

**N-(2'-Hydroxyethyl)-1-azacycloheptan-2-one (3a):** 312 mg of a colorless oil, 97% yield;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  23.6, 28.6, 30.2, 37.4, 51.4, 51.8, 61.4, 177.6; IR (neat) 3350, 2900, 1610, 1480, 1430  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  158 ( $\text{M}^++\text{H}$ ); HRMS calcd for  $\text{C}_8\text{H}_{16}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 158.1183, found 158.1181.

**N-(3'-Hydroxypropyl)-1-azacycloheptan-2-one (3b):** 332 mg of a colorless oil, 95% yield;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  172 ( $\text{M}^++\text{H}$ ); HRMS calcd for  $\text{C}_9\text{H}_{18}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 172.1313, found 172.1337.

**N-(2'-Hydroxyethyl)-1-azacyclononan-2-one (3e):** 85 mg of a pale yellow oil, 29% yield;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (75.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  186 ( $\text{M}^++\text{H}$ ), 154; HRMS calcd for  $\text{C}_{10}\text{H}_{20}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 186.1494, found 186.1503.

**N-(2'-Hydroxypropyl)-1-azacyclononan-2-one (3f):** 9.0 mg of a pale yellow oil, 3% yield;  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ )  $\delta$  1.45-1.78 (m, 14H), 2.55 (t,  $J = 6.3$  Hz, 2H), 3.45 (m, 4 H), 4.15 (br s, 1H);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ . 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; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) 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); <sup>13</sup>C NMR (75.6 MHz, CDCl<sub>3</sub>) 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<sub>2</sub>Cl<sub>2</sub>) 2920, 1720, 1450, 1050 cm<sup>-1</sup>; MS (CI) *m/e* 200 (M<sup>+</sup>+H), 56; HRMS calcd for C<sub>11</sub>H<sub>22</sub>NO<sub>2</sub> (M<sup>+</sup>+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; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) δ 1.42-1.50 (m, 14H), 3.56 (br s 2H), 3.81 (m, 4H), 4.10 (t, *J* = 4.6 Hz, 1H); <sup>13</sup>C NMR (100.6 MHz, CDCl<sub>3</sub>) 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<sub>2</sub>Cl<sub>2</sub>) 3350, 2920, 1600, 1460, 1040 cm<sup>-1</sup>; MS (CI) *m/e* 200 (M<sup>+</sup>+H), 168, 44; HRMS calcd for C<sub>11</sub>H<sub>22</sub>NO<sub>2</sub> (M<sup>+</sup>+H): 200.1651, found 200.1650. Anal. Calcd for C<sub>11</sub>H<sub>21</sub>NO<sub>2</sub>: 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%; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) 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); <sup>13</sup>C NMR (75.6 MHz, CDCl<sub>3</sub>) 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<sup>-1</sup>; MS (CI) *m/e* 200 (M<sup>+</sup>+H), 184, 56; HRMS calcd for C<sub>11</sub>H<sub>22</sub>NO<sub>2</sub> (M<sup>+</sup>+H): 200.1651, found 200.1654.

**N-(3'-Hydroxypropyl)-1-azacyclodecan-2-one (3h):** 32 mg of an oil, 23% yield; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>) δ 1.38-1.73 (m, 16H), 2.59 (m, 2H), 3.52 (m, 4H), 4.15 (t, *J* = 7.0 Hz, 1H); <sup>13</sup>C NMR (75.6 MHz, CDCl<sub>3</sub>) 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<sup>-1</sup>; MS (CI) *m/e* 214 (M<sup>+</sup>+H), 86, 65, 47; HRMS calcd for C<sub>12</sub>H<sub>24</sub>NO<sub>2</sub> (M<sup>+</sup>+H): 214.1807, found 214.1788.

**1-Oxa-5-azacyclotetradecan-14-one (4h):** 55 mg of a colorless oil, 40%;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  214 ( $\text{M}^++\text{H}$ ), 57; HRMS calcd for  $\text{C}_{12}\text{H}_{24}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 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;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  1.28-1.79 (m, 16H), 2.53 (m, 2H), 3.57 (m, 2H), 3.82 (m, 2H), 4.08 (m, 1H);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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 ( $\text{CH}_2\text{Cl}_2$ ) 3360, 2910, 1605, 1450, 1060  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  214 ( $\text{M}^++\text{H}$ ), 182, 74, 44; HRMS calcd for  $\text{C}_{12}\text{H}_{24}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 214.1807, found 214.1809.

**1-Oxa-4-azacyclotetradecan-14-one (4i):** 53 mg of an oil, 19% yield;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  214 ( $\text{M}^++\text{H}$ ), 56; HRMS calcd for  $\text{C}_{12}\text{H}_{24}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 214.1807, found 214.1810.

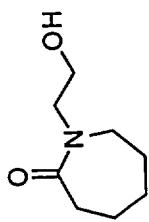
***N*-(2'-Hydroxypropyl)-1-azacycloundecan-2-one (3j):** 74 mg of a white crystalline solid, 25% yield; mp 65-66.5 °C;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  1.28-1.41 (m, 8H), 1.56-1.79 (m, 10 H), 2.53 (br s, 2H), 3.50 (m, 4H), 4.13 (t,  $J = 4.7$  Hz, 1H);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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 ( $\text{CH}_2\text{Cl}_2$ ) 3390, 2920, 1605, 1460  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  228 ( $\text{M}^++\text{H}$ ), 88, 44; HRMS calcd for  $\text{C}_{13}\text{H}_{26}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 228.1963, found 228.1973.

**1-Oxa-5-azapentadecan-15-one (4j):** 161 mg of an oil, 54% yield;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  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  $\text{cm}^{-1}$ ; MS (CI)  $m/e$  228 ( $\text{M}^++\text{H}$ ), 70, 57; HRMS calcd for  $\text{C}_{13}\text{H}_{26}\text{NO}_2$  ( $\text{M}^++\text{H}$ ): 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;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ , major isomer)  $\delta$  2.14 (s, 3H), 3.10 (s, 3H), 3.6 (t,  $J$  = 5.1 Hz, 2H), 3.80 (m, 2H);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ , minor isomer, diagnostic peaks only)  $\delta$  2.18 (s, 3H), 2.98 (s, 3H), 3.49 (t,  $J$  = 5.2 Hz, 2H);  $^{13}\text{C}$  NMR (125.7 MHz,  $\text{CDCl}_3$ , major isomer)  $\delta$  21.8, 37.6, 51.3, 61.8, 172.8;  $^{13}\text{C}$  NMR (125.7 MHz,  $\text{CDCl}_3$ , minor isomer)  $\delta$  21.6, 33.4, 52.7, 59.8, 171.4; IR (neat) 3350, 2910, 2880, 1615, 1490, 1395, 1050, 1070  $\text{cm}^{-1}$ ; MS CI  $m/e$  118 ( $\text{M}^++\text{H}$ ), 100, 86, 74; HRMS calcd for  $\text{C}_8\text{H}_{12}\text{NO}_2$ : 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.  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ , major isomer)  $\delta$  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);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ , minor isomer, diagnostic peaks only)  $\delta$  2.15 (s, 3H), 2.94 (s, 3H);  $^{13}\text{C}$  NMR (125.7 MHz,  $\text{CDCl}_3$ , major isomer)  $\delta$  21.5, 29.4, 36.1, 43.7, 57.9, 172.0;  $^{13}\text{C}$  NMR (125.7 MHz,  $\text{CDCl}_3$ , minor isomer)  $\delta$  21.2, 30.8, 33.1, 47.3, 59.2, 170.7; IR (neat) 3390, 2925, 1620, 1400, 1050  $\text{cm}^{-1}$ ; MS CI  $m/e$  132 ( $\text{M}^++\text{H}$ ), 55, 44; HRMS calcd for  $\text{C}_6\text{H}_{14}\text{NO}_2$ : 132.1024, found 132.1024.

**3-Methylaminopropylacetate (6b):** 77 mg of a colorless oil, 19%;  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ )  $\delta$  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);  $^{13}\text{C}$  NMR (100.6 MHz,  $\text{CDCl}_3$ )  $\delta$  21.3, 25.9, 33.5, 47.1, 61.5, 171.4; IR (neat) 3350, 2930, 1725, 1250  $\text{cm}^{-1}$ ; MS CI  $m/e$  132 ( $\text{M}^++\text{H}$ ), 44; HRMS calcd for  $\text{C}_6\text{H}_{14}\text{NO}_2$ : 132.1024, found 132.1038.

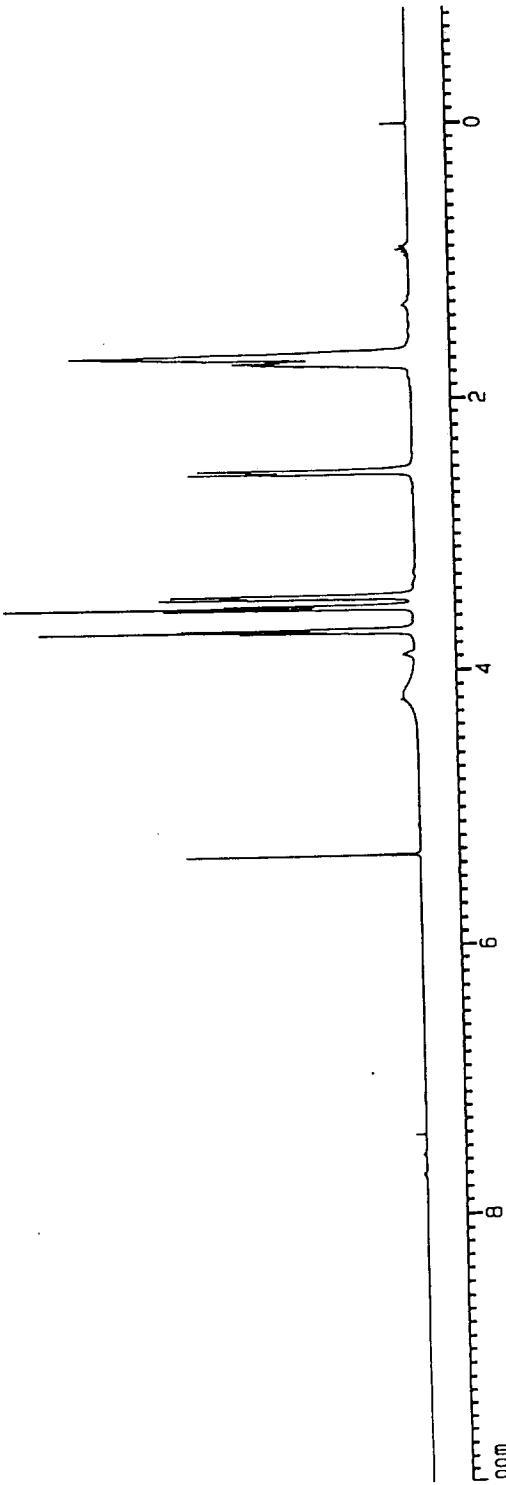
*N*-(2'-Hydroxyethyl)-1-azacycloheptan-2-one**3a**

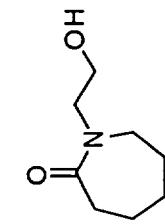
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**N-(2'-Hydroxyethyl)-1-azacycloheptan-2-one**

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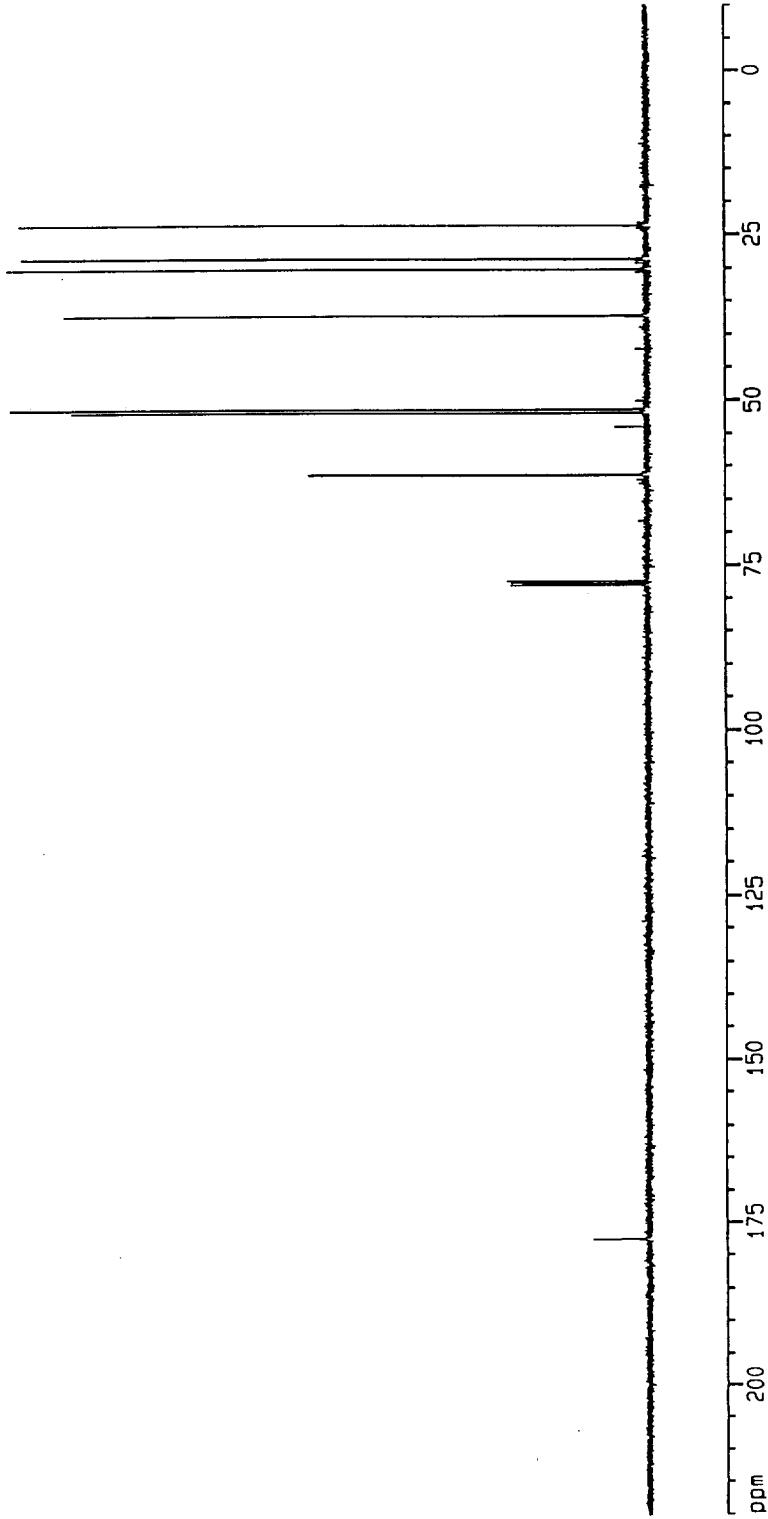
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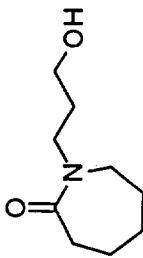
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*N*-(3'-Hydroxypropyl)-1-azacycloheptan-2-one

