

Supporting Information

for

N–O Cleavage reactions of heterobicycloalkene-fused 2-isoxazolines

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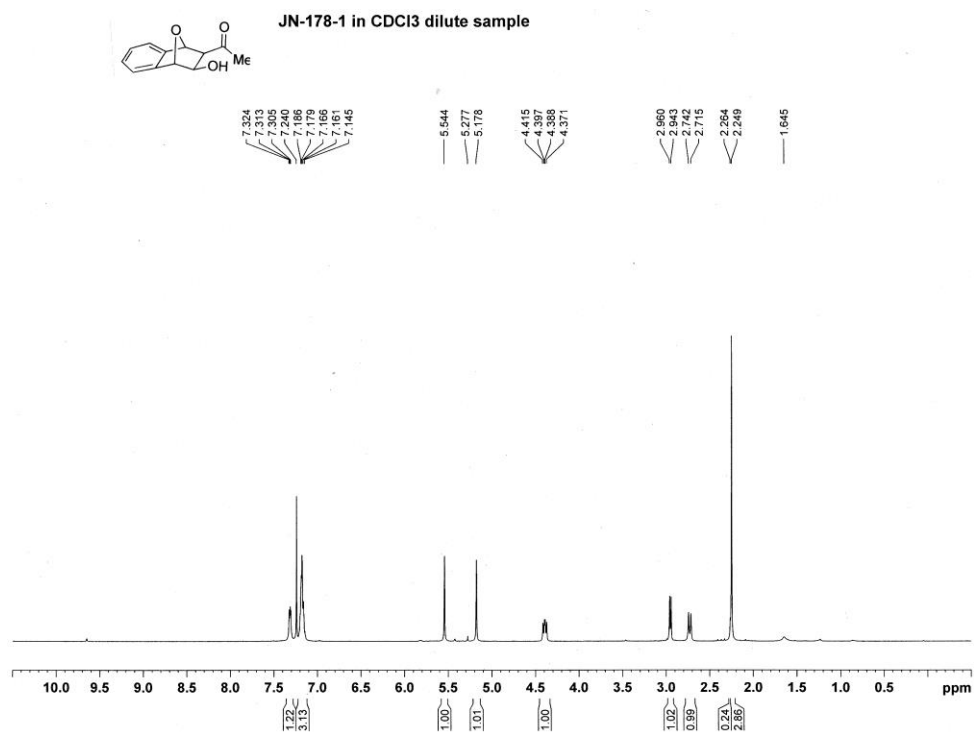
Email: William Tam - wtam@uoguelph.ca

