

UNIVERSIDAD DE SEVILLA

FACULTAD DE FARMACIA

DEPARTAMENTO DE QUIMICA ORGANICA Y FARMACEUTICA

APENDICEINMUNOCOADYUVANTES. SINTESIS DE ANALOGOS RIGIDOS
DE N-ACETILMURAMIL-L-ALANIL-D-ISOGlutAMINA (MDP)UNIVERSIDAD DE SEVILLA
SECRETARIA GENERAL

Quedo registrada ante el Tribunal Doctoral
al folio 193 anverso 69 del libro
correspondiente al año 1990
Sevilla.

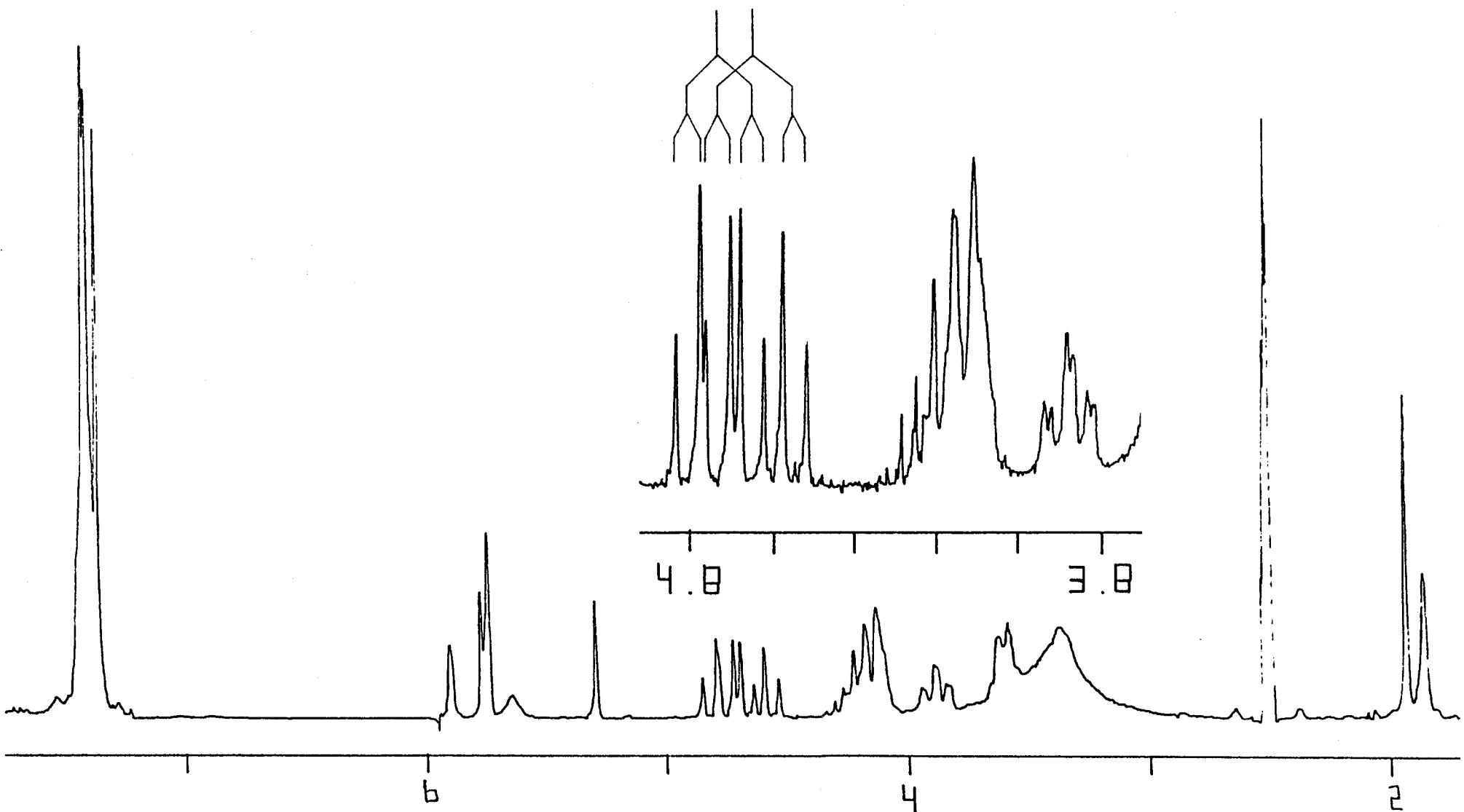
El Jefe del Negociado de Tesis,



Memoria presentada por el Licenciado
Francisco José Ruiz Rodríguez para
optar al grado de Doctor en Farmacia

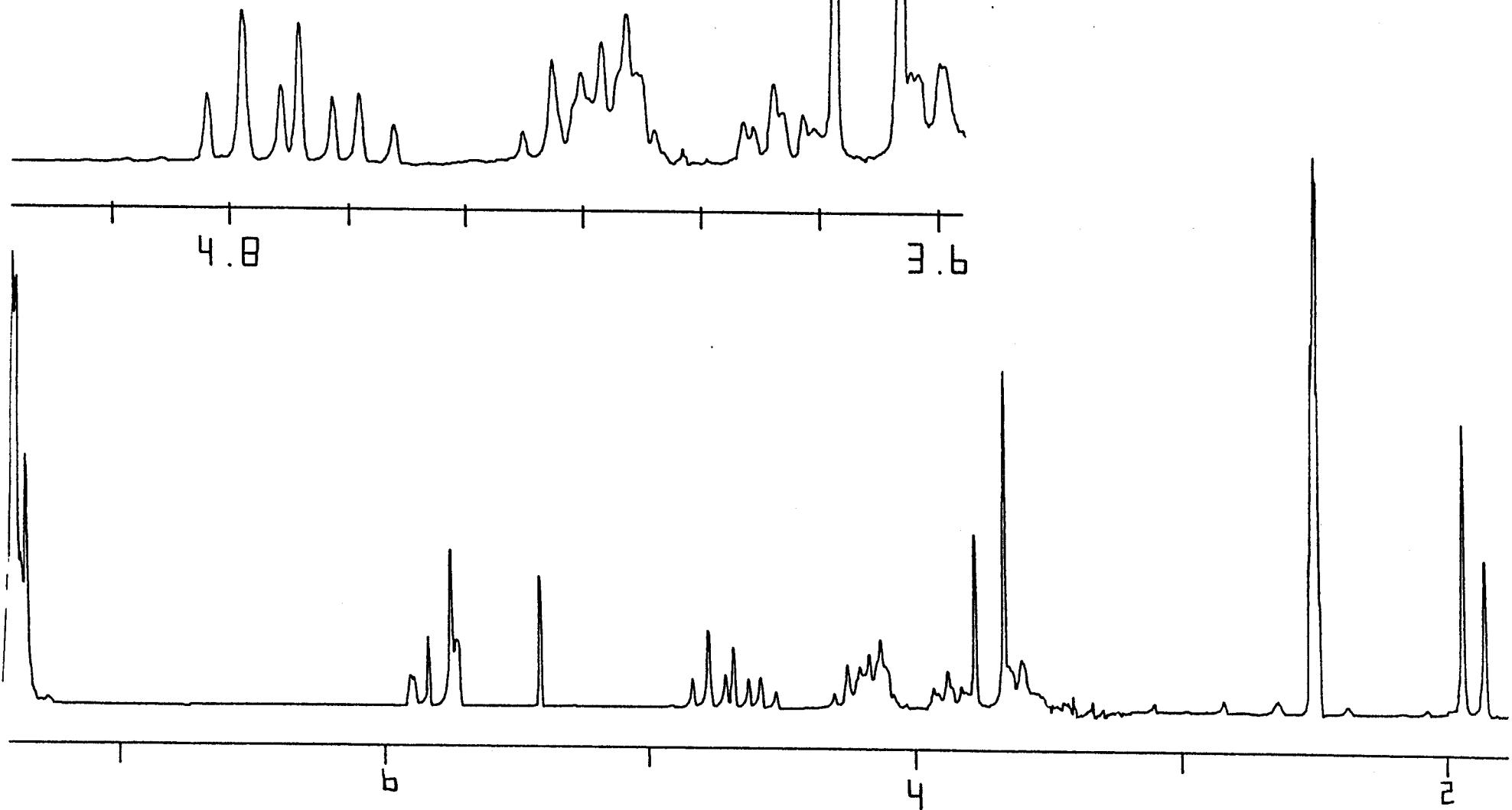
Sevilla, 1.990

Figura 1-A



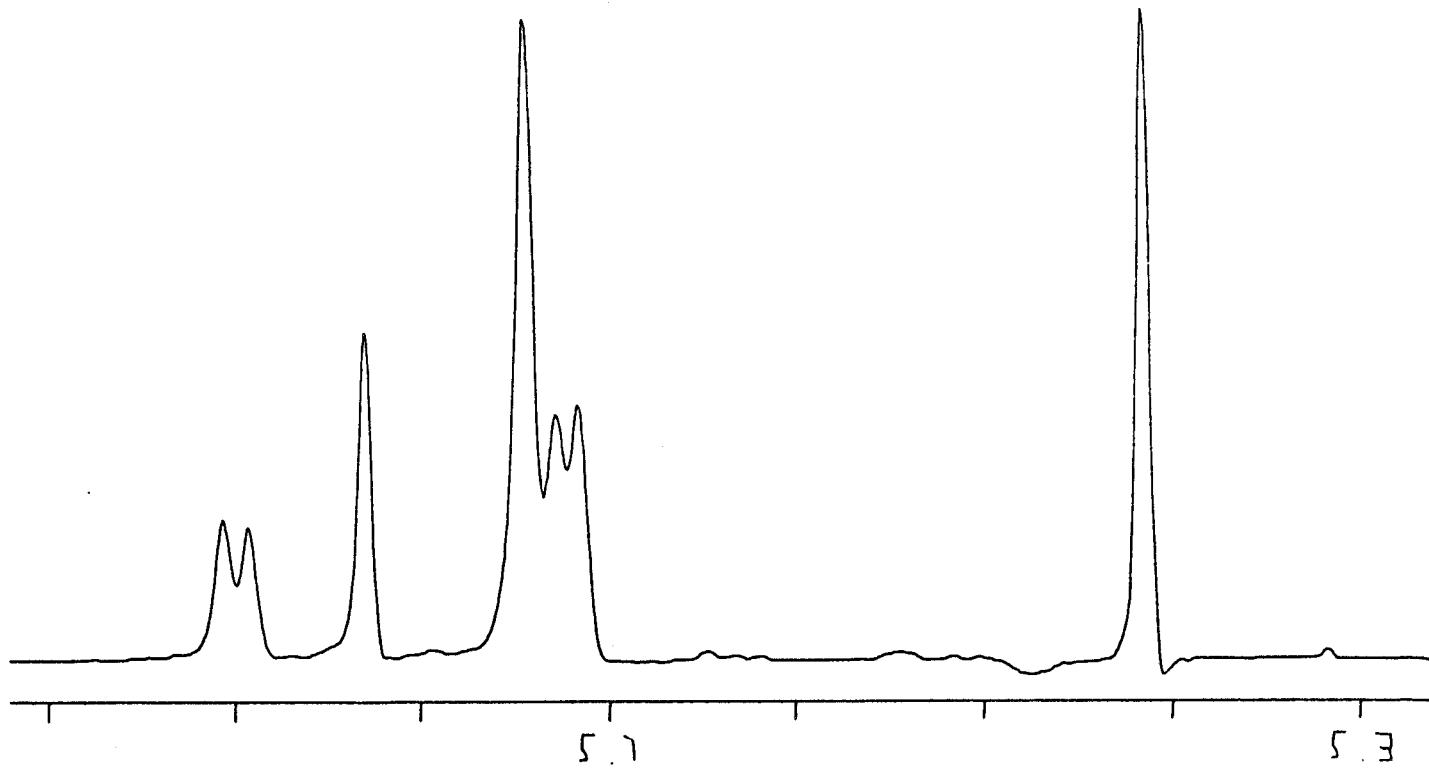
Espectro de ^1H -RMN de 3-acetil-2-carboxi-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-2,3-dioxazolidina (37) (DMSO- d_6 , 200 MHz, TMS)

Figura 2-A

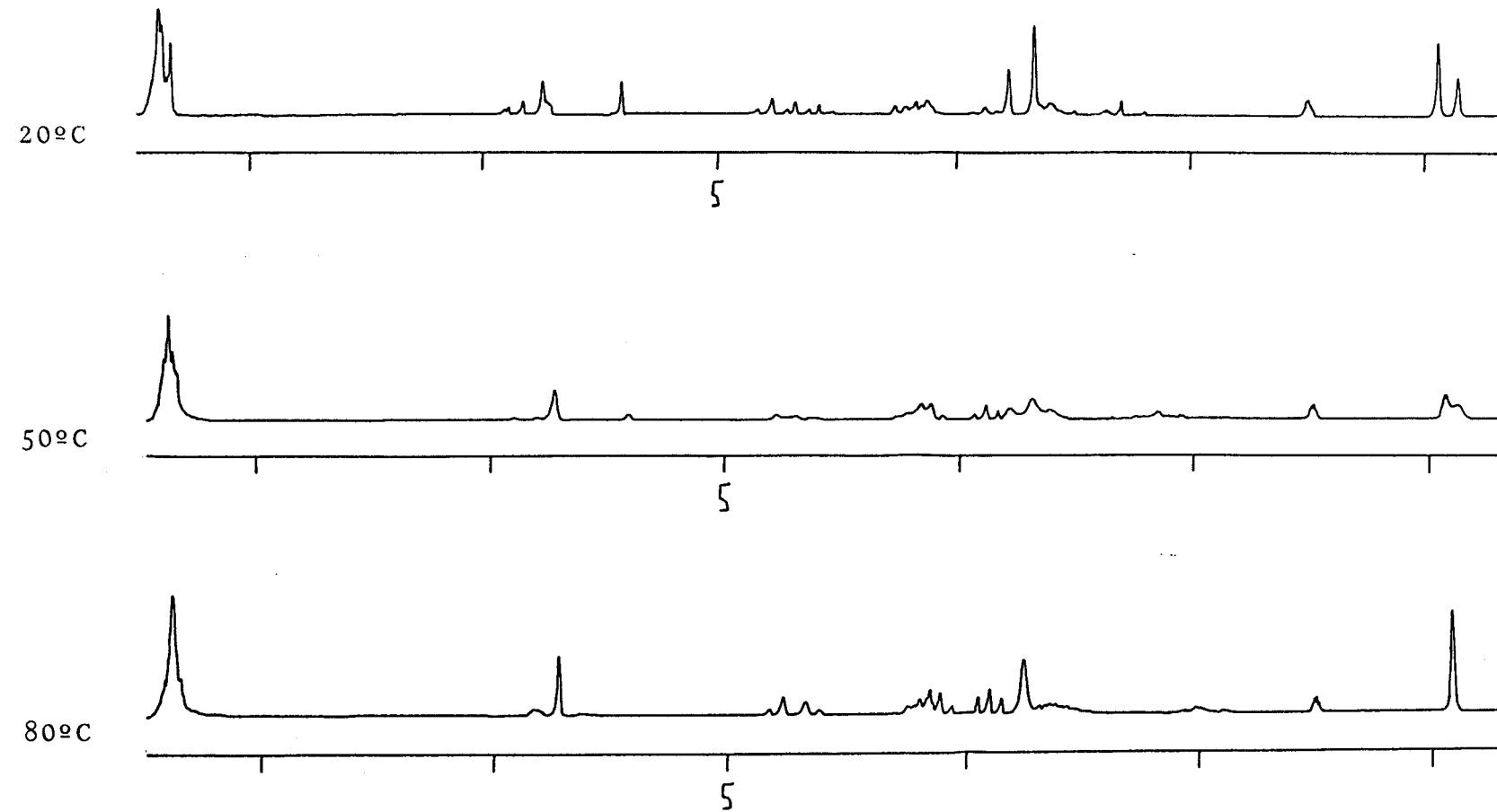


Espectro de ^1H -RMN de 3-acetil-2-metoxicarbonil-(1-O-benyl-4,6-O-benzyldien-2,3-didesoxi-
- α -D-glucopirán)-|2,3-d|-oxazolidina (40) (DMSO-d_6 , 200 MHz, TMS)

Figura 3-A

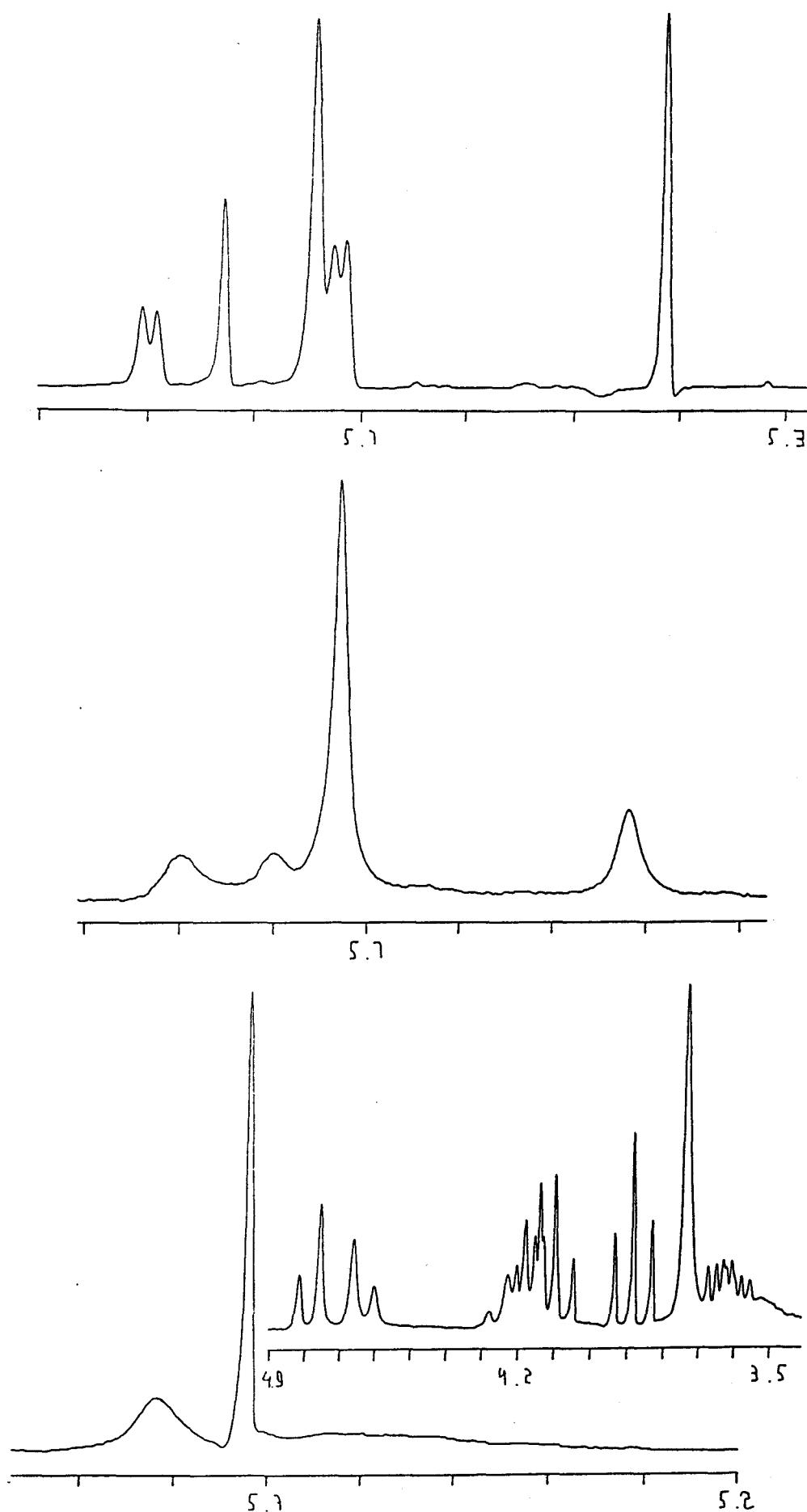


Ampliación del espectro de ^1H -RMN de la sustancia 40 (Figura 2-A)



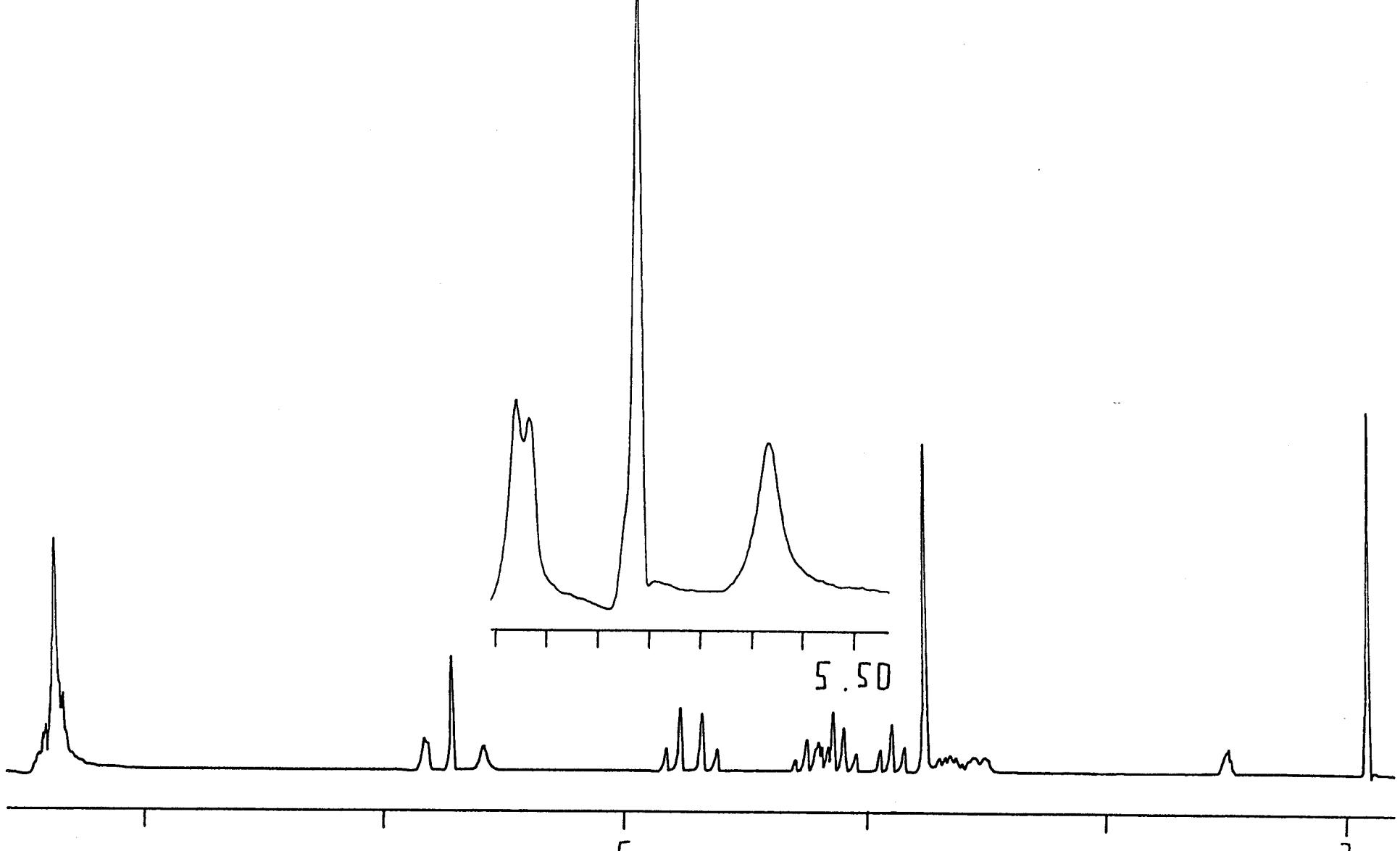
Secuencia de espectros de ^1H -RMN de la sustancia $\underset{\sim}{40}$ a 20 , 50 y 80°C (DMSO-d_6 , 200MHz , TMS)

Figura 5-A

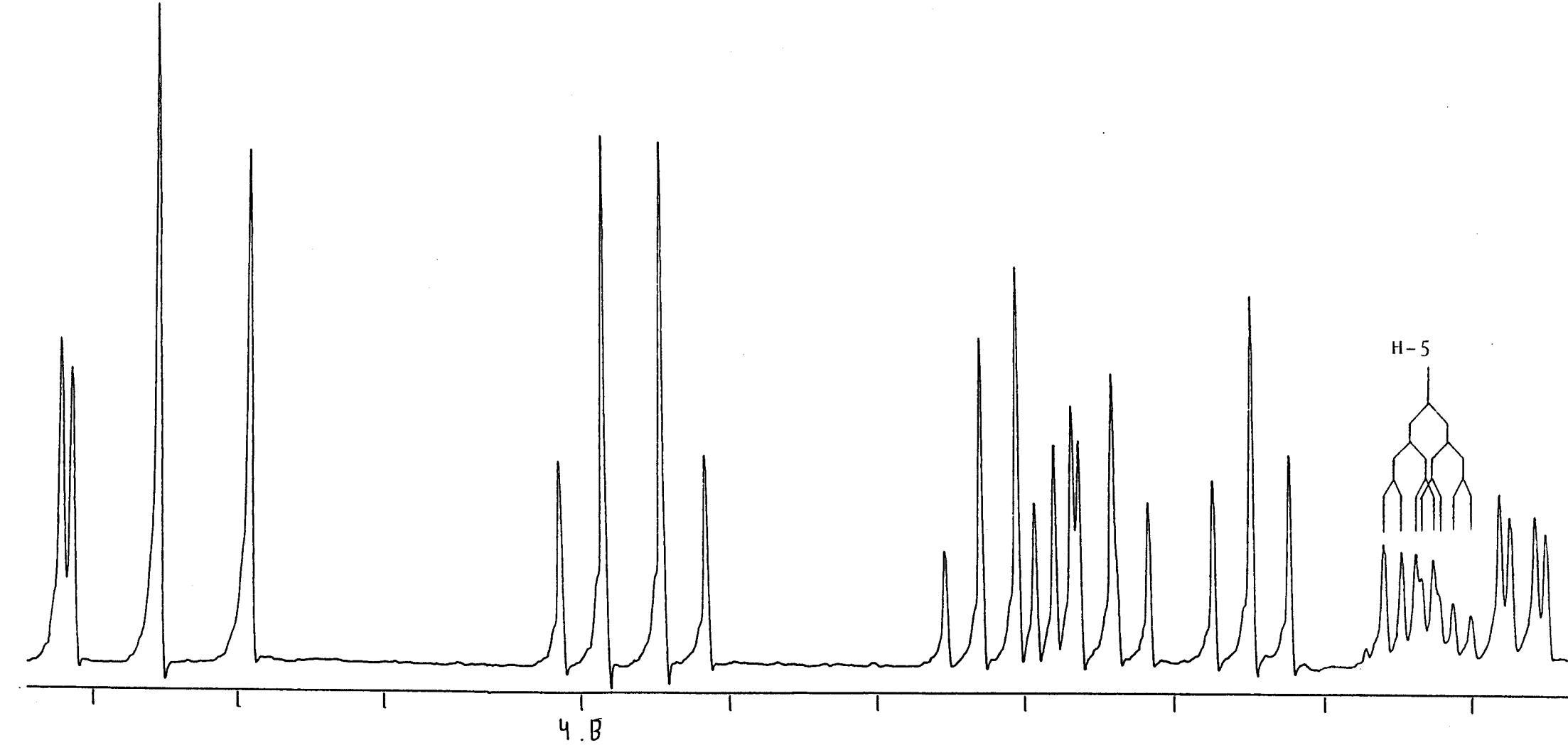


Ampliación de los espectros de la sustancia 40 a 20, 50 y 80°C

Figura 6-A

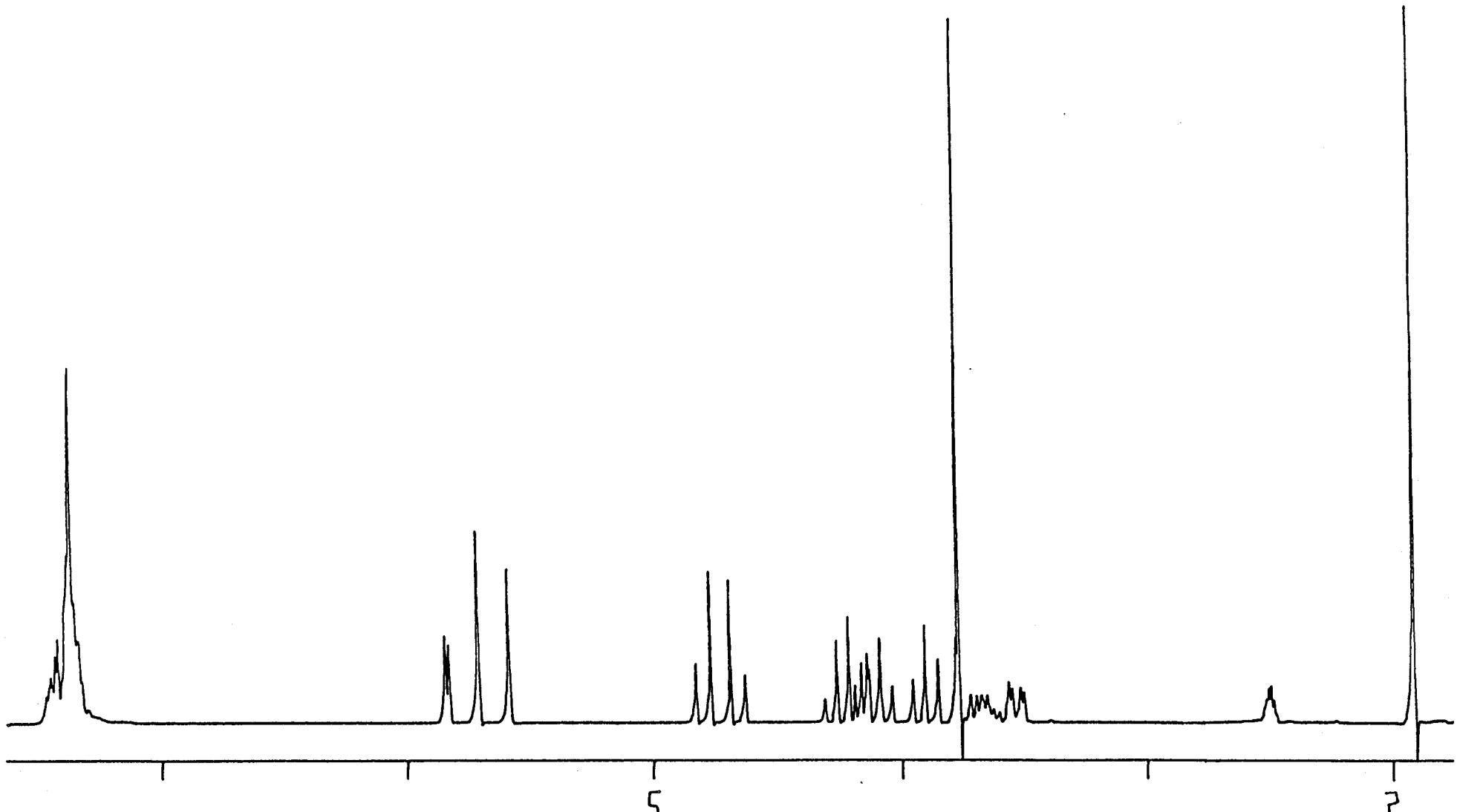


Espectro de ^1H -RMN de la sustancia 40 a 110°C

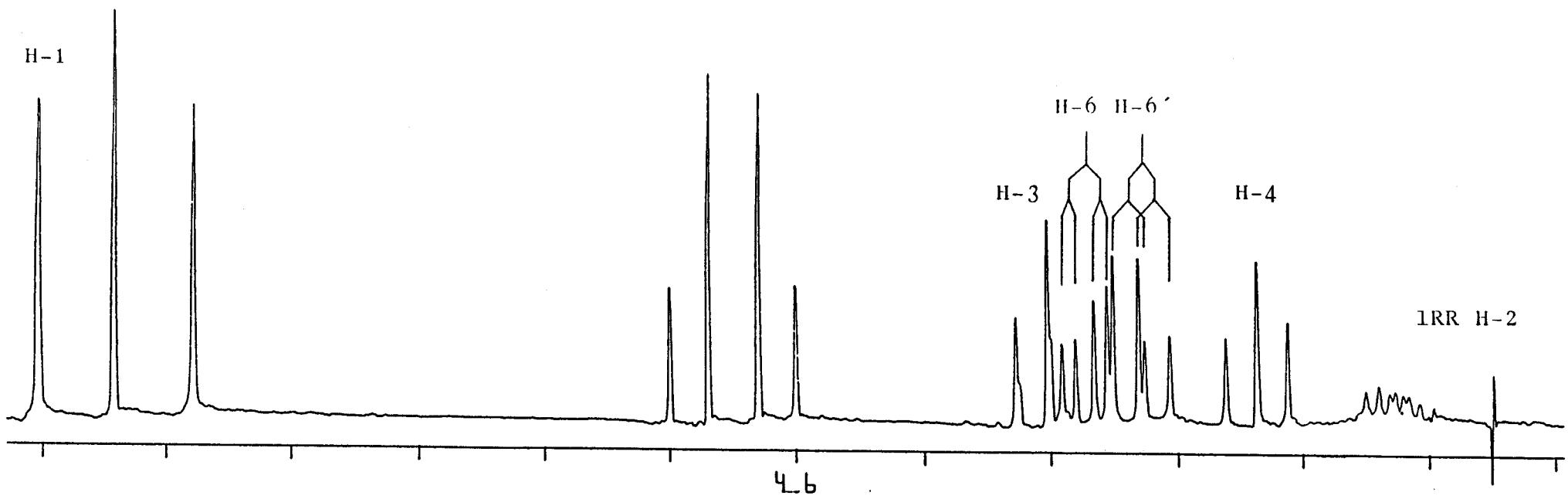


Espectro de ^1H -RMN de la sustancia $\underset{\sim}{40 \text{ a } 145^\circ\text{C}}$

Figura 8-A

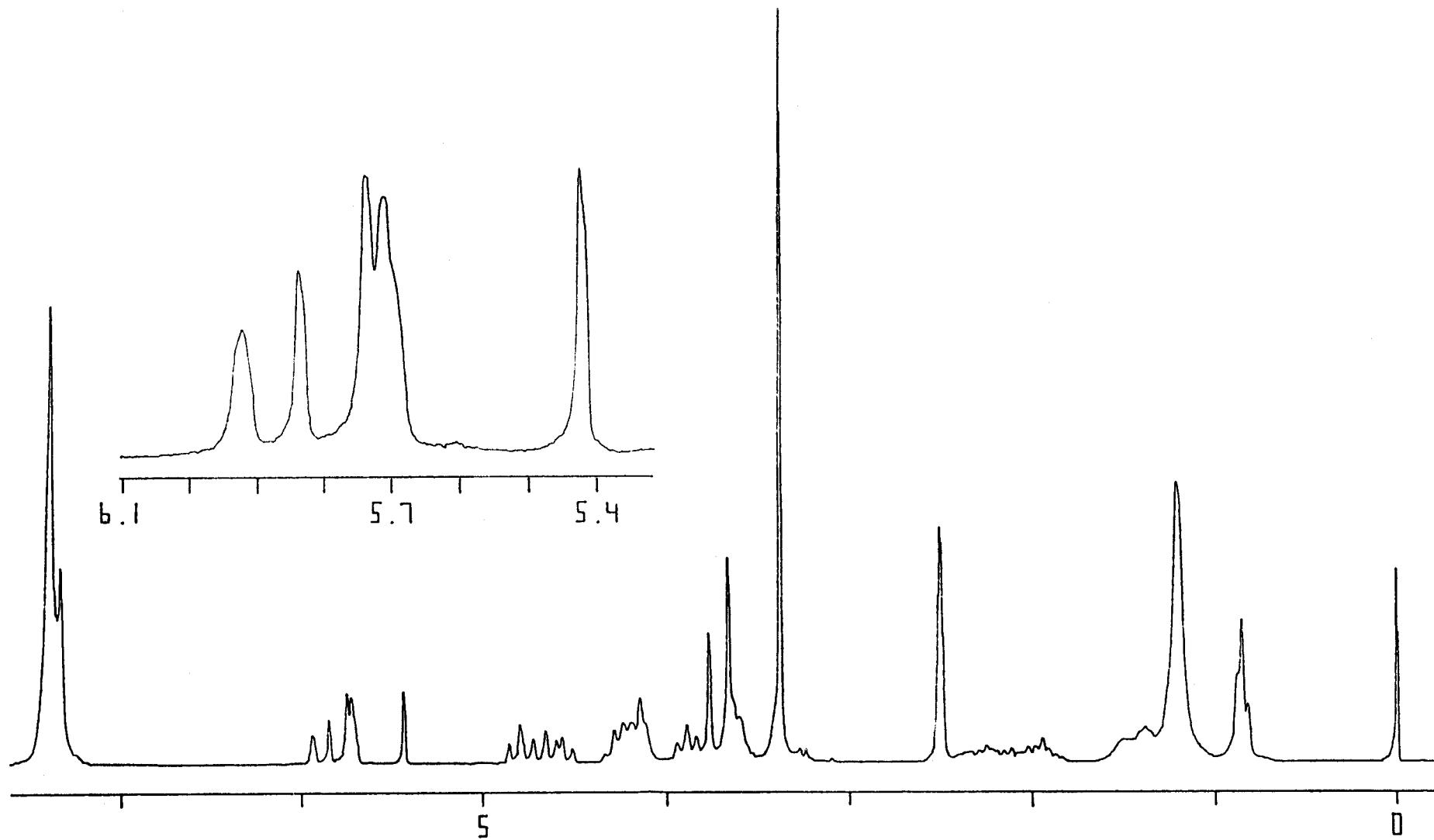


Espectro de ^1H -RMN de la sustancia 40 a 150°C



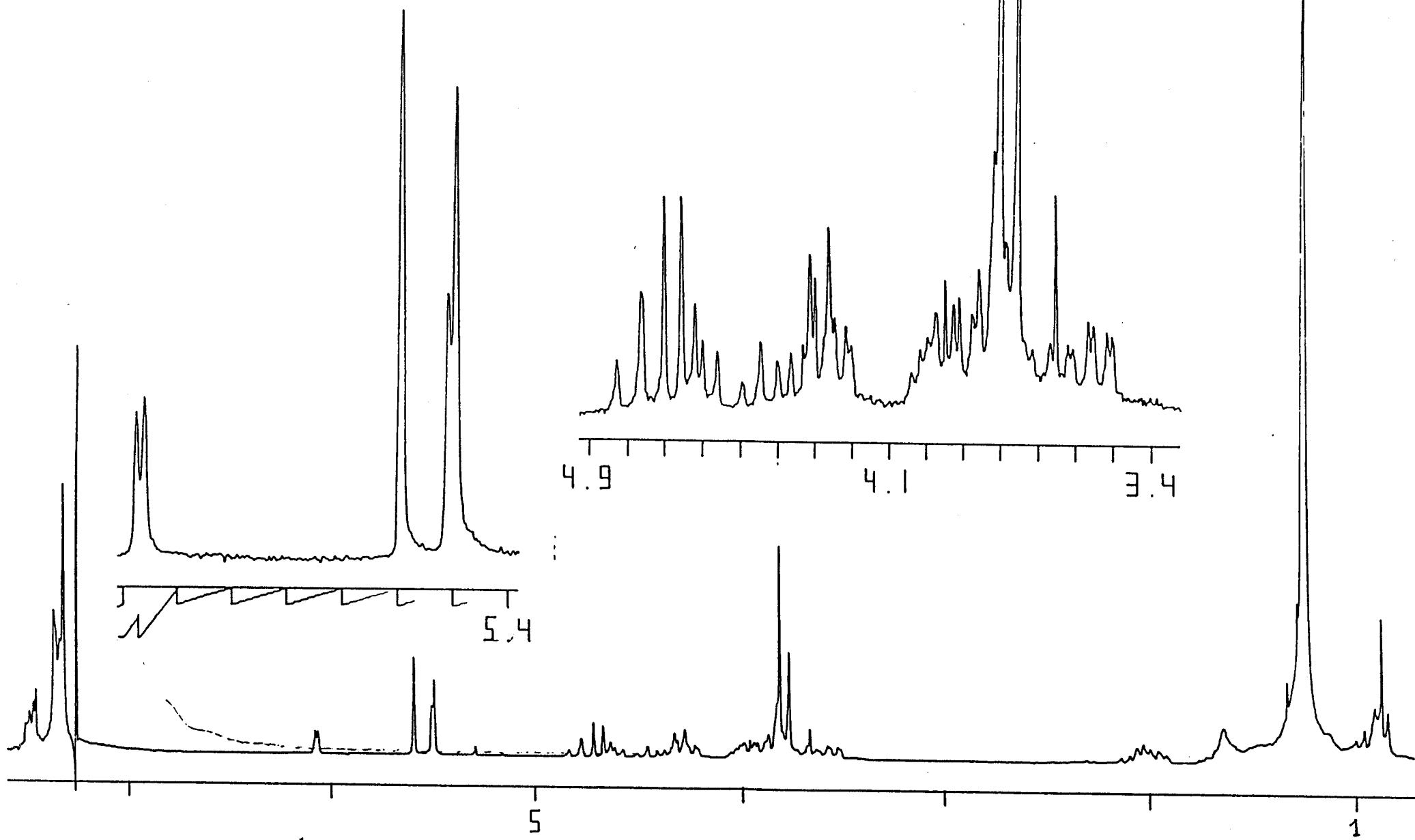
Irradiación de H-2 en la sustancia 40 a 145°C

Figura 10-A

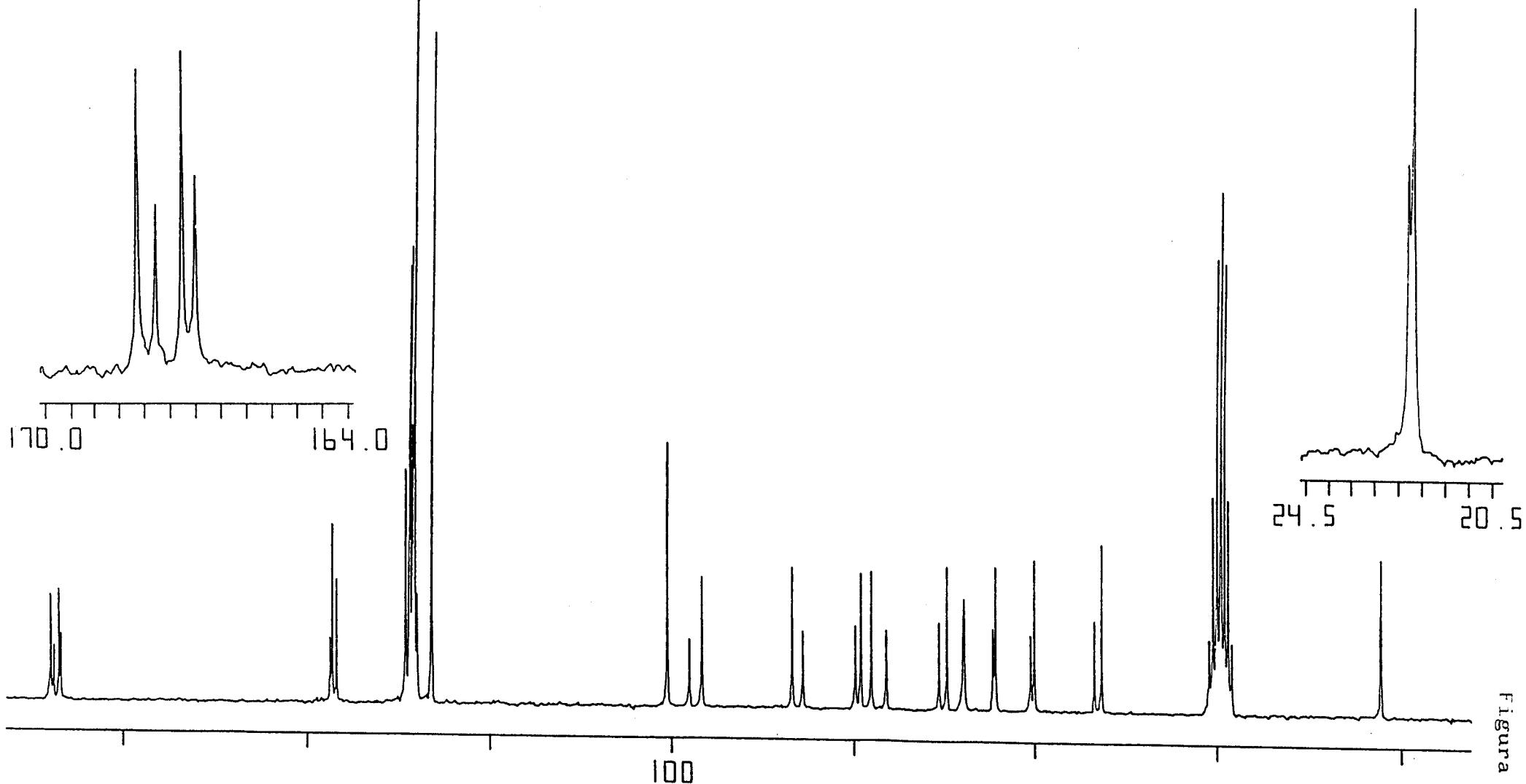


Espectro de ^1H -RMN de 2-metoxicarbonil-3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (41) (DMSO-d_6 , 200 MHz, TMS)

Figura 11-A

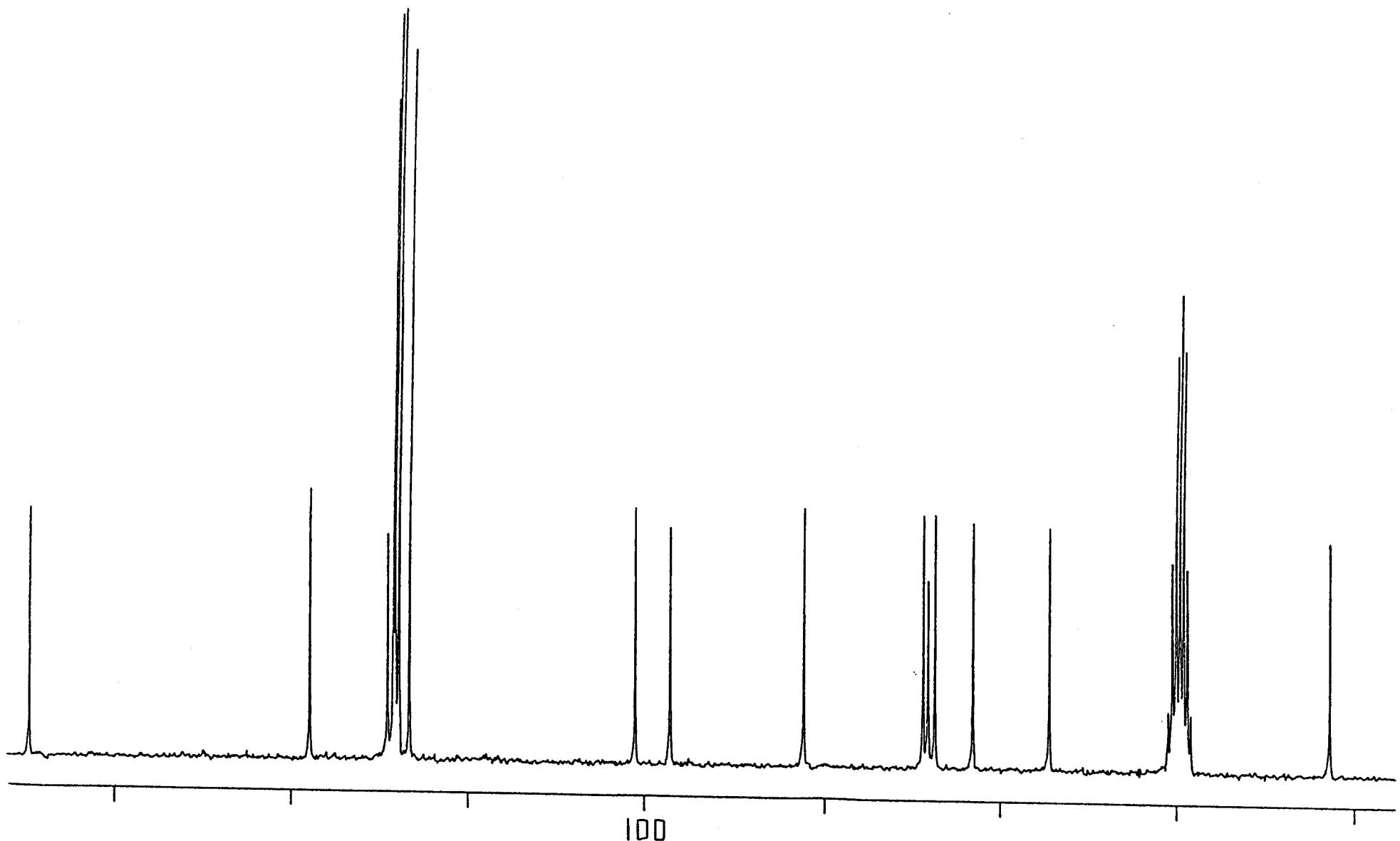


Espectro de ^1H -RMN de 2-metoxicarbonil-3-palmitoil-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (42) (C_3D_3 , 200 MHz, TMS)



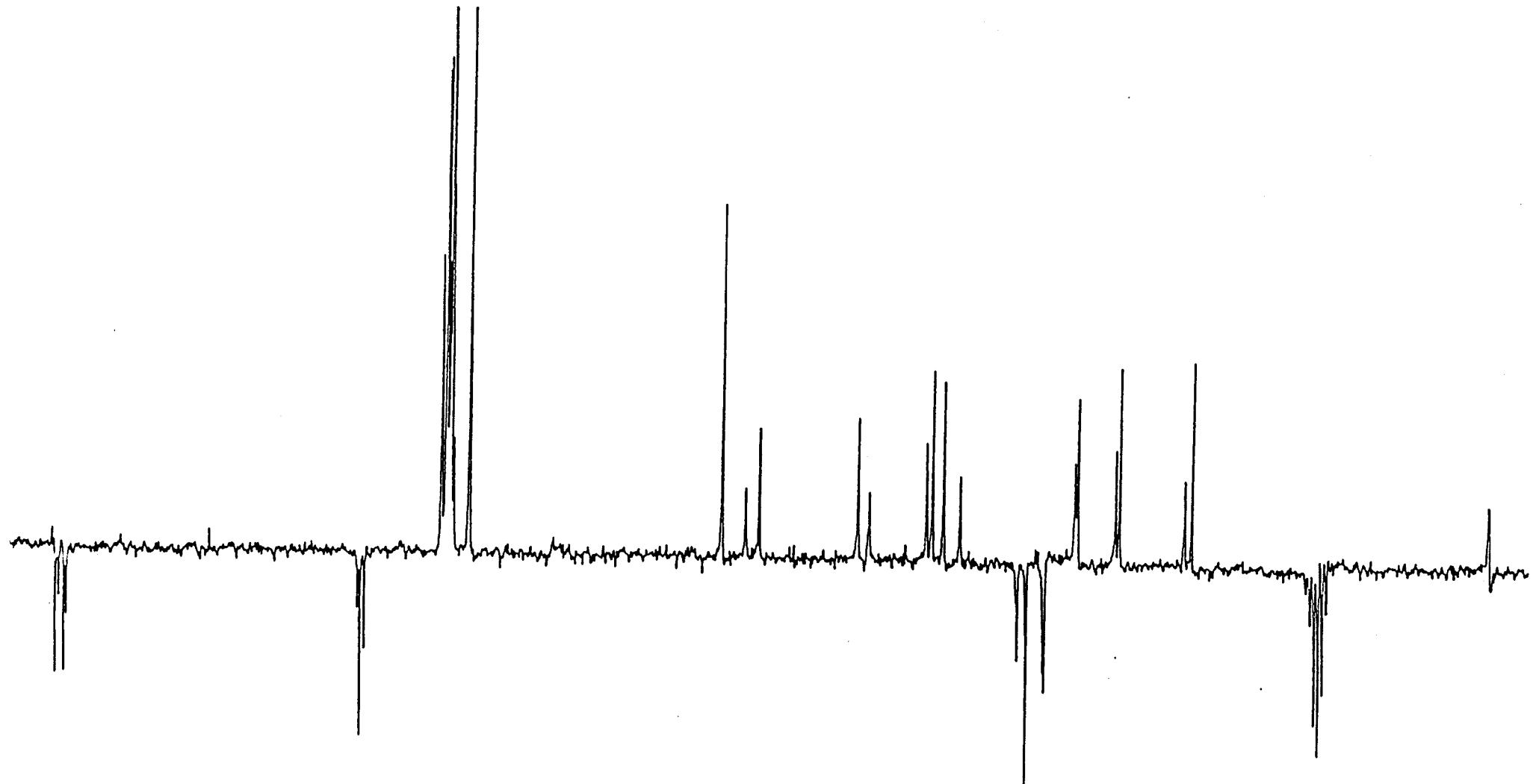
Espec^tro de ^{13}C -RMN de 3-acetil-2-metoxicarbonil-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi-
- α -D-glucopirán)-[2,3-d]-oxazolidina (40) ($\sim\text{DMSO-d}_6$, 50 MHz, TMS)

Figura 13-A

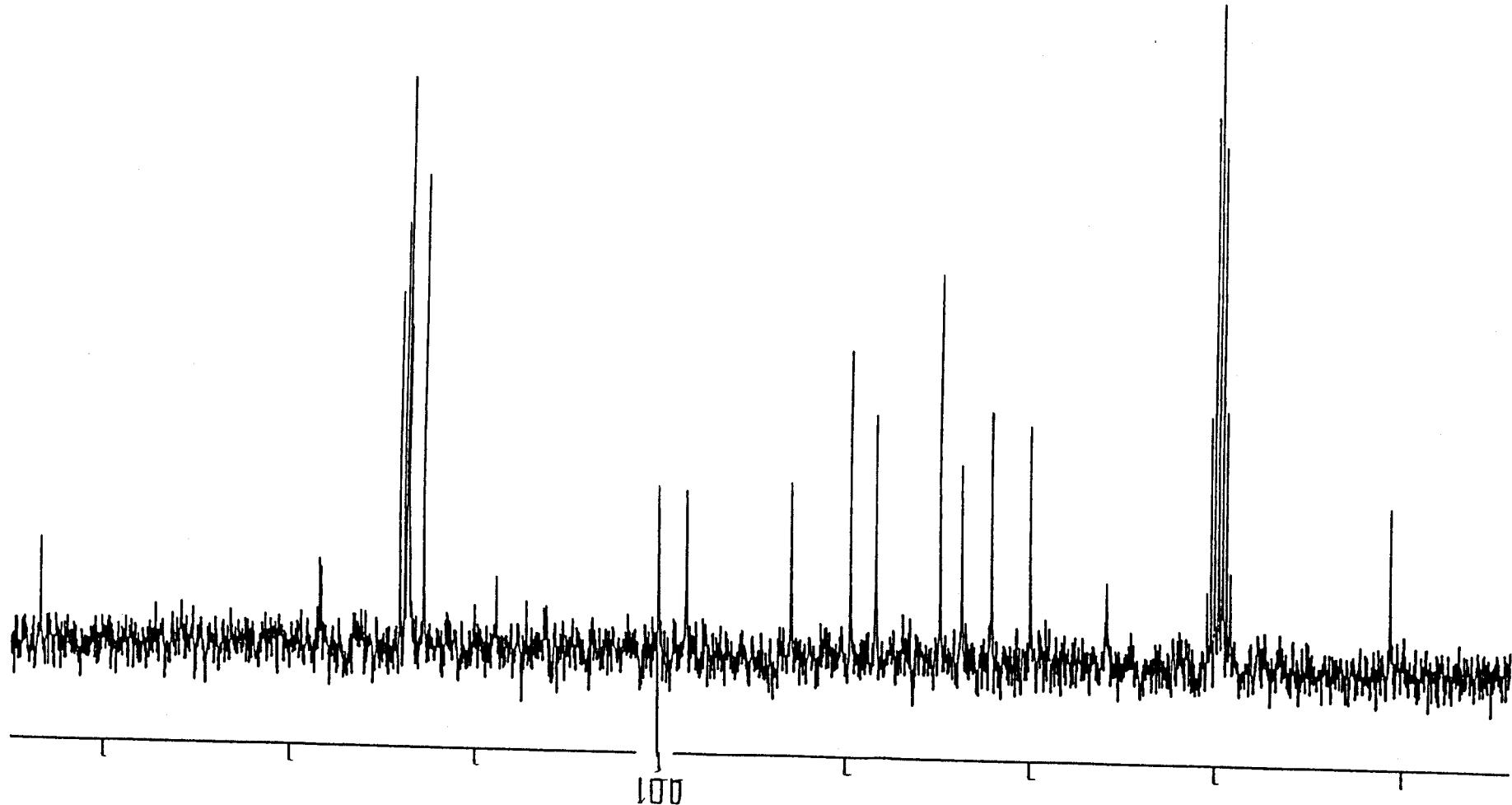


Espectro de ^{13}C -RMN de bencil 2-acetamido-4,6-O-bencildidén-2-desoxi- α -D-glucopiranósido
(33) (DMSO-d_6 , 50 MHz, TMS)

Figura 14-A

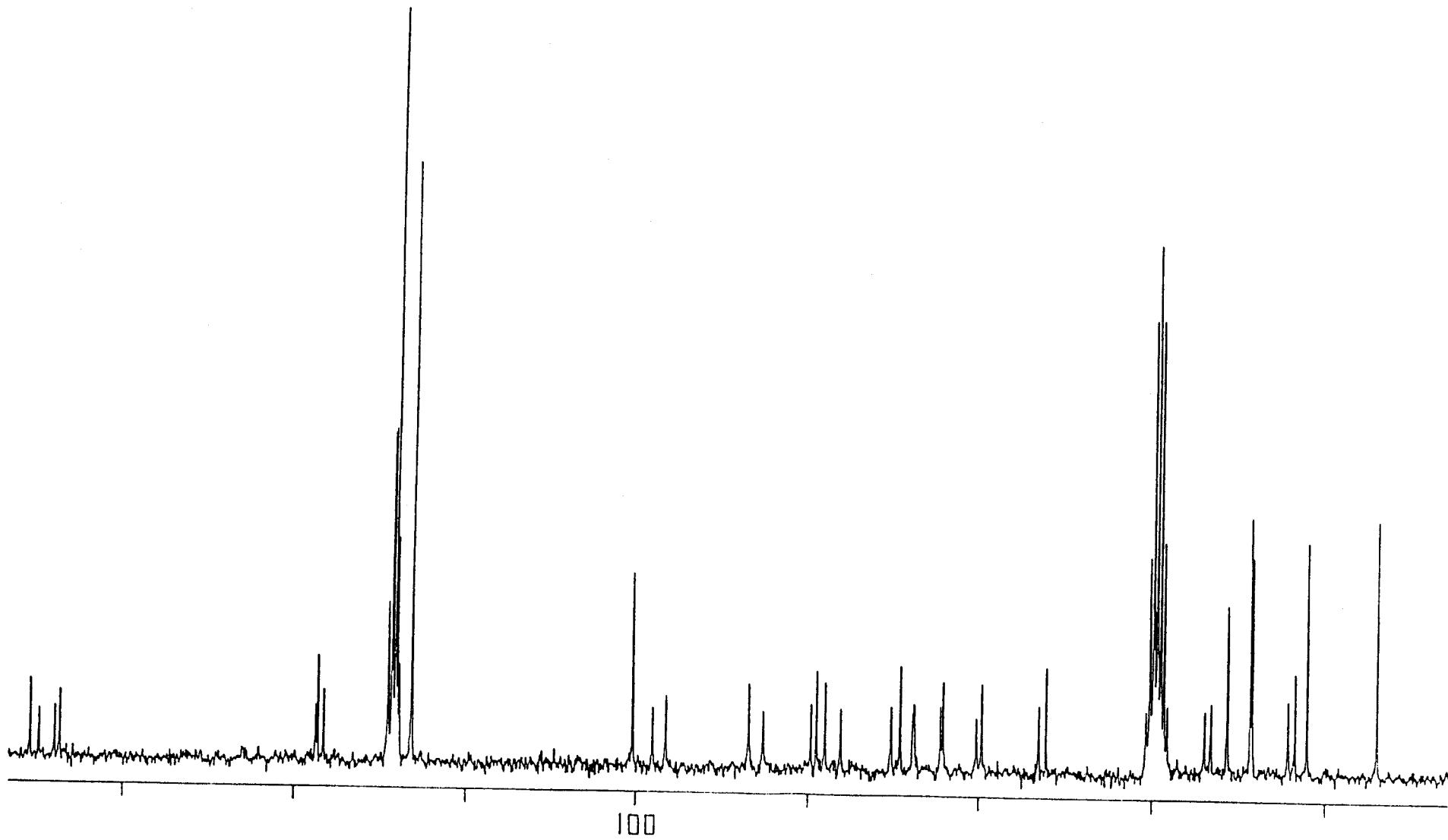


Registro de APT efectuado sobre la sustancia 40 a 50 MHz



Espectro de ^{13}C -RMN de la sustancia 40 a 145°C (DMSO-d₆, 50 MHz, TMS)

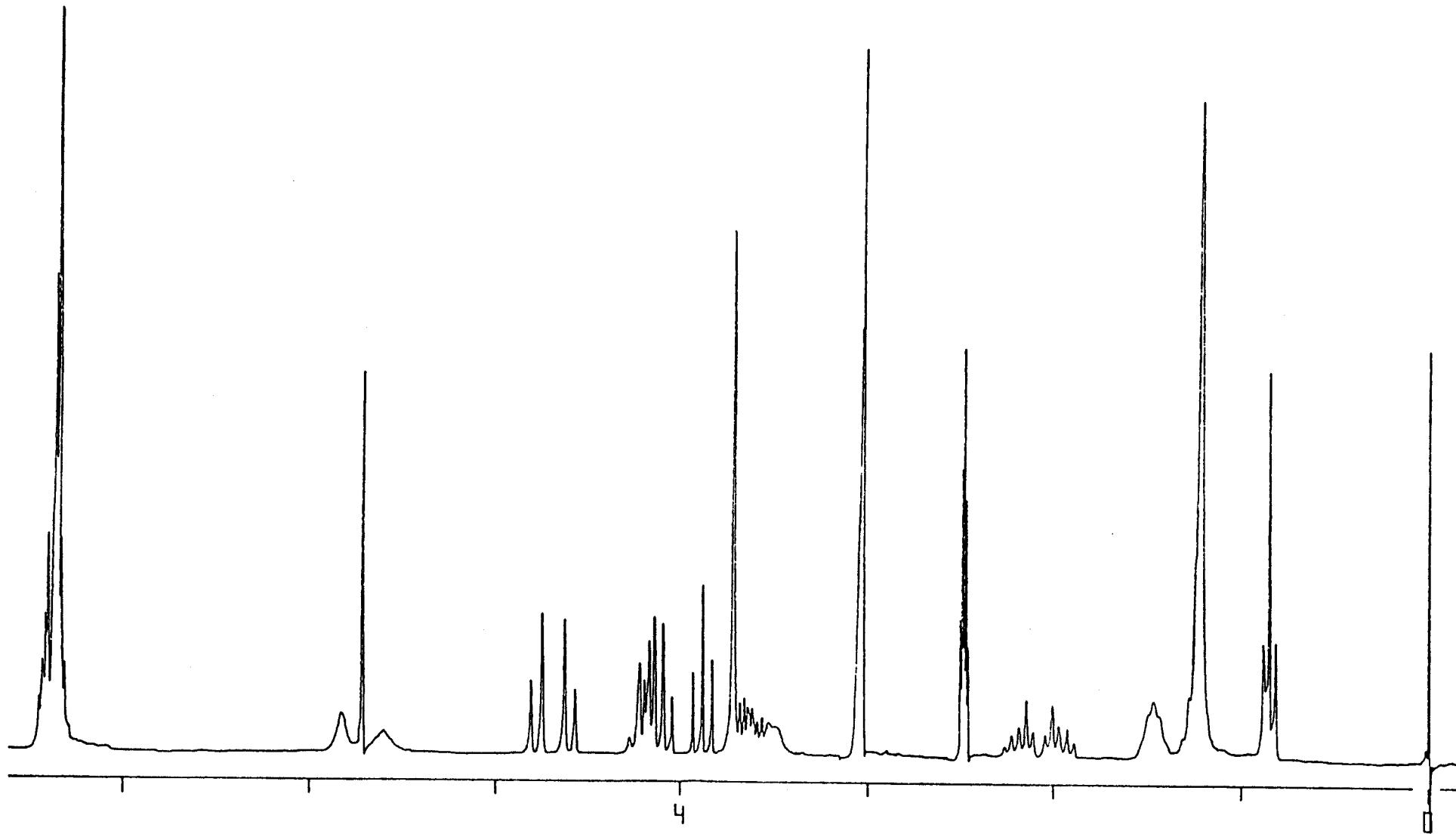
Figura 16-A



Espectro de ¹³C-RMN de 2-metoxicarbonil-3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-dide-

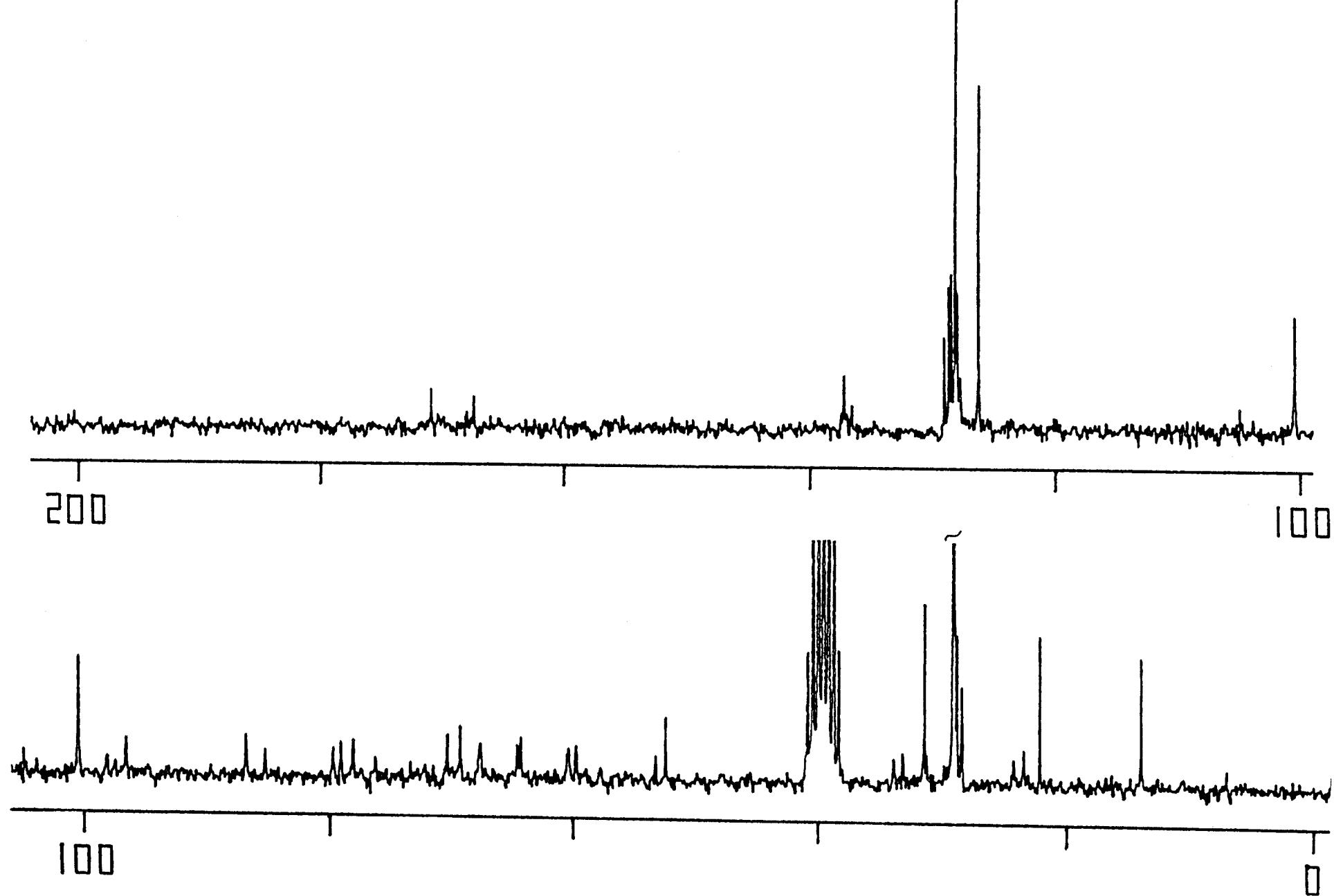
soxi- α -D-glucopirán)-|2,3-d|-oxazolidina (41) (DMSO-d₆, 50 MHz, TMS)

