

## SYNTHESIS OF PENICOLINATES A, C AND D.

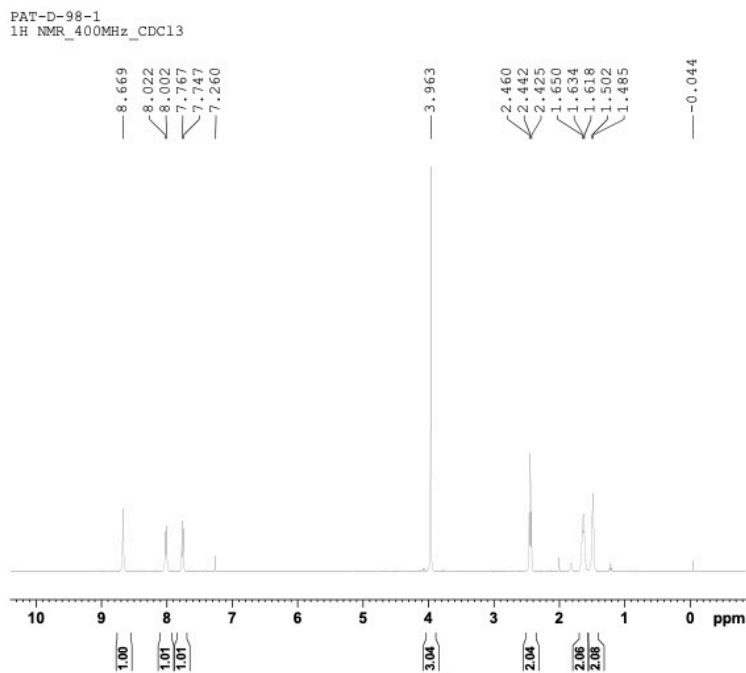
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Patcharaporn Sae-Lao<sup>1</sup> and Roderick W. Bates.\***

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### Supplementary Information

compound	page
diyne <b>5</b>	2
diyne <b>6</b>	3
penicolate A <b>1</b>	4
penicolate C <b>2</b>	5
diyne <b>9</b>	6
diyne <b>10</b>	7
penicolate D <b>3</b>	8

# <sup>1</sup>H NMR spectrum of diyne 5

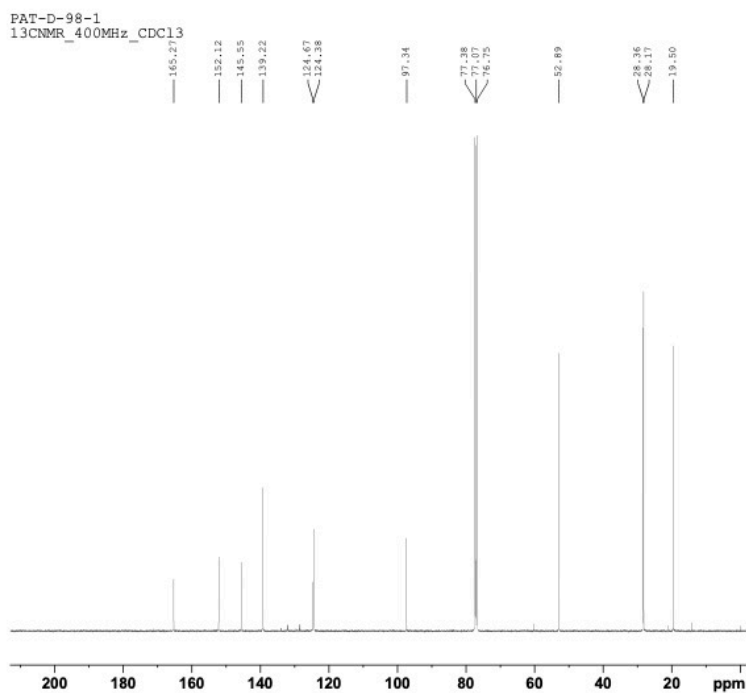


Current Data Parameters  
 NAME PAT-D-98-1  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20220214  
 Time 11.37 h  
 INSTRUM spect  
 PROBHD z108618\_0238 |  
 PULPROG zg30  
 TD 65536  
 SOLVENT cdcl3  
 NS 8  
 DS 4  
 SMH 8223.685 Hz  
 FIDRES 0.250967 Hz  
 AQ 3.9845889 sec  
 RG 80.6  
 LW 60.800 usec  
 DE 6.50 usec  
 TE 297.9 K  
 D1 1.00000000 sec  
 TD0  
 SFO1 400.2324716 MHz  
 NUC1 1H  
 FO 5.00 usec  
 P1 15.00 usec  
 PLW1 8.35369968 W

