***N*-(2'-Hydroxyethyl)-1-azacycloheptan-2-one (3a):** 312 mg of a colorless oil, 97% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.70 (m, 6 H), 2.53 (m, 2H), 3.45 (m, 2H), 3.53 (t, *J* = 5.5 Hz, 2H), 3.71 (t, *J* = 5.6 Hz, 2H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 23.6, 28.6, 30.2, 37.4, 51.4, 51.8, 61.4, 177.6; IR (neat) 3350, 2900, 1610, 1480, 1430 cm^{-1}; MS (CI) *m/e* 158 (M^++H); HRMS calcd for $C_8H_{16}NO_2$ (M^++H):158.1183, found 158.1181.

***N*-(3'-Hydroxypropyl)-1-azacycloheptan-2-one (3b):** 332 mg of a colorless oil, 95% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.63-1.79 (m, 8H), 2.55 (m, 2H), 3.36 (m, 2H), 3.52 (t, *J* = 6.2 Hz, 2H), 3.53 (t, *J* = 5.4 Hz, 2H), 3.81 (br s, 1H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 23.8, 28.7, 30.3, 30.5, 37.3, 45.0, 50.3, 58.4, 177.8; IR (neat) 3370, 2900, 2825, 1605, 1475, 1425 cm^{-1}; MS (CI) *m/e* 172 (M^++H); HRMS calcd for $C_9H_{18}NO_2$ (M^++H):172.1313, found 172.1337.

***N*-(2'-Hydroxyethyl)-1-azacyclononan-2-one (3e):** 85 mg of a pale yellow oil, 29% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.56 (m, 6H), 1.67 (m, 2H), 1.80 (m, 2H), 2.54 (t, *J* = 6.3 Hz, 2H), 3.51 (t, *J* = 5.3 Hz, 2H), 3.55 (t, *J* = 5.7 Hz, 2H), 3.78 (t, *J* = 5.0 Hz, 2H), 4.16 (s, 1H); ^{13}C NMR (75.6 MHz, $CDCl_3$) δ 22.2, 24.6, 25.5, 26.9, 28.1, 34.6, 49.7, 50.3, 62.0, 177.3; IR (neat) 3400, 2910, 1600, 1465, 1445, 1420 cm^{-1}; MS (CI) *m/e* 186 (M^++H), 154; HRMS calcd for $C_{10}H_{20}NO_2$ (M^++H): 186.1494, found 186.1503.

***N*-(2'-Hydroxypropyl)-1-azacyclononan-2-one (3f):** 9.0 mg of a pale yellow oil, 3% yield; ^{1}H NMR (300 MHz, $CDCl_3$) δ 1.45-1.78 (m, 14H), 2.55 (t, *J* = 6.3 Hz, 2H), 3.45 (m, 4 H), 4.15 (br s, 1H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 23.3, 24.8, 24.9, 26.7, 28.2, 29.9, 33.8, 41.1, 48.7, 58.2, 176.4; IR (neat) 3380, 2910, 1600, 1465 cm^{-1}. This compound was not further characterized.

1-Oxa-5-azacyclotridecan-13-one (4f): 87.3 mg of a crystalline solid, 28% yield; mp 120-122 °C; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.42-1.45 (m, 4H), 1.60 (m, 3H), 1.79 (m, 2H), 1.88 (pentet, *J* = 6.7 Hz, 2H), 2.34 (pentet, *J* =6.4, 2H), 2.46 (m, 2H), 3.14 (t, *J* = 6.4 Hz, 2H), 3.20 (t, *J* = 5.9 Hz, 2H), 4.30 (t, *J* = 5.2 Hz, 2H); ^{13}C NMR (75.6 MHz, $CDCl_3$) δ 24.0, 24.4, 26.5, 26.8, 27.1, 27.7, 34.1, 47.1, 48.1, 64.1, 173.9; IR (CH_2Cl_2) 2920, 1720, 1450, 1050 cm^{-1}; MS (CI) *m/e* 200 (M^++H), 56; HRMS calcd for $C_{11}H_{22}NO_2$ (M^++H): 200.1651, found 200.1647.

***N*-(2'-Hydroxyethyl)-1-azacyclodecan-2-one (3g)**: 250 mg of a white crystalline solid, 88% yield, mp 73-75 °C; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.42-1.50 (m, 14H), 3.56 (br s 2H), 3.81 (m, 4H), 4.10 (t, *J* = 4.6 Hz, 1H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 18.7, 21.5, 25.5, 26.2, 26.5, 27.4, 30.6, 48.0, 49.1, 63.0, 177.1; IR (CH_2Cl_2) 3350, 2920, 1600, 1460, 1040 cm^{-1}; MS (CI) *m/e* 200 (M^++H), 168, 44; HRMS calcd for $C_{11}H_{22}NO_2$ (M^++H): 200.1651, found 200.1650. Anal. Calcd for $C_{11}H_{21}NO_2$: C, 66.29; H, 10.62; N, 7.03; found: C, 66.24; H, 10.41; N, 6.64.

1-Oxa-4-azacyclotridecan-13-one (4g): 70 mg of a pale yellow oil, 64%; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.37-1.49 (m, 9H), 1.66-1.69 (m, 4H), 2.4 (m, 2H), 2.69 (t, *J* = 5.4 Hz, 2H), 2.93 (t, *J* = 4.6 Hz, 2H), 4.25 (t, *J* = 4.7 Hz, 2H); ^{13}C NMR (75.6 MHz, $CDCl_3$) δ 23.5, 24.3, 24.9, 26.2, 26.6, 26.8, 34.8, 47.4, 47.9, 63.9, 173.8; IR (neat) 3300, 2890, 1705 cm^{-1}; MS (CI) *m/e* 200 (M^++H), 184, 56; HRMS calcd for $C_{11}H_{22}NO_2$ (M^++H): 200.1651, found 200.1654.

***N*-(3'-Hydroxypropyl)-1-azacyclodecan-2-one (3h):** 32 mg of an oil, 23% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.38-1.73 (m, 16H), 2.59 (m, 2H), 3.52 (m, 4H), 4.15 (t, *J* = 7.0 Hz, 1H); ^{13}C NMR (75.6 MHz, $CDCl_3$) δ 18.4, 21.3, 25.2, 25.7, 25.8, 27.1, 30.0, 30.1, 39.5, 45.4, 58.4, 175.5; IR (neat) 3395, 2920, 1600, 1460, 1415, 1060 cm^{-1}; MS (CI) *m/e* 214 (M^++H), 86, 65, 47; HRMS calcd for $C_{12}H_{24}NO_2$ (M^++H): 214.1807, found 214.1788.

1-Oxa-5-azacyclotetradecan-14-one (4h): 55 mg of a colorless oil, 40%; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.35-1.52 (m, 10H), 1.65-1.72 (m, 3H), 1.88 (pentet, J = 5.6 Hz, 2H), 2.40 (m 2H), 2.75 (m, 4H), 4.22 (t, J = 5.4 Hz, 2H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 22.5, 24.5, 25.9, 26.1, 26.2, 26.2, 28.6, 34.9, 44.2, 47.4, 62.7, 174.2; IR (neat) 3400, 2920, 2955, 1725, 1450 cm^{-1}; MS (CI) *m/e* 214 (M^++H), 57; HRMS calcd for $C_{12}H_{24}NO_2$ (M^++H): 214.1807, found 214.1779.

***N*-(2'-Hydroxyethyl)-1-azacycloundecan-2-one (3i):** 140 mg of a crystalline solid, 51% yield; mp 89.5-91.0 °C; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.28-1.79 (m, 16H), 2.53 (m, 2H), 3.57 (m, 2H), 3.82 (m, 2H), 4.08 (m, 1H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 23.0, 24.2, 24.8, 25.3, 25.4, 26.3, 27.6, 29.8, 49.5, 50.0, 63.0, 176.8; IR (CH_2Cl_2) 3360, 2910, 1605, 1450, 1060 cm^{-1}; MS (CI) *m/e* 214 (M^++H), 182, 74, 44; HRMS calcd for $C_{12}H_{24}NO_2$ (M^++H): 214.1807, found 214.1809.

1-Oxa-4-azacyclotetradecan-14-one (4i): 53 mg of an oil, 19% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.34-1.43 (m, 9H), 1.57-1.68 (m, 6H), 2.43 (m, 2H), 2.69 (t, J = 5.7 Hz, 2H), 2.91 (t, J = 4.8 Hz, 2H), 4.29 (t, J = 4.8 Hz, 2H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 23.2, 24.0, 25.1, 25.9, 26.1, 26.7, 27.3, 34.5, 46.2, 48.3, 63.3, 174.1; IR (neat) 3320, 2920, 2845, 1725, 1440, 1230, 1140 cm^{-1}; MS (CI) *m/e* 214 (M^++H), 56; HRMS calcd for $C_{12}H_{24}NO_2$ (M^++H): 214.1807, found 214.1810.

***N*-(2'-Hydroxypropyl)-1-azacycloundecan-2-one (3j):** 74 mg of a white crystalline solid, 25% yield; mp 65-66.5 °C; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.28-1.41 (m, 8H), 1.56-1.79 (m, 10 H), 2.53 (br s, 2H), 3.50 (m, 4H), 4.13 (t, J = 4.7 Hz, 1H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 22.9, 24.2, 24.7, 25.4, 25.5, 25.9, 27.6, 29.4, 30.2, 40.1, 47.7, 58.6, 175.5; IR (CH_2Cl_2) 3390, 2920, 1605, 1460 cm^{-1}; MS (CI) *m/e* 228 (M^++H), 88, 44; HRMS calcd for $C_{13}H_{26}NO_2$ (M^++H): 228.1963, found 228.1973.

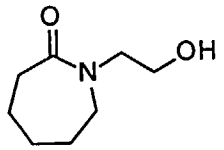
1-Oxa-5-azapentadecan-15-one (4j): 161 mg of an oil, 54% yield; ^{1}H NMR (400 MHz, $CDCl_3$) δ 1.35–1.53 (m, 12H), 1.64 (br s, 1H), 1.71 (m, 2H), 1.88 (pentet, J = 5.5 Hz, 2H), 2.38 (m, 2H), 2.73 (t, J = 6.0 Hz, 4H), 4.22 (t, J = 5.3 Hz, 2H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 24.3, 25.2, 26.6, 26.7, 27.2, 27.8, 28.0, 29.4, 34.3, 46.2, 48.4, 63.4, 174.7; IR (neat) 3320, 2910, 2840, 1725, 1450, 1150 cm^{-1}; MS (CI) *m/e* 228 (M^++H), 70, 57; HRMS calcd for $C_{13}H_{26}NO_2$ (M^++H): 228.1963, found 228.1937.

***N*-(2'-Hydroxyethyl)-*N*-methylacetamide (5a):** Mixture of amide bond rotamers (ca. 4:1), 351 mg of a colorless oil, 87% yield: ^{1}H NMR (400 MHz, $CDCl_3$, major isomer) δ 2.14 (s, 3H), 3.10 (s, 3H), 3.6 (t, J = 5.1 Hz, 2H), 3.80 (m, 2H); ^{1}H NMR (400 MHz, $CDCl_3$, minor isomer, diagnostic peaks only) δ 2.18 (s, 3H), 2.98 (s, 3H), 3.49 (t, J = 5.2 Hz, 2H); ^{13}C NMR (125.7 MHz, $CDCl_3$, major isomer) δ 21.8, 37.6, 51.3, 61.8, 172.8; ^{13}C NMR (125.7 MHz, $CDCl_3$, minor isomer) δ 21.6, 33.4, 52.7, 59.8, 171.4; IR (neat) 3350, 2910, 2880, 1615, 1490, 1395, 1050, 1070 cm^{-1}; MS CI *m/e* 118 (M^++H), 100, 86, 74; HRMS calcd for $C_8H_{12}NO_2$: 118.0868, found 118.0869.

***N*-(3'-Hydroxypropyl)-*N*-methylacetamide (5b):** Mixture of amide bond rotamers (ca. 8:1), 159 mg of a colorless oil, 40% yield. ^{1}H NMR (400 MHz, $CDCl_3$, major isomer) δ 1.73 (m, 2H), 2.14 (s, 3H), 3.01 (s, 3H), 3.52 (t, J = 5.4 Hz, 2H), 3.55 (t, J = 6.0 Hz, 2H), 3.90 (t, J = 7.0 Hz, 1H); ^{1}H NMR (400 MHz, $CDCl_3$, minor isomer, diagnostic peaks only) δ 2.15 (s, 3H), 2.94 (s, 3H); ^{13}C NMR (125.7 MHz, $CDCl_3$, major isomer) δ 21.5, 29.4, 36.1, 43.7, 57.9, 172.0; ^{13}C NMR (125.7 MHz, $CDCl_3$, minor isomer) δ 21.2, 30.8, 33.1, 47.3, 59.2, 170.7; IR (neat) 3390, 2925, 1620, 1400, 1050 cm^{-1}; MS CI *m/e* 132 (M^++H), 55, 44; HRMS calcd for $C_6H_{14}NO_2$: 132.1024, found 132.1024.

3-Methylaminopropylacetate (6b): 77 mg of a colorless oil, 19%; ^{1}H NMR (400 MHz, $CDCl_3$) δ 2.14 (s, 3H), 2.15 (m, 2H), 2.87 (s, 3H), 3.15 (t, J = 7.0 Hz, 2H), 4.25 (t, J = 5.7 Hz, 2H); ^{13}C NMR (100.6 MHz, $CDCl_3$) δ 21.3, 25.9, 33.5, 47.1, 61.5, 171.4; IR (neat) 3350, 2930, 1725, 1250 cm^{-1}; MS CI *m/e* 132 (M^++H), 44; HRMS calcd for $C_6H_{14}NO_2$: 132.1024, found 132.1038.

N-(2'-Hydroxyethyl)-1-azacycloheptan-2-one



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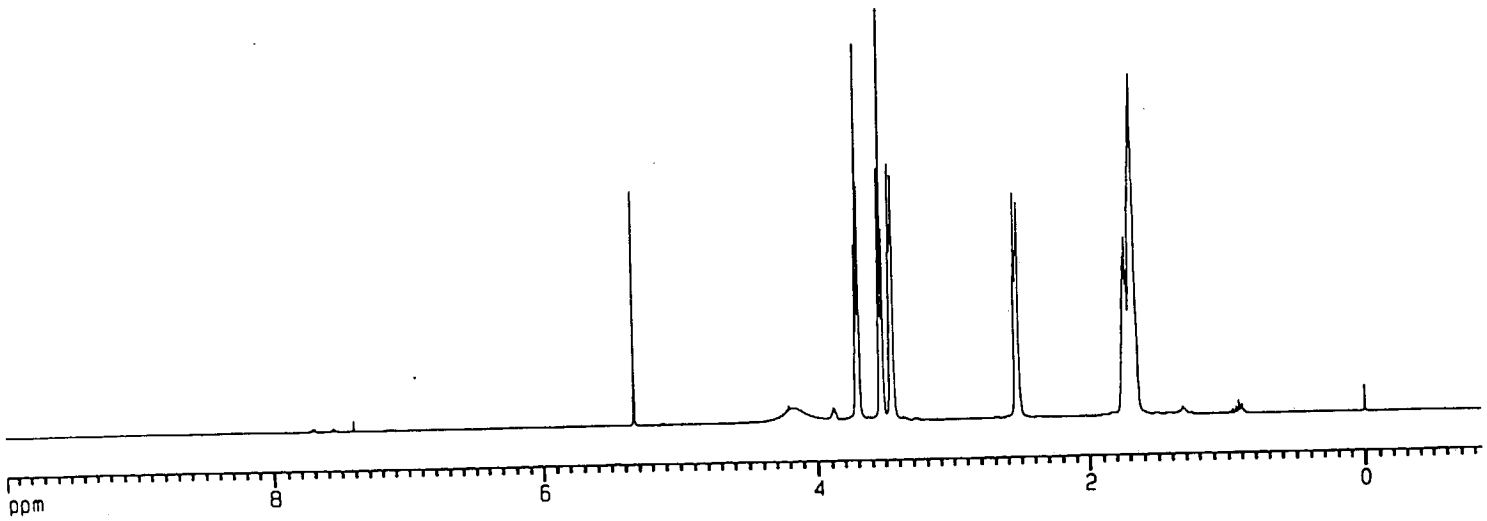

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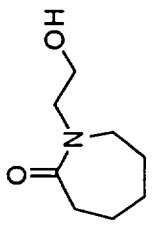
_N_-(2'-Hydroxyethyl)-1-azacycloheptan-2-one



