



UFAL

INSTITUTO DE QUÍMICA E BIOTECNOLOGIA PROGRAMA DE PÓS-GRADUAÇÃO EM QUÍMICA E BIOTECNOLOGIA

**PLANEJAMENTO E AVALIAÇÃO DE NOVOS DERIVADOS 2-
IMINOTIOFEN-TIAZOLIDÍNICOS COMO INIBIDORES DE
CISTEÍNA PROTEASES DE *TRYPANOSOMA CRUZI* E
*LEISHMANIA AMAZONENSIS***

(Volume 2)

Universidade Federal de Alagoas
Campus A. C. Simões
Tabuleiro do Martins
57072-970 - Maceió-AL

PAULO FERNANDO DA SILVA SANTOS JUNIOR

**PLANEJAMENTO E AVALIAÇÃO DE NOVOS DERIVADOS 2-
IMINOTIOFEN-TIAZOLIDÍNICOS COMO INIBIDORES DE
CISTEÍNA PROTEASES DE *TRYPANOSOMA CRUZI* E
*LEISHMANIA AMAZONENSIS***

Tese de Doutorado apresentada ao Programa de Pós-graduação em Química e Biotecnologia, do Instituto de Química e Biotecnologia, da Universidade Federal de Alagoas, como requisito parcial para obtenção da aprovação em exame de defesa de tese.

Orientador: Prof. Dr. João Xavier de Araújo Júnior

Coorientador: Prof. Dr. Thiago M. de Aquino

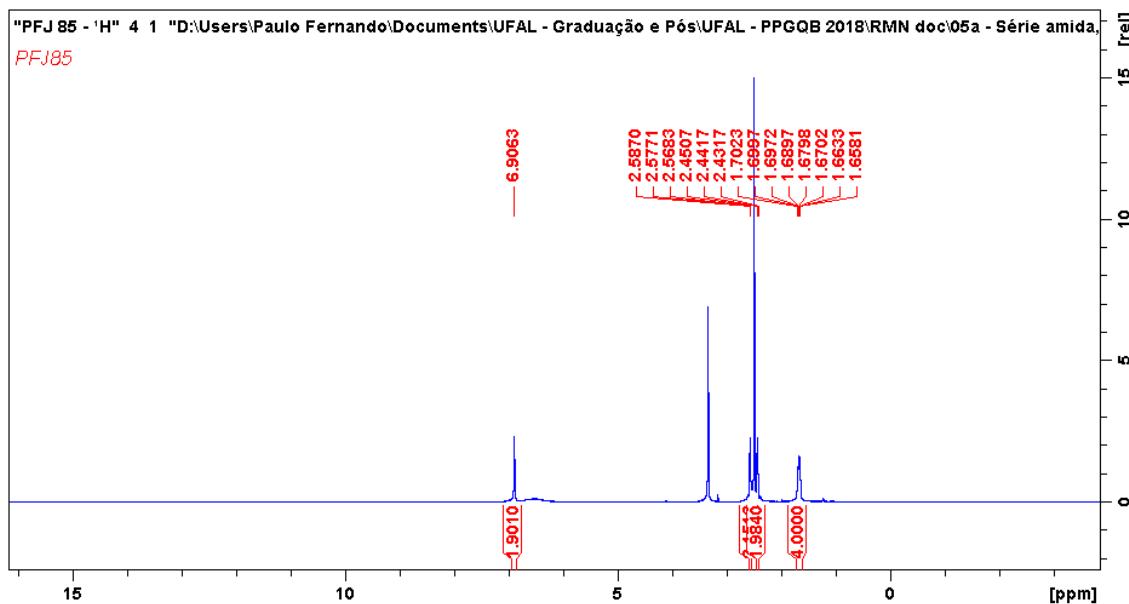
Maceió-AL

2022

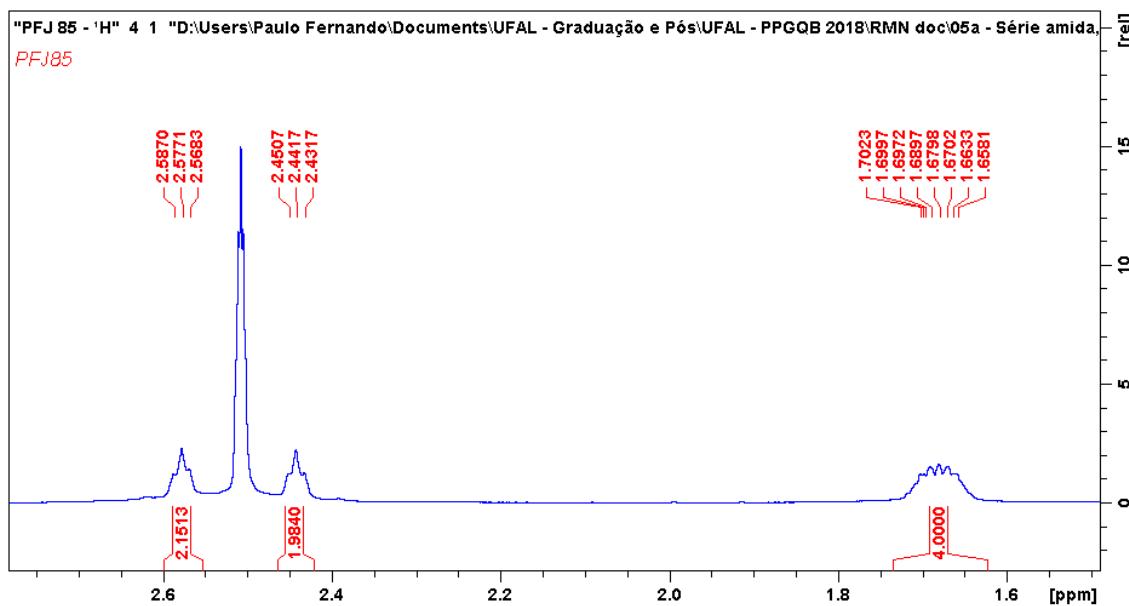
Material suplementar – Anexos referentes aos espectros de RMN e cromatogramas de HPLC utilizados neste trabalho.

Anexo A

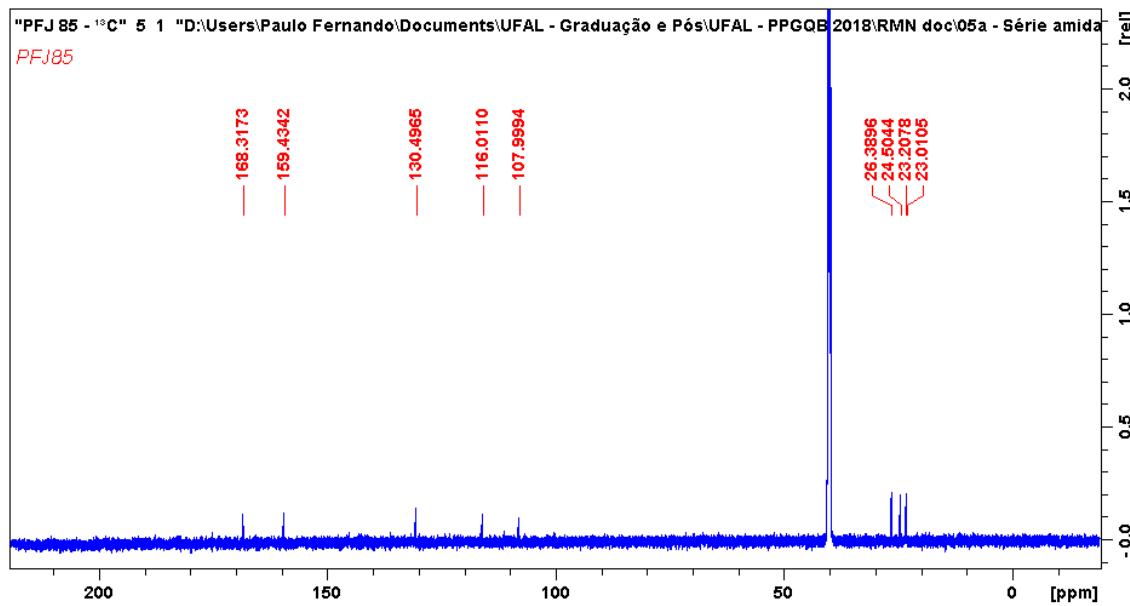
Espectro de RMN ^1H do composto (59) (600MHz, DMSO- d_6)



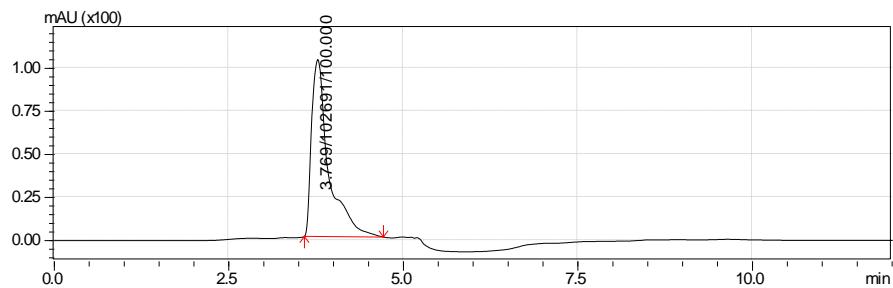
Ampliação de δ 1.6-2.6 ppm do Espectro de RMN ^1H do composto (59) (400MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (59) (150 MHz, DMSO- d_6)

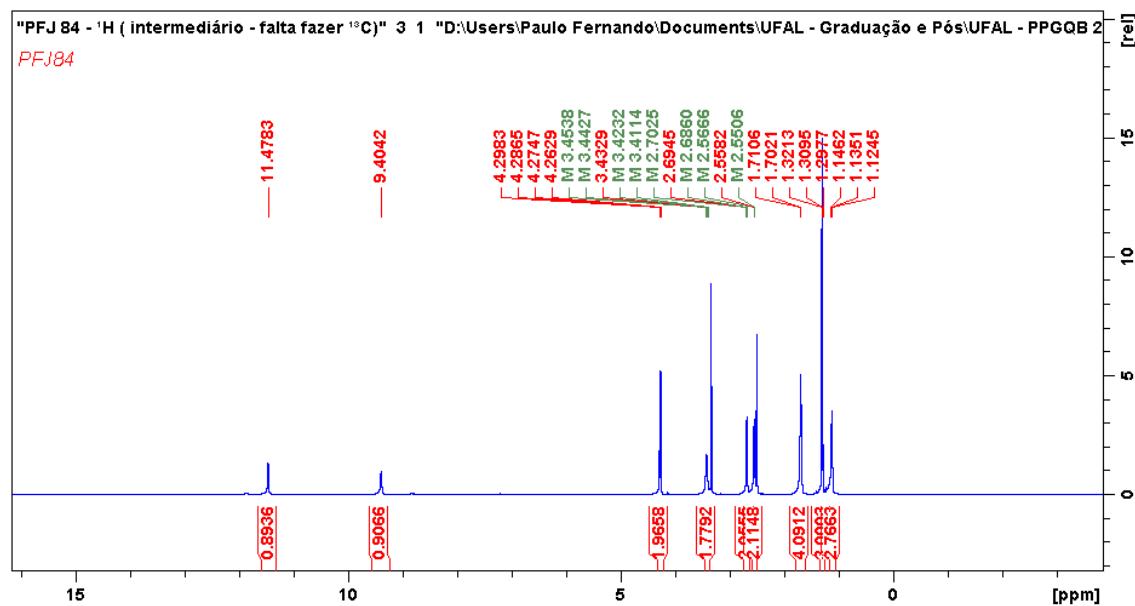


Cromatograma de HPLC-UV em MeOH 100% do Composto (59)

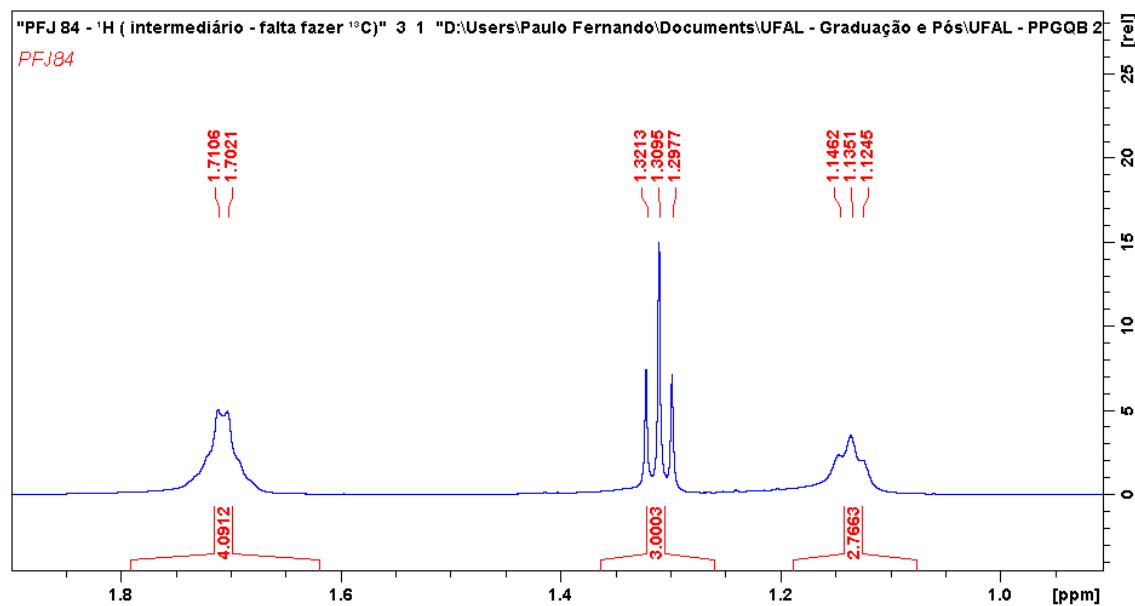


Anexo B

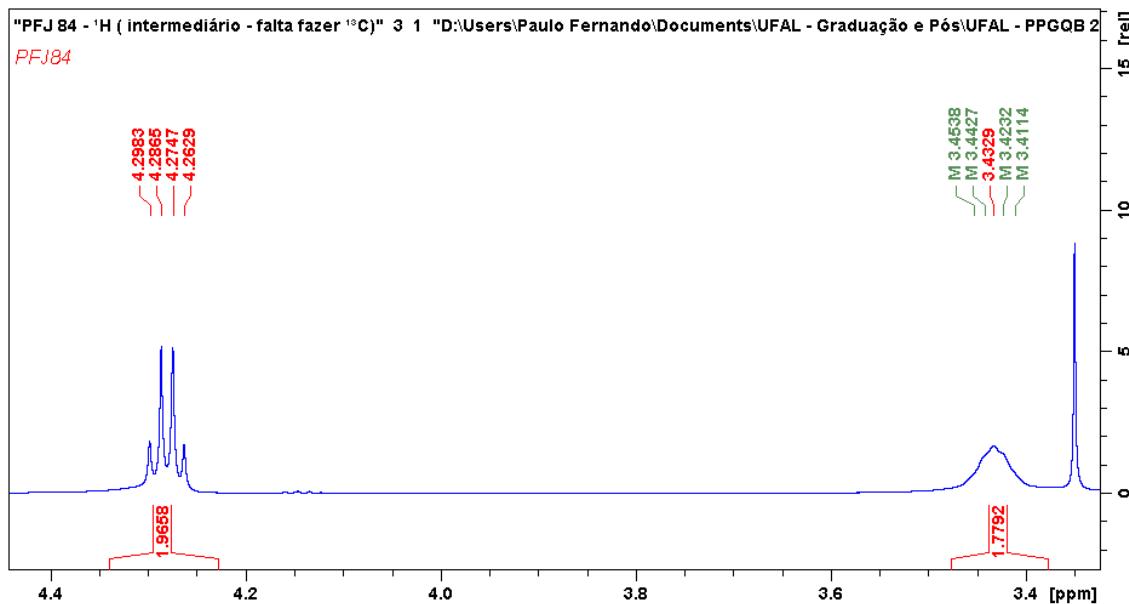
Espectro de RMN ^1H do composto (62) (600MHz, DMSO- d_6)



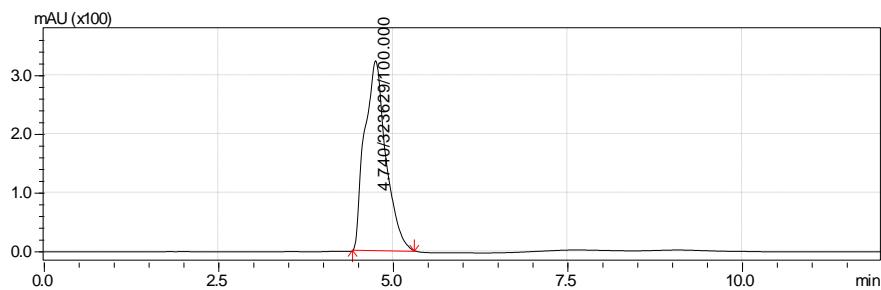
Ampliação de δ 1.0-1.8 ppm do Espectro de RMN ^1H do composto (62) (400MHz, DMSO- d_6)



Ampliação de δ 3.4 – 4.4 do Espectro de RMN ^1H do composto (62) (400MHz, DMSO- d_6)

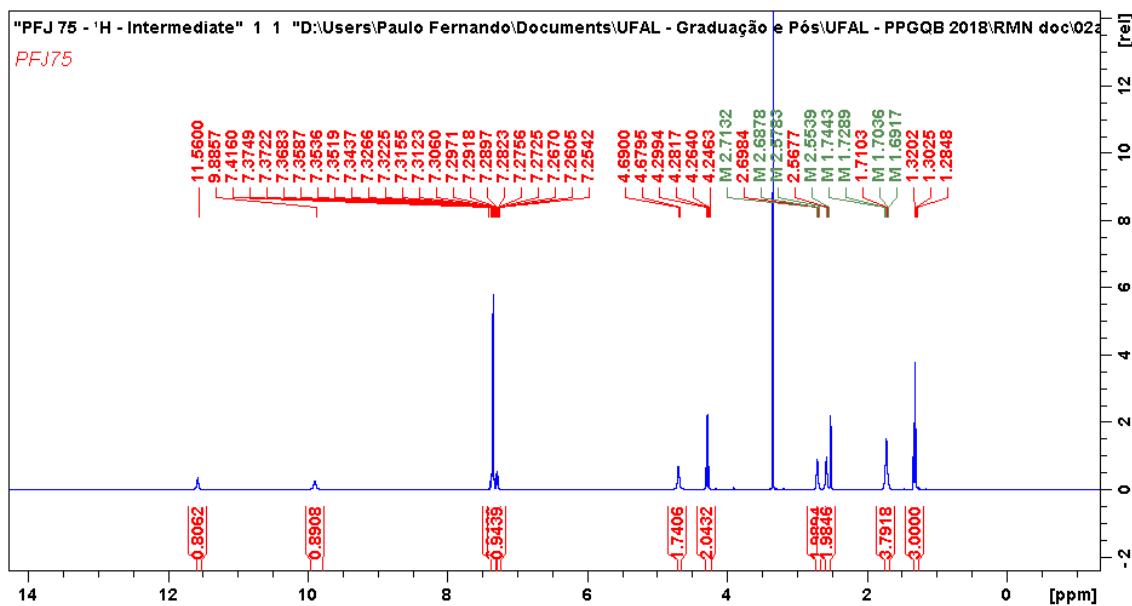


Cromatograma de HPLC-UV em MeOH 100% do Composto (62)

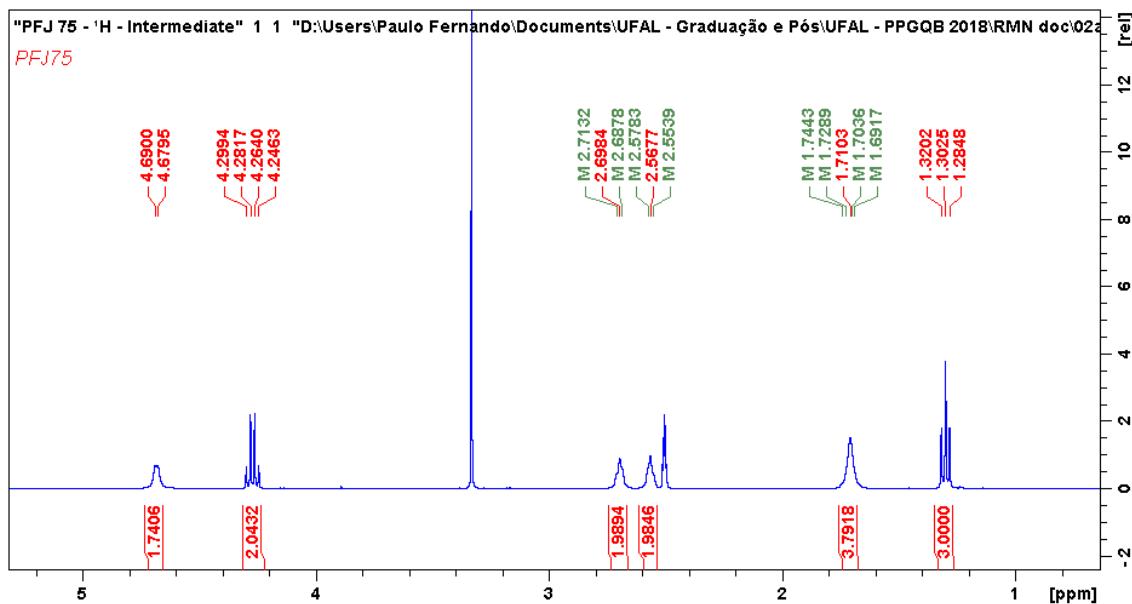


Anexo C

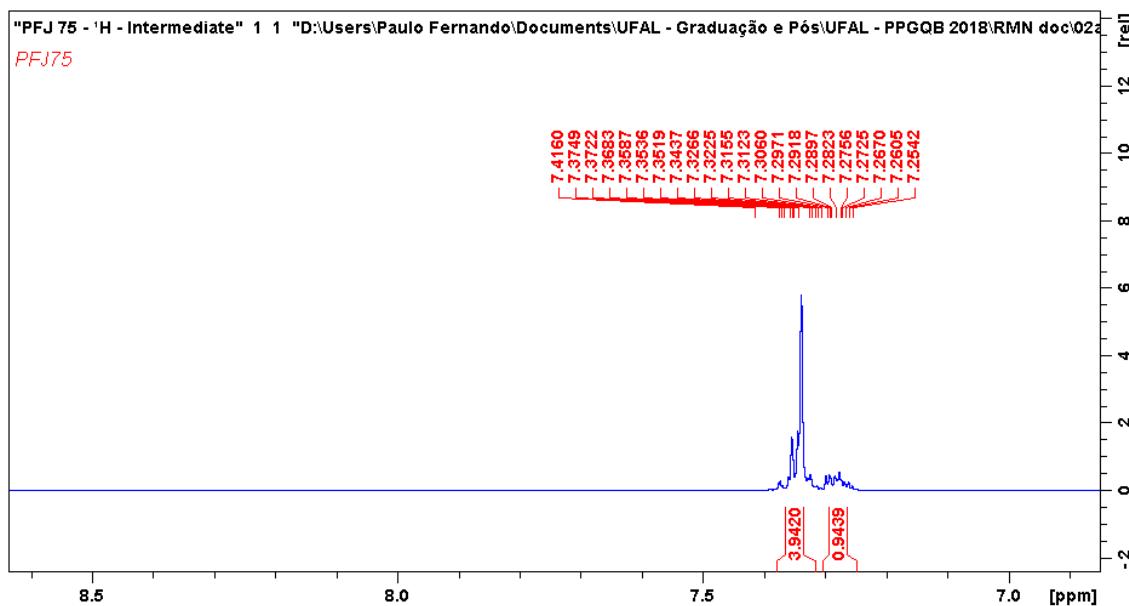
Espectro de RMN ^1H do composto (63) (600MHz, DMSO- d_6)



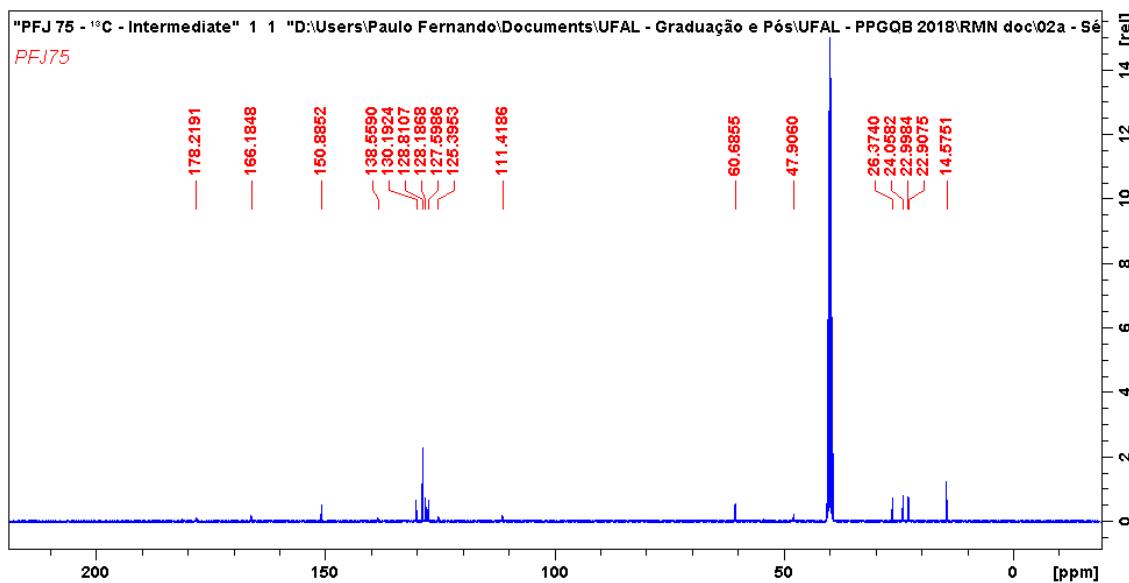
Ampliação de δ 1.0-5.0 ppm do Espectro de RMN ^1H do composto (63) (600MHz, DMSO- d_6)



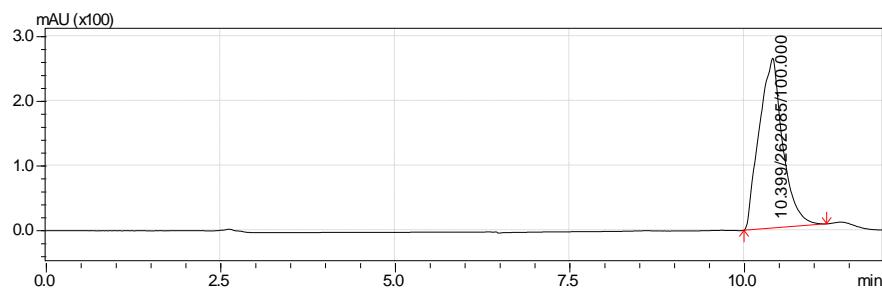
Ampliação de δ 67.0-8.5 ppm do Espectro de RMN ^1H do composto (63) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (63) (150 MHz, DMSO- d_6)

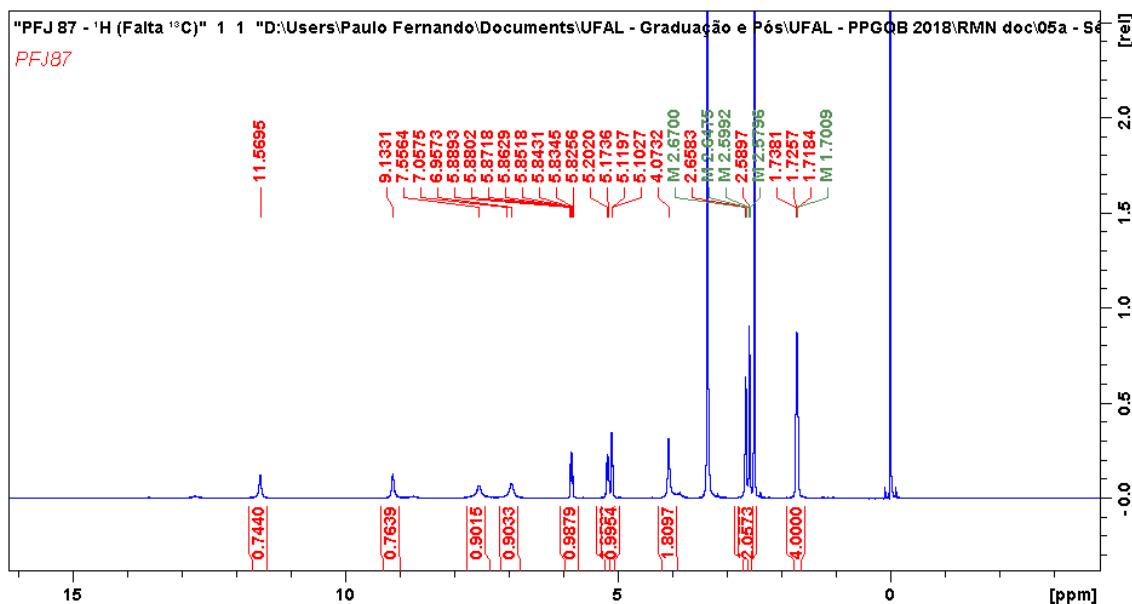


Cromatograma de HPLC-UV em MeOH 100% do Composto (63)

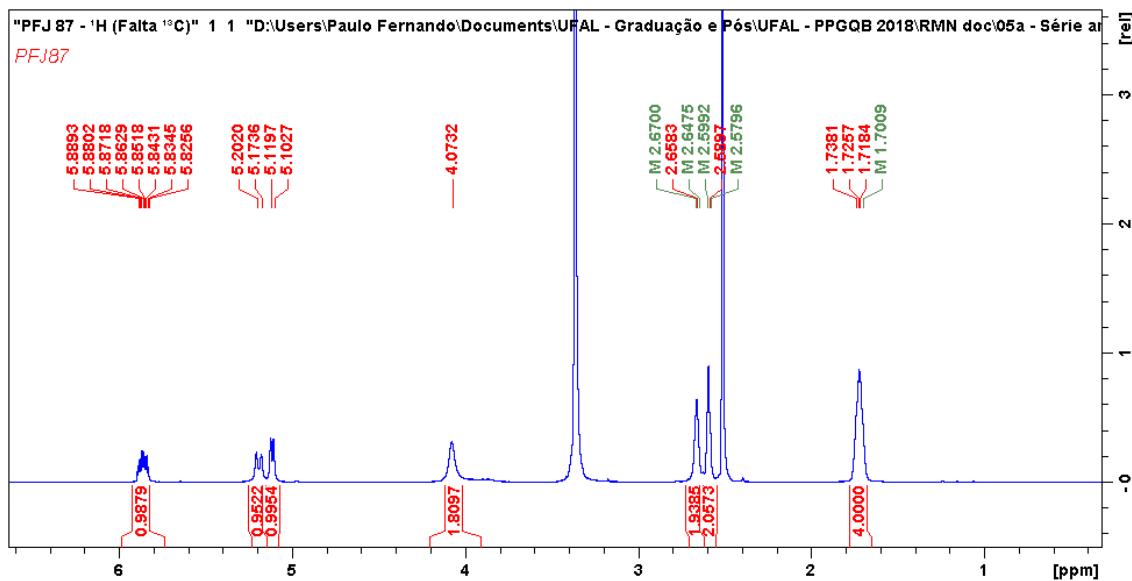


Anexo D

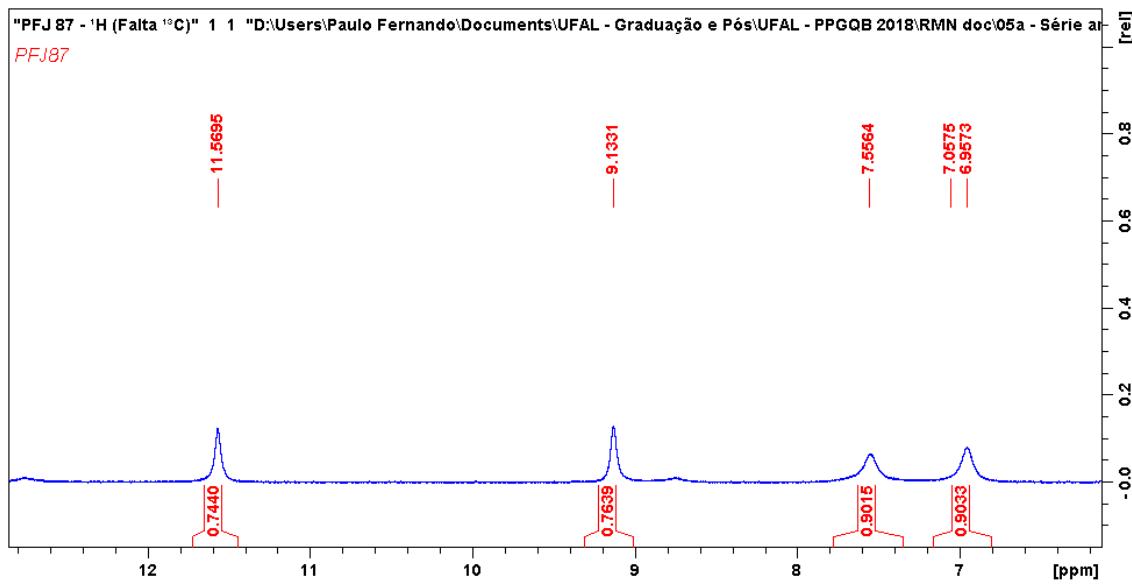
Espectro de RMN ^1H do composto (65) (600MHz, DMSO- d_6)



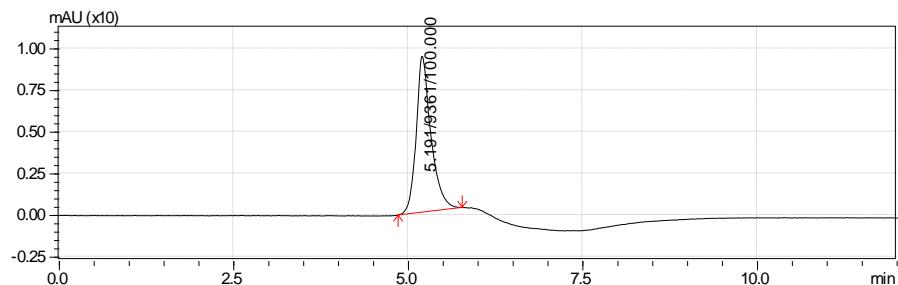
Ampliação de δ 1.0 –6.0 ppm do Espectro de RMN ^1H do composto (65) (600MHz, DMSO- d_6)



Ampliação de δ 6.0 – 12 ppm do Espectro de RMN ^1H do composto (65) (600MHz, DMSO- d_6)

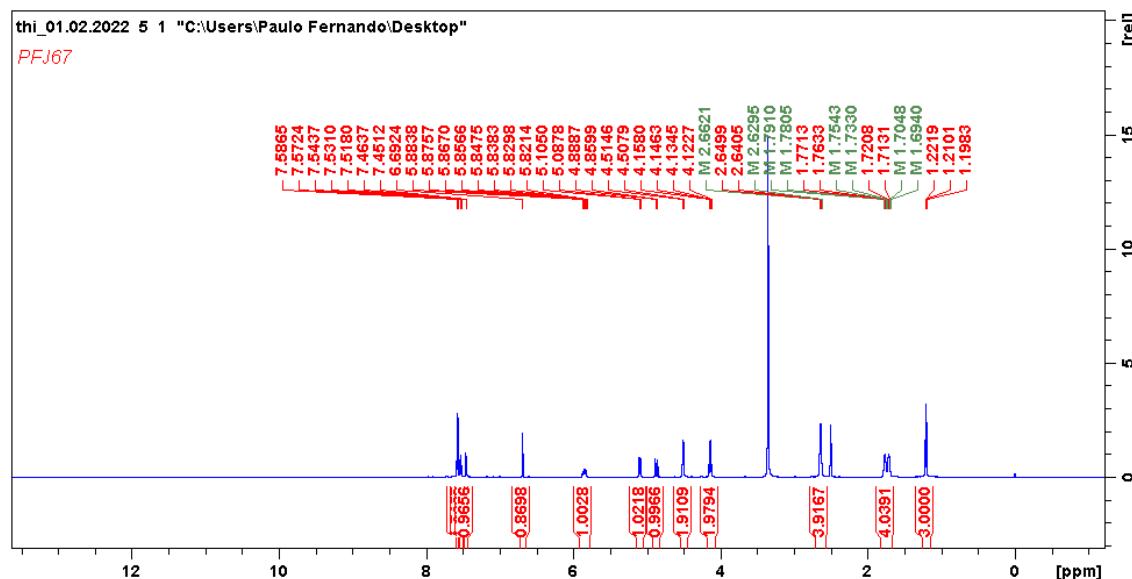


Cromatograma de HPLC-UV em MeOH 100% do Composto (65)

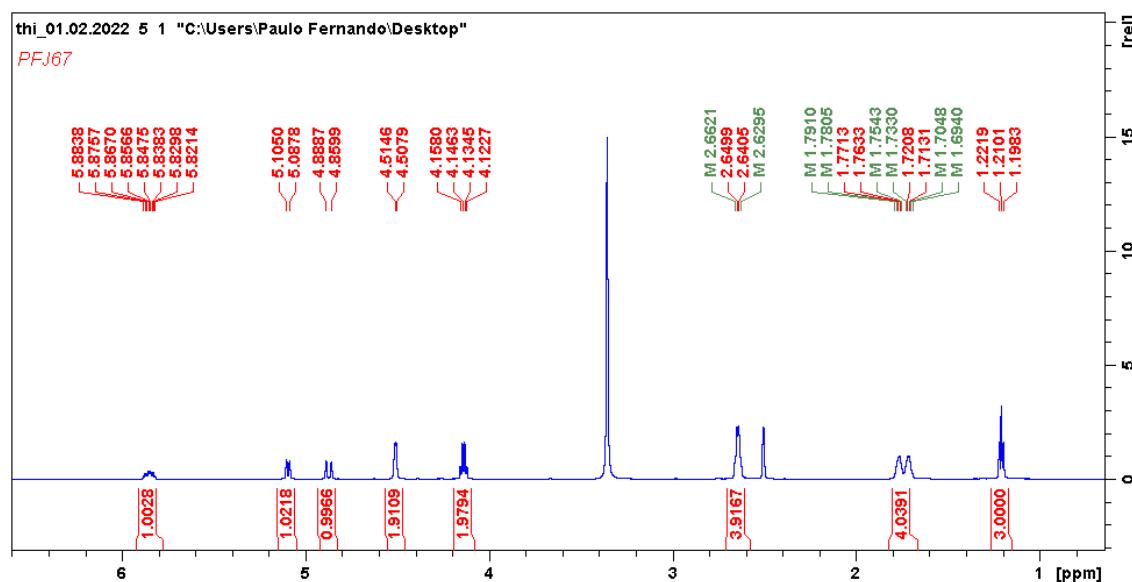


Anexo E

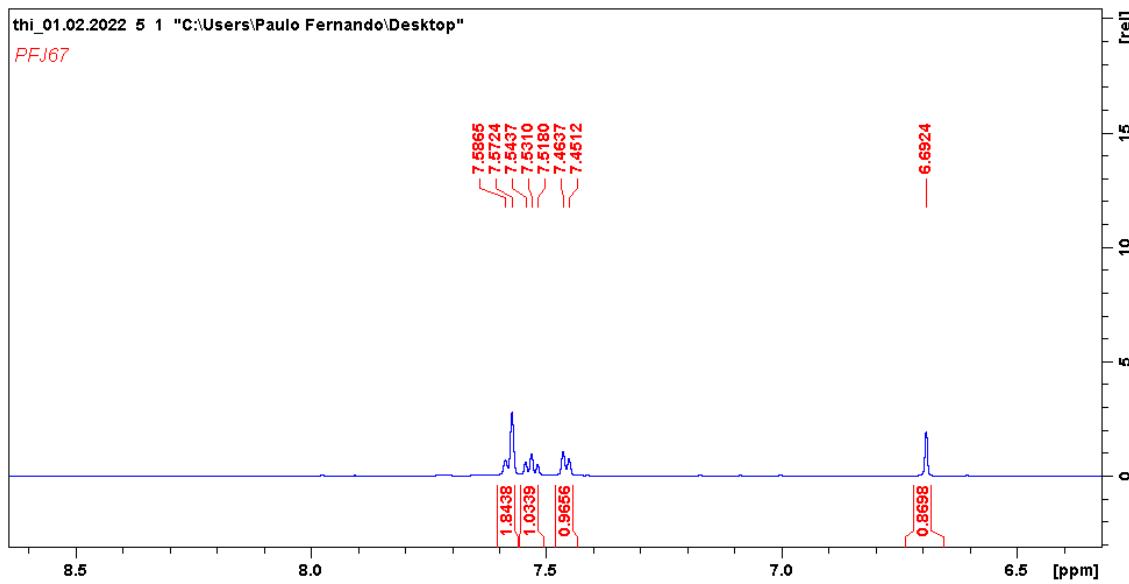
Espectro de RMN ^1H do composto (1a) (600MHz, DMSO- d_6)



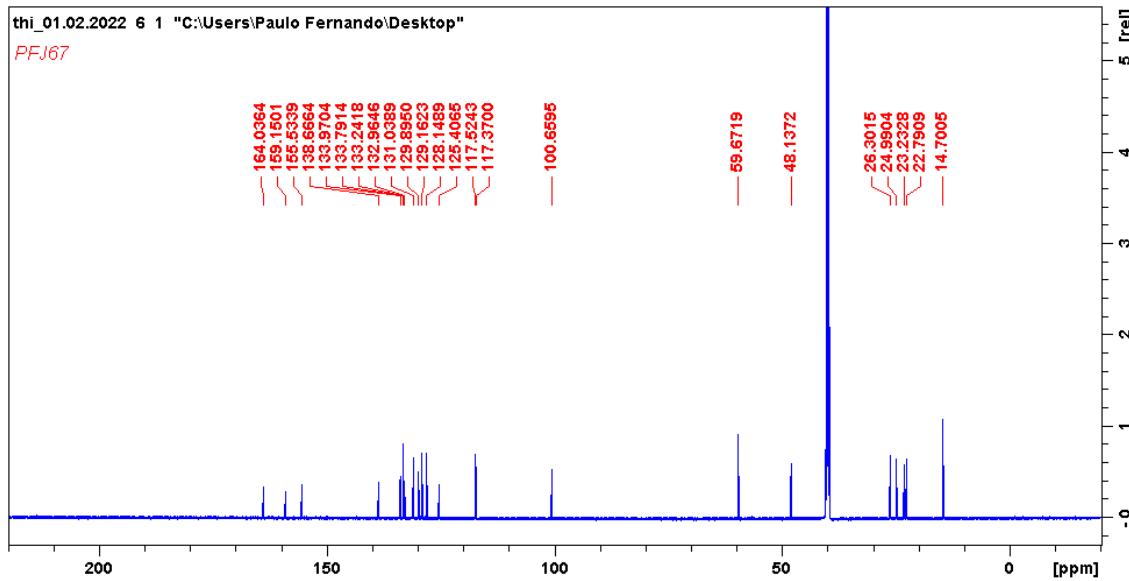
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (1a) (600MHz, DMSO- d_6)



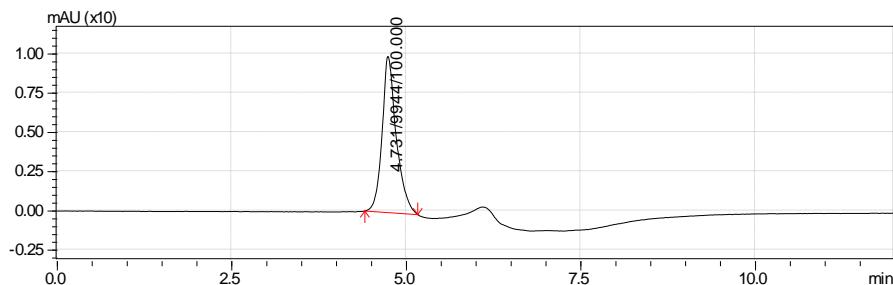
**Ampliação de δ 6.5-8.5 ppm do Espectro de RMN ^1H do composto (1a)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (1a) (150 MHz, DMSO- d_6)

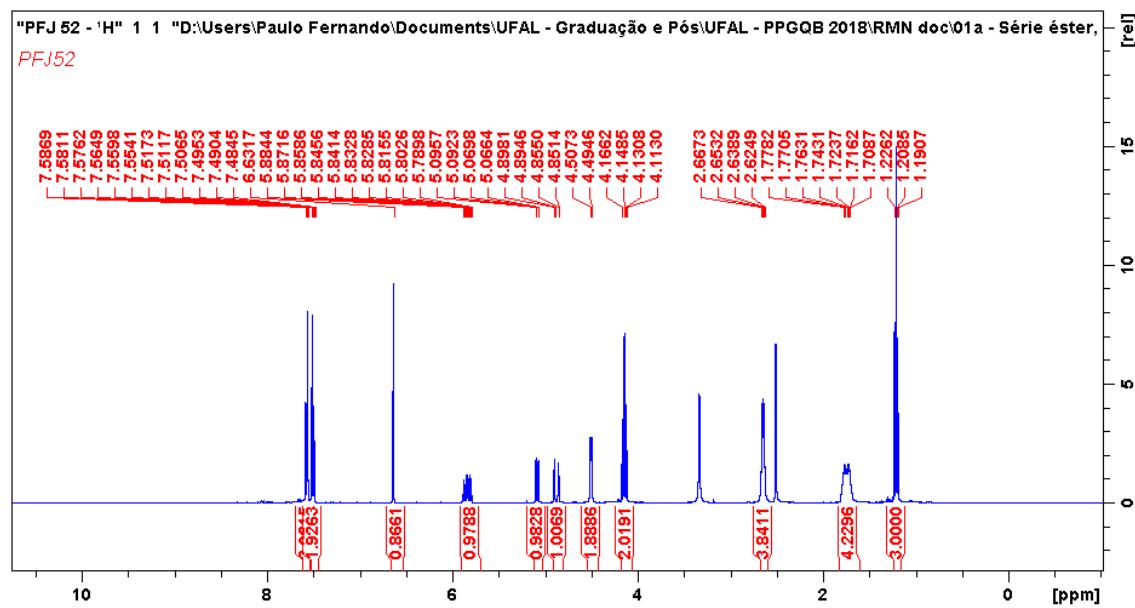


Cromatograma de HPLC-UV em MeOH 100% do Composto (1a)

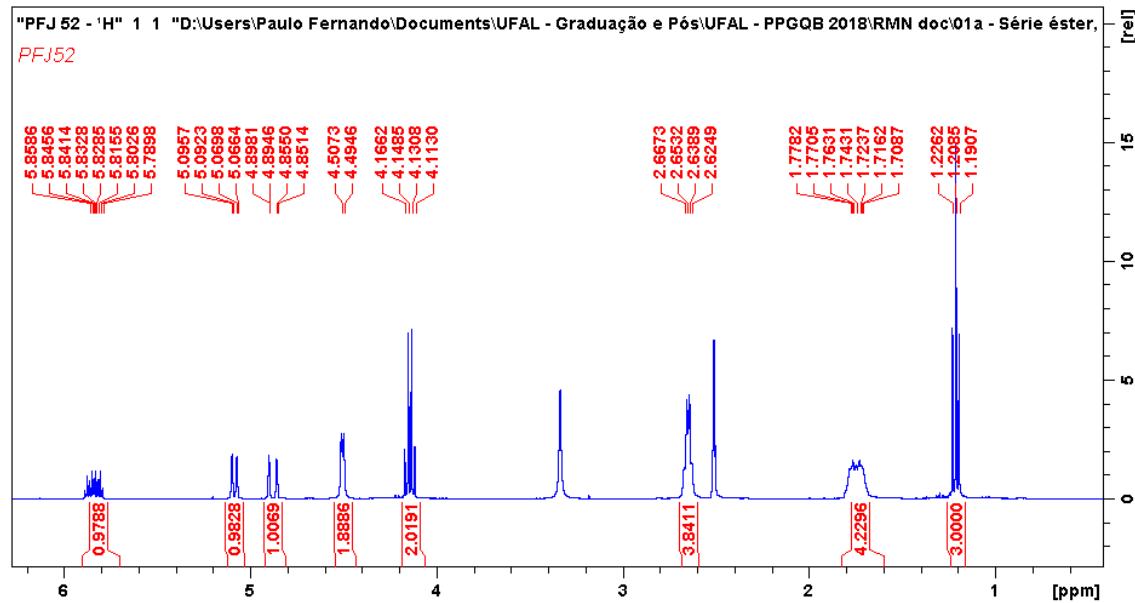


Anexo F

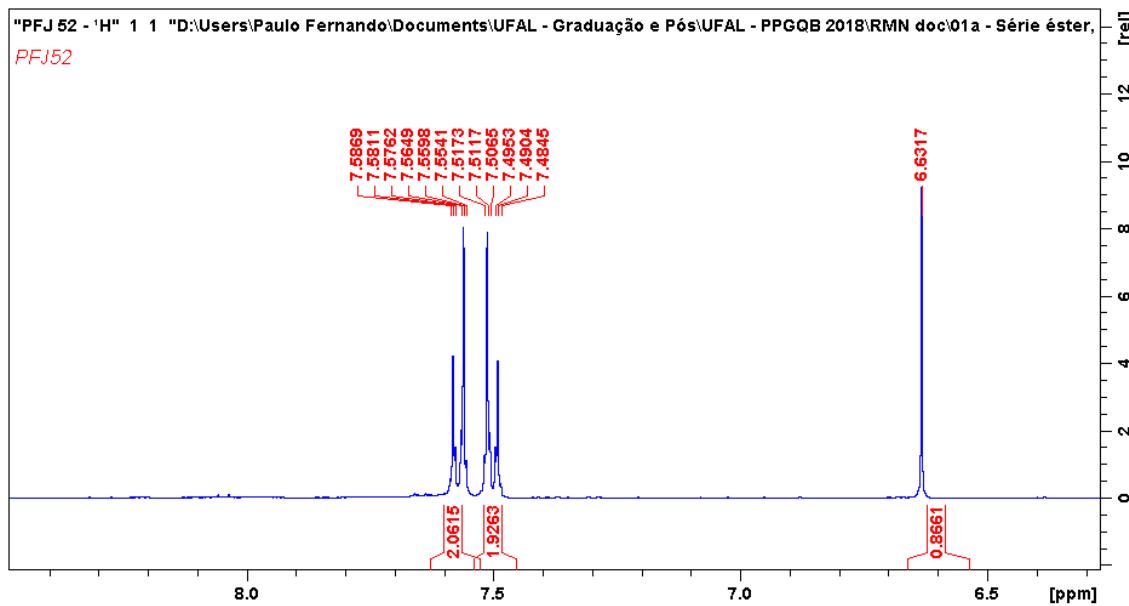
Espectro de RMN ^1H do composto (1b) (600MHz, DMSO- d_6)



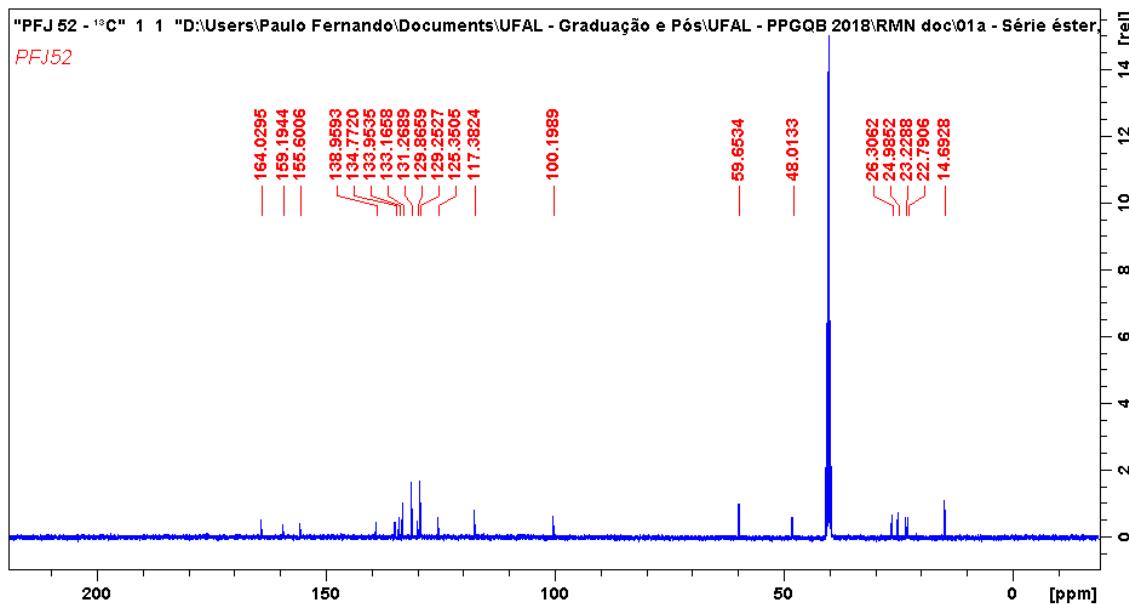
Ampliação de δ 1.0-6.0 do Espectro de RMN ^1H do composto (1b) (600MHz, DMSO- d_6)



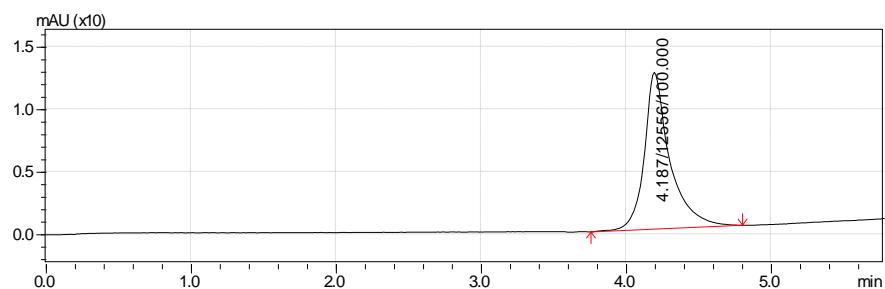
Ampliação de δ 6.5 – 8.0 do Espectro de RMN ^1H do composto (1b) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (1b) (150 MHz, DMSO- d_6)

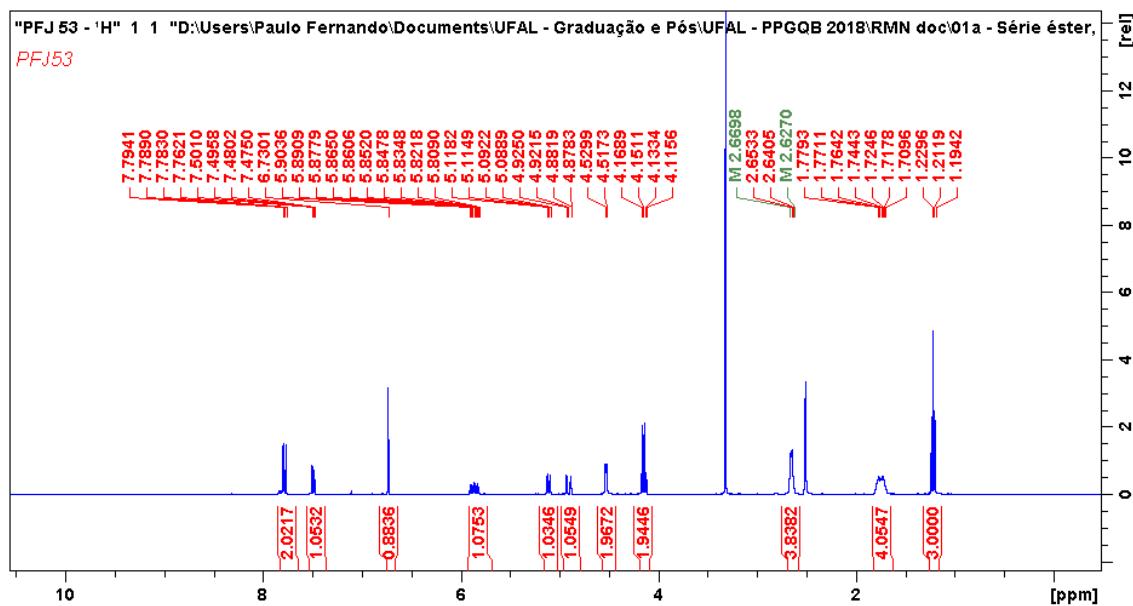


Cromatograma de HPLC-UV em MeOH 100% do Composto (1b)

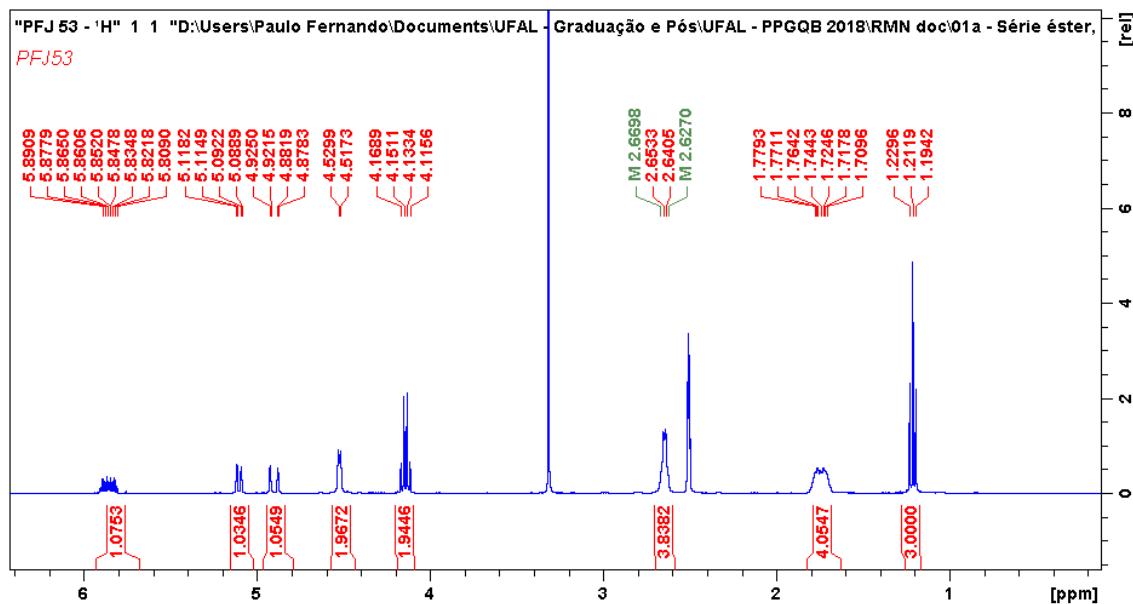


Anexo G

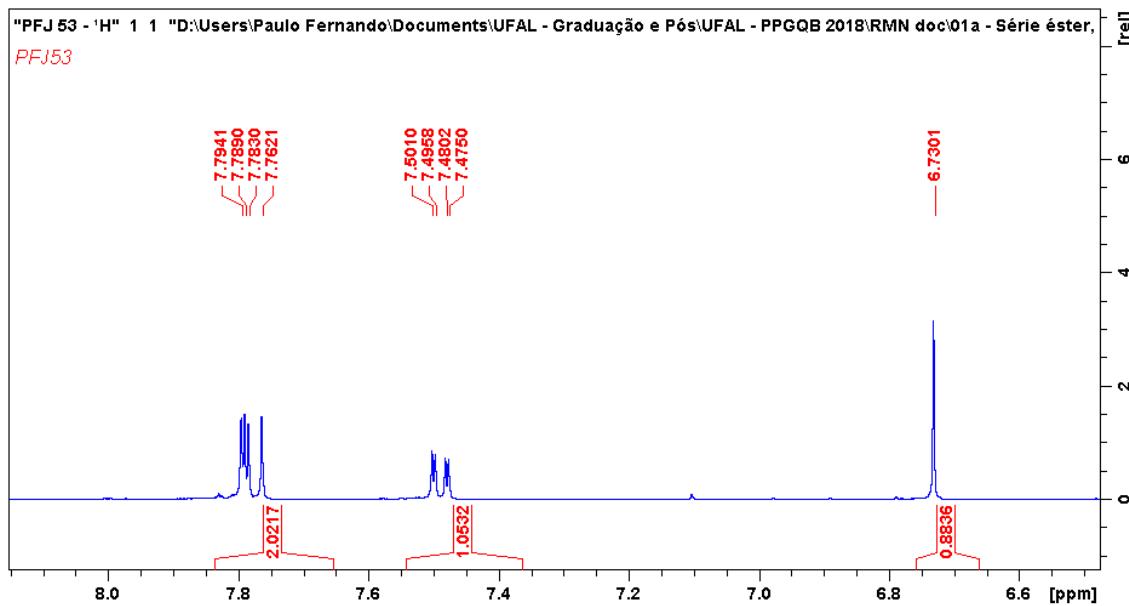
Espectro de RMN ^1H do composto (1c) (600MHz, DMSO- d_6)