F2 - Processing parameters  
 SI 32768  
 SF 400.2300091 MHz  
 MDW EM  
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 LB 0.30 Hz  
 GB 0  
 PC 1.00

# <sup>13</sup>C NMR spectrum of diyne 5

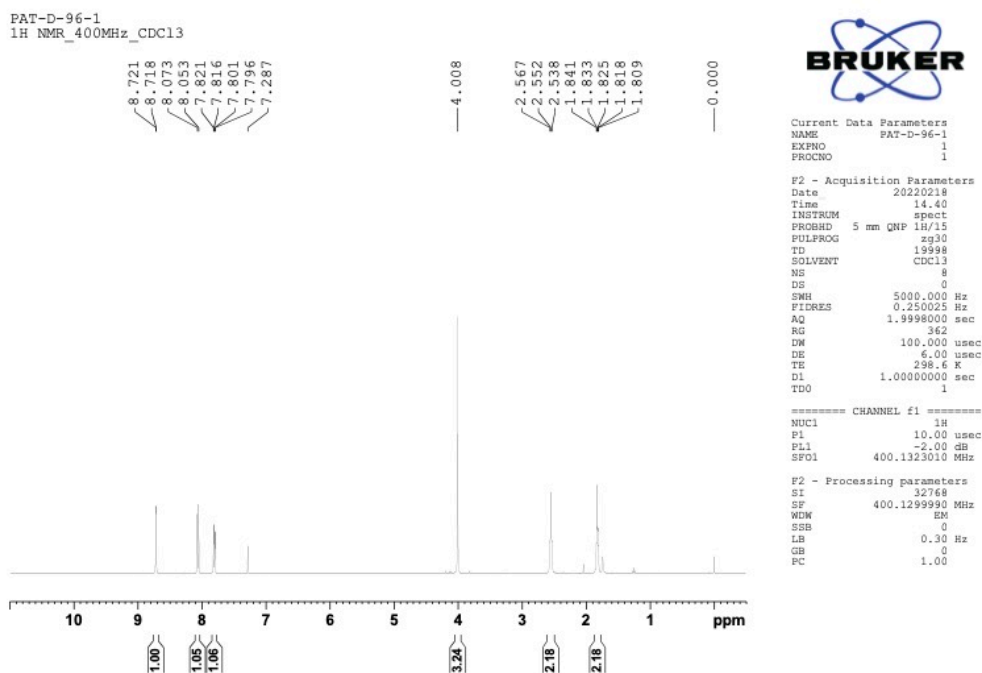


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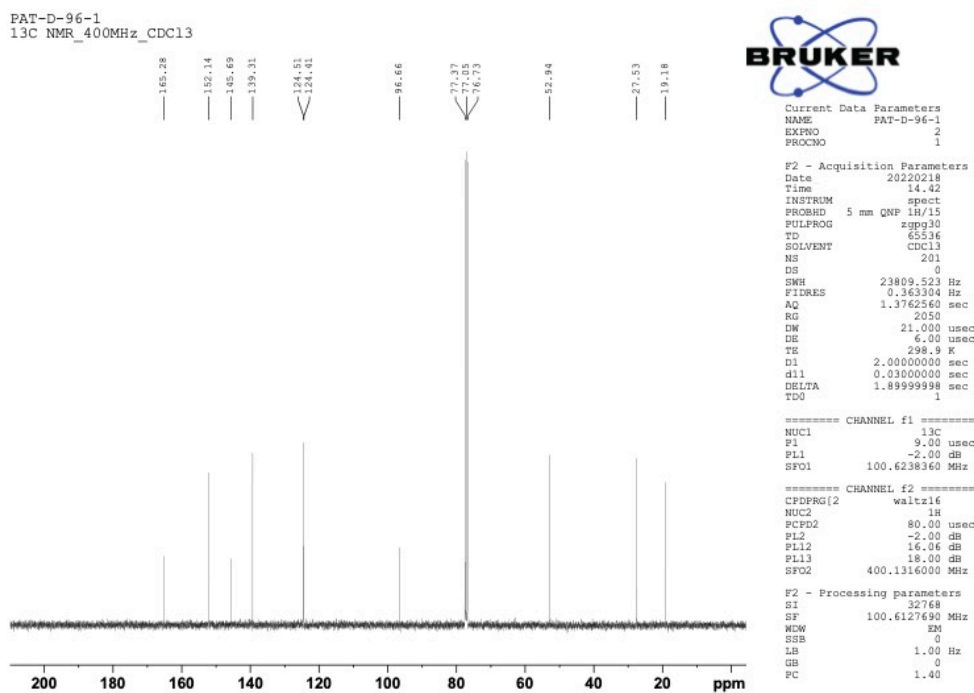
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 PULPROG zgpg30  
 TD 65536  
 SOLVENT CDCl3  
 NS 3020  
 DS 4  
 SMH 25252.525 Hz  
 FIDRES 0.770646 Hz  
 AQ 1.2976128 sec  
 RG 101  
 DW 19.800 usec  
 DE 6.50 usec  
 TE 298.0 K  
 D1 2.00000000 sec  
 D11 0.03000000 sec  
 TD0 100  
 SFO1 100.6499905 MHz  
 NUC1 13C  
 FO 3.33 usec  
 P1 10.00 usec  
 PLW1 41.83300018 W  
 SFO2 400.2316009 MHz  
 NUC2 1H  
 CPDPRG[2] waltz16  
 PCPE2 90.00 usec  
 PLW2 8.35369968 W  
 PLW12 0.23205000 W  
 PLW13 0.11672000 W

F2 - Processing parameters  
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 MDW EM  
 SSB 0  
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 GB 0  
 PC 1.40