Figura 17-A

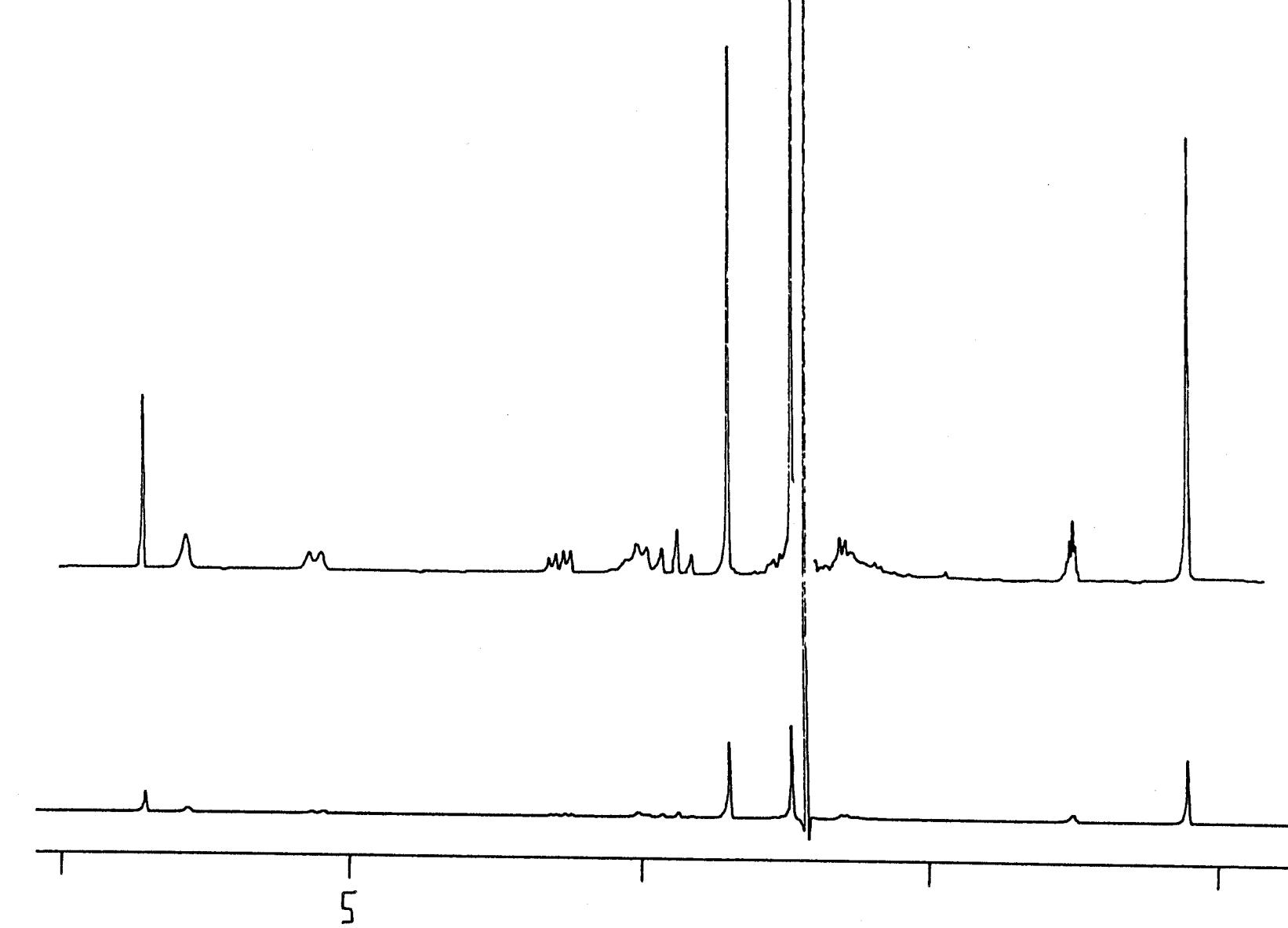


Espectro de ^1H -RMN a 200 MHz de la sustancia 41 a 90°C

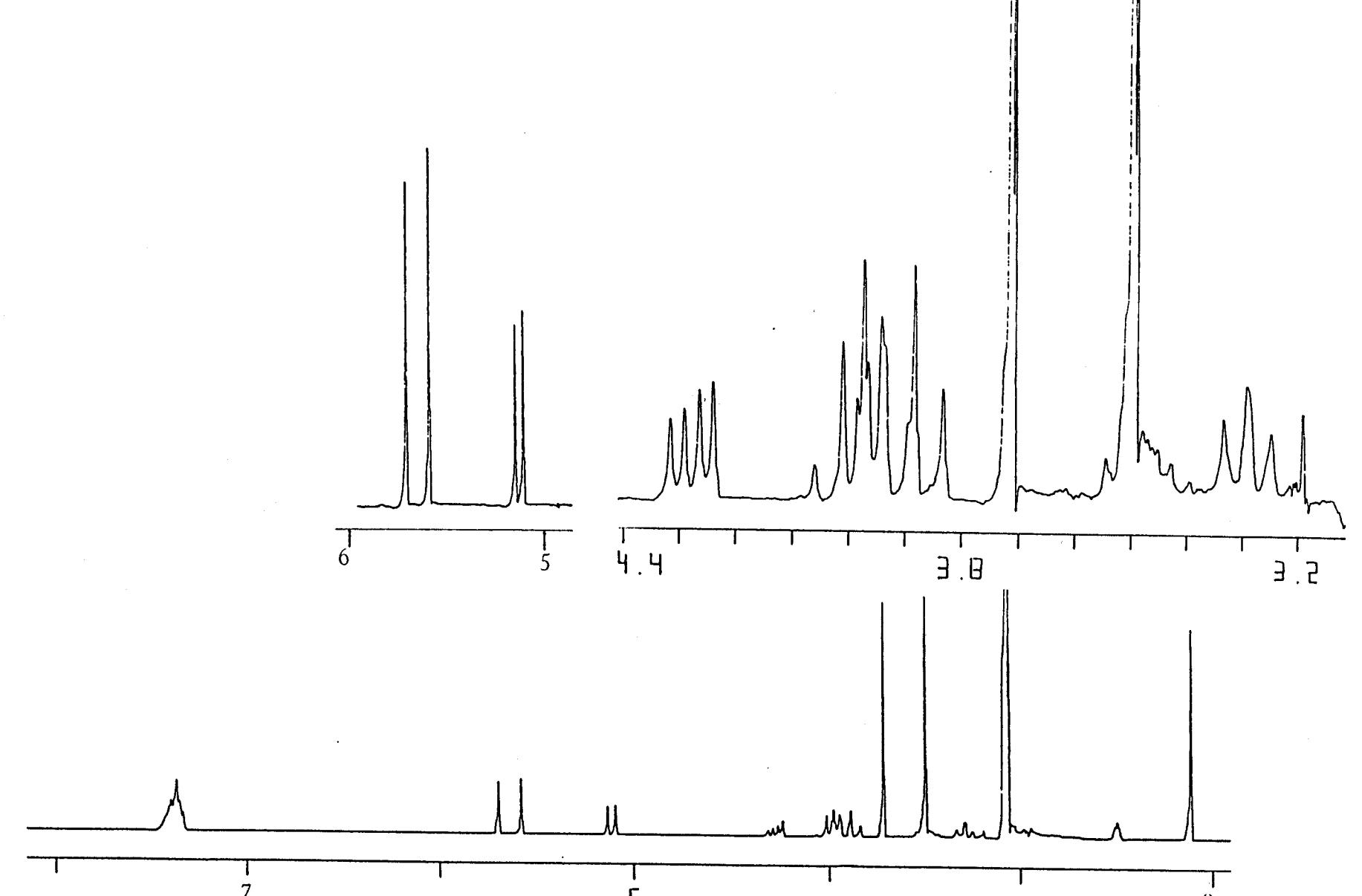
Figura 18-A



Espectro de ^{13}C -RMN de 2-metoxicarbonil-3-palmitoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (42) (DMSO-d_6 , 50 MHz, TMS)

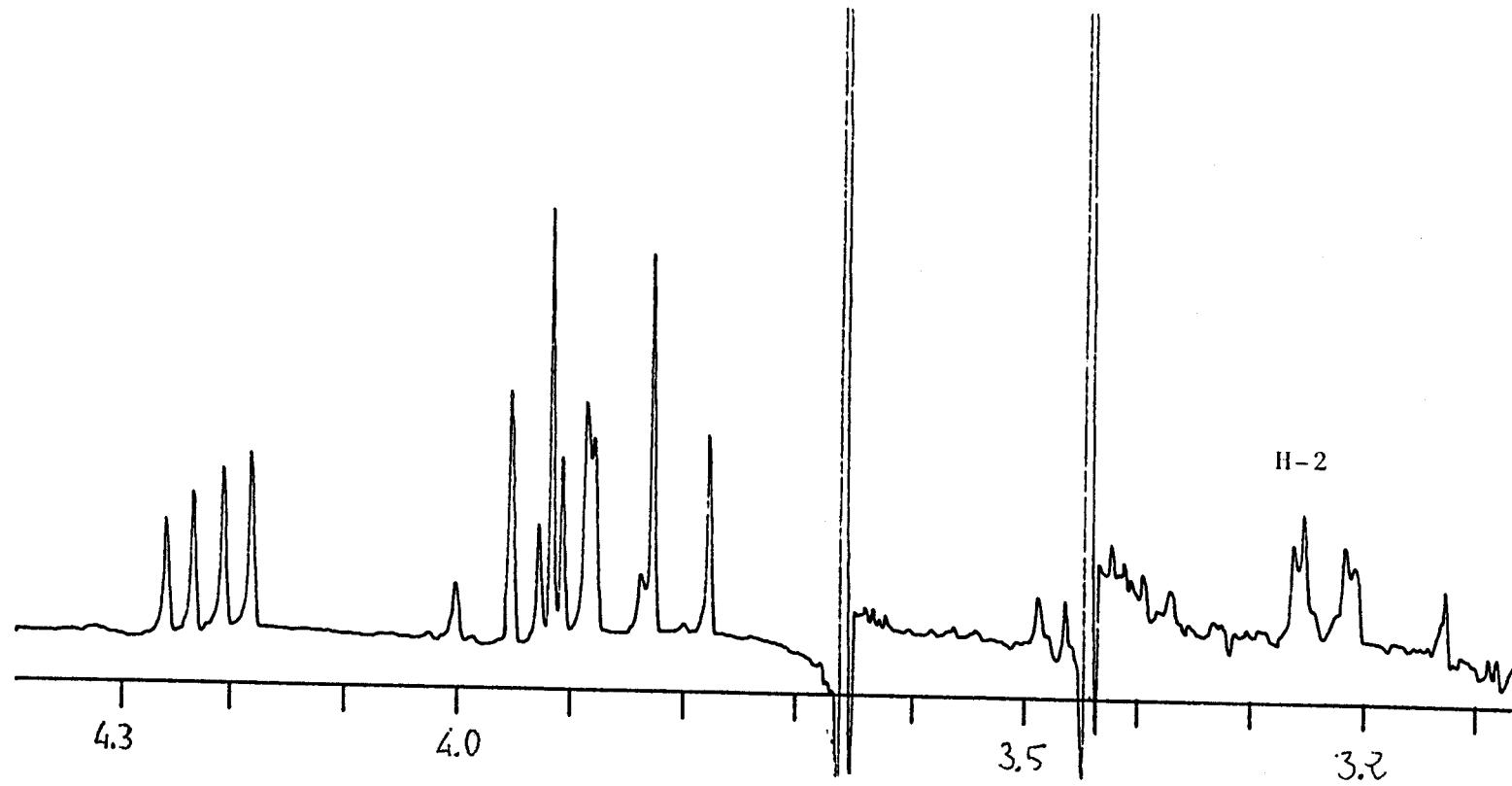


Espectro de ^1H -RMN de 3-acetil-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi-1-O-methyl-- β -D-glucopirán)-[2,3-d]-oxazolidina (69) (DMSO-d_6 , 200 MHz, TMS)



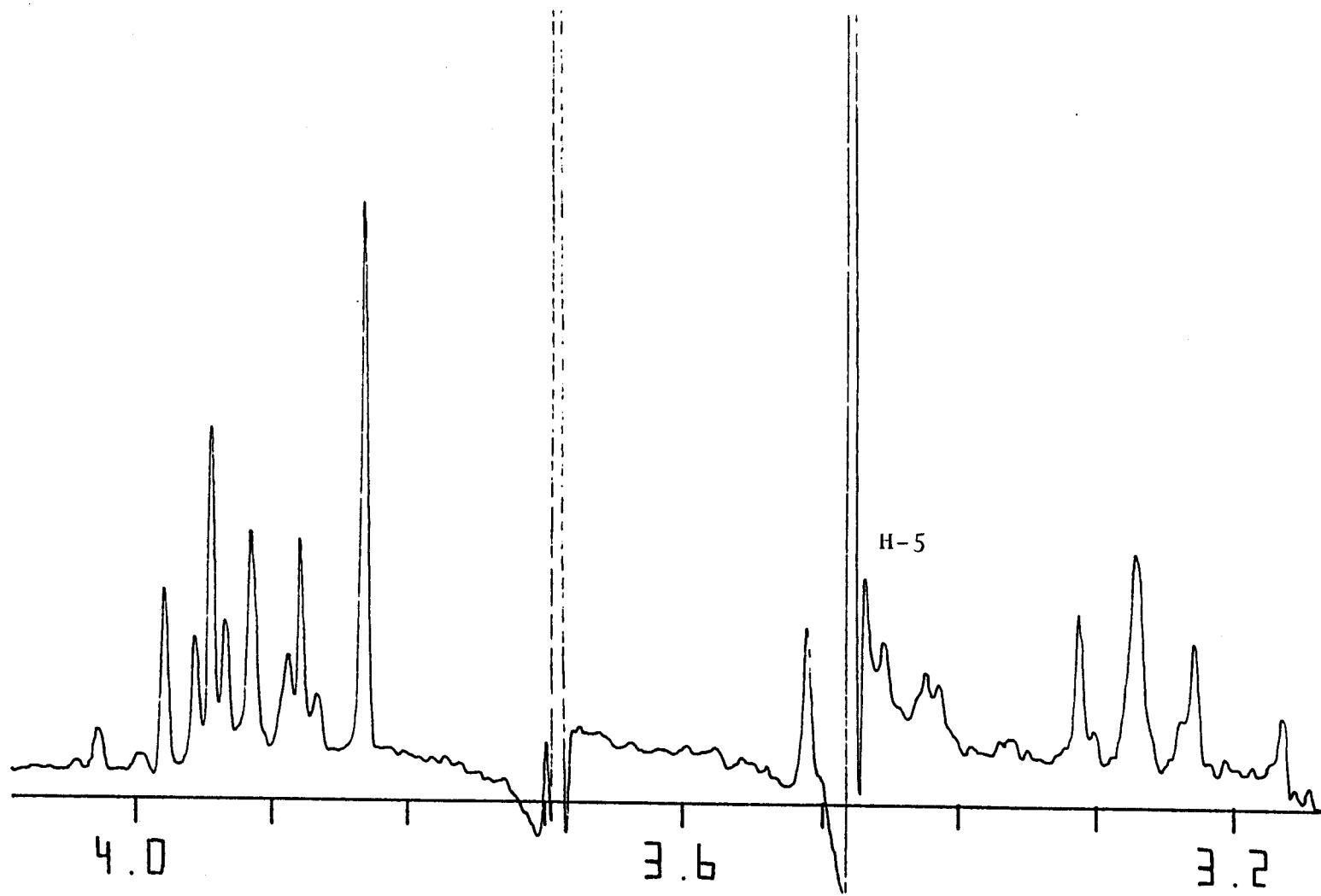
Espectro de ^1H -RMN de la sustancia 69 a 90°C

Figura 21-A

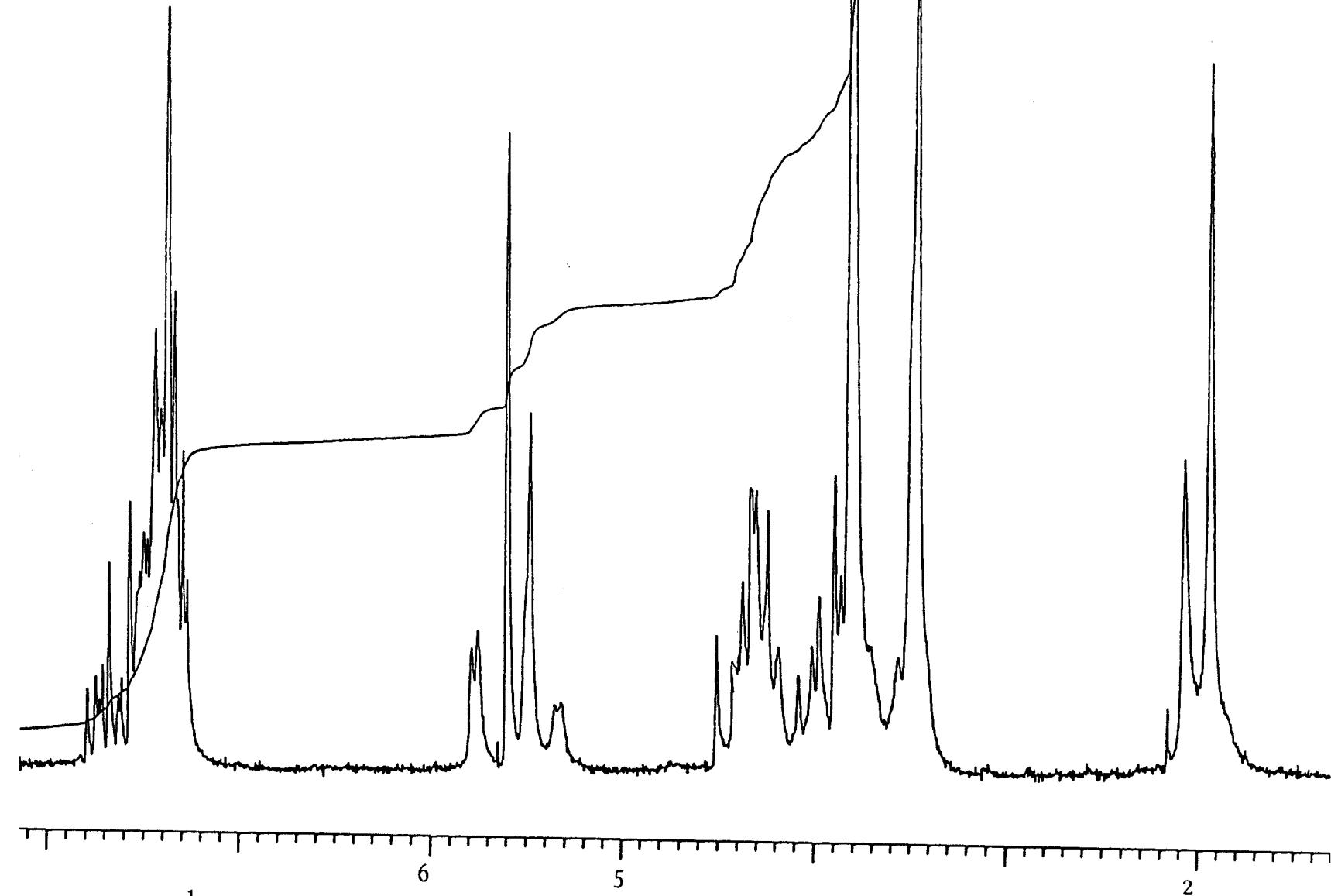


Irradiación de H-1 en la sustancia 69 a 90°C

Figura 22-A

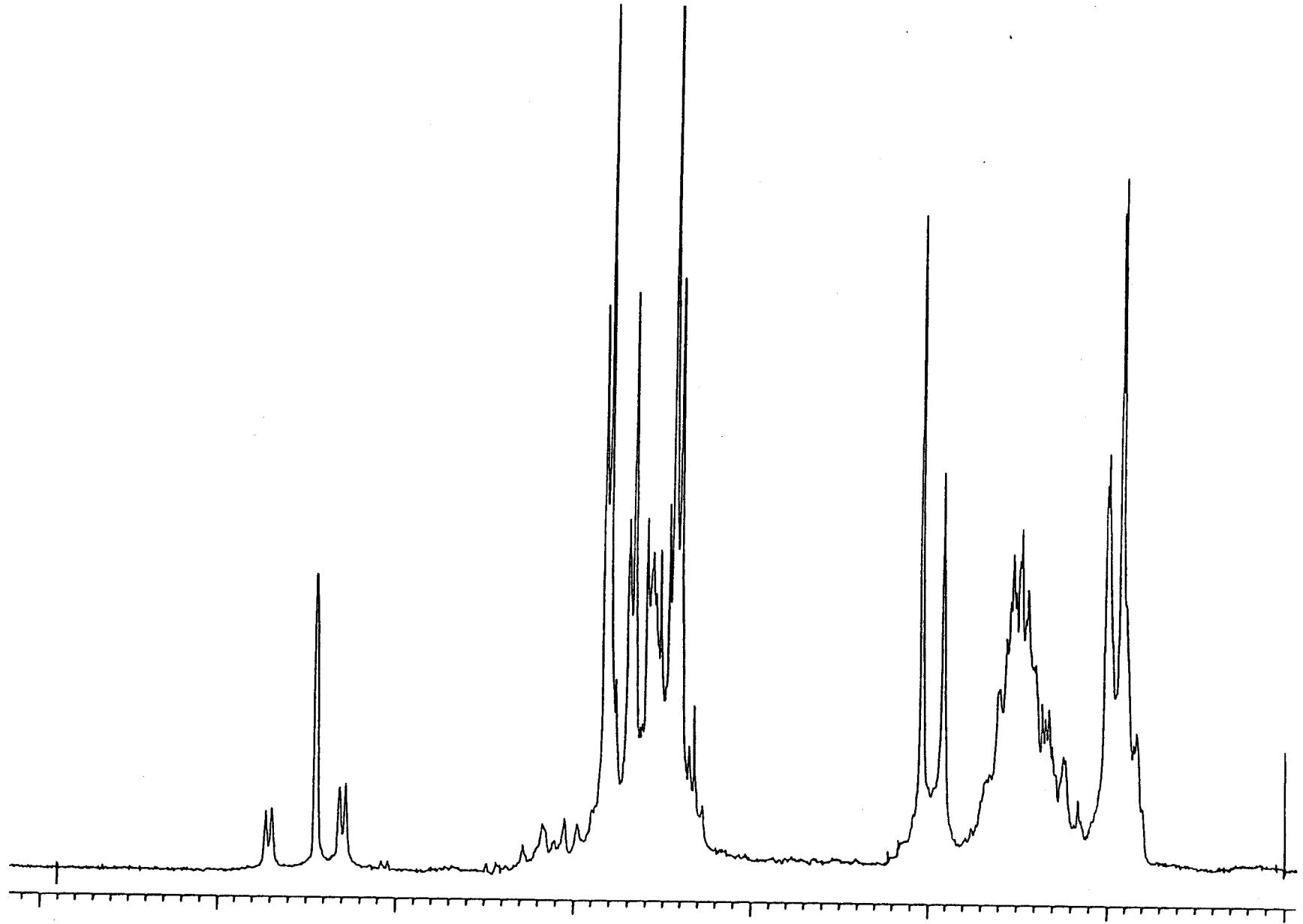


Irradiación de H-6 en la sustancia 69 a 90°C



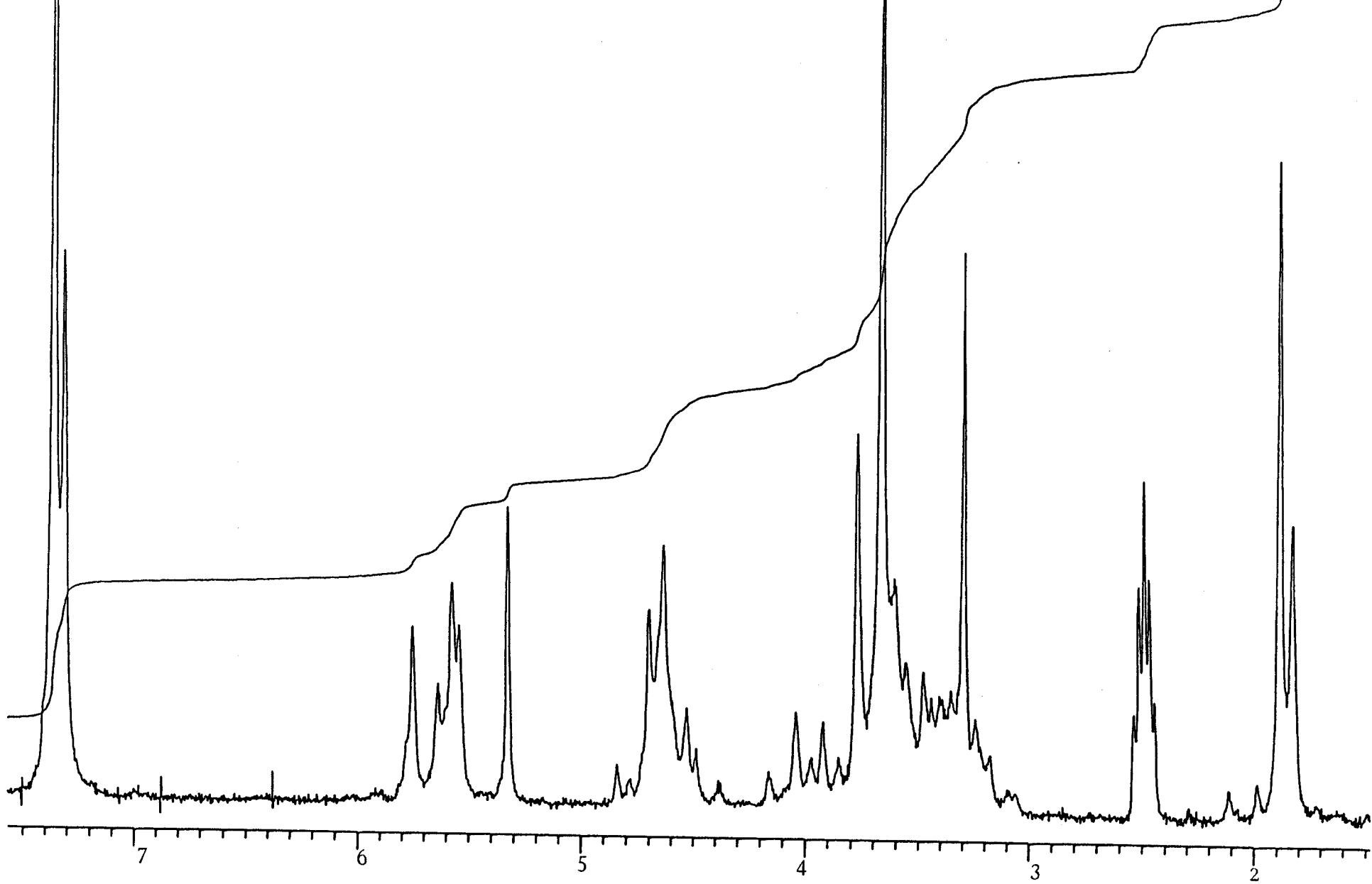
Espectro de ^1H -RMN de 3-acetyl-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi-1-O-methyl--
- α -D-glucopirán)-[2,3-d]-oxazolidina (81) (C_1D_3 , 80 MHz, TMS)

Figura 24-A



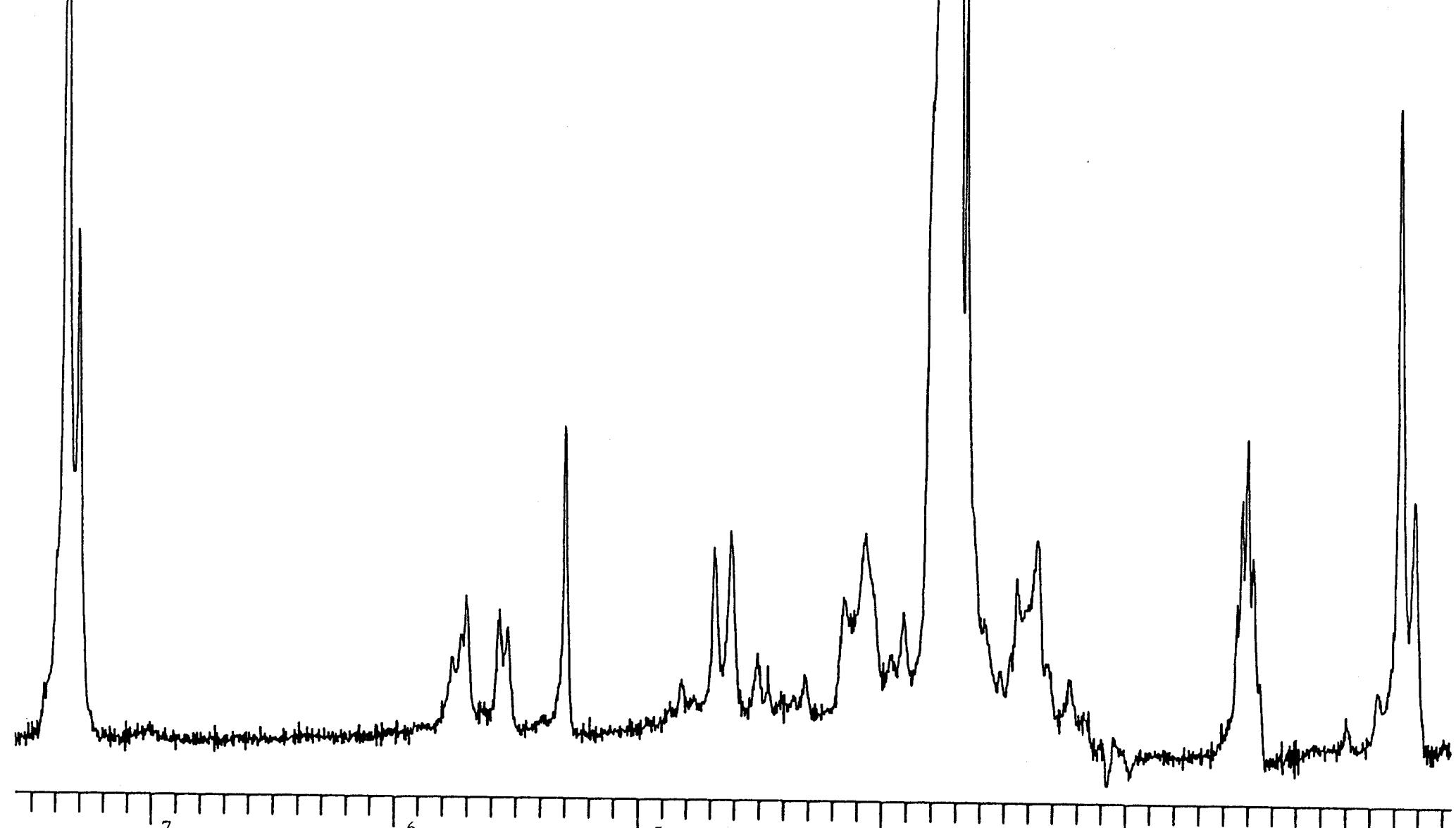
Espectro de ^1H -RMN de 3-acetyl-2-metoxicarbonil-(4,6-di-O-n-butyl-2,3-didesoxi-1-O-methyl- α -D-glucopirán)-[2,3-d]-oxazolidina (78) (C_3D_3 , 80 MHz, TMS)

Figura 25-A



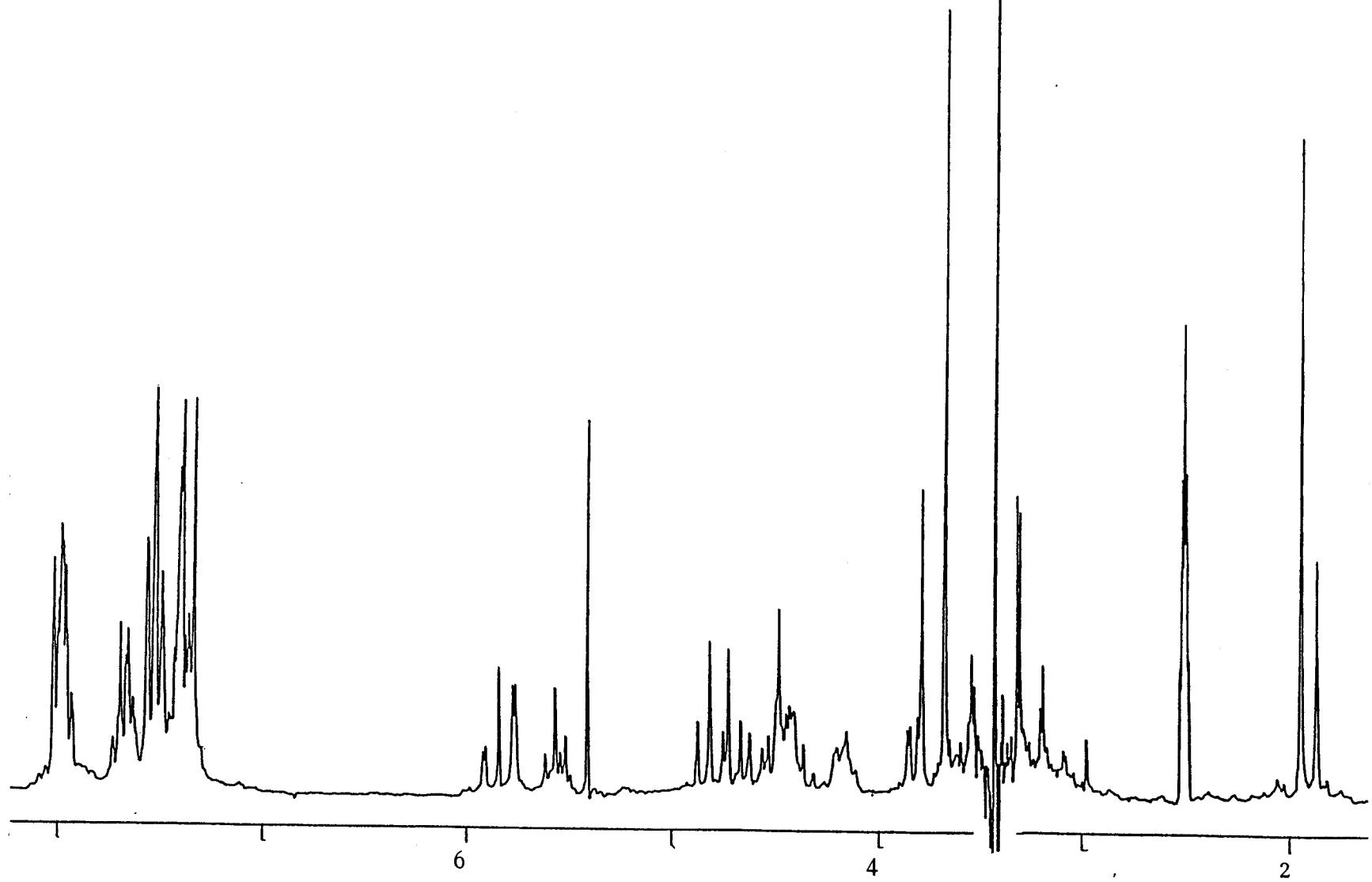
Espectro de ^1H -RMN de 3-acetil-2-metoxicarbonil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-
-|2,3-d|-oxazolidina (55) (DMSO- d_6 , 80 MHz, TMS)

Figura 26-A



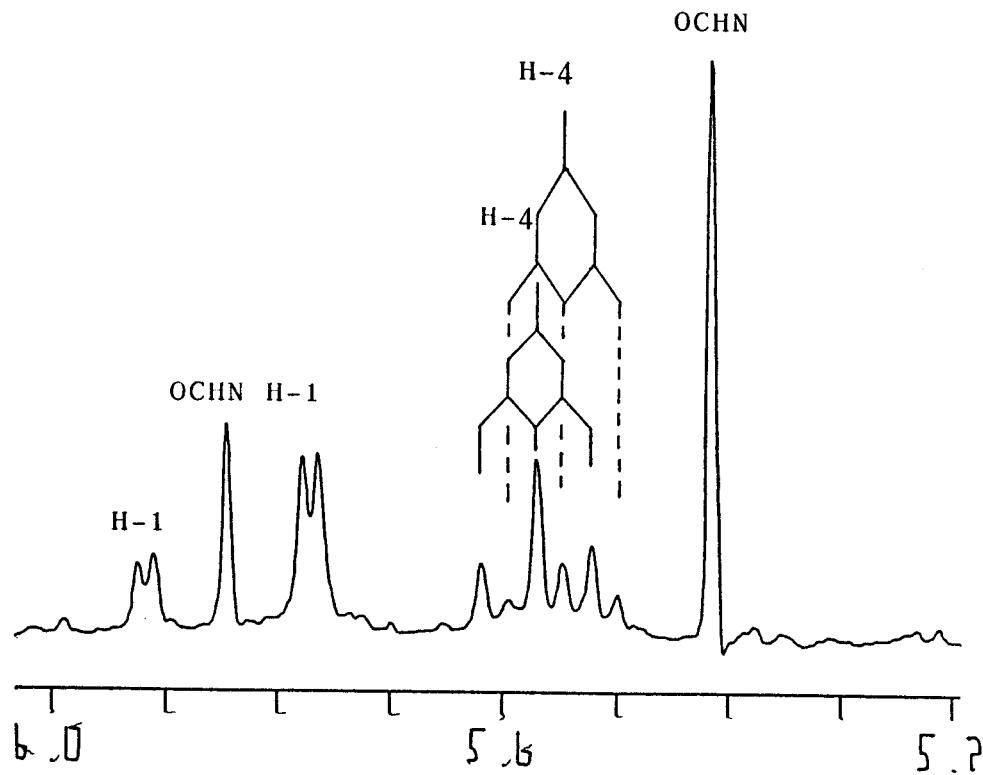
Intercambio con D₂O para la sustancia 55

Figura 27-A



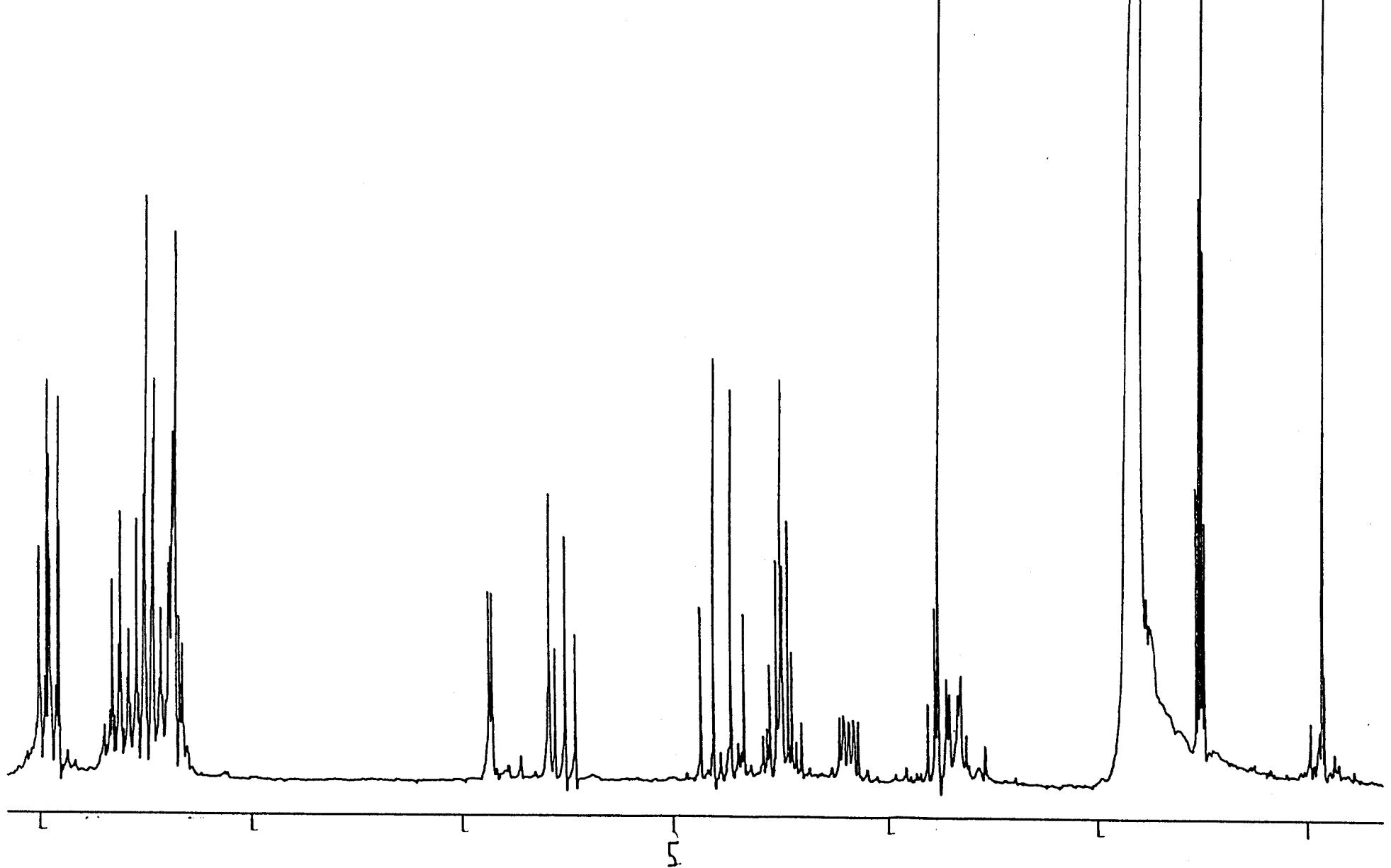
Espectro de ^1H -RMN de 3-acetil-2-metoxicarbonil-(1-O-bencil-4,6-di-O-benzoil-2,3-didesoxi-
- α -D-glucopirán)-|2,3-d|-oxazolidina (57) (\sim DMSO- d_6 , 200 MHz, TMS)

Figura 28-A

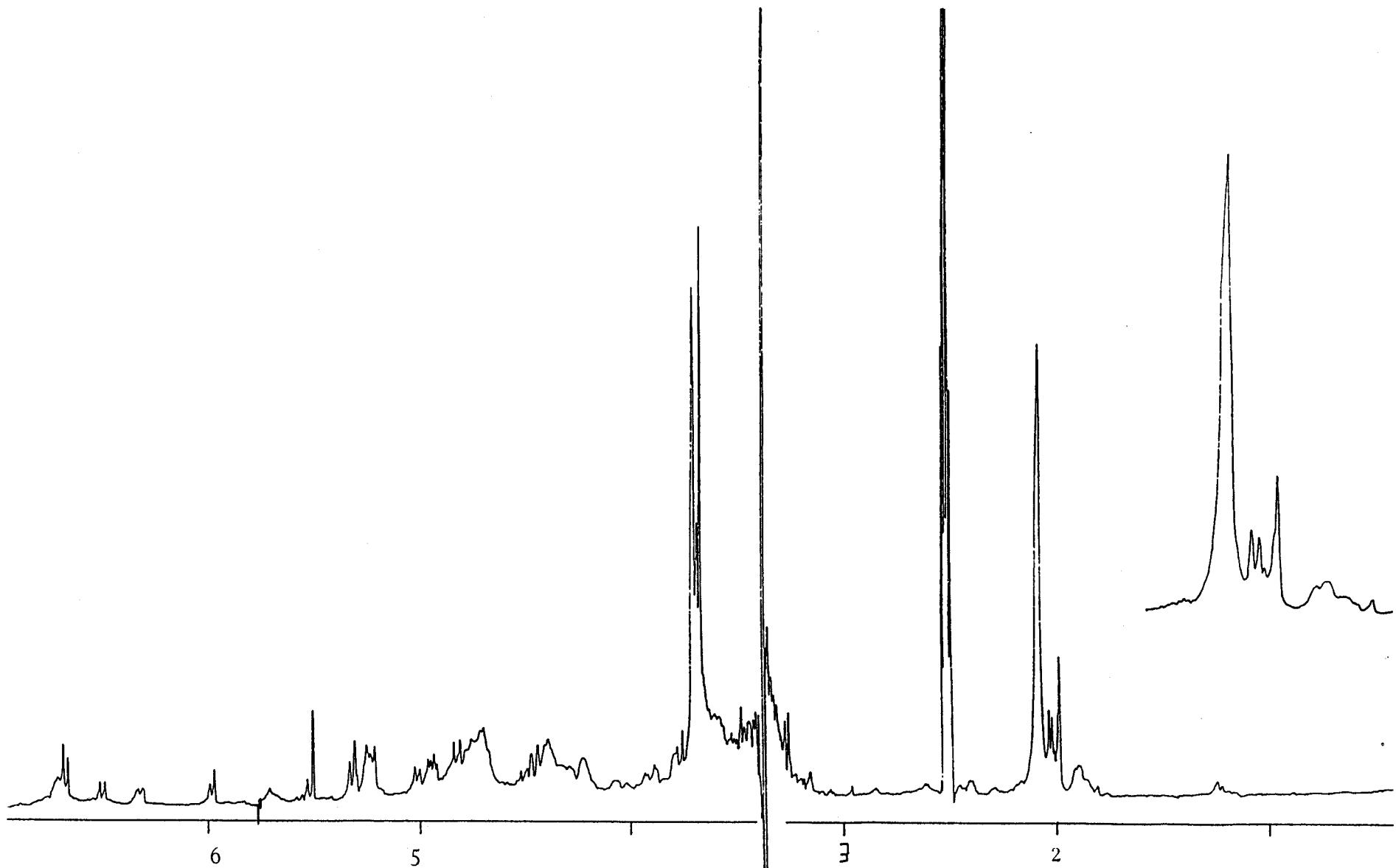


Ampliación del espectro de ${}^1\text{H}$ -RMN de la sustancia 57

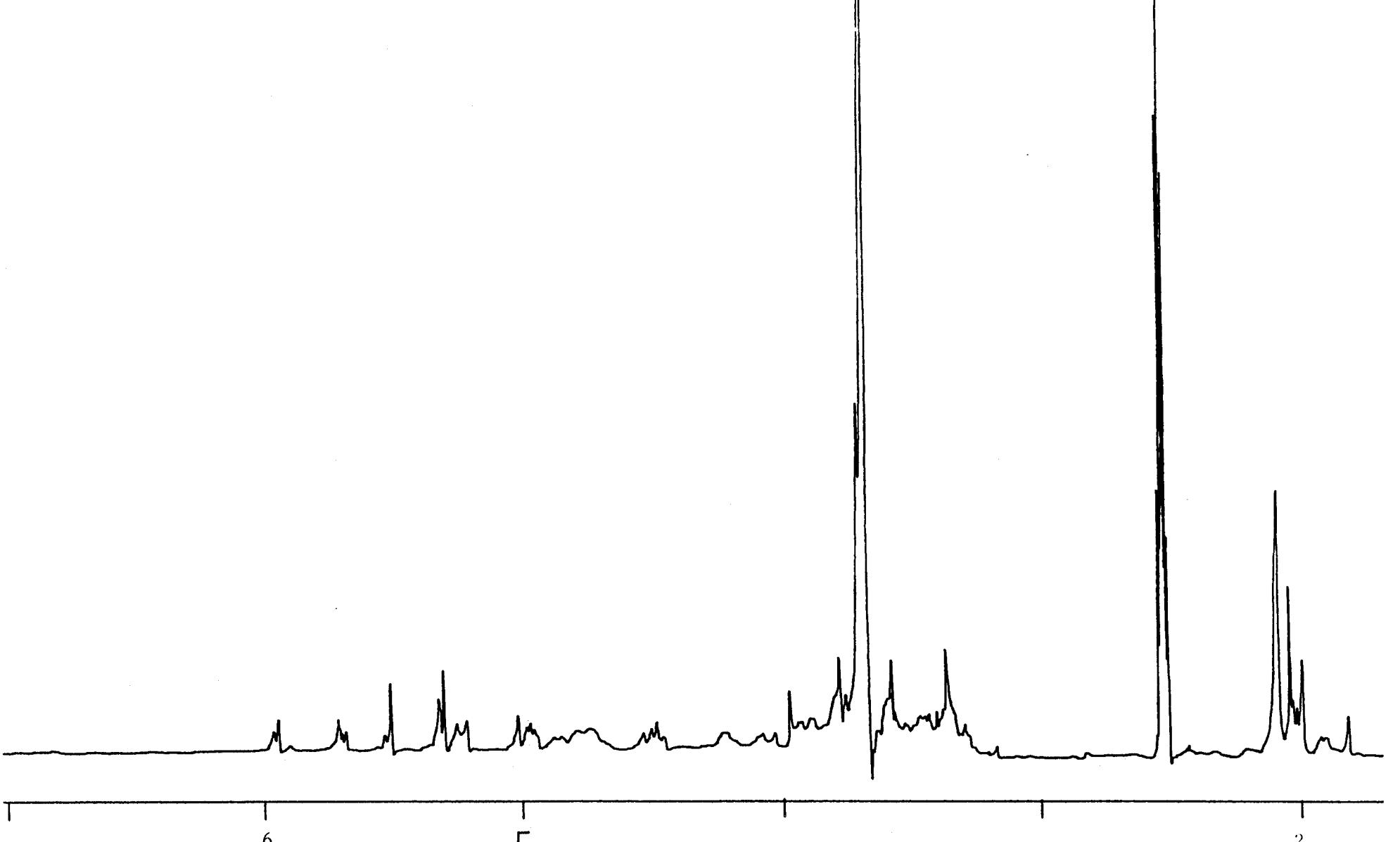
Figura 29-A



Espectro de ^1H -RMN de la sustancia 57 a 145°C

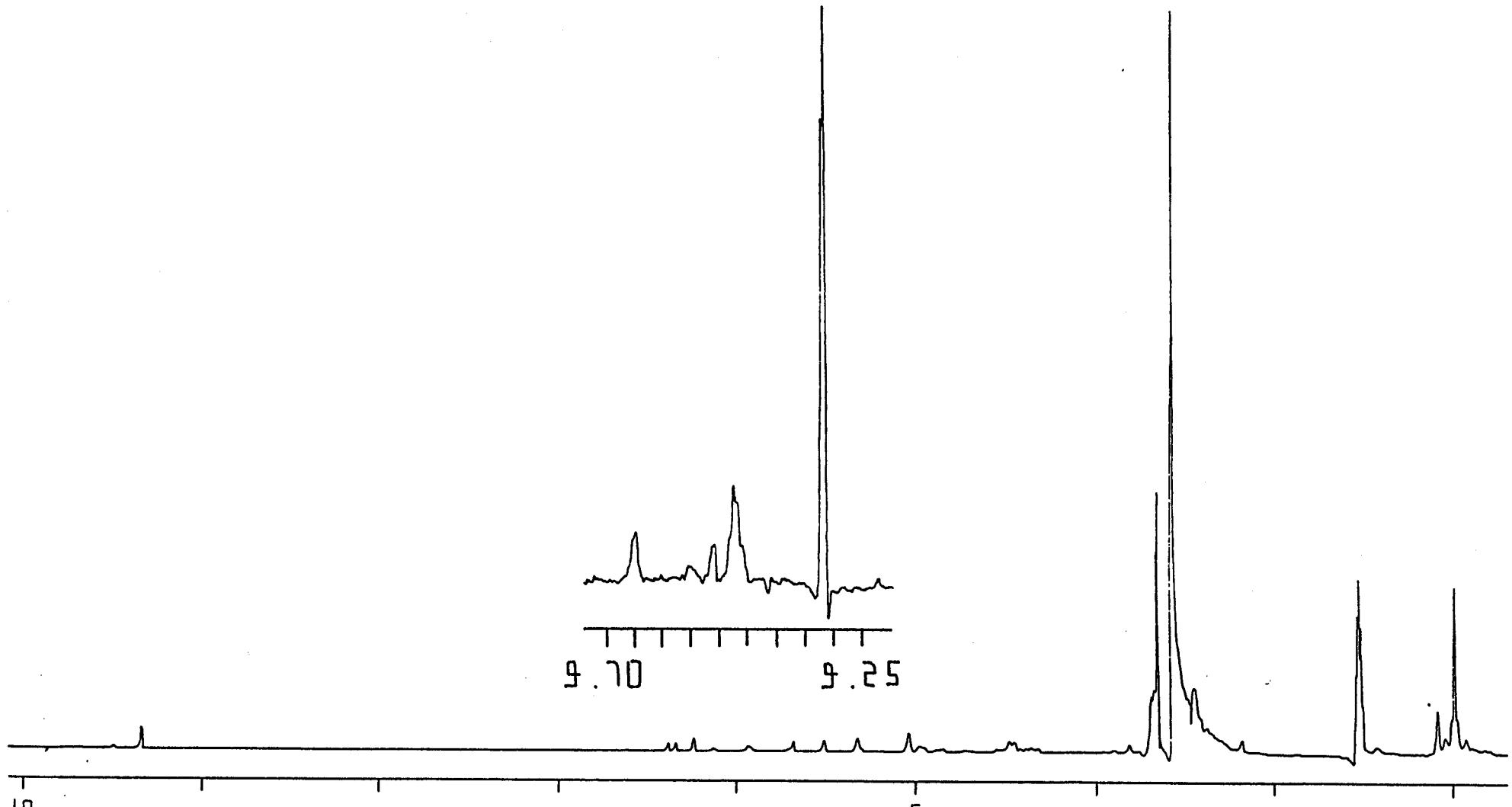


Espectro de ^1H -RMN de 3-acetyl-2-metoxicarbonil-(2,3-didesoxi-D-glucopirán)-[2,3-d]-oxazolidina (58) (DMSO-d_6 , 200 MHz, TMS)



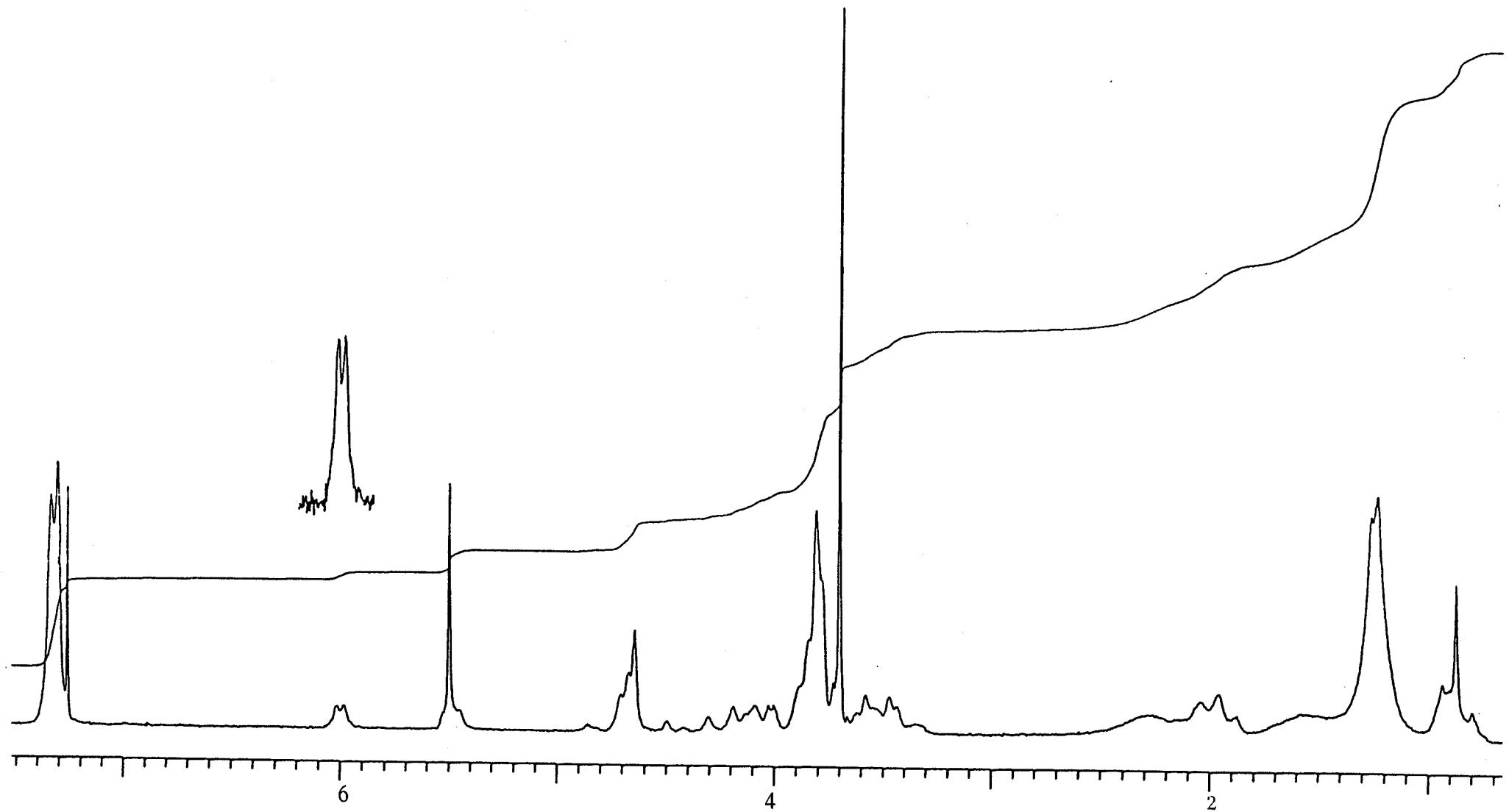
Intercambio con D_2O para la sustancia 58

Figura 32-A



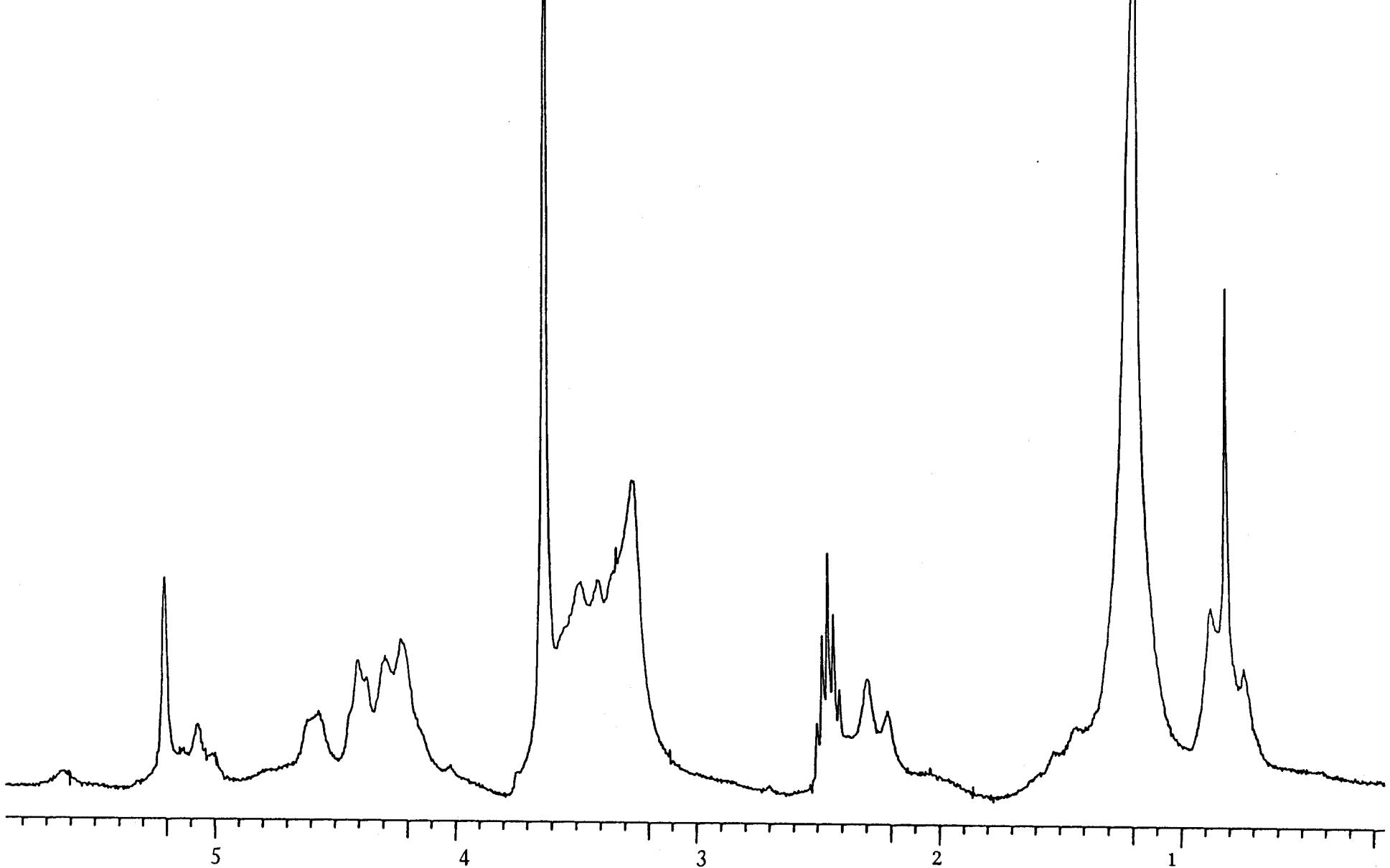
Espectro de ^1H -RMN de la sustancia 58 a 37°C

Figura 33-A

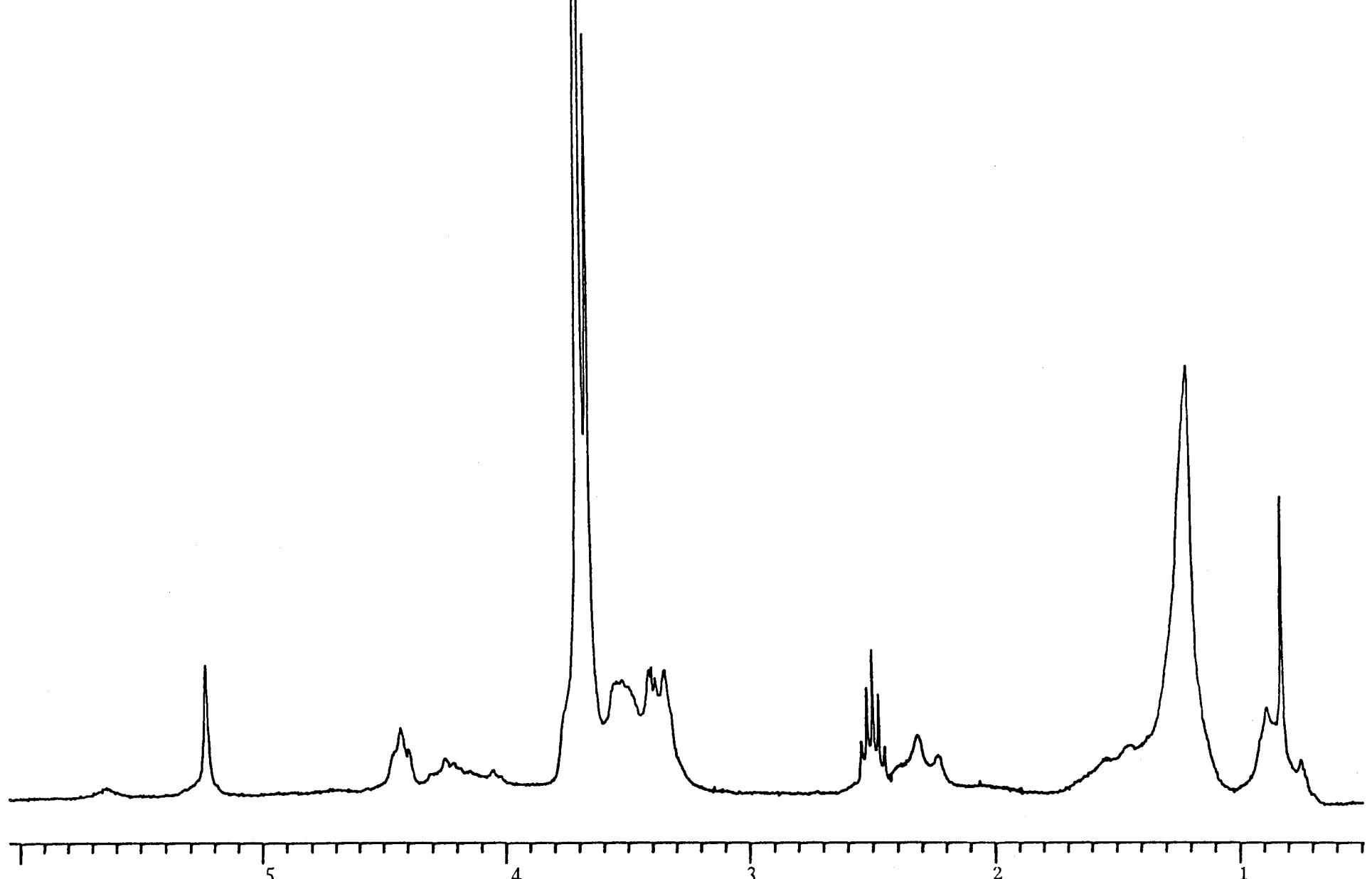


Espectro de ^1H -RMN de 2-metoxicarbonil-3-n-octanamido-(1-O-bencil-2,3-didesoxi- α -D-glucopírano)-|2,3-d|-oxazolidina (56) (C_3D_3 , 80 MHz, TMS)

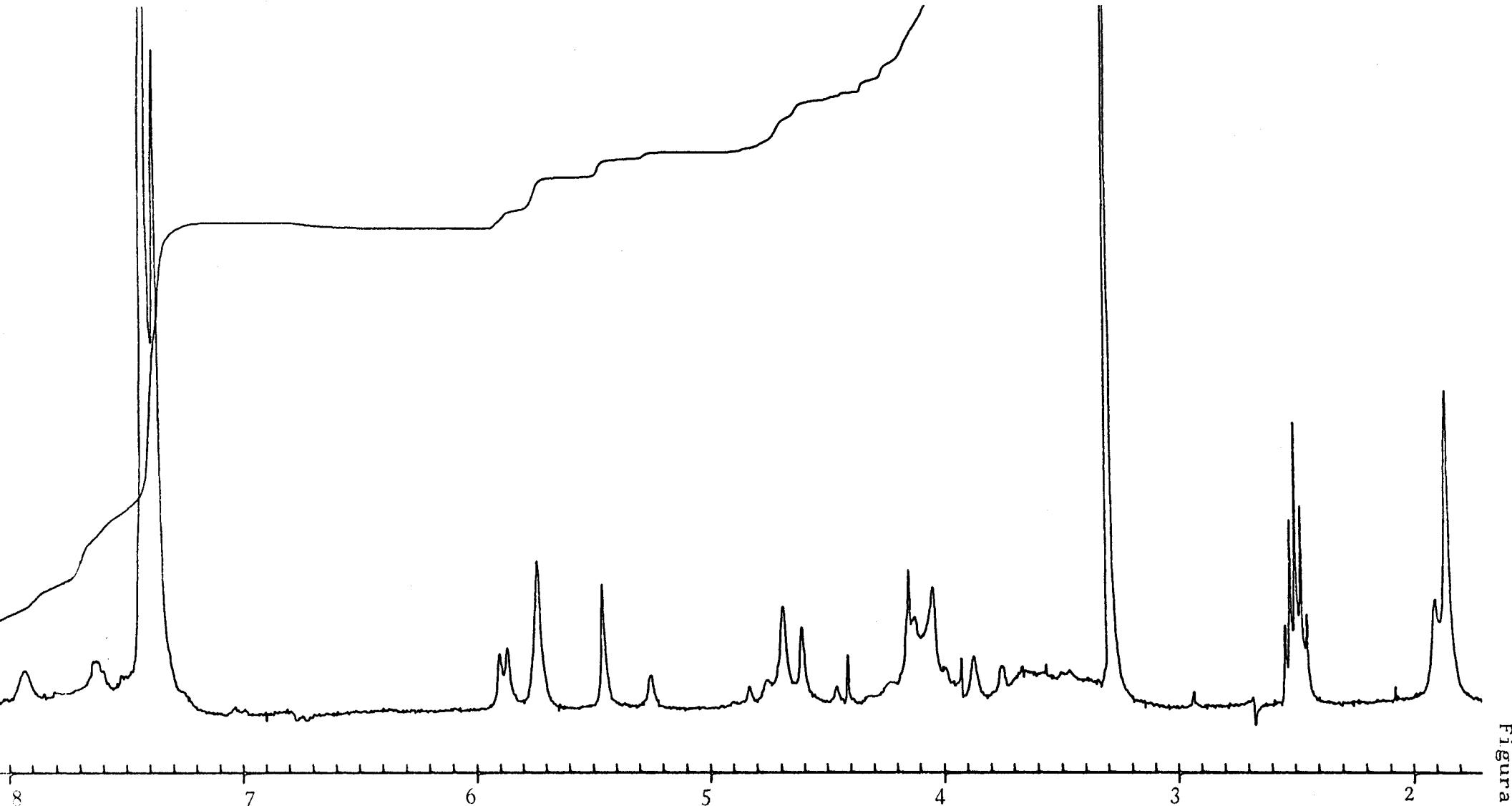
Figura 34-A



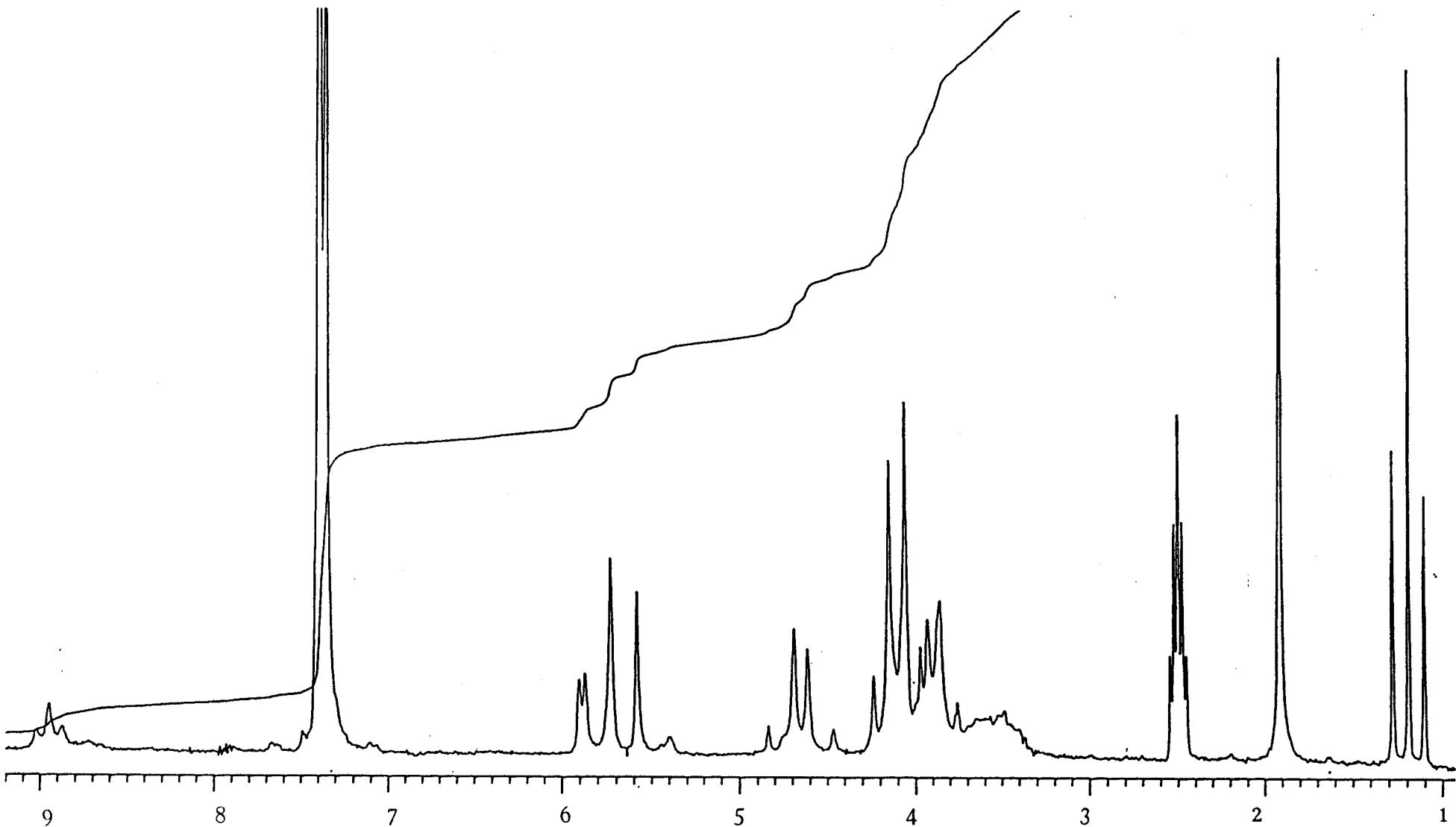
Espectro de ^1H -RMN de 2-metoxicarbonil-3-n-octanamido-(2,3-didesoxi-D-glucopirán)-[2,3-d]-oxazolidina (59) (DMSO-d_6 , 80 MHz, TMS)