*Corresponding author

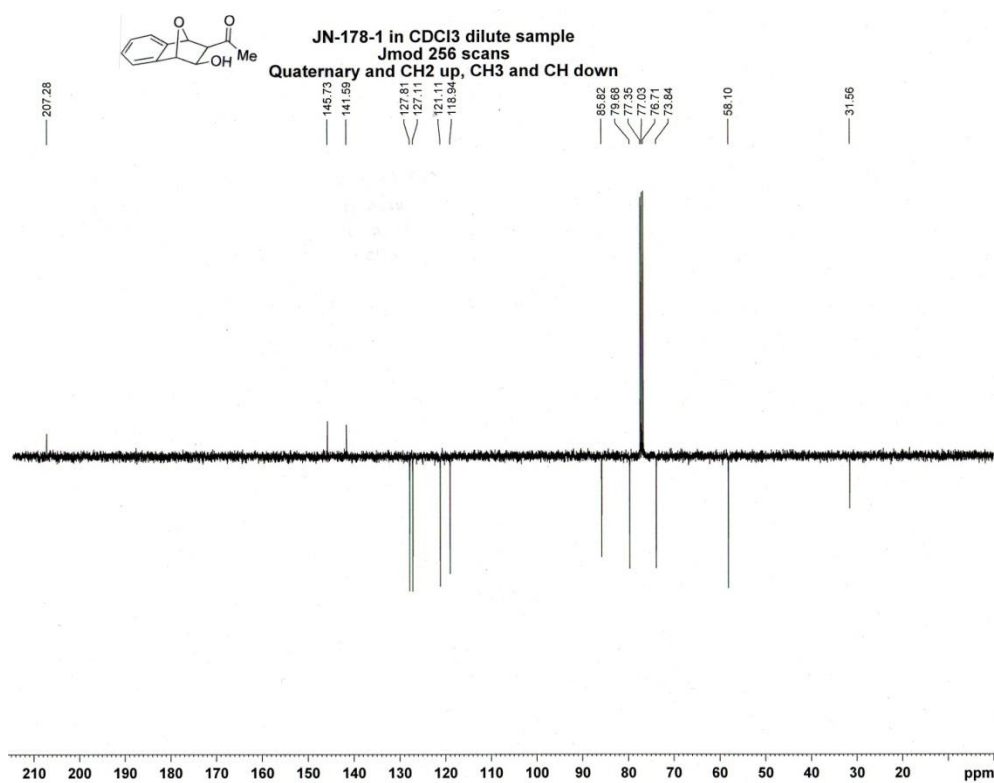
NMR Spectra

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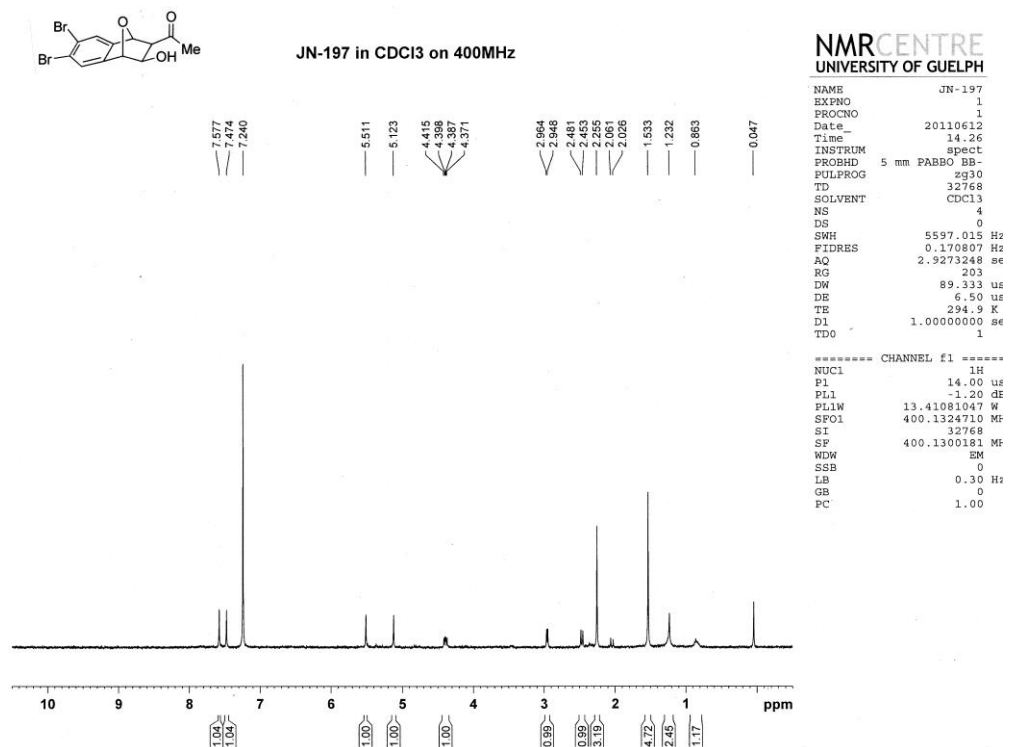
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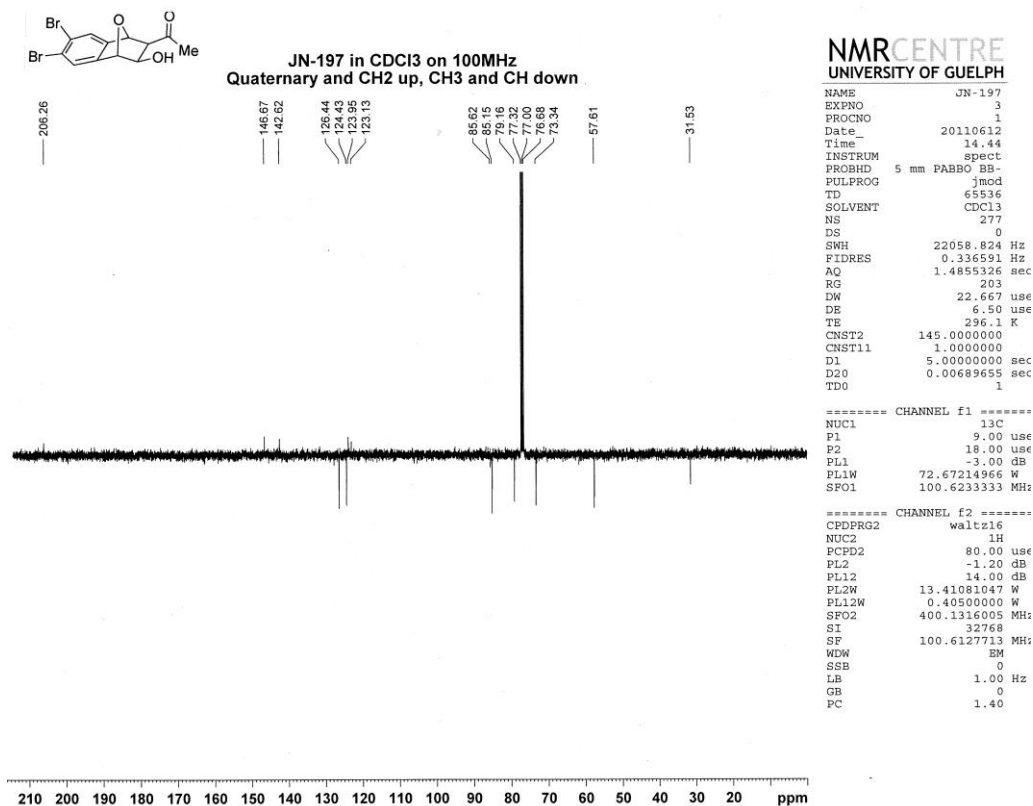
400 MHz ¹H NMR spectrum of **16a** in CDCl₃



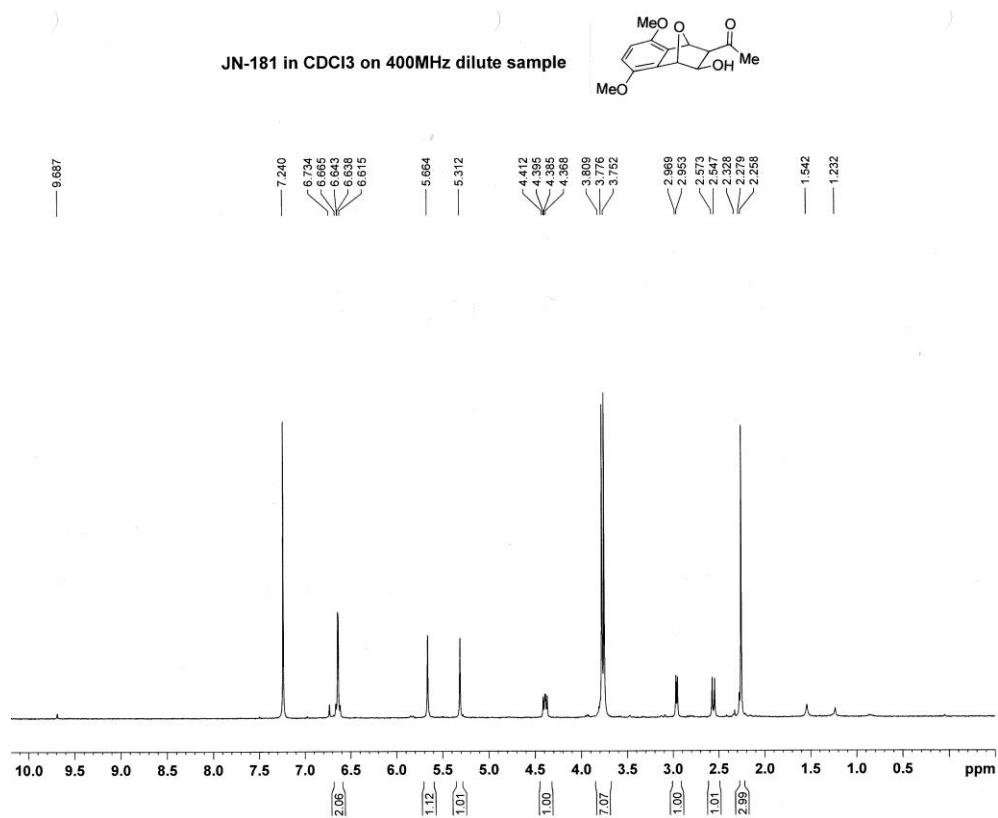
100 MHz ¹³C NMR spectrum of **16a** in CDCl₃



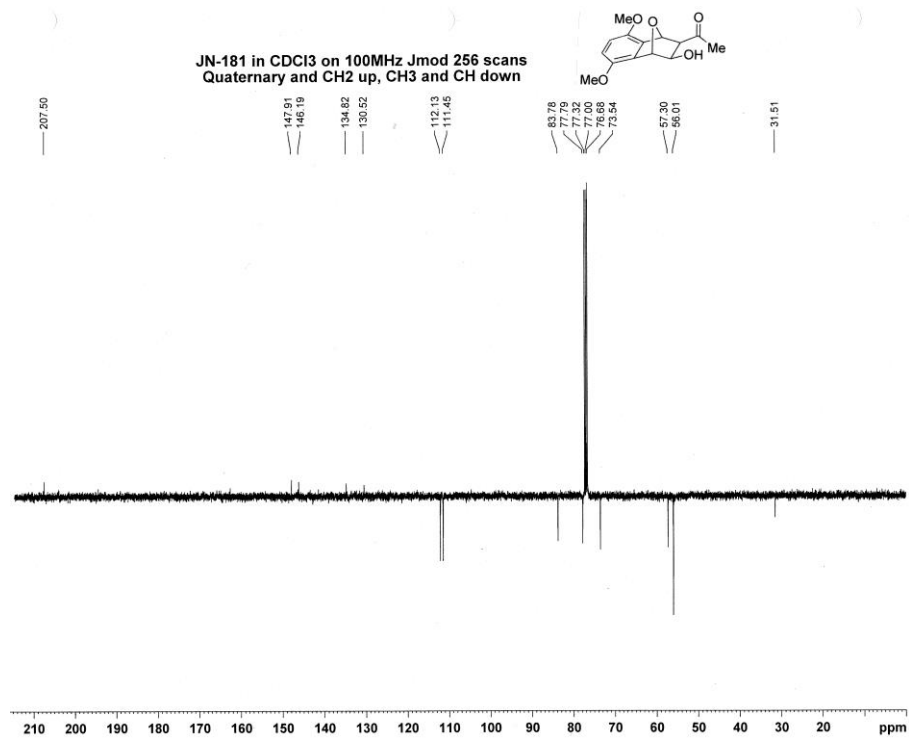
400 MHz ¹H NMR spectrum of **16b** in CDCl₃