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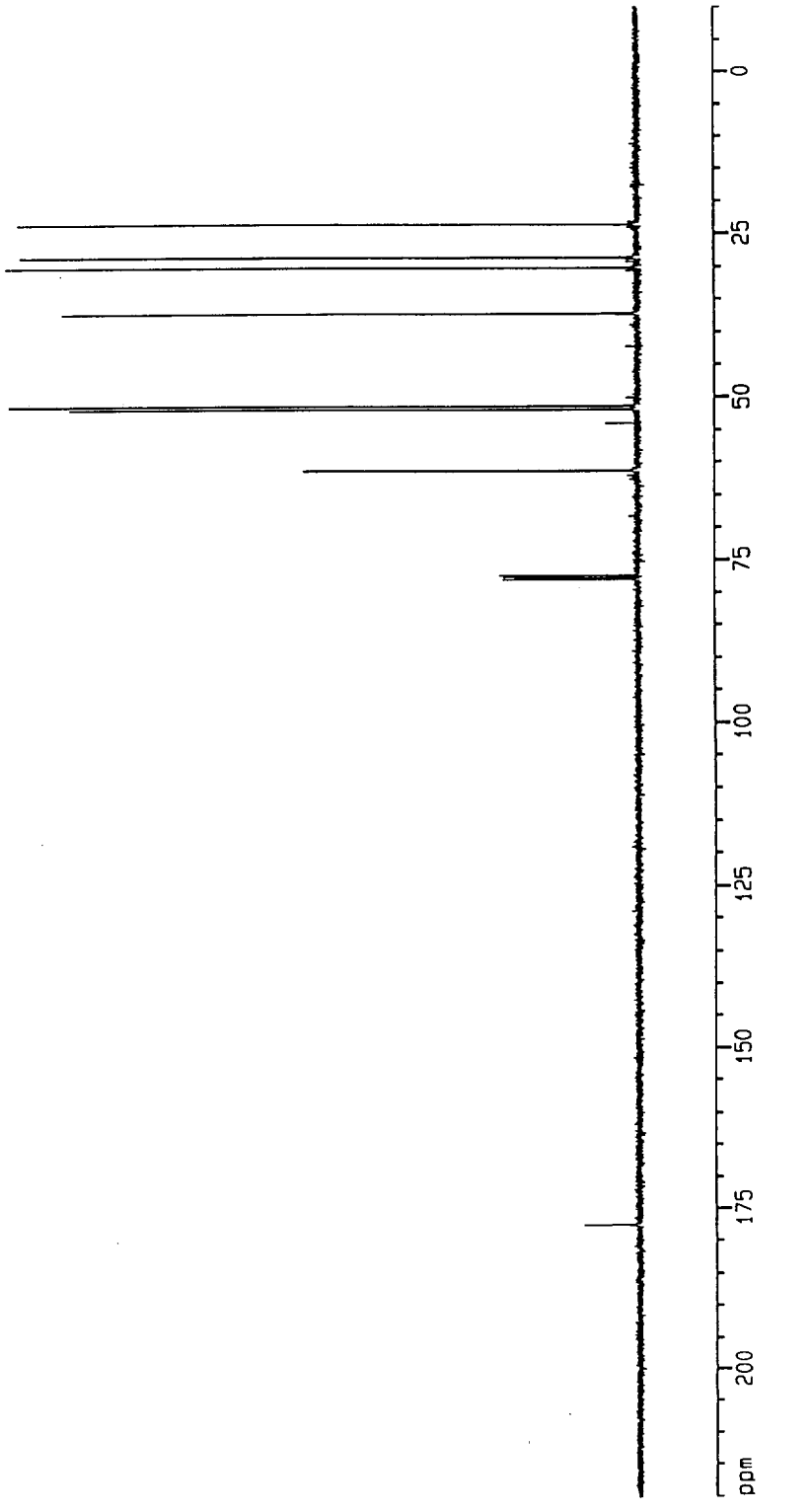

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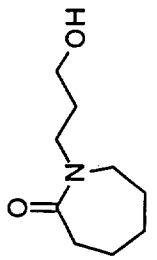

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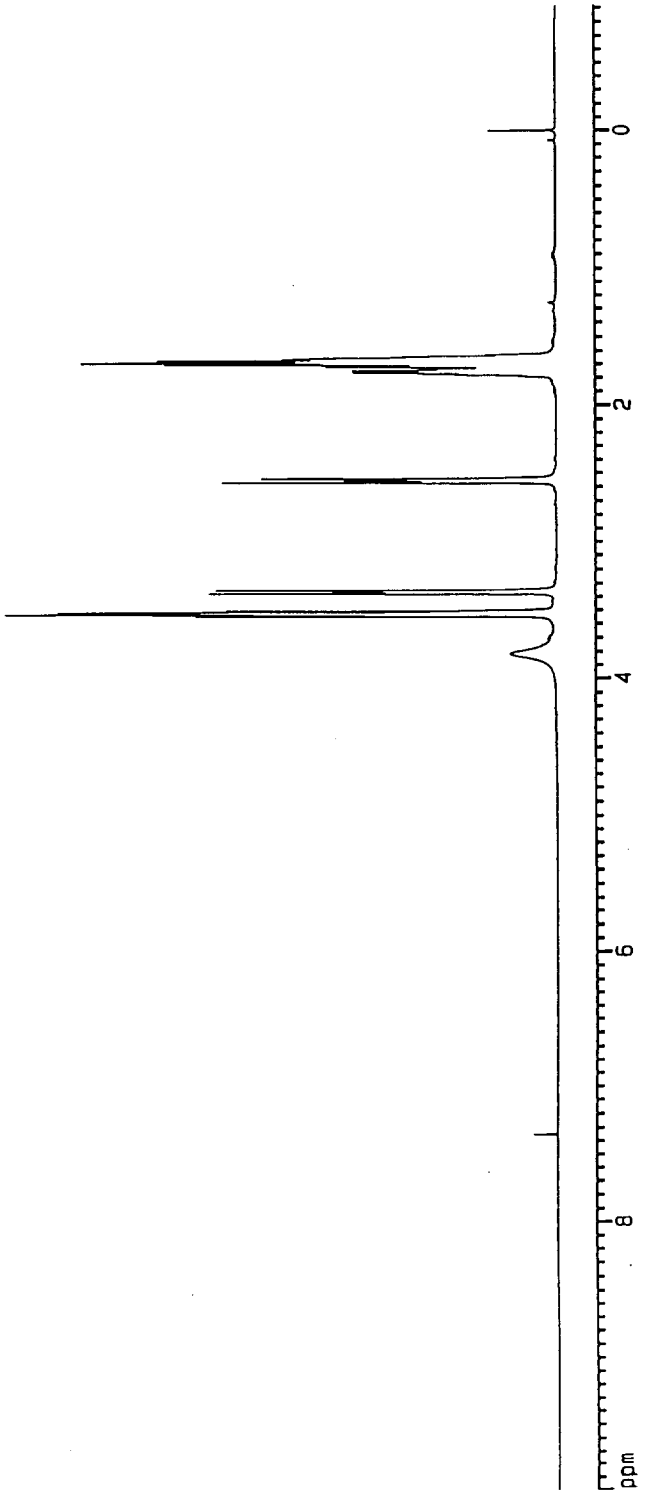
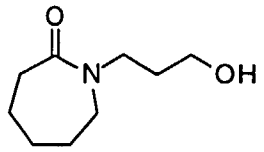


N-(3'-Hydroxypropyl)-1-azacycloheptan-2-one



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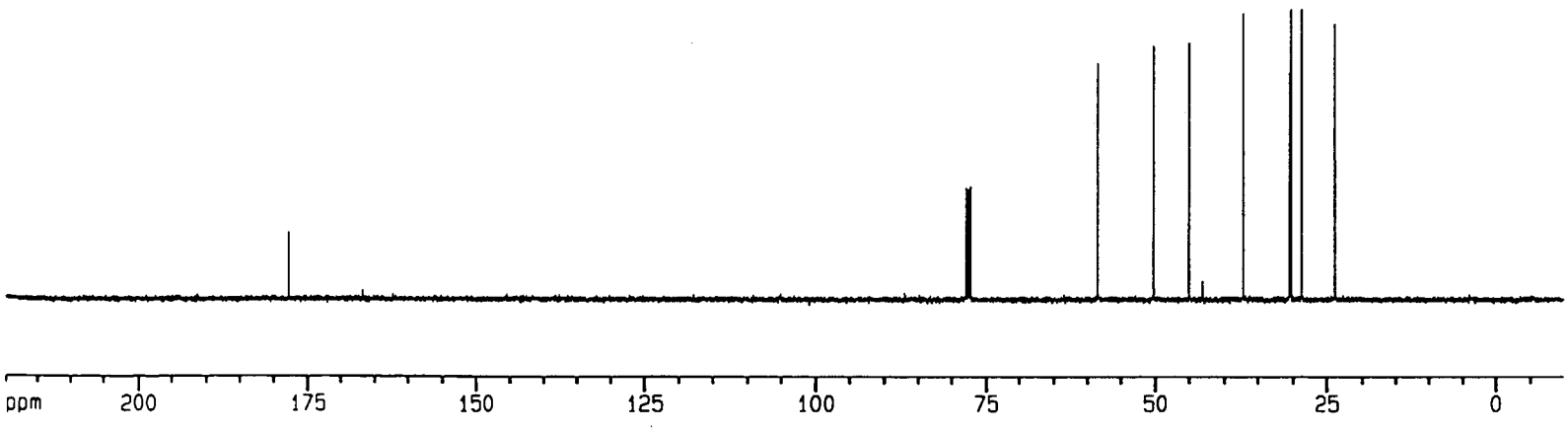

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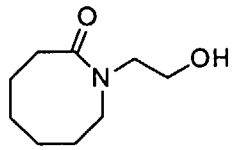
N-(2'-Hydroxyethyl)-1-azacyclooctan-2-one



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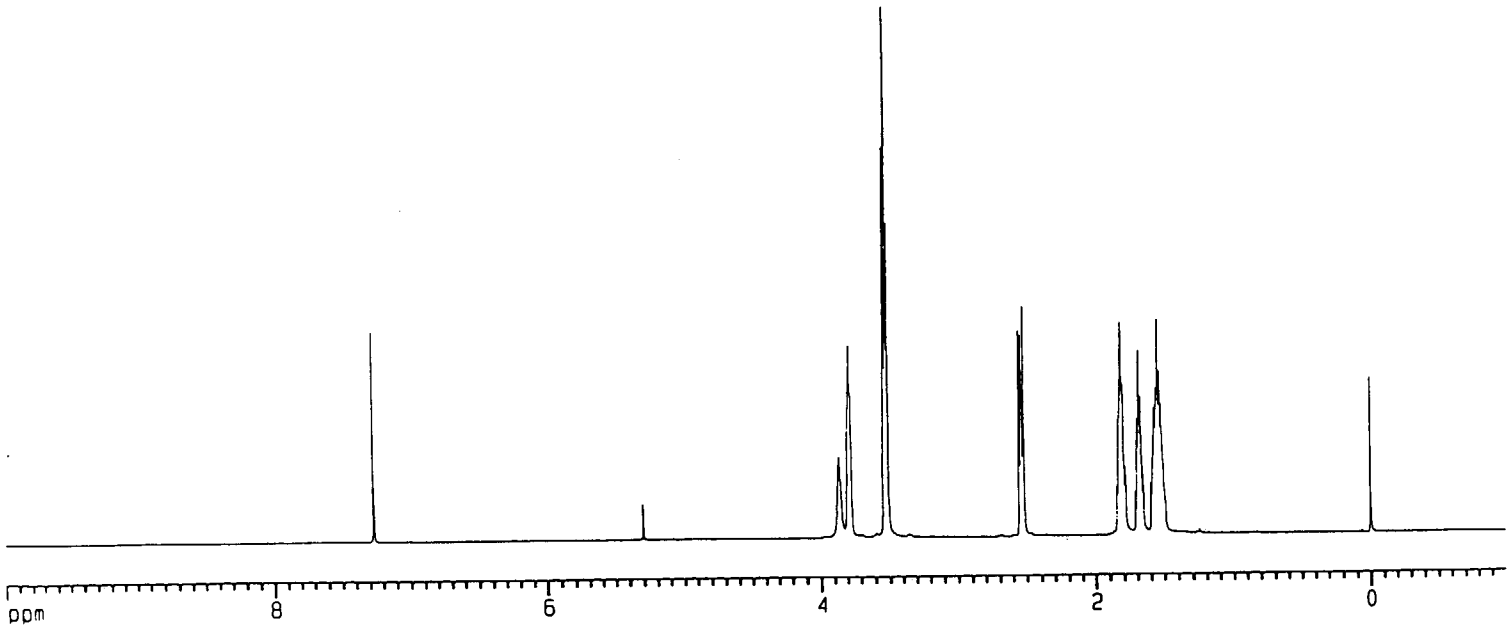

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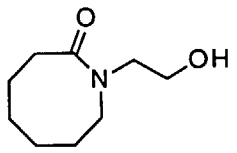
N-(2'-Hydroxyethyl)-1-azacyclooctan-2-one



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RECYCLE TIME = 1.00 SEC

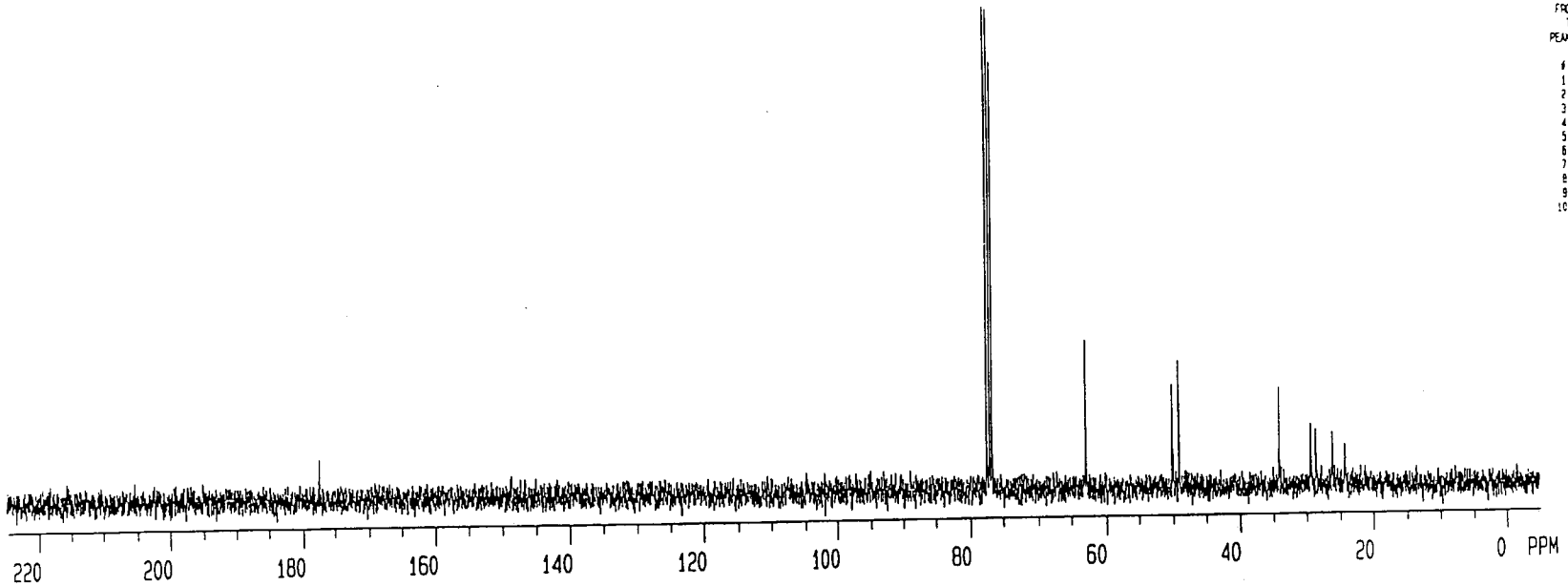
NO OF ACQS = 1232
DATA SIZE = 32768
LINE BROADNG = 1.00 HZ
SPIN RATE = 22 RPS

OBSERVE:
FREQUENCY = 75.507555 MHZ
SPEC WIDTH= 20000 HZ
GAIN = 60 %

DECOUPLER STANDARD-64 MODULATION
FREQUENCY = 4.500 PPM
POWER = 3100/ 2400
HIGH POWER ON
HIGH POWER OUTPUT = 63.0E

PLOT SCALE:
511.47 HZ/CM
6.7648 PPM/CM
FROM 225.00
TO -4.98 PPM
PEAK LISTING

#	HT	PPM
1	11	26.19
2	12	28.64
3	13	29.34
4	21	34.02
5	27	49.11
6	22	50.05
7	32	62.80
8	92	76.61
9	104	77.04
10	104	77.46



