

# Synthesis and Bioactivity of *N*-glycosylated 3-(2-Oxo-2-arylethylidene)indolin-2-ones

Dennis Kleeblatt,<sup>a</sup> Martin Becker,<sup>a</sup> Michael Plötz,<sup>b</sup> Madeleine Schönherr,<sup>c</sup> Alexander Villinger,<sup>a</sup> Martin Hein,<sup>a</sup> Jürgen Eberle,<sup>b</sup> Manfred Kunz,<sup>c</sup> Peter Langer\*<sup>a,d</sup>

<sup>a</sup> Institut für Chemie, Universität Rostock, Albert-Einstein-Str. 3a, 18059 Rostock, Germany

<sup>b</sup> CharitéCentrum 12 für Innere Medizin und Dermatologie, Hauttumorzentrum, Charité – Universitätsmedizin Berlin, Charitéplatz 1, 10117 Berlin, Germany

<sup>c</sup> Klinik für Dermatologie, Venerologie und Allergologie, Universitätsklinik Leipzig, Philipp-Rosenthal-Str. 23-25, 04103 Leipzig, Germany

<sup>d</sup> Leibniz-Institut für Katalyse e. V. an der Universität Rostock, Albert-Einstein-Str. 29a, 18059 Rostock, Germany

Fax: +49 (381)4986412, E-mail: peter.langer@uni-rostock.de

## Supporting Information

Content List:

Copies of NMR spectra : p. 2

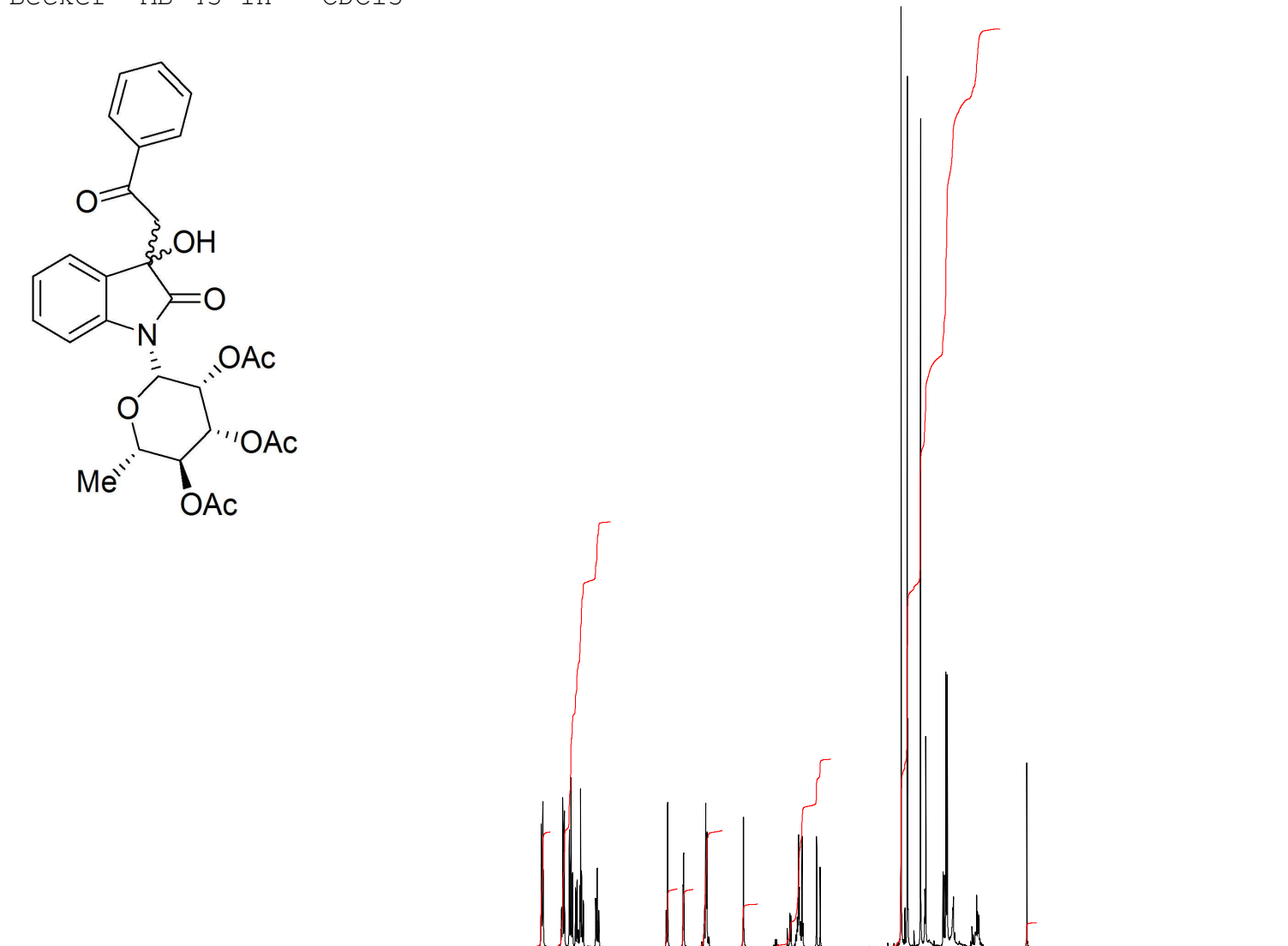
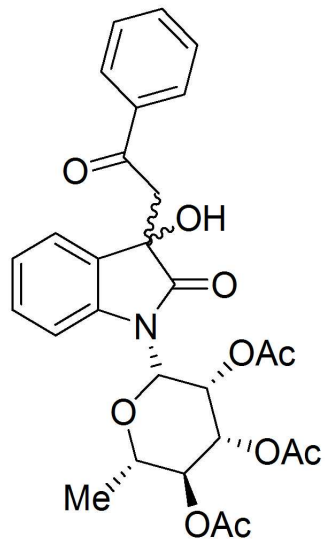


Current Data Parameters  
NAME 080207.u304  
EXPNO 12  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080207  
Time 17.39  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 90.5  
DW 80.800 usec  
DE 6.50 usec  
TE 298.3 K  
D1 1.00000000 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz

F2 - Processing parameters  
SI 32768  
SF 300.1300233 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



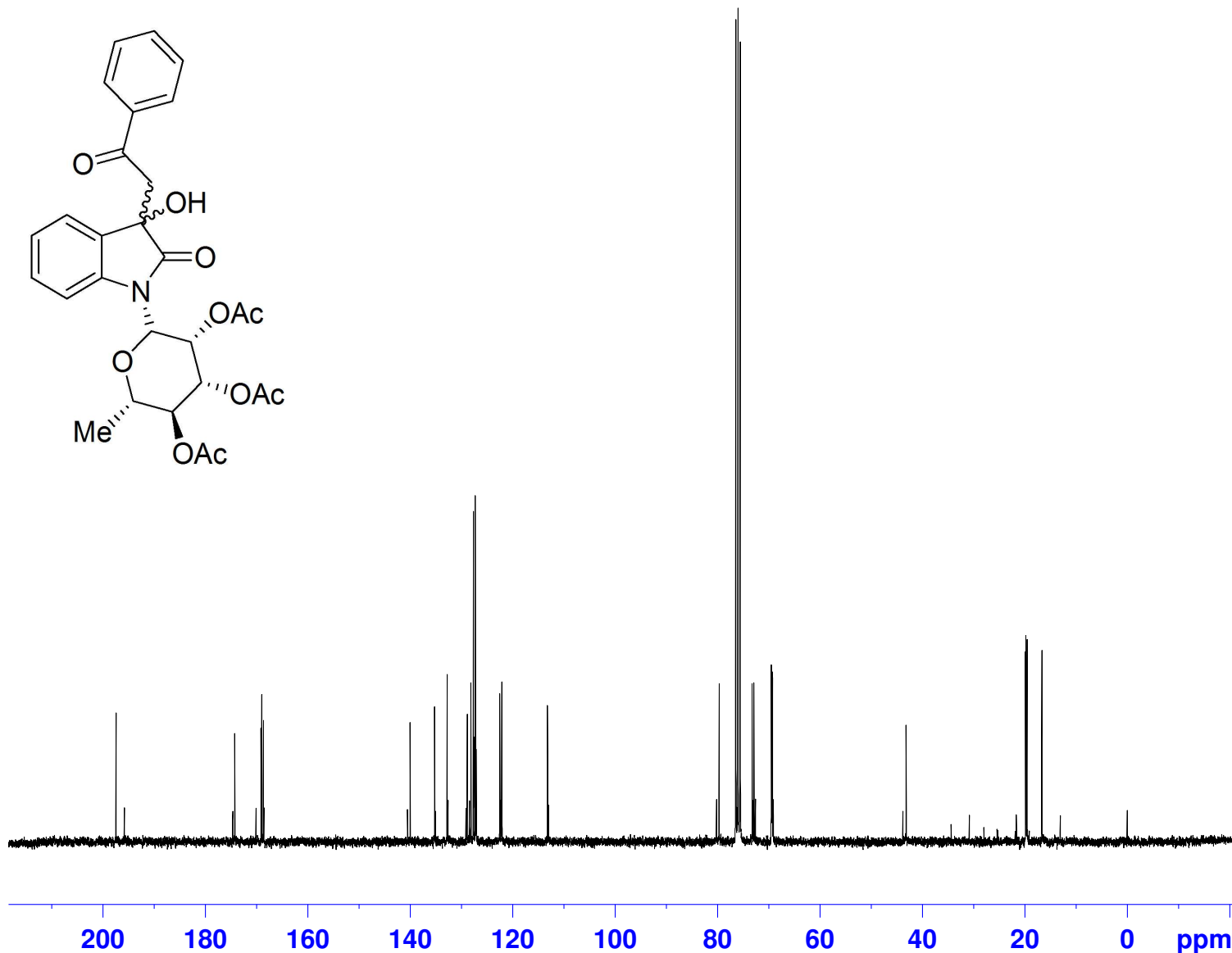
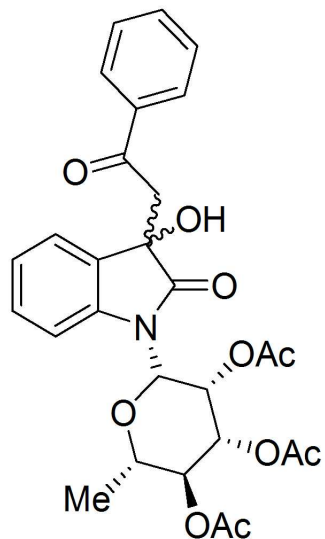
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 ppm

5.92 21.83 2.99 2.97 6.00 2.23 9.66 47.13 1.26

Becker MB 43 13C CDC13



197.50  
195.85  
174.70  
170.16  
169.17  
169.04  
168.72  
168.61  
140.55  
140.04  
135.28  
135.11  
132.83  
132.65  
129.16  
128.88  
128.46  
128.19  
127.70  
127.62  
127.31  
127.16  
122.53  
122.29  
122.14  
113.21  
113.00  
80.21  
79.71  
76.45  
76.23  
76.02  
75.60  
73.27  
73.01  
72.91  
72.63  
69.52  
69.45  
69.38  
69.28  
69.14  
43.82  
43.19  
34.40  
30.86  
27.99  
25.41  
25.30  
21.67  
19.87  
19.78  
19.58  
16.68  
13.09  
-0.00



Current Data Parameters  
NAME 080207.u304  
EXPNO 10  
PROCNO 1

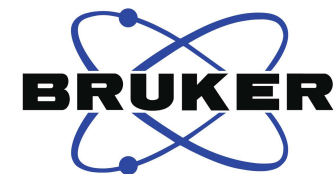
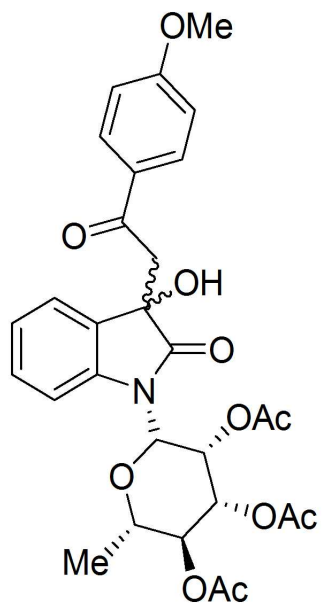
F2 - Acquisition Parameters  
Date\_ 20080207  
Time 17.17  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 1500  
DS 4  
SWH 18028.846 Hz  
FIDRES 0.275098 Hz  
AQ 1.8175818 sec  
RG 812  
DW 27.733 usec  
DE 6.50 usec  
TE 298.2 K  
D1 2.00000000 sec  
D11 0.03000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 13C  
P1 10.00 usec  
PL1 -0.50 dB  
PL1W 33.25691986 W  
SFO1 75.4752953 MHz

===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 72.00 usec  
PL2 0 dB  
PL12 17.00 dB  
PL13 17.00 dB  
PL2W 11.25325108 W  
PL12W 0.22453187 W  
PL13W 0.22453187 W  
SFO2 300.1312005 MHz

F2 - Processing parameters  
SI 32768  
SF 75.4678249 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

