

Figura 46. Espectros de RMN ^{13}C , expansão entre 105-125 ppm do 5-trifluorometil-3-[2-furil]-5-hidroxi-4,5-diidroisoxazol (**7a**) em acetona.

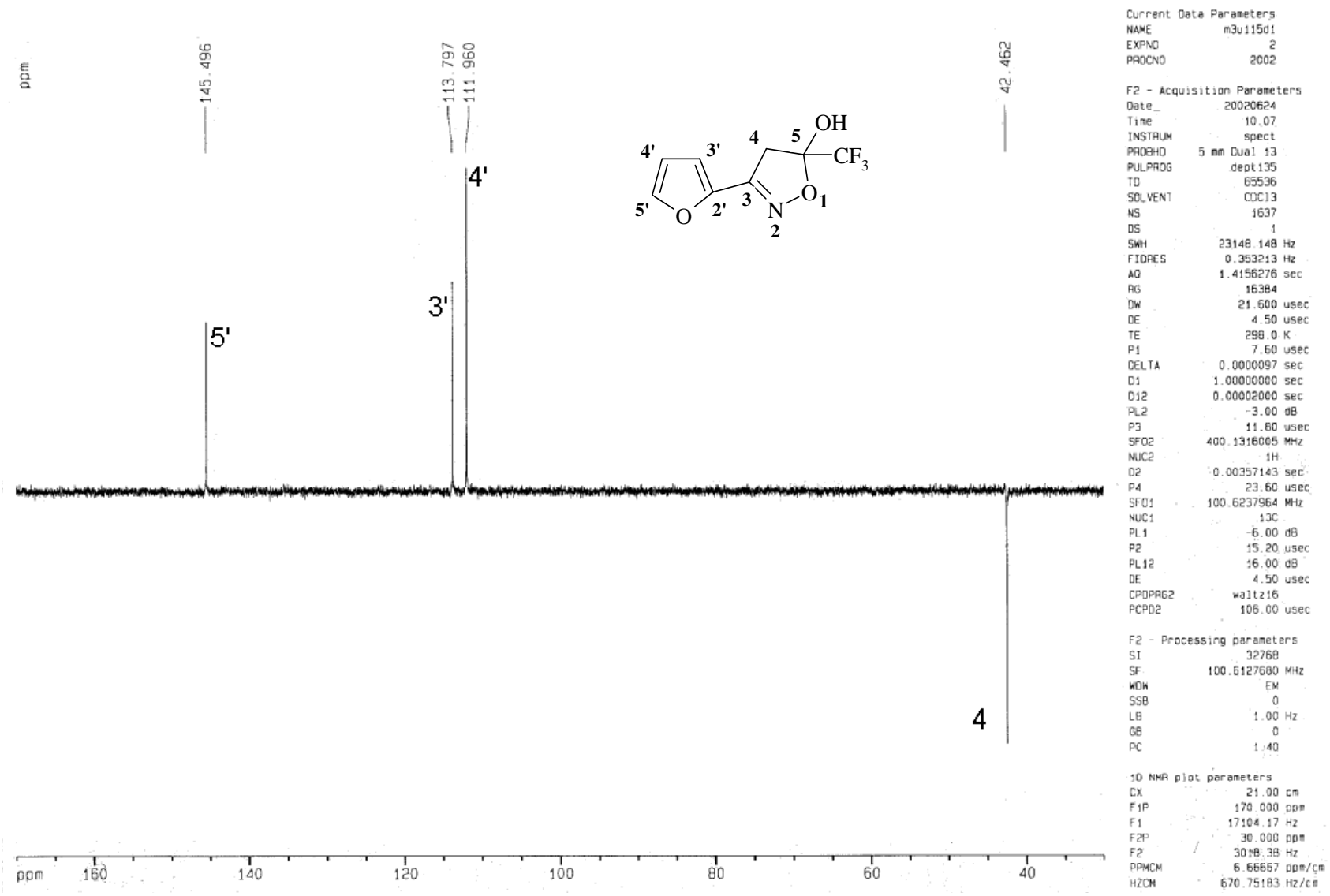


Figura 47. Espectros de RMN (DEPT 135) do 5-trifluormetil-3-[2-furil]-5-hidroxi-4,5-diidroisoxazol (**7a**) em acetona.

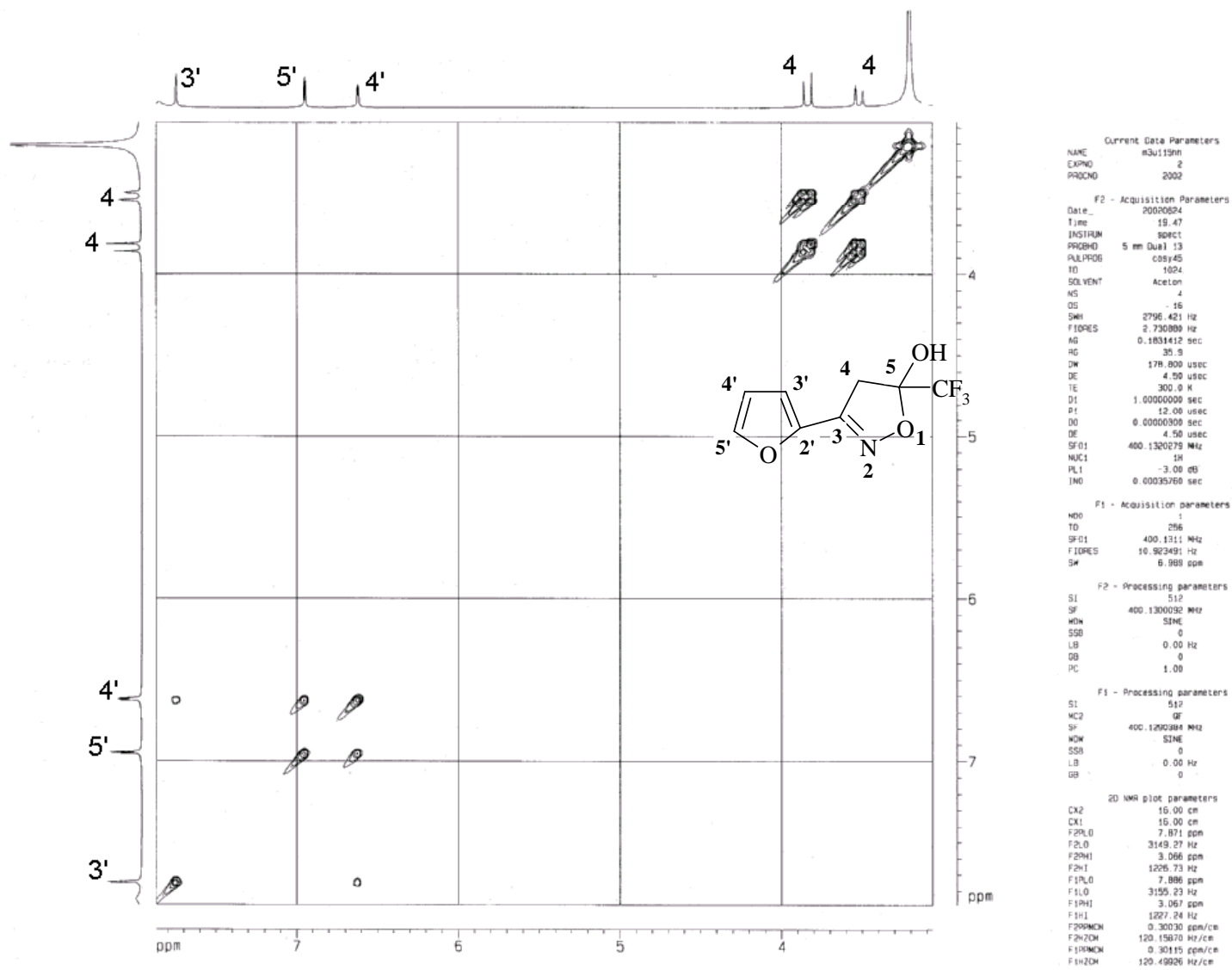
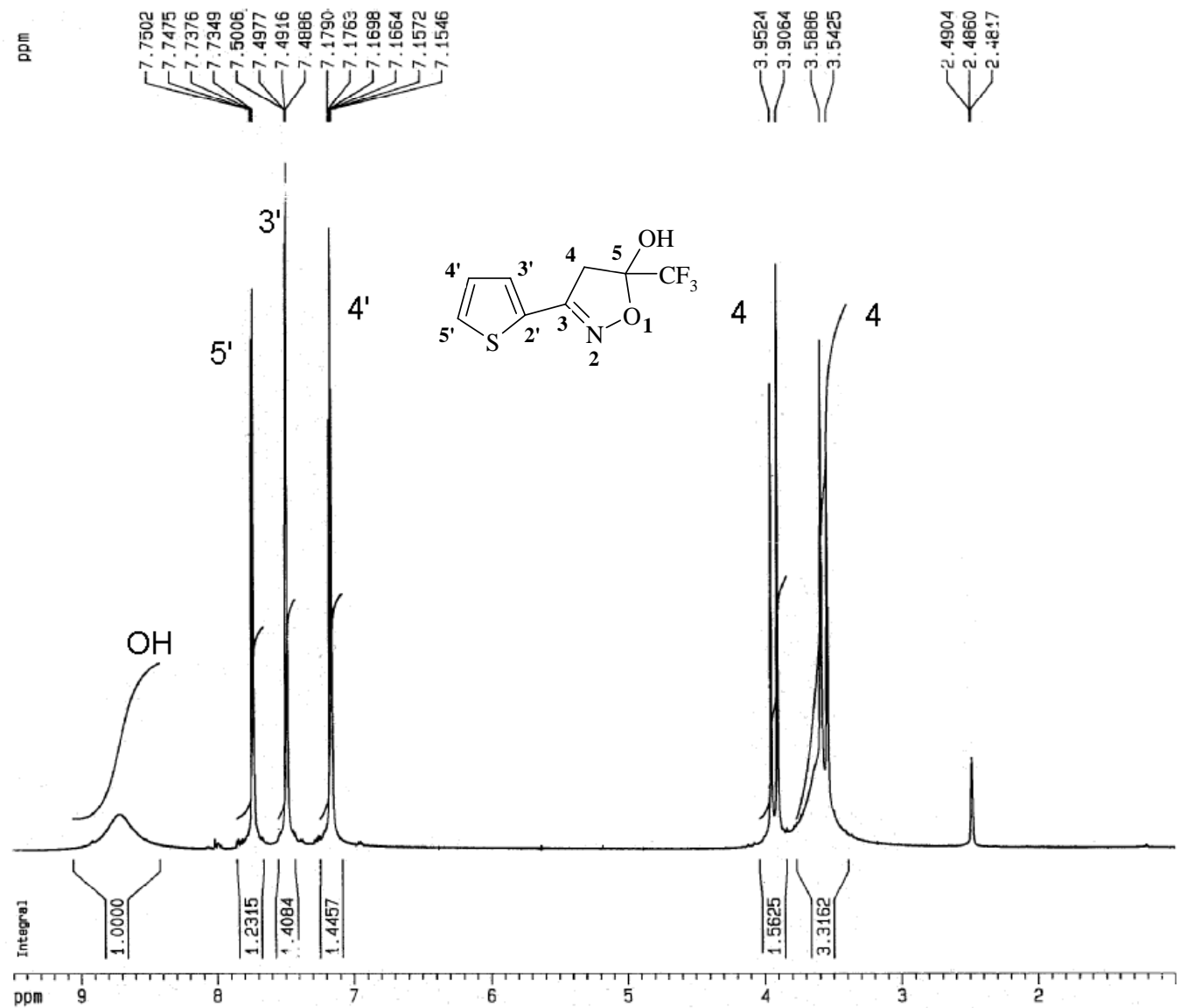


Figura 48. Espectros de RMN correlação H-H (COSY 45) do 5-trifluormetil-3-[2-furil]-5-hidroxi-4,5-diidroisoxazol (**7a**) em acetona.



Current Data Parameters
 NAME m3m098h1
 EXPNO 1
 PROCNO 2002

F2 - Acquisition Parameters
 Date_ 20020412
 Time 12.53
 INSTRUM spect
 PROBHD 5 mm Dual 13
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 0
 SWH 4960.317 Hz
 FIDRES 0.075668 Hz
 AQ 6.6060786 sec
 RG 35.9
 DM 100.800 usec
 DE 4.50 usec
 TE 298.0 K
 D1 1.00000000 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 400.1300077 MHz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 20.50 cm
 F1P 9.500 ppm
 F1 3801.24 Hz
 F2P 1.000 ppm
 F2 400.13 Hz
 PPMCM 0.41463 ppm/cm
 HZCM 165.90756 Hz/cm

Figura 49. Espectros de RMN ¹H do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl₃.

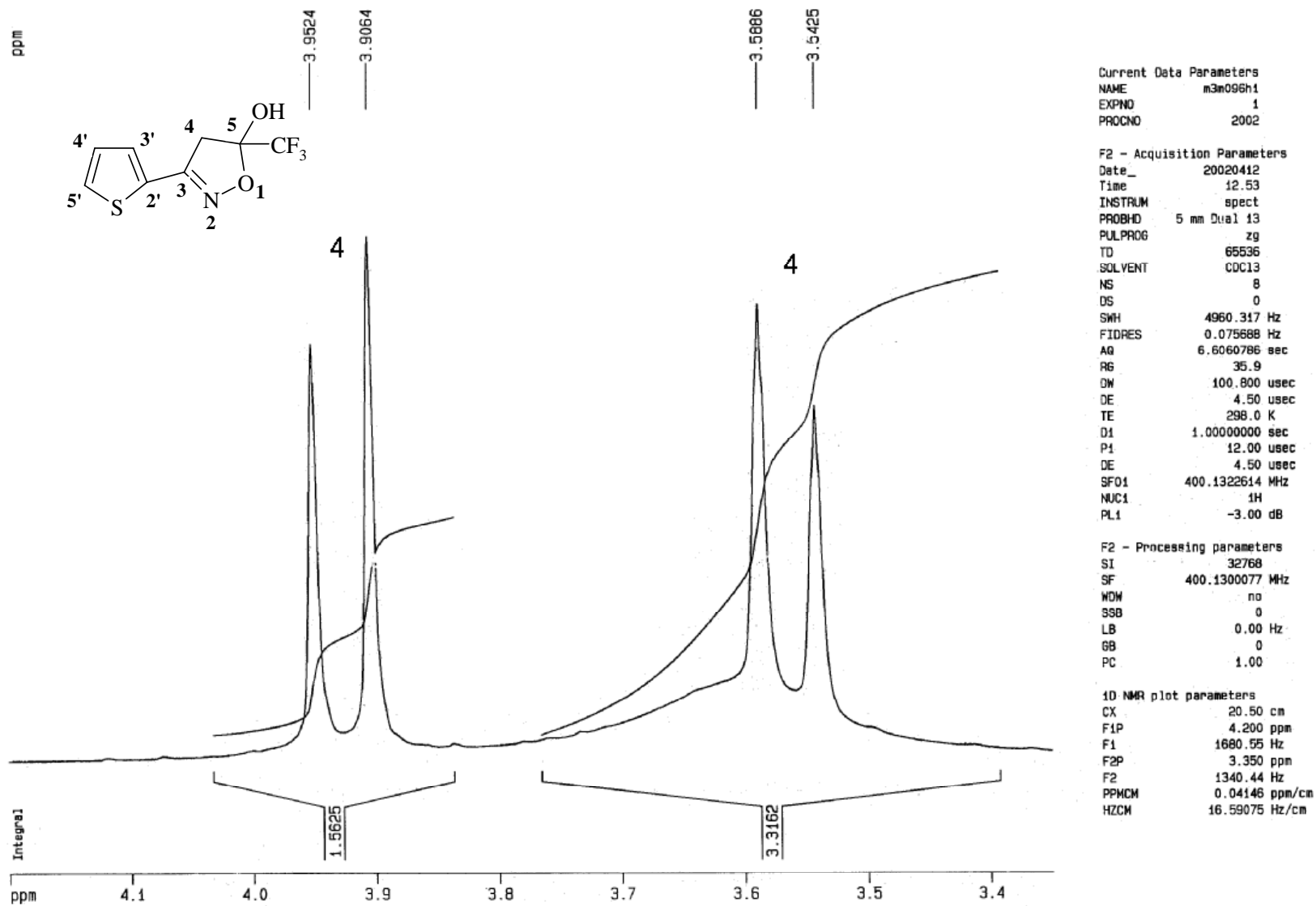


Figura 50. Espectros de RMN ^1H , expansão entre 3,4-4,1 ppm do do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5- diidroisoxazol (**7b**) em CDCl_3 .

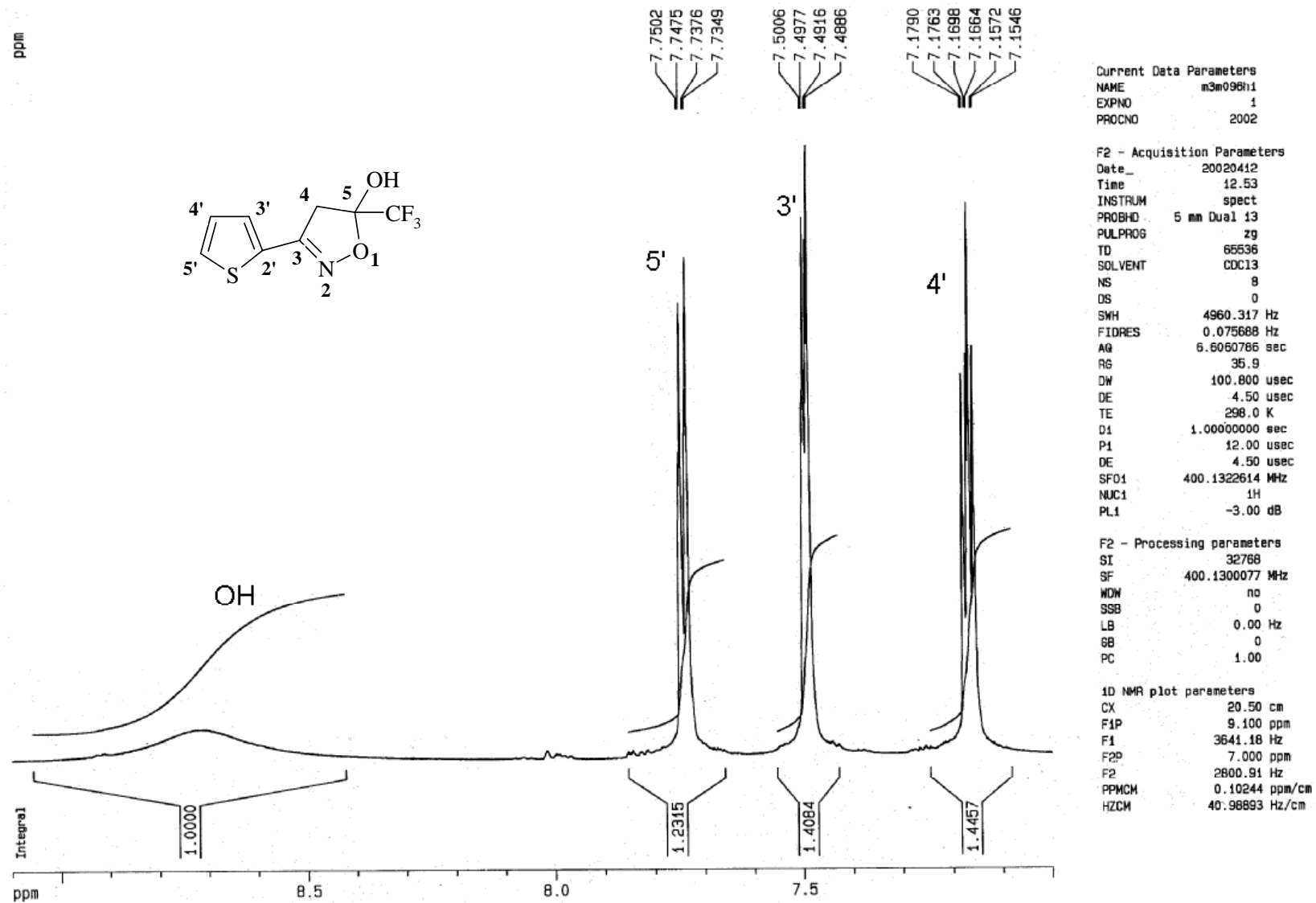


Figura 51. Espectros de RMN ^1H , expansão entre 7,5-8,5 ppm do do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

