

Intramolecular Cycloaddition in 6,6-Spiroepoxycyclohexa-2,4-dienone: Simple Aromatics to (\pm)-Platencin

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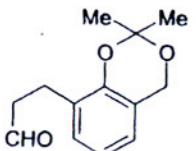
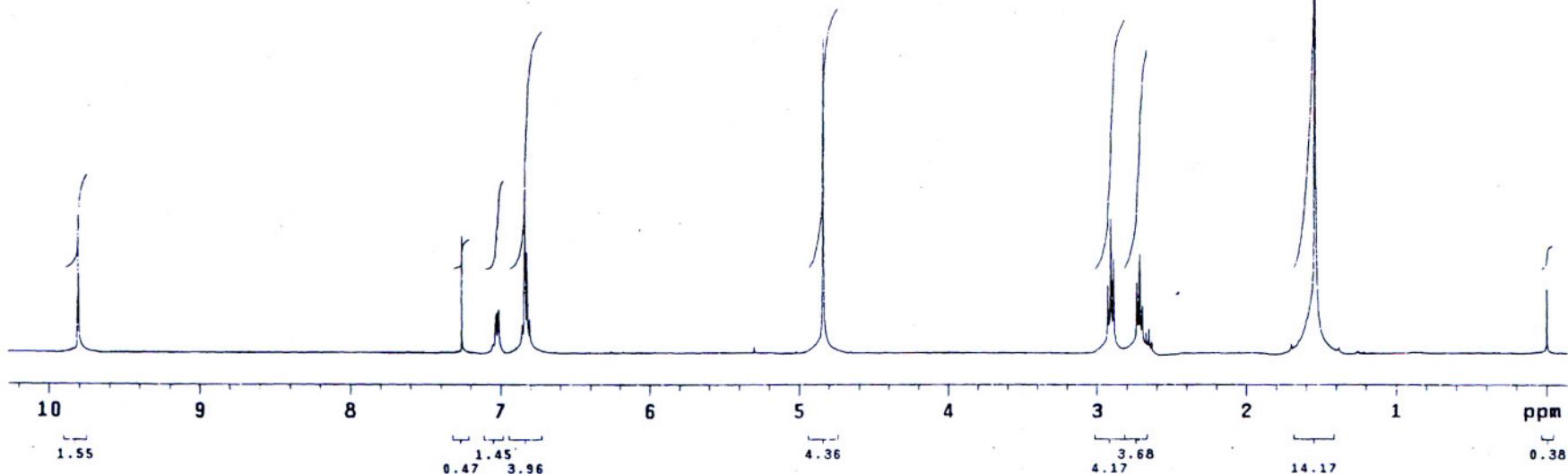
bcs_ald

exp6 PROTON

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solvent CDCl3 gain not used
file          exp spin not used
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sw      6006.0 pw90 8.500
at      1.389 alfa 20.000
np      23888 FLAGS
fb      not used 11    n
bs      4        in    n
d1      1.000 dp    y
nt      400     hs    nn
ct      88      PROCESSING
TRANSMITTER   fn    not used
tn      H1      DISPLAY
sfrq   399.883 sp    -56.8
tof    200.0   wp    4164.6
tpwr   55      rfl   755.6
pw     4.250   rfp   0
DECOUPLER    rp    2.1
dn      C13    1p    -109.1
dof     0       PLOT
dm      nnn    wc    250
dmm    c      sc    0
dpwr   51      vs    203
dmf    17100   th    4
nm      ph

```

**10**

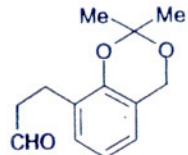
¹H NMR (400 MHz, CDCl₃) spectrum of **10**

bcs-pla-ald
exp4 s2pul

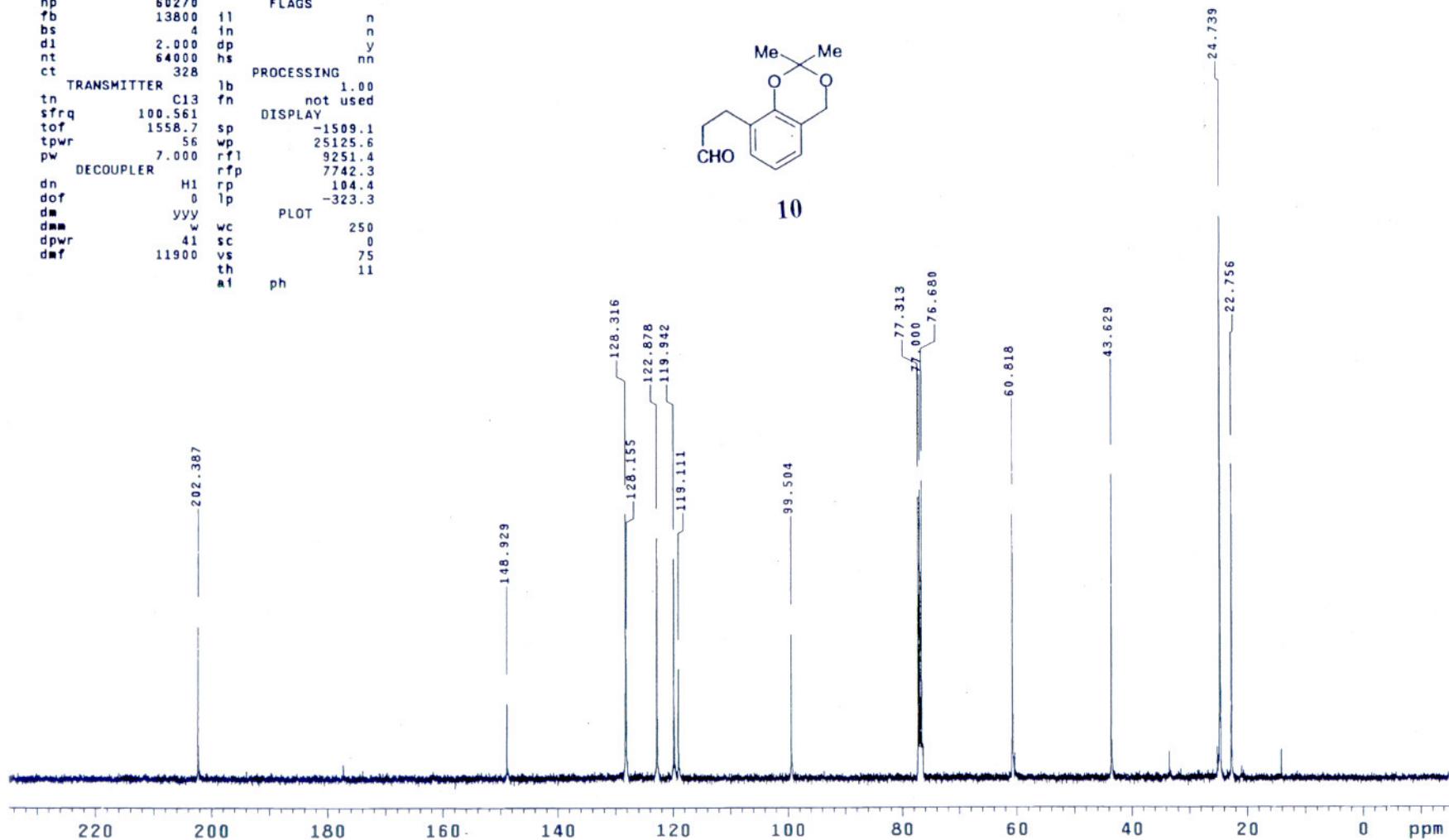
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SAMPLE          SPECIAL
date Jul 20 2009 temp    not used
solvent   CDCl3  gain    not used
file      exp    spin    not used
ACQUISITION   hst    0.008
sw       25125.6 pw90   14.000
at        1.199 alfa   20.000
np       60270   flags
fb       13800   fl     n
bs        4      in     n
di       2.000   dp     y
nt      64000   hs     nn
ct       328    PROCESSING
TRANSMITTER   C13
tn        C13  lb     1.00
sfreq    100.561 fn    not used
tof      1558.7 sp    -1509.1
tpwr     56    wp    25125.6
pw       7.000 rfl   9251.4
DECOUPLER   rfp   7742.3
dn        H1    rp    104.4
dof       0     lp    -323.3
dm        vyy   PLOT
dmm      w     wc    250
dpwr     41    sc    0
dmf      11900 vs    75
th        ai    ph

```



10



¹³C NMR (100 MHz, CDCl₃) spectrum of 10

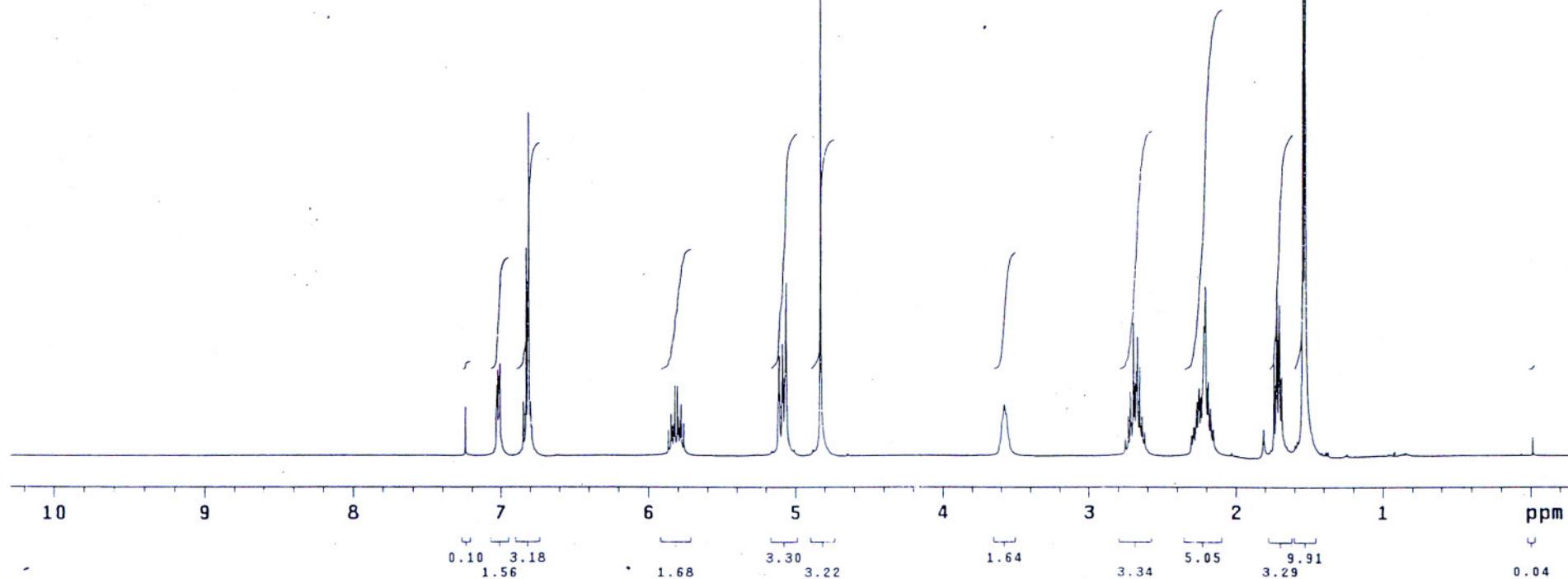
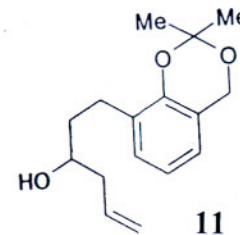
pla_allyl_grig_THF

exp4 PROTON

```

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date Nov 5 2008 temp not used
solvent CDCl3 gain not used
file /export/home/~/spin not used
vks5/2008/Oct_08/2~ hst 0.008
&thoct/pla-allylgr~ pw90 8.500
ig.THF.fid alfa 20.000
ACQUISITION    FLAGS
sw 10010.0 ll n
at 1.990 in
np 39846 dp y
fb not used hs nn
bs 2
d1 1.000 lb 0.10
nt 400 fn not used
ct 66 DISPLAY
TRANSMITTER sp -107.5
tn H1 wp 4223.7
sfrq 399.883 rf1 2464.4
tof 500.0 rfp 0
tpwr 55 rp 35.3
pw 2.000 lp -112.3
DECOUPLER PLOT
dn C13 wc 250
dof 338.7 sc 0
dm nnn vs 105
dmm c th 8
dpwr 51 ai ph
dmf 17100

```



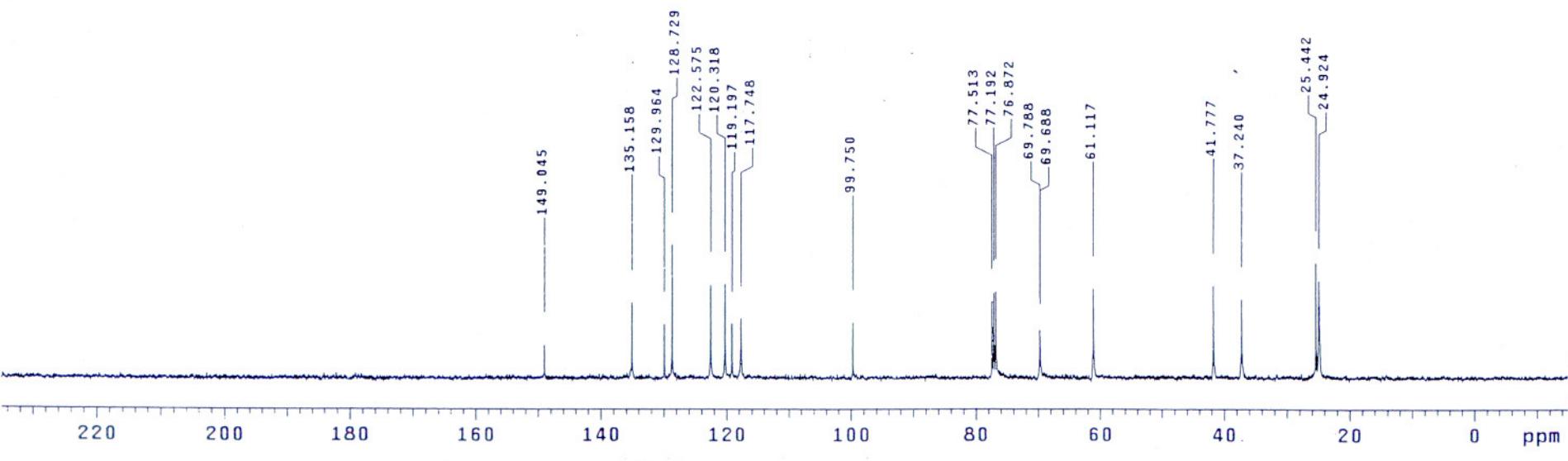
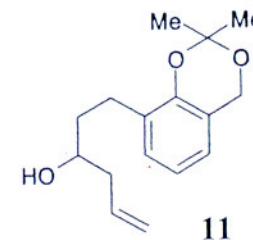
¹H NMR (400 MHz, CDCl₃) spectrum of **11**

exp6 CARBON

```

SAMPLE          SPECIAL
date Nov 5 2008 temp    not used
solvent CDCl3 gain   not used
file   exp   spin   not used
ACQUISITION      hst   0.008
sw   25125.6 pw90   14.000
at   1.199 alfa   20.000
np   60270   FLAGS
fb   13800 il     n
bs   4      in     n
d1   1.000 dp     y
nt   50000 hs     nn
ct   384   PROCESSING
TRANSMITTER      lb    3.00
tn   C13 fn    not used
sfrq  100.561   DISPLAY
t0f   1554.3 sp   -1492.8
tpwr  59 wp    25125.6
pw   7.000 rfp   9255.2
DECOUPLER        rfp   7762.5
dn   H1 rp    159.3
dof  -713.0 lp   -321.9
dm   vyy PLOT
dmm   w wc    250
dpwr  41 sc    0
dmf   11900 vs   21
th   4
nm   ph

```



¹³C NMR (100 MHz, CDCl₃) spectrum of **11**

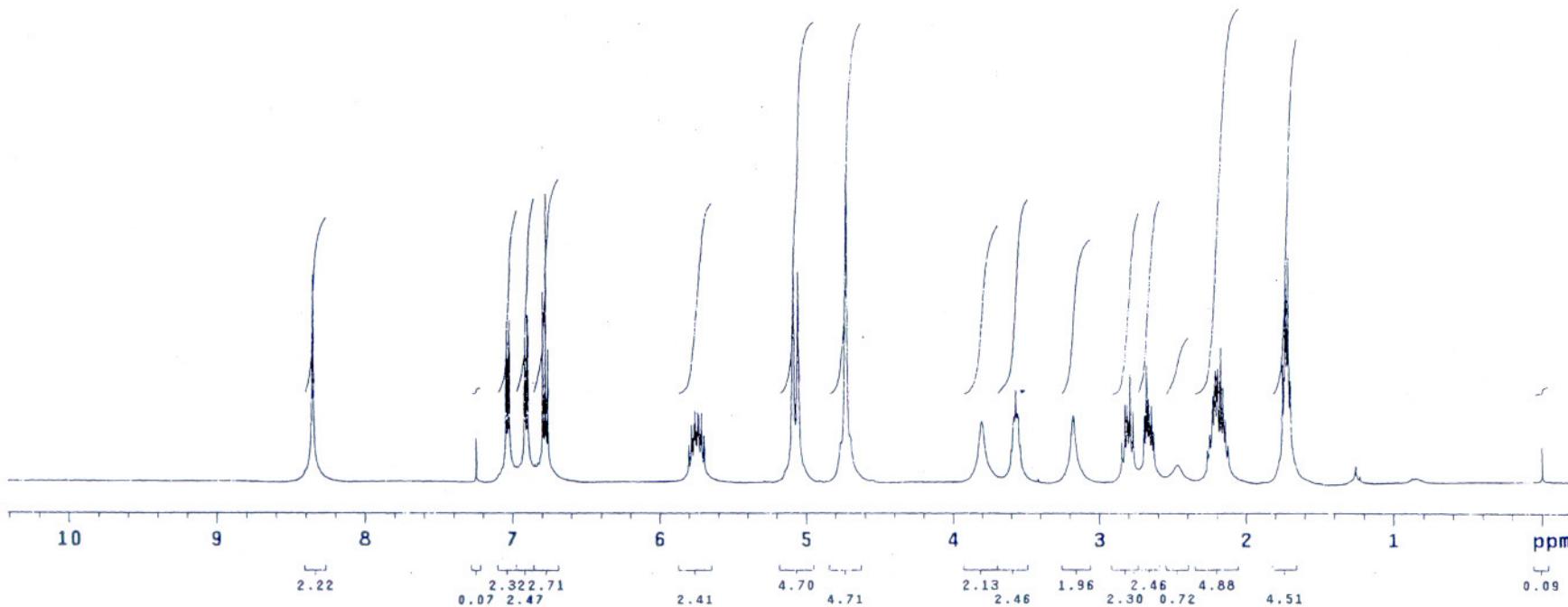
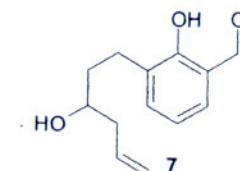
pla_allgrid_depone

exp4 - PROTON

```

SAMPLE          SPECIAL
date   Oct 1 2008 temp    not used
solvent   CDCl3  gain    not used
file      exp    spin    not used
ACQUISITION   hst    0.008
sw       10010.0 pw90    8.500
at        1.990 alfa   20.000
np       39846   FLAGS
fb      not used fl     n
bs        2      in     n
d1      1.000   dp     y
nt      400    hs    nn
ct      102    PROCESSING
TRANSMITTER   lb     0.10
tn        H1    fn    not used
sfrq     399.883  DISPLAY
t0f      500.0   sp     -96.5
tpwr      55    wp     4260.7
pw      2.000   rfl    2462.6
DECOUPLER    rfp    0
dn       C13   rp     -45.9
dof      338.7   lp    -124.2
da      nnn    wc     250
daw      c      sc     0
dpwr      51    vs     133
dmf     17100   th     3
ai      ph