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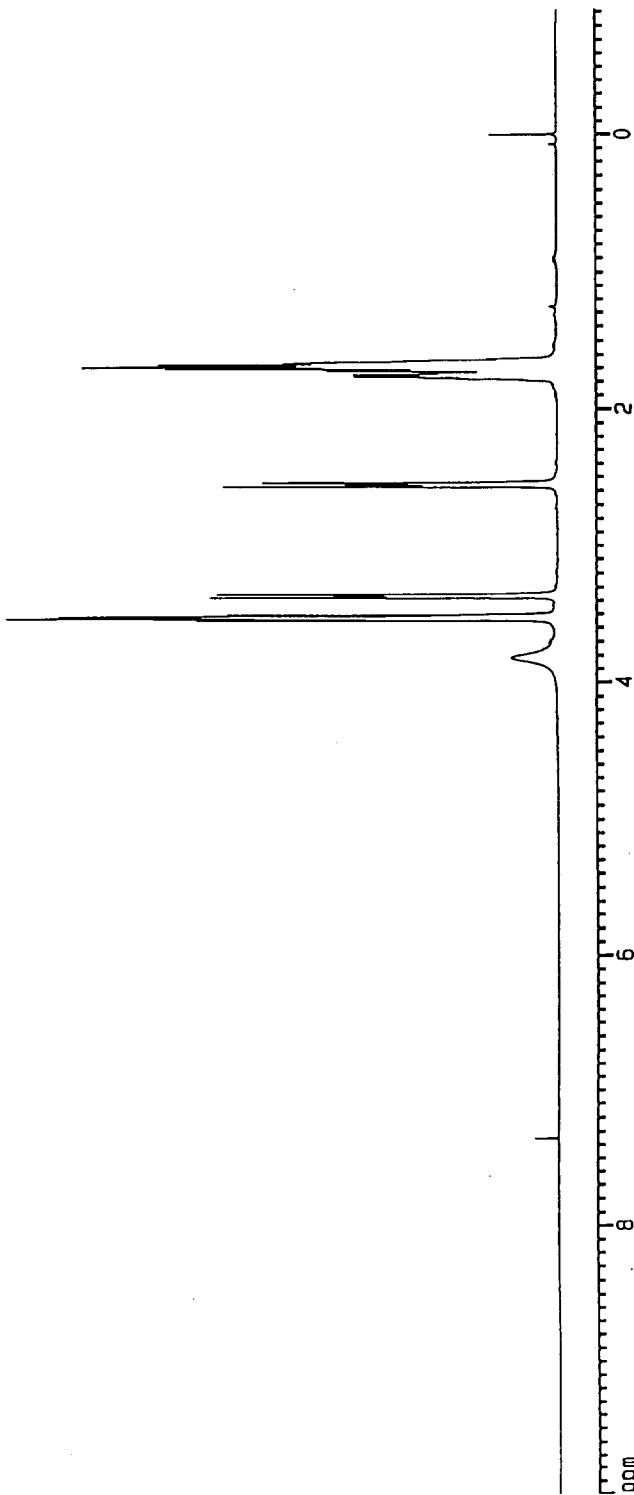
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**N-(3'-Hydroxypropyl)-1-azacycloheptan-2-one**

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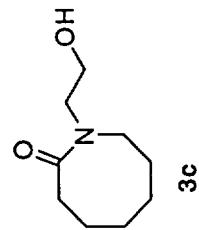
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**N-(2'-Hydroxyethyl)-1-azacyclooctan-2-one**

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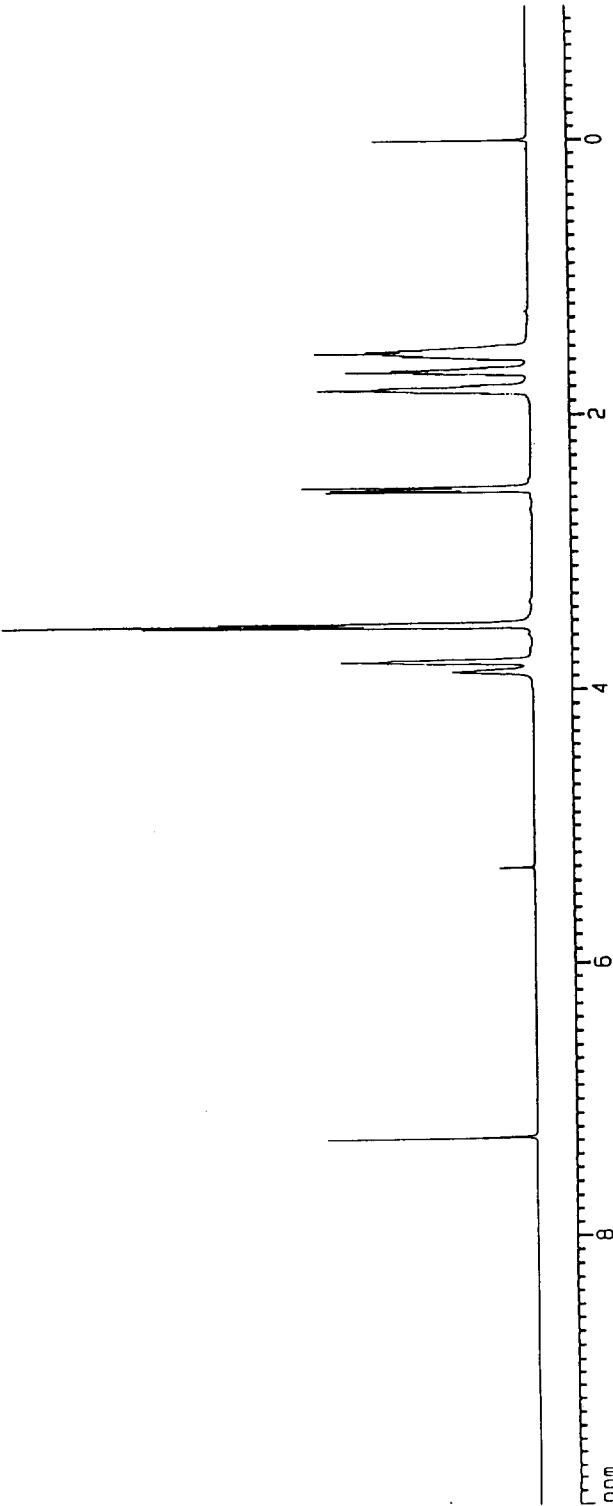
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 W1N : EH  
 SSB : 0  
 LB : 0.30 Hz  
 GB : 0  
 PC : 1.00

1D NMR Digital Parameters

CX : 20.00 ppm  
 F1P : 10.000 DPPM  
 F1 : 0.00130 Hz  
 F2P : -1.000 DPPM  
 F2 : -400.13 Hz  
 PPMCM : 255000 DPPM  
 HZCM : 220.07150 Hz



GE NMR  
GE PLUSJF.111  
090CT97

WIDE NO. 2"

OPERATOR: MARENKA

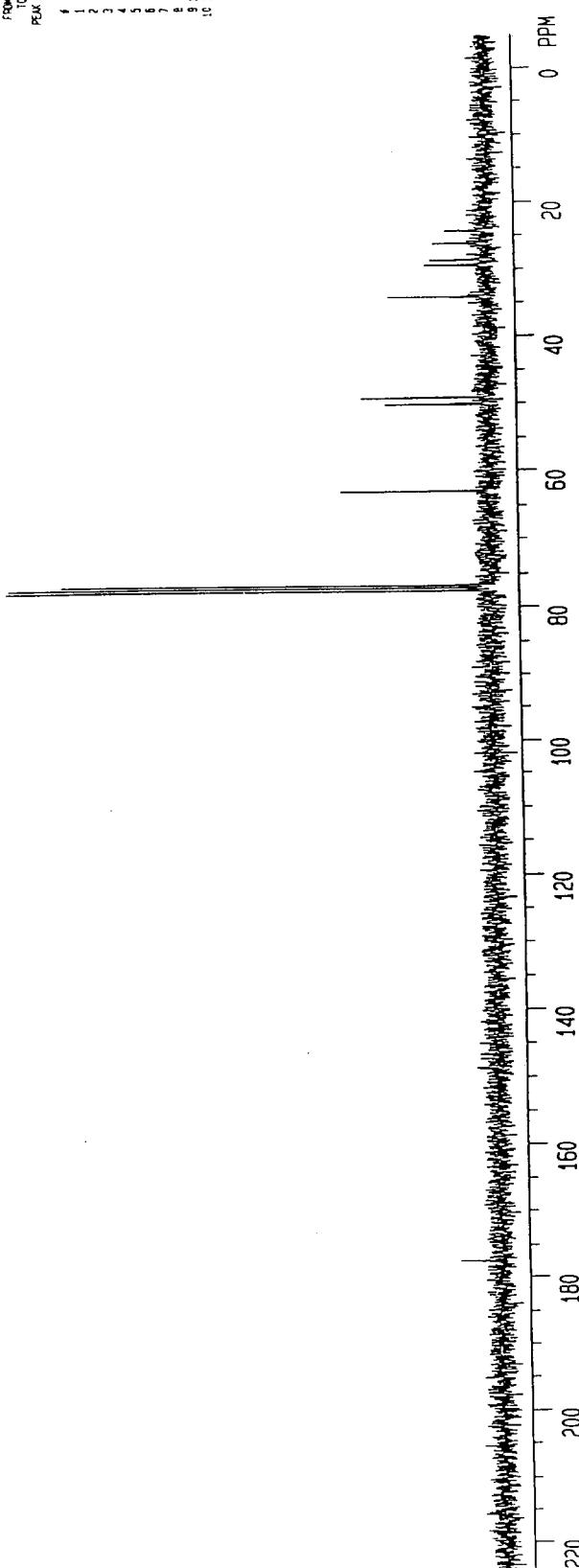
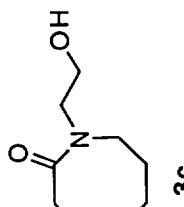
ONE PULSE SEQUENCE

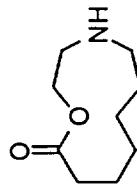
PULSE 45DEG = 4.50 SEC.  
 ACQ. TIME = 519.20 SEC.  
 RECYCLE TIME = 1.00 SEC.  
 NO. OF ACGS = 1222  
 DATA SIZE = 32768  
 LINE BROADENING = 1.00 Hz  
 SPIN RATE = 22.845

DESPEC: 75.50MHz #7  
 SPEC WIDTH: 2000.0 Hz  
 SWIN = 60 t.  
 DECODER STIMULUS: 64 KHz  
 FREQUENCY: 4.500 Hz  
 DPPG: 1.000  
 DPPG2: 2.000  
 HIGHER ORDER: 0.00  
 HIGHER ORDER2: 0.00  
 PLOT SCALE:  
 511.47 PPM/D  
 6.1548 PPM/D  
 FROM 225.00  
 TO -4.98 PPM  
 PEAK LISTING

1 HT PPM  
 1.13 26.19  
 2.12 28.64  
 3.13 28.34  
 4.21 34.02  
 5.27 49.11  
 6.22 54.65  
 7.32 15.80  
 8.92 76.61  
 9.101 77.04  
 10.104 77.46

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



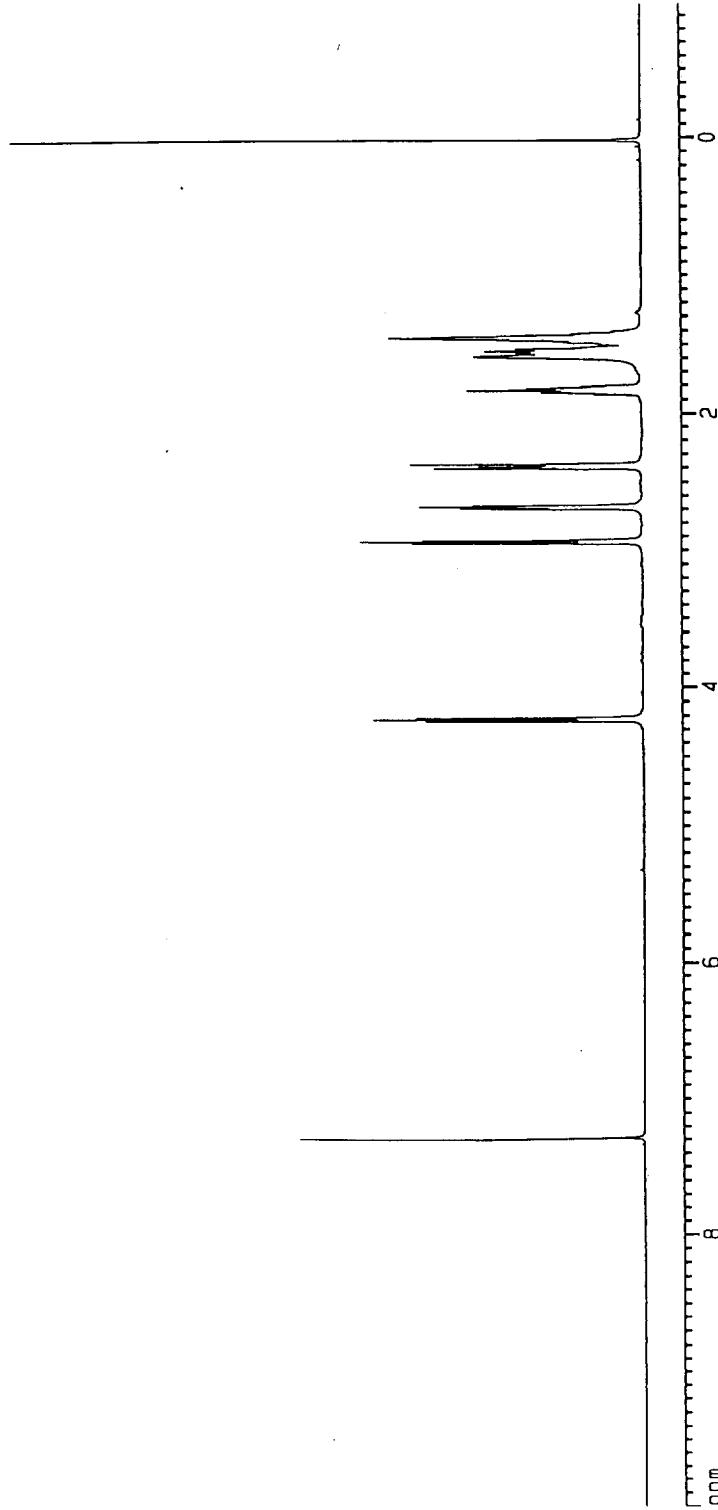
**1-Oxa-4-azacycloundecan-11-one****4c**

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

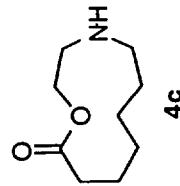
F2 - Acquisition Parameters  
Date\_ 9/8/95 18  
Time\_ 13:16  
INSTRUM spect  
PROBHD 5 mm Multinu  
PULPROG zg30  
TD 32768  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.4210291 sec  
RG 456.1  
DW 104.400 usec  
DE 4.50 usec  
TE 300.0 K  
D1 1.0000000 sec  
P1 7.70 usec  
DE 4.50 usec  
SF01 400.1320007 MHz  
NUC1 1H  
PL1 1H  
PL1 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 -401.13 Hz  
PPMCH 0.55000 ppm/cm  
HZCH 220.07150 Hz/cm



