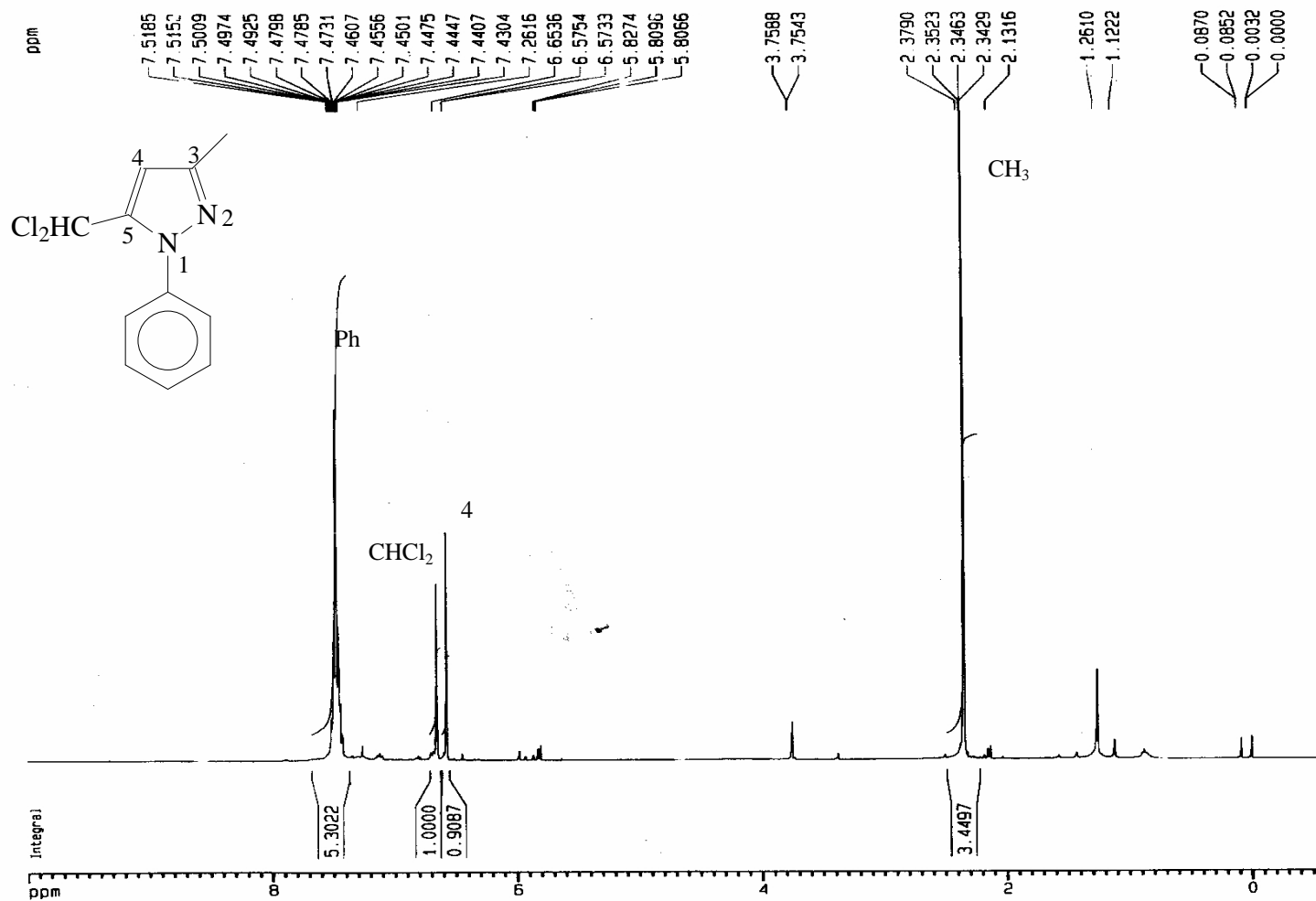


Figura 86 – Espectro de RMN de ^1H a 400 MHz do composto 5-Diclorometil-3-metil-1H-pirazol **20**.



Current Data Parameters
 NAME m8sc03h1
 EXPNO 1
 PROCNO 2002

F2 - Acquisition Parameters
 Date_ 20020924
 Time 18.14
 INSTRUM spect
 PROBHD 5 mm Dual 13
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 4960.317 Hz
 FIDRES 0.075688 Hz
 AQ 6.6060786 sec
 RG 35.9
 DW 100.800 usec
 DE 4.50 usec
 TE 298.0 K
 D1 1.0000000 sec
 P1 12.00 usec
 DE 4.50 usec
 SFO1 400.1322614 MHz
 NUC1 1H
 PL1 -3.00 dB

F2 - Processing parameters
 SI 32768
 SF 400.1300069 MHz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 20.50 cm
 F1P 10.000 ppm
 F1 4001.30 Hz
 F2P -0.564 ppm
 F2 -225.72 Hz
 PPMCM 0.51532 ppm/cm
 HZCM 206.19604 Hz/cm

Figura 87 – Espectro de RMN de ^1H a 400 MHz do composto 5-Diclorometil-3-metil-1-fenil-1H-pirazol **21**.

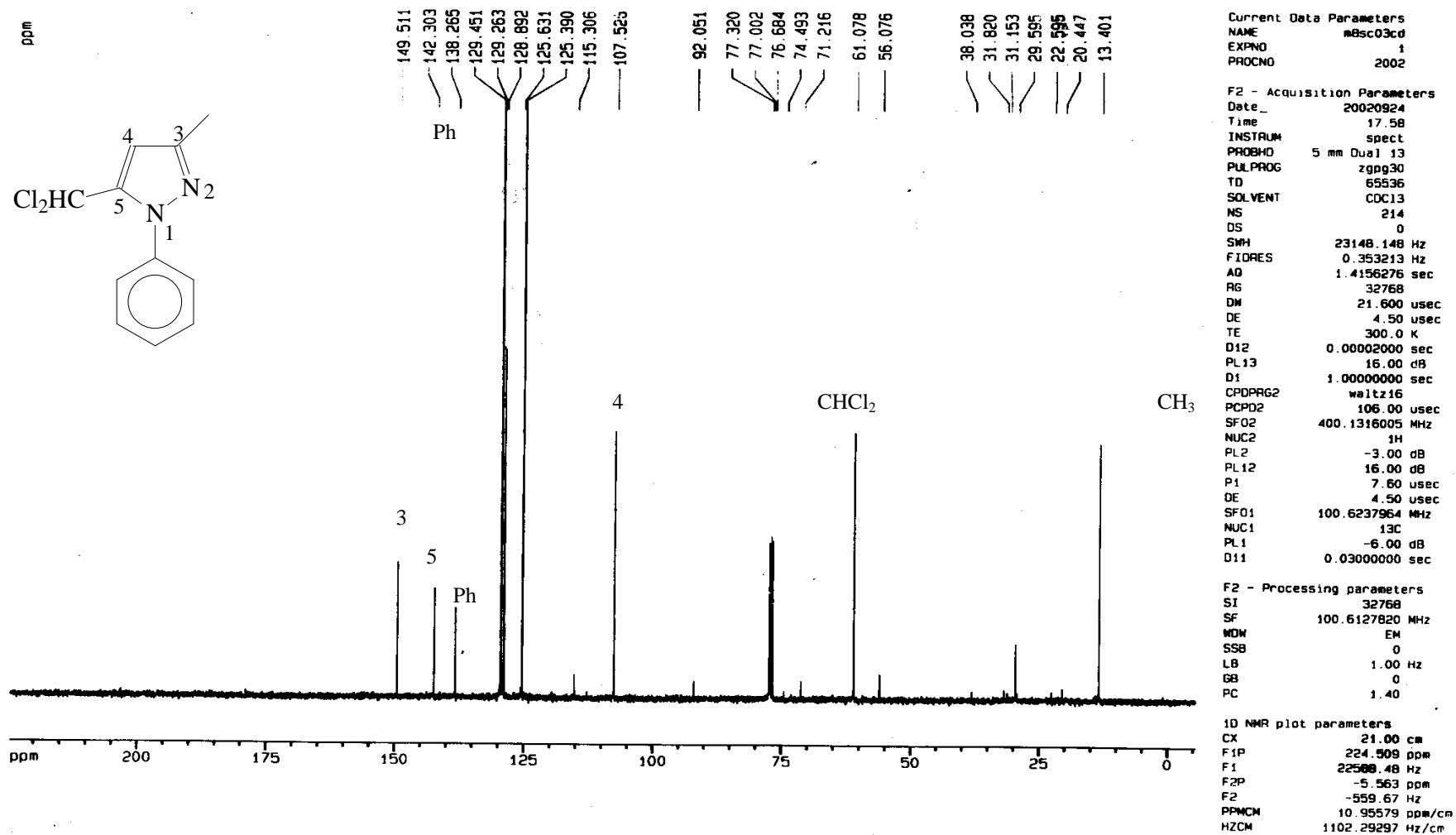


Figura 88 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 5-Diclorometil-3-metil-1-fenil-1H-pirazol 21.

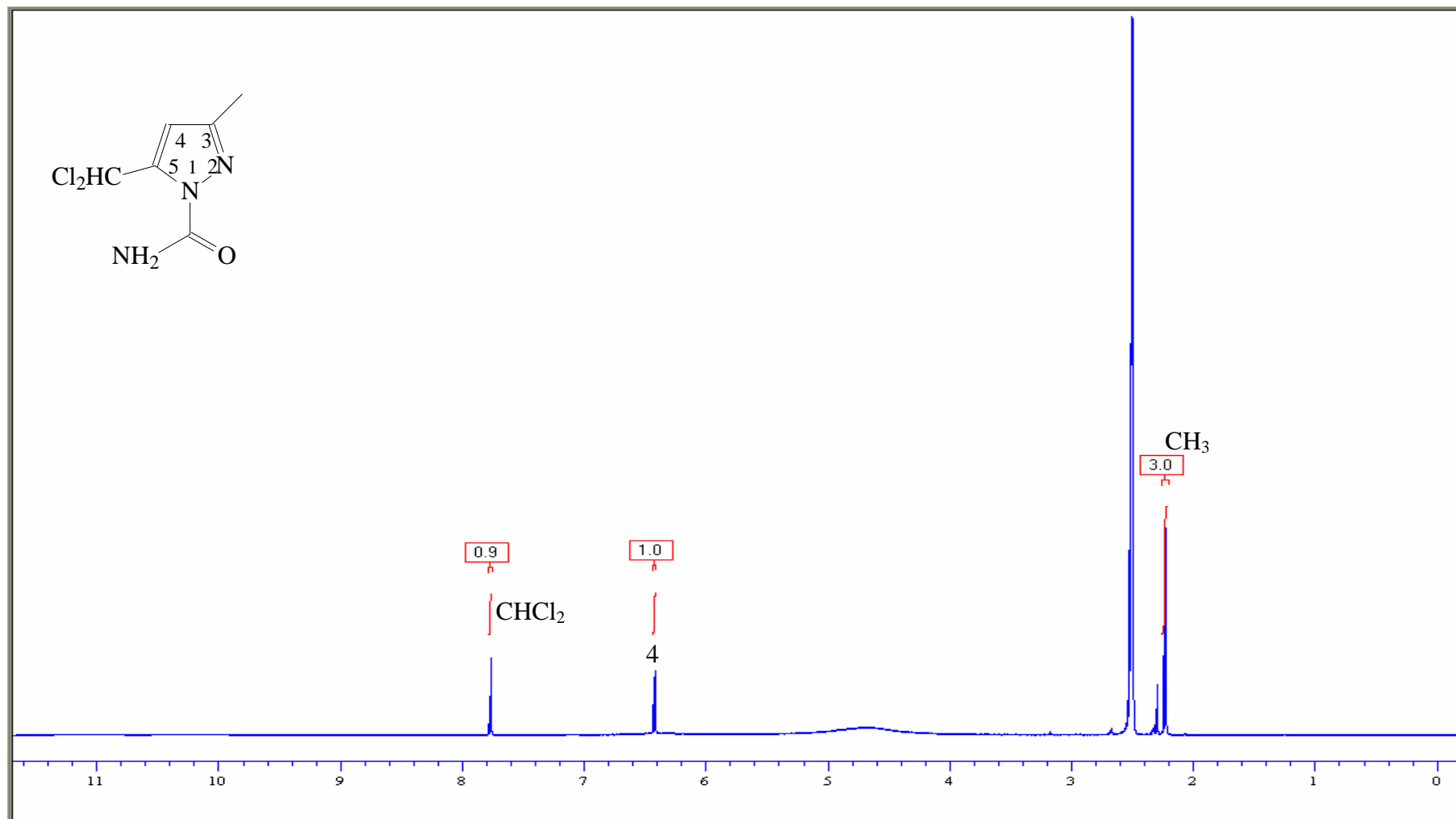


Figura 89 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 1-Carboxiamida-5-dicloro-5-hidroxi-3-metil-1H-pirazol **22** com solvente de referencia $\text{DMSO } d_6$ (dimetilsulfóxido deuterado)

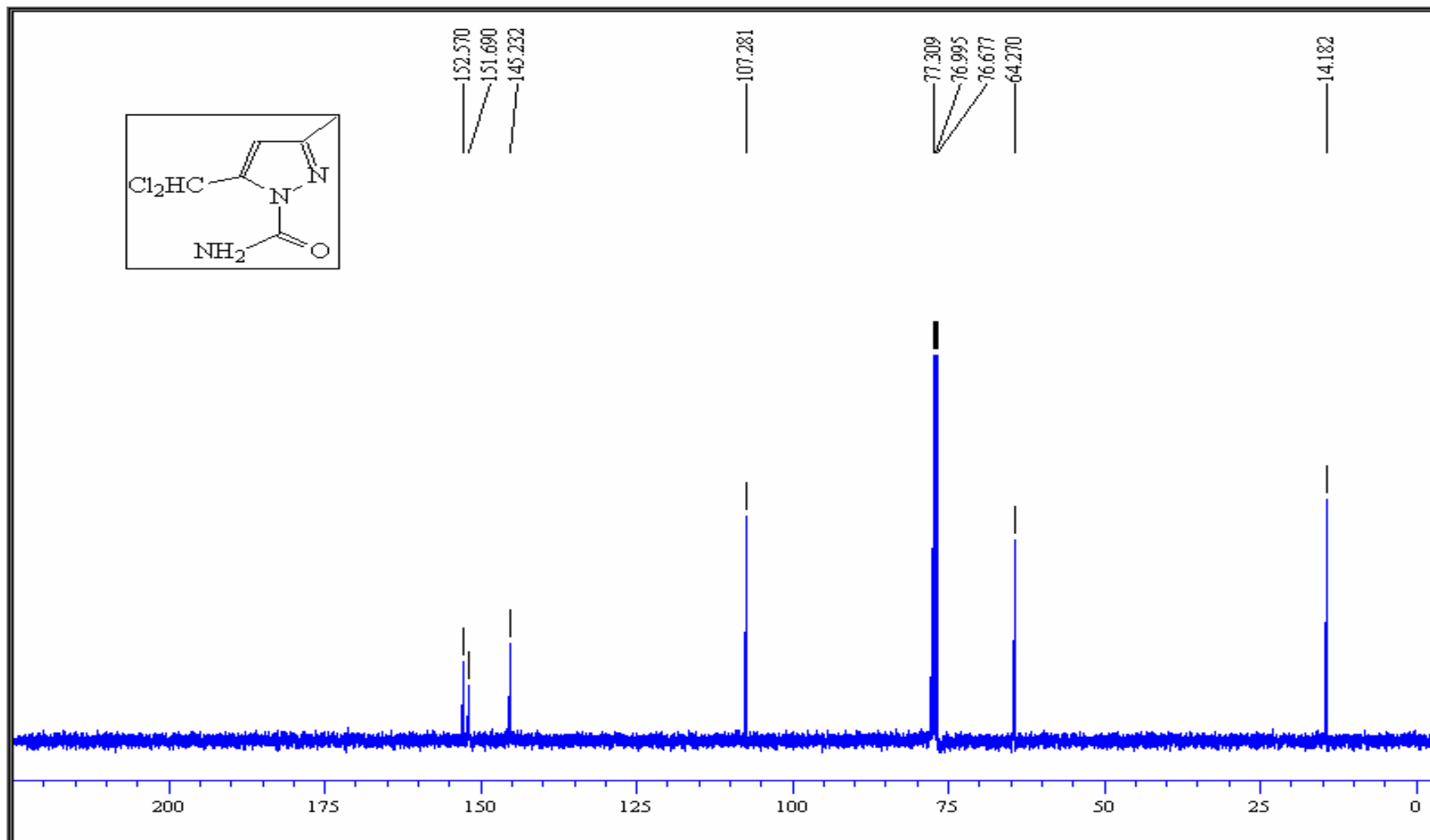


Figura 89 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 1-Carboxiamida-5-dicloro-5-hidroxi-3-metil-1H-pirazol **22**.

