Electronic Supplementary Material (ESI) for New Journal of Chemistry.

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General Remarks.

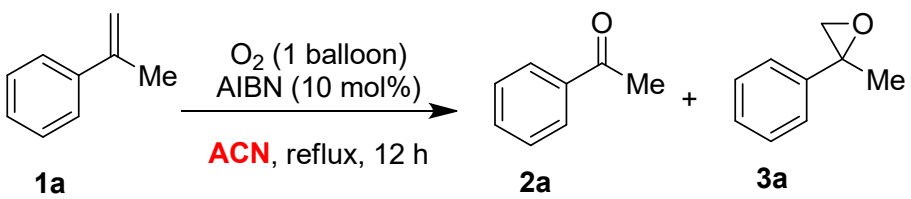
All reactions were conducted under a nitrogen atmosphere on a dual-manifold Schlenk line and in oven-dried glass wares unless otherwise mentioned. All solvents were dried according to known methods.[1] Commercially obtained reagents were used as received unless otherwise specified. Yields refer to purified and spectroscopically pure compounds. Thin layer chromatography (TLC) was performed using Merck TLC aluminum sheets silica gel 60 F254 plates and visualized by fluorescence quenching under UV light and $KMnO_4$ stain. Flash chromatography was performed using silica gel (Chromatorex, MB 70-40/75, 40−75 µm), purchased by Fuji Silysia Chemical. NMR spectra were recorded on a Bruker AVANCE spectrometer operating at 300 MHz and 400 MHz for ^1H and 50 MHz and 75 MHz for ^{13}C. Chemical shifts are reported in ppm with the solvent resonance as the internal standard. The following solvent chemical shifts were used as reference values (ppm): $CDCl_3$ = 7.26 (1 H), 77.0 (^{13}C). Data are reported as follows: s = singlet, br = broad, d = doublet, t = triplet, q = quartet, m = multiplet; coupling constants in Hz; integration. High-resolution mass spectra were obtained on JMS-700 at Academia Sinica. Melting points were determined by using Büchi melting point B-540. Starting materials of various styrenes and stilbenes were prepared by reported methods. [1-2]

Experimental Section

Optimization of reaction conditions.

Solvent optimization is mentioned in Table 1 of manuscript.

Table S1. Optimization of solvent concentration.



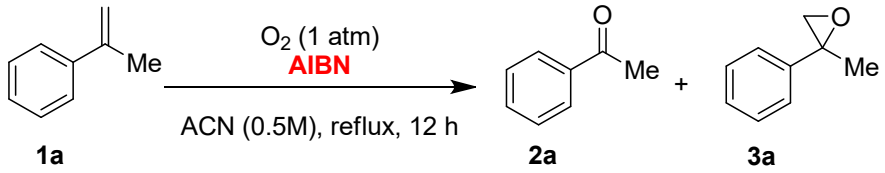
1a **2a** **3a**

Entry	Concentration	Yield[a]
1	0.5M	**1a**/0%, **2a**/45%, **3a**/23%
2	0.25M	**1a**/2%, **2a**/40%, **3a**/28%
3	1M	**1a**/30%, **2a**/16%, **3a**/21%

[a]Isolated yield

We then tested different amounts of radical initiator 2,2-azobis(isobutyronitrile) (AIBN) (Table S2). It is found that by using 40 mol%, the starting material is consumed, but the yields of **2a** and **3a** reduced (Entry 3, Table S2). It is found that increases in mol % of radical does not increases yields of **2a** and **3a**, so we choose 10 mol%. as the optimal number of free radical initiator equivalents.

Table S2. Optimization of free radical initiator 2,2-azobis(isobutyronitrile) (AIBN)



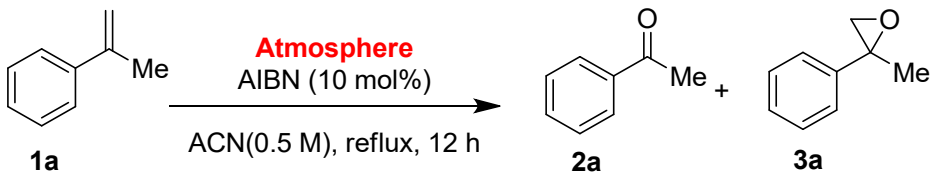
1a **2a** **3a**

Entry	mol %.	Yield[a]
1	10	**1a**/0%, **2a**/45%, **3a**/23%
2	20	**1a**/0%, **2a**/11%, **3a**/12%
3	40	**1a**/0%, **2a**/16%, **3a**/12%
4	1 equiv.	**1a**/0%, **2a**/4%, **3a**/6%

[a]Isolated yield

Next is the comparison of gases in the reaction environment. We found that the reaction can still proceed in air, but its reactivity is not as good as in an oxygen environment (Table S3).

Table S3. Optimization of reaction atmosphere.



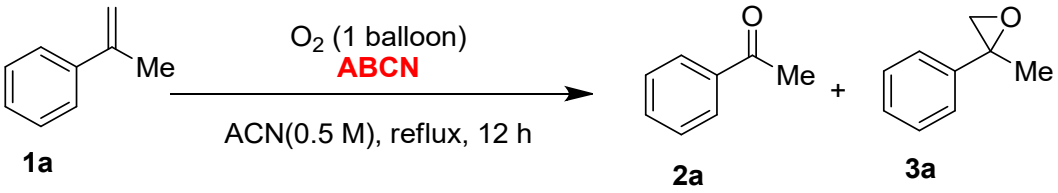
1a **2a** **3a**

Entry	Atmosphere	Yield[a]
1	O_2	**1a**/13%, **2a**/33%, **3a**/30%
2	air	**1a**/43%, **2a**/11%, **3a**/12%

[a]Isolated yield

We also used a free radical initiator with a longer half-life 1,1-azobis(cyclohexanonitrile) (ABCN) and compared the two equivalent numbers (Table S4). It is found that when 20 mol% is used, the yield of **2a** obtained was higher. When we extend the reaction time to 24 hours and change the % to 10 mol%, the yield of **2a** can reach 60%, but the yield of **3a** is relatively reduced.

Table S4. Optimization of mol % of 1,1′-Azobis(cyclohexanecarbonitrile) ABCN



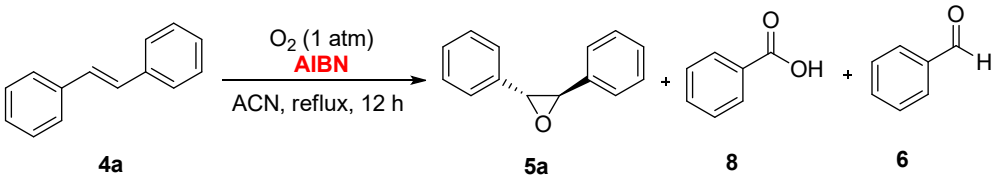
1a 2a 3a

Entry	mol%.	Yield
1	10	**1a**/11%, **2a**/34%, **3a**/27%
2	20	**1a**/3%, **2a**/38%, **3a**/29%
3[a]	10	**1a**/11%, **2a**/60%, **3a**/20%

[a]Reaction time 24h

After we have obtained the optimal conditions with styrenes we hope to obtain a better yield of stilbenes by changing the concentration of radical initiator. Highest 67% yield of oxirane **5a** was obtained for 0.4 equiv. (Table S 5).

Table S5. Optimization of equivalents of free radical initiator 2,2-azobis(isobutyronitrile) (AIBN) for oxidation of stilbenes.

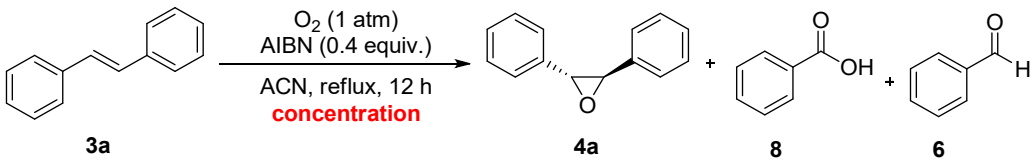


4a 5a 8 6

Entry	AIBN (mol%)	**4a**[a]	**5a**[a]	**8**[b]	**6**[b]
1	1 equiv.	0%	53%	11%	0%
2	80	0%	57%	15%	0%
3	60	0%	53%	18%	0%
4	**40**	**0%**	**67%**	**16%**	**0%**
5	20	5%	53%	11%	2.5%
6	30	20%	50%	5%	8%
7	5	40%	32%	3.5%	5.5%

[a]Isolated yield [b]Observed in ^{1}H NMR

Table S6. Optimization of solvent concentration for oxidation of stilbenes.

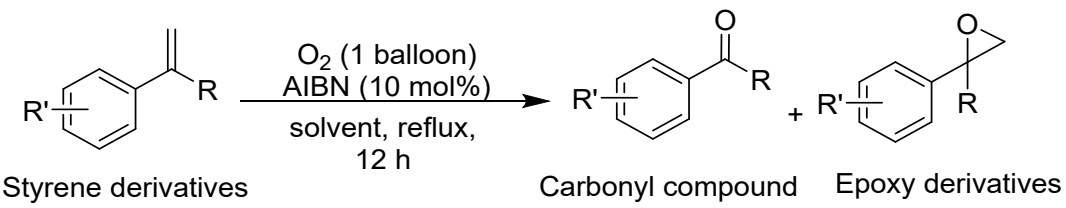


3a **4a** **8** **6**

Entry	Concentration	**3a**[a]	**4a**[a]	**8**[b]	**6**[b]
1	0.8 M	0%	65%	9%	0%
2	**0.5 M**	**0%**	**67%**	**16%**	**0%**
3	0.1 M	0%	63%	7%	0%

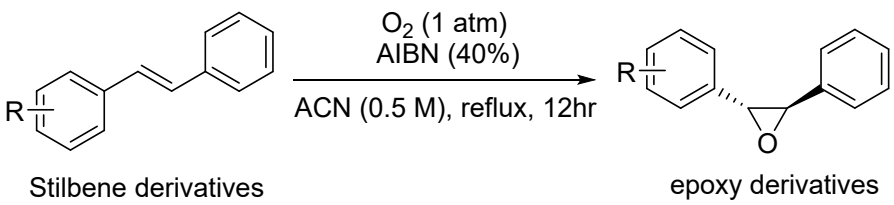
[a]Isolated yield [b]Observed in ^{1}H NMR

General procedure for radical mediated aerobic oxidation of substituted styrenes



Desired styrene derivative (1 equiv.) was taken in a 25 mL two-neck round bottom flask, add acetonitrile (0.5M) to dissolve it, and then add 2,2-azobisisobutyronitrile (AIBN) (10 mol%), reflux it under oxygen at 90 ℃ for 12 hours under oxygen. After the completion of reaction, the solvent was removed to obtain crude product. The crude product was purified by column chromatography (ethyl acetate: n-hexane).

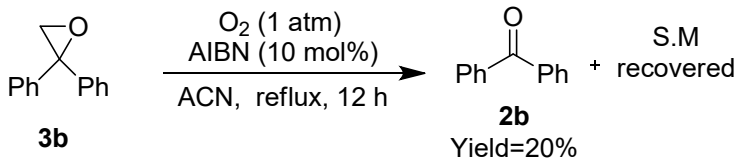
General procedure for radical mediated aerobic oxidation of substituted stilbenes



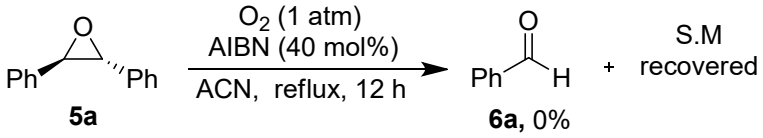
Desired stillbene (1.0 equiv.) was dissolved in acetonitrile (0.5 M) in a two-neck round bottom flask, and added azobisisobutyronitrile (40 mol %) After refluxing the solution for 12 hours under oxygen, the reaction was monitored by TLC. The crude product was separated and purified by column chromatography (ethyl acetate: n-hexane = 1: 5)

Mechanistic Studies.

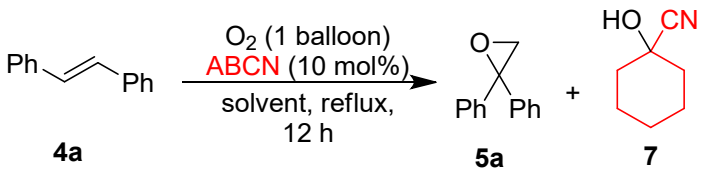
a) Oxirane **3b** was dissolved in ACN (0.5M) in a two-neck round bottom flask, and added azobisisobutyronitrile (0.4 equiv.) After refluxing the solution for 12 hours at 90 ℃ under Oxygen, the crude product was separated and purified by column chromatography (ethyl acetate: n-hexane = 1: 5)



b) Oxirane **5a** was dissolved in ACN (0.5M) in a two-neck round bottom flask, and added azobisisobutyronitrile (0.4 equiv.) After refluxing the solution for 12 hours at 90 ℃ under oxygen. Both TLC and crude NMR shows no evidence of product formation.



c) Stilbene (1.0 equiv.) was dissolved in acetonitrile (2 mL, 0.5 M) in a two-neck round bottom flask, and added ABCN (0.4 equiv.) After refluxing the solution for 12 hours under oxygen, the crude product was concentrated and then purified by column chromatography (ethyl acetate: n-hexane = 1: 5). Cyanohydrin **7** was isolated as byproduct.

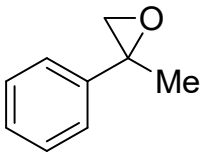


Spectroscopic data

Spectroscopic data for compound **2a**

IR (neat, cm^{-1}) ：2922, 2853^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：7.97-7.95 (m, 2H), 7.58-7.55 (m, 1H),7.48-7.44 (m, 2H),2.61 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 24 ◦ C, δ)：198.0, 136.9, 133.0, 128.4, 128.1, 26.4; HRMS(EI$^+$)：*m/z* calculated for C_8H_8O $[M]^+$, 120.0574. Found, 120.1575

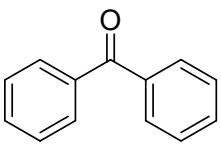
Spectroscopic data for compound **3a**



3a

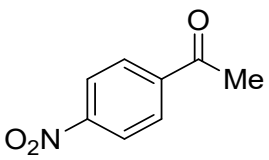
IR (neat, cm^{-1}) ：2922, 2904, 1454, 763, 703. ^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：7.39-7.33 (m, 4H), 7.30-7.28 (m, 1H), 2.98 (d, *J* = 5.4 Hz, 1H), 2.81 (dd, *J* = 0.6, 0.6 Hz, 1H), 1.73 (s, 3H)); ^{13}C NMR (75 MHz, $CDCl_3$, 24℃, δ) ：198.0, 136.9,132.9, 128.4,128.1,77.3, 77.0, 76.6, 26.2.

Spectroscopic data for compound **2b**



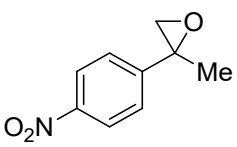
^{1}H NMR (400 MHz, $CDCl_3$, 24°C, δ) ：7.80 (d, J = 8.2 Hz, 4H), 7.60 (t, J = 7.6 Hz, 2H), 7.50 (t, J = 7.8 Hz, 4H) ； ^{13}C NMR (100 MHz, $CDCl_3$, 24°C, δ) ：137.7, 132.6, 130.2, 128.4, ； HRMS (EI) m/z: [M]+ calcd for $C_{13}H_{10}O$, 182.0732; found 182.0728；IR (neat, cm-1) ：1651, 1278, 706 cm.

Spectroscopic data for compound **2c**



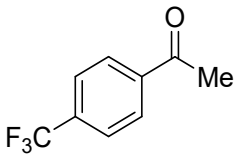
^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ)：8.32 (d, *J* = 8.8 Hz, 2H), 8.11 (d, *J* = 8.7 Hz, 2H), 2.68 (s, 3H); ^{13}C NMR(100 MHz, $CDCl_3$, 24 ◦ C, δ)：196.3, 150.2, 141.2, 129.2, 123.7, 26.9; IR(neat, cm^{-1})：1655, 1605, 448.; HRMS(EI$^+$)：*m/z* calculated for $C_8H_7NO_3$ $[M]^+$, 165.0428. Found, 165.0426.

Spectroscopic data for compound **3c**



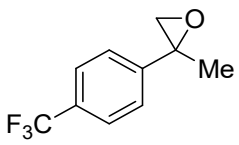
^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：8.19 (d, *J* = 8.6 Hz, 2H), 7.53 (d, *J* = 8.6 Hz, 2H), 3.05 (d, *J* = 5.3 Hz, 1H), 2.78 (d, *J* = 5.3 Hz, 1H), 1.76 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 24 ◦ C, δ) ：148.6, 126.2, 123.5, 57.1, 56.1, 21.1; IR (neat, cm^{-1}) ：2923, 2853, 1524, 1344; HRMS(FAB$^+$) ：*m/z* calculated for $C_9H_{10}NO_3$ [M+H] $^+$, 180.0656. Found, 180.0661.

Spectroscopic data for compound **2d**



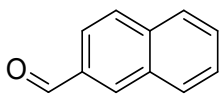
^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：8.06 (d, *J* = 8.0 Hz, 2H), 7.74 (d, *J* = 8.1 Hz, 2H), 2.65 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 24 ◦ C, δ) ：196.9, 139.6, 134.3, 128.5, 125.6, 122.2, 26.7. IR (neat, cm^{-1}) ：2928, 2852, 1326, 1125; HRMS(FAB$^+$) ：*m/z* calculated for $C_9H_8F_3O$ [M+H] $^+$, 189.0523. Found, 189.0527.

Spectroscopic data for compound **3d**



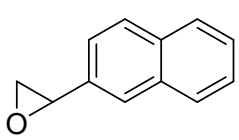
^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：7.59 (d, *J* = 8.1 Hz, 2H), 7.48 (d, *J* = 8.1 Hz, 2H), 3.01 (d, *J* = 5.2 Hz, 1H), 2.77 (d, *J* = 5.2 Hz, 1H), 1.74 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 24 ◦ C, δ) ：148.6, 147.1, 126.1, 123.4, 57.1, 56.1, 21.0; IR (neat, cm^{-1}) ：2931, 2853, 1364; HRMS(FAB$^+$) ：*m/z* calculated for $C_{10}H_9F_3O$ [M-H] $^+$, 201.0528. Found, 201.0527.

Spectroscopic data for compound **2e**



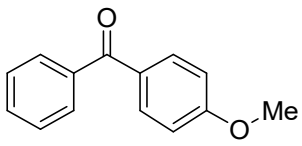
IR (KBr, cm^{-1}) ：1697, 1344, 750, 482; ^{1}H NMR (400 MHz, $CDCl_3$, 24 ◦ C, δ) ：10.17 (s, 1H), 8.35 (s, 1H), 8.03-7.9(m, 4H), 7.67-7.58 (m, 2H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ◦ C, δ) ：192.2, 136.5, 134.5, 134.1, 132.6, 129.5, 129.1, 128.1, 127.1, 122.8; HRMS(EI$^+$) ：*m/z* calculated for $C_{11}H_8O$ [M]$^+$, 156.0571. Found, 156.0575

Spectroscopic data for compound **3e**



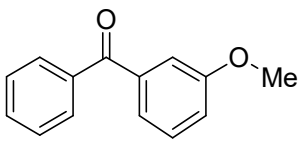
^{1}H NMR (300 MHz, $CDCl_3$, 24 ° C, δ) ：7.85-7.82 (m, 4H), 7.50-7.47 (m, 2H), 7.34-7.32 (m, 1H), 4.05-4.03(m, 1H), 3.23 (t, *J* = 12.8 Hz, 1H), 2.91 (dd, *J*= 3.4, 3.4, 1H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ° C, δ) ：133.3, 133.2, 128.4, 127.7, 126.3, 126.1, 125.2, 122.6, 52.6, 51.3; IR (KBr, cm^{-1}) ：2922, 1690, 1259, 1016, 482; HRMS(EI^+) ：*m/z* calculated for $C_{12}H_{10}O$ $[M]^+$, 170.0737. Found, 170.0732.

Spectroscopic data for compound **2g**



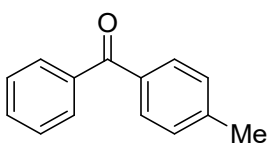
^{1}H NMR (400 MHz, $CDCl_3$, 24 ° C, δ) ：7.83 (d, *J* = 8.8 Hz, 2H), 7.76(d, *J* = 7.5 Hz, 2H), 7.57(t, *J* = 14.6 Hz, 1H), 7.47 (t, *J* = 13.8 Hz, 2H), 6.97 (d, *J*= 8.7Hz, 2H), 3.89 (s, 3H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ° C, δ) ：195.5, 163.2, 138.2, 132.5, 131.8, 130.1, 129.7, 128.1, 113.5, 55.4; IR (neat, cm^{-1}) ：2923, 2904, 1651, 1597, 1257, 1171, 1027, 920, 702, 600. HRMS(EI^+) ：*m/z* calculated for $C_{14}H_{12}O_2$ $[M]^+$, 212.0843. Found, 212.0837.

Spectroscopic data for compound **3h**



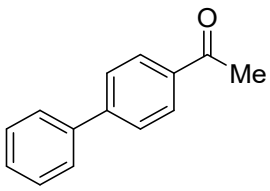
^{1}H NMR (400 MHz, $CDCl_3$, 24 ° C, δ) ：7.81 (d, *J* = 7.0 Hz, 2H), 7.59 (t, *J* = 14.8 Hz, 1H), 7.48 (t, *J* = 15 Hz, 2H), 7.40-7.33 (m, 3H), 7.15-7.13 (m, 1H), 3.86 (s, 3H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ° C, δ) ：196.5, 159.5, 138.9, 137.6, 132.4, 130.0, 129.2, 128.2, 122.8, 118.8, 114.3, 55.4; IR (neat, cm^{-1}) ：2922, 2853, 1659, 1283, 1043, 721; HRMS(EI^+) ：*m/z* calculated for $C_{14}H_{12}O_2$ $[M]^+$, 212.0838. Found, 212.0837.

Spectroscopic data for compound **2i**



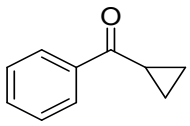
^{1}H NMR (400 MHz, $CDCl_3$, 24 ° C, δ) ：7.76 (dd, J = 7.0, 8.0 Hz, 3H), 7.60-7.56 (m, 1H), 7.49-7.46 (m, 2H), 7.28(t, *J* = 13.7 Hz, 3H), 2.44 (s, 3H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ° C, δ) ：196.5, 143.2, 137.9, 134.9, 132.1, 130.3, 130.0, 128.9, 128.2, 21.6; HRMS(EI^+) ：*m/z* calculated for $C_{14}H_{12}O$ $[M]^+$, 196.0890. Found, 196.0888; IR (neat, cm^{-1})：3056, 2922, 2904, 1657, 1605, 1448, 1276, 1179, 922, 699.

Spectroscopic data for compound **2j**



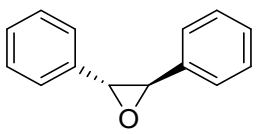
^{1}H NMR (400 MHz, $CDCl_3$, 24 ° C, δ) ：8.04 (d, *J* = 8.4 Hz, 2H), 7.69(d, *J* = 8.4 Hz, 2H), 7.63 (d, *J* = 7.1 Hz, 2H), 7.48, (t, *J* =14.8 Hz, 2H), 7.40 (t, *J* = 14.2 Hz, 1H), 2.65 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 24 ° C, δ) ：197.7, 145.7, 139.7, 135.7, 128.9, 128.2, 127.1, 26.6; IR (KBr, cm^{-1}) ：1682, 1600, 1265, 762, 894; HRMS(EI$^+$) ：*m/z* calculated for $C_{14}H_{12}O$ $[M]^+$, 196.0886. Found, 196.0888.

Spectroscopic data for compound **2k**



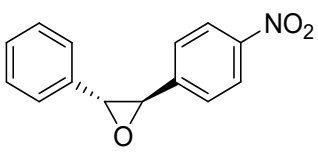
^{1}H NMR (400 MHz, $CDCl_3$, 24 ° C, δ) ：8.02 (d, *J* = 7.2Hz, 2H), 7.59-7.46(m, 3H), 2.70-2.67(m, 1H), 1.26-1.24 (m, 2H), 1.06-1.03(m, 2H); ^{13}C NMR (75 MHz, $CDCl_3$, 24 ° C, δ) ：200.3, 137.7, 132.5, 128.2, 127.7, 16.9, 11.4; IR (neat, cm^{-1}) ：3062, 1667, 1449, 1387, 1225, 992, 704; HRMS(FAB$^+$) ：*m/z* calculated for $C_{10}H_{11}O$ $[M+H]^+$, 147.0807. Found, 147.0810.

Spectroscopic data for compound **5a**



^{1}H NMR (400 MHz, $CDCl_3$, 23 °C) ：7.39-7.32 (m, 10H), 3.87 (s, 2H).^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ) ：137.2, 128.7, 128.4, 125.6, 62.9. IR (KBr film, cm^{-1}) ：1523, 1482, 883, 791, 733 cm^{-1}. HRMS (EI)：*m/z* calculated for $C_{14}H_{12}O$ $[M]^+$, 196.0888 Found, 196.0889.

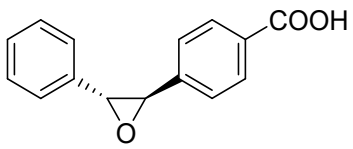
Spectroscopic data for compound **5c**



^{1}H NMR (400 MHz, $CDCl_3$, 23 °C) ：8.27-8.24 (m, 2H), 7.53-7.50 (m, 2H), 7.44-7.33 (m, 5H), 3.98 (d, *J* = 1.76 Hz, 1H), 3.86 (d, *J* = 1.8 Hz, 1H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ) ：147.8, 144.5, 136.1, 128.8, 128.7, 126.3, 125.6, 123.9, 63.4, 61.7.

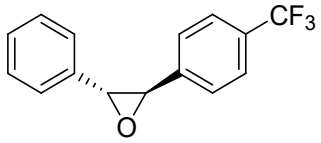
IR (KBr film, cm^{-1}) ： 1488, 1485, 1070, 1008, 816, 748, 699 cm^{-1}. HRMS (EI)： *m/z* calculated for $C_{14}H_{11}NO_3$ $[M]^+$, 241.0739. Found, 241.0736.

