

Oxacycle Synthesis via Intramolecular Reaction of Carbanions and Peroxides

Rachel Willand-Charnley, Benjamin Puffer, and Patrick H. Dussault

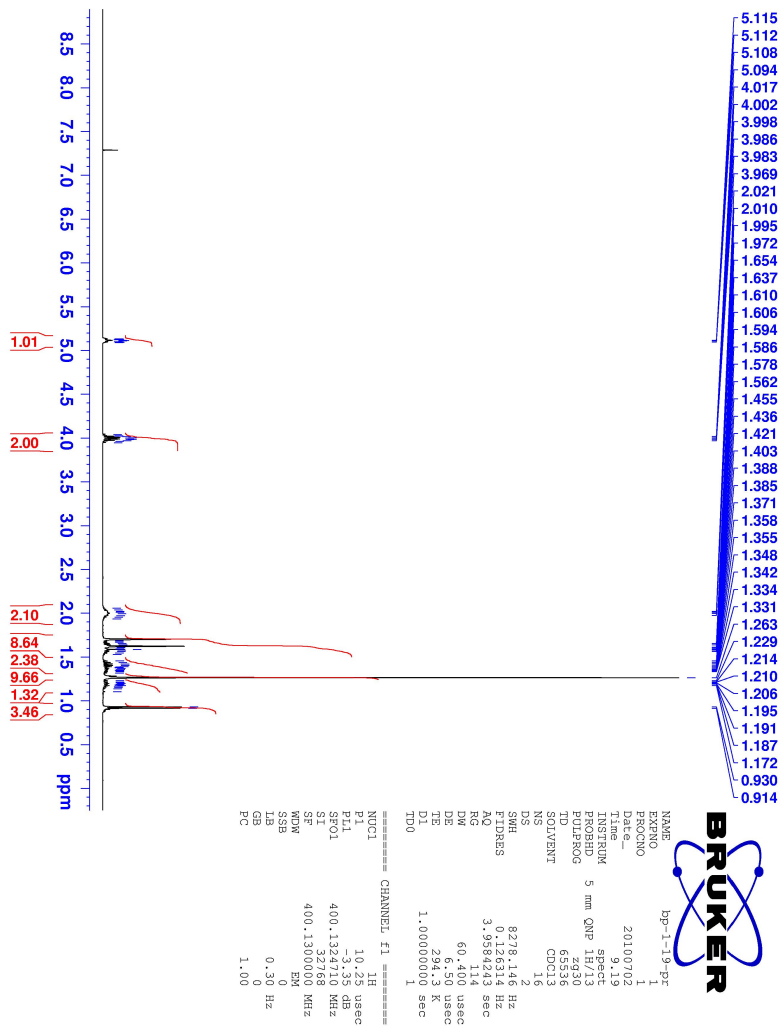
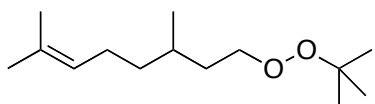
SUPPORTING INFORMATION Section 2 (Spectral Data)

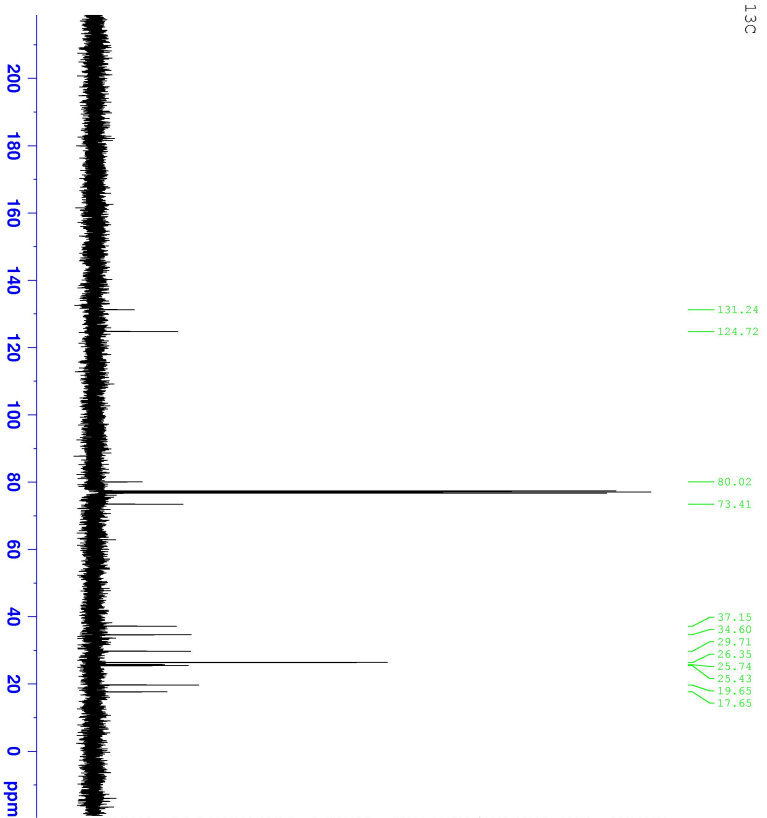
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tert Butyl 3,7-dimethyloct-6-en-1-yl peroxide (1)





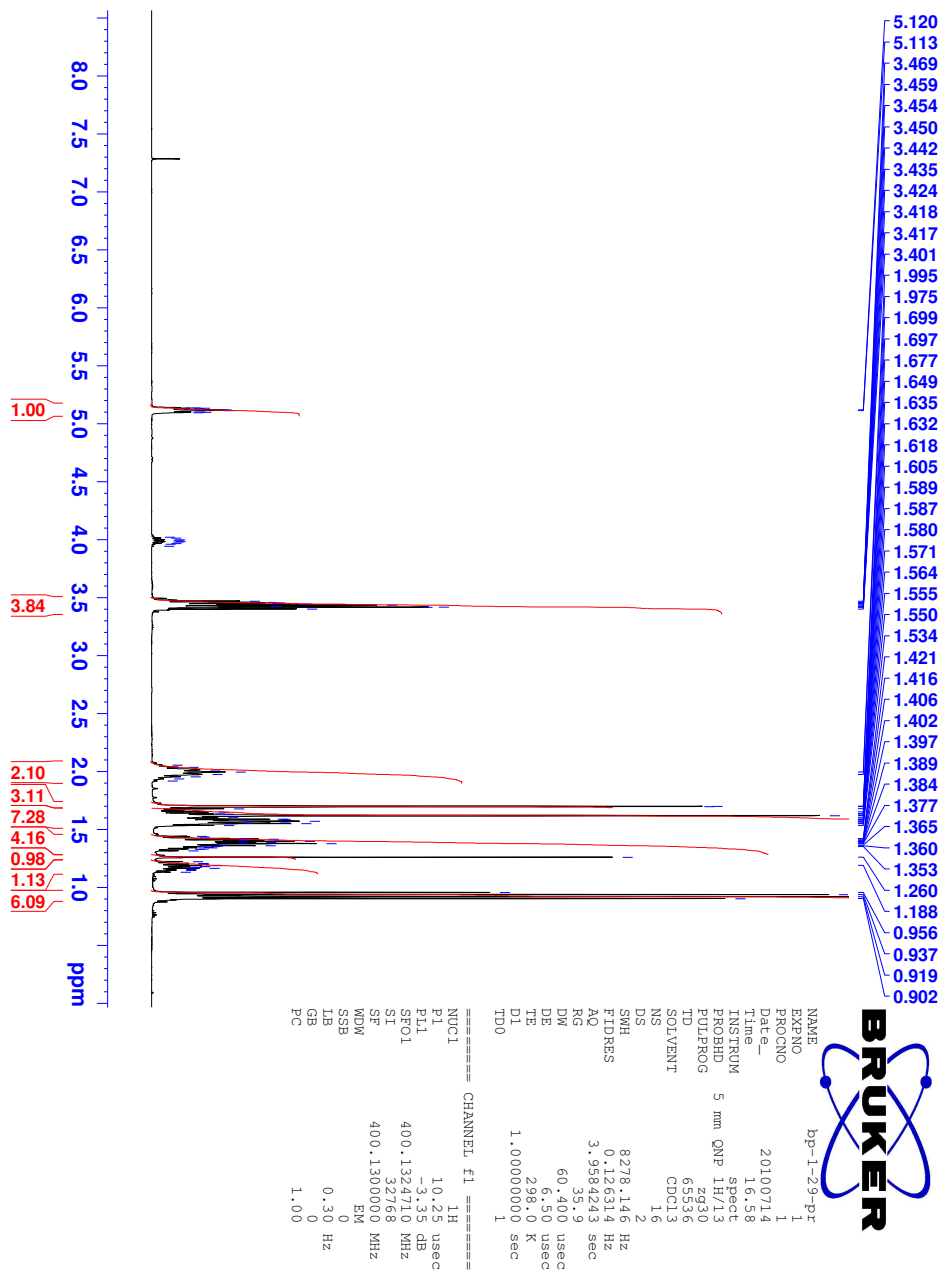
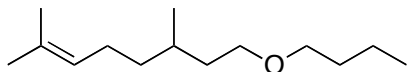
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NAME bp-1-19-pr
EXPNO 2
PROCNO 2
F2 -
F3 -
TIME 9.21
INSTRUM spect
PROBHD 5 mm QNP 1H/13
PULPROG zgpg30
SOLVENT CDCl3
NS 41
DS 4
SM 23980.814 Hz
AQ 1.3604756 sec
RG 32768
DW 20.850 usec
DE 6.150 usec
TE 293.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 10.00 usec
PL1 0.50 dB
SFO1 100.6282298 MHz

===== CHANNEL f2 =====
NAME waltz16
NUC2 1H
P2 10.00 usec
PL2 1.00 dB
PL12 13.34 dB
PL13 13.34 dB
SFO2 400.1316005 MHz
SI 32768
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```


Butyl 3,7-dimethyloct-6-en-1-yl-ether (2)



13C

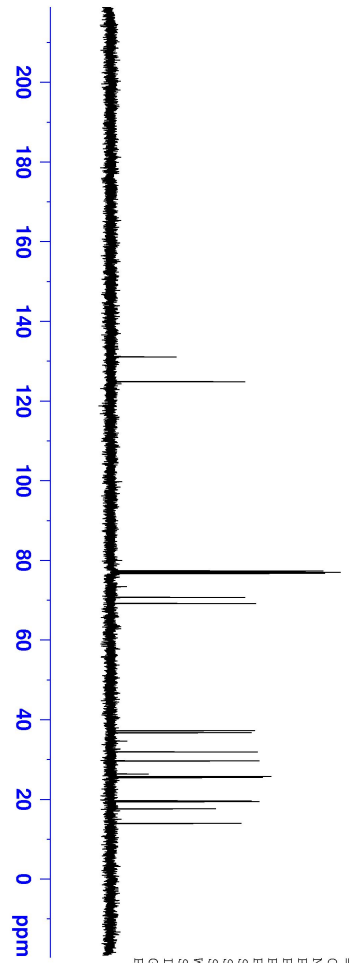
131.08
124.86
70.68
69.16
37.23
36.72
31.89
29.61
26.34
25.70
25.47
19.57
19.39
17.61
13.93



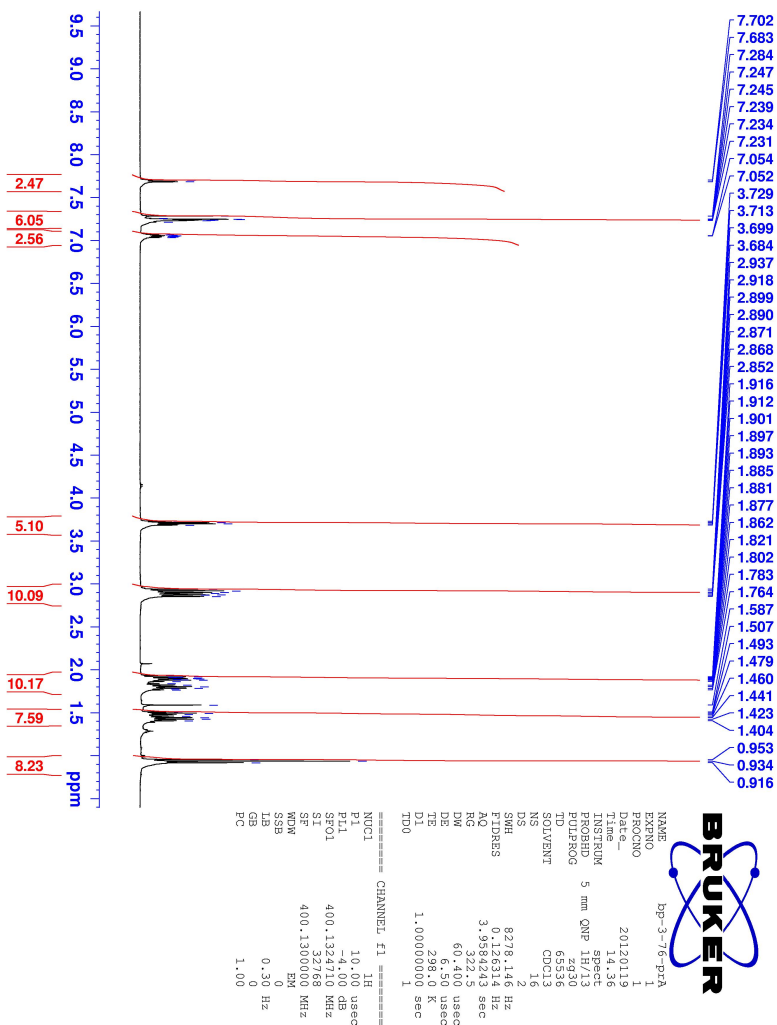
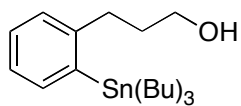
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 EXPNO 2
 PROCNO 1
 Date_ 20100714
 Time 17.00
 INSTRUM spect
 PROBHD 5 mm QNP 1H/13
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 42
 DS 4
 SWH 23990.814 Hz
 FIDRES 0.26914 Hz
 AQ 1.369758 sec
 RG 812.7
 DW 20.850 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUCL 13C
 P1 10.00 usec
 PL1 0.50 dB
 SFO1 100.6282896 MHz

===== CHANNEL f2 =====
 CDPDPRG2 waltz16
 NUC2 1H
 PCPD2 70.00 usec
 PL2 -3.35 dB
 PL12 13.34 dB
 PL13 13.34 dB
 SFO2 400.1316005 MHz
 SI 32768
 SF 100.6127690 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 1.40



3-(2-(tributylstannyl)phenyl)propan-1-ol (4c)





bp-3-76-prA

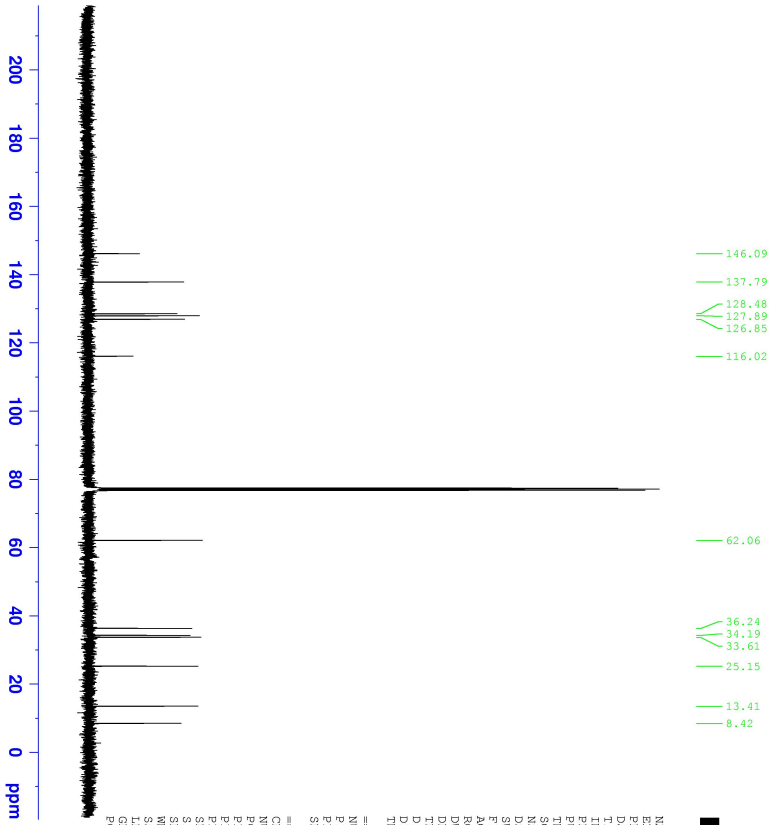
NAME
EXPNO 3
PROCNO 1
Date_ 20120119
Time 11:41
INSTRUM spect
PROBHD 5 mm QNP 1H/13
PULPROG zgpg30
TD 65536
SFO1 400.131605
SFO2 100.612768
SF 400.131605
WDW EM
SSB 0
LB 1.00
GB 0
PC 1.00

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

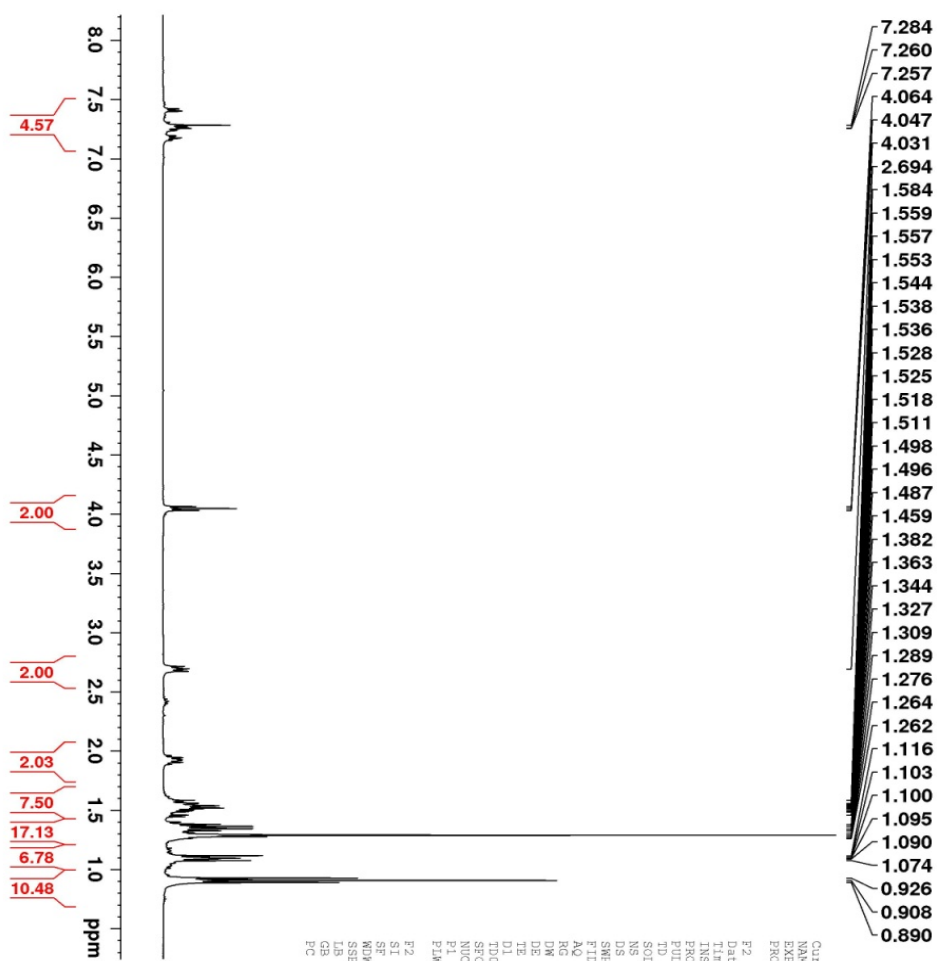
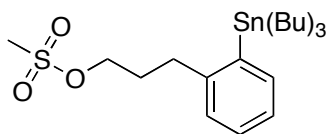
NUC1 13C
P1 10.00 usec
PL1 0.50 dB
SFO1 100.6228298 MHz

