

## **ANEXO I**

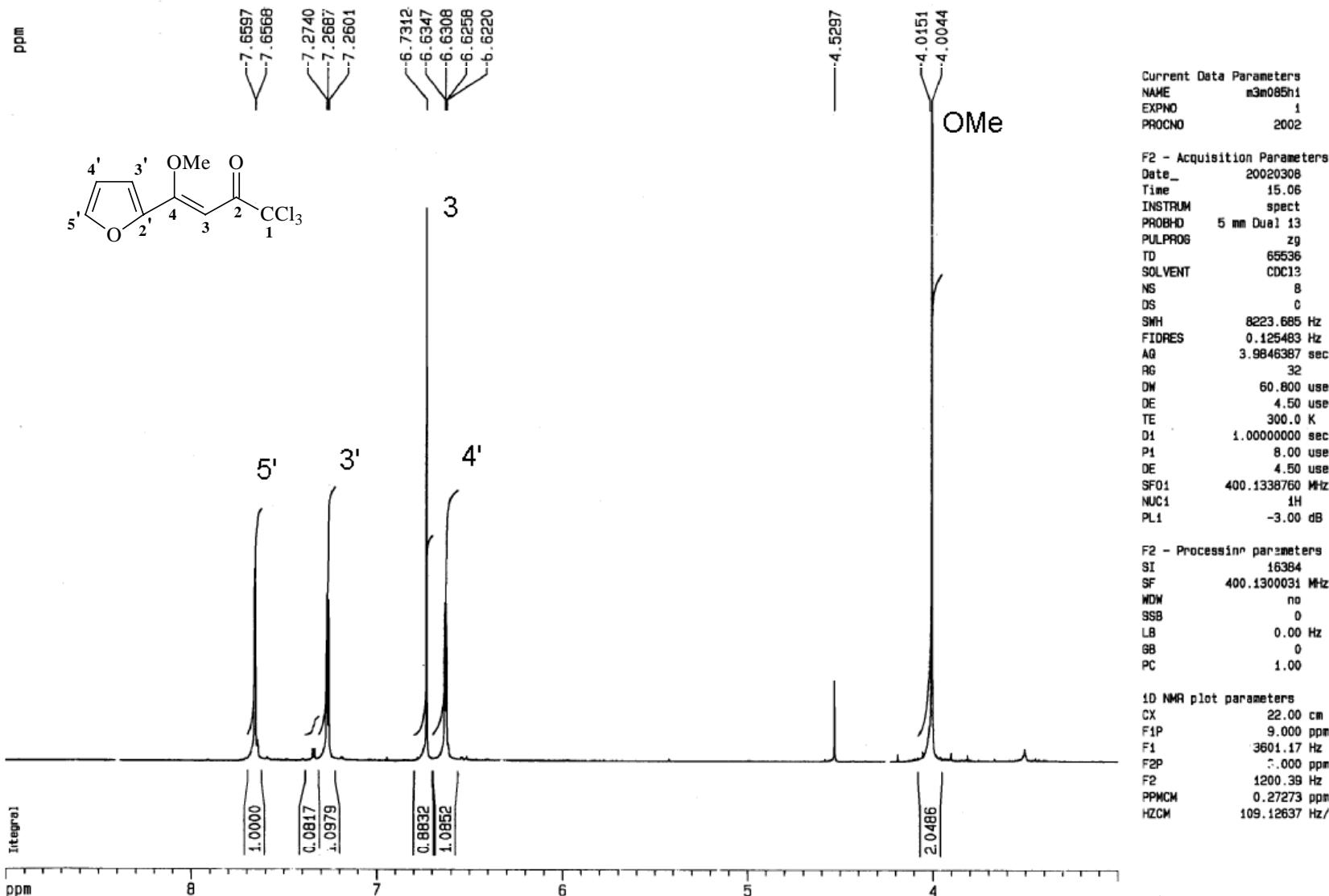


Figura 5. Espectro de RMN (a) <sup>1</sup>H da 1,1,1-Tricloro-4-[2-furil]-4-metoxi-3-buten-2-oná (2a) em CDCl<sub>3</sub>.

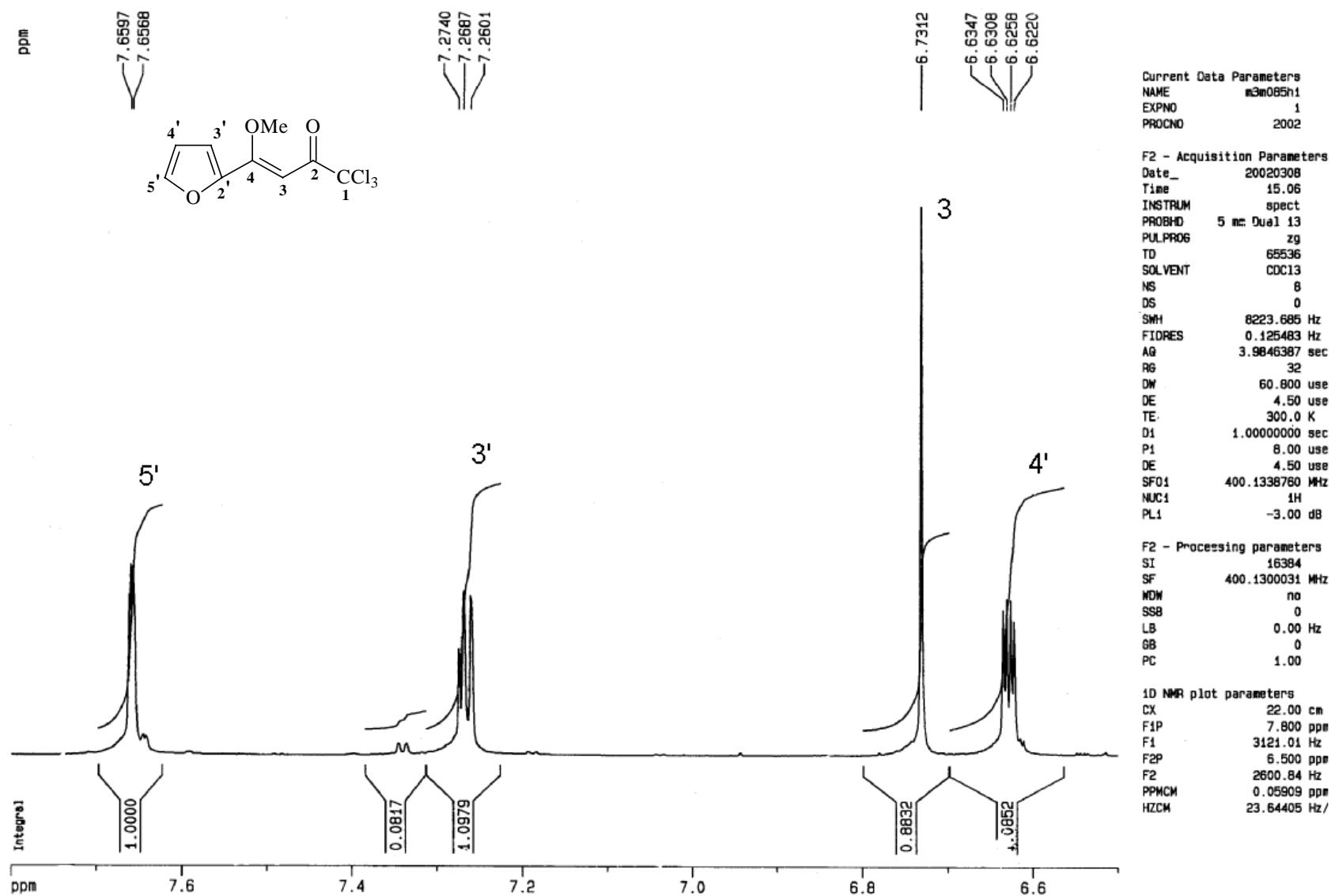


Figura 6. Espectro de  $^1\text{H}$ , da 1,1,1-Tricloro-4-[2-furil]-4-metoxi-3-buten-2-oná (**2a**) em  $\text{CDCl}_3$ .

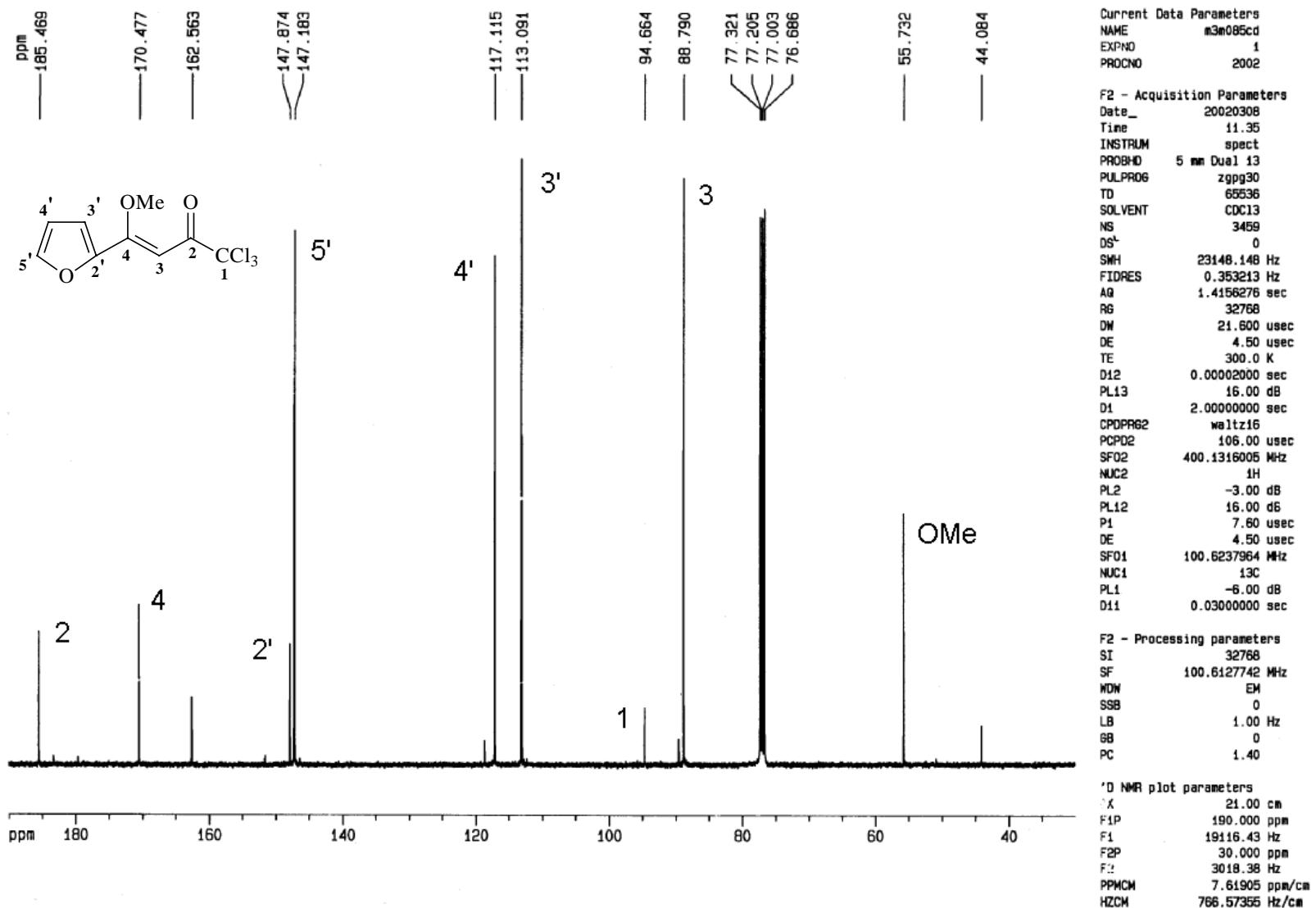
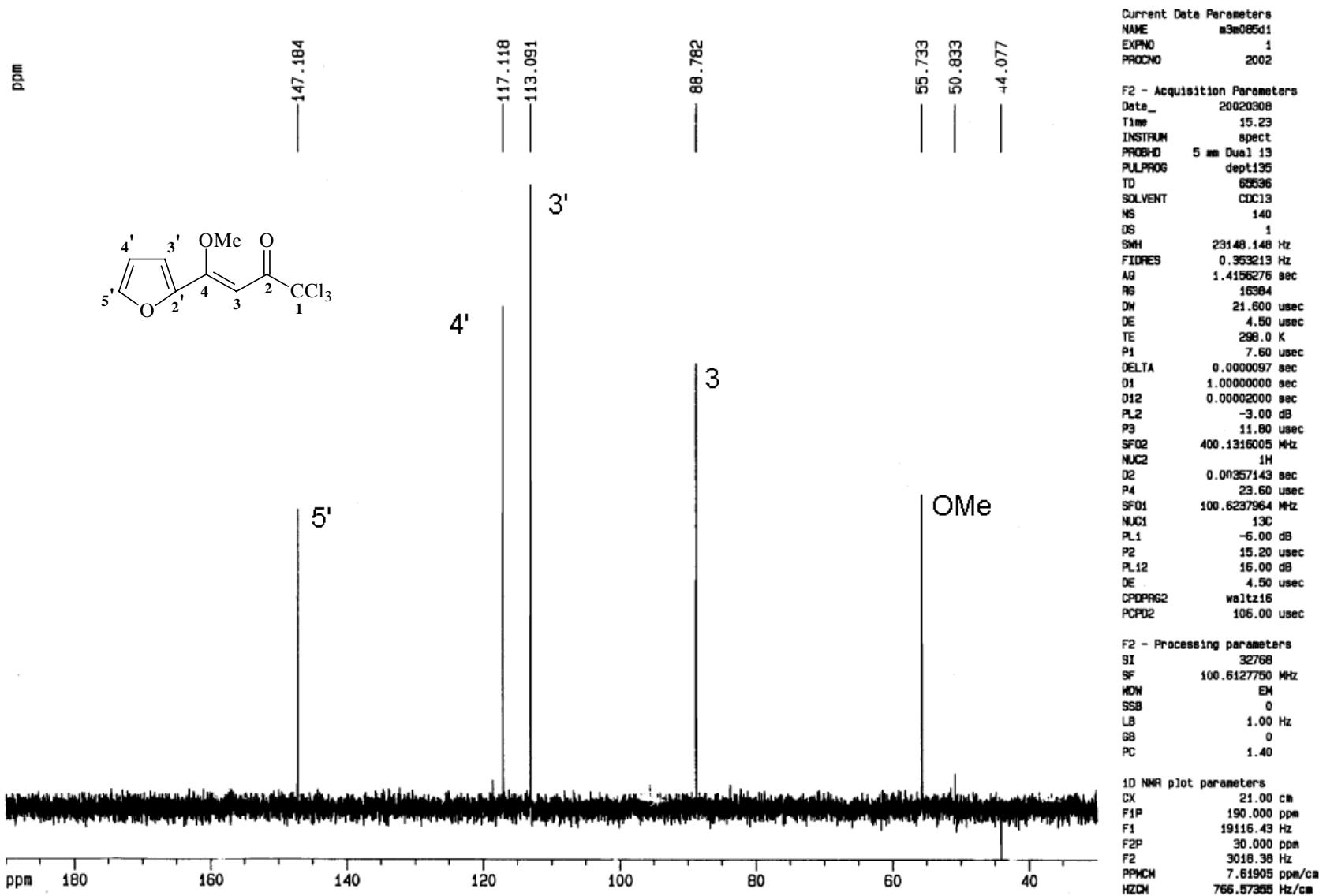


Figura 7. Espectros de RMN <sup>13</sup>C do 1,1,1-tricloro-4-[2-furil]-4-metoxi-3-buten-2-ona (2a) em CDCl<sub>3</sub>.