Becker MB79 1H CDC13

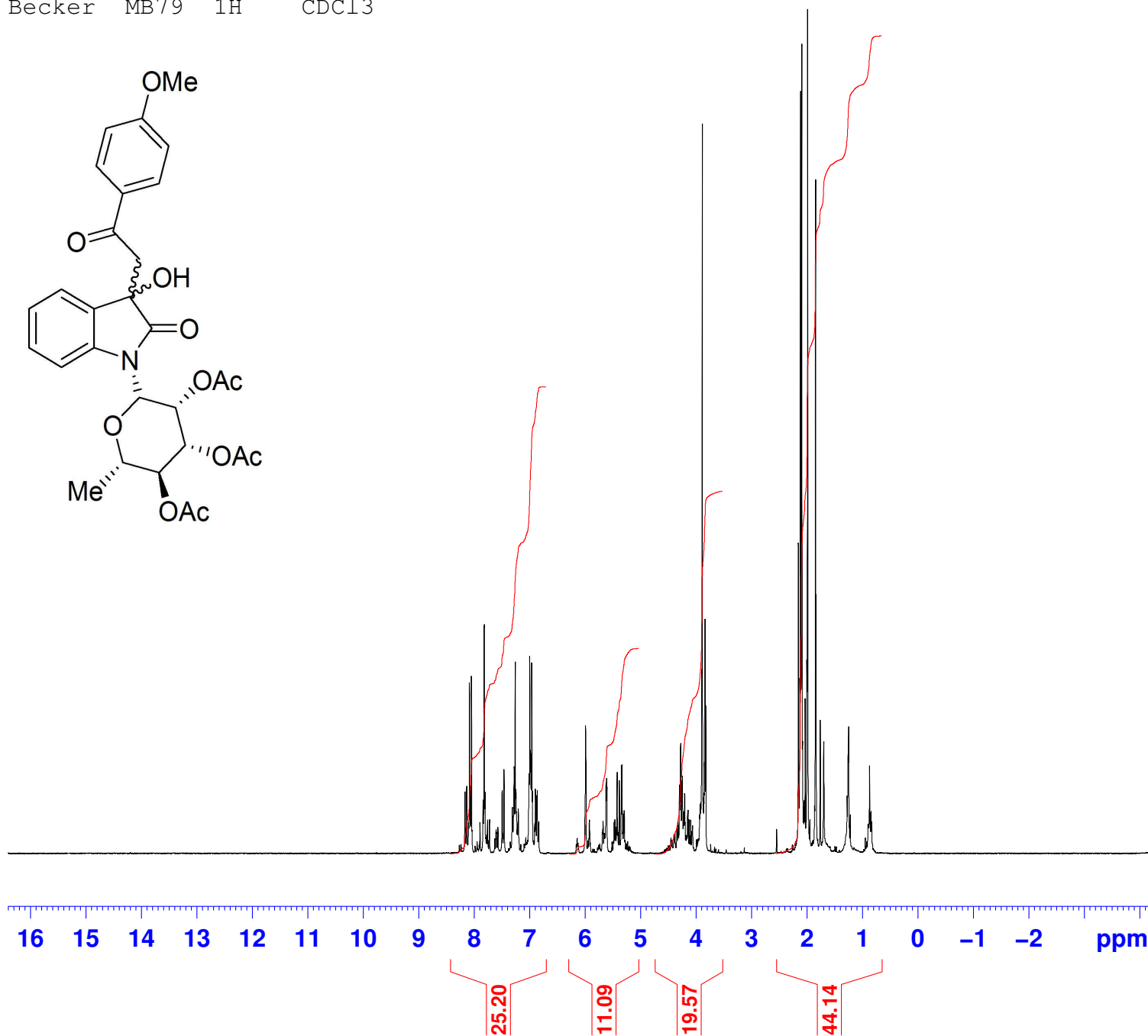


Current Data Parameters  
NAME 080430.226  
EXPNO 10  
PROCNO 1

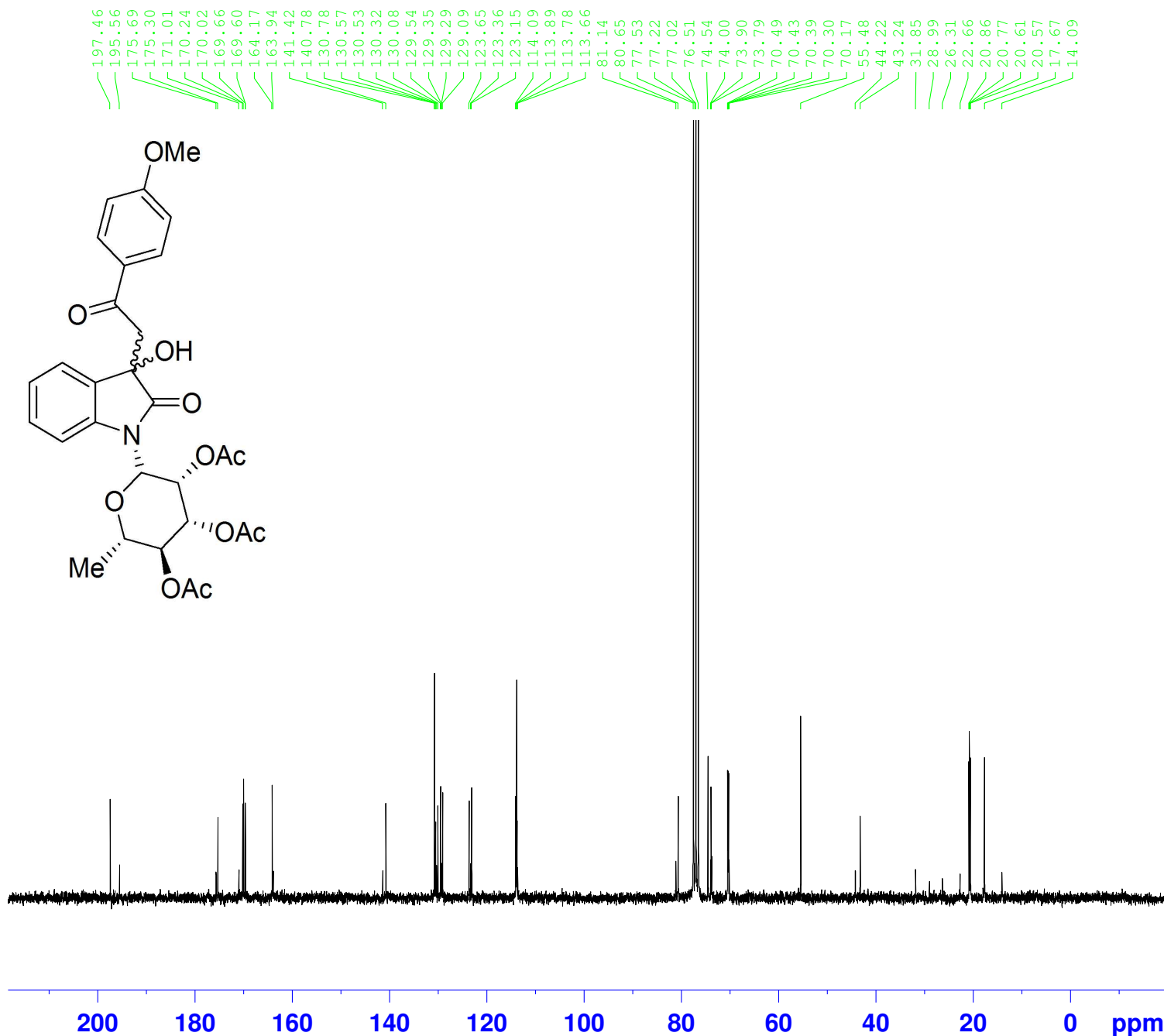
F2 - Acquisition Parameters  
Date\_ 20080430  
Time 15.32  
INSTRUM spect  
PROBHD 5 mm QNP 1H/13  
PULPROG zg30  
TD 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 5165.289 Hz  
FIDRES 0.078816 Hz  
AQ 6.3439350 sec  
RG 456  
DW 96.800 usec  
DE 10.00 usec  
TE 298.2 K  
D1 1.00000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 1H  
P1 11.40 usec  
PL1 -3.00 dB  
SFO1 250.1315447 MHz

F2 - Processing parameters  
SI 32768  
SF 250.1300000 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



Becker MB73 13C CDC13



197.46  
195.56  
175.69  
175.30  
171.01  
170.24  
170.02  
169.66  
169.60  
164.17  
163.94  
141.42  
140.78  
130.78  
130.57  
130.53  
130.32  
130.08  
129.54  
129.35  
129.29  
129.09  
123.65  
123.36  
123.15  
114.09  
113.89  
113.78  
113.66  
81.14  
80.65  
77.53  
77.22  
77.02  
76.51  
74.54  
74.00  
73.90  
73.79  
70.49  
70.43  
70.39  
70.30  
70.17  
55.48  
44.22  
43.24  
31.85  
28.99  
26.31  
22.66  
20.86  
20.77  
20.61  
20.57  
17.67  
14.09

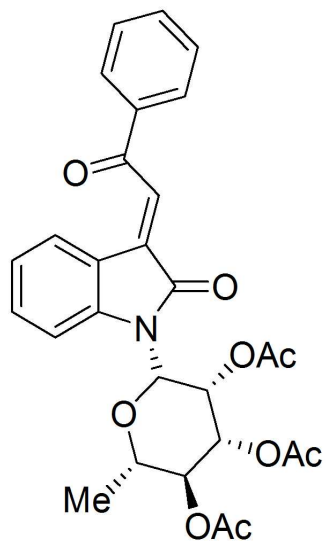
Current Data Parameters  
NAME 080429.234  
EXPNO 10  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080430  
Time 7.08  
INSTRUM spect  
PROBHD 5 mm QNP 1H/13  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 2048  
DS 4  
SWH 15000.000 Hz  
FIDRES 0.228882 Hz  
AQ 2.1845834 sec  
RG 2050  
DW 33.333 usec  
DE 10.00 usec  
TE 298.2 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 10.20 usec  
PL1 0 dB  
SFO1 62.9015280 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 70.00 usec  
PL12 14.00 dB  
PL13 14.00 dB  
PL2 -3.00 dB  
SFO2 250.1310005 MHz

F2 - Processing parameters  
SI 32768  
SF 62.8952390 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

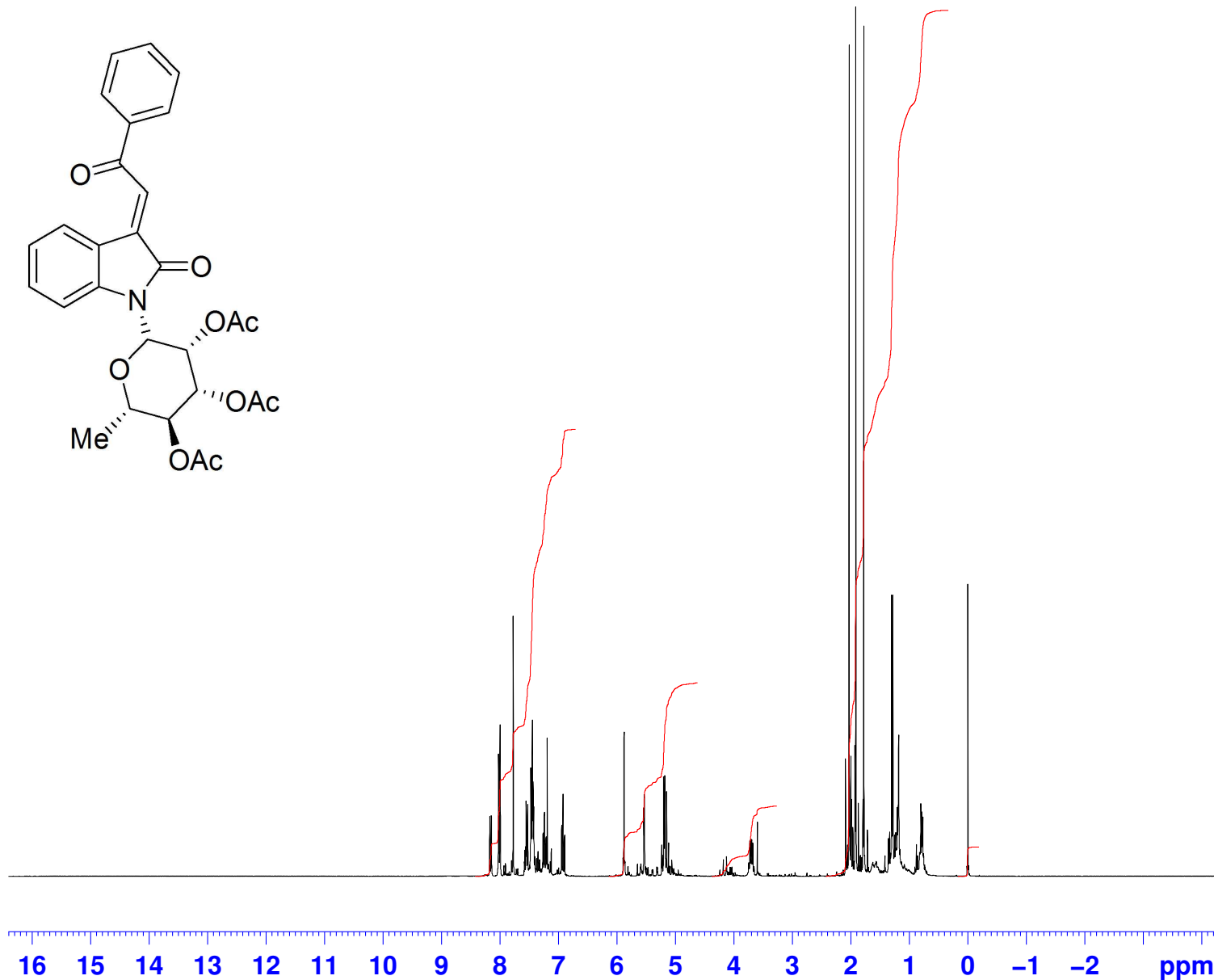


Current Data Parameters  
NAME 080212.u306  
EXPNO 12  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080212  
Time 16.13  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 64  
DW 80.800 usec  
DE 6.50 usec  
TE 298.2 K  
D1 1.00000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz

F2 - Processing parameters  
SI 32768  
SF 300.1300234 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



27.83

12.05

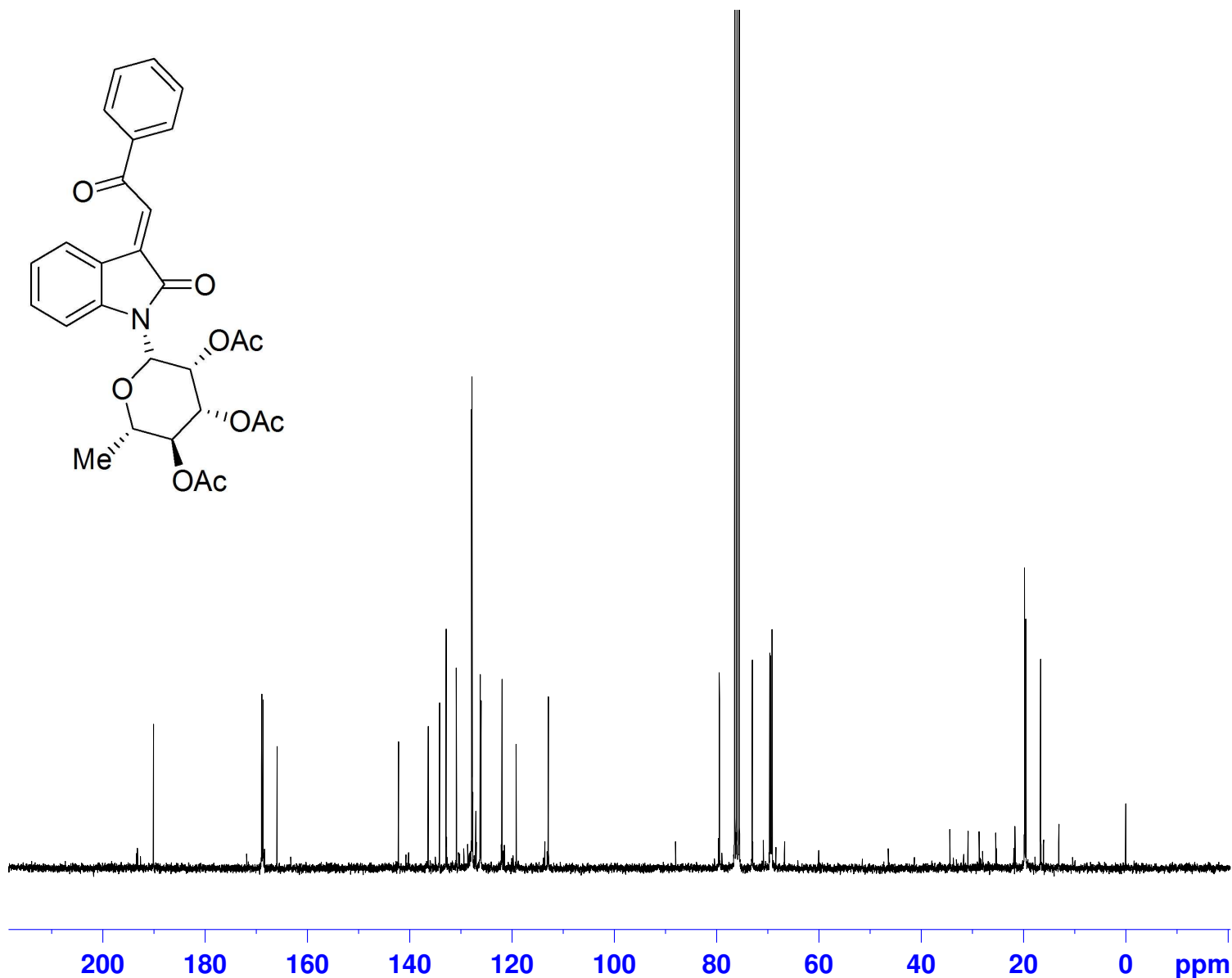
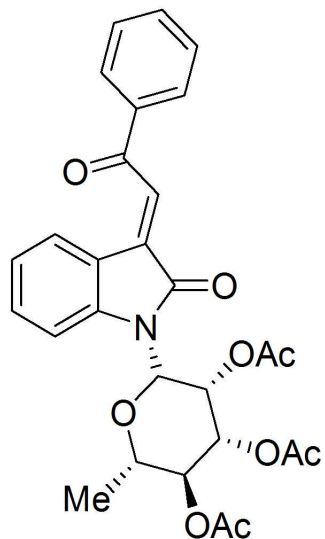
4.38

53.91

1.83

Becker MB 46 13C CDC13

193.26  
190.13  
168.98  
168.83  
168.72  
168.68  
168.41  
165.96  
142.23  
136.39  
134.19  
132.90  
130.90  
129.45  
128.69  
127.90  
127.83  
127.69  
127.12  
127.03  
126.25  
126.09  
122.12  
121.97  
121.69  
121.50  
119.22  
113.61  
112.90  
88.05  
79.66  
79.47  
76.46  
76.24  
76.03  
75.61  
73.04  
70.87  
69.68  
69.62  
69.50  
69.40  
69.32  
69.27  
69.16  
68.41  
66.73  
60.05  
46.42  
34.40  
30.85  
28.67  
25.41  
25.30  
21.89  
21.66  
19.80  
19.77  
19.72  
19.60  
19.53  
16.72  
16.66  
16.09  
13.09  
-0.00



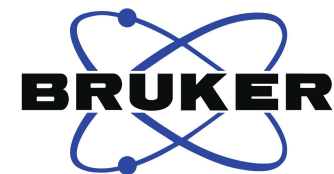
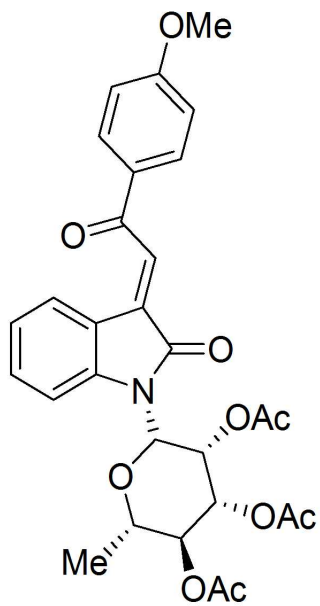
Current Data Parameters  
NAME 080212.u306  
EXPNO 11  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080212  
Time 14.30  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 2048  
DS 4  
SWH 18028.846 Hz  
FIDRES 0.275098 Hz  
AQ 1.8175818 sec  
RG 724  
DW 27.733 usec  
DE 6.50 usec  
TE 298.4 K  
D1 2.00000000 sec  
D11 0.03000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 10.00 usec  
PL1 -0.50 dB  
PL1W 33.25691986 W  
SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 72.00 usec  
PL2 0 dB  
PL12 17.00 dB  
PL13 17.00 dB  
PL2W 11.25325108 W  
PL12W 0.22453187 W  
PL13W 0.22453187 W  
SFO2 300.1312005 MHz

F2 - Processing parameters  
SI 32768  
SF 75.4678249 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