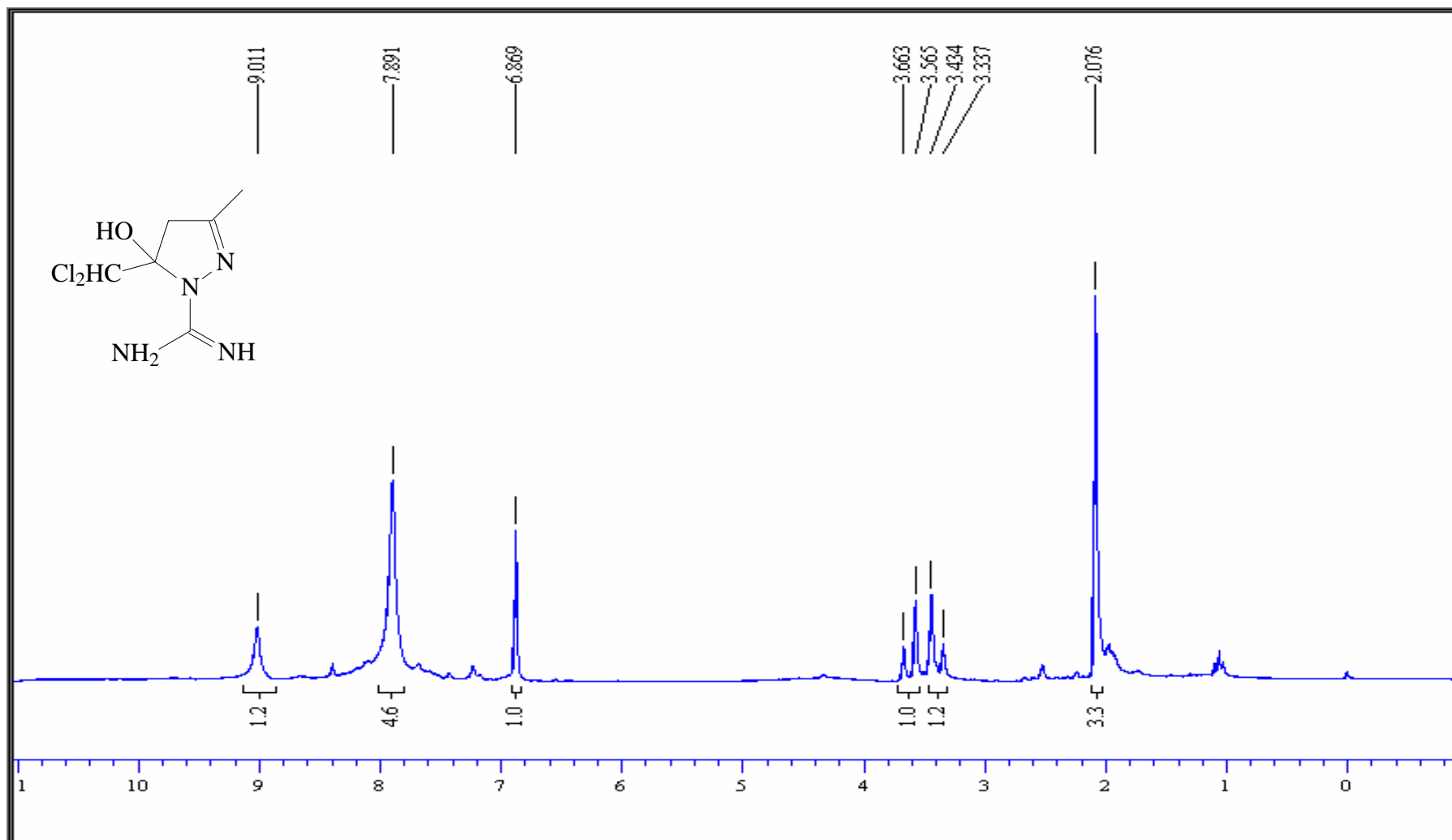


Figura 90 – Espectro de RMN de ^1H a 200 MHz do composto 5-Diclorometil-5-hidroxi-1-guanido-3-metil-1H-pirazol **23**.

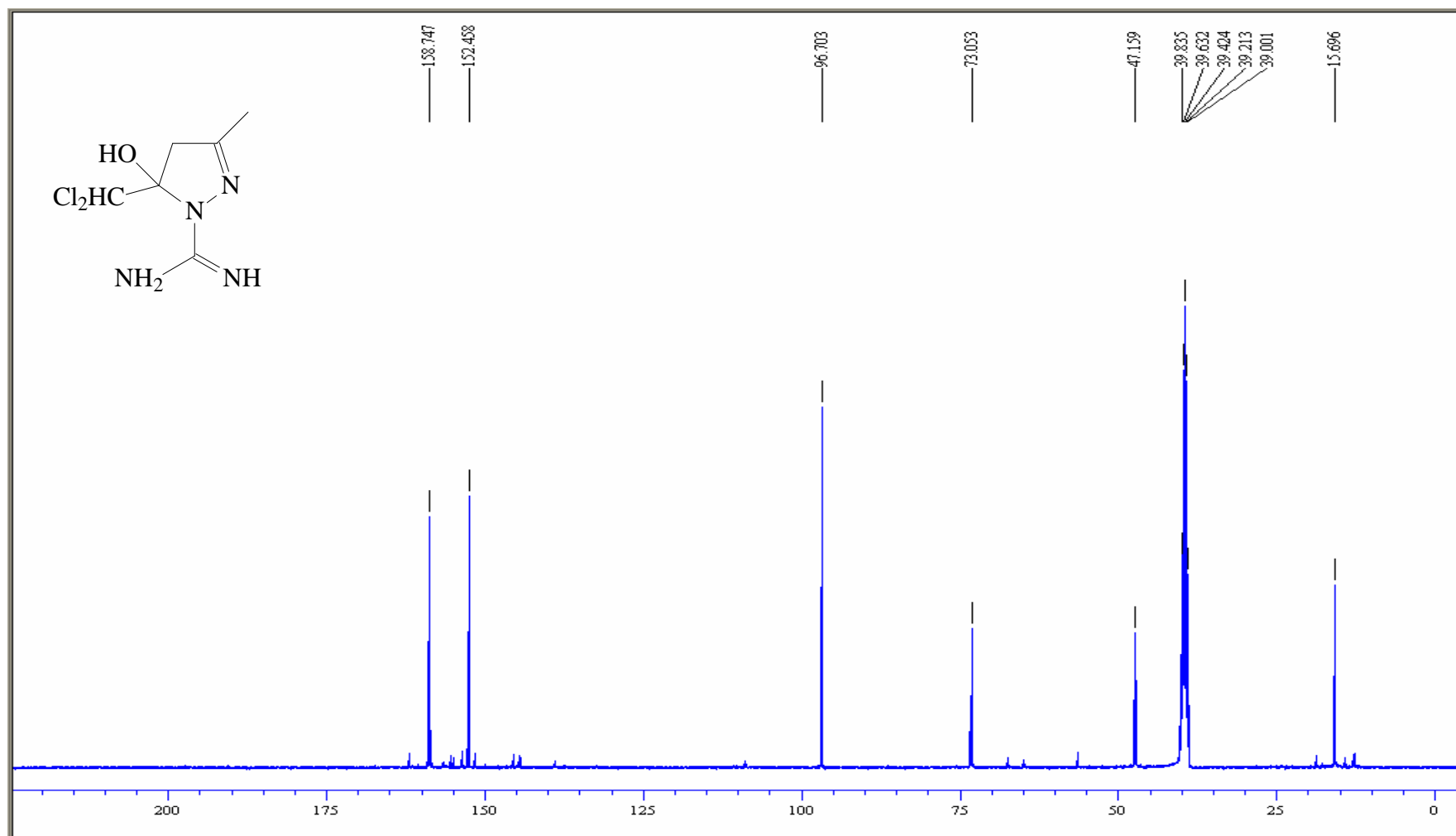


Figura 91 – Espectro de RMN de ^{13}C a 100 MHz do composto 5-Diclorometil-5-hidroxi-1-guanido-3-metil-1H-pirazol **23**.

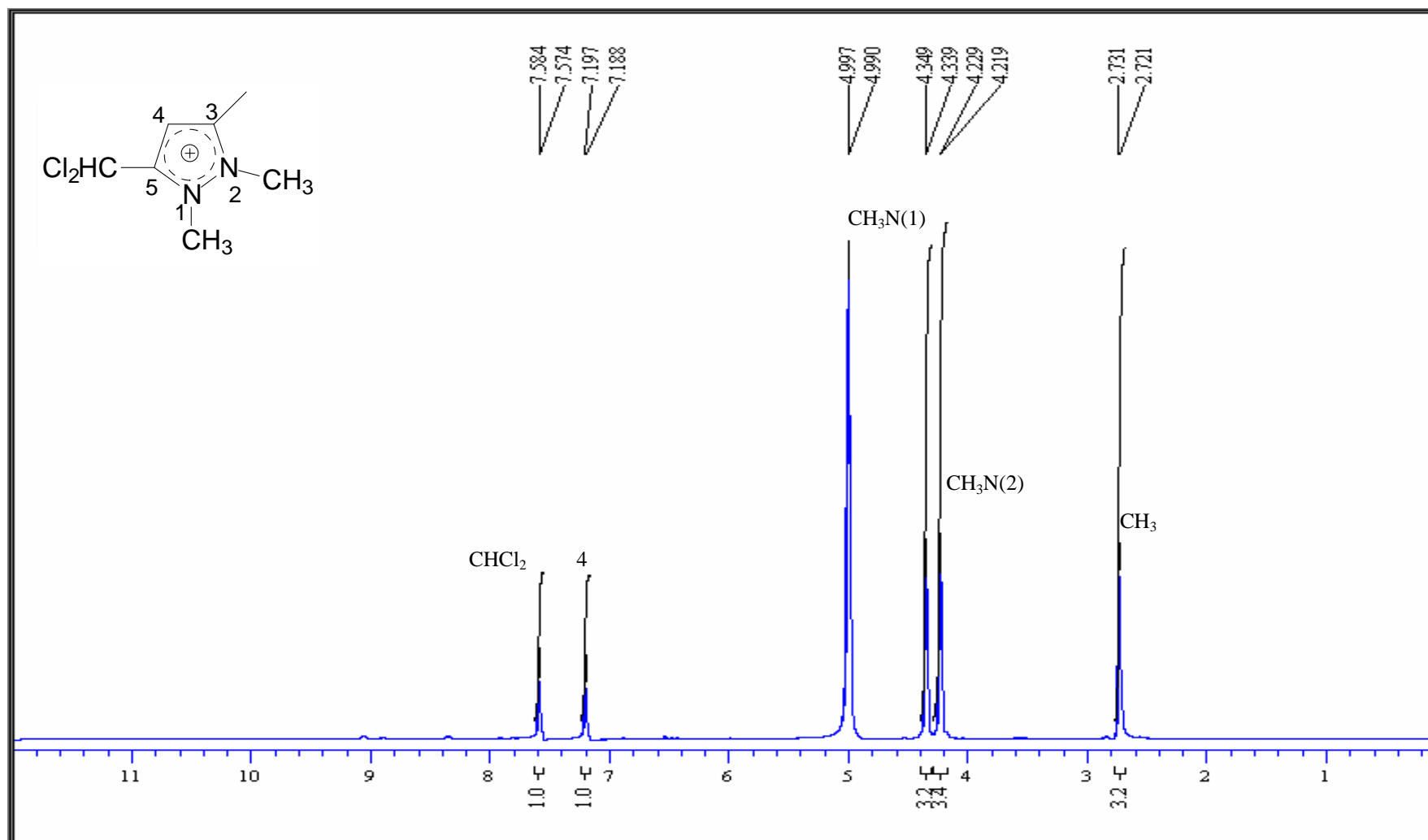


Figura 91 – Espectro de RMN de ^1H a 400 MHz do composto 5-Diclorometil-3-metil-1,2-dimetil-pirazolinium **24**.