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

CPDPRG2 waltz16
NUC2 1H
PCPD2 70.00 usec
P12 4.00 dB
PL2 12.90 dB
PL13 12.90 dB
SFO2 400.1316005 MHz
SI 32768
SF 100.6127680 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00



3-(2-(tributylstannyl)phenyl)propyl methansulfonate (5c)

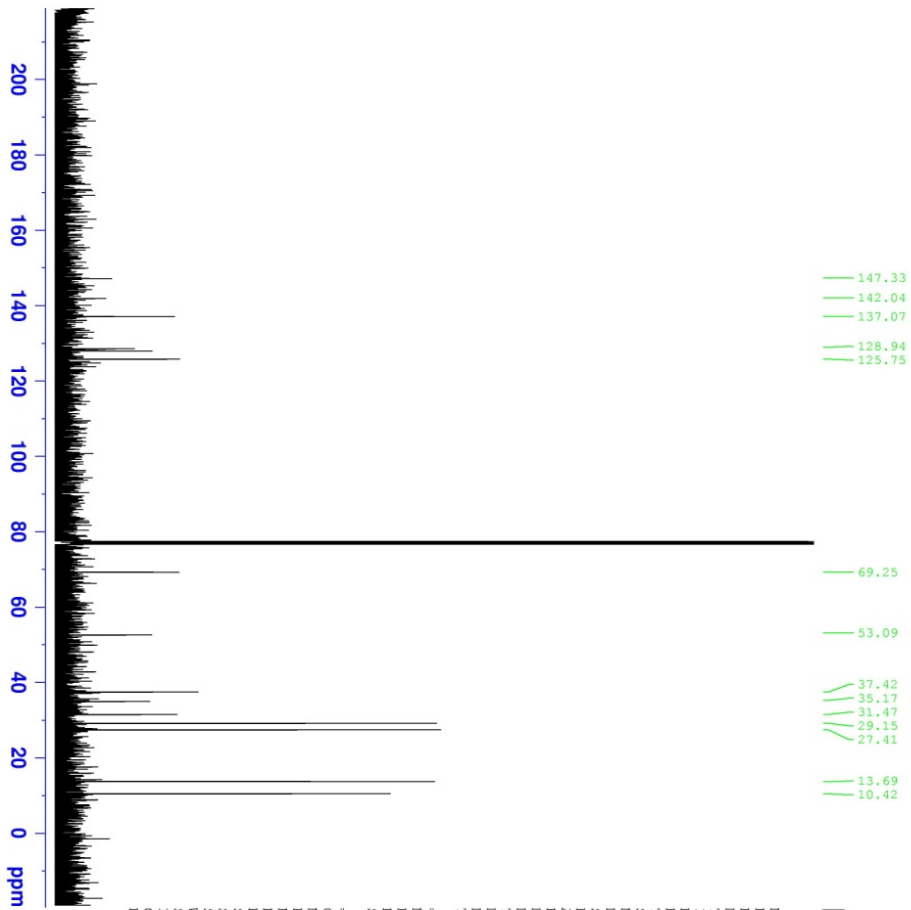


Current Data Parameters
 NAME bp-3-99-pr
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120407
 Time_ 0:44
 INSTRUM spect
 PROBRD 5 mm QNP 1H/13
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SFO 8278.148 Hz
 FIDRES 0.126314 Hz
 AQ 3.9583745 sec
 RG 90.5
 DE 60.400 usec
 DM 6.50 usec
 TE 293.7 K
 D1 1.00000000 sec
 D10 0.05000000 sec
 SEPI 400.1324710 MHz
 NUC1 1H
 P1 10.00 usec
 PL1 -1.00000000 W

F2 - Processing parameters
 SI 32768
 SF 400.1300000 MHz
 WF EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

- 7.284
- 7.260
- 7.257
- 4.064
- 4.047
- 4.031
- 2.694
- 1.584
- 1.559
- 1.557
- 1.553
- 1.544
- 1.538
- 1.536
- 1.528
- 1.525
- 1.518
- 1.511
- 1.498
- 1.496
- 1.487
- 1.459
- 1.382
- 1.363
- 1.344
- 1.327
- 1.309
- 1.289
- 1.276
- 1.264
- 1.262
- 1.116
- 1.103
- 1.100
- 1.095
- 1.090
- 1.074
- 0.926
- 0.908
- 0.890



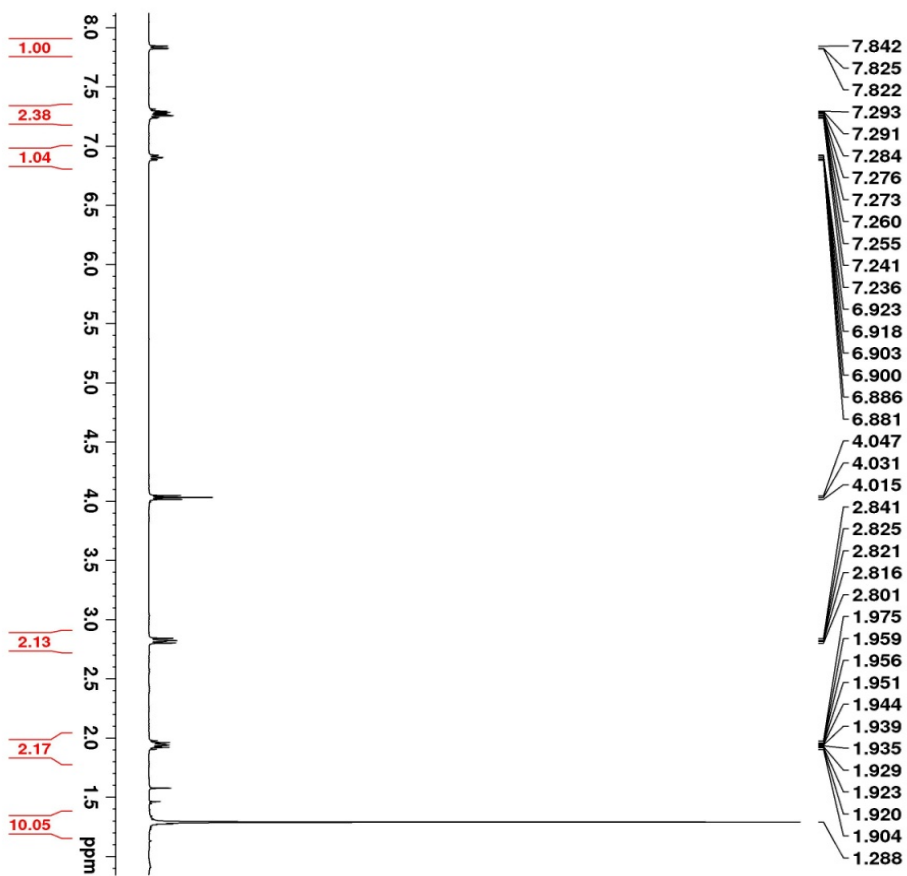
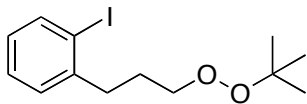
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NAME bp-3-98-pr
EXPNO 2
PROCNO 1
Date_ 20120330
Time 14.53
INSTRUM spect
PROBHD 5 mm QNP 1H/13
PULPROG zgpg30
TD 65536
AQ 0.03000000 sec
RG 1290.2
DE 20.850 usec
TE 293.8 K
D1 2.00000000 sec
D11 0.03000000 sec
ID0 1

===== CHANNEL f1 =====
NUC1 13C
P1 10.00 usec
PL1 0.50 dB
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 70.00 usec
PL2 -4.00 dB
PL12 12.90 dB
PL13 12.90 dB
STO2 400.1314959 MHz
SF 32768
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

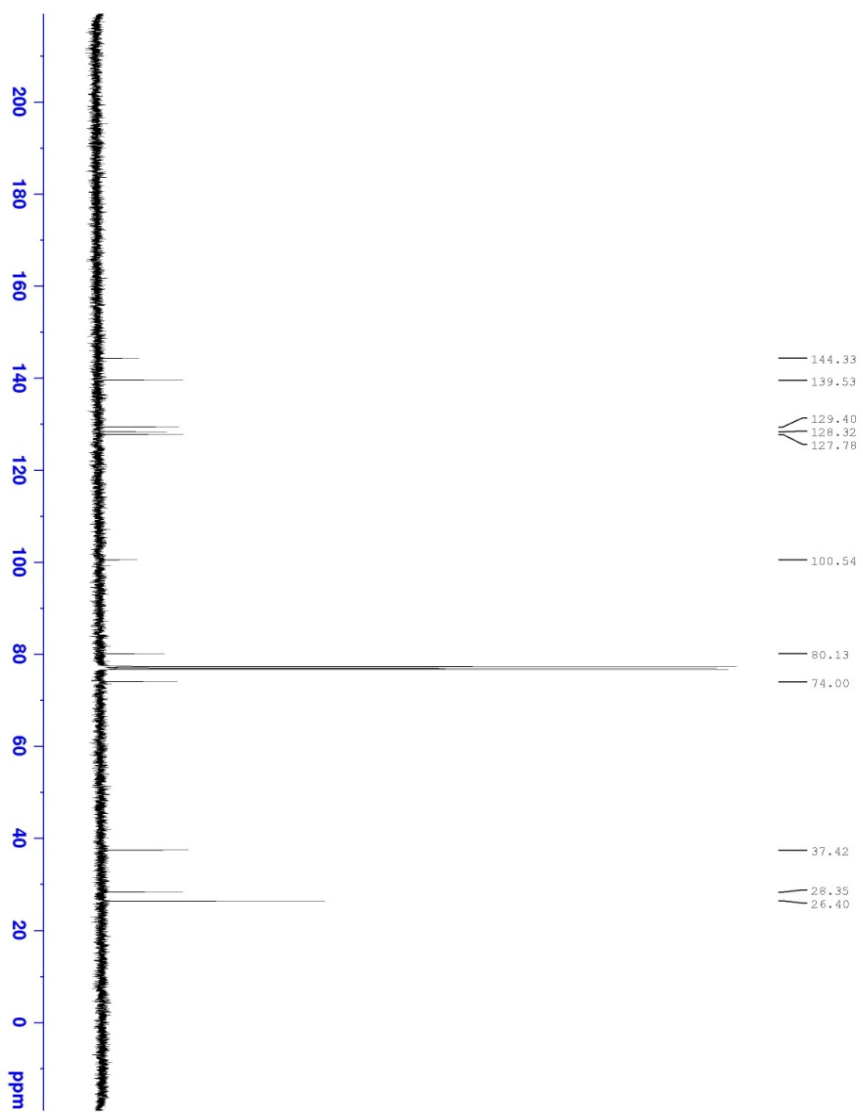
3-(2-iodophenyl)propyl tert-butyl peroxide (6a)



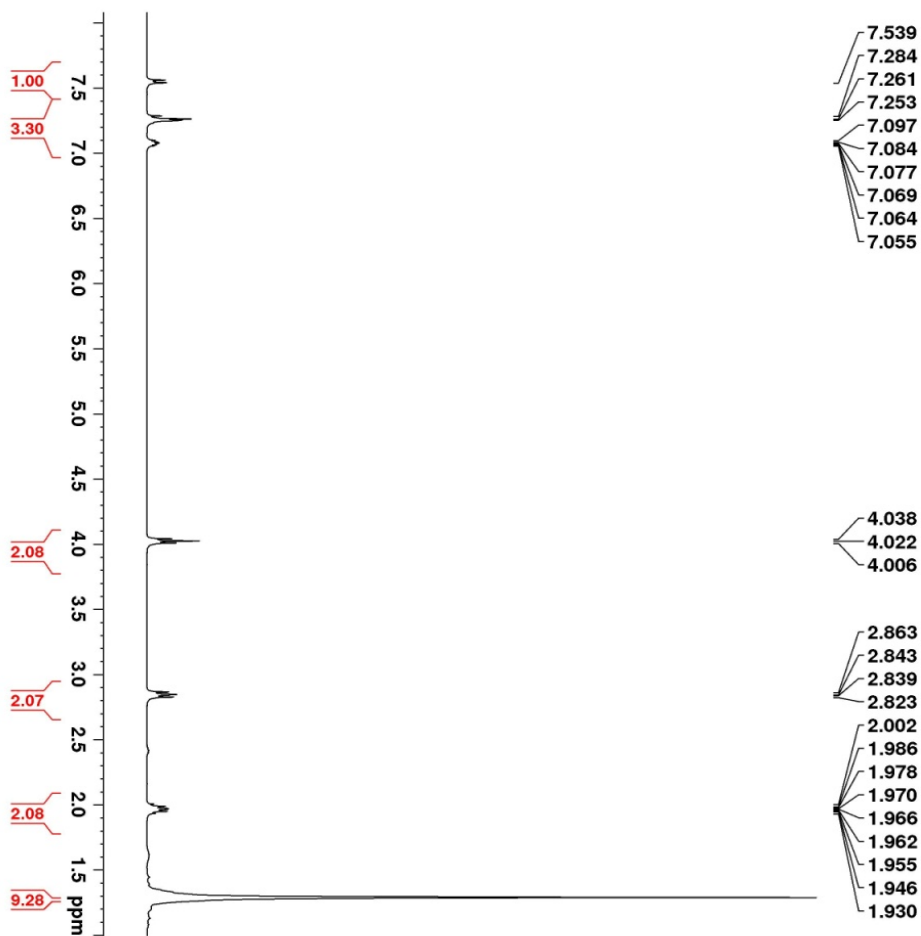
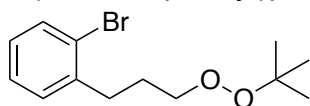
Current Data Parameters
 NAME Desktop
 EXMNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20120106
 Time 15.21
 INSTRM spect
 PROBD 3 mm QNP 1H/13
 P1 6.50
 T1 6.50
 T1 DELT 6.50
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.126216 Hz
 AQ 3.3939183 sec
 RG 655
 BQ 60.400 usec
 DE 298.0 K
 TE 6.50 usec
 D1 1.00000000 sec
 D11 0.00000000 sec
 SFO1 400.132410 MHz
 NUCL1 1H
 P1 10.00 usec
 P1M1 -1.00000000 W

F2 - Processing parameters
 SI 32768
 SF 400.130000 MHz
 WDM 0
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

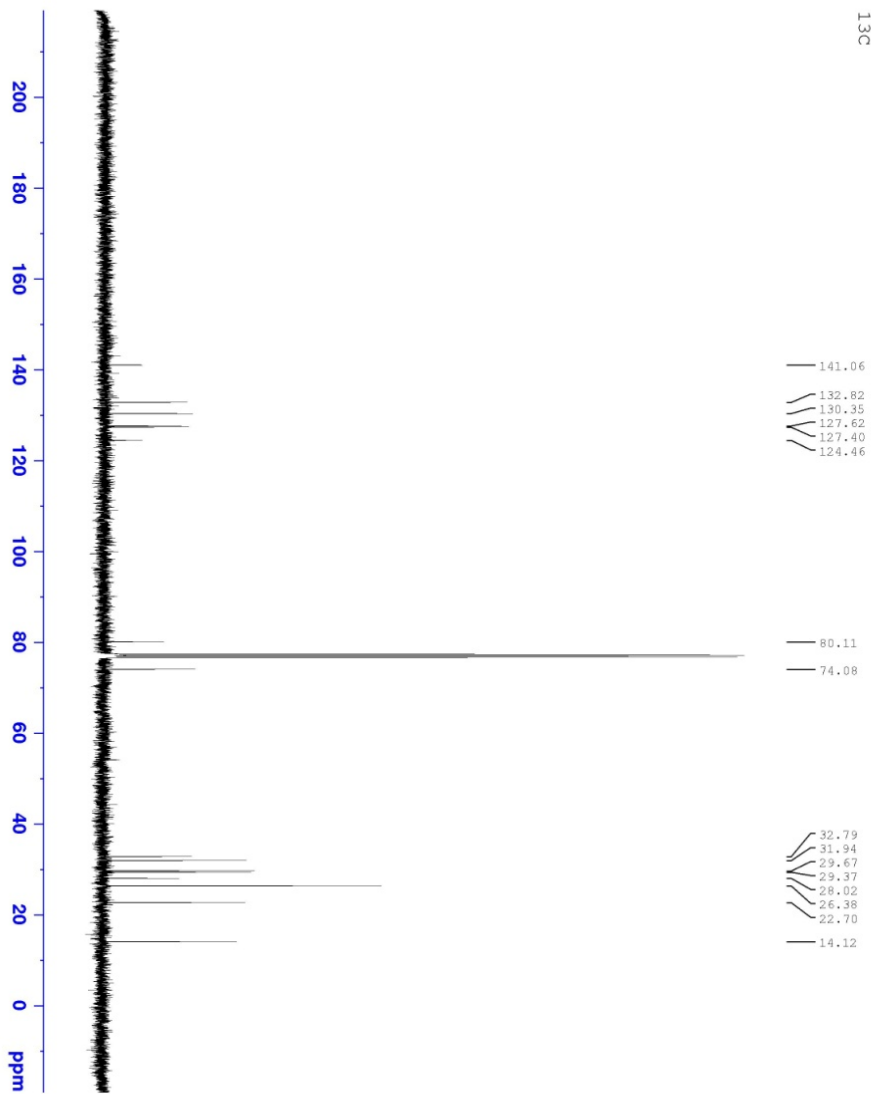


3-(2-Bromophenyl)propyl tert-butyl peroxide (6b)

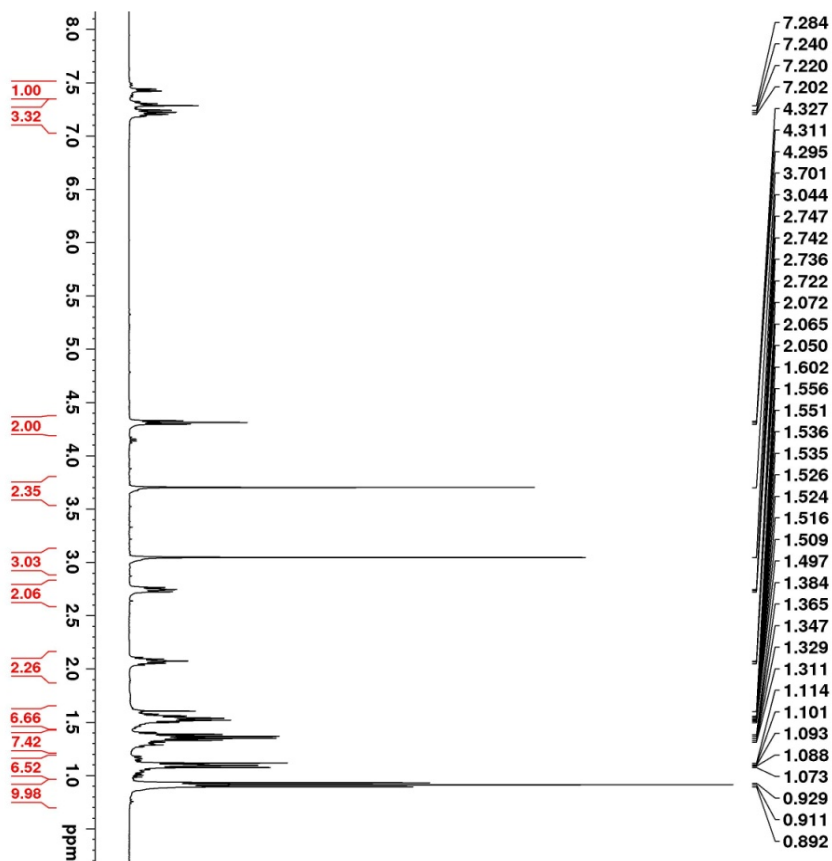
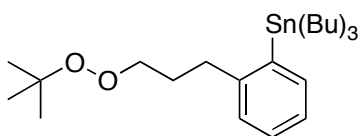