Spectroscopic data for compound **5d**



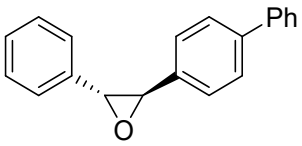
^{1}H NMR (400 MHz, $CDCl_3$, 23 °C)：8.03 (s, 2H), 7.97-7.93 (m, 2H), 7.51 (d, *J* = 8.0 Hz, 2H), 7.41-7.40 (m, 4H), 4.2 (d, *J* = 1.6 Hz, 1H) , 4.1 (d, *J* = 2.0 Hz, 1H).^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ)：167.5, 142.3, 136.8, 135.0, 130.9, 130.0, 129.9, 129.1, 126.4, 126.3, 62.5, 61.6. HRMS (EI)：*m/z* calculated for $C_{15}H_{12}O_3$ $[M]^+$, 240.0786. Found, 240.0788.

Spectroscopic data for compound **5e**



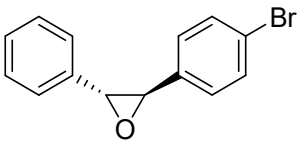
^{1}H NMR (400 MHz, $CDCl_3$, 23 °C)：7.65 (d, *J* = 8.1 Hz, 2H), 7,47 (d, *J* = 8.2 Hz, 2H), 7.43-7.34 (m, 5H), 3.93 (d, *J* = 1.7 Hz, 1H), 3.84 (d, *J* = 1.8 Hz, 1H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ)：141.3, 136.6, 128.7, 128.6, 125.9, 125.7, 125.61, 125.60, 125.57, 125.54, 63.1, 62.0. IR (KBr film, cm^{-1})：2987, 2922, 1326, 1153, 1118, 1123, 828, 745, 698 cm^{-1}.HRMS (EI)：*m/z* calculated for $C_{15}H_{11}F_3O$ $[M]^+$, 264.0762. Found, 264.0769.

Spectroscopic data for compound **5f**



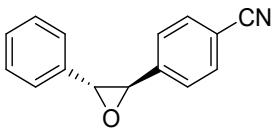
IR (KBr film, cm^{-1})：2922, 2912, 828,751,693 cm^{-1}.^{1}H NMR (400 MHz, $CDCl_3$, 23 °C, ⍰)：7.63-7.59 (m, 4H), 7.47-7.35 (m, 10H), 3.92 (s, 2H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C)：141.4, 140.7, 137.2, 136.2, 128.9, 128.8, 128.7, 128.4, 127.5, 127.4, 127.1, 126.1, 125.6, 63.0, 62.8.HRMS (EI)：*m/z* calculated for $C_{20}H_{16}O$ $[M]^+$, 272.1201. Found, 272.1196.

Spectroscopic data for compound **5g**



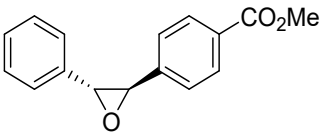
^{1}H NMR (400 MHz, $CDCl_3$, 23 ^{o}C)：7.51 (d, *J* = 8.3 Hz, 2H) 7.41-7.33 (m, 5H) 7.22 (d, *J* = 8.3 Hz, 2H) 3.83 (d, *J* = 5.9 Hz, 2H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 ^{o}C, δ)：136.8, 136.3, 131.8, 128.7, 128.6, 127.3, 125.6, 122.3, 63.0, 62.3. IR (KBr film, cm^{-1})： 1605, 1513, 1348, 1105, 838, 756 cm^{-1}.HRMS (EI)：*m/z* calculated for $C_{14}H_{11}{}^{79}BrO$ $[M]^+$, 273.9993. Found, 274.0001.

Spectroscopic data for compound **5h**



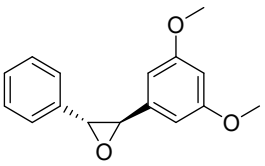
^{1}H NMR (400 MHz, $CDCl_3$, 23 °C) ：7.51 (d, *J* = 8.3 Hz, 2H) 7.41-7.33 (m, 5H) 7.22 (d, *J* = 8.3 Hz, 2H) 3.83 (d, *J* = 5.9 Hz, 2H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C,) ：142.5, 136.2, 132.4, 128.8, 128.7, 126.2, 125.6, 118.7, 112.0, 63.2, 61.9. IR (KBr film, cm^{-1}) ：3055, 2977, 2211, 1914, 1823, 1599, 1477, 1437, 1411, 1262, 1055 cm^{-1}. HRMS (EI)：*m/z* calculated for $C_{15}H_{11}NO$ $[M]^+$, 221.0841 Found, 221.0839.

Spectroscopic data for compound **5i**



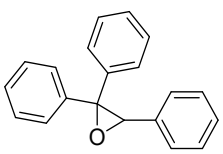
^{1}H NMR (400 MHz, $CDCl_3$, 23 °C) ：7.51 (d, *J* = 8.3 Hz, 2H) 7.41-7.33 (m, 5H) 7.22 (d, *J* = 8.3 Hz, 2H) 3.83 (d, *J* = 5.9 Hz, 2H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ) ：166.7, 142.2, 136.6, 130.1, 129.9, 128.7, 128.6, 125.6, 125.5, 63.1, 62.3, 52.2. IR (KBr film, cm^{-1}) ： 1735, 1441, 1233, 1053 cm^{-1}; HRMS (EI)：*m/z* calculated for $C_{16}H_{14}O_3$ $[M]^+$, 254.0943 Found, 254.0947

Spectroscopic data for compound **5j**



^{1}H NMR (400 MHz, $CDCl_3$, 23 °C) ：7.40-7.32 (m, 5H) 6.51 (d, *J* = 2.3 Hz, 2H) 6.43 (t, *J* = 2.3 Hz, 1H) 3.83 (q, *J* = 2.2 Hz, 2H) 3.8 (s, 6H) .^{13}C NMR (100 MHz, $CDCl_3$, 23 °C, δ)：161.1, 139.7, 137.0, 128.6, 128.4, 125.5, 103.2, 100.5, 62.9, 62.6, 55.4. IR (KBr film, cm^{-1}) ：3005, 2922, 1611, 1458, 1360, 1222, 1170 cm^{-1}. HRMS (EI)：*m/z* calculated for $C_{16}H_{16}O_3$ $[M]^+$, 256.1099. Found, 256.1096.

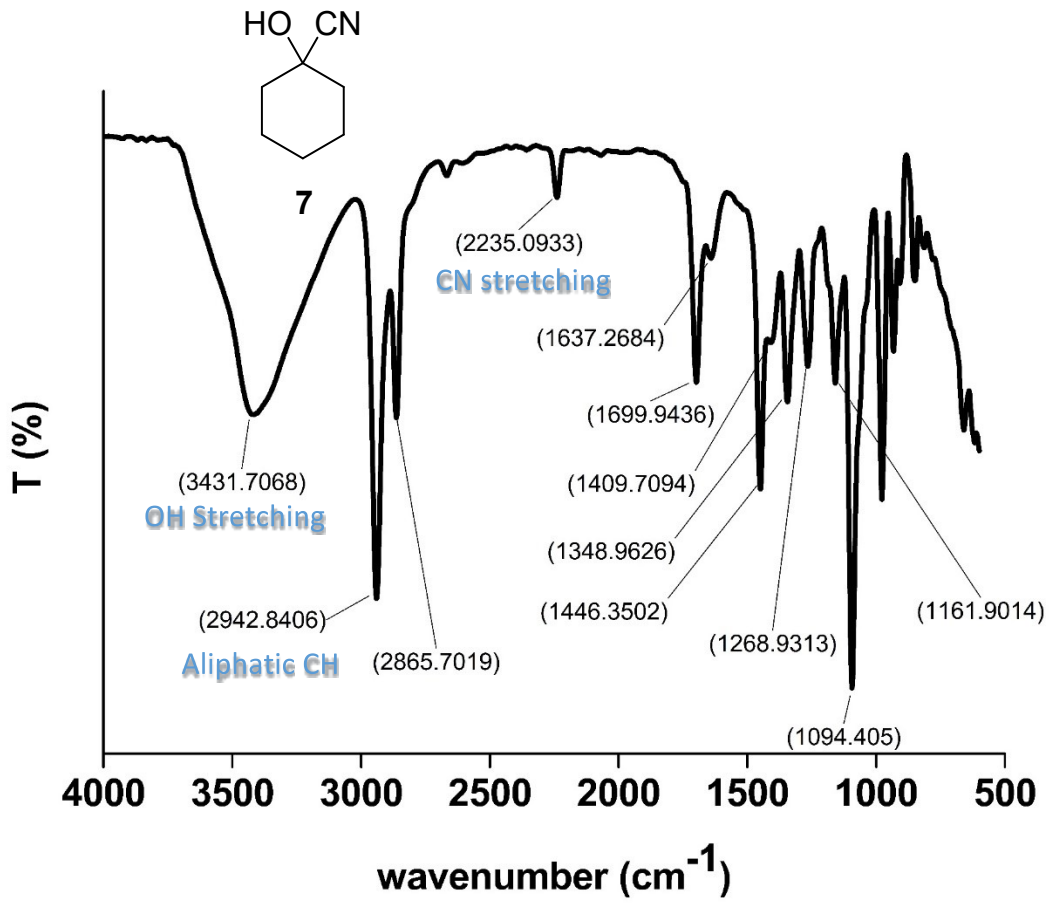
Spectroscopic data for compound **5k**



^{1}H NMR (400 MHz, $CDCl_3$, 23 ^{o}C) ：7.51 (d, *J* = 8.3 Hz, 2H) 7.41-7.33 (m, 5H) 7.22 (d, *J* = 8.3 Hz, 2H) 3.83 (d, *J* = 5.9 Hz, 2H).^{13}C NMR (100 MHz, $CDCl_3$, 23 ^{o}C, δ) ：141.1, 135.9, 135.6, 129.3, 128.5, 128.0, 127.9, 127.85, 127.79, 127.7, 126.9, 126.4, 68.8, 68.2. IR (KBr film, cm^{-1})3074, 3032, 3001, 2989, 2913, 1597, 1132 cm^{-1}. HRMS (EI) ：*m/z* calculated for $C_{20}H_{16}O$ $[M]^{+}$, 272.1201 Found, 272.1206

Spectroscopic data for compound **7**

Compound obtained as a colourless oil. ^{1}H NMR (400 MHz, $CDCl_3$) δ δ 4.28 (s, 1H), 2.04 (m, 2H), 1.75 (m, 7H), 1.55-1.45 (m, 1H), 1.23 (m, *J* = 3.2 Hz, 1H)). ^{13}C NMR (75 MHz, $CDCl_3$) δ 121.9, 69.5, 37.6, 24.3, 22. 4. IR (KBr film, cm^{-1}). 3431.7, 2942.8, 2860.8, 2235.0, 1637.3, 1699.9, 1447.3, 1268.9, 1094.4.

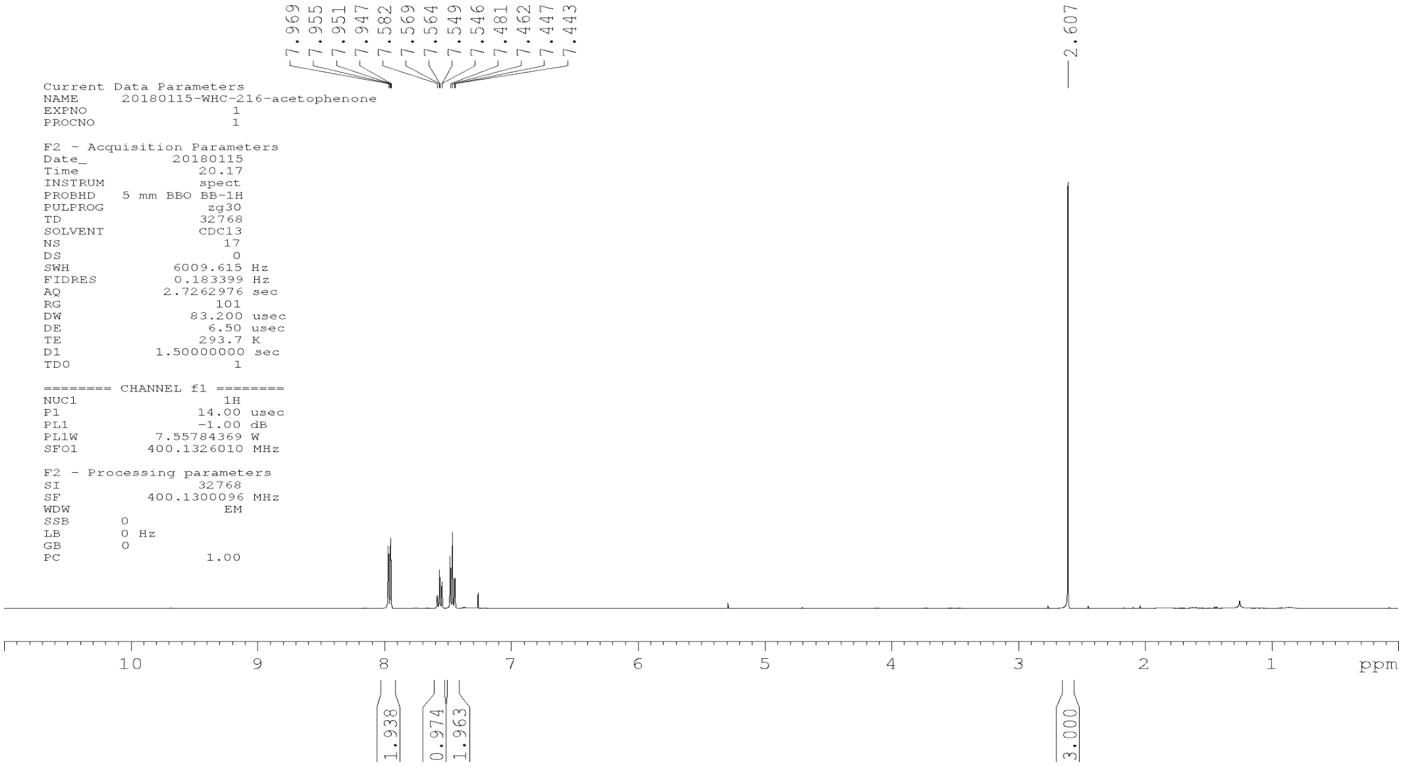


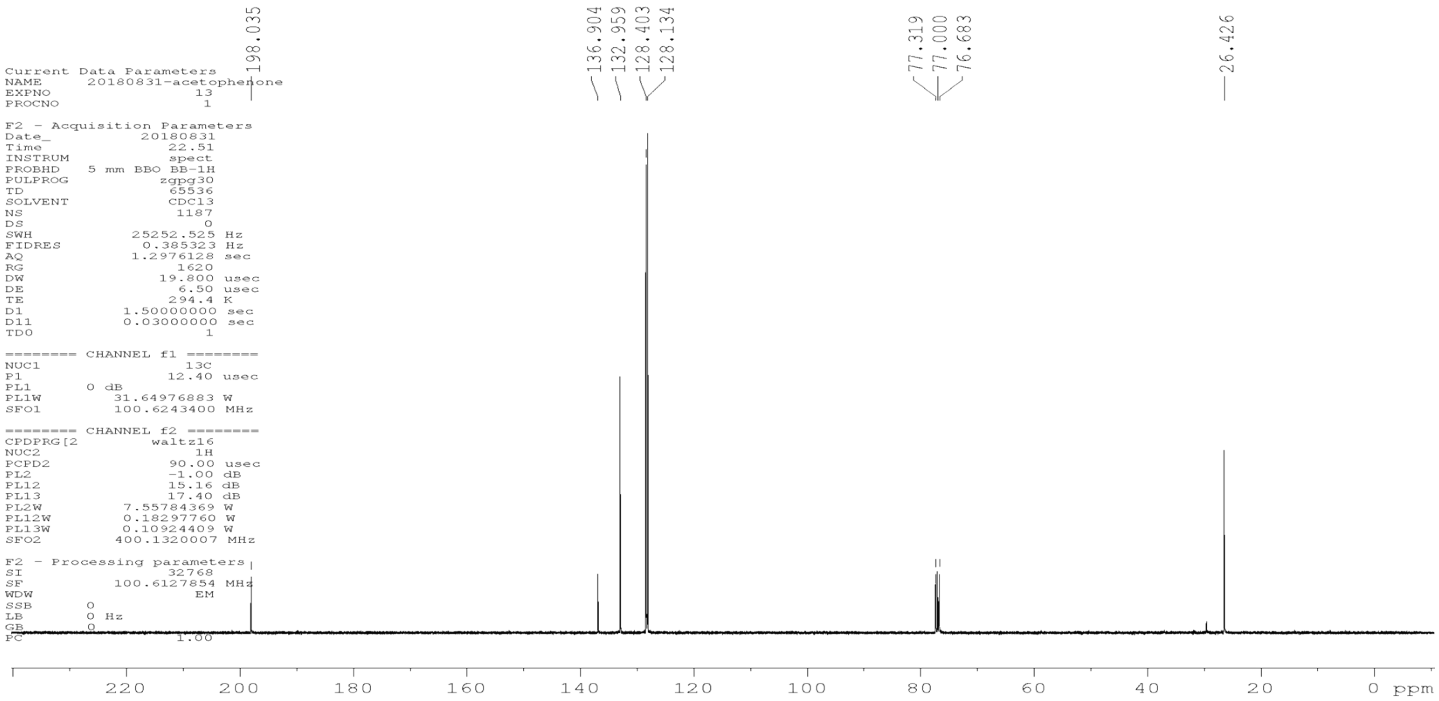
References

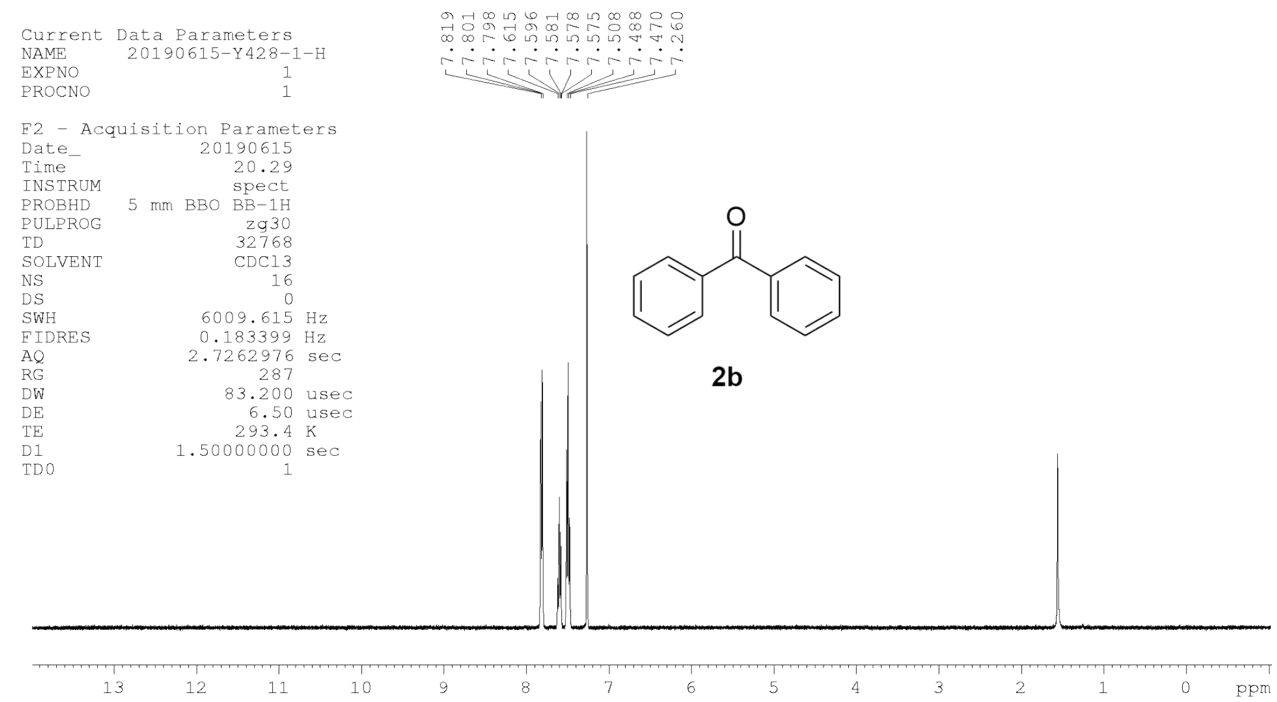
[1] (a) Peyroux, E. ; Berthiol, F. ; Doucet, H. ; Santelli, M. *Eur. J. Org. Chem.* **2004,** *5,* 1075. (b) Cussó, O. ; Ribas, X. ; Lloret-Fillol, J. ; Costas, M. *Angew. Chem.* **2015,** *54,* 2729. (c) Terent'ev, A. O ; Mulina, O. M ; Pirgach, D. A ; Demchuk, D. V ; Syroeshkin, M. A ; Nikishin, G. I *RSC Adv.* **2016,** *6,* 93476

[2] (a) [Stilbene synthesis] Yao, Q.-W; K, E. P.; Yang, Z. *J. Org. Chem.* **2003**, *68*, 7528. (b) Yu, L.; Huang, Y.; Wei, Z.; Ding, Y,; Su, C.; Xu, Q. *J. Org. Chem.* **2015**, *80*, 8677. (c) Tang, J. ; Hackenberger, D. ; Goossen, L.-J. *Angew. Chem.* **2016,** *55,* 11296.

NMR Spectras:



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FIDRES 0.183399 Hz
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DE 6.50 usec
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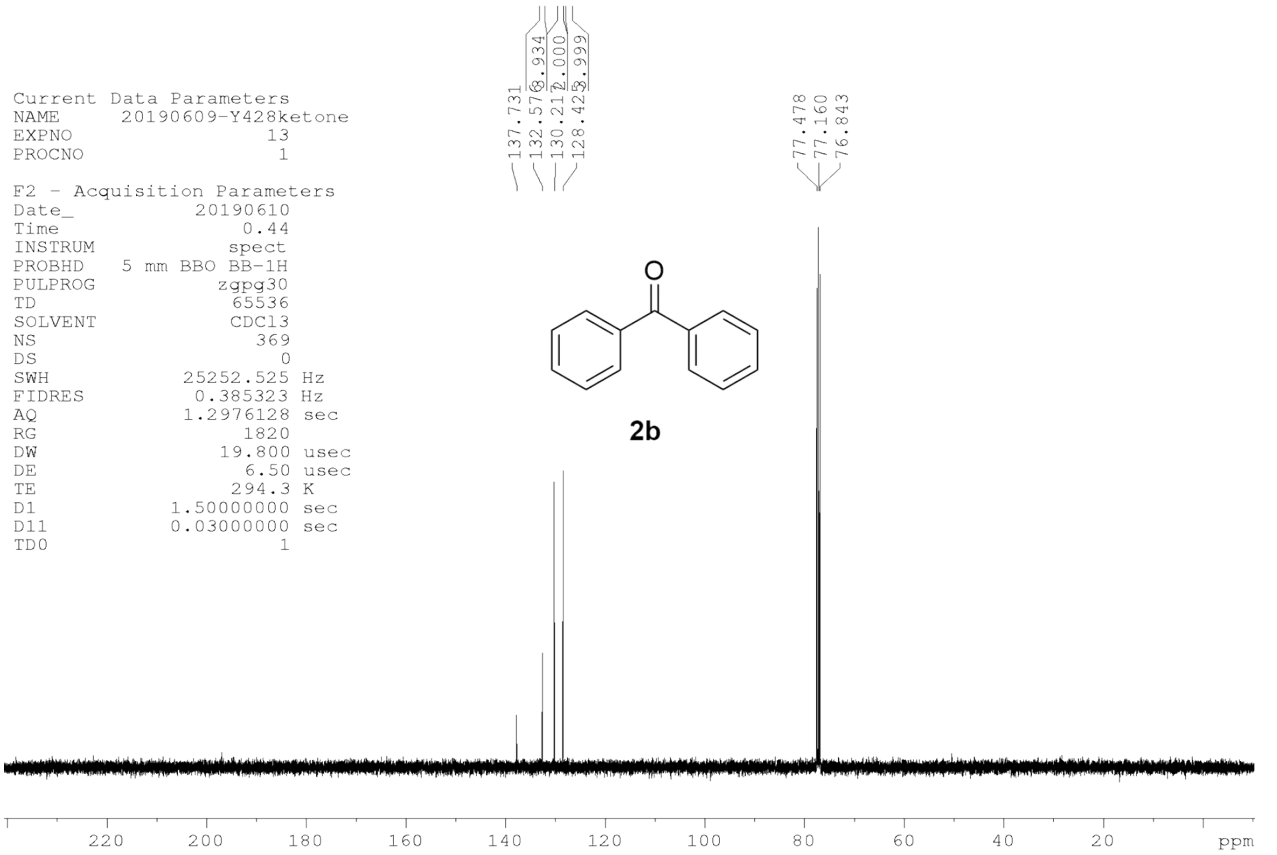
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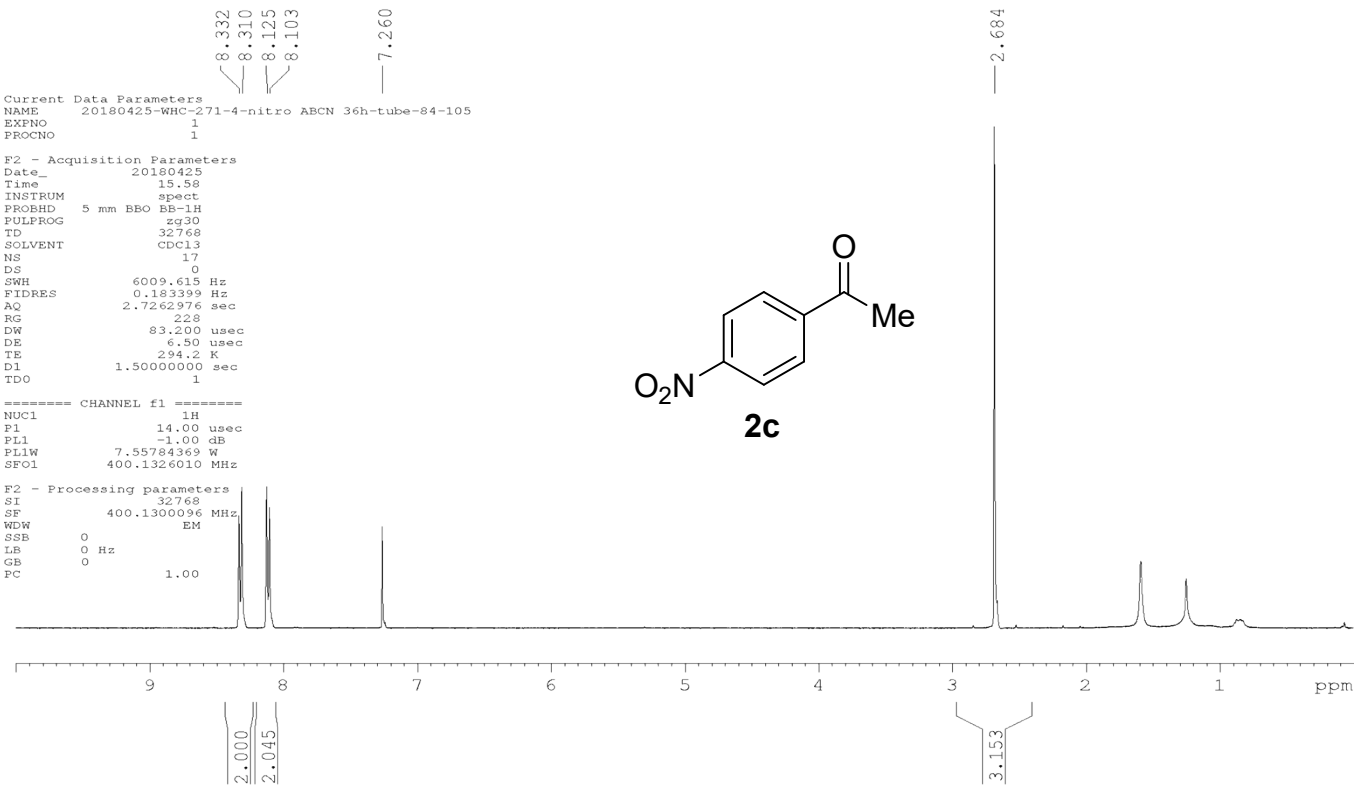
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WDW EM
SSB 0
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GB 0
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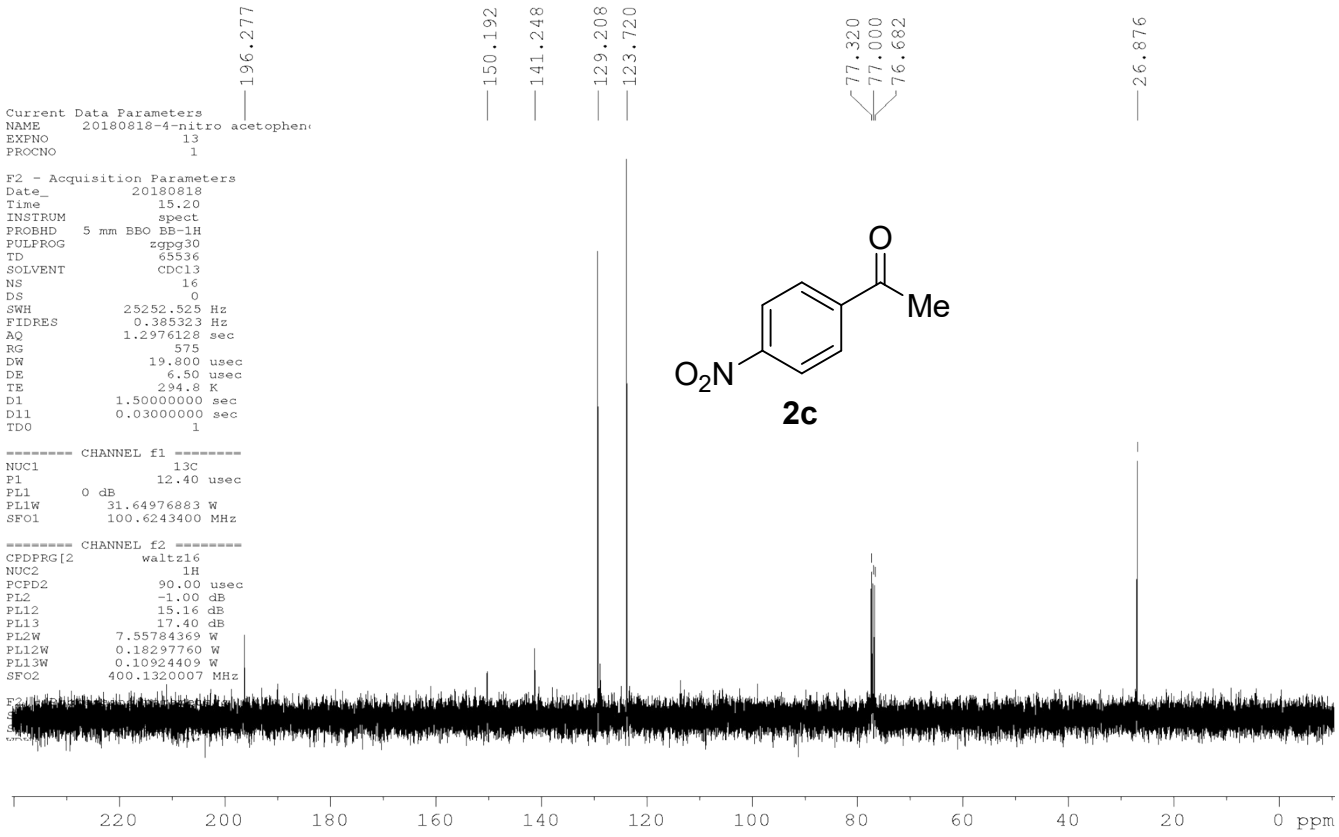
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TE 294.8 K
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D11 0.03000000 sec
TD0 1
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======== CHANNEL f2 ========
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PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
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PL13W 0.10924409 W
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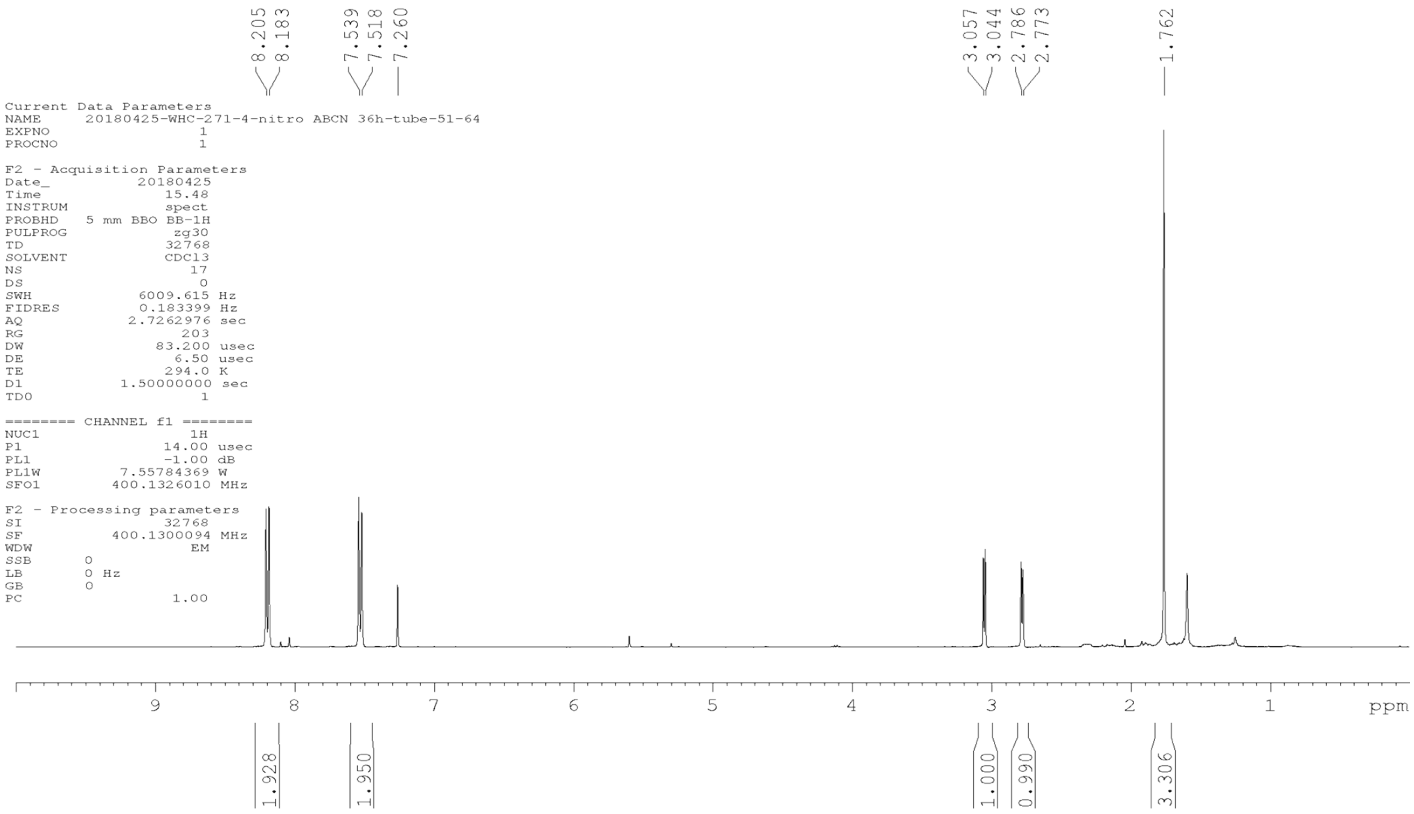
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TE 294.0 K
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TD0 1
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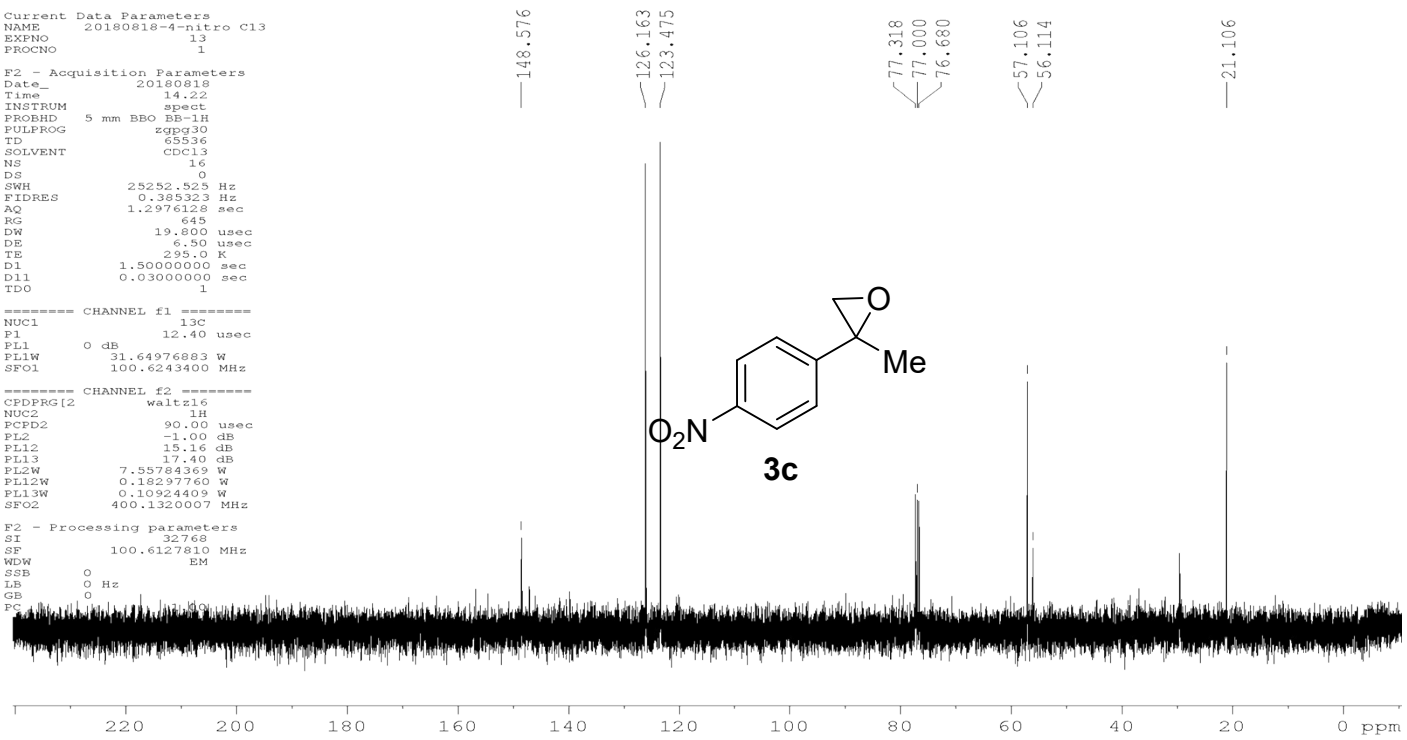
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PROCNO 1
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FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 645
DW 19.800 usec
DE 6.50 usec
TE 295.0 K
D1 1.50000000 sec
D11 0.03000000 sec
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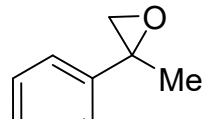
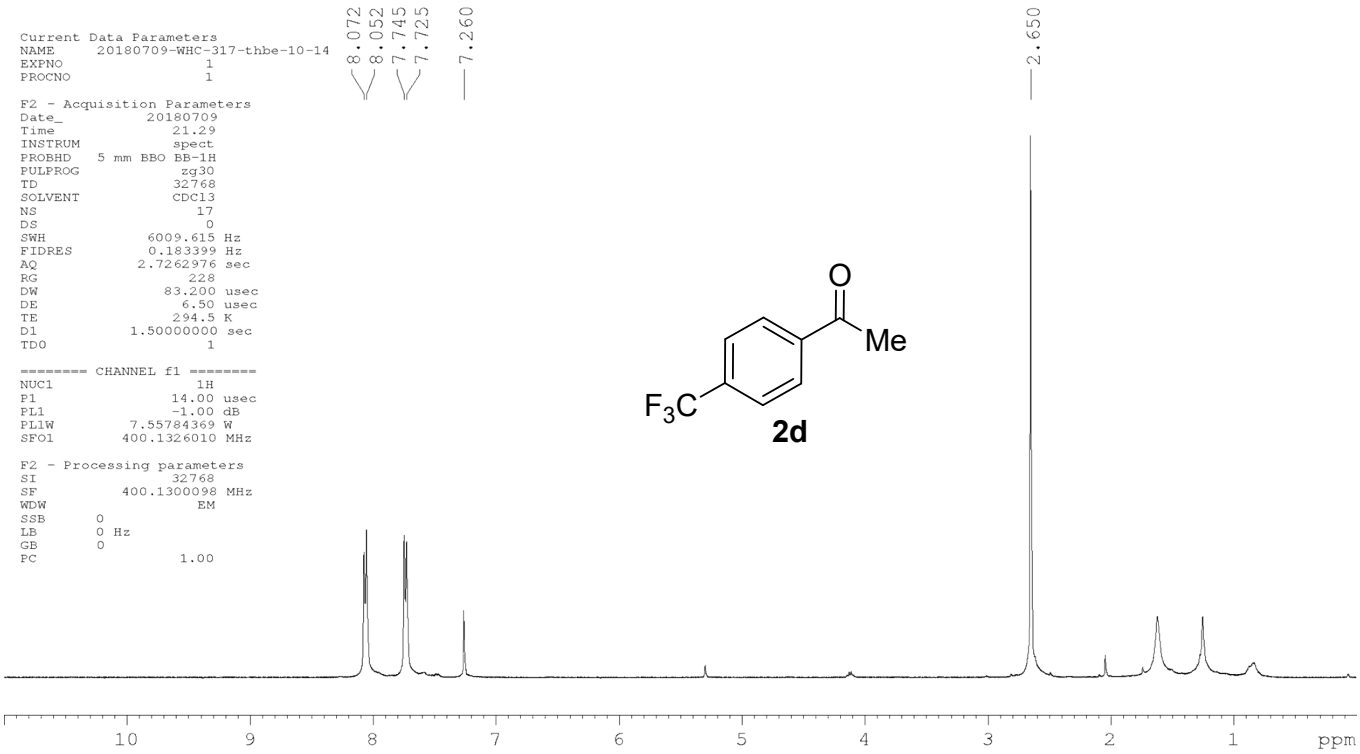
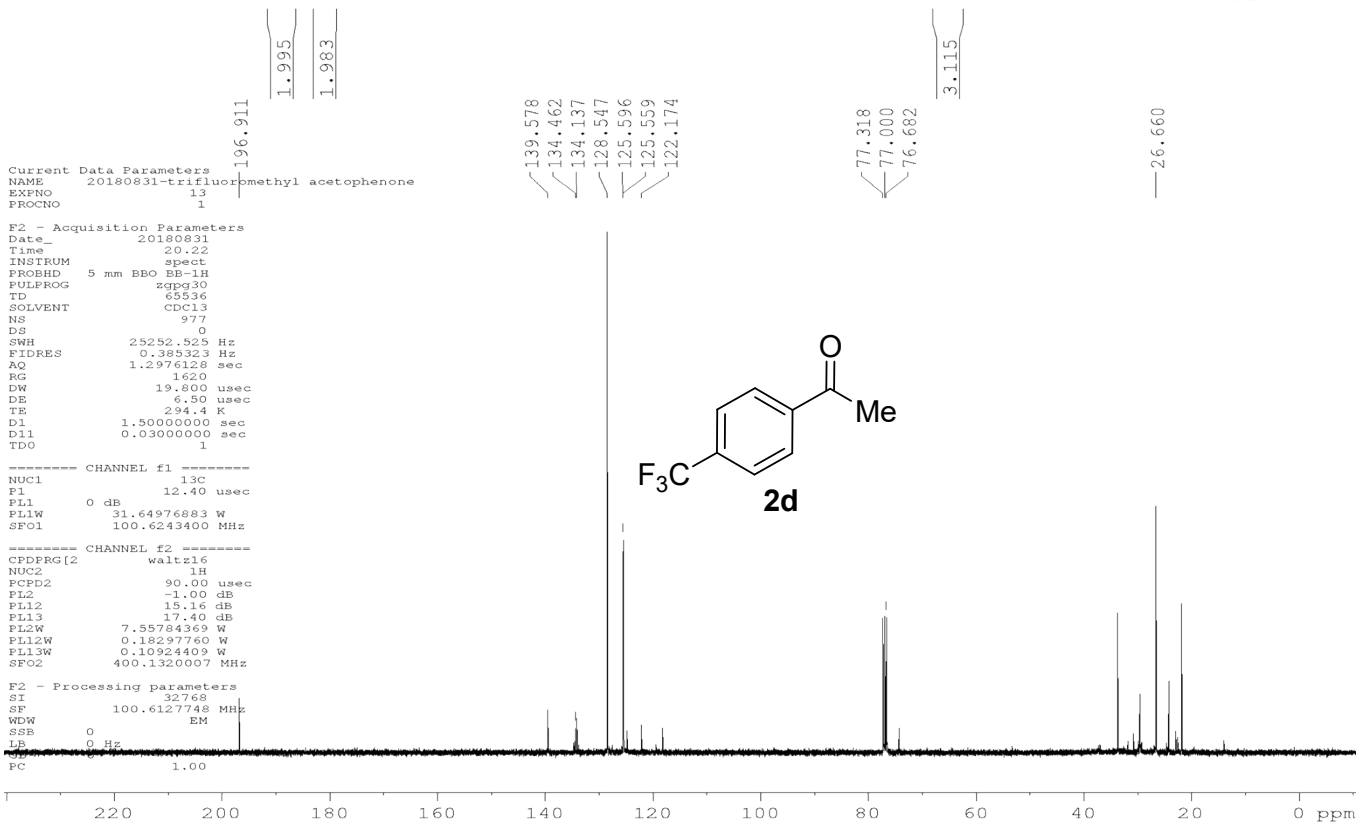
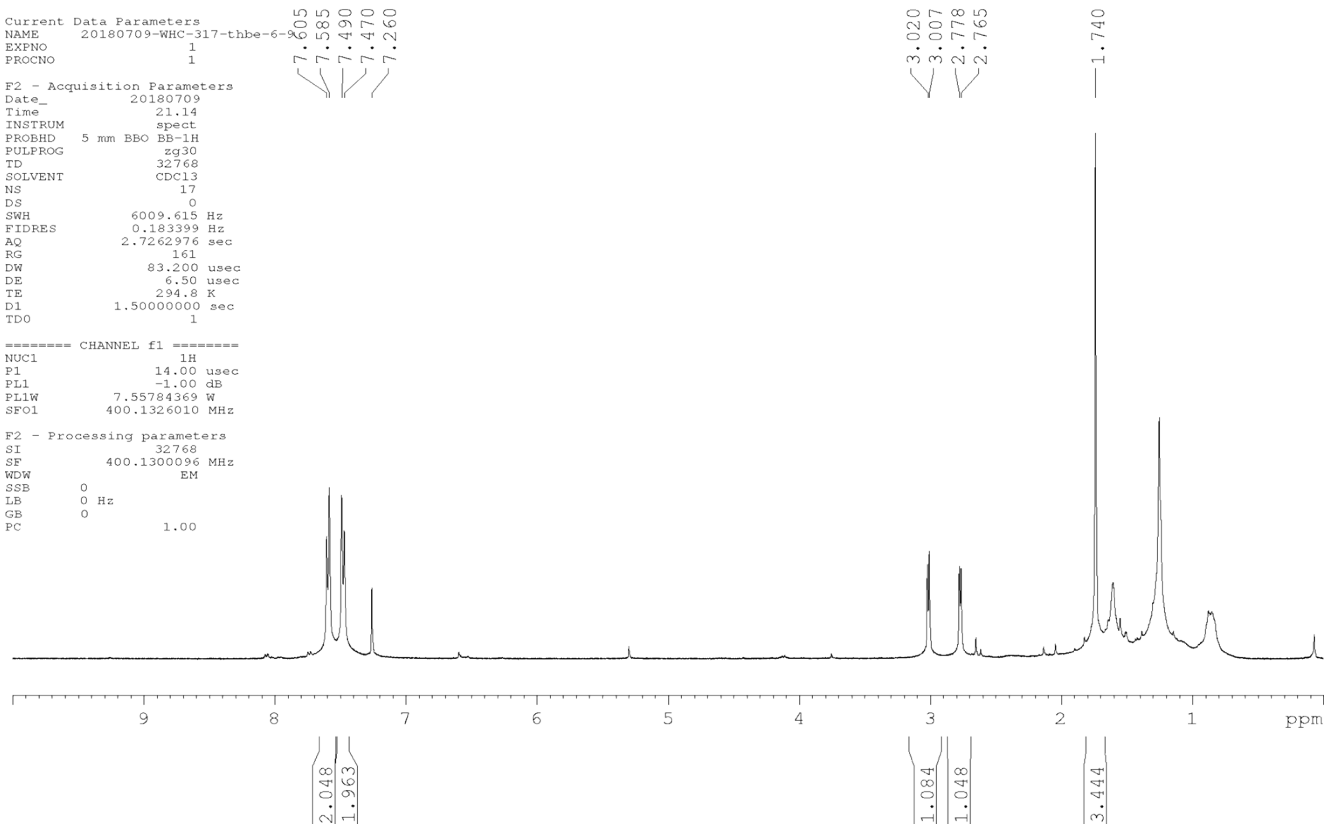
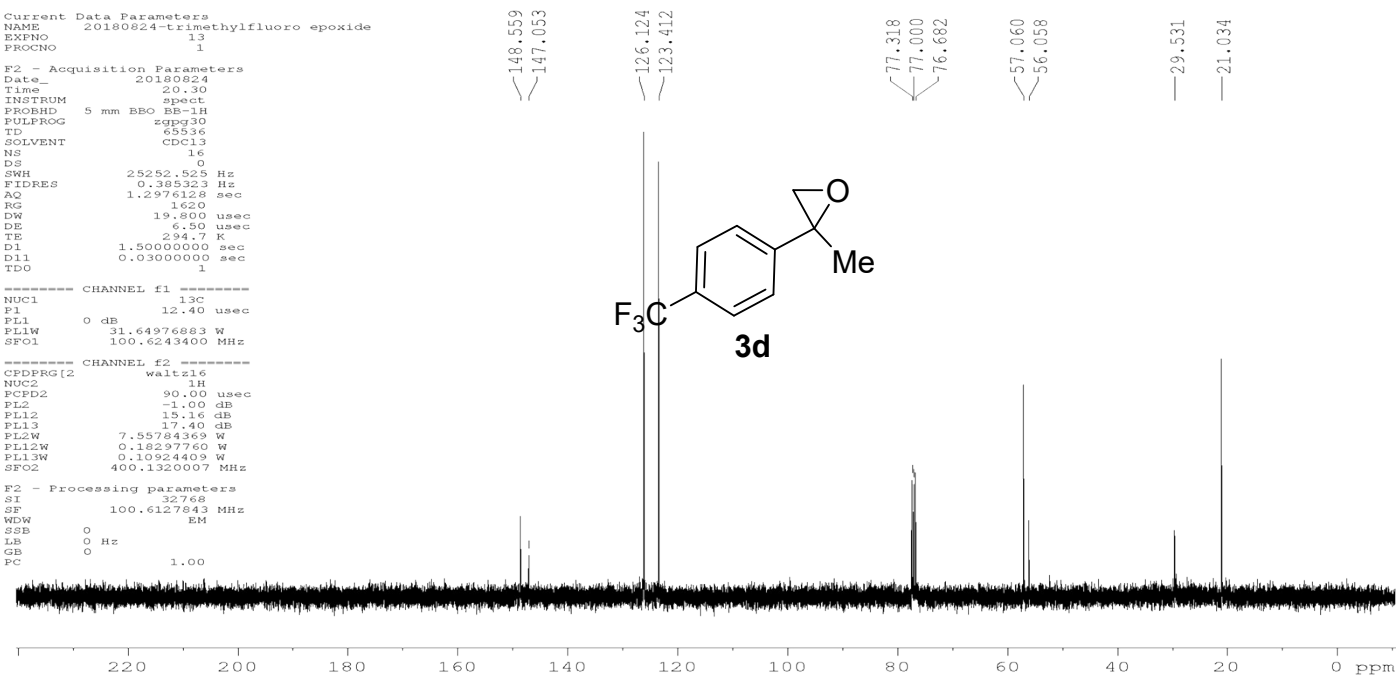
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127810 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
148.576
126.163
123.475
77.318
77.000
76.680
57.106
56.114
21.106
O
Me
O2N
3c
220
200
180
160
140
120
100
80
60
40
20
0 ppm