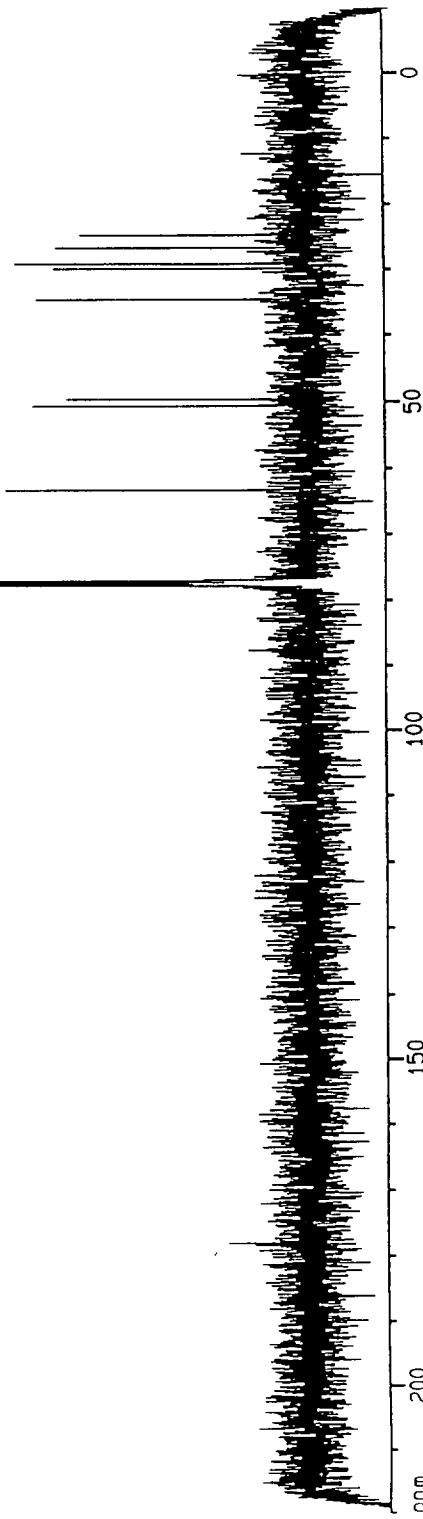
## 1-Oxa-4-azacycloundecan-11-one

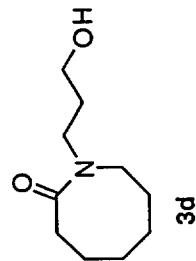


Current Data Parameters  
 NAME 4c-1-279-E  
 EXPNO 2  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 9/06/05  
 Time 14:34  
 INSTRUM dtx400  
 PROBHD 5 mm Multinu  
 PULPROG 299930  
 TD 65536  
 SOLVENT CDCl<sub>3</sub>  
 NS 4207  
 DS 2  
 SWH 231.48 Hz  
 F1RES 0.353213 Hz  
 AQ 1:456276 sec  
 RG 2048  
 DW 21600 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 Wallz16  
 PCP02 100.00 usec  
 SF02 400 1315605 MHz  
 NUC2 <sup>1</sup>H  
 PL2 0.00 dB  
 PL12 18.00 dB  
 P1 6.90 usec  
 DE 4.50 usec  
 SF01 100 6332933 MHz  
 NUC1 <sup>13</sup>C  
 PL1 -6.00 dB

F2 - Processing Parameters  
 SI 32768  
 SF 100 6127290 MHz  
 MDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40  
 PPNM 11.50000 ppm/cm  
 HZCM 1157.04639 Hz/cm



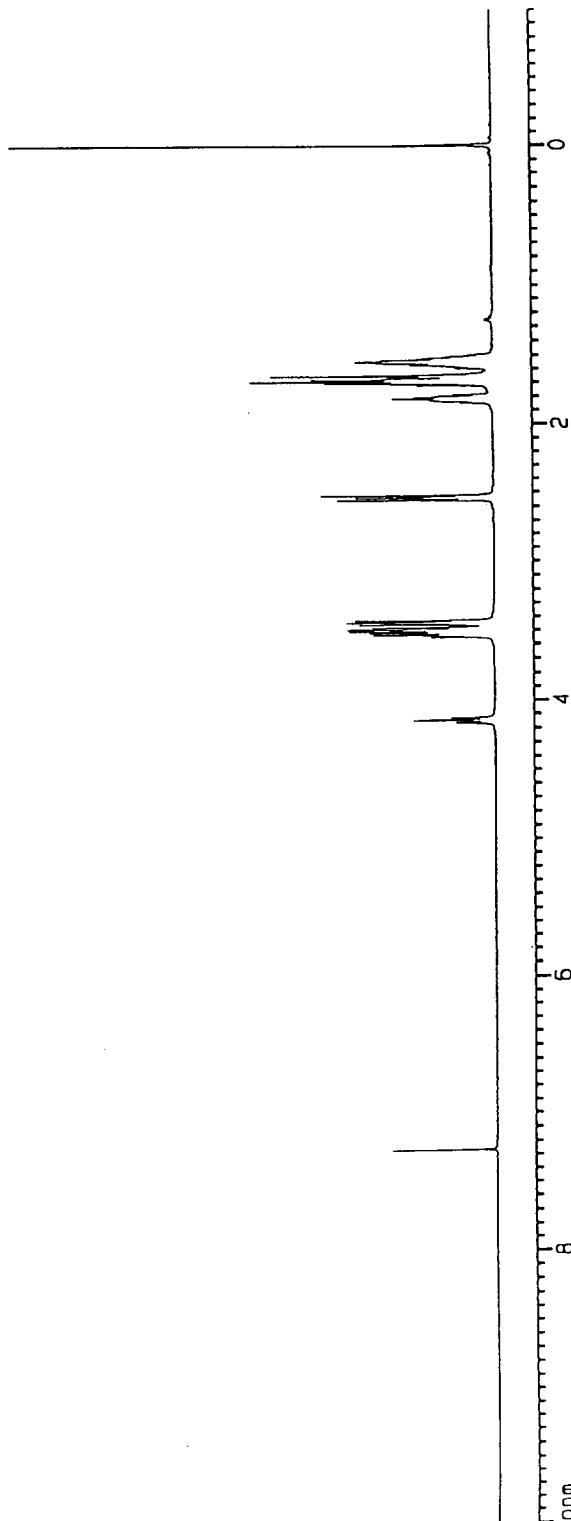
**N-(3'-Hydroxypropyl)-1-azacyclooctan-2-one**

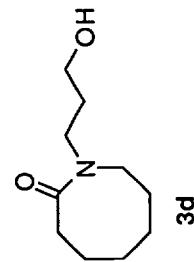
Current Data Parameters  
 NAME 4c-I-65A  
 EXPNO 1  
 PROCN0 1

F2 - Acquisition Parameters  
 Date\_ 971211  
 Time\_ 10 29  
 INSTRUM 0rx400  
 PROBHD 5 mm Multinu  
 PULPROG 2930  
 TD 32768  
 SOLVENT C6C13  
 NS 16  
 DS 2  
 SWH 4789.272 Hz  
 F1ORES 0.146157 Hz  
 AQ 3.4210291 sec  
 RG 512  
 DW 104.400 usec  
 DE 4.50 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 DE 4.50 usec  
 SF01 400.1320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

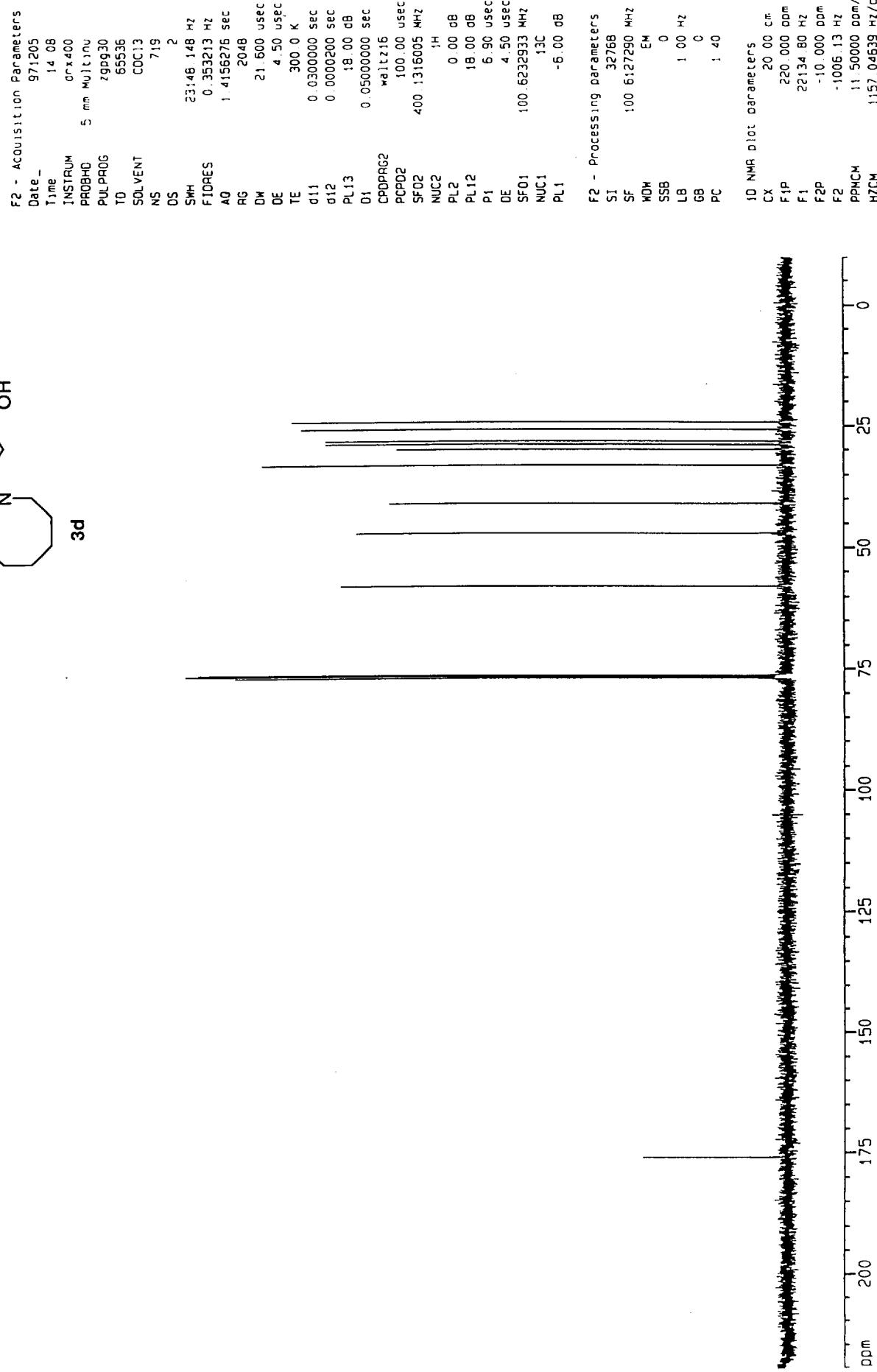
F2 - Processing parameters  
 S1 16384  
 SF 400.1300071 MHz  
 W0W 1E4  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

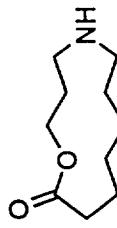
1D NMR Plot Parameters  
 CX 20.00 ppm  
 F1P 10.000 ppm  
 F1 4001.30 Hz  
 F2P -1.000 ppm  
 F2 -400.13 Hz  
 PPMCH 0.55000 ppm/cm<sup>6</sup>  
 HZCM 220.07150 Hz/cm



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

Current Data Parameters  
 NAME 4C1-65A  
 EXPNO 2  
 PROCN0 1



**1-Oxa-5-azacyclododecan-12-one**

Current Data Parameters  
NAME 4C-1-280-e  
EXPNO 1  
PROCNO 1

**F2 - Acquisition Parameters**

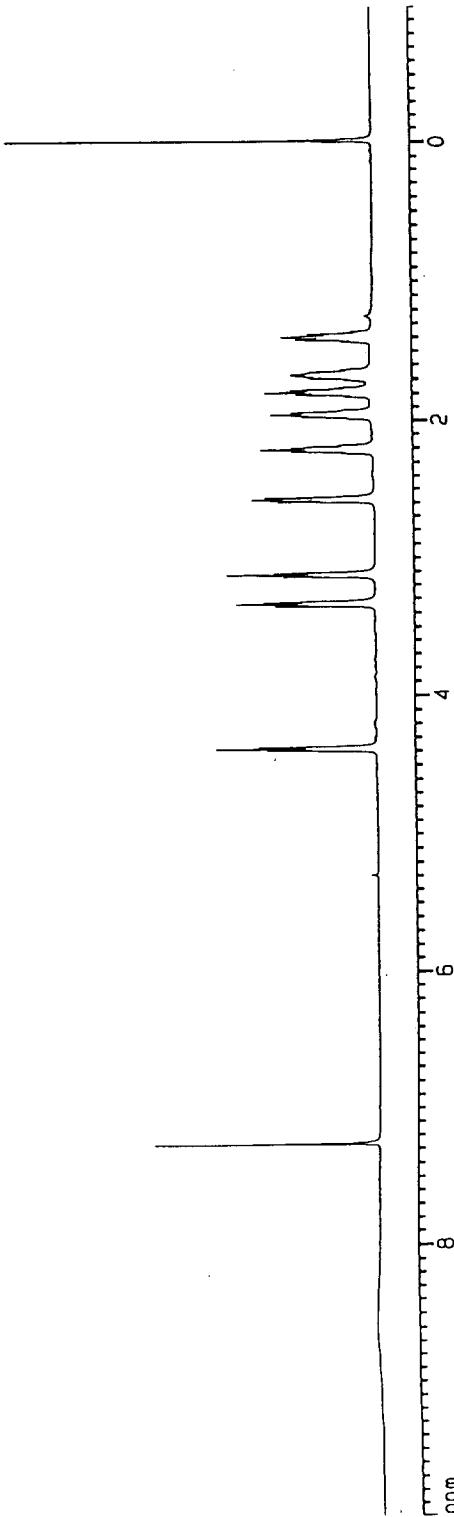
Date\_ 980505  
Time 11:47  
INSTRUM DRX400  
PROBHD 5 mm Multinu  
PULPROG 2930  
TD 32768  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.4210391 sec  
RG 362  
DM 104.400 usec  
DE 4.50 usec  
TE 300.0 K  
D1 1.0000000 sec  
P1 7.70 usec  
OE 4.50 usec  
SF01 400.1320007 MHz  
NUC1 1H  
PL1 -6.00 dB

**F2 - Processing parameters**

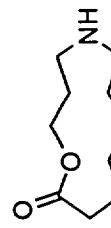
S1 16384  
SF 400.1300096 MHz  
MW EH  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00

**1D NMR plot parameters**

CX 20.00 ppm  
F1P 10.000 ppm  
F1 4001.30 Hz  
F2P -1.000 ppm  
F2 400.13 Hz  
PPMCH 0.55000 ppm/cm  
HZCM 220.0150 Hz/cm



