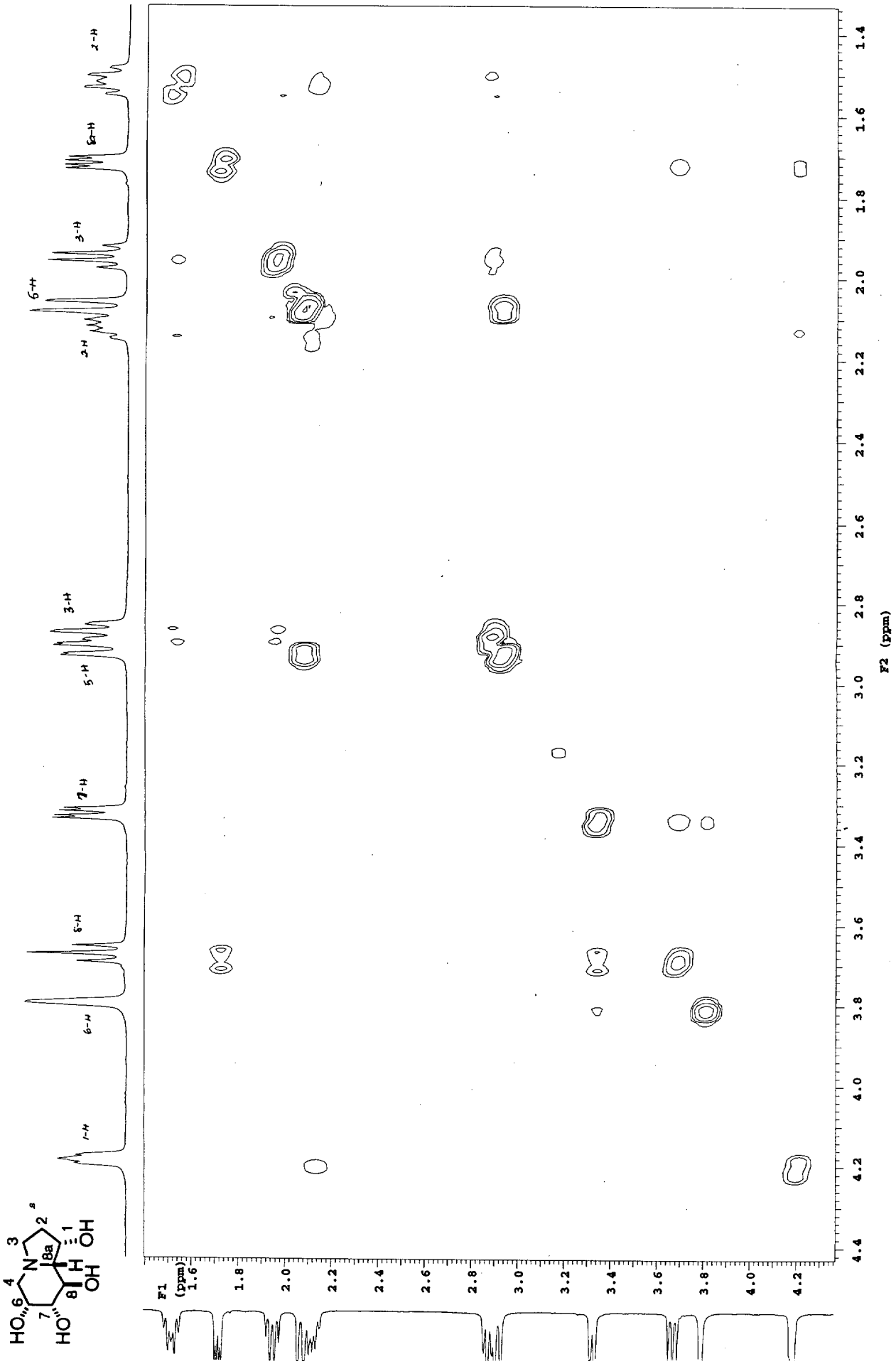
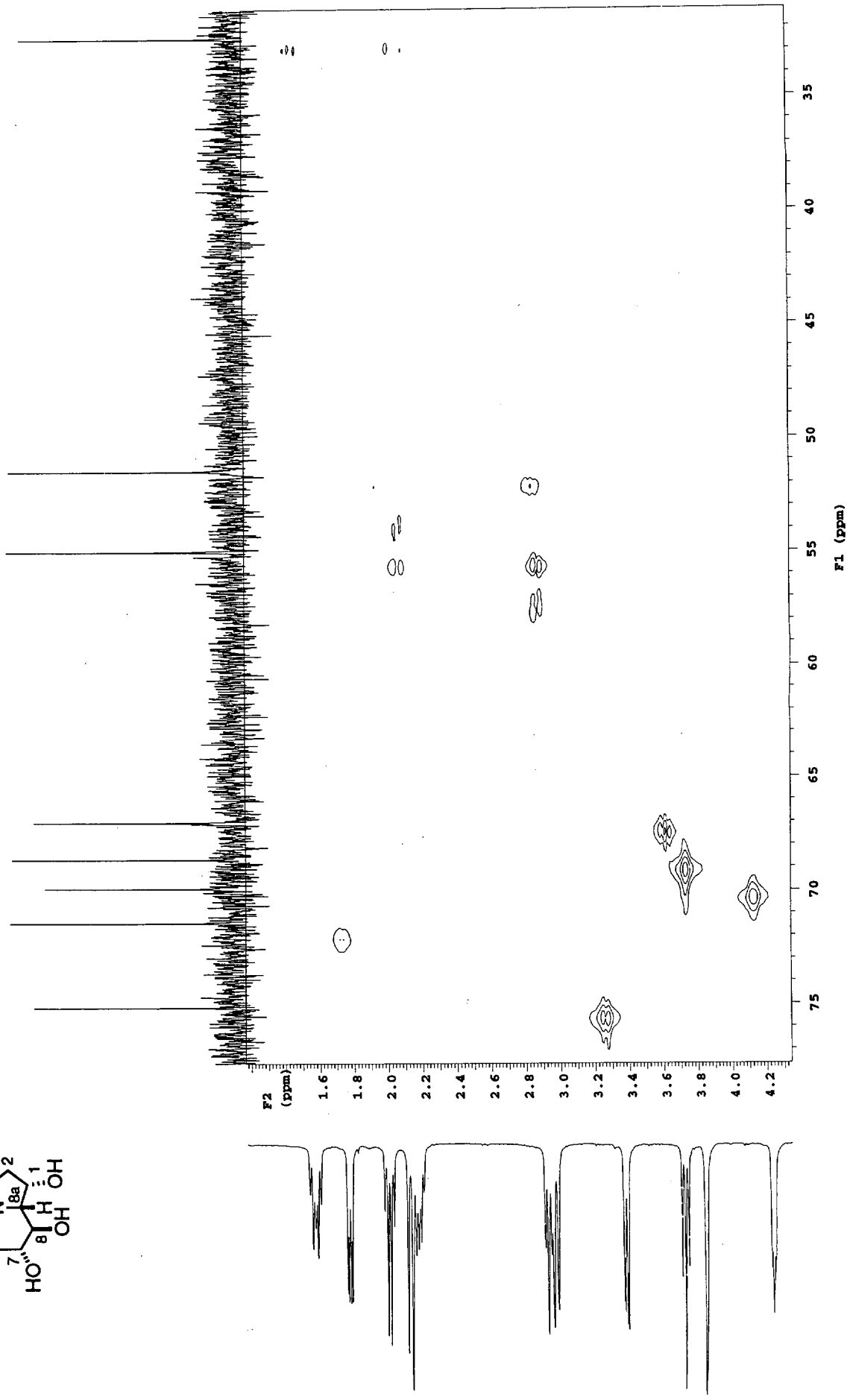




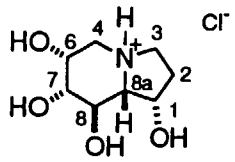
^{1}H NMR, ^{13}C NMR, COSY, and HETCOR for

(+)-6-epicastanospermine hydrochloride ((–)-**39**)

STANDARD PROTON PARAMETERS

exp1 s2pul

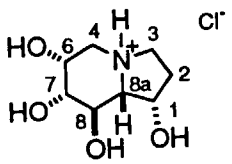
SAMPLE		DEC. & VT	
date	Apr 23 98	dfrq	500.085
solvent	D2O	dn	H1
file	exp	dpwr	18
ACQUISITION		dof	0
sfrq	500.085	dm	nnn
tn	H1	dmm	c
at	4.096	dmf	200
np	65536	dseq	
sw	8000.0	dres	1.0
fb	4000	homo	n
bs	16	DEC2	
tpwr	55	dfrq2	0
pw	7.8	dn2	
d1	0	dpwr2	1
tof	0	dof2	0
nt	32	dm2	n
ct	32	dmm2	c
alock	s	dmf2	200
gain	not used	dseq2	
FLAGS		dres2	1.0
il	n	homo2	n
in	n	PROCESSING	
dp	y	lb	0.30
hs	nn	wtfile	
DISPLAY		proc	ft
sp	-250.1	fn	not used
wp	5500.9	math	f
vs	205		
sc	0	werr	
wc	400	wexp	
hzmm	13.75	wbs	
is	4329.51	wnt	
rf1	3836.3		
rfp	2315.4		
th	7		
ins	100.000		
nm ph			