```



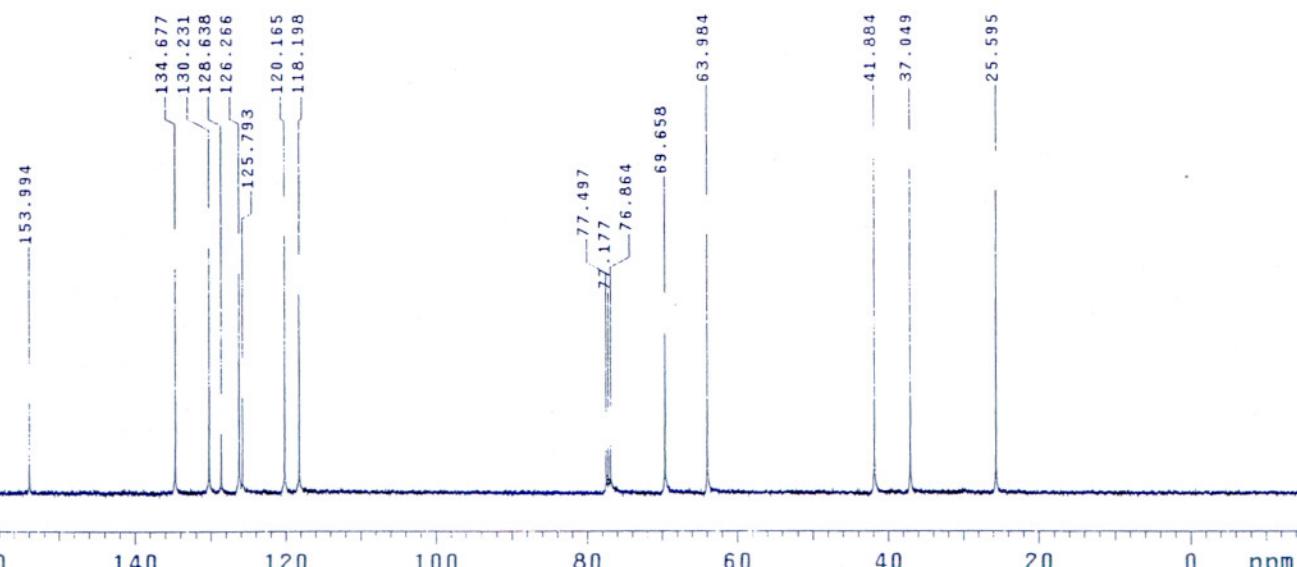
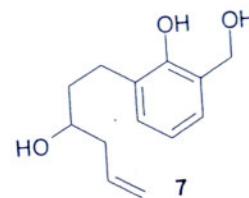
¹H NMR (400 MHz, CDCl₃) spectrum of **7**

pla_allgrig_depone

exp4 CARBON

S7

SAMPLE SPECIAL
date Oct 1 2008 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
vks5/2008/Oct_08/p~ hst 0.008
la_allgrig_depC13.~ pw90 14.000
fid alfa 20.000
ACQUISITION FLAGS
sw 25125.6 il n
at 1.199 in n
np 60270 dp y
fb 13800 hs nn
bs 4 PROCESSING
d1 1.000 lb 1.00
nt 50000 fn not used
ct 280 DISPLAY
TRANSMITTER sp -1495.1
tn C13 wp 25125.6
sfrq 100.561 rfl 9257.5
tof 1554.3 rfp 7762.5
tpwr 59 rp 86.7
pw 7.000 lp -322.3
DECOUPLER PLOT
dn H1 wc 250
dof -713.0 sc 0
dm vyy vs 48
dmm w th 5
dpwr 41 ai ph
dmf 11900



¹³C NMR (100 MHz, CDCl₃) spectrum of 7

pla-dim-ald

exp2 PROTON

```

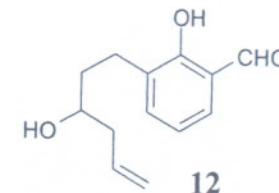
SAMPLE          SPECIAL
date   Sep 8 2009 temp    not used
solvent  CDCl3 gain    not used
file /export/home/~ spin    not used
vks5/2009/sept-09/~/ hst    0.008
8thsep/pla-dim-ald- pw90    8.500
.fid alfa    20.000

ACQUISITION      FLAGS
sw     6006.0 il     n
at     1.989 in     n
np     23888 dp     y
fb     not used hs    nn
bs      4          PROCESSING
di     1.000 lb    0.01
nt     400 fn    not used
ct      88          DISPLAY

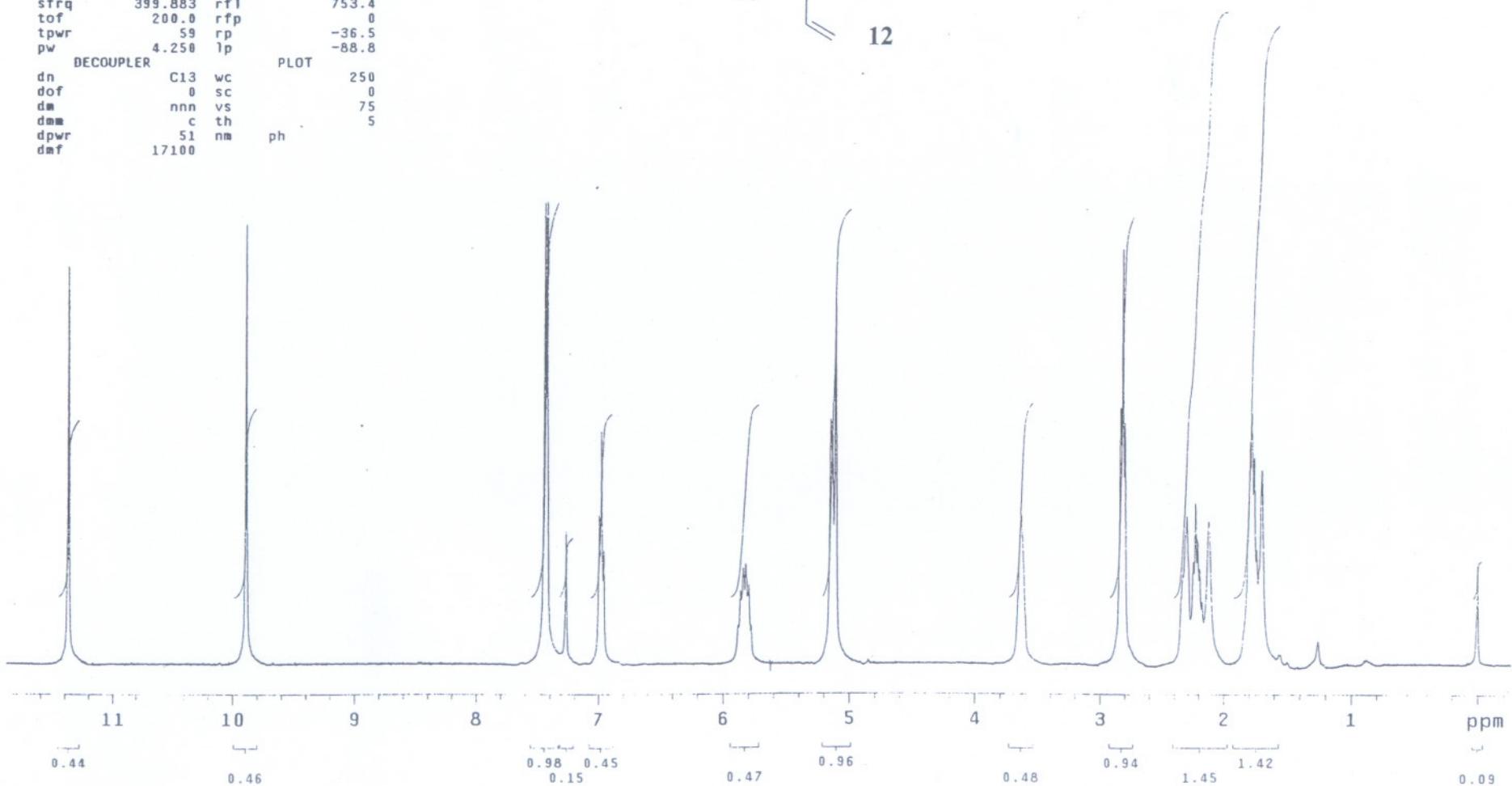
TRANSMITTER      PLOT
tn      H1 wp    4857.8
sfrq   399.883 rfp   753.4
tof    200.0 rfp    0
tpwr    59 rp    -36.5
pw     4.250 lp    -88.8

DECOPPLER        PLOT
dn      C13 wc    250
dof     0 sc     0
dm     nnn vs    75
dmm    c th     5
dpwr    51 nm ph
dmf    17100

```



12



¹H NMR (400 MHz, CDCl₃) spectrum of 12

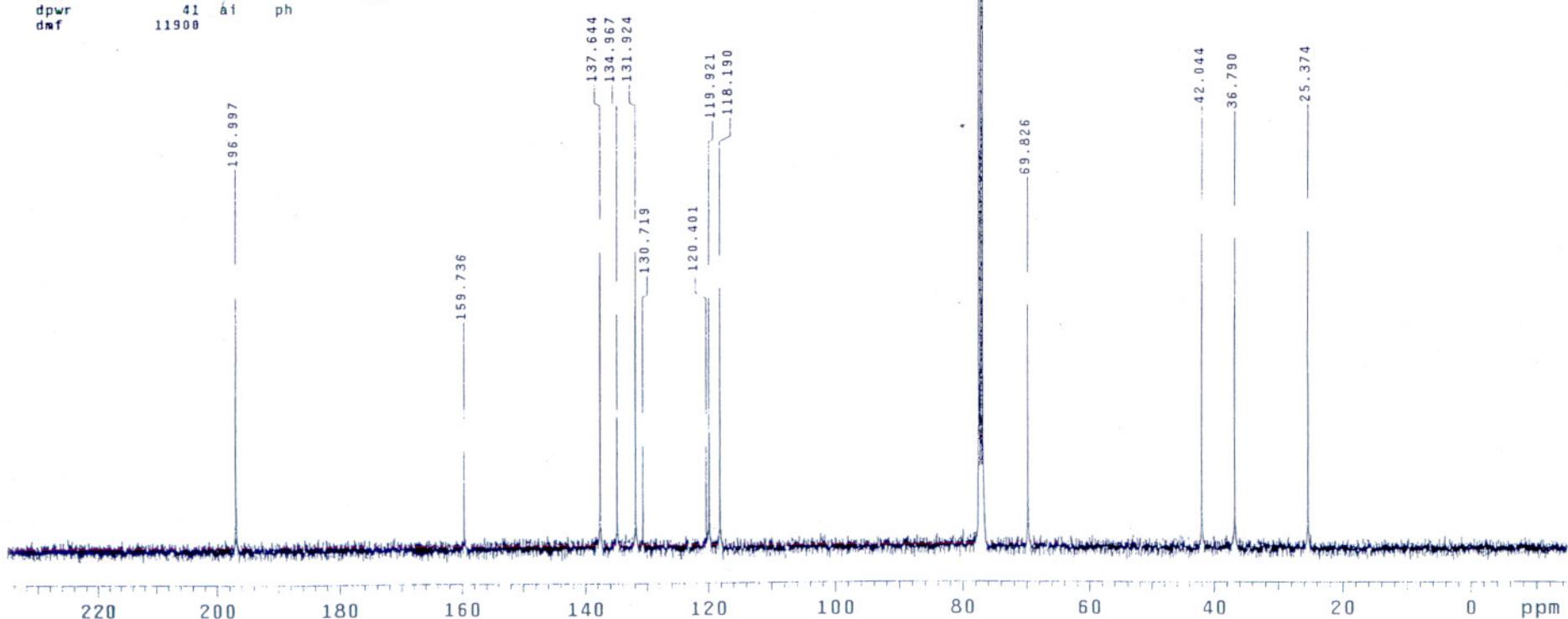
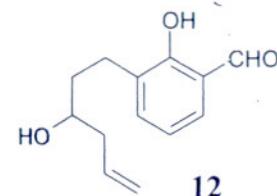
pla-dim-ald

exp2 s2pul

```

SAMPLE          SPECIAL
date Sep 11 2009 temp    not used
solvent   CDCl3 gain     not used
file /export/home/~/spin    not used
vk55/2009/sept-09/~/hst    0.008
lithap/pla-dim-ald~ pw90    14.000
          -13C.fid alfa    20.000
ACQUISITION      FLAGS
sw      25125.6 il      n
at      1.199 in      n
np      60270 dp      y
fb      13800 hs      nn
bs       4          PROCESSING
dl      2.000 lb      1.00
nt      64000 fn      not used
ct       0          DISPLAY
TRANSMITTER      PLOT
tn      C13 wp      25125.6
sfrq   100.561 rfl    1485.1
tof     1558.7 rfp    0
tpwr    56 rp      151.9
pw      7.000 lp      -326.6
DECOPPLER        PLOT
dn      H1 wc      250
dof     0 sc      0
dm      yyy vs     279
dmw    w th     12
dpwr    41 ai      ph
dmf    11900

```



¹³C NMR (100 MHz, CDCl₃) spectrum of **12**

pla_dimer

exp2 PROTON

```

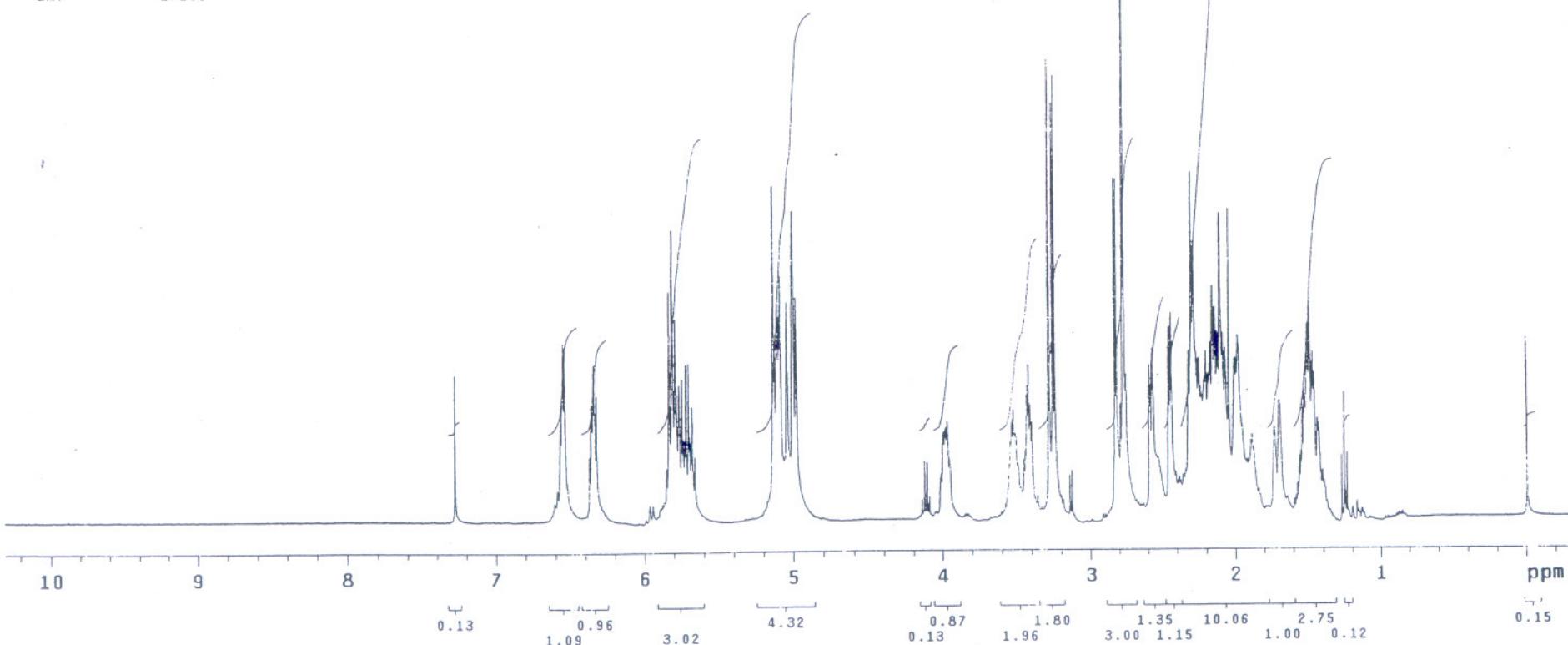
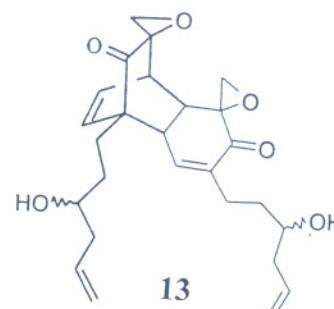
SAMPLE          SPECIAL
date Nov 18 2008 temp    not used
solvent CDCl3   gain     not used
file /export/home/~/spin   not used
vks5/2008/nov_08/1~ hst    0.008
8thnov/pla_dimer.f~ pw90   8.500
                           id alfa  20.000

ACQUISITION      FLAGS
sw   10010.0 il   n
at   1.990 in   n
np   39846 dp   y
fb   not used hs  nn
bs   2
d1   1.000 lb   0.10
nt   400 fn   not used
ct   76  DISPLAY

TRANSMITTER      PLOT
tn   H1 wp   4242.3
sfrq 399.883 rfl  2451.0
tof   500.0 rfp  0
tpwr  55 rp   39.0
pw   2.000 lp   -123.4

DECOUPLER        PLOT
dn   C13 wc   250
dof  338.7 sc   0
dm   nnn vs   444
dmm  c th   8
dpwr 51 ai   ph
dmf  17100

```



¹H NMR (400 MHz, CDCl₃) spectrum of **13**

exp1 s2pul

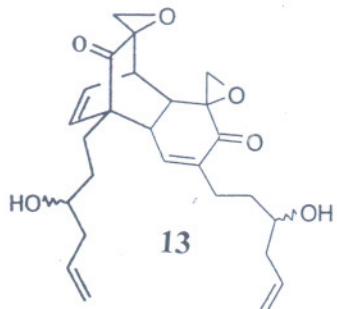
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date Apr 20 2009 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
vk55/2009/apr-09/1~ hst 0.008
8thapr/pla-dimer-C~ pw90 14.000
13.fid alfa 20.000

ACQUISITION FLAGS
sw 25125.6 fl n
at 1.199 in n
np 60270 dp y
fb 13800 hs nn
bs 4
d1 2.000 1b 1.00
nt 64000 fn not used
ct 820

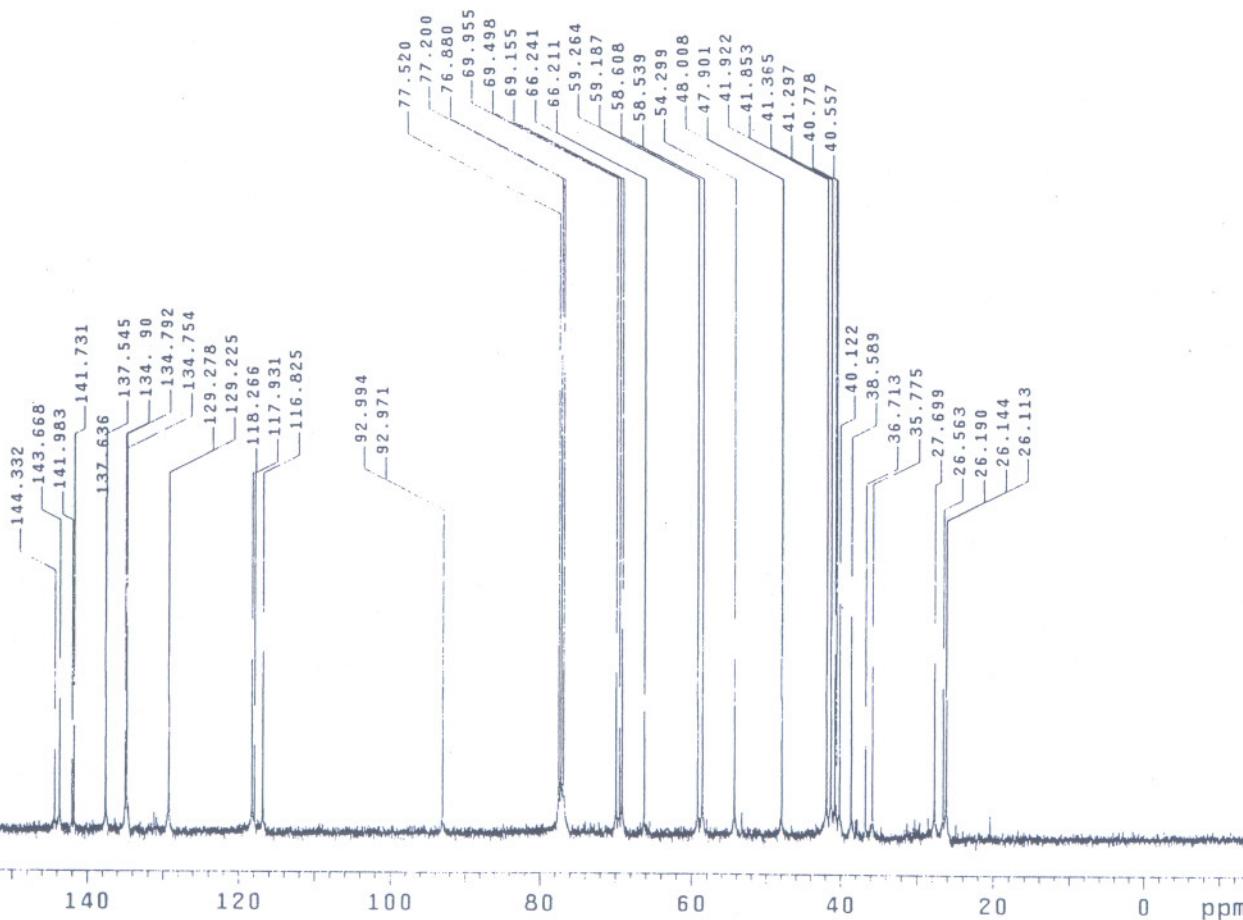
PROCESSING
tn C13 sp -1488.2
sfrq 100.561 wp 25125.6
tof 1558.7 rfp 9250.6
tpwr 56 rp 7762.5
pw 7.000 lp 118.5
-332.1