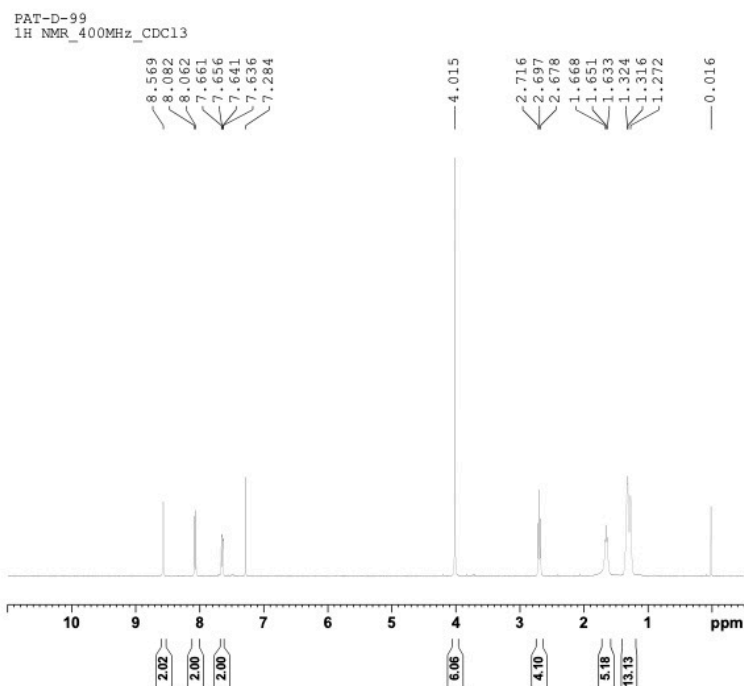
# <sup>1</sup>H NMR spectrum of diyne 6



# <sup>13</sup>C NMR spectrum of diyne 6



# <sup>1</sup>H NMR spectrum of penicolate A 1



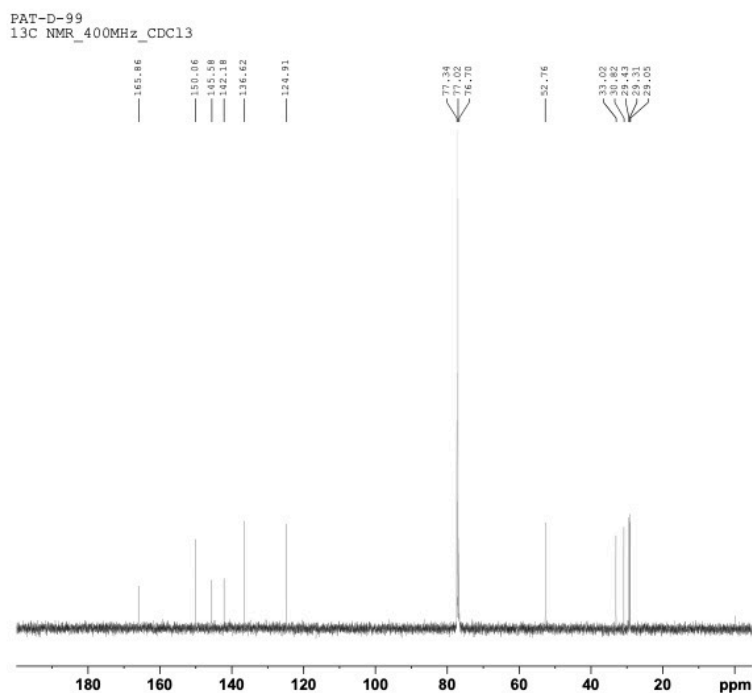
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EXPNO    1
PROCNO   1

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INSTRUM  spect
PROBHD   5 mm QNP 1H/15
PULPROG  zg30
TD       19998
SOLVENT  CDCl3
NS       8
DS       0
SWH      5000.000 Hz
FIDRES   0.250025 Hz
AQ       1.9998000 sec
RG       456
EW       100.000 usec
DE       6.00 usec
TE       298.7 K
D1       1.0000000 sec
TD0      1

===== CHANNEL f1 =====
NUC1     1H
P1       10.00 usec
PL1      -2.00 dB
SFO1    400.1323010 MHz