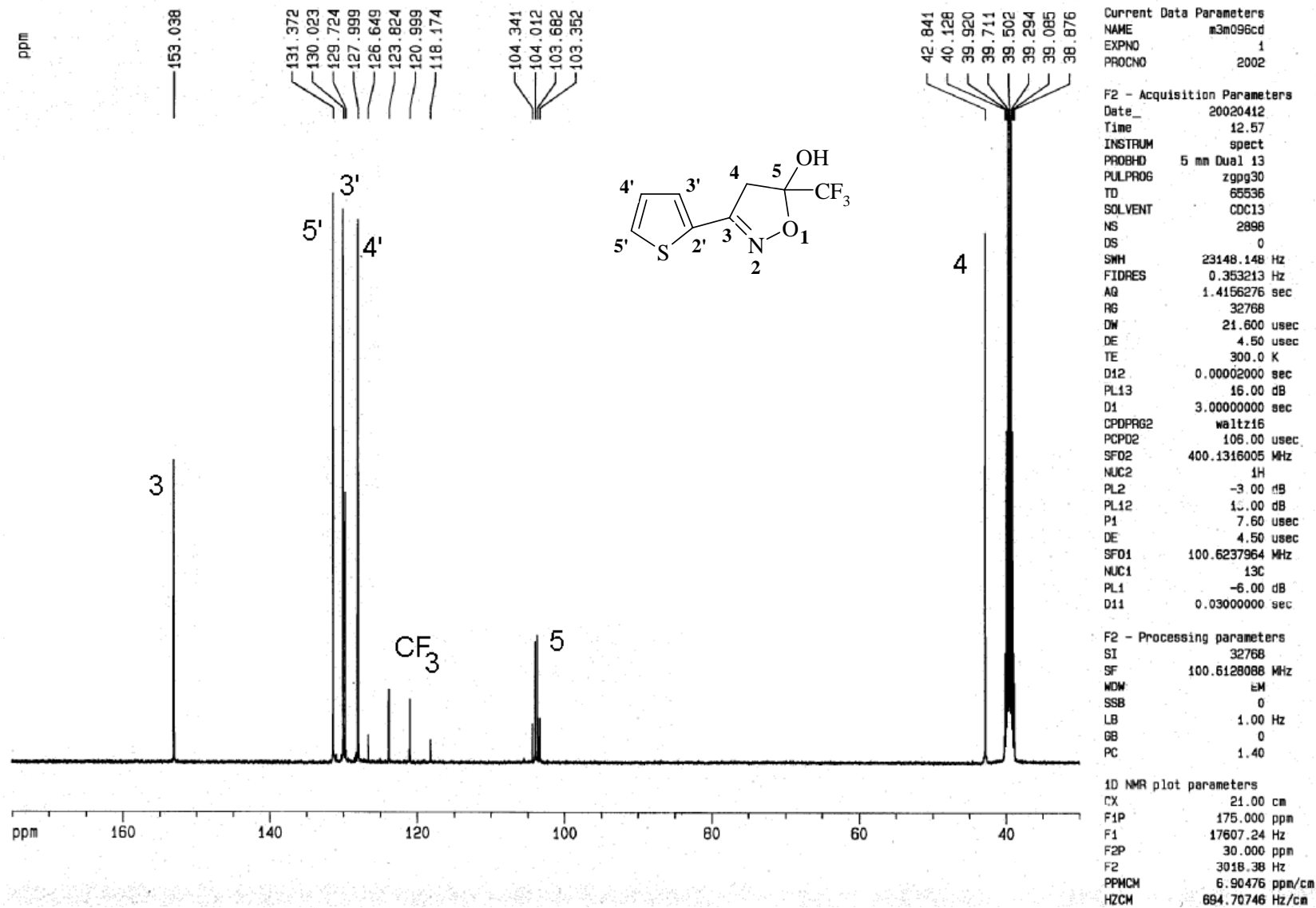


Figura 52. Espectros de RMN ^{13}C do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

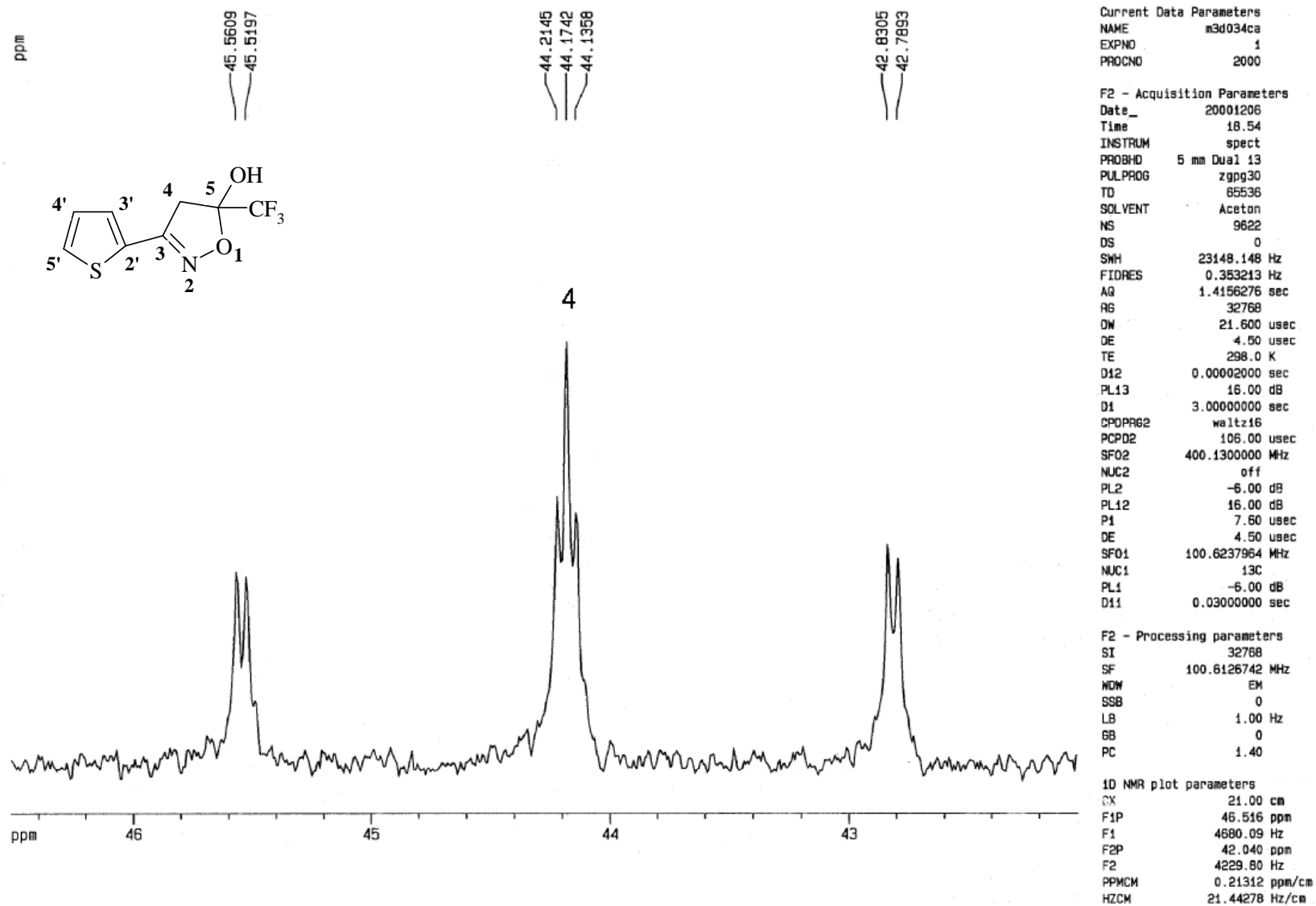


Figura 53. Espectros de RMN ^{13}C , expansão entre 43-46 ppm do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em acetona.

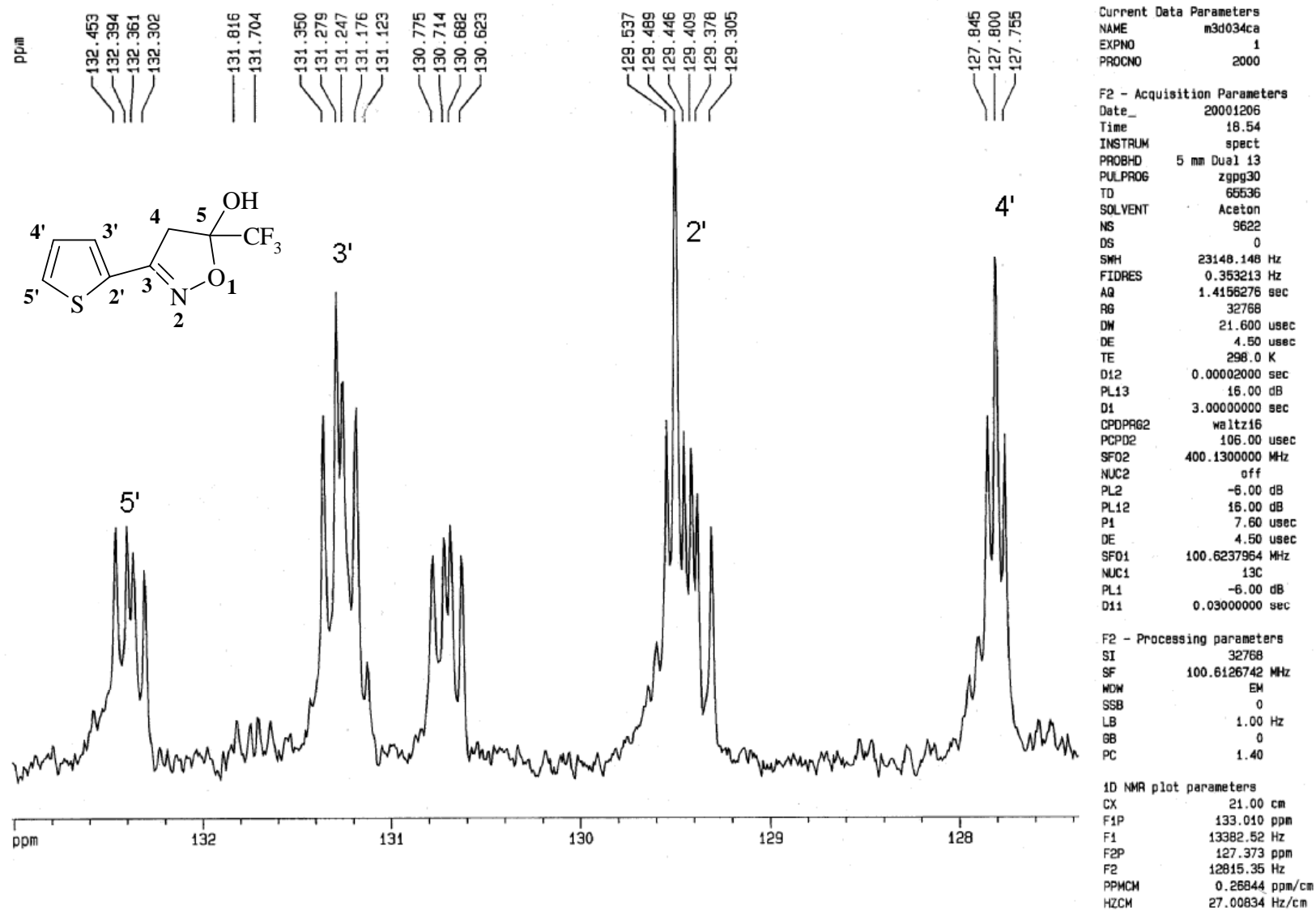


Figura 54. Espectros de RMN ^{13}C , expansão entre 128-132 ppm do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (7b) em acetona.

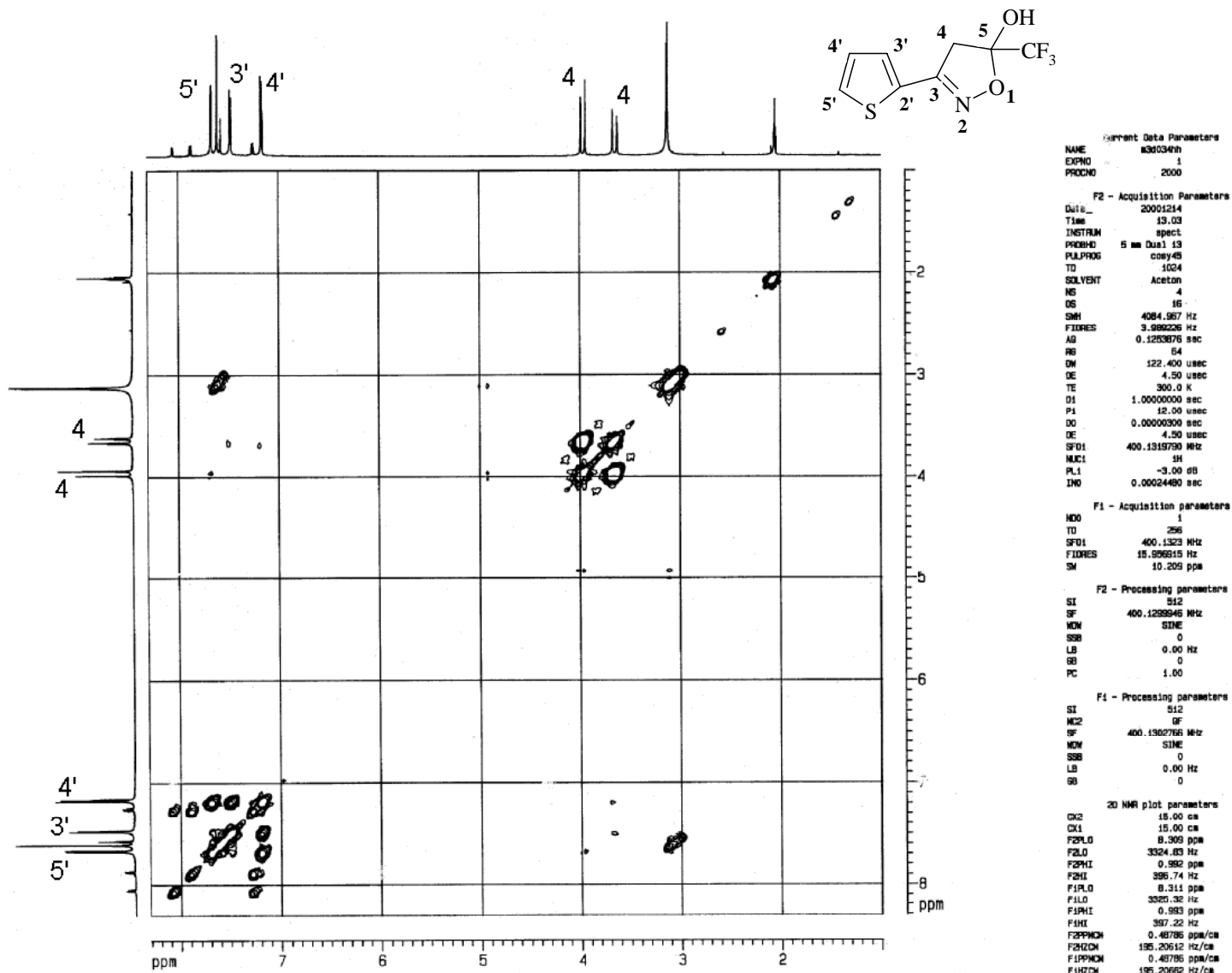


Figura 55. Espectros de RMN correlação COSY H-H, do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

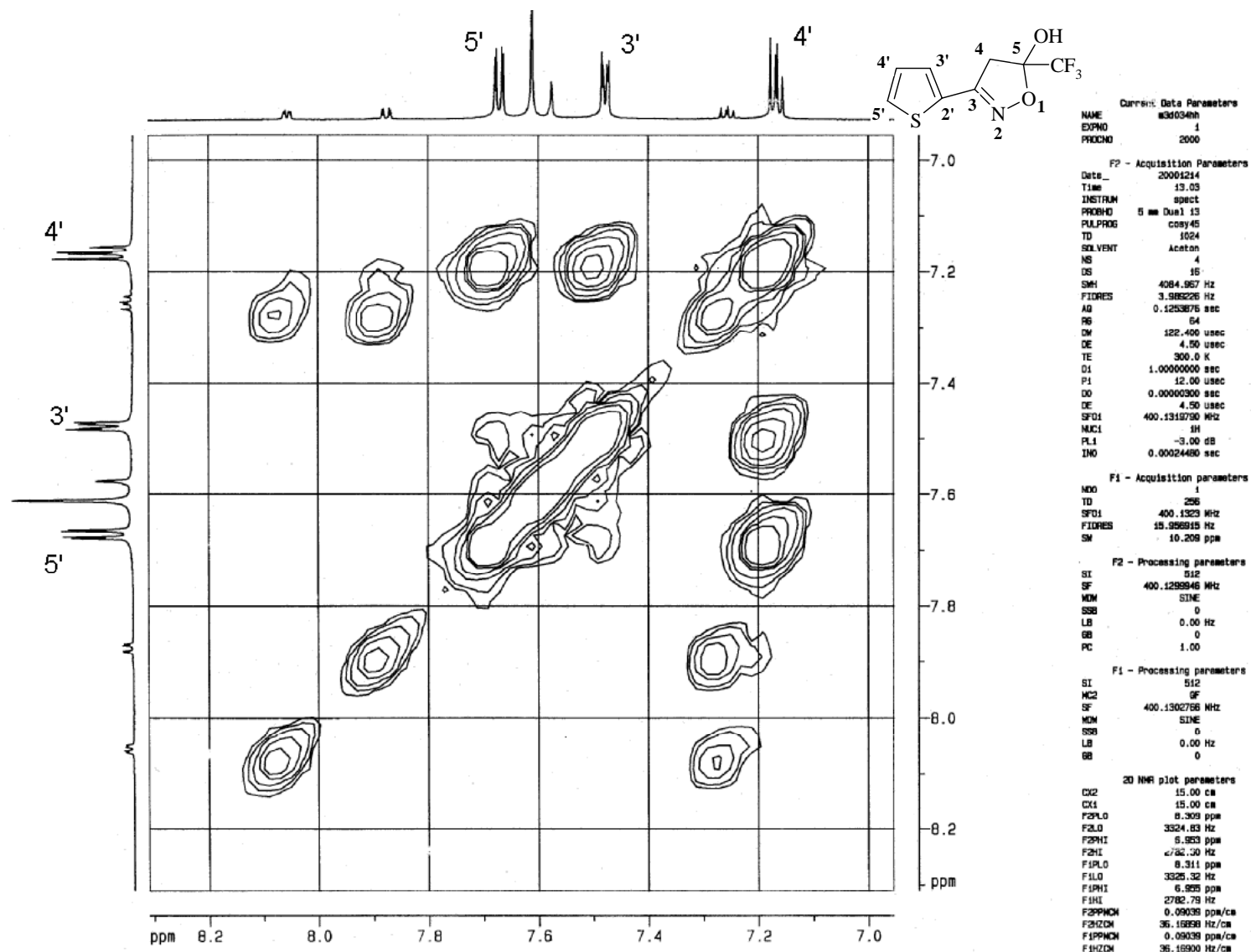


Figura 56. Espectros de RMN correlação COSY H-H, expansão entre 7,0-8,2 ppm do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