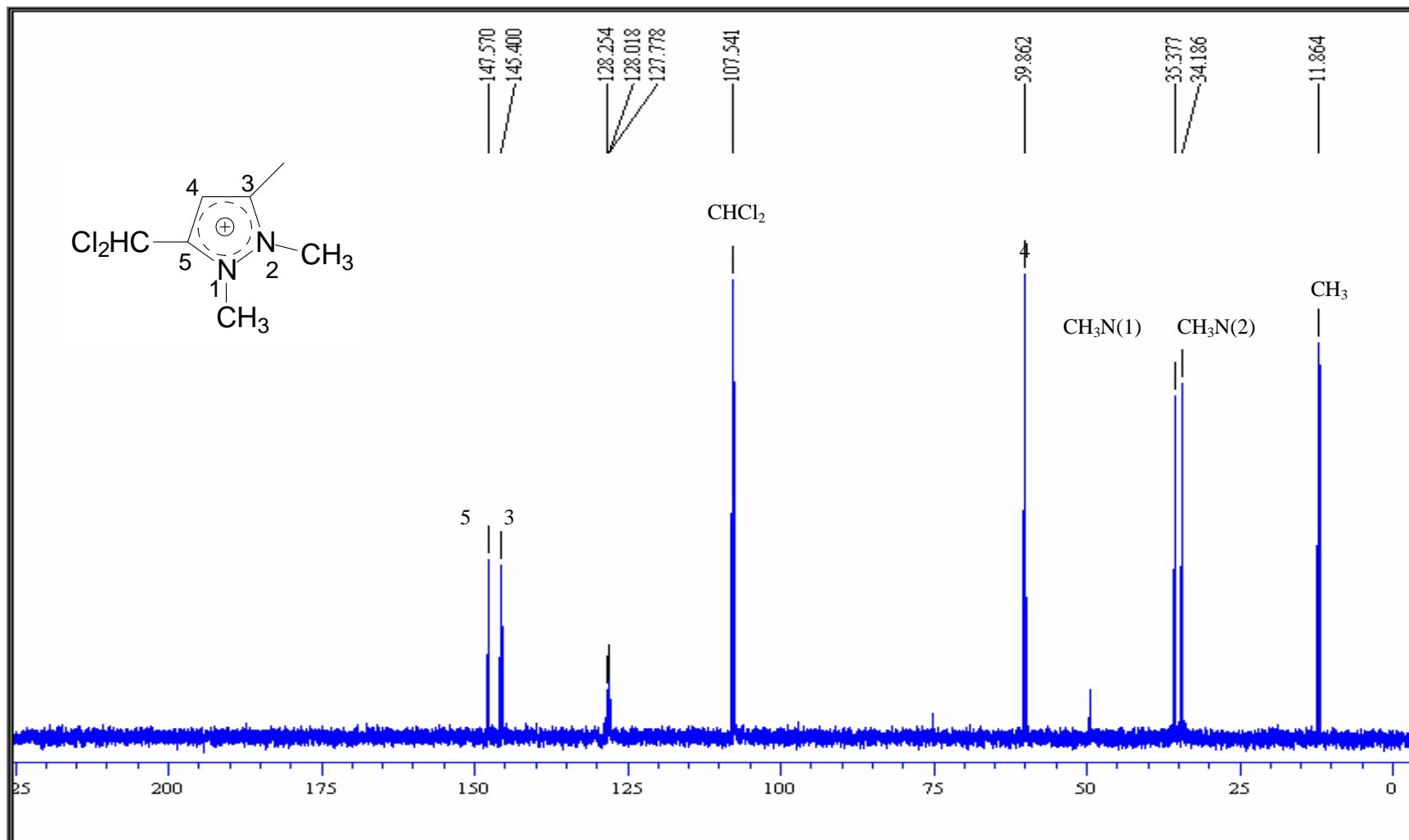
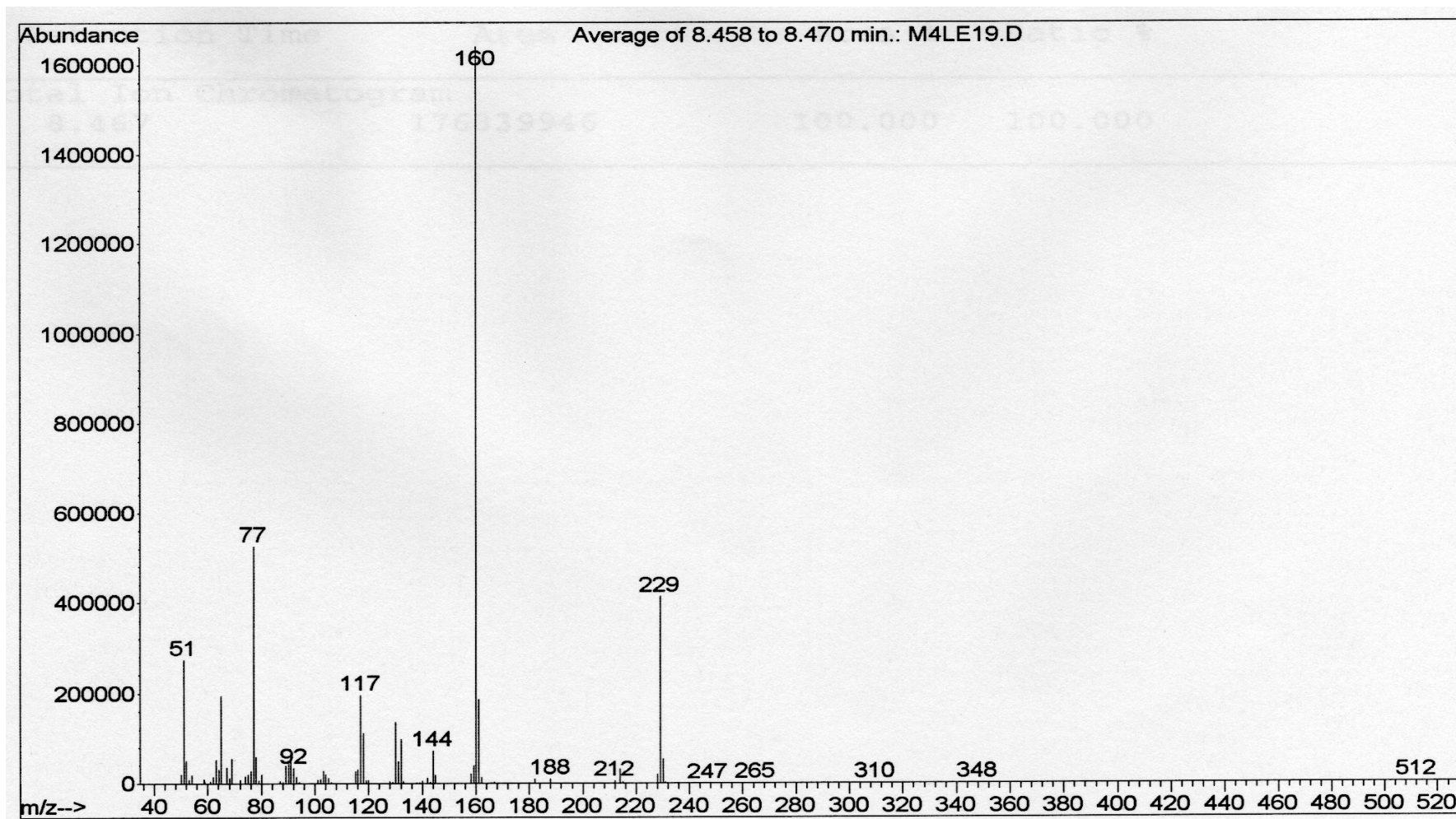
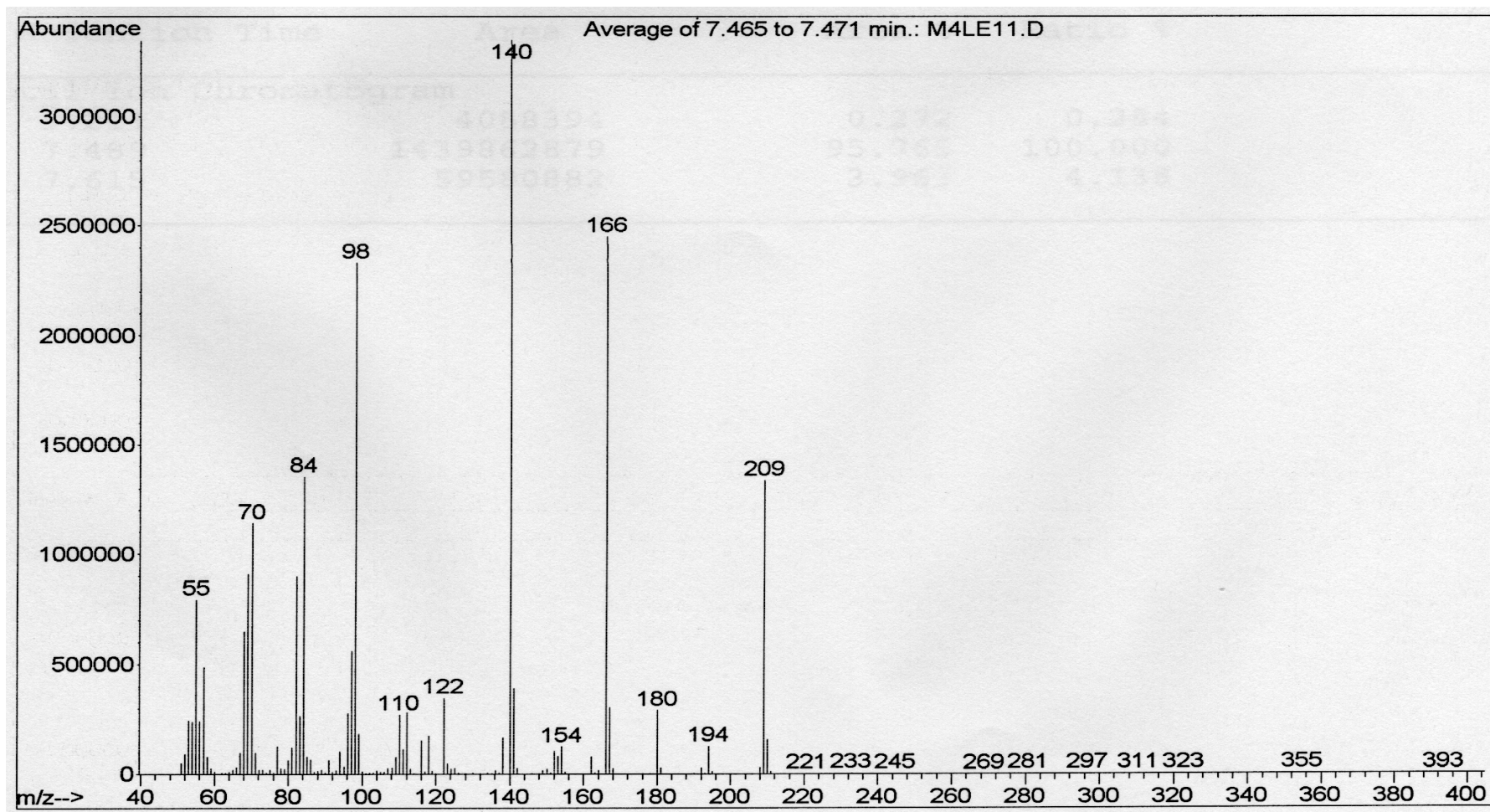
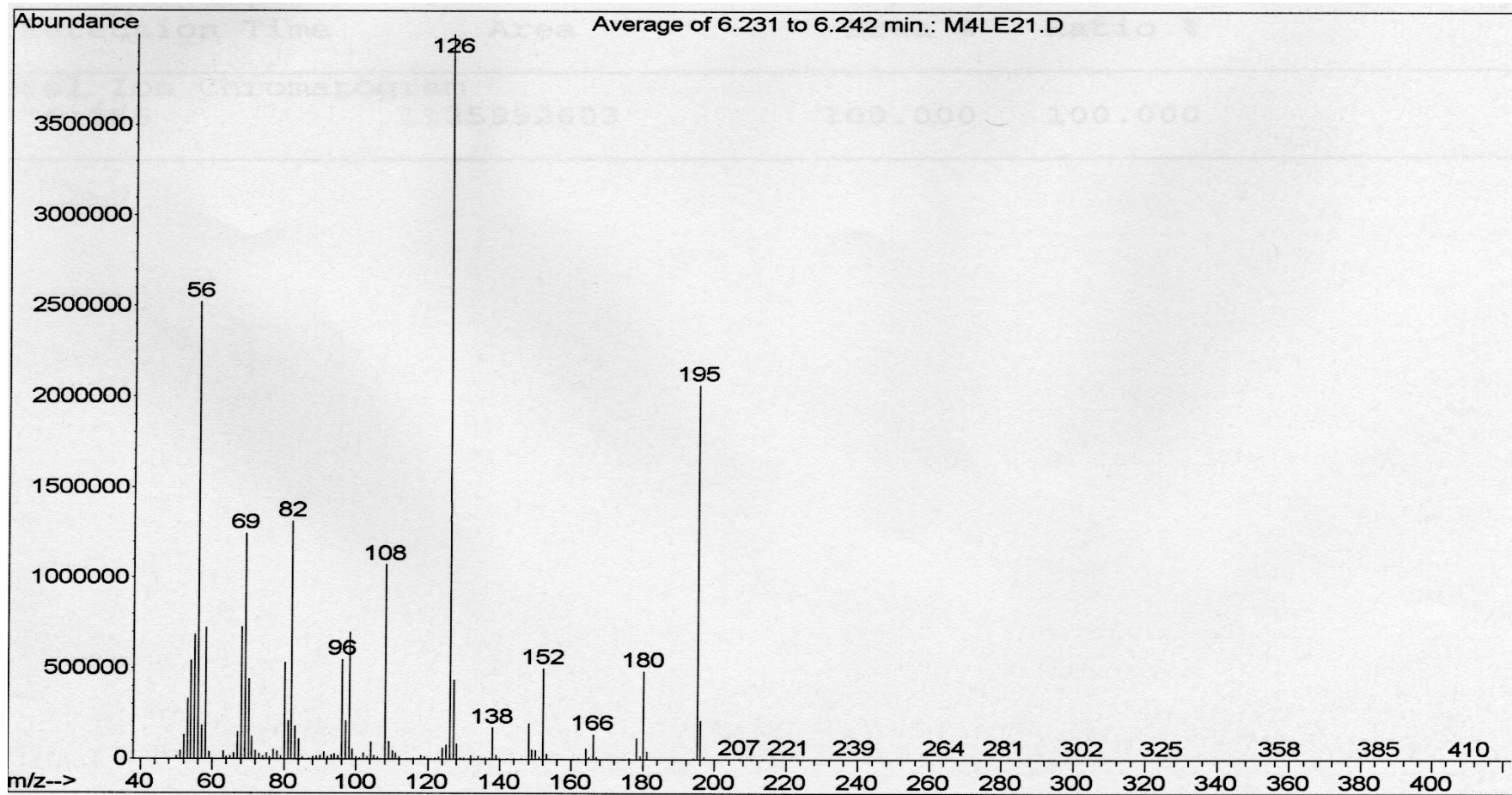


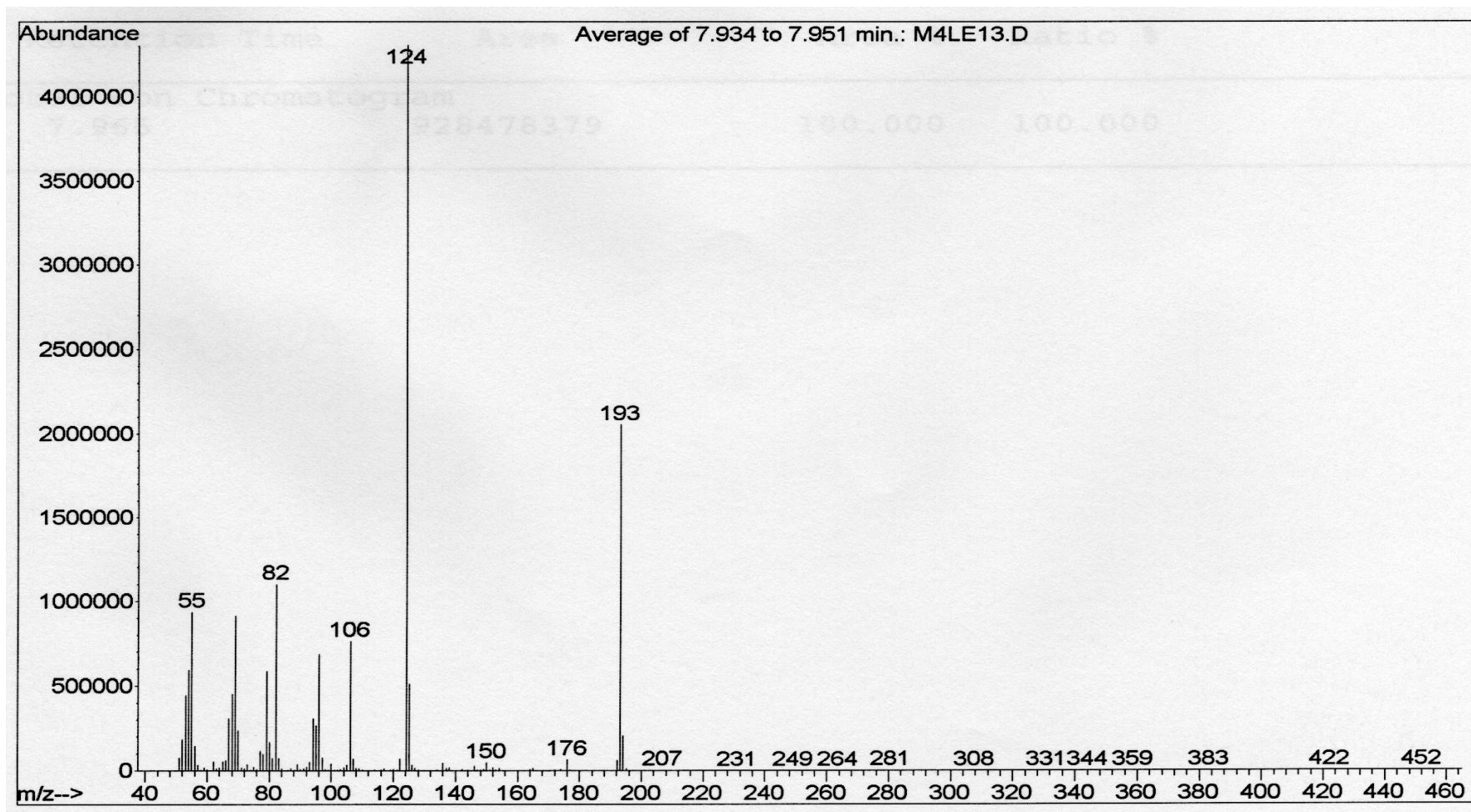
Figura 92 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 5-Diclorometil-3-metil-1,2-dimetil-pirazolinium **24**.