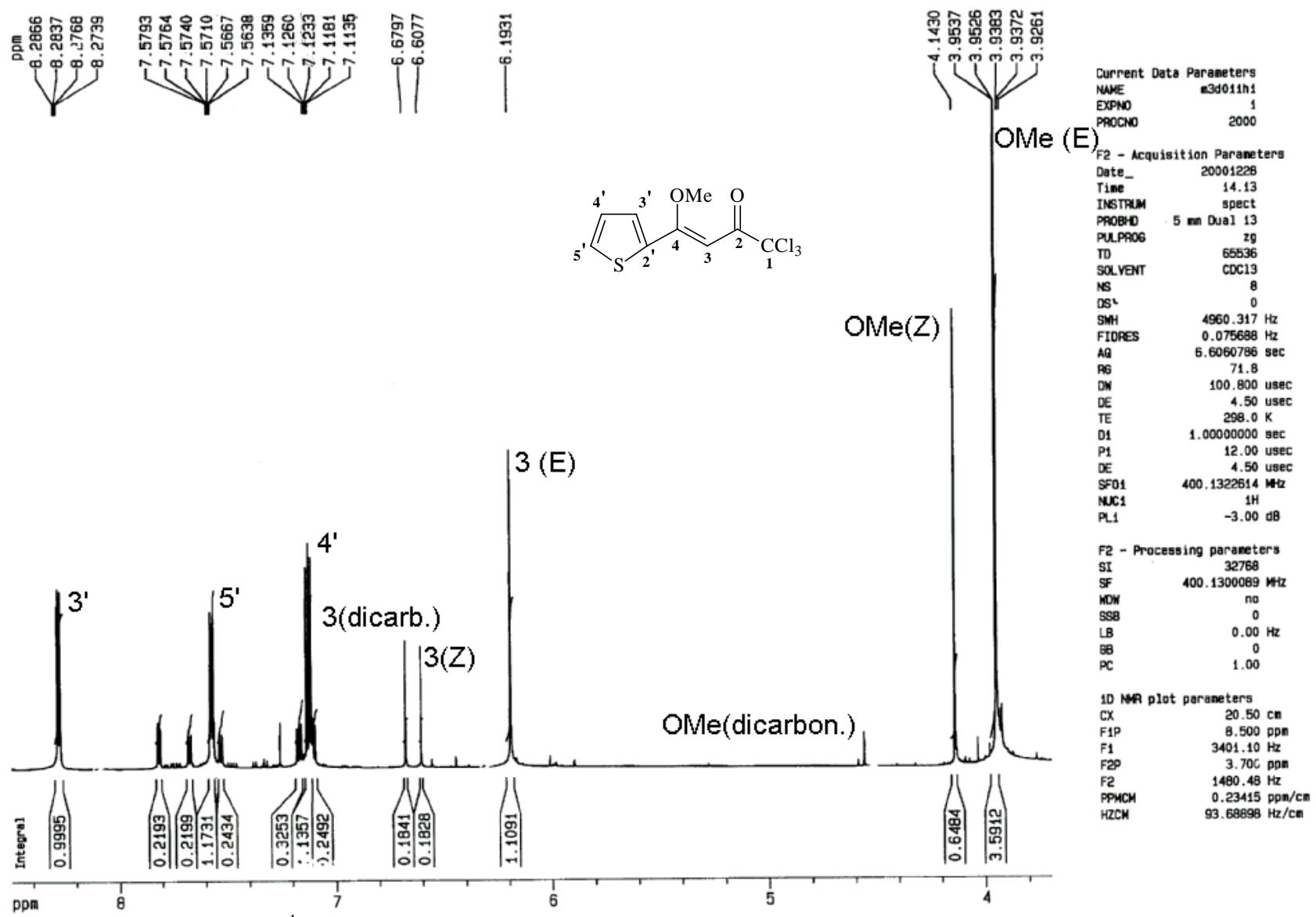
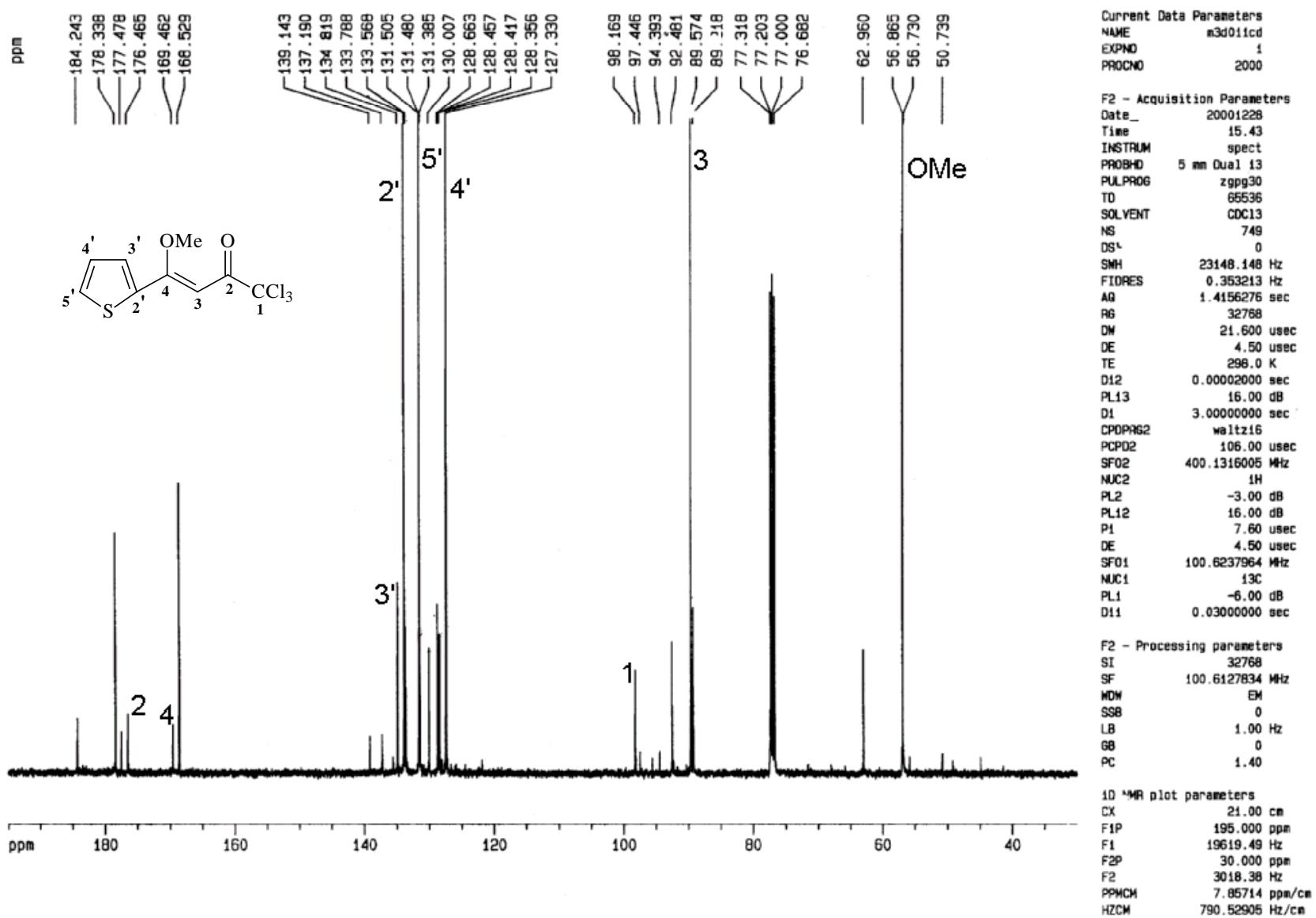
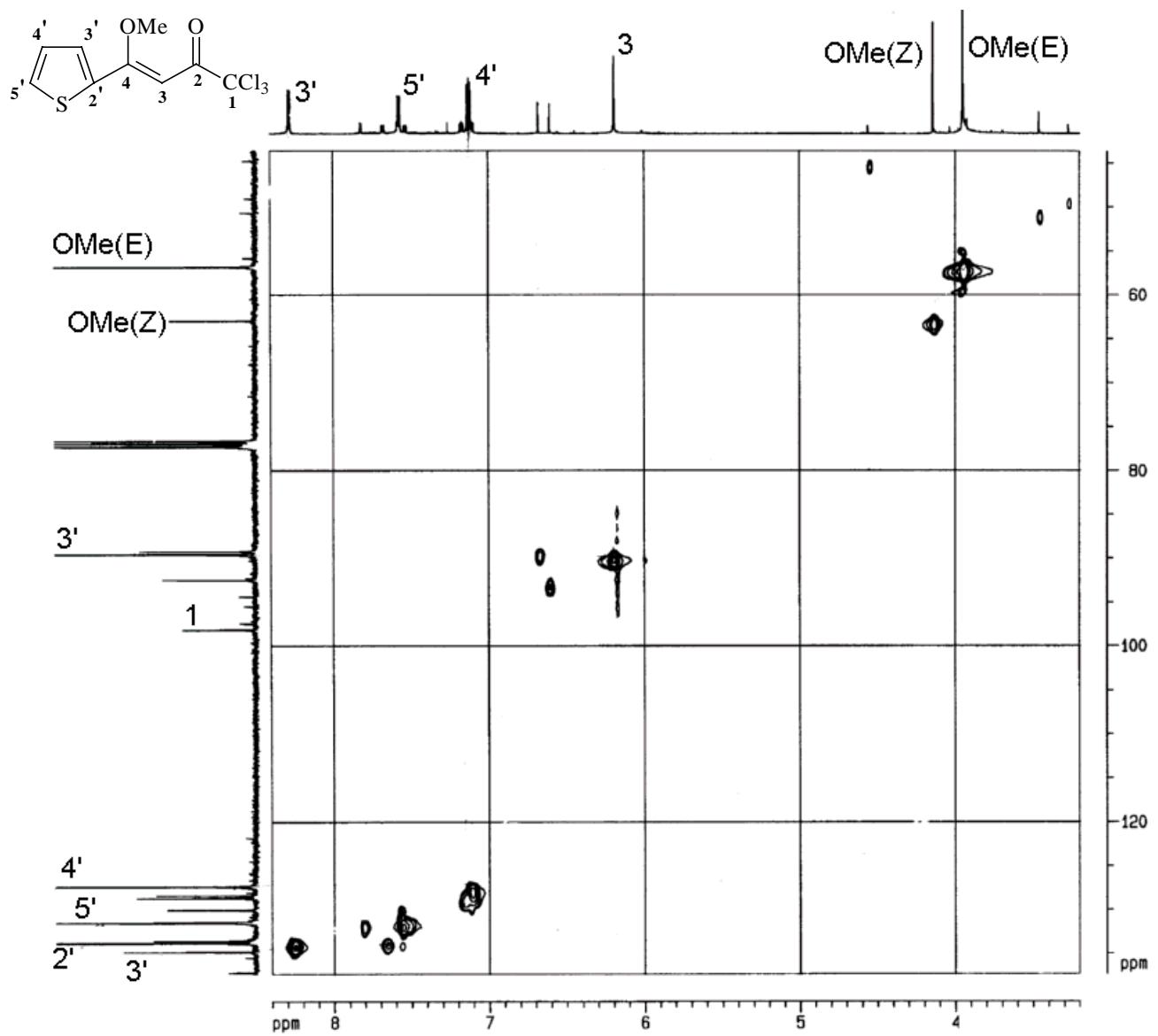


Figura 9. Espectros de RMN <sup>1</sup>H do 1,1,1-tricloro-4-metoxi-4-[2-tienil]-3-buten-2-ona (**2b**) em CDCl<sub>3</sub>.





Current Data Parameters  
NAME: abd0101  
EXPNO: 1  
PROCNO: 2000  
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Data\_1: 2000.0250 Hz  
Time: 17.54 sec  
INSTRUM: spect  
PROBPC: 3 mm Dual 13  
PULPROG: inv30  
TD: 32768  
SOLVENT: CDCl3  
NS: 1  
SW1: 100.000000 Hz  
DW: 107.700 Hz  
FIDRES: 3.086388 Hz  
AQ: 0.1000000 sec  
RG: 35.0  
TM: 102.000 msec  
DE: 8.00 msec  
TE: 250.0 K  
D1: 1.00000000 sec  
P1: 12.00 usec  
D2: 0.00500000 sec  
PL1: -6.00 dB  
P2: 84.00 usec  
P4: 15.00 usec  
D10: 100.004000 Hz  
NUC1: 13C  
D11: 0.4840000 sec  
P3: 7.00 usec  
D9: 0.0000000 sec  
PL12: 0.00 dB  
DE2: 8.00 msec  
SP01: 400.1210376 Hz  
NUC1: 1H  
PL1: -3.00 dB  
CPPI: 0.0000000 sec  
POPPR: 80.00 usec  
INO: 0.0000000 sec  
F1 - Acquisition parameters  
NUC: 1H  
TD: 240 sec  
SP01: 100.000000 Hz  
FIDRES: 77.108961 Hz  
SW: 584.000 ppm  
F2 - Processing parameters  
SI: 32768  
SF: 400.1210376 Hz  
WDW: DSSINE  
SSB: 2  
LB: 0.00 Hz  
RR: 0  
PC: 1.40  
F1 - Processing parameters  
SI: 32768  
SF: 400.1210376 Hz  
WDW: JZINE  
SSB: 2  
LB: 0.00 Hz  
RR: 0  
2D NMR plot parameters  
COSY: 15.00 sec  
COSA: 15.00 sec  
COSBL: 8.400 sec  
COSPLD: 3200.00 Hz  
F2PG: 3.128 ppm  
F2HI: 1270.71 Hz  
F2PLD: 137.403 ppm  
F2PLD: 13824.40 Hz  
F2PG: 43.577 ppm  
F2HI: 4884.40 Hz  
F2PGHC: 0.34660 ppm/cm  
F2PGCH: 138.03007 Hz/cm  
F2PGCH: 8.20000 ppm/cm  
F2PGCH: 653.33000 Hz/cm

Figura 11. Espectros de RMN correlação C-H (HMQC) do 1,1,1-tricloro-4-metoxi-4-[2-tienil]-3-buten-2-on (2b) em  $\text{CDCl}_3$ .

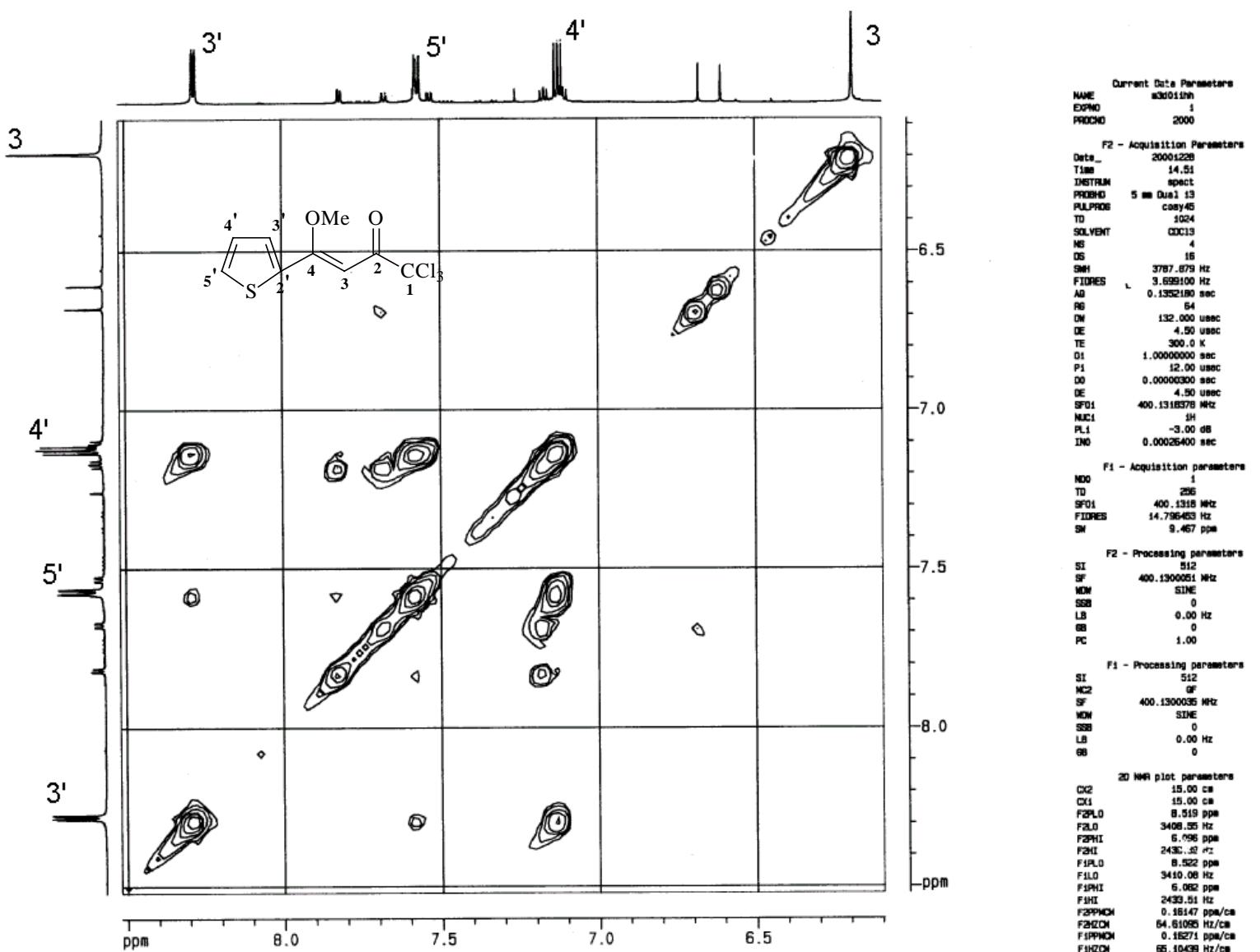


Figura 12. Espectro de RMN correlção H-H (COSY 45) do 1,1,1-tricloro-4-metoxi-4-[2-tienil]-3-buten-2-ona (**2b**) em CDCl<sub>3</sub>.

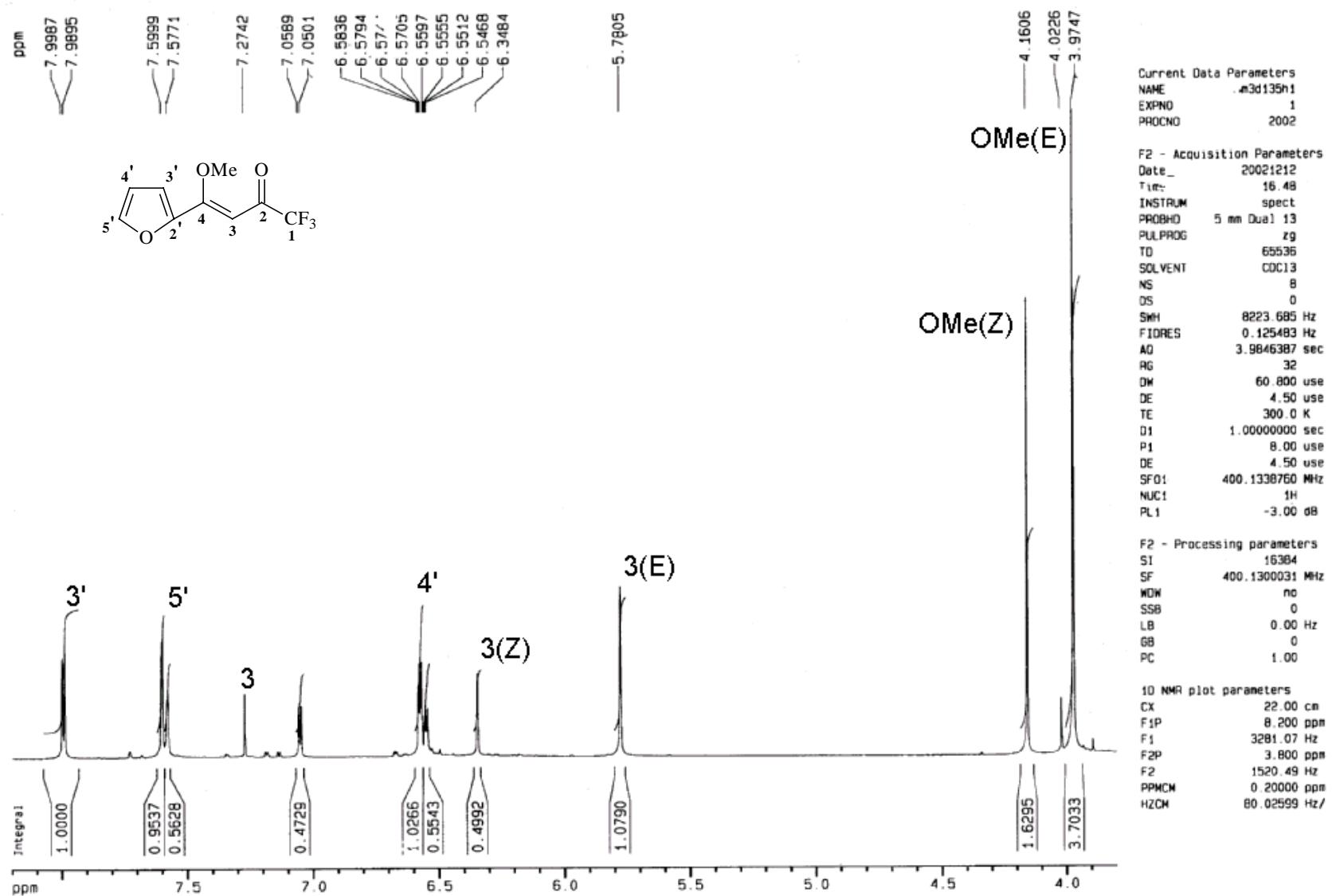


Figura 13. Espectro de RMN  $^1\text{H}$  do 1,1,1-trifluor-4-[2-furil]-4-metoxi-3-buteno-2-ona (**3a**) em  $\text{CDCl}_3$ .

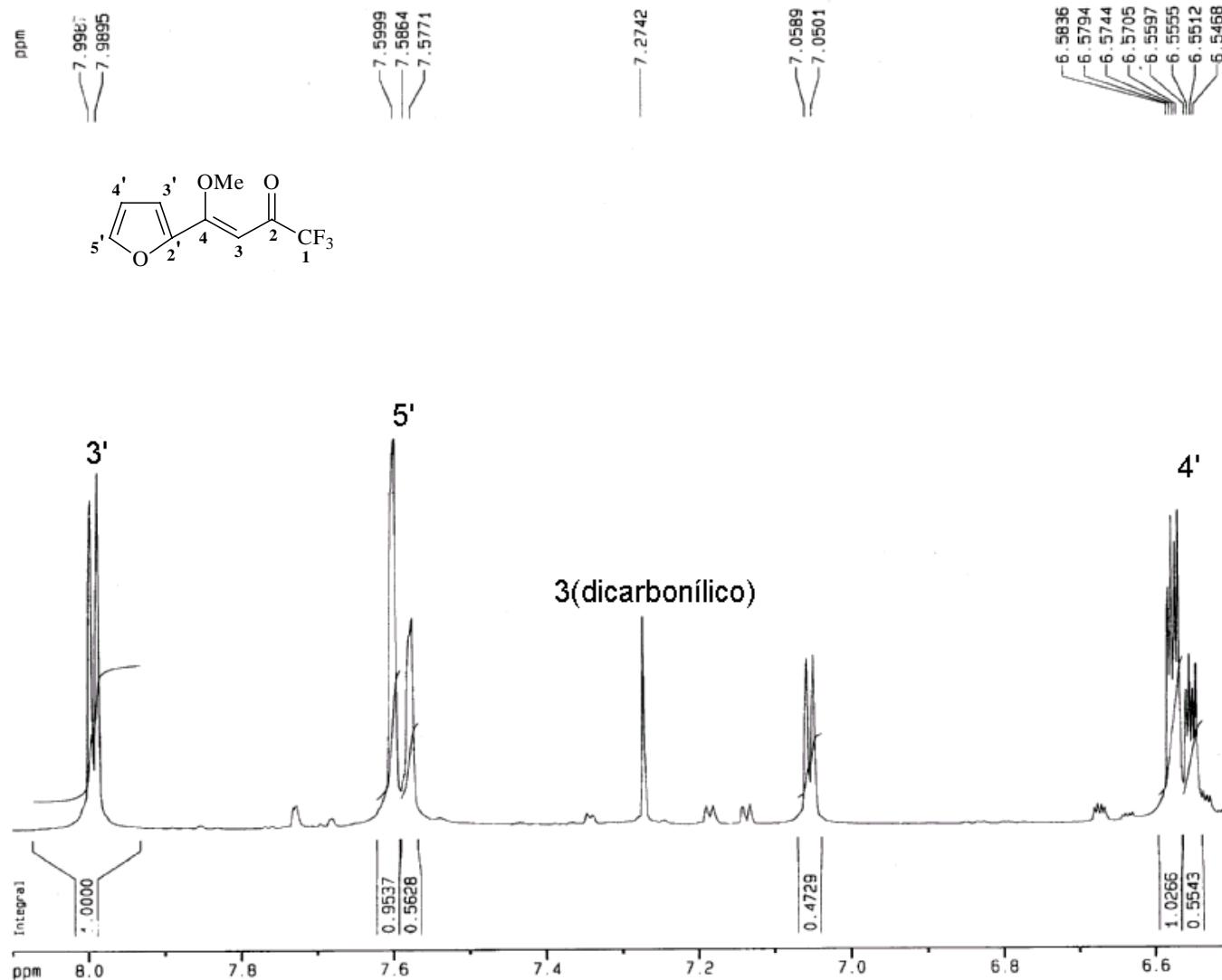


Figura 14. Espectro de RMN  $^1\text{H}$ , expansão entre 6,6-8,0 ppm da 1,1,1-trifluor-4-[2-furil]-4-metoxi-3-buten-2-on (3a) em  $\text{CDCl}_3$ .

