

ORGANOMETALLICS

Organometallics, 1997, 16(3), 329-341, DOI:[10.1021/om960576q](https://doi.org/10.1021/om960576q)

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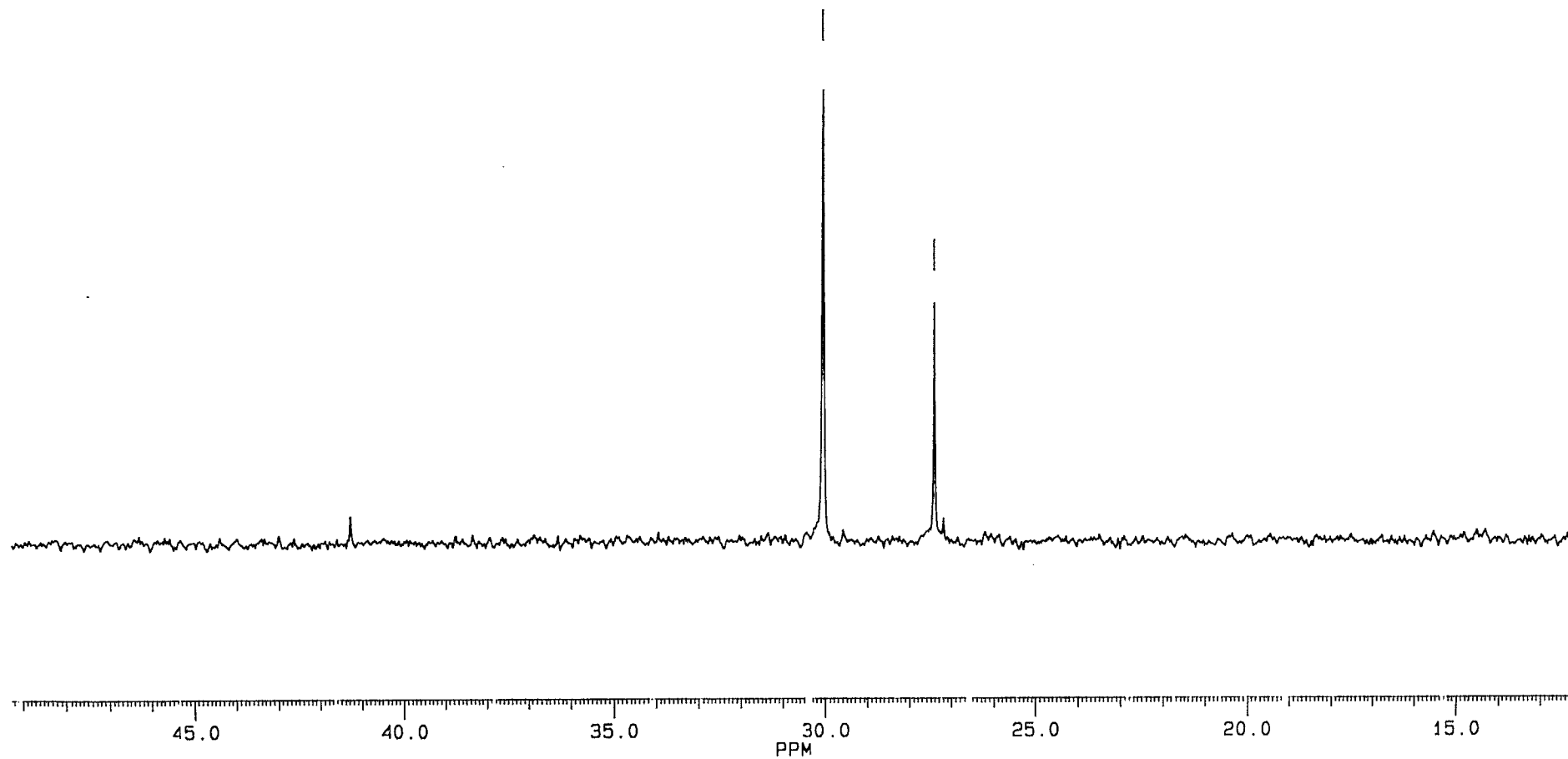
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^{13}C NMR (1)

30.040E

27. 4040



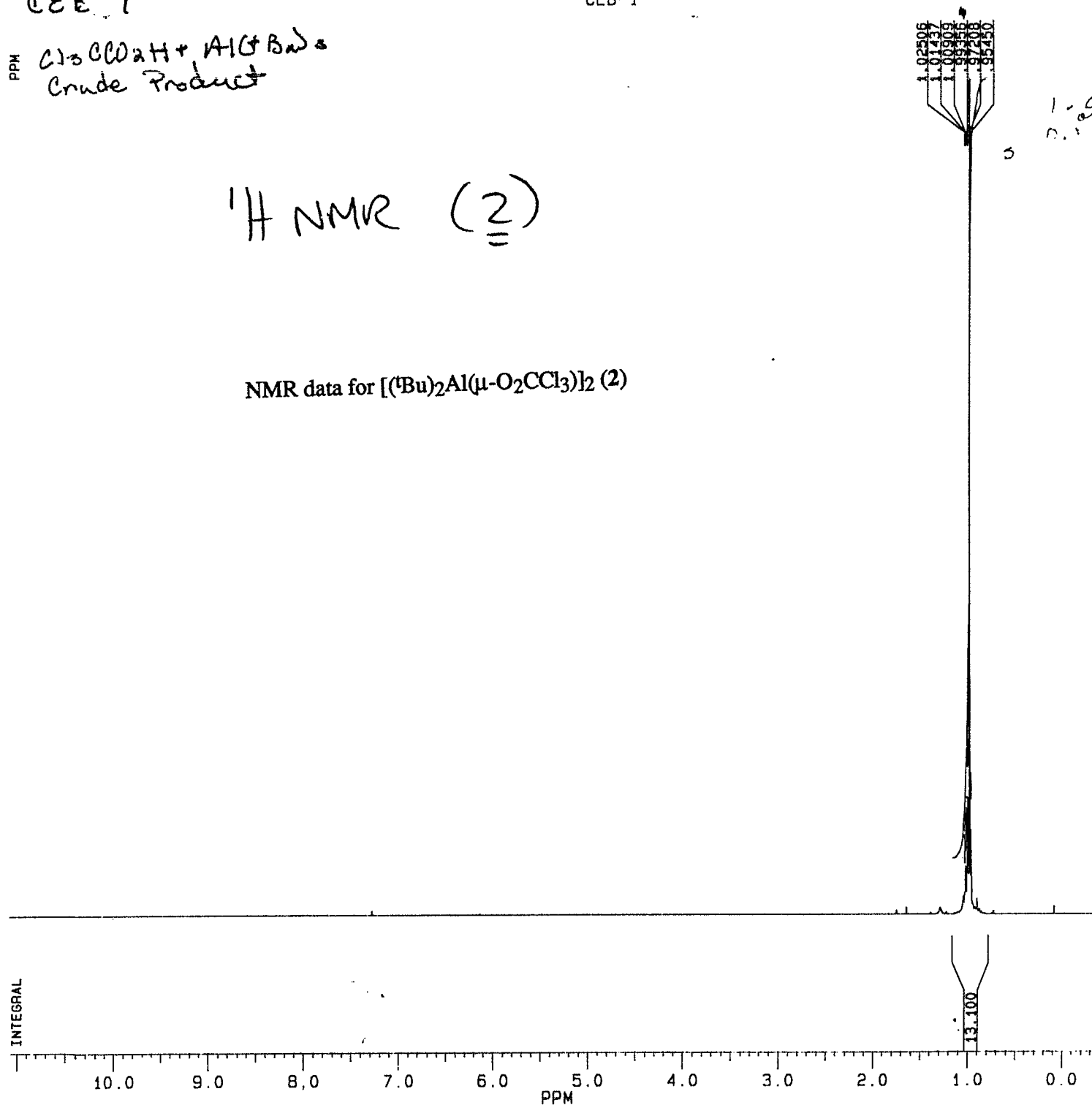
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0822

PPM $C_{13}ClO_2H + AlG^+B_{20}$
Crude Product

 $^1\text{H NMR (2)}$

NMR data for $[(^t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CCl}_3)]_2$ (2)



1,000

D. [S_H, S, A] - (0.1-0.2)

BRUKER

SZ.001
DATE 1-12-95

```
SF      250.133
SY 100.0
OI      4311.814
SI      16384
TD      16384
SW      5000.000
HZ/PT      .610
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PW	5.7
RD	1.000
AQ	1.638
RG	80
NS	22
TE	297

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02      2714.499
DP      63L P0
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CX	20.00
CY	15.00