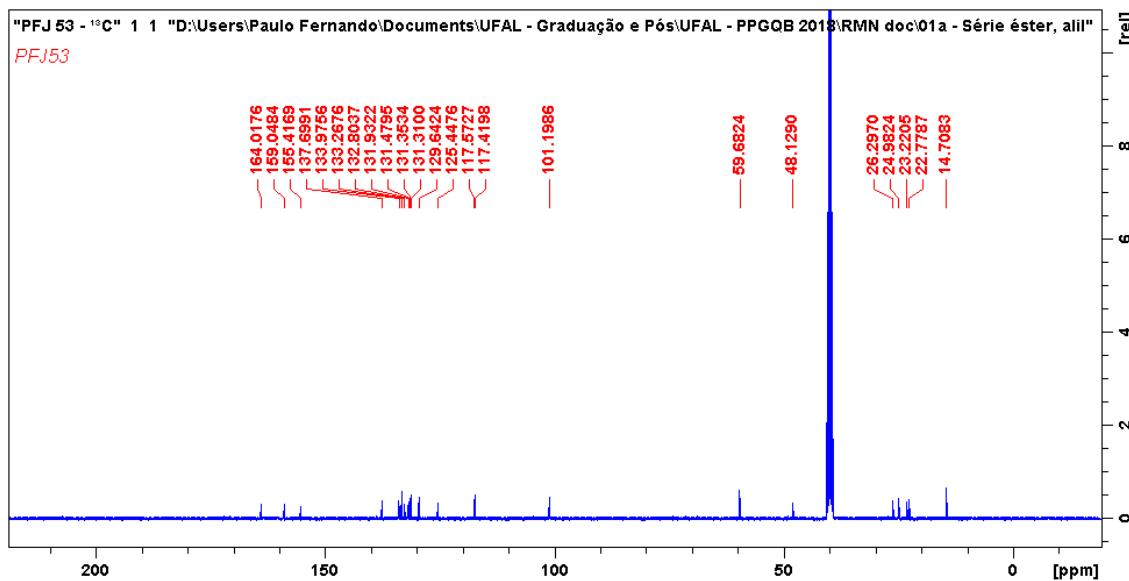
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (1c) (600MHz, DMSO- d_6)



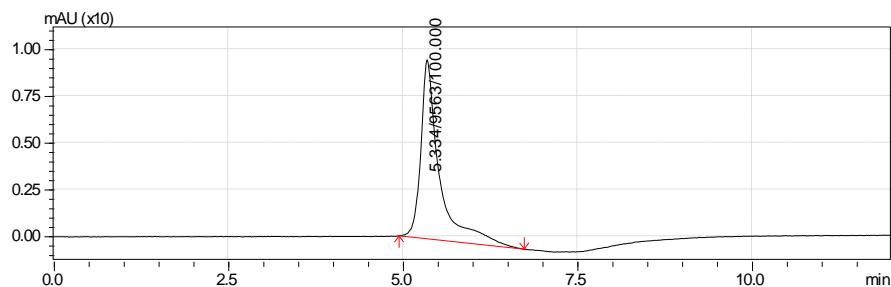
Ampliação de δ 6.6-8.0 ppm do Espectro de RMN ^1H do composto (1c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (1c) (150 MHz, DMSO- d_6)

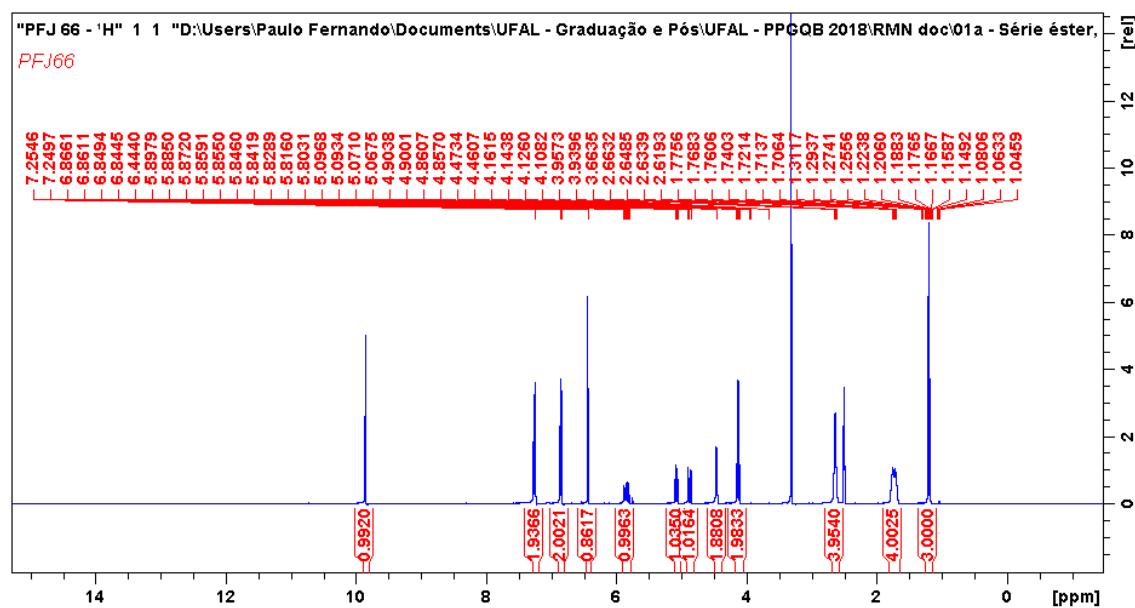


Cromatograma de HPLC-UV em MeOH 100% do Composto (1c)

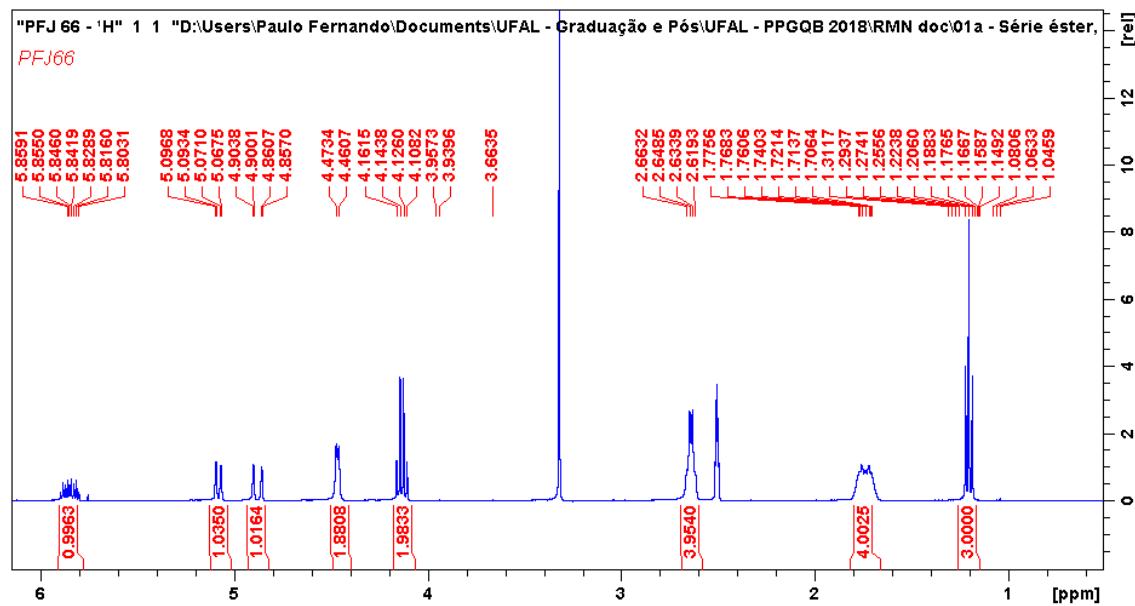


Anexo H

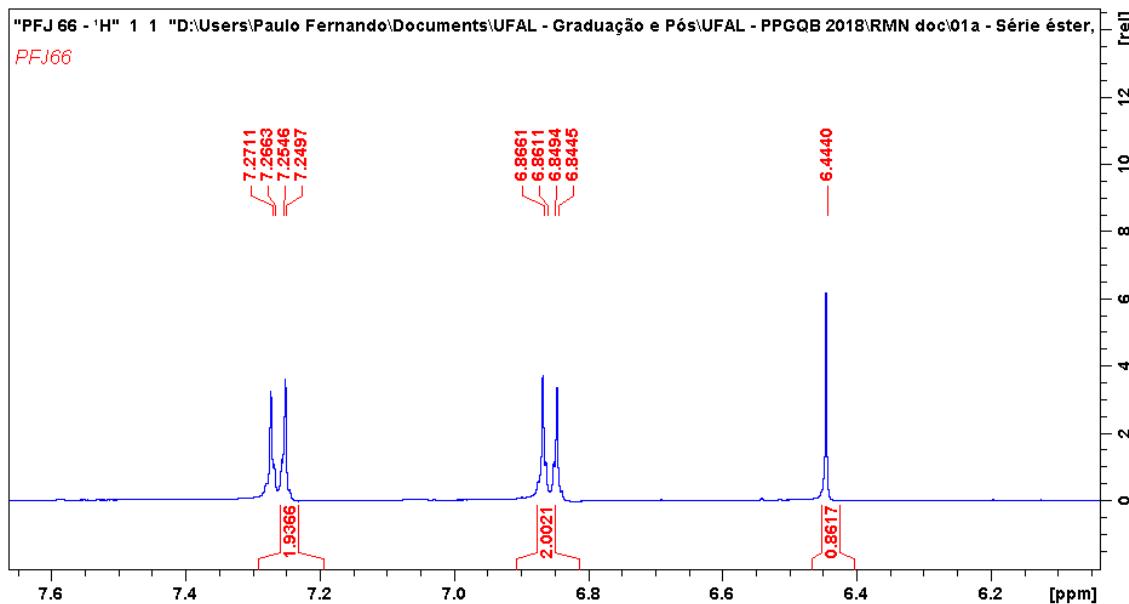
Espectro de RMN ^1H do composto (1d) (600MHz, DMSO- d_6)



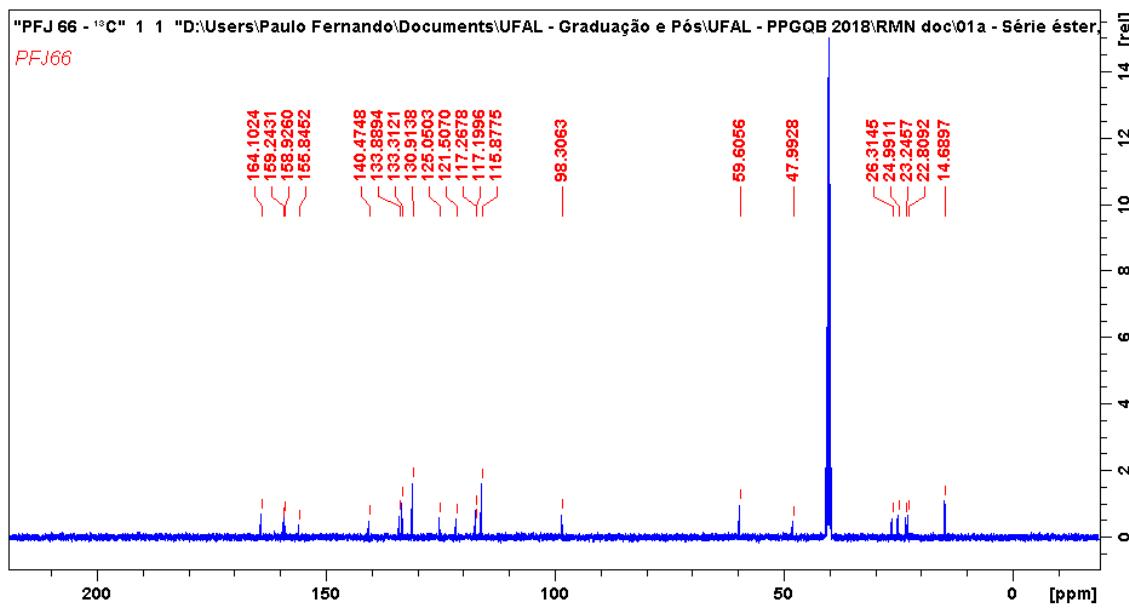
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (1d) (600MHz, DMSO- d_6)



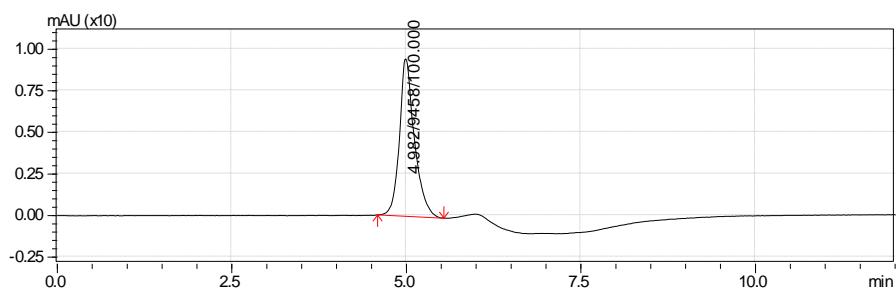
Ampliação de δ 6.2-7.6 ppm do Espectro de RMN ^1H do composto (1d) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (1d) (150 MHz, DMSO- d_6)

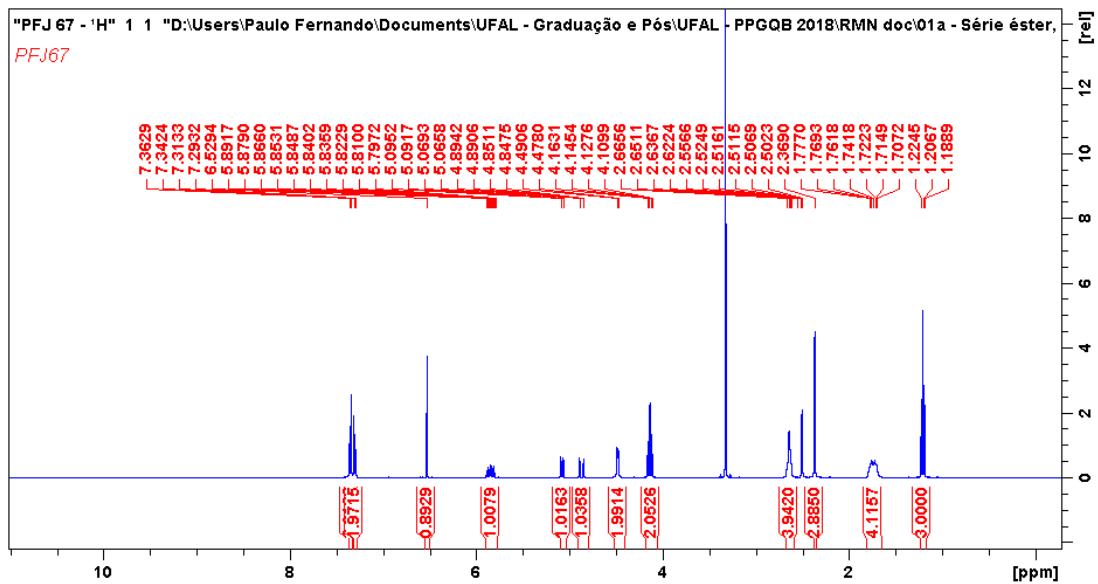


Cromatograma de HPLC-UV em MeOH 100% do Composto (1d)

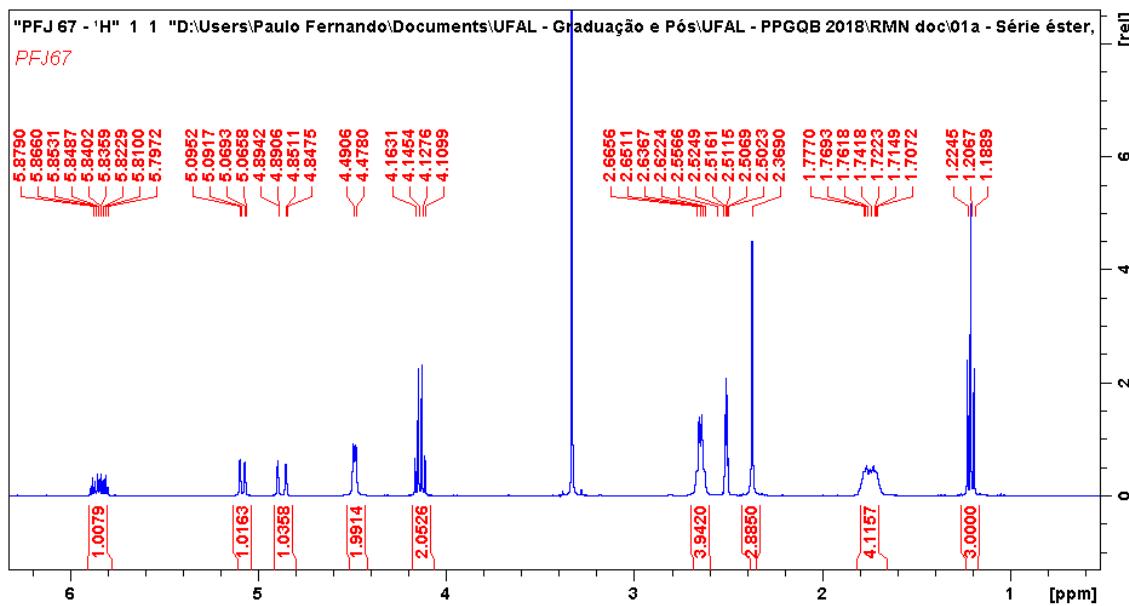


Anexo I

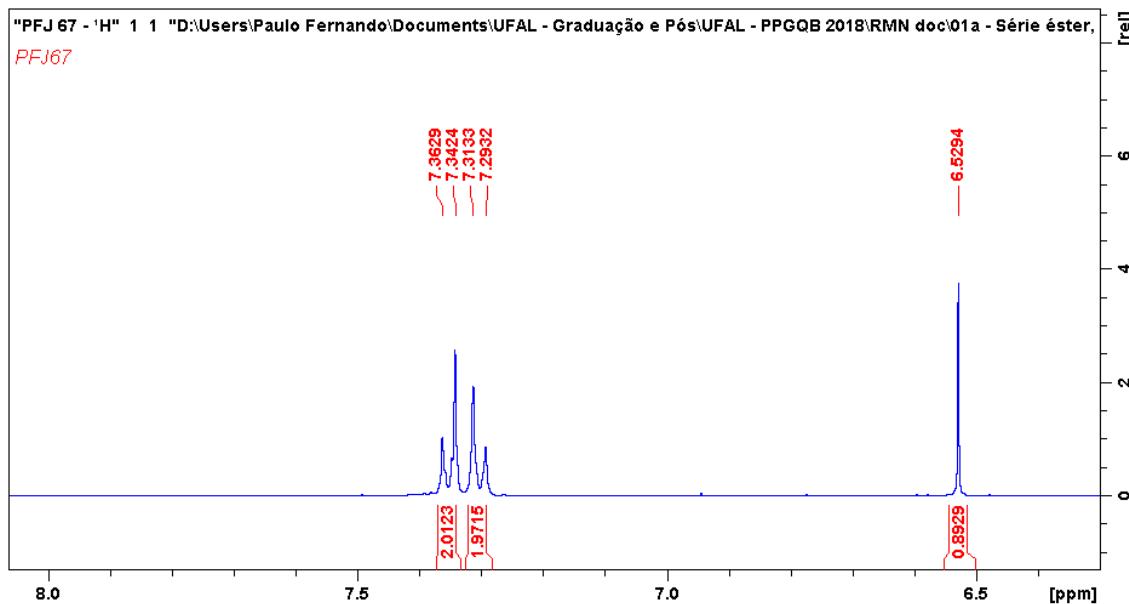
Espectro de RMN ^1H do composto (1e) (600MHz, DMSO- d_6)



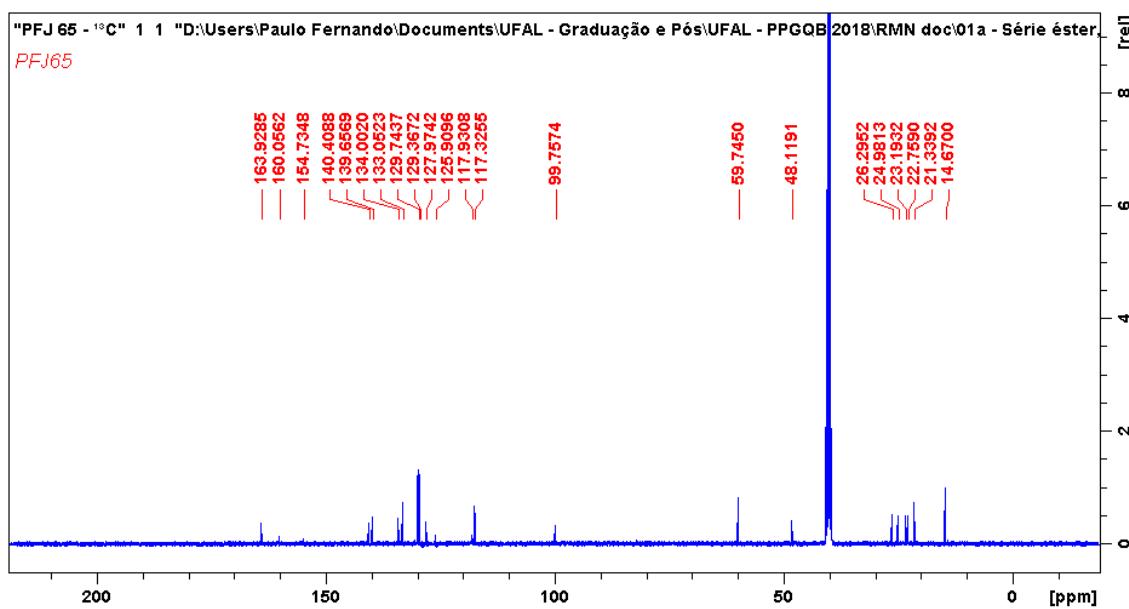
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (1e)
(600MHz, DMSO- d_6)



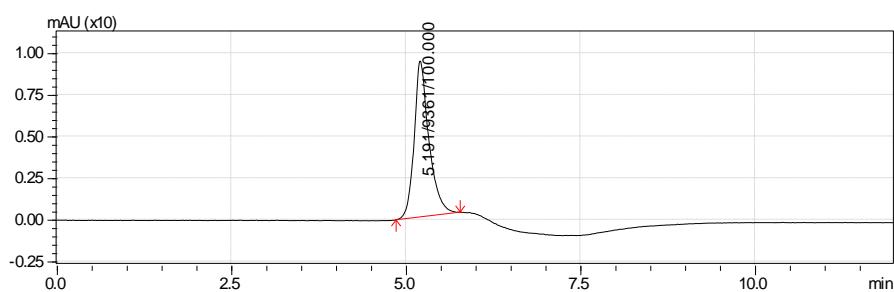
Ampliação de δ 6.5-8.0 ppm do Espectro de RMN ^1H do composto (1e) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (1e) (150 MHz, DMSO- d_6)

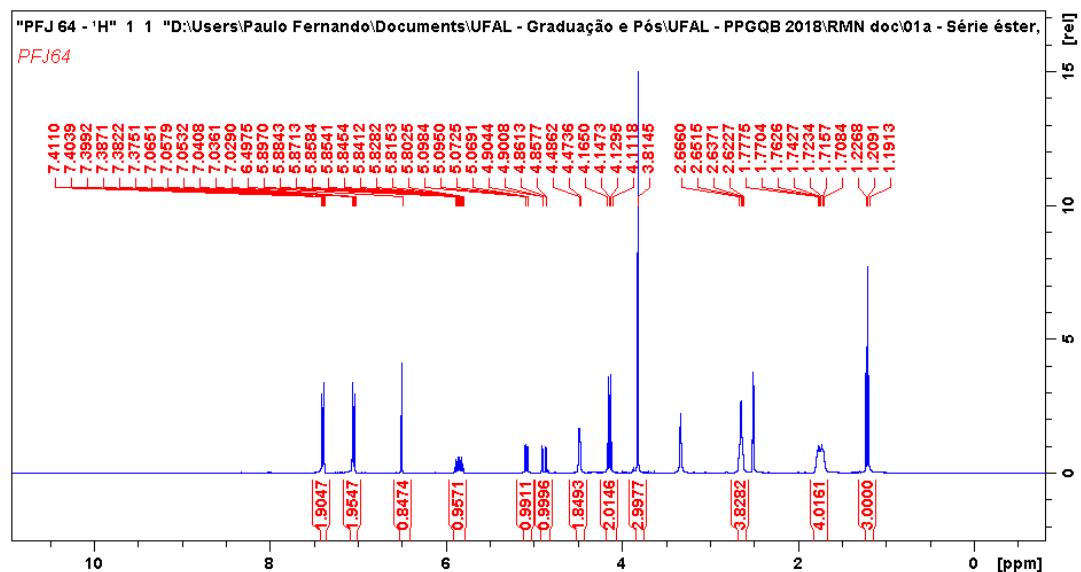


Cromatograma de HPLC-UV em MeOH 100% do Composto (63)

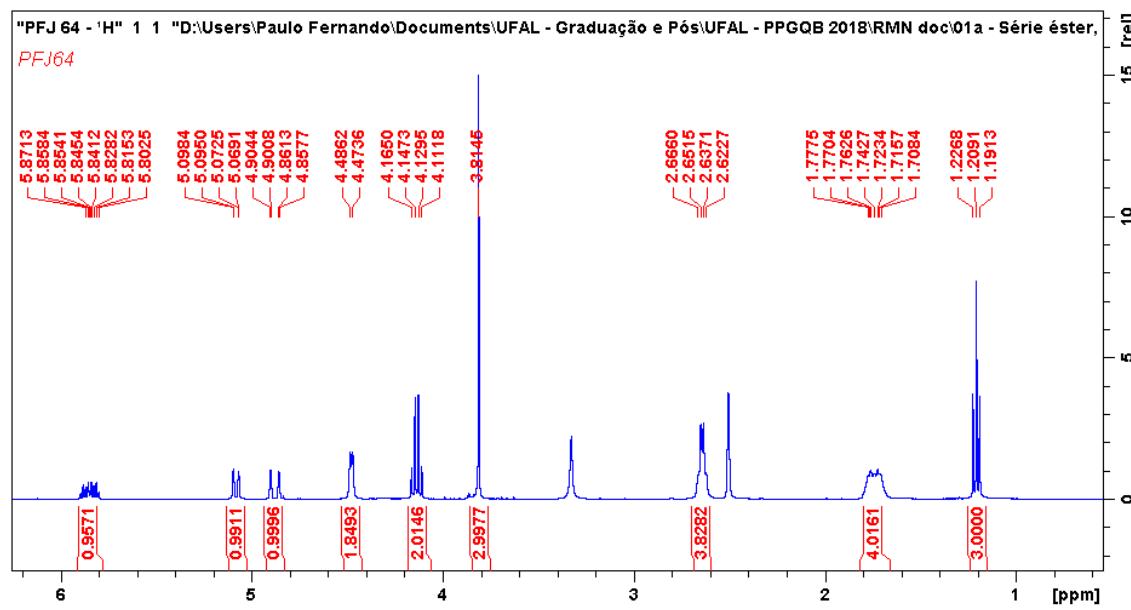


Anexo J

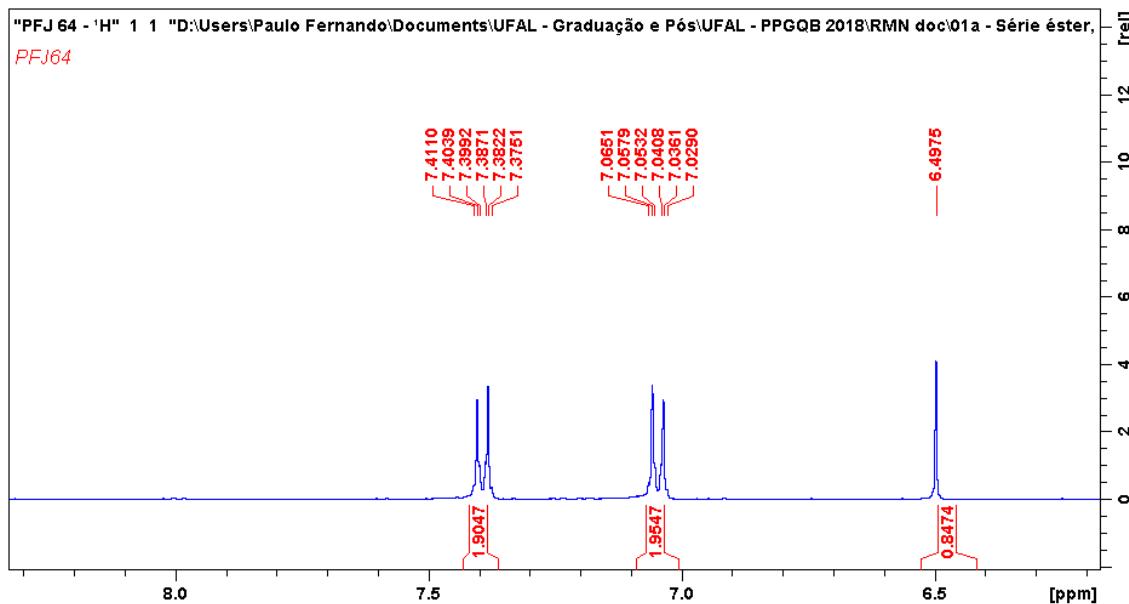
Espectro de RMN ^1H do composto (1f) (600MHz, DMSO- d_6)



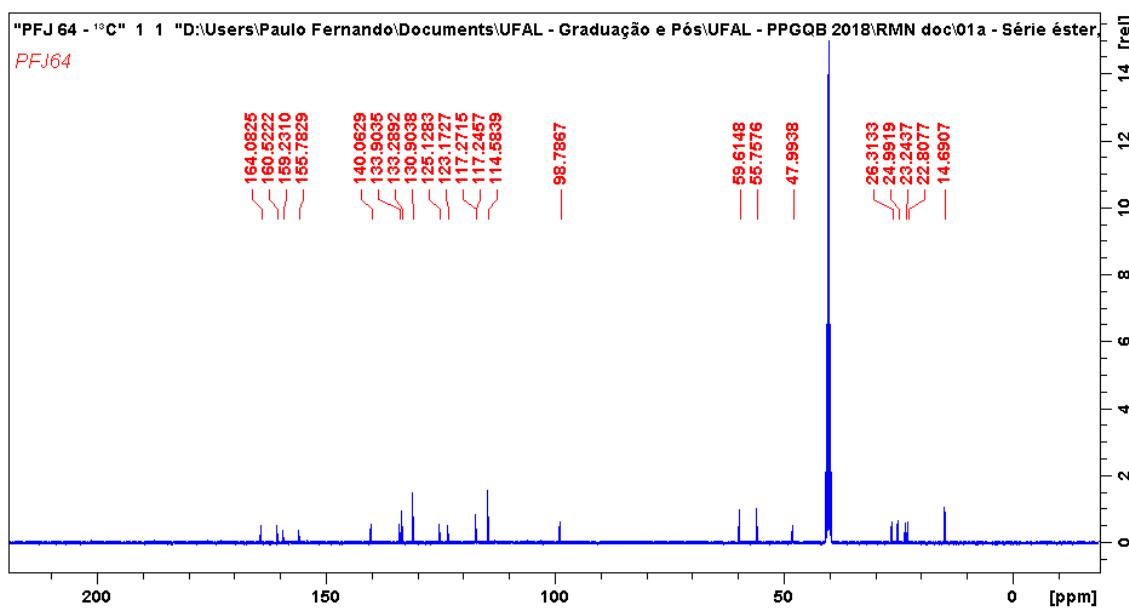
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ¹H do composto (1f) (600MHz, DMSO-d₆)



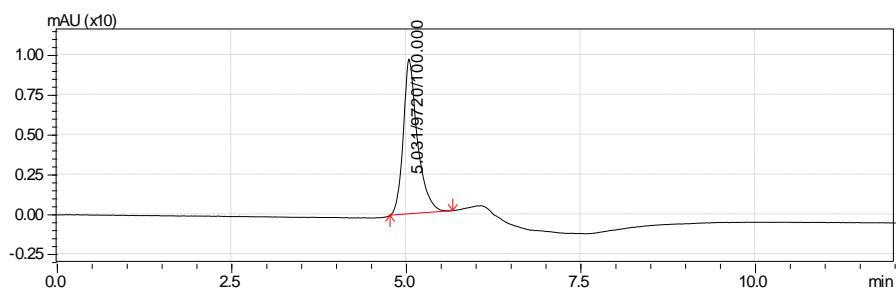
**Ampliação de δ 6.5-8.0 ppm do Espectro de RMN ^1H do composto (1f)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (1f) (150 MHz, DMSO- d_6)

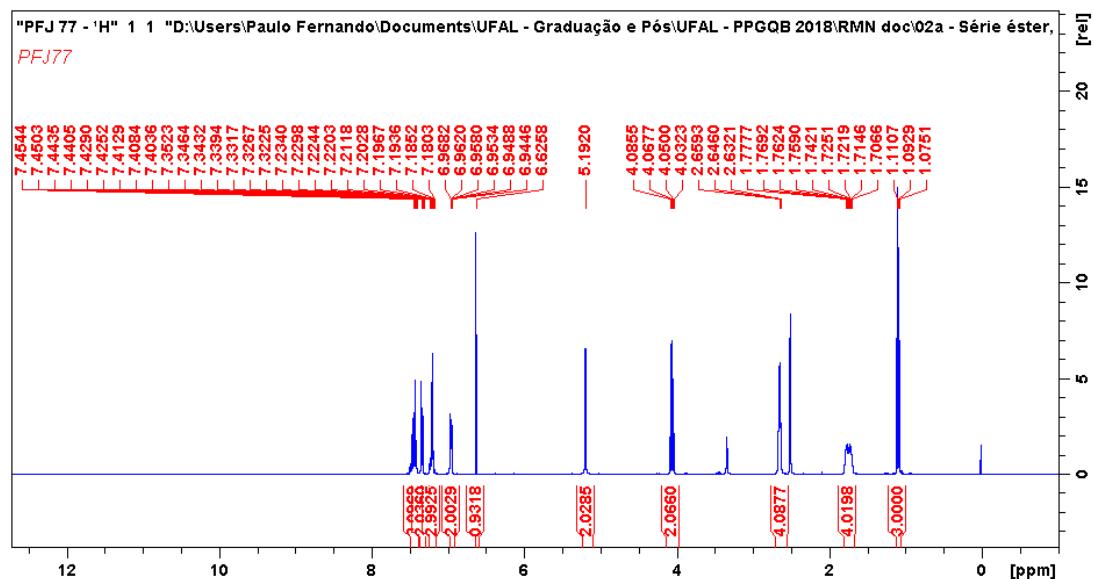


Cromatograma de HPLC-UV em MeOH 100% do Composto (1f)

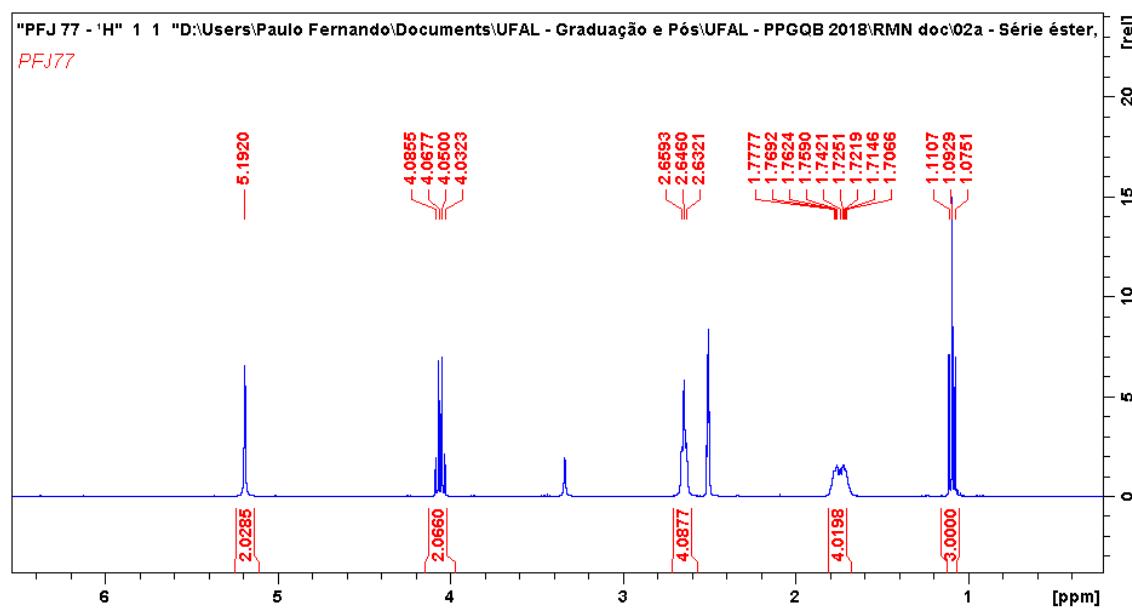


Anexo K

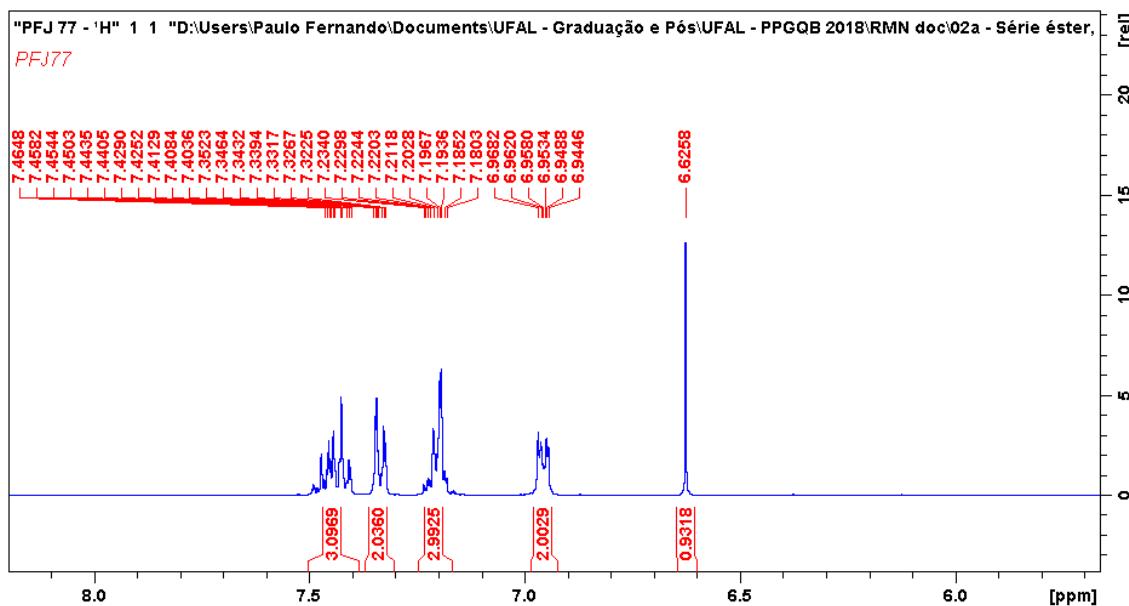
Espectro de RMN ^1H do composto (2a) (600MHz, DMSO- d_6)



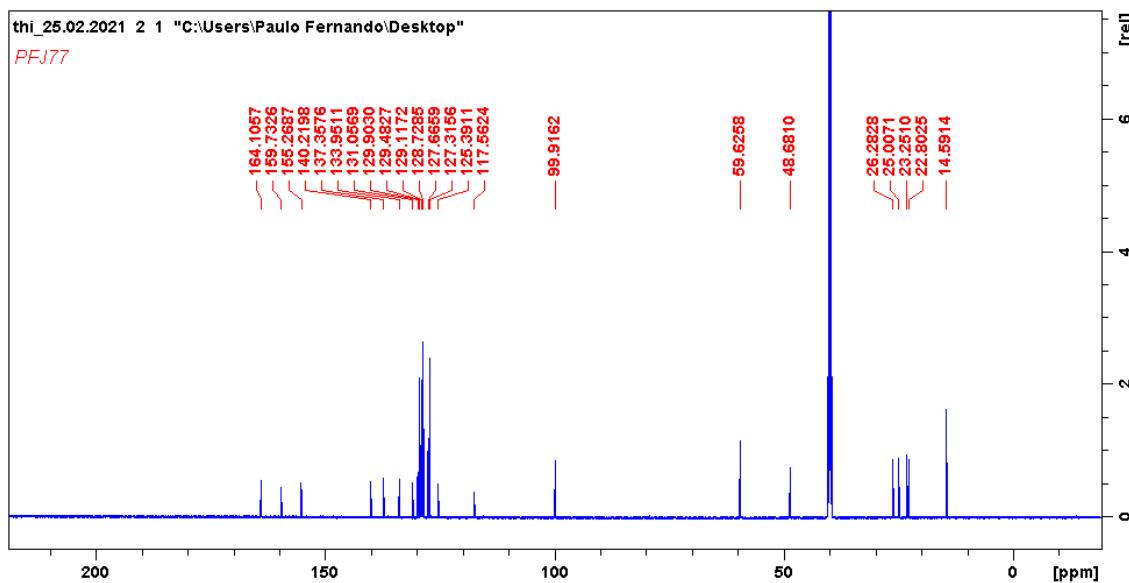
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (2a)
(600MHz, DMSO- d_6)



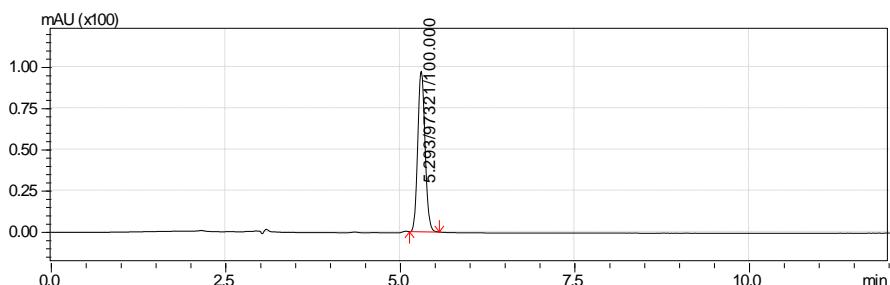
Ampliação de δ 6.0-8.0 ppm do Espectro de RMN ^1H do composto (2a) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (2a) (150 MHz, DMSO- d_6)

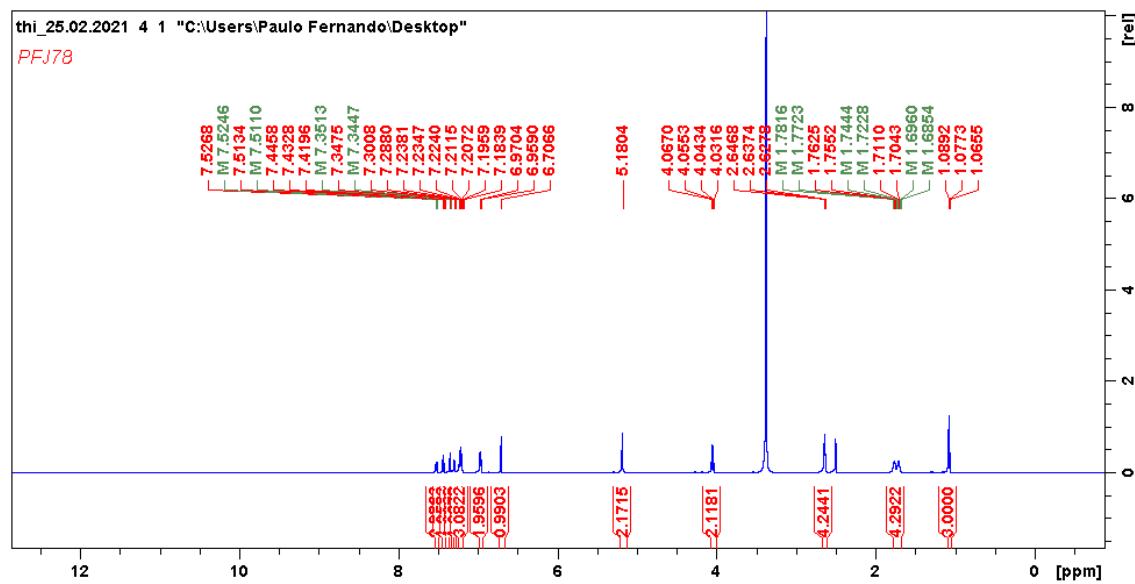


Cromatograma de HPLC-UV em MeOH 100% do Composto (2a)

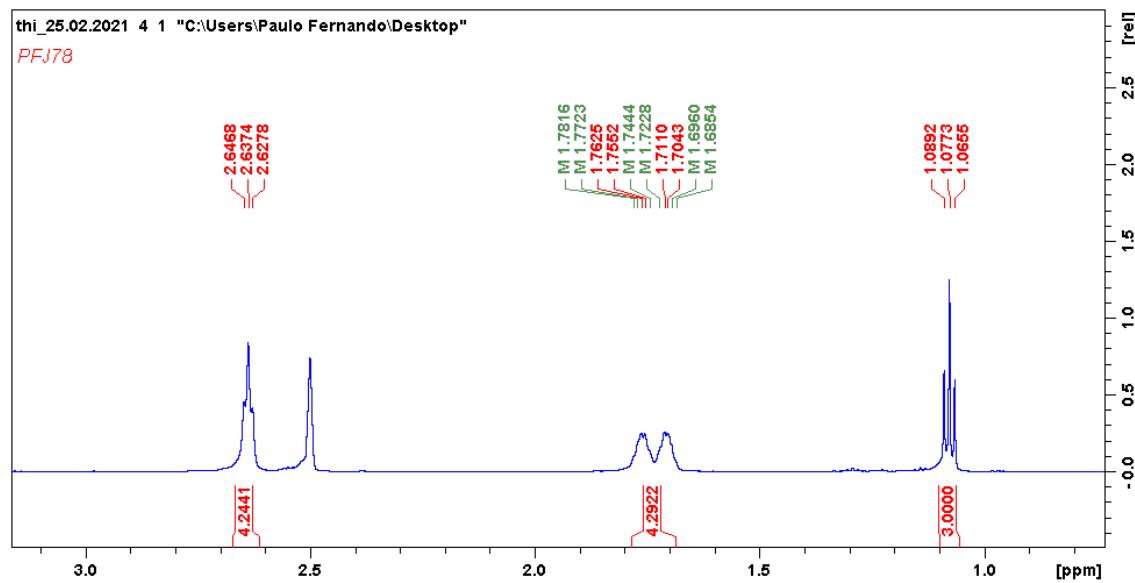


Anexo L

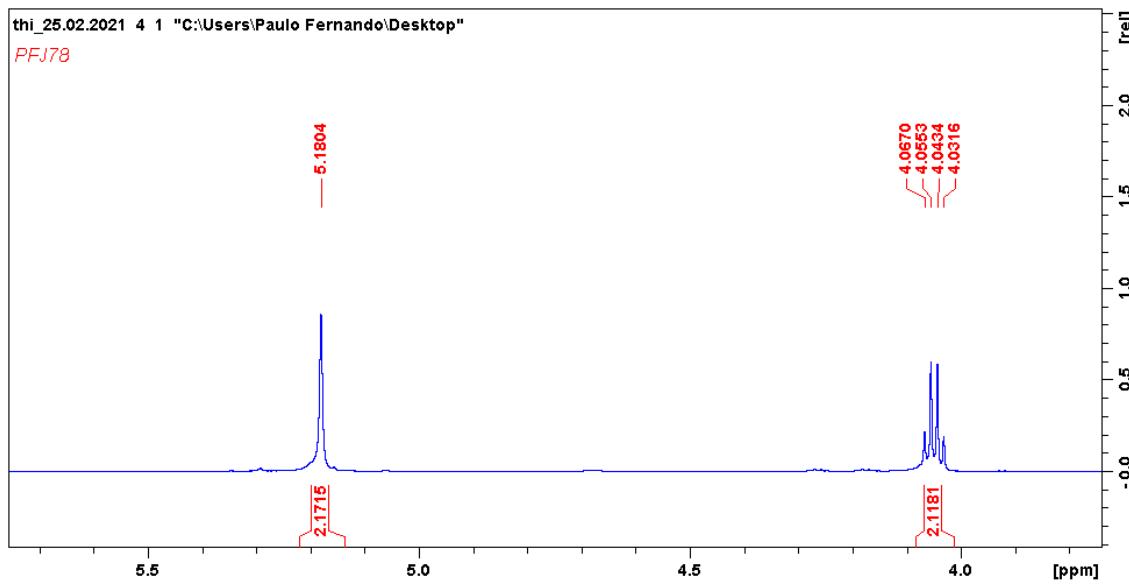
Espectro de RMN ^1H do composto (2b) (600MHz, DMSO- d_6)



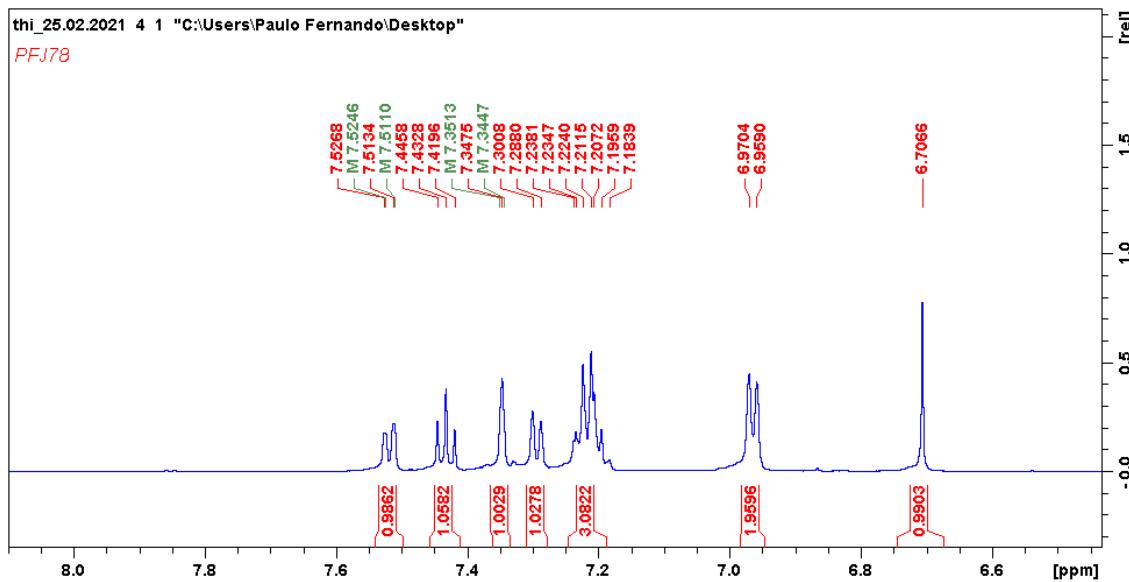
Ampliação de δ 1.0-3.0 ppm do Espectro de RMN ^1H do composto (2b)
(600MHz, DMSO- d_6)



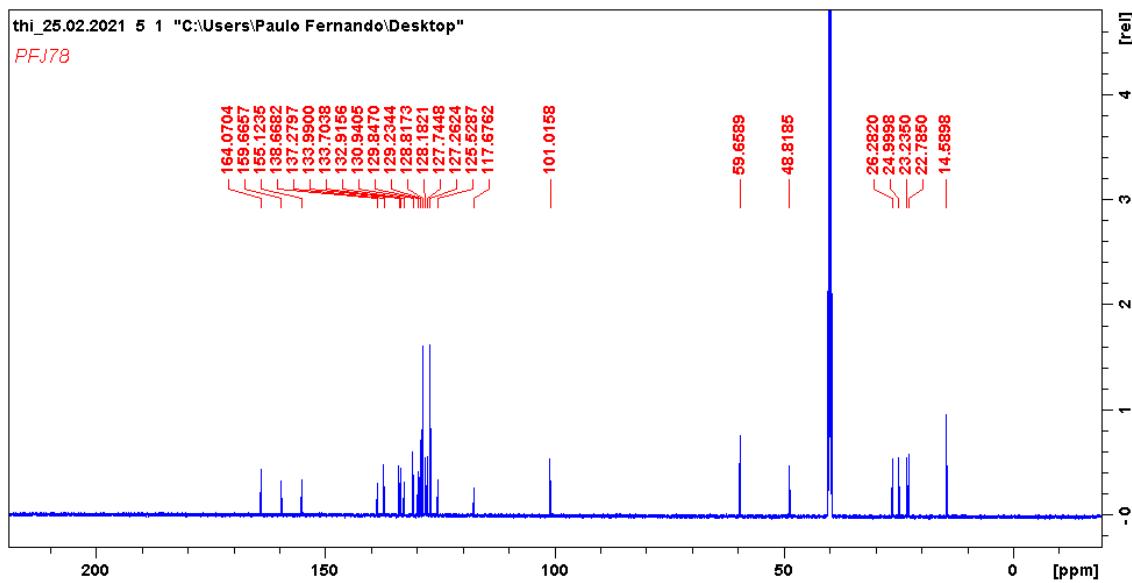
**Ampliação de δ 4.0-5.5 ppm do Espectro de RMN ^1H do composto (2b)
(600MHz, DMSO- d_6)**



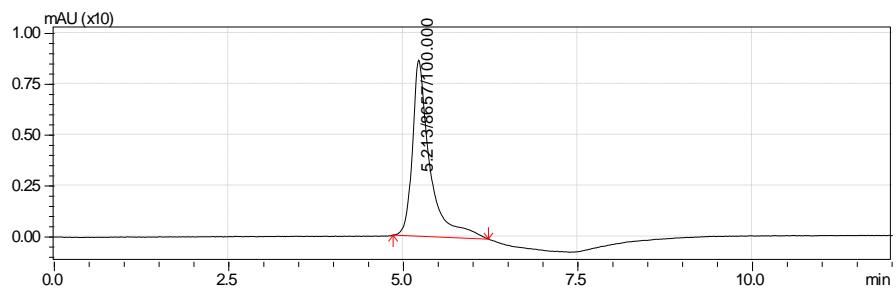
**Ampliação de δ 6.6-8.0 ppm do Espectro de RMN ^1H do composto (2b)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (2b) (150 MHz, DMSO- d_6)

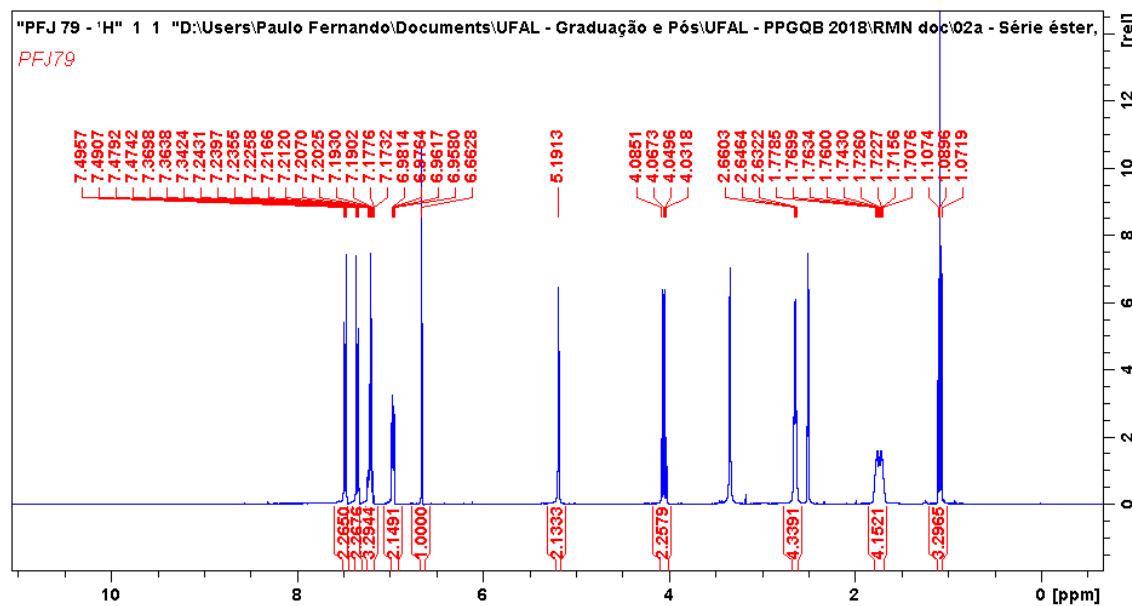


Cromatograma de HPLC-UV em MeOH 100% do Composto (2b)

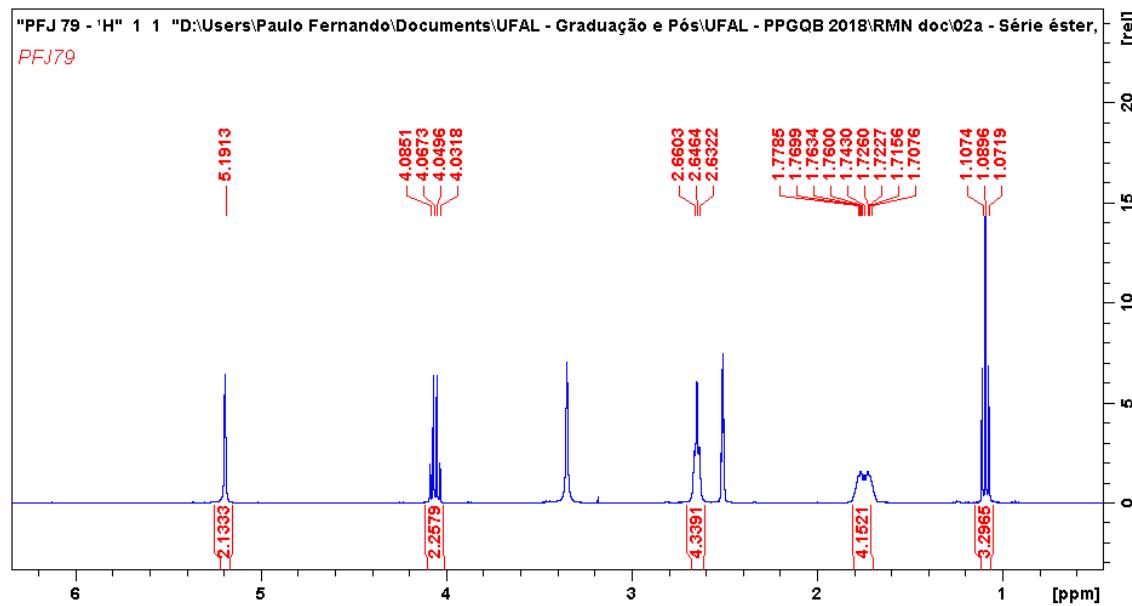


Anexo M

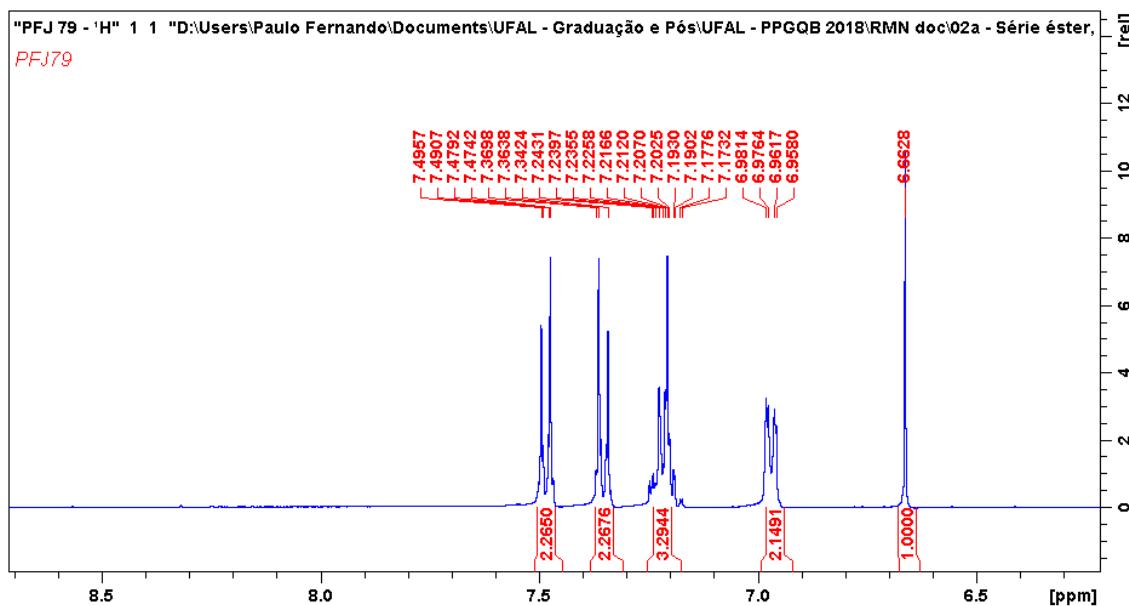
Espectro de RMN ^1H do composto (2c) (600MHz, DMSO- d_6)