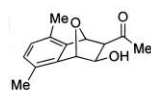
100 MHz ¹³C NMR spectrum of **16b** in CDCl₃



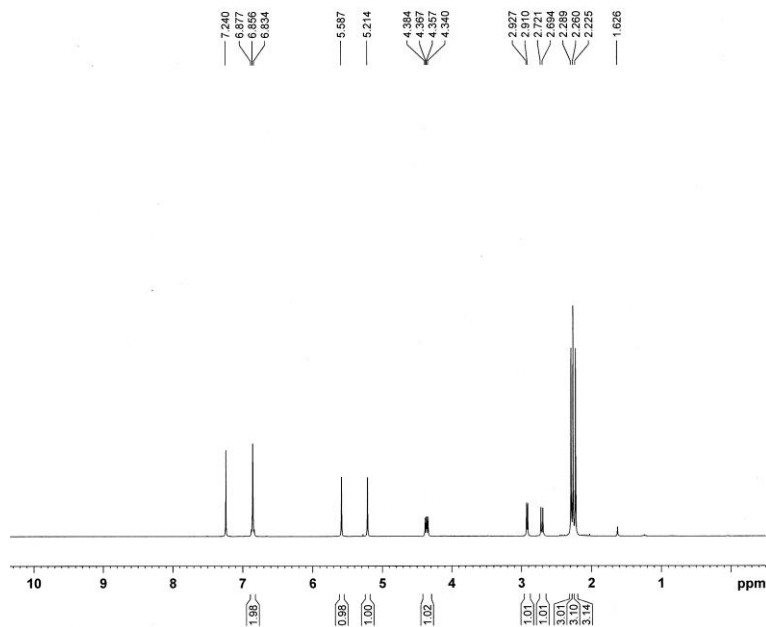
400 MHz ¹H NMR spectrum of **16d** in CDCl₃



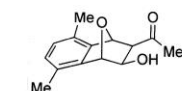
100 MHz ¹³C NMR spectrum of **16d** in CDCl₃