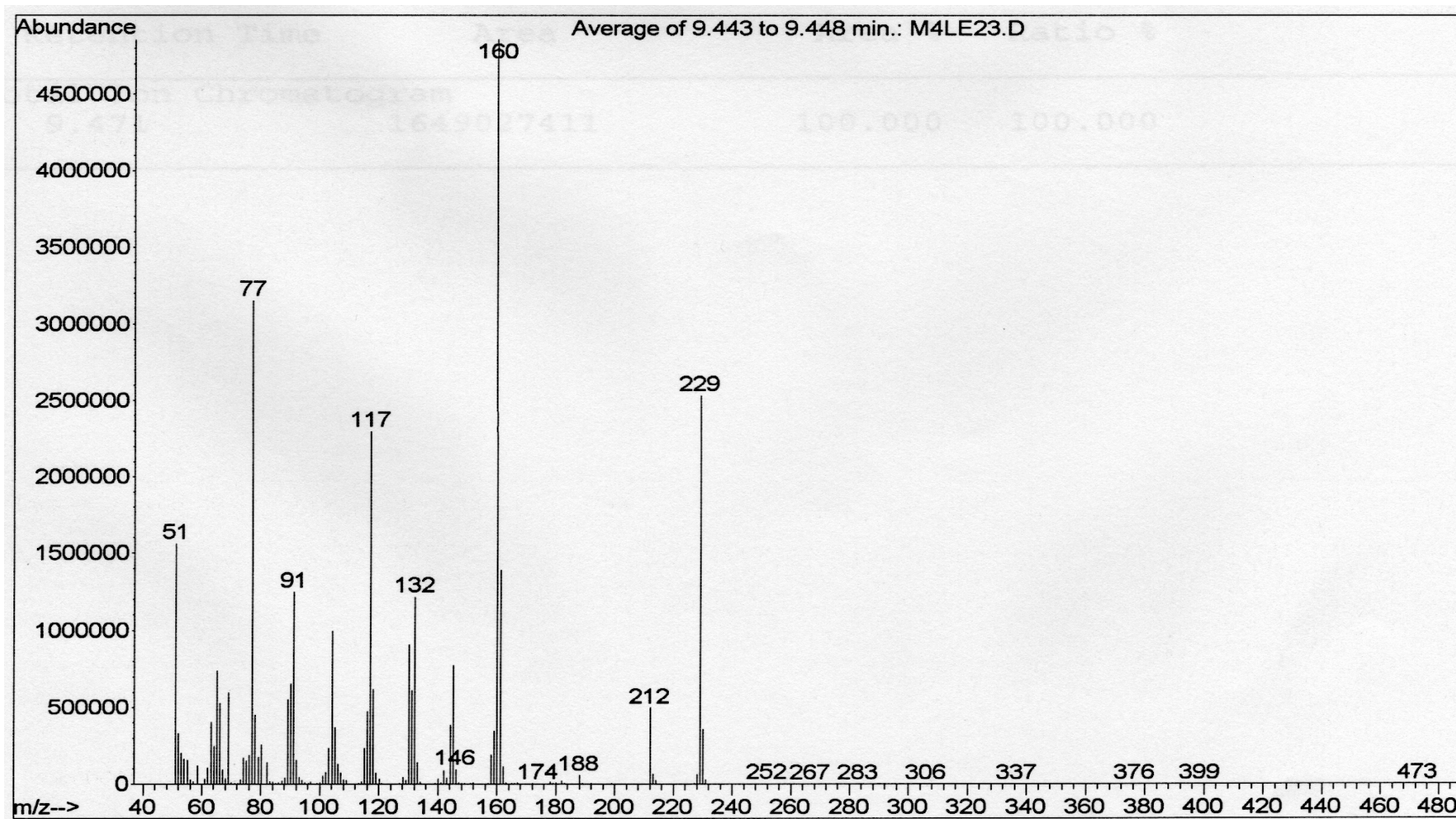
ANEXOS 2

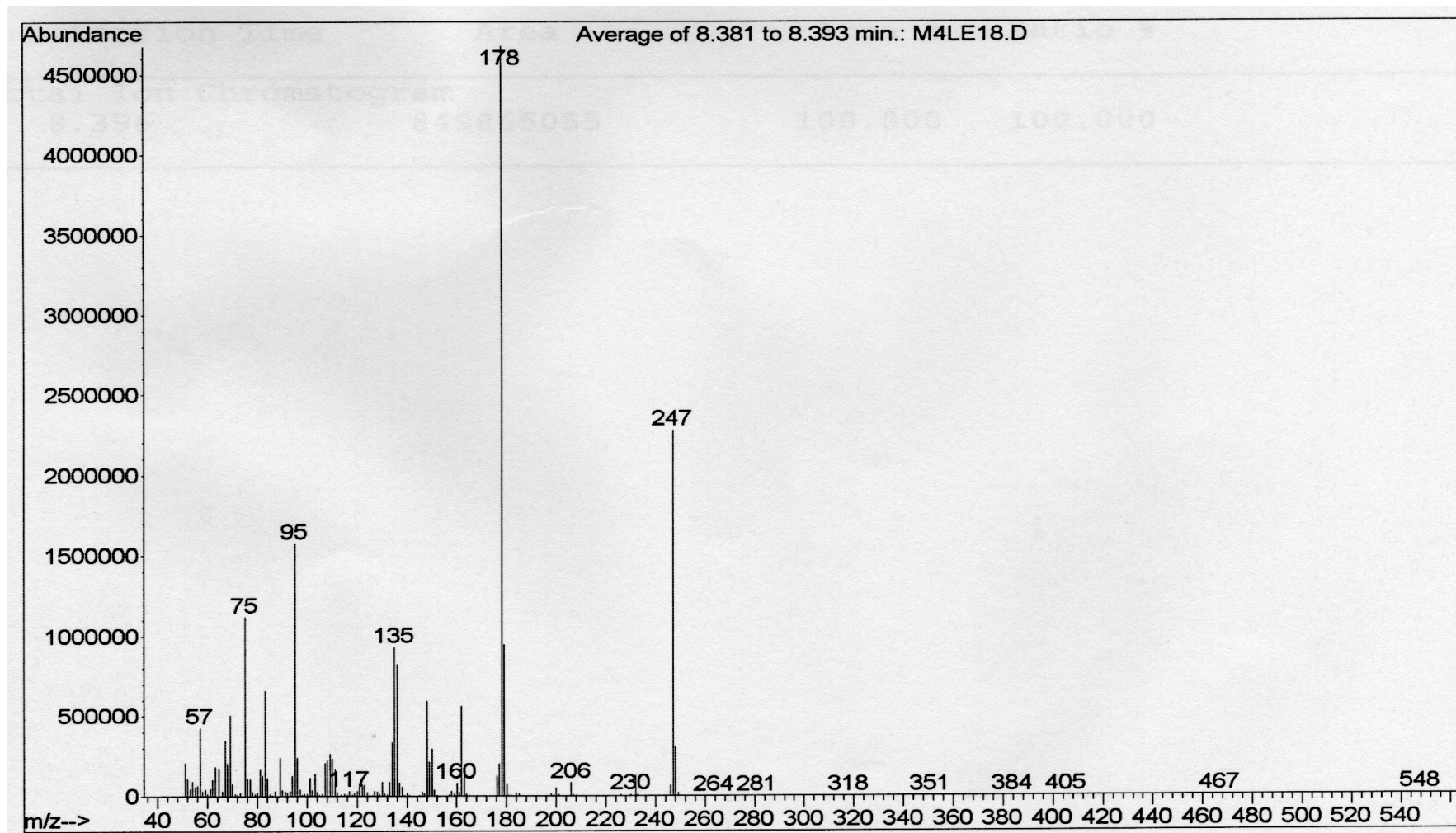
Espectro de massas do composto **9e**.