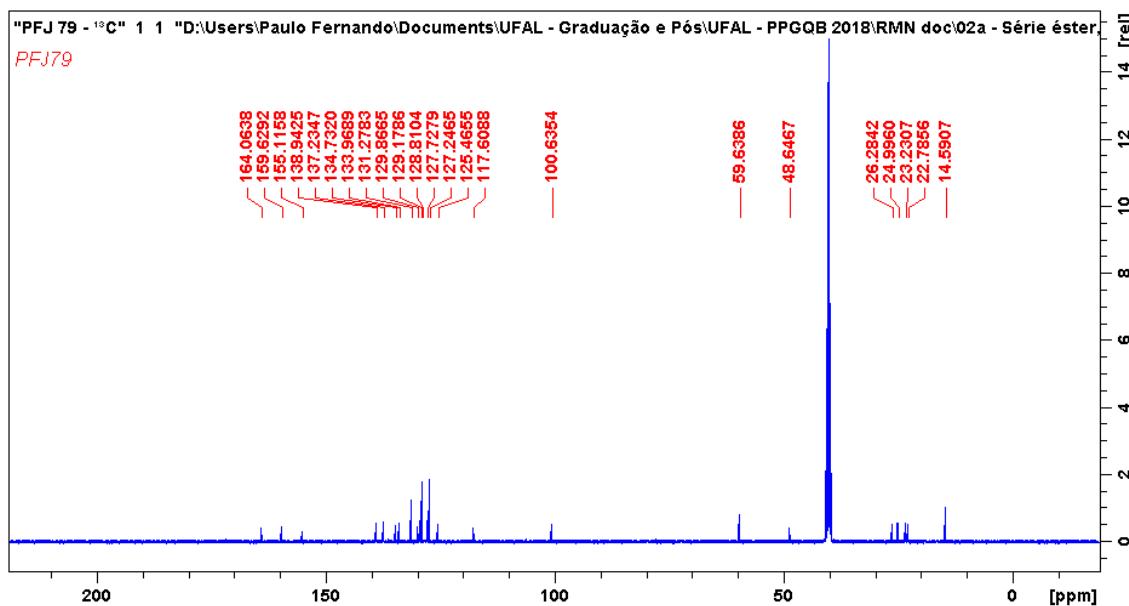
Ampliação de δ 1.0– 6.0 ppm do Espectro de RMN ^1H do composto (2c) (600MHz, DMSO- d_6)



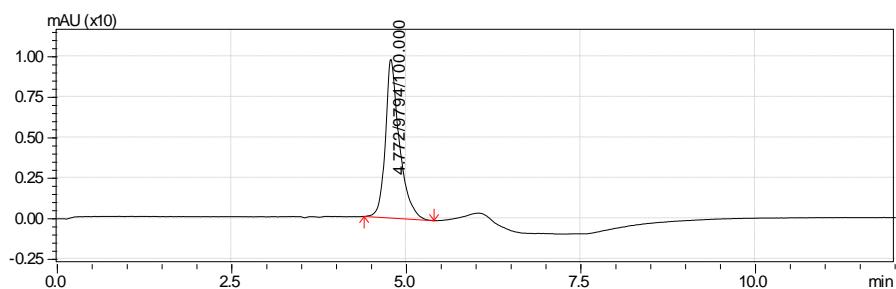
Ampliação de δ 6.6-8.5 ppm do Espectro de RMN ^1H do composto (2c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (2c) (150 MHz, DMSO- d_6)

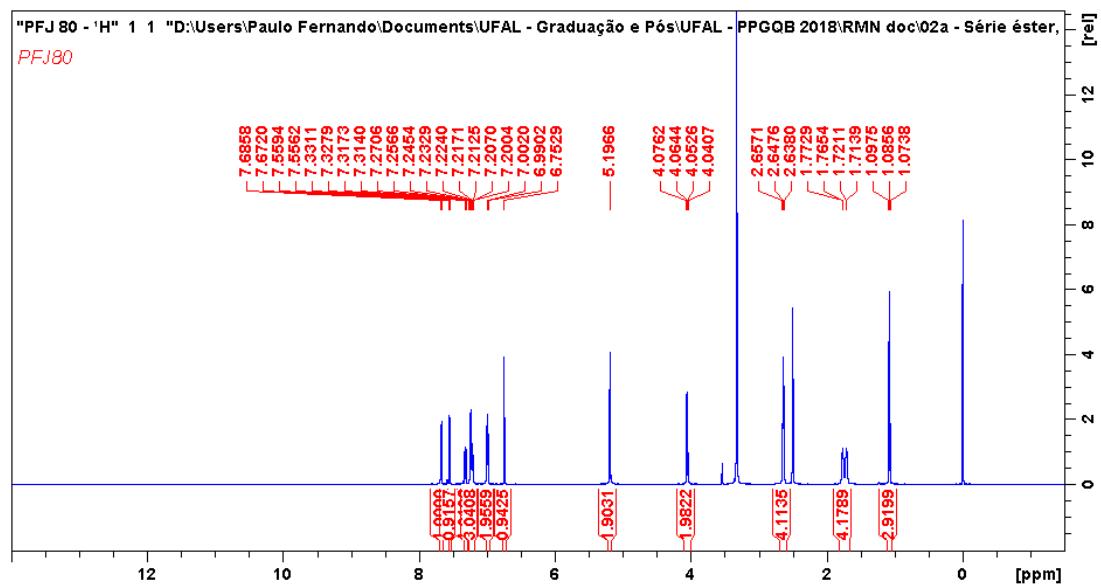


Cromatograma de HPLC-UV em MeOH 100% do Composto (2c)

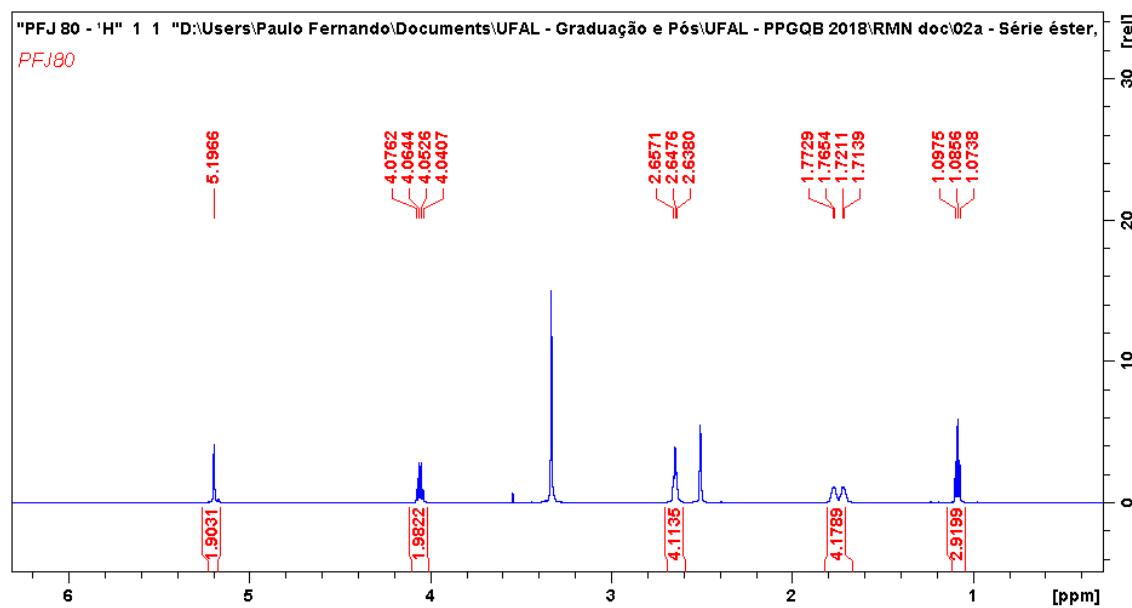


Anexo N

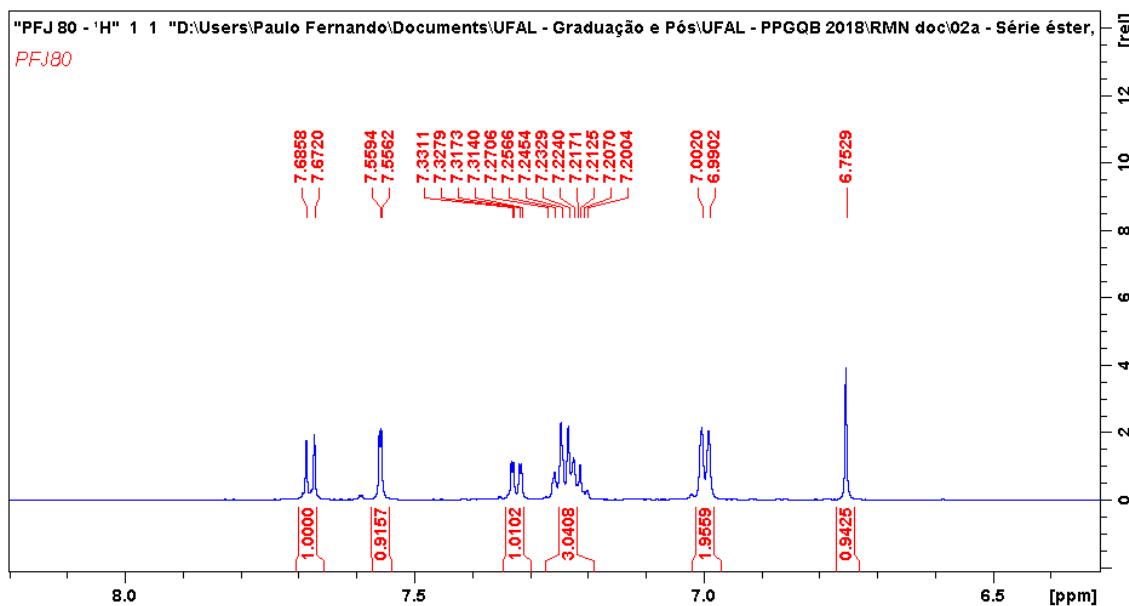
Espectro de RMN ^1H do composto (2d) (600MHz, DMSO- d_6)



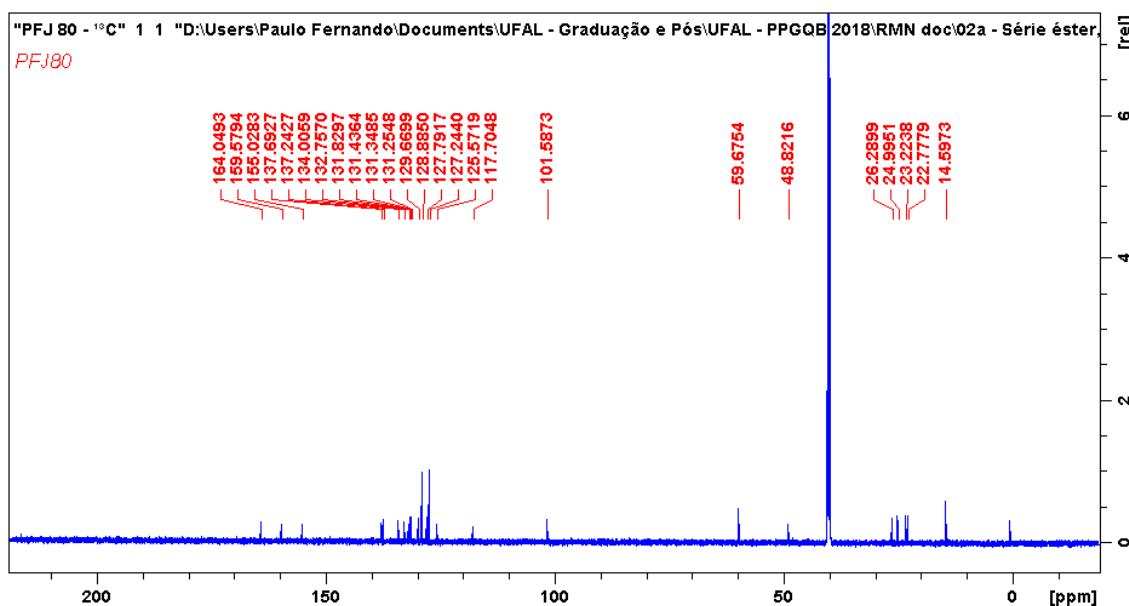
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (2d)
(600MHz, DMSO- d_6)



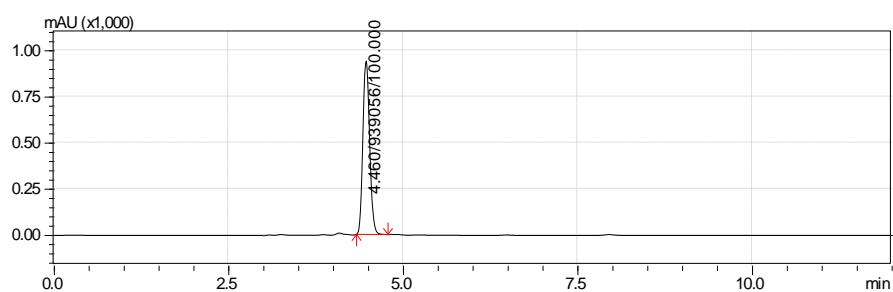
**Ampliação de δ 6.5-8.0 ppm do Espectro de RMN ^1H do composto (2d)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (2d) (150 MHz, DMSO- d_6)

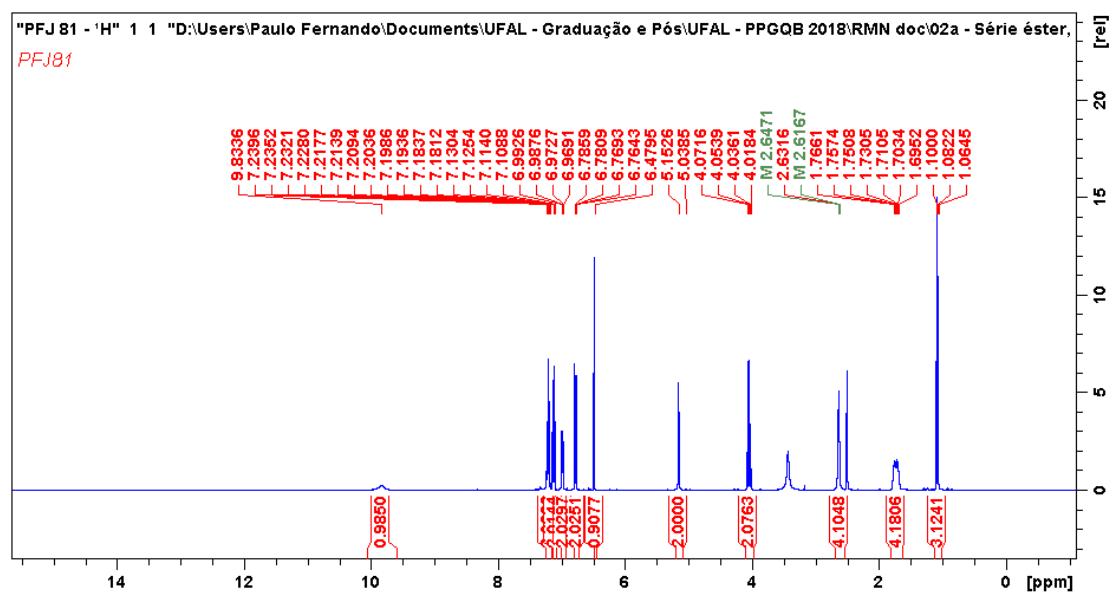


Cromatograma de HPLC-UV em MeOH 100% do Composto (2d)

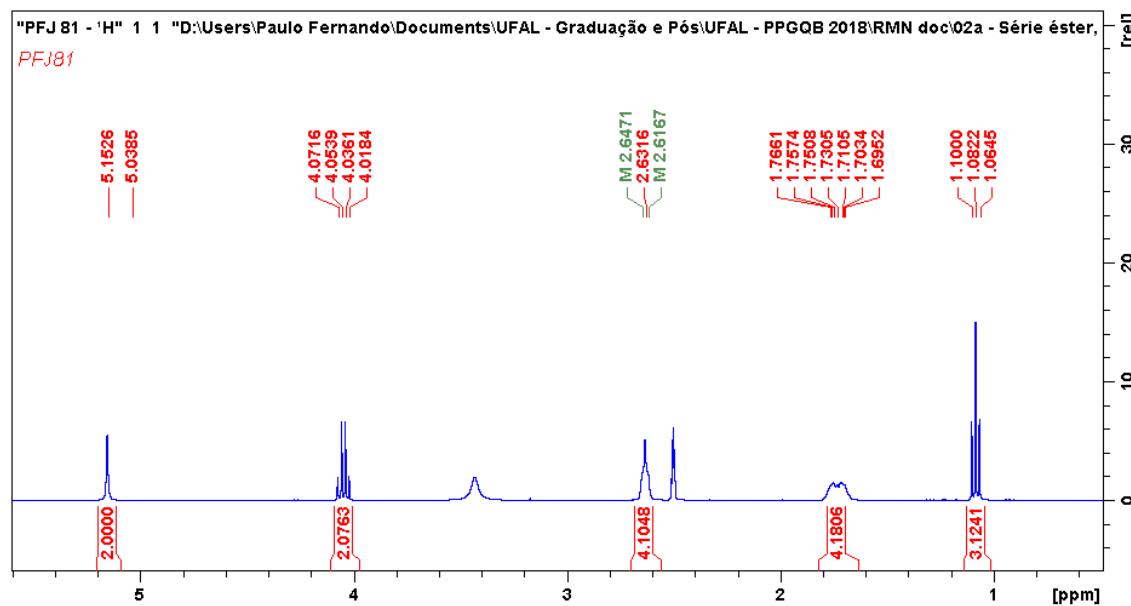


Anexo O

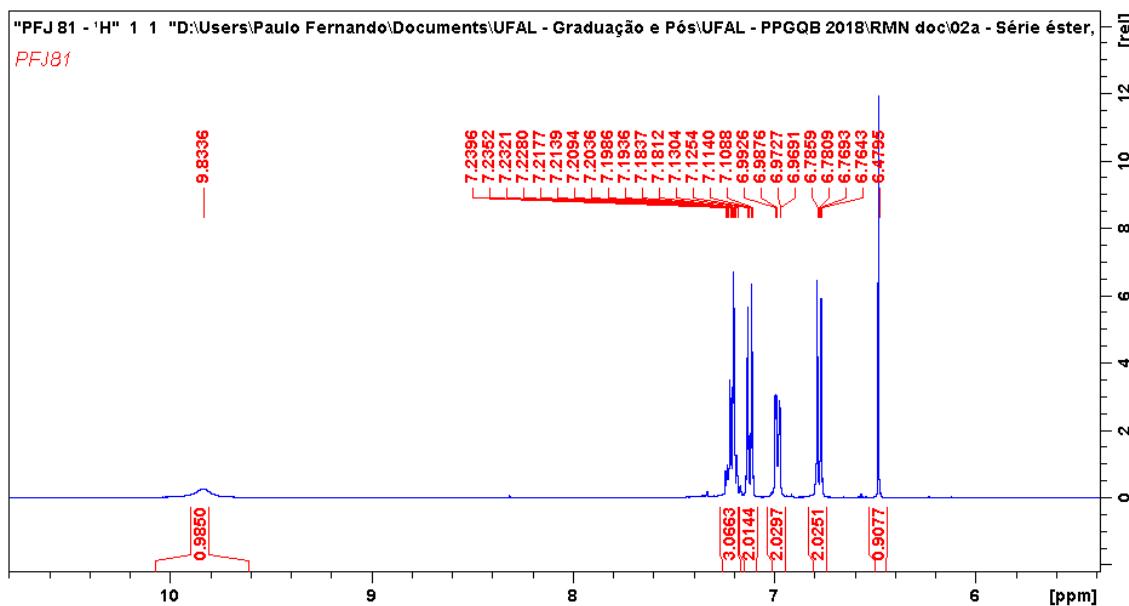
Espectro de RMN ^1H do composto (2e) (600MHz, DMSO- d_6)



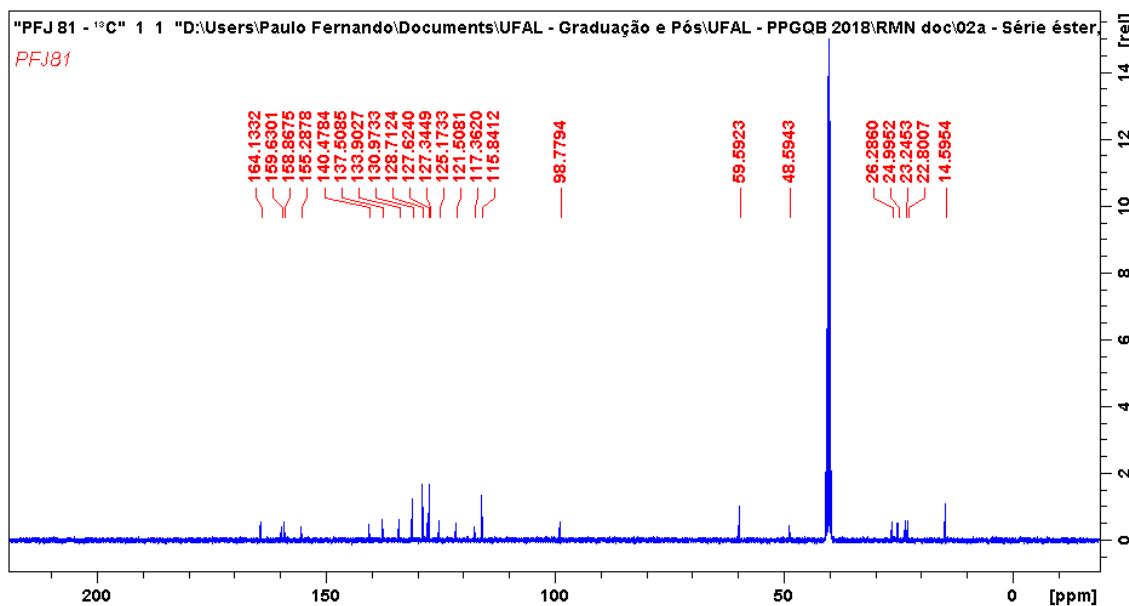
Ampliação de δ 1.0-5.0 ppm do Espectro de RMN ^1H do composto (2e) (600MHz, DMSO- d_6)



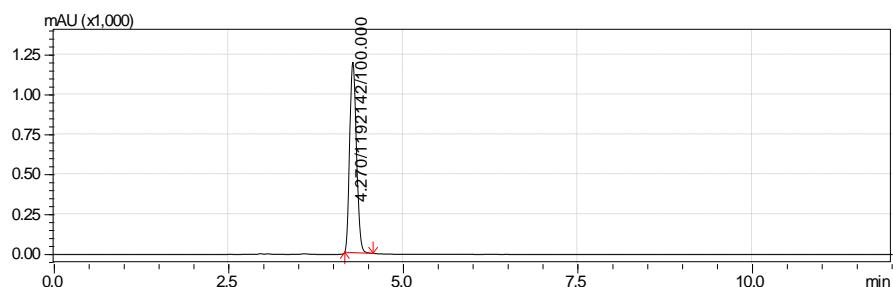
Ampliação de δ 6.0-10.0 ppm do Espectro de RMN ^1H do composto (2e) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (2e) (150 MHz, DMSO- d_6)

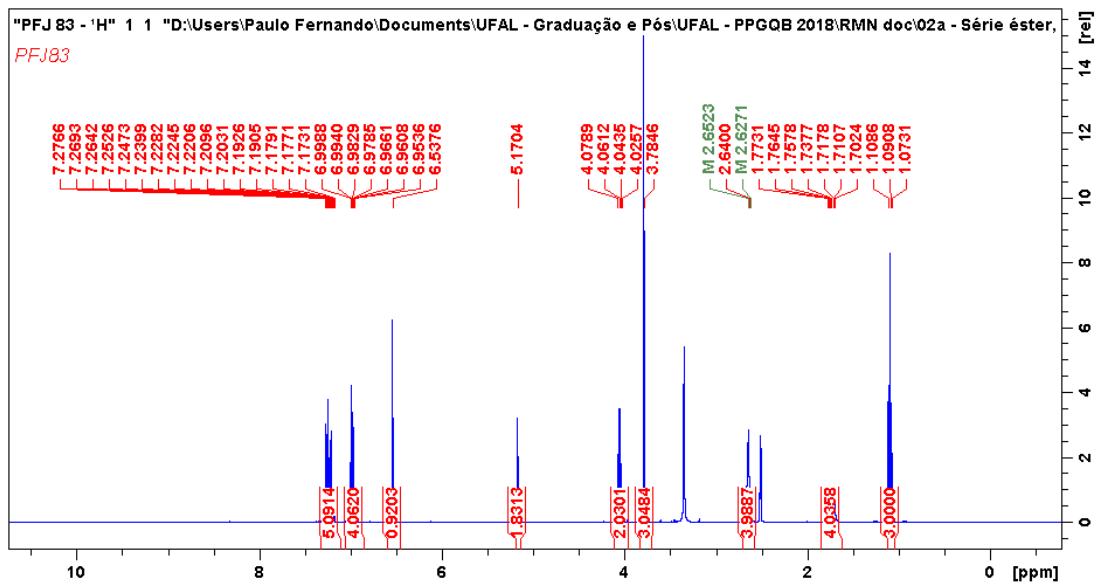


Cromatograma de HPLC-UV em MeOH 100% do Composto (2e)

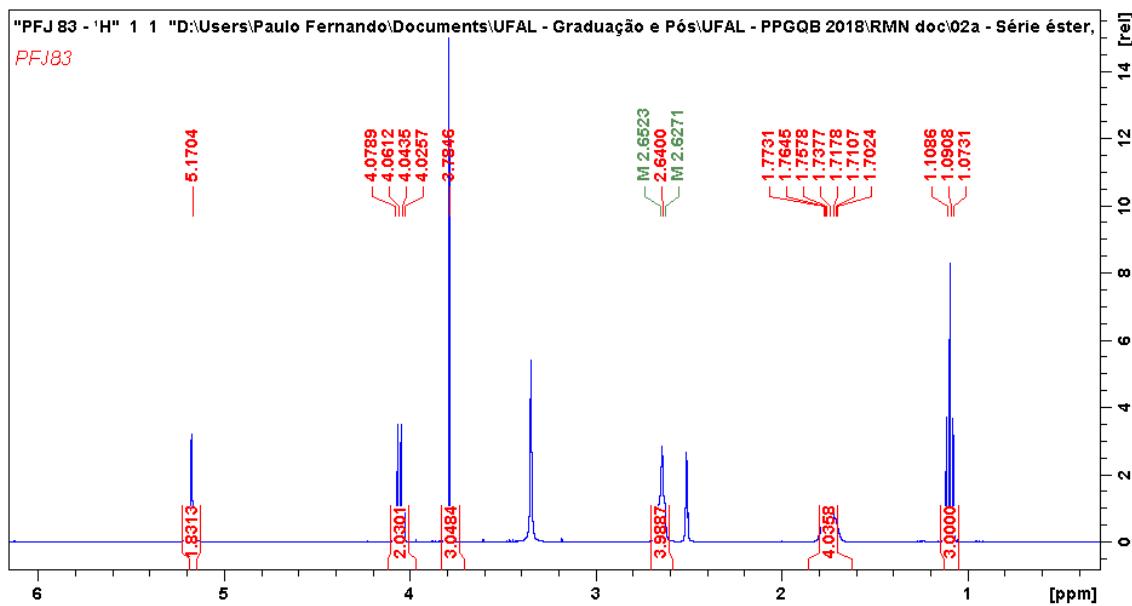


Anexo P

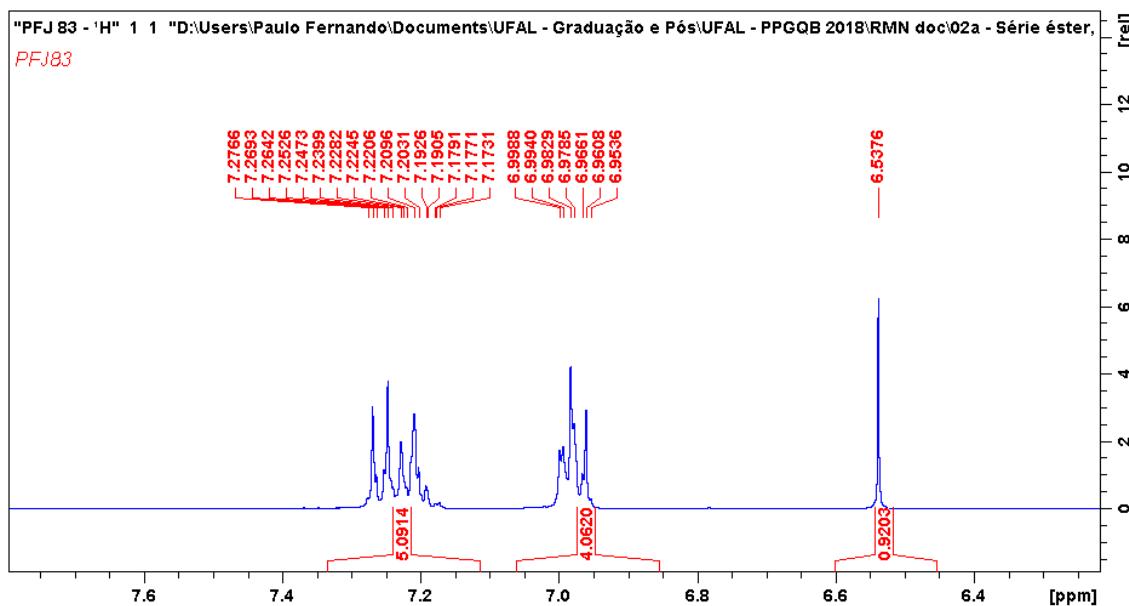
Espectro de RMN ^1H do composto (2f) (600MHz, DMSO- d_6)



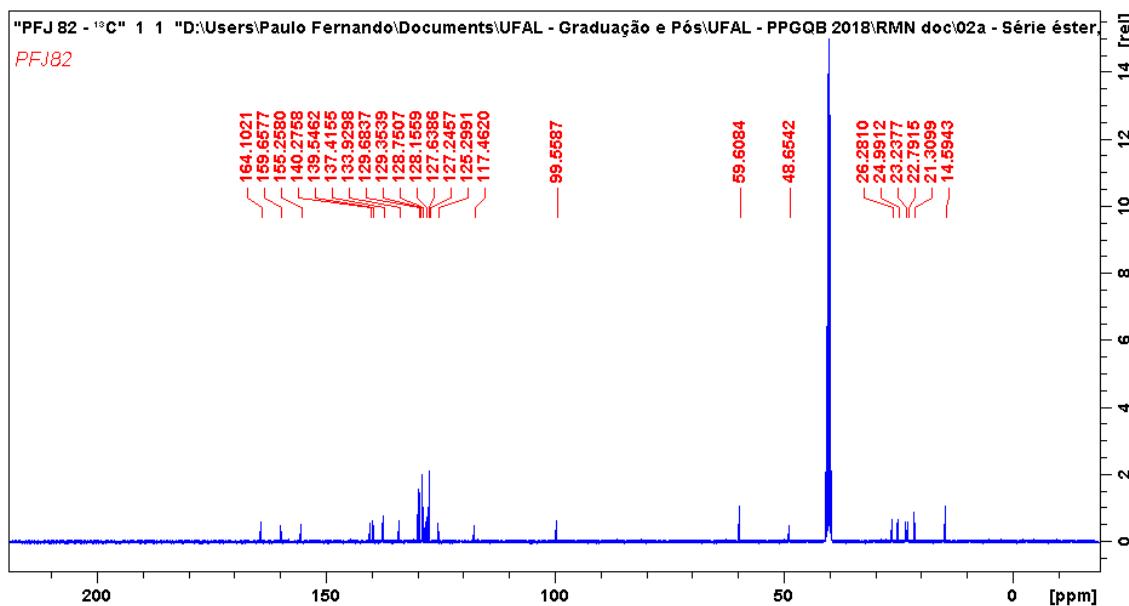
Ampliação de δ 1.0 – 6.0 ppm do Espectro de RMN ^1H do composto (2f)
(600MHz, DMSO- d_6)



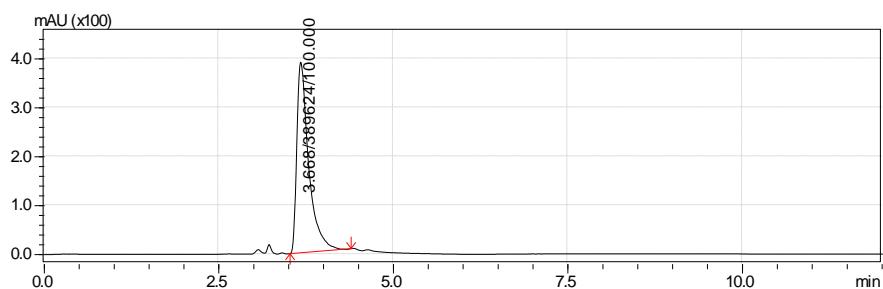
**Ampliação de δ 6.4-7.6 ppm do Espectro de RMN ^1H do composto (2f)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (2f) (150 MHz, DMSO- d_6)

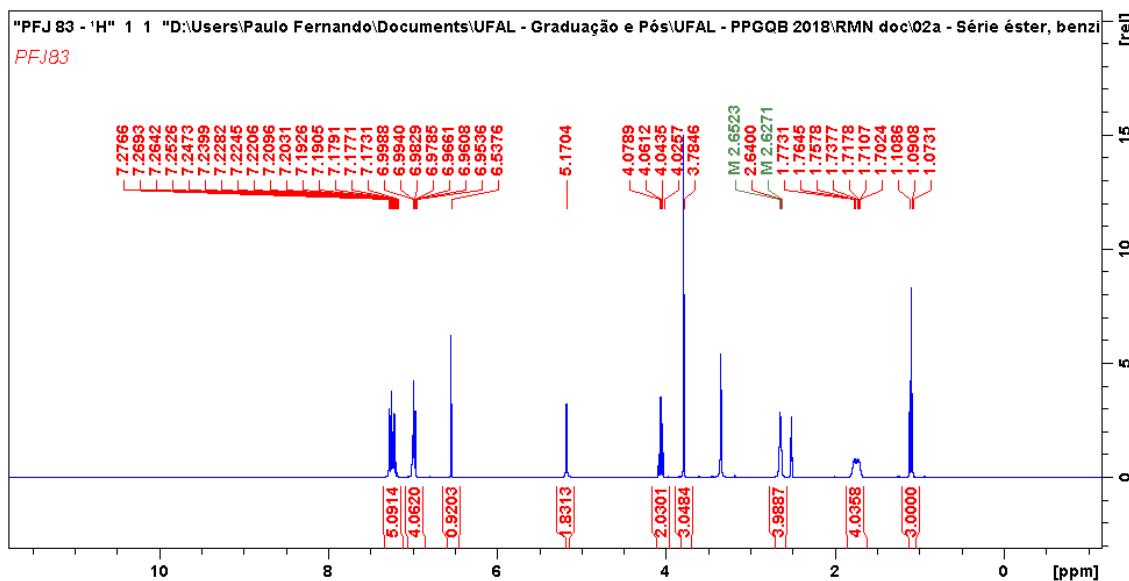


Cromatograma de HPLC-UV em MeOH 100% do Composto (2f)

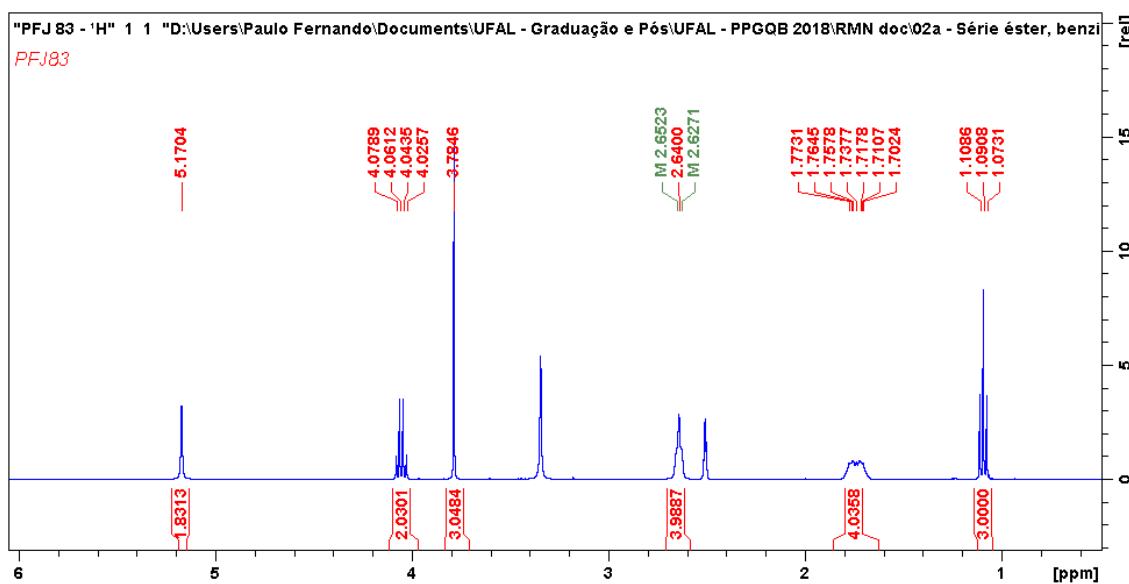


Anexo Q

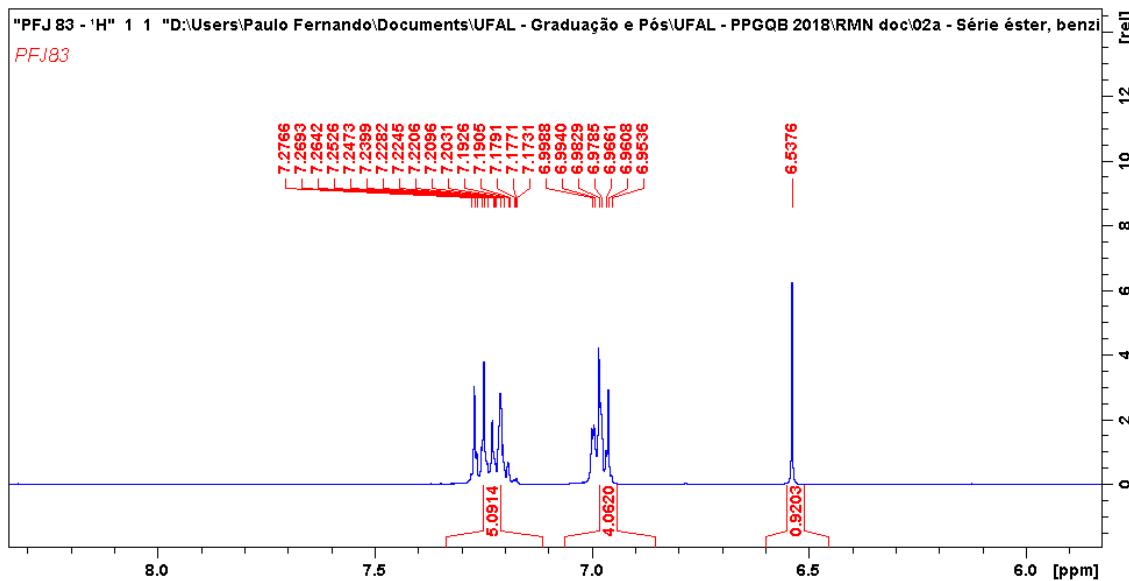
Espectro de RMN ^1H do composto (2g) (600MHz, DMSO- d_6)



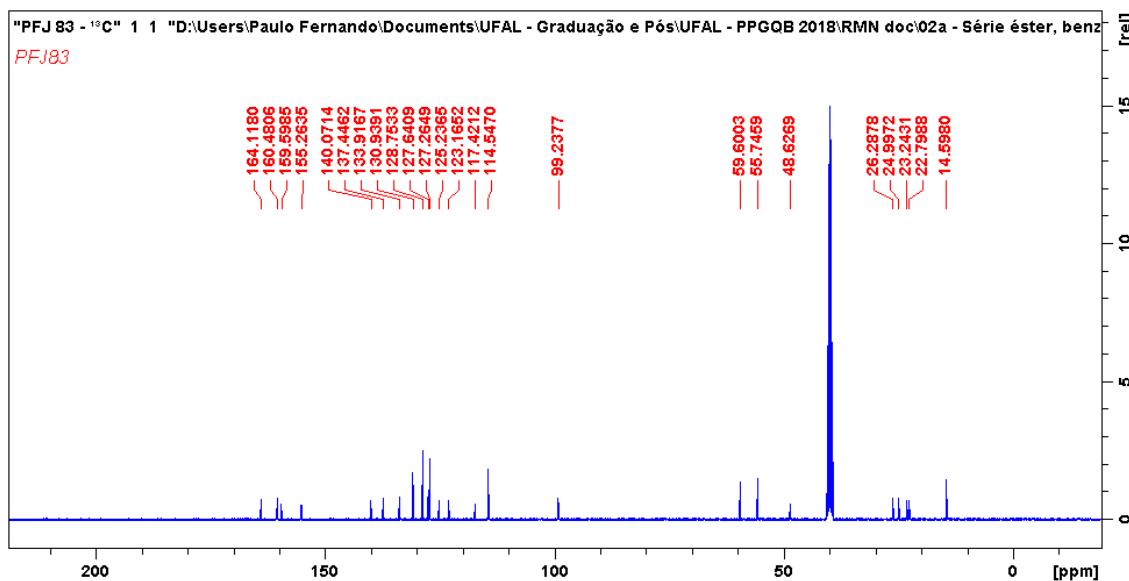
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (2g)
(600MHz, DMSO- d_6)



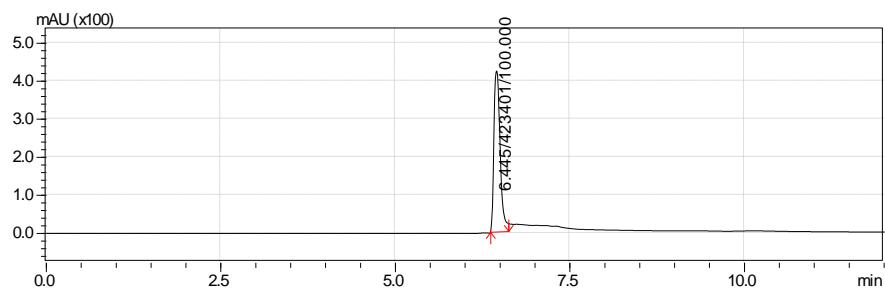
Ampliação de δ 6.0 – 8.0 do Espectro de RMN ^1H do composto (2g) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (2g) (150 MHz, DMSO- d_6)

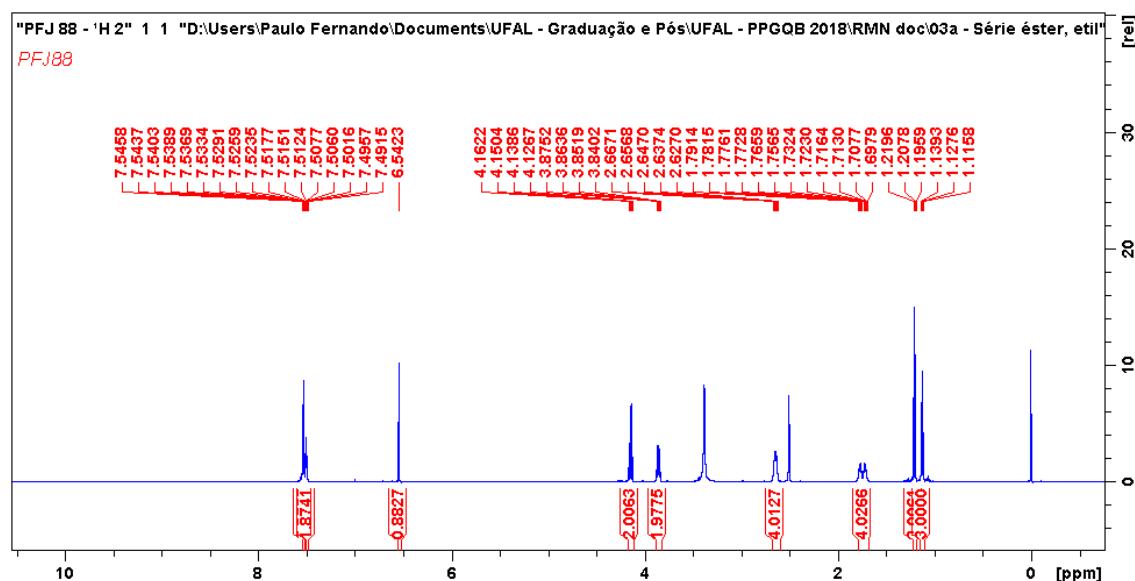


Cromatograma de HPLC-UV em MeOH 100% do Composto (63)

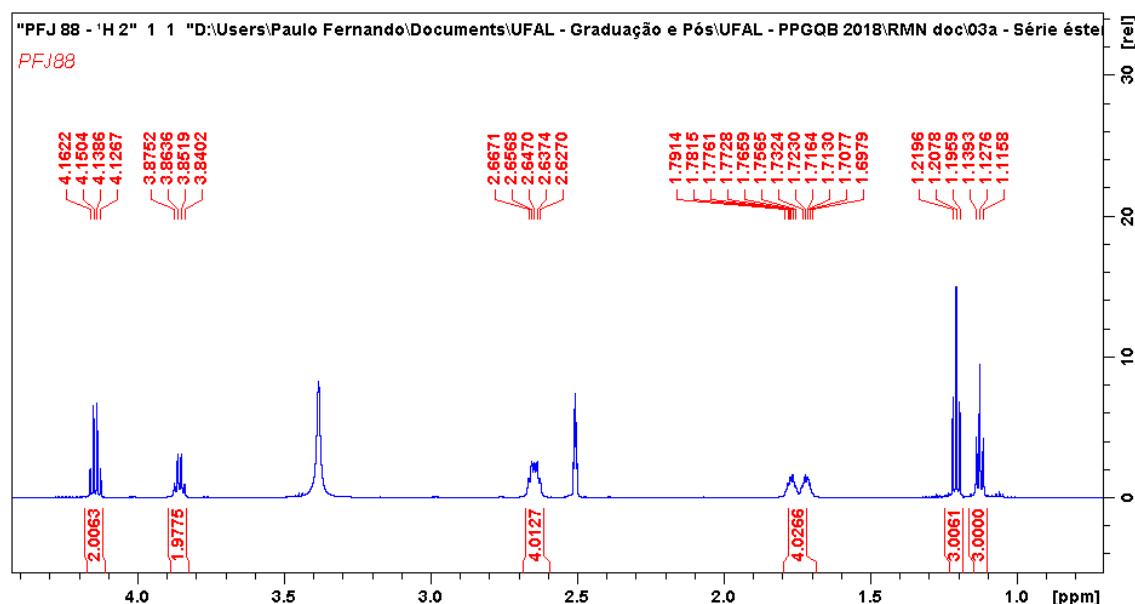


Anexo R

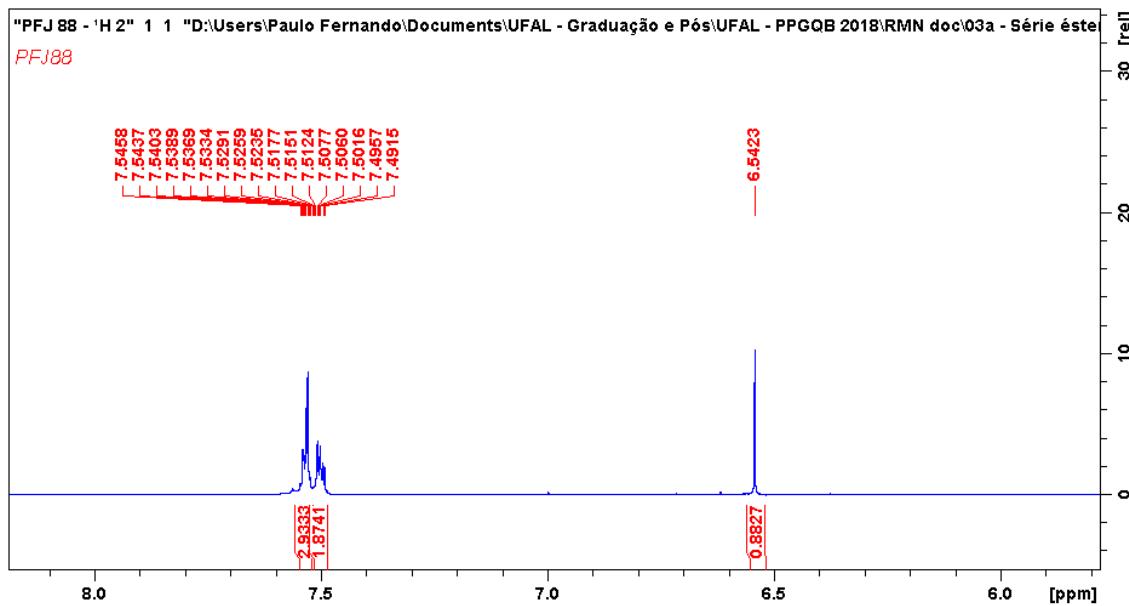
Espectro de RMN ^1H do composto (3a) (600MHz, DMSO- d_6)



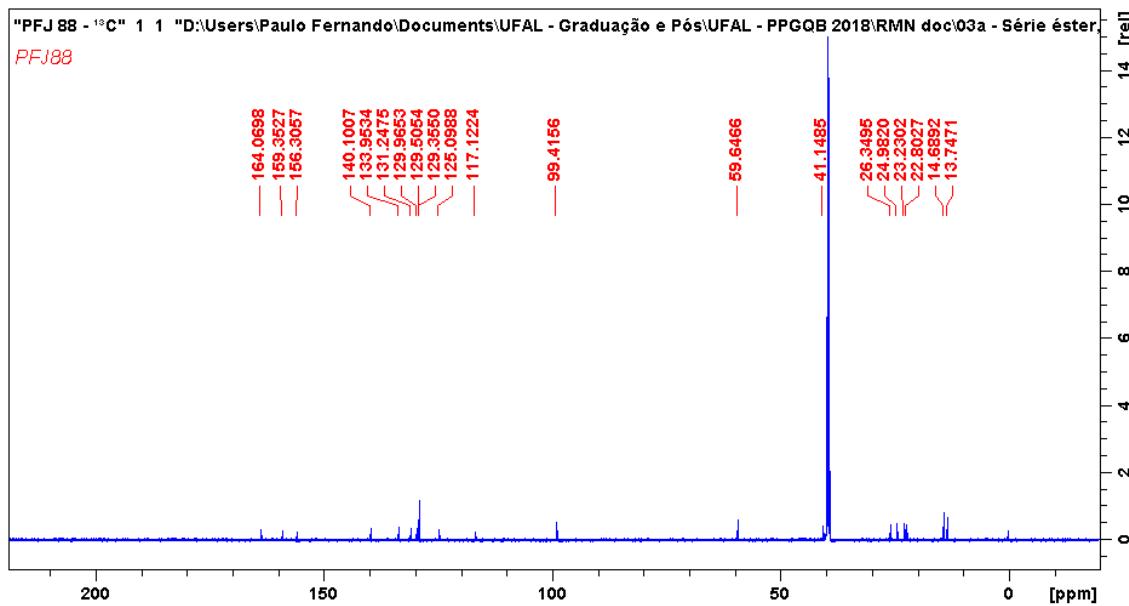
Ampliação de δ 1.0-4.2 ppm do Espectro de RMN ^1H do composto (3a) (600MHz, DMSO- d_6)



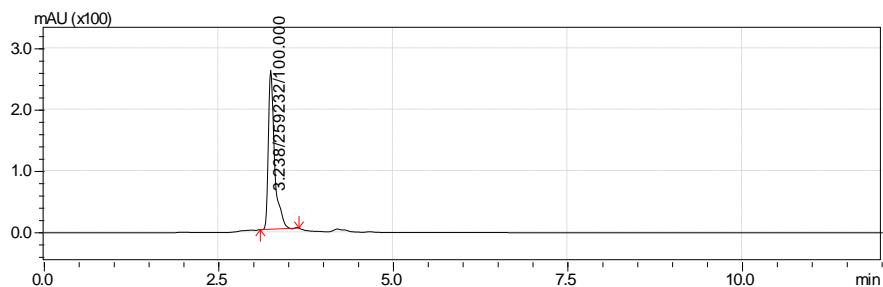
Ampliação de δ 6.0 – 8.0 do Espectro de RMN ^1H do composto (3a) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (3a) (150 MHz, DMSO- d_6)

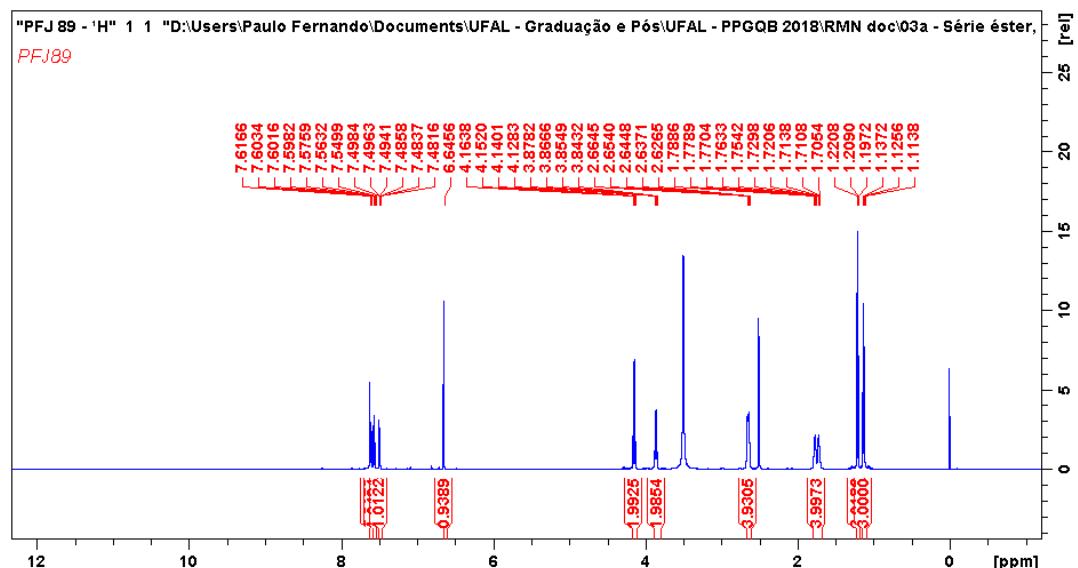


Cromatograma de HPLC-UV em MeOH 100% do Composto (3a)

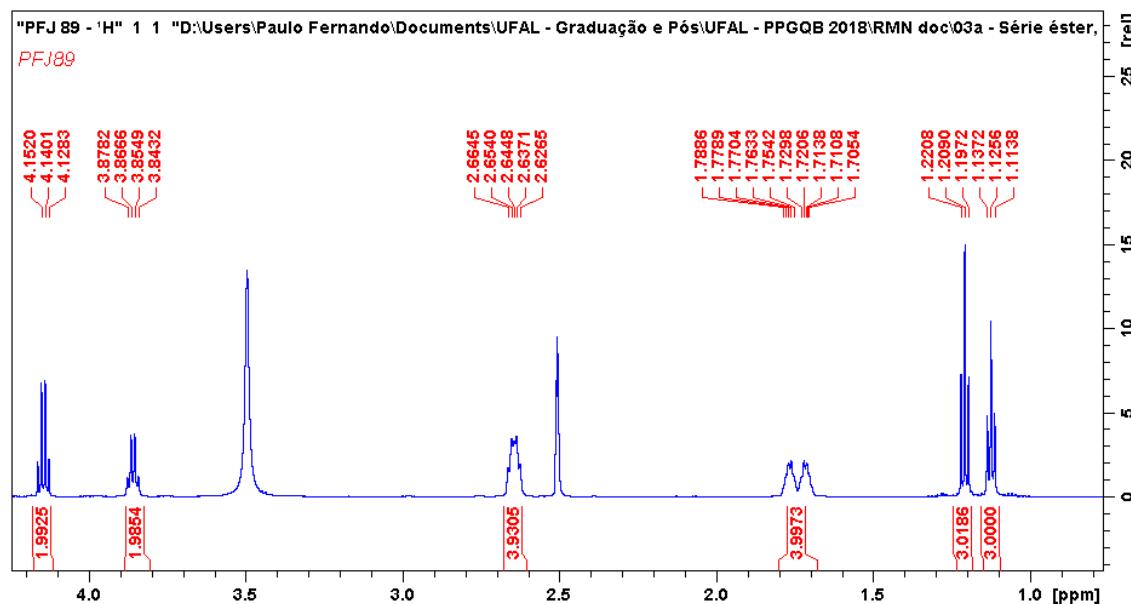


Anexo S

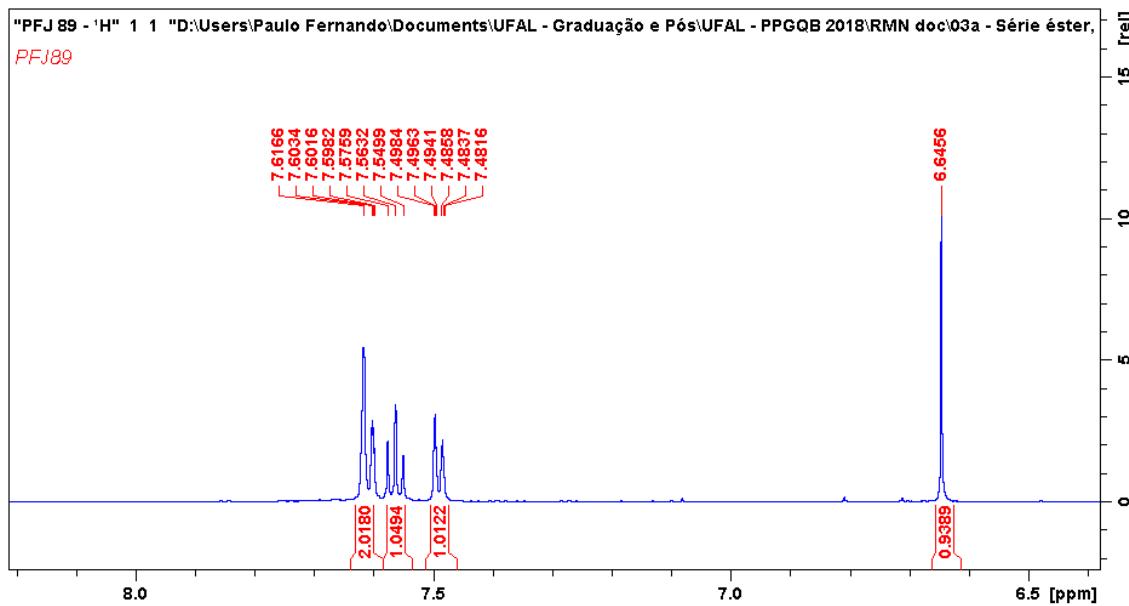
Espectro de RMN ^1H do composto (3b) (600MHz, DMSO- d_6)