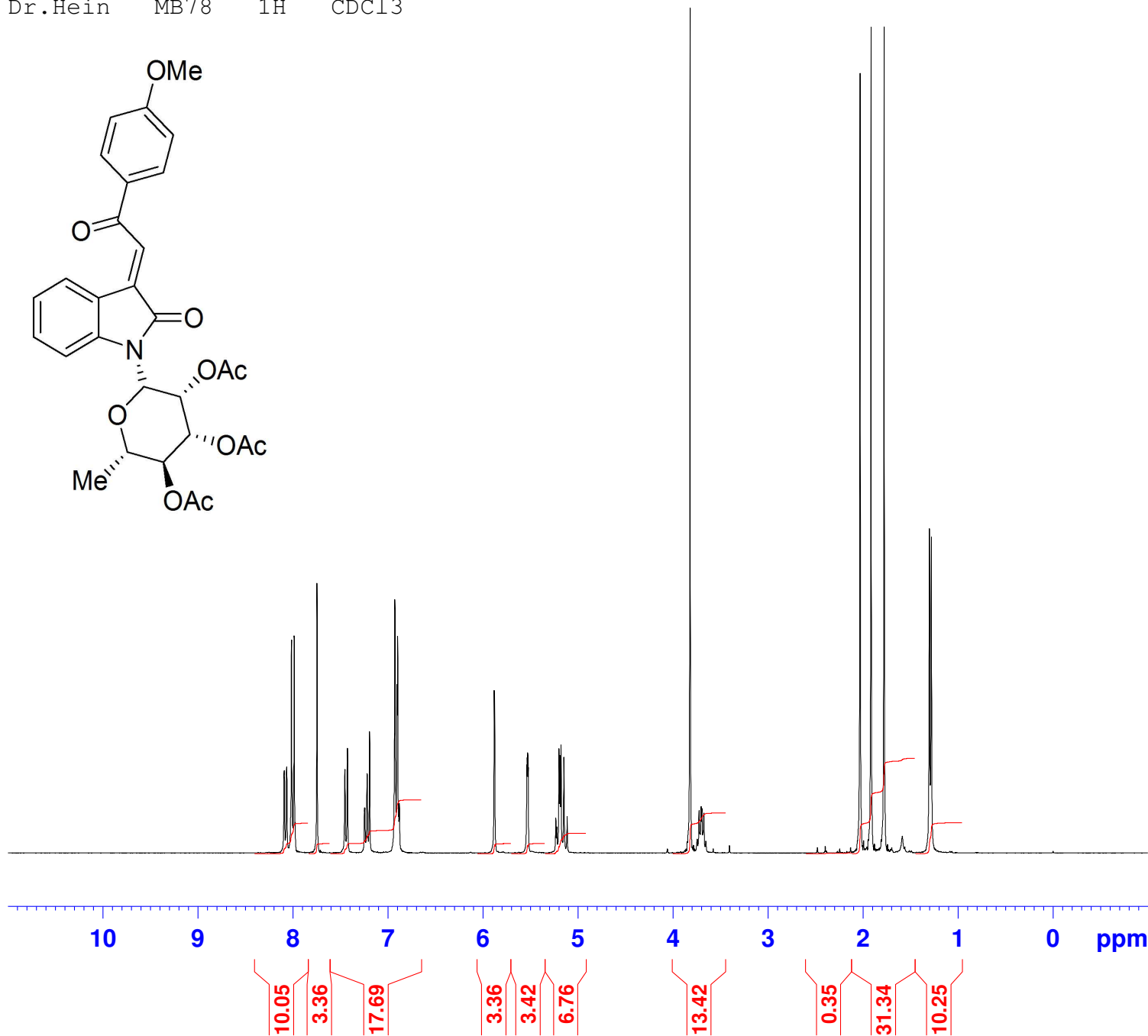


Current Data Parameters  
NAME 140331.u308  
EXPNO 10  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140331  
Time 9.17  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 90.5  
DW 80.800 usec  
DE 10.00 usec  
TE 298.2 K  
D1 1.00000000 sec  
TD0 1

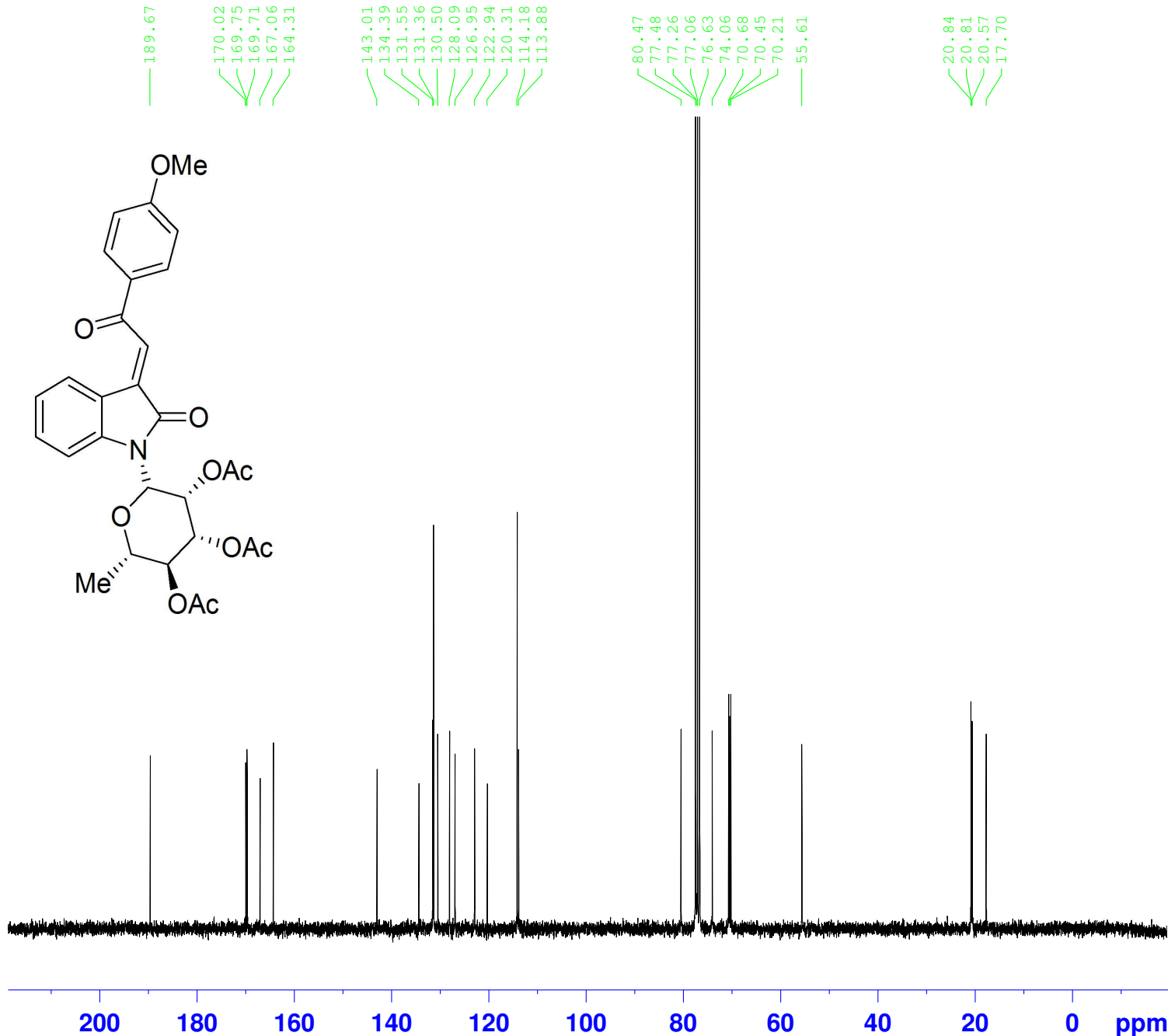
===== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz

F2 - Processing parameters  
SI 32768  
SF 300.1300320 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00





Dr.Hein MB78 13C CDC13



Current Data Parameters  
NAME 140331.u308  
EXPNO 11  
PROCNO 1

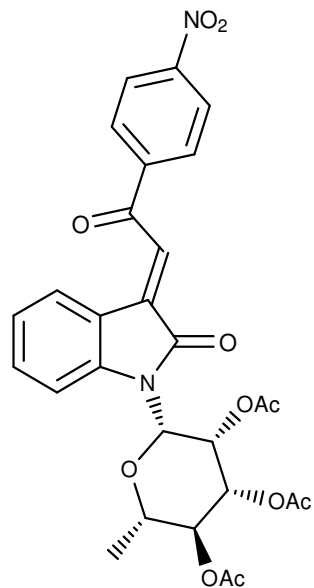
F2 - Acquisition Parameters  
Date\_ 20140331  
Time 13.14  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 1024  
DS 4  
SWH 18028.846 Hz  
FIDRES 0.275098 Hz  
AQ 1.8175818 sec  
RG 2050  
DW 27.733 usec  
DE 10.00 usec  
TE 298.2 K  
D1 2.00000000 sec  
D11 0.03000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 13C  
P1 10.00 usec  
PL1 -0.50 dB  
PL1W 33.25691986 W  
SFO1 75.4752953 MHz

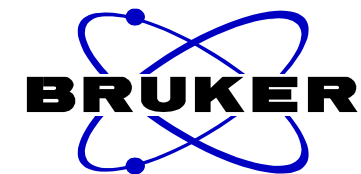
===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 72.00 usec  
PL2 0 dB  
PL12 17.00 dB  
PL13 17.00 dB  
PL2W 11.25325108 W  
PL12W 0.22453187 W  
PL13W 0.22453187 W  
SFO2 300.1312005 MHz

F2 - Processing parameters  
SI 32768  
SF 75.4677490 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

Kleeblatt, 070, CDCl3, 1H

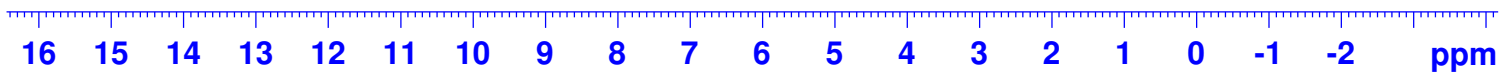


8.40  
8.37  
8.35  
8.25  
8.22  
7.80  
7.54  
7.51  
7.39  
7.33  
7.06  
7.00  
5.93  
5.60  
5.30  
5.18  
3.82  
3.71  
2.10  
1.98  
1.84  
1.36



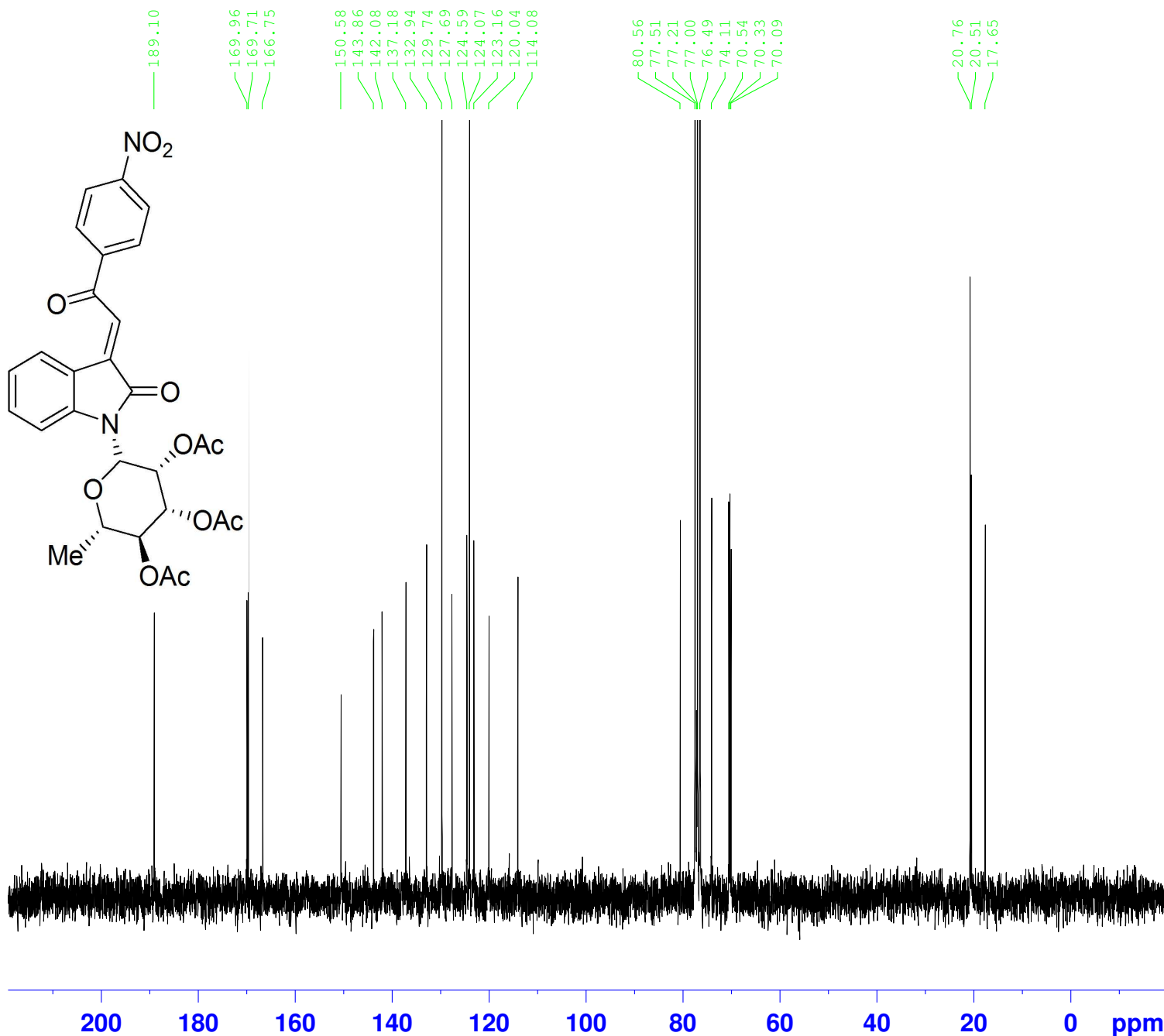
NAME 110630.u318  
EXPNO 10  
PROCNO 1  
Date\_ 20110630  
Time 11.53  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 128  
DW 80.800 usec  
DE 10.00 usec  
TE 298.2 K  
D1 1.00000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0.00 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz  
SI 32768  
SF 300.1300108 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



3.08  
2.04  
1.01  
1.03  
1.04  
1.02  
1.02  
1.01  
2.05  
1.02  
3.04  
3.00  
3.00  
3.02

Kleeblatt, 070, CDCl3, 13C



189.10  
169.96  
169.71  
166.75  
150.58  
143.86  
142.08  
137.18  
132.94  
129.74  
127.69  
124.59  
124.07  
123.16  
120.04  
114.08  
80.56  
77.51  
77.21  
77.00  
76.49  
74.11  
70.54  
70.33  
70.09  
20.76  
20.51  
17.65

Current Data Parameters

NAME dkp70\_2  
EXPNO 10  
PROCNO 1

F2 - Acquisition Parameters

Date\_ 20110701  
Time 11.16  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 1024  
DS 4  
SWH 15000.000 Hz  
FIDRES 0.228882 Hz  
AQ 2.1845834 sec  
RG 1440  
DW 33.333 usec  
DE 10.00 usec  
TE 299.3 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TD0 1

==== CHANNEL f1 =====

NUC1 13C  
P1 10.00 usec  
PL1 -1.00 dB  
SFO1 62.9015280 MHz

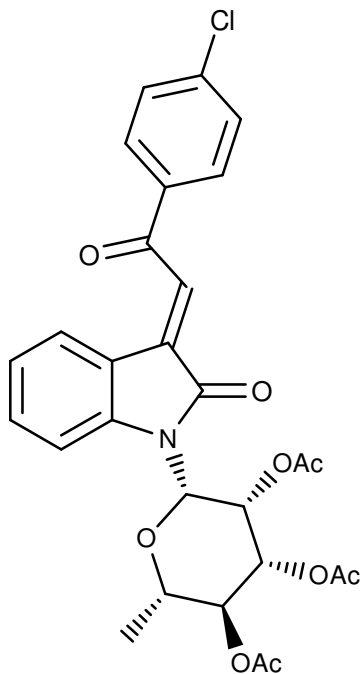
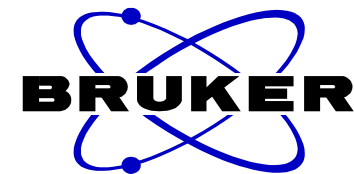
==== CHANNEL f2 =====

CPDPRG2 waltz16  
NUC2 1H  
PCPD2 70.00 usec  
PL12 15.00 dB  
PL13 15.00 dB  
PL2 -2.50 dB  
SFO2 250.1310005 MHz