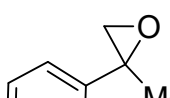

O
Me

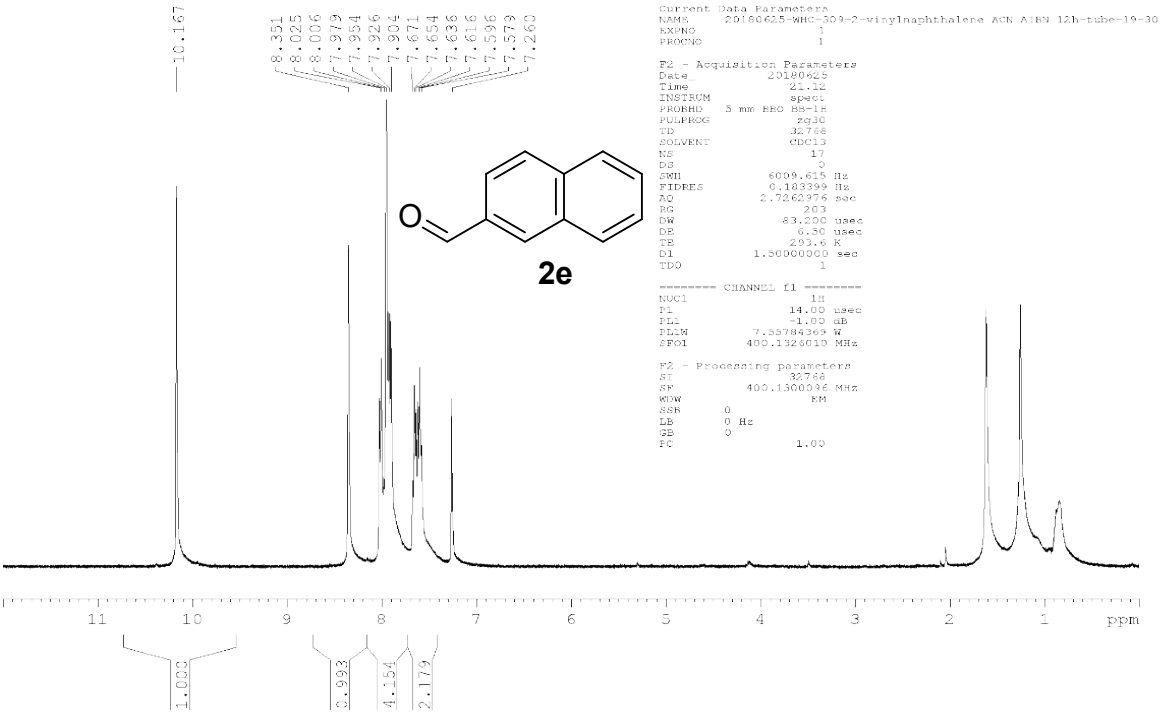

8.072
8.052
7.745
7.725
7.260
2.650
Current Data Parameters
NAME 20180709-WHC-317-thbe-10-14
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180709
Time 21.29
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 294.5 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300098 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
Me
F3C
2d
10
9
8
7
6
5
4
3
2
1
ppm

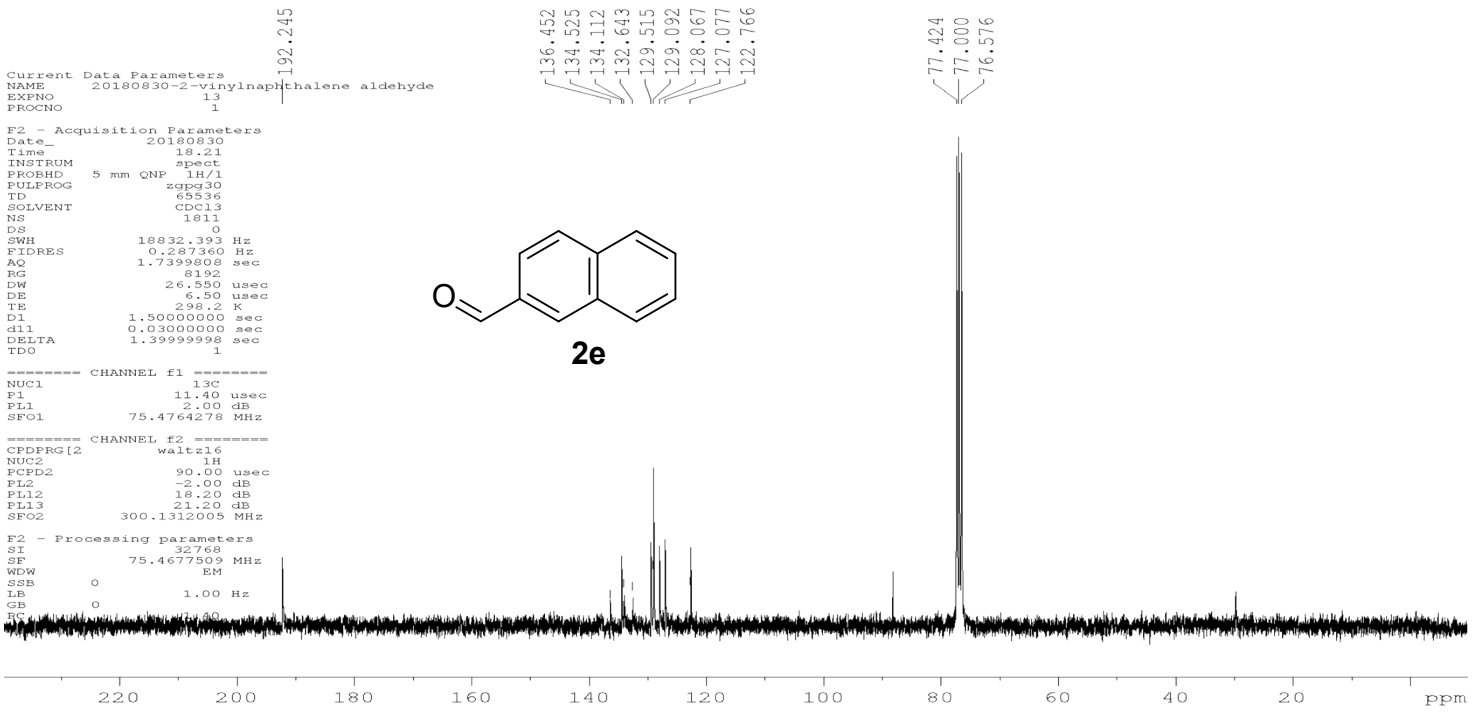

1.995
1.983
3.115
196.911
139.578
134.462
134.137
128.547
125.596
125.559
122.174
77.318
77.000
76.682
26.660
Current Data Parameters
NAME 20180831-trifluoromethyl acetophenone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180831
Time 20.22
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 977
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 1620
DW 19.800 usec
DE 6.50 usec
TE 294.4 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127748 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
Me
F3C
2d
220
200
180
160
140
120
100
80
60
40
20
0 ppm

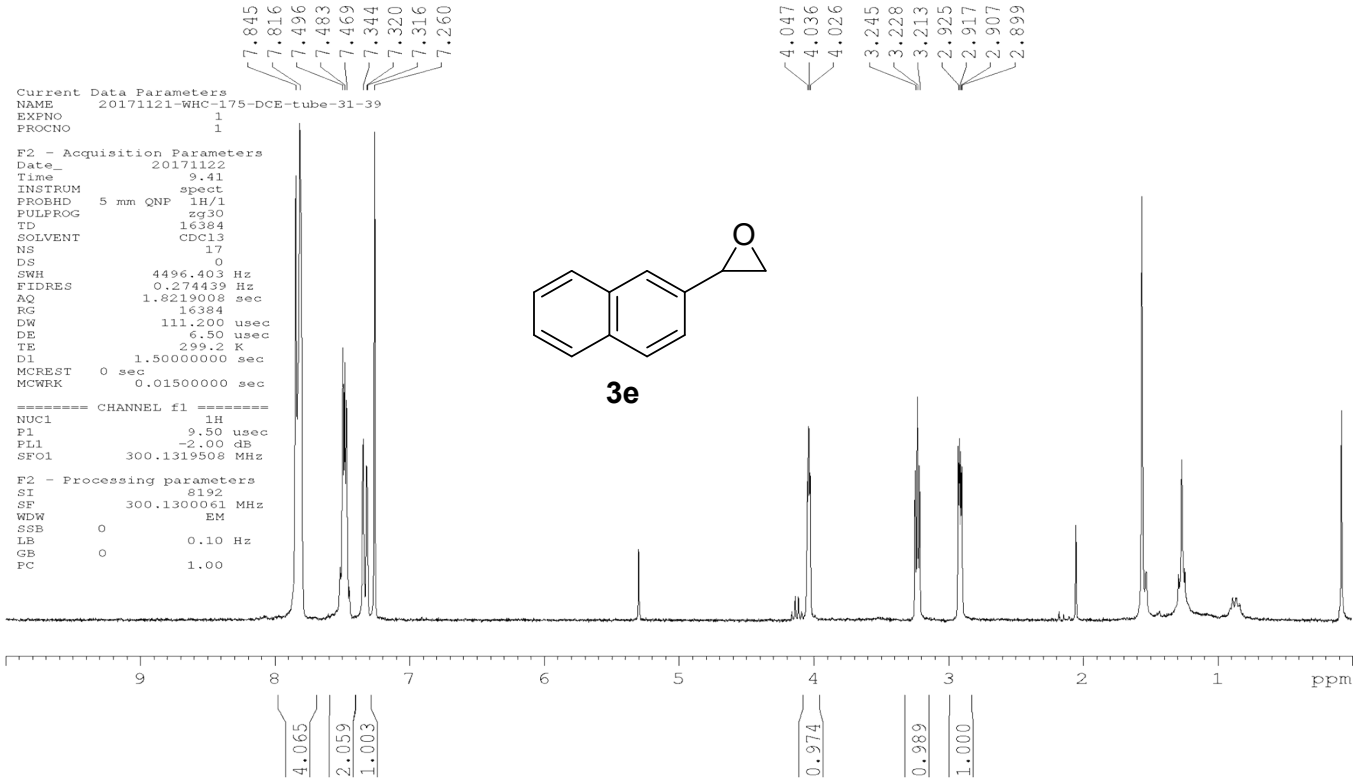

Current Data Parameters
NAME 20180709-WHC-317-thbe-6-9
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180709
Time 21.14
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 161
DW 83.200 usec
DE 6.50 usec
TE 294.8 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.605
7.585
7.490
7.470
7.260
3.020
3.007
2.778
2.765
1.740
2.048
1.963
1.084
1.048
3.444
ppm

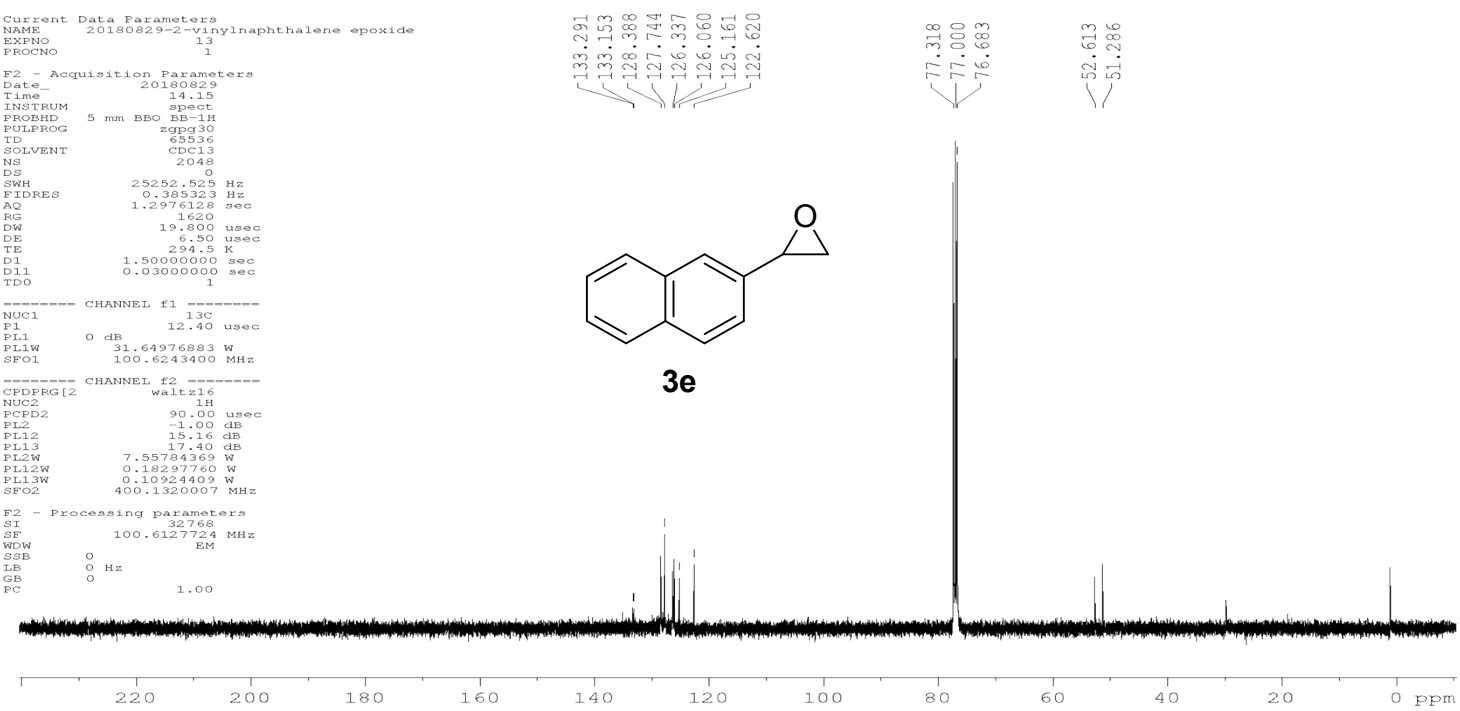

Current Data Parameters
NAME 20180824-trimethylfluoro epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180824
Time 20.30
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 16
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 1620
DW 19.800 usec
DE 6.50 usec
TE 294.7 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127843 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
148.559
147.053
126.124
123.412
77.318
77.000
76.682
57.060
56.058
29.531
21.034
O
Me
F3C
3d
220
200
180
160
140
120
100
80
60
40
20
0 ppm

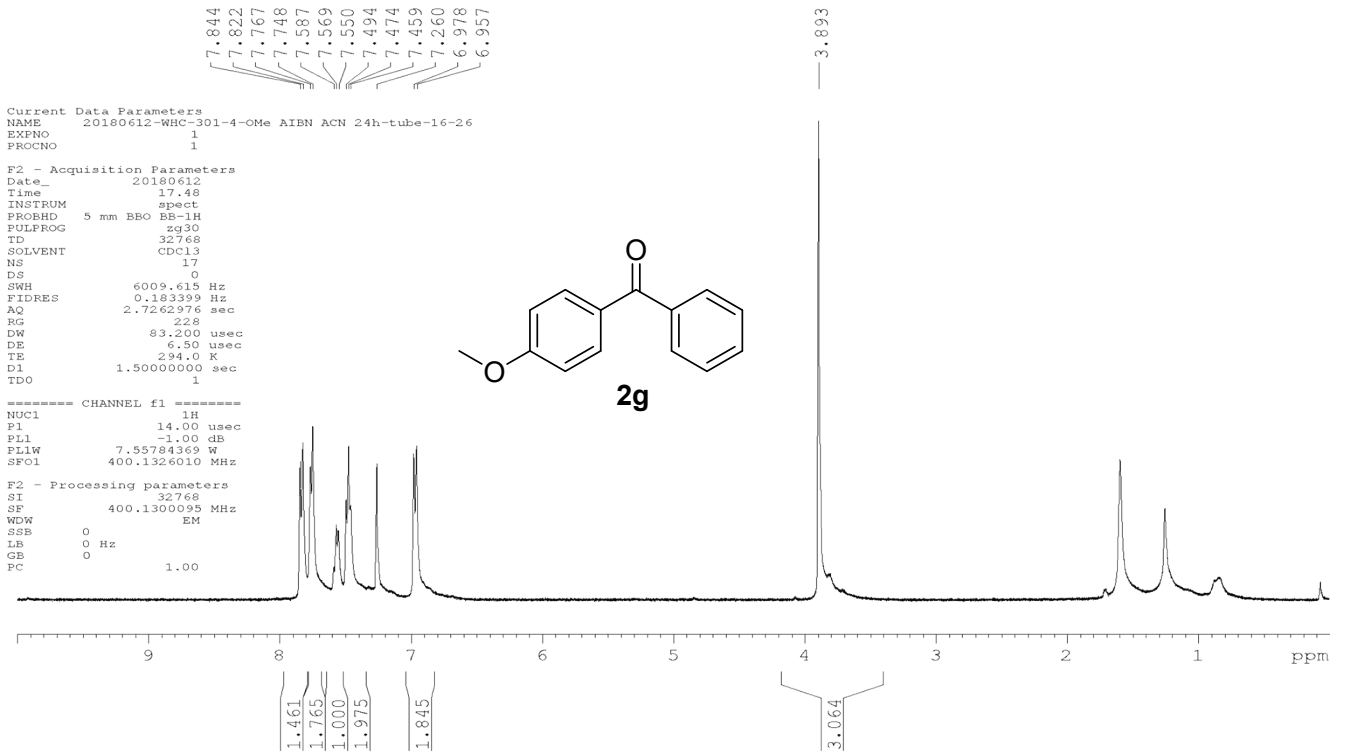

O
Me

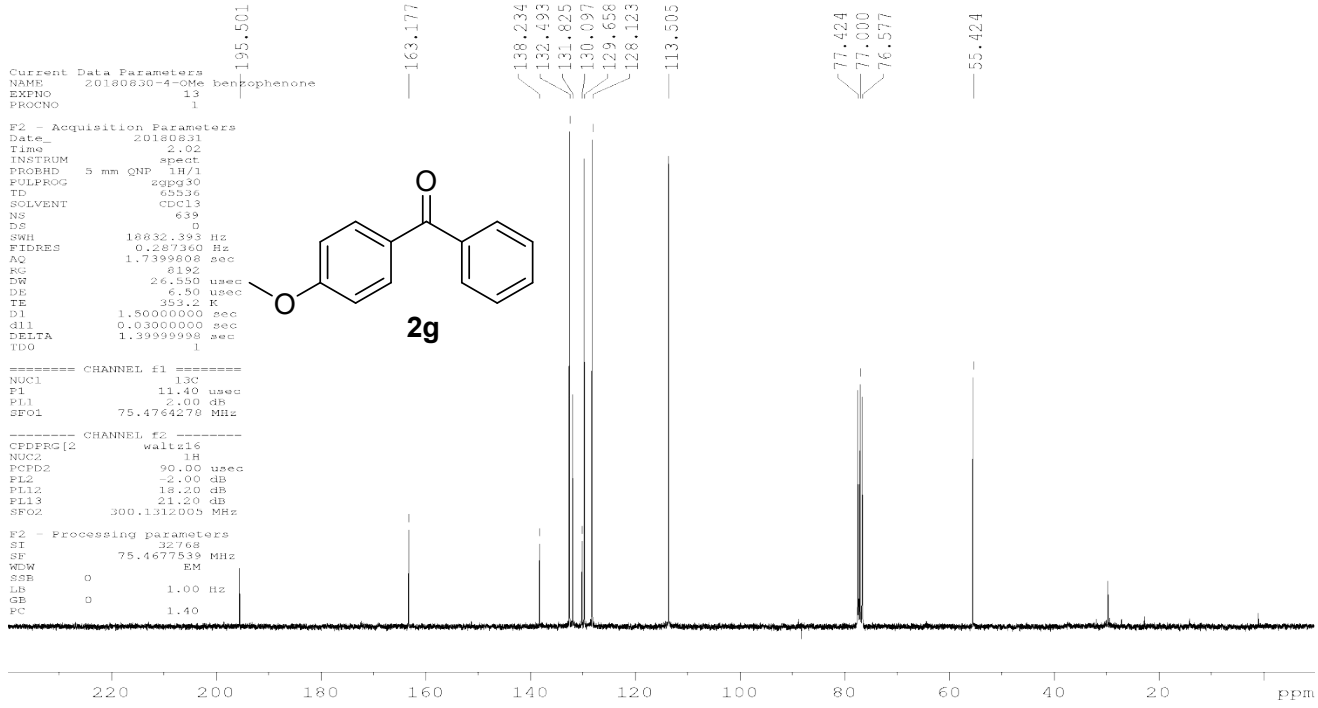

10.167
8.351
8.025
8.006
7.979
7.954
7.926
7.904
7.671
7.654
7.638
7.618
7.536
7.519
7.260
2e
Current Data Parameters
NAME 20180625-WHC-509-2-vinylnaphthalene ACN AIBN 12h-tube-19-30
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180625
Time 21.12
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 203
DW 83.200 usec
DE 6.50 usec
TE 293.6 K
D1 1.50000000 sec
TDO 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PLW1 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
11
10
9
8
7
6
5
4
3
2
1
ppm
1.000
3.993
4.154
2.179

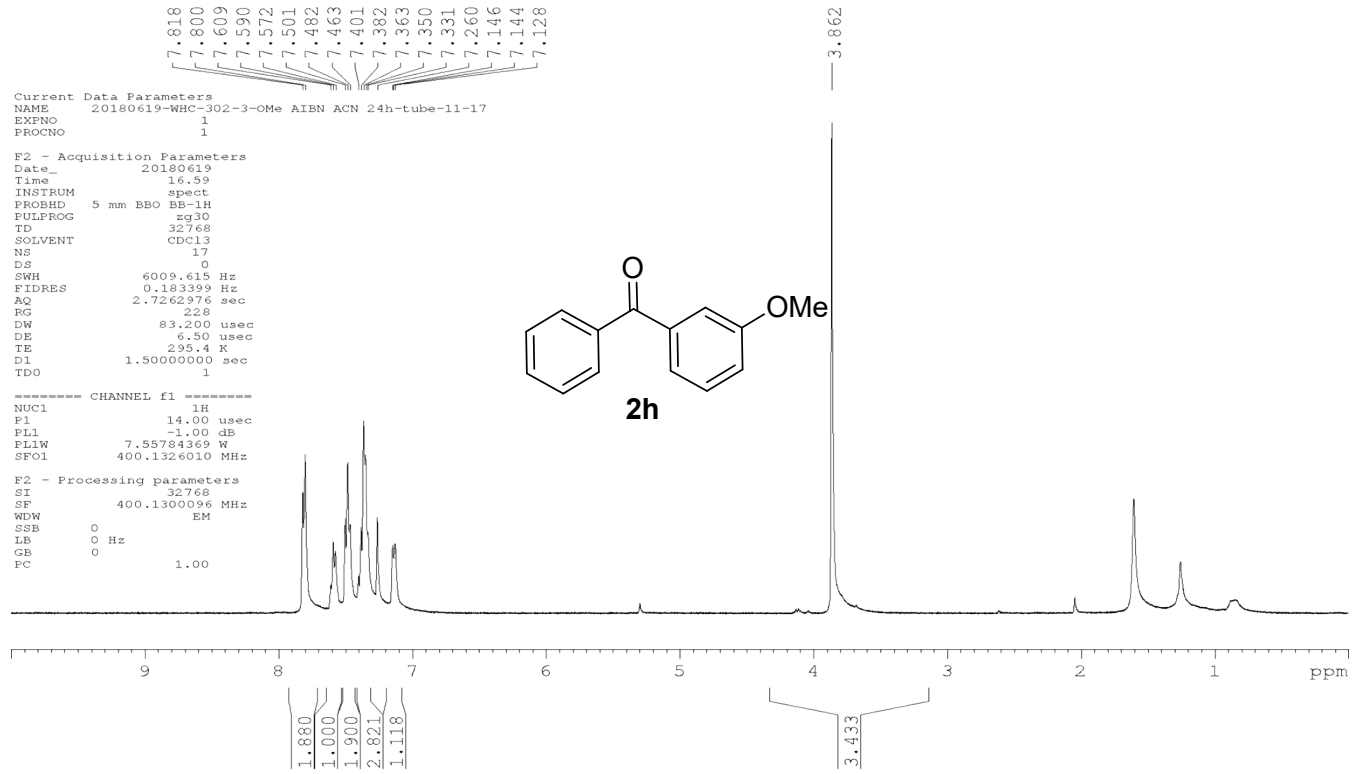

192.245
136.452
134.525
134.112
132.643
129.515
129.092
128.067
127.077
122.766
77.424
77.000
76.576
2e
Current Data Parameters
NAME 20180830-2-vinylnaphthalene aldehyde
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180830
Time 18.21
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1811
DS 0
SWH 18832.393 Hz
FIDRES 0.287360 Hz
AQ 1.7399808 sec
RG 8192
DW 26.550 usec
DE 6.50 usec
TE 298.2 K
D1 1.50000000 sec
d11 0.03000000 sec
DELTA 1.39999998 sec
TDO 1
======== CHANNEL f1 ========
NUC1 13C
P1 11.40 usec
PL1 2.00 dB
SFO1 75.4764278 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 18.20 dB
PL13 21.20 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 32768
SF 75.4677509 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
220
200
180
160
140
120
100
80
60
40
20
ppm