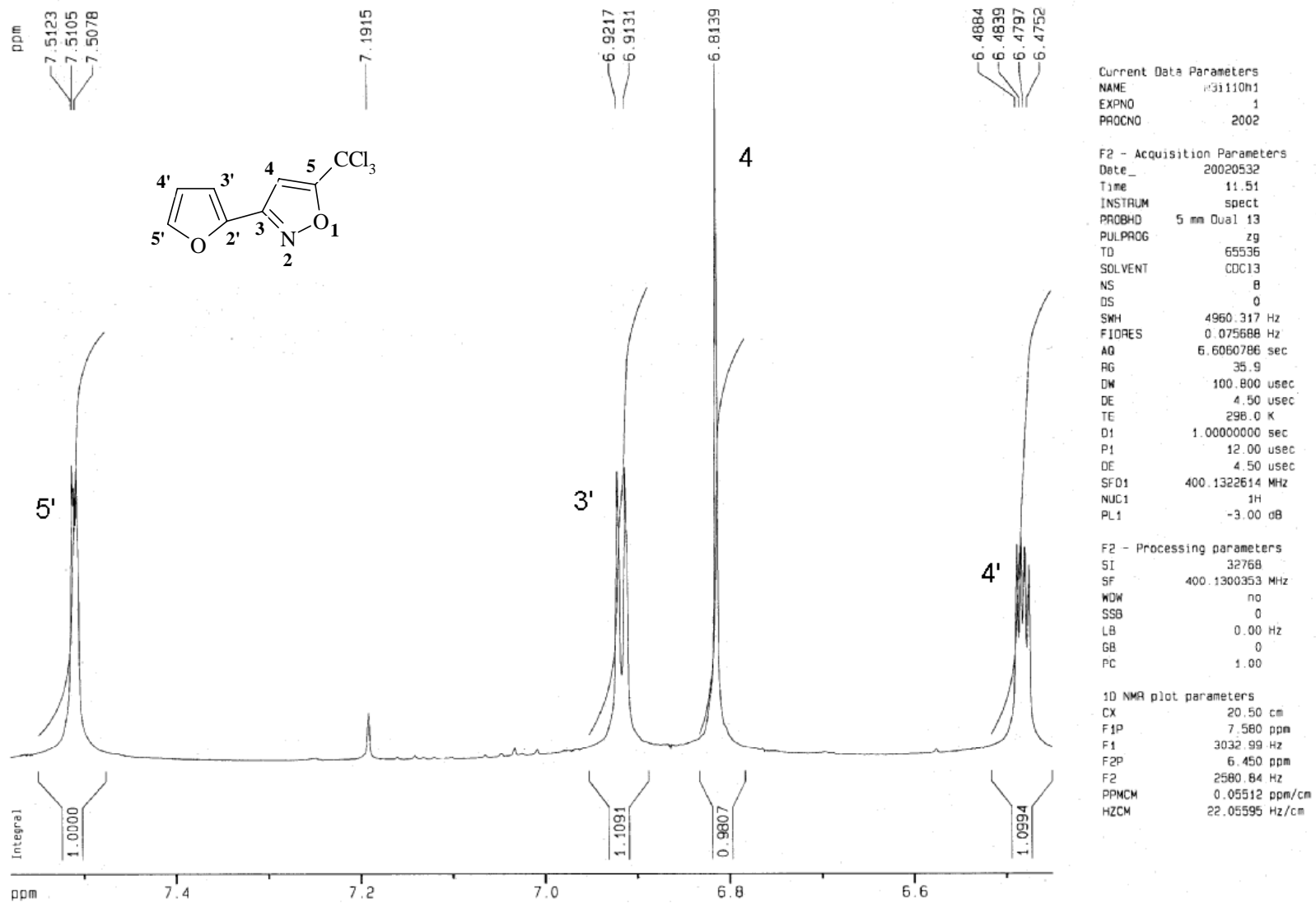


Figura 57. Espectros de RMN ^1H do 5-triclorometil-3-[2-furil]-isoxazol (**8a**) em CDCl_3 .

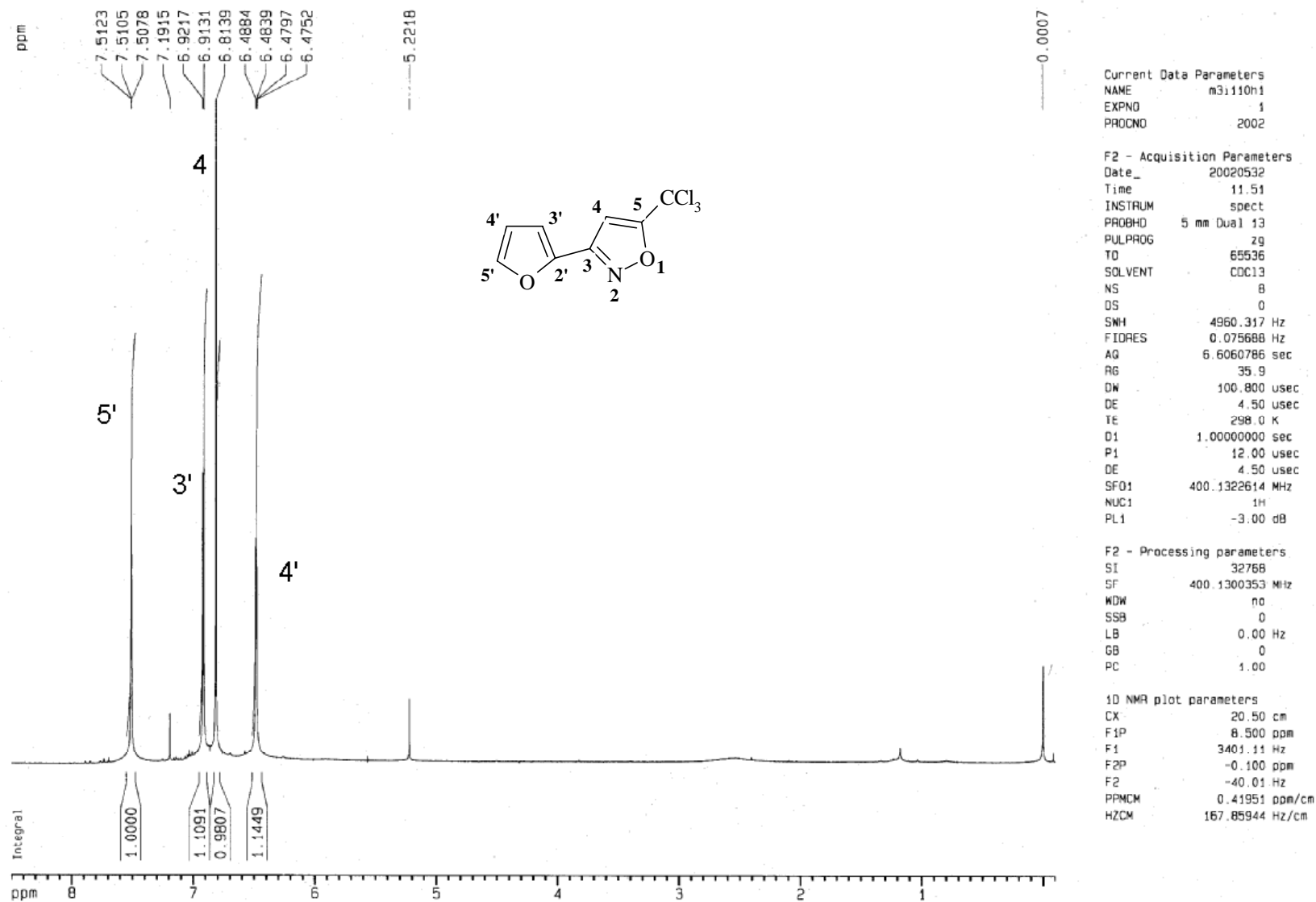
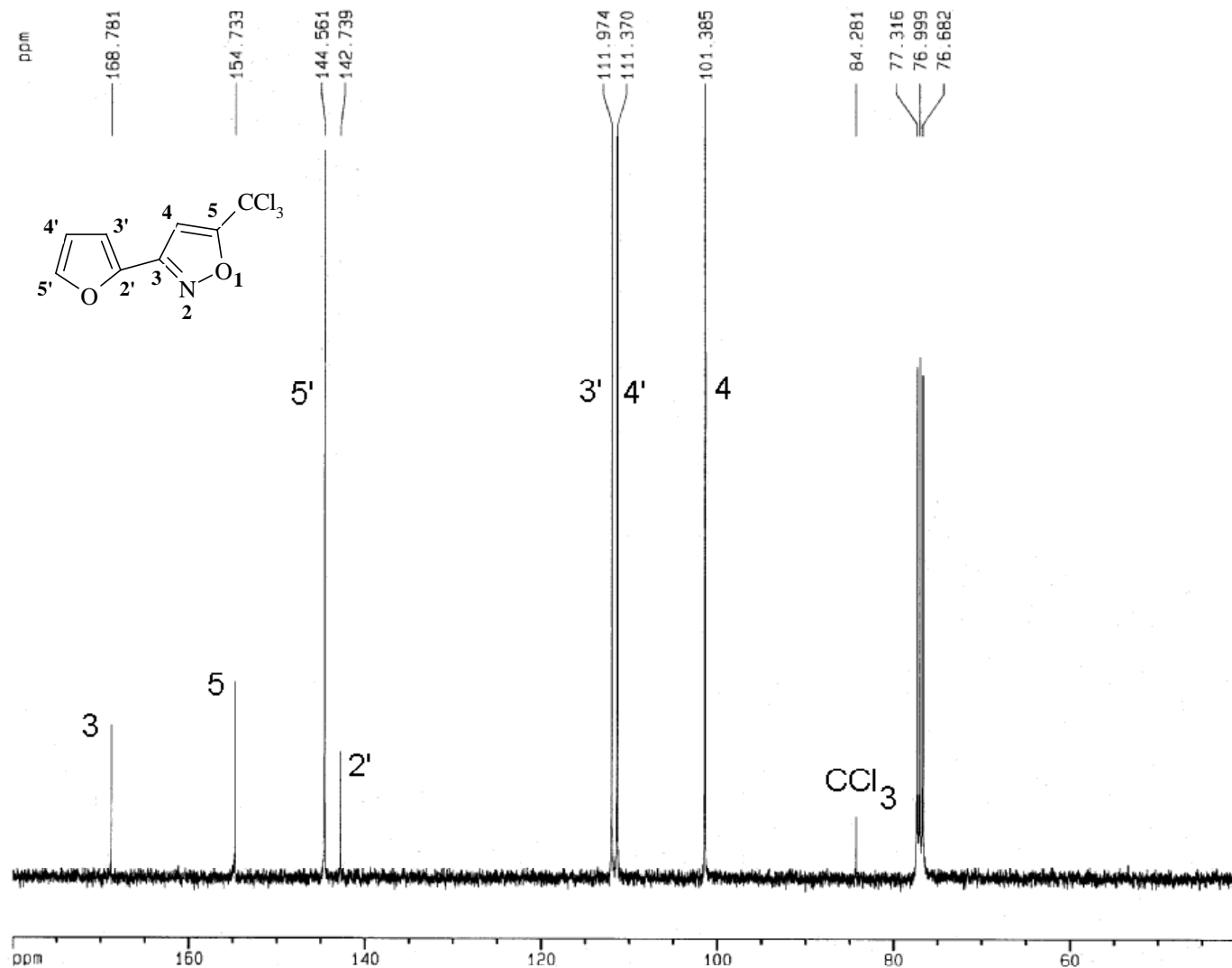


Figura 58. Espectros de RMN ^1H , expansão entre 1,0-8,0 ppm do 5-triclorometil-3-[2-furil]-isoxazol (**8a**) em CDCl_3 .



Current Data Parameters
 NAME m31110.cd
 EXPNO 1
 PROCNO 2002

F2 - Acquisition Parameters
 Date_ 20020532
 Time 12.02
 INSTRUM spect
 PROBHD 5 mm Dui1 13
 PULPROG zgpg30
 TO 65536
 SOLVENT CDCl3
 NS 392
 DS 0
 SWH 23148.148 Hz
 FIDRES 0.353213 Hz
 AQ 1.4156276 sec
 RG 32768
 DW 21.600 usec
 DE 4.50 usec
 TE 300.0 K
 D12 0.00002000 sec
 PL13 16.00 dB
 D1 2.00000000 sec
 CPDPRG2 waltz16
 PCPD2 106.00 usec
 SF02 400.1316005 MHz
 NUC2 13C
 PL2 -3.00 dB
 PL12 16.00 dB
 P1 7.60 usec
 DE 4.50 usec
 SF01 100.6237984 MHz
 NUC1 13C
 PL1 -6.00 dB
 D11 0.03000000 sec

F2 - Processing parameters
 SI 32768
 SF 100.6127749 MHz
 MDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 21.00 cm
 F1P 180.000 ppm
 F1 18110.30 Hz
 F2P 40.000 ppm
 F2 4024.51 Hz
 PPMCM 6.6667 ppm/cm
 HZCM 570.75183 Hz/cm

Figura 59. Espectros de RMN ¹³C do 5-triclorometil-3-[2-furil]-isoxazol (**8a**) em CDCl₃.

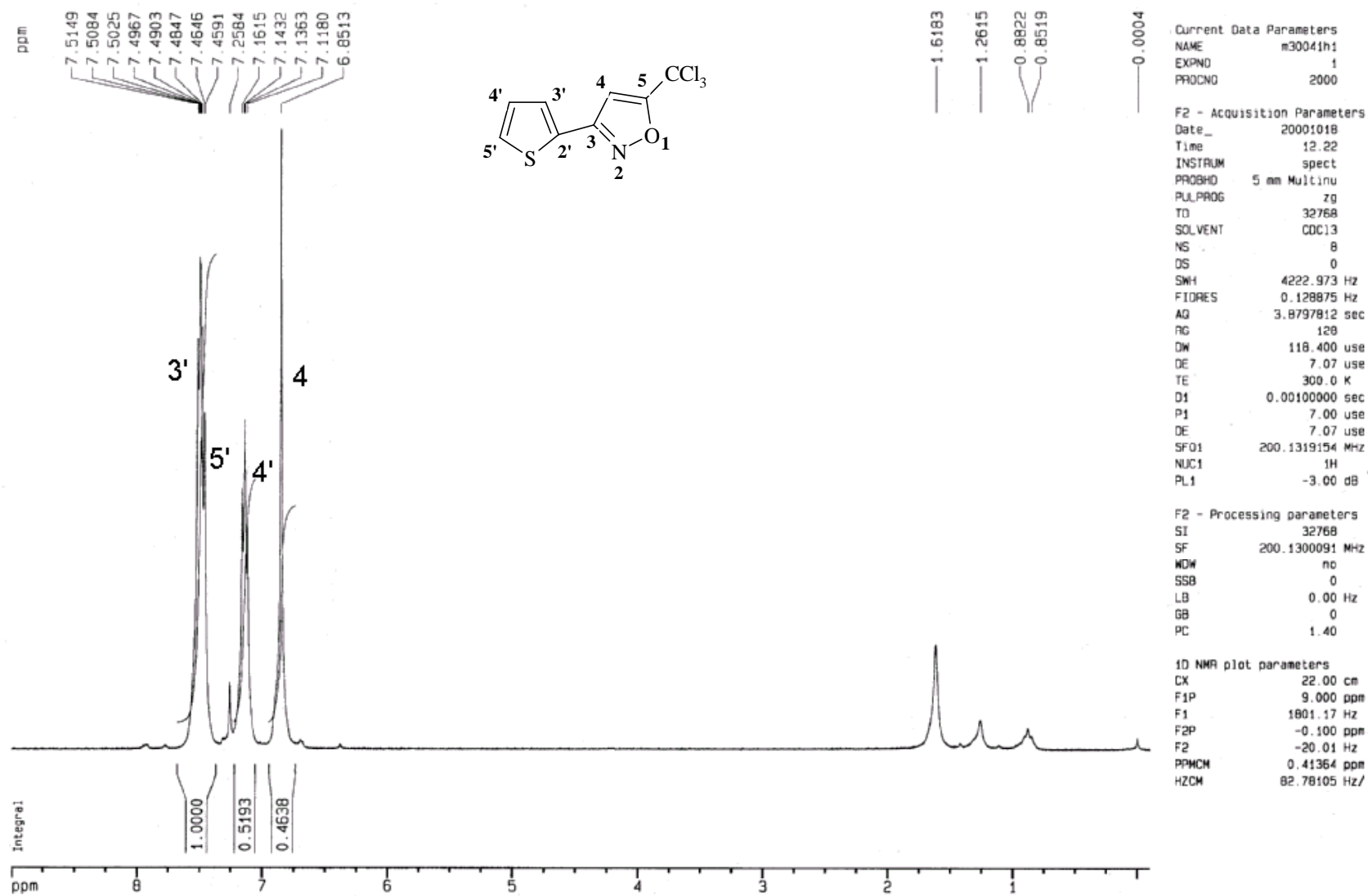


Figura 60. Espectros de RMN ^1H do 5-triclorometil-3-[2-tienil]-isoxazol (**8b**) em CDCl_3 .