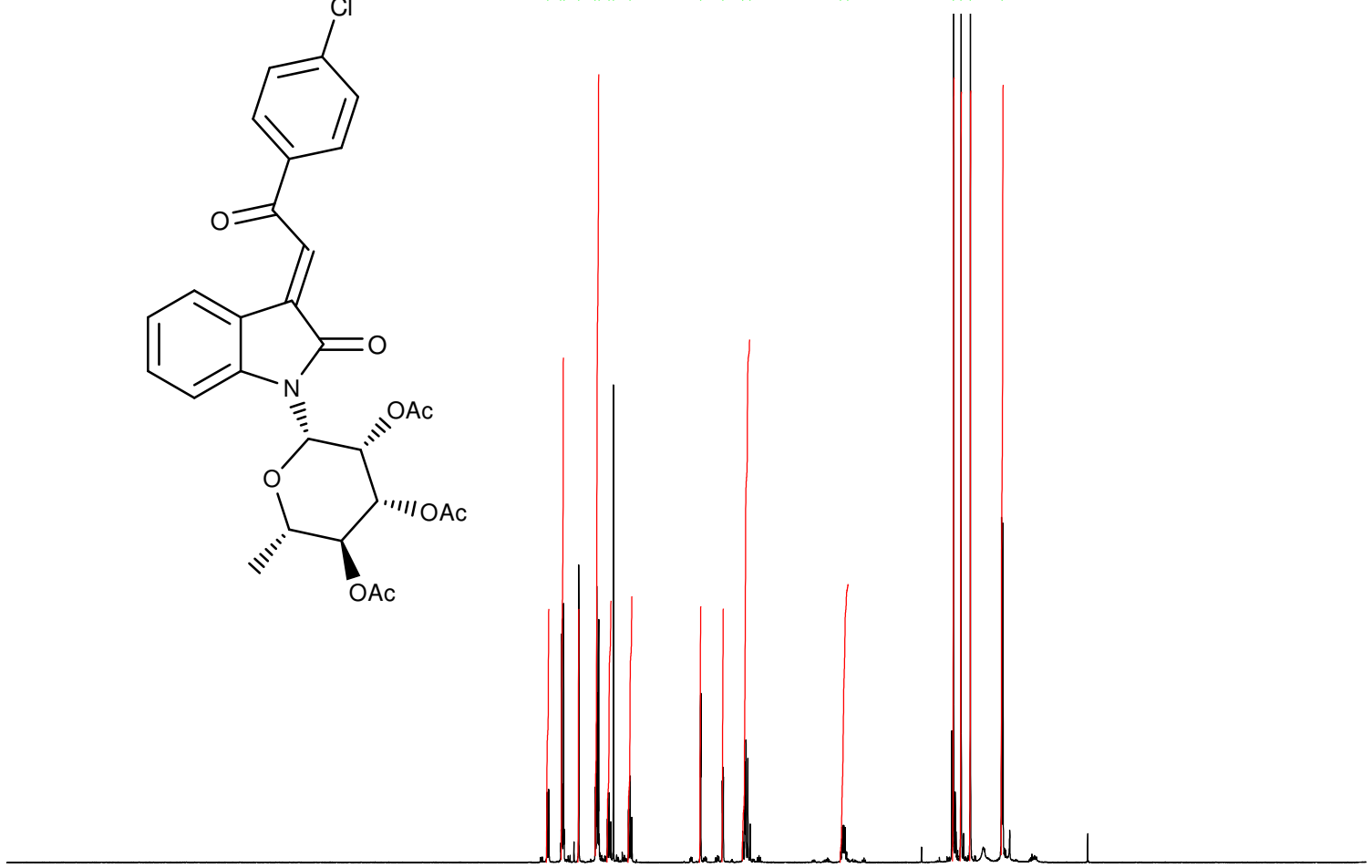
F2 - Processing parameters

SI 32768  
SF 62.8952390 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

Kleeblatt DKP071 1H CDC13



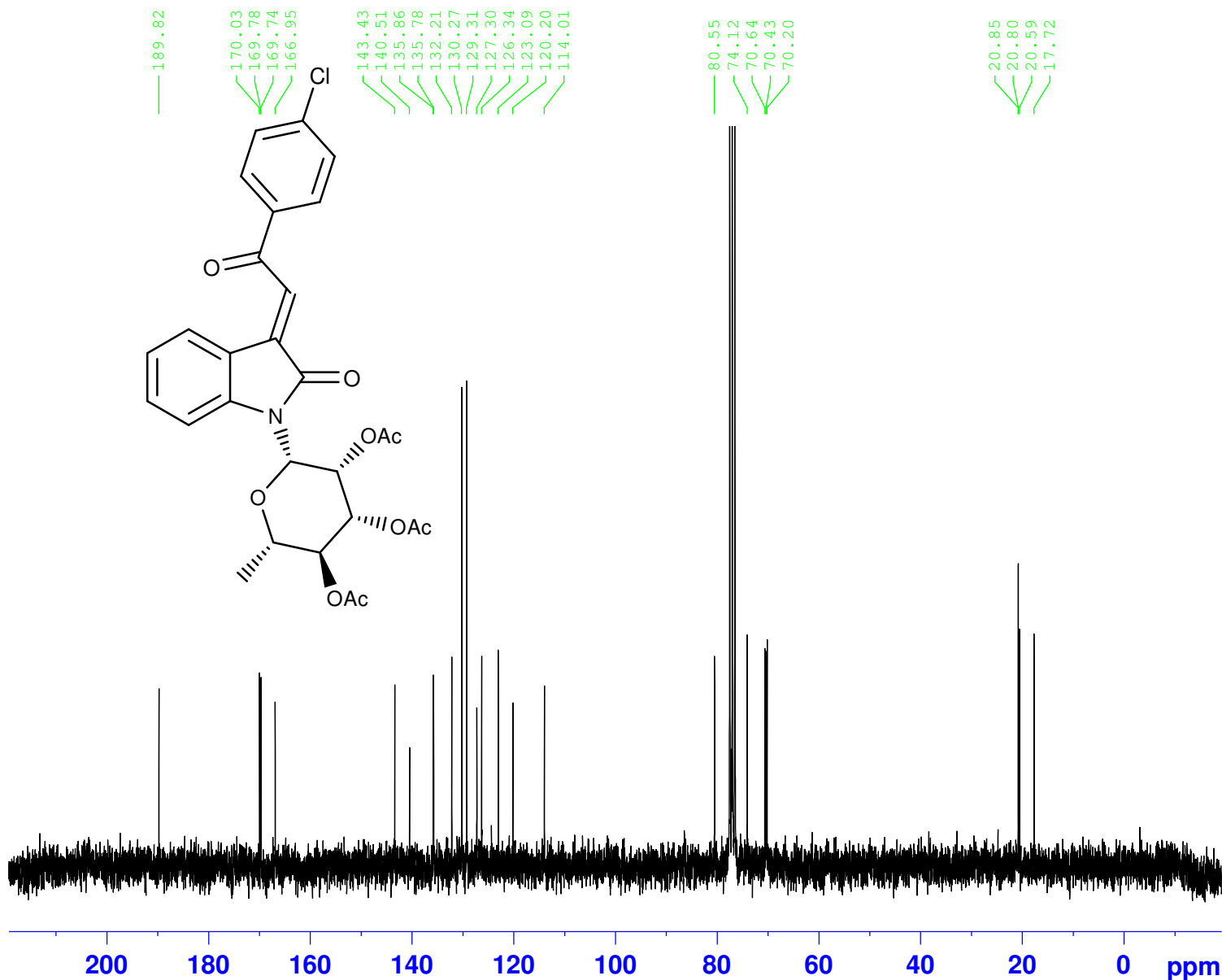
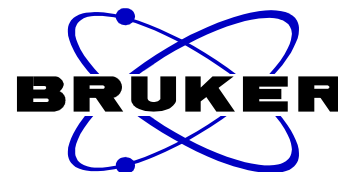
8.25  
8.06  
8.01  
7.78  
7.54  
7.47  
7.32  
7.26  
7.00  
5.94  
5.60  
5.30  
5.18  
3.81  
3.70  
2.10  
1.99  
1.85  
1.36



```
NAME 110609.u328
EXPNO 10
PROCNO 1
Date_ 20110609
Time 15.25
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDC13
NS 16
DS 2
SWH 6188.119 Hz
FIDRES 0.094423 Hz
AQ 5.2953587 sec
RG 161
DW 80.800 usec
DE 10.00 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 0.00 dB
PL1W 11.25325108 W
SFO1 300.1318534 MHz
SI 32768
SF 300.1300087 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
```

1.00  
2.00  
1.00  
3.09  
1.05  
1.03  
1.00  
0.99  
2.07  
1.07  
3.03  
2.99  
3.02  
3.04



```

NAME          110610.210
EXPNO         10
PROCNO        1
Date_         20110611
Time          4.37
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       CDC13
NS            1024
DS            4
SWH           15000.000 Hz
FIDRES        0.228882 Hz
AQ            2.1845834 sec
RG            2050
DW            33.333 usec
DE            10.00 usec
TE            299.3 K
D1            2.00000000 sec
d11           0.03000000 sec
DELTA         1.89999998 sec
TD0           1
    
```

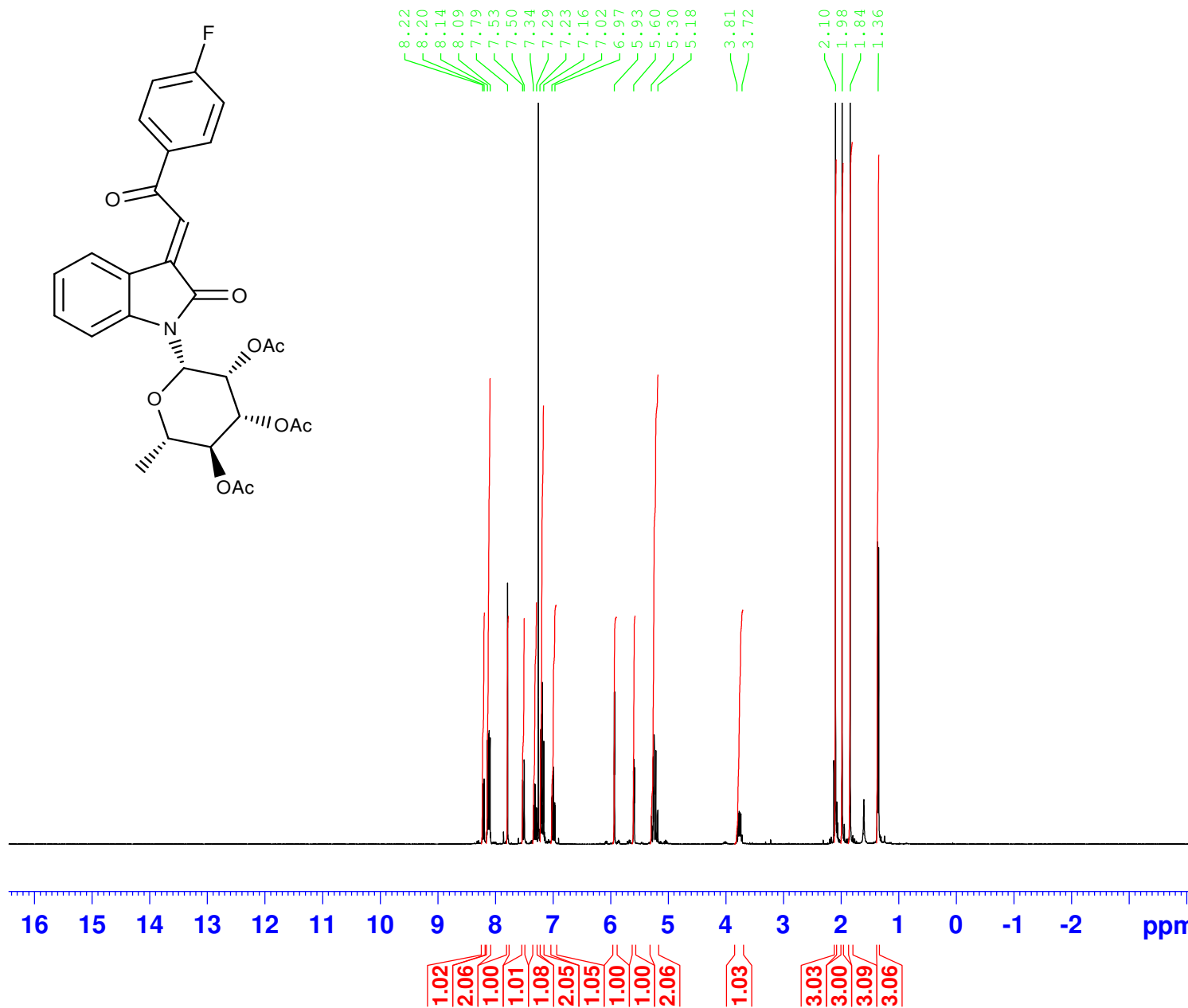
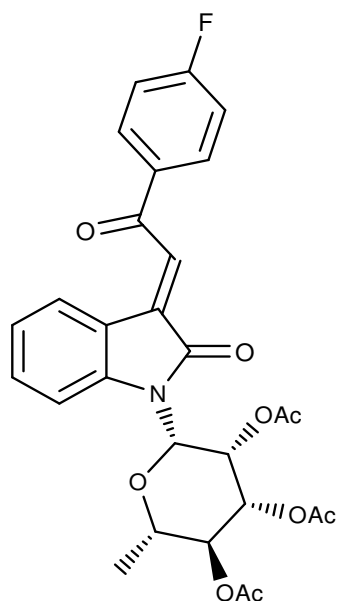
```

===== CHANNEL f1 =====
NUC1          13C
P1            10.00 usec
PL1           -1.00 dB
SFO1          62.9015280 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         70.00 usec
PL12          15.00 dB
PL13          15.00 dB
PL2           -2.50 dB
SFO2          250.1310005 MHz
SI            32768
SF            62.8952352 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```

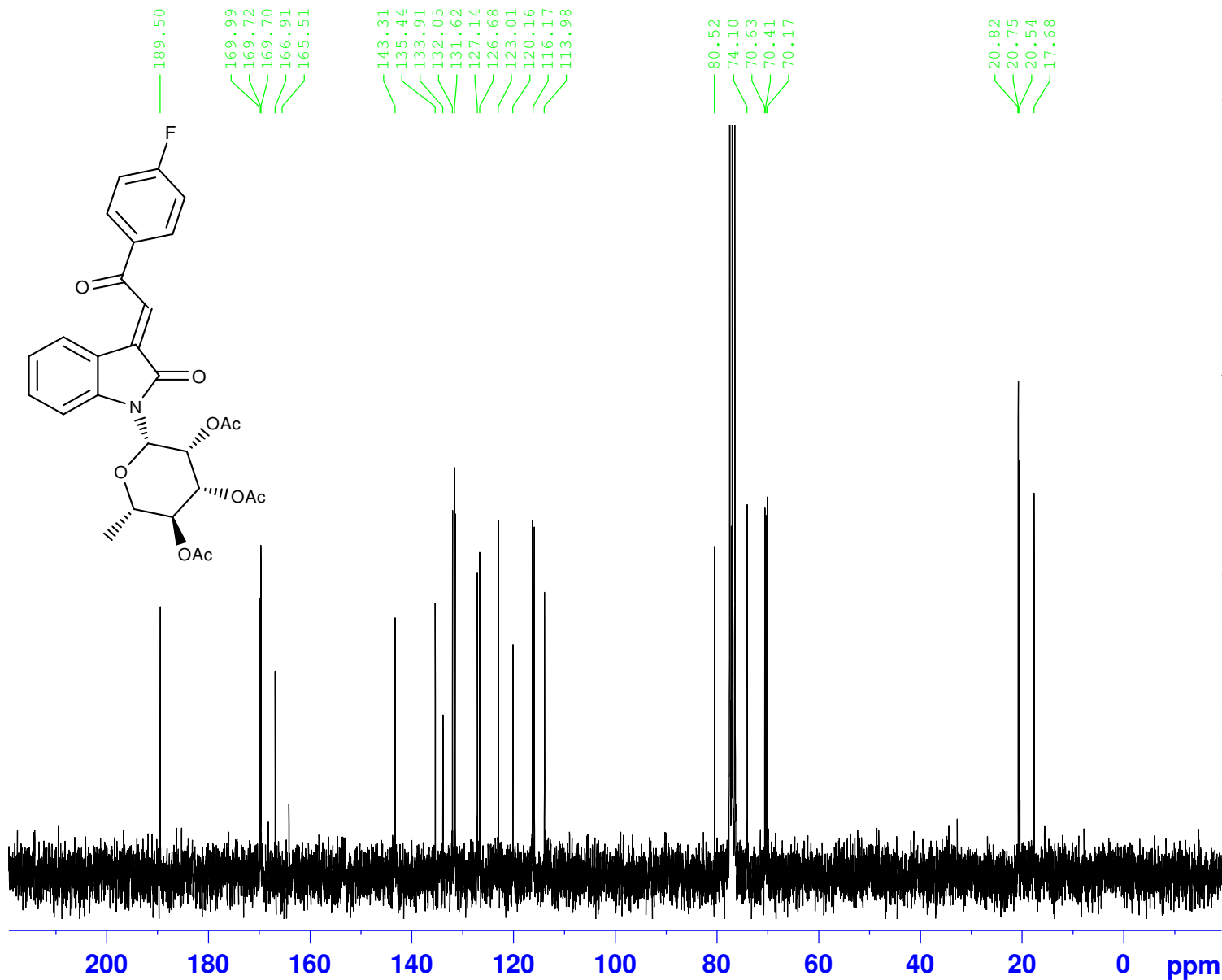
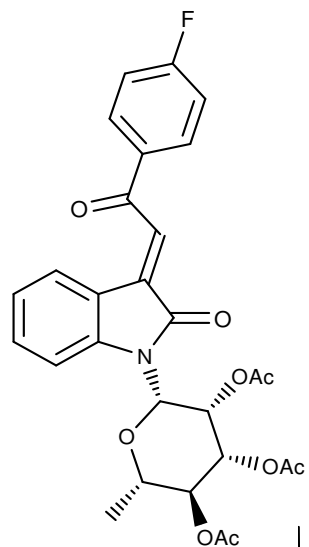
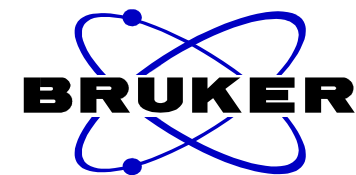
Kleeblatt, DKP 073, CDC13, 1H



```
NAME          110630.u319
EXPNO          10
PROCNO         1
Date_          20110630
Time           11.59
INSTRUM        spect
PROBHD         5 mm PABBO BB-
PULPROG        zg30
TD             65536
SOLVENT        CDC13
NS             16
DS             2
SWH            6188.119 Hz
FIDRES         0.094423 Hz
AQ            5.2953587 sec
RG            144
DW            80.800 usec
DE            10.00 usec
TE            298.2 K
D1            1.00000000 sec
TD0           1
```

```
===== CHANNEL f1 =====
NUC1           1H
P1            10.00 usec
PL1           0.00 dB
PL1W          11.25325108 W
SFO1          300.1318534 MHz
SI            32768
SF            300.1300100 MHz
WDW           EM
SSB           0
LB            0.30 Hz
GB            0
PC            1.00
```

Kleeblatt, DKP 073, CDC13, 13C



```

NAME      110701.203
EXPNO     10
PROCNO    1
Date_     20110701
Time      12.46
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zgpg30
TD        65536
SOLVENT   CDC13
NS        930
DS        4
SWH       15000.000 Hz
FIDRES    0.228882 Hz
AQ        2.1845834 sec
RG        2050
DW        33.333 usec
DE        10.00 usec
TE        299.7 K
D1        2.00000000 sec
d11       0.03000000 sec
DELTA     1.89999998 sec
TD0       1
    