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F2	-.429P
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PPM/CM	.575
SR	2851.62

Crude 1
13C

BRUKER

DPL 001
DATE 1-12-95

SF 62.896
SY 62.0
OI 2435.257
SI 32768
TD 32768
SW 16129.032
HZ/PT .984

PW 2.5
RD 1.000
AQ 1.016
RG 640
NS 563
TE 297

FW 20200
O2 3871.265
DP 18H CPD

LB 5.000
GB 0.0
CX 25.00
CY 0.0
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PPM/CM 8.244
SR -4060.30

13C NMR (2)

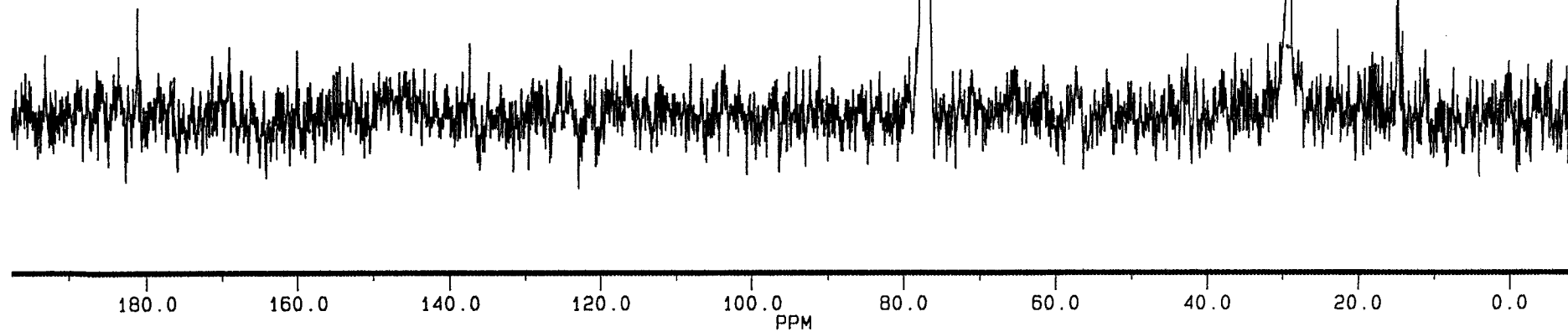
[41-01-031]

29.1

[11.3.7]

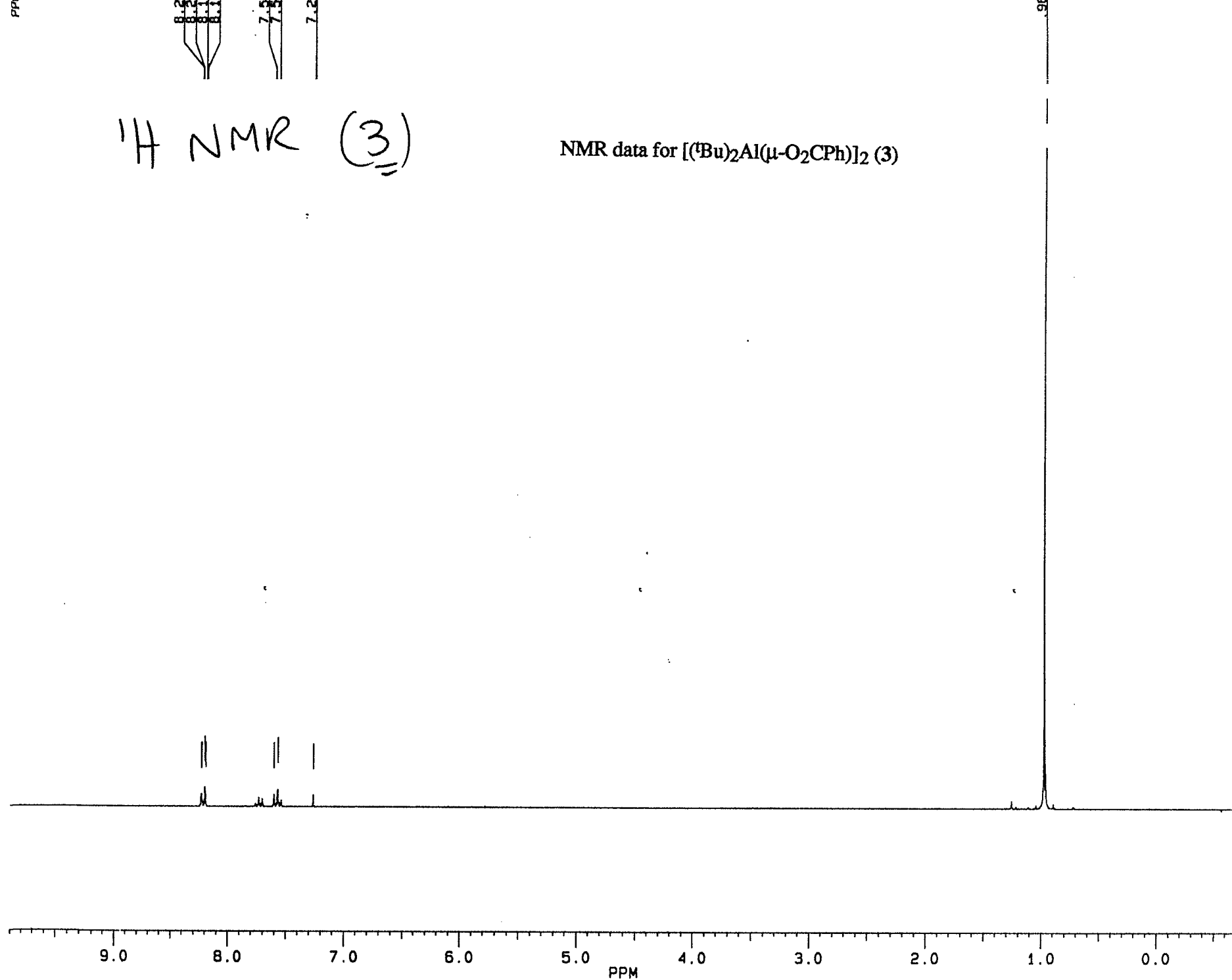
15.0

181.0
181.0 (OCH)



^1H NMR (3)

NMR data for $[(^i\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CPh})]_2$ (3)



PPM

172

135

131

129

128

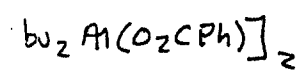
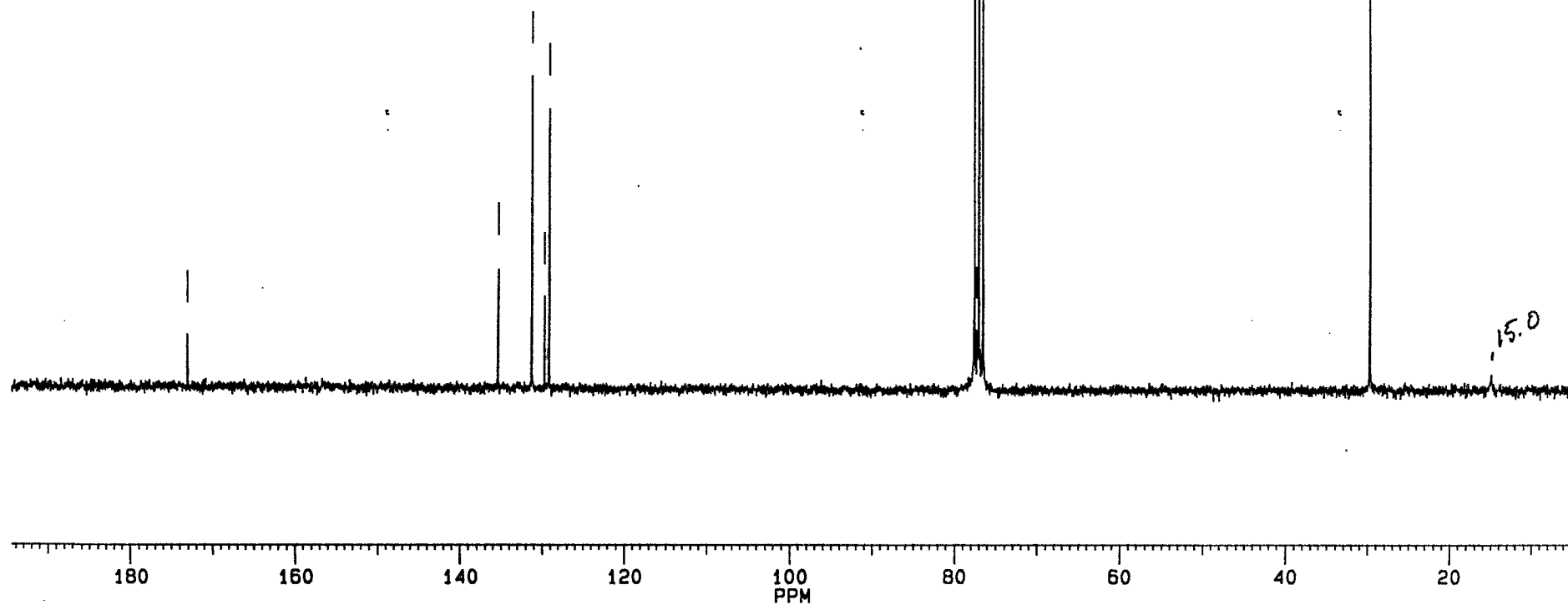
77

77

77

76

29

 ^{13}C NMR (3)

Crude NMR

~~BRUKER~~

DPL-001
DATE 1-12-95

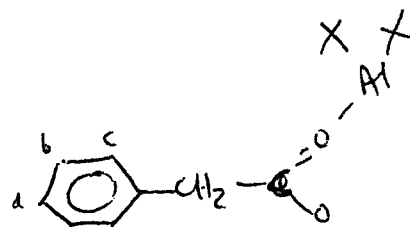
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O1 4311.814
