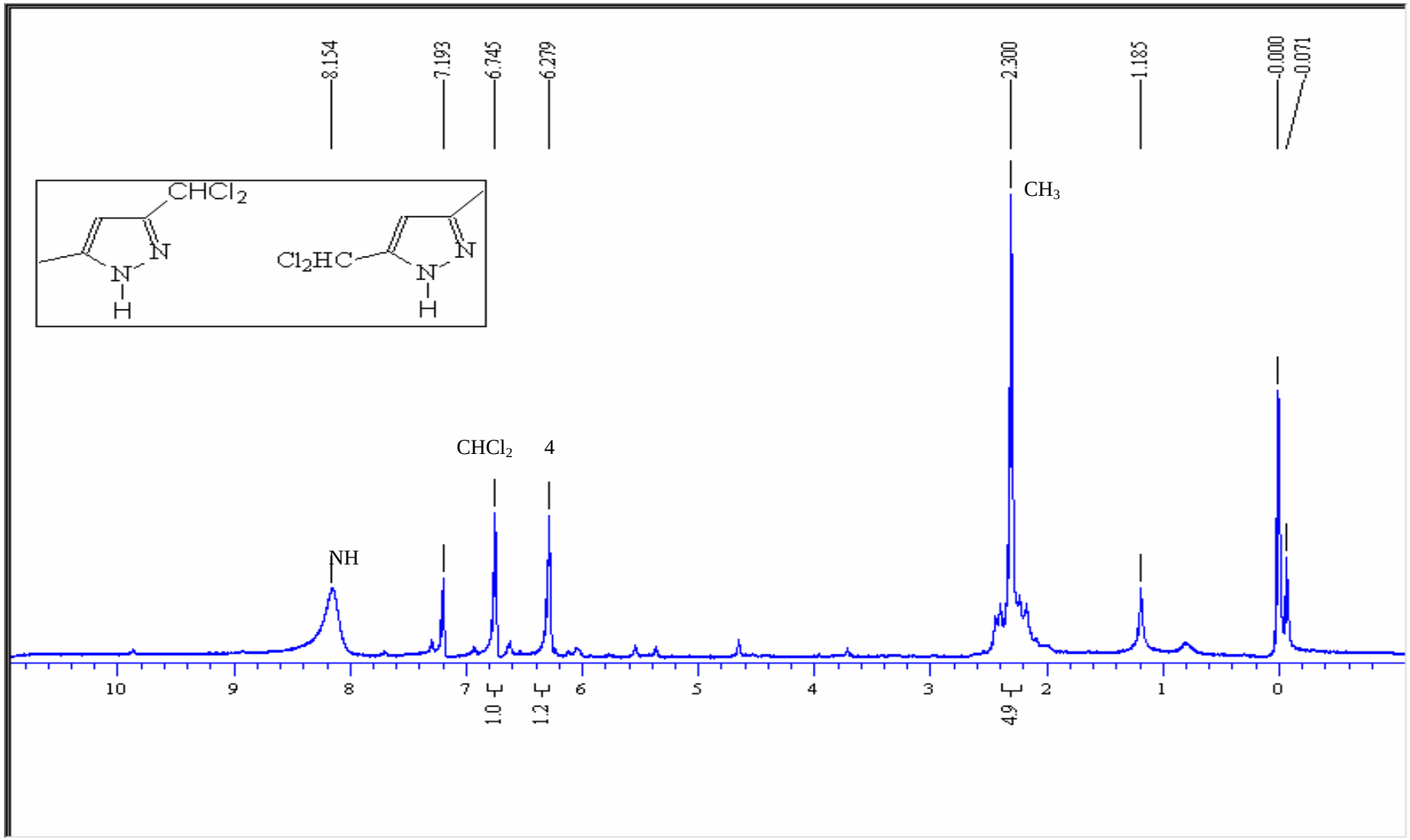


Figura 86 – Espectro de RMN de ^{1}H a 400 MHz do composto 5-Diclorometil-3-metil-1*H*-pirazol **20**.

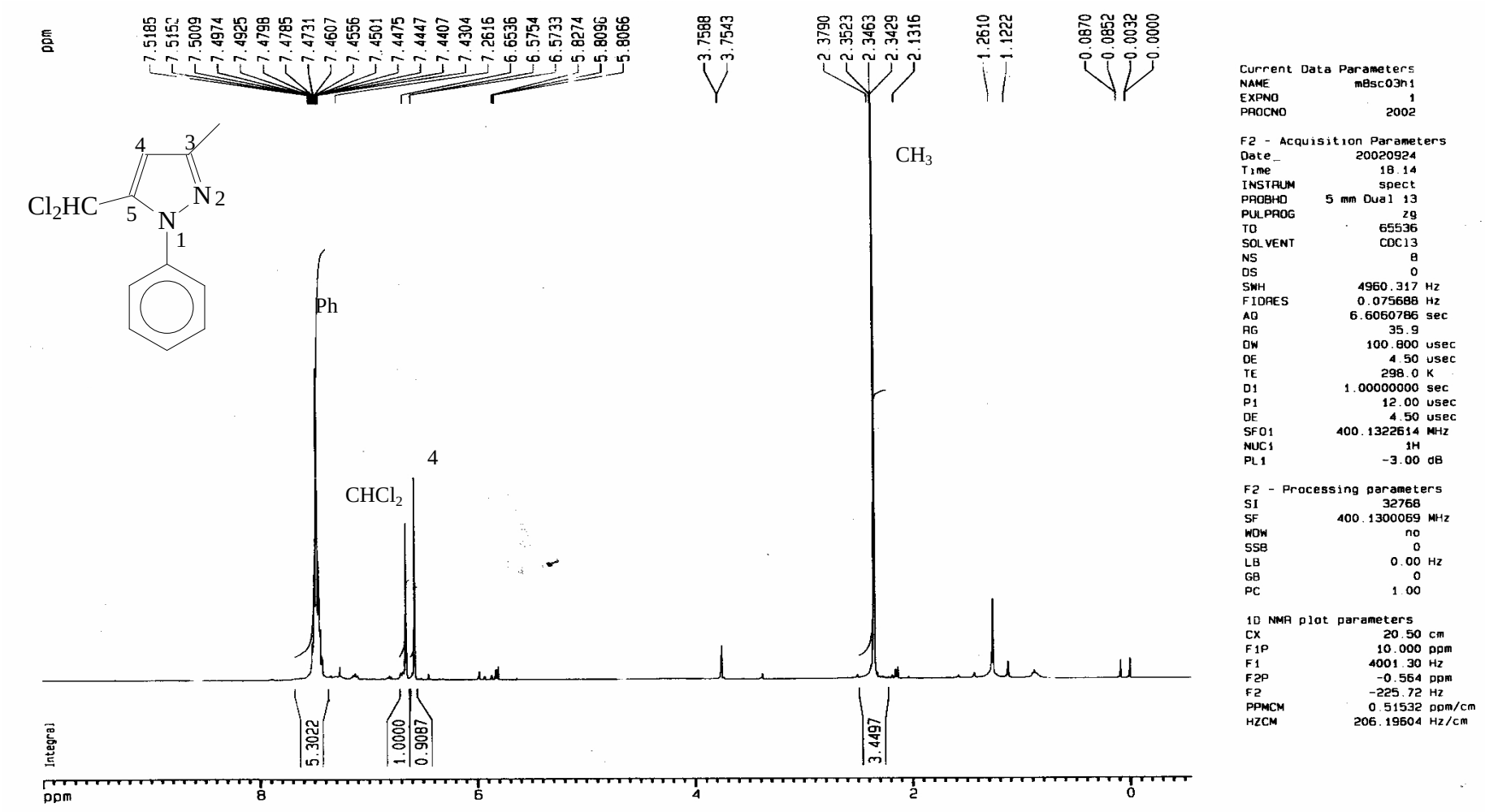


Figura 87 – Espectro de RMN de ^{1}H a 400 MHz do composto 5-Diclorometil-3-metil-1-fenil-1*H*-pirazol **21**.

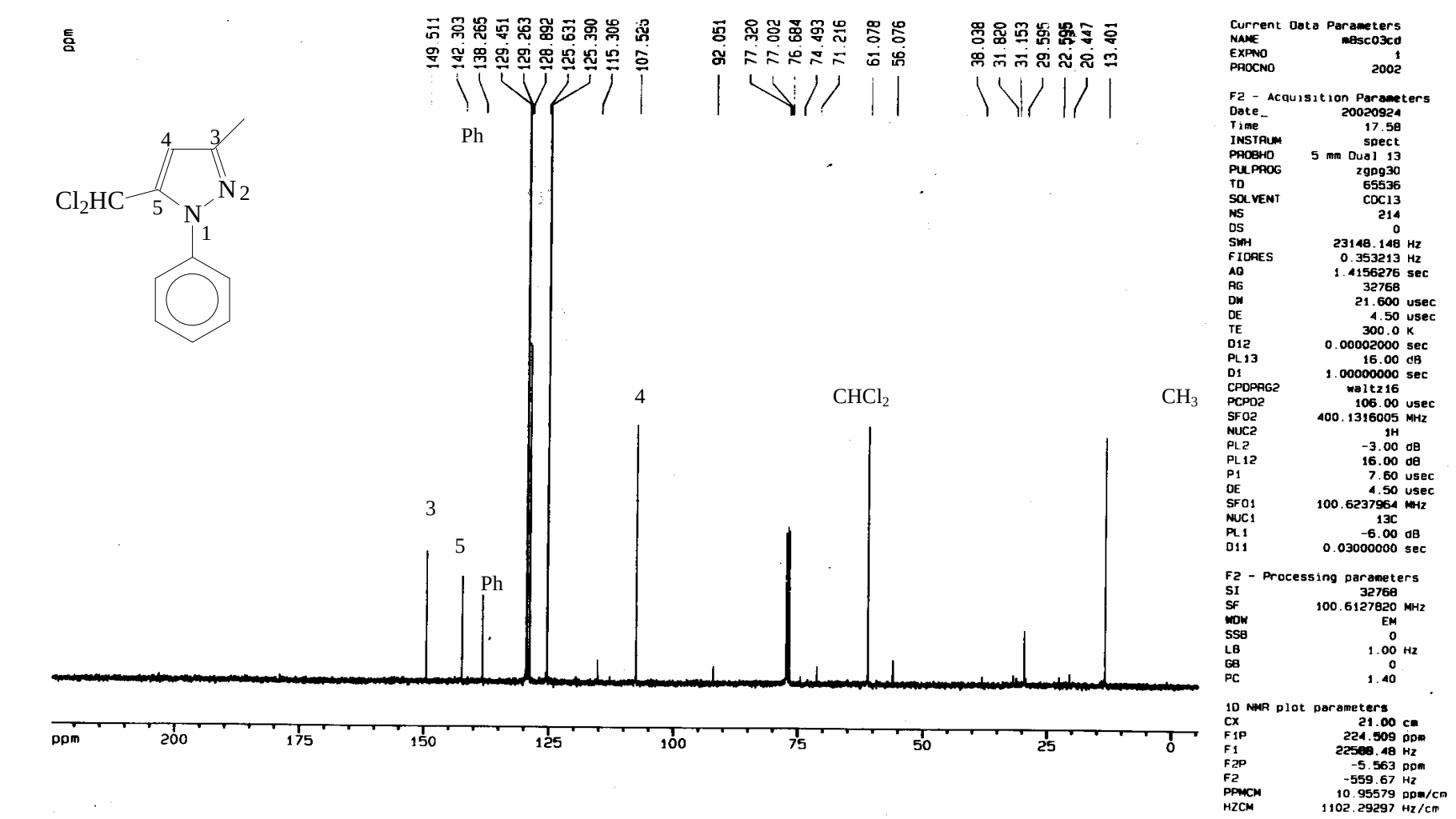


Figura 88 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 5-Diclorometil-3-metil-1-fenil-1*H*-pirazol **21**.

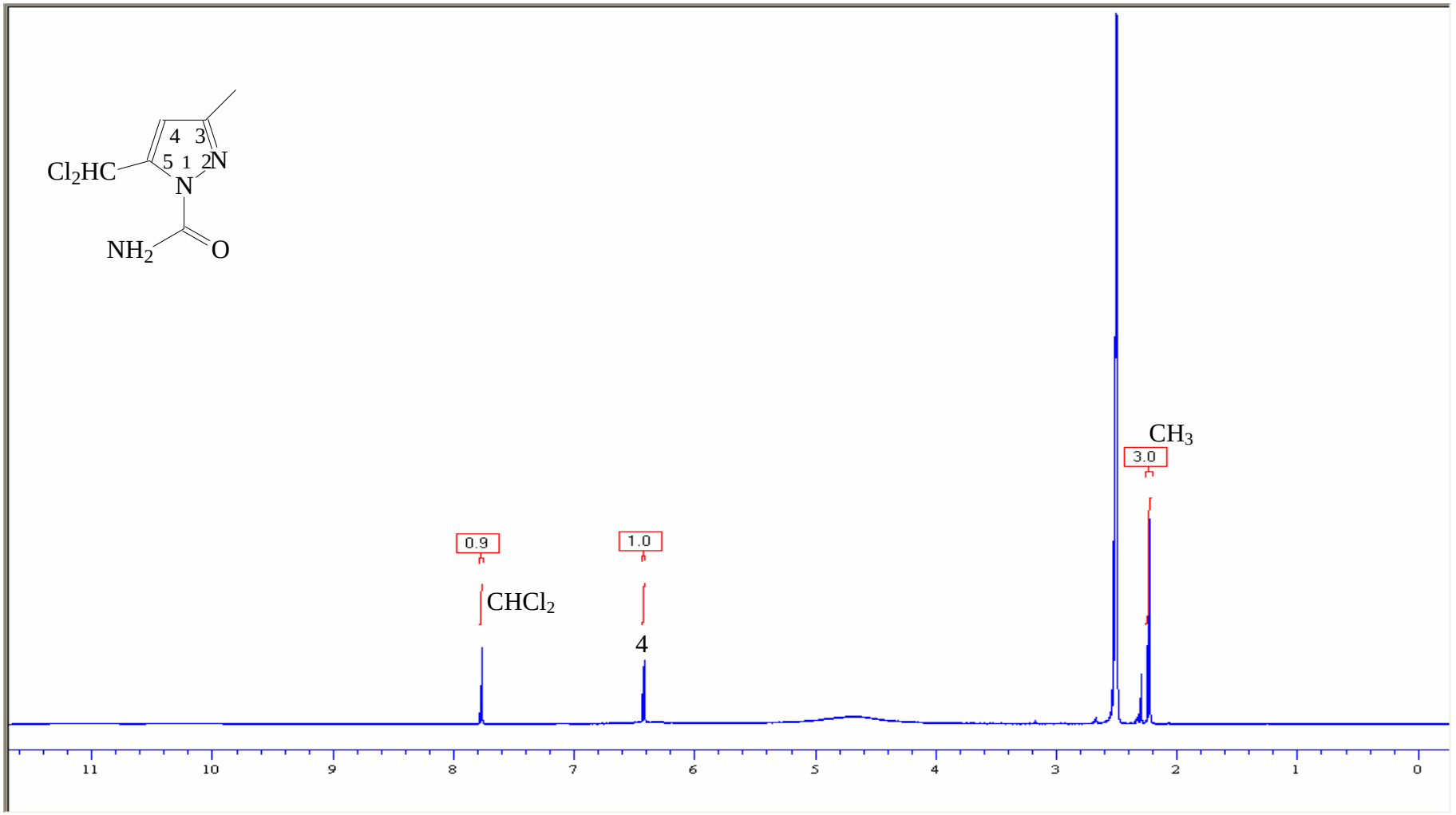


Figura 89 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 1-Carboxiamida-5-dicloro-5-hidroxi-3-metil-1*H*-pirazol **22** com solvente de referencia DMSO d_6(dimetilsulfóxido deuterado)

