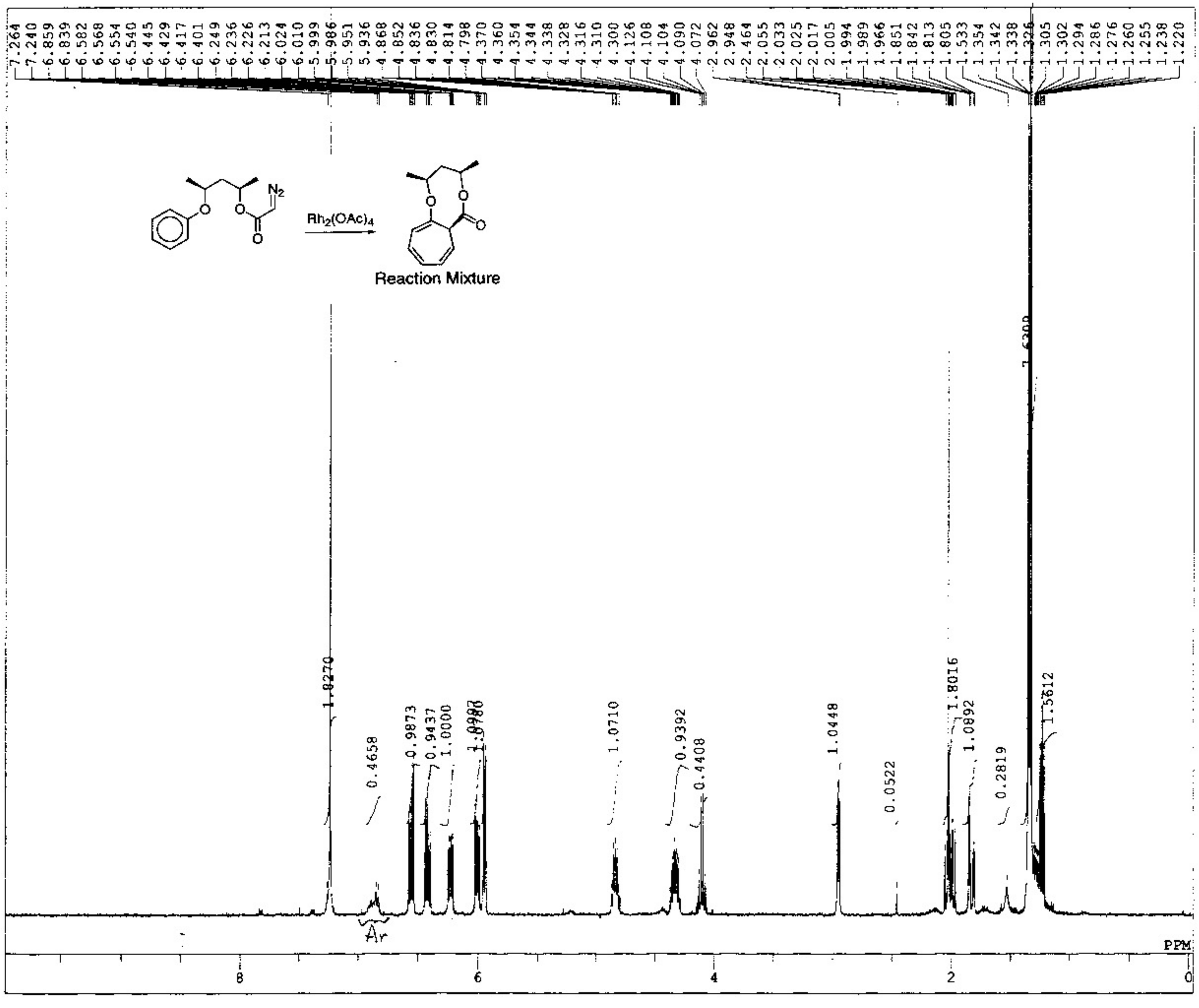
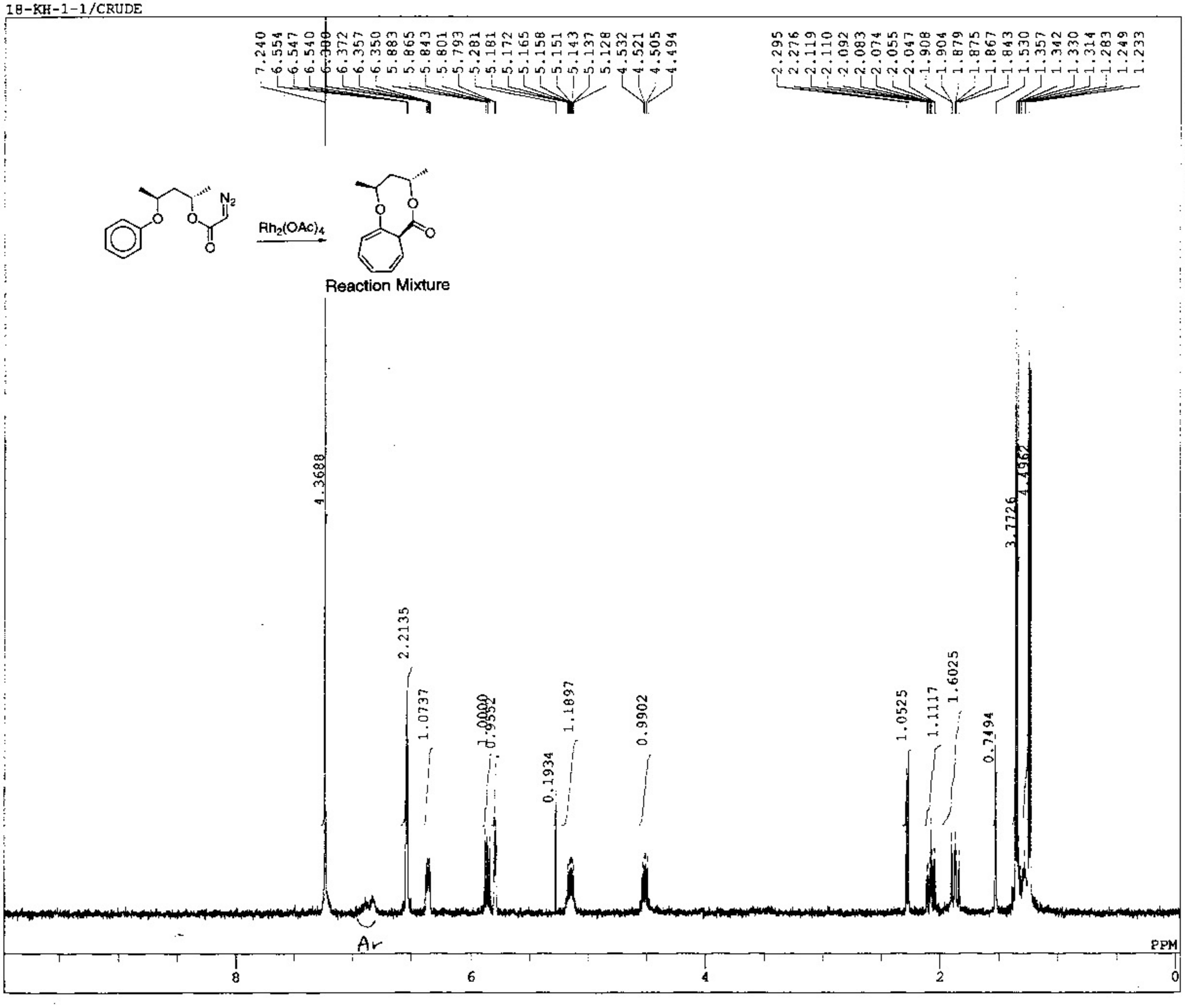
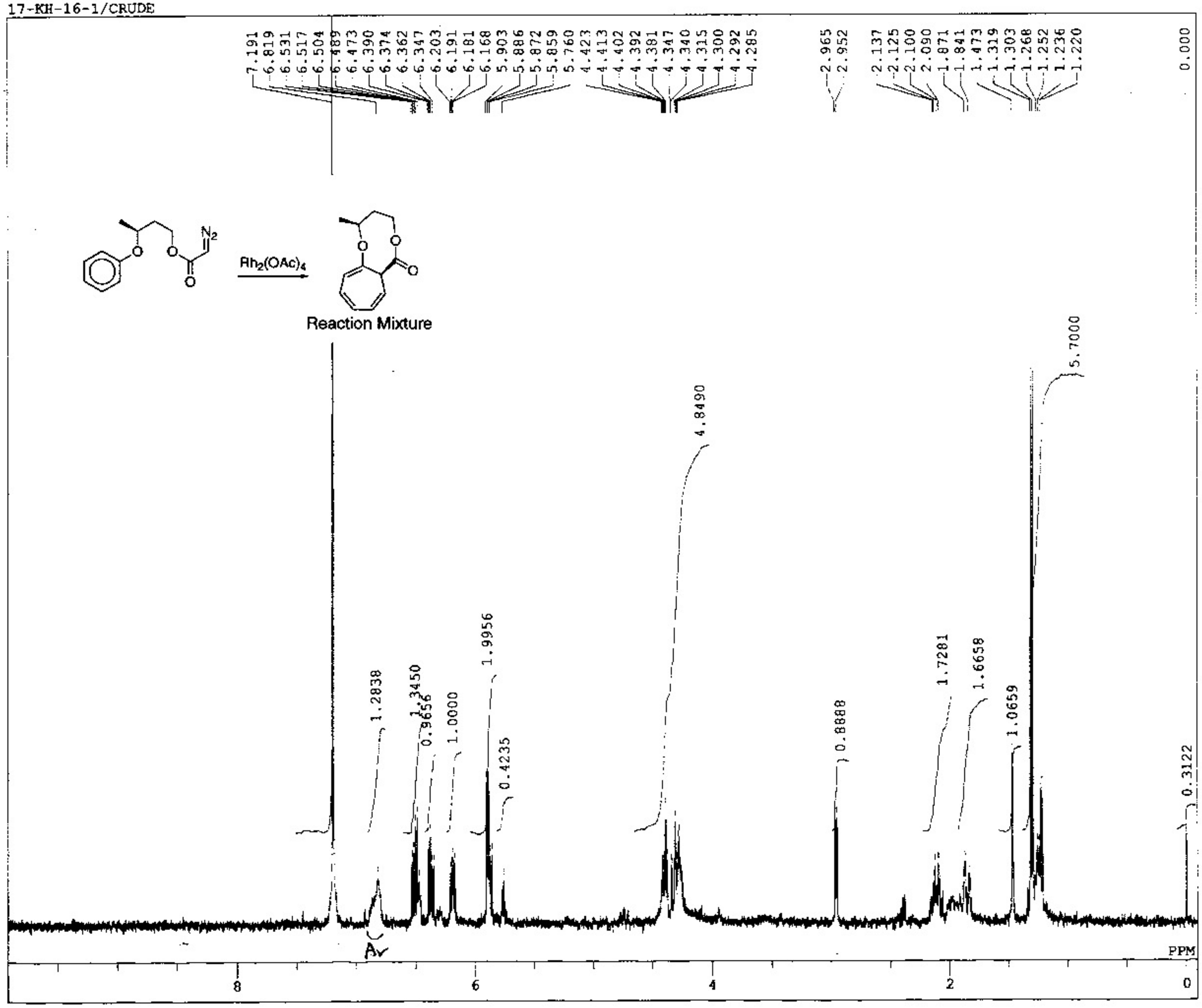