Intercambio con D_2O para la sustancia 59

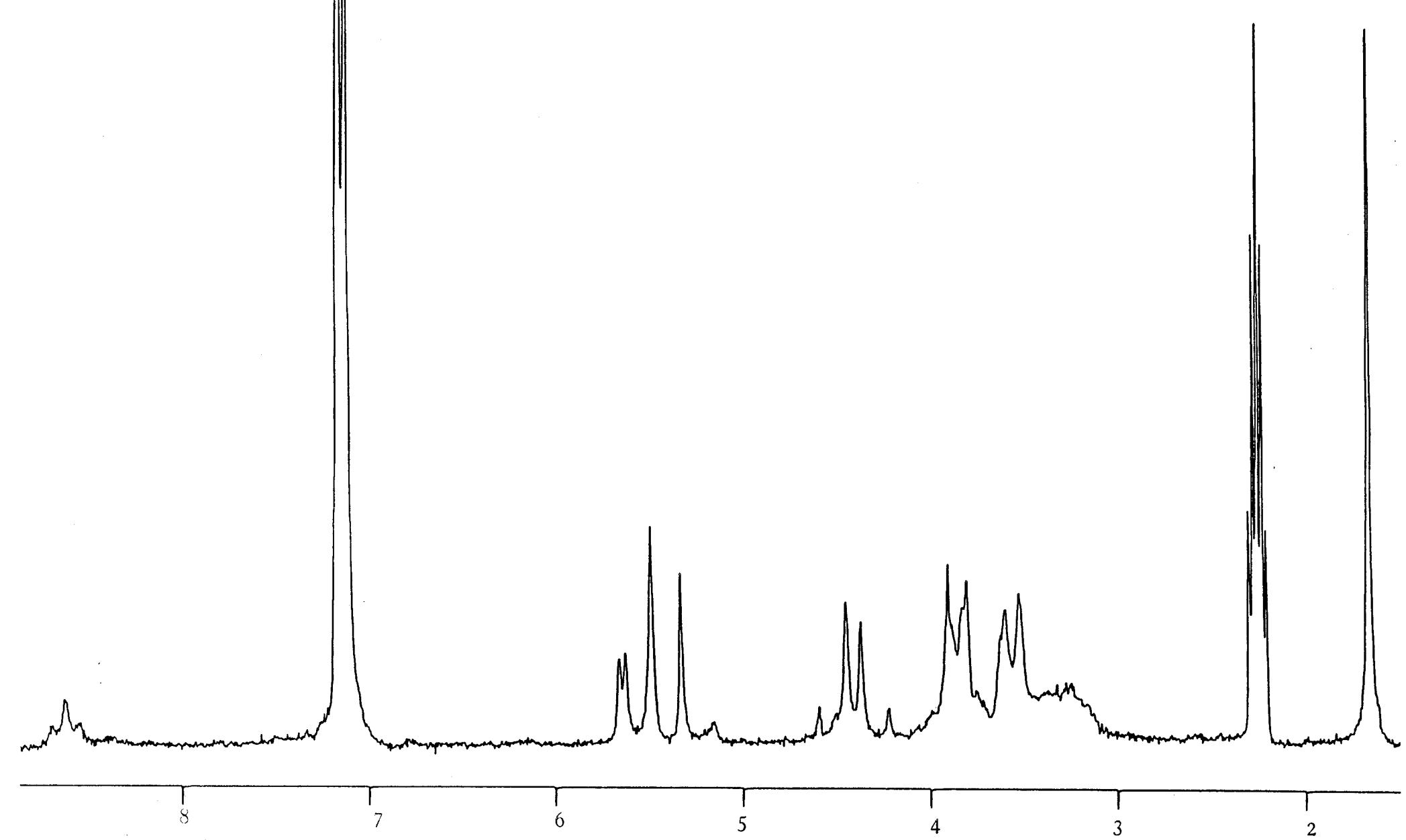


Espectro de ^1H -RMN de 3-acetil-2-carboxamido-(1-O-benyl-4,6-O-benzildien-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (43) ($\sim \text{DMSO-d}_6$, 80 MHz, TMS)



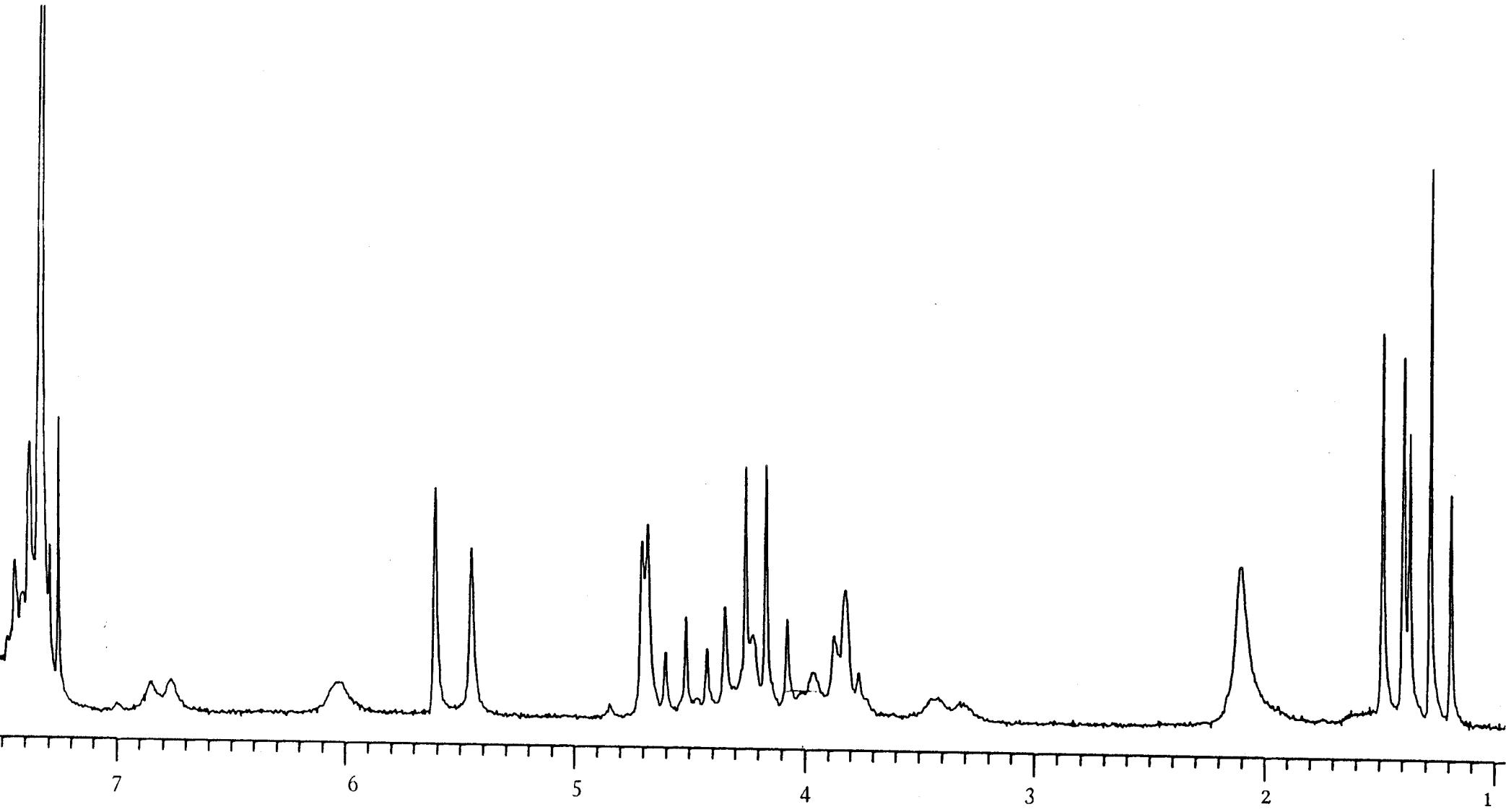
Espectro de ^1H -RMN del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonilglicina (44) (DMSO-d_6 , 80 MHZ, TMS)

Figura 38-A

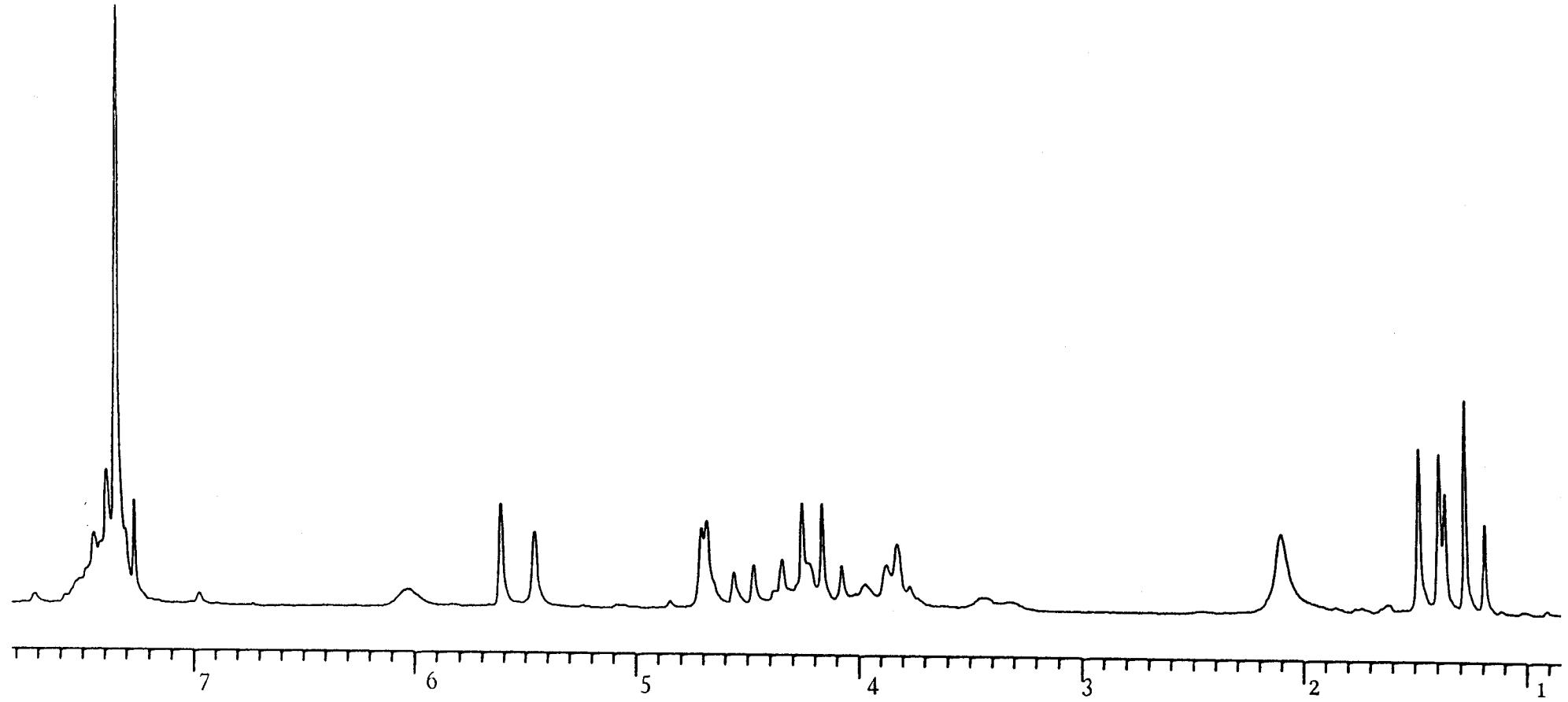


Espectro de ${}^1\text{H}$ -RMN de 3-acetil-(1-O-benyl-4,6-O-benzyldien-2,3-didesoxi- α -D-glucopirán)-2,3-dioxazolidin-2-carboxylglicina (50) (\sim DMSO- d_6 , 80 MHz, TMS)

Figura 39-A

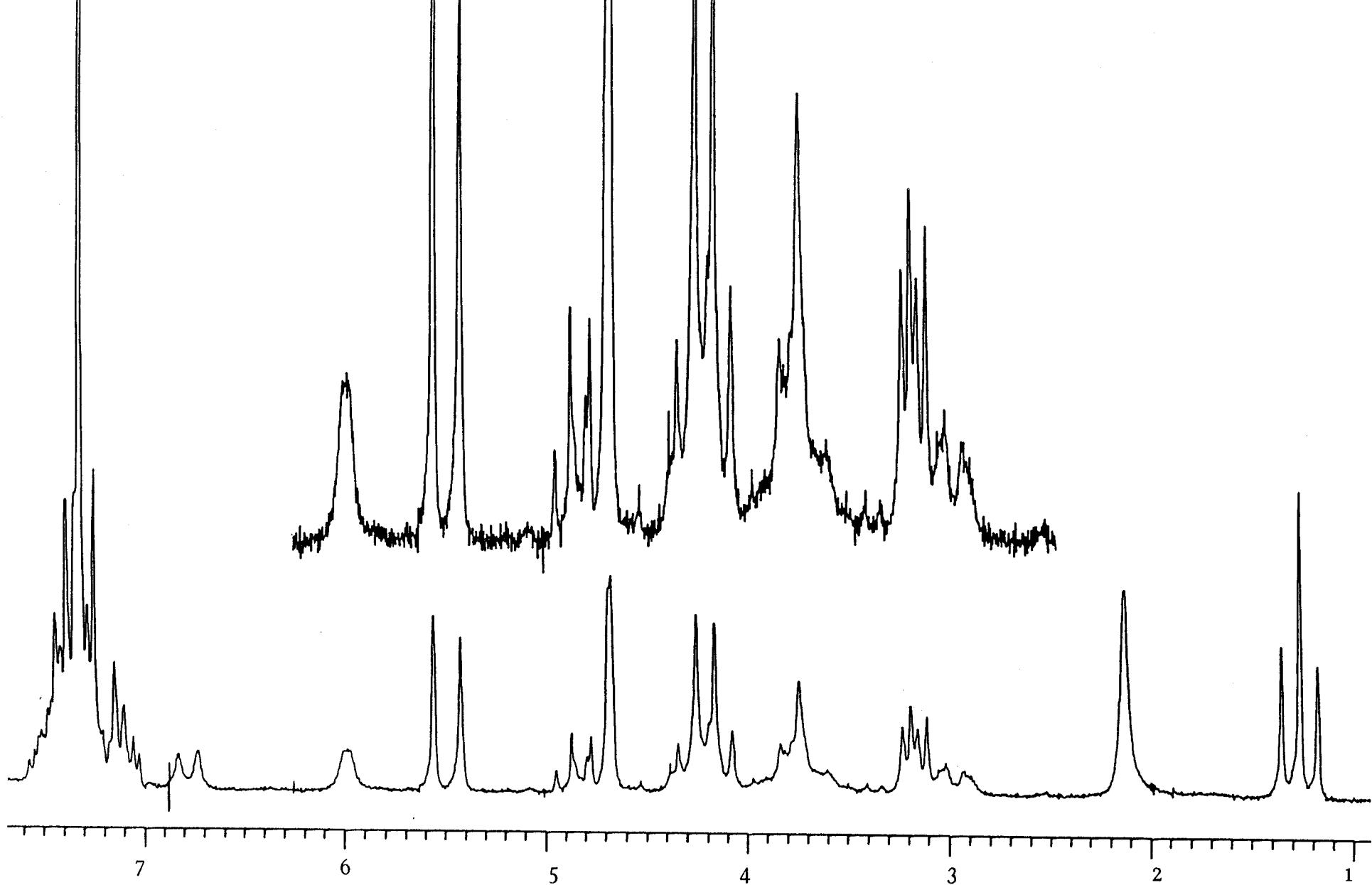


Espectro de ^1H -RMN del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanina (45) (C_3CD_3 , 80 MHz, TMS)



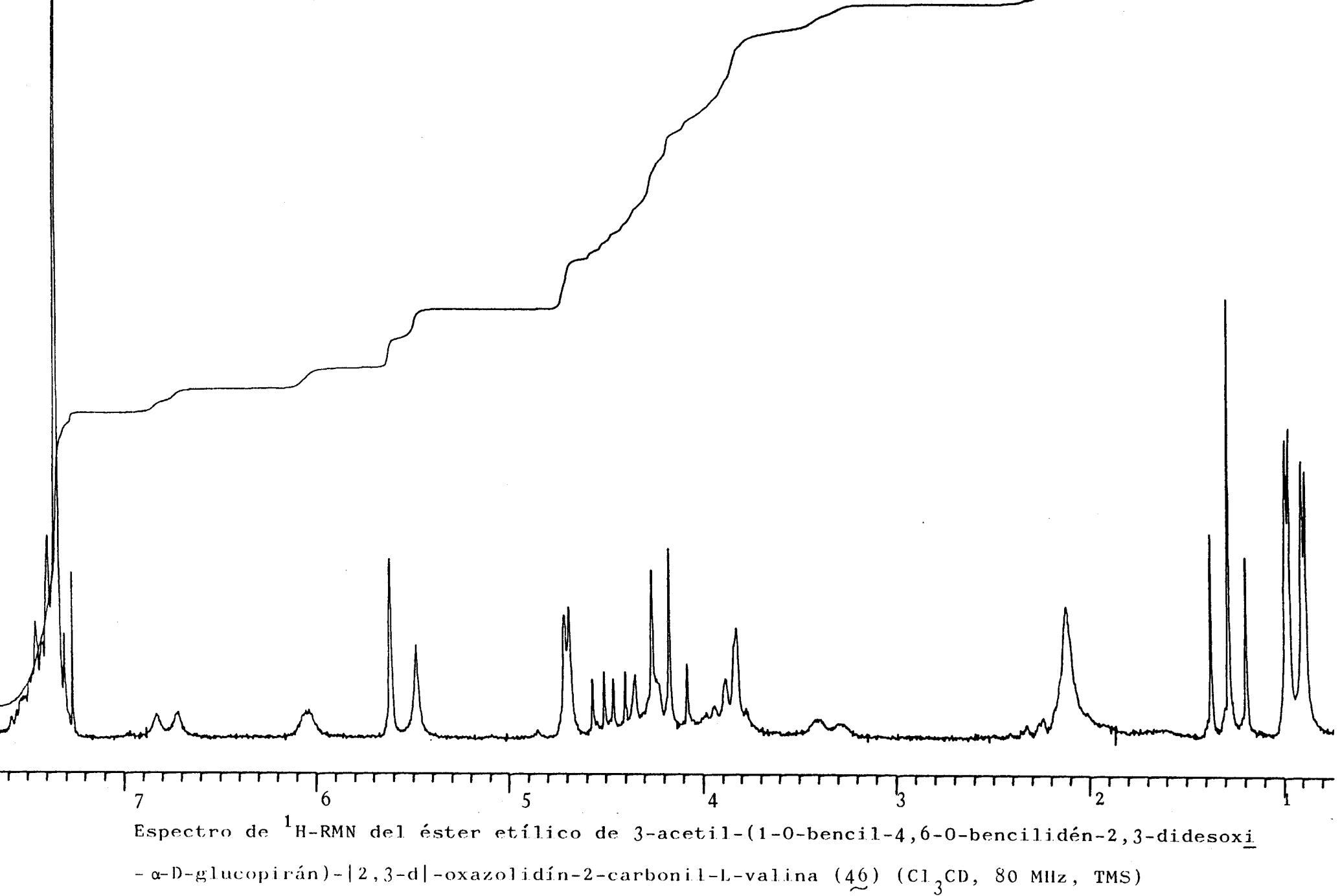
Intercambio con D_2O para la sustancia 45

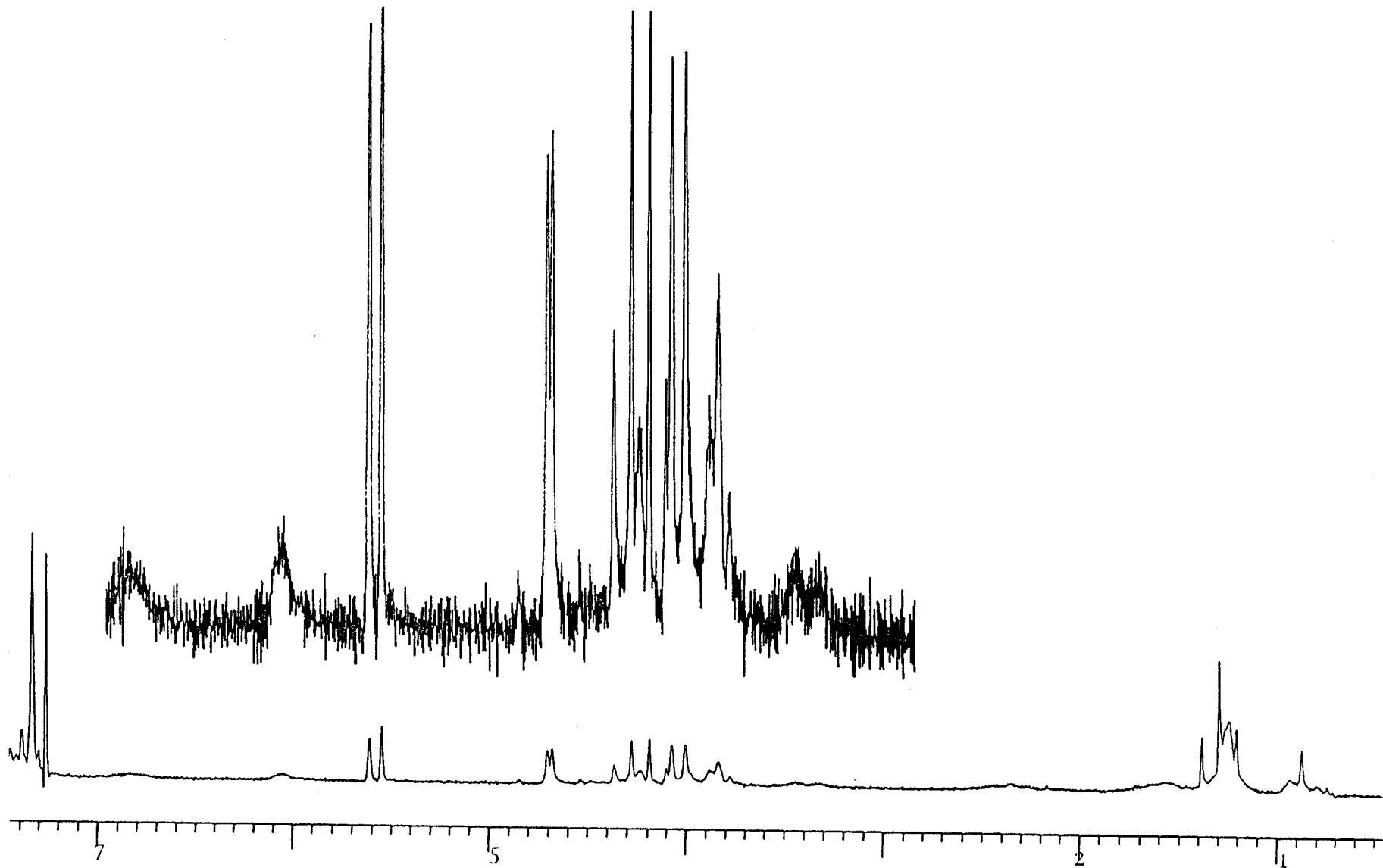
Figura 41-A



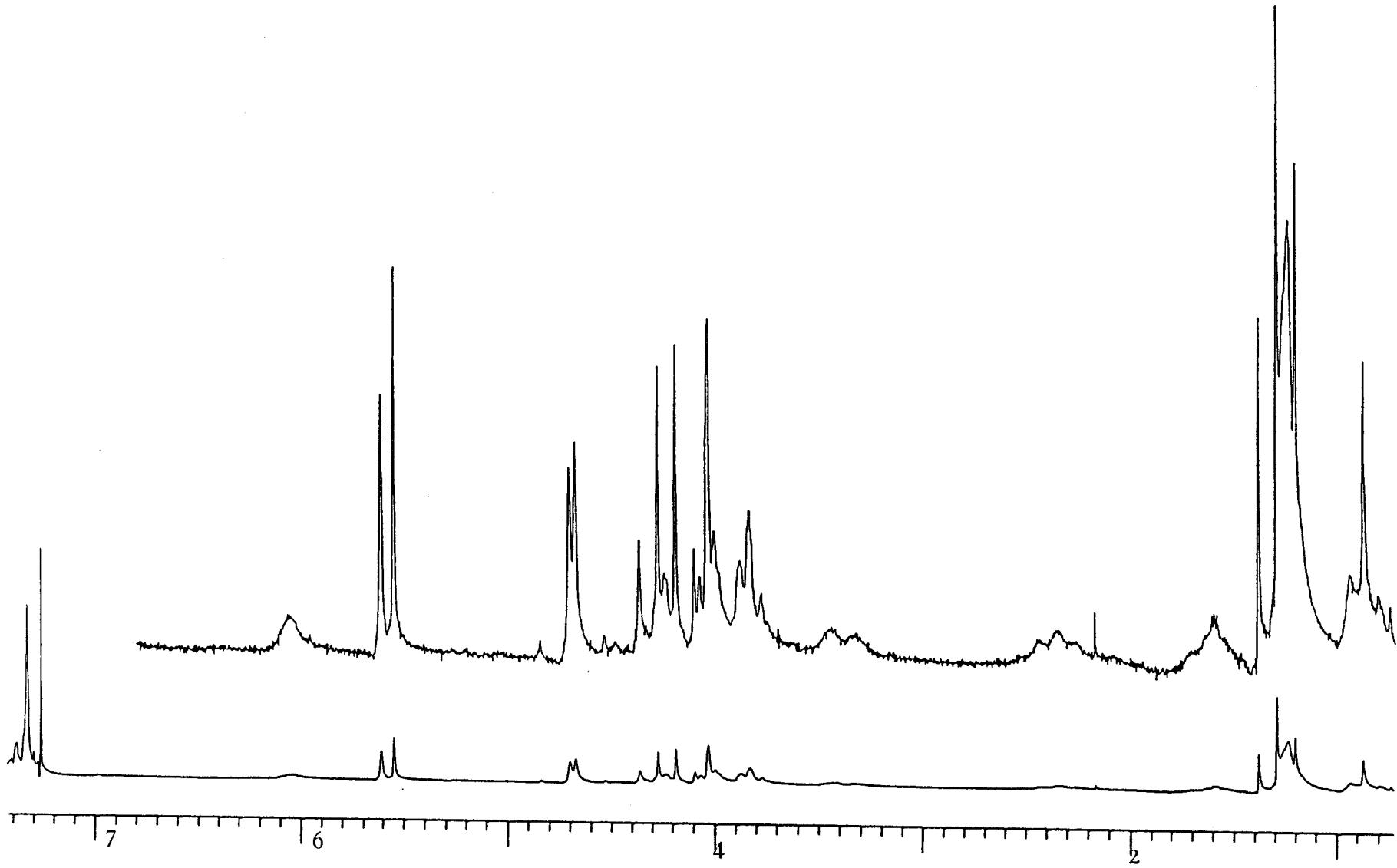
Espectro de ^1H -RMN del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi-
- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-fenilalanina (47) ($\text{C}_1\text{3CD}$, 80 MHz, TMS)

Figura 42-A

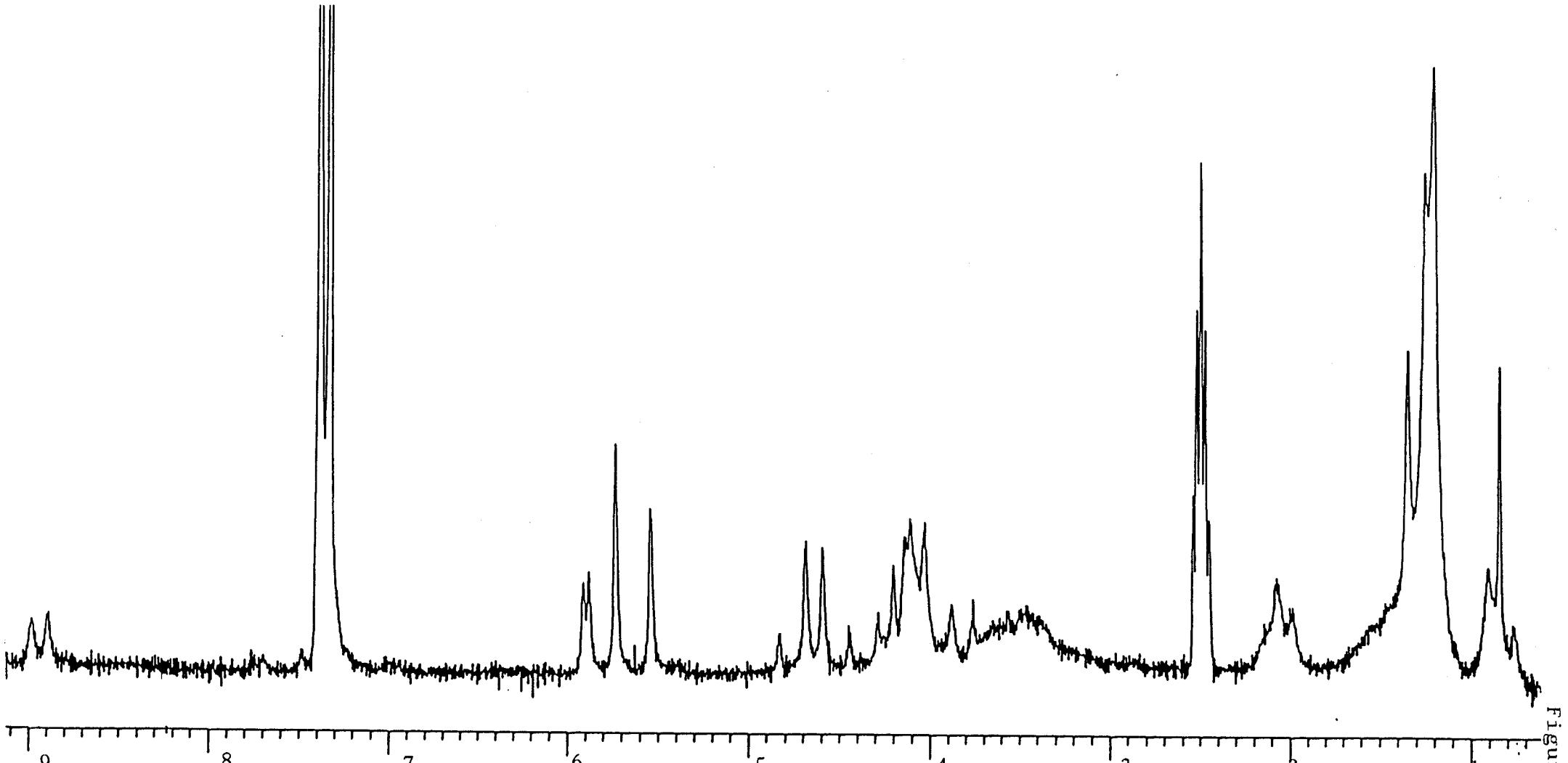




Espectro de ^1H -RMN del éster etílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonilglicina (48) (C_3D_3 , 80 MHz, TMS)

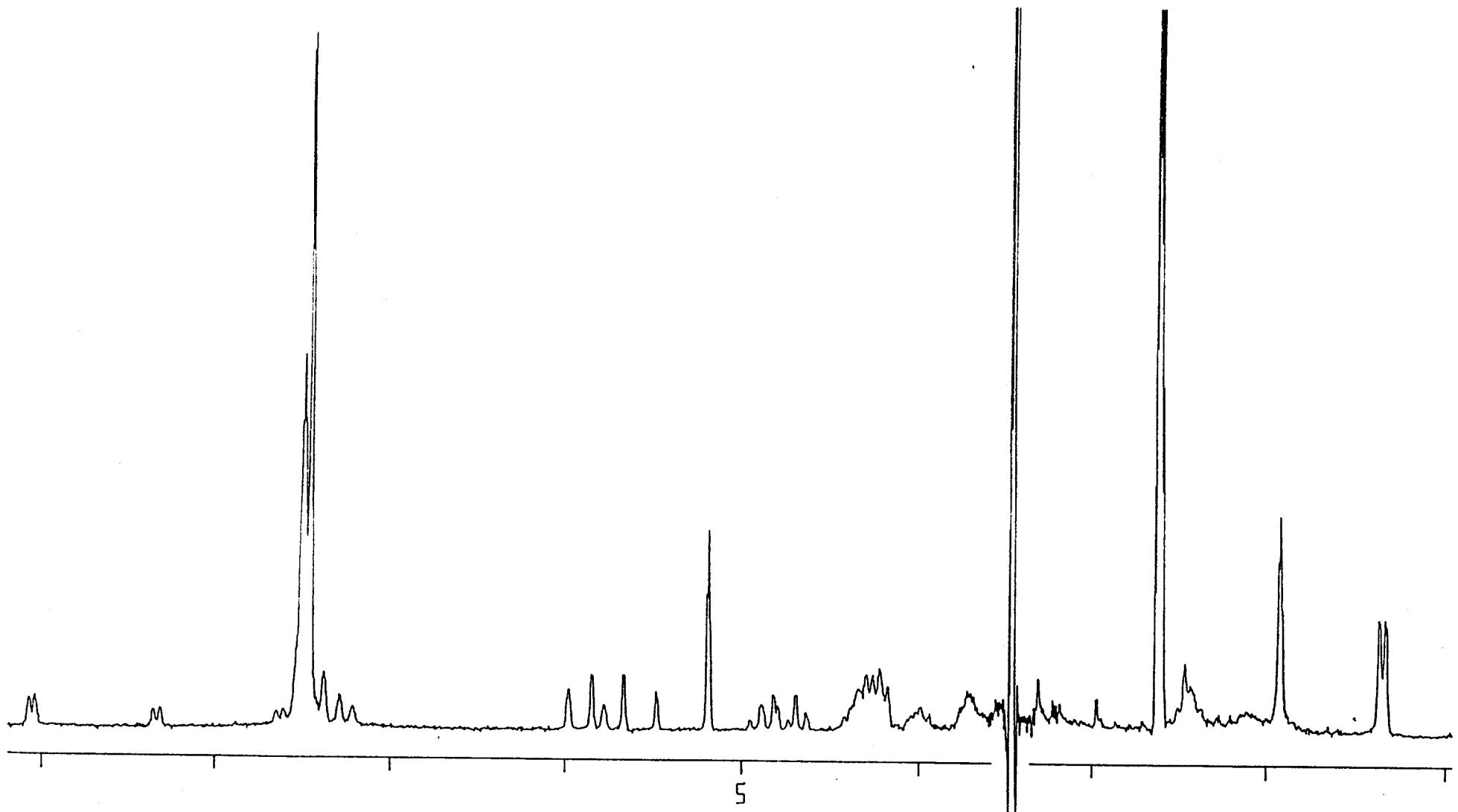


Intercambio con D_2O para la sustancia 48



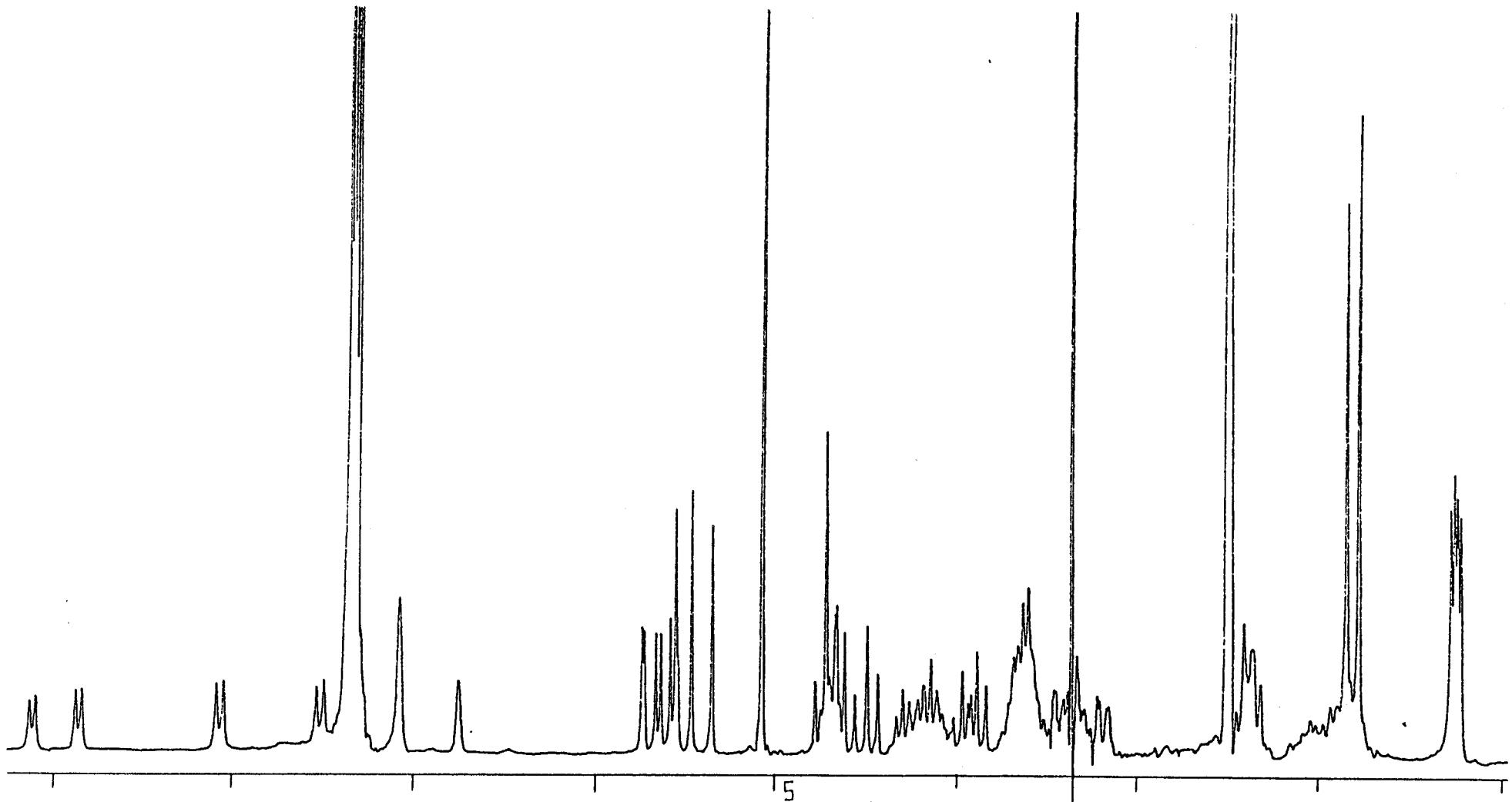
Espectro de ^1H -RMN de 3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopiran)-[2,3-d]-oxazolidín-2-carbonil-L-alanina (51) (DMSO- d_6 , 80 MHz, TMS)

Figura 46-A



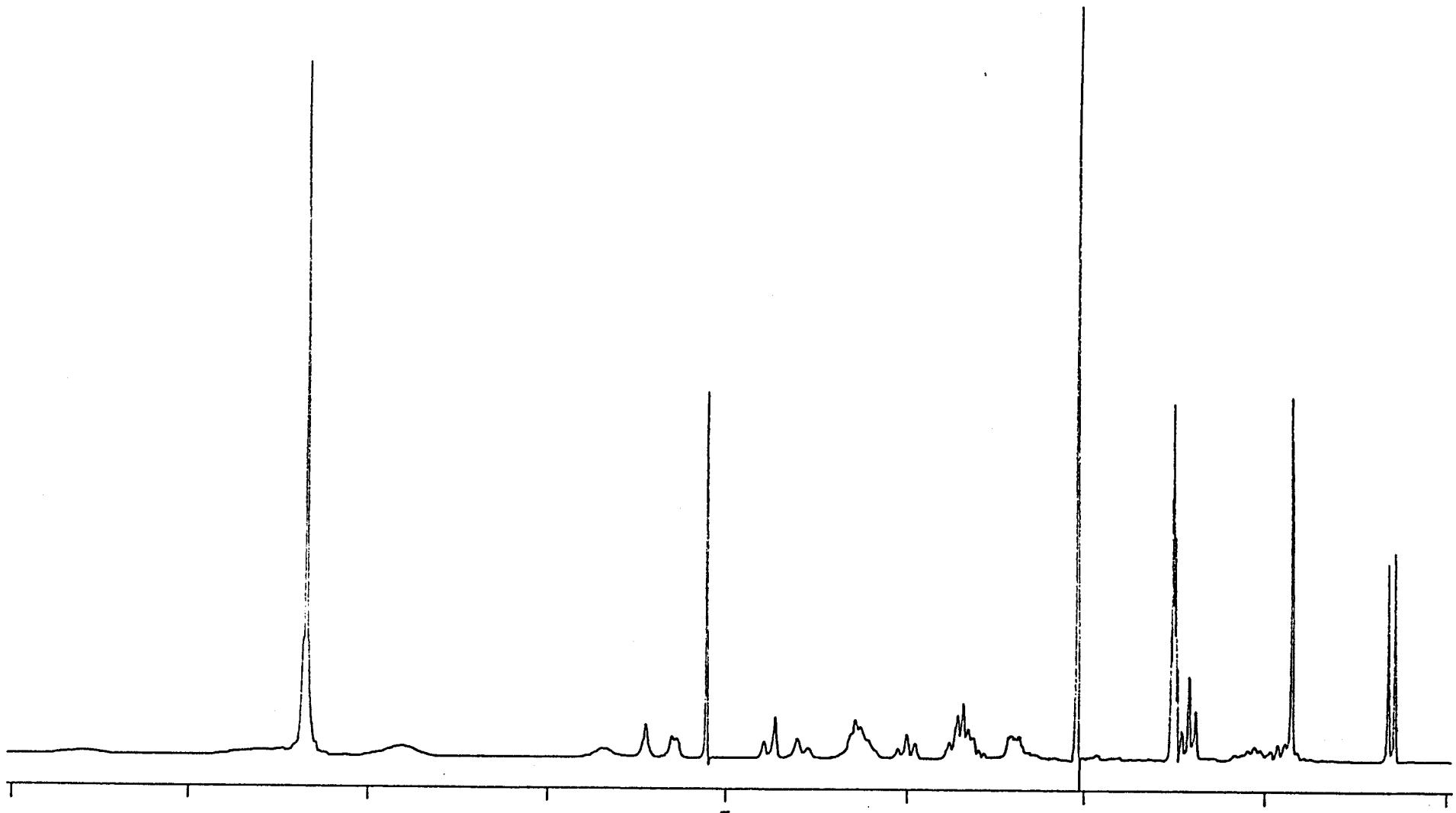
¹H-RMN del éster benélico de 3-acetil-1-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (53) (DMSO-d₆, 200 MHz, TMS)

Figura 47-A



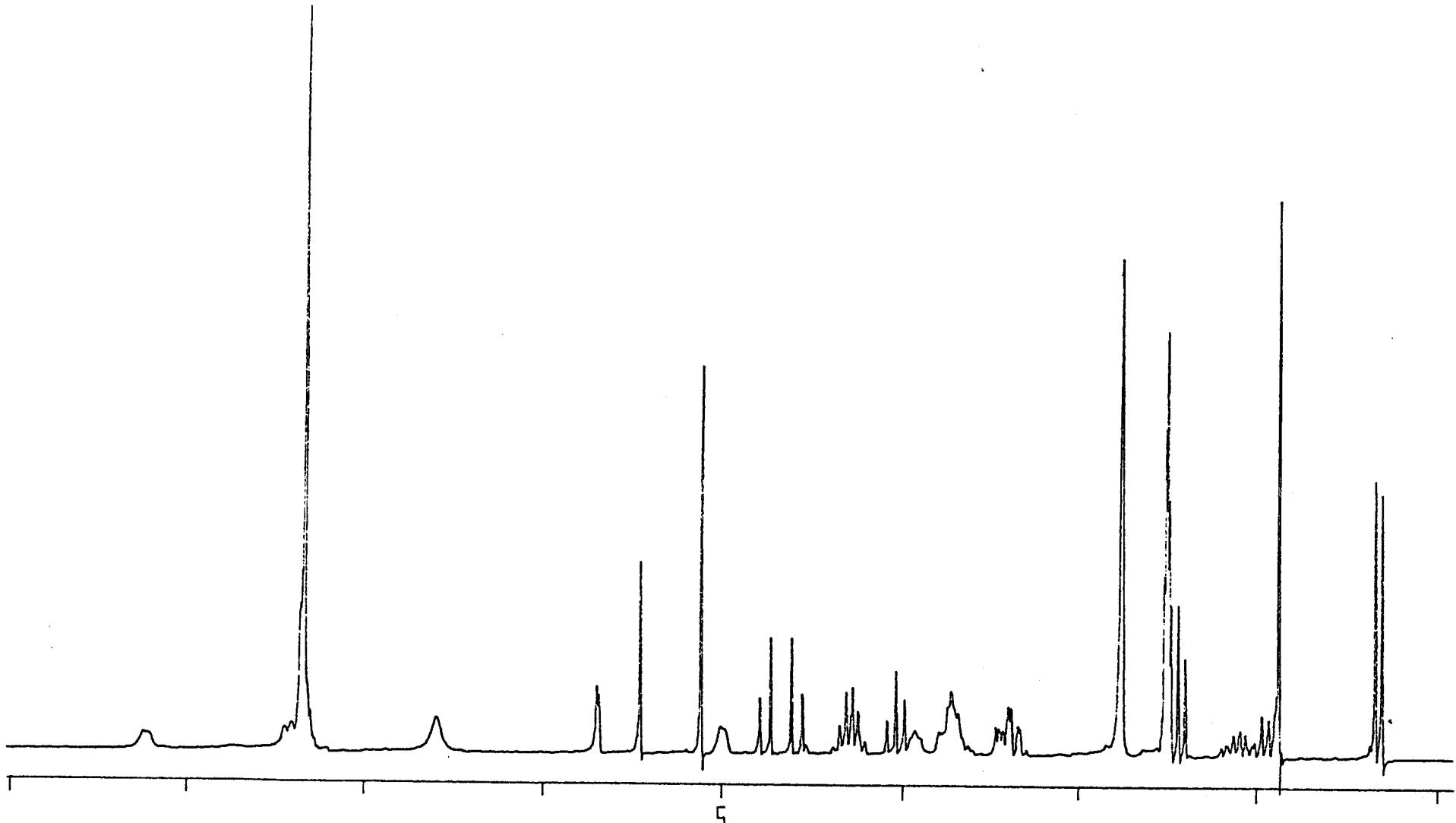
¹H-RMN del éster bencílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolididín-2-carbonil-L-alanil-D-isoglutamina (61) (\sim DMSO-d₆, 200 MHz, TMS)

Figura 48-A



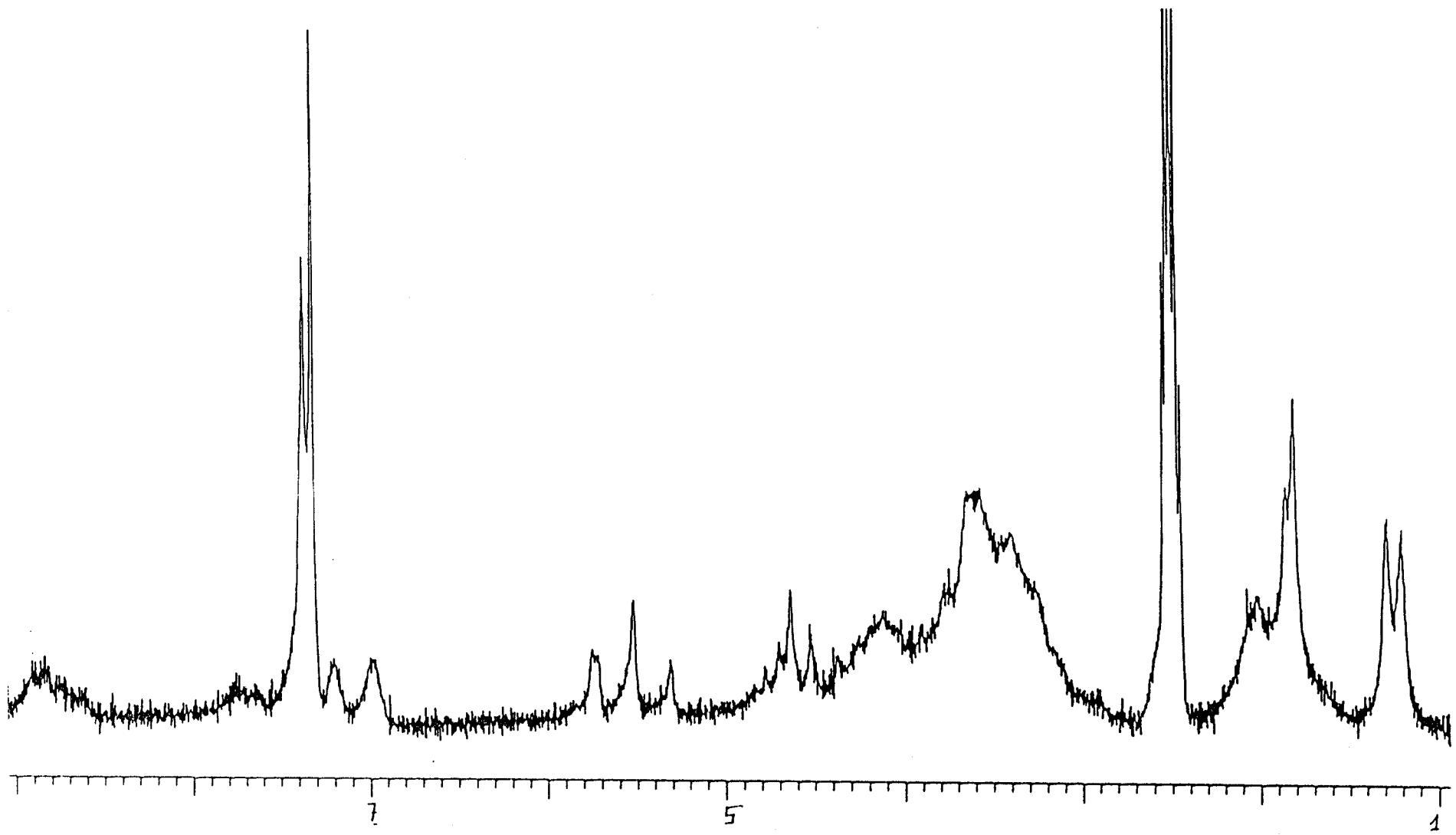
Espectro de ^1H -RMN de la sustancia 61 a 90°C

Figura 49-A



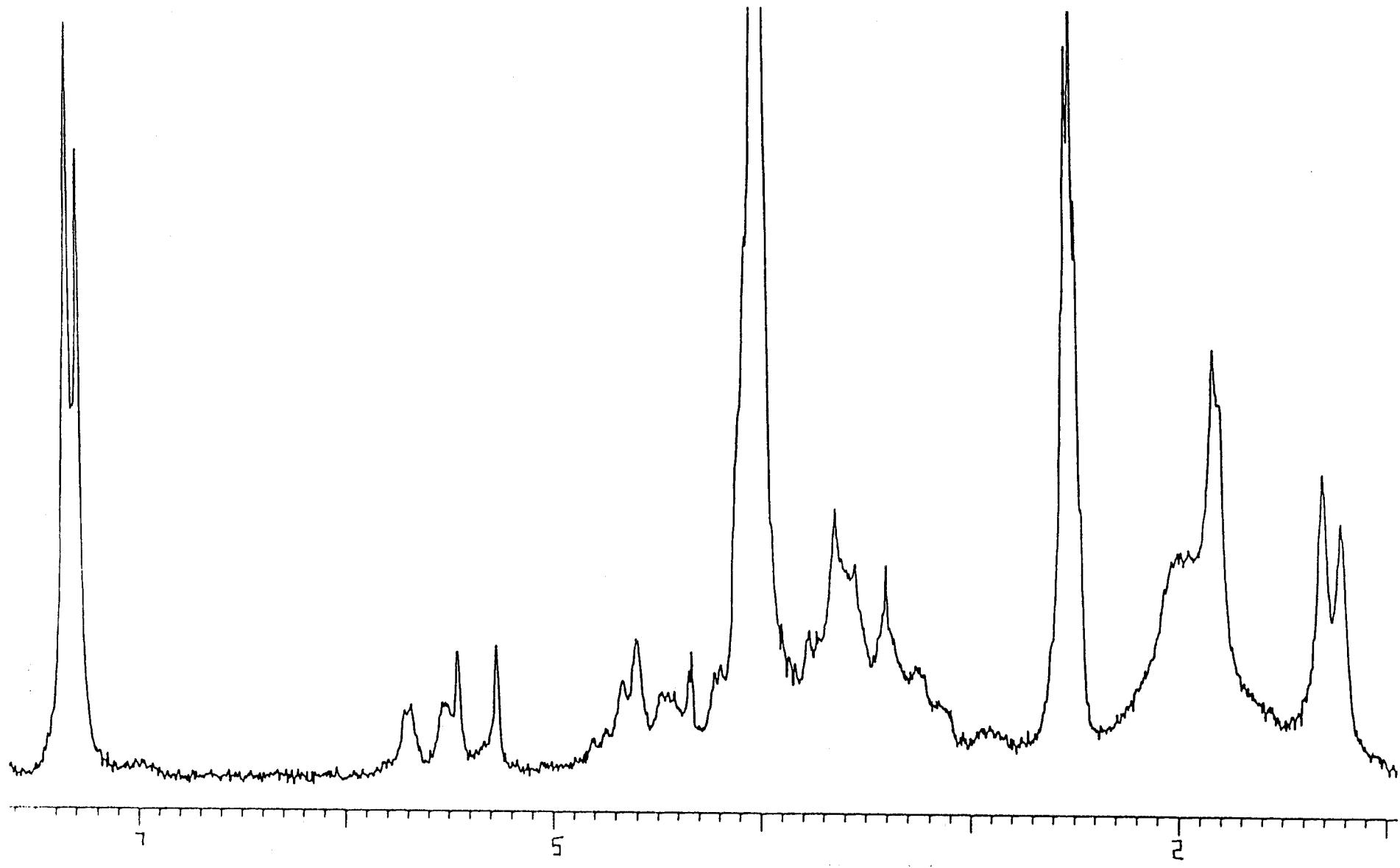
Espectro de ^1H -RMN de la sustancia 61 a 145°C

Figura 50-A

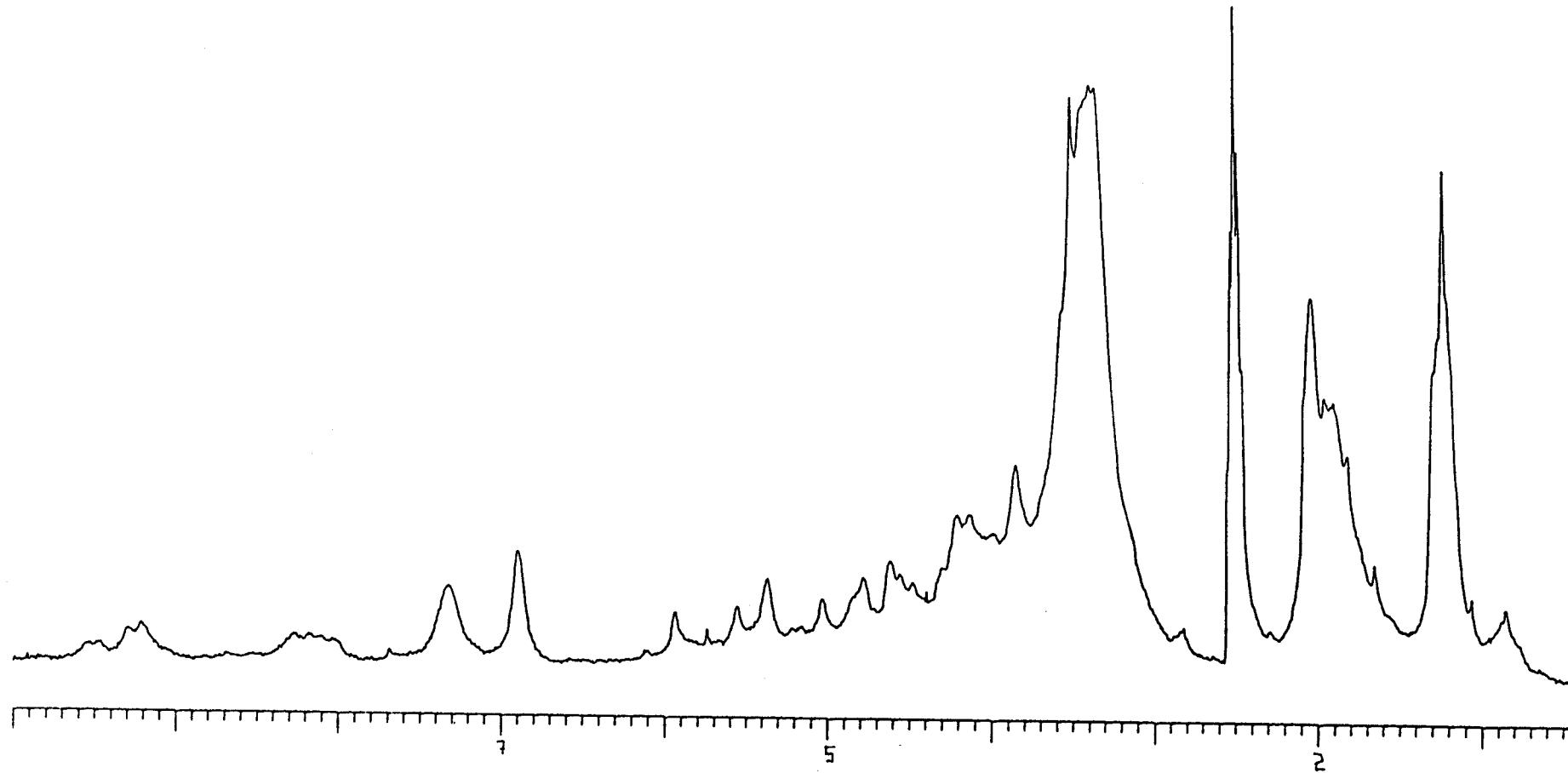


Espectro de ^1H -RMN de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (65) (DMSO-d_6 , 80 MHz, TMS)

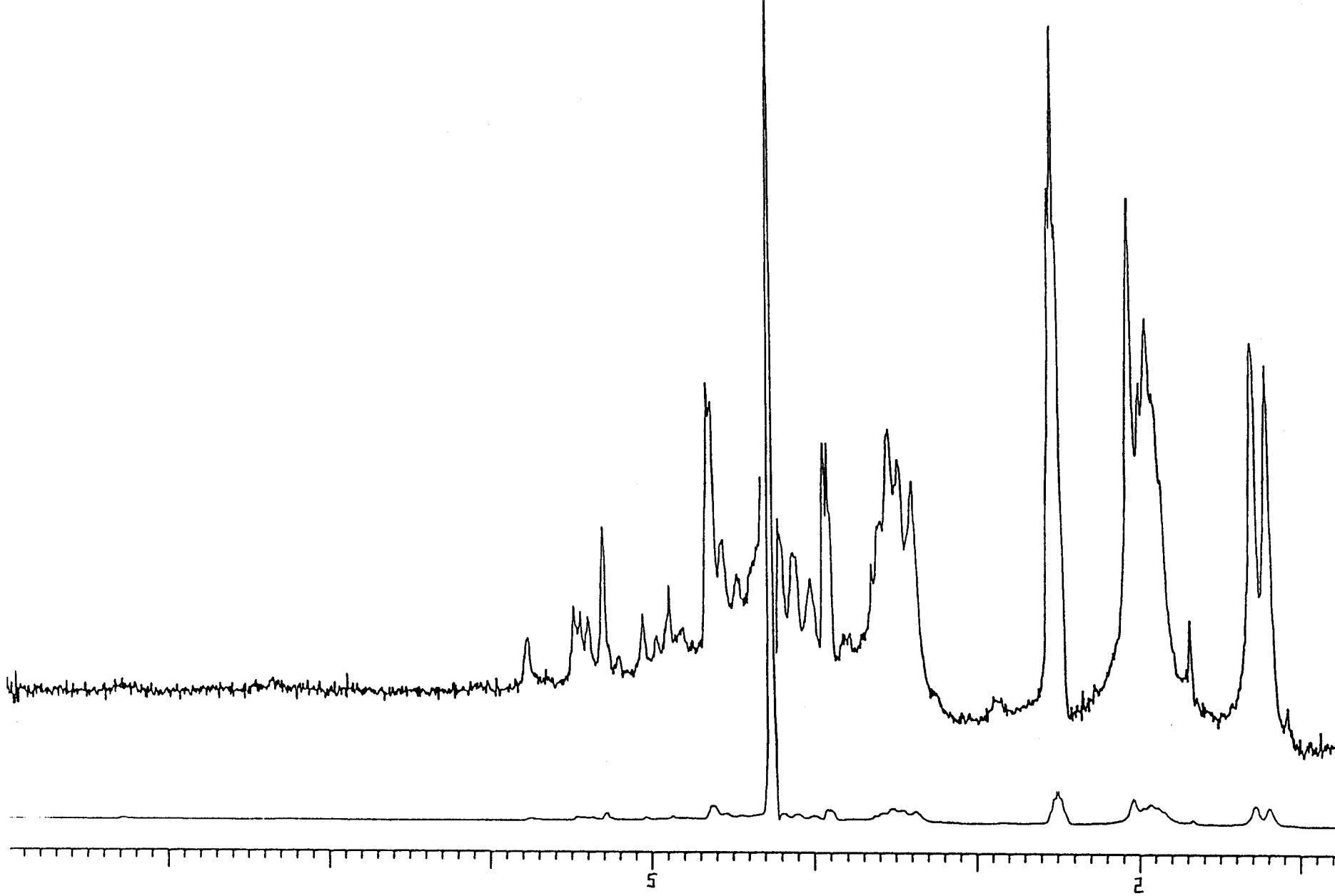
Figura 51-A



Intercambio con D_2O para la sustancia 65



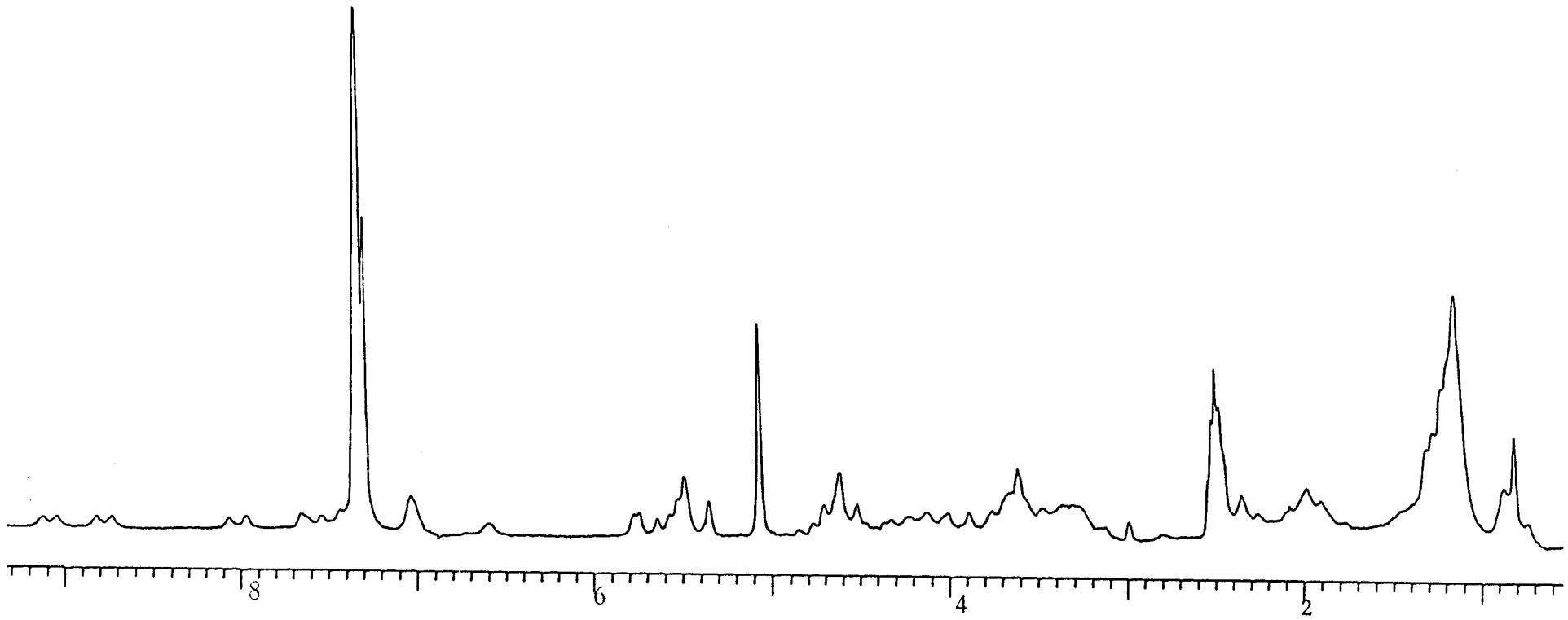
Espectro de ^1H -RMN de 3-acetil-(2,3-didesoxi-D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (26) ($\text{DMSO}-d_6$, 80 MHz, TMS)