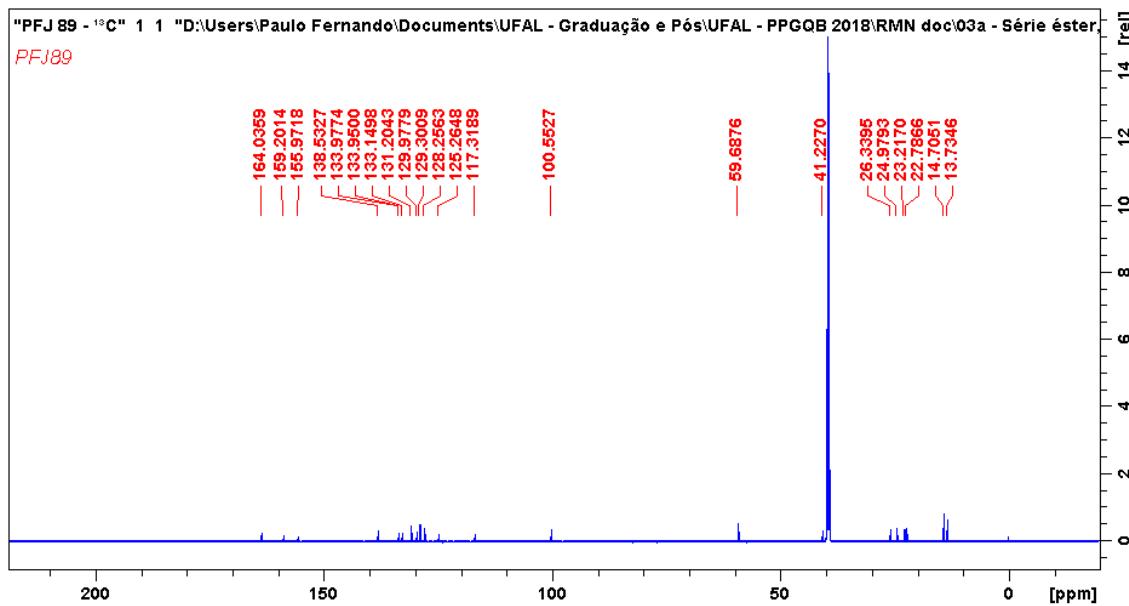
Ampliação de δ 1.0– 4.2 ppm do Espectro de RMN ^1H do composto (3b) (600MHz, DMSO- d_6)



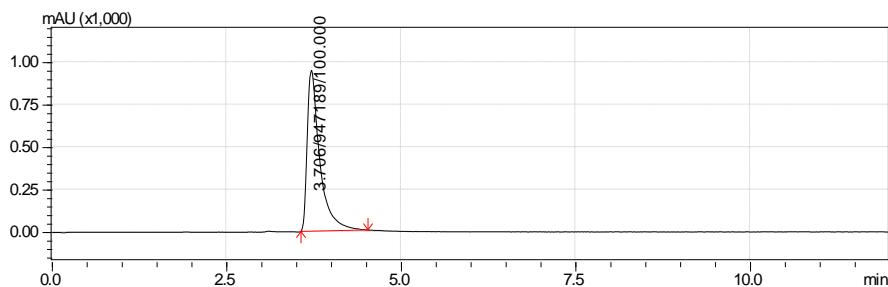
**Ampliação de δ 6.5 – 805 do Espectro de RMN ^1H do composto (3b)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (3b) (150 MHz, DMSO- d_6)

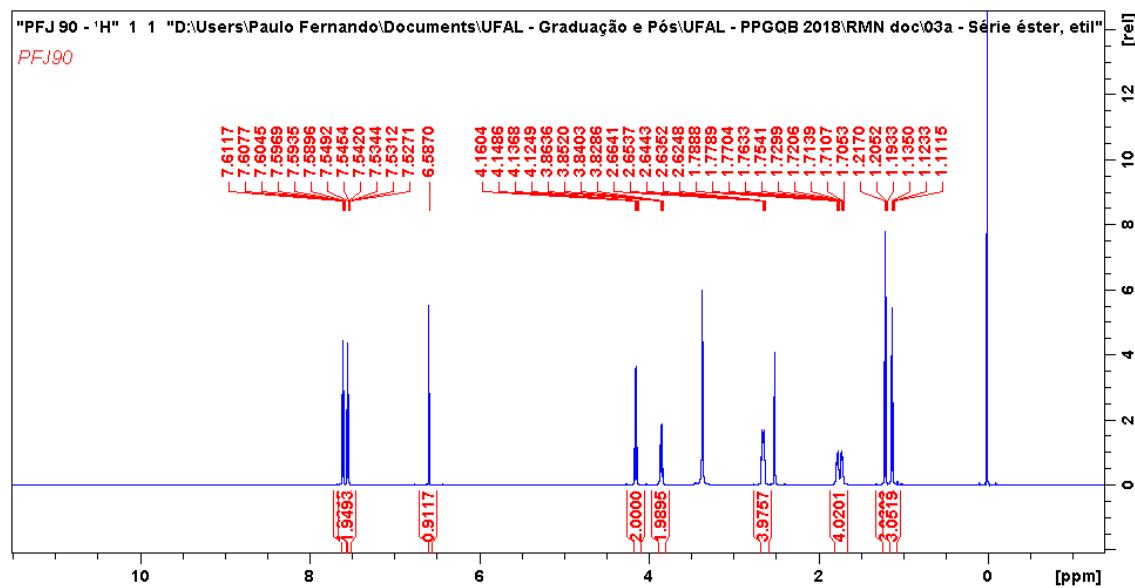


Cromatograma de HPLC-UV em MeOH 100% do Composto (3b)

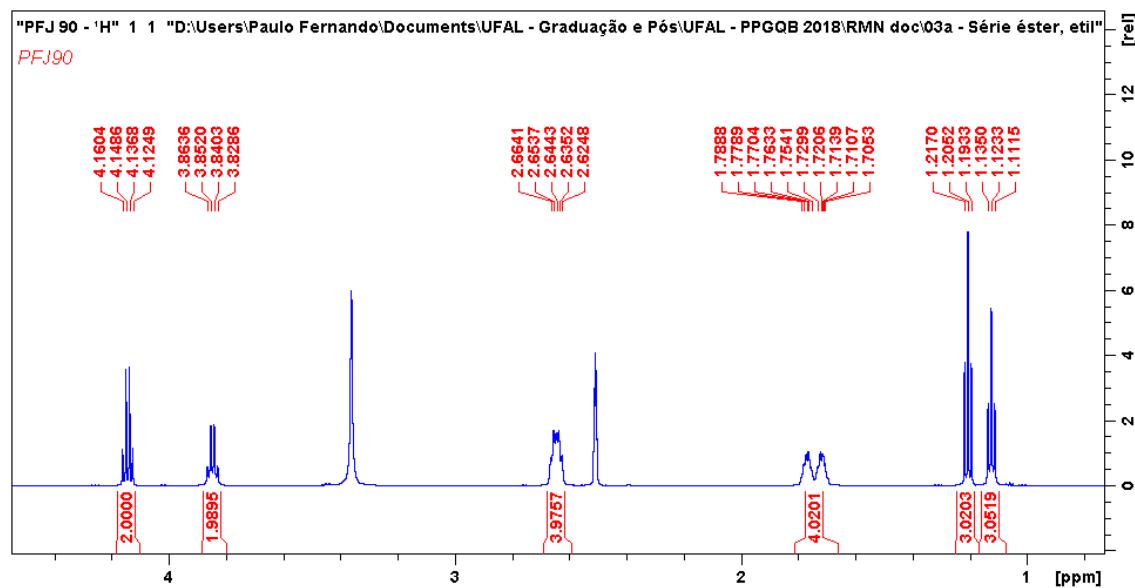


Anexo T

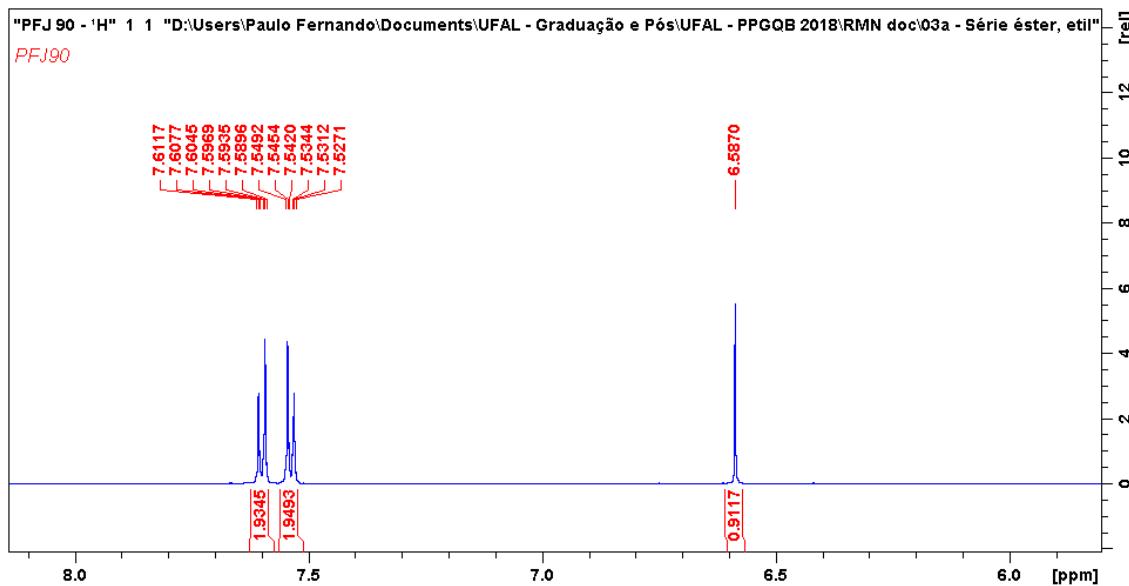
Espectro de RMN ^1H do composto (3c) (600MHz, DMSO- d_6)



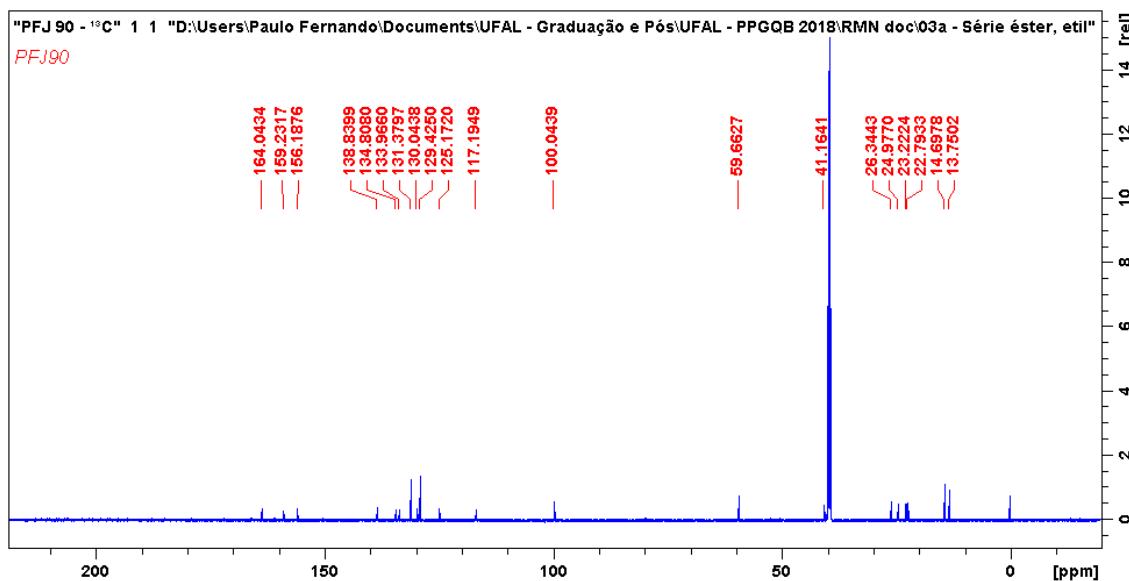
Ampliação de δ 1.0 – 4.2 ppm do Espectro de RMN ¹H do composto (3c) (600MHz, DMSO-*d*₆)



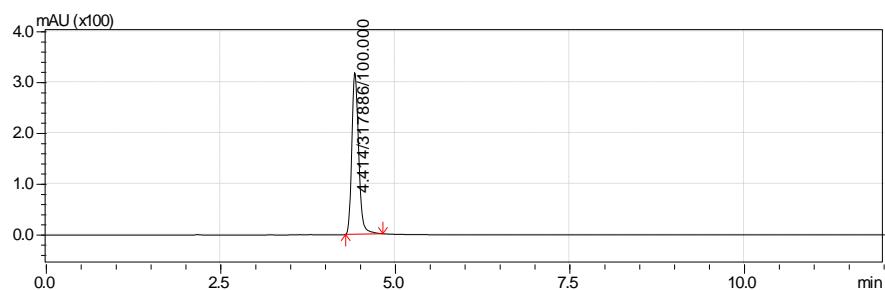
Ampliação de δ 6.0-8.0 ppm do Espectro de RMN ^1H do composto (3c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (3c) (150 MHz, DMSO- d_6)

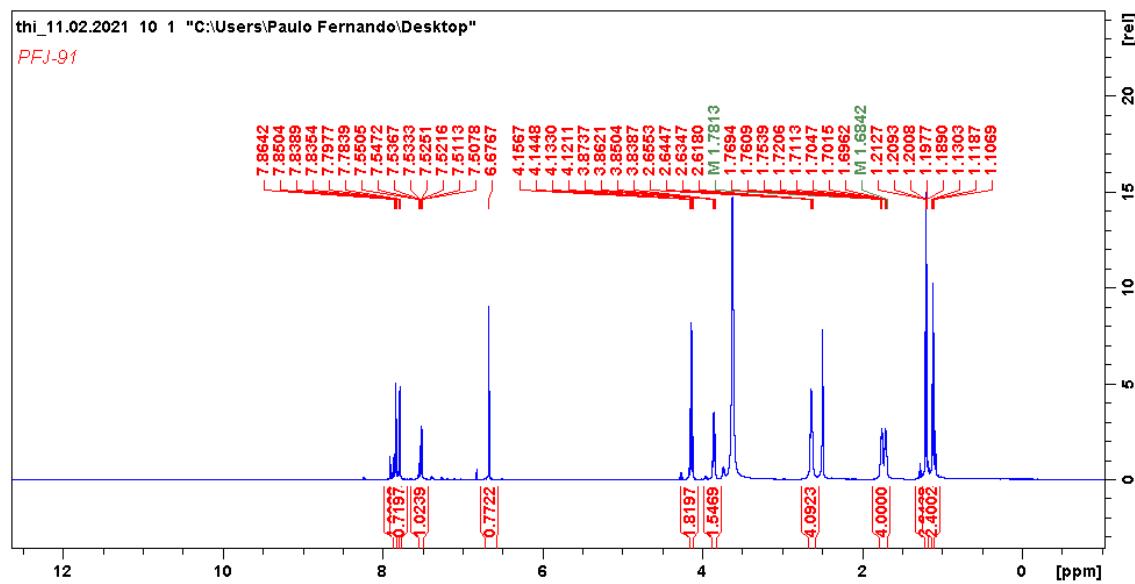


Cromatograma de HPLC-UV em MeOH 100% do Composto (3c)

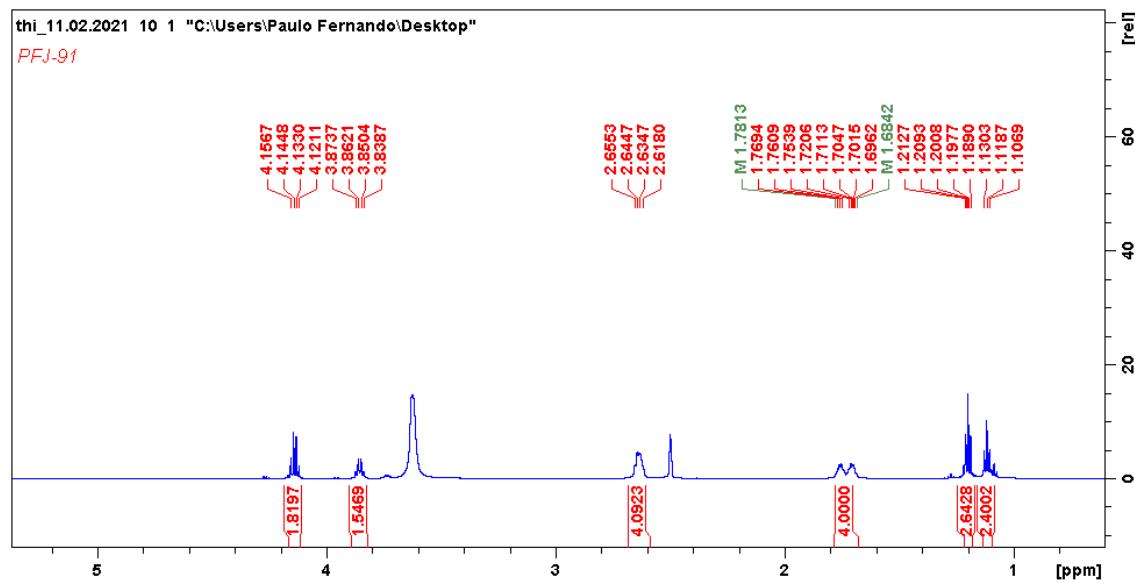


Anexo U

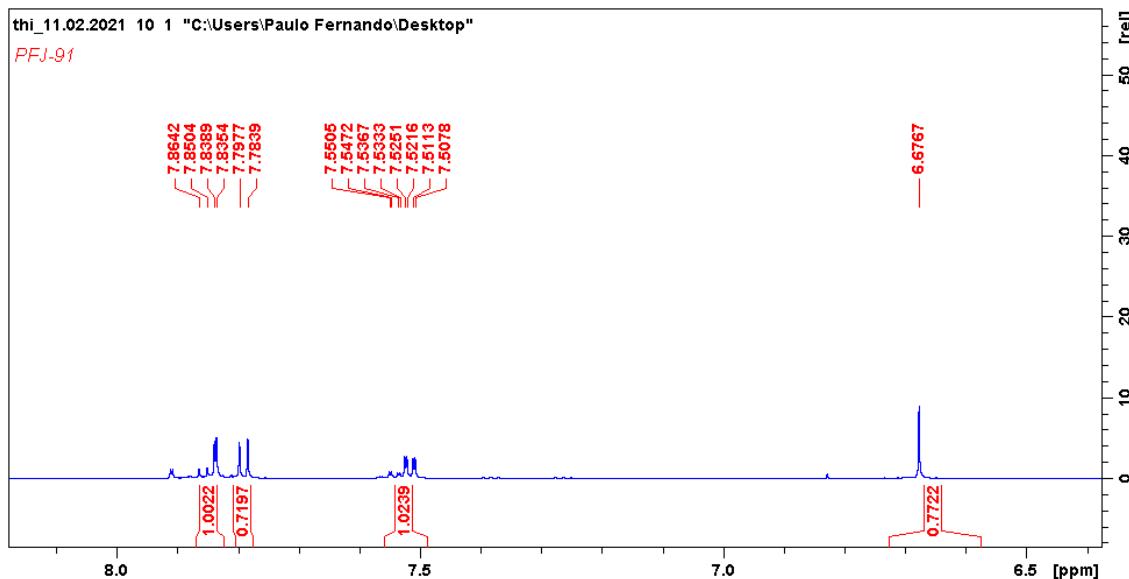
Espectro de RMN ^1H do composto (3d) (600MHz, DMSO- d_6)



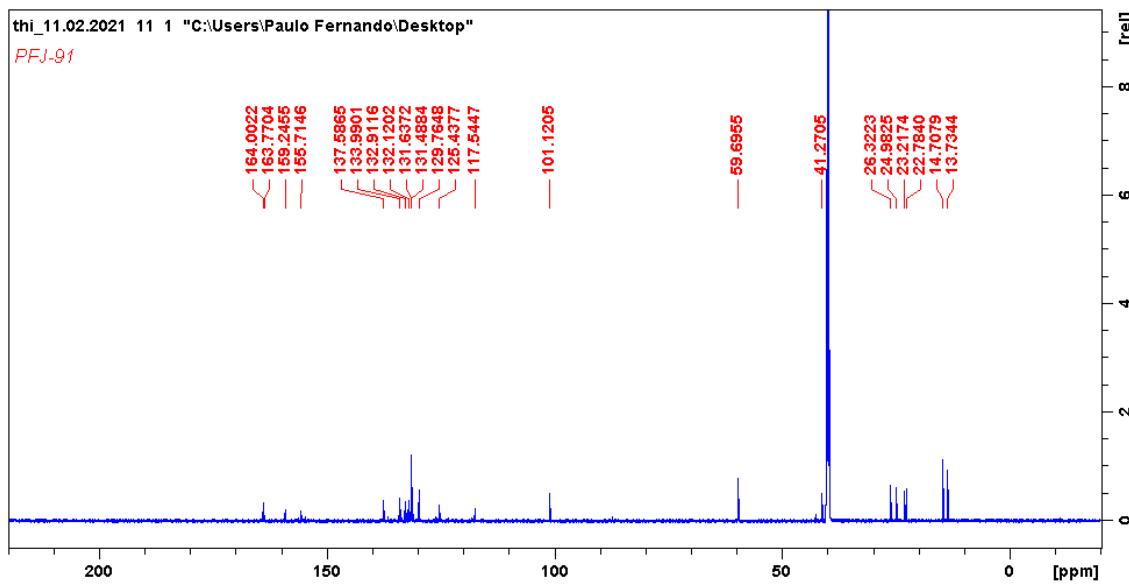
Ampliação de δ 1.0-5.0 ppm do Espectro de RMN ^1H do composto (3d)
(600MHz, DMSO- d_6)



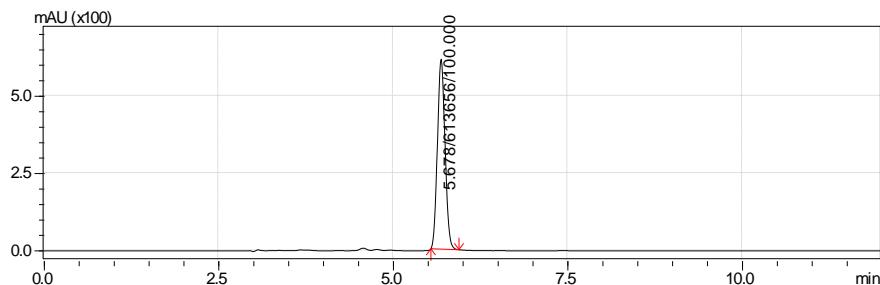
**Ampliação de δ 6.6-8.0 ppm do Espectro de RMN ^1H do composto (3d)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (3d) (150 MHz, DMSO- d_6)

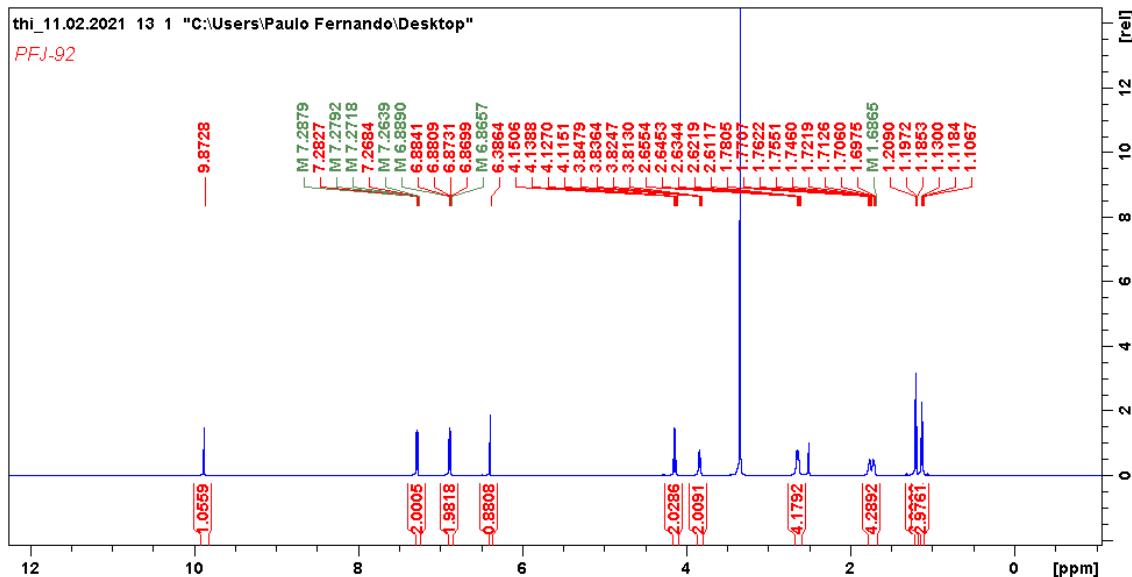


Cromatograma de HPLC-UV em MeOH 100% do Composto (3d)

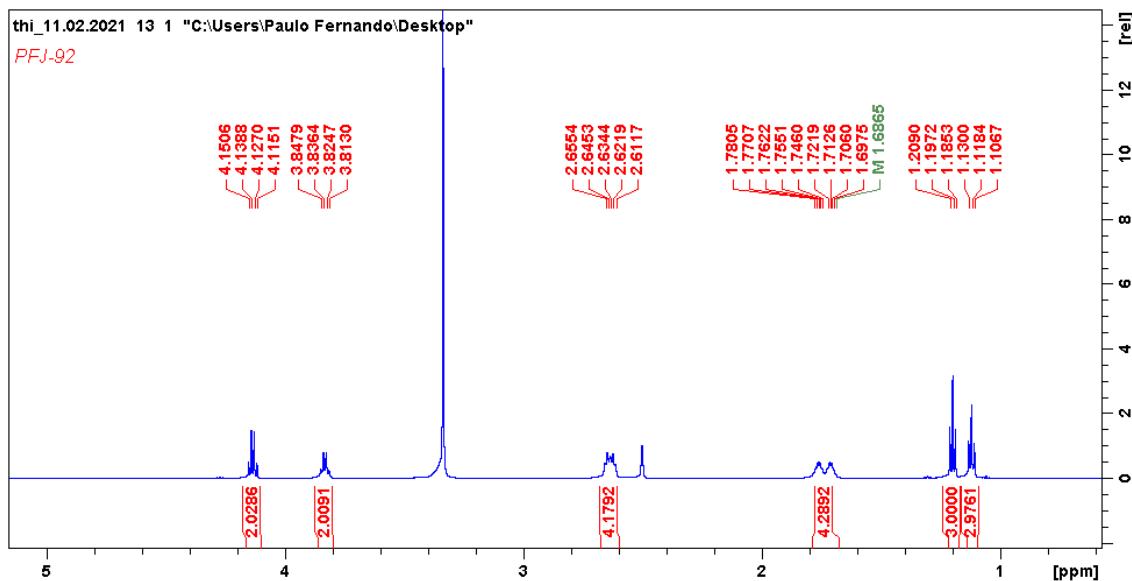


Anexo V

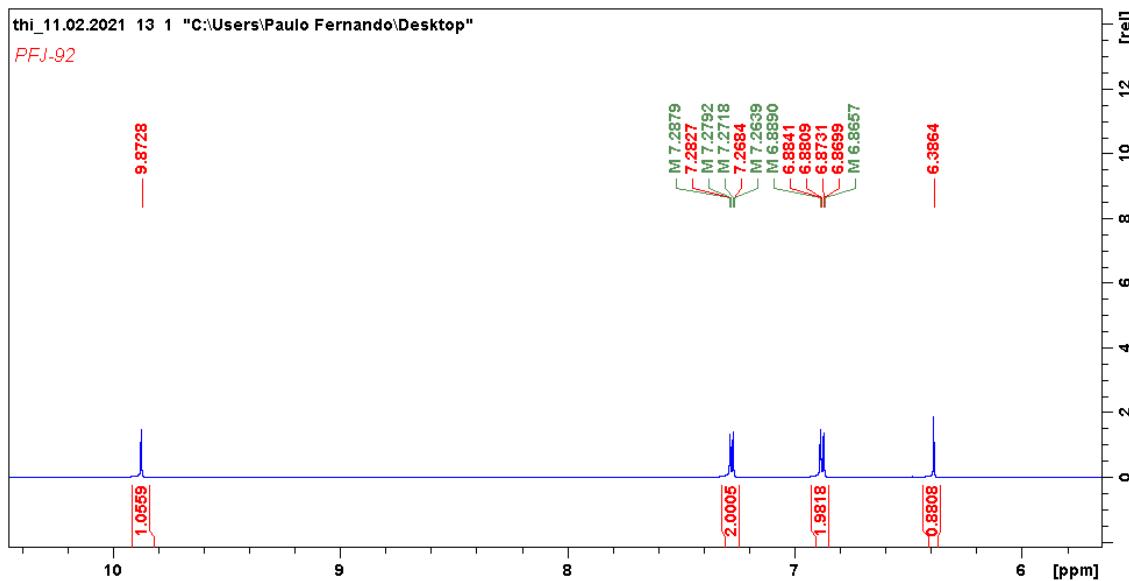
Espectro de RMN ^1H do composto (3e) (600MHz, DMSO- d_6)



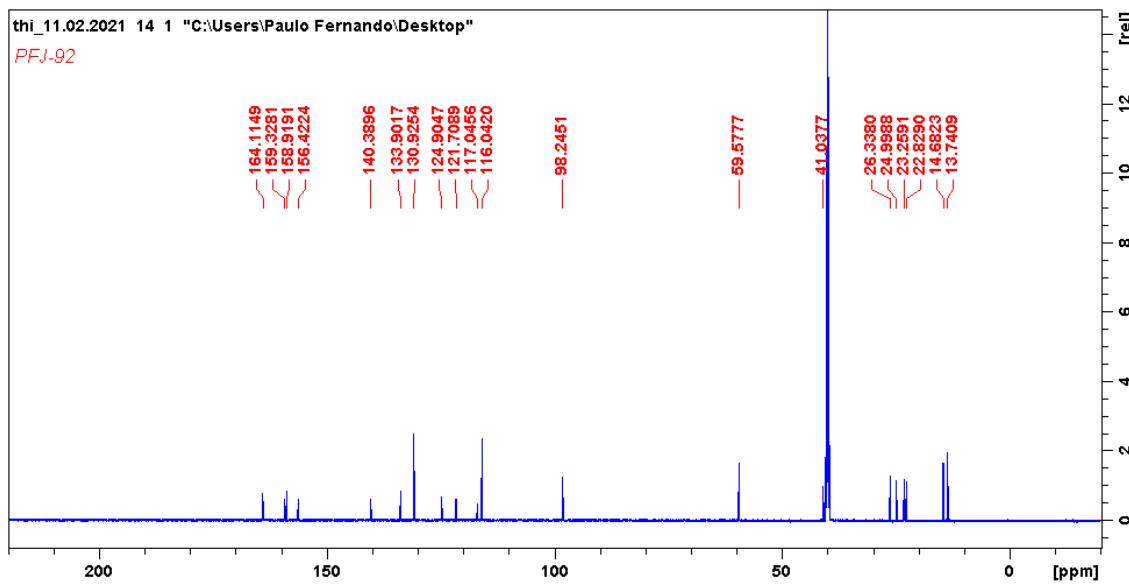
Ampliação de δ 1.0-5.0 ppm do Espectro de RMN ^1H do composto (3e) (600MHz, DMSO- d_6)



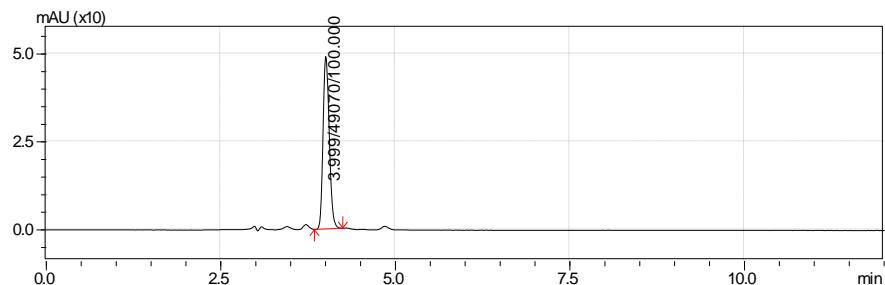
Ampliação de δ 6.0-8.0 ppm do Espectro de RMN ^1H do composto (3e) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (3e) (150 MHz, DMSO- d_6)

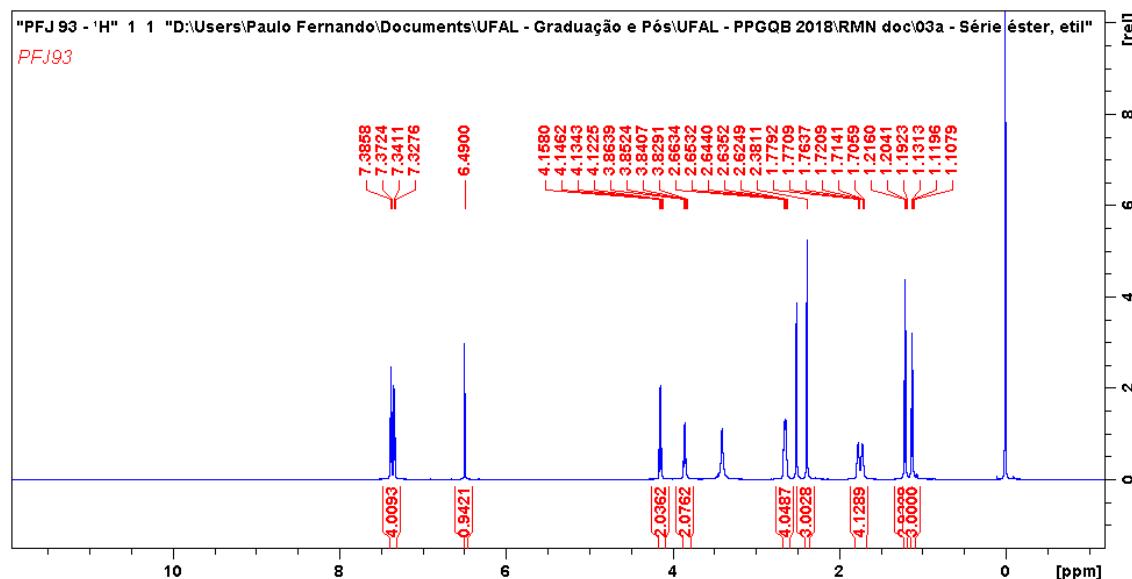


Cromatograma de HPLC-UV em MeOH 100% do Composto (3e)

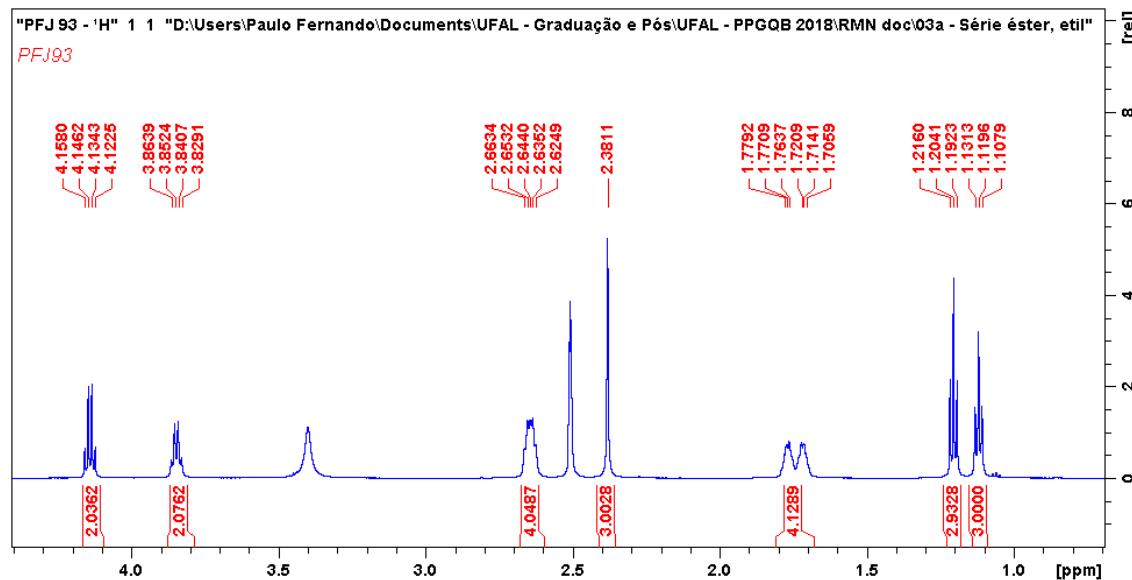


Anexo X

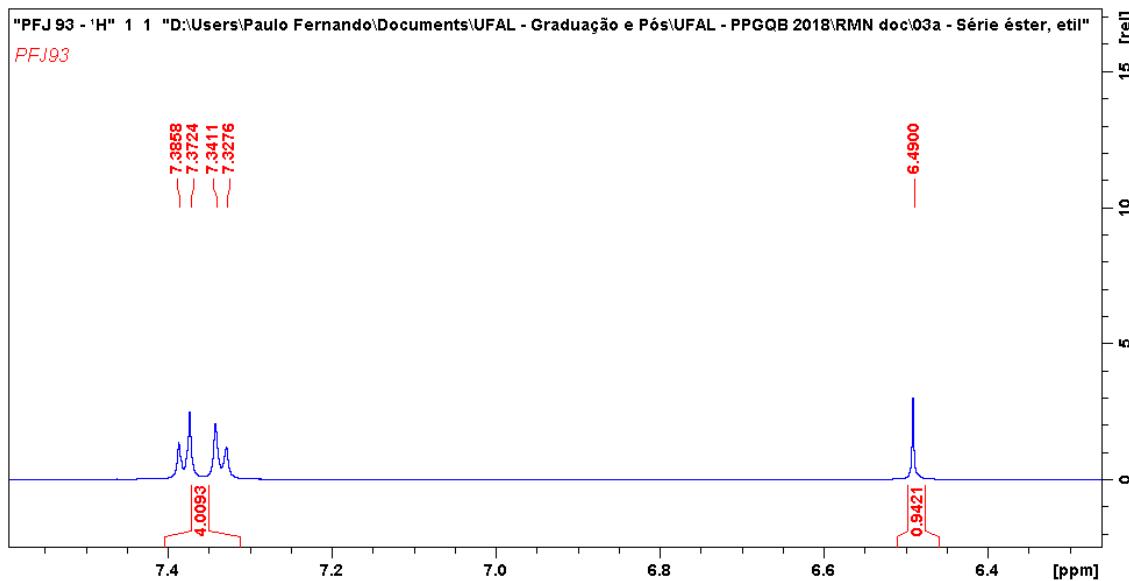
Espectro de RMN ^1H do composto (3f) (600MHz, DMSO- d_6)



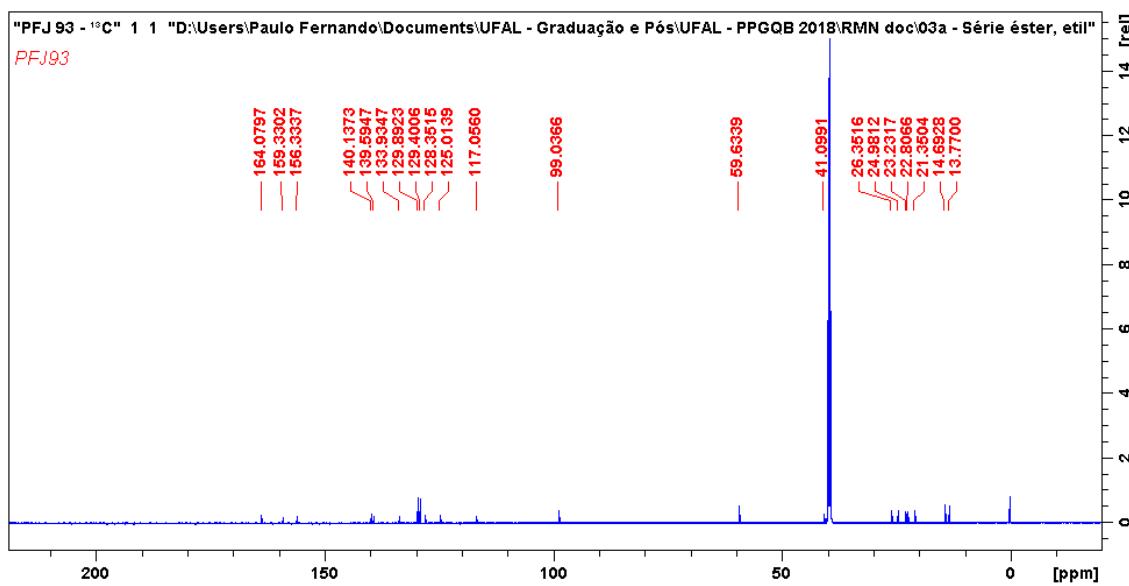
Ampliação de δ 1.0-4.2 ppm do Espectro de RMN ^1H do composto (3f) (600MHz, DMSO- d_6)



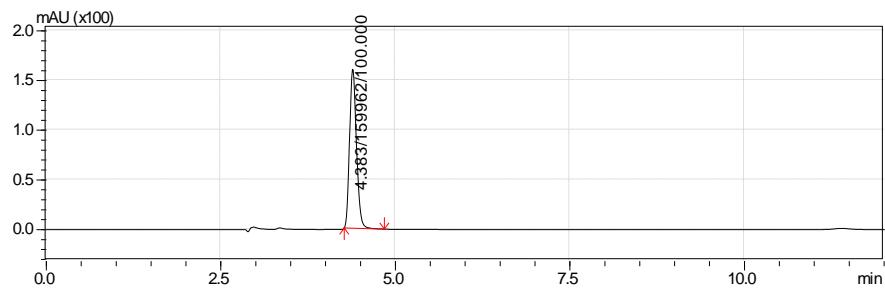
Ampliação de δ 6.4 – 7.4 ppm do Espectro de RMN ^1H do composto (3f) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (3f) (150 MHz, DMSO- d_6)

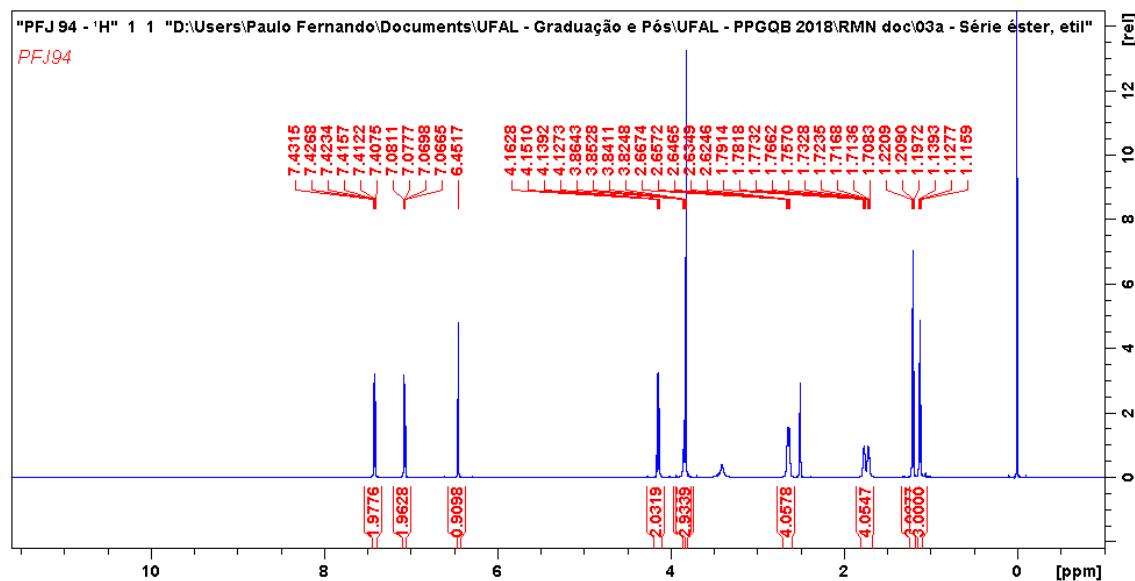


Cromatograma de HPLC-UV em MeOH 100% do Composto (3f)

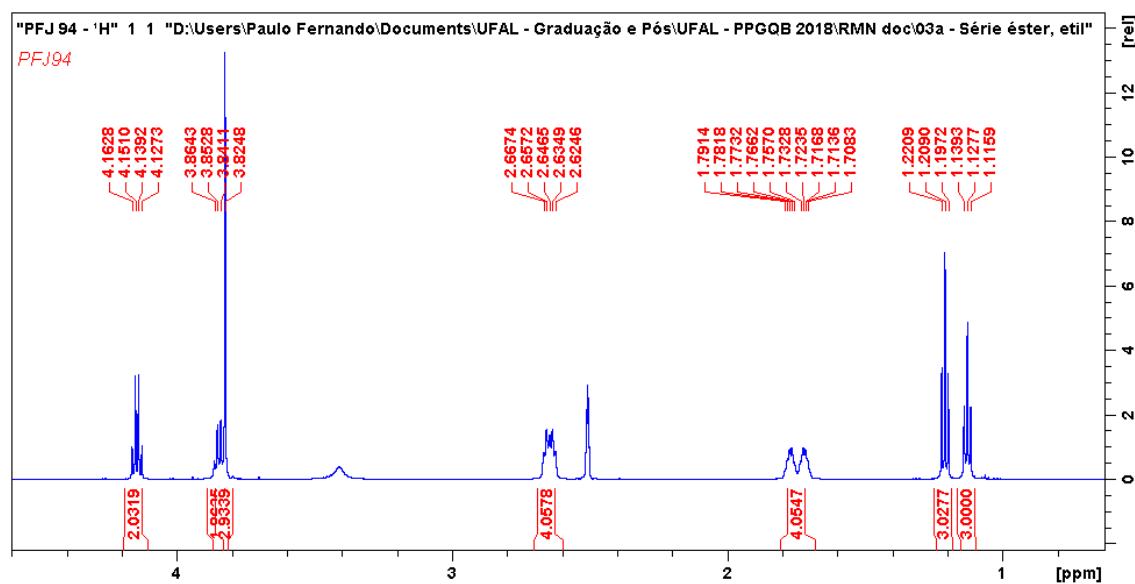


Anexo Z

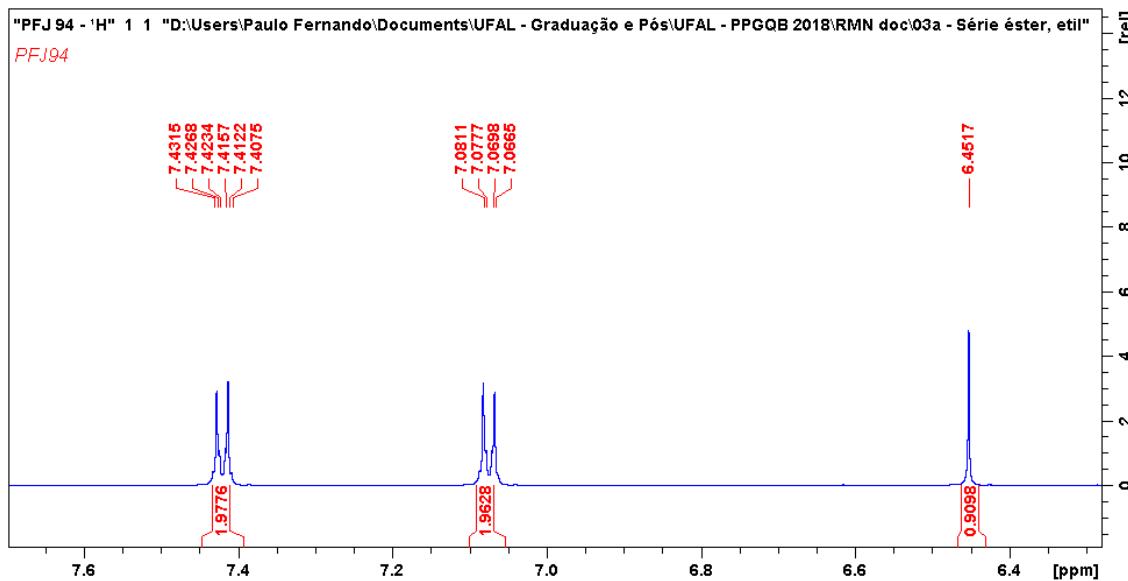
Espectro de RMN ^1H do composto (3g) (600MHz, DMSO- d_6)



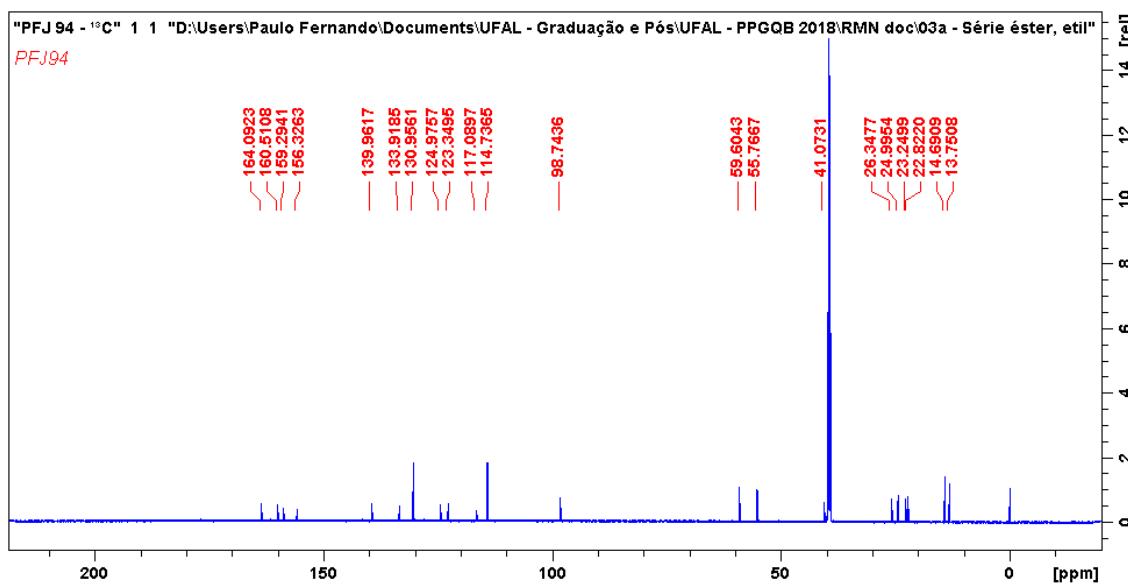
Ampliação de δ 1.0 – 4.2 ppm do Espectro de RMN ¹H do composto (3g) (600MHz, DMSO-*d*₆)



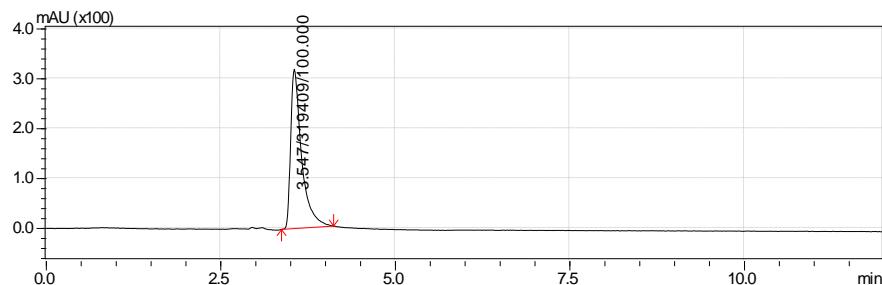
**Ampliação de δ 6.4-7.6 ppm do Espectro de RMN ^1H do composto (3g)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (3g) (150 MHz, DMSO- d_6)

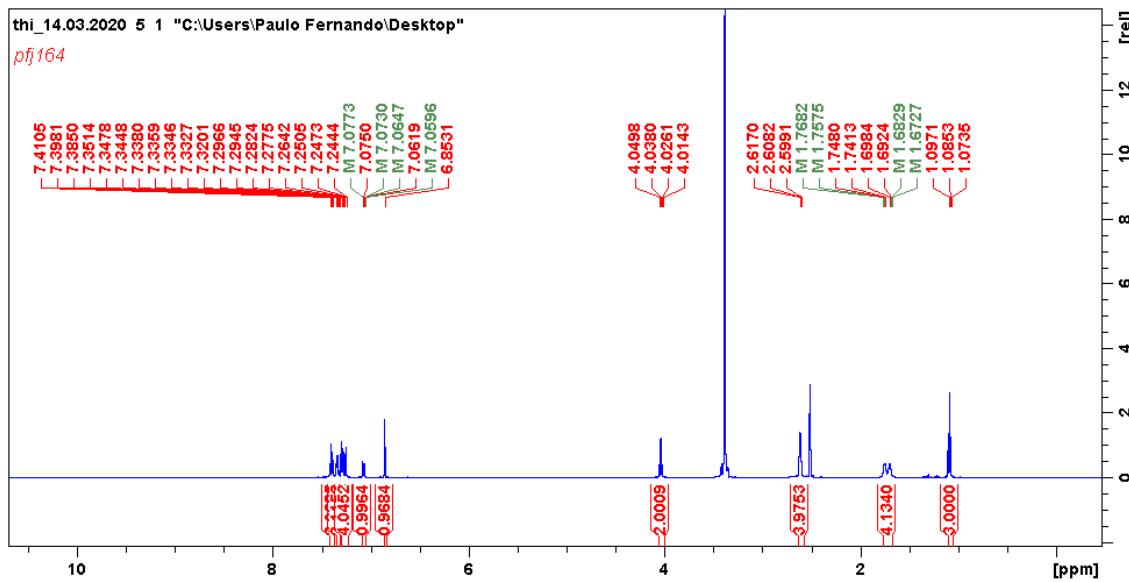


Cromatograma de HPLC-UV em MeOH 100% do Composto (3g)

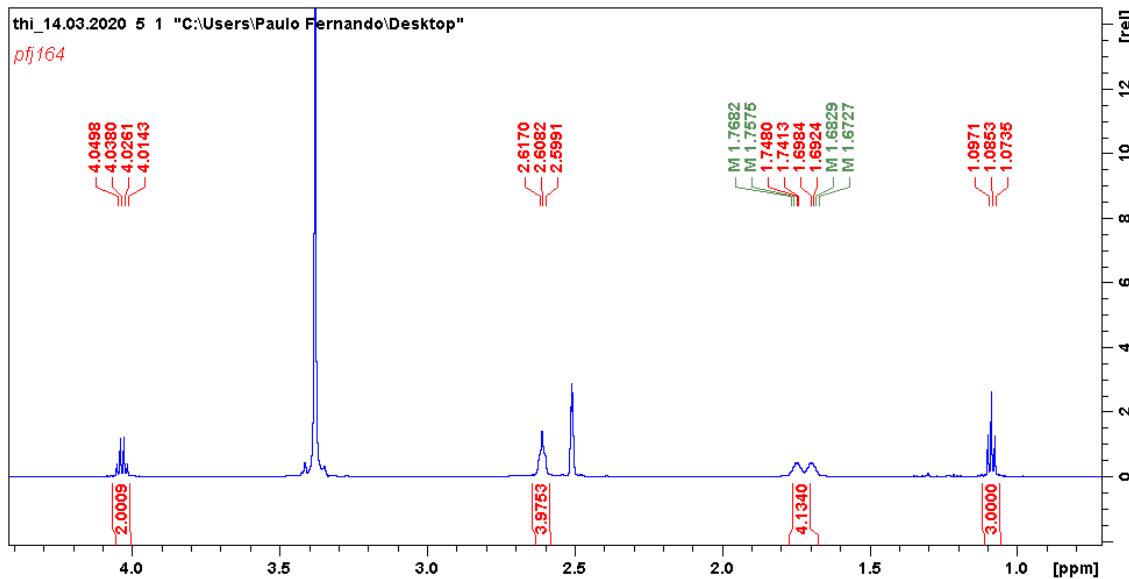


Anexo I

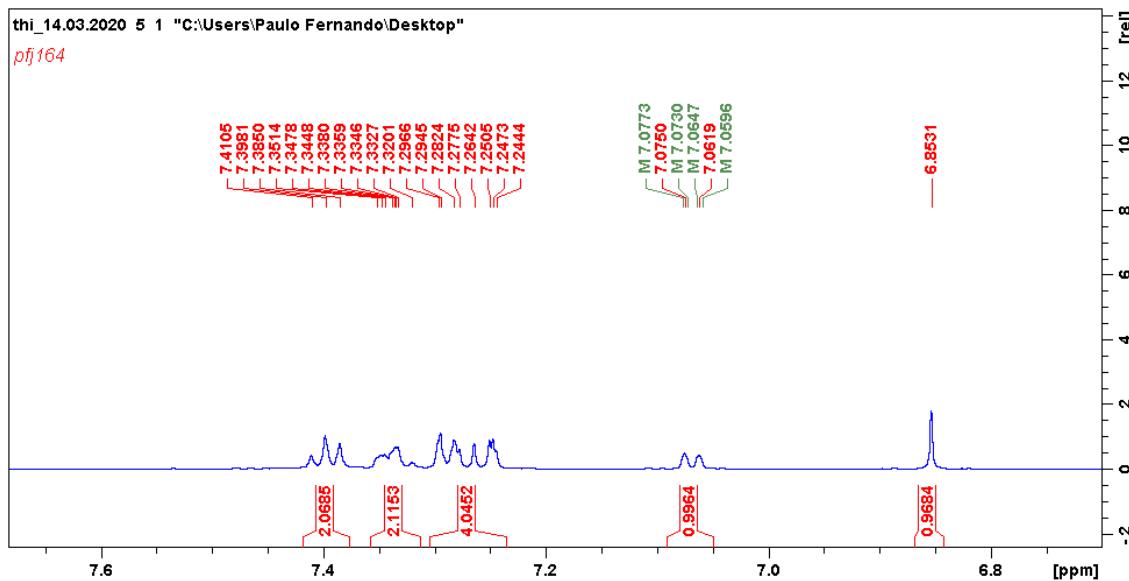
Espectro de RMN ^1H do composto (4a) (600MHz, DMSO- d_6)



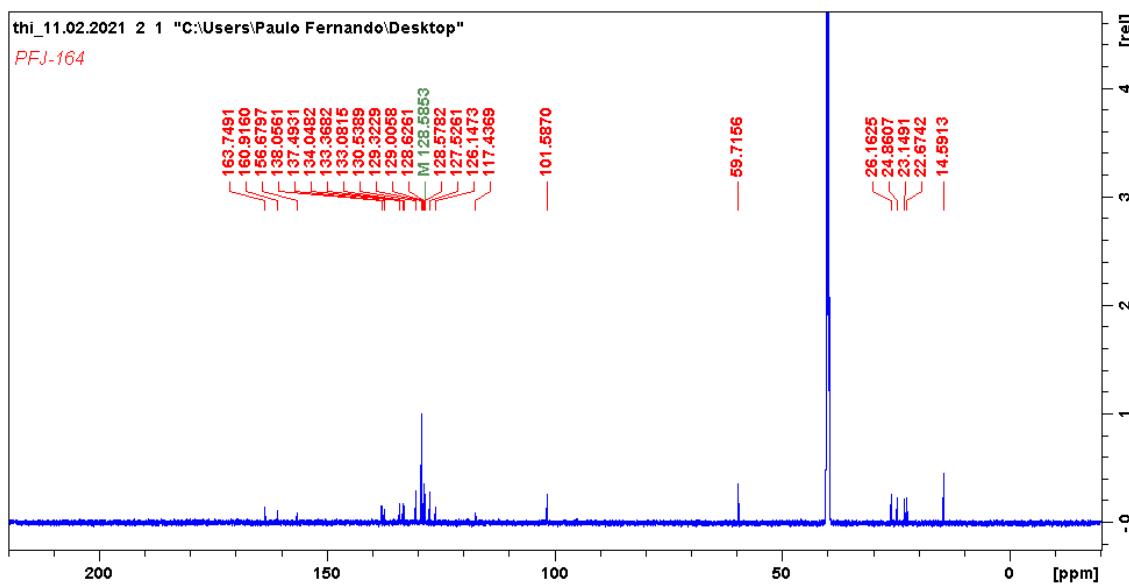
Ampliação de δ 1.0– 4.2 ppm do Espectro de RMN ^1H do composto (4a)
(600MHz, DMSO- d_6)



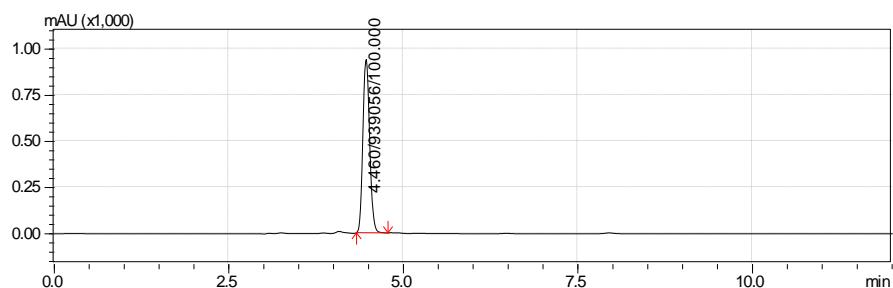
**Ampliação de δ 6.8-7.6 ppm do Espectro de RMN ^1H do composto (4a)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (4a) (150 MHz, DMSO- d_6)

