Electronic Supplementary Material (ESI) for RSC Advances.

Novel 1'-Homo-*N*-2'-deoxy-α-nucleosides: Synthesis, Characterization and Biological Activity

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[c] *Center for AIDS Research, Laboratory of Biochemical Pharmacology, Department of Pediatrics, Emory University School of Medicine, Atlanta, GA 30322, USA*

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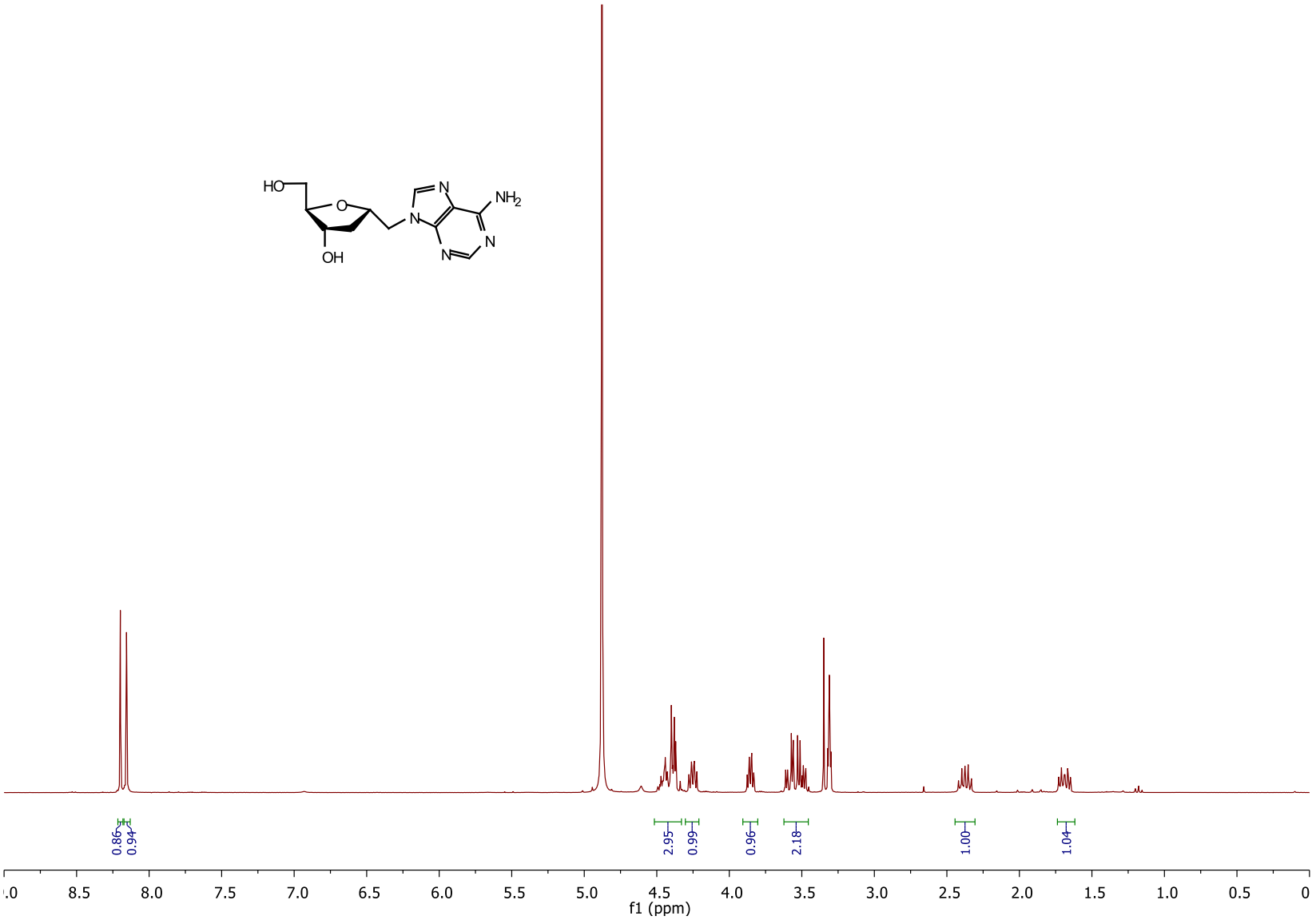
SUPPORTING INFORMATION (page 1 of 145 pages)

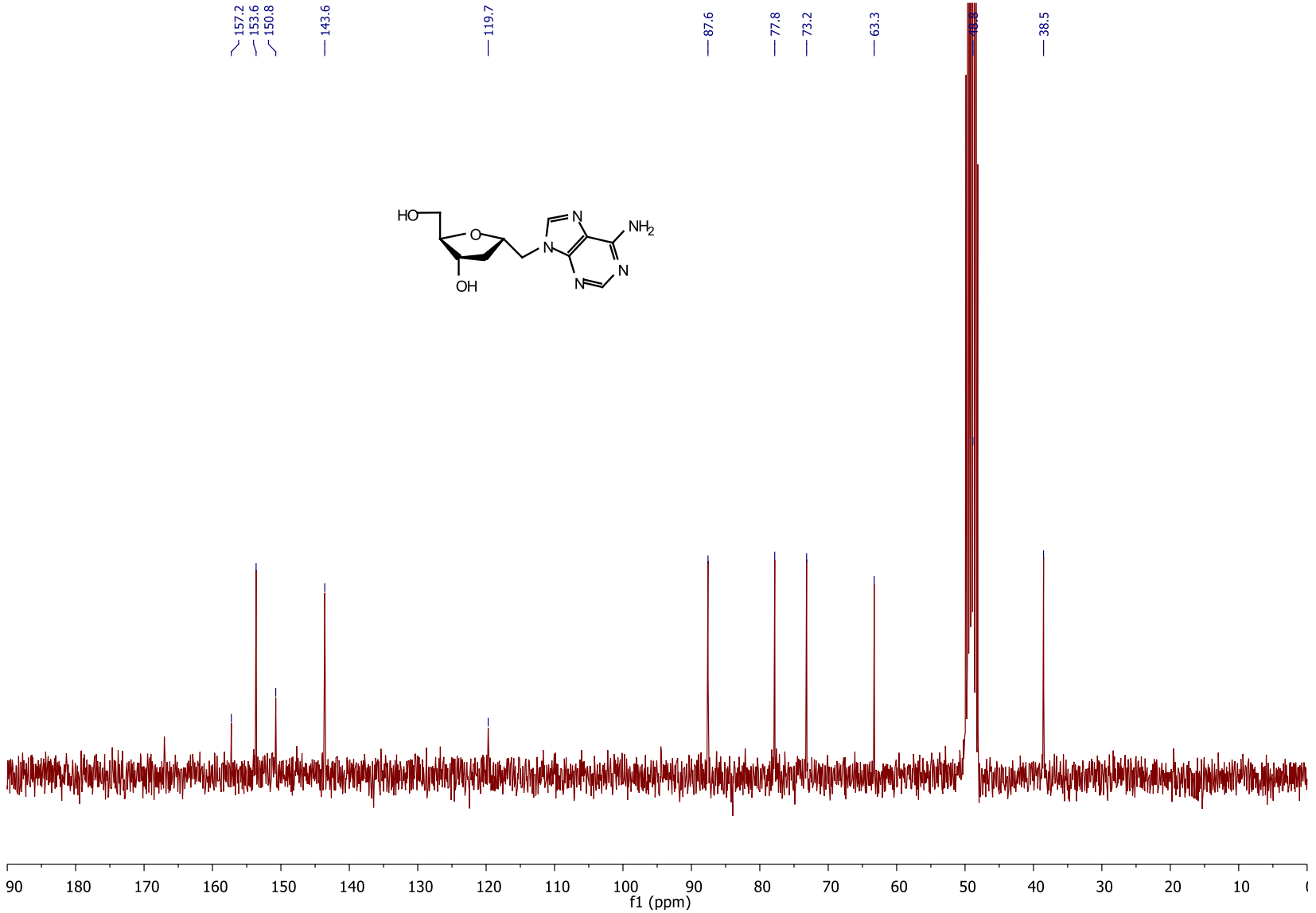
Table of Contents

1’-Homo-*N*-2’-deoxy-α-adenosine (10a)

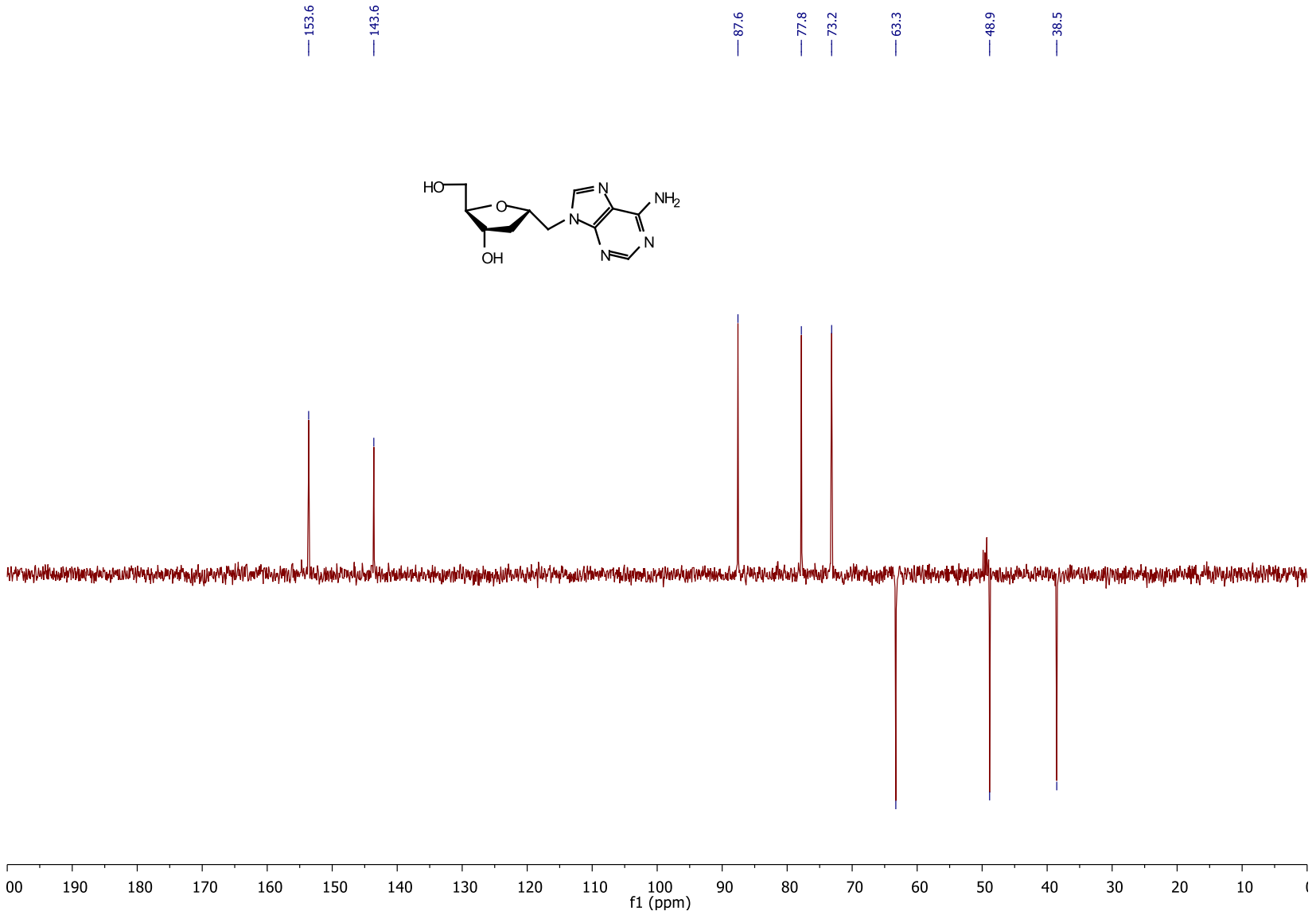
^{1}H NMR (300.13 MHz, MeOH-d_4)



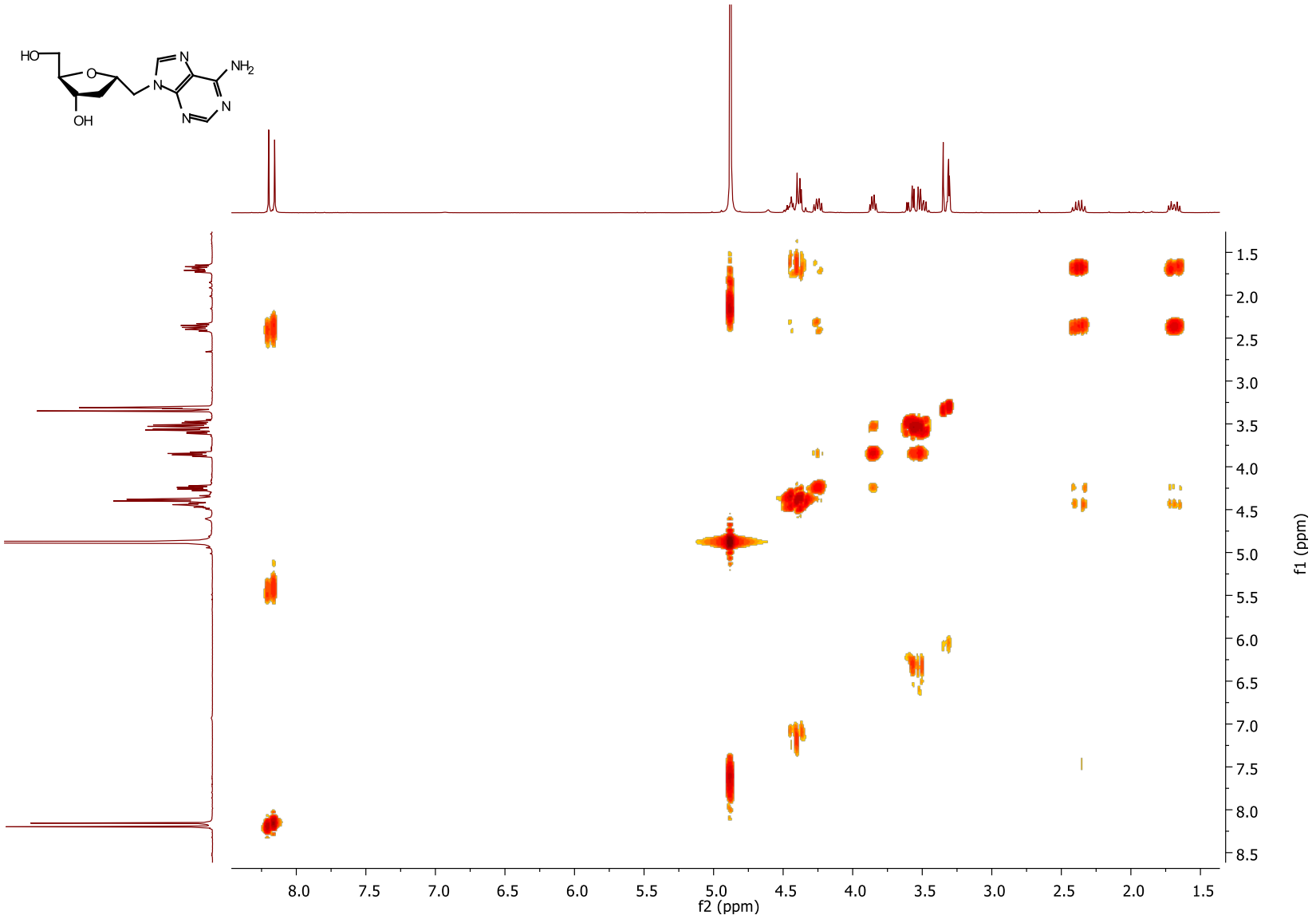
^{13}C NMR (75.5 MHz, MeOH-d_4)



DEPT NMR (75.5 MHz, MeOH-d_4)



COSY NMR (MeOH-d_4)



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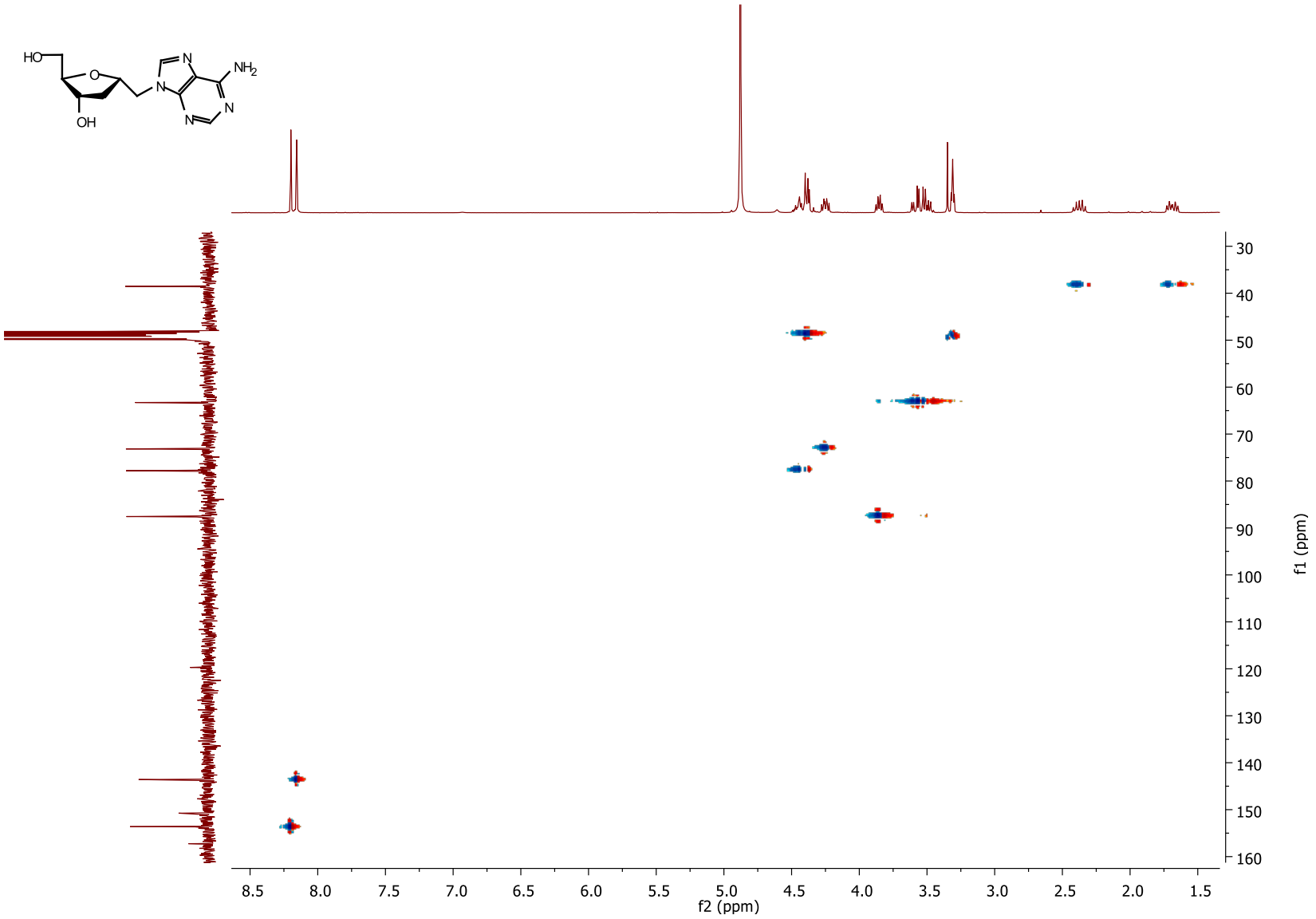

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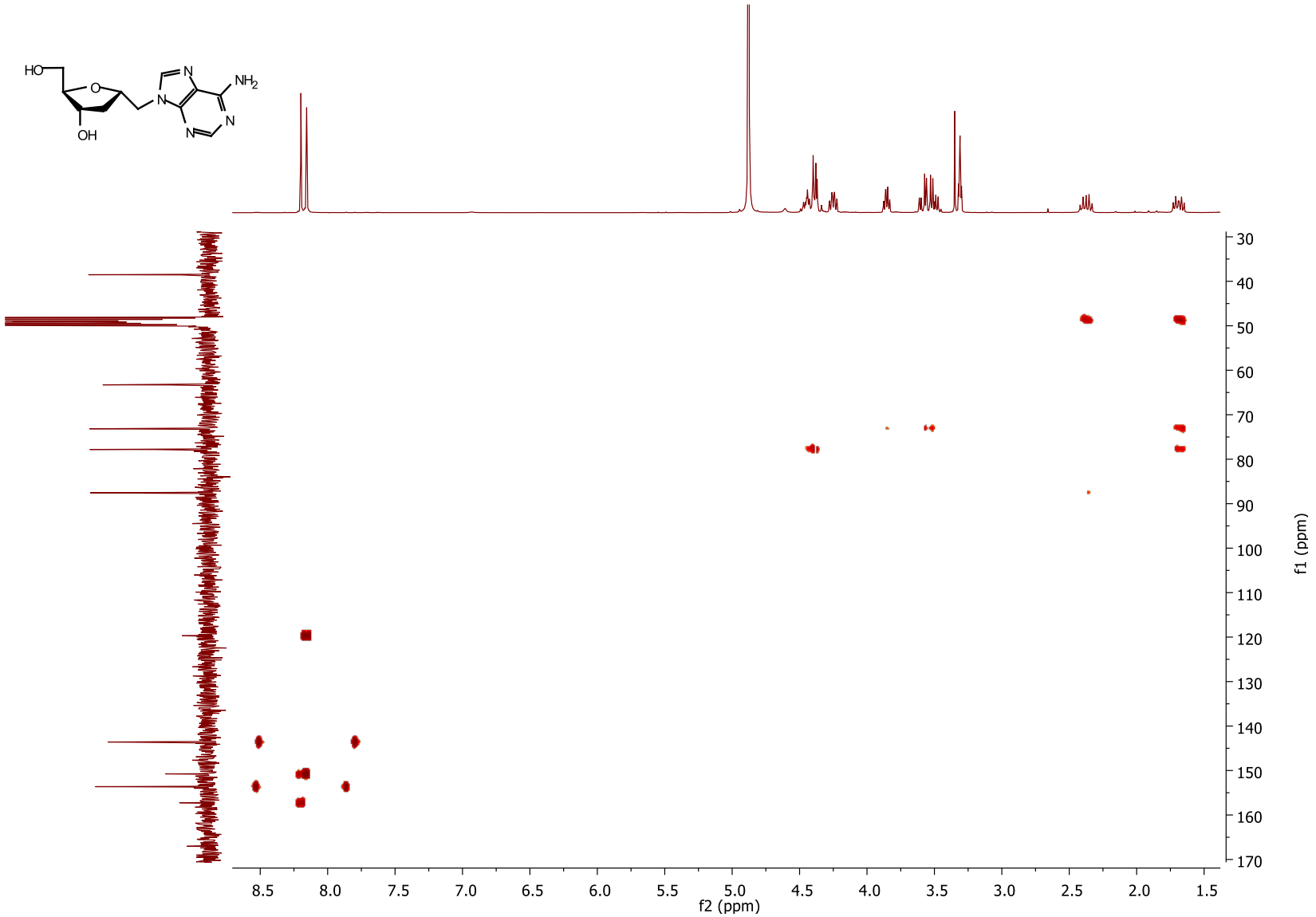

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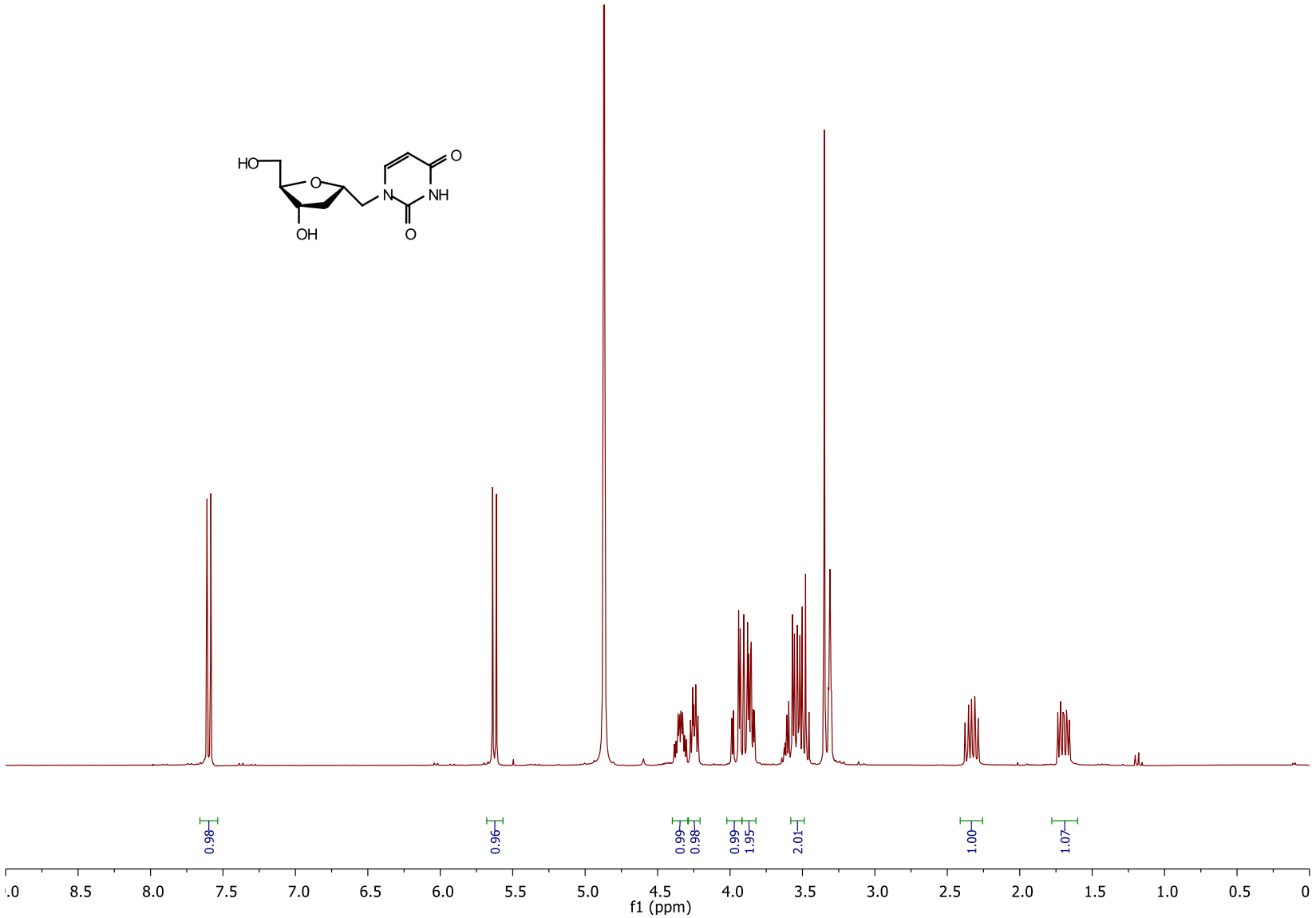
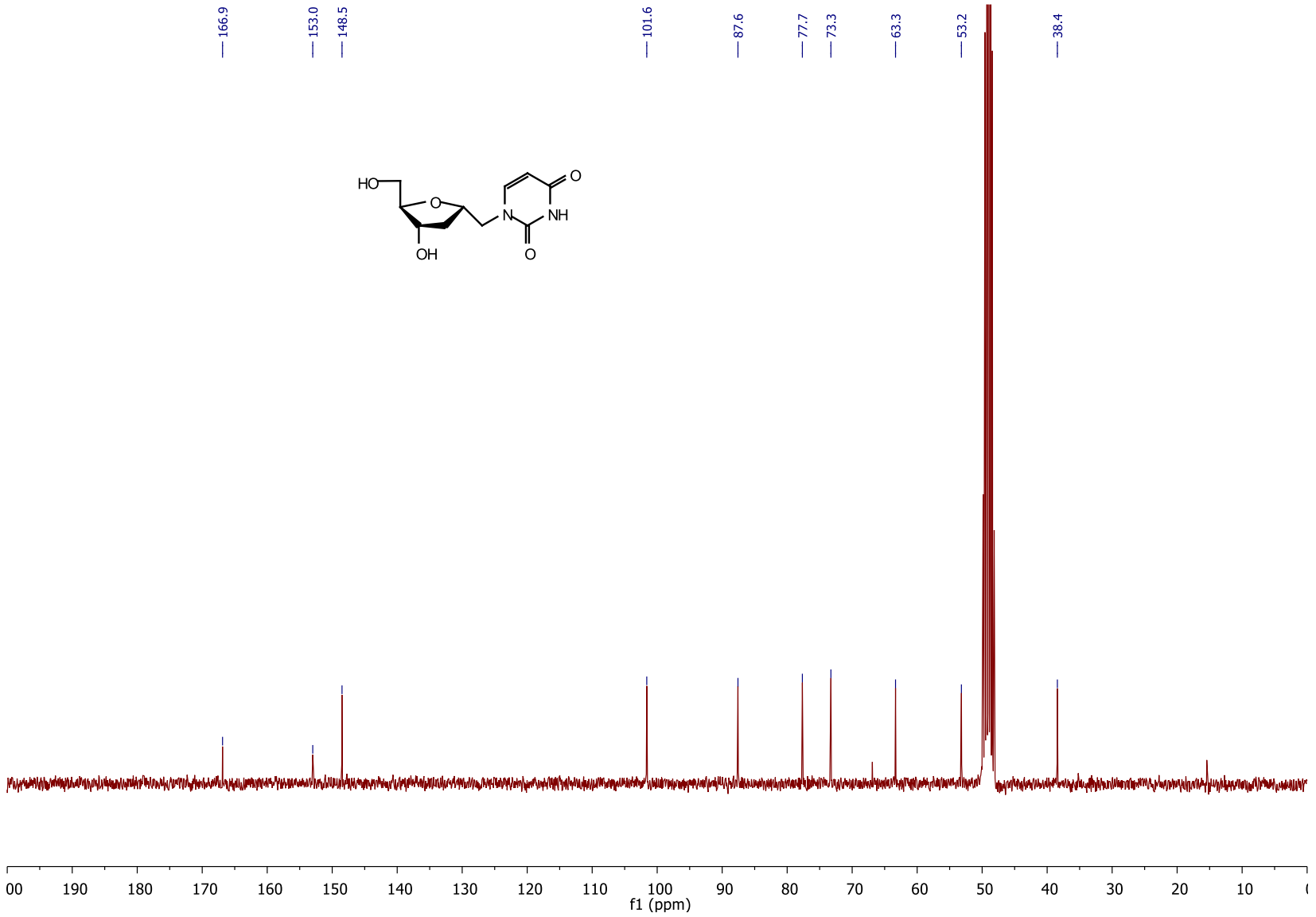


^{13}C NMR (75.5 MHz, MeOH-d_4)



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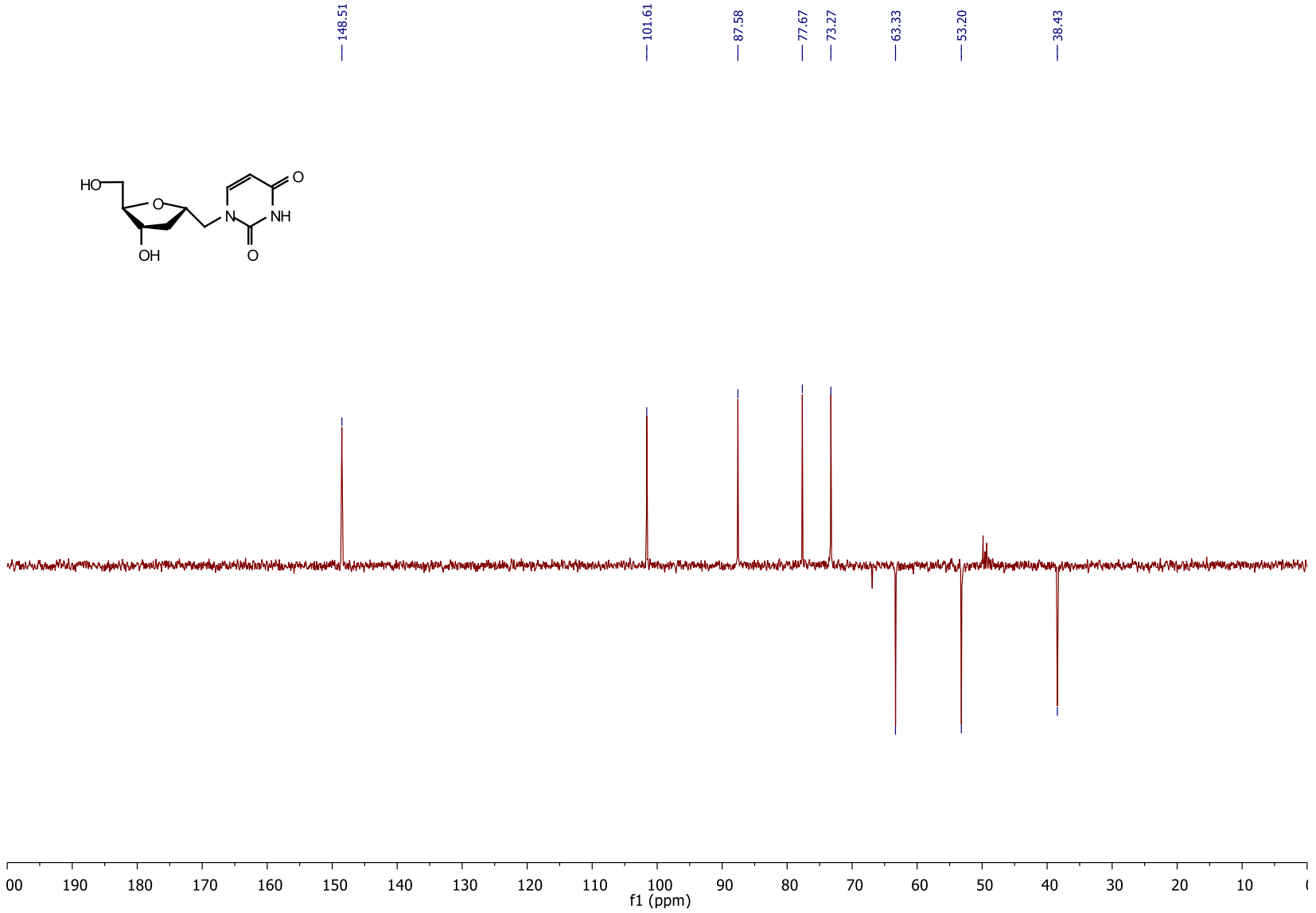
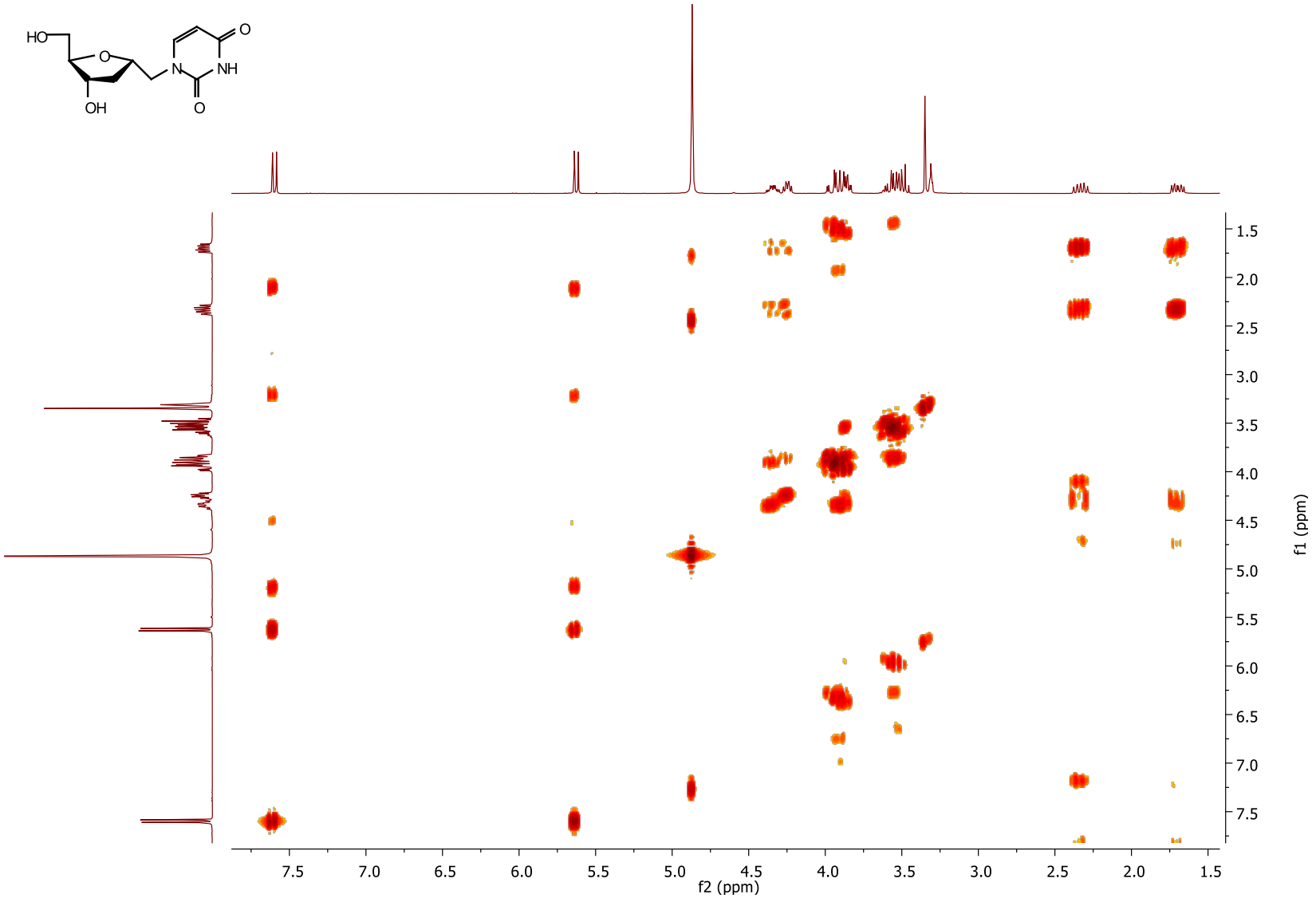


COSY NMR (MeOH-d_4)



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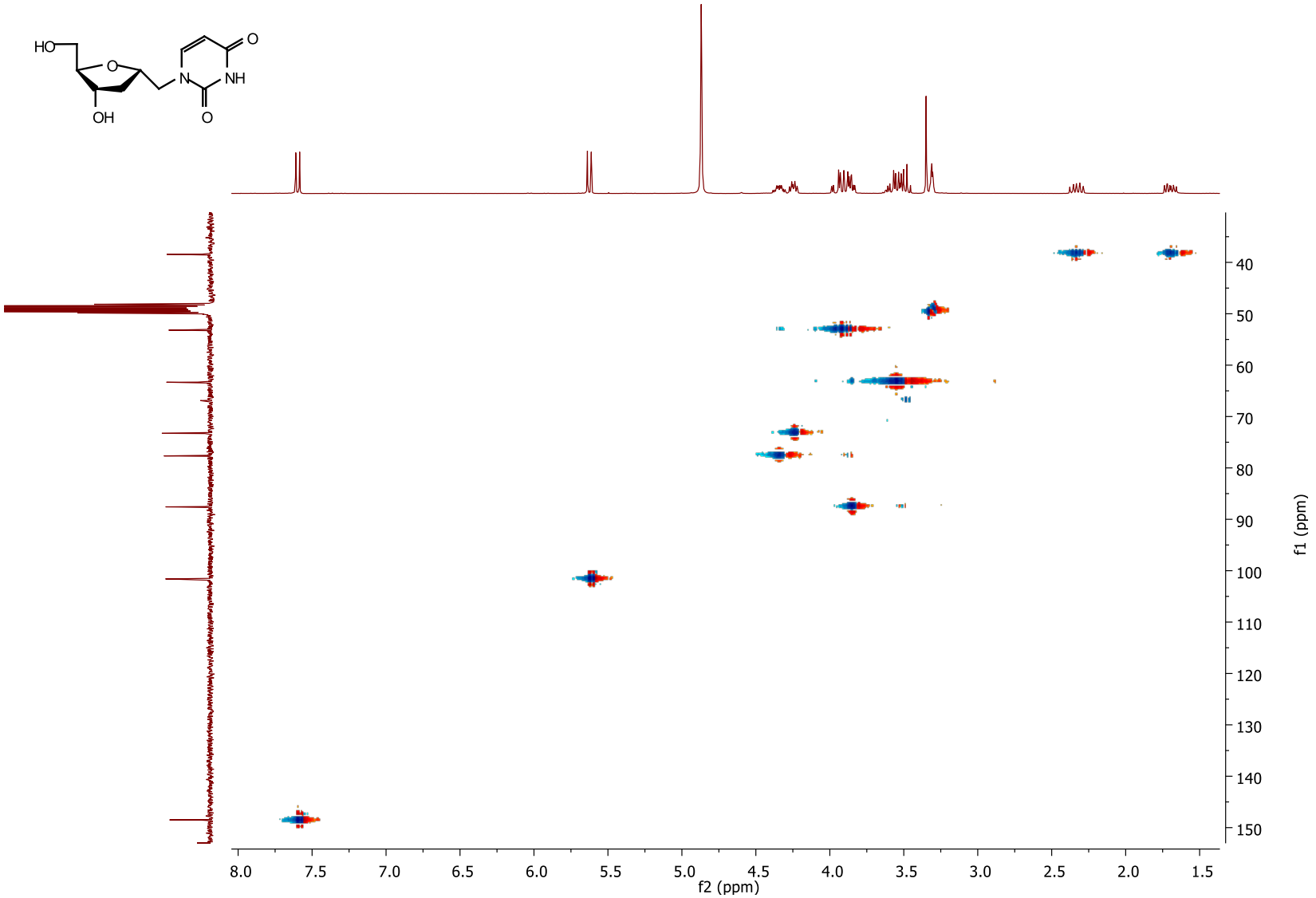