Current Data Parameters
 NAME bp-4-4-pr
 EXPNO 1
 PROCNO 1
 F2 - Acquisition Parameters
 Date_ 20120419
 Time 14:22
 INSTRUM spect
 PROBRD 5 mm QNP 1H/13
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SMH 8279.146 Hz
 X1FIDRES 0.126314 Hz
 F1 3.256718 sec
 RG 60.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 1.00000000 sec
 SFO1 400.1324710 MHz
 NUCL1 1H
 P1 10.00 usec
 PL1 -1.00000000 W

F2 - Processing parameters
 SI 32768
 SF 400.130000 MHz
 WDM 0 EX
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



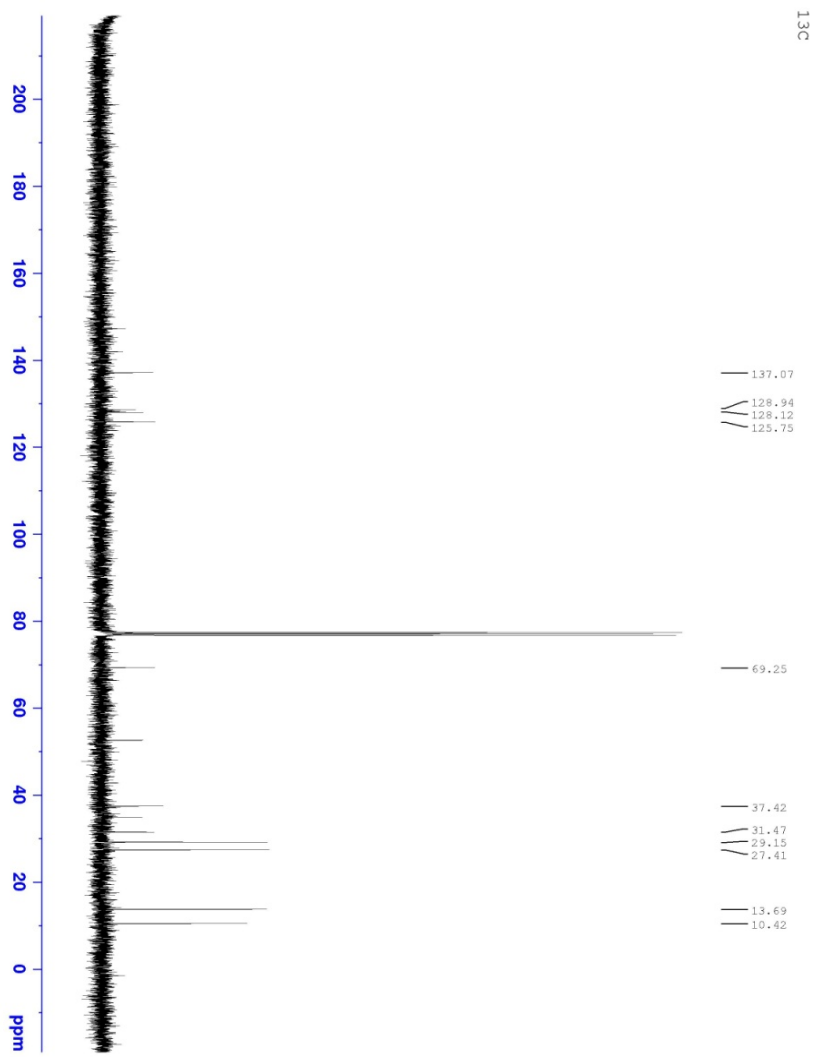
3-(2-(tributylstannyl)phenyl)propyl tert-butyl peroxide (6c)



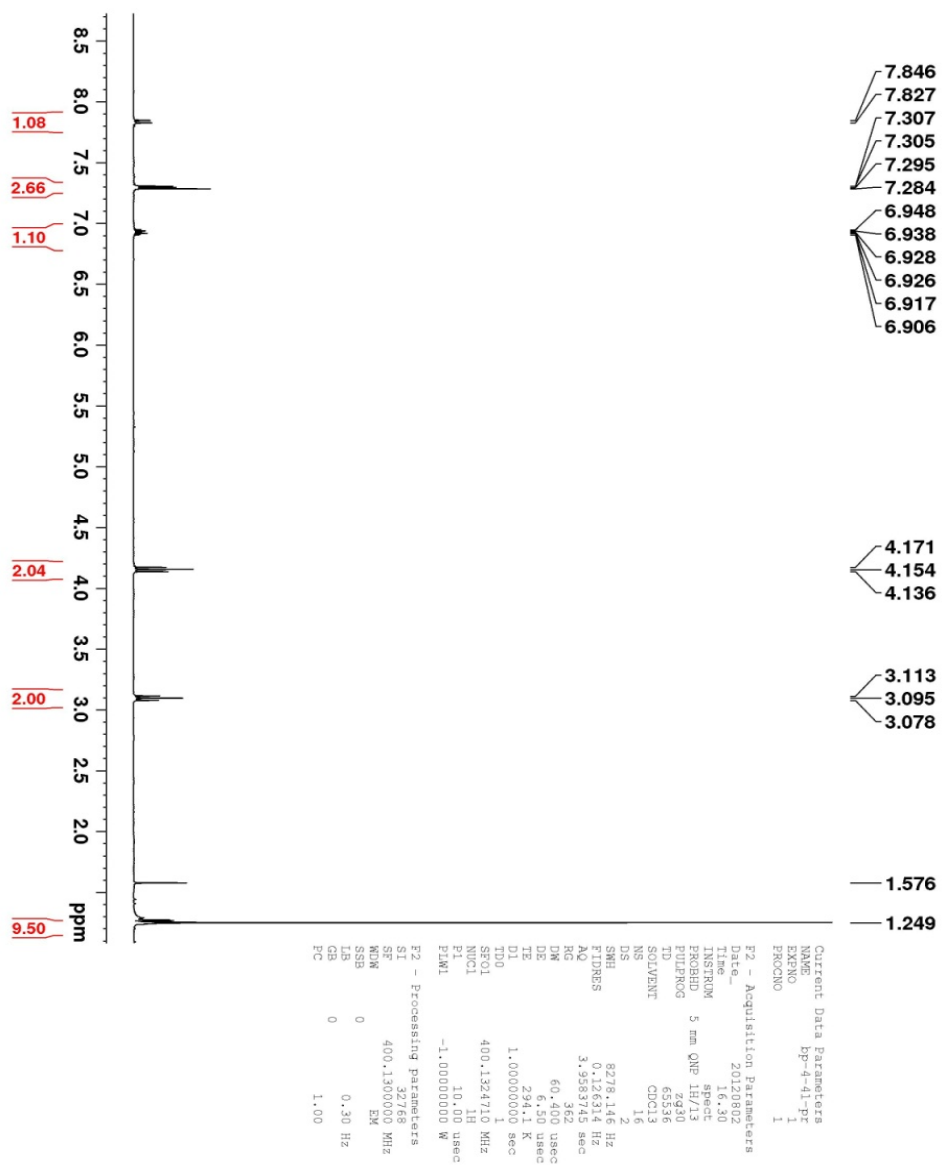
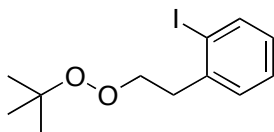
Current Data Parameters
 NAME BP-3-98-F1
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20130713
 Time 14:51
 INSTRUM spect
 PROBRD 5 mm QNP 1H/13
 P1 12.00
 TO 6330
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SFO 8278.14 Hz
 FIDRES 0.126314 Hz
 AQ 3.9583745 sec
 RG 718
 AC 60.40 usec
 DE 2.50 usec
 TE 293.5 K
 D1 1.00000000 sec
 TD 400.132471 MHz
 SFO1 1H
 NUC1 1H
 P1 10.00 usec
 P1M1 -1.00000000 W

F2 - Processing parameters
 SI 32768
 SF 400.130000 MHz
 KW 0 EM
 SFO 1H
 LB 0.30 Hz
 GB 0
 PC 1.00



2-(2-Iodophenyl) ethyl tert-butyl peroxide (9)



13C

141.16
 139.48
 130.28
 128.27
 128.17
 100.62
 80.38
 74.08
 39.25
 26.51
 26.32



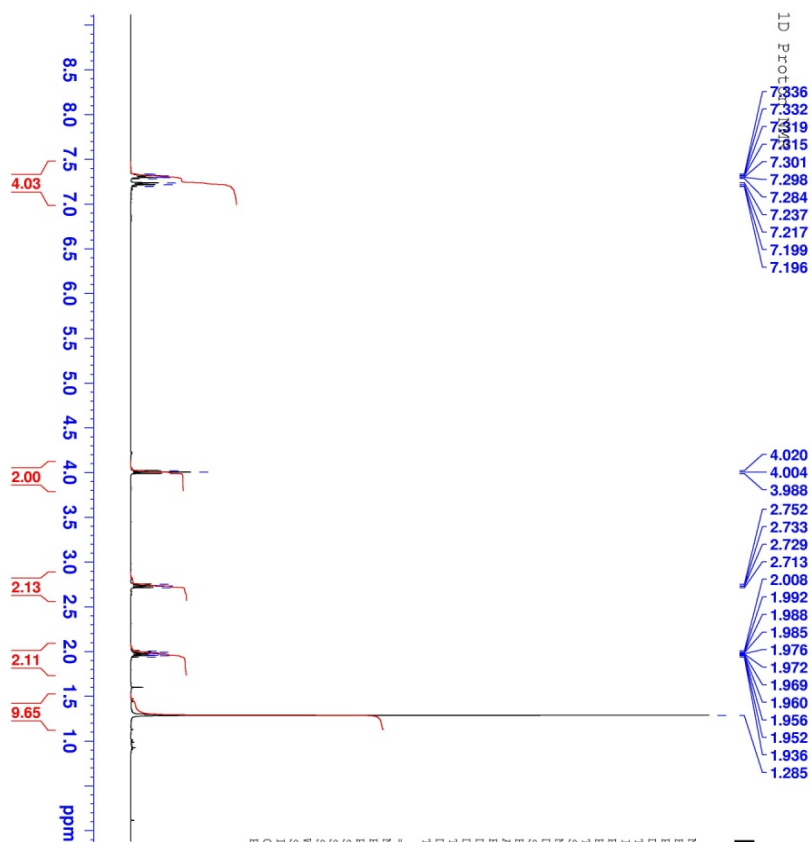
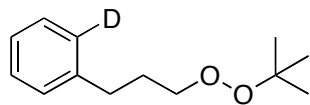
NAME bp-4-34-pr
 EXPNO 2
 PROCNO 1
 Date_ 20120712
 Time 13.21
 INSTRUM spect
 PROBH1 5 mm QNP 1H/13
 PULPROG zgpg30
 TD 32768
 SFO1 300.132000
 SOLVENT CDCl3
 NS 1
 DS 4
 SWH 17985.611 Hz
 FIDRES 0.548877 Hz
 AQ 0.9110004 sec
 RG 7298.2
 DW 27.800 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL F1 =====
 NUC1 13C
 P1 10.00 usec
 PL1 5.20 dB
 SFO1 75.4752953 MHz

===== CHANNEL F2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 70.00 usec
 PL2 2.20 dB
 PL12 19.10 dB
 PL13 19.10 dB
 SFO2 300.132000 MHz
 SF 300.132000 MHz
 WDW EM
 SSB 0
 GB 1.00 Hz
 LB 0
 PC 1.40

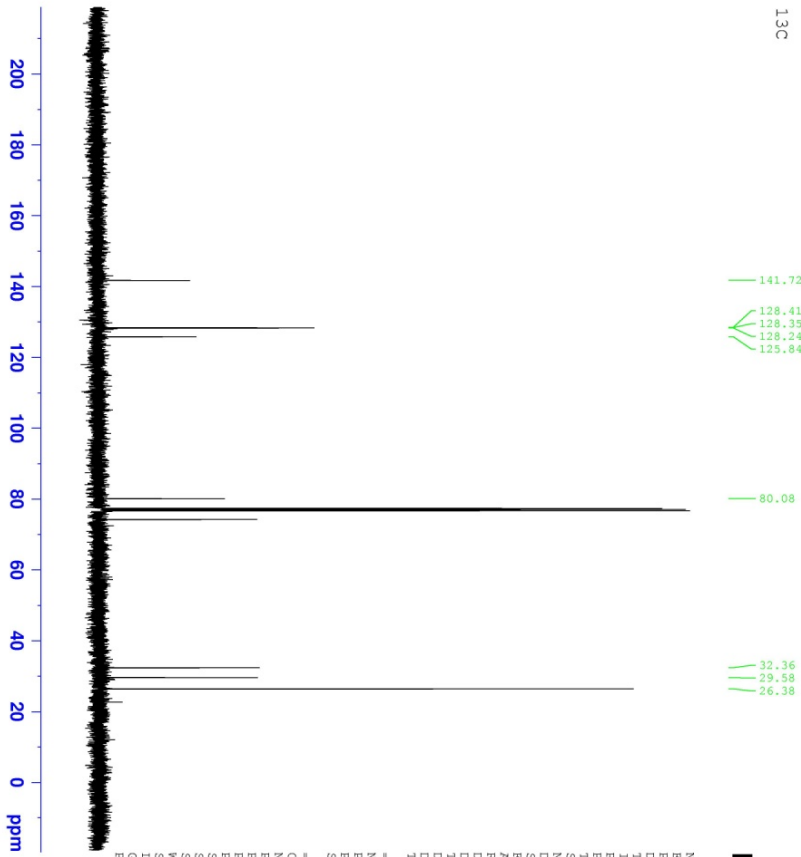


3-(2-Deuterophenyl)propyl tert-butyl peroxide



BRUKER
 NAME bp-4-24-p-r-B
 EXNO 1
 PROCNO 1
 Date_ 20120612
 Time 15.16
 INSTRUM spect
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 9278.14 Hz
 FIDRES 0.112314 Hz
 AQ 3.9584243 sec
 RG 71.8
 DW 60.400 usec
 DE 2.50 usec
 TE 29.00 usec
 D1 1.00000000 sec
 TDO 1

===== CHANNEL F1 =====
 NU01 10.00 usec
 PL1 -4.00 dB
 SFO1 400.1324710 MHz
 SI 32768
 SF 400.1300000 MHz
 WDM EX
 GB 0.30 Hz
 PC 1.00



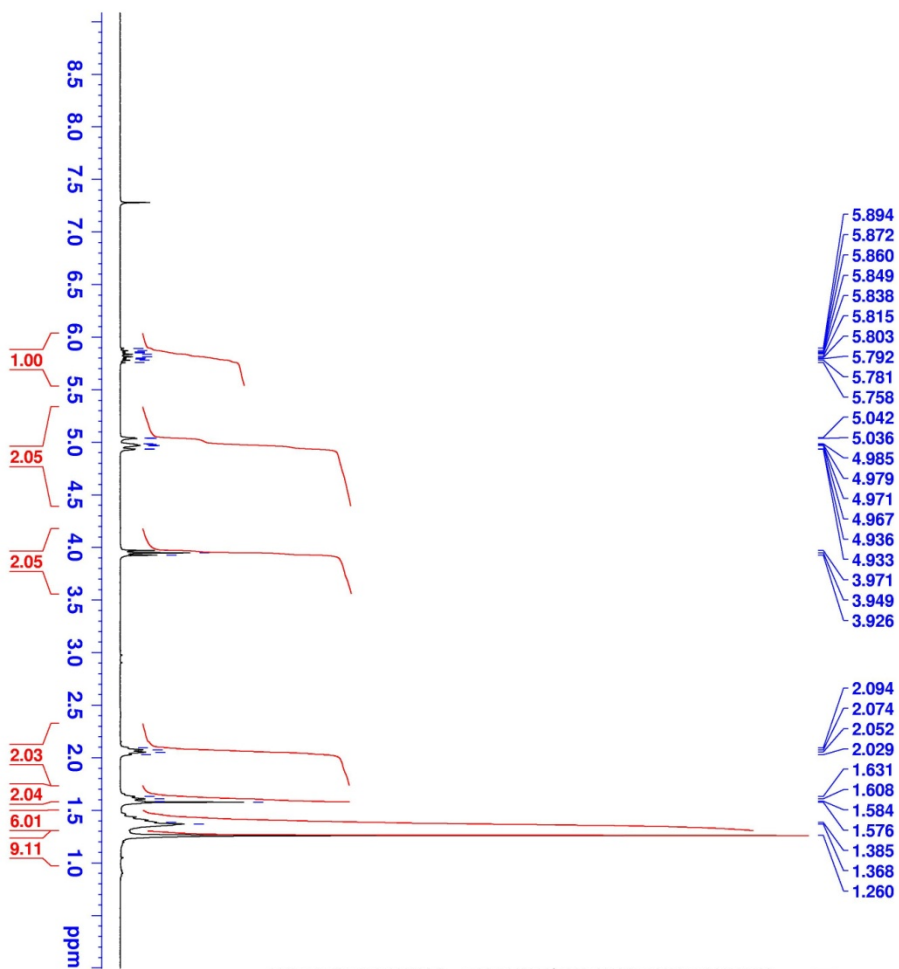
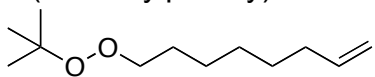
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NAME      bp-4-24-17-B
EXPNO     2
PROCNO    1
Date_     20120612
Time      15.19
INSTRUM   spect
PROBHD    5 mm QNP zpp430
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         107
DS         4
SFO1      23980.814 Hz
FIDRES    0.3645918 Hz
AQ         1.3664756 sec
RG         7298.2
DW         20.850 usec
DE         6.50 usec
TE         29.51 Hz
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1       13C
P1         10.00 usec
PL1        0.50 dB
SFO1      100.6228298 MHz

===== CHANNEL f2 =====
NAME      Maltz16
NUC2       1H
PCPD2     70.00 usec
PL2        -4.00 dB
PL12      12.90 dB
SFO2      400.1316005 MHz
SF         32768
WDW        EM
SSB         0
GB          0
PC         1.40
  