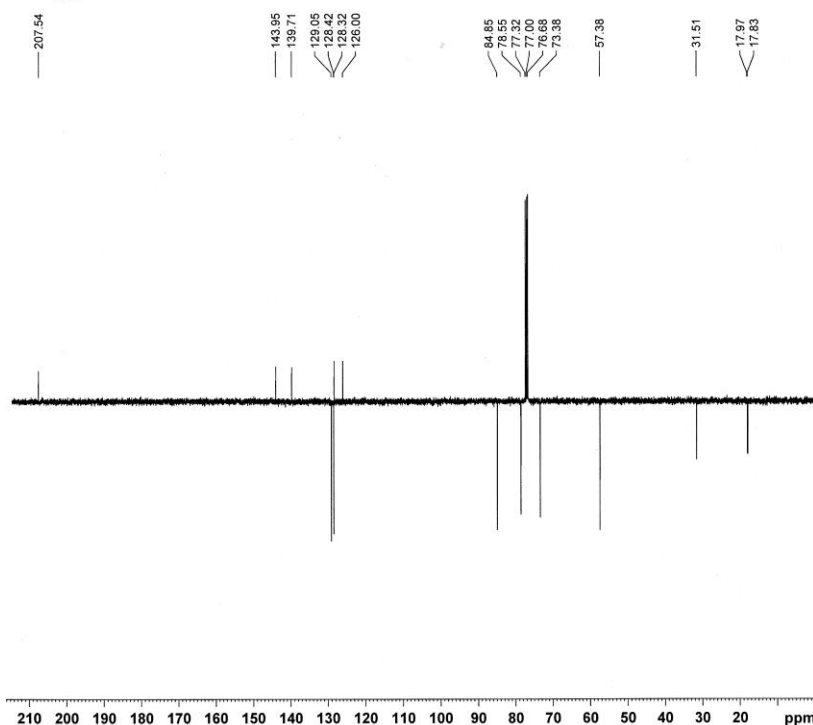
JN-196 in CDCl₃ on 400MHz



400 MHz ¹H NMR spectrum of **16e** in CDCl₃



JN-196 in CDCl₃ on 100MHz
Quaternary and CH₂ up, CH₃ and CH down



100 MHz ¹³C NMR spectrum of **16e** in CDCl₃

NMRCENTRE
UNIVERSITY OF GUELPH

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NAME      JN-196
EXPNO     1
PROCNO    1
Date_     20110605
Time      17.26
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zg30
TD         32768
SOLVENT   CDCl3
NS         4
DS         0
SWH        5597.015 Hz
FIDRES     0.170807 Hz
AQ         2.9273240 sec
RG         144
DW         89.333 usec
DE         6.50 usec
TE         295.5 K
D1         1.00000000 sec
TD0        1
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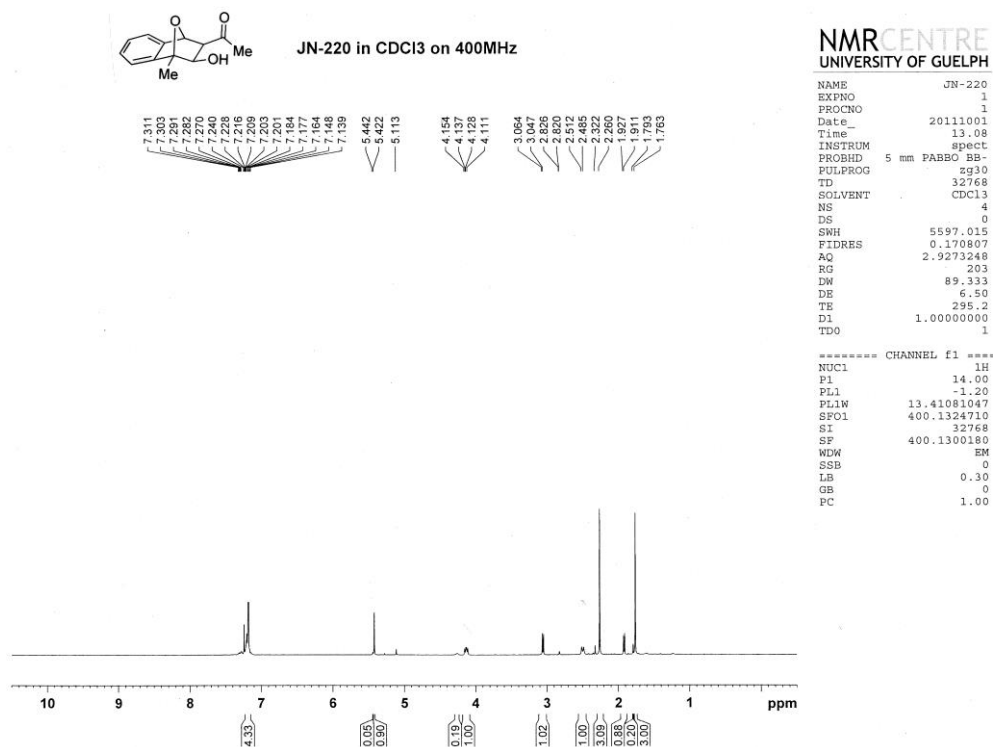
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NUC1      1H
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PL1       -1.20 dB
PL1W      13.41081047 W
SFO1      400.1324710 MH
SI        32768
SF        400.1300180 MH
WDW       EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
```

NMRCENTRE
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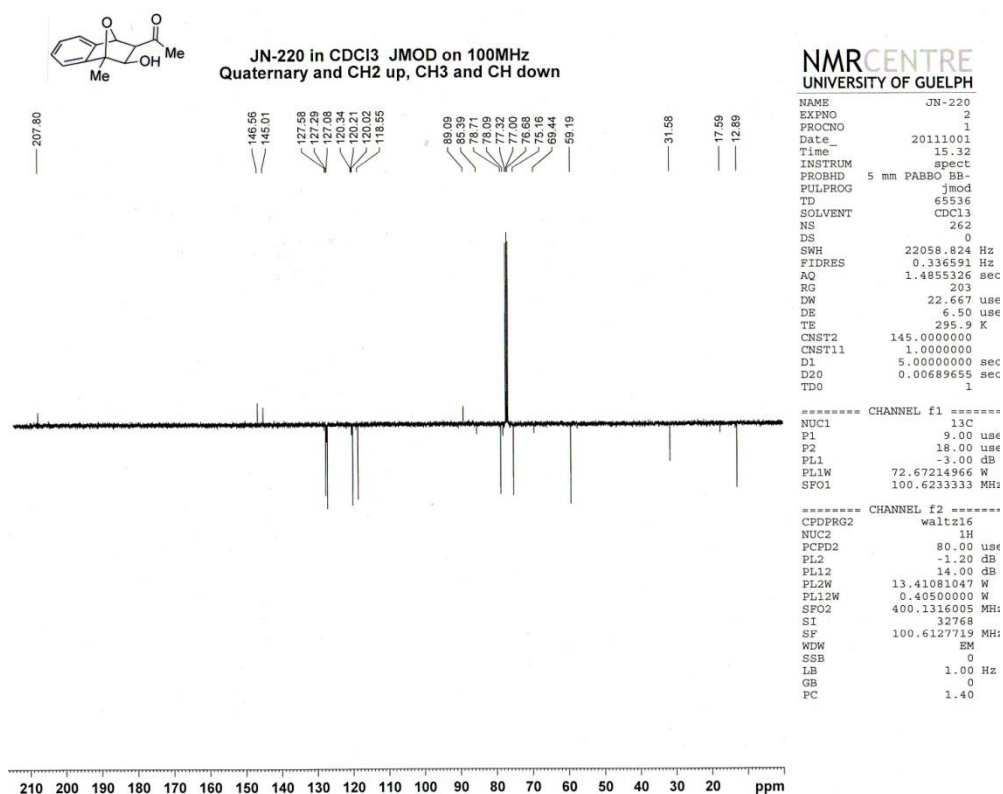
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PULPROG   jmod
TD         65536
SOLVENT   CDCl3
NS         211
DS         0
SWH        22058.824 Hz
FIDRES     0.336591 Hz