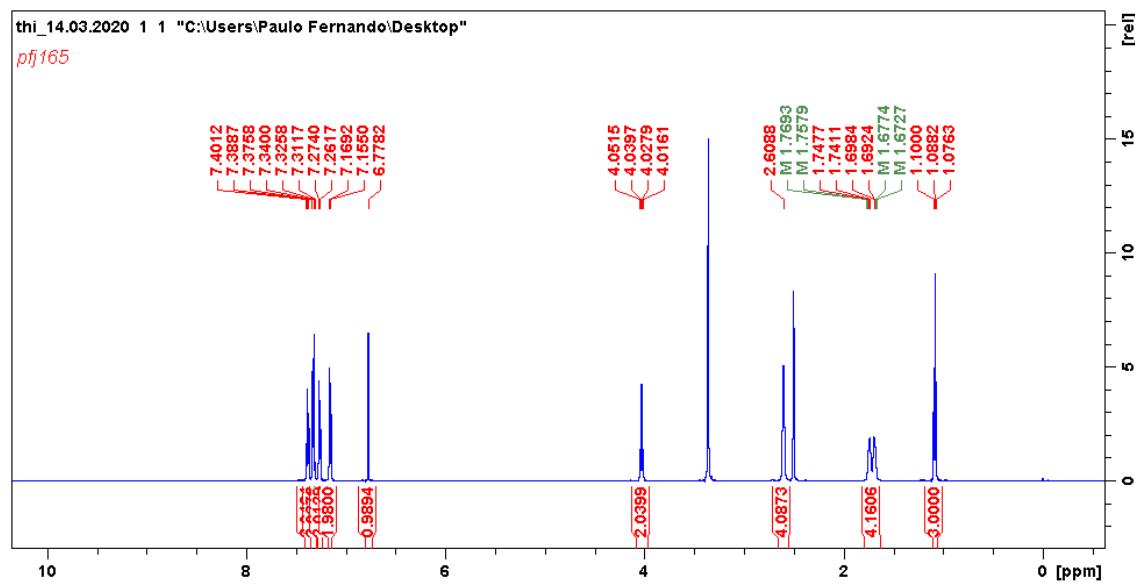


Cromatograma de HPLC-UV em MeOH 100% do Composto (4a)

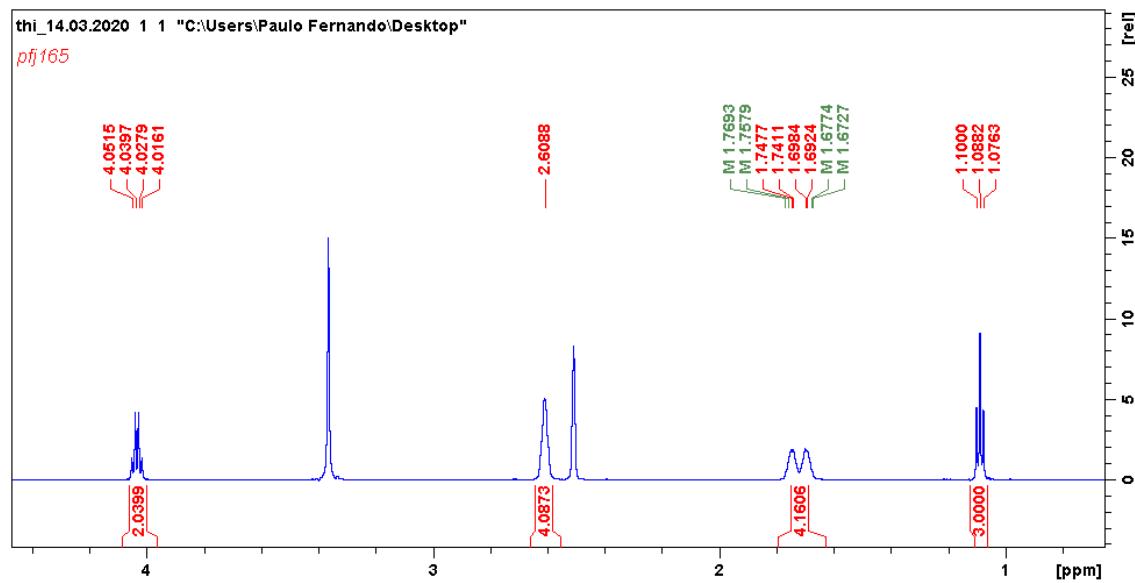


Anexo II

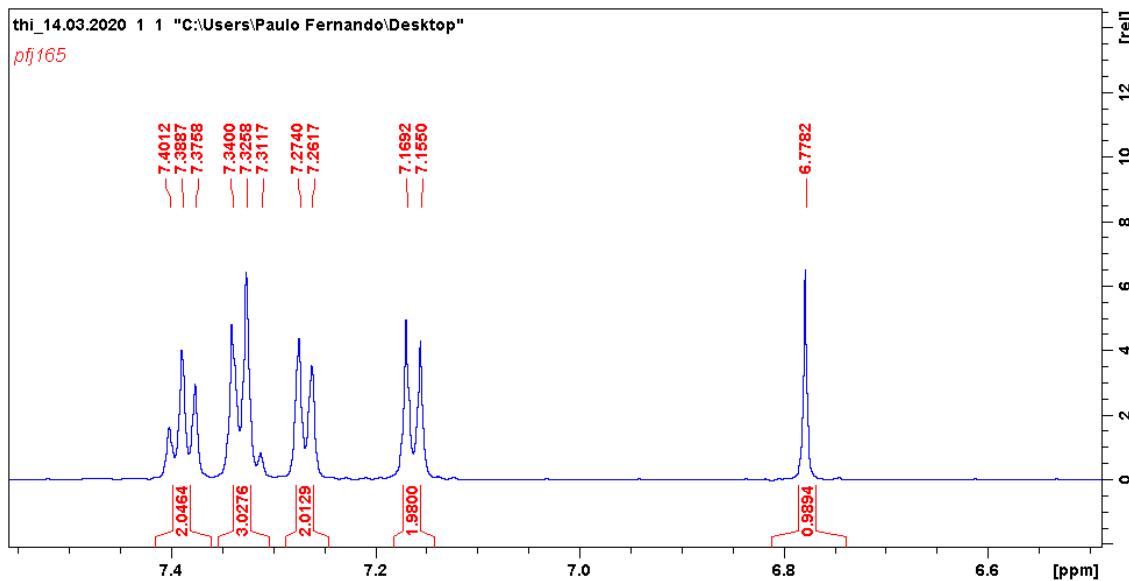
Espectro de RMN ^1H do composto (4b) (600MHz, DMSO- d_6)



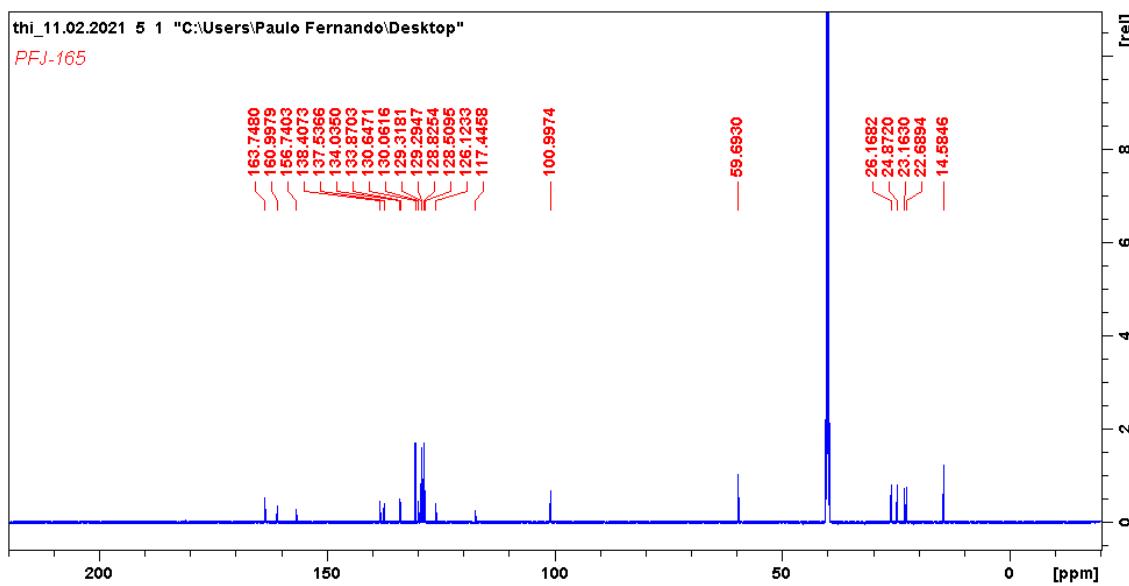
Ampliação de δ 1.0– 426 ppm do Espectro de RMN ^1H do composto (4b)
(600MHz, DMSO- d_6)



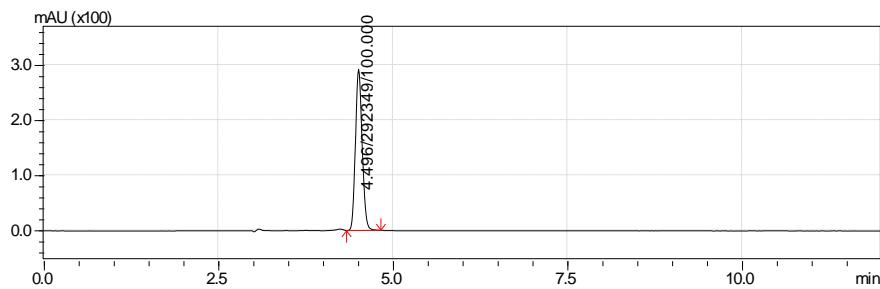
**Ampliação de δ 6.6-7.4 ppm do Espectro de RMN ^1H do composto (4b)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (4b) (150 MHz, DMSO- d_6)

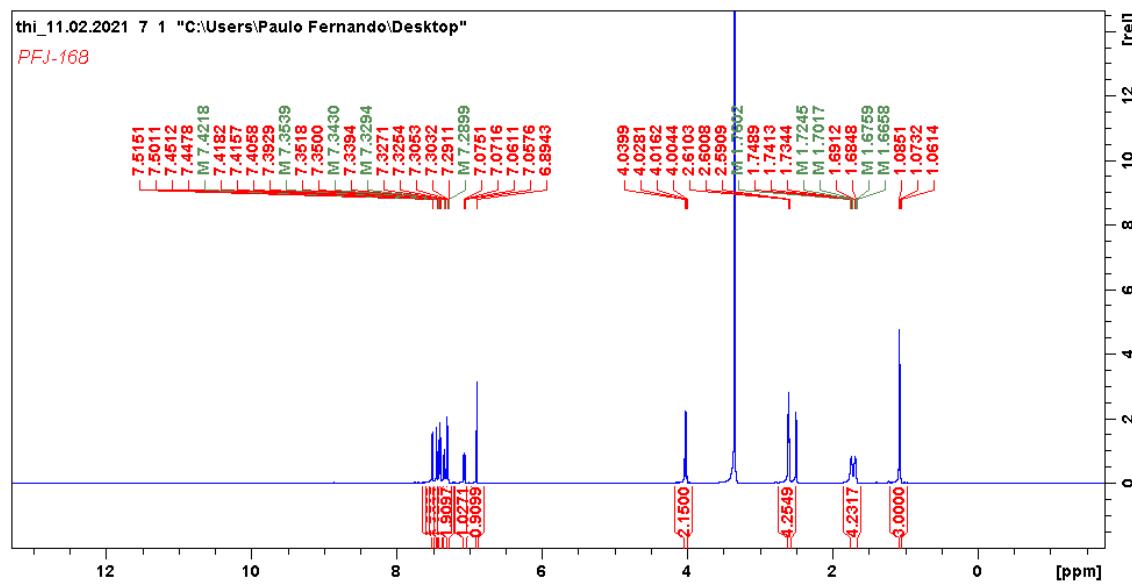


Cromatograma de HPLC-UV em MeOH 100% do Composto (4b)

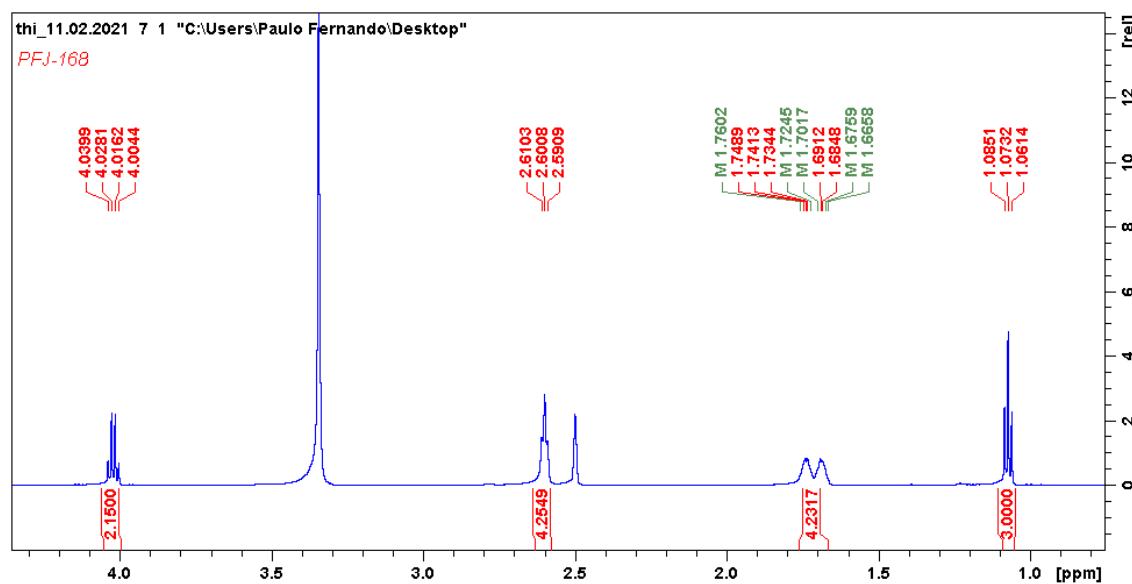


Anexo III

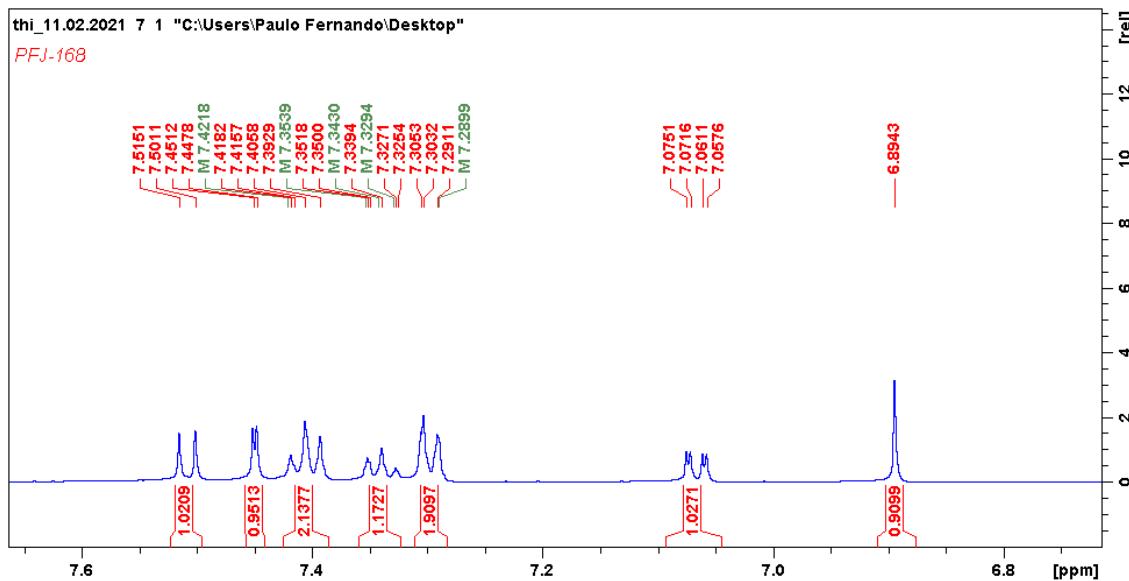
Espectro de RMN ^1H do composto (4c) (600MHz, DMSO- d_6)



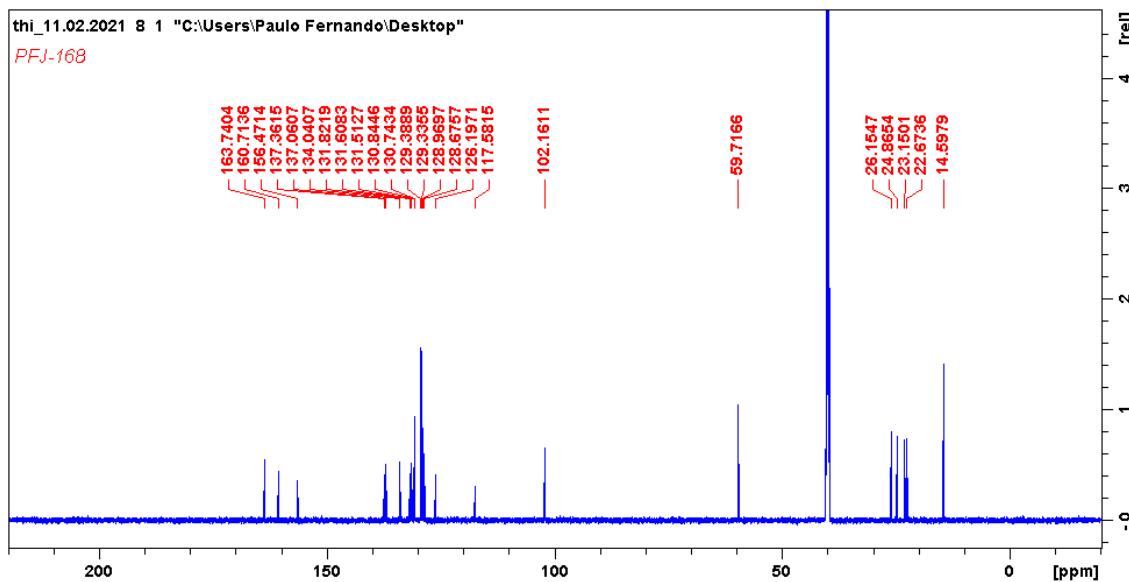
Ampliação de δ 1.0-4.0 ppm do Espectro de RMN ^1H do composto (4c)
(600MHz, DMSO- d_6)



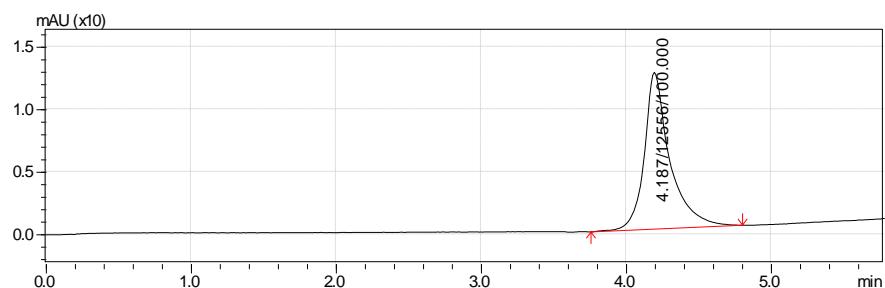
Ampliação de δ 6.8-7.6 ppm do Espectro de RMN ^1H do composto (4c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (4b) (150 MHz, DMSO- d_6)

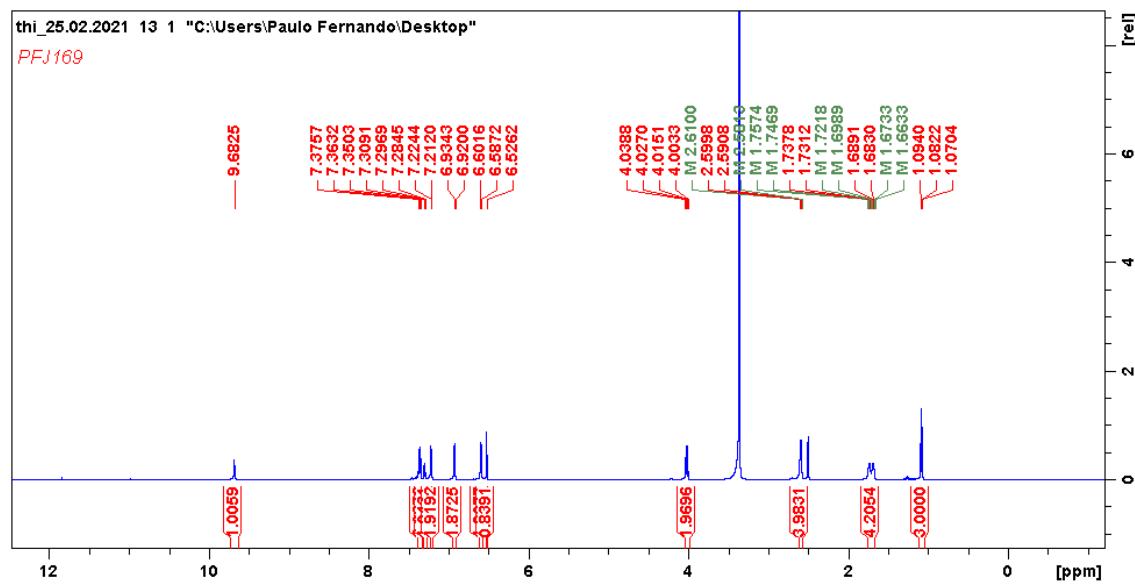


Cromatograma de HPLC-UV em MeOH 100% do Composto (4c)

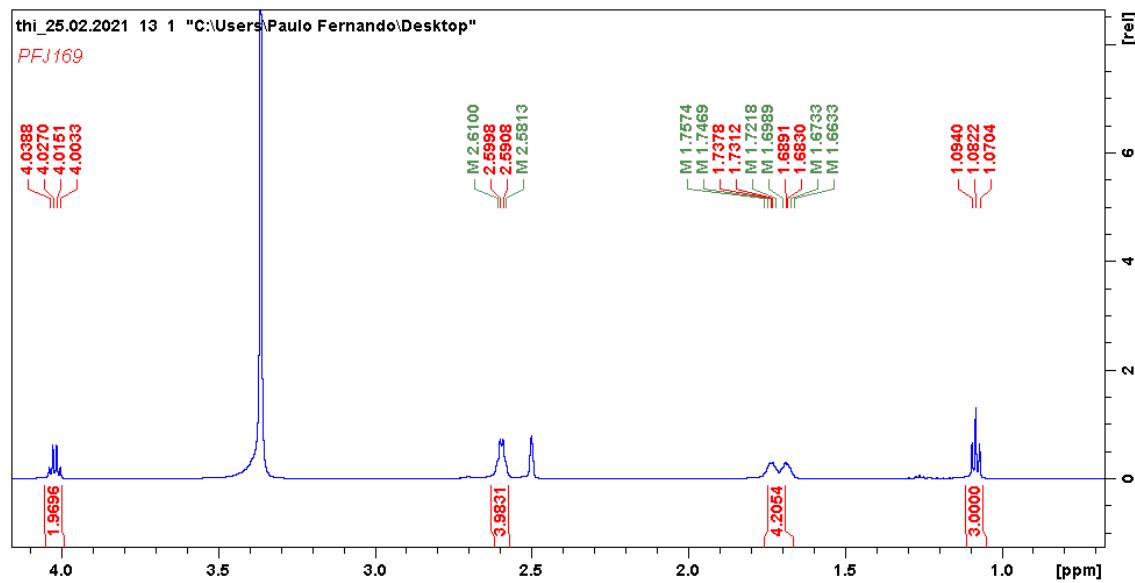


Anexo IV

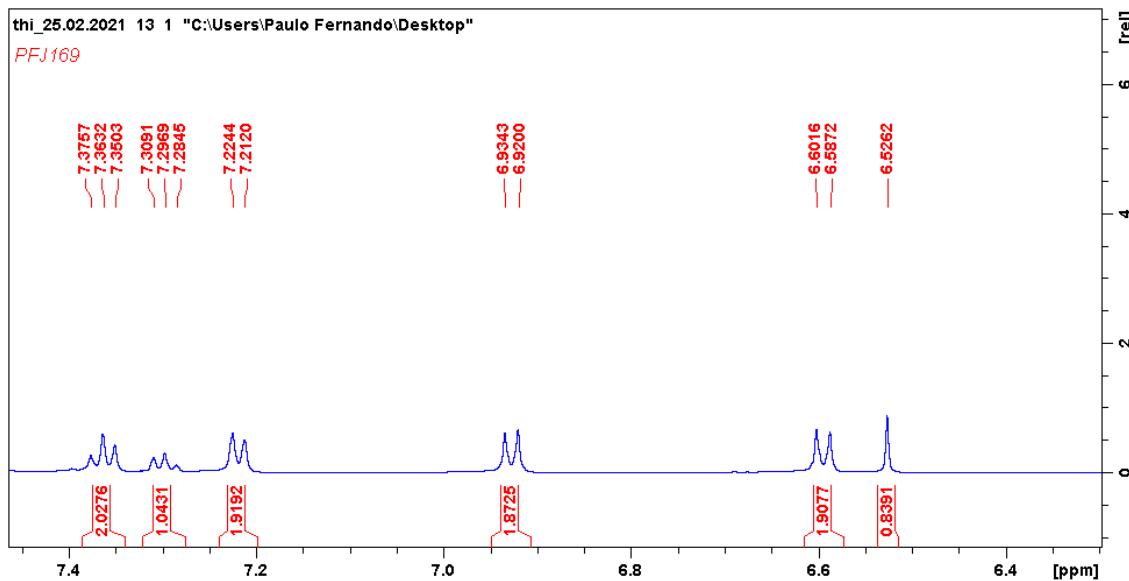
Espectro de RMN ^1H do composto (4d) (600MHz, DMSO- d_6)



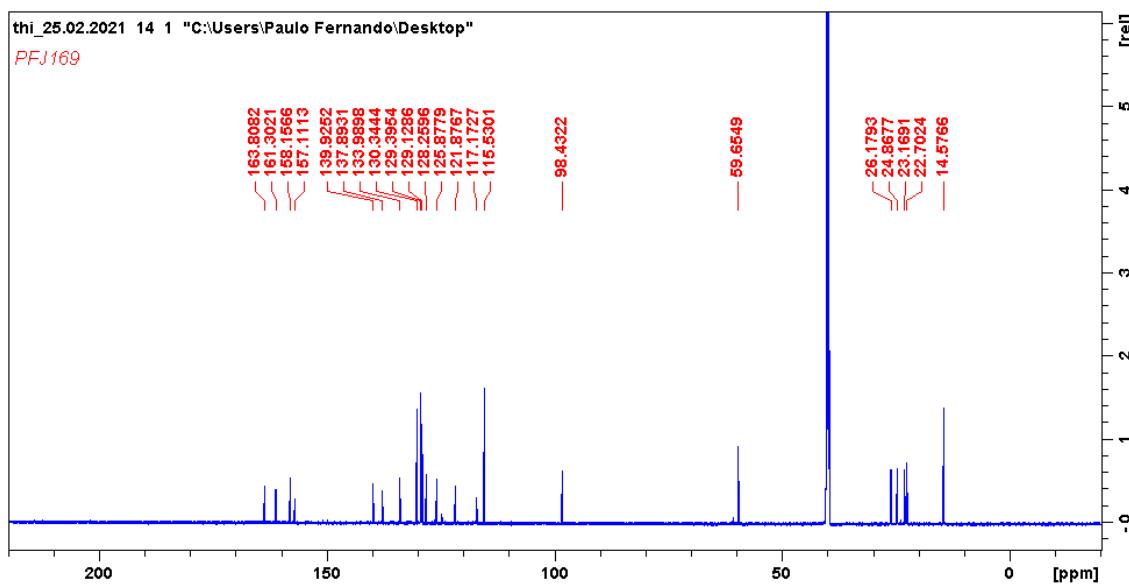
Ampliação de δ 1.0-4.0 ppm do Espectro de RMN ^1H do composto (4d)
(600MHz, DMSO- d_6)



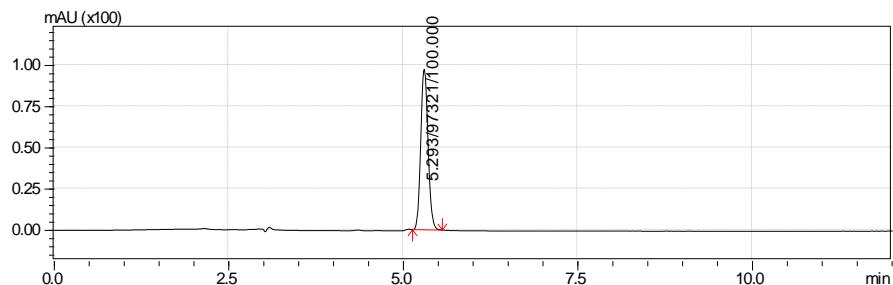
**Ampliação de δ 6.4-7.4 ppm do Espectro de RMN ^1H do composto (4d)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (4d) (150 MHz, DMSO- d_6)

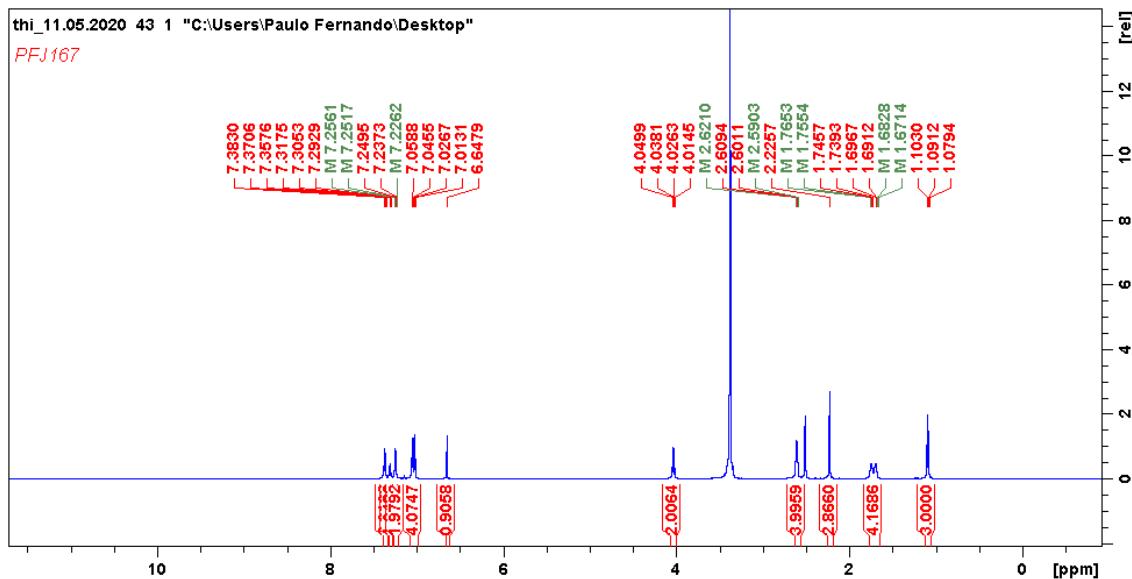


Cromatograma de HPLC-UV em MeOH 100% do Composto (4d)

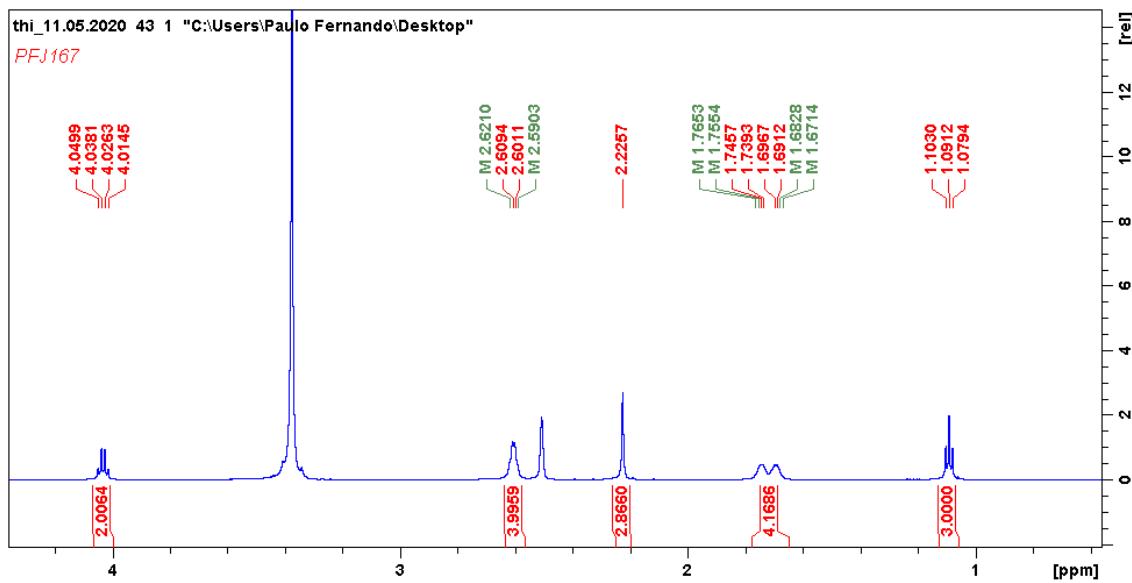


Anexo V

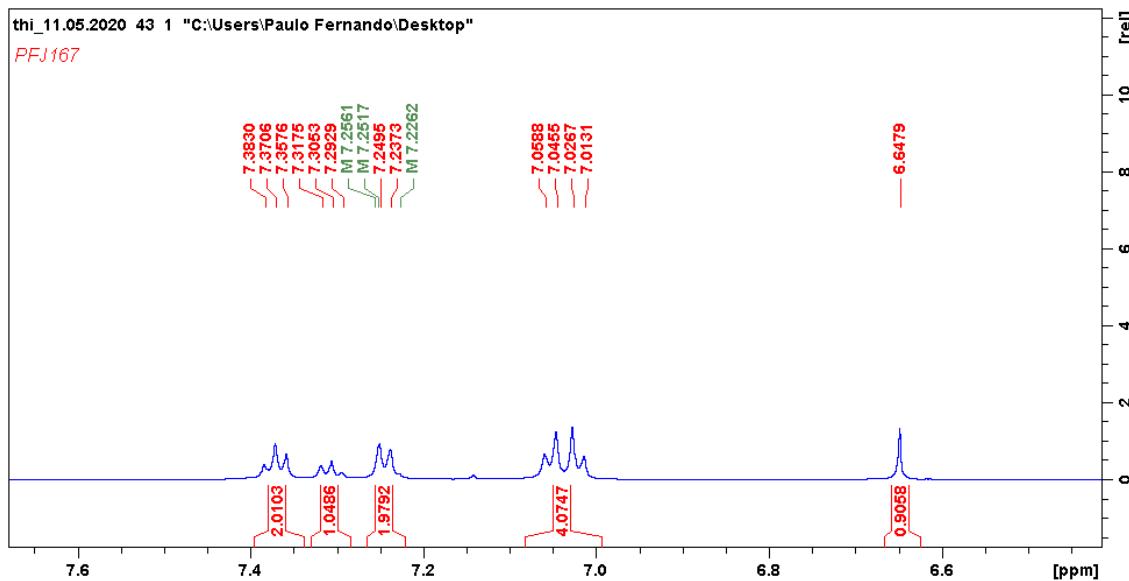
Espectro de RMN ^1H do composto (4e) (600MHz, DMSO- d_6)



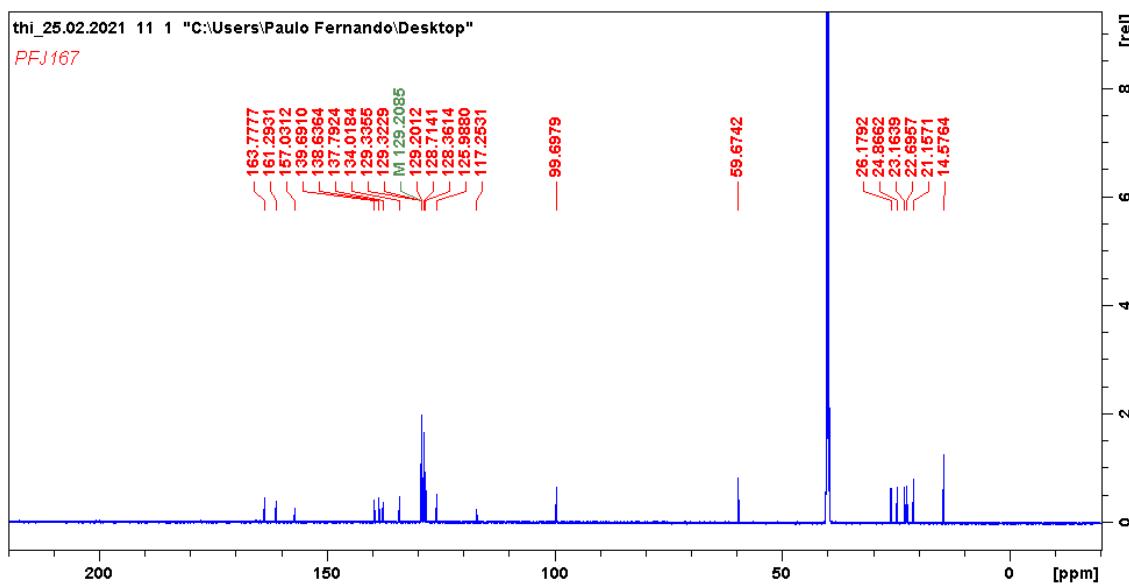
Ampliação de δ 1.0-4.1 ppm do Espectro de RMN ^1H do composto (4e) (600MHz, DMSO- d_6)



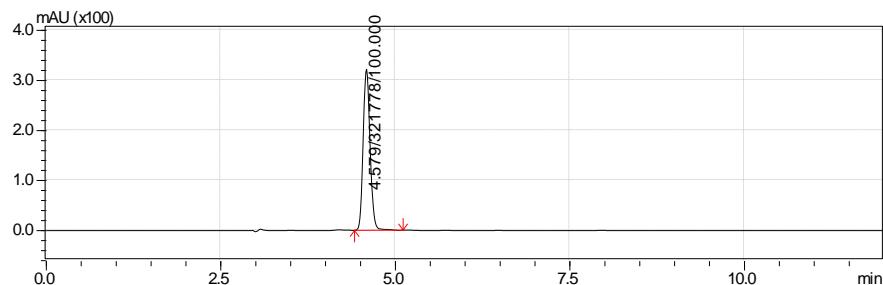
Ampliação de δ 6.6-7.6 ppm do Espectro de RMN ^1H do composto (4e) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (4e) (150 MHz, DMSO- d_6)

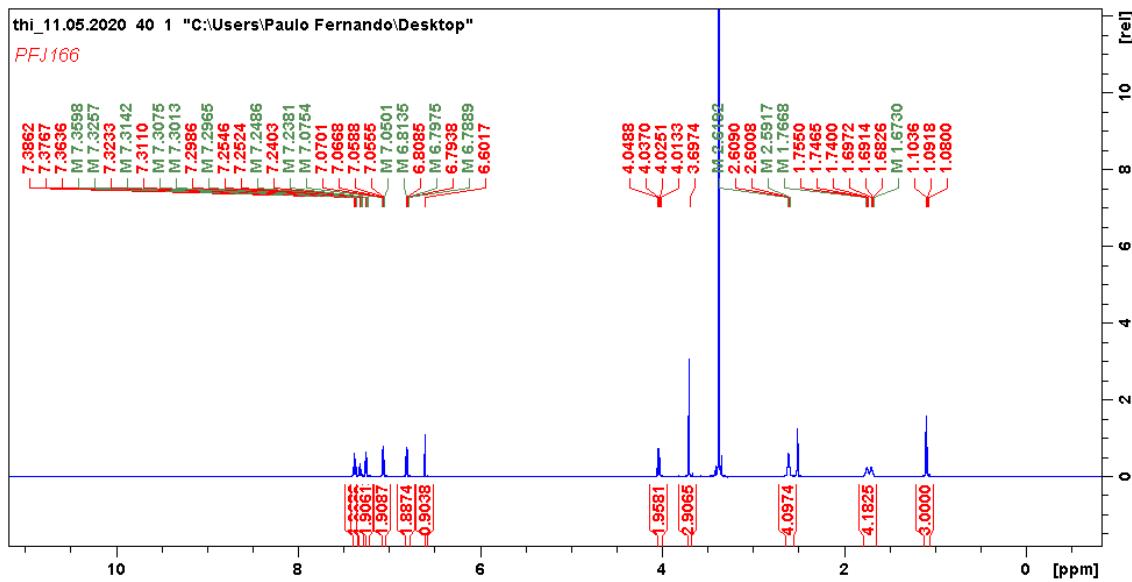


Cromatograma de HPLC-UV em MeOH 100% do Composto (4e)

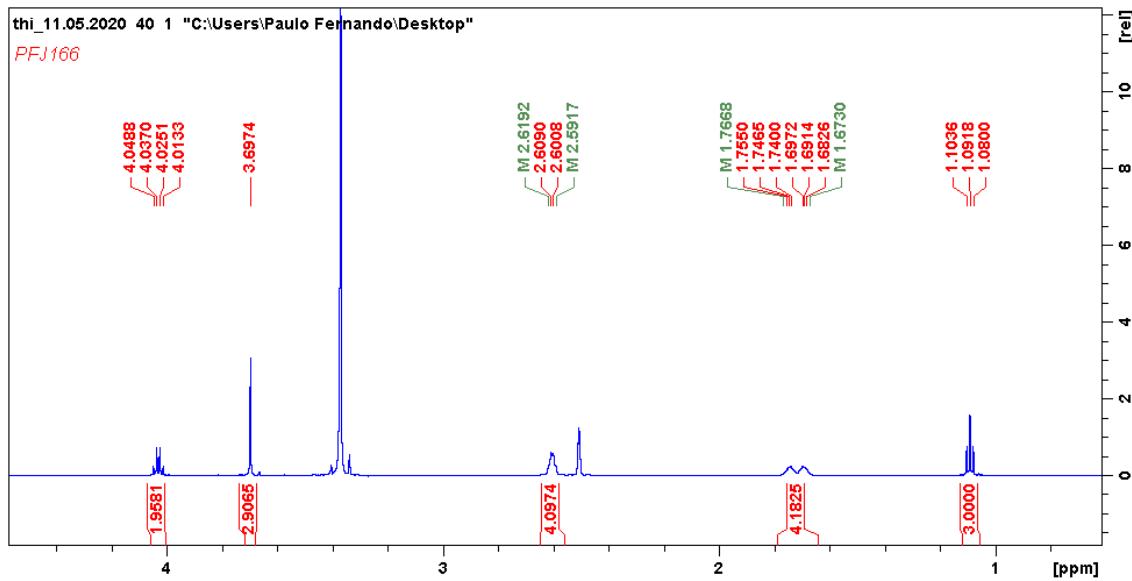


Anexo VI

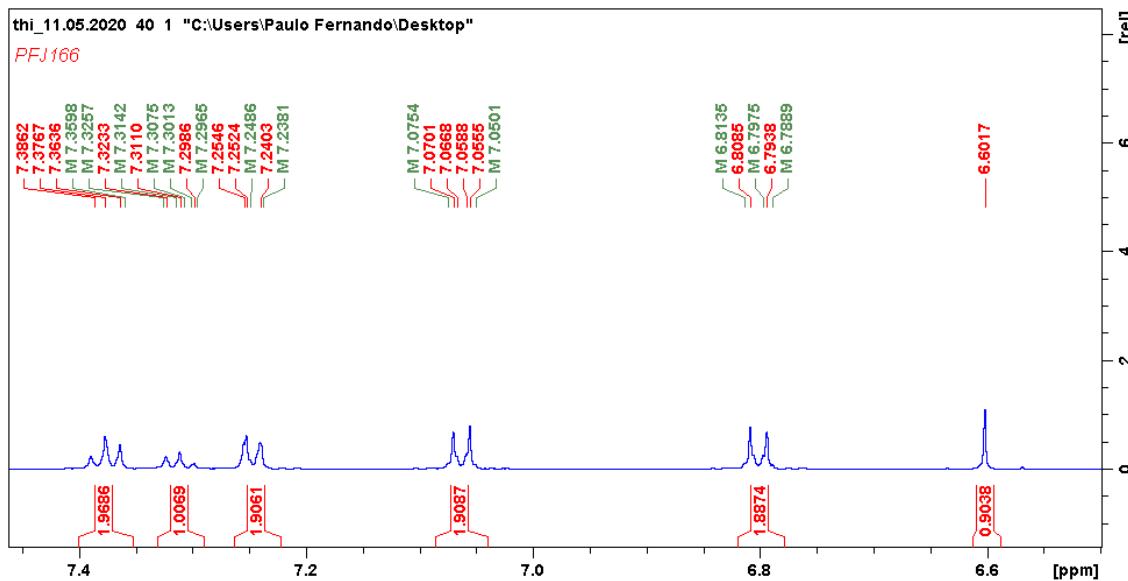
Espectro de RMN ^1H do composto (4f) (600MHz, DMSO- d_6)



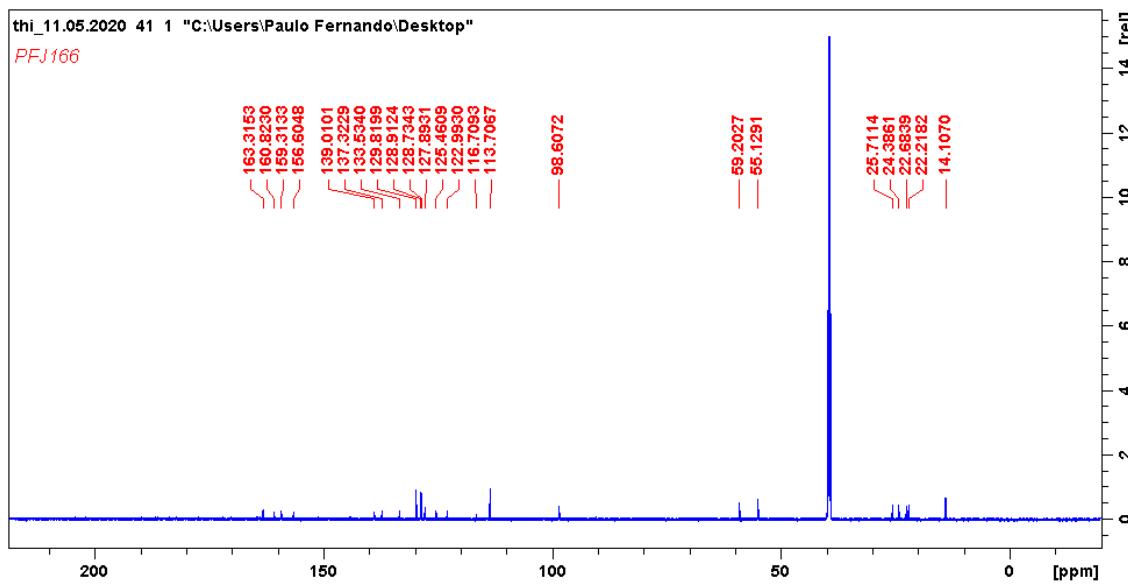
Ampliação de δ 1.0–4.2 ppm do Espectro de RMN ^1H do composto (4f)
(600MHz, DMSO- d_6)



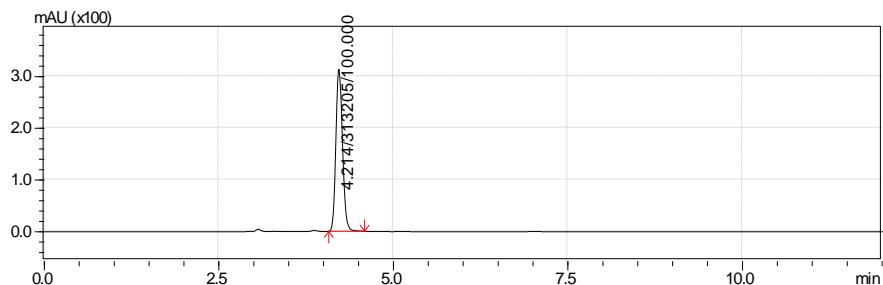
**Ampliação de δ 6.6 – 7.4 ppm do Espectro de RMN ^1H do composto (4f)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (4f) (150 MHz, DMSO- d_6)

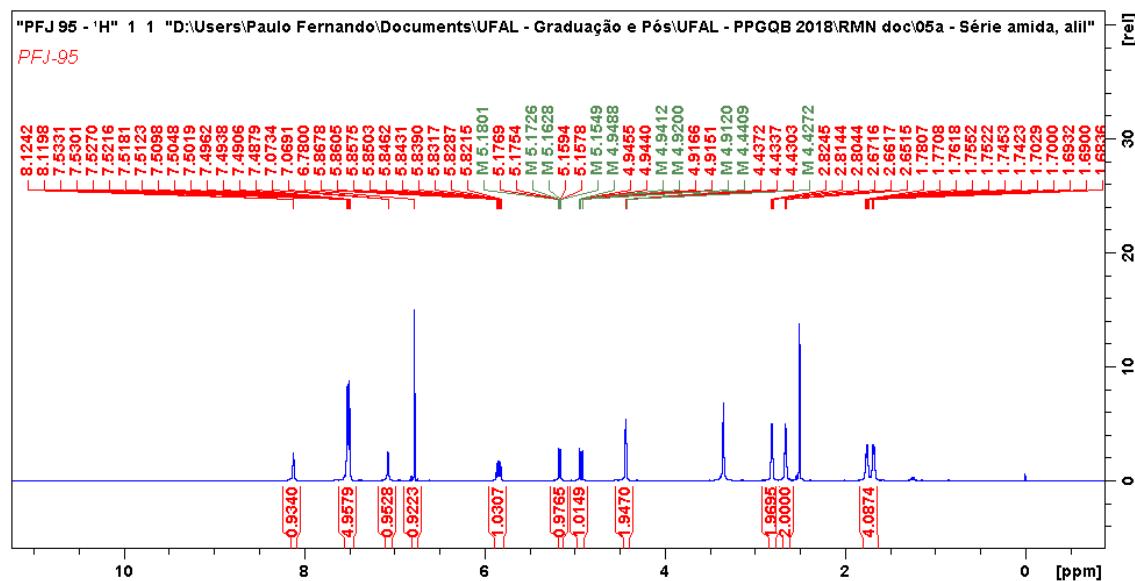


Cromatograma de HPLC-UV em MeOH 100% do Composto (4f)

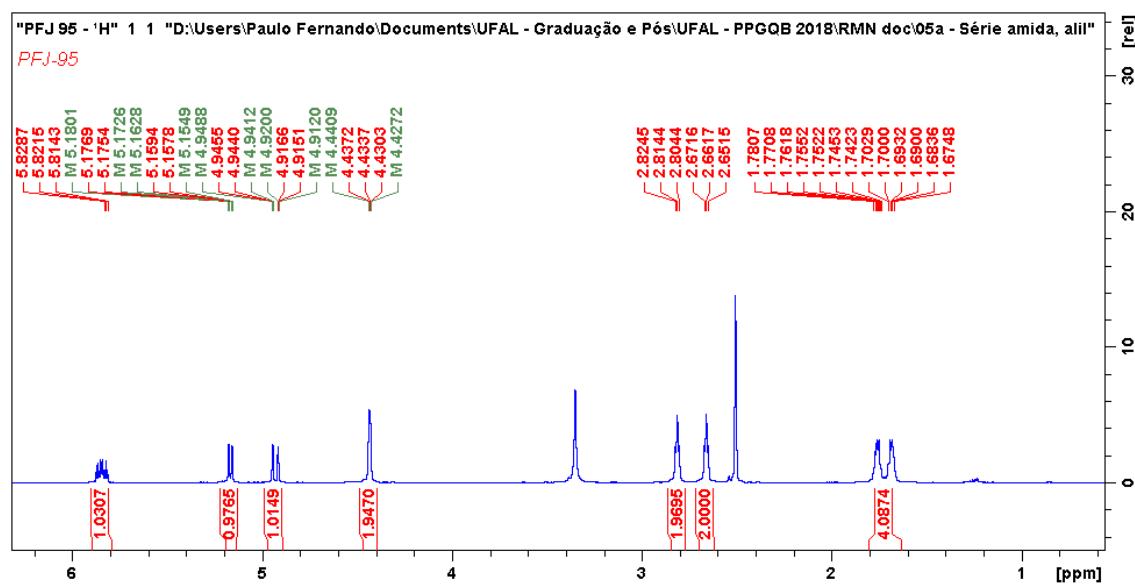


Anexo VII

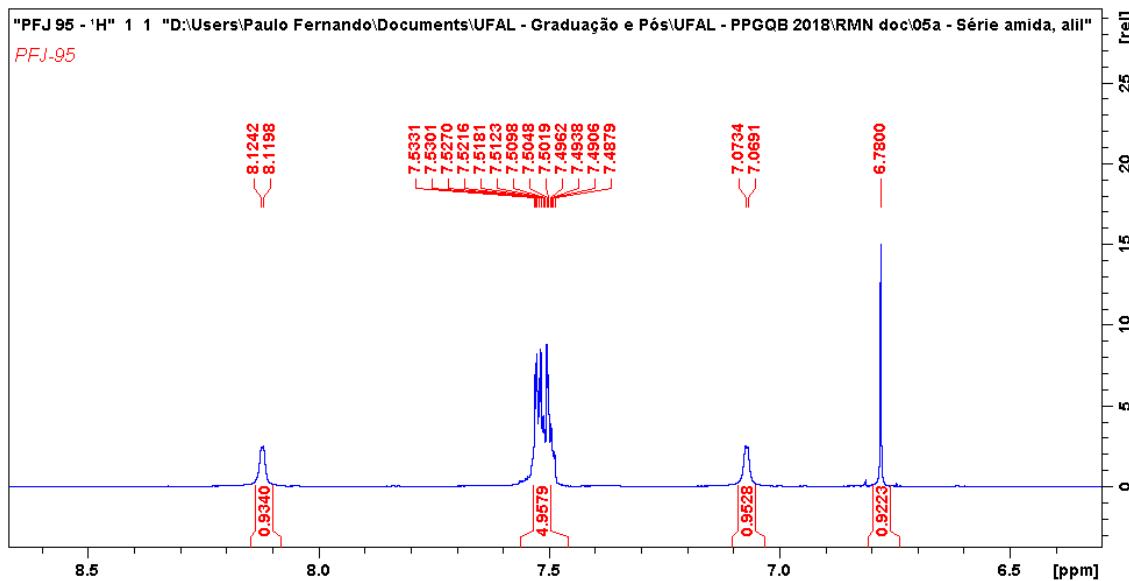
Espectro de RMN ^1H do composto (5a) (600MHz, DMSO- d_6)



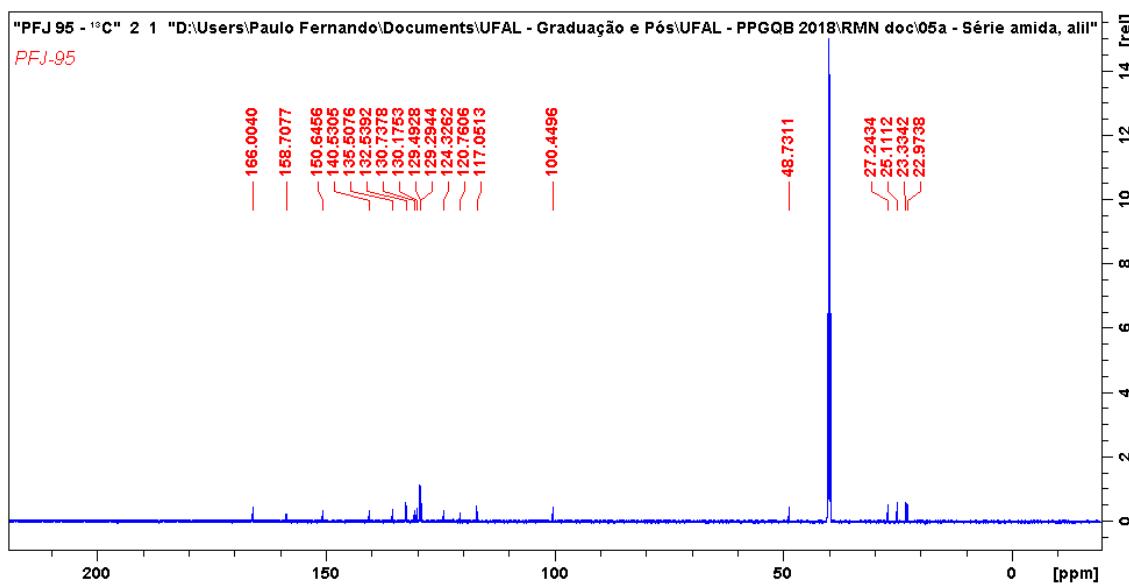
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (5a) (600MHz, DMSO- d_6)



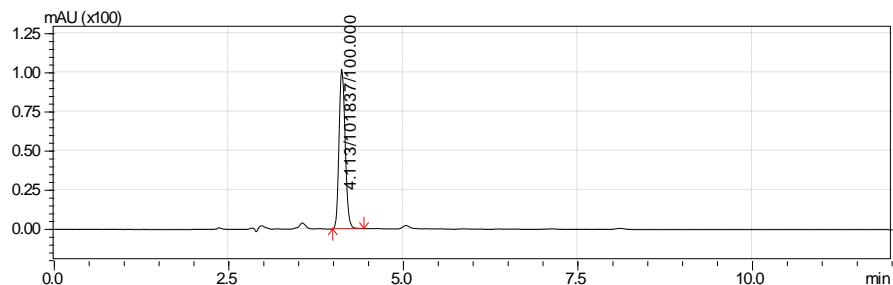
Ampliação de δ 6.5 – 8.5 ppm do Espectro de RMN ^1H do composto (5a) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (5a) (150 MHz, DMSO- d_6)

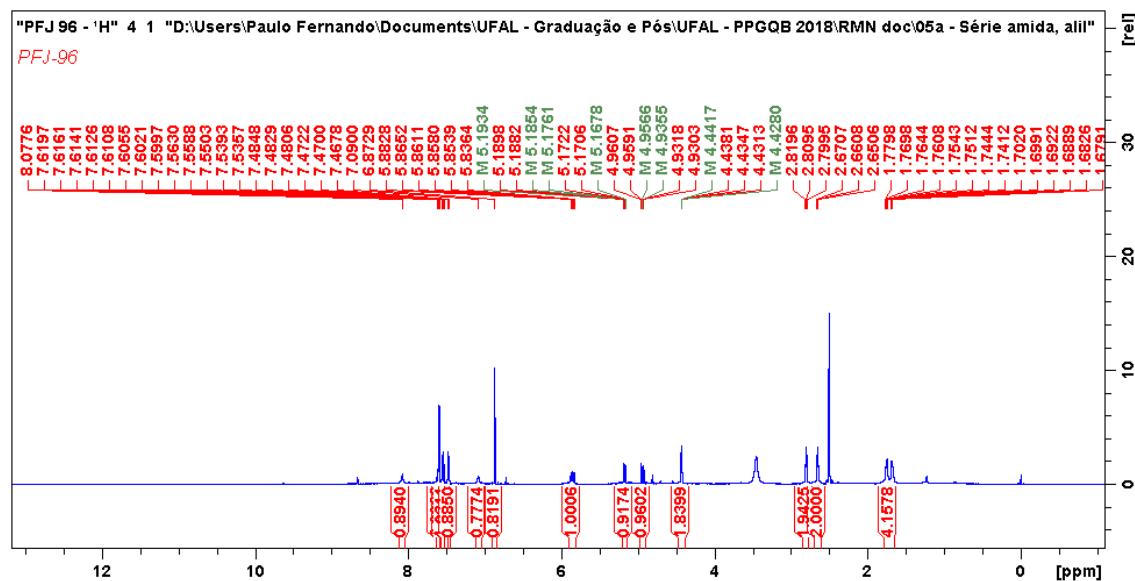


Cromatograma de HPLC-UV em MeOH 100% do Composto (5a)

