

10.1071/CH13382\_AC

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Australian Journal of Chemistry 2014, 67(2), 295-301

**A Simple and Direct Synthesis of 3-Methylene-1,4-diarylazetid-2-ones and (*E*)-3-Arylidene-1-phenylazetid-2-ones Using Baylis–Hillman Derivatives**

Synthesis of  $\beta$ -lactams

M. Bakthadoss, J. Srinivasan, and R. Selvakumar

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## **Supplementary Material**

## Supplementary Material

### **A Simple and Direct Synthesis of 3-Methylene-1,4-diarylazetid-2-ones and (*E*)-3-Arylidene-1-phenylazetid-2-ones Using Baylis–Hillman Derivatives**

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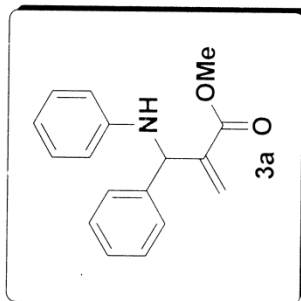
<sup>b</sup>Dept. of Organic Chemistry, University of Madras, Guindy Campus, Chennai 600 025, India

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7.389  
7.365  
7.344  
7.318  
7.305  
7.296  
7.285  
7.187  
7.162  
7.136  
6.746  
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6.697  
6.593  
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6.392  
5.967  
5.417  
4.157  
3.707

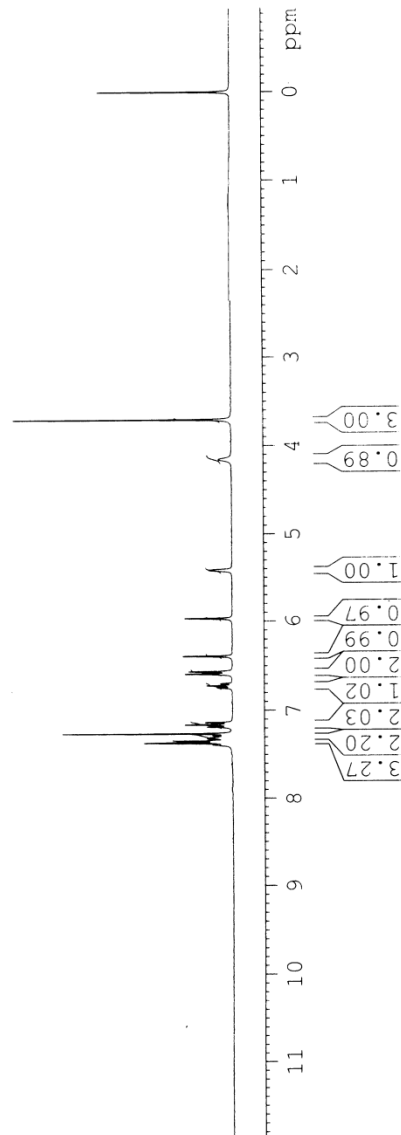


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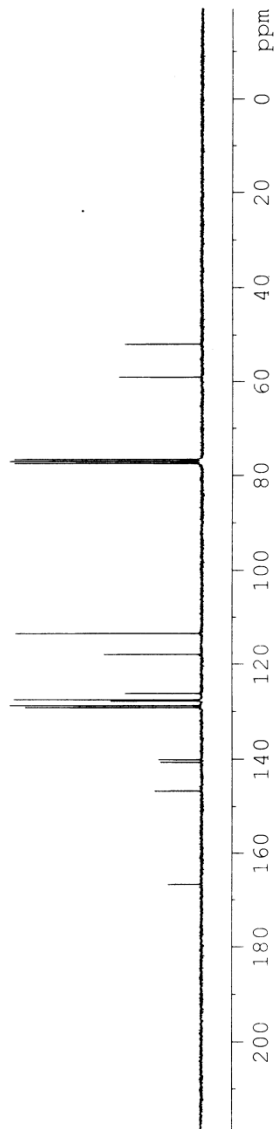
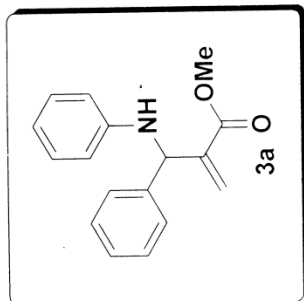
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TDO        1

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PL1        -2.00 dB
SFO1       75.4752953 MHz

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PCPD2     80.00 usec
PL2        0.00 dB
PL12      16.19 dB
PL13      16.00 dB
SFO2       300.1312005 MHz

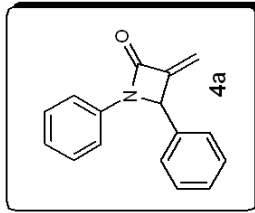
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140.13  
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128.77  
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126.18  
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77.03  
76.61  
58.99  
51.90

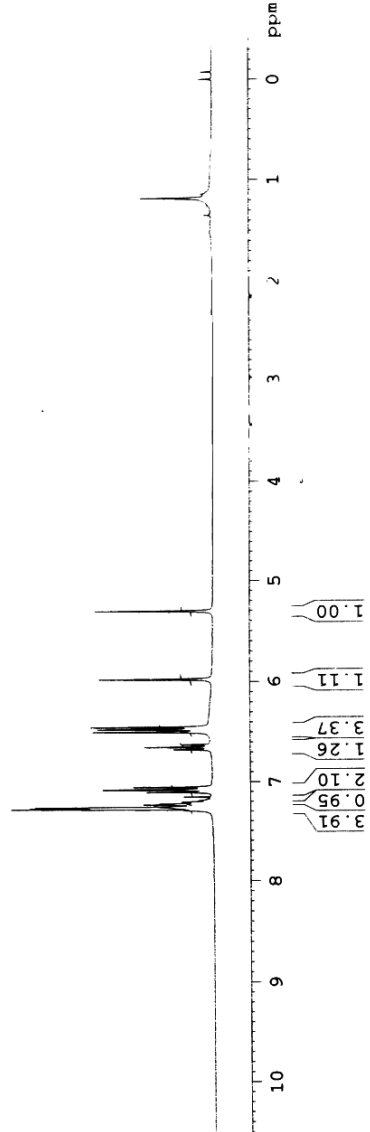




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7.268  
7.259  
7.240  
7.234  
7.225  
7.214  
7.209  
7.205  
7.154  
7.105  
7.080  
7.078  
7.053  
6.675  
6.650  
6.626  
6.498  
6.473  
6.450  
5.976  
5.306



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PROG zgpg30  
PROCNO 5536  
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M3 2  
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FIDRES 0.094190 Hz  
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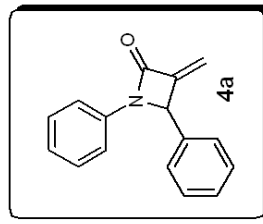
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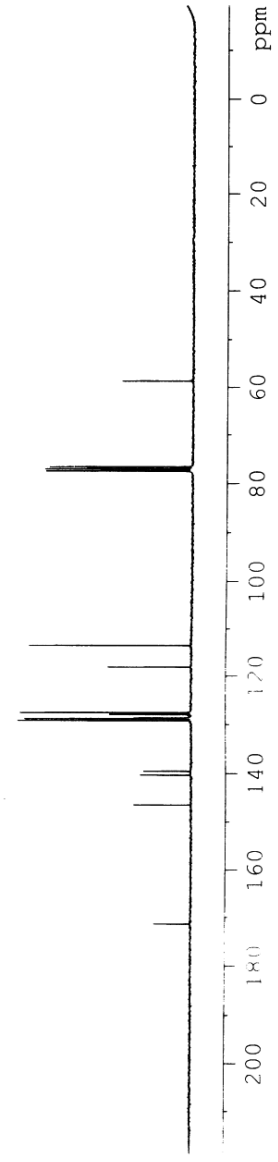
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NUC2 1H  
PCPD2 80.00 usec  
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PL12 16.19 dB  
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58.65  
76.61  
77.04  
77.46  
113.57  
118.16  
127.59  
127.95  
128.68  
128.84  
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139.55  
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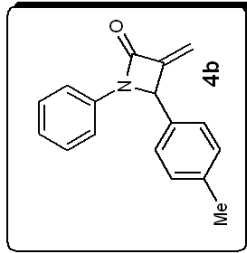
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FIDRES 0.094190 Hz  
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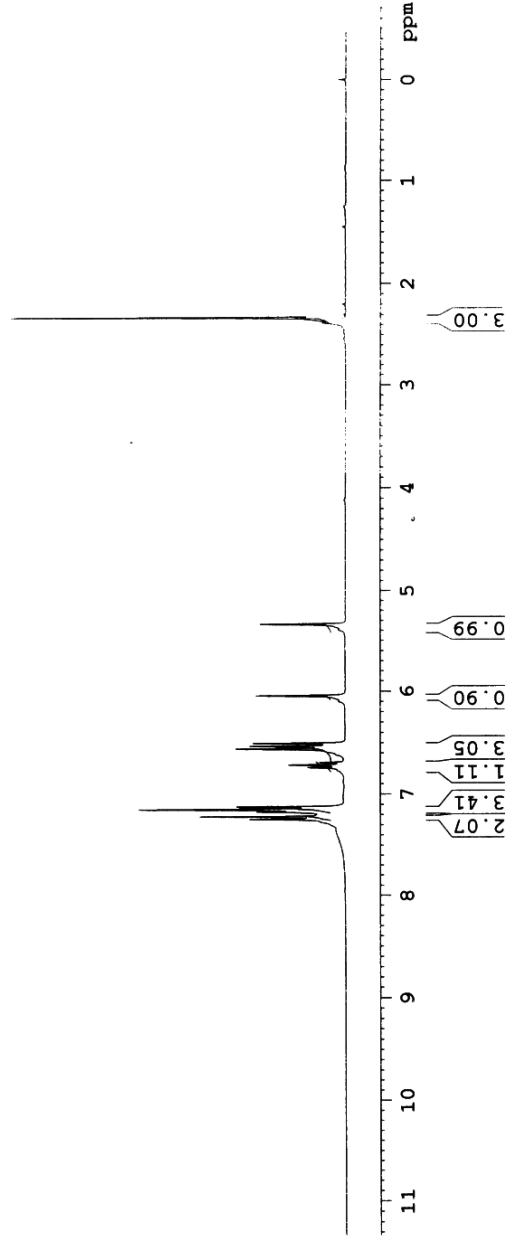
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SSB 0  
GB 0.30 Hz  
BR 0  
LB 1.00

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7.220  
7.174  
7.167  
7.150  
7.124  
6.740  
6.716  
6.691  
6.559  
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6.505  
6.044  
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2.328





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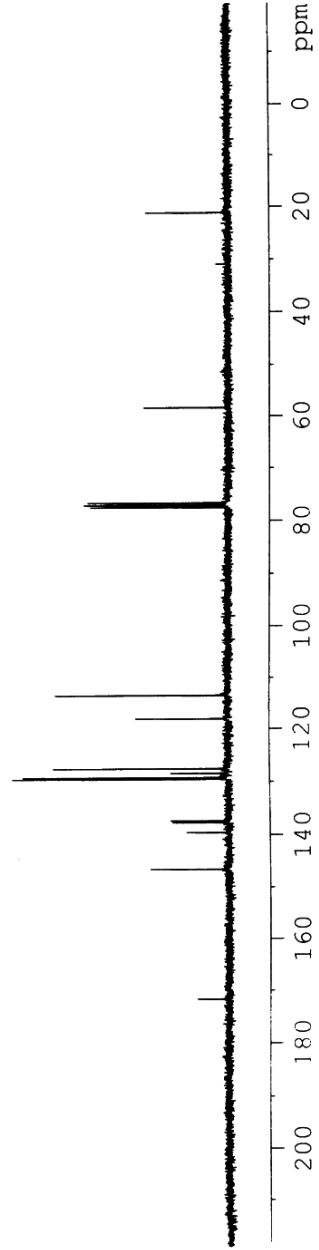
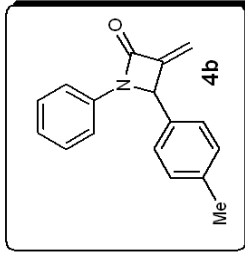
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SOLVENT CDCl3  
NS 71  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 574.7  
DW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 8.10 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2  
PCPDZ 60.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
SFO2 300.1312005 MHz

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171.67  
146.58  
139.61  
137.72  
137.39  
129.54  
129.23  
128.43  
127.55  
118.06  
113.53  
77.49  
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76.65  
58.35  
21.14







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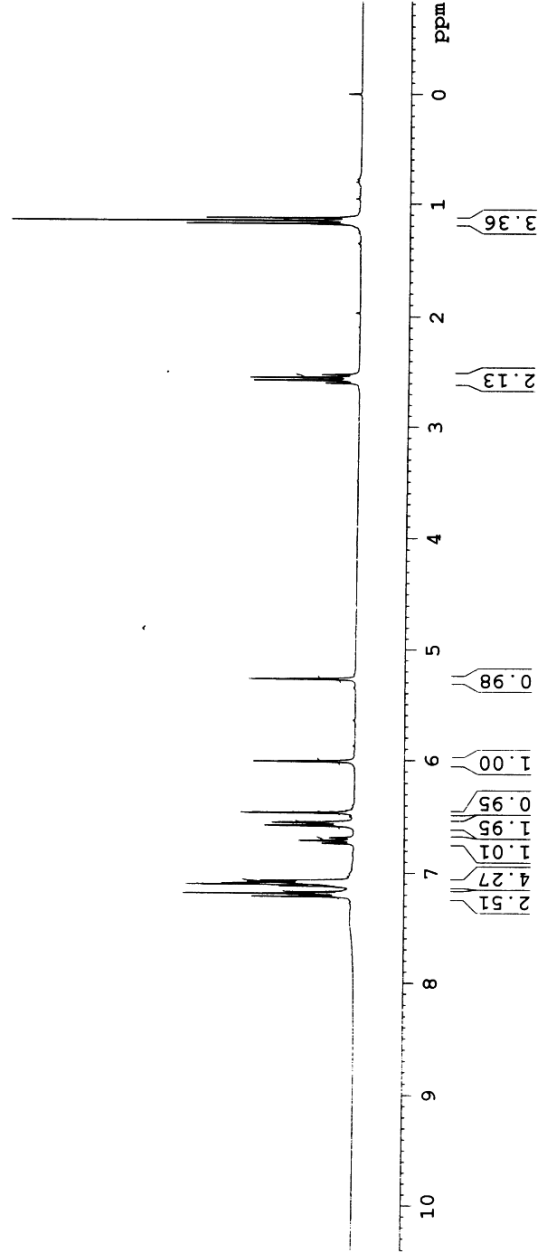
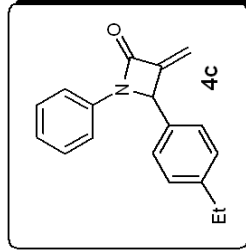
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SOLVENT CDCl3  
NS 16  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 228.1  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
D1 1.0000000 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz  
F2 - Processing parameters  
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SF 300.1300329 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00