F2 - Processing parameters
SI       32768
SF       400.1300000 MHz
WDW      EM
SSB      0
LB       0.30 Hz
GB       0
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# <sup>13</sup>C NMR spectrum of penicolate A 1



```
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PROCNO   1

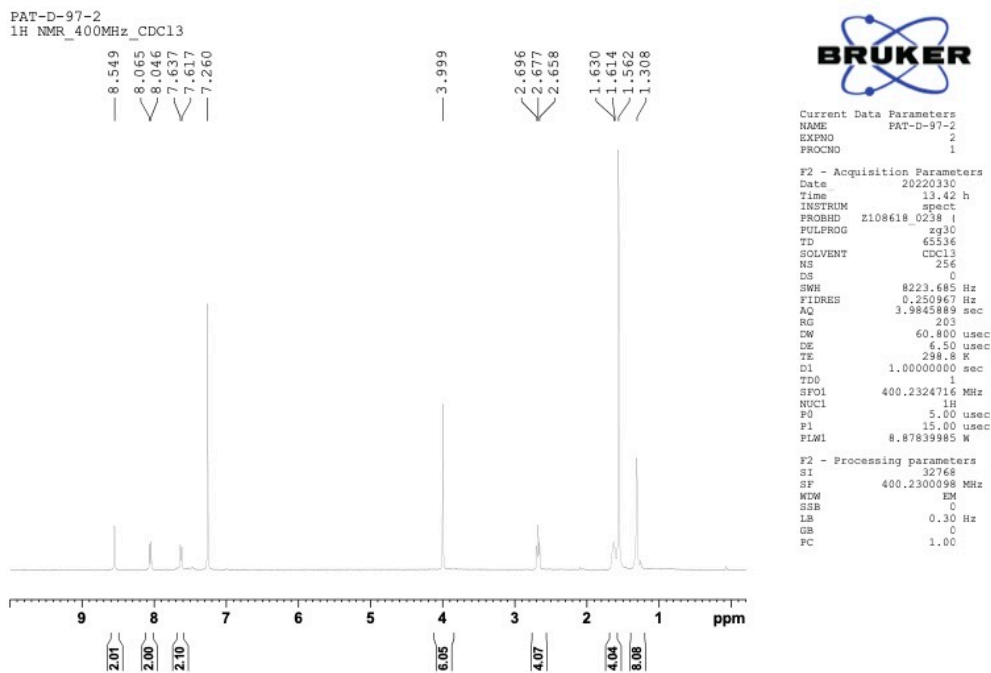
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Time     14.30