```

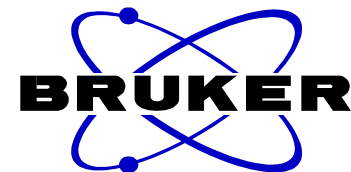
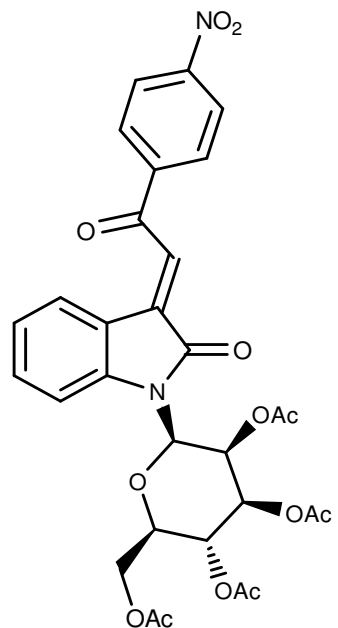
```

===== CHANNEL f1 =====
NUC1      13C
P1        10.00 usec
PL1       -1.00 dB
SFO1     62.9015280 MHz
    
```

```

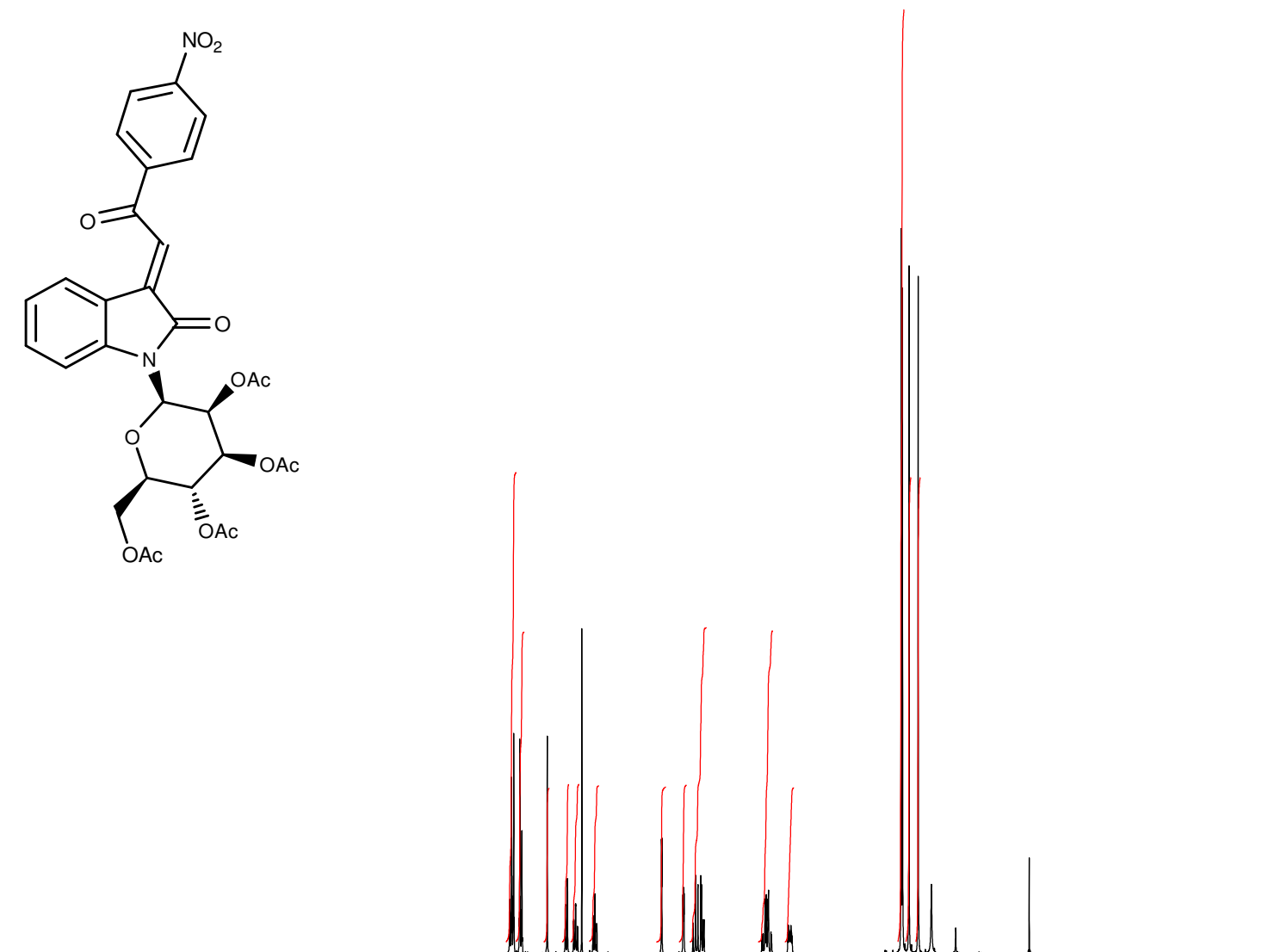
===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     70.00 usec
PL12      15.00 dB
PL13      15.00 dB
PL2       -2.50 dB
SFO2     250.1310005 MHz
SI        32768
SF        62.8952379 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
    
```

Kleeblatt DKP075 1H CDC13



NAME 110923.207  
EXPNO 10  
PROCNO 1  
Date\_ 20110923  
Time 8.38  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 5165.289 Hz  
FIDRES 0.078816 Hz  
AQ 6.3439350 sec  
RG 724  
DW 96.800 usec  
DE 10.00 usec  
TE 296.5 K  
D1 1.00000000 sec  
TD0 1

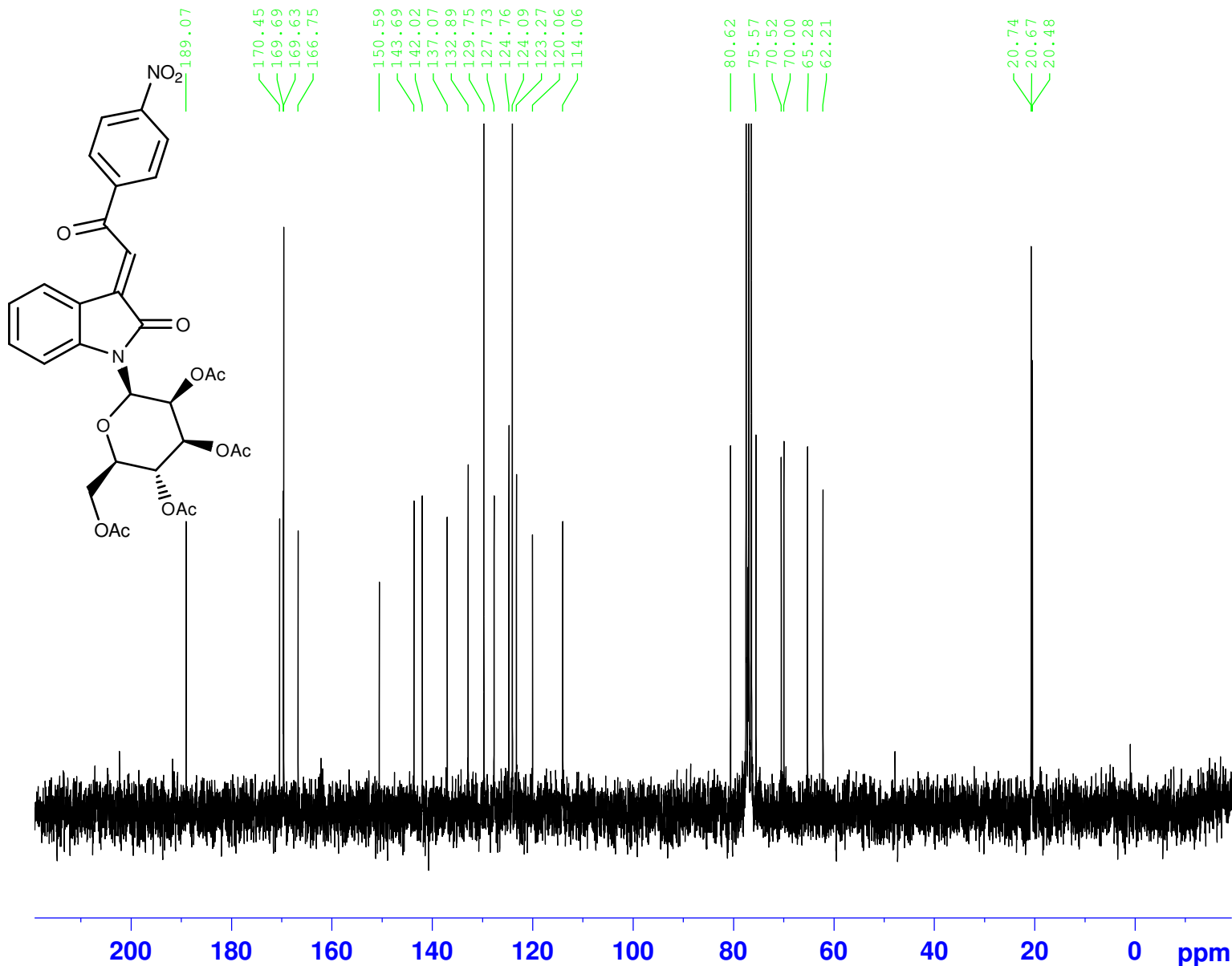
===== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 -2.50 dB  
SFO1 250.1315447 MHz  
SI 32768  
SF 250.1300019 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 ppm

3.03 2.00 0.99 1.02 1.02 1.01 1.00 1.01 2.03 2.01 1.00 6.02 3.00 3.00





```

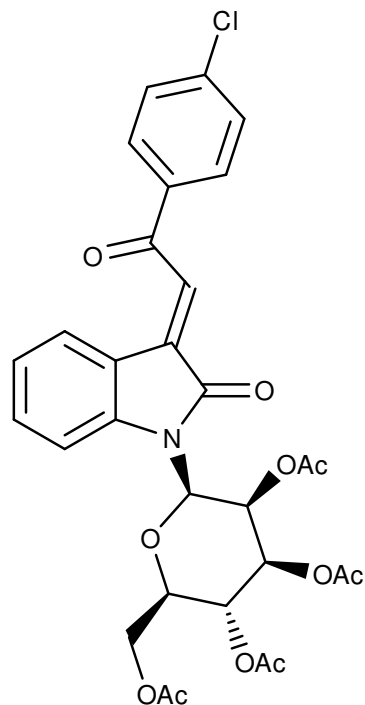
NAME          110923.207
EXPNO         11
PROCNO        1
Date_         20110923
Time          11.58
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       CDC13
NS            1024
DS            4
SWH           15000.000 Hz
FIDRES        0.228882 Hz
AQ            2.1845834 sec
RG            2050
DW            33.333 usec
DE            10.00 usec
TE            298.4 K
D1            2.00000000 sec
d11           0.03000000 sec
DELTA         1.89999998 sec
TD0           1
    
```

```

===== CHANNEL f1 =====
NUC1          13C
P1            10.00 usec
PL1           -1.00 dB
SFO1          62.9015280 MHz
    
```

```

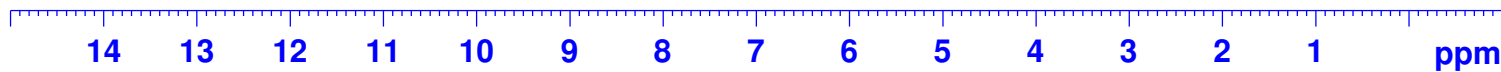
===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         70.00 usec
PL12          15.00 dB
PL13          15.00 dB
PL2           -2.50 dB
SFO2          250.1310005 MHz
SI            32768
SF            62.8952390 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```



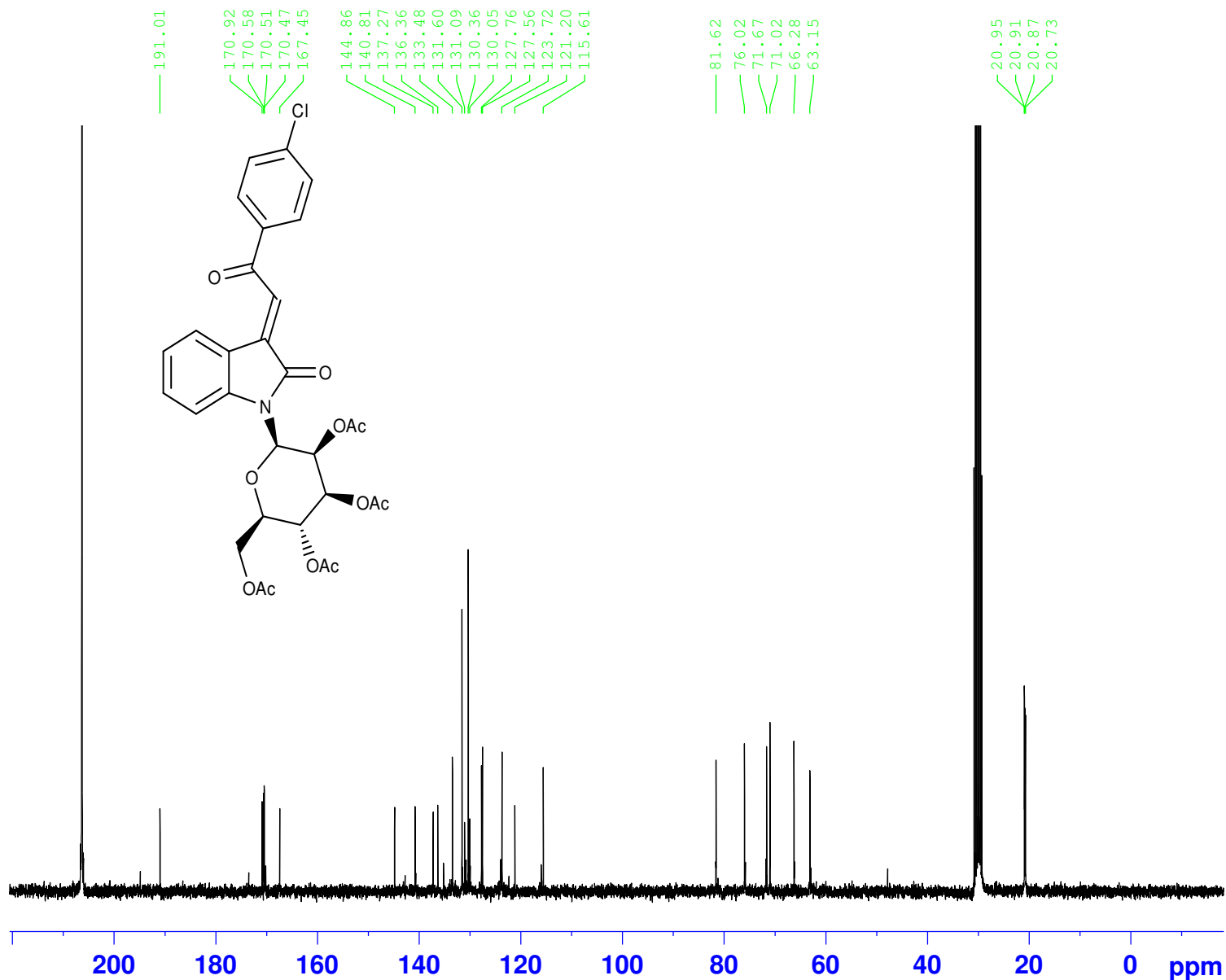
8.20  
8.12  
7.80  
7.73  
7.70  
7.66  
7.63  
7.47  
7.41  
7.07  
7.01  
6.21  
5.63  
5.62  
5.52  
5.49  
4.35  
4.27  
2.09  
2.08  
1.96  
1.79

NAME 120330.u317  
EXPNO 10  
PROCNO 1  
Date\_ 20120330  
Time 10.54  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT Acetone  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 90.5  
DW 80.800 usec  
DE 10.00 usec  
TE 298.2 K  
D1 1.00000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0.00 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz  
SI 32768  
SF 300.1300047 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



2.90  
1.00  
1.08  
2.04  
1.09  
1.08  
1.03  
1.03  
1.95  
3.10  
3.04  
3.09  
3.04  
3.09



```

NAME          120330.u316
EXPNO          11
PROCNO         1
Date_          20120331
Time           18.55
INSTRUM        spect
PROBHD         5 mm PABBO BB-
PULPROG        zgpg30
TD             65536
SOLVENT        Acetone
NS             1024
DS             4
SWH            18028.846 Hz
FIDRES         0.275098 Hz
AQ            1.8175818 sec
RG            2050
DW            27.733 usec
DE            10.00 usec
TE            298.2 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0           1
    
```