## 1-Oxa-5-azacyclododecan-12-one



c Data Parameters

4C-1-280-E5-e

2

1

## Acquisition Parameters

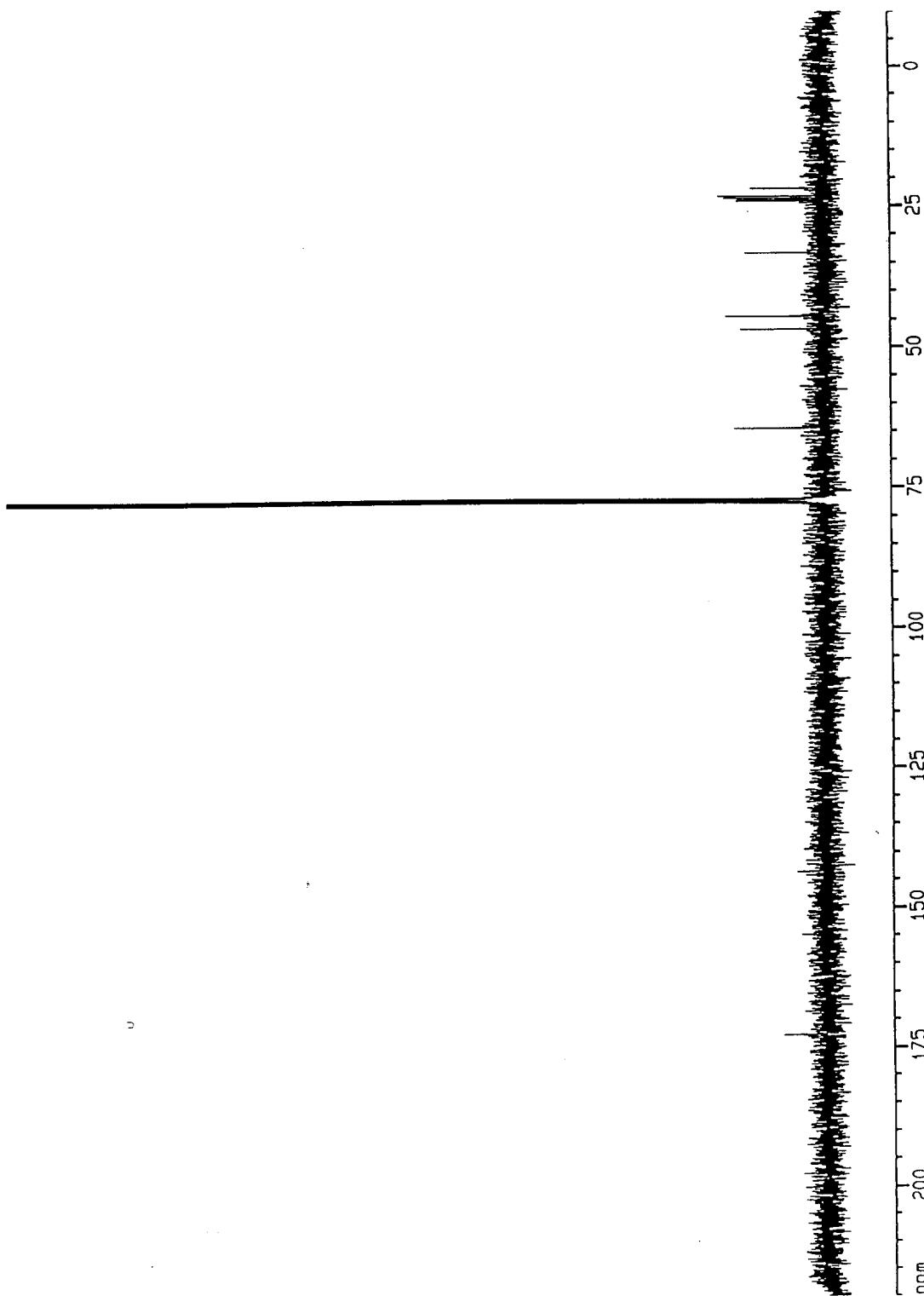
980604	
15.35	
drx400	
5 mm Multinu	
2ppg30	
65536	
OC13	
NS	452
DS	2
SWH	23148.148 Hz
TDRES	0.333213 Hz
AQ	1.4166276 sec
RG	2048
DW	21.600 usec
DE	4.50 usec
TE	300.0 K
d11	0.0300000 sec
d12	0.0000200 sec
PL13	18.00 dB
D1	0.05000000 sec
CPDPG2	waitz16
PCP02	100.00 usec
SFQ2	400.1316005 MHz
NUC2	1H
PL2	-5.00 dB
PL12	18.00 dB
P1	6.90 usec
DE	4.50 usec
SF0J	100.623933 Hz
NUC1	<sup>13</sup> C
PL1	-6 CC cE

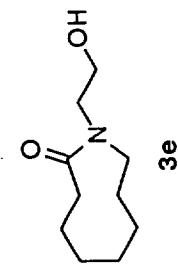
## F2 - Processing Parameters

32766	20.00 cm
100.612720 Hz	220,000 ppm
EM	22.3480 Hz
SSB	-10.0000 ppm
LB	1.00 Hz
GB	0
PC	1.40

## 10 NMR plot parameters

CX	20.00 cm
F1P	220,000 ppm
F1	22.3480 Hz
F2P	-10.0000 ppm
F2	-1.00613 Hz
PPMCH	1150000 ppm/cm
HZCM	1157.04639 Hz/cm



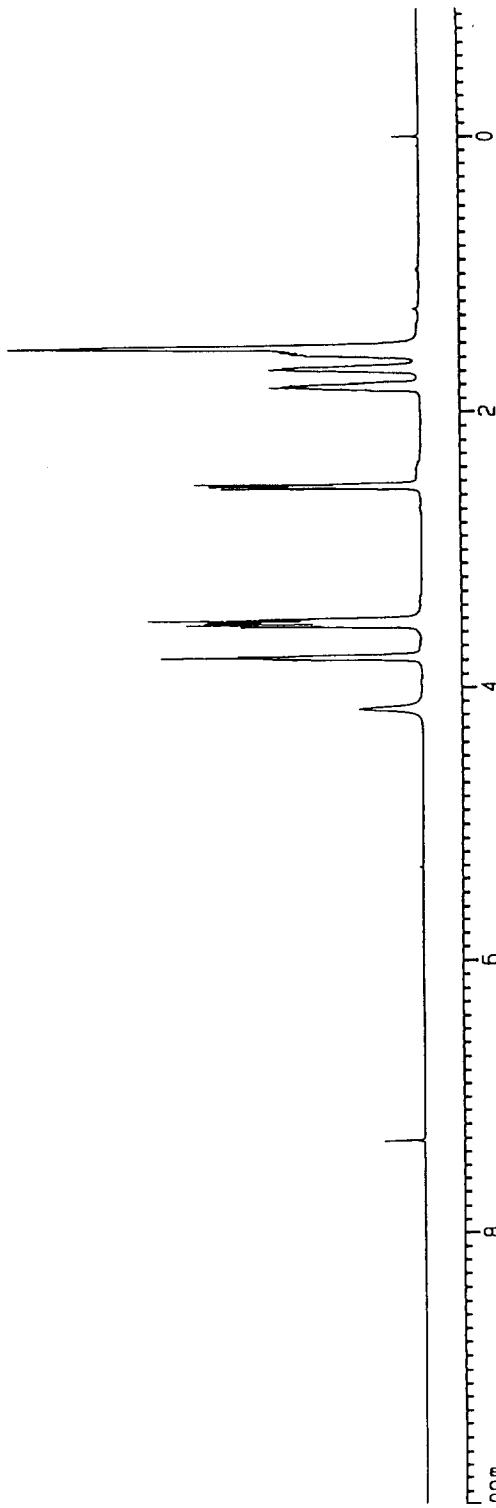
***N*-(2'-Hydroxyethyl)-1-azacyclononan-2-one**

Current Data Parameters  
NAME 4c-1-191A  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 9/7/03  
Time 13:12  
INSTRUM Cray400  
PROBHD 5 mm Multinucl  
PULPROG TD  
TD 32768  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.420291 sec  
RG 45.3  
DW 104.400 usec  
DE 4.50 usec  
TE 300.0 K  
D1 1.0000000 sec  
P1 7.70 usec  
DE 4.50 usec  
SF 0.1  
FOV 400.1320007 MHz  
NUC1 1H  
PL1 -6.00 cδ

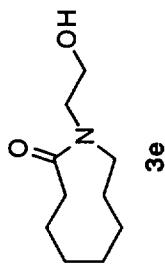
F2 - Processing parameters  
SI 16384  
SF 400.1320007 Hz  
MW 0  
SSB 0  
LB 0  
GB 0  
PC 1.00

1D NMR D1D Parameters  
CX 20.00 ppm  
F1P 10.0000 ppm  
F1 4001.30 Hz  
F2P -1.0000 ppm  
F2 -400.13 Hz  
PPMCH 0.55000 ppm/cm  
HZCH 220.07149 Hz/cm





*N*-(2'-Hydroxyethyl)-1-azacyclonan-2-one

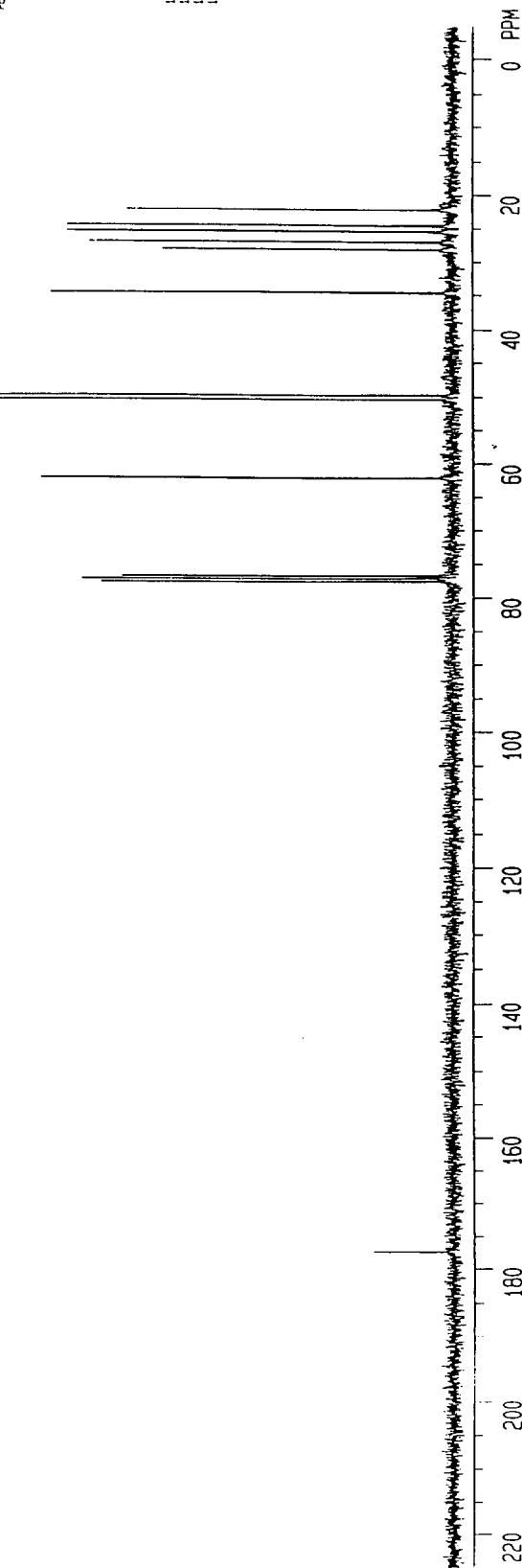


GE NMR  
QE PLUS

JF.191  
310C97

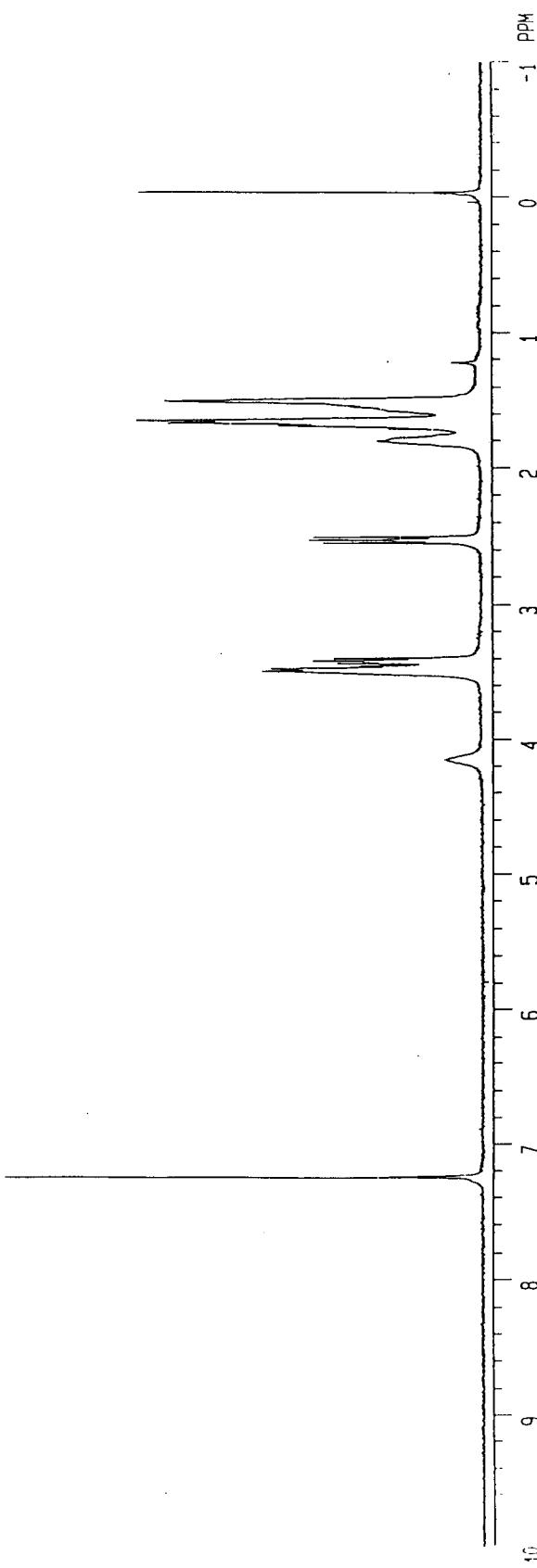
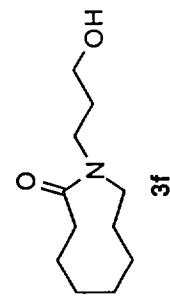
W1.5E  
OPERAOR 244.1  
DE PULSE 25.05E

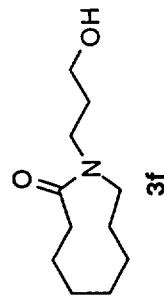
PULSE 45.05E	4.51 100%
ACQ. TIME	20.000S
REC'D TIME	45.20 85%
NO. OF ACQS	1.00 30%
DAT1 SIZE	32K
LINE SPACING	2.04E-02
SPIN RATE	1.00 30%
DESBRE:	
FREQUENCY	75.47555 MHz
SPC WIDTH	200.00 Hz
GAIN	50.41
DECODER STIMCRO-64 ADQ41138	
PRODUCT	4.52 100%
POWER	1.31E-04
HIGH POWER ON	
HIGH POWER OFF	6.0E-06
P.DT SCALE:	
511.47 RH/DA	
E 74.8 RH/DA	
FROM	225 3%
TO	4 95 3%
PEAK LISTING	





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



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

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

## F2 - Acquisition Parameters

Date 9/08/93  
Time 19:30  
INSTRUM Orx400  
PROBHD 5 mm MultiIn  
PULPROG zg930  
TD 65536  
SOLVENT COCl3  
NS 1:024  
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  
d1 0.030000 sec  
d12 0.000200 sec  
PL13 0.0500000 sec  
D1 0.0500000 sec  
CPDPG22 wait16  
PCPD2 100.00 usec  
SF02 400.1316005 MHz  
NUC2 1H  
PL2 -6.00 dB  
PL12 18.00 dB  
P1 6.90 usec  
DE 4.50 usec  
SF01 100.6232933 MHz  
NUC1 13C  
PL1 -6.00 dB

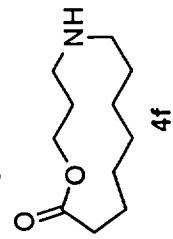
## F2 - Processing parameters

S1 32768  
SF 100.612792 MHz  
MW EM  
SSB 0  
LB 1 CC r2  
GB 0  
PC : 40

## 1D NMR plot parameters

CX 20.00 cm  
F1P 220.000 ppm  
F1 22.34 81 Hz  
F2P -10.000 ppm  
F2 11.50000 ppm/cm  
PPMCH 1157.04668 Hz/cm  
H2CM 0