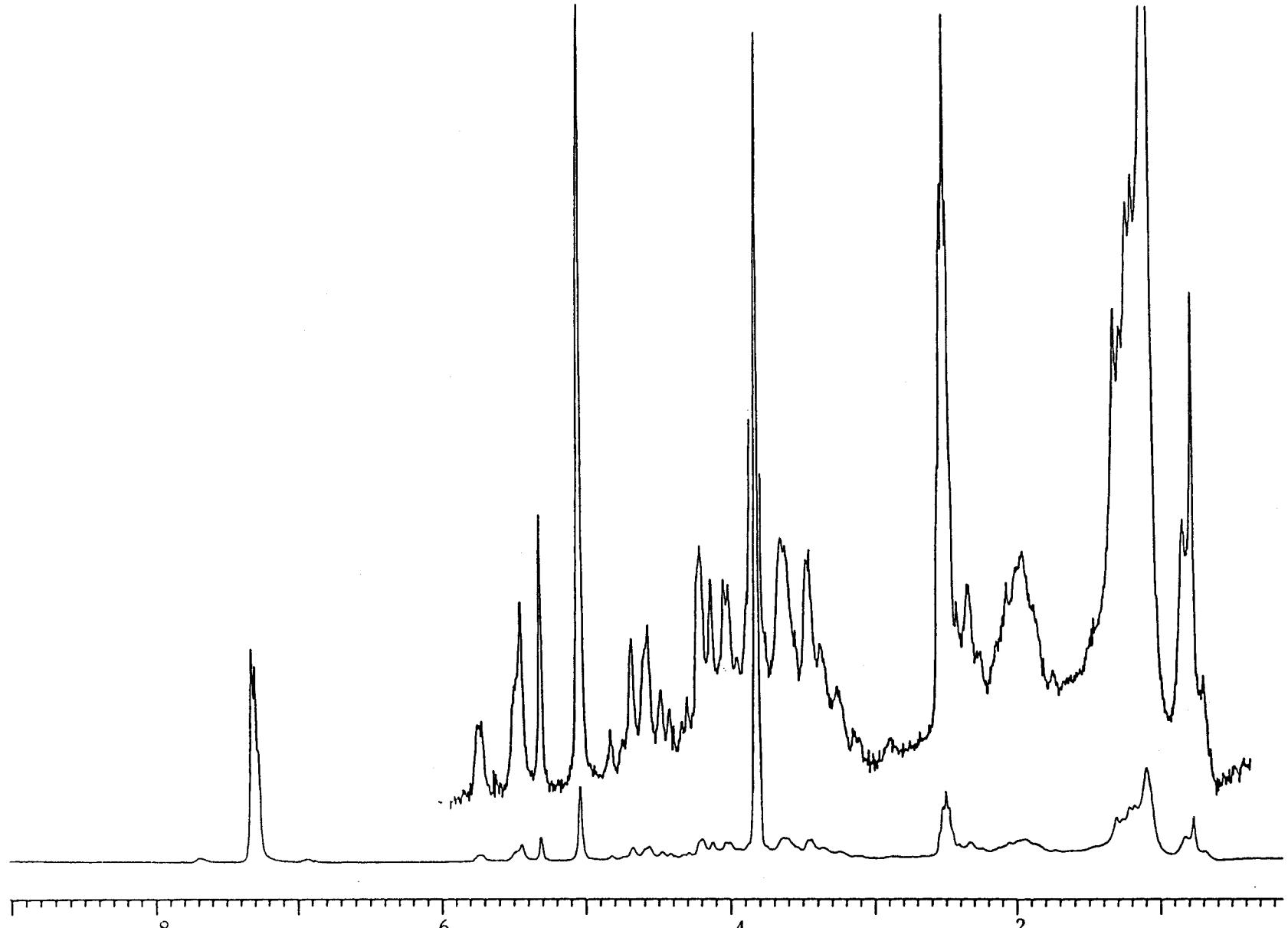
Intercambio con D₂O para la sustancia 26

Figura 53-A

Figura 54-A

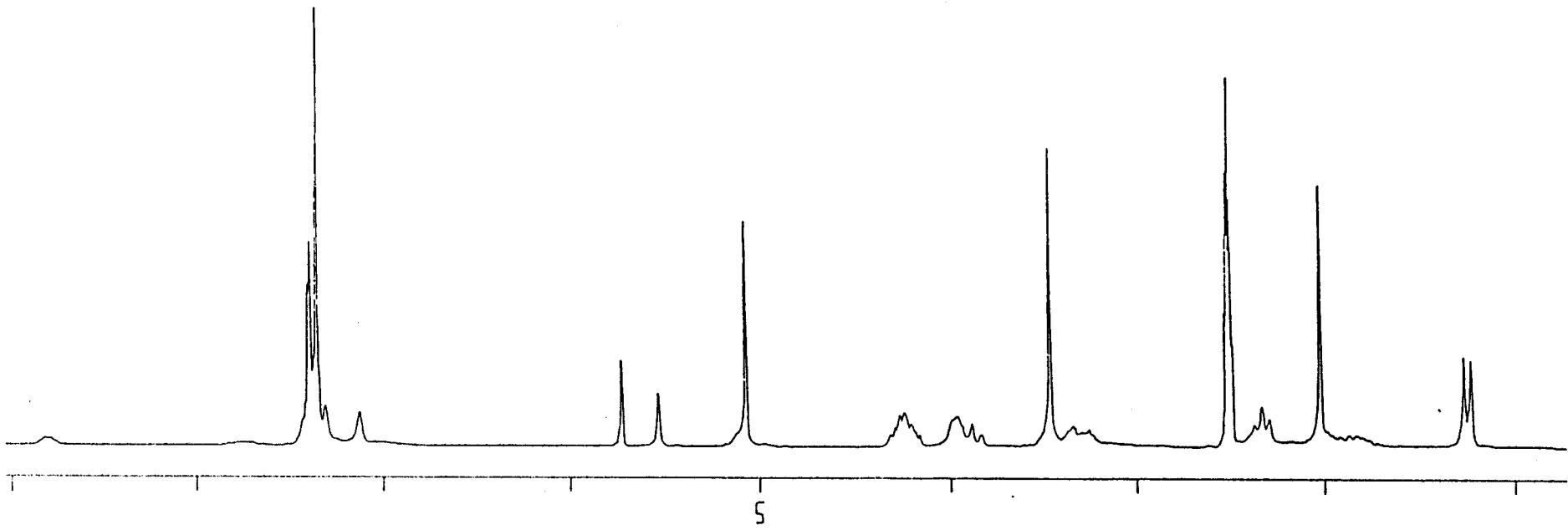


¹H-RMN del éster bencílico de 3-n-octanoil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-|2,3-d| oxazolidín-2-carbonil-L-alanil-D-isoglutamina (64) (DMSO-d_6 , 80 MHz, TMS)



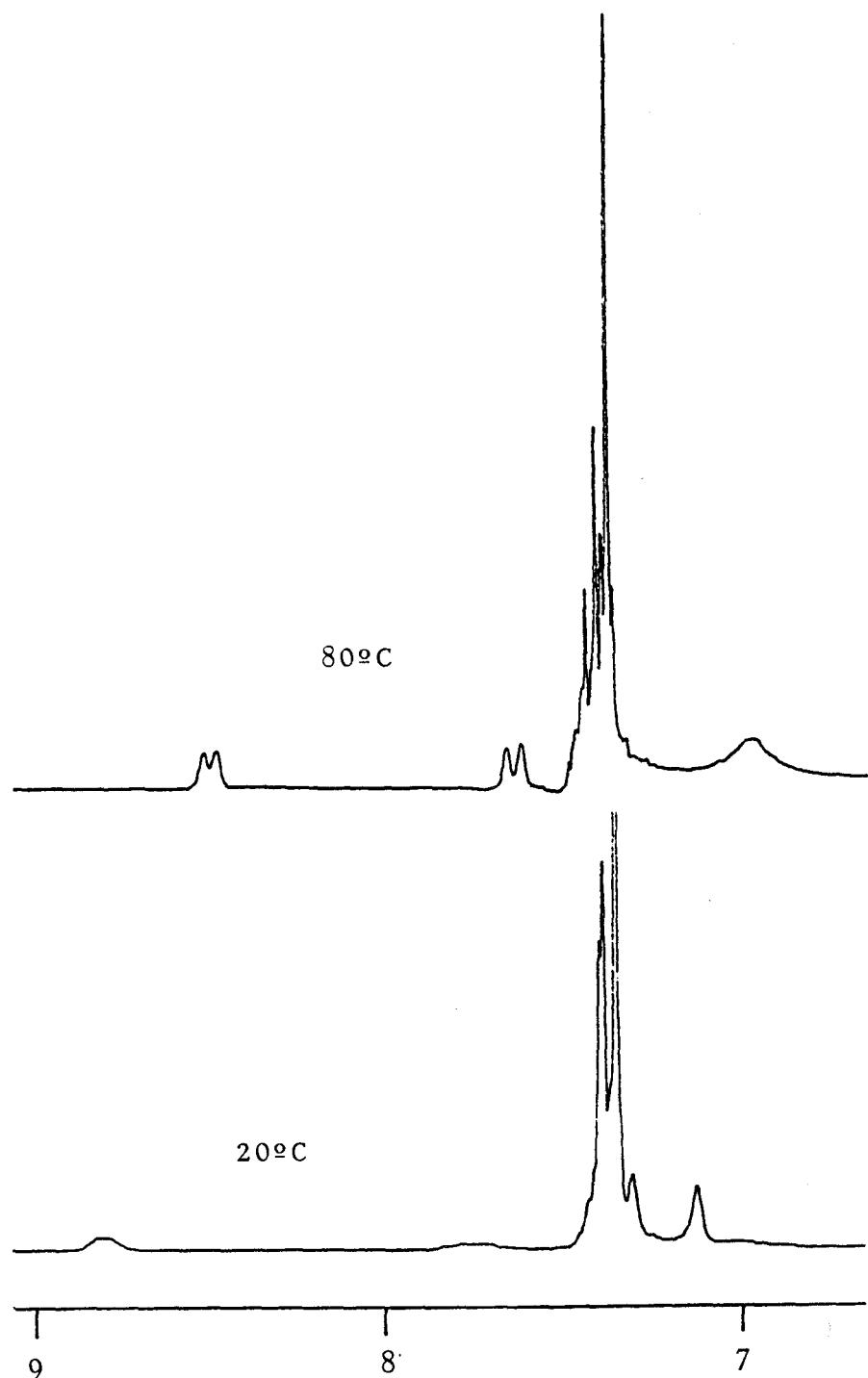
Intercambio con D₂O para la sustancia 64)

Figura 56-A



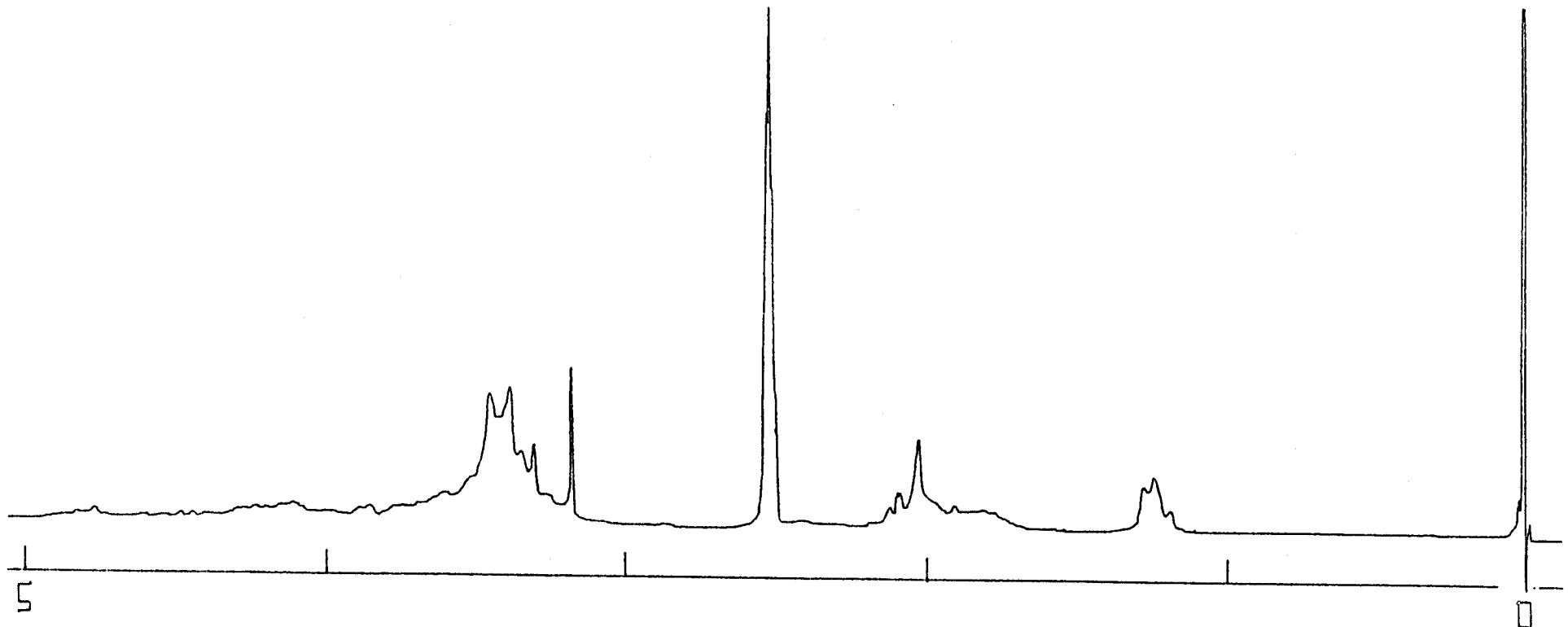
¹H-RMN del éster bencílico de 3-acetil-(4,6-O-bencildén-2,3-didesoxi-1-O-metil- β -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (70) (DMSO-d₆, 200 MHz, TMS)

Figura 57-A

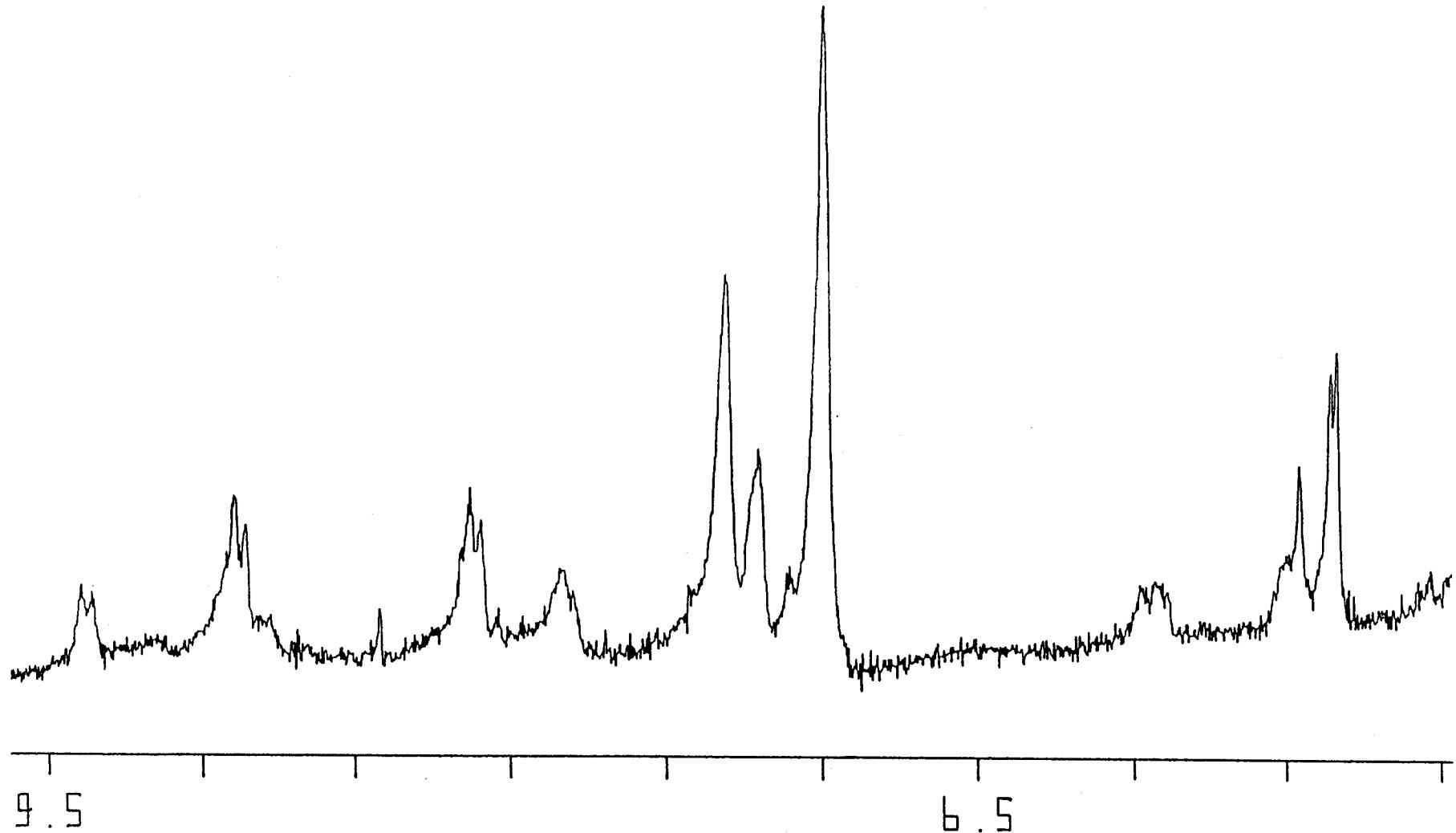


Protones de amida de la sustancia 70 a 20°C y 80°C

Figura 58-A

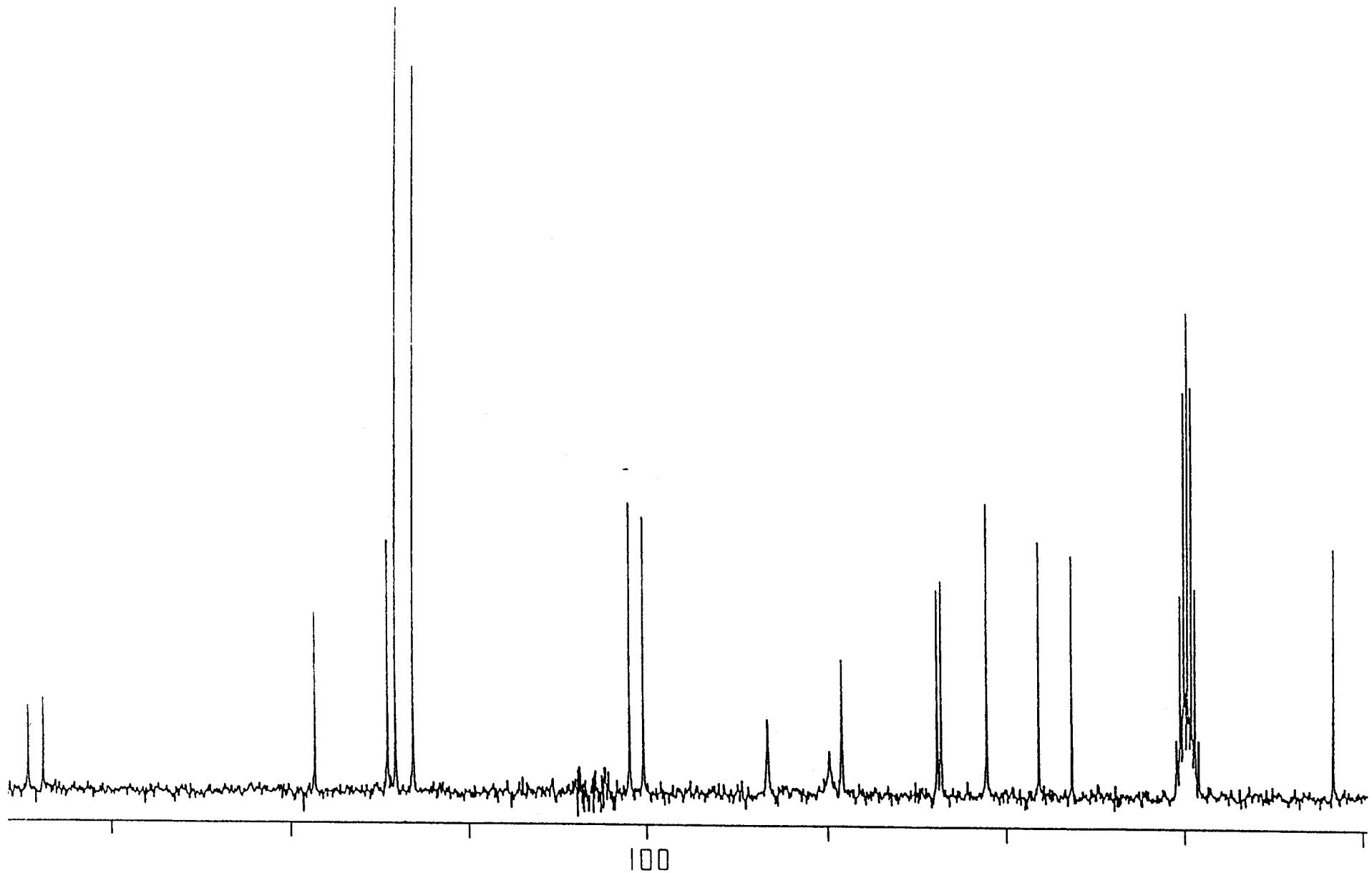


Espectro de ^1H -RMN de 3-acetil-(2,3-didesoxi-1-O-metil- β -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (28) (DMSO-d_6 , 200 MHz, TMS) (registro de 0 a 5 ppm)

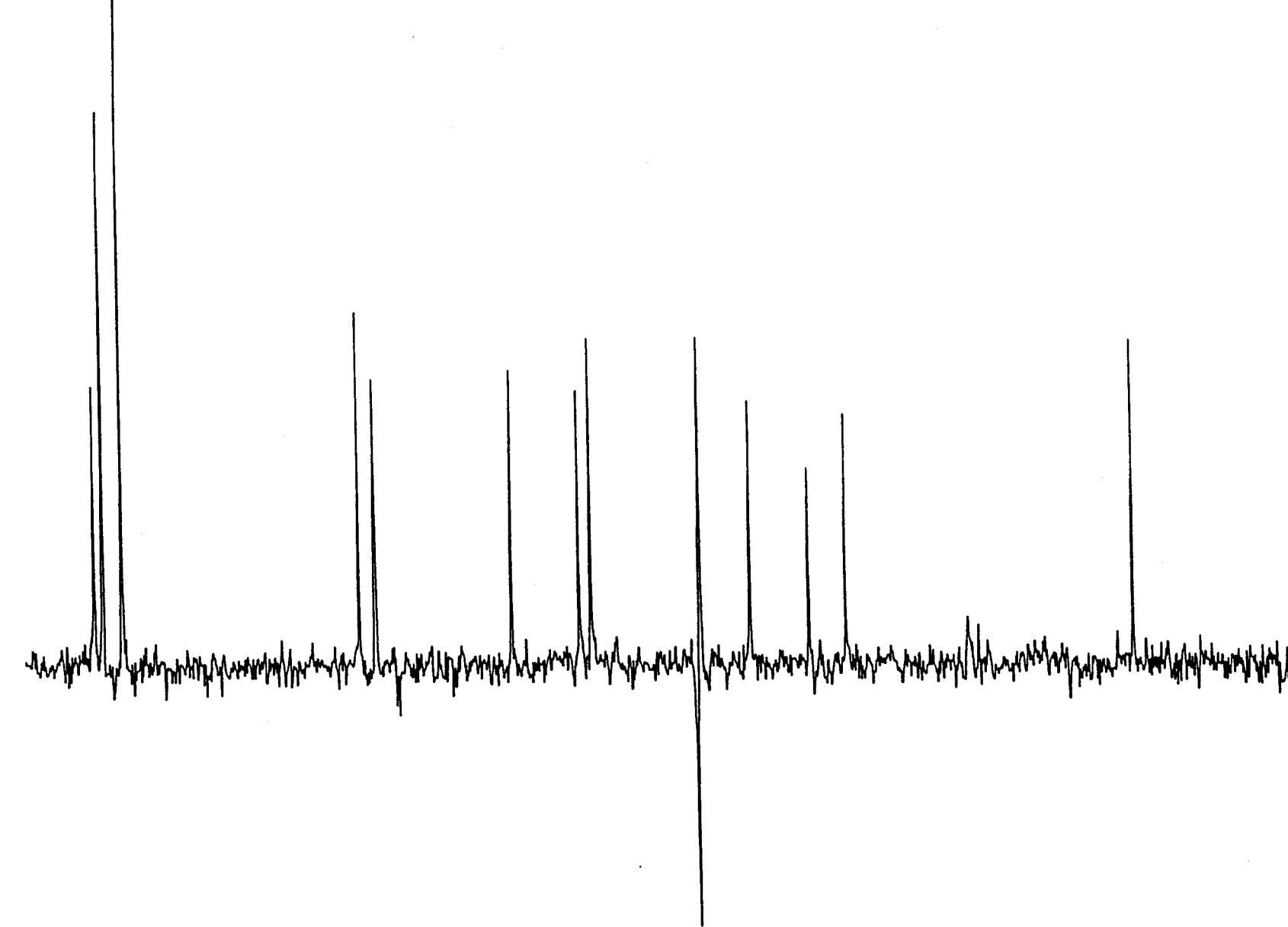


Espectro de ^1H -RMN de 3-acetil-(2,3-didesoxi-1-O-metil- β -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (28) (DMSO- d_6 , 200 MHz, TMS) (registro de 5 a 9,5 ppm)

Figura 60-A

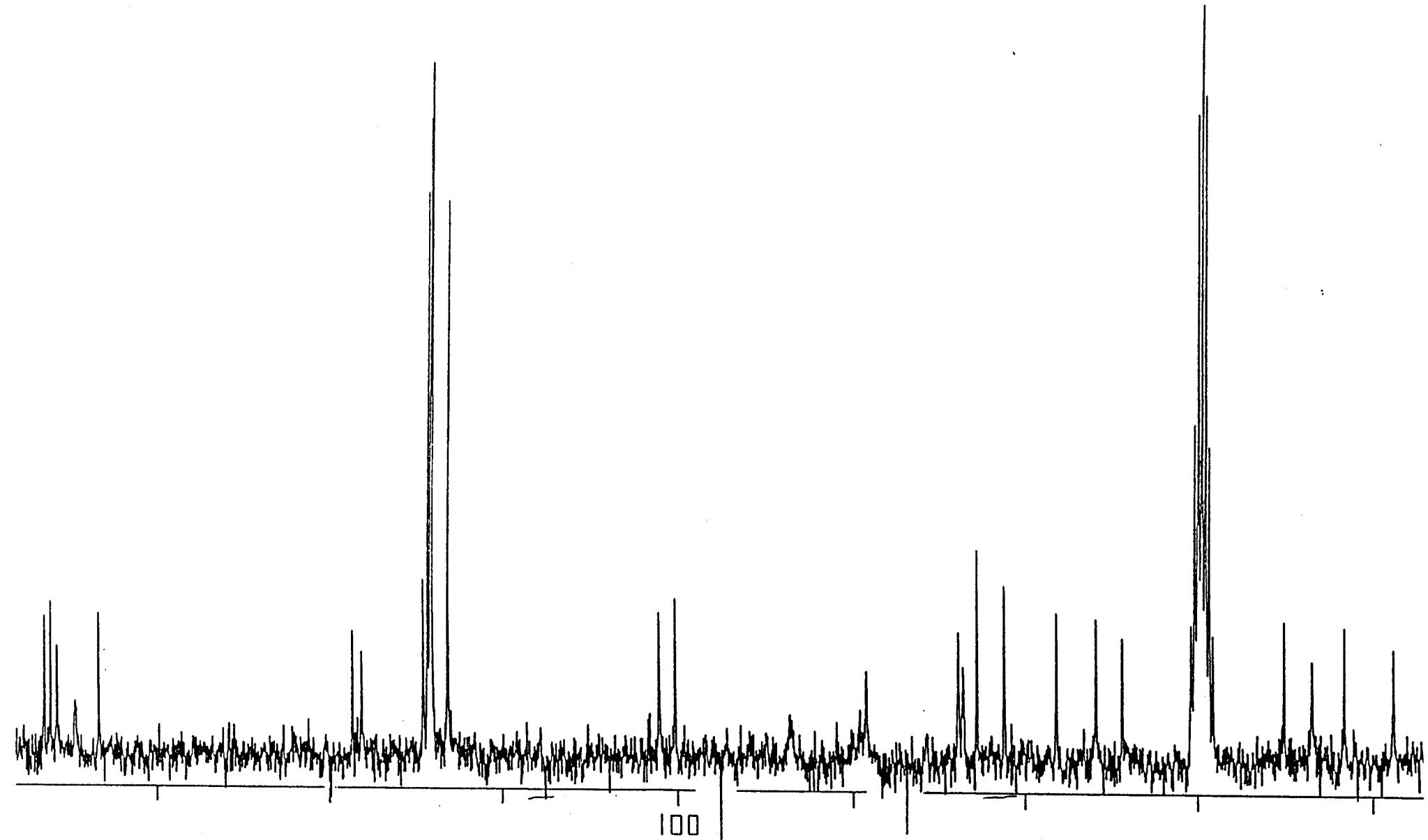


Espectro de ^{13}C -RMN de 3-acetil-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi- β -D-glucopyran)-|2,3-d|-oxazolidina (69) (DMSO-d_6 , 50 MHz, TMS)

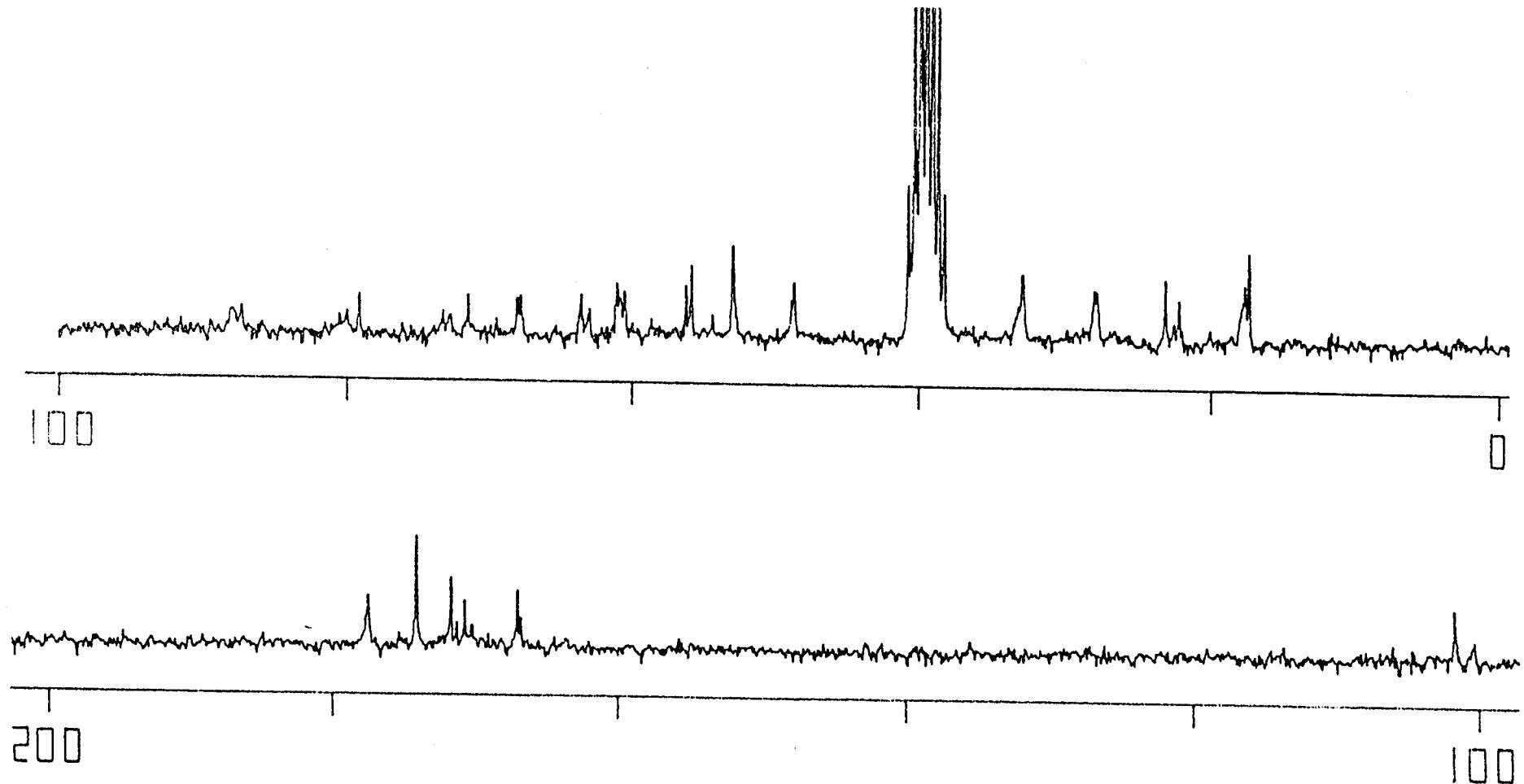


Registro de DEPT de la sustancia $\tilde{69}$ a 50 MHz

Figura 62-A

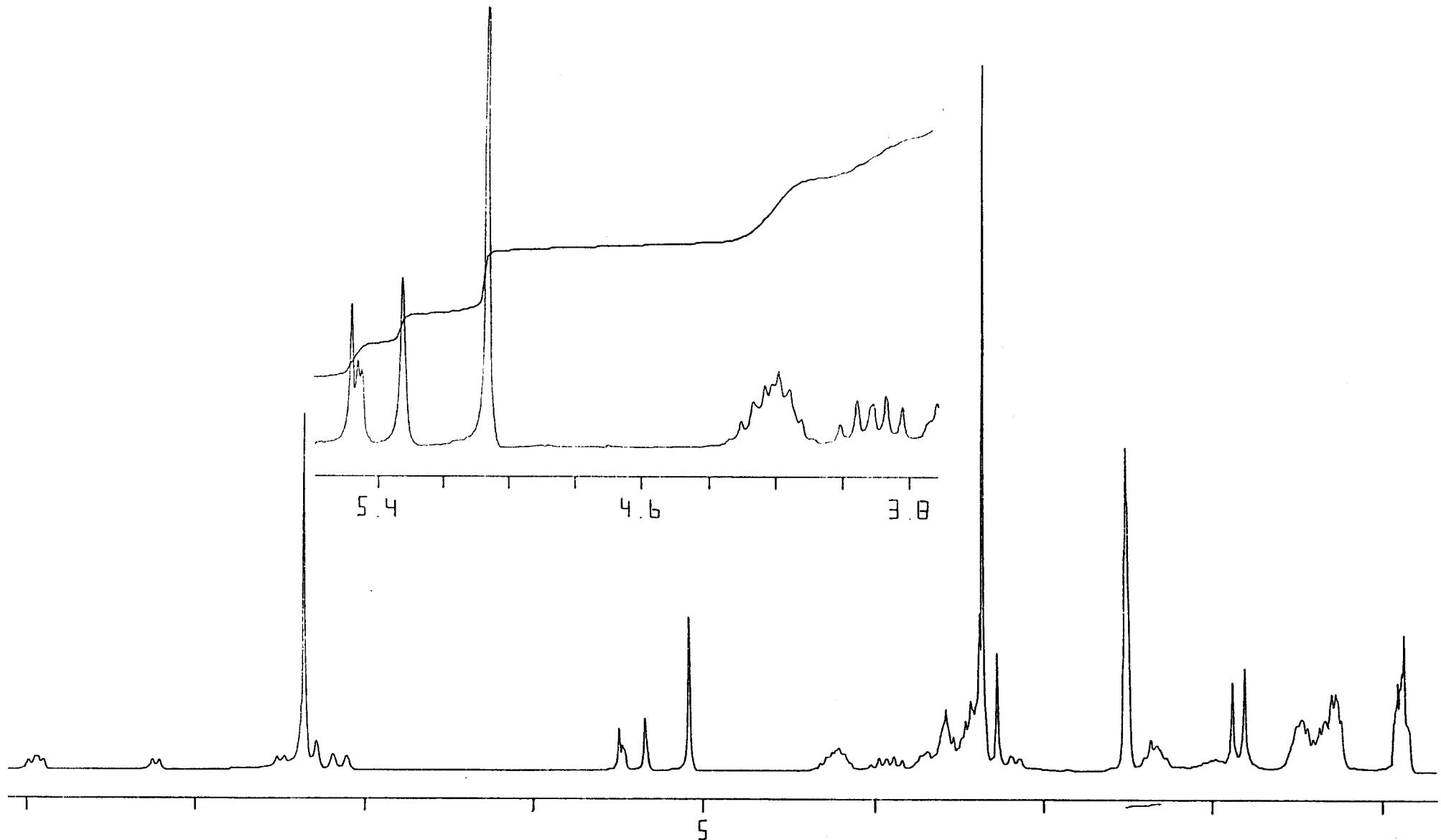


^{13}C -RMN del éster bencílico de 3-acetil-(4,6-O-bencilidén-2,3-didesoxi- β -D-glucopirán)--
| 2,3-d|-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (70) (\sim DMSO- d_6 , 50 MHz, TMS)



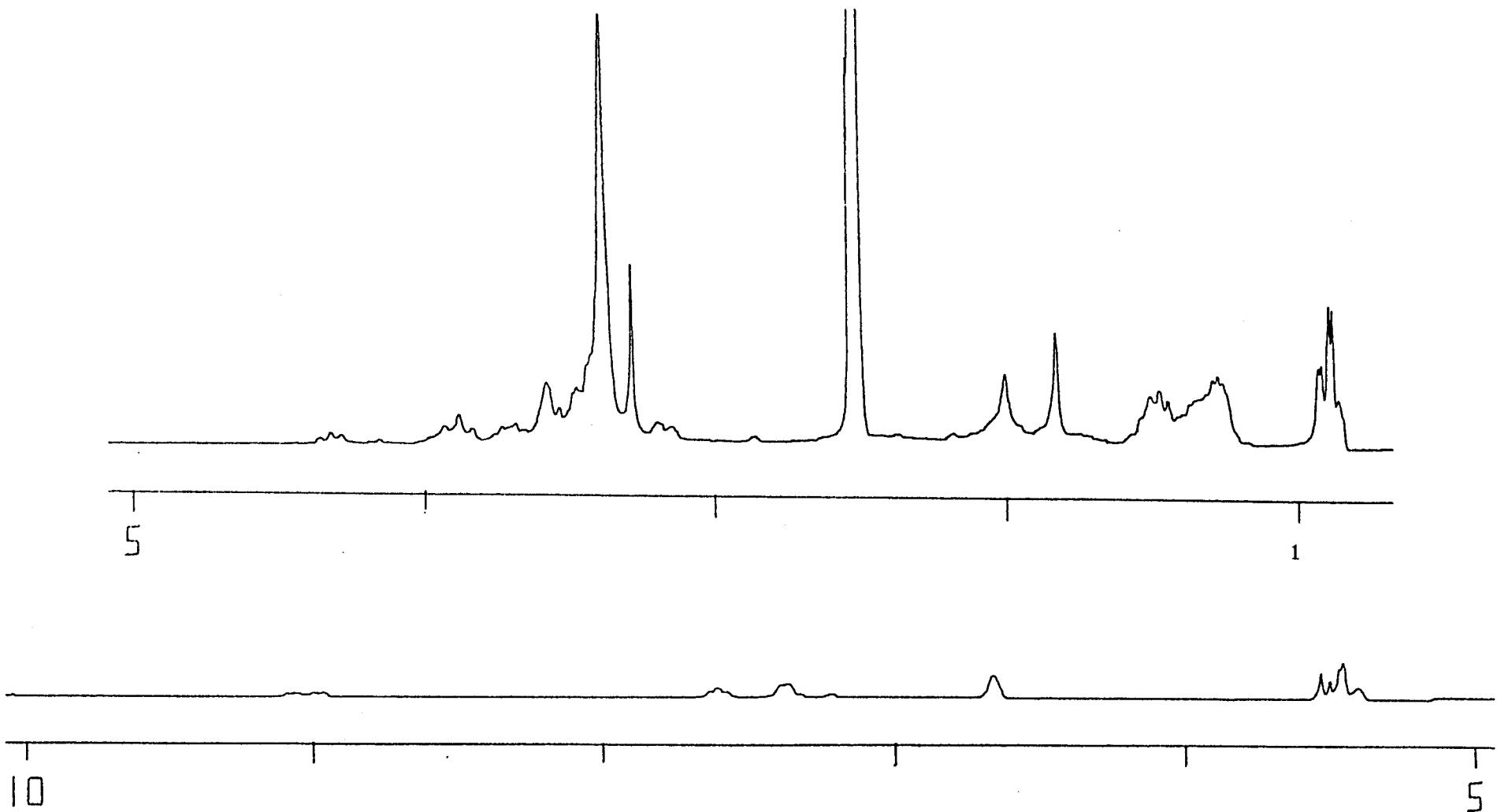
Espectro de ^{13}C -RMN de 3-acetil-(2,3-didesoxi-1-O-metil- β -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (28) (DMSO-d_6 , 50 MHz, TMS)

Figura 64-A

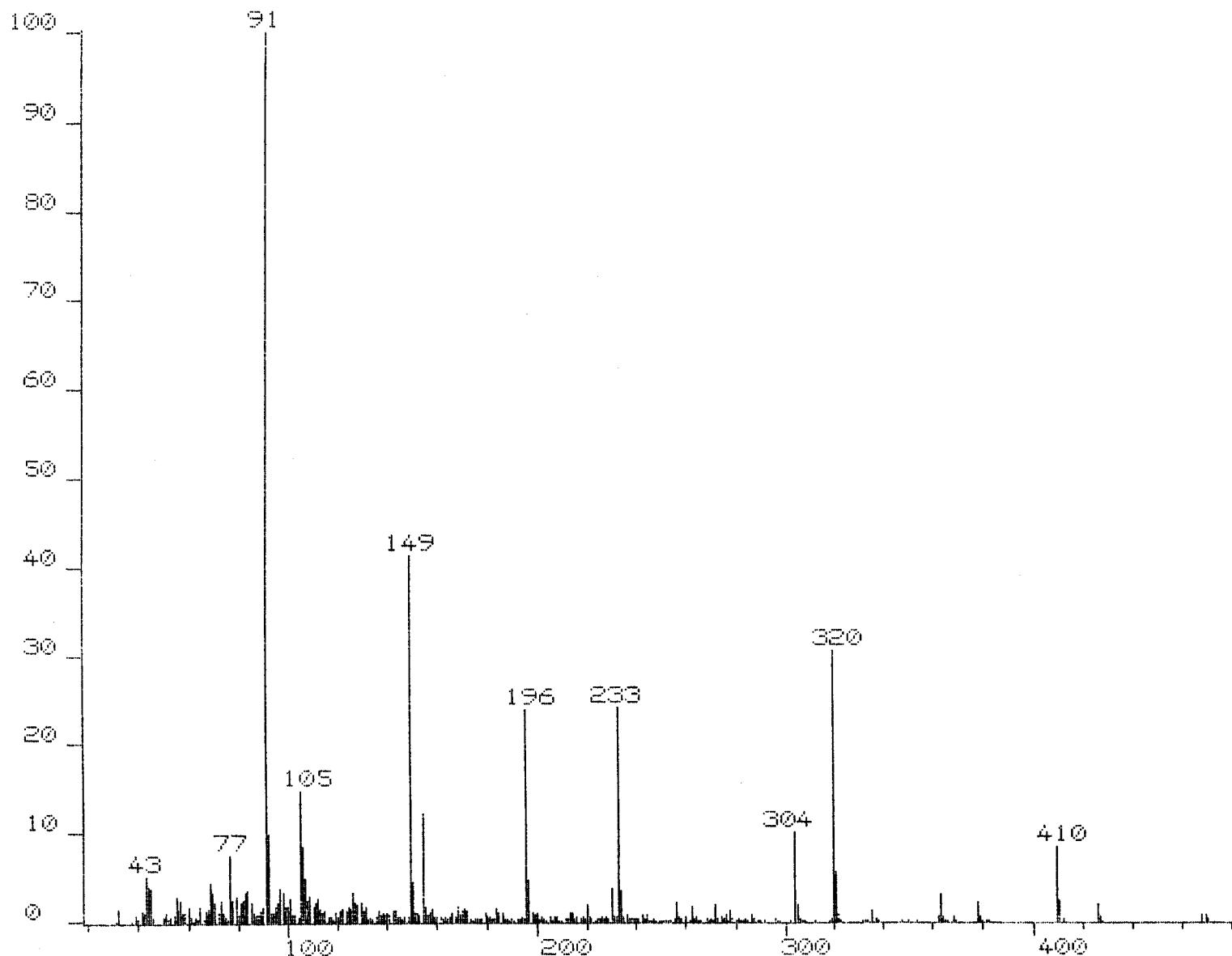


¹H-RMN del éster bencílico de 3-acetil-(4,6-di-O-n-butyl-2,3-didesoxi-1-O-metil- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (79) (\sim DMSO-d₆, 200 MHz, TMS)

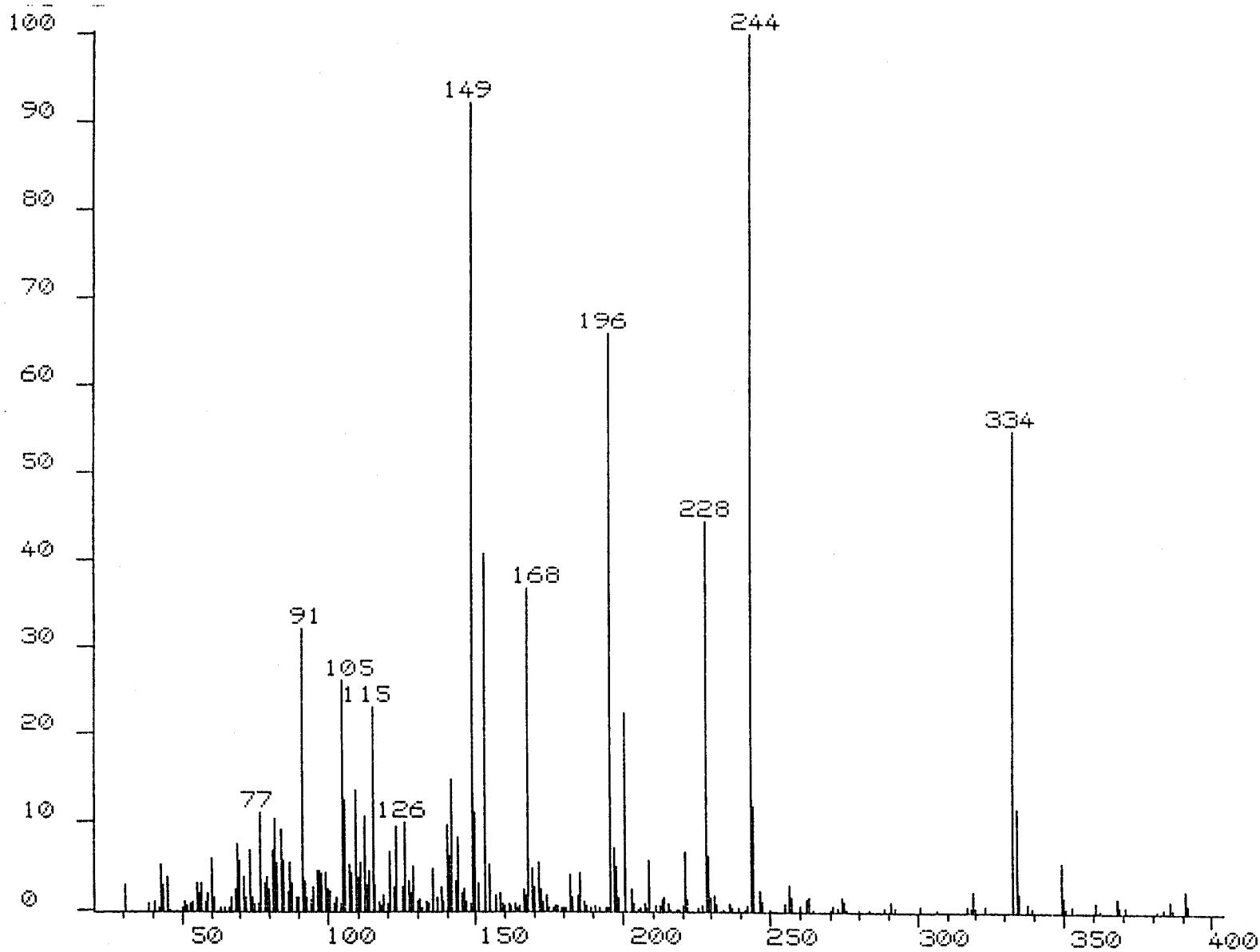
Figura 65-A



Espectro de ¹H-RMN de 3-acetil-(4,6-di-O-n-butil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (29) (DMSO-d₆, 200 MHz, TMS)

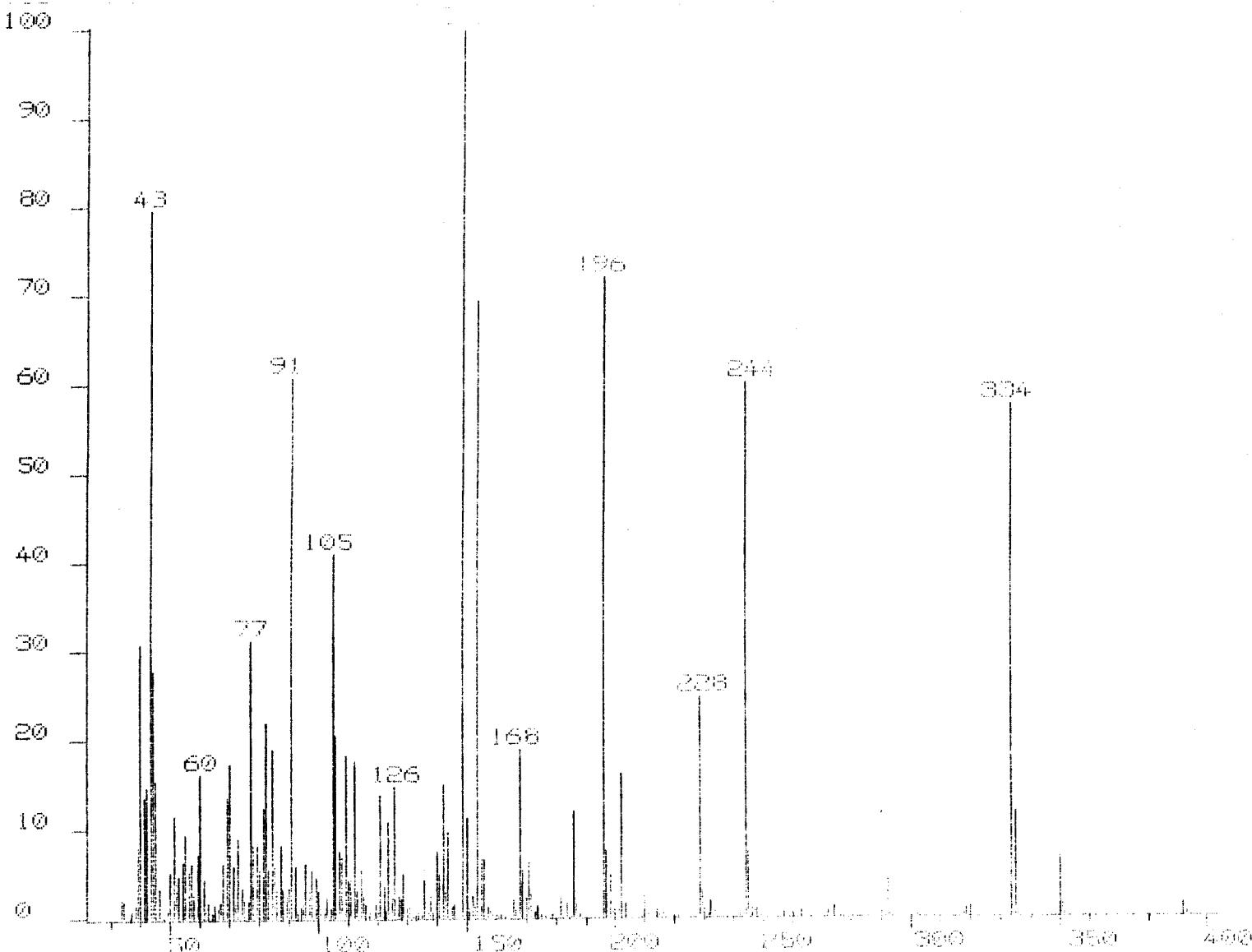


Espectro de masas (EI) de 3-acetil-2-metoxicarbonil-(1-O-benyl-4,6-O-benzyldiene-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (40)

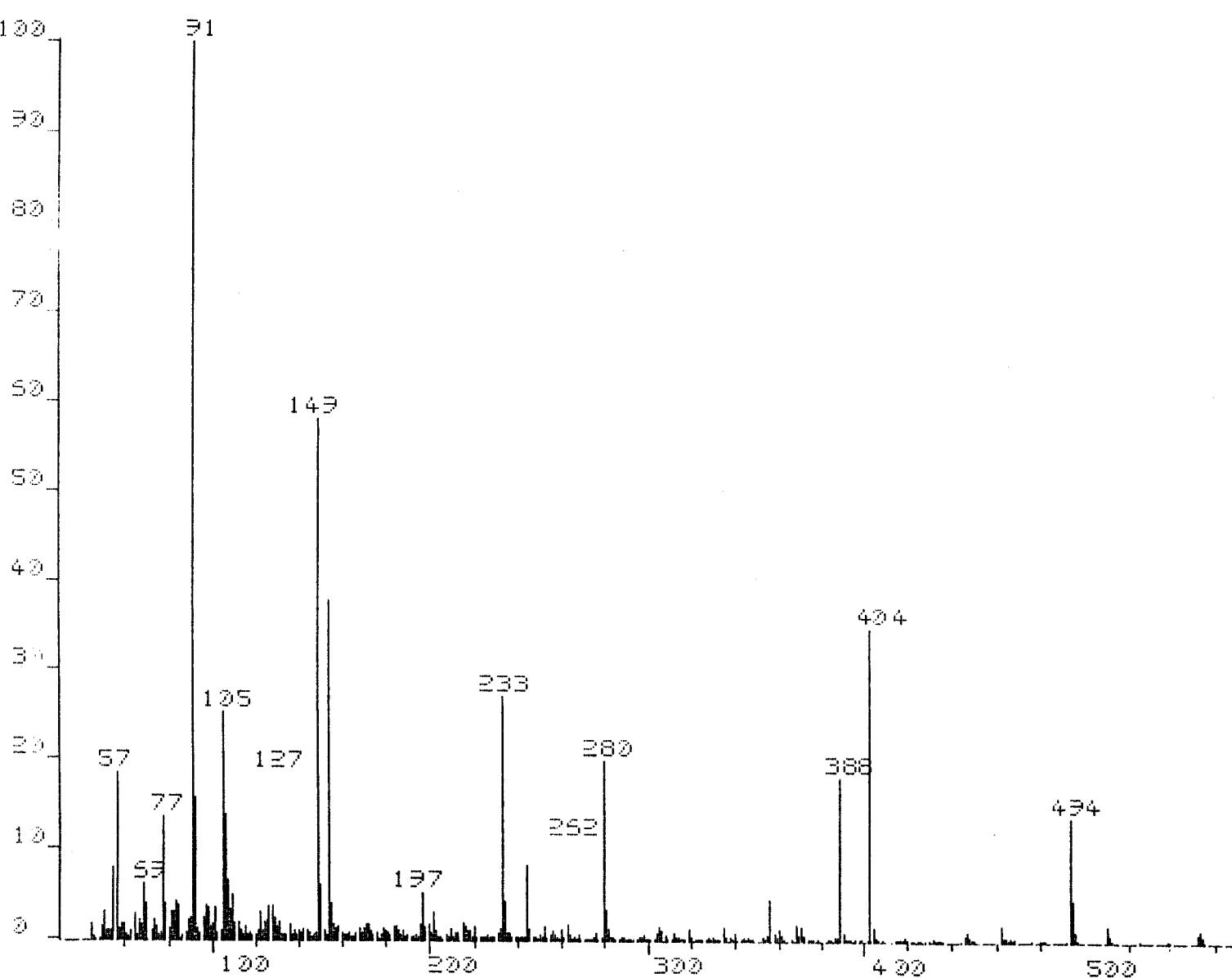


Espectro de masas (EI) de 3-acetyl-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi-1-O-methyl- α -D-glucopirán)-[2,3-d]-oxazolidina (81)

Figura 68-A

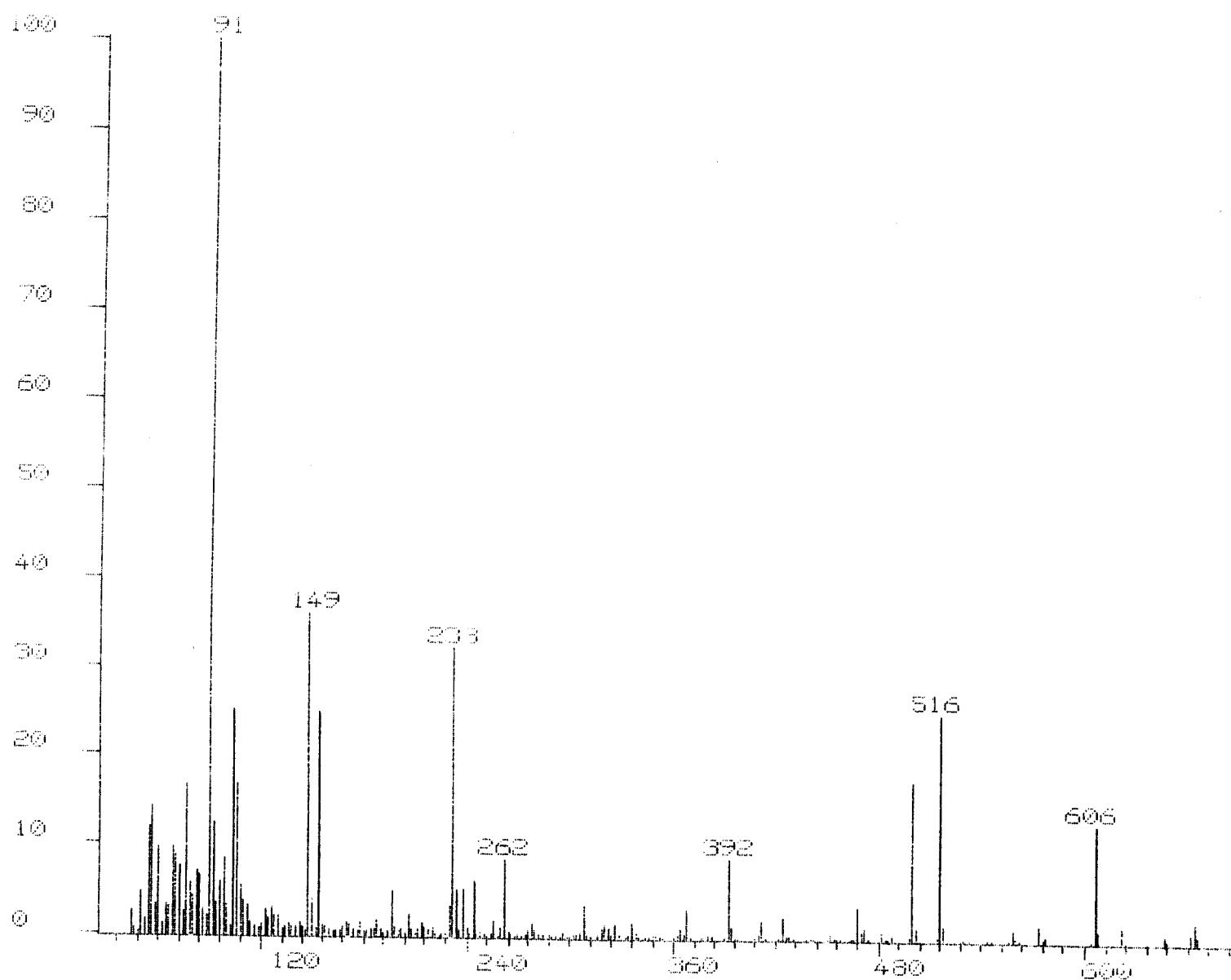


Espectro de masas (EI) de 3-acetil-2-metoxicarbonil-(4,6-O-bencilidén-2,3-didesoxi-1-O-methyl- β -D-glucopirán)-[2,3-d]-oxazolidina (69)



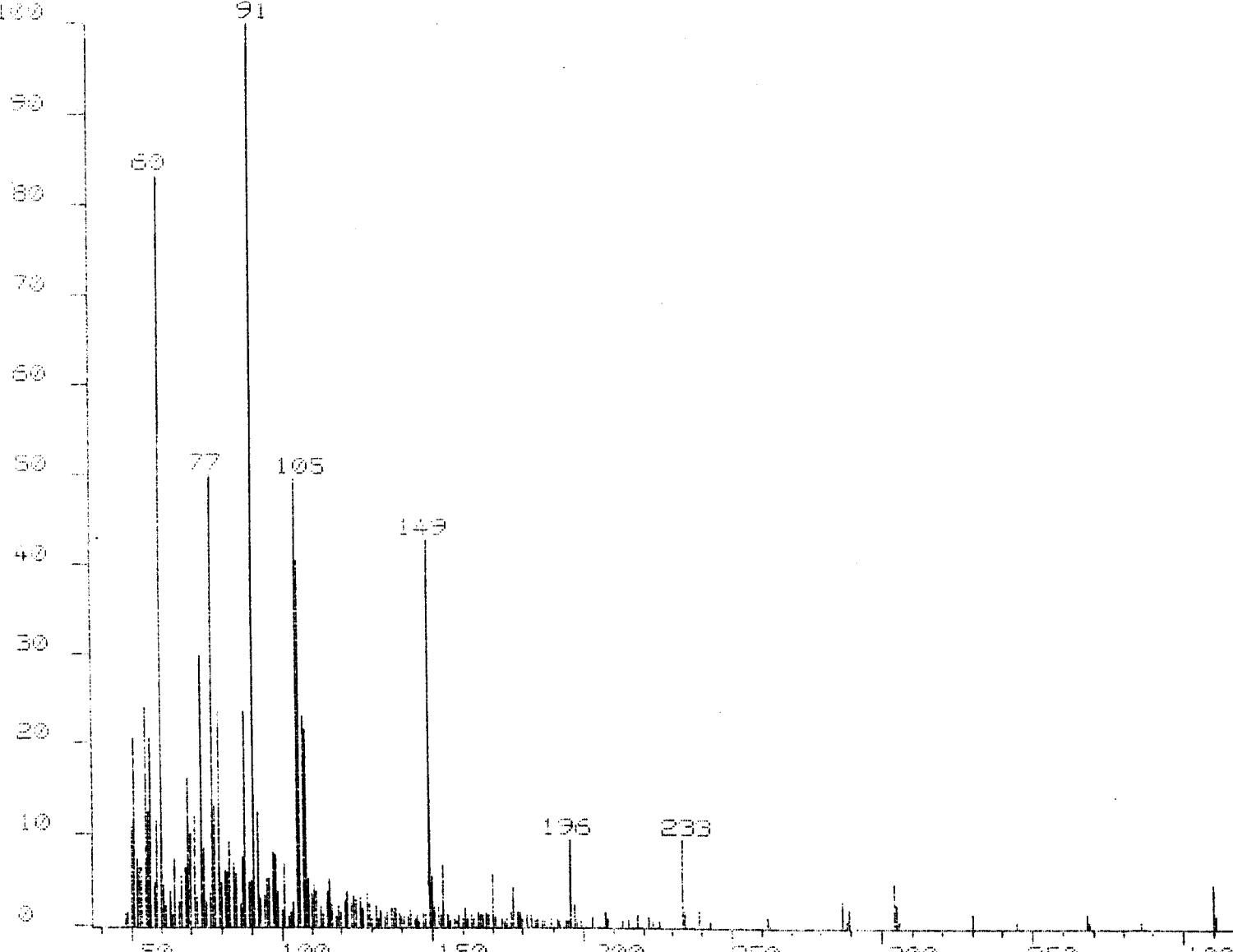
Espectro de masas (EI) de 2-metoxicarbonil-3-n-octanoil-(1-O-bencil-4,6-O-benciclidén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolididina (41)

Figura 70-A



Espectro de masas (EI) de 2-metoxicarbonil-3-palmitoil-(1-O-bencil-4,6-O-benzo-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (42)

Figura 71 - A



Espectro de masas (EI) de 3-acetyl-2-carboxamido-(1-O-benyl-4,6-O-benylidene-2,3-didesoxy- α -D-glucopyran)-[2,3-d]-oxazolidina (43)

Figura 71-A(bis)

