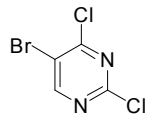
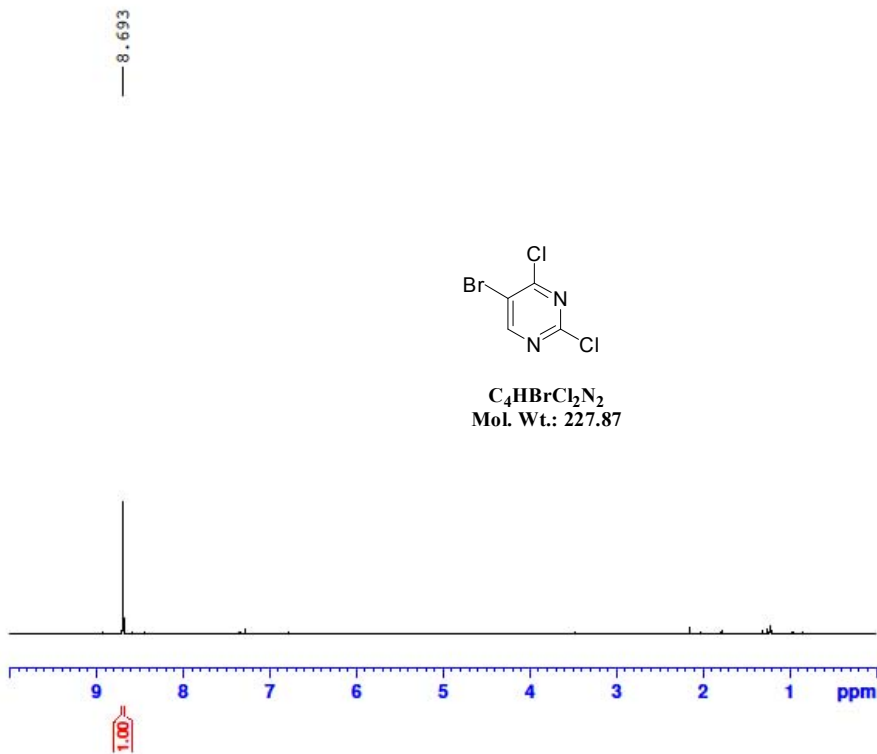


Supporting Information

Compound 1b



$C_4HBrCl_2N_2$
Mol. Wt.: 227.87

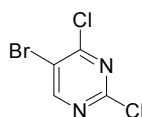
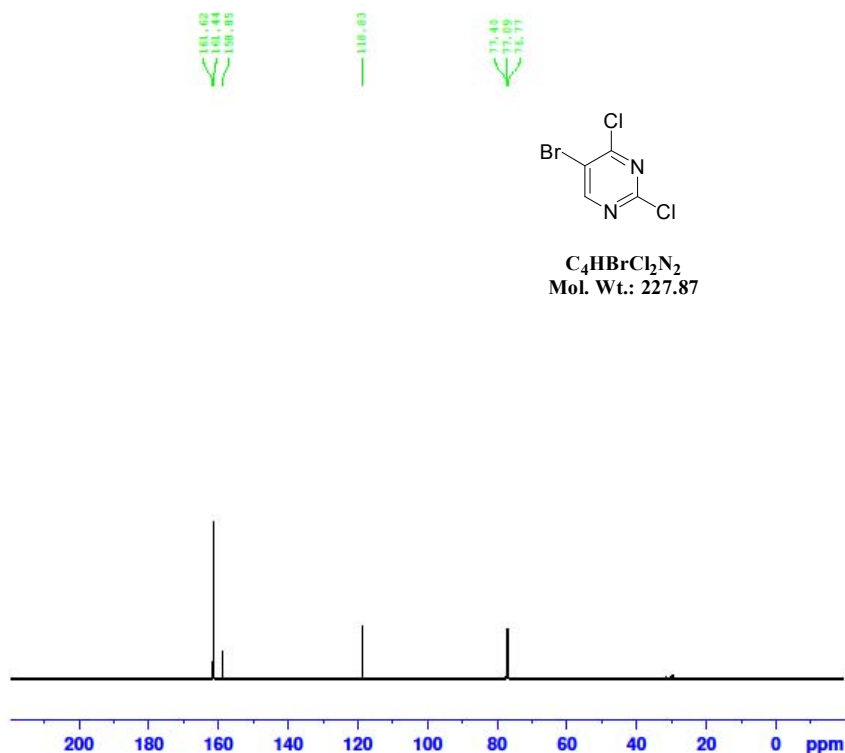


```

NAME wankun110901-2-H
EXPNO 1
PROCNO 1
Date_ 20110901
Time 15.29
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT cdcl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 114
LW 60.800 usec
DE 6.50 usec
TE 296.7 K
D1 1.0000000 sec
TD0 1
    
```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
    
```



$C_4HBrCl_2N_2$
Mol. Wt.: 227.87



```

NAME wankun110901-2-C
EXPNO 1
PROCNO 1
Date_ 20110901
Time 15.47
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT cdcl3
NS 247
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 45.2
LW 20.800 usec
DE 6.50 usec
TE 299.1 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1
    
```

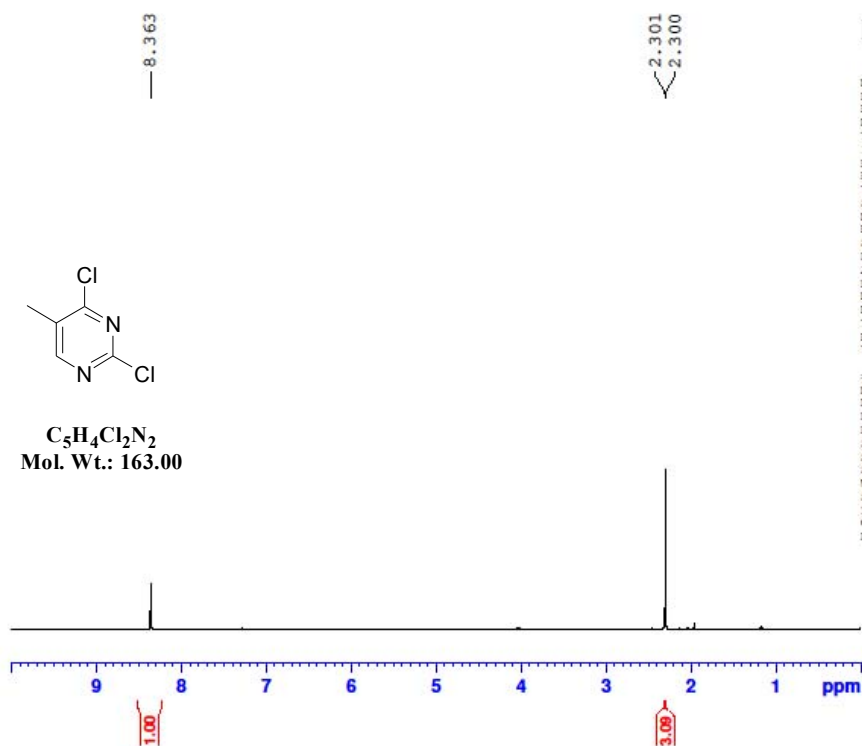
```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz
    
```

```

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
    
```

Compound 2b

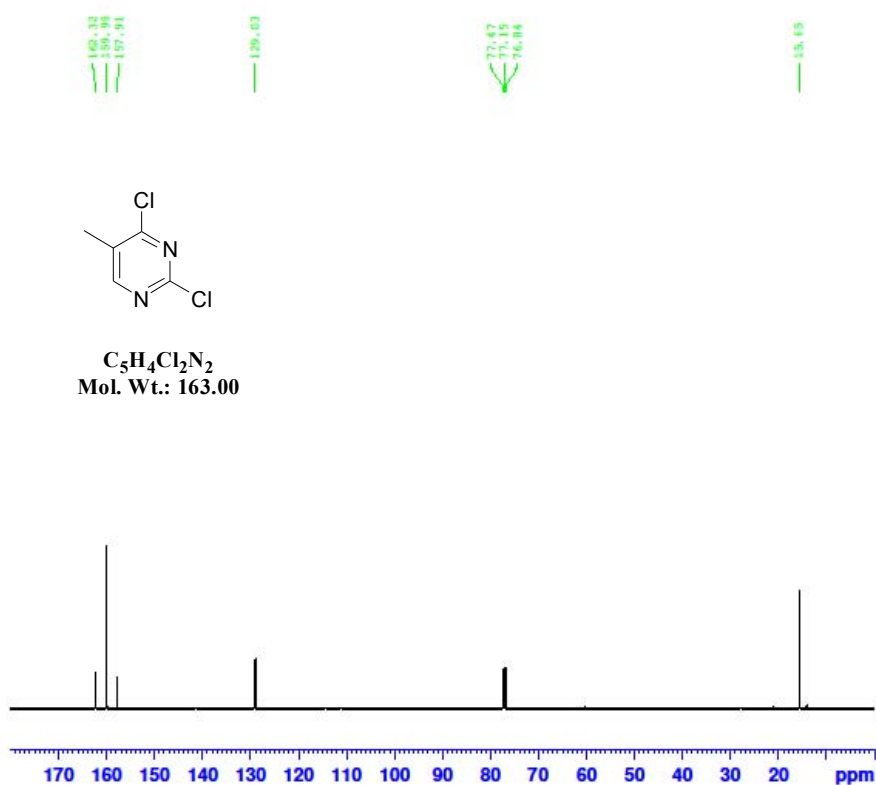


```

NAME wenkun110831-2
EXPNO 1
PROCNO 1
Date_ 20110831
Time 14.34
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 45.2
DW 60.800 usec
DE 6.50 usec
TE 296.4 K
D1 1.0000000 sec
TD0 1
  
```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
  
```



```

NAME wenkun110831-2-C
EXPNO 1
PROCNO 1
Date_ 20110831
Time 14.53
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 262
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 456
DW 20.800 usec
DE 6.50 usec
TE 298.9 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1
  
```

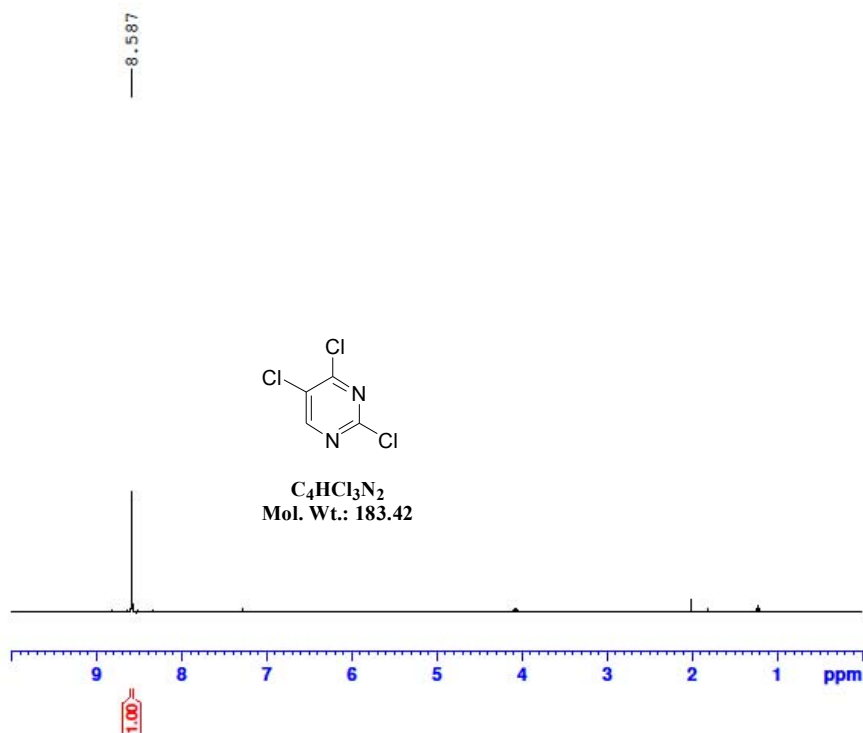
```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz
  
```

```

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

Compound 3b

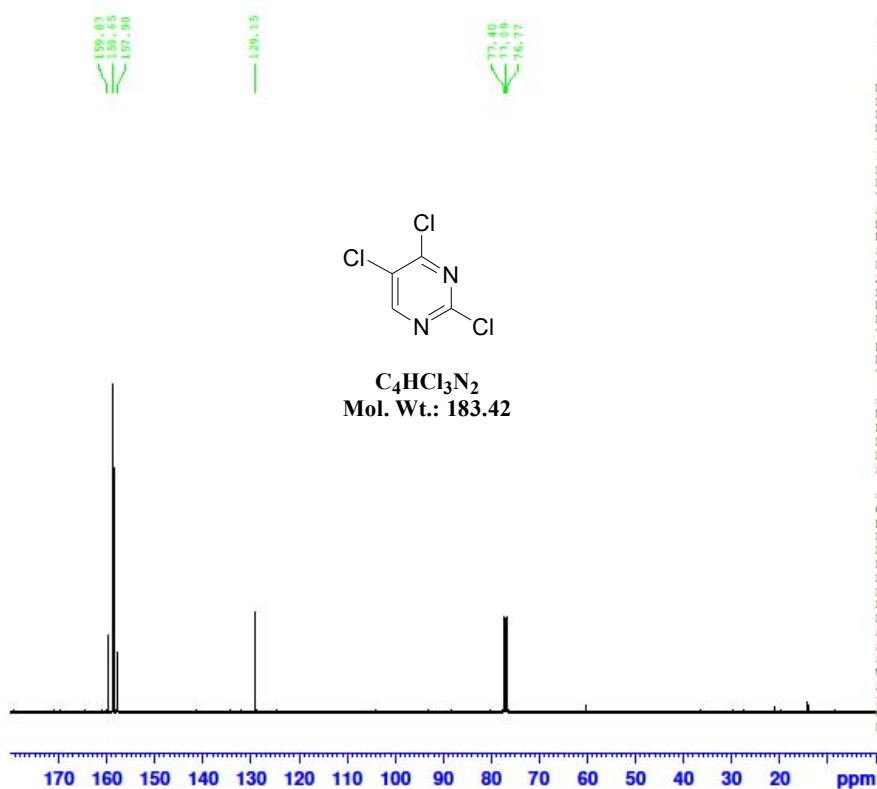