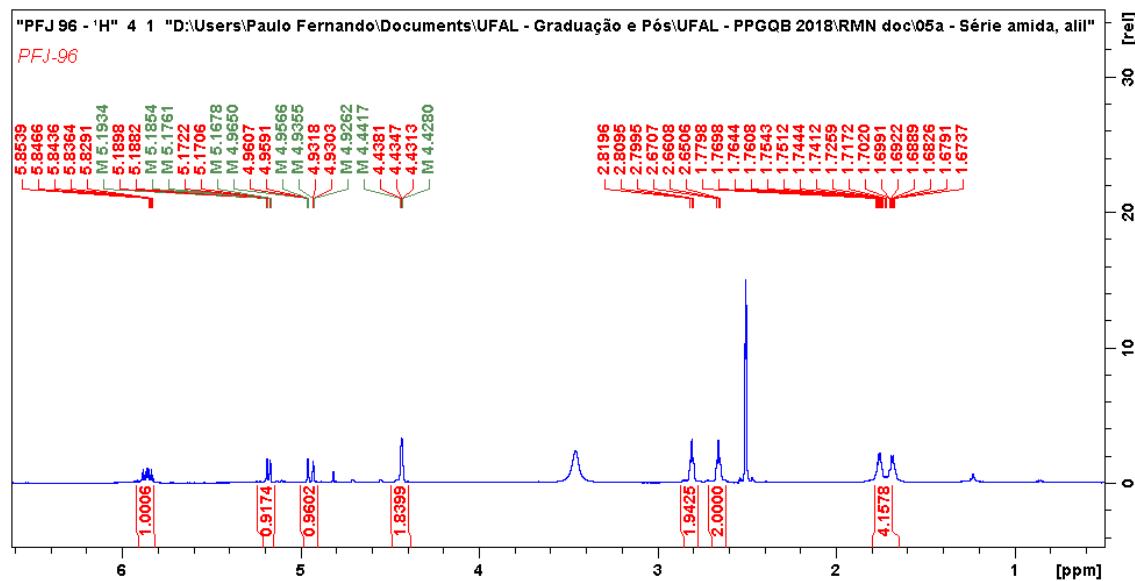


Anexo VIII

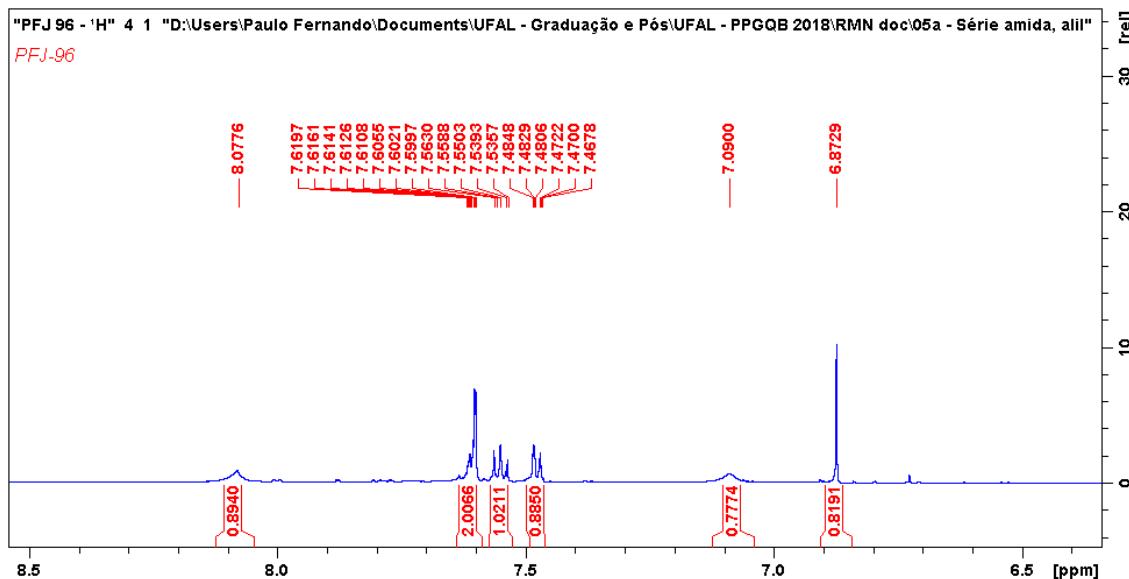
Espectro de RMN ^1H do composto (5b) (600MHz, DMSO- d_6)



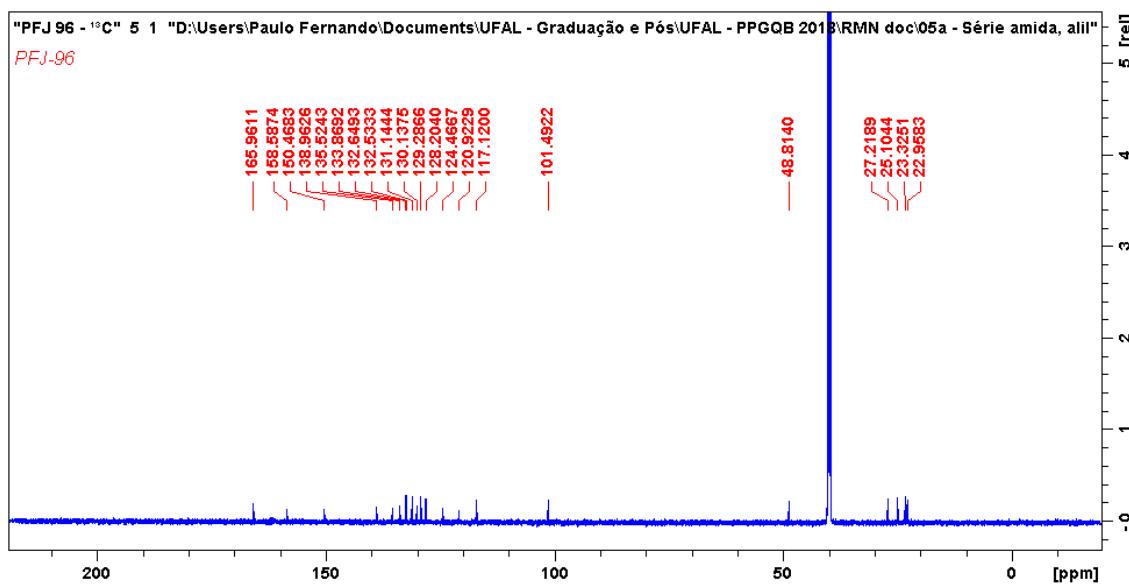
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (5b)
(600MHz, DMSO- d_6)



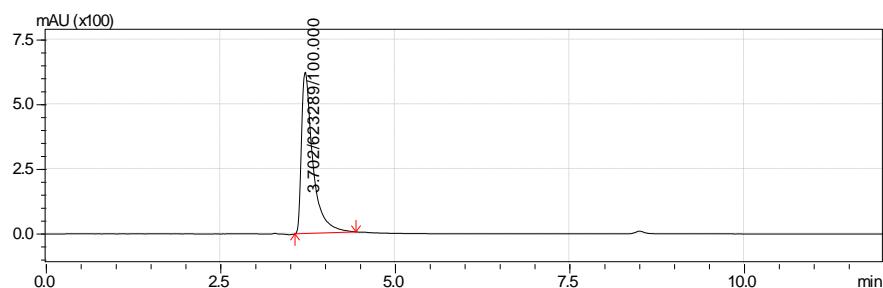
Ampliação de δ 6.5 – 8.5 ppm do Espectro de RMN ^1H do composto (5b) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (5b) (150 MHz, DMSO- d_6)

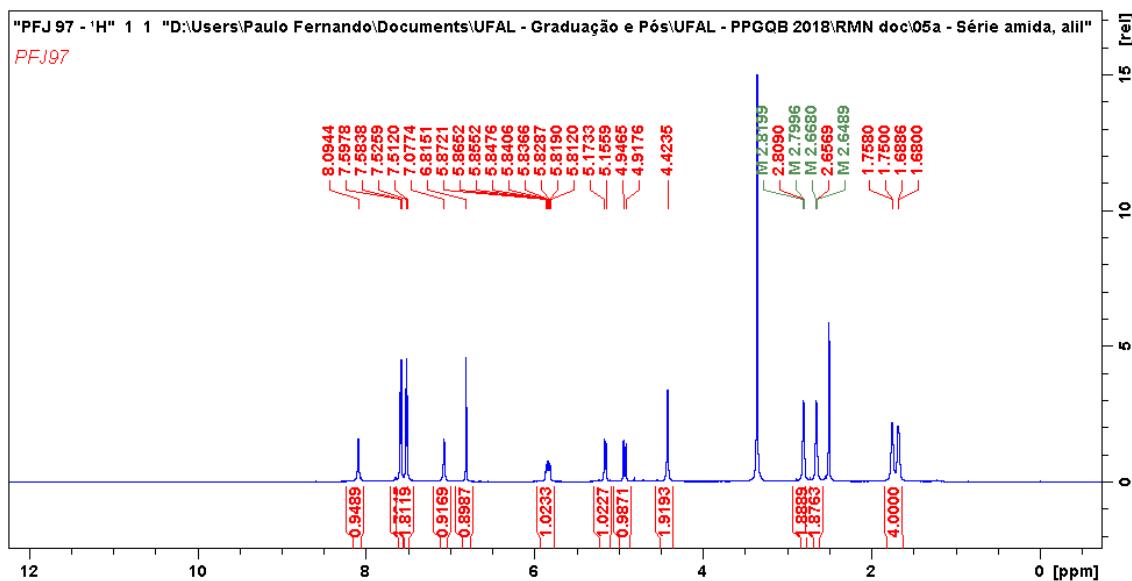


Cromatograma de HPLC-UV em MeOH 100% do Composto (5b)

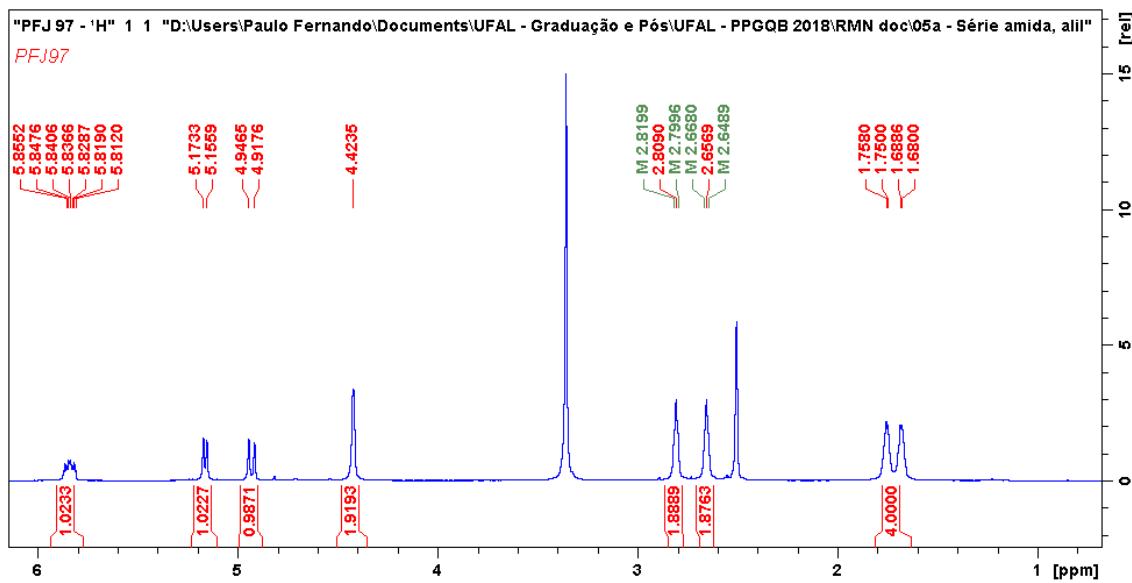


Anexo IX

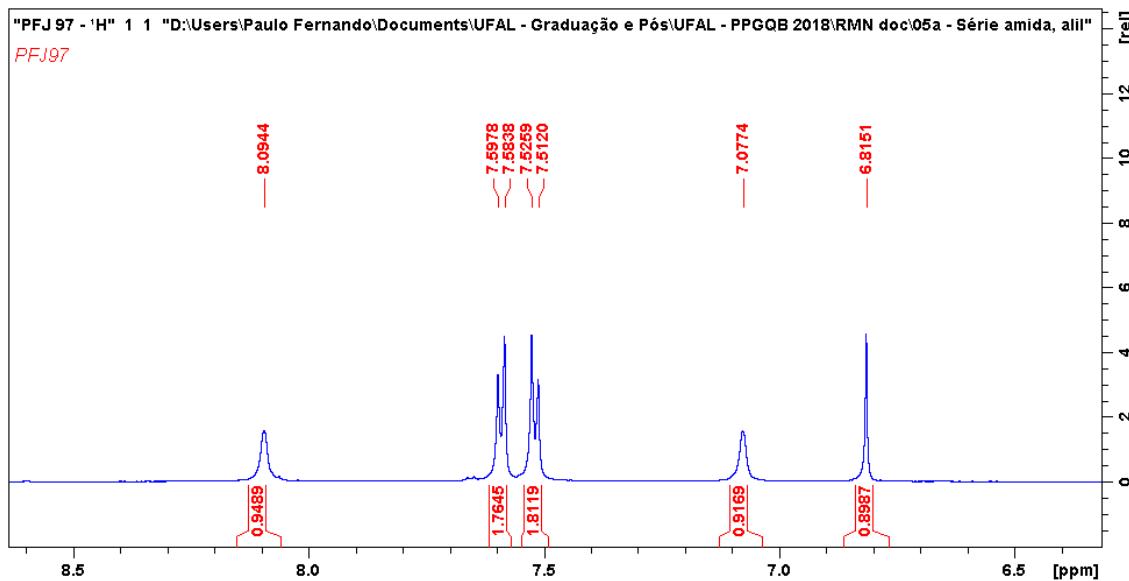
Espectro de RMN ^1H do composto (5c) (600MHz, DMSO- d_6)



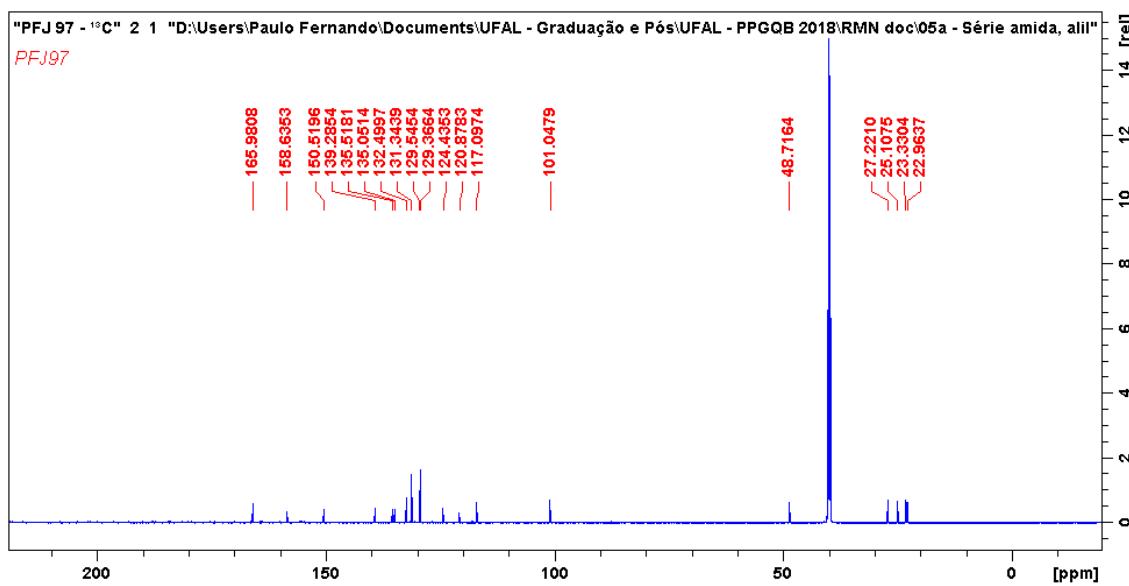
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (5c)
(600MHz, DMSO- d_6)



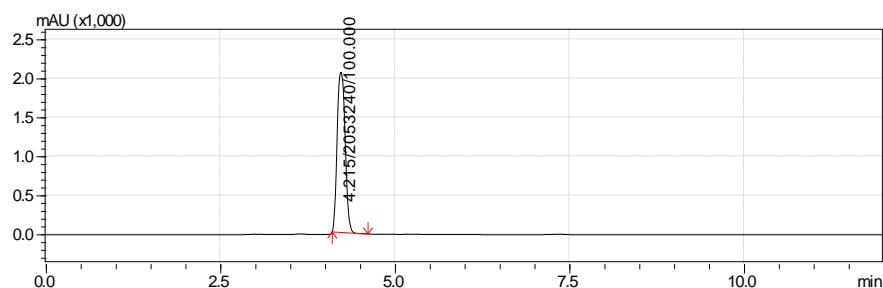
Ampliação de δ 6.5 – 8.5 do Espectro de RMN ^1H do composto (5c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (5c) (150 MHz, DMSO- d_6)

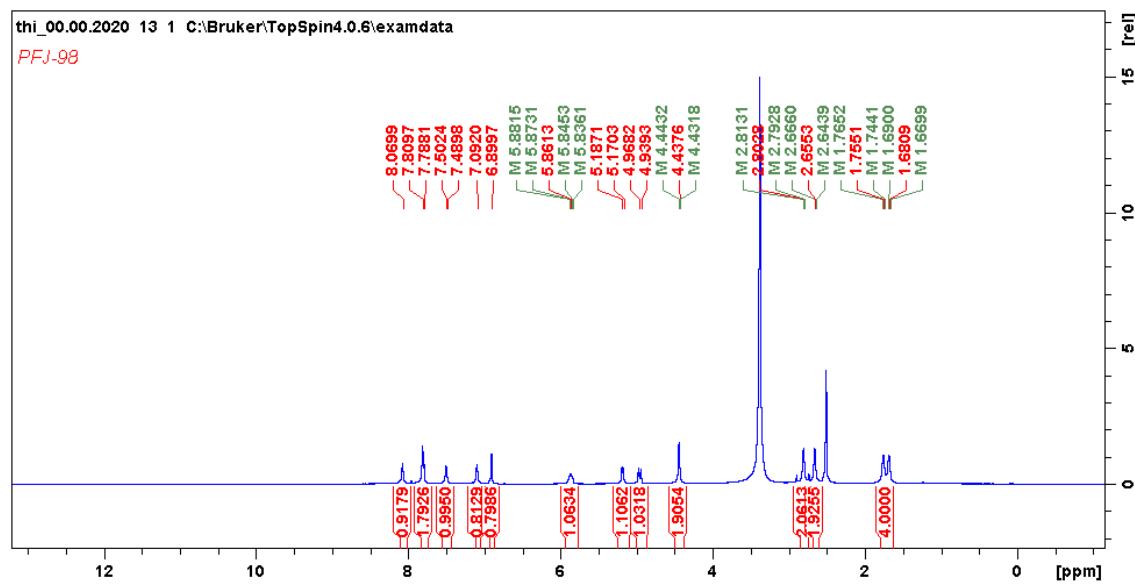


Cromatograma de HPLC-UV em MeOH 100% do Composto (5c)

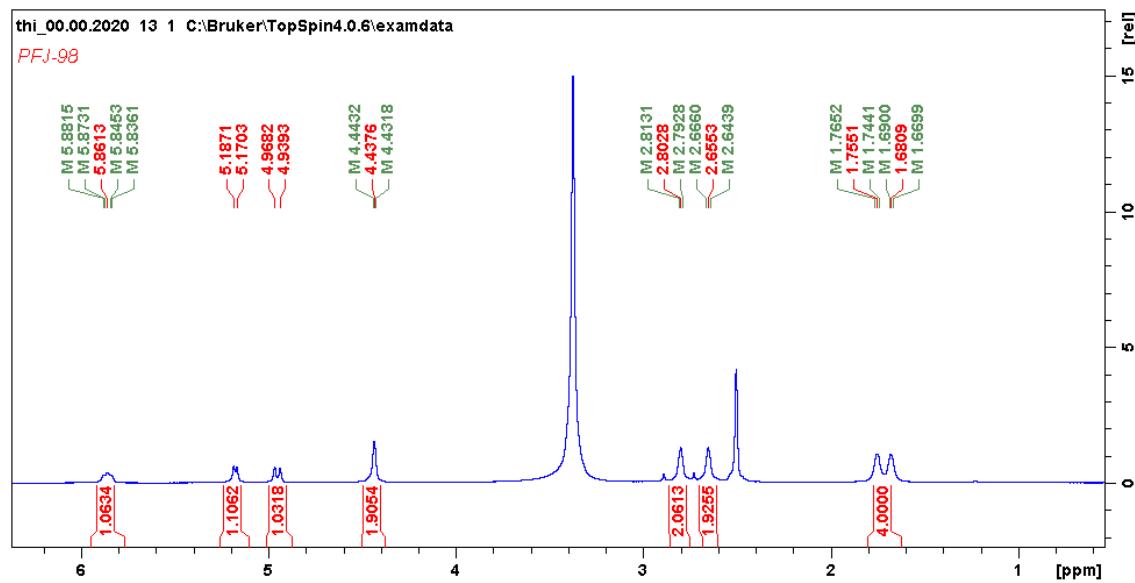


Anexo X

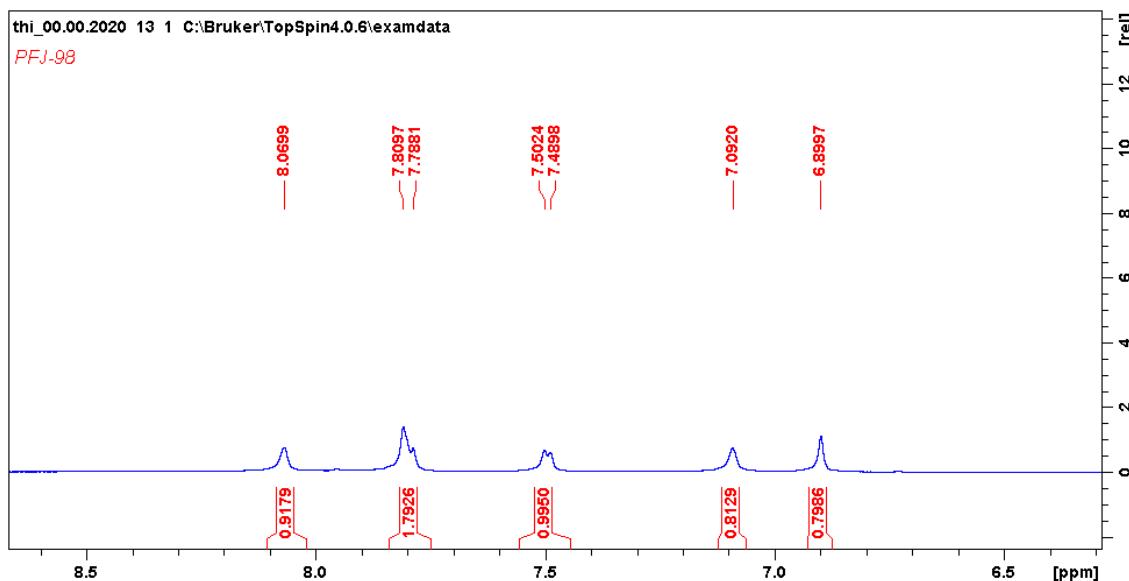
Espectro de RMN ^1H do composto (5d) (600MHz, DMSO- d_6)



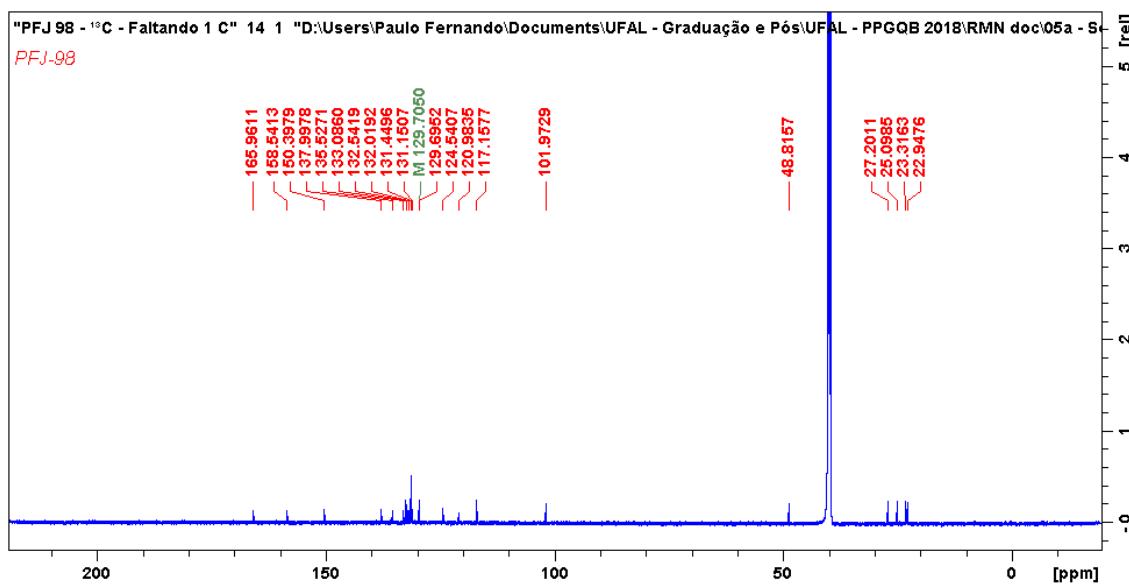
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (5d) (600MHz, DMSO- d_6)



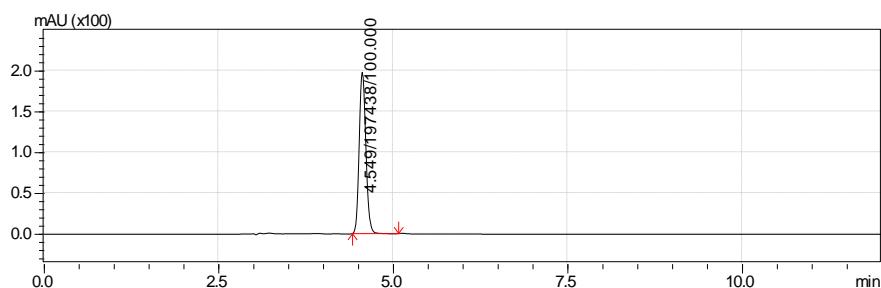
**Ampliação de δ 6.5 – 8.5 ppm do Espectro de RMN ^1H do composto (5d)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (5d) (150 MHz, DMSO- d_6)

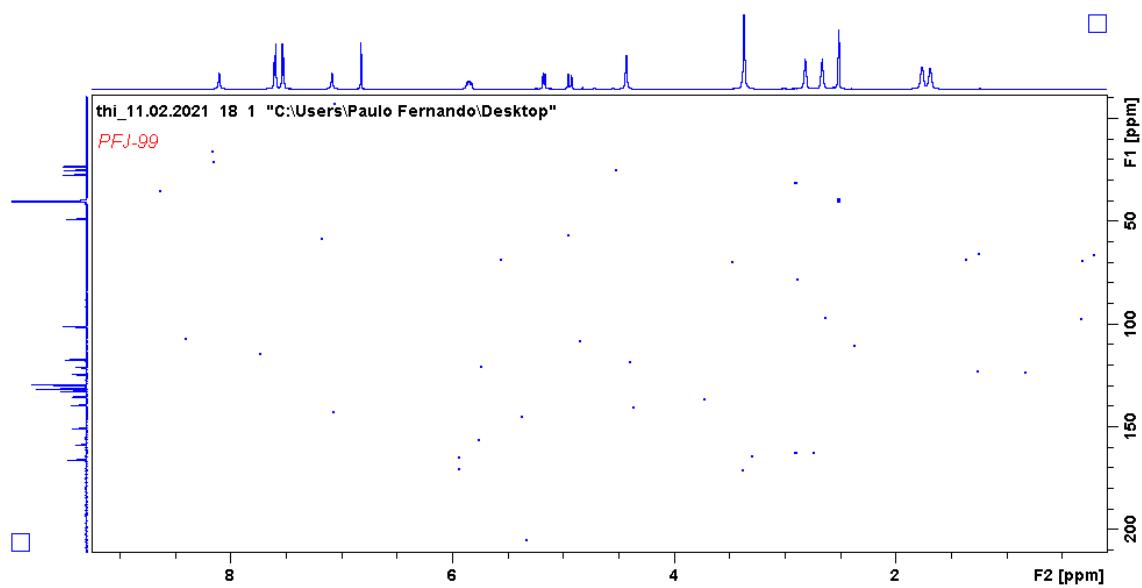


Cromatograma de HPLC-UV em MeOH 100% do Composto (5d)

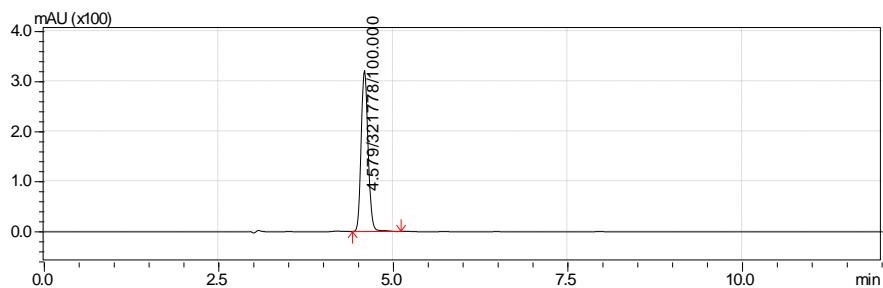


Anexo XI

Espectro de HMBC do composto (5e) (600MHz, DMSO-*d*₆)

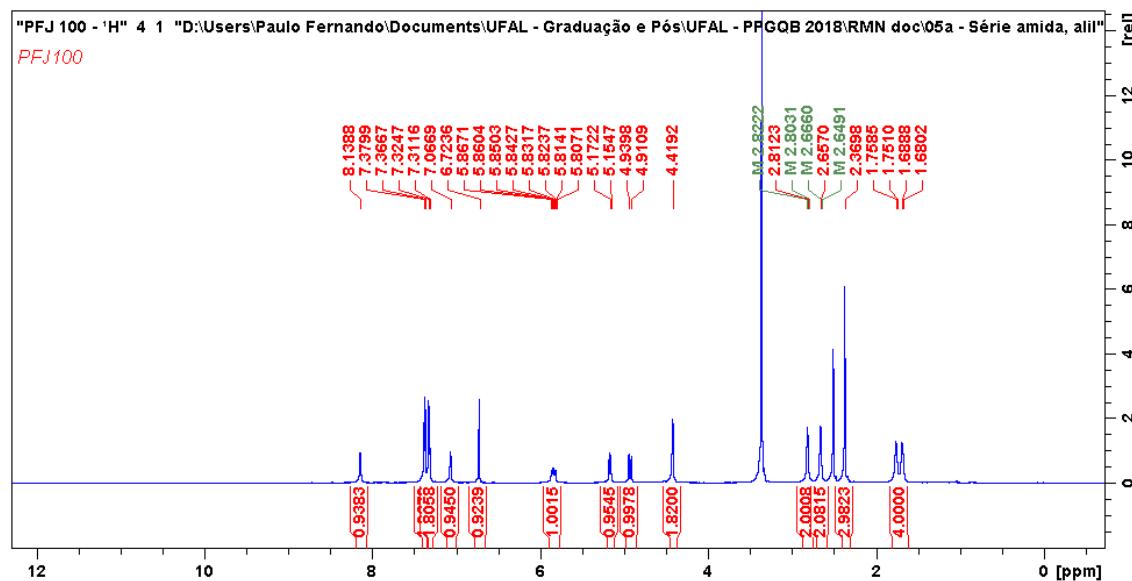


Cromatograma de HPLC-UV em MeOH 100% do Composto (5e)

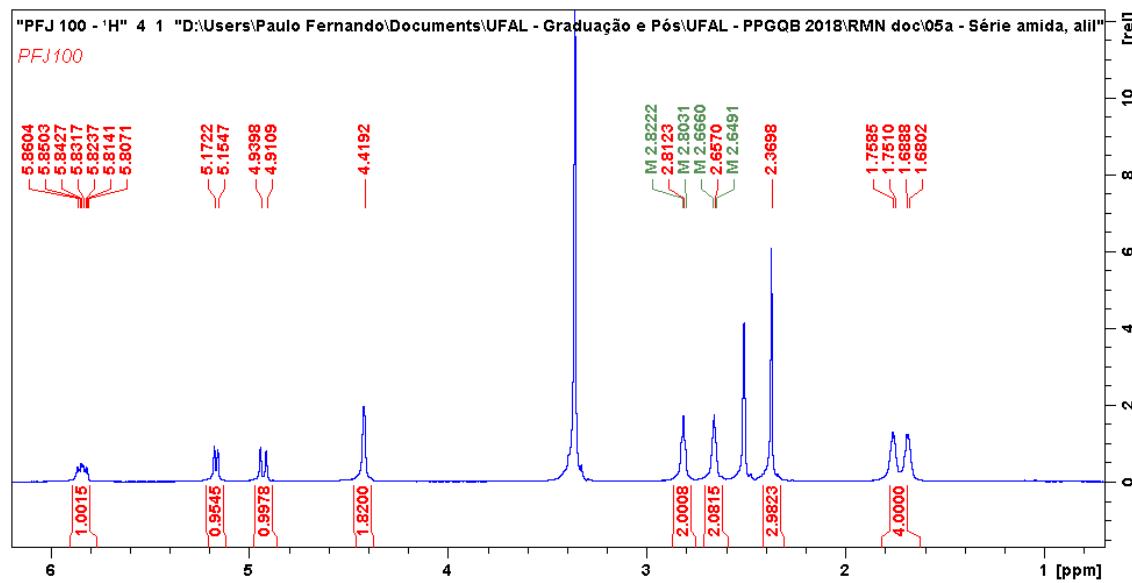


Anexo XII

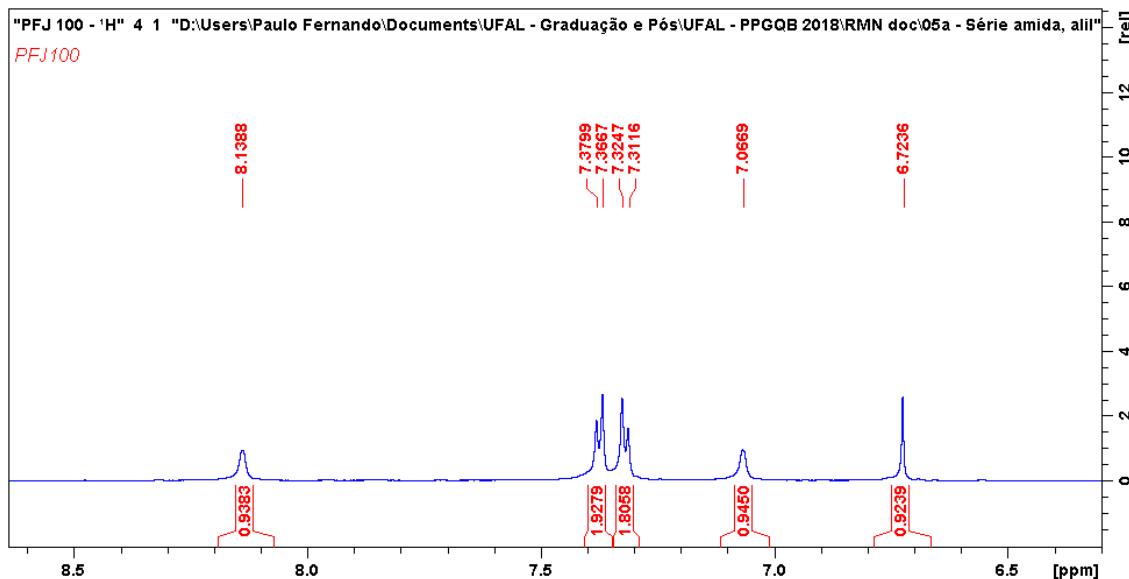
Espectro de RMN ^1H do composto (5f) (600MHz, DMSO- d_6)



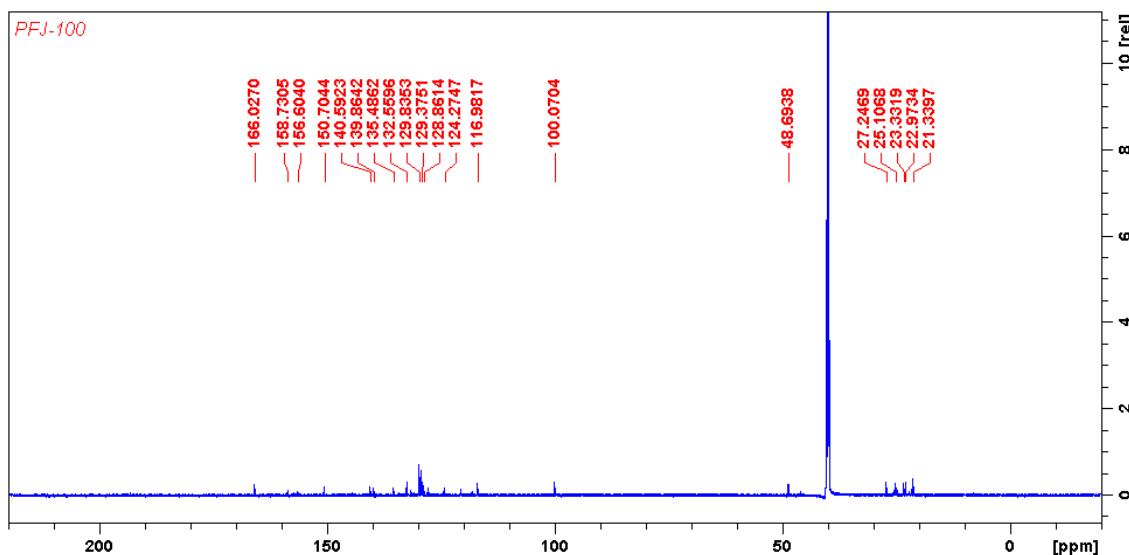
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do (5f) (600MHz, DMSO- d_6)



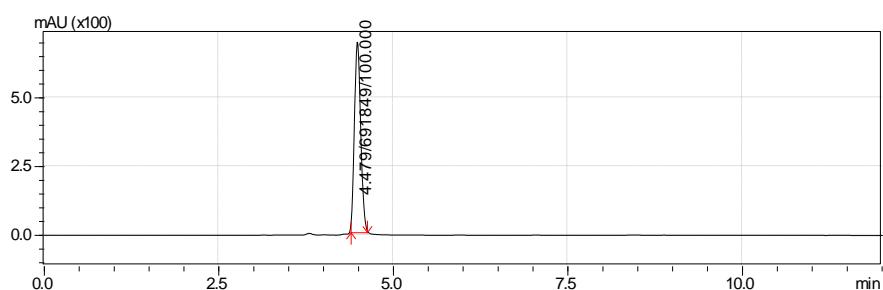
Ampliação de δ 6.5–8.5 ppm do Espectro de RMN ^1H do composto (5f) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (5f) (150 MHz, DMSO- d_6)

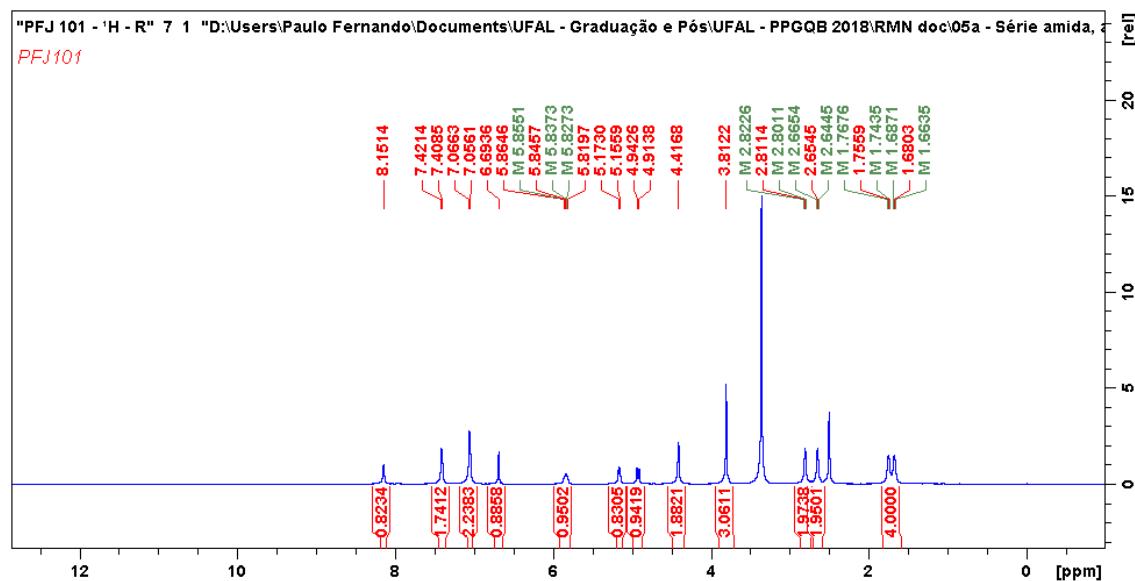


Cromatograma de HPLC-UV em MeOH 100% do Composto (5f)

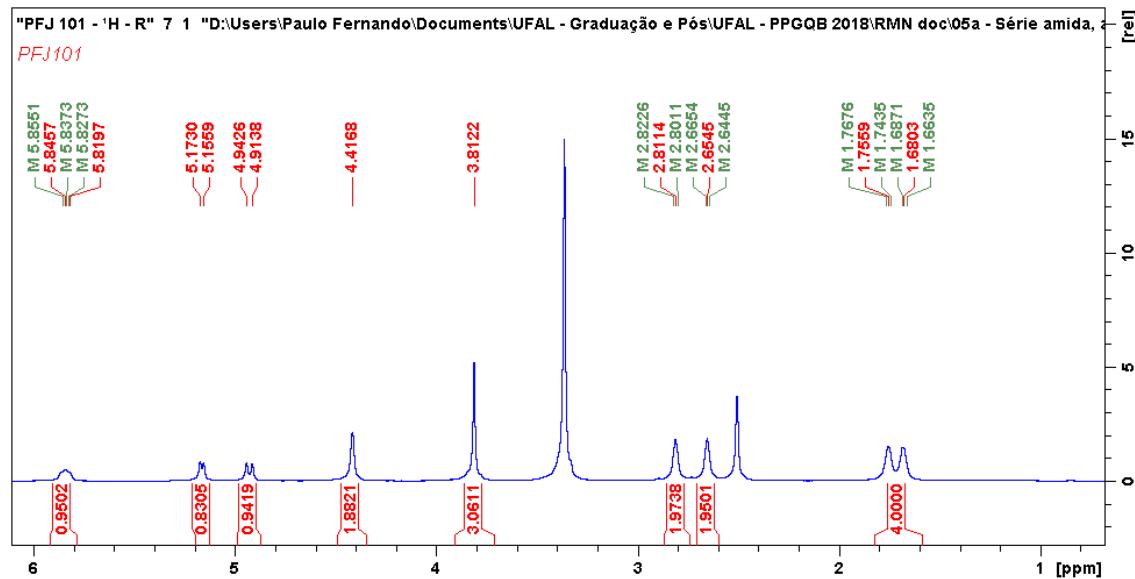


Anexo XIII

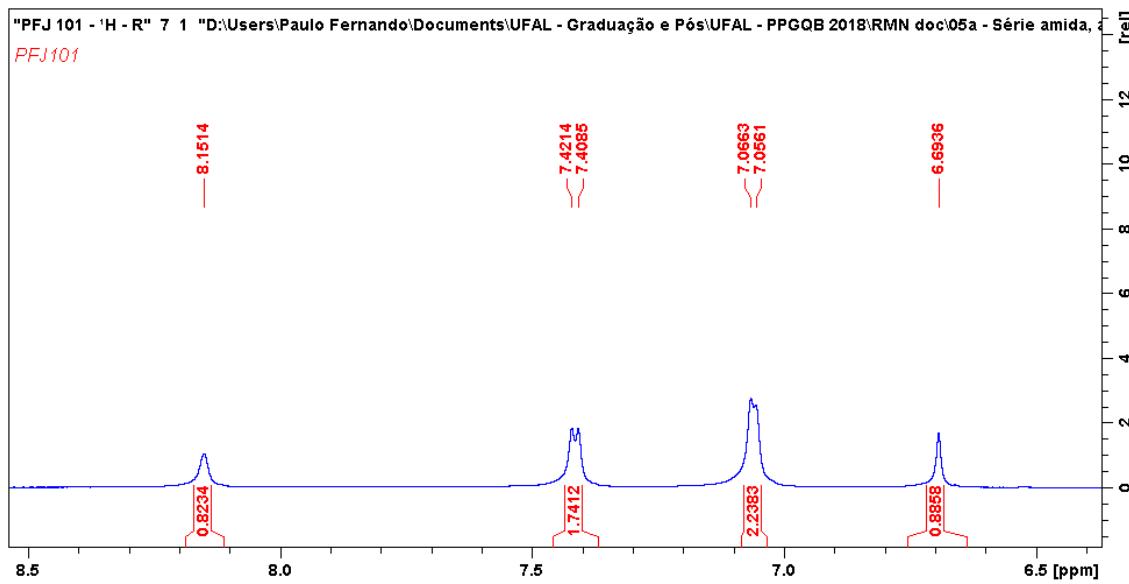
Espectro de RMN ^1H do composto (5g) (600MHz, DMSO- d_6)



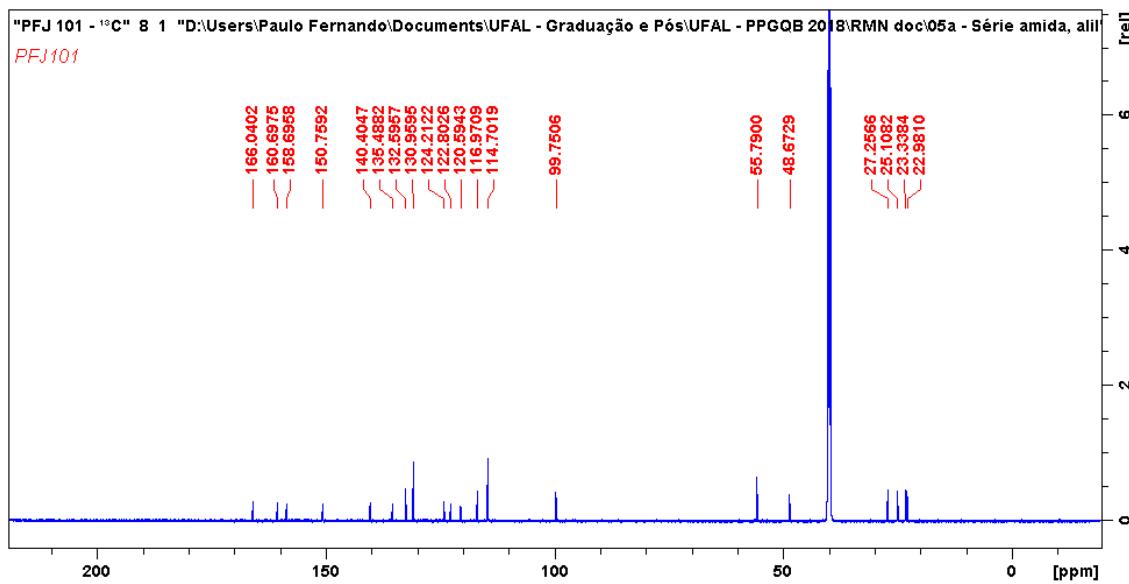
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (5g) (600MHz, DMSO- d_6)



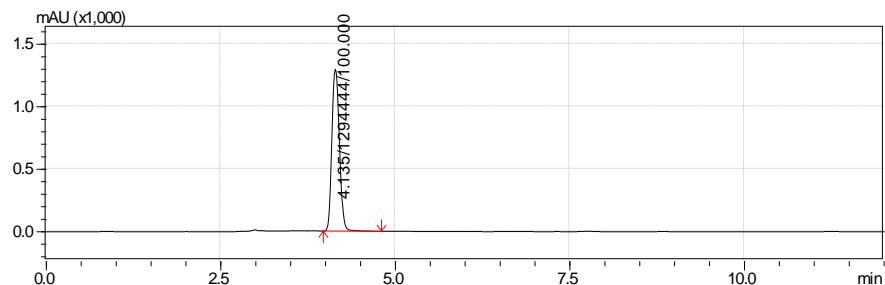
Ampliação de δ 6.0 – 8.5 do Espectro de RMN ^1H do composto (5g) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (5g) (150 MHz, DMSO- d_6)

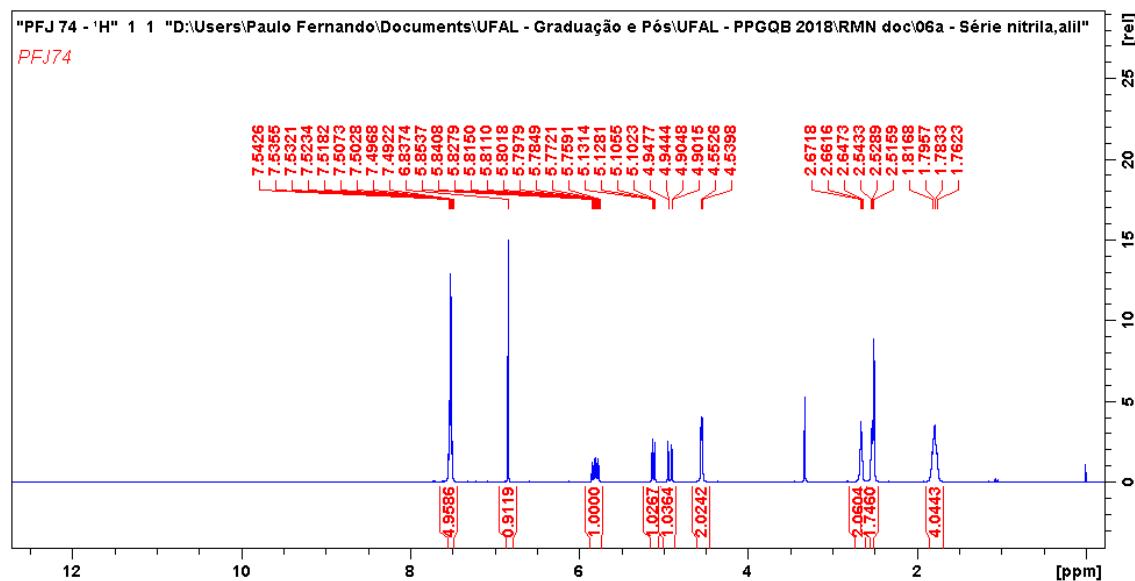


Cromatograma de HPLC-UV em MeOH 100% do Composto (5g)

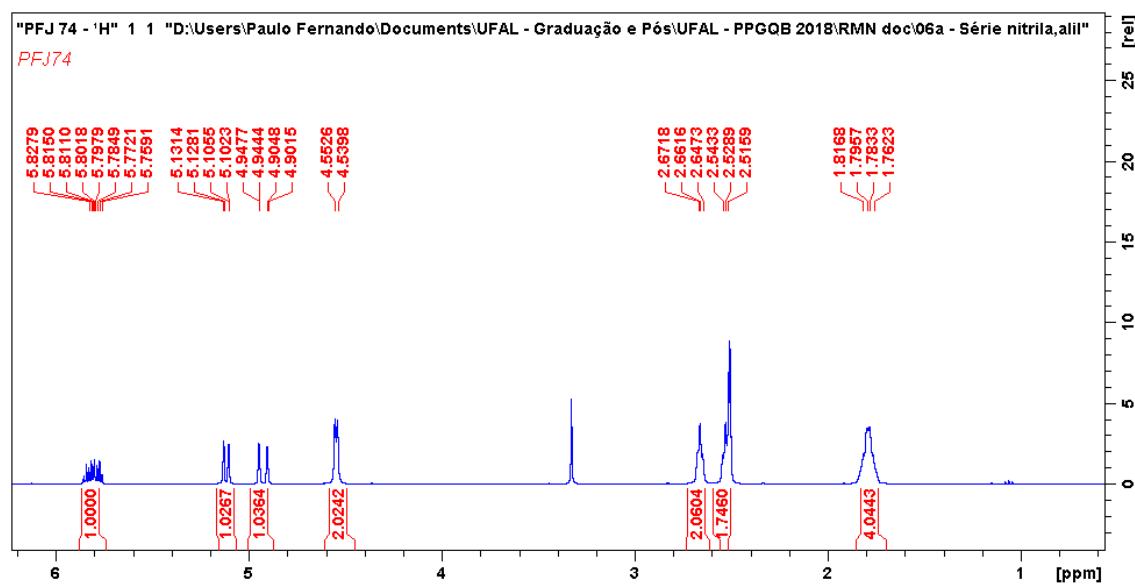


Anexo XIV

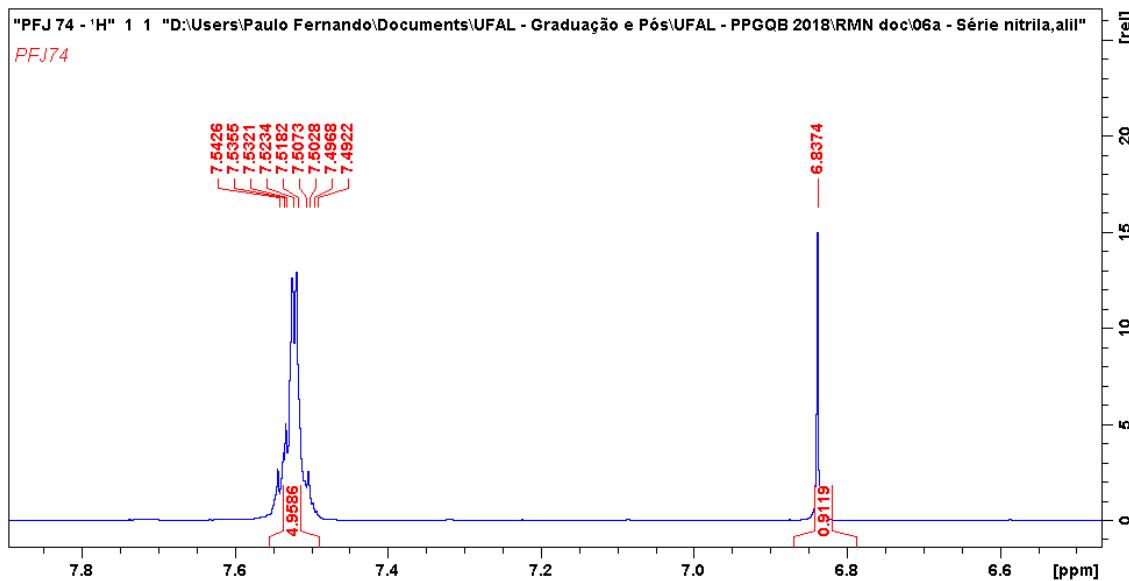
Espectro de RMN ^1H do composto (6a) (600MHz, DMSO- d_6)



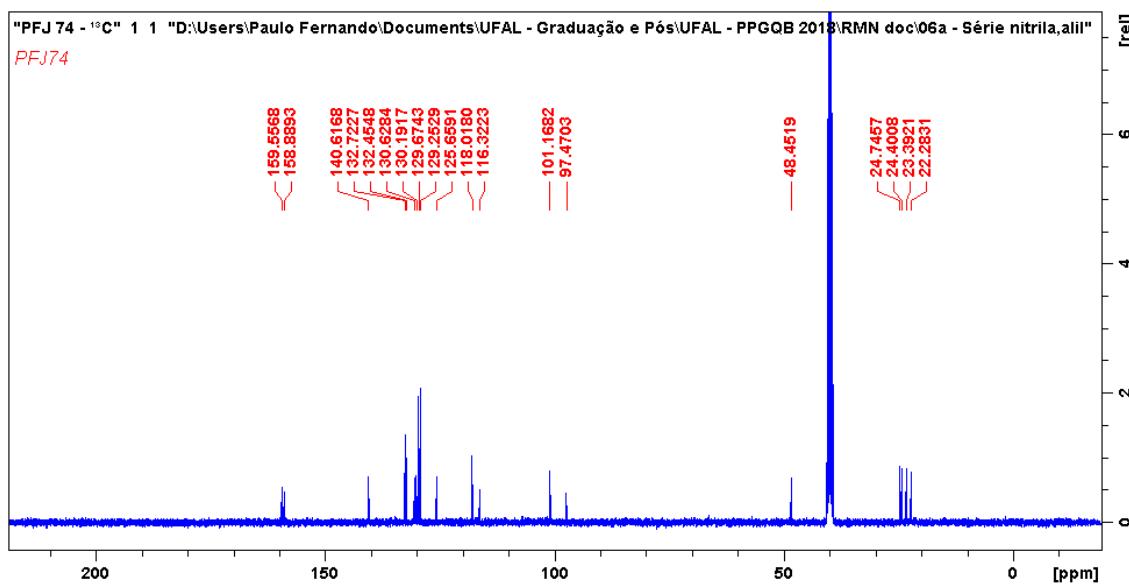
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (6a) (600MHz, DMSO- d_6)



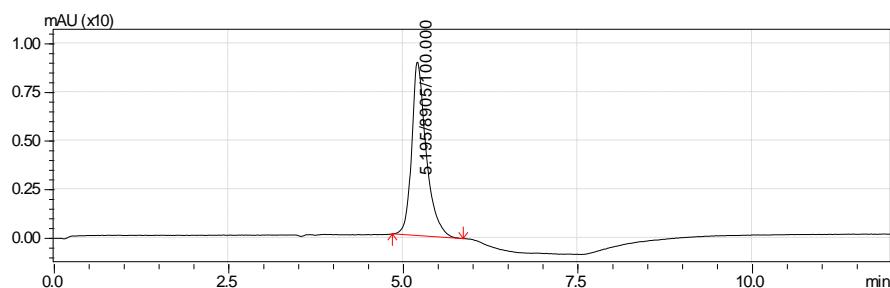
**Ampliação de δ 6.6–7.8 ppm do Espectro de RMN ^1H do composto (6a)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (6a) (150 MHz, DMSO- d_6)

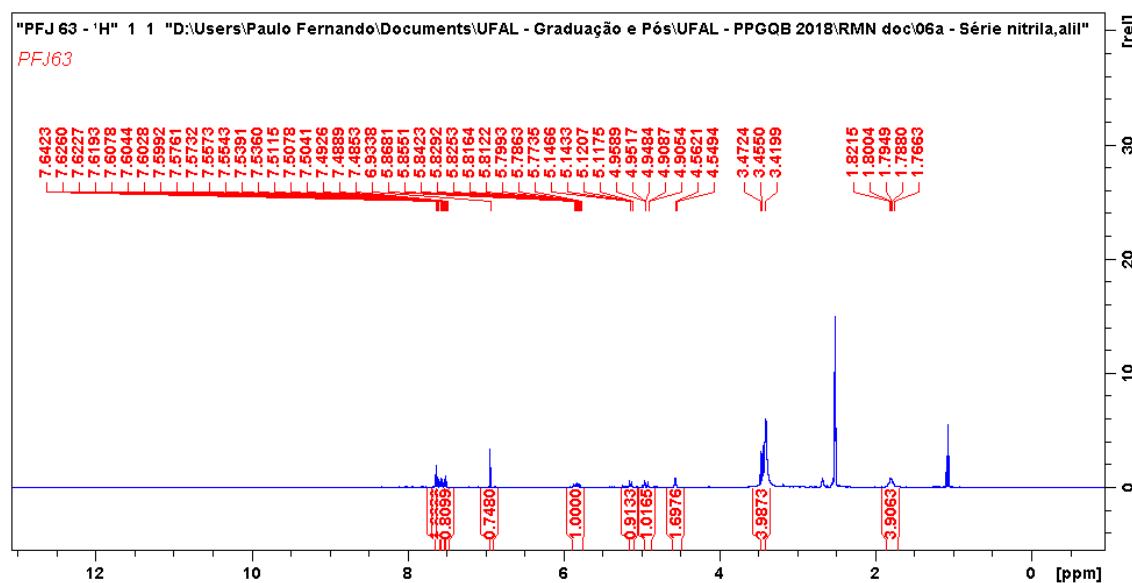


Cromatograma de HPLC-UV em MeOH 100% do Composto (6a)