DISPLAY
TRANSMITTER
tn C13
sfrq 100.561
tof 1558.7
tpwr 56
pw 7.000

DECOUPLER PLOT
dn H1 wc 250
dof 0 sc 0
dm yyy vs 123
dmm w th 4
dpwr 41 ai ph
dmf 11900



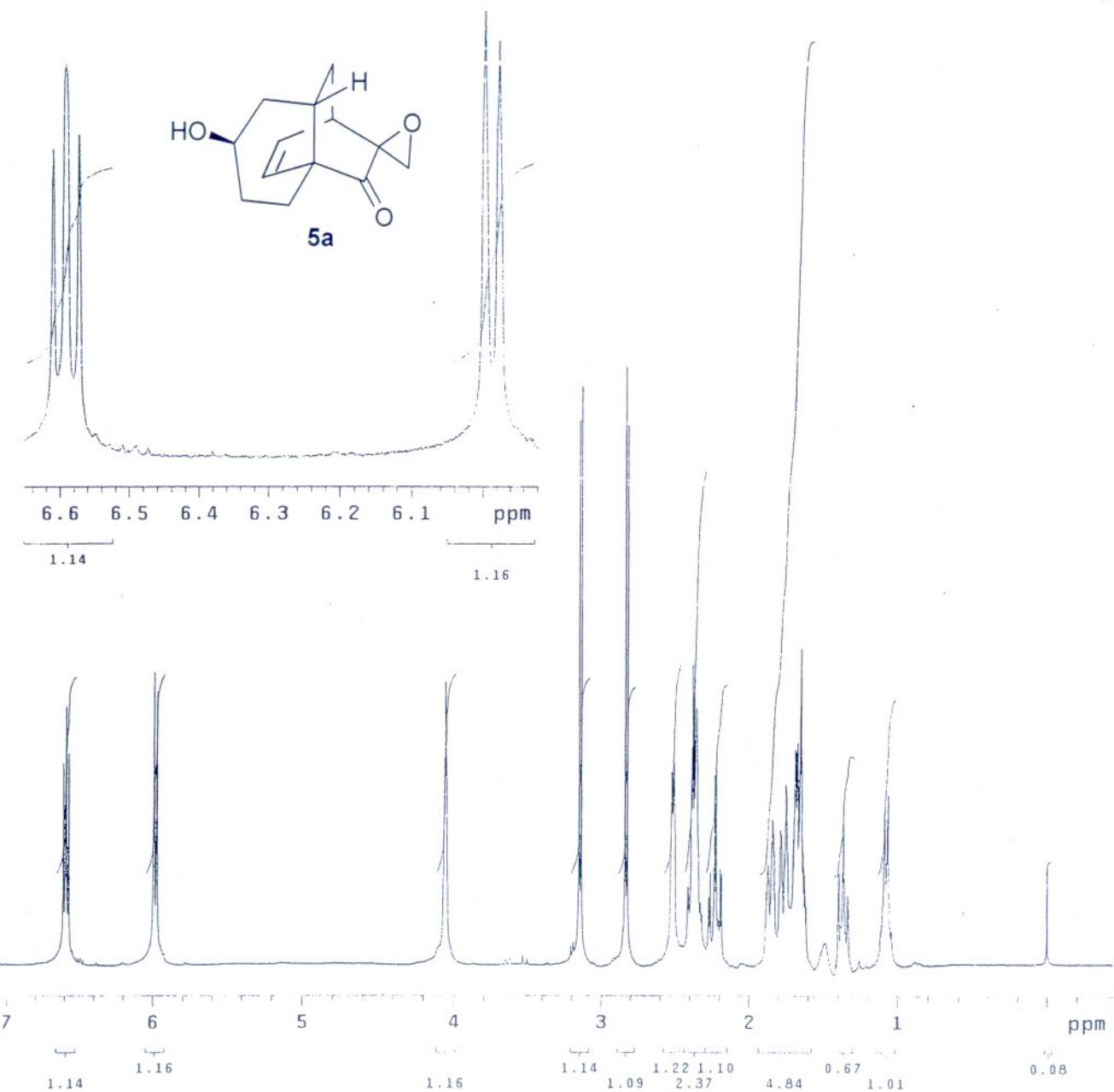
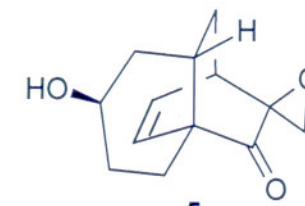
S11



pla dimer add upper

exp2 PROTON

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solvent	CDCl ₃	gain	not used
file	/export/home/~	spin	not used
vks5/2008/nov_08_1~		hst	0.008
Otnov/pla_dimer_a~		pw90	8.500
dd_upper.fid		alfa	20.000
ACQUISITION		FLAGS	
sw	10010.0	il	n
at	1.990	in	n
np	39846	dp	y
fb	not used	hs	nn
bs	2		
d1	1.000	lb	0.10
nt	400	fn	not used
ct	84		
TRANSMITTER		PROCESSING	
tn	H1	sp	-179.9
sfrq	399.883	wp	4316.3
tof	500.0	rfl	2453.4
tpwr	55	rfp	0
pw	2.000	rp	46.1
DECOUPLER		DISPLAY	
dn	C13	lp	-111.4
dof	338.7		
dm	nnn		
dmm	c		
dpwr	51		
dmf	17100		
		PLOT	
dn	C13	wc	250
dof	338.7	sc	0
dm	nnn	vs	387
dmm	c	th	8
dpwr	51	ai	ph



¹H NMR (400 MHz, CDCl₃) spectrum of 5a

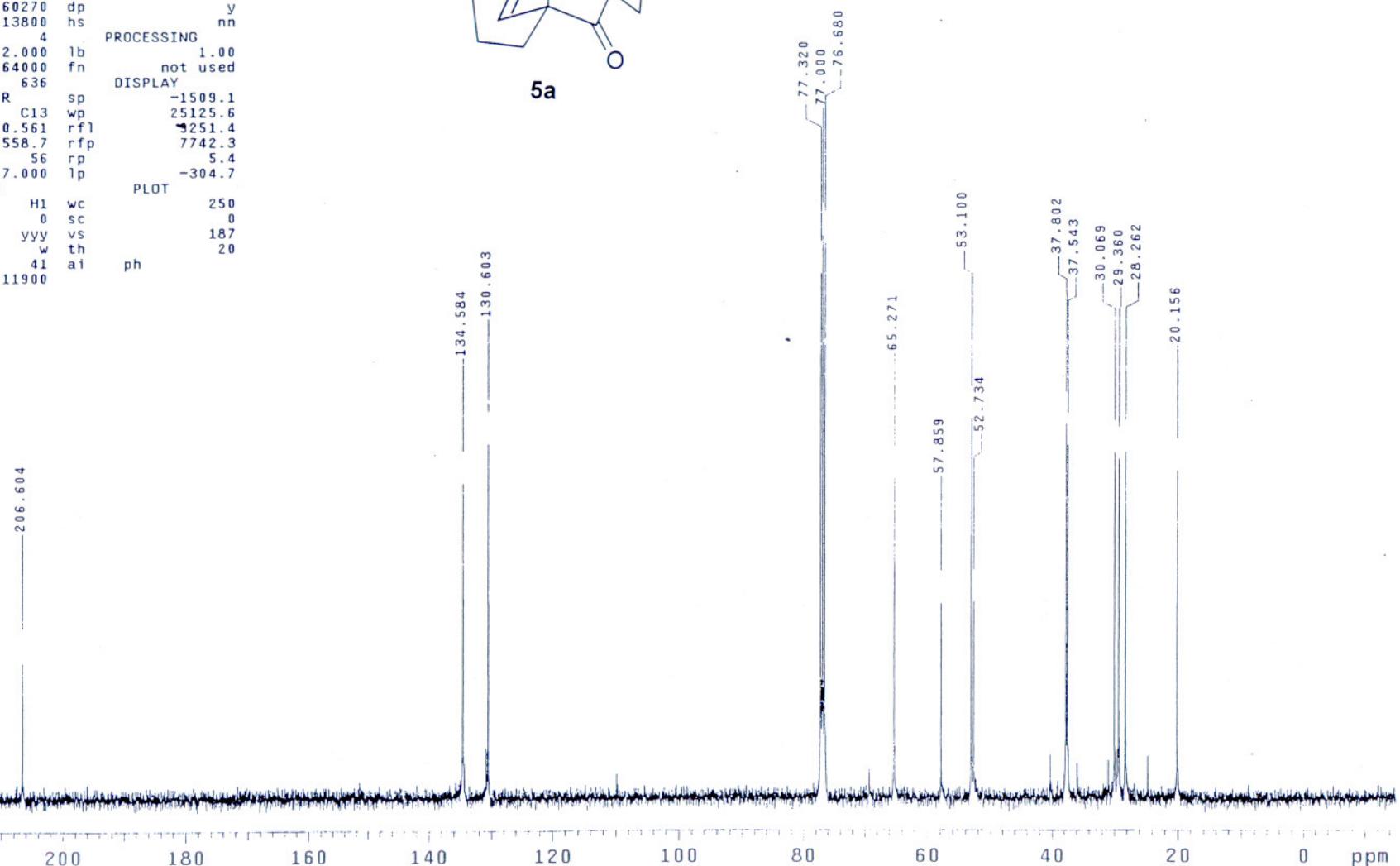
pla-upper-adduct

exp2 s2pul

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solvent CDCl₃ gain not used
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8thsep/pla-upper-ax pw90 14.000
dduct-C13.fid alfa 20.000
ACQUISITION FLAGS
sw 25125.6 il n
at 1.199 in
np 60270 dp y
fb 13800 hs nn
bs 4
d1 2.000 lb 1.00
nt 64000 fn not used
ct 636
TRANSMITTER sp -1509.1
tn C13 wp 25125.6
sfrq 100.561 rfl 251.4
tof 1558.7 rfp 7742.3
tpwr 56 rp 5.4
pw 7.000 lp -304.7
DECOUPLER PLOT
dn H1 wc 250
dof 0 sc 0
dm yyyy vs 187
dmm w th 20
dpwr 41 ai ph
dmf 11900



5a



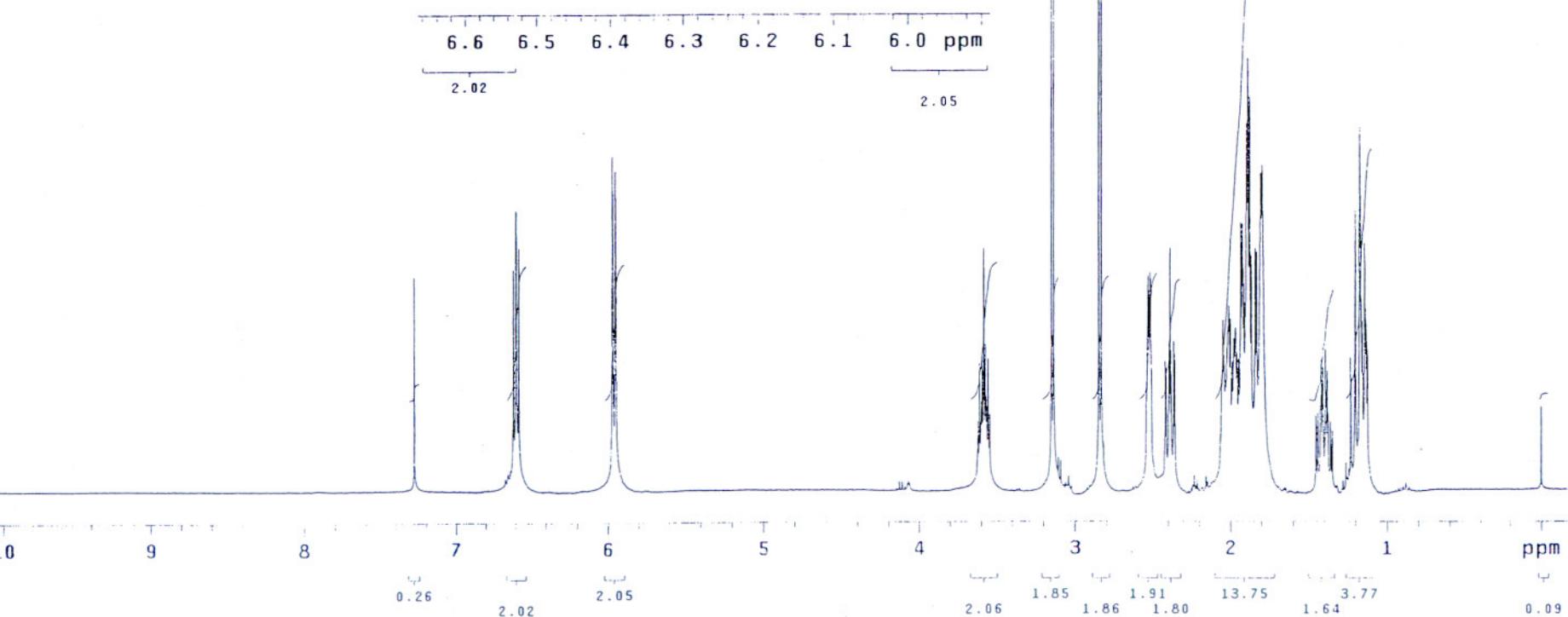
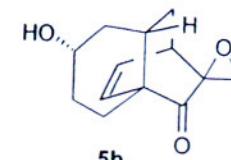
¹³C NMR (100 MHz, CDCl₃) spectrum of 5a.

pla_dimer_add_lower

exp2 PROTON

SAMPLE SPECIAL
date Nov 10 2008 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
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@thnov/pla-dimer_a~ pw90 8.500
dd_lower.fid alfa 20.000

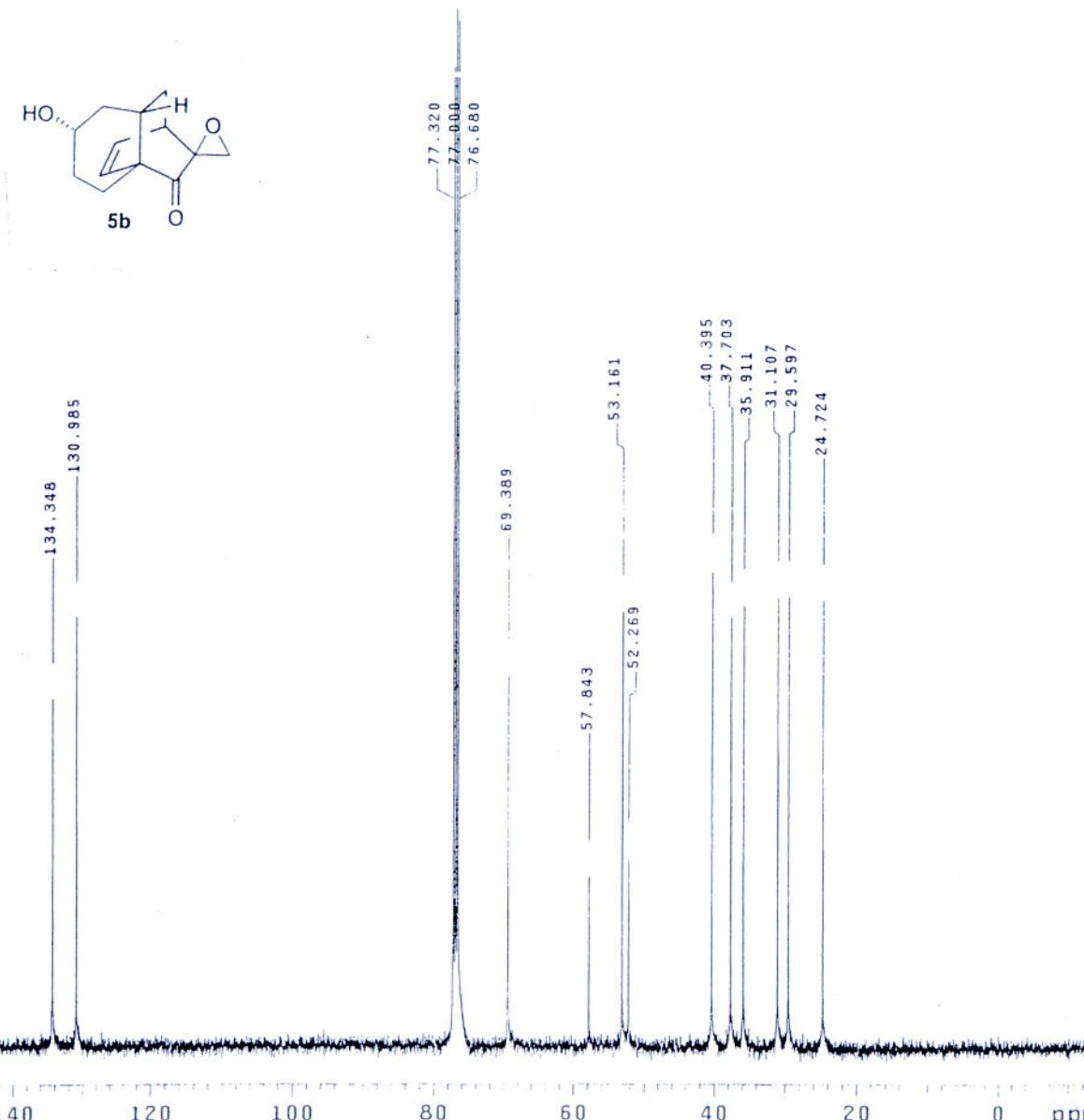
ACQUISITION FLAGS
sw 10010.0 il n
at 1.990 in n
np 39846 dp y
fb not used hs nn
bs 2 PROCESSING
d1 1.000 lb 0.10
nt 400 fn not used
ct 86 DISPLAY
TRANSMITTER sp -68.7
tn H1 wp 4126.6
sfrq 399.883 rfl 2451.0
tof 500.0 rfp 0
tpwr 55 rp 51.2
pw 2.000 lp -132.1
DECOUPLER PLOT
dn C13 wc 250
dof 338.7 sc 0
dm nnn vs 240
dmm c th 8
dpwr S1 ai ph
dmf 17100

¹H NMR (400 MHz, CDCl₃) spectrum of **5b**

```

SAMPLE          SPECIAL
date Jul 19 2009 temp not used
solvent CDCl3 gain not used
file /export/home/~/ spin not used
vks5/2009/july09/1~ hst 0.008
9thjuly/bcs-pla-ad~ pw90 14.000
d-lower-C13.fid alfa 20.000
ACQUISITION      FLAGS
sw   25125.6 il    n
at    1.199 in    n
np   60270 dp    y
fb   13800 hs    nn
bs     4          PROCESSING
dl    2.000 1b    1.00
nt    64000 fn    not used
ct    1532          DISPLAY
TRANSMITTER      sp    -1504.5
tn      C13 wp    25125.6
sfrq   100.561 rfl   9246.8
t0f    1558.7 rfp   7742.3
tpwr    56 rp    119.8
pw    7.000 1p    -325.9
DECOUPLER        PLOT
dn      H1 wc    250
dof     0 sc    0
dm      yyy vs   264
dmm     w th   14
dpwr    41 ai    ph
dmf    11900