```

NAME      wankun110902-4-H
EXPNO     1
PROCNO    1
Date_     20110902
Time      15.14
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         16
DS         2
SWH       8223.685 Hz
FIDRES    0.125483 Hz
AQ         3.9846387 sec
RG         314
DW         60.800 usec
DE         6.50 usec
TE         296.9 K
D1         1.00000000 sec
TD0        1
  
```

```

===== CHANNEL f1 =====
NUC1      1H
P1         12.86 usec
PL1        -4.00 dB
PL1W      20.19063568 W
SFO1      400.1324710 MHz
SI         32768
SF         400.1300000 MHz
WDW        EM
SSB         0
LB         0.30 Hz
GB         0
PC         1.00
  
```



```

NAME      wankun110902-4-C
EXPNO     1
PROCNO    1
Date_     20110902
Time      15.35
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         263
DS         4
SWH       24038.461 Hz
FIDRES    0.366798 Hz
AQ         1.3631988 sec
RG         912
DW         20.800 usec
DE         6.50 usec
TE         299.2 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1
  
```

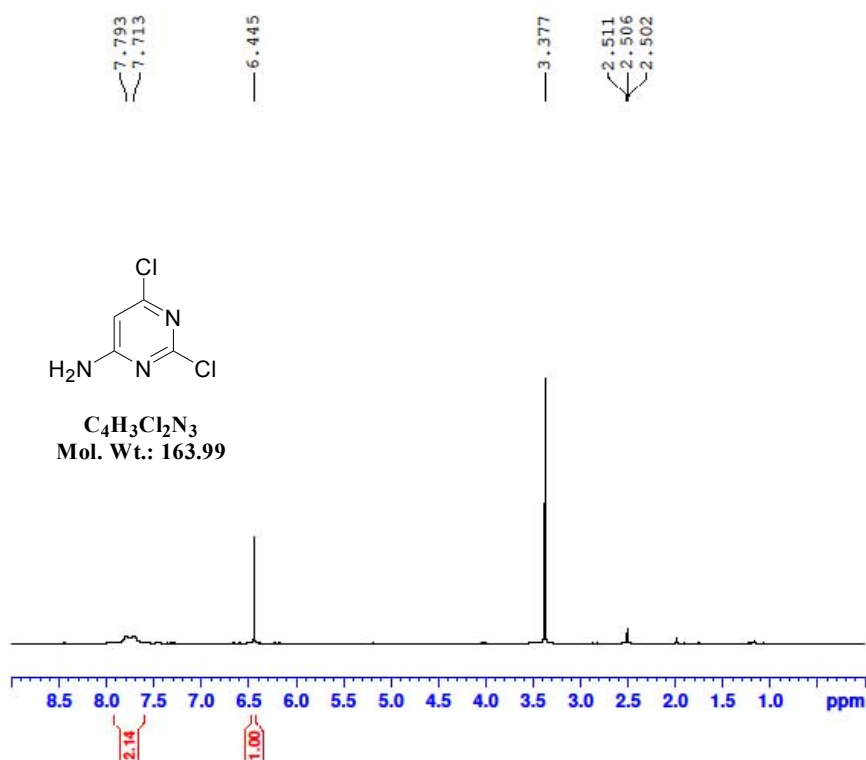
```

===== CHANNEL f1 =====
NUC1      13C
P1         10.10 usec
PL1        -3.00 dB
PL1W      64.15196228 W
SFO1      100.6228298 MHz
  
```

```

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2        -4.00 dB
PL12       11.88 dB
PL13       12.00 dB
PL2W      20.19063568 W
PL12W     0.52137470 W
PL13W     0.50716585 W
SFO2      400.1316005 MHz
SI         32768
SF         100.6127690 MHz
WDW        EM
SSB         0
LB         1.00 Hz
GB         0
PC         1.40
  
```

Compound 4b

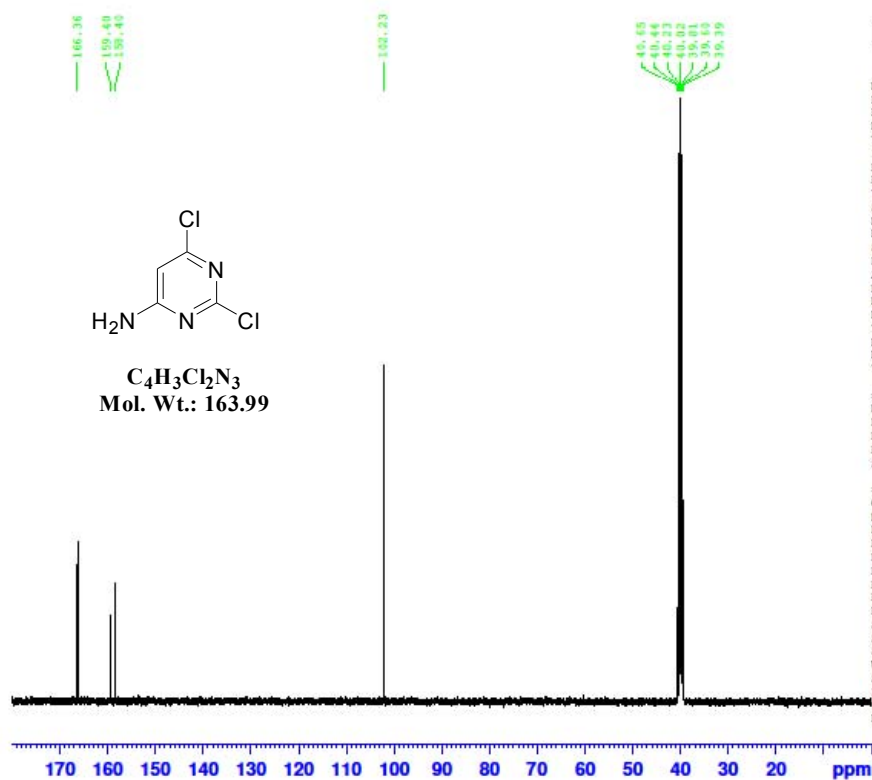


```

NAME      wenkun110920-3
EXPNO     1
PROCNO    1
Date_     20110920
Time      19.16
INSTRUM   spect
PROBHD    5 mm F4BBO BB-
PULPROG   zg30
TD         65536
SOLVENT   DMSO
NS         16
DS         2
SWH        8223.685 Hz
FIDRES     0.125483 Hz
AQ         3.9846387 sec
RG         128
DW         60.800 usec
DE         6.50 usec
TE         296.0 K
D1         1.00000000 sec
TD0        1
  
```

```

===== CHANNEL f1 =====
NUC1      1H
P1        12.86 usec
PL1       -4.00 dB
PL1W      20.19063568 W
SFO1      400.1324710 MHz
SI        32768
SF        400.1300000 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
  
```



```

NAME      wenkun110920-3-C
EXPNO     1
PROCNO    1
Date_     20110920
Time      19.55
INSTRUM   spect
PROBHD    5 mm F4BBO BB-
PULPROG   zgpg30
TD         65536
SOLVENT   DMSO
NS         528
DS         4
SWH        24038.461 Hz
FIDRES     0.366798 Hz
AQ         1.3631988 sec
RG         45.2
DW         20.800 usec
DE         6.50 usec
TE         298.9 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1
  
```

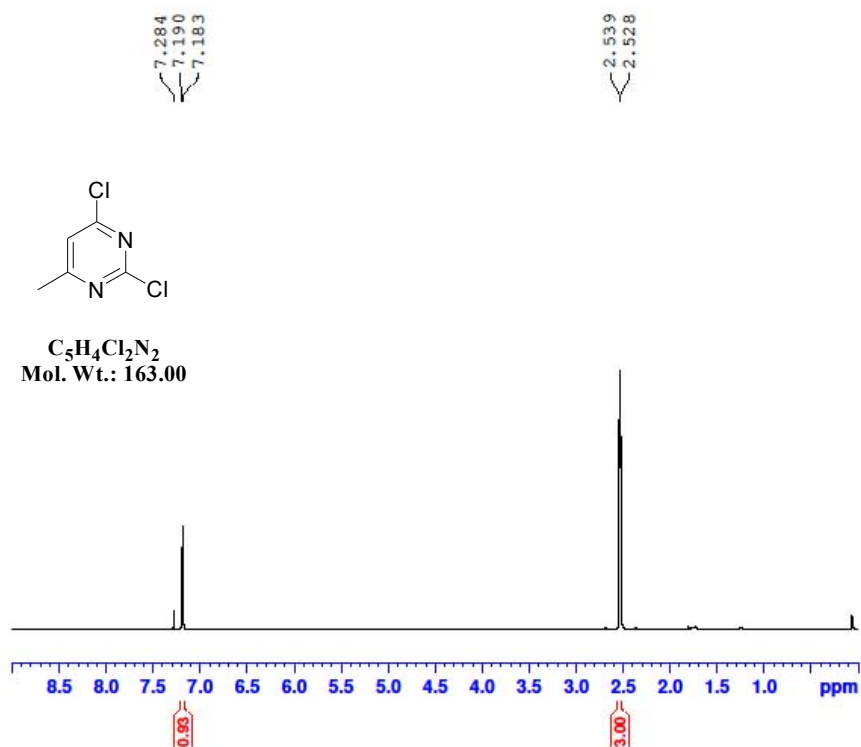
```

===== CHANNEL f1 =====
NUC1      13C
P1        10.10 usec
PL1       -3.00 dB
PL1W      64.15196228 W
SFO1      100.6228298 MHz
  
```

```

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       -4.00 dB
PL12      11.88 dB
PL13      12.00 dB
PL2W      20.19063568 W
PL12W     0.52137470 W
PL13W     0.50716585 W
SFO2      400.1316005 MHz
SI        32768
SF        100.6127690 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
  
```

Compound 5b



```

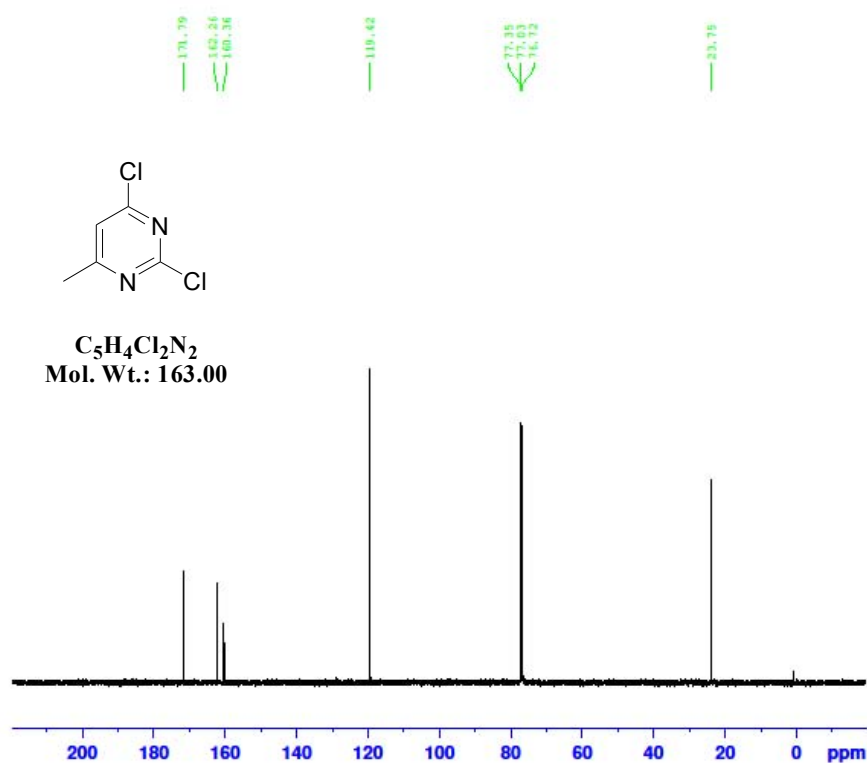
NAME wenkun110902-1-H
EXPNO 1
PROCNO 1
Date_ 20110902
Time 13.51
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 101
DW 60.800 usec
DE 6.50 usec
TE 296.5 K
D1 1.00000000 sec
TD0 1

```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

```



```

NAME wenkun110902-1-C
EXPNO 1
PROCNO 1
Date_ 20110902
Time 14.45
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 302
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 45.2
DW 20.800 usec
DE 6.50 usec
TE 299.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