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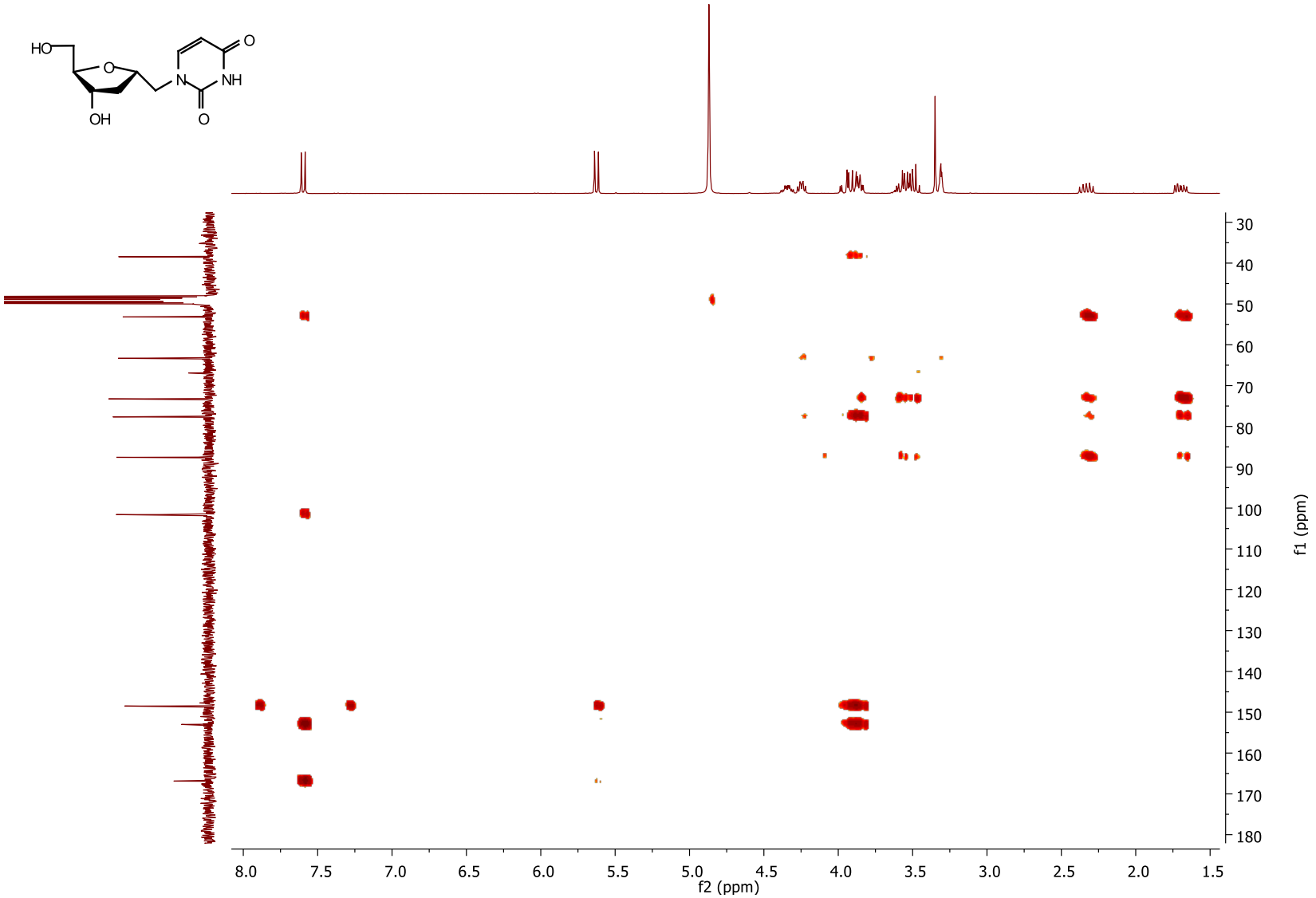

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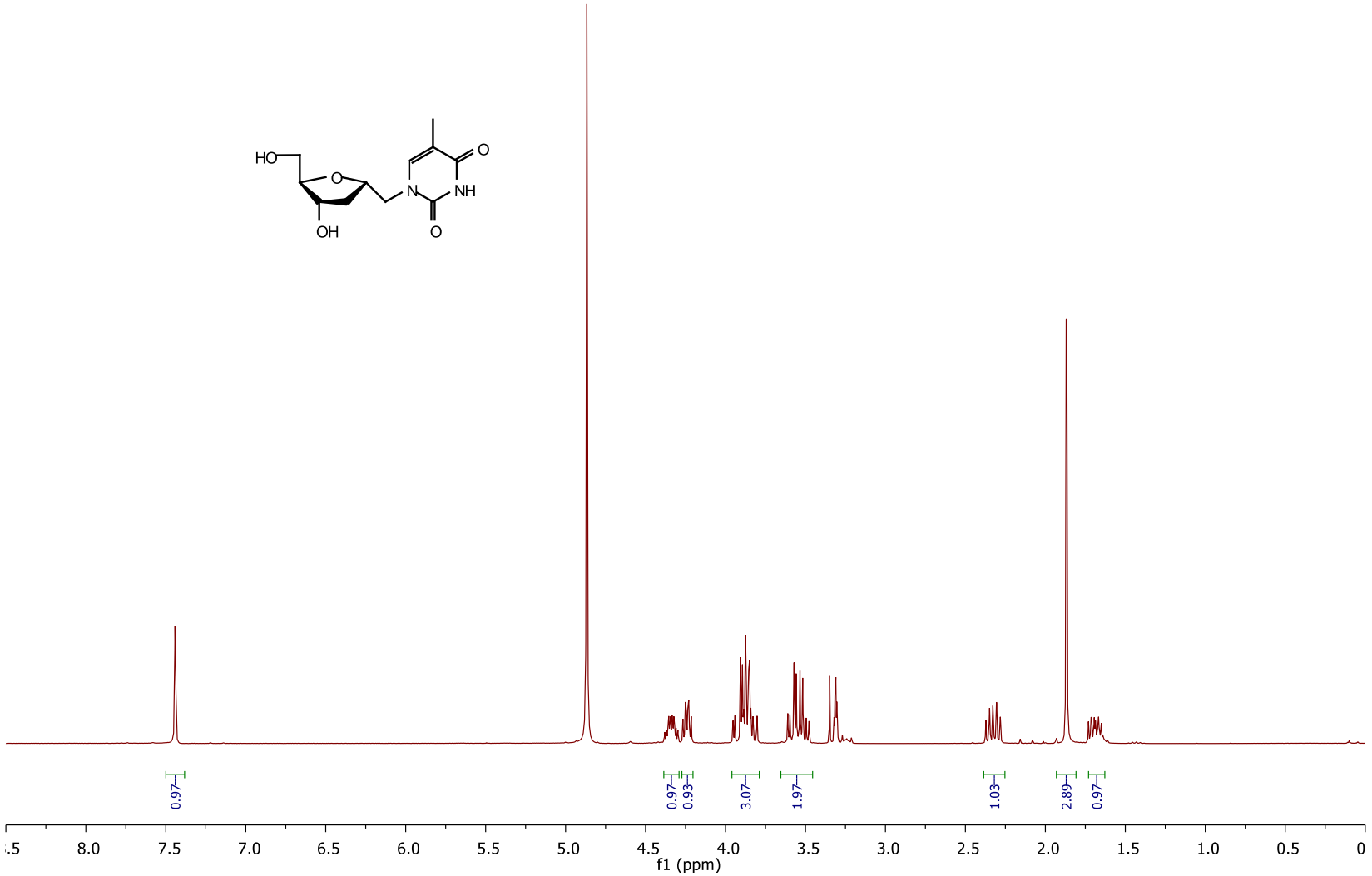

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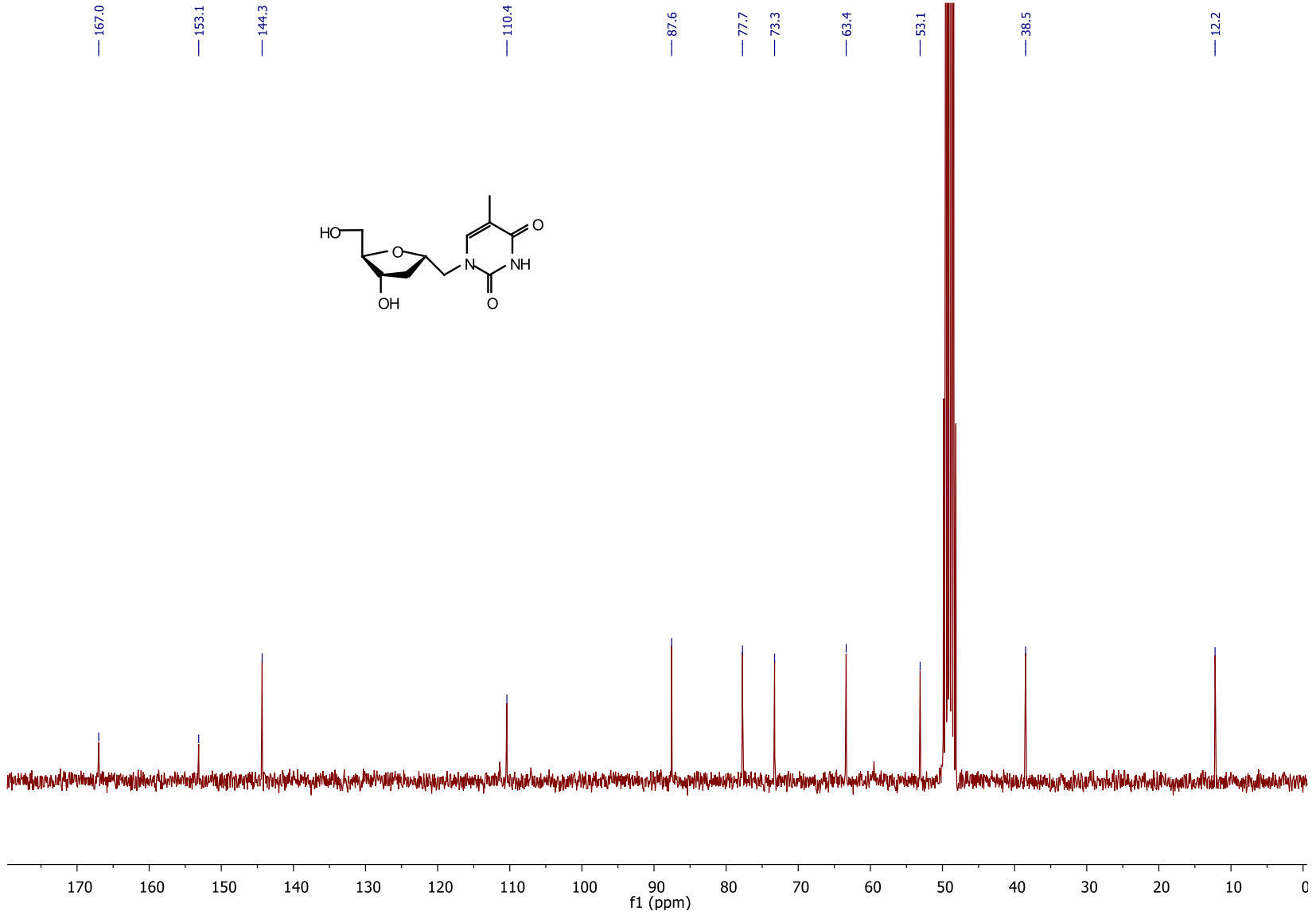

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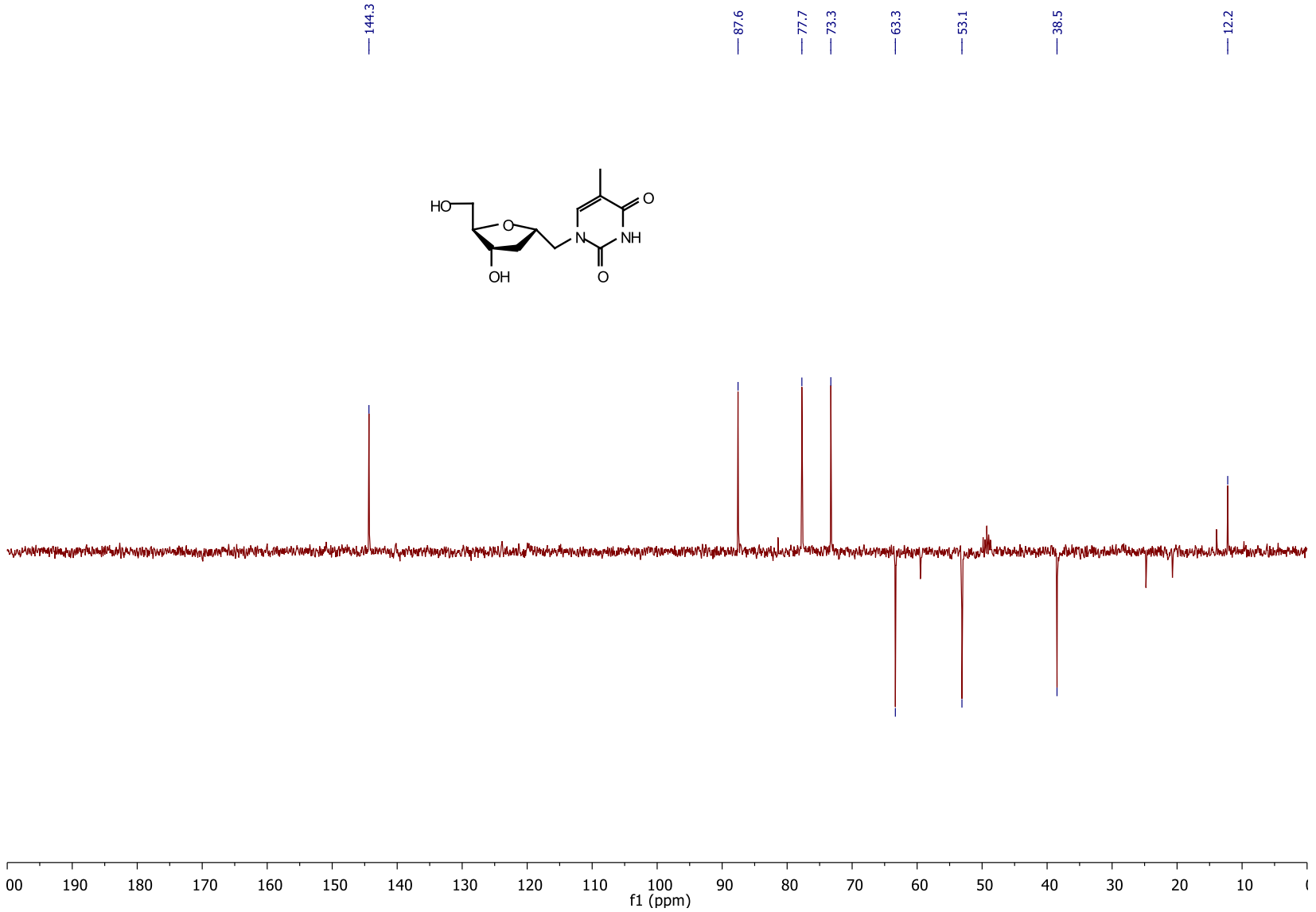

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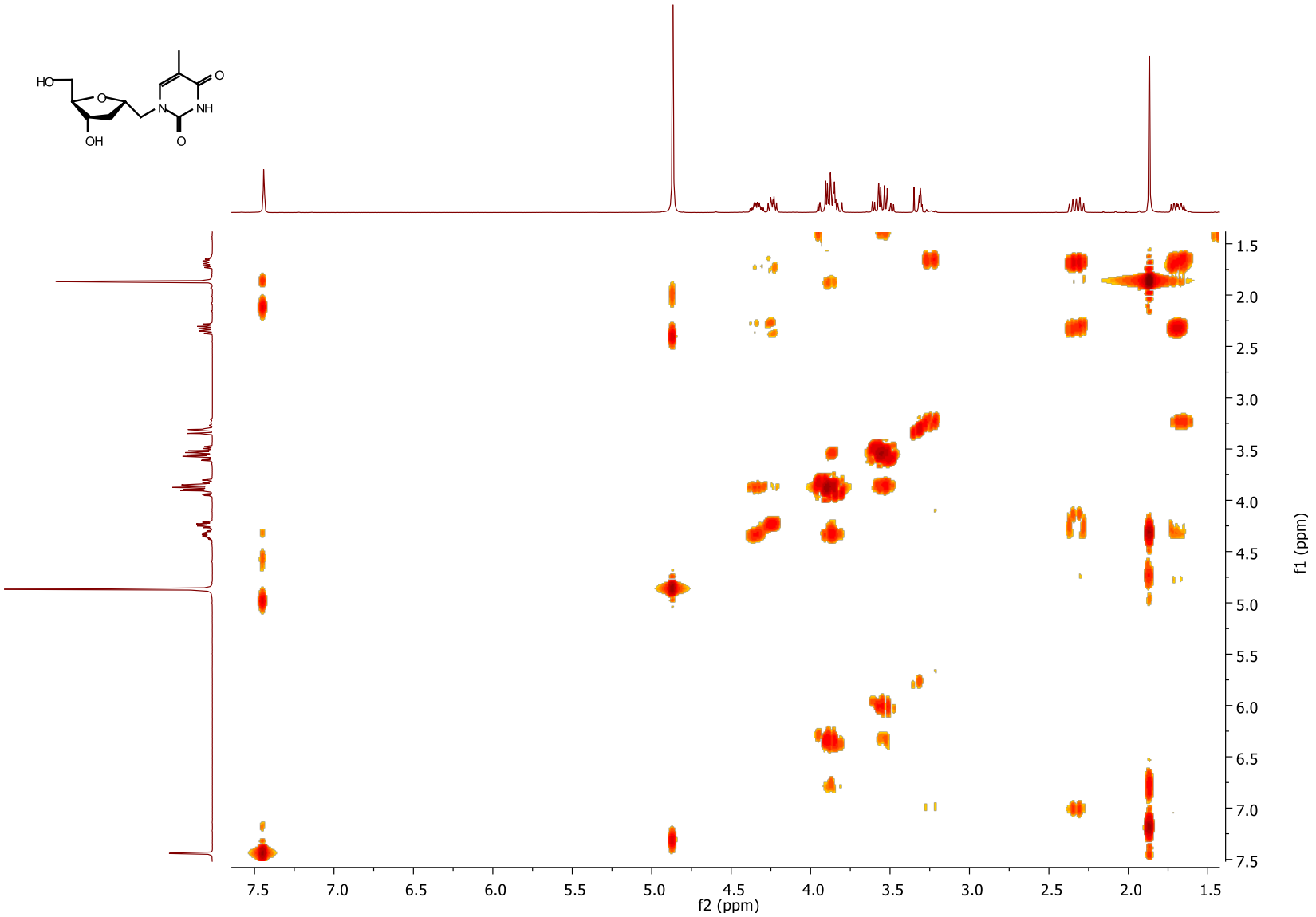

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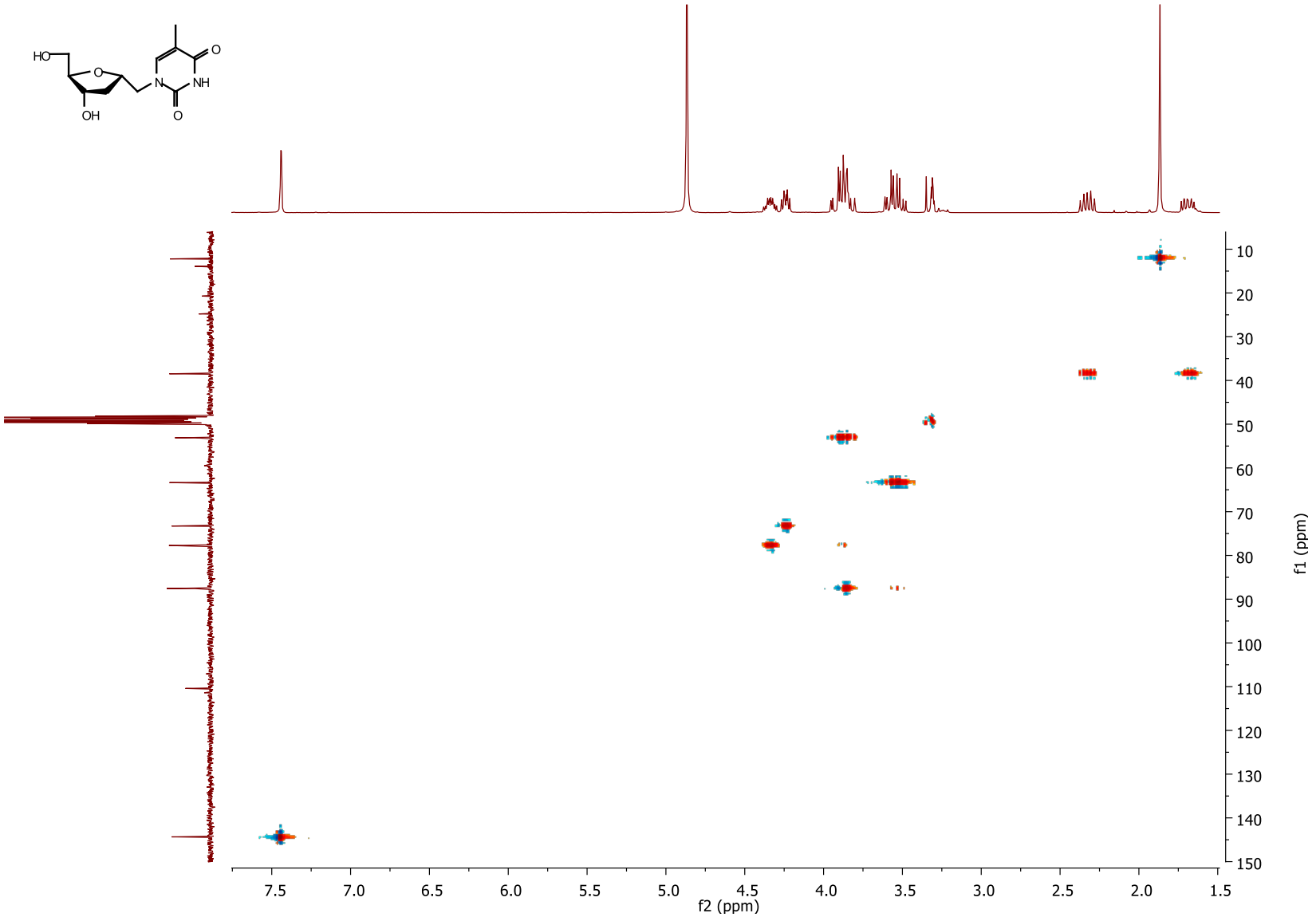

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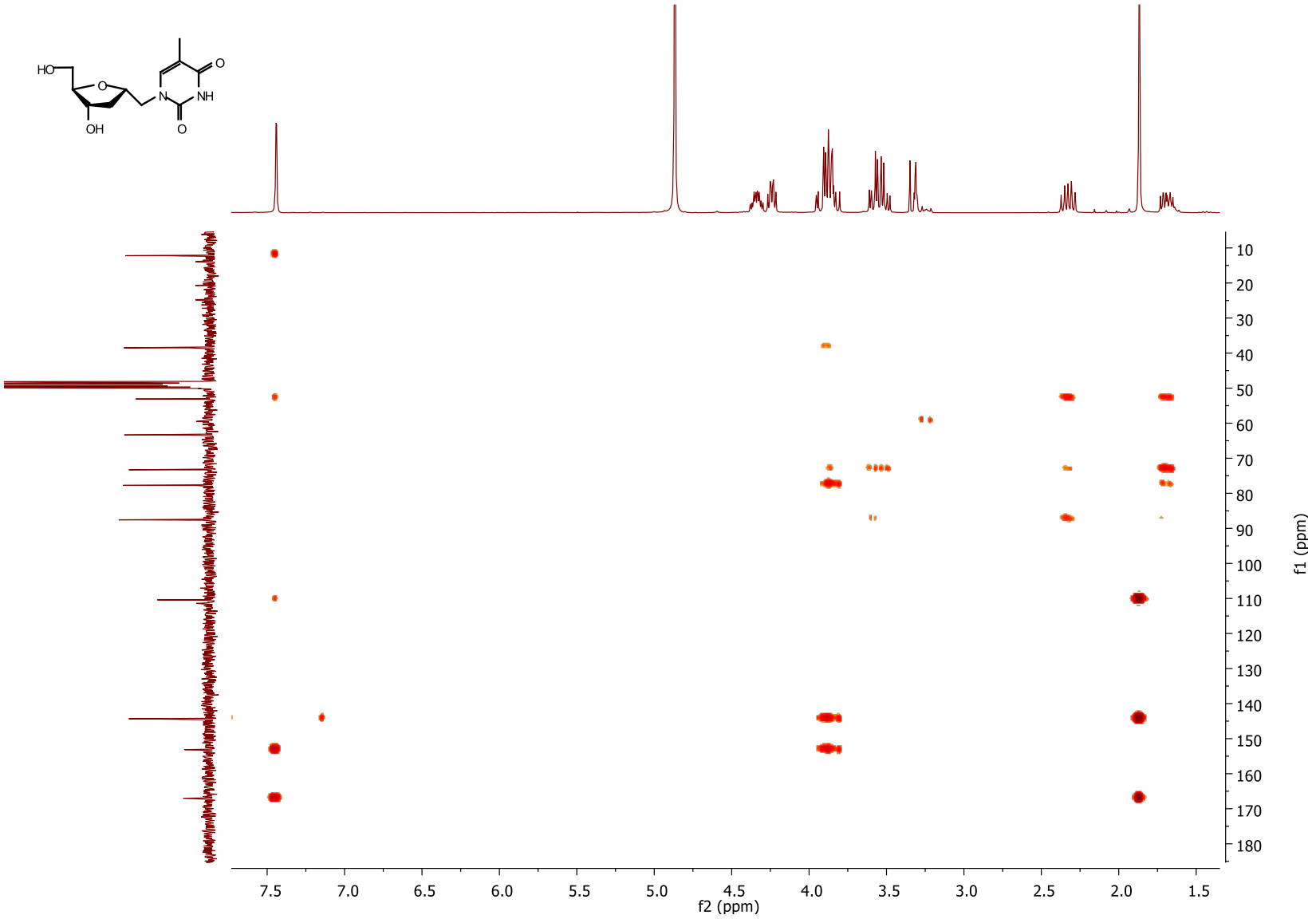

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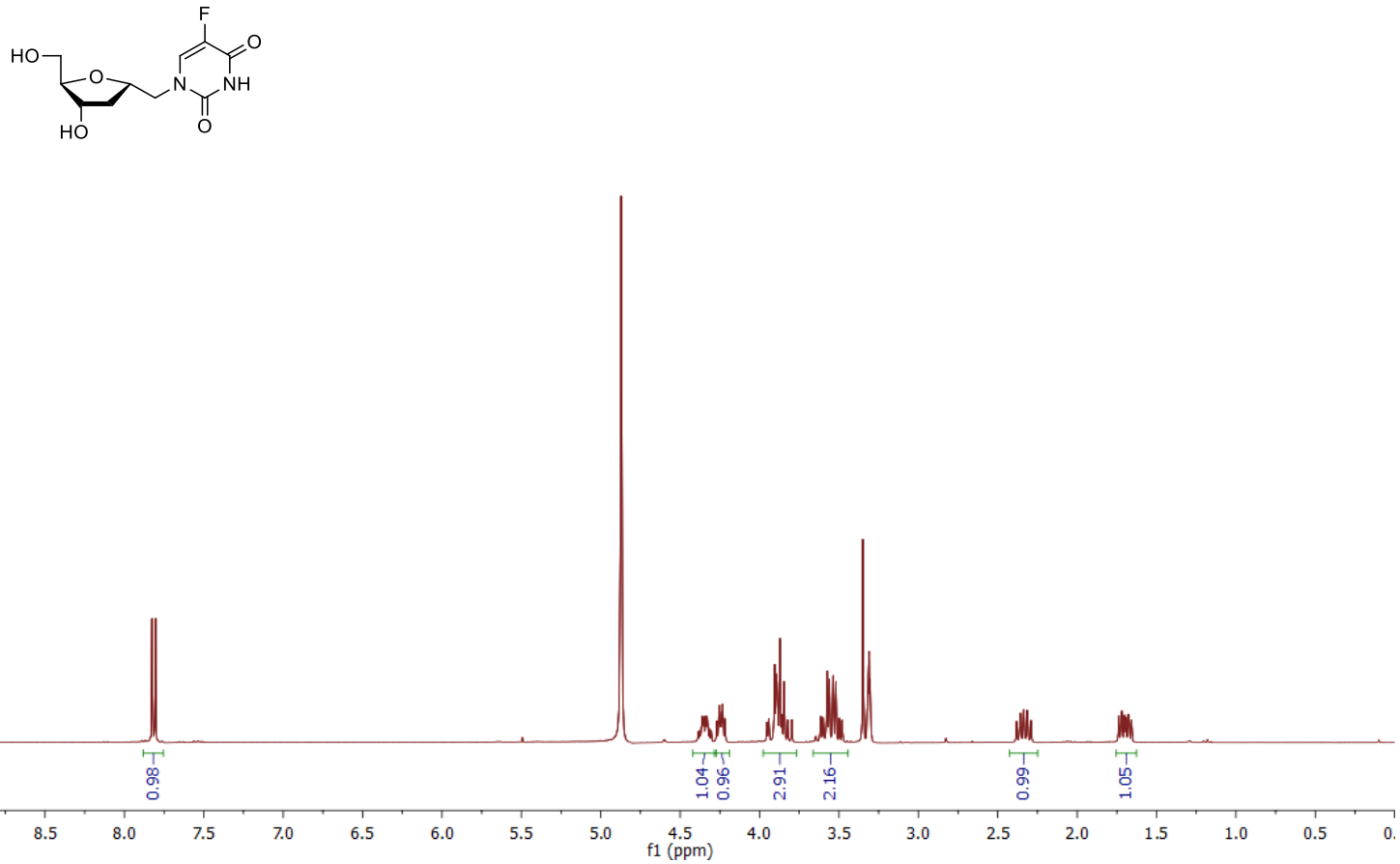

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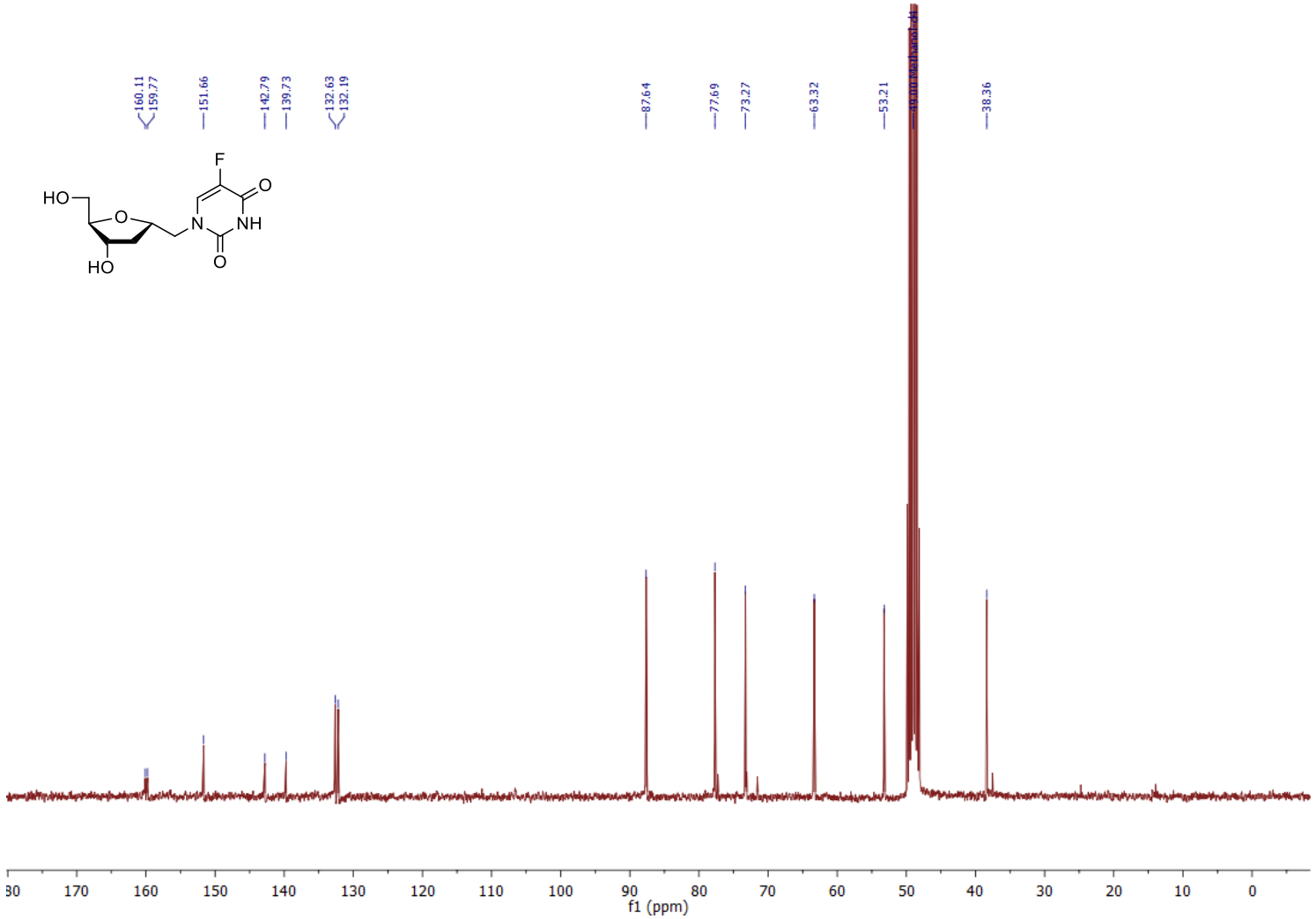
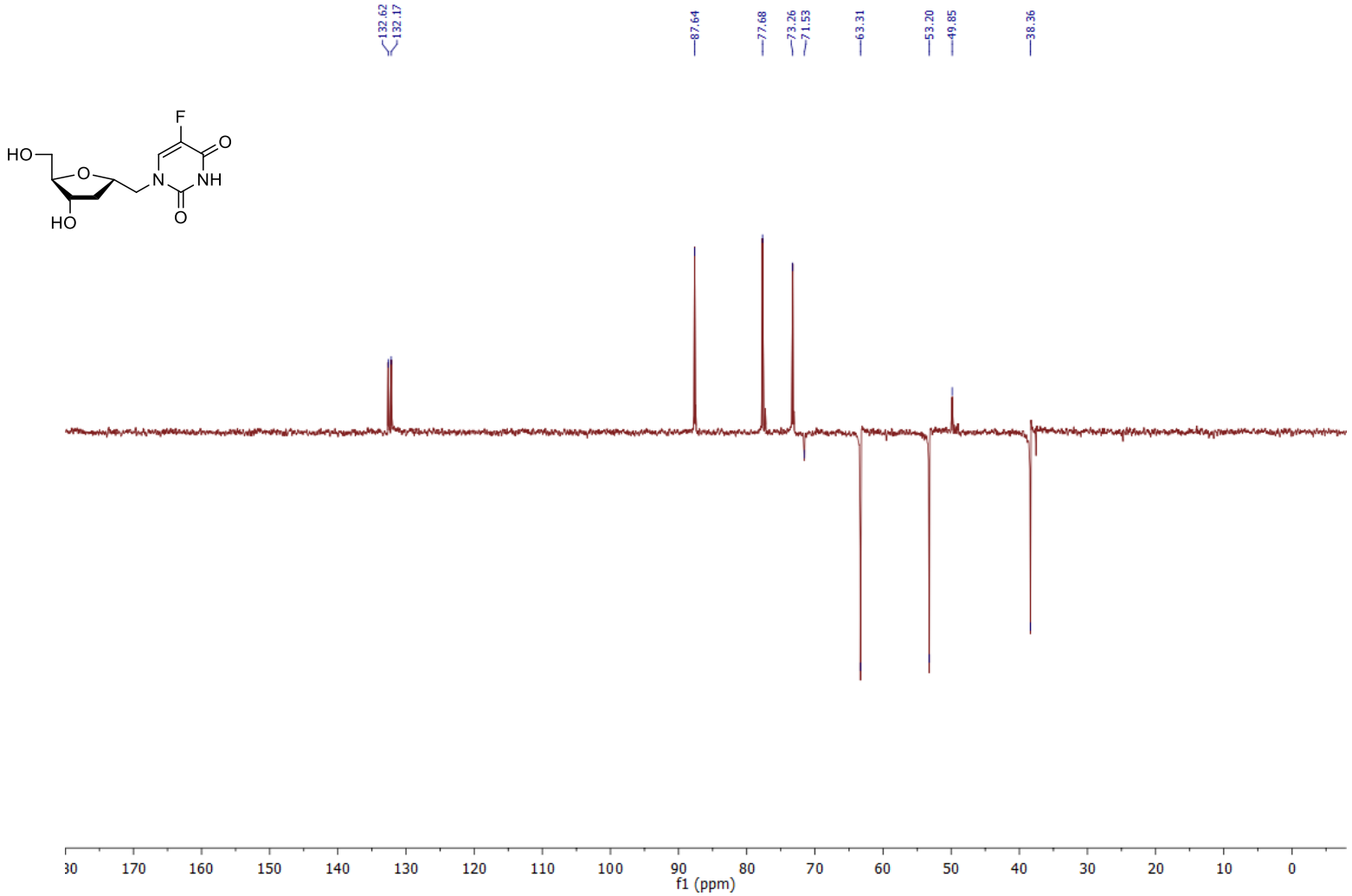
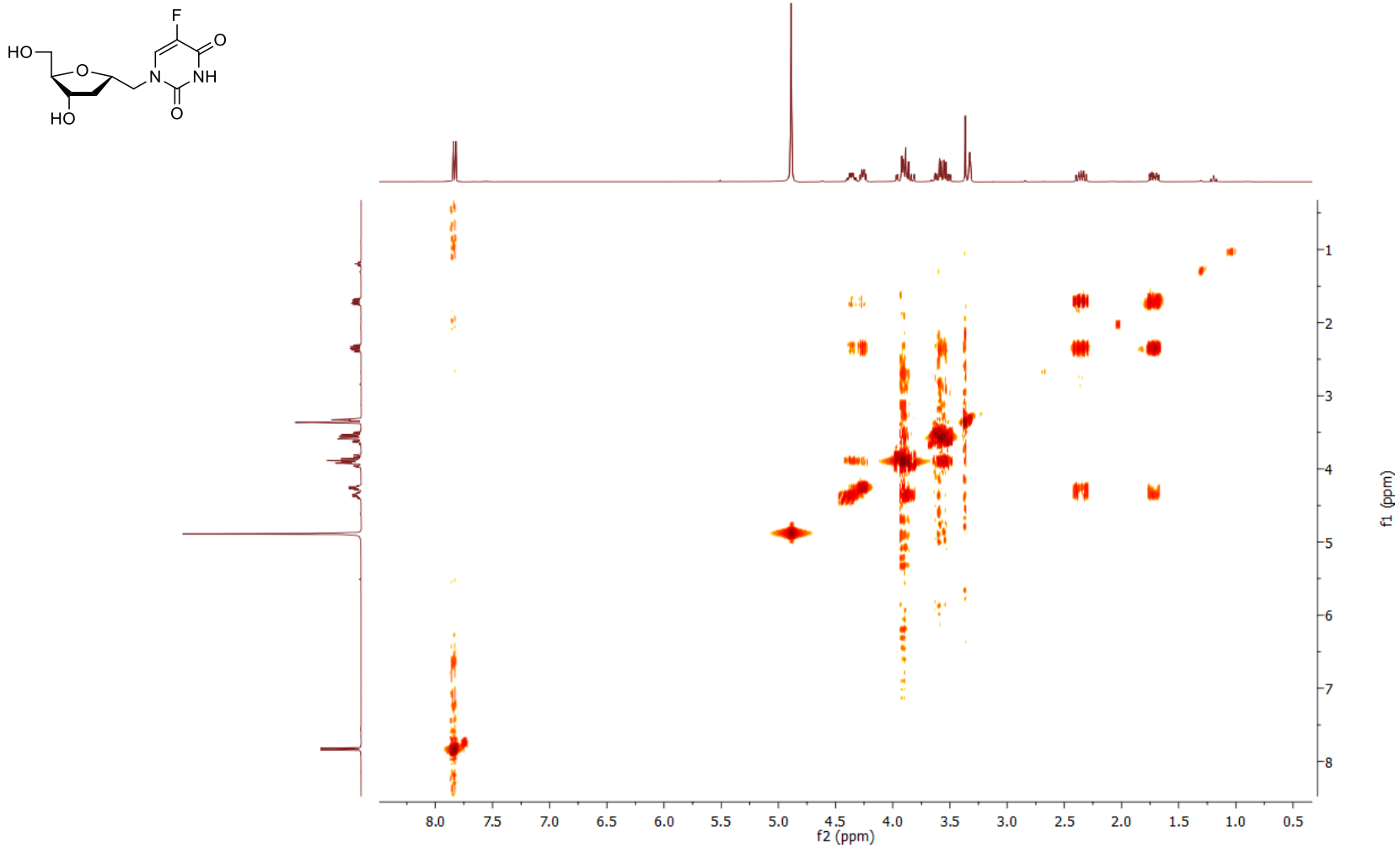