7.214  
7.187  
7.121  
7.106  
7.096  
7.093  
7.079  
7.068  
6.733  
6.708  
6.684  
6.574  
6.548  
6.463  
6.010  
5.268

2.597  
2.572  
2.547  
2.521

1.176  
1.151  
1.126





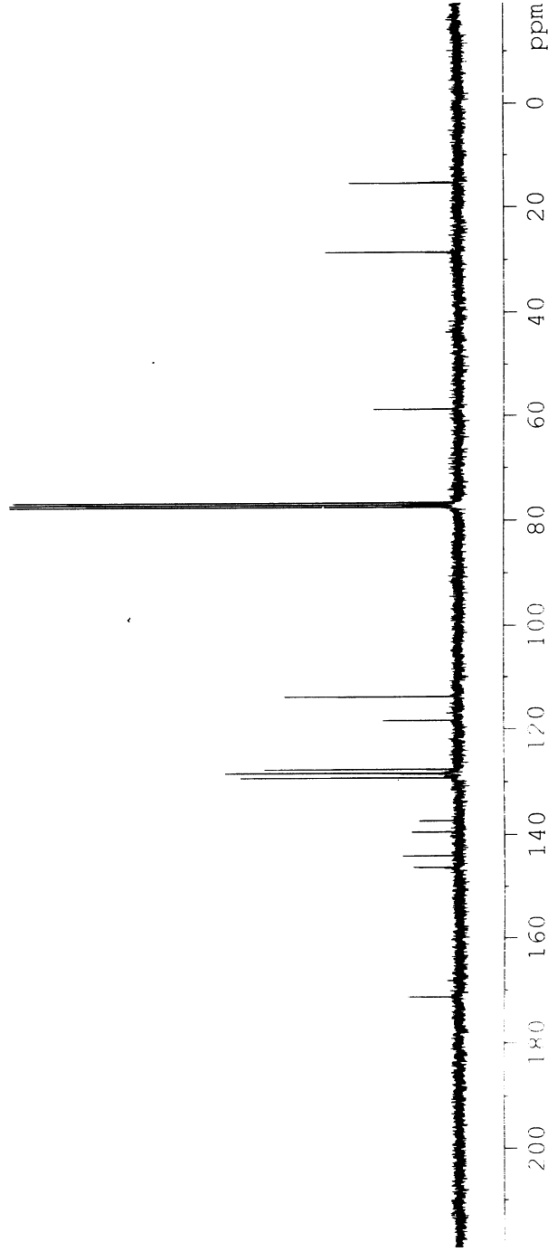
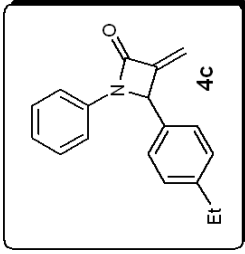
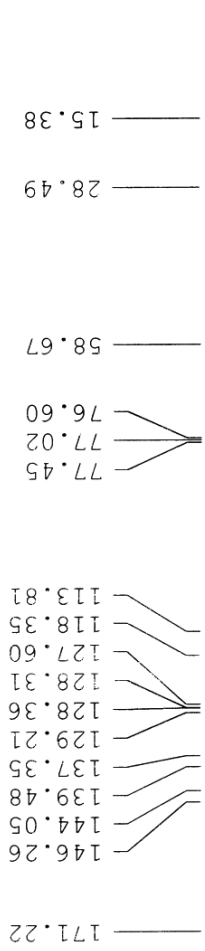
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TD 65536  
SOLVENT CDCl3  
NS 753  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 574.7  
DW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.0000000 sec  
d11 0.0300000 sec  
DELTA 1.8999998 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 8.10 usec  
PL1 -2.00 dB  
SF01 75.4752953 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
SF02 300.1312005 MHz

F2 - Processing parameters  
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PC 1.40





Current Data Parameters  
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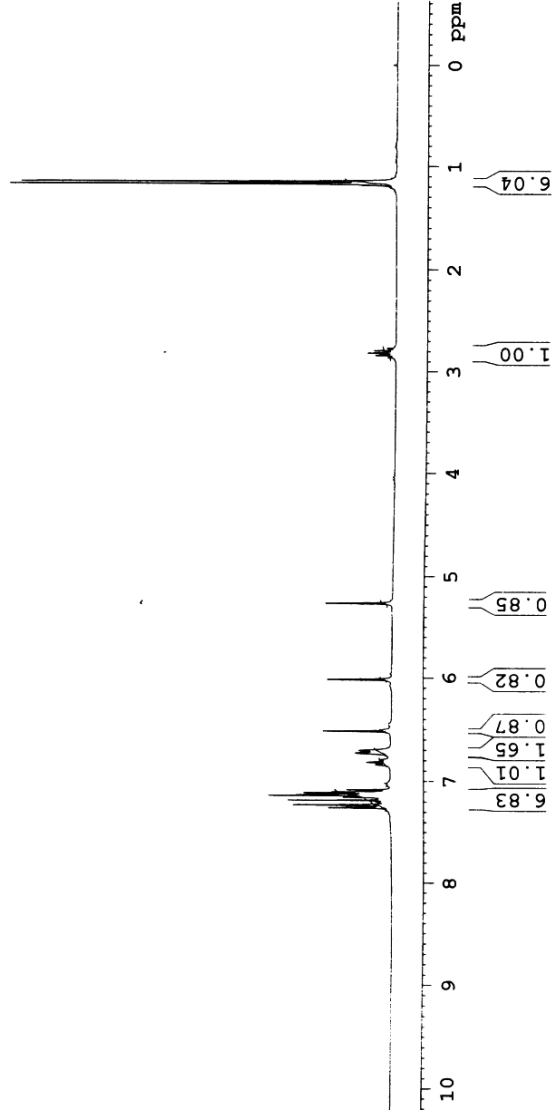
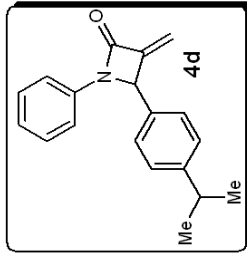
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FIDRES 0.094190 Hz  
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RG 456.1  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
DI 1.00000000 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz

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SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00

2.885  
2.862  
2.839  
2.816  
2.793  
2.770  
2.747  
1.170  
1.147

7.256  
7.229  
7.154  
7.137  
7.130  
7.110  
7.102  
7.081  
6.841  
6.816  
6.792  
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5.262





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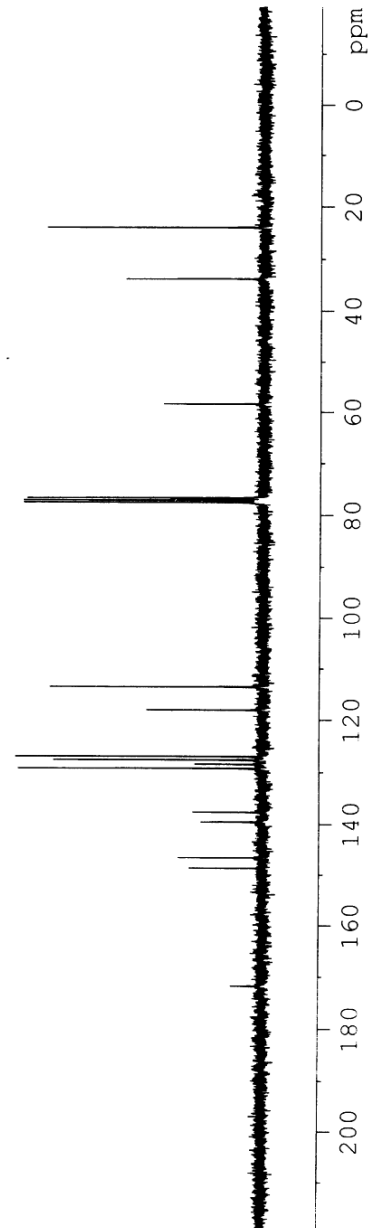
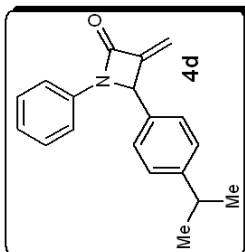
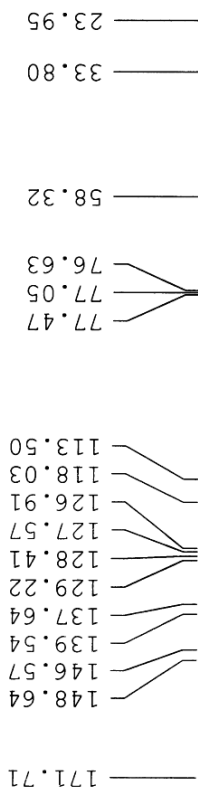
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FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 912.3  
DW 27.600 usec  
DE 6.000 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
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P1 8.10 usec  
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SFO1 75.4752953 MHz

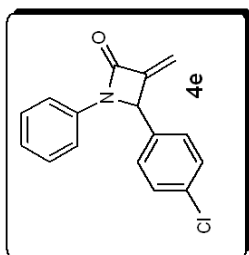
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NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
SFO2 300.1312005 MHz

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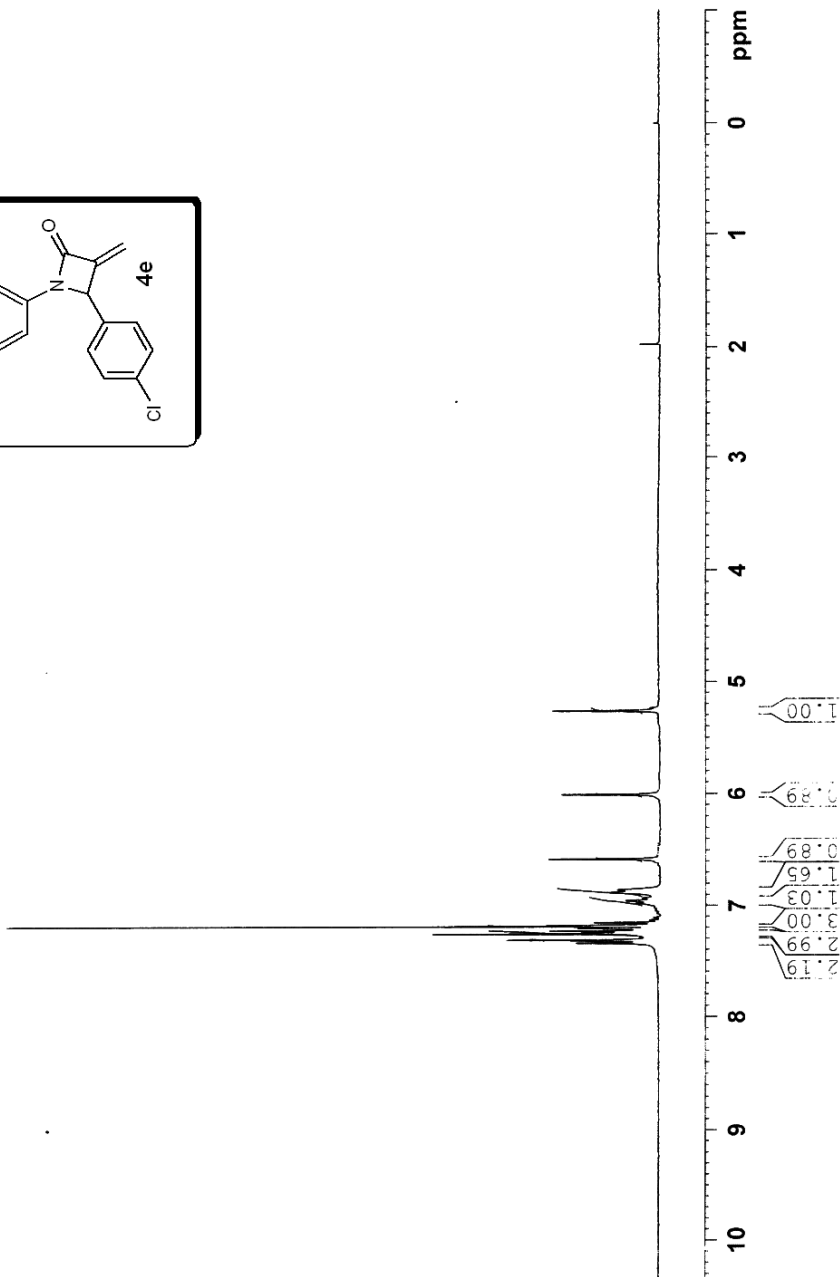




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PULPROG: zg30  
TE: 65536  
SOLVENT: CDCl3  
NS: 25  
DS: 2  
SWH: 6172.839 Hz  
FIDRES: 0.094190 Hz  
AQ: 0.3884660 sec  
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DW: 81.000 usec  
DE: 6.000 usec  
TE: 300.0 K  
D1: 1.00000000 sec  
TD: 1  
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SFO1: 300.1318534 MHz  
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SF: 300.1300264 MHz  
WDW: EM  
SSB: 0  
LB: 0.30 Hz  
GB: 0  
PC: 1.00