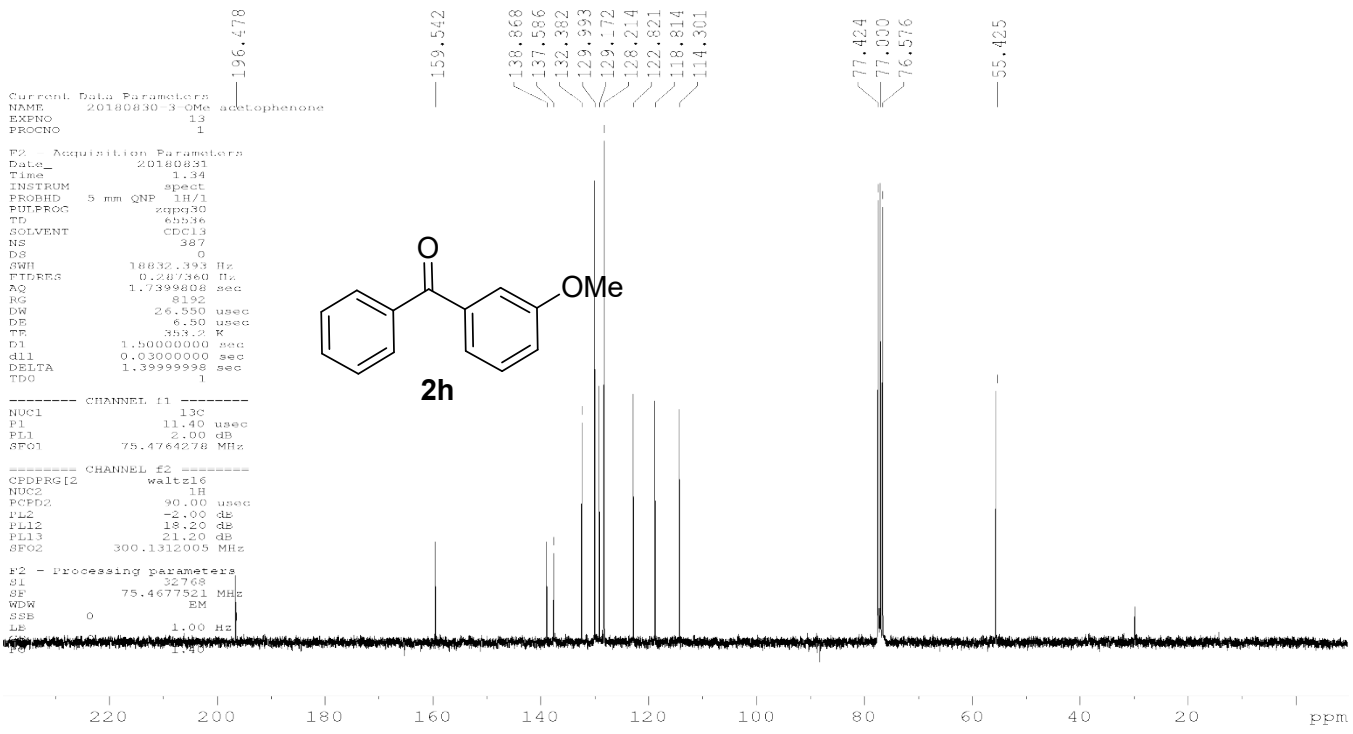

7.845
7.816
7.496
7.483
7.469
7.344
7.320
7.316
7.260
4.047
4.036
4.026
3.245
3.228
3.213
2.925
2.917
2.907
2.899
Current Data Parameters
NAME 20171121-WHC-175-DCE-tube-31-39
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20171122
Time 9.41
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zg30
TD 16384
SOLVENT CDCl3
NS 17
DS 0
SWH 4496.403 Hz
FIDRES 0.274439 Hz
AQ 1.8219008 sec
RG 16384
DW 111.200 usec
DE 6.50 usec
TE 299.2 K
D1 1.50000000 sec
MCREST 0 sec
MCWRK 0.01500000 sec
======== CHANNEL f1 ========
NUC1 1H
P1 9.50 usec
PL1 -2.00 dB
SFO1 300.1319508 MHz
F2 - Processing parameters
SI 8192
SF 300.1300061 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00
O
3e
9
8
7
6
5
4
3
2
1
ppm
4.065
2.059
1.003
0.974
0.989
1.000

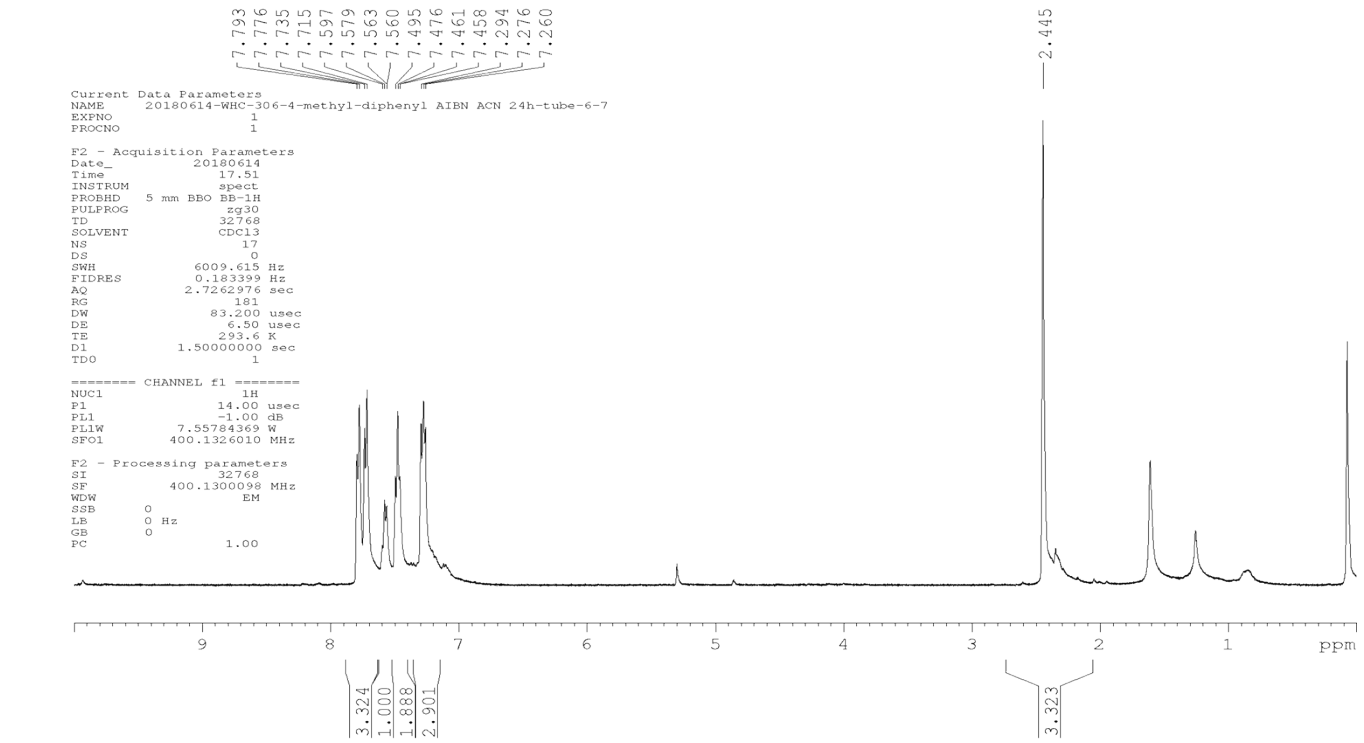

133.291
133.153
128.388
127.744
126.337
126.060
125.161
122.620
77.318
77.000
76.683
52.613
51.286
Current Data Parameters
NAME 20180829-2-vinylnaphthalene epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180829
Time 14.15
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 1620
DW 19.800 usec
DE 6.50 usec
TE 294.5 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127724 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
3e
220
200
180
160
140
120
100
80
60
40
20
0 ppm

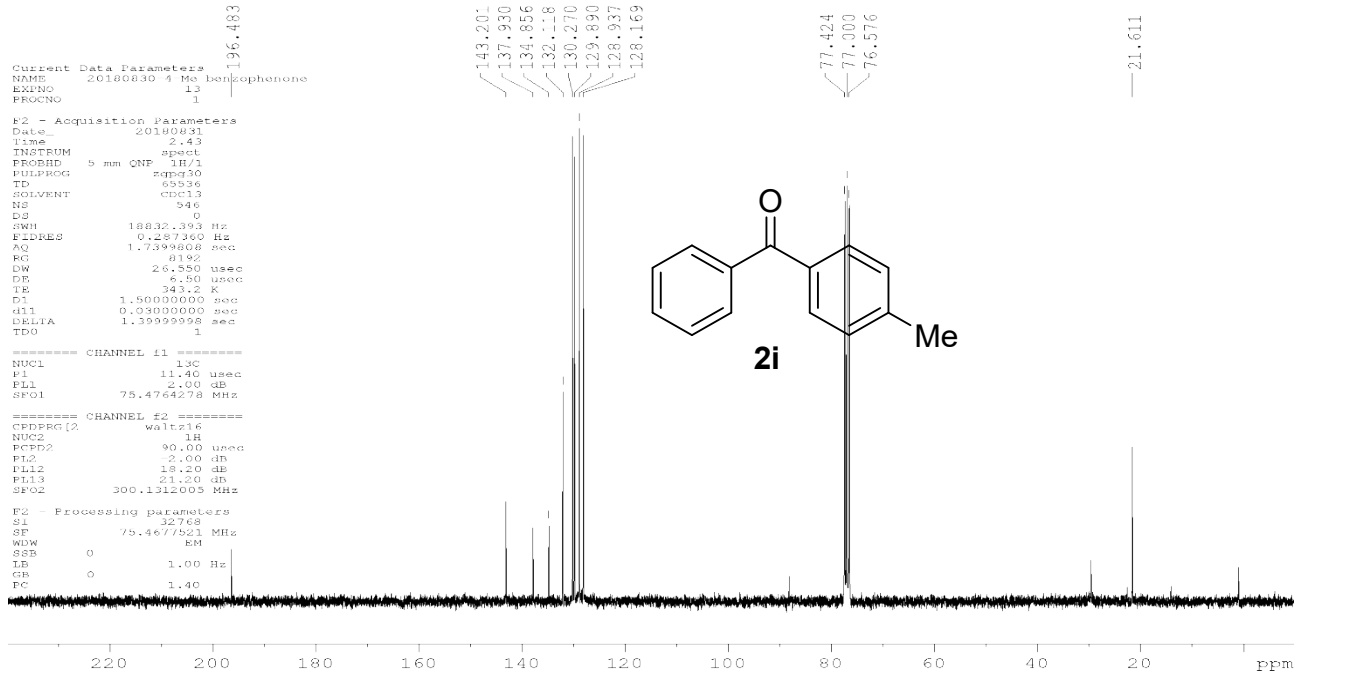

7.844
7.822
7.767
7.748
7.587
7.569
7.550
7.494
7.474
7.459
7.260
6.978
6.957
3.893
Current Data Parameters
NAME 20180612-WHC-301-4-OMe AIBN ACN 24h-tube-16-26
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180612
Time 17.48
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 294.0 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300095 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
O
2g
9
8
7
6
5
4
3
2
1
ppm
1.461
1.765
1.000
1.975
1.845
3.064

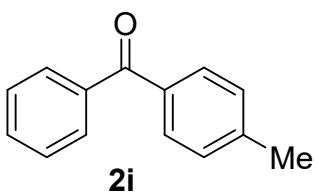

195.501
163.177
138.234
132.493
131.825
130.397
129.658
128.123
113.595
77.424
77.000
76.577
55.424
Current Data Parameters
NAME 20180830-4-OMe benzophenone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180831
Time 2.02
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 639
DS 0
SWH 18832.393 Hz
FIDRES 0.287360 Hz
AQ 1.7399808 sec
RG 8192
DW 26.550 usec
DE 6.50 usec
TE 353.2 K
D1 1.50000000 sec
d11 0.03000000 sec
DELTA 1.39999998 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 11.40 usec
PL1 2.00 dB
SFO1 75.4764278 MHz
-------- CHANNEL f2 --------
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 18.20 dB
PL13 21.20 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 32768
SF 75.4677539 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
O
O
2g
220
200
180
160
140
120
100
80
60
40
20
ppm

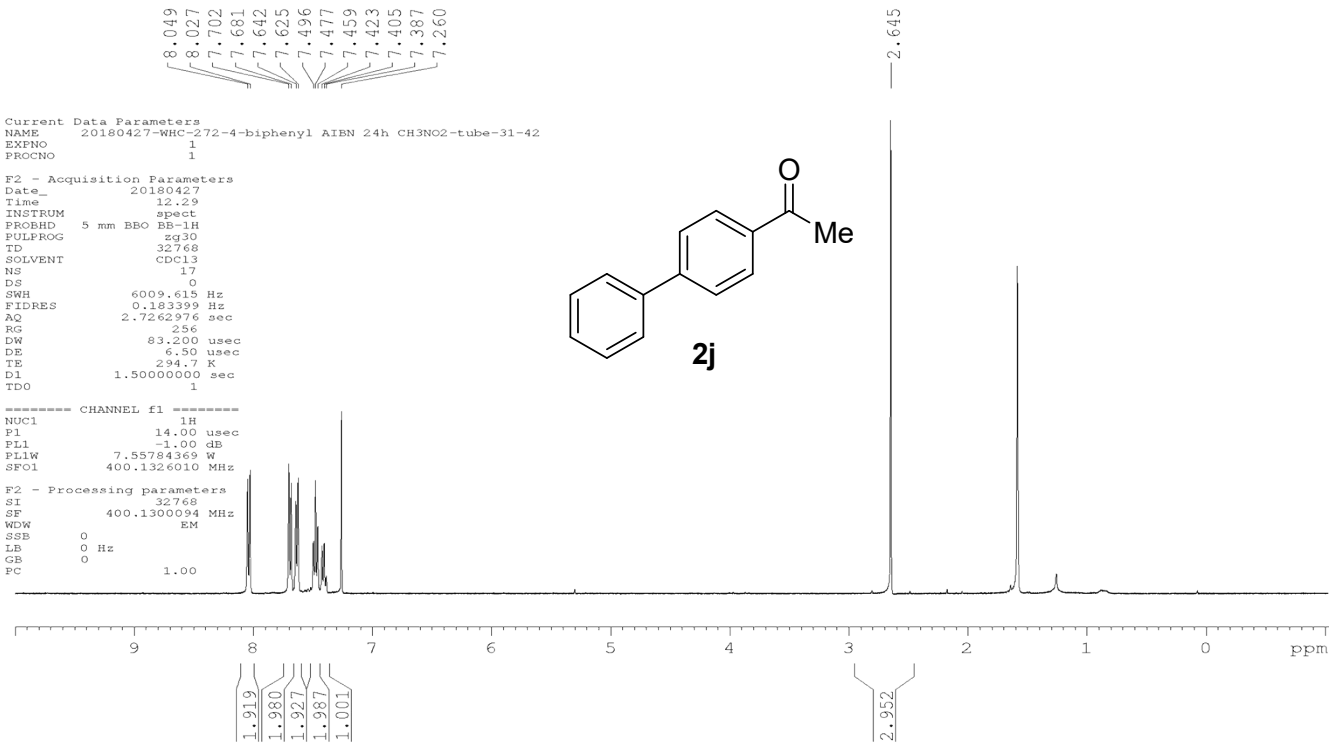

7.818
7.800
7.609
7.590
7.572
7.501
7.482
7.463
7.401
7.382
7.363
7.350
7.331
7.260
7.146
7.144
7.128
3.862
Current Data Parameters
NAME 20180619-WHC-302-3-OMe AIBN ACN 24h-tube-11-17
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180619
Time 16.59
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 295.4 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
OMe
2h
9
8
7
6
5
4
3
2
1
ppm
1.880
1.000
1.900
2.821
1.118
3.433

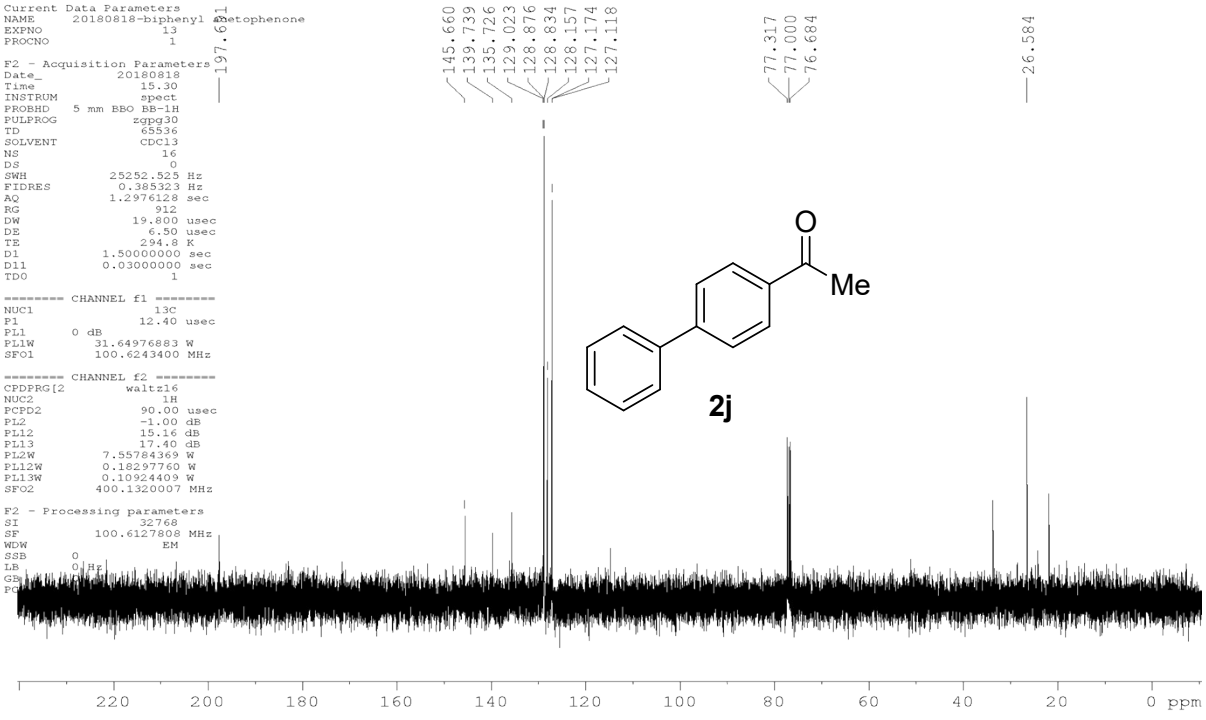

196.478
159.542
138.868
137.586
132.382
129.993
129.172
128.214
122.821
118.814
114.301
77.424
77.000
76.576
55.425
Current Data Parameters
NAME 20180830-3-OMe acetophenone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180831
Time 1.34
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 387
DS 0
SWH 18832.393 Hz
FIDRES 0.287360 Hz
AQ 1.7399808 sec
RG 8192
DW 26.550 usec
DE 6.50 usec
TE 353.2 K
D1 1.50000000 sec
d11 0.03000000 sec
DELTA 1.39999998 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 11.40 usec
PL1 2.00 dB
SFO1 75.4764278 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 18.20 dB
PL13 21.20 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 32768
SF 75.4677521 MHz
WDW EM
SSB 0
LB 1.00 Hz
O
OMe
2h
220
200
180
160
140
120
100
80
60
40
20
ppm

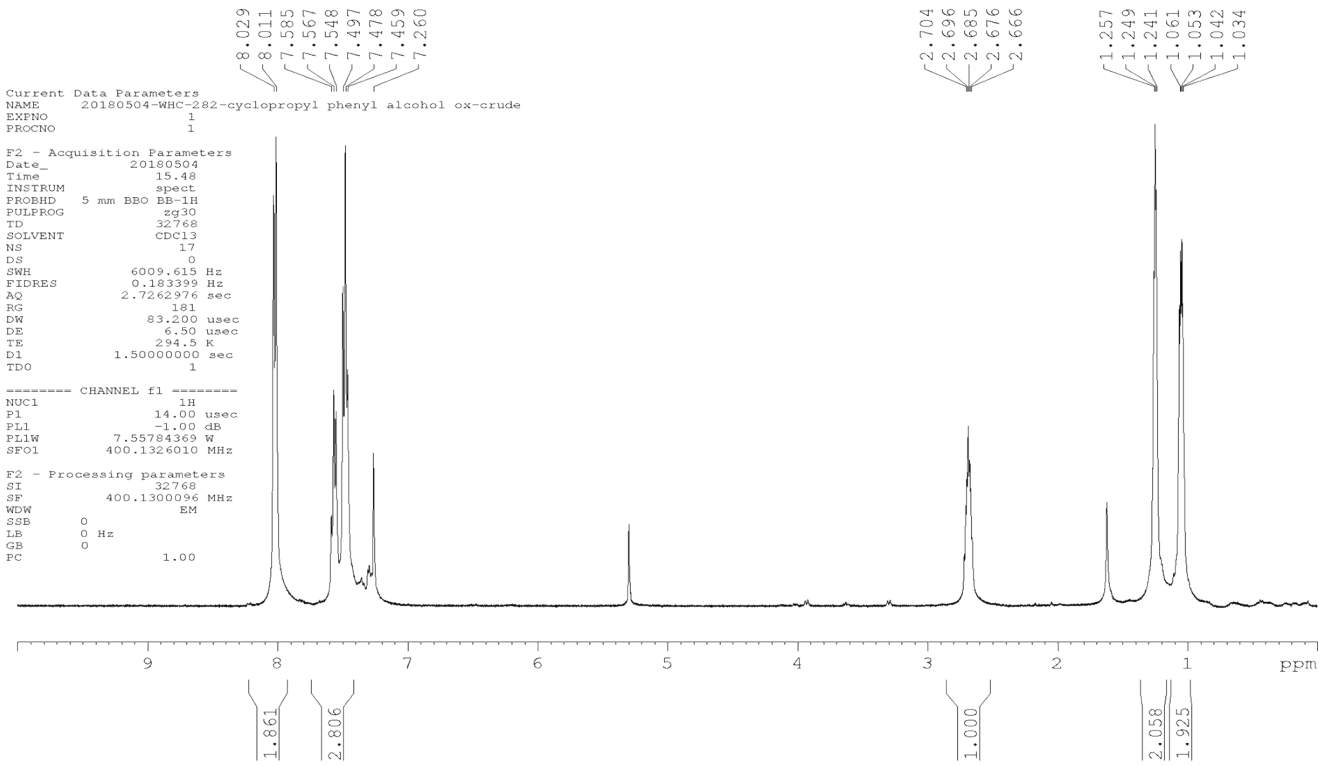

7.793
7.776
7.735
7.715
7.597
7.579
7.563
7.560
7.495
7.476
7.461
7.458
7.294
7.276
7.260
2.445
Current Data Parameters
NAME 20180614-WHC-306-4-methyl-diphenyl AIBN ACN 24h-tube-6-7
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180614
Time 17.51
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 181
DW 83.200 usec
DE 6.50 usec
TE 293.6 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300098 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
3.324
1.000
1.888
2.901
3.323

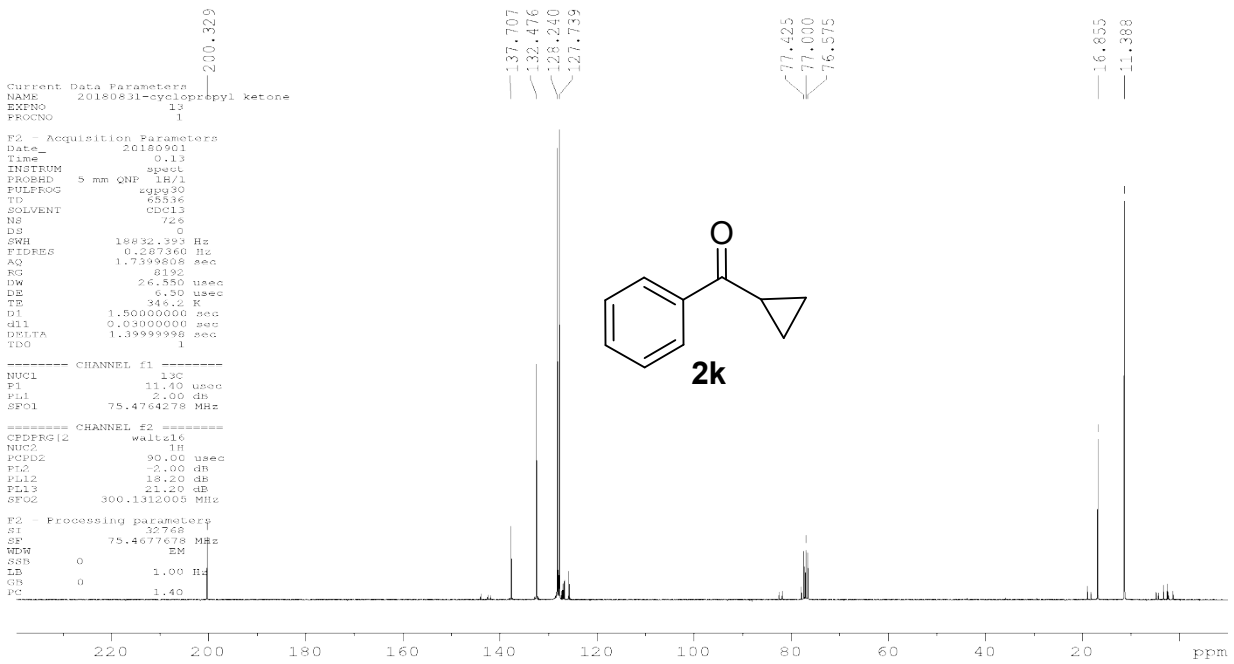

136.483
143.201
137.930
134.856
132.218
130.270
129.890
128.937
128.169
77.424
77.000
76.576
21.611
Current Data Parameters
NAME 20180830 4 Me benzophenone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180831
Time 2.43
INSTRUM spect
PROBHD 5 mm CNP 1H/1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 946
DS 0
SWH 18832.393 Hz
FIDRES 0.287360 Hz
AQ 1.7399808 sec
RG 8192
DW 26.550 usec
DE 6.50 usec
TE 343.2 K
D1 1.50000000 sec
d11 0.03000000 sec
DELTA 1.39999998 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 11.40 usec
PL1 2.00 dB
SFO1 75.4764278 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 2.00 dB
PL12 18.20 dB
PL13 21.20 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 32768
SF 75.4677521 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
O
Me
2i
220
200
180
160
140
120
100
80
60
40
20
ppm