SI 16384
TD 16384
SW 5000.000
HZ/PT .610

PW 5.7
RD 0.0
AQ 1.638
RG 40
NS 8
TE 297

FW 6300
O2 2714.499
DP 63L P0

LB .100
GB 0.0
CX 25.00
CY 0.0
F1 7.485P
F2 .108P
HZ/CM 73.804
PPM/CM .295
SR 2865.71

NMR data for $[(^t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CCH}_2\text{Ph})]_2$ (4)

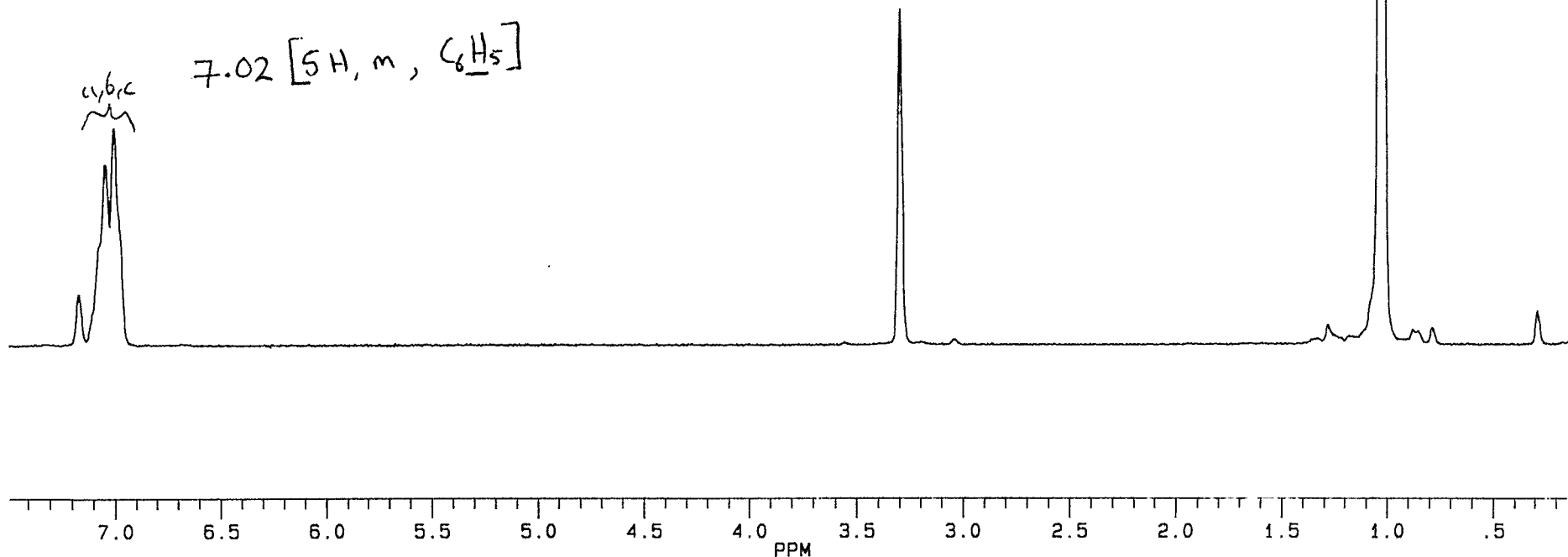


^1H NMR
(4)

1.04 [18H, s, $(\text{CH}_3)_3$]

3.30 [2H, s, CH_2]

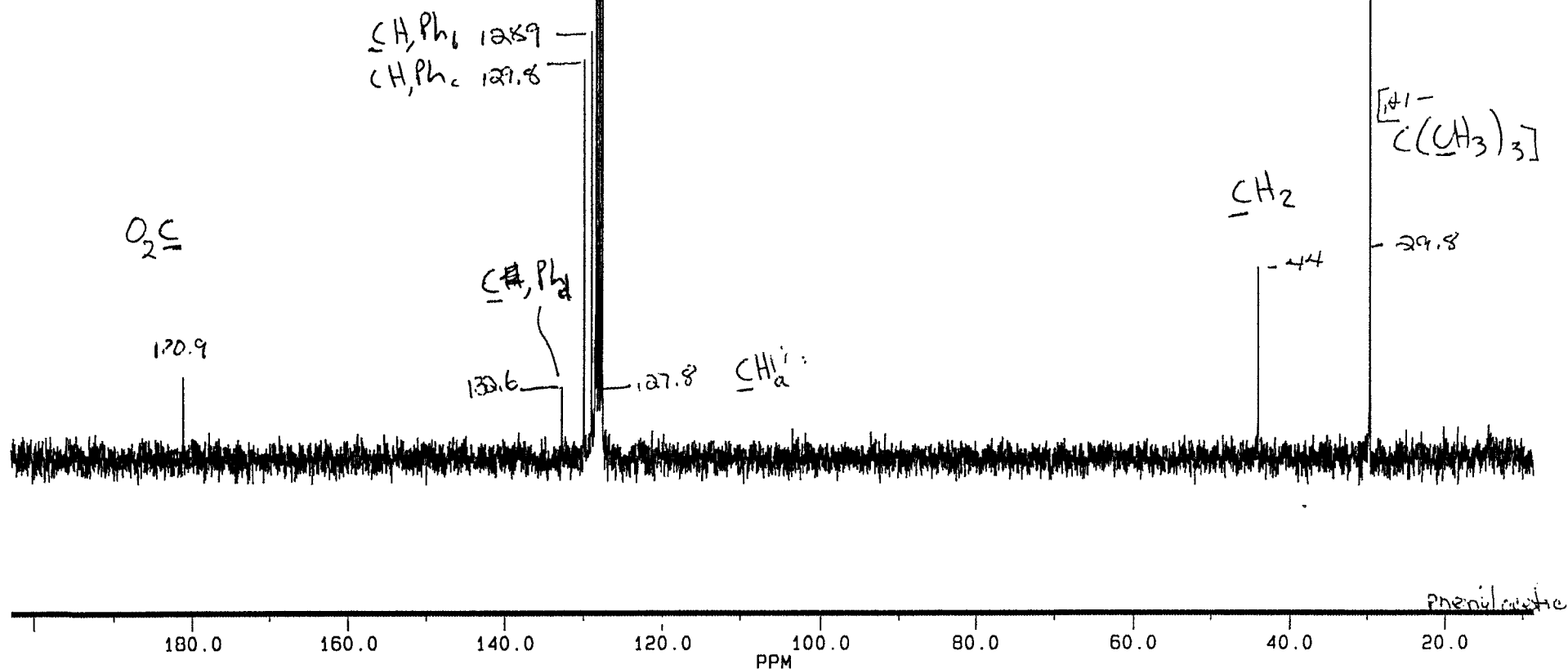
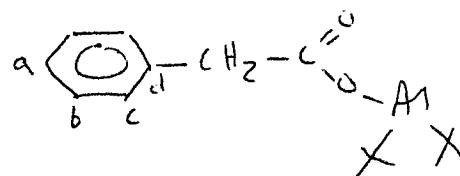
7.02 [5H, m, C_6H_5]



indec rx mix

4-iodo-1-methyl-5-nitroimidazole in CDCl₃ 8/2/95

¹³C NMR
(4)





PROTON.001
DATE 27-2-96

SF 250.133
SY 100.0
O1 4000.000
SI 32768
TD 16574
SW 2762.431
HZ/PT .169

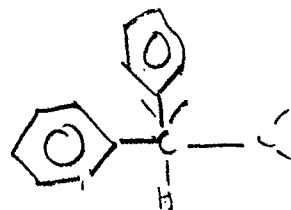
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RG 16
NS 16
TE 297

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SR 2866.10

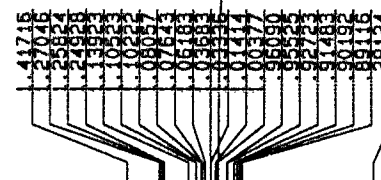
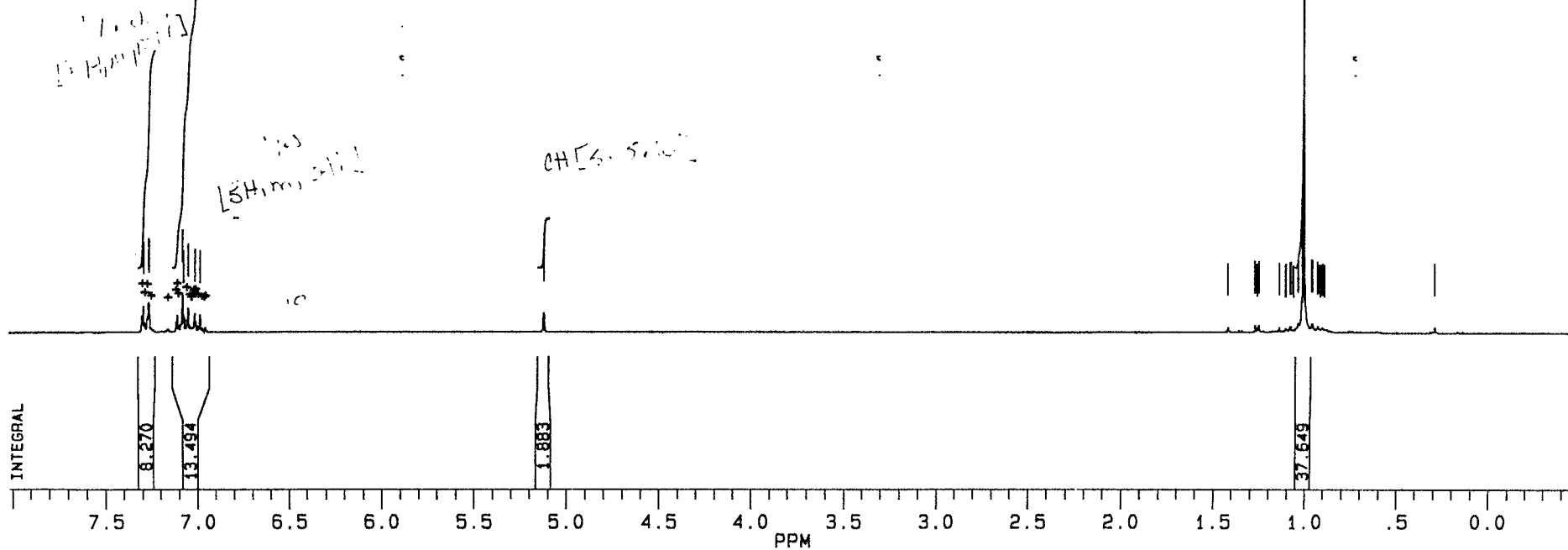
5.12012

¹H NMR
(5).