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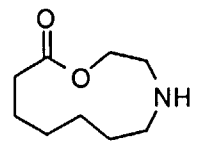
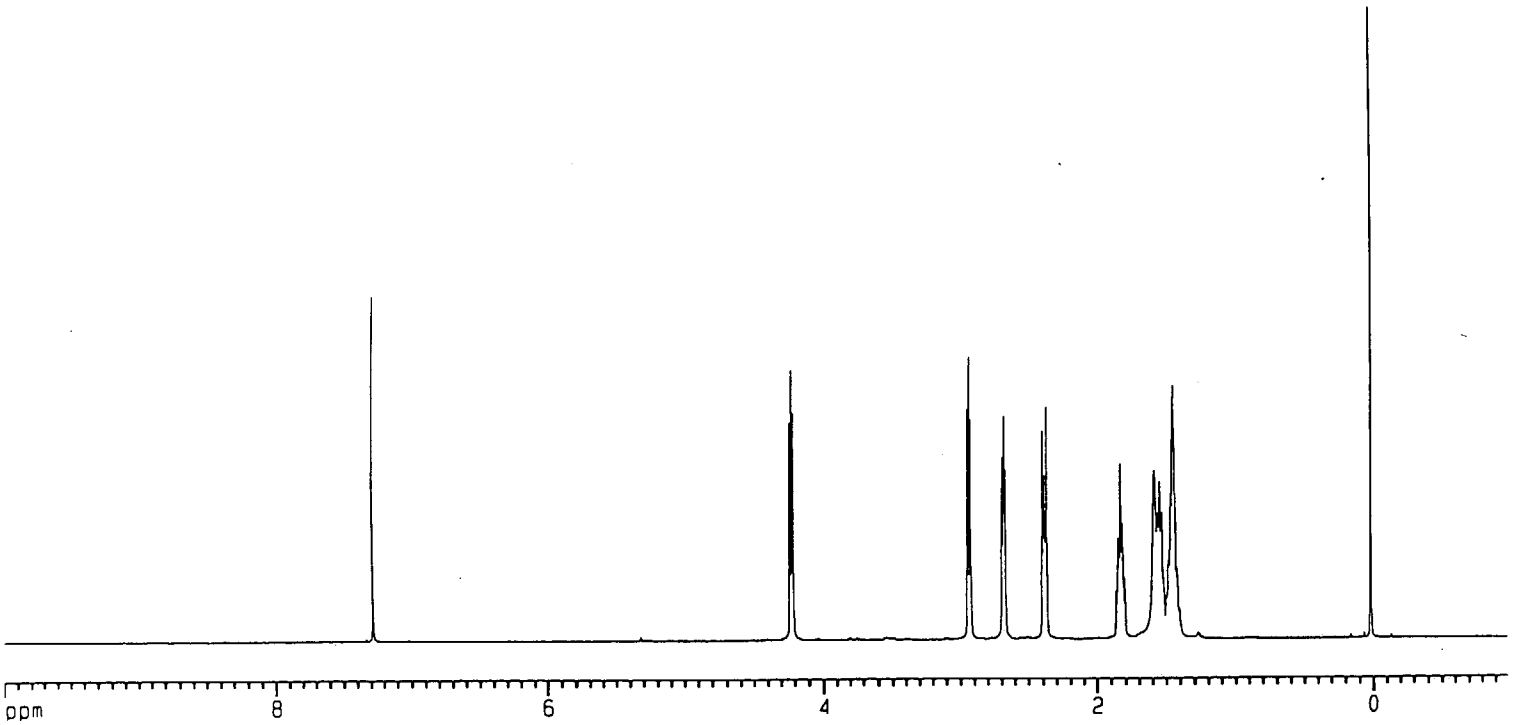
1-Oxa-4-azacycloundecan-11-one



4c



Current Data Parameters	
NAME	4c-1-287-E
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980618
Time	13.16
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	456.1
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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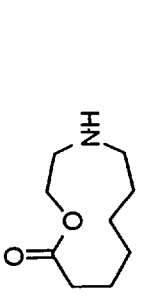
1-Oxa-4-azacycloundecan-11-one



4c

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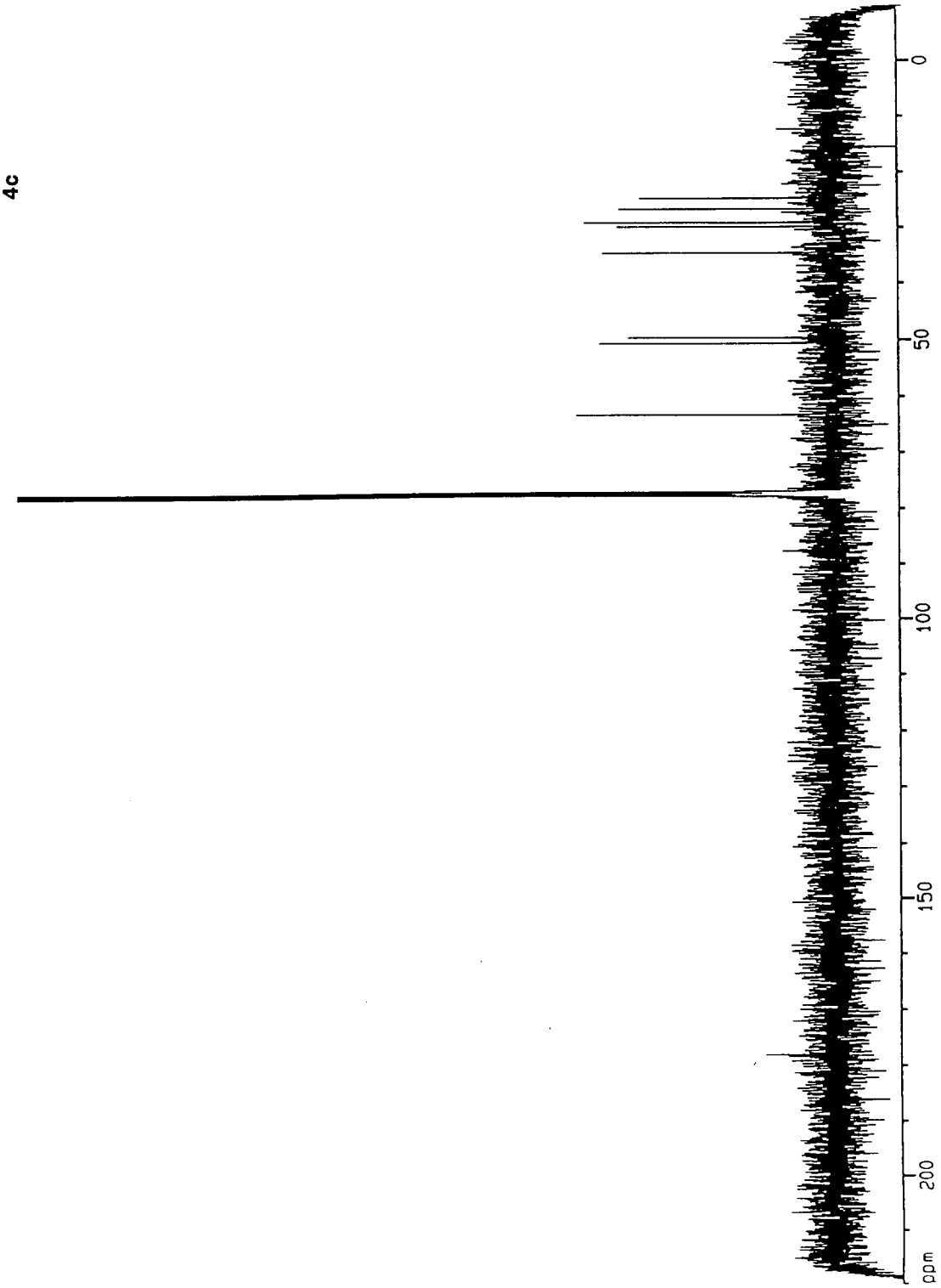
Current Data Parameters
NAME          4c-1-279-E
EXPNO                  2
PROCNO                 1

F2 - Acquisition Parameters
Date_             980606
Time               14 34
INSTRUM          drx400
PROBHD  5 mm Multinu
PULPROG          zgpg30
TD                65536
SOLVENT           CDCl3
NS                  4207
DS                     2
SWH           23148 148 Hz
FIDRES        0 353213 Hz
AQ            1 4156276 sec
RG                  2048
DW               21 600 usec
DE                4 50 usec
TE                300 0 K
d11           0 0300000 sec
d12           0 0000200 sec
PL13             18 00 dB
D1            0 05000000 sec
CPDPRG2           waltz16
PCPD2           100 00 usec
SFO2          400 1316005 MHz
NUC2                  1H
PL2               0 00 dB
PL12             18 00 dB
P1                6 90 usec
DE                4 50 usec
SFO1          100 6232933 MHz
NUC1                  13C
PL1              -5 00 dB

F2 - Processing parameters
SI                 32768
SF          100 6127290 MHz
WDW                   EM
SSB                    0
LB              1 00 Hz
GB                     0
PC                1 40

1D NMR plot parameters
CX               20 00 cm
F1P             220 000 ppm
F1            22134 80 Hz
F2P            -10 000 ppm
F2            -1006 13 Hz
PPMCM         11 50000 ppm/cm
HZCM          1157 04639 Hz/cm
```



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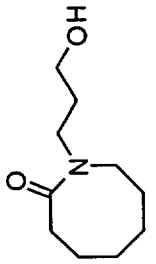
_N_-(3'-Hydroxypropyl)-1-azacyclooctan-2-one



3d

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Current Data Parameters
NAME          4c-I-65A
EXPNO                1
PROCNO               1

F2 - Acquisition Parameters
Date_         971211
Time              10 29
INSTRUM       drx400
PROBHD    5 mm Multinu
PULPROG          zg30
TD              32768
SOLVENT          CDCl3
NS                  16
DS                   2
SWH          4789 272 Hz
FIDRES       0 146157 Hz
AQ           3 4210291 sec
RG                 512
DW           104 400 usec
DE             4 50 usec
TE             300 0 K
D1           1 00000000 sec
P1             7 70 usec
DE             4 50 usec
SFO1         400 1320007 MHz
NUC1               1H
PL1              -6 00 dB

F2 - Processing parameters
SI               16384
SF          400 1300071 MHz
WDW                 EM
SSB                  0
LB            0 30 Hz
GB                   0
PC                1 00

1D NMR plot parameters
CX              20 00 cm
F1P             10 000 ppm
F1            4001 30 Hz
F2P             -1 000 ppm
F2            -400 13 Hz
PPMCM         0 55000 ppm/cm
HZCM          220 07150 Hz/cm
```

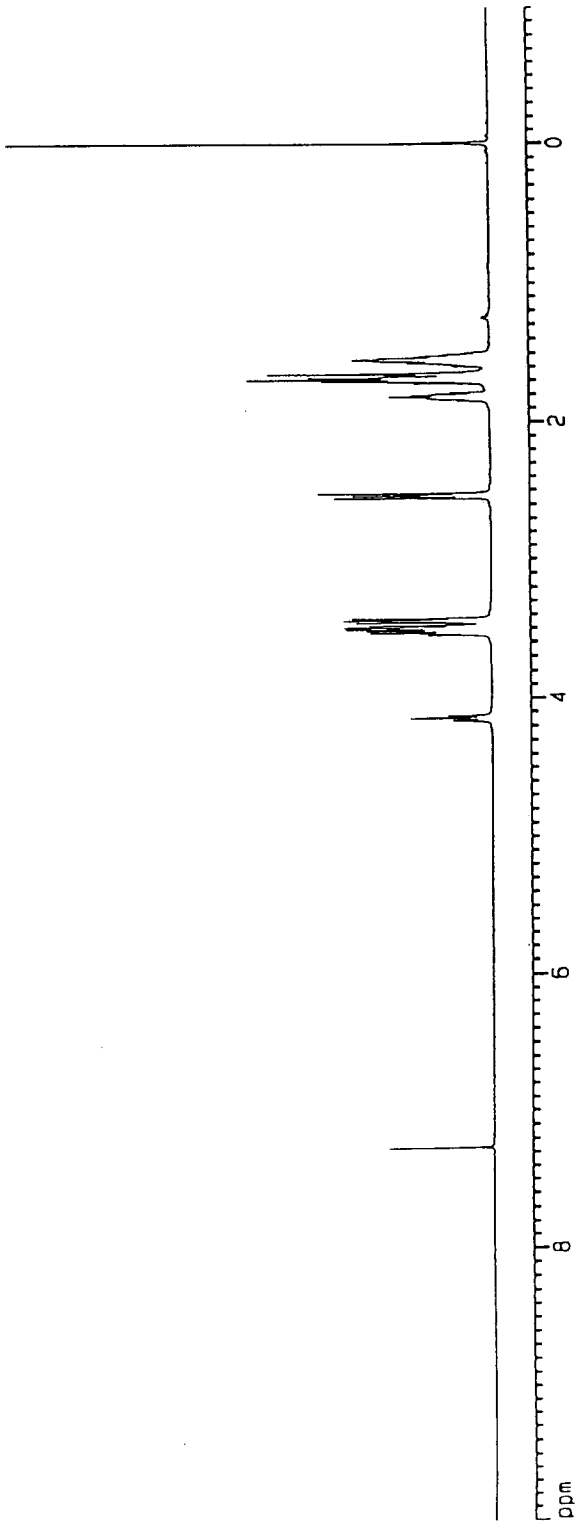

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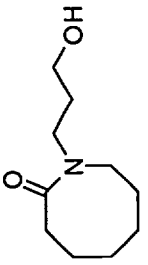
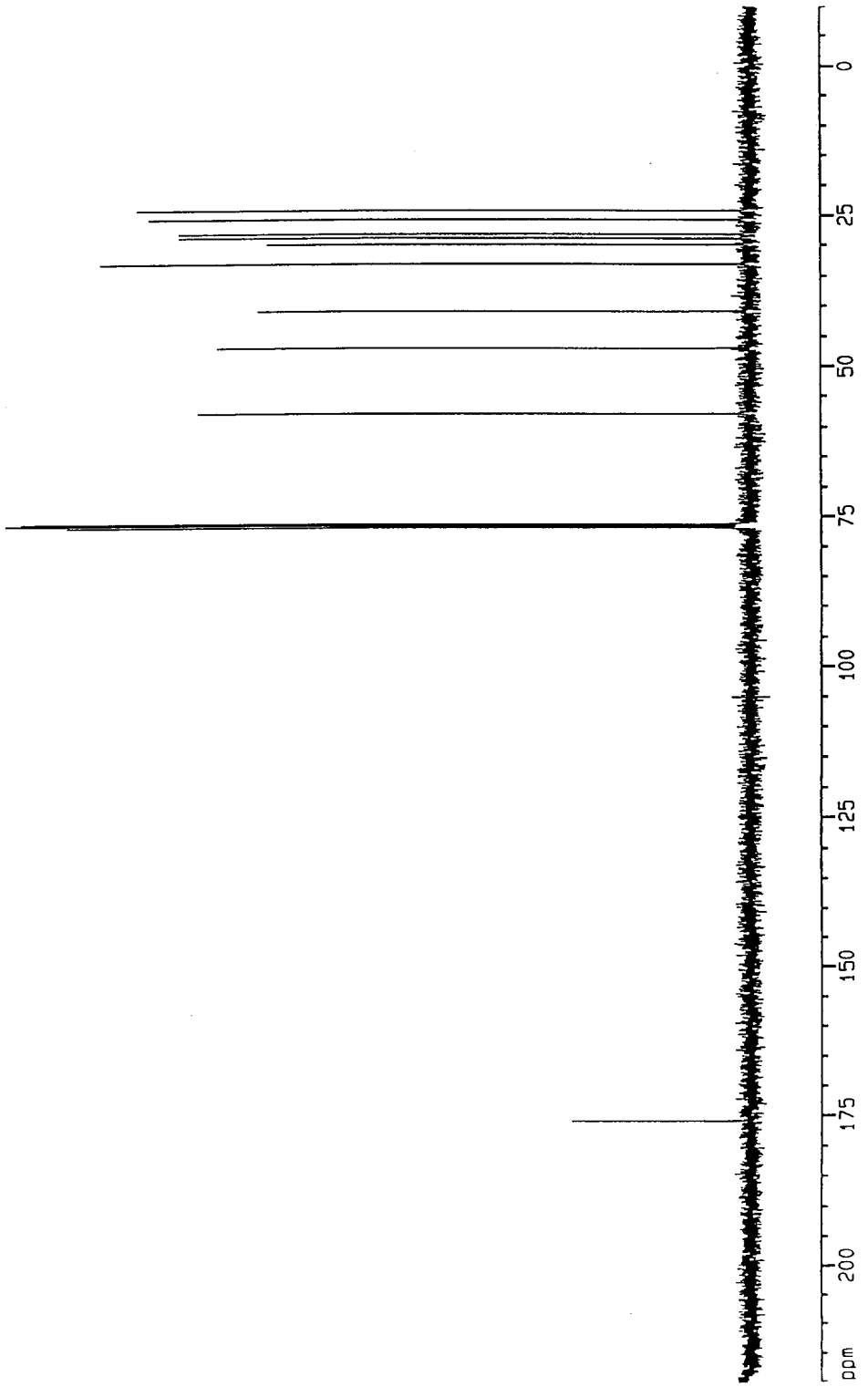
N-(3'-Hydroxypropyl)-1-azacyclooctan-2-one



3d

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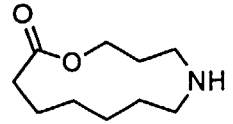
Current Data Parameters
NAME                  4c-1-65A
EXPNO                        2
PROCNO                       1

F2 - Acquisition Parameters
Date_               971205
Time                  14 08
INSTRUM             drx400
PROBHD     5 mm Multinu
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                     719
DS                       2
SWH                23148 148 Hz
FIDRES             0 353213 Hz
AQ                 1 4156276 sec
RG                      2048
DW                 21 600 usec
DE                  4 50 usec
TE                    300 0 K
d11                0 0300000 sec
d12                0 0000200 sec
PL13                 18 00 dB
D1                 0 05000000 sec
CPDPRG2             waltz16
PCPD2               100 00 usec
SFO2               400 1316005 MHz
NUC2                      1H
PL2                  0 00 dB
PL12                 18 00 dB
P1                   6 90 usec
DE                  4 50 usec
SFO1               100 6232933 MHz
NUC1                      13C
PL1                  -6 00 dB