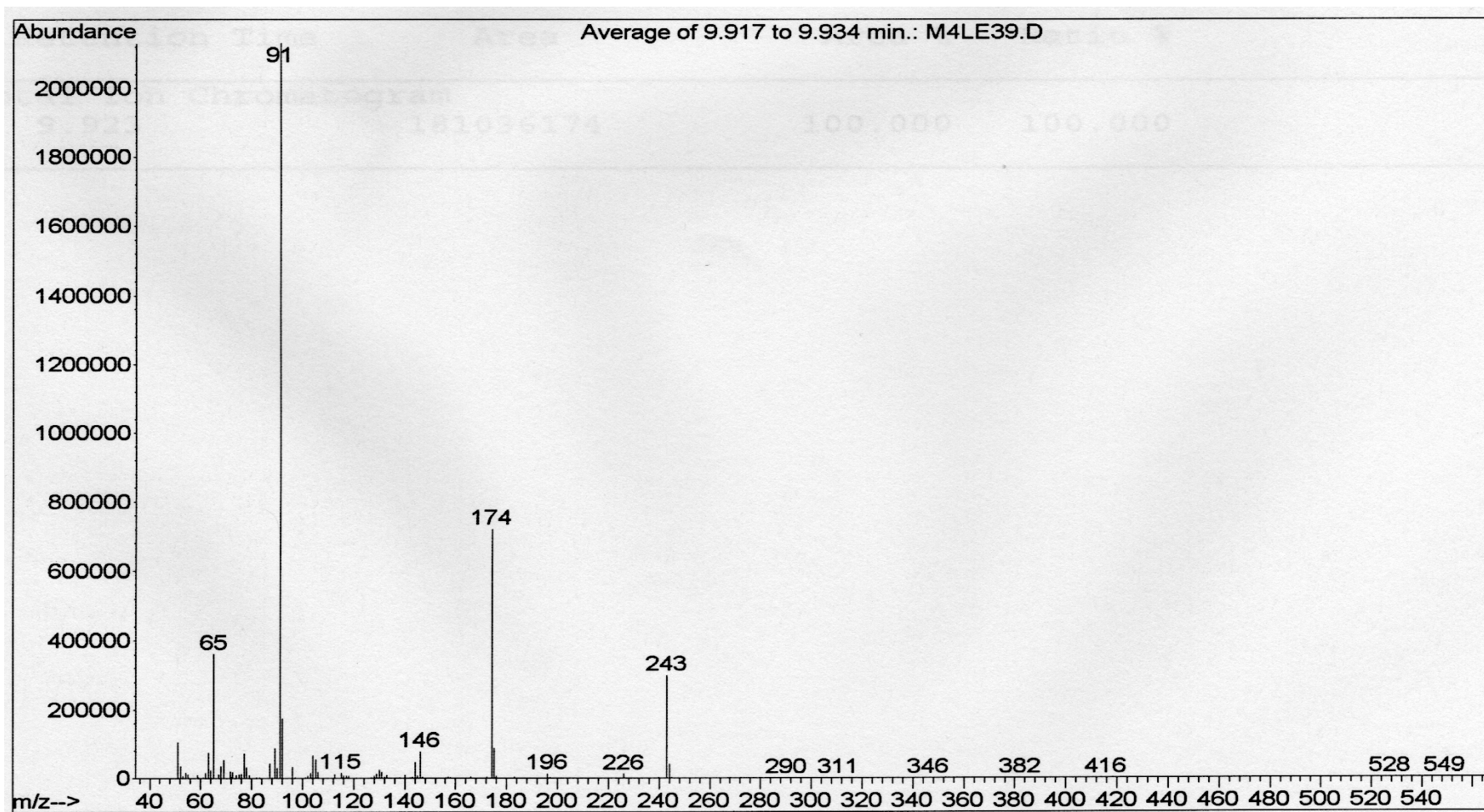
Espectro de massa do composto **9f**

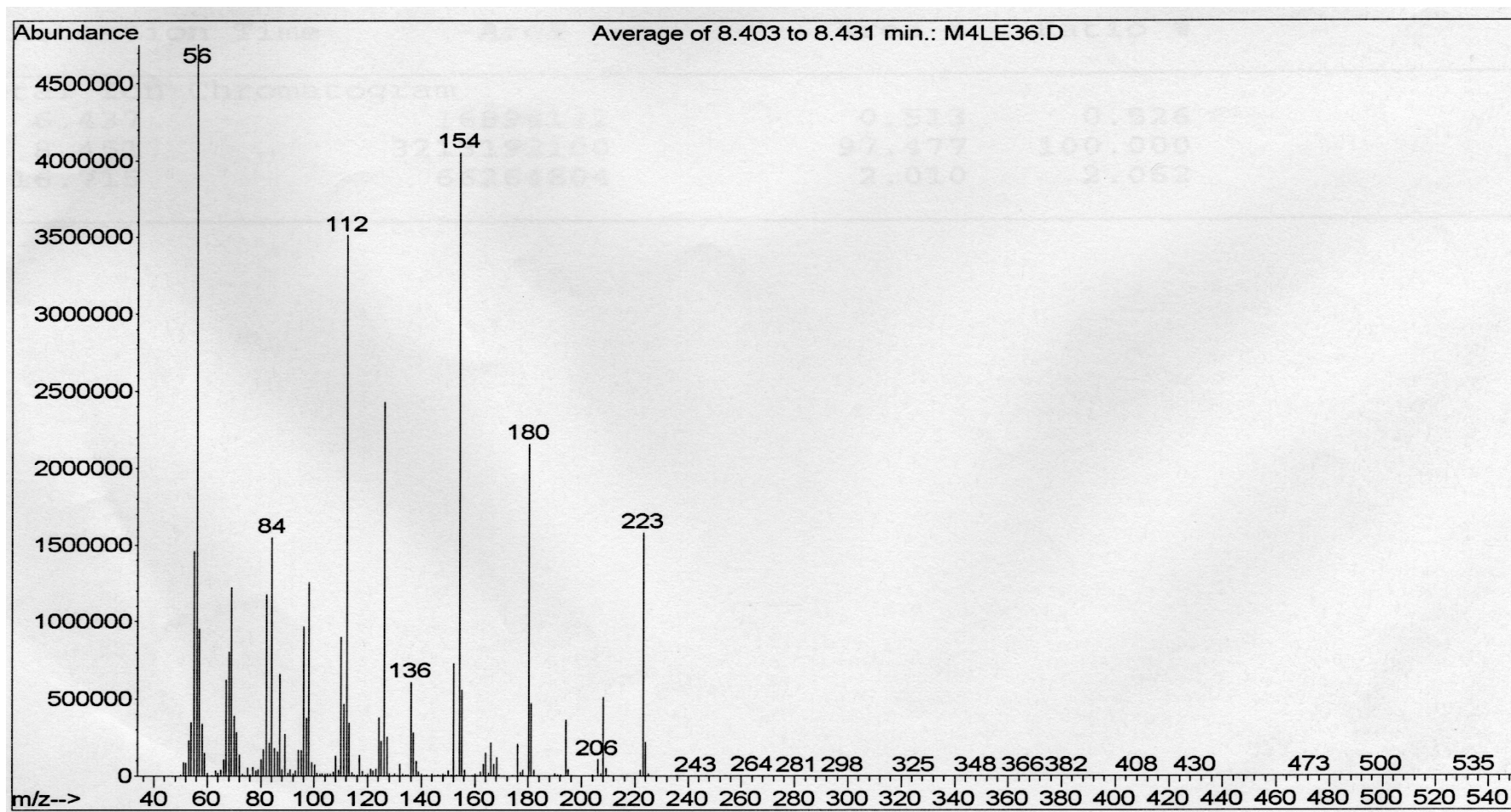
Espectro de massa do composto **9g**

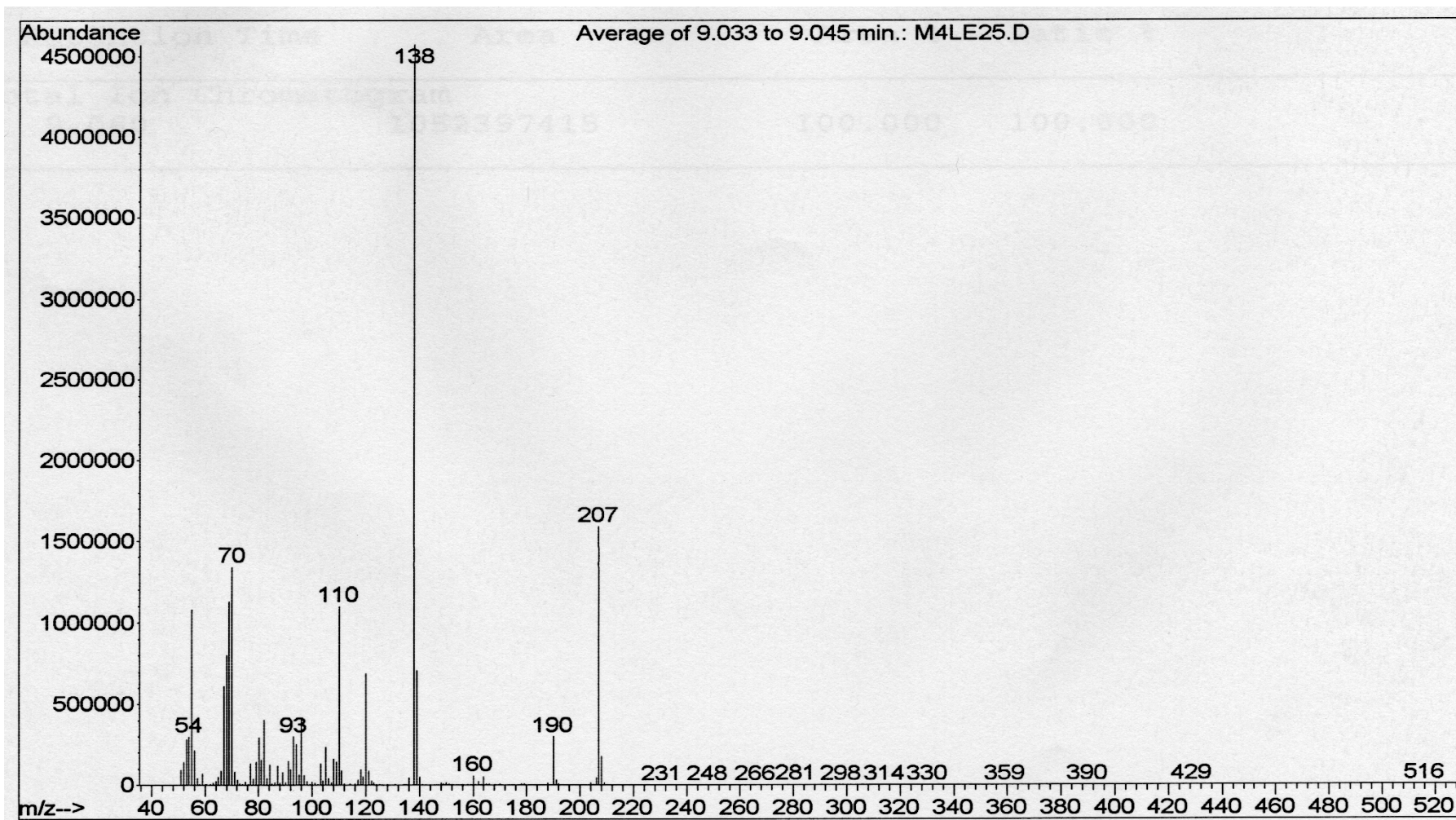
Espectro de massa do composto **9h**

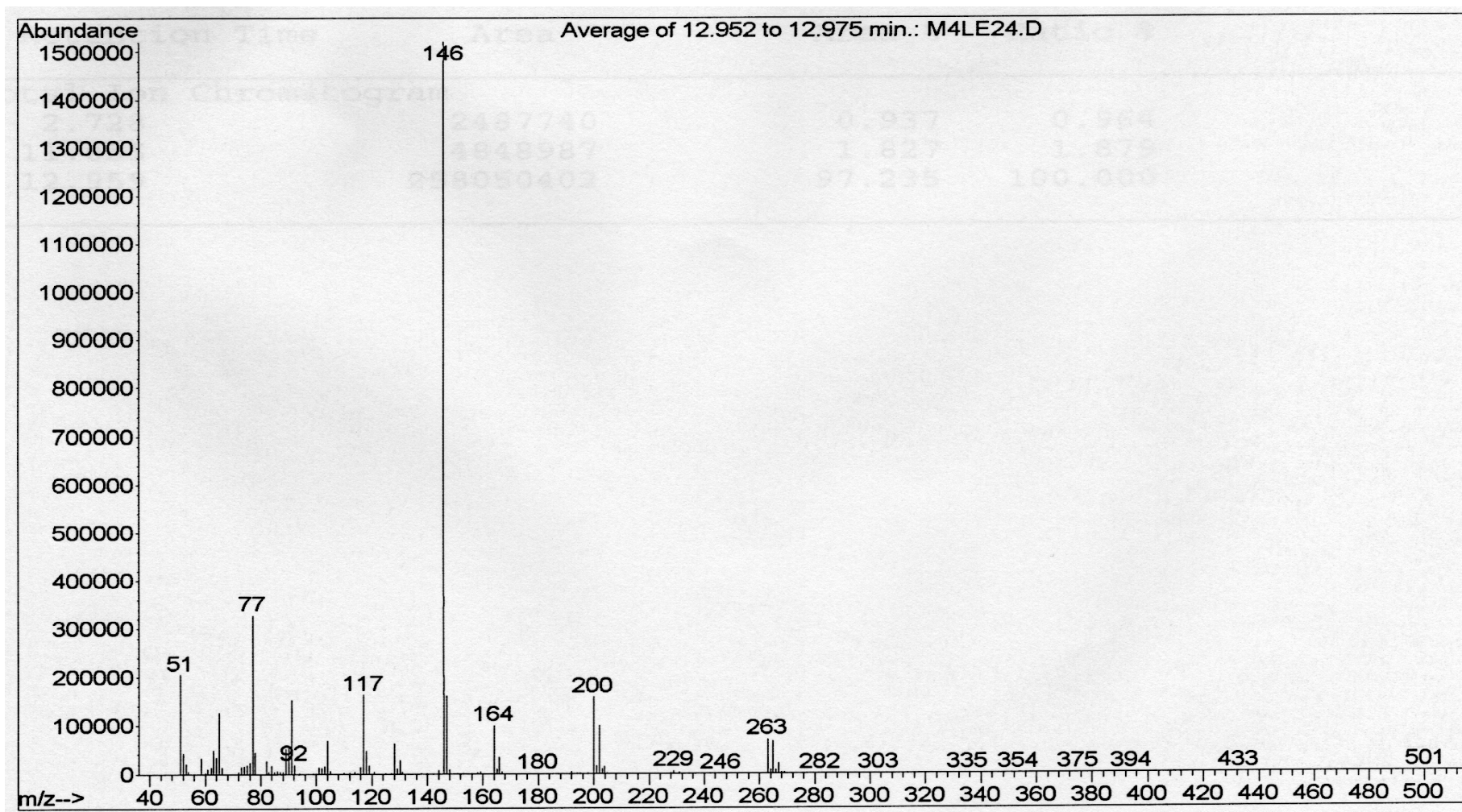
Espectro de massa do composto **10a**

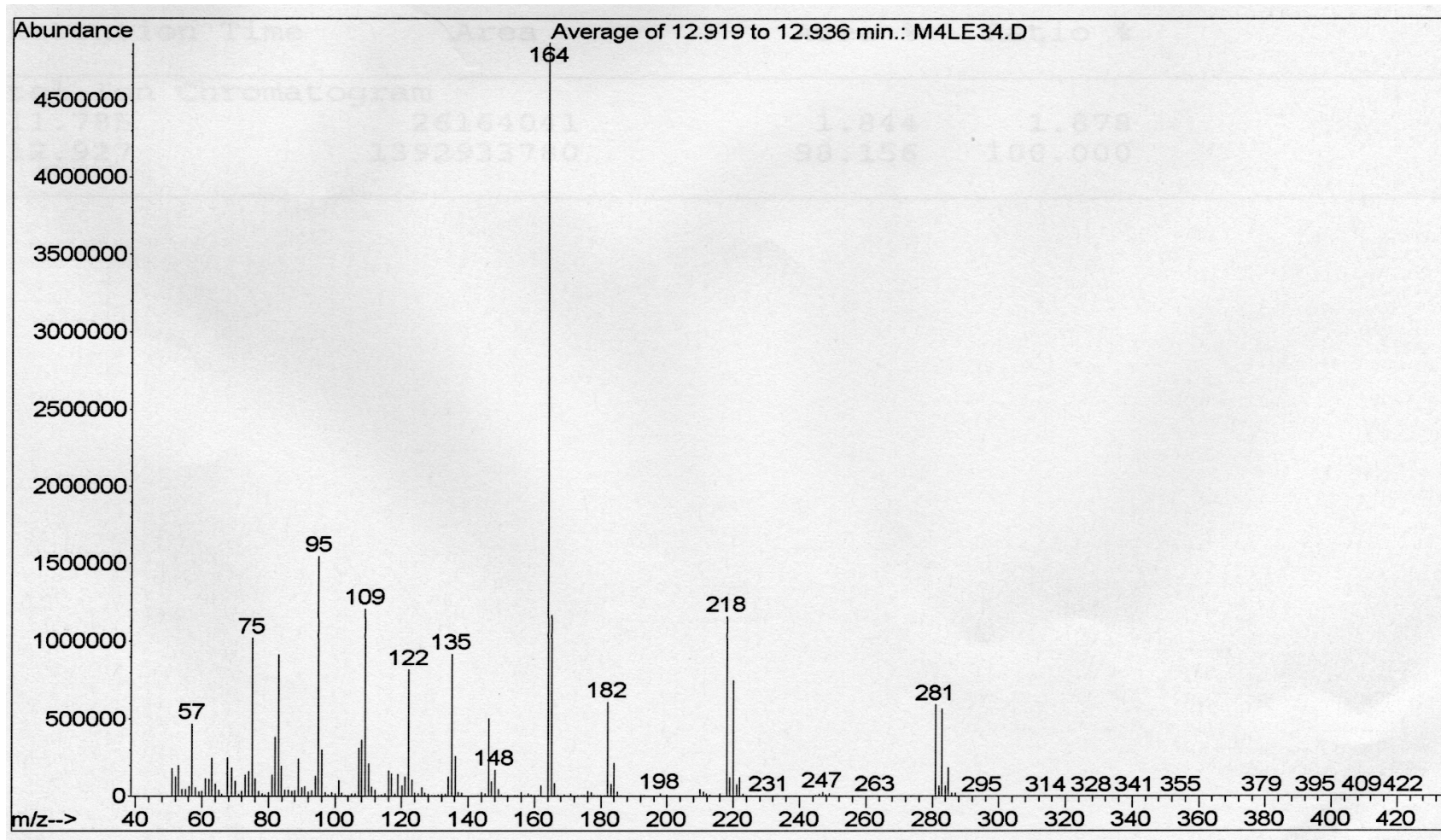