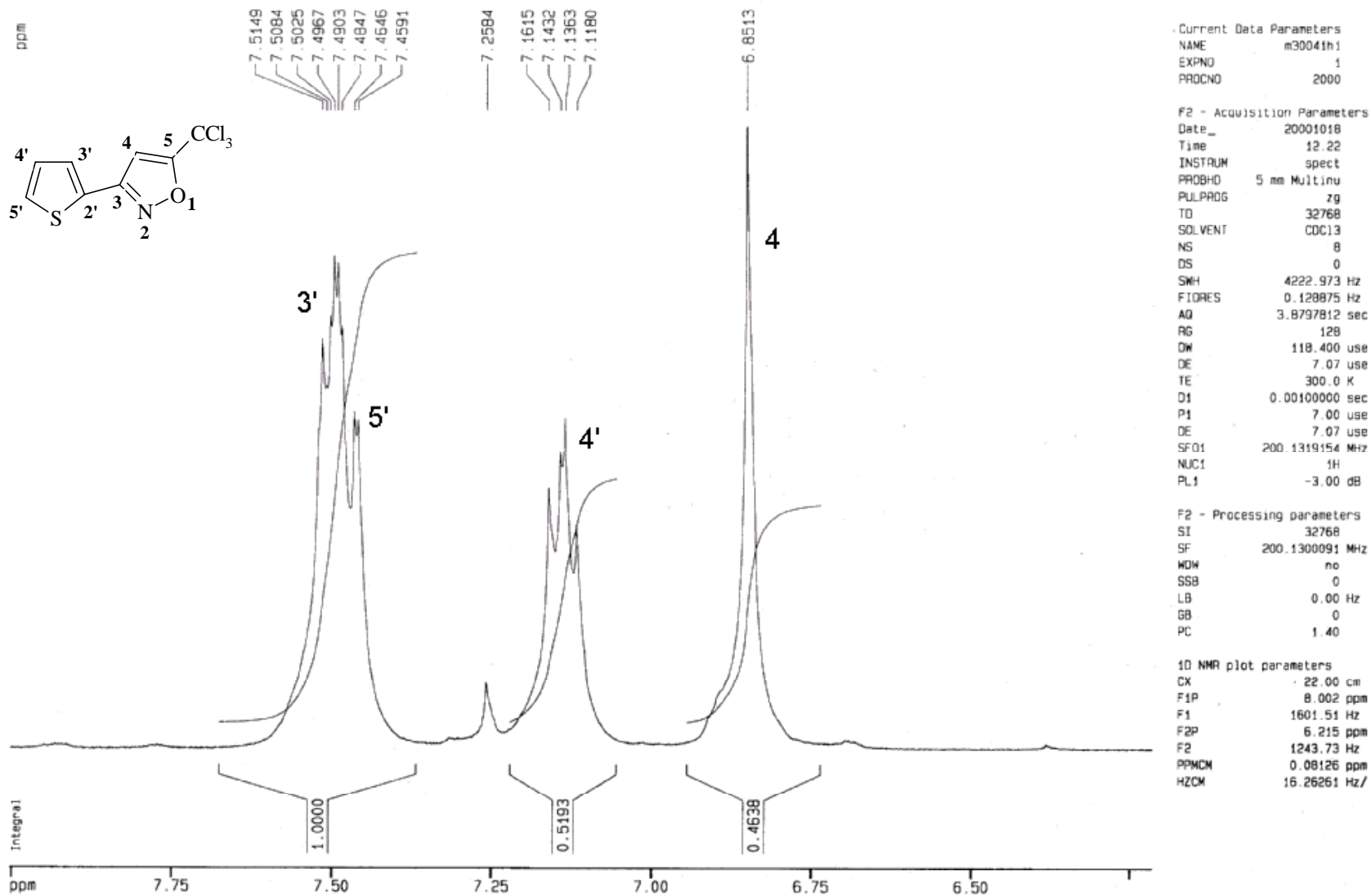
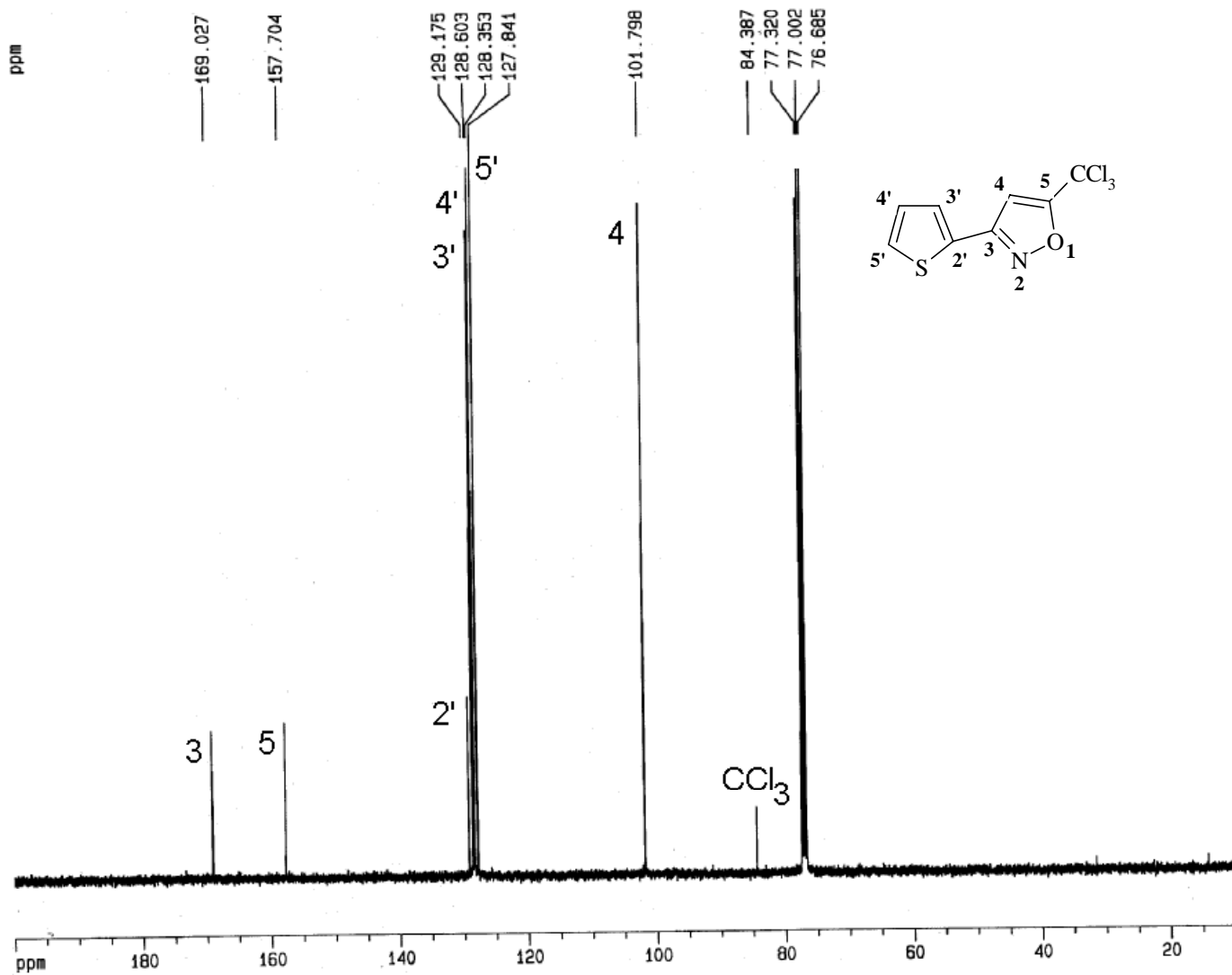


Figura 61. Espectros de RMN ^1H , expansão entre 6,5-7,75 ppm do 5-triclorometil-3-[2-tienil]-isoxazol (**8b**) em CDCl_3 .



Current Data Parameters
 NAME m3o041cd
 EXPNO 1
 PROCNO 2000

F2 - Acquisition Parameters
 Date_ 20001018
 Time 12.47
 INSTRUM spect
 PROBHD 5 mm Dual i3
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 724
 DS 0
 SWH 23148.148 Hz
 FIDRES 0.353213 Hz
 AQ 1.4156276 sec
 RG 32768
 DW 21.600 usec
 DE 4.50 usec
 TE 298.0 K
 D12 0.00002000 sec
 PL13 16.00 dB
 D1 3.00000000 sec
 CPDPRG2 waltz16
 PCPD2 106.00 usec
 SF02 400.1316005 MHz
 NUC2 1H
 PL2 -3.00 dB
 PL12 16.00 dB
 P1 7.60 usec
 DE 4.50 usec
 SF01 100.6237964 MHz
 NUC1 13C
 PL1 -6.00 dB
 D11 0.03000000 sec

F2 - Processing parameters
 SI 32768
 SF 100.6127735 MHz
 MDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 21.00 cm
 F1P 200.000 ppm
 F1 20122.55 Hz
 F2P 10.000 ppm
 F2 1006.13 Hz
 PPMCH 9.04762 ppm/cm
 HZCM 910.30597 Hz/cm

Figura 62. Espectros de RMN ¹³C do 5-triclorometil-3-[2-tienil]-isoxazol (**8b**) em CDCl₃.

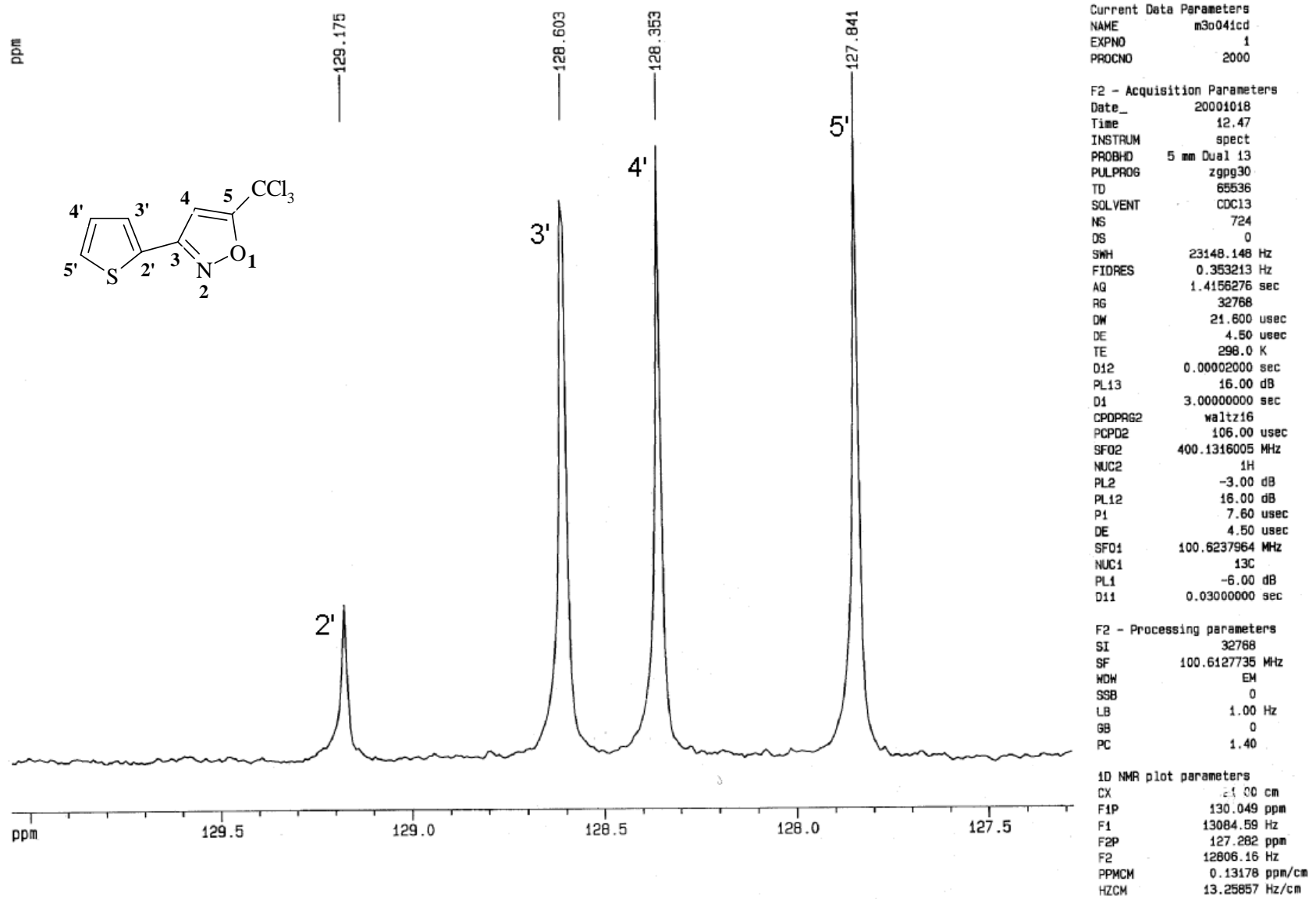


Figura 63. Espectros de RMN ¹³C, expansão entre 127,5-129,5 ppm do 5-triclorometil-3-[2-tienil]-isoxazol (**8b**) em CDCl₃.

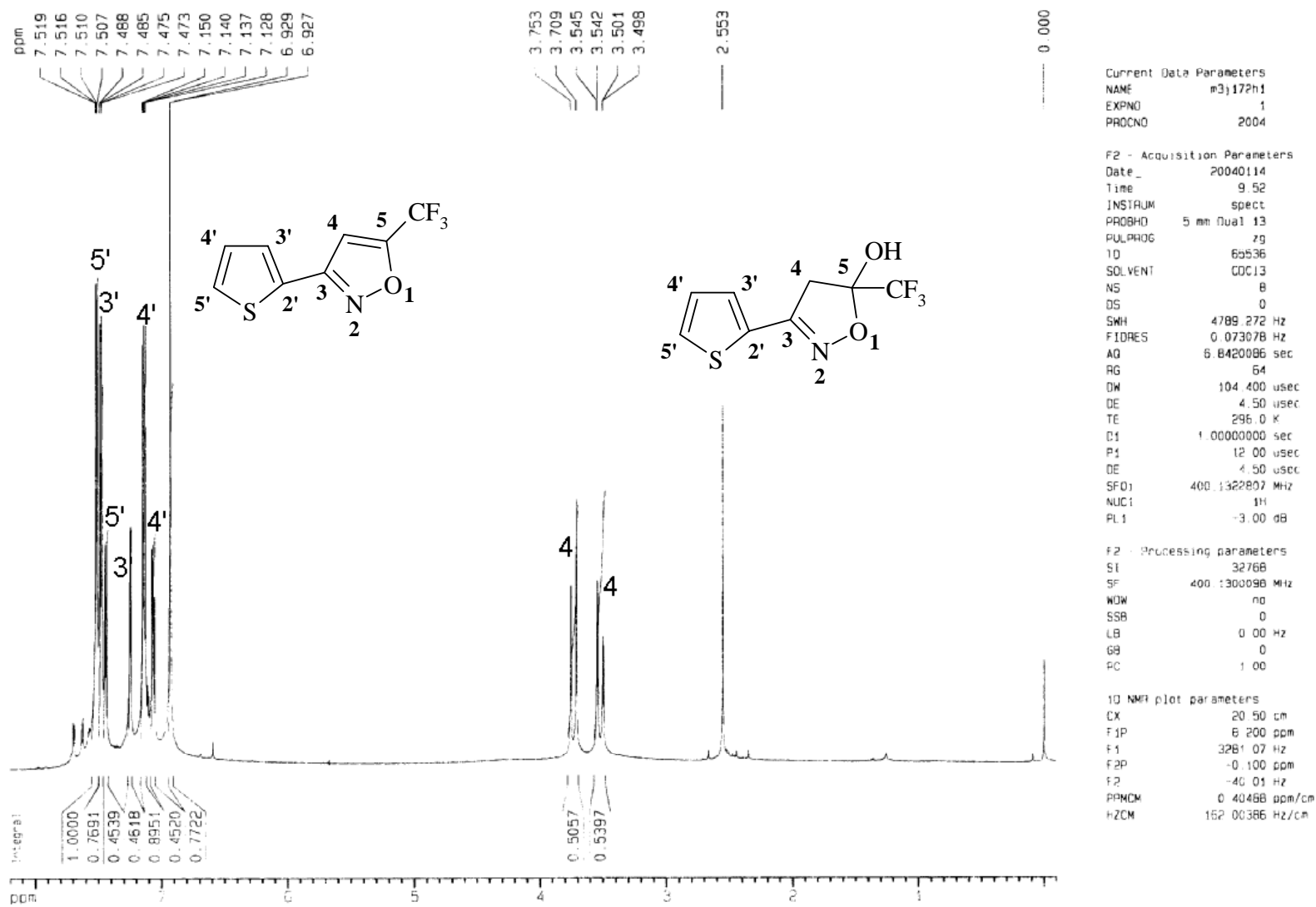


Figura 64. Espectro de RMN ^1H mistura do 5-trifluormetil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

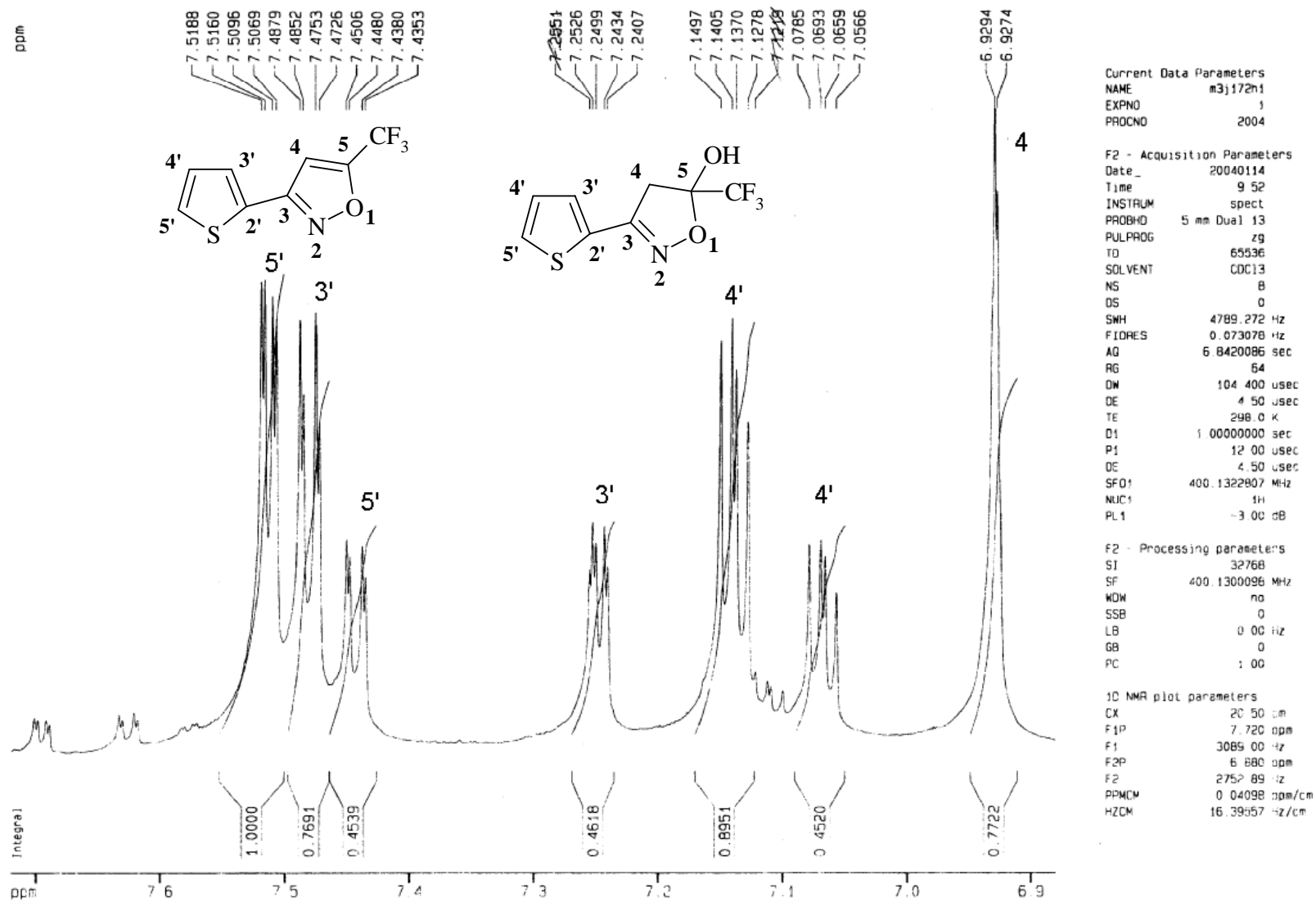


Figura 65. Espectro de RMN ¹H, expansão entre 6,9 e 7,6 ppm, mistura do 5-trifluorometil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl₃.