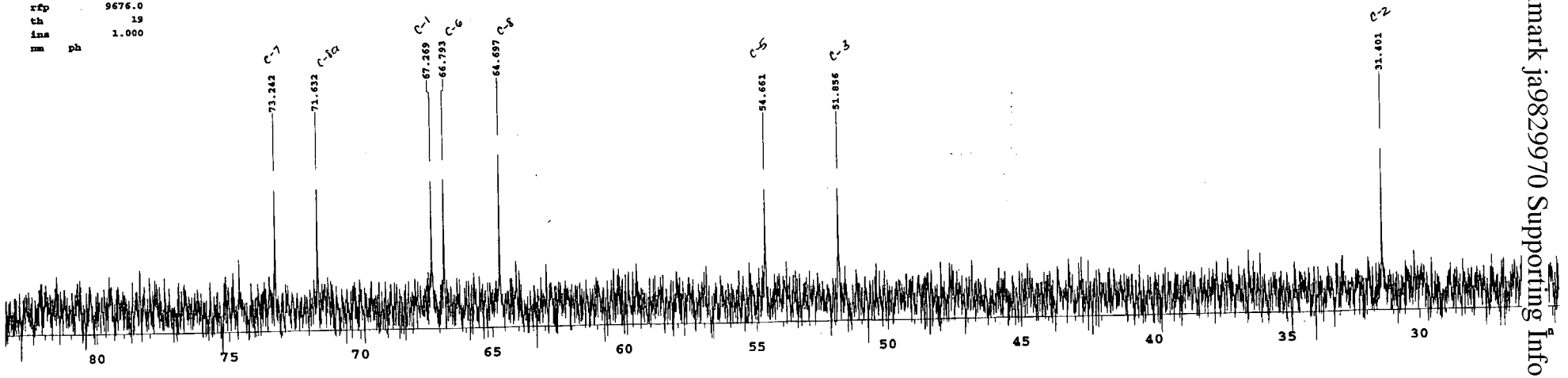


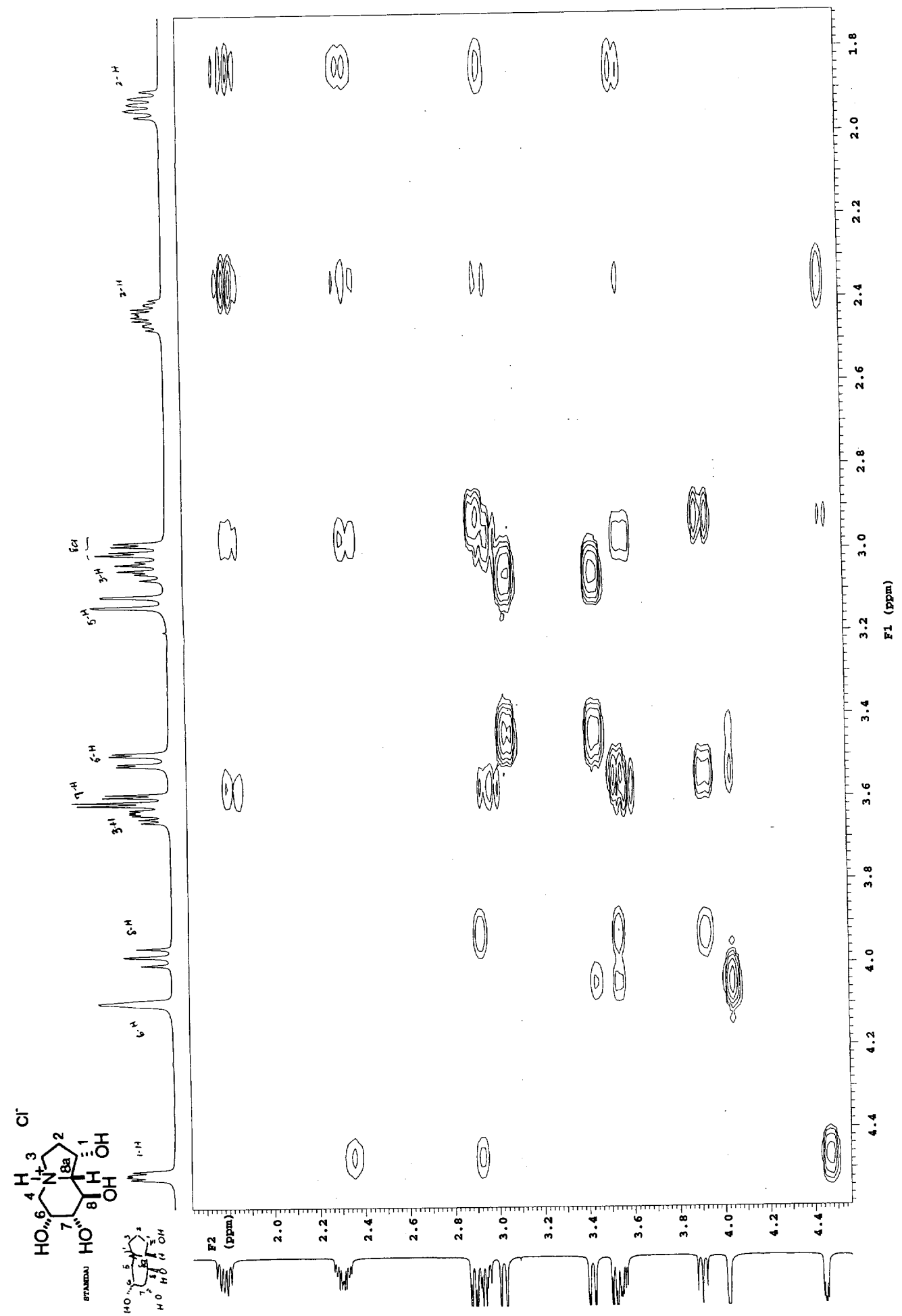
STANDARD CARBON PARAMETERS

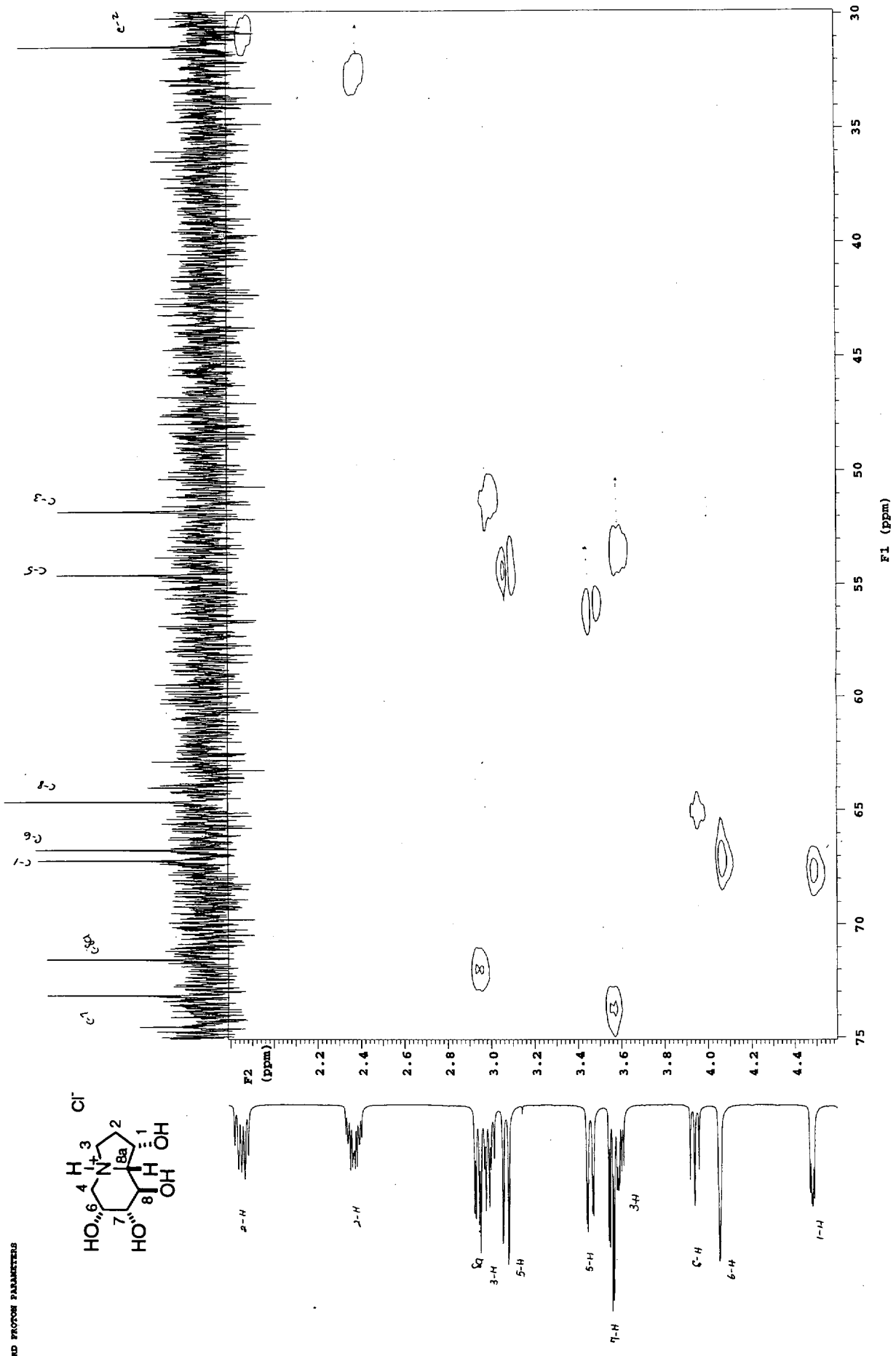
exp2 s2pul

SAMPLE		DEC. & VT	
date	Apr 24 98	dfrq	499.699
solvent	D2O	dn	H1
file	/export/home/-	dpwr	43
data/u500/martinbo-		dof	-829.0
rough/sam.04.17.13-		dm	YYY
	C.1	dmm	w
ACQUISITION		dmf	11053
sfrq	125.659	dseq	
tn	C13	dres	1.0
at	1.086	homo	n
np	46272	PROCESSING	
sw	21310.6	lb	1.00
fb	11800	wtfile	
bs	16	proc	ft
ss	1	fn	not used
tpwr	54	math	f
pw	4.6		
d1	1.000	werr	
tof	-2457.7	wexp	
nt	10000	wbs	
ct	1142	wnt	
alock	n		
gain	not used		
FLAGS			
il	n		
in	n		
dp	y		
hs	nn		
DISPLAY			
sp	3108.2		
wp	7388.2		
vs	40		
sc	0		
wc	400		
hzmm	18.47		
is	500.00		
rf1	10877.2		
rfp	9676.0		
th	19		
ins	1.000		
nm	ph		



