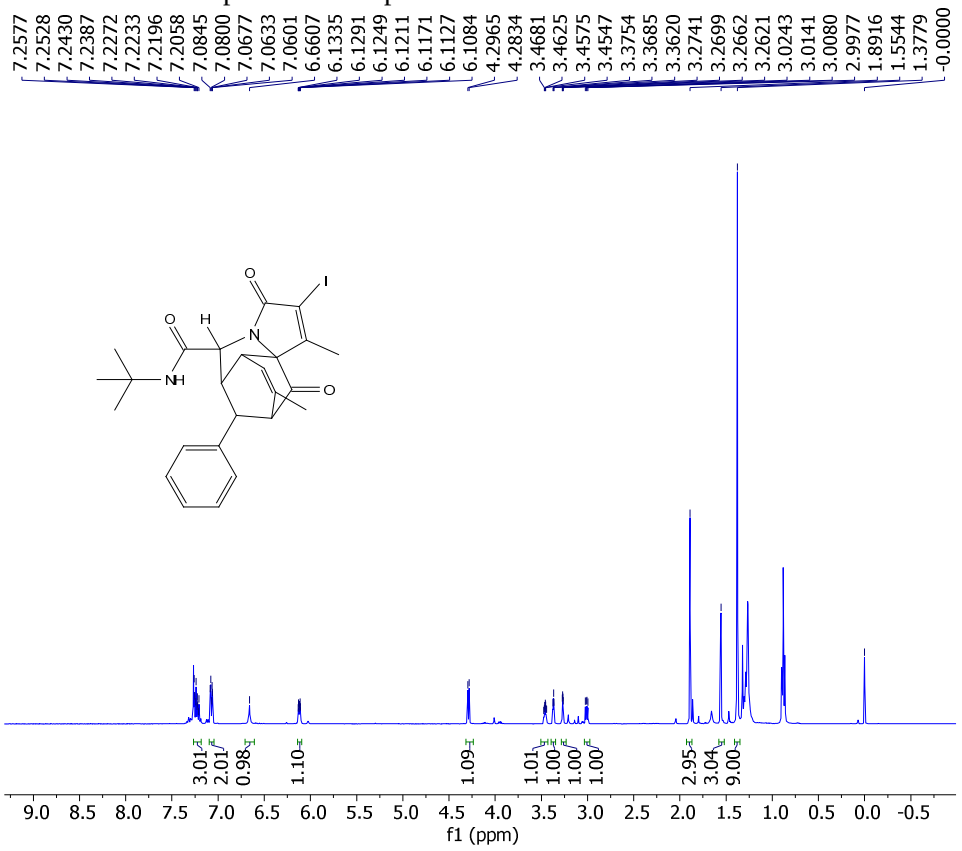
2	Title	EVDE-TN001R23.12.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmr
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	DMSO
10	Temperature	298.0
11	Pulse Sequence	zgpg30
12	Experiment	1D
13	Probe	5 mm PABBO BB/ 19F-1H/ D Z-GRD Z116098/ 0435
14	Number of Scans	459
15	Receiver Gain	201.3
16	Relaxation Delay	1.5000
17	Pulse Width	7.6500
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2018-10-12T11:35:00
21	Modification Date	2018-10-12T11:36:06
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1957.4
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536