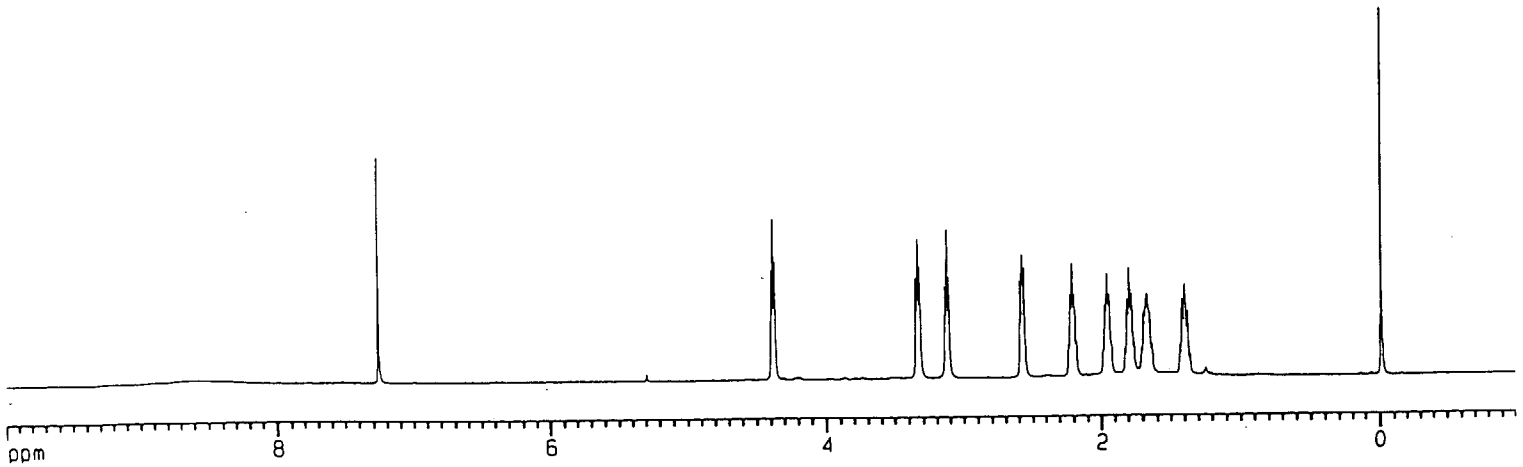
F2 - Processing parameters
SI                       32768
SF                 100 6127290 MHz
WDW                        EM
SSB                         0
LB                   1 00 Hz
GB                          0
PC                   1 40

1D NMR plot parameters
CX                   20 00 cm
F1P                 220 000 ppm
F1                  22134 80 Hz
F2P                 -10 000 ppm
F2                  -1006 13 Hz
PPMCM              11 50000 ppm/cm
HZCM               1157 04639 Hz/cm
```

1-Oxa-5-azacyclododecan-12-one



4d



Current Data Parameters	
NAME	4c-1-280-e
EXPNO	1
PROCNO	1
F2 - Acquisition Parameters	
Date_	980605
Time	11.47
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	362
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB
F2 - Processing parameters	
SI	16384
SF	400.1300098 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00
1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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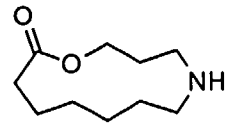
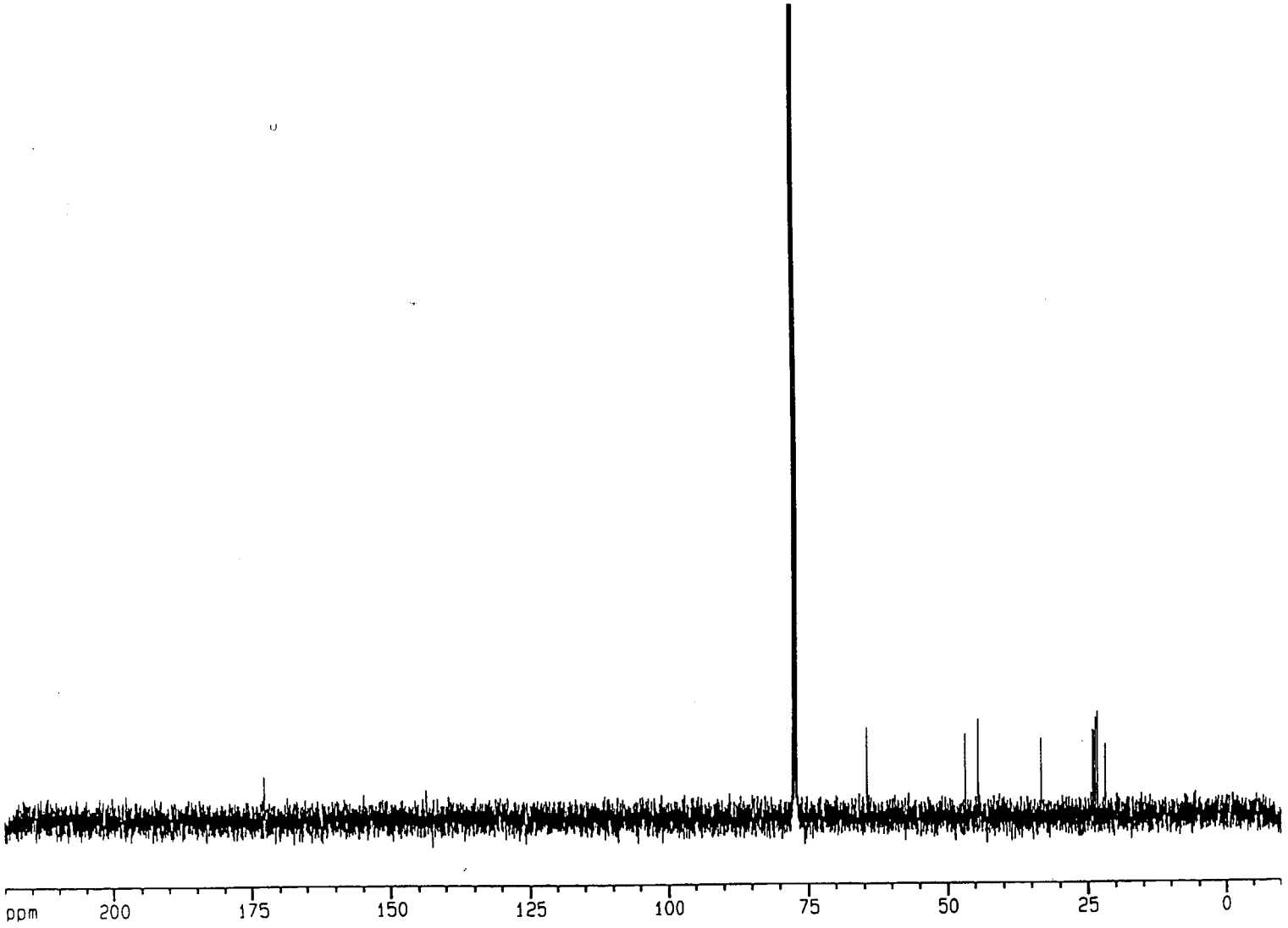
1-Oxa-5-azacyclododecan-12-one



4d



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4c-I-280-E5-e	
2	
1	
Acquisition Parameters	
980604	
15.35	
.UM	drx400
.....ID	5 mm Multinu
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	452
DS	2
SWH	23148.148 Hz
FIDRES	0.353213 Hz
AQ	1.4156276 sec
RG	2048
DW	21.600 usec
DE	4.50 usec
TE	300.0 K
d11	0.0300000 sec
d12	0.0000200 sec
PL13	18.00 dB
D1	0.05000000 sec
CPDPRG2	waltz16
PCPD2	100.00 usec
SFO2	400.1316005 MHz
NUC2	1H
PL2	-6.00 dB
PL12	18.00 dB
P1	6.90 usec
DE	4.50 usec
SFO1	100.6232933 MHz
NUC1	13C
PL1	-6.00 dB
F2 - Processing parameters	
SI	32768
SF	100.6127290 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40
1D NMR plot parameters	
CX	20.00 cm
F1P	220.000 ppm
F1	22134.80 Hz
F2P	-10.000 ppm
F2	-1006.13 Hz
PPMCM	11.50000 ppm/cm
HZCM	1157.04639 Hz/cm

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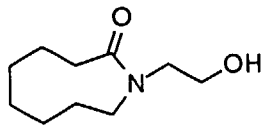
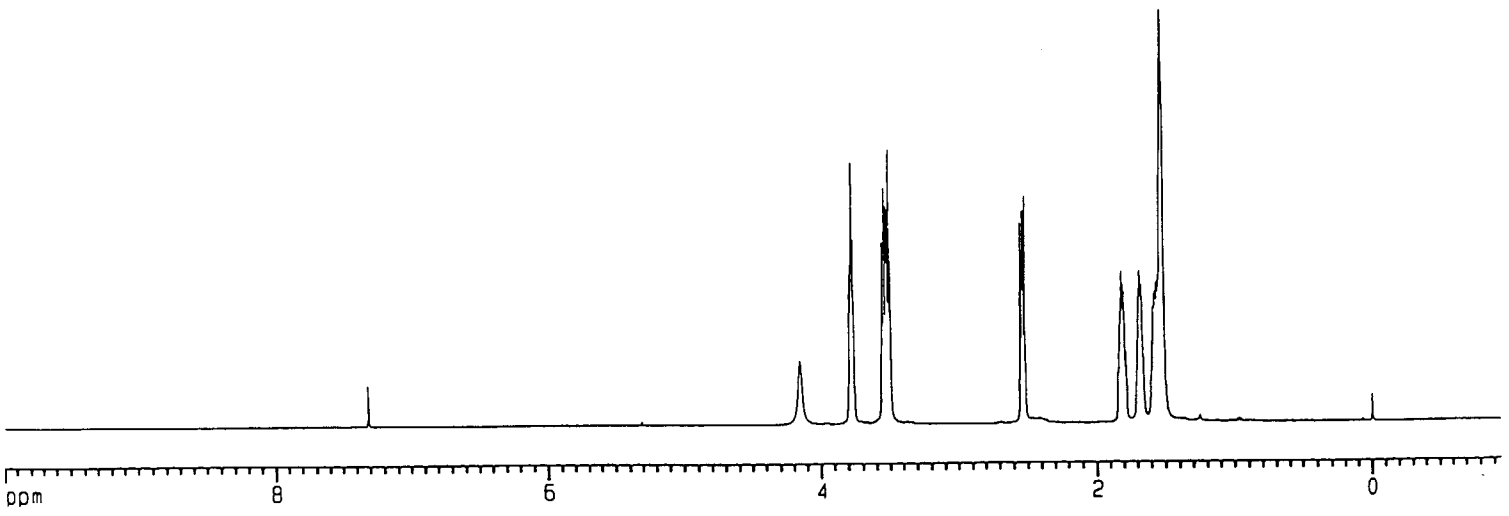
N-(2'-Hydroxyethyl)-1-azacyclononan-2-one



3e



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NAME	4c-1-191A
EXPNO	1
PROCNO	1
F2 - Acquisition Parameters	
Date_	971030
Time	13 12
INSTRUM	qfx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789 272 Hz
FIDRES	0 146157 Hz
AQ	3 4210291 sec
RG	45 3
DW	104 400 usec
DE	4 50 usec
TE	300 0 K
D1	1 00000000 sec
P1	7 70 usec
DE	4 50 usec
SFO1	400 1320007 MHz
NUC1	1H
PL1	-6 00 dB
F2 - Processing parameters	
SI	16384
SF	400 1299887 MHz
WDW	EM
SSB	0
LB	0 30 Hz
GB	0
PC	1 00
1D NMR plot parameters	
CX	20 00 cm
F1P	10.000 ppm
F1	4001 30 Hz
F2P	-1 000 ppm
F2	-400 13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07149 Hz/cm

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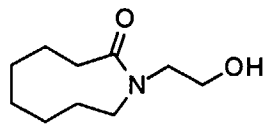
N-(2'-Hydroxyethyl)-1-azacyclononan-2-one



3e

GE NMR
QE PLUS

JF.191
310CT97

OPERATOR RELEASED

ONE PULSE SEQUENCE

PULSE WIDTH = 4.50 USEC
= 30 DEGREES
ACQ. TIME = 815.26 MSEC
RECYCLE TIME = 1.00 SEC

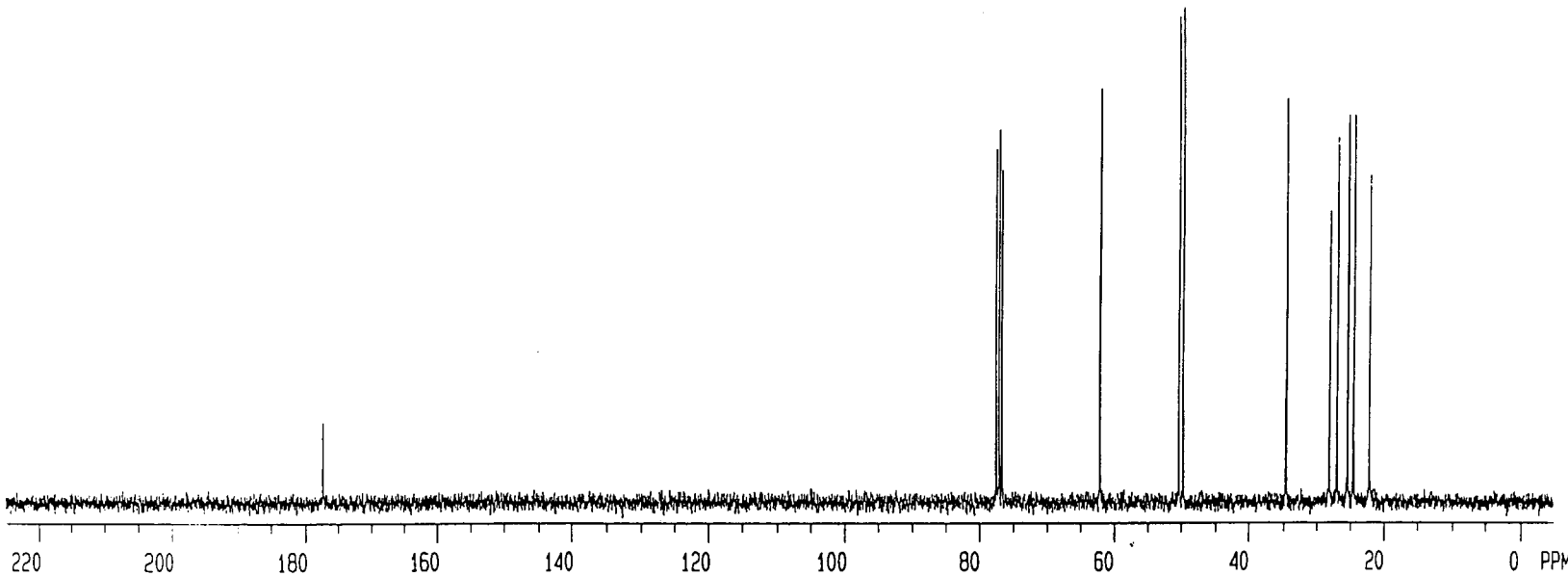
NO OF ACQS = 512
DATA SIZE = 32768
LINE BROADNG = 1.00 HZ
SPIN RATE = 17 RPS

OBSERVE:
FREQUENCY = 75.607555 MHZ
SPEC WIDTH= 20050 HZ
GAIN = 50 41

DECOUPLER STANDARD-64 MODULATION
FREQUENCY = 4.500 PPM
POWER = 3100/ 2400
HIGH POWER ON
HIGH POWER OUTPUT = 63 DE

PLOT SCALE:
511.47 HZ/CM
6.7649 PPM/CM
FROM 225.00
TO -4.96 PPM
PEAK LISTING

#	HT	PPM
1	70	22.24
2	83	24.56
3	83	25.45
4	78	26.53
5	62	28.09
6	86	34.56
7	106	49.66
8	104	50.32
9	88	61.93
10	71	76.85
11	79	77.57
12	75	77.90
13	17	177.27



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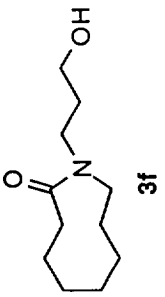
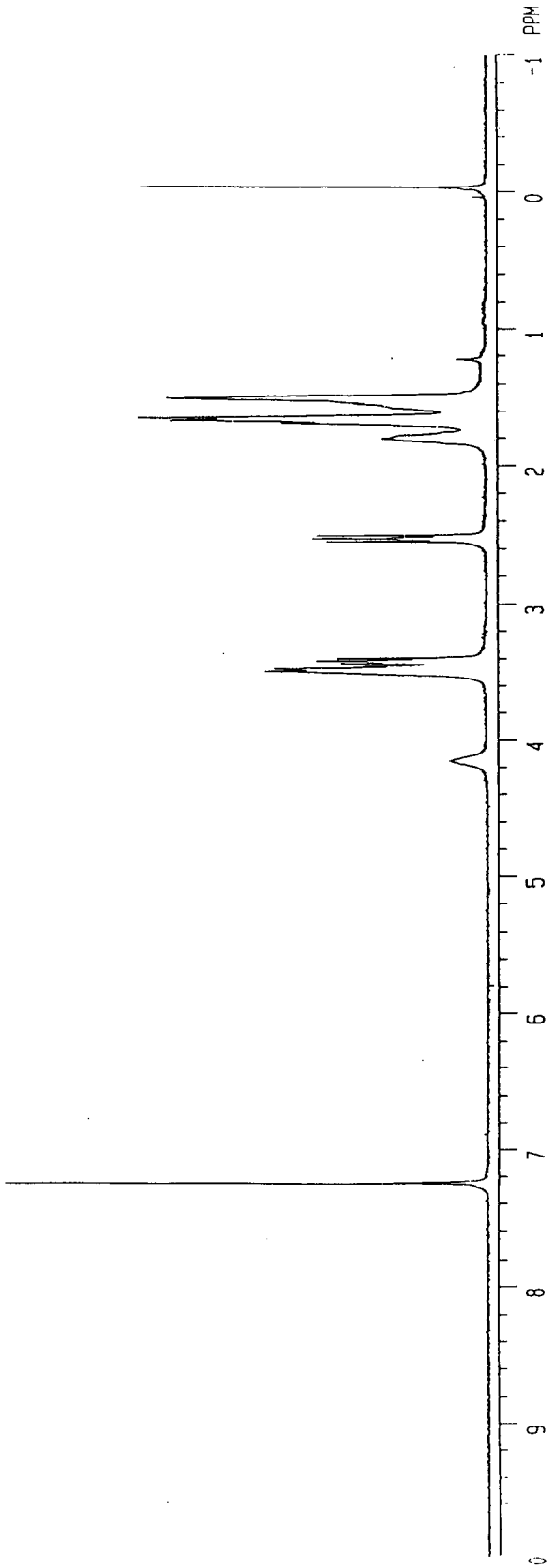
***N*-(2'-Hydroxypropyl)-1-azacyclononan-2-one**



3f



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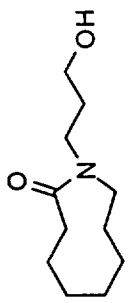
N-(2'-Hydroxypropyl)-1-azacyclononan-2-one



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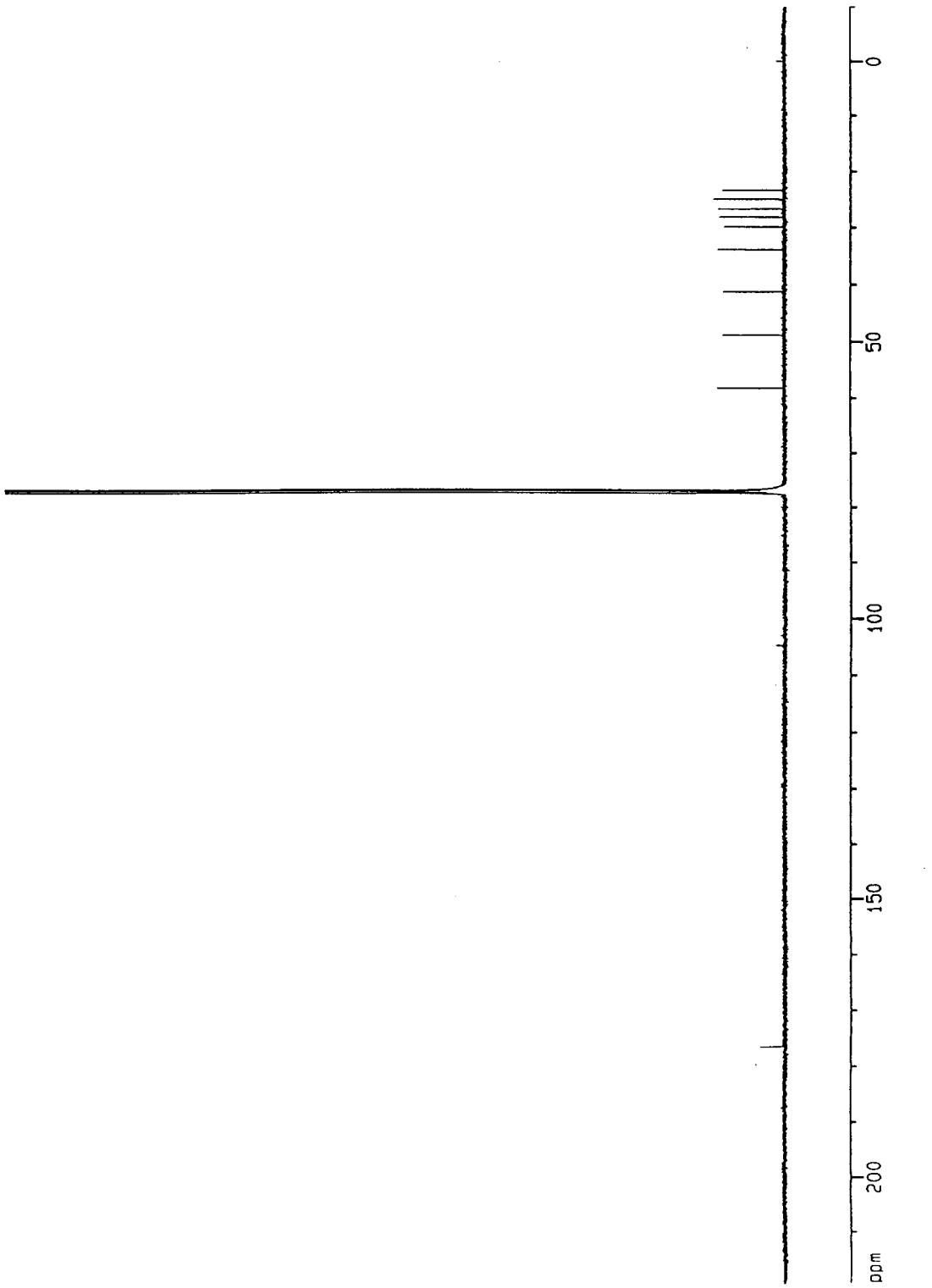


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Current Data Parameters
NAME      4c-161-carbon
EXPNO                 2
PROCNO                1

F2 - Acquisition Parameters
Date_          970813
Time            19.30
INSTRUM       drx400
PROBHD   5 mm Multinu
PULPROG       zgpg30
TD             65536
SOLVENT        CDCl3
NS              1024
DS                 2
SWH        23148.148 Hz
FIDRES     0.353213 Hz
AQ         1.4156276 sec
RG              2048
DW            21.600 usec
DE             4.50 usec
TE              300.0 K
d11        0.0300000 sec
d12        0.0000200 sec
PL13           18.00 dB
D1         0.05000000 sec
CPDPRG2       waltz16
PCPD2        100.00 usec
SFO2       400.1316005 MHz
NUC2              1H
PL2            -6.00 dB
PL12           18.00 dB
P1              6.90 usec
DE             4.50 usec
SFO1       100.6232933 MHz
NUC1              13C
PL1            -6.00 dB

F2 - Processing parameters
SI             32768
SF        100.6127692 MHz
WDW               EM
SSB                0
LB              1.00 Hz
GB                 0
PC              1.40

1D NMR plot parameters
CX             20.00 cm
F1P           220.000 ppm
F1          22134.81 Hz
F2P          -10.000 ppm
F2          -1006.13 Hz
PPMCM      11.50000 ppm/cm
HZCM       1157.04688 Hz/cm
```
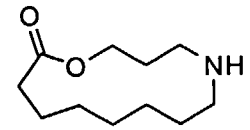
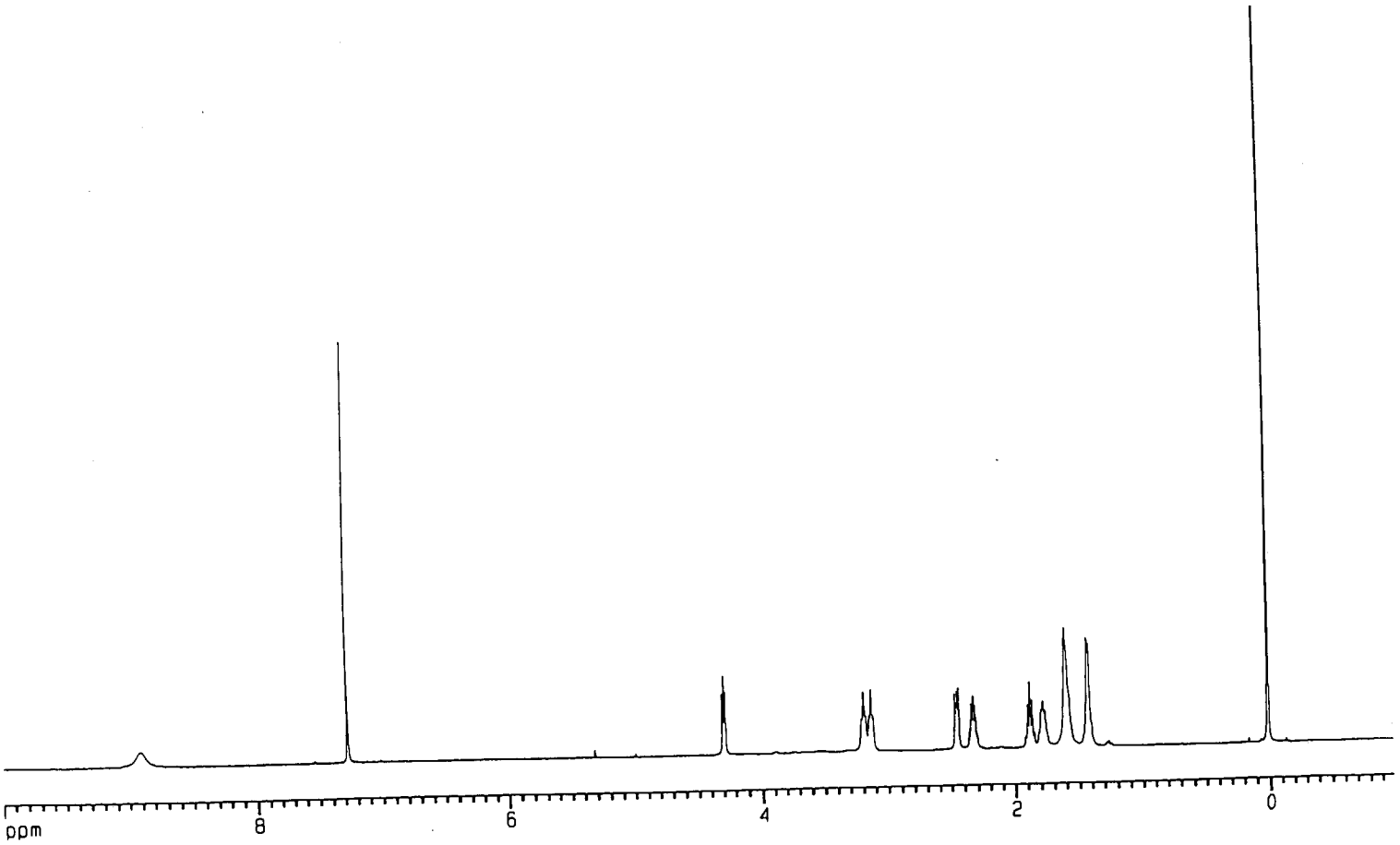