7.264
7.240
6.859
6.839
6.582
6.568
6.554
6.540
6.445
6.429
6.417
6.401
6.249
6.236
6.226
6.213
6.024
6.010
5.999
5.986
5.951
5.936
4.868
4.852
4.836
4.830
4.814
4.798
4.370
4.360
4.354
4.344
4.338
4.328
4.316
4.310
4.300
4.126
4.108
4.104
4.090
4.072
2.962
2.948
2.464
2.055
2.033
2.025
2.017
2.005
1.994
1.989
1.966
1.851
1.842
1.813
1.805
1.533
1.354
1.342
1.338
1.326
1.305
1.302
1.294
1.286
1.276
1.260
1.255
1.238
1.220
N2
O
O
O
Rh2(OAc)4
O
O
O
Reaction Mixture
DFILE E:\SATOH\1-SAT-5.ALS
COMNT
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.0 Hz
POINT 16384
FREQU 8000.0 Hz
SCANS 20
ACQTM 2.048 sec
PD 3.967 sec
PW1 5.0 us
IRNUC 1H
CTEMP 19.6 c
SLVNT CDCL3
EXREF 7.24 ppm
BF 0.25 Hz
RGAIN 24
1.8270
0.4658
0.9873
0.9437
1.0000
1.0980
1.0710
0.9392
0.4408
1.0448
0.0522
1.8016
1.0892
0.2819
1.3612
Ar
PPM
8
6
4
2
0

18-KH-1-1/CRUDE



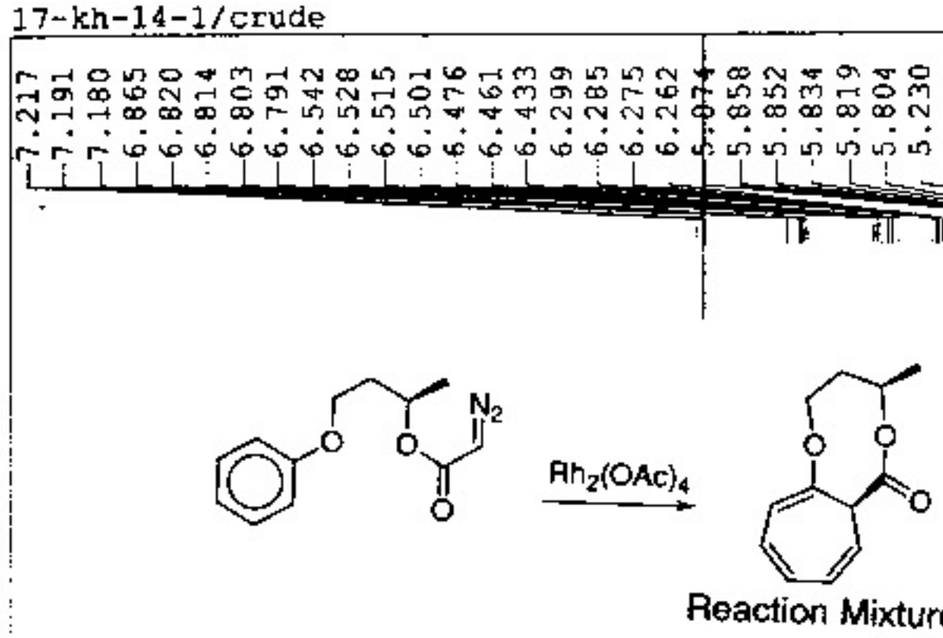
DFILE E:\WINNMR\DATA\HAGIYA\NOTE NO.18
COMNT 18-KH-1-1/CRUDE
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.0 Hz
POINT 16384
FREQU 8000.0 Hz
SCANS 20
ACQTM 2.048 sec
PD 3.967 sec
PW1 5.0 us
IRNUC 1H
CTEMP 18.6 c
SLVNT CDCL3
EXREF 7.24 ppm
BF 0.25 Hz
RGAIN 28