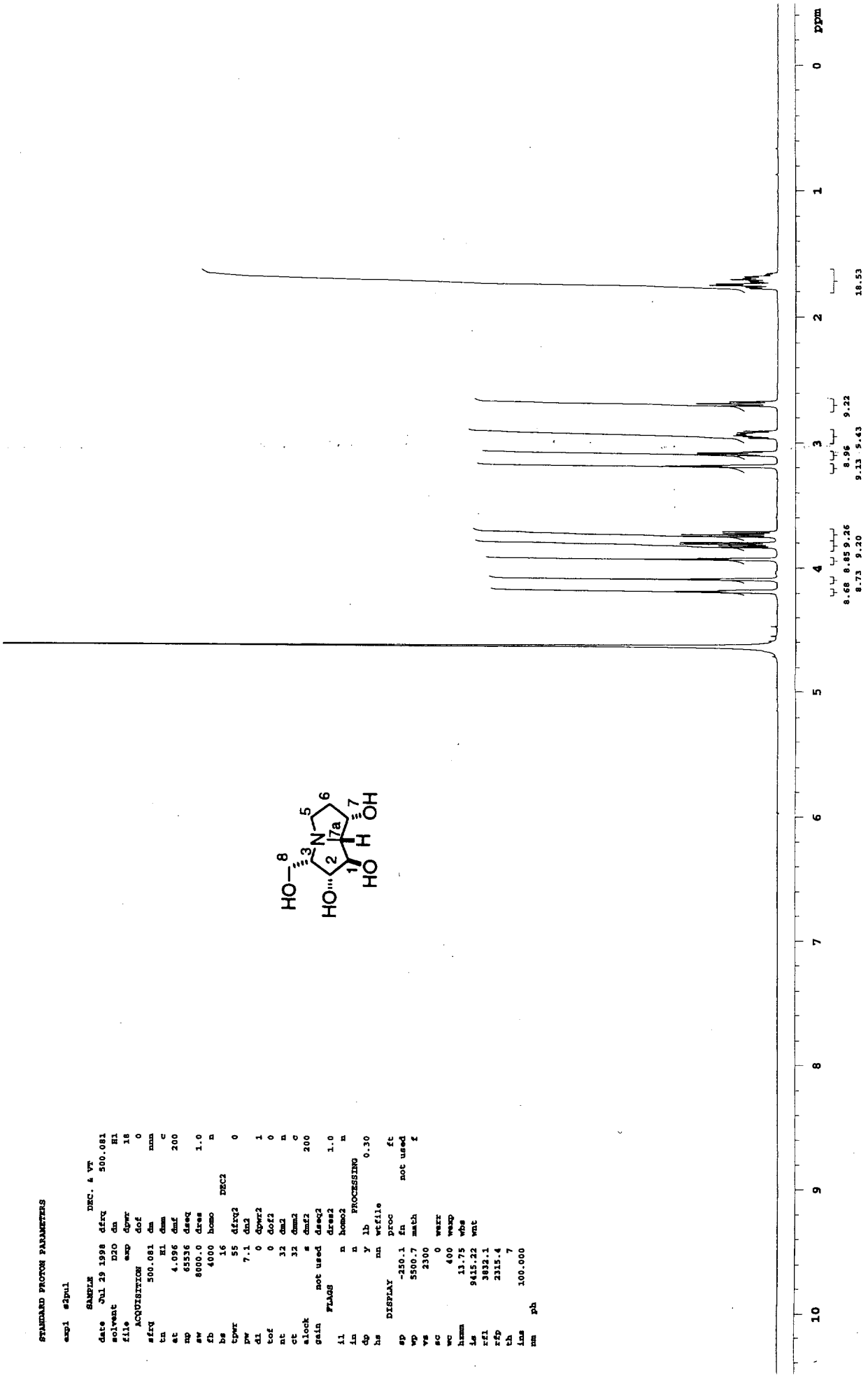



F2 (ppm)
F1 (ppm)
Cl⁻



^{1}H NMR, ^{13}C NMR, COSY, and HETCOR for

(+)-3-epiaustraline ((+)-**4**)