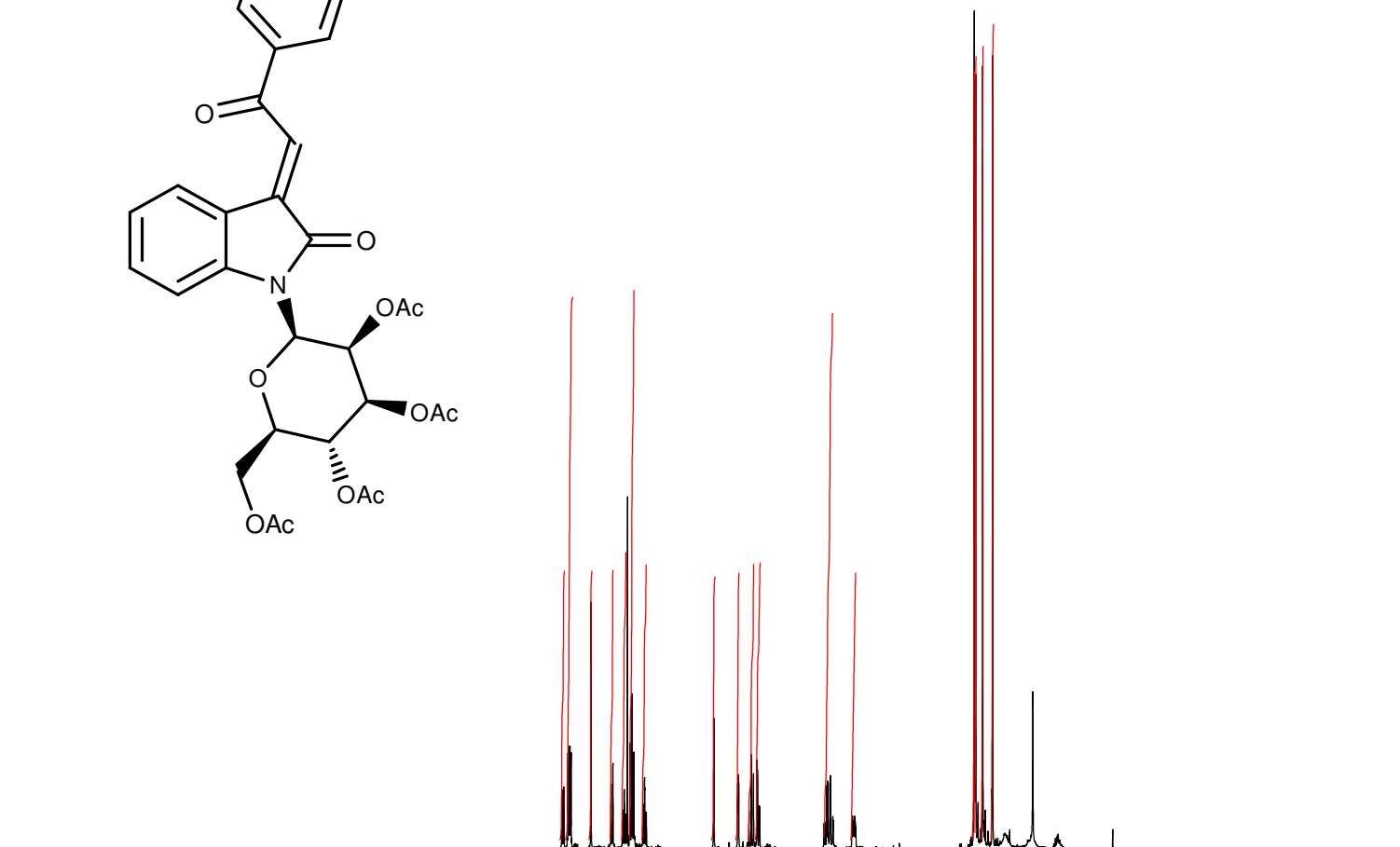
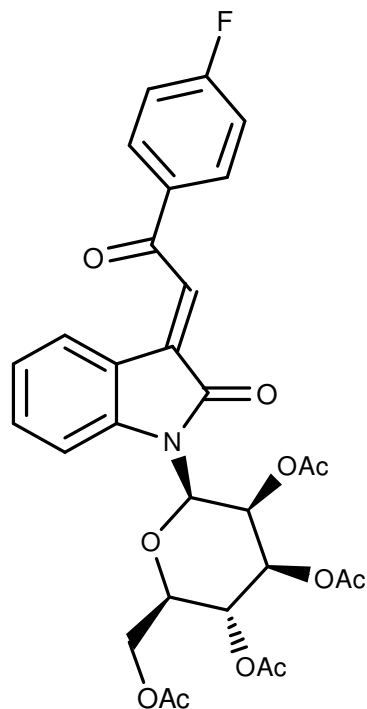
```

===== CHANNEL f1 =====
NUC1           13C
P1            10.00 usec
PL1           -0.50 dB
PL1W          33.25691986 W
SFO1          75.4752953 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2        waltz16
NUC2           1H
PCPD2          72.00 usec
PL2            0.00 dB
PL12           17.00 dB
PL13           17.00 dB
PL2W          11.25325108 W
PL12W         0.22453187 W
PL13W         0.22453187 W
SFO2          300.1312005 MHz
SI            32768
SF            75.4676628 MHz
WDW            EM
SSB            0
LB            1.00 Hz
GB            0
PC            1.40
    
```

Kleeblatt, DKP 165, CDC13, 1H

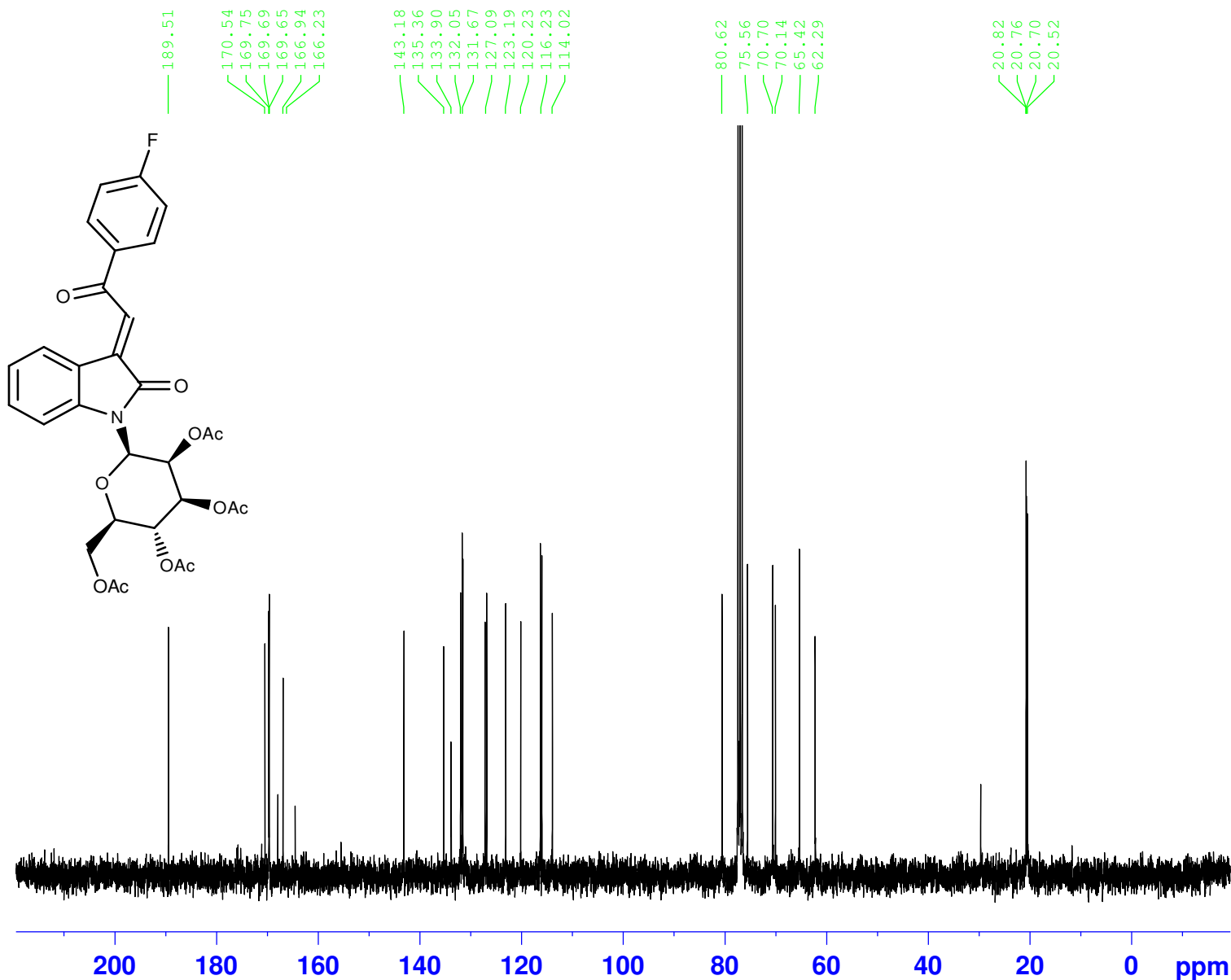
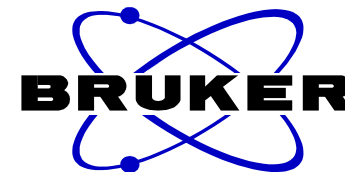


16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 ppm

1.00 2.01 1.00 1.05 1.09 2.07 1.03 0.98 1.00 1.04 1.03 2.01 1.00 3.05 3.02 2.99 3.04

```
NAME      110708.u337
EXPNO     10
PROCNO    1
Date_     20110709
Time      3.26
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDC13
NS         16
DS         2
SWH        6188.119 Hz
FIDRES     0.094423 Hz
AQ         5.2953587 sec
RG         128
DW         80.800 usec
DE         10.00 usec
TE         298.2 K
D1         1.00000000 sec
TD0        1
```

```
===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       0.00 dB
PL1W      11.25325108 W
SFO1      300.1318534 MHz
SI        32768
SF        300.1300090 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
```



```

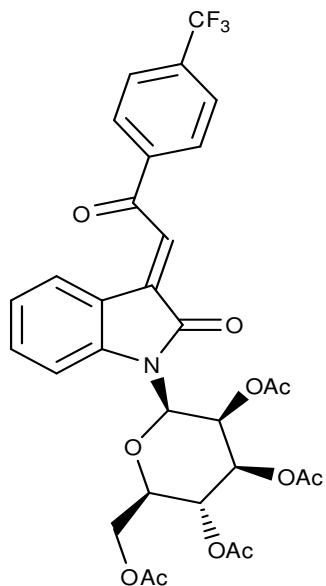
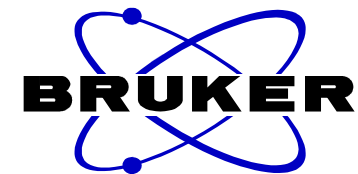
NAME          110708.u337
EXPNO         11
PROCNO        1
Date_         20110709
Time          4.34
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       CDC13
NS            1024
DS            4
SWH           18028.846 Hz
FIDRES        0.275098 Hz
AQ            1.8175818 sec
RG            2050
DW            27.733 usec
DE            10.00 usec
TE            298.2 K
D1            2.0000000 sec
D11           0.0300000 sec
TD0           1
    
```

```

===== CHANNEL f1 =====
NUC1          13C
P1            10.00 usec
PL1           -0.50 dB
PL1W          33.25691986 W
SFO1          75.4752953 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         72.00 usec
PL2           0.00 dB
PL12          17.00 dB
PL13          17.00 dB
PL2W          11.25325108 W
PL12W         0.22453187 W
PL13W         0.22453187 W
SFO2          300.1312005 MHz
SI            32768
SF            75.4677471 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```



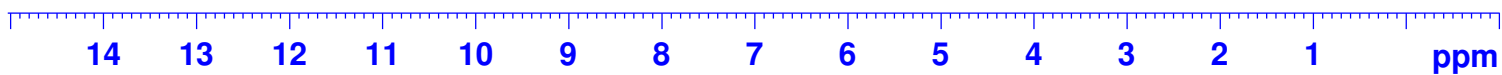
8.36  
8.33  
8.20  
8.17  
7.82  
7.80  
7.77  
7.51  
7.48  
7.36  
7.30  
7.06  
7.00  
5.97  
5.62  
5.42  
5.32  
4.35  
4.21  
3.93  
3.87  
2.12  
2.09  
1.99  
1.84

```

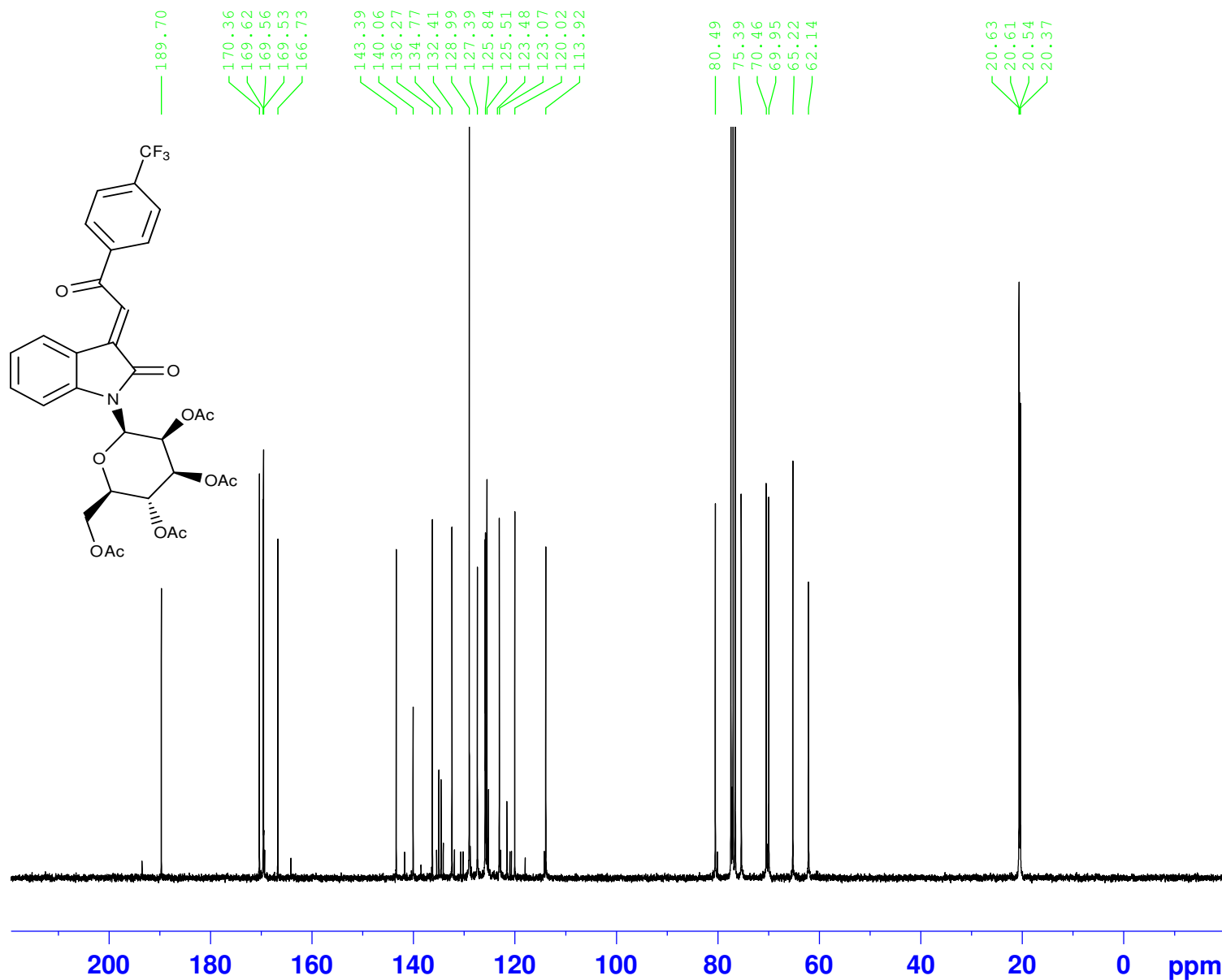
NAME      110630.u320
EXPNO     10
PROCNO    1
Date_     20110630
Time      12.05
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD        65536
SOLVENT   CDC13
NS        16
DS        2
SWH       6188.119 Hz
FIDRES    0.094423 Hz
AQ        5.2953587 sec
RG        144
DW        80.800 usec
DE        10.00 usec
TE        298.2 K
D1        1.0000000 sec
TD0       1
    
```

```

===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       0.00 dB
PL1W      11.25325108 W
SFO1      300.1318534 MHz
SI        32768
SF        300.1300108 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
    