7.31  
7.262  
7.250  
7.234  
7.192  
7.185  
6.981  
6.971  
6.958  
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6.884  
6.860  
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5.266





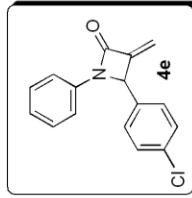
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 TD 65536  
 SOLVENT CDCl3  
 NS 300  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 724.1  
 DW 27.800 usec  
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 TE 300.0 K  
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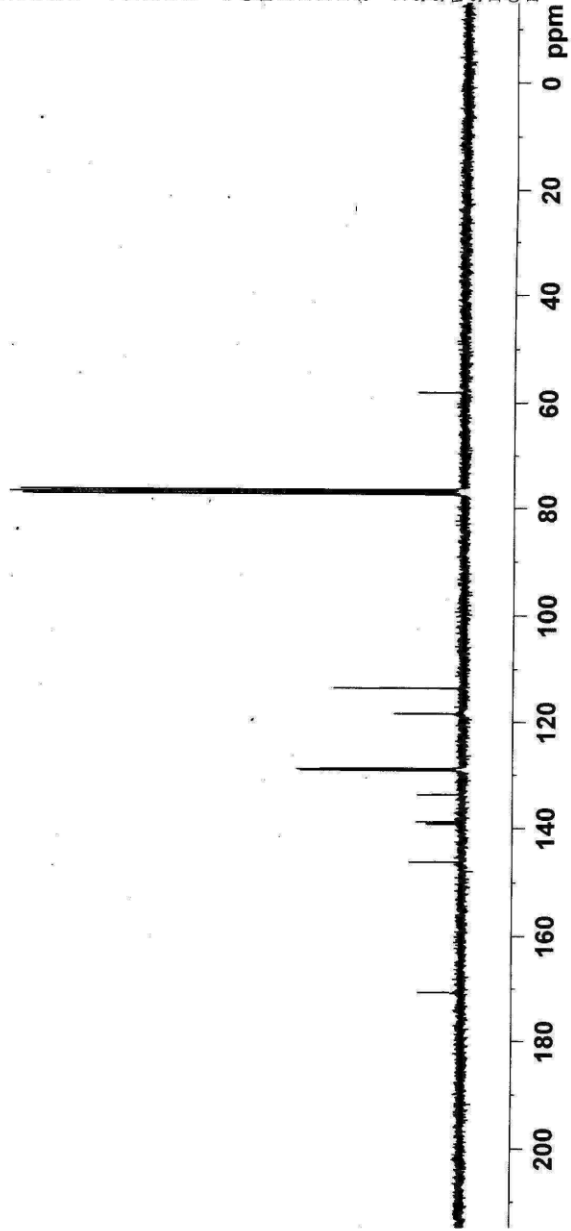
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 PL1 -2.00 dB  
 SFO1 75.4752953 MHz

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 NUC2 1H  
 P2 80.00 usec  
 PL2 0.00 dB  
 PL12 16.19 dB  
 PL13 16.00 dB  
 SFO2 300.1312005 MHz

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 SF 75.4677490 MHz  
 WDW EM  
 SSB 0  
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 PC 1.40



170.91  
 146.27  
 139.29  
 138.87  
 133.78  
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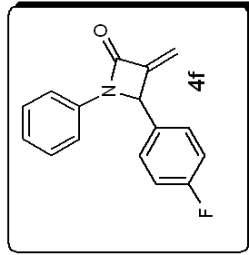




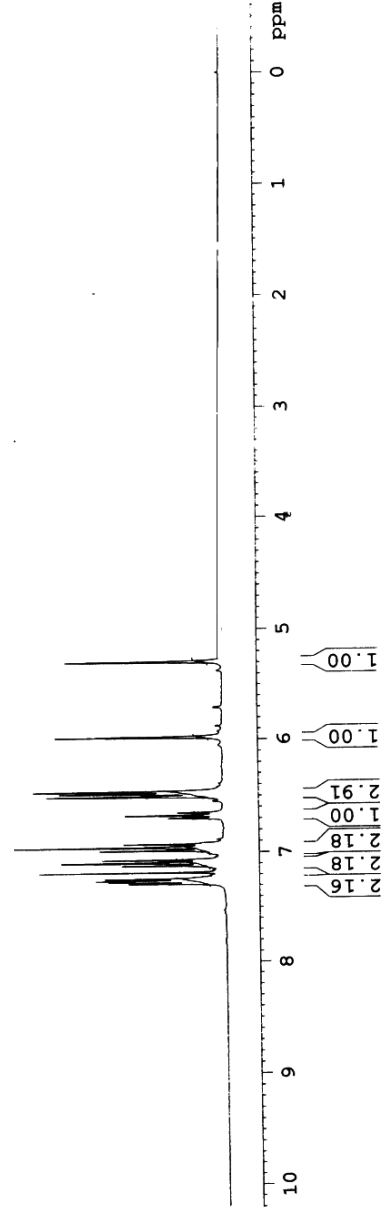
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EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080704  
Time\_ 14.13  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 5  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 512  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
SI 1  
TD0 1.0000000 sec

===== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
F01 300.1318534 MHz  
F2 - Processing parameters  
SI 32768  
SF 300.1300294 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



7.286  
7.279  
7.268  
7.257  
7.246  
7.239  
7.120  
7.095  
7.092  
7.067  
6.984  
6.955  
6.926  
6.698  
6.674  
6.649  
6.510  
6.507  
6.481  
6.479  
6.462  
5.978  
5.294





Current Data Parameters  
NAME JS-III-28  
EXPNO 1  
PROCNO 1

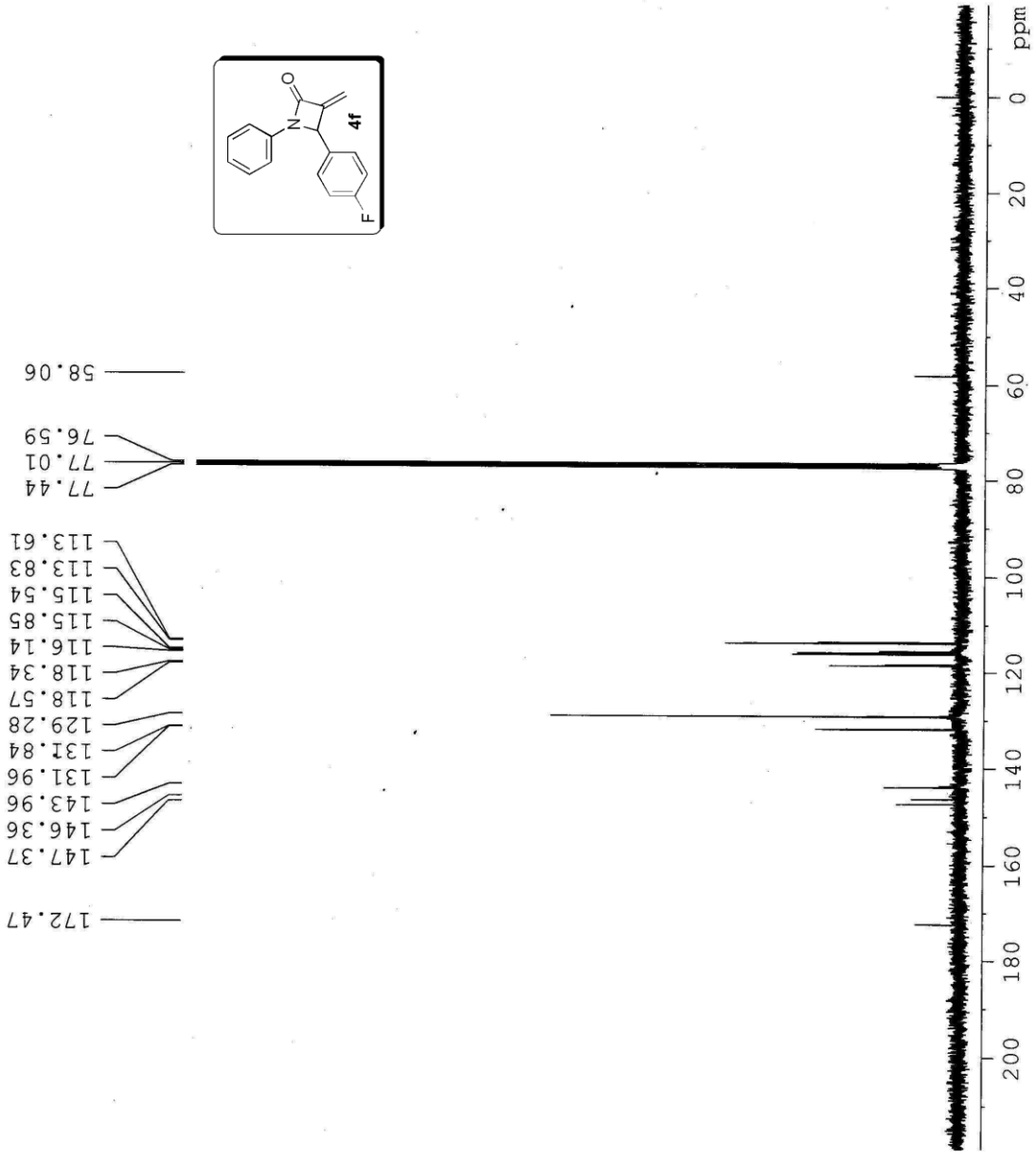
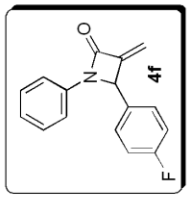
F2 - Acquisition Parameters  
Date\_ 20080812  
Time\_ 21.41

INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 1193  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 812.7  
DW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 13C  
PI 8.10 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
CFPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
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



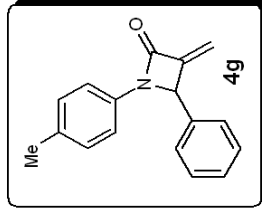




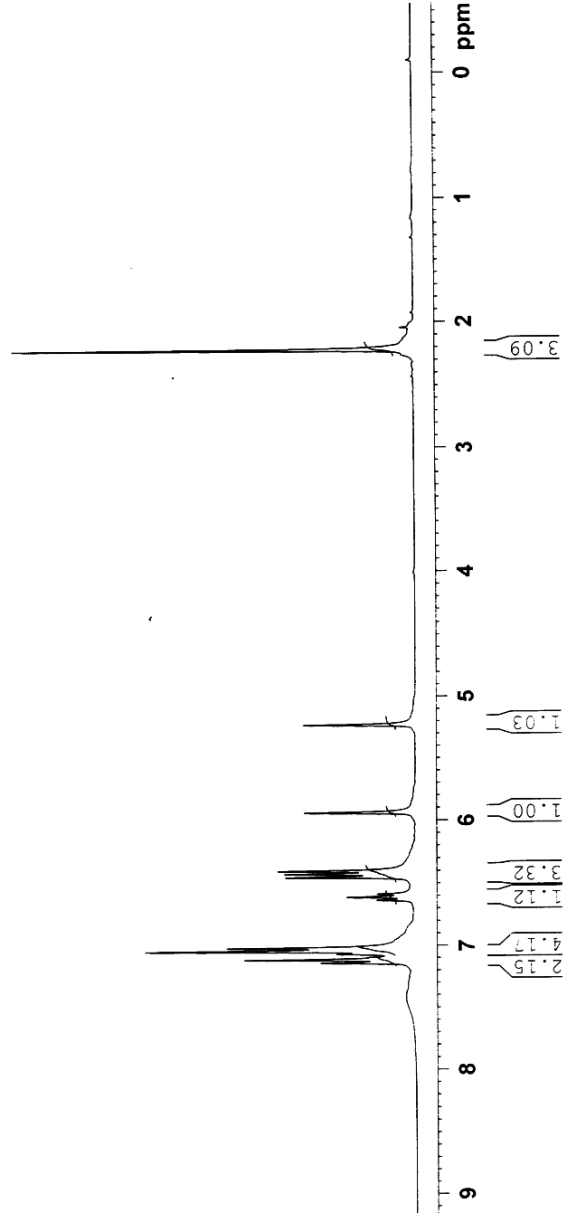
Current Data Parameters  
 NAME JS-III-59A  
 EXENO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20080725  
 Time\_ 10.47  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 9  
 DS 2  
 SWH 6172.832 Hz  
 FIDRES 0.304430 Hz  
 AQ 5.3084660 sec  
 RG 1437  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 TDO 1

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 13C  
 P1 12.40 usec  
 PL1 0.00 dB  
 SFO1 300.1318534 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 300.1300543 MHz  
 MDW EM  
 SSB 0  
 GB 0  
 PC 1.00



7.143  
 7.117  
 7.071  
 7.047  
 7.021  
 6.638  
 6.614  
 6.590  
 6.455  
 6.428  
 6.404  
 5.943  
 5.235  
 2.225