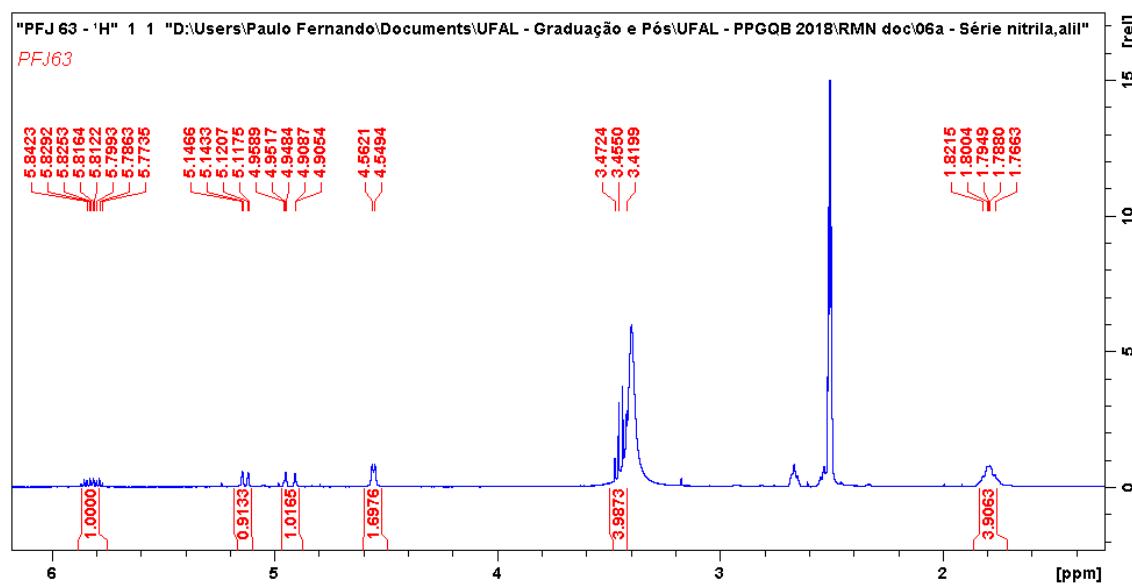


Anexo XV

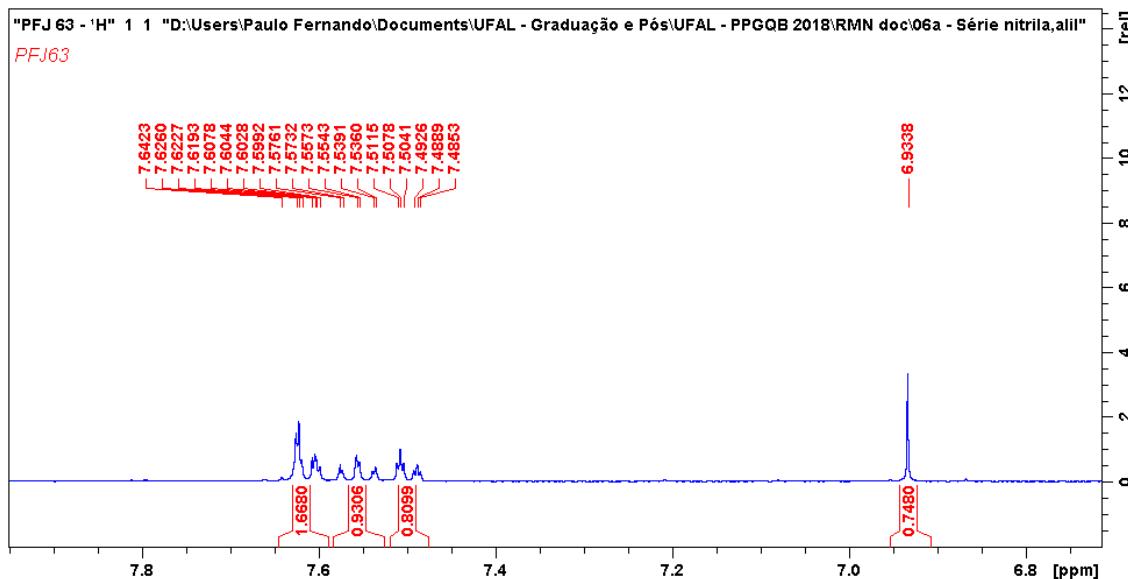
Espectro de RMN ^1H do composto (6b) (600MHz, DMSO- d_6)



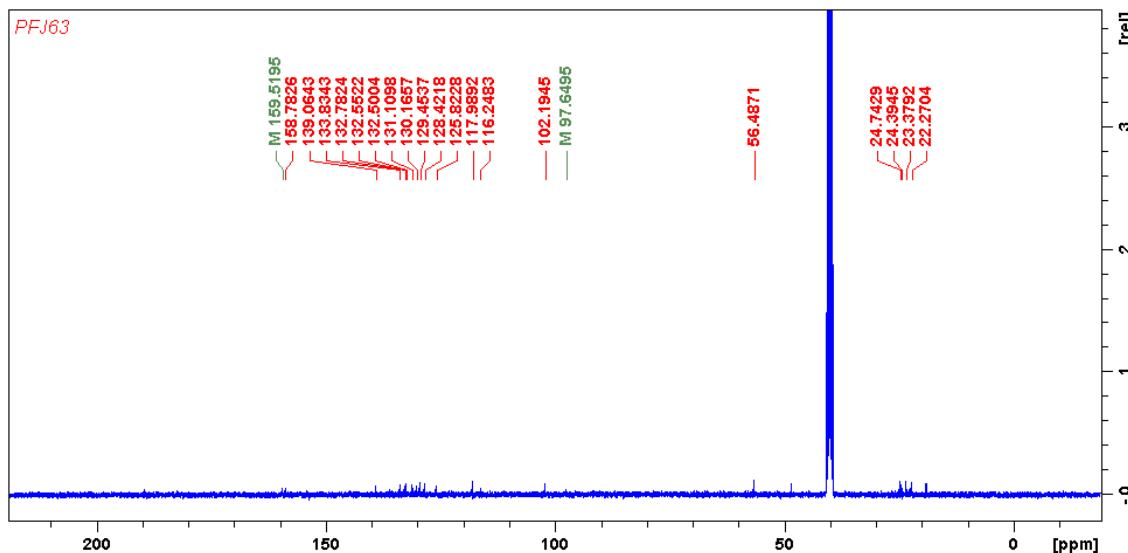
Ampliação de δ 1.5–6.0 ppm do Espectro de RMN ^1H do composto (6b) (600MHz, DMSO- d_6)



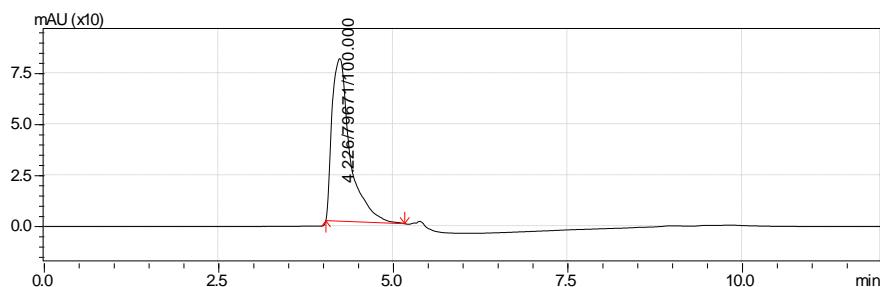
Ampliação de δ 6.8 – 7.8 ppm do Espectro de RMN ^1H do composto (6b) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (6b) (150 MHz, DMSO- d_6)

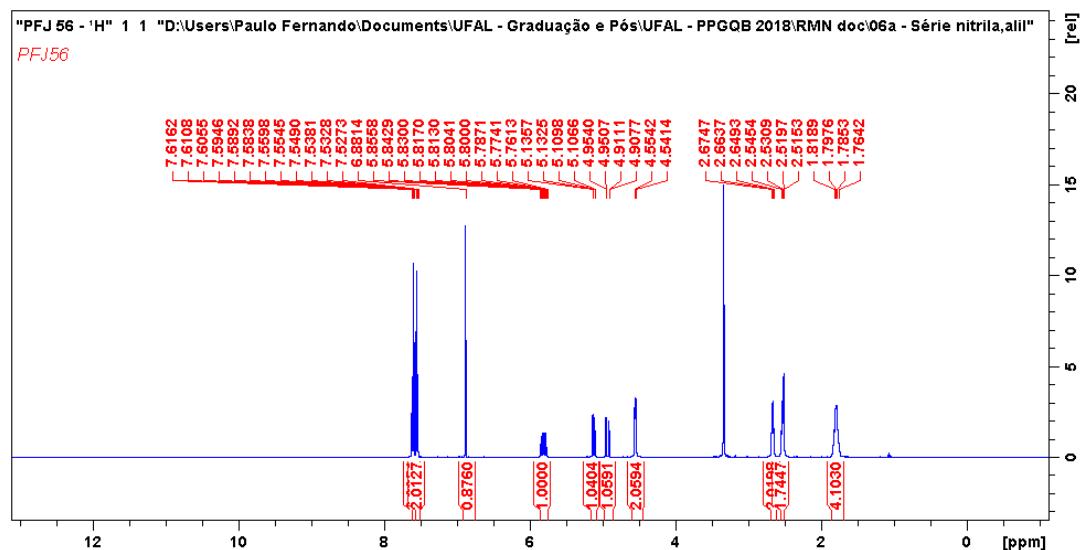


Cromatograma de HPLC-UV em MeOH 100% do Composto (6b)

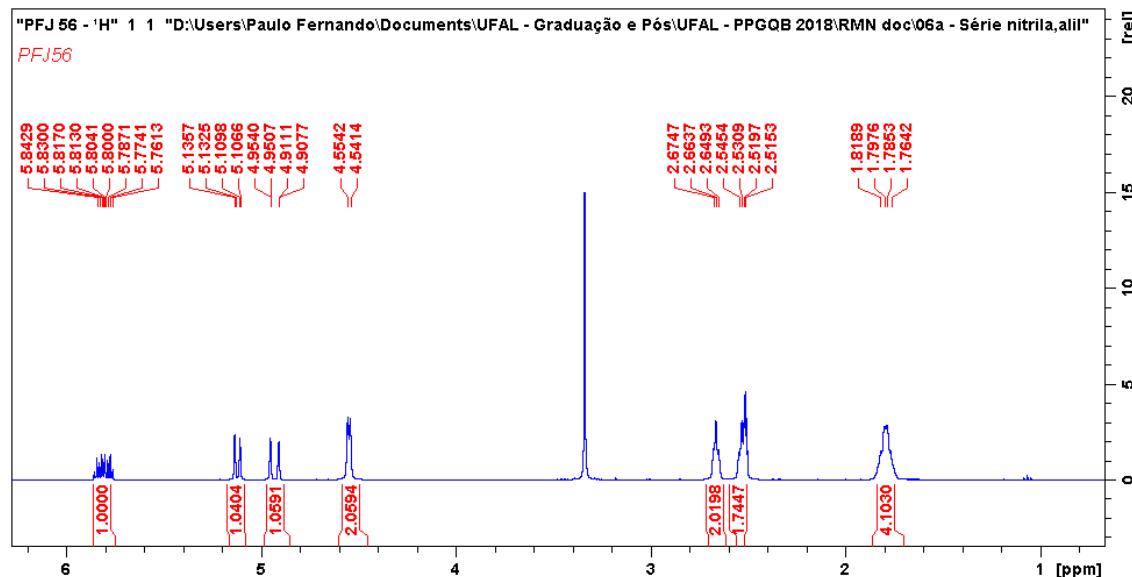


Anexo XVI

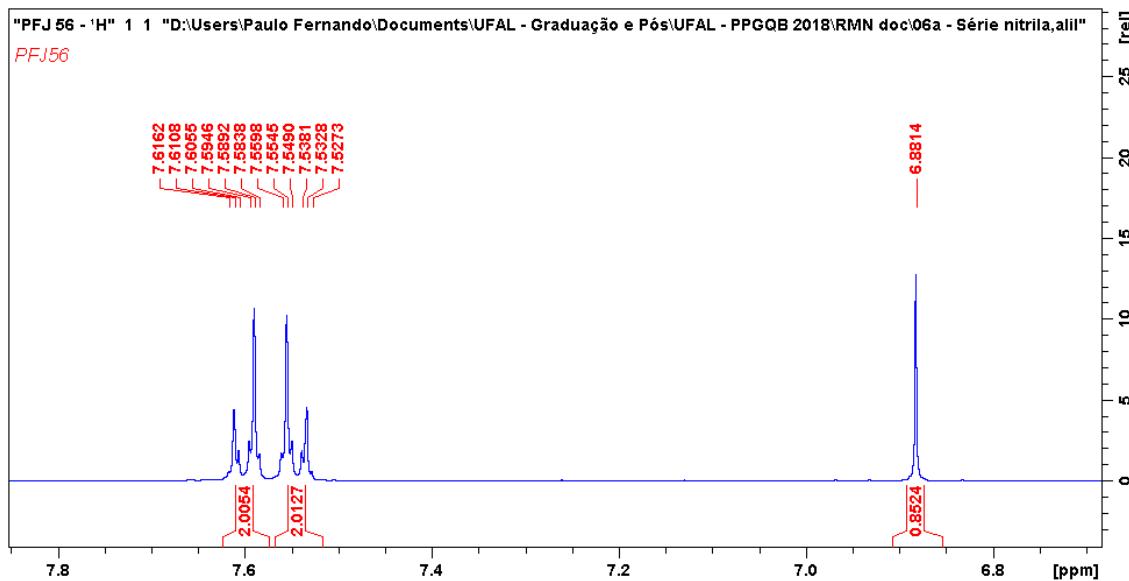
Espectro de RMN ^1H do composto (6c) (600MHz, DMSO- d_6)



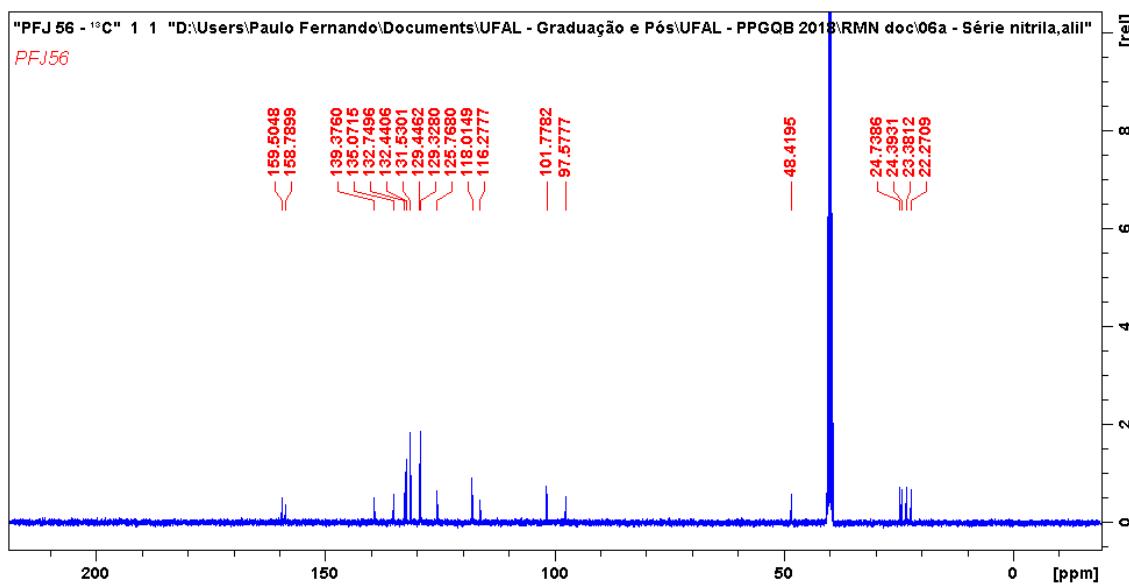
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (6c) (600MHz, DMSO- d_6)



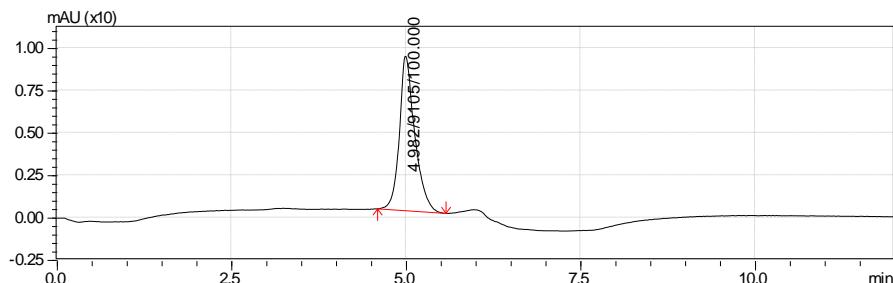
Ampliação de δ 6.8–7.8 ppm do Espectro de RMN ^1H do composto (6c) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (6c) (150 MHz, DMSO- d_6)

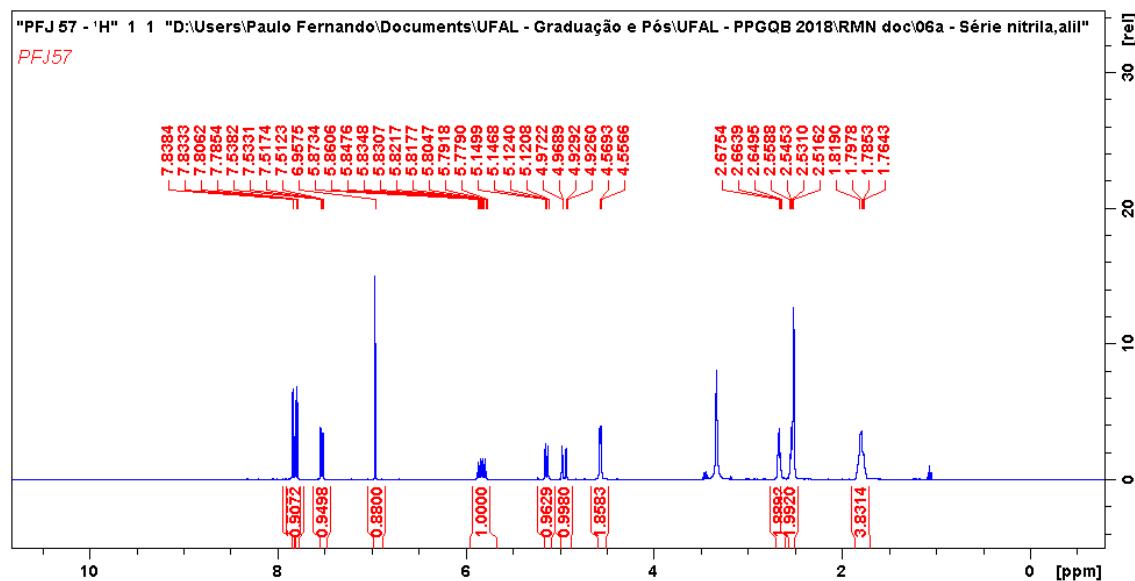


Cromatograma de HPLC-UV em MeOH 100% do Composto (6c)

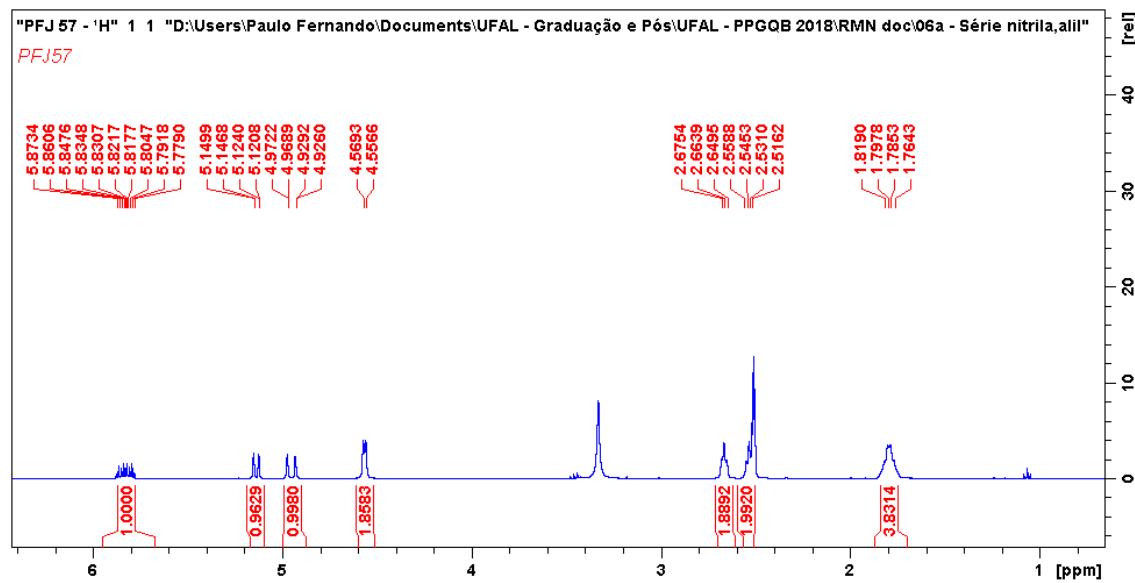


Anexo XVII

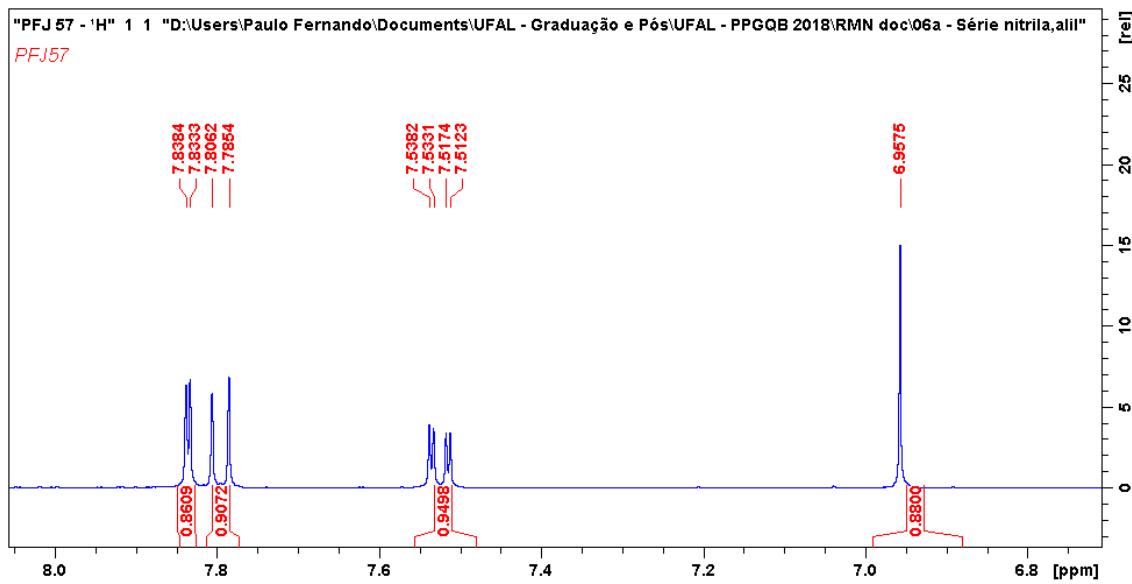
Espectro de RMN ^1H do composto (6d) (600MHz, DMSO- d_6)



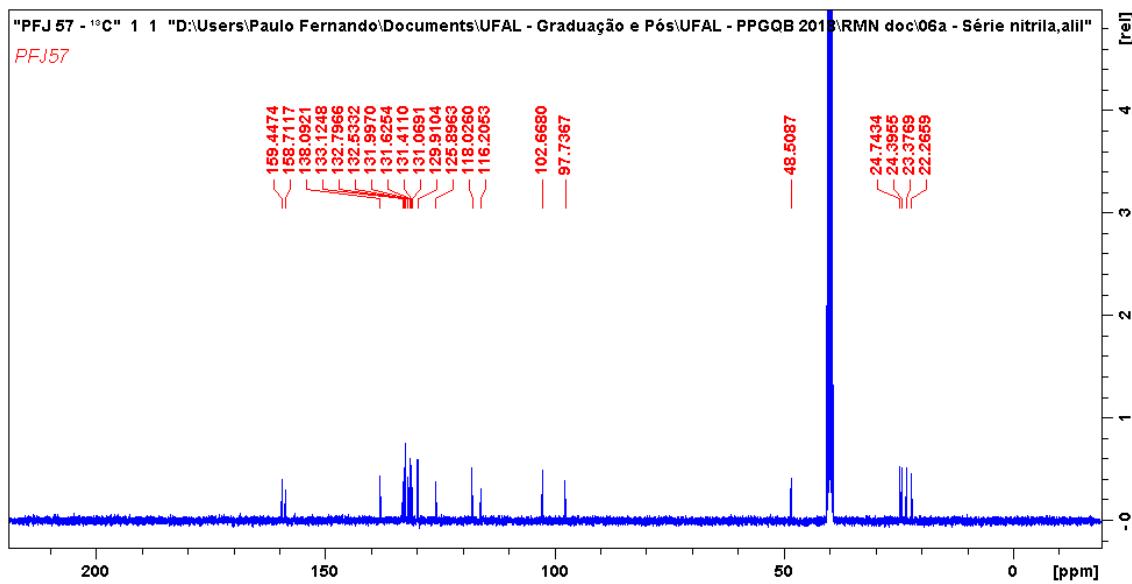
Ampliação de δ 1.0-6.0 ppm do Espectro de RMN ^1H do composto (6d)
(600MHz, DMSO- d_6)



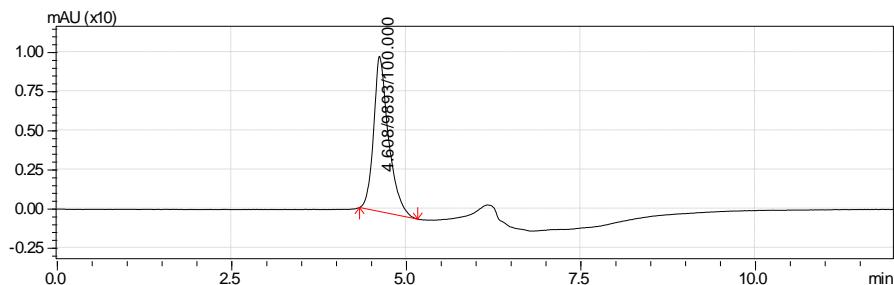
**Ampliação de δ 6.8–8.0 ppm do Espectro de RMN ^1H do composto (6d)
(600MHz, DMSO- d_6)**



Espectro de RMN ^{13}C do composto (6d) (150 MHz, DMSO- d_6)

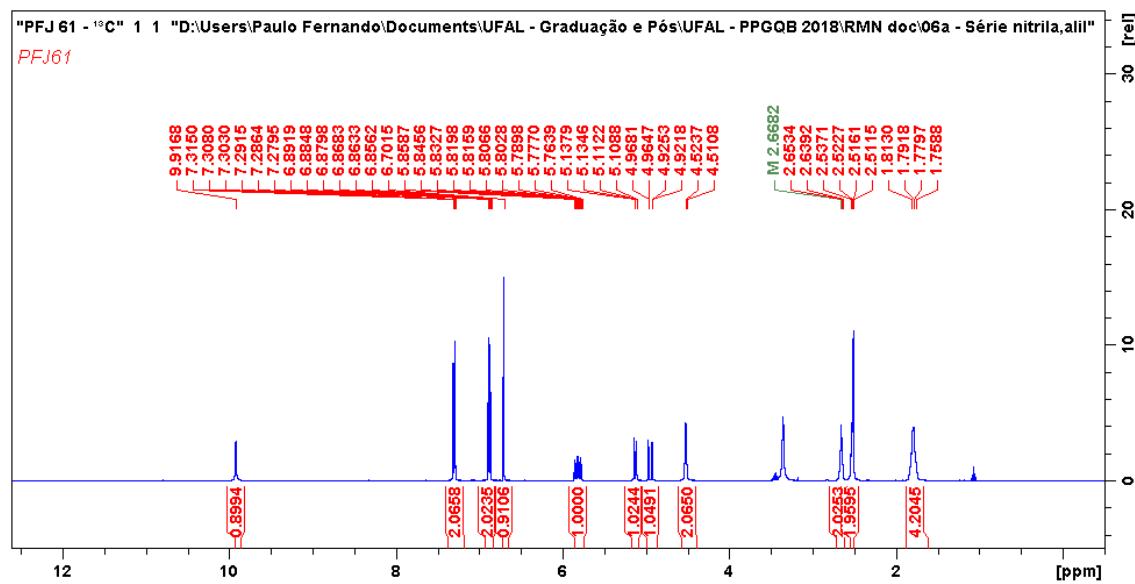


Cromatograma de HPLC-UV em MeOH 100% do Composto (6d)

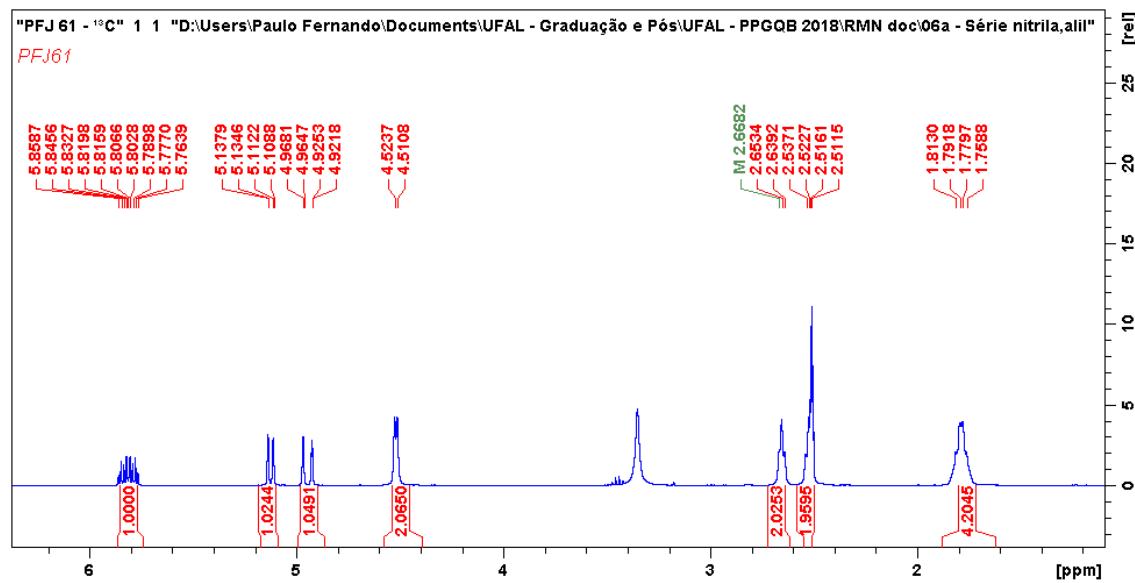


Anexo XVIII

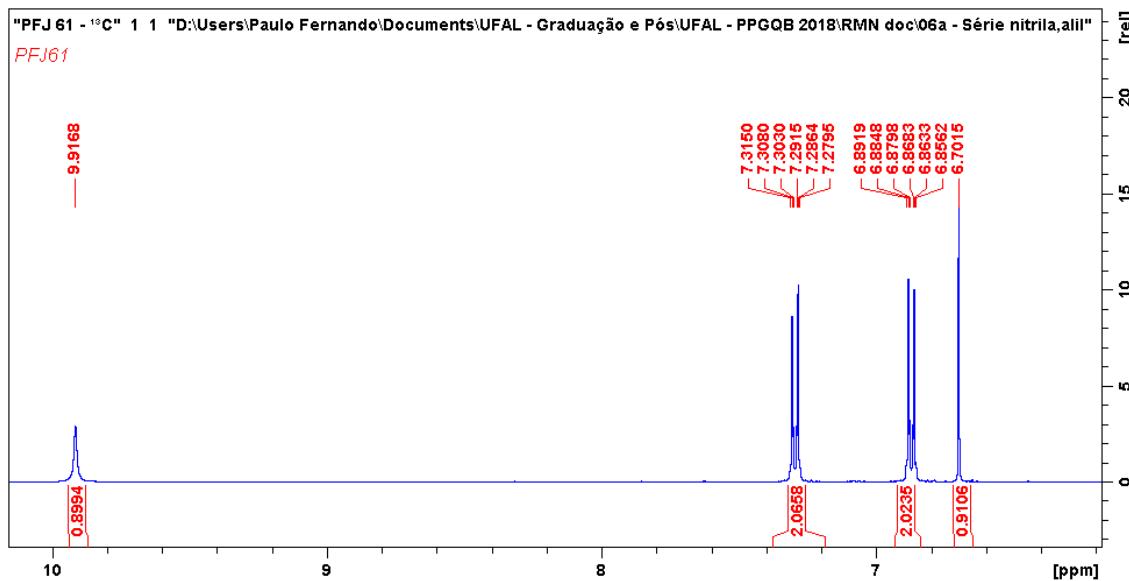
Espectro de RMN ^1H do composto (6e) (600MHz, DMSO- d_6)



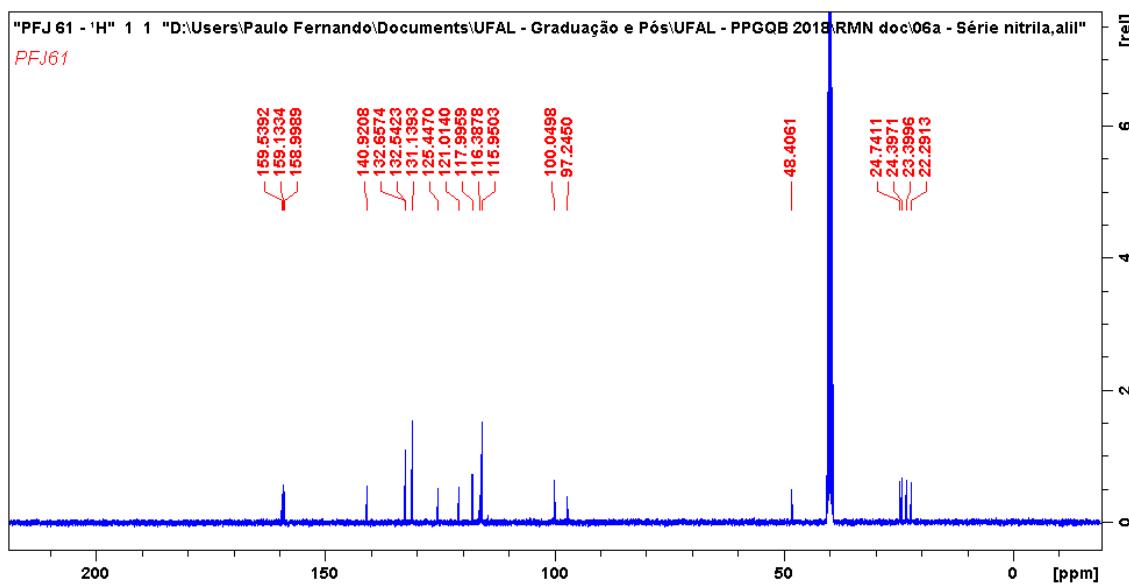
Ampliação de δ 1.5–6.0 ppm do Espectro de RMN ^1H do composto (6e)
(600MHz, DMSO- d_6)



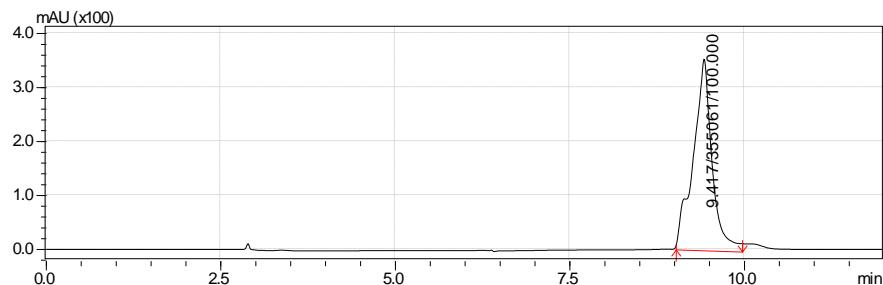
Ampliação de δ 6.5–10 ppm do Espectro de RMN ^1H do composto (6e) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (6e) (150 MHz, DMSO- d_6)

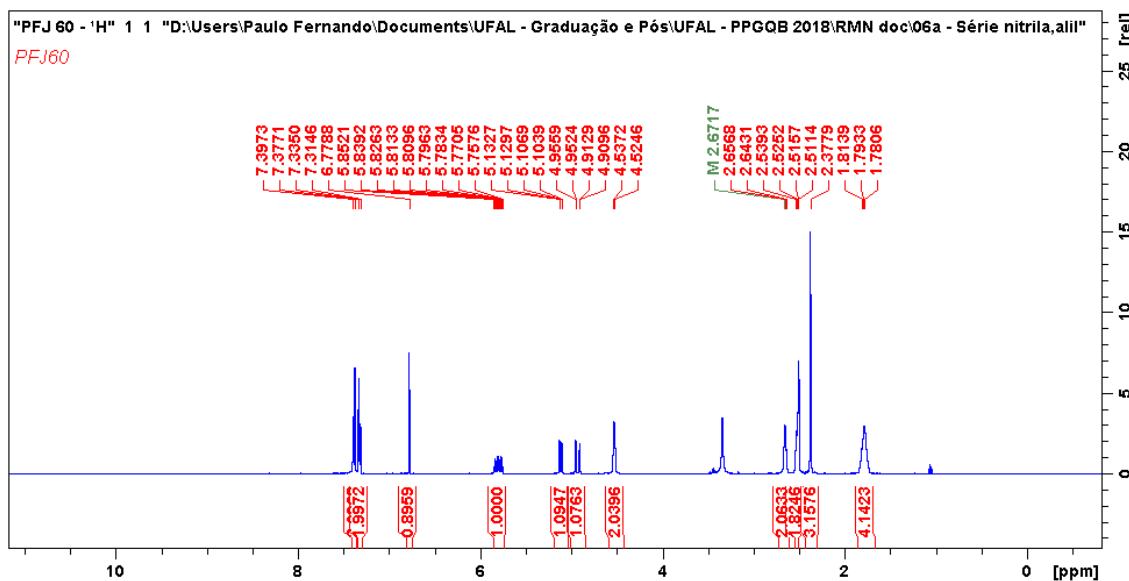


Cromatograma de HPLC-UV em MeOH 100% do Composto (6e)

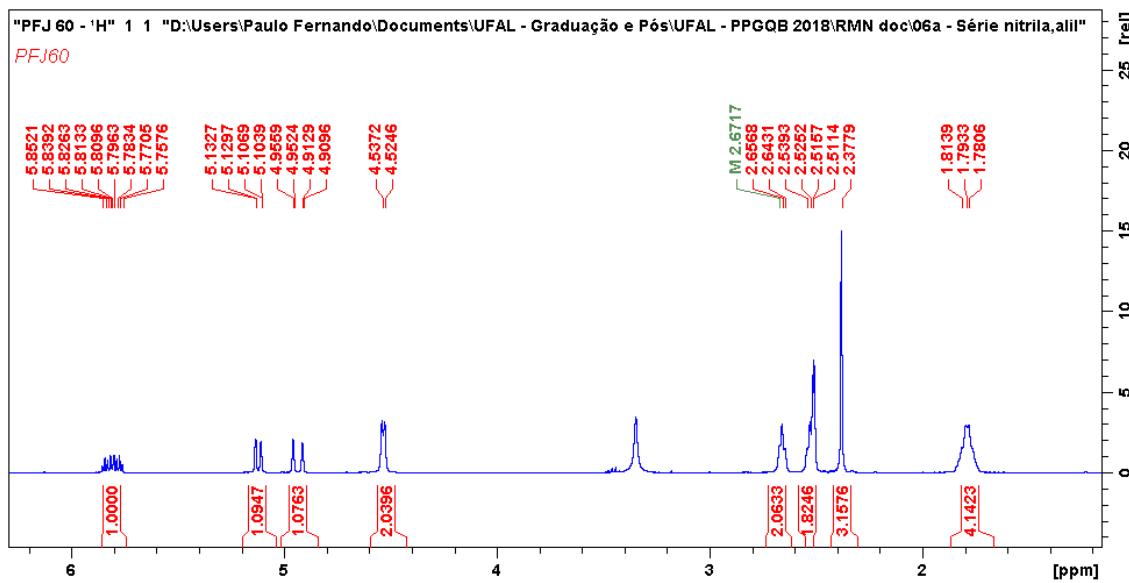


Anexo XIX

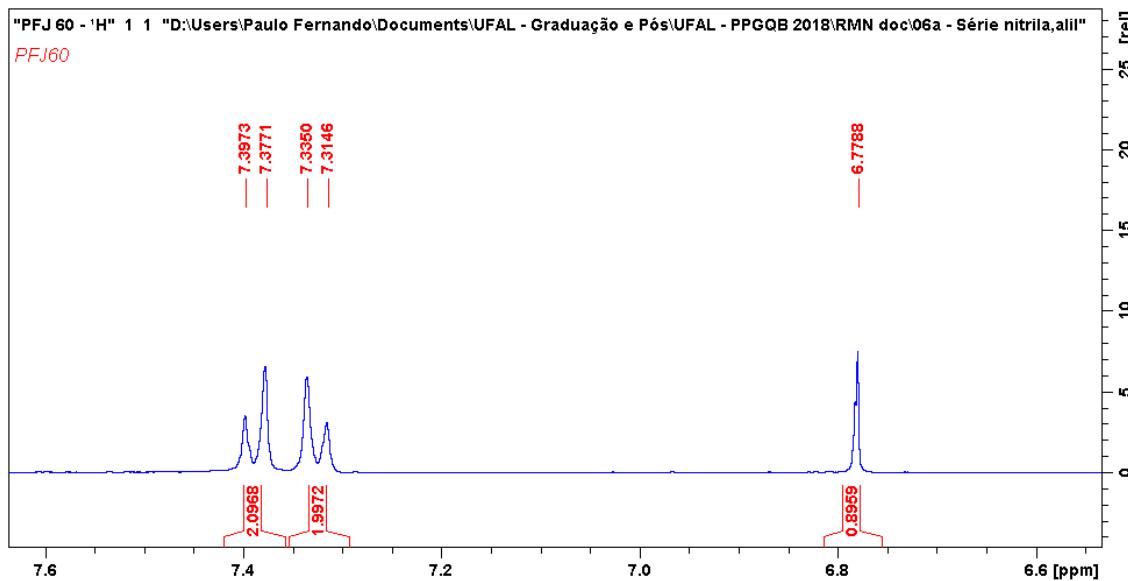
Espectro de RMN ^1H do composto (6f) (600MHz, DMSO- d_6)



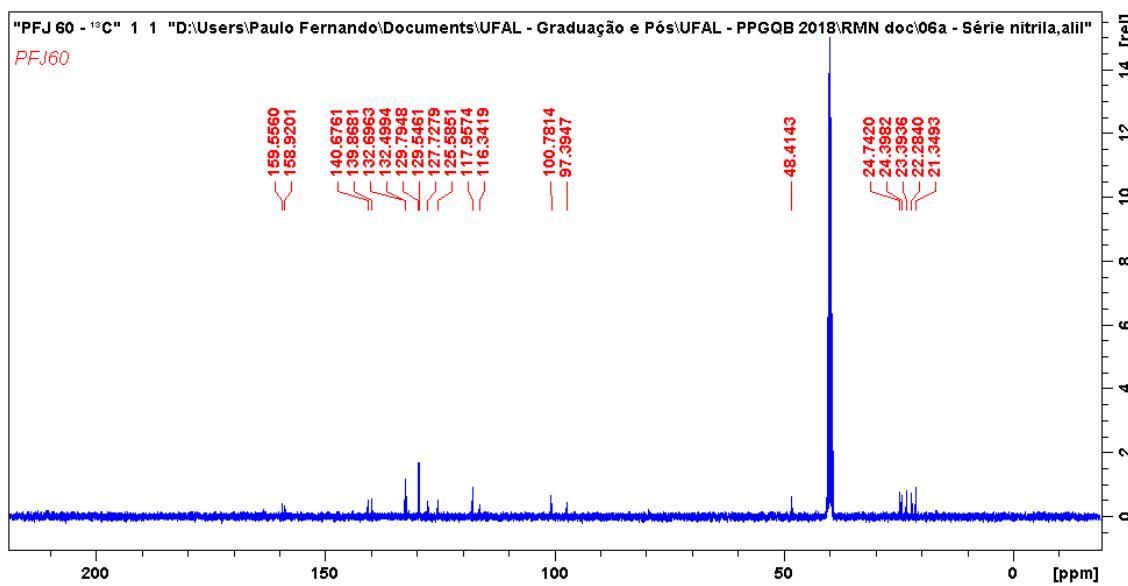
Ampliação de δ 1.5–6.0 ppm do Espectro de RMN ^1H do composto (6f)
(600MHz, DMSO- d_6)



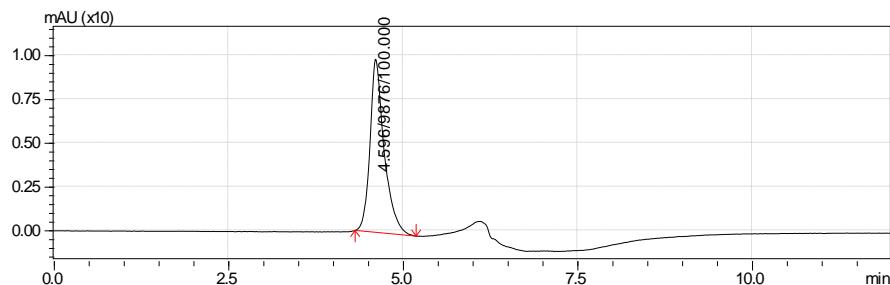
Ampliação de δ 6.6–7.6 ppm do Espectro de RMN ^1H do composto (6f) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (6f) (150 MHz, DMSO- d_6)

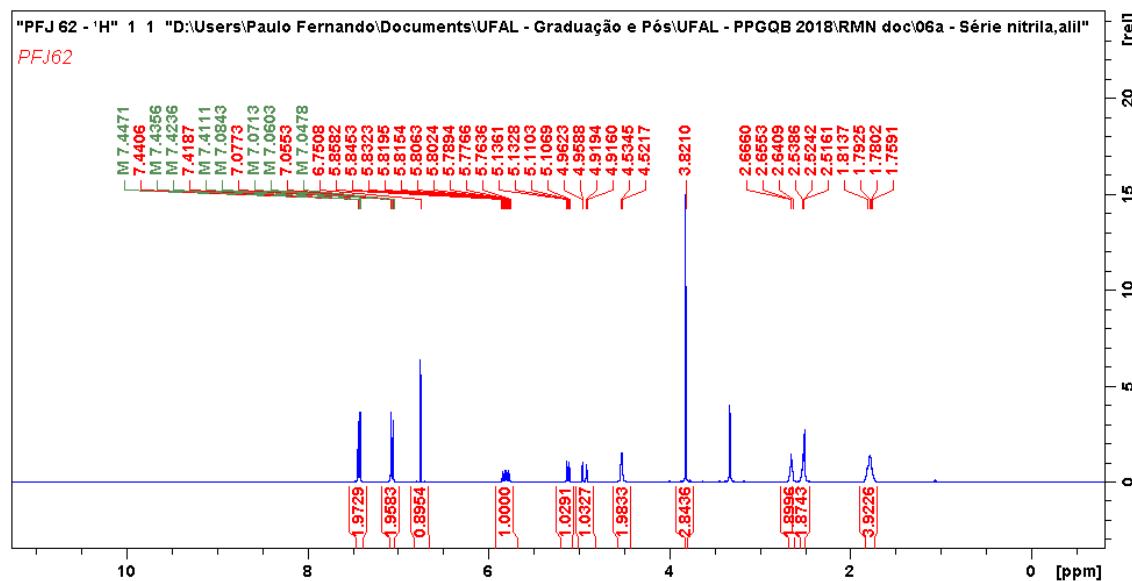


Cromatograma de HPLC-UV em MeOH 100% do Composto (6f)

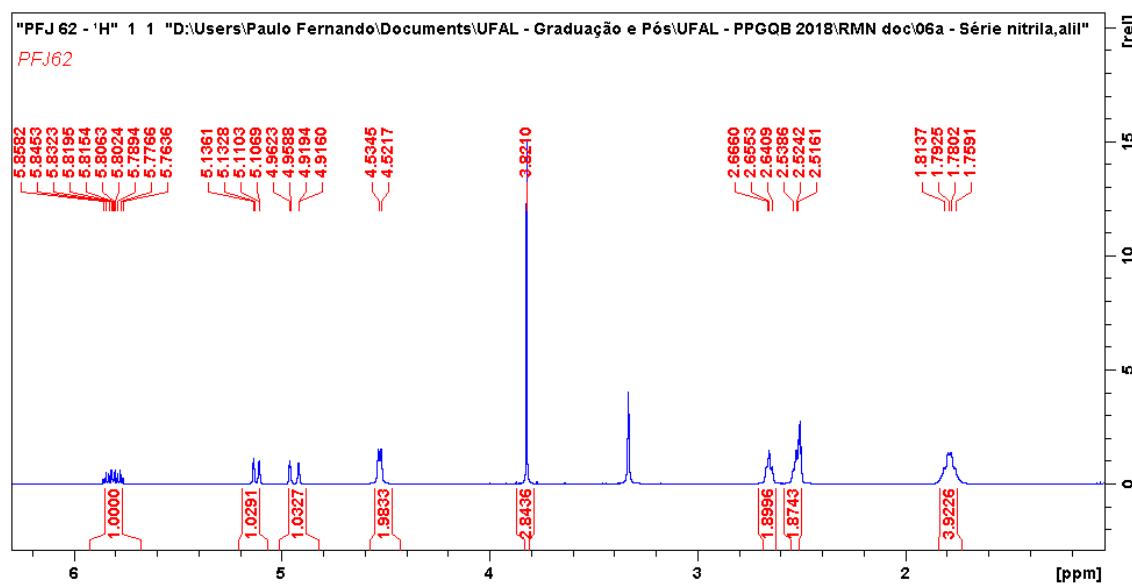


Anexo XX

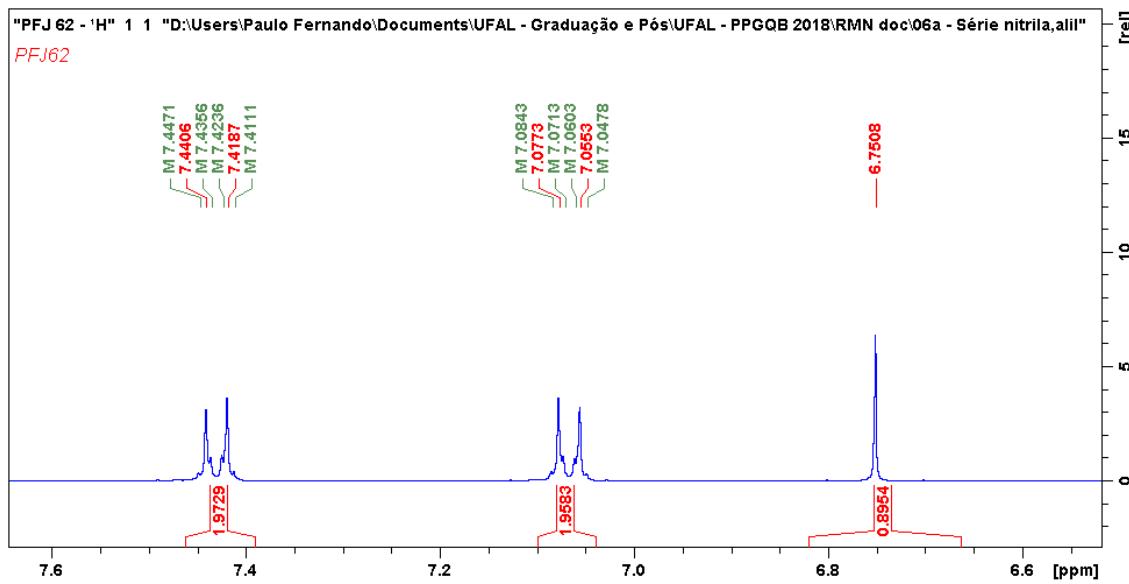
Espectro de RMN ^1H do composto (6g) (600MHz, DMSO- d_6)



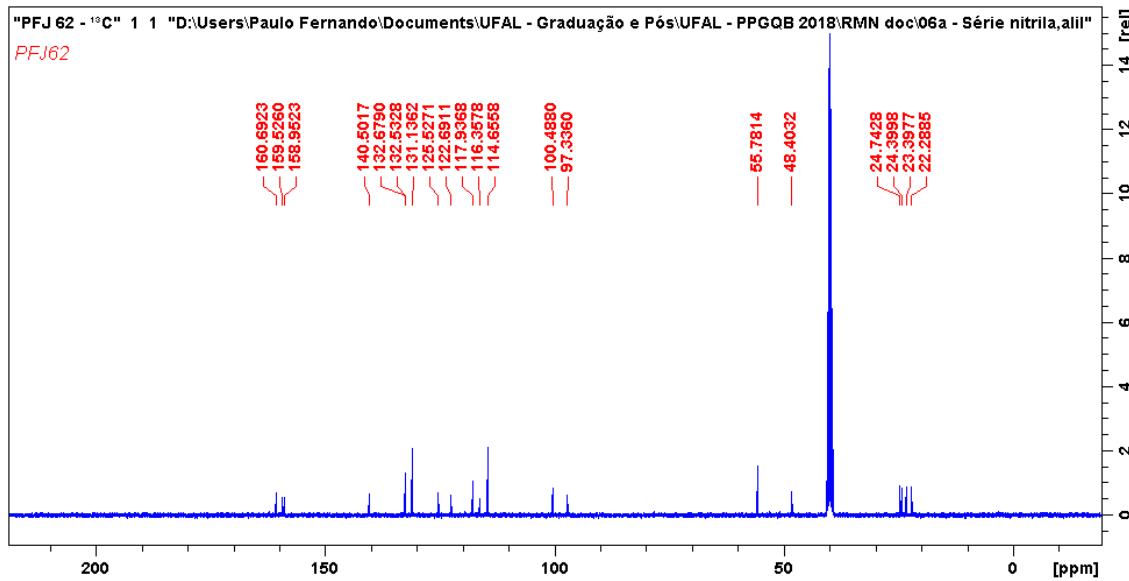
Ampliação de δ 1.5–6.0 ppm do Espectro de RMN ^1H do composto (6g)
(600MHz, DMSO- d_6)



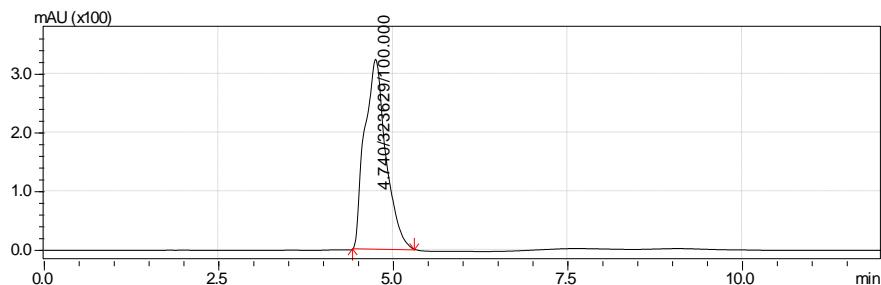
Ampliação de δ 6.7-7.6 ppm do Espectro de RMN ^1H do composto (6g) (600MHz, DMSO- d_6)



Espectro de RMN ^{13}C do composto (6g) (150 MHz, DMSO- d_6)

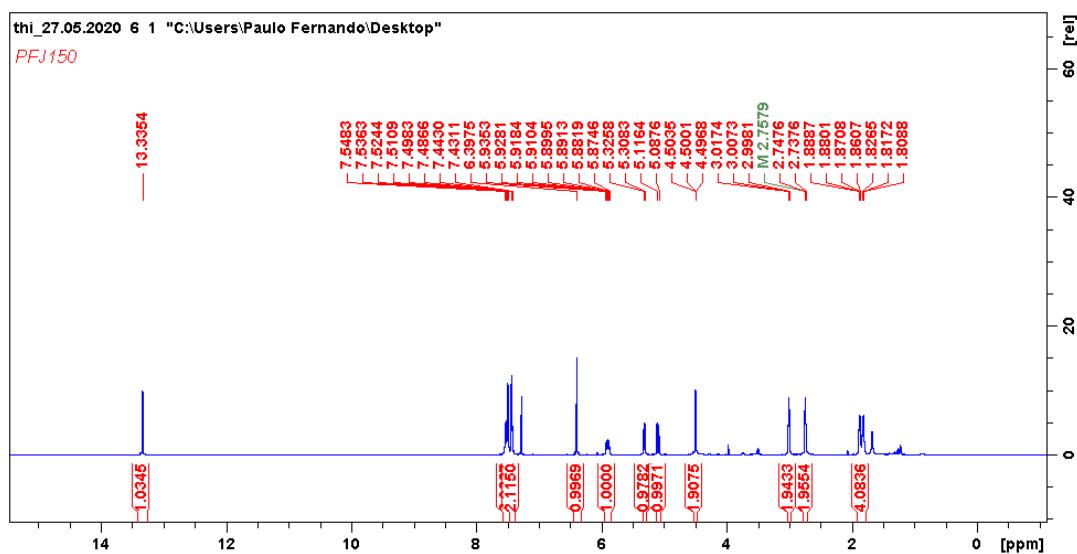


Cromatograma de HPLC-UV em MeOH 100% do Composto (6g)

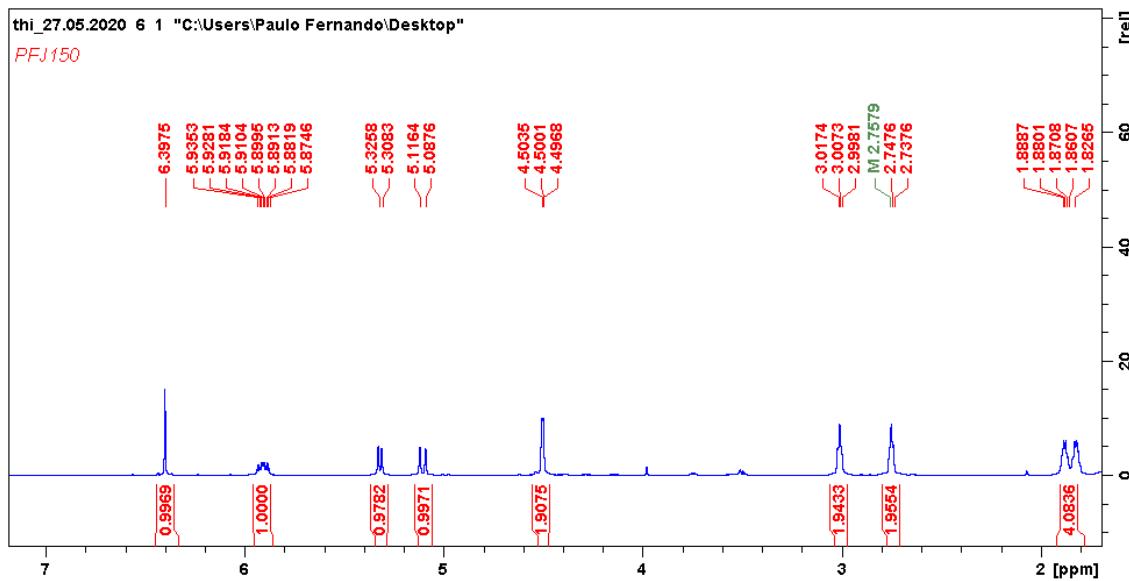


Anexo XXI

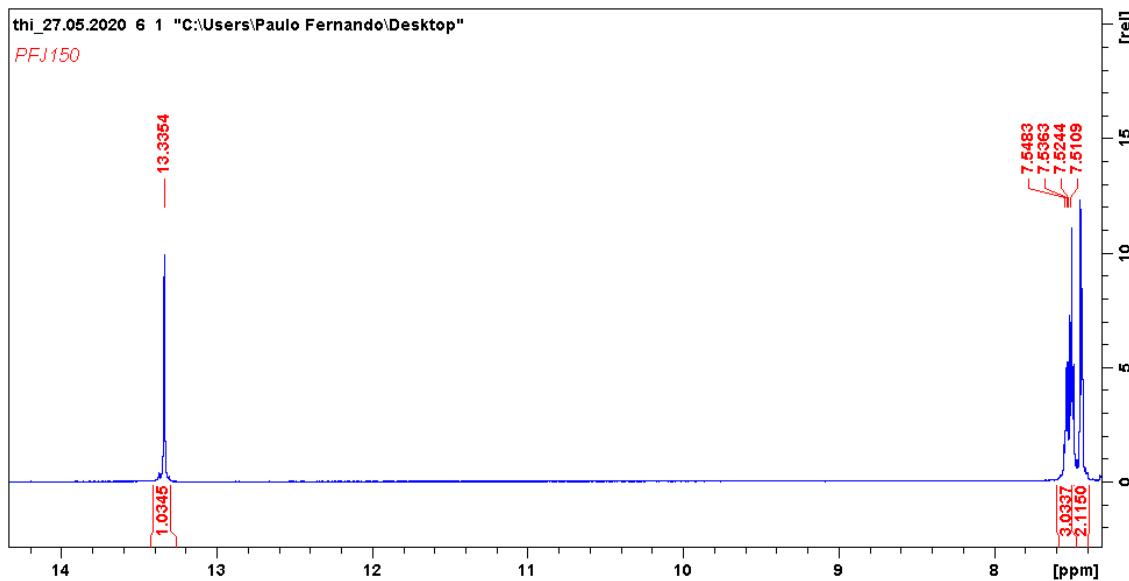
Espectro de RMN ^1H do composto (7a) (600MHz, CDCl_3)