INSTRUM  spect
PROBHD   5 mm QNP 1H/15
PULPROG  zgpg30
TD       65536
SOLVENT  CDCl3
NS       568
DS       0
SWH      23809.523 Hz
FIDRES   0.363304 Hz
AQ       1.3762560 sec
RG       2050
EW       21.000 usec
DE       6.00 usec
TE       299.0 K
D1       2.0000000 sec
d11      0.0300000 sec
DELTA    1.89999998 sec
TD0      1

===== CHANNEL f1 =====
NUC1     13C
P1       9.00 usec
PL1      -2.00 dB
SFO1    100.6238360 MHz

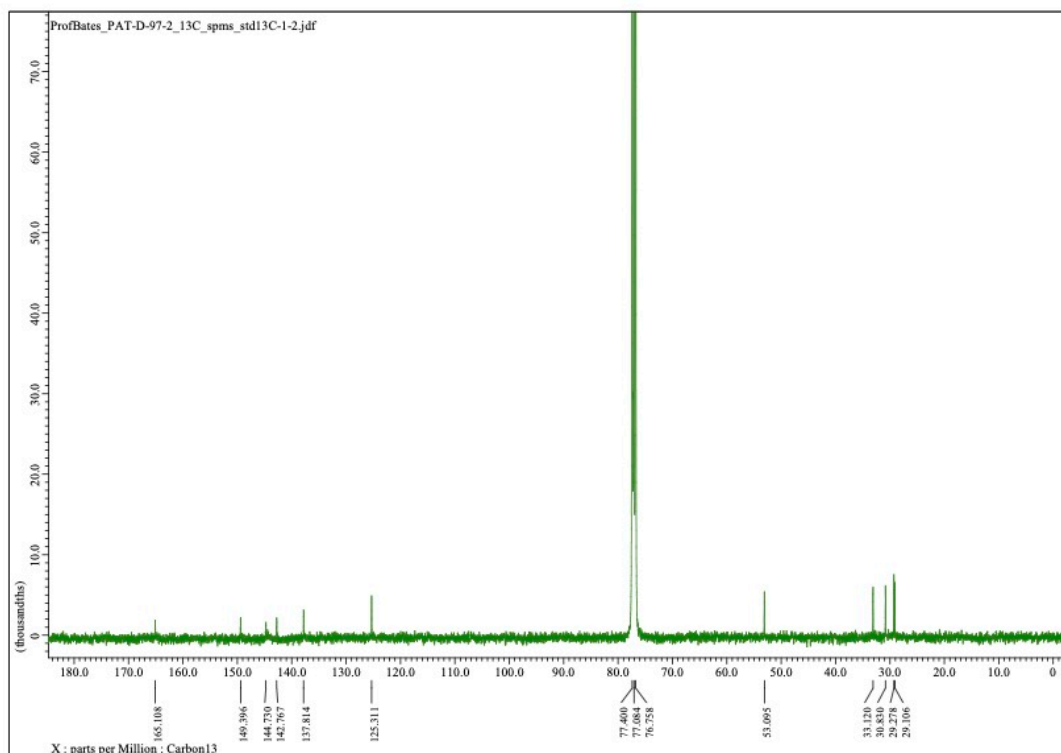
===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    80.00 usec
PL2      -2.00 dB
PL12     16.06 dB
PL13     18.00 dB
SFO2    400.1316000 MHz

F2 - Processing parameters
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WDW      EM