17-KH-16-1/CRUDE

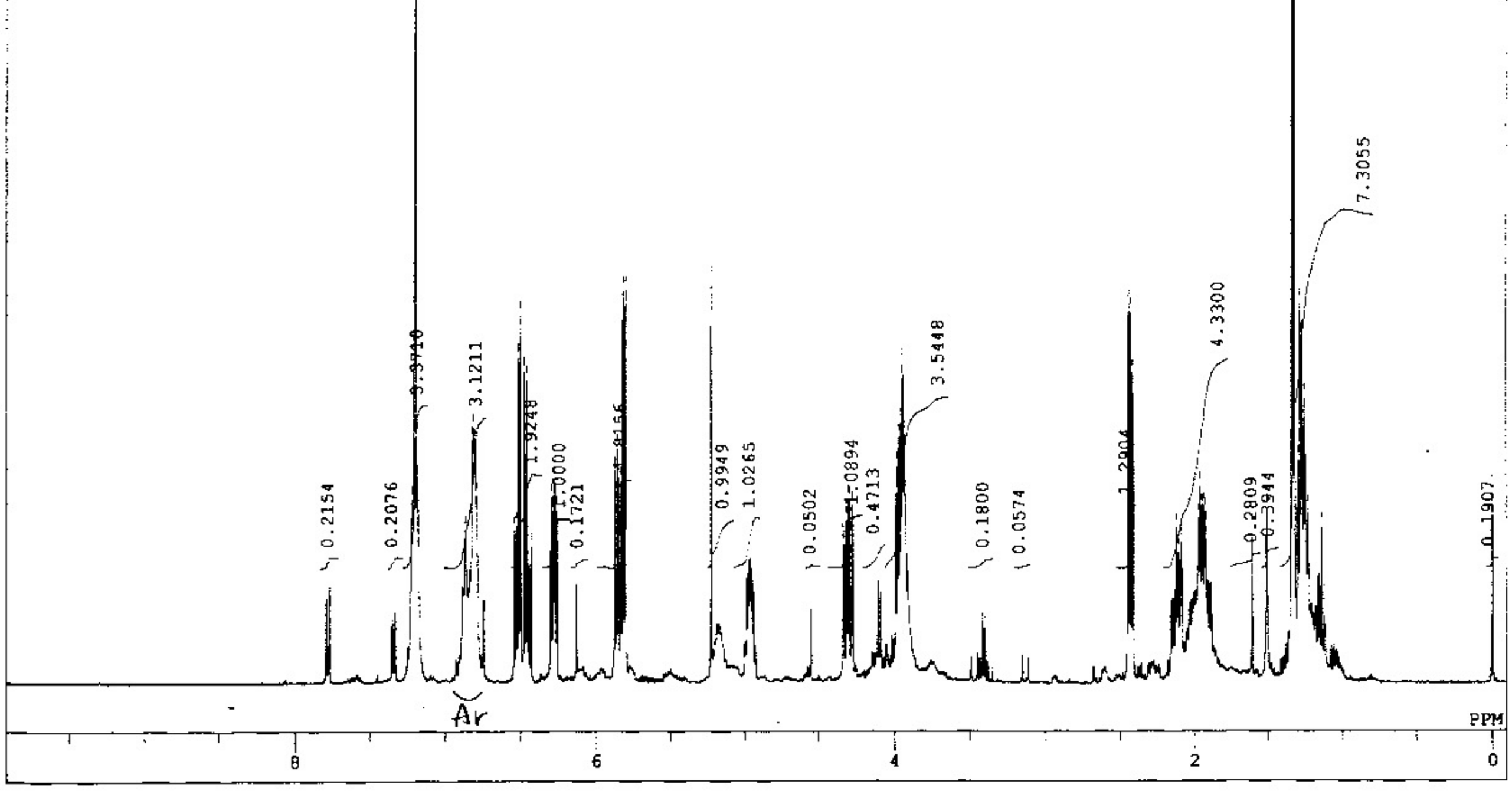


DFILE E:\WINNMR\DATA\HAGIYA\NOTE NO.17
COMNT 17-KH-16-1/CRUDE
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.0 Hz
POINT 16384
FREQU 8000.0 Hz
SCANS 20
ACQTM 2.048 sec
PD 3.967 sec
PW1 5.0 us
IRNUC 1H
CTEMP 20.7 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.25 Hz
RGAIN 27

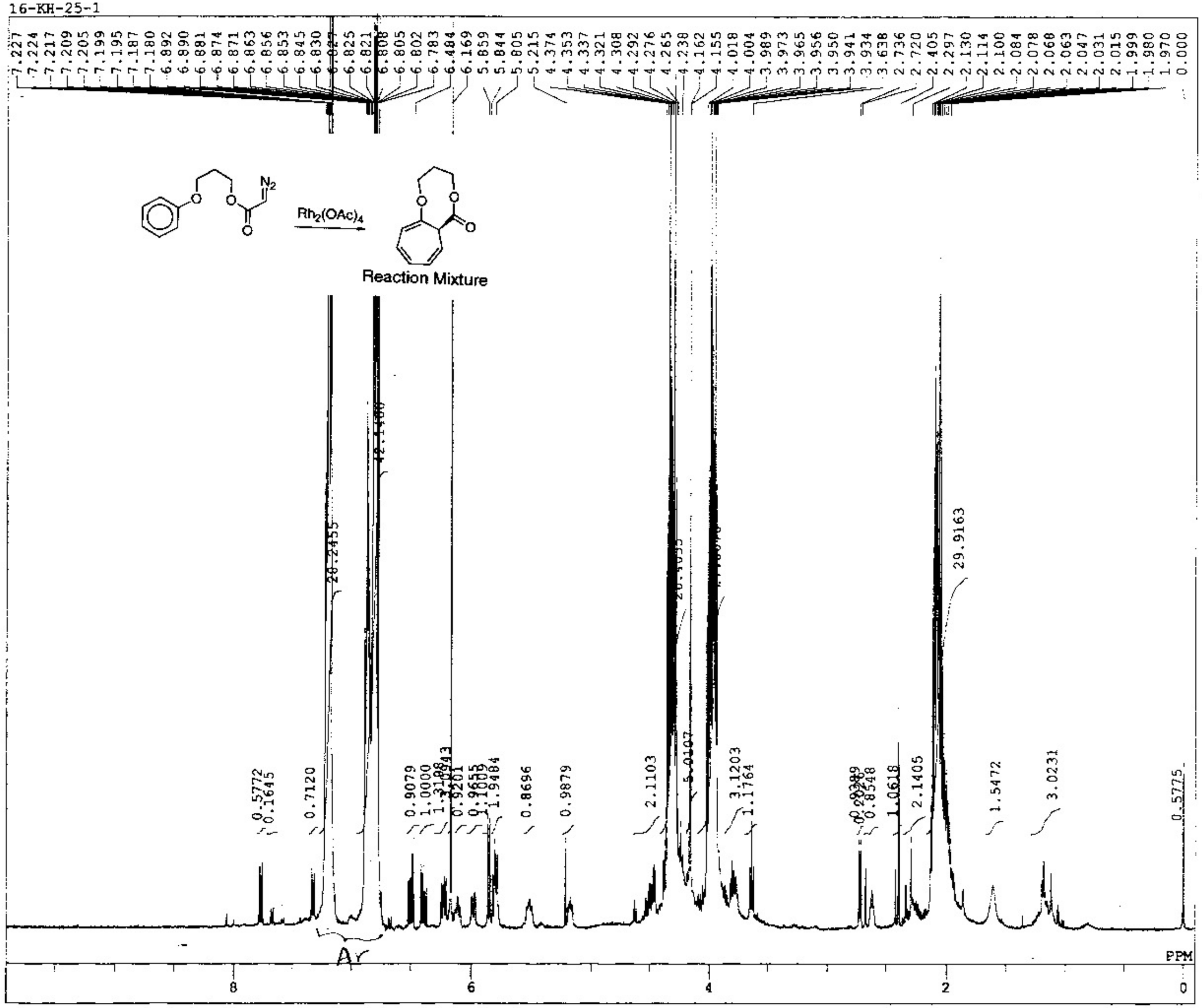
17-kh-14-1/crude




```
DFILE   E:\WINNMR\DATA\HAGIYA\NOTE NO.17
COMNT   17-kh-14-1/crude
OBNUC   1H
EXMOD   NON
OBFRQ       399.65 MHz
OBSET       124.00 KHz
OBFIN     10500.0 Hz
POINT       16384
FREQU      8000.0 Hz
SCANS          40
ACQTM       2.048 sec
PD          3.967 sec
PW1           7.0 us
IRNUC   1H
CTEMP         20.2 c
SLVNT   CDCL3
EXREF         0.00 ppm
BF            0.25 Hz
RGAIN           21
```