```

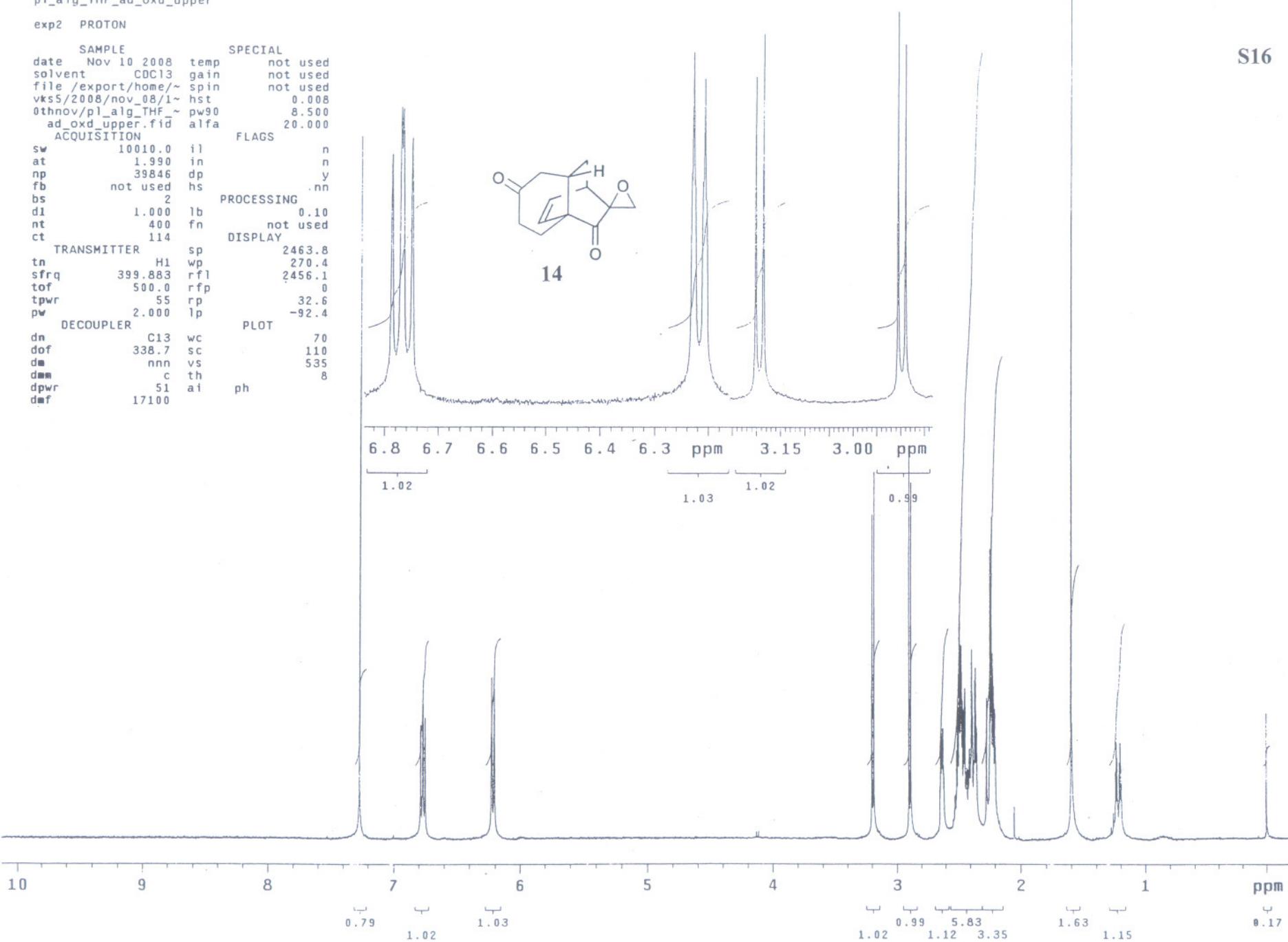
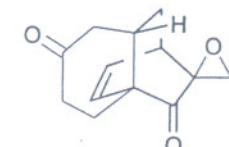


^{13}C NMR (100 MHz, CDCl_3) spectrum of **5b**

pl_alg_ THF_ad_oxd_upper

exp2 PROTON

SAMPLE SPECIAL
date Nov 10 2008 temp not used
solvent CDCl₃ gain not used
file /export/home/~/ spin not used
vks5/2008/nov_08/1~ hst 0.008
0thnov/pl_alg_ THF ~ pw90 8.500
ad_oxd_upper.fid alfa 20.000
ACQUISITION FLAGS
sw 10010.0 il n
at 1.990 in n
np 39846 dp y
fb not used hs .nn
bs 2
d1 1.000 lb 0.10
nt 400 fn not used
ct 114 DISPLAY
TRANSMITTER sp 2463.8
tn H1 wp 270.4
sfrq 399.883 rfl 2456.1
tof 500.0 rfp 0
tpwr 55 rp 32.6
pw 2.000 lp -92.4
DECOUPLER PLOT
dn C13 wc 70
dof 338.7 sc 110
dm nnn vs 535
dmm c th 8
dpwr 51 ai ph
dmf 17100

¹H NMR (400 MHz, CDCl₃) spectrum of 14

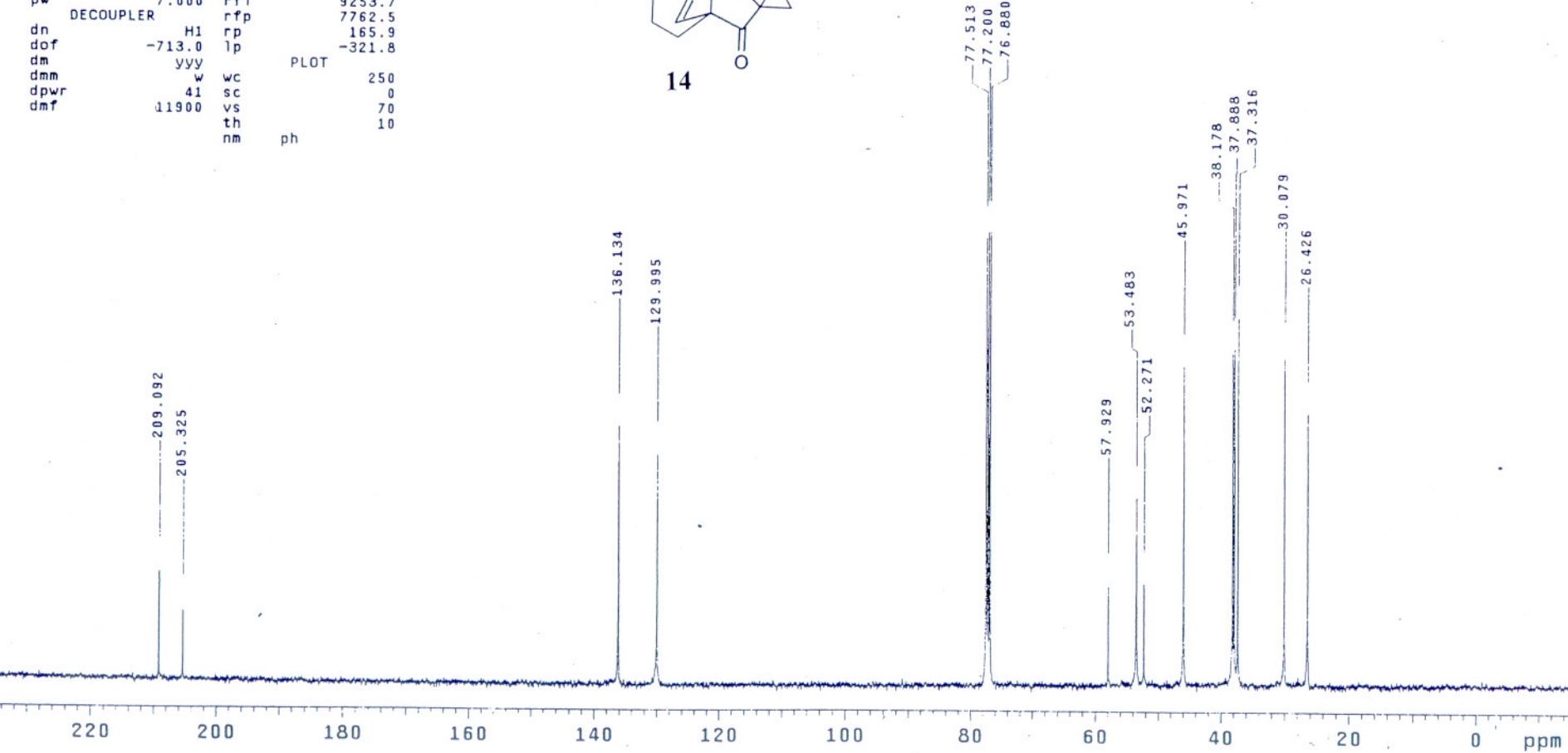
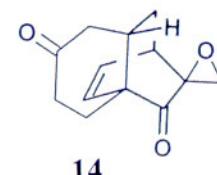
pla_ad_oxid_lower

exp1 CARBON

```

SAMPLE          SPECIAL
date Nov 29 2008 temp    not used
solvent   CDCl3  gain     not used
file      exp    spin    not used
ACQUISITION   hst    0.008
sw       25125.6 pw90   14.000
at        1.199  alfa   20.000
np       60270   FLAGs
fb        13800  11      n
bs         4      in      n
d1        1.000  dp      y
nt       50000  hs      nn
ct       5524   PROCESSING
TRANSMITTER   C13   3.00
tn        C13   fn     not used
sfrq    100.561  DISPLAY
tof      1554.3  sp     -1491.2
tpwr    59      wp     25125.6
pw       7.000   rfl    9253.7
DECOUPLER    rfp   7762.5
dn        H1    rp     165.9
dof     -713.0   lp     -321.8
dm        yyy   PLOT
dmm      w     wc     250
dpwr    41     sc     0
dmf     11900   vs     70
th        th     ph     10
nm      ph

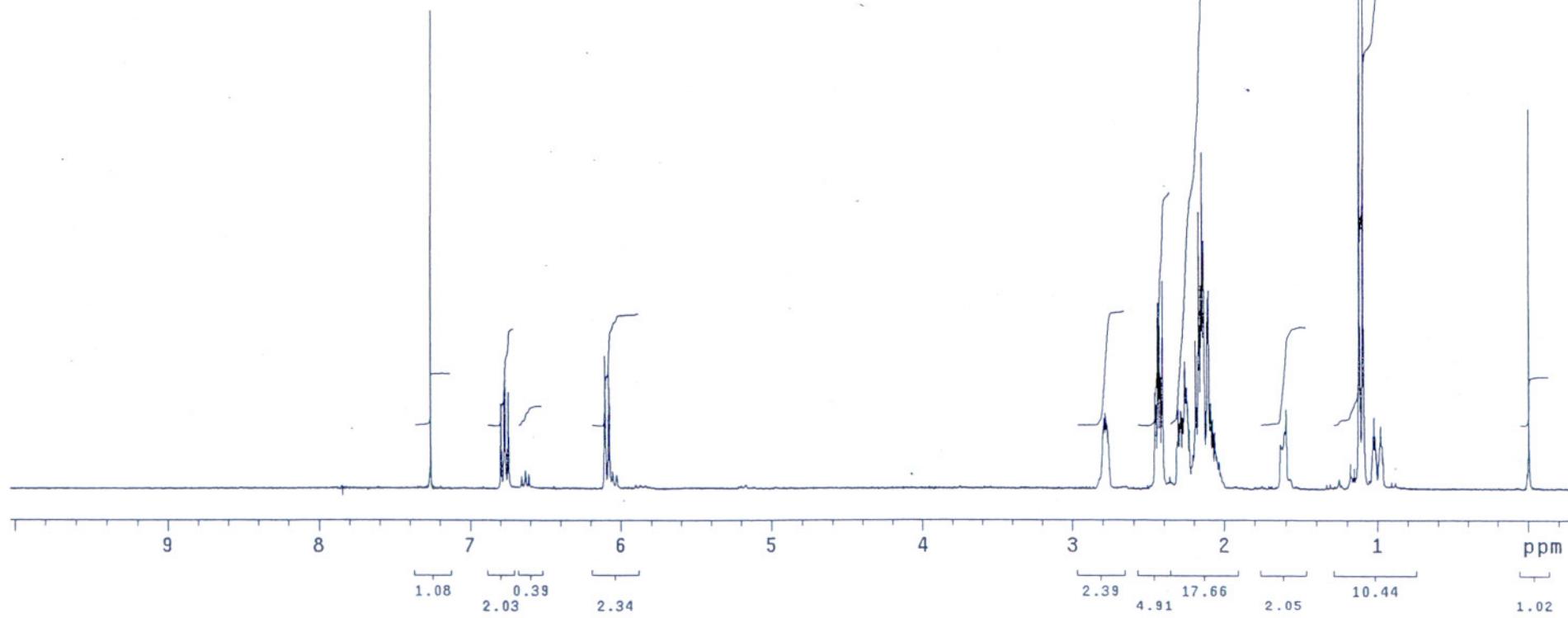
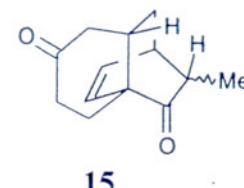
```



^{13}C NMR (100 MHz, CDCl_3) spectrum of **14**

exp1 s2pul

SAMPLE H1
date Apr 20 2009 dn 155.1
solvent CDCl₃ dof nnn
file exp dm c
ACQUISITION dmm 200
sfrq 299.950 dmf
tn H1 PROCESSING
at 1.991 lb 0.10
np 23912 fn not used
sw 6006.0
fb not used werr
bs 2 wexp
pw 3.0 wbs
pw 3.0 wnt
tpwr 58 DISPLAY
d1 0 sp -81.7
tof 900.0 wp 3093.5
nt 1600 vs 135
ct 154 sc 0
alock n wc 250
gain 2 hzmm 0.38
FLAGS is 58114.09
il n rfl 650.3
in n rfp 0
dp y th 2
ins 6.000
nm ph



¹H NMR (400 MHz, CDCl₃) spectrum of **15**

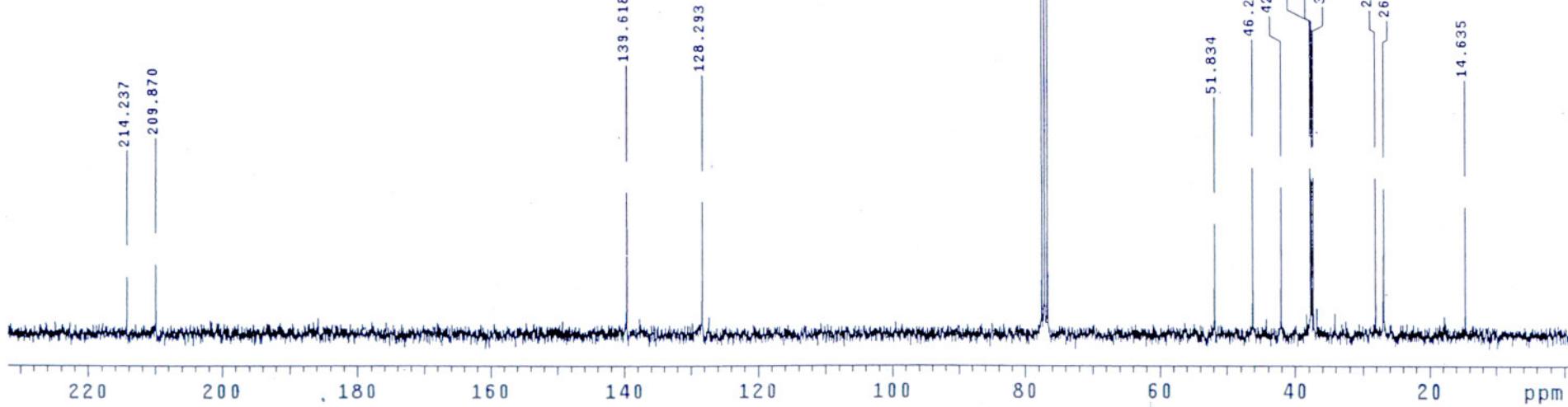
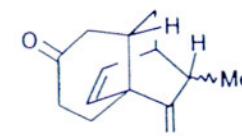
pla-Zn-red-1

exp3 CARBON

```

SAMPLE          SPECIAL
date   Apr 20 2009 temp    not used
solvent   CDCl3 gain     not used
file     exp    spin    not used
ACQUISITION      hst    0.008
sw       18867.3 pw90    10.500
at        1.815 alfa    20.000
np        68492   11      n
fb       10400   in      n
bs         4      dp      y
d1       2.000 hs      nn
nt       2000   hs      nn
ct       240    PROCESSING
TRANSMITTER      lb    2.00
tn      C13   fn    not used
sfrq    75.430  sp    -71.1
tof     764.0   wp   17553.4
tpwr    58      rf1   6952.5
pw      5.250   rfp   5815.0
DECOUPLER        H1   rp    55.3
dn      0      1p    -198.9
dof      0      PLOT
dm      yyy   wc    250
dmm     w      sc      0
dpwr    35      vs    130
dmf     7200   th      5
ai      no   ph

```



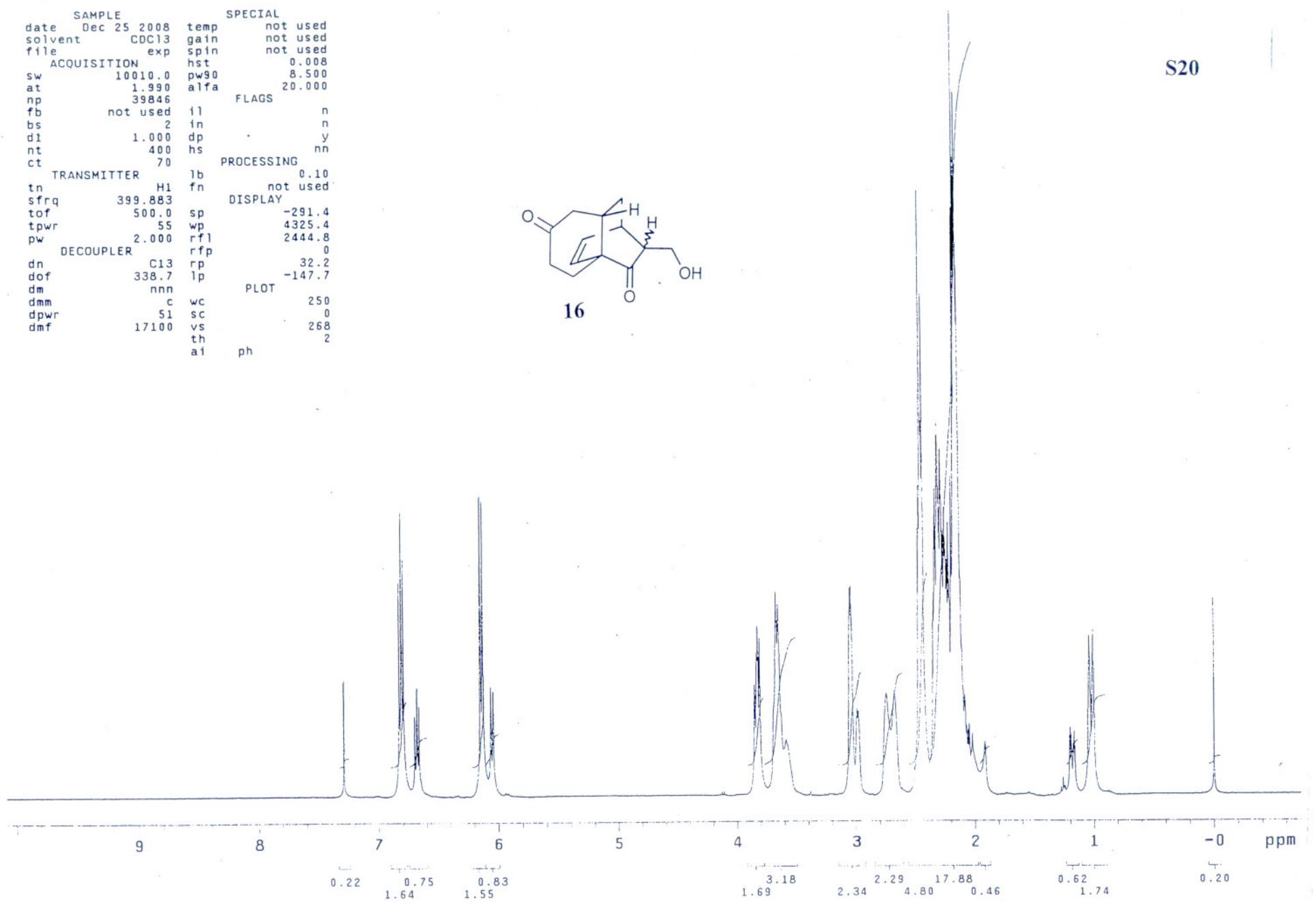
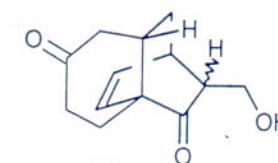
¹³C NMR (100 MHz, CDCl₃) spectrum of **15**

pia_zn-aic
exp6 PROTON

```

SAMPLE          SPECIAL
date  Dec 25 2008 temp    not used
solvent   CDCl3  gain     not used
file      exp    spin     not used
ACQUISITION   hst    0.008
sw       10010.0 pw90    8.500
at        1.990 alfa   20.000
np       39846   FLAGS
fb      not used il      n
bs        2      in      n
di      1.000 dp      .      y
nt       400    hs      nn
ct        70    PROCESSING
TRANSMITTER   1b      0.10
tn       H1    fn      not used
sfrq    399.883  DISPLAY
tof      500.0 sp      -291.4
tpwr    55     wp      4325.4
pw      2.000 rfl     24444.8
DECOUPLER    rfp     0
dn       C13  rp      32.2
dof     338.7 lp      -147.7
dm      nnn   PLOT
dmm      c    wc      250
dpwr    51    sc      0
dmf    17100 vs      268
th      ai    ph