4 4 2, 1

NMR data for [(^tBu)₂Al(μ-O₂CCHPh₂)]₂ (5)



~~BRUKER~~

FRR1
DATE 27-2-96

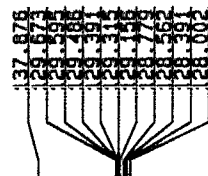
SF 62.896
SY 62.0
Q1 2435.257
SI 32768
TD 32768
SW 16129.032
HZ/PT .984

PW 2.5
RD 1.000
AQ 1.016
RG 640
NS 871
TE 297

FW 20200
Q2 3871.265
DP 18H CPD

LB 0.0
GB .400
CX 25.00
CY 0.0
F1 199.997P
F2 -.002P
HZ/CM 503.166
PPM/CM 8.000
SR -4084.54

PPM
181.620



¹³C NMR
(5)

61.819

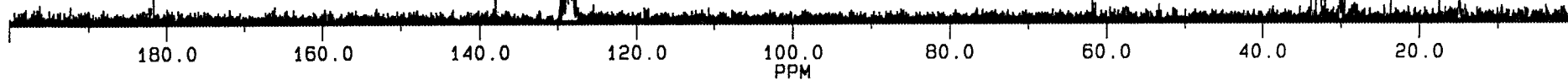
30.70

14.868

sol
[H₂O-3H₂O]

60
[CH₂]

182.0
OC





PROTON.001
DATE 27-2-96

SF 62.896
SY 62.0
O1 2435.257
SI 32768
TD 32768
SW 16129.032
HZ/PT .984

PW 2.5
RD 1.000
AQ 1.016
RG 640
NS 87
TE 297

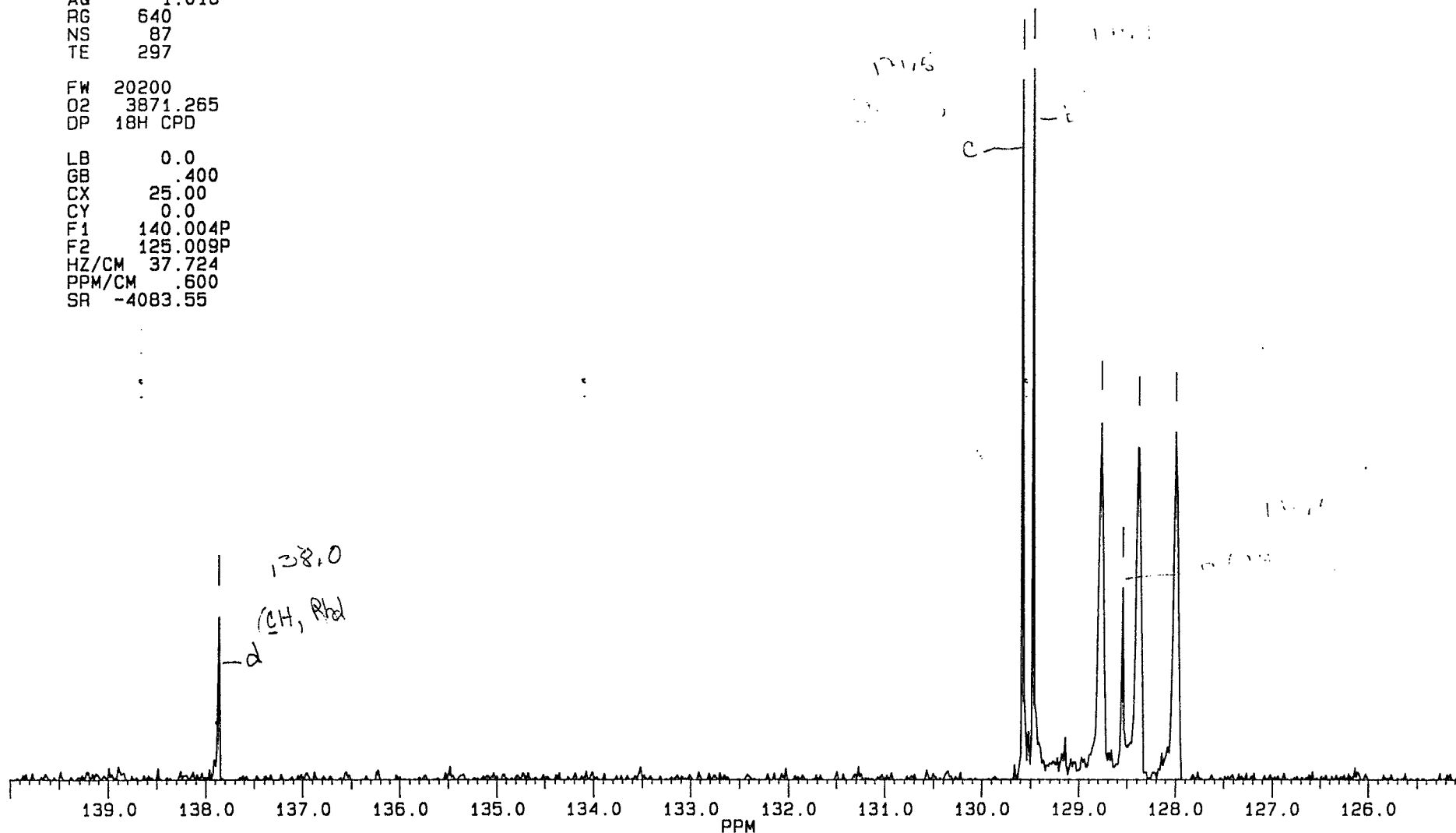
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O2 3871.265