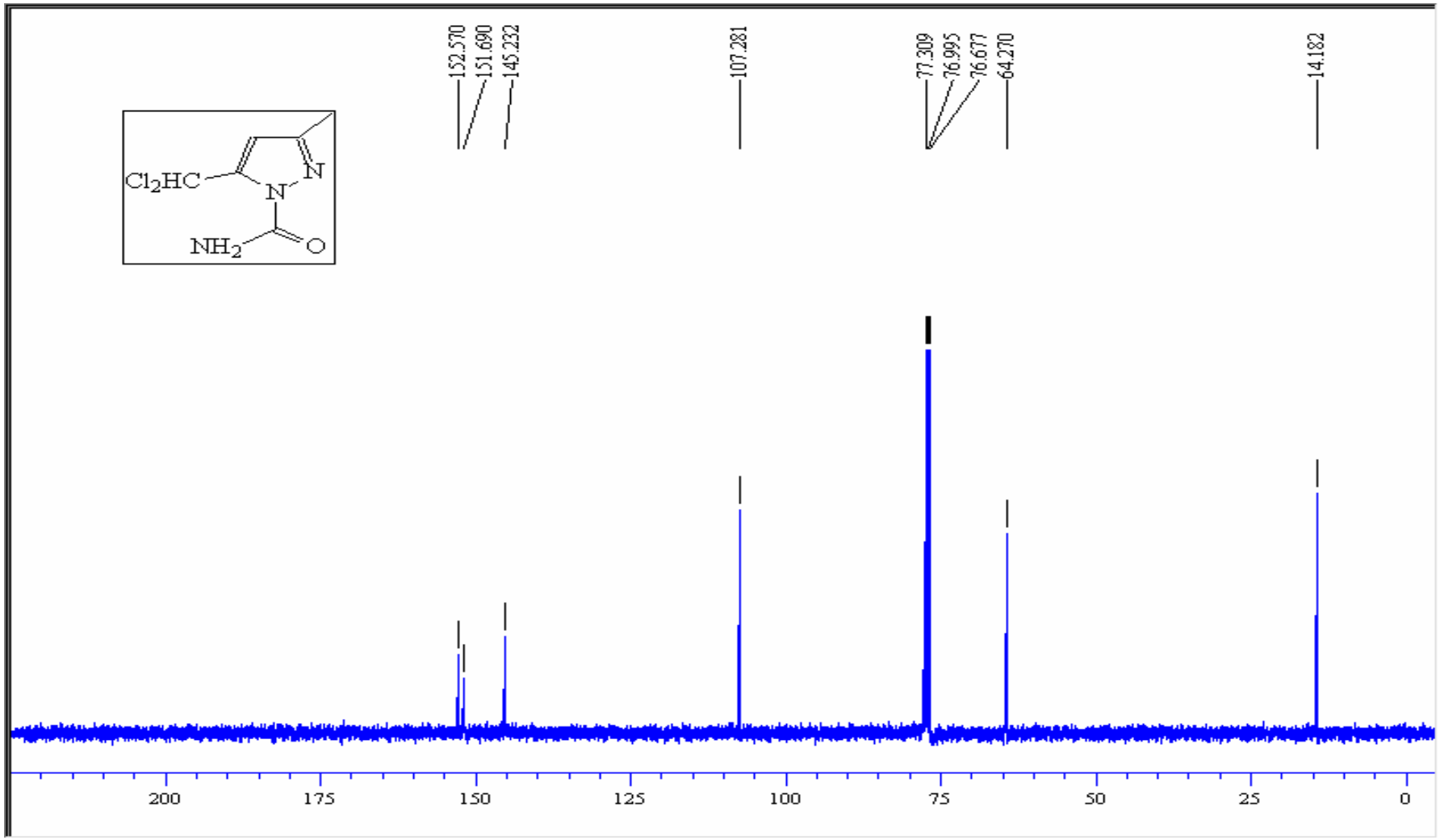


Figura 89 – Espectro de RMN de ^{13}C a 100,6 MHz do composto 1-Carboxiamida-5-dicloro-5-hidroxi-3-metil-1*H*-pirazol **22**.

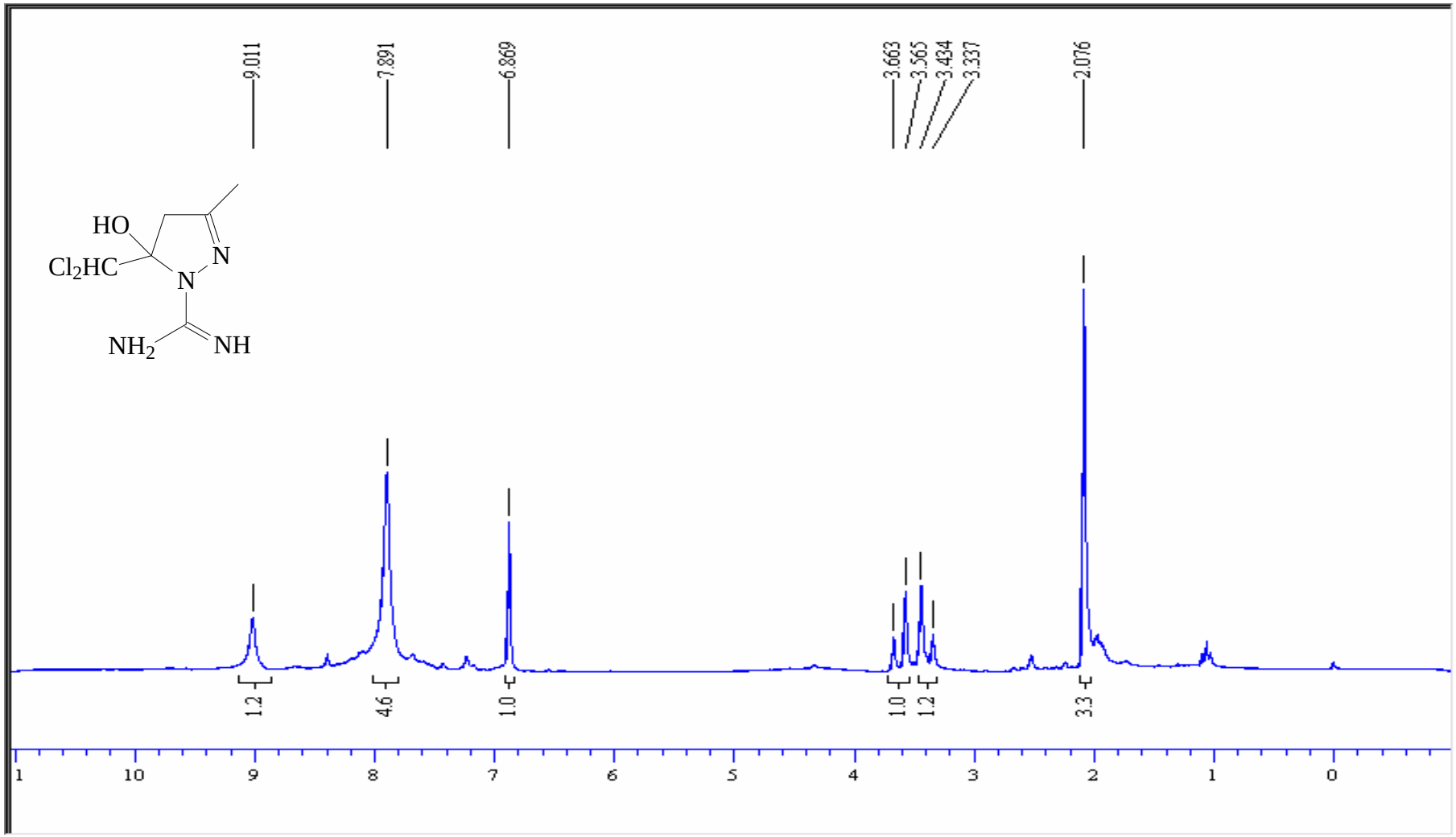


Figura 90 – Espectro de RMN de ^{1}H a 200 MHz do composto 5-Diclorometil-5-hidroxi-1-guanido-3-metil–1*H*-pirazol **23**.

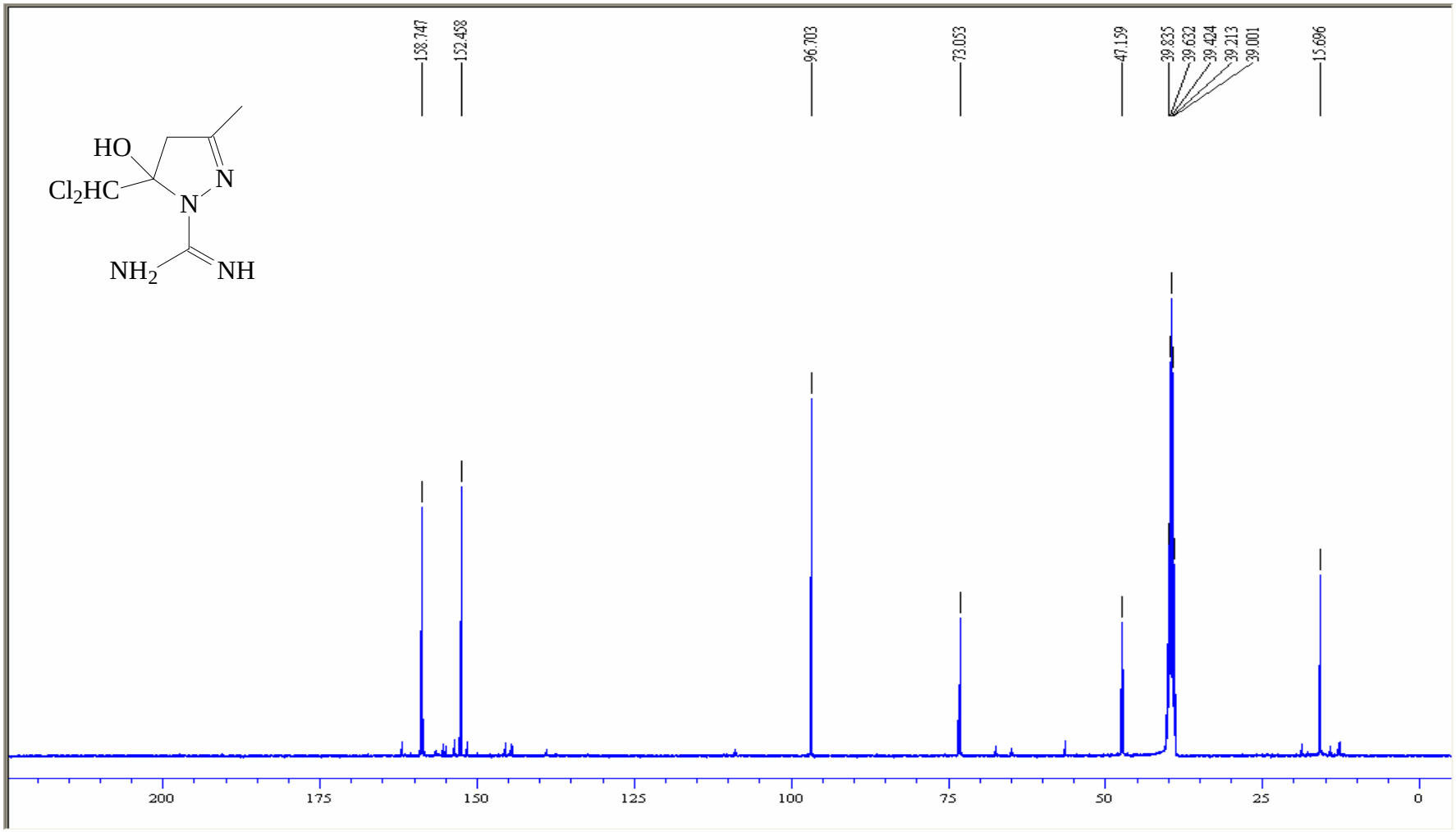


Figura 91 – Espectro de RMN de ^{13}C a 100 MHz do composto 5-Diclorometil-5-hidroxi-1-guanido-3-metil–1*H*-pirazol **23**.

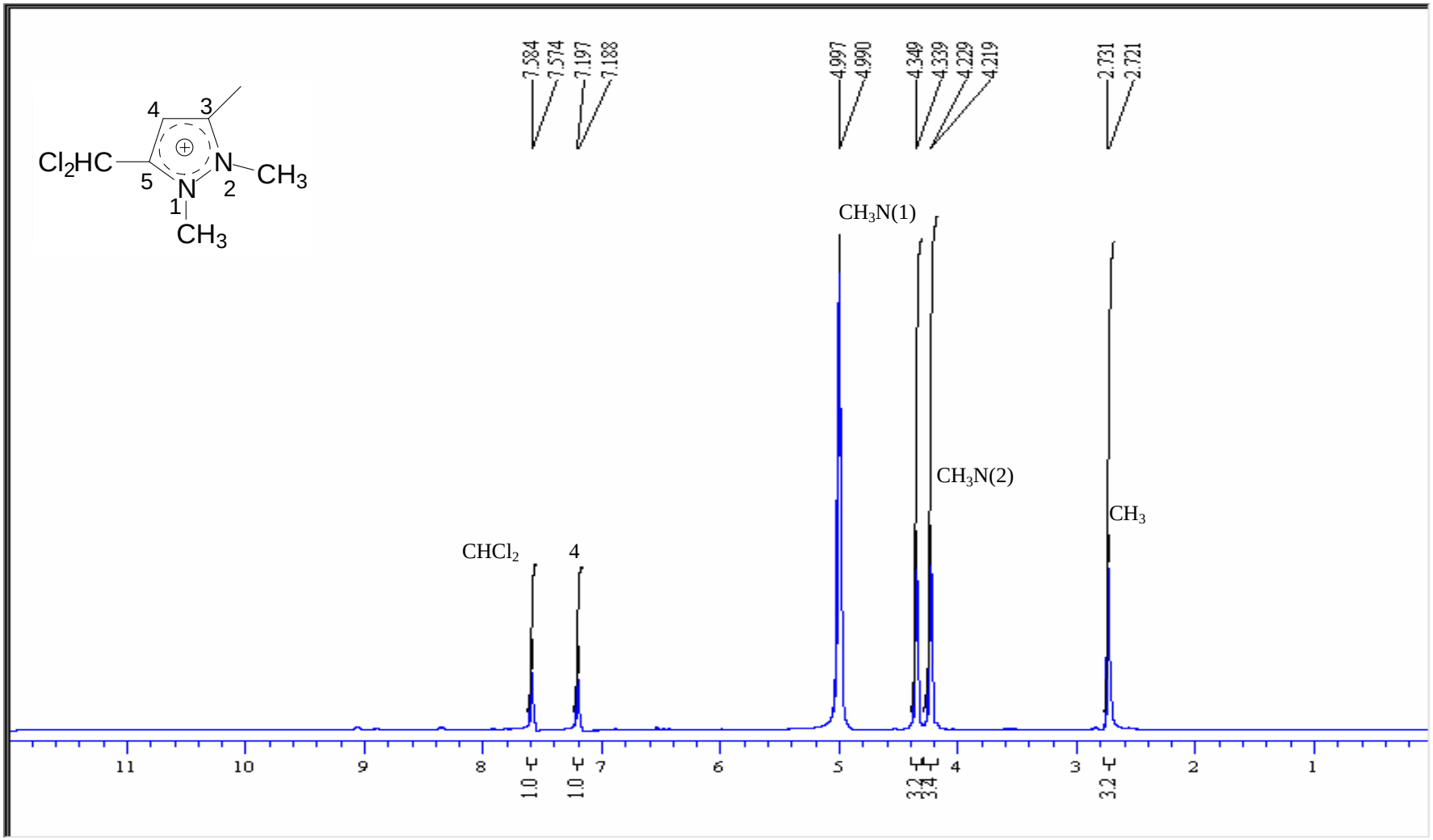


Figura 91 – Espectro de RMN de ^{1}H a 400 MHz do composto 5-Diclorometil-3-metil-1,2-dimetil-pirazolinium **24**.