1-Oxa-5-azacyclotridecan-13-one



4f



Current Data Parameters	
NAME	4c-I-282-E
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980610
Time	23.28
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	574.7
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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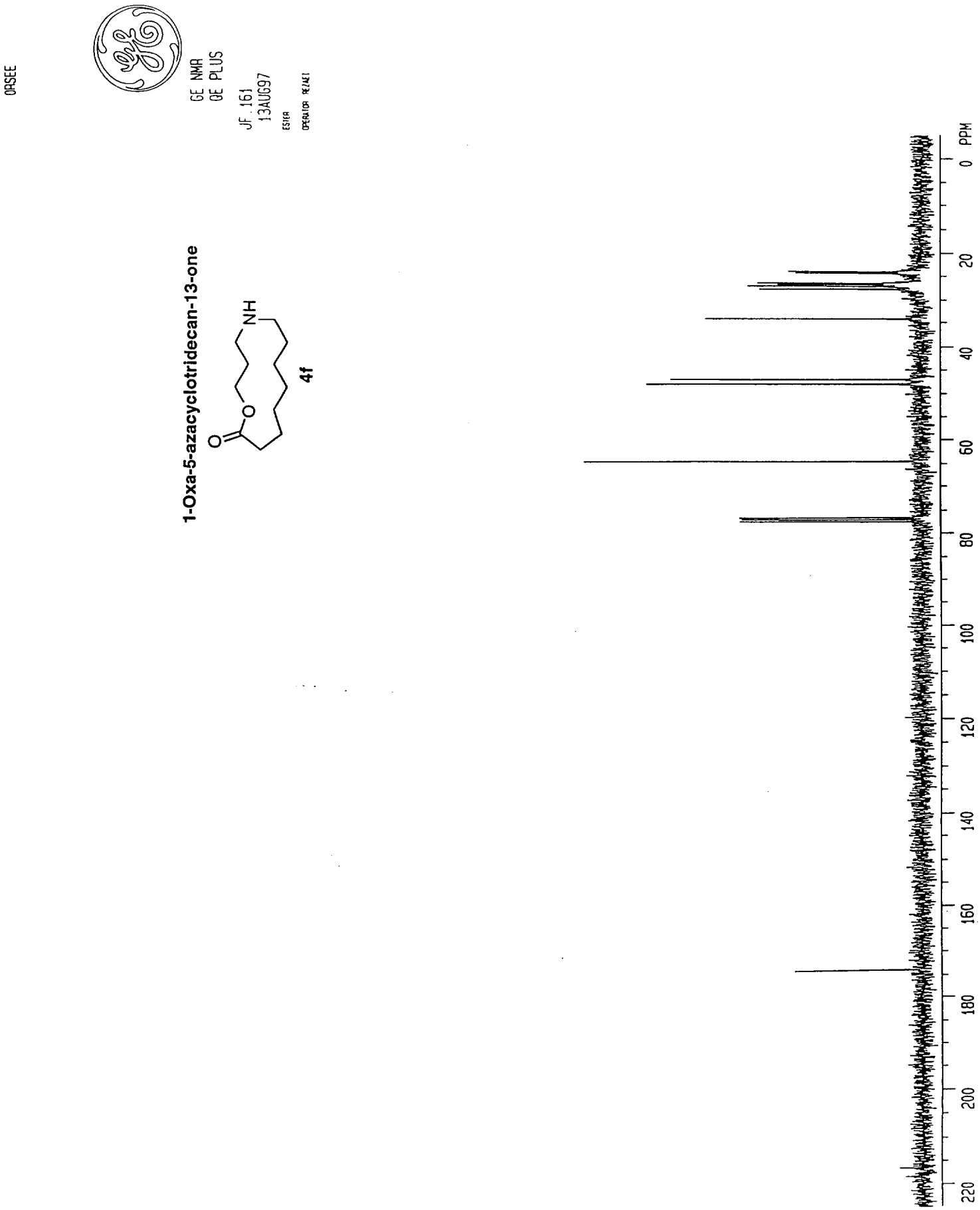
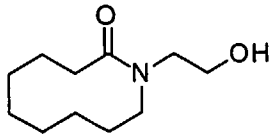
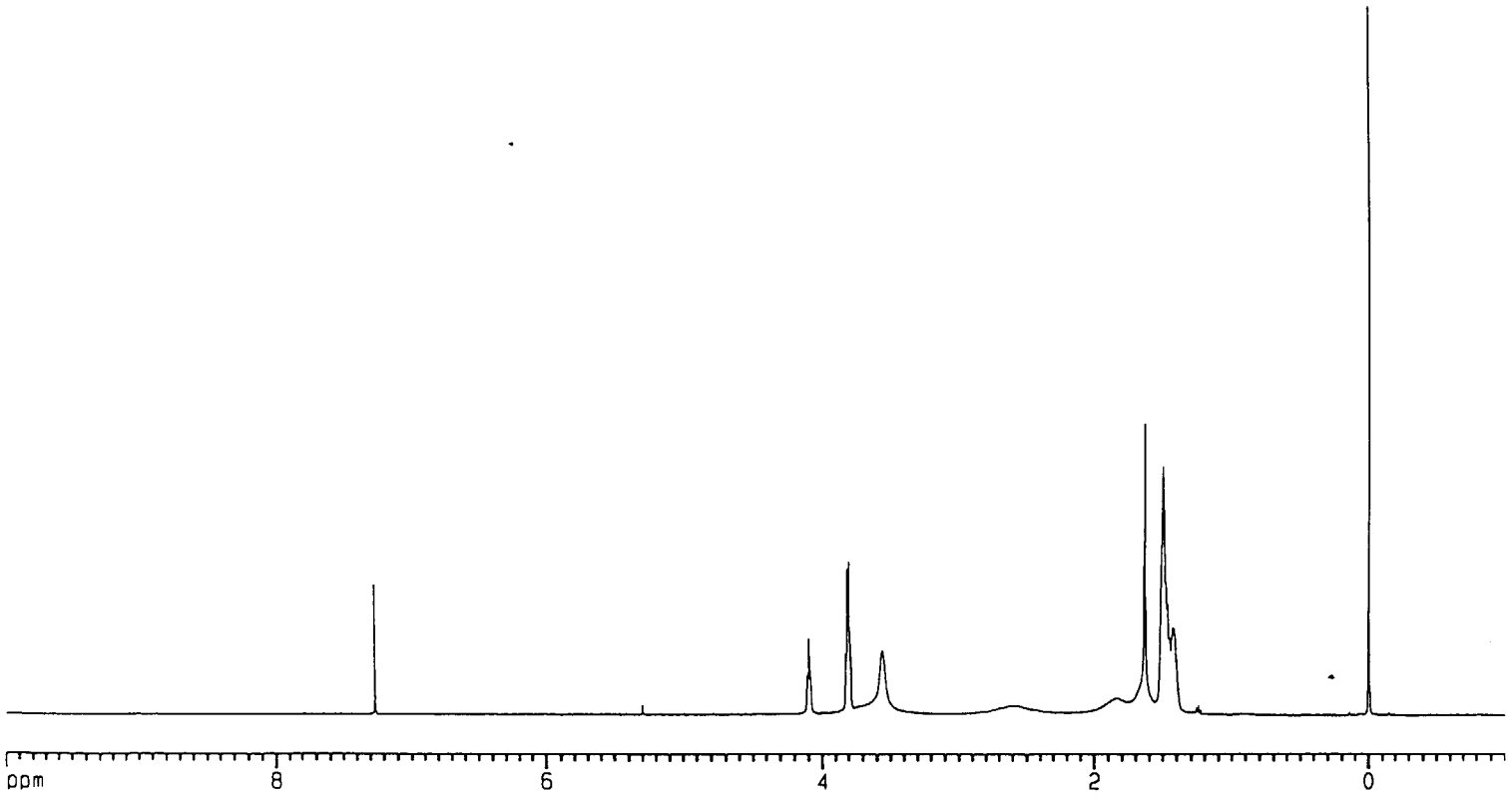