DEPT 135 NMR (75.5 MHz, MeOH-d_4)



COSY NMR (MeOH-d_4)



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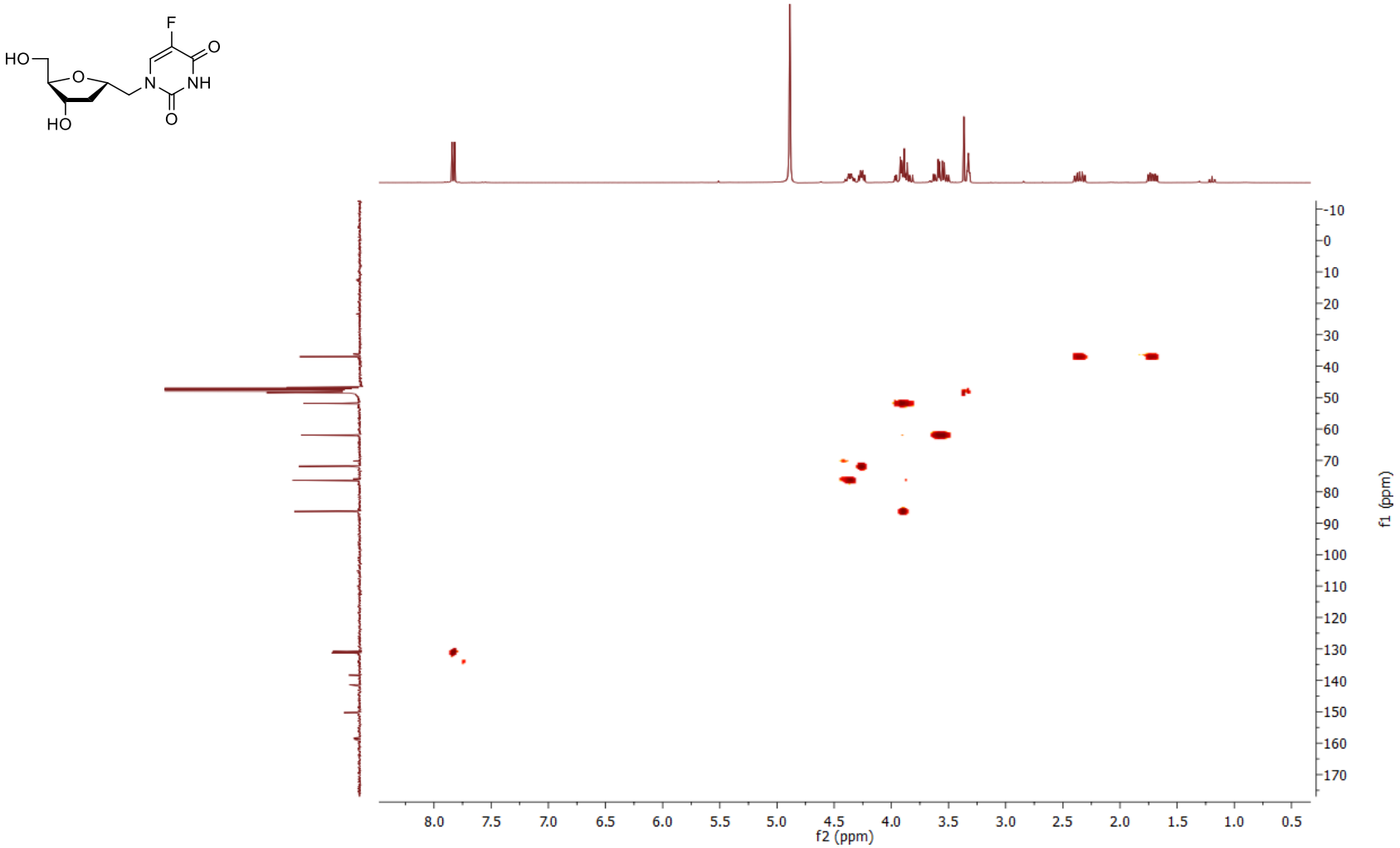

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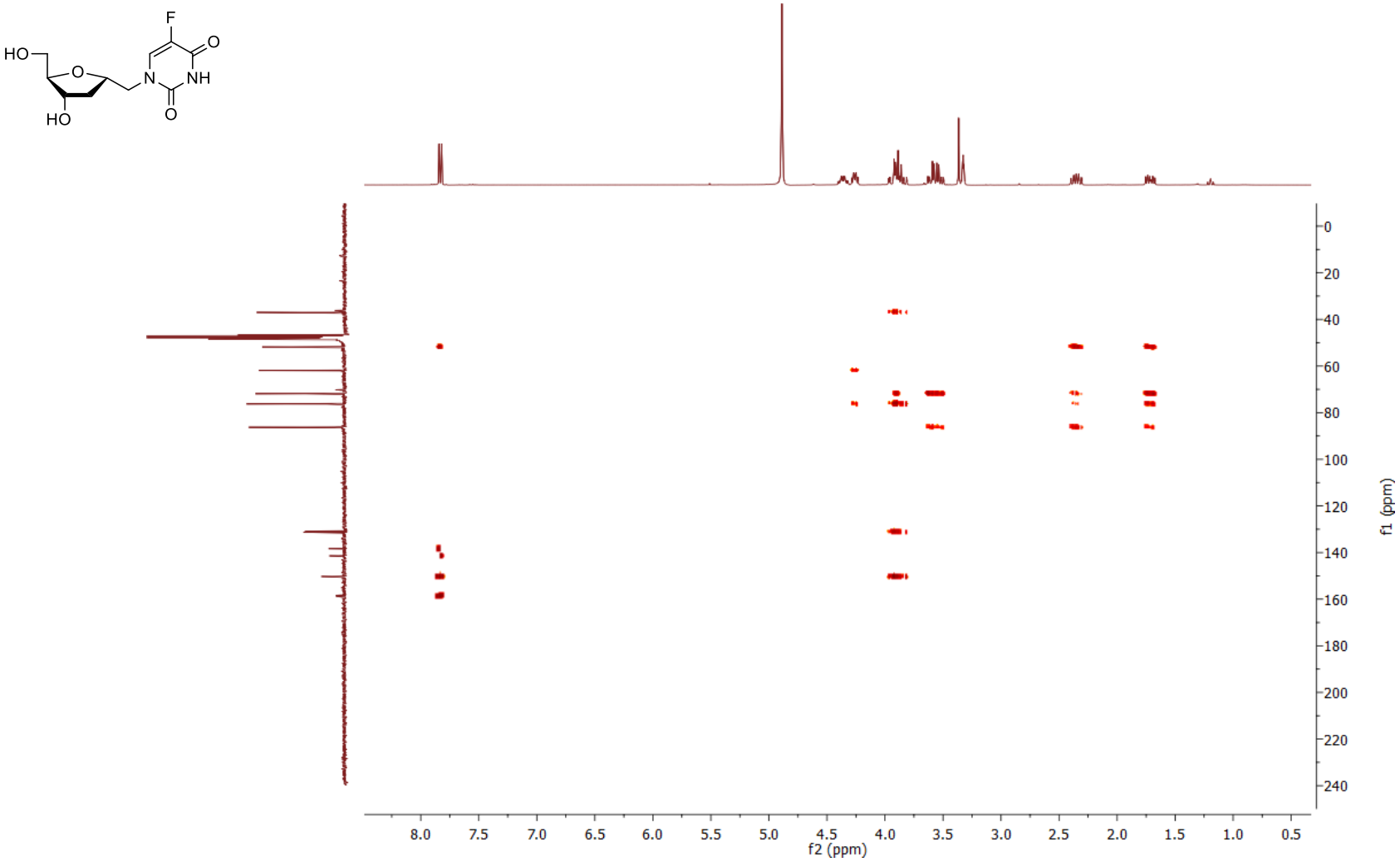

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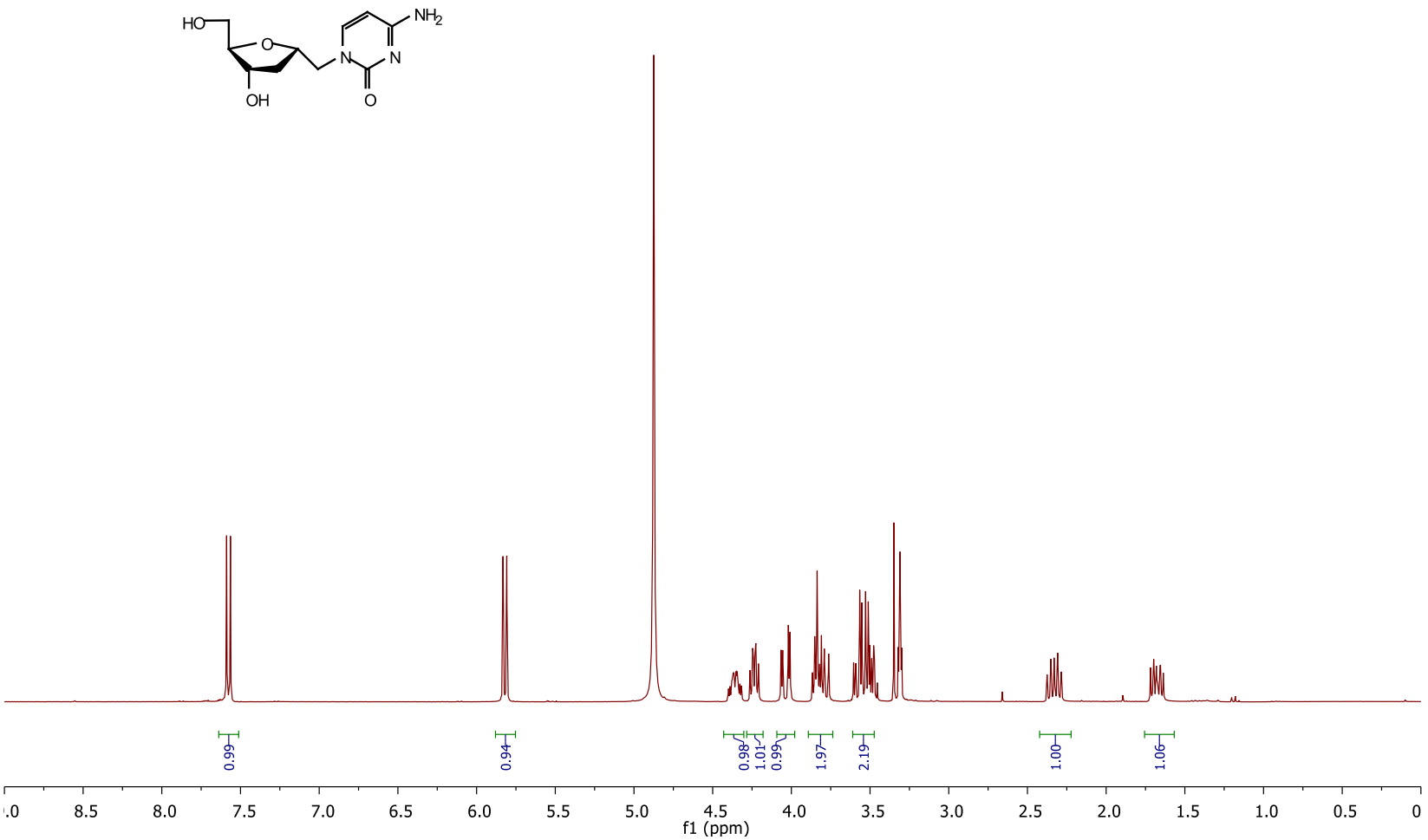
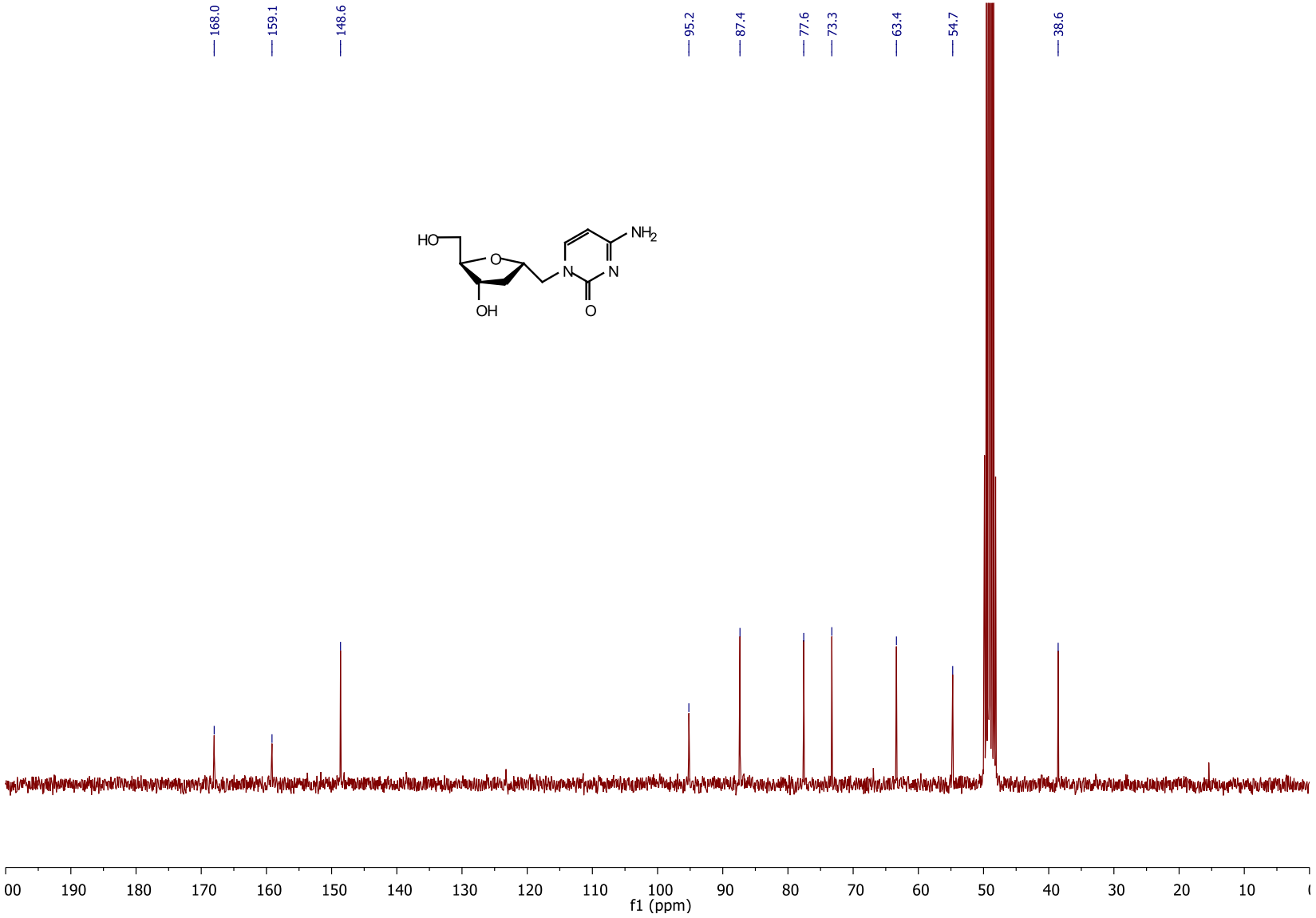


^{13}C NMR (75.5 MHz, MeOH-d_4)



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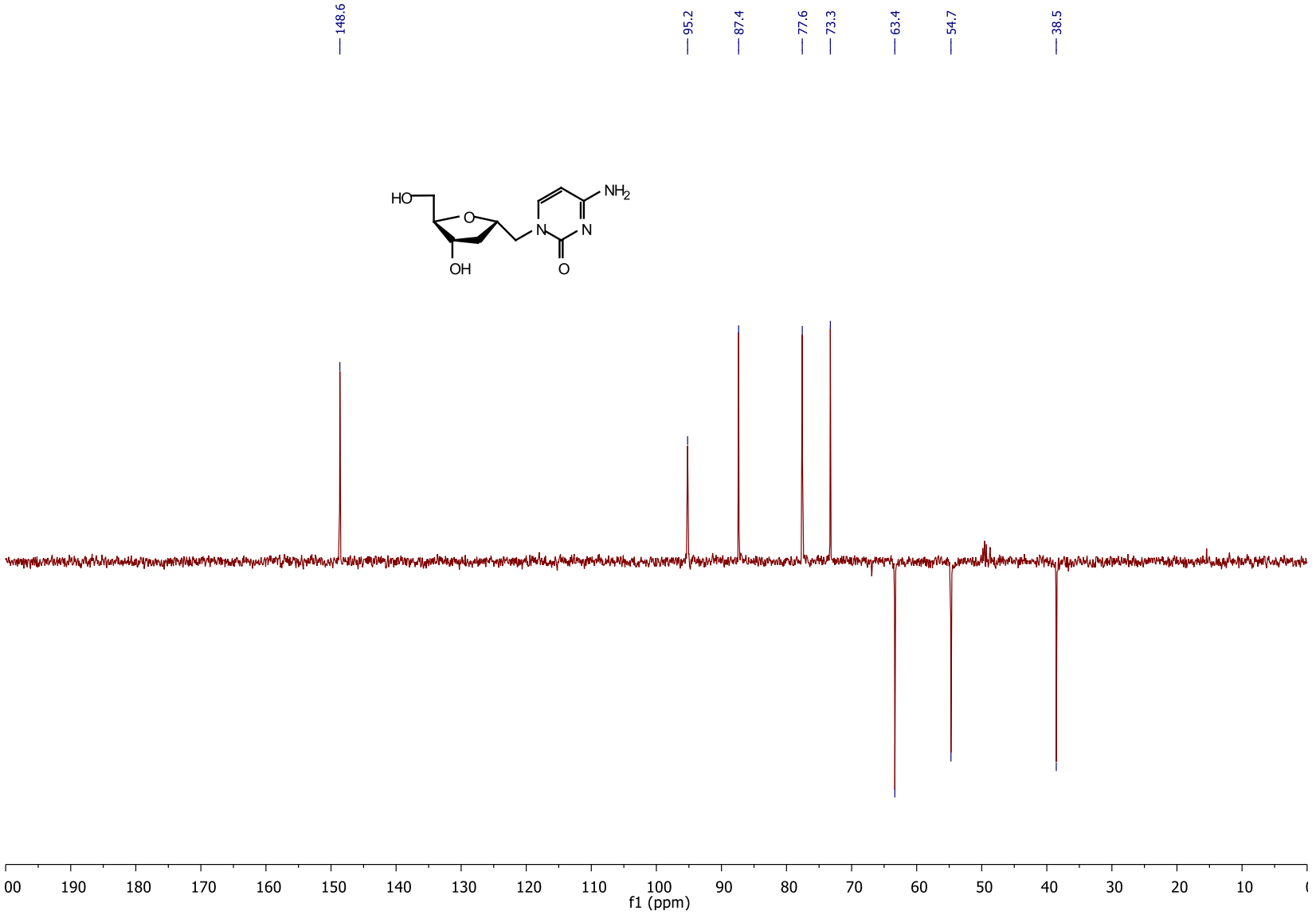

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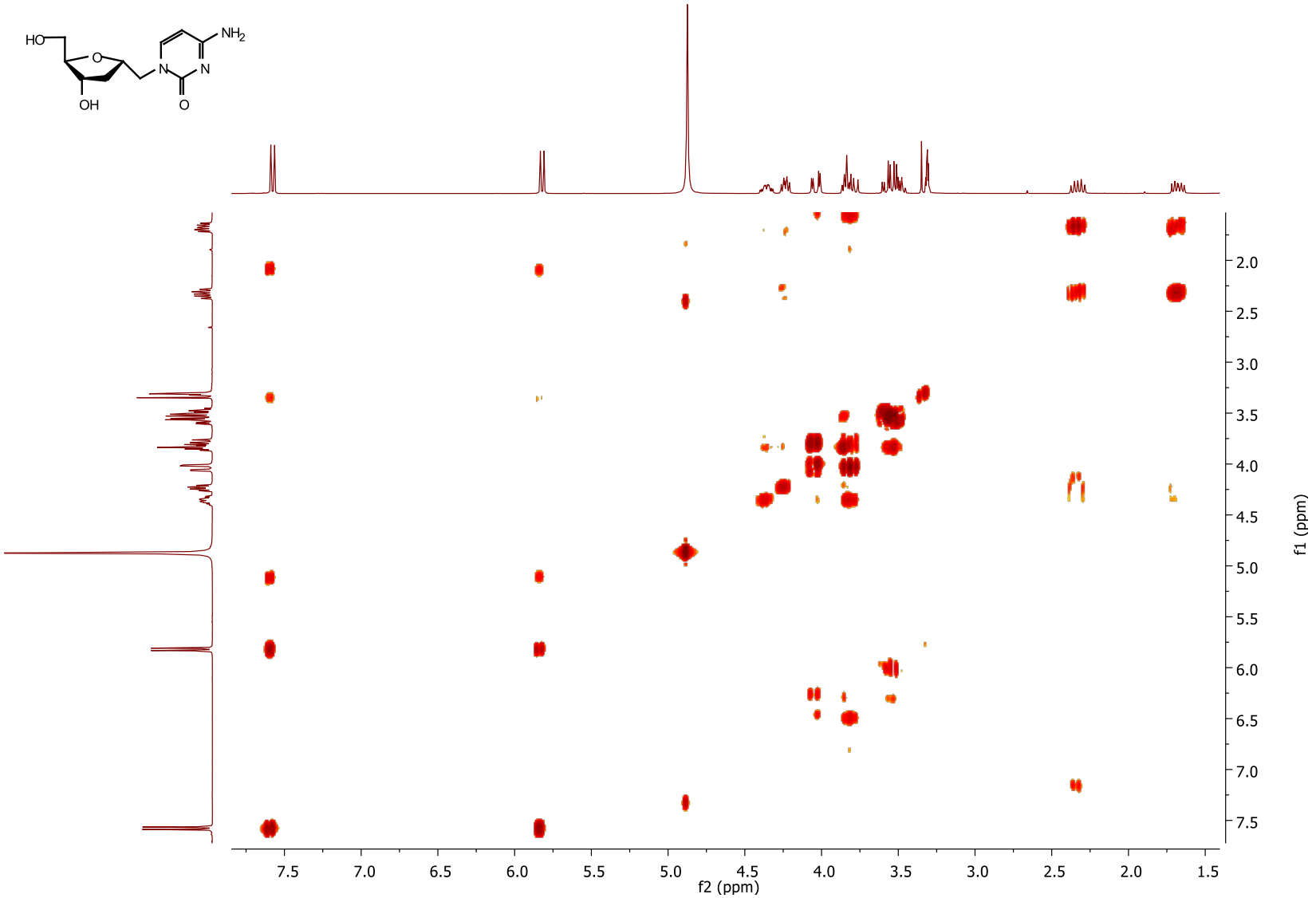
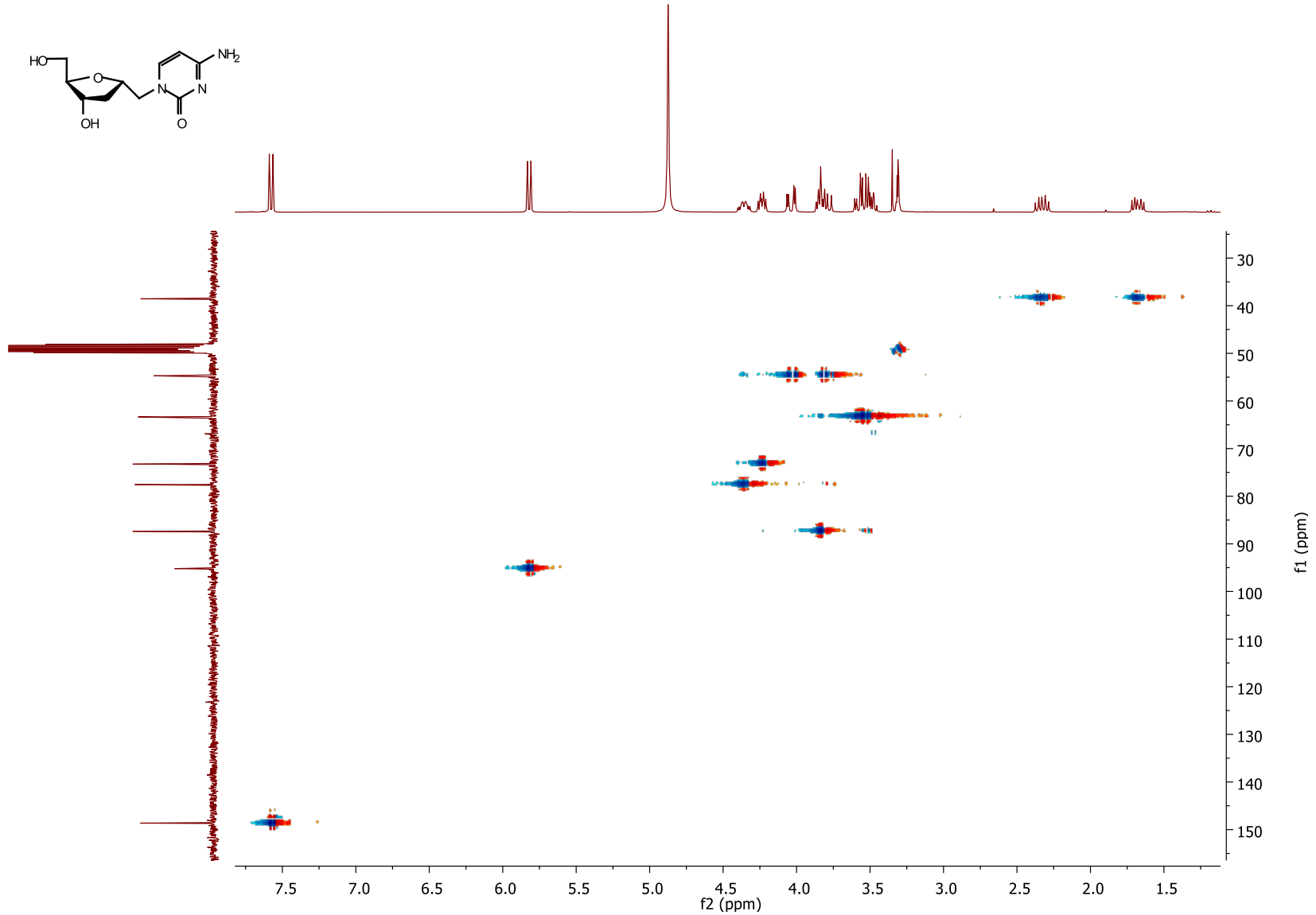
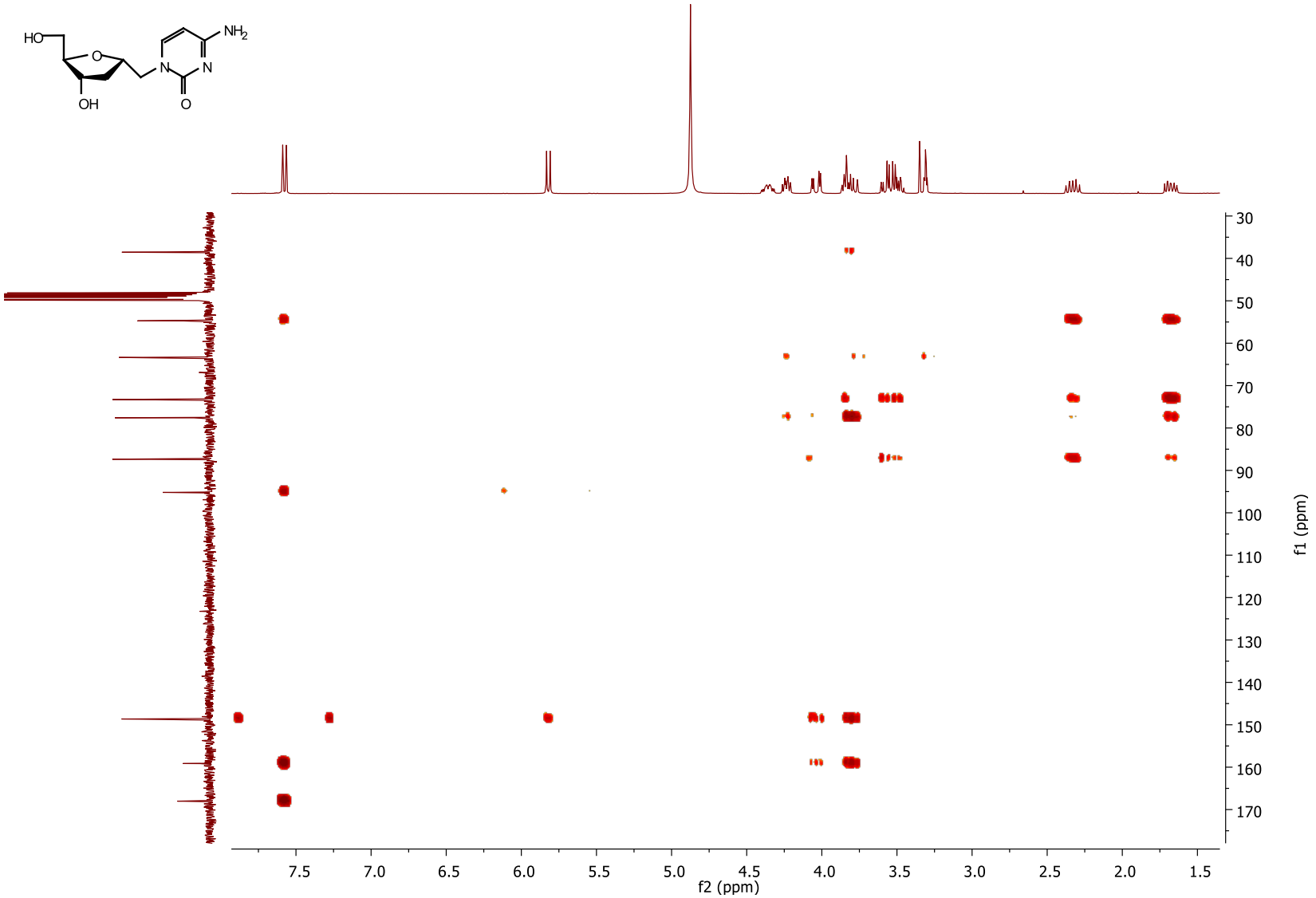


HSQC NMR (MeOH-d_4)

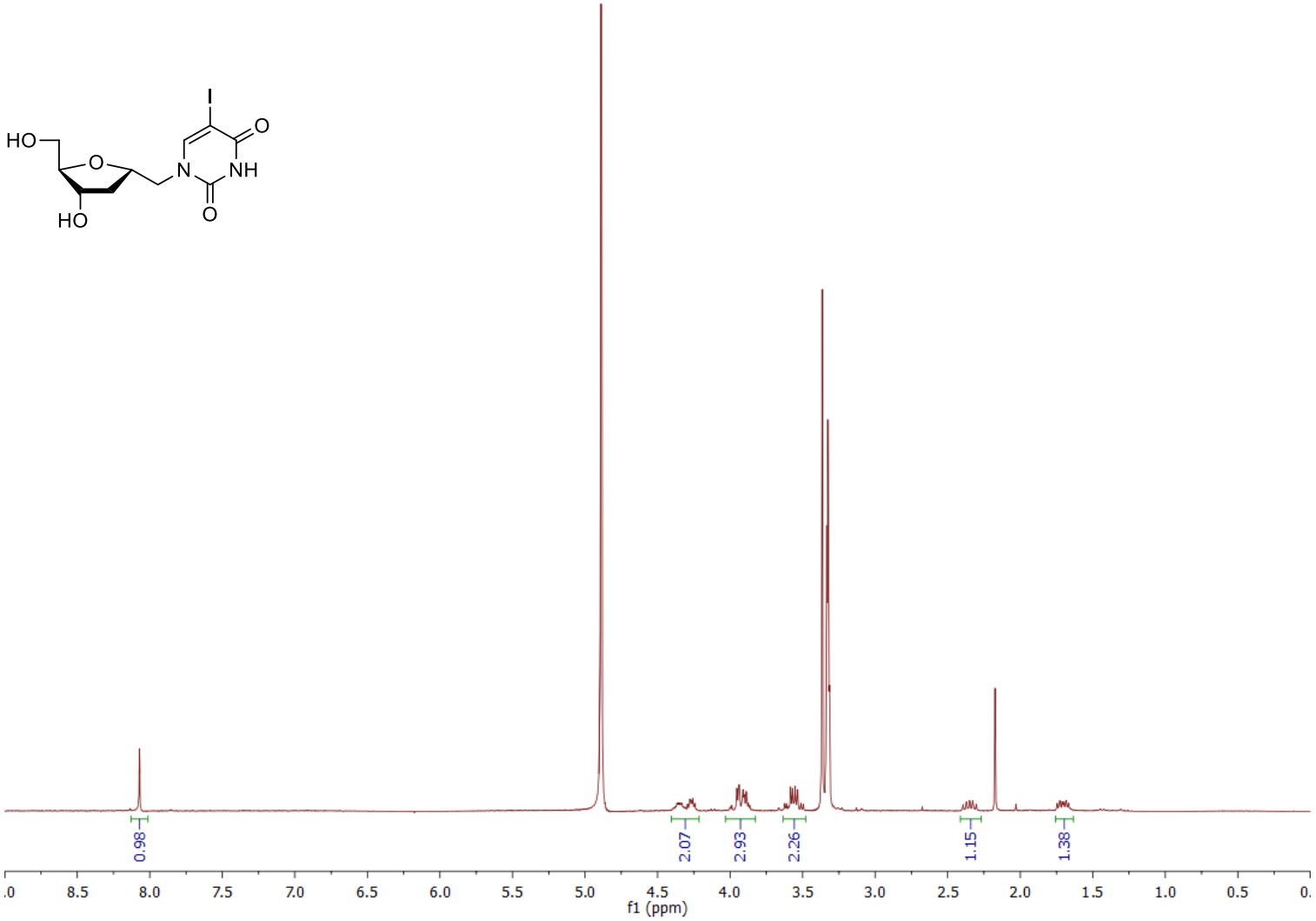


HMBC NMR (MeOH-d_4)



1’-Homo-*N*-2’-deoxy-α-5-iodouridine (10f)

^{1}H NMR (300.13 MHz, MeOH-d_4)



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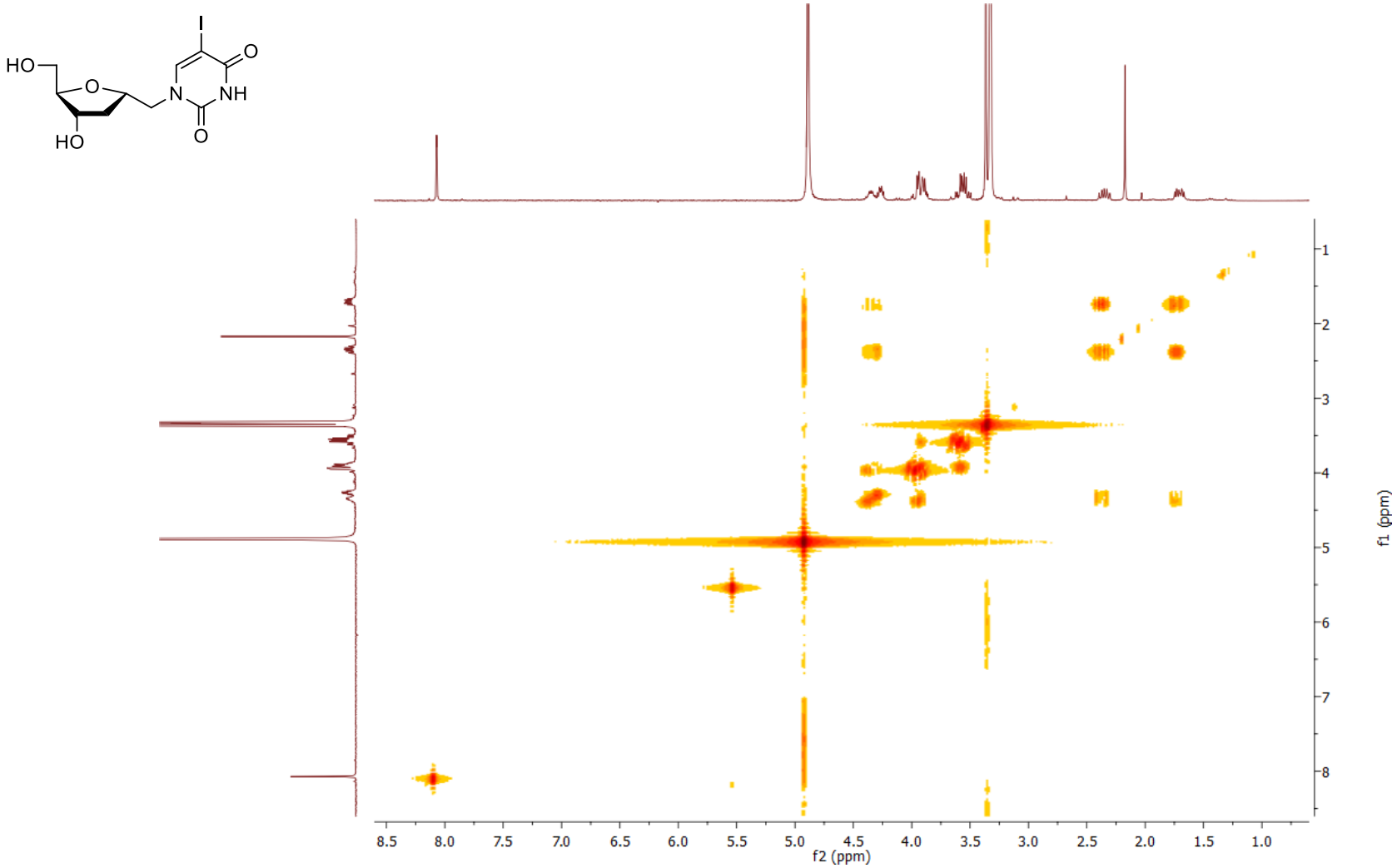
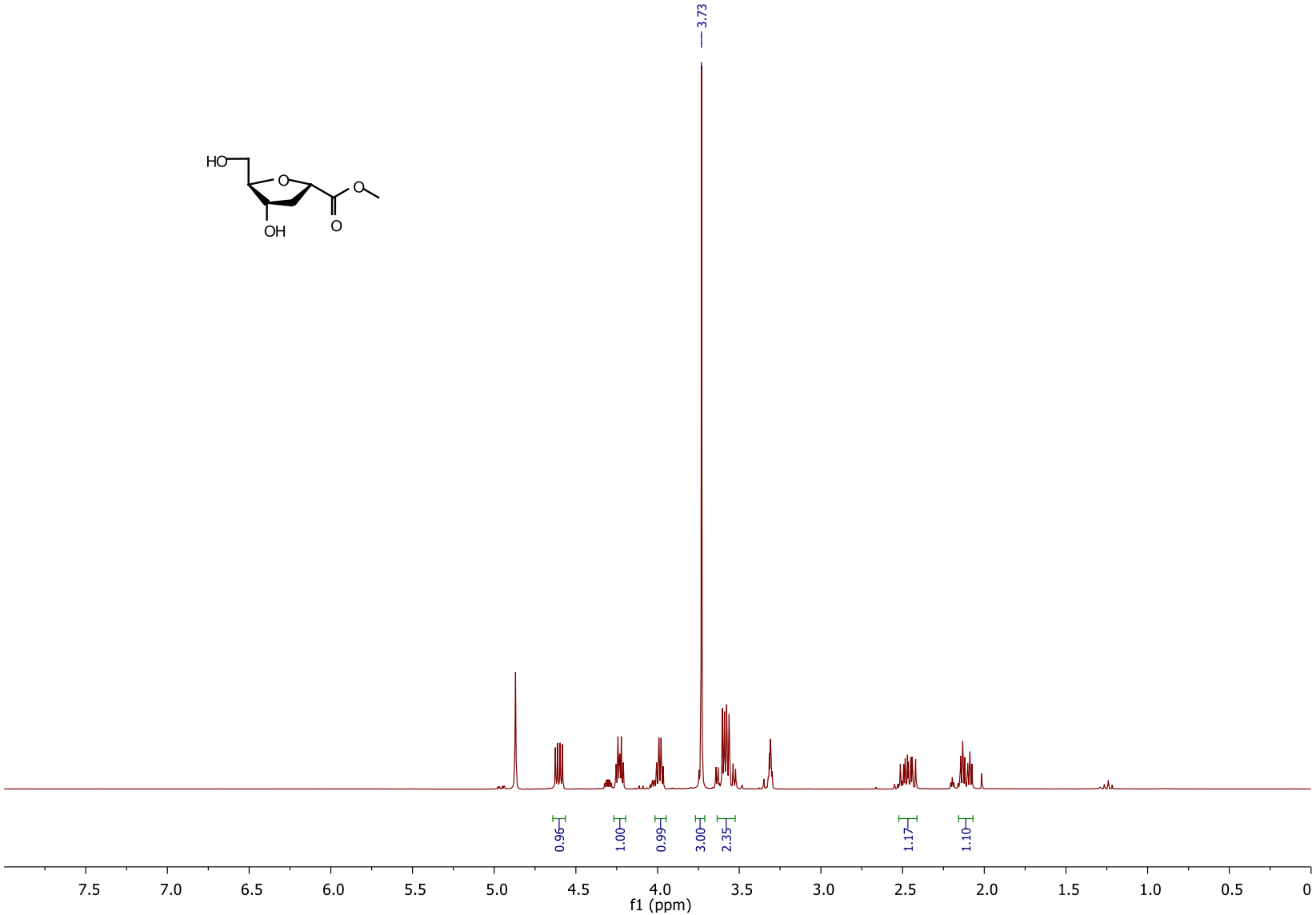