```

```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz

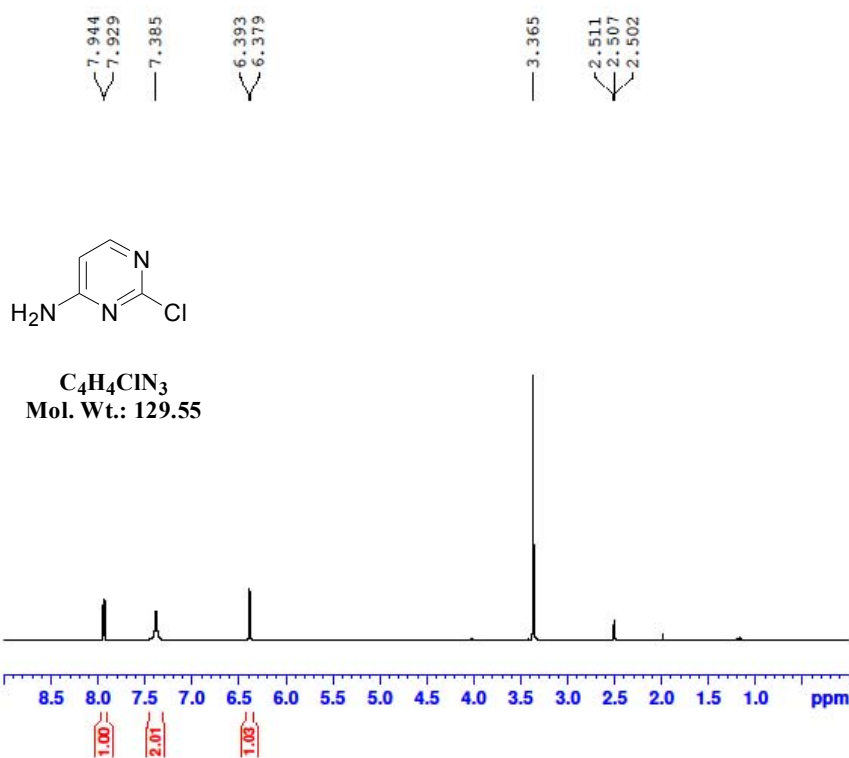
```

```

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

```

Compound 6b

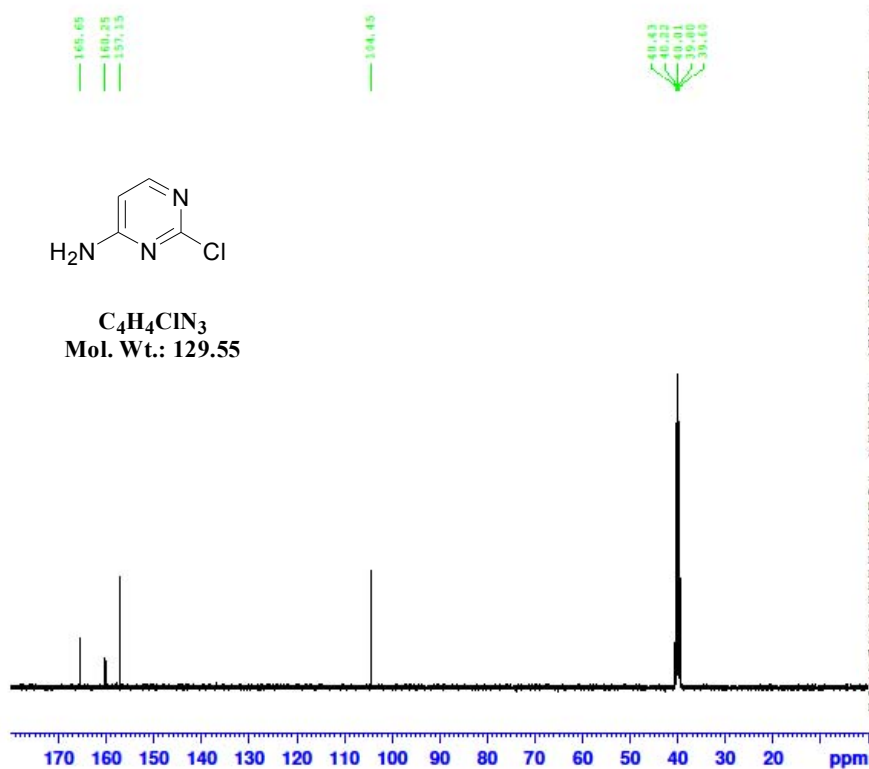


```

NAME      wenkun110901-1-H
EXPNO    1
PROCNO   1
Date_    20110901
Time     10.09
INSTRUM  spect
PROBHD   5 mm FAPBO BB-
PULPROG  zg30
TD       65536
SOLVENT  DMSO
NS       16
DS       2
SWH      8223.685 Hz
FIDRES   0.125483 Hz
AQ       3.9846387 sec
RG       128
DW       60.800 usec
DE       6.50 usec
TE       296.4 K
D1       1.0000000 sec
D11      1
TD0      1
  
```

```

===== CHANNEL f1 =====
NUC1     1H
P1       12.86 usec
PL1      -4.00 dB
PL1W     20.19063568 W
SFO1     400.1324710 MHz
SI       32768
SF       400.1300000 MHz
WDW      EM
SSB      0
LB       0.30 Hz
GB       0
PC       1.00
  
```



```

NAME      wenkun110901-1-C
EXPNO    1
PROCNO   1
Date_    20110901
Time     10.24
INSTRUM  spect
PROBHD   5 mm FAPBO BB-
PULPROG  zgpg30
TD       65536
SOLVENT  DMSO
NS       212
DS       4
SWH      24038.461 Hz
FIDRES   0.366798 Hz
AQ       1.3631988 sec
RG       362
DW       20.800 usec
DE       6.50 usec
TE       298.7 K
D1       2.0000000 sec
D11      0.0300000 sec
TD0      1
  
```

```

===== CHANNEL f1 =====
NUC1     13C
P1       10.10 usec
PL1      -3.00 dB
PL1W     64.15196228 W
SFO1     100.6228298 MHz
  
```

```

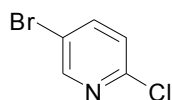
===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    80.00 usec
PL2      -4.00 dB
PL12     11.88 dB
PL13     12.00 dB
PL2W     20.19063568 W
PL12W    0.52137470 W
PL13W    0.50716585 W
SFO2     400.1316005 MHz
SI       32768
SF       100.6127690 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
PC       1.40
  
```


Compound 7b

H NMR

8.486
8.480
7.801
7.795
7.780
7.774
7.284
7.271
7.250

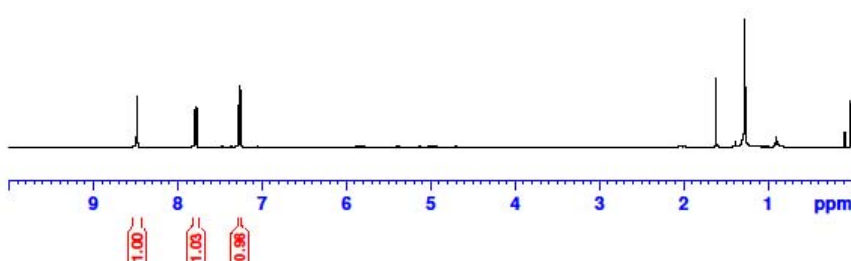
1.616
1.272



C_5H_3BrClN
Mol. Wt.: 192.44

```

NAME      wankun20110829
EXPNO     1
PROCNO    1
Date_     20110829
Time      10.27
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         16
DS         2
SWH        8223.685 Hz
FIDRES     0.125483 Hz
AQ         3.9846387 sec
RG         161
DW         60.800 usec
DE         6.50 usec
TE         296.3 K
D1         1.00000000 sec
TD0        1
  
```



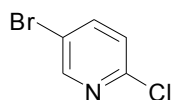
```

===== CHANNEL f1 =====
NUC1      1H
P1        12.86 usec
PL1       -4.00 dB
PL1W      20.19063568 W
SFO1      400.1324710 MHz
SI        32768
SF        400.1300000 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
  
```

H NMR

156.72
150.13
141.22
128.69
119.11

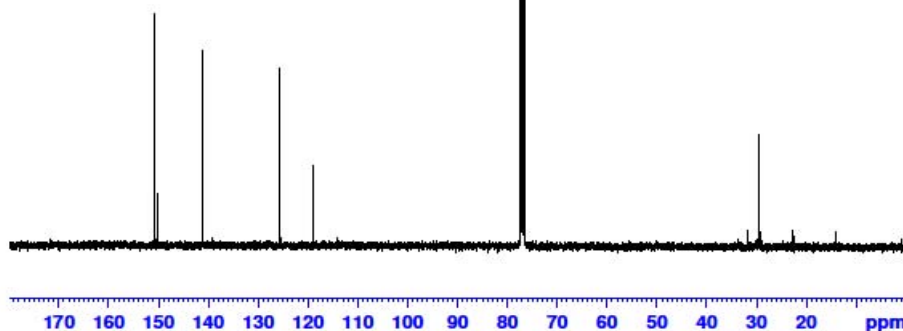
77.22
77.00
76.68



C_5H_3BrClN
Mol. Wt.: 192.44

```

NAME      wankun20110829-C
EXPNO     1
PROCNO    1
Date_     20110829
Time      11.44
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         984
DS         4
SWH        24038.461 Hz
FIDRES     0.366798 Hz
AQ         1.3631988 sec
RG         512
DW         20.800 usec
DE         6.50 usec
TE         299.2 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1
  
```

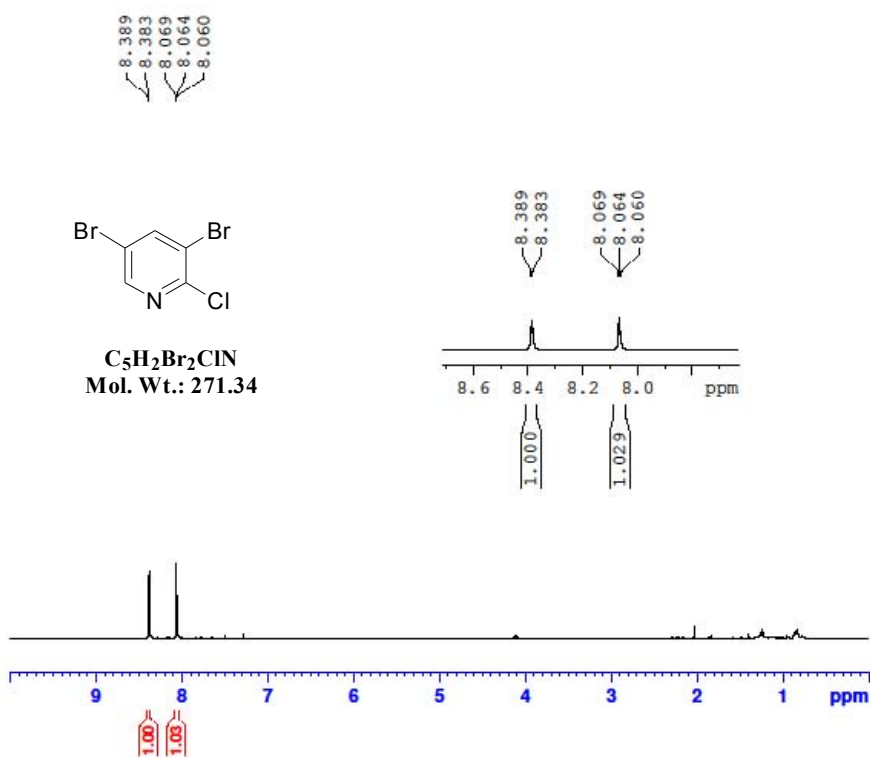


```

===== CHANNEL f1 =====
NUC1      13C
P1        10.10 usec
PL1       -3.00 dB
PL1W      64.15196228 W
SFO1      100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       -4.00 dB
PL12     11.88 dB
PL13     12.00 dB
PL14     12.00 dB
PL12W    0.52137470 W
PL13W    0.50716585 W
SFO2     400.1316005 MHz
SI        32768
SF        100.6127690 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
  
```

Compound 8b

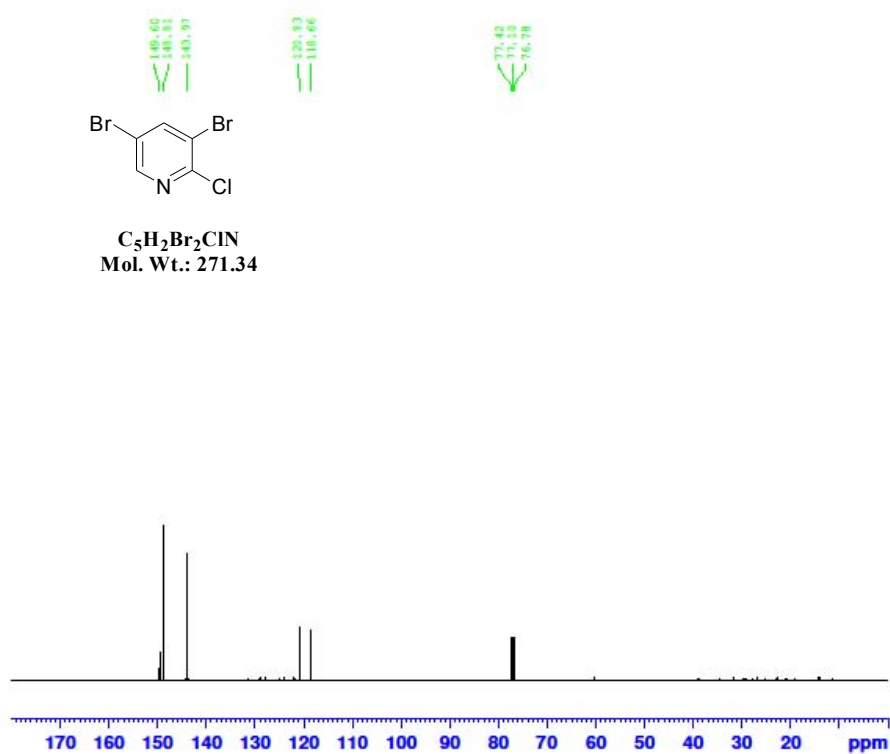


```

NAME wankun110823-3
EXPNO 1
PROCNO 1
Date_ 20110823
Time 12.21
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
ID 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 64
DW 60.800 usec
DE 6.50 usec
TE 296.4 K
D1 1.00000000 sec
TD0 1
  