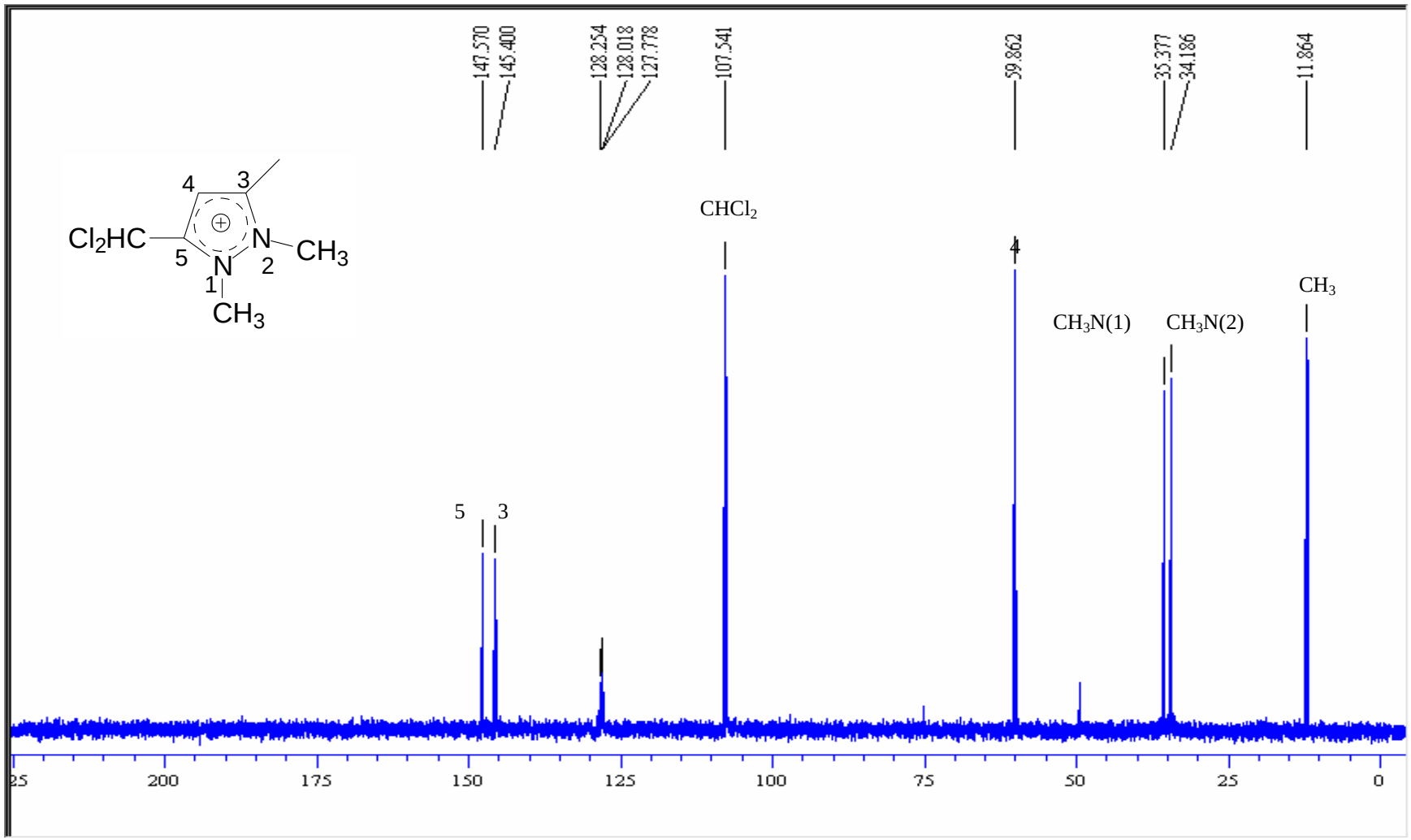
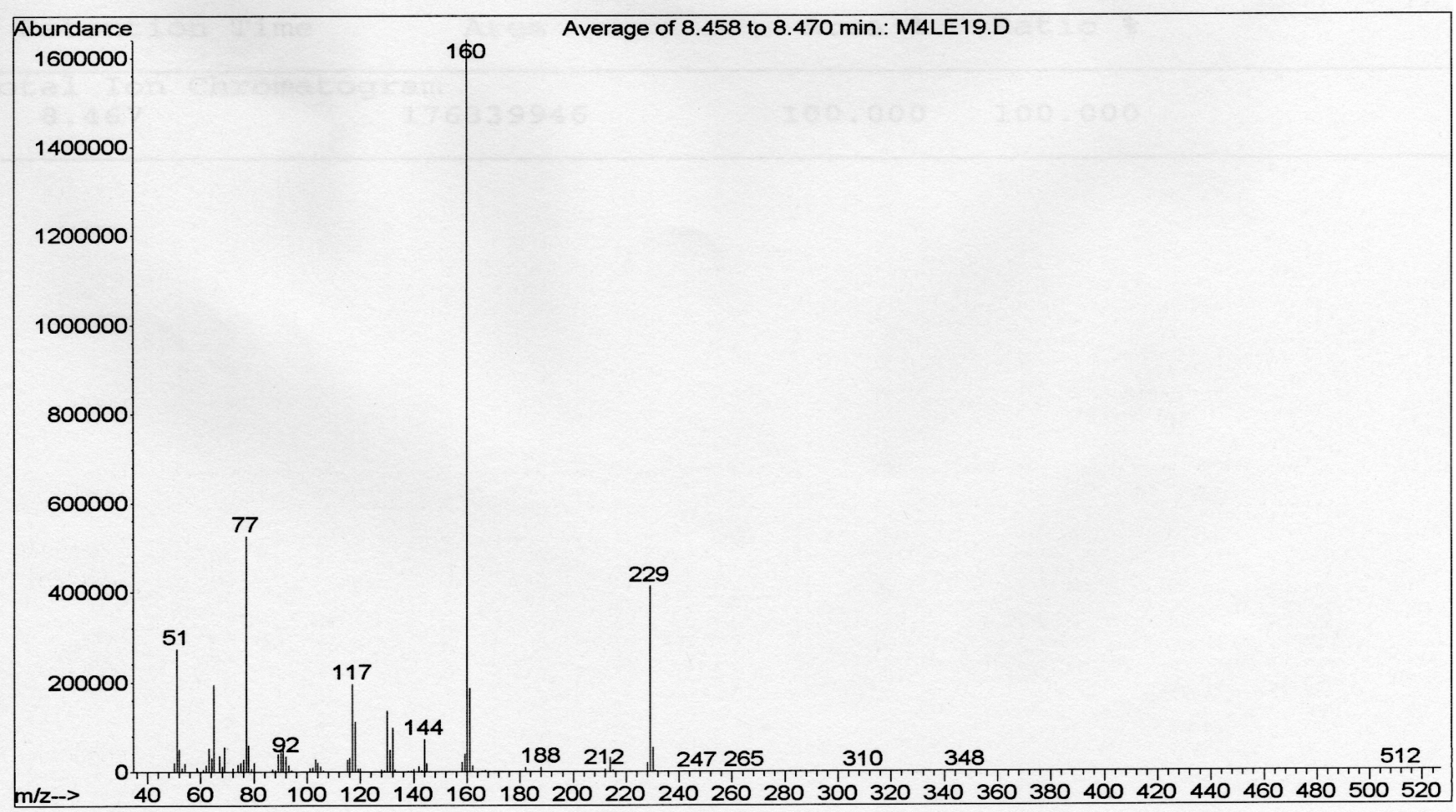
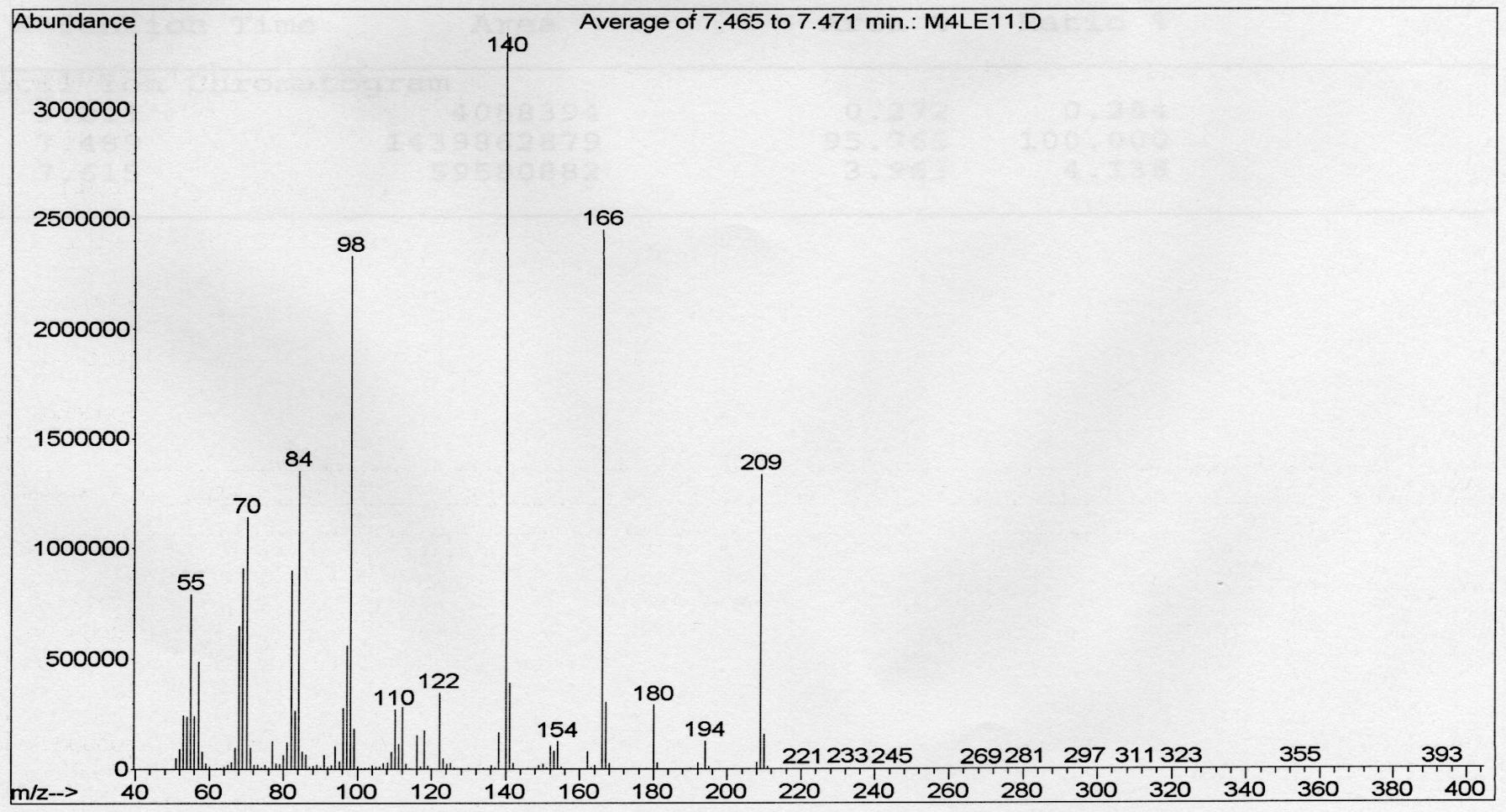

147.570
145.400
128.254
128.018
127.778
107.541
59.862
35.377
34.186
11.864
4
3
Cl2HC
5
N
1
CH3
2
N
CH3
CHCl2
4
CH3
CH3N(1)
CH3N(2)
5
3
200
175
150
125
100
75
50
25
0