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LB       1.00 Hz
GB       0
PC       1.40
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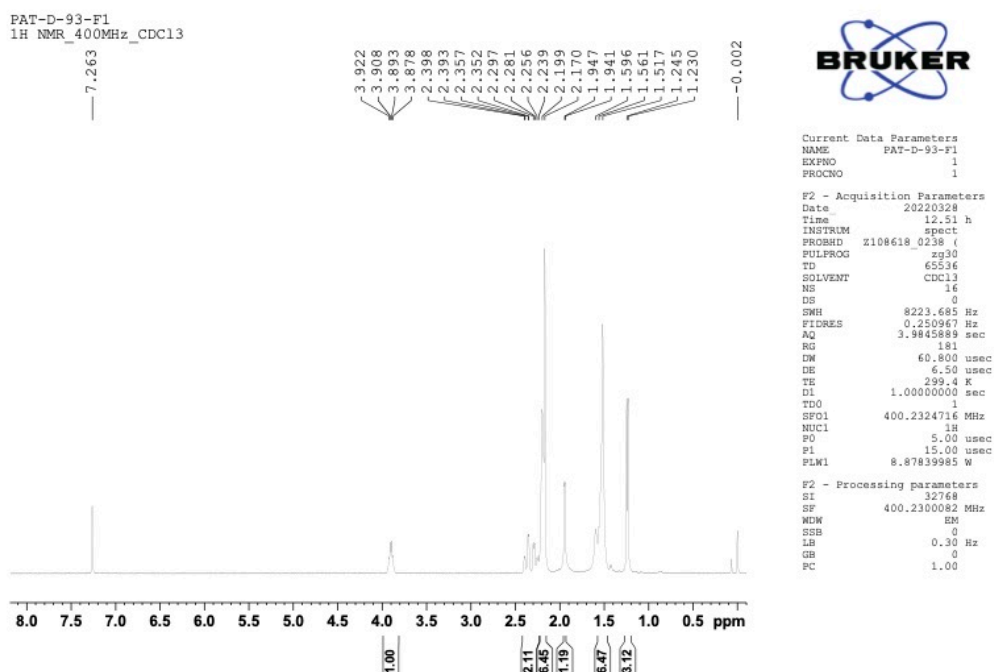
# <sup>1</sup>H NMR spectrum of penicolate C 2



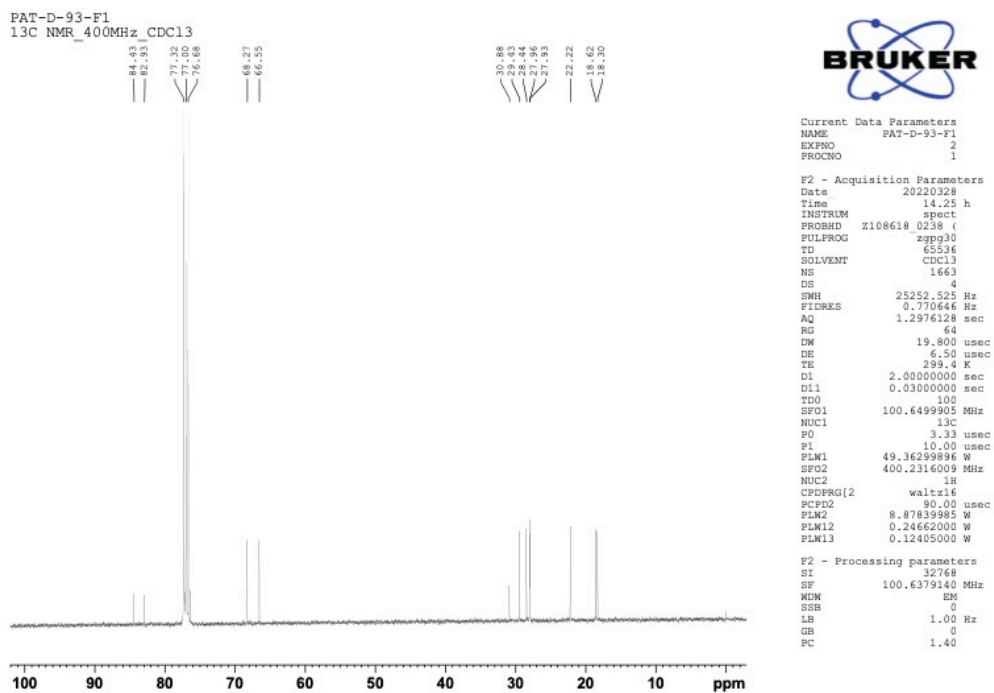
# <sup>13</sup>C NMR spectrum of penicolate C 2



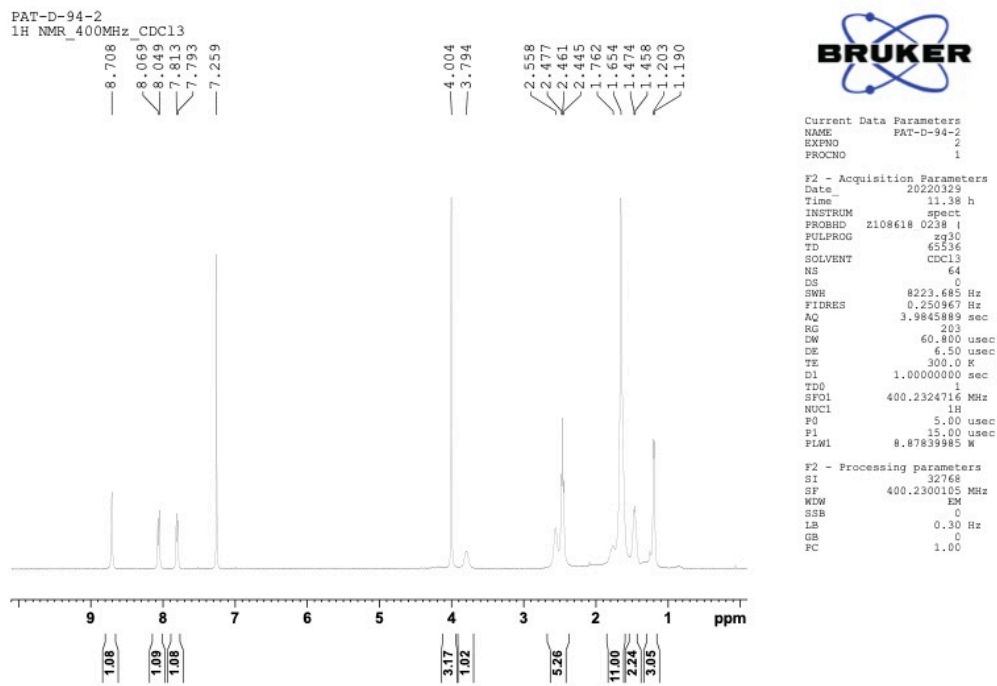