```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDM EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
  
```



```

NAME wankun110823-3-C
EXPNO 1
PROCNO 1
Date_ 20110823
Time 13.13
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
ID 65536
SOLVENT CDCl3
NS 736
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 456
DW 20.800 usec
DE 6.50 usec
TE 299.4 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
  
```

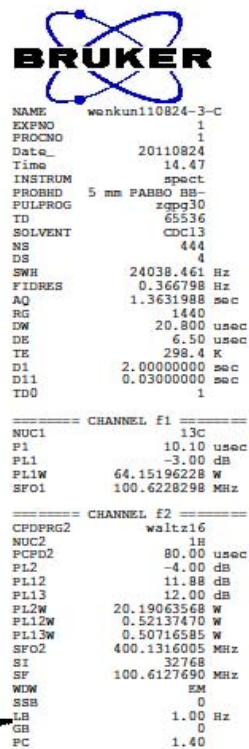
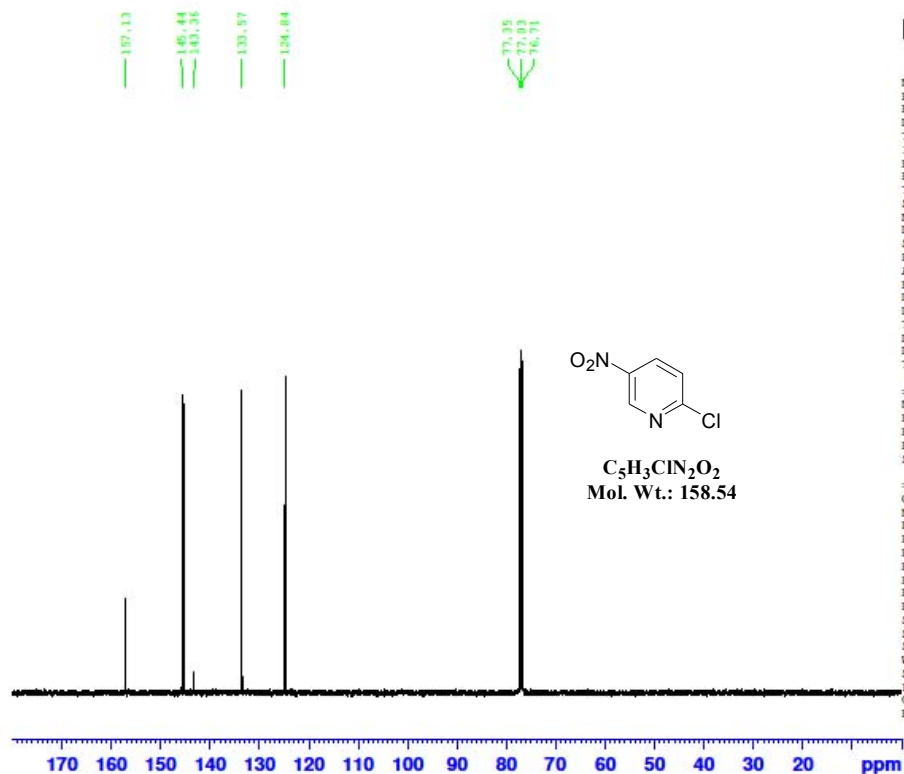
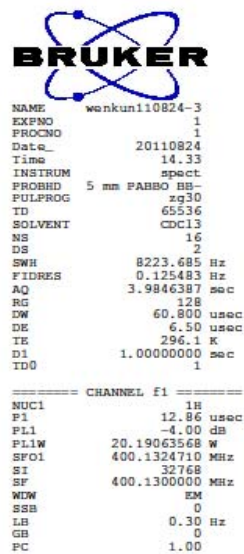
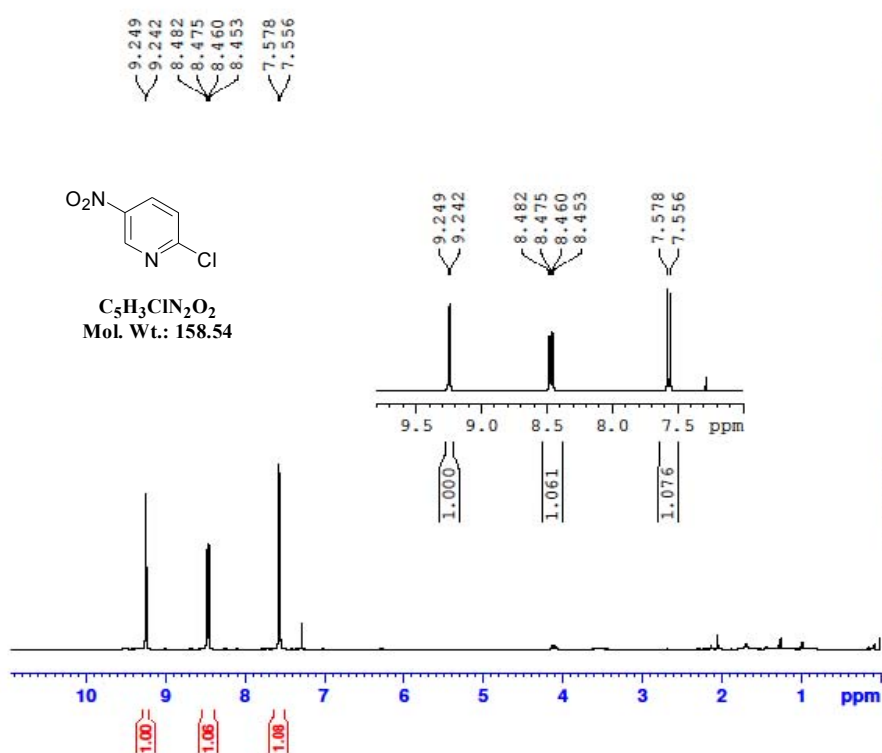
```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz
  
```

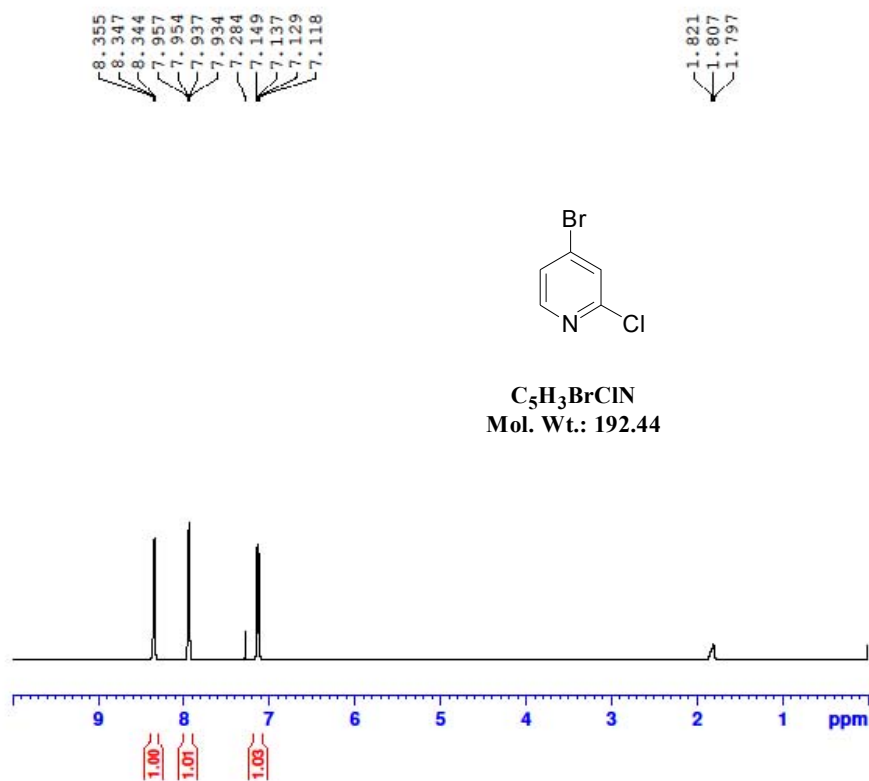
```

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDM EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```


Compound 9b



Compound 10b



```

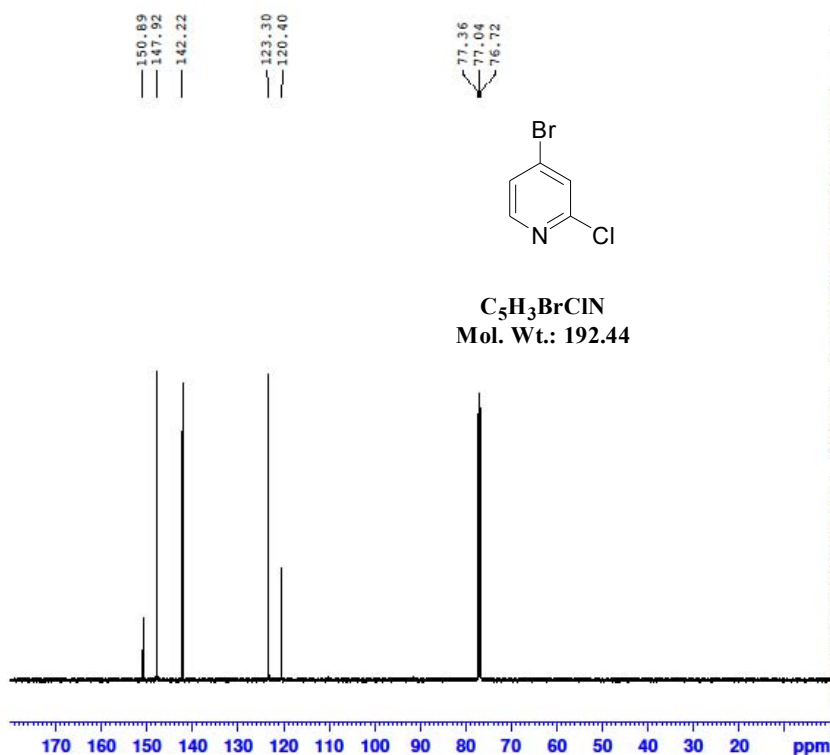
NAME wenkun110915-2-H
EXPNO 1
PROCNO 1
Date_ 20110915
Time 17.58
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 128
DW 60.800 usec
DE 6.50 usec
TE 297.4 K
D1 1.00000000 sec
TD0 1

```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

```



```

NAME wenkun110915-2-C
EXPNO 1
PROCNO 1
Date_ 20110915
Time 18.42
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 608
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 45.2
DW 20.800 usec
DE 6.50 usec
TE 299.8 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

```