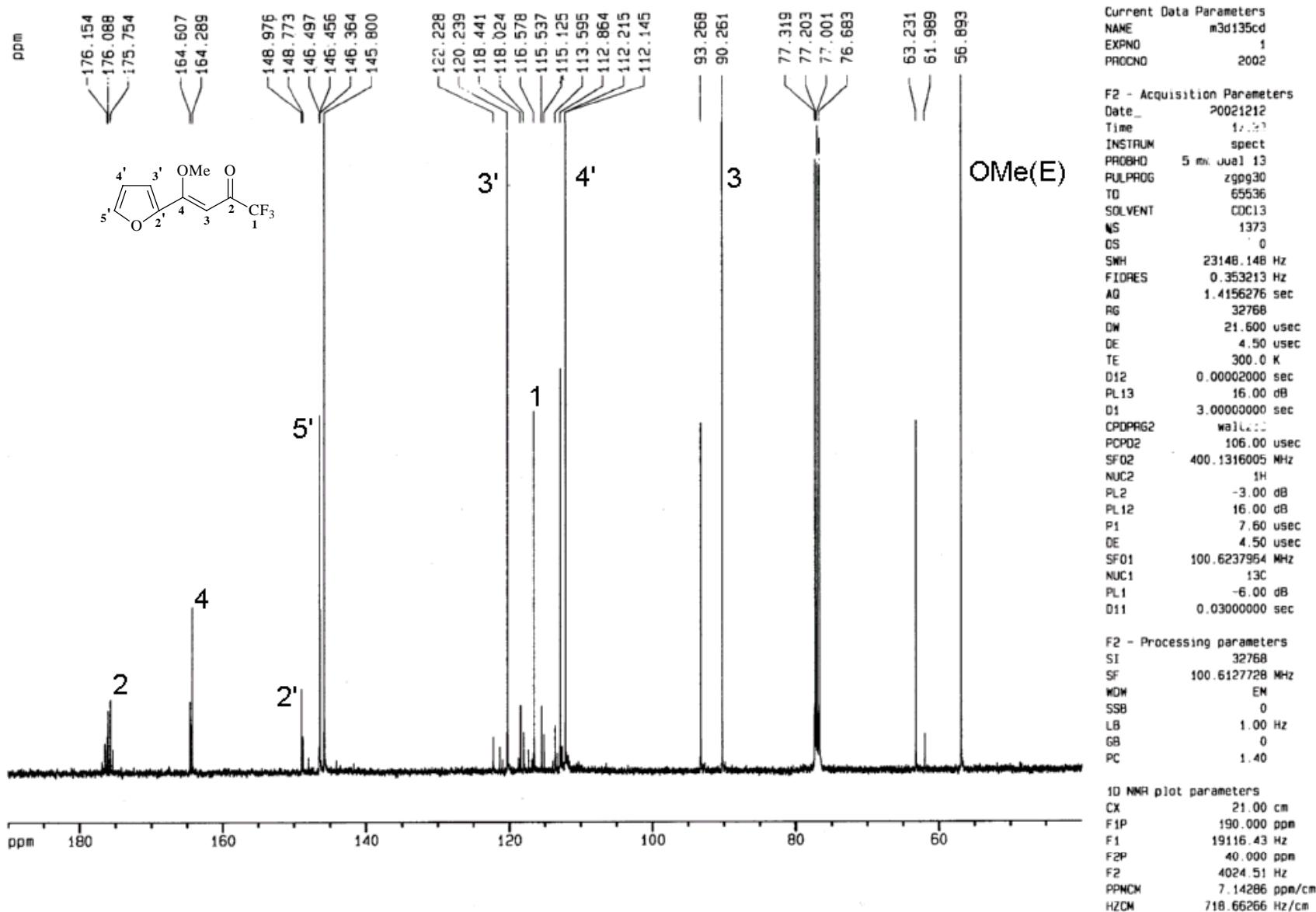


Figura 15. Espectro de RMN <sup>13</sup>C {<sup>1</sup>H} do 1,1,1-trifluor-4-[2-furil]-4-metoxi-3-buten-2-oná (3a) em CDCl<sub>3</sub>.

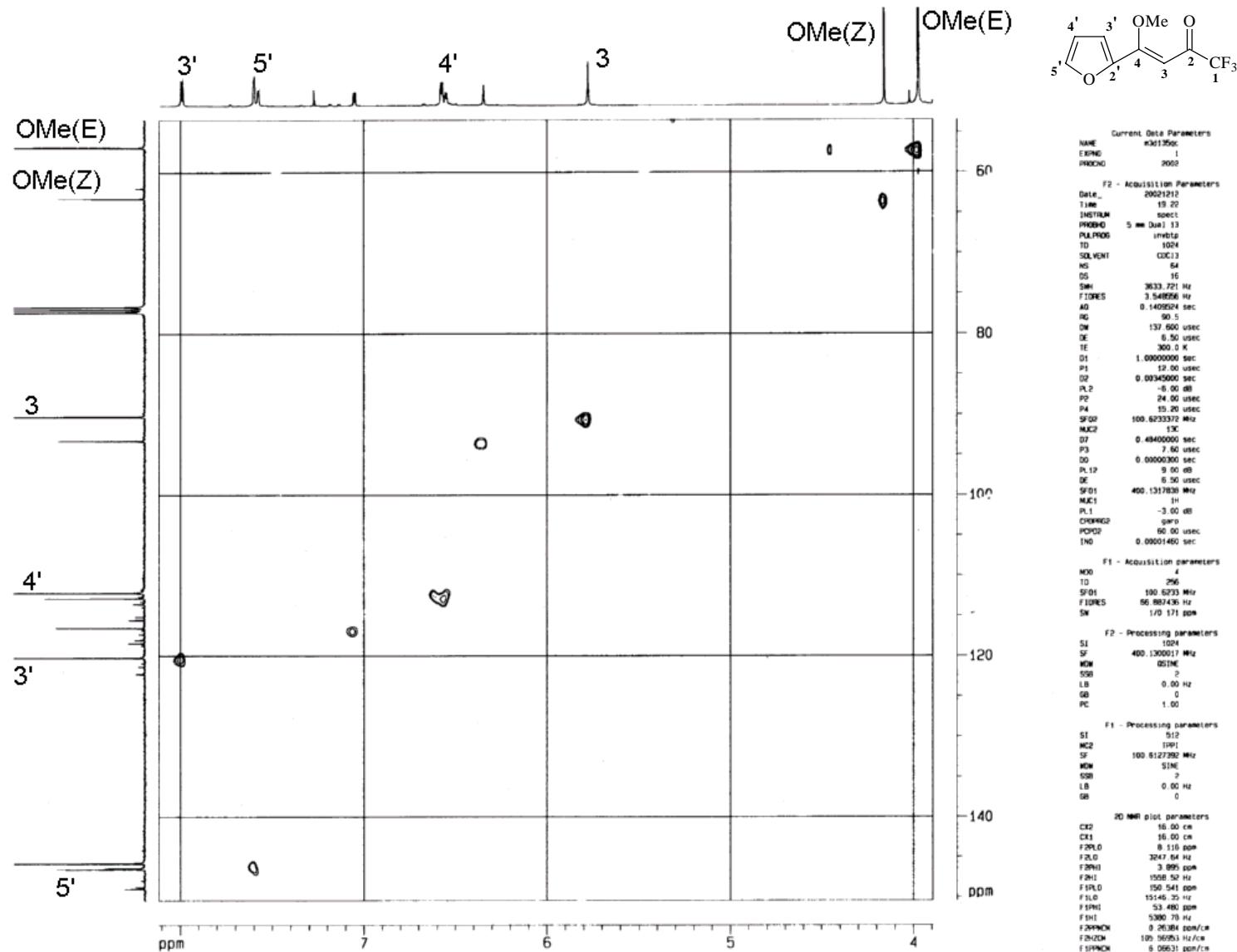


Figura 16. Espectro de RMN  $^{13}\text{C}$  correlação C-H (HMQC) do 1,1,1-trifluor-4-methoxy-4-[2-furil]-3-buten-2-ona (**3a**) em  $\text{CDCl}_3$ .

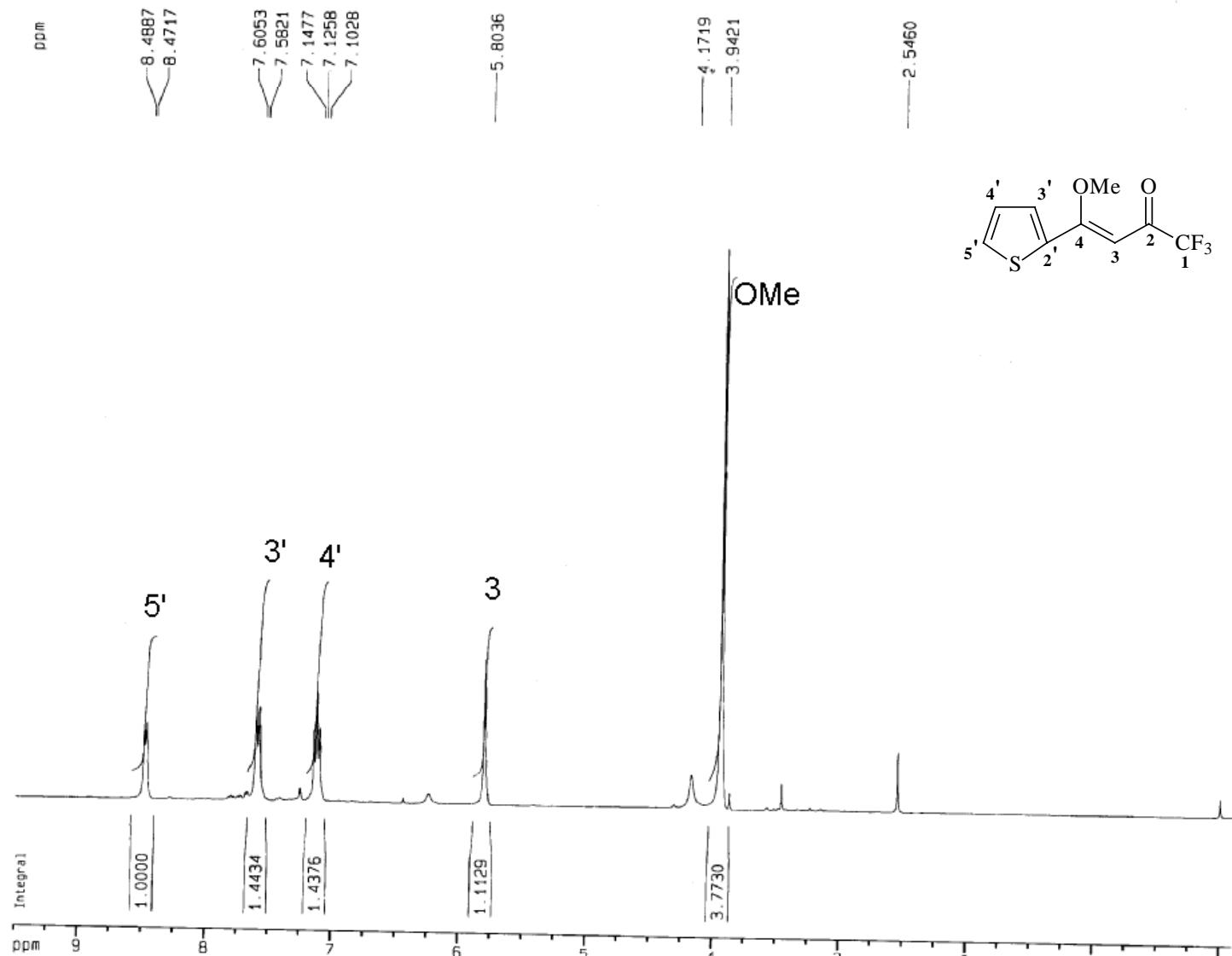


Figura 17. Espectro de RMN  $^1\text{H}$  do 1,1,1-trifluor-4-metoxi-4-[2-tienil]-3-buteno-2-ona (**3b**) em  $\text{CDCl}_3$ .

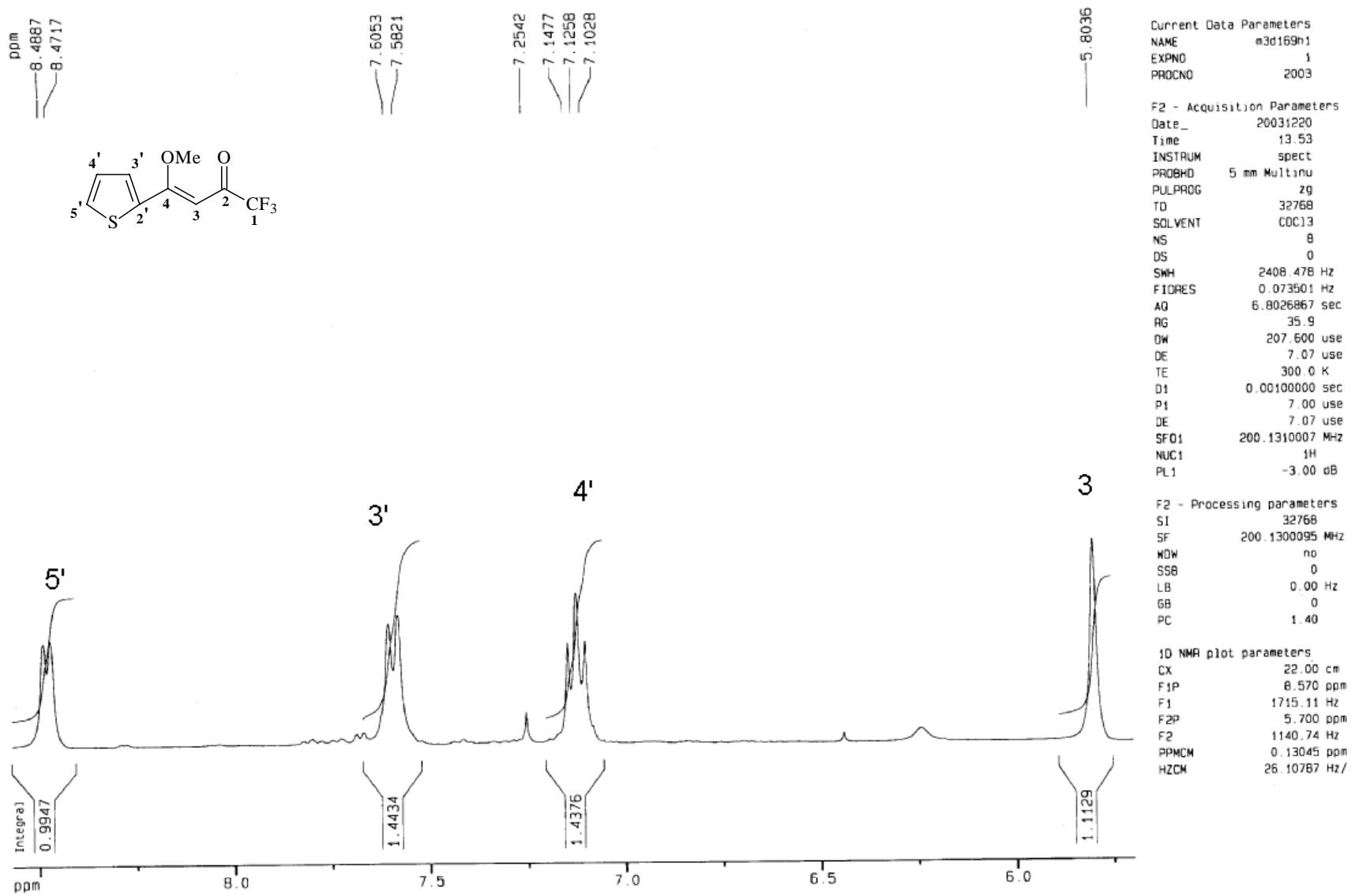
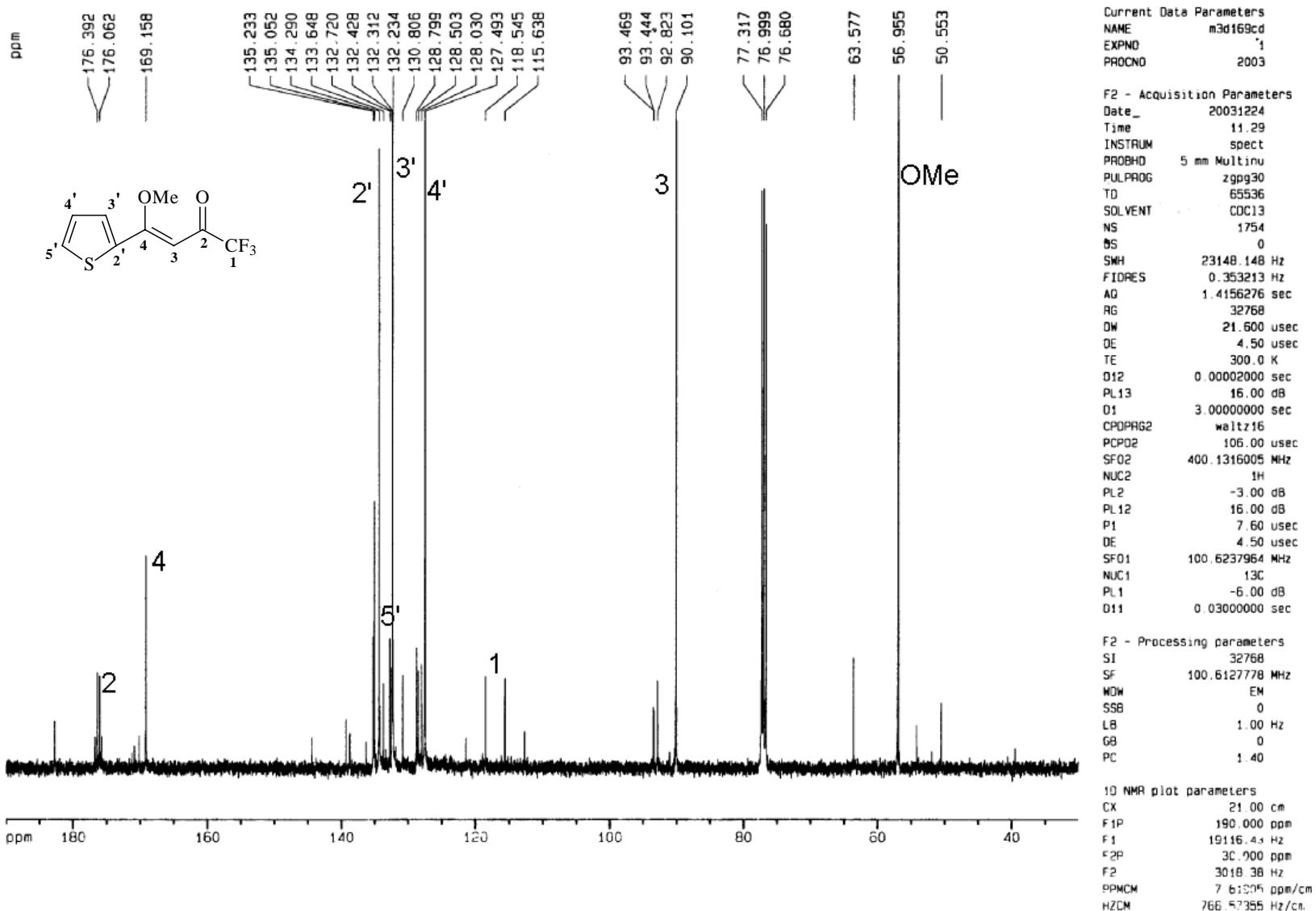


Figura 18. Espectro de RMN  $^1\text{H}$ , expansão entre 6,0-8,5 ppm do 1,1,1-trifluor-4-metoxi-4-[2-tienil]-3-buten-2-on (3b) em  $\text{CDCl}_3$ .