```



¹H NMR (300 MHz, CDCl₃) spectrum of **16**

ocs-pia-zn-aic

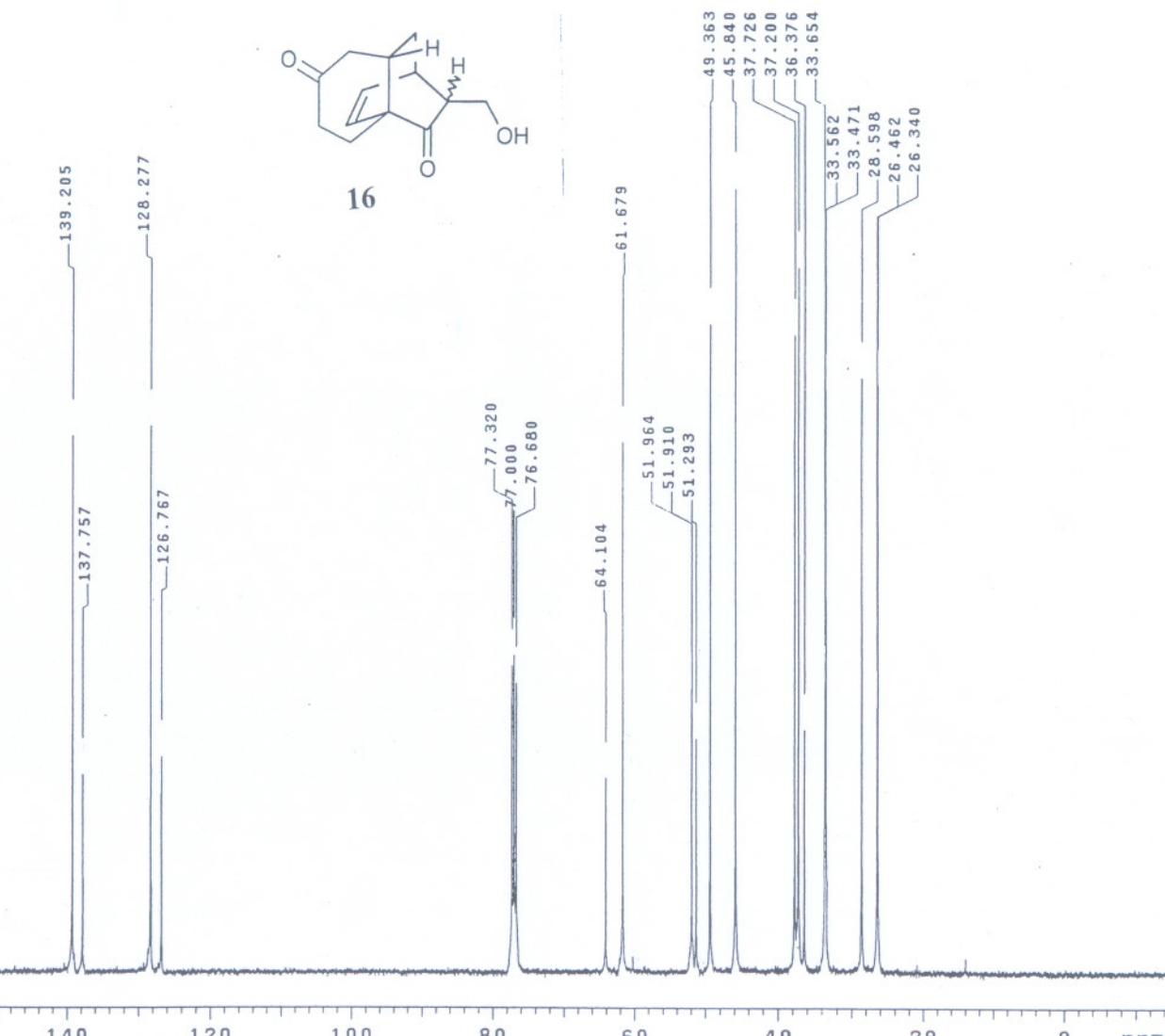
exp4 s2pul

```

SAMPLE          SPECIAL
date   Aug 1 2009 temp    not used
solvent   CDCl3  gain    not used
file      exp    spin    not used
ACQUISITION   hst    0.008
sw       25125.6 pw90    14.000
at        1.199 alfa   20.000
np       60270   flags
fb       13800   fl     n
bs         4     in     n
di       2.000   dp     y
nt      64000   hs     nn
ct      1196    PROCESSING
TRANSMITTER   C13
tn        C13  tb     1.00
sfrq    100.561 fn    not used
tof      1558.7 sp    -1518.3
tpwr     56    wp    25125.6
pw       7.000 rfl   9260.6
DECOUPLER   rfp   7742.3
dn        H1    rp    131.3
dof       0     1p    -315.9
dm        yyy   PLOT
dmm      w     wc    250
dpwr     41    sc    0
dmf     11900   vs    106
th       ph
ai       ph

```

213.186
211.729
209.899
209.784



pla-pd-two

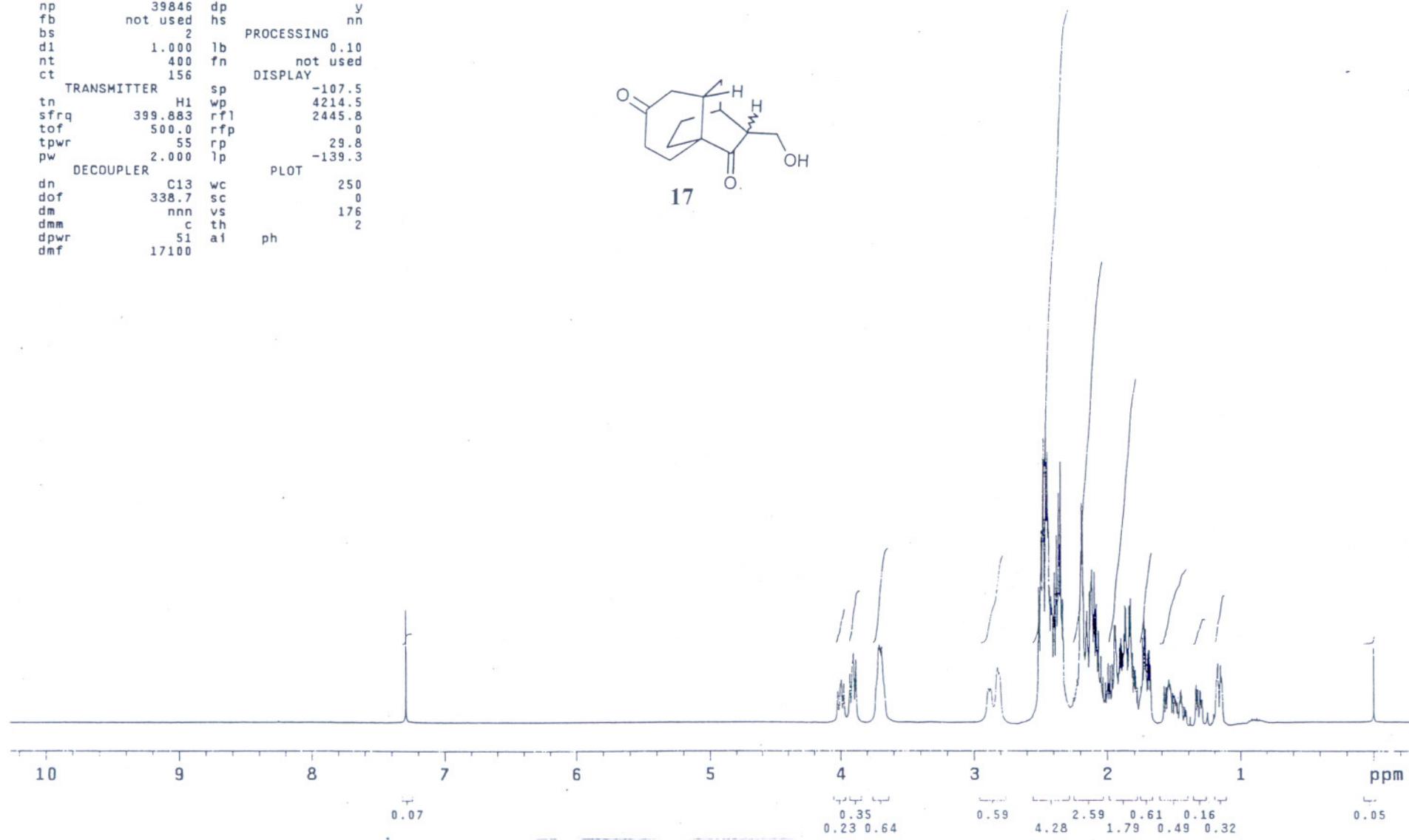
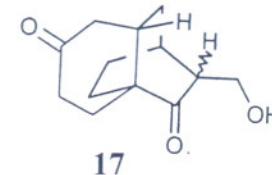
exp4 PROTON

SAMPLE SPECIAL
date Dec 2 2008 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
vks5/2008/dec08/2n~ hst 0.008
ddec/pla-pdc-two.f~ pw90 8.500
id alfa 20.000

ACQUISITION FLAGS
sw 10010.0 il n
at 1.990 in n
np 39846 dp y
fb not used hs nn
bs 2 PROCESSING
di 1.000 lb 0.10
nt 400 fn not used
ct 156 DISPLAY

TRANSMITTER sp -107.5
tn H1 wp 4214.5
sfrq 399.883 rfl 2445.8
tof 500.0 rfp 0
tpwr 55 rp 29.8
pw 2.000 lp -139.3

DECOUPLER PLOT
dn C13 wc 250
dof 338.7 sc 0
dm nnn vs 176
dmm c th 2
dpwr 51 ai ph
dmf 17100



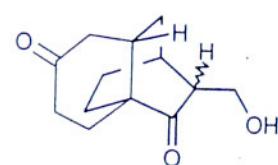
¹H NMR (300 MHz, CDCl₃) spectrum of 17

exp2 s2pul

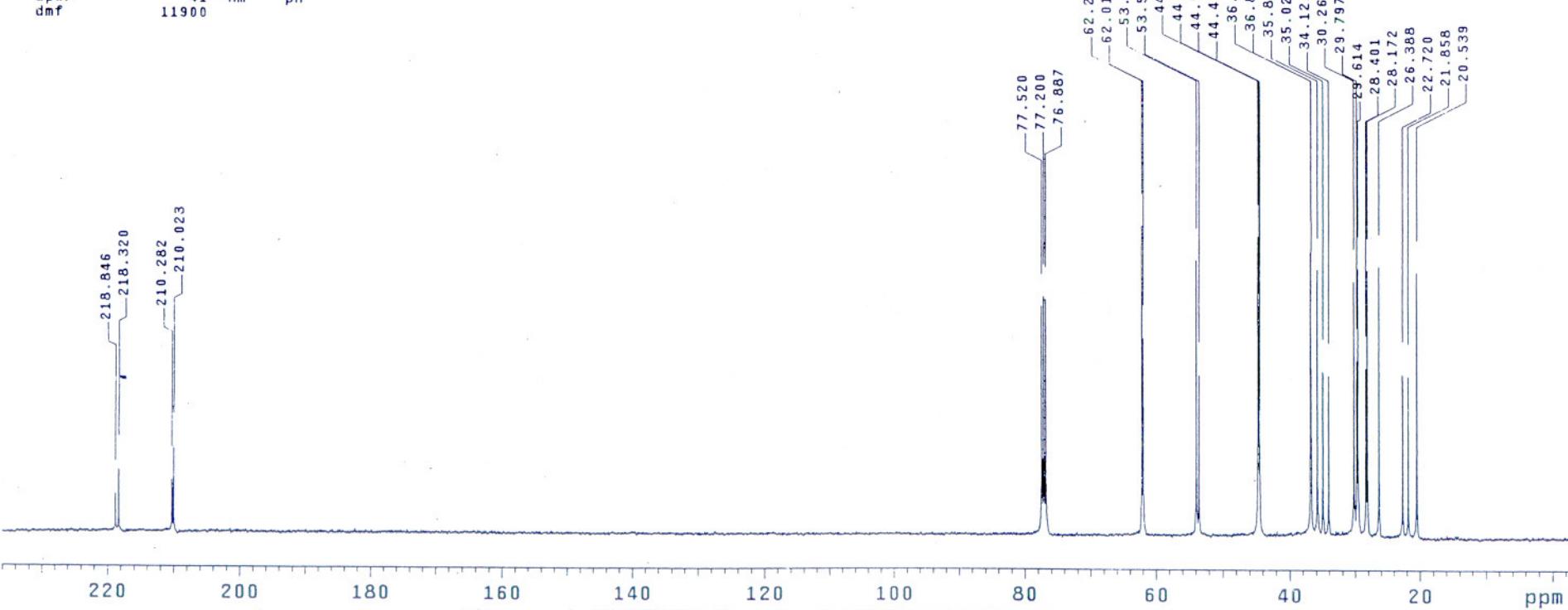
```

SAMPLE          SPECIAL
date Aug 14 2009 temp not used
solvent CD3OD gain not used
file /export/home/~/spin not used
guest1/2009/AUGUES~ hst 0.008
T-09/aug-14/VKS-Pl~ pw90 14.000
          a-pdc-c13.fid alfa 20.000
ACQUISITION      FLAGS
sw   25125.6 il n
at   1.199 in n
np   60270 dp y
fb   13800 hs nn
bs    4
d1   1.000 1b 3.00
nt   24000 fn not used
ct   2756 DISPLAY
TRANSMITTER sp -269.0
tn   C13 wp 24003.0
sfrq 100.561 rfl 8856.5
tof   1558.7 rfp 7762.5
tpwr  56 rp 102.8
pw   7.000 lp -304.5
DECOUPLER      PLOT
dn   H1 wc 250
dof   0 sc 0
dm   yyy vs 49
dmm   w th 5
dpwr  41 nm ph
dmf  11900

```



17

¹³C NMR (75 MHz, CDCl₃) spectrum of 17

pla_enone

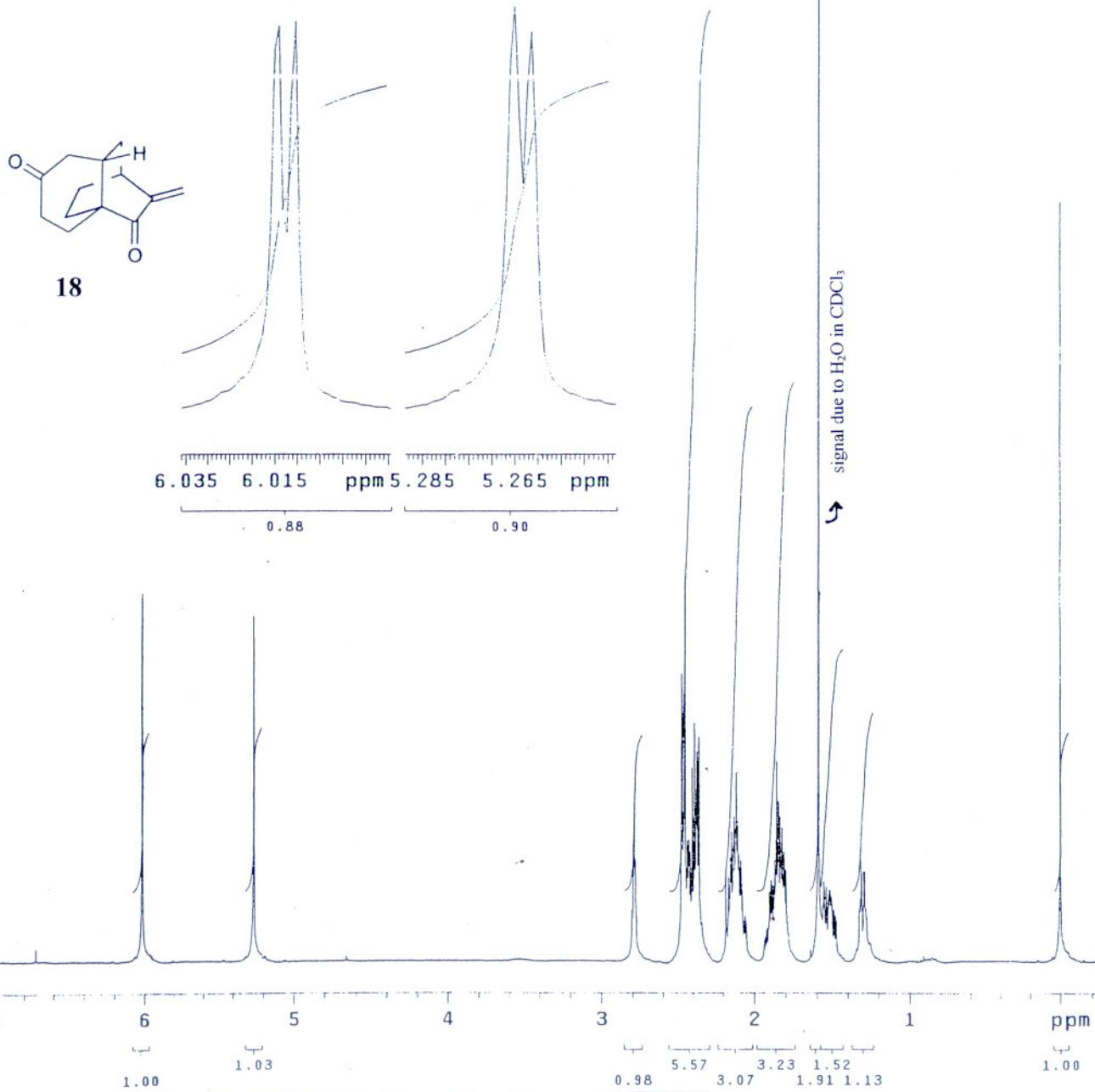
exp2 PROTON

SAMPLE SPECIAL
date Dec 27 2008 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
vkss5/2008/dec08/27~ hst 0.008
thdec/pla_enone.fi~ pw90 8.500
d alfa 20.000

ACQUISITION FLAGS
sw 6006.0 il n
at 1.989 in n
np 23888 dp y
fb not used hs nn
bs 4 PROCESSING
di 1.000 lb 0.01
nt 400 fn not used
ct 0 DISPLAY

TRANSMITTER sp -94.6
tn H1 wp 4186.9
sfrq 399.883 rfl 754.5
tof 200.0 rfp 0
tpwr 58 rp -50.0
pw 4.250 lp -72.8