```

===== CHANNEL F1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz

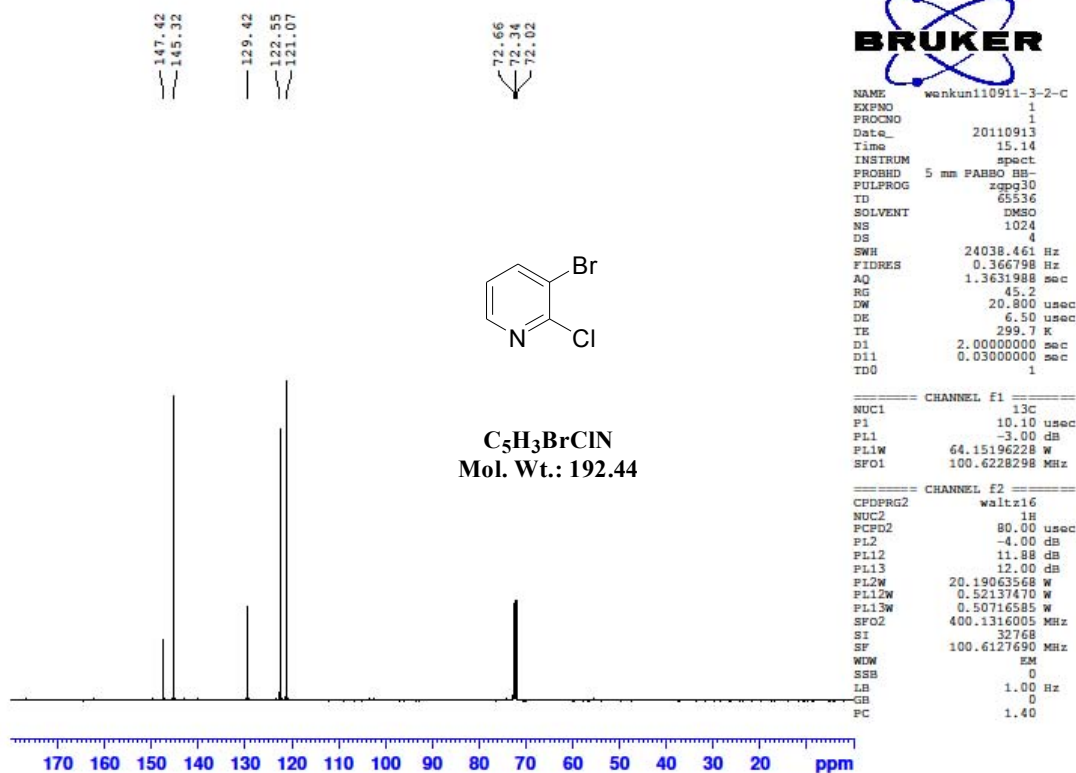
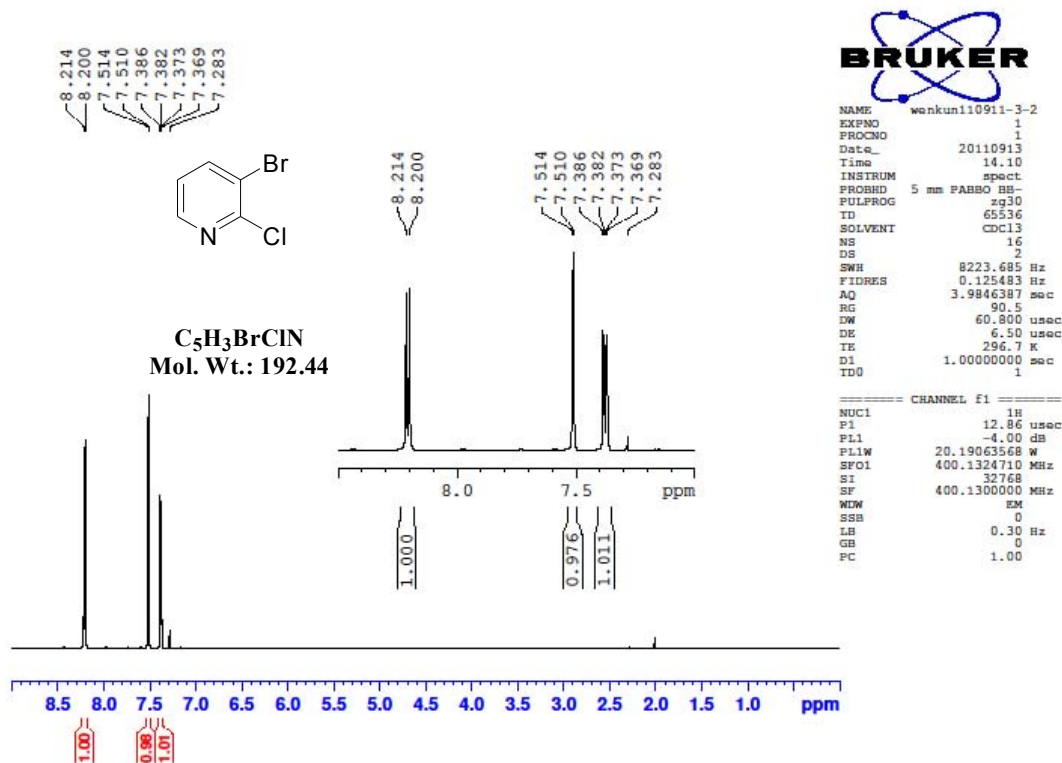
```

```

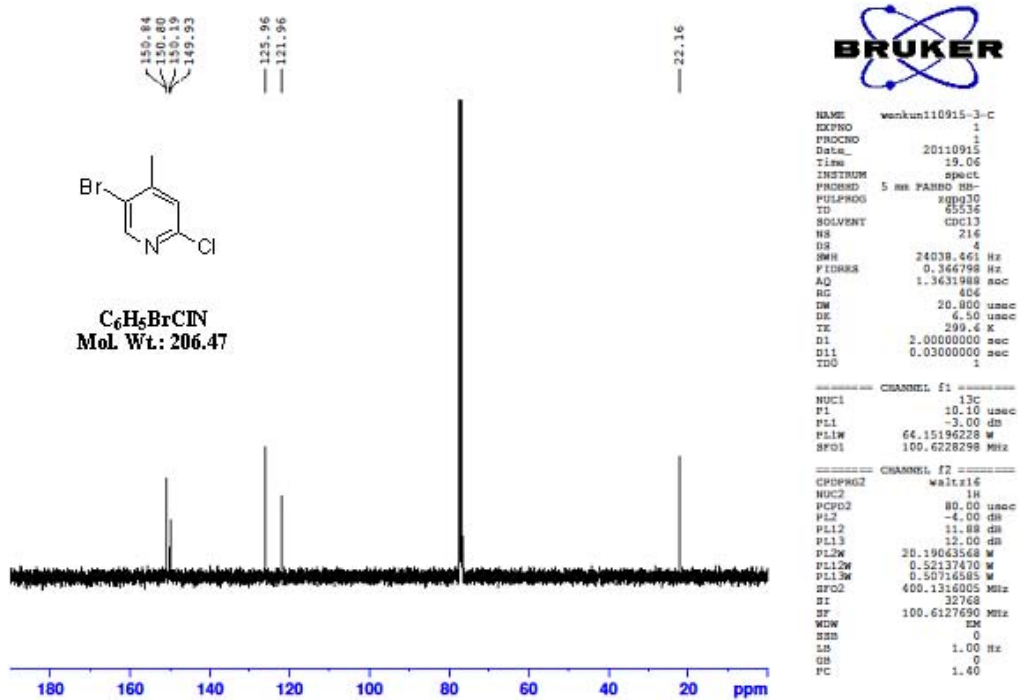
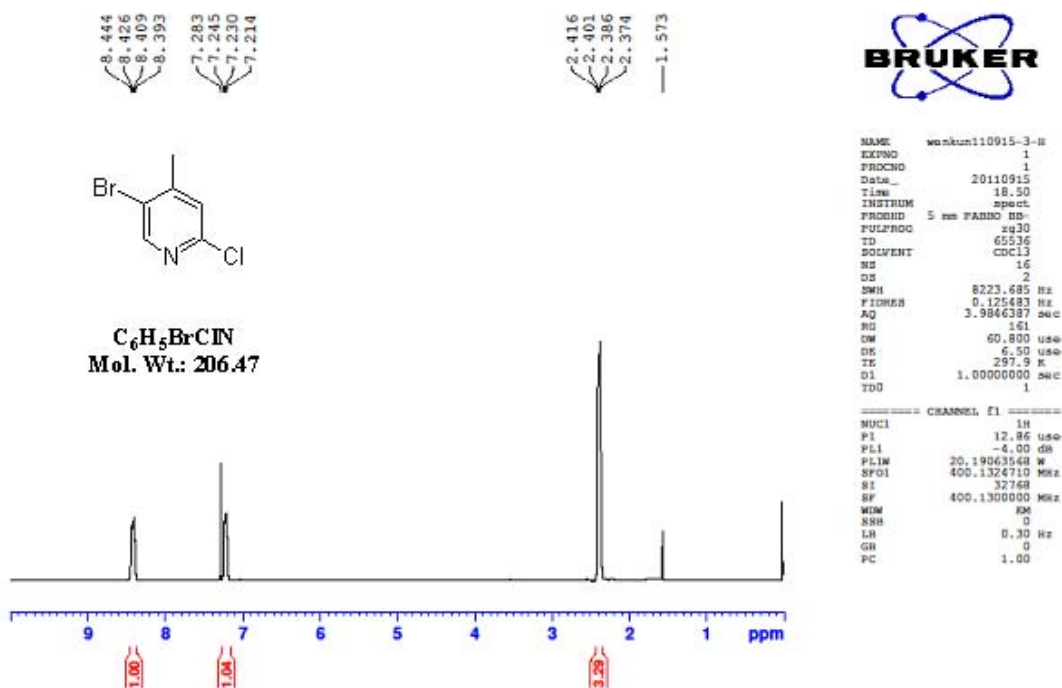
===== CHANNEL F2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

```

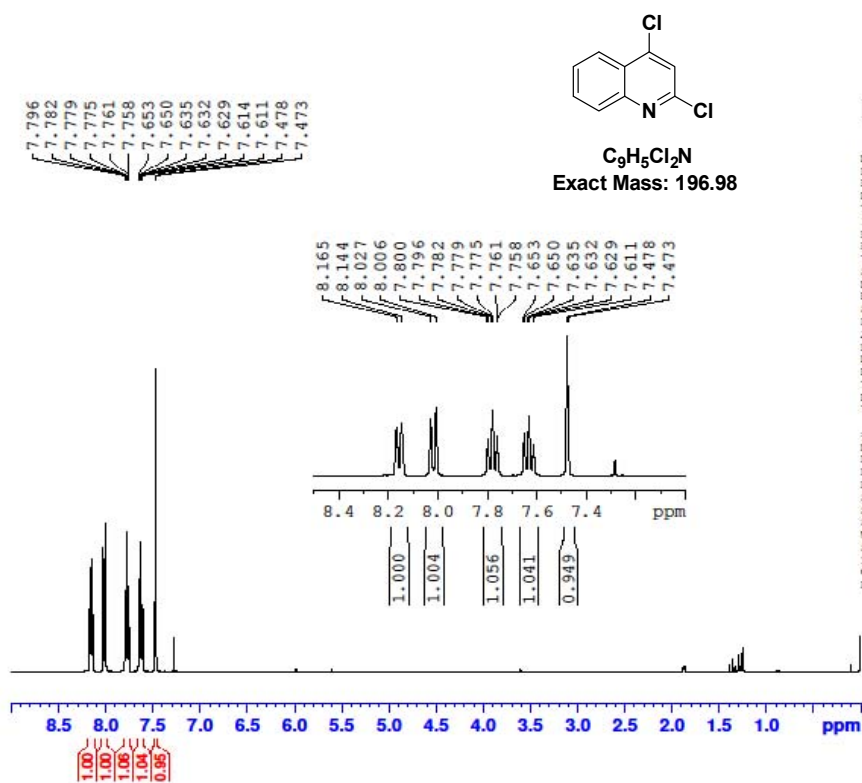
Compound 11b



Compound 12b



Compound 14b

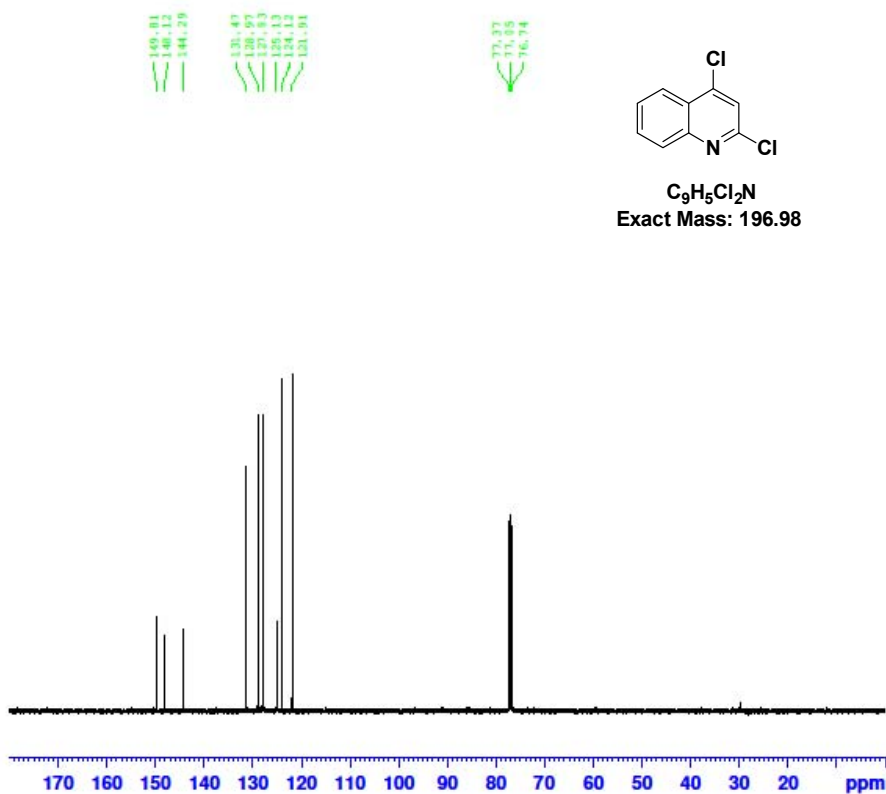


```

NAME      wenkun 110818-6
EXPNO    1
PROCNO   1
Date_    20110818
Time     15.41
INSTRUM  spect
PROBHD   5 mm FAPBO BB-
PULPROG  zg30
TD       65536
SOLVENT  CDCl3
NS       16
DS       2
SWH      8223.685 Hz
FIDRES   0.125483 Hz
AQ       3.9846397 sec
RG       90.5
DW       60.800 usec
DE       6.50 usec
TE       296.9 K
D1       1.0000000 sec
TD0      1
  
```

```

===== CHANNEL f1 =====
NUC1     1H
P1       12.86 usec
PL1      -4.00 dB
PL1W    20.19063568 W
SFO1    400.1324710 MHz
SI       32768
SF      400.1300000 MHz
WDW      EM
SSB      0
LB       0.30 Hz
GB       0
PC       1.00
  
```