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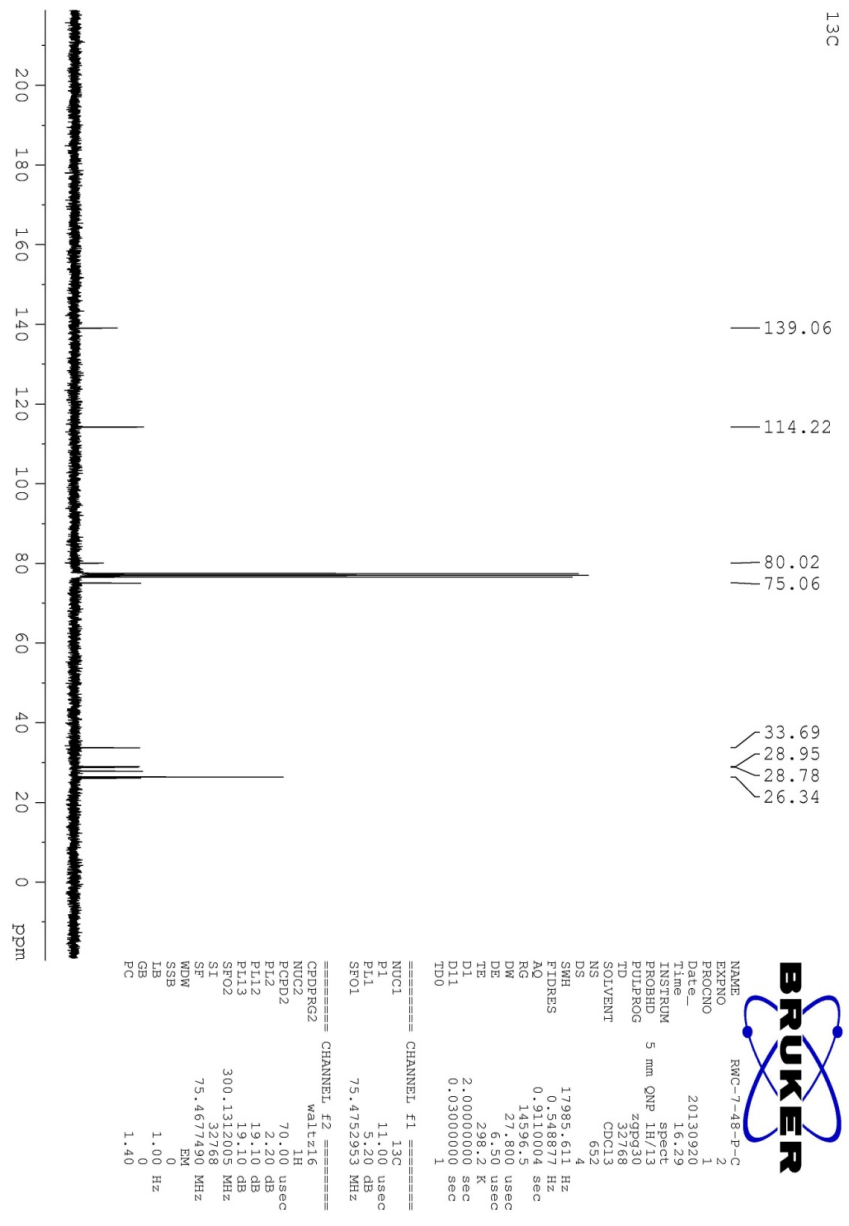

8-(tert-butylperoxy)oct-1-ene (12d)



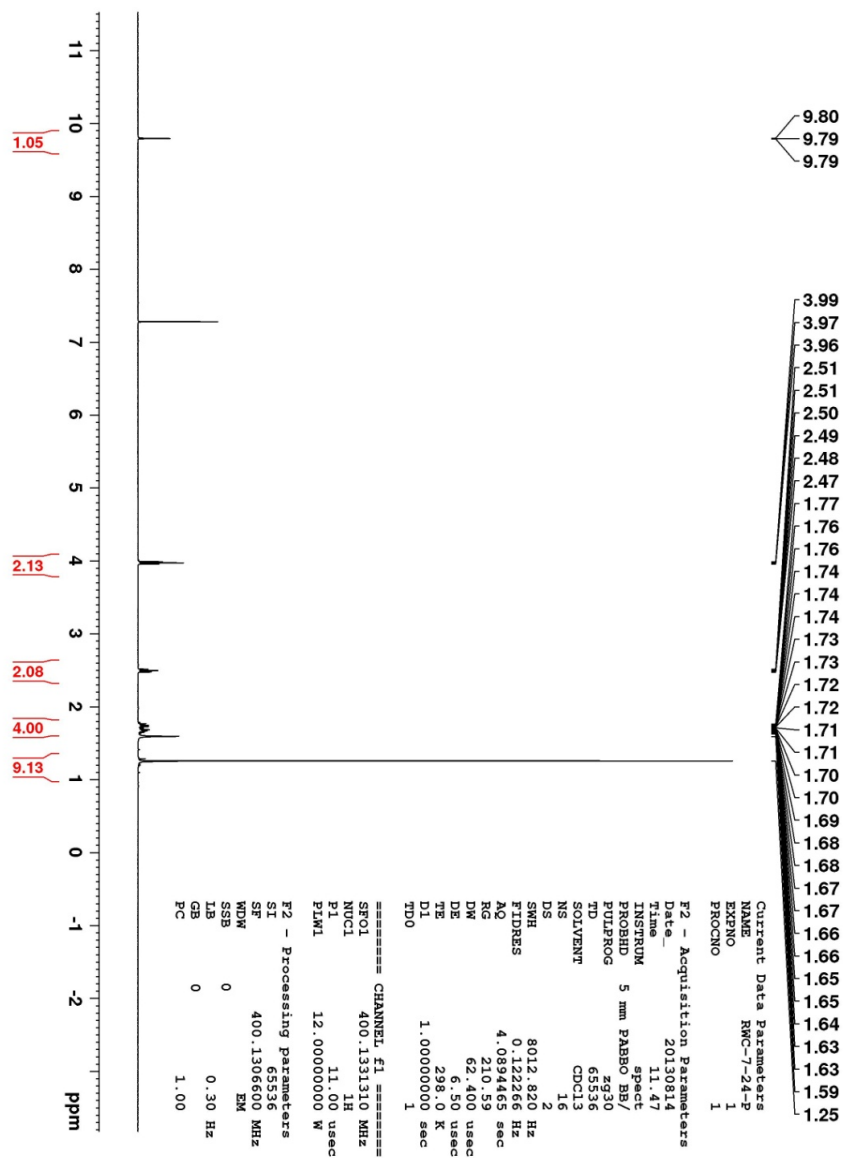
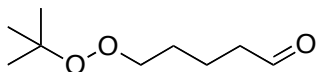
NAME RMC-7-48
 EXPNO 2
 PROCNO 1
 Date_ 20130920
 Time 16.19
 INSTRUM spect
 PROBRD 5 mm QNP 1H/13
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 19
 DS 19
 SWH 5995.204 Hz
 FIDRES 0.182959 Hz
 AQ 2.7329011 sec
 RG 574.7
 DW 83.400 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.00000000 sec
 TD0 1

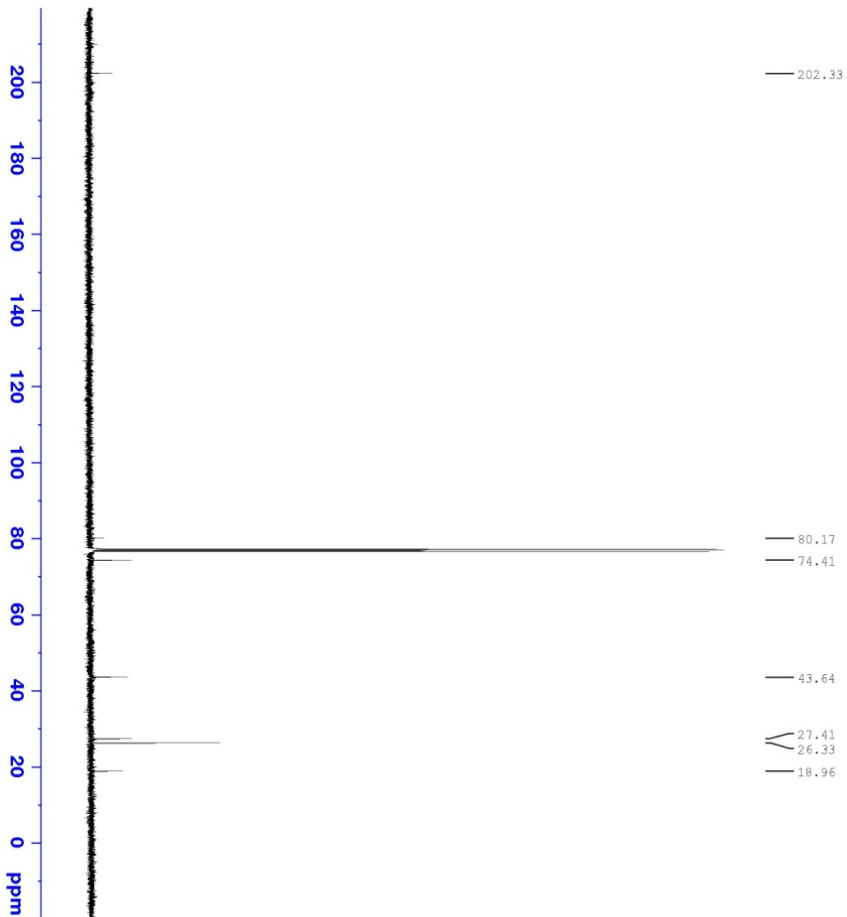
===== CHANNEL f1 =====
 NUCL1 13C
 P1 10.00 usec
 PL1 2.20 dB
 SFO1 300.1318534 MHz
 SI 32768
 SF 300.1300000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00





5-(*tert*-butylperoxy)pentanal





Current Data Parameters
 NAME: NMR-724-1
 EXPNO: 1
 PROCNO: 1

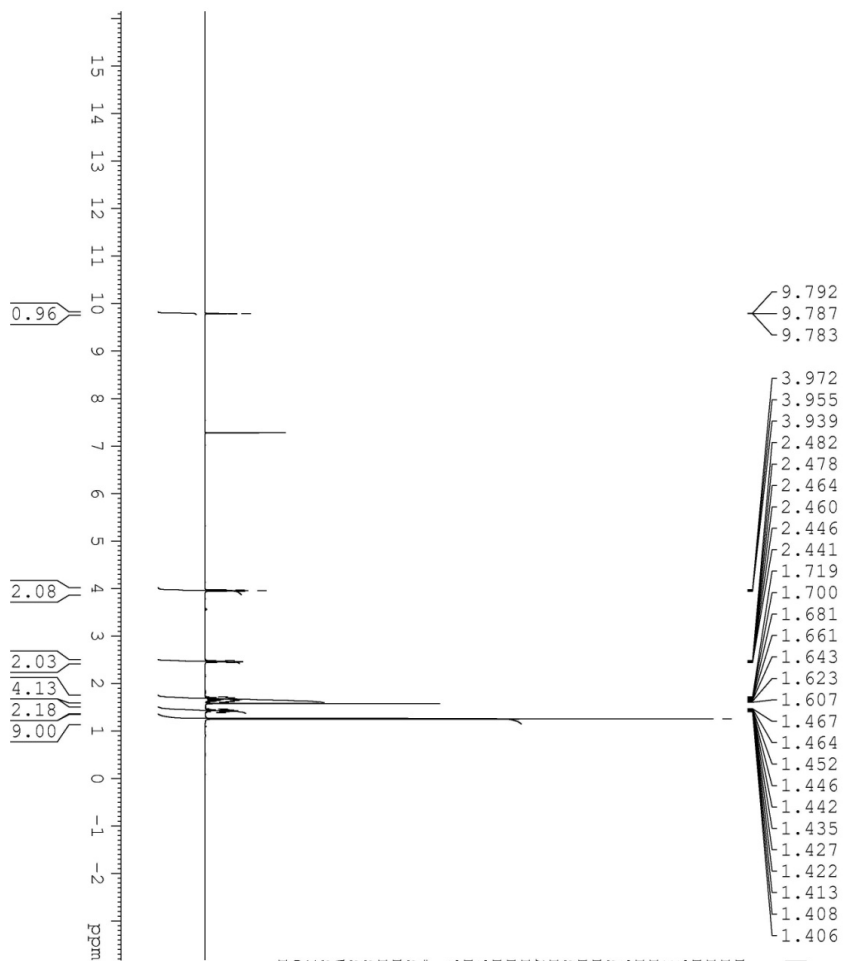
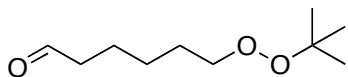
F2 - Acquisition Parameters
 Date_: 20130814
 Time: 12.30
 INSTRUM: spect
 PULPROG: zgpg30
 TD: 65536
 SOLVENT: CDCl3
 NS: 452
 DS: 4
 SWH: 24036.461 Hz
 FIDRES: 0.366728 Hz
 AQ: 1.316728 sec
 RG: 210.459
 DW: 20.800 usec
 DE: 6.50 usec
 TE: 298.0 K
 D1: 2.0000000 sec
 D11: 0.0300000 sec
 ID0: 1

===== CHANNEL f1 =====
 SFO1: 100.622993 MHz
 NUC1: 13C
 P1: 9.00 usec
 P1M1: 58.00000000 W

===== CHANNEL f2 =====
 SFO2: 400.132260 MHz
 NUC2: 1H
 P2: 12.00000000 usec
 P2M2: 12.00000000 W
 P1M12: 0.17928000 W
 P1M13: 0.14520000 W

F2 - Processing parameters
 SI: 32768
 SF: 100.6125468 MHz
 WDW: EM
 SSB: 0
 IB: 1.00 Hz
 GB: 0
 PC: 1.40

6-(*tert*-butylperoxy)hexanal

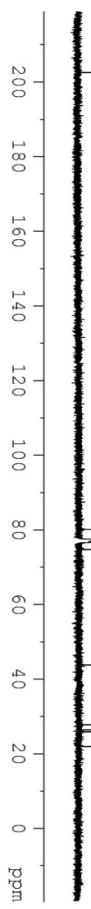


BRUKER

NAME RWC-7-32-P
 EXPNO 1
 PROCNO 1
 Date_ 20130821
 Time 15.30
 INSTRUM spect
 PULPROG zgpg30
 FIDPROC 5 mm PABP0
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.089496 sec
 RG 327.5
 DW 62.407 usec
 DE 6.50 usec
 TE 298.0 K
 D1 1.00000000 sec
 TDO 1

==== CHANNEL f1 =====
 SFO1 400.1331310 MHz
 P1 11.00 usec
 SI 65536
 SF 400.1306600 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

— 202.57
 — 80.13
 — 74.67
 — 43.78
 — 27.69
 — 26.34
 — 25.84
 — 21.94

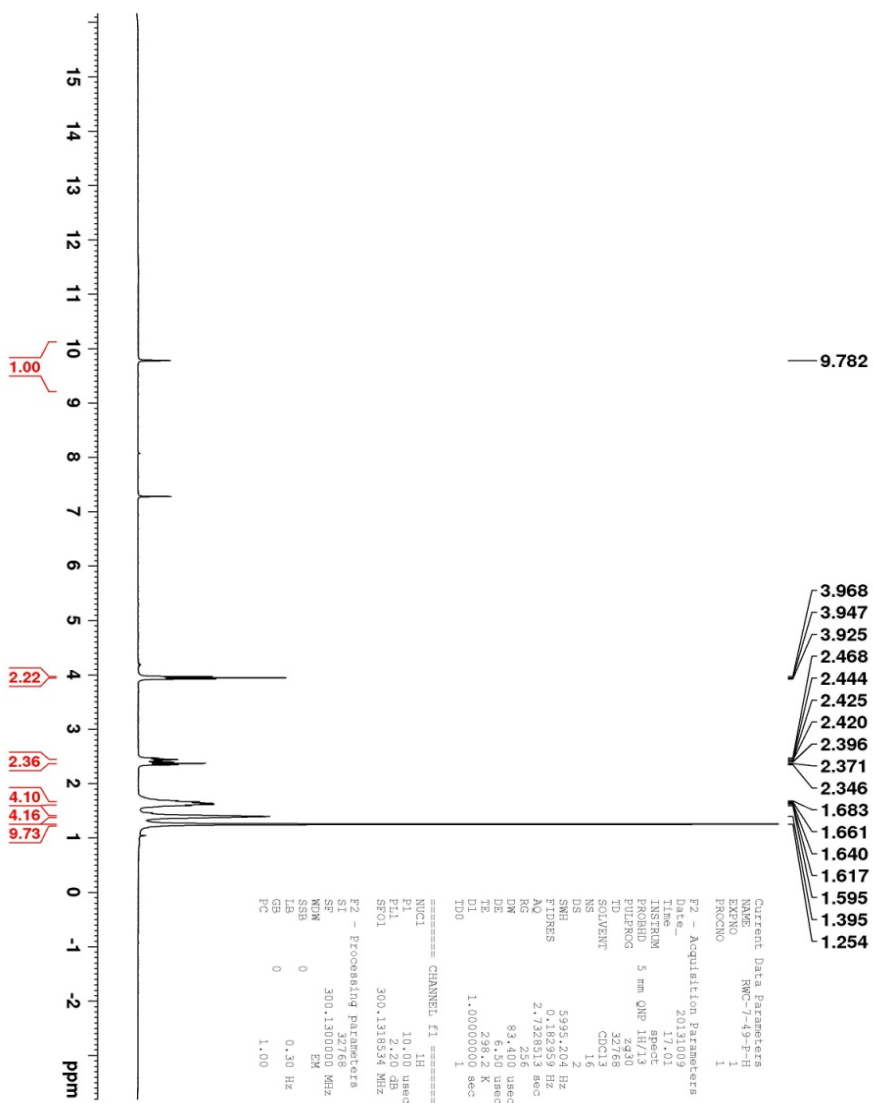
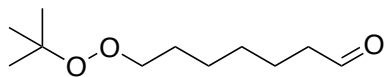


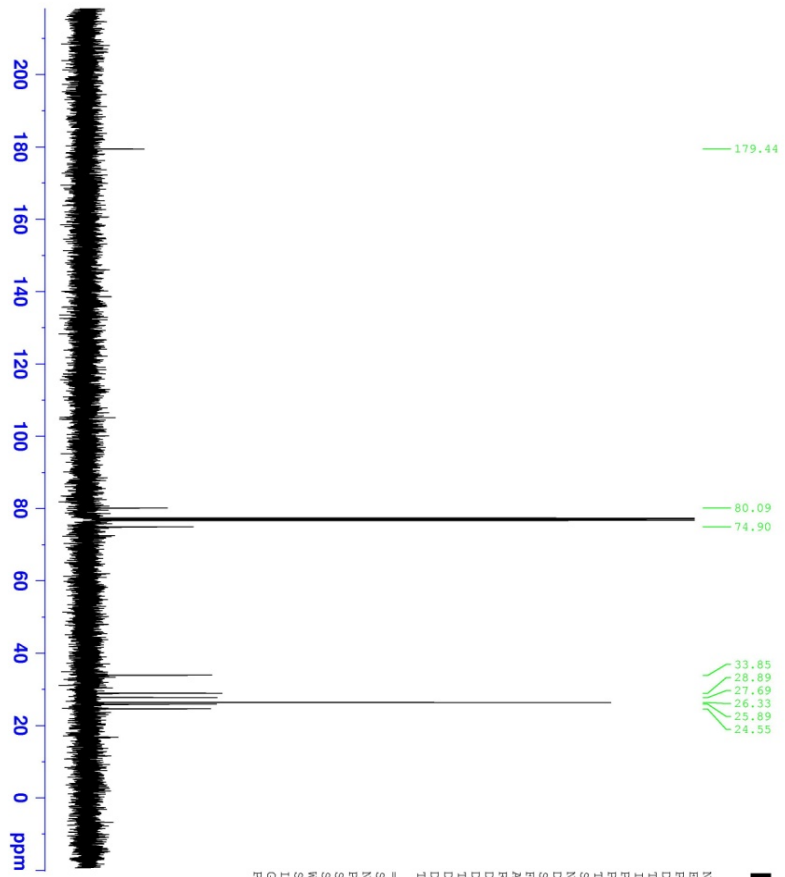
```

NAME RMC-7-32-C13
EXPNO 2
PROCNO 1
Date_ 20130822
Time 10.40
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 895
SFO 24038.461 Hz
FTIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 210.59
DW 20.800 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 100.6229953 MHz
NUC1 13C
P1 9.00 usec
SI 32768
SF 100.6129340 MHz
SFB 800
SBS 0
GB 1.00 Hz
PC 1.40
  