N-(2'-Hydroxyethyl)-1-azacyclodecan-2-one



3g



Current Data Parameters	
NAME	4c-I-197-A
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980108
Time	13.25
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	456.1
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300074 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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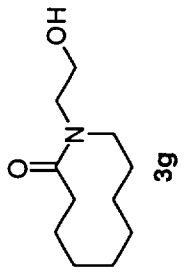
N-(2'-Hydroxyethyl)-1-azacyclodecan-2-one



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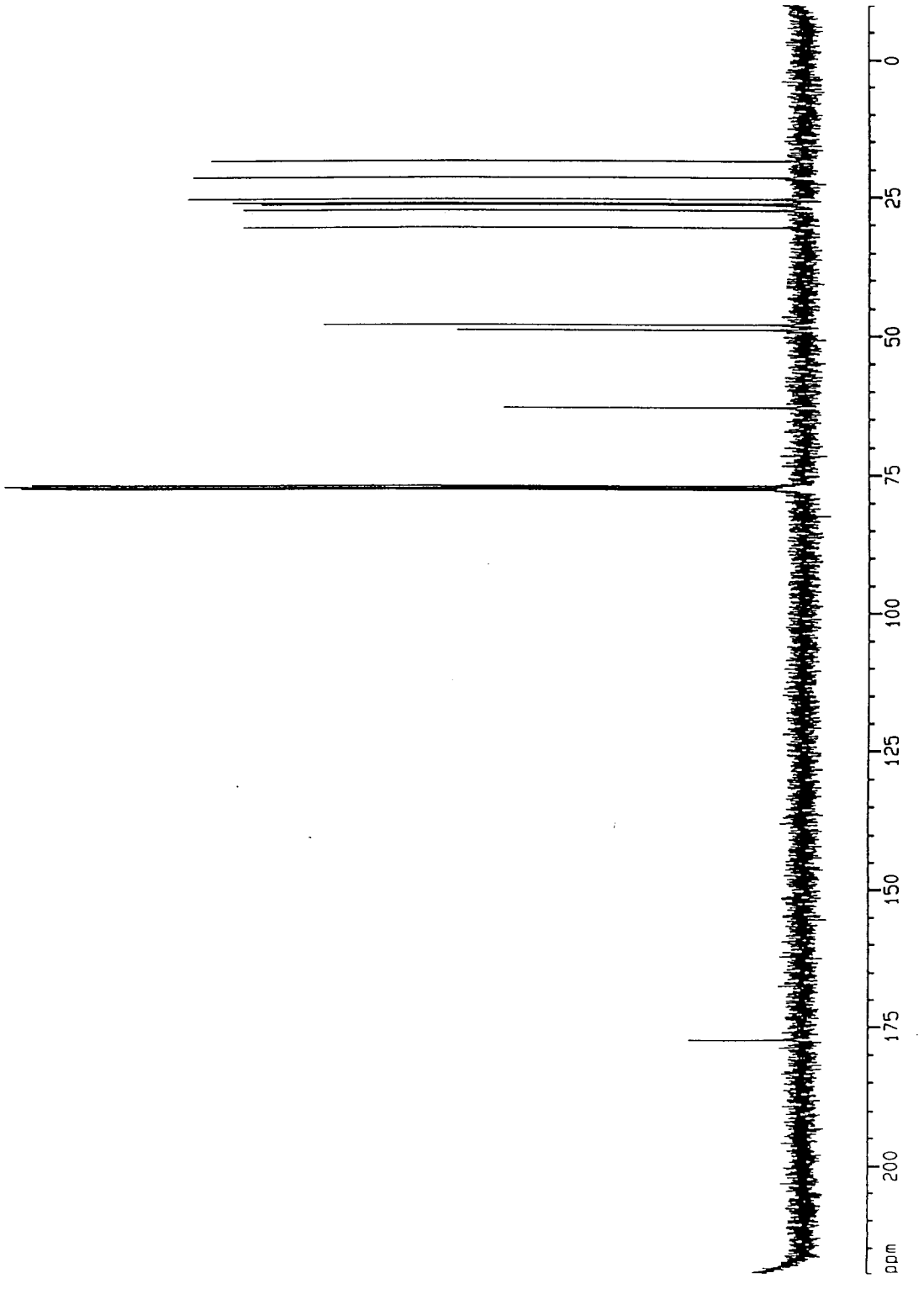


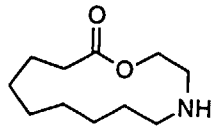
current Data Parameters
NAME 4c-1-197a
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 971031
Time 12 30
INSTRUM spect
PROBHD 5 mm Varian
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 643
DS 2
SWH 23148.148 Hz
FIDRES 0.353213 Hz
AQ 1.4156276 sec
RG 2048
DW 21.600 usec
DE 4.50 usec
TE 300.0 K
d11 0.03000000 sec
d12 0.00000200 sec
PL13 18.00 dB
D1 0.05000000 sec
CPDPRG2 waltz16
PCPD2 100.00 usec
SFO2 400.1316005 MHz
NUC2 1H
PL2 0.00 dB
PL12 18.00 dB
P1 6.90 usec
DE 4.50 usec
SFO1 100.6232933 MHz
NUC1 13C
PL1 -6.00 dB

F2 - Processing parameters
SI 32768
SF 100.6127290 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 20.00 cm
F1P 220.000 ppm
F1 22134.80 Hz
F2P -10.000 ppm
F2 -1006.13 Hz
PPMCM 11.50000 ppm/cm
HZCM 1157.04639 Hz/cm

1-Oxa-4-azacyclotridecan-13-one



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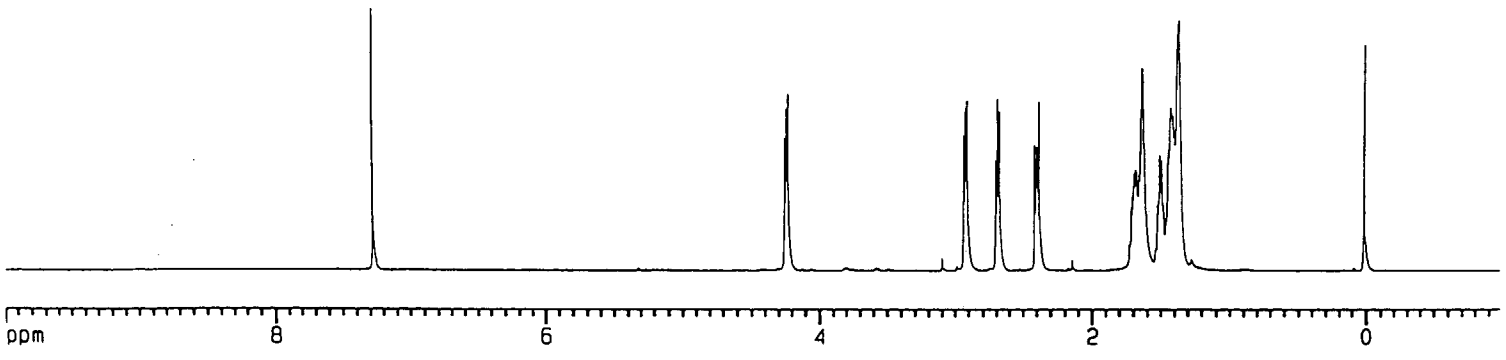

Current Data Parameters	
NAME	4c-II-29-1
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980812
Time	16.29
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	574.7
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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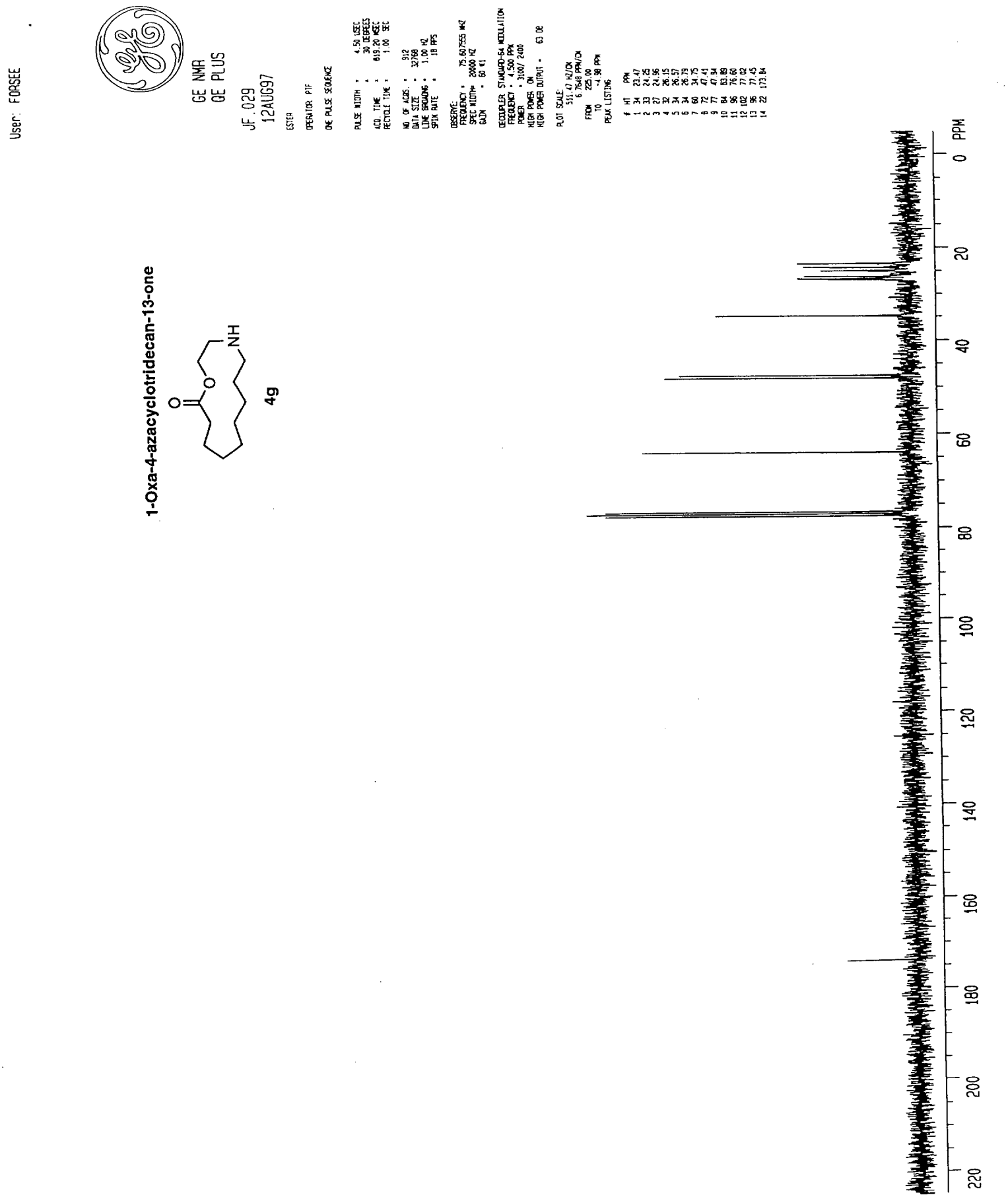
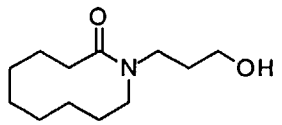


N-(3'-Hydroxypropyl)-1-azacyclodecan-2-one



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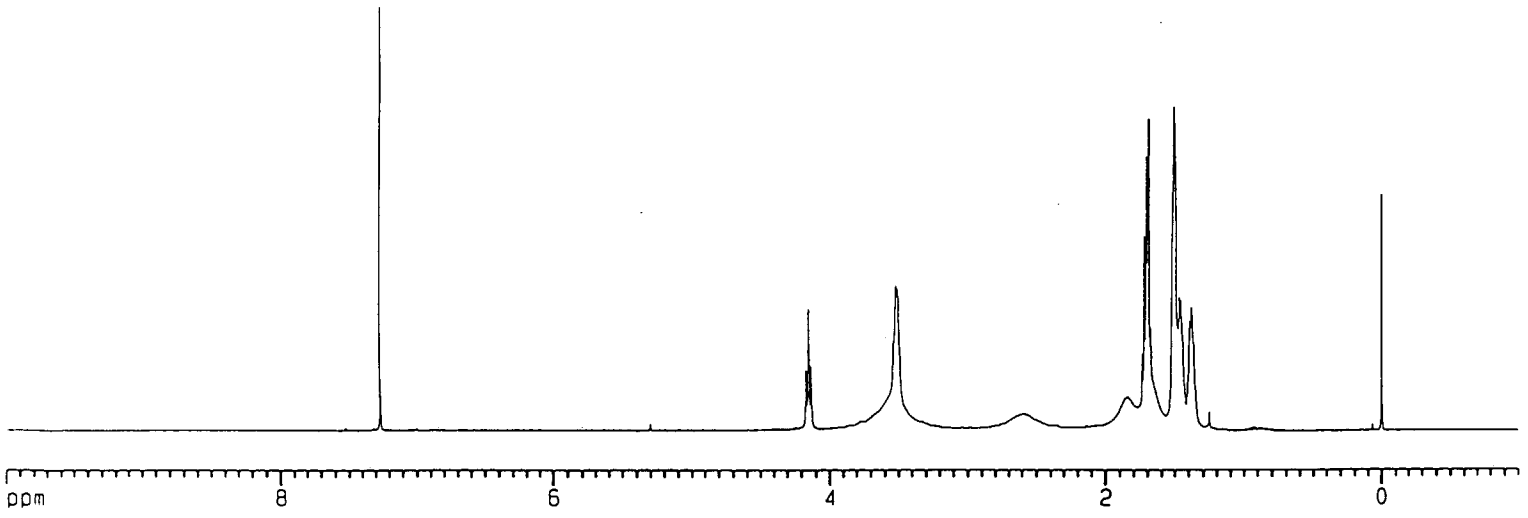

Current Data Parameters	
NAME	4c-I-209-A
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980108
Time	10.09
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	48
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	256
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300065 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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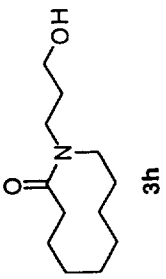
N-(3'-Hydroxypropyl)-1-azacyclodecan-2-one



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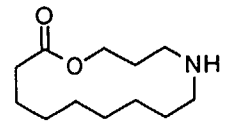
1-Oxa-5-azacyclotetradecan-14-one



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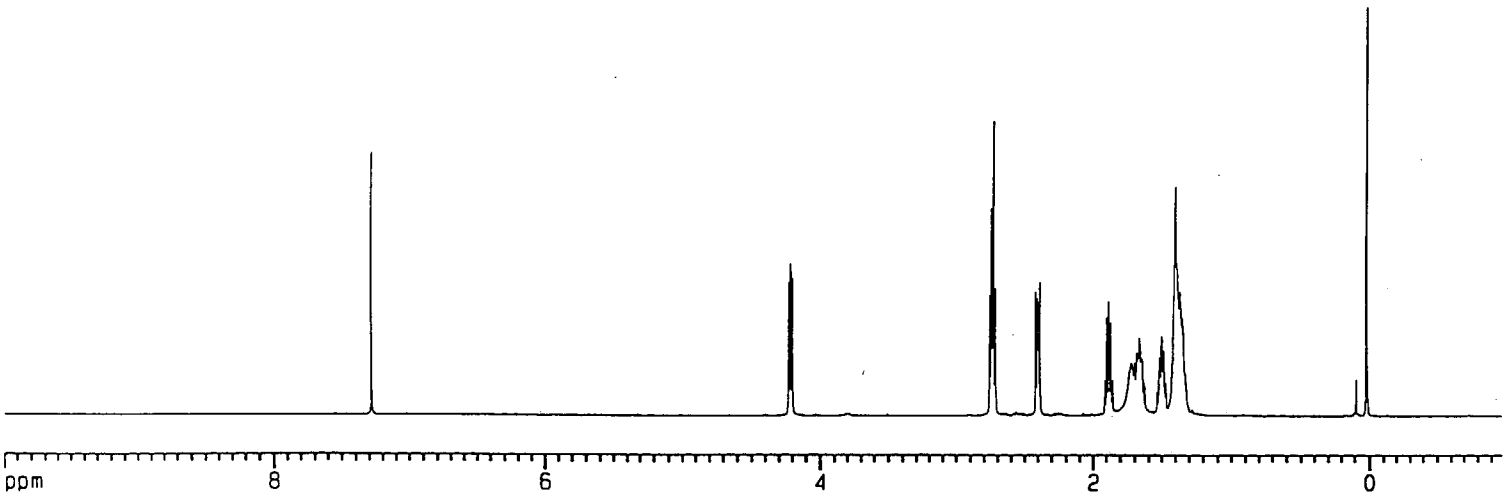

Current Data Parameters	
NAME	4c-I-214-E
EXPNO	1
PROCNO	1
F2 - Acquisition Parameters	
Date_	980326
Time	12.58
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	574.7
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB
F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00
1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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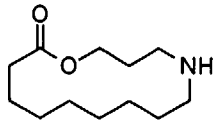
1-Oxa-5-azacyclotetradecan-14-one