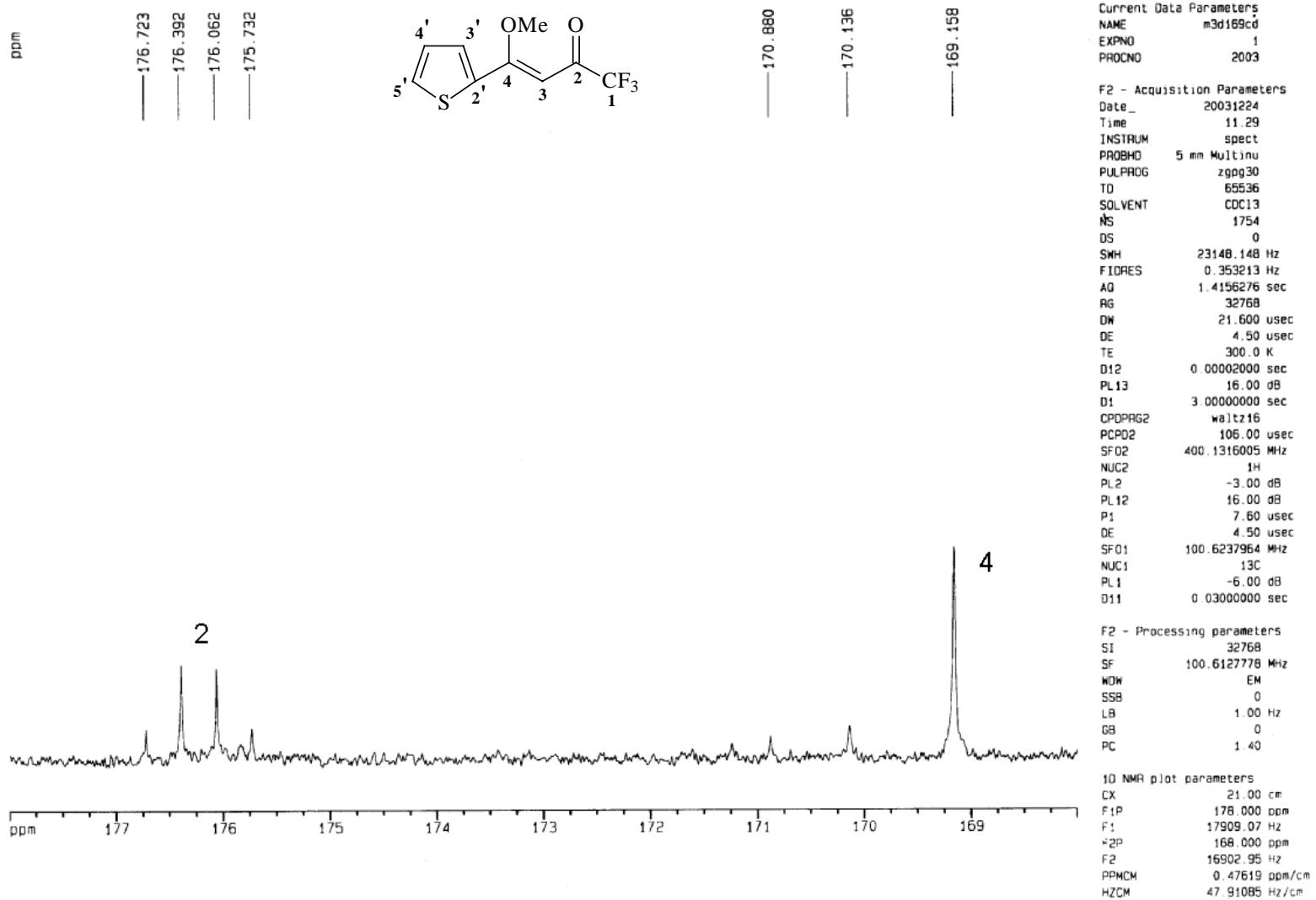


Figura 20. Espectro de RMN  $^{13}\text{C}$  expansão entre 169-177 ppm do 1,1,1-trifluor-4-methoxy-4-[2-tienil]-3-butene-2-ona (**3b**) em  $\text{CDCl}_3$ .

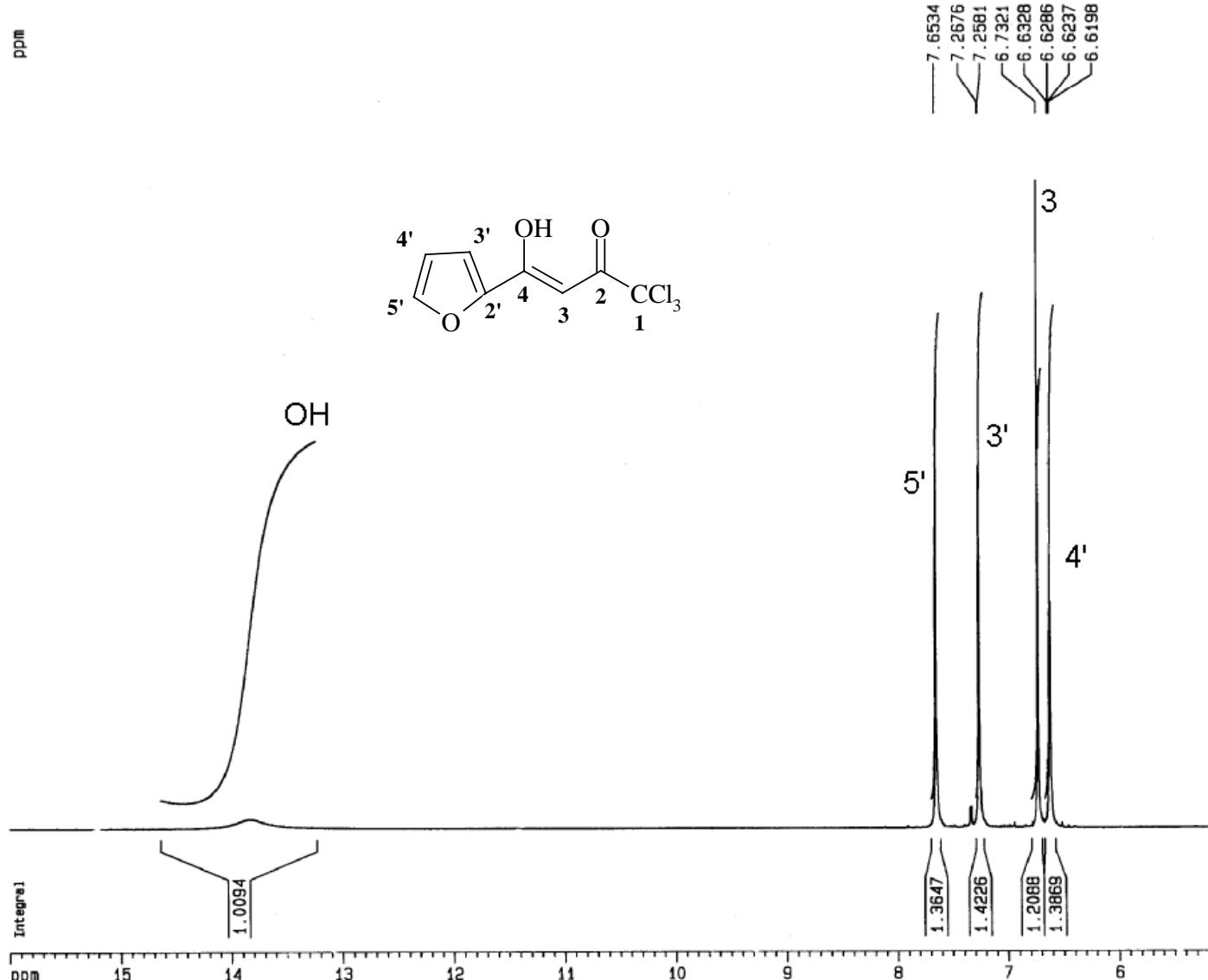
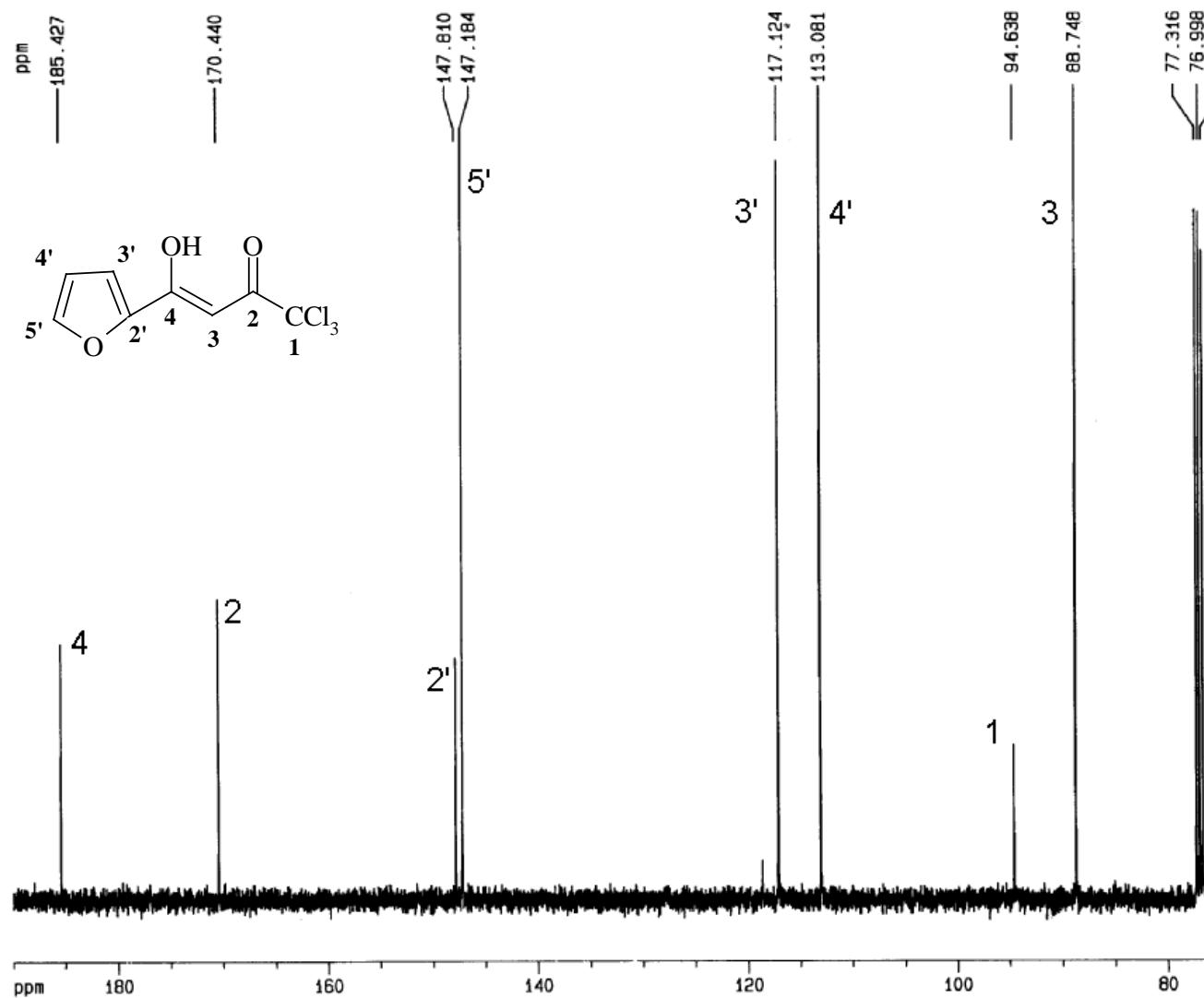


Figura 21. Espectro de RMN de  $^1\text{H}$  do 1,1,1-tricloro-4-[2-furil]-buten-1,3-diona (**4a**) em  $\text{CDCl}_3$ .



Current Data Parameters  
NAME m3f080cd  
EXPNO 1  
PROCNO 2002

F2 - Acquisition Parameters  
Date\_ 20020220  
Time 12.39  
INSTRUM spect  
PROBHD 5 mm Dual 13  
PULPROG zgppg30  
TD 65536  
SOLVENT CDCl3  
NS 28  
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 2.0000000 sec  
CPDPG2 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 100.6127778 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

1D NMR plot parameters  
CX 21.00 cm  
F1P 19116.43 Hz  
F1 19116.43 Hz  
F2P 70.000 ppm  
F2 7042.89 'z  
PPMCM 5.71429 ppm/cm  
HZCM 574.93018 Hz/cm

Figura 22. Espectro de RMN de  $^{13}\text{C}$  do 1,1,1-tricloro-4-[2-furil]-buten-1,3-diona (**4a**) em  $\text{CDCl}_3$ .

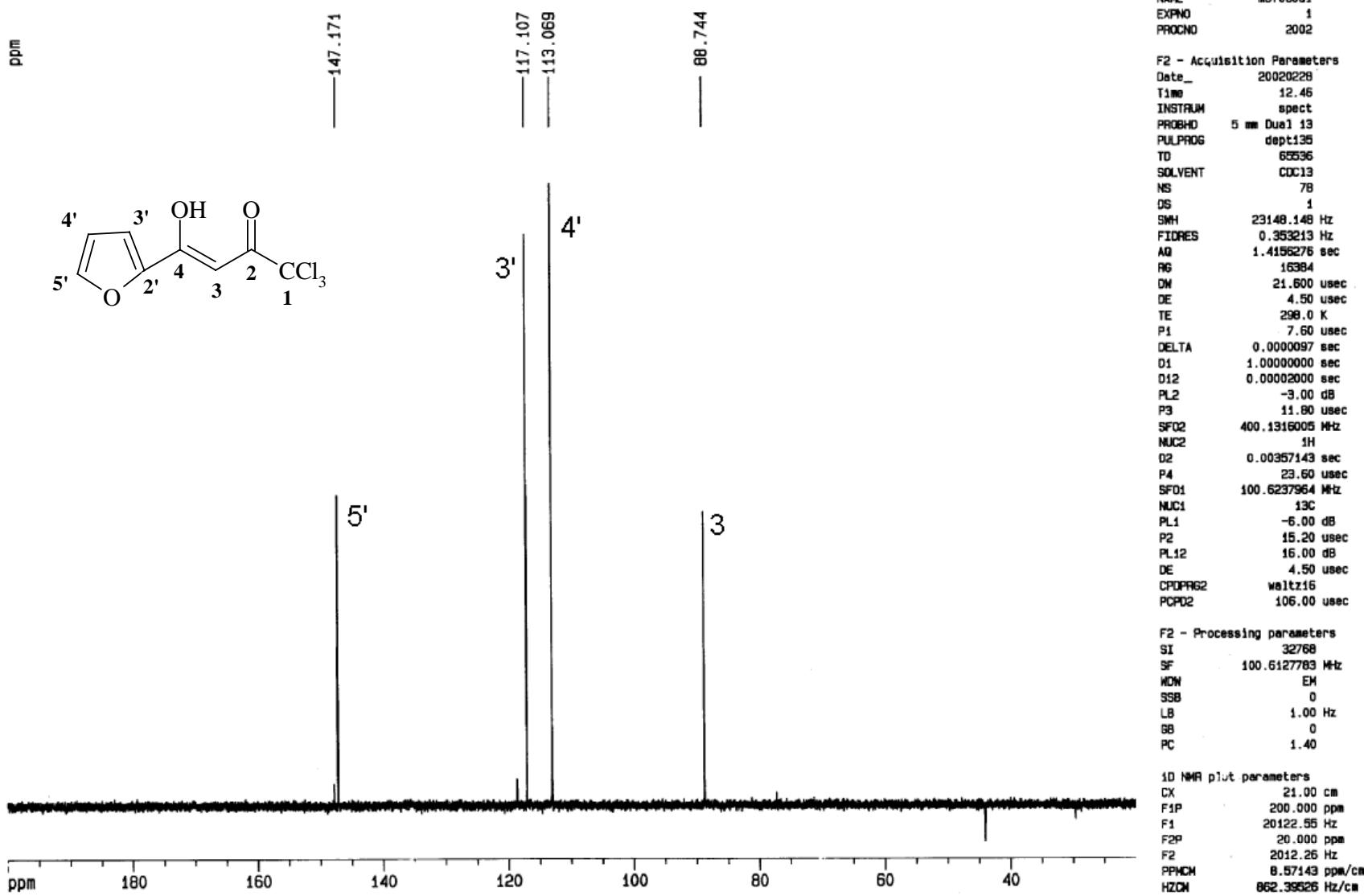


Figura 23. Espectro de RMN de  $^{13}\text{C}$ , DEPT 135 do 1,1,1 -tricloro-4-[2-furil]-buten-1,3-diona (**4a**) em  $\text{CDCl}_3$ .