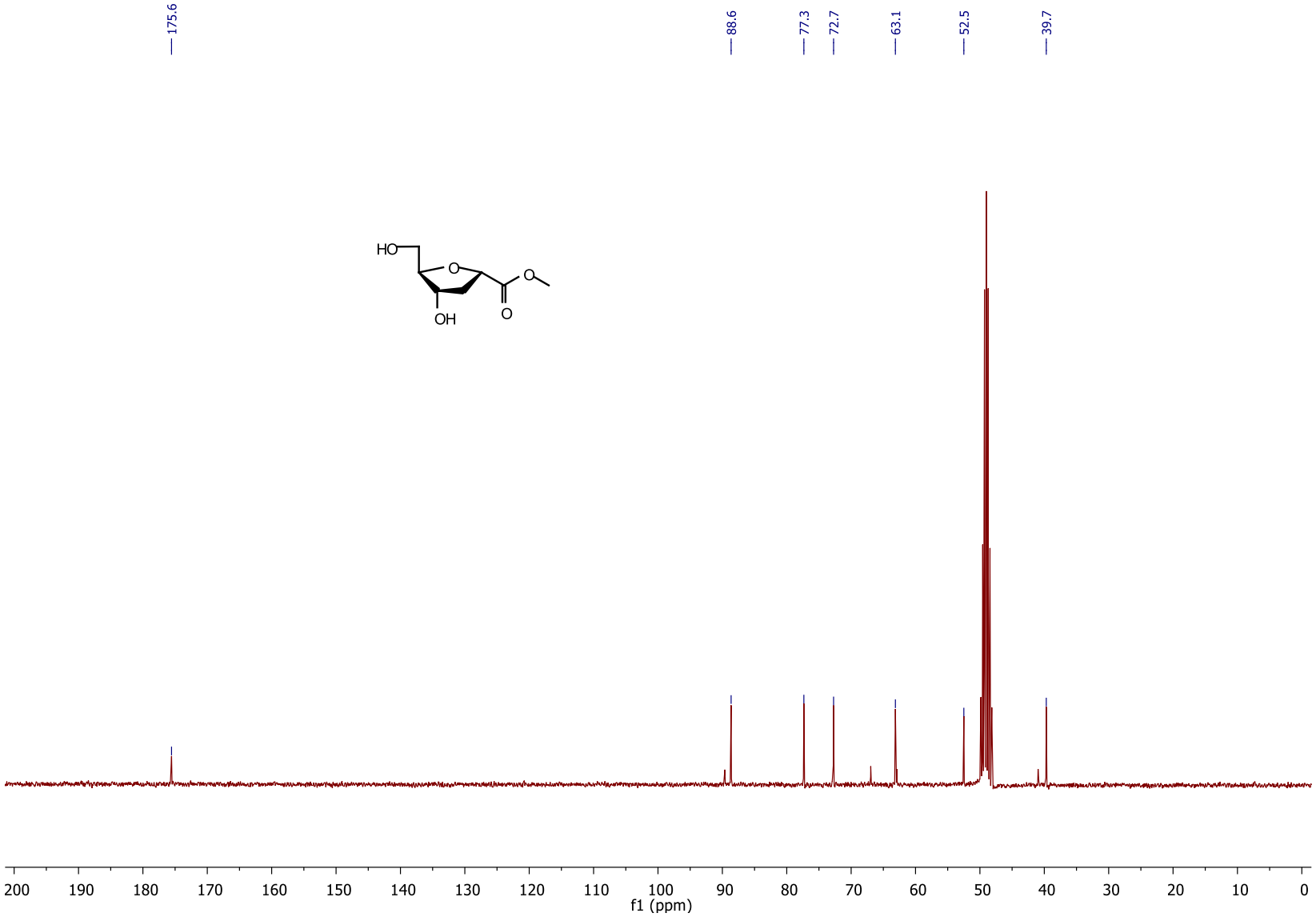
1,2-Dideoxy-1α-(methoxycarbonyl)-D-ribofuranose (13)

^{1}H NMR (300.13 MHz, MeOH-d_4)

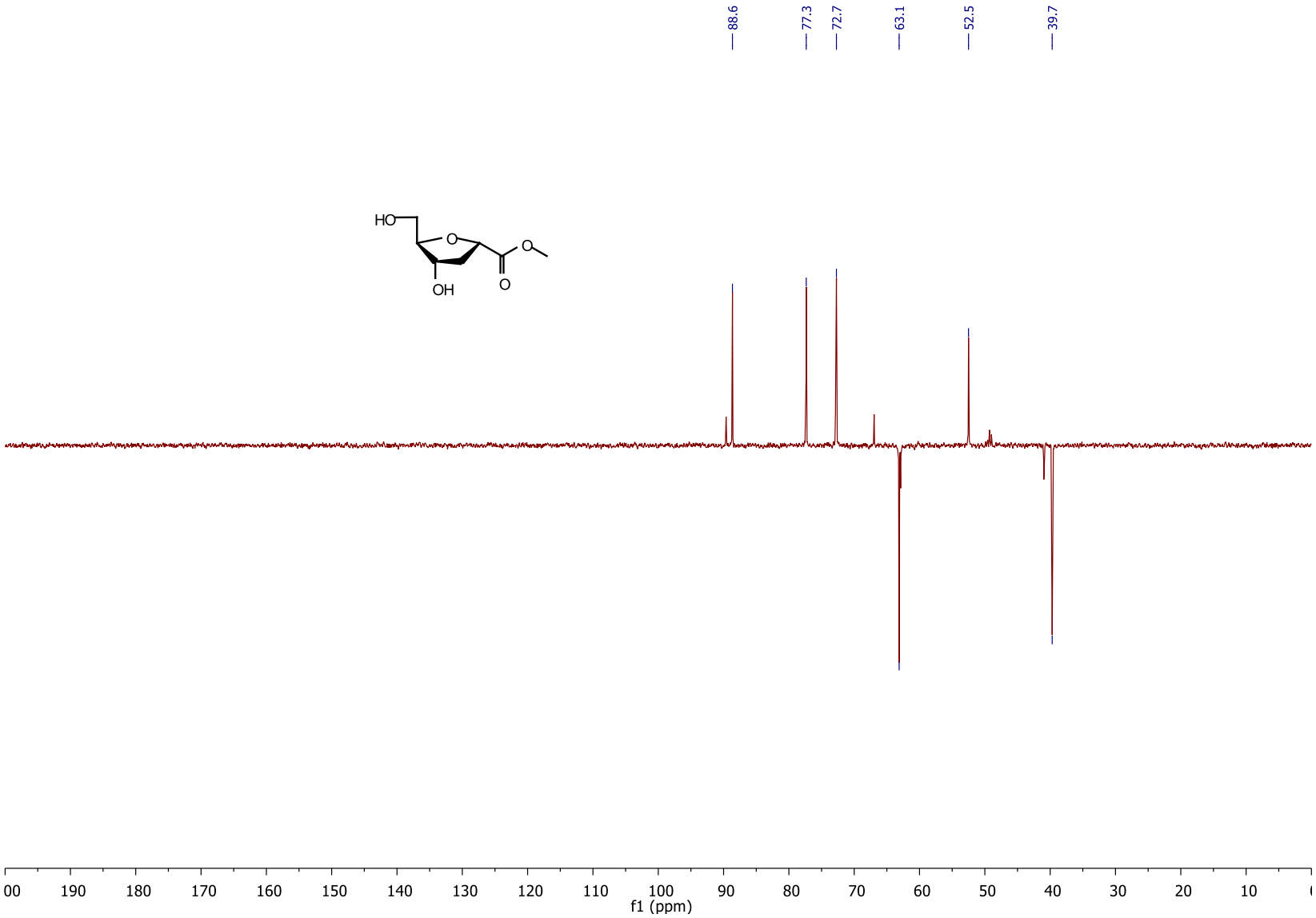


1,2-Dideoxy-1α-(methoxycarbonyl)-D-ribofuranose (13)

^{13}C NMR (75.5 MHz, MeOH-d_4)



DEPT NMR (75.5 MHz, MeOH-d_4)



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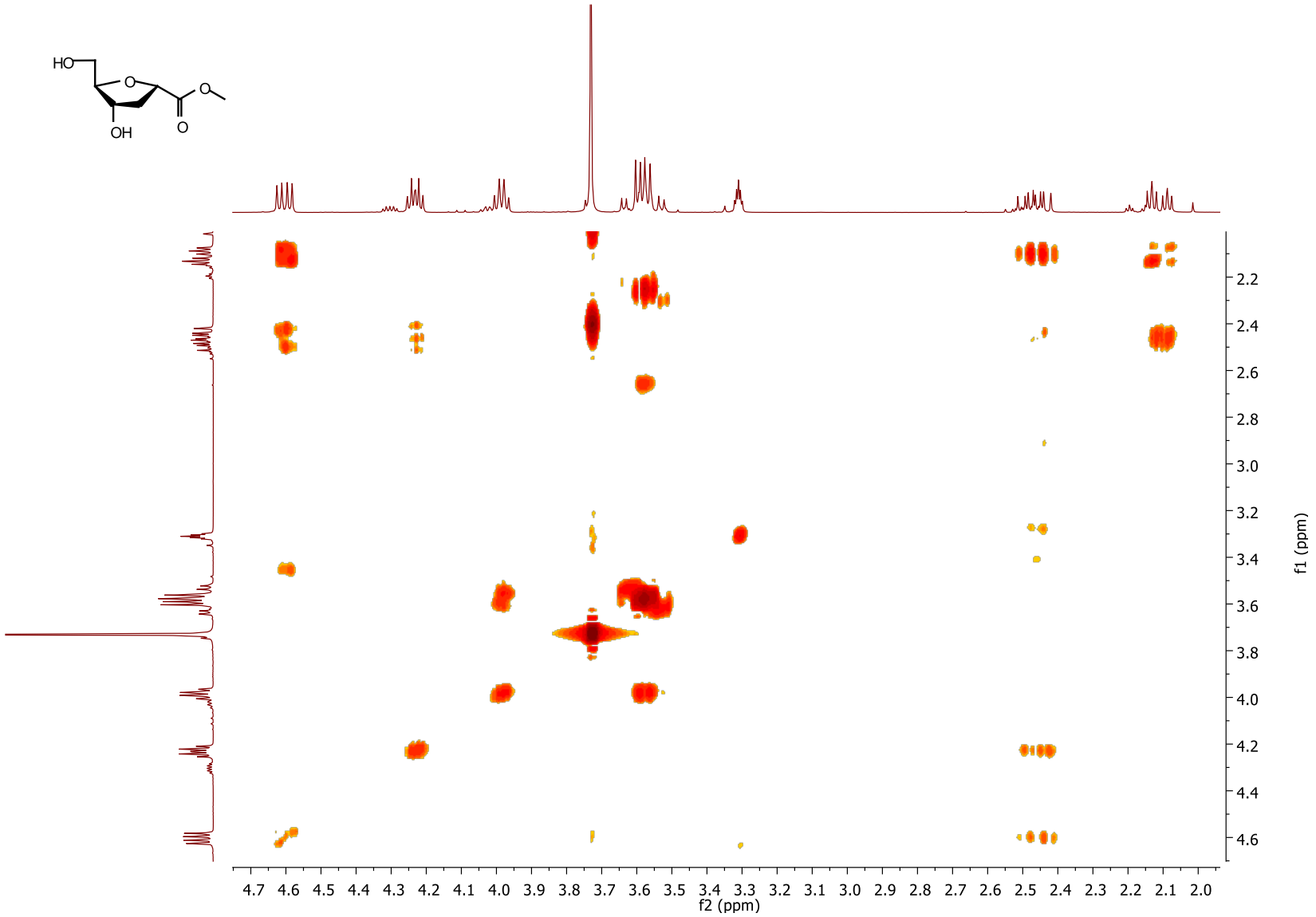

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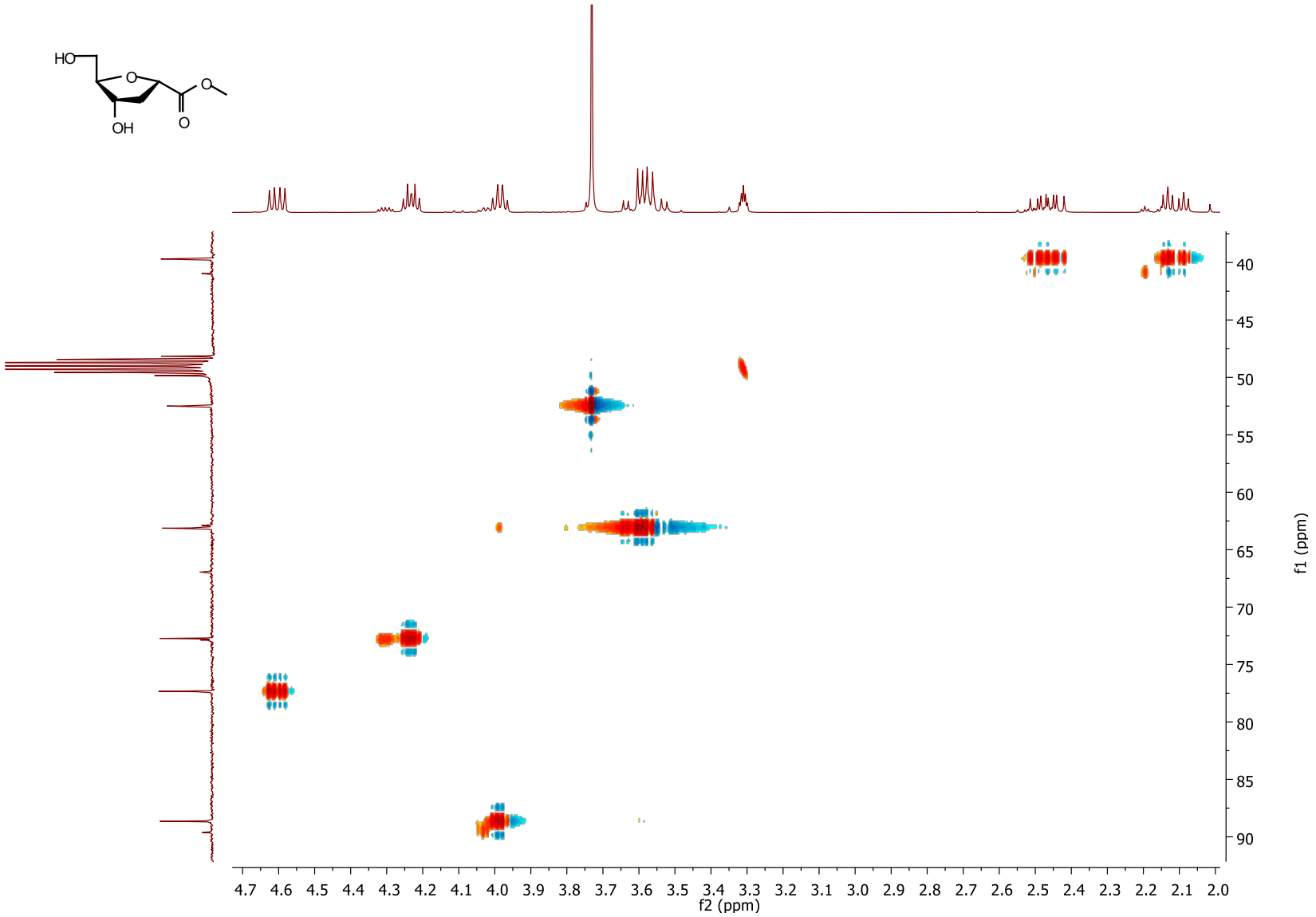

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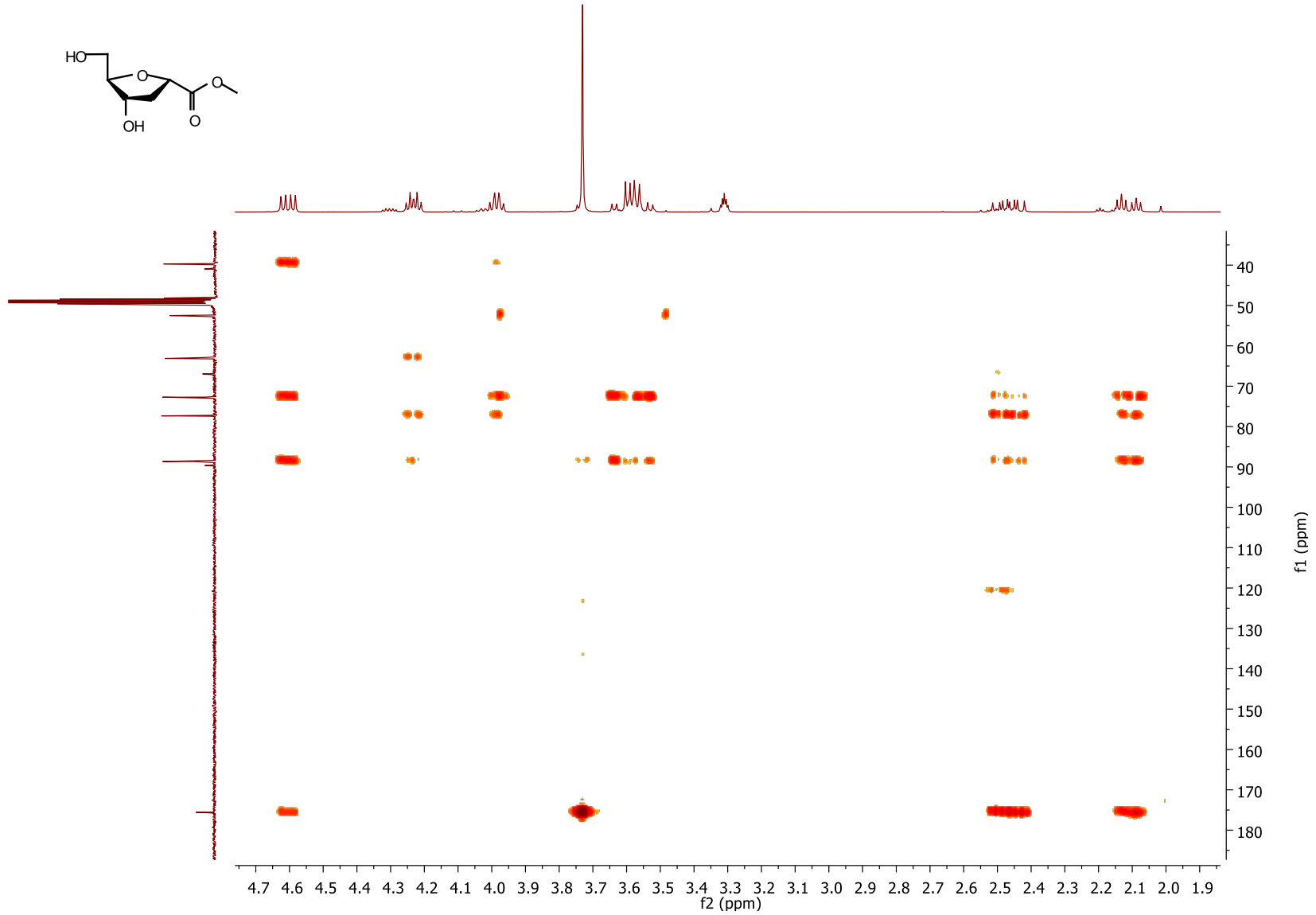
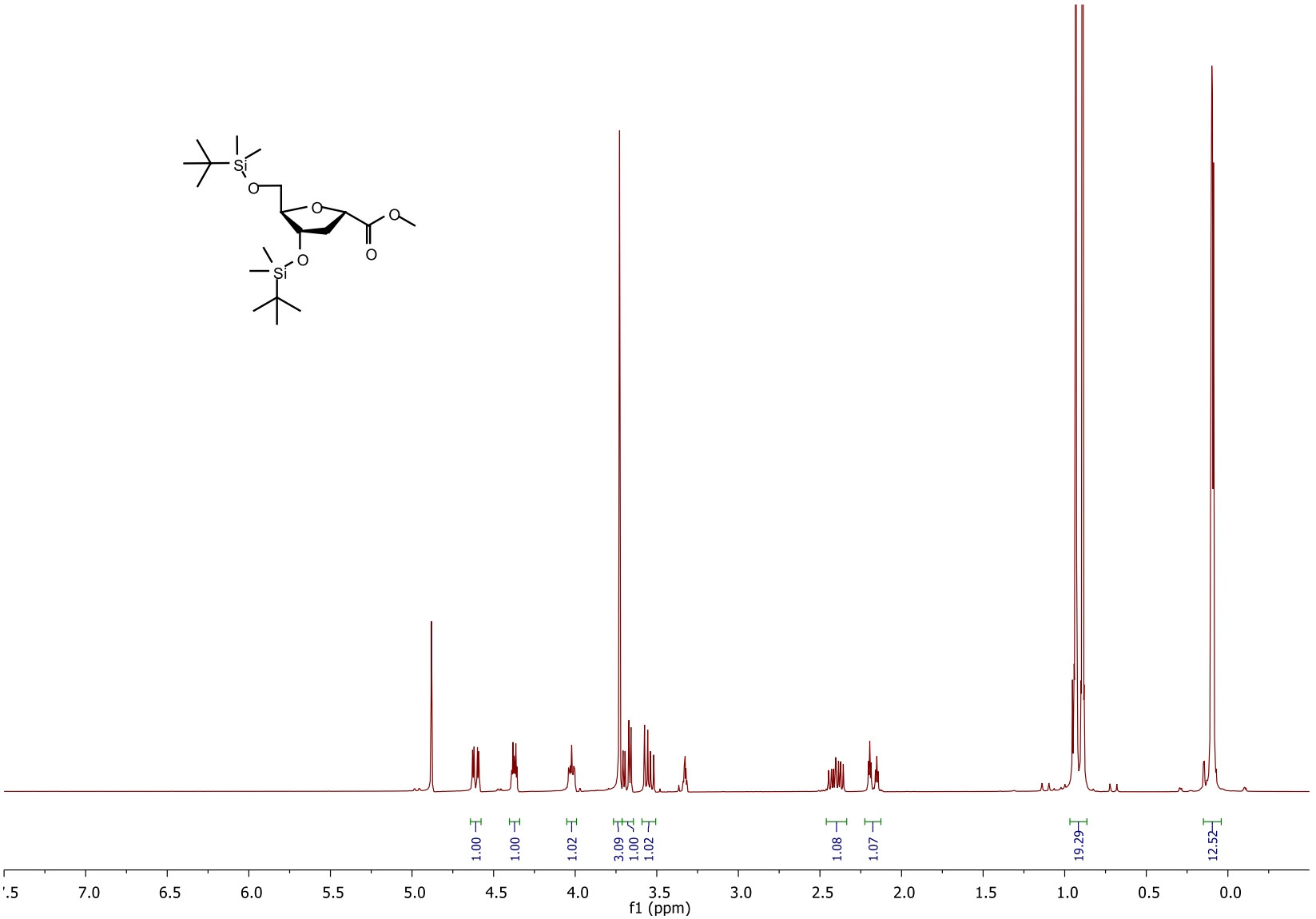


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1,2-dideoxy-1α-(methoxycarbonyl)-D-ribofuranose (20)

^{1}H NMR (300.13 MHz, MeOH-d_4)



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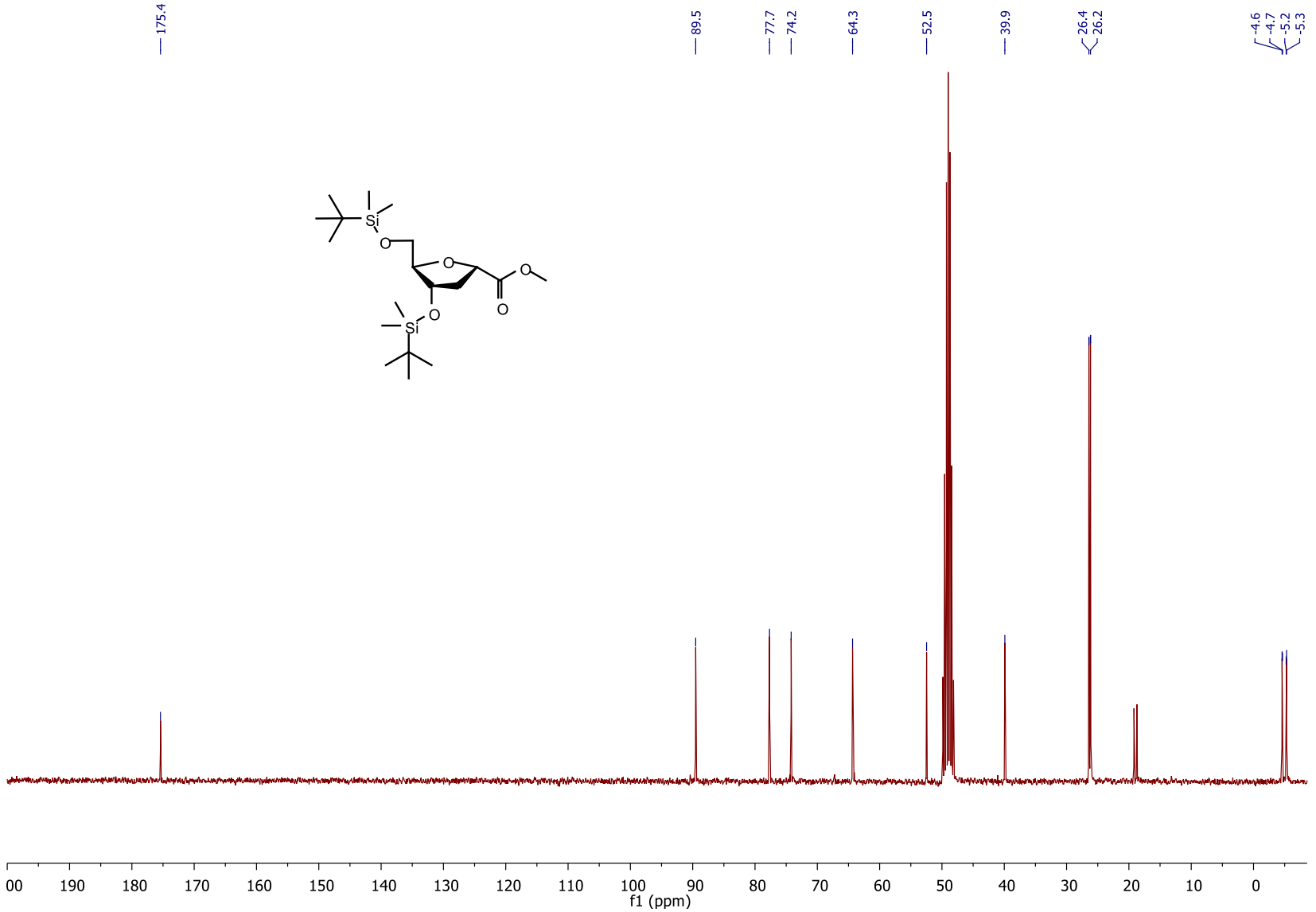

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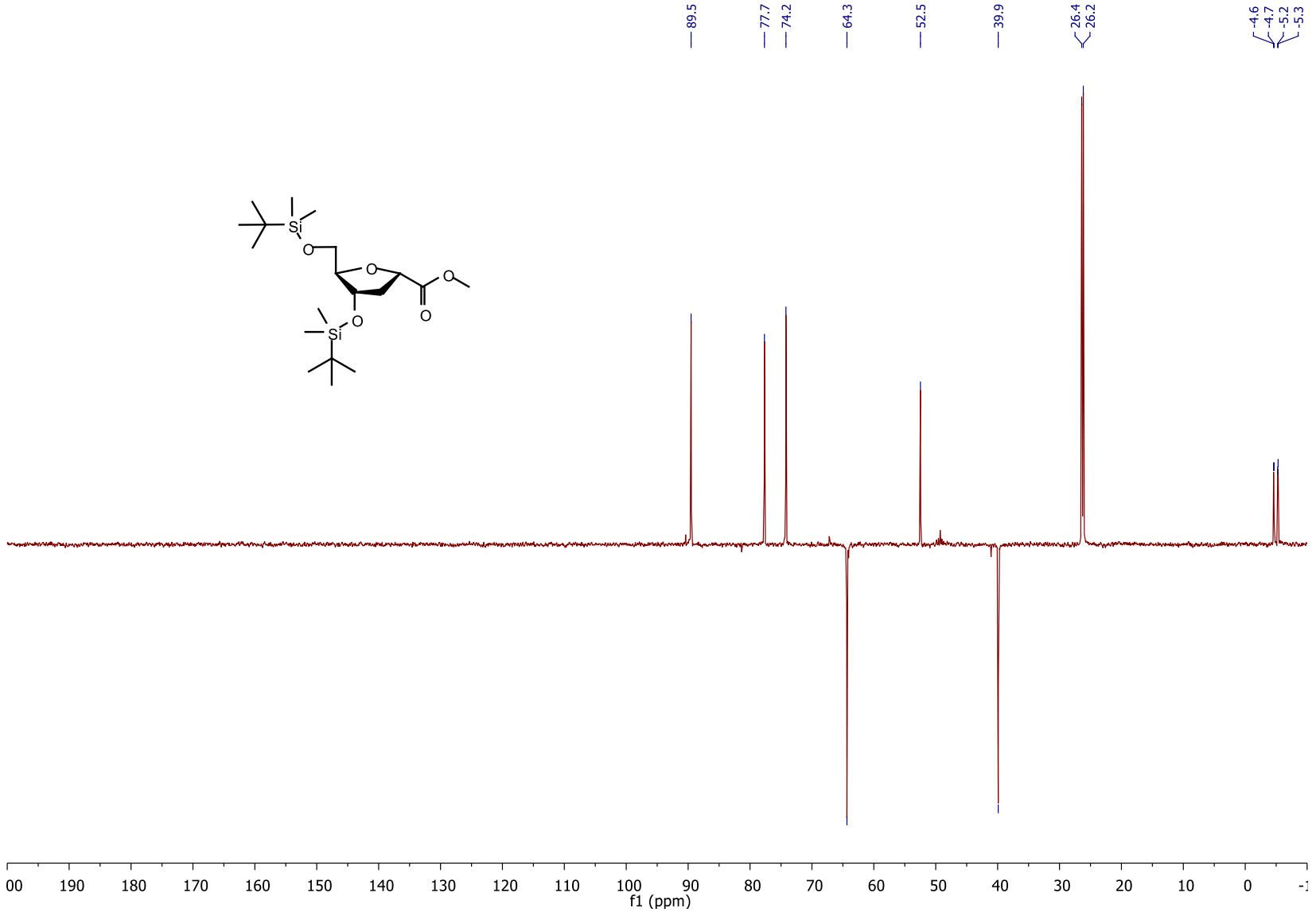

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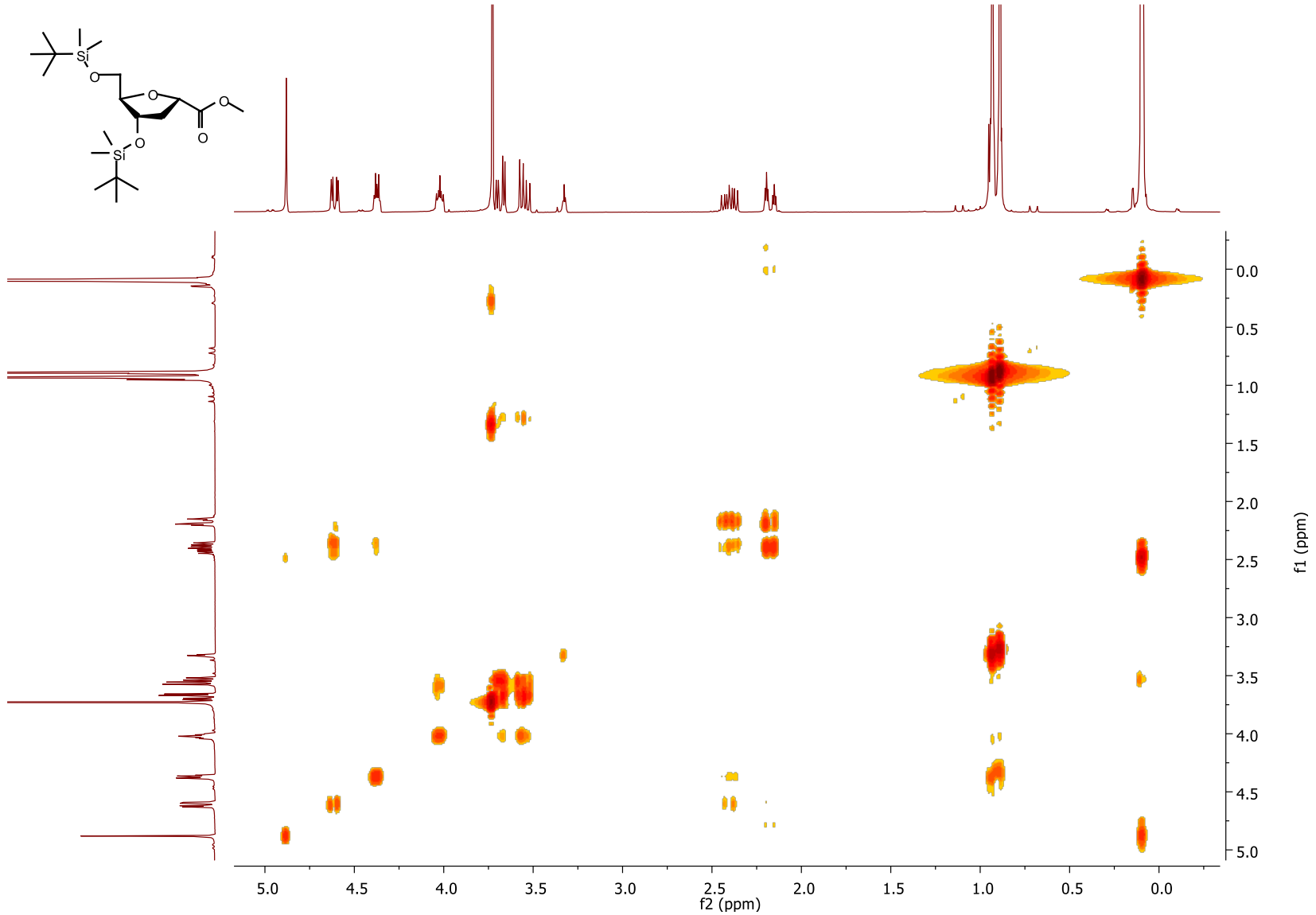

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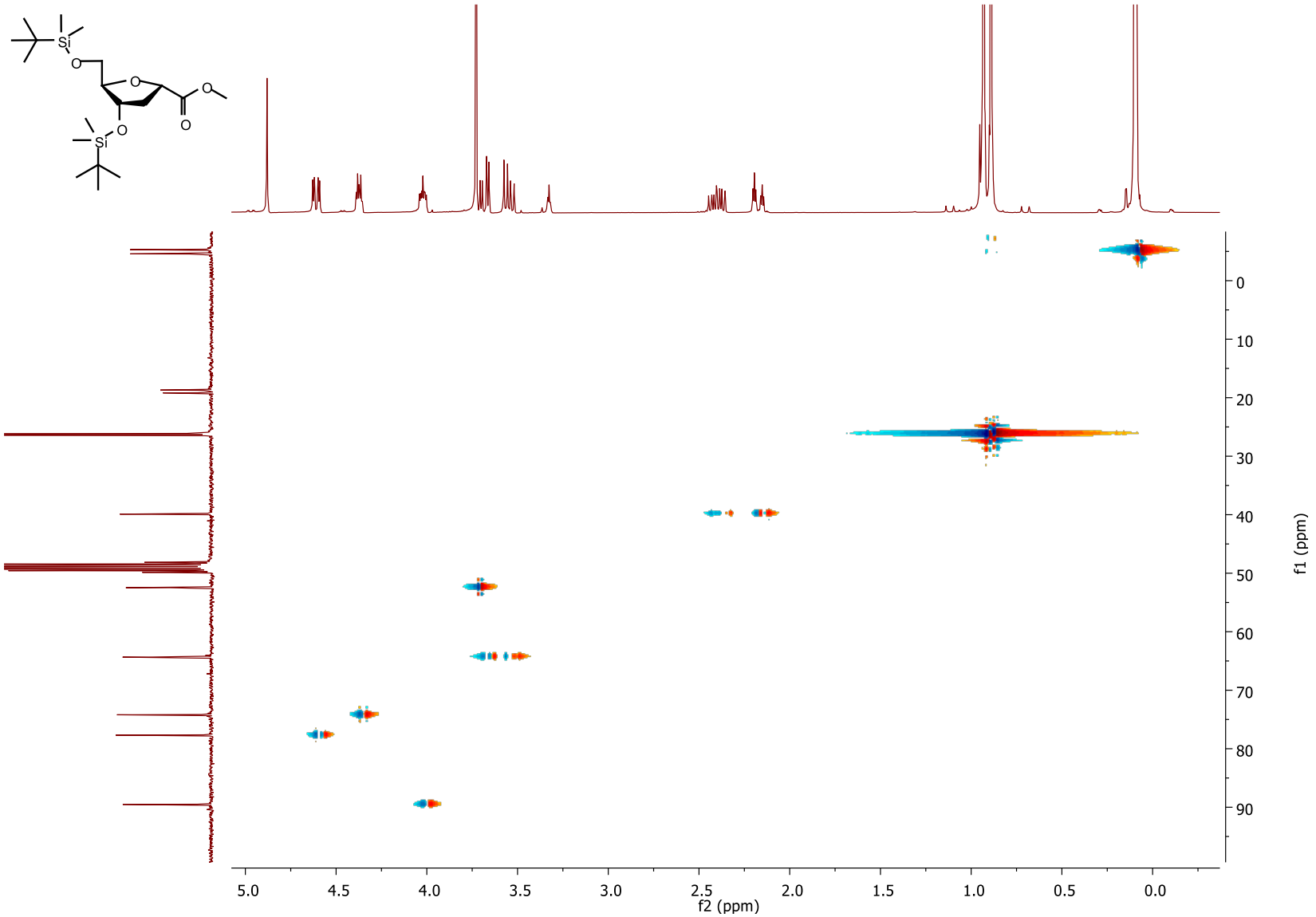