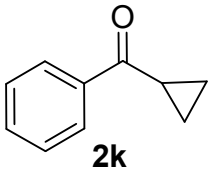

O
Me
2i

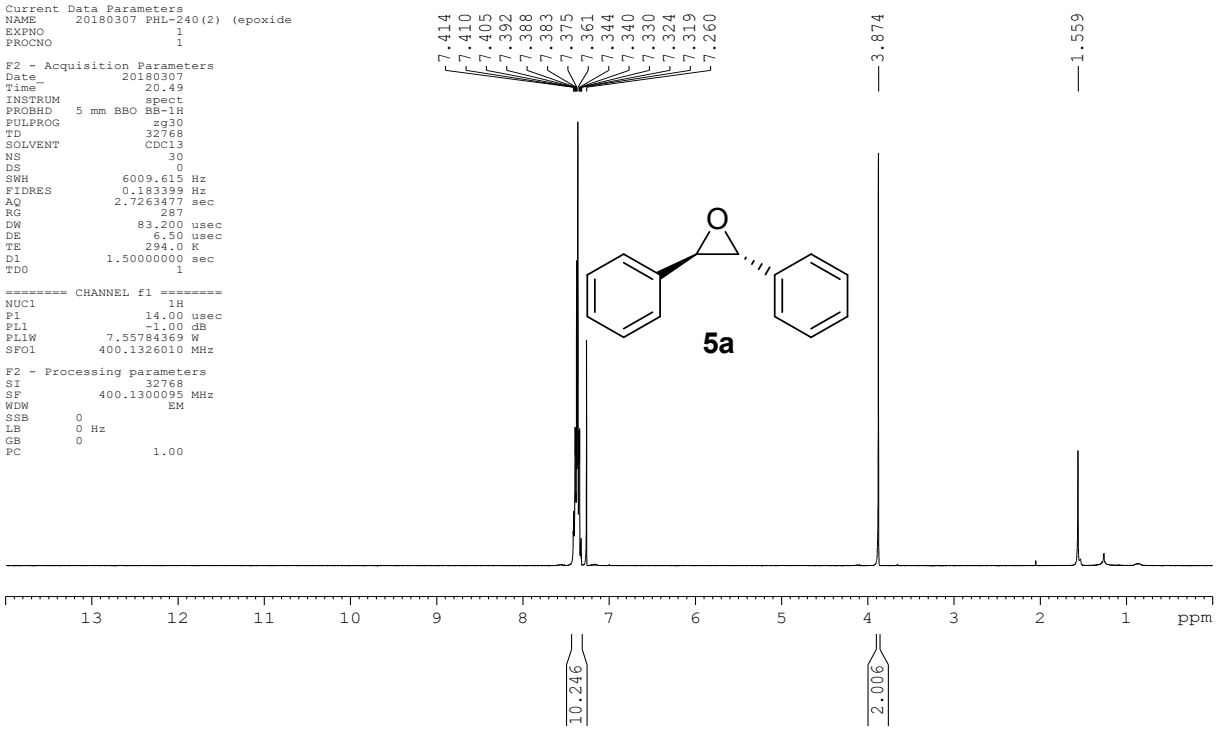

8.049
8.027
7.702
7.681
7.642
7.625
7.496
7.477
7.459
7.423
7.405
7.387
7.260
2.645
Current Data Parameters
NAME 20180427-WHC-272-4-biphenyl AIBN 24h CH3NO2-tube-31-42
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180427
Time 12.29
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 256
DW 83.200 usec
DE 6.50 usec
TE 294.7 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300094 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
Me
2j
9
8
7
6
5
4
3
2
1
0
ppm
1.919
1.980
1.927
1.987
1.001
2.952

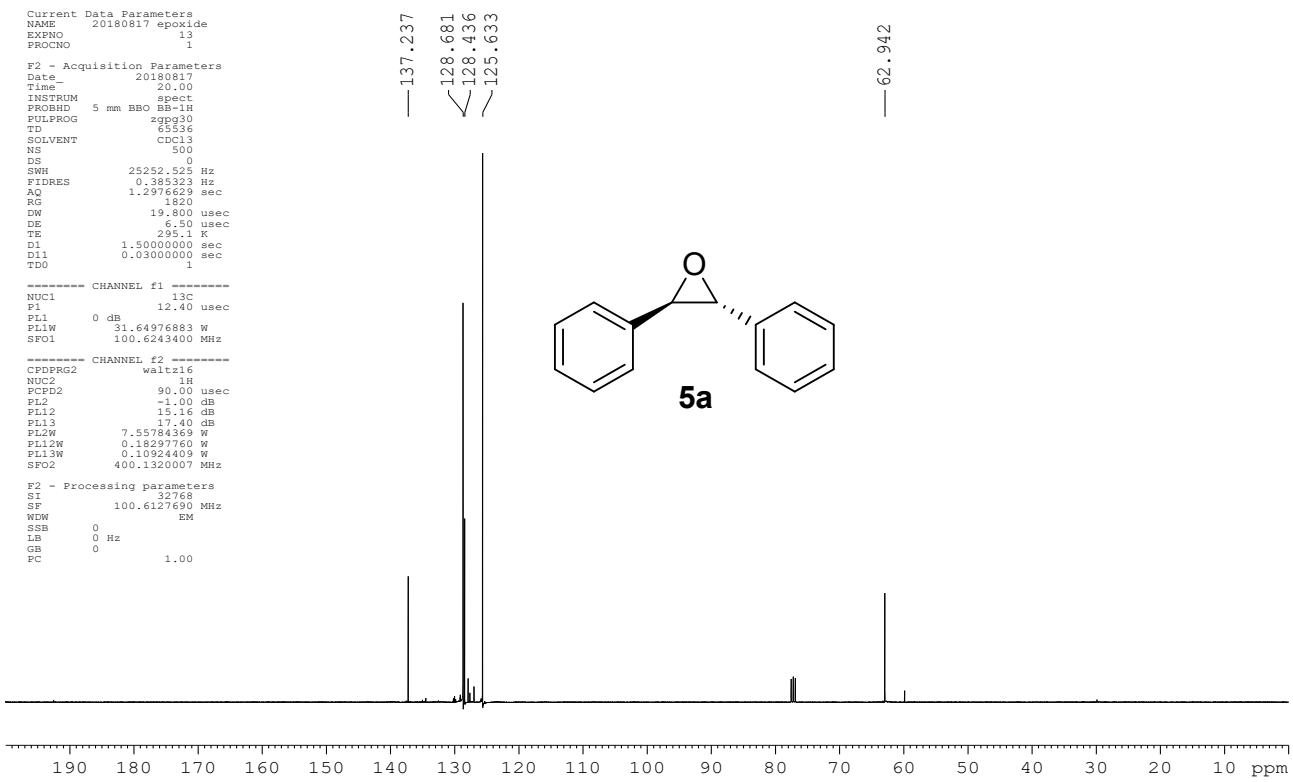

Current Data Parameters
NAME 20180818-biphenyl acetophenone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180818
Time 15.30
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 16
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 912
DW 19.800 usec
DE 6.50 usec
TE 294.8 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127808 MHz
WDW EM
SSB 0
LB 0 Hz
GB
PC
197.678
145.660
139.739
135.726
129.023
128.876
128.834
128.157
127.174
127.118
77.317
77.000
76.684
26.584
O
Me
2j
220
200
180
160
140
120
100
80
60
40
20
0 ppm

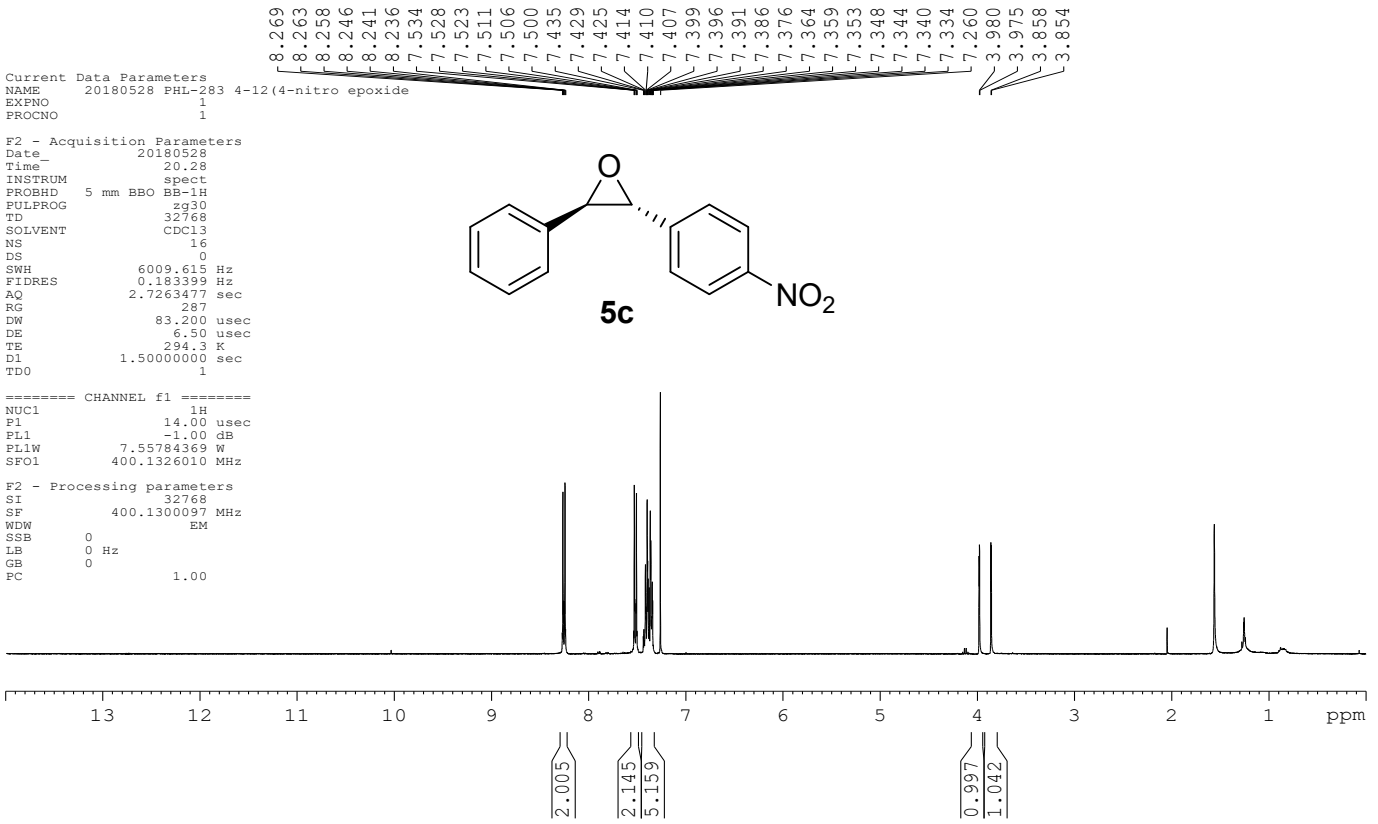

8.029
8.011
7.585
7.567
7.548
7.497
7.478
7.459
7.260
2.704
2.696
2.685
2.676
2.666
1.257
1.249
1.241
1.061
1.053
1.042
1.034
Current Data Parameters
NAME 20180504-WHC-282-cyclopropyl phenyl alcohol ox-crude
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180504
Time 15.48
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 17
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 181
DW 83.200 usec
DE 6.50 usec
TE 294.5 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.861
2.806
1.000
2.058
1.925

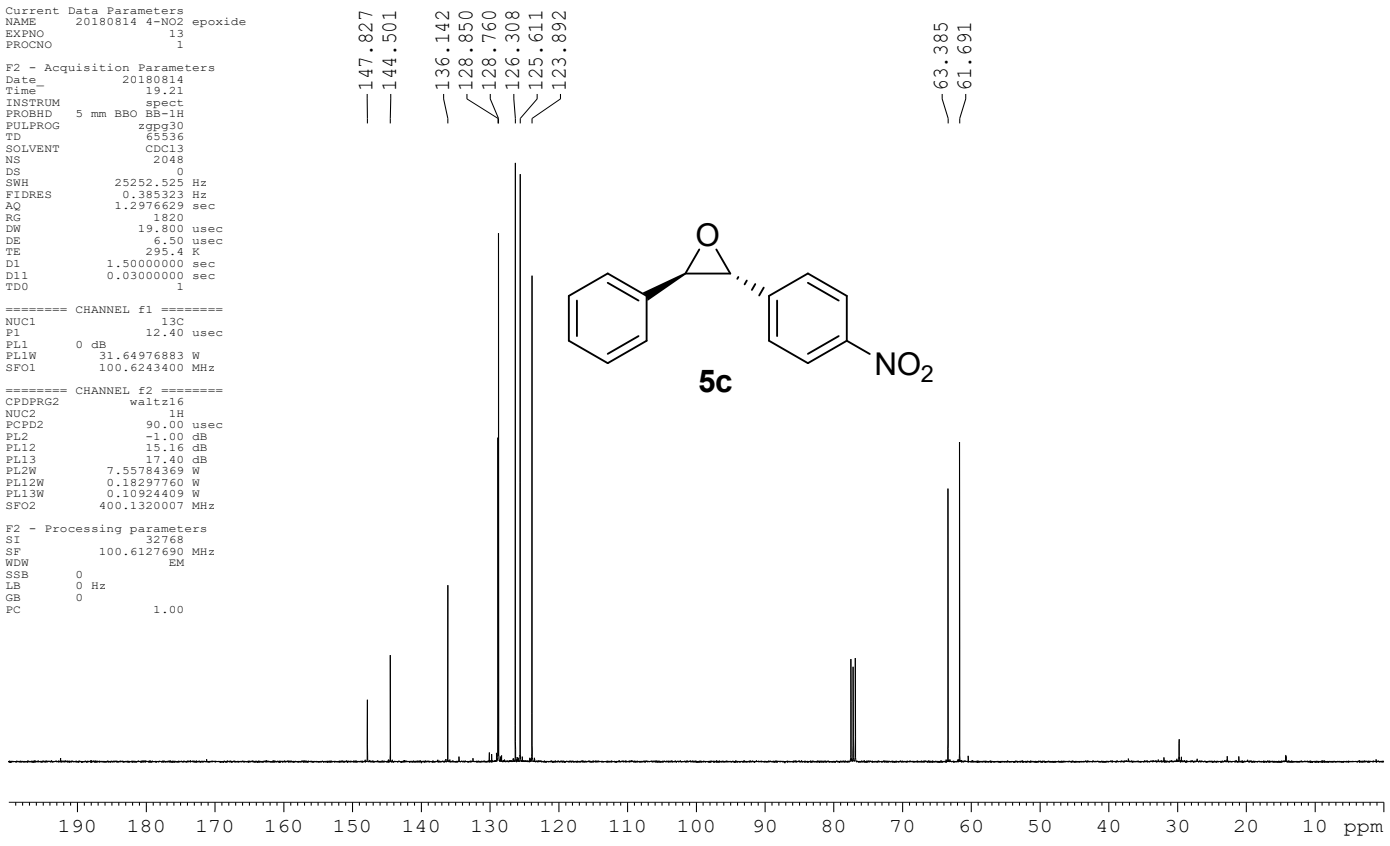

200.329
137.707
132.476
128.240
127.739
77.425
77.000
76.575
16.855
11.388
Current Data Parameters
NAME 20180831-cyclopropyl ketone
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180901
Time 0.13
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 726
DS 0
SWH 18832.393 Hz
FIDRES 0.287360 Hz
AQ 1.7399808 sec
RG 8192
DW 26.550 usec
DE 6.50 usec
TE 346.2 K
D1 1.50000000 sec
d11 0.03000000 sec
DELTA 1.39999998 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 11.40 usec
PL1 2.00 dB
SFO1 75.4764278 MHz
======== CHANNEL f2 ========
CPDPRG[2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 18.20 dB
PL13 21.20 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 32768
SF 75.4677678 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
O
2k
220
200
180
160
140
120
100
80
60
40
20
ppm

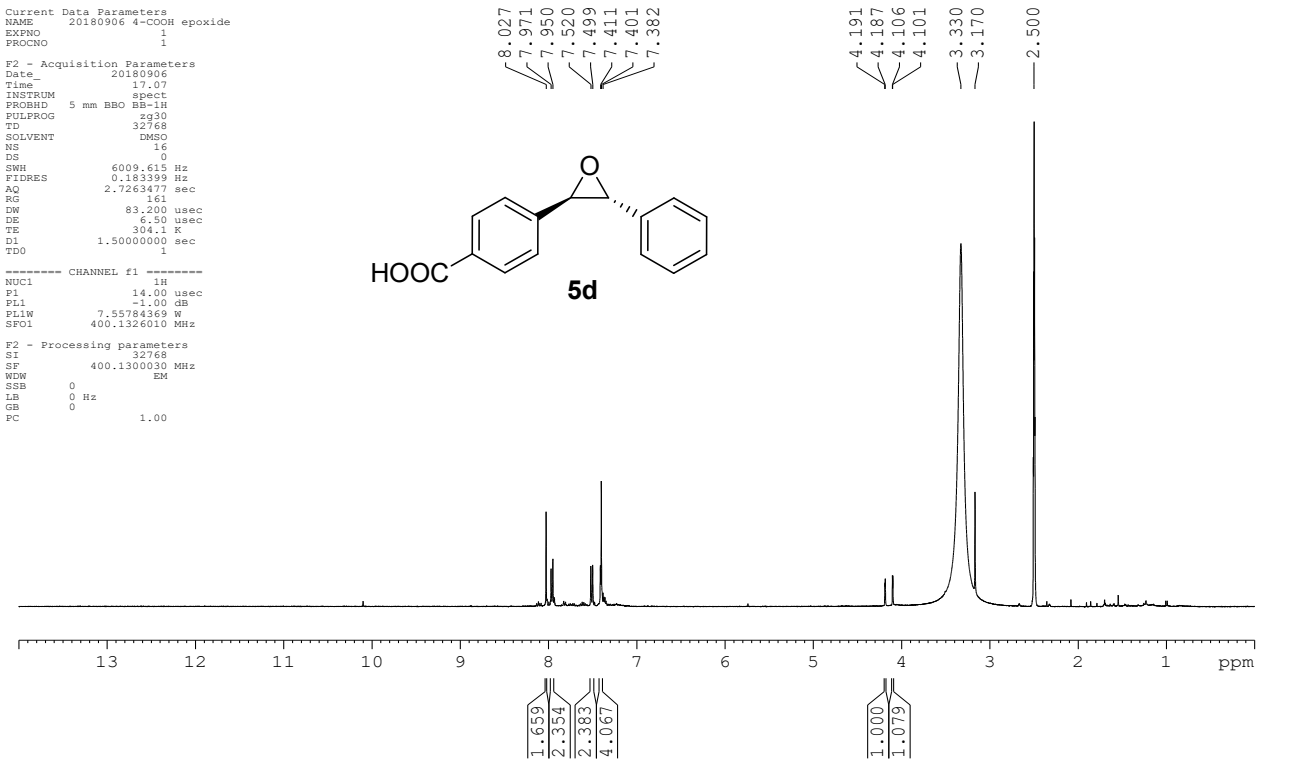

O
2k

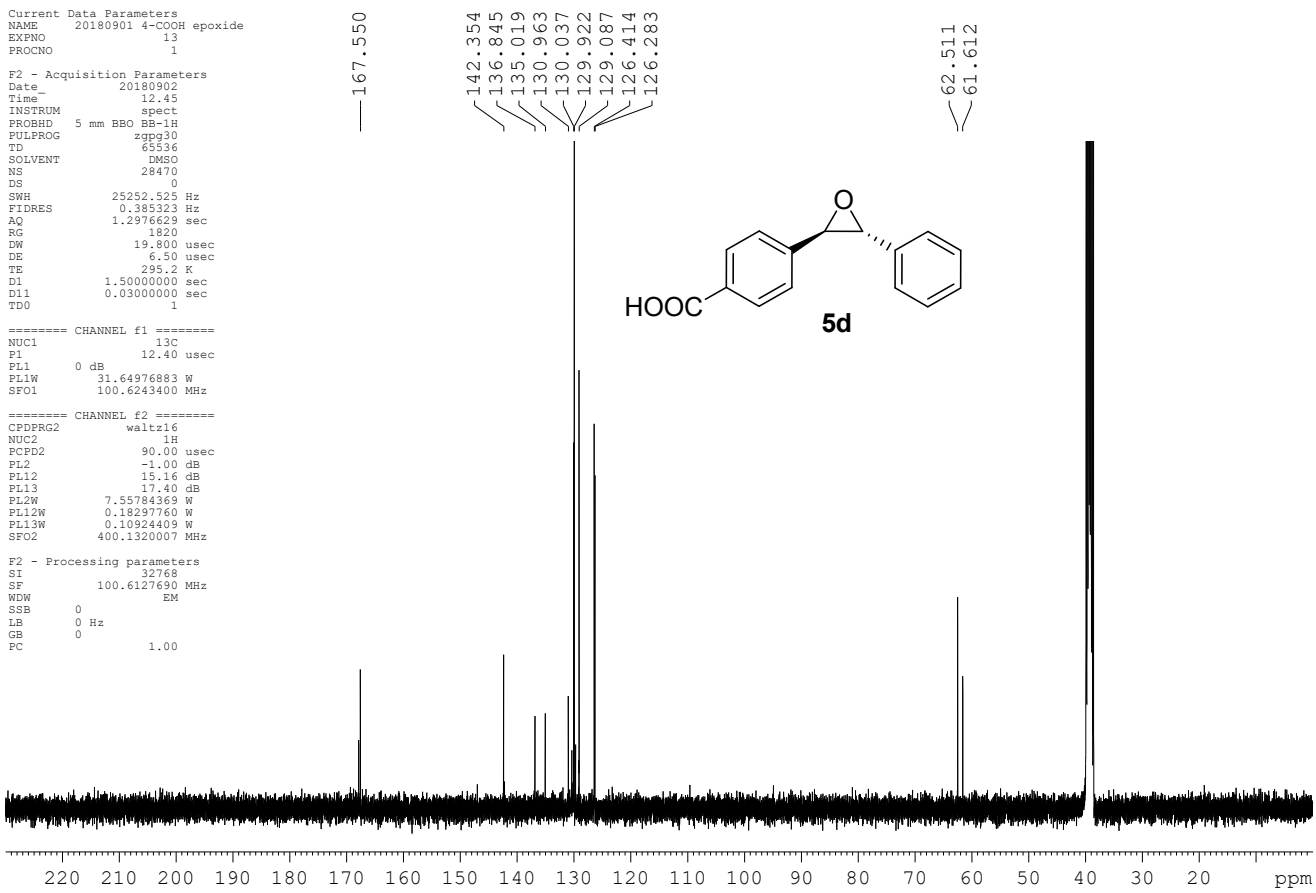

Current Data Parameters
NAME 20180307 PHL-240(2) (epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180307
Time 20.49
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 30
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 287
DW 83.200 usec
DE 6.50 usec
TE 294.0 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300095 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.414
7.410
7.405
7.392
7.388
7.383
7.375
7.361
7.344
7.340
7.330
7.324
7.319
7.260
3.874
1.559
5a
13 12 11 10 9 8 7 6 5 4 3 2 1 ppm
10.246
2.006

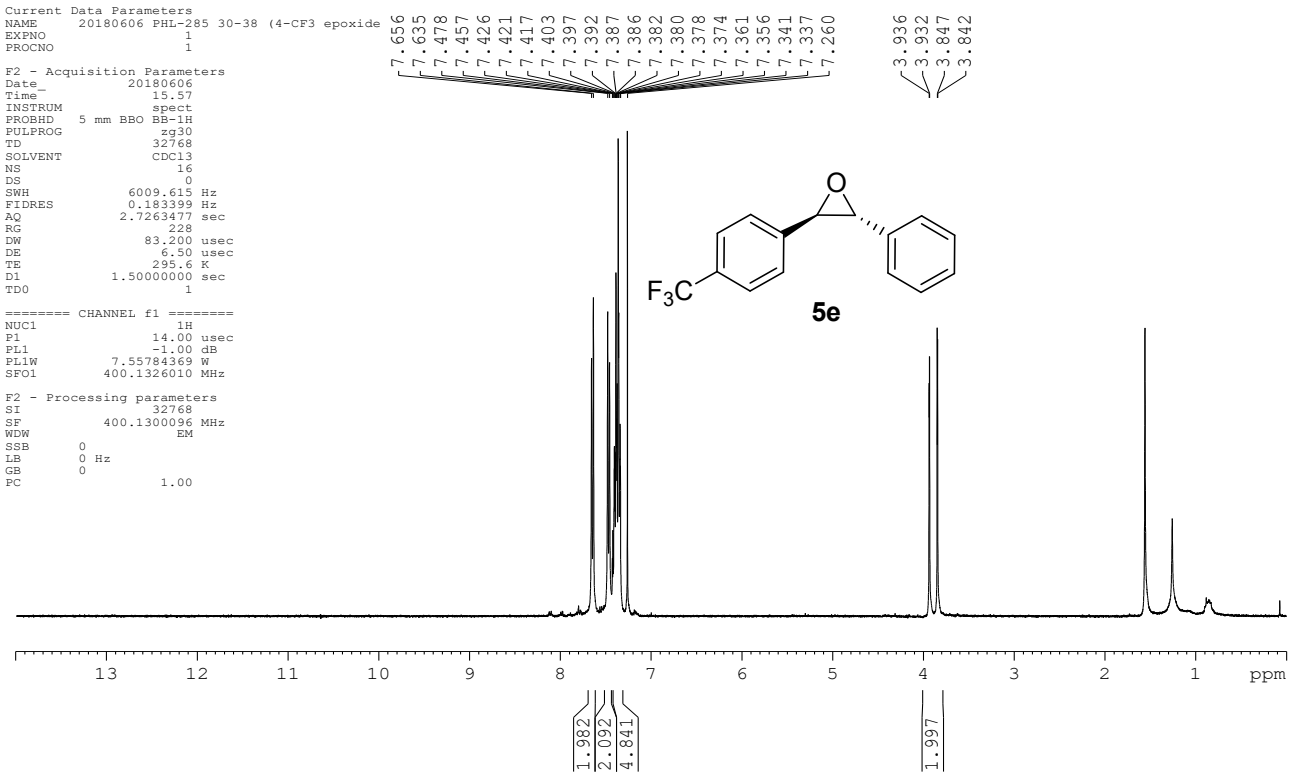

Current Data Parameters
NAME 20180817 epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180817
Time 20.00
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.1 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
137.237
128.681
128.436
125.633
62.942
5a
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ppm