OP 18H CPD

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GB .400
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F2 125.009P
HZ/CM 37.724
PPM/CM .600
SR -4083.55

PPM 137.861

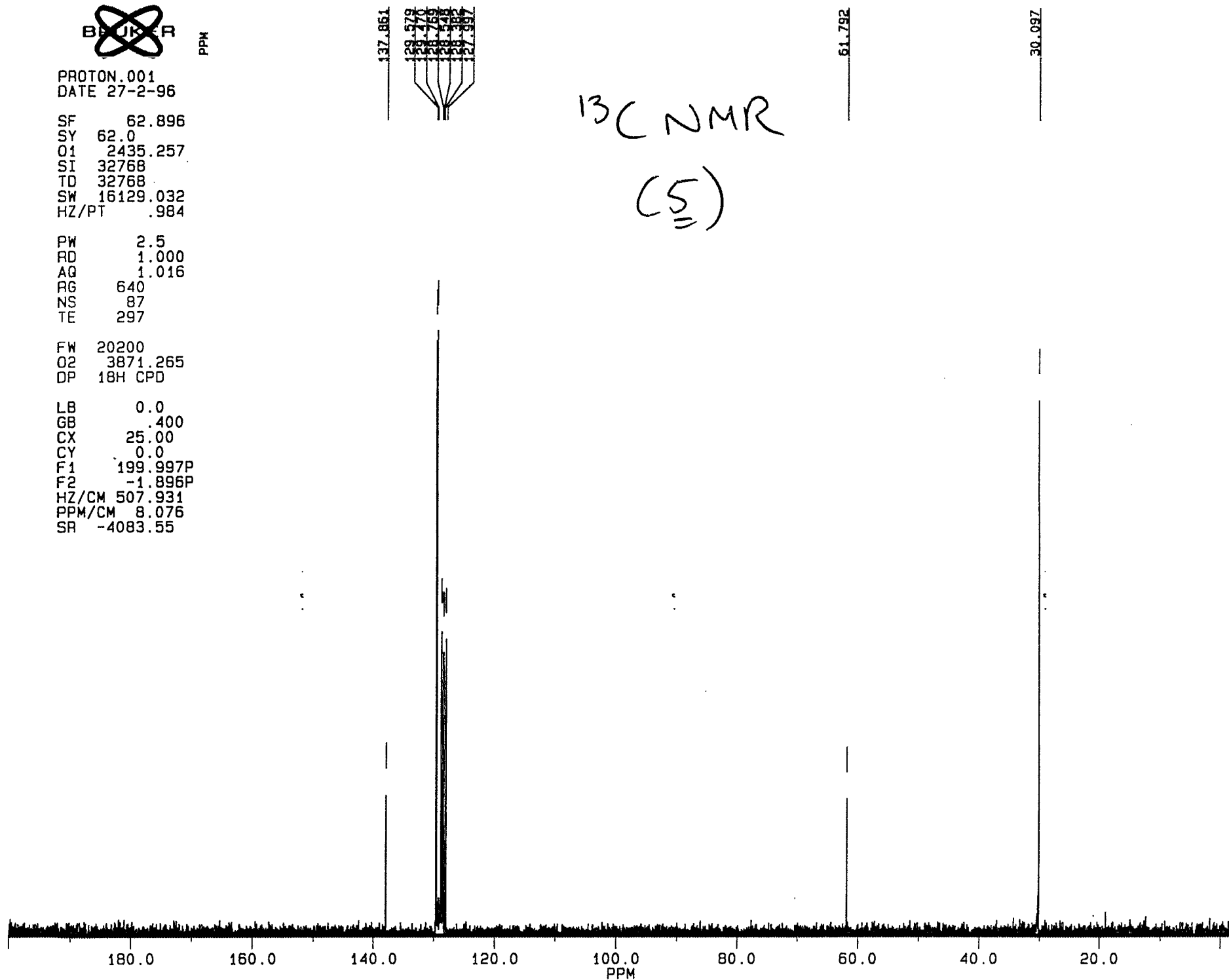
^{13}C NMR
(5)

128.579
128.476
128.769
128.548
128.382
127.997



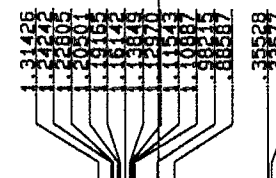
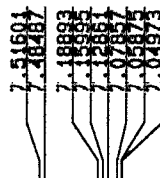
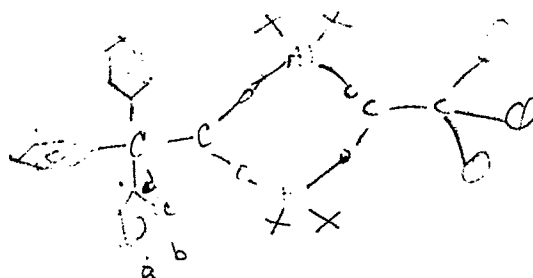


PPM

PROTON.001
DATE 27-2-96SF 62.896
SY 62.0
O1 2435.257
SI 32768
TD 32768
SW 16129.032
HZ/PT .984PW 2.5
RD 1.000
AQ 1.016
RG 640
NS 87
TE 297FW 20200
O2 3871.265
DP 18H CPDLB 0.0
GB .400
CX 25.00
CY 0.0
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SR -4083.55 ^{13}C NMR
(5)



PPM

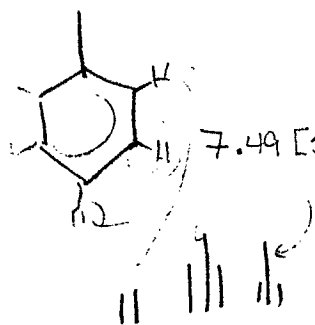