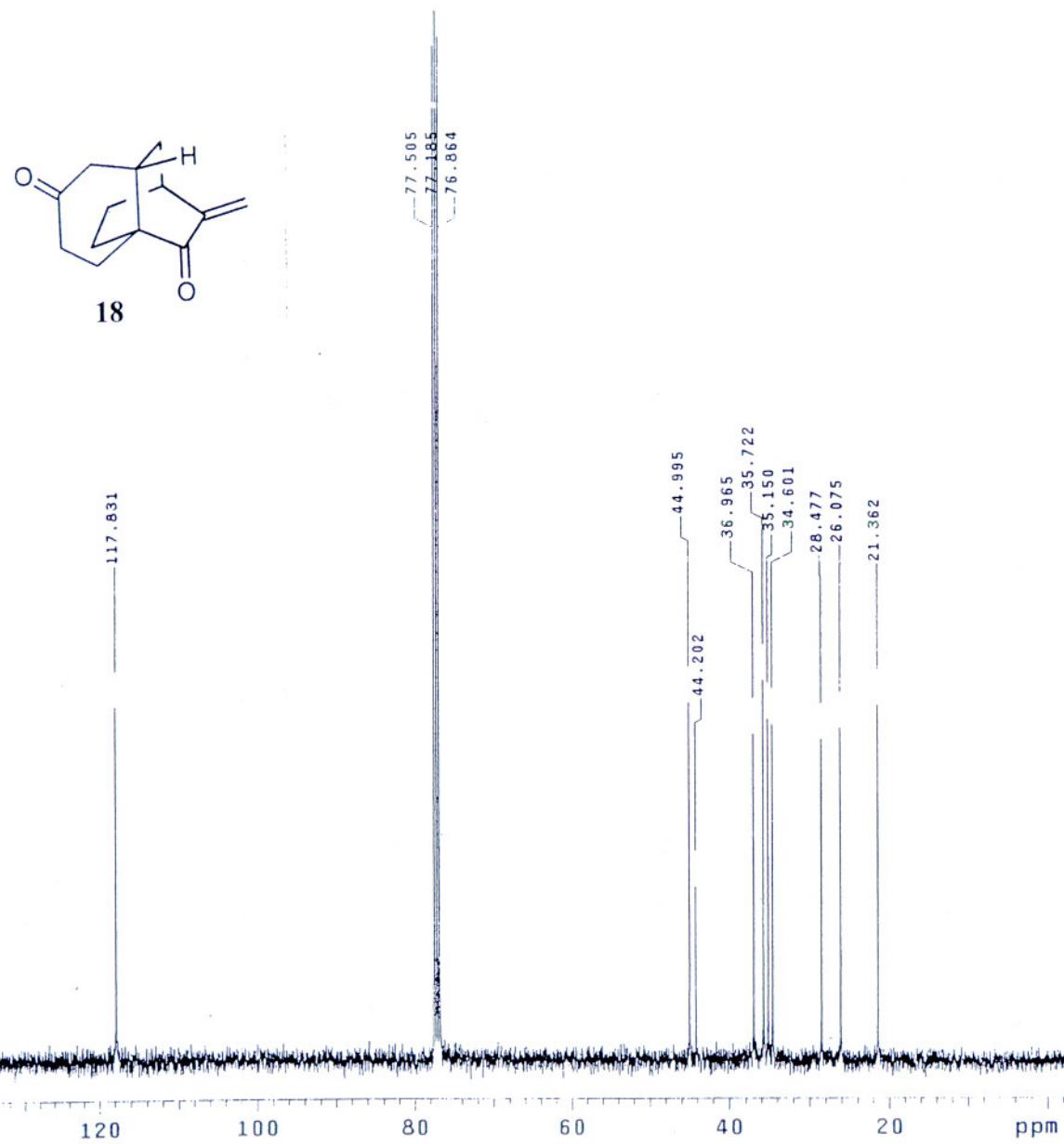
DECOUPLER PLOT
dn C13 wc 250
dof 0 sc 0
dm nnn vs 240
dmm .c th 5
dpwr 51 nm ph
dmf 17100

¹H NMR (400 MHz, CDCl₃) spectrum of **18**

pla-enone

exp2 s2pul

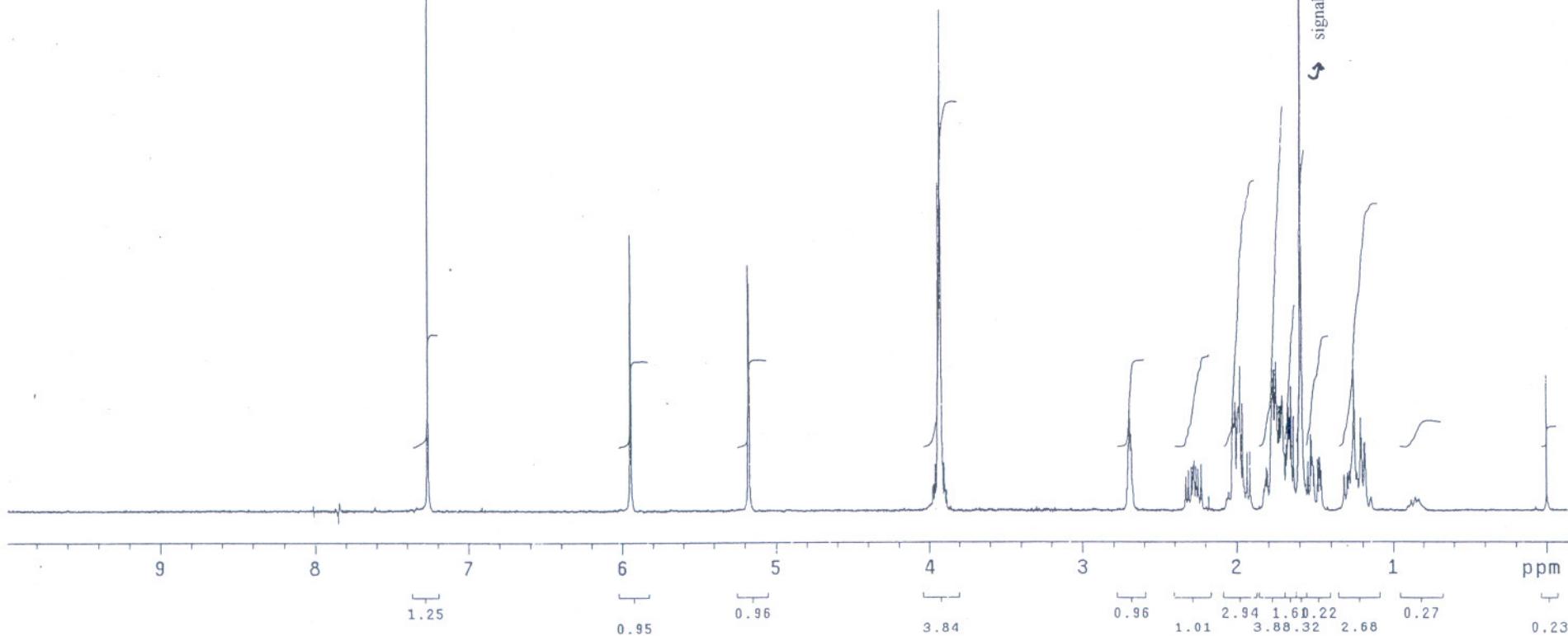
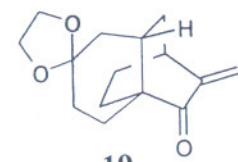
SAMPLE SPECIAL
date Aug 12 2009 temp not used
solvent CD3OD gain not used
file /export/home/~/spin not used
guest1/2009/AUGUES~ hst 0.008
T-09/Aug-12/VKS-pl~ pw90 14.000
a-enone-c13.fid alfa 20.000
ACQUISITION FLAGS
sw 25125.6 il n
at 1.199 in n
np 60270 dp y
fb 13800 hs nn
bs 4 PROCESSING
d1 1.000 lb 1.08
nt 24000 fn not used
ct 596 DISPLAY
TRANSMITTER sp -232.2
tn C13 wp 22451.0
sfrq 100.561 rf1 1090.2
tof 1558.7 rfp 0
tpwr 56 rp 1.4
pw 7.000 lp -324.9
DECOUPLER PLOT
dn H1 wc 250
dof 0 sc 0
dm yyy vs 148
dms w th 15
dpwr 41 nm ph
dmf 11900

¹³C NMR (100 MHz, CDCl₃) spectrum of **18**

Pla-enone-prot

exp s2pul

SAMPLE DEC. & VT
date Feb 25 2009 dn H1
solvent CDCl₃ dof 155.1
file exp dm nnn
ACQUISITION dmm c
sfrq 299.950 dmf 200
tn H1
at 1.991 lb 0.10
np 23912 fn not used
sw 6006.0
fb not used werr
bs 2 wexp
pw 3.0 wbs
pw 3.0 wnt
tpwr 58 DISPLAY
d1 0 sp -41.1
tof 900.0 wp 3036.7
nt 1600 vs 127
ct 168 sc 0
alock n wc 250
gain 2 hzmm 1.97
FLAGS is 110913.34
il n rfl 649.9
in n rfp 0
dp y th 1
ins 6.000
nm ph



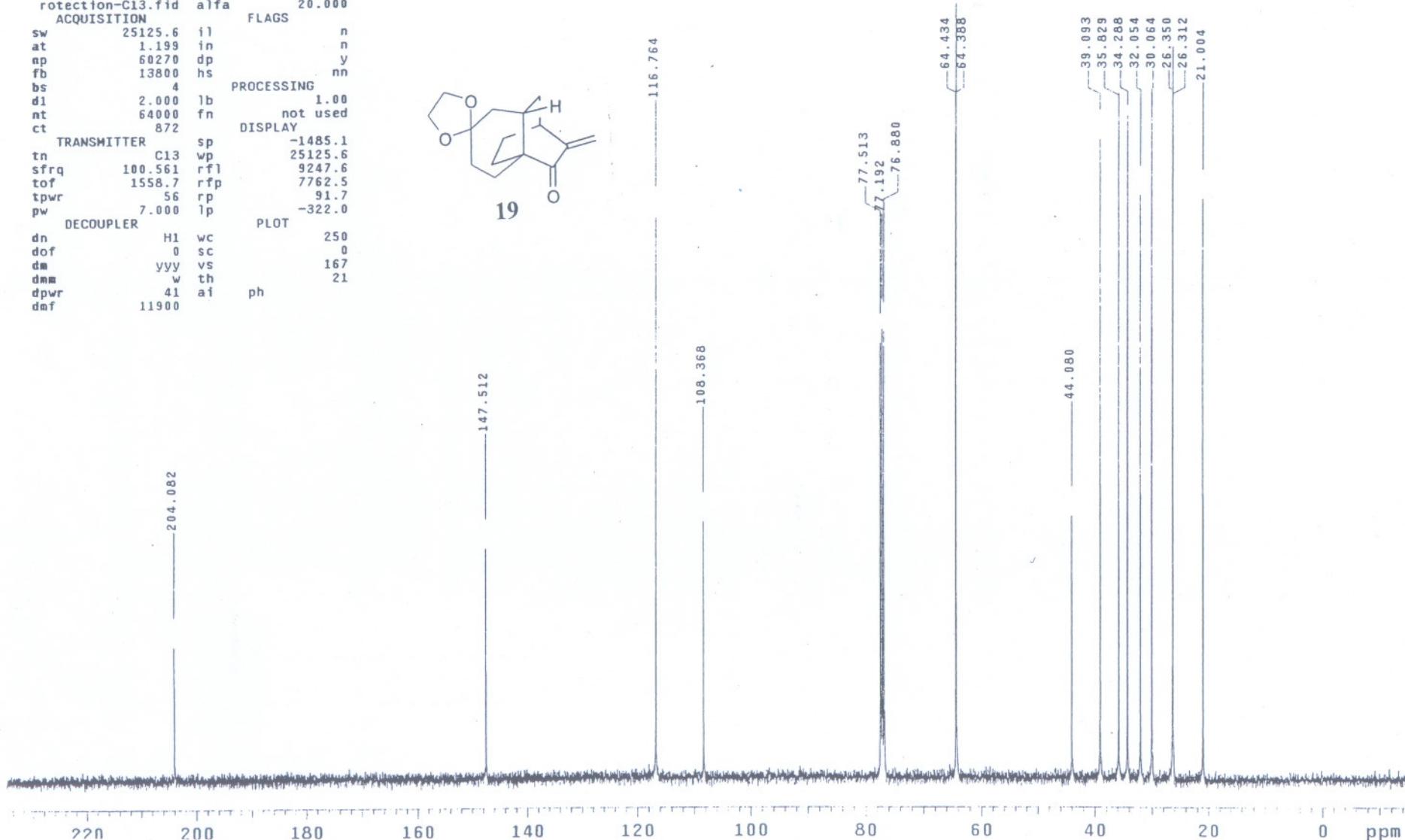
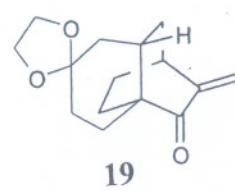
¹H NMR (300 MHz, CDCl₃) spectrum of **19**

pla_enone_prot

exp2 s2pul

SAMPLE SPECIAL
date Apr 25 2009 temp not used
solvent CDCl₃ gain not used
file /export/home/~/spin not used
vks5/2009/apr-09/2~ hst 0.008
Stphar/pla-enone-p~ pw90 14.000
rotection-C13.fid alfa 20.000

ACQUISITION FLAGS
sw 25125.6 i1 n
at 1.199 in n
np 60270 dp y
fb 13800 hs nn
bs 4
d1 2.000 lb 1.00
nt 64000 fn not used
ct 872
TRANSMITTER DISPLAY
tn C13 sp -1485.1
sfrq 100.561 wp 25125.6
tof 1558.7 rfl 9247.6
tpwr 56 rfp 7762.5
pw 7.000 lp 91.7
-322.0
DECOUPLER PLOT
dn H1 wc 250
dof 0 sc 0
dm yyy vs 167
dmm w th 21
dpwr 41 ai ph
dmf 11900



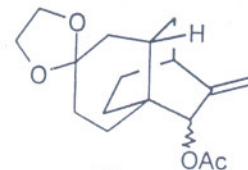
¹³C NMR (100 MHz, CDCl₃) spectrum of **19**

pla-acetate

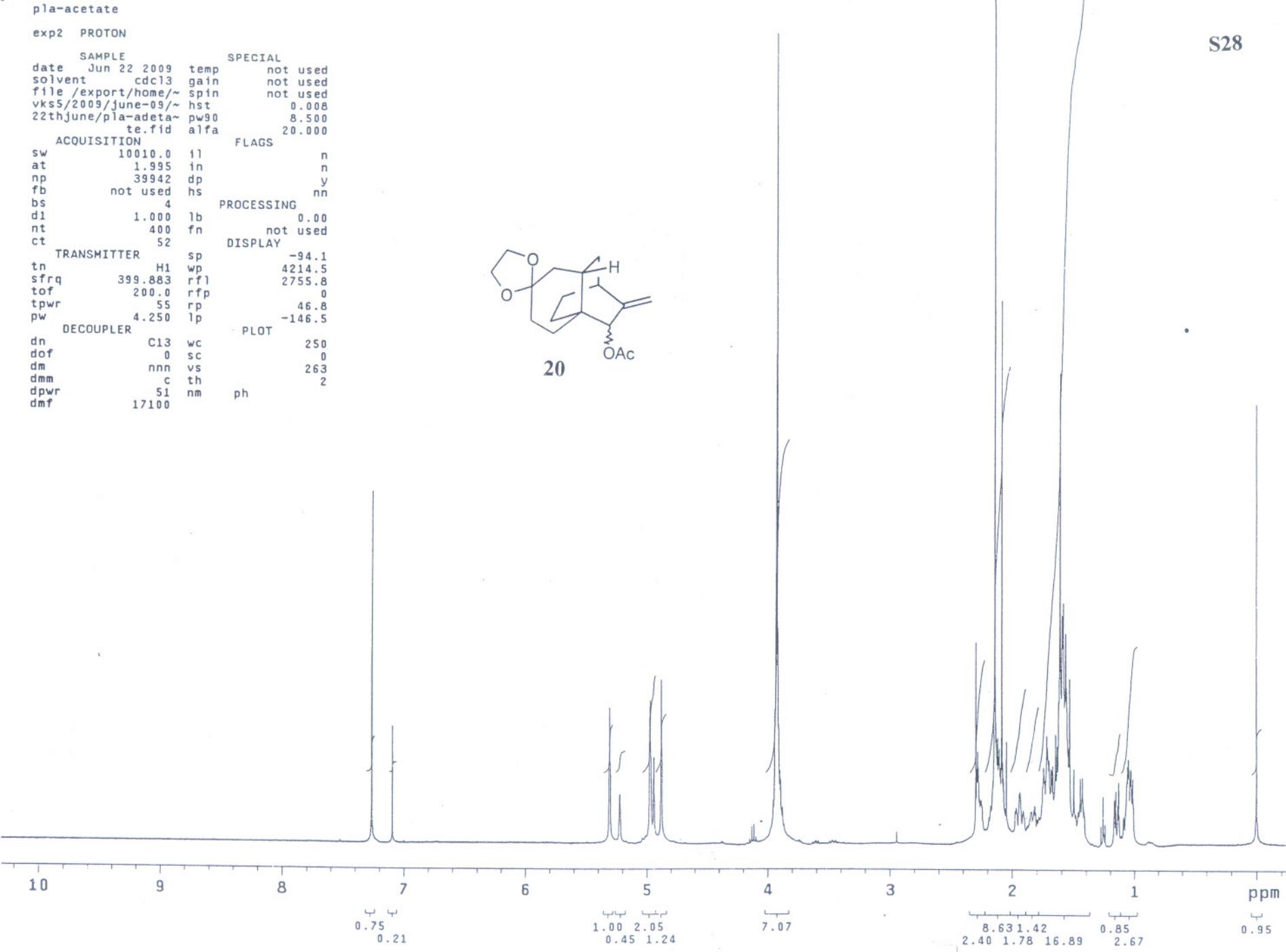
exp2 PROTON

S28

SAMPLE SPECIAL
date Jun 22 2009 temp not used
solvent cdcl₃ gain not used
file /export/home/~/spin not used
vks5/2009/June-09/~/hst 0.008
22thjune/pla-adeta~ pw90 8.500
te.fid alfa 20.000
ACQUISITION FLAGS
sw 10010.0 ll n
at 1.995 in n
np 39942 dp y
fb not used hs nn
bs 4 PROCESSING
d1 1.000 lb 0.00
nt 400 fn not used
ct 52 DISPLAY
TRANSMITTER sp -94.1
tn H1 wp 4214.5
sfrq 399.883 rfl 2755.8
tof 200.0 rfp 0
tpwr 55 rp 46.8
pw 4.250 lp -146.5
DECOUPLER PLOT
dn C13 wc 250
dof 0 sc 0
dm nnn vs 263
dmm c th 2
dpwr 51 nm ph
dmf 17100