# <sup>1</sup>H NMR spectrum of diyne 9



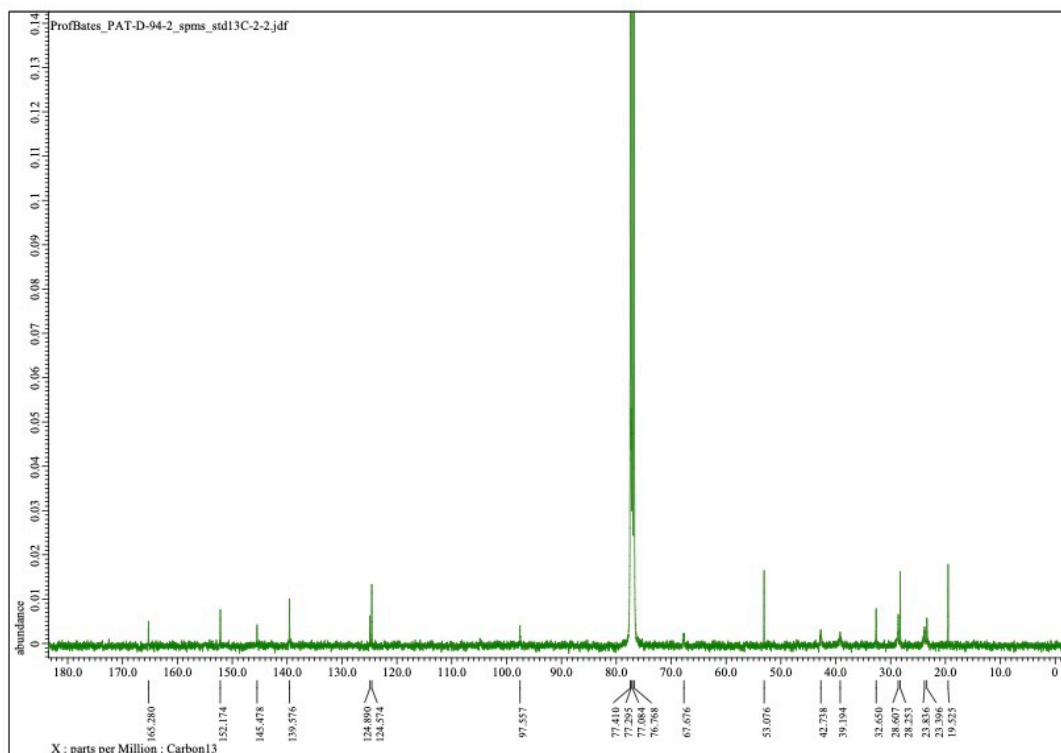
# <sup>13</sup>C NMR spectrum of diyne 9



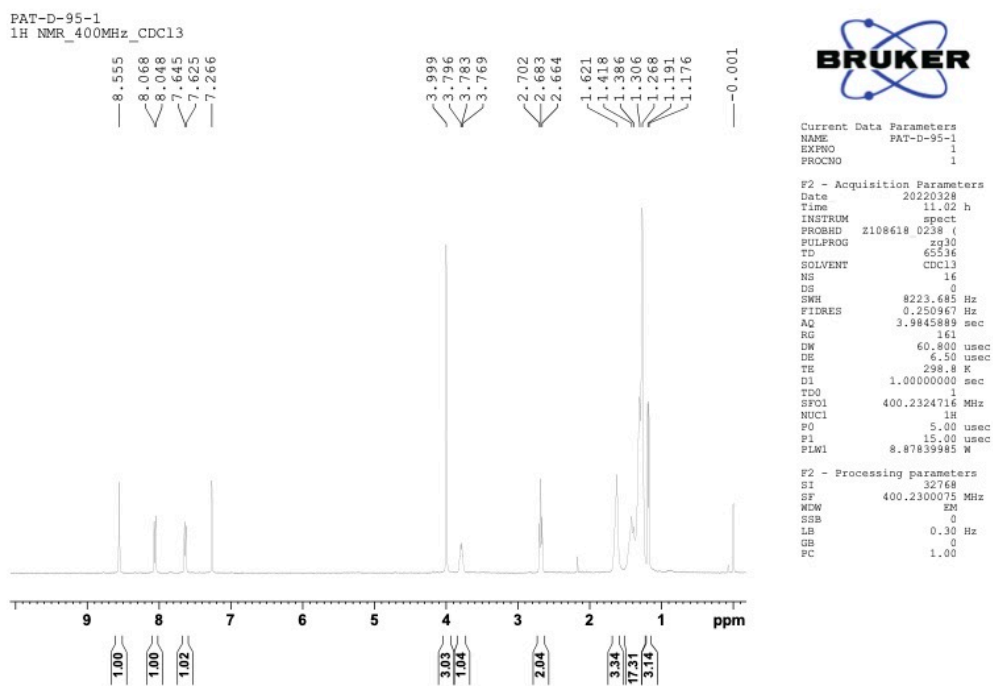
# <sup>1</sup>H NMR spectrum of diyne **10**



# <sup>13</sup>C NMR spectrum of diyne **10**



### <sup>1</sup>H NMR spectrum of penicolate D 3



### <sup>13</sup>C NMR spectrum of penicolate D 3