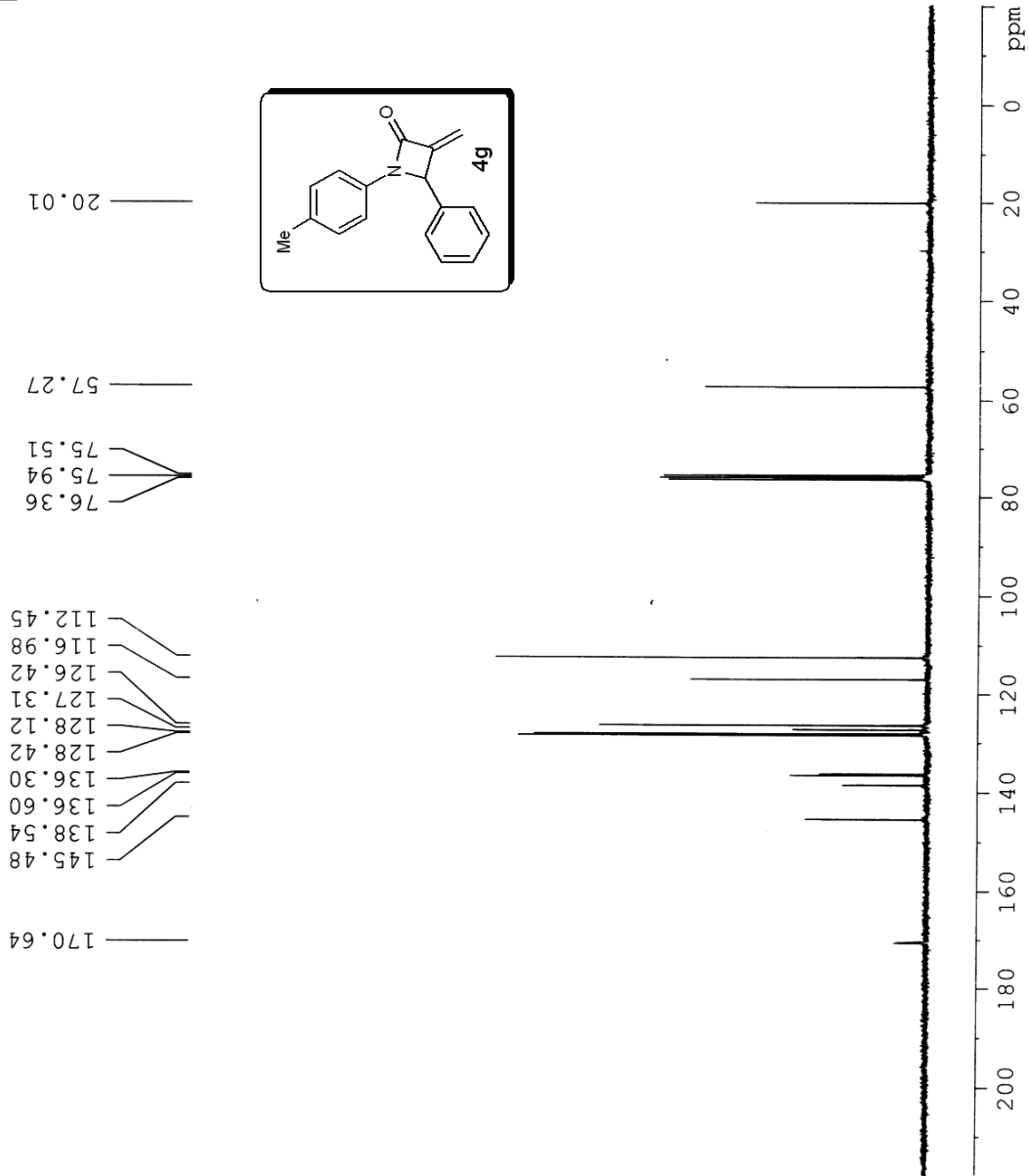
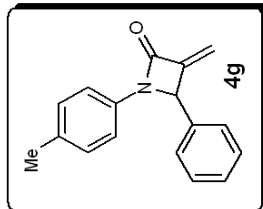
Current Data Parameters  
NAME J.S.III-59A  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080729  
Time\_ 14.09  
INSTRUM spect  
PROBHD 5 mm DUL13C-1  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 770  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 645.1  
DM 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

===== CHANNEL f1 =====  
NUC1 13C  
P1 8.10 usec  
PL1 -2.00 dB  
SF01 75.4752953 MHz

===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
SF02 300.1312005 MHz

F2 - Processing parameters  
SI 32768  
SF 75.4678323 MHz  
EM 0  
WDW 0  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40



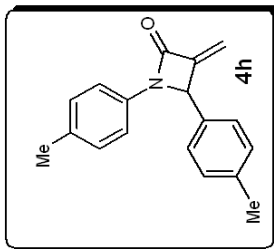


Current Data Parameters  
 NAME JS-III-55  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20080722  
 Time\_ 22.09  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 456.1  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

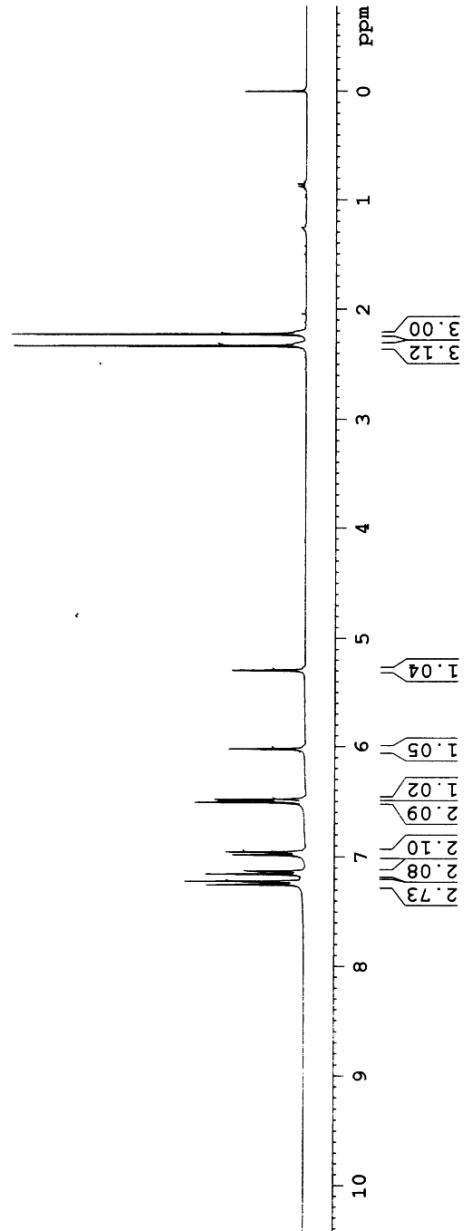
==== CHANNEL f1 =====  
 NUC1 1H  
 P1 12.40 usec  
 PL1 0.00 dB  
 SF01 300.1318534 MHz

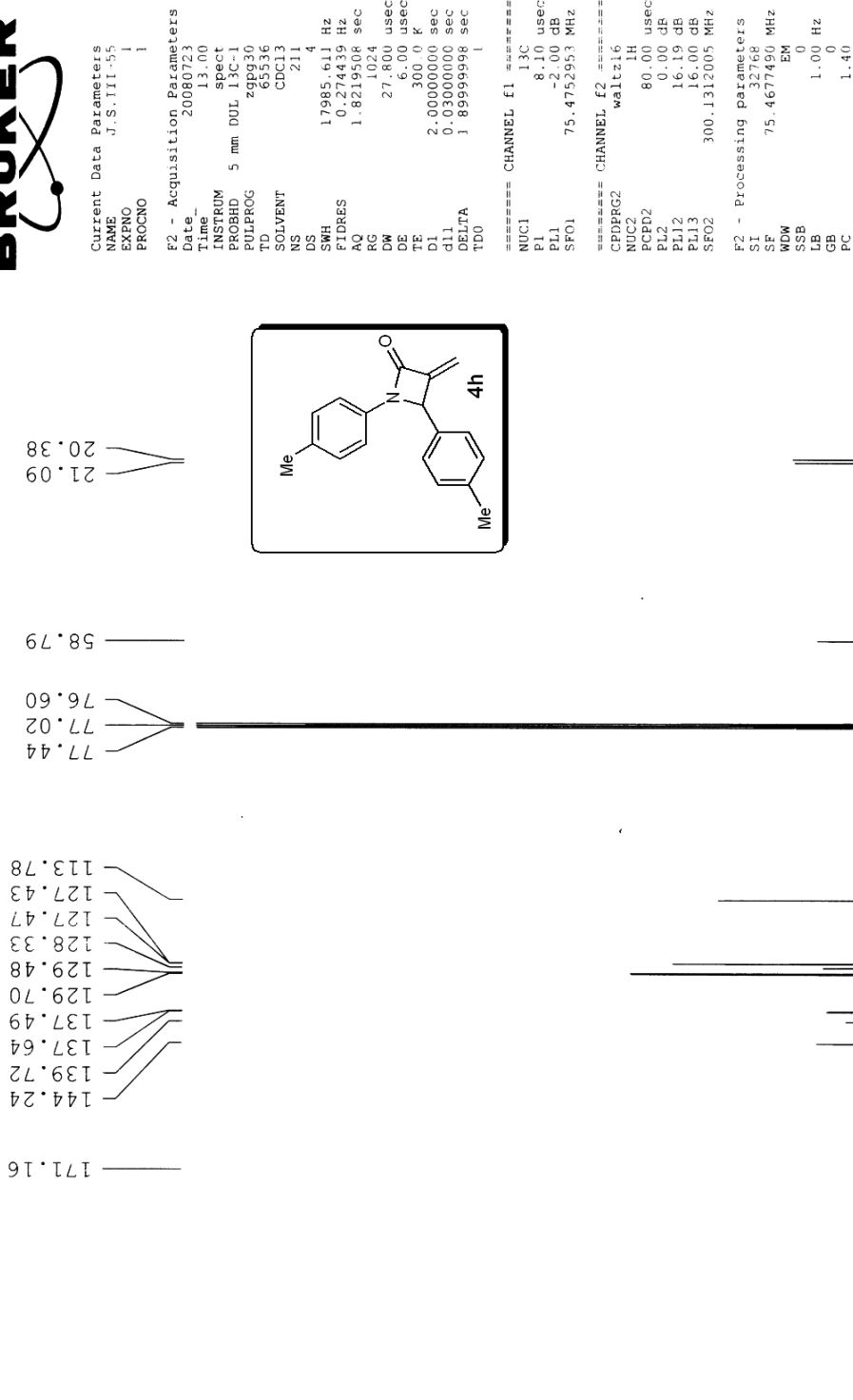
F2 - Processing parameters  
 SI 32768  
 SF 300.1300082 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



2.227  
 2.332

7.253  
 7.247  
 7.220  
 7.155  
 7.128  
 6.983  
 6.956  
 6.509  
 6.501  
 6.498  
 6.487  
 6.481  
 6.022  
 5.294







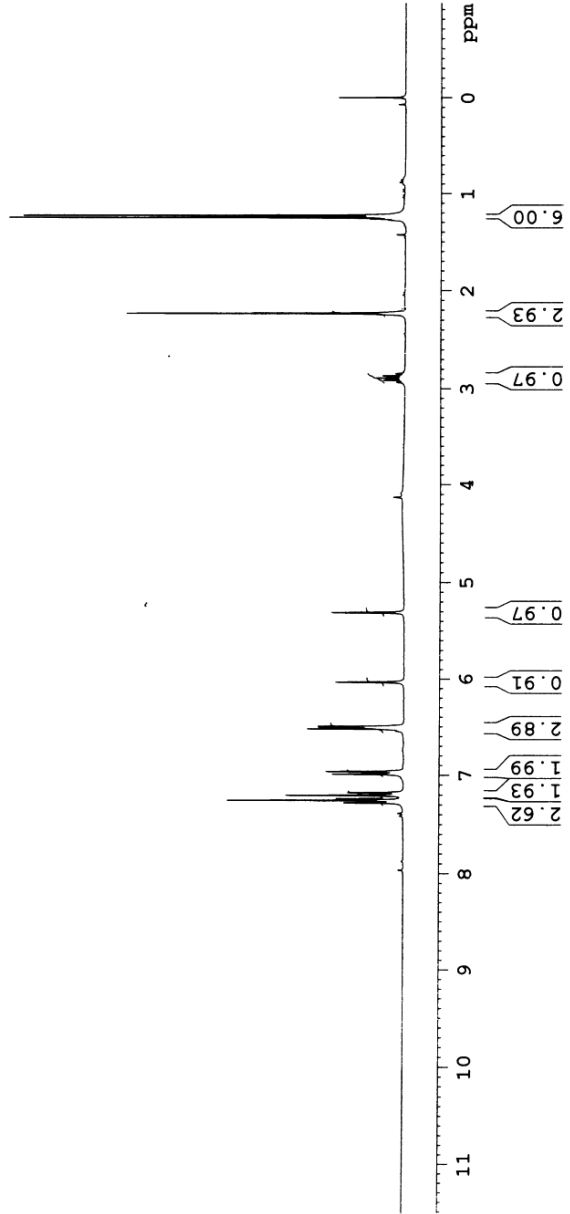
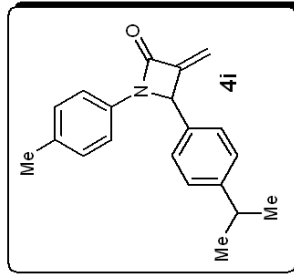
Current Data Parameters  
NAME J.S.III-57  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080724  
Time\_ 11.26  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 574.7  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
D1 1.00000000 sec  
TDO 1

===== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz  
F2 - Processing parameters  
SI 32768  
SF 300.1300069 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00