```

NAME      wenkun 110818-6--C
EXPNO    1
PROCNO   1
Date_    20110818
Time     15.58
INSTRUM  spect
PROBHD   5 mm FAPBO BB-
PULPROG  zgpg30
TD       65536
SOLVENT  CDCl3
NS       220
DS       4
SWH      24038.461 Hz
FIDRES   0.366798 Hz
AQ       1.3631988 sec
RG       512
DW       20.800 usec
DE       6.50 usec
TE       298.9 K
D1       2.0000000 sec
D11      0.0300000 sec
TD0      1
  
```

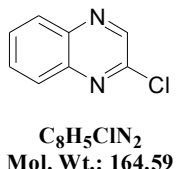
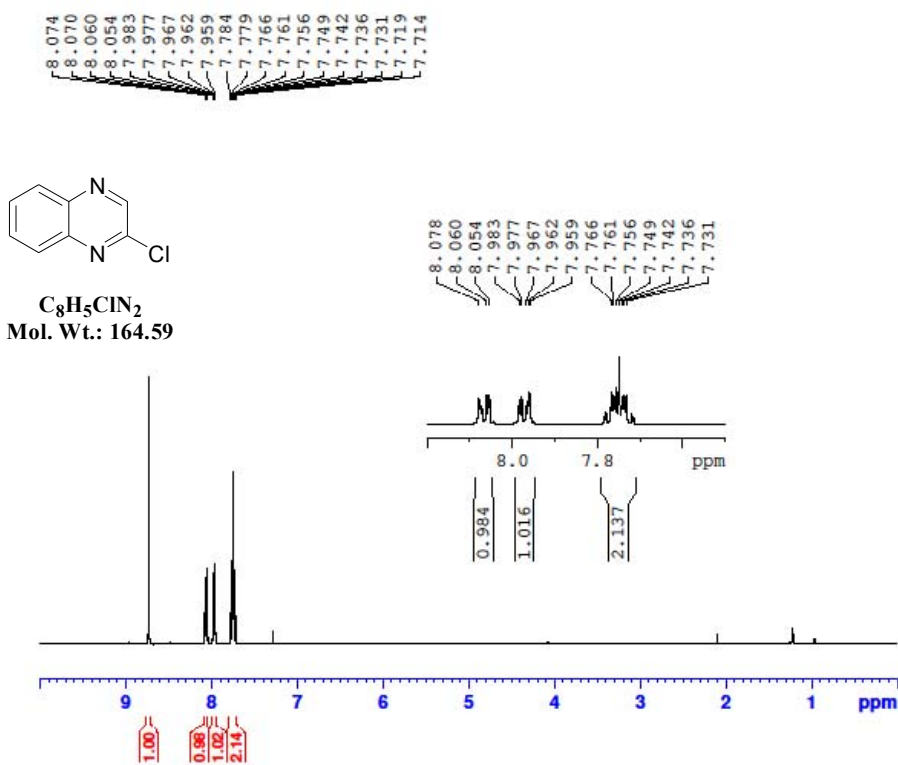
```

===== CHANNEL f1 =====
NUC1     13C
P1       10.10 usec
PL1      -3.00 dB
PL1W    64.15196228 W
SFO1    100.6228298 MHz
  
```

```

===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    80.00 usec
PL2      -4.00 dB
PL12     11.88 dB
PL13     12.00 dB
PL2W    20.19063568 W
PL12W   0.52137470 W
PL13W   0.50716585 W
SFO2    400.1316005 MHz
SI       32768
SF      100.6127690 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
PC       1.40
  
```

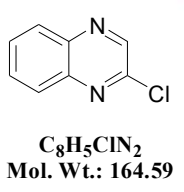
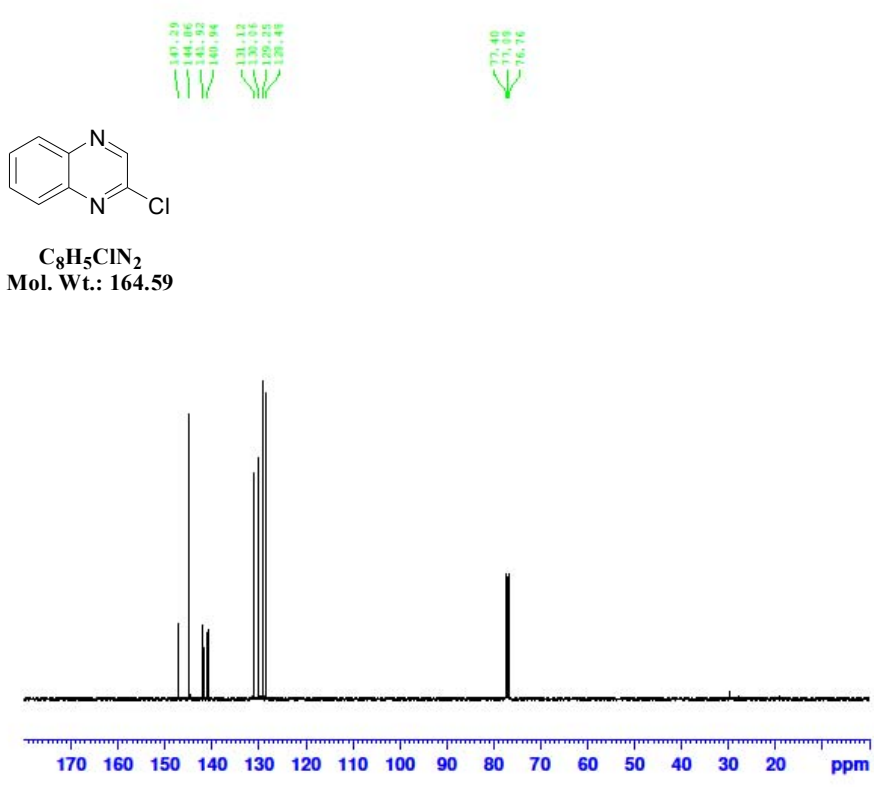

Compound 15b



```

NAME      wenkun 110818-4
EXPNO    1
PROCNO    1
Date_     20110818
Time      15.02
INSTRUM   spect
PROBHD    5 mm PABBO BH-
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         16
DS         2
SWH        8223.685 Hz
FIDRES     0.125483 Hz
AQ         3.9846387 sec
RG         64
DW         60.800 usec
DE         6.50 usec
TE         296.6 K
D1         1.00000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1      1H
P1        12.86 usec
PL1       -4.00 dB
PL1W      20.19063568 W
SFO1      400.1324710 MHz
SI        32768
SF        400.1300000 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB         0
PC         1.00
    
```



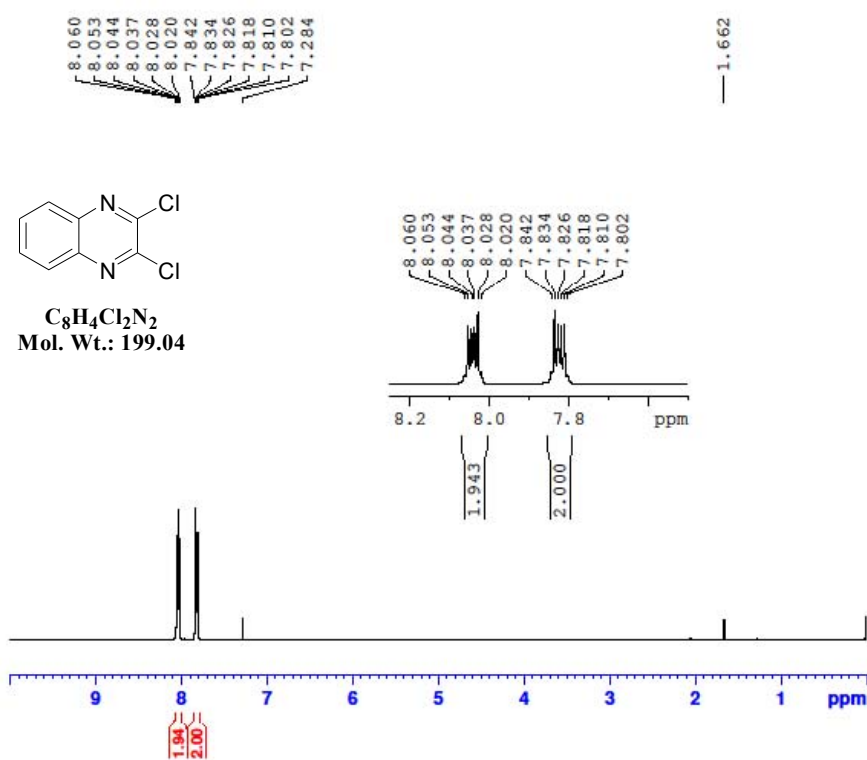
```

NAME      wenkun 110818-4--C
EXPNO    1
PROCNO    1
Date_     20110818
Time      15.29
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         284
DS         4
SWH        24038.461 Hz
FIDRES     0.366798 Hz
AQ         1.3631988 sec
RG         456
DW         20.800 usec
DE         6.50 usec
TE         299.0 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1

===== CHANNEL f1 =====
NUC1      13C
P1        10.10 usec
PL1       -3.00 dB
PL1W      64.15196228 W
SFO1      100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       -4.00 dB
PL12     11.88 dB
PL13     12.00 dB
PL12W    20.19063568 W
PL13W    0.52137470 W
PL13W    0.50716585 W
SFO2     400.1316005 MHz
SI        32768
SF        100.6127690 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB         0
PC         1.40
    
```


Compound 16b

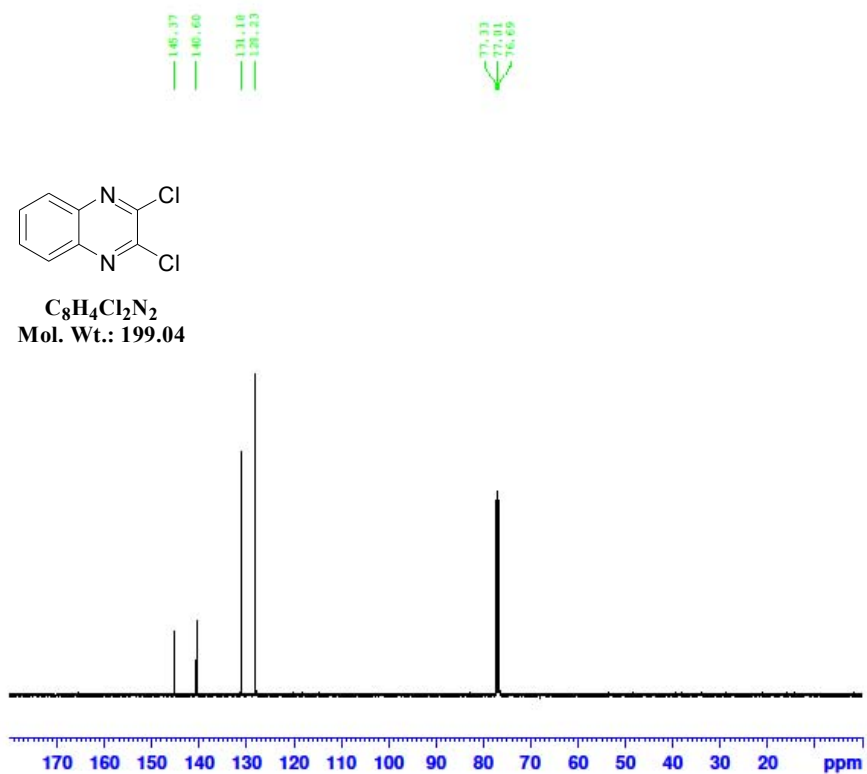


```

NAME wenkun110721-2-H
EXPNO 1
PROCNO 1
Date_ 20110721
Time 15.58
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 144
DW 60.800 usec
DE 6.50 usec
TE 296.5 K
D1 1.00000000 sec
TD0 1
  
```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
  