## 1-Oxa-5-azacyclotridecan-13-one

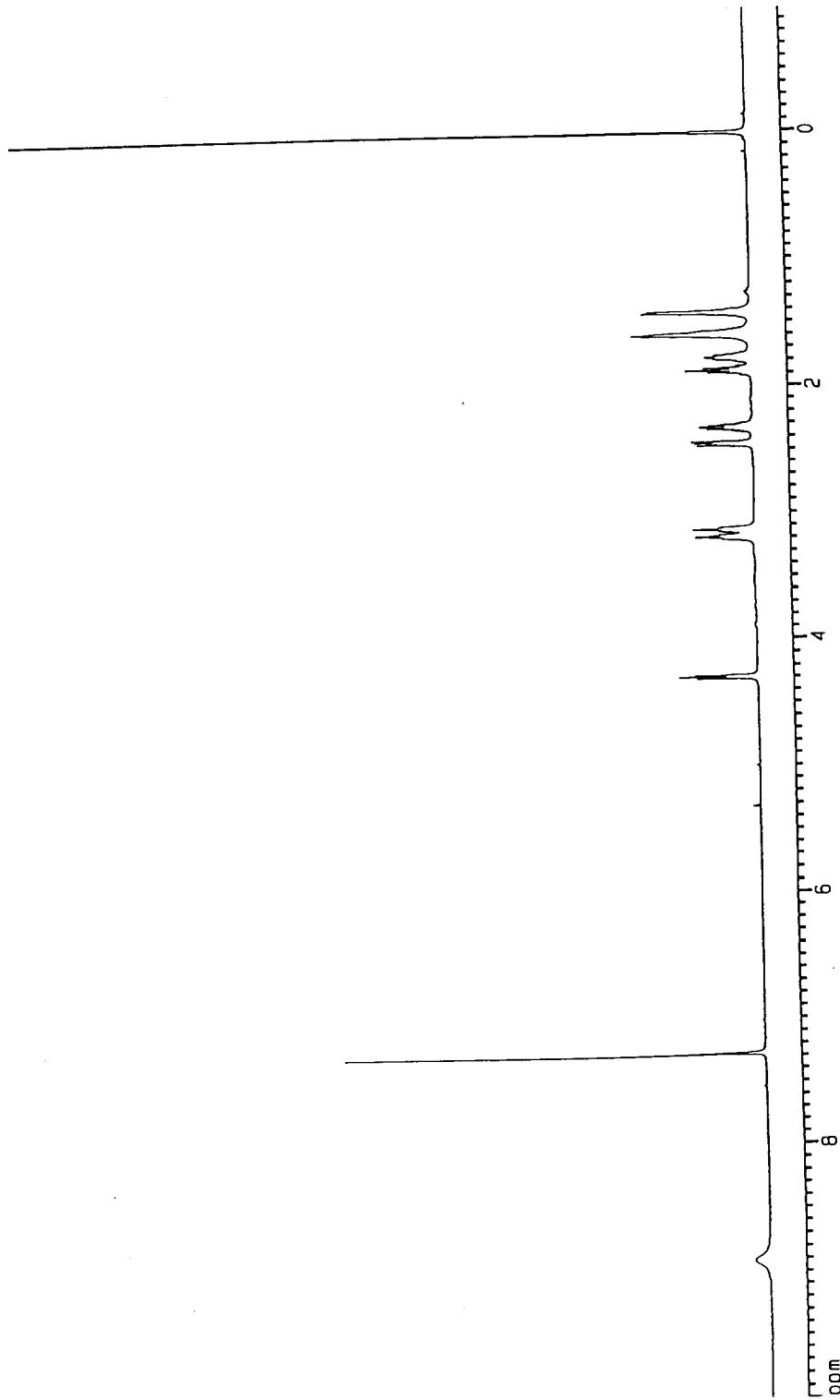


Current Data Parameters  
NAME 4C-1-282-E  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 980610  
Time\_ 23:28  
INSTRUM drx400  
PROBHD 5 mm Multinu  
PULPROG 2930  
TD 32768  
SOLVENT COCl3  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.4210281 sec  
RG 574.7  
DW 104.400 usec  
DE 4.50 usec  
TE 300.0 K  
D1 1.0000000 sec  
P1 7.70 usec  
DE 4.50 usec  
SF01 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

10 NMR plot parameters  
CX 20.00 ppm  
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



JOSEE



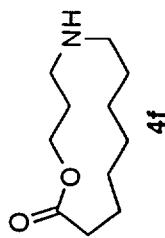
GE NMR

GE PLUS

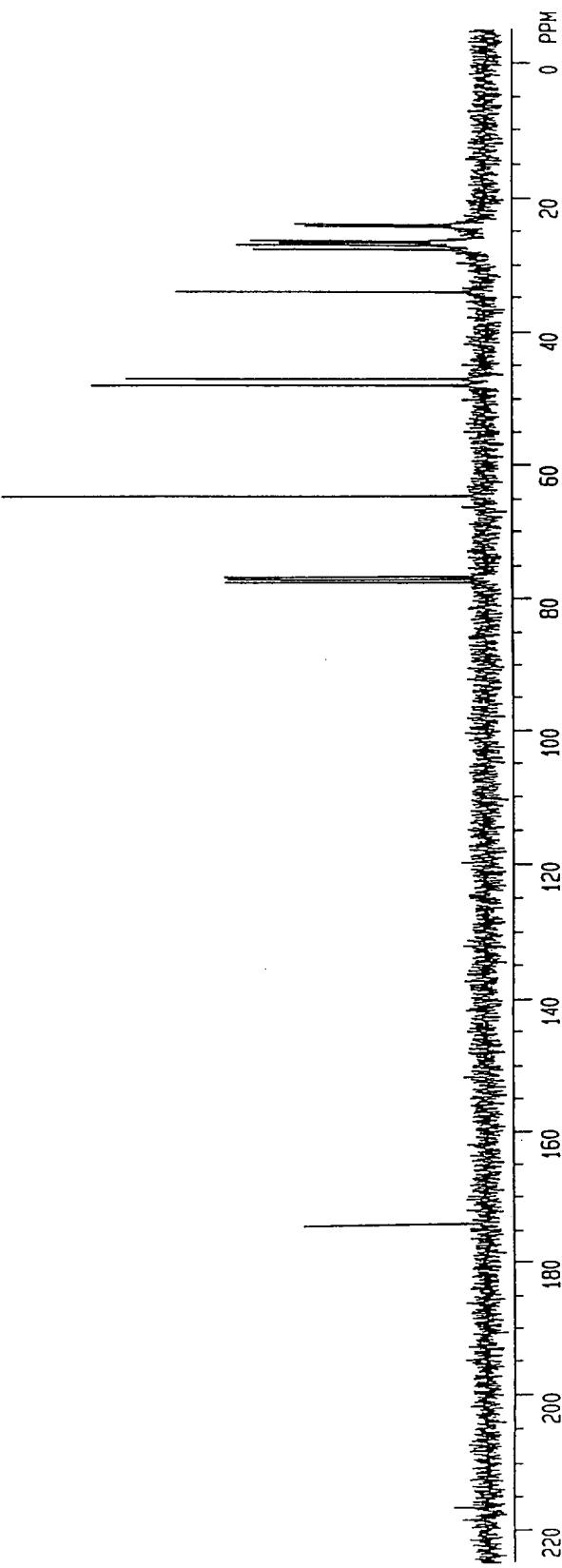
JF. 161  
13AUG97

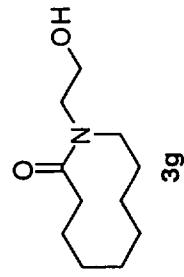
ESTER  
DEUTERIUM DEPT

1-Oxa-5-azacyclotridecan-13-one



4f



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

Current Data Parameters  
 NAME 4C-1-197-A  
 EXPNO 1  
 PROCNO 1

## F2 - Acquisition Parameters

Date\_ 980108  
 Time\_ 13.25  
 INSTRUM drx400  
 PROBHD 5 mm Multinu  
 PULPROG 2930  
 TD 32768  
 SOLVENT CDCl<sub>3</sub>  
 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 1.0000000 sec  
 P1 7.70 usec  
 DE 4.50 usec  
 SFO1 400.1320007 MHz  
 NUC1 <sup>1</sup>H  
 PL1 -6.00 dB

## F2 - Processing parameters

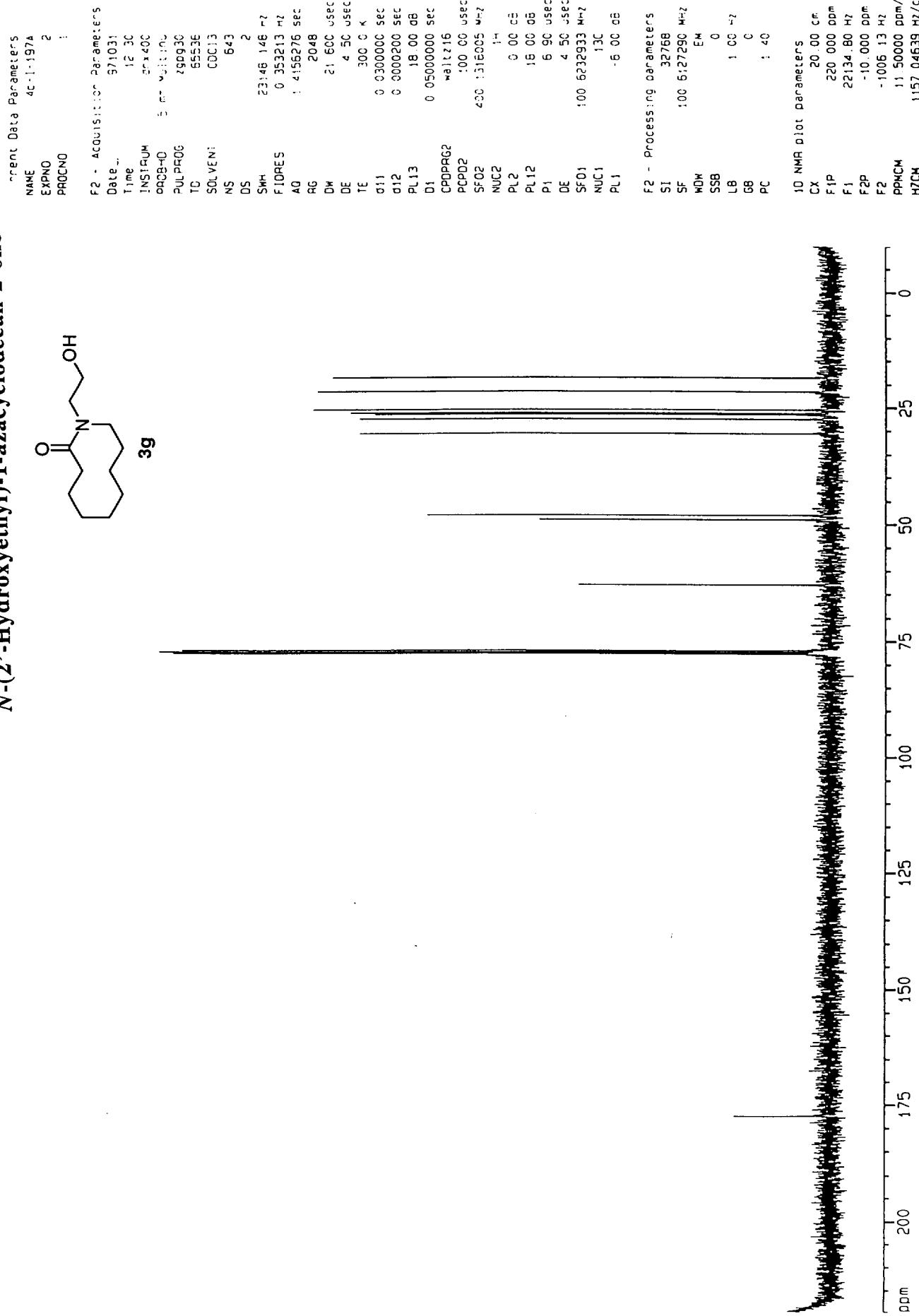
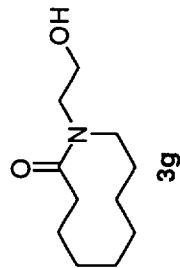
S1 16384  
 SF 400.1300074 MHz  
 MDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

## 1D NMR plot parameters

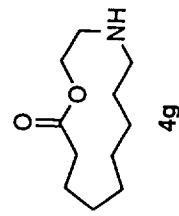
CX 20.00 cm  
 F1P 10.000 ppm  
 F1 4001.30 Hz  
 F2P -1.000 ppm  
 F2 -400.13 Hz  
 PPMCM 0.55000 ppm/cm  
 HZCM 220.07150 Hz/cm



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



## 1-Oxa-4-azacyclotidecan-13-one



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

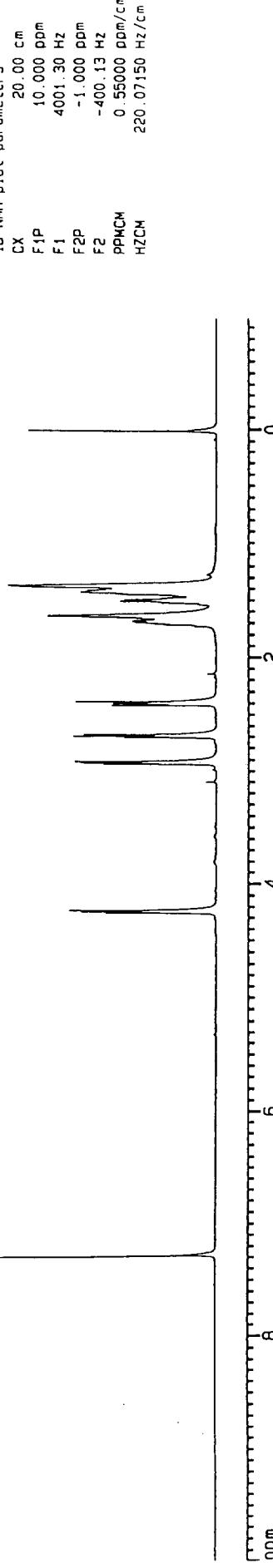
## F2 - Acquisition Parameters

Date\_ 990812  
 Time 16.29  
 INSTRUM drx400  
 PROBHD 5 mm Multinu  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 4789.272 Hz  
 FIDRES 0.146157 Hz  
 AQ 3.420291 sec  
 RG 574.7  
 DW 104.400 usec  
 DE 4.50 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 DE 4.50 usec  
 SF01 400.13320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

## F2 - Processing parameters

S1 16384  
 SF 400.1300000 MHz  
 WDW EH  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

## 1D NMR plot parameters



User: FORSEE

GE NMR  
QE PLUS

JF. 029

12AUG97

ESTER

OPERATOR PIF

DE PULSE SEQUENCE

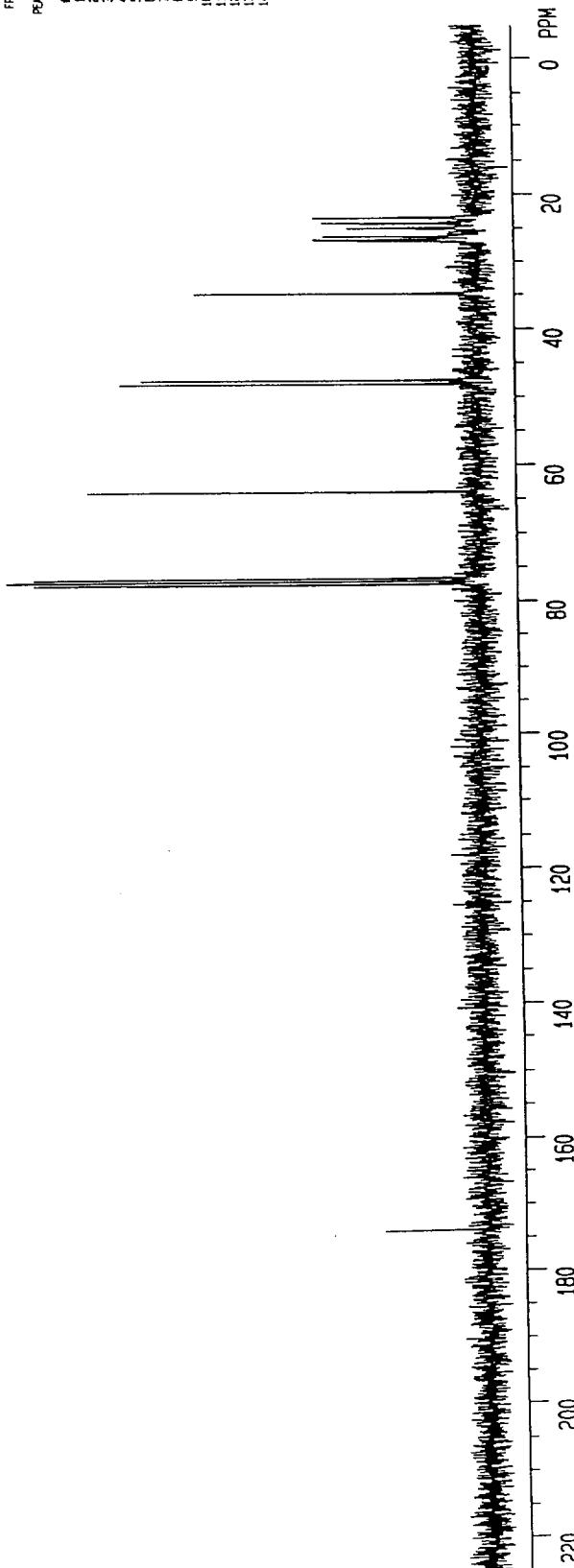
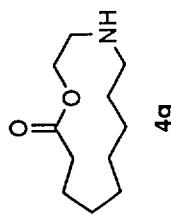
PULSE WIDTH • 4.50 USEC  
ACQ. TIME • 619.20 SEC  
REFCUE TIME • 1.10 SEC  
NO. OF LOS. • 912  
DATA SIZE • 32768  
LINE BROADS • 1.00 Hz  
SPIN RATE • 18 Hz