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

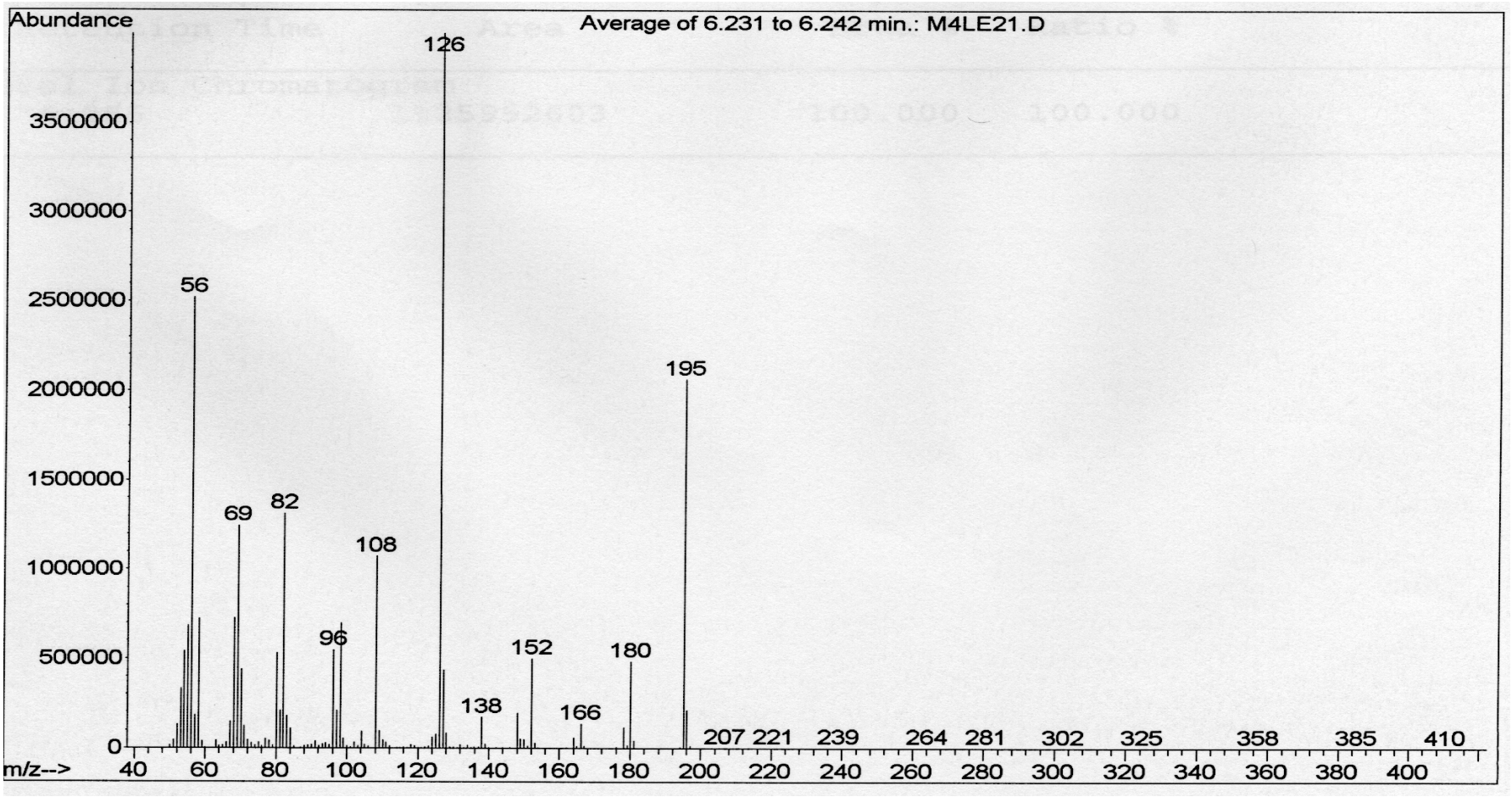
ANEXOS 2



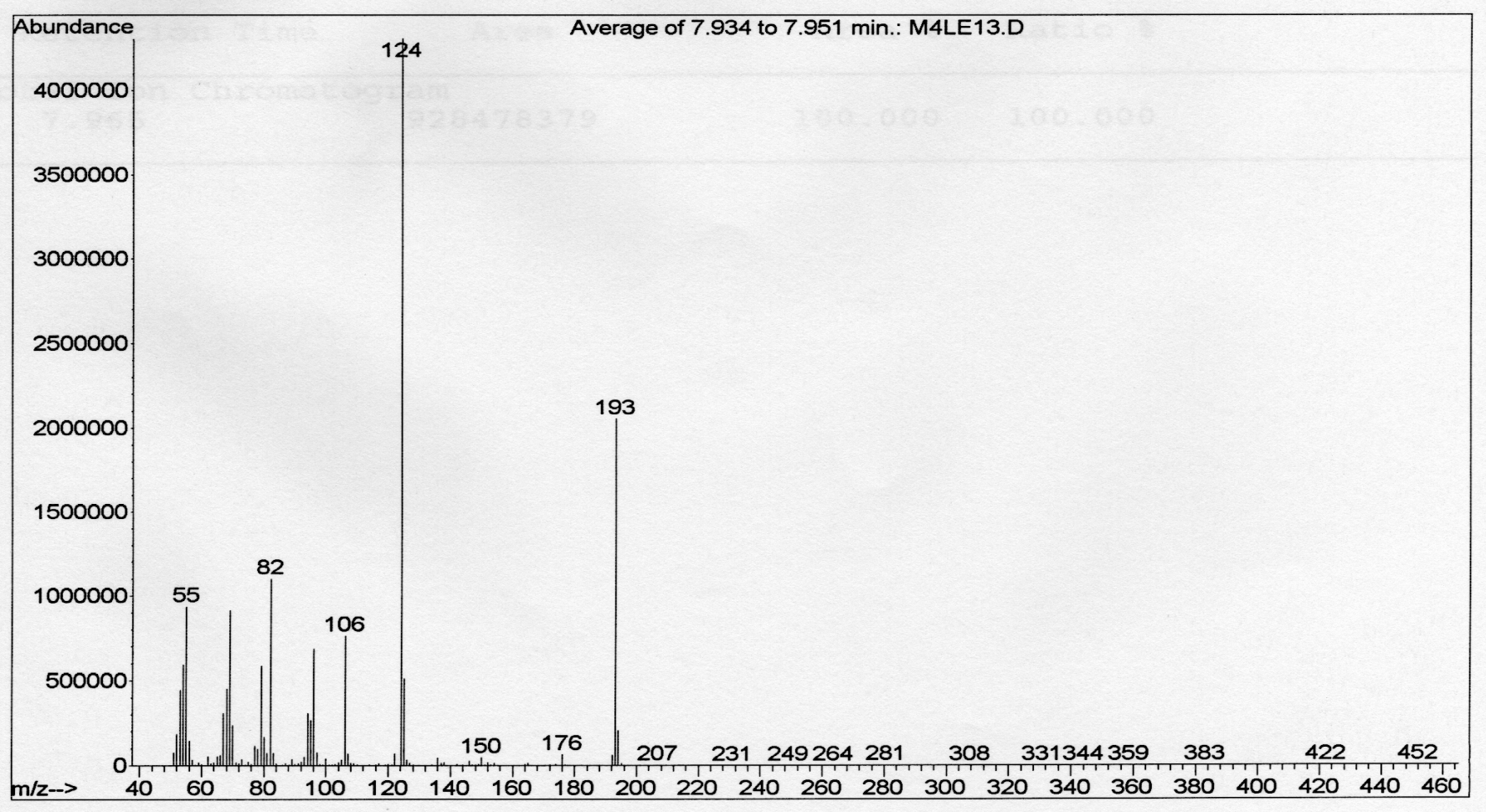
Espectro de massas do composto **9e.**



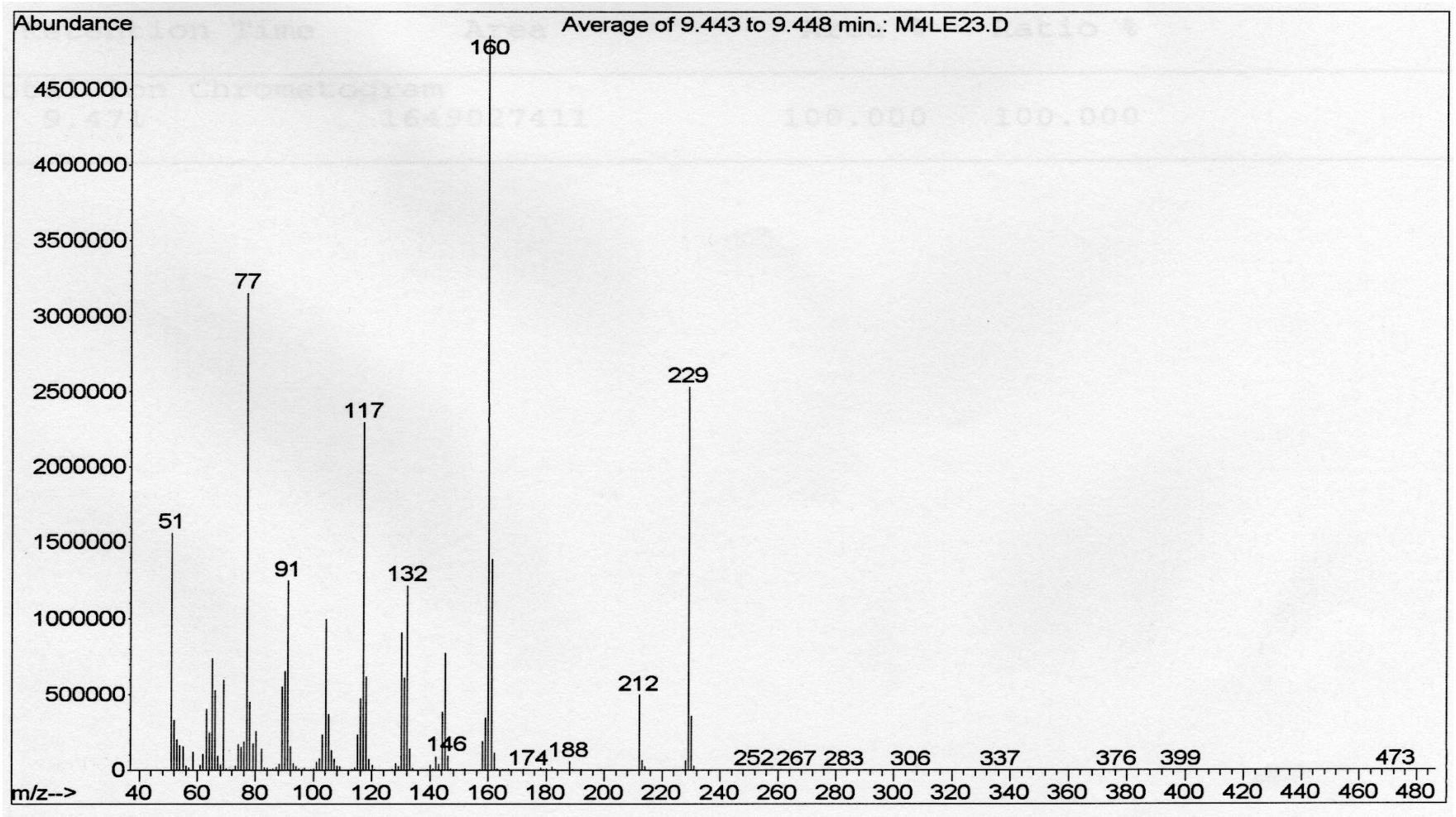
Espectro de massa do composto **9f**



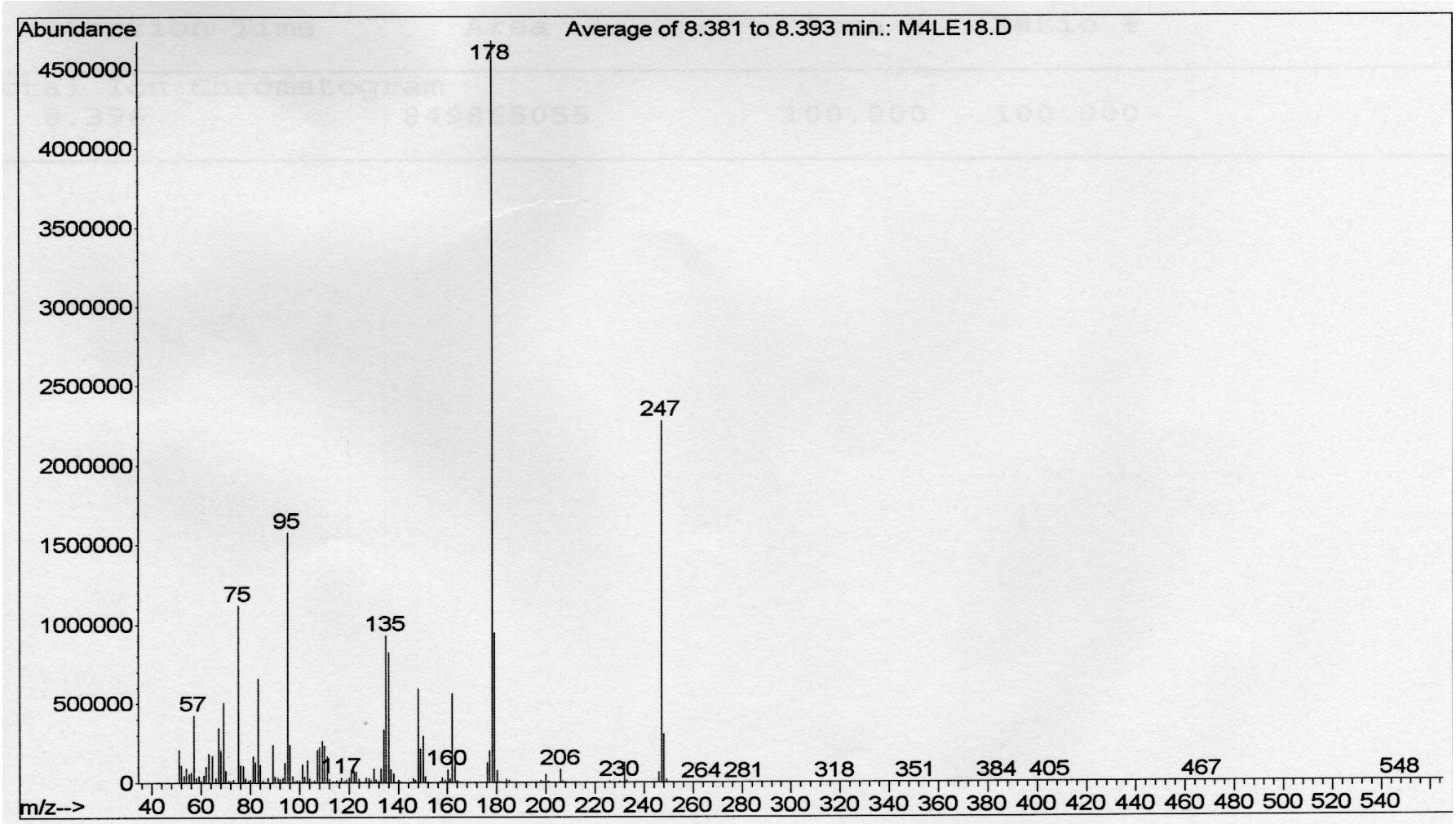
Espectro de massa do composto **9g**



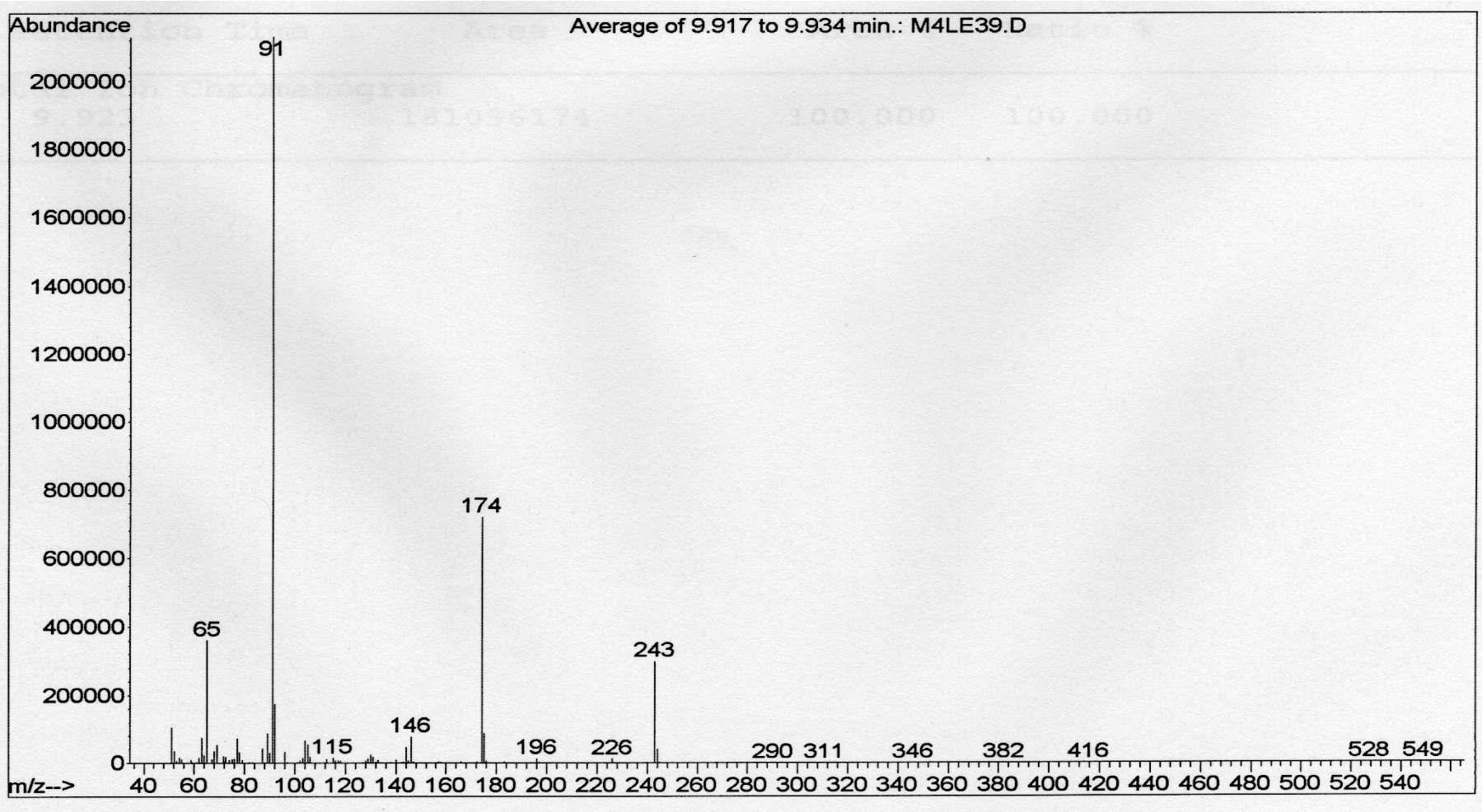