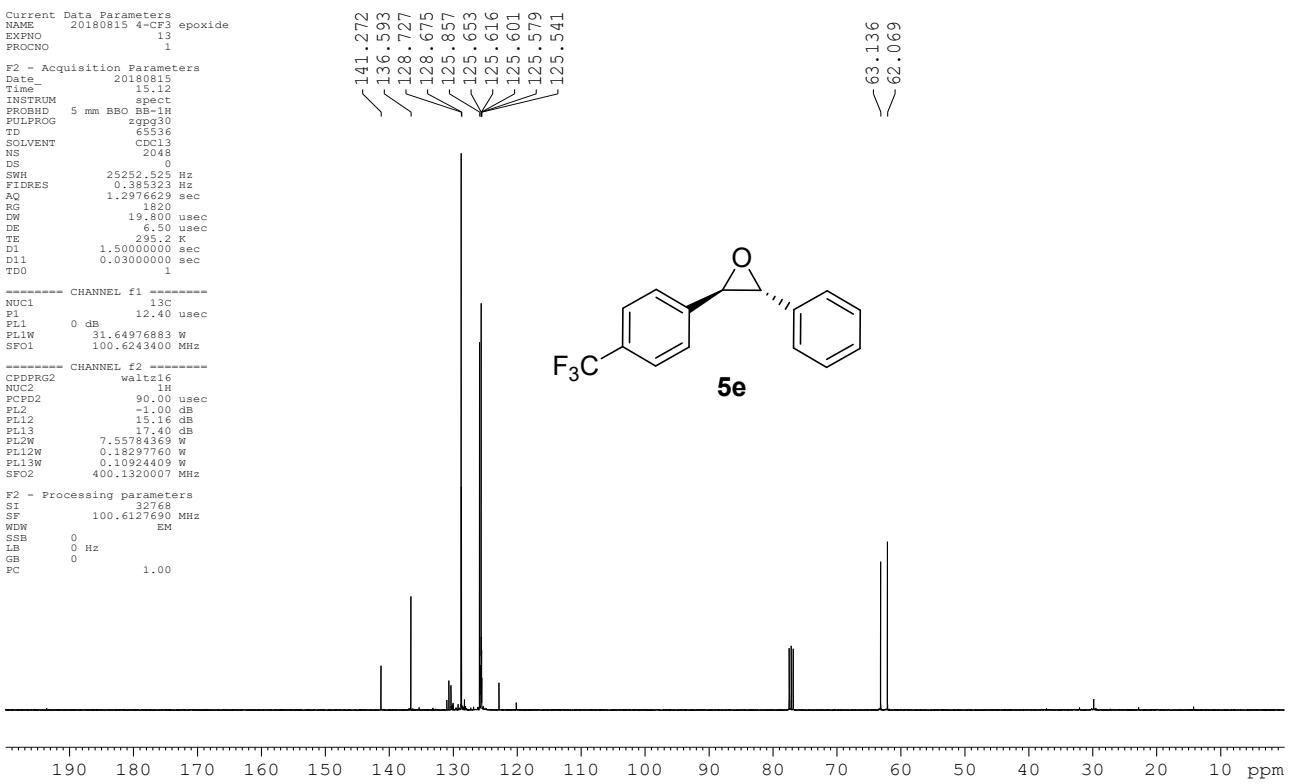

8.269
8.263
8.258
8.246
8.241
8.236
7.534
7.528
7.523
7.511
7.506
7.500
7.435
7.429
7.425
7.414
7.410
7.407
7.399
7.396
7.391
7.386
7.376
7.364
7.359
7.353
7.348
7.344
7.340
7.334
7.260
3.980
3.975
3.858
3.854
Current Data Parameters
NAME 20180528 PHL-283 4-12(4-nitro epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180528
Time 20.28
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 287
DW 83.200 usec
DE 6.50 usec
TE 294.3 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300097 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
NO2
5c
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
2.005
2.145
5.159
0.997
1.042

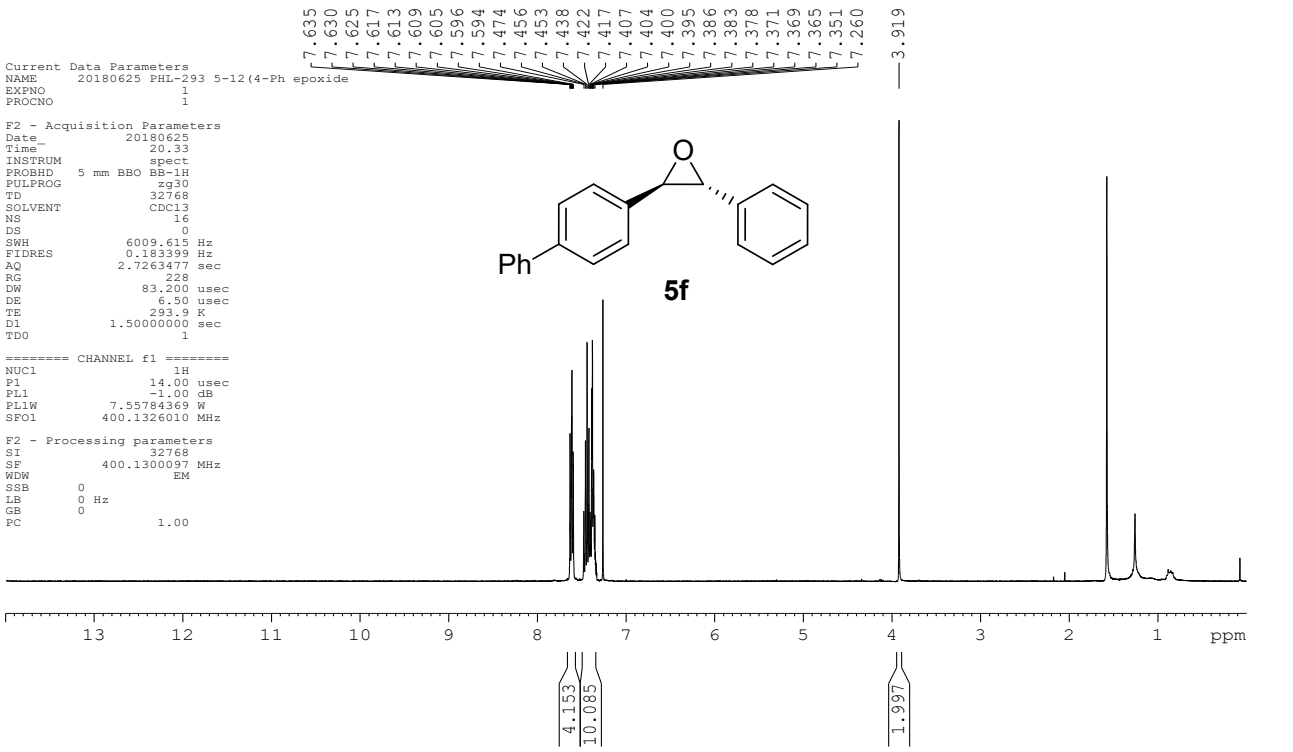

Current Data Parameters
NAME 20180814 4-NO2 epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180814
Time 19.21
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.4 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
147.827
144.501
136.142
128.850
128.760
126.308
125.611
123.892
63.385
61.691
O
NO2
5c
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

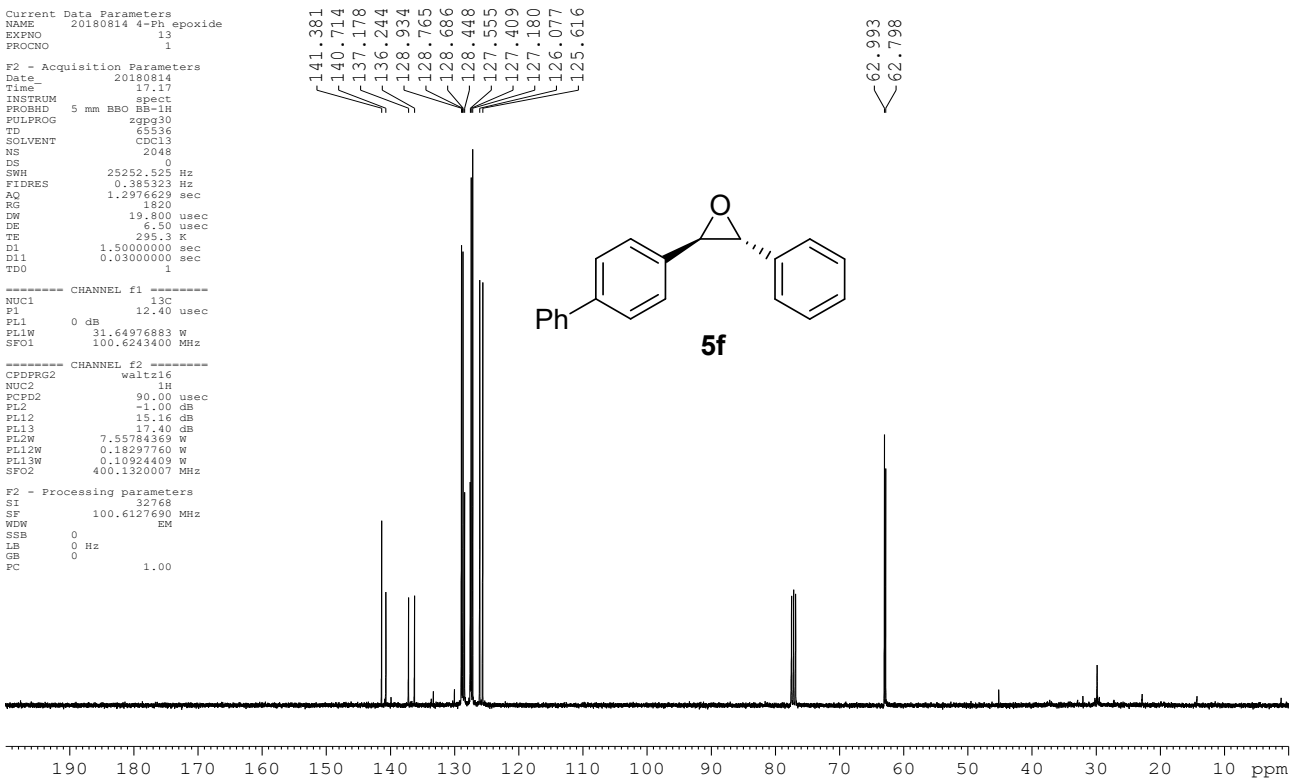

Current Data Parameters
NAME 20180906 4-COOH epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180906
Time 17.07
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 161
DW 83.200 usec
DE 6.50 usec
TE 304.1 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300030 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
8.027
7.971
7.950
7.520
7.499
7.411
7.401
7.382
4.191
4.187
4.106
4.101
3.330
3.170
2.500
HOOC
O
5d
13 12 11 10 9 8 7 6 5 4 3 2 1 ppm
1.659
2.354
2.383
4.067
1.000
1.079

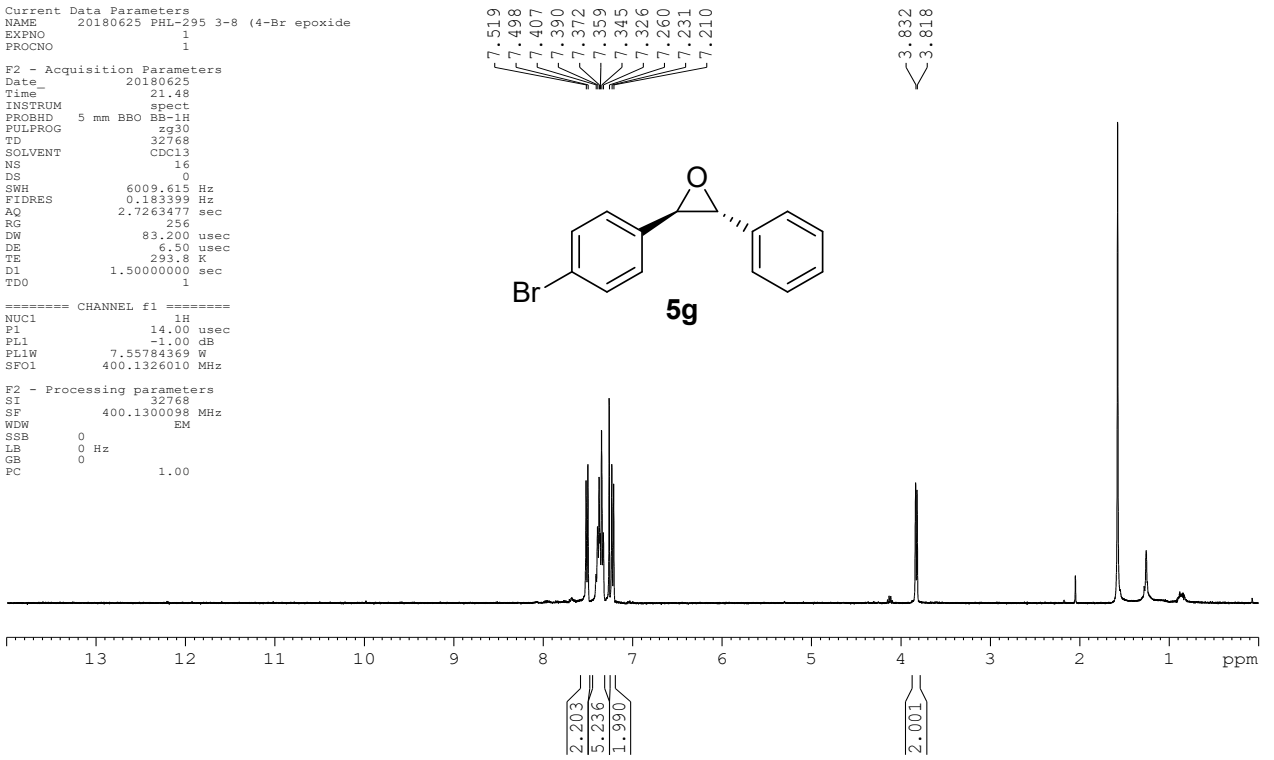

Current Data Parameters
NAME 20180901 4-COOH epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180902
Time 12.45
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 28470
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
167.550
142.354
136.845
135.019
130.963
130.037
129.922
129.087
126.414
126.283
62.511
61.612
HOOC
O
5d
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

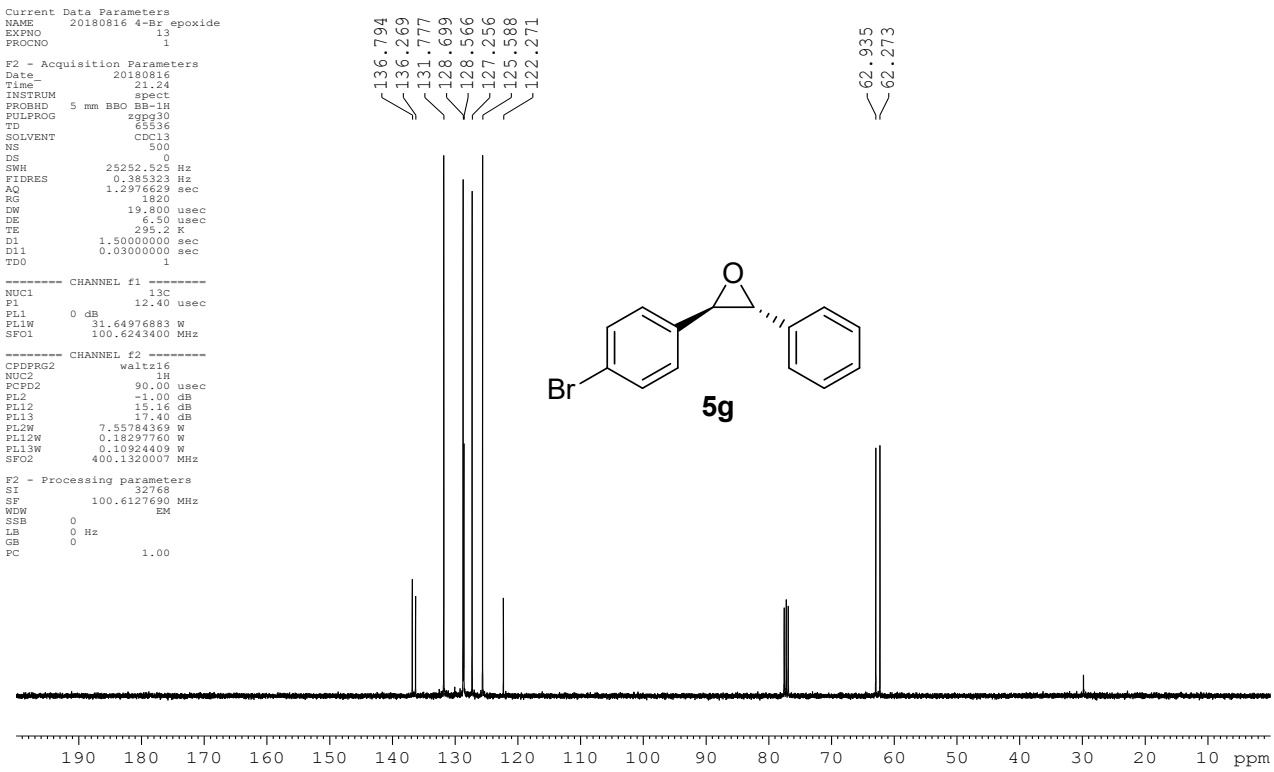

Current Data Parameters
NAME 20180606 PHL-285 30-38 (4-CF3 epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180606
Time 15.57
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 295.6 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.656
7.635
7.478
7.457
7.426
7.421
7.417
7.403
7.397
7.392
7.387
7.386
7.382
7.380
7.378
7.374
7.361
7.356
7.341
7.337
7.260
3.936
3.932
3.847
3.842
O
F3C
5e
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
1.982
2.092
4.841
1.997

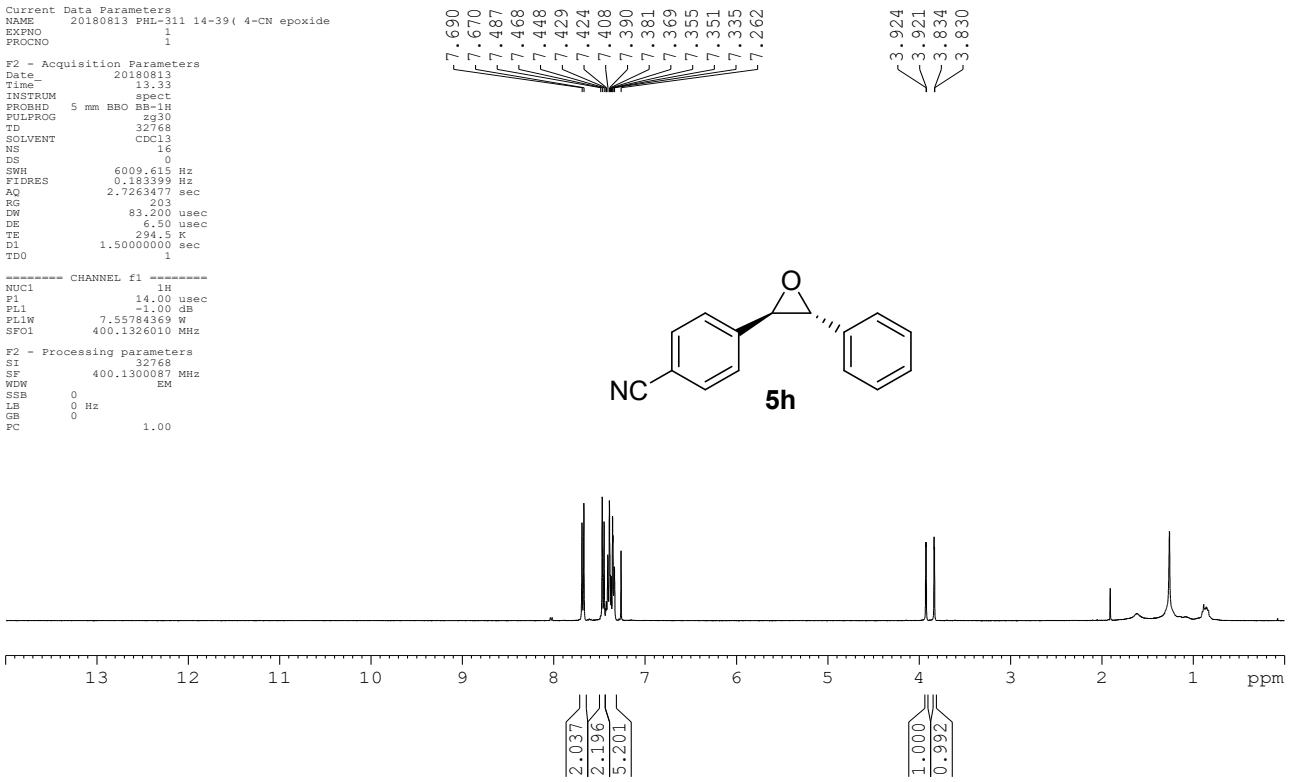

Current Data Parameters
NAME 20180815 4-CF3 epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180815
Time 15.12
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
141.272
136.593
128.727
128.675
125.857
125.653
125.616
125.601
125.579
125.541
63.136
62.069
O
F3C
5e
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

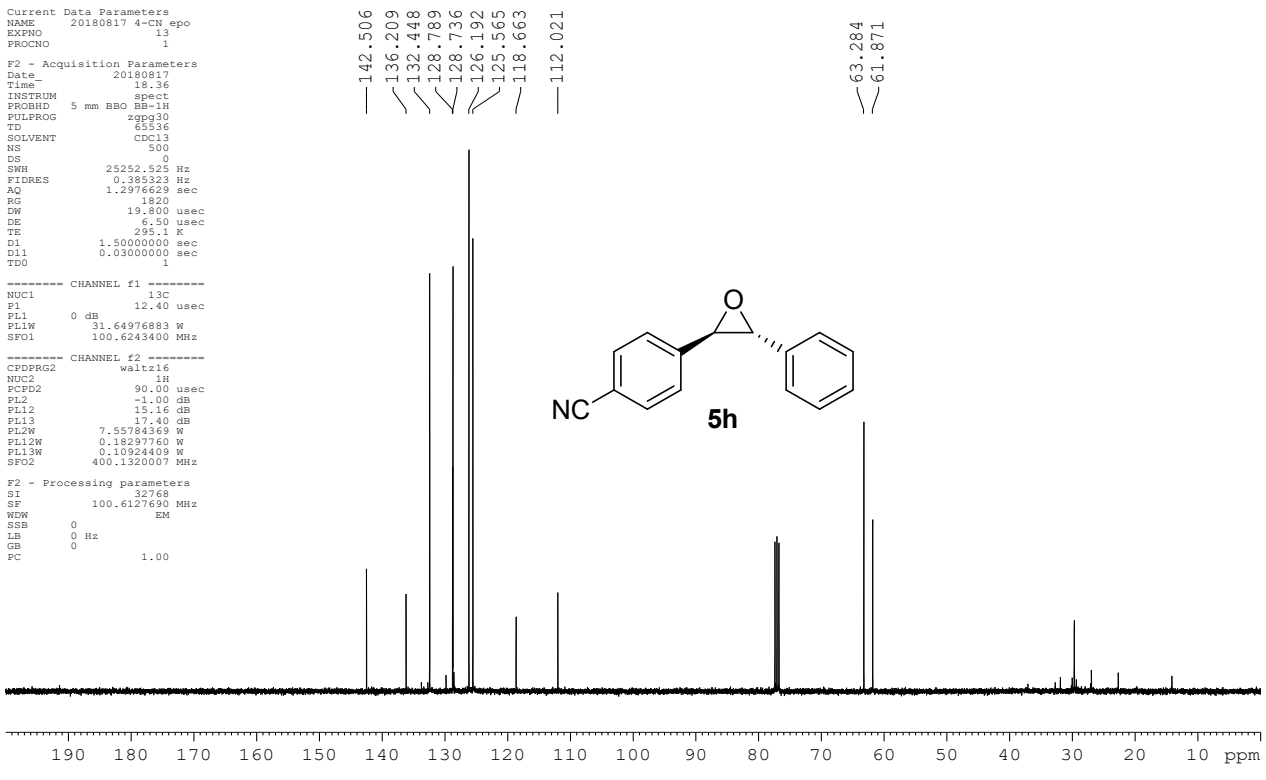

7.635
7.630
7.625
7.617
7.613
7.609
7.605
7.596
7.594
7.474
7.456
7.453
7.438
7.422
7.417
7.407
7.404
7.400
7.395
7.386
7.383
7.378
7.371
7.369
7.365
7.351
7.260
3.919
Current Data Parameters
NAME 20180625 PHL-293 5-12(4-Ph epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180625
Time 20.33
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDC13
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 293.9 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300097 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
Ph
5f
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
4.153
10.085
1.997

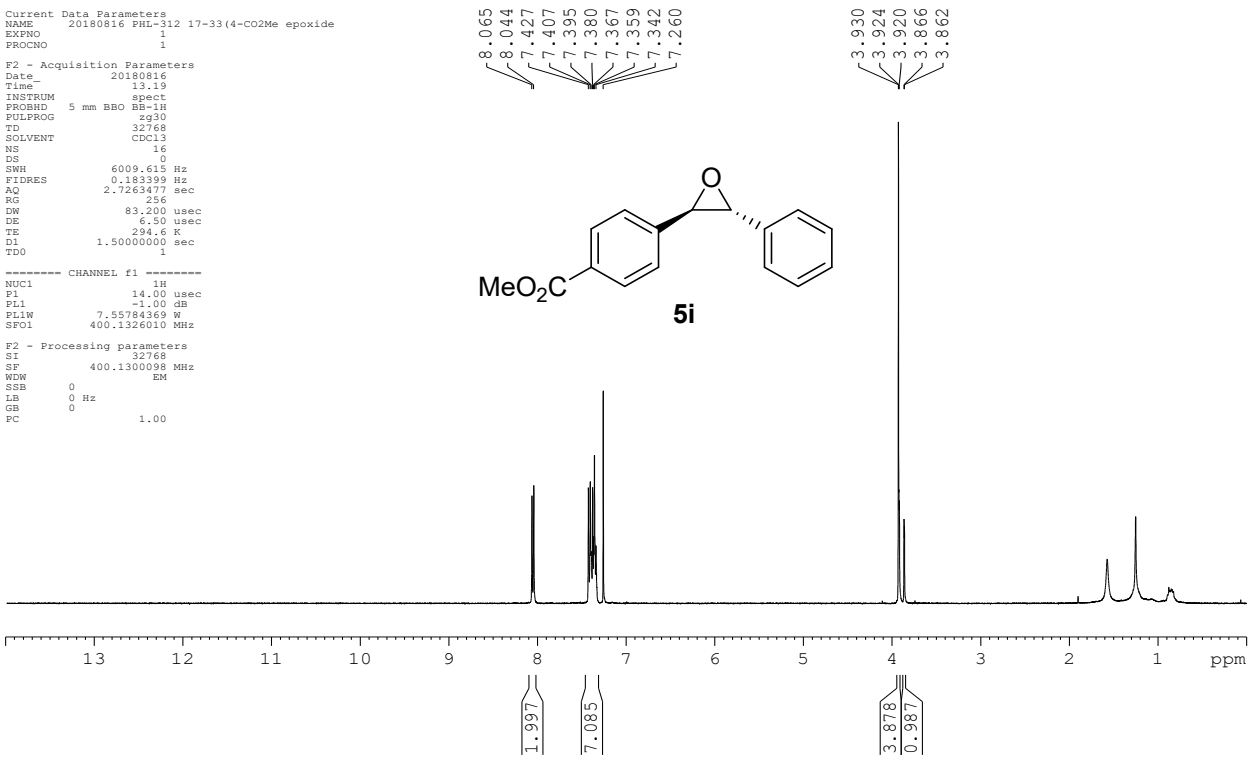

141.381
140.714
137.178
136.244
128.934
128.765
128.686
128.448
127.555
127.409
127.180
126.077
125.616
62.993
62.798
Current Data Parameters
NAME 20180814 4-Ph epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180814
Time 17.17
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 2048
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.3 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
Ph
5f
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