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SI 32768
TD 16574
SW 2762.431
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RD 1.000
AQ 3.000
RG 16
NS 16
TE 297FW 3500
Q2 0.0
DP 63L P0LB .100
GB .100
CX 25.00
CY 0.0
F1 10.001P
F2 -.499P
HZ/CM 105.055
PPM/CM .420
SR 2850.09¹H NMR (6)

1.3

[CH, CH-M...]

1.10
[9]

6 6 3 18

NMR data for [(^tBu)₂Al(μ-O₂CCPh₃)]₂ (6)7.49 [5H, m, O-₄H₅]7.10, [4H, m, p-C₆H₅]

101.4 x

D. 35
Si-O

6.4

6

INTEGRAL

9.0

8.0

7.0

6.0

5.0

PPM

4.0

3.0

2.0

1.0

0.0

36.37

36.13

.00

62.67

101.56

34.97

~~BOOKER~~

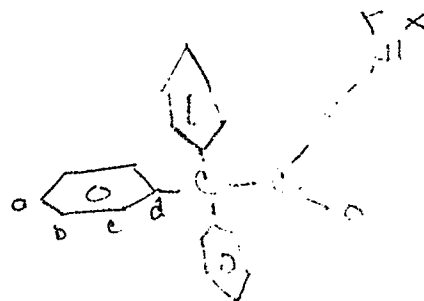
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SI 32768
TD 32768
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HZ/PT .984