Espectro de massa do composto **10b**

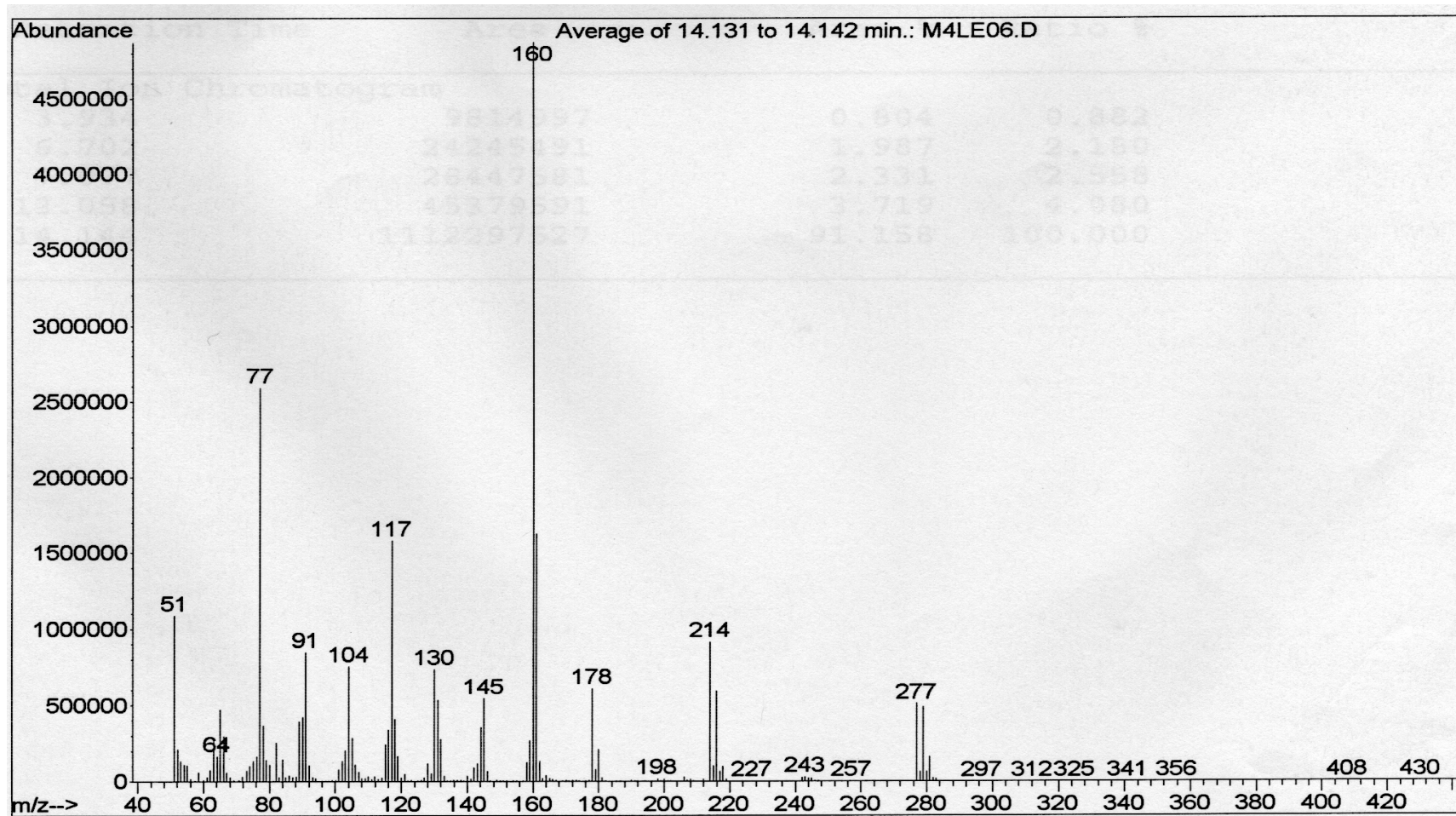
Espectro de massa do composto **10c**

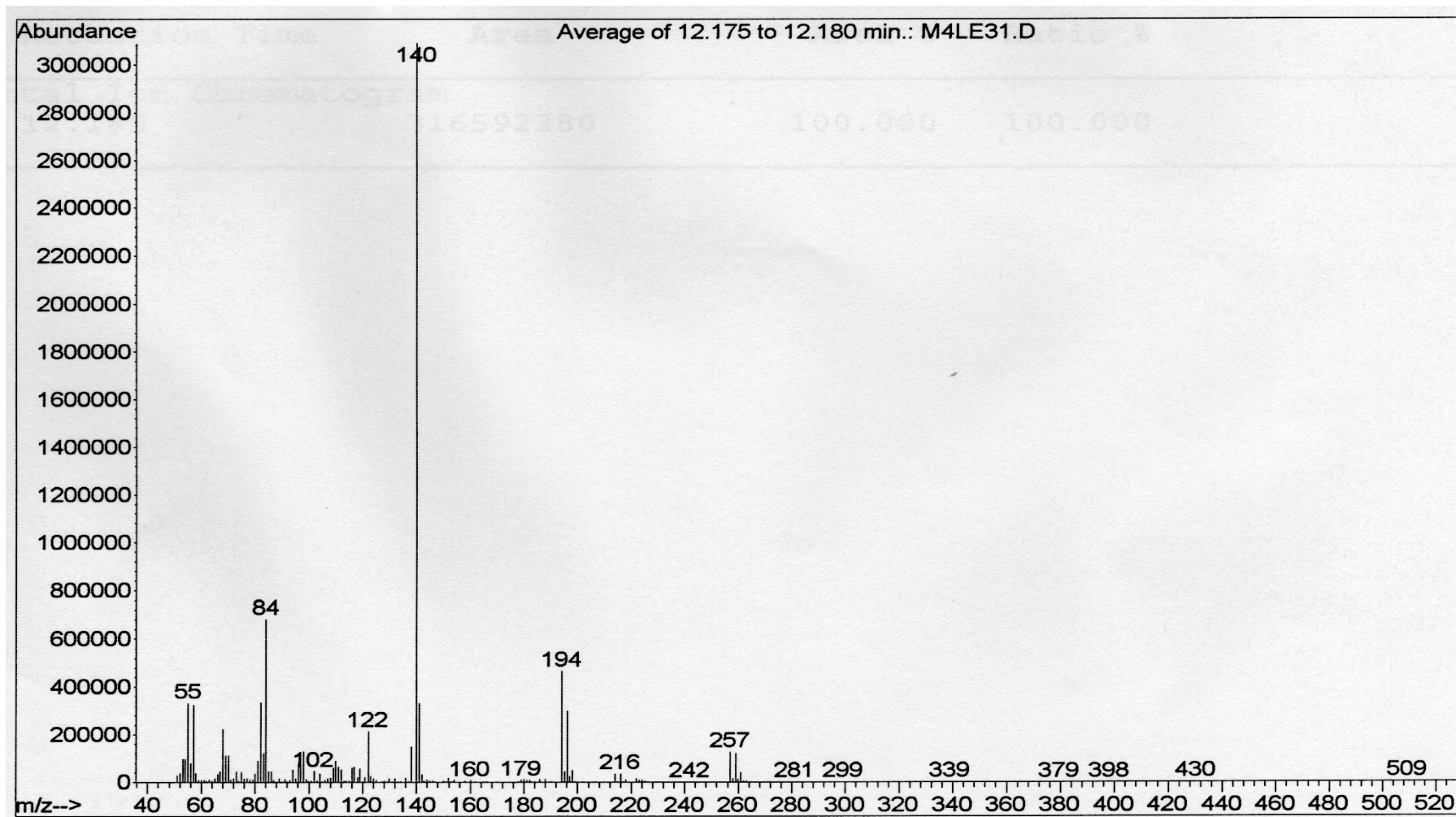
Espectro de massa do composto **10f**

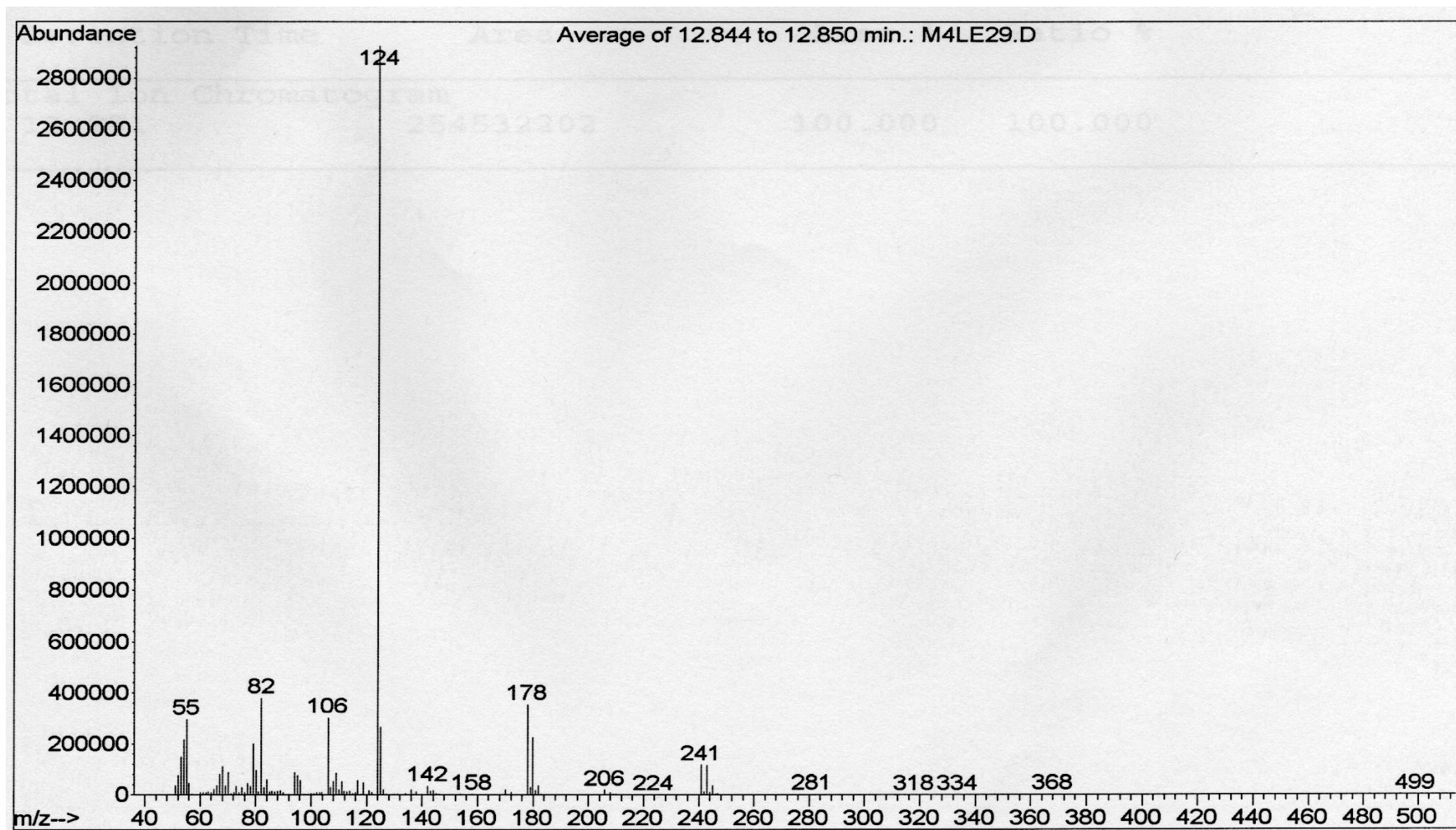
Espectro de massa do composto **10h**

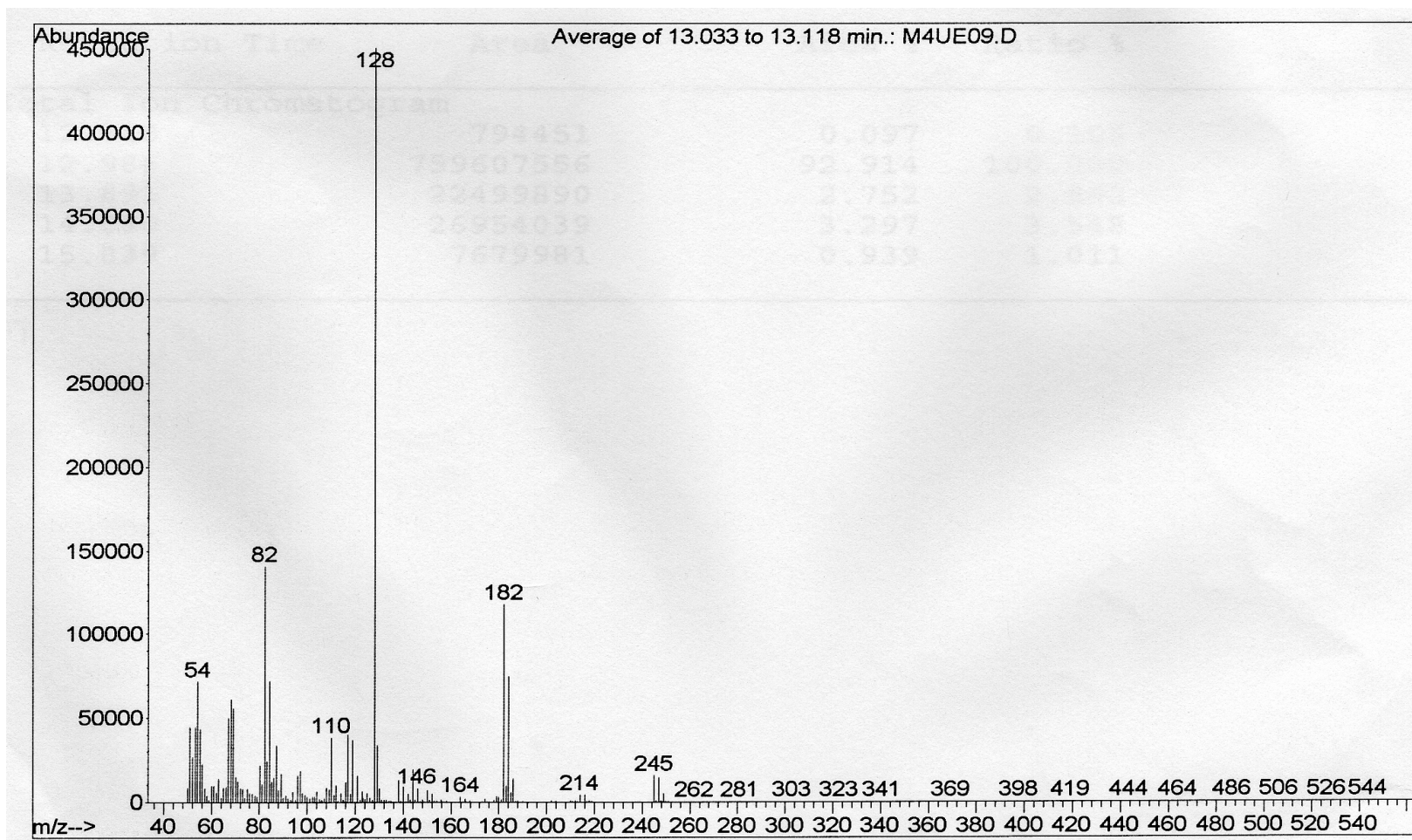
Espectro de massa do composto **12a**

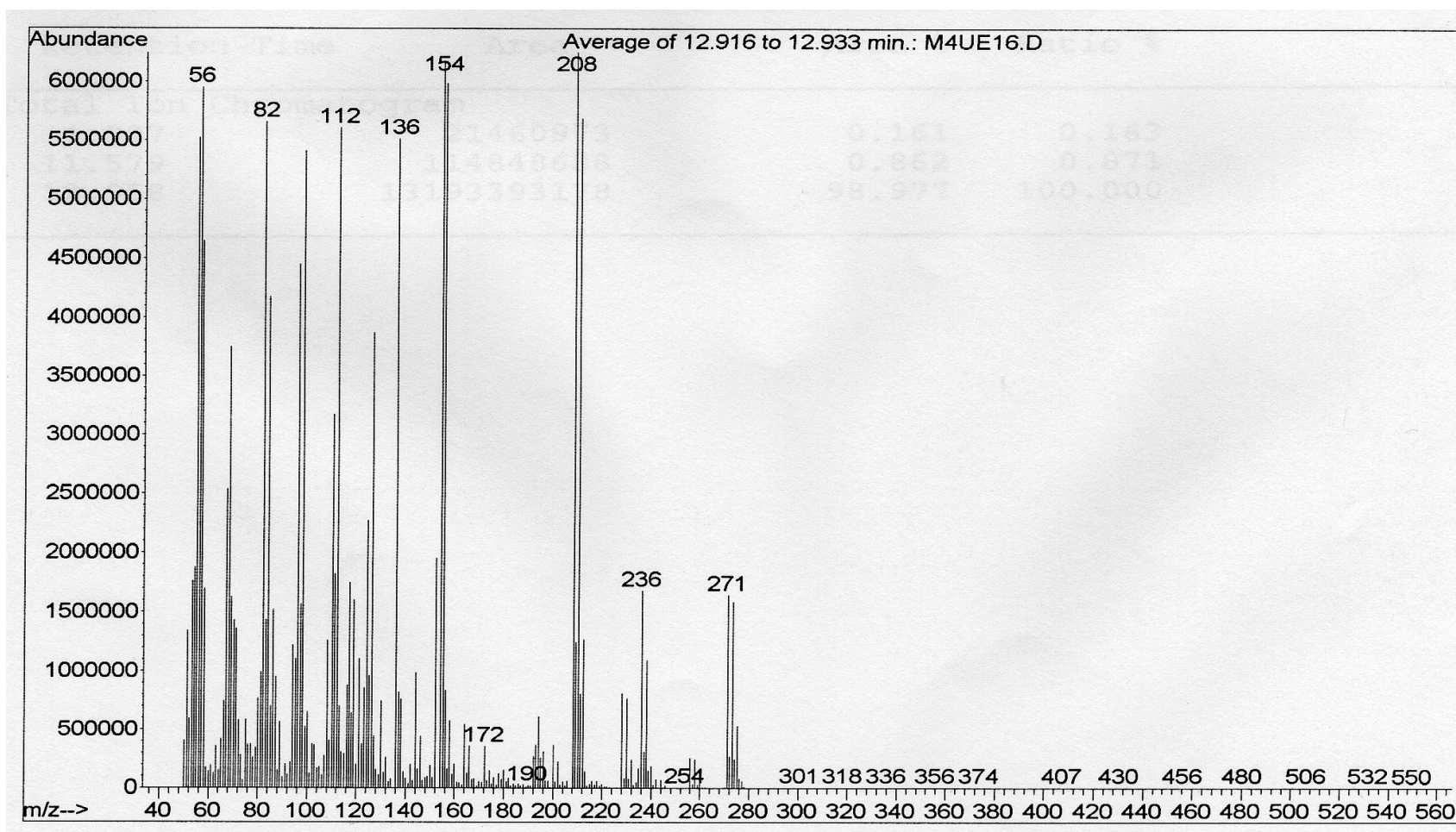