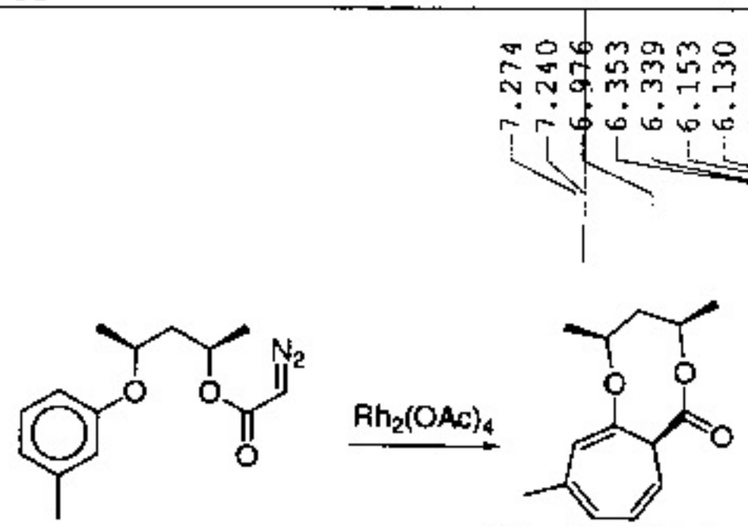


16-KH-25-1



DFILE E:\WINNMR\DATA\HAGIYA\NOTE NO.16
COMNT 16-KH-25-1
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.0 Hz
POINT 16384
FREQU 8000.0 Hz
SCANS 20
ACQTM 2.048 sec
PD 3.967 sec
PW1 5.0 us
IRNUC 1H
CTEMP 20.4 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 18

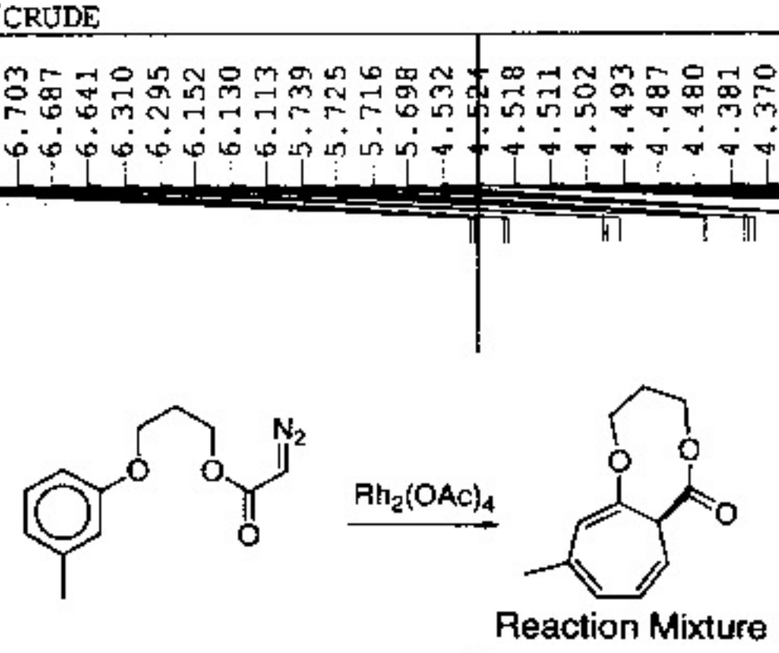
IV-HK-33



Reaction Mixture

```
DFILE   E:\WINNMR\DATA\KOHNO\NOTE NO.4\I
COMNT   IV-HK-33
OBNUC   1H
EXMOD   NON
OBFRQ        399.65 MHz
OBSET        124.00 KHz
OBFIN      10500.0 Hz
POINT        16384
FREQU        8000.0 Hz
SCANS           20
ACQTM         2.048 sec
PD            3.967 sec
PW1            10.0 us
IRNUC   1H
CTEMP          23.0 c
SLVNT   CDCL3
EXREF          7.24 ppm
BF             0.25 Hz
RGAIN            25
```

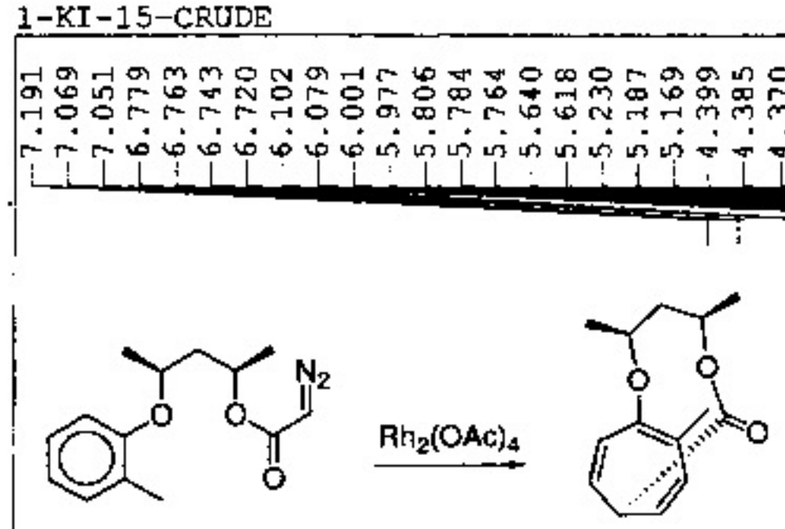
14-KH-31-1/CRUDE



Reaction Mixture

DFILE E:\WINNMR\DATA\HAGIYA\NOTE NO.14
COMNT 14-KH-31-1/CRUDE
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.0 Hz
POINT 16384
FREQU 8000.0 Hz
SCANS 40
ACQTM 2.048 sec
PD 3.967 sec
PW1 5.0 us
IRNUC 1H
CTEMP 23.1 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.30 Hz
RGAIN 25