```

7-(tert-butylperoxy)heptanal



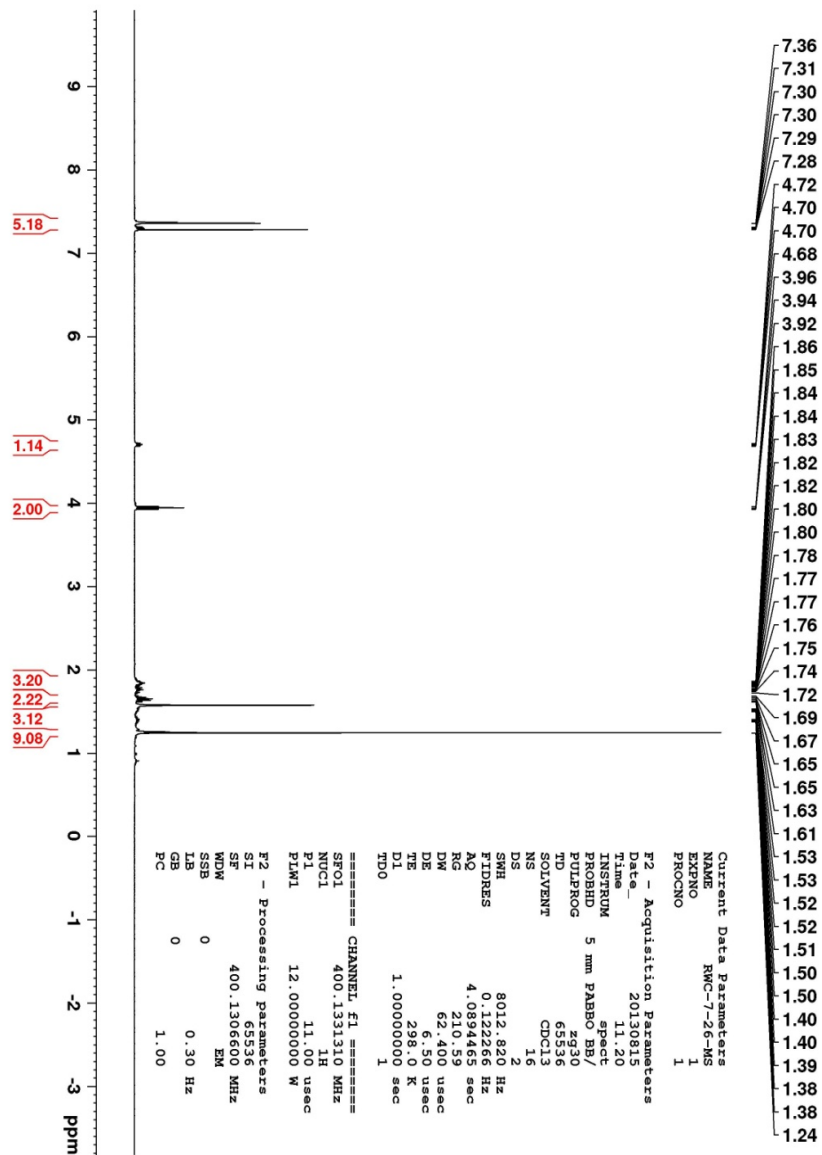
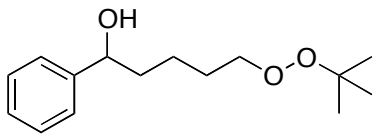


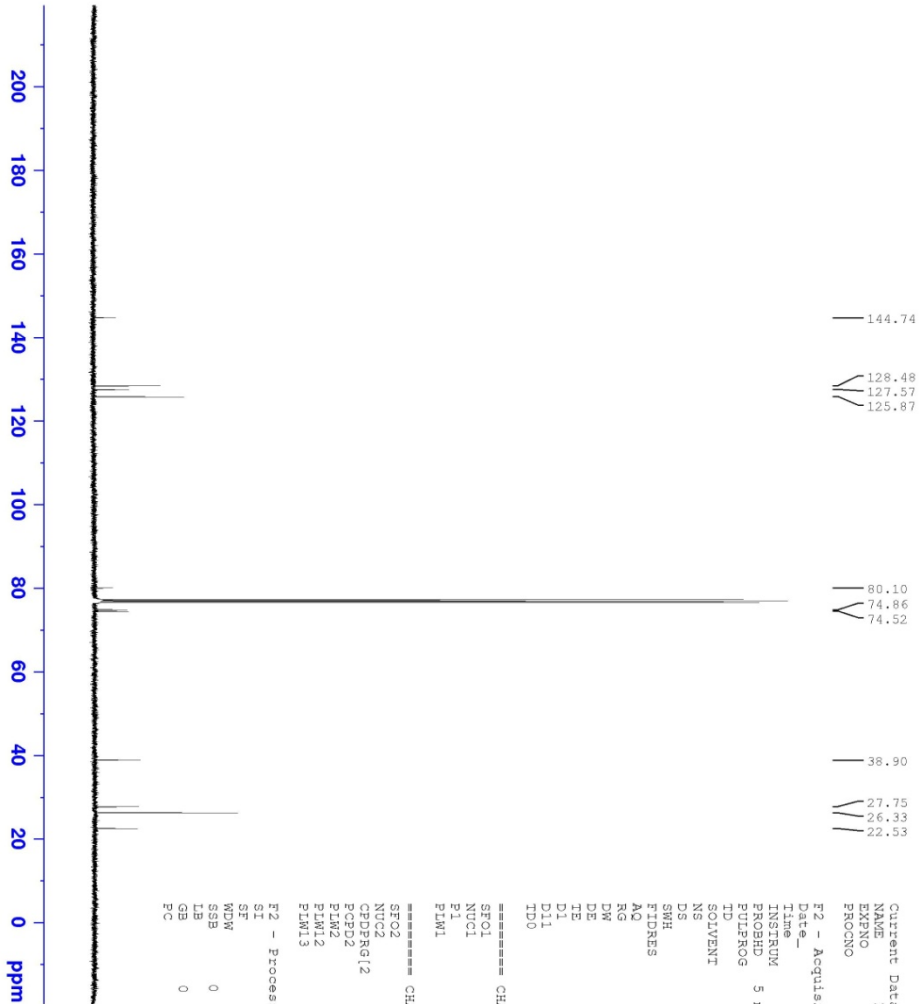
```

NAME      RWC-7-49-F-C
EXPNO     1
PROCNO    1
Date_     20140210
Time      8.26
INSTRUM   spect
PROBHD    5 mm PABBO
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         23
DS         4
SWH        24038.461 Hz
AQ         0.130 sec
RG         1.9631988 sec
DE         20.800 usec
TE         298.2 K
D1         2.0000000 sec
D11        0.0300000 sec
TD0        1

===== CHANNEL f1 =====
SFO1      100.6229953 MHz
NUC1       13C
SI         4
SF         32168
WDW        RM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
```


5-(*tert*-butylperoxy)-1-phenylpentan-1-ol (13b)





Current Data Parameters
 NAME RMC-7-26-P-C
 EXPNO 2
 PROCNO 1

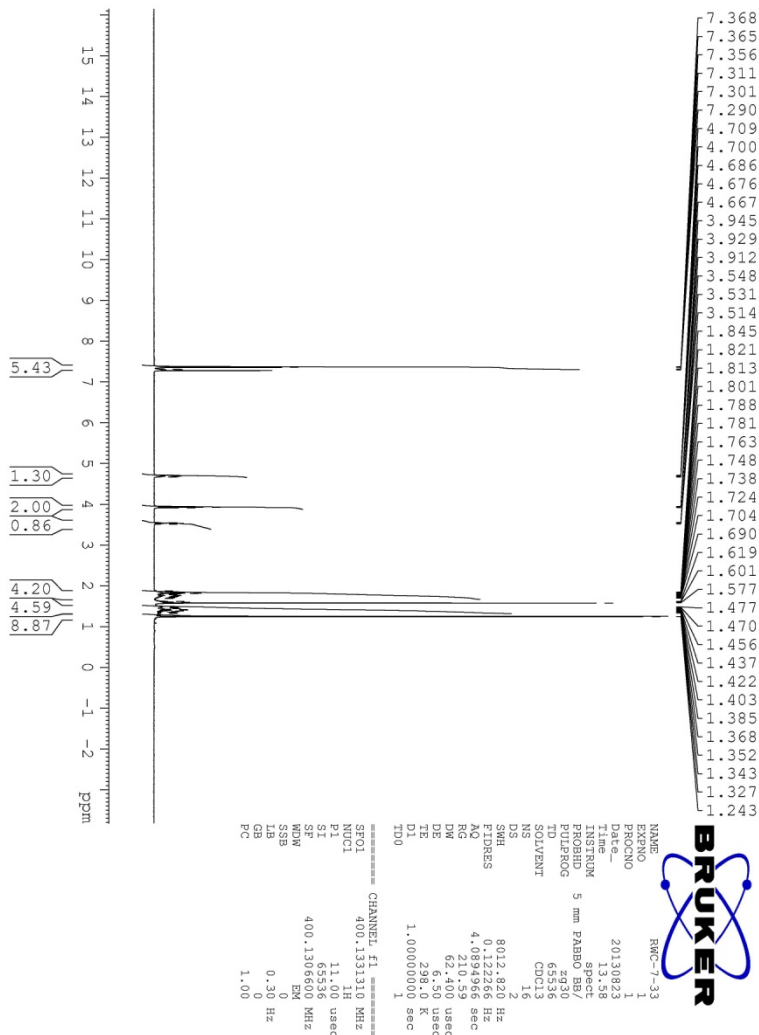
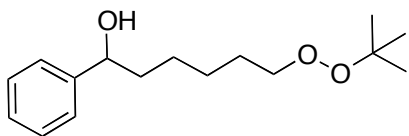
F2 - Acquisition Parameters
 Date_ 20130815
 Time 16.25
 INSTRUM spect
 PROBD 5 mm PABBO BB/
 PULPROG zgpg30
 ID 63236
 SOLVENT CDCl3
 NS 729
 DS 4
 SFR 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3531488 sec
 RG 210.59
 DW 20.800 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

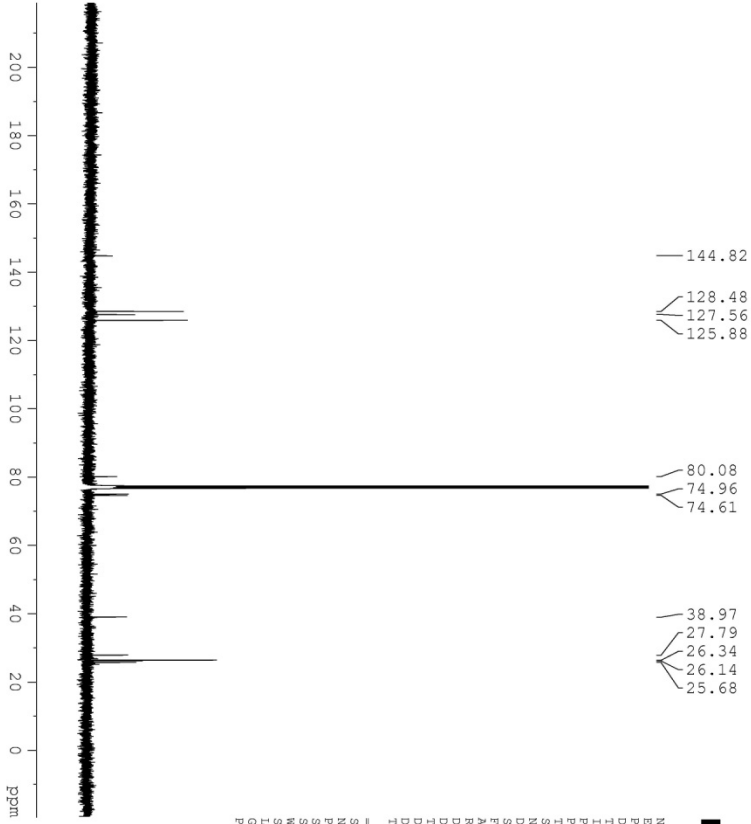
==== CHANNEL #1 =====
 SFO1 100.6229953 MHz
 NUCL 13C
 P1 9.00 usec
 PLW1 58.00000000 W

==== CHANNEL #2 =====
 SFO2 400.1322605 MHz
 NUCL 1H
 CPMPCRG12 Maltzi6
 PCPD2 90.00 usec
 PLW2 12.00000000 W
 PLW12 0.17925000 W
 PLW13 0.14520000 W

F2 - Processing parameters
 SI 32768
 SF 100.6129340 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

6-(tert-butylperoxy)1-phenylhexan-1-ol (13c)



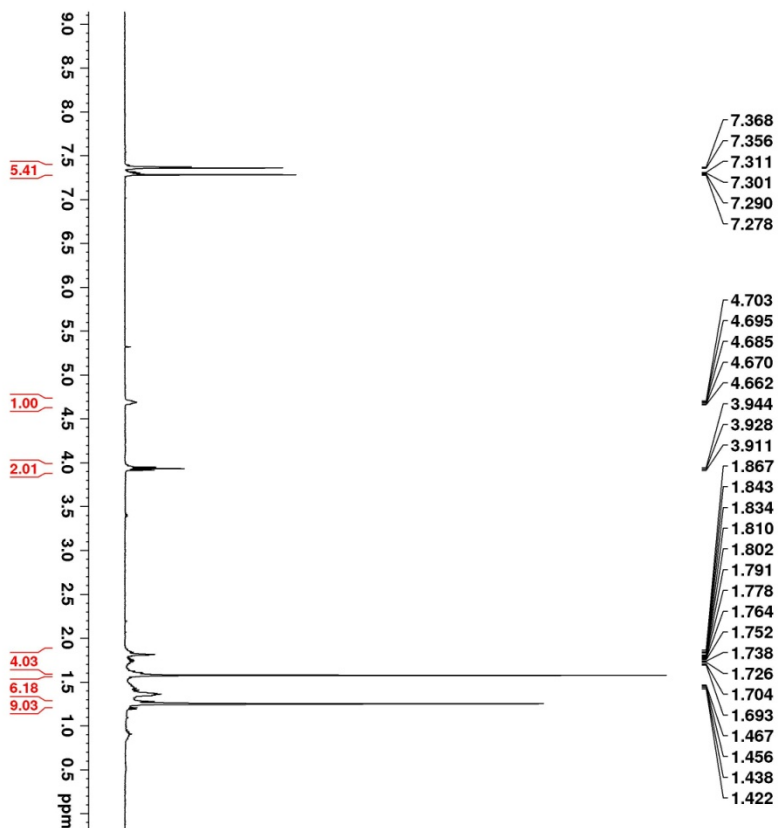
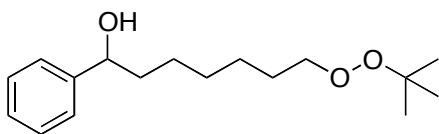


BRUKER

NAME: RMC-7-33-PROD-C
 EXNO: 1
 PROCNO: 1
 Date_: 20130825
 Time: 11:52:00
 INSTRUM: spect
 PROBRID: 5 mm PABBO BB/
 PULPROG: zgpg30
 TD: 65536
 F2: 101.6250000
 SOLVENT: CDCl3
 NS: 1024
 DS: 4
 SWH: 24038.461 Hz
 FIDRES: 0.366798 Hz
 RG: 1.316798
 RQ: 210.59
 DW: 20.800 usec
 DE: 6.50 usec
 TE: 296.2 K
 T1: 4.000000 sec
 D11: 0.0300000 sec
 TDD: 1

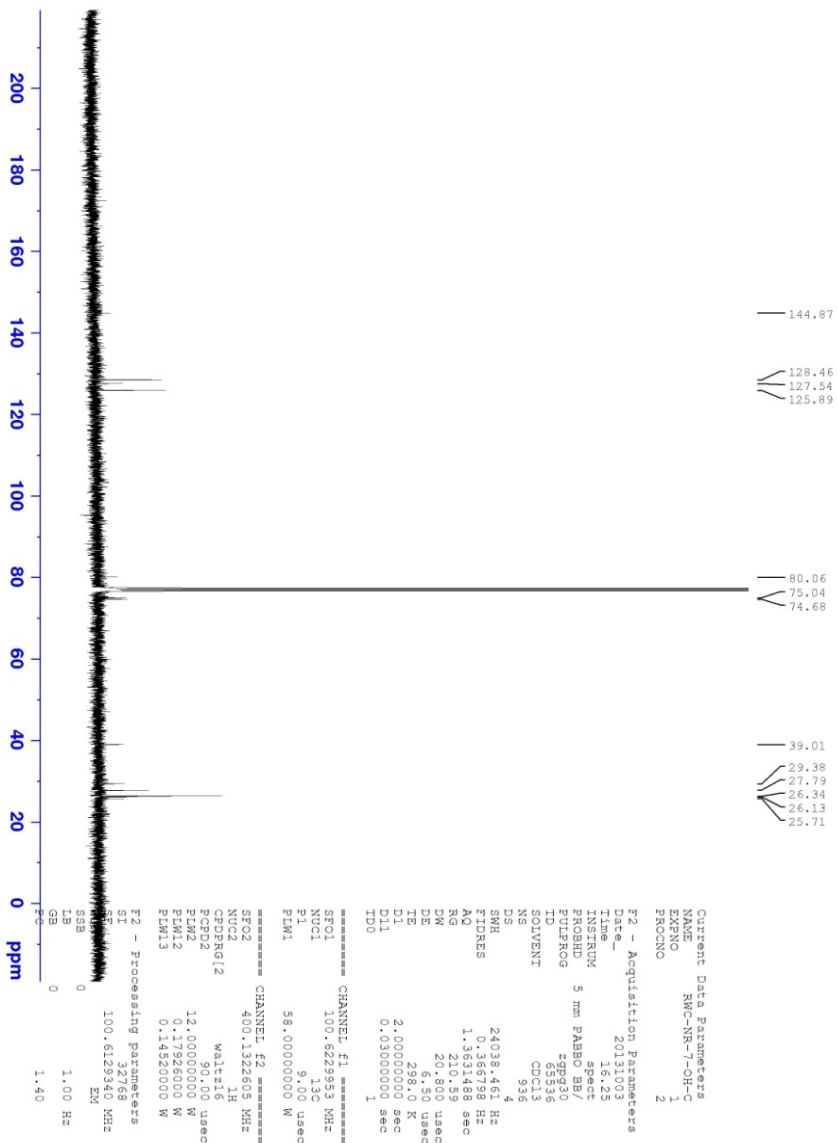
===== CHANNEL f1 =====
 SFO: 100.622925 MHz
 NUQ1: 13C
 P1: 9.00 usec
 SI: 32768
 SF: 100.6129340 MHz
 EQ: 0
 SSB: 0
 LB: 1.00 Hz
 GB: 0
 PC: 1.40

7-(tert-butylperoxy)1-phenylheptan-1-ol (13d)