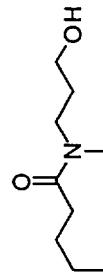
DESYRETE  
FREQUENCY • 75.63755 MHz  
SPEC WIDTH • 2000 Hz  
BLIN • 60.41

DECOUPLER STANDARD-64 MODULATION  
FREQUENCY • 4.500 ppm  
POWER • 3.000 / 2400  
HIGH POWER ON  
HIGH POWER DUTY • 63.00

PLOT SCALE:  
511.47 KHZ/Q  
6.7648 PPW/Q  
FROM 225.00  
TO -4.98 ppm  
PEAK LISTING

1-Oxa-4-azacyclotridecan-13-one



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

Current Data Parameters  
 NAME 4c-I-209-A  
 EXPNO 1  
 PROCN0 1

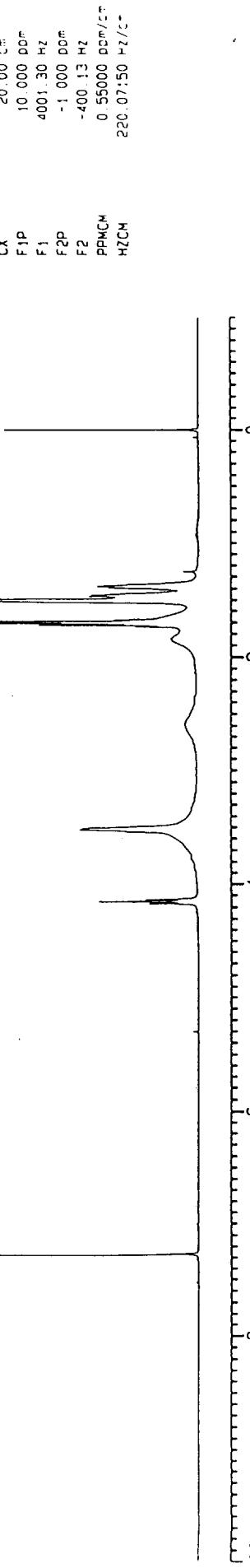
## F2 - Acquisition Parameters

Date\_ 9/01/98  
 Time 10.09  
 INSTRUM grx400  
 PROBID 5 mm Multinu  
 PULPROG 2930  
 T0 32768  
 SOLVENT CDCl<sub>3</sub>  
 NS 46  
 DS 2  
 SWH 4789.272 Hz  
 FIDRES 0.146157 Hz  
 AQ 3.4210291 sec  
 RG 256  
 DW 104.400 usPC  
 DE 4.50 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 QF 4.50 usec  
 SF01 400.1320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

## F2 - Processing parameters

SI 16384  
 SF 400.1300065 MHz  
 MDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

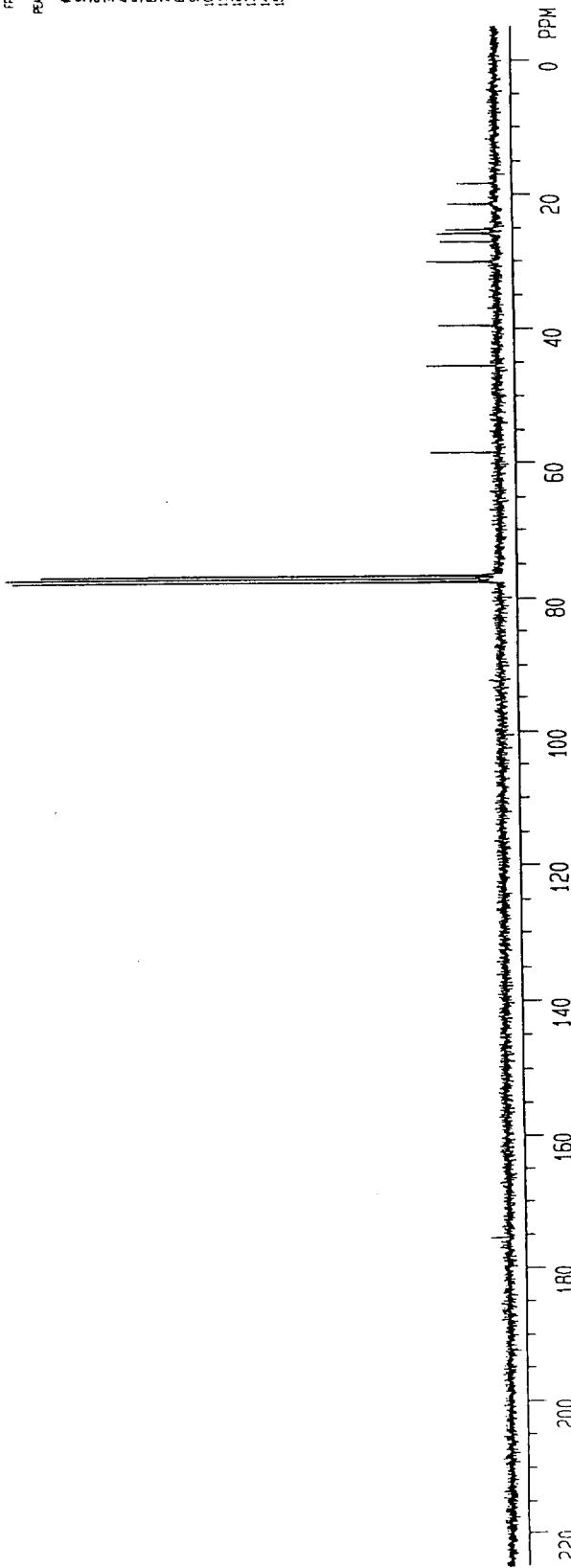
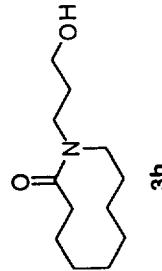
## 1D NMR plot parameters



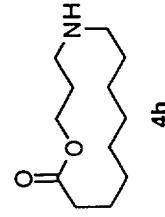
GE NMR  
GE PLUSJF.209  
07 JAN 98WIDE BAND  
DETECTOR: PELLIC  
ONE PULSE SEQUENCE

PULSE ANGLE : 4.51 DEGREES  
ACQ TIME : 10.92 SEC  
DECAY TIME : 1.02 SEC  
NO. OF AVER : 3632  
DATA SIZE : 32768  
LINE SPACING : 1.06 ppm  
SPIN RATE : 19 Hz  
DESIRED:  
FREQUENCY : 75.475554 Hz  
SPIN WIDTH : 2000 Hz  
GAIN : 64  
TELECOIL: SING 0.47 METER 11.34  
FREQUENCY : 4.392 MHz  
POWER : 100W / 2000  
HIGH POWER OUTPUT : 0.15  
PLOT SCALE:  
511.47 Hz/D  
6.7583 PPM/D  
FROM 222.90  
TO -4.95 ppm  
PEAK LISTING:

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



## 1-Oxa-5-azacyclotetradecan-14-one



Current Data Parameters  
 NAME 4c-1-214-E  
 EXPNO 1  
 PROCN0 1

## F2 - Acquisition Parameters

Date 980326  
 Time 12:58  
 INSTRUM dix400  
 PROBHD 5 mm Multinu  
 PULPROG 2930  
 TD 32768  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 4789.272 Hz  
 FIDRES 0.146157 Hz  
 AQ 3.420291 sec  
 RG 514.7  
 DM 104.400 usec  
 DE 4.50 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 DE 4.50 usec  
 SF 01 400.1320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

## F2 - Processing parameters

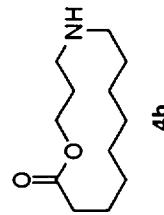
SI 16384  
 SF 400.1300000 MHz  
 MDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

## 1D NMR plot parameters

CX 20.00 cm  
 F1P 10.000 DDM  
 F1 4001.30 Hz  
 F2P -1.000 ppm  
 F2 -400.13 Hz  
 PPMCM 0.55000 ppm/cm  
 HZCM 220.07150 Hz/cm



## 1-Oxa-5-azacyclotetradecan-14-one



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

## F2 - Acquisition Parameters

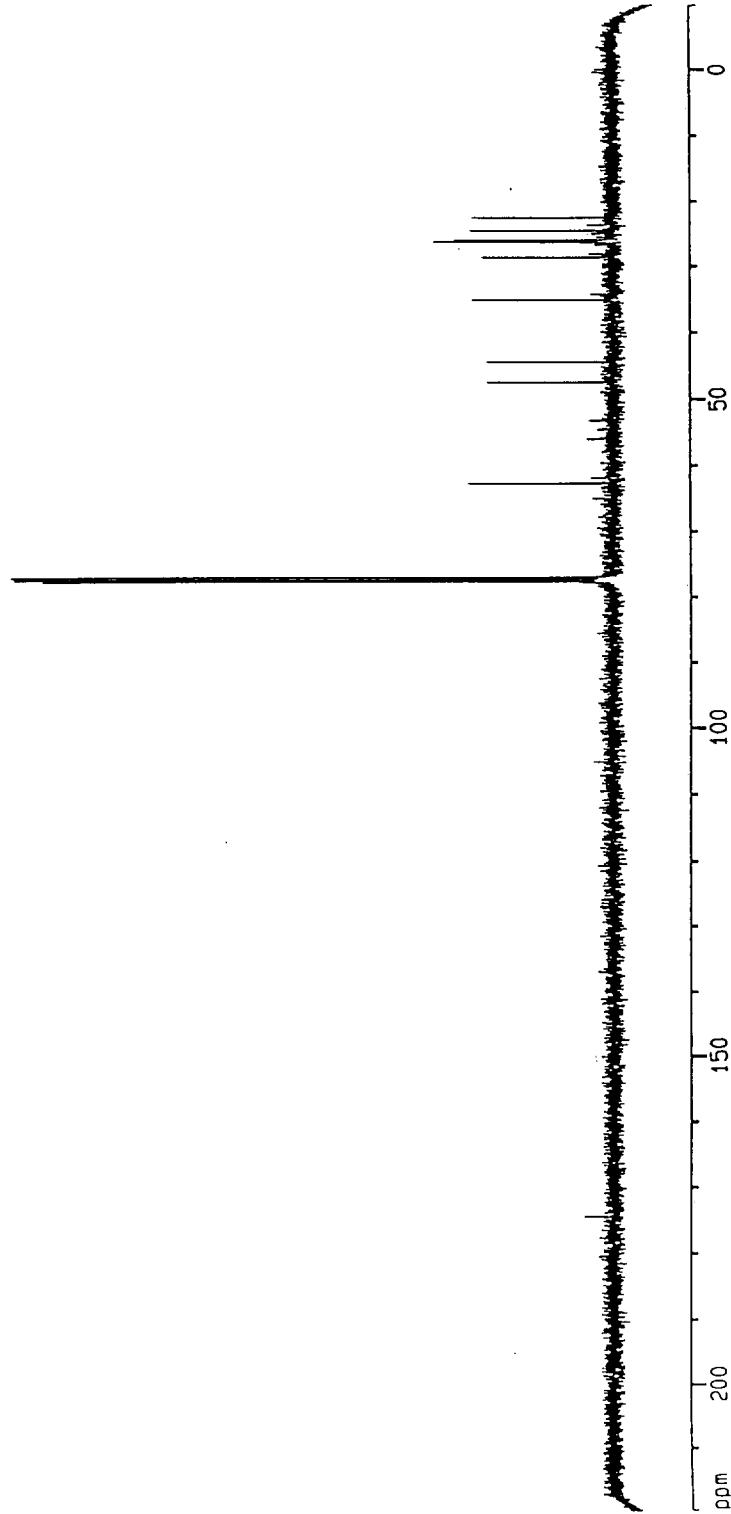
Date 980326  
Time 22:20  
INSTRUM drx400  
PROBHD 5 mm Multinu  
PULPROG zgpg30  
TD 65536  
SOLVENT DDC13  
NS 5024  
DS 2  
SWH 23148.148 Hz  
FIDRES 0.353213 Hz  
AQ 1.4156276 sec  
RG 4096  
DW 21.600 usec  
DE 4.50 usec  
TE 300.0 K  
d11 0.0300000 sec  
d12 0.0000200 sec  
PL13 18.00 dB  
D1 0.0500000 sec  
CRDPRG2 wait16  
PCPD02 100.00 usec  
SF02 400 1316005 MHz  
NUC2 1H  
PL2 -6.00 dB  
PL12 18.00 dB  
P1 14.00 usec  
DE 4.50 usec  
SF01 100 6232933 MHz  
NUC1 13C  
PL1 -6.00 dB

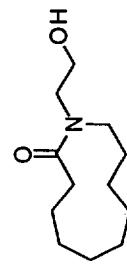
## F2 - Processing parameters

SI 32768  
SF 100 6127290 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

## 1D NMR D10 parameters

CX 20.00 ppm  
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



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

Current Data Parameters  
NAME 4C-T-265-A-C4  
EXPNO 1  
PROCNO 1

**F2 - Acquisition Parameters**

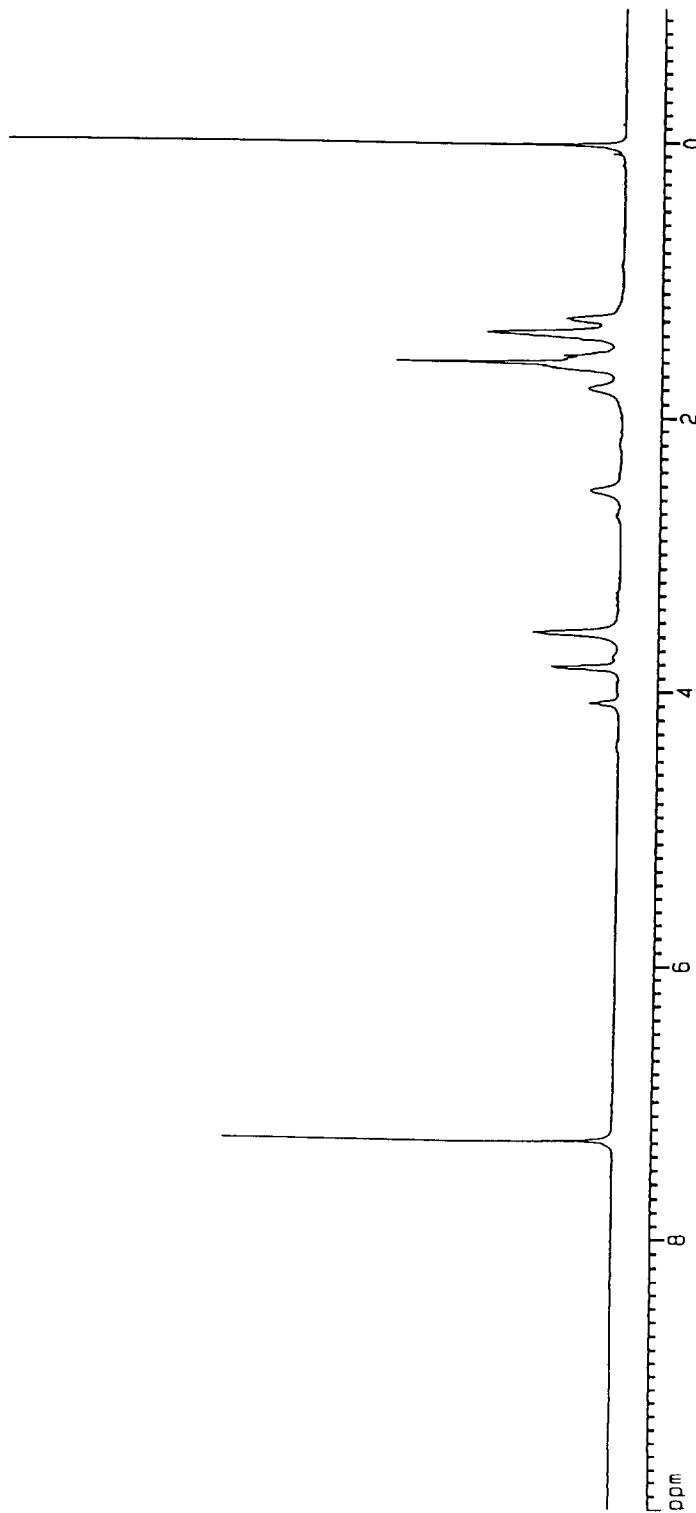
Date\_ 980511  
Time\_ 16:06  
INSTRUM dnx400  
PROBHD 5 mm Multinu  
PULPROG TD  
TD 32768  
SOLVENT CDC13  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.4210291 sec  
RG 645.1  
DW 104.400 usec  
DE 4.50 usec  
TE 300.0 K  
D1 1.0000000 sec  
P1 7.70 usec  
DE 4.50 usec  
SF01 400.1320007 MHz  
NUC1 1H  
PL1 -6.00 dB