AQ         1.4855326 sec
RG         203
DW         22.667 usec
DE         6.50 usec
TE         297.1 K
CNST2     145.0000000
CNST11    1.0000000
D1         5.00000000 sec
D20       0.00689655 sec
TD0        1
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```
----- CHANNEL f1 -----
NUC1      13C
P1         9.00 usec
P2        18.00 usec
PL1       -3.00 dB
PL1W      72.67214966 W
SFO1      100.6233333 MHz
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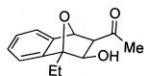
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NUC2       1H
PCPD2     80.00 usec
PL2       -1.20 dB
PL12      14.00 dB
PL2W      13.41081047 W
PL12W     0.40500000 W
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WDW       EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
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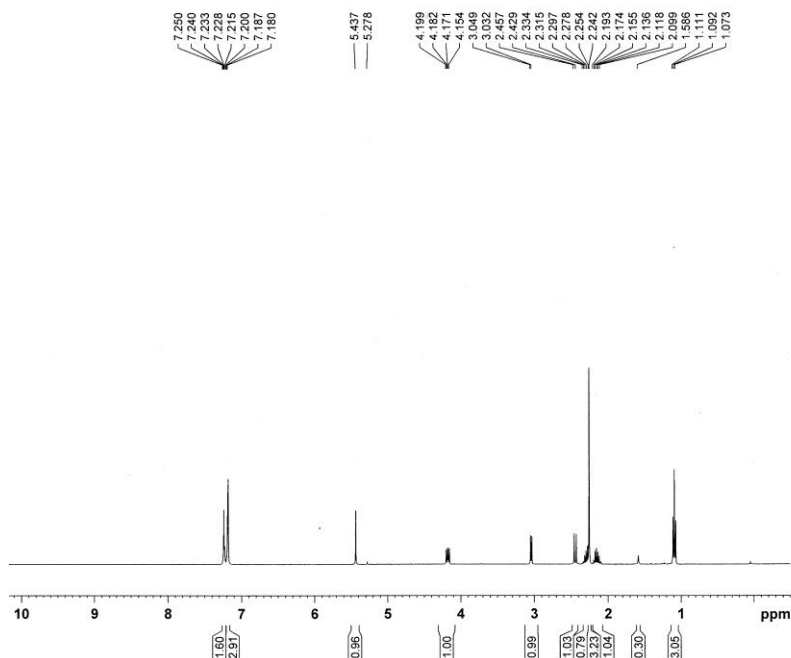
400 MHz ¹H NMR spectrum of **16f** in CDCl₃



100 MHz ¹³C NMR spectrum of **16f** in CDCl₃



JN-214 in CDCl₃ on 400MHz

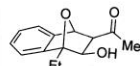


NMR CENTRE
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NAME JN-214
EXPNO 1
PROCNO 1
Date 20110910
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PULPROG zg30
TD 32768
SOLVENT CDCl₃
NS 4
DS 0
SWH 5597.015 Hz
FIDRES 0.170807 Hz
AQ 2.9273248 se
RG 203
DW 89.333 us
DE 6.50 us
TE 295.2 K