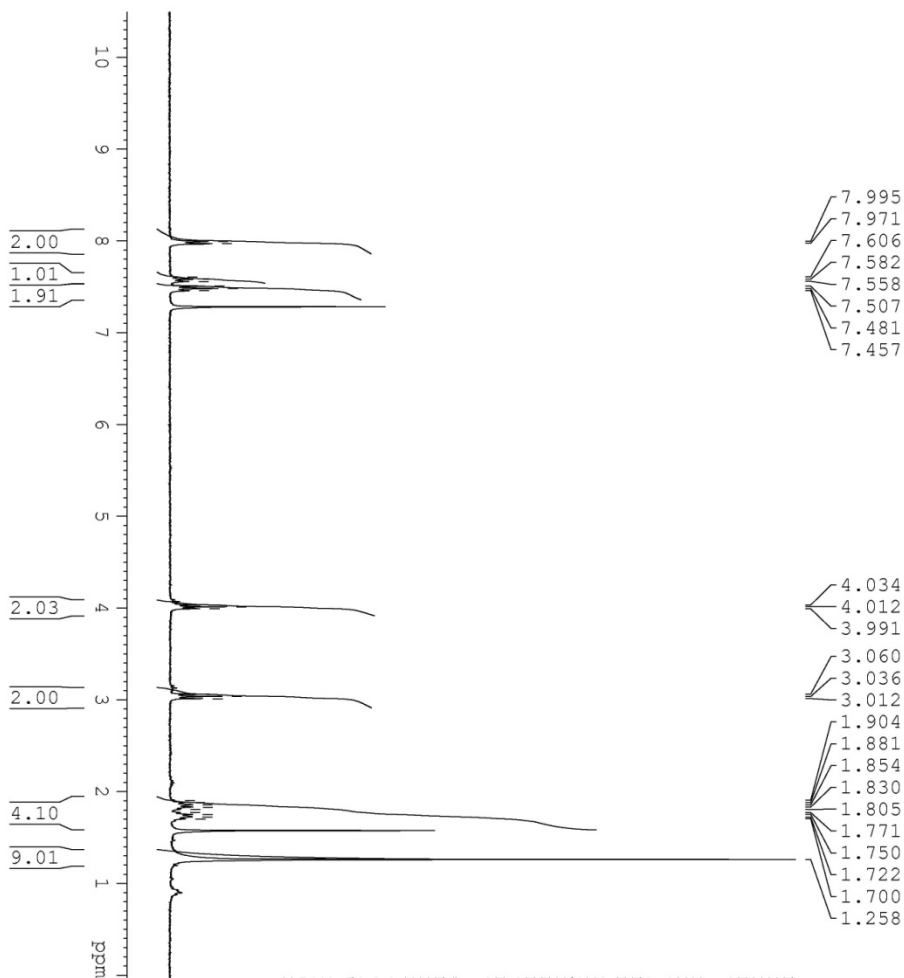
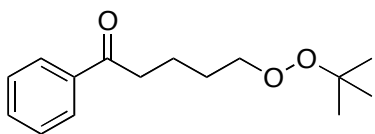


```

Current Data Parameters
NAME          RMC-NR-7-0H
PROCNO       1
===== Acquisition Parameters =====
Date_         20180814
Time          16.15
INSTRUM      5 mm PASPO
PROBHD       5mm
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
DS           2
SWH          8012.820 Hz
FIDRES      0.122426 Hz
AQ          4.181246 sec
RG          210.59
DM          62.400 usec
DE          288.0
TE          298.0 K
D1          1.00000000 sec
TD0         1
===== CHANNEL f1 =====
SFO1         400.1331310 MHz
NUC1         1H
P1          11.00 usec
PL1         12.00000000 W
===== Processing parameters =====
SI - Processing parameters
SF          400.1306600 MHz
WDW         EM
SSB         0
LB          0.30 Hz
GB          0
PC          1.00
  
```



5-(tert-butylperoxy)-1-phenylpentan-1-one (14b)



BRUKER

NAME RWC-7-29-TS
 EXNO 1
 PROCNO 20130820
 Date_ 11.32
 Time
 INSTRUM spect
 PROBHD 5 mm QNP 1H/13
 PULPROG zgpg30
 TD 32768
 FIDRES 0.182959 Hz
 AQ 2.7329011 sec
 RG 1024
 DW 83.400 usec
 DE 6.50 usec
 TE 293.9 K
 D1 1.00000000 sec
 TDO 1

==== CHANNEL F1 =====
 NUC1 1H
 P1 10.00 usec
 PL1 2.20 dB
 SF01 300.1318534 MHz
 SI 32768
 SE 300.1300000 MHz
 WDM EM
 SSB 0
 GB 0.30 Hz
 PC 1.00

132.96
128.58
128.04

80.13
74.70

38.28
27.57
26.35
21.07

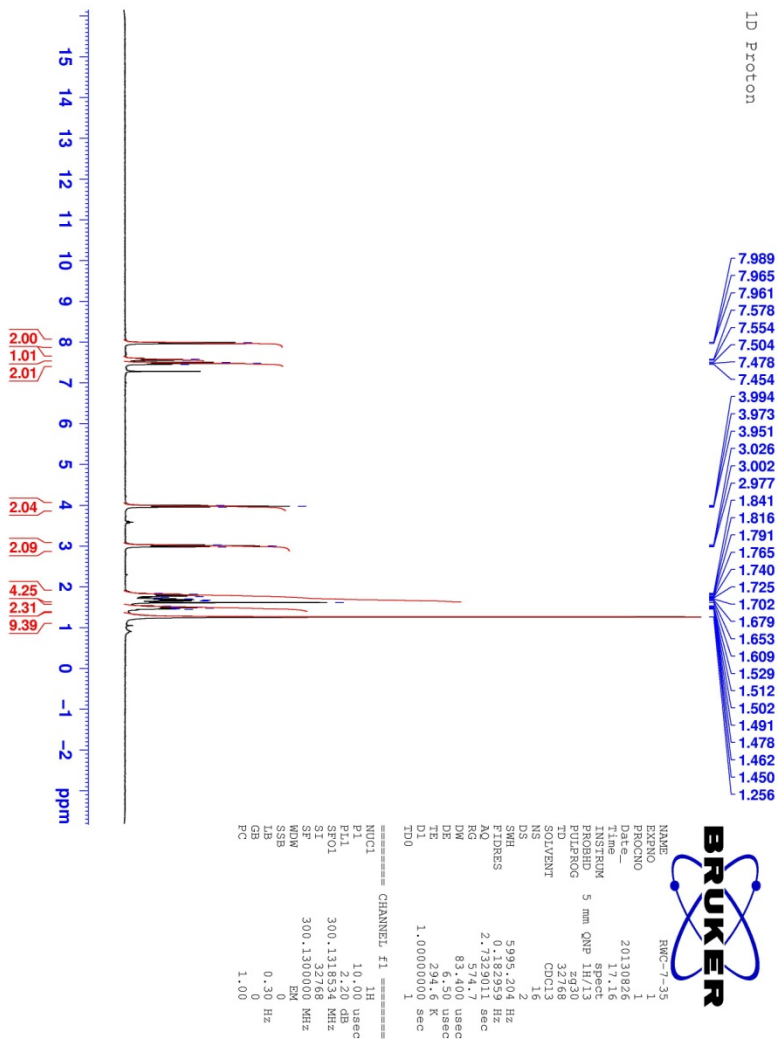
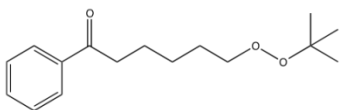
200
180
160
140
120
100
80
60
40
20
0
ppm

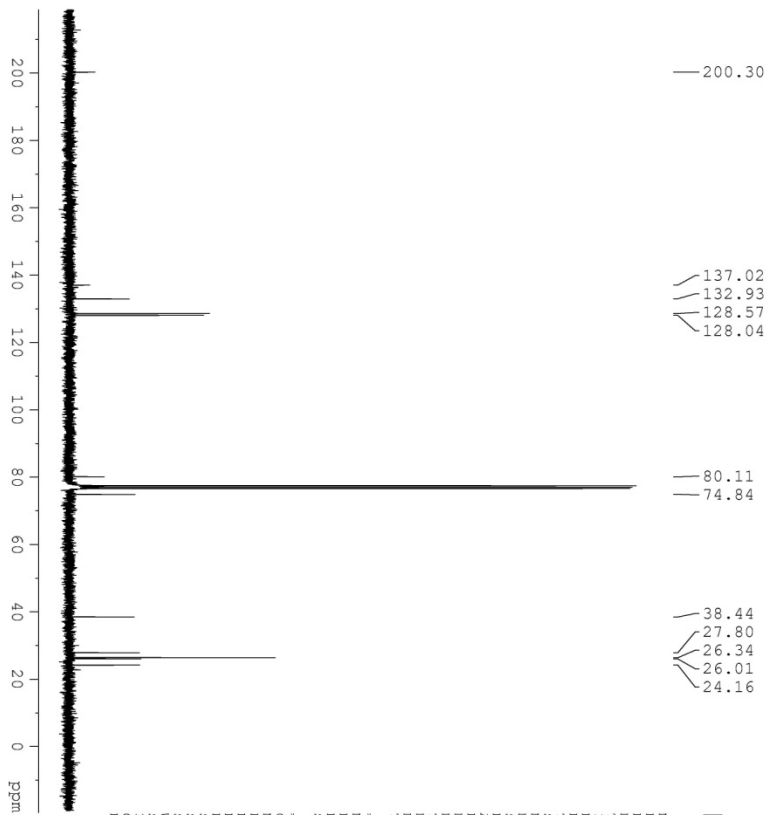


```
NAME RMC-7-29-P-C2
EXPNO 2
PROCNO 1
Date_ 20130820
Time 13.38
INSTRUM spect
PROBHD 5 mm PABBO BBI/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 927
DS 2
SWH 24038.461 Hz
FIDRES 0.36798 Hz
AQ 1.3631988 sec
RG 210.59
DE 20.800 usec
TE 298.0 K
D1 4.0000000 sec
D11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
SF01 100.6229953 MHz
NUC1 13C
P1 9.100 usec
SI 32768
SFO1 100.6129340 MHz
SFB 8K
ISB 1.00 Hz
GB 0
PC 1.40
```


6-(tert-butylperoxy)1-phenylhexan-1-one (14c)





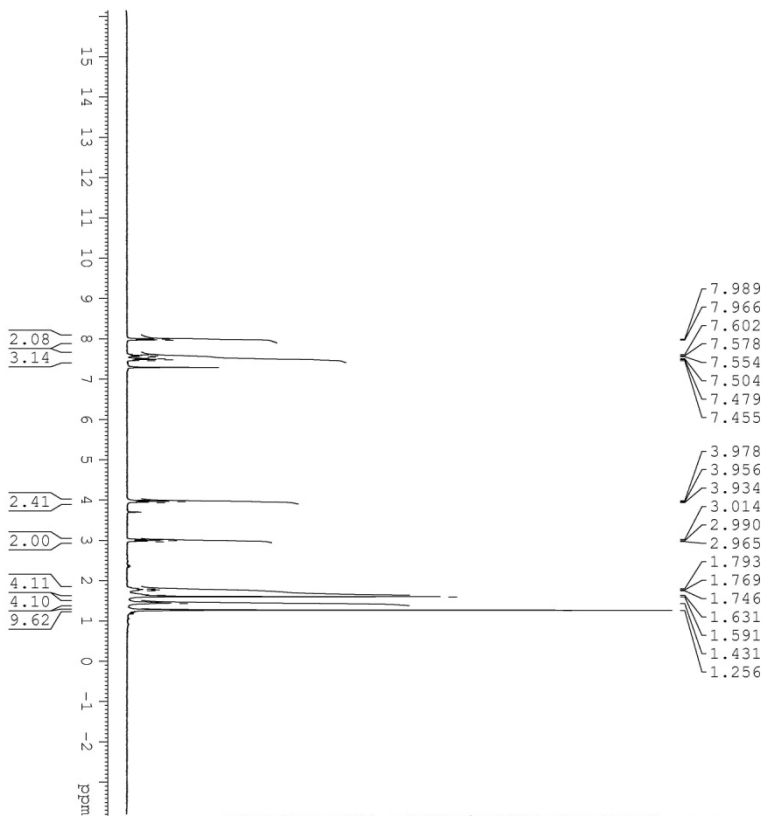
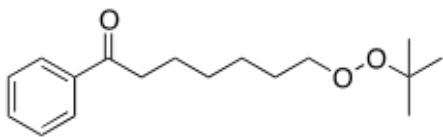
```

NAME      RMC-7-35-P-C
EXPNO     1
PROCNO    1
Date_     20130826
Time      17.25
INSTRUM   spect
PROBHD    5 mm QNP 1H/13
PULPROG   zgpg30
TD         32768
SOLVENT   CDCl3
NS         737
DS         4
SH         1
FIDRES    0.548877 Hz
AQ         0.9110004 sec
RG         14596.5
DM         27.800 usec
DE         6.50 usec
TE         295.3 K
D1         2.00000000 sec
D11        0.03000000 sec
ID0        1

===== CHANNEL f1 =====
NUC1      13C
P1         1.00 usec
PL1        0.00 dB
SFO1      75.475263 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
PCPD2     70.00 Hz
PULPROG   zgpg30
PL2        2.20 dB
PL12       19.10 dB
PL13       19.10 dB
PRG2       300.1332768
SF         75.4677490 MHz
WDW        EM
SSB        0
GB         1.00 Hz
PC         1.40
  
```

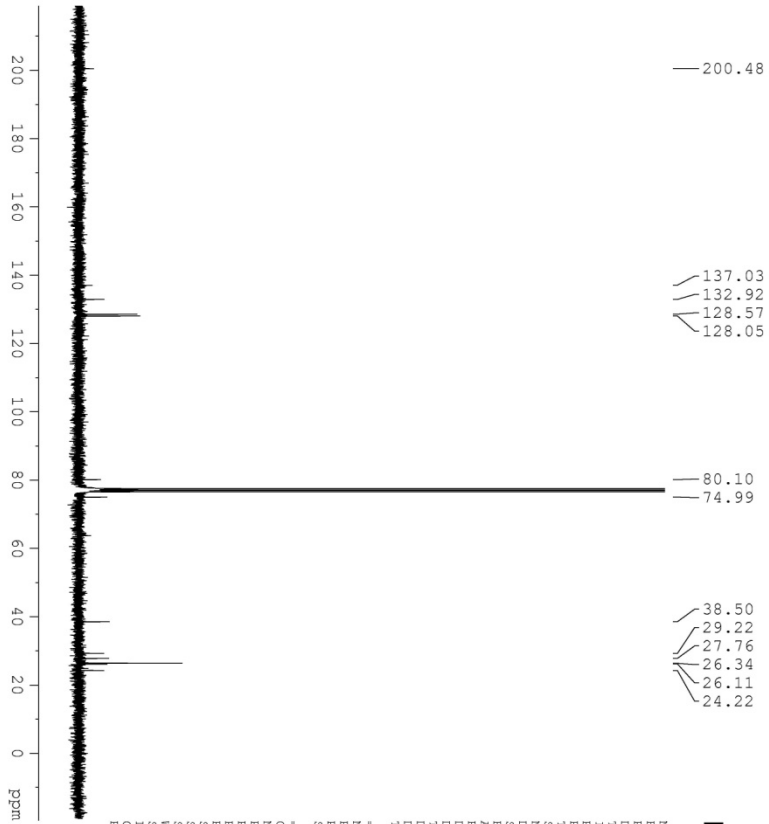
7-(*tert*-)-1-phenylheptan-1-one (14d)



NAME RMC-6-5-P-H
 EXPNO 1
 PROCNO 20130821
 F2 -
 Time 18.19
 INSTRUM spect
 PROBH1 5 mm QNP 1H/13
 PULPROG zgpg30
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 5995.204 Hz
 FIDRES 0.132509 Hz
 AQRES 2.1329011 sec
 RG 574.7
 DE 83.400 usec
 DE 26.50 usec
 DI 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 NUC1 13
 P1 10.00 usec
 PL1 2.20 dB
 SFO1 300.1318534 MHz
 SI 32768
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 FC 1.00

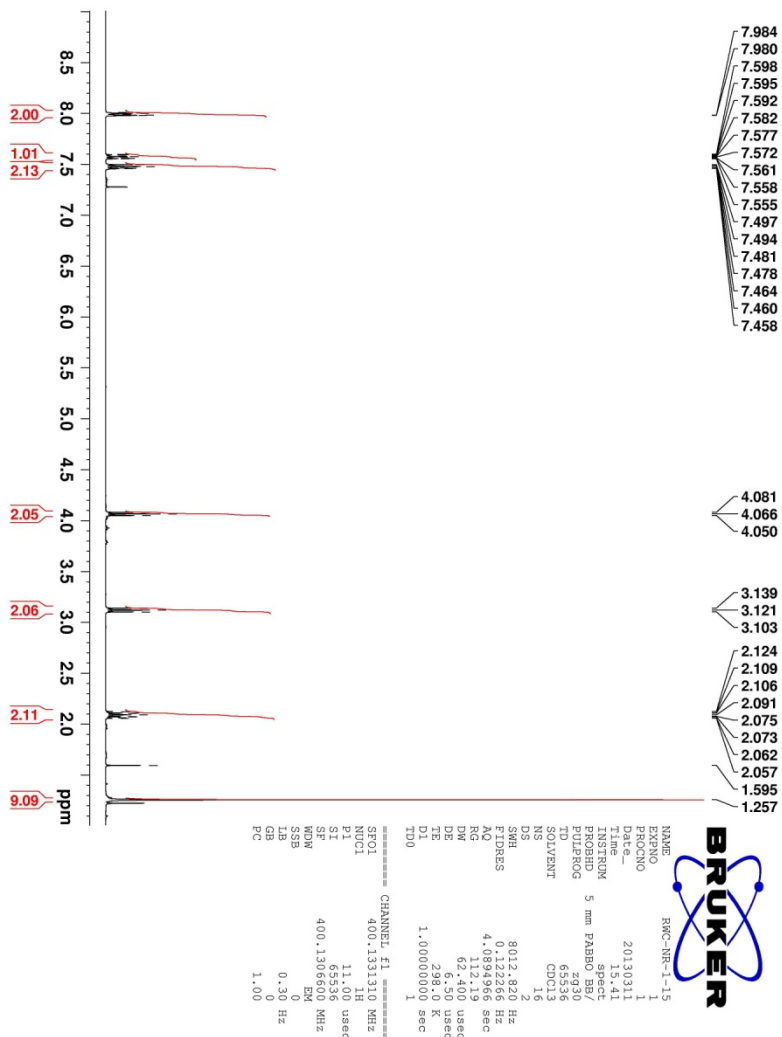
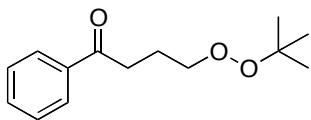




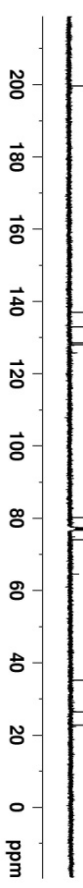
NAME RMC-6-4-R-13C
 EXPNO 1
 PROCNO 1
 DATE_ 20130829
 Time 9.51
 INSTRUM spect
 PROBRD 5 mm QNP 1H/13
 PULPROG zgpg30
 TD 32768
 F2 32768
 SOLVENT CDCl3
 NS 666
 DS 4
 SWH 17085.611 Hz
 FIDRES 0.5148877 Hz
 AQ 0.9110004 sec
 RG 14596.5
 DM 7.900 usec
 DE 294.5 K
 TR 294.5 K
 D1 6.00000000 sec
 D11 0.03000000 sec
 ID0 1

===== CHANNEL f1 =====
 NUC1 13C
 P1 11.00 usec
 PL 1.00 dB
 SFO1 75.476299 MHz
 ===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 P2 7.00 usec
 PL2 2.20 dB
 P1L2 19.10 dB
 P1L3 19.10 dB
 SFO2 300.133208 MHz
 SF 300.133208 MHz
 WDW EM
 SSB 0
 GB 0
 PC 1.40

4-(*tert*-butylperoxy)-1-phenylbutan-1-one (14a)