Espectro de massa do composto **9h**



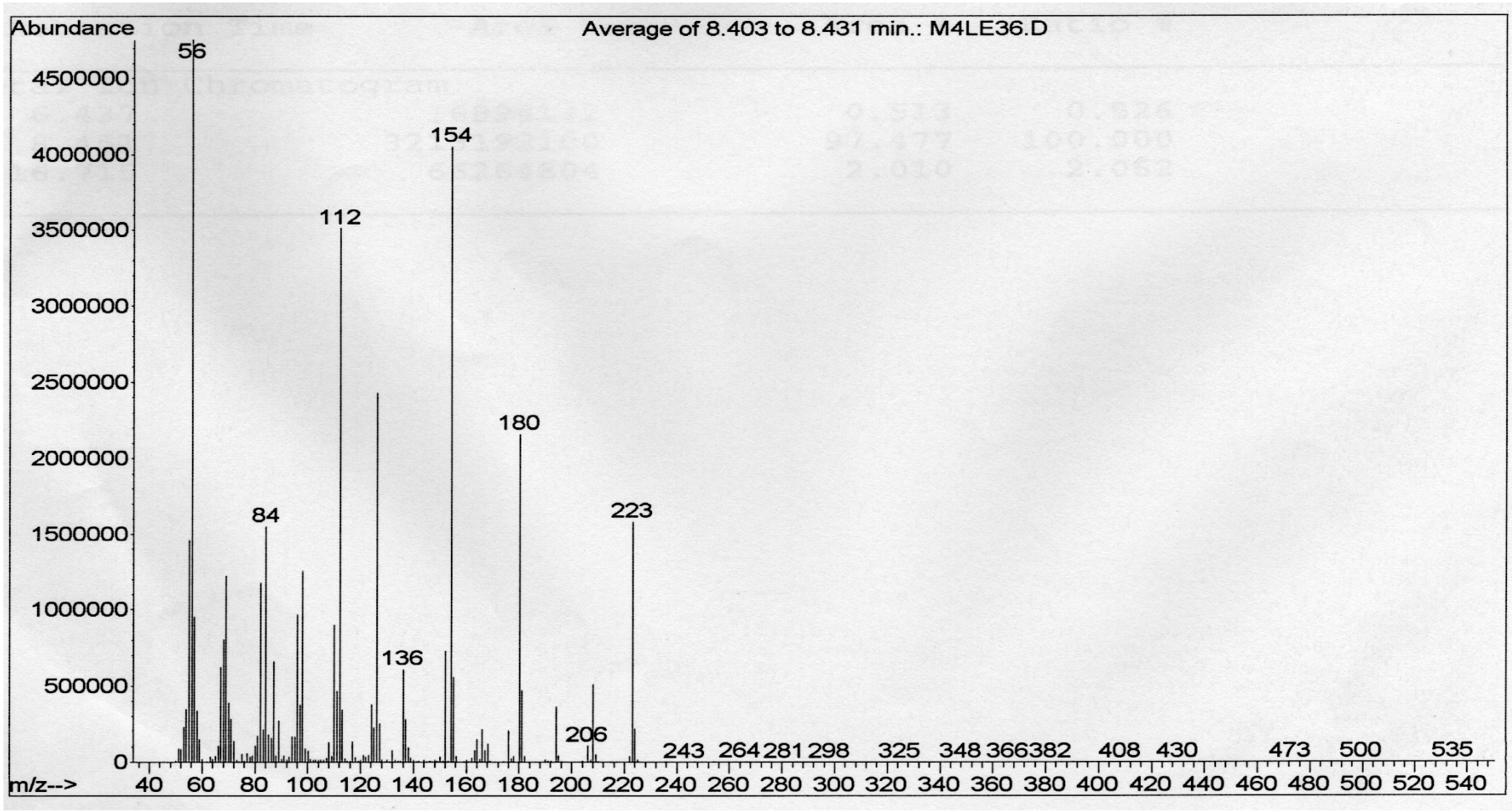
Espectro de massa do composto **10a**



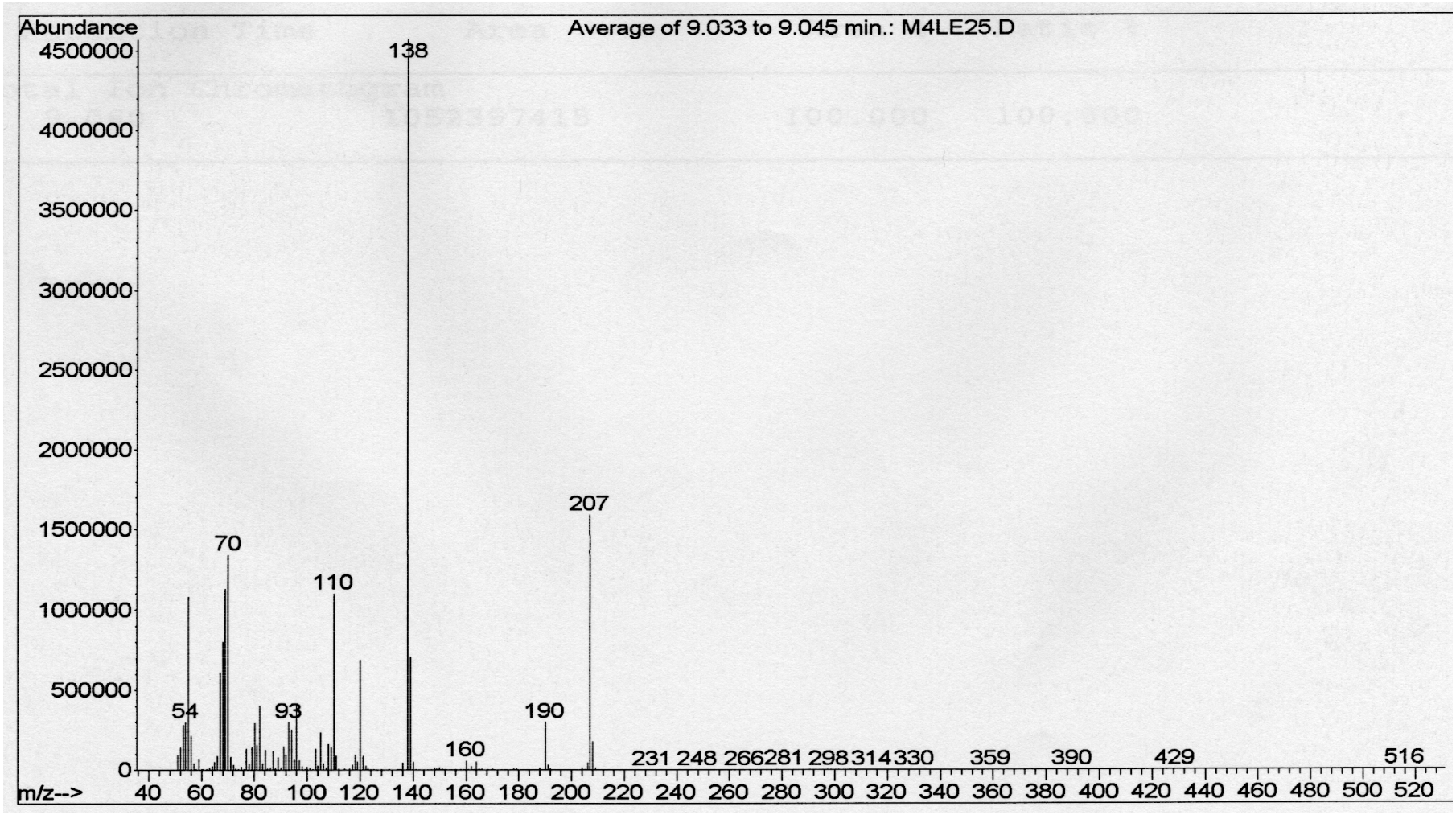
Espectro de massa do composto **10b**



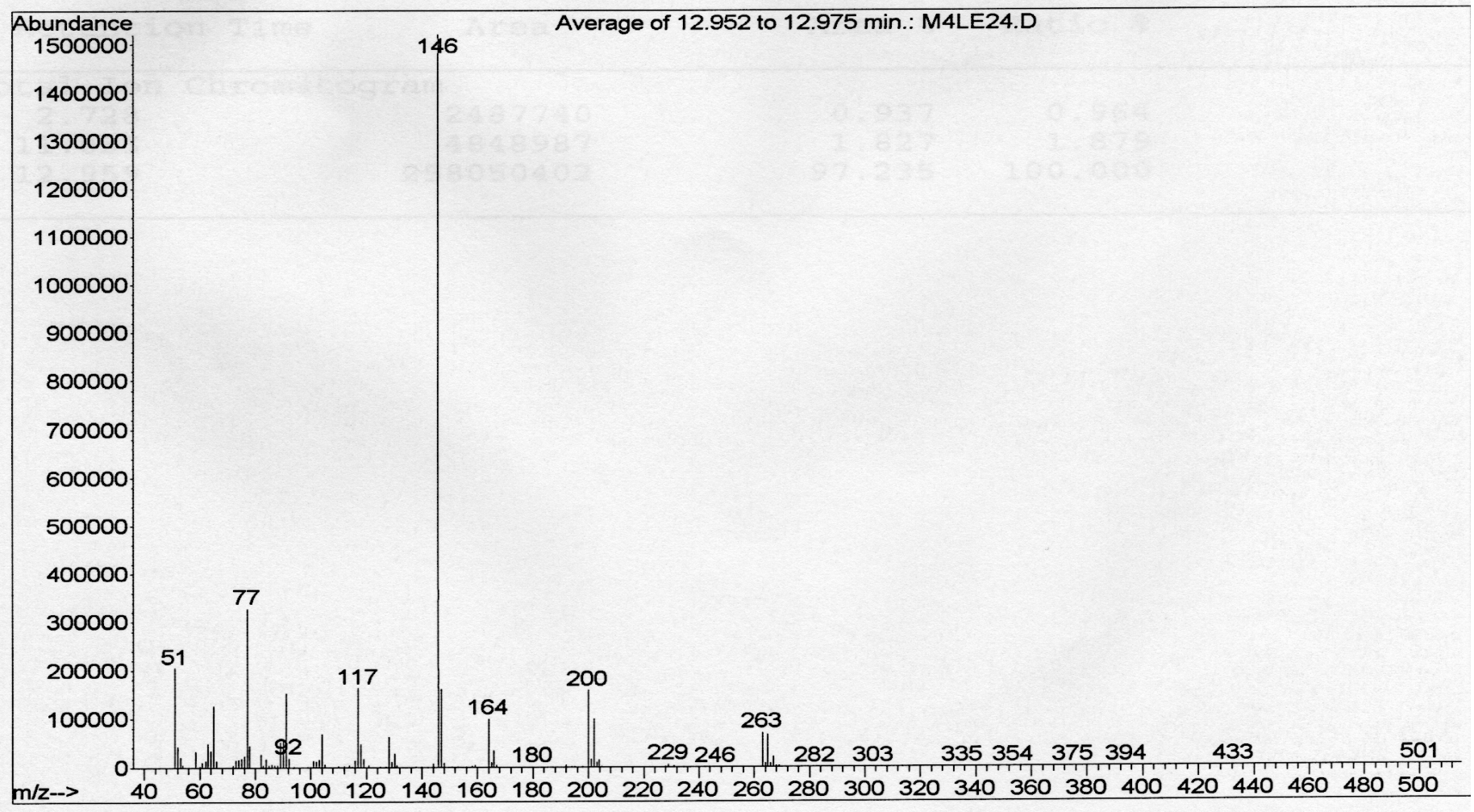
Espectro de massa do composto **10c**



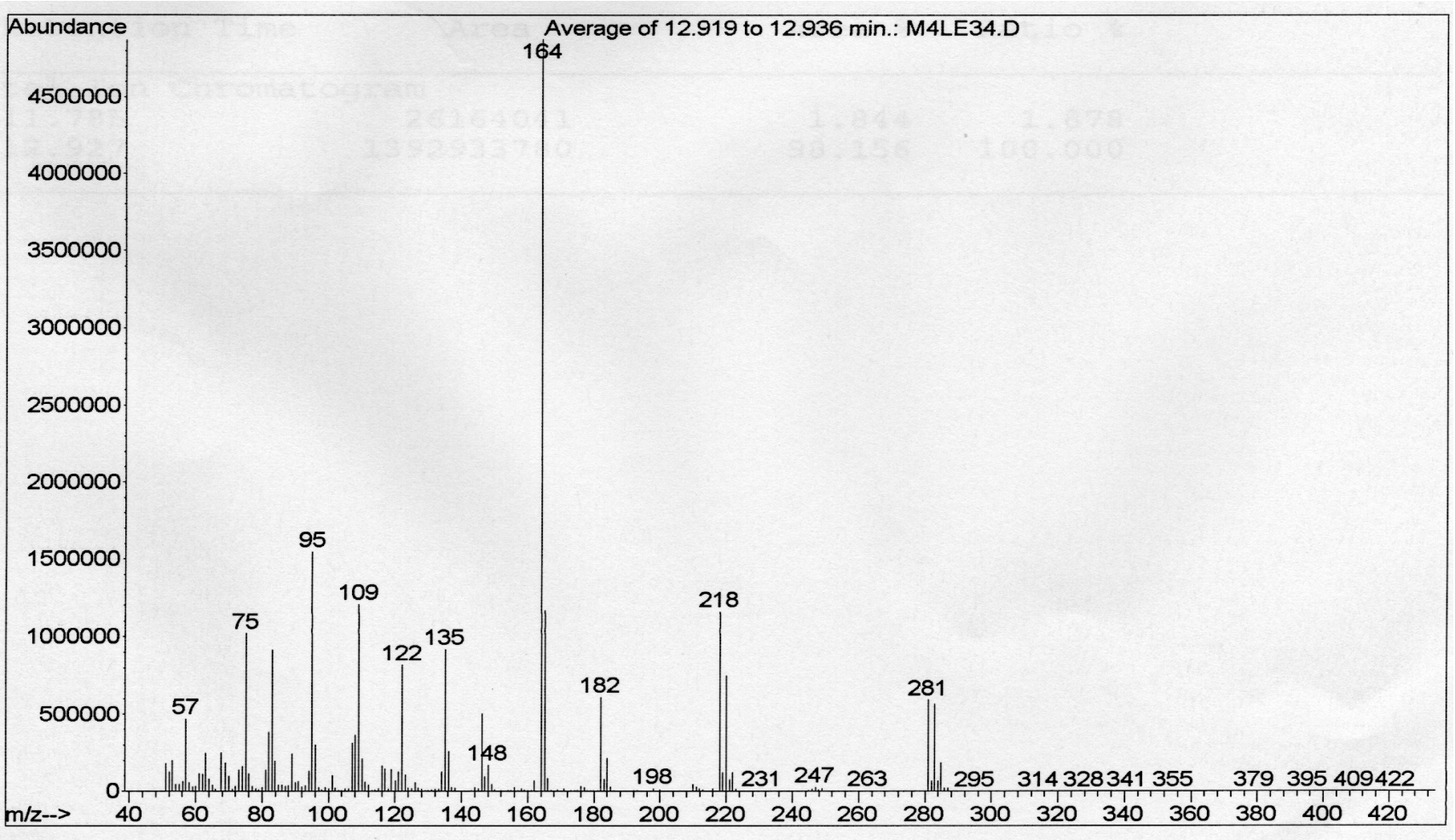
Espectro de massa do composto **10f**