1-KI-15-CRUDE

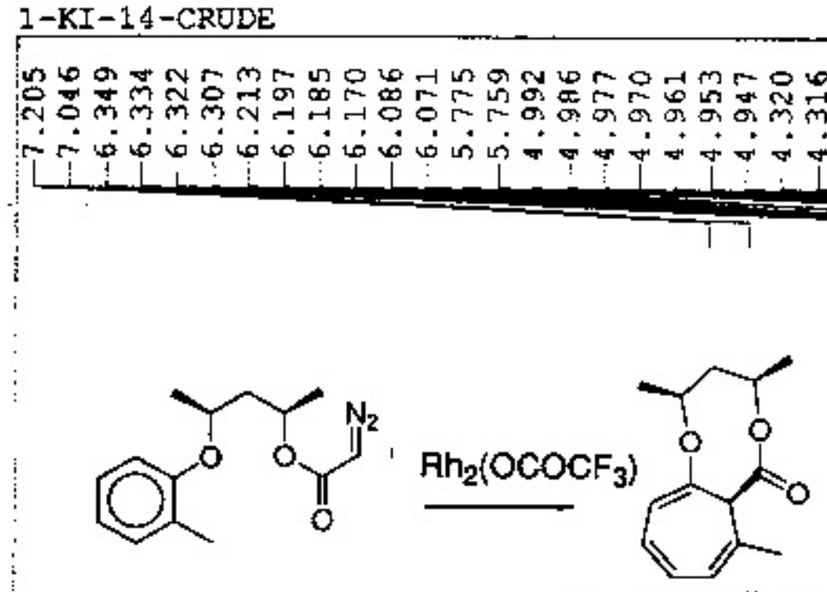


$Rh_2(OAc)_4$

Reaction Mixture

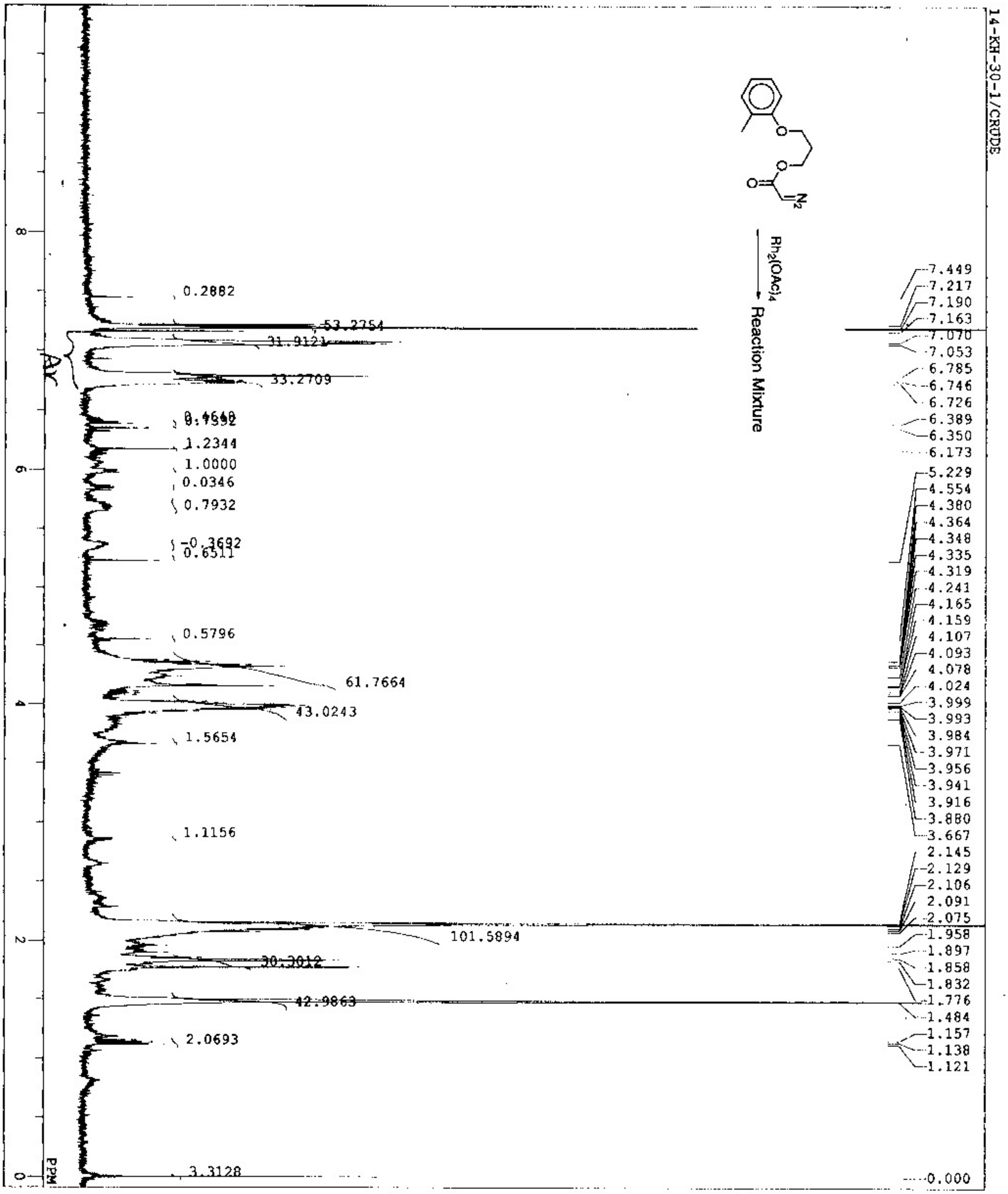
DFILE	E:\IHARA\NO1\1-KI-15-CRUDE.ALS	
COMNT	1-KI-15-CRUDE	
OBNUC	1H	
EXMOD	NON	
OBFRQ	399.65	MHz
OBSET	124.00	KHz
OBFIN	10500.0	Hz
POINT	16384	
FREQU	8000.0	Hz
SCANS	20	
ACQTM	2.048	sec
PD	3.967	sec
PW1	5.0	us
IRNUC	1H	
CTEMP	21.7	c
SLVNT	CDCL3	
EXREF	0.00	ppm
BF	0.25	Hz
RGAIN	22	

1-KI-14-CRUDE

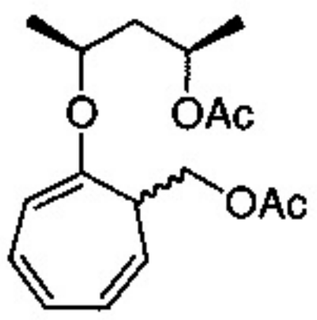


Reaction Mixture

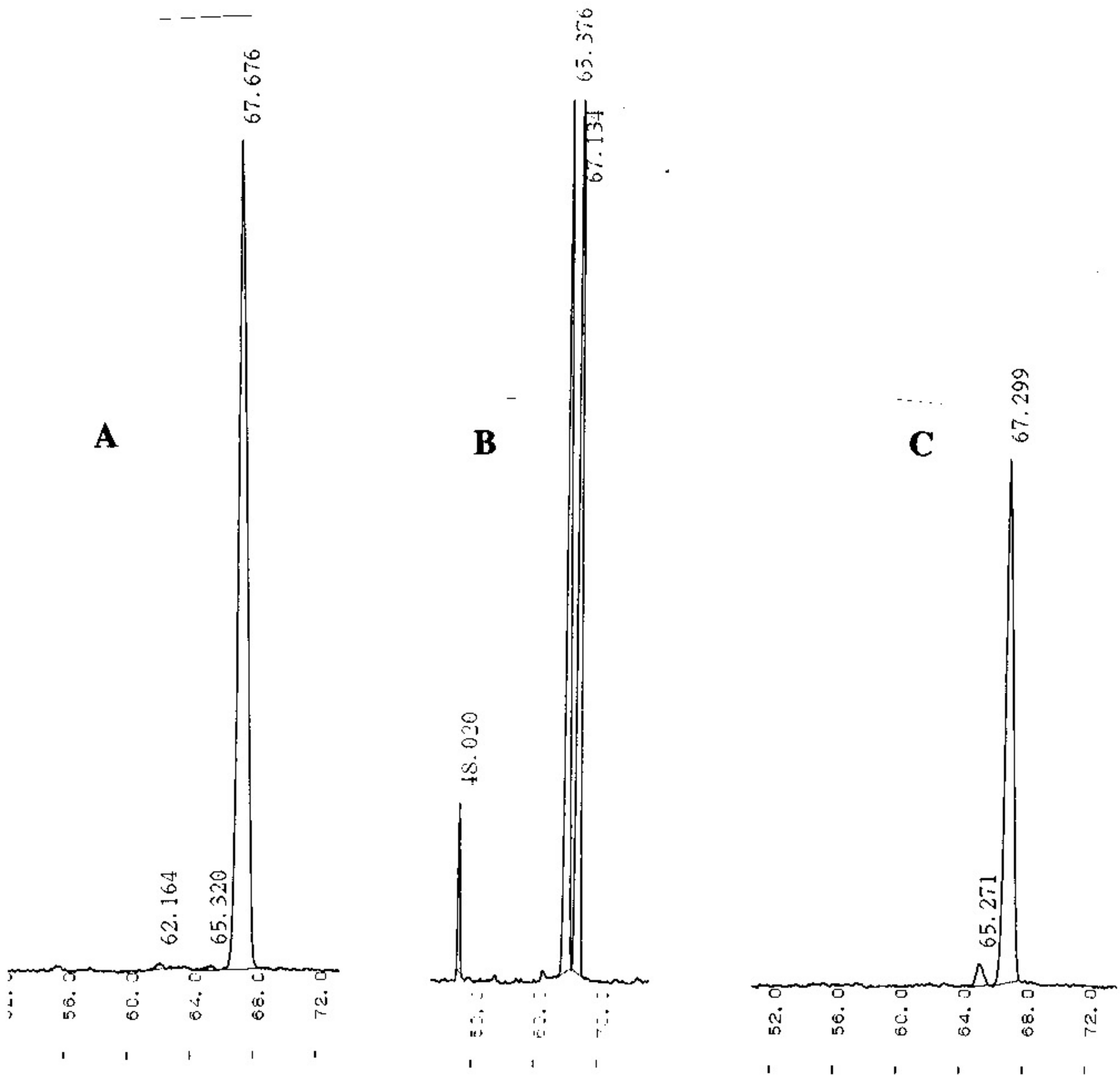
DFILE	E:\IHARA\NO1\1-KI-14-CRUDE.ALS	
COMNT	1-KI-14-CRUDE	
OBNUC	1H	
EXMOD	NON	
OBFRQ	399.65	MHz
OBSET	124.00	KHz
OBFIN	10500.0	Hz
POINT	16384	
FREQU	8000.0	Hz
SCANS	100	
ACQTM	2.048	sec
PD	3.967	sec
PW1	5.0	us
IRNUC	1H	
CTEMP	19.3	c
SLVNT	CDCL3	
EXREF	0.00	ppm
BF	0.25	Hz
RGAIN	13	