199.68
 136.96
 132.99
 128.57
 128.04
 80.20
 74.04
 35.13
 26.35
 22.65

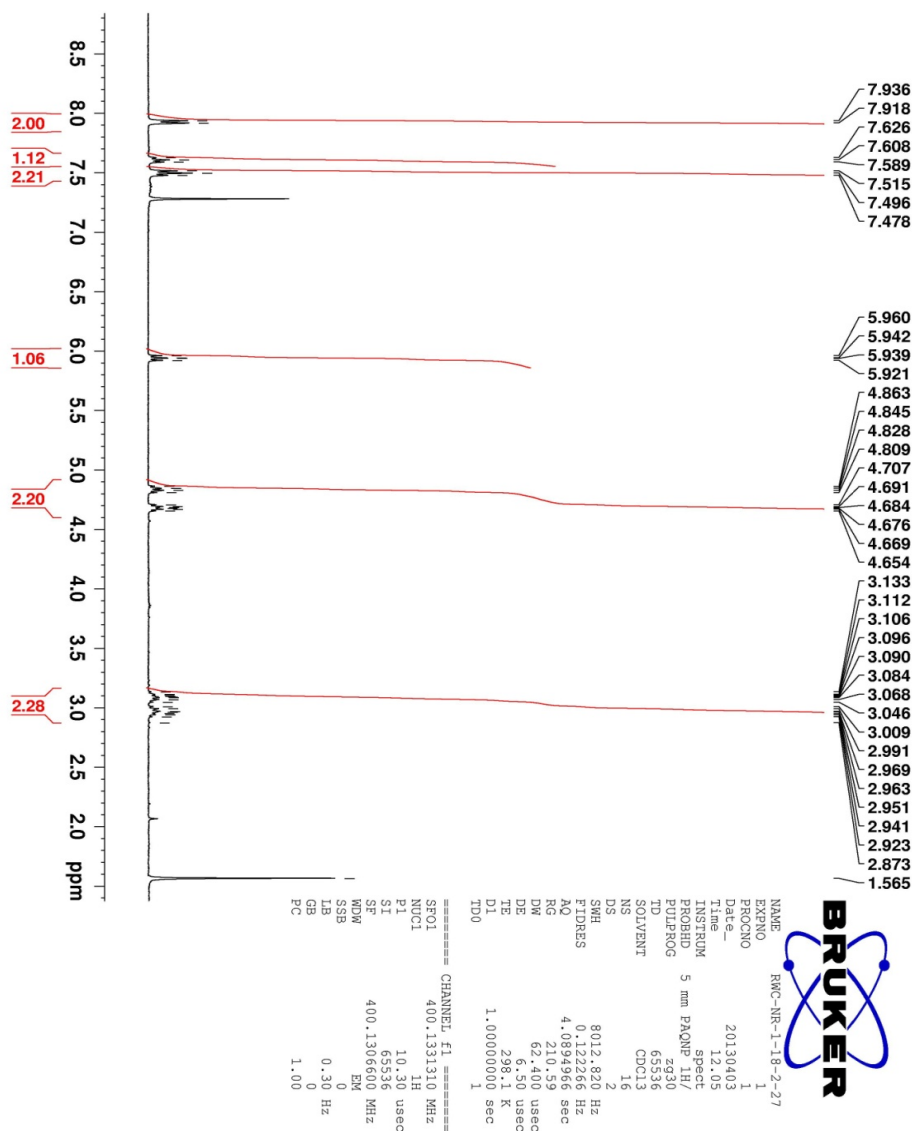
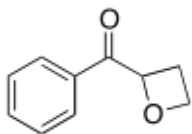


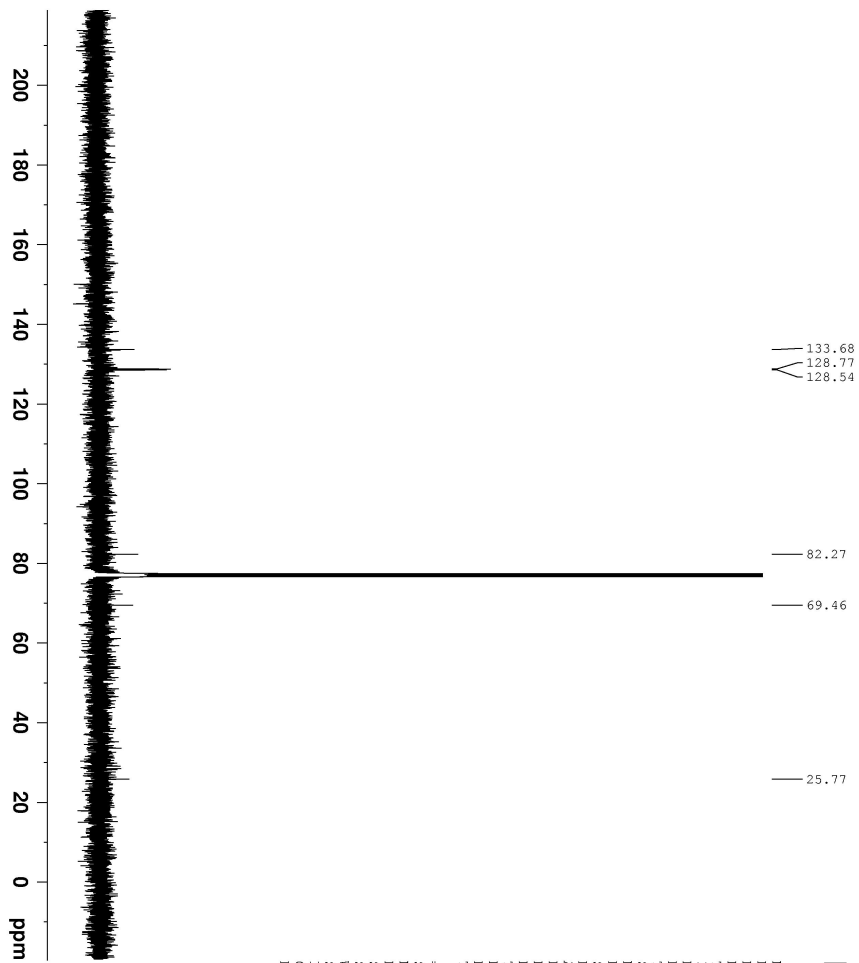
```

NAME RMC-NR-1-15-C
EXPNO 2
PROCNO 1
Date_ 20130311
Time 16.19
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 597
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 210.39
PM 20.80 usec
DM 4.50 usec
TE 298.1 K
D11 2.00000000 sec
D1 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 100.6229953 MHz
NUC1 13C
P1 9.10 usec
SI 32768
SE 100.6129340 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

Oxetan-2-yl(phenyl)methanone (15a)





133.68
128.77
128.54

82.27
69.46

25.77



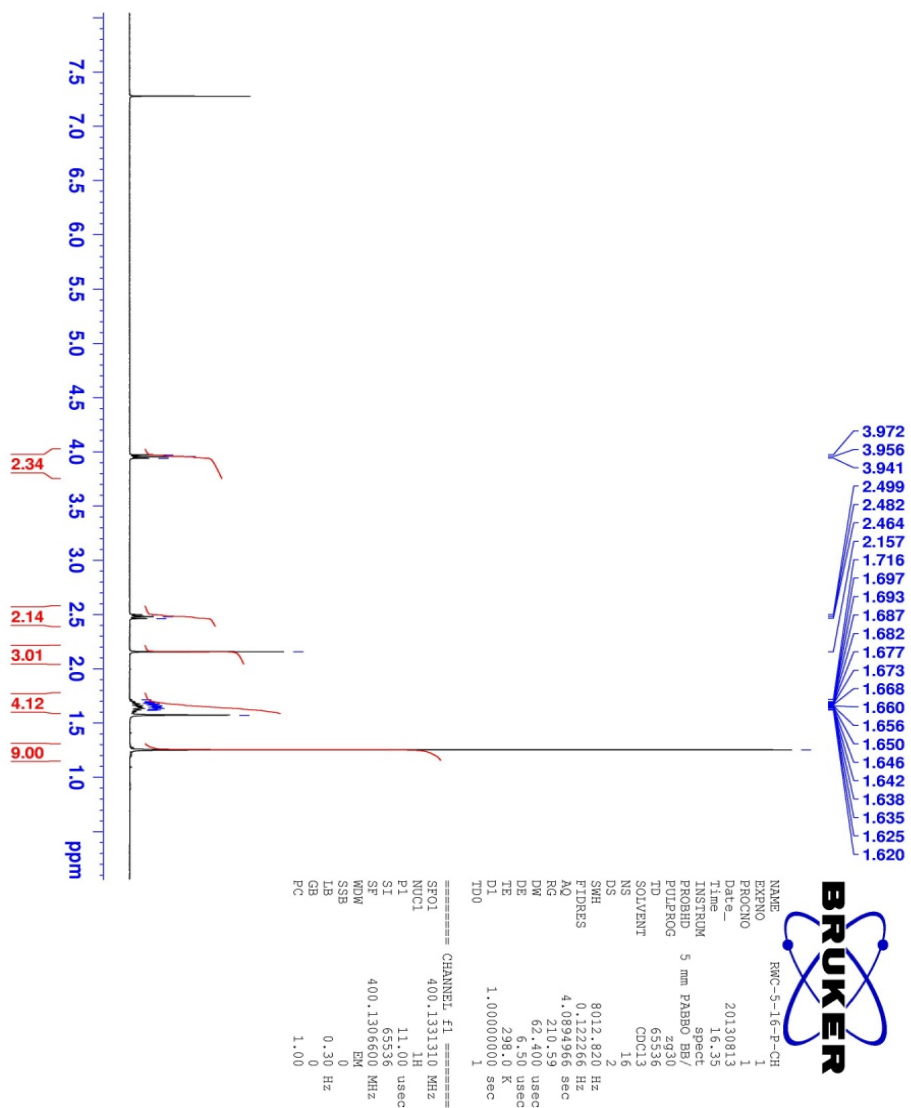
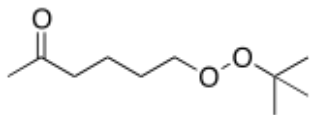
```

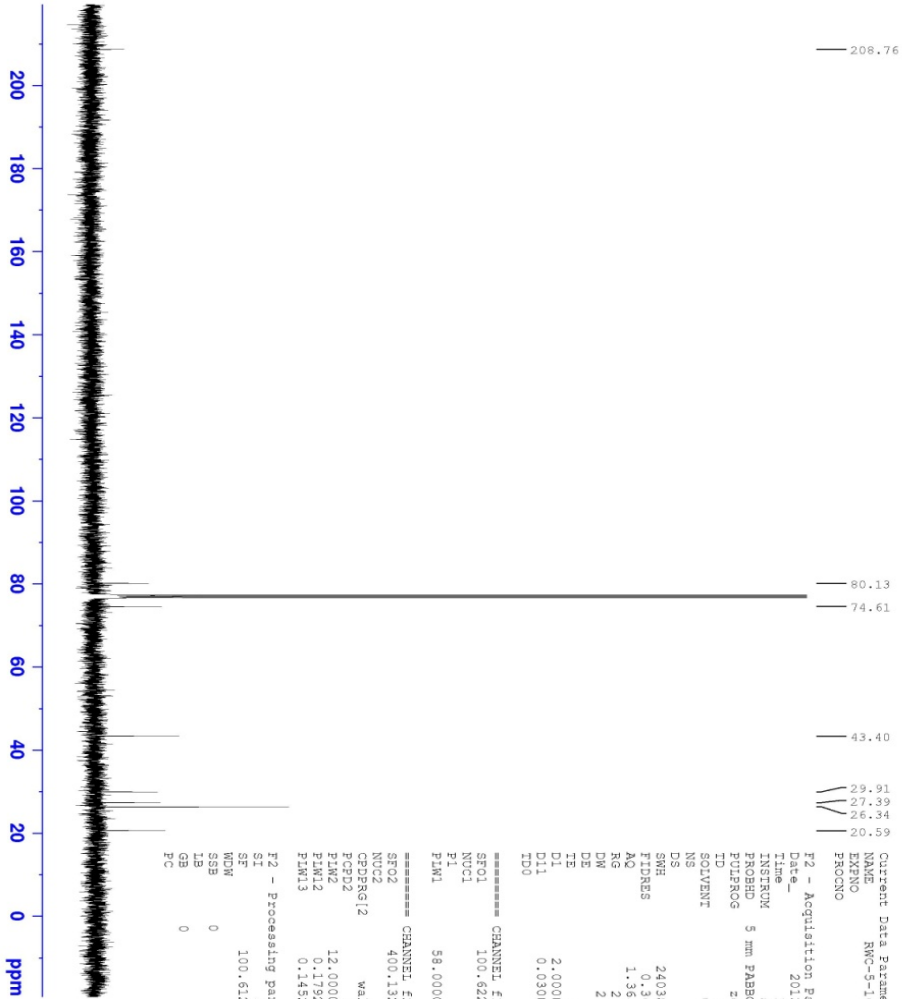
NAME RMC-NR-1-18-P-C
EXPNO 2
PROCNO 1
Date_ 20130403
Time 12:55
INSTRUM spect
PROBHD 5 mm PXPNP 1H/
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 887
DS 4
SWH 24032.464 Hz
FIDRES 0.292988 Hz
AQ 1.292988 sec
RG 210.59
DW 20.800 usec
DE 6.50 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.30000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 100.6229953 MHz
NUC1 13C
P1 8.00 usec
S1 32.00 MHz
SFO2 100.6129394 MHz
KDPW 0
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

```


6-(*tert*-butylperoxy)hexan-2-one (16)





```

Current Data Parameters
NAME      RMC-5-16-2-C
EXNO      1
PROCNO    1

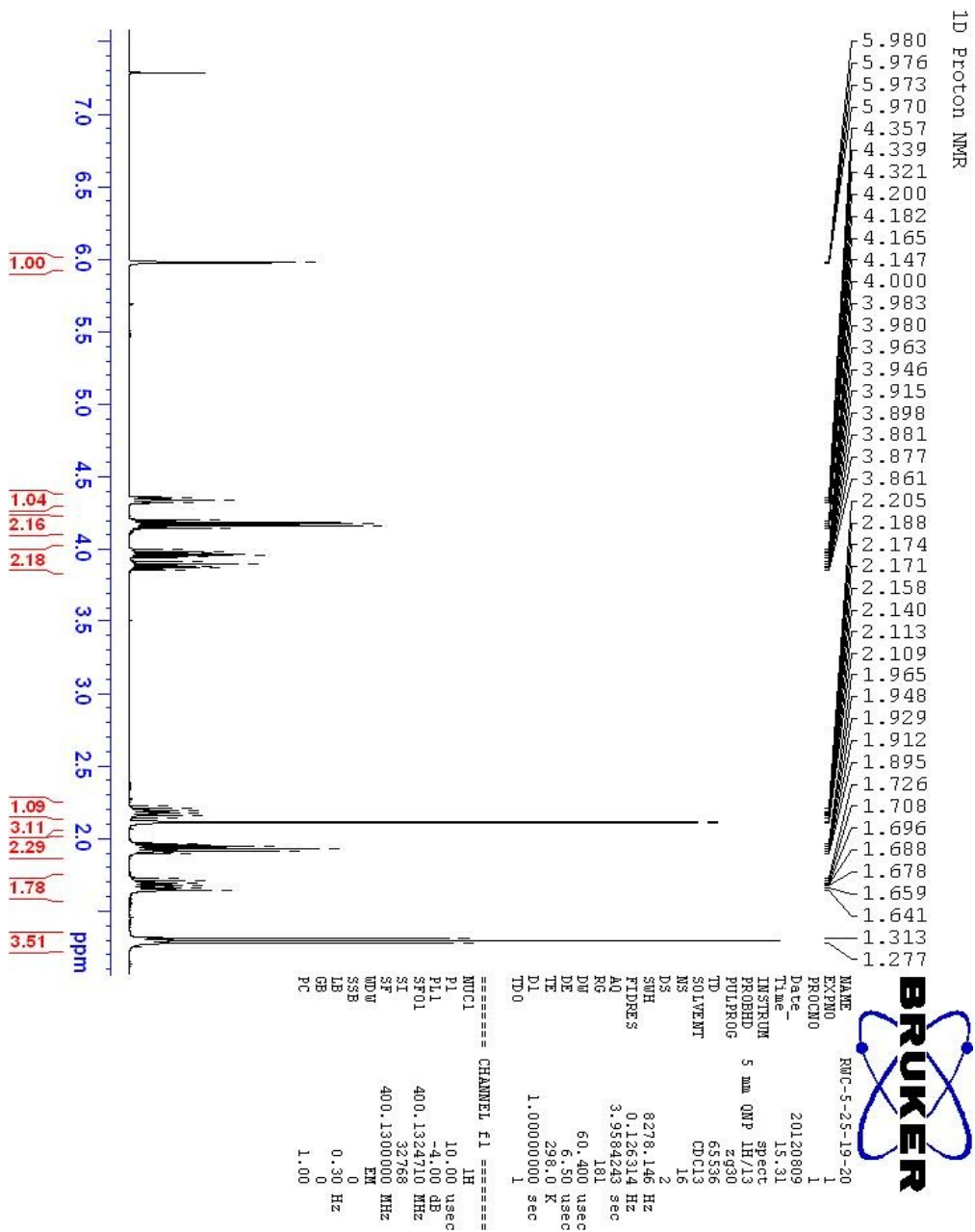
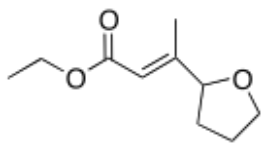
F2 - Acquisition Parameters
Date_     20130813
Time      16.55
INSTRUM   spect
PROBHD    5 mm PABBO BB/
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         867
DS         4
SFR        24038.461 Hz
FIDRES     0.367798 Hz
AQ          1.3631488 sec
RG          210.59
DM          20.800 usec
DE          6.50 usec
TE          298.0 K
D1          2.00000000 sec
D11         0.03000000 sec
TD0         1

===== CHANNEL f1 =====
RF01       100.622953 MHz
NUC1        13C
P1          9.00 usec
P1M1        58.00000000 W

===== CHANNEL f2 =====
RF02       400.1322605 MHz
NUC2         1H
P2          1.00 usec
P2M1        1.00 usec
P2M2        12.00000000 W
P2M3        0.17926000 W
P2M4        0.14520000 W

F2 - Processing parameters
SI          32768
SF          100.6129340 MHz
WDW         EM
SSB         0
ISB         1.00 Hz
GB          0
PC          1.40
  
```

(E)-ethyl 3-(tetrahydrofuran-2-yl)but-2-enoate (17)





167.02
158.89
113.52
82.35
68.93
53.62
31.24
25.67
15.35
14.31

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