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STANDARD PROTON PARAMETERS

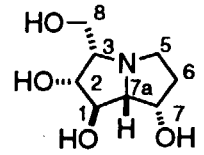
expl  s2pul

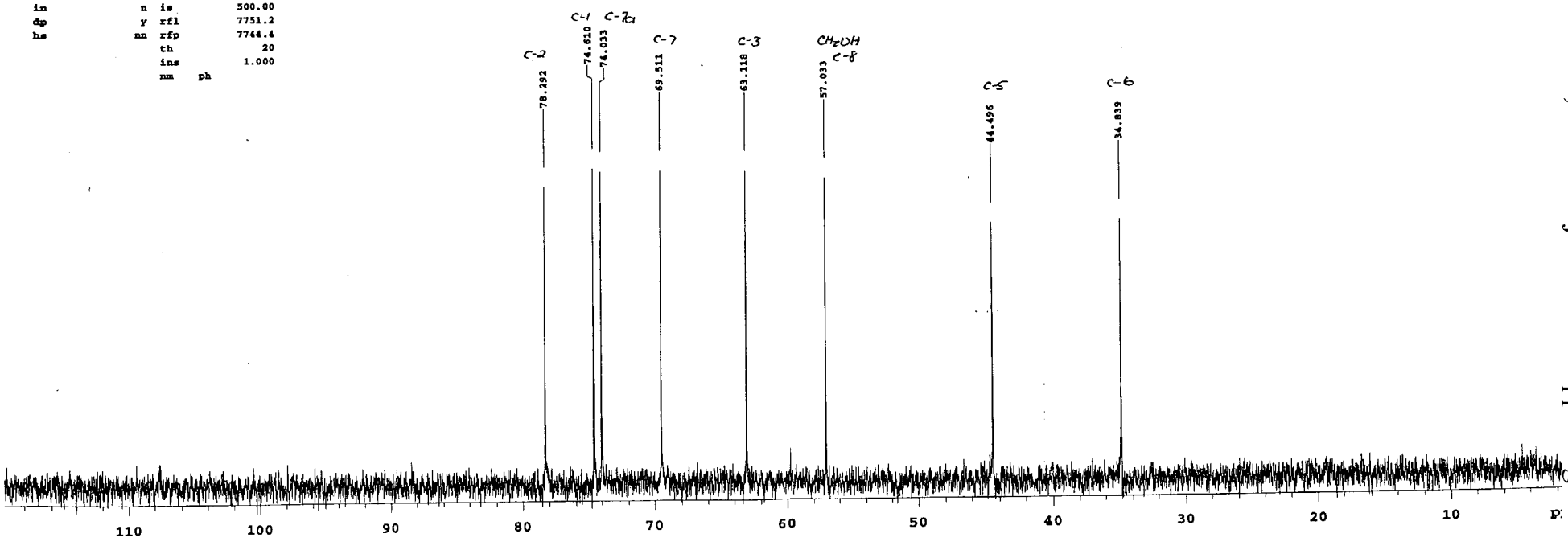
                    SAMPLE                    DEC. 4 VT
      date  Jul 29 1998   dfrq    500.081
      solvent      D2O    dn          H1
      file         exp    dpwr        18
        ACQUISITION       dof         0
      sfrq    500.081    dm          nnn
      tn           H1    dmm          c
      at         4.096    dmf        200
      np         65536    dseq
      sw        8000.0    dres        1.0
      fb          4000    homo         n
      bs            16                DEC2
      tpwr          55    dfrq2        0
      pw           7.1    dn2
      d1             0    dpwr2        1
      tof            0    dof2         0
      nt            32    dm2          n
      ct            32    dmm2         c