D1 1.00000000 se
TD0 1

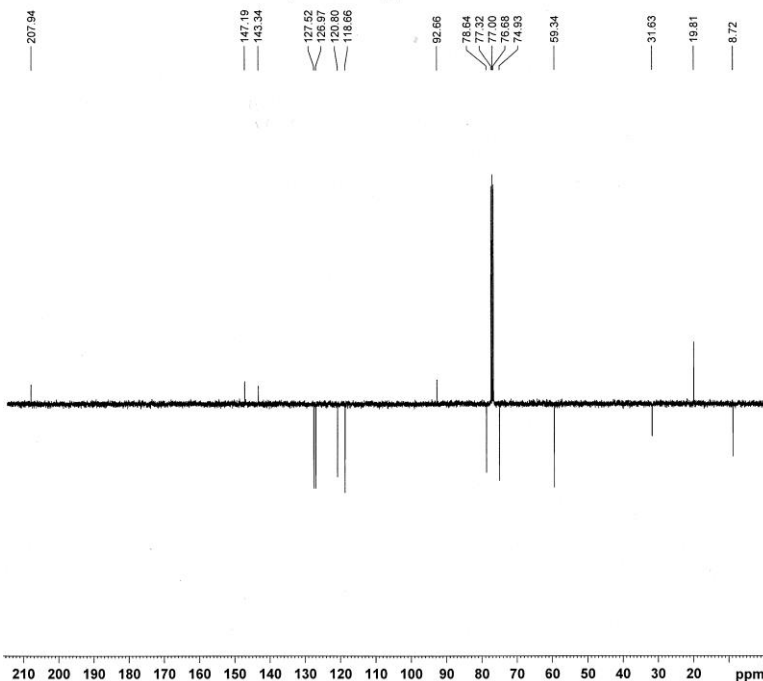
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PL1 -1.20 dB
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SFO1 400.1324710 MH
SI 32768
SF 400.1300180 MH
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

400 MHz ¹H NMR spectrum of **16g** in CDCl₃



JN-214 in CDCl₃

Jmod 256 scans
Quaternary and CH2 up, CH3 and CH down

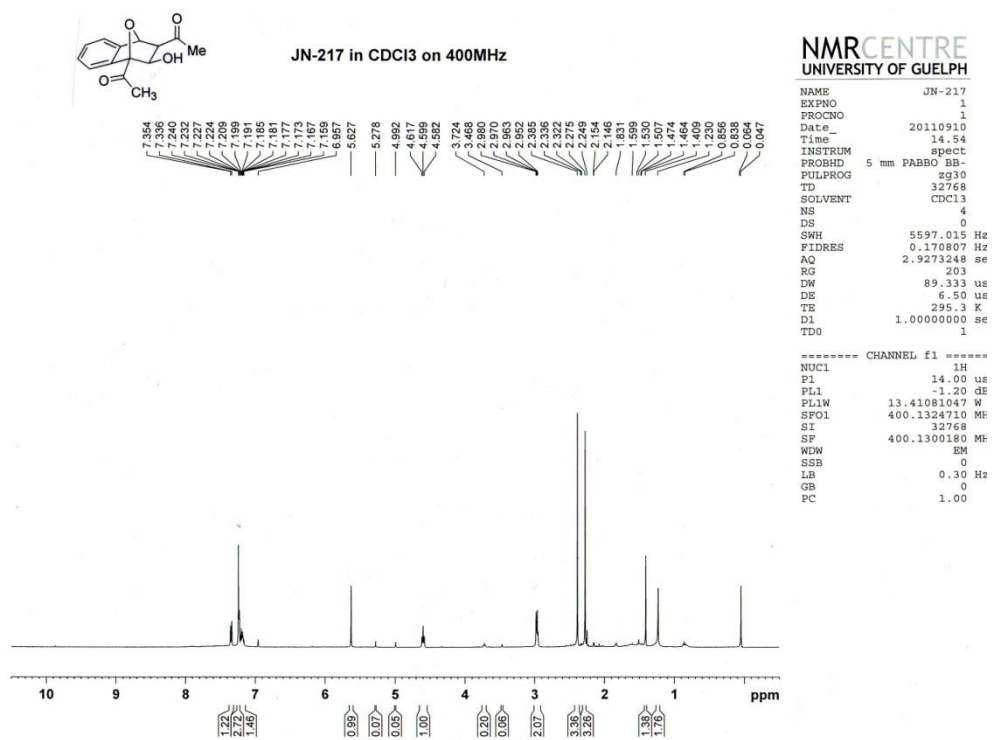


NMR CENTRE
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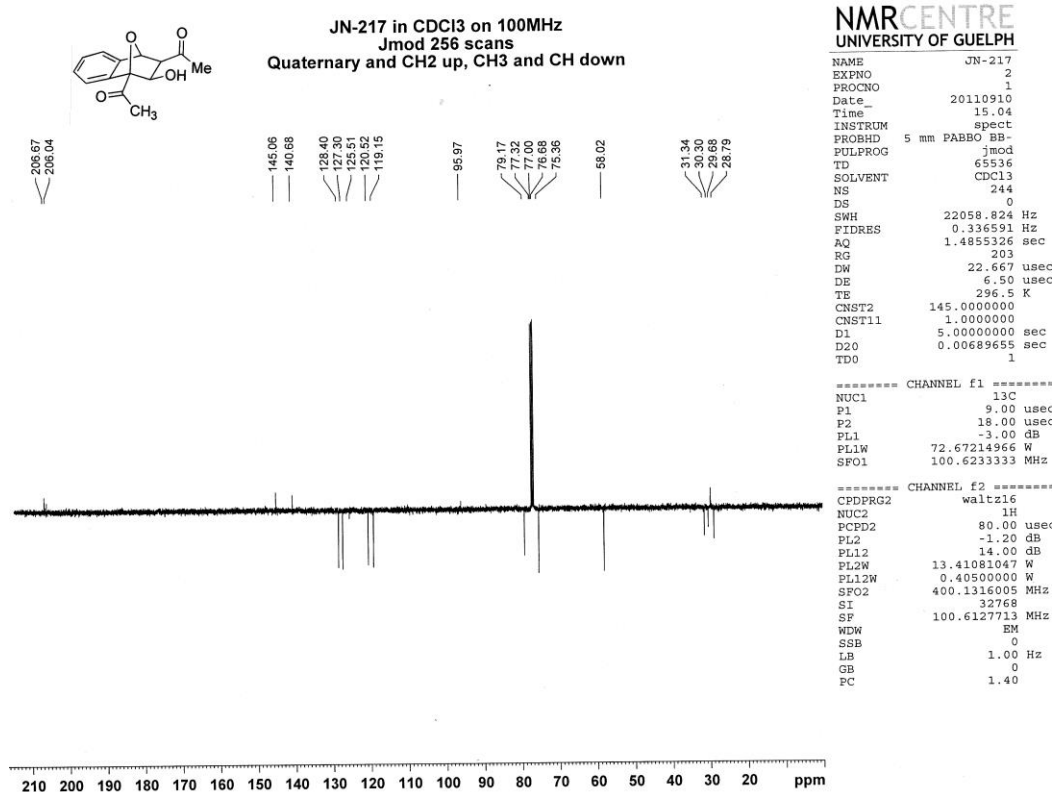
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PROCNO 1
Date 20110910
Time 13.59
INSTRUM spect
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PULPROG jmod
TD 65536
SOLVENT CDCl₃
NS 256
DS 0
SWH 22058.824 Hz
FIDRES 0.336591 Hz
AQ 1.4855326 se
RG 203
DW 22.667 us
DE 6.50 us
TE 295.6 K
CNST2 145.0000000
CNST11 1.0000000
D1 5.00000000 se
D20 0.00689655 se
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 9.00 us
P2 18.00 us
PL1 -3.00 dB
PL1W 72.67214966 W
SFO1 100.6233333 MH
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 us
PL2 -1.20 dB
PL12 14.00 dB
PL2W 13.41081047 W
PL12W 0.40500000 W
SFO2 400.1316005 MH
SI 32768
SF 100.6127712 MH
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

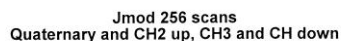
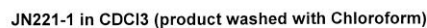