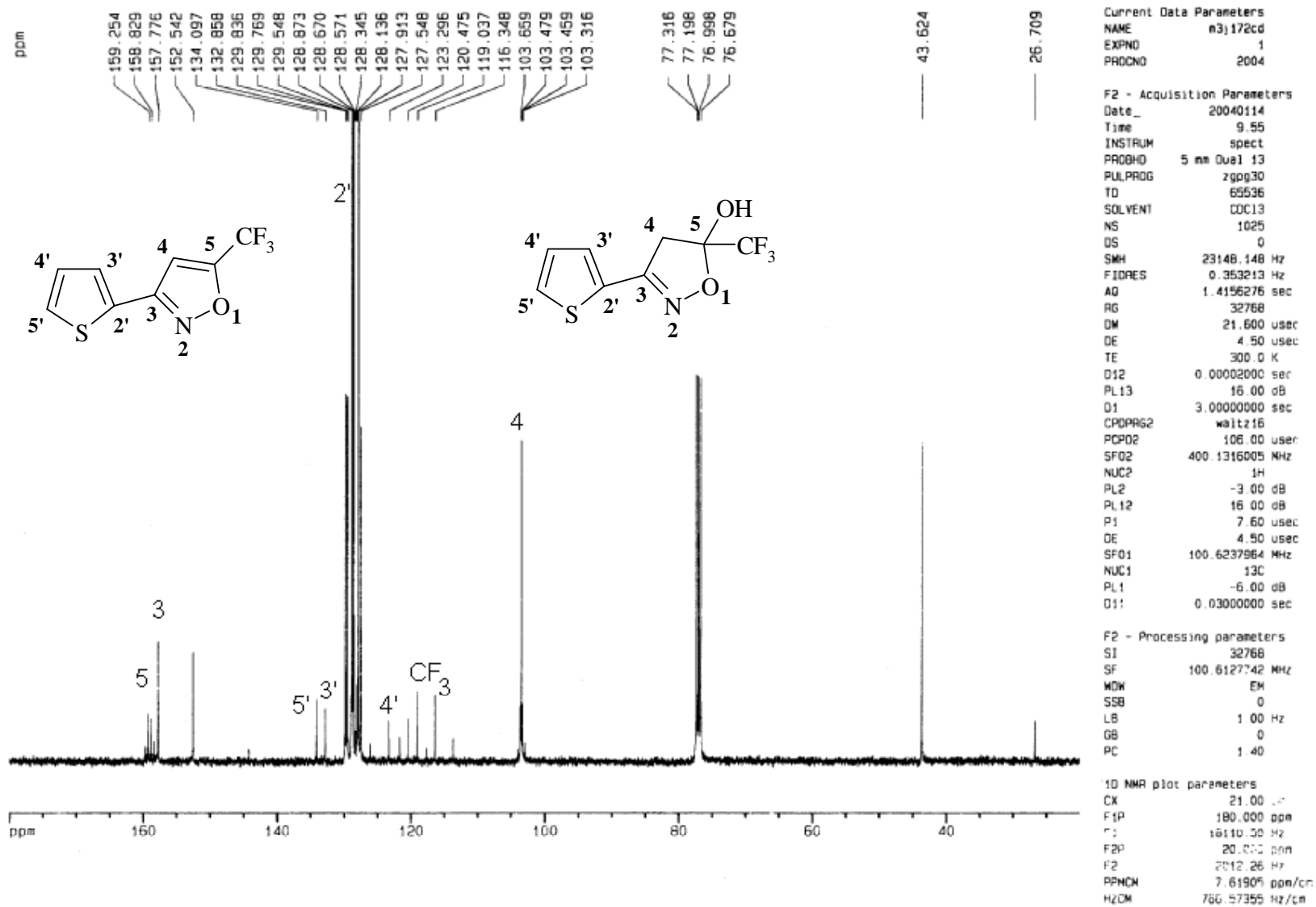


Figura 66. Espectro de RMN de ^{13}C , mistura do 5-trifluormetil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-dihidroisoxazol (**7b**) em CDCl_3 .

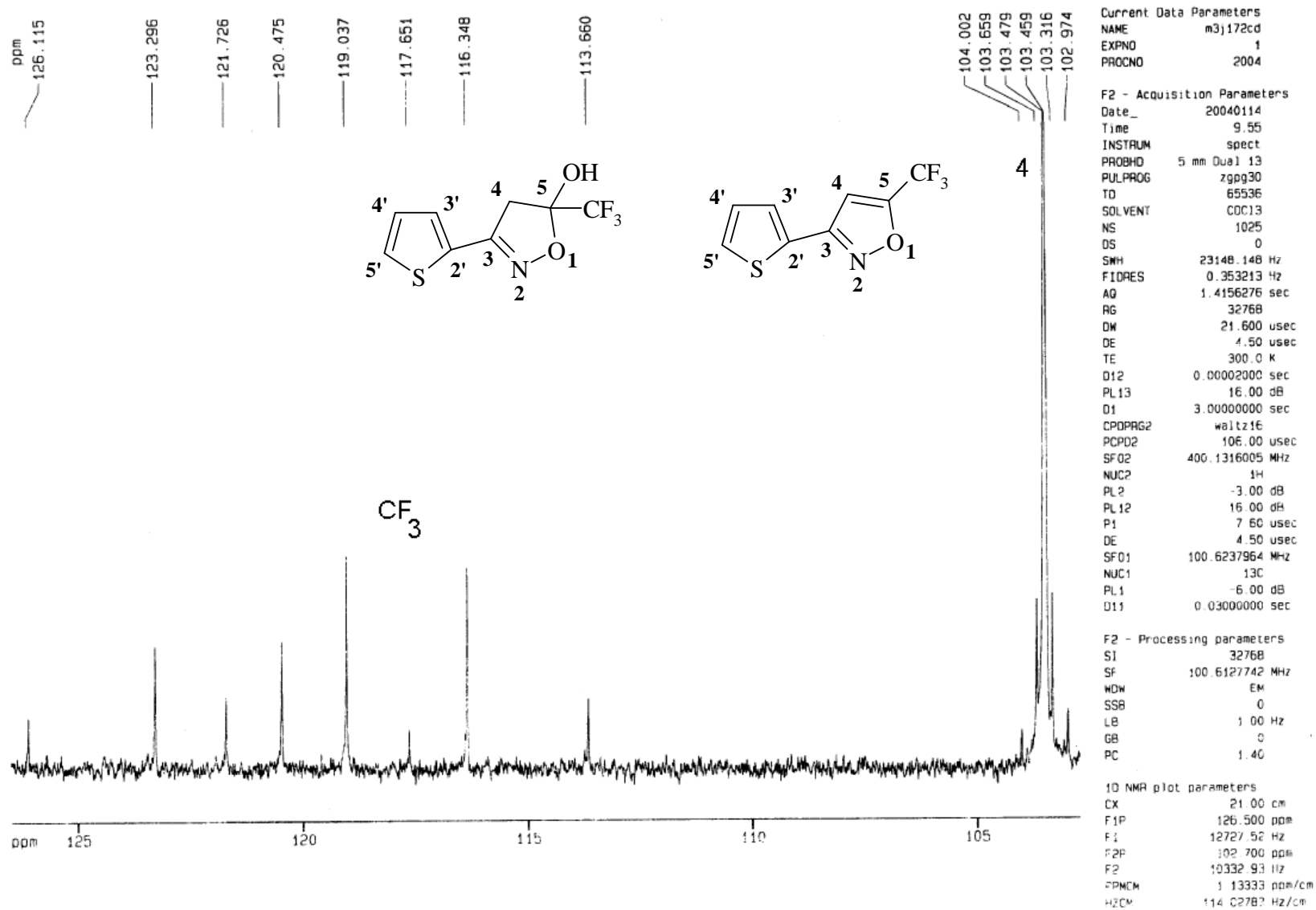


Figura 67. Espectro de RMN de ^{13}C , expansão entre 105-125 , mistura do 5-trifluormetil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

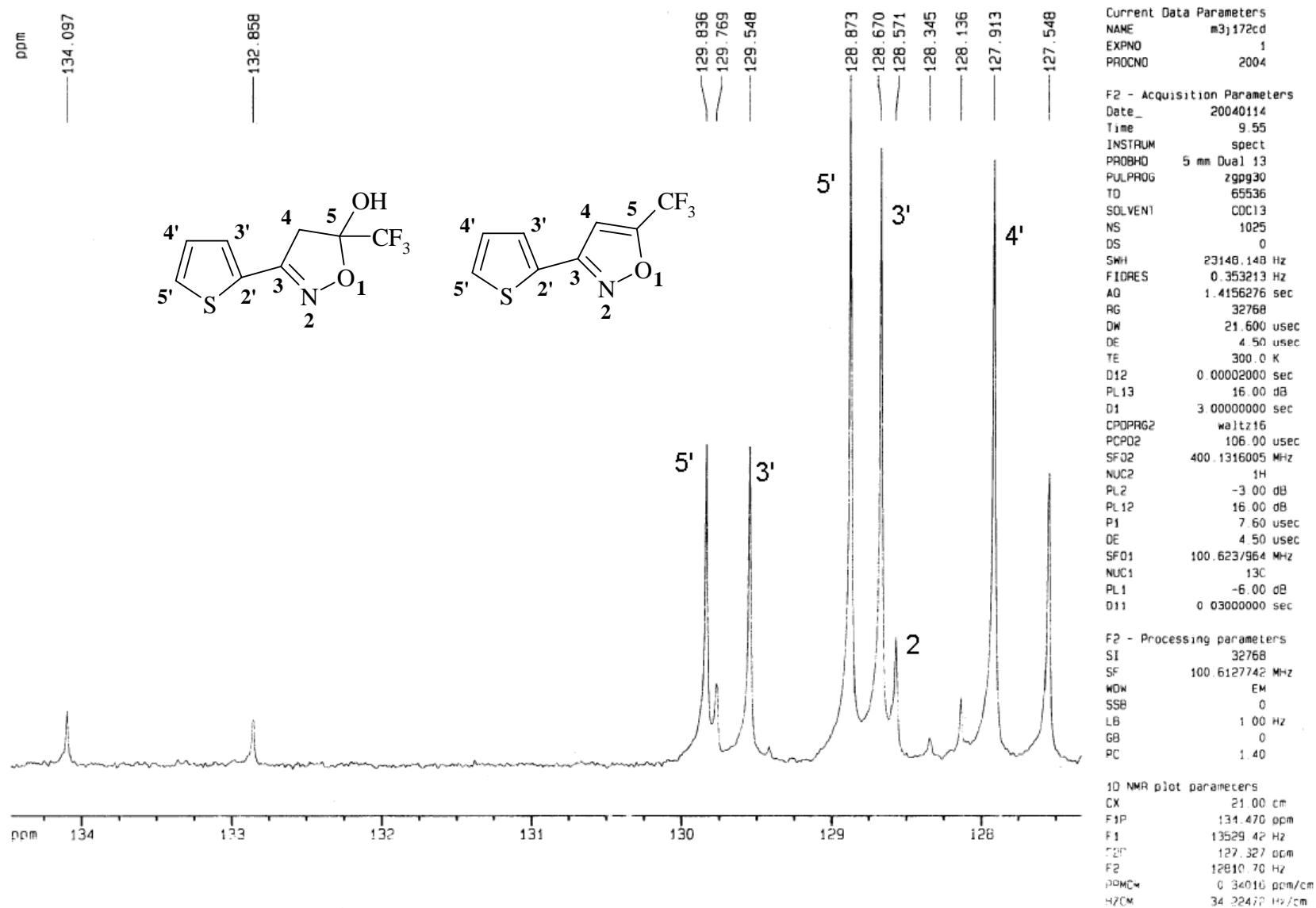


Figura 68. Espectro de RMN de ^{13}C , expansão entre 105-125, mistura do 5-trifluorometil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

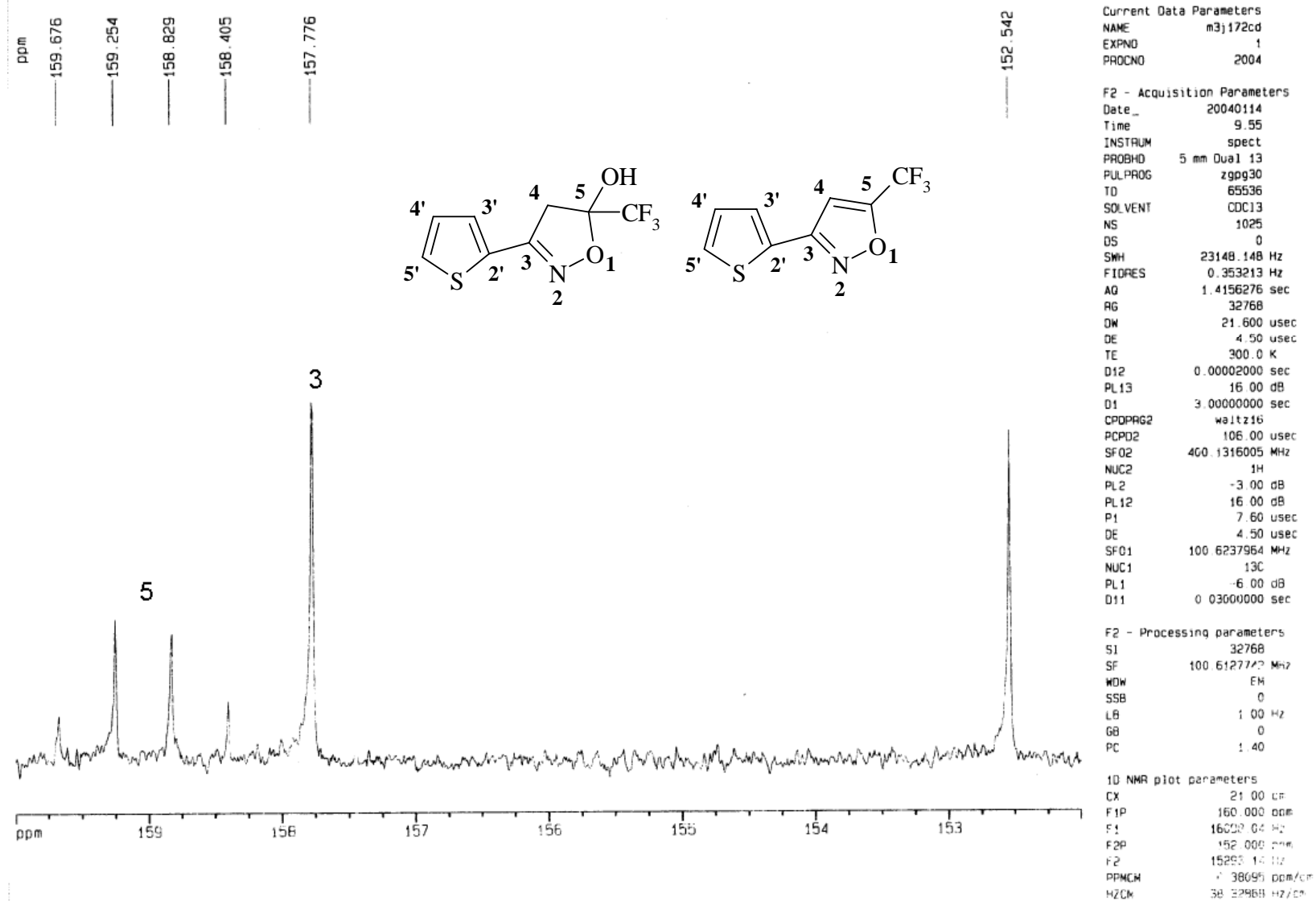


Figura 69. Espectro de RMN de ^{13}C , expansão entre 153-159 ppm, , mistura do 5-trifluormetil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluormetil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl_3 .

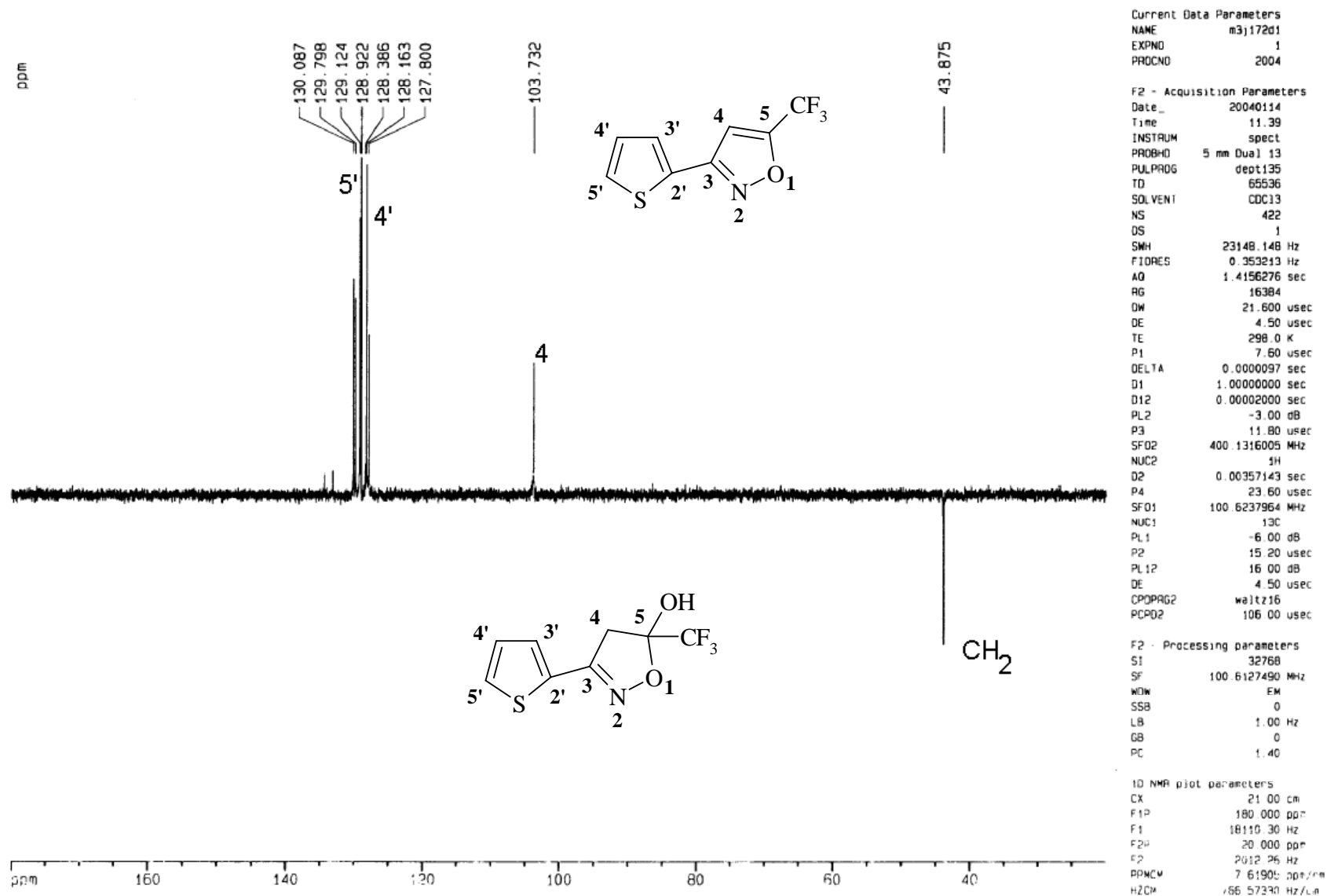


Figura 70. Espectro de RMN de DEPT 135, mistura do 5-trifluorometil-3-[2-tienil]-isoxazol (**9b**) e do 5-trifluorometil-5-hidroxi-3-[2-tienil]-4,5-diidroisoxazol (**7b**) em CDCl₃.