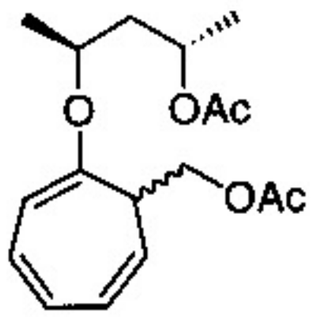



```
DFILE   E:\WINNMR\DATA\HAGIYA\NOTE NO.14
COMNT   14-KH-30-1/CRUDE
OBNUC   1H
EXMOD   NON
OBFRQ        399.65 MHz
OBSET        124.00 KHz
OBFIN      10500.0 Hz
POINT        16384
FREQU       8000.0 Hz
SCANS           40
ACQTM        2.048 sec
PD           3.967 sec
PW1             5.0 us
IRNUC   1H
CTEMP       23.3 C
SLVNT   CDCL3
EXREF          0.00 ppm
BF             0.30 Hz
RGAIN            25
```



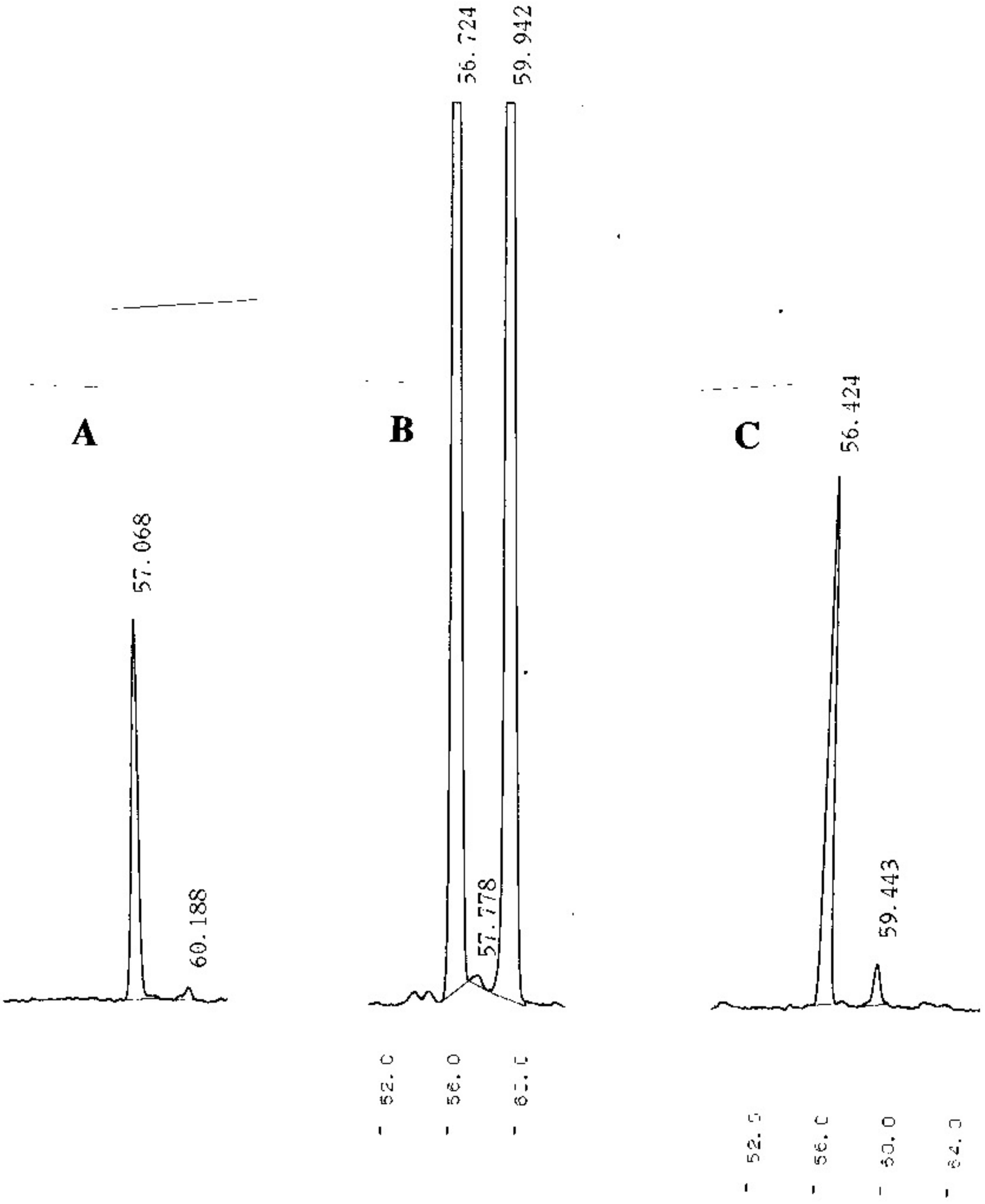
A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**