```



```

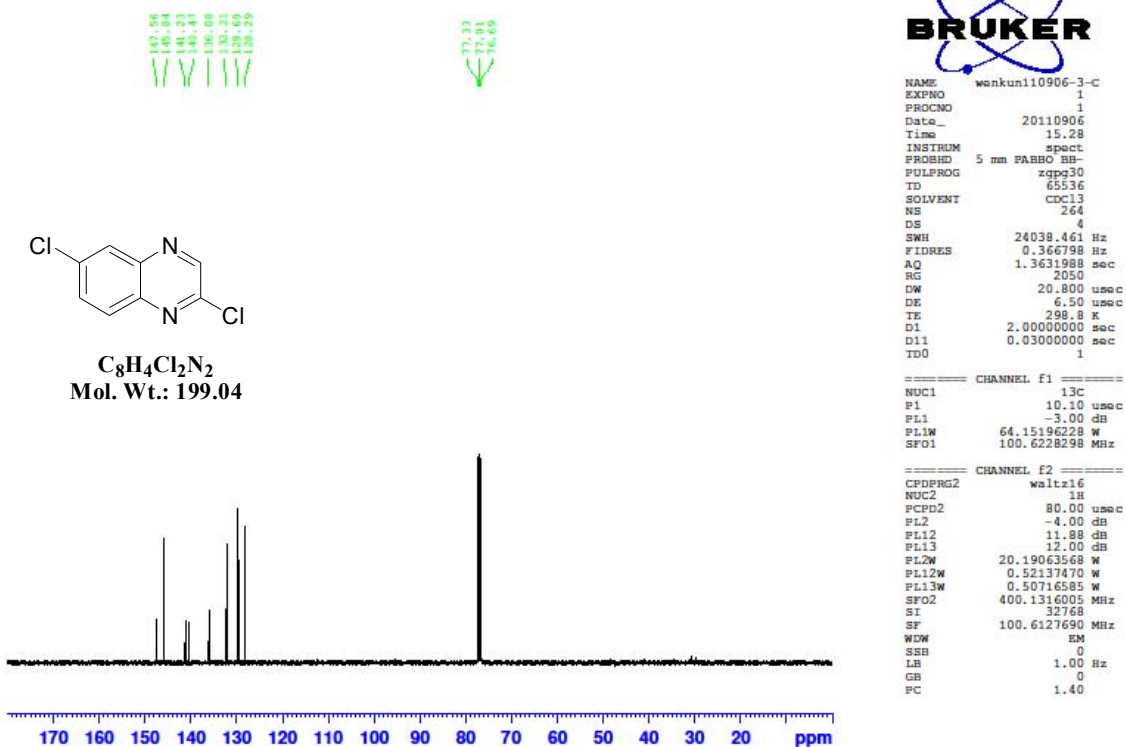
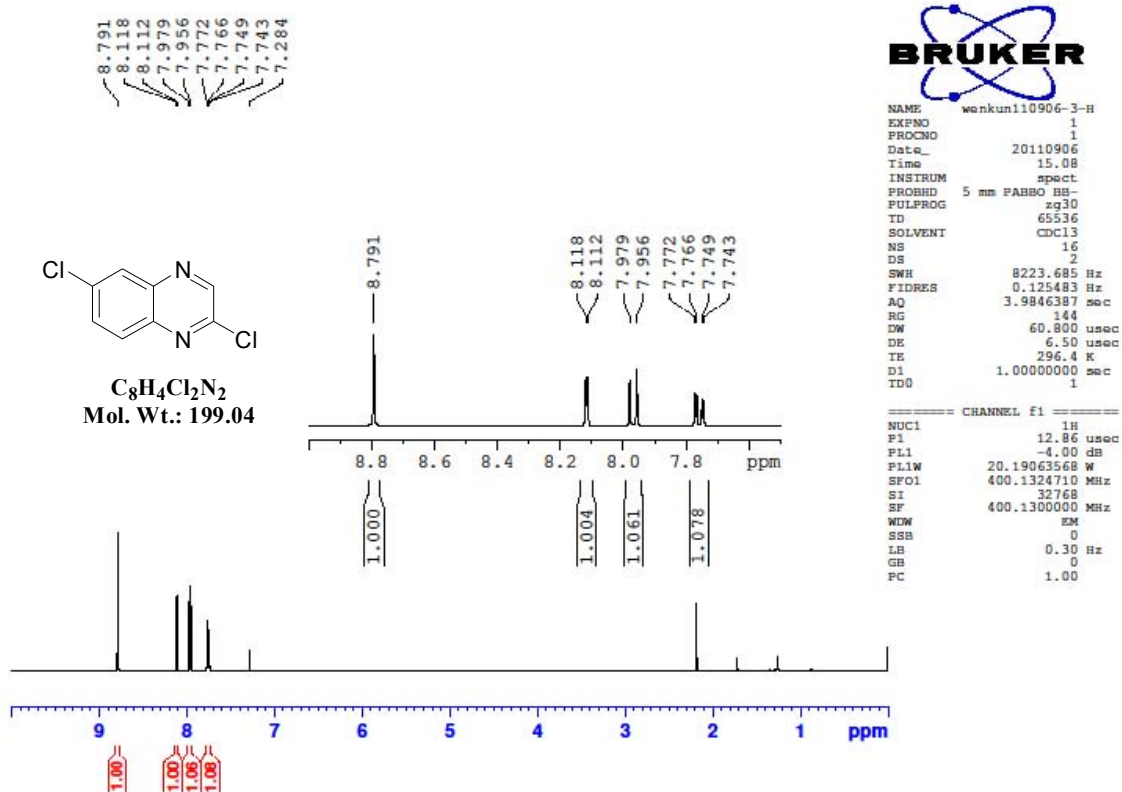
NAME wenkun110721-3-C
EXPNO 1
PROCNO 1
Date_ 20110721
Time 16.26
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 358
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 575
DW 20.800 usec
DE 6.50 usec
TE 298.9 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
  
```

```

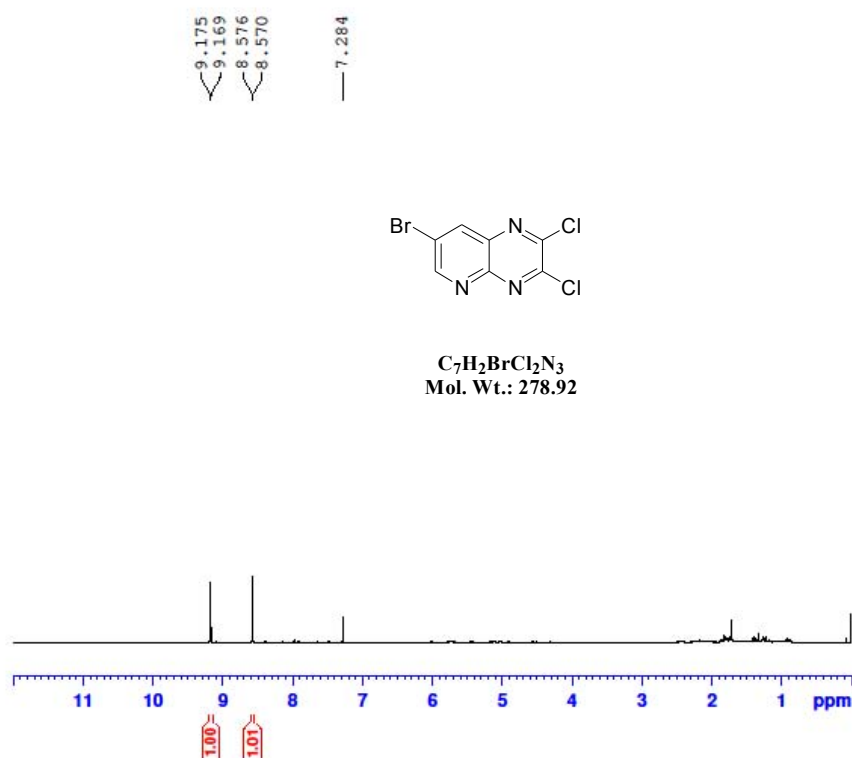
===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

Compound 17b



Compound 18b



```

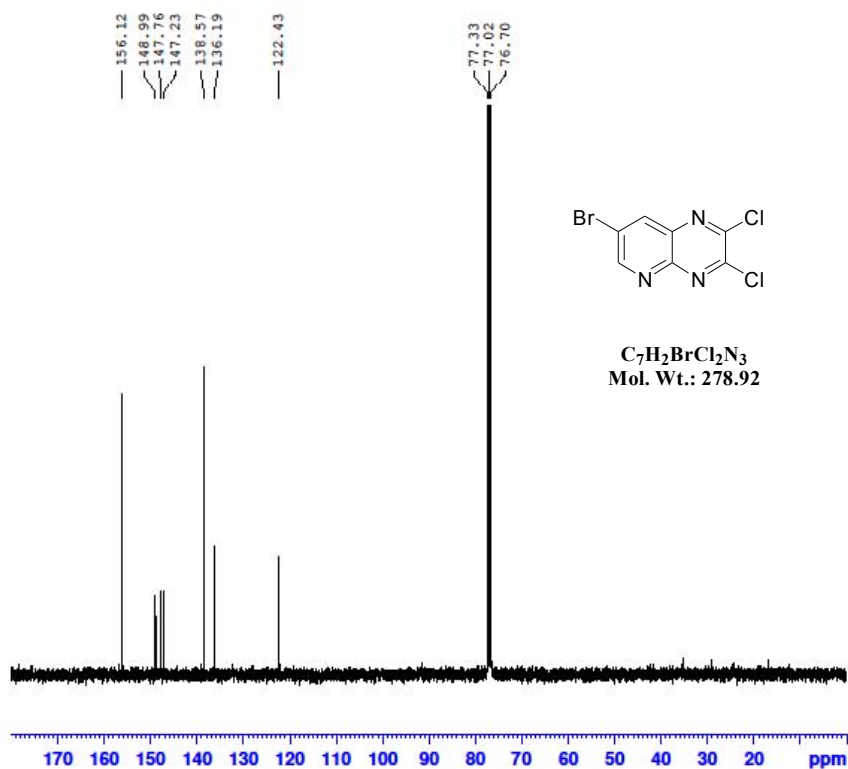
NAME wenkun110930
EXPNO 1
PROCNO 1
Date_ 20110930
Time 12.03
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDC13
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 144
DW 60.800 usec
DE 6.50 usec
TE 296.1 K
D1 1.00000000 sec
TD0 1

```

```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

```



```

NAME wenkun110930-C
EXPNO 1
PROCNO 1
Date_ 20110930
Time 12.14
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 352
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 456
DW 20.800 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

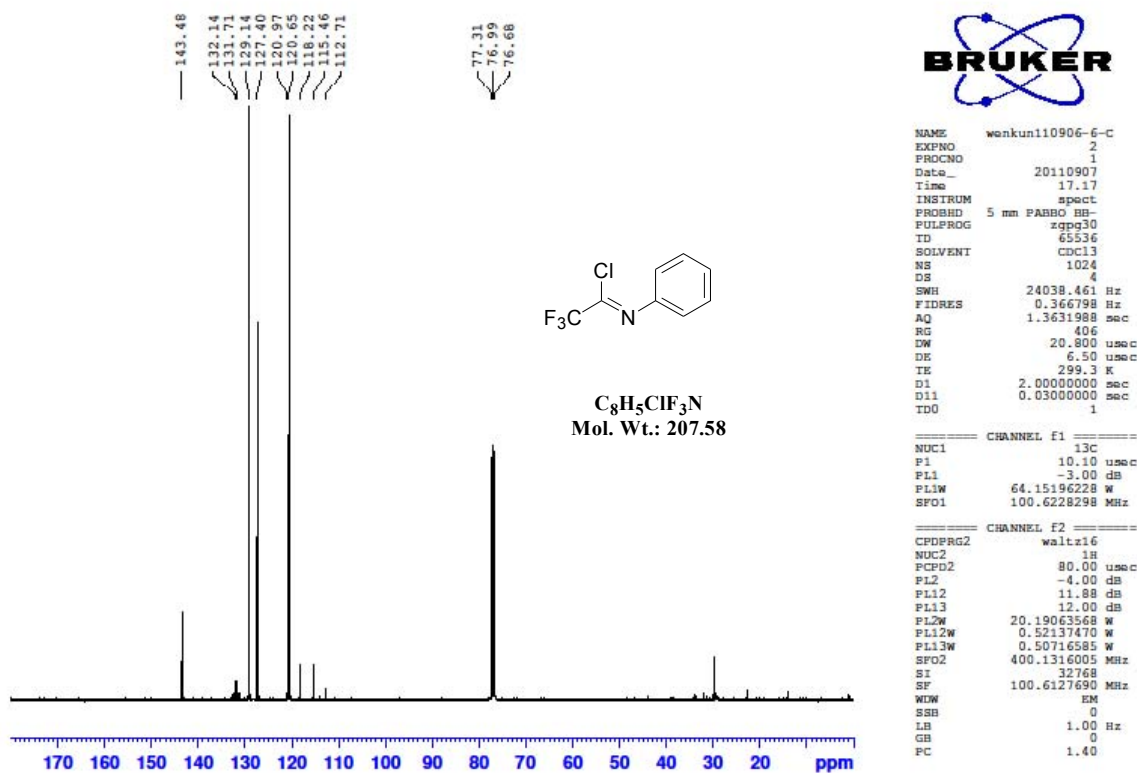
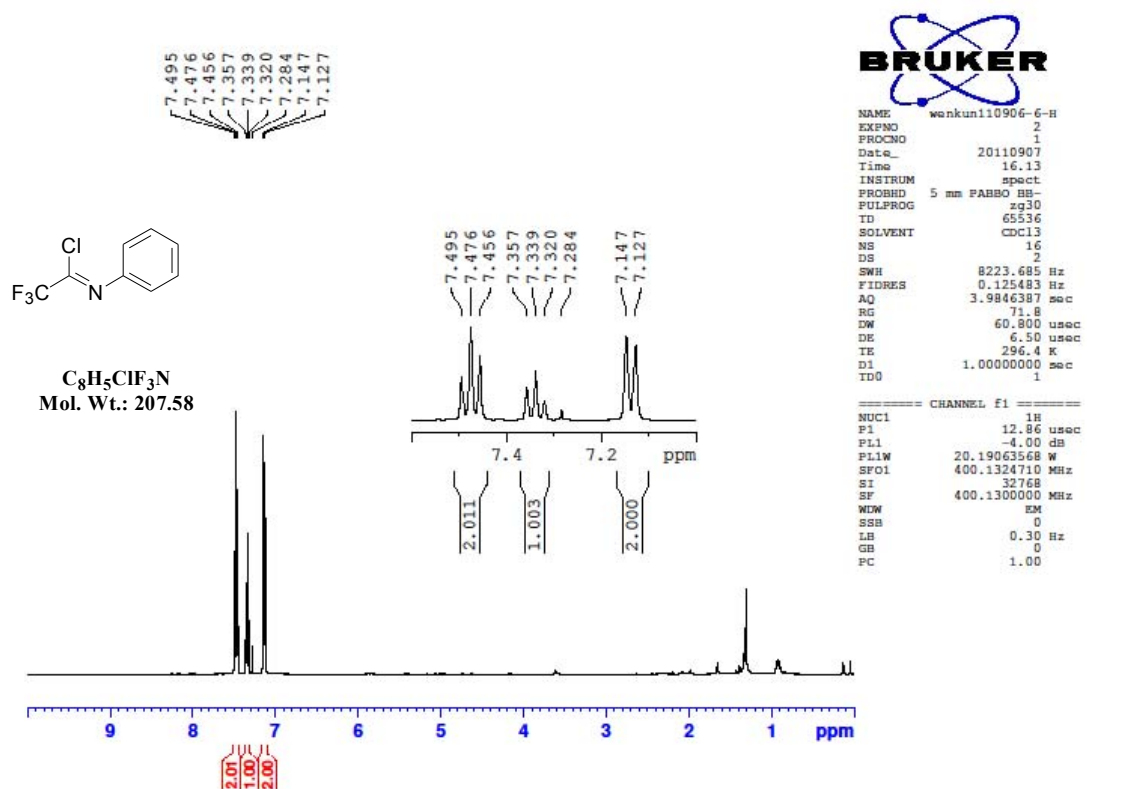
```

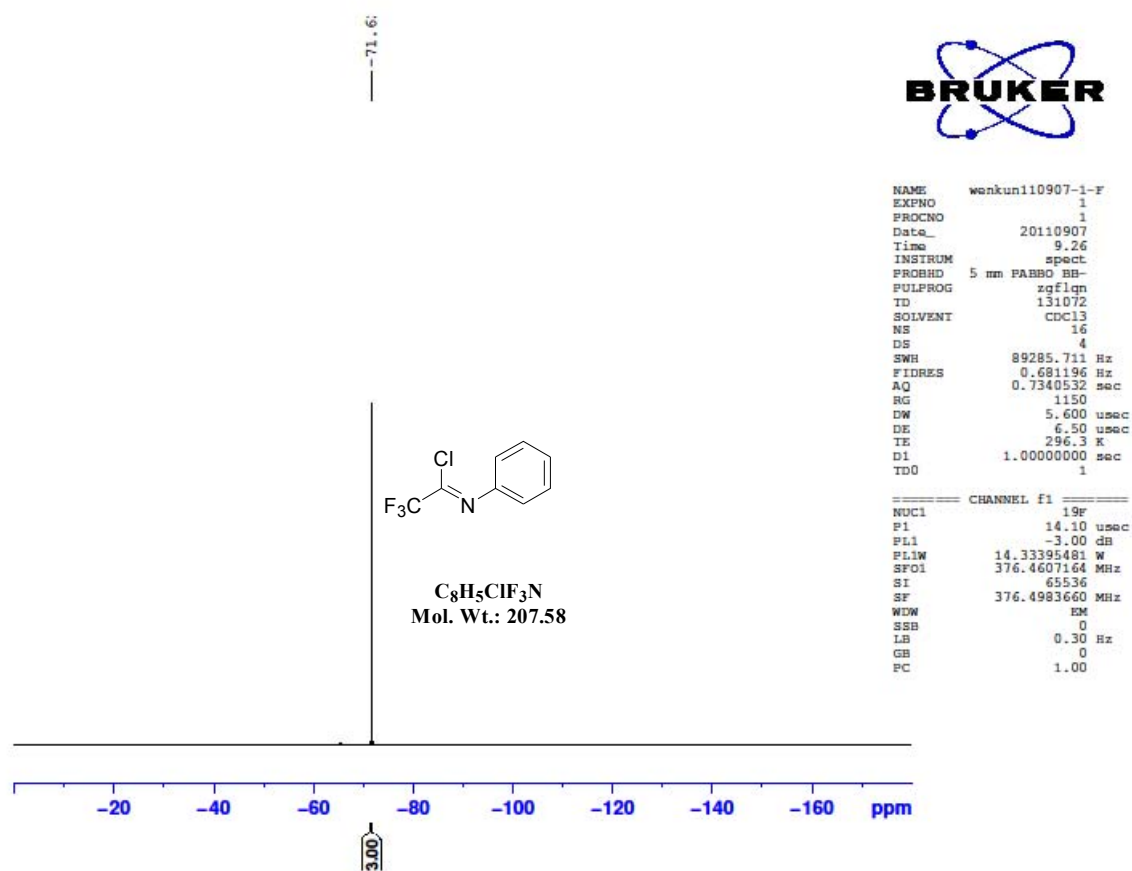
```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716595 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