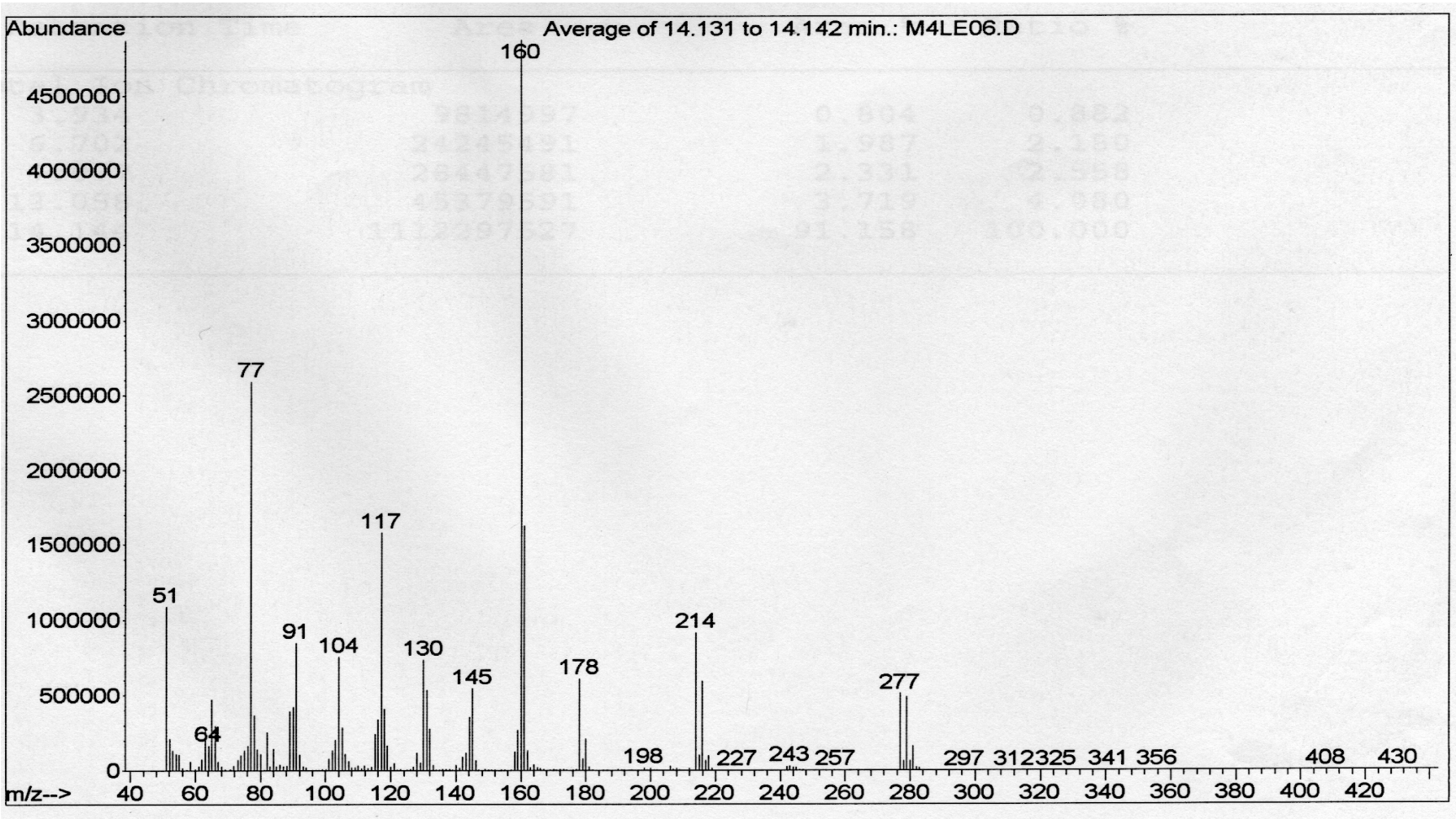
Espectro de massa do composto **10h**



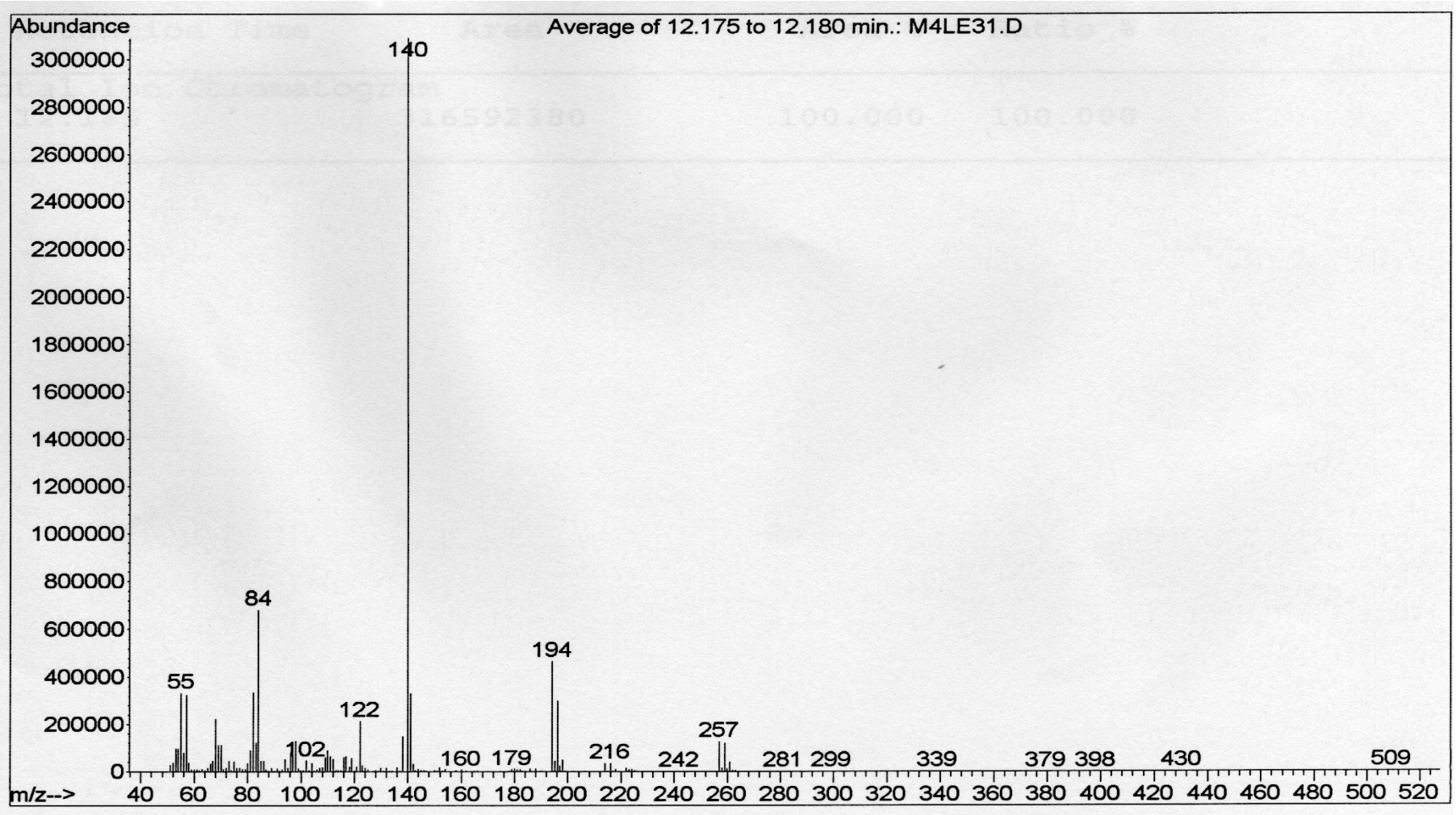
Espectro de massa do composto **12a**



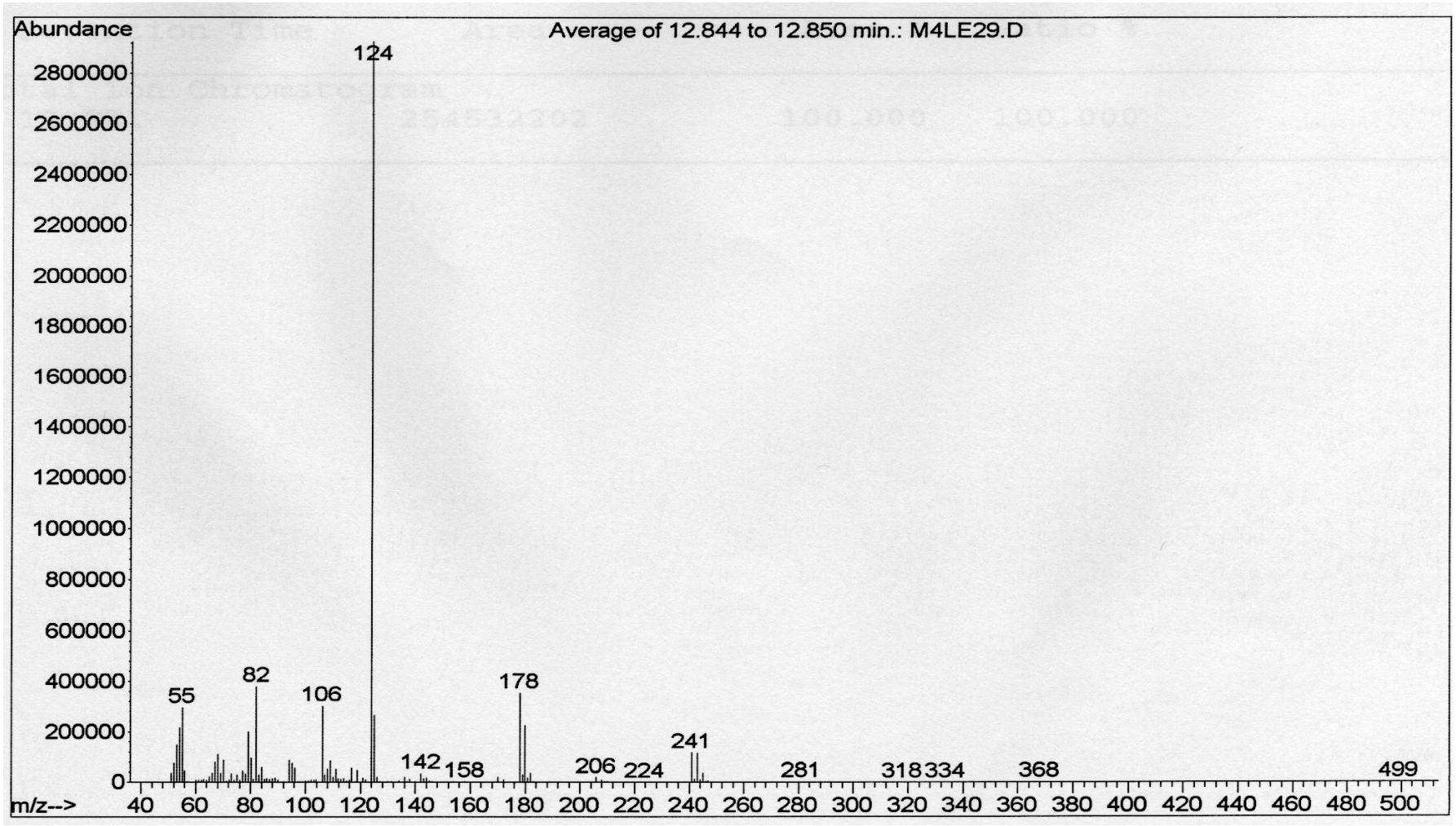
Espectro de massa do composto **12b**



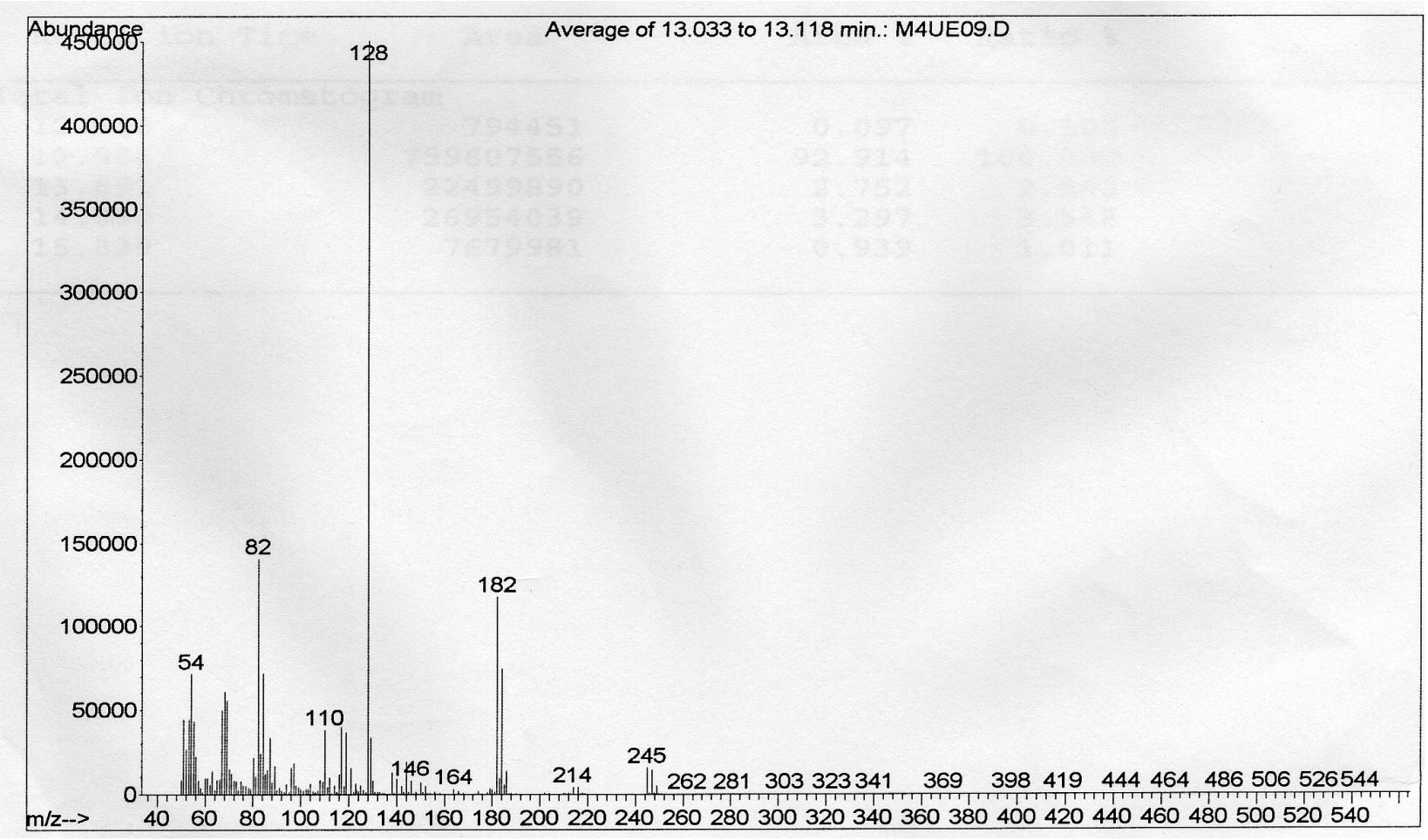
Espectro de massa do composto **12c**



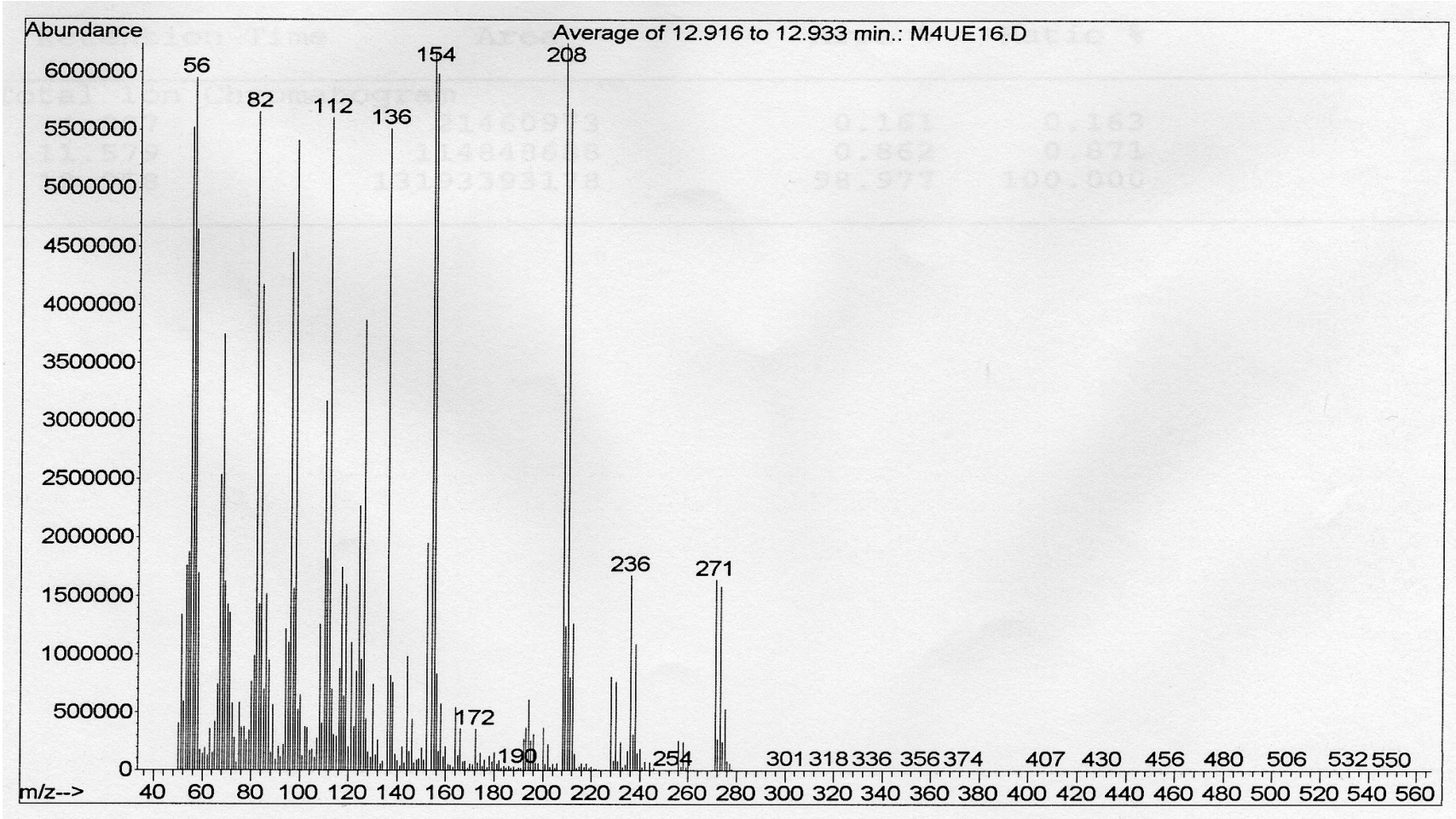
Espectro de massa do composto **12f**