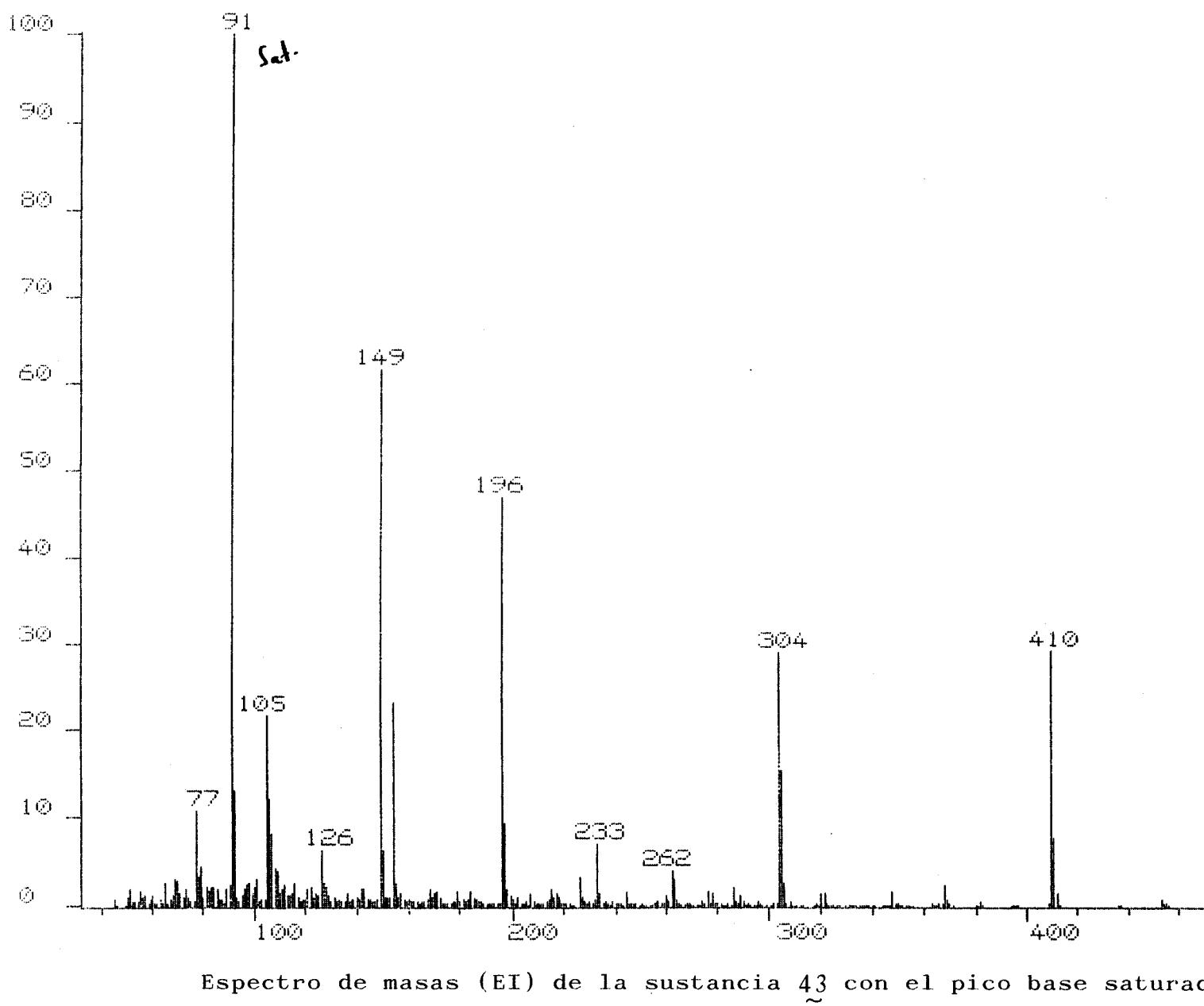
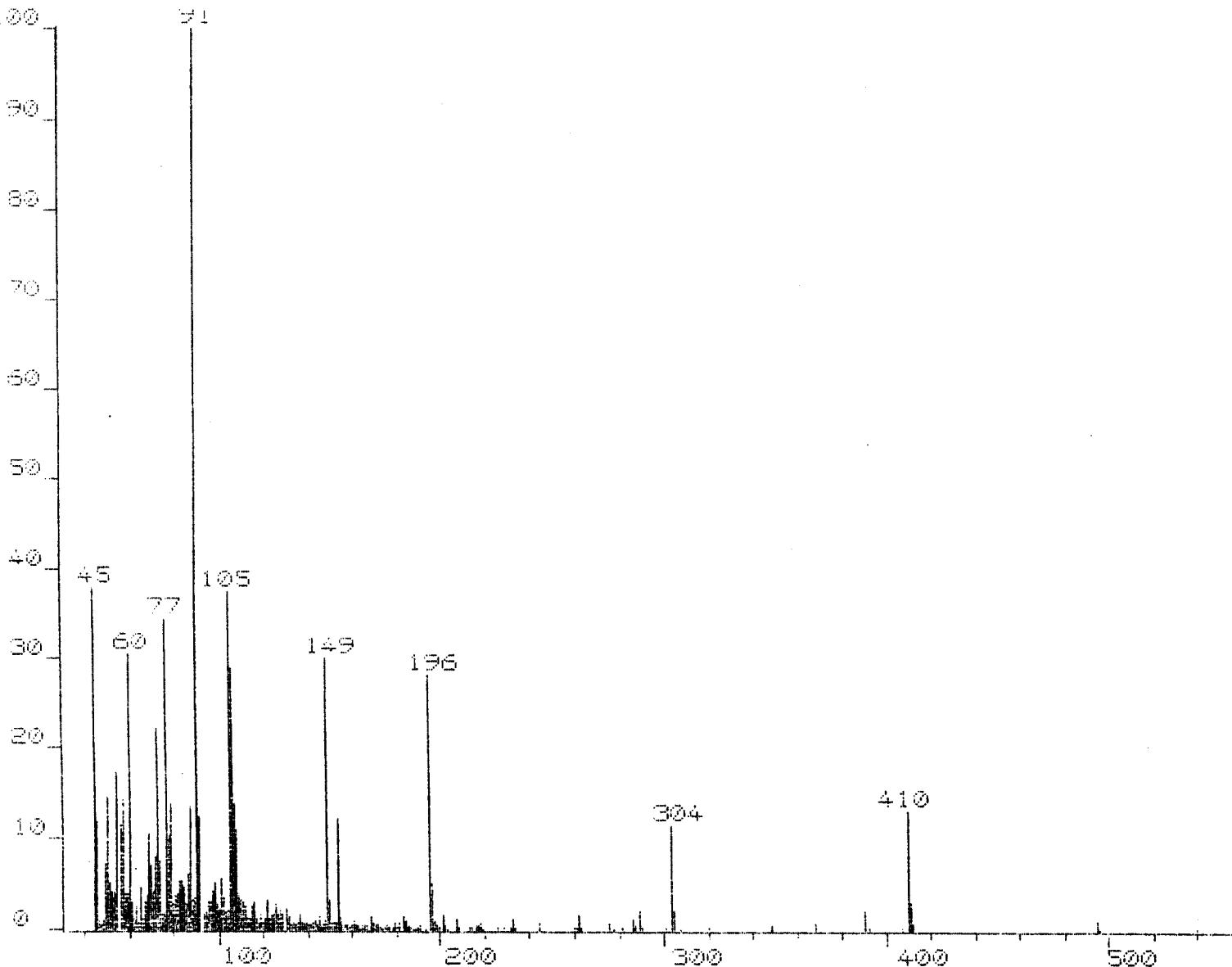
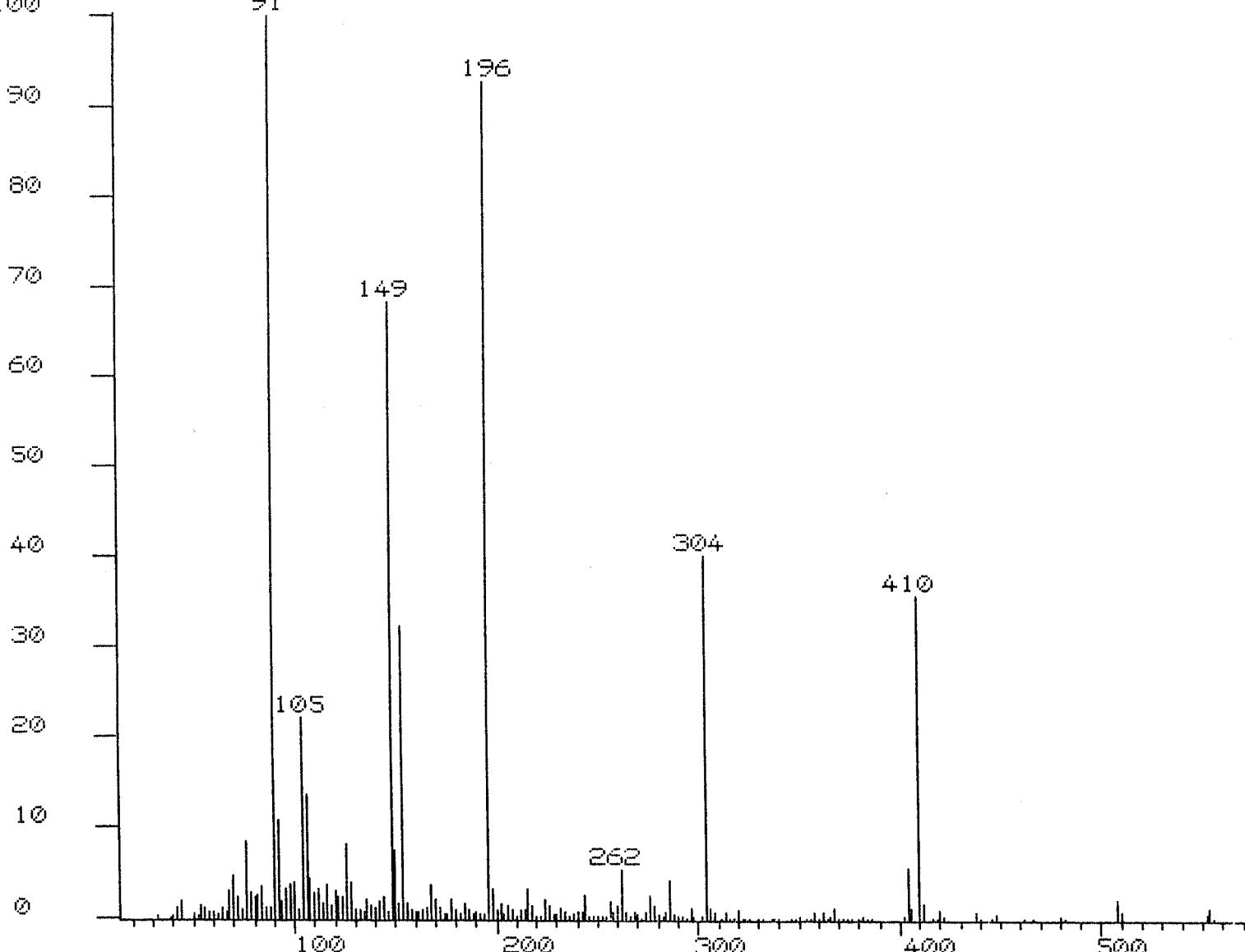


Figura 72-A



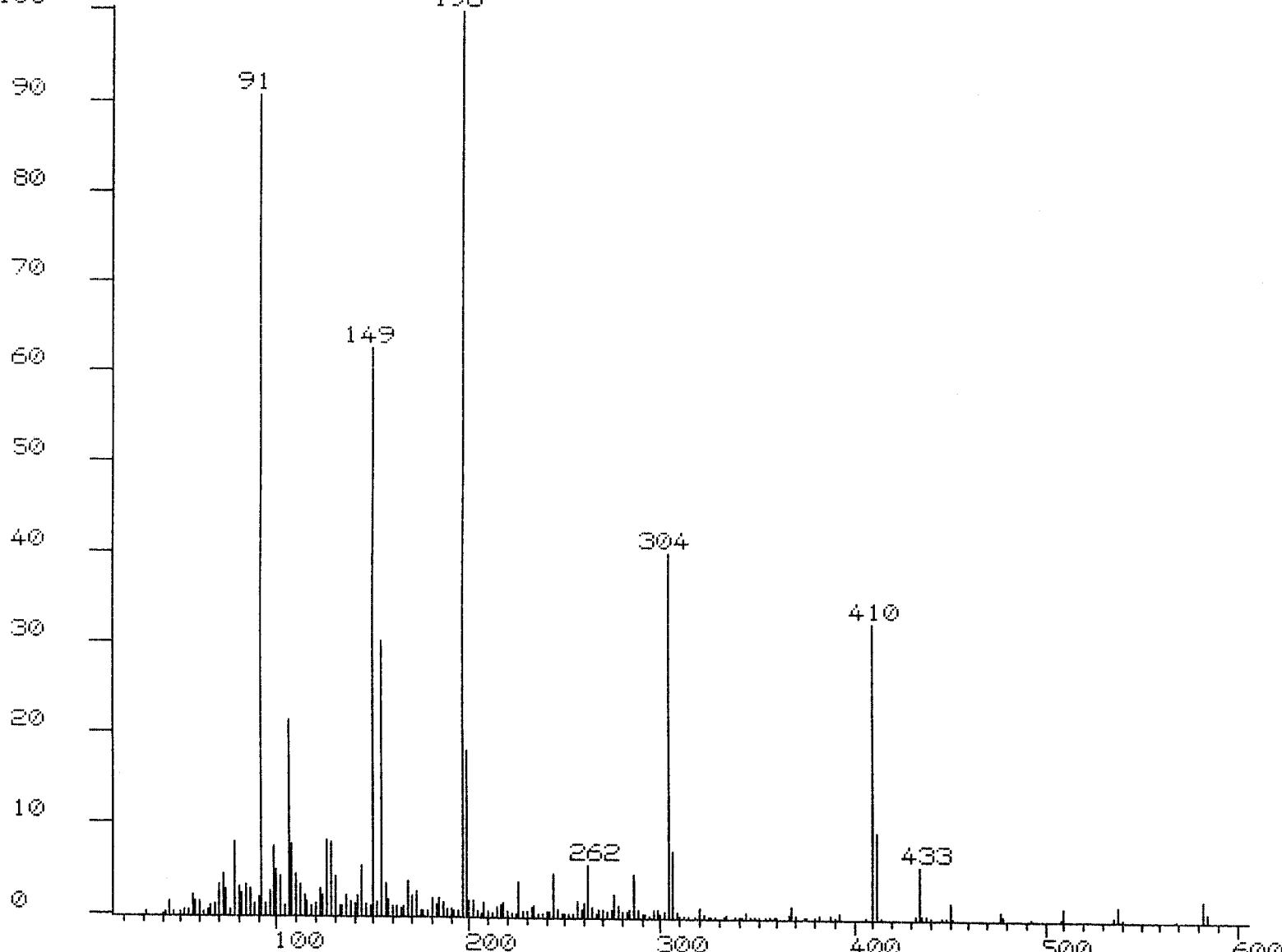
Espectro de masas (EI) del éster etílico de 3-acetil-(1-O-benyl-4,6-O-benzyldien-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonilglicina (44)

Figura 73-A

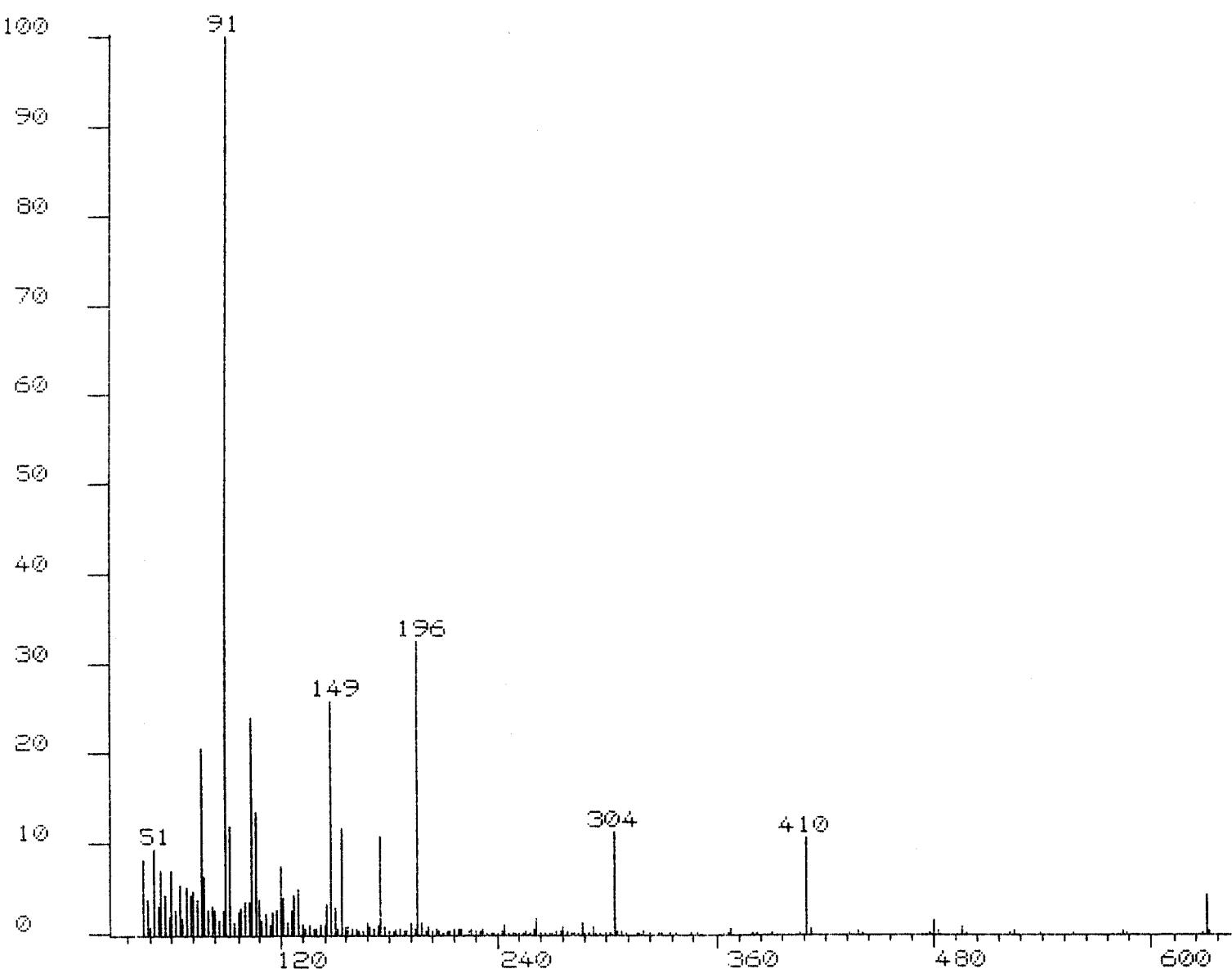


Espectro de masas (EI) del éster etílico de 3-acetil-(1-O-bencil-4,6-O-benzyldien-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanina (45)

Figura 74-A

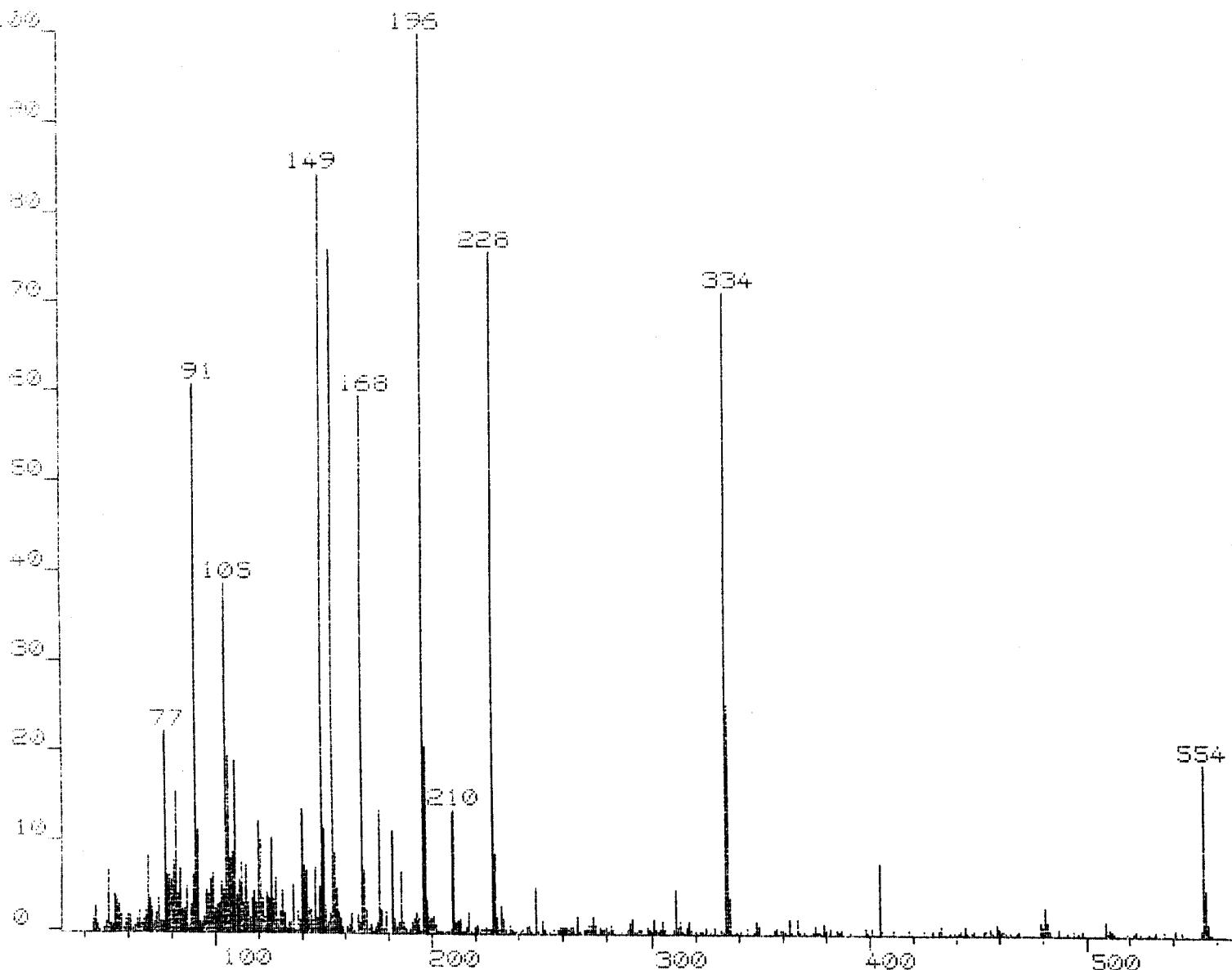


Espectro de masas (EI) del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-valina (46)

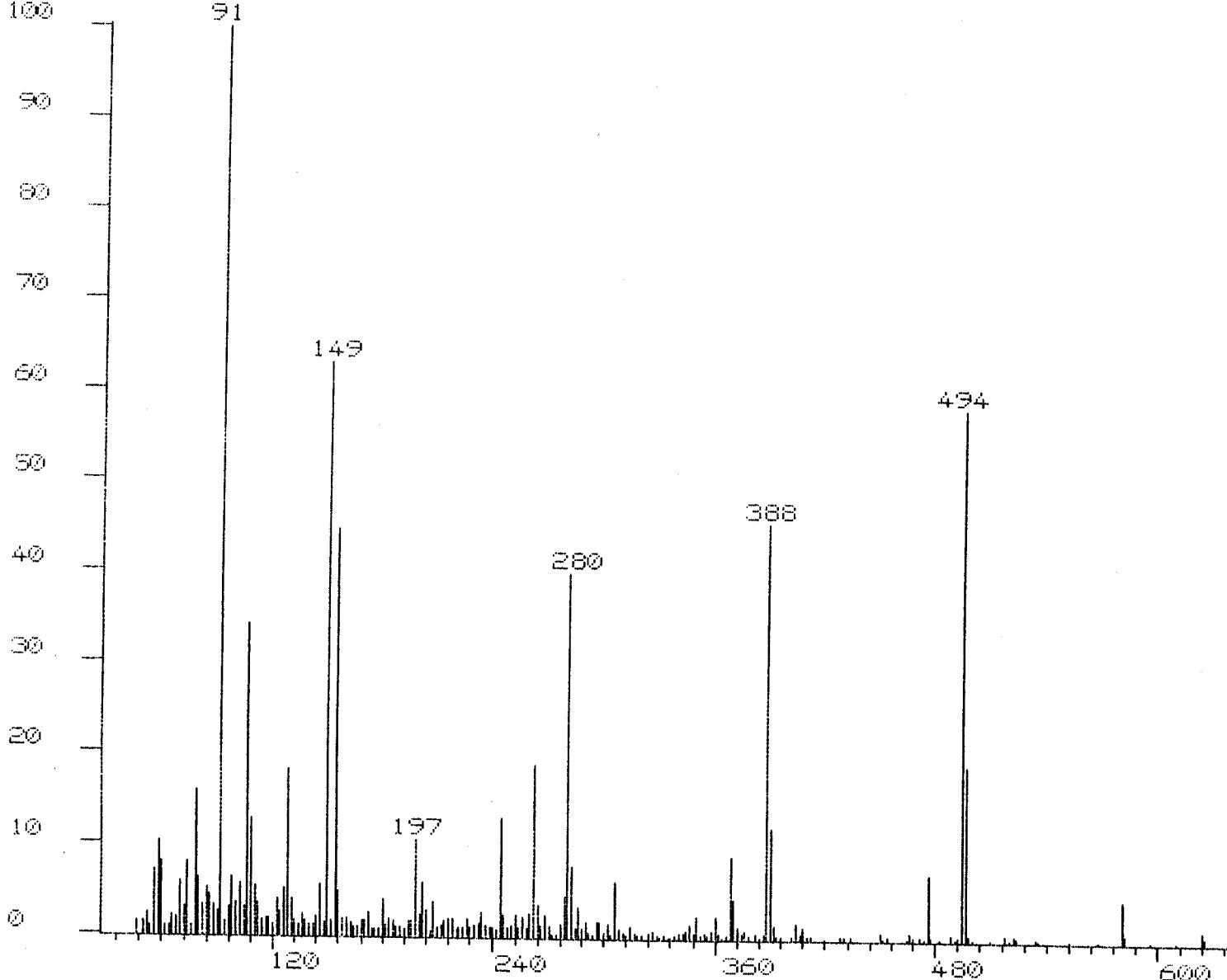


Espectro de masas (EI) del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-fenilalanina (47)

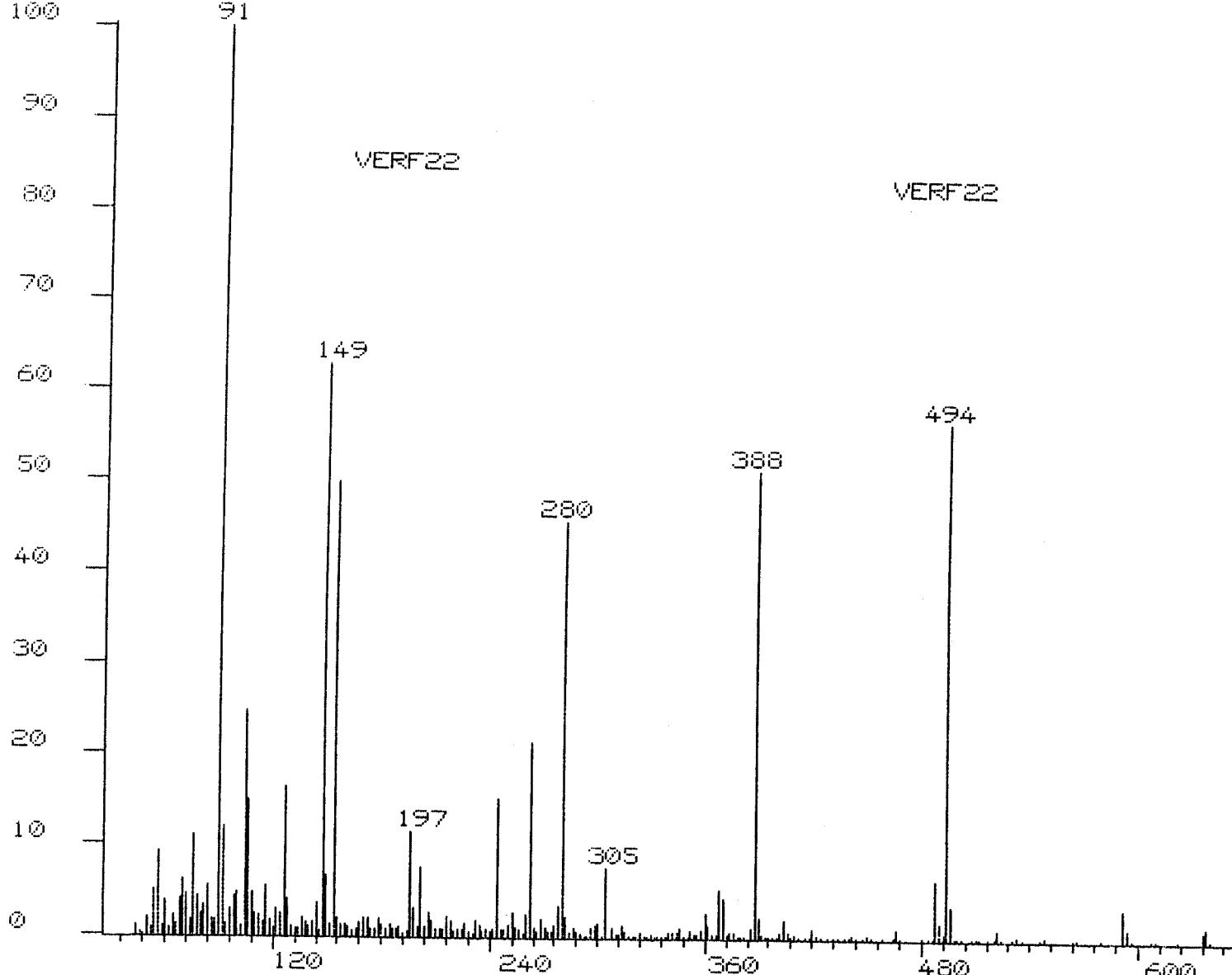
Figura 76-A



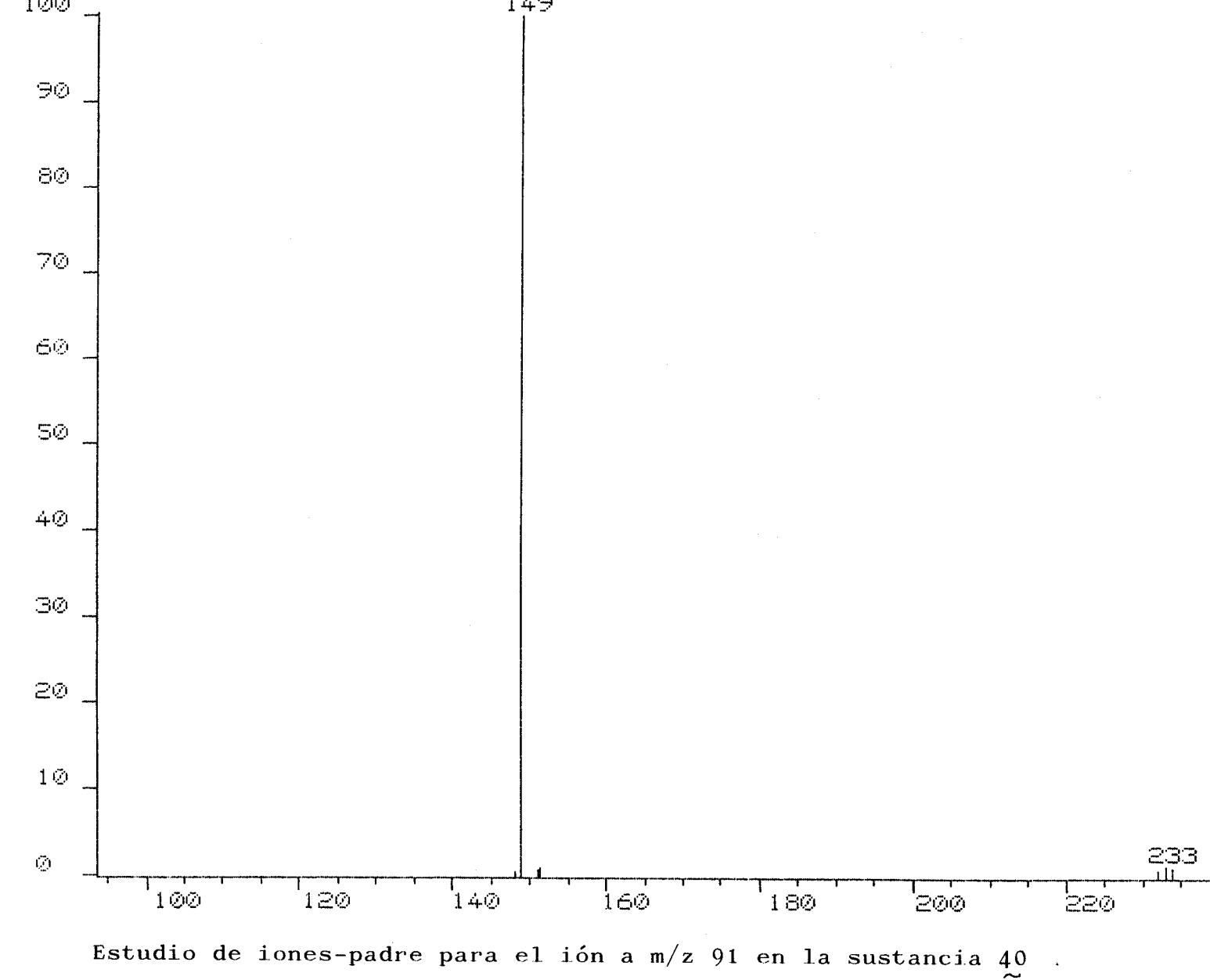
Espectro de masas (EI) del éster etílico de 3-acetil-(4,6-O-bencildien-2,3-dideoxi-1-O-methyl- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-fenilalanina (82)



Espectro de masas (EI) del éster etílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonilglicina (48)

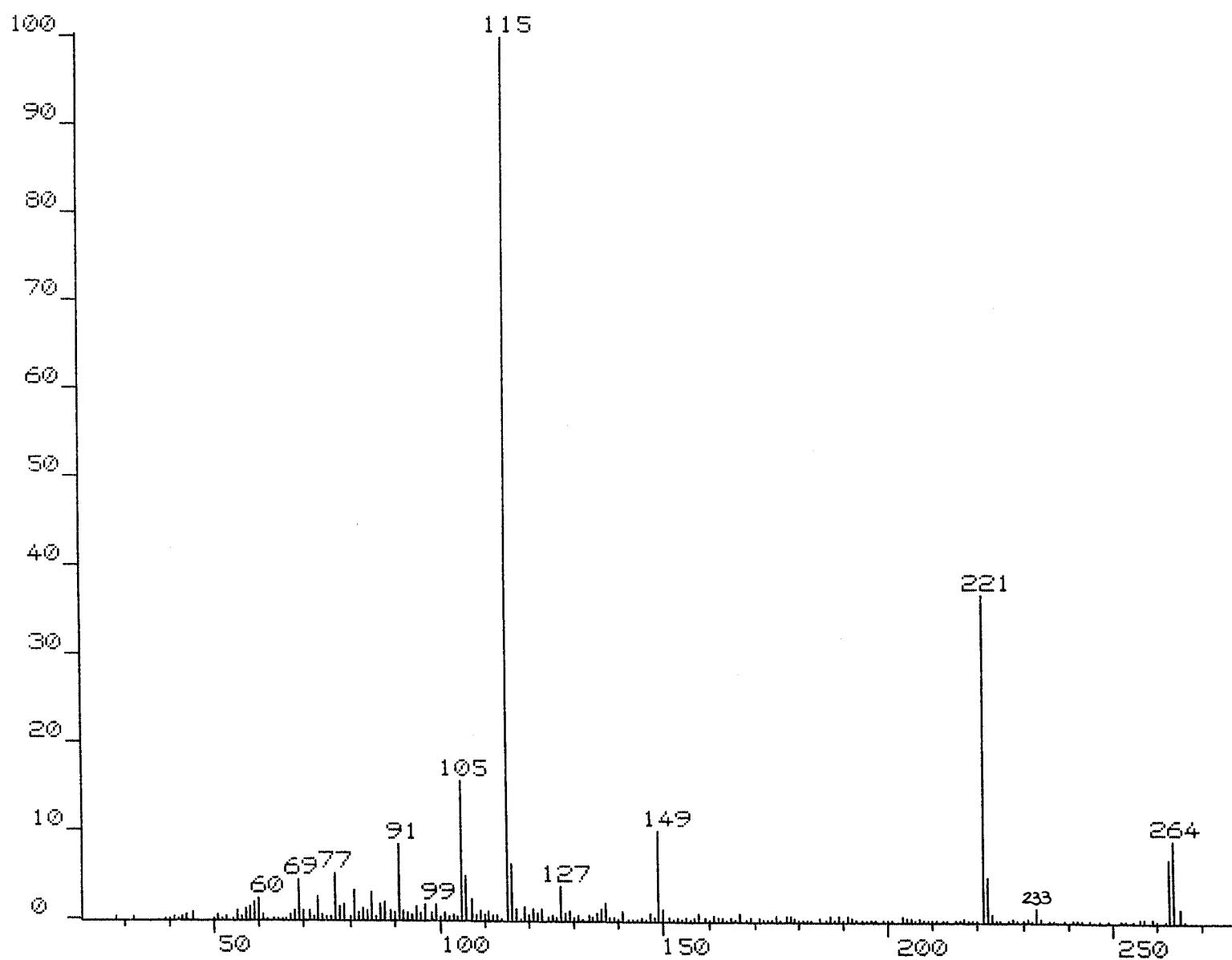


Espectro de masas (EI) del éster etílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencili-
dén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonil-L-alanina (49)



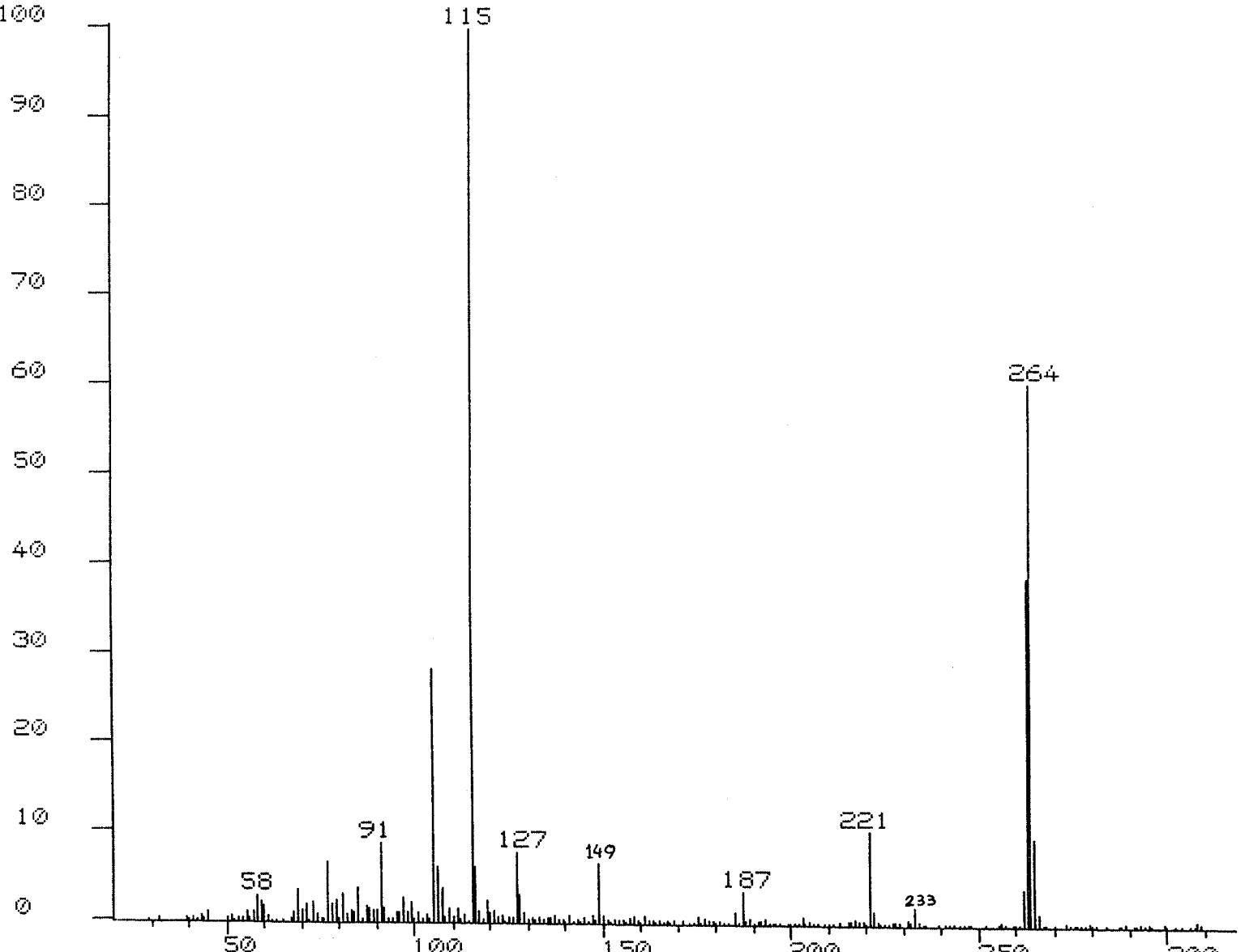
Estudio de iones-padre para el ión a m/z 91 en la sustancia 40

Figura 79-A



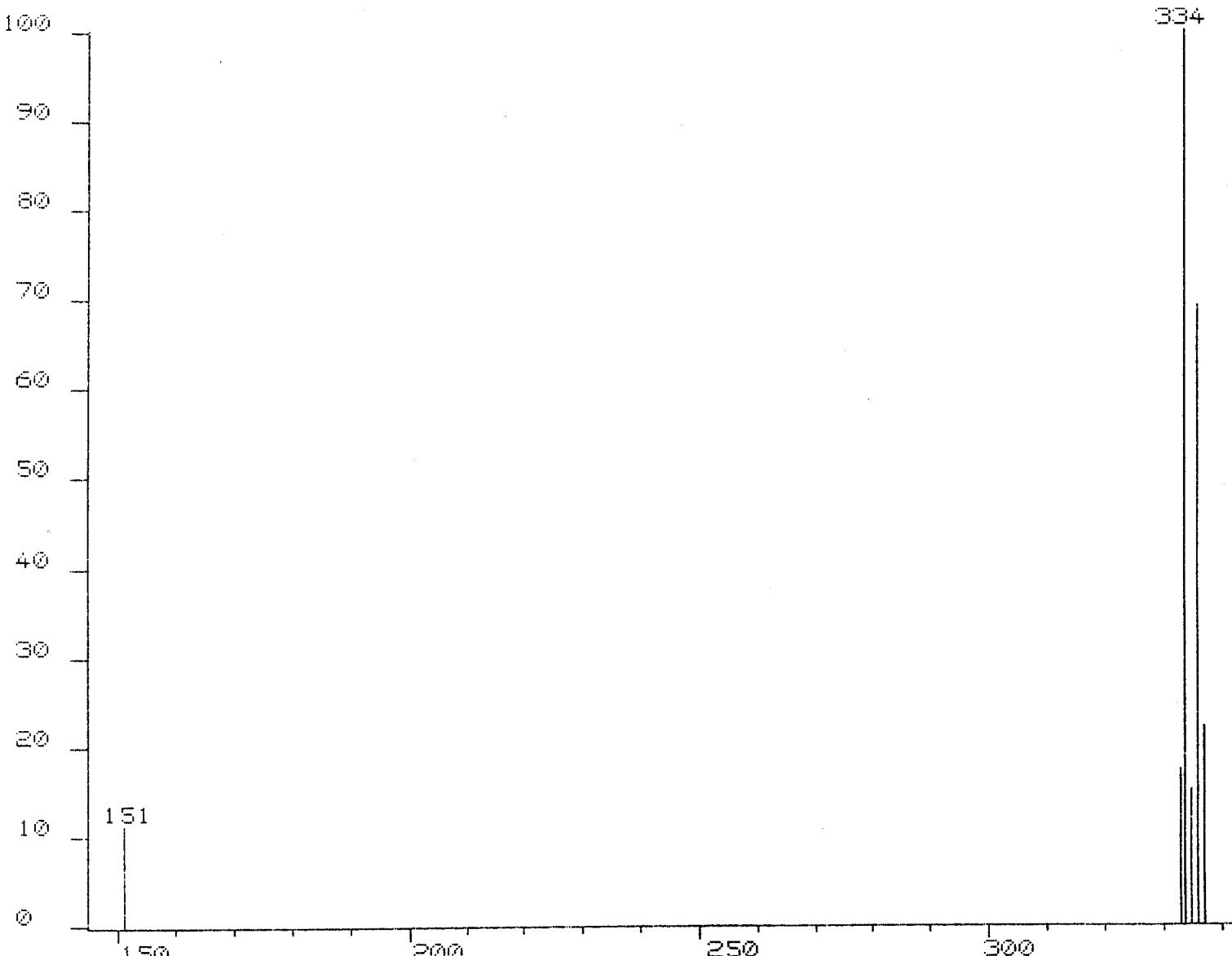
Espectro de masas (EI) de metil 2,3-anhidro-4,6-O-bencildien-2,3-didesoxi- α -D-mannopyranósido

Figura 81-A

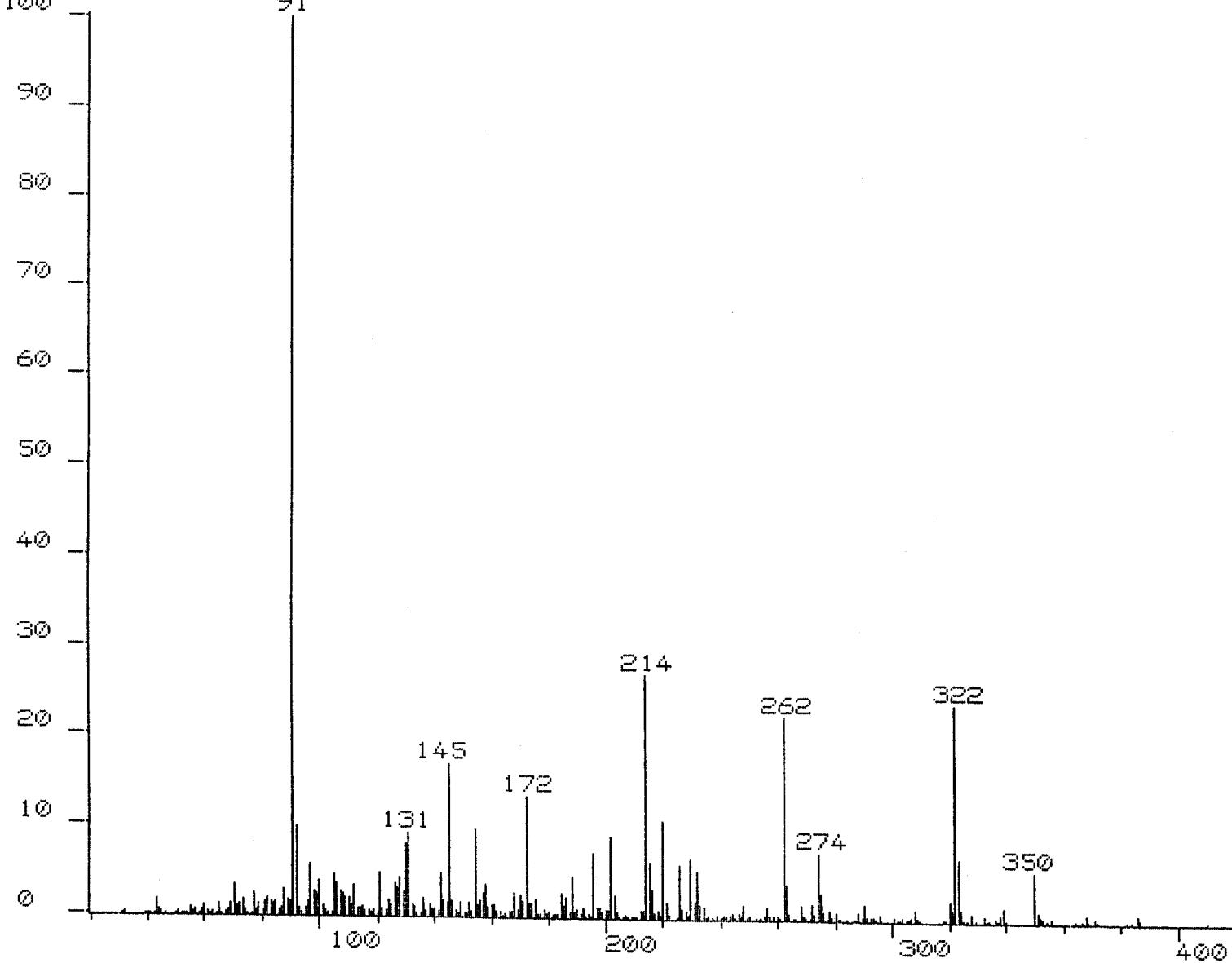


Espectro de masas (EI) de metil 2,3-anhidro-4,6-O-bencildén-2,3-didesoxi- α -D-alopyranósido

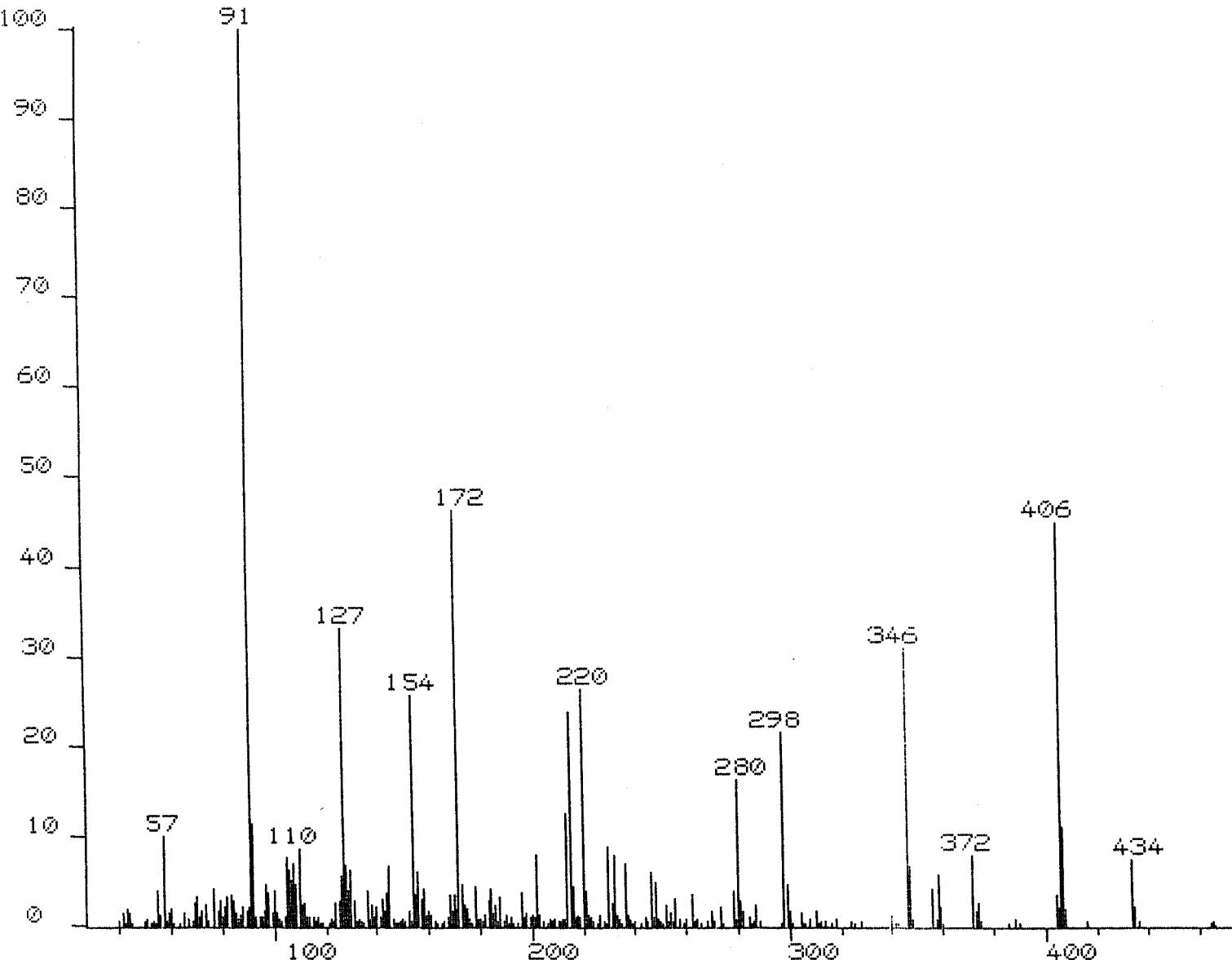
Figura 82-A



Estudio de iones-padre para el ión a m/z 149 en la sustancia 69

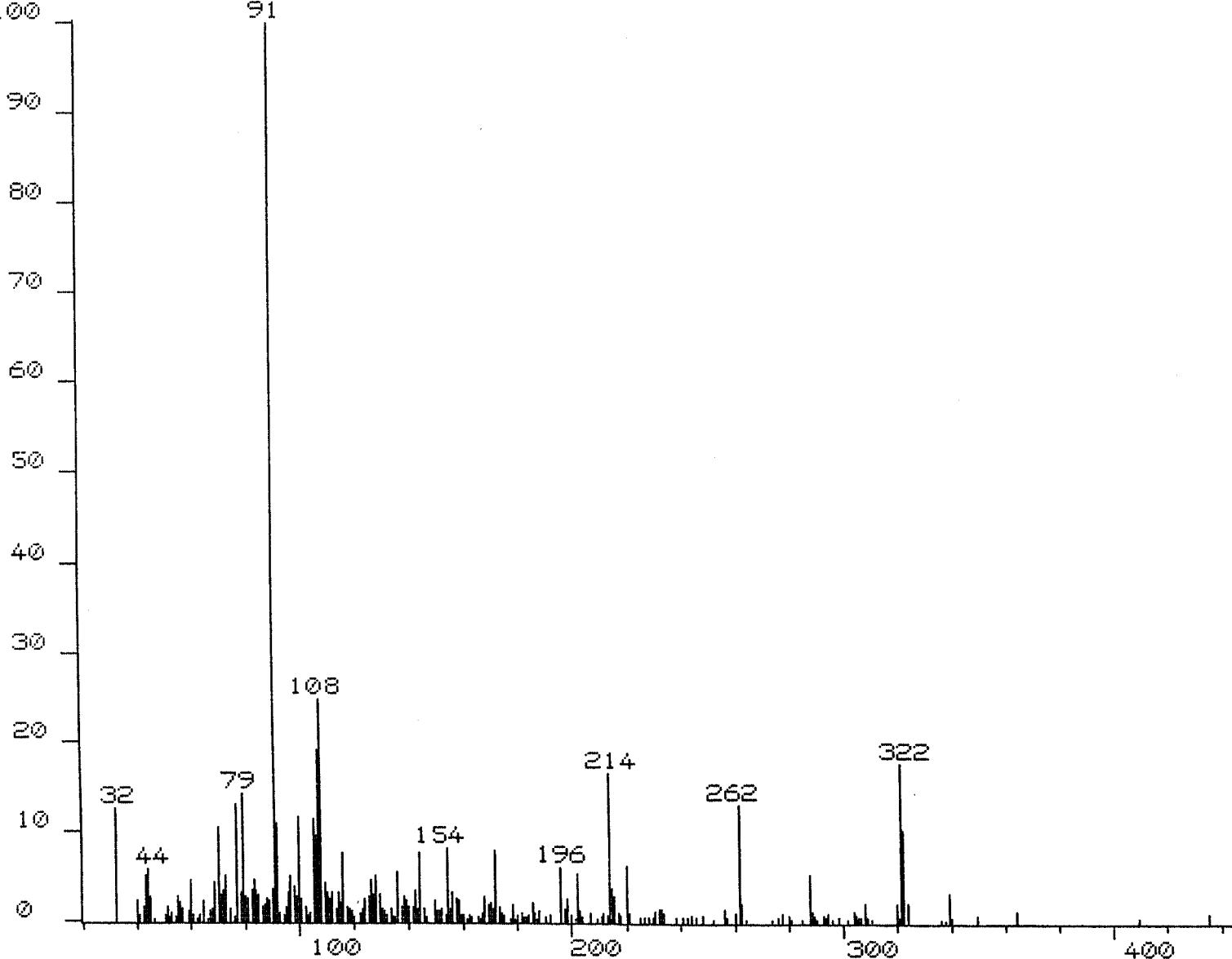


Espectro de masas (EI) de 3-acetyl-2-metoxicarbonil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (55)



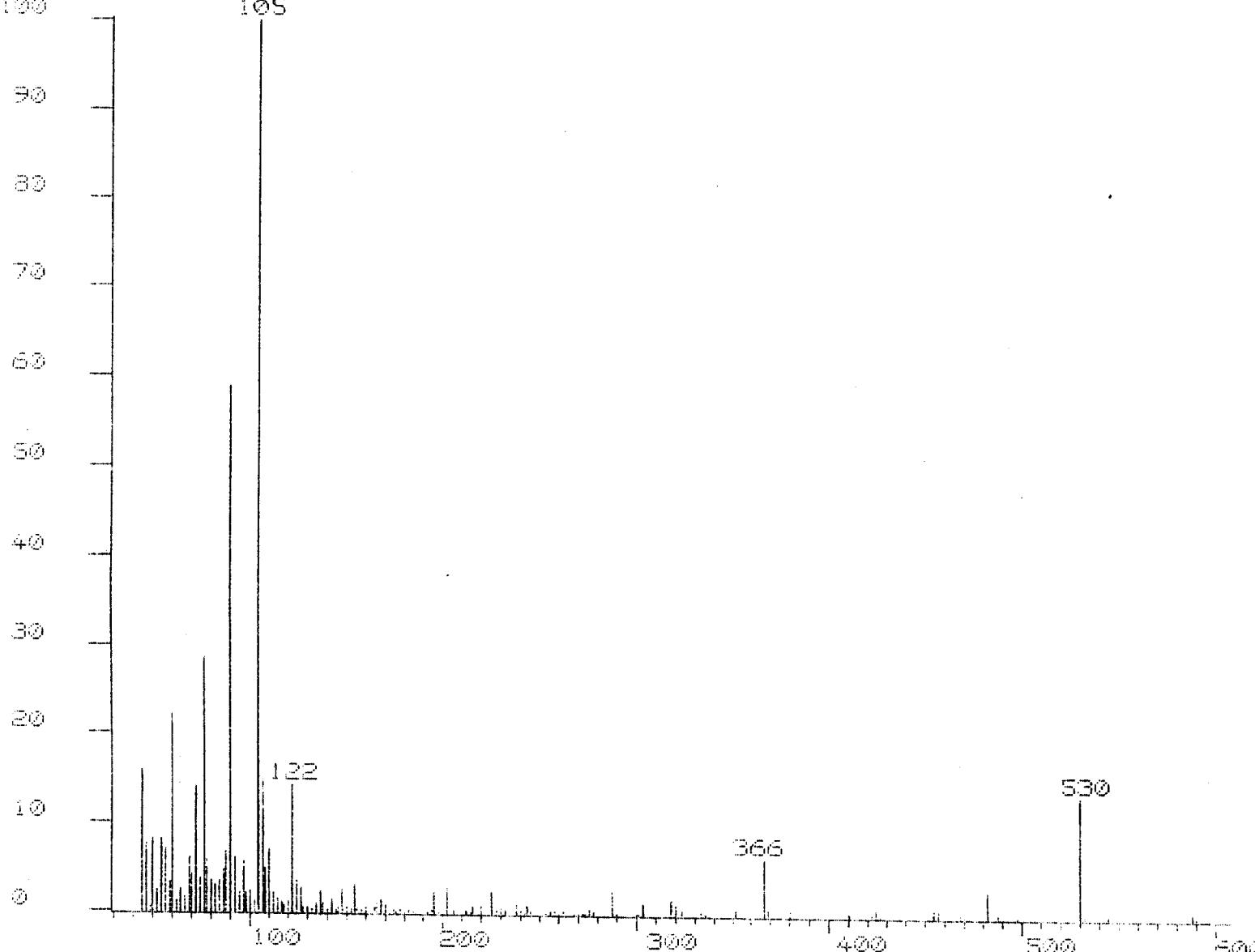
Espectro de masas (EI) de 2-metoxicarbonil-3-n-octanoil-(1-O-bencil-2,3-didesoxi-
- α -D-glucopirán)-|2,3-d|-oxazolidina (56)

Figura 85-A



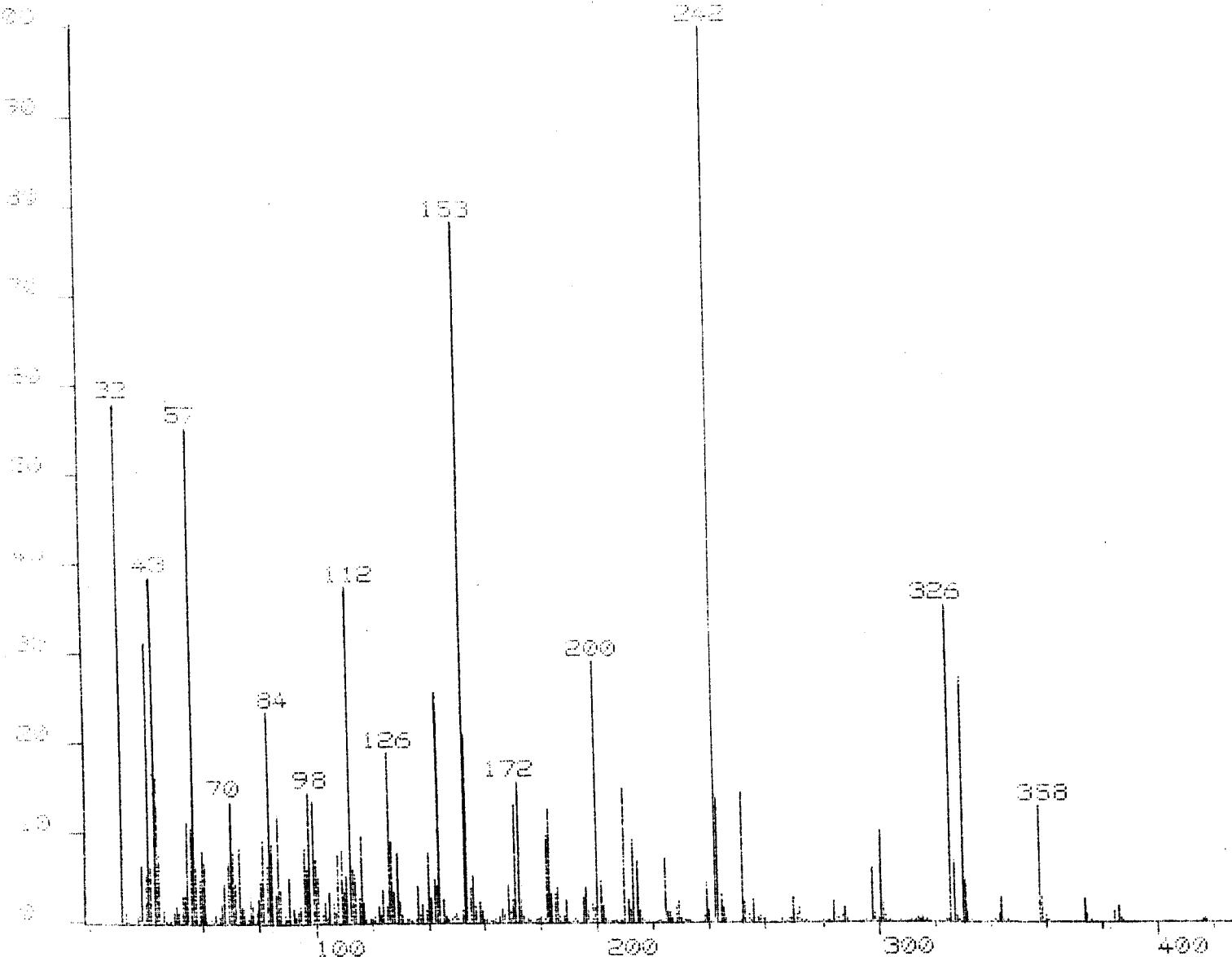
Espectro de masas (EI) del éster etílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanina (60)

Figura 86-A



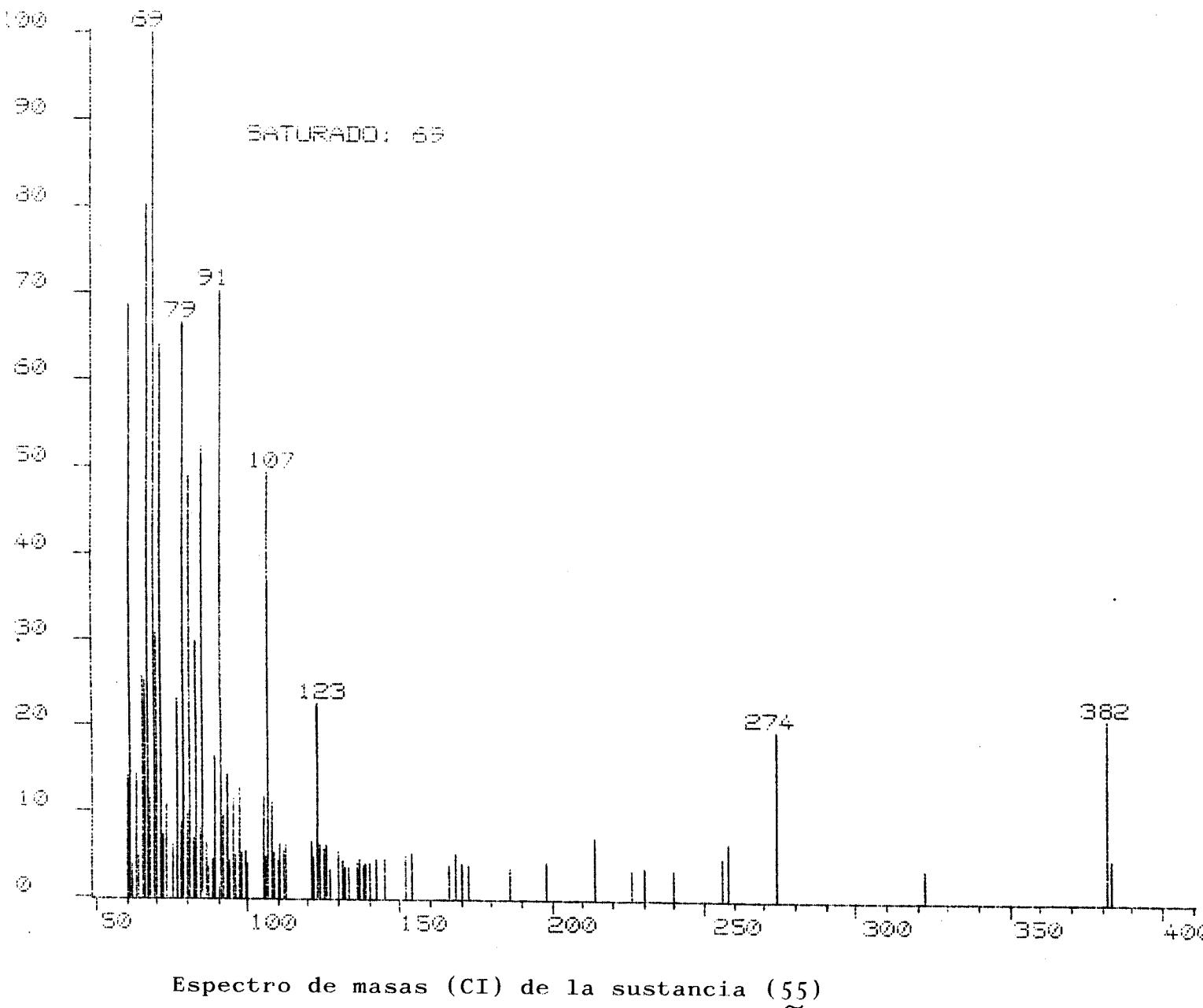
Espectro de masas (EI) de 3-acetyl-2-metoxicarbonil-(1-O-bencil-4,6-di-O-benzoil-
-2,3-didesoxi- α -D-glucopirán)-| 2,3-d|-oxazolidina (57)

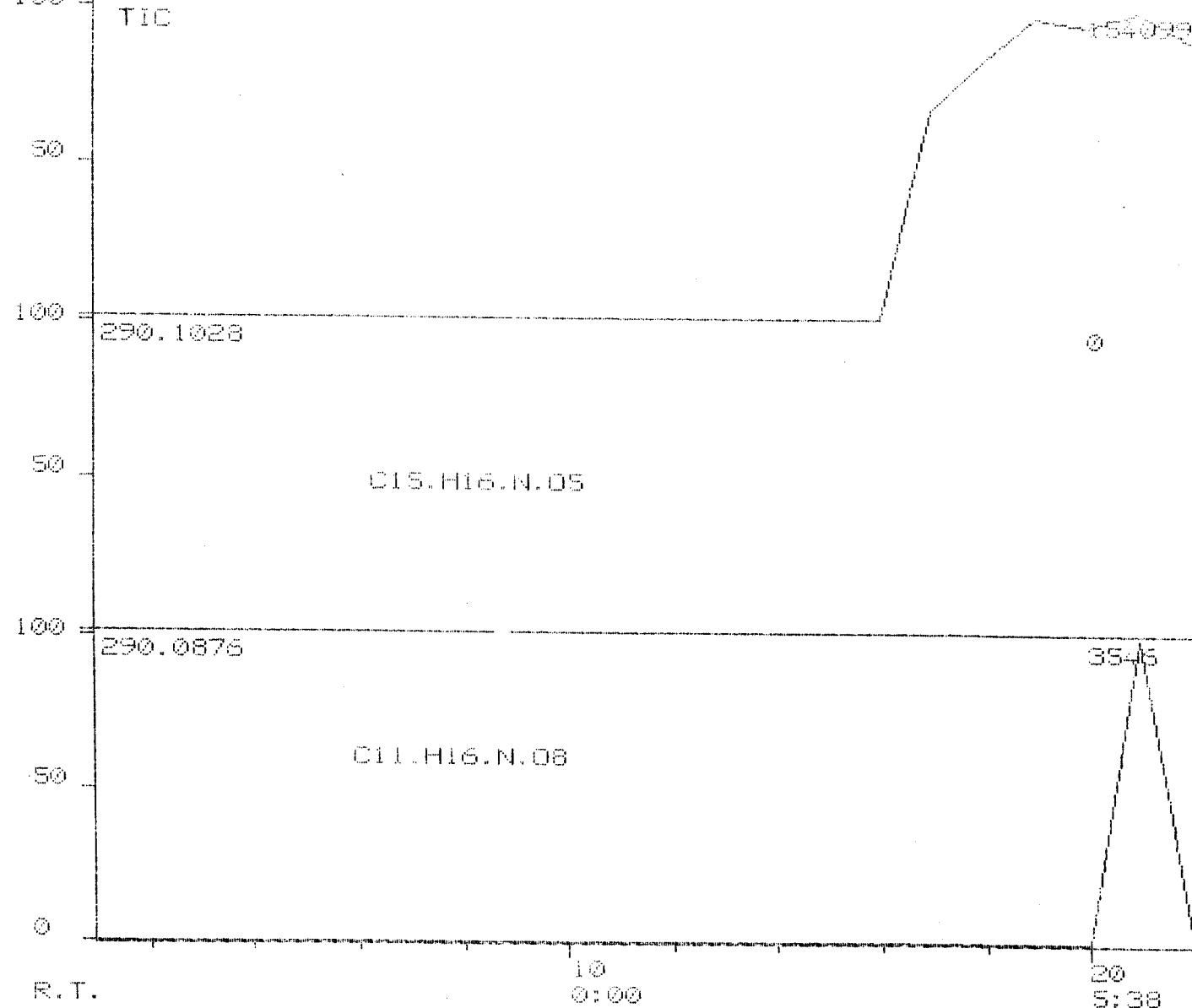
Figura 87-A



Espectro de masas (EI) de 3-acetyl-2-metoxicarbonil-(4,6-di-O-n-butyl-2,3-didesoxy-
-1-O-methyl- α -D-glucopirán)-[2,3-d]-oxazolidina (78)

Figura 88-A

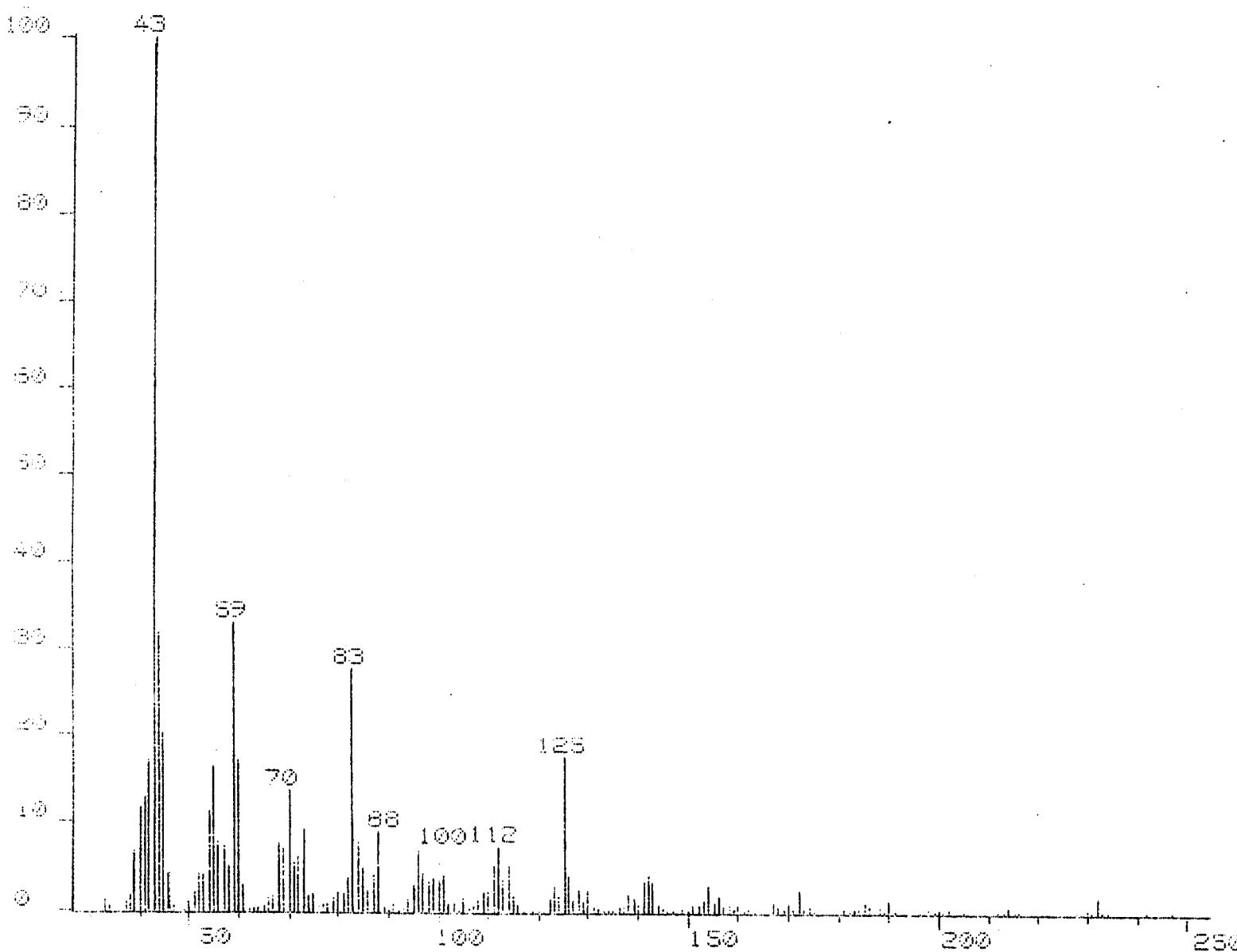




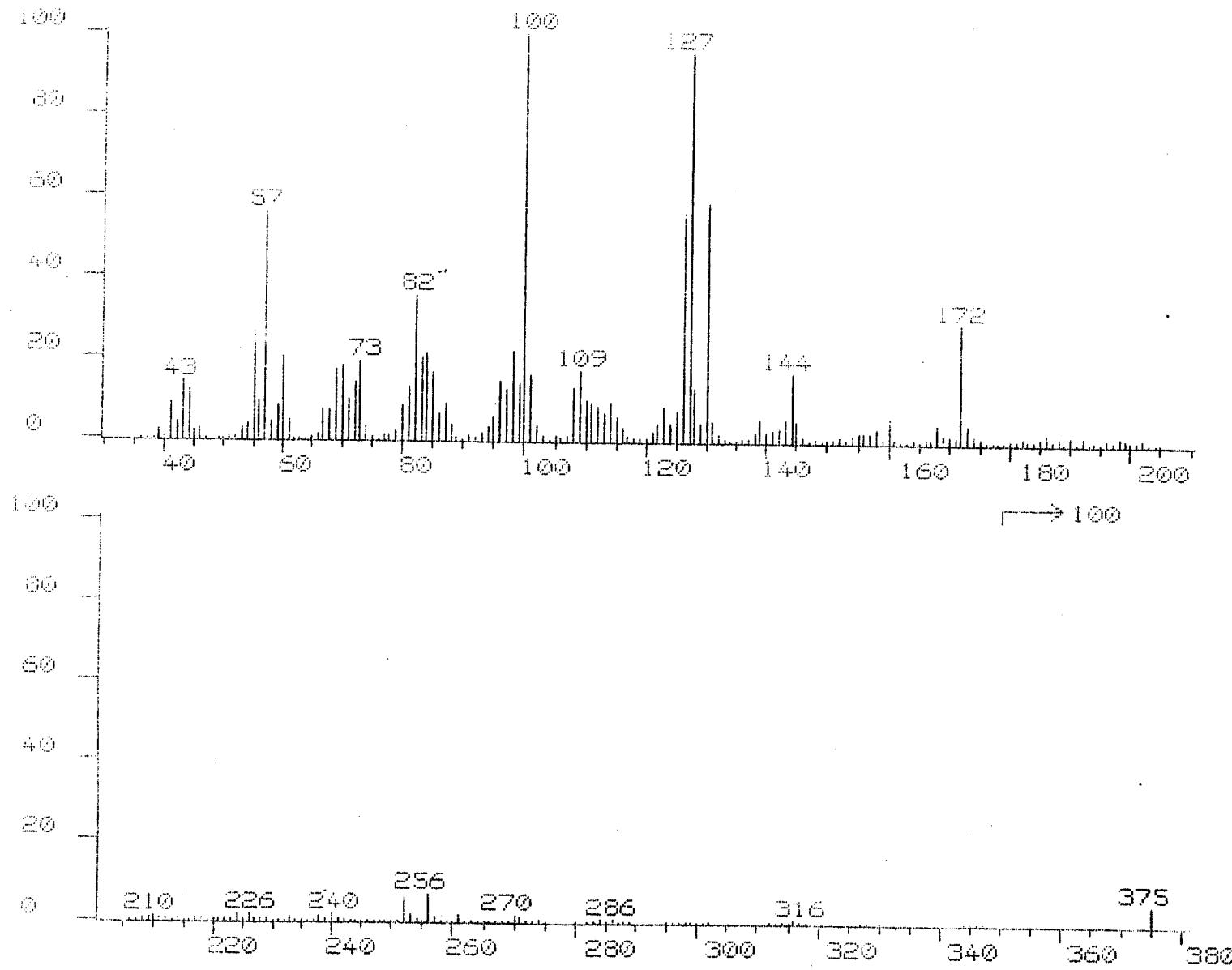
EM alta resolución para C15.H16.N.05 y C11.H16.N.08 para la sustancia 55 con una desviación inferior a 5ppm.