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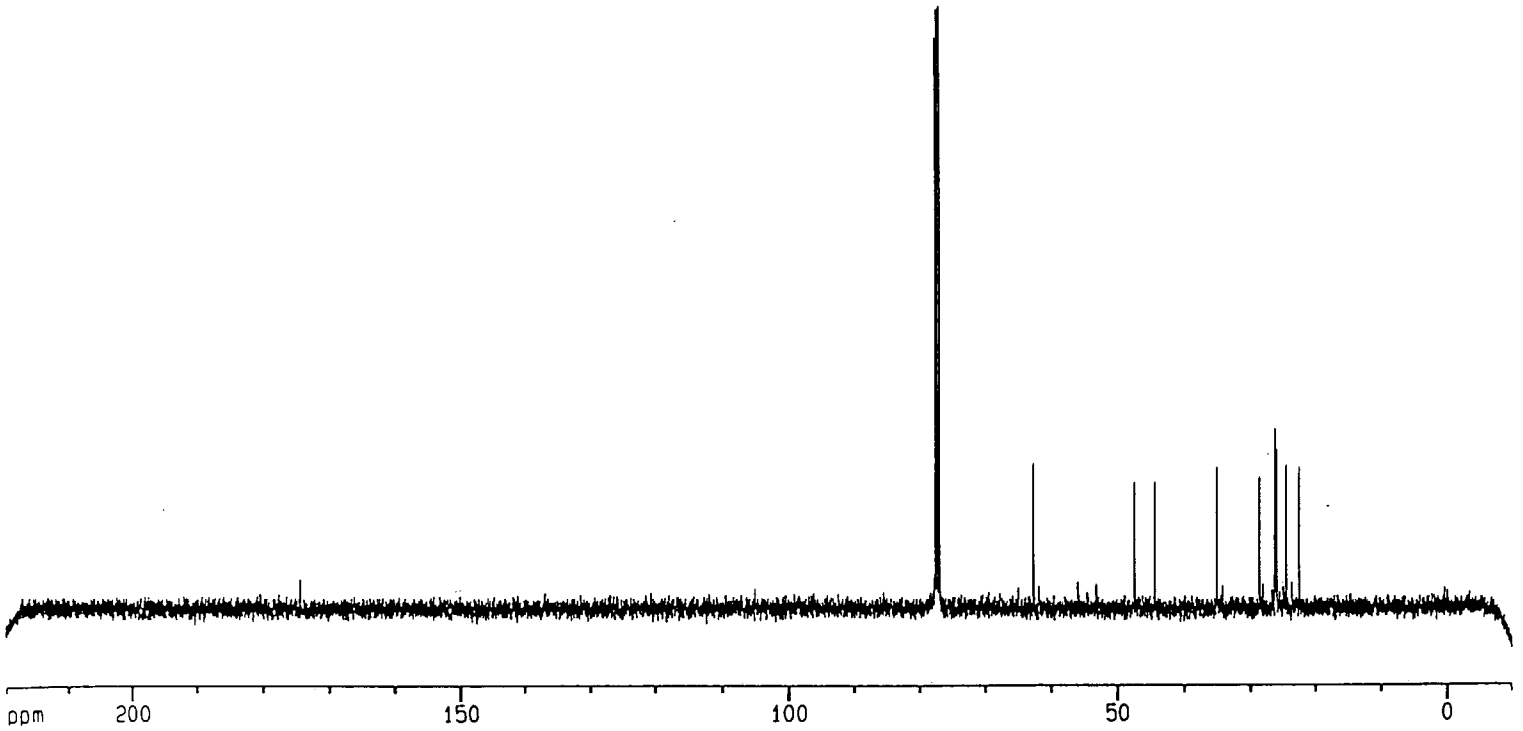

Current Data Parameters	
NAME	4c-I-214-Ester
EXPNO	2
PROCNO	1

F2 - Acquisition Parameters	
Date_	980326
Time	22 20
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	5024
DS	2
SWH	23148.148 Hz
FIDRES	0.353213 Hz
AQ	1.4156276 sec
RG	4096
DW	21.600 usec
DE	4.50 usec
TE	300.0 K
d11	0.0300000 sec
d12	0.0000200 sec
PL13	18.00 dB
D1	0.05000000 sec
CPDPRG2	waltz16
PCPD2	100.00 usec
SFO2	400.1316005 MHz
NUC2	1H
PL2	-6.00 dB
PL12	18.00 dB
P1	14.00 usec
DE	4.50 usec
SFO1	100.6232933 MHz
NUC1	13C
PL1	-6.00 dB

F2 - Processing parameters	
SI	32768
SF	100.6127290 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

1D NMR plot parameters	
CX	20.00 cm
F1P	220.036 ppm
F1	22138.42 Hz
F2P	-10.036 ppm
F2	-1009.73 Hz
PPMCM	11.50359 ppm/cm
HZCM	1157.40747 Hz/cm

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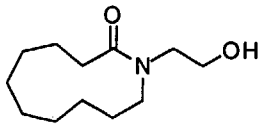
N-(2'-Hydroxyethyl)-1-azacycloundecan-2-one



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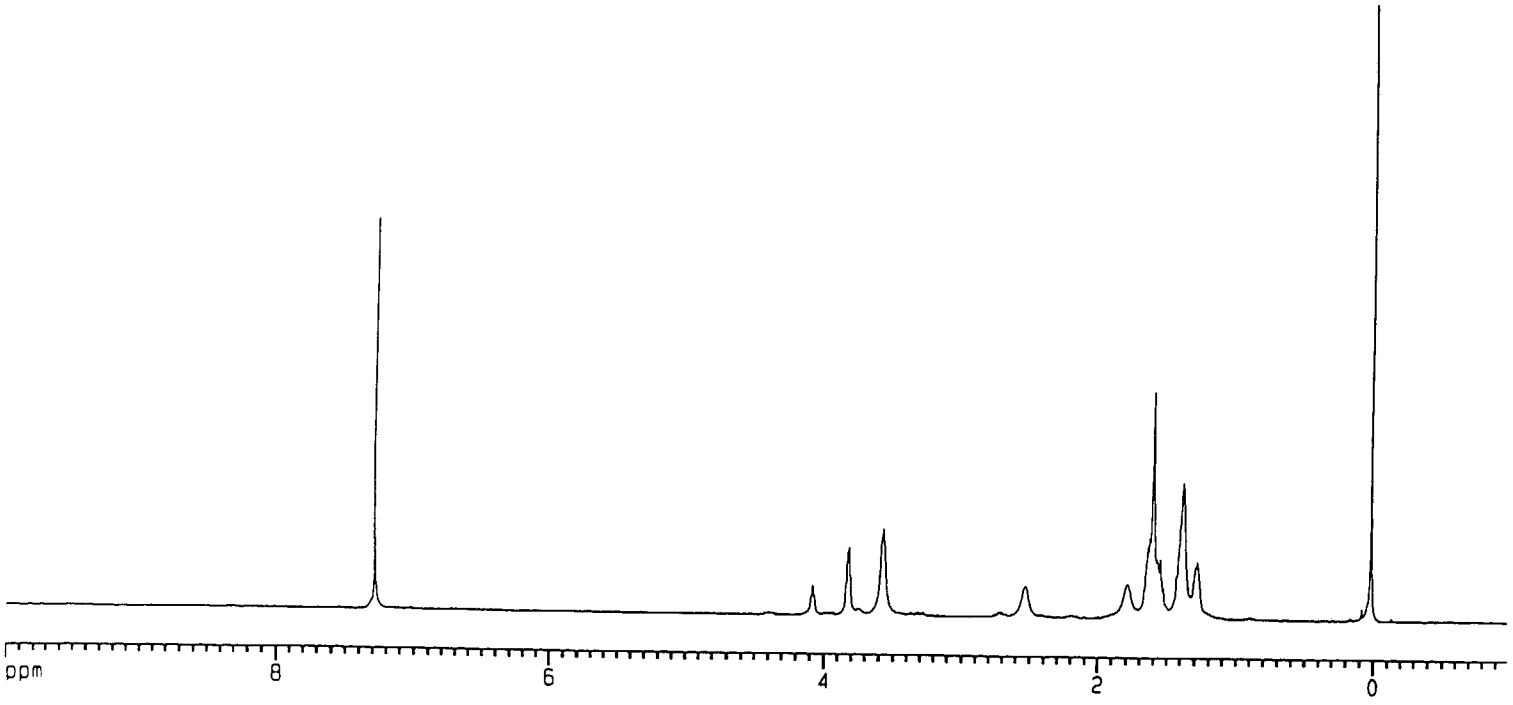

Current Data Parameters	
NAME	4c-I-265-A-C4
EXPNO	1
PROCNO	1

F2 - Acquisition Parameters	
Date_	980511
Time	16.06
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	645.1
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB

F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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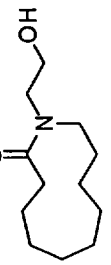
N-(2'-Hydroxyethyl)-1-azacycloundecan-2-one



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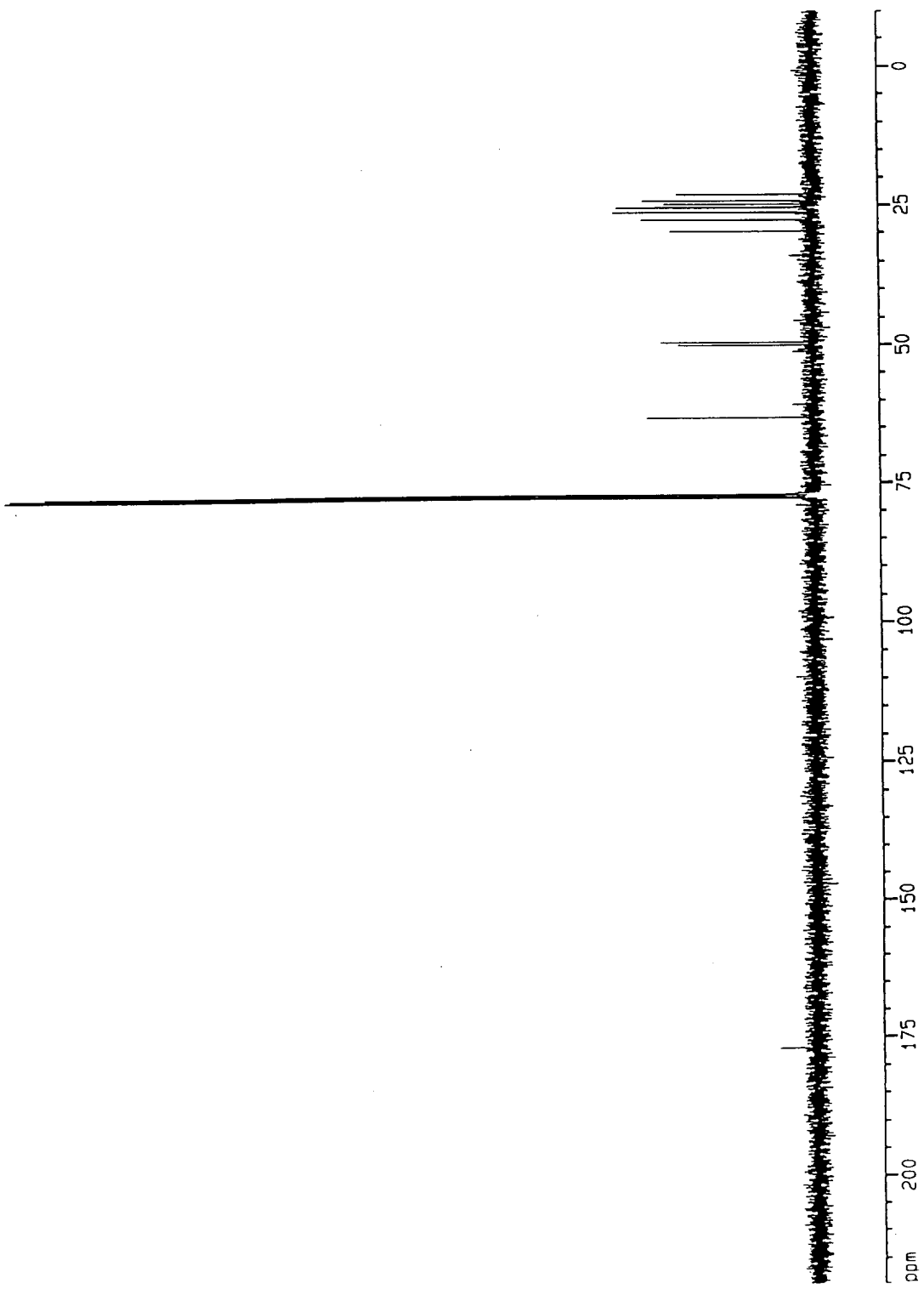


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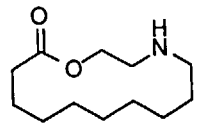
ent Data Parameters
NAME          4c-1-152-A
EXPNO                  2
PROCNO                 1

F2 - Acquisition Parameters
Date_           980204
Time              9.41
INSTRUM         drx400
PROBHD   5 mm Multinu
PULPROG         zgpg30
TD               65536
SOLVENT          CDCl3
NS                 504
DS                   2
SWH          23148.148 Hz
FIDRES        0.353213 Hz
AQ            1.4156276 sec
RG                4096
DW              21.600 usec
DE               4.50 usec
TE              300.0 K
d11           0.0300000 sec
d12           0.0000200 sec
PL13            18.00 dB
D1            0.05000000 sec
CPDPRG2         waltz16
PCPD2         100.00 usec
SFO2        400.1316005 MHz
NUC2               1H
PL2             0.00 dB
PL12           18.00 dB
P1              6.90 usec
DE              4.50 usec
SFO1        100.6232933 MHz
NUC1               13C
PL1             -6.00 dB

F2 - Processing parameters
SI               32768
SF          100.6127290 MHz
WDW                EM
SSB                 0
LB              1.00 Hz
GB                  0
PC               1.40