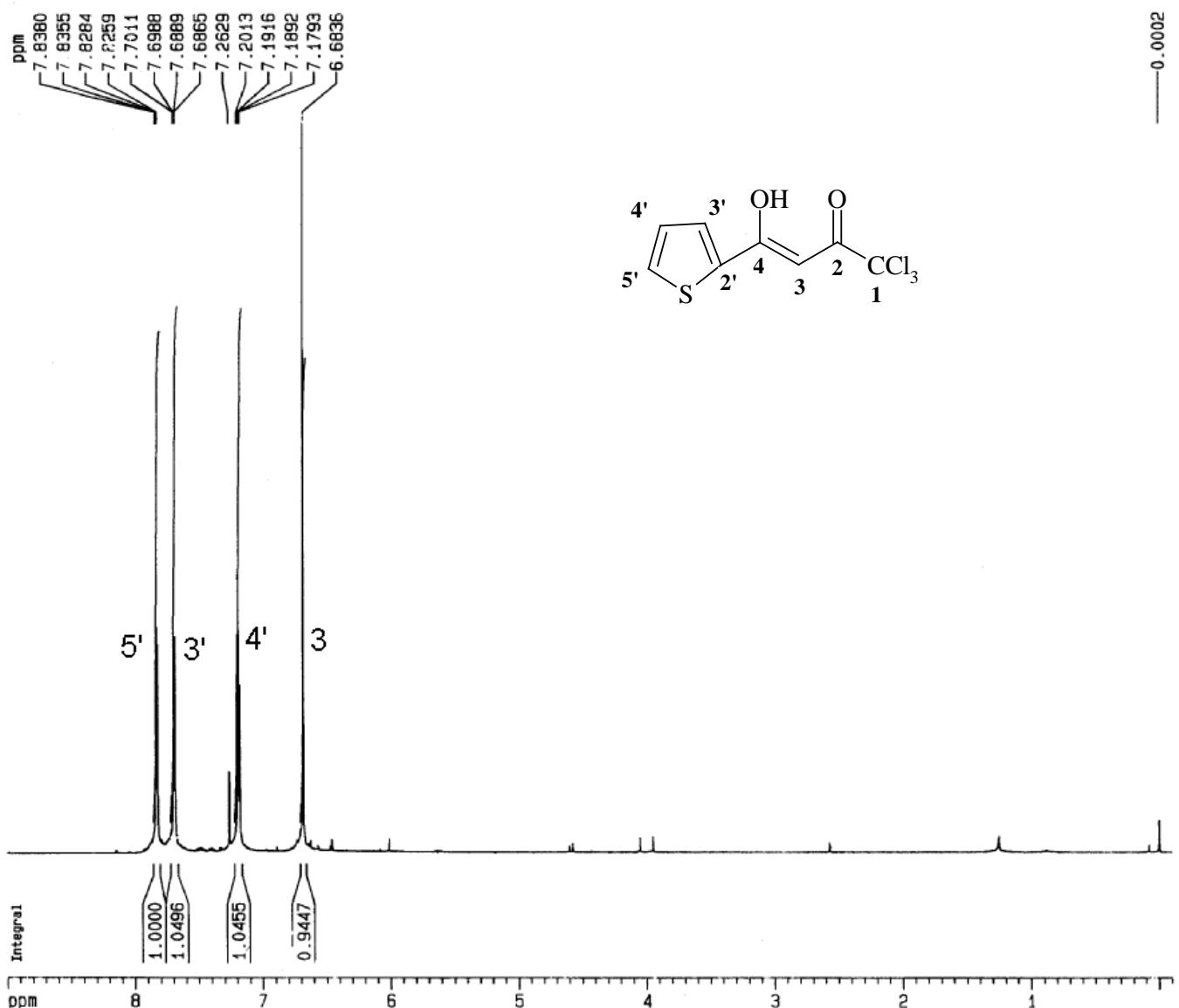
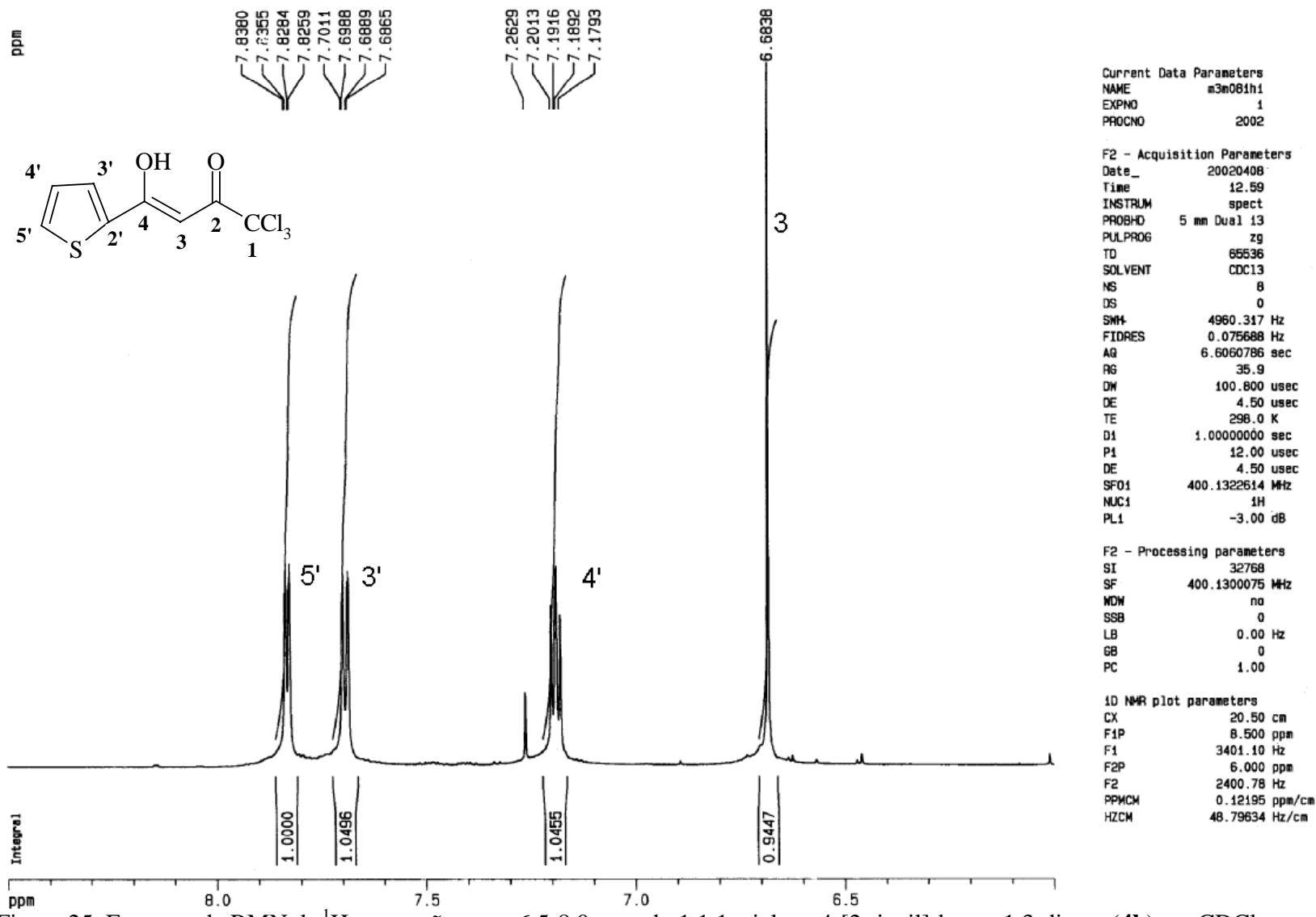
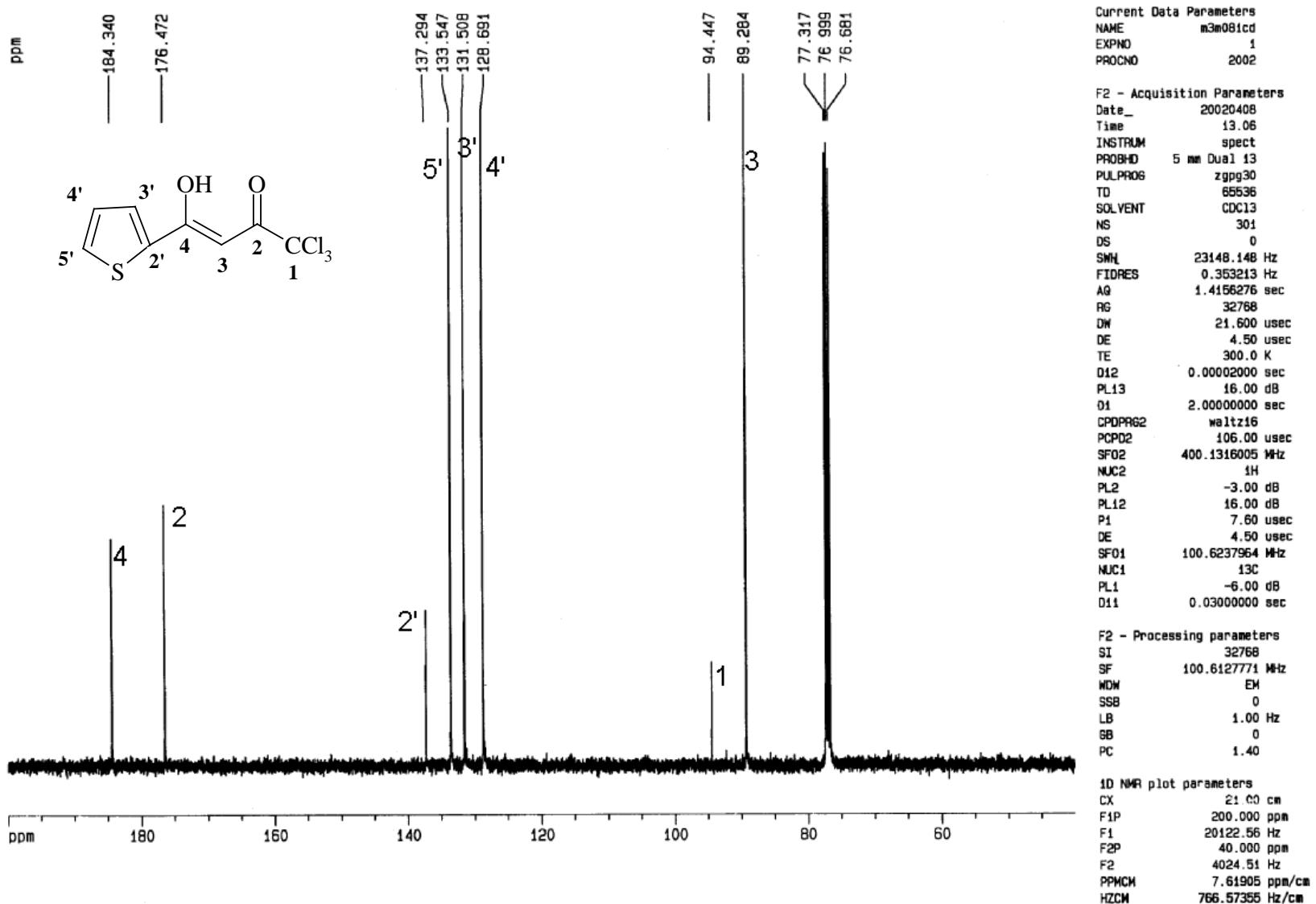


Figura 24. Espectro de RMN de <sup>1</sup>H do 1,1,1-tricloro-4-[2-tienil]-buten-1,3-diona (**4a**) em CDCl<sub>3</sub>.





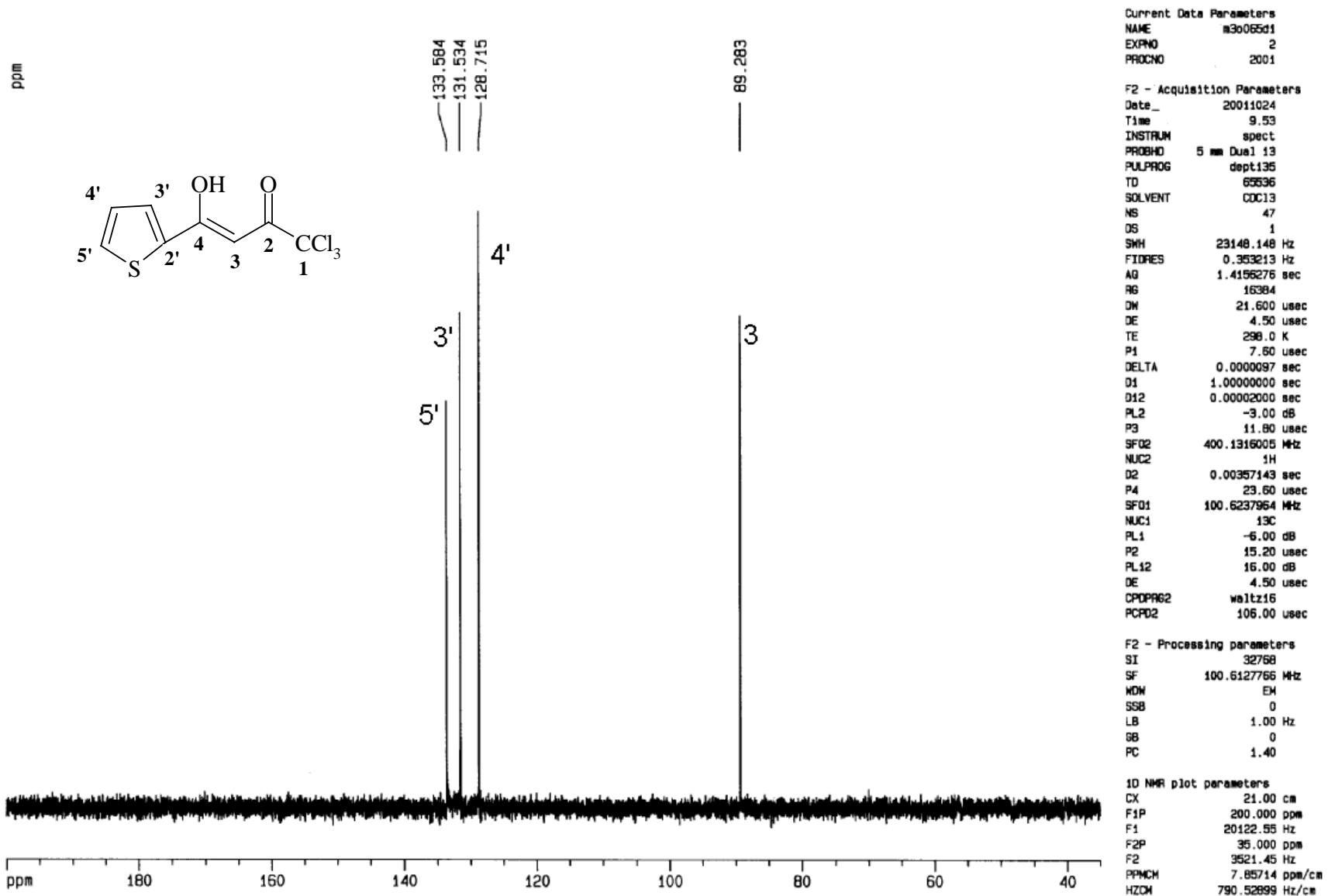


Figura 27. Espectro de RMN de <sup>13</sup>C (DEPT 135) do 1,1,1-tricloro-4-[2-tienil]-buten-1,3-diona (**4b**) em CDCl<sub>3</sub>.

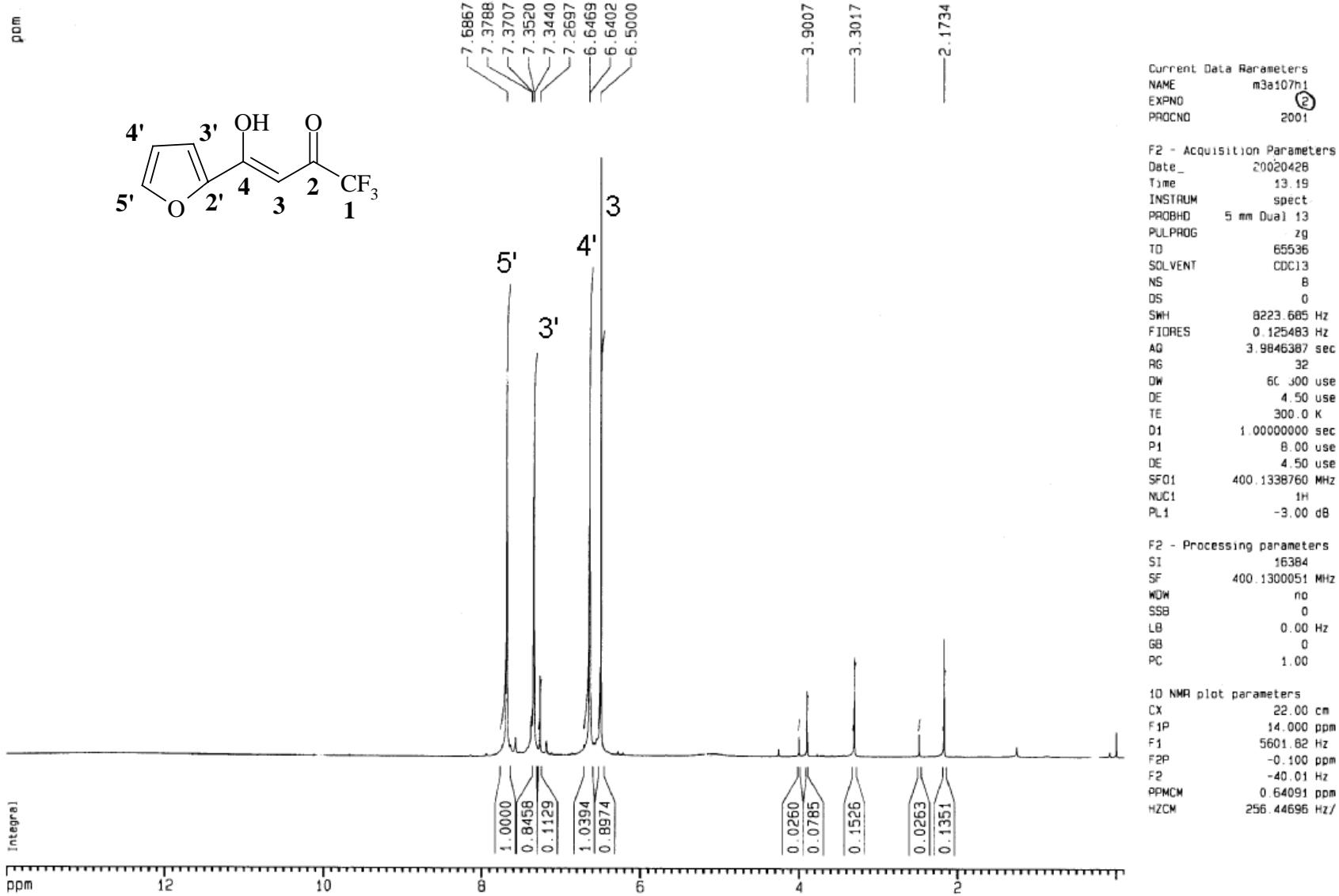


Figura 28. Espectro de RMN <sup>1</sup>H do 1,1,1-trifluor-4-[2-furil]-buten-1,3-diona (**5a**) em CDCl<sub>3</sub>.

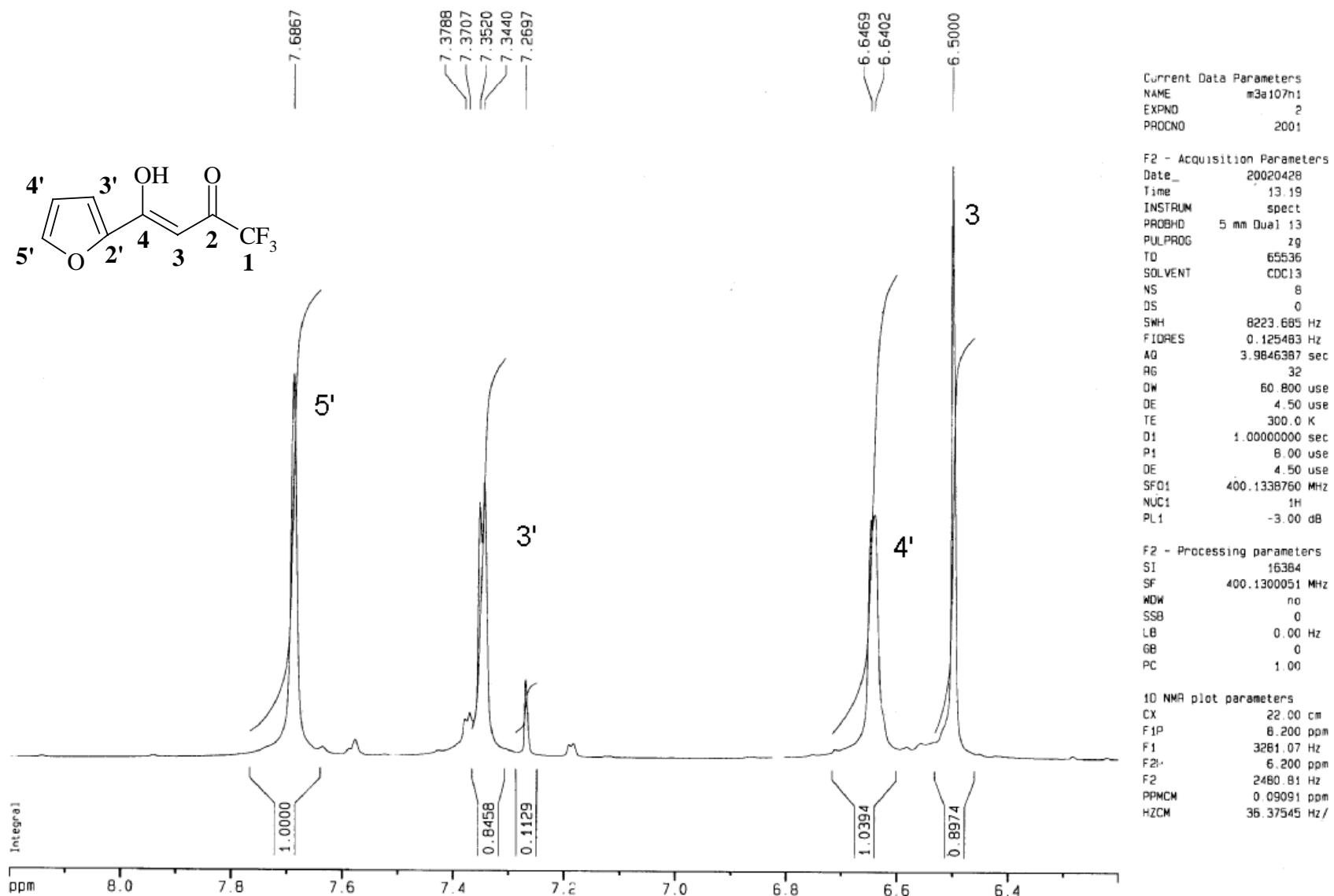


Figura 29. Espectro de RMN  $^1\text{H}$ , expansão entre 6,4-8,0 ppm do 1,1,1-trifluor-4-[2-furil]-buten-1,3-diona (**5a**) em  $\text{CDCl}_3$ .

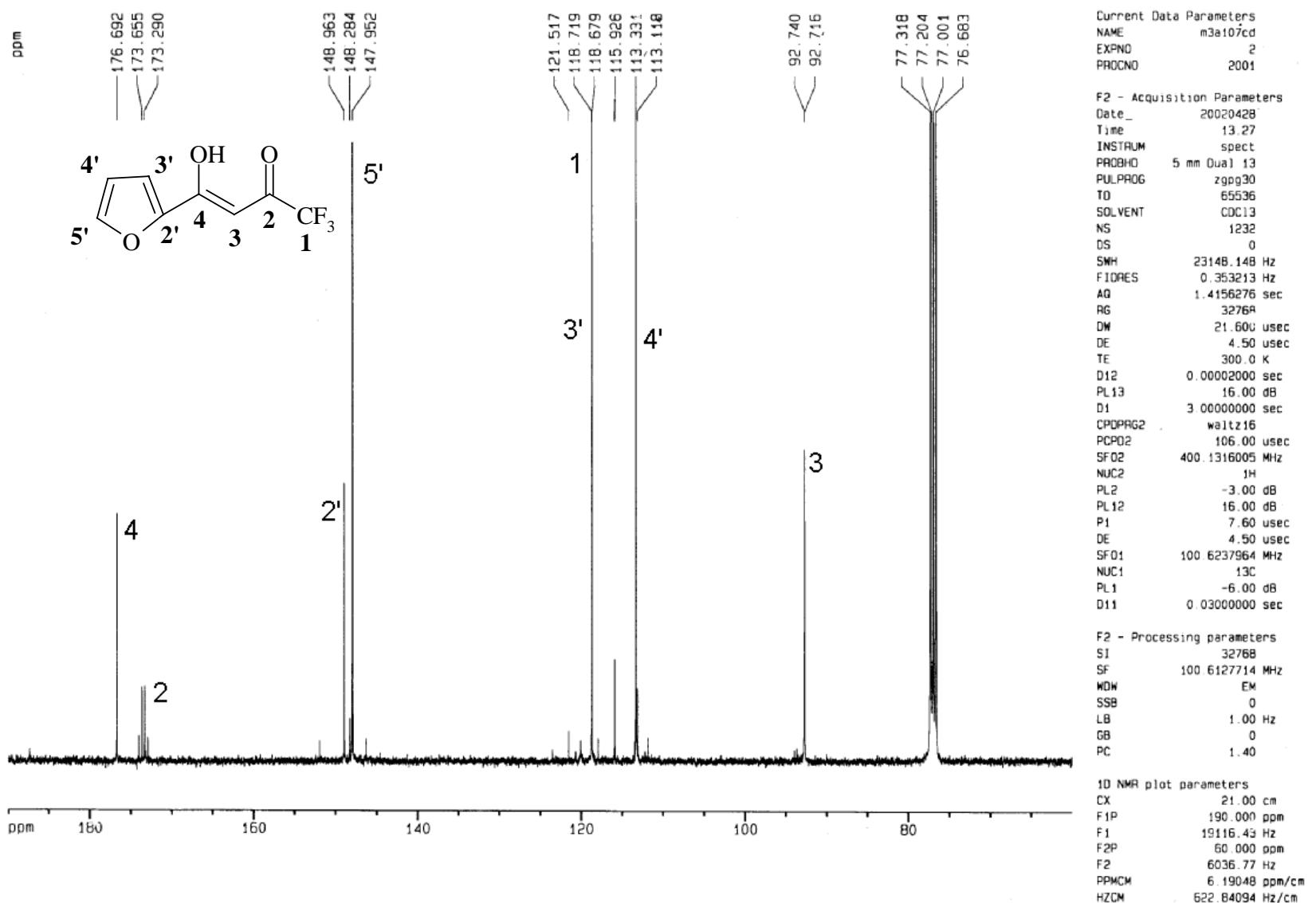


Figura 30. Espectro de  $^{13}\text{C}$  do 1,1,1-trifluor-4-[2-furil]-buten-1,3-diona (**5a**) em  $\text{CDCl}_3$ .