1.226  
1.249  
2.230  
2.823  
2.845  
2.868  
2.891  
2.914  
2.937  
2.960

5.308  
6.033  
6.494  
6.504  
6.521  
6.961  
6.989  
7.177  
7.204  
7.256  
7.281





```

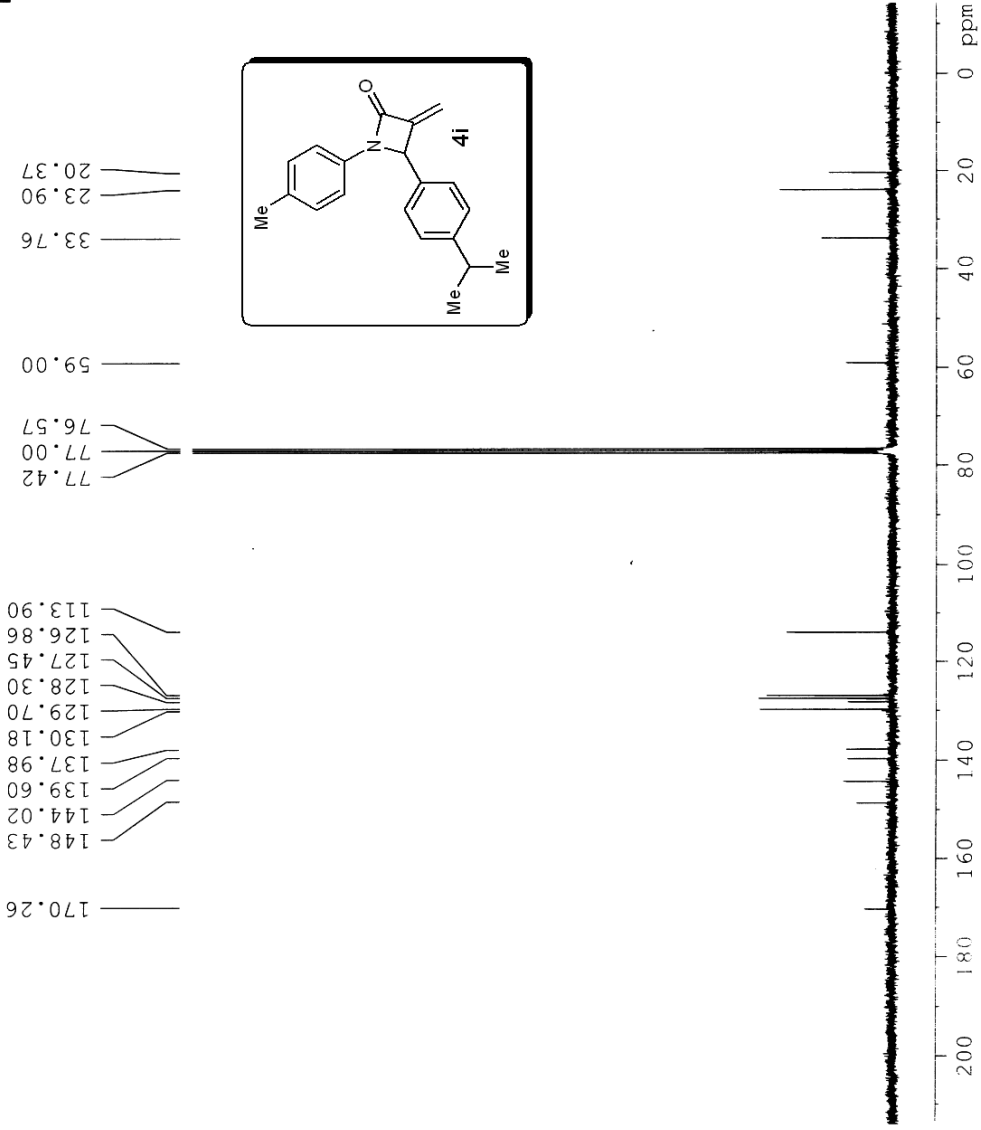
Current Data Parameters
NAME      J.S.III-57
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20080724
Time      13.00
INSTRUM   spect
PROBHD    5 mm DUL 13C-1
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         1000
DS         4
SWH        17985.611 Hz
FIDRES     0.274439 Hz
AQ         1.8219508 sec
RG         812.7
DW         27.800 usec
DE         6.00 usec
TE         300.2 K
T1         2.0000000 sec
d11        0.0300000 sec
DELTA      1.8999998 sec
TD0        1

===== CHANNEL f1 =====
NUC1       13C
P1         8.10 usec
PL1        -2.00 dB
SFO1       75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2    waltz16
NUC2        1H
PCPD2       80.00 usec
PL2         0.00 dB
PL12        16.19 dB
PL13        16.00 dB
SFO2       300.1312005 MHz

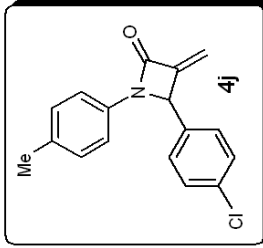
F2 - Processing parameters
SI         32768
SE         75.4677490 MHz
SFO        75.4677490 MHz
GB         0
PC         1.40
    
```





7.320  
7.300  
7.253  
7.987  
6.960  
6.524  
6.500  
6.473  
6.024  
5.315

2.229

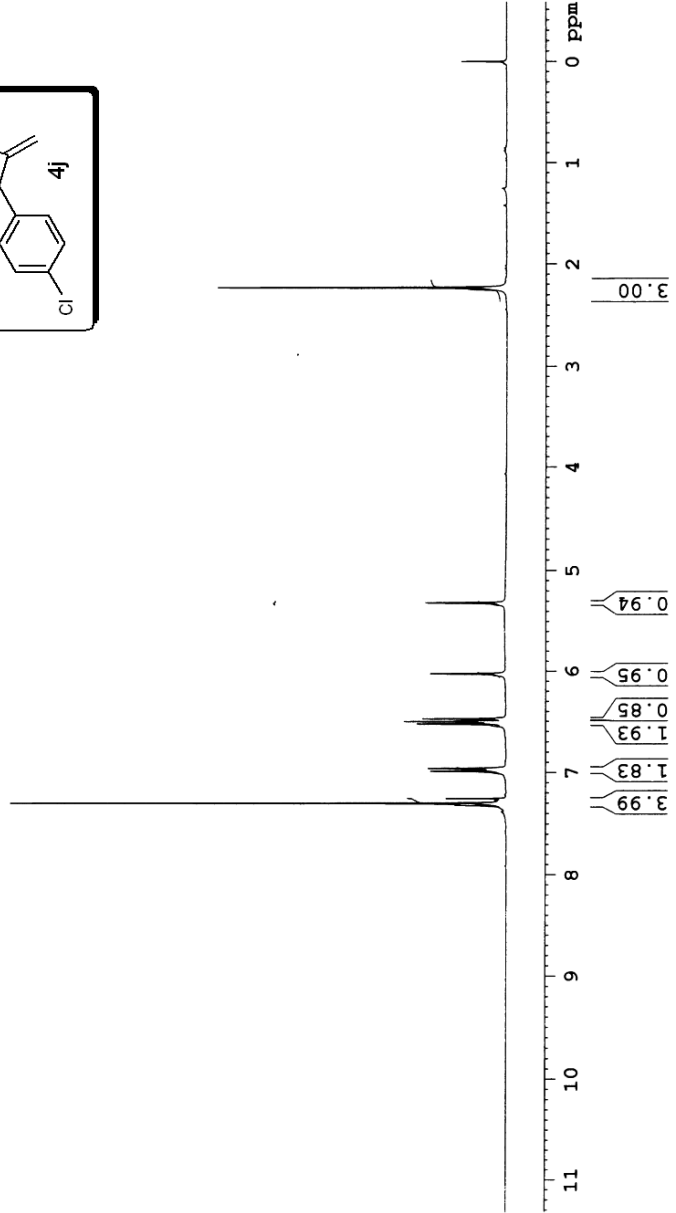


Current Data Parameters  
NAME J.S.III-54  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080722  
Time\_ 12.11  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 512  
DW 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
D1 1.00000000 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz

F2 - Processing parameters  
SI 32768  
SF 300.1300076 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00





```

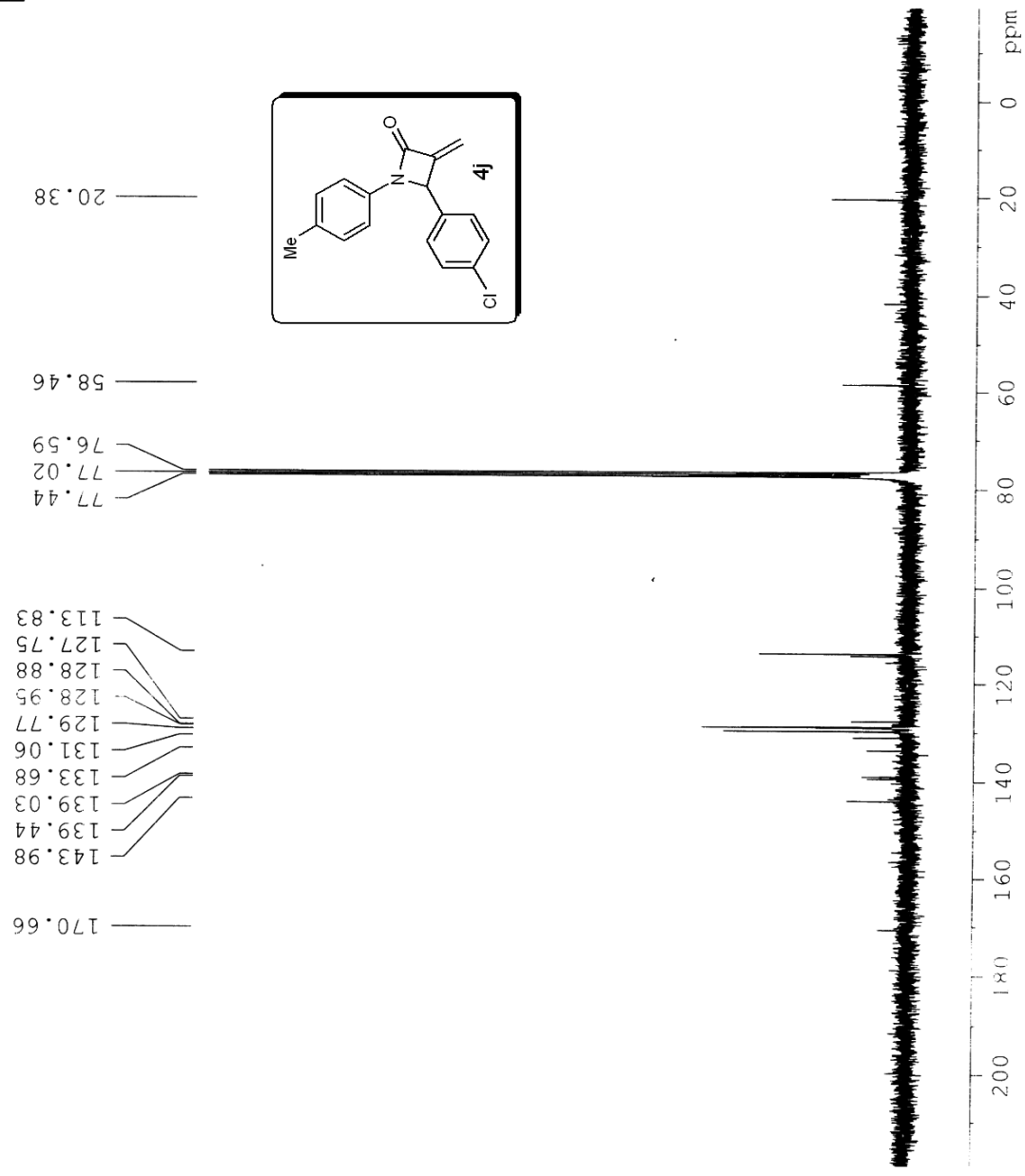
Current Data Parameters
NAME      J.S.III-54
EXPNO    2
PROCNO   1

F2 - Acquisition Parameters
Date_    20080728
Time_    11.26
INSTRUM  spect
PROBHD   5 mm DUL 13C-1
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        501
DS        4
SWH       17985.611 Hz
FIDRES    0.274439 Hz
AQ        1.8219508 sec
RG        912.3
DW        27.800 usec
DE        6.00 usec
TE        300.0 K
d1        2.00000000 sec
d11       0.03000000 sec
DELTA     1.89999998 sec
TD0       1

===== CHANNEL f1 =====
NUC1      13C
P1        8.10 usec
PL1       -2.00 dB
SFO1      75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       0.00 dB
PL12      16.19 dB
PL13      16.00 dB
SFO2      300.1312005 MHz

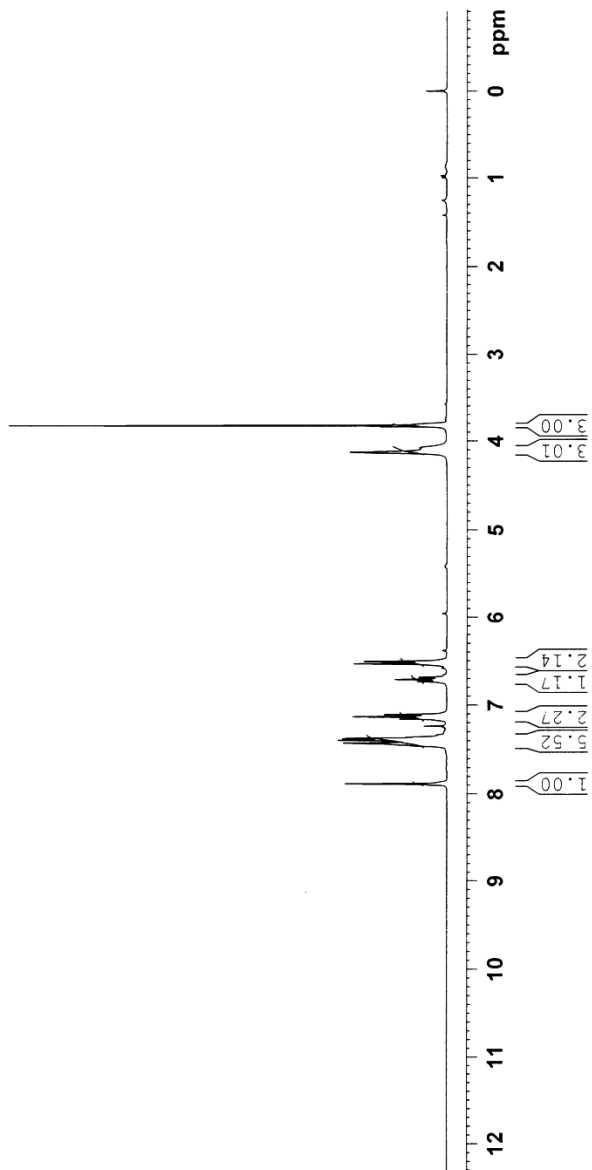
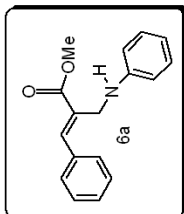
F2 - Processing parameters
SI        32768
SF        75.4677490 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
    
```