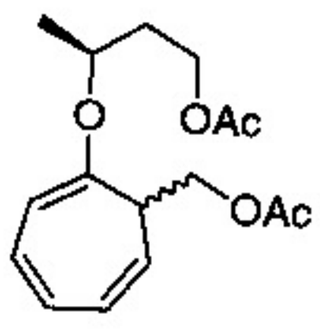




A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**

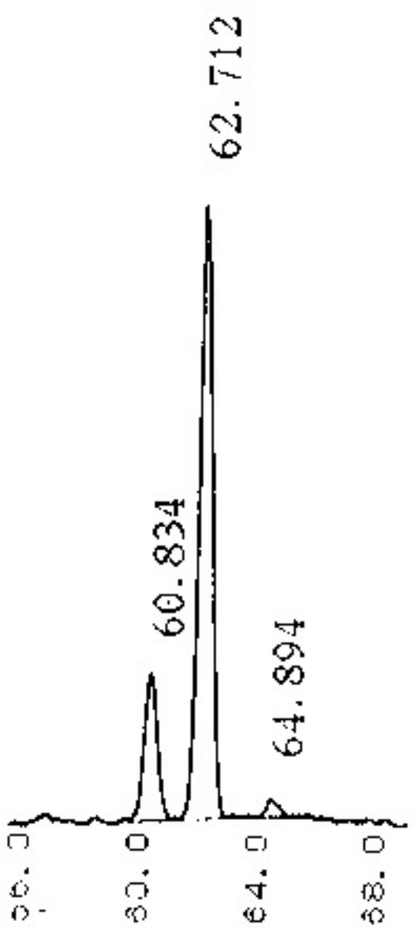
Dex-CB /50°C
30cm /sec



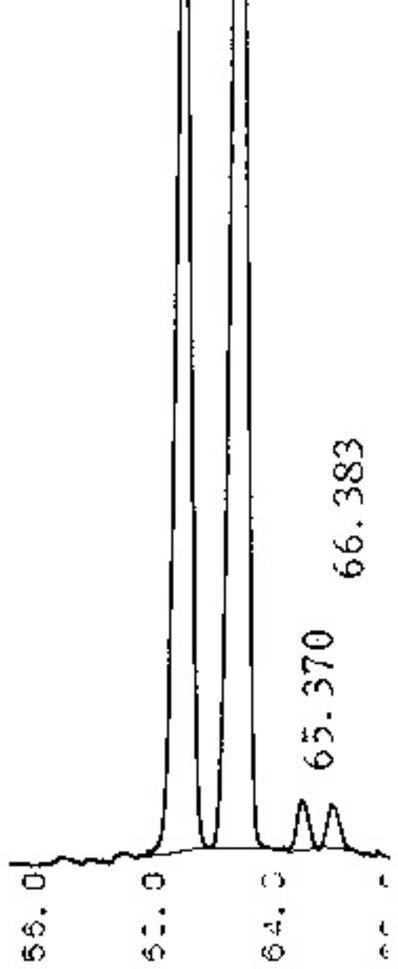


A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**

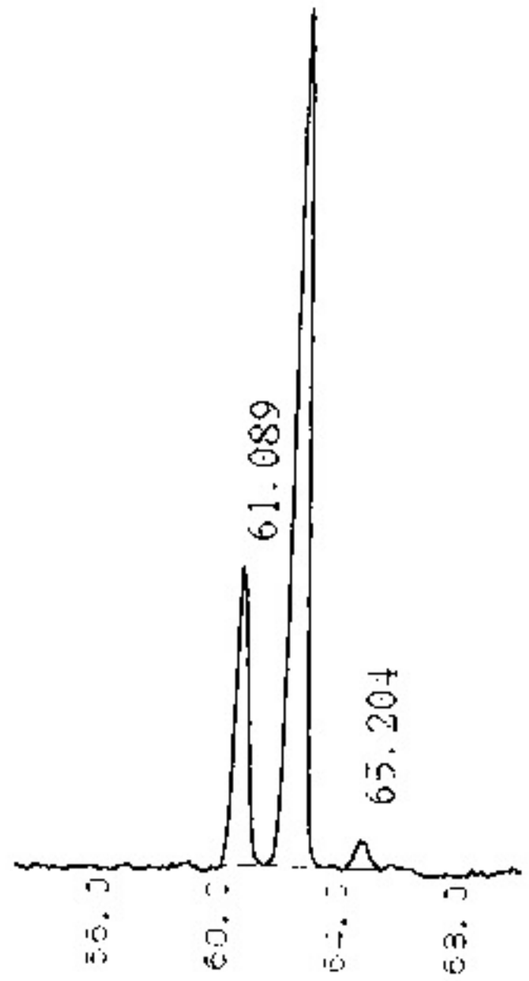
A

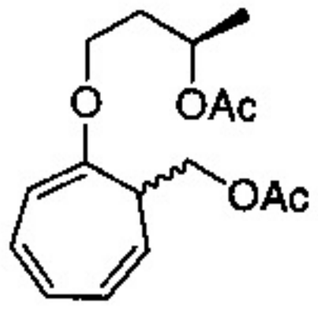


B

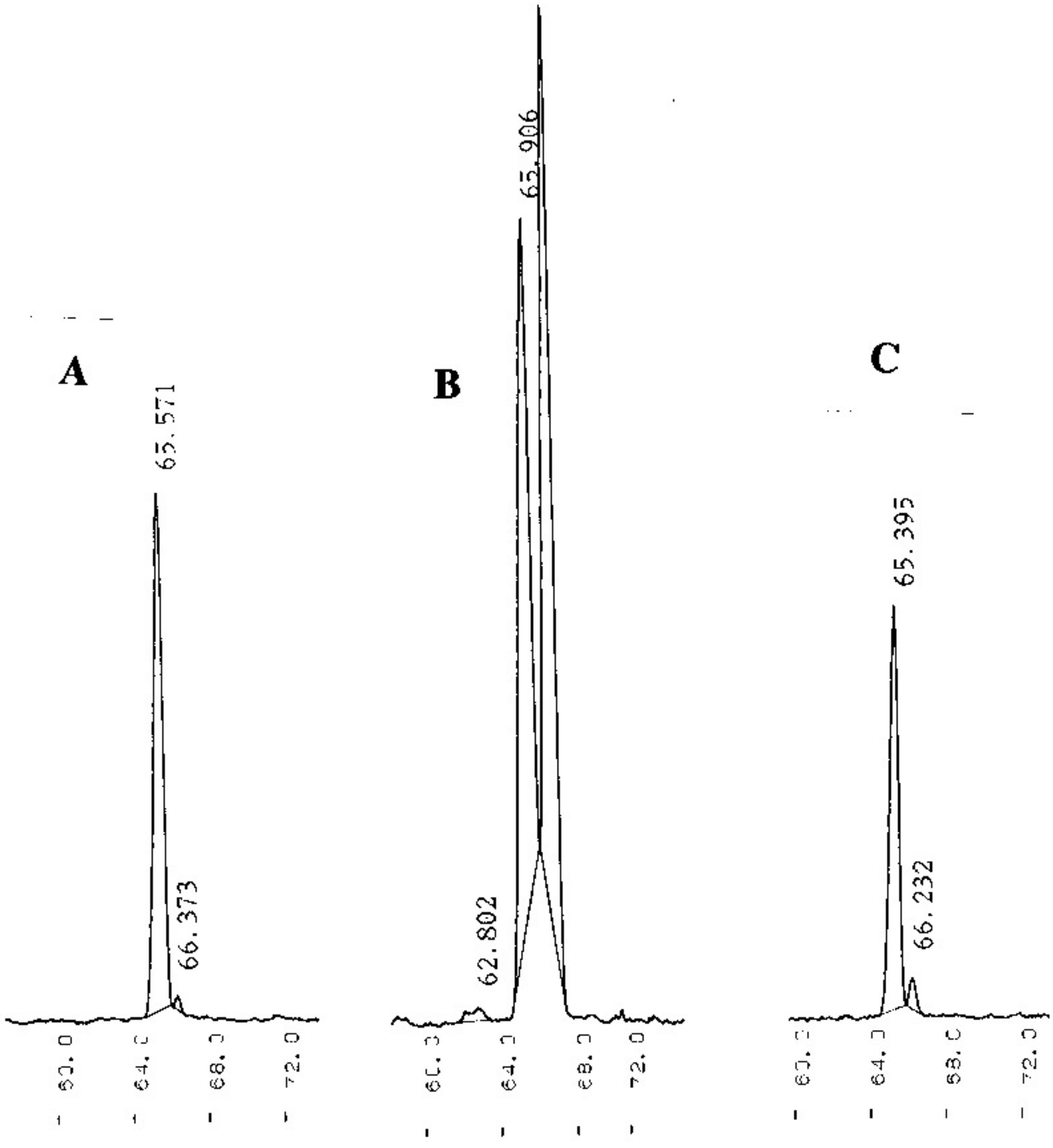


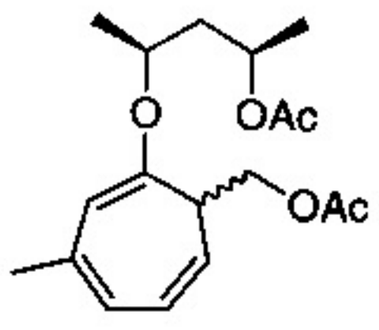
C





A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**

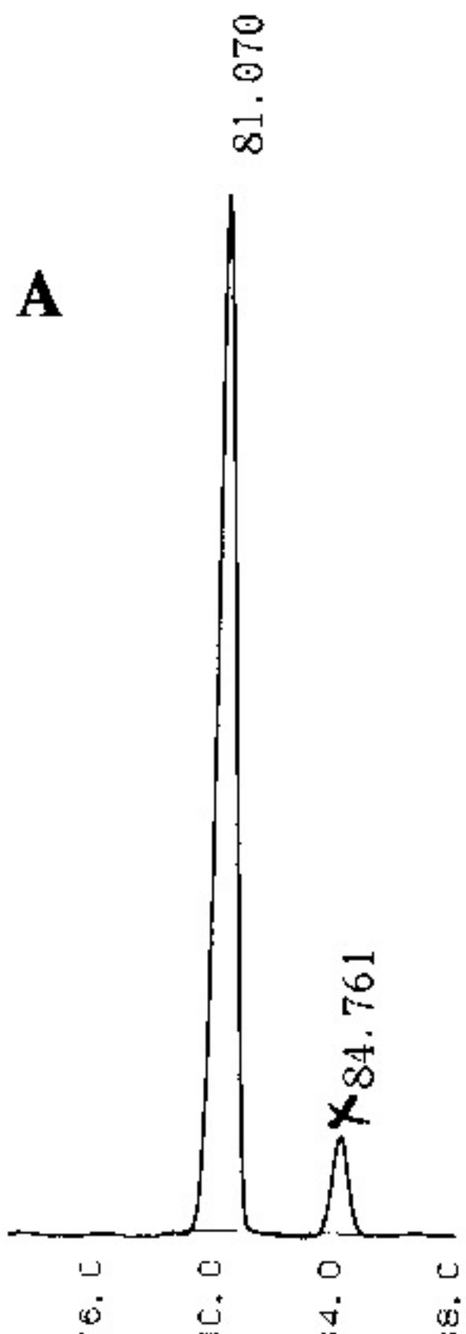