      alock            s   dmf2       200
      gain    not used    dseq2
                  FLAGS    dres2      1.0
      il               n   homo2        n
      in               n
      dp               y   1b         PROCESSING
      hs              nn   wtfile            0.30
                           proc             ft
        DISPLAY    -250.1   fn       not used
      sp           5500.7   math          f
      wp             2300
      vs                0   werr
      sc              400   wexp
      wc            13.75   wbs
      hzmm          9415.22   wnt
      is            3832.1
      rfl           2315.4
      rfp                7
      th               100.000
      ins
      nm               ph
```

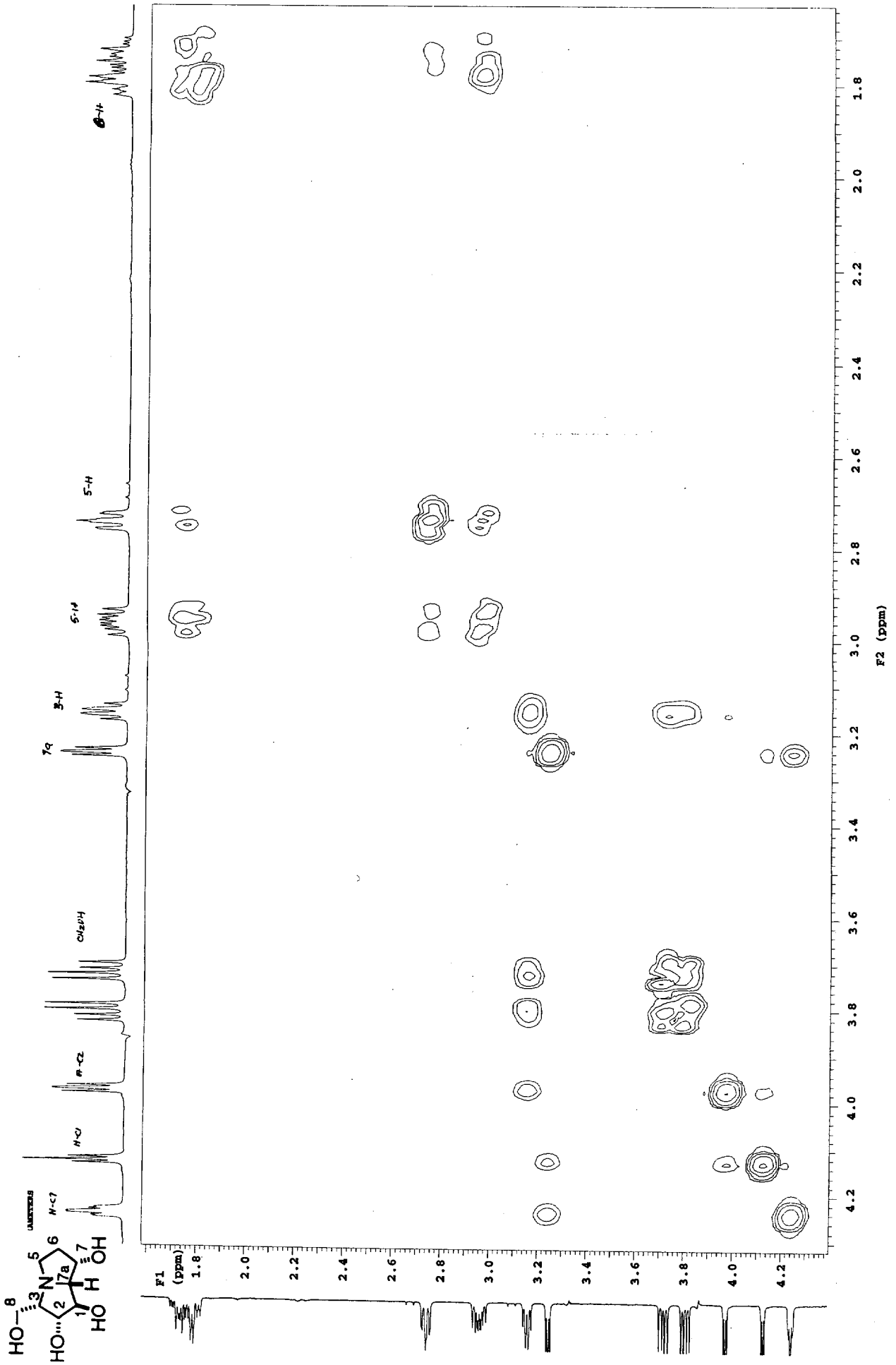
13C OBSERVE

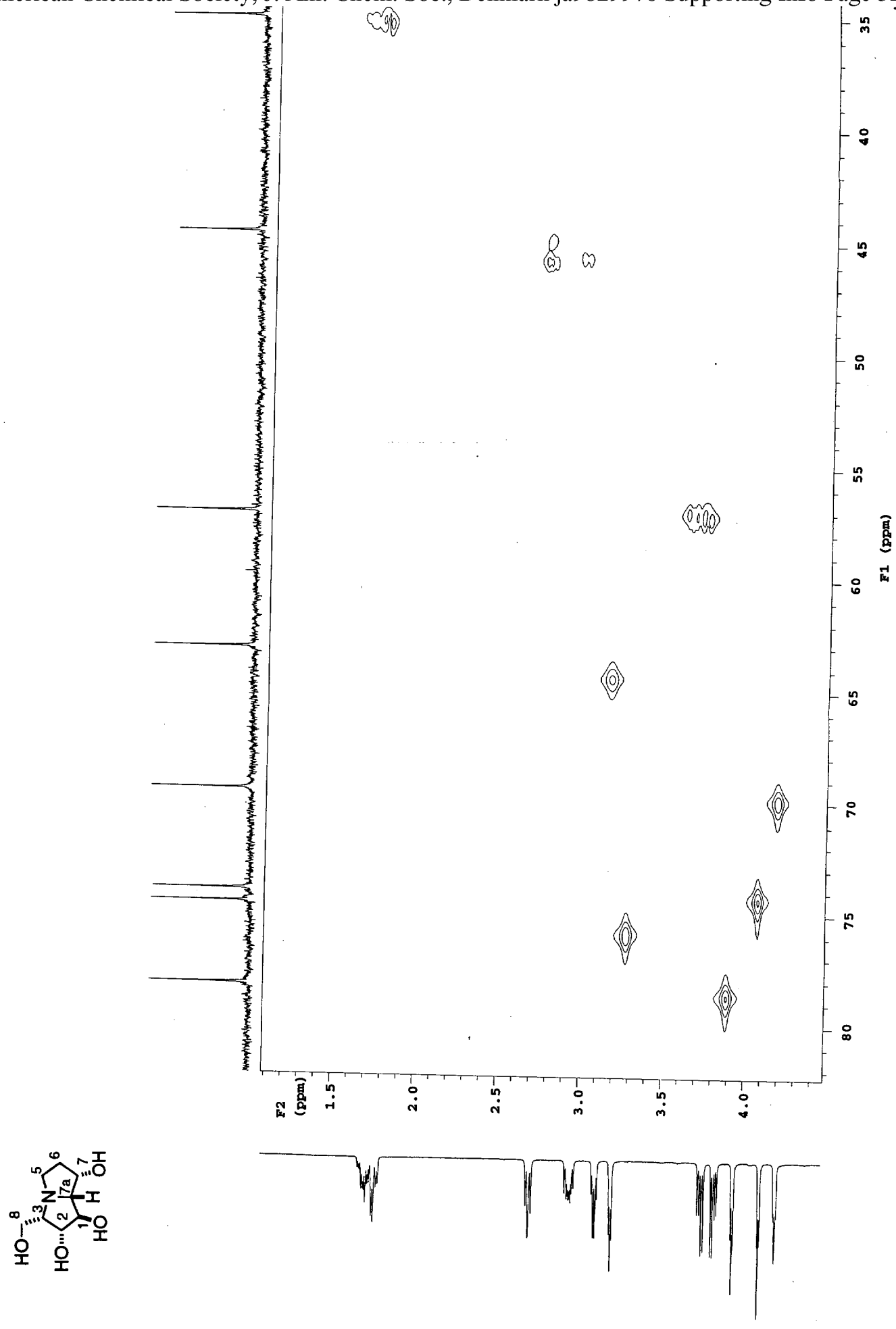
exp1 stdl3c

SAMPLE		DEC. & VT	
date	Aug 1 98	dn	H1
solvent	D2O	dof	-1094.4