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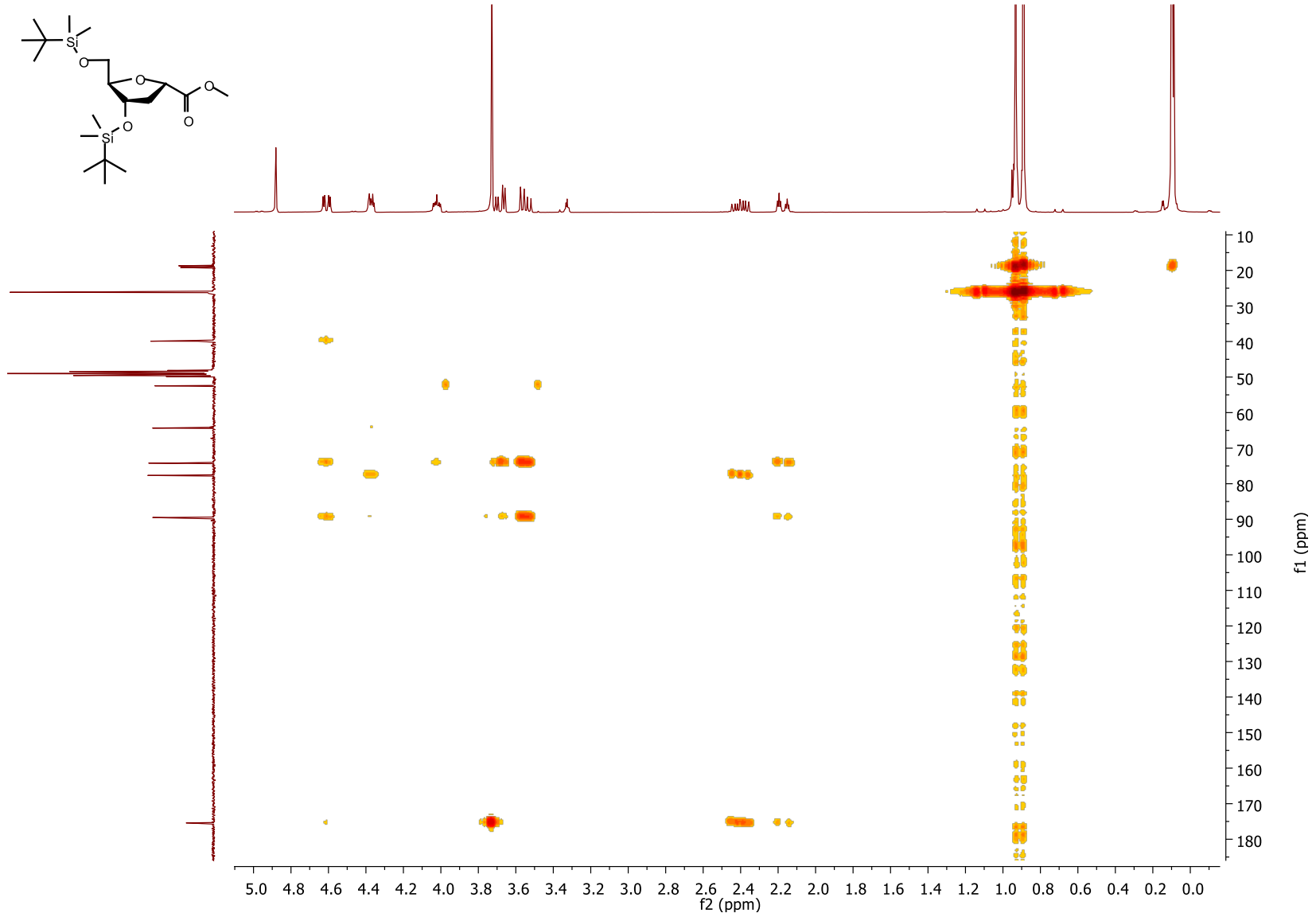
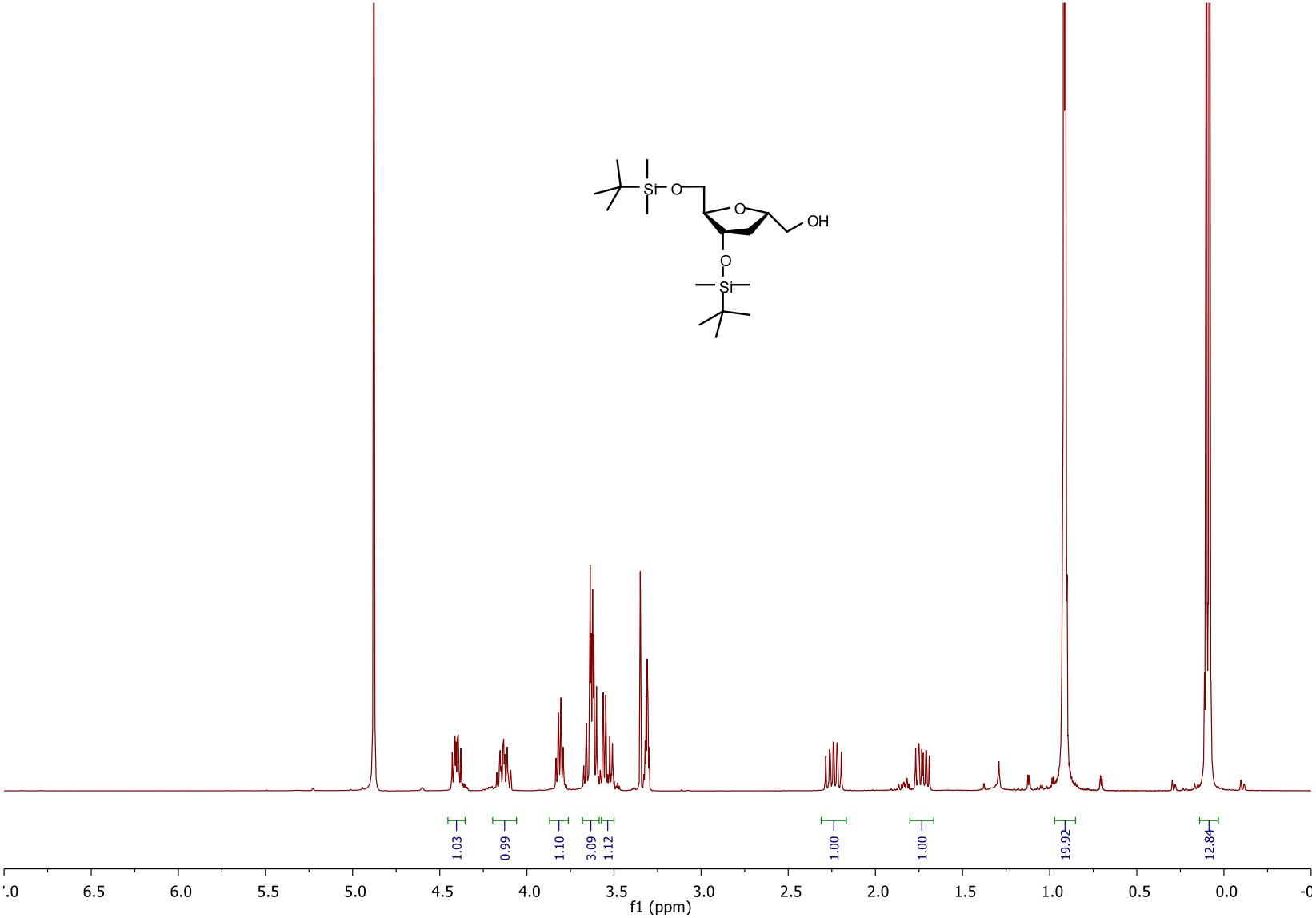


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1,2-dideoxy-1α-(hydroxymethyl)-D-ribofuranose (15)

^{1}H NMR (300.13 MHz, MeOH-d_4)



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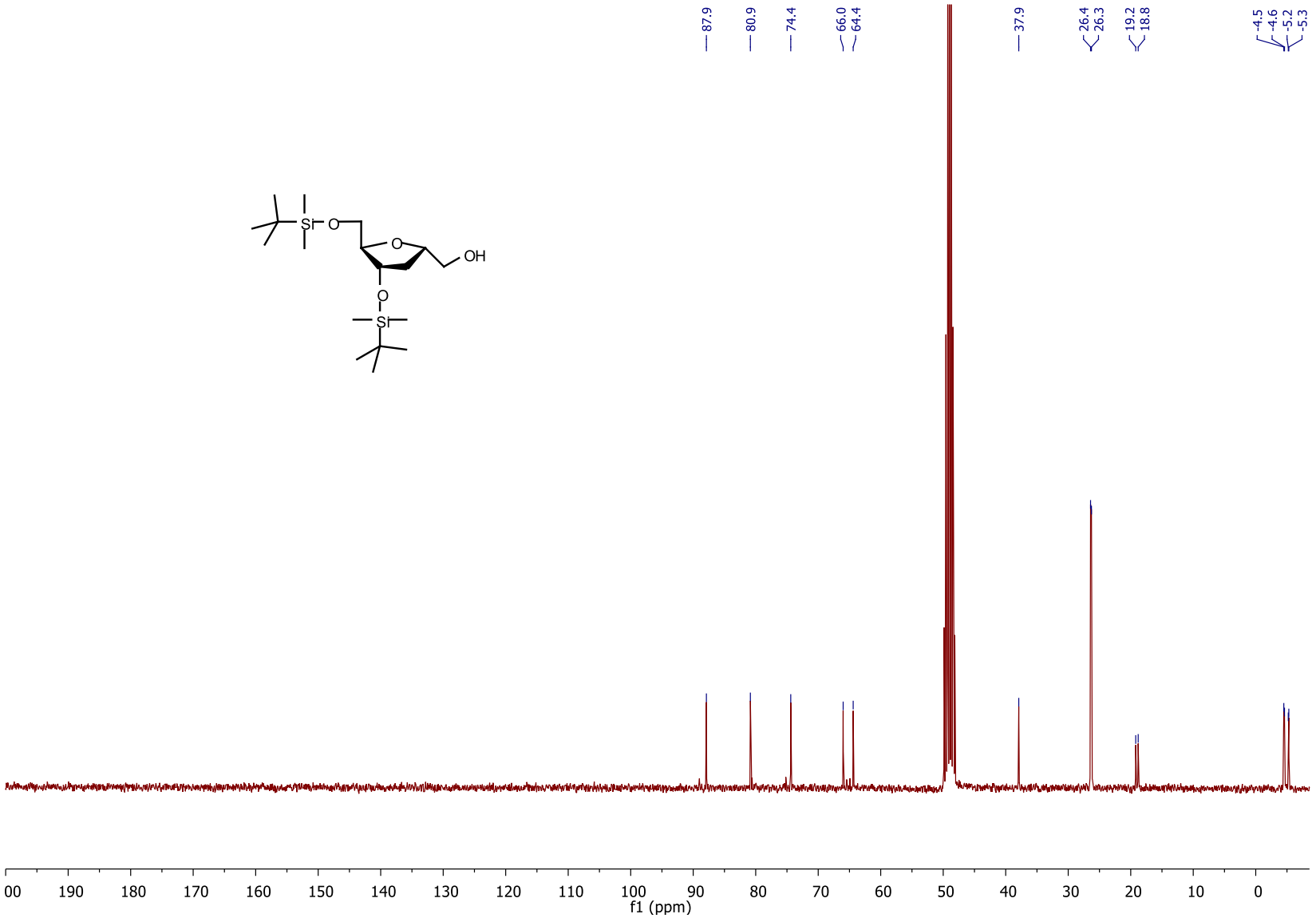

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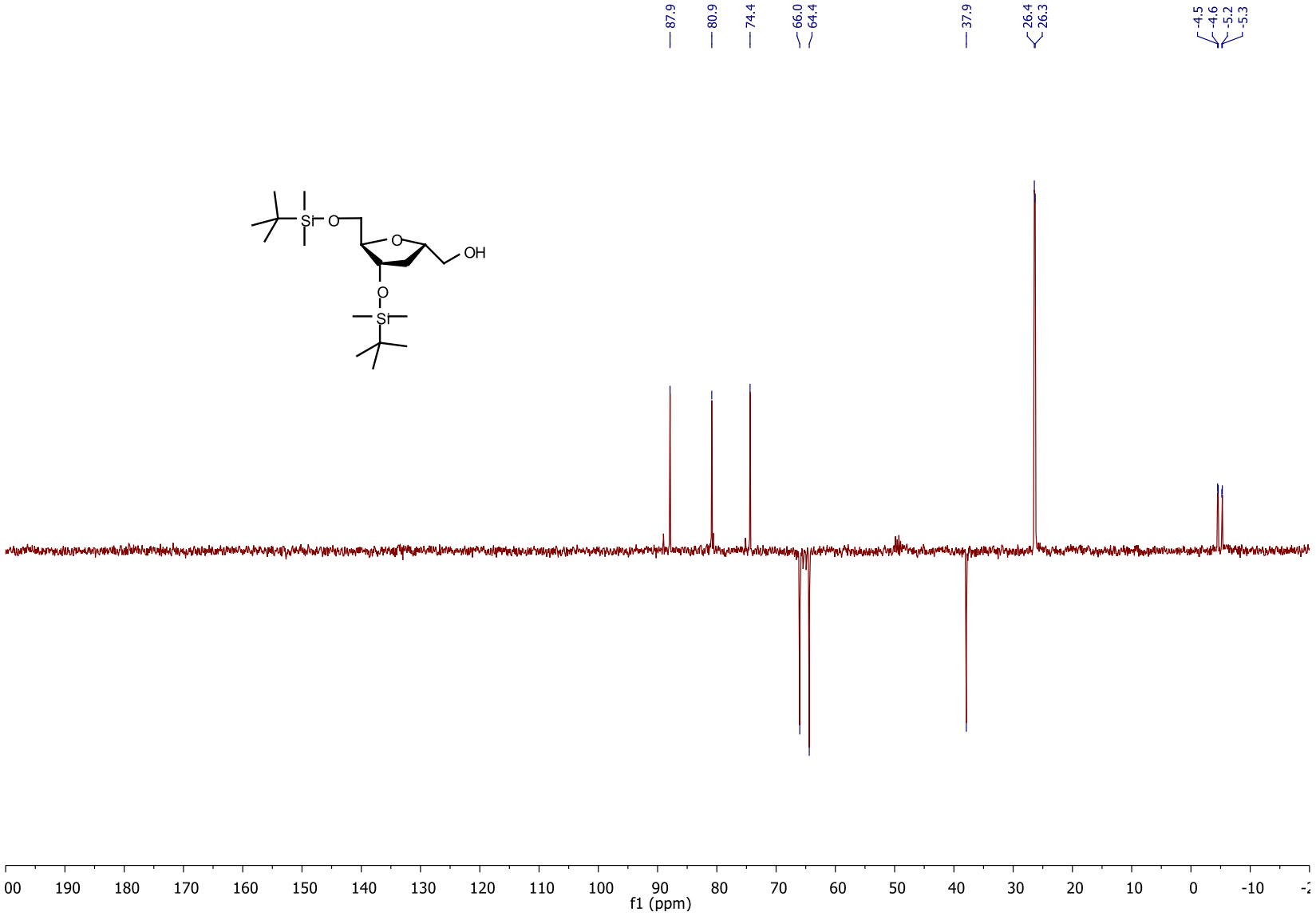

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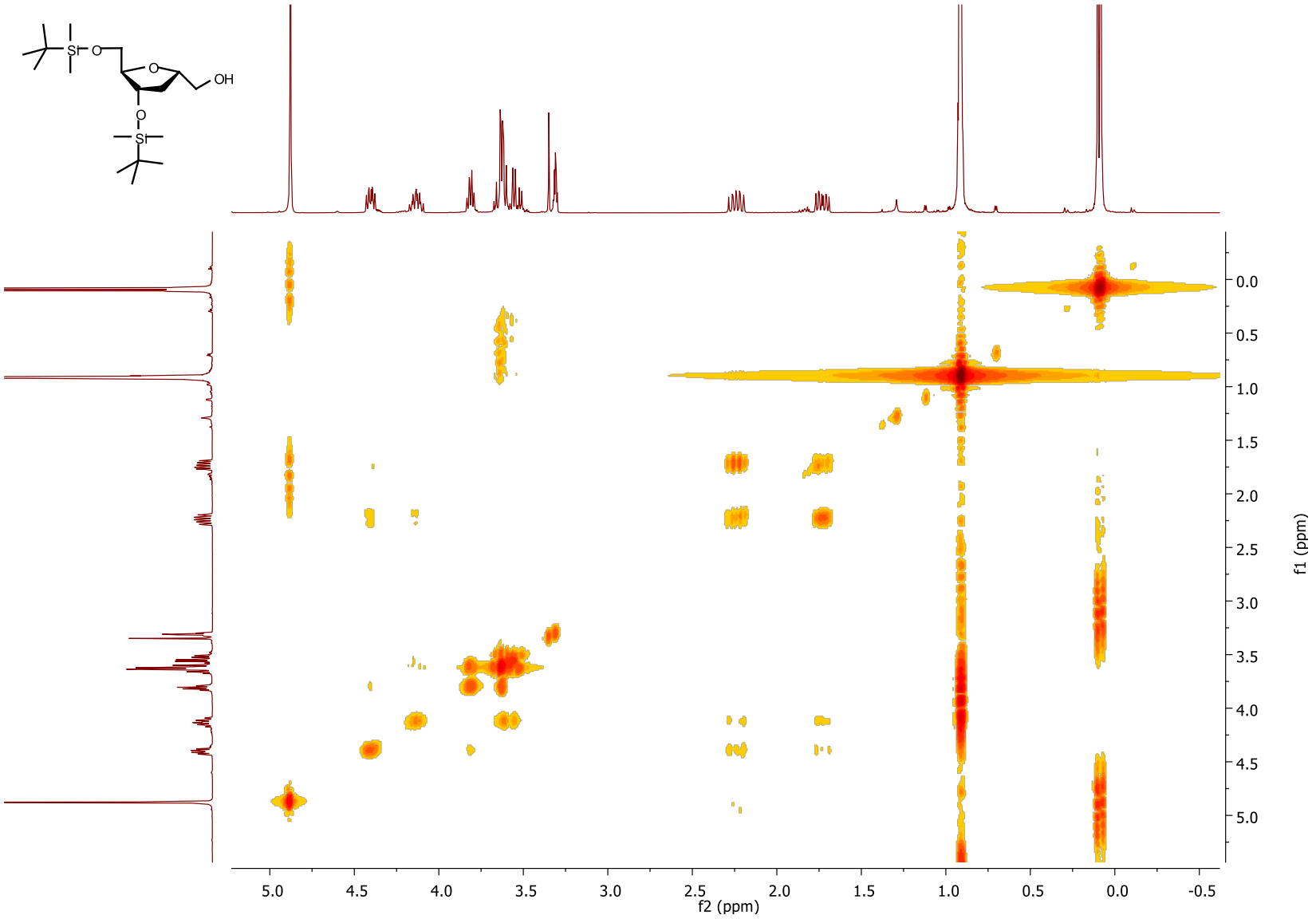

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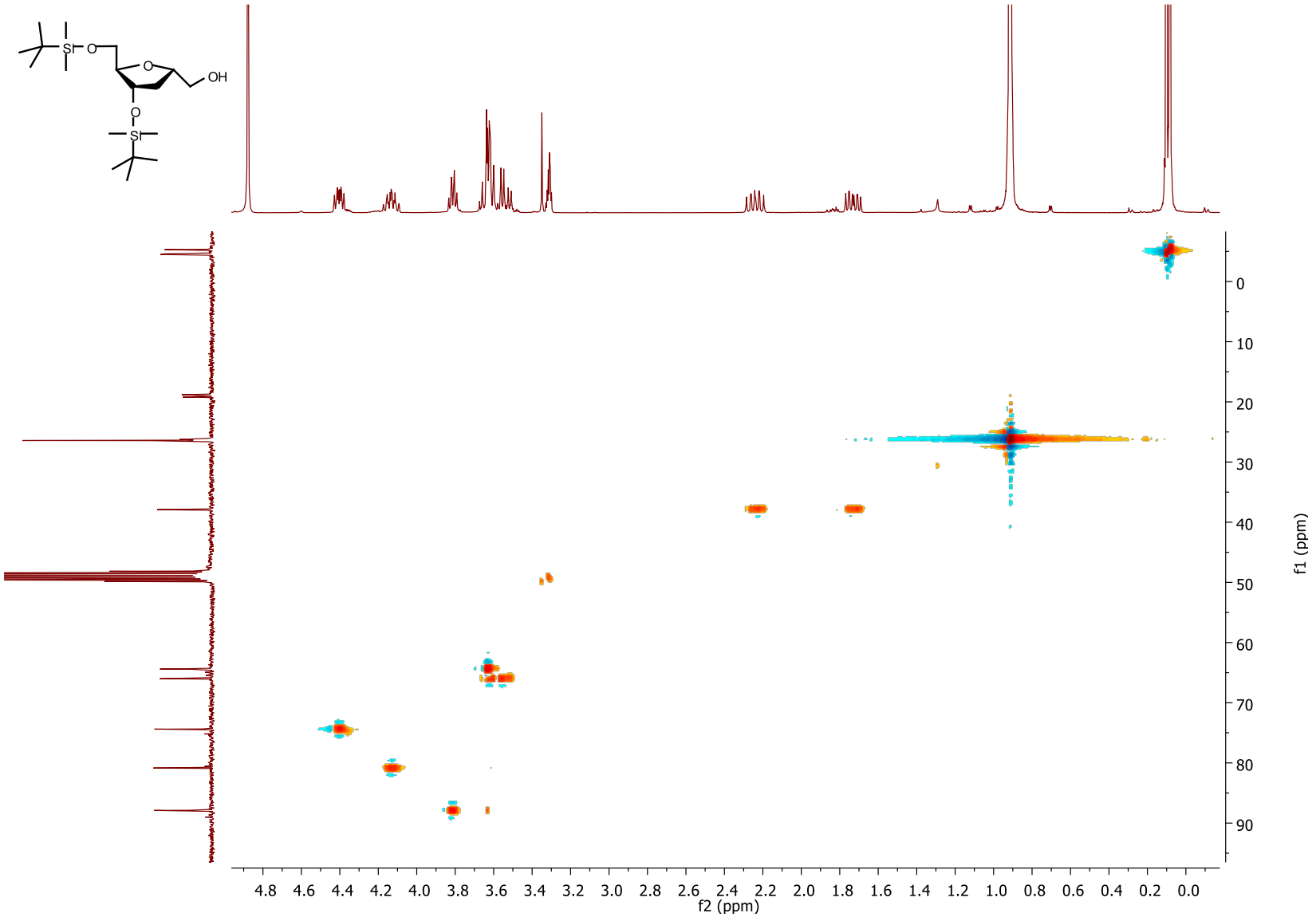

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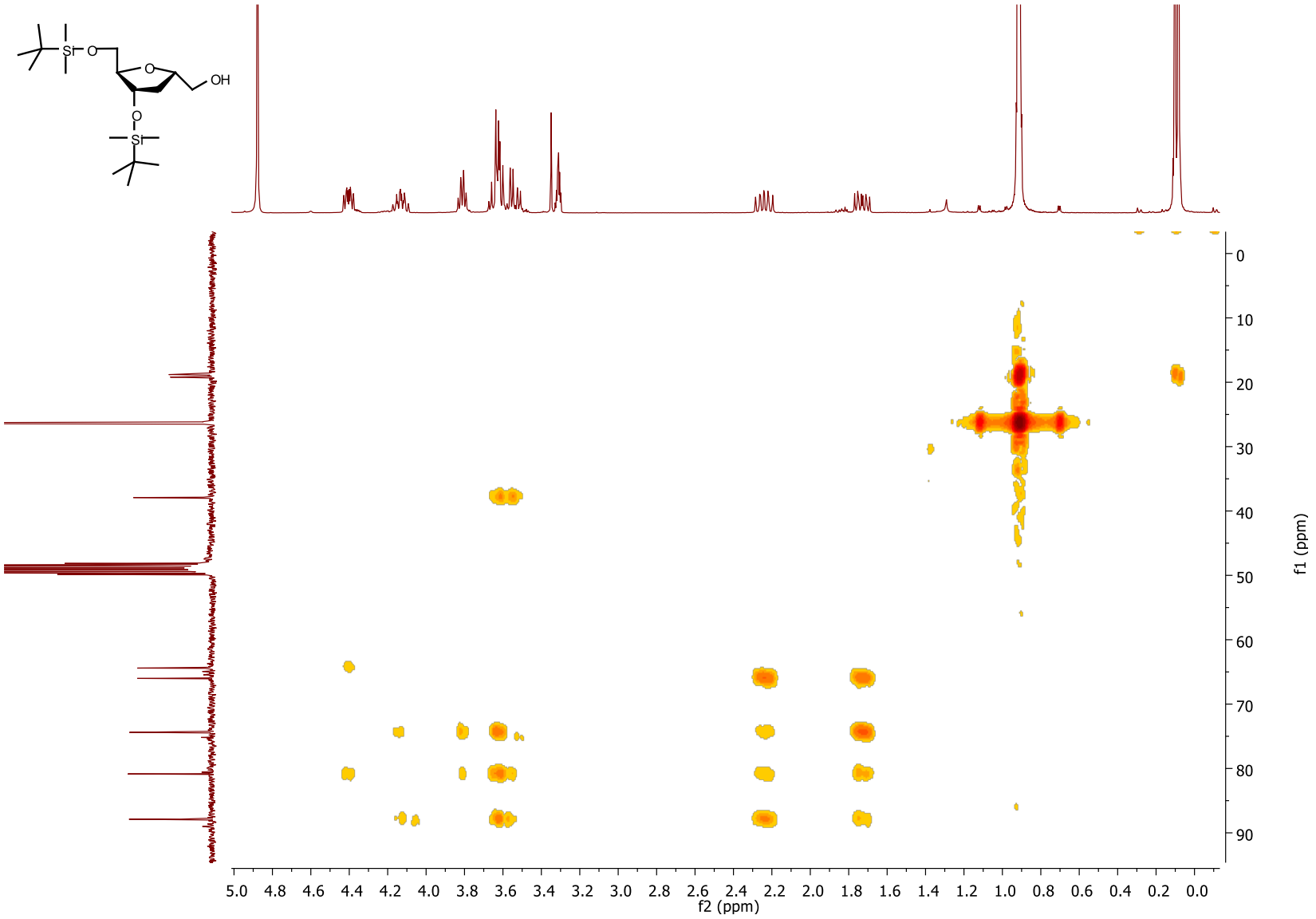
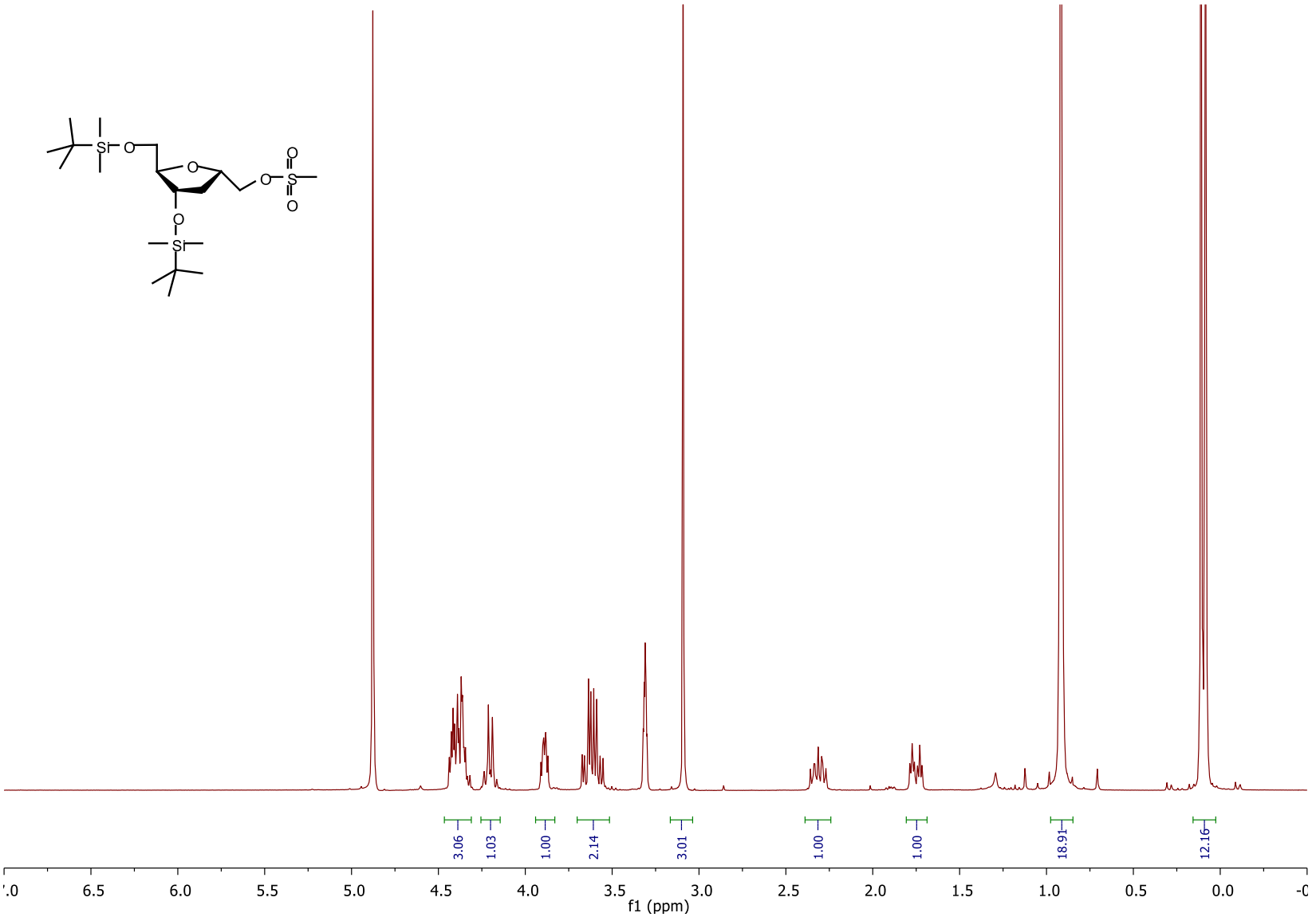


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1,2-dideoxy-1α-(((methylsulfonyl)oxy)methyl)-D-ribofuranose (16)

^{1}H NMR (300.13 MHz, MeOH-d_4)



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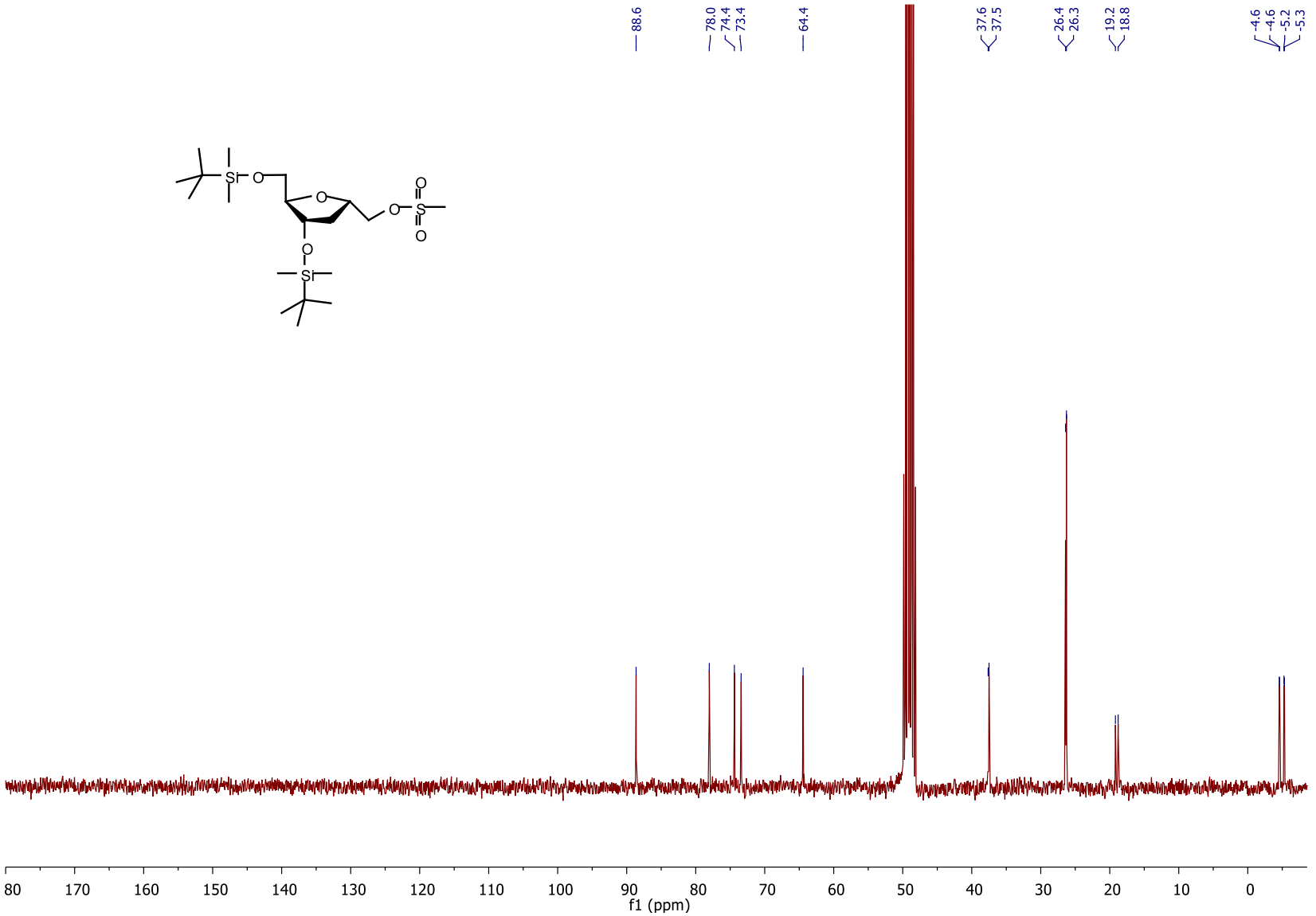
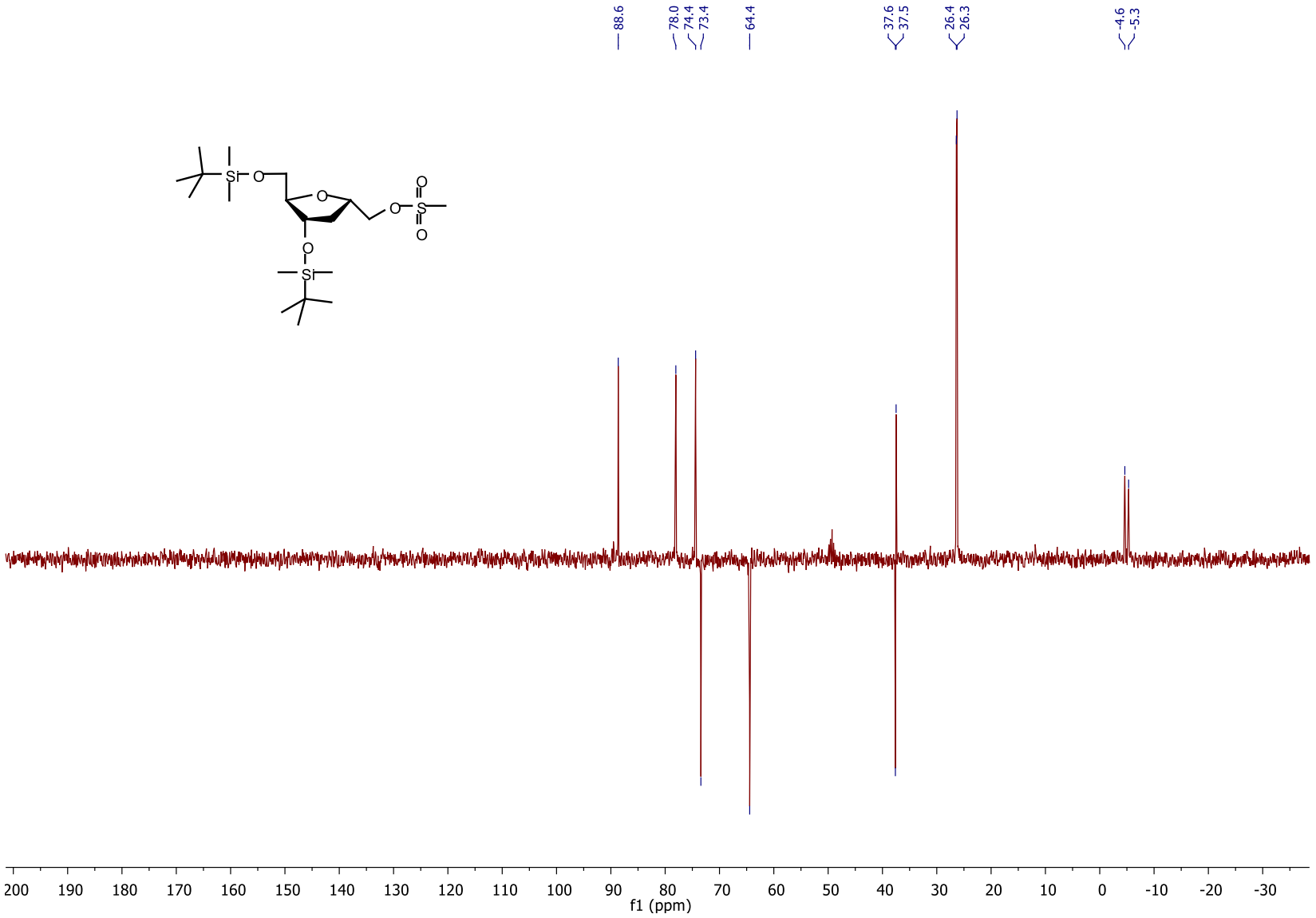
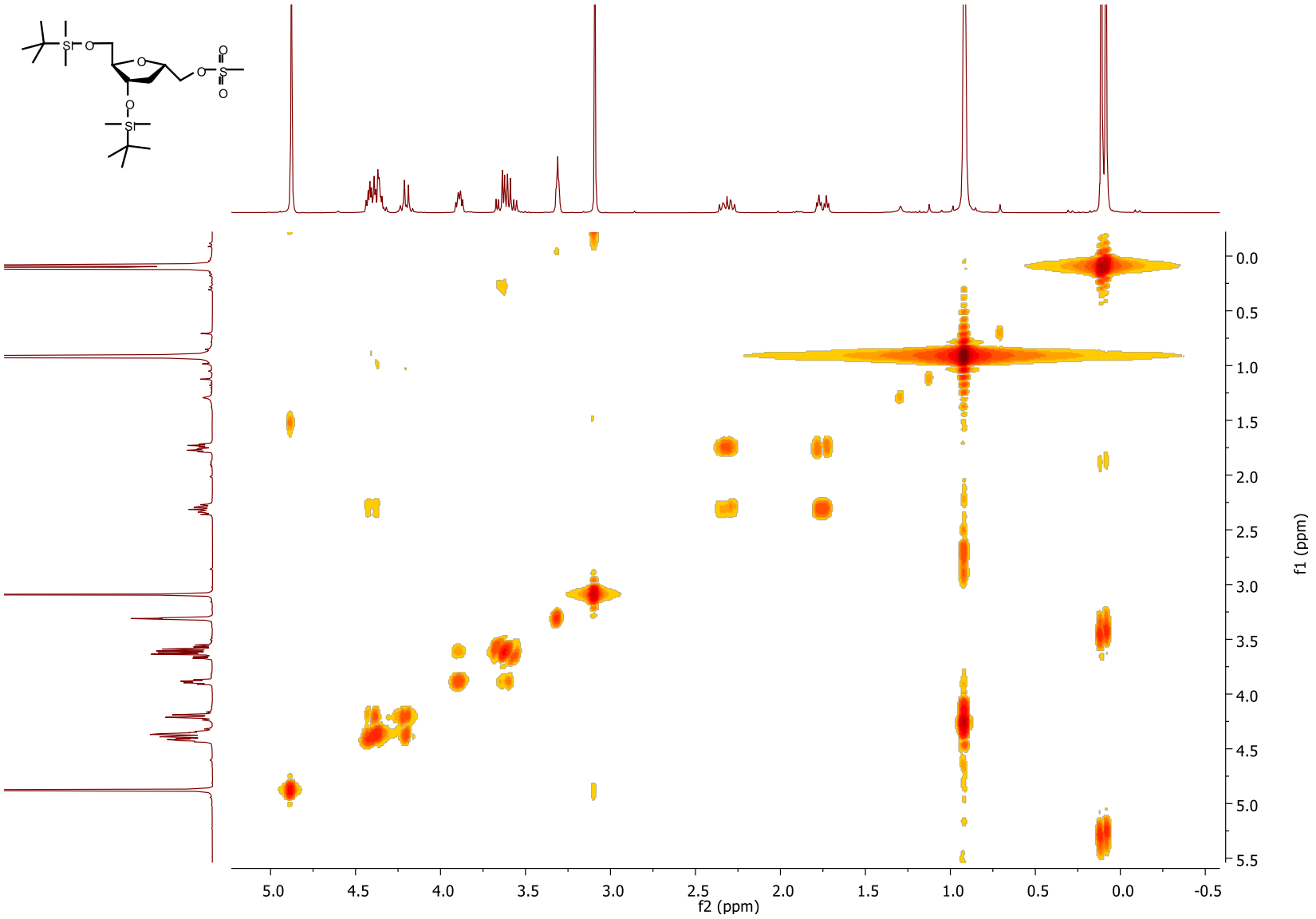