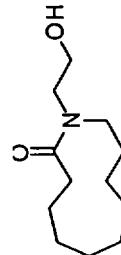
**F2 - Processing Parameters**

SI 16384  
SF 400.1300000 MHz  
WDW EH  
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  
PPMCH 0.55000 ppm/cm  
HZCH 220.07150 Hz/cm



*N*-(2'-Hydroxyethyl)-1-azacycloundecan-2-one**3i**

## ent Data Parameters

MMTC	4C-1-152-A
EXPRO	2
PROCNO	1

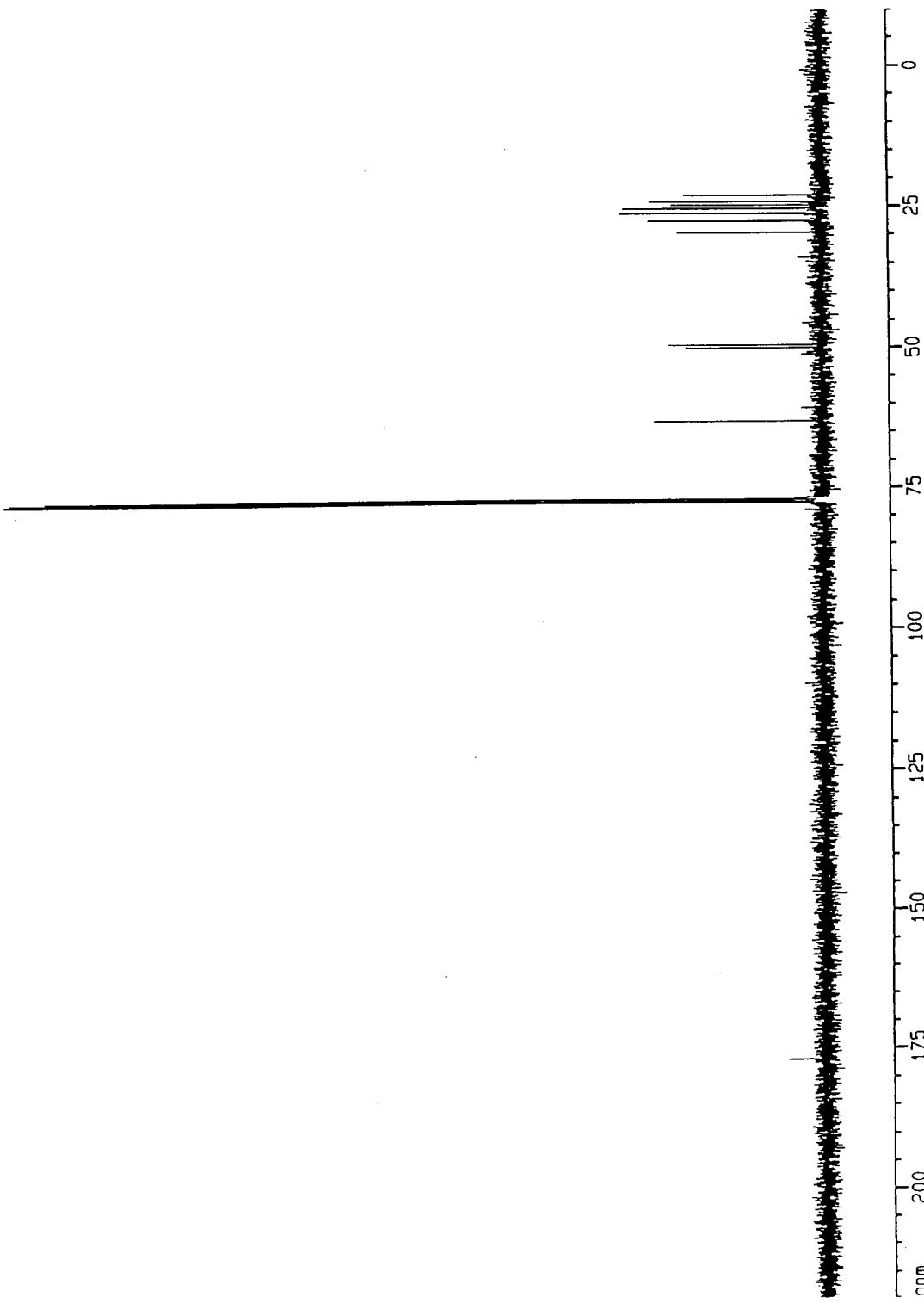
## F2 - Acquisition Parameters

Date	980204
Time	9:41
INSTRUM	drx400
PROBHD	5 mm Multinu
PULPROG	290330
TD	65536
SOLVENT	CDCl <sub>3</sub>
NS	504
DS	2
SWH	23148.148 Hz
TDRES	0.353213 Hz
AQ	1.4156276 sec
RG	4096
DW	21.600 usec
DE	4.50 usec
TE	300.0 K
dt11	0.030000 sec
dt12	0.0000200 sec
PL13	18.00 dB
D1	0.0500000 sec
CPDPRG2	Waltz16
PCPD2	100.00 usec
SF02	400 1316005 MHz
NUC2	1H
PL2	0.00 dB
PL12	18.00 dB
P1	6.90 usec
DE	4.50 usec
SFO1	:00 6239.33 Hz
NUC1	13C
PL1	-6.00 dB

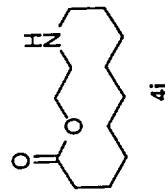
F2 - Processing Parameters	
SI	32768
SF	100.612290 MHz
WDW	EW
SSB	0
LB	1.00 Hz
GB	0
PC	:40

## 10 NMR Dplot Parameters

CX	20.00 cm
F1P	220.00 ppm
F1	22134.80 Hz
F2P	-10.00 ppm
F2	-1005.13 Hz
PPMCH	11.50000 ppm/cm
HZCM	1157.04639 Hz/cm



## 1-Oxa-4-azacyclopentadecan-14-one

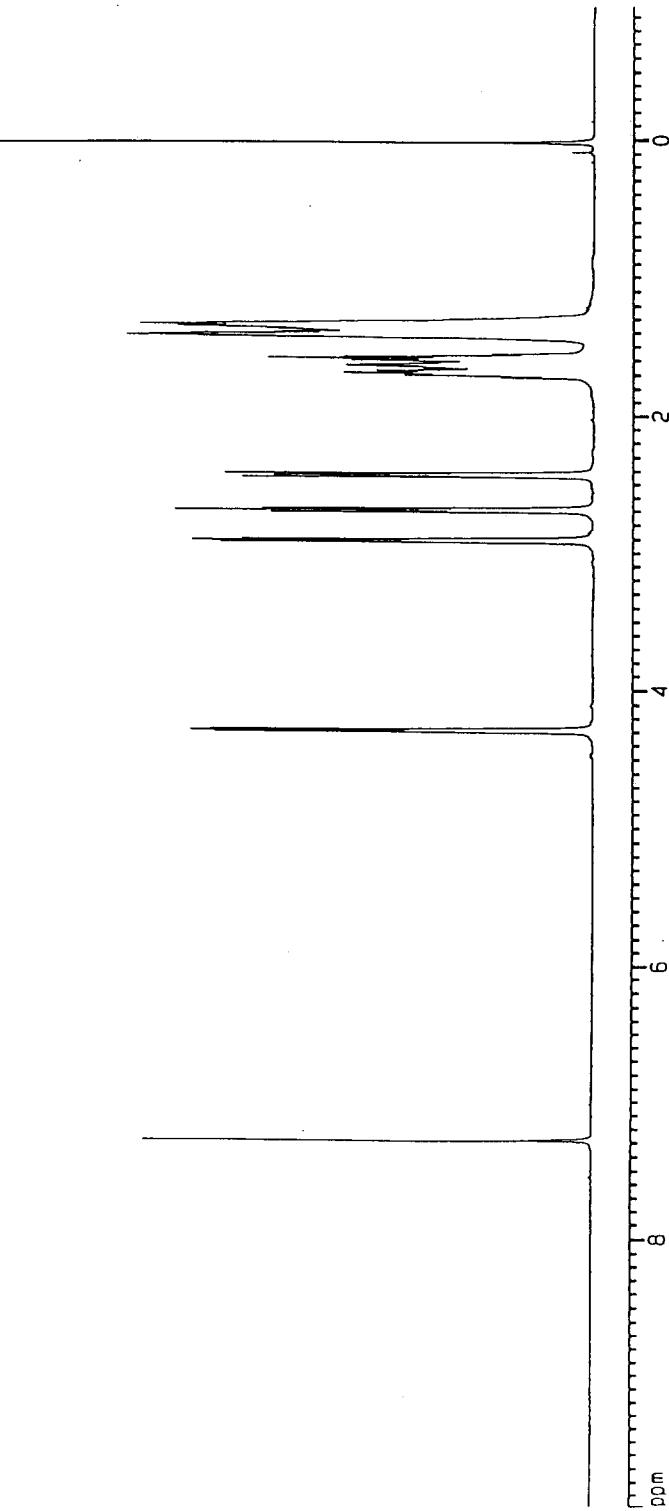


Current Data Parameters  
 NAME 4c-1-281-E  
 EXPNO 1  
 PROCHN

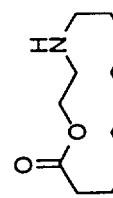
F2 - Acquisition Parameters  
 Date\_ 980602  
 Time 12.41  
 INSTRUM dnx400  
 PROBHD 5 mm Multinu  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl<sub>3</sub>  
 NS 16  
 DS 2  
 SWH 4789.272 Hz  
 FIDRES 0.146157 Hz  
 AQ 3.4210291 sec  
 RG 352  
 DM 104.400 usec  
 DE 4.50 usec  
 TE 300.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 QF 4.50 usec  
 SF01 400.1320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

F2 - Processing parameters  
 SI 16384  
 SF 400.1300000 MHz  
 MW 1E4  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

1D NMR D1D1 Parameters  
 CX 20.00 ppm  
 F1P 10.000 ppm  
 F1 4001.30 Hz  
 F2P -1.000 ppm  
 F2 -400.13 Hz  
 PPMCH 0.55000 ppm/cm  
 HZCM 220.07150 Hz/cm



## 1-Oxa-4-azacyclotetradecan-14-one

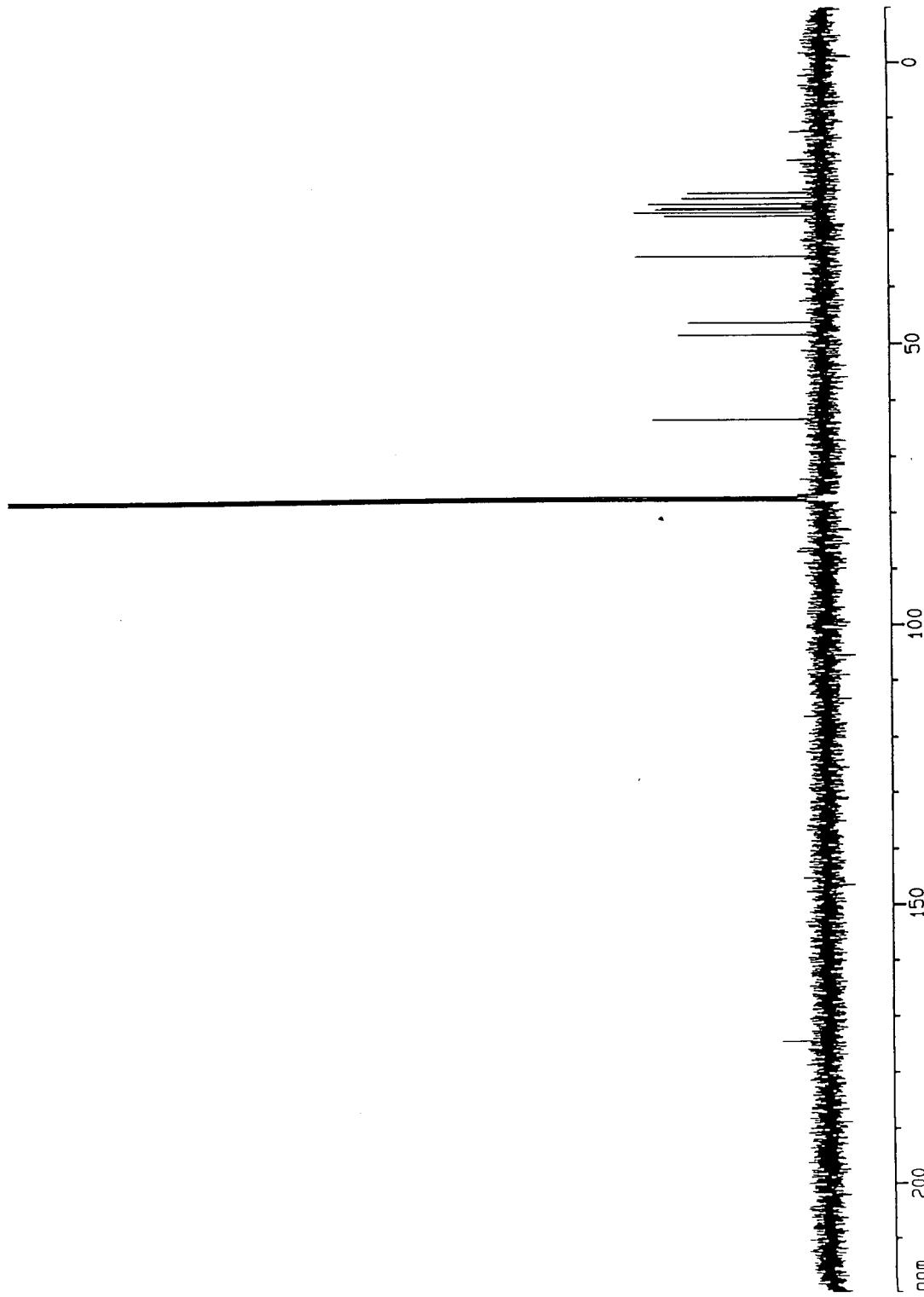
**4i**

Current Data Parameters  
 NAME 4C-1-2B-E  
 EXPNO 2  
 PROGNO 1

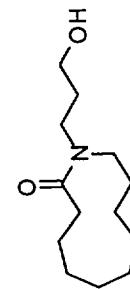
F2 - Acquisition Parameters  
 Date 980902  
 Time 14:08  
 INSTRUM drx400  
 PROBOD 5 mm Multinu  
 PULPROG zgpg30  
 TD 65336  
 SOLVENT CDCl3  
 NS 576  
 DS 2  
 SWH 23148.148 Hz  
 FIDRES 0.353213 Hz  
 AQ 1:4156275 sec  
 R6 8192  
 DW 21600 usec  
 DE 4.50 usec  
 TE 300.0 K  
 d11 0.0300000 sec  
 d12 0.000200 sec  
 PL13 18.00 dB  
 D1 0.0500000 sec  
 CPDPG22 Wait16  
 PCPD2 1.00.00 usec  
 SF02 400.1316005 MHz  
 NUC2 1H  
 PL2 0.00 dB  
 PL12 18.00 dB  
 P1 6.90 usec  
 DE 4.50 usec  
 SF01 :00.6233933 MHz  
 NUC1 13C  
 PL1 -6.00 dB