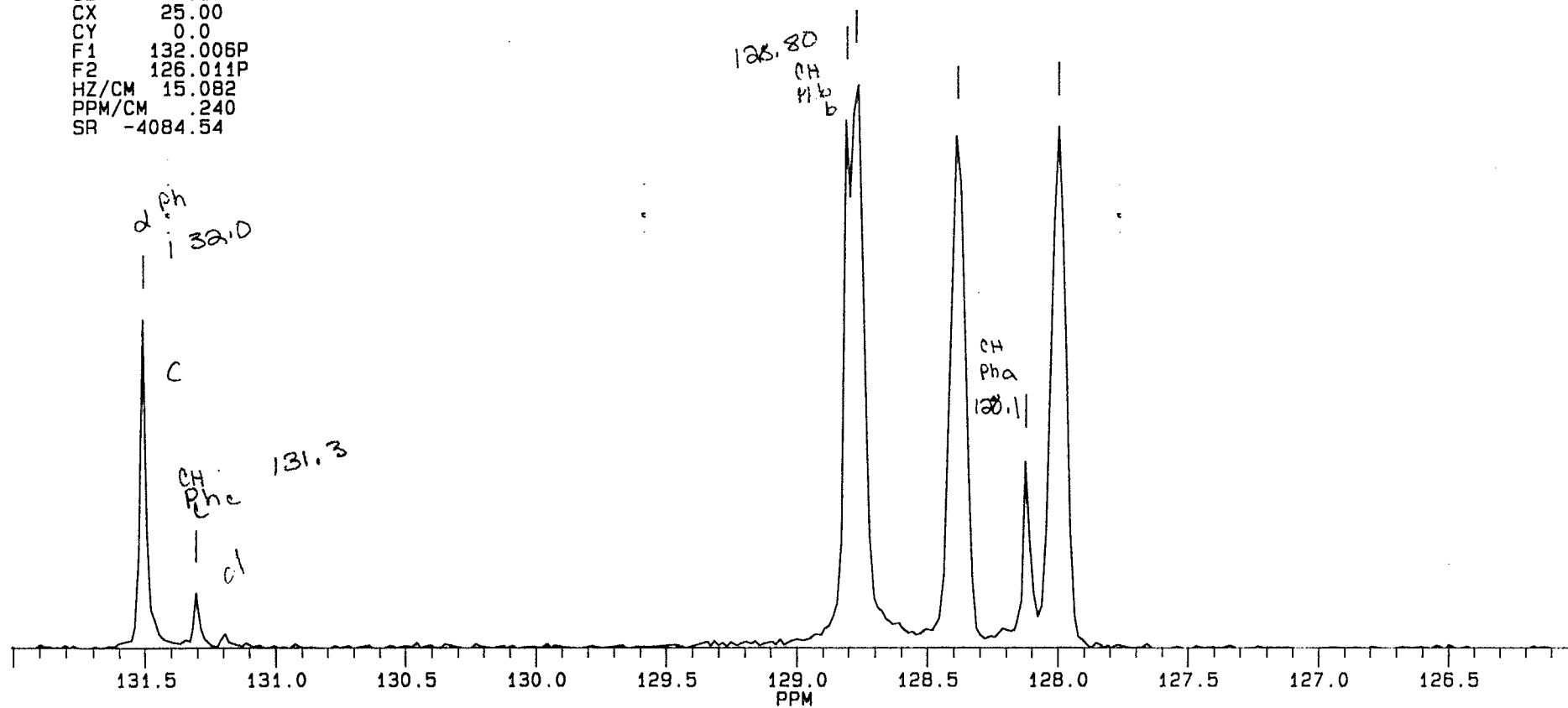
PW 2.5
RD 3.000
AQ 1.016
RG 640
NS 655
TE 297

FW 20200
O2 3871.265
DP 18H CPD

LB .100
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CY 0.0
F1 132.006P
F2 126.011P
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PPM/CM .240
SR -4084.54

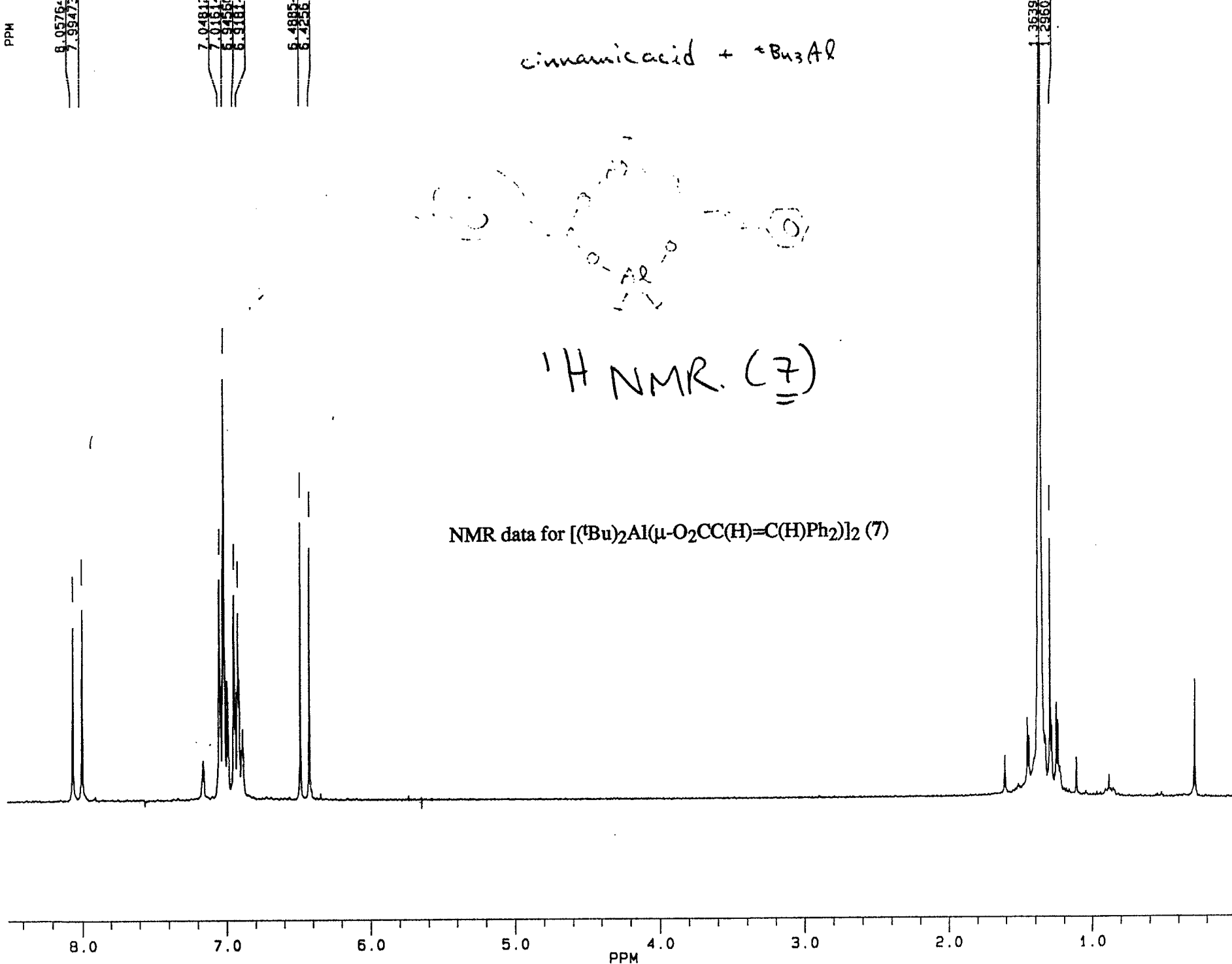


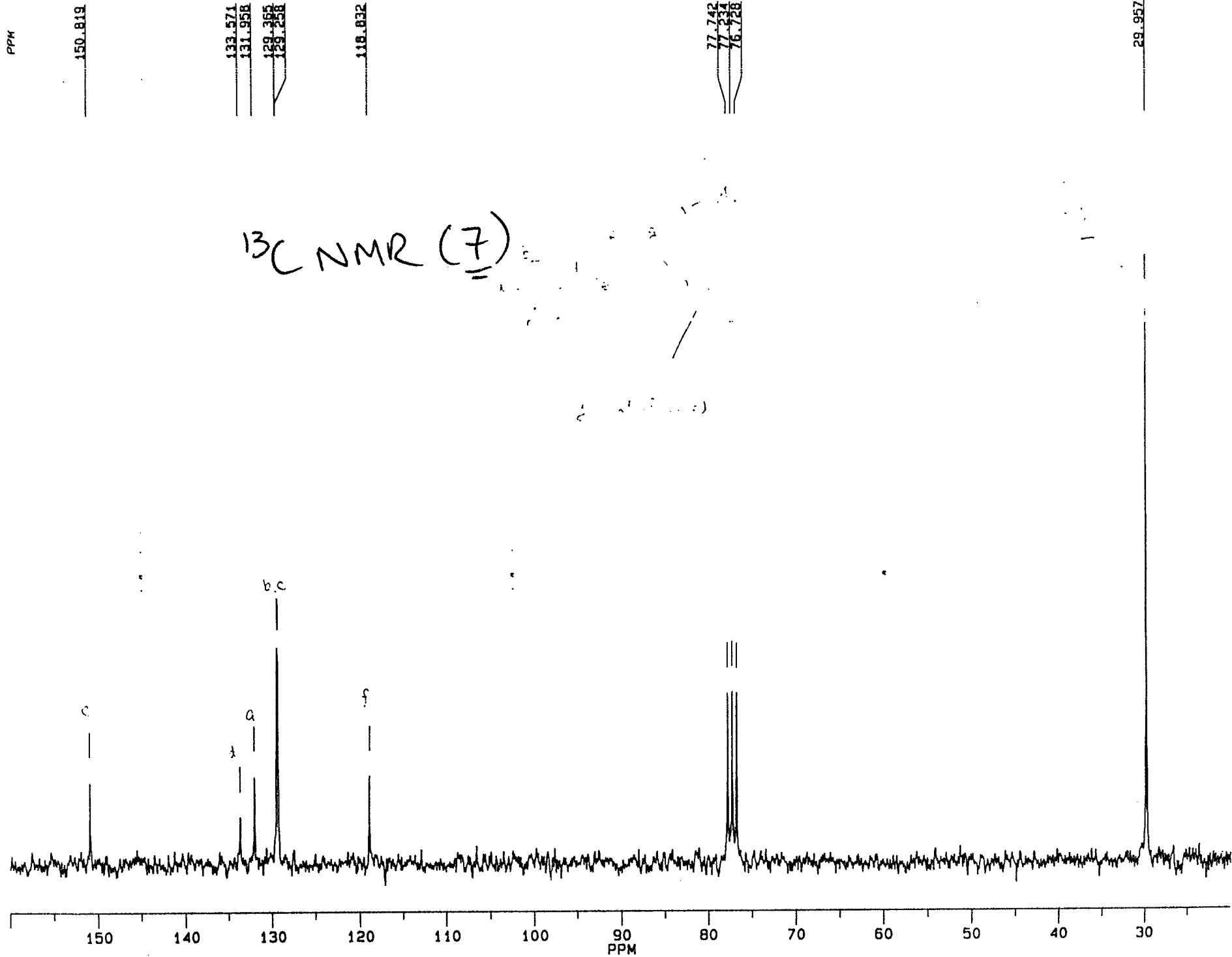
^{13}C NMR
(6)

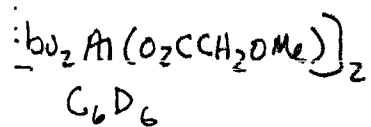


^1H NMR. (7)

NMR data for $[(t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CC}(\text{H})=\text{C}(\text{H})\text{Ph}_2)]_2$ (7)



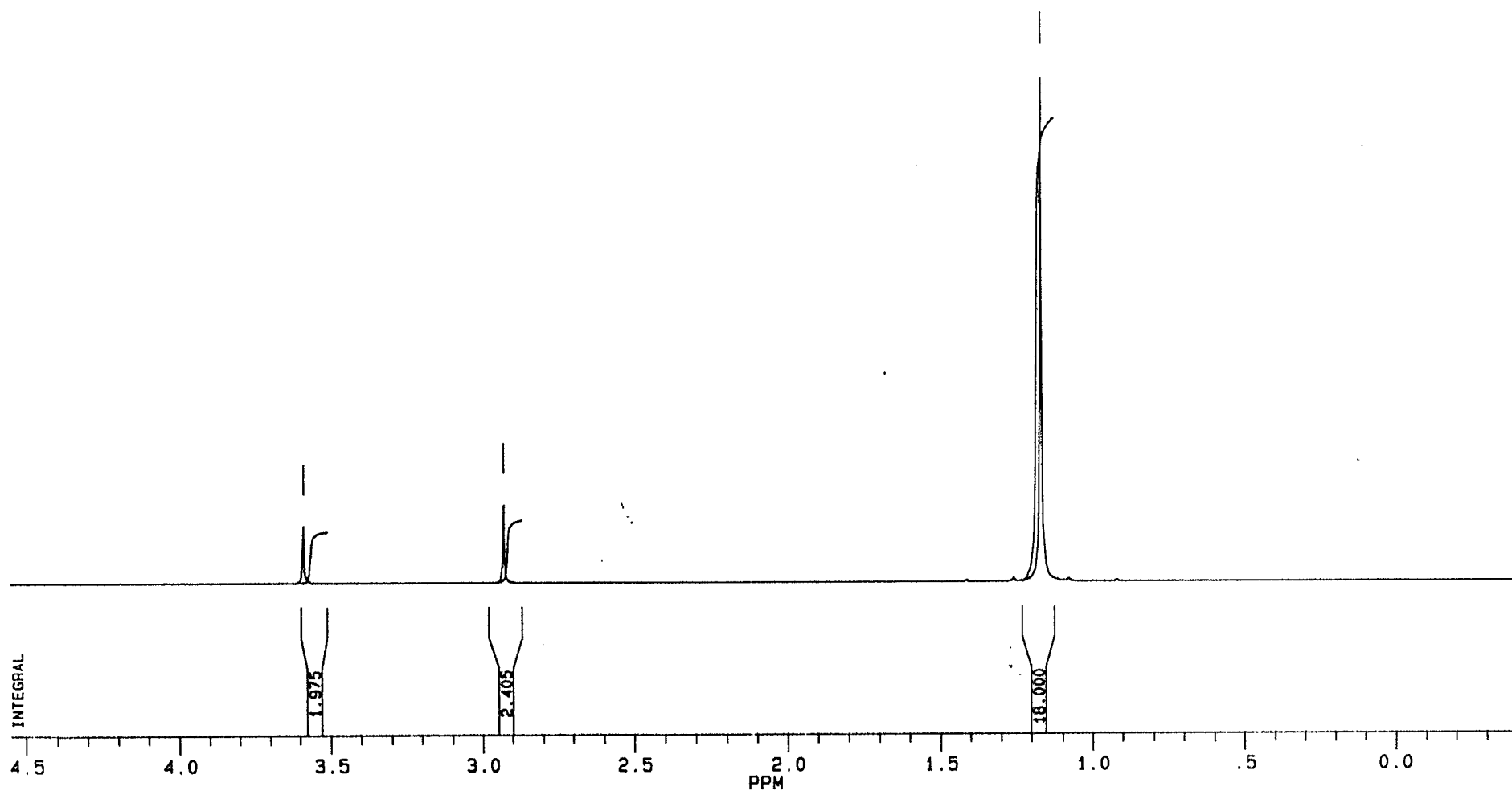




(8)

^1H NMR

NMR data for $[(^t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CCH}_2\text{OCH}_3)]_2$ (8)



PPM