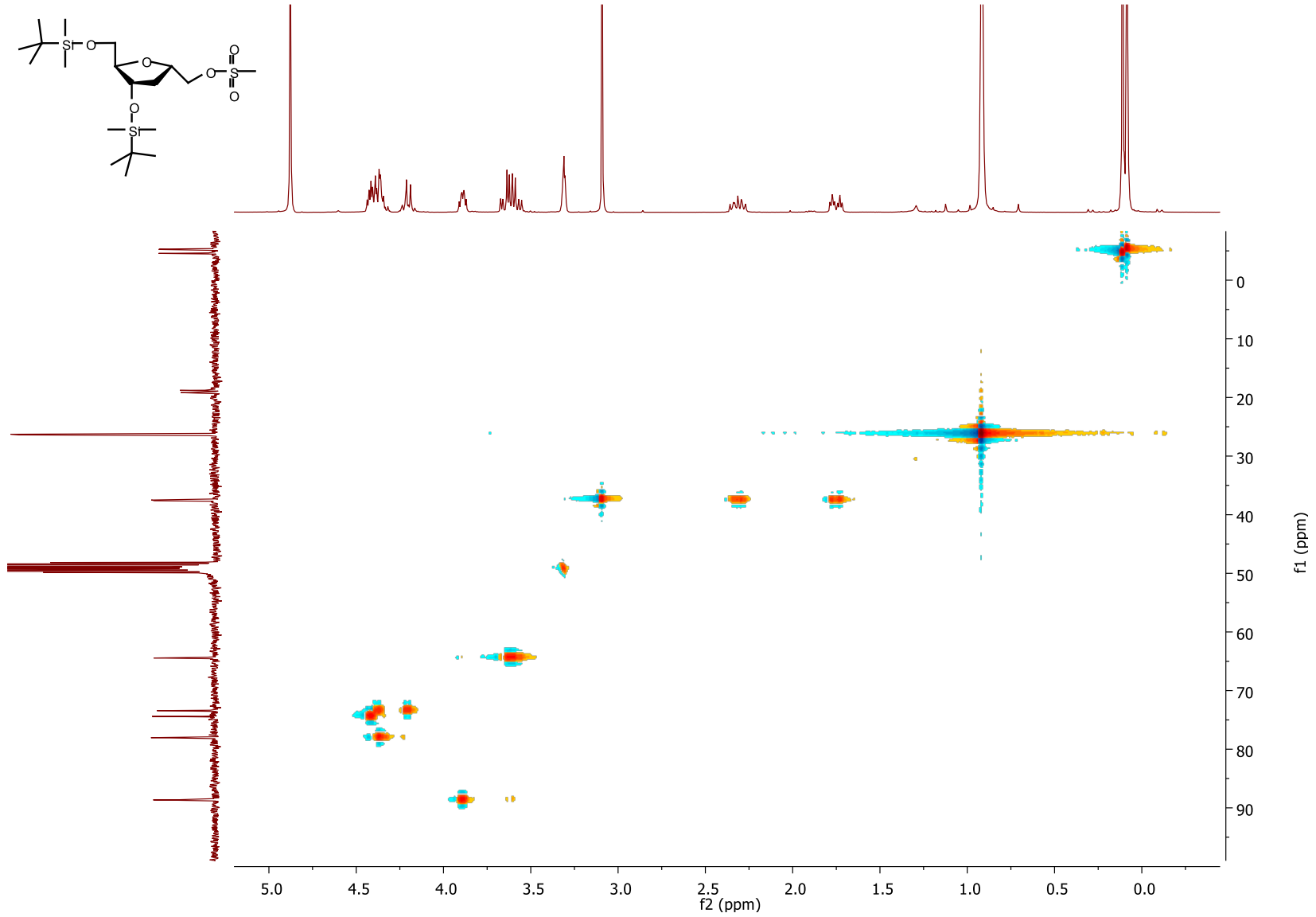
DEPT NMR (75.5 MHz, MeOH-d_4)



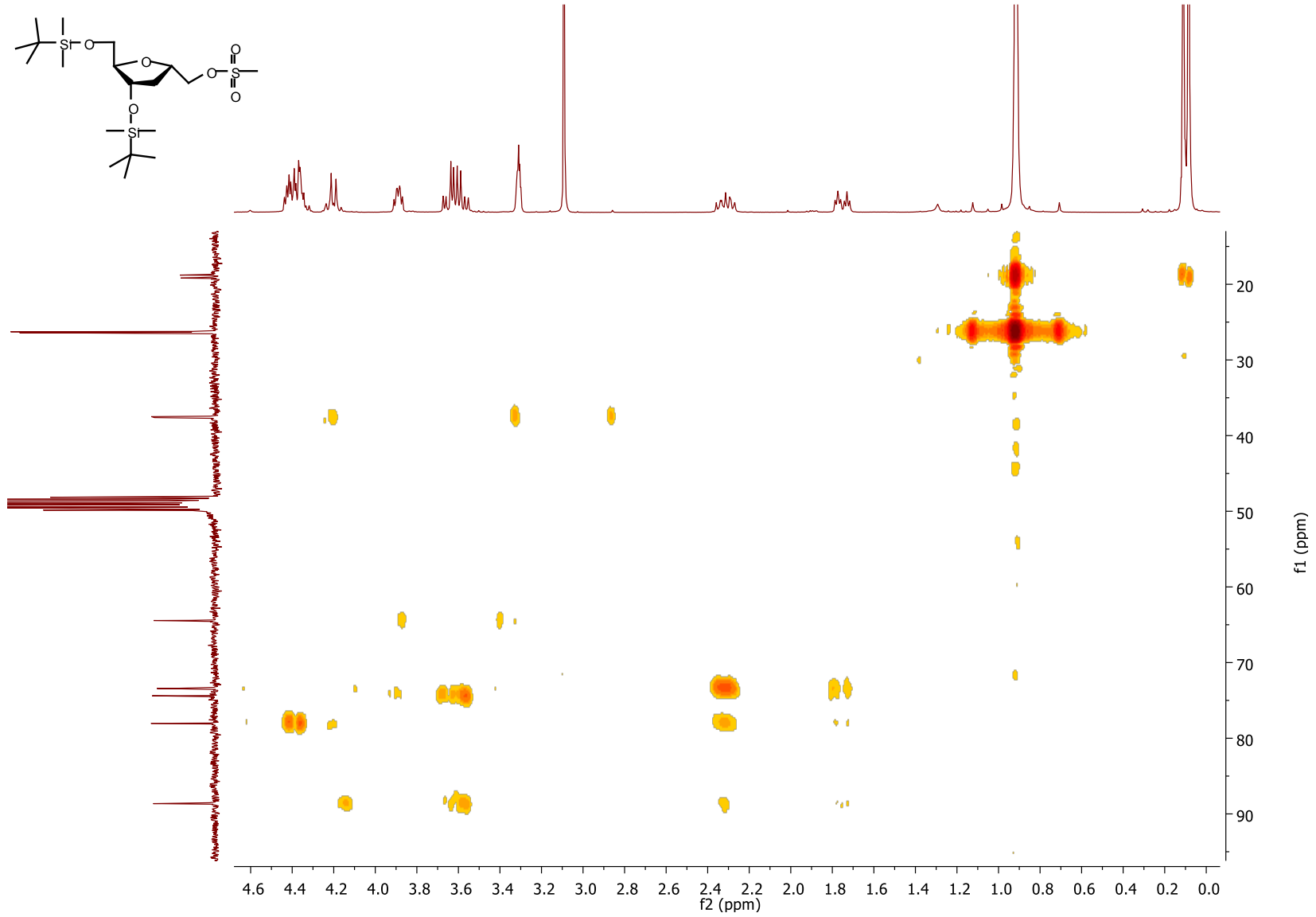
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

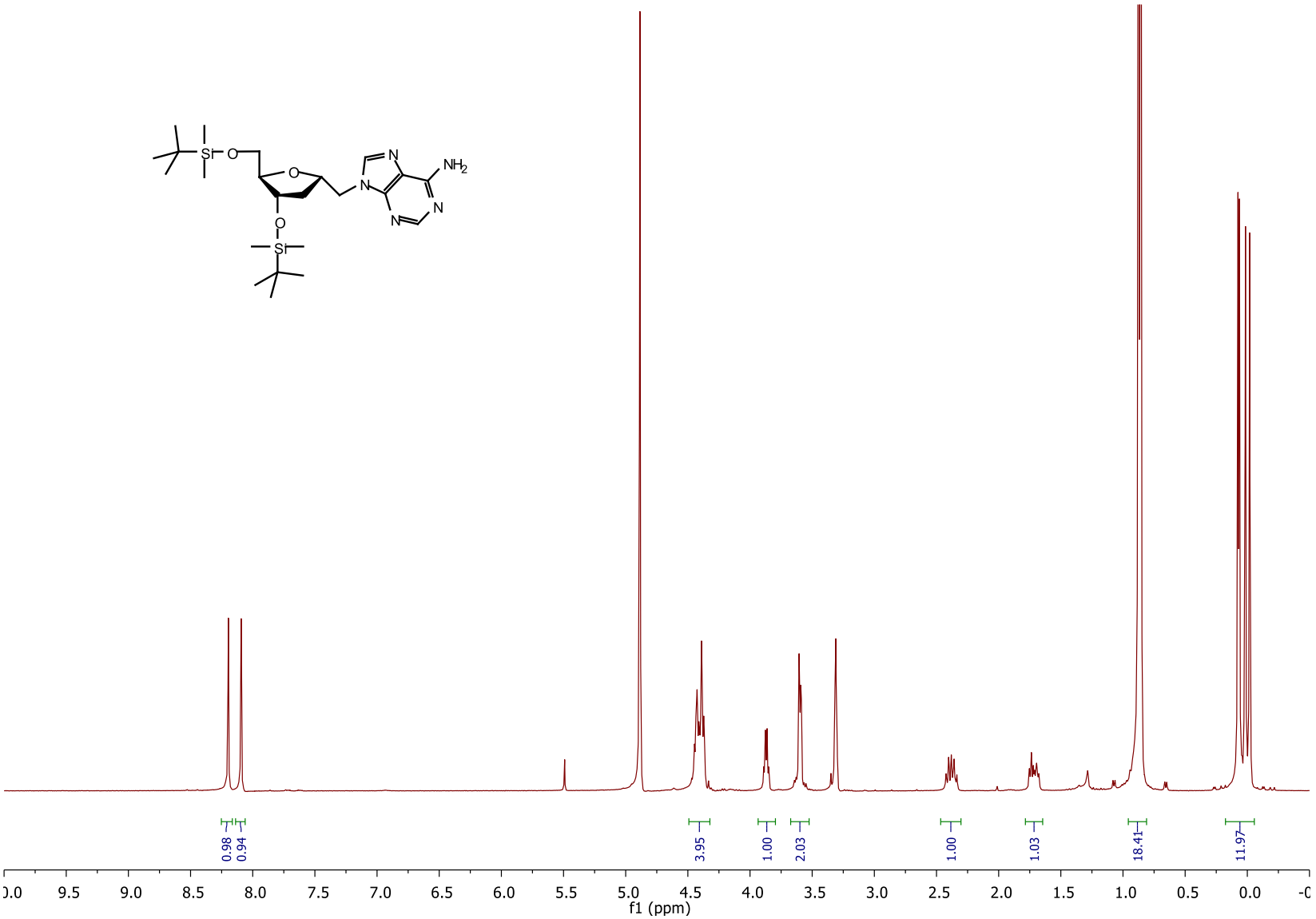


HMBC NMR (MeOH-d_4)



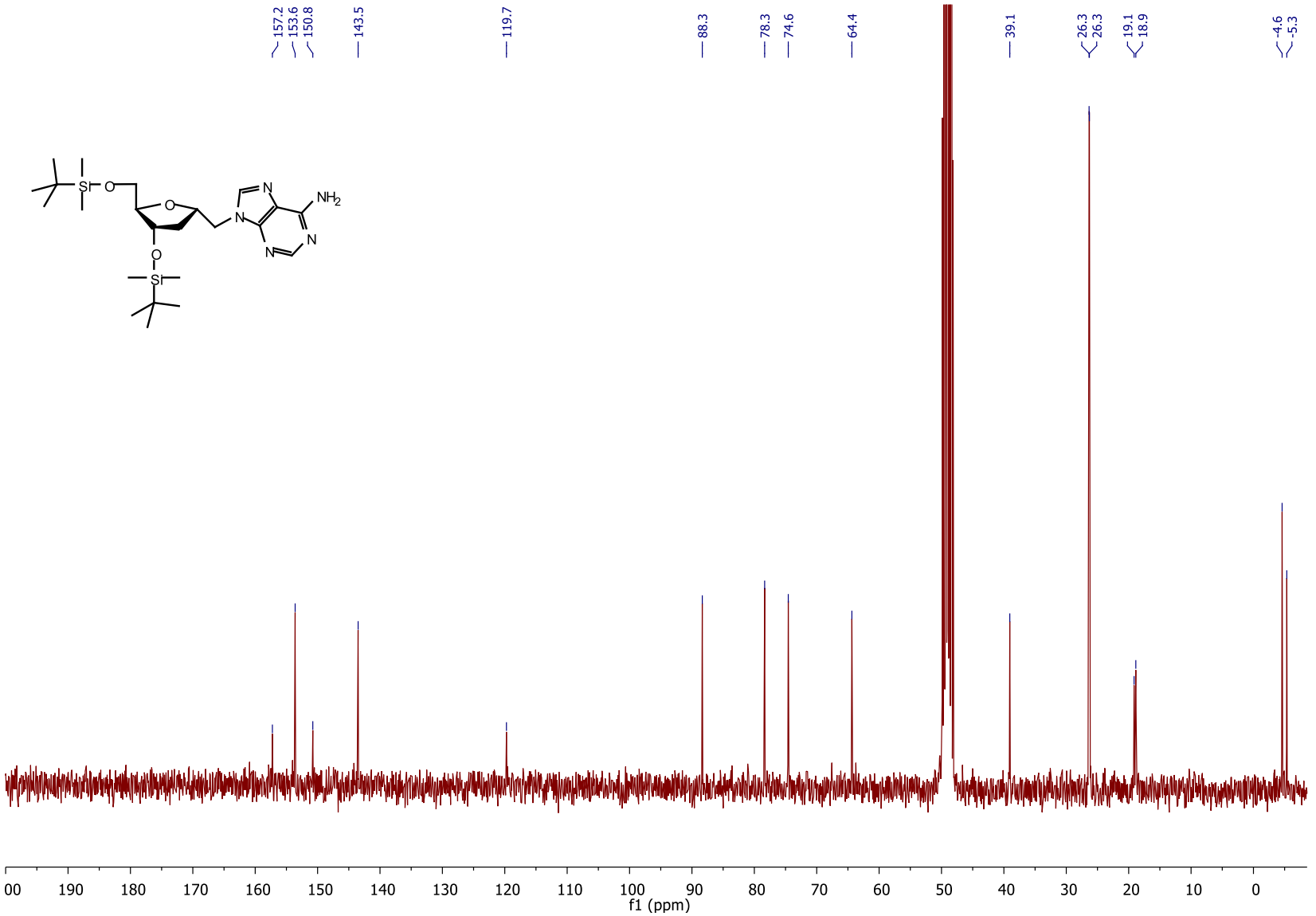
3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-2'-deoxy-α-adenosine (17a)

^{1}H NMR (300.13 MHz, MeOH-d_4)

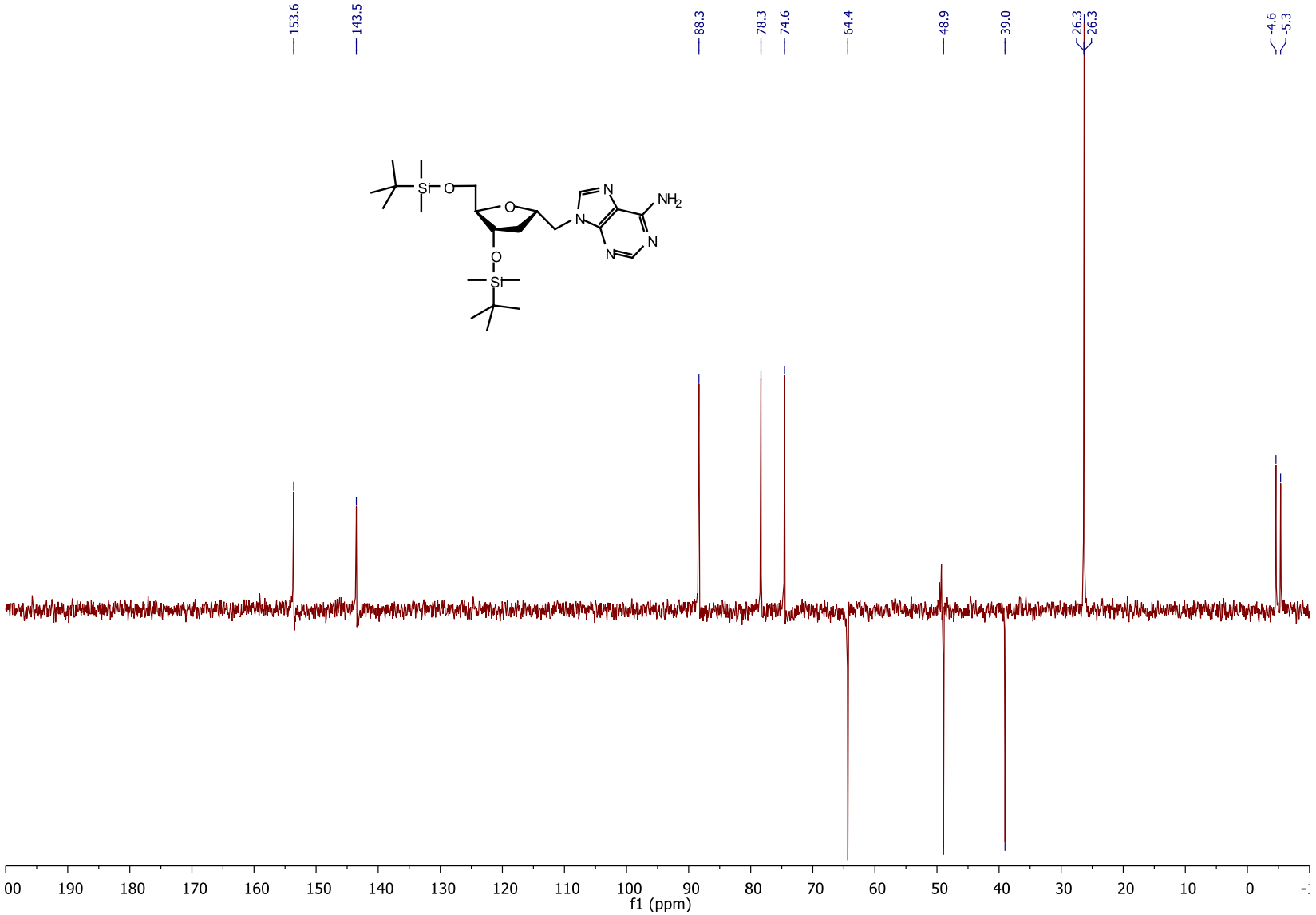


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-2'-deoxy-α-adenosine (17a)

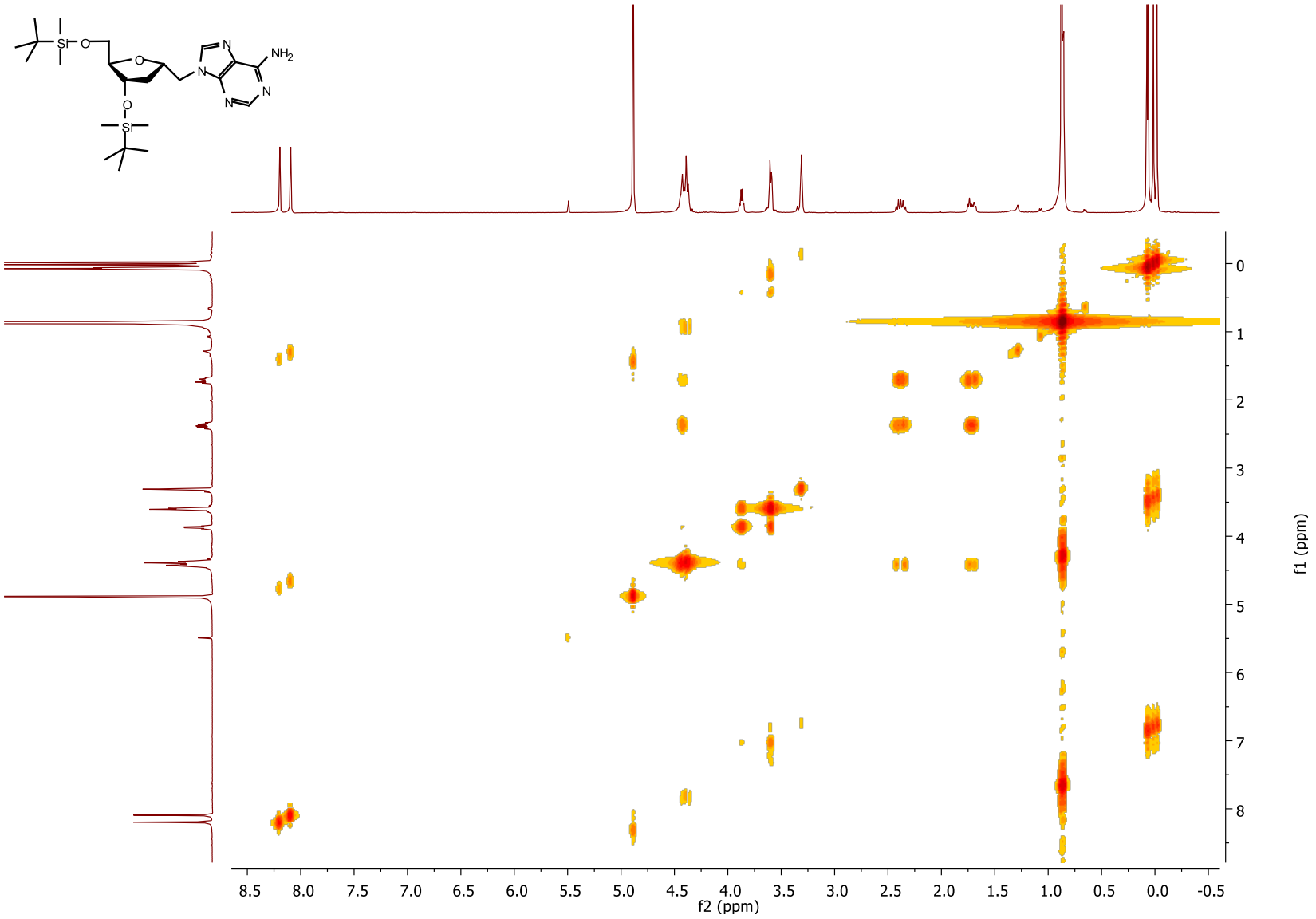
^{13}C NMR (75.5 MHz, MeOH-d_4)



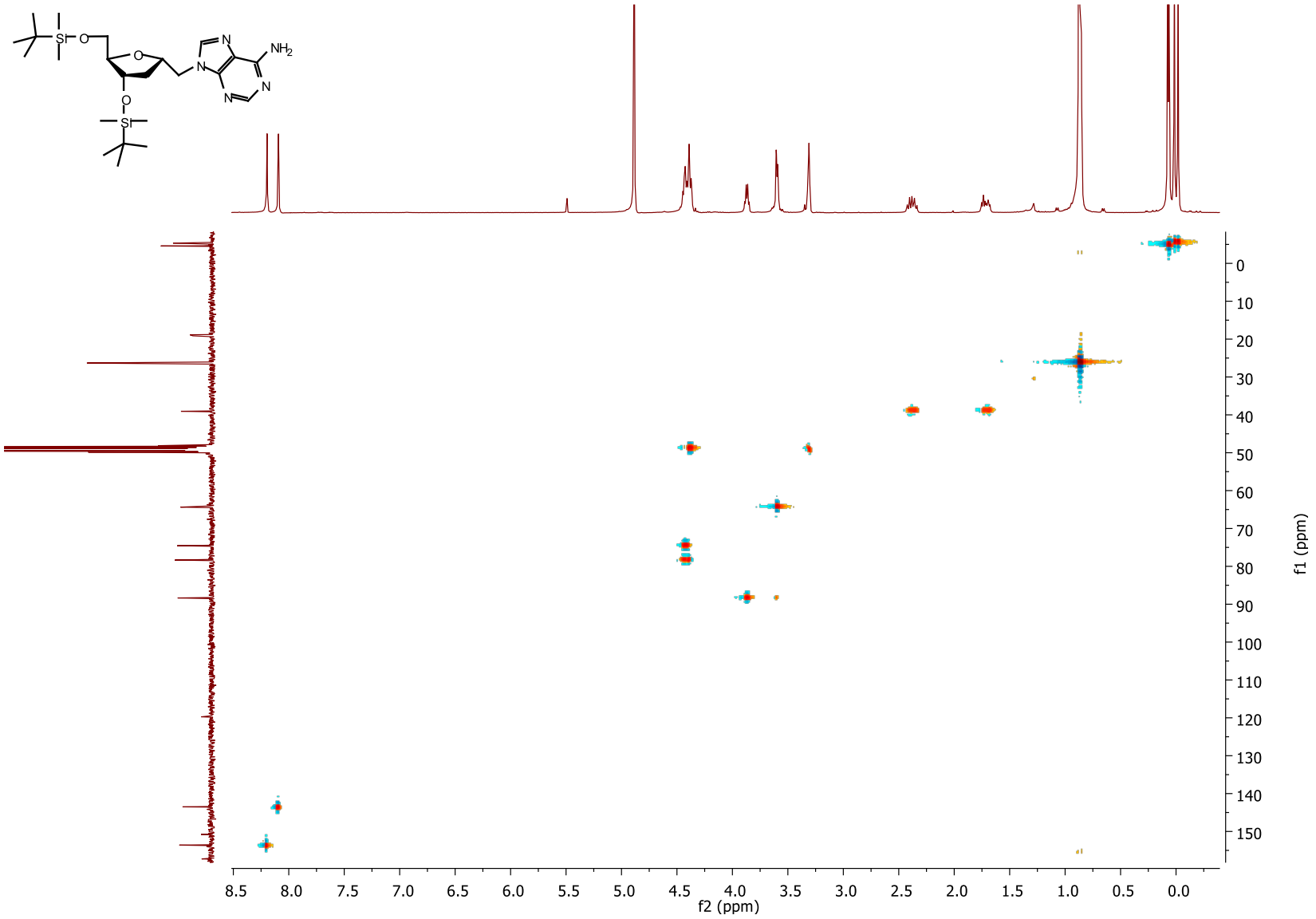
DEPT NMR (75.5 MHz, MeOH-d_4)



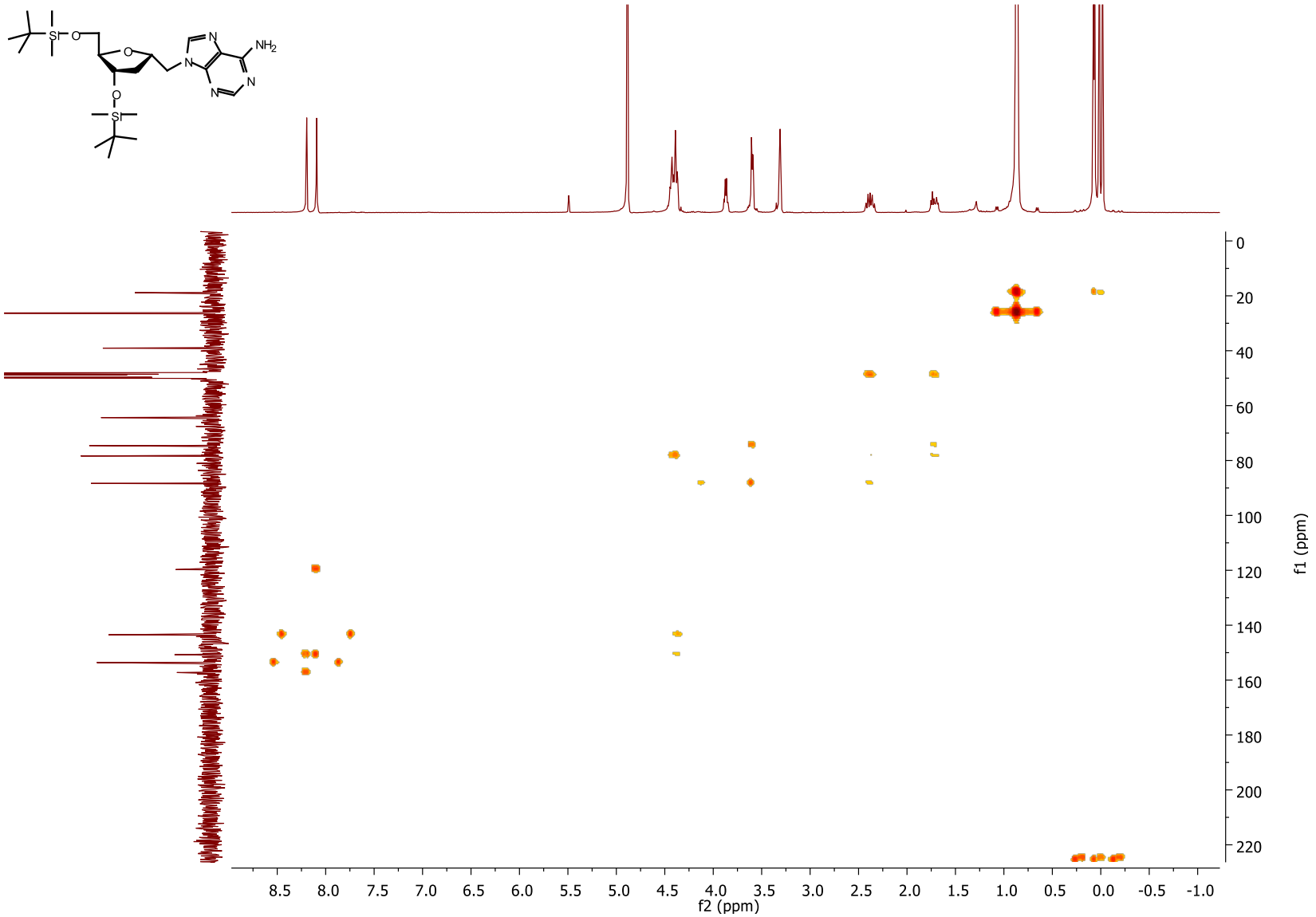
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

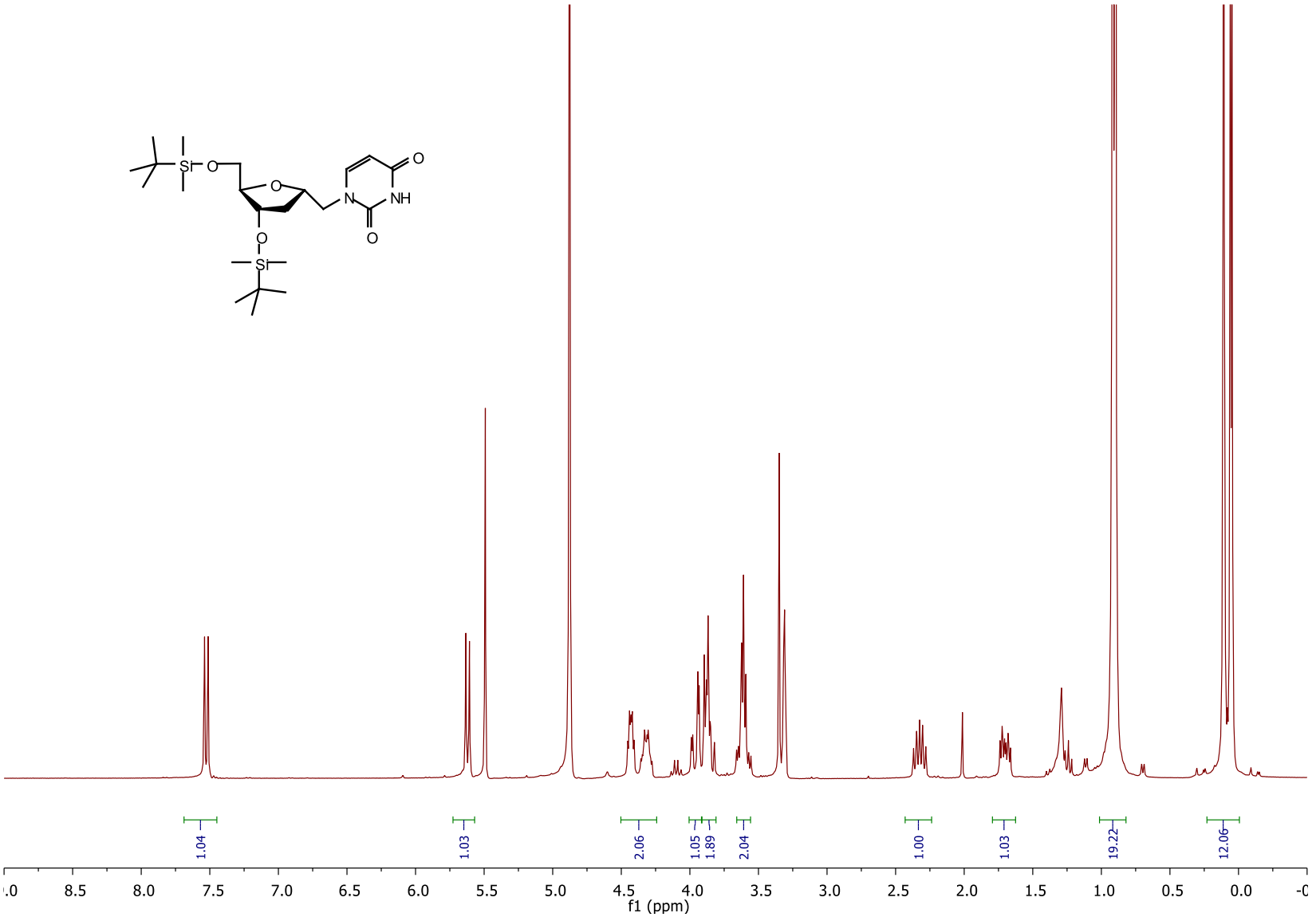


HMBC NMR (MeOH-d_4)

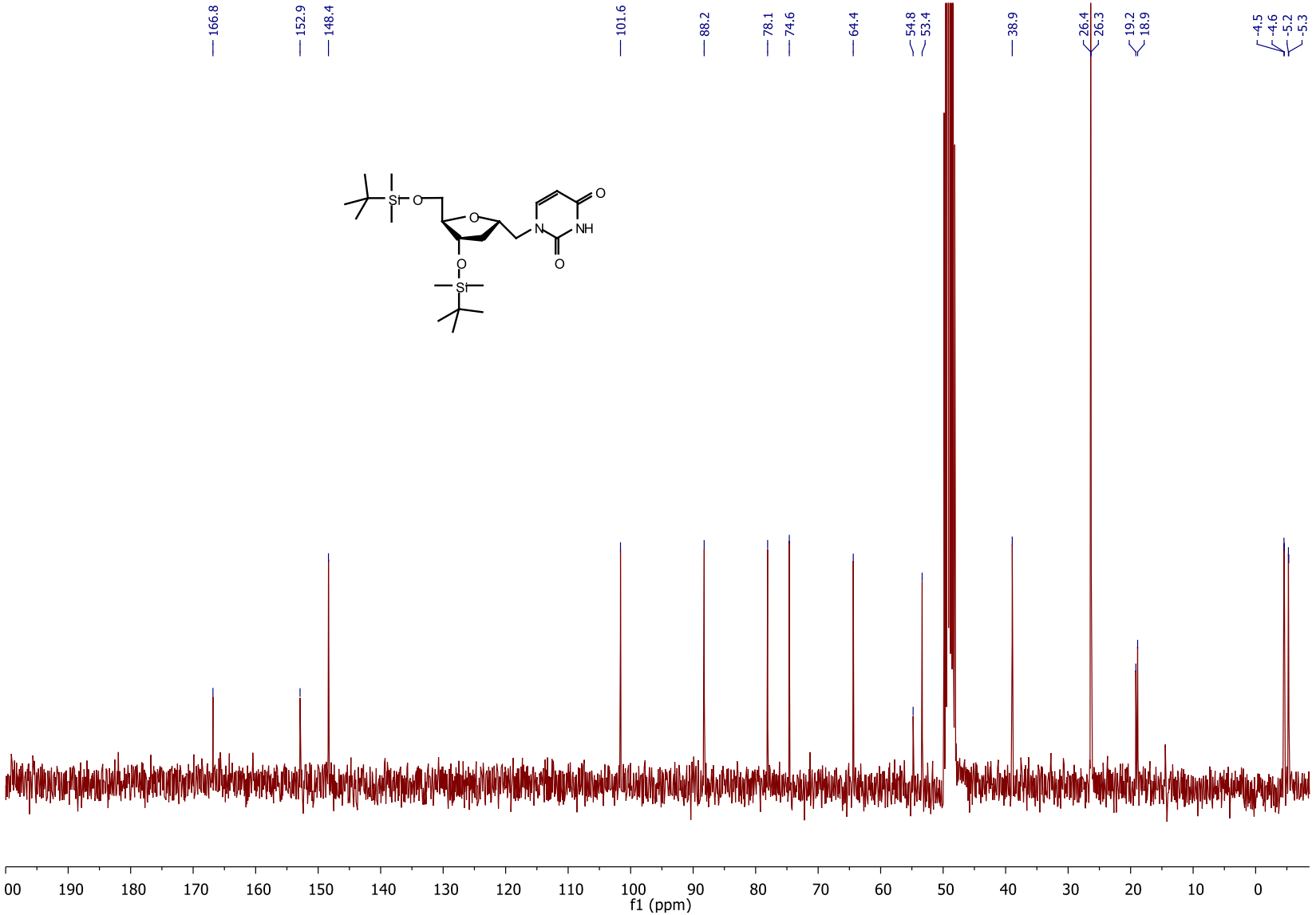


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-2'-deoxy-α-uridine (17b)

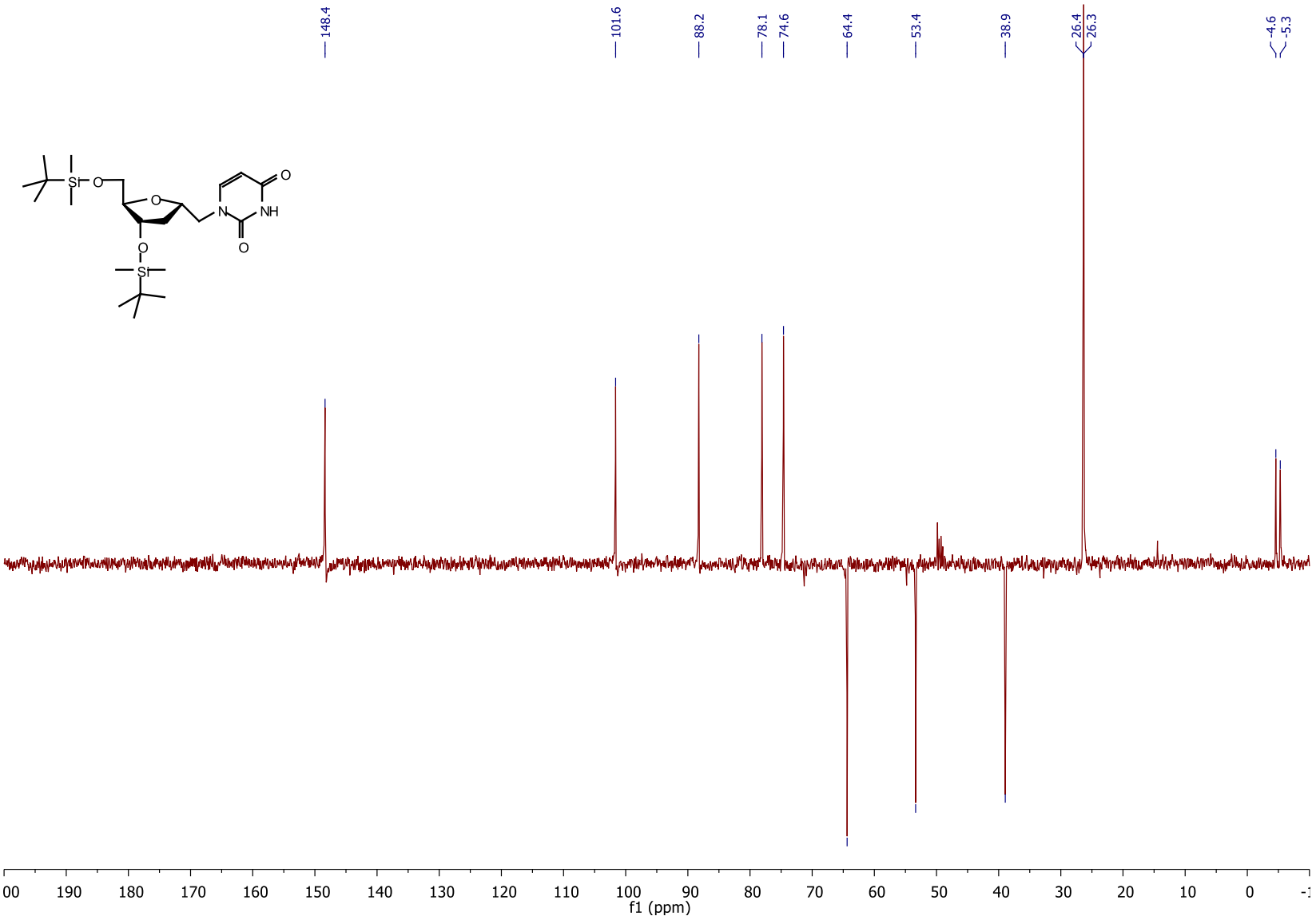
^{1}H NMR (300.13 MHz, MeOH-d_4)