F2 - Processing parameters  
 S1 32168  
 SF 100.6129290 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

1D NMR plot parameters  
 CX 20.00 ppm  
 F1P 220.000 ppm  
 F1 22134.80 Hz  
 F2P -10.000 ppm  
 F2 -1006.13 Hz  
 PPMCH 1150000 ppm/cm  
 HZCH 1157.04639 Hz/cm



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



## Current Data Parameters

NAME 4C-1-17-Amide  
EXPO 1  
PROCNO 1

## F2 - Acquisition parameters

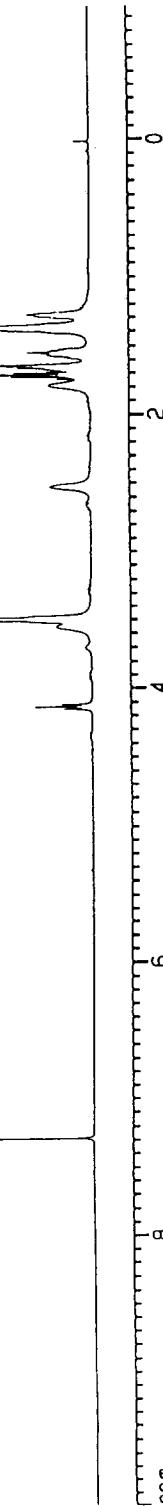
Date\_ 980303  
Time 10.01  
INSTRUM QMX400  
PROBHD 5 mm Multinu  
PUL PROG 2930  
TD 32768  
SOLVENT CDCl3  
NS 16  
DS 2  
SWH 4789.272 Hz  
FIDRES 0.146157 Hz  
AQ 3.4210291 sec  
RG 362  
DW 104.400 usec  
DE 4.50 usec  
TE 300.0  $\mu$ s  
D1 1.000000 sec  
P1 7.70 usec  
DE 4.50 usec  
SF 01 400.1320007 MHz  
NUC1  $^1\text{H}$   
PL1 -6.00 ppm

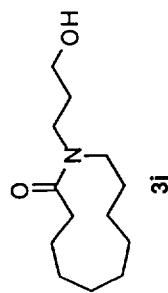
## F2 - Processing parameters

S1 16384  
SF 400.1300000 Hz  
MW 0  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1 CG

## 1D NMR plot parameters

CX 20.00 ppm  
F1P 10.000 ppm  
F1 4001.30 Hz  
F2P -1.0000 ppm  
F2 -400.13 Hz  
PPMCH 0.55000 ppm  
H2CH 220.07150 Hz/cr



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

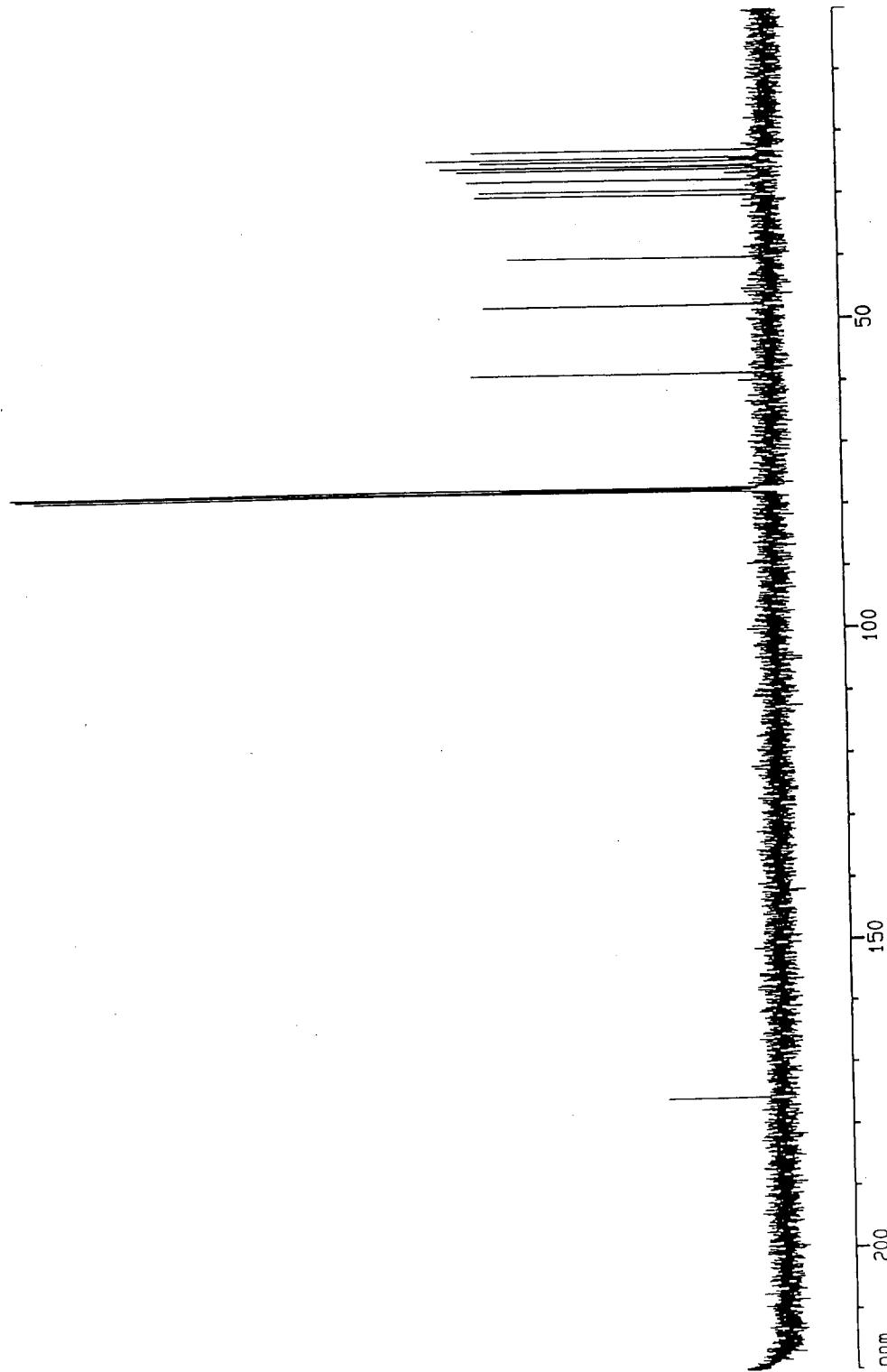
## 1H Data Parameters

AC : 1884  
EXPNO : 2  
PROCNO : 1

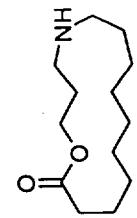
F2 - Acquisition parameters  
Date : 9/10/04  
T1me : 15.25  
INSTRUM : 370MHz  
PFGZERO : 5 ms  
PULPROG : zg3g3c  
TD : 65536  
SOLVENT : CDCl3  
NS : 221  
DS : 2  
SWH : 23148 Hz -2  
FIDRES : 0.353213 Hz  
AQ : 4.56376 sec  
RG : 2048  
DM : 21 E00 usec  
DE : 4.50 usec  
TE : 300.0 C  
d11 : 0.030000 sec  
d12 : 0.000020 sec  
PL13 : 18.00 C  
D1 : 0.0500000 sec  
CPDPG2 : \*2:1.5  
PCPD2 : 100.00 -sec  
SF02 : 400.00005 Hz  
NUC2 : 1H  
PL2 : 0.00 C8  
PL12 : 0.00 C8  
P1 : 90 usec  
DE : 4.50 usec  
SF01 : 100.6235933 Hz  
NUC1 : 13C  
PL1 : -5.00 C8

F2 - Processing parameters  
SI : 32768  
SF : 100.62725C Hz  
W0W : EM  
SSB : 0  
LB : 0.00 Hz  
GB : 0  
PC : 0.00 Hz

1H NMR Data: Parameters  
CX : 20.00 ppm  
F1P : 22.00 0.16 ppm  
F1 : 22.38 4.1 Hz  
F2P : 0.000 0.00 ppm  
F2 : 9.00 Hz  
ppmCH : 0.00119 ppm/cm  
HzCH : 11.05 92055 Hz/cm



## 1-Oxa-5-azapentadecan-15-one

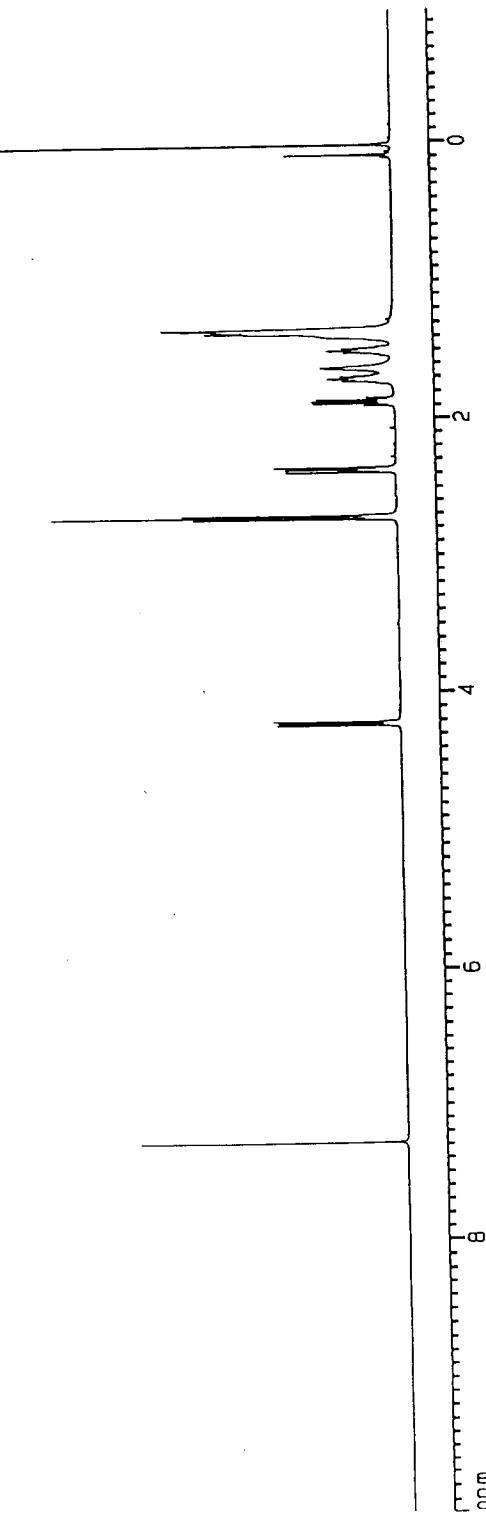


Current Data Parameters  
 NCE 4C-1-177-E  
 PNO 1  
 IFCNO 1

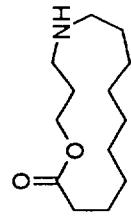
- Acquisition Parameters  
 te\_ 980325  
 me\_ 21.47  
 STRUM grx400  
 PROBID 5 mm Multinu  
 PULPROG 2930  
 T0 32766  
 SOLVENT CDCl3  
 NS 16  
 DS 2  
 SWH 4789.272 Hz  
 FIDRES 0.146157 Hz  
 AQ 3 4210291 sec  
 RG 456.1  
 DM 104.400 usec  
 DE 4.50 usec  
 TE 360.0 K  
 D1 1.0000000 sec  
 P1 7.70 usec  
 DE 4.50 usec  
 SF 01 400.1320007 MHz  
 NUC1 1H  
 PL1 -6.00 dB

F2 - Processing parameters  
 S1 16384  
 SF 400.1320000 MHz  
 MW 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



## 1-Oxa-5-azapentadecan-15-one

**4j**

Current Data Parameters  
 NAME 4C-1-177-E  
 EXPNO 2  
 PROCNO 1

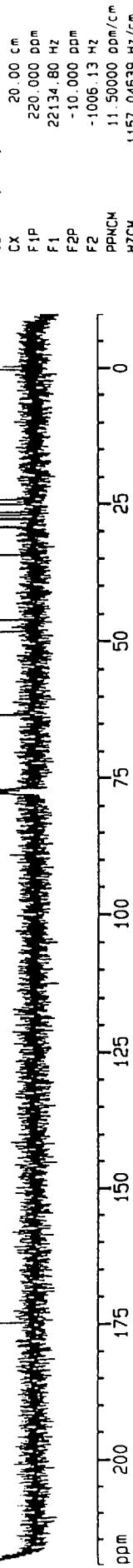
## F2 - Acquisition Parameters

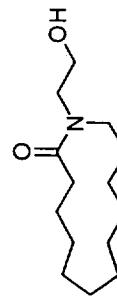
Date 980325  
 Time 21.57  
 INSTRUM 0r400  
 PROBHD 5 mm Multinu  
 PULPROG 290930  
 T0 65536  
 SOLVENT C0013  
 NS 2611  
 DS 2  
 SWH 23148 148 Hz  
 FIDRES 0.353213 Hz  
 AQ 1.4156276 sec  
 RG 2048  
 DW 21.600 usec  
 DE 4.50 usec  
 TE 300.0 K  
 d11 0.0300000 sec  
 d12 0.0000200 sec  
 PL13 18.00 dB  
 D1 0.0500000 sec  
 CPDPRG2 walt:16  
 PCP02 100.00 usec  
 SF02 400.1316005 MHz  
 NUC2 1H  
 PL2 -6.00 dB  
 PL12 18.00 dB  
 P1 14.00 usec  
 DE 4.50 usec  
 SF01 100.6232933 MHz  
 NUC1 13C  
 PL1 -6.00 dB  
 PC 1.40

## F2 - Processing parameters

SI 32768  
 SF 100.6127250 MHz  
 MDW 1E4  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

## 1D NMR plot parameters



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

## Current Data Parameters

NAME	4C-1-221-A
EXPNO	1
PROCNO	1

## F2 - Acquisition Parameters

Date_	980107
Time	13:30
INSTRUM	cx400
PROBHD	5 mm Multinu
PULPROG	Z930
TD	32768
SOLVENT	CDCl <sub>3</sub>
NS	16
DS	2
SWH	4789.272 Hz
FIDRES	0.14657 Hz
AQ	3.4210391 sec
RG	322.5
DW	104.400 usec
DE	4.50 usec
TE	300.0 K
D1	1.0000000 sec
P1	7.70 usec
DE	4.50 usec
SFO1	400.1320007 MHz
NUC1	<sup>1</sup> H
PL1	-5.00 dB

## F2 - Processing Parameters

SI	16384
SF	400.13000068 MHz
WDW	
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	-1.0000 ppm
F2	-400.13 Hz
PPMCK	C 550000 ppm/cm
HZCM	220.07150 Hz/cm