20



¹H NMR (400 MHz, CDCl₃) spectrum of 20

exp2 s2pul

```

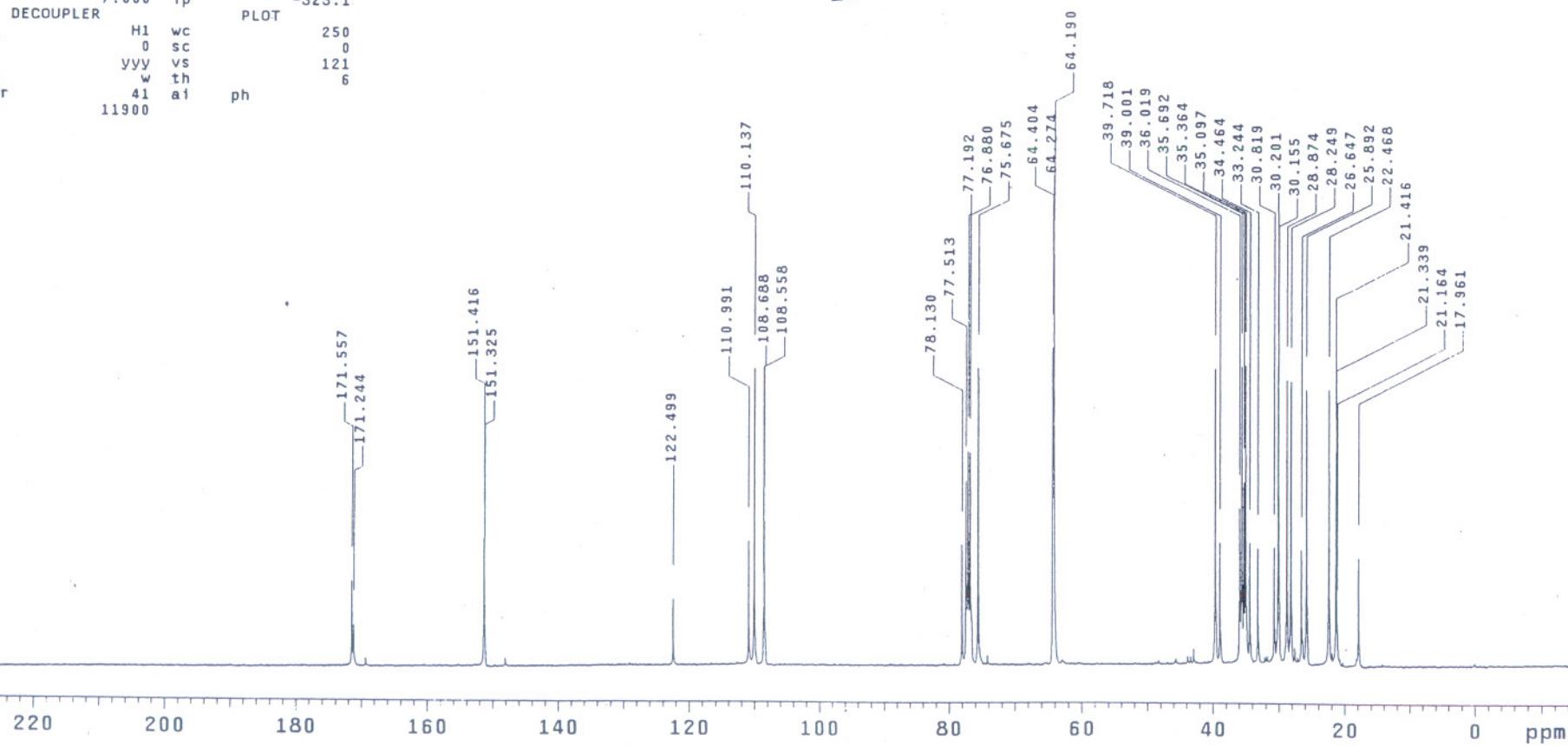
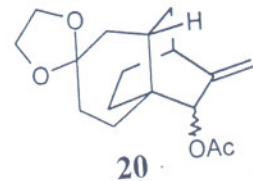
SAMPLE          SPECIAL
date   Jun 27 2009 temp    not used
solvent  CDCl3   gain    not used
file /export/home/~/spin    not used
vks5/2009/june-09/~/hst    0.008
27-June/pla-acetat~ pw90    14.000
e-C13.fid alfa    20.000

ACQUISITION      FLAGS
sw     25125.6  ll      n
at      1.199  in      n
np     60270  dp      y
fb     13800  hs      nn
bs      4       PROCESSING
d1      2.000  lb      3.00
nt     64000  fn      not used
ct     9772   DISPLAY

TRANSMITTER
tn      C13   wp     25125.6
sfrq   100.561 rfl    9250.6
tof     1558.7 rfp    7762.5
tpwr    56    rp     72.4
pw     7.000  lp     -323.1

DECOUPLER        PLOT
dn      H1    wc     250
dof     0     sc      0
dm      yyy   vs     121
dmm     w    th      6
dpwr    41   ai     ph
dmf    11900


```



¹³C NMR (100 MHz, CDCl₃) spectrum of **20**

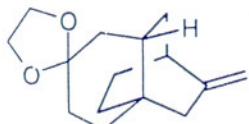
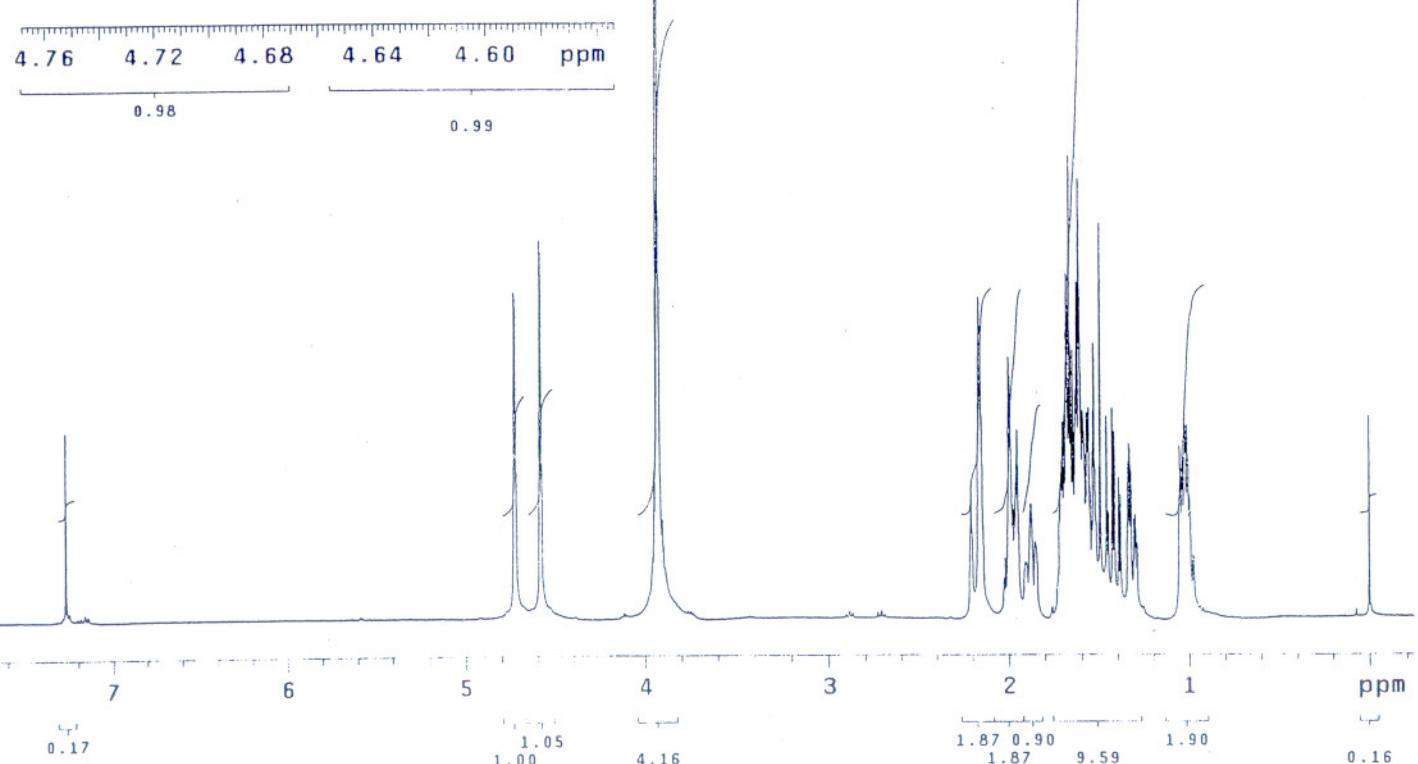
bcs-pla-dba

exp2 PROTON

```

SAMPLE          SPECIAL
date Jul 4 2009 temp not used
solvent cdc13 gain not used
file /export/home/~/spin not used
vks5/2009/july09/4~ hst 0.008
thjuly/bcs-pla-pda~ pw90 8.500
.fid alfa 20.000
ACQUISITION      FLAGS
sw   10010.0 il n
at   1.995 in n
np   39942 dp y
fb   not used hs nn
bs   4
d1   1.000 lb 0.00
nt   400 fn not used
ct   140
TRANSMITTER      PROCESSING
tn   H1 wp 1821.0
sfrq 399.883 rf1 2753.7
tof   200.0 rfp 0
tpwr 55 rp -8.4
pw   4.250 lp -128.6
DECOUPLER        PLOT
dn   C13 wc 80
dof   0 sc 105
dm   nnn vs 340
dns   c th 9
dpwr 51 nm ph
dmf  17100

```



exp2 s2pul

```

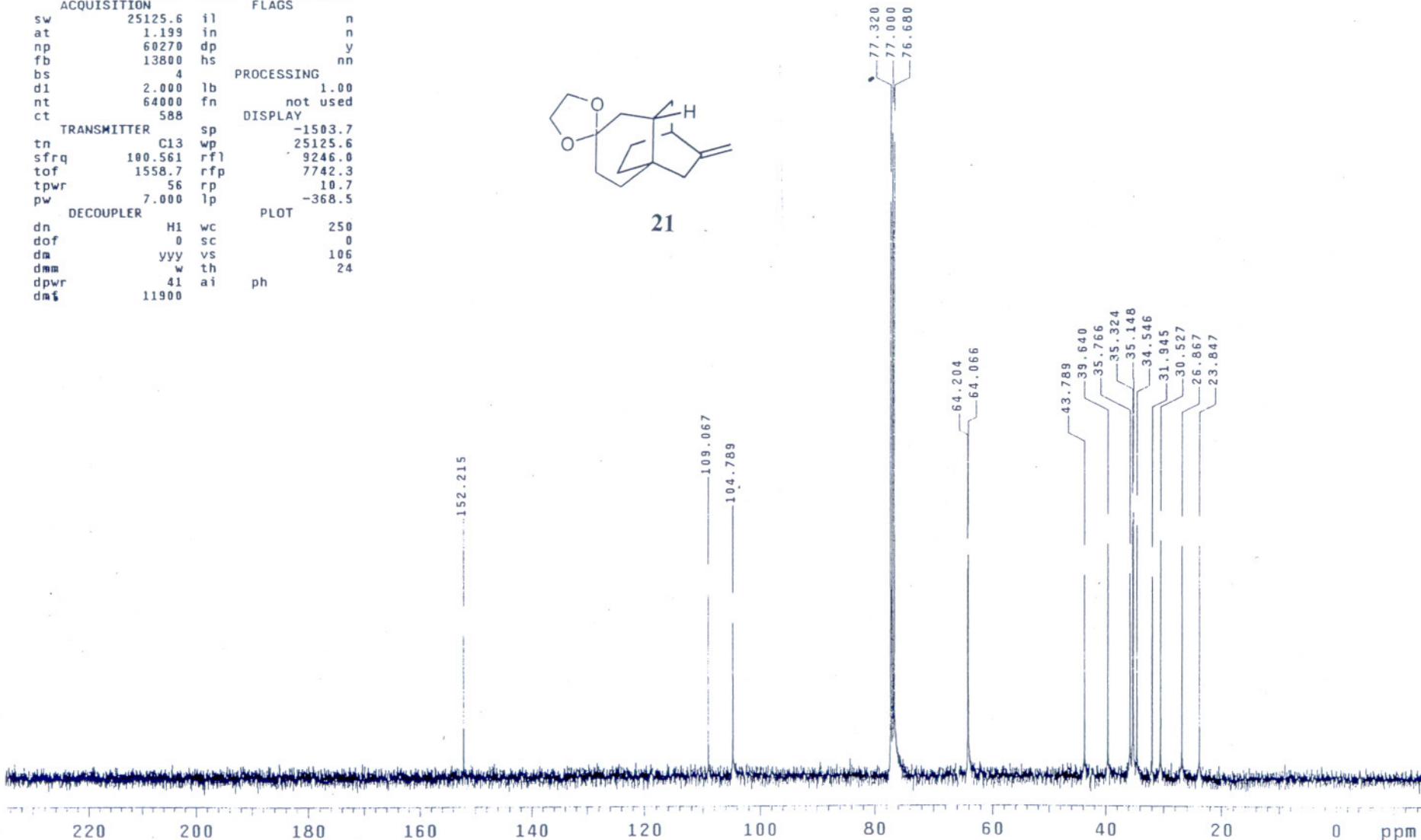
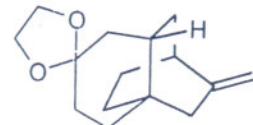
SAMPLE          SPECIAL
date Jul 4 2009 temp not used
solvent CDCl3 gain not used
file /export/home/~/ spin not used
vks5/2009/july09/4~ hst 0.008
thjuly/pla-dba-c13~ pw90 14.000
.fid alfa 20.000

ACQUISITION      FLAGS
sw   25125.6 il    n
at   1.199 in    n
np   60270 dp    y
fb   13800 hs    nn
bs   4
d1   2.000 lb    1.00
nt   64000 fn    not used
ct   588

TRANSMITTER      PROCESSING
tn   C13 wp    25125.6
sfrq 100.561 rfl   9246.0
tof   1558.7 rfp   7742.3
tpwr  56 rp    10.7
pw   7.000 lp    -368.5

DECOUPLER        PLOT
dn   H1 wc    250
dof  0 sc    0
dm   yyy vs   106
dmm  w th   24
dpwr 41 ai   ph
dm‡ 11900

```



¹³C NMR (100 MHz, CDCl₃) spectrum of **21**

pla-ketal-dep

exp2 PROTON

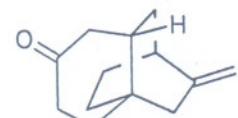
SAMPLE SPECIAL
date Jun 25 2009 temp not used
solvent cdc13 gain not used
file /export/home/~/spin not used
vks5/2009/june-09/~/hst 0.008
25thjune/pla_ketal~/pw90 8.500
dep.fid alfa 20.000

ACQUISITION FLAGS
sw 10010.0 il n
at 1.995 in n
np 39942 dp y
fb not used hs nn
bs 4

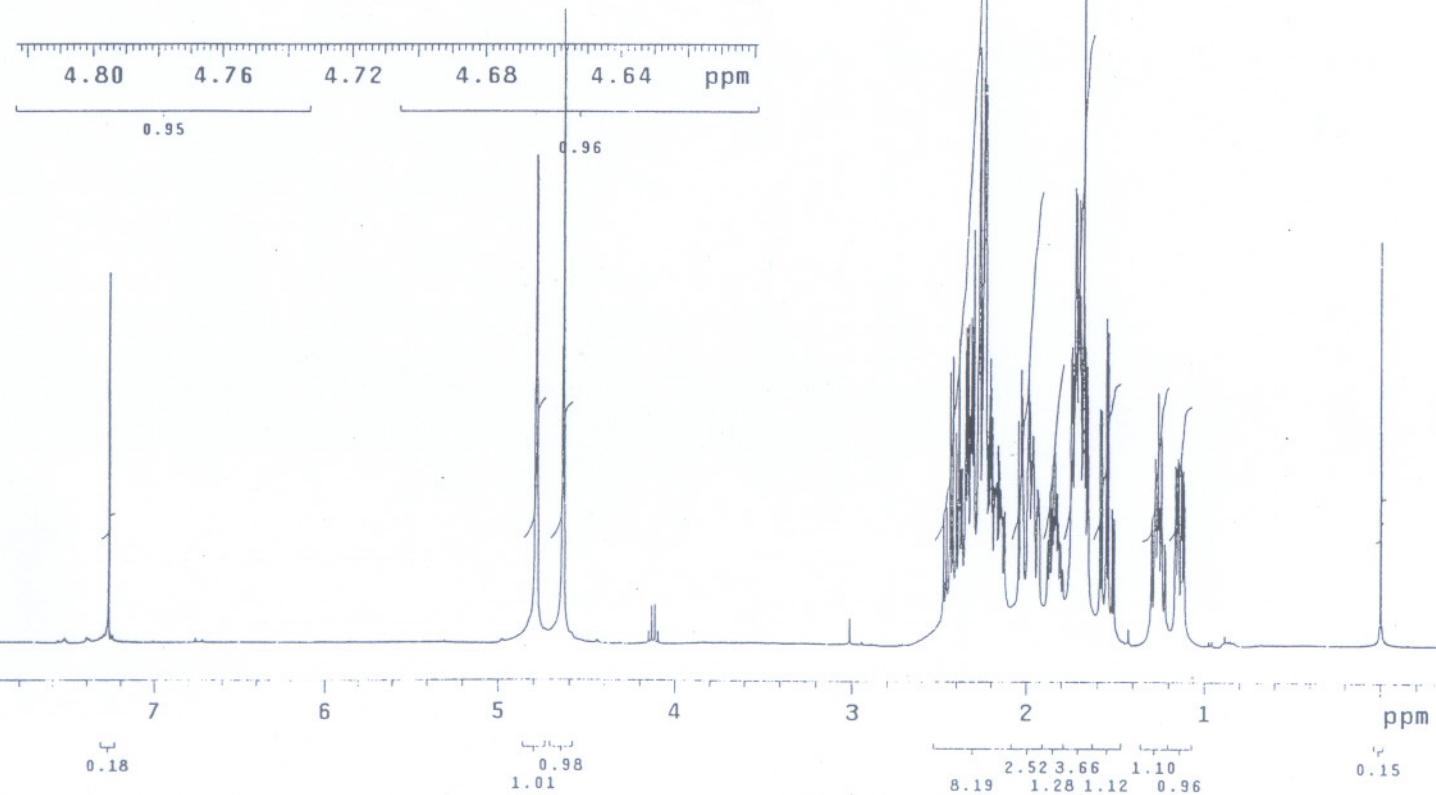
PROCESSING
d1 1.000 lb 0.00
nt 400 fn not used
ct 224

DISPLAY
TRANSMITTER sp 1839.1
tn H1 wp 89.8
sfrq 399.883 rfl 2754.0
tof 200.0 rfp 0
tpwr 55 rp 37.3
pw 4.250 lp -103.1

DECOPPLER PLOT
dn C13 wc 100
dof 0 sc 90
dm nnn vs 111
dmm c th 9
dpwr 51 nm ph
dmf 17100



4

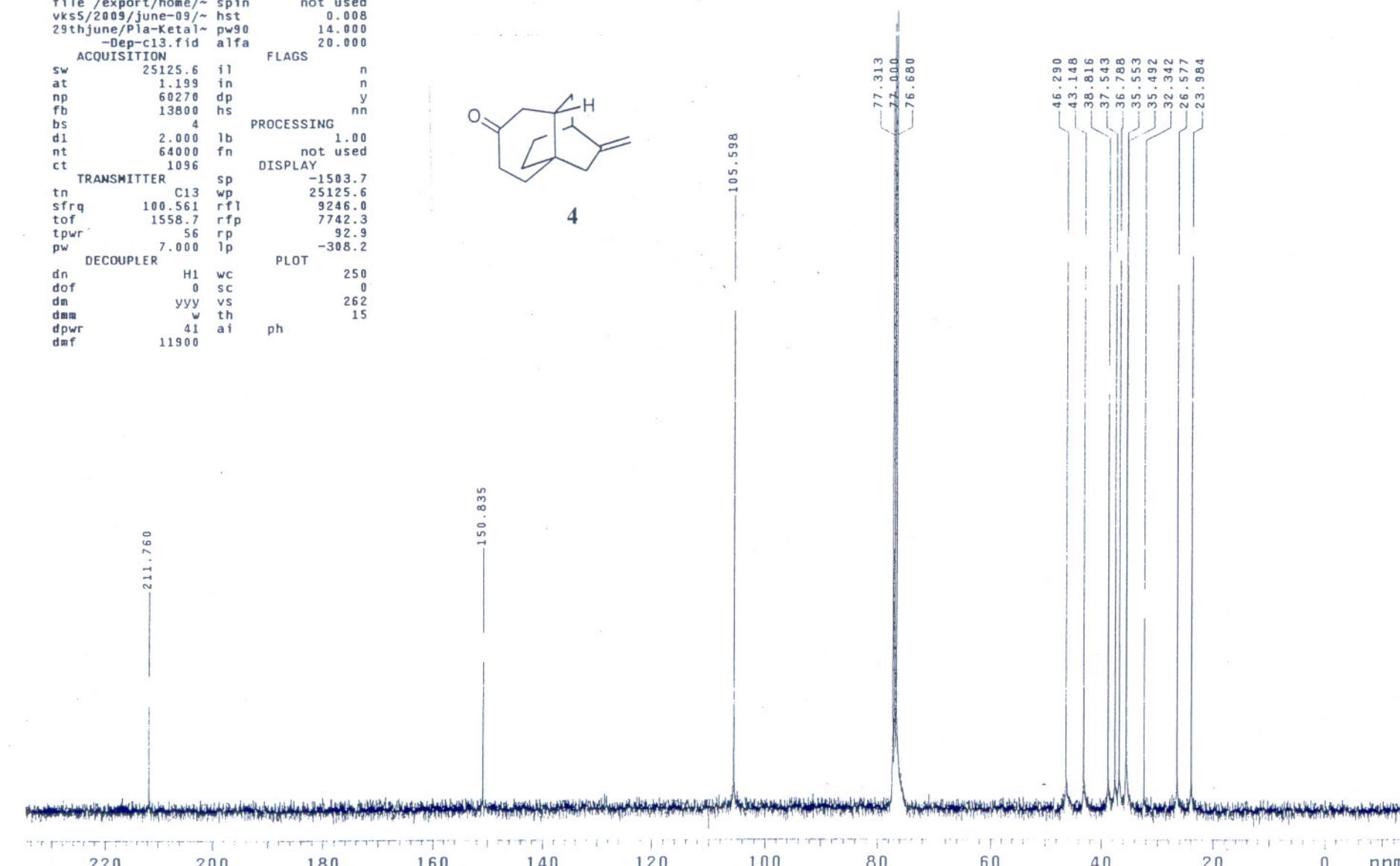
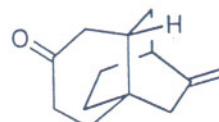
¹H NMR (400 MHz, CDCl₃) spectrum of 4