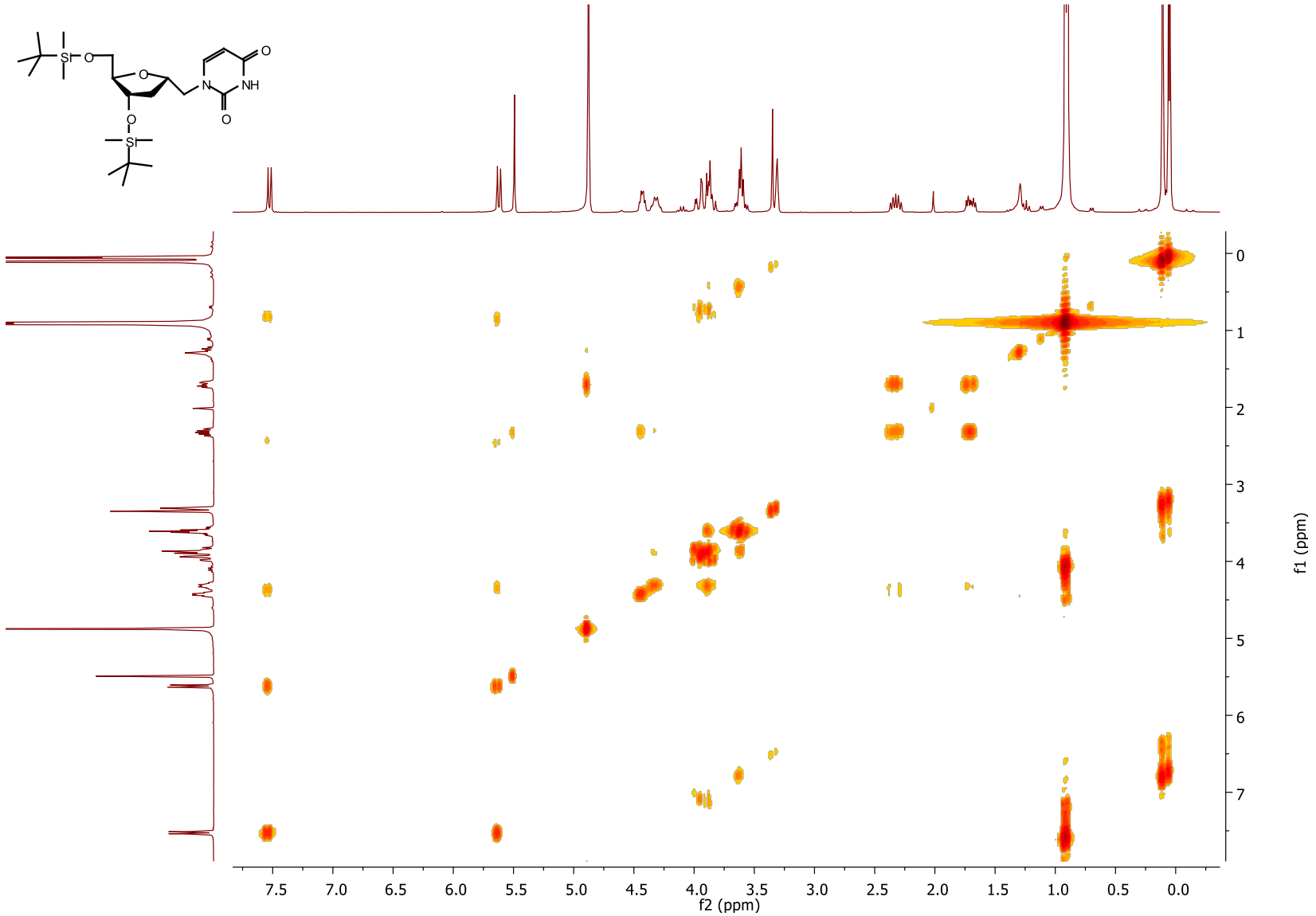
^{13}C NMR (75.5 MHz, MeOH-d_4)



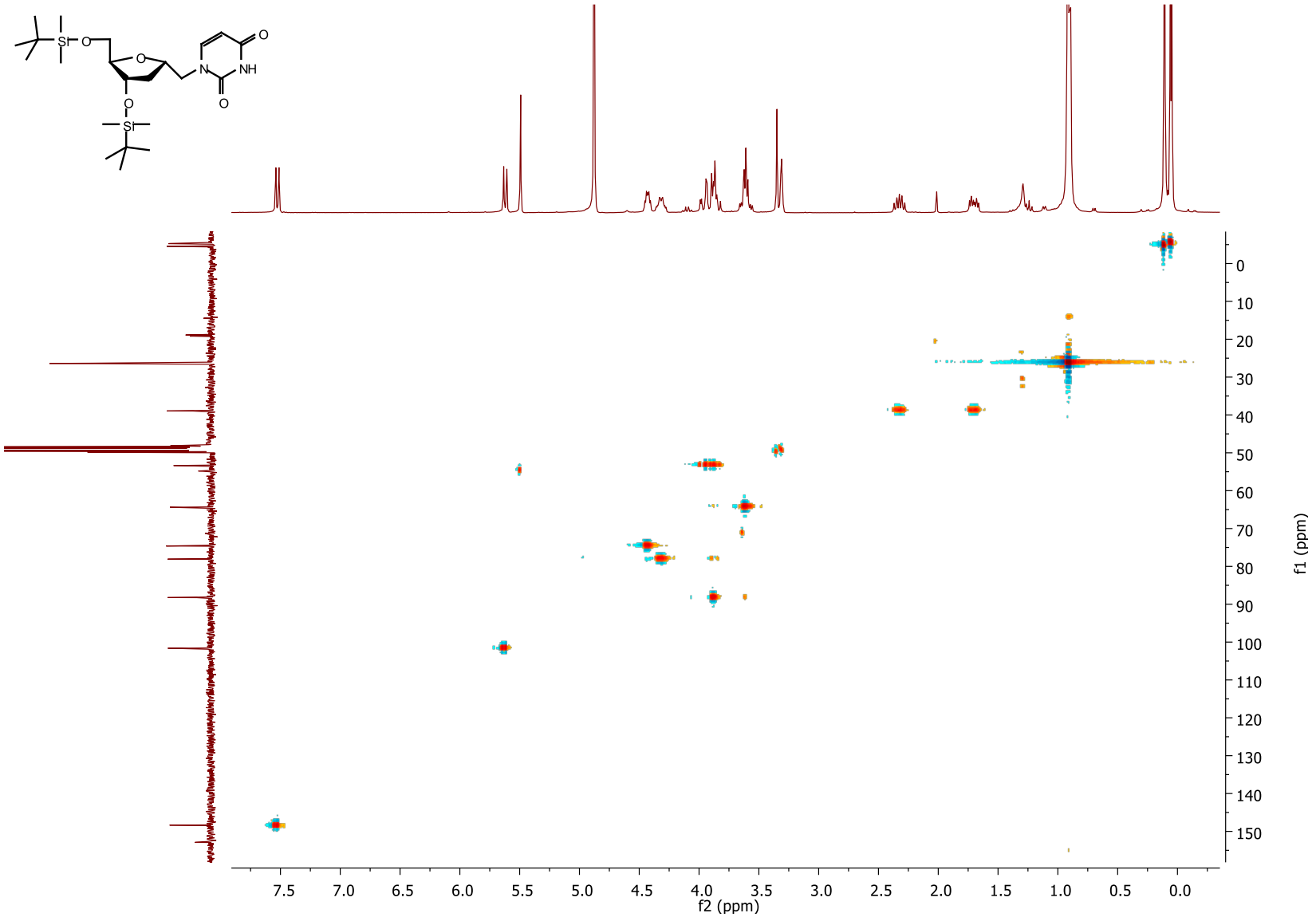
DEPT NMR (75.5 MHz, MeOH-d_4)



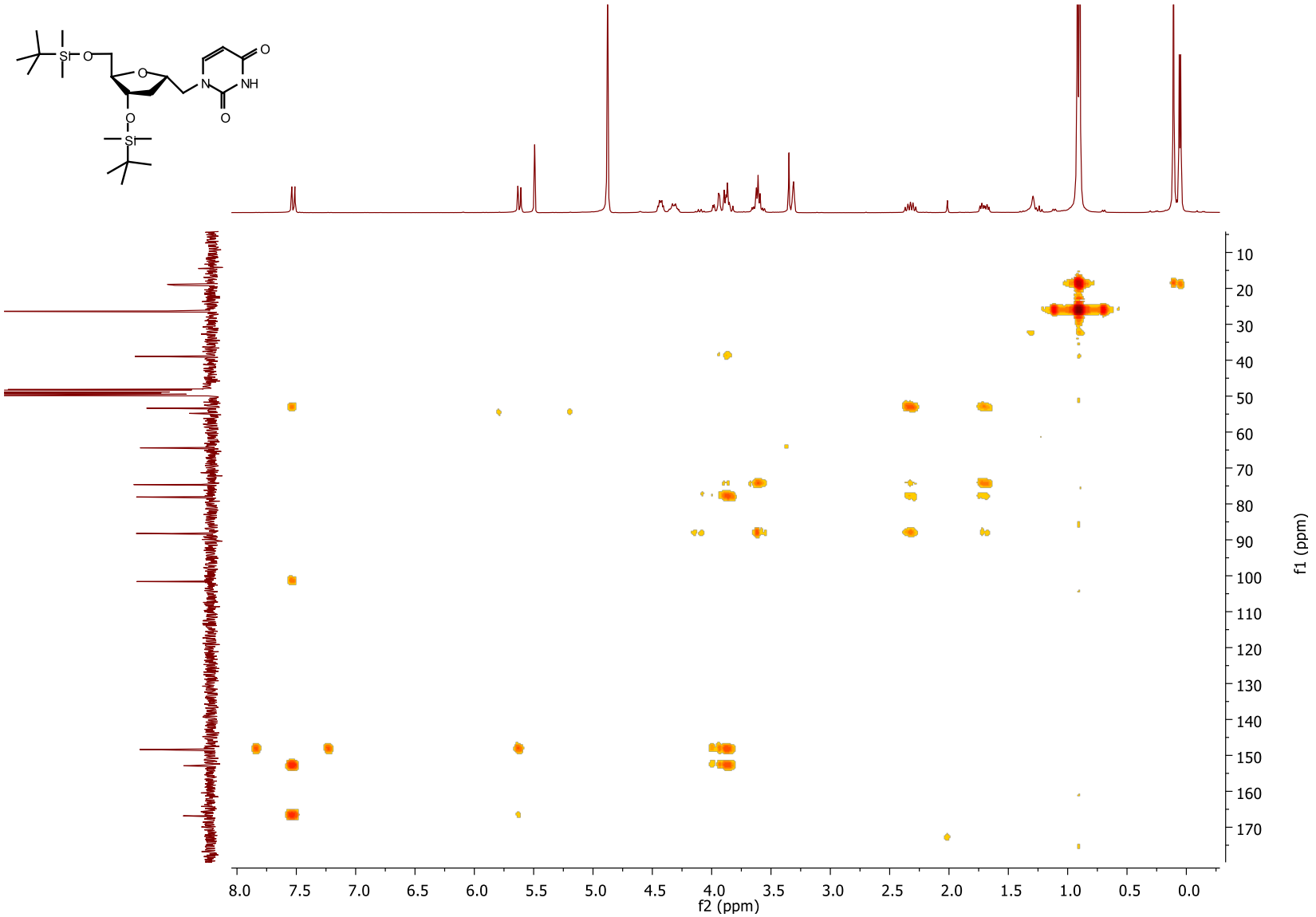
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

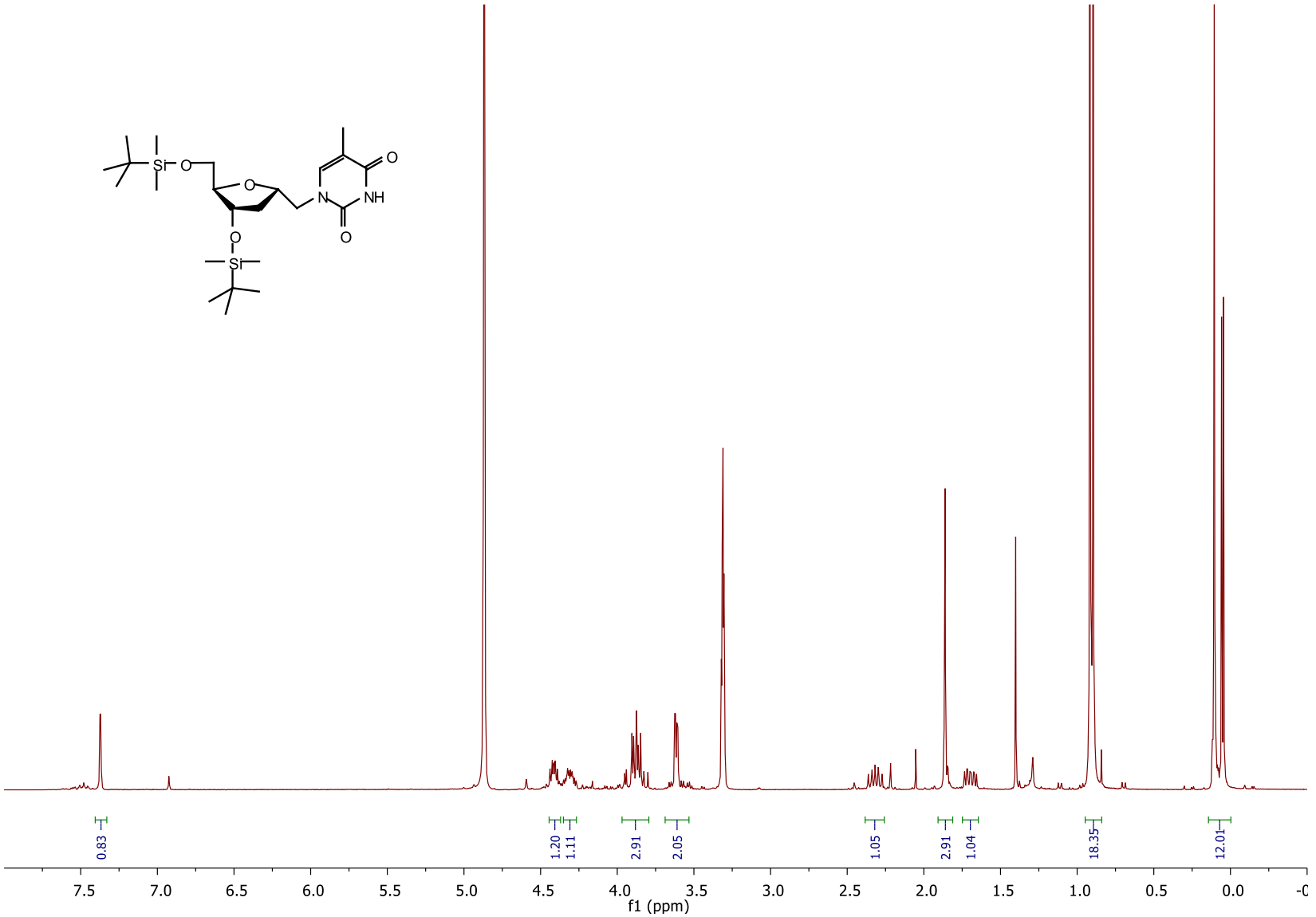


HMBC NMR (MeOH-d_4)

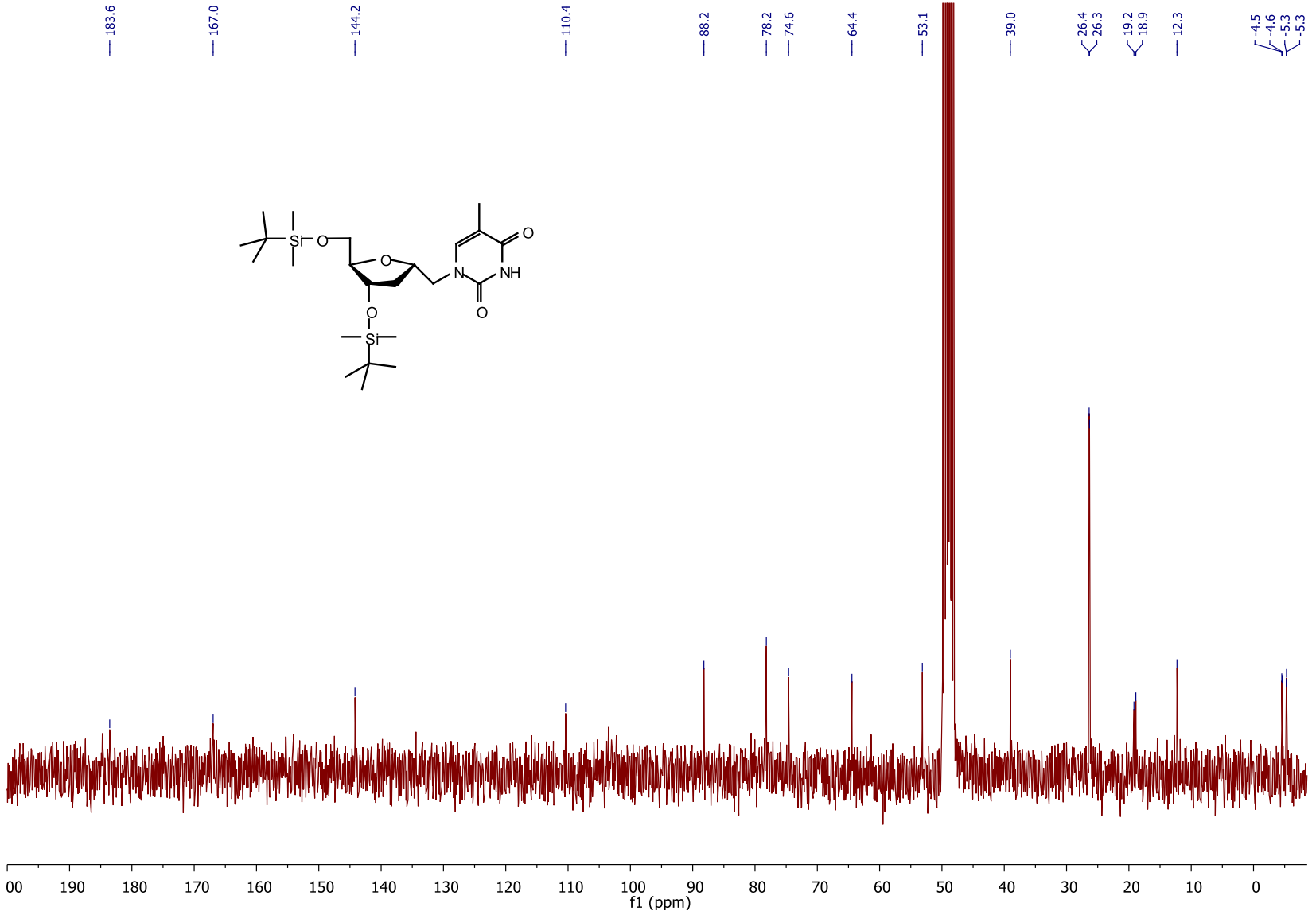


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-α-thymidine (17c)

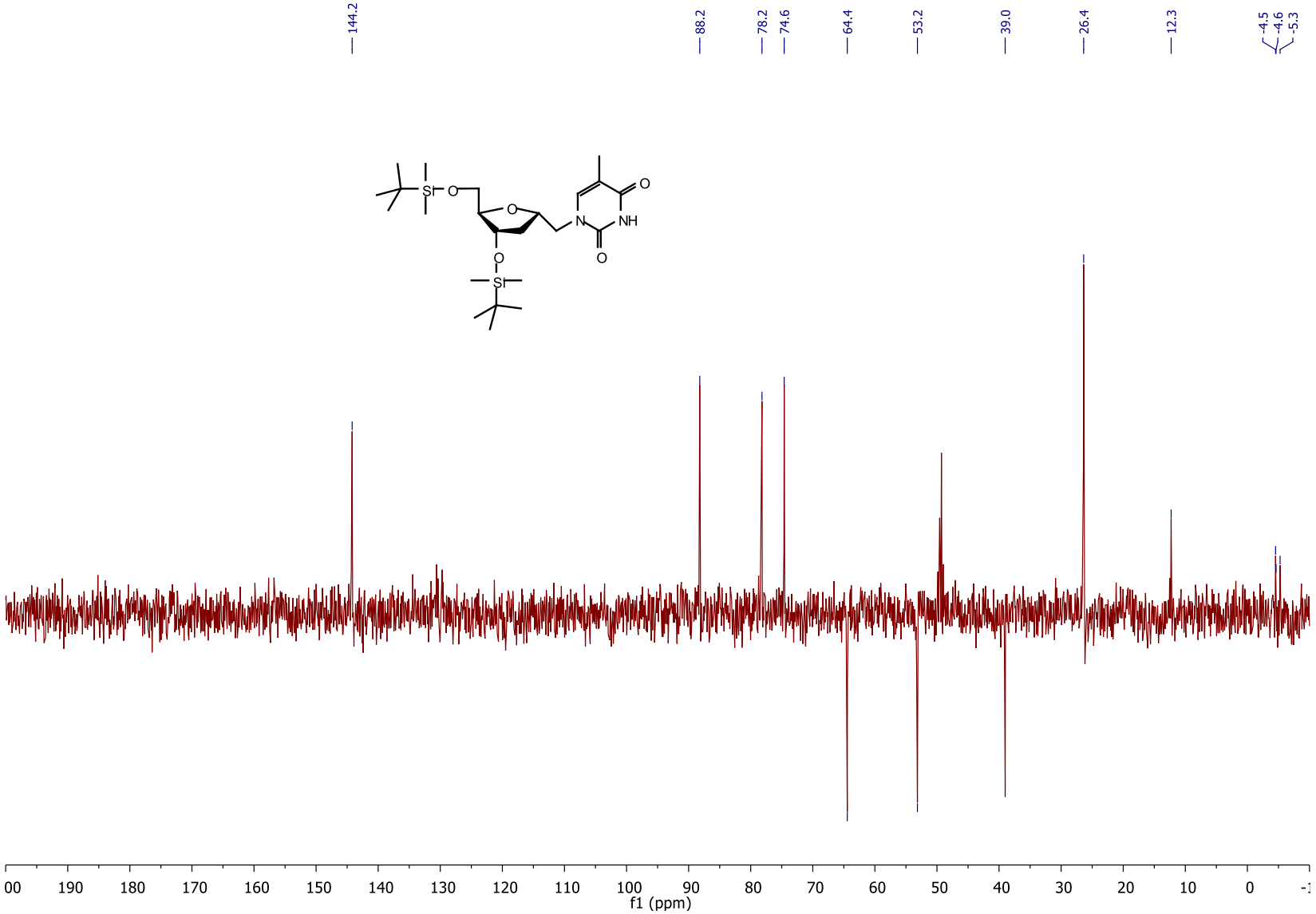
^{1}H NMR (300.13 MHz, MeOH-d_4)



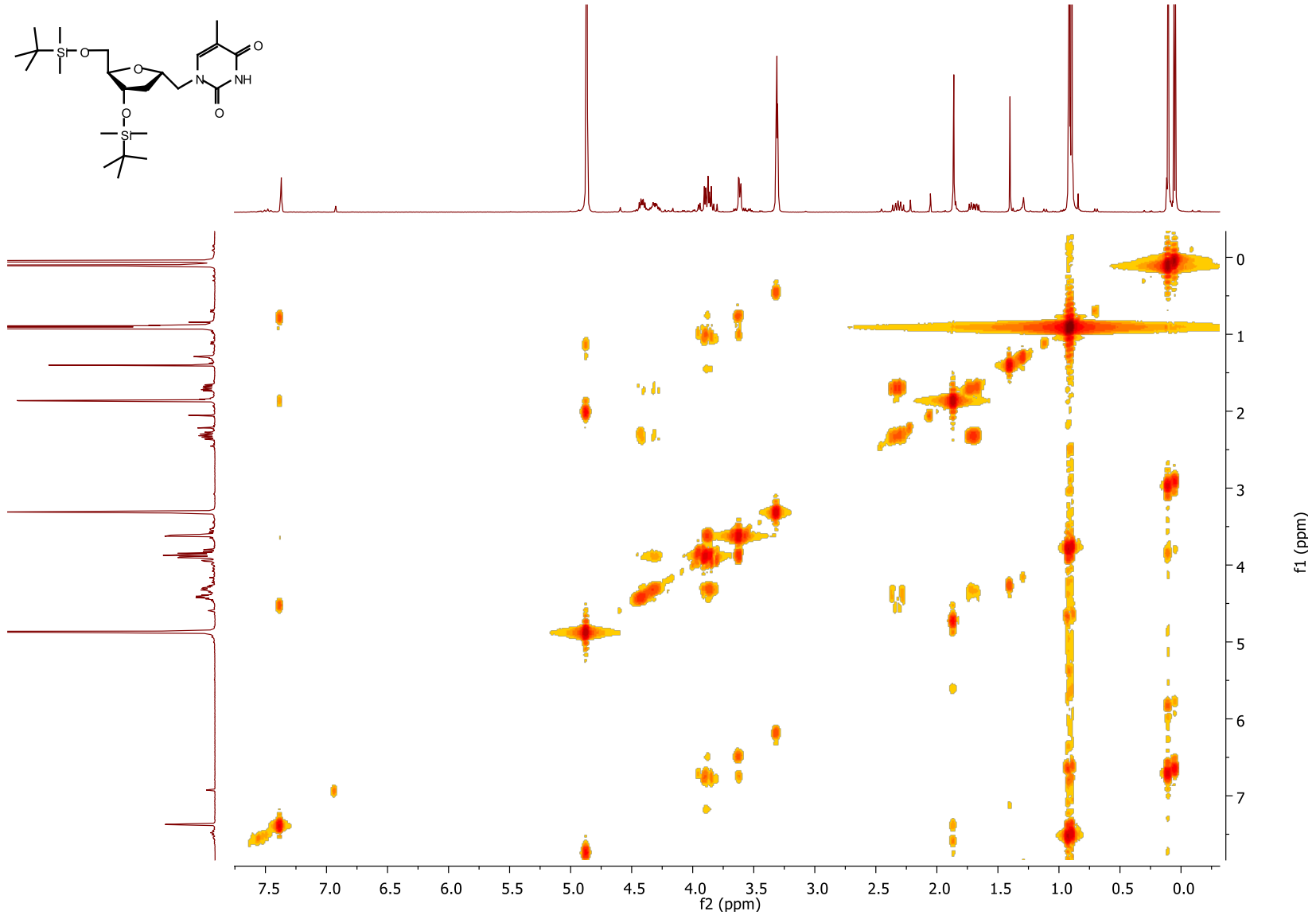
^{13}C NMR (75.5 MHz, MeOH-d_4)



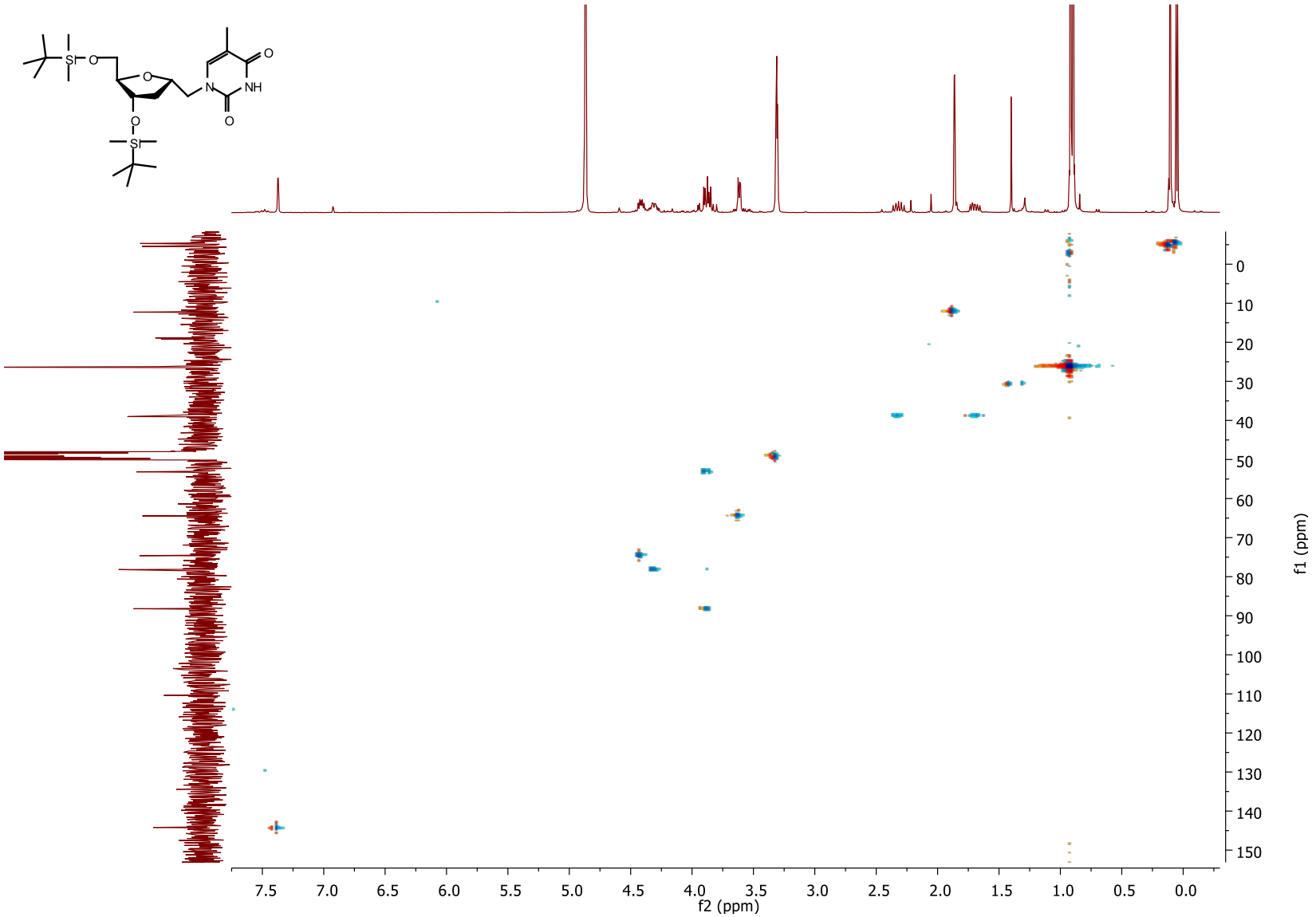
DEPT NMR (75.5 MHz, MeOH-d_4)



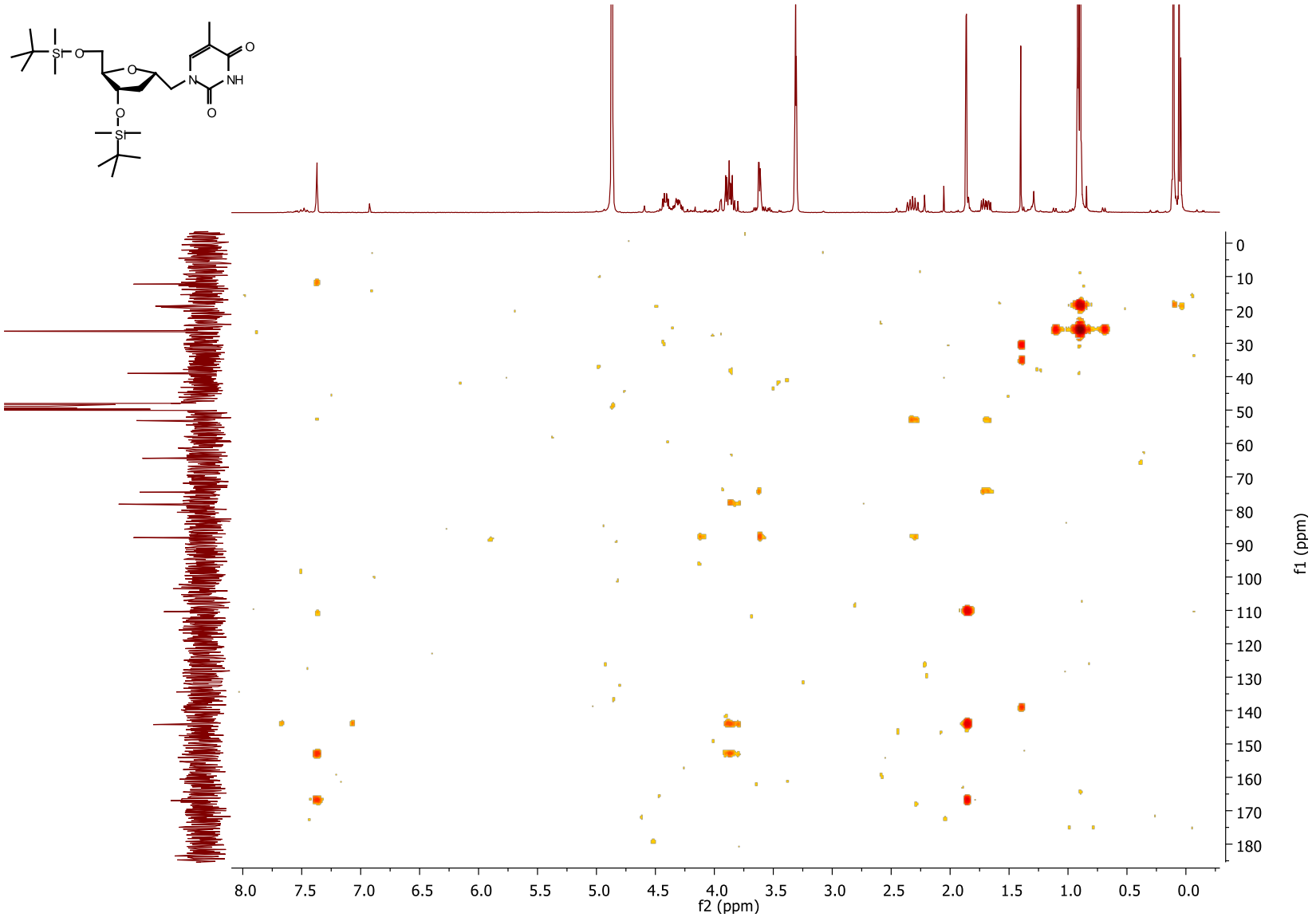
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

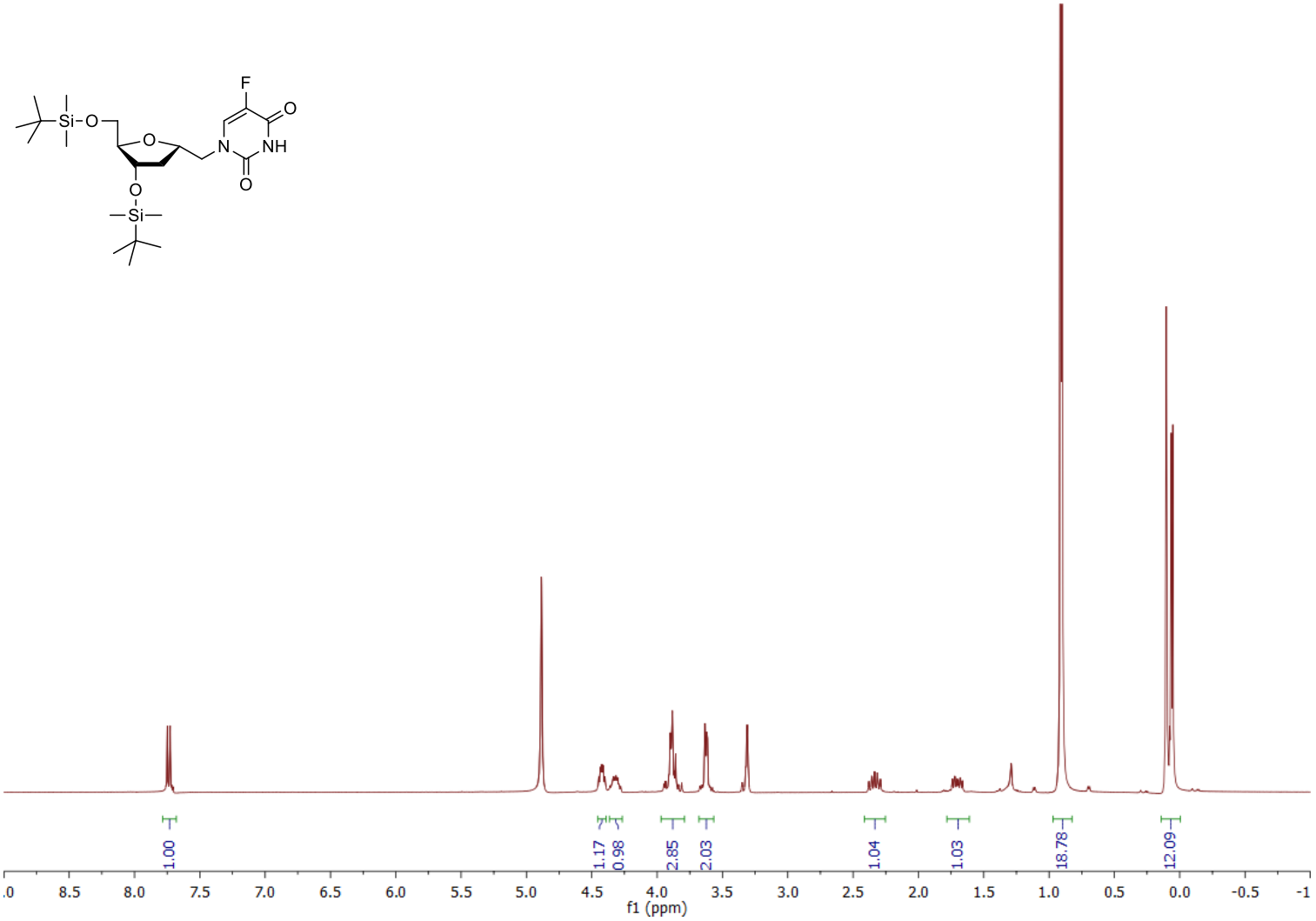


HMBC NMR (MeOH-d_4)

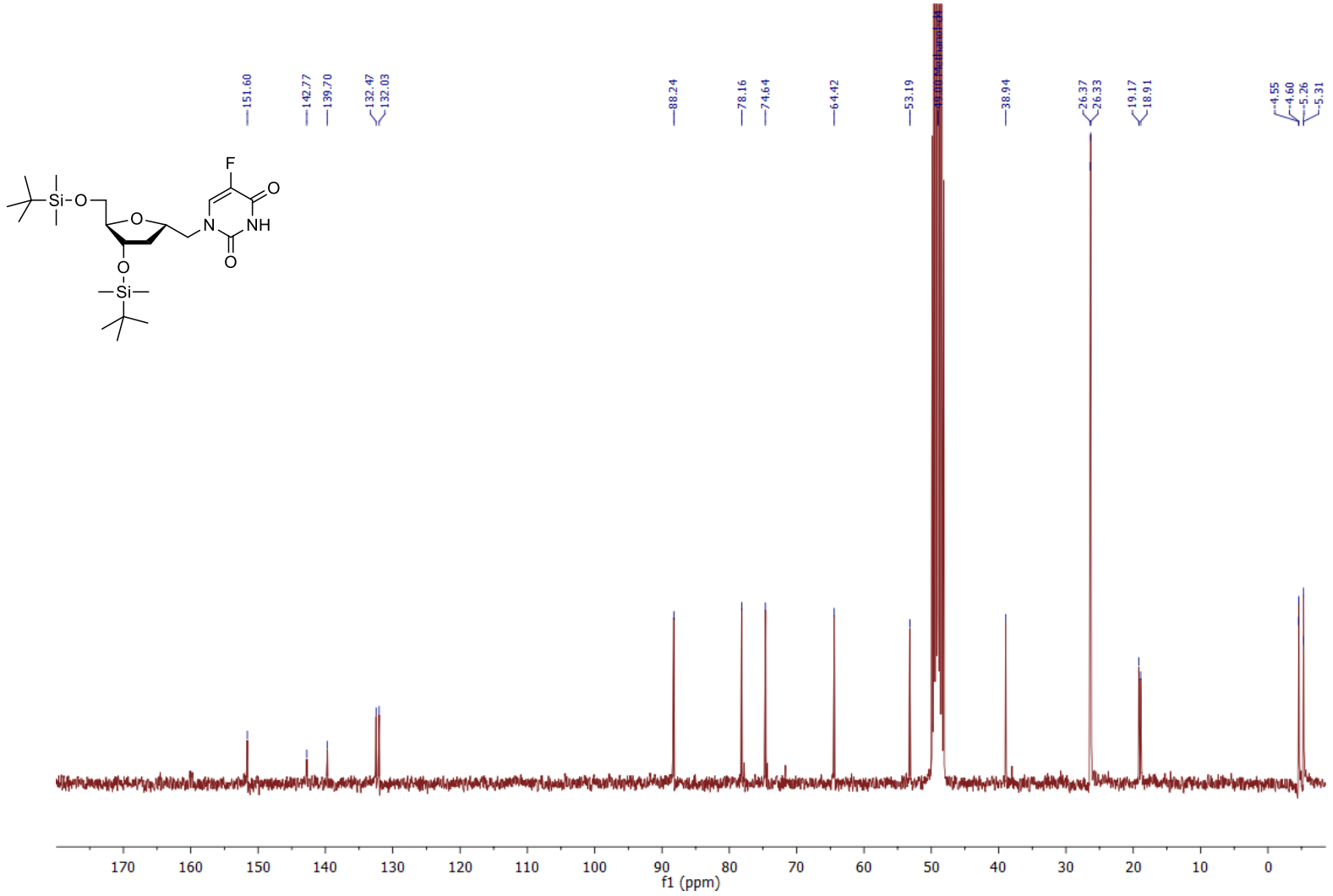


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-2'-deoxy-α-5-fluorouridine (17d)