file	/export/h-	dm	YYY
ome/userld/data/ma-		dmm	w
rtinborough/eam.04-		dmf	6944
.3-epi.13C.1		dpwr	46
ACQUISITION		PROCESSING	
sfrq	100.573	lb	1.00
tn	C13	wtfile	
at	1.311	proc	ft
np	31552	fn	not used
sw	12037.3	math	f
fb	6600		
bs	16	werr	
tpwr	56	wexp	
pw	10.0	wbs	
dl	1.000	wnt	
tof	-3574.7	DISPLAY	
nt	10000	sp	-6.8
ct	5156	wp	12037.3
alock	n	vs	80
gain	not used	sc	0
FLAGS		wc	400
il	n	hzmm	48.15
in	n	is	500.00
dp	y	rfl	7751.2
hs	nn	rfp	7744.4
		th	20
		ins	1.000
		nm	ph



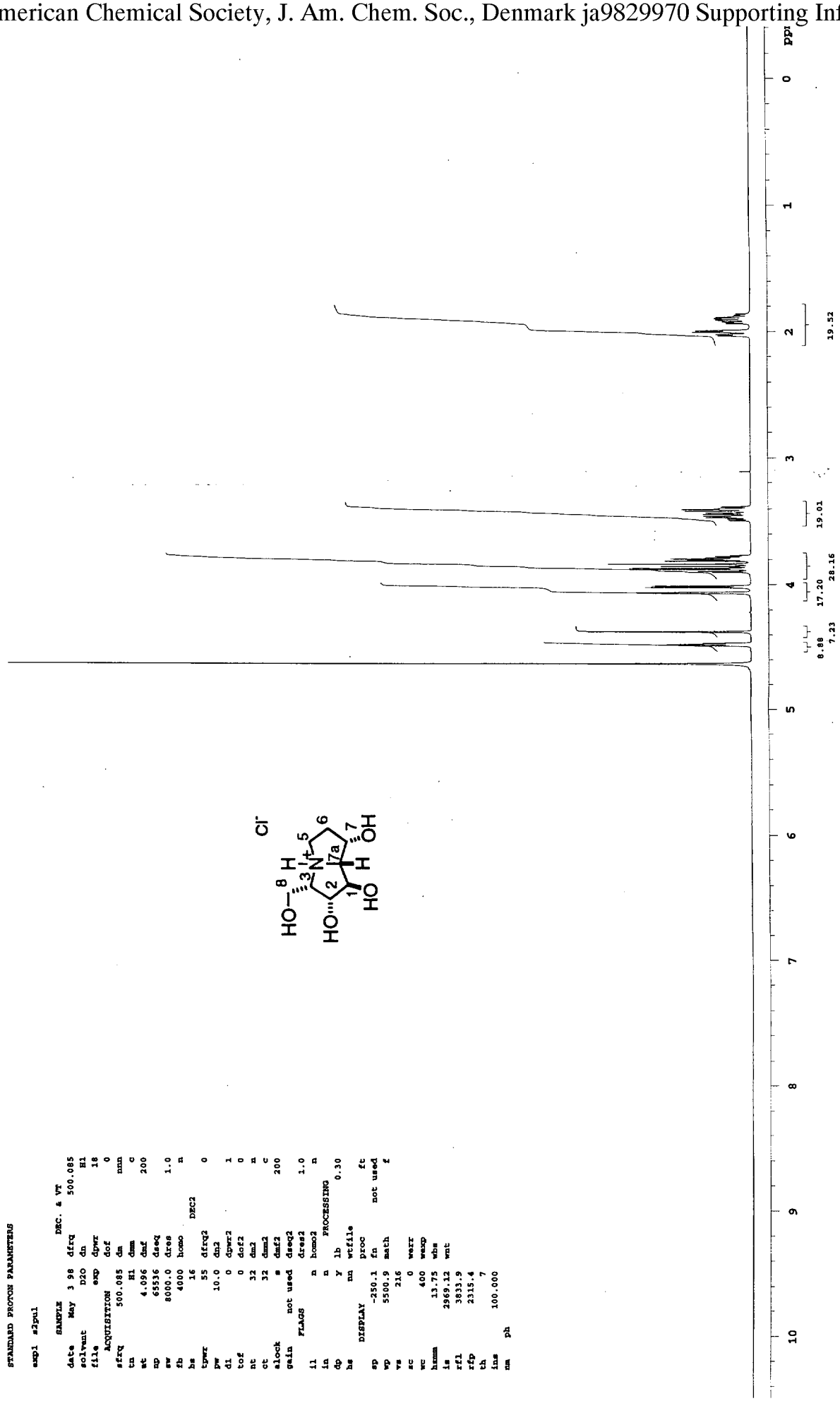






^{1}H NMR, ^{13}C NMR, COSY, and HETCOR for

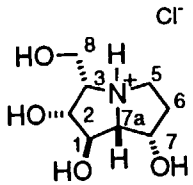
(+)-3-epiaustraline hydrochloride ((–)-**48**)

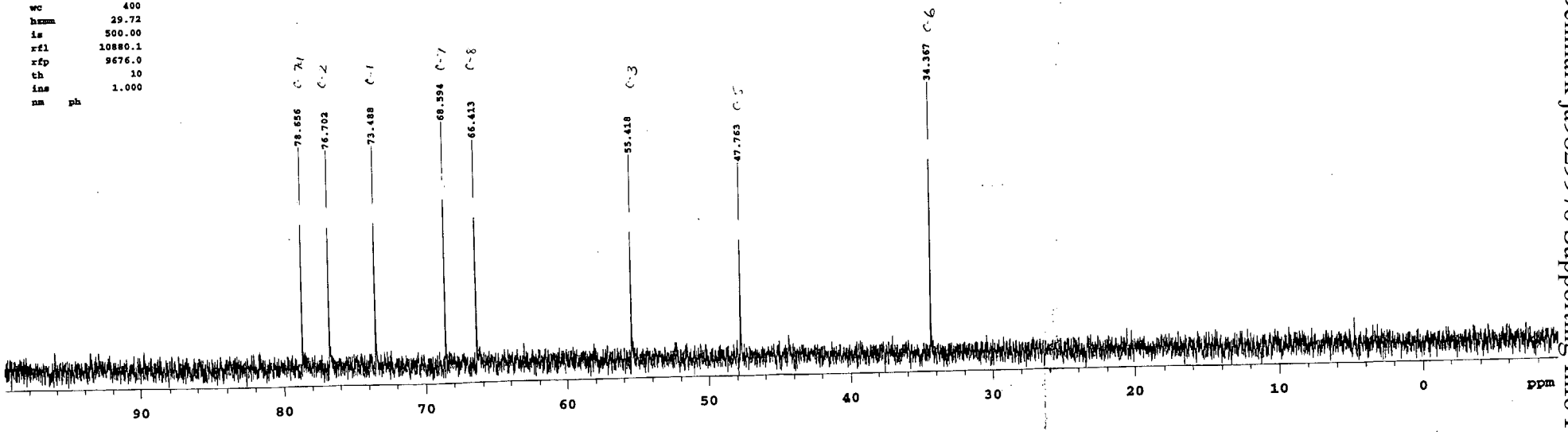


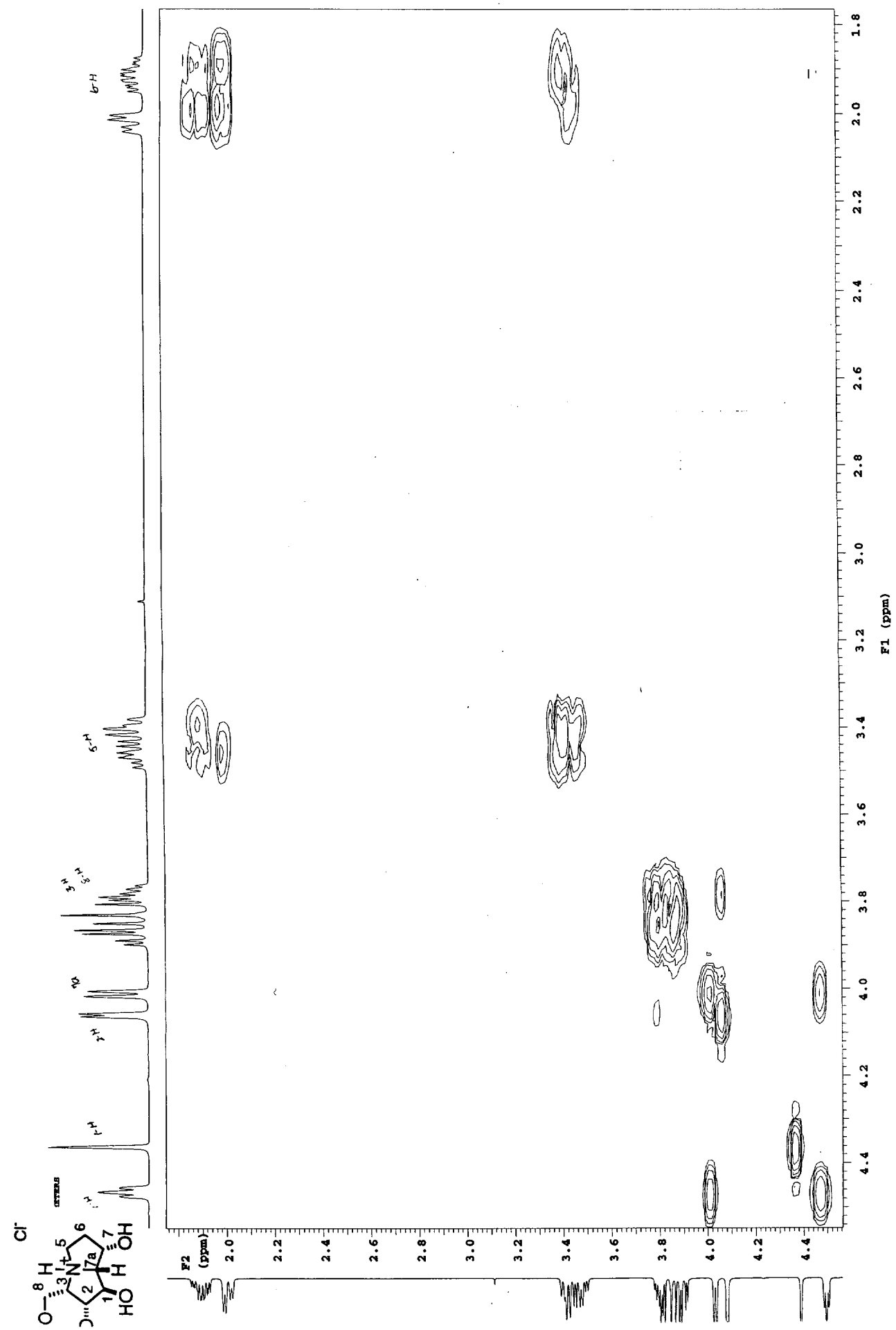
STANDARD CARBON PARAMETERS

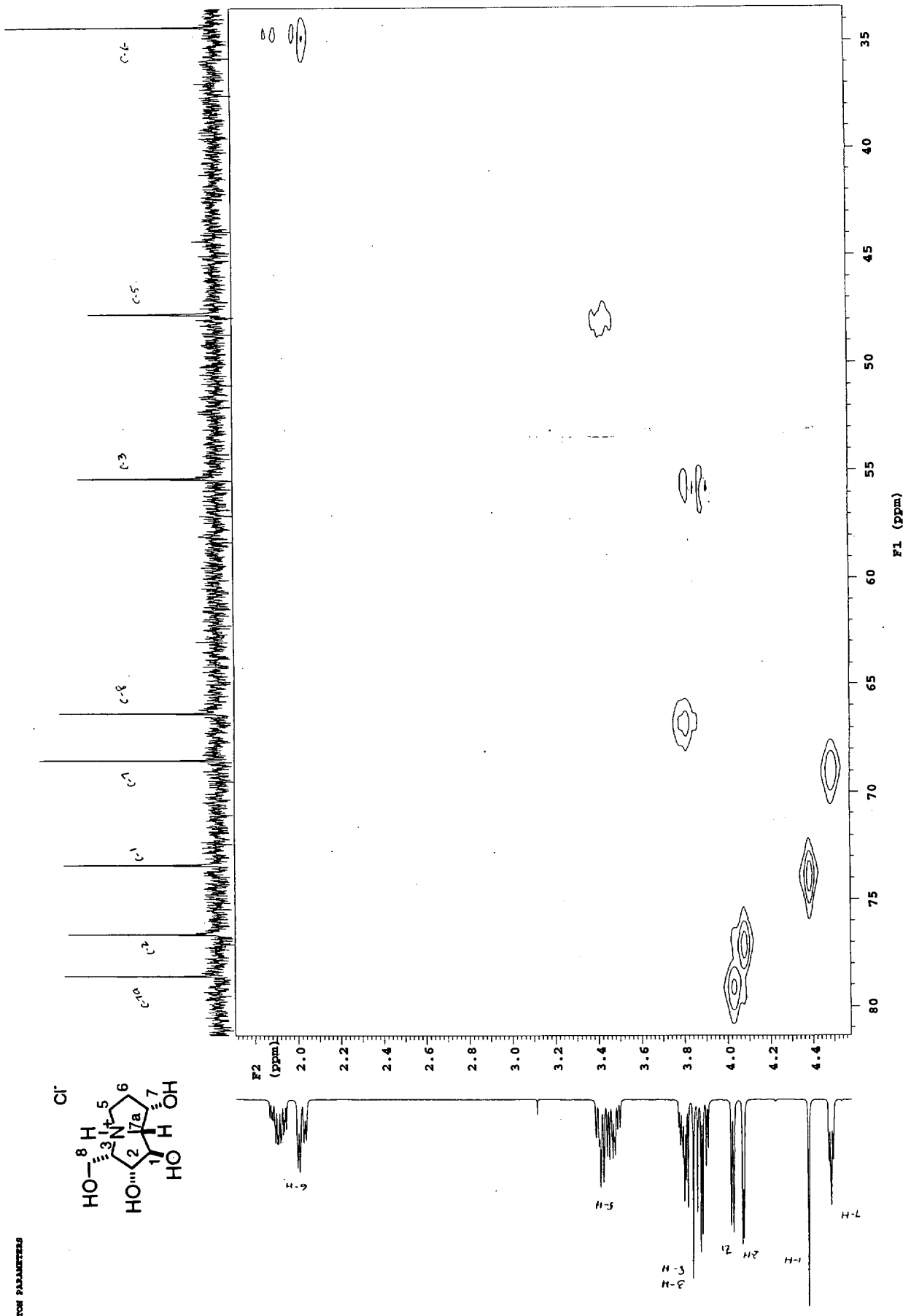
exp2 s2pul

SAMPLE		DEC. & VT	
date	May 3 98	dfrq	499.699
solvent	D2O	dn	H1