Figura 89-A

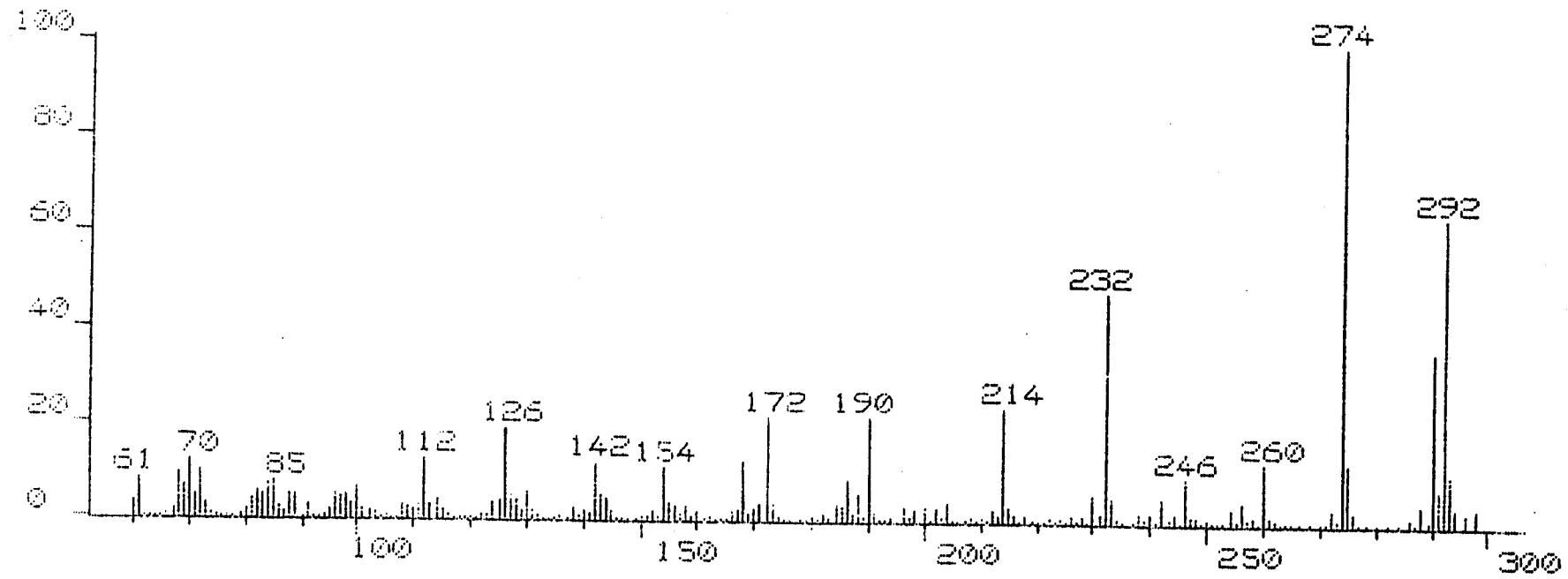
Figura 90-A



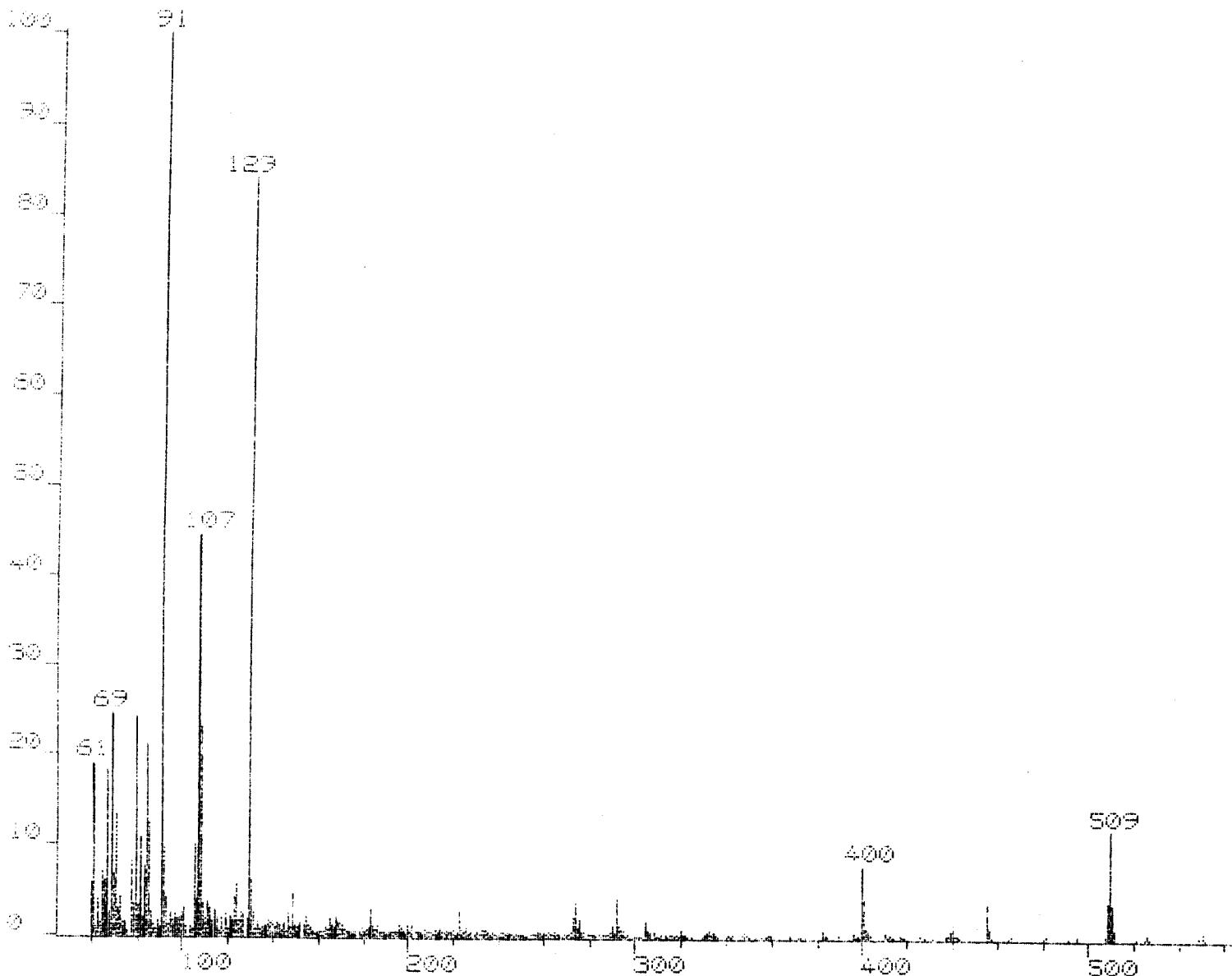
Espectro de masas (EI) de 3-acetil-2-methoxycarbonil-(2,3-didesoxi-D-glucopirán)-
-|2,3-d|-oxazolidina (58)



Espectro de masas (EI) de 2-metoxicarbonil-3-n-octanoil-(2,3-didesoxi-D-glucopiran)-|2,3-d|-oxazolididina (59)

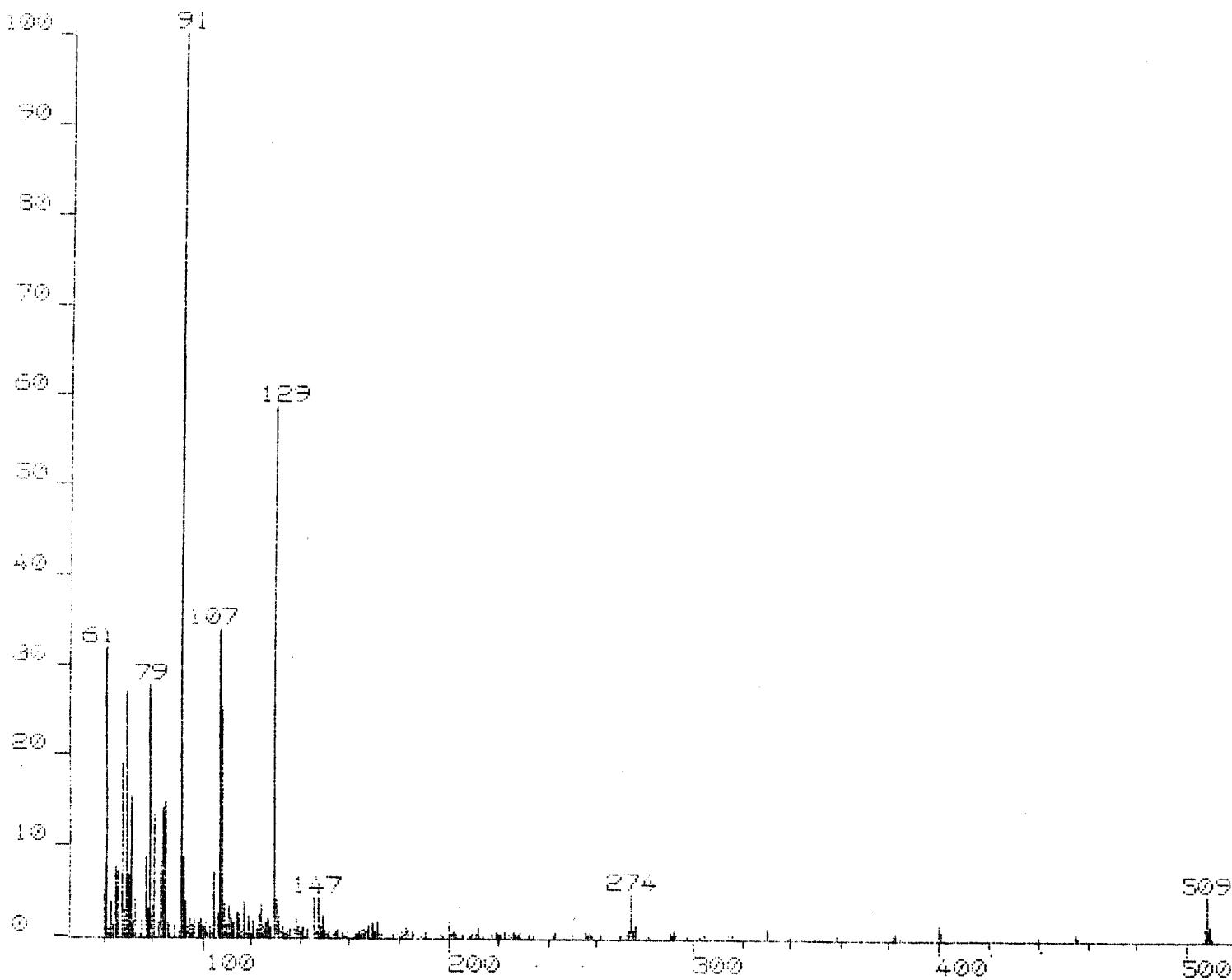


Espectro de masas (CI) de la sustancia (58)



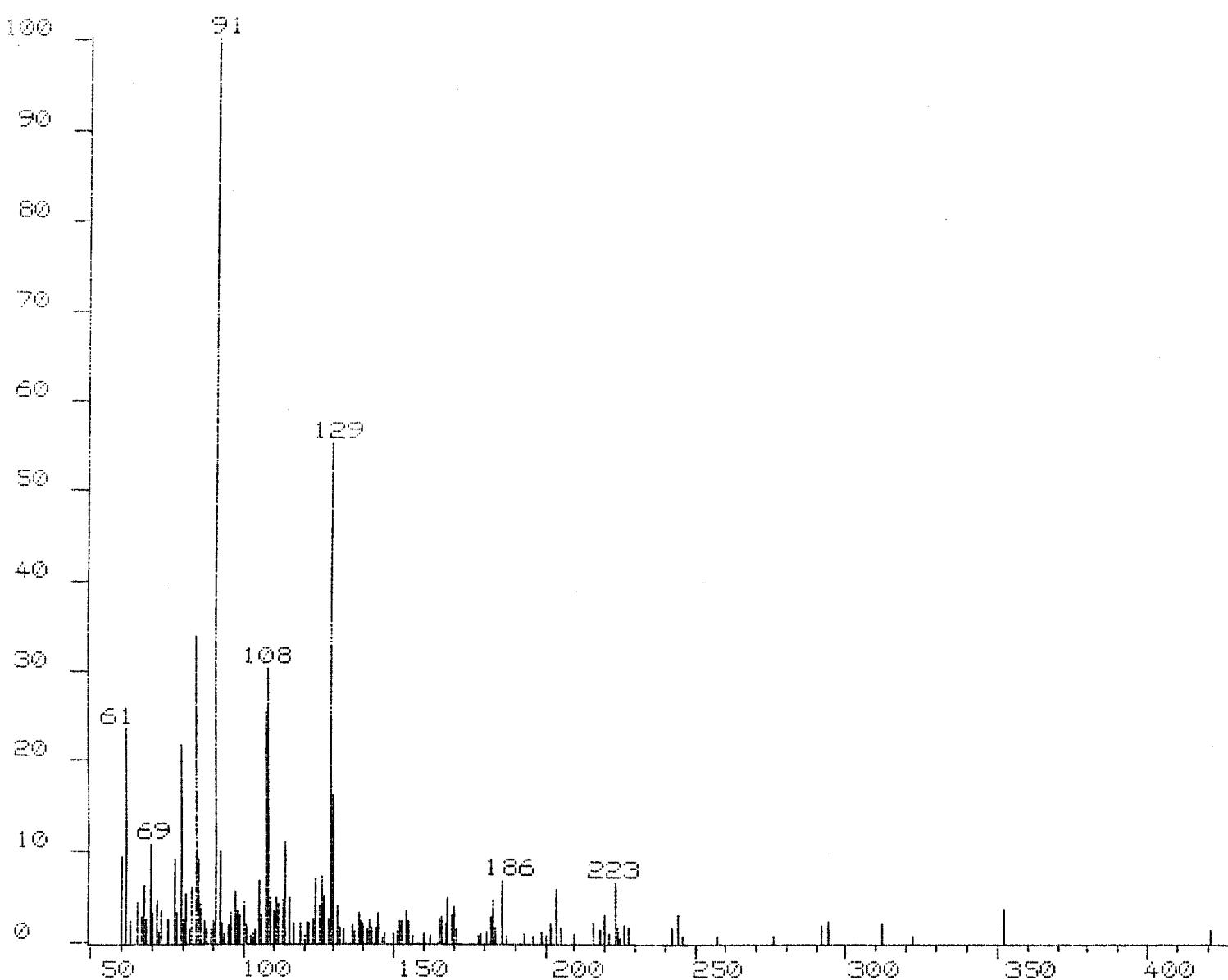
Espectro de masas (CI) del éster bencílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanyl-L-isoglutamina (52)

Figura 94-A

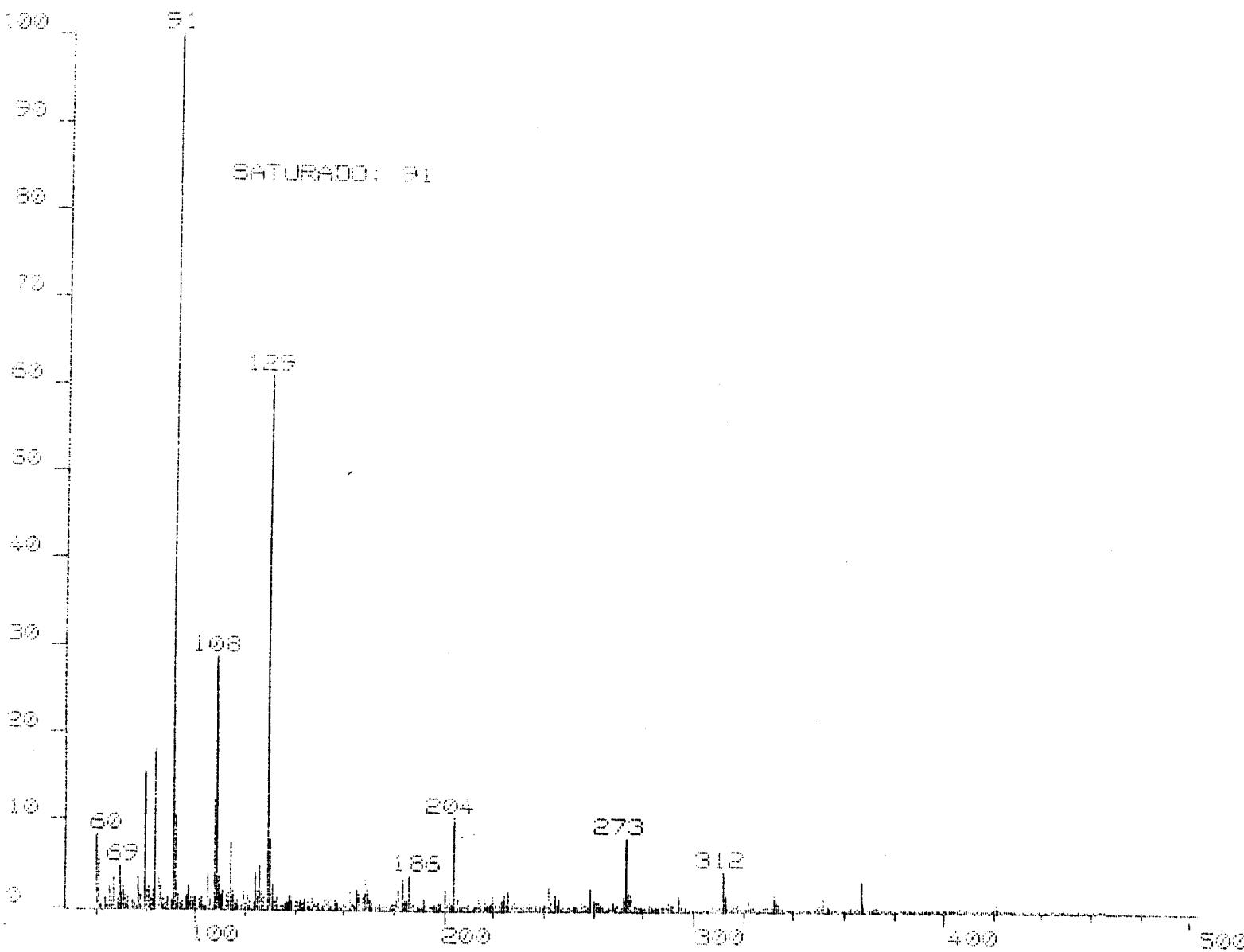


Espectro de masas (CI) del éster bencílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (53)

Figura 95-A

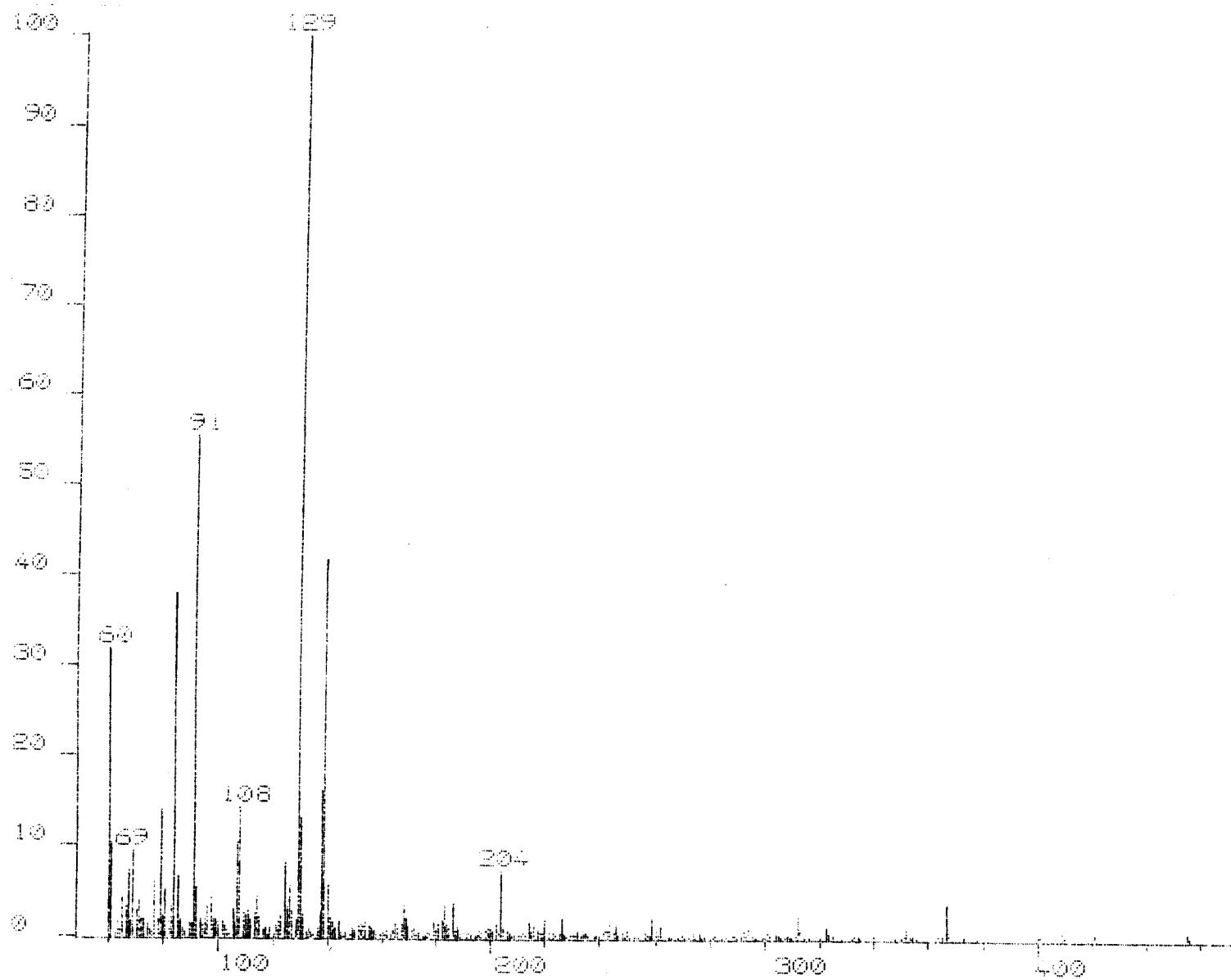


Espectro de masas (CI) del éster bencílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-L-isoglutamina (62)

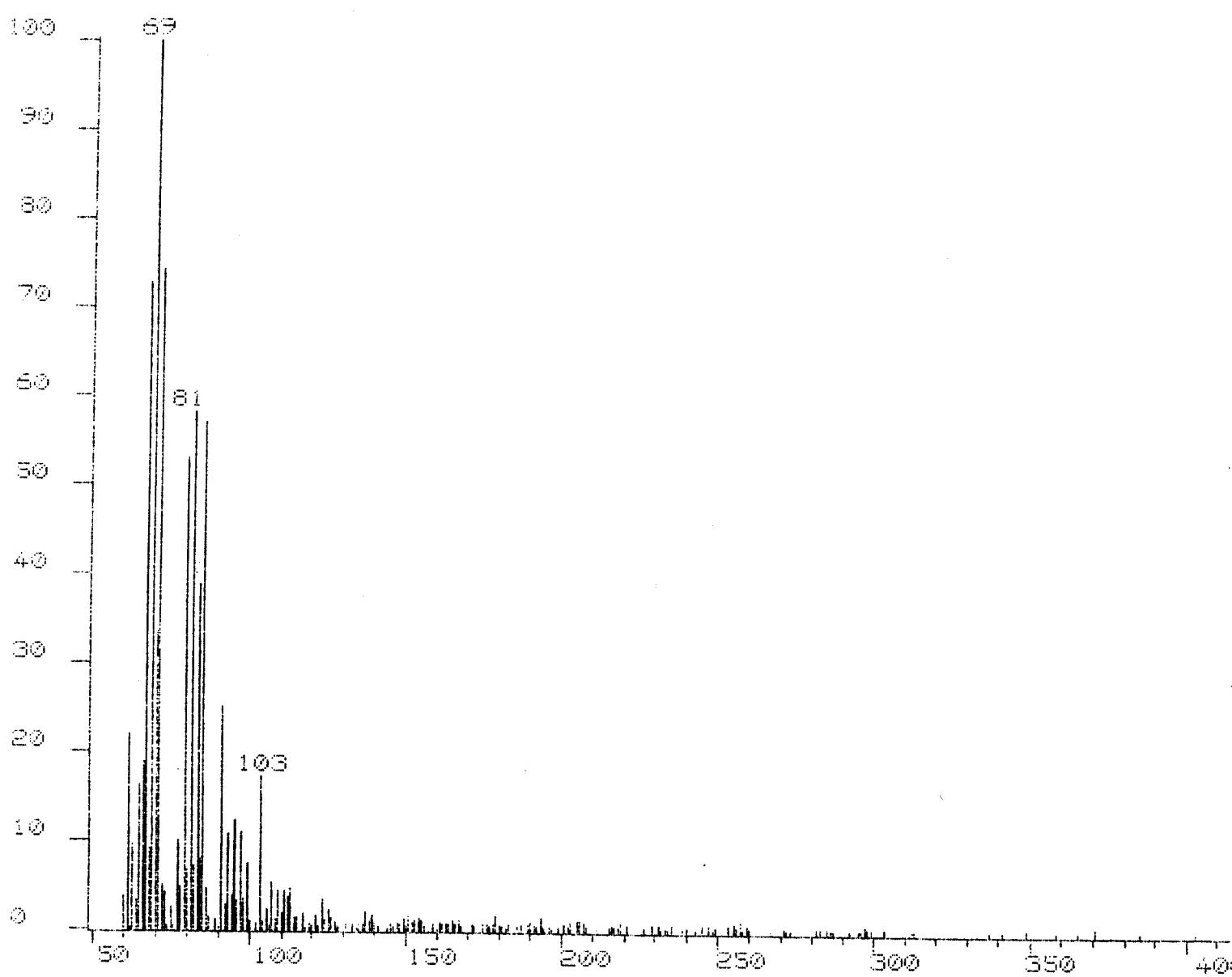


Espectro de masas (CI) del éster bencílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (61)

Figura 97-A

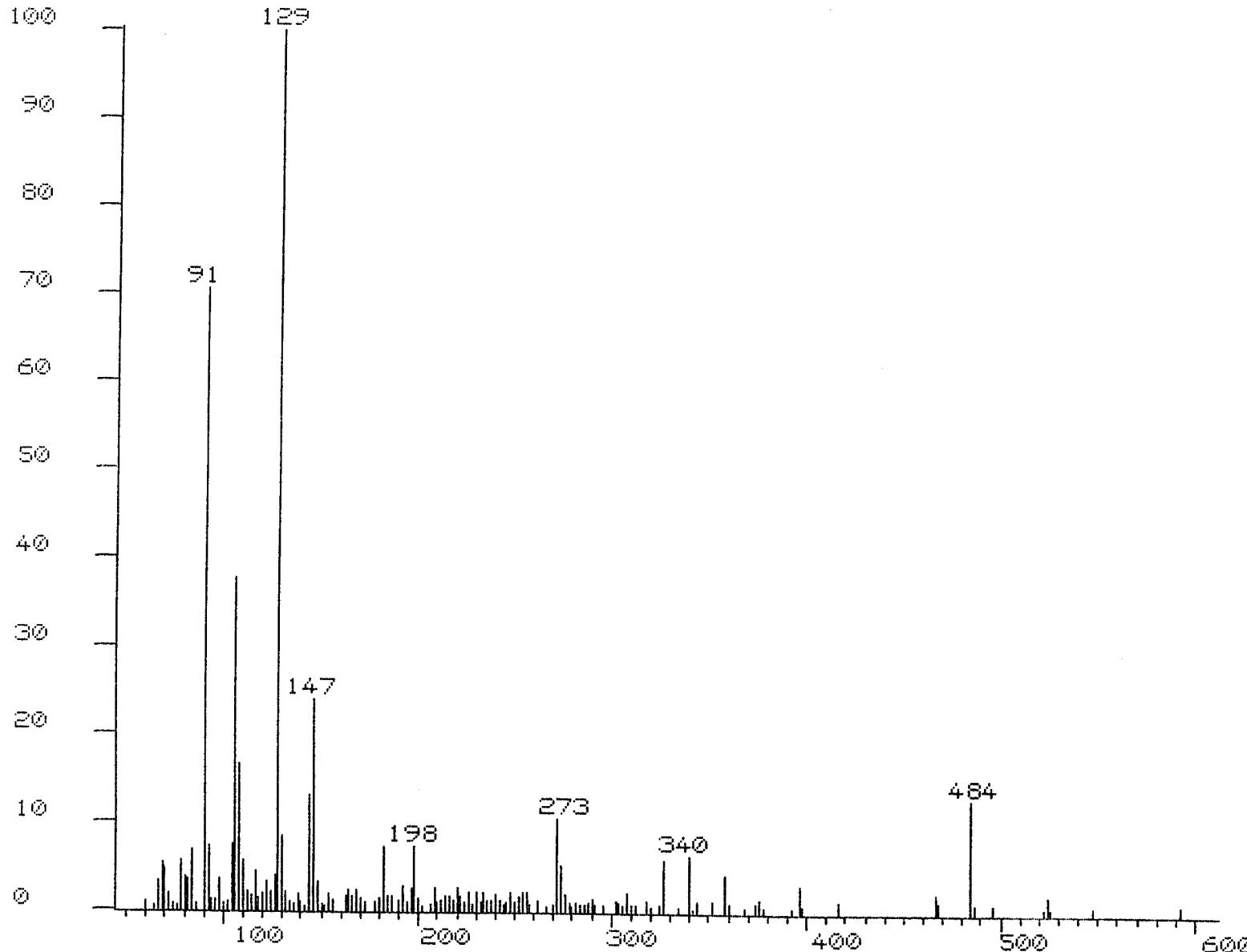


Espectro de masas (CI) de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (65)



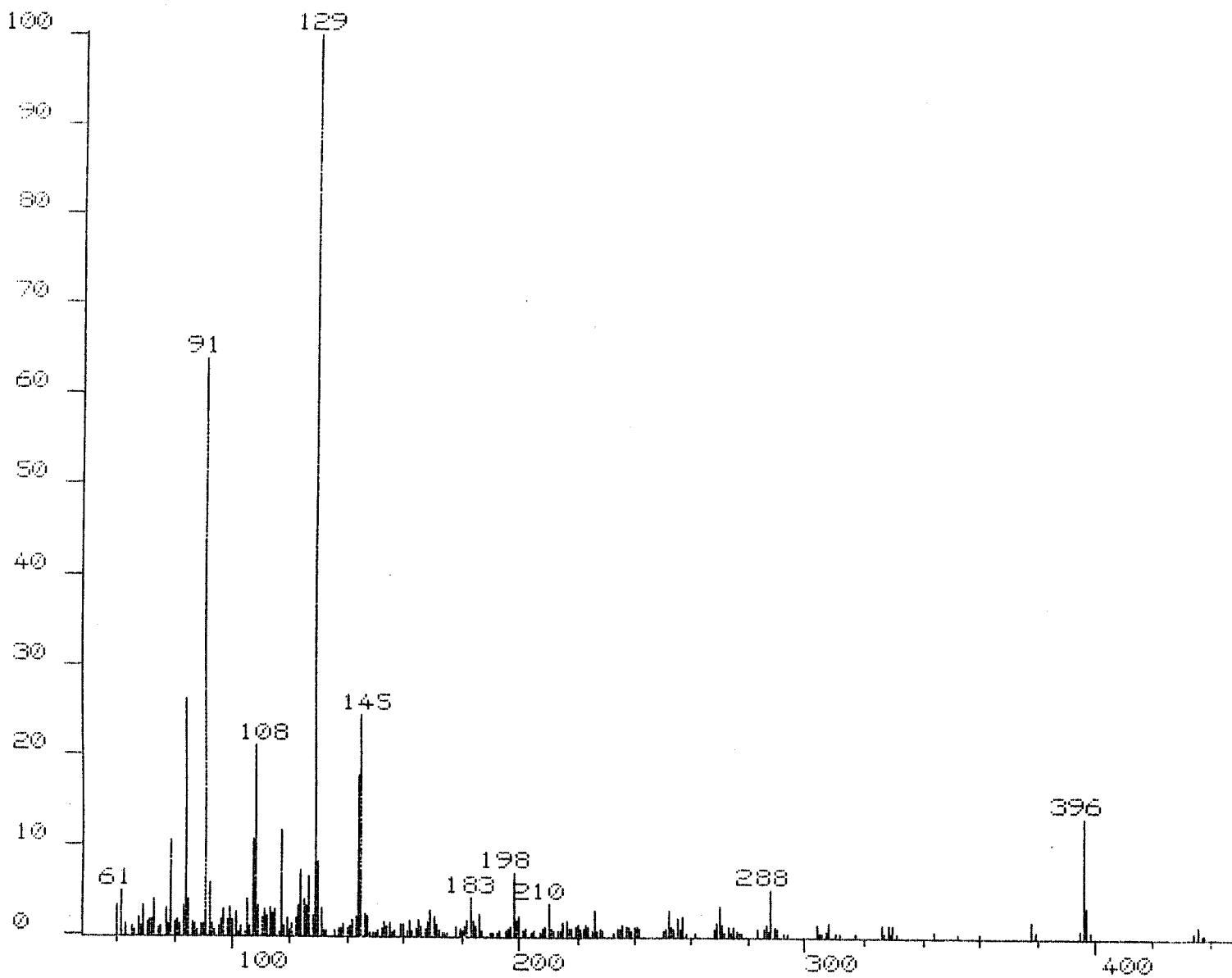
Espectro de masas (CI) de 3-acetil-(2,3-didesoxi-D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (26)

Figura 99-A



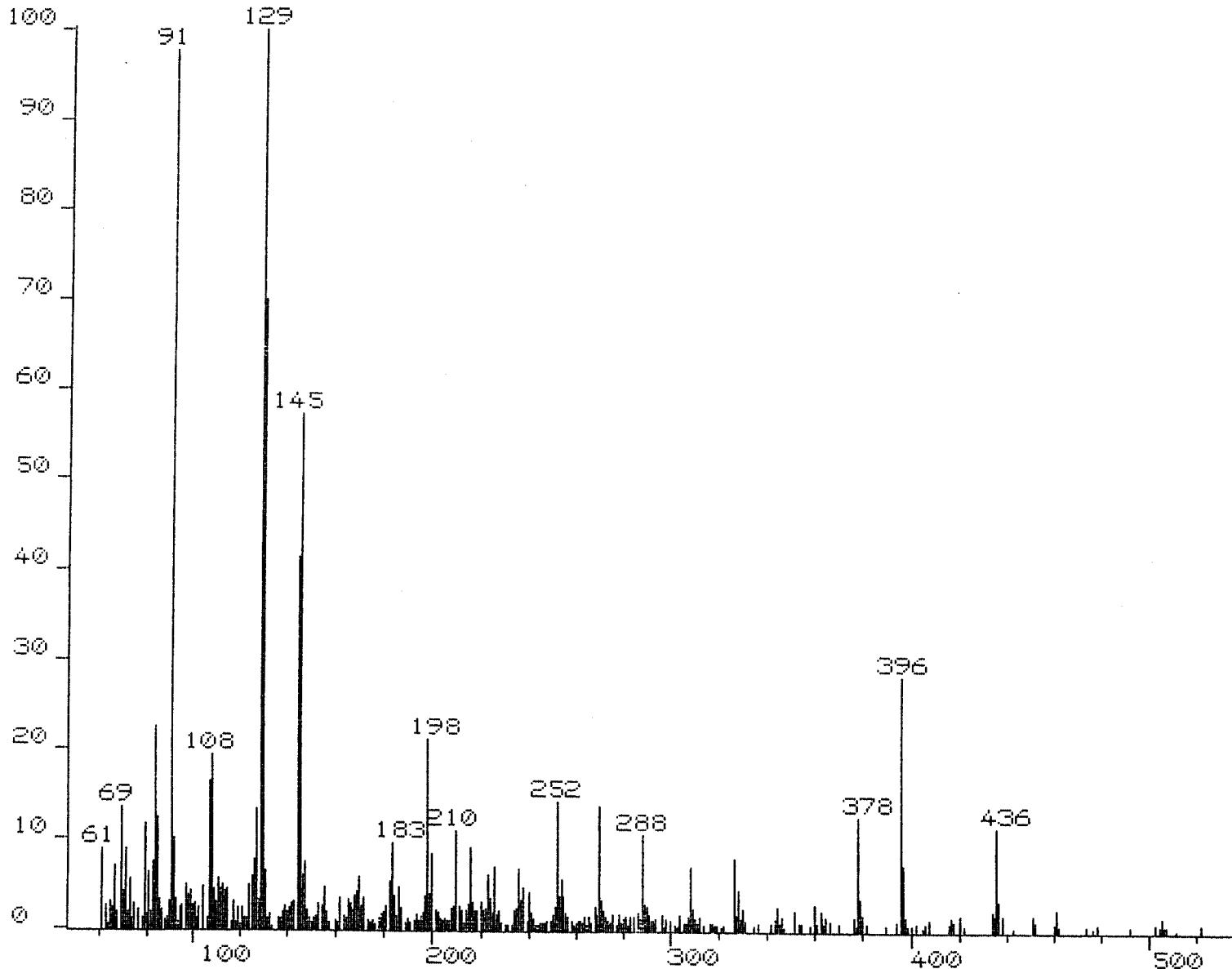
Espectro de masas (CI) del éster bencílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencili-dén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (54)

Figura 100-A



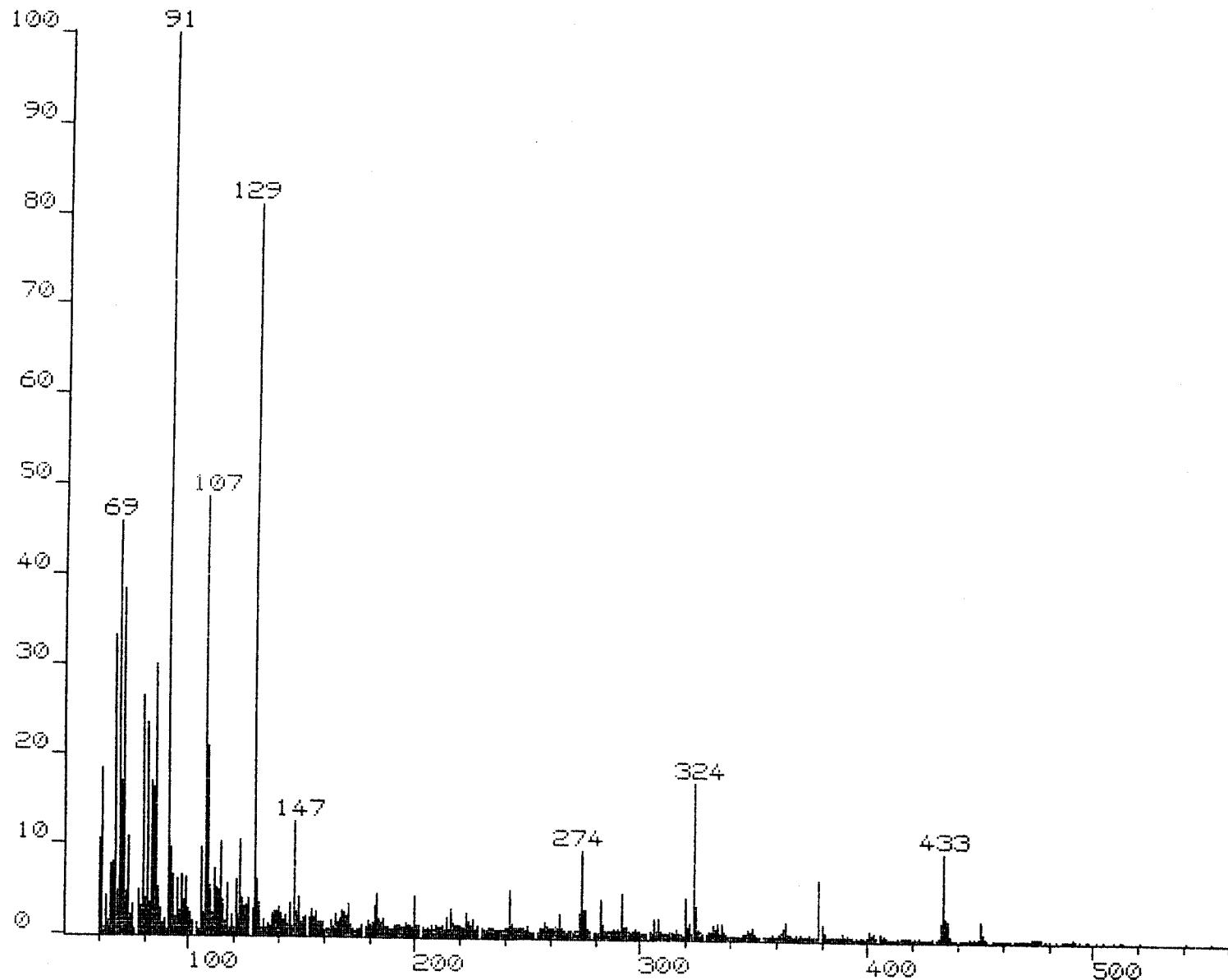
Espectro de masas (CI) del éster bencílico de 3-n-octanoile-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-L-isoglutamina (63)

Figura 101-A



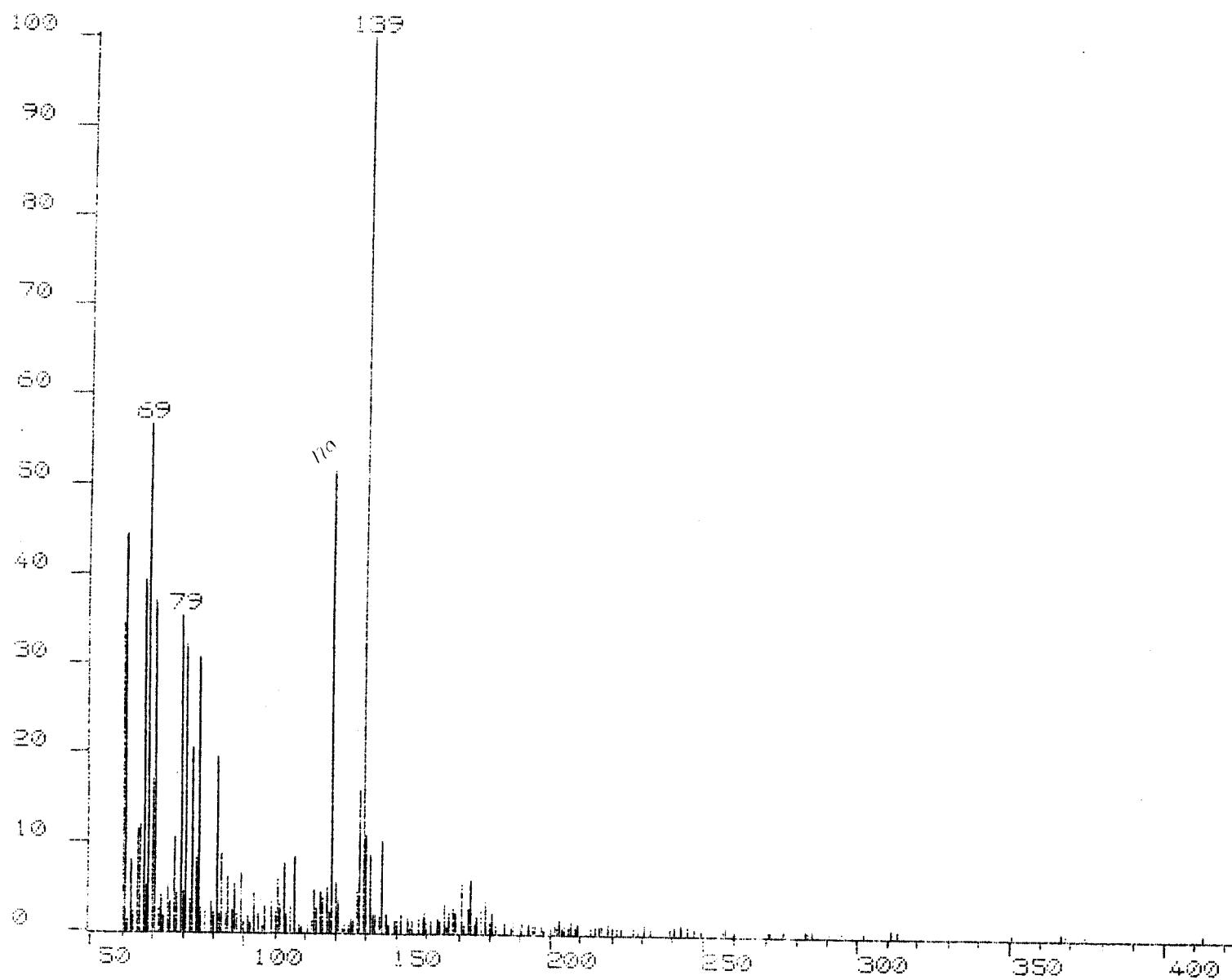
Espectro de masas (CI) del éster bencílico de 3-n-octanoil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-| 2,3-d|-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (64)

Figura 102-A

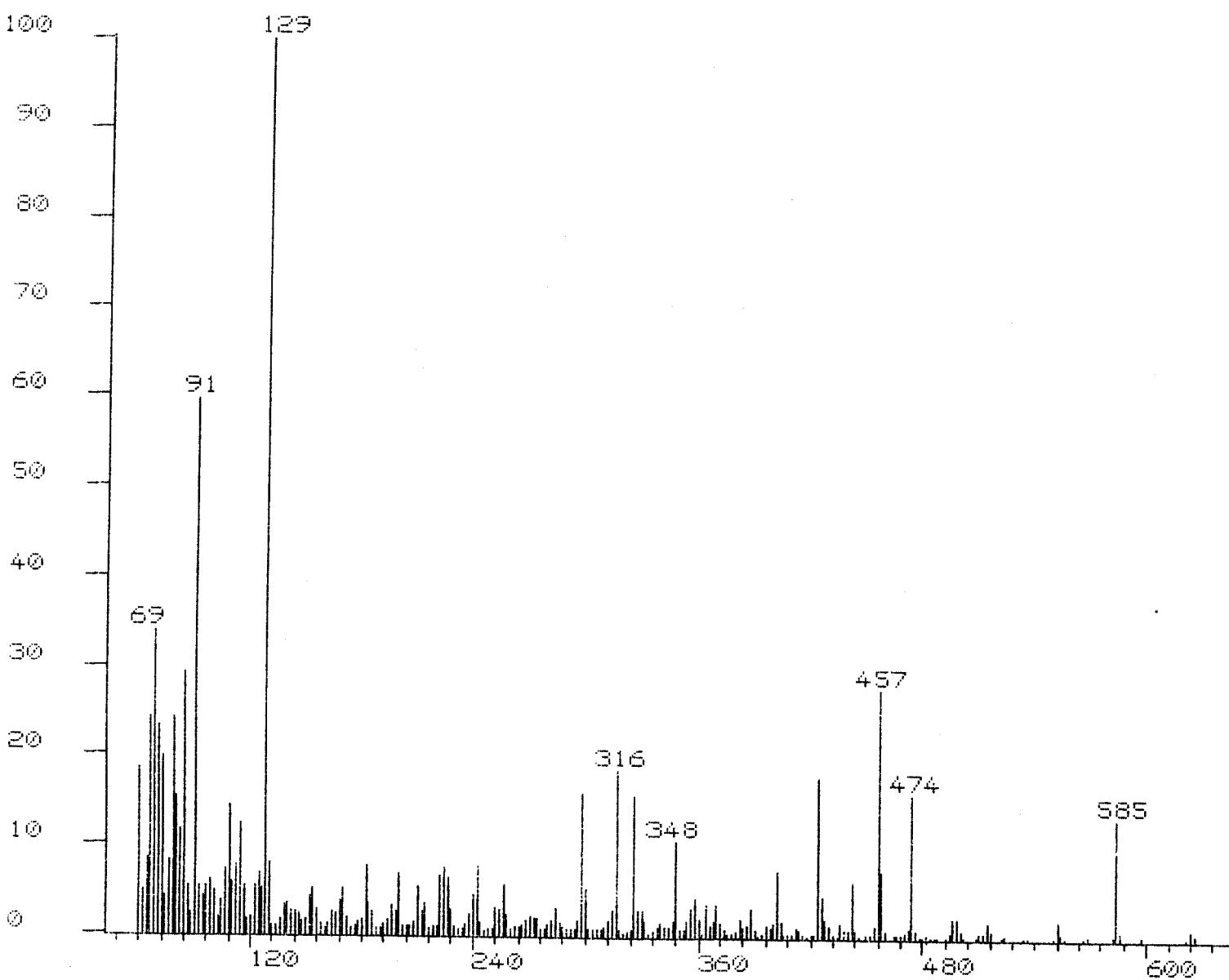


Espectro de masas (CI) del éster bencílico de 3-acetil-(4,6-O-bencildien-2,3-didesoxi-
-1-O-metil-β-D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (70)

Figura 103-A

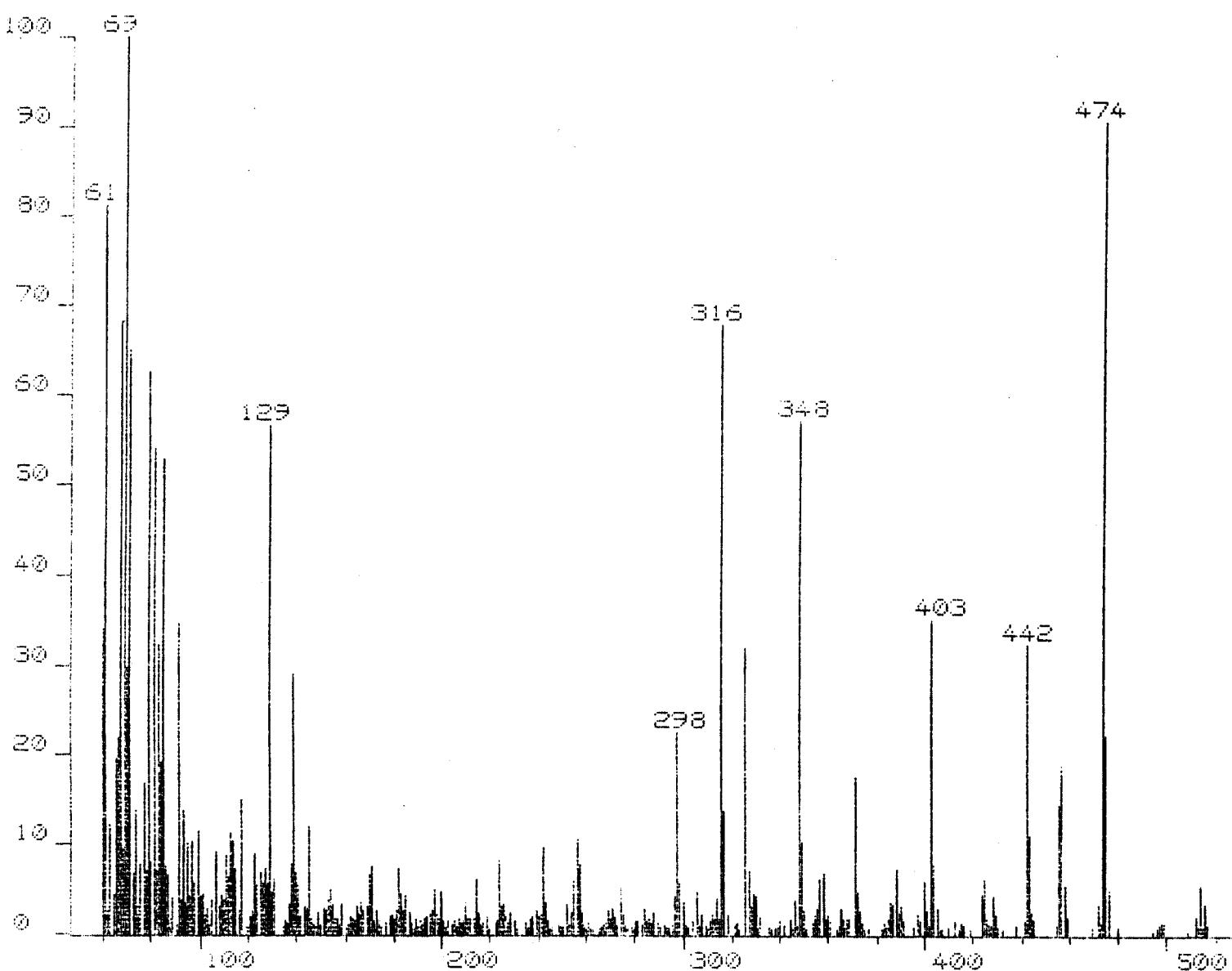


Espectro de masas (CI) de 3-acetil-(2,3-didesoxi-1-O-metil- β -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (28)

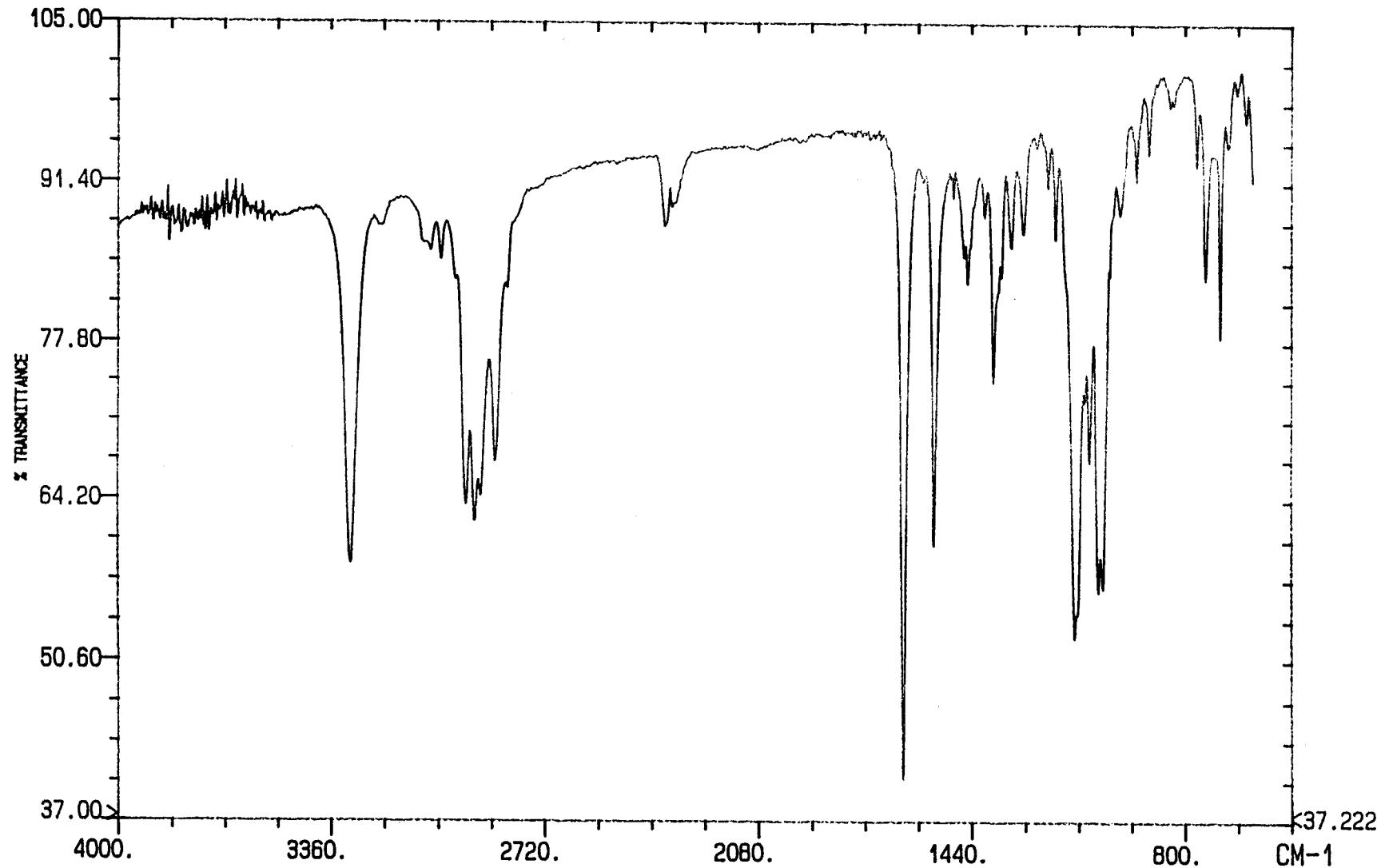


Espectro de masas (CI) del éster bencílico de 3-acetil-(4,6-di-O-n-butyl-2,3-didesoxi-
-1-O-metil- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (79)

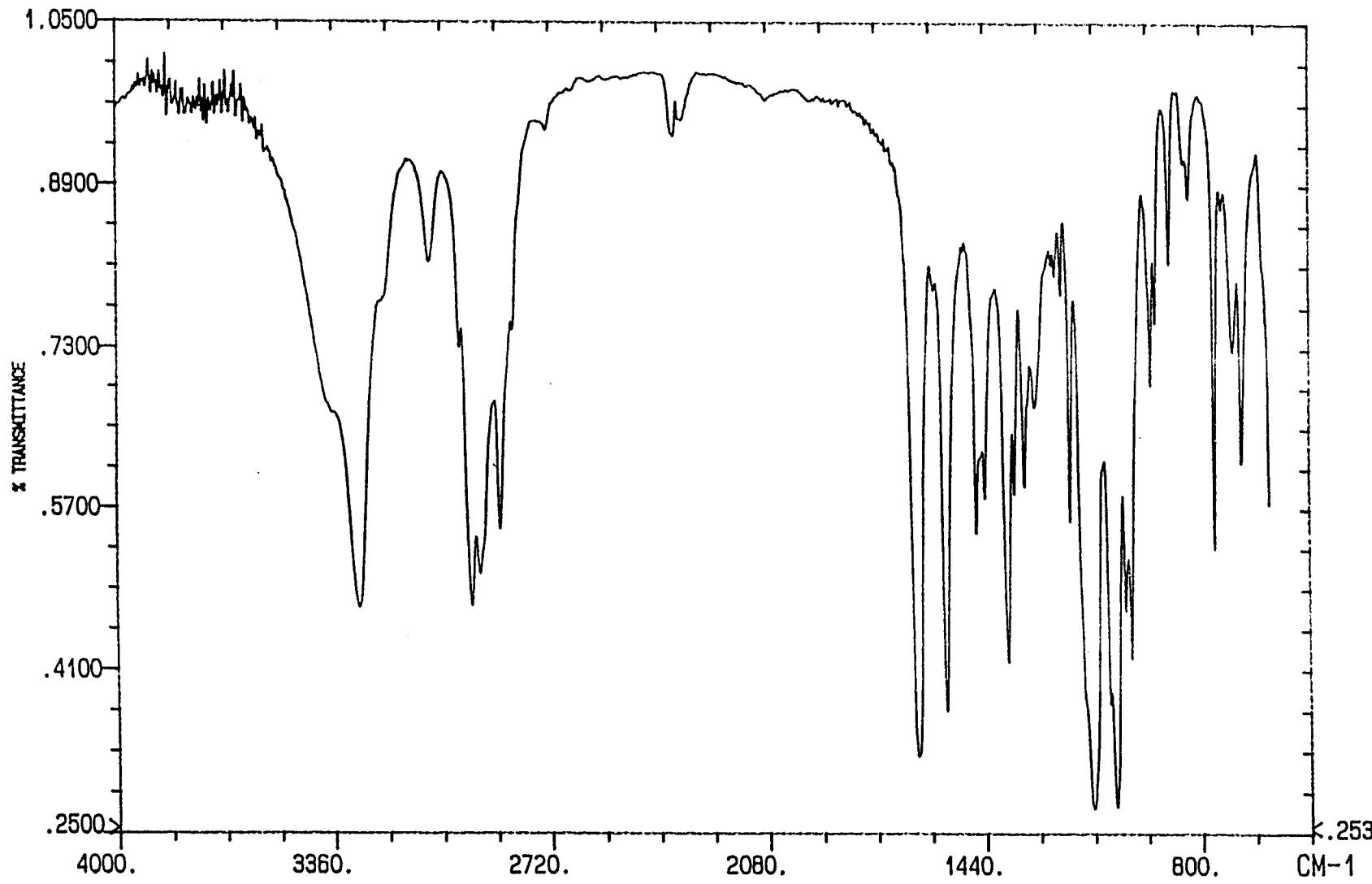
Figura 105-A



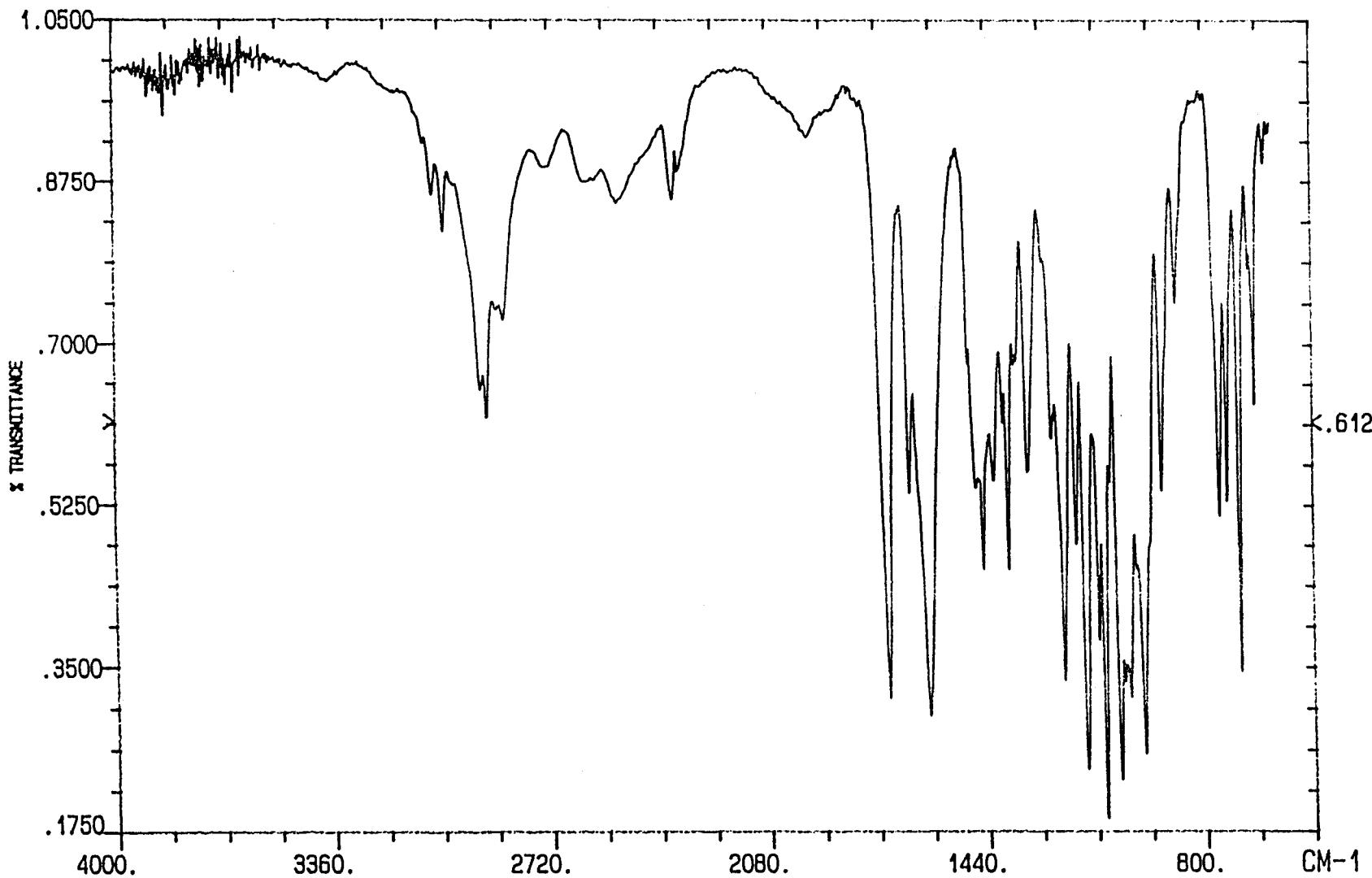
Espectro de masas (CI) de 3-acetyl-(4,6-di-O-n-butyl-2,3-didesoxi-1-O-methyl- α -D-glucopírano)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (29)