Espectro de massa do composto **12b**

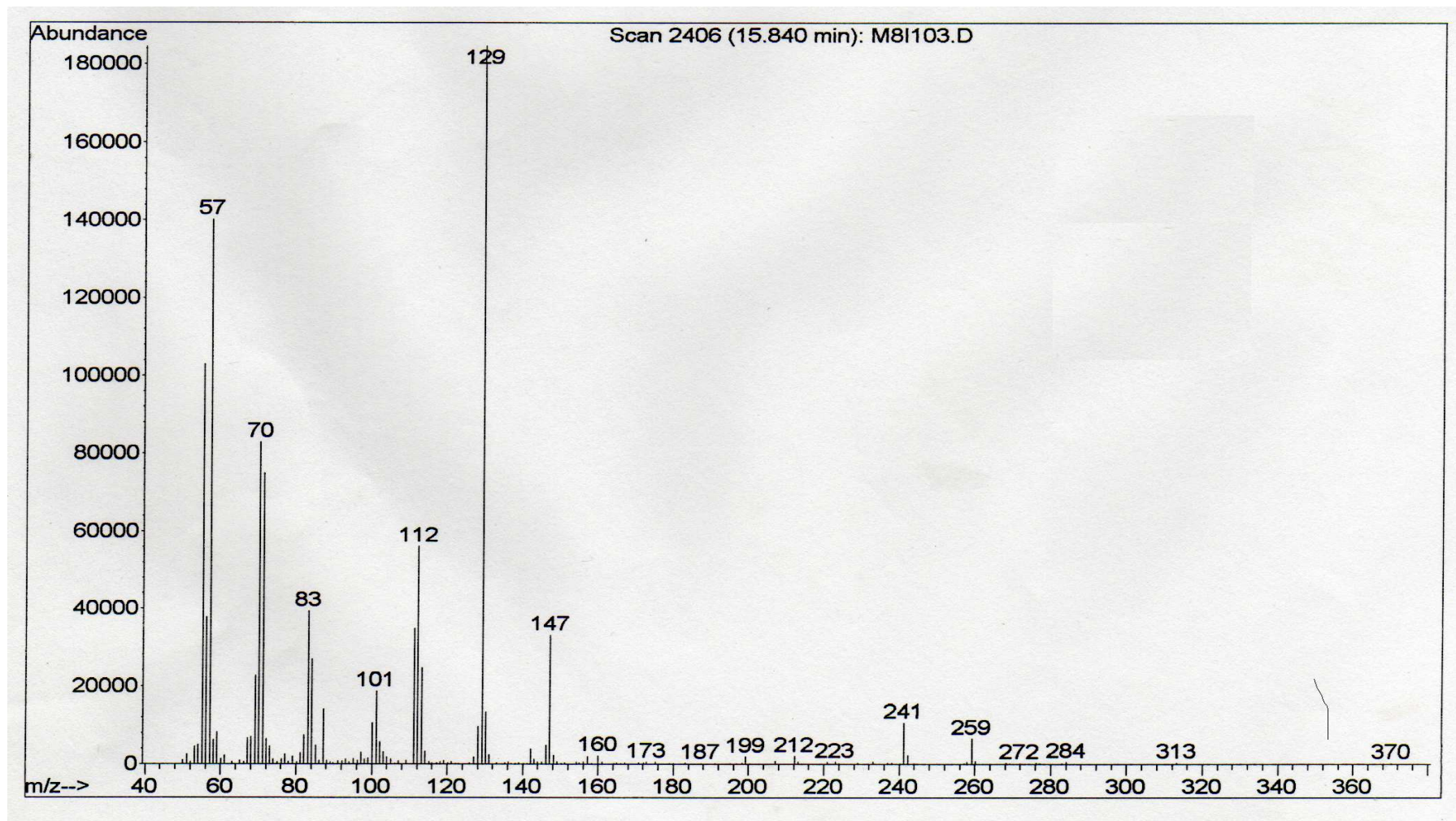
Espectro de massa do composto **12c**

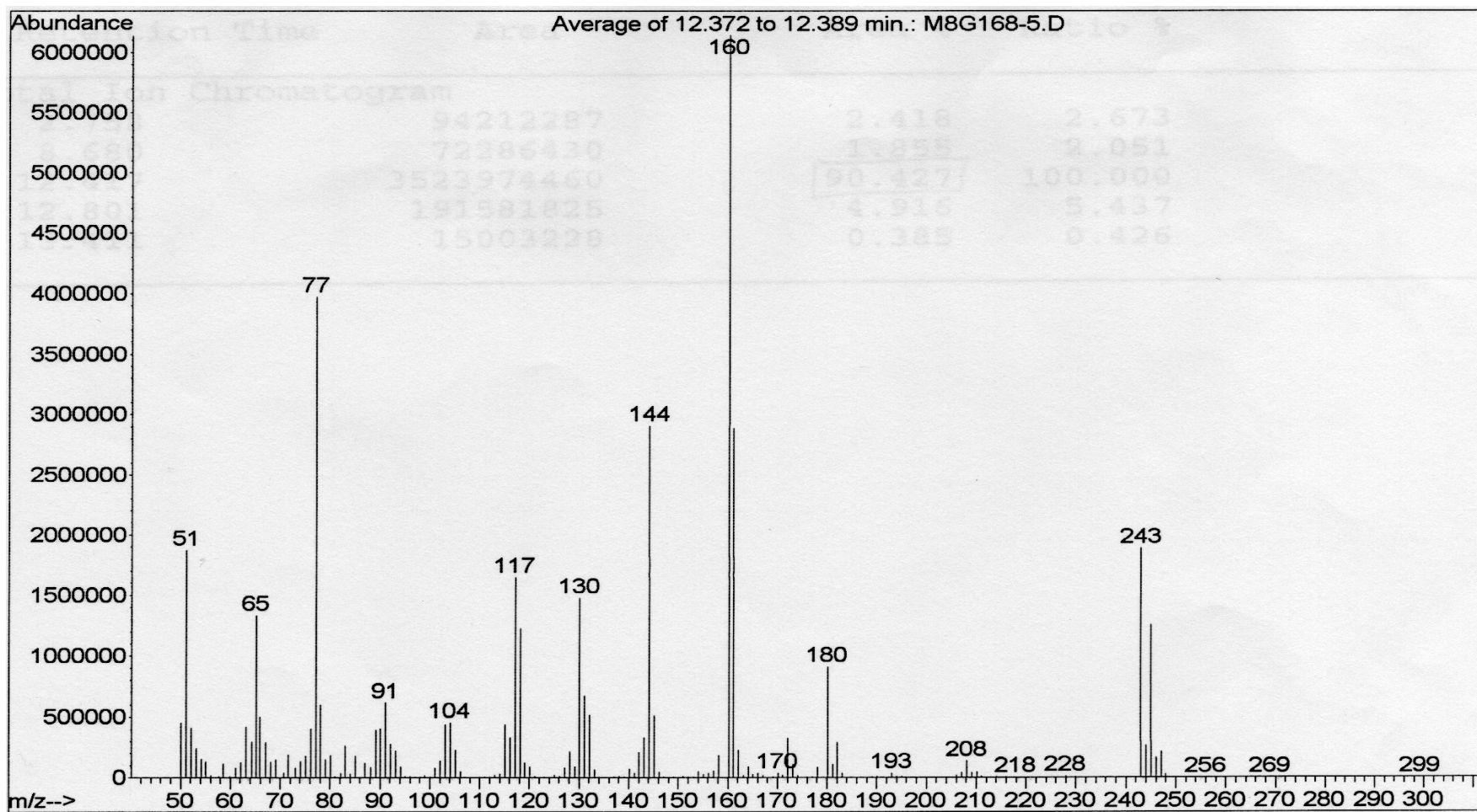
Espectro de massa do composto **12f**

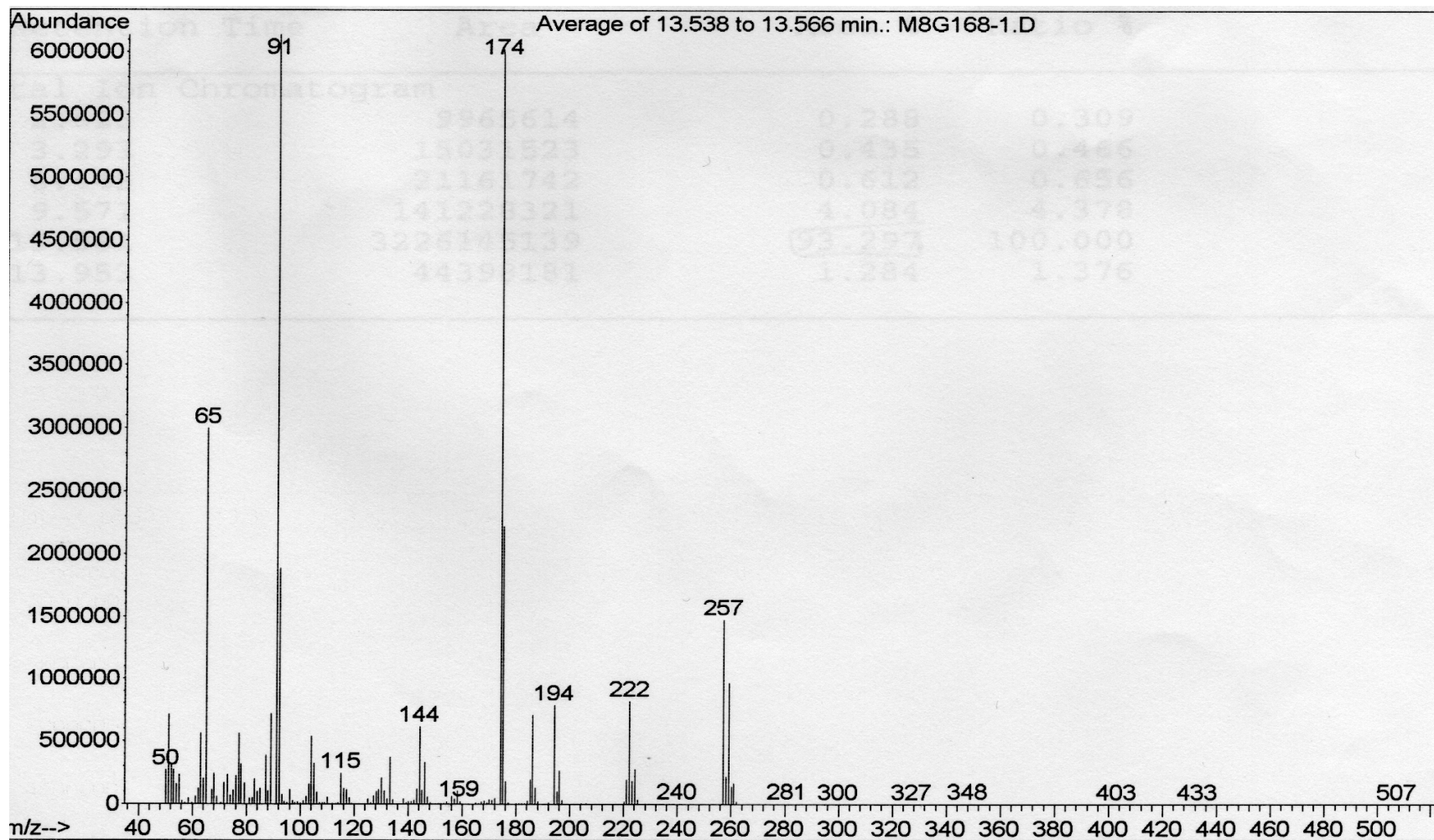
Espectro de massa do composto **12g**

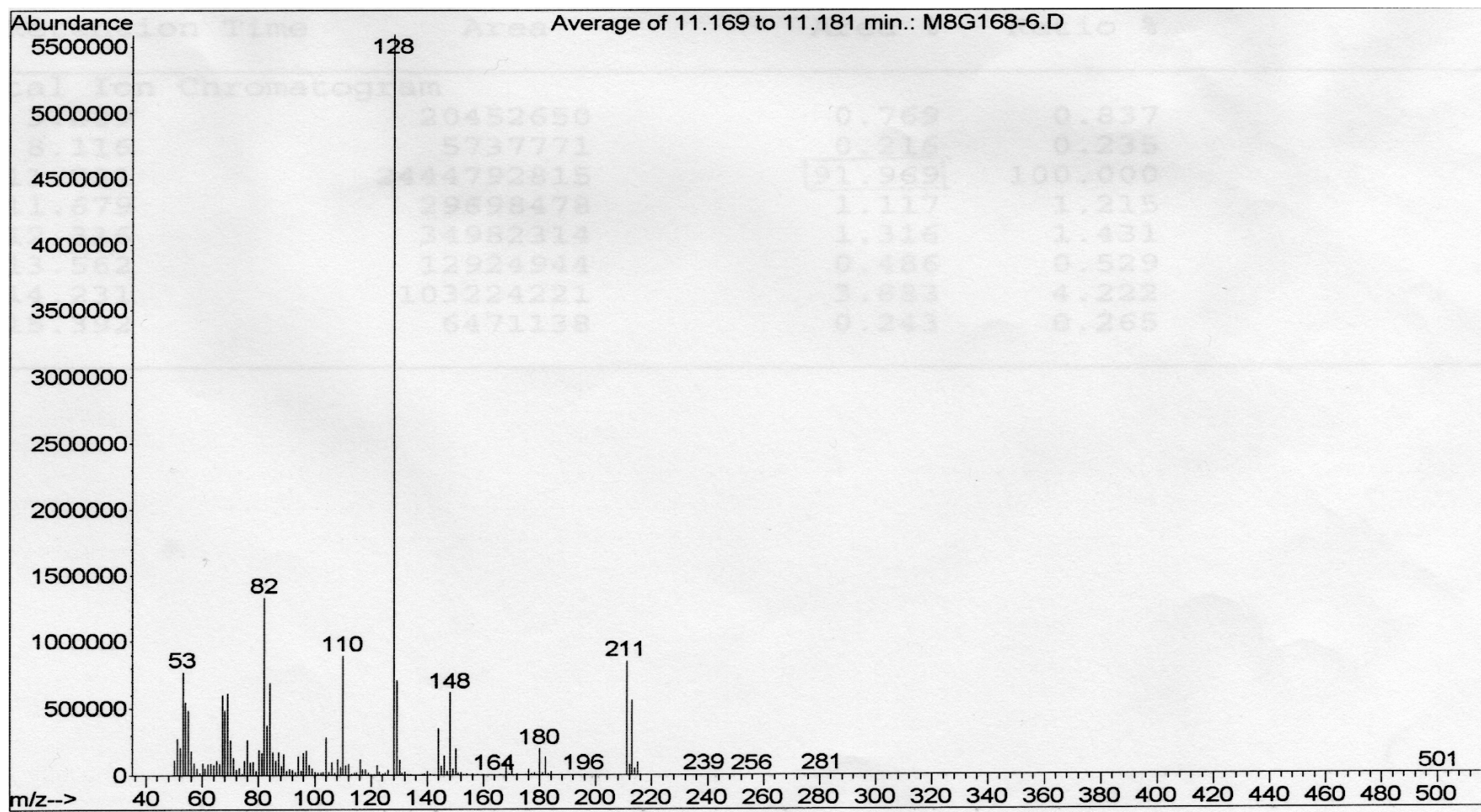
Espectro de massas do composto **13d**.