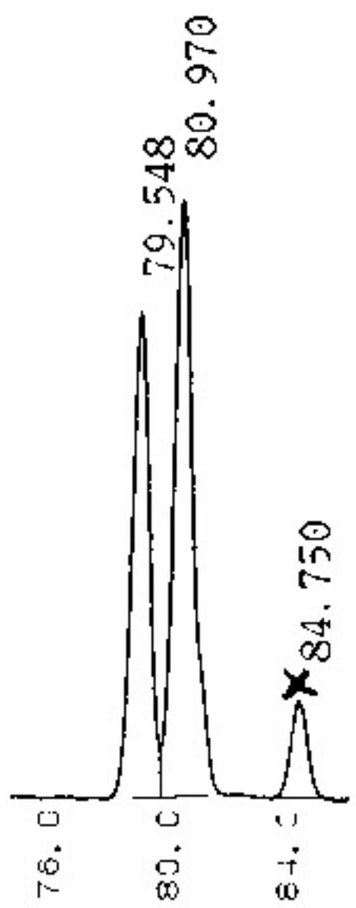
A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**

OV-1 145°C
30 cm/sec

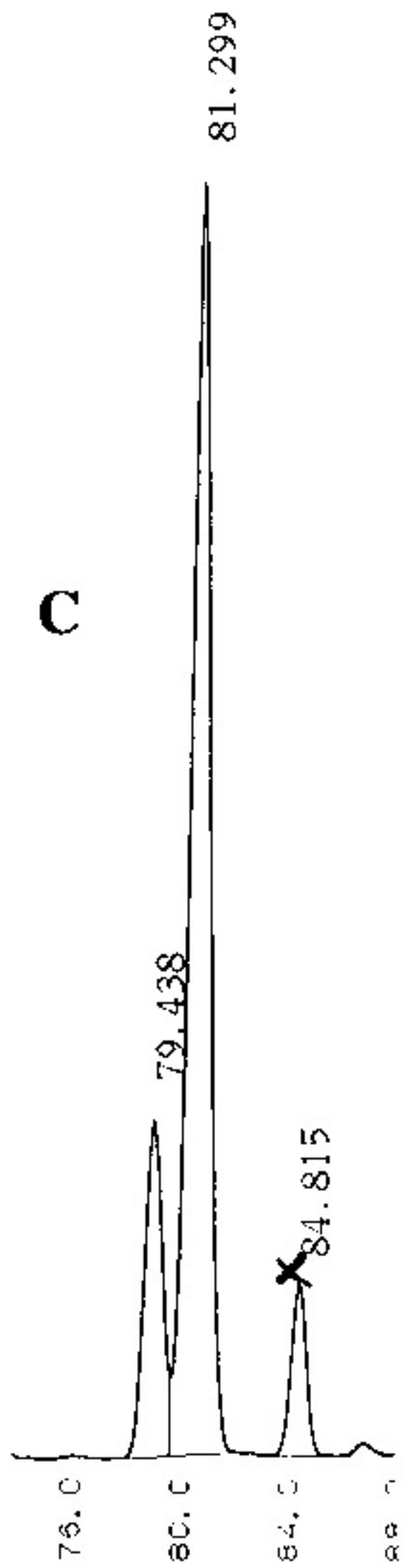
A



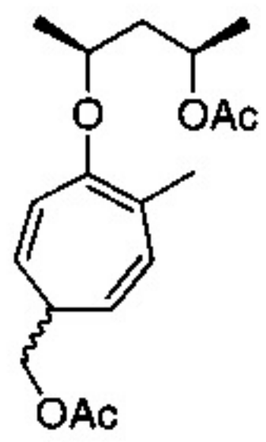
B



C

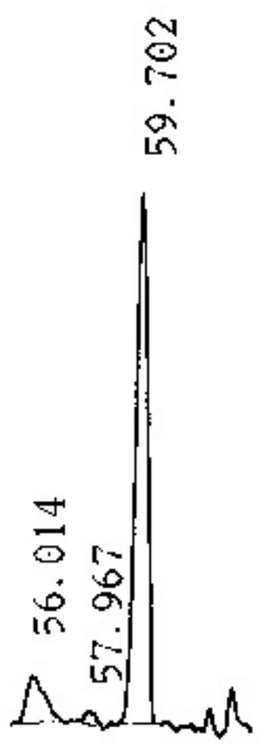


Dex C B, 155 °C
30 cm sec 1

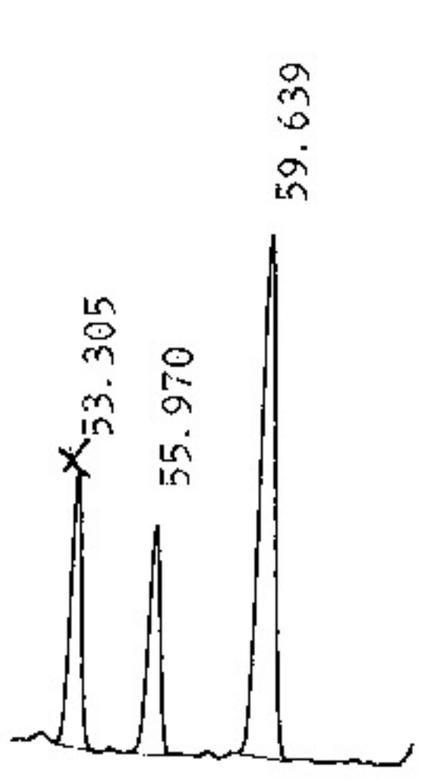


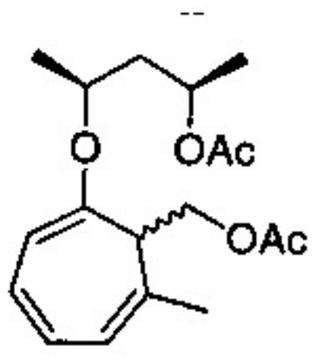
A: derived from the reaction mixture
B: derived through epimerization

A



B





A: derived from the reaction mixture
B: derived through epimerization
C: **A** + **B**