exp2 s2pul

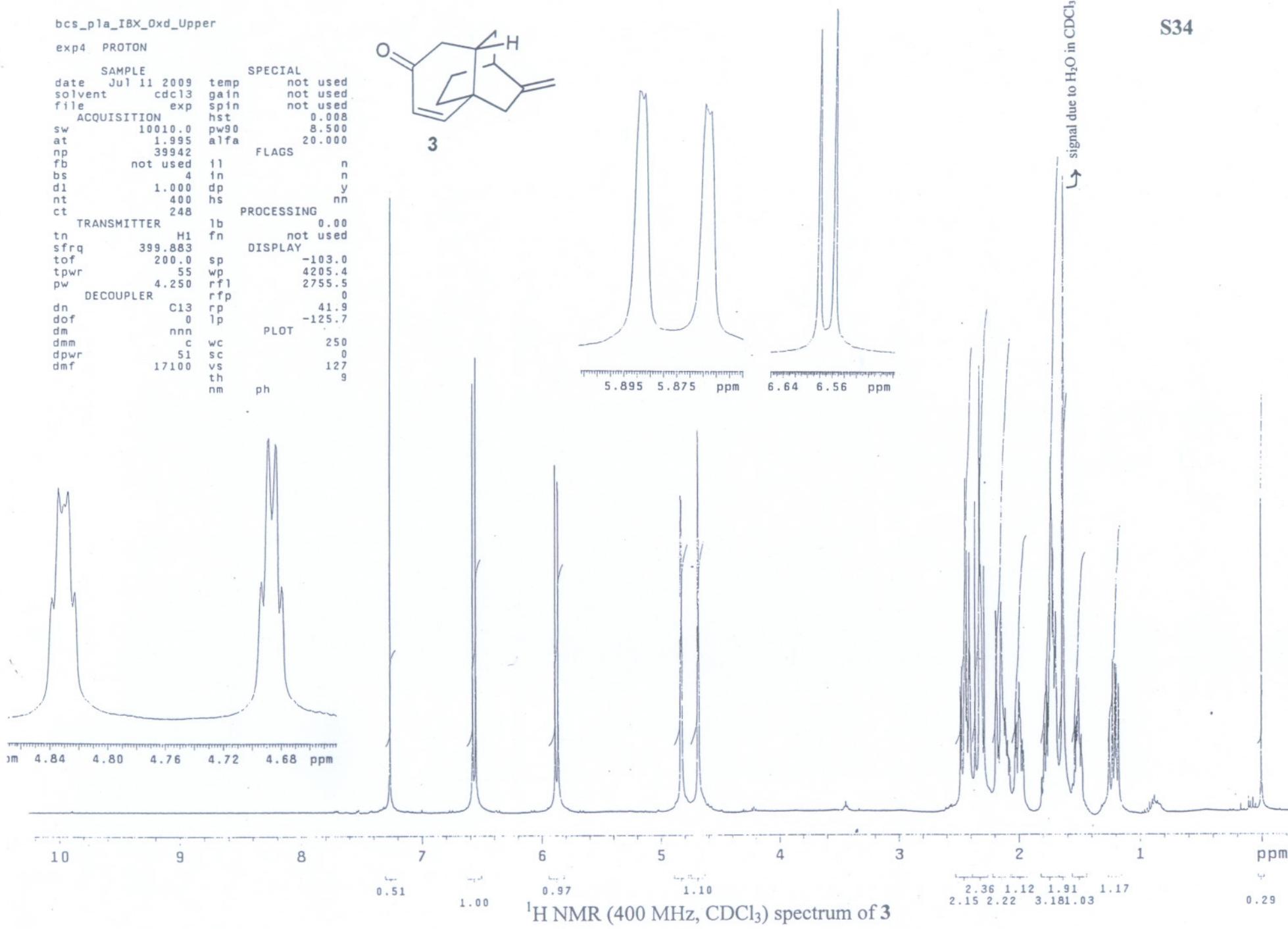
```

SAMPLE          SPECIAL
date   Jun 29 2009 temp    not used
solvent  CDCl3 gain     not used
file /export/home/~/spin not used
vks5/2009/june-09/~/hst 0.008
29thjune/Pla-Ketal~ pw90 14.000
-Dep-c13.fid alfa 20.000
ACQUISITION      FLAGS
sw    25125.6 il    n
at    1.199 in    n
np    60270 dp    y
fb    13800 hs    nn
bs    4
d1    2.000 lb    1.00
nt    64000 fn    not used
ct    1096
TRANSMITTER      PROCESSING
tn    C13 sp    -1503.7
sfrq  100.561 wp    25125.6
tof   1558.7 rfl   9246.0
tpwr  56 rfp   7742.3
pwpr  7.000 lp    -308.2
DECOUPLER        DISPLAY
dn    H1 wc    250
dof   0 sc    0
dm    yyy vs   262
dmm   w th   15
dpwr  41 ai   ph
dmf   11900

```



¹³C NMR (100 MHz, CDCl₃) spectrum of 4



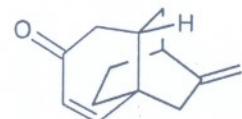
pla-fbx-oxid-upper

exp4 s2pul

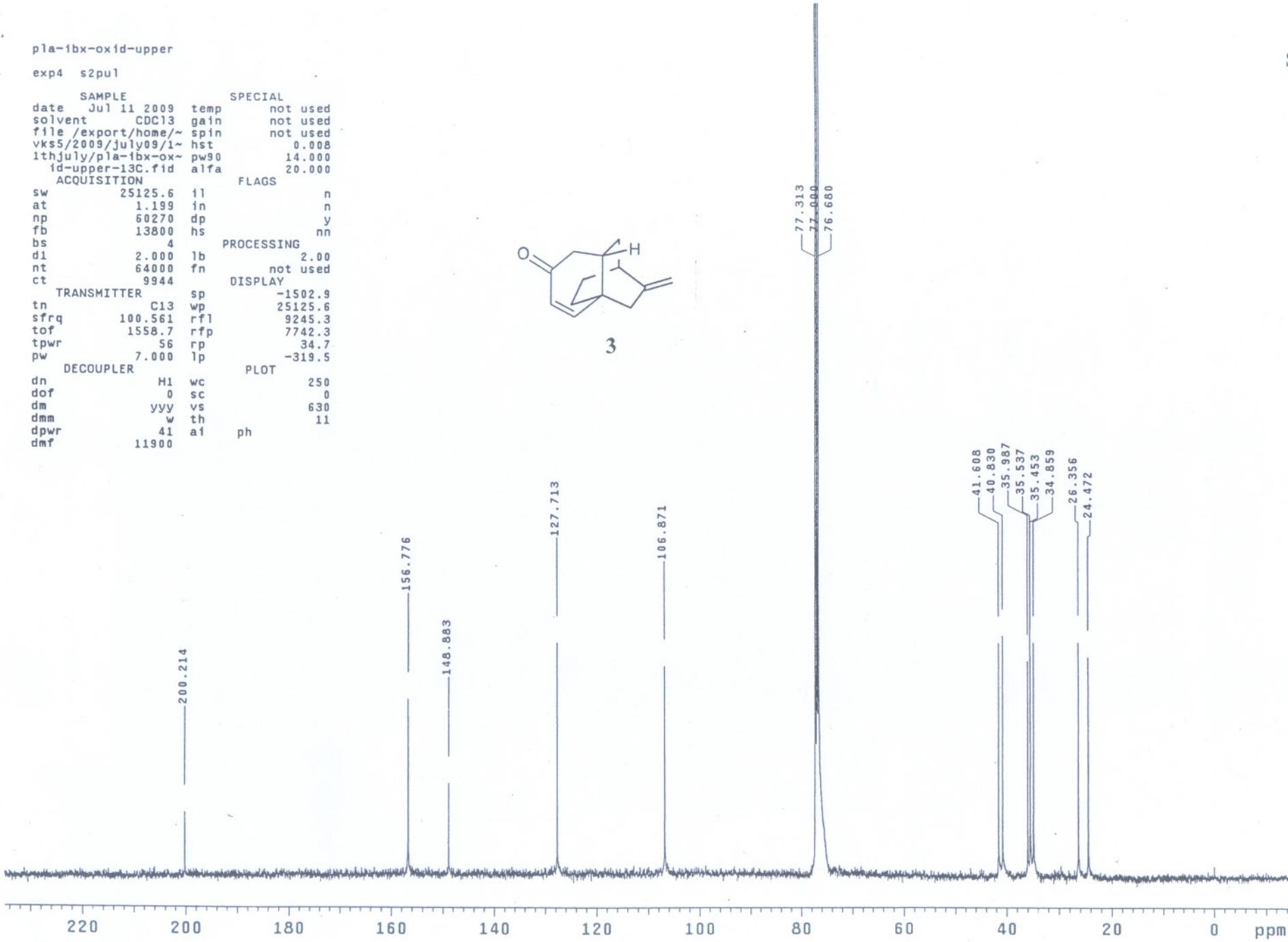
```

SAMPLE          SPECIAL
date Jul 11 2009 temp    not used
solvent   CDCl3 gain    not used
file /export/home/~/spin    not used
vks5/2009/july09/1~ hst    0.008
1thJuly/pla-fbx-ox~ pw90    14.000
id-upper-13C.fid alfa    20.000
ACQUISITION      FLAGS
sw     25125.6 fl      n
at      1.199 in      n
np      60270 dp      y
fb      13800 hs      nn
bs       4          PROCESSING
d1      2.000 lb      2.00
nt      64000 fn      not used
ct      9944          DISPLAY
TRANSMITTER      sp      -1502.9
tn      C13 wp      25125.6
sfrq    100.561 rfl     9245.3
tof     1558.7 rfp     7742.3
tpwr     56 rp      34.7
pw      7.000 lp      -319.5
DECOUPLER        PLOT
dn      H1 wc      250
dof     0 sc      0
dm      yyy vs      630
dmm     w th      11
dpwr     41 af      ph
dmf     11900

```



3

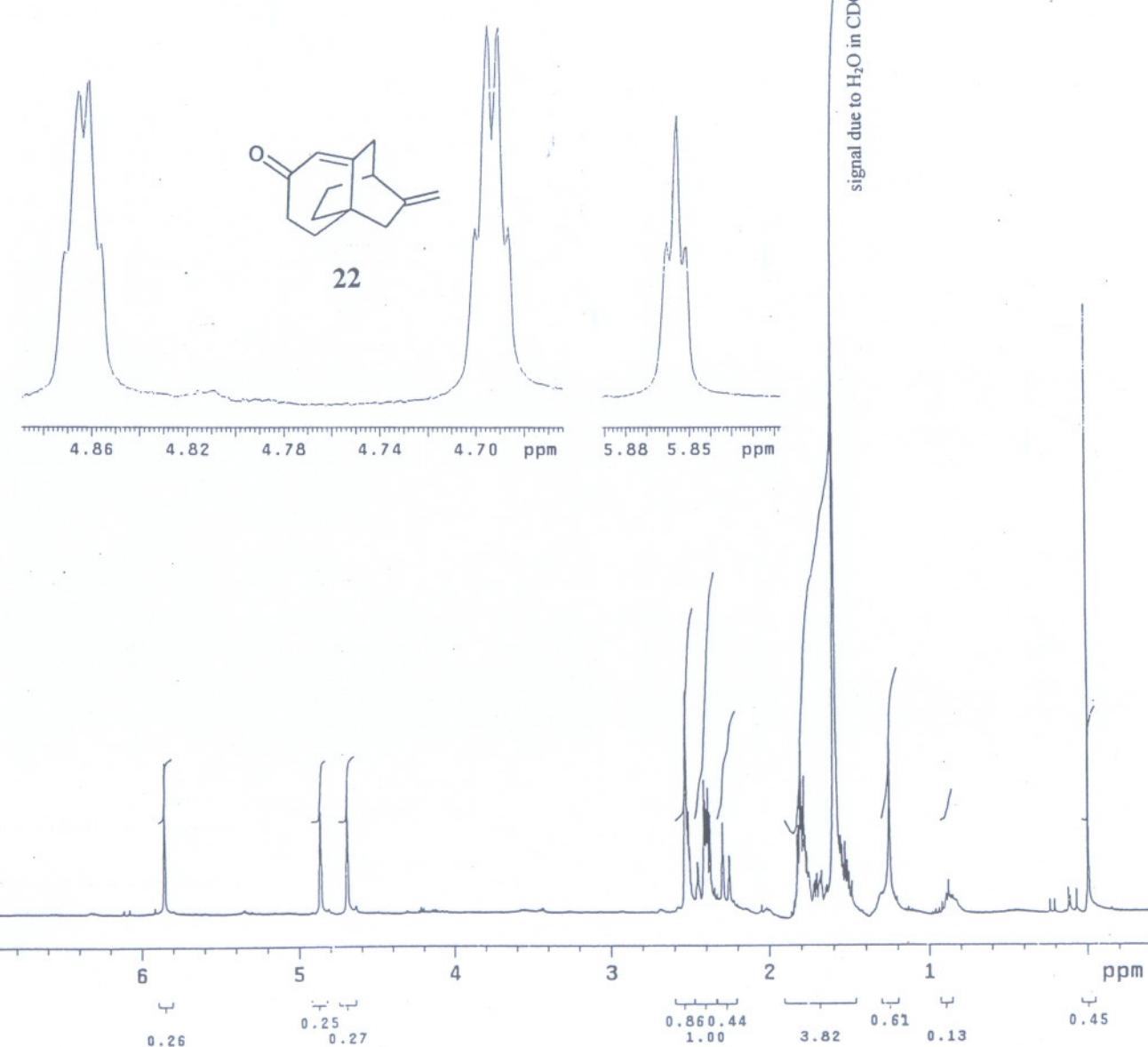
¹³C NMR (100 MHz, CDCl₃) spectrum of 3

exp4 PROTON

SAMPLE SPECIAL
date Jul 11 2009 temp not used
solvent cdc13 gain not used
file /export/home/~/spin not used
vks5/2009/july09/1~ hst 0.008
1thjuly/pla-IBx-oxx pw90 8.500
d-lower.tid alfa 20.000
ACQUISITION FLAGS
sw 10010.0 11 n
at 1.995 in n
np 39942 dp y
fb not used hs nn
bs 4 PROCESSING
d1 1.000 1b 0.00
nt 400 fn not used
ct 340 DISPLAY
TRANSMITTER sp -159.5
tn H1 wp 4288.5
sfrq 399.883 rfl 2756.4
tof 200.0 rfp 0
tpwr 55 rp 22.3
pw 4.250 lp -93.8
DECOUPLER PLOT
dn C13 wc 250
dof 0 sc 0
dm nnn vs 132
dmm c th 9
dpwr 51 nm ph
dmf 17100



22

¹H NMR (400 MHz, CDCl₃) spectrum of 22

pla-1bx-lower13C

exp2 s2pul

```

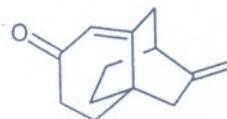
SAMPLE          SPECIAL
date Jul 12 2009 temp    not used
solvent   CDCl3  gain     not used
file /export/home/~/spin  not used
vks5/2009/july09/1~ hst      0.008
1thjuly/pla-1bx-1o~ pw90    14.000
wer-13C.fid alfa    20.000

ACQUISITION      FLAGS
sw      25125.6 11      n
at       1.199  in      n
np      60270  dp      y
fb      13800  hs      nn
bs        4
d1      2.000 1b      2.00
nt      64000  fn      not used
ct      8444

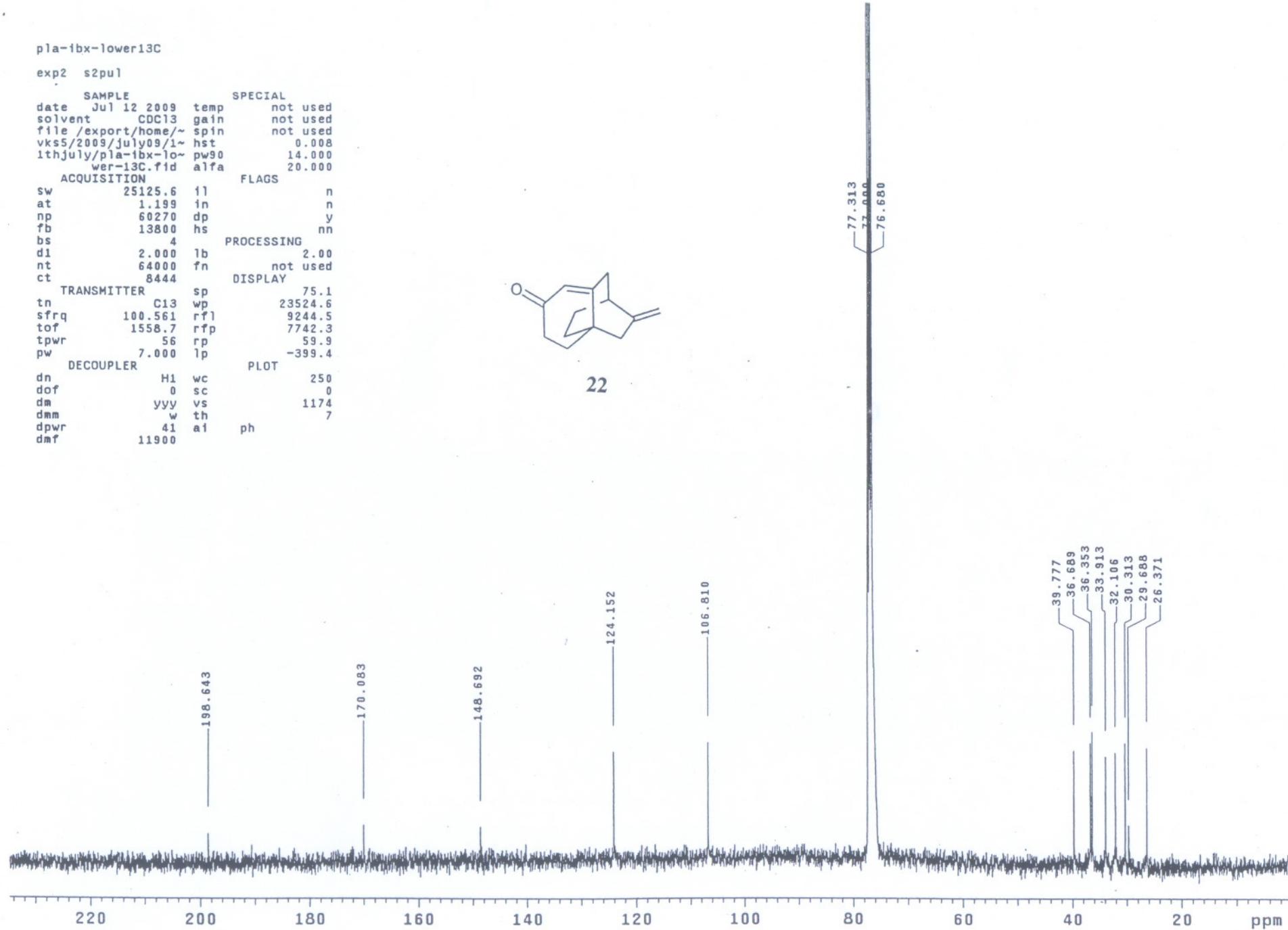
TRANSMITTER      PROCESSING
sp      C13  wp      23524.6
sfrq    100.561 rfl    9244.5
tof      1558.7 rfp    7742.3
tpwr      56  rp      59.9
pw      7.000 1p      -399.4

DECOPPLER        DISPLAY
dn      H1  wc      250
dof      0   sc      0
dm      yyy vs      1174
dmm      w th      7
dpwr      41 ai      ph
dm†     11900

```



22

¹³C NMR (100 MHz, CDCl₃) spectrum of 22