180.0

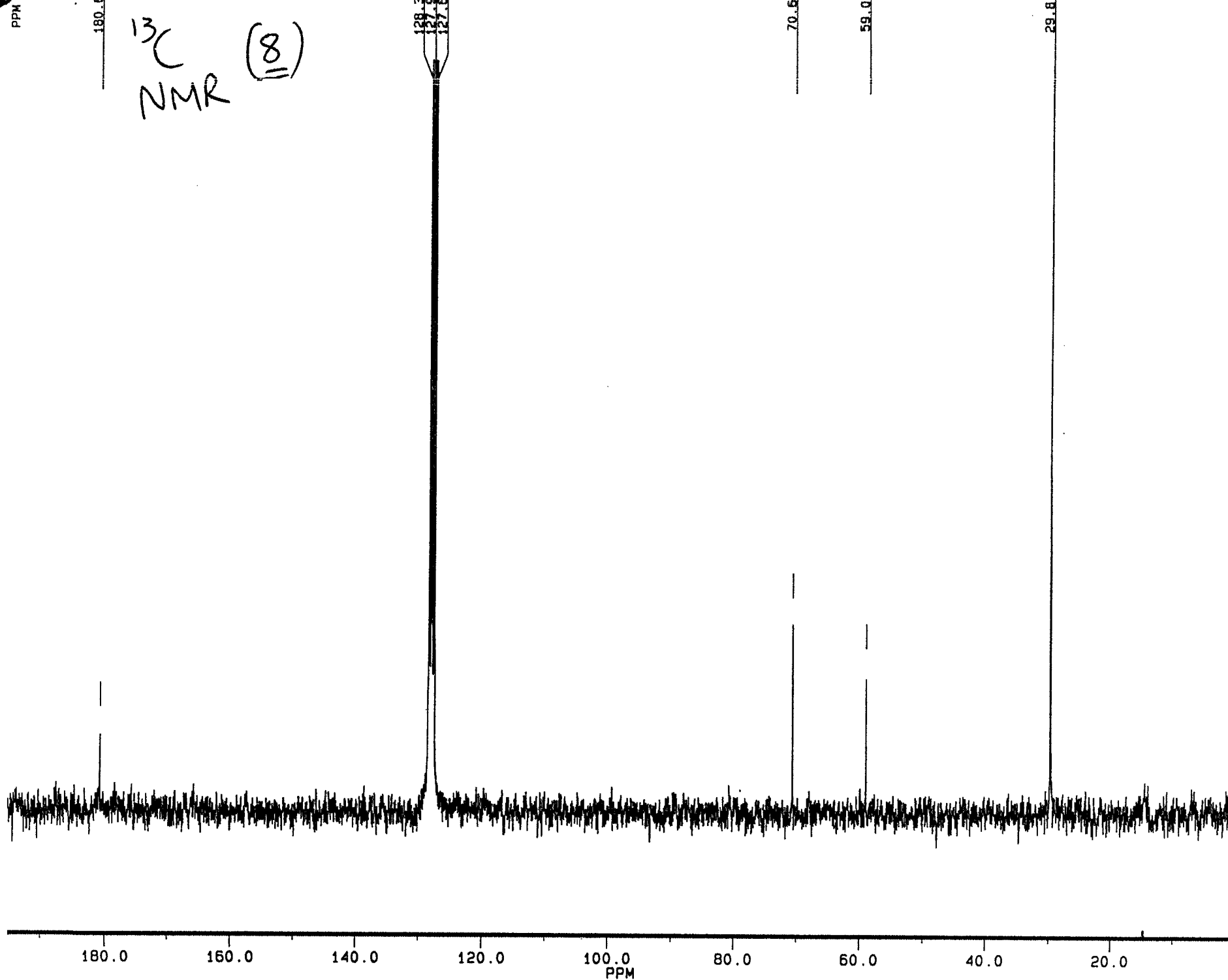
¹³C
NMR (8)

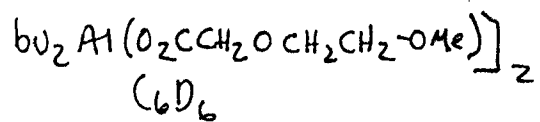
128.2
127.5
127.1

70.6

59.0

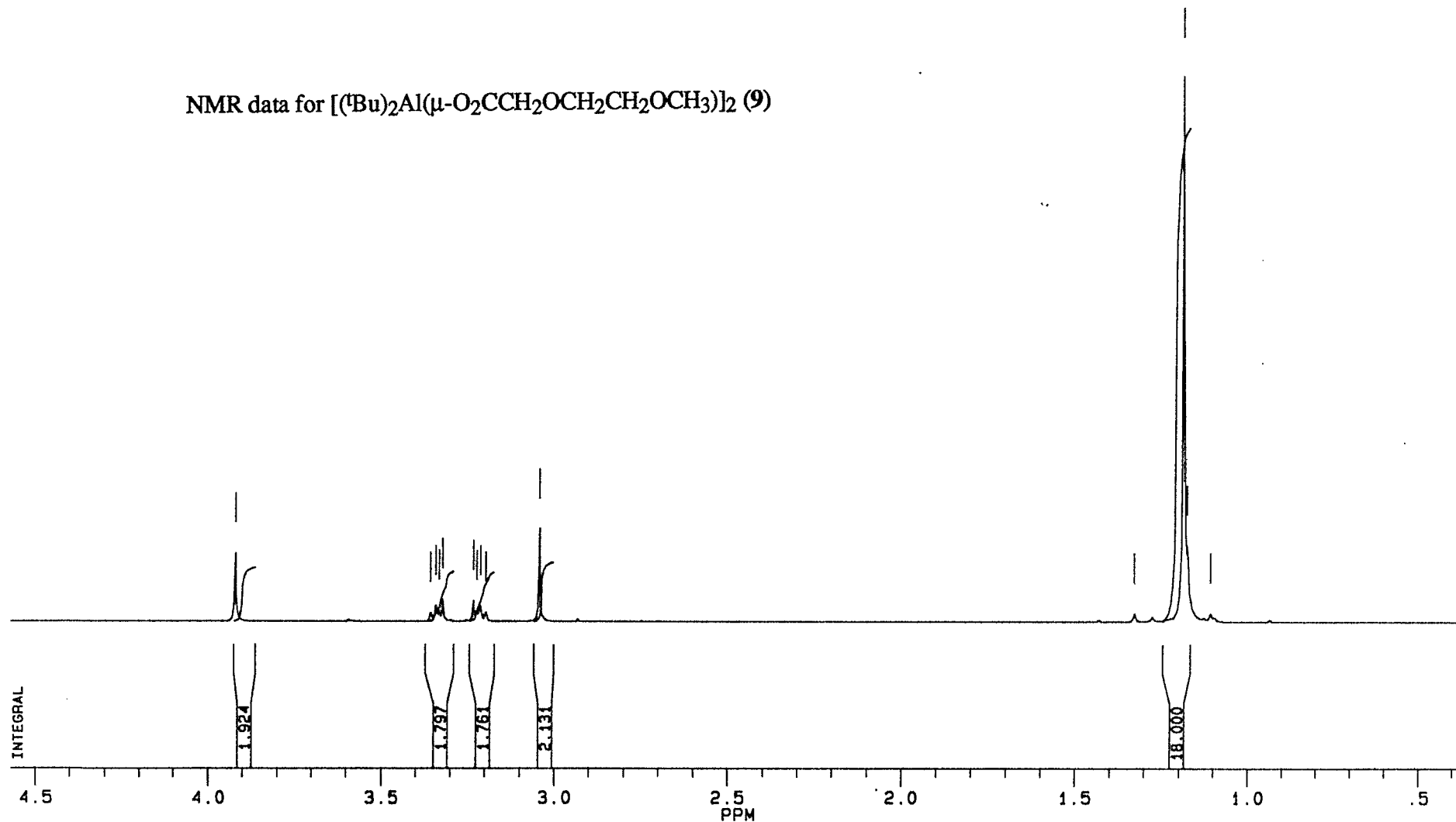
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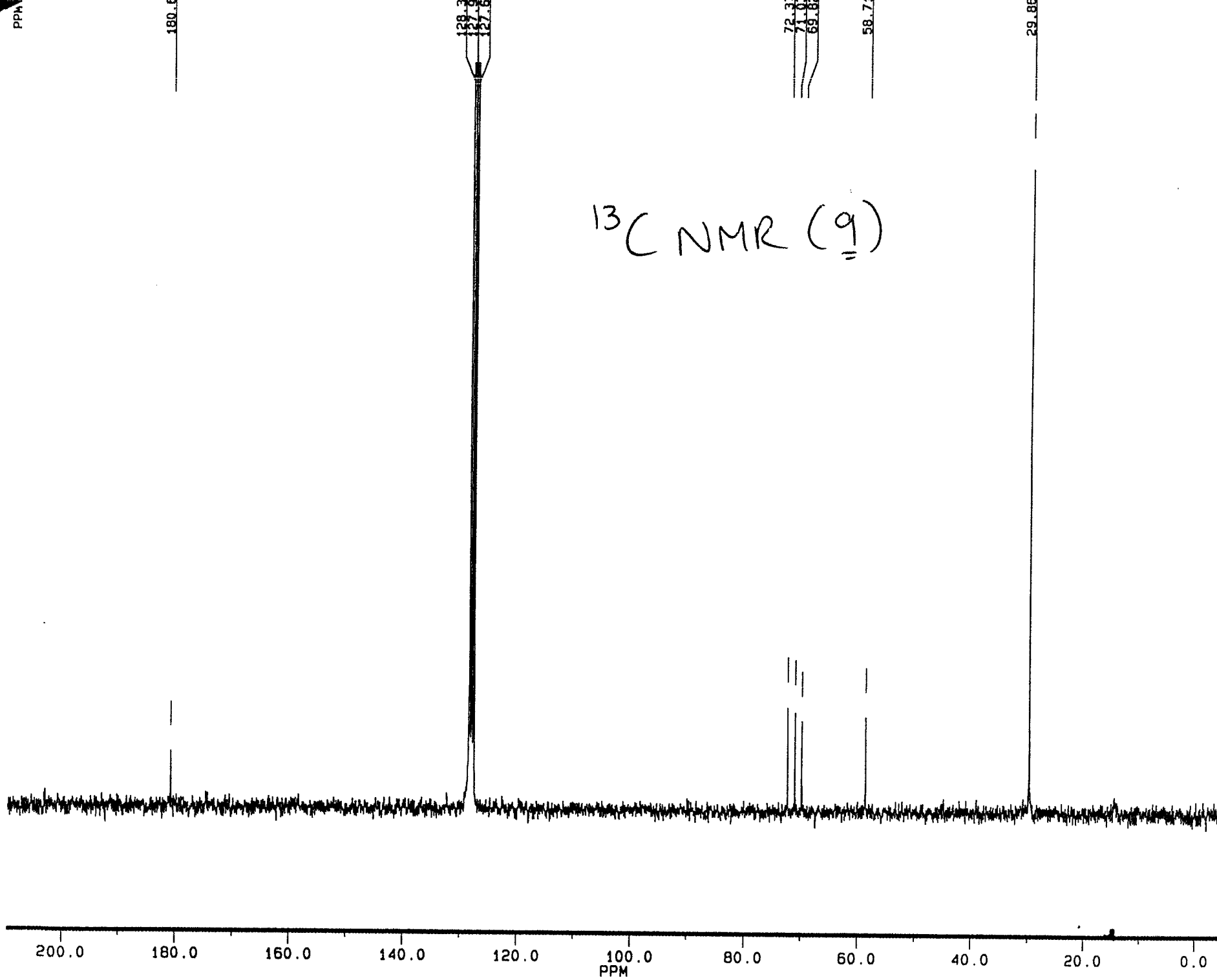




^1H NMR (9)

NMR data for $[(^t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CCH}_2\text{OCH}_2\text{CH}_2\text{OCH}_3)]_2$ (9)

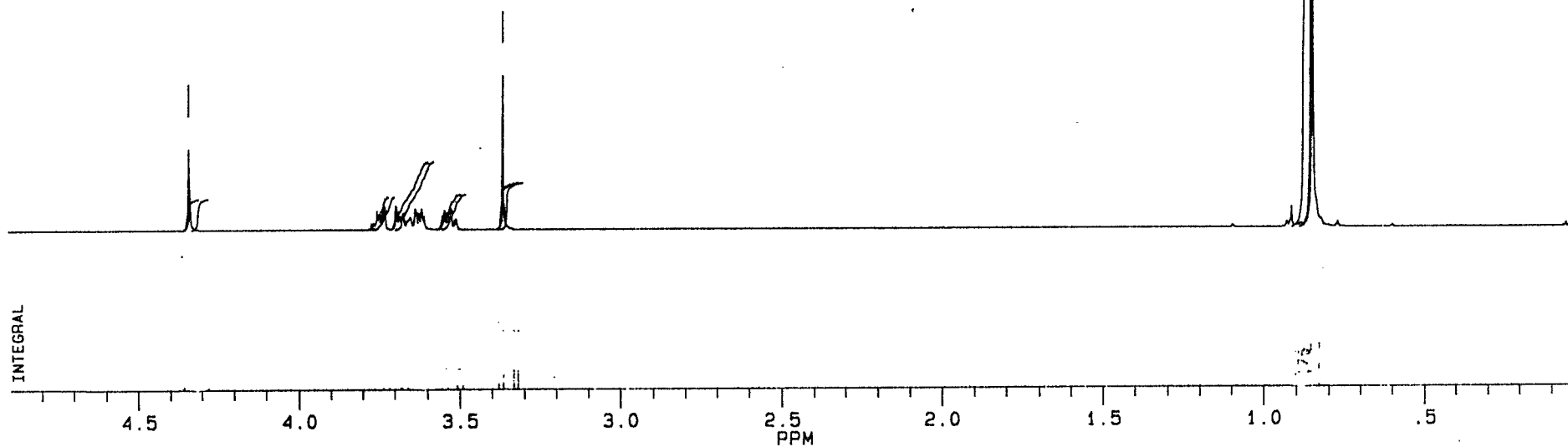




$\text{H}_2\text{Al}(\mu\text{vea})]_2$
 CDCl_3

^1H NMR
(10)

NMR data for $[(^t\text{Bu})_2\text{Al}(\mu\text{-O}_2\text{CCH}_2\text{O}(\text{CH}_2\text{CH}_2\text{O})_2\text{CH}_3)]_2$ (**10**)



$\left[\frac{1}{2} \text{Al}(\text{Me}_2\text{CH}_2) \right]_2 \text{CO}_3$

^{13}C NMR (10)