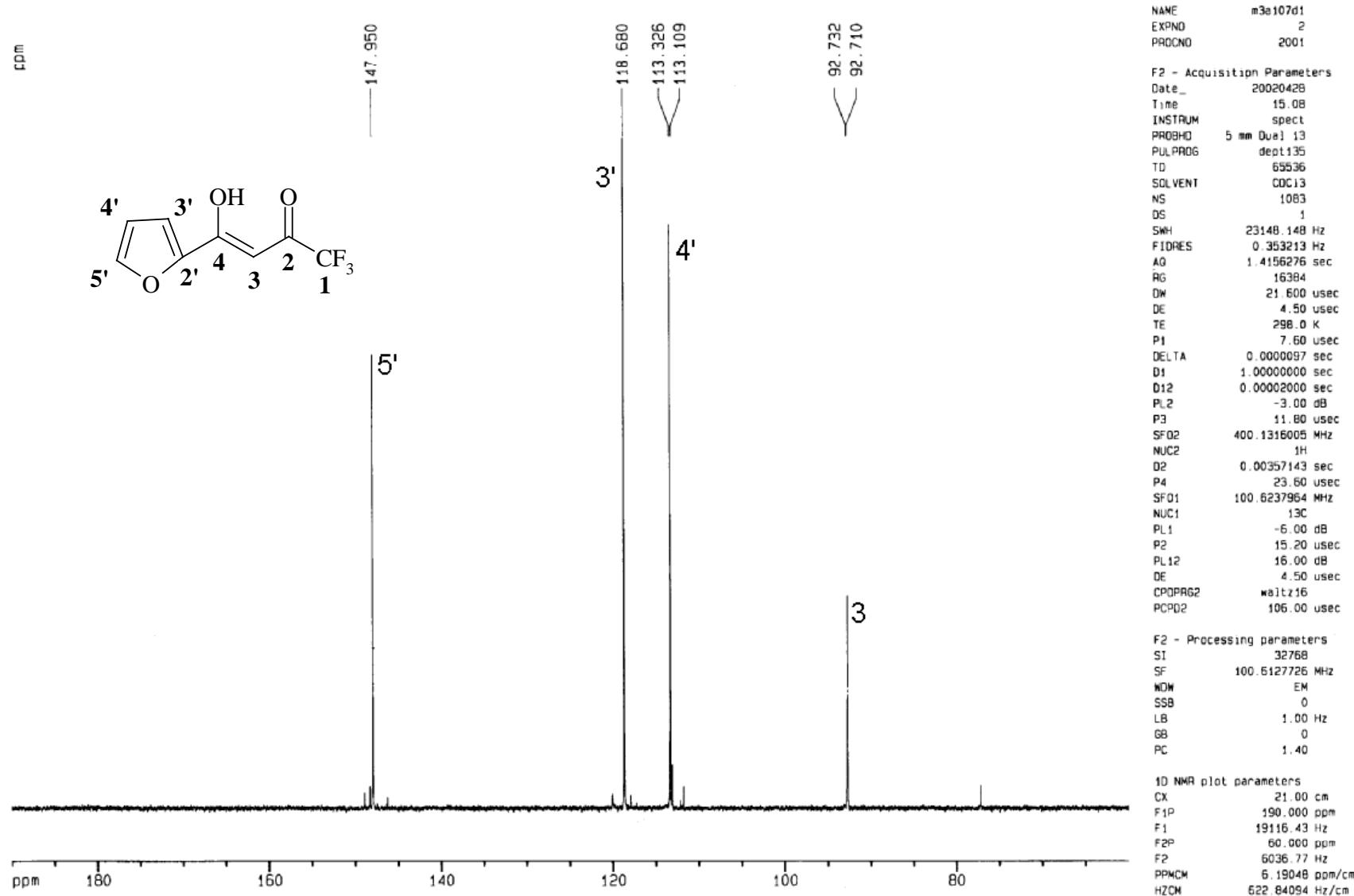


Figura 31. Espectro de <sup>13</sup>C, experimento DEPT 135 do 1,1,1-trifluor-4-[2-furil]-buten-1,3-diona (**5a**) em CDCl<sub>3</sub>.

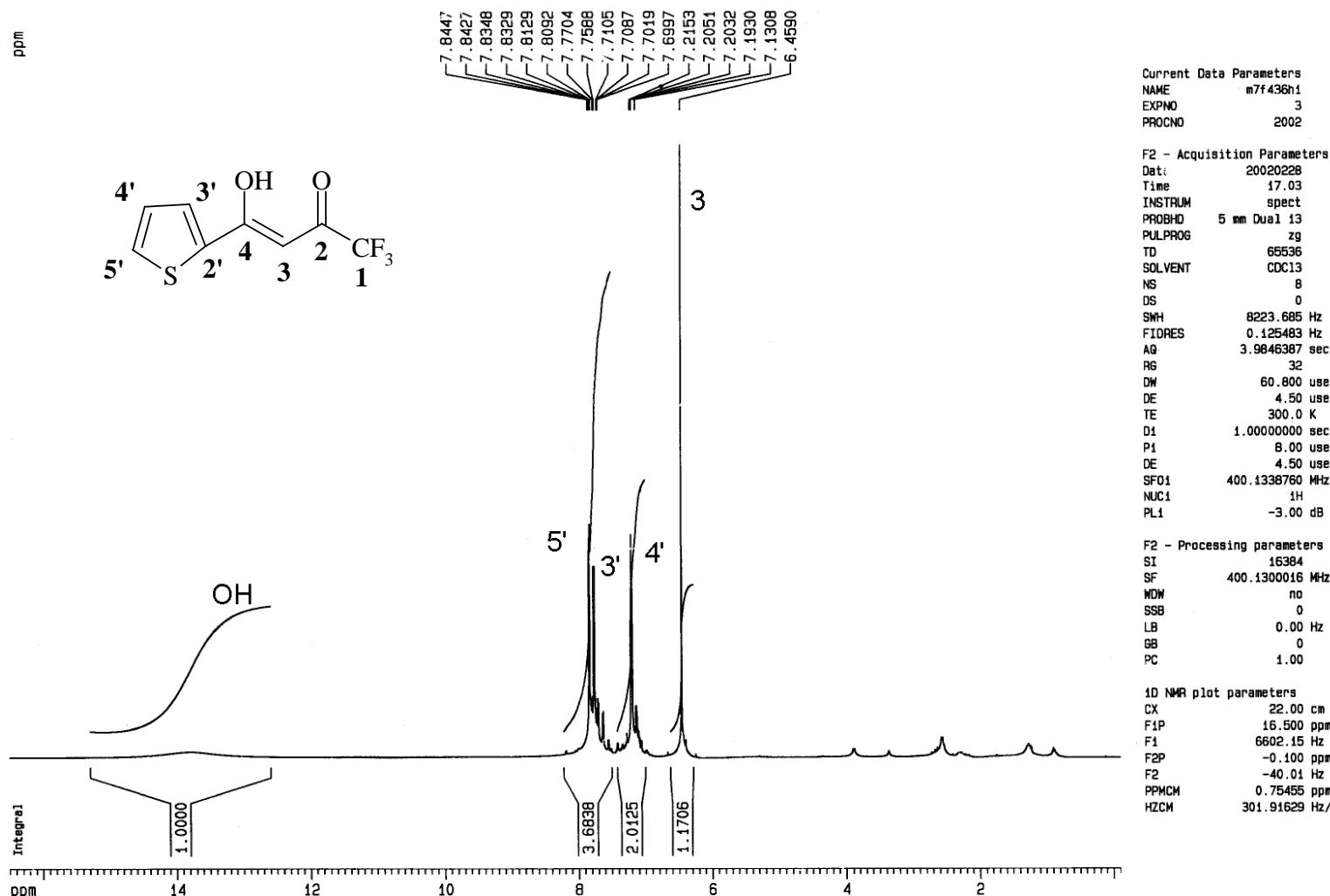


Figura 32. Espectro de  $^1\text{H}$  do 1,1,1-trifluor-4-[2-tienil]-buten-1,3-diona (**5b**) em  $\text{CDCl}_3$ .

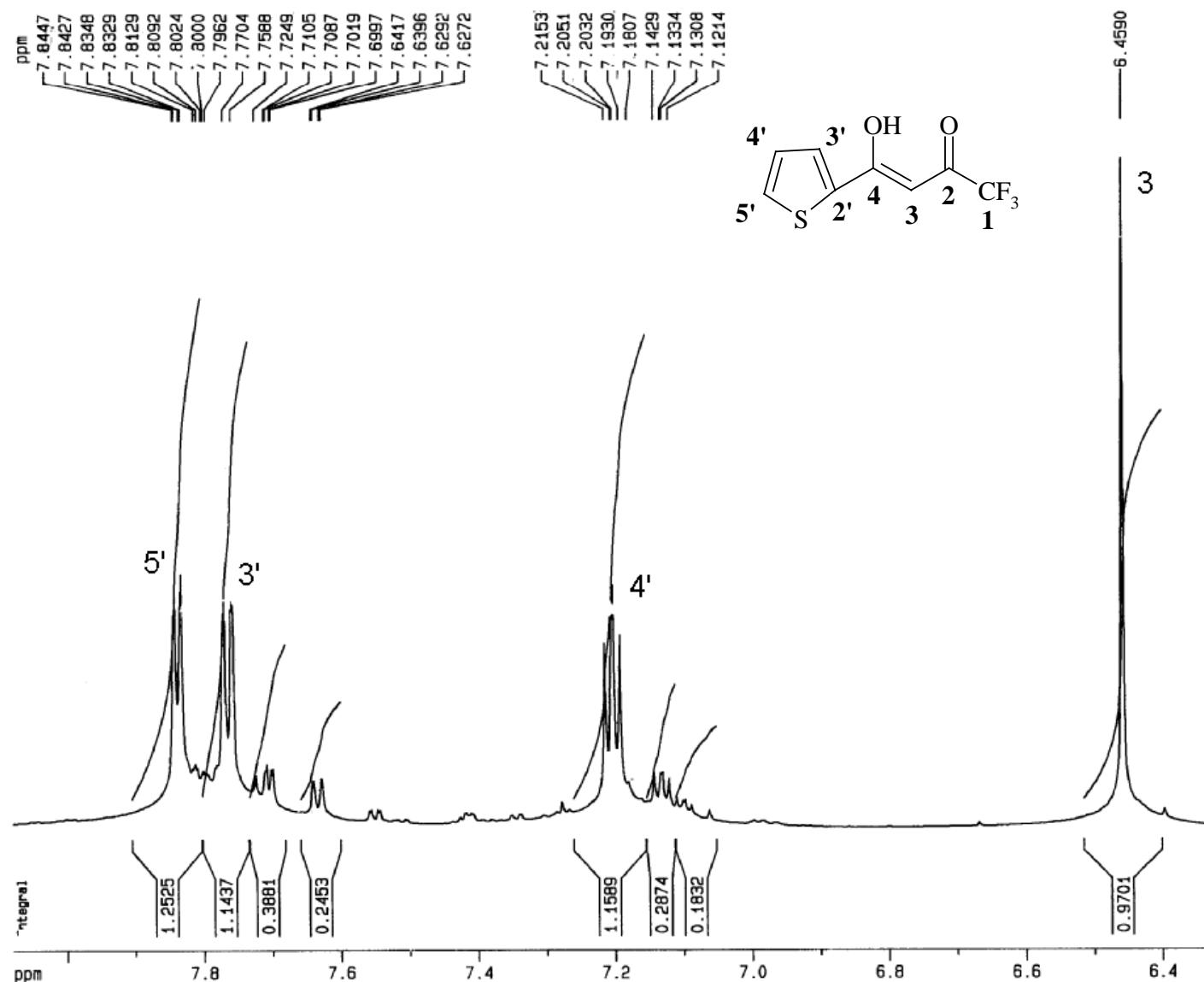
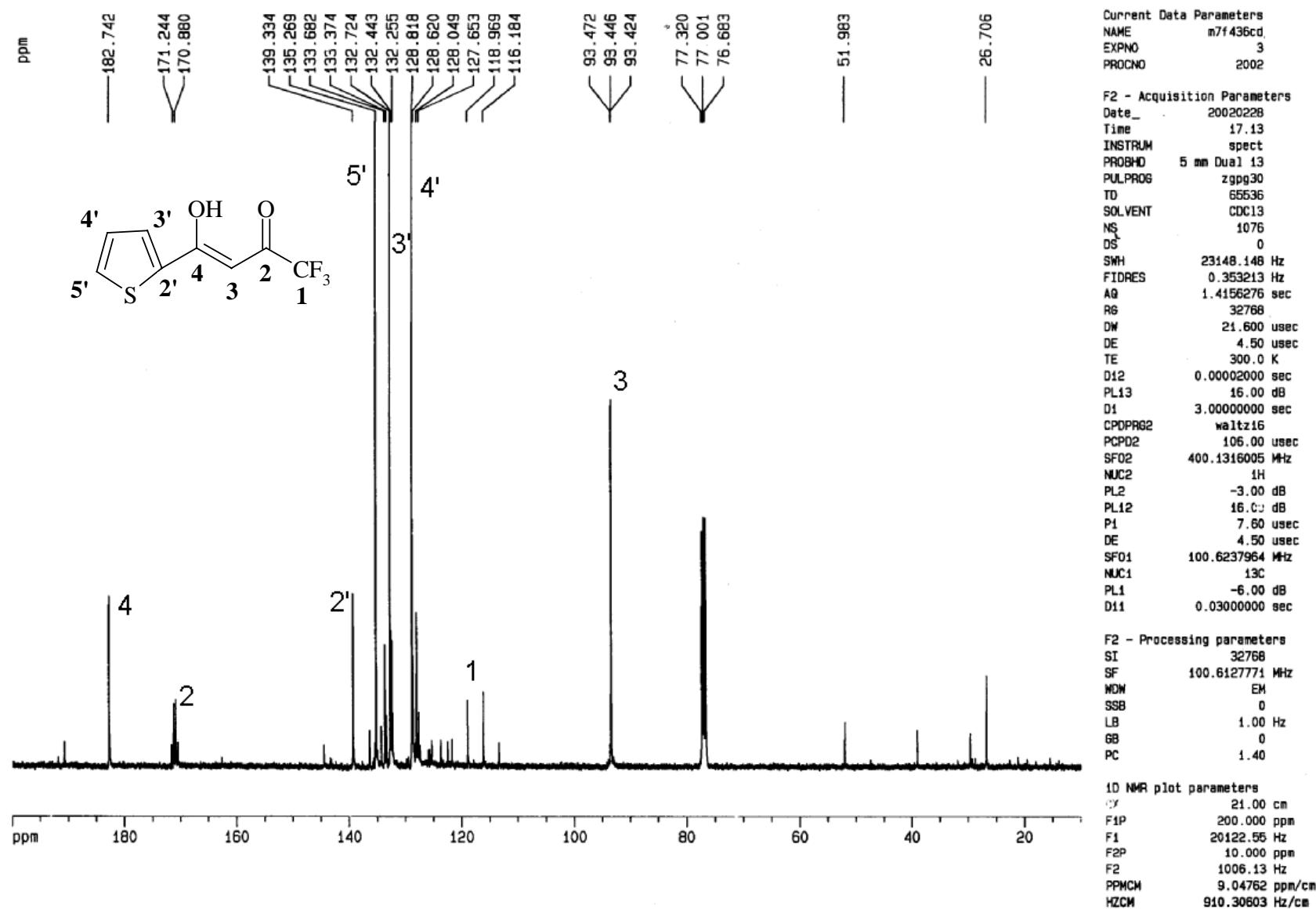


Figura 33. Espectro de  $^1\text{H}$ , expansão entre 6,4-7,8 ppm do 1,1,1-trifluor-4-[2-tienil]-buten-1,3-diona (**5b**) em  $\text{CDCl}_3$ .