Current Data Parameters  
NAME JS-IV-08  
EXNO 1  
PROCNO 1  
F2 - Acquisition Parameters  
Date 20080826  
Time 20.07  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 12  
DS 12  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 181  
DM 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
D1 1.0000000 sec  
TD0 1  
===== CHANNEL f1 =====  
NUC1 1H  
P1 12.40 usec  
PL1 0.00 dB  
SFO1 300.1318534 MHz  
F2 - Processing parameters  
SI 32768  
SF 300.1300122 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00

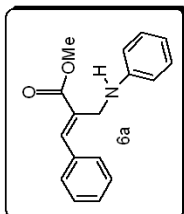
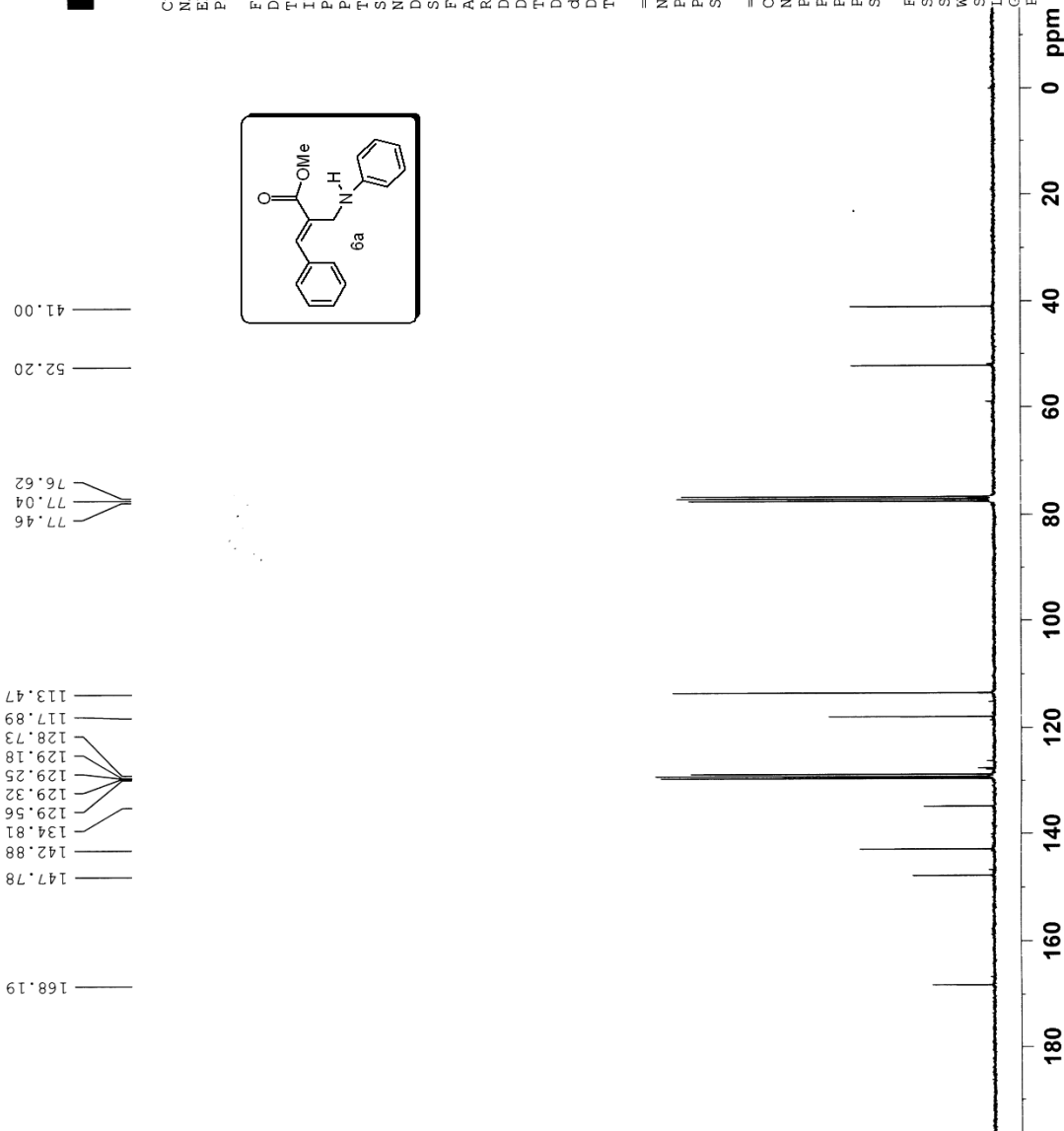




Current Data Parameters  
NAME JS-IV-8  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20080826  
Time 21.54  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 1000  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.2774439 Hz  
AQ 1.8219508 sec  
RG 645.1  
DE 27.800 usec  
DW 6.00 usec  
TE 300.0 K  
D1 2.0000000 sec  
d11 0.0300000 sec  
DELTA 1.8999998 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 8.10 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz  
==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 16.19 dB  
PL13 16.00 dB  
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



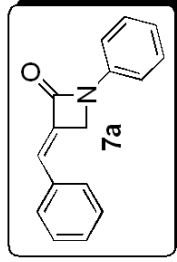


Current Data Parameters  
 NAME J.S.IV-09  
 EXPNO 1  
 PROCNO 1

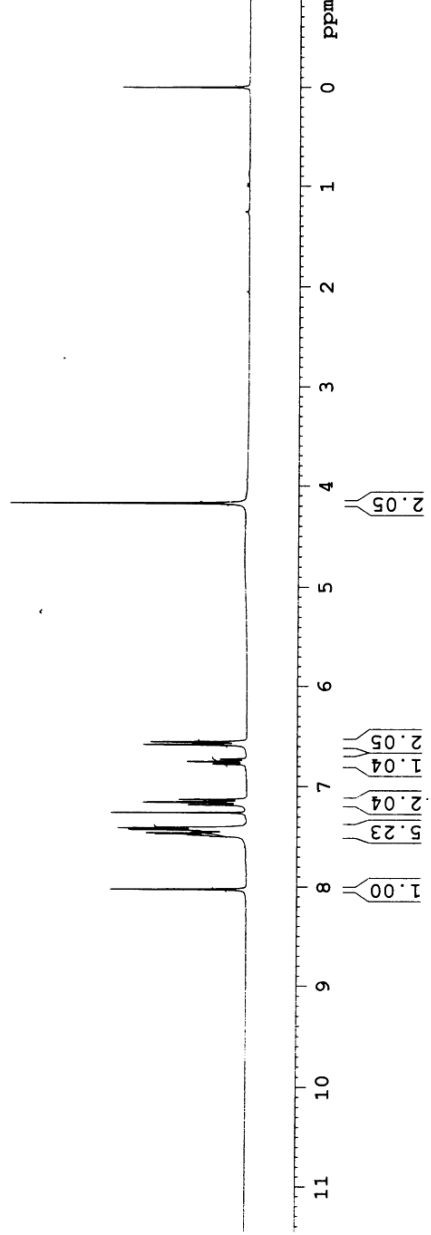
F2 - Acquisition Parameters  
 Date\_ 20080827  
 Time 14.39  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 10  
 DS 2  
 SWH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 574.7  
 DW 81.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

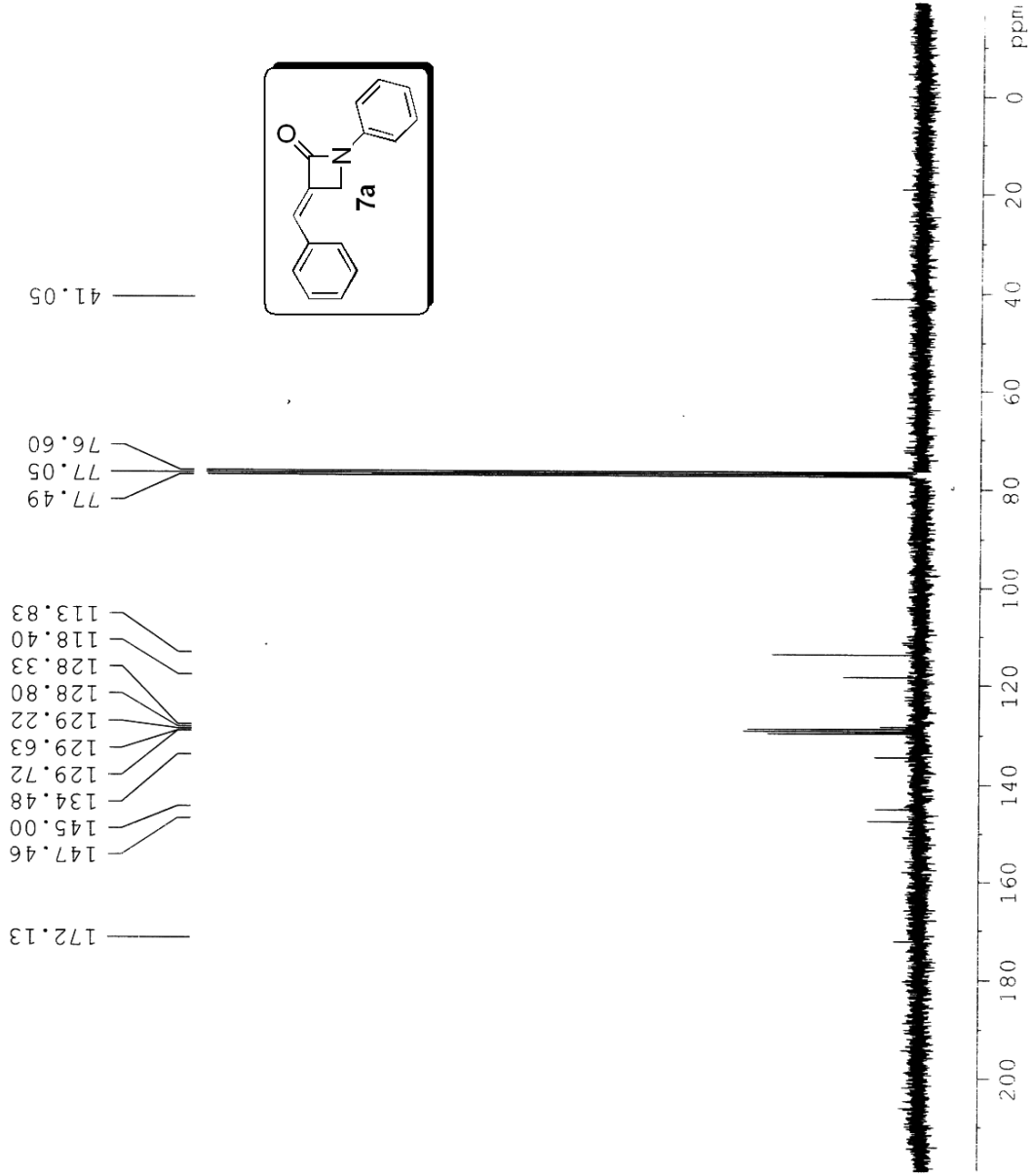
===== CHANNEL f1 =====  
 NUC1 1H  
 P1 12.40 usec  
 PL1 0.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300067 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00



8.026  
 7.480  
 7.468  
 7.461  
 7.439  
 7.427  
 7.421  
 7.411  
 7.403  
 7.180  
 7.155  
 7.128  
 7.128  
 7.076  
 7.076  
 6.751  
 6.727  
 6.581  
 6.555





```

Current Data Parameters
NAME      J.S.IV-09
EXPNO    2
PROCNO   1

F2 - Acquisition Parameters
Date_    20080827
Time     14.47
INSTRUM  spect
PROBHD   5 mm DUL 13C-1
PULPROG  zgpg30
TD        65536
SOLVENT  CDCl3
NS        224
DS        4
SWH       17985.611 Hz
FIDRES    0.274439 Hz
AQ        1.8219508 sec
RG        912.3
DW        27.800 usec
DE        6.00
TE        300.0 K
D1        2.0000000 sec
d11       0.0300000 sec
DELTA    1.89999998 sec
TI00     1

===== CHANNEL f1 =====
NUC1      13C
P1        13C
PL1       8.10 usec
SFO1      75.4752953 MHz

===== CHANNEL f2 =====
:PPROG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       9.00 dB
PL12      15.19 dB
PL13      16.00 dB
SFO2      300.1312005 MHz

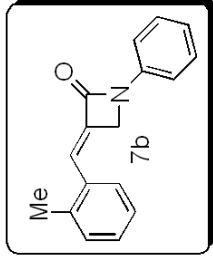
F2 - Processing parameters
SI         32768
SF         75.4677490 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
    
```



8.065  
7.343  
7.323  
7.296  
7.279  
7.228  
7.208  
7.116  
7.091  
7.064  
6.742  
6.718  
6.694  
6.448  
6.422