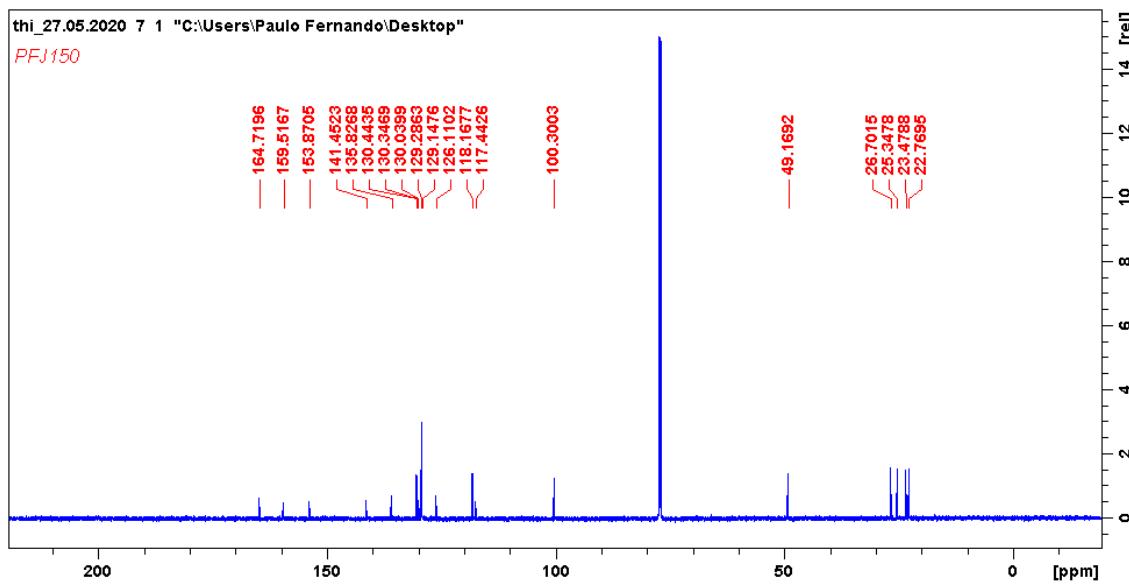
Ampliação de δ 1.8-7.0 ppm do Espectro de RMN ^1H do composto (7a) (600MHz, CDCl_3)



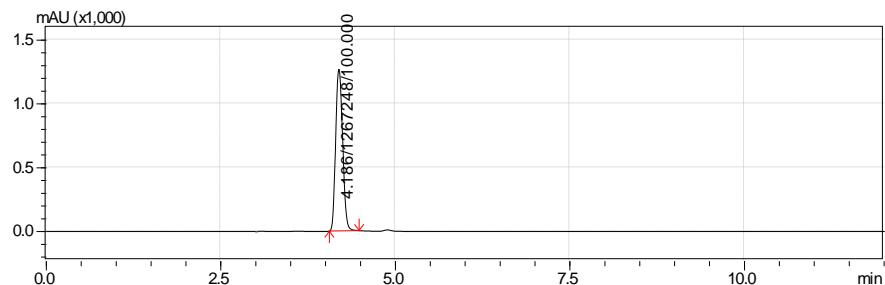
Ampliação de δ 7.5-14 ppm do Espectro de RMN ^1H do composto (7a) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7a) (150 MHz, CDCl_3)

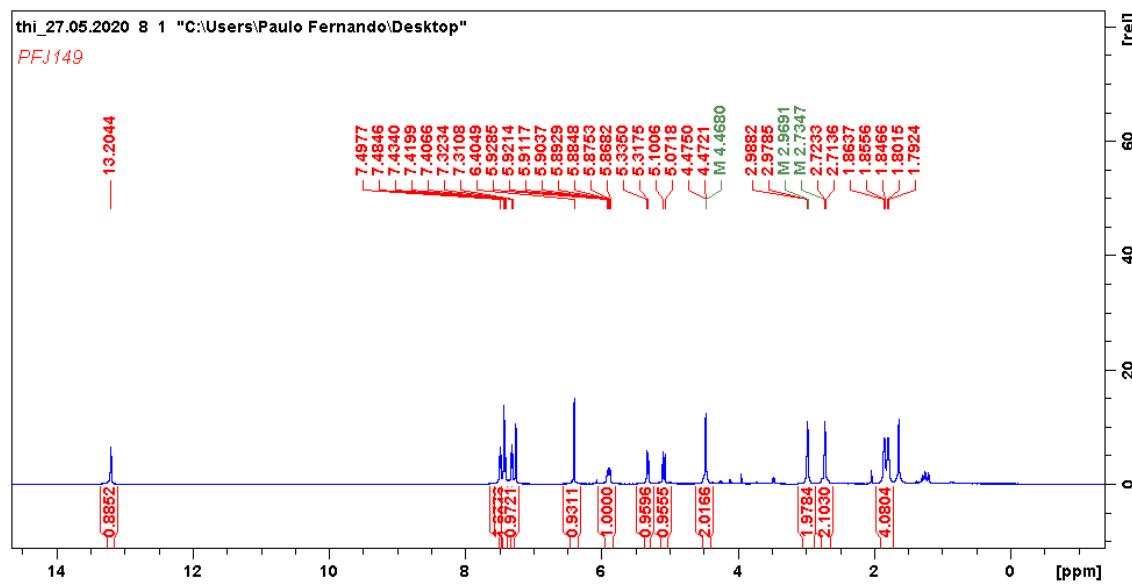


Cromatograma de HPLC-UV em MeOH 100% do Composto (7a)

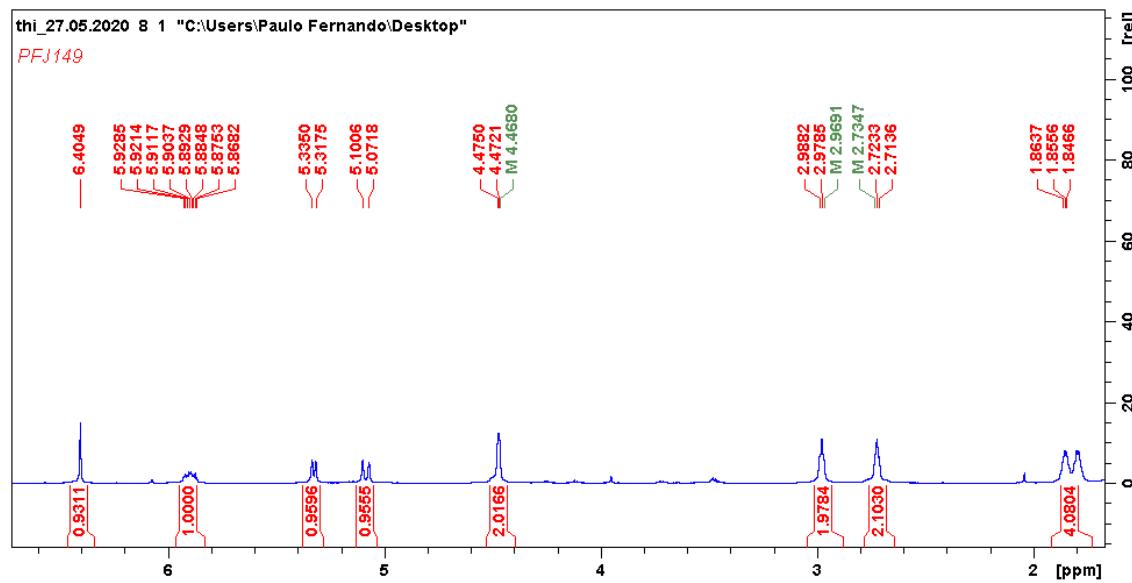


Anexo XXII

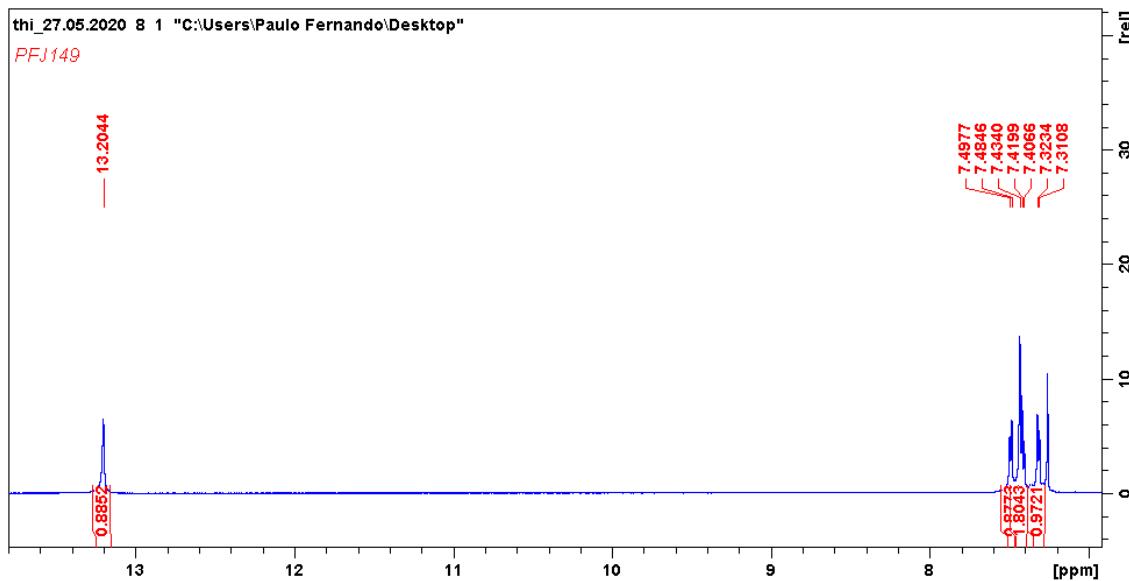
Espectro de RMN ^1H do composto (7b) (600MHz, CDCl_3)



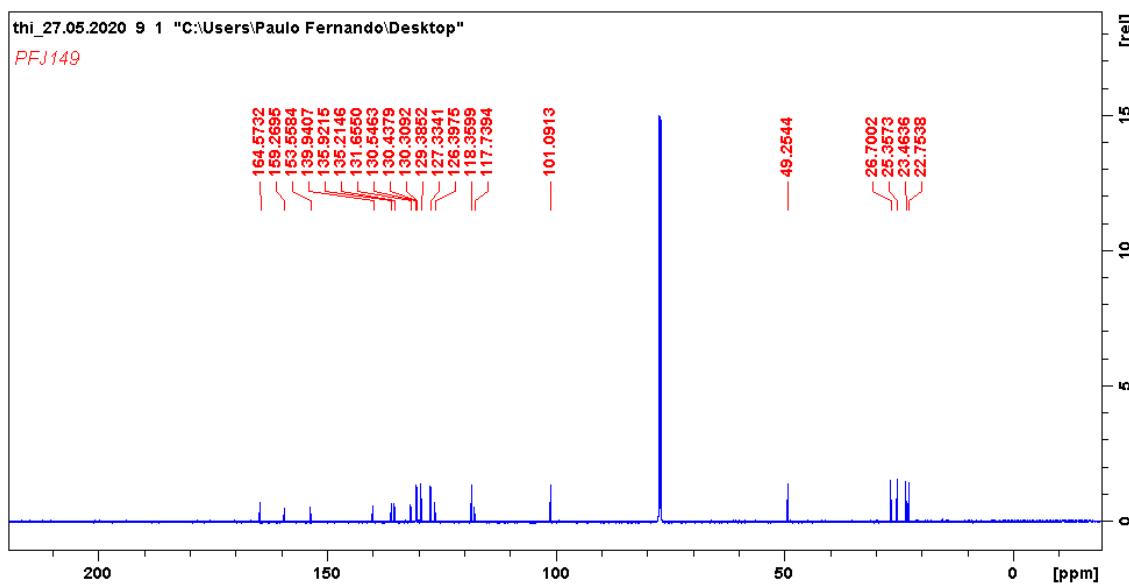
Ampliação de δ 2.0-6.5 ppm do Espectro de RMN ^1H do composto (7b) (600MHz, CDCl_3)



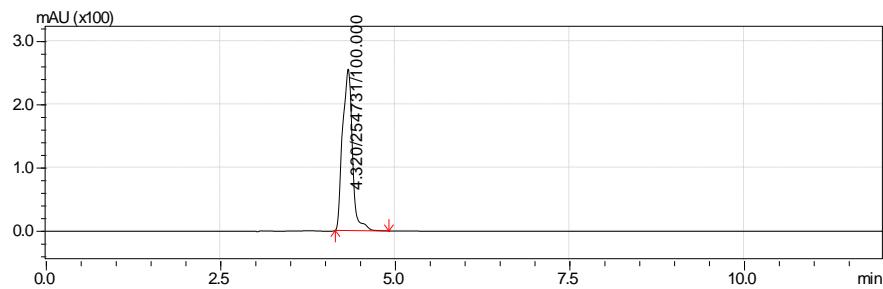
Ampliação de δ 7.0-13.5 do Espectro de RMN ^1H do composto (7b) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7b) (600MHz, CDCl_3)

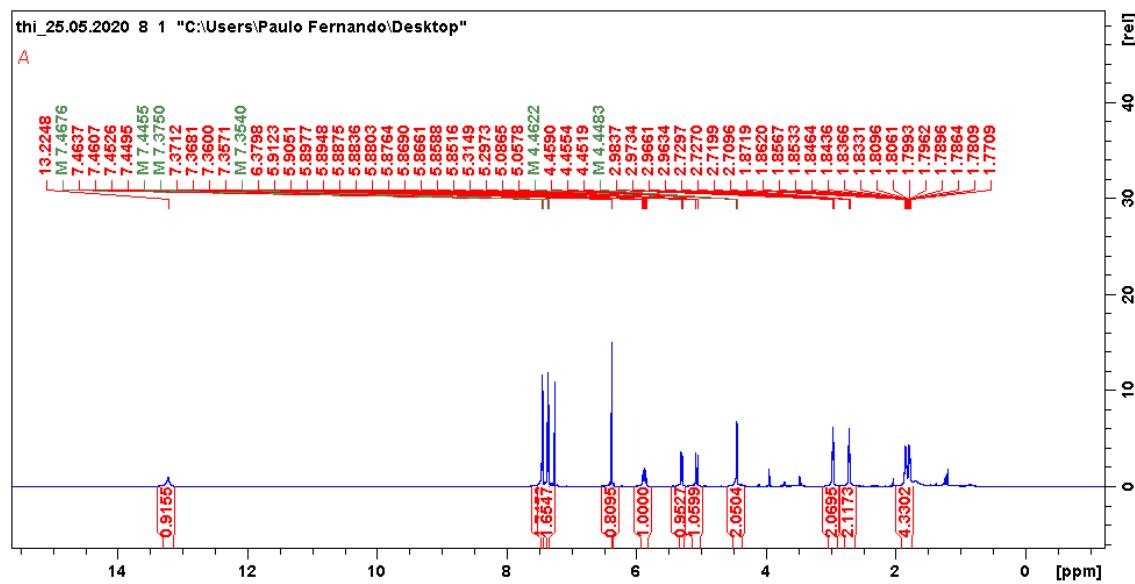


Cromatograma de HPLC-UV em MeOH 100% do Composto (7b)

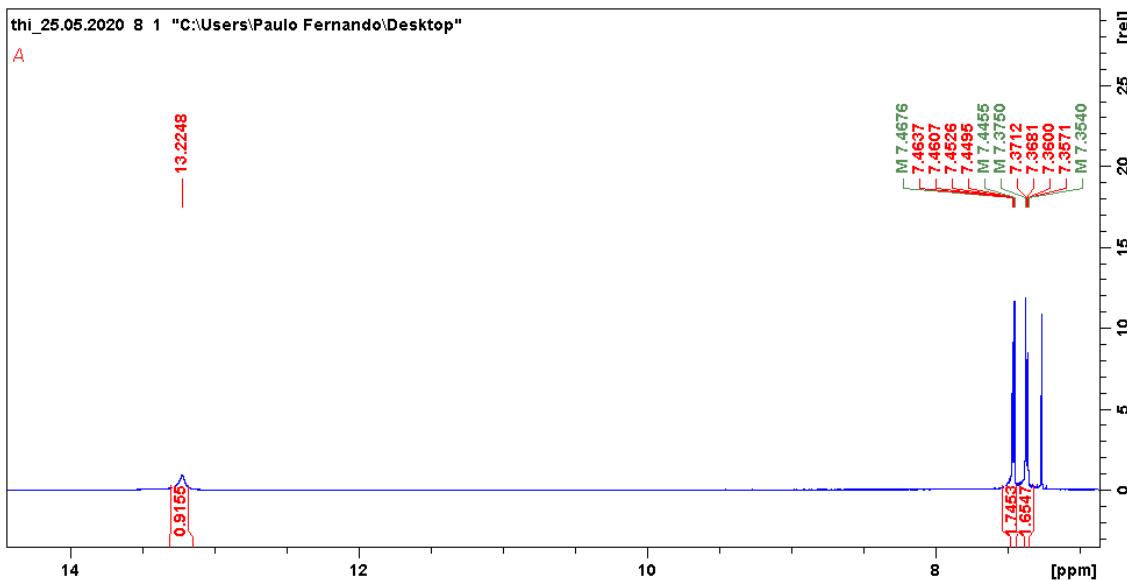


Anexo XXIII

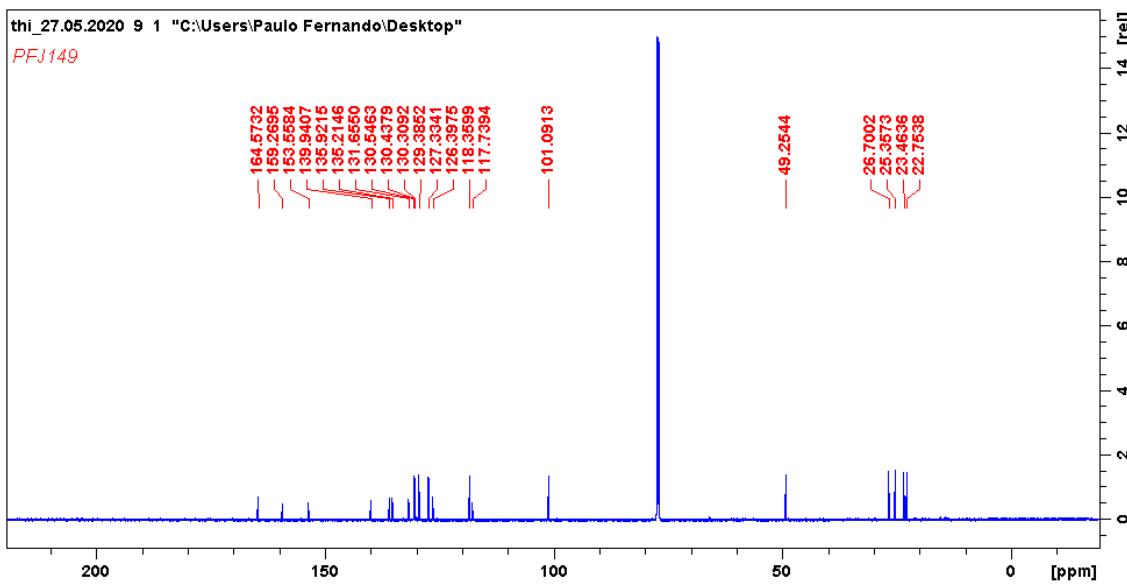
Espectro de RMN ^1H do composto (7c) (600MHz, CDCl_3)



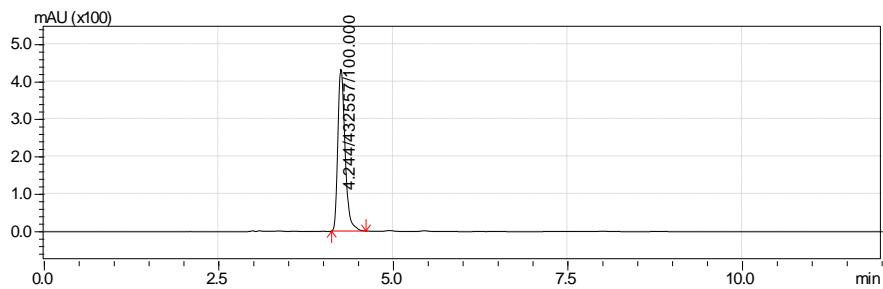
Ampliação de δ 7.0-14 ppm do Espectro de RMN ^1H do composto (7c) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7c) (150 MHz, CDCl_3)

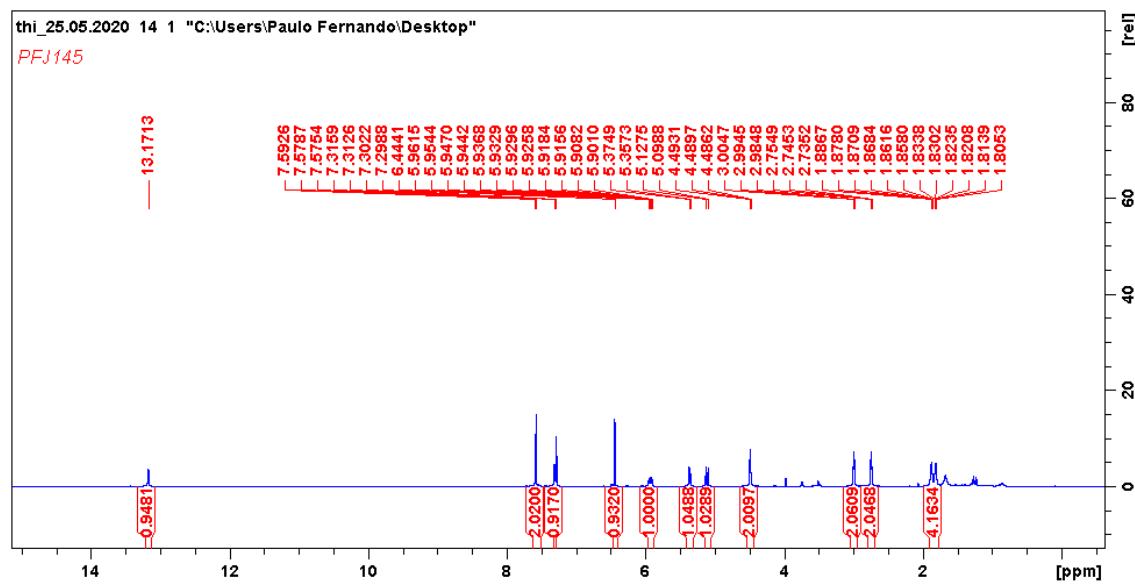


Cromatograma de HPLC-UV em MeOH 100% do Composto (7c)

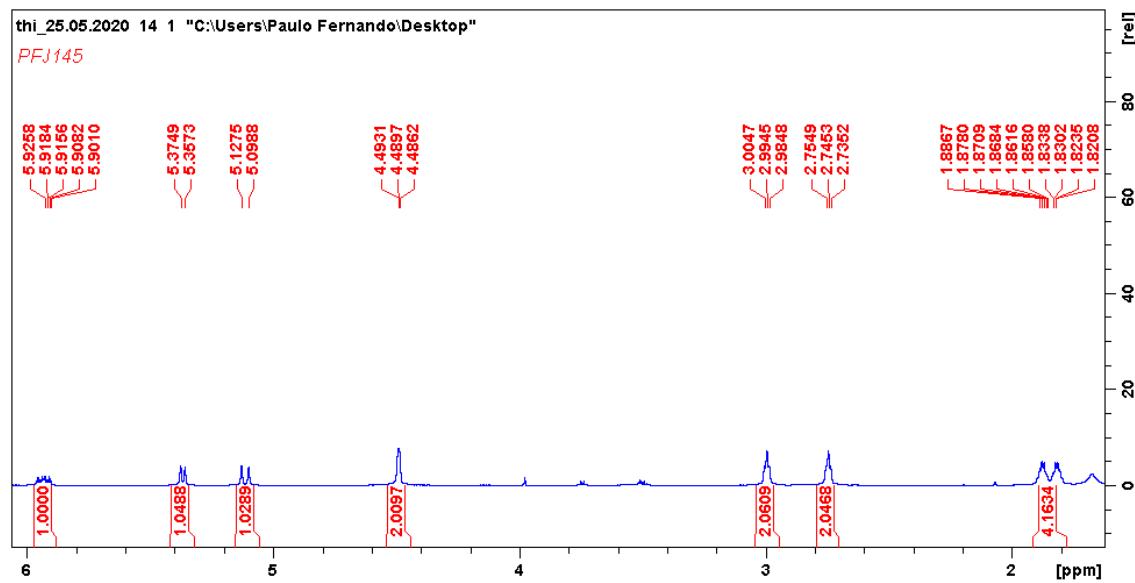


Anexo XXIV

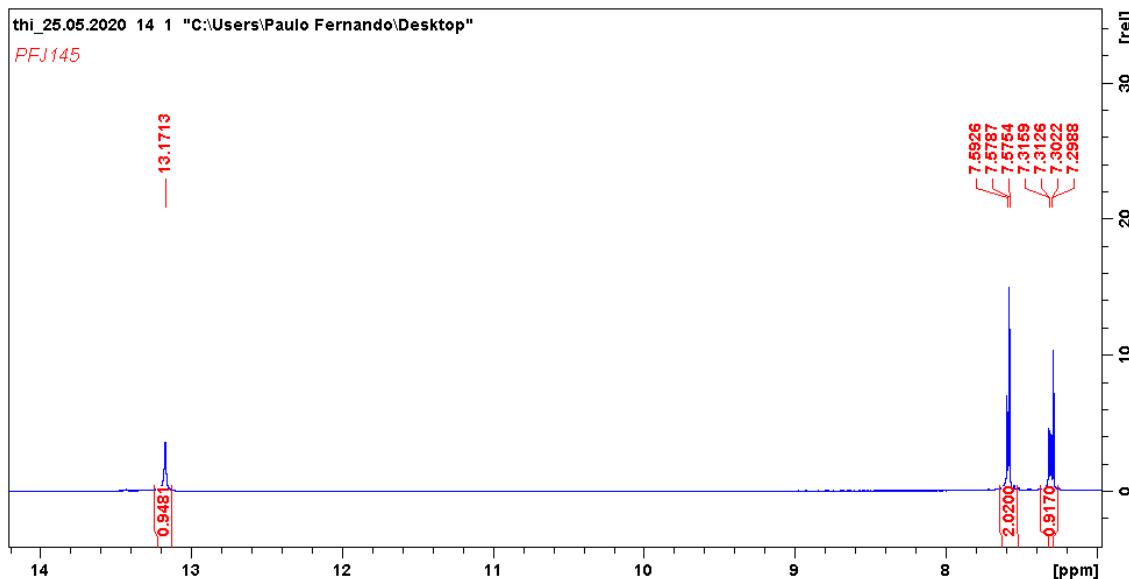
Espectro de RMN ^1H do composto (7d) (600MHz, CDCl_3)



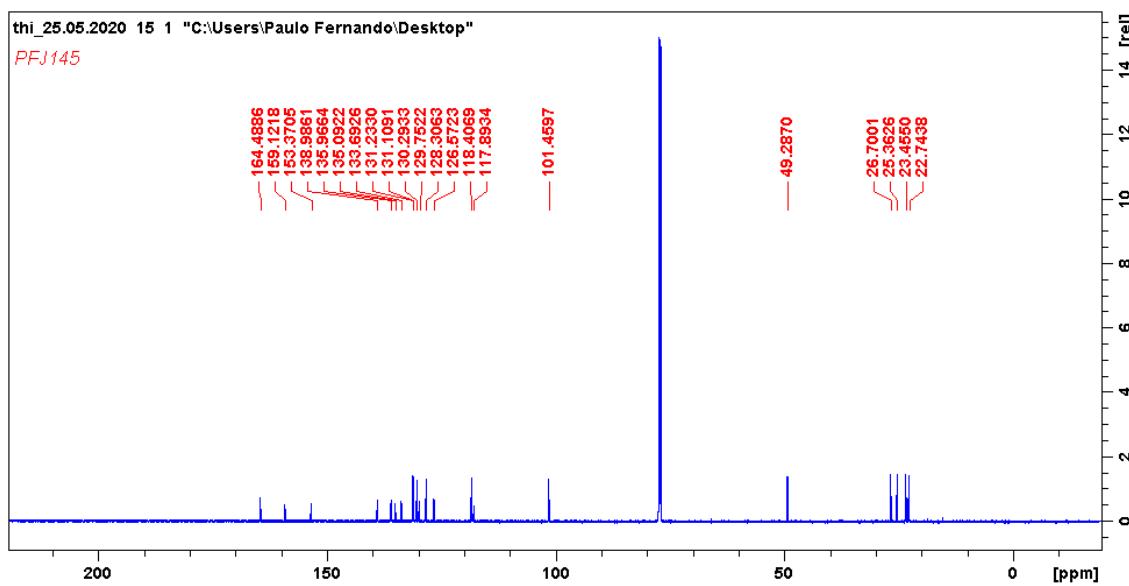
Ampliação de δ 1.6-6.0 ppm do Espectro de RMN ^1H do composto (7d) (600MHz, CDCl_3)



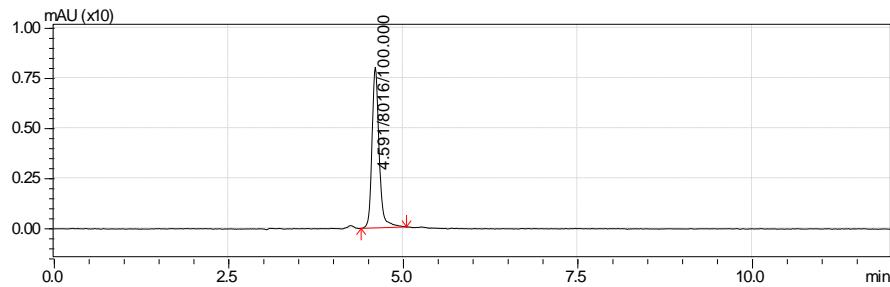
Ampliação de δ 7.0-14 ppm do Espectro de RMN ^1H do composto (7d) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7d) (150 MHz, CDCl_3)

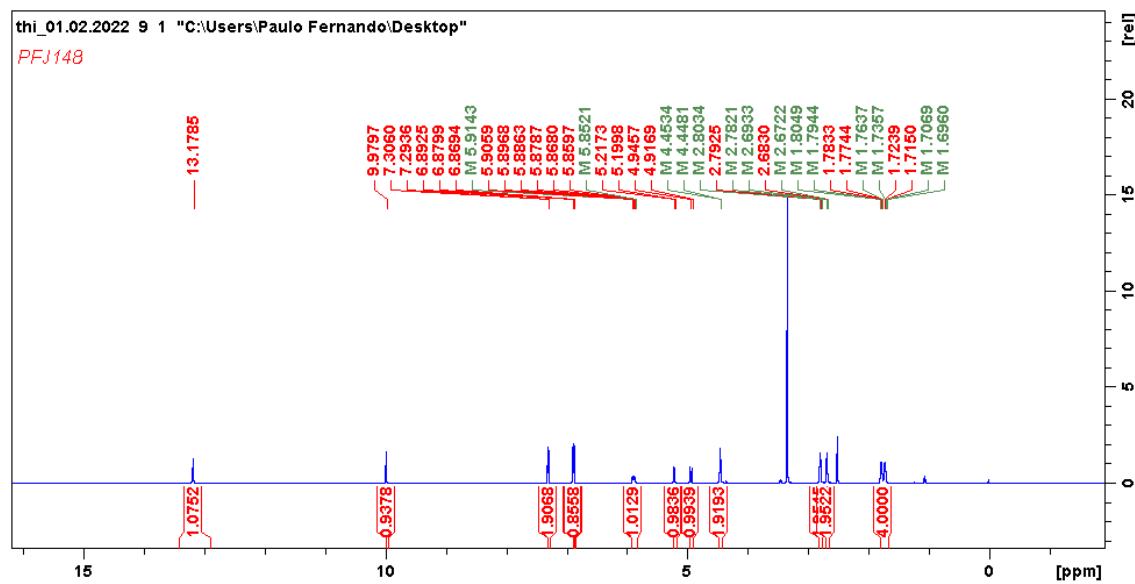


Cromatograma de HPLC-UV em MeOH 100% do Composto (7d)

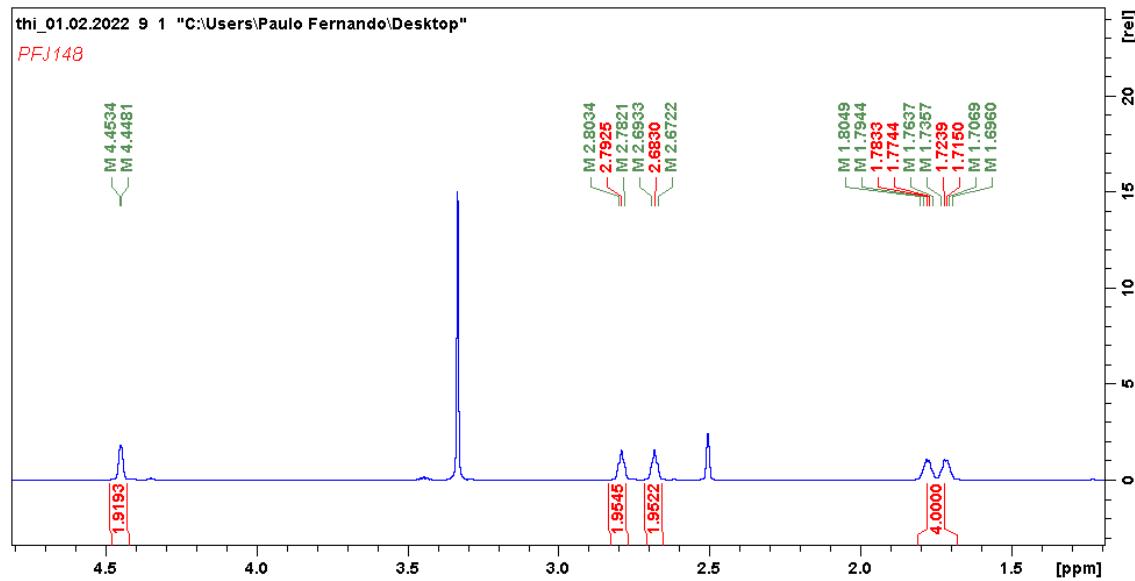


Anexo XXV

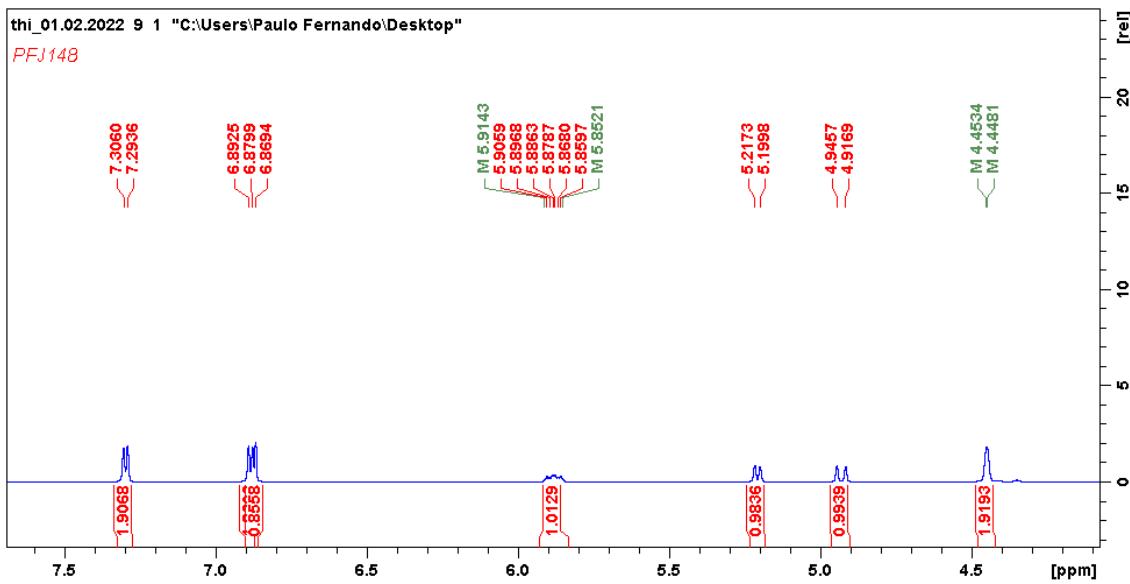
Espectro de RMN ^1H do composto (7e) (600MHz, DMSO- d_6)



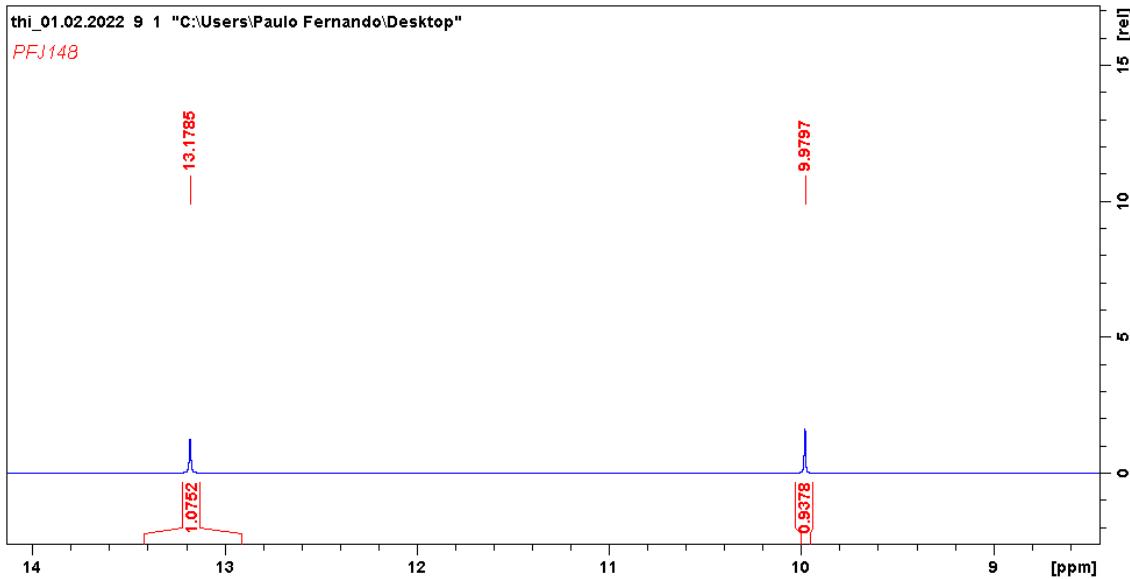
Ampliação de δ 1.5-4.5 ppm do Espectro de RMN ^1H do composto (7e) (600MHz, DMSO- d_6)



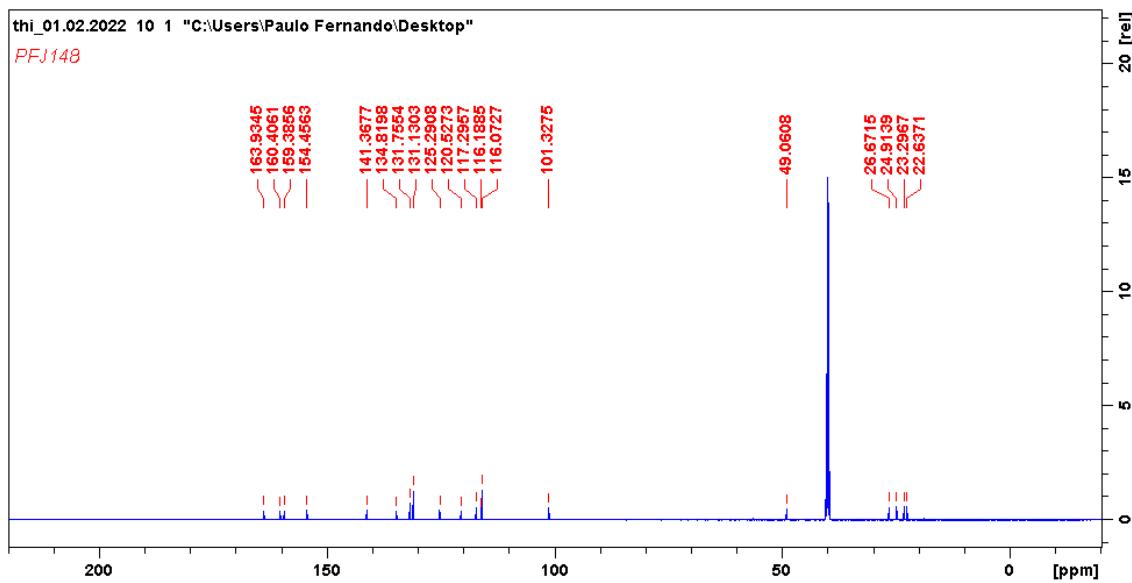
**Ampliação de δ 4.5-7.5 ppm do Espectro de RMN ^1H do composto (7e)
(600MHz, DMSO- d_6)**



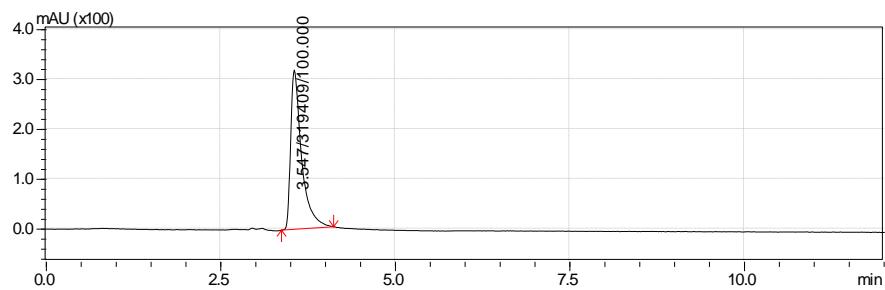
**Ampliação de δ 9.0-14.0 ppm do Espectro de RMN ^1H do composto (7e)
(600MHz, DMSO- d_6)**



Espectro de RMN ¹³C do composto (7e) (150 MHz, DMSO-d₆)

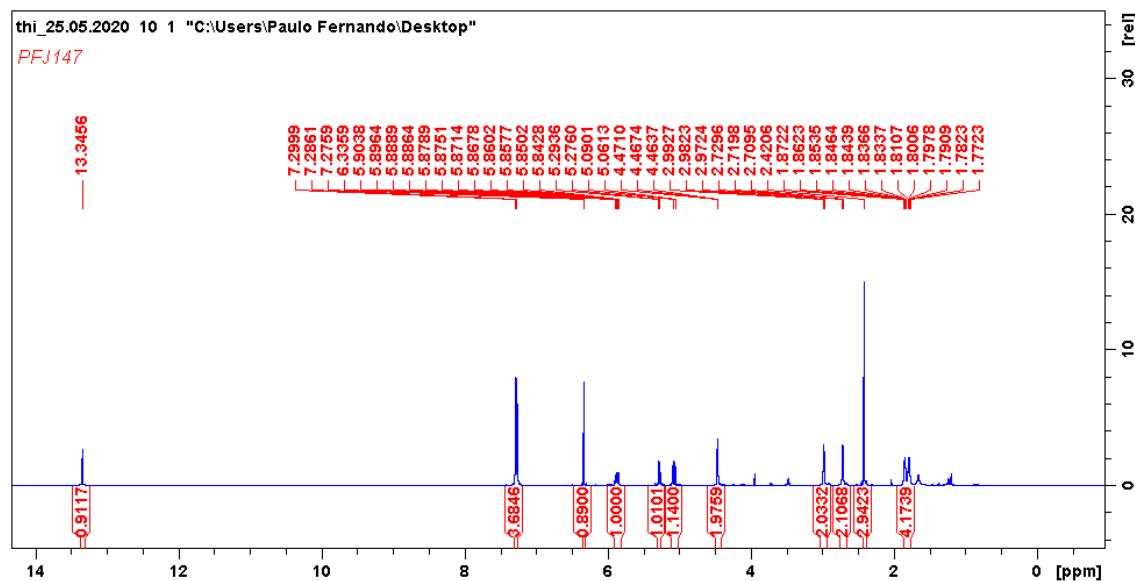


Cromatograma de HPLC-UV em MeOH 100% do Composto (7e)

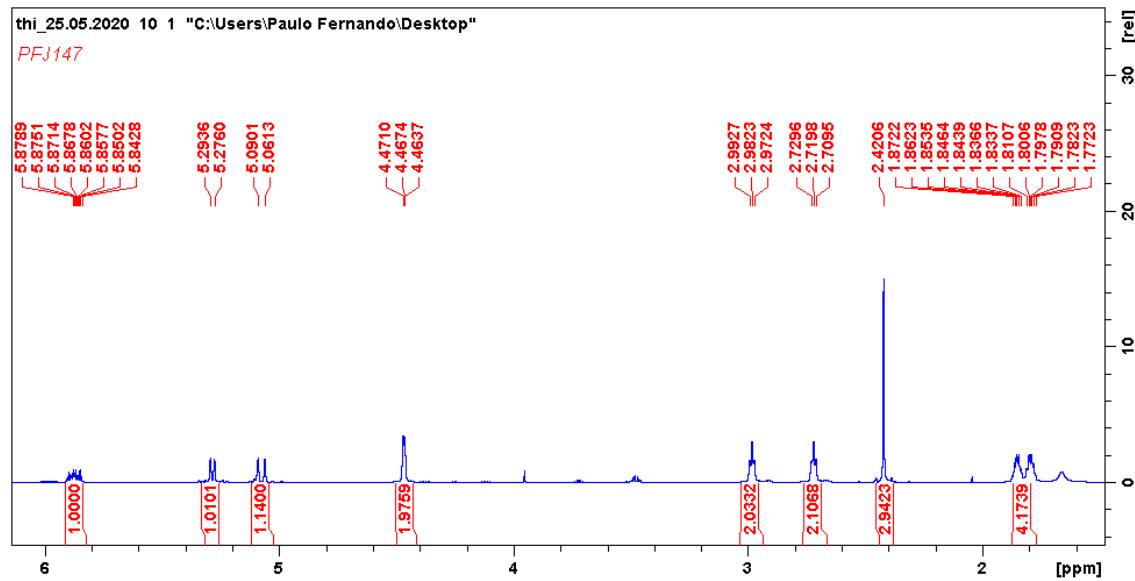


Anexo XXVI

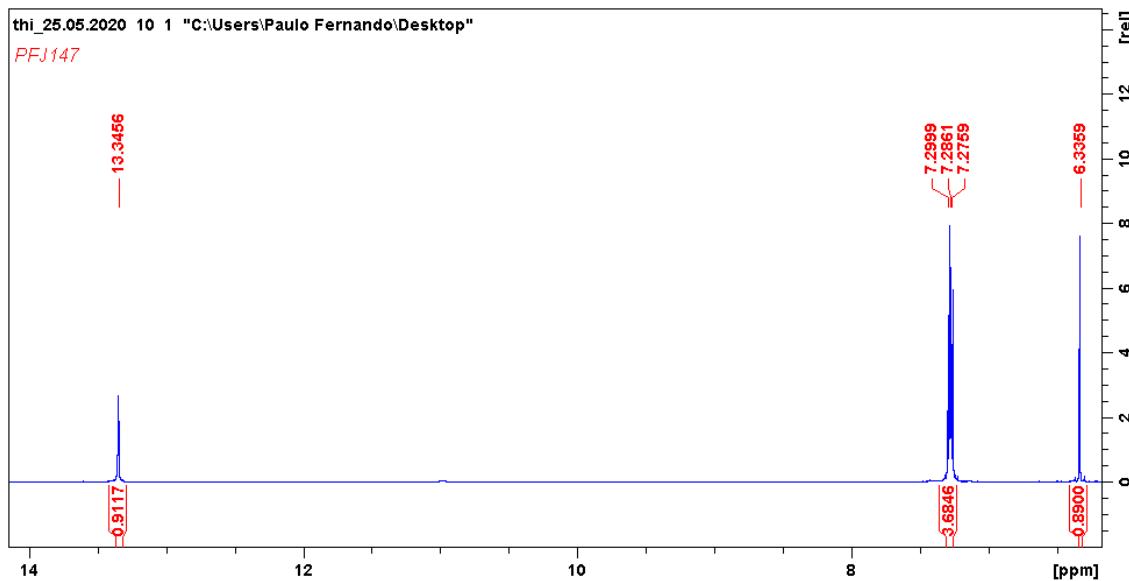
Espectro de RMN ^1H do composto (7f) (600MHz, CDCl_3)



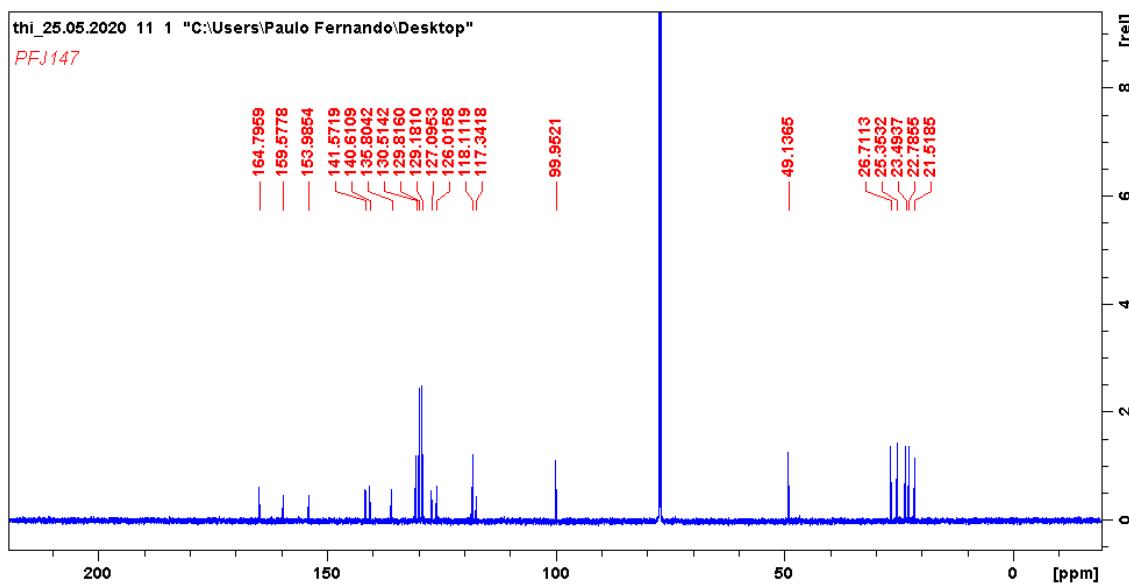
Ampliação de δ 1.5-6.0 ppm do Espectro de RMN ^1H do composto (7f)
(600MHz, CDCl_3)



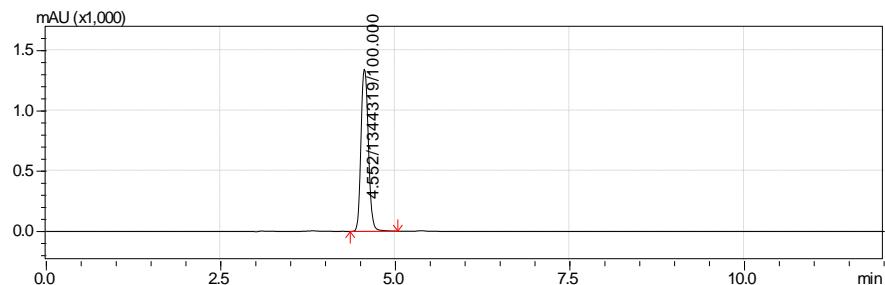
Ampliação de δ 6.0-14 ppm do Espectro de RMN ^1H do composto (7f) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7f) (150 MHz, CDCl_3)

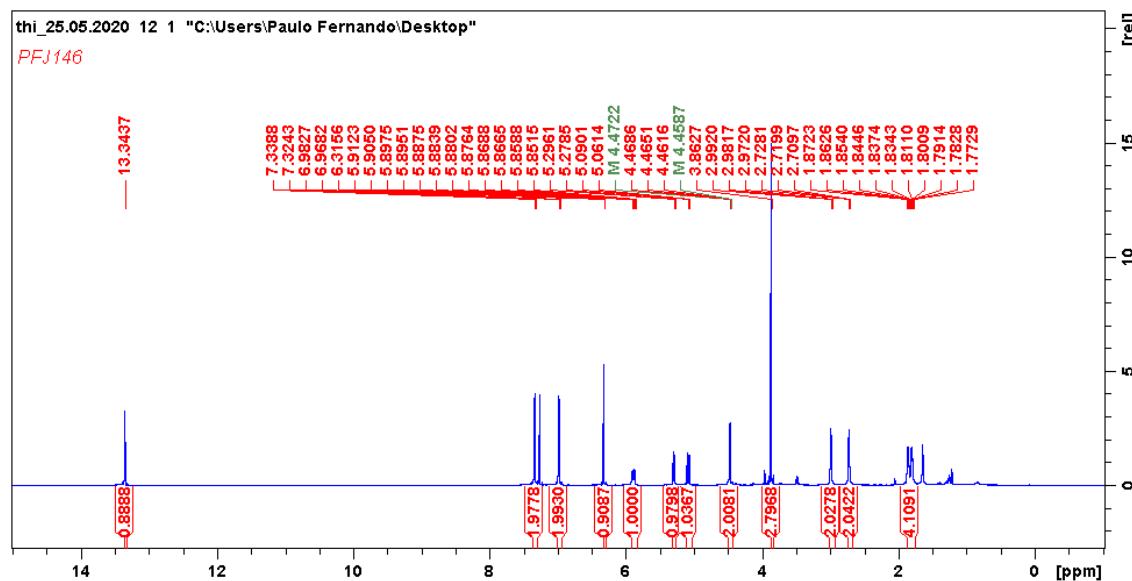


Cromatograma de HPLC-UV em MeOH 100% do Composto (7f)

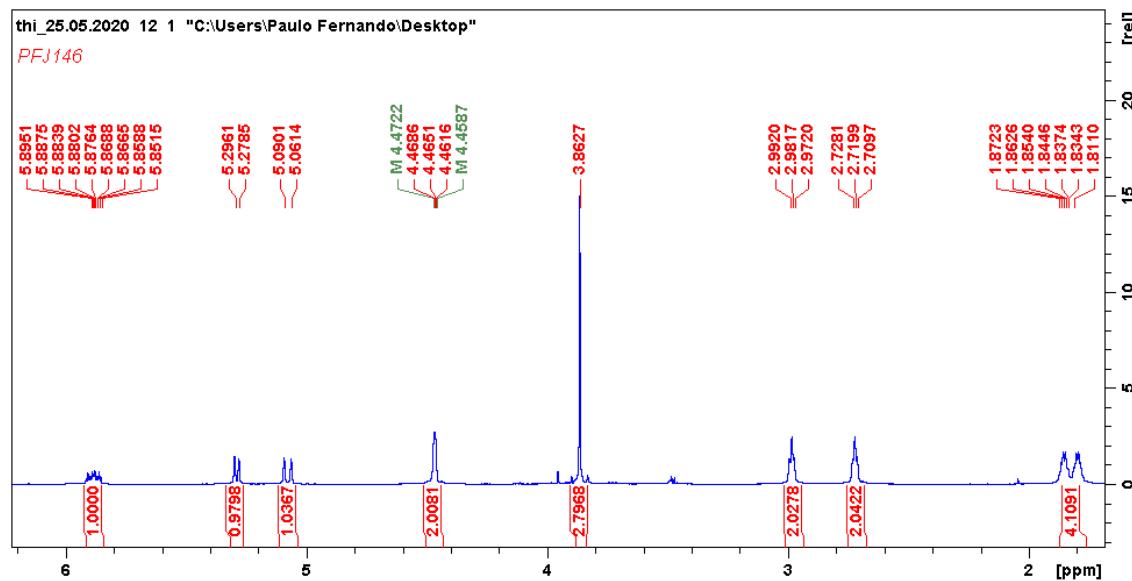


Anexo XXVII

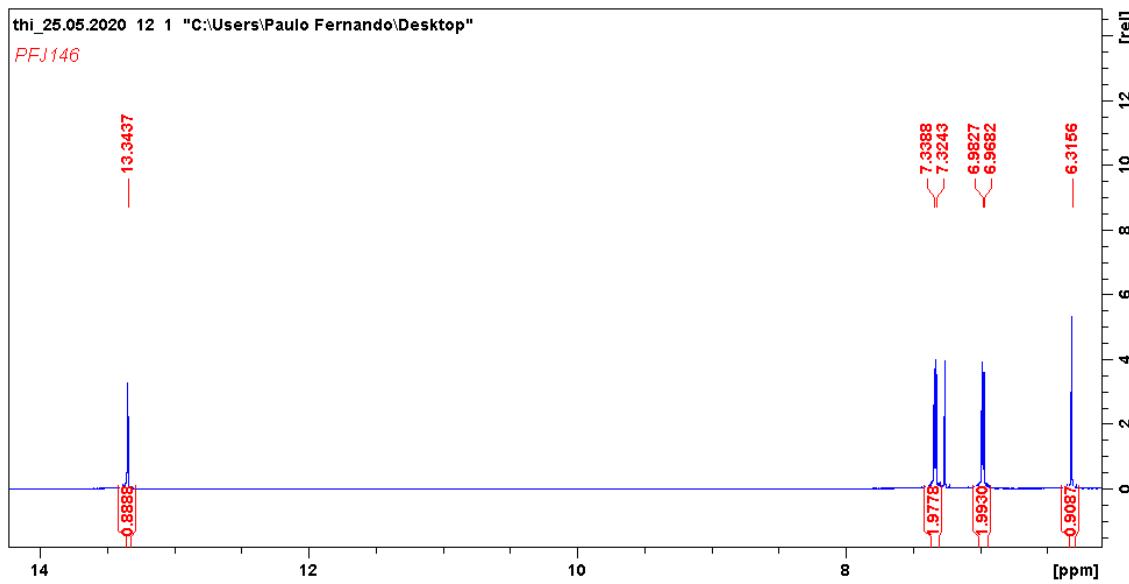
Espectro de RMN ^1H do composto (7g) (600MHz, CDCl_3)



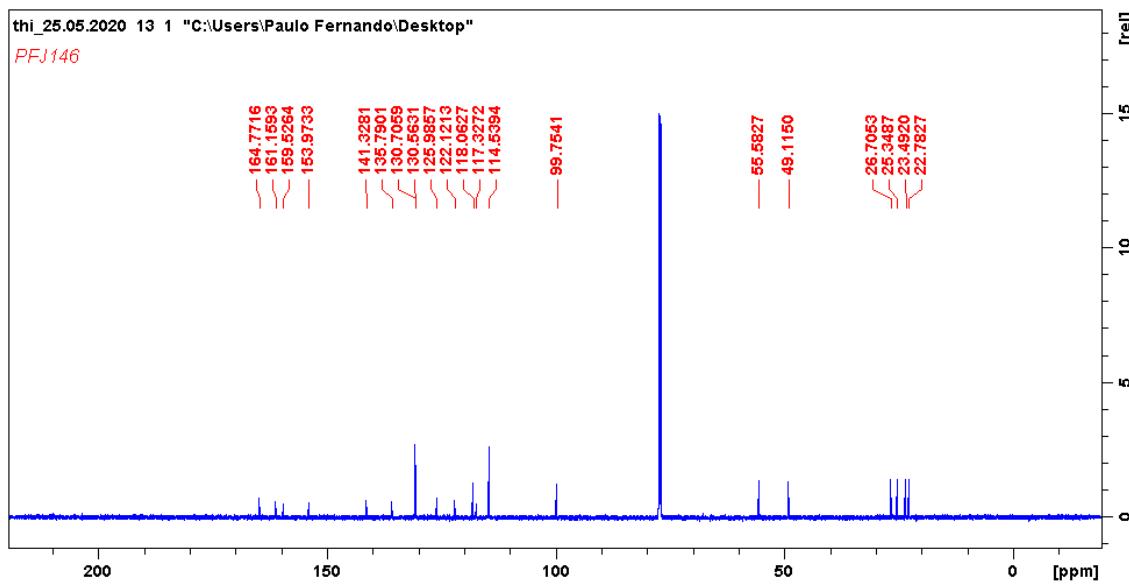
Ampliação de δ 1.6-6.0 ppm do Espectro de RMN ^1H do composto (7g) (600MHz, CDCl_3)



Ampliação de δ 6.0–14 pmm do Espectro de RMN ^1H do composto (7g) (600MHz, CDCl_3)



Espectro de RMN ^{13}C do composto (7g) (150 MHz, CDCl_3)



Cromatograma de HPLC-UV em MeOH 100% do Composto (7g)