```



1.02  
2.06  
0.99  
2.06  
1.09  
1.10  
1.07  
1.01  
1.02  
1.03  
1.05  
2.16  
1.07  
2.99  
3.10  
3.00  
3.09



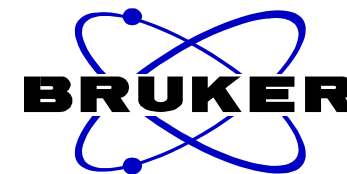
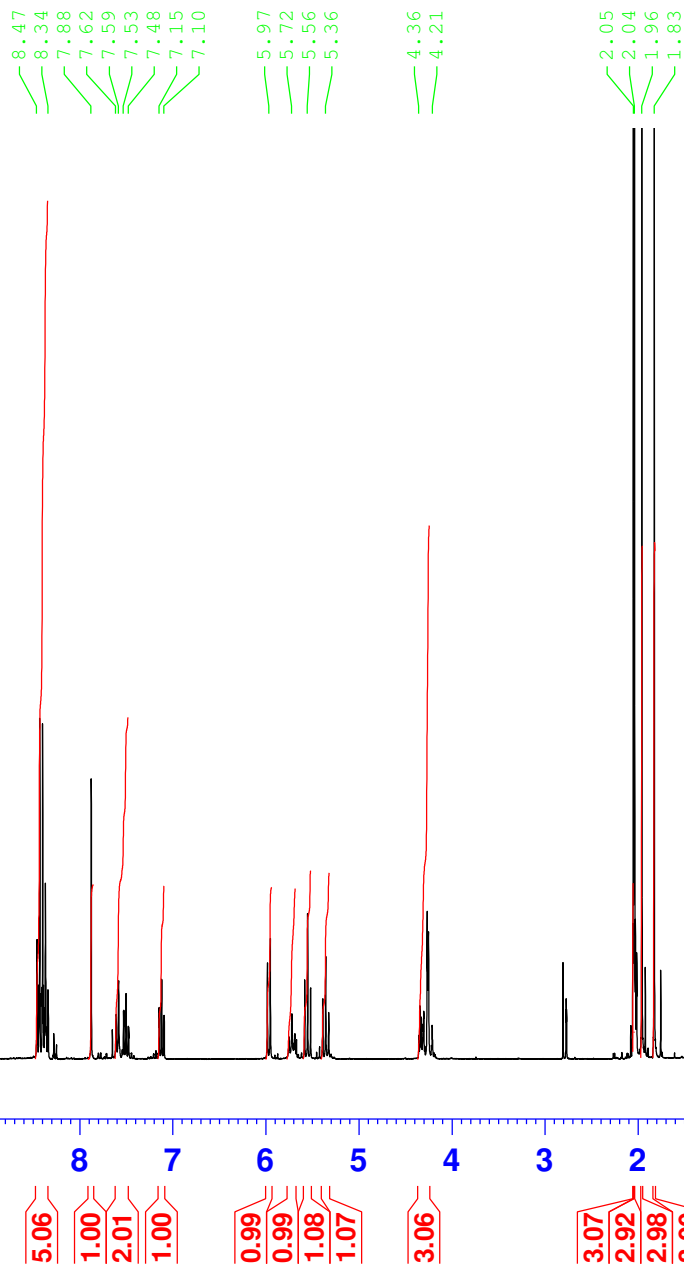
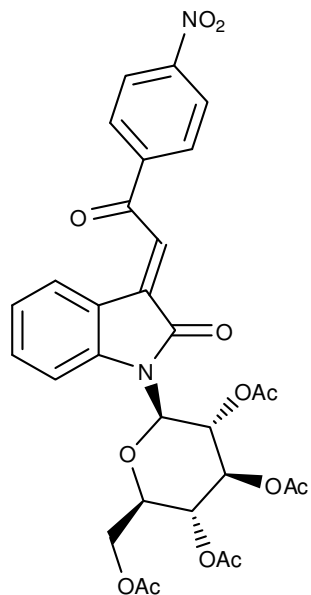
```

NAME          110708.u336
EXPNO         11
PROCNO        1
Date_         20110709
Time          2.29
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       CDC13
NS            3072
DS            4
SWH           18028.846 Hz
FIDRES        0.275098 Hz
AQ            1.8175818 sec
RG            2050
DW            27.733 usec
DE            10.00 usec
TE            298.2 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0           1

===== CHANNEL f1 =====
NUC1          13C
P1            10.00 usec
PL1           -0.50 dB
PL1W          33.25691986 W
SFO1          75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         72.00 usec
PL2           0.00 dB
PL12          17.00 dB
PL13          17.00 dB
PL2W          11.25325108 W
PL12W         0.22453187 W
PL13W         0.22453187 W
SFO2          300.1312005 MHz
SI            32768
SF            75.4677572 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```

Kleeblatt DKP183 1H Aceton

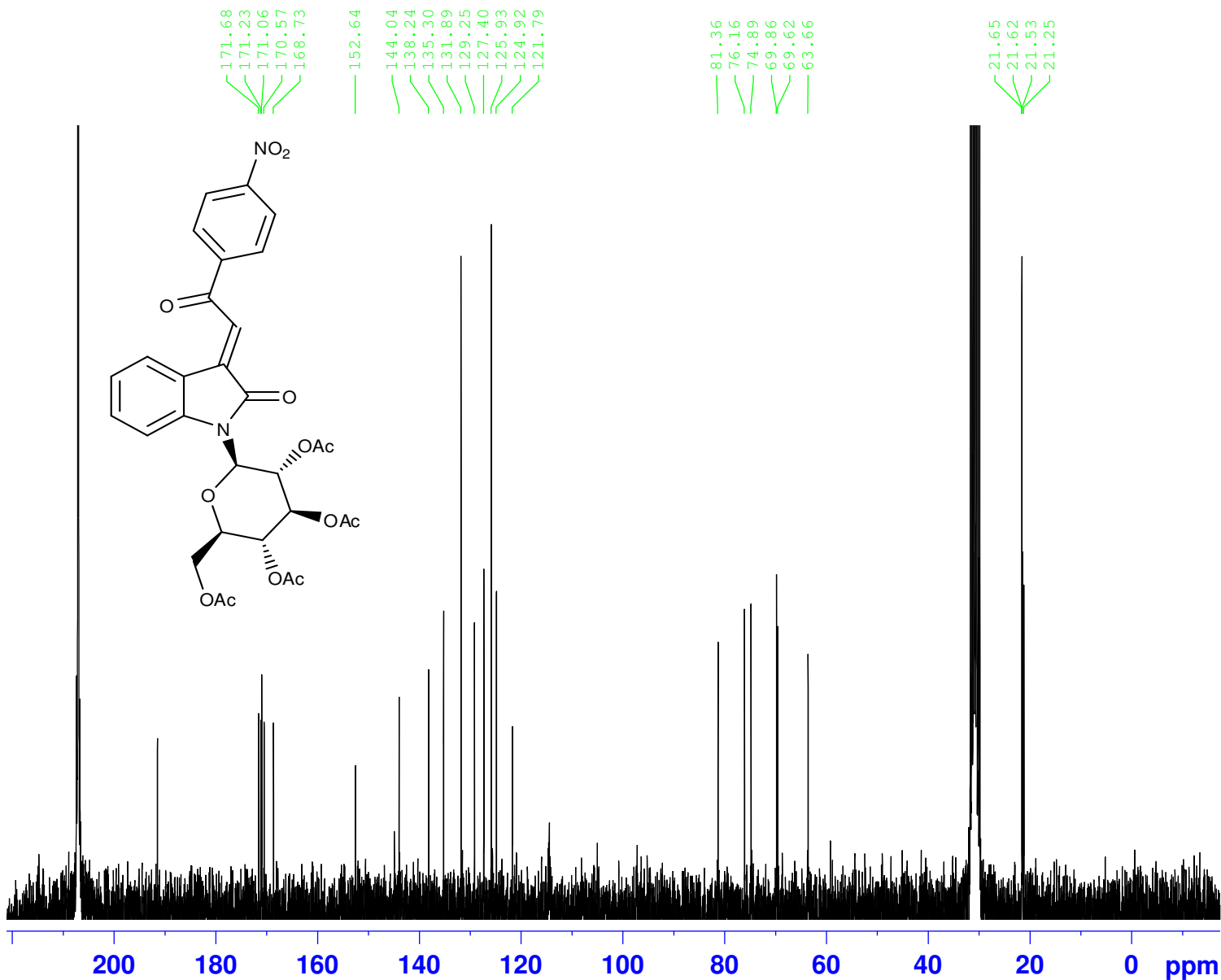


NAME 111212.u314  
EXPNO 10  
PROCNO 1  
Date\_ 20111212  
Time 12.58  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT Acetone  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 161  
DW 80.800 usec  
DE 10.00 usec  
TE 296.5 K  
D1 1.00000000 sec  
TD0 1

===== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0.00 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz  
SI 32768  
SF 300.1300060 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



Kleeblatt DKP183 13C Aceton



152.64  
144.04  
138.24  
135.30  
131.89  
129.25  
127.40  
125.93  
124.92  
121.79

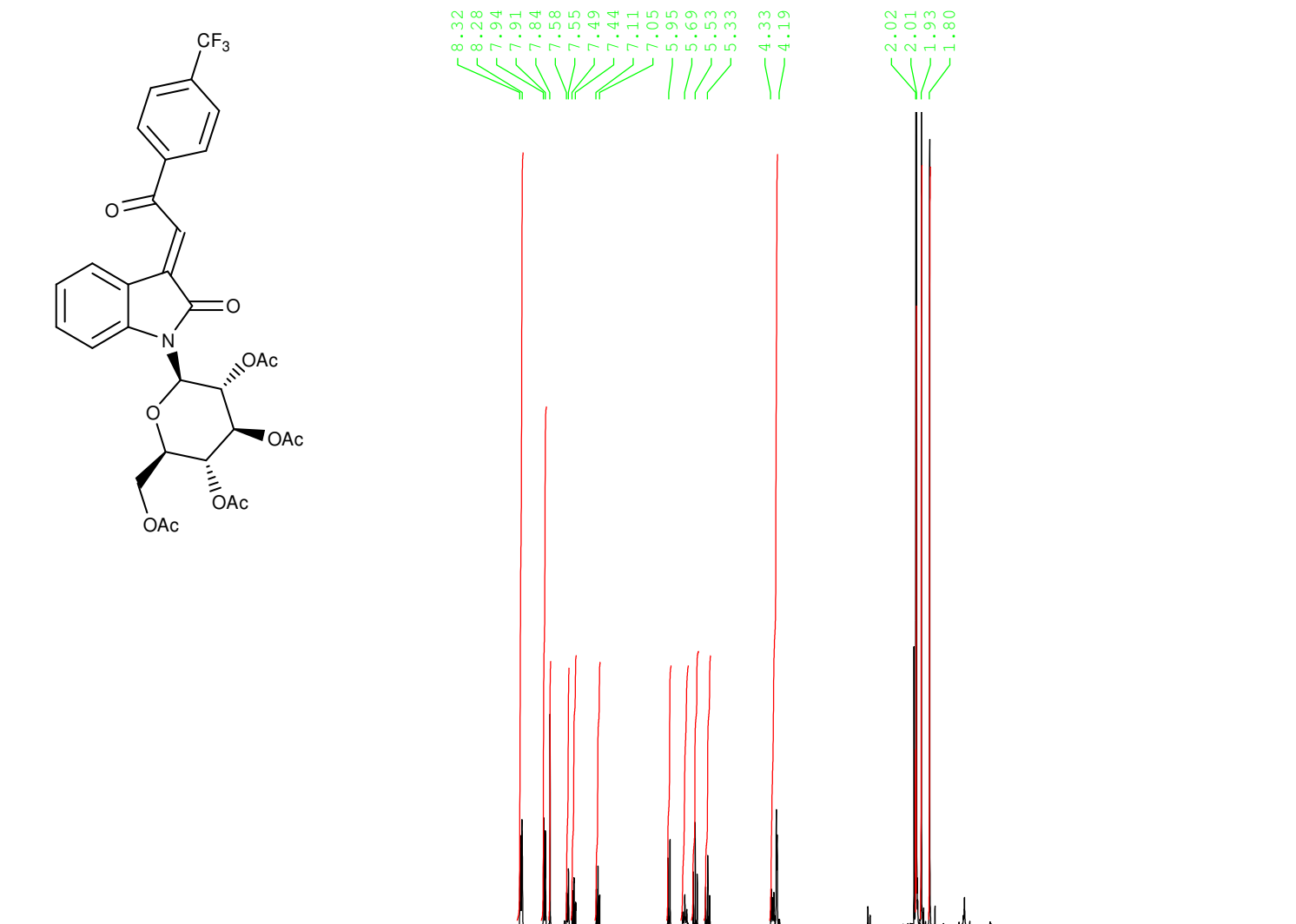
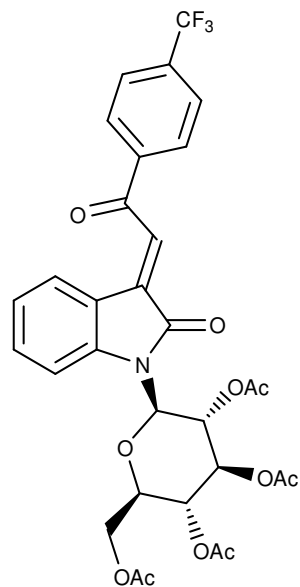
81.36  
76.16  
74.89  
69.86  
63.66

21.65  
21.62  
21.53  
21.25

NAME 111212.212  
EXPNO 10  
PROCNO 1  
Date\_ 20111213  
Time 2.08  
INSTRUM spect  
PROBHD 5 mm QNP 1H/13  
PULPROG zgpg30  
TD 65536  
SOLVENT Acetone  
NS 1024  
DS 4  
SWH 15000.000 Hz  
FIDRES 0.228882 Hz  
AQ 2.1845834 sec  
RG 2050  
DW 33.333 usec  
DE 10.00 usec  
TE 673.2 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 10.20 usec  
PL1 0.00 dB  
SFO1 62.9015280 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 70.00 usec  
PL12 14.00 dB  
PL13 14.00 dB  
PL2 -3.00 dB  
SFO2 250.1310005 MHz  
SI 32768  
SF 62.8951195 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40



8.32  
8.28  
7.94  
7.91  
7.84  
7.58  
7.55  
7.49  
7.44  
7.11  
7.05  
5.95  
5.69  
5.53  
5.33  
4.33  
4.19  
2.02  
2.01  
1.93  
1.80

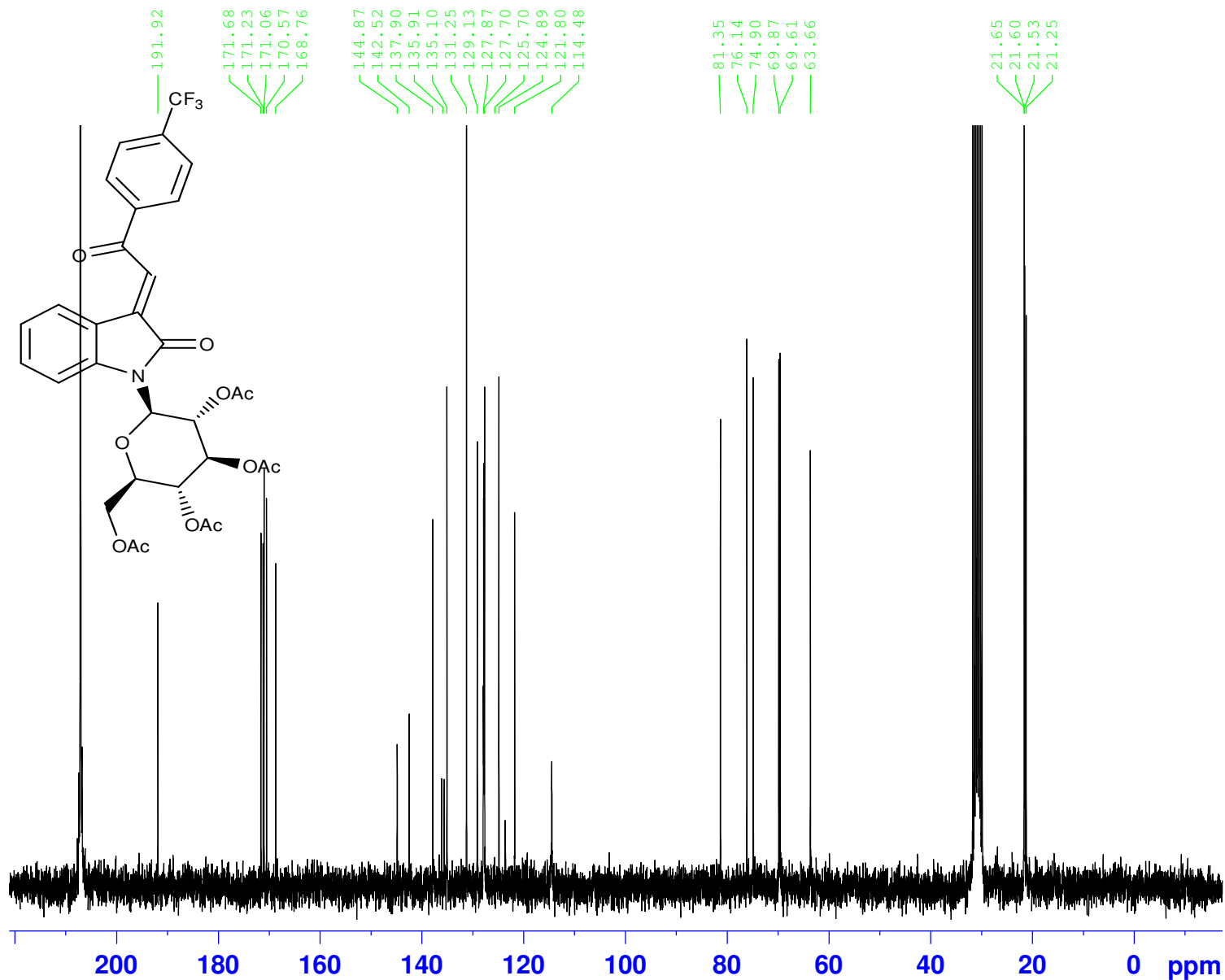
3.04  
2.04  
1.04  
1.01  
1.05  
1.03  
1.01  
1.01  
1.07  
1.05  
3.04  
2.97  
2.95  
3.04  
3.00

```

NAME      111213.u317
EXPNO     10
PROCNO    1
Date_     20111213
Time      13.33
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   Acetone
NS         16
DS         2
SWH       6188.119 Hz
FIDRES    0.094423 Hz
AQ         5.2953587 sec
RG         90.5
DW         80.800 usec
DE         10.00 usec
TE         296.3 K
D1         1.00000000 sec
TD0        1
    
```

```

===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       0.00 dB
PL1W      11.25325108 W
SFO1      300.1318534 MHz
SI        32768
SF        300.1300161 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
    
```



```

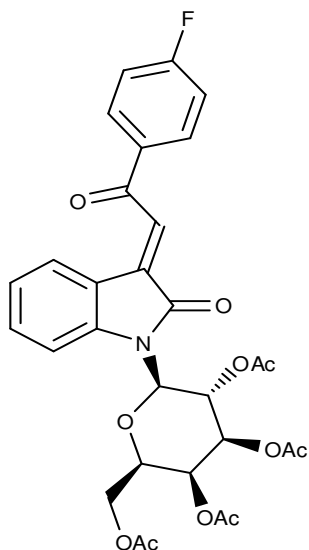
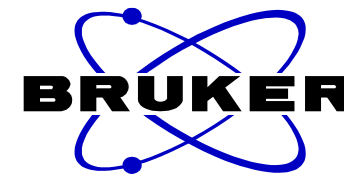
NAME          111213.213
EXPNO         10
PROCNO        1
Date_         20111214
Time          0.08
INSTRUM       spect
PROBHD        5 mm QNP 1H/13
PULPROG       zgpg30
TD            65536
SOLVENT       Acetone
NS            1024
DS            4
SWH           15000.000 Hz
FIDRES        0.228882 Hz
AQ            2.1845834 sec
RG            2050
DW            33.333 usec
DE            10.00 usec
TE            673.2 K
D1            2.00000000 sec
d11           0.03000000 sec
DELTA         1.89999998 sec
TD0           1
    
```

```

===== CHANNEL f1 =====
NUC1          13C
P1            10.20 usec
PL1           0.00 dB
SFO1         62.9015280 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         70.00 usec
PL12          14.00 dB
PL13          14.00 dB
PL2           -3.00 dB
SFO2         250.1310005 MHz
SI            32768
SF           62.8951203 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```



8.25  
8.20  
7.84  
7.61  
7.48  
7.39  
7.33  
7.13  
7.07  
5.97  
5.82  
5.61  
5.46  
4.60  
4.56  
4.32  
4.11  
2.31  
1.98  
1.96  
1.87