4.117

2.268

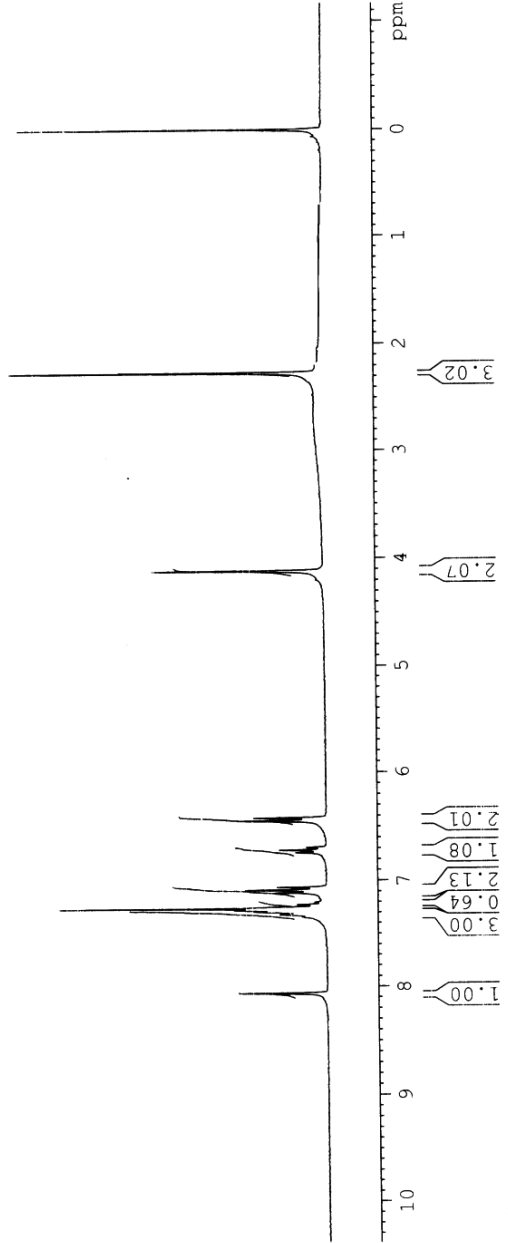


Current Data Parameters  
 NAME PRSK-I-91  
 EXPNO 3  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20100514  
 Time 14.54  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 6172.839 Hz  
 SMH 0.094190 Hz  
 FIDRES 5.3084660 sec  
 RG 512  
 DW 31.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 12.40 usec  
 PL1 0.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300055 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





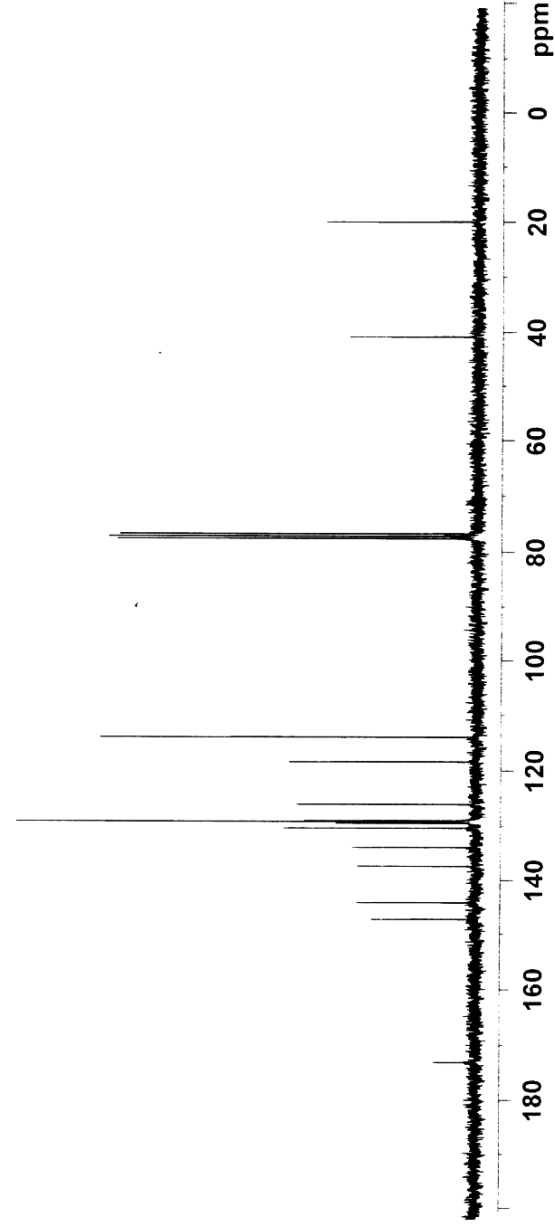
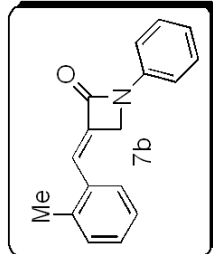
Current Data Parameters  
NAME PRSK-I-91  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20101113  
Time 18.51  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
TD 65536  
SOLVENT CDC13  
NS 103  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 362  
DW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 7.40 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 15.68 dB  
PL13 16.00 dB  
SFO2 300.1312005 MHz

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

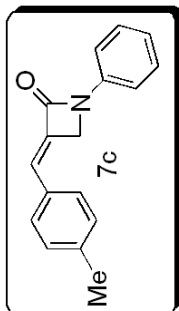




Current Data Parameters  
NAME PRSK-I-100  
EXPNO 1  
PROCNO 1

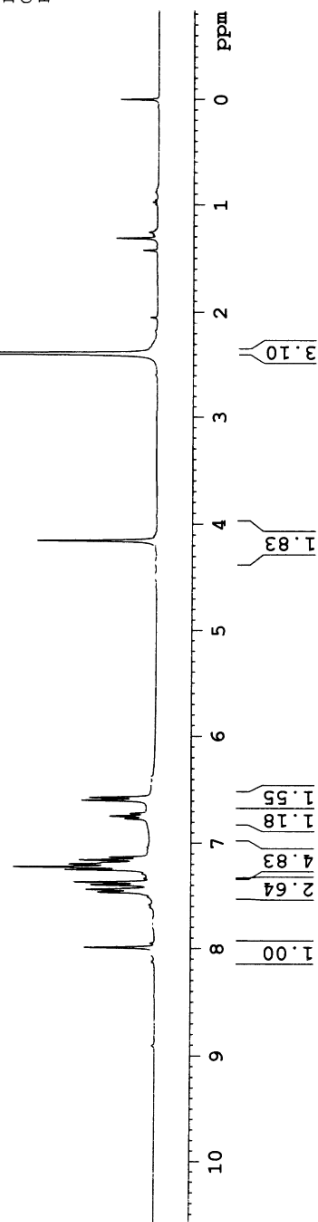
F2 - Acquisition Parameters  
Date\_ 20101113  
Time\_ 18.19  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zg30  
TD 65536  
SOLVENT CDCl3  
NS 9  
DS 2  
SWH 6172.839 Hz  
FIDRES 0.094190 Hz  
AQ 5.3084660 sec  
RG 128  
DM 81.000 usec  
DE 6.00 usec  
TE 300.0 K  
DL 1.00000000 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 1H  
P1 13.15 usec  
PL1 0.00 dB  
SF01 300.1318534 MHz  
F2 ... Processing parameters  
SI 32768  
SF 300.1300087 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



8.045  
7.467  
7.441  
7.397  
7.371  
7.252  
7.226  
7.200  
7.185  
7.159  
7.133  
7.133  
6.767  
6.743  
6.719  
6.594  
6.567

4.153  
2.383





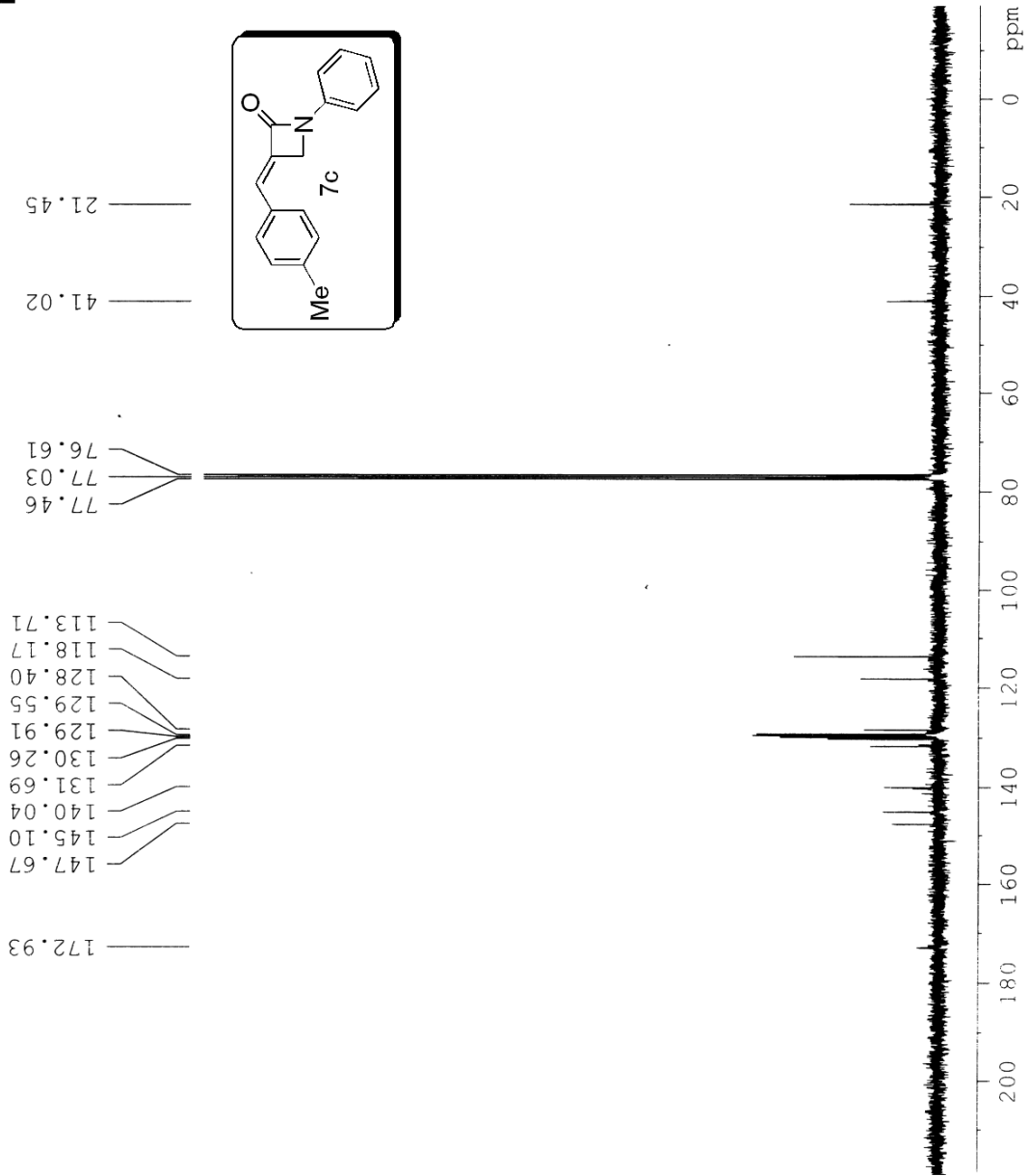
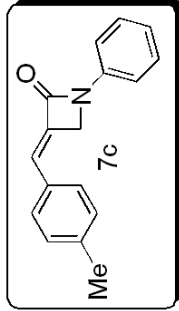
Current Data Parameters  
NAME PRSK-I-100  
EXPNO 2  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20101113  
Time\_ 18.27  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
ID 6536  
SOLVENT CDCl3  
NS 320  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 362  
DM 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TD0 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 7.40 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 15.68 dB  
PL13 16.00 dB  
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





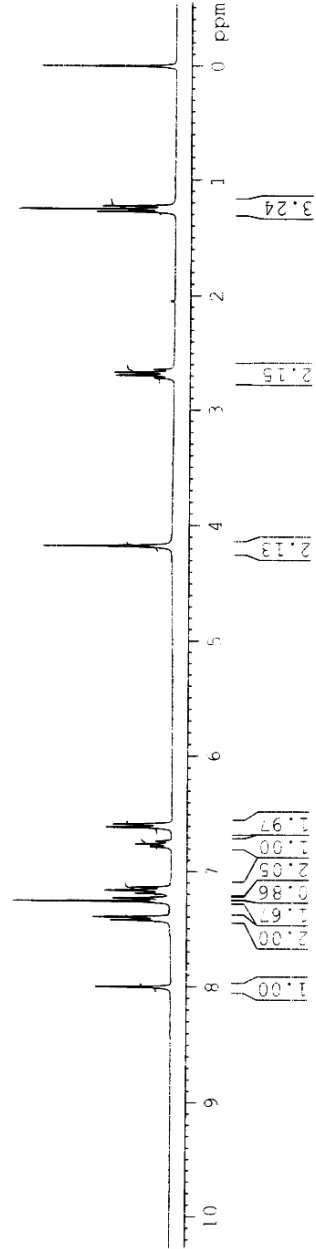
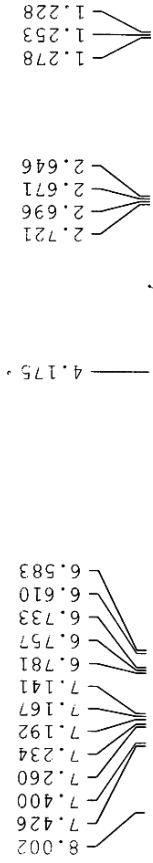
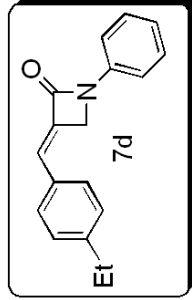


Current Data Parameters  
 NAME PRSK-1-90  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20100507  
 Time 11:38  
 INSTRUM spect  
 PROBD1 5 mm DUL 13C-1  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 4  
 SWH 6379.849 Hz  
 FIDRES 0.094130 Hz  
 AQ 3.5051660 sec  
 RG 496.1  
 CW 81.000 MHz  
 DE 6.00 usec  
 TE 300.2 K  
 LI 1.00000000 sec  
 TI 1

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 12.00 usec  
 PL1 0.00 dB  
 SFO1 300.1318534 MHz

F2 - Processing parameters  
 SI 32768  
 SF 300.1300064 MHz  
 WDW EM  
 SSB 0  
 LB 0.10 Hz  
 GB 0  
 PC 1.00