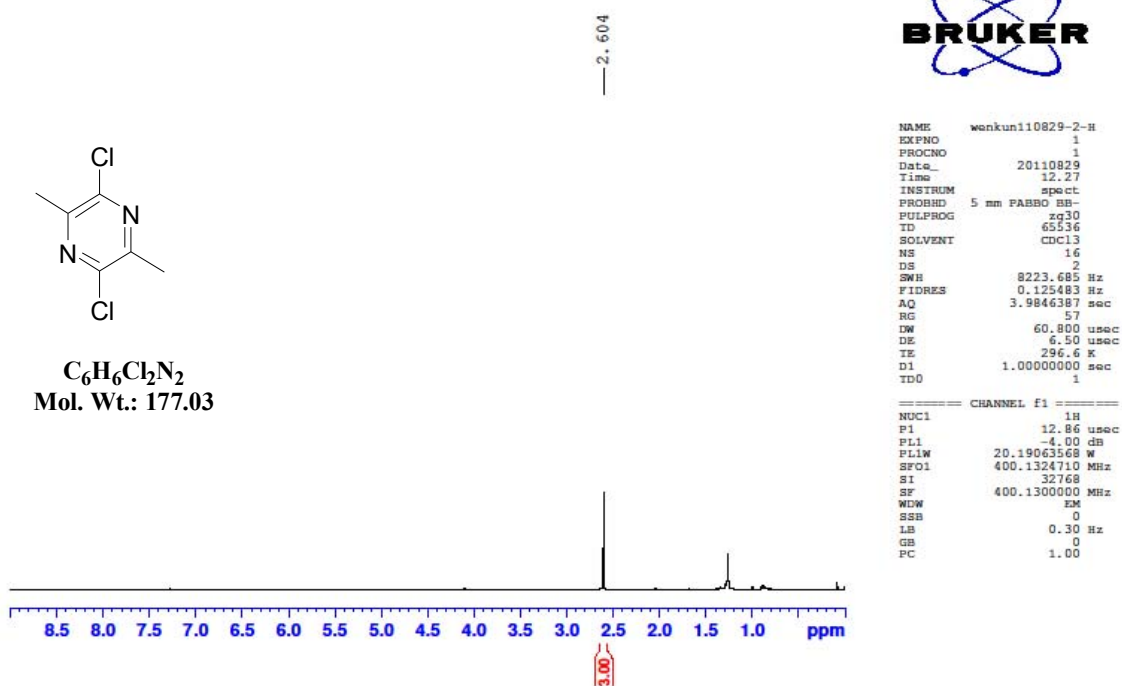
```

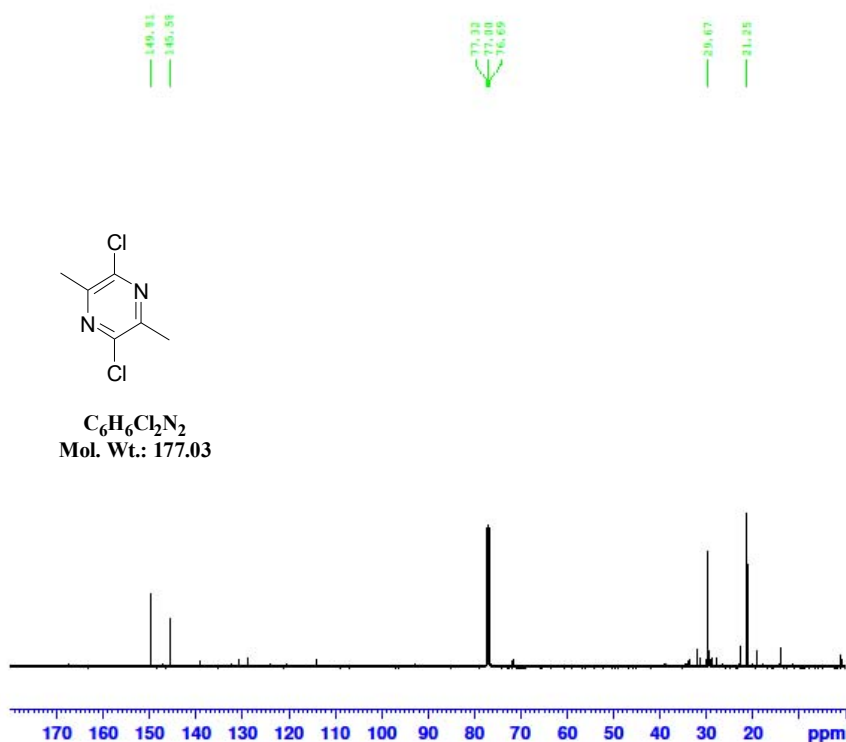
Compound 19: *N*-phenyl-trifluoroacetimidoyl chloride



Compound 20: 2,5-Dichloro-3,6-dimethyl-pyrazine

H NMR





```

NAME wenkun110829-2-C
EXPNO 1
PROCNO 1
Date_ 20110829
Time 12.59
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT cdc13
NS 472
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 45.2
DW 20.800 usec
DE 6.50 usec
TE 299.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
  
```

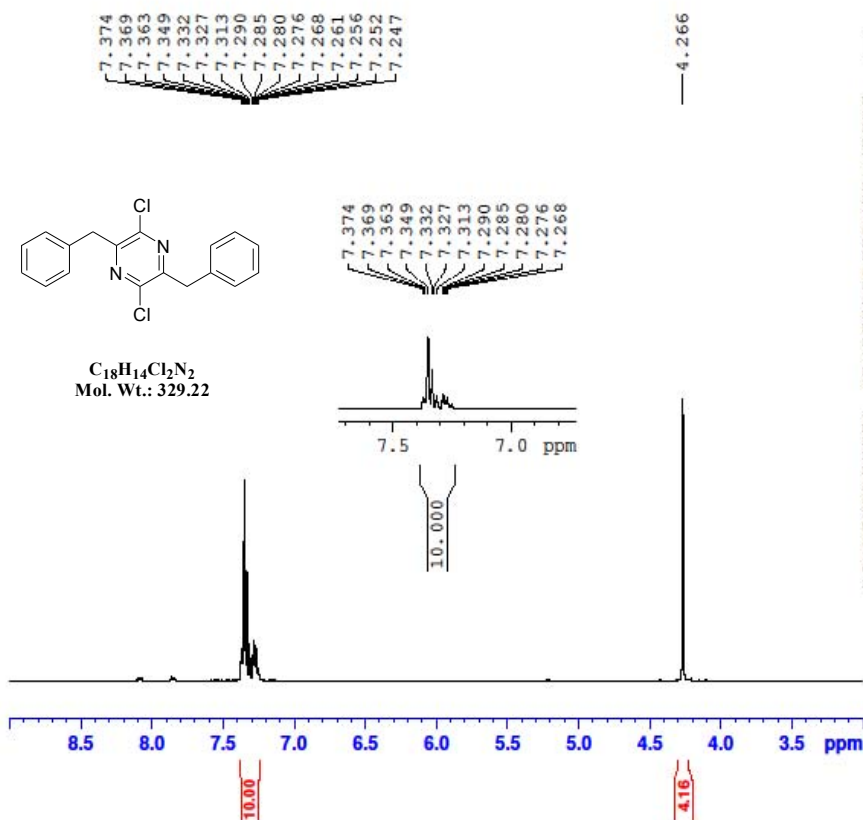
```

===== CHANNEL f1 =====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz
  
```

```

===== CHANNEL F2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
  
```

Compound 21: 2,5-Dichloro-3,6-dibenzyl-pyrazine



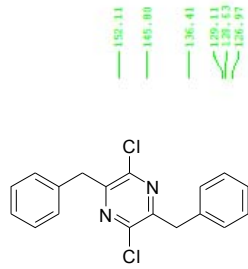
```

NAME wenkun110727-2-H
EXPNO 2
PROCNO 1
Date_ 20110727
Time 10.56
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT cdc13
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 90.5
DW 60.800 usec
DE 6.50 usec
TE 297.0 K
D1 1.00000000 sec
TD0 1
  
```

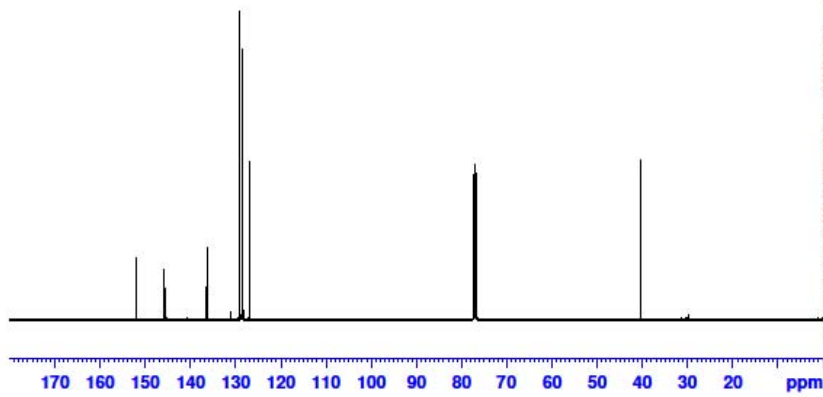
```

===== CHANNEL f1 =====
NUC1 1H
P1 12.86 usec
PL1 -4.00 dB
PL1W 20.19063568 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
  
```


CCC



$C_{18}H_{14}Cl_2N_2$
Mol. Wt.: 329.22



NAME wenkun110727-2-C
EXPNO 2
PROCNO 1
Date_ 20110727
Time 11.48
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT cdcl3
NS 768
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 912
DW 20.800 usec
DE 6.50 usec
TE 300.0 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1

==== CHANNEL F1 ====
NUC1 13C
P1 10.10 usec
PL1 -3.00 dB
PL1W 64.15196228 W
SFO1 100.6228298 MHz

==== CHANNEL E2 ====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
P12 -4.00 dB
PL12 11.88 dB
PL13 12.00 dB
PL2W 20.19063568 W
PL12W 0.52137470 W
PL13W 0.50716585 W
SFO2 400.1316005 MHz
S1 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40