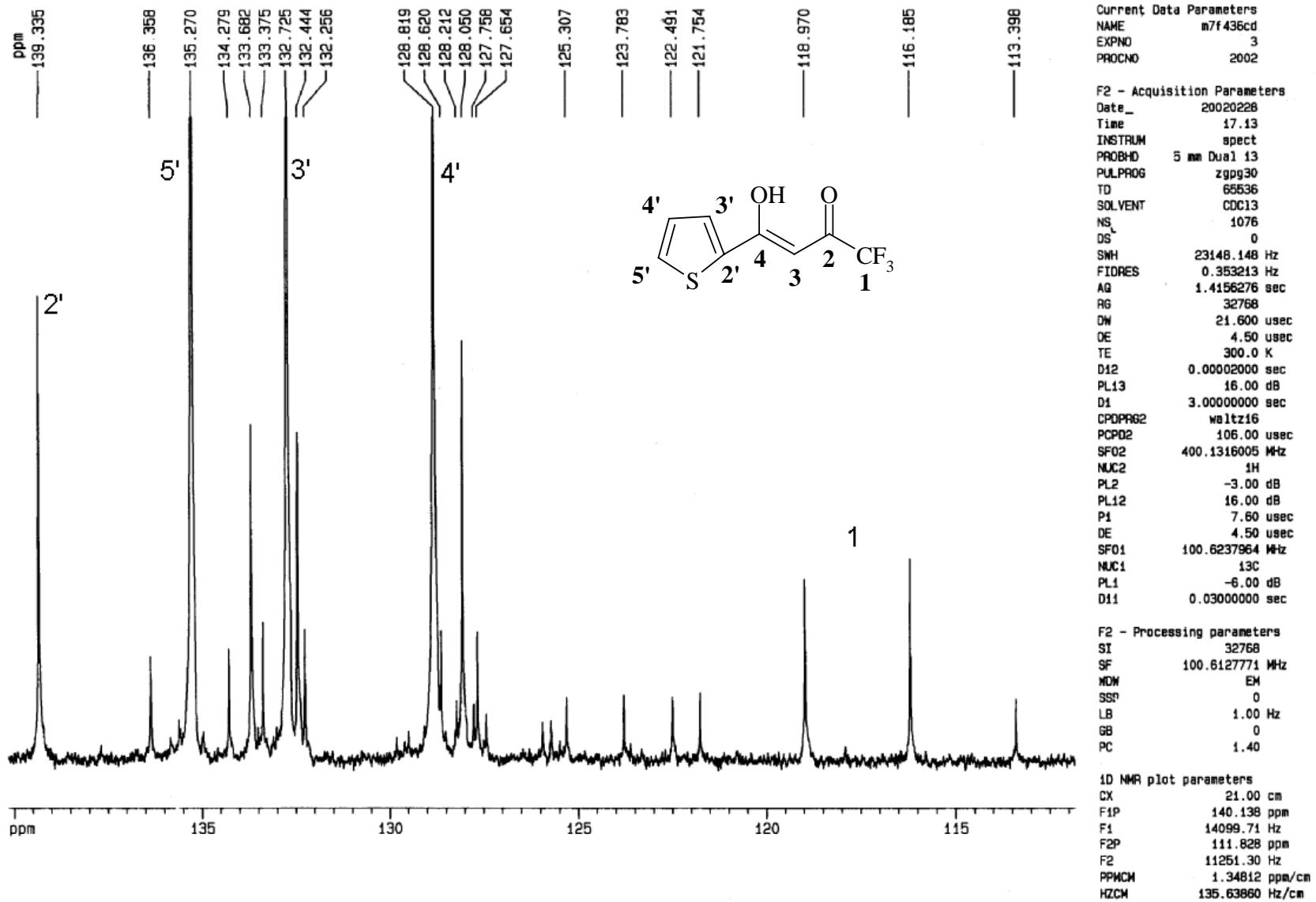
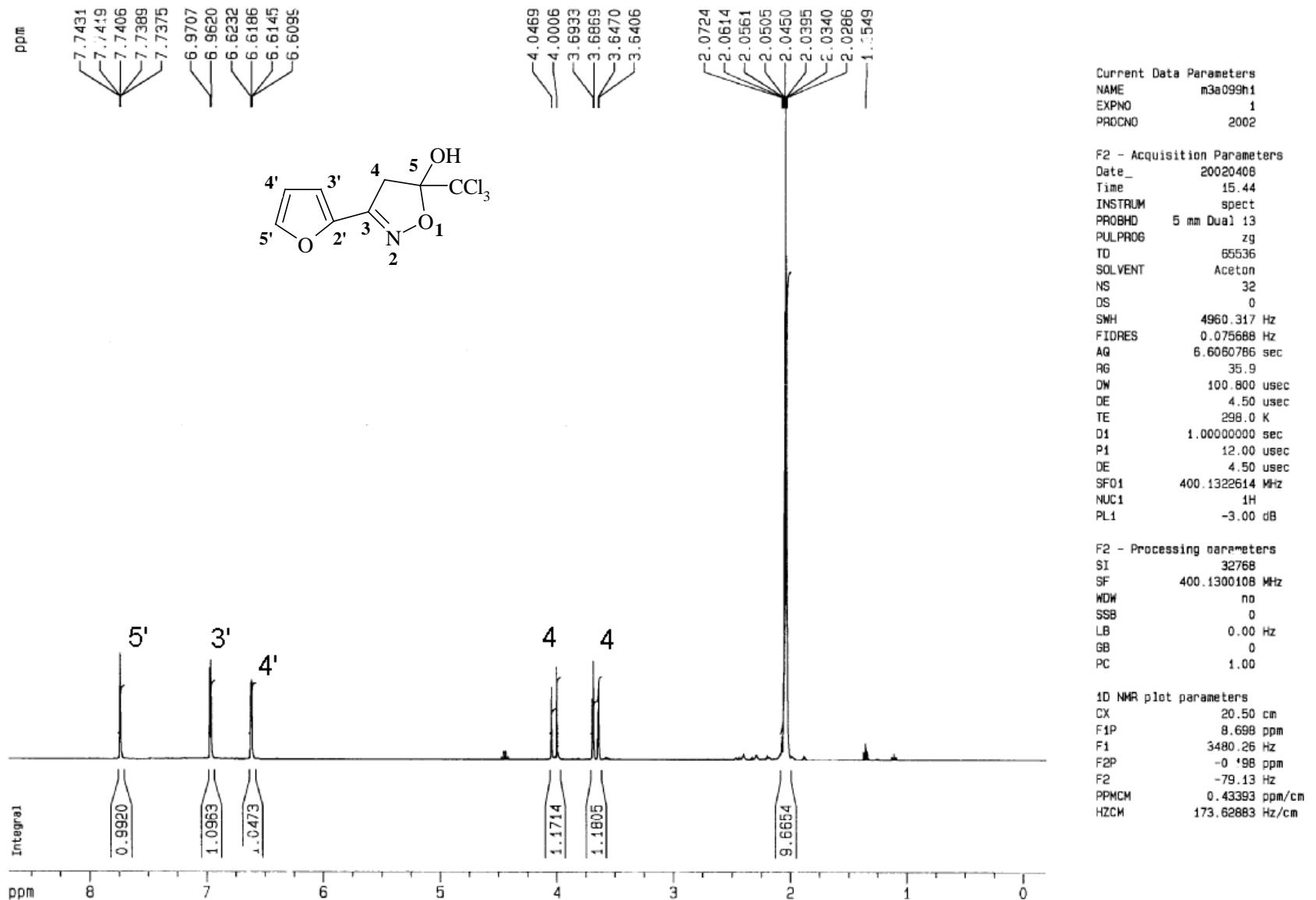


Figura 35. Espectros de RMN  $^{13}\text{C}$ , expansão entre 115-145 ppm do 1,1,1-trifluor-4-[2-tienil]-buten-1,3-diona (**5b**) em  $\text{CDCl}_3$ .



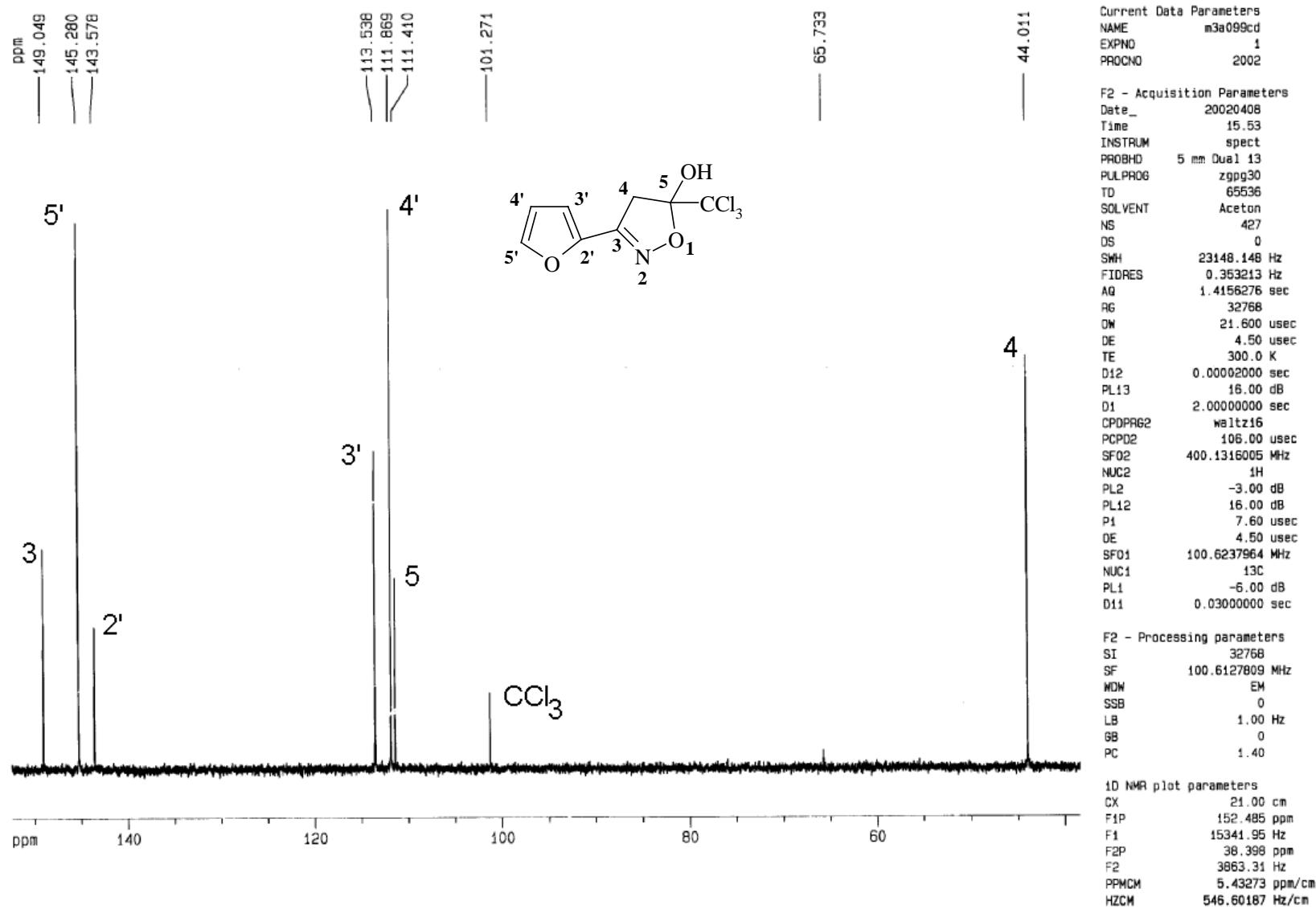


Figura 37. Espectros de RMN  $^{13}\text{C}$  do 5-triclorometil-3-[2-furil]-5-hidroxi-4,5-diidro-isoxazol (**6a**) em acetona.

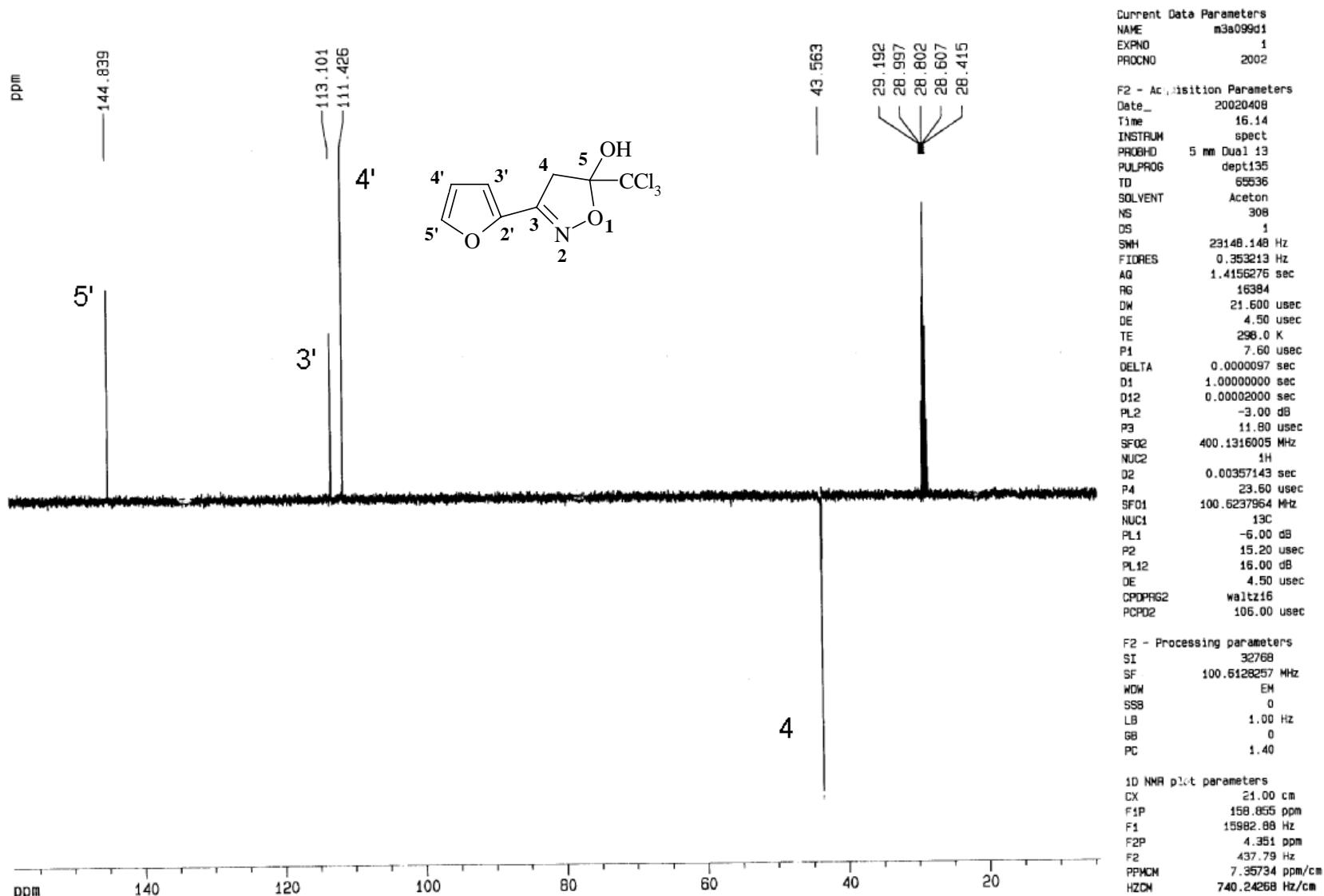


Figura 38. Espectros de RMN  $^{13}\text{C}$  (DEPT 135) do 5-triclorometil-3-[2-furil]-5-hidroxi-4,5-dihidro-isoxazol (**6a**) em acetona.

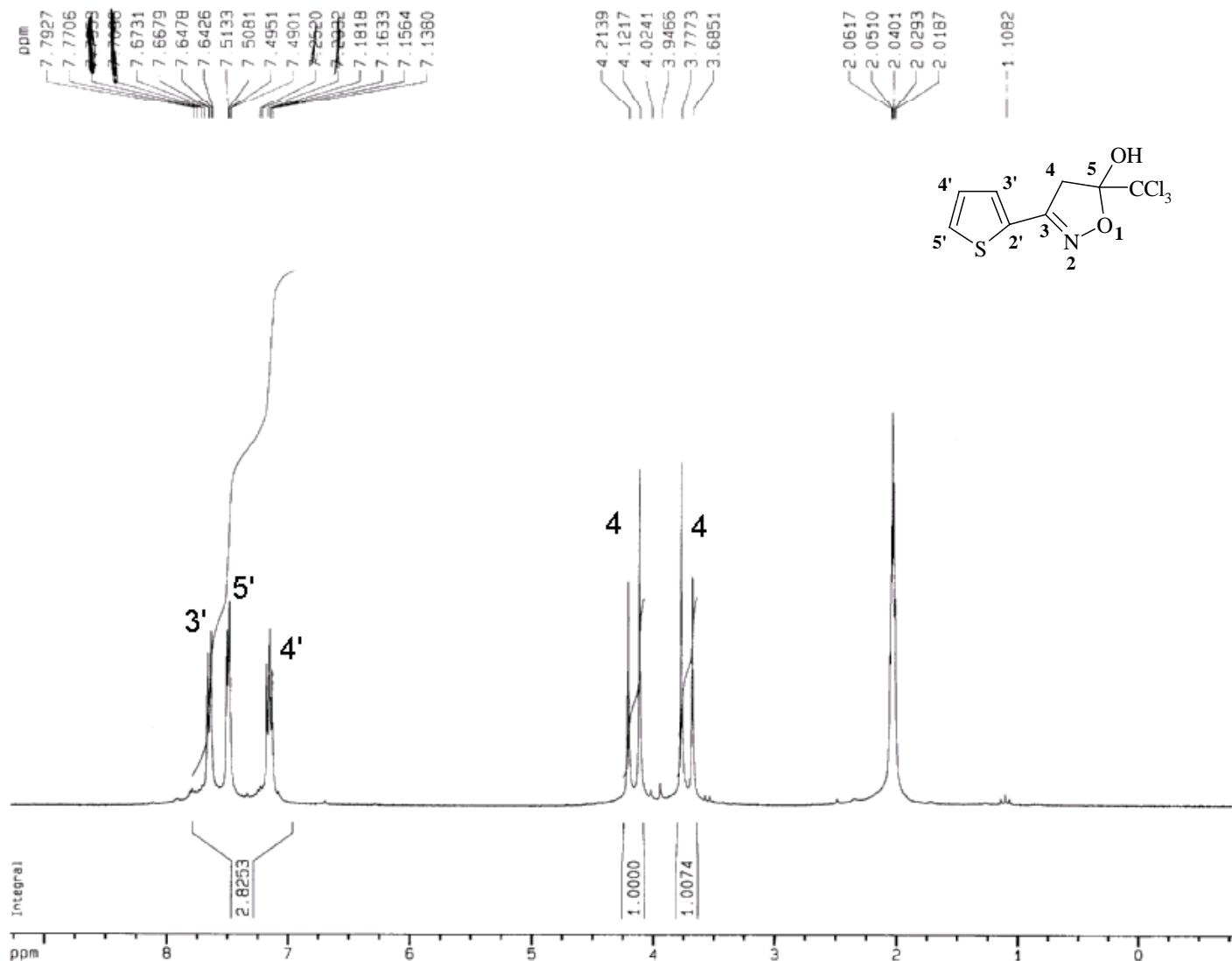


Figura 39. Espectros de RMN  $^1\text{H}$  do 5-triclorometil-3-[2-tienil]-5-hidroxi-4,5-diidro-isoxazol (**6b**) em acetona.

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EXPNO 1  
PROCNO 2000

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PROBHD   5 mm Multinu
PULPROG  zg
TD        32768
SOLVENT   Aceton
NS         8
DS         0
SWH      4222.973 Hz
FIDRES   0.128875 Hz
AQ        3.8797812 sec
RG        90.5
DW        118.400 usec
DE        7.07 usec
TE        300.0 K
D1        0.00100000 sec
P1        7.00 usec
DE        7.07 usec
SF01     200.1319154 MHz
NUC1      1H
PL1      -3.00 dB

```

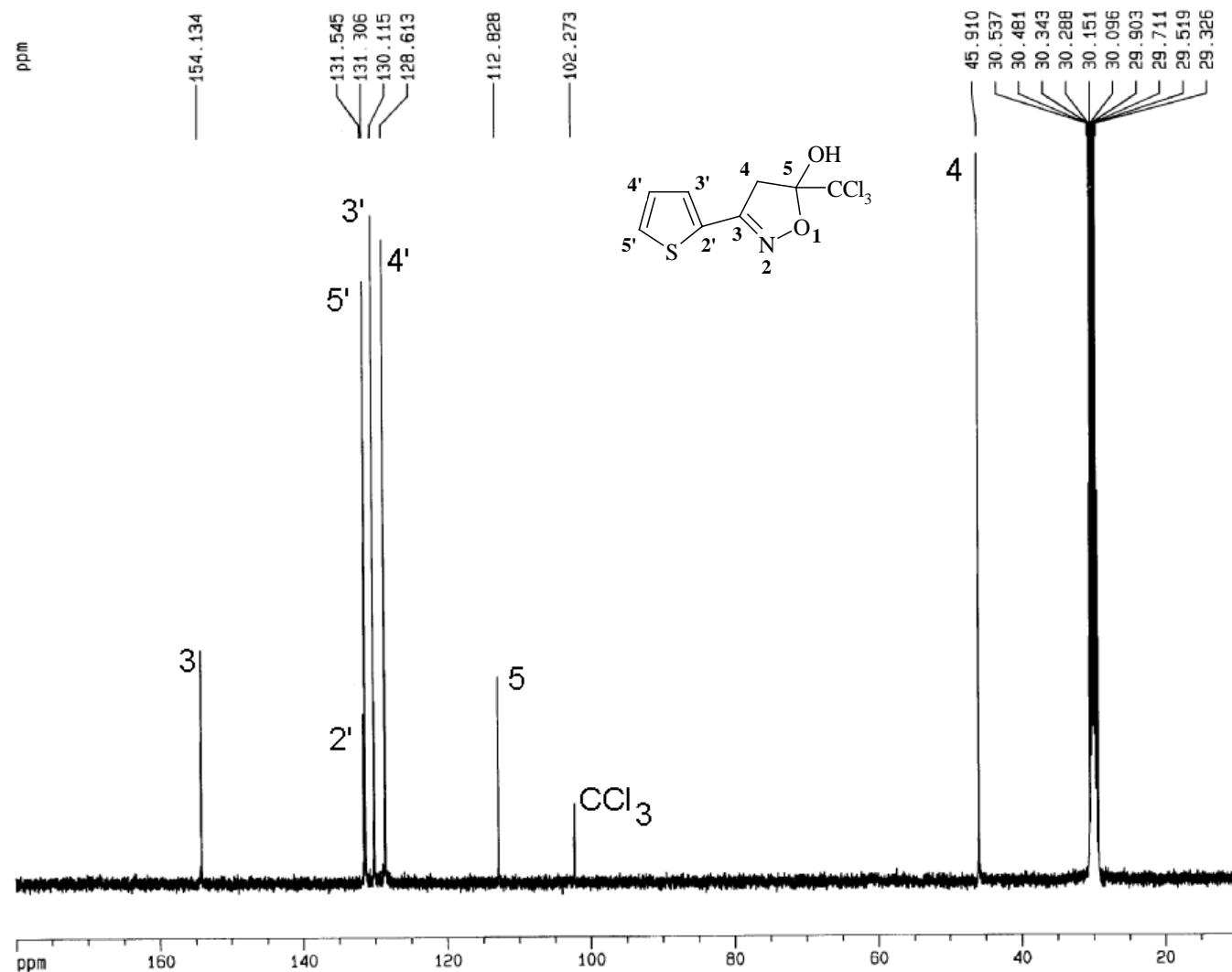
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F2 - Processing parameters
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NOM          no
SSB          0
LB           0.00 Hz
GB          0
PC          1.40

```

1D NMR plot parameters

CX	22.00	cm
F1P	9.280	ppm
F1	1857.18	Hz
F2P	-0.781	ppm
F2	-156.31	Hz
PPMCM	0.45731	ppm
HZCM	91.52204	Hz



**Current Data Parameters**

NAME	m3s040cd
EXPNO	1
PROCNO	2000

**F2 - Acquisition Parameters**

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PROBHD	5 mm Dual 13
PULPROG	zgpg30
TD	65536
SOLVENT	Aceton
NS	877
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	299.0 K
D12	0.00002000 sec
PL13	16.00 dB
D1	3.00000000 sec
CPOPRG2	waltz16
PCPD2	106.00 usec
SFO2	400.1316005 MHz
NUC2	1H
PL2	-3.00 dB
PL12	16.00 dB
P1	7.60 usec
DE	4.50 usec
SFO1	100.6237964 MHz
NUC1	13C
PL1	-6.00 dB
D11	0.03000000 sec

**F2 - Processing parameters**

SI	32768
SF	100.6126776 MHz
NOD	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

**1H NMR plot parameters**

CX	21.00 cm
F1P	180.000 ppm
F1	18110.28 Hz
F2P	10.000 ppm
F2	1006.13 Hz
PPMCM	8.09524 ppm/cm
HZCM	814.48358 Hz/cm

Figura 40. Espectros de RMN  $^{13}\text{C}$  do 5-triclorometil-3-[2-tienil]-5-hidroxi-4,5-diidro-isoxazol (**6b**) em acetona.