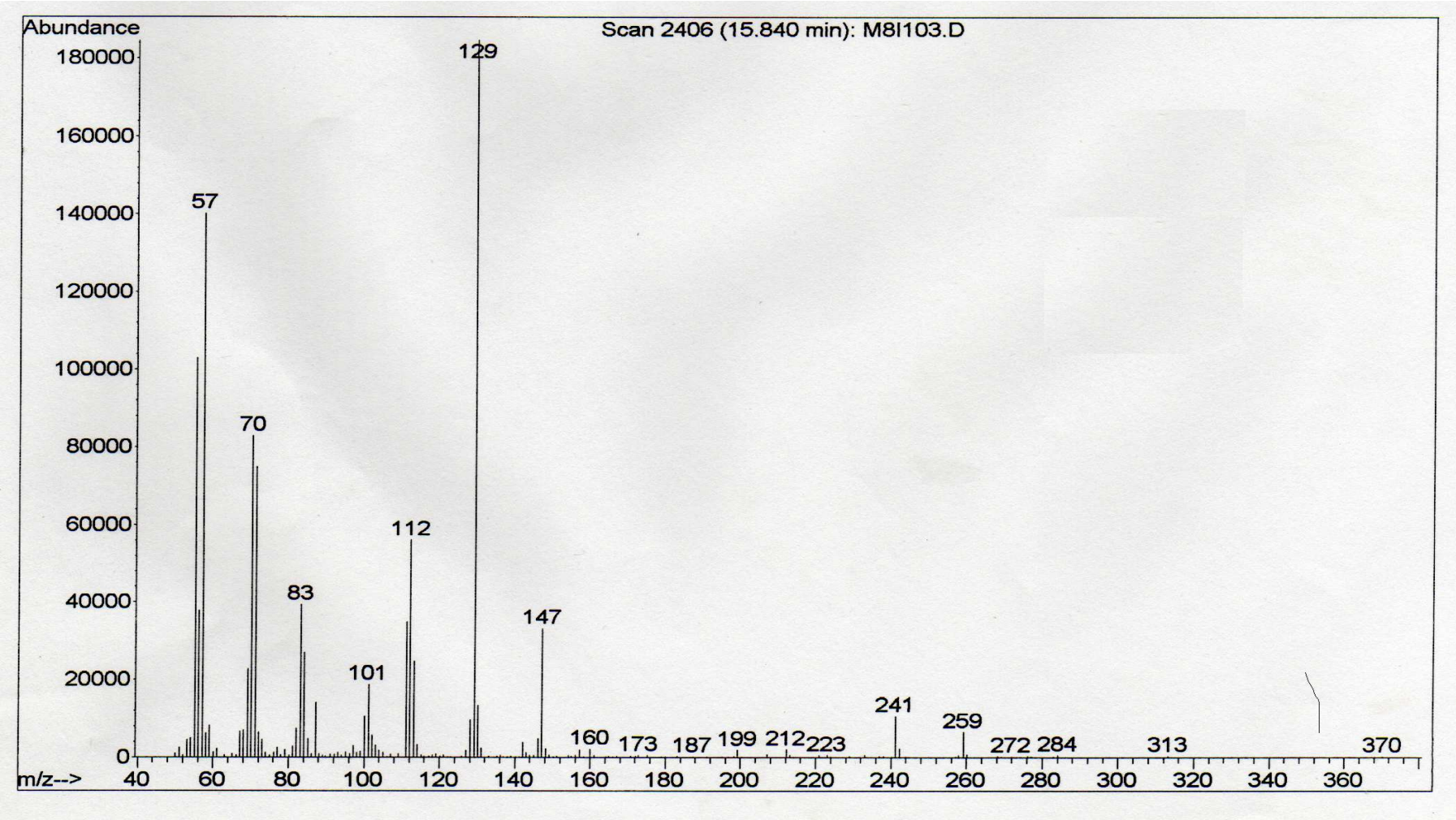
Espectro de massa do composto **12g**



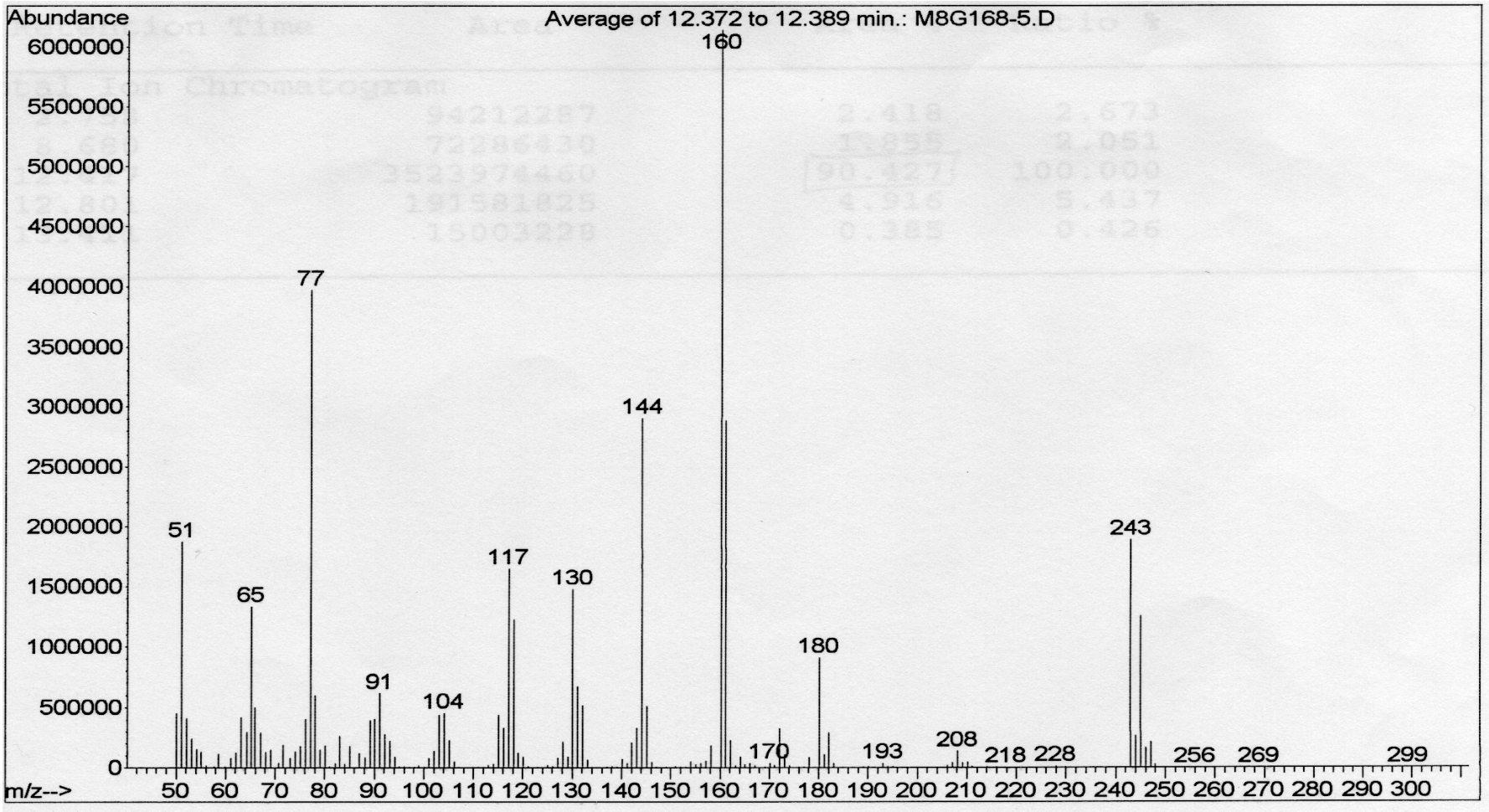
Espectro de massas do composto **13d.**



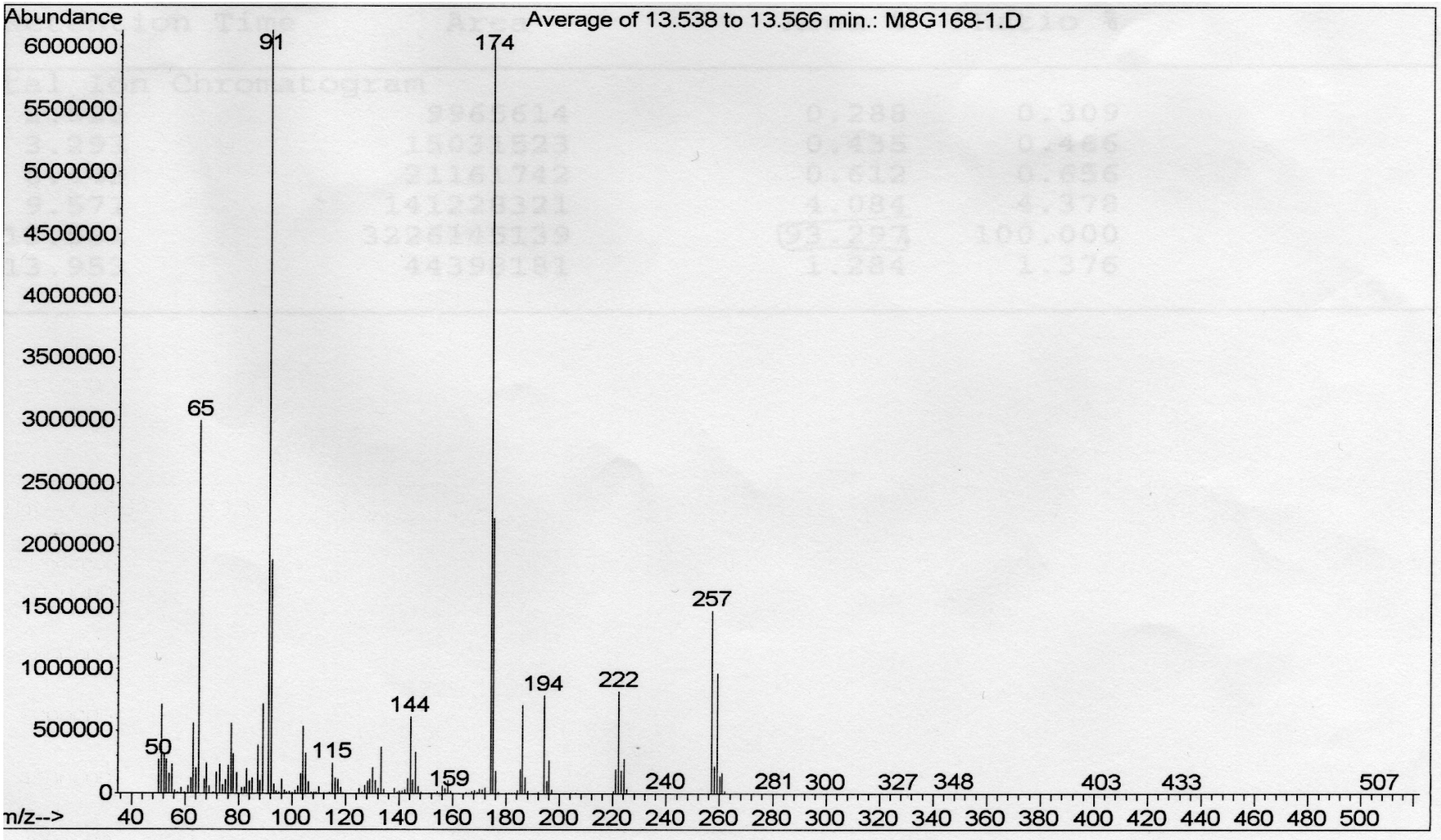
Espectro de massas do composto **13f.**



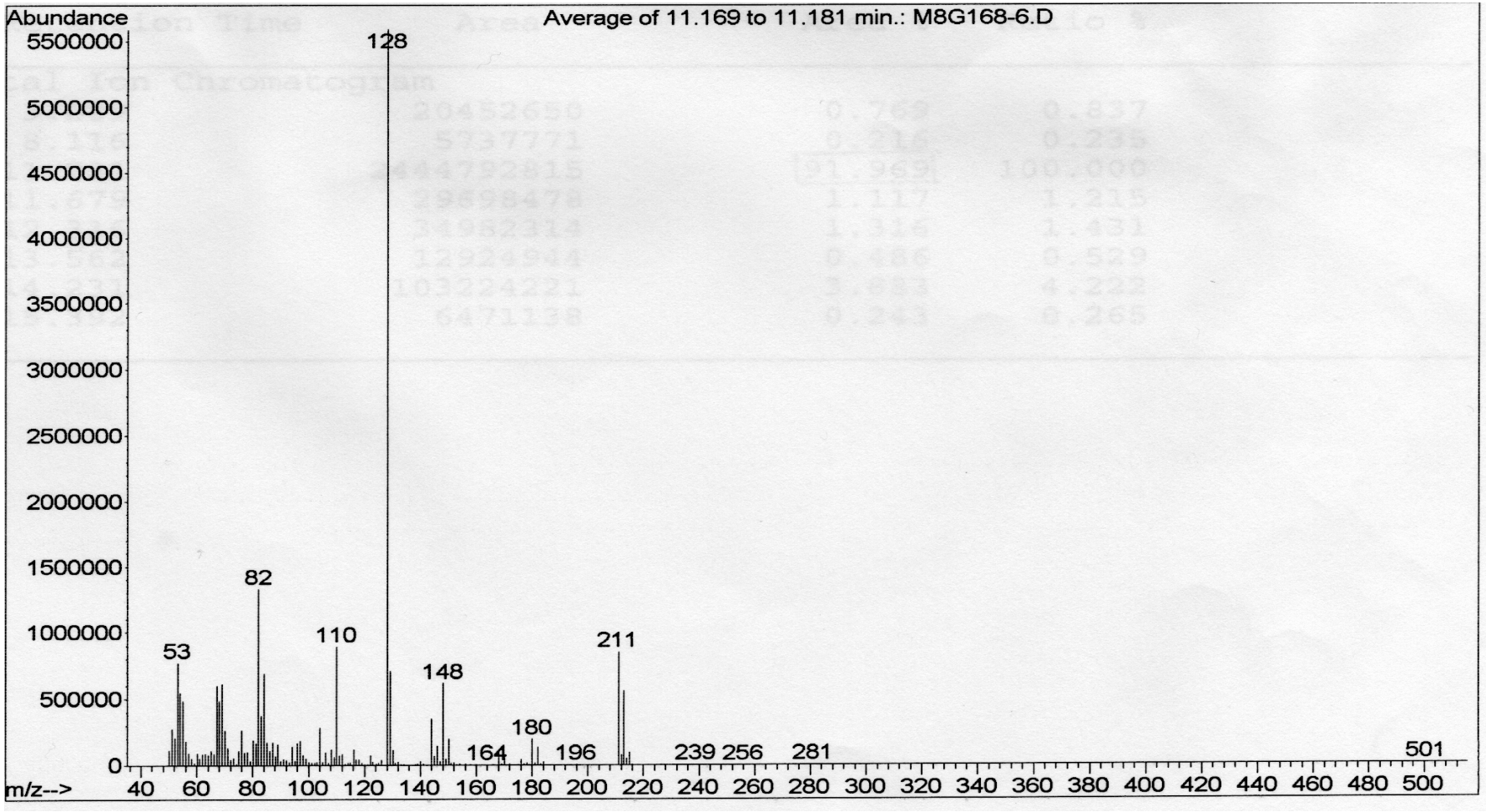
Espectro de massa do composto **14i**



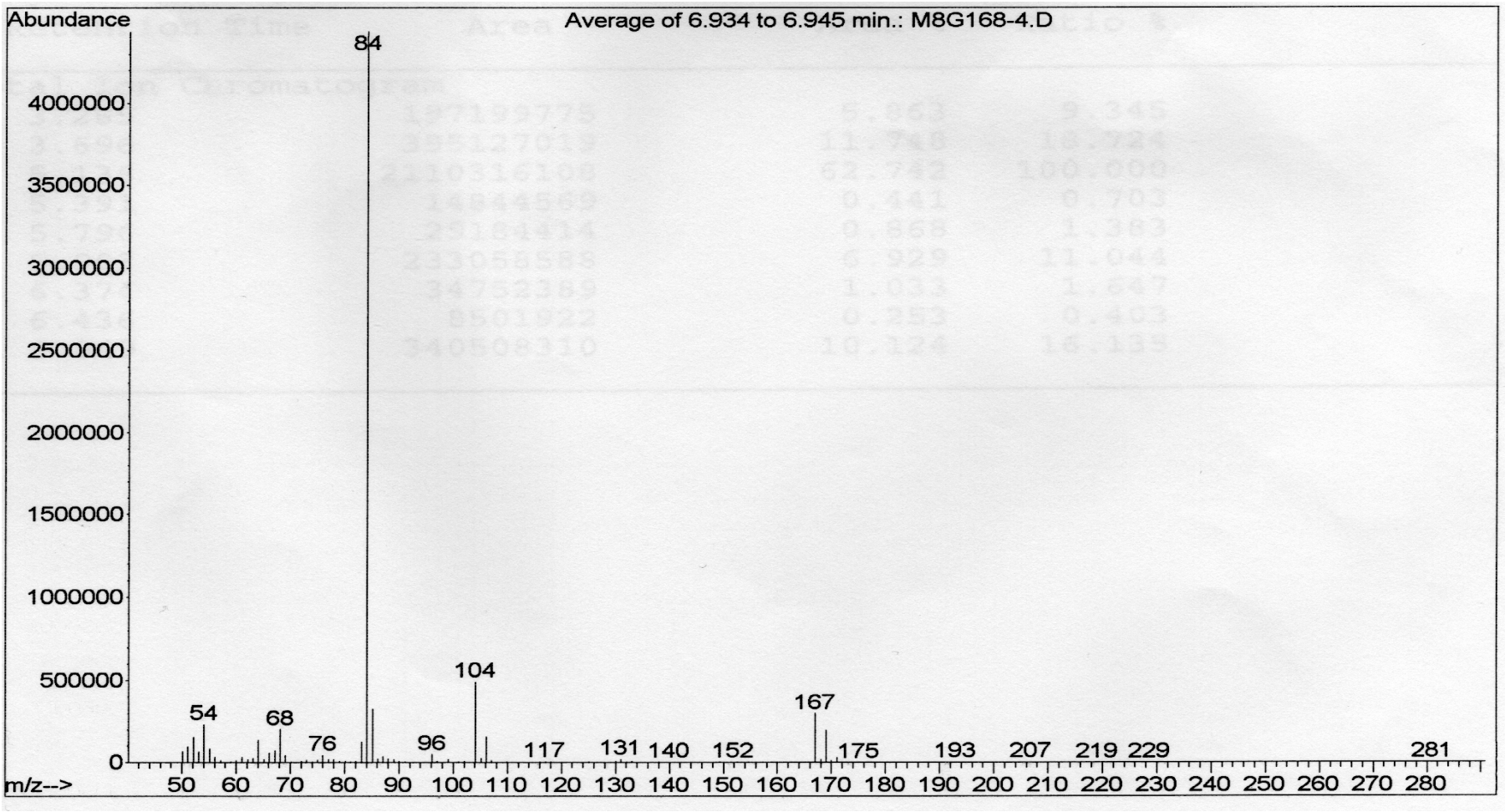