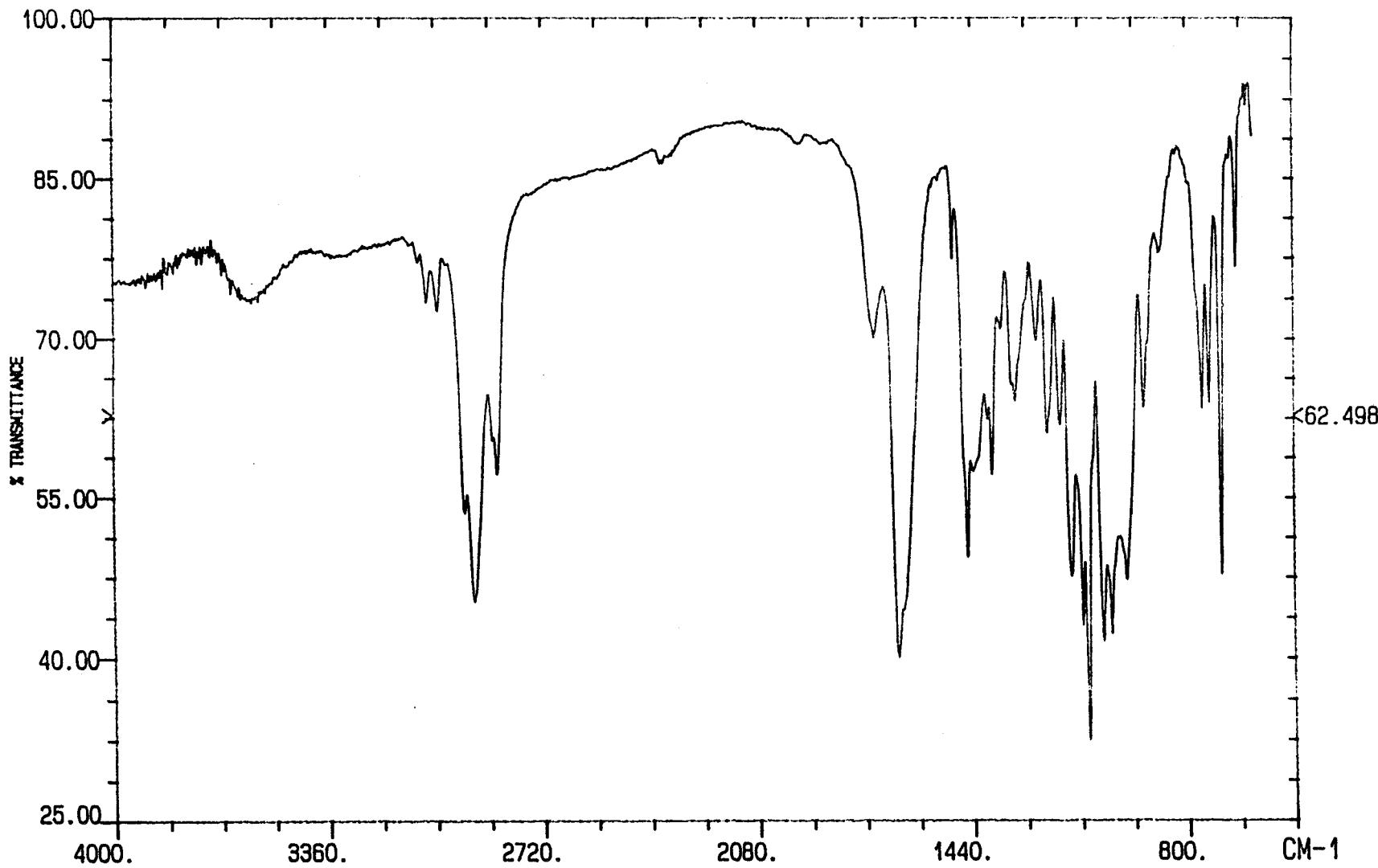
Espectro IR de metil 2-acetamido-3-O-benzyld-2-deoxy-4,6-di-O-n-butyl- α -D-glucopyranósido (75)



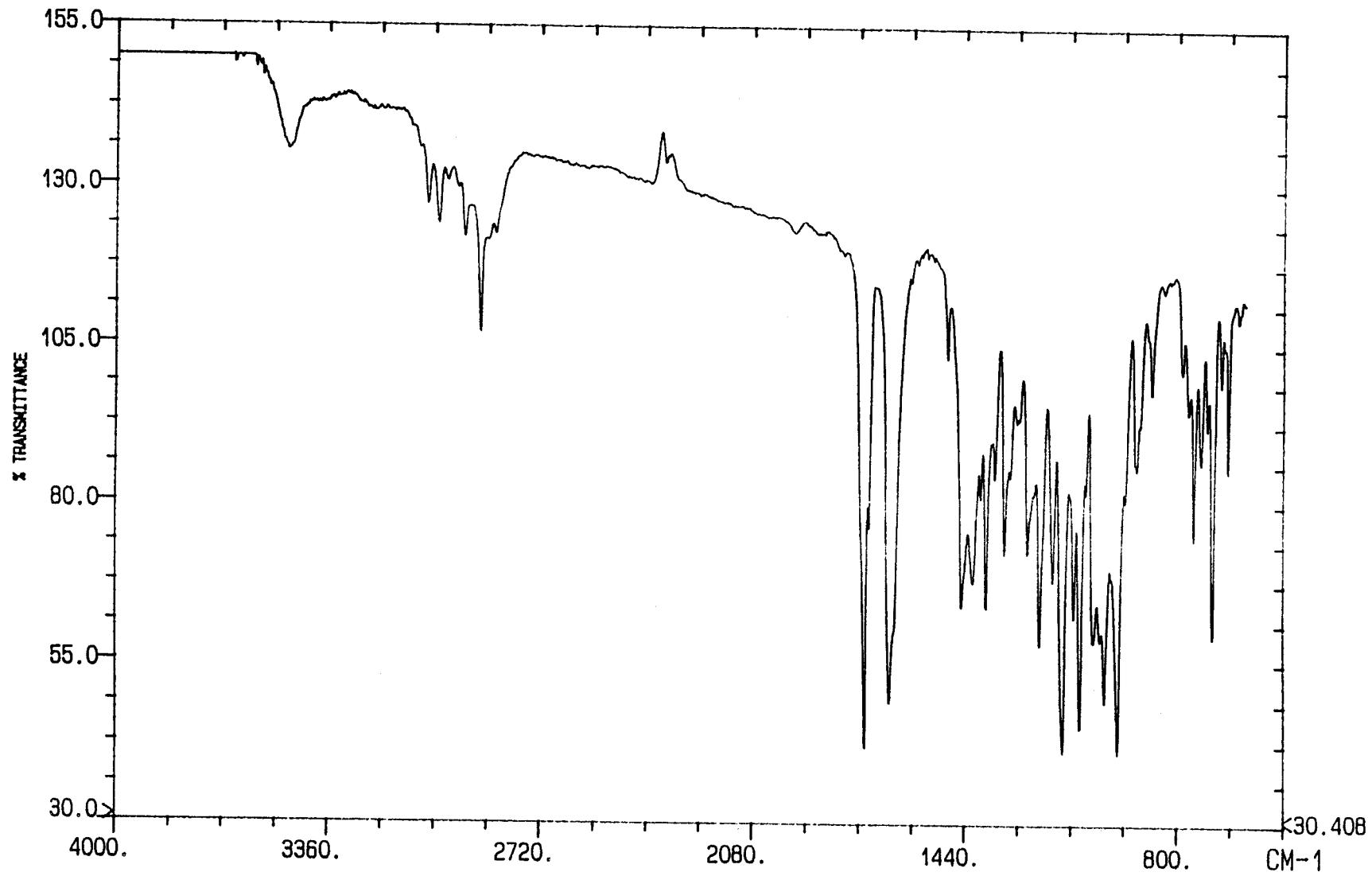
Espectro IR de metil 2-acetamido-2-desoxi-4,6-di-O-n-butyl- α -D-glucopiranósido (76)



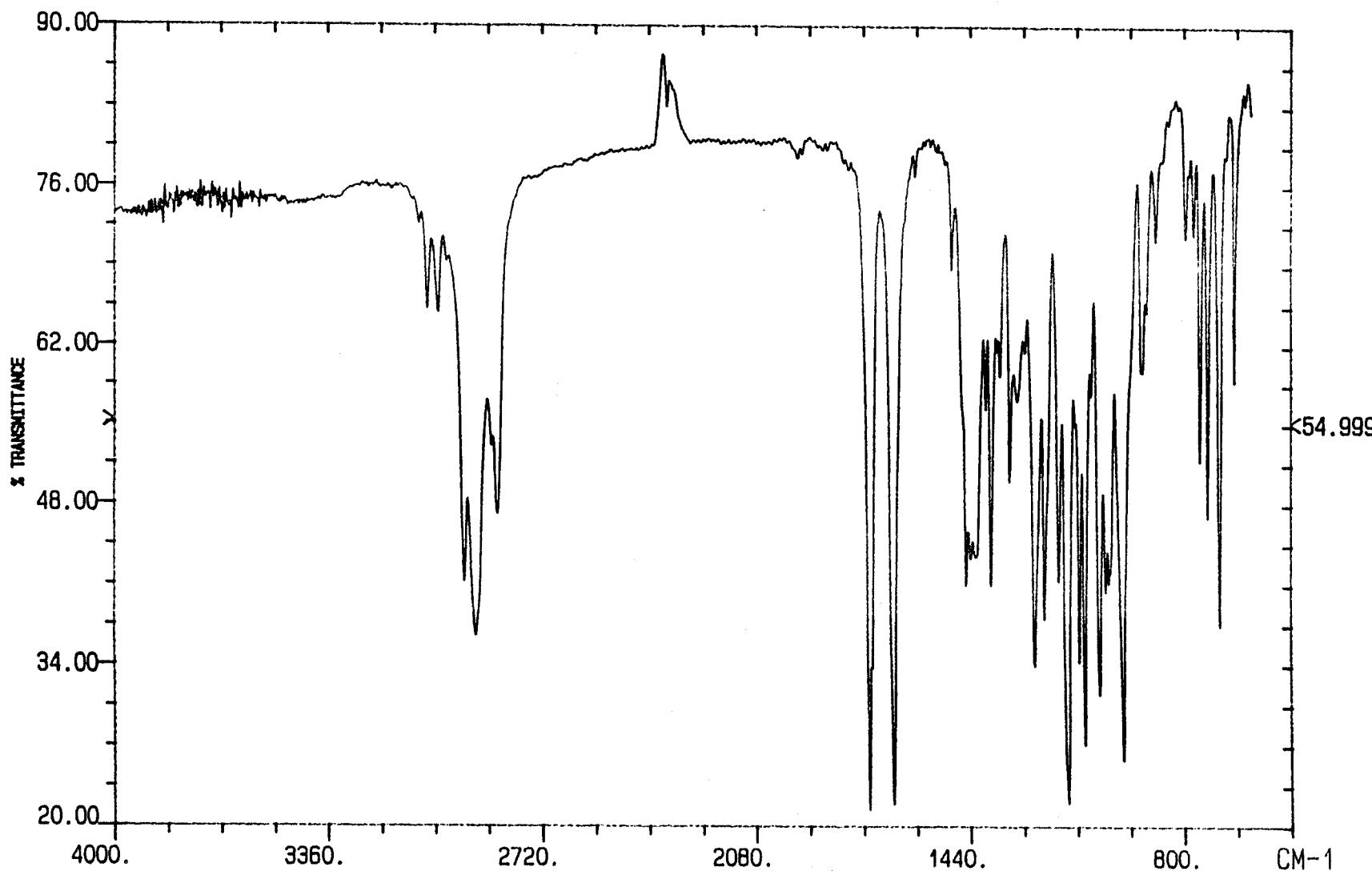
Espectro IR de 3-acetil-2-carboxi-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (37)



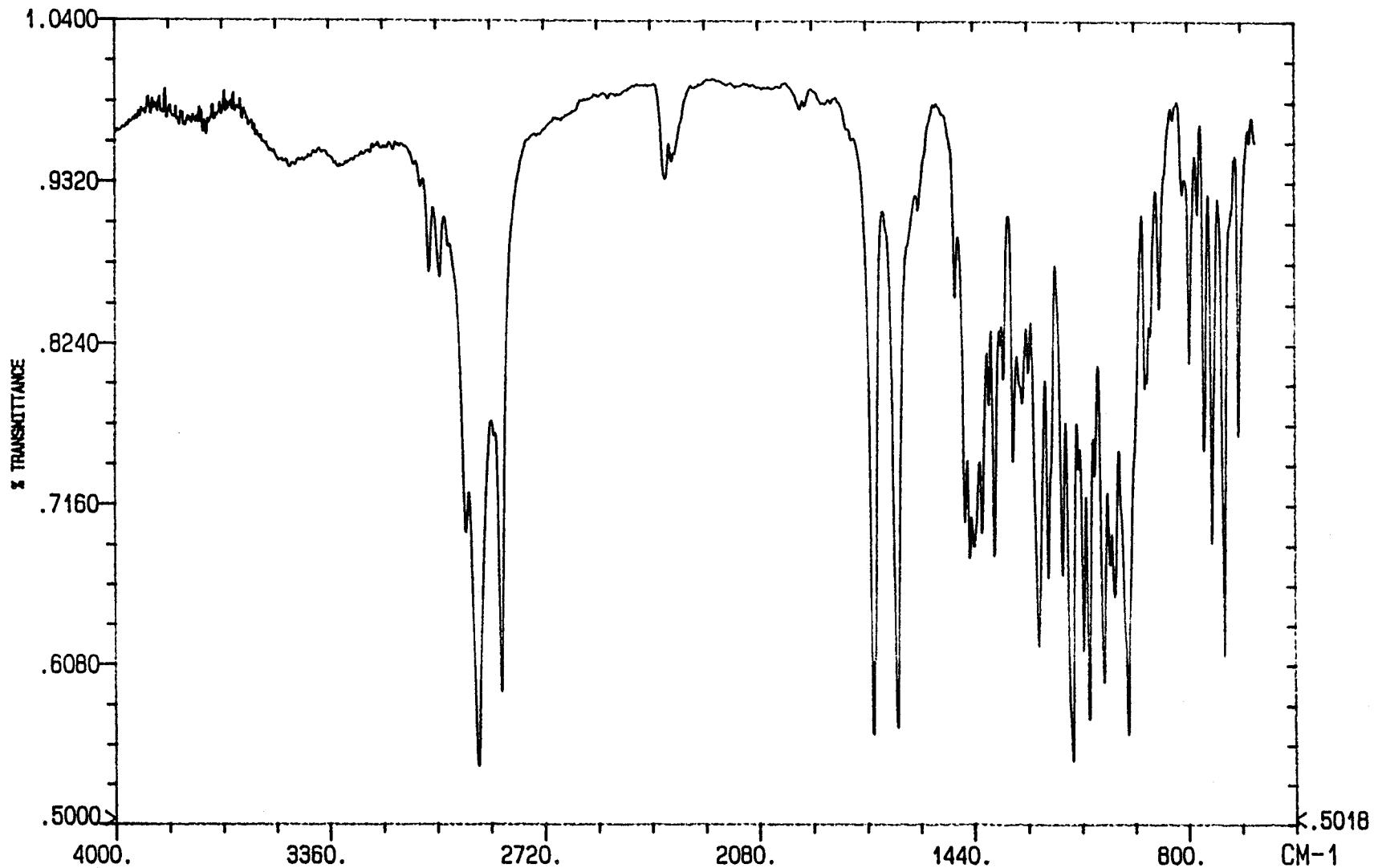
Espectro IR de 2-carboxi-3-n-octanoil-(1-O-benyl-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (38)



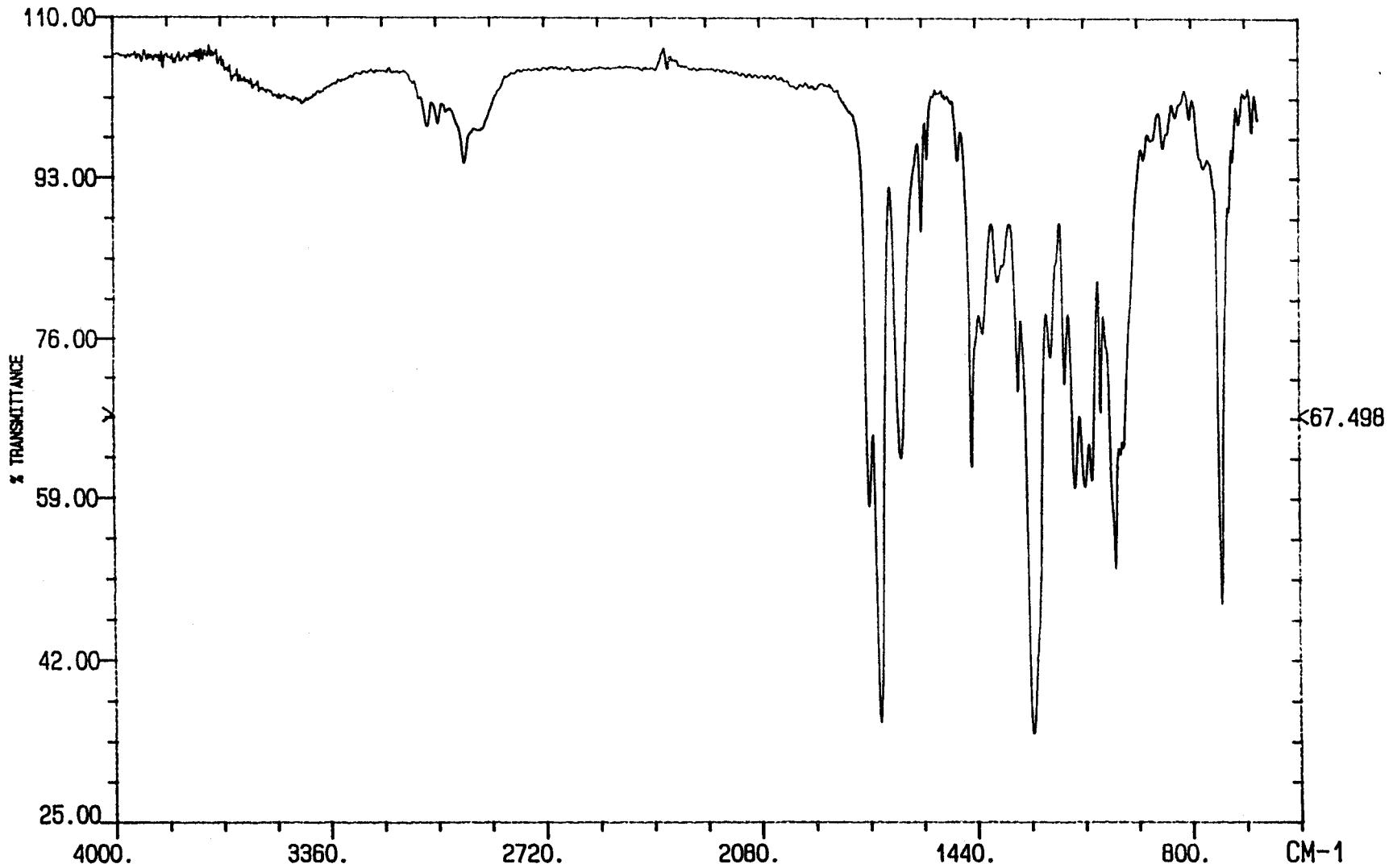
Espectro de IR de 3-acetyl-2-metoxicarbonil-(1-O-benyl-4,6-O-benzyldien-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidina (40)



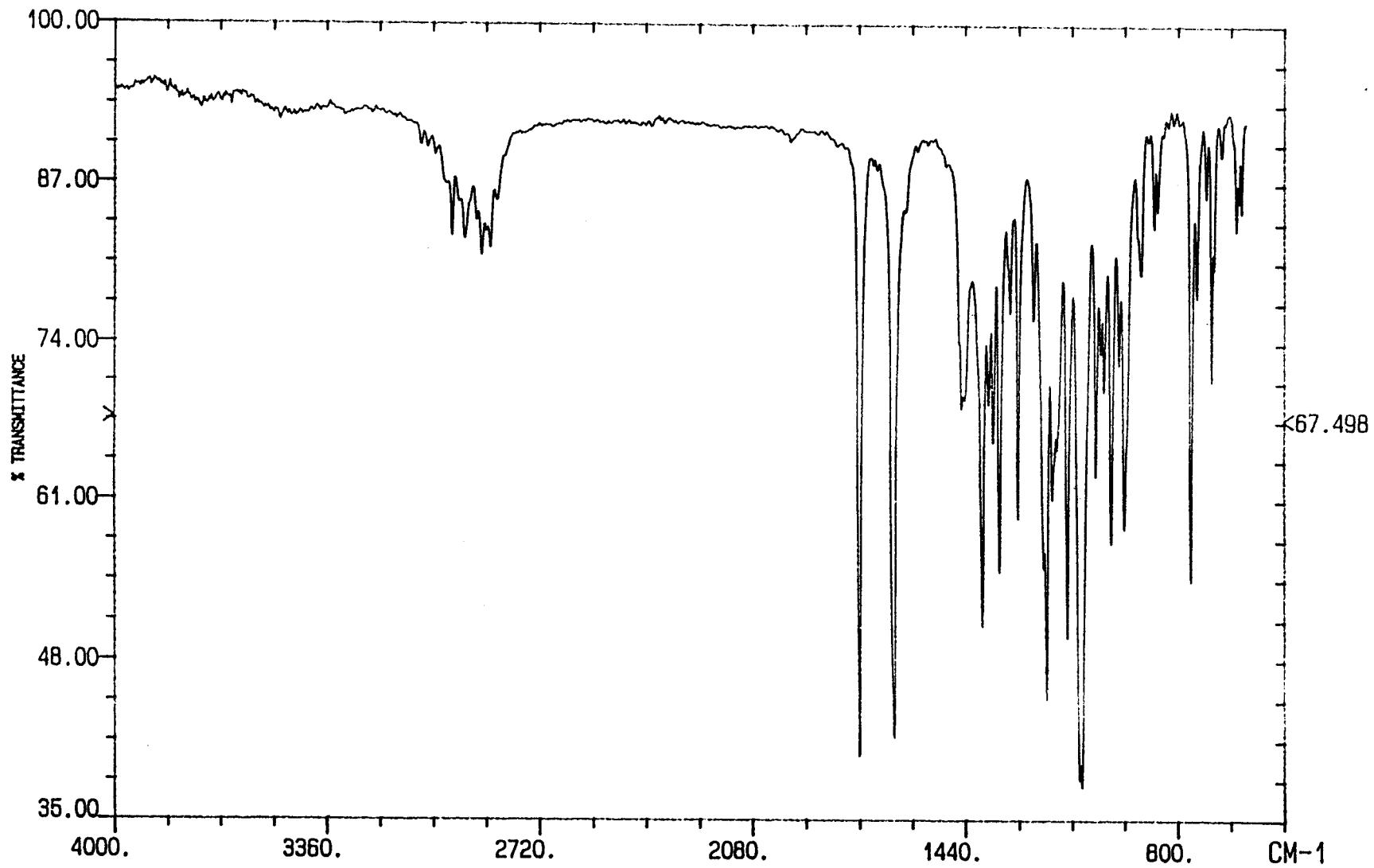
Espectro IR de 2-metoxicarbonil-3-n-octanoil-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (41)



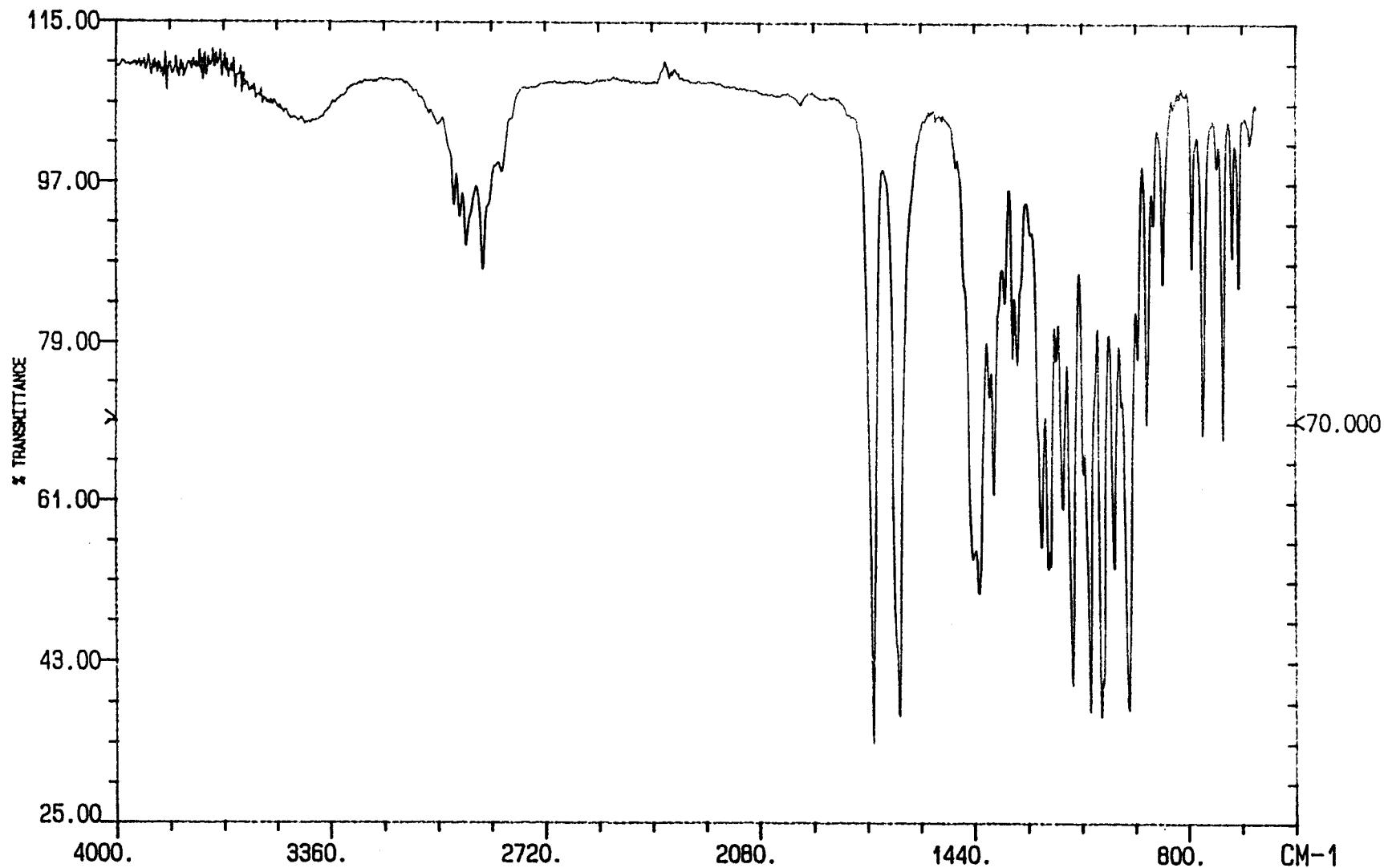
Espectro IR de 2-metoxicarbonil-3-palmitoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (42)



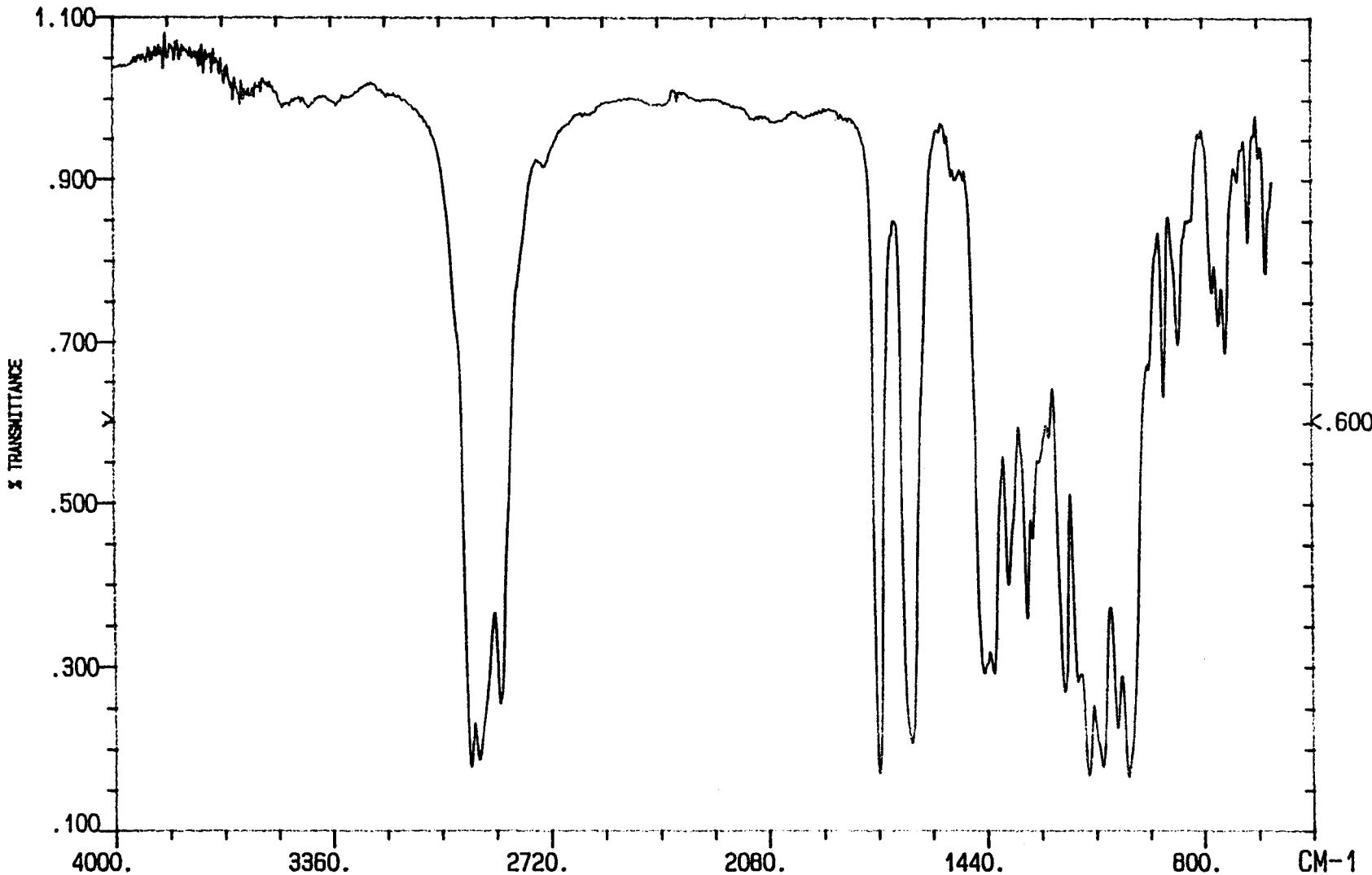
Espectro IR de 3-acetil-2-metoxicarbonil-(1-O-benyl-4,6-di-O-benzoyl-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (57)



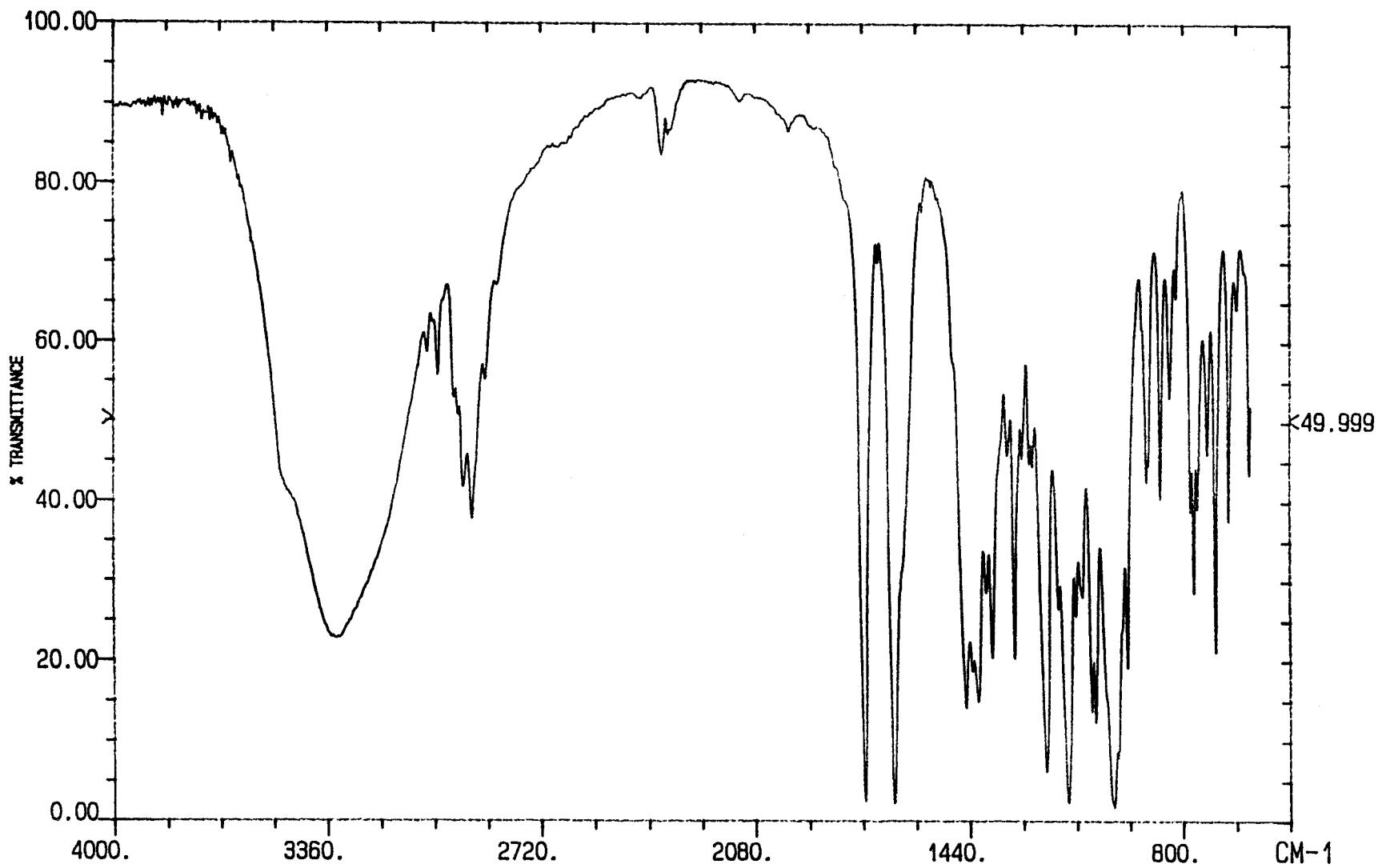
Espectro IR de 3-acetil-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi-1-O-methyl-
- β -D-glucopirán)-[2,3-d]-oxazolidina (69)



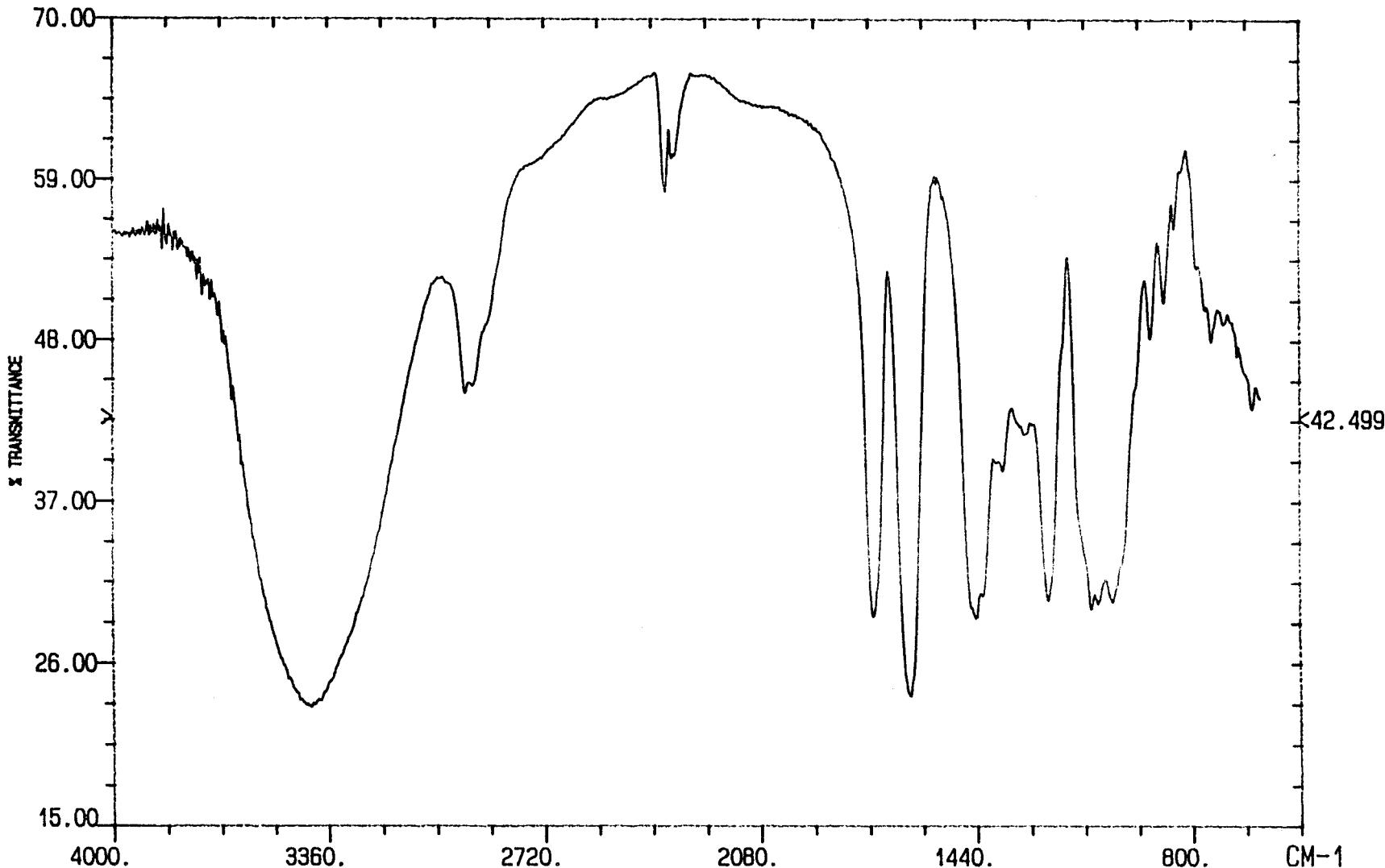
Espectro IR de 3-acetil-2-metoxicarbonil-(4,6-O-bencildén-2,3-didesoxi-1-O-methyl-
-α-D-glucopirán)-|2,3-d|-oxazolidina (81)



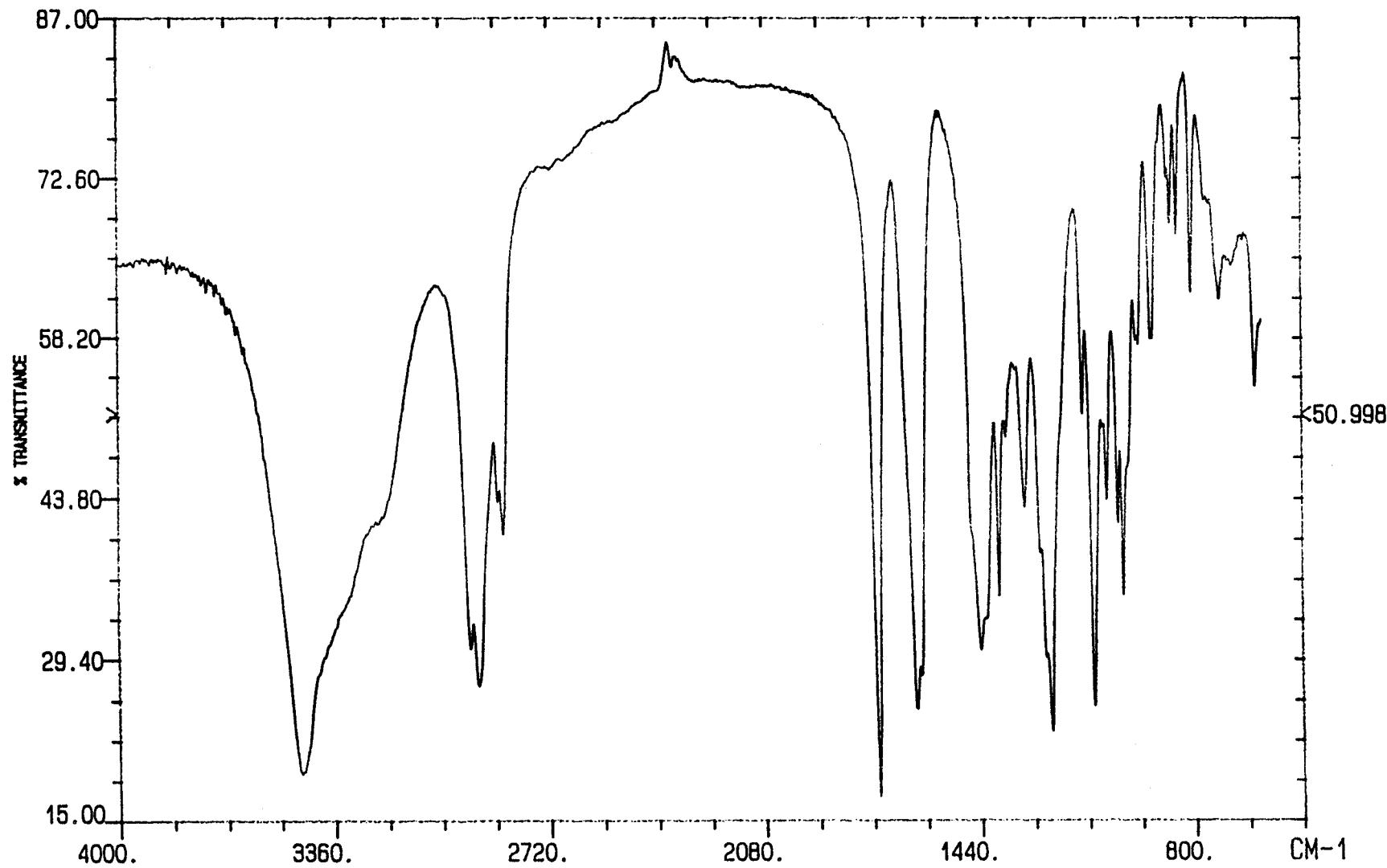
Espectro IR de 3-acetyl-2-metoxicarbonil-(4,6-di-O-n-butyl-2,3-didesoxi-1-O-methyl-
- α -D-glucopirán)-[2,3-d]-oxazolidina (78)



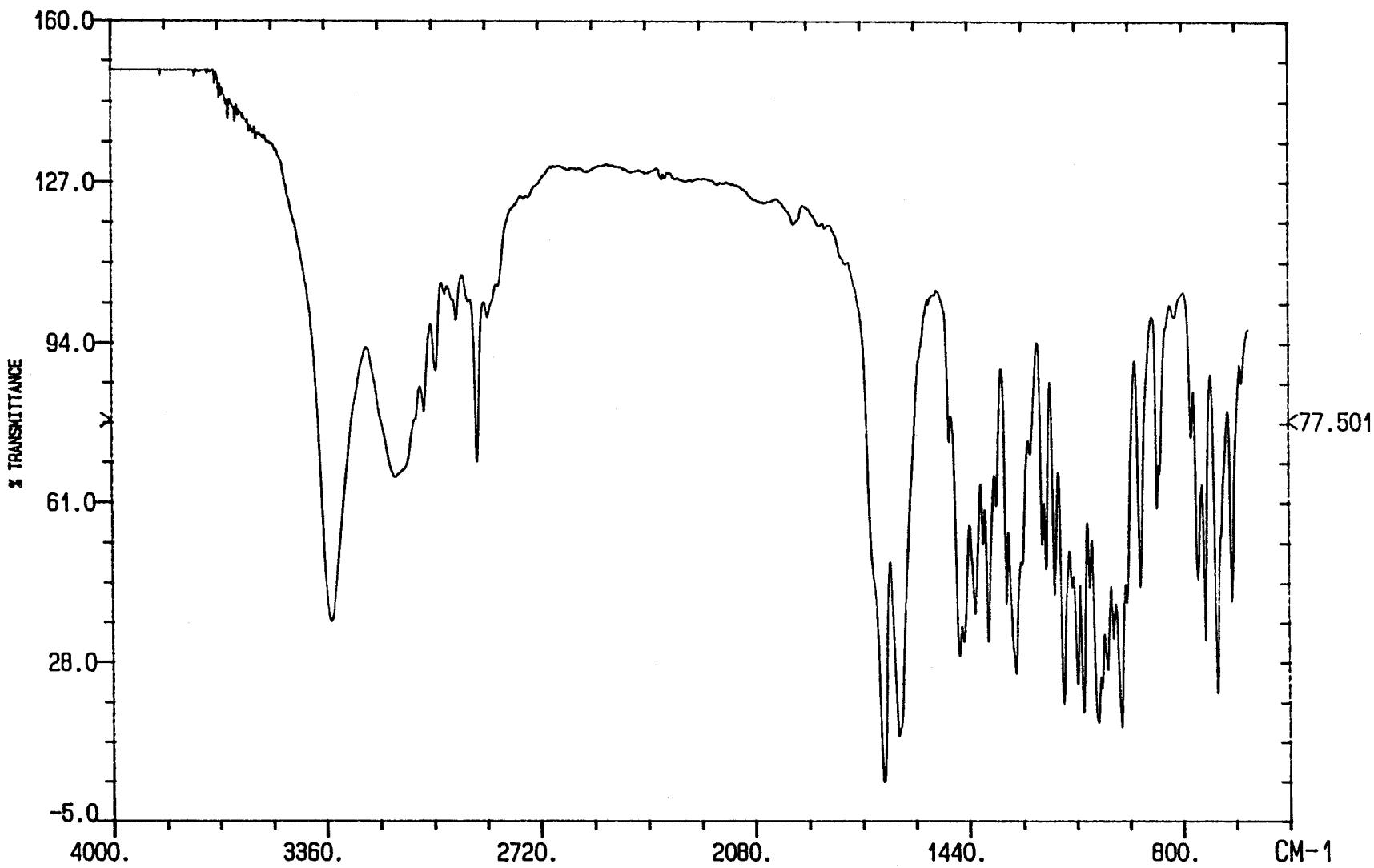
Espectro IR de 3-acetyl-2-metoxicarbonil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán-2,3-dioxazolidina (55)



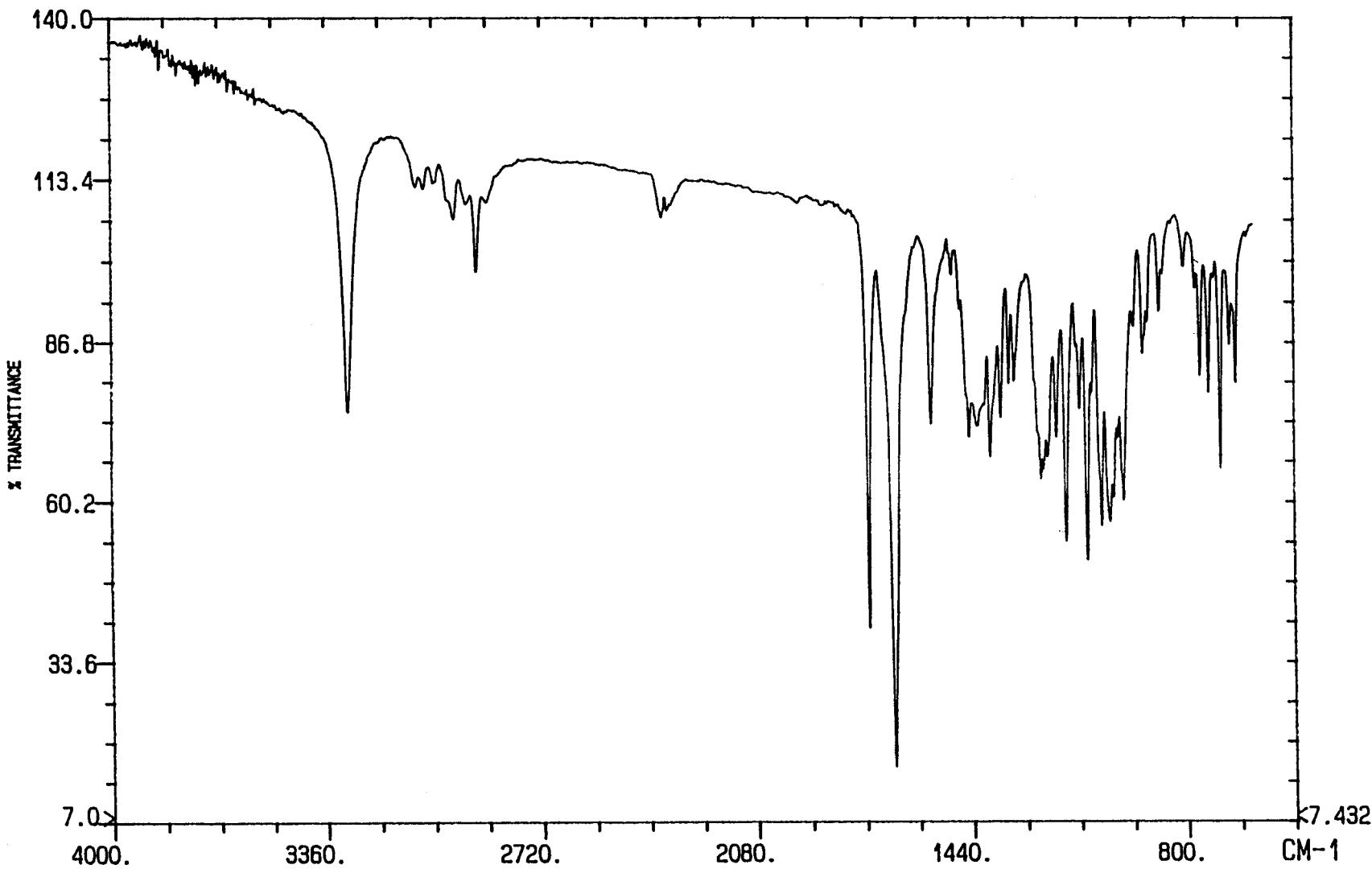
Espectro IR de 3-acetil-2-metoxy carbonyl-(2,3-didesoxi-D-glucopirán)-[2,3-d]-oxazolidina (58)



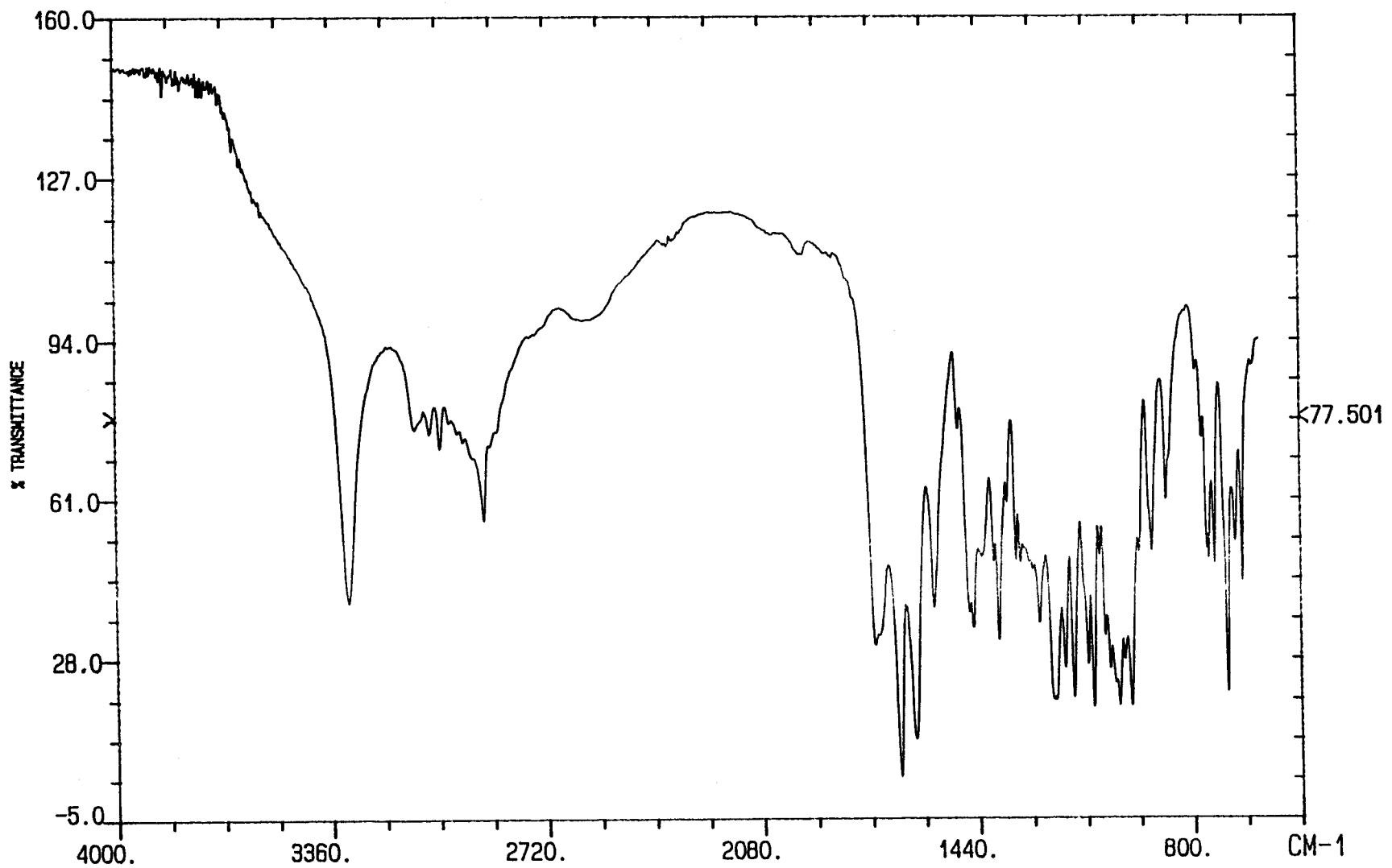
Espectro IR de 2-metoxicarbonil-3-n-octanoil-(2,3-didesoxi-D-glucopyran)-[2,3-d]-oxazolidinedina (59)



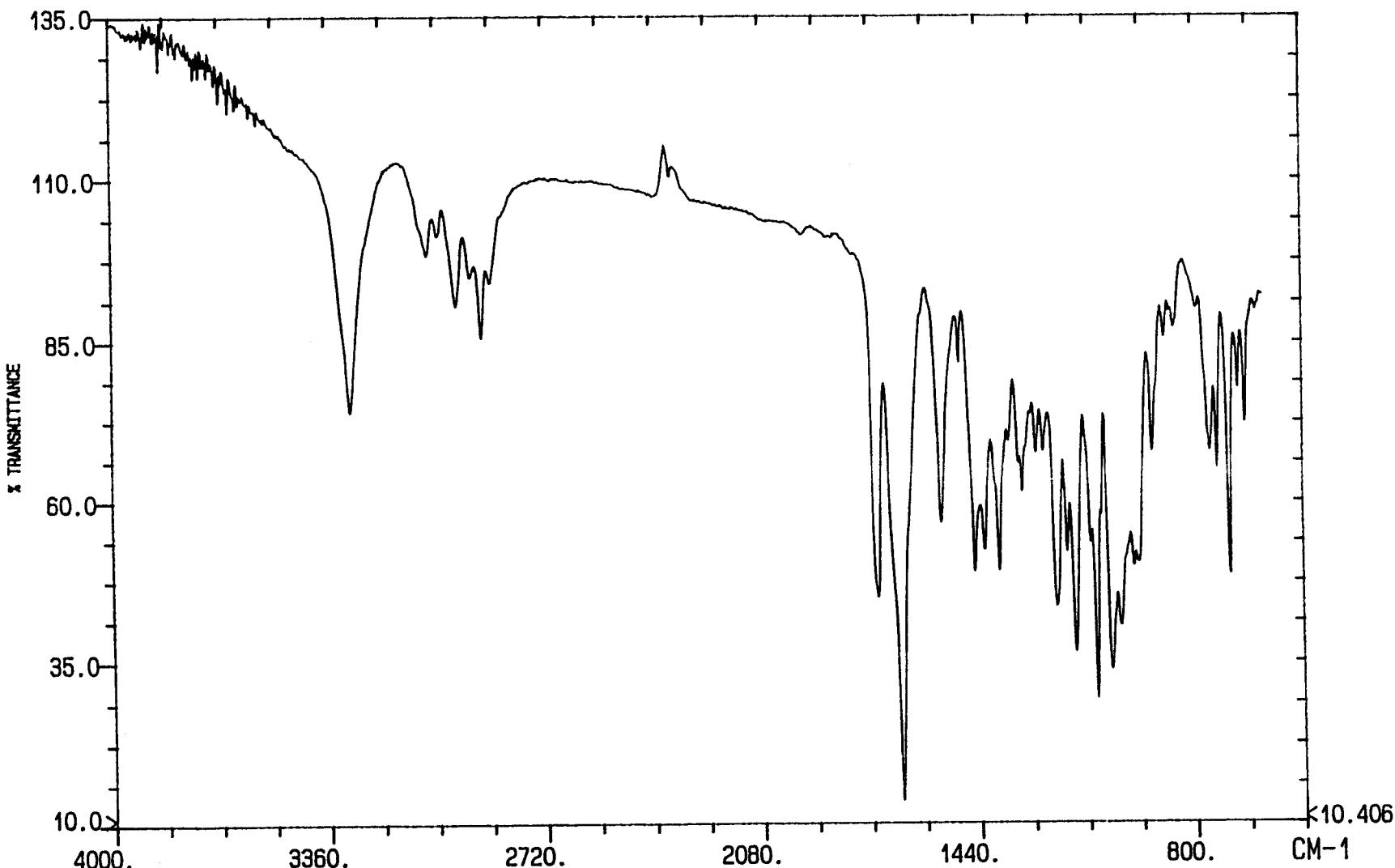
Espectro IR de 3-acetil-2-carboxamido-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidina (43)



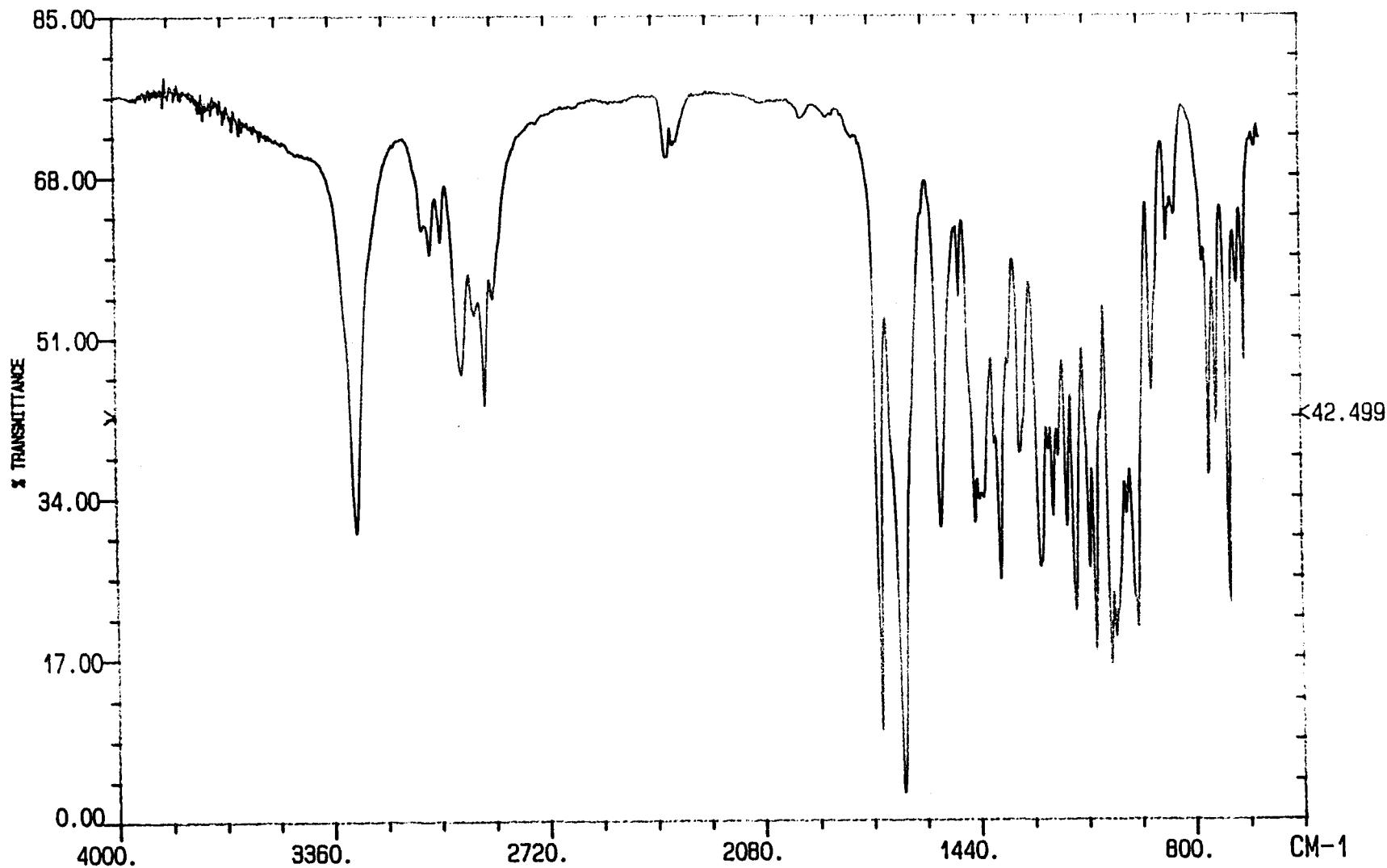
Espectro IR del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonilglicina (44)



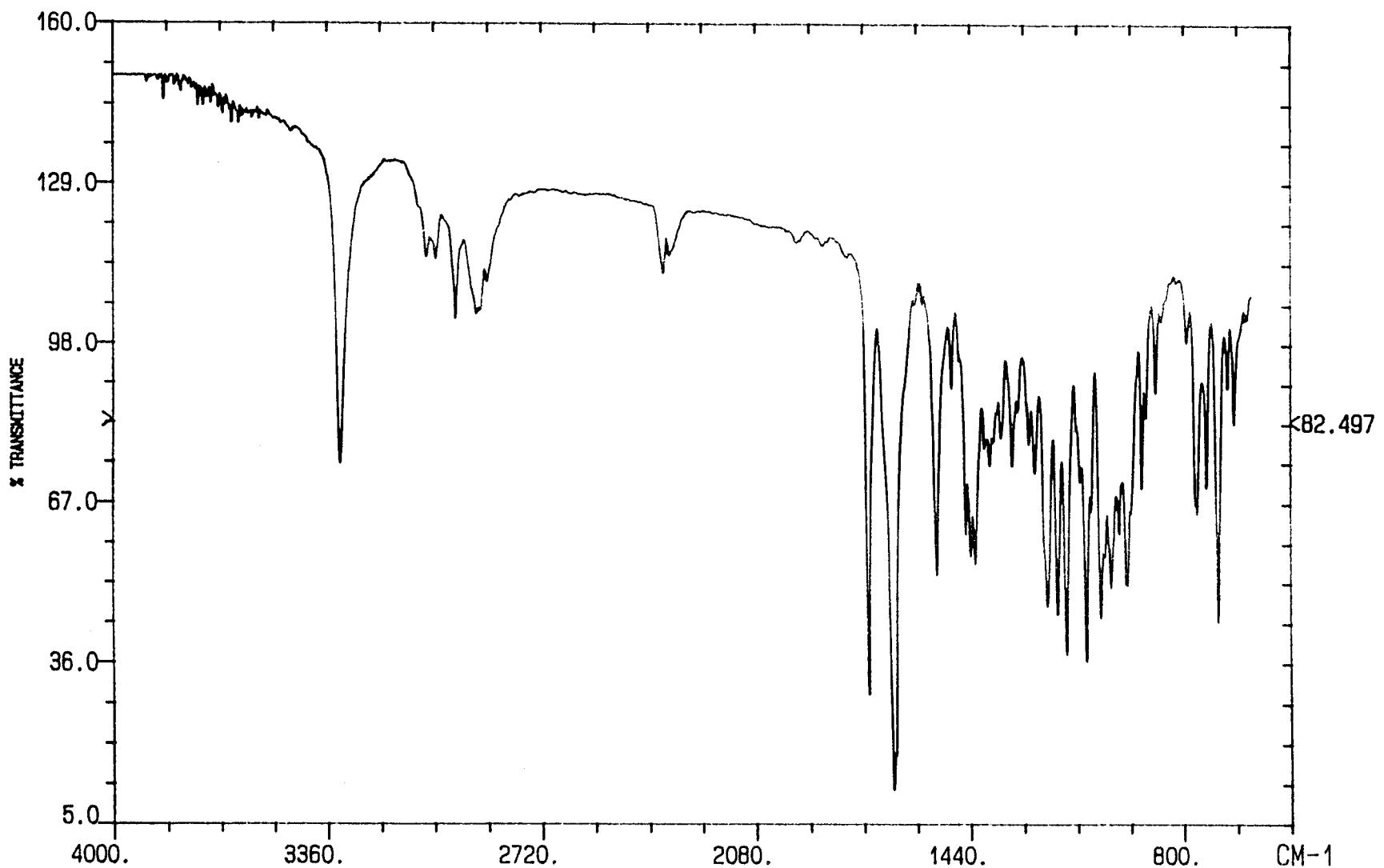
Espectro IR de 3-acetyl-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-
-|2,3-d|-oxazolidin-2-carbonilglicina (50)