file	/export/home/-	dpwr	43
data/u500/martinbo-		dof	-829.0
rough/eam.04.19.13-		dm	YYY
	C.1	dmm	w
ACQUISITION		dmf	11053
sfrq	125.655	dseq	
tn	C13	dres	1.0
at	1.086	homo	n
np	29824	PROCESSING	
sw	13726.8	lb	1.00
fb	7600	wtfile	
bs	16	proc	ft
ss	1	fn	not used
tpwr	54	math	f
pw	10.0		
d1	1.000	werr	
tof	-6252.5	wexp	
nt	100000	wbs	
ct	2324	wnt	
alock	n		
gain	not used		
FLAGS			
il	n		
in	n		
dp	y		
hs	nn		
DISPLAY			
sp	-1204.1		
wp	13726.8		
vs	50		
sc	0		
wc	400		
hzmm	29.72		
is	500.00		
rfl	10880.1		
rfp	9676.0		
th	10		
ins	1.000		
nm	ph		



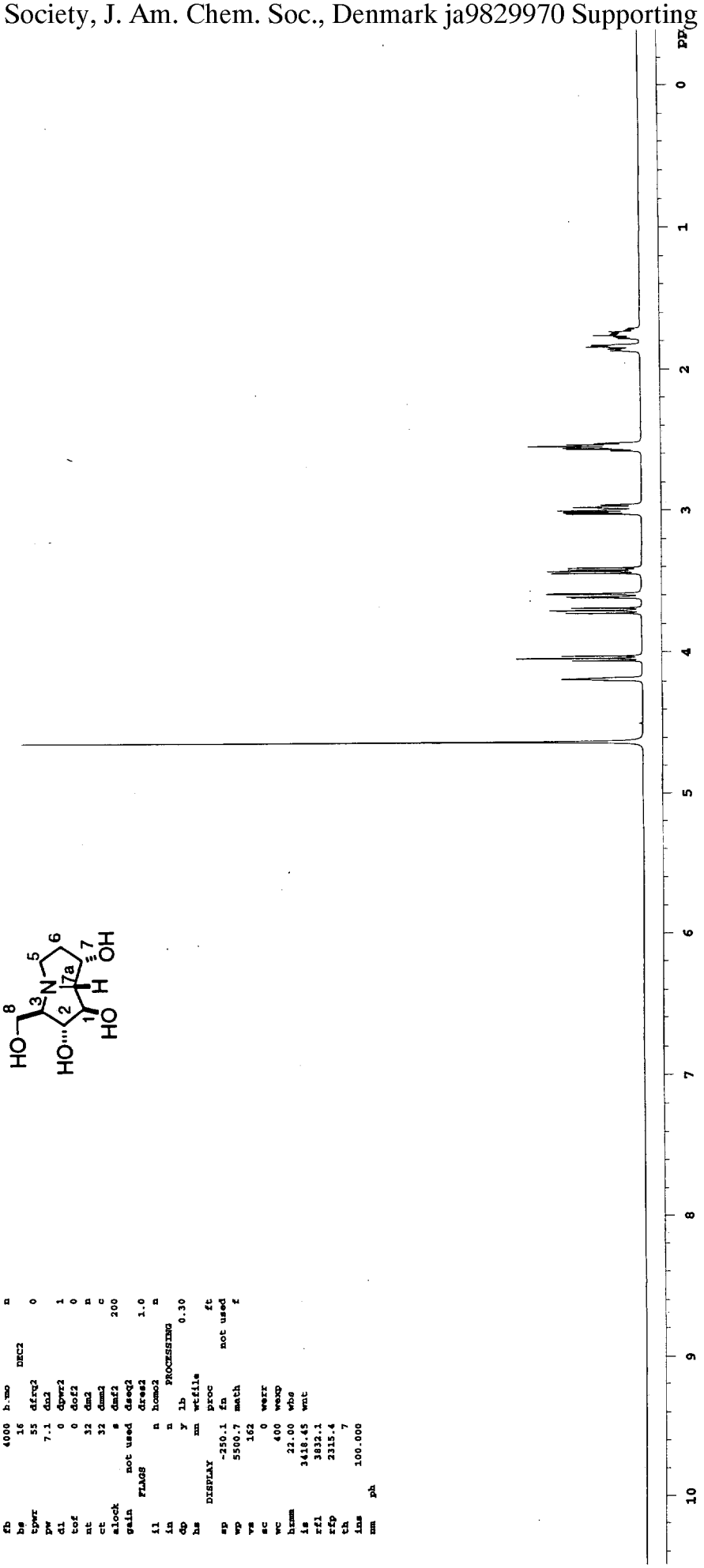



F2 (ppm)
F1 (ppm)
Cl⁻


F1 (ppm)
F2 (ppm)
Cl⁻
HO
OH
H
N
STANDARD PROTON PARAMETERS

^{1}H NMR, ^{13}C NMR, COSY, and HETCOR for

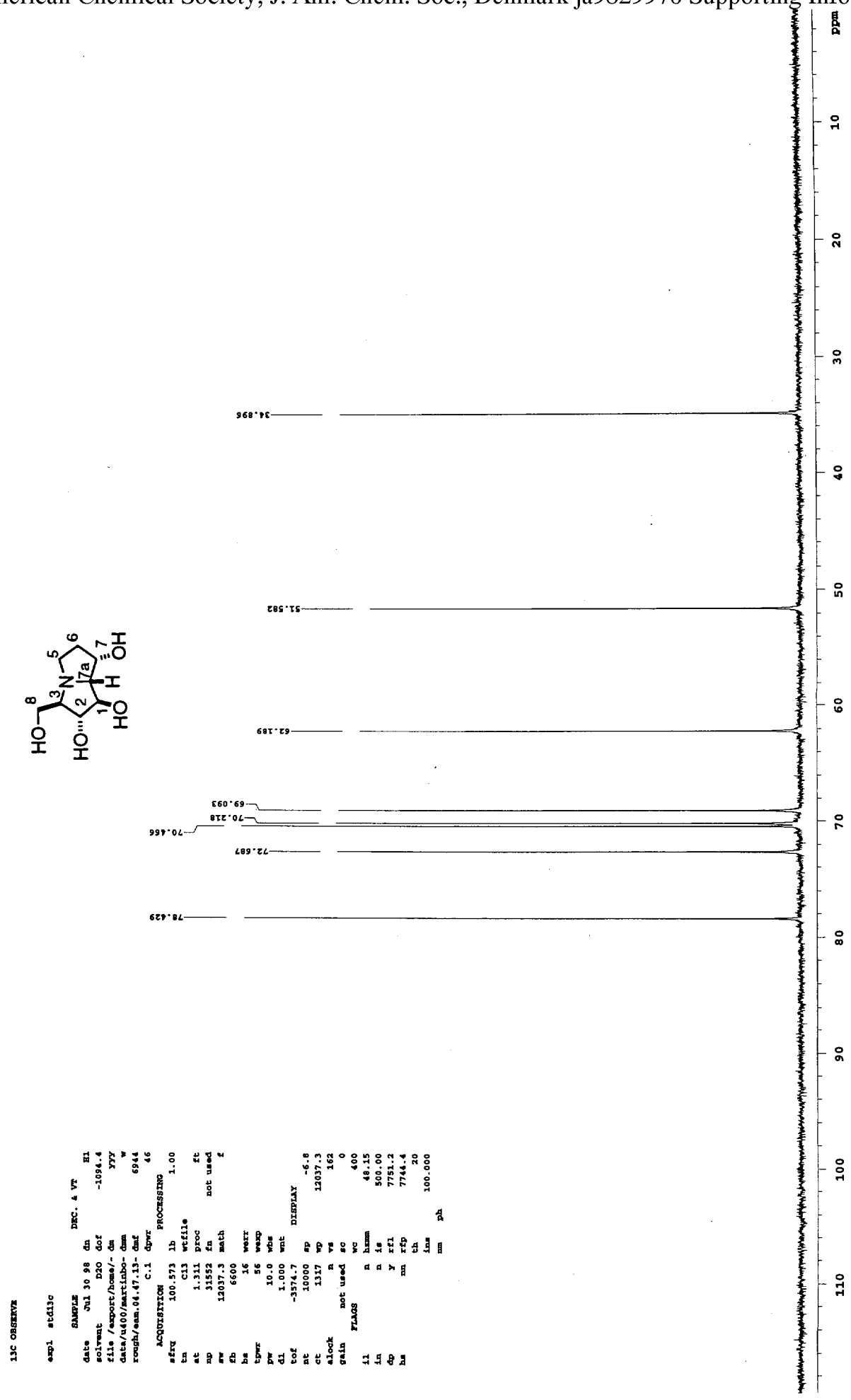
(+)-australine ((+)-**3**)

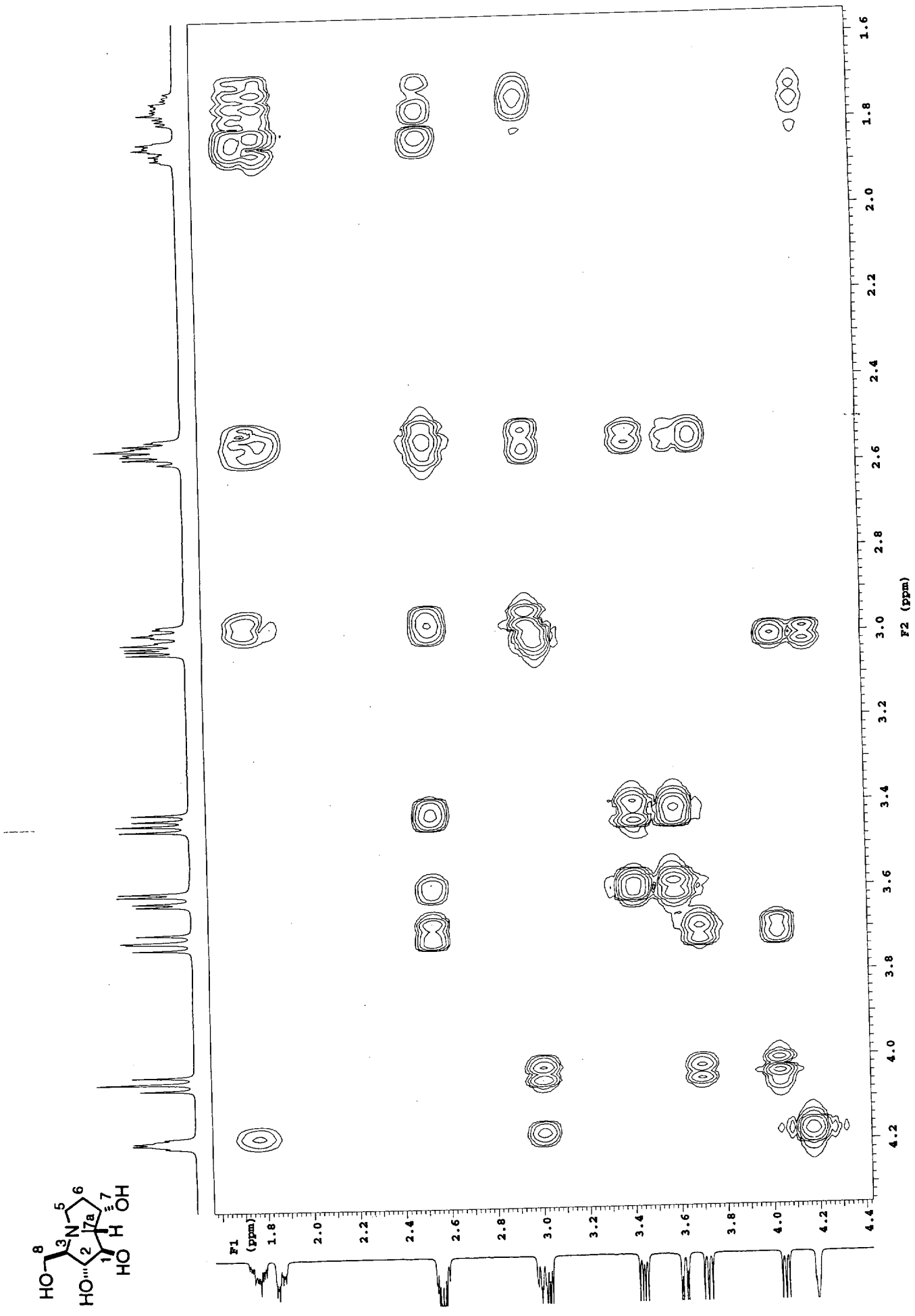


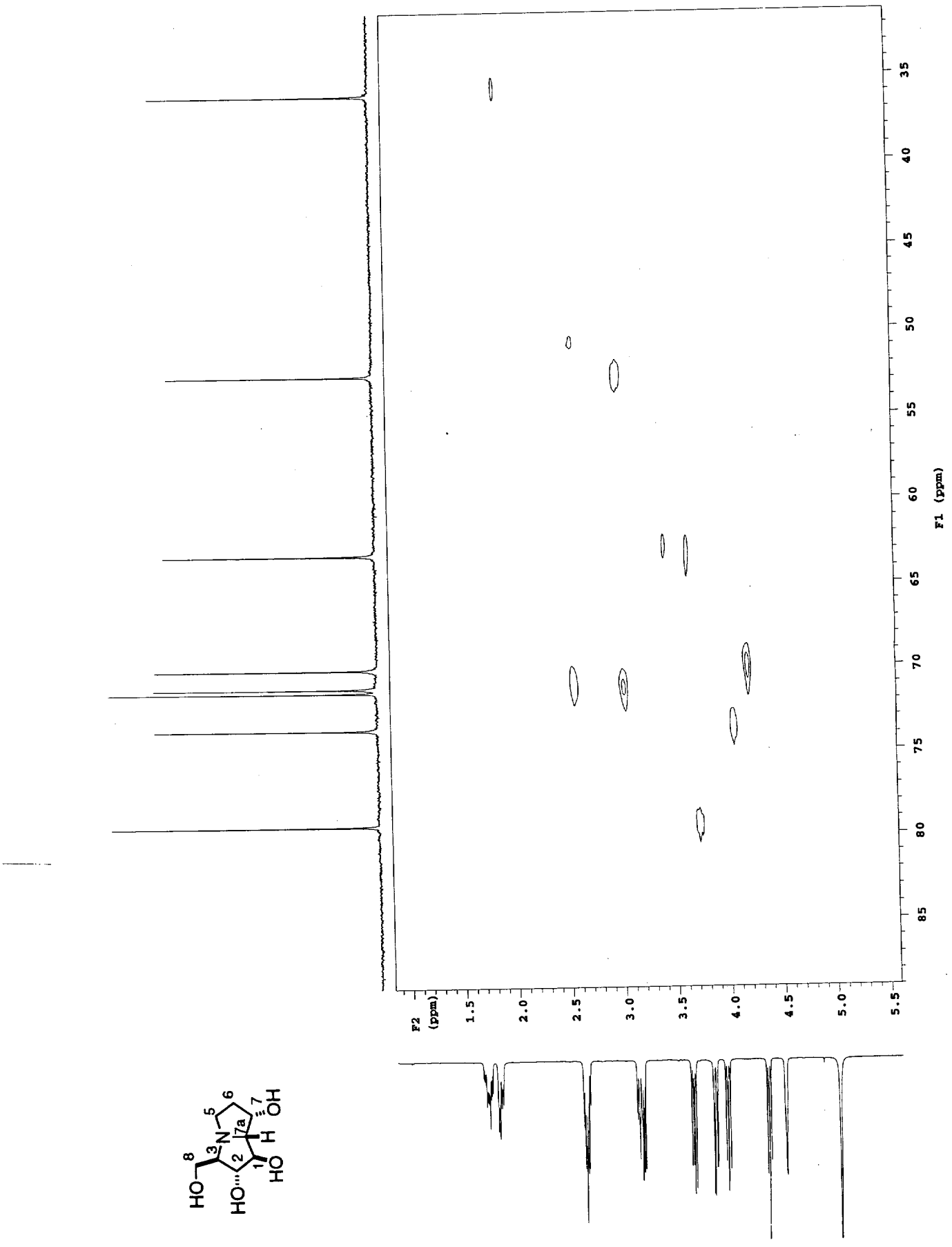
STANDARD PROTON PARAMETERS