1D NMR plot parameters
CX              20.00 cm
F1P            220.000 ppm
F1            22134.80 Hz
F2P            -10.000 ppm
F2            -1006.13 Hz
PPMCM        11.50000 ppm/cm
HZCM       1157.04639 Hz/cm
```

1-Oxa-4-azacyclotetradecan-14-one



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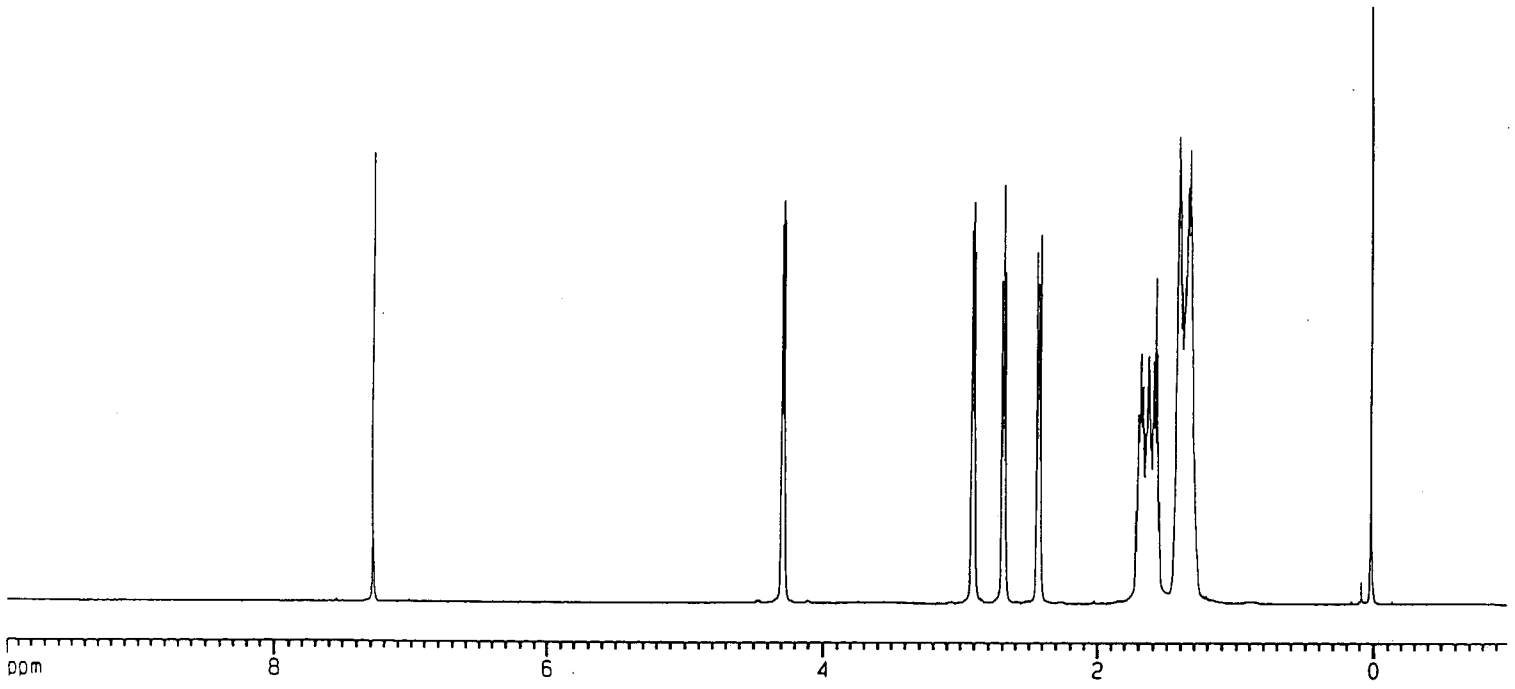

Current Data Parameters	
NAME	4c-I-281-E
EXPNO	1
PROCNO	1
F2 - Acquisition Parameters	
Date_	980602
Time	12.41
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	362
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB
F2 - Processing parameters	
SI	16384
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00
1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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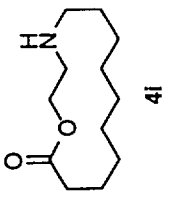
1-Oxa-4-azacyclotetradecan-14-one



4l

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Current Data Parameters
NAME          4c-1-281-E
EXPNO                  2
PROCNO                 1

F2 - Acquisition Parameters
Date_           980602
Time              14.08
INSTRUM         drx400
PROBHD   5 mm Multinu
PULPROG         zgpg30
TD               65536
SOLVENT          CDCl3
NS                 576
DS                   2
SWH          23148.148 Hz
FIDRES           0.353213 Hz
AQ               1.4156276 sec
RG                  8192
DW               21.600 usec
DE                4.50 usec
TE                300.0 K
d11           0.0300000 sec
d12           0.0000200 sec
PL13             18.00 dB
D1            0.05000000 sec
CPDPRG2         waltz16
PCPD2          100.00 usec
SFO2         400.1316005 MHz
NUC2               1H
PL2               0.00 dB
PL12             18.00 dB
P1                6.90 usec
DE                4.50 usec
SFO1         100.6232933 MHz
NUC1              13C
PL1              -6.00 dB

F2 - Processing parameters
SI                32768
SF           100.6127290 MHz
WDW                EM
SSB                 0
LB              1.00 Hz
GB                  0
PC                1.40

1D NMR plot parameters
CX               20.00 cm
F1P             220.000 ppm
F1             22134.80 Hz
F2P            -10.000 ppm
F2             -1006.13 Hz
PPMCM          11.50000 ppm/cm
HZCM           1157.04639 Hz/cm
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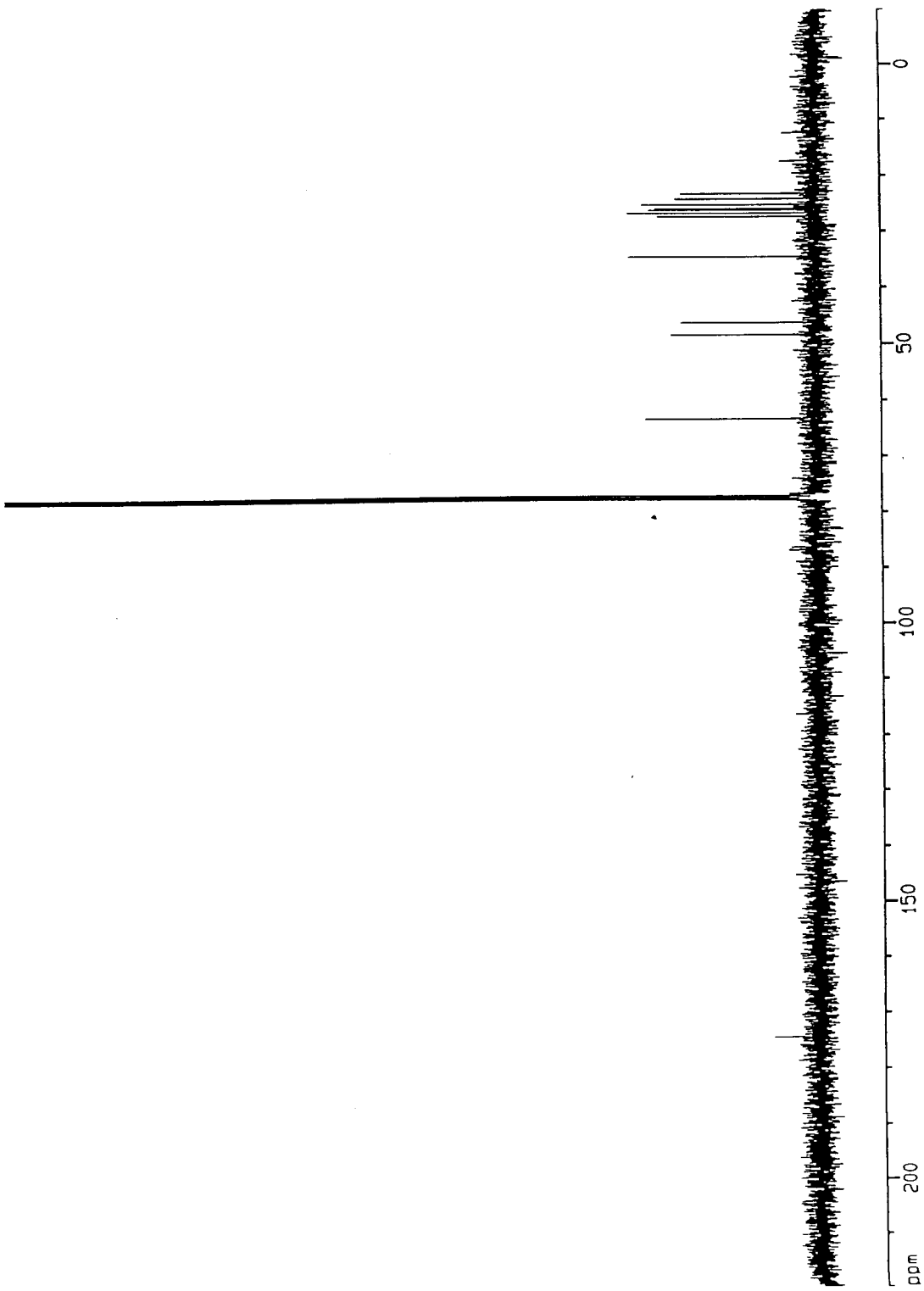
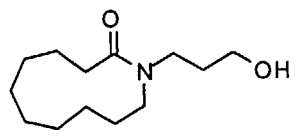


N-(2'-Hydroxypropyl)-1-azacycloundecan-2-one



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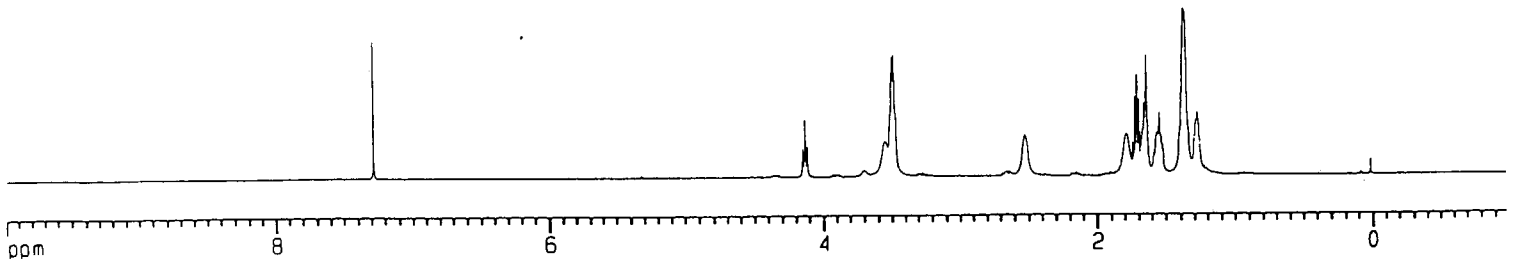


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Current Data Parameters
NAME      4c-1-11-Amide
EXPNO                1
PROCNO               1

F2 - Acquisition Parameters
Date_            980303
Time              10.01
INSTRUM          drx400
PROBHD     5 mm Multinu
PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                  16
DS                   2
SWH          4789.272 Hz
FIDRES       0.146157 Hz
AQ           3.4210291 sec
RG                 362
DW             104.400 usec
DE               4.50 usec
TE              300.0 K
D1           1.00000000 sec
P1               7.70 usec
DE               4.50 usec
SFO1       400.1320007 MHz
NUC1               1H
PL1              -6.00 dB

F2 - Processing parameters
SI               16384
SF         400.1300000 MHz
WDW                EM
SSB                 0
LB               0.30 Hz
GB                  0
PC               1.00

1D NMR plot parameters
CX              20.00 cm
F1P             10.000 ppm
F1            4001.30 Hz
F2P            -1.000 ppm
F2             -400.13 Hz
PPMCM          0.55000 ppm/cm
HZCM         220.07150 Hz/cm
```

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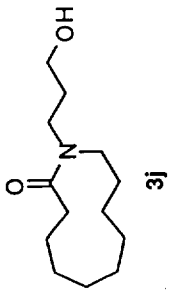
N-(2'-Hydroxypropyl)-1-azacycloundecan-2-one



3j

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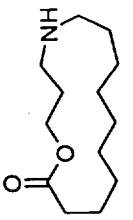
1-Oxa-5-azapentadecan-15-one



4j

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PNO            1
OCNO           1

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PROBHD   5 mm Multinu
PULPROG       zg30
TD           32768
SOLVENT       CDCl3
NS               16
DS                2
SWH        4789.272 Hz
FIDRES     0.146157 Hz
AQ         3.4210291 sec
RG             456.1
DW           104.400 usec
DE             4.50 usec
TE             300.0 K
D1         1.00000000 sec
P1            7.70 usec
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SFO1       400.1320007 MHz
NUC1             1H
PL1            -6.00 dB

F2 - Processing parameters
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WDW              EM
SSB               0
LB             0.30 Hz
GB                0
PC             1.00

1D NMR plot parameters
CX            20.00 cm
F1P           10.000 ppm
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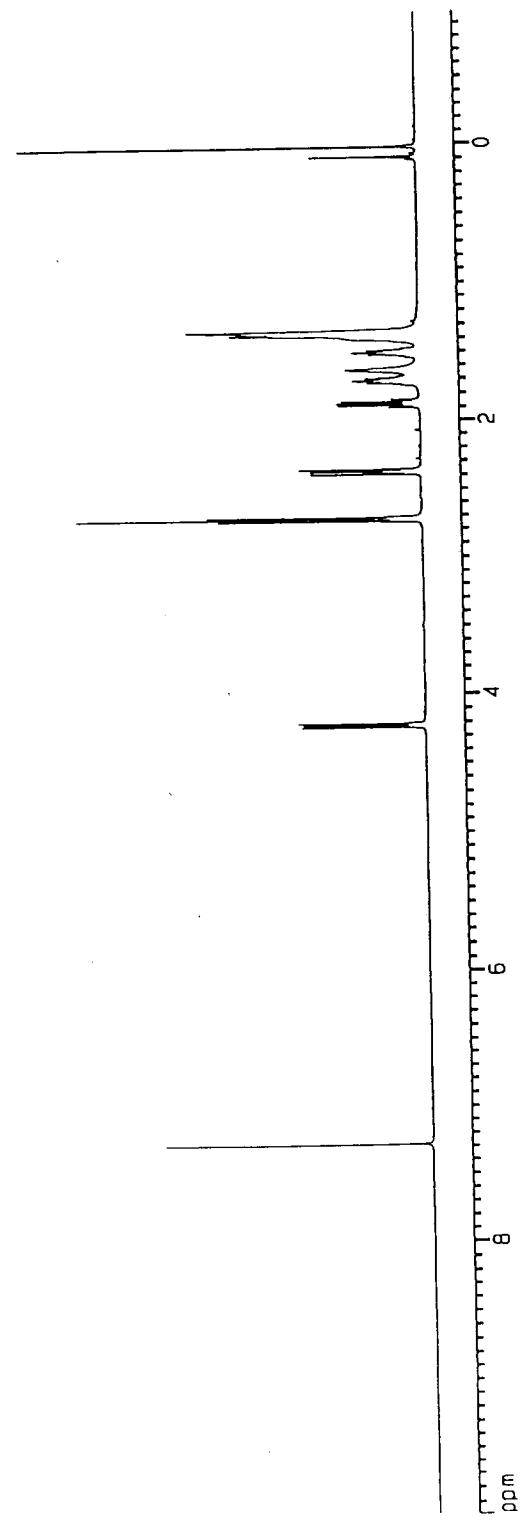

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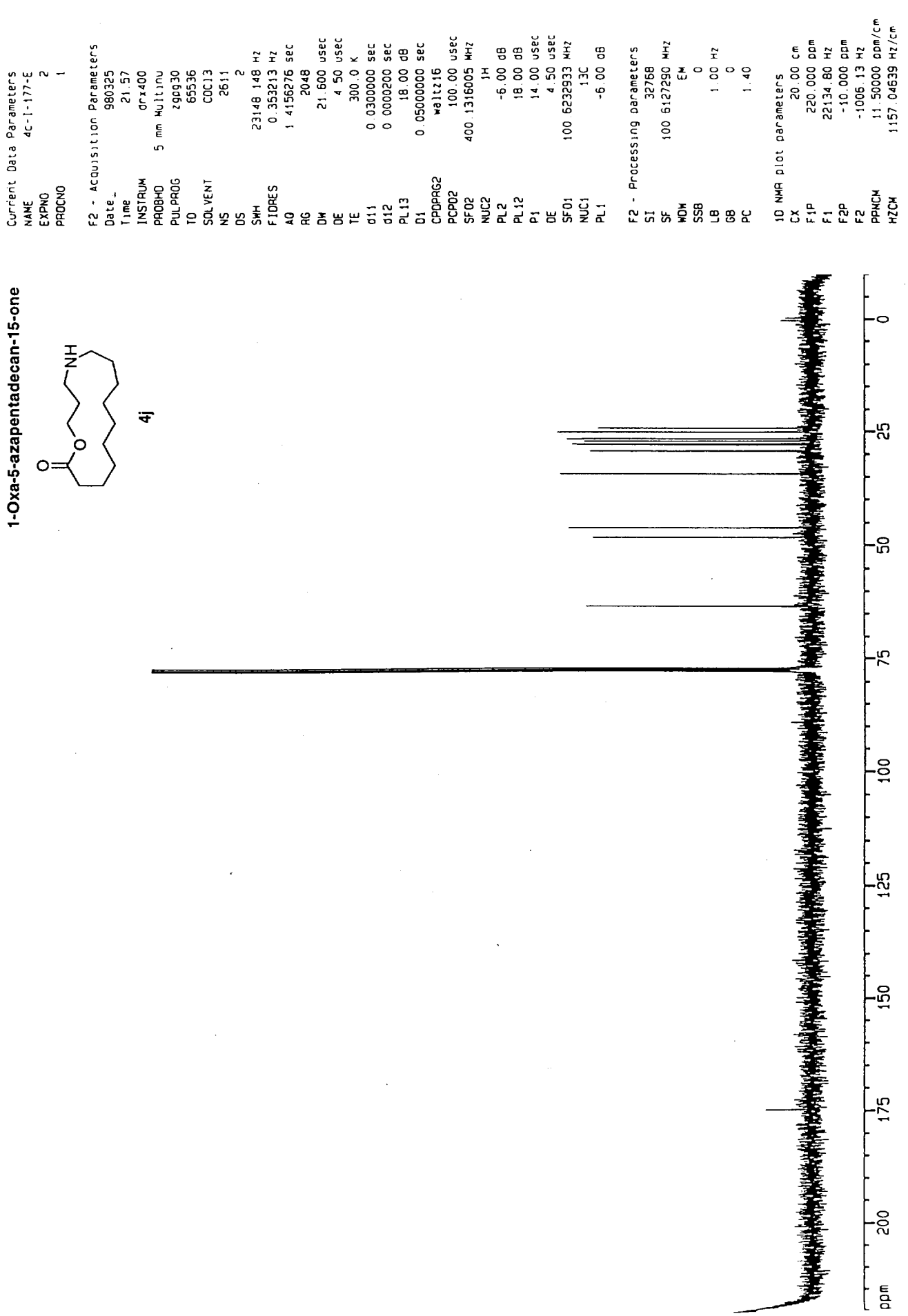
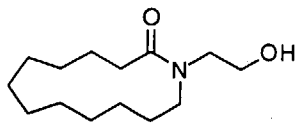


N-(2'-Hydroxyethyl)-1-azacyclotridecan-2-one



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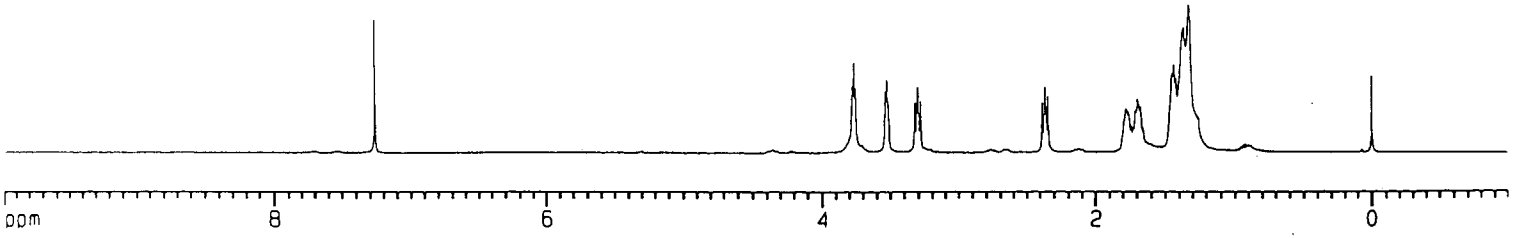

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PROCNO	1
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PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.146157 Hz
AQ	3.4210291 sec
RG	322.5
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.00000000 sec
P1	7.70 usec
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SFO1	400.1320007 MHz
NUC1	1H
PL1	-6.00 dB
F2 - Processing parameters	
SI	16384
SF	400.1300068 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00
1D NMR plot parameters	
CX	20.00 cm
F1P	10.000 ppm
F1	4001.30 Hz
F2P	-1.000 ppm
F2	-400.13 Hz
PPMCM	0.55000 ppm/cm
HZCM	220.07150 Hz/cm

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