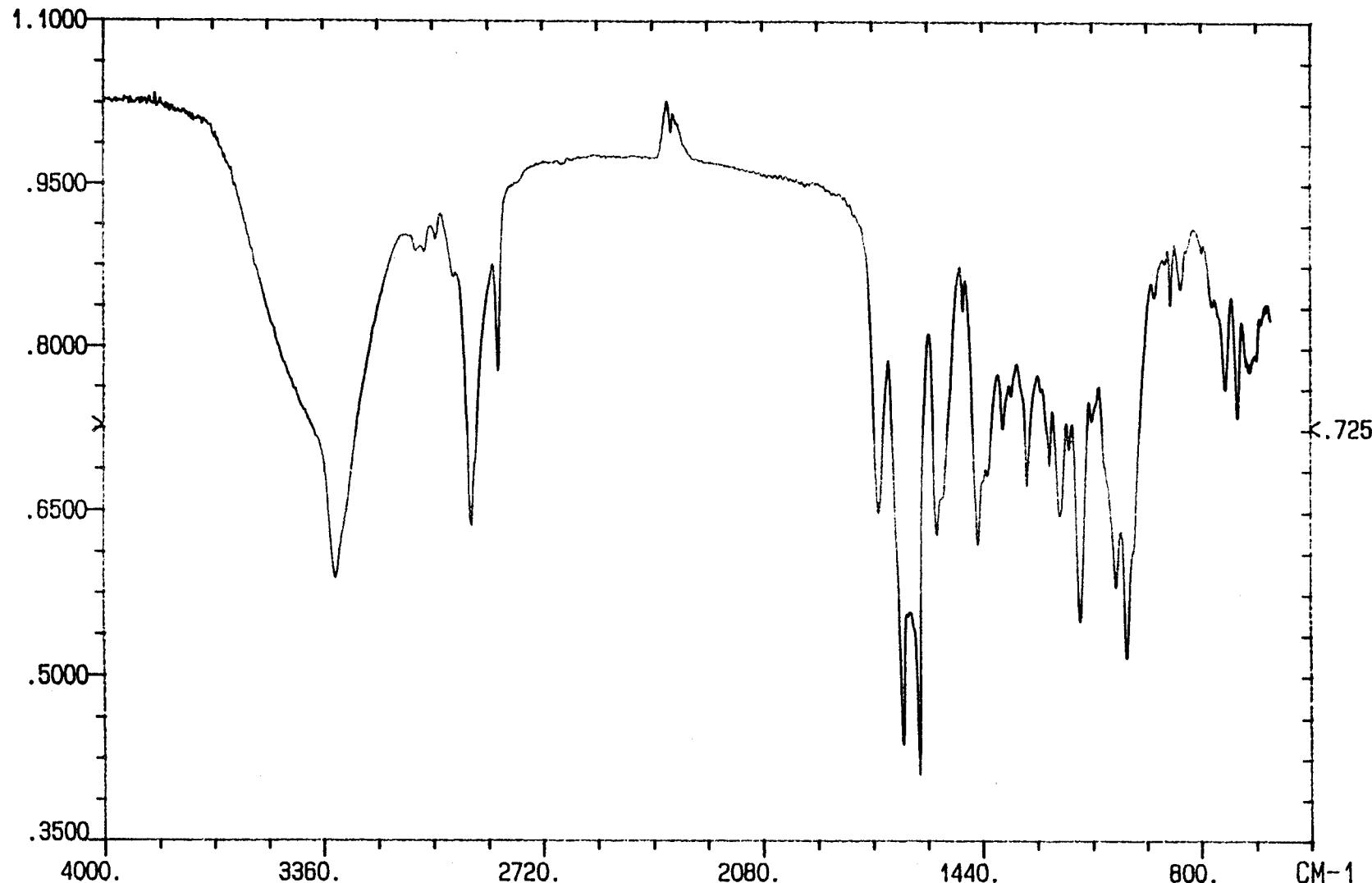
Espectro IR del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolin-2-carbonil-L-alanina (45)



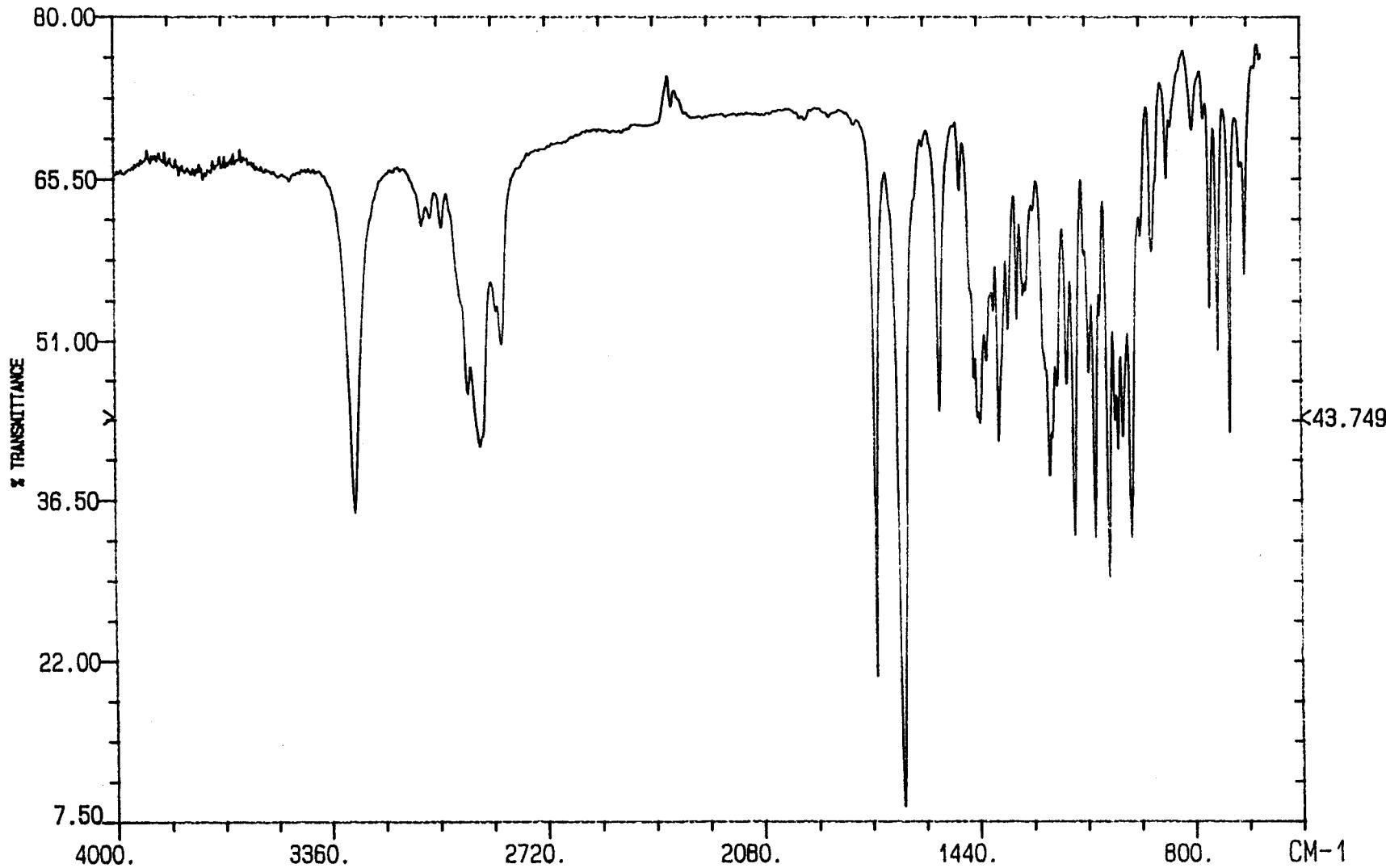
Espectro IR del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonil-L-valina (46)



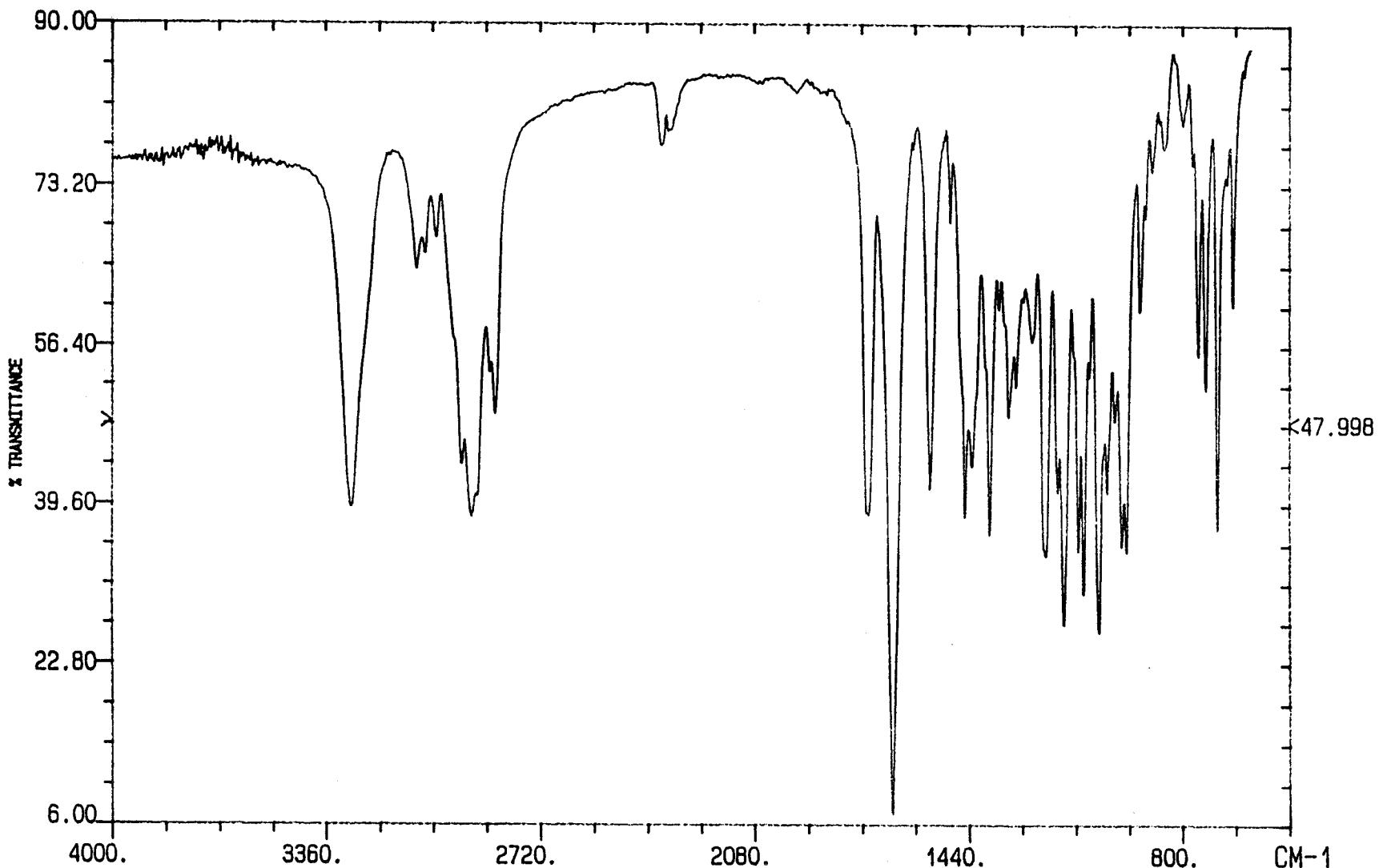
Espectro IR del éster etílico de 3-acetil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-fenilalanina (47)



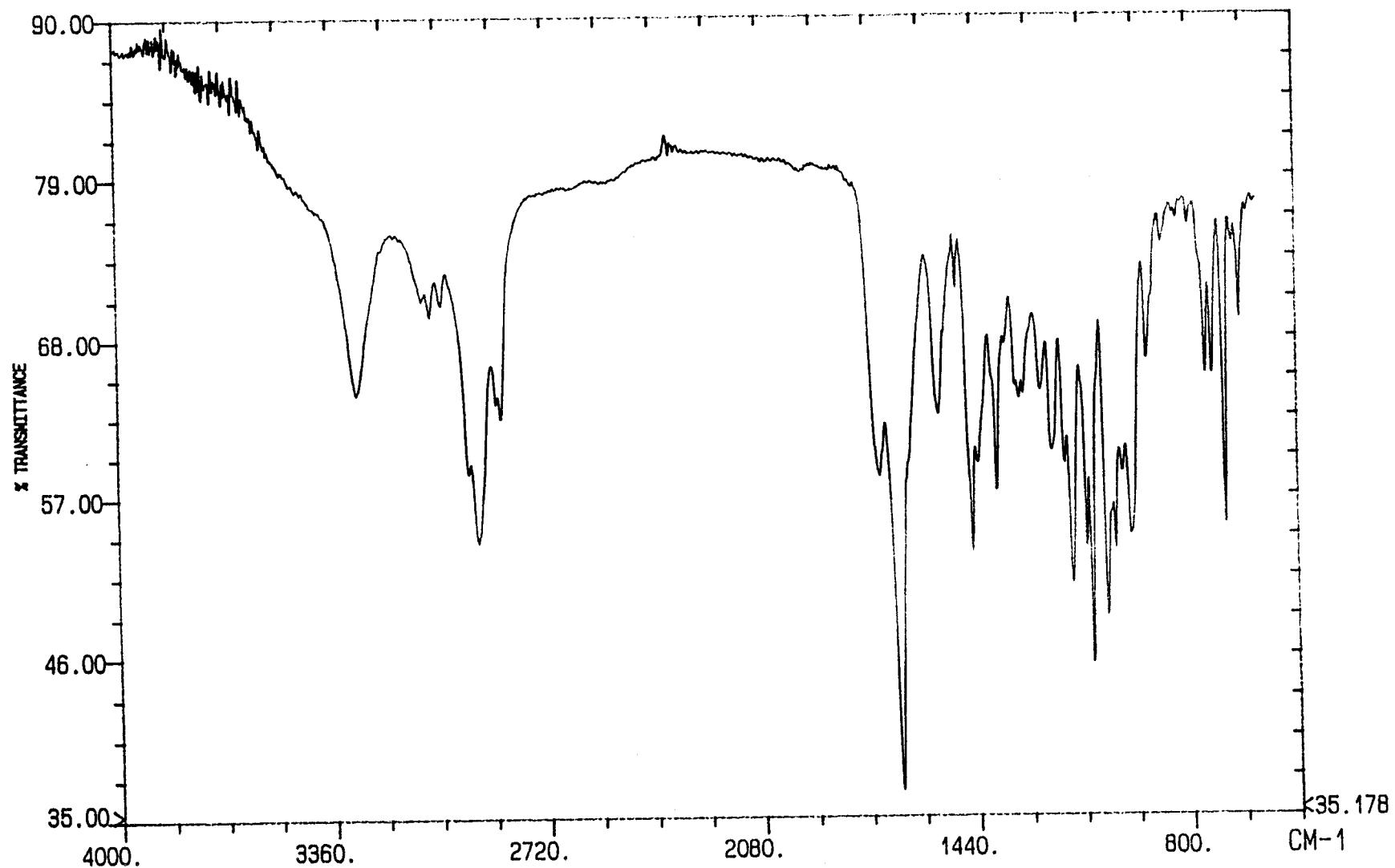
Espectro IR del éster etílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-2,3-dioxazolidin-2-carbonil-L-alanina (60)



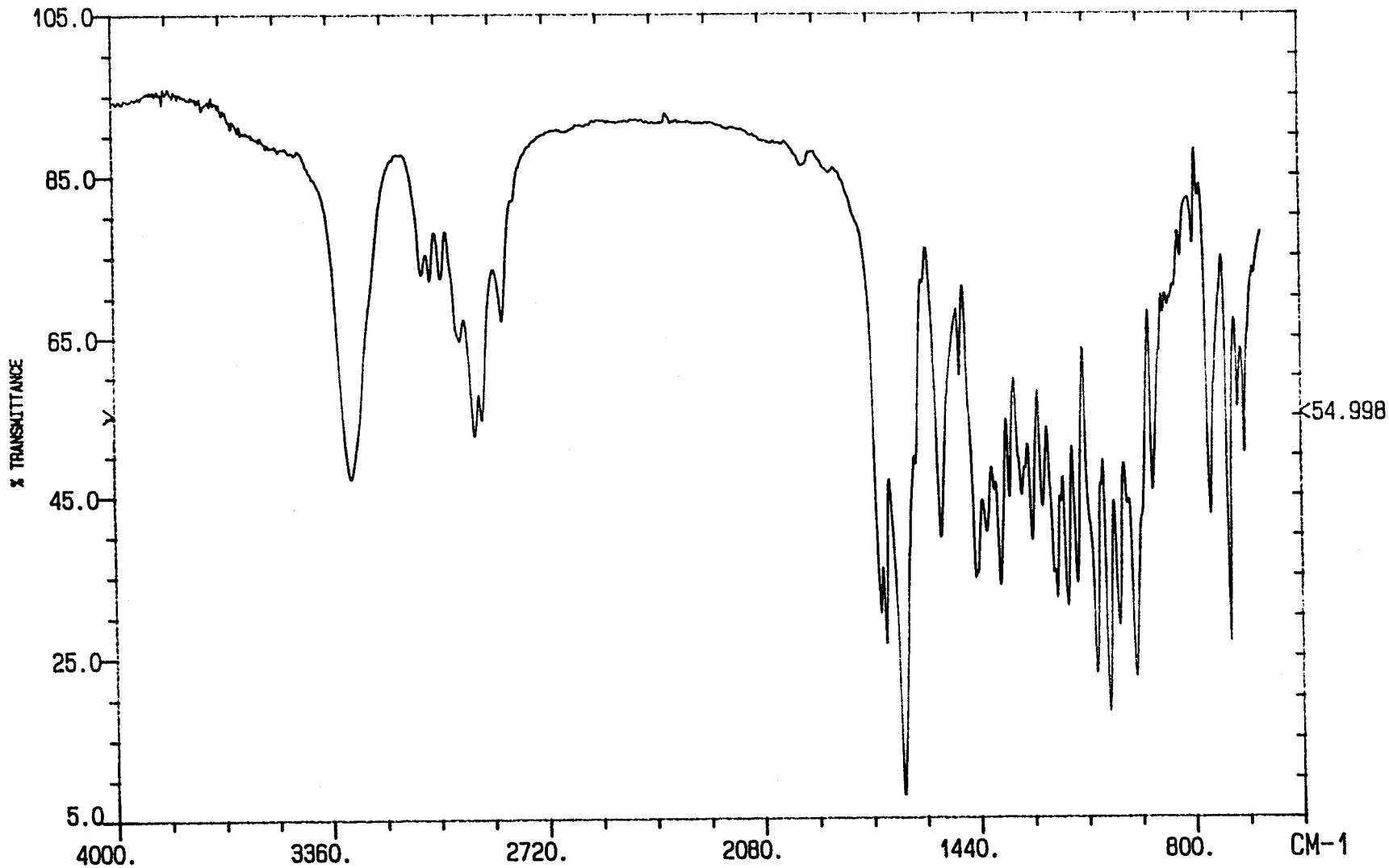
Espectro IR del éster etílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-di-desoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonilglicina (48)



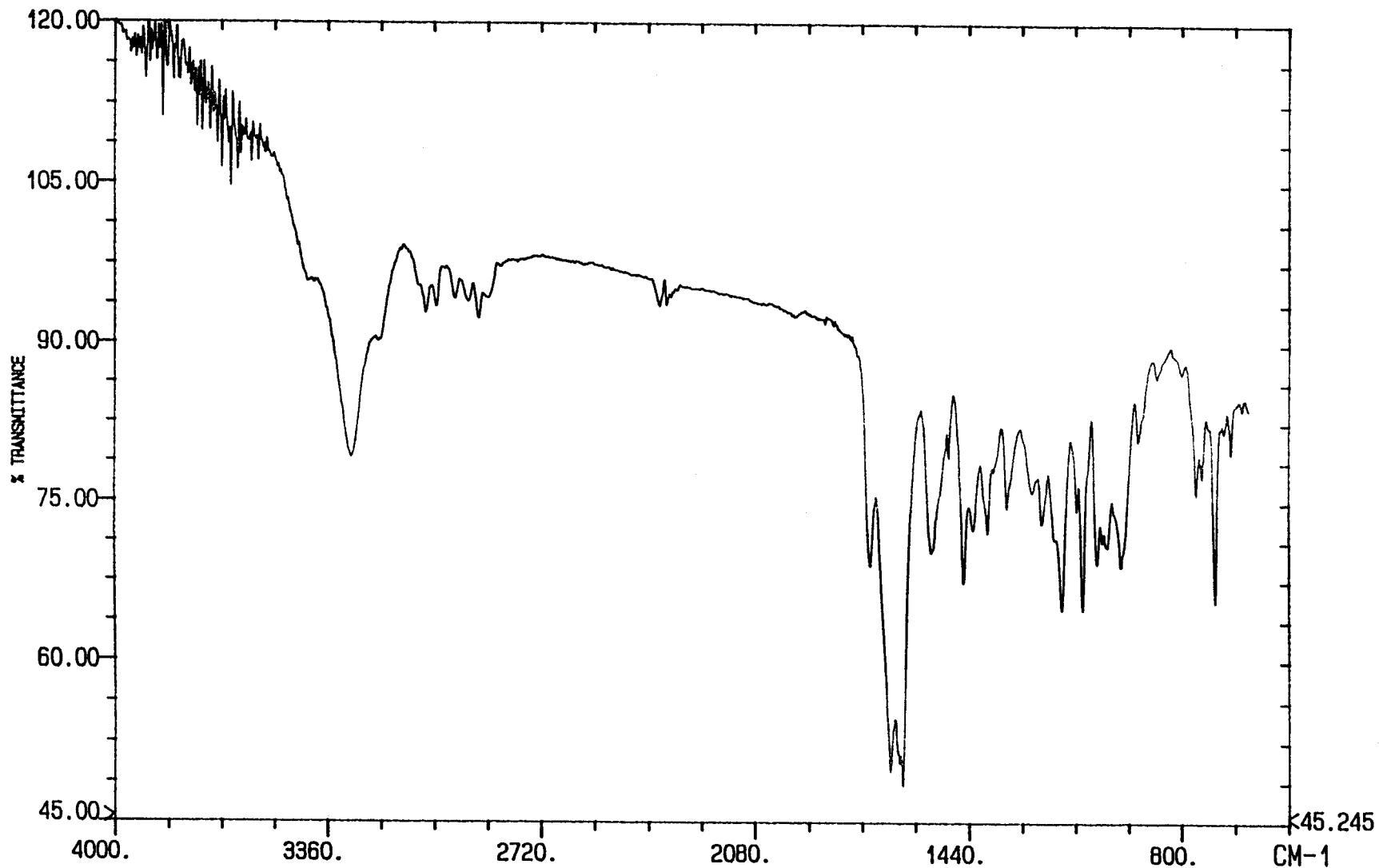
Espectro IR del éster etílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-di-desoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanina (49)



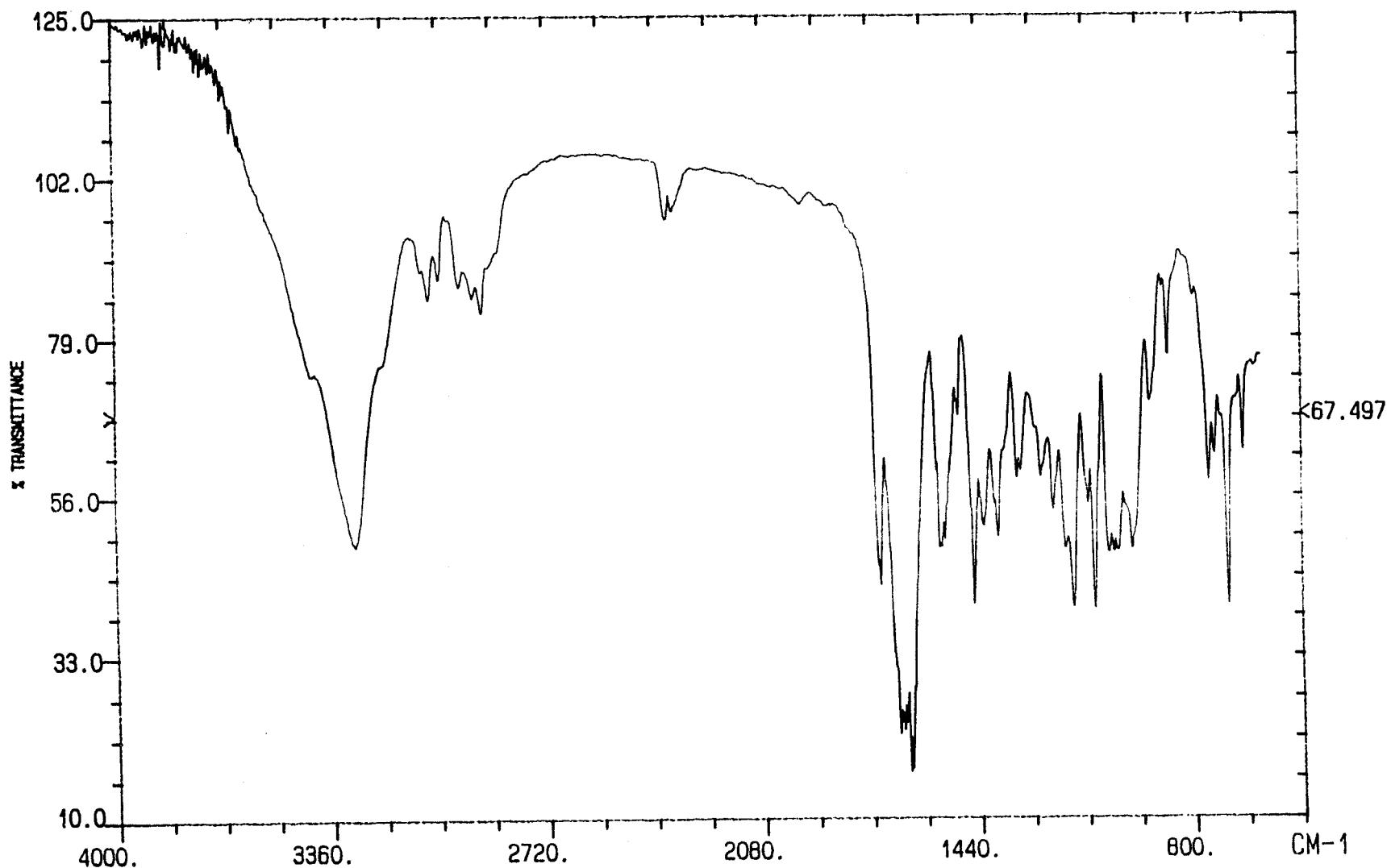
Espectro IR de 3-n-octanoil-(1-O-bencil-4,6-O-bencildén-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonil-L-alanina (51)



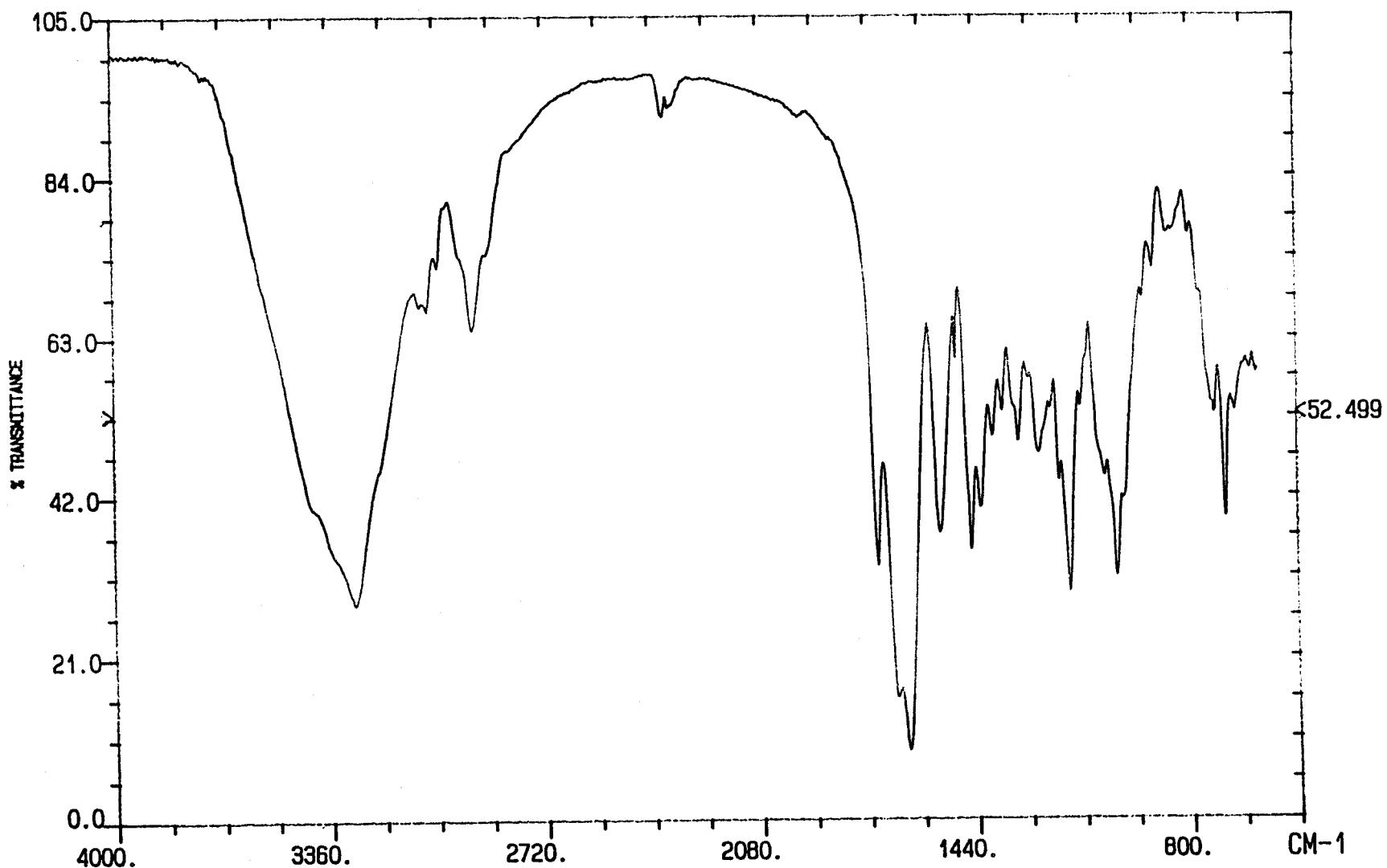
Espectro IR del éster etílico de 3-acetil-(4,6-O-bencildien-2,3-didesoxi-1-O-methyl-
-α-D-glucopirán)-|2,3-d|-oxazolidin-2-carbonil-L-fenilalanina (82)



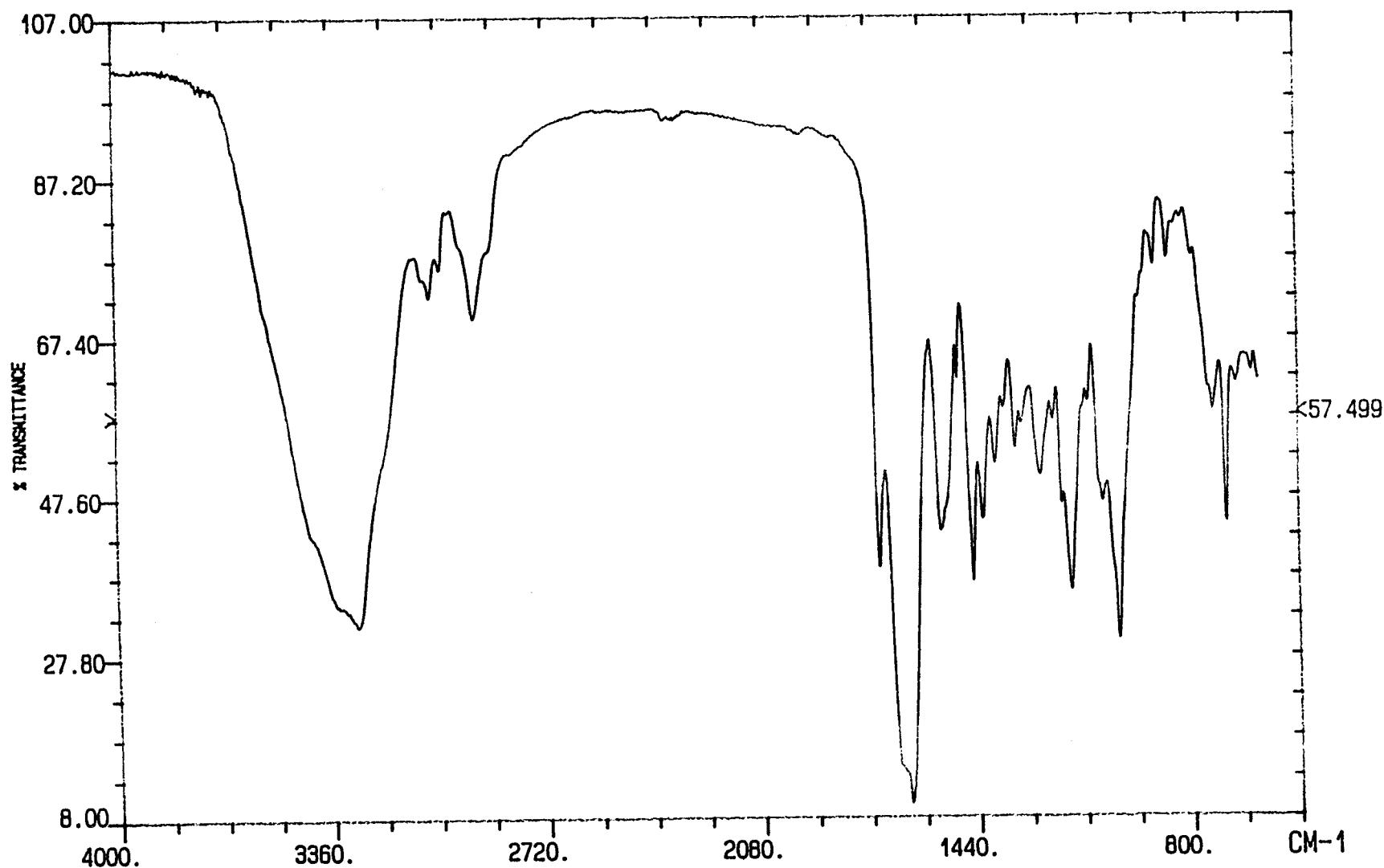
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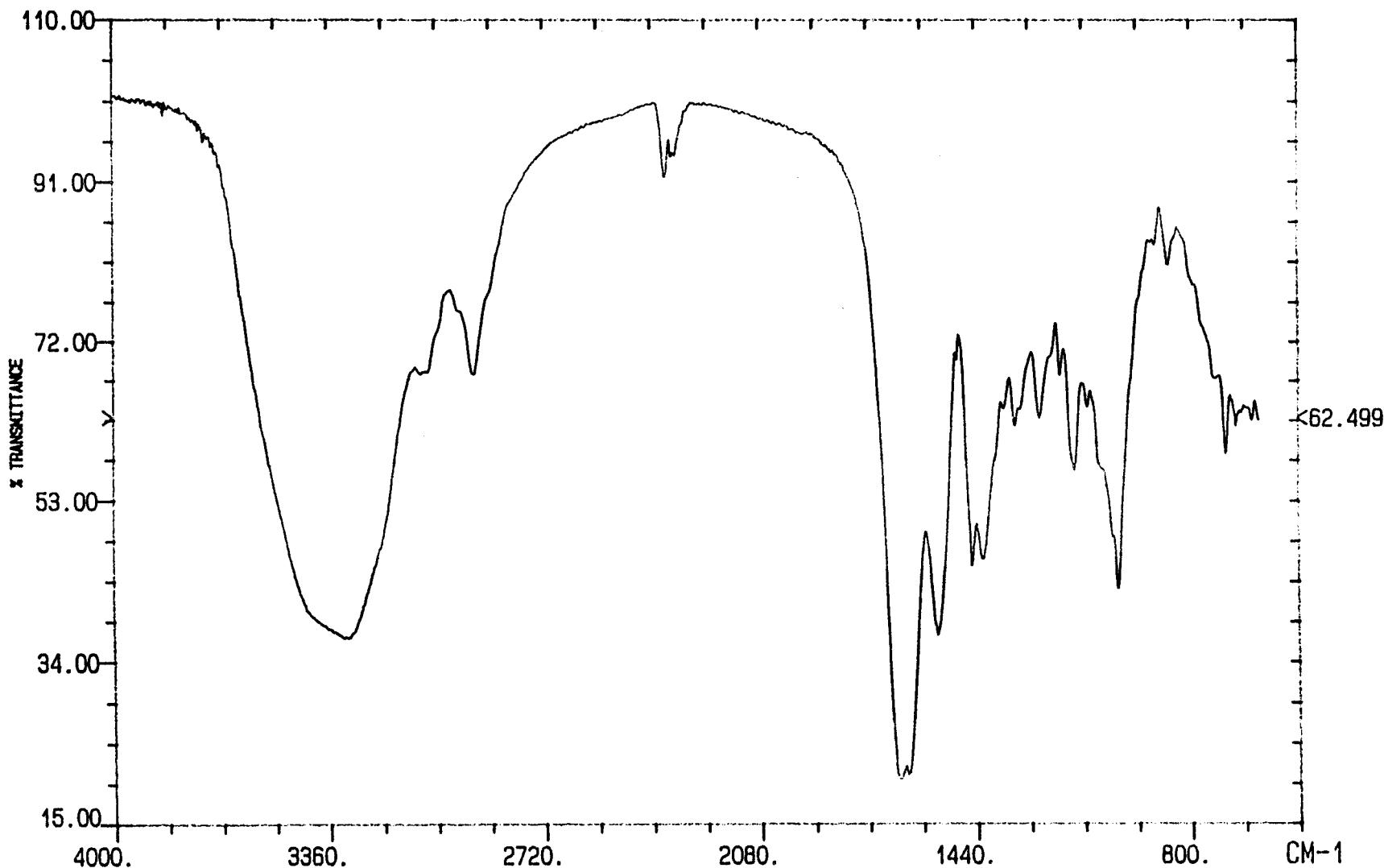
Espectro IR del éster bencílico de 3-acetil-(1-O-bencil-4,6-O-bencillidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-L-isoglutamina (52)



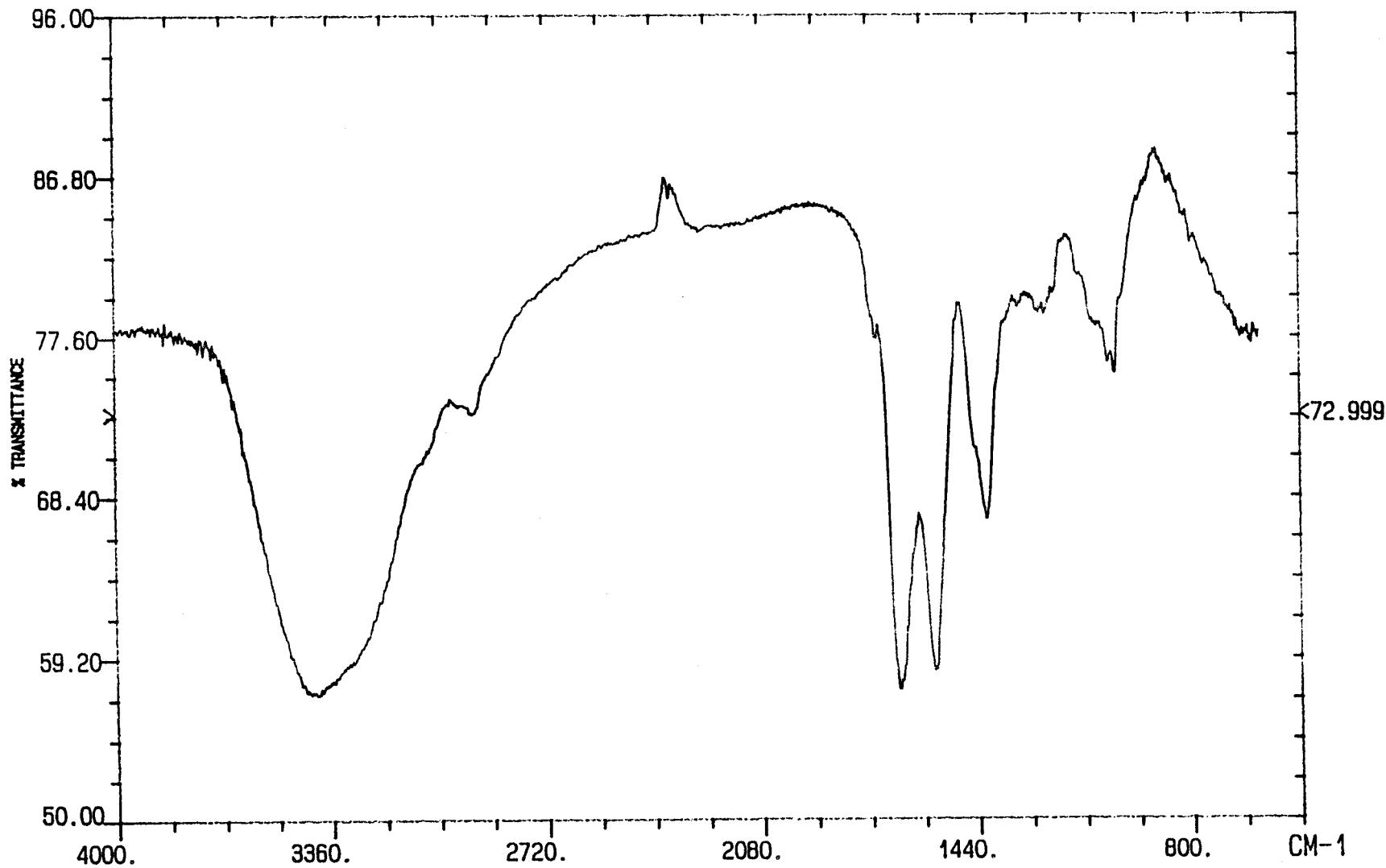
Espectro IR del éster bencílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopiran)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (61)



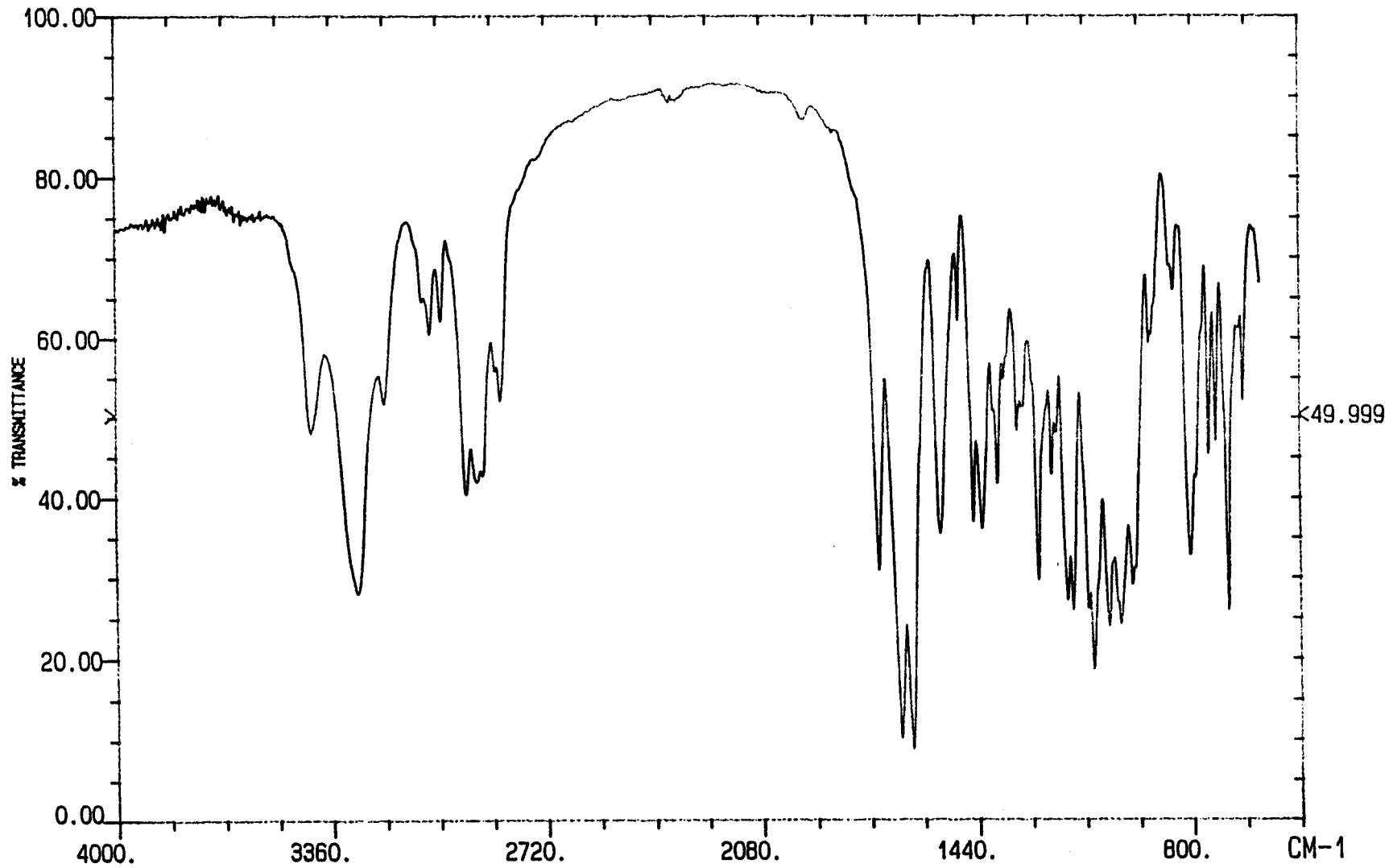
Espectro IR del éster bencílico de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopiran)-|2,3-d|-oxazolidín-2-carbonil-L-alanil-L-isoglutamina (62)



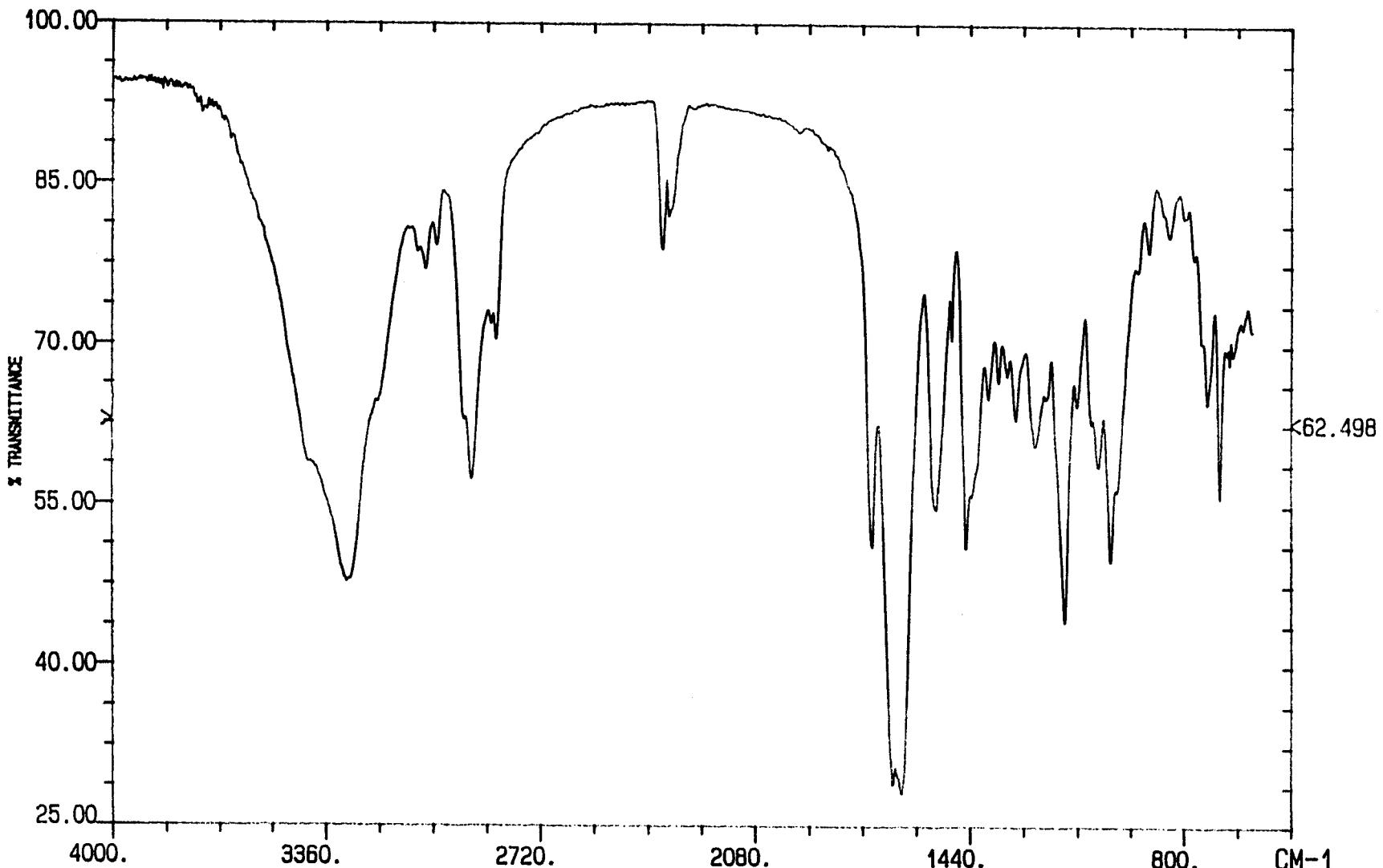
Espectro IR de 3-acetil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (65)



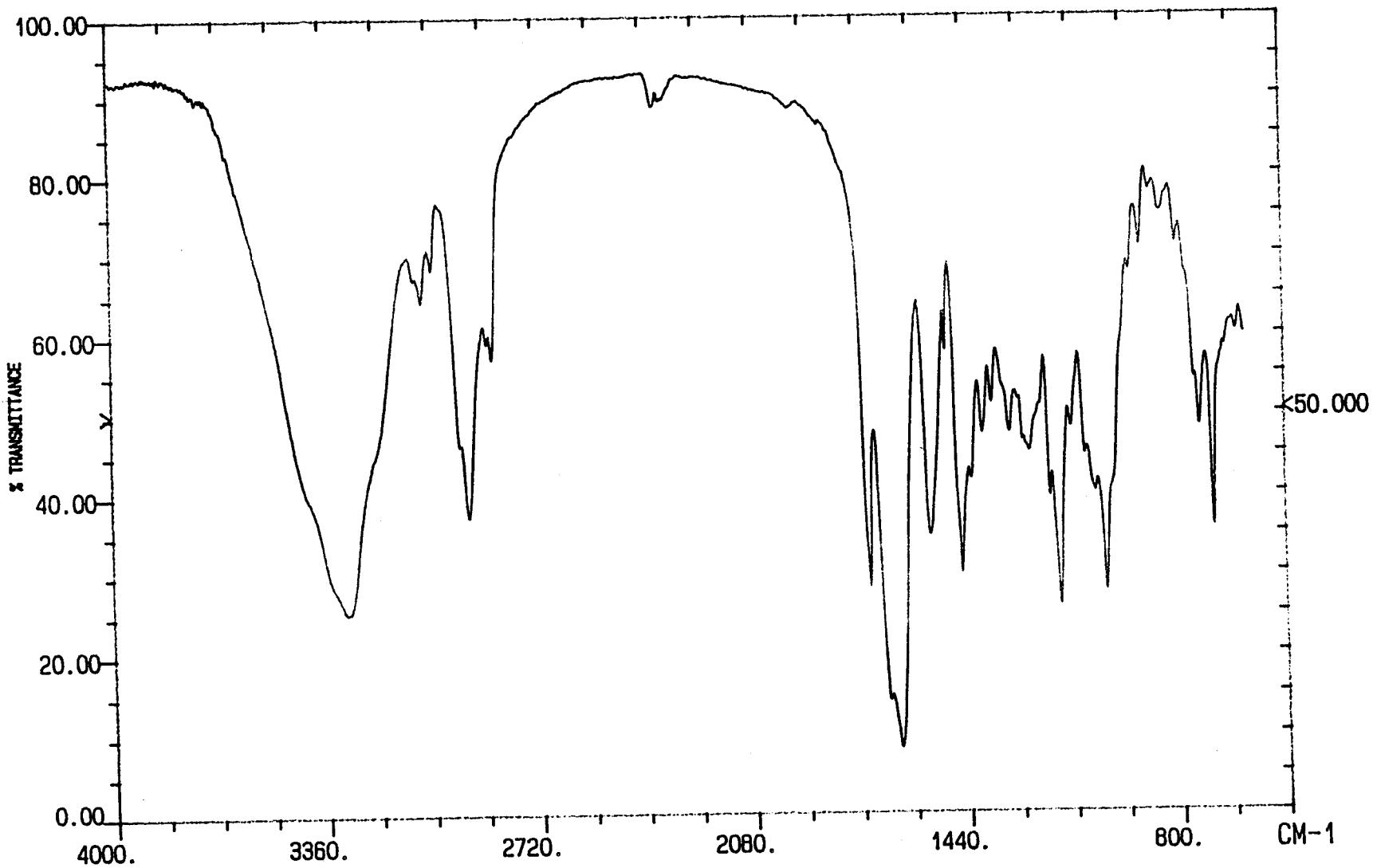
Espectro IR de 3-acetyl-(2,3-didesoxi-D-glucopyran)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (26)



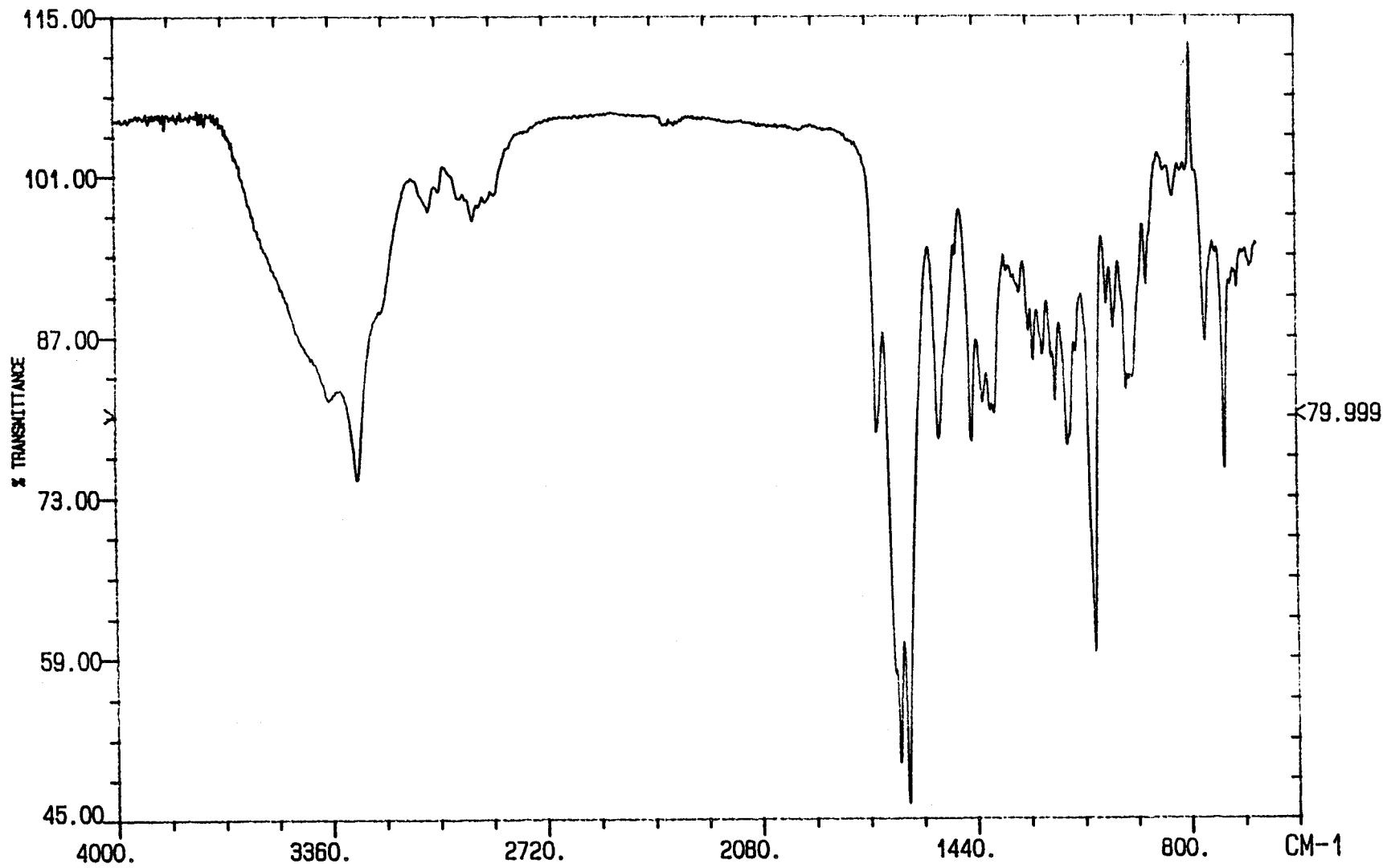
Espectro IR del éster bencílico de 3-n-octanoil-(1-O-bencil-4,6-O-bencilidén-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (54)



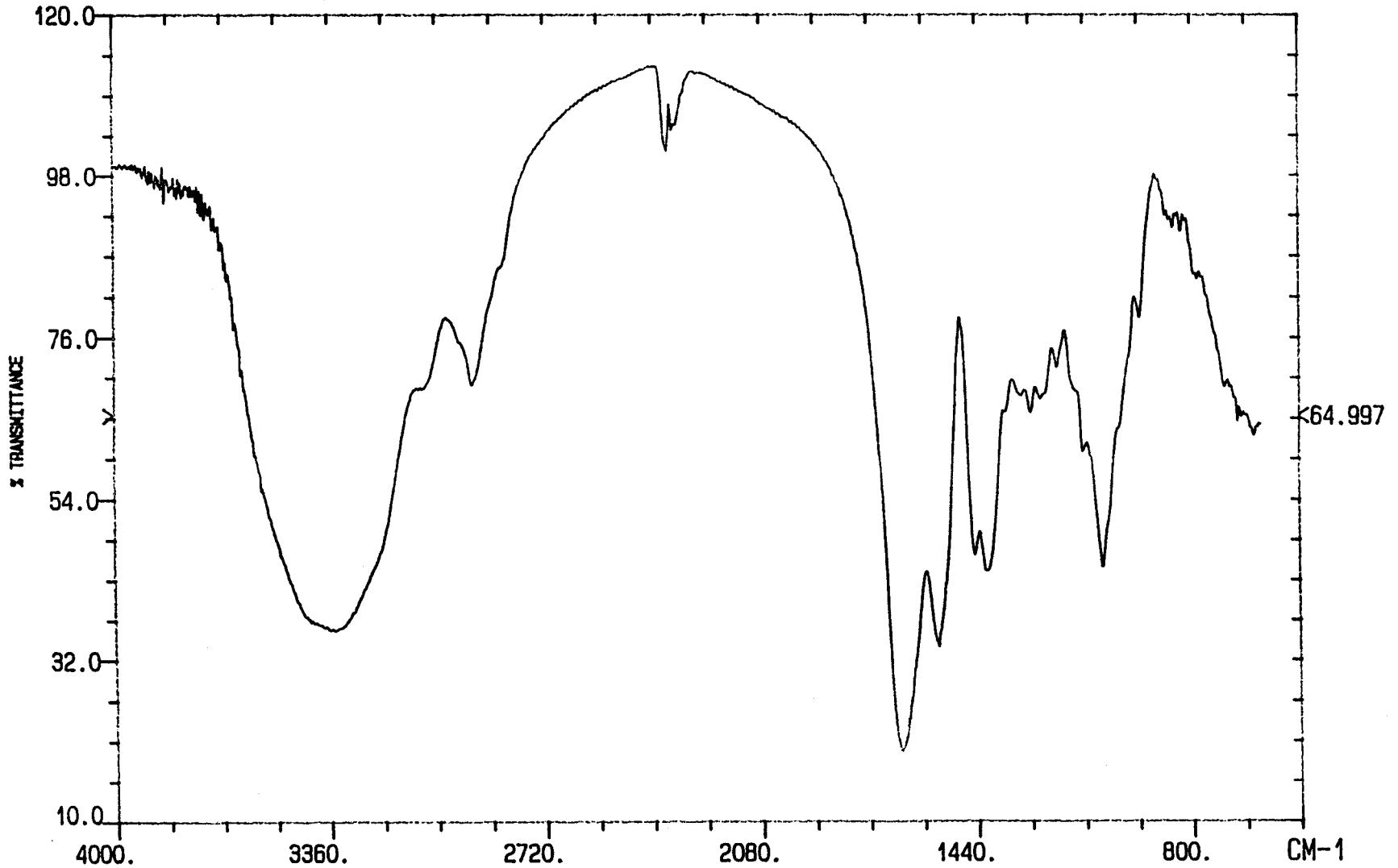
Espectro IR del éster bencílico de 3-n-octanoil-(1-O-bencil-2,3-didesoxi- α -D-glucopirán)-|2,3-d|-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (64)



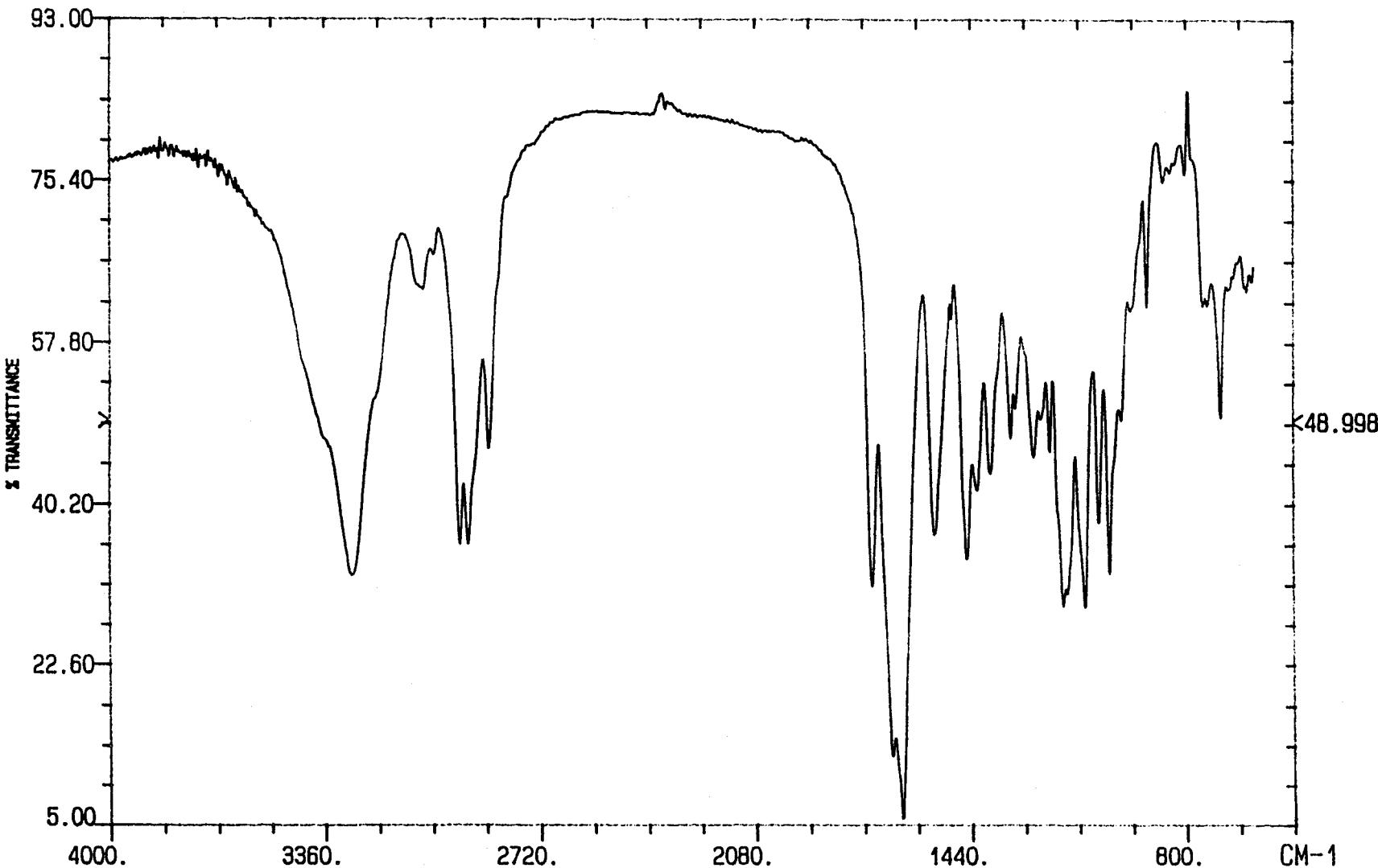
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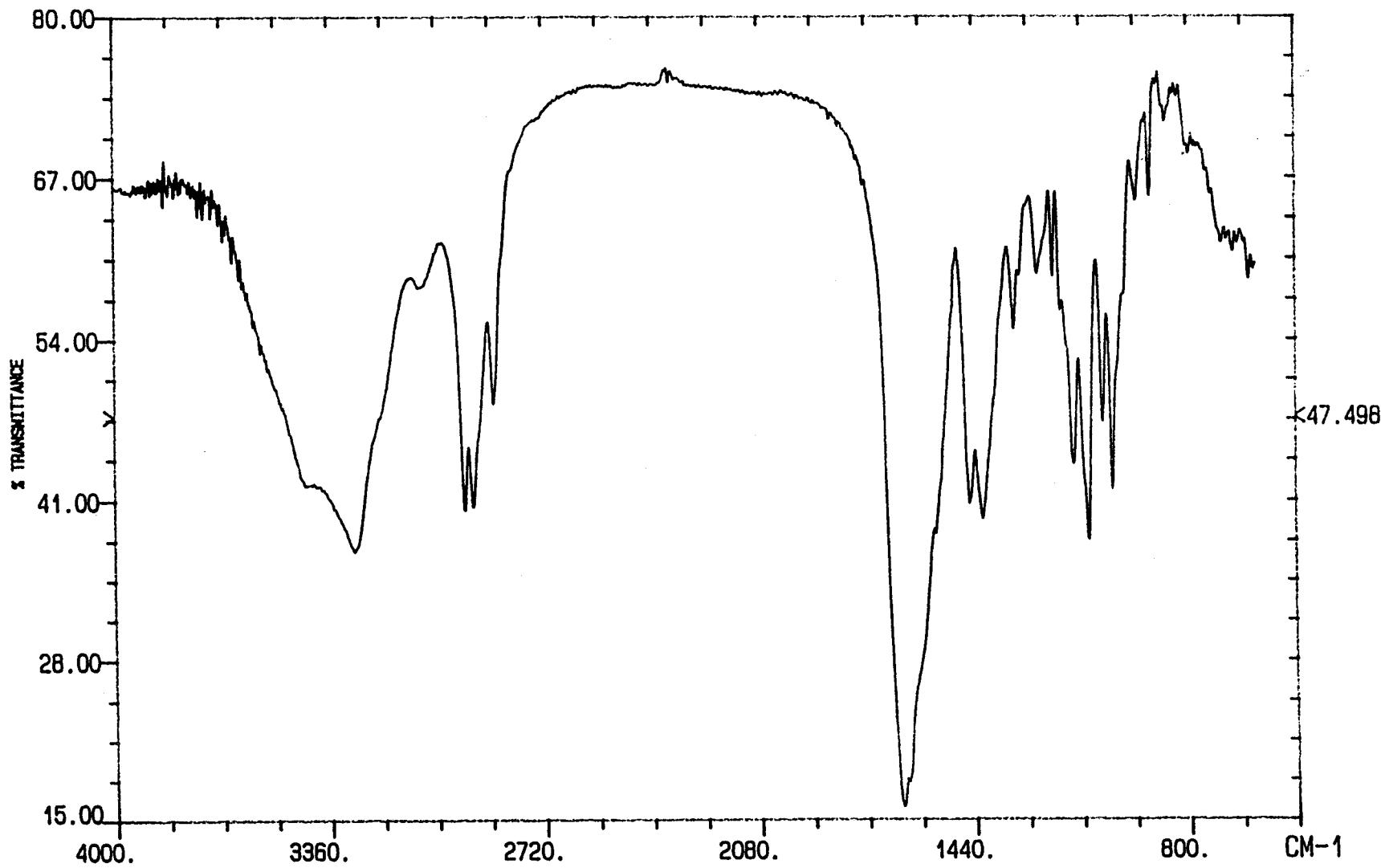
Espectro IR del éster bencílico de 3-acetil-(4,6-O-bencildén-2,3-didesoxi-1-O-metil- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (70)



Espectro IR de 3-acetil-(2,3-didesoxi-1-O-metil- β -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (28)



Espectro IR del éster bencílico de 3-acetil-(4,6-di-O-n-butil-2,3-didessoxi-1-O-metil- α -D-glucopirán)-[2,3-d]-oxazolidín-2-carbonil-L-alanil-D-isoglutamina (79)



Espectro IR de 3-acetil-(4,6-di-O-n-butyl-2,3-didesoxi- α -D-glucopirán)-[2,3-d]-oxazolidin-2-carbonil-L-alanil-D-isoglutamina (29)

EXPOSICIÓN DE TESIS DOCTORAL

en la Facultad de Medicina de la Universidad de Valencia

Dominio de los factores que regulan la síntesis de péptidos en el sistema de la Janus kinase en las células de D. Francisco José Ruiz Rodríguez titulada "Inmunocoadyuvantes. Síntesis de análogos síntesis del --- (MDP)"

"Apto una bande"

Sevilla 12

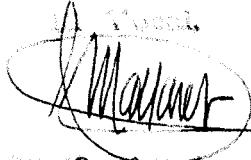
Junio

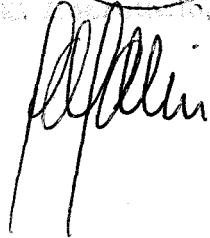
1990

El Presidente

José Fernández Beltrán



El Presidente


Alfonso


El Presidente