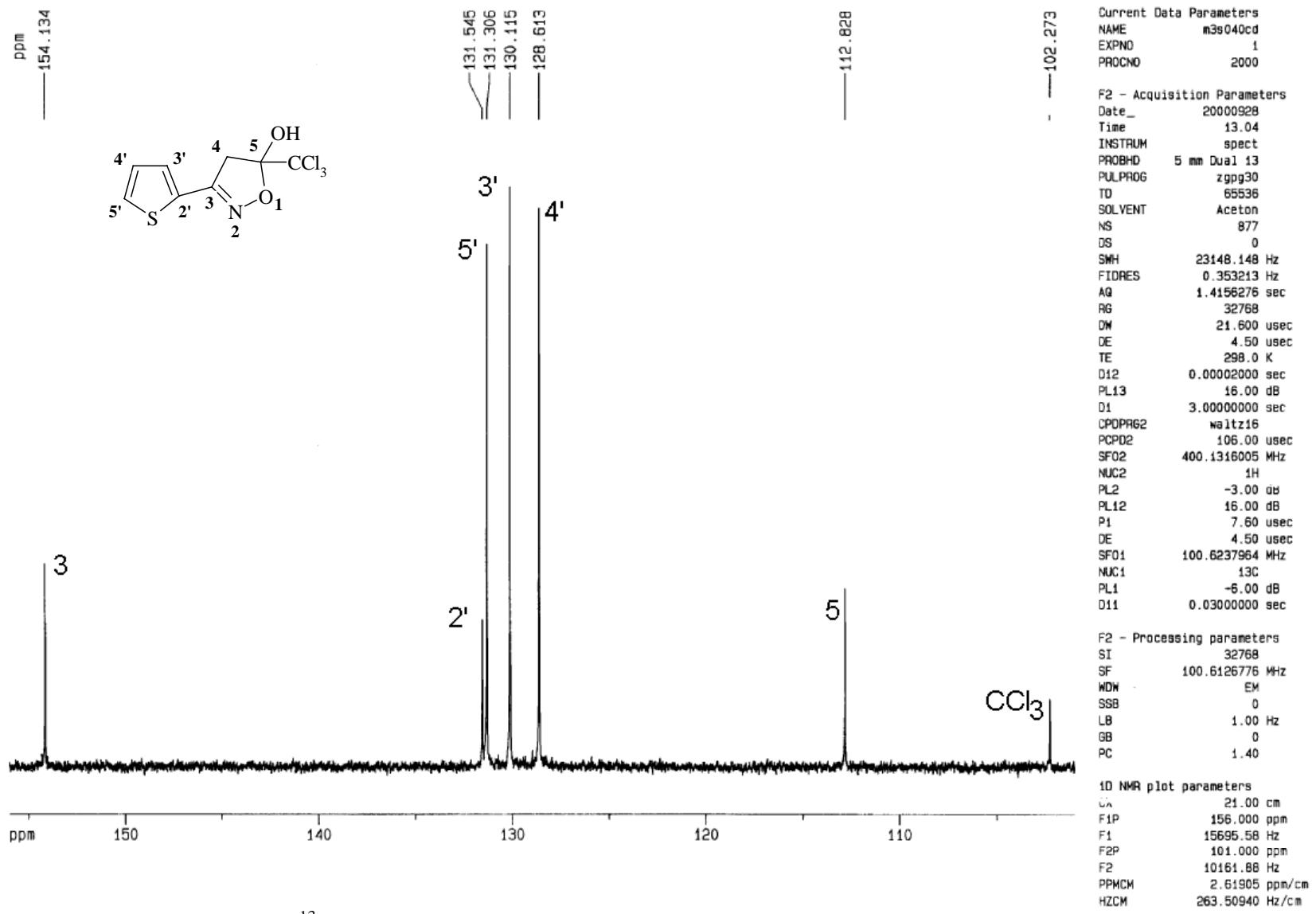


Figura 41. Espectros de RMN  $^{13}\text{C}$  do 5-triclorometil-3-[2-tienil]-5-hidroxi-4,5-diidro-isoxazol (**6b**) em acetona.

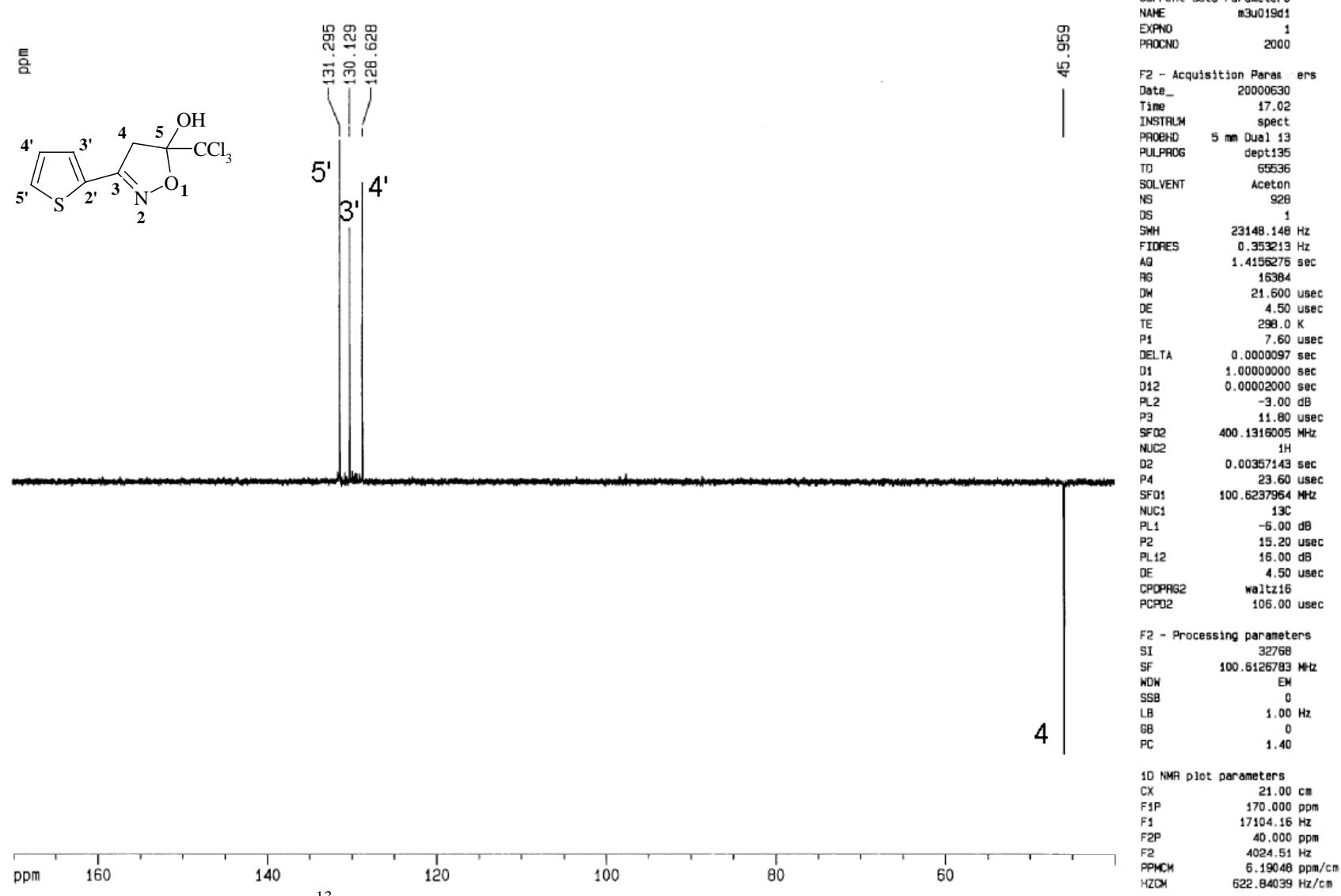
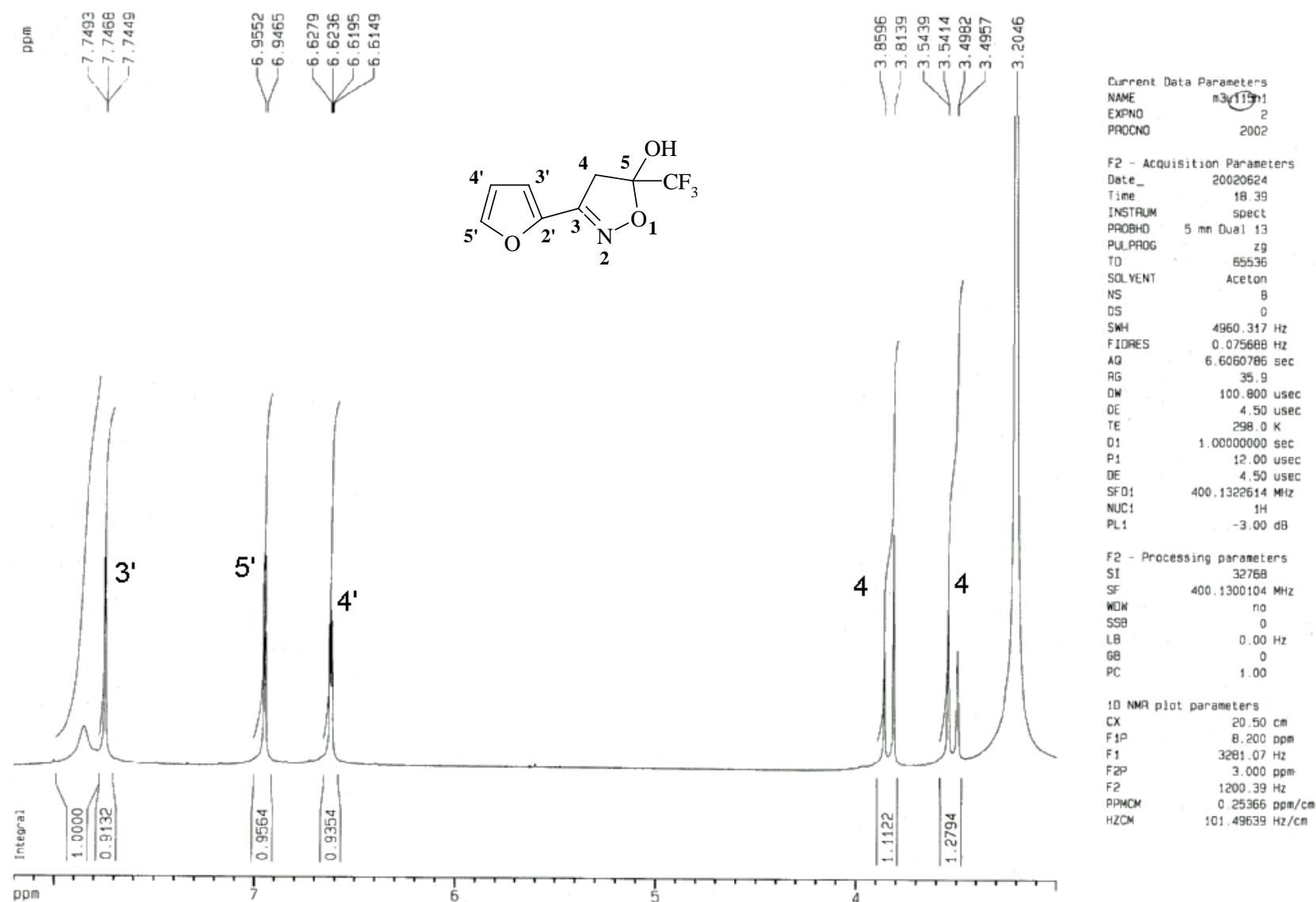


Figura 42. Espectros de RMN  $^{13}\text{C}$  (DEPT 135) do 5-triclorometil-3-[2-tienil]-5-hidroxi-4,5-dihdro-isoxazol (**6b**) em acetona.



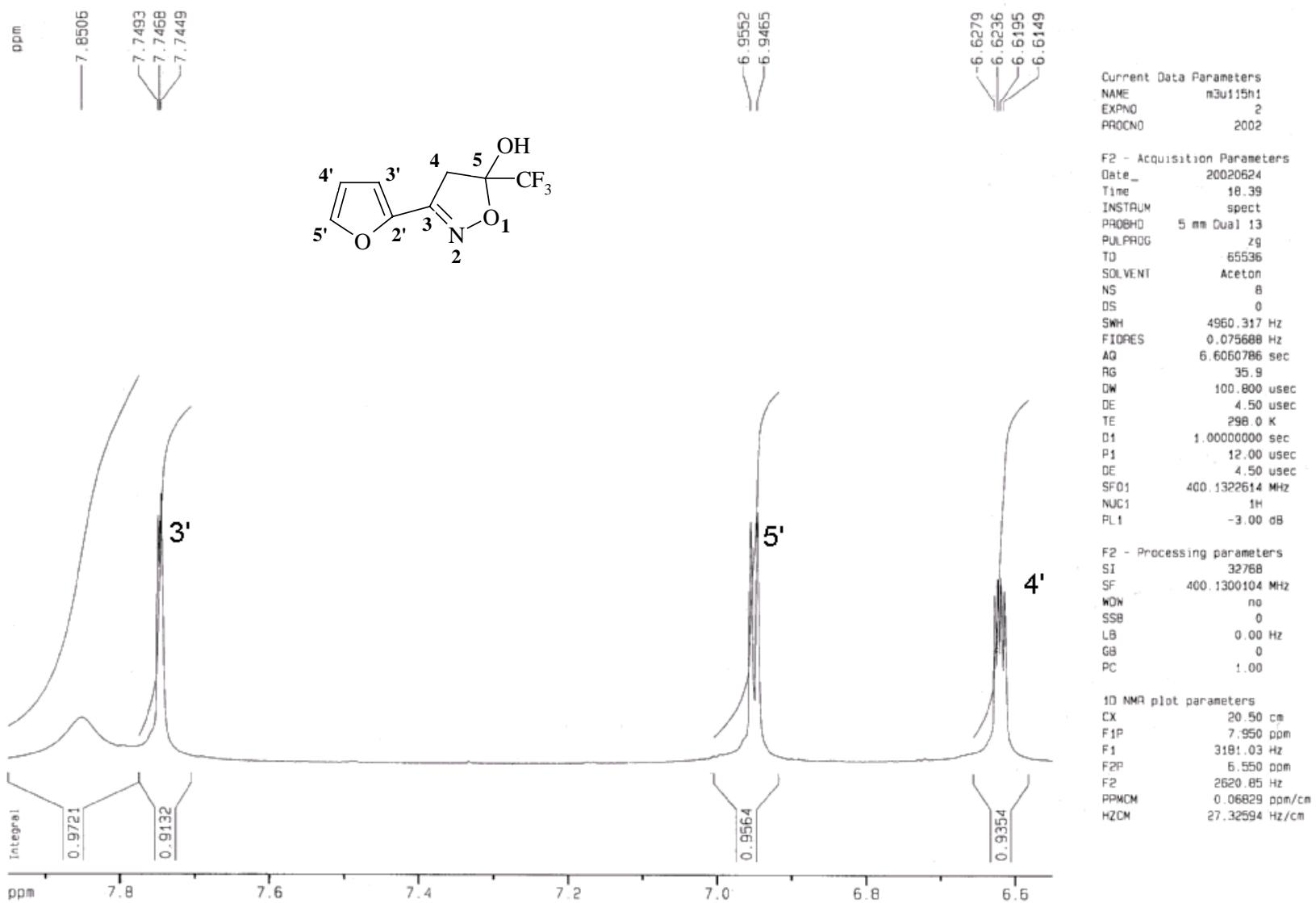


Figura 44. Espectros de RMN  $^1\text{H}$ , expansão entre 6,6-7,8 ppm do 5-trifluormetil-3-[2-furil]-5-hidroxi-4,5-diidro-isoxazol (**7a**) em acetona.

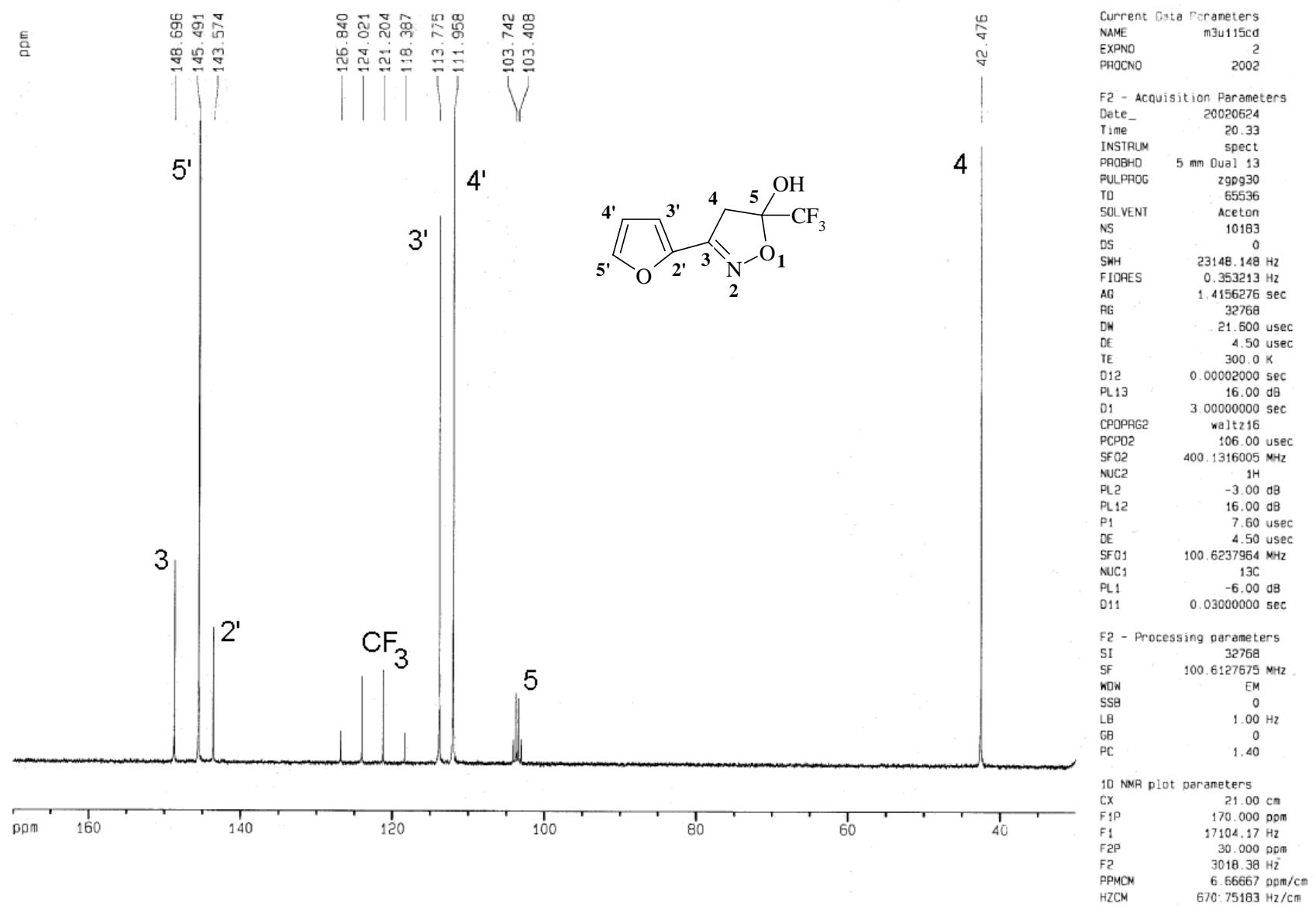


Figura 45. Espectros de RMN  $^{13}\text{C}$  do 5-trifluormetil-3-[2-furil]-5-hidroxi-4,5-diidro-isoxazol (**7a**) em acetona.