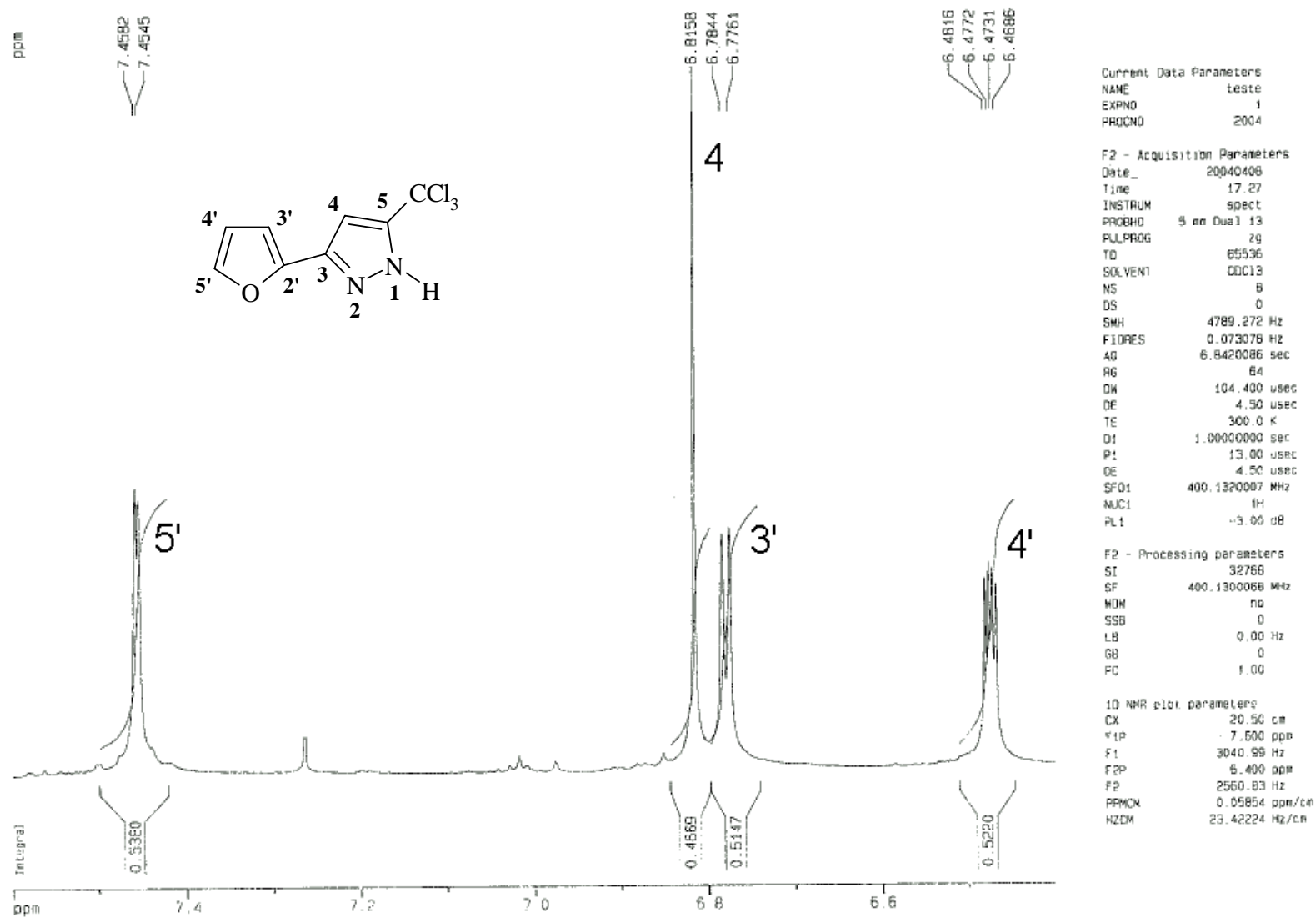


Figura 71. Espectro de RMN ¹H, expansão entre 6,6-7,4 ppm do 5-triclorometil-3-[2-furil]-1H-pirazol (**10a**) em CDCl₃.

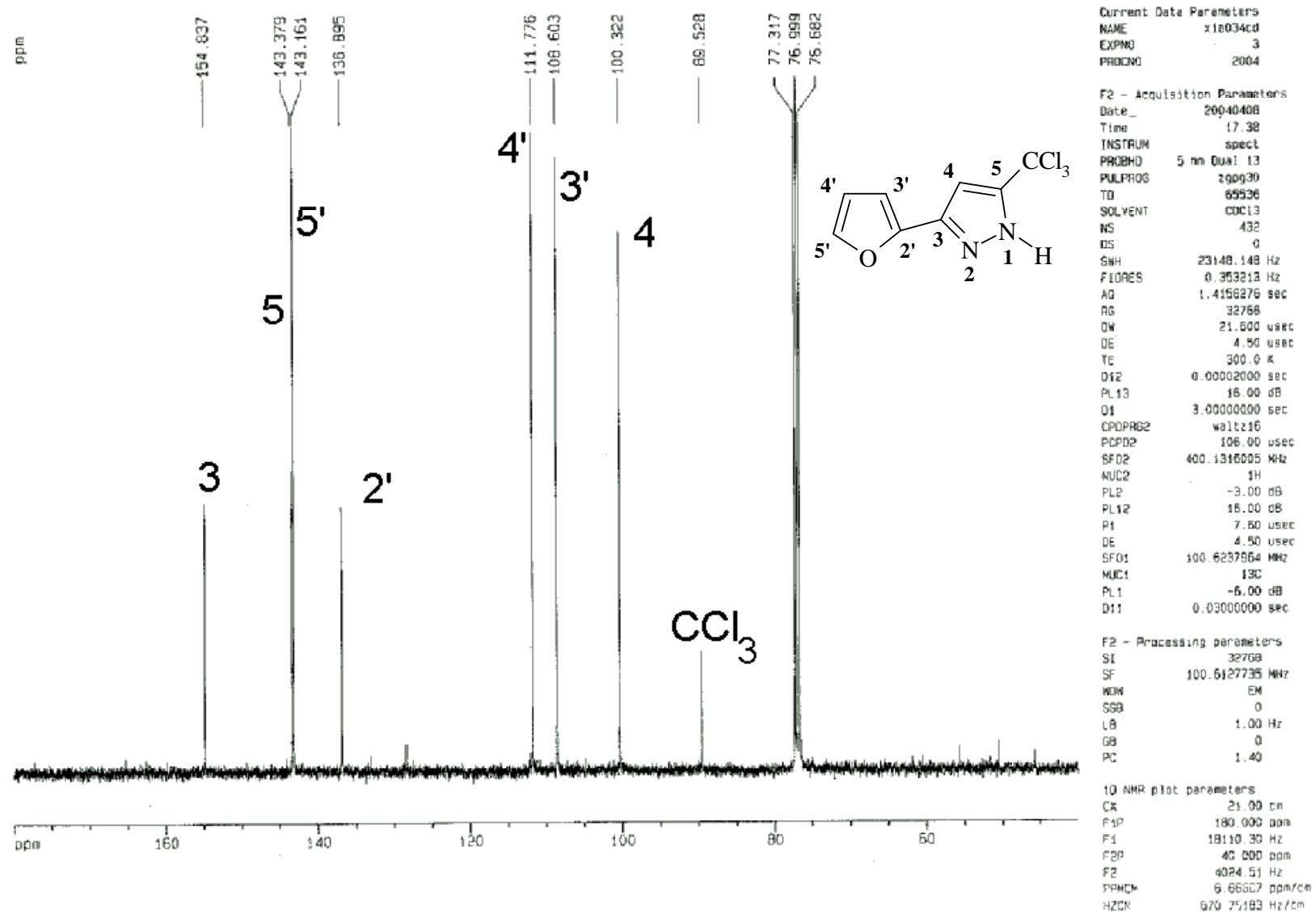


Figura 72. Espectro de RMN de ^{13}C do 5-triclorometil-3-[2-furil]-1H-pirazol (**10a**) em CDCl_3 .

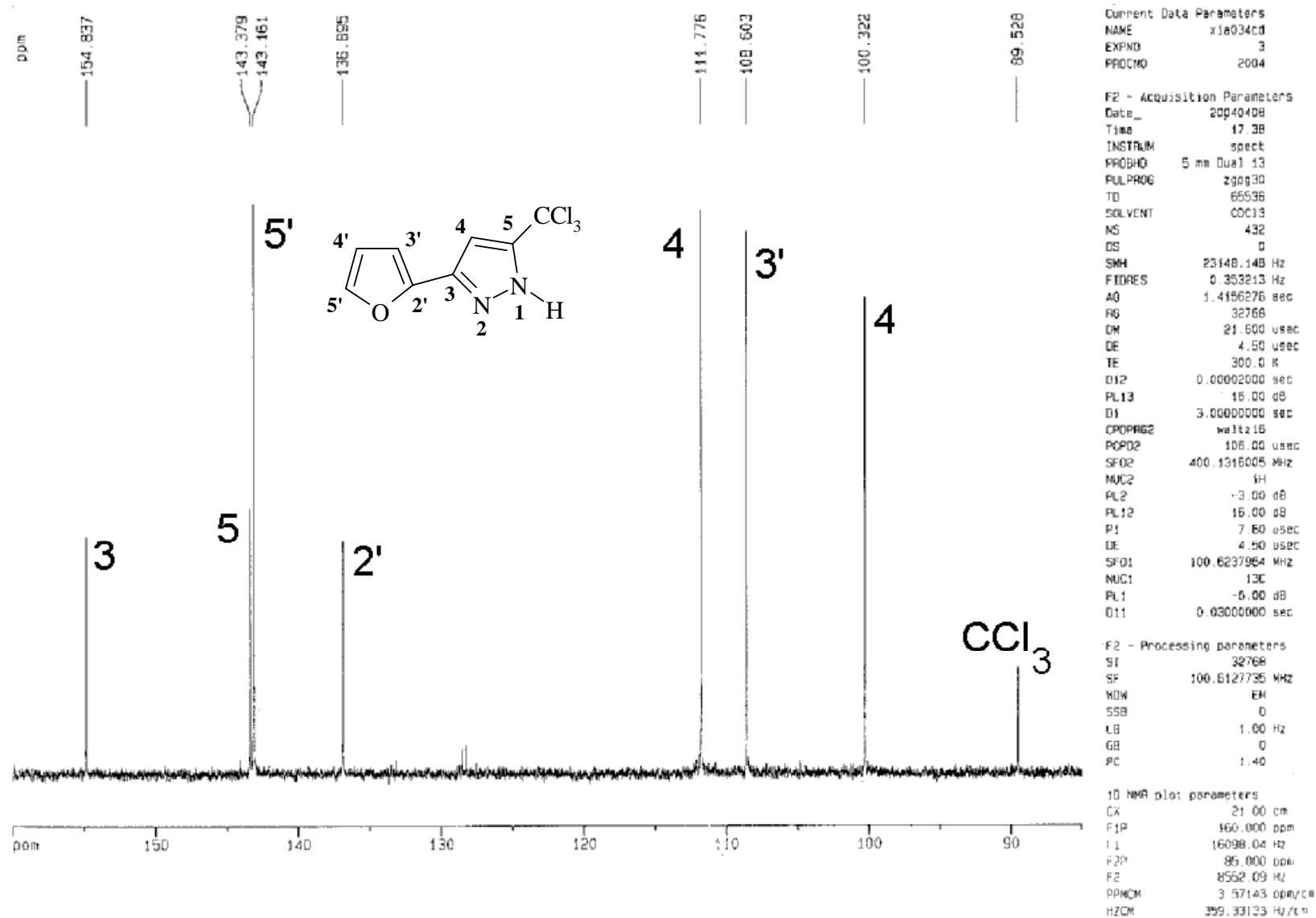


Figura 73. Espectro de RMN de ^{13}C do 5-triclorometil-3-[2-furil]-1H-pirazol (**10a**) em CDCl_3 .

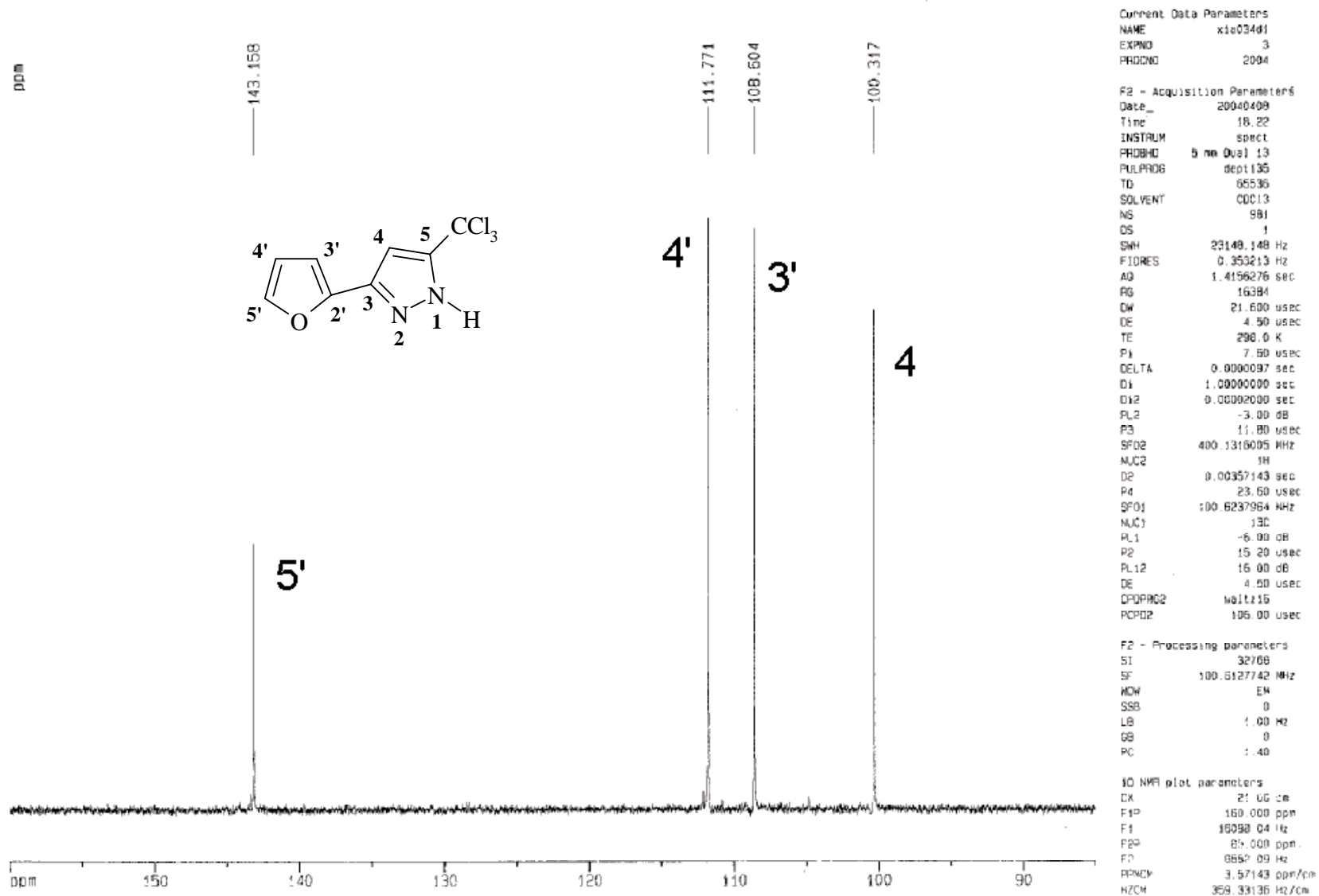


Figura 74. Espectro de RMN DEPT 135 do 5-triclorometil-3-[2-furil]-1H-pirazol (**10a**) em CDCl_3 .

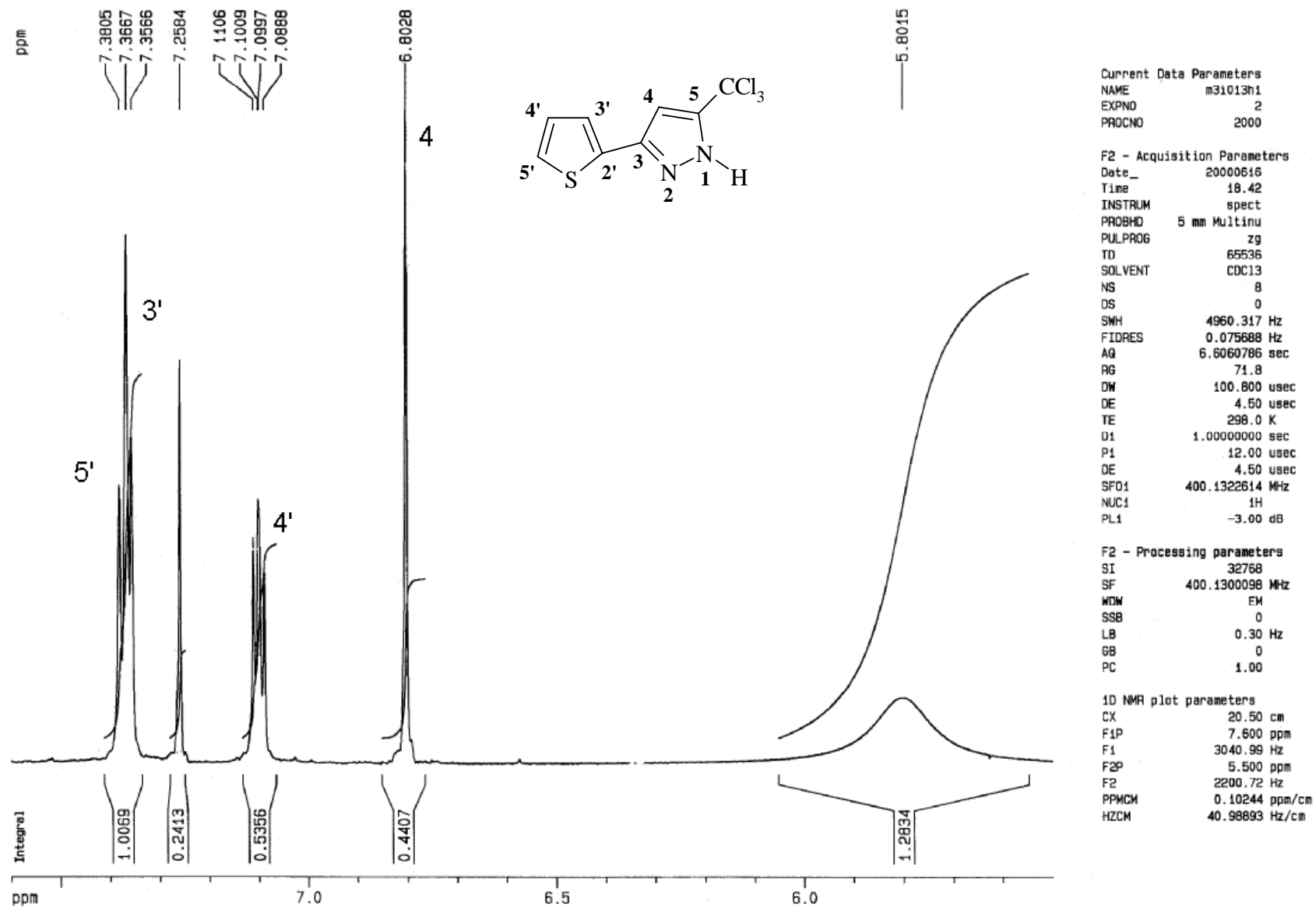


Figura 75. Espectro de RMN ^1H , expansão entre 6,0-8,0 ppm do 5-triclorometil-3[2-tienil]-1H-pirazol (**10b**) em CDCl_3 .