```

NAME RUC-5-25-P-C
EXPNO 1
PROCNO 1
Date_ 20120809
Time 17.02
INSTRUM spect
PROBHD 5 mm QNP 1H/13
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 742
DS 4
SWH 23980.814 Hz
FIDRES 0.365818 Hz
AQ 1.3654756 sec
RG 3649.1
DM 20.850 usec
DE 6.30 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
  
```

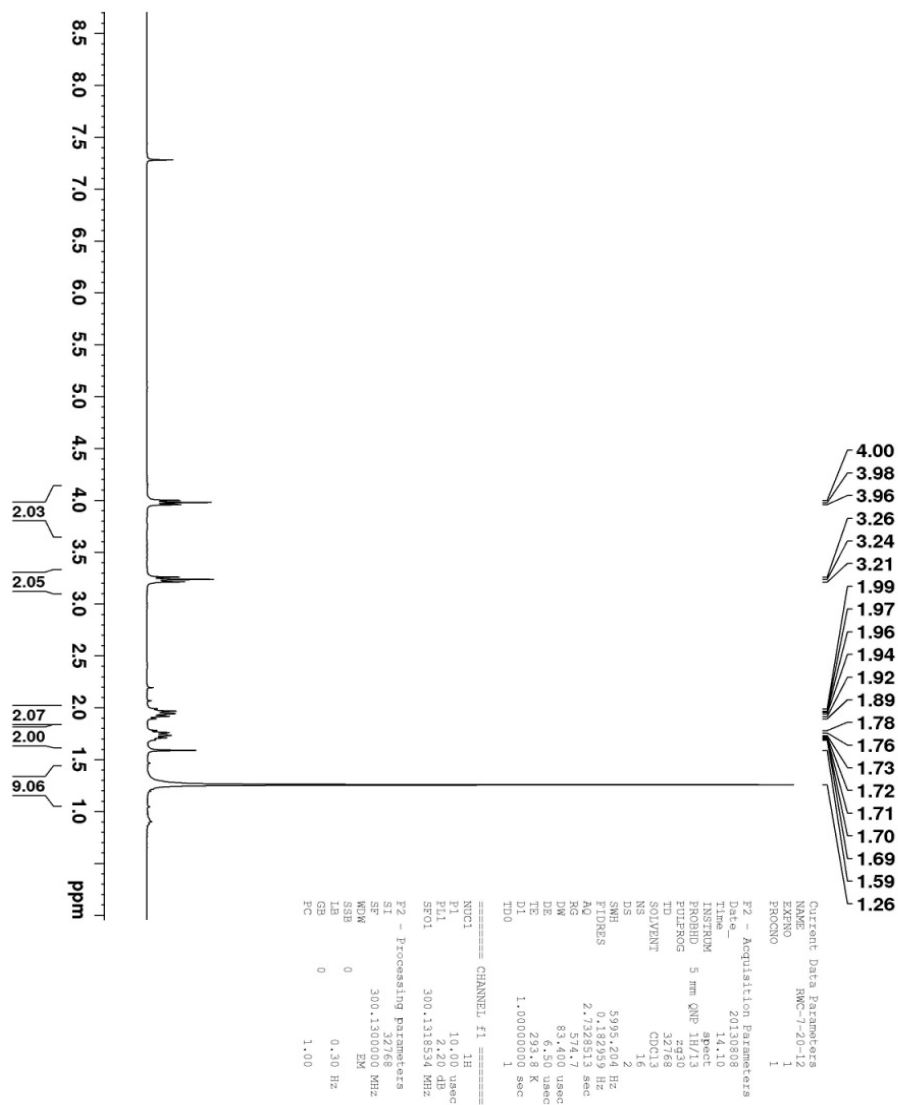
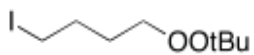
```

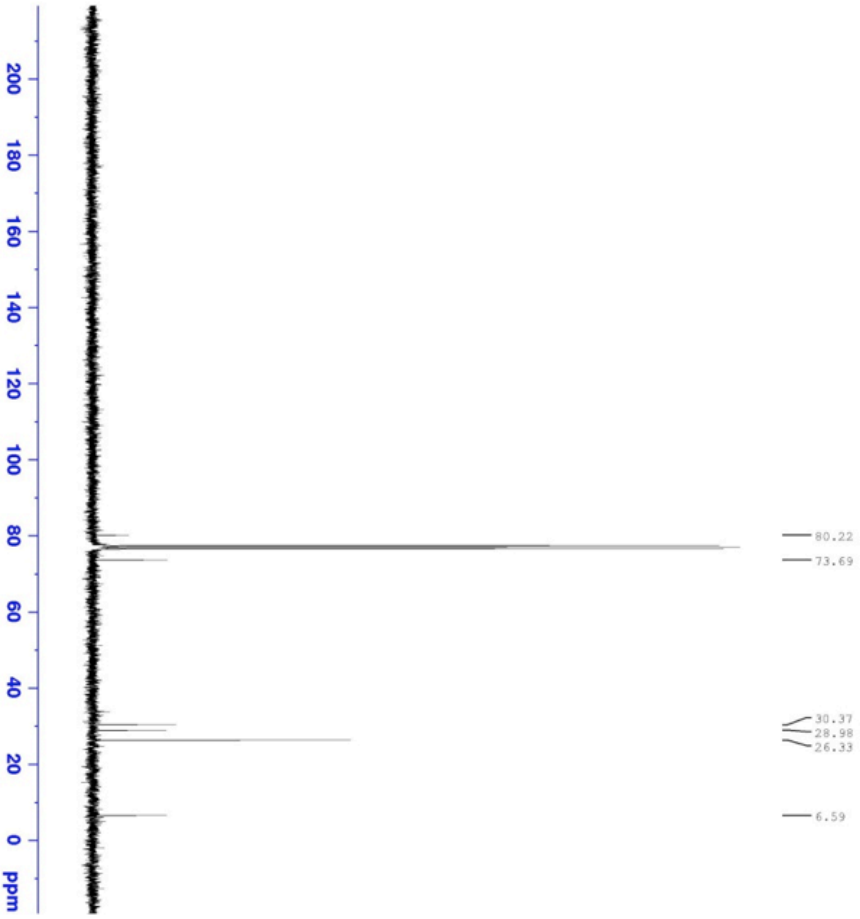
===== CHANNEL f1 =====
NUC1 13C
P1 10.00 usec
PL1 0.50 dB
SFO1 100.6228298 MHz
  
```

```

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 70.00 usec
PL2 -4.00 dB
PL12 12.90 dB
PL13 12.90 dB
SFO2 400.1315005 MHz
SI 32768
SF 100.6127690 MHz
WDW EN
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

1-(tert-butylperoxy)-4-iodobutane (18b)





Current Data Parameters
 NAME RMC-7-20-12-C
 EXNO 1
 PROCNO 1

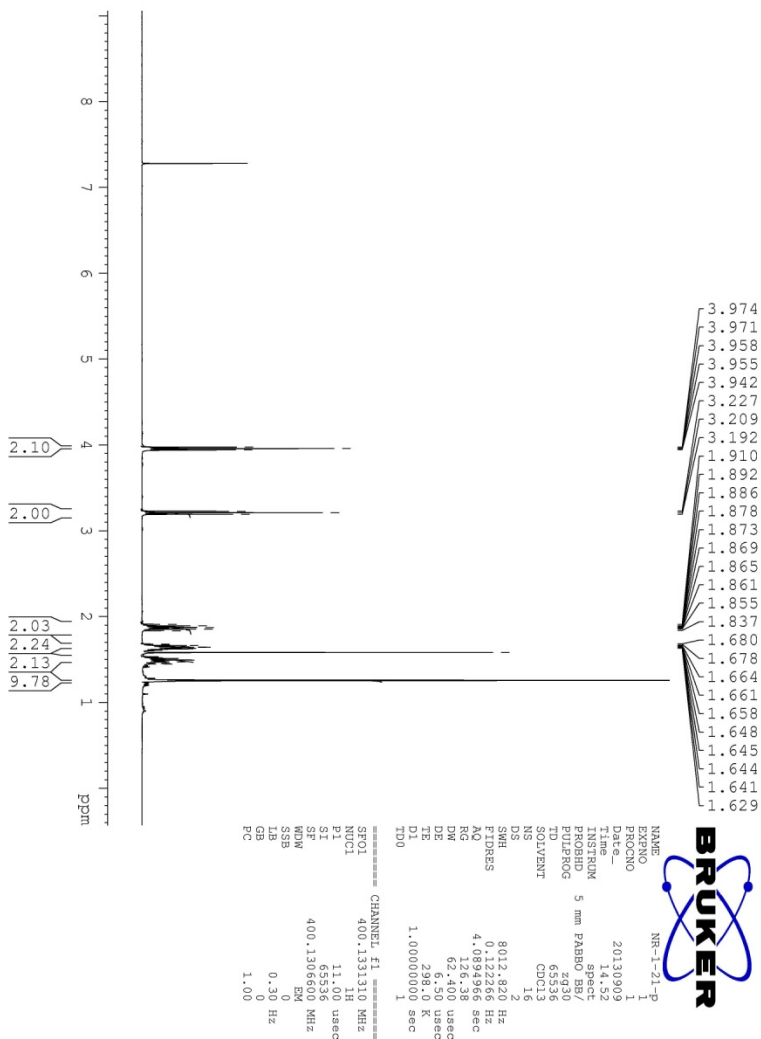
F2 - Acquisition Parameters
 Date_ 20130808
 Time 14.16
 INSTRUM spect
 PROBRD H/13
 PULPROG zgpg30
 ID 32768
 SOLVENT CDCl3
 NS 4
 DS 2
 SWH 17985.611 Hz
 FIDRES 0.548877 Hz
 AQ 0.910904 sec
 RG 18390.4
 DW 27.800 usec
 DE 6.30 usec
 TE 294.4 K
 IE 2.00000000
 D11 0.03000000
 TDO 1

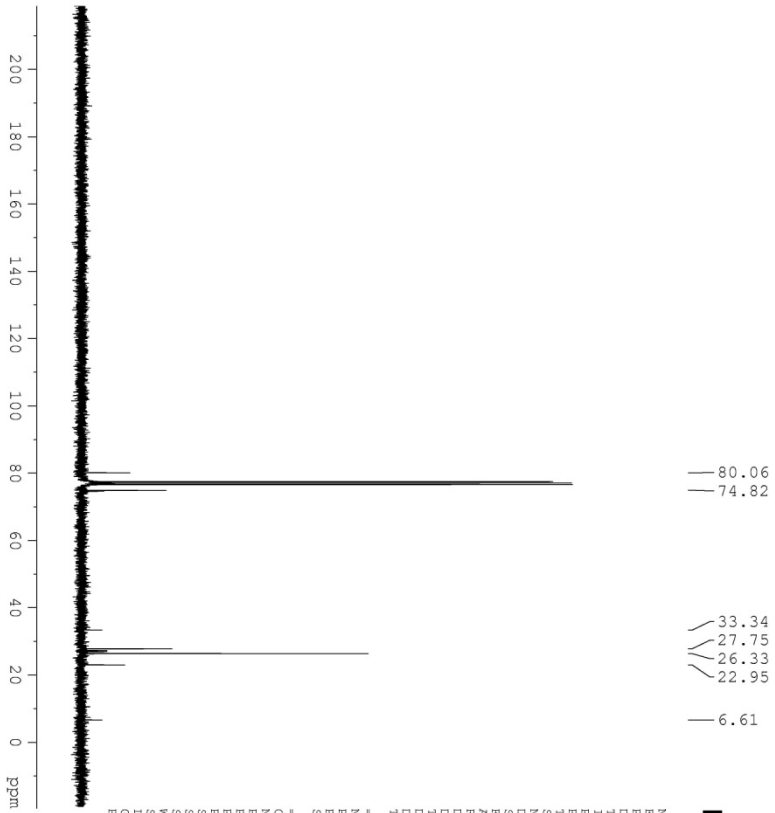
===== CHANNEL #1 =====
 NUCL1 13C
 P1 1.00 usec
 PL1 9.20 dB
 SF01 75.4732953 MHz

===== CHANNEL #2 =====
 CPDPRG12 waltz16
 NUCL2 1H
 PCPD2 70.00 usec
 PL2 2.20 dB
 PL12 9.10 dB
 PL13 9.10 dB
 SF02 300.1312005 MHz

F2 - Processing parameters
 SI 32768
 SF 75.4577490 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1-(*tert*-butylperoxy)-5-iodopentane (18c)





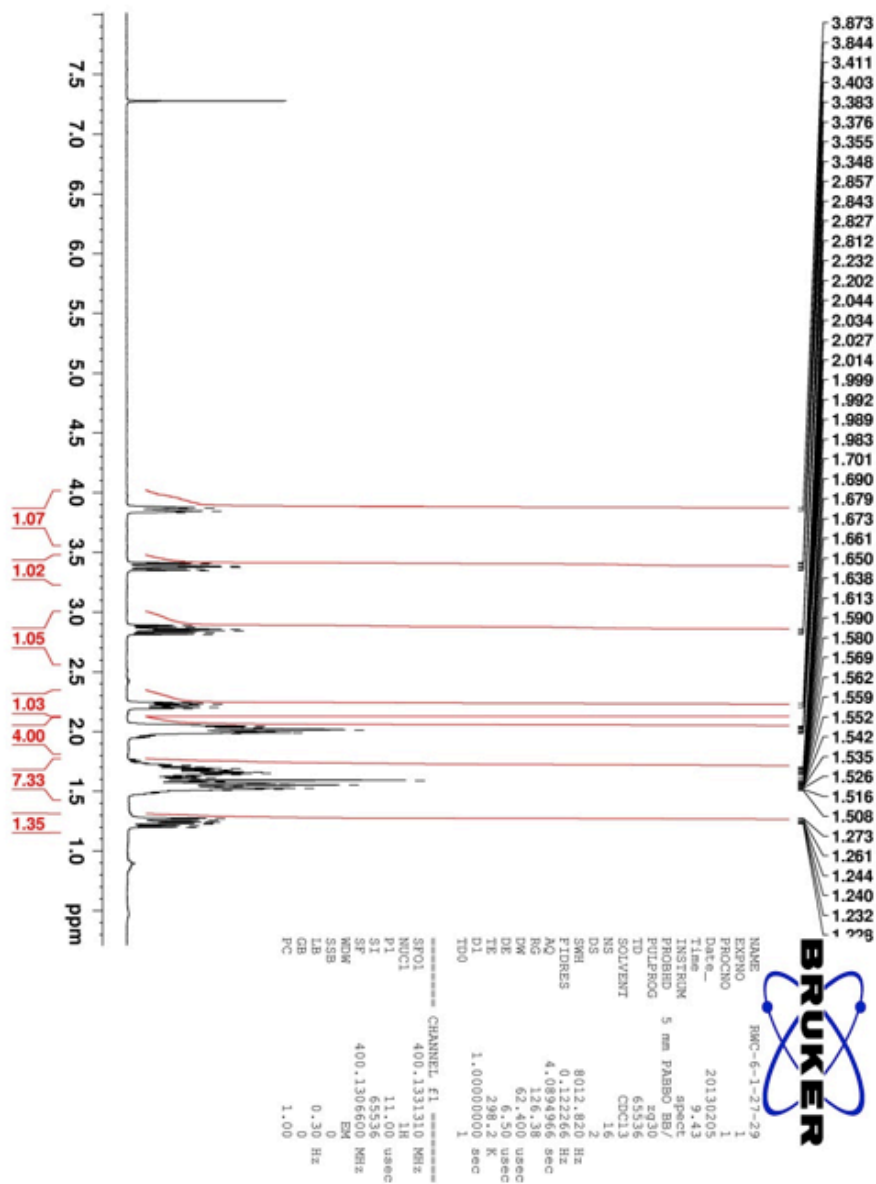
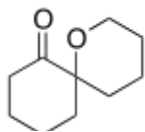
```

NAME RMC-9-11-13
EXPNO 1
PROCNO 1
F2 20130911
Time 19.11
INSTRUM spect
PROBHD 5 mm QNP 1H/13
PULPROG zgpg30
SOLVENT CDCl3
NS 240
DS 4
SWH 17985.611 Hz
AQ 0.9110004 sec
RG 16384
DE 27.800 usec
DI 6.50 usec
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

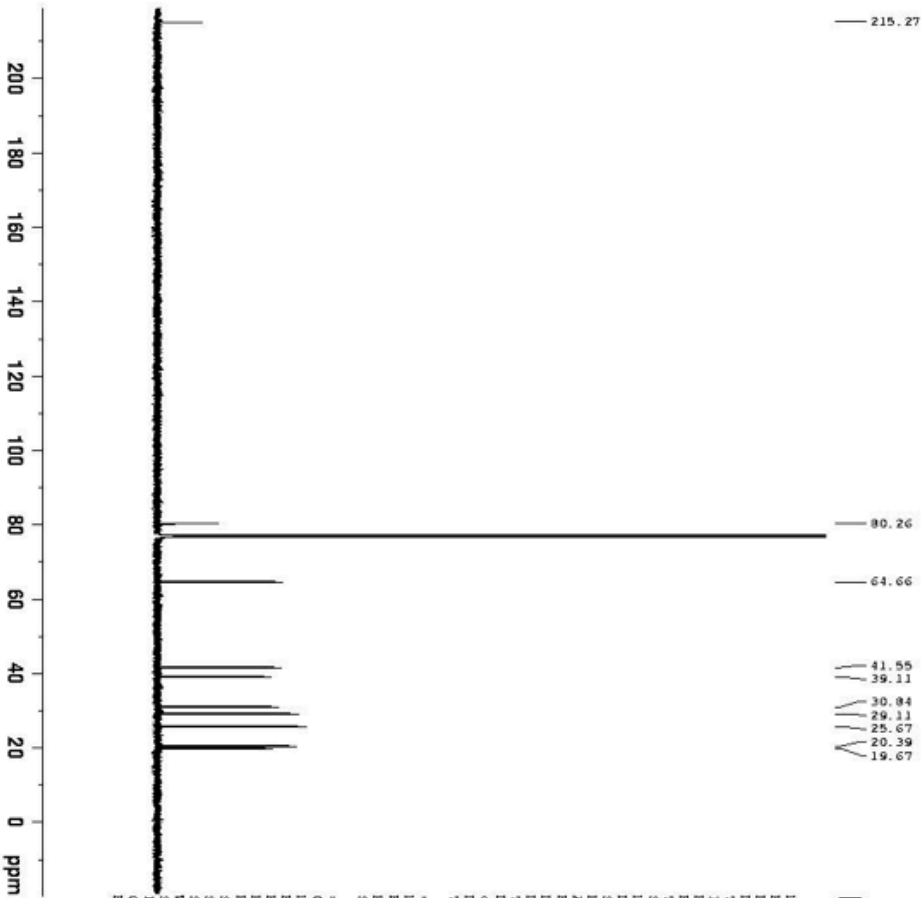
===== CHANNEL f1 =====
NUC1 13C
P1 11.00 usec
PL1 5.20 dB
SFO1 75.4752953 MHz

===== CHANNEL f2 =====
NAME Waltz16
CPOPRG2 1H
NUC2 1H
PCPD2 70.00 usec
PL2 19.10 dB
PL13 19.10 dB
SFO2 300.1312005 MHz
SI 32768
WDW EM
SSB 0
LB 1.00 Hz
GB 0
FC 1.40
  
```


oxaspiro[5.5]undecan-7-one (19b)



215.27



```

NAME: FWC-6-1-27-29-CL3
EXPNO: 1
PROCNO: 1
Date_ : 20130205
Time: 11.44
INSTRUM: spect
PROBHD: 5 mm QNP1H-
PULPROG: zgpg30
TD: 65536
SOLVENT: CDCl3
NS: 676
DS: 4
SWH: 30040.029 Hz
FIDRES: 0.458222 Hz
AQ: 1.0912410 sec
RG: 32768
DNM: 16.650 usec
DE: 6.00 usec
TE: 298.0 K
D1: 2.00000000 sec
d11: 0.03000000 sec
DELTA: 1.89999998 sec
TDO: 1

===== CHANNEL f1 =====
NUC1: 13C
P1: 15.00 usec
PL1: -2.50 dB
SFO1: 125.7703643 MHz

===== CHANNEL f2 =====
GENPROG: waltz16
NUC2: 1H
P2: 70.00 usec
PL2: -4.00 dB
PL12: 14.54 dB
PL13: 14.54 dB
SFO2: 500.1320005 MHz
SI: 32768
SE: 125.7577890 MHz
WDW: EM
SSB: 0
CB: 1.00 Hz
PC: 1.40
  
```