100 MHz ¹³C NMR spectrum of **16g** in CDCl₃

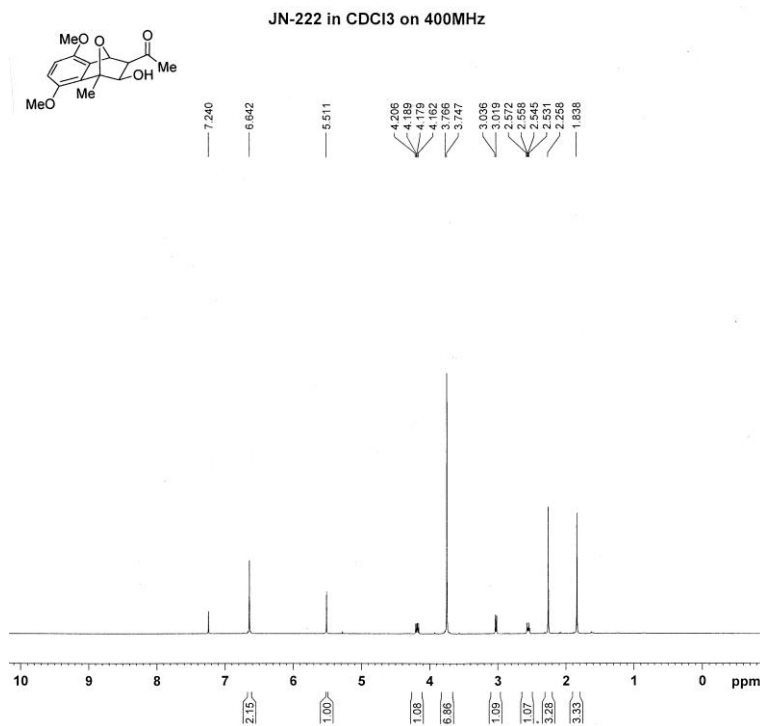


400 MHz ¹H NMR spectrum of **16i** in CDCl₃



100 MHz ¹³C NMR spectrum of **16i** in CDCl₃

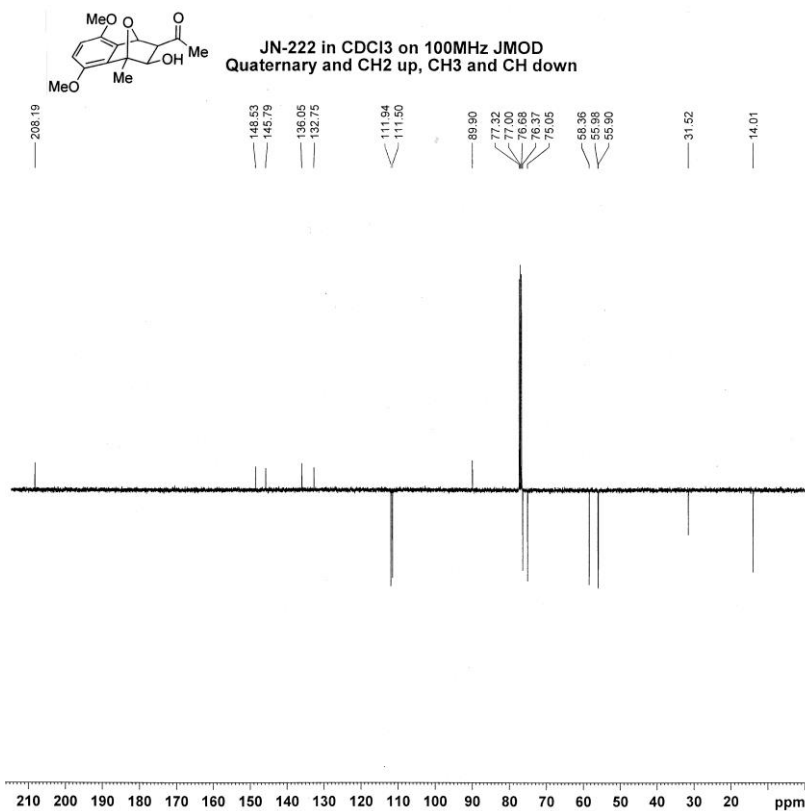
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NMR CENTRE
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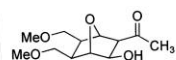
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PULPROG   zg30
TD         32768
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NS         4
DS         0
SWH        5597.015 Hz
FIDRES     0.170807 Hz
AQ         2.9273248 se
RG         203
DW         89.333 us
DE         6.50 us
TE         295.2 K
D1         1.00000000 se
D10        1
===== CHANNEL f1 =====
NUC1       1H
P1         14.00 us
PL1        -1.20 dB
PL1W       13.41081047 W
SFO1       400.1324710 MHz
SI         32768
SF         400.1300179 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
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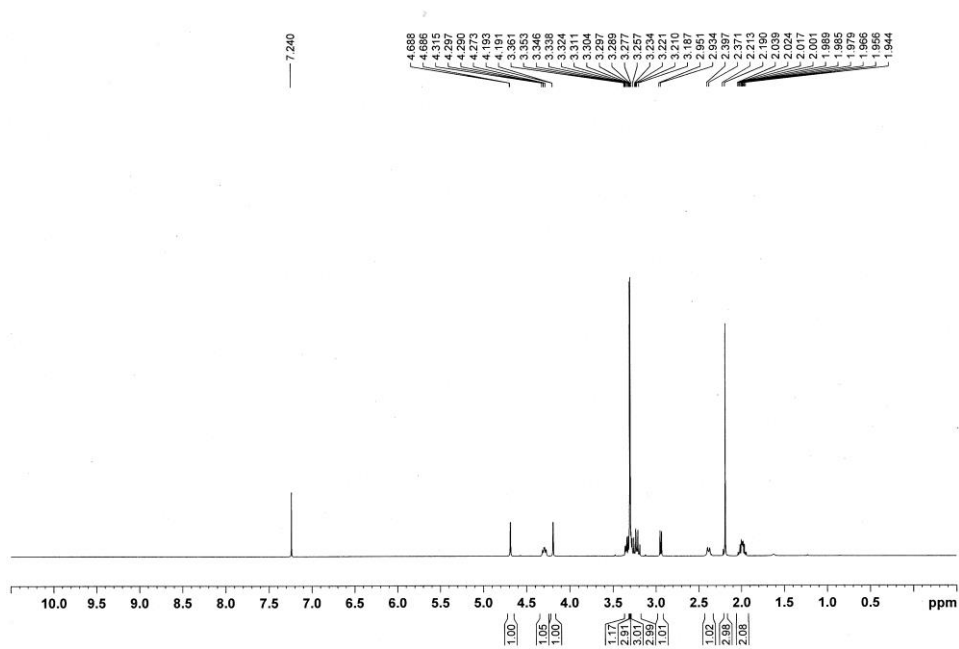
NMR CENTRE
UNIVERSITY OF GUELPH

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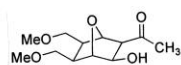
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EXPNO     1
PROCNO    1
Date_     20111001
Time      14.33
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   jmod
TD         65536
SOLVENT   CDCl3