```
expl  s2pul

                    SAMPLE              DEC. & VT
    date  Jul 29 1998  dfrq    500.081      H1
    solvent     D2O    dn                   H1
    file          exp  dpwr                 18
      ACQUISITION      dof                   0
    sfrq     500.081   dn                  mnn
    tn            H1   dnm                   c
    at         4.096   dmf                 200
    np         65536   dseq
    sw          8000.0 dres                1.0
    fb            4000 h.mo                  n
    bs              16        DEC2
    tpwr            55   dfrq2                 0
    pw             7.1   dn2
    d1               0   dpwr2                 1
    tof              0   dof2                  0
    nt              32   dm2                   n
    ct              32   dmm2                  c
    alock            a   dmf2                200
    gain      not used   dseq2
          FLAGS          dres2               1.0
    il                n   homo2                n
    in                n        PROCESSING
    dp                y   lb              0.30
    hs               nn   wrtfile
          DISPLAY         proc                 ft
    sp          -250.1   fn             not used
    wp          5500.7   math                  f
    vs             162
    sc               0   werr
    wc             400   wexp
    hzmm         22.00   wbs
    is         3418.45   wnt
    rf1        3832.1
    rfp        2315.4
    th               7
    ins        100.000
    nm    ph
```

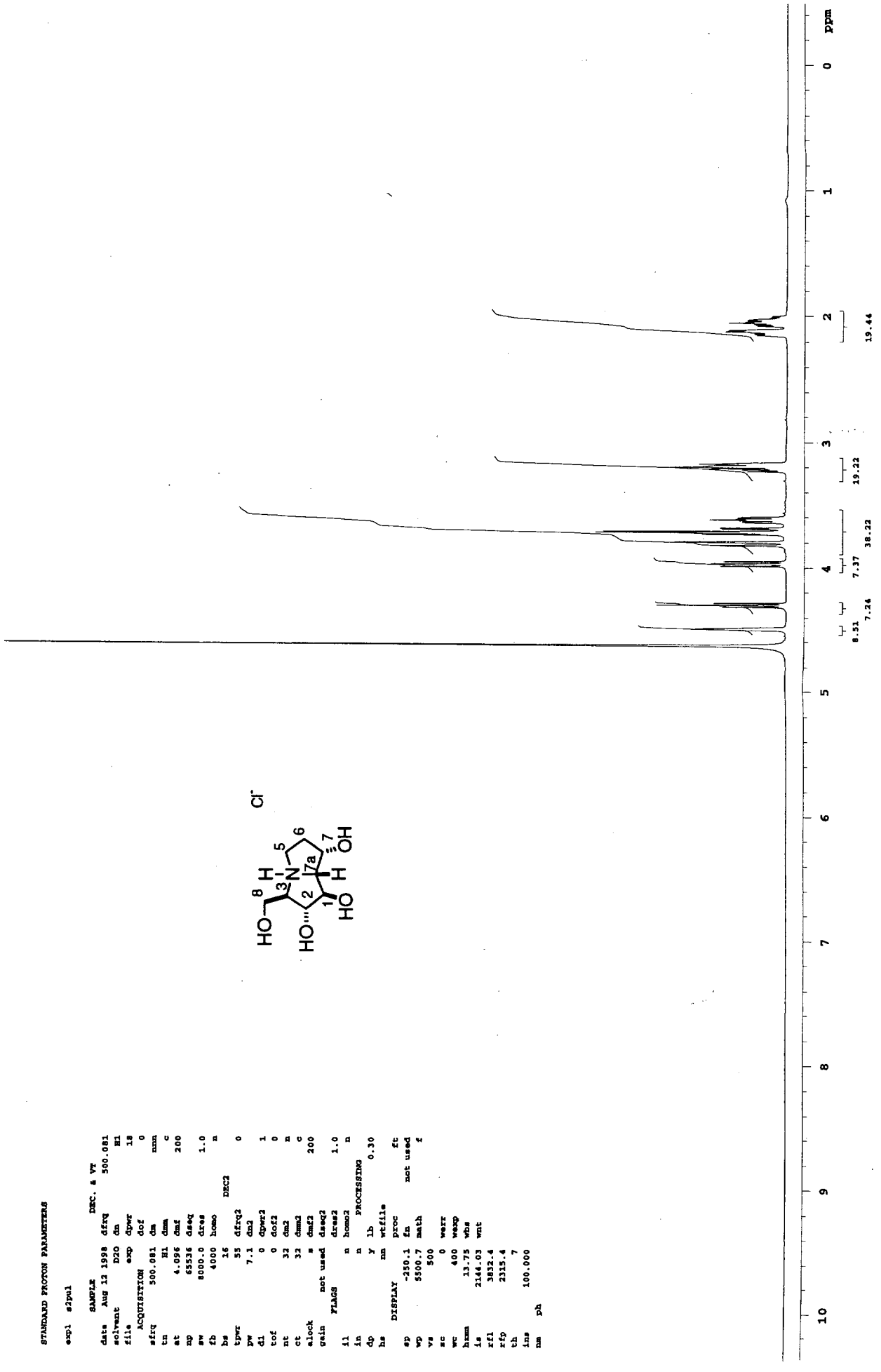






^{1}H NMR, ^{13}C NMR, COSY, and HETCOR for

(+)-australine hydrochloride ((+)-**53**)


STANDARD PROTON PARAMETERS
expl s2pul
SAMPLE
date Aug 12 1998
solvent D2O
file
ACQUISITION
sfrq 500.081
tn H1
at 4.096
np 65536
sw 8000.0
fb 4000
bs 16
tpwr 55
pw 7.1
d1 0
tof 0
nt 32
ct 32
alock n
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp -250.1
wp 5500.7
vs 500
sc 0
wc 400
hzmm 13.75
is 2144.03
rfl 3832.4
rfp 2315.4
th 7
ins 100.000
nm
DEC. & VT
dfrq 500.081
dn H1
dpwr 18
dof 0
dm nnn
dmm c
dmf 200
dseq
dres 1.0
homo n
DEC2
dfrq2 0
dn2 1
dpwr2 0
dof2 n
dm2 c
dmm2
dmf2 200
dseq2
dres2 1.0
homo2 n
PROCESSING
lb 0.30
wtfile
proc ft
fn not used
math f
wexp
wbs
wnt
ppm
0
1
2
3
4
5
6
7
8
9
10
19.44
19.22
38.22
7.37
8.51
7.24
Cl⁻
HO
HO
OH
H
H
N
1
2
3
5
6
7
7a
8

STANDARD CARBON PARAMETERS

exp2 s2pul

SAMPLE		DEC. & VT	
date	Aug 12 98	dfrq	499.699
solvent	D2O	dn	H1
file	/export/home/-	dpwr	41
data/u500/martinbo-		dof	-828.3
rough/eam.04.48.13-		dm	yyy
	C.1	dmm	w
ACQUISITION		dmf	11390
sfrq	125.656	dseq	
tn	C13	dres	1.0
at	1.086	homo	n
np	35136	PROCESSING	
sw	16174.7	lb	1.00
fb	9000	wtfile	
bs	16	proc	ft
ss	1	fn	not used
tpwr	54	math	f
pw	20.0		
d1	1.000	werr	
tof	-4809.8	wexp	
nt	10000	wbs	
ct	1503	wnt	
alock	n		
gain	not used		
FLAGS			
il	n		
in	n		
dp	y		
hs	nn		
DISPLAY			
sp	-985.2		
wp	16174.7		
vs	80		
sc	0		
wc	400		
hzmm	56.16		
is	500.00		
rfl	10661.2		
rfp	9676.0		
th	13		
ins	100.000		
nm	ph