^{1}H and ^{13}C NMR spectra of compound **4**



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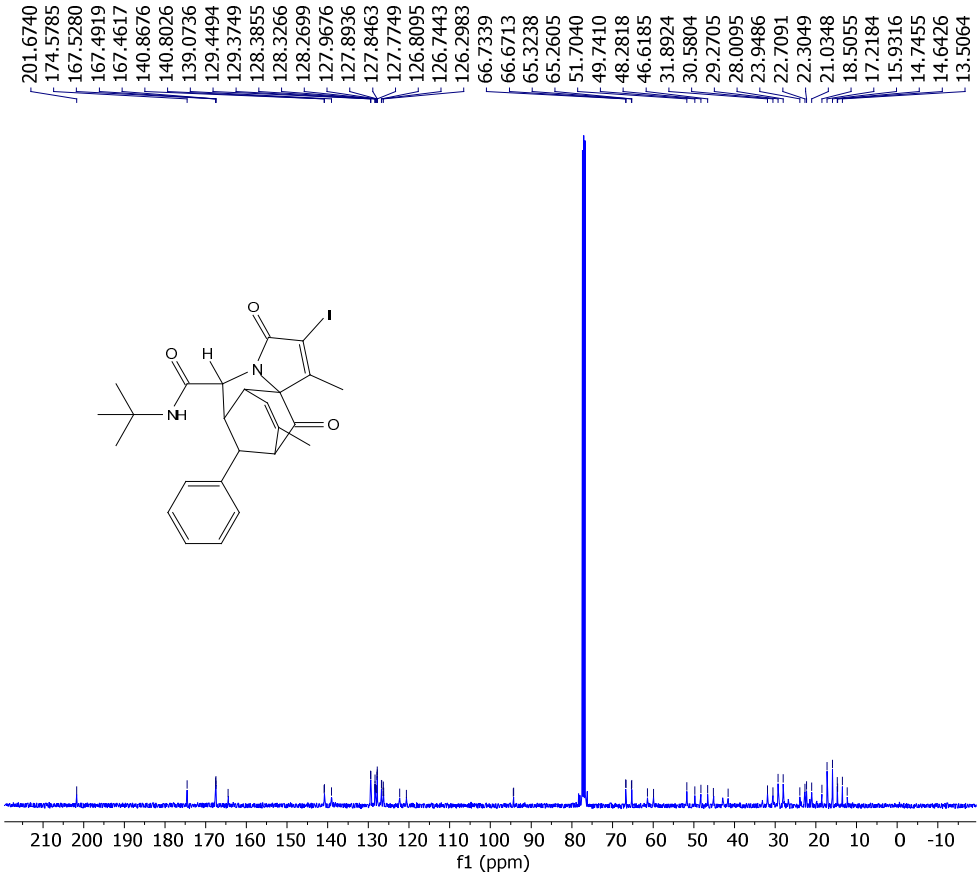
2	Title	EVDE-YH-001AD-R7.10.fid
3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmrsu
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zg30
12	Experiment	1D
13	Probe	Z116098_0435 (PA BBO 400S1 BBF-H-D-05 Z SP)
14	Number of Scans	16
15	Receiver Gain	42.3
16	Relaxation Delay	1.0000
17	Pulse Width	10.0500
18	Presaturation Frequency	
19	Acquisition Time	3.2768
20	Acquisition Date	2019-09-27T19:09:36
21	Modification Date	2019-09-27T19:09:36
22	Class	
23	Spectrometer Frequency	400.17
24	Spectral Width	10000.0
25	Lowest Frequency	-2536.2
26	Nucleus	1H
27	Acquired Size	32768
28	Spectral Size	65536



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3	Comment	
4	Origin	Bruker BioSpin GmbH
5	Owner	nmrsu
6	Site	
7	Instrument	spect
8	Author	
9	Solvent	CDCl3
10	Temperature	298.0
11	Pulse Sequence	zggd30
12	Experiment	1D
13	Probe	Z116098_0435 (PA BBO 400S1 BBF-H-D-05 Z SP)
14	Number of Scans	1024
15	Receiver Gain	201.3
16	Relaxation Delay	5.0000
17	Pulse Width	7.9000
18	Presaturation Frequency	
19	Acquisition Time	1.3631
20	Acquisition Date	2019-09-29T22:01:32
21	Modification Date	2019-09-29T22:01:32
22	Class	
23	Spectrometer Frequency	100.63
24	Spectral Width	24038.5
25	Lowest Frequency	-1956.9
26	Nucleus	13C
27	Acquired Size	32768
28	Spectral Size	65536