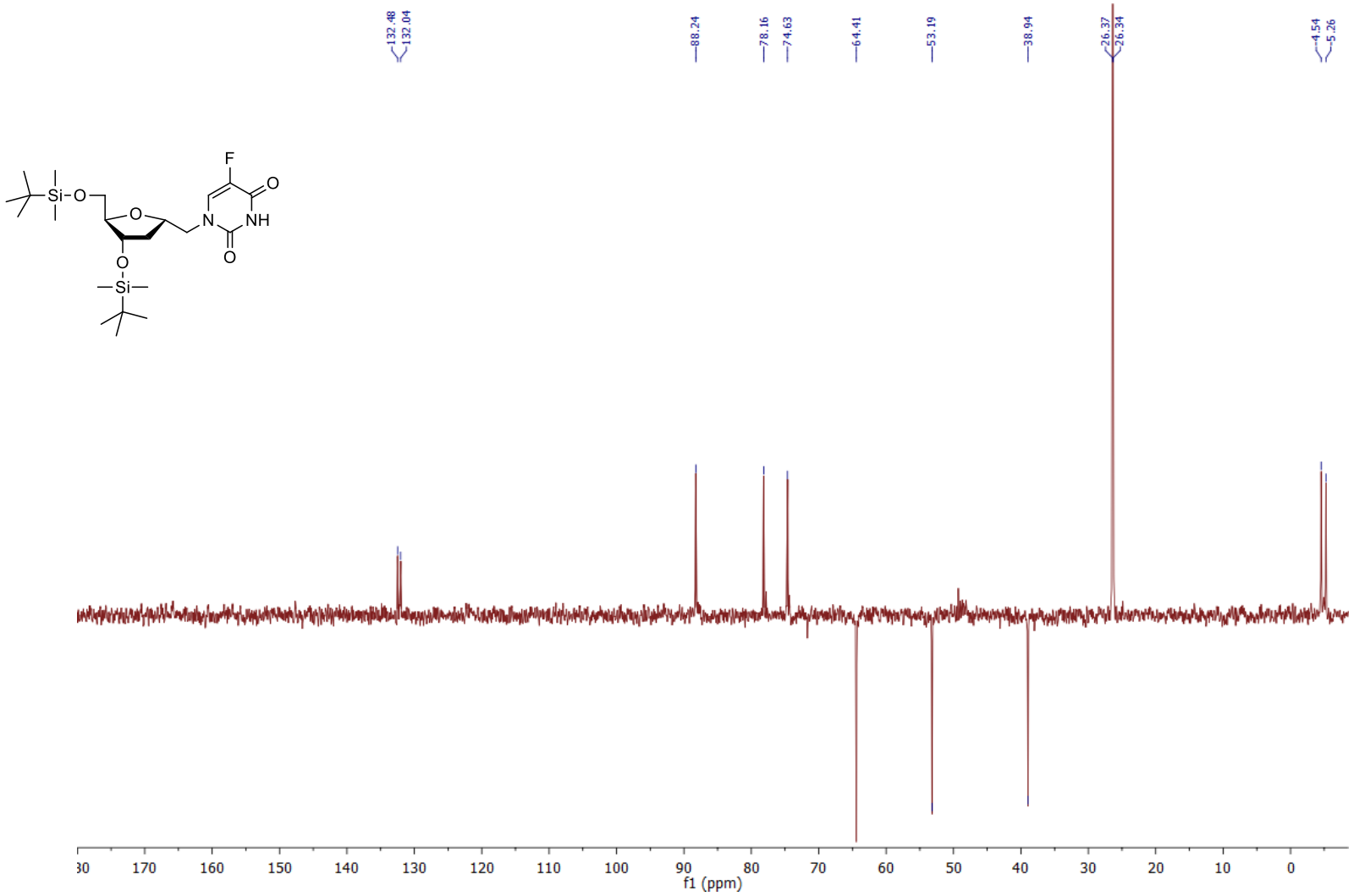
^{1}H NMR (300.13 MHz, MeOH-d_4)



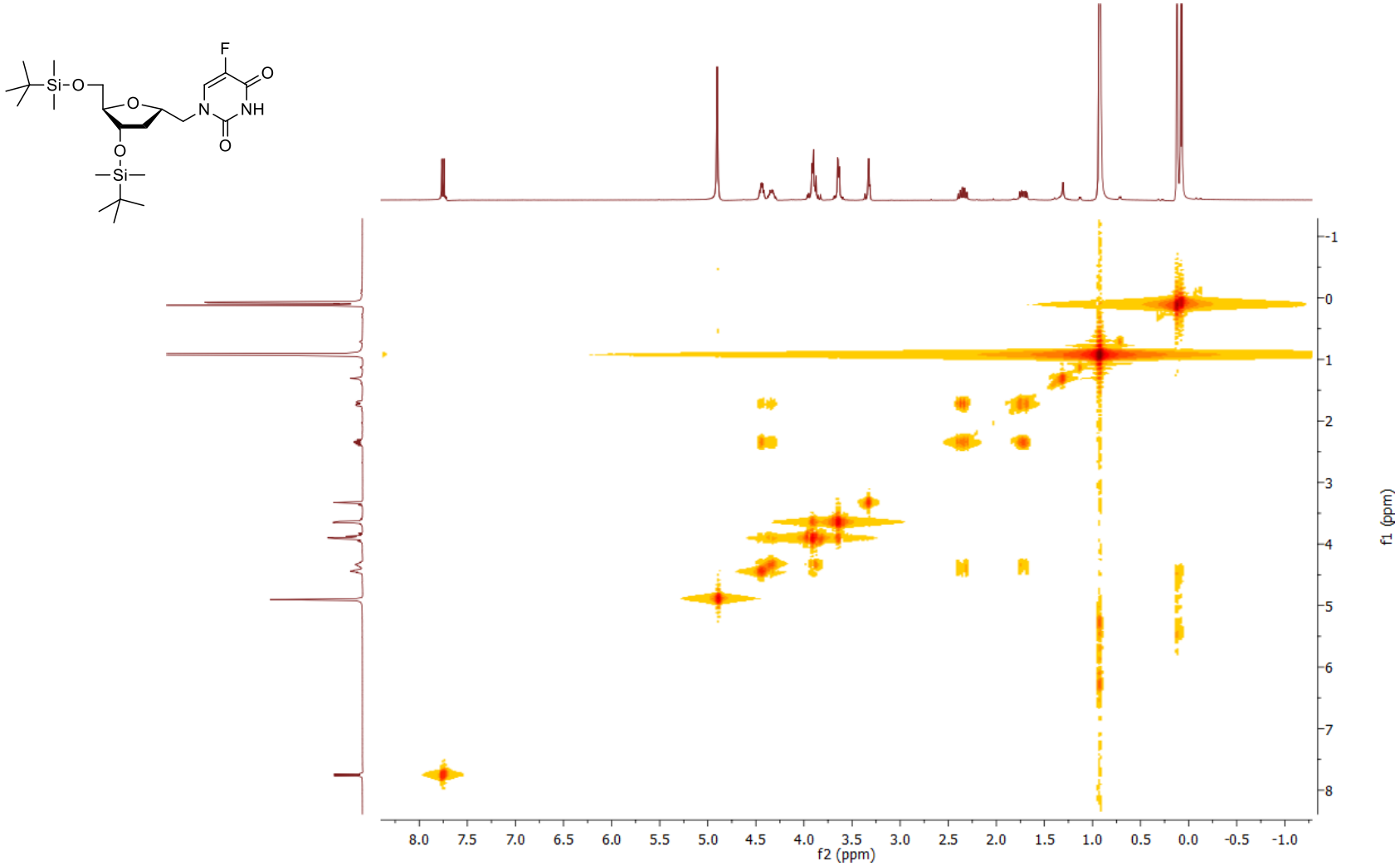
^{13}C NMR (75.5 MHz, MeOH-d_4)



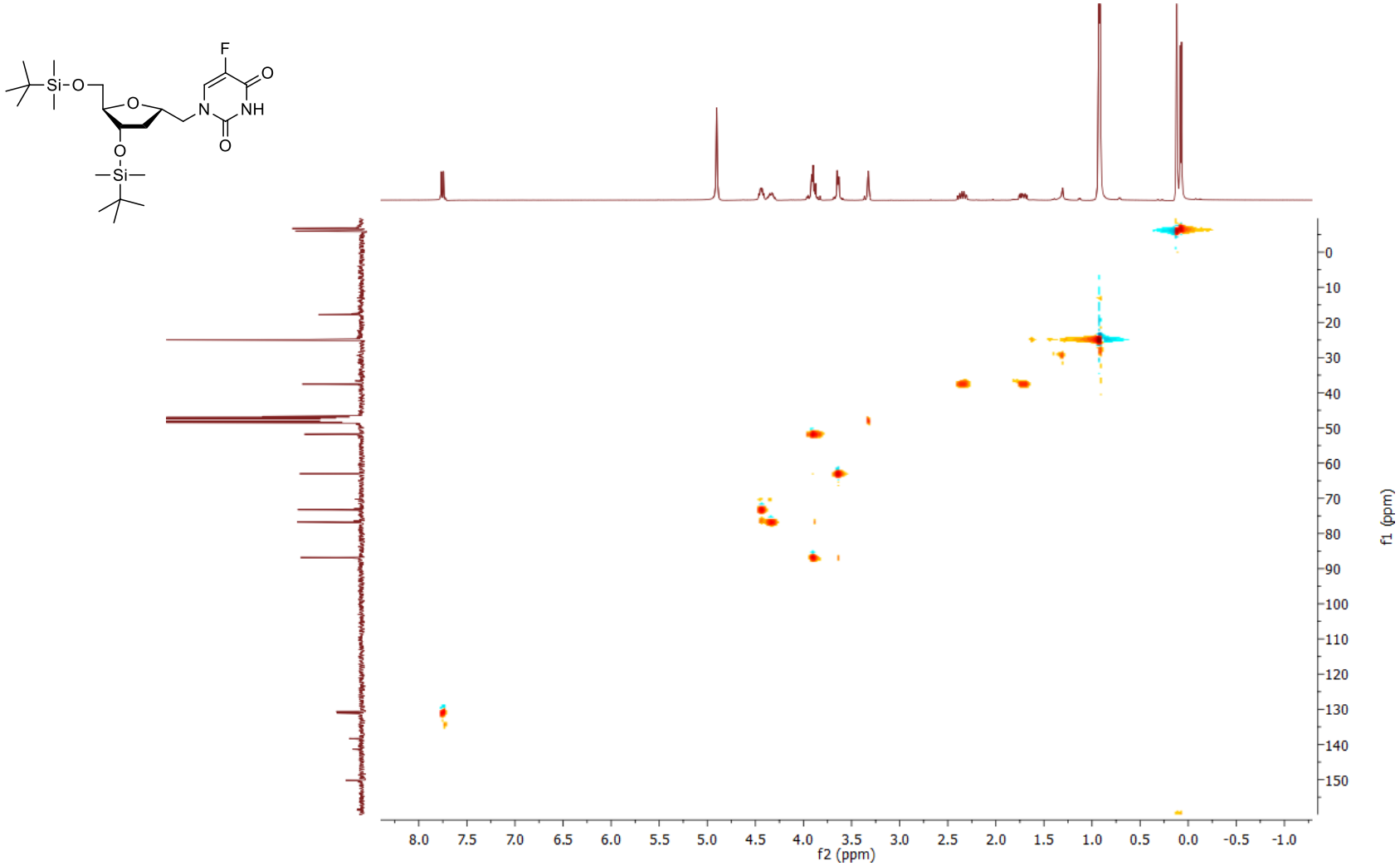
DEPT 135 (75.5 MHz, MeOH-d_4)



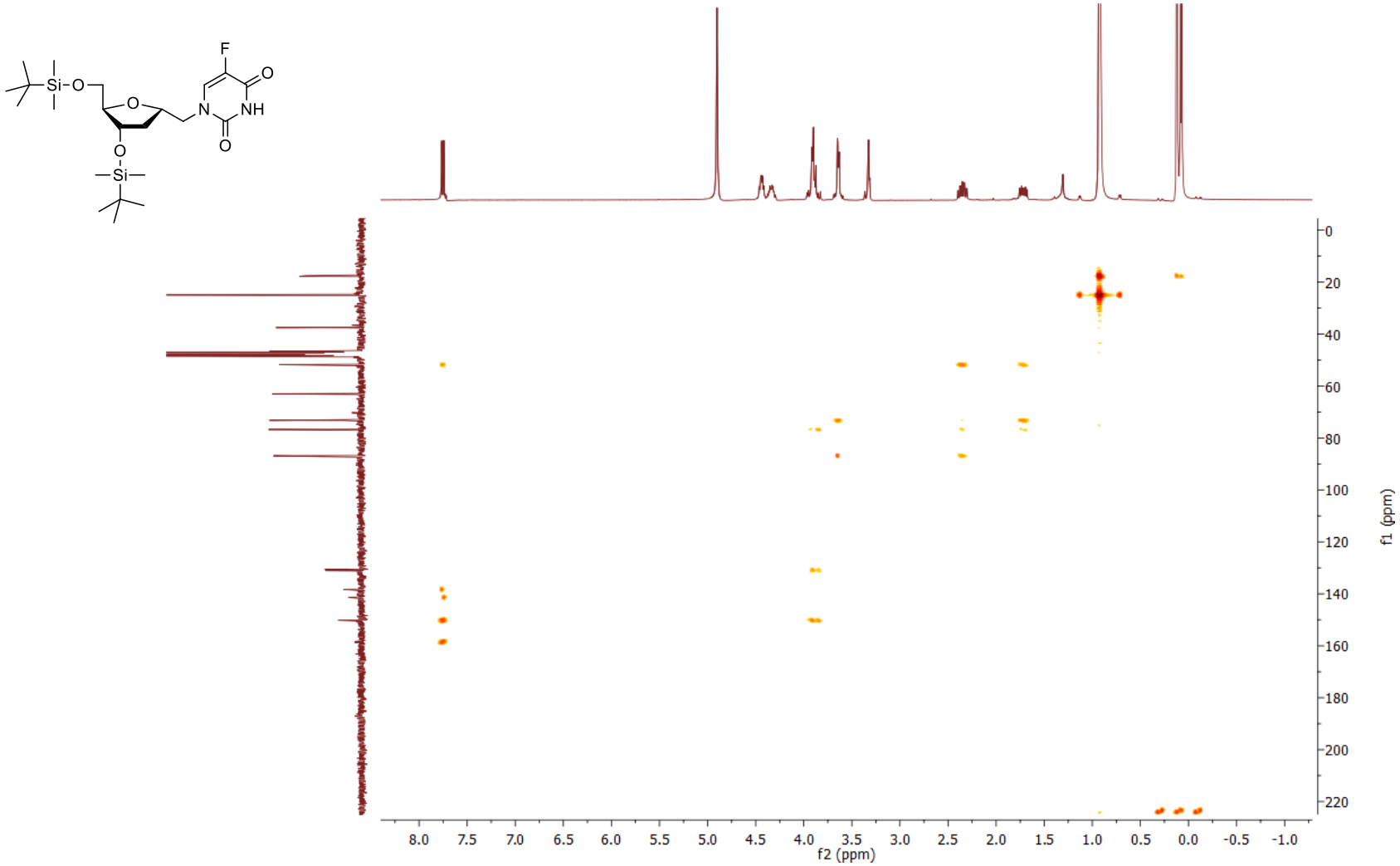
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

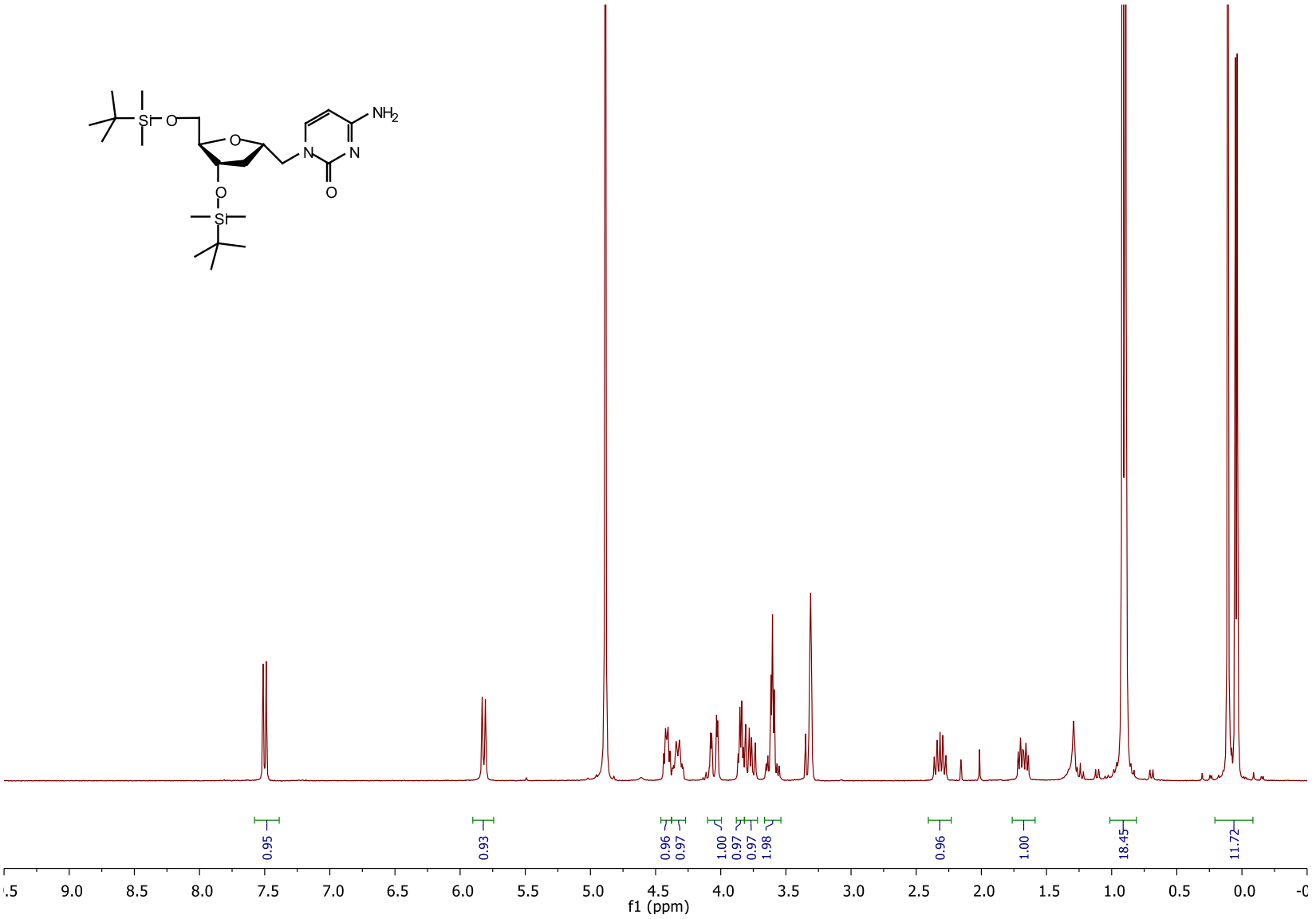


HMBC NMR (MeOH-d_4)

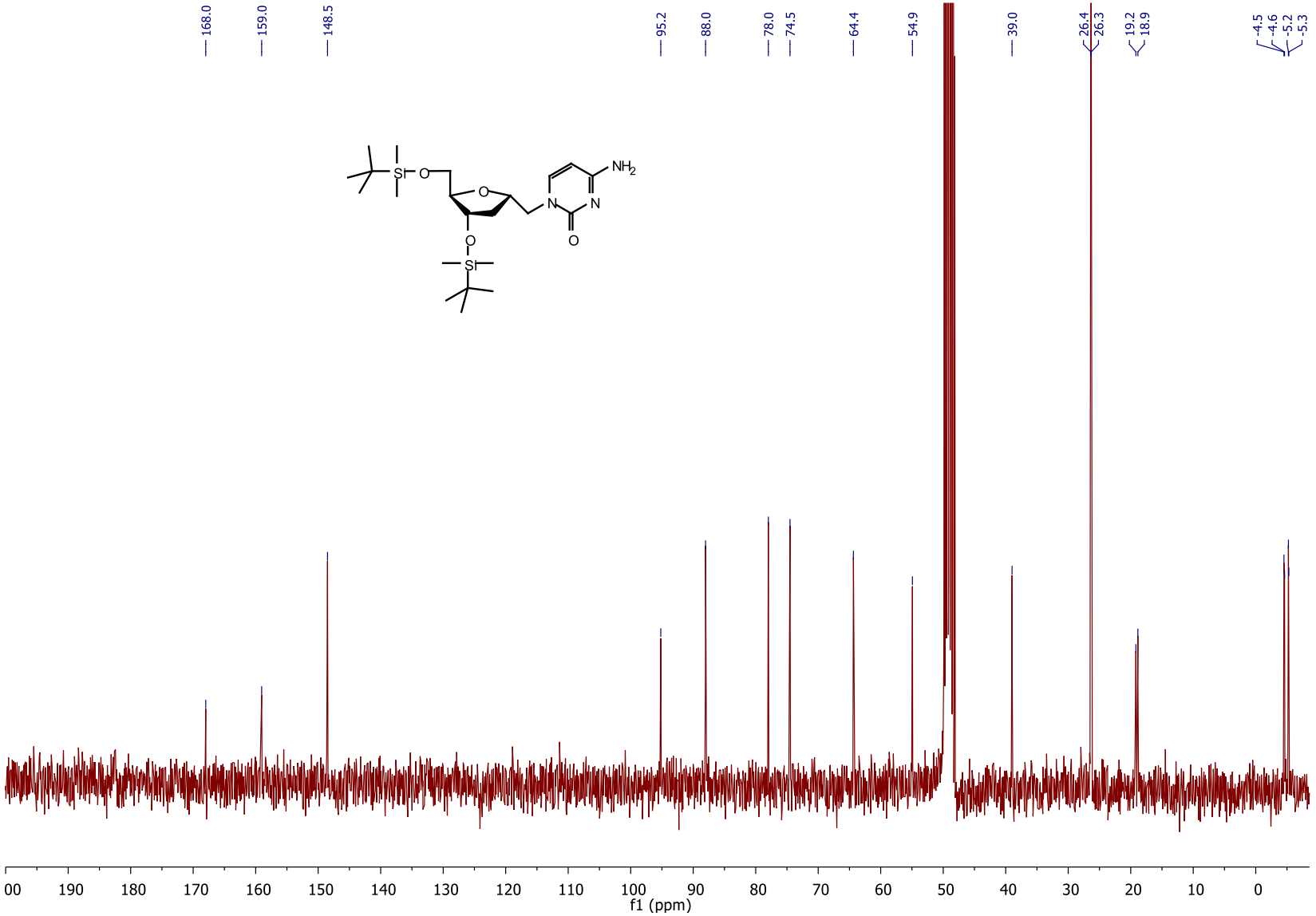


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1'-homo-*N*-2'-deoxy-α-cytidine (17e)

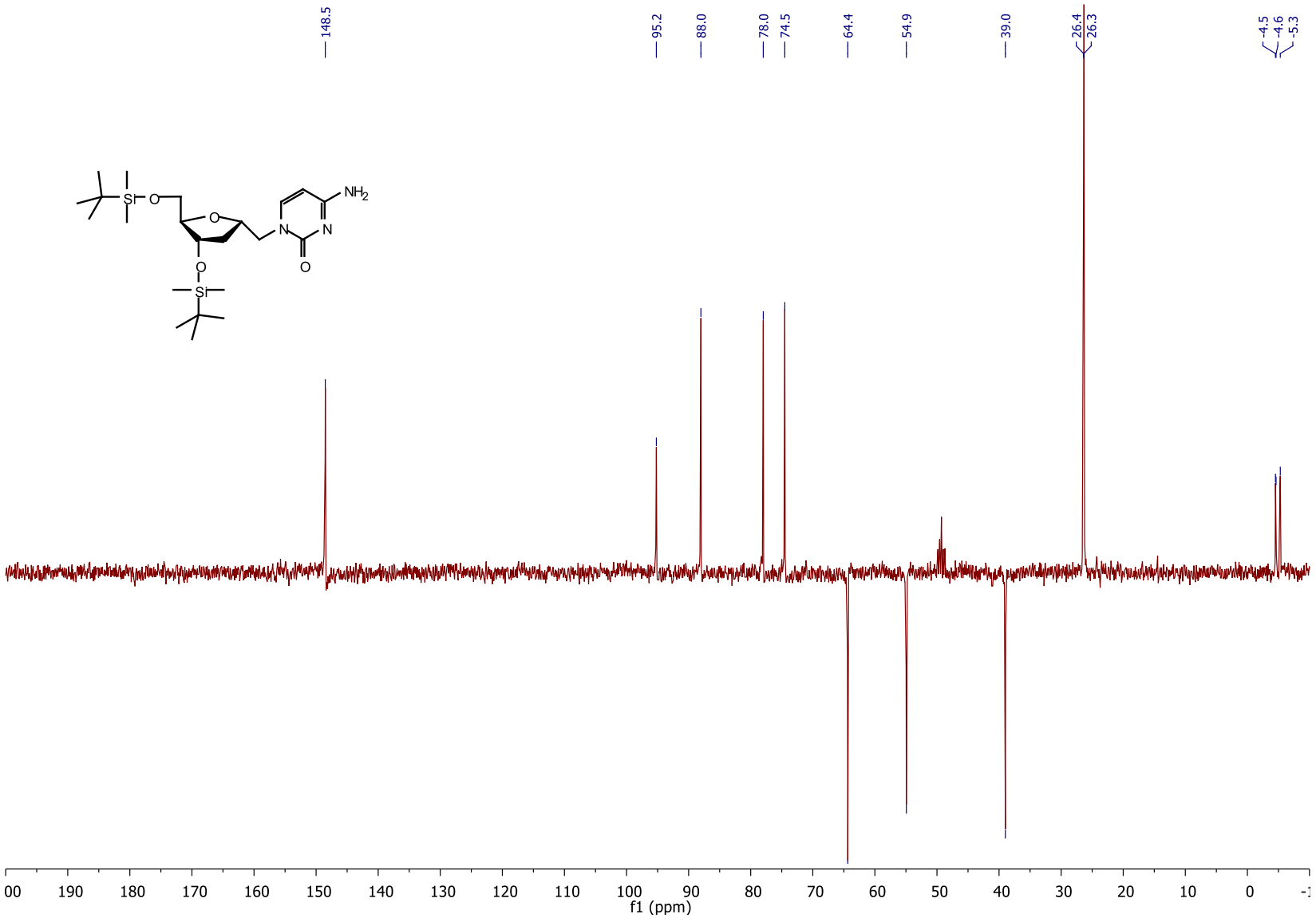
^{1}H NMR (300.13 MHz, MeOH-d_4)



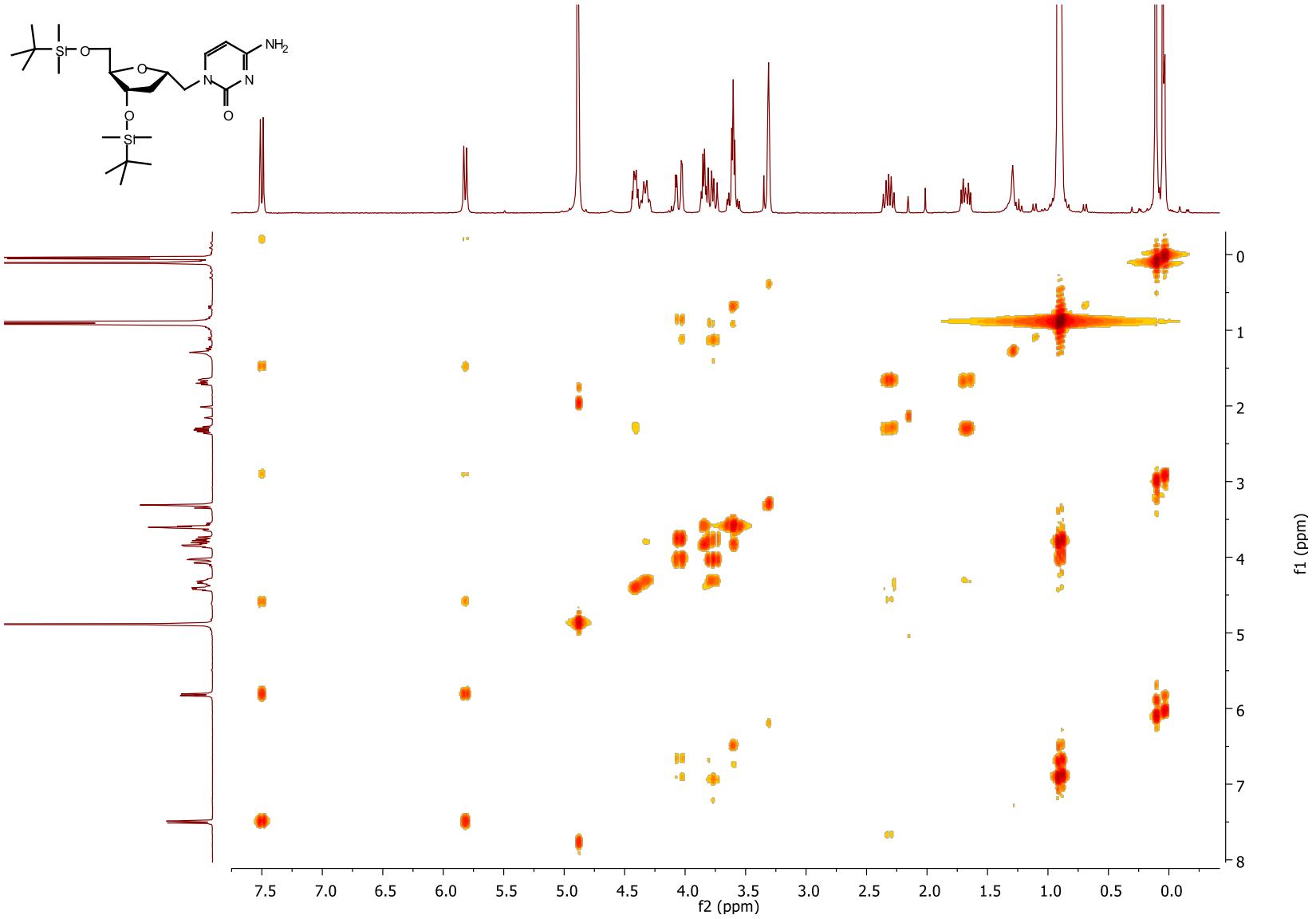
^{13}C NMR (75.5 MHz, MeOH-d_4)



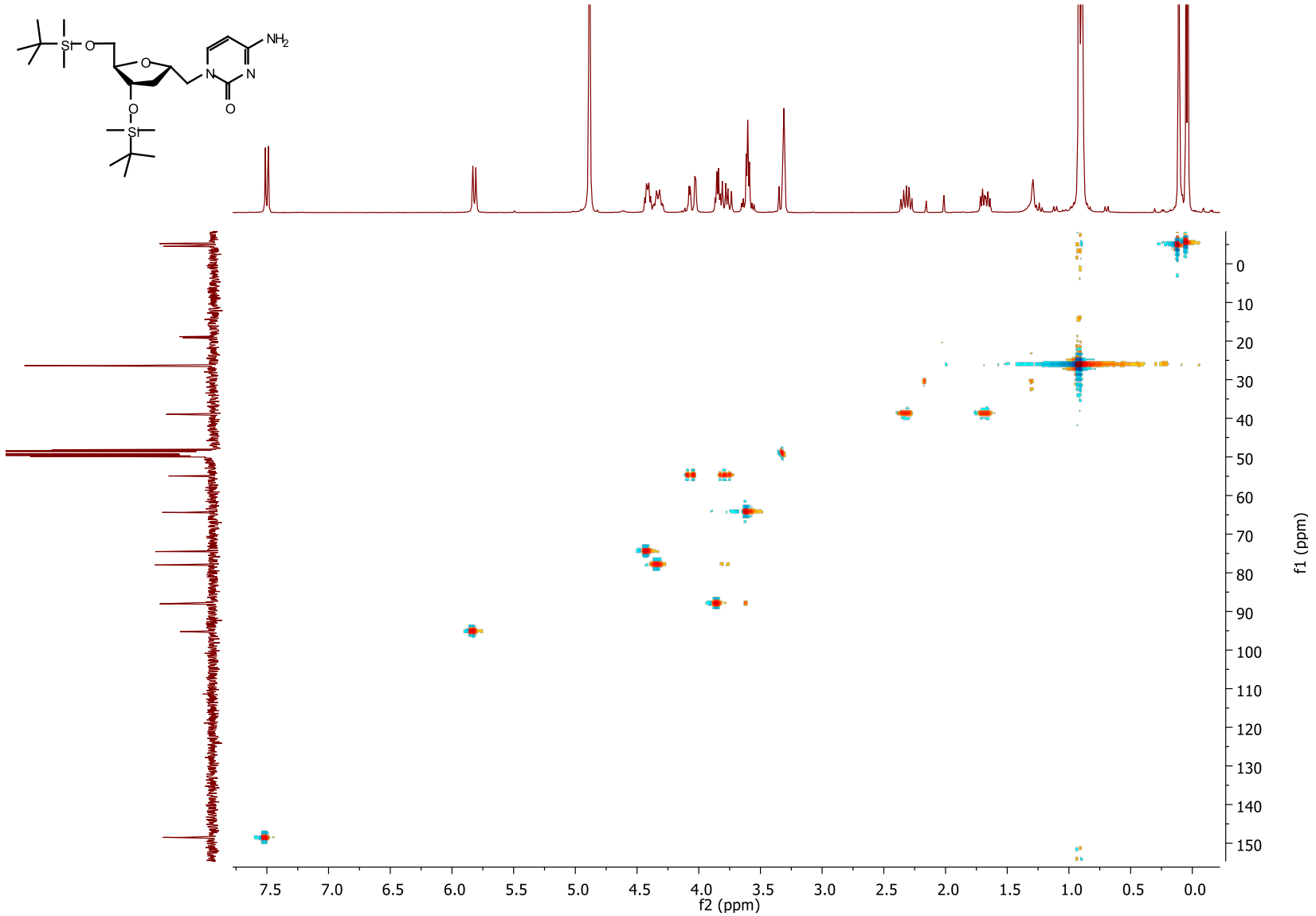
DEPT NMR (75.5 MHz, MeOH-d_4)



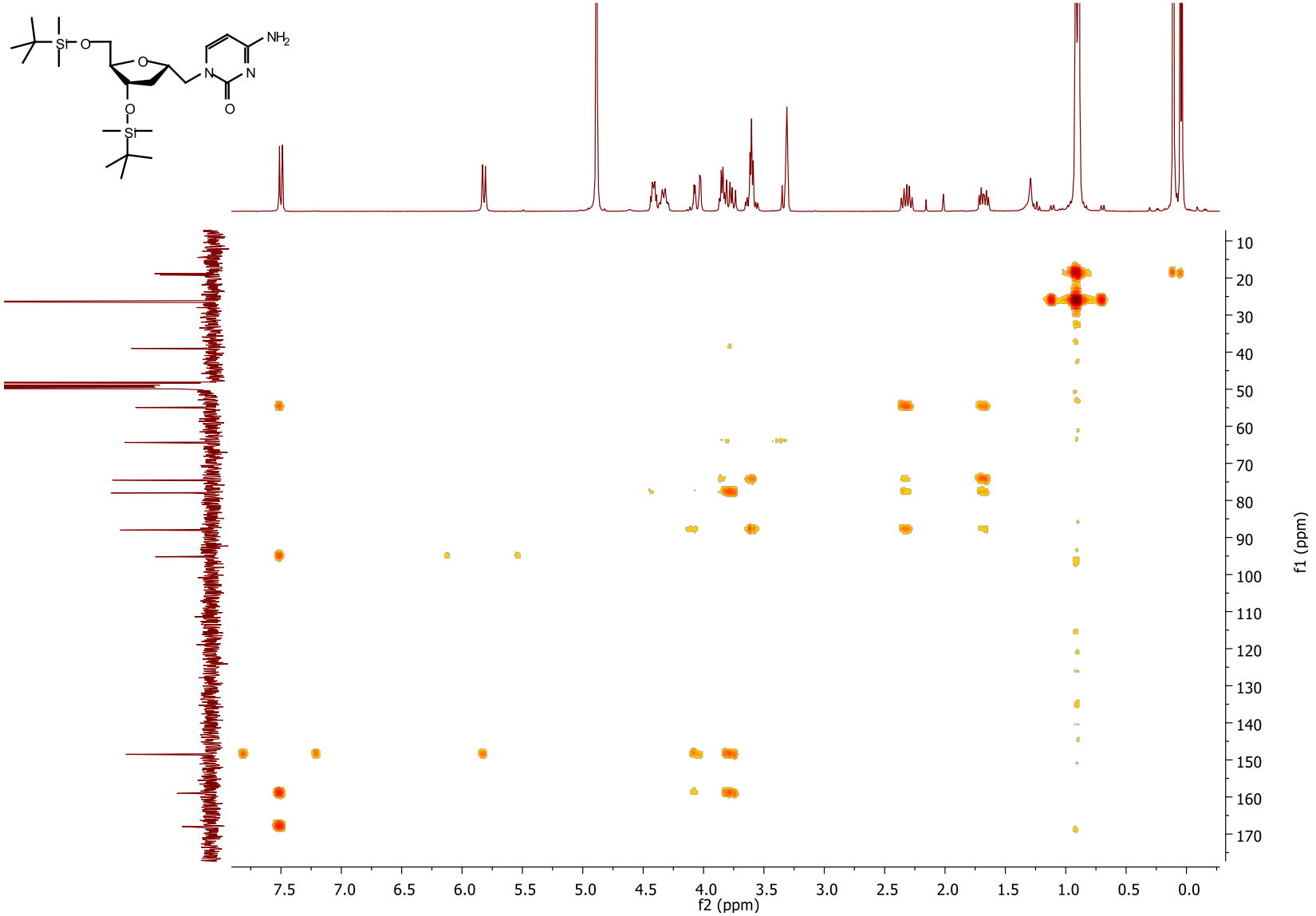
COSY NMR (MeOH-d_4)



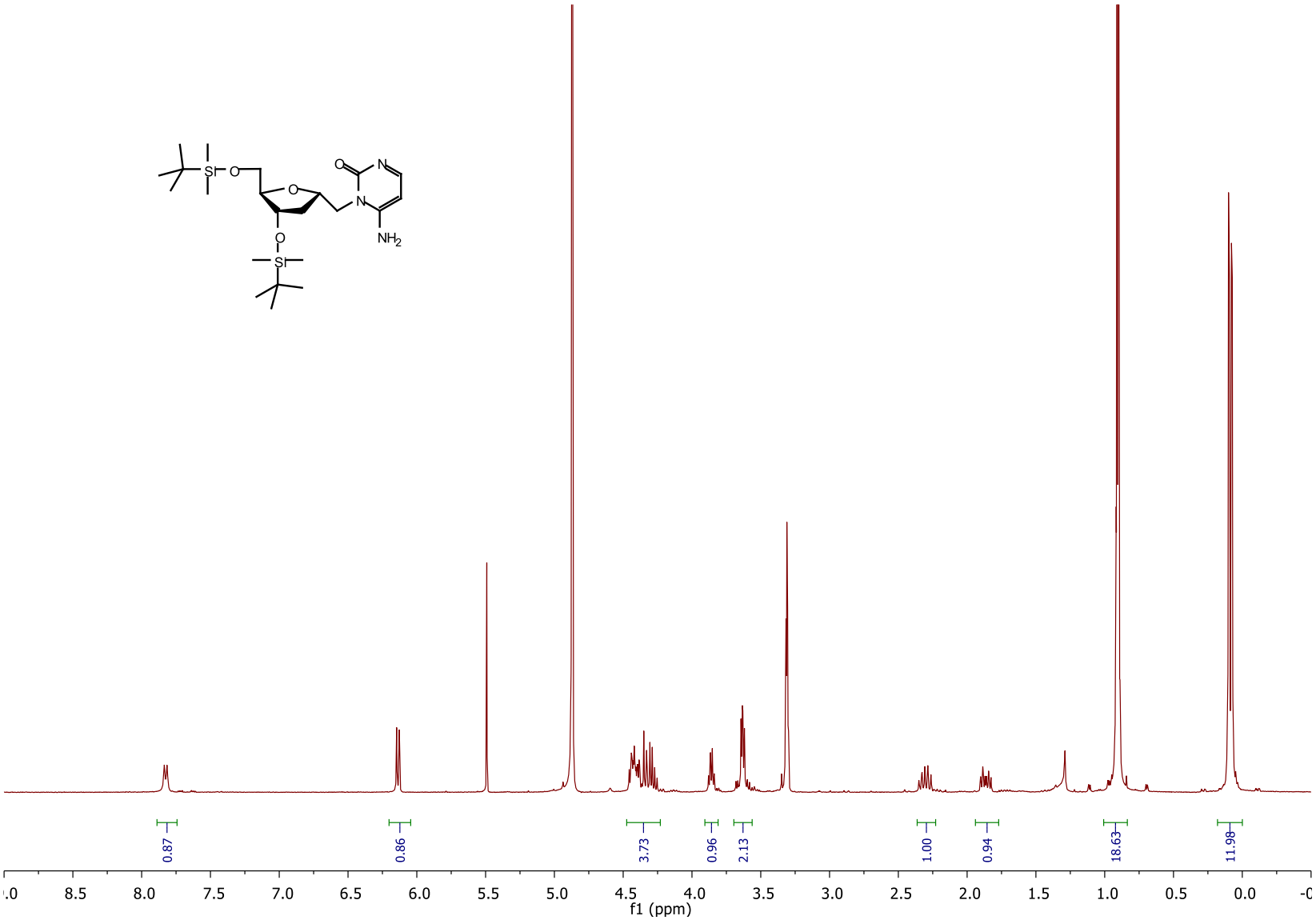
HSQC NMR (MeOH-d_4)