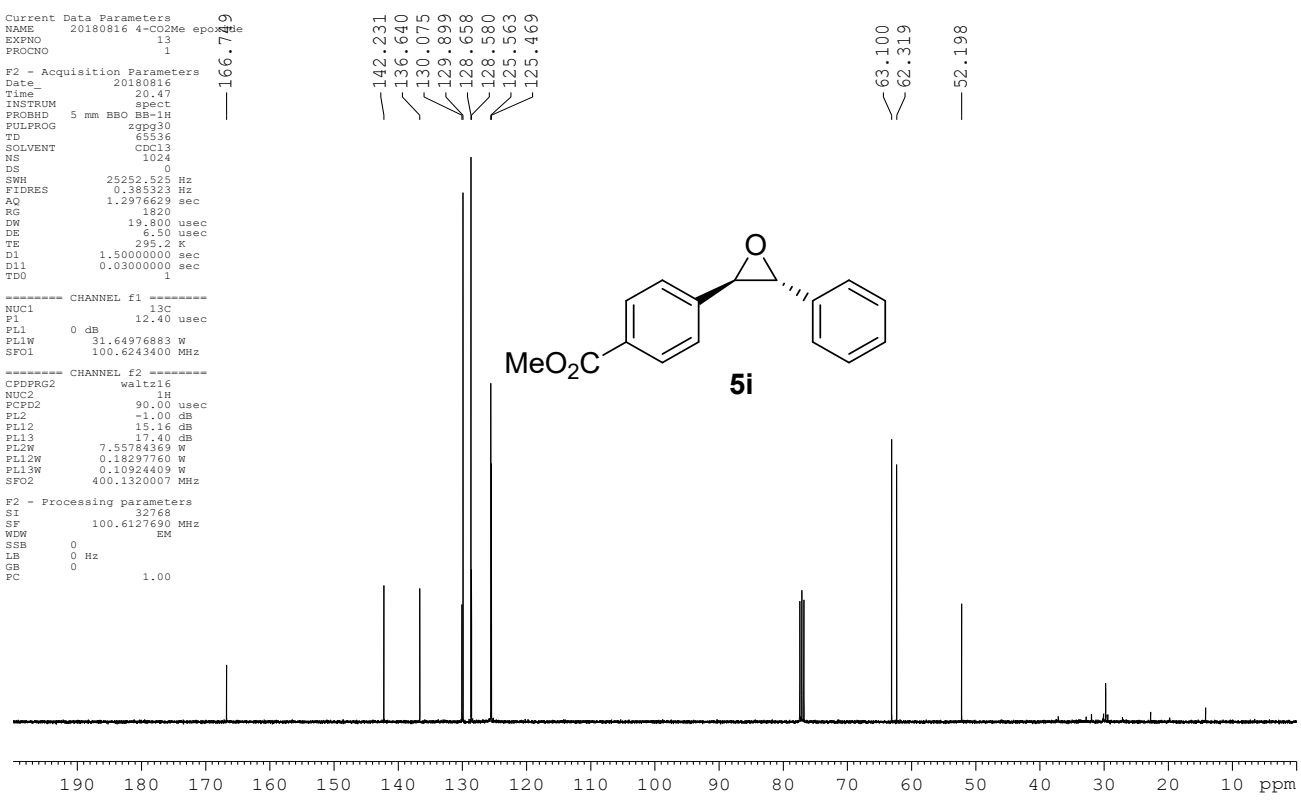

Current Data Parameters
NAME 20180625 PHL-295 3-8 (4-Br epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180625
Time 21.48
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 256
DW 83.200 usec
DE 6.50 usec
TE 293.8 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300098 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.519
7.498
7.407
7.390
7.372
7.359
7.345
7.326
7.260
7.231
7.210
3.832
3.818
O
Br
5g
13 12 11 10 9 8 7 6 5 4 3 2 1 ppm
2.203
5.236
1.990
2.001

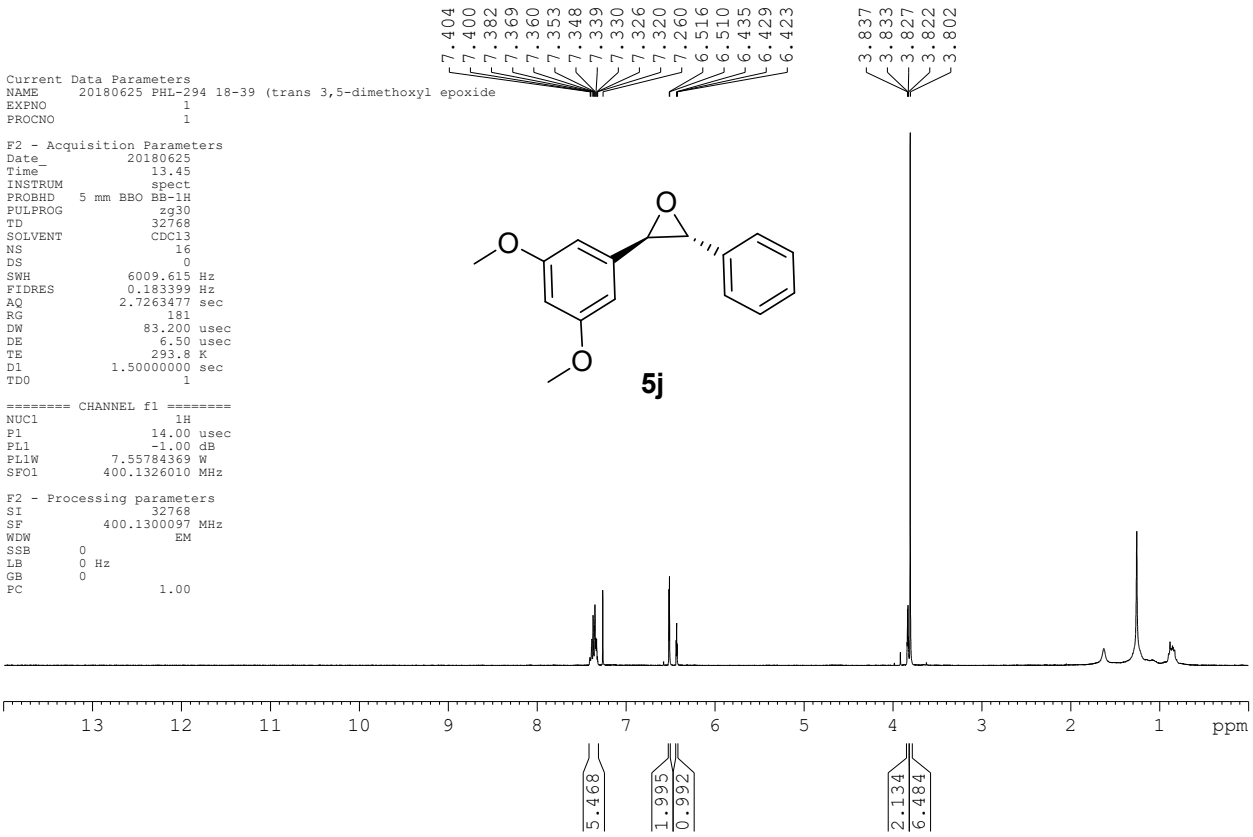

Current Data Parameters
NAME 20180816 4-Br epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180816
Time 21.24
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
136.794
136.269
131.777
128.699
128.566
127.256
125.588
122.271
62.935
62.273
O
Br
5g
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ppm

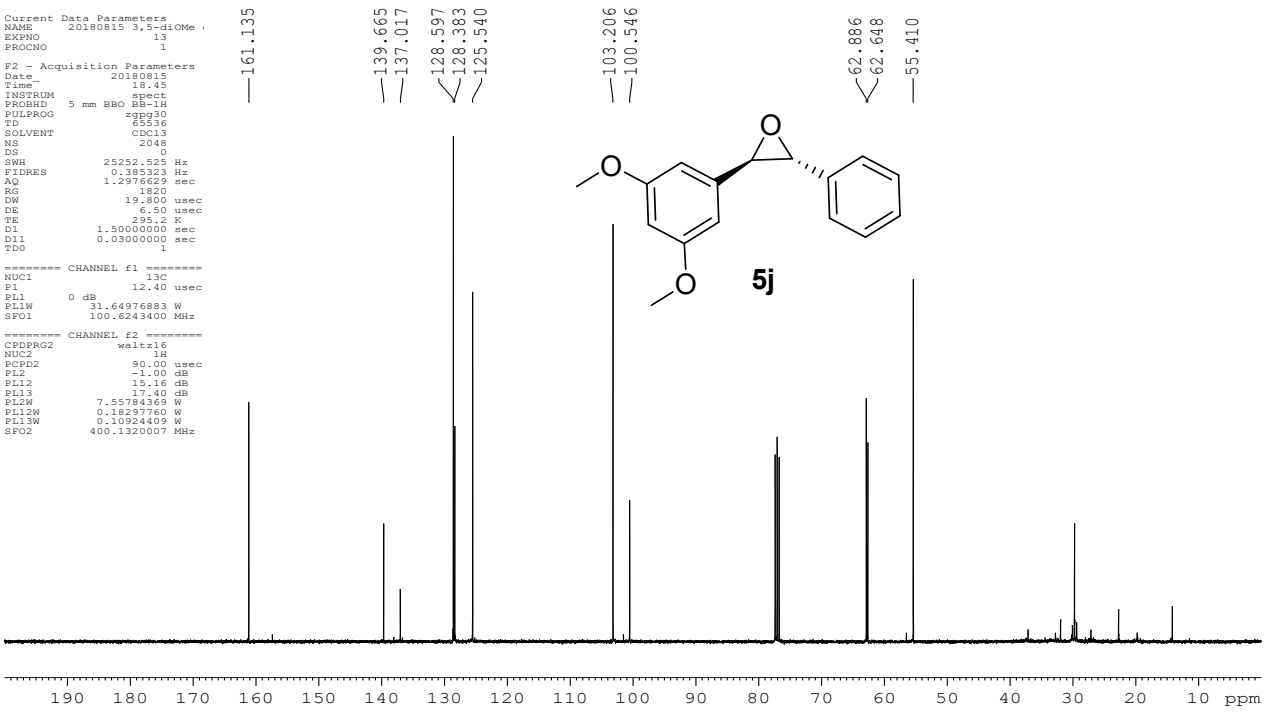

Current Data Parameters
NAME 20180813 PHL-311 14-39(4-CN epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180813
Time 13.33
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 203
DW 83.200 usec
DE 6.50 usec
TE 294.5 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300087 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.690
7.670
7.487
7.468
7.448
7.429
7.424
7.408
7.390
7.381
7.369
7.355
7.351
7.335
7.262
3.924
3.921
3.834
3.830
O
NC
5h
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
2.037
2.196
5.201
1.000
0.992

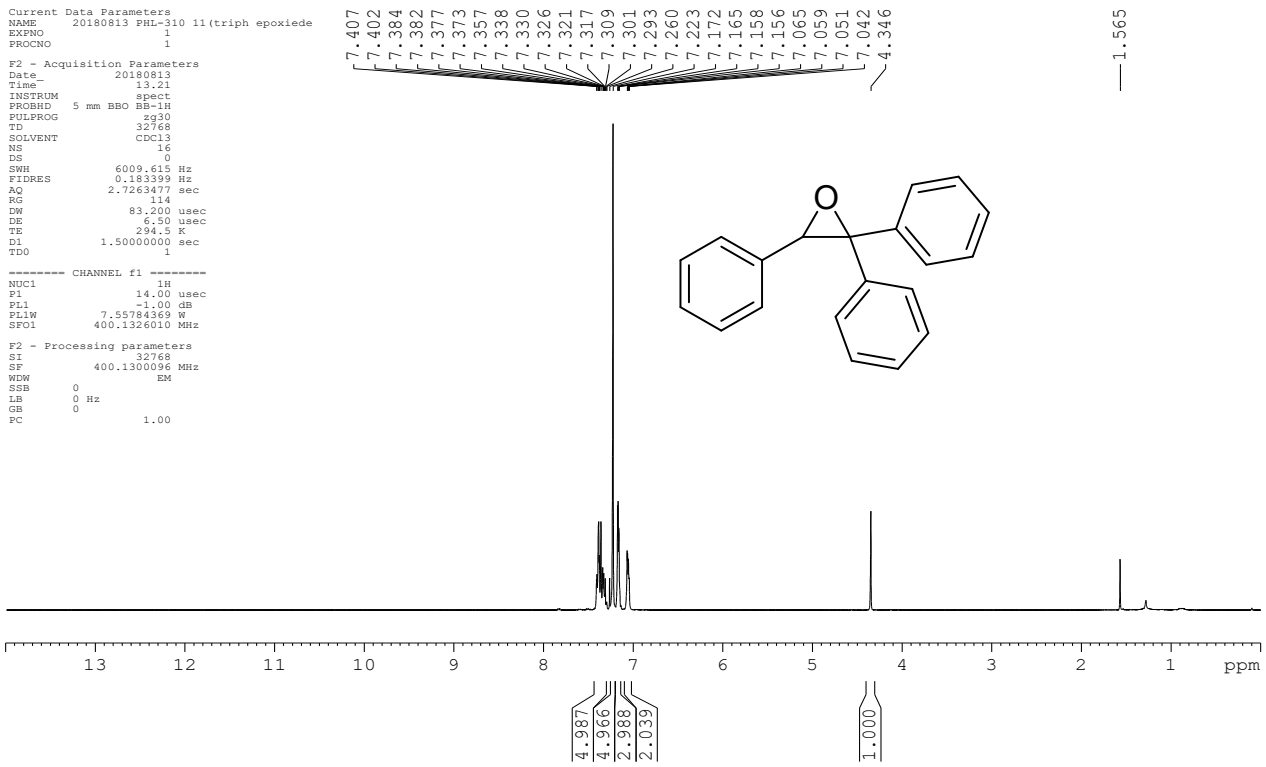

Current Data Parameters
NAME 20180817 4-CN epo
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180817
Time 18.36
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.1 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
142.506
136.209
132.448
128.789
128.736
126.192
125.565
118.663
112.021
63.284
61.871
O
NC
5h
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

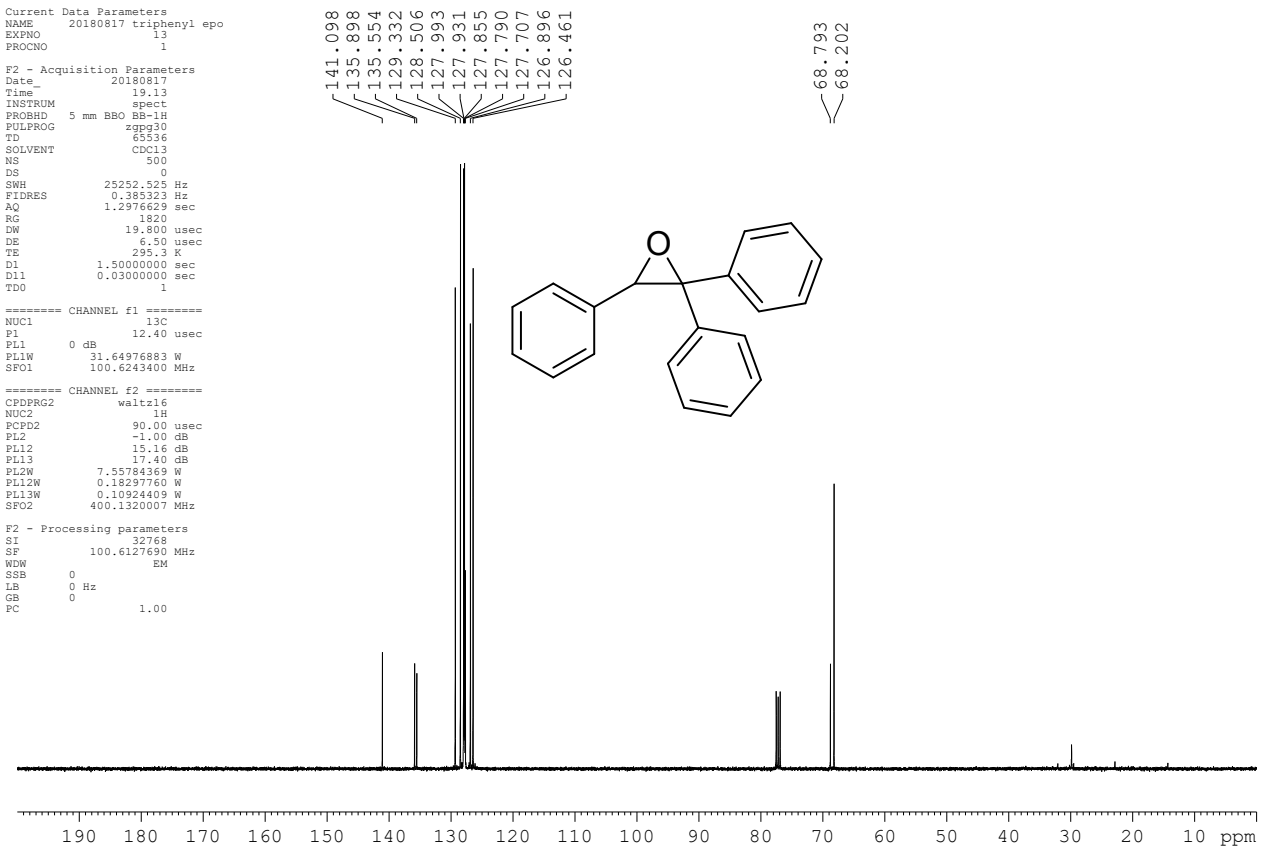

Current Data Parameters
NAME 20180816 PHL-312 17-33(4-CO2Me epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180816
Time 13.19
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 256
DW 83.200 usec
DE 6.50 usec
TE 294.6 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300098 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
8.065
8.044
7.427
7.407
7.395
7.380
7.367
7.359
7.342
7.260
3.930
3.924
3.920
3.866
3.862
MeO2C
5i
13 12 11 10 9 8 7 6 5 4 3 2 1 ppm
1.997
7.085
3.878
0.987


Current Data Parameters
NAME 20180816 4-CO2Me epoxide
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180816
Time 20.47
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
166.779
142.231
136.640
130.075
129.899
128.658
128.580
125.563
125.469
63.100
62.319
52.198
MeO2C
5i
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ppm


7.404
7.400
7.382
7.369
7.360
7.353
7.348
7.339
7.330
7.326
7.320
7.260
6.516
6.510
6.435
6.429
6.423
3.837
3.833
3.827
3.822
3.802
Current Data Parameters
NAME 20180625 PHL-294 18-39 (trans 3,5-dimethoxyl epoxide
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180625
Time 13.45
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 181
DW 83.200 usec
DE 6.50 usec
TE 293.8 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300097 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
O
O
O
5j
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
5.468
1.995
0.992
2.134
6.484


161.135
139.665
137.017
128.597
128.383
125.540
103.206
100.546
62.886
62.648
55.410
Current Data Parameters
NAME 20180815 3,5-diOMe
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180815
Time 18.45
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2048
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.2 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
O
O
O
5j
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

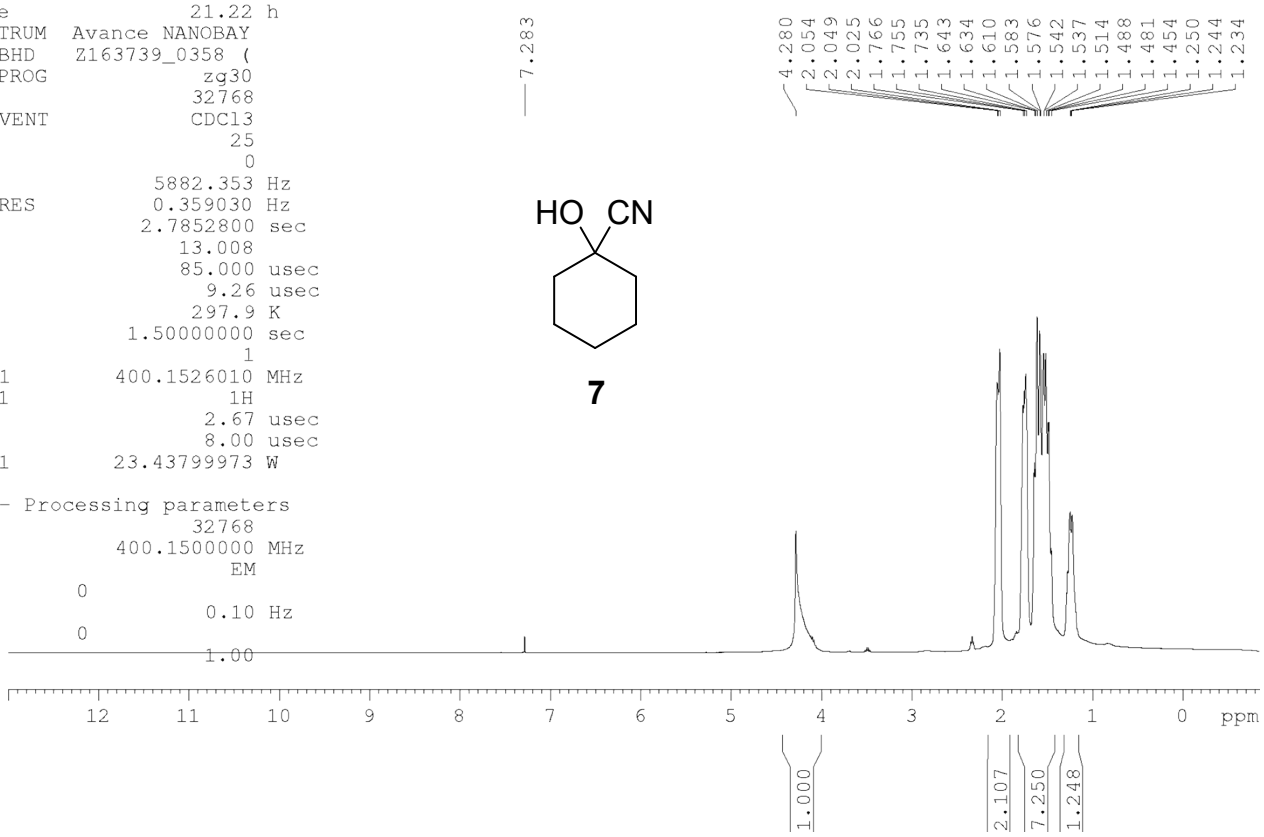

Current Data Parameters
NAME 20180813 PHL-310 11(triph epoxiede
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180813
Time 13.21
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 114
DW 83.200 usec
DE 6.50 usec
TE 294.5 K
D1 1.50000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 14.00 usec
PL1 -1.00 dB
PL1W 7.55784369 W
SFO1 400.1326010 MHz
F2 - Processing parameters
SI 32768
SF 400.1300096 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
7.407
7.402
7.384
7.382
7.377
7.373
7.357
7.338
7.330
7.326
7.321
7.317
7.309
7.301
7.293
7.260
7.223
7.172
7.165
7.158
7.156
7.065
7.059
7.051
7.042
4.346
1.565
O
13
12
11
10
9
8
7
6
5
4
3
2
1
ppm
4.987
4.966
2.988
2.039
1.000


Current Data Parameters
NAME 20180817 triphenyl epo
EXPNO 13
PROCNO 1
F2 - Acquisition Parameters
Date_ 20180817
Time 19.13
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 0
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 1820
DW 19.800 usec
DE 6.50 usec
TE 295.3 K
D1 1.50000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 12.40 usec
PL1 0 dB
PL1W 31.64976883 W
SFO1 100.6243400 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -1.00 dB
PL12 15.16 dB
PL13 17.40 dB
PL2W 7.55784369 W
PL12W 0.18297760 W
PL13W 0.10924409 W
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 0 Hz
GB 0
PC 1.00
141.098
135.898
135.554
129.332
128.506
127.993
127.931
127.855
127.790
127.707
126.896
126.461
68.793
68.202
O
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm

```
Current Data Parameters
NAME      20210816-cyanohydrin
EXPNO                    2
PROCNO                   1

F2 - Acquisition Parameters
Date_           20210816
Time              21.22 h
INSTRUM  Avance NANOBAY
PROBHD   Z163739_0358 (
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                    25
DS                     0
SWH             5882.353 Hz
FIDRES          0.359030 Hz
AQ             2.7852800 sec
RG                13.008
DW                85.000 usec
DE                 9.26 usec
TE                297.9 K
D1            1.50000000 sec
TD0                    1
SFO1          400.1526010 MHz
NUC1                  1H
P0                 2.67 usec
P1                 8.00 usec
PLW1          23.43799973 W

F2 - Processing parameters
SI                 32768
SF            400.1500000 MHz
WDW                   EM
SSB       0
LB                 0.10 Hz
GB        0
PC                 1.00
```




```
Current Data Parameters
NAME      20210816-cyanohydrin
EXPNO                   13
PROCNO                   1

F2 - Acquisition Parameters
Date_           20210816
Time              22.14 h
INSTRUM  Avance NANOBAY
PROBHD   Z163739_0358 (
PULPROG           zgpg30
TD                 65536
SOLVENT            CDCl3
NS                  1000
DS                     0
SWH            25000.000 Hz
FIDRES          0.762939 Hz
AQ             1.3107200 sec
RG                   101
DW                20.000 usec
DE                 6.50 usec
TE                298.9 K
D1            1.50000000 sec
D11           0.03000000 sec
TD0                    1
SFO1          100.6293690 MHz
NUC1                  13C
P0                 2.67 usec
P1                 8.00 usec
PLW1          97.02799988 W
SFO2          400.1518007 MHz
NUC2                  1H
CPDPRG[2          waltz65
PCPD2             90.00 usec
PLW2          23.43799973 W
```