NS         350
DS         0
SWH        22058.824 Hz
FIDRES     0.336591 Hz
AQ         1.4855326 se
RG         203
DW         22.667 us
DE         6.50 us
TE         296.8 K
CNST2     145.0000000
CNST11    1.00000000
D1         5.00000000 se
D20        0.00689655 se
D10        1
===== CHANNEL f1 =====
NUC1       13C
P1         9.00 us
P2         18.00 us
PL1        -3.00 dB
PL1W       72.67214966 W
SFO1       100.6233333 MHz
===== CHANNEL f2 =====
CPDPRG2    waltz16
NUC2       1H
PCPD2      80.00 us
PL2        -1.20 dB
PL12       14.00 dB
PL2W       13.41081047 W
PL12W      0.40500000 W
SFO2       400.1316005 MHz
SI         32768
SF         100.6127719 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
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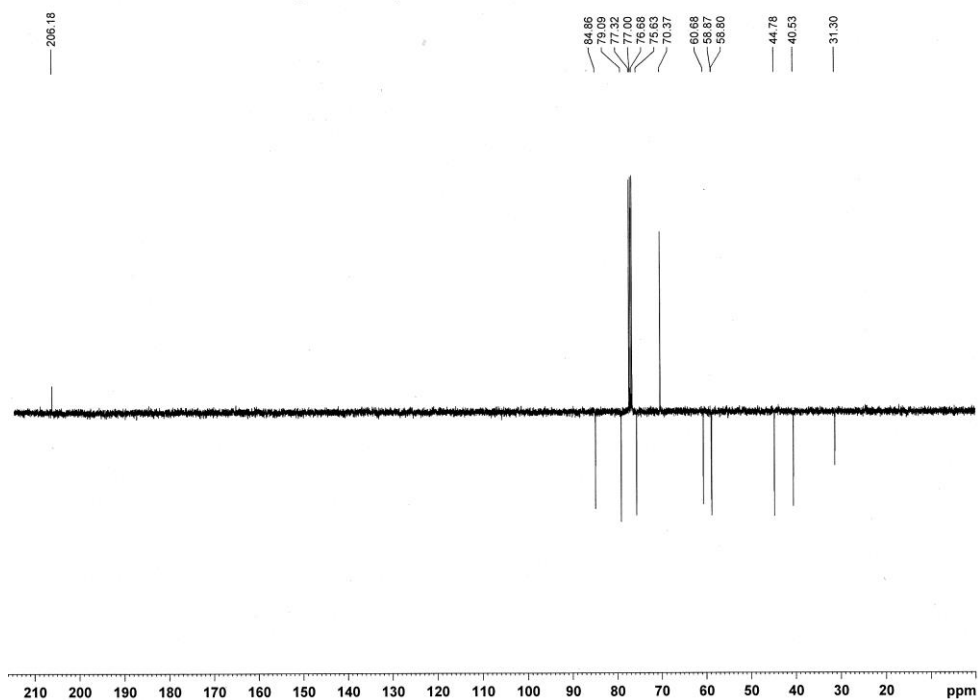
JN-201 in CDCl₃



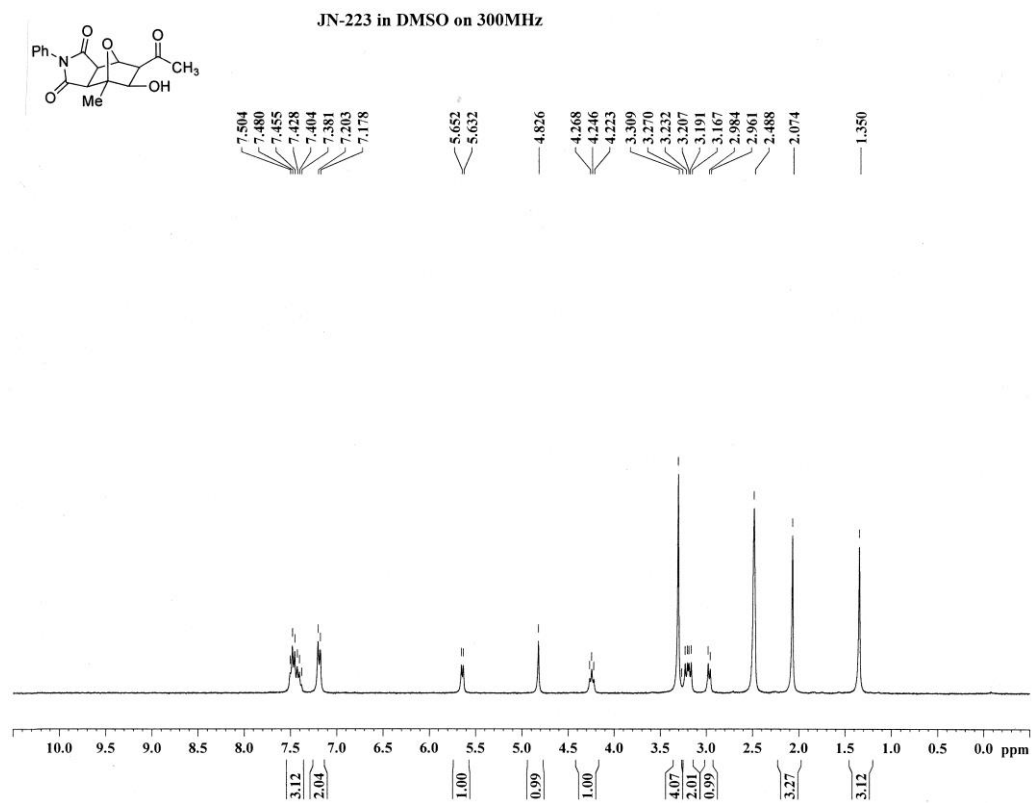
400 MHz ¹H NMR spectrum of **20** in CDCl₃



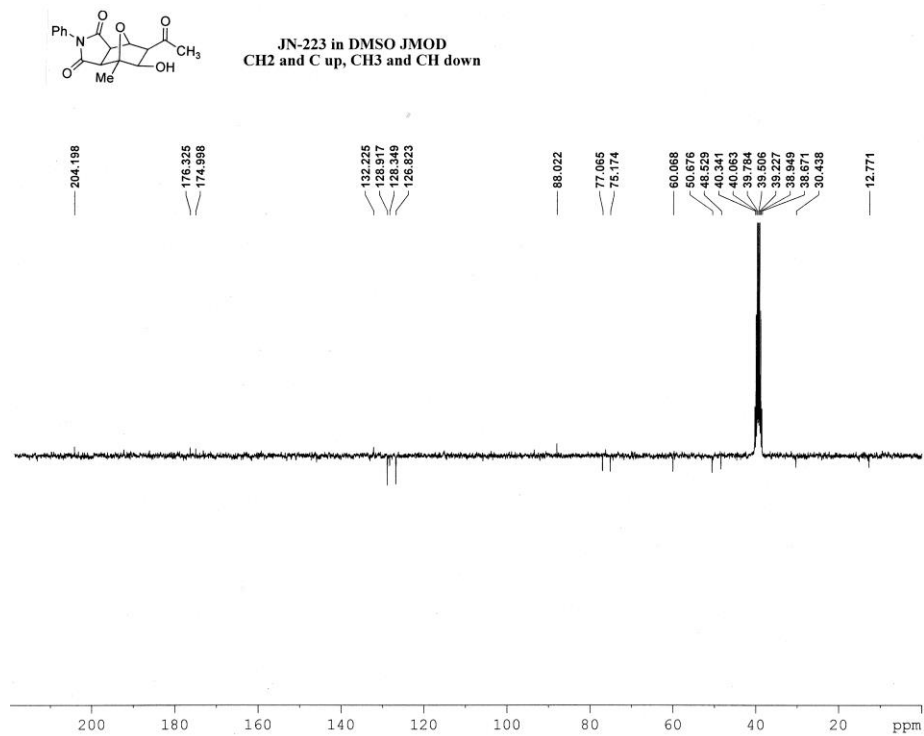
JN-201 in CDCl₃ on 100MHz
Quaternary and CH₂ up, CH₃ and CH down



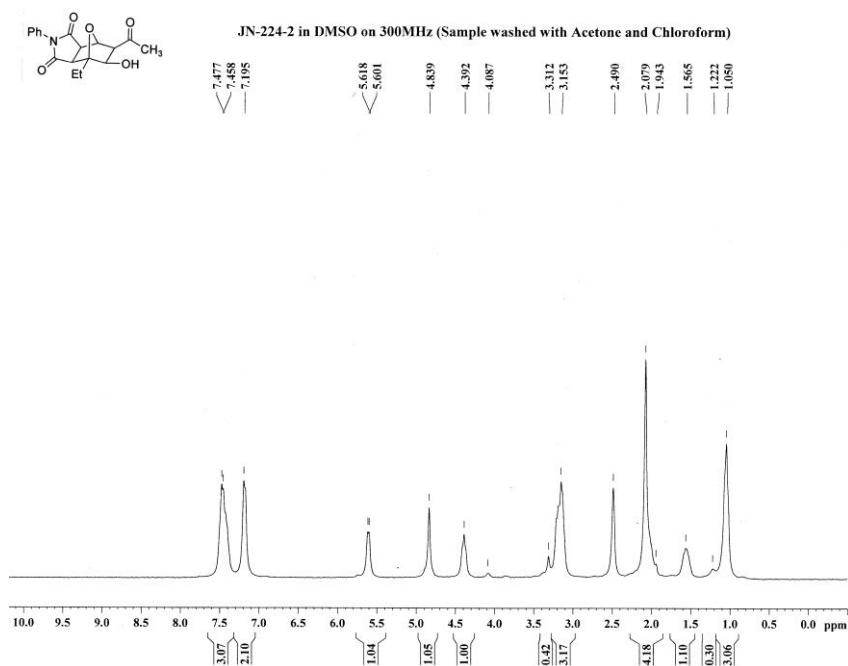
100 MHz ¹³C NMR spectrum of **20** in CDCl₃



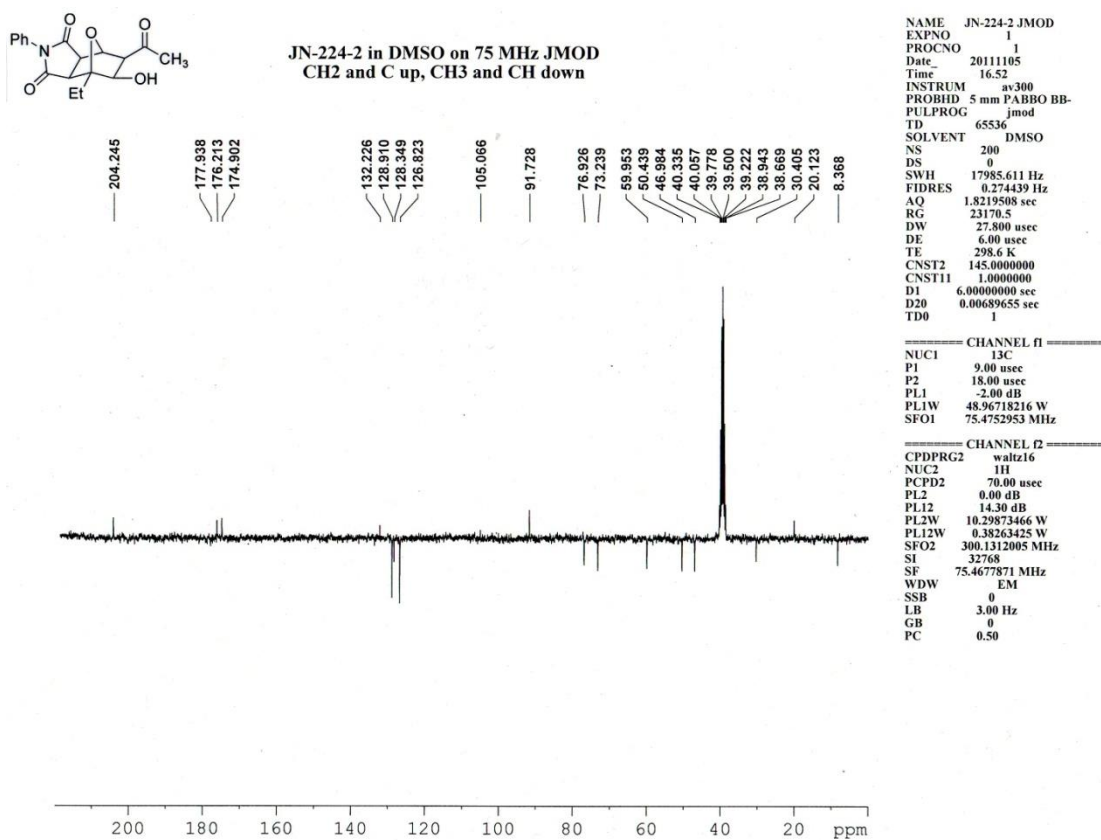
300 MHz ¹H NMR spectrum of **21a** in DMSO-d₆



75 MHz ¹³C NMR spectrum of **21a** in DMSO-d₆



300 MHz ^1H NMR spectrum of **21b** in DMSO- d_6



75 MHz ^{13}C NMR spectrum of **21b** in DMSO- d_6