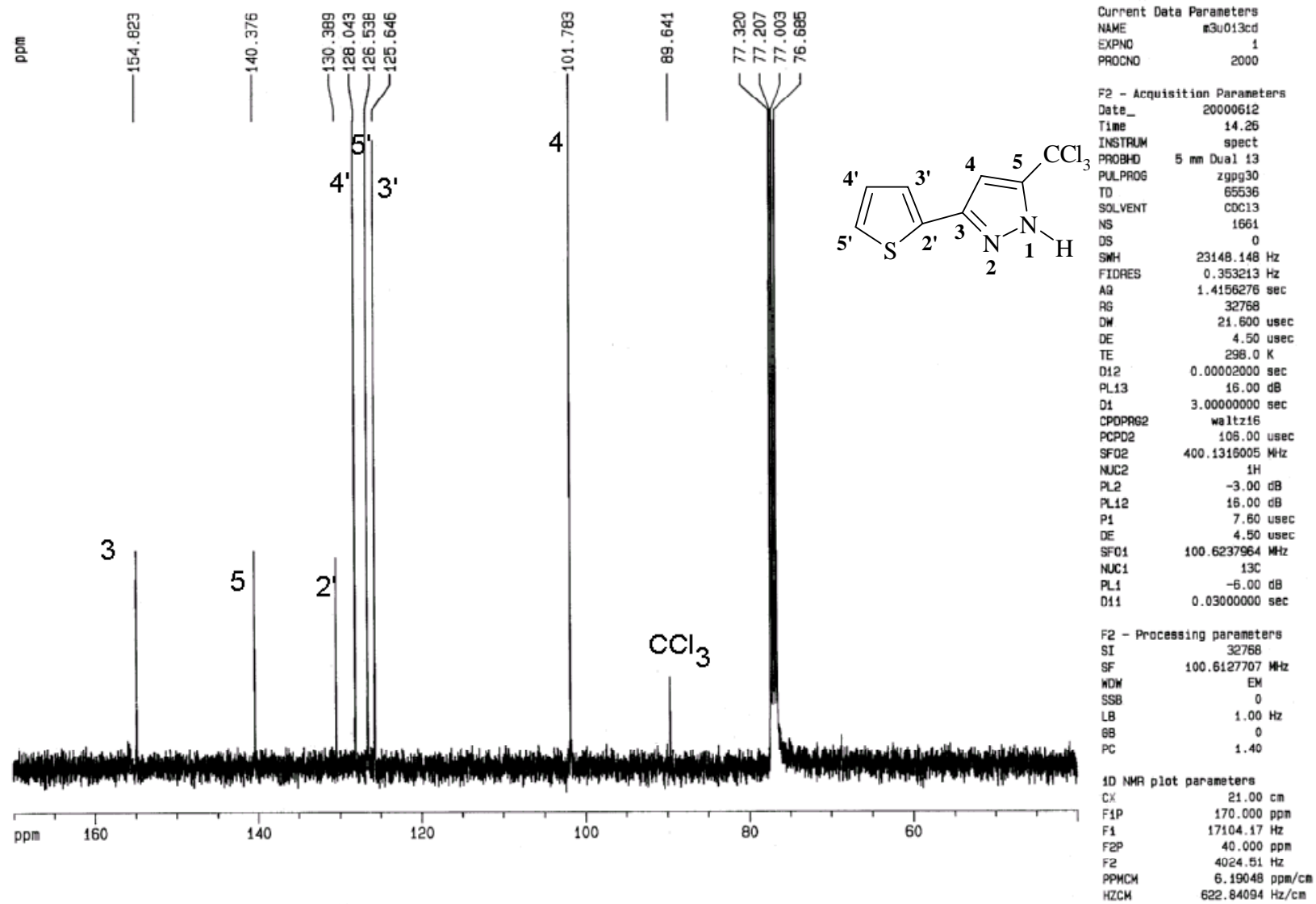


Figura 76. Espectro de RMN de ^{13}C , expansão entre 60-160 do 5-triclorometil-3[2-tienil]-1H-pirazol (**10b**) em CDCl_3 .

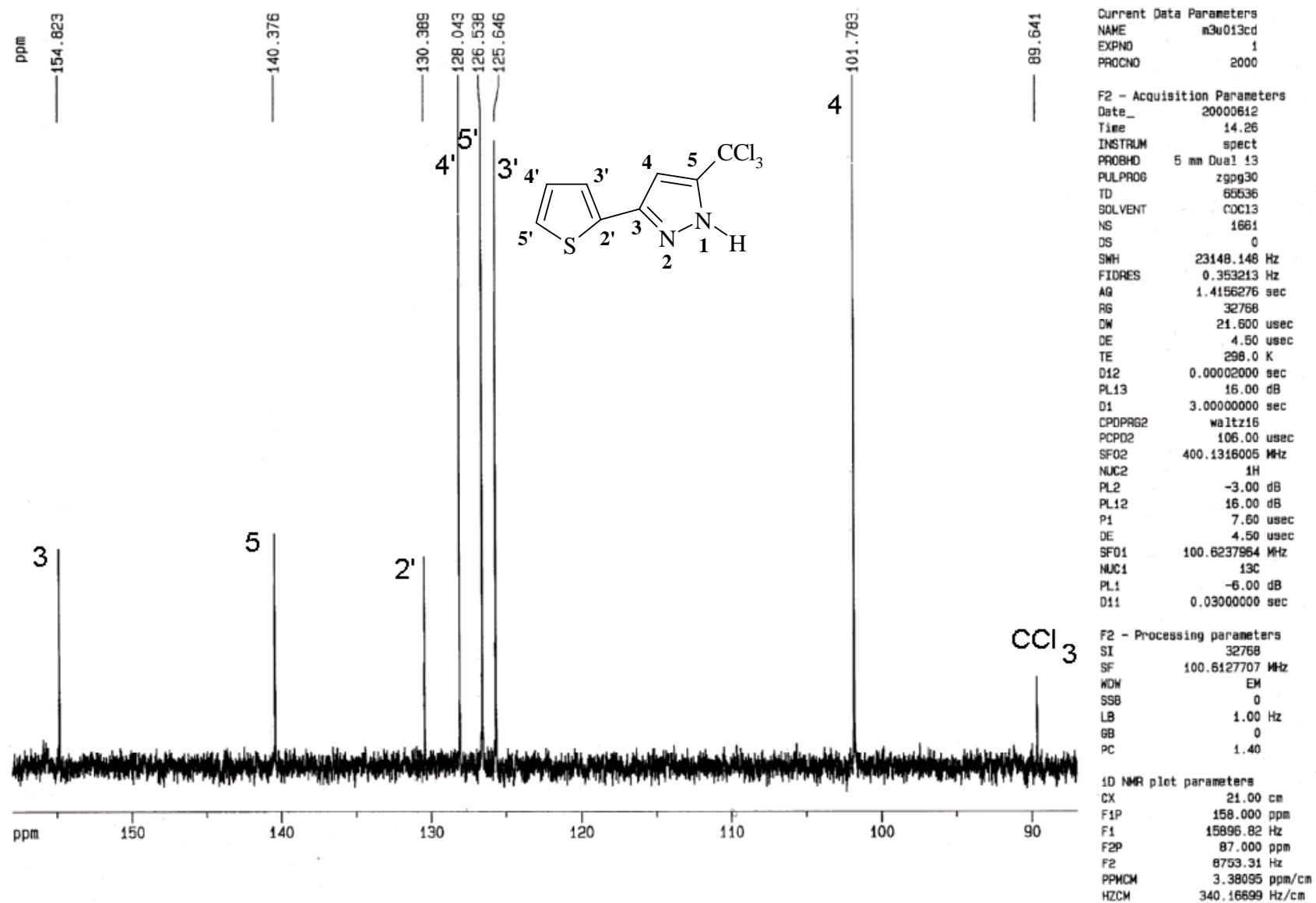
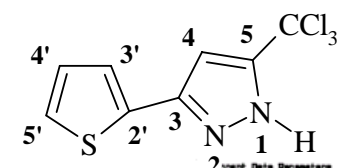
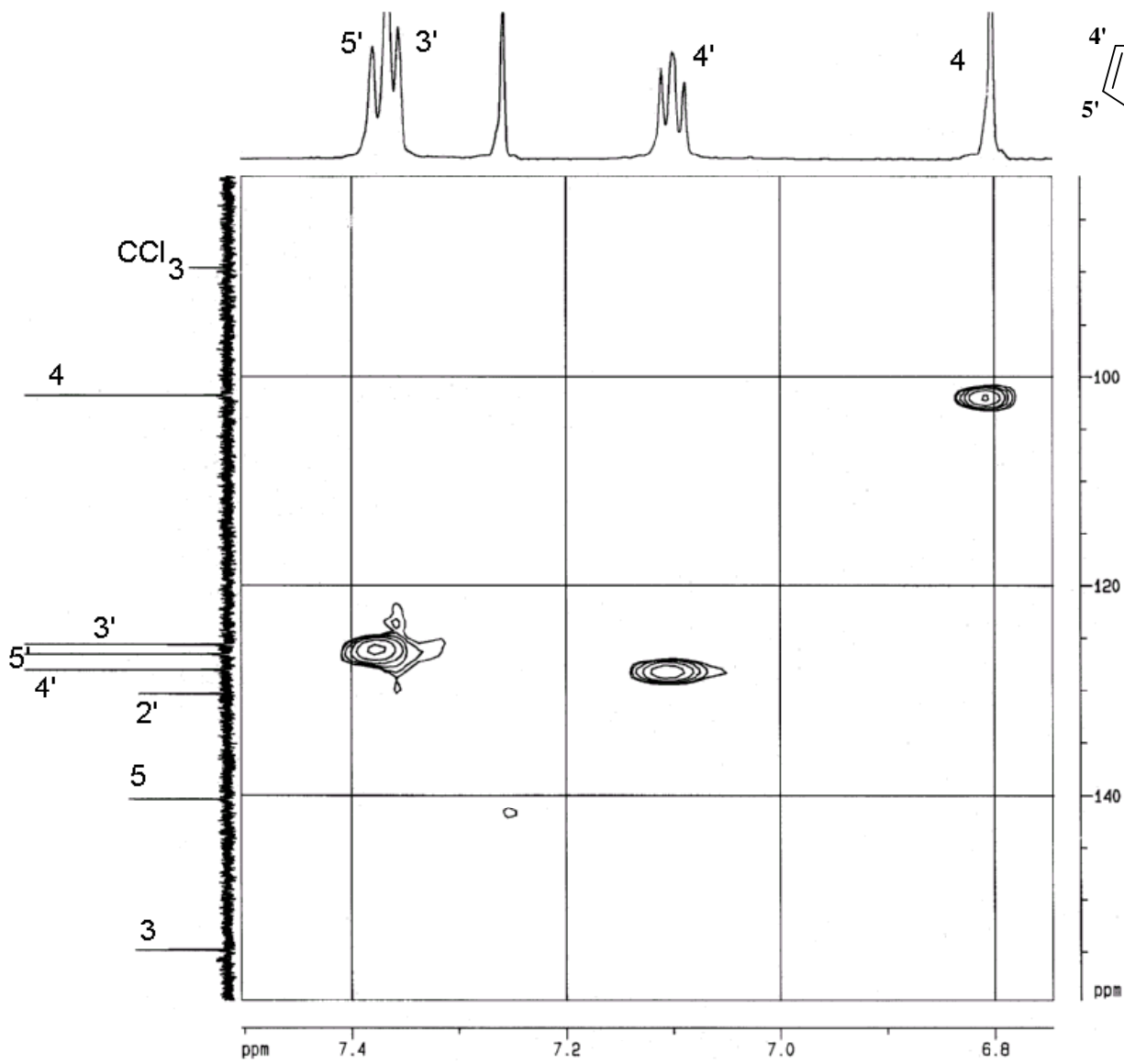


Figura 77. Espectro de RMN de ^{13}C do 5-triclorometil-3[2-tienil]-1H-pirazol (**10b**) em CDCl_3 .



```

NAME          2'vent Data Parameters
EXPNO         1
PROCNO        2000

F2 - Acquisition Parameters
Date_         20000815
Time         15.02
INSTRUM      spect
PROBHD       5 mm Nal113ru
PULPROG      zgpg30
TD           1024
SOLVENT      CDCl3
NS           128
DS           8
SFO1         400.1701 Hz
FIDRES       4.182004 Hz
AQ           0.1204724 sec
RG           38.8
SWH          117.000 usec
DE           5.00 usec
TE           298.0 K
D1           1.0000000 sec
P1           8.00 usec
D2           0.0000000 sec
PL2         -8.00 dB
P2           18.00 usec
P4           22.00 usec
SFO2         100.626060 Hz
NUC2         13C
D7           0.4840000 sec
P3           11.00 usec
D3           0.0000000 sec
PL3         8.00 dB
DE           8.00 usec
SFO3         400.1316288 MHz
NUC3         1H
PL3         -3.00 dB
SFO4         none
PCPD2        80.00 usec
SFO         0.00001207 sec

F1 - Acquisition parameters
NO          4
TD          256
SFO1        100.62606 Hz
FIDRES       80.472543 Hz
SW          200.700 ppm

F2 - Processing parameters
SI          1024
SF          400.1300070 MHz
WDW         EMSC
SSB         2
LB          0.00 Hz
GB          0
PC          1.40

F1 - Processing parameters
SI          512
NC2         1991
SF          100.6167616 MHz
WDW         EMSC
SSB         2
LB          0.00 Hz
GB          0

2D NMR plot parameters
CQ2         15.00 cm
CQ1         15.00 cm
F2PL2       7.800 ppm
F2PL1       3000.24 Hz
F2PC2       0.740 ppm
F2PC1       2800.14 Hz
F2PL3       150.000 ppm
F2PL4       1.000070 Hz
F2PC3       80.004 ppm
F2PC4       8137.91 Hz
F2PC5MCH    0.02000 ppm/cm
F2PC6MCH    20.00000 Hz/cm
F2PC7MCH    5.20100 ppm/cm
F2PC8MCH    200.30000 Hz/cm
  
```

Figura 78. Espectro de RMN HMQC do 5-triclorometil-3[2-tienil]-1H-pirazol (**10b**) em CDCl₃.

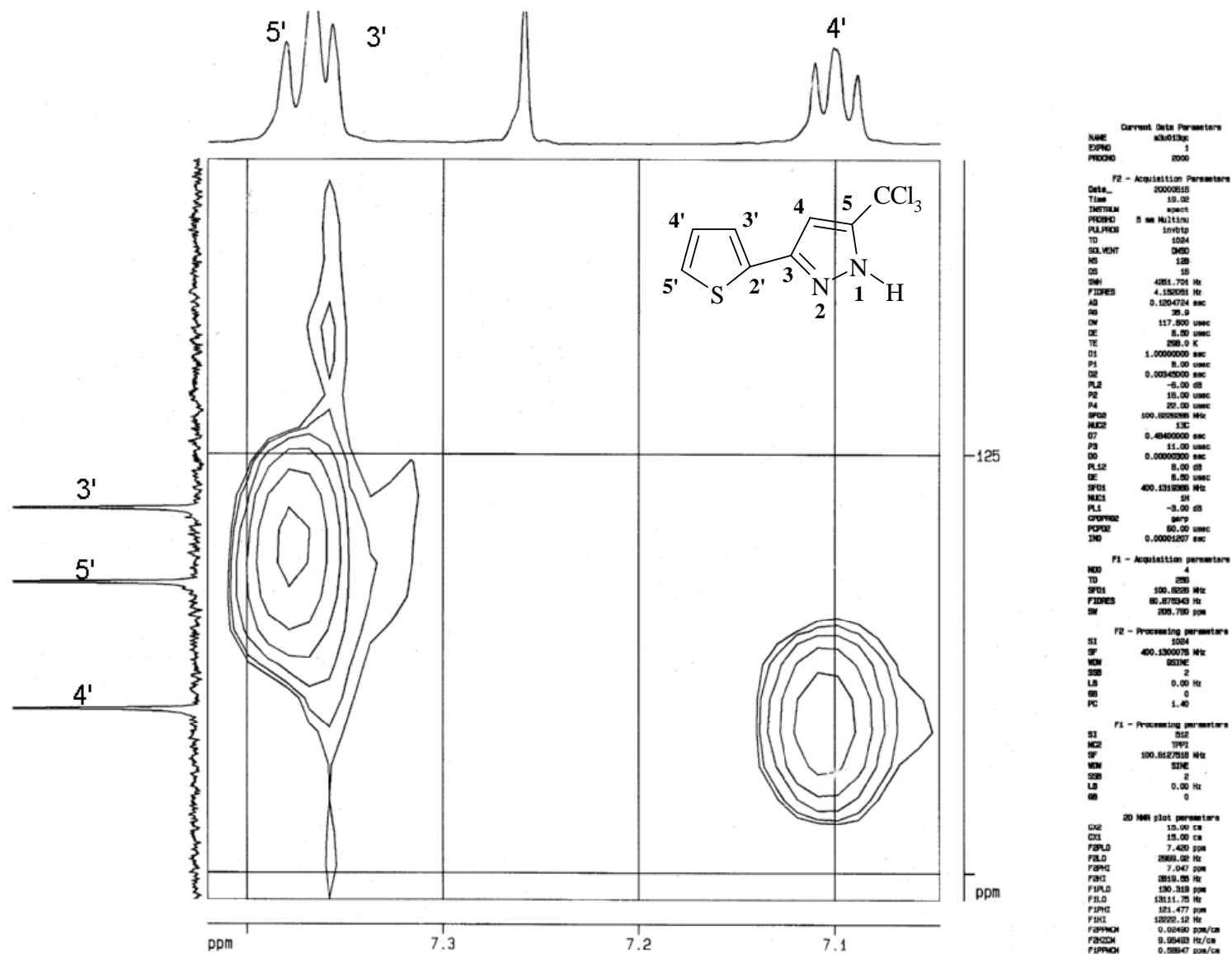


Figura 79. Espectro de RMN, HMQC do 5-triclorometil-3-[2-tienil]-1H-pirazol (**10b**) em CDCl₃.

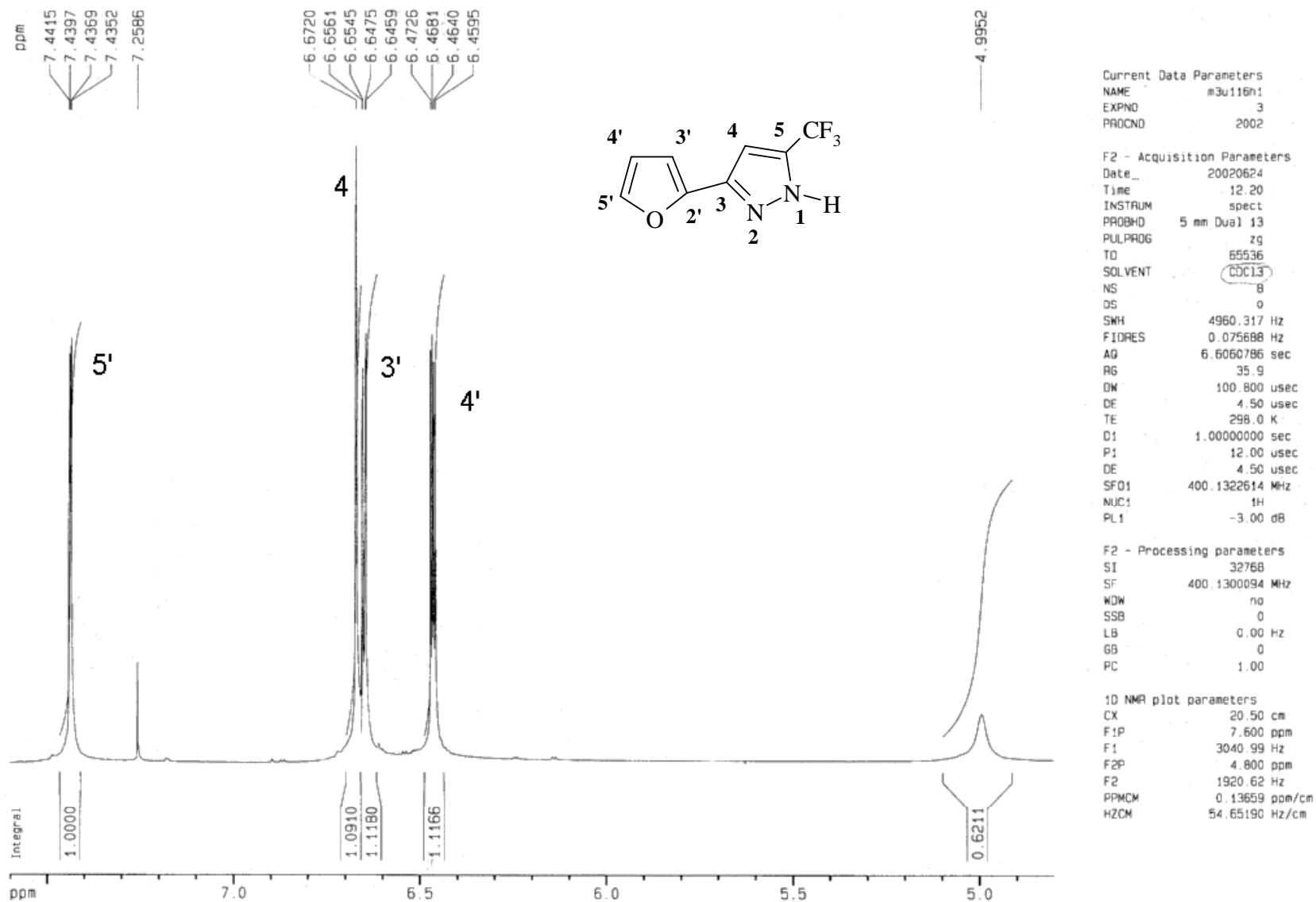


Figura 80. Espectro de RMN ^1H do 5-trifluormetil-3-[2-furil]-1H-pirazol (**11a**) em CDCl_3 .