Current Data Parameters  
 NAME PRSK-I-90  
 EXPNO 1  
 PROCNO 1

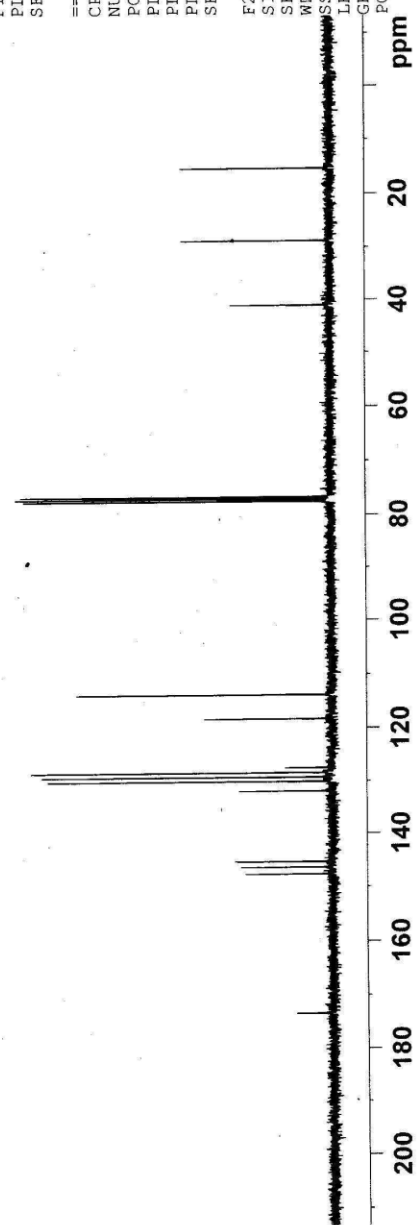
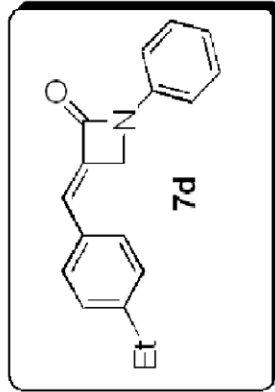
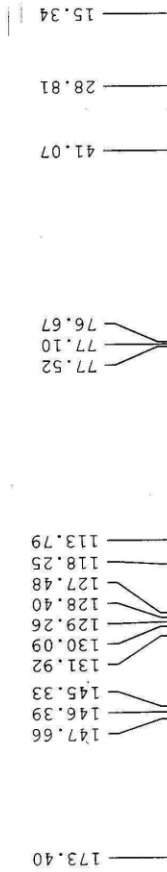
F2 - Acquisition Parameters

Date\_ 20101115  
 Time 14.53  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 123  
 DS 4  
 SWH 17985.611 Hz  
 FIDRES 0.274439 Hz  
 AQ 1.8219508 sec  
 RG 362  
 DW 27.800 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 2.0000000 sec  
 d11 0.0300000 sec  
 DELTA 1.89999998 sec  
 TDO 1

==== CHANNEL f1 =====  
 NUC1 13C  
 P1 7.40 usec  
 PL1 -2.00 dB  
 SFO1 75.4752953 MHz

==== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 0.00 dB  
 PL12 15.68 dB  
 PL13 16.00 dB  
 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





Current Data Parameters  
 NAME PRSK-I-96  
 EXPNO 2  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 201811  
 Time 22:45  
 INSTRUM spect  
 PROBHD 5 mm DUL 13C-1  
 PULPROG zg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 6172.839 Hz  
 FIDRES 0.094190 Hz  
 AQ 5.3084660 sec  
 RG 90.5  
 RW 81.000 usec  
 DE 6.000 usec  
 TE 300.0 K  
 D1 1.00000000 sec  
 TDO 1

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 13.15 usec  
 PL1 0.00 dB  
 SFO1 300.1318534 MHz

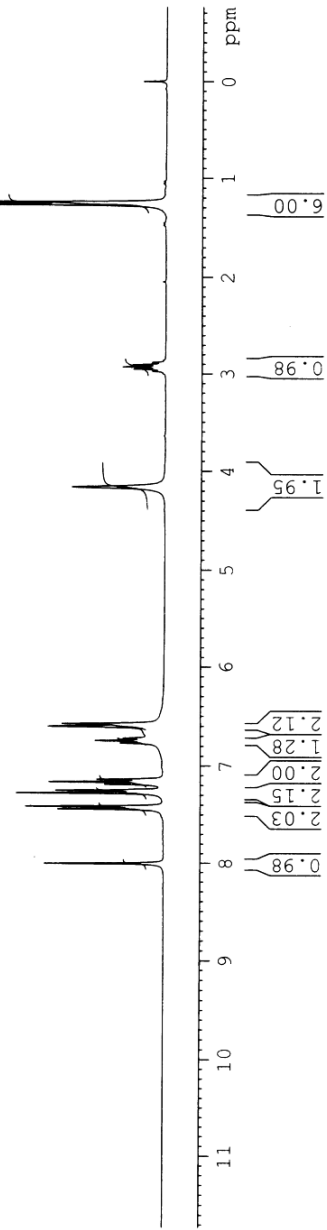
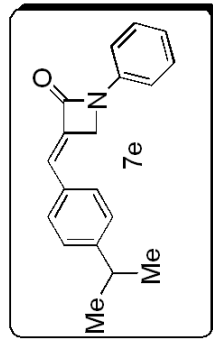
F2 - Processing parameters  
 SI 32768  
 SF 300.1300127 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

8.004  
7.439  
7.413  
7.277  
7.251  
7.188  
7.162  
7.137  
7.137  
6.771  
6.747  
6.723  
6.604  
6.577

4.162

2.997  
2.974  
2.951  
2.928  
2.905  
2.882  
2.860

1.268  
1.245





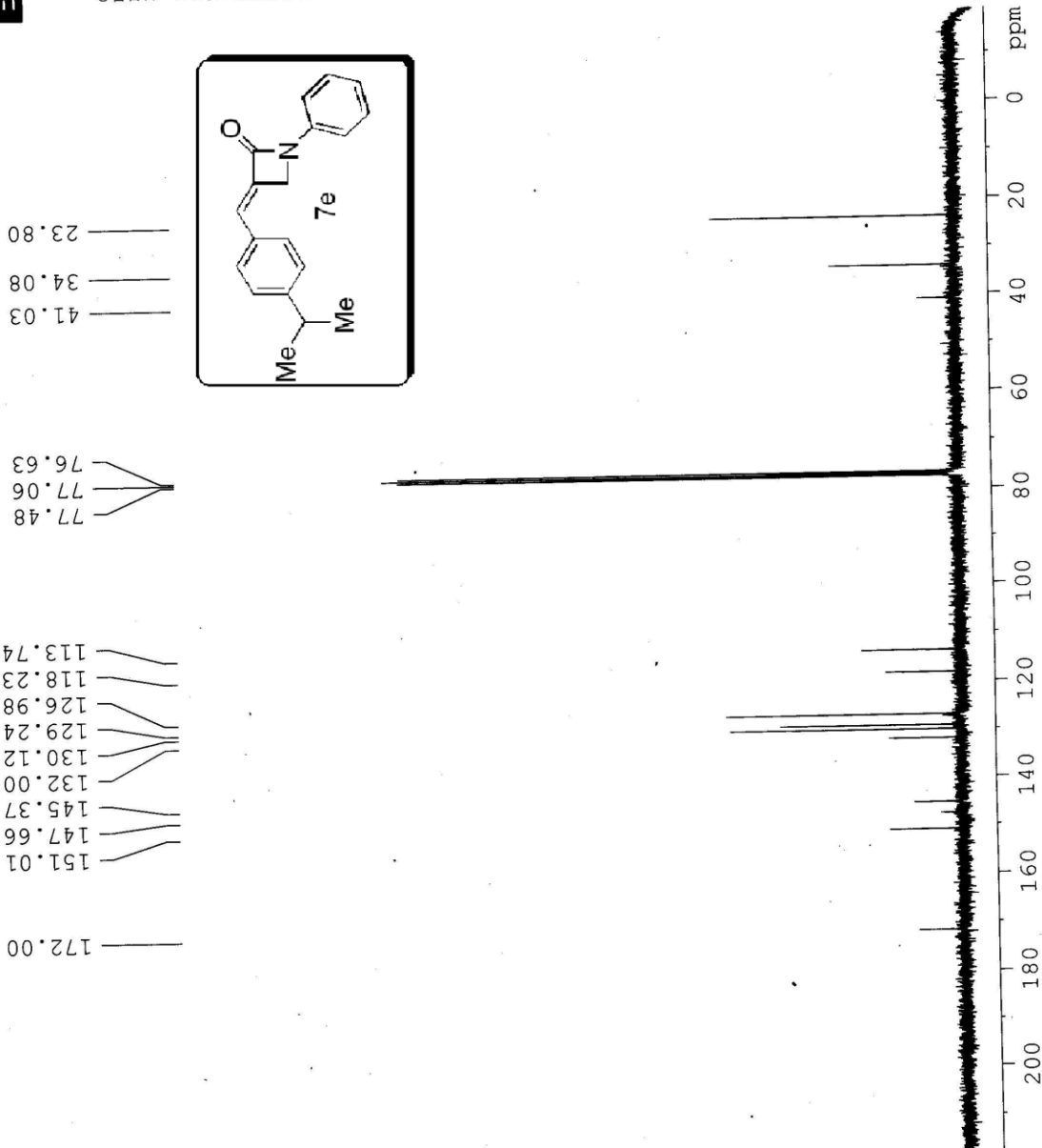
Current Data Parameters  
NAME PRSK-I-96  
EXNO 3  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20101116  
Time\_ 22.51  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
TD 65836  
FIDRES 0.27439 Hz  
AQ 1.8219508 sec  
RG 362  
WDW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

==== CHANNEL f1 =====  
NUC1 13C  
P1 7.40 usec  
PL1 -2.00 dB  
SFO1 75.4752953 MHz

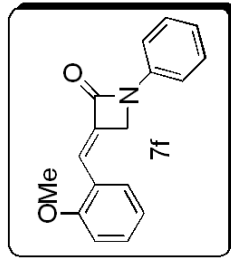
==== CHANNEL f2 =====  
CFDPGR2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 15.68 dB  
PL13 16.00 dB  
SFO2 300.1312005 MHz

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





8.164  
7.410  
7.385  
7.359  
7.166  
7.139  
7.113  
6.990  
6.964  
6.958  
6.939  
6.930  
6.930  
6.765  
6.740  
6.580  
6.554

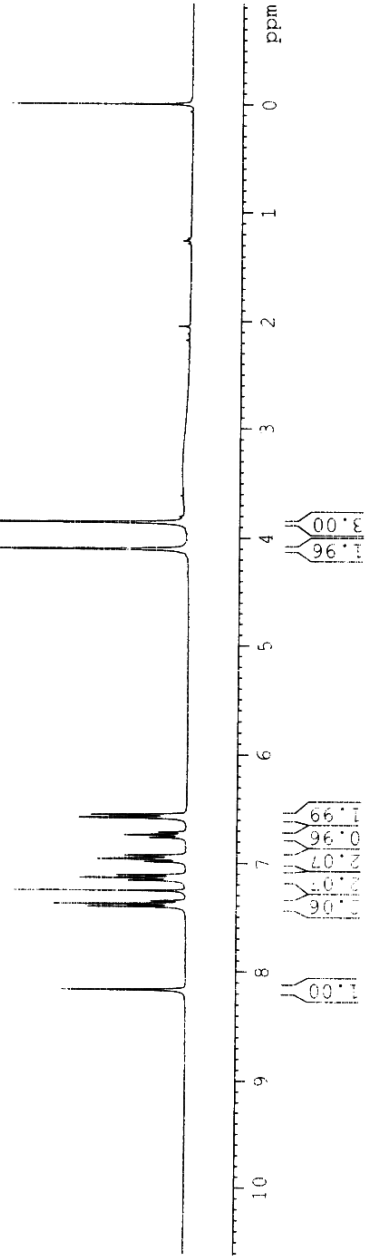


Current Data Parameters  
 NAME FRS-1-94  
 EXTNC 1  
 PROCNC 1

F2 - Acquisition Parameters  
 Date\_ 20100712  
 Time 12.00  
 INSTRUM spect  
 PROBHD 5 mm BBI 13C-1  
 PULPROG zg30  
 IC 65536  
 SOLVENT CDCl3  
 GC 10  
 SFO 6172.830 Hz  
 FIDRES 0.094190 Hz  
 AQ 0.084620 sec  
 RG 156.1  
 DW 41.000 usec  
 DE 6.00 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 TPO 1

===== CHANNEL f1 =====  
 NU1 1H  
 F1 500.136051 MHz  
 EL1 0.00 dB  
 SFO1 500.136051 MHz

F2 - Processing Parameters  
 SI 32768  
 SF 500.136051 MHz  
 DS 4  
 SSF 0  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





Current Data Parameters  
NAME JS-OMe-BL2  
EXPNO 2  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20121201  
Time\_ 17.18  
INSTRUM spect  
PROBHD 5 mm DUL 13C-1  
PULPROG zgpg30  
TD 65536  
SOLVENT CDCl3  
NS 174  
DS 4  
SWH 17985.611 Hz  
FIDRES 0.274439 Hz  
AQ 1.8219508 sec  
RG 456.1  
DW 27.800 usec  
DE 6.00 usec  
TE 300.0 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.89999998 sec  
TDO 1

=====  
CHANNEL f1  
NUC1 13C  
P1 9.30 usec  
PL1 0.00 dB  
SFO1 75.4752953 MHz

=====  
CHANNEL f2  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 0.00 dB  
PL12 15.68 dB  
PL13 16.00 dB  
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

173.07  
157.83  
147.66  
141.13  
131.21  
130.34  
129.16  
128.19  
123.66  
120.66  
118.18  
113.84  
110.71  
77.48  
77.06  
76.64  
55.56  
41.39