Espectro de massas do composto **13f**.

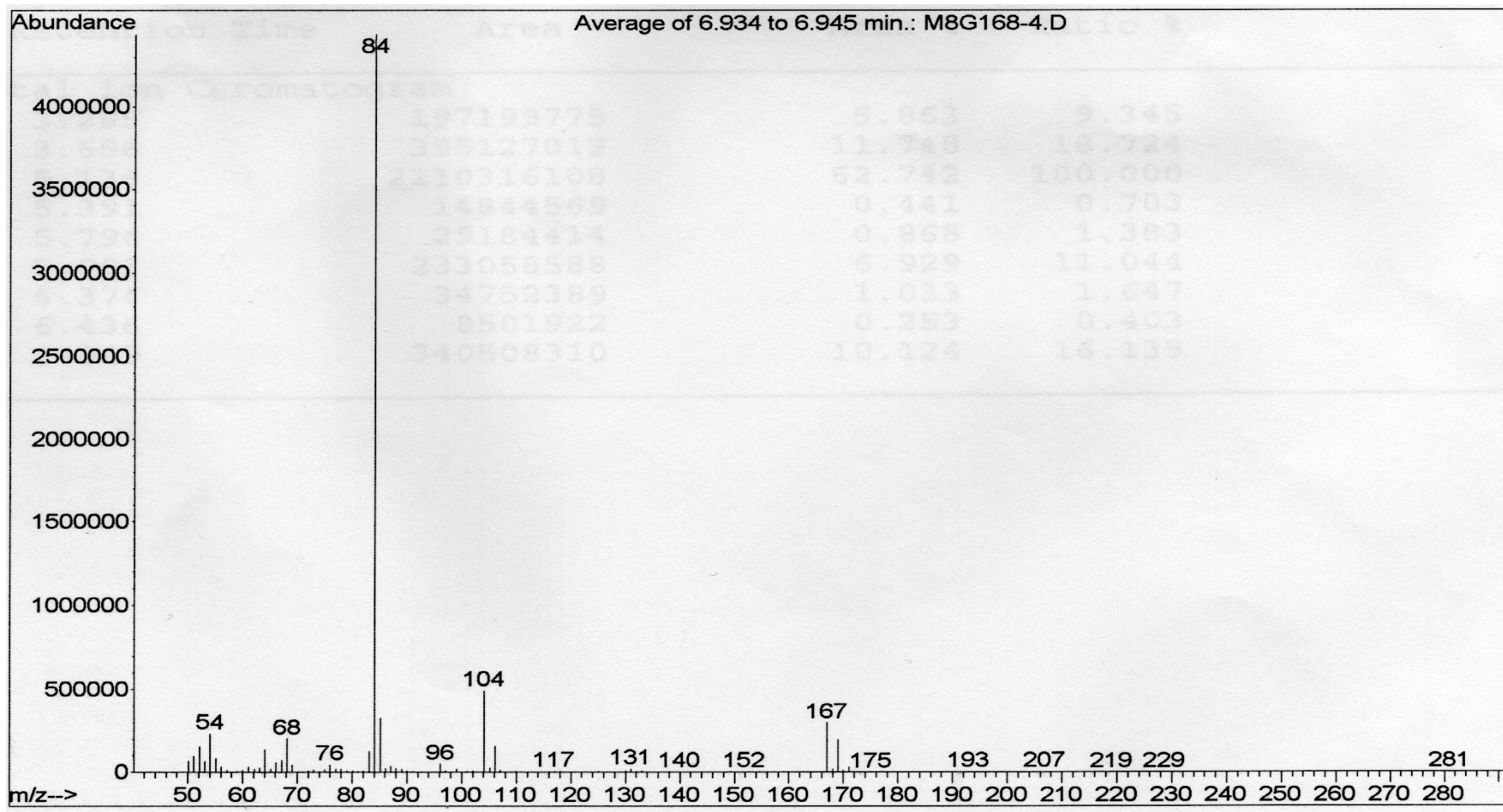
Espectro de massa do composto **14i**

Espectro de massa do composto **15a**

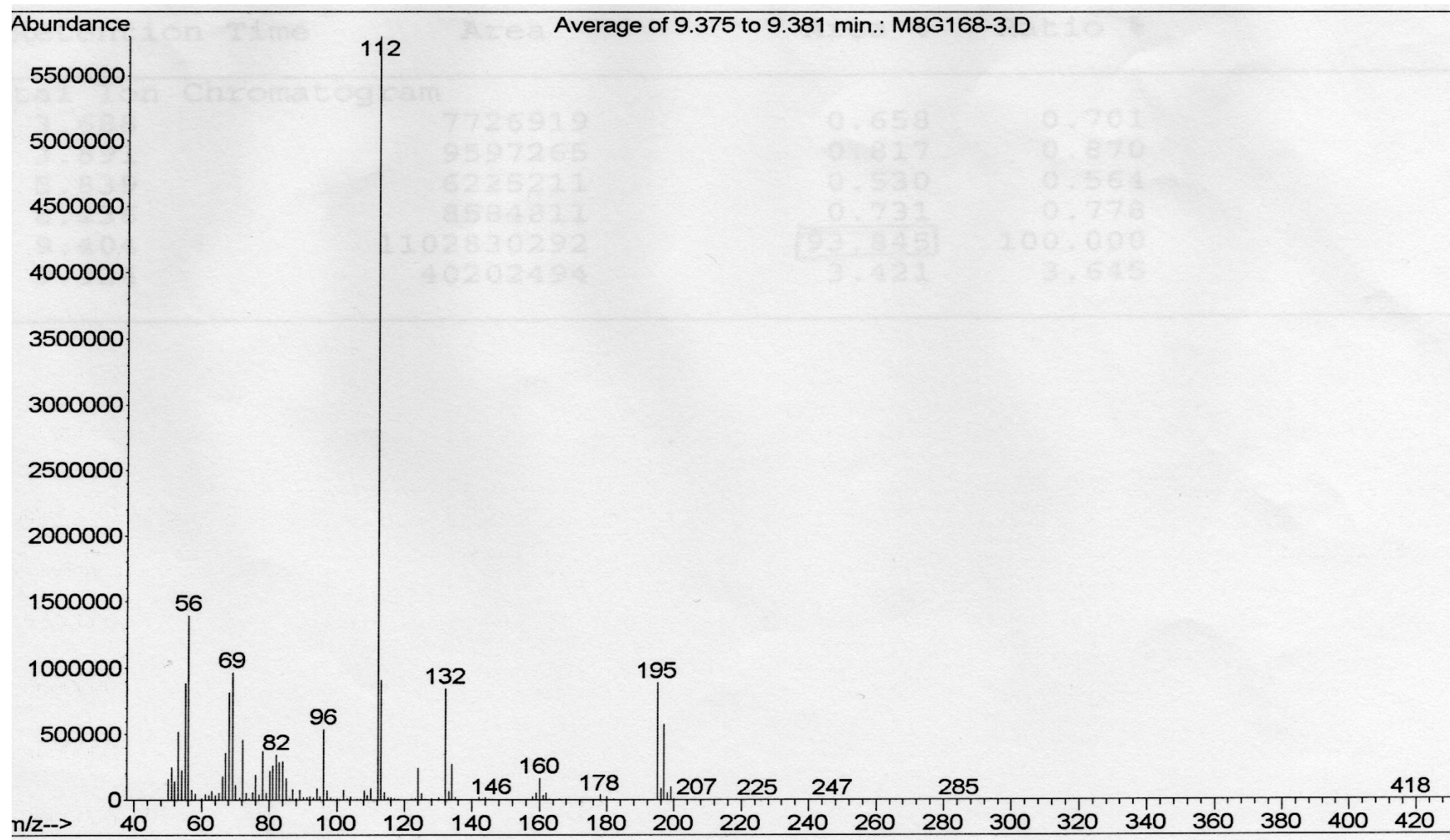
Espectro de massa do composto **15c**



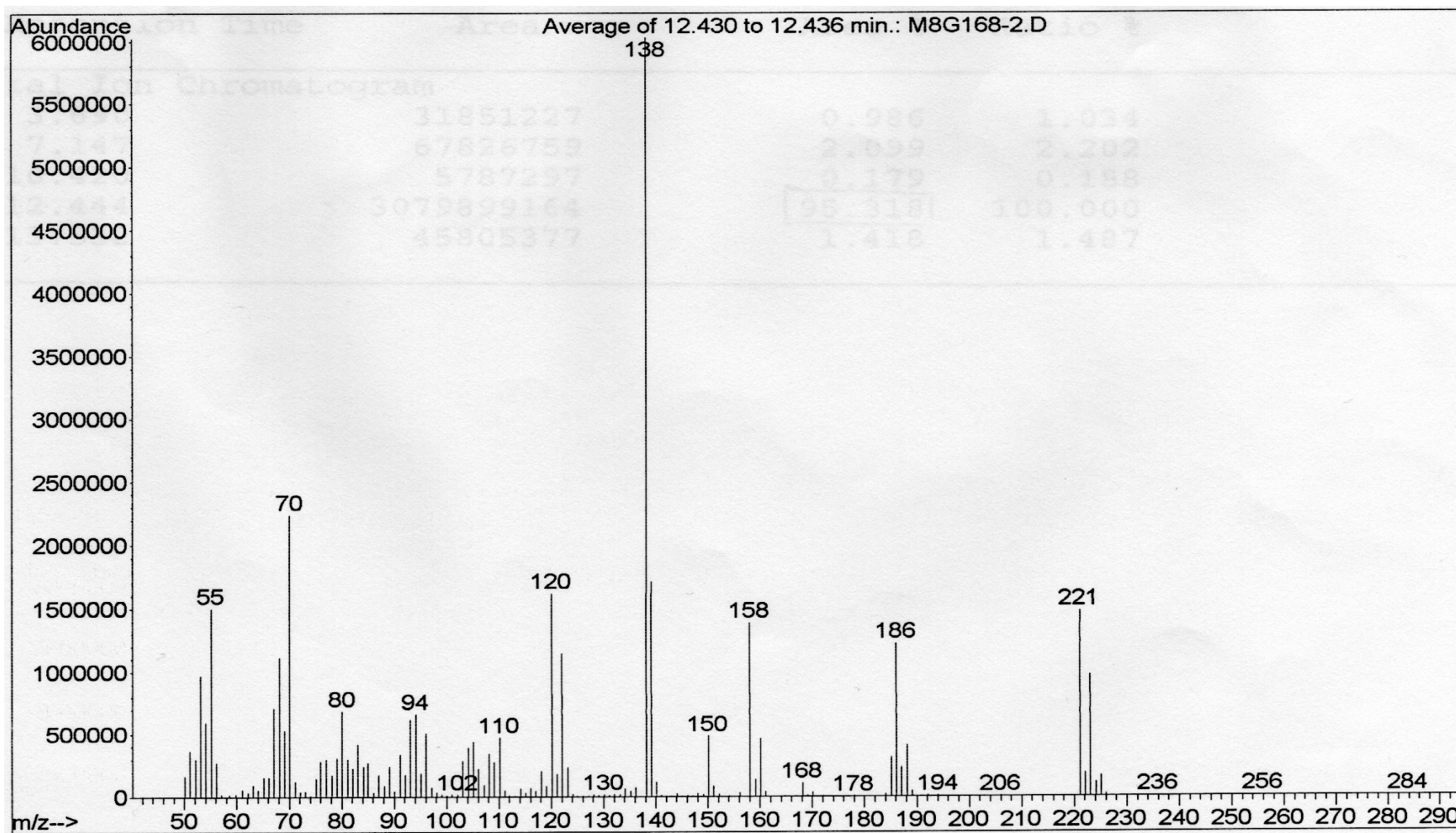
Espectro de massa do composto **15d**

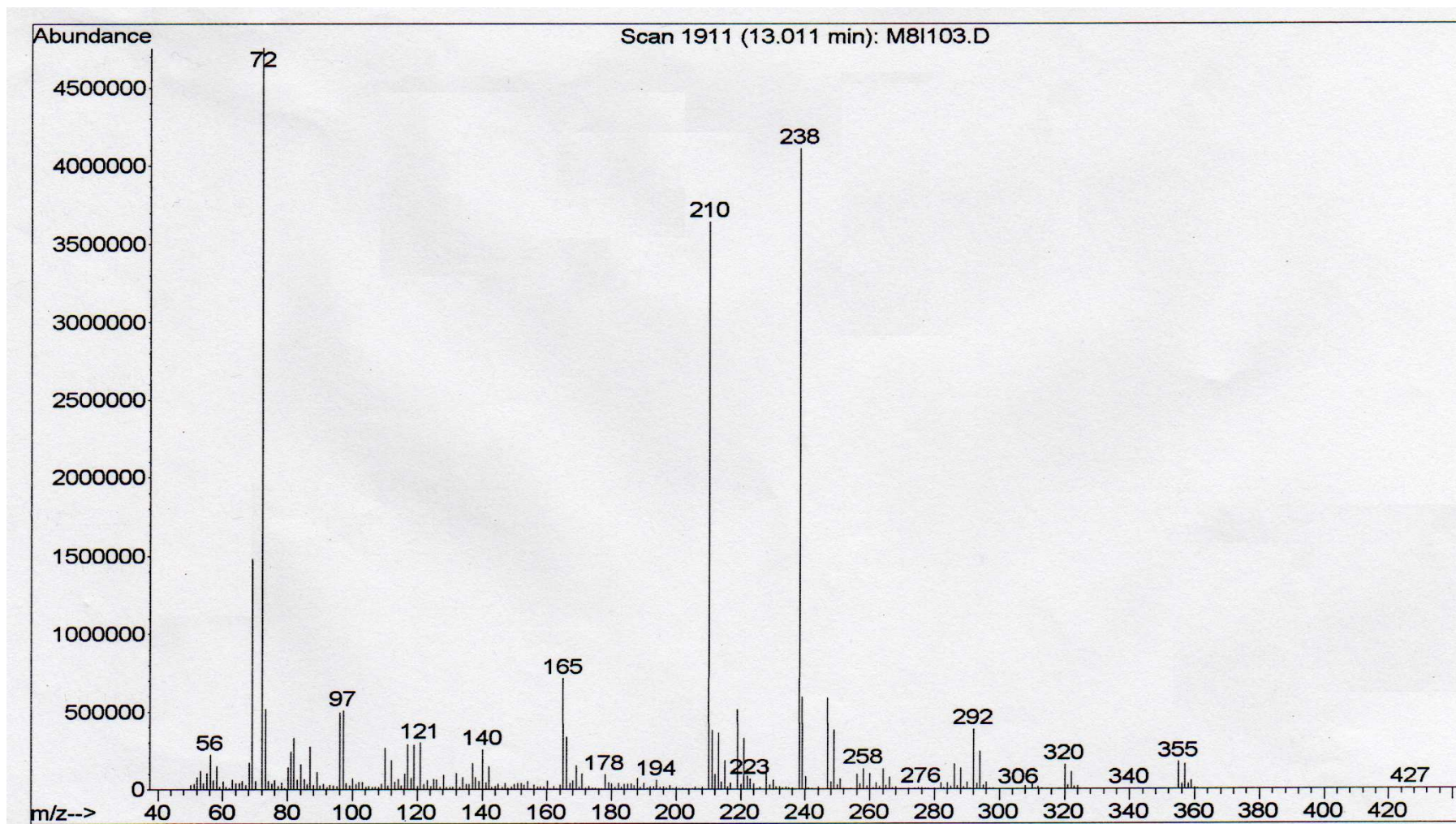


Espectro de massa do composto 15e



Espectro de massa do composto **15i**

Espectro de massa do composto **15h**

Espectro de massa do composto **17i**