Espectro de massa do composto **15a**



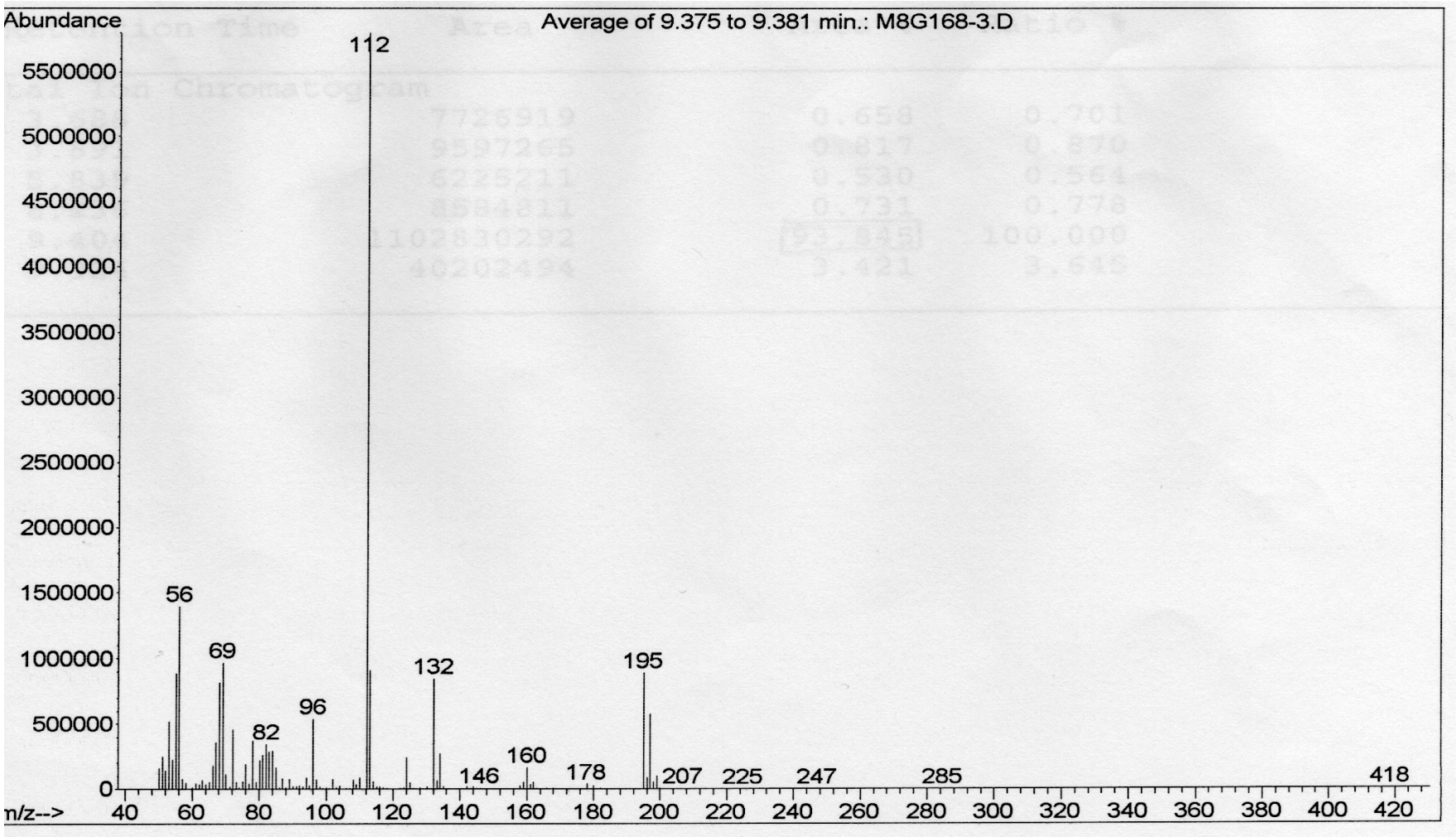
Espectro de massa do composto **15c**



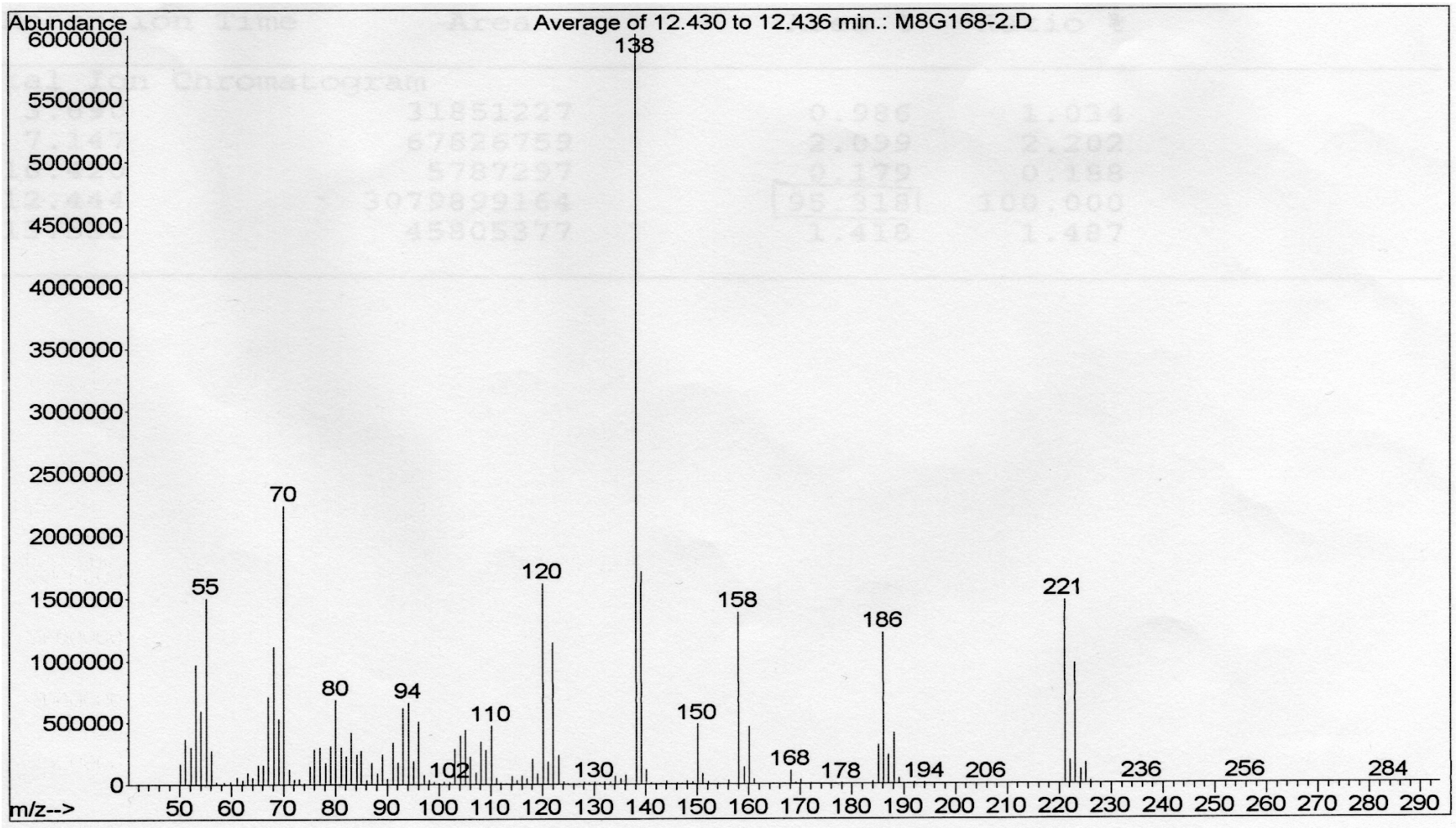
Espectro de massa do composto **15d**



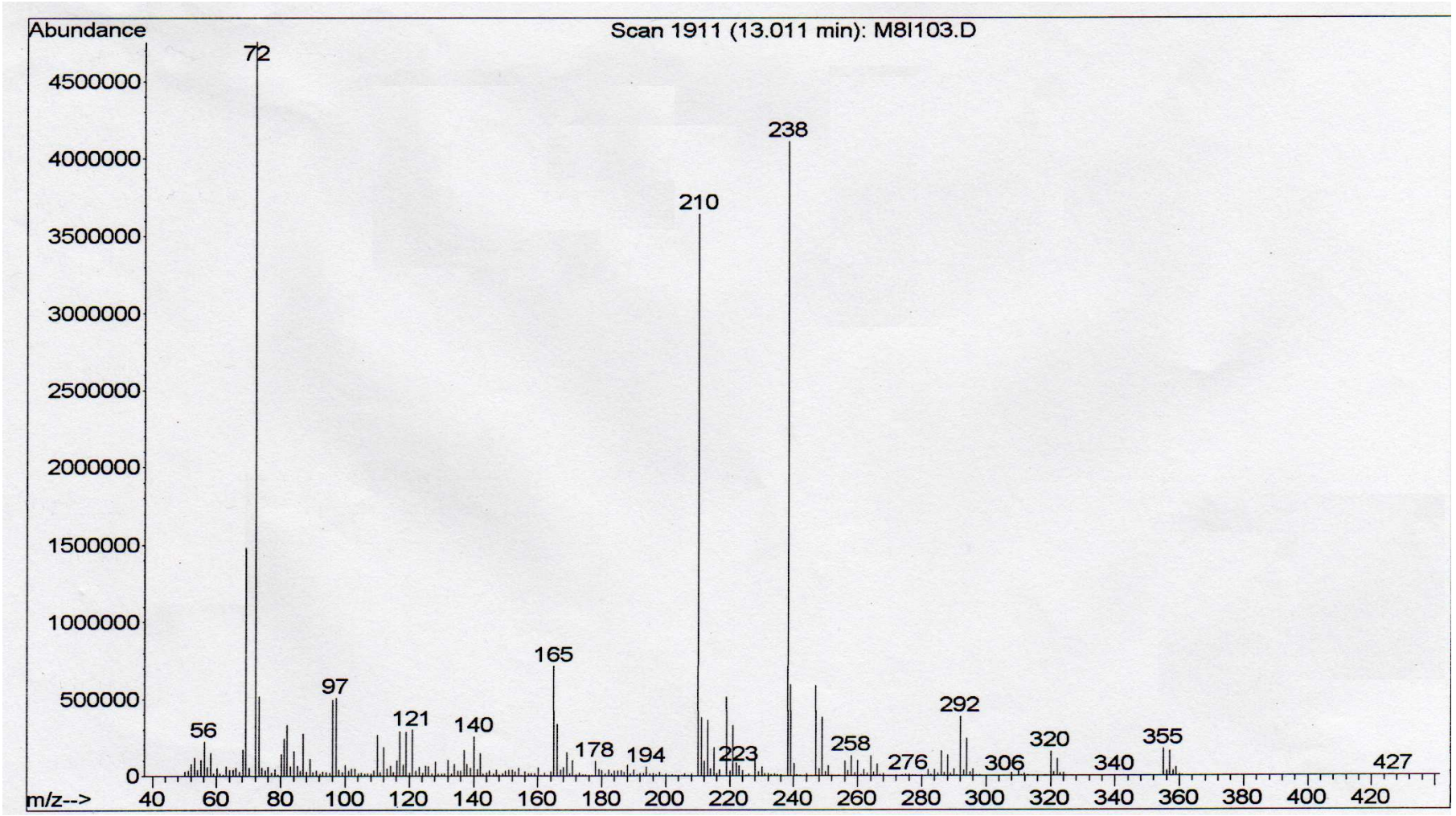
Espectro de massa do composto **15e**



Espectro de massa do composto **15i**



Espectro de massa do composto **15h**



Espectro de massa do composto **17i**