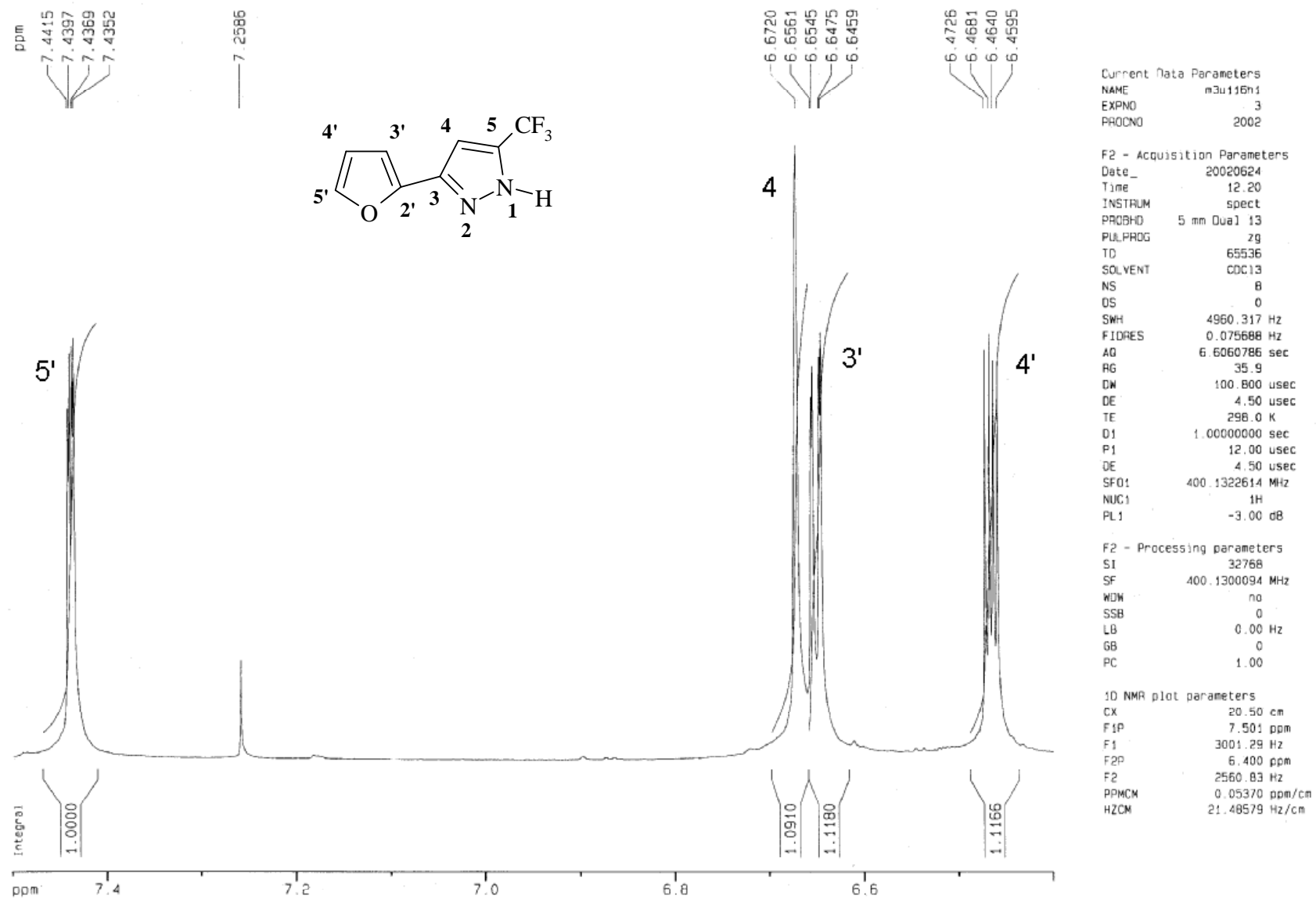


Figura 81. Espectro de RMN ¹H do 5-trifluormetil-3-[2-furil]-1H-pirazol (**11a**) em CDCl₃.

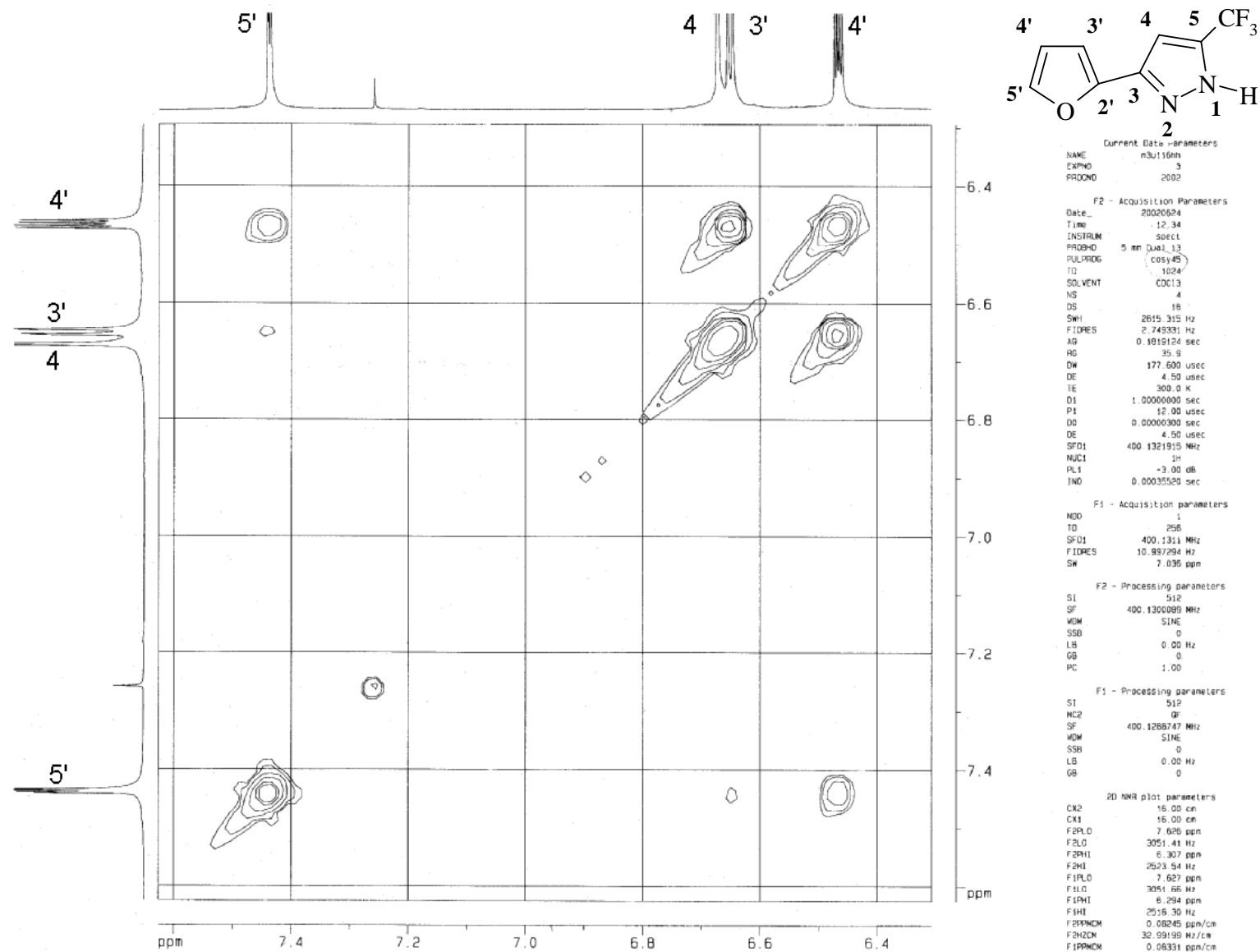


Figura 82. Espectro de RMN COSY 45 HH do 5-trifluorometil-3-[2-furil]-1H-pirazol (**11a**) em CDCl_3 .

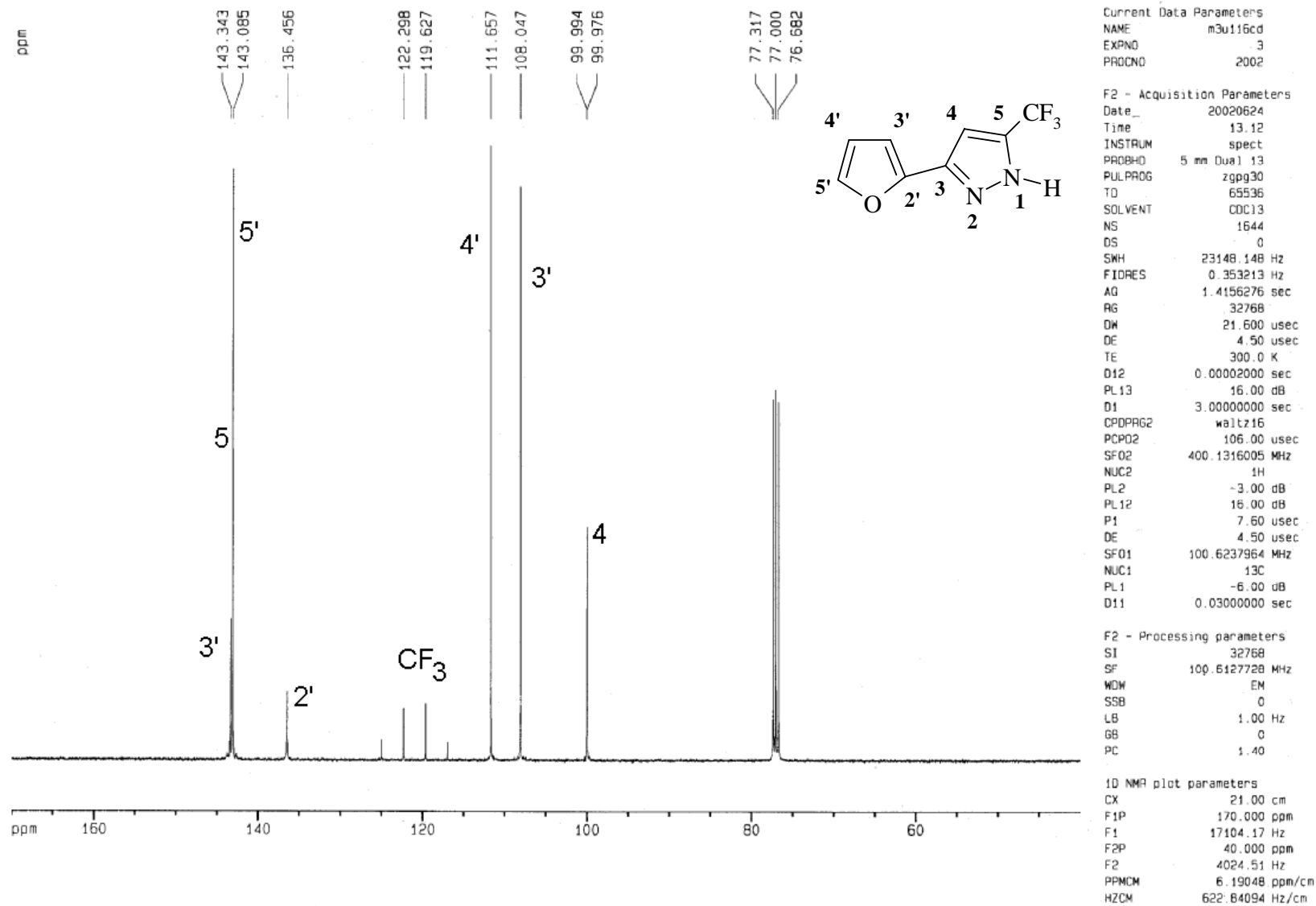


Figura 83. Espectro de RMN ^{13}C $\{^1\text{H}\}$ do 5-trifluorometil-3-[2-furil]-1H-pirazol (**11a**) em CDCl_3 .

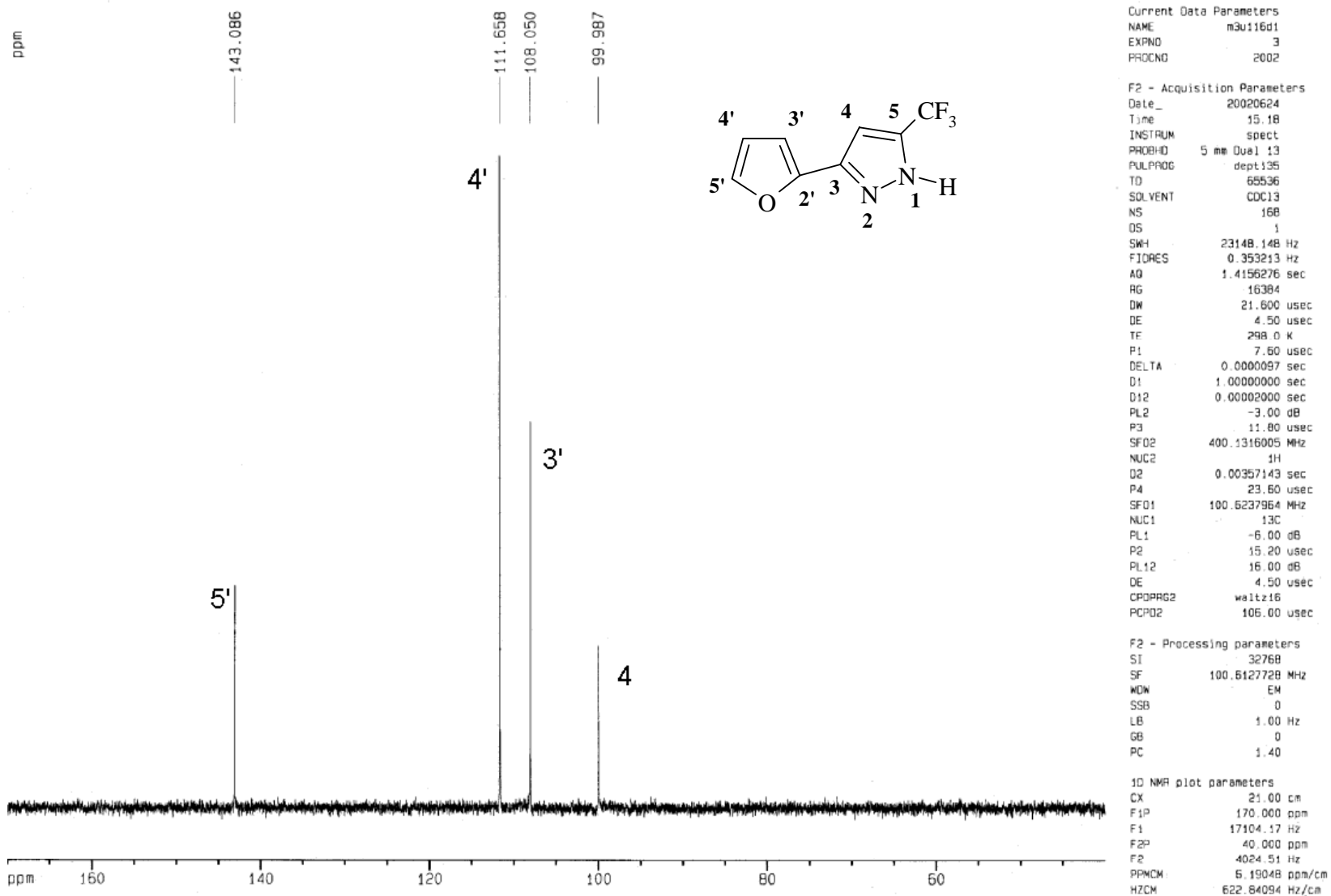


Figura 84. Espectro de RMN ^{13}C , expansão entre 60-150 ppm do 5-trifluormetil-3-[2-furil]-1H-pirazol (**11a**) em CDCl_3 .

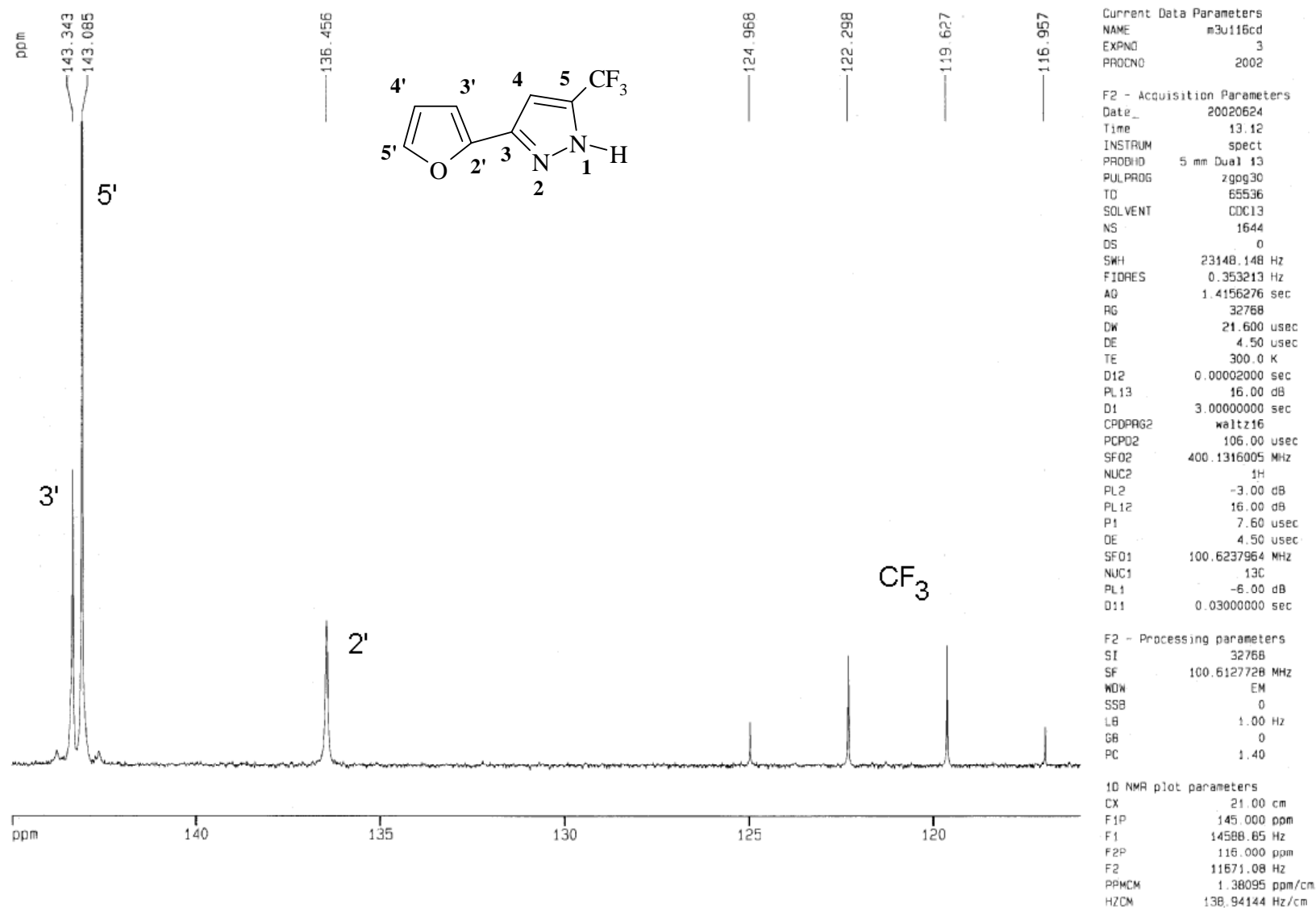


Figura 85. Espectro de RMN ^{13}C , expansão entre 120-140 ppm do 5-trifluormetil-3-[2-furil]-1H-pirazol (**11a**) em CDCl_3 .