```

NAME      111216.u317
EXPNO     10
PROCNO    1
Date_     20111216
Time      14.09
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD        65536
SOLVENT   Acetone
NS        16
DS        2
SWH       6188.119 Hz
FIDRES    0.094423 Hz
AQ        5.2953587 sec
RG        50.8
DW        80.800 usec
DE        10.00 usec
TE        298.2 K
D1        1.00000000 sec
TD0       1
    
```

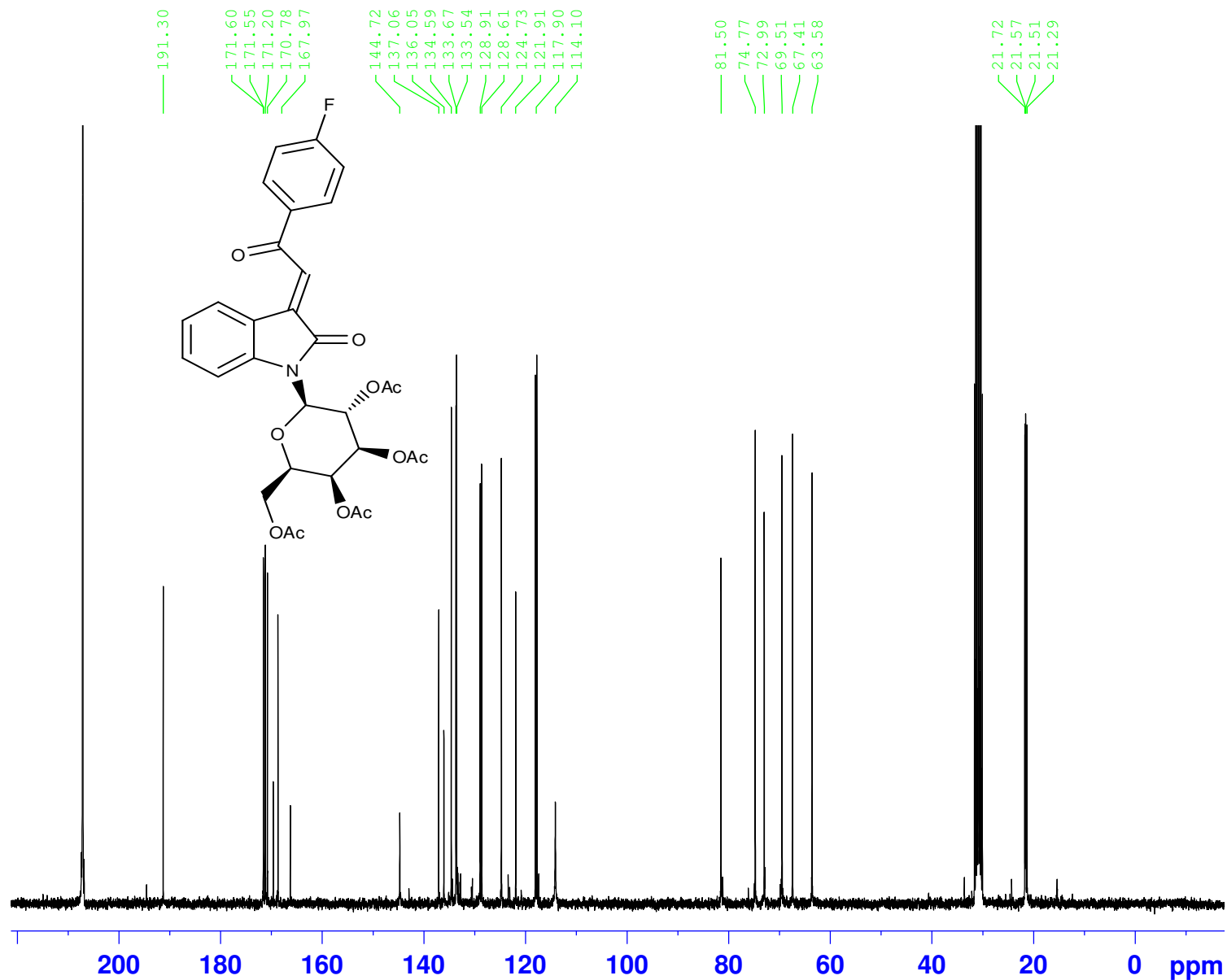
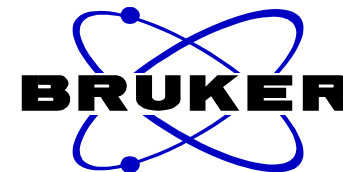
```

===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       0.00 dB
PL1W      11.25325108 W
SFO1      300.1318534 MHz
SI        32768
SF        300.1300062 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
    
```



14 13 12 11 10 9 8 7 6 5 4 3 2 1 ppm

3.09  
1.04  
2.02  
2.01  
1.03  
1.01  
0.95  
1.01  
1.00  
1.01  
1.04  
1.03  
3.09  
6.05  
2.98



```

NAME          111216.u317
EXPNO         12
PROCNO        1
Date_         20111218
Time_         9.15
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       Acetone
NS            2048
DS            4
SWH           18028.846 Hz
FIDRES        0.275098 Hz
AQ            1.8175818 sec
RG            2050
DW            27.733 usec
DE            10.00 usec
TE            298.2 K
D1            2.0000000 sec
D11           0.0300000 sec
TD0           1
    
```

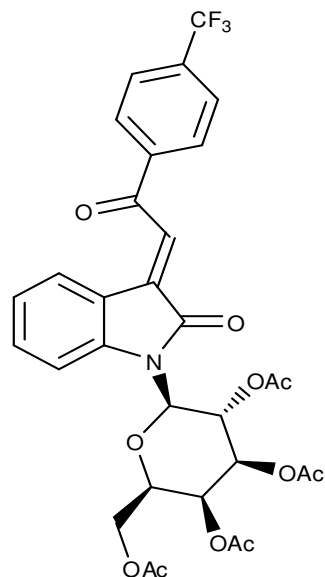
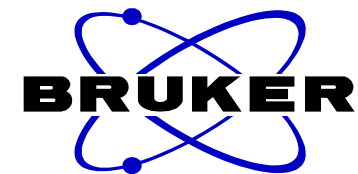
```

===== CHANNEL f1 =====
NUC1          13C
P1            10.00 usec
PL1           -0.50 dB
PL1W          33.25691986 W
SFO1          75.4752953 MHz
    
```

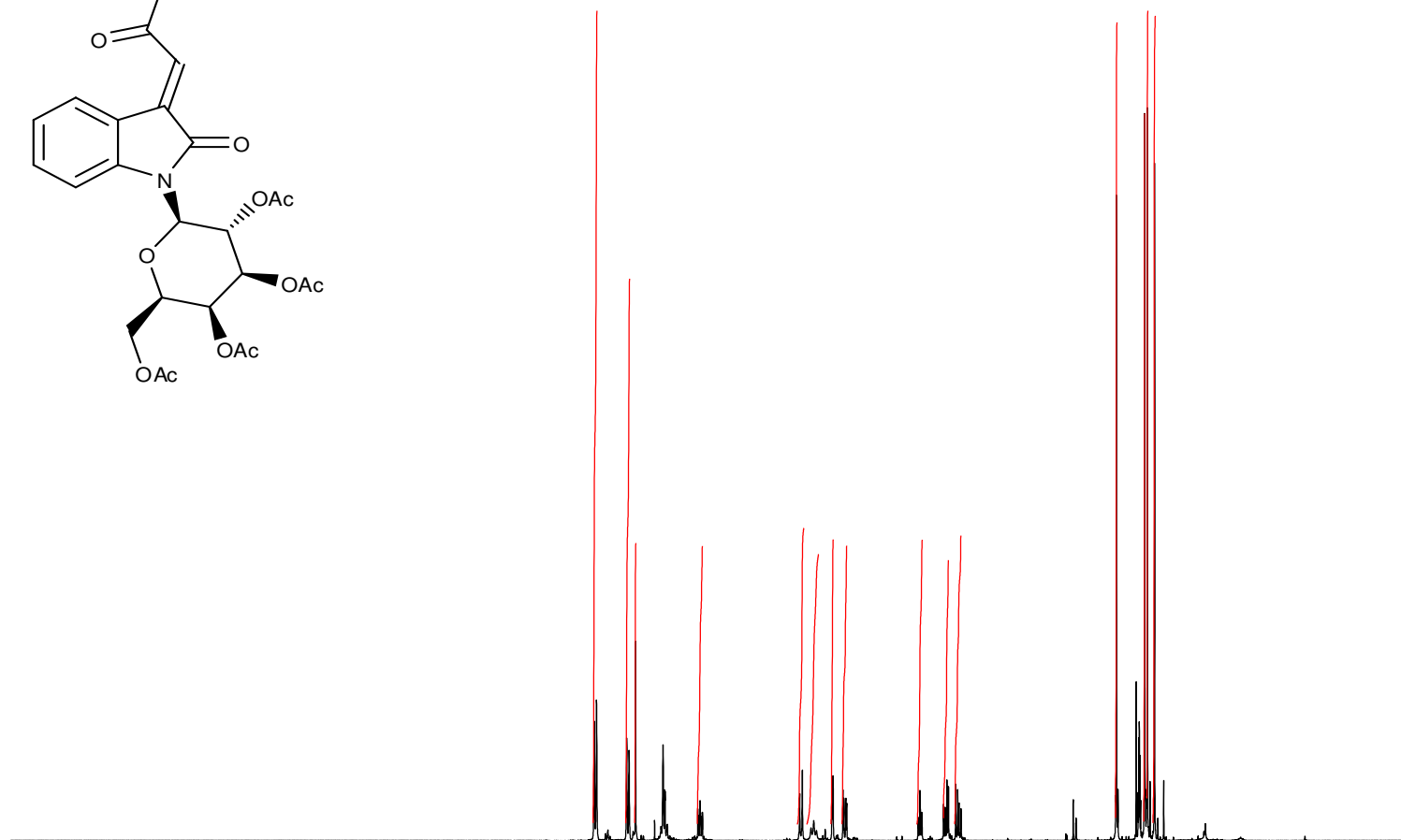
```

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         72.00 usec
PL2           0.00 dB
PL12          17.00 dB
PL13          17.00 dB
PL2W          11.25325108 W
PL12W         0.22453187 W
PL13W         0.22453187 W
SFO2          300.1312005 MHz
SI            32768
SF            75.4676087 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40
    
```

Kleeblatt DKP181 1H Aceton



8.36  
8.33  
7.98  
7.95  
7.88  
7.57  
7.51  
7.16  
7.10  
5.96  
5.81  
5.60  
5.46  
4.61  
4.56  
4.31  
4.11  
2.31  
1.98  
1.95  
1.87

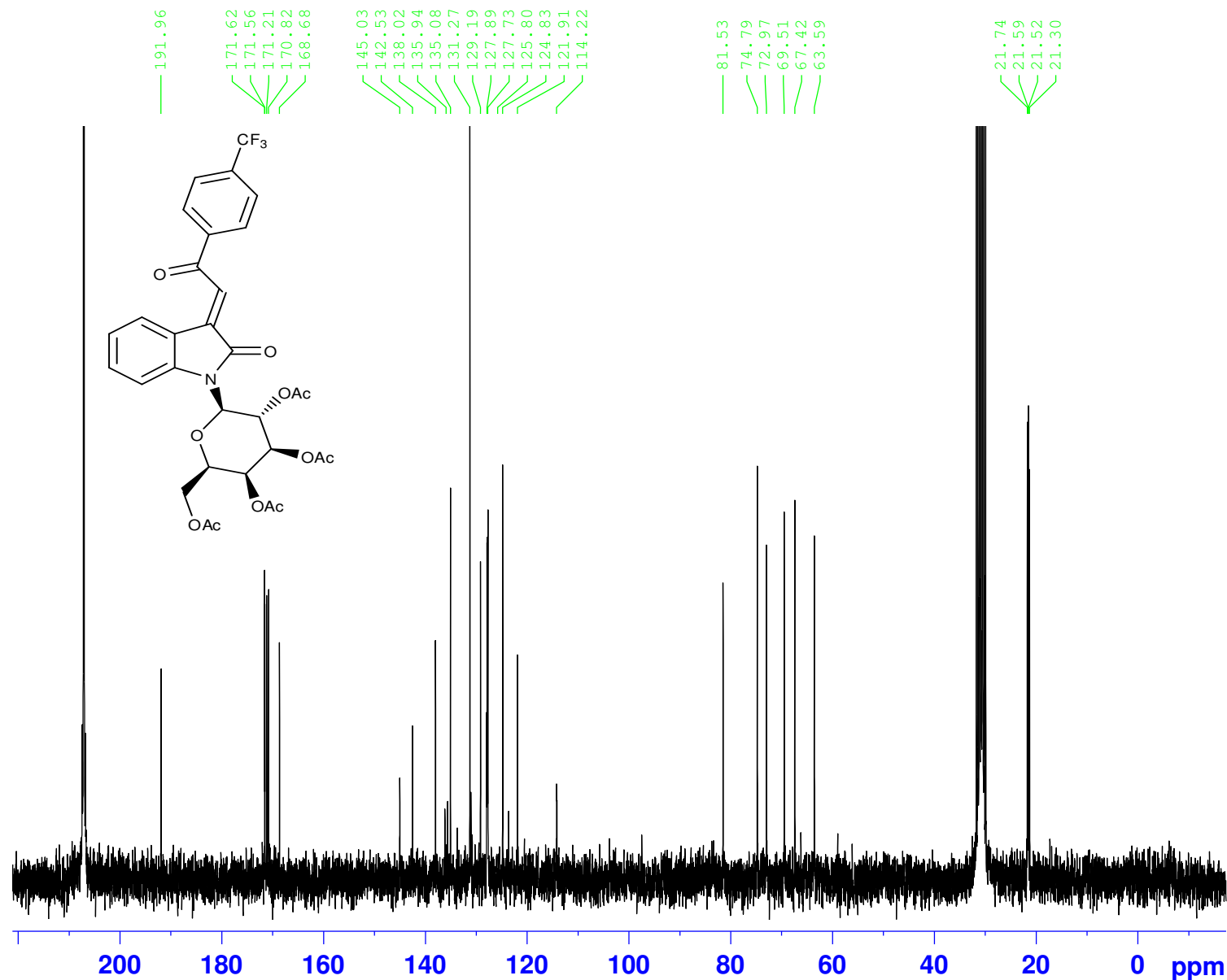


14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 ppm

3.06  
2.06  
1.07  
1.05  
1.10  
1.00  
1.06  
1.04  
1.06  
1.09  
1.09  
3.02  
2.99  
3.05  
3.00

NAME 111212.u313  
EXPNO 10  
PROCNO 1  
Date\_ 20111212  
Time 12.47  
INSTRUM spect  
PROBHD 5 mm PABBO BB-  
PULPROG zg30  
TD 65536  
SOLVENT Acetone  
NS 16  
DS 2  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
AQ 5.2953587 sec  
RG 128  
DW 80.800 usec  
DE 10.00 usec  
TE 296.6 K  
D1 1.00000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 10.00 usec  
PL1 0.00 dB  
PL1W 11.25325108 W  
SFO1 300.1318534 MHz  
SI 32768  
SF 300.1300063 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



```

NAME          111212.211
EXPNO          10
PROCNO         1
Date_          20111213
Time           0.33
INSTRUM        spect
PROBHD         5 mm QNP 1H/13
PULPROG        zgpg30
TD             65536
SOLVENT        Acetone
NS             1024
DS             4
SWH            15000.000 Hz
FIDRES         0.228882 Hz
AQ            2.1845834 sec
RG             2050
DW            33.333 usec
DE            10.00 usec
TE             673.2 K
D1            2.0000000 sec
d11           0.0300000 sec
DELTA         1.89999999 sec
TD0            1
    
```

```

===== CHANNEL f1 =====
NUC1           13C
P1             10.20 usec
PL1            0.00 dB
SFO1          62.9015280 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2        waltz16
NUC2           1H
PCPD2          70.00 usec
PL12           14.00 dB
PL13           14.00 dB
PL2            -3.00 dB
SFO2          250.1310005 MHz
SI             32768
SF            62.8951193 MHz
WDW            EM
SSB            0
LB             1.00 Hz
GB             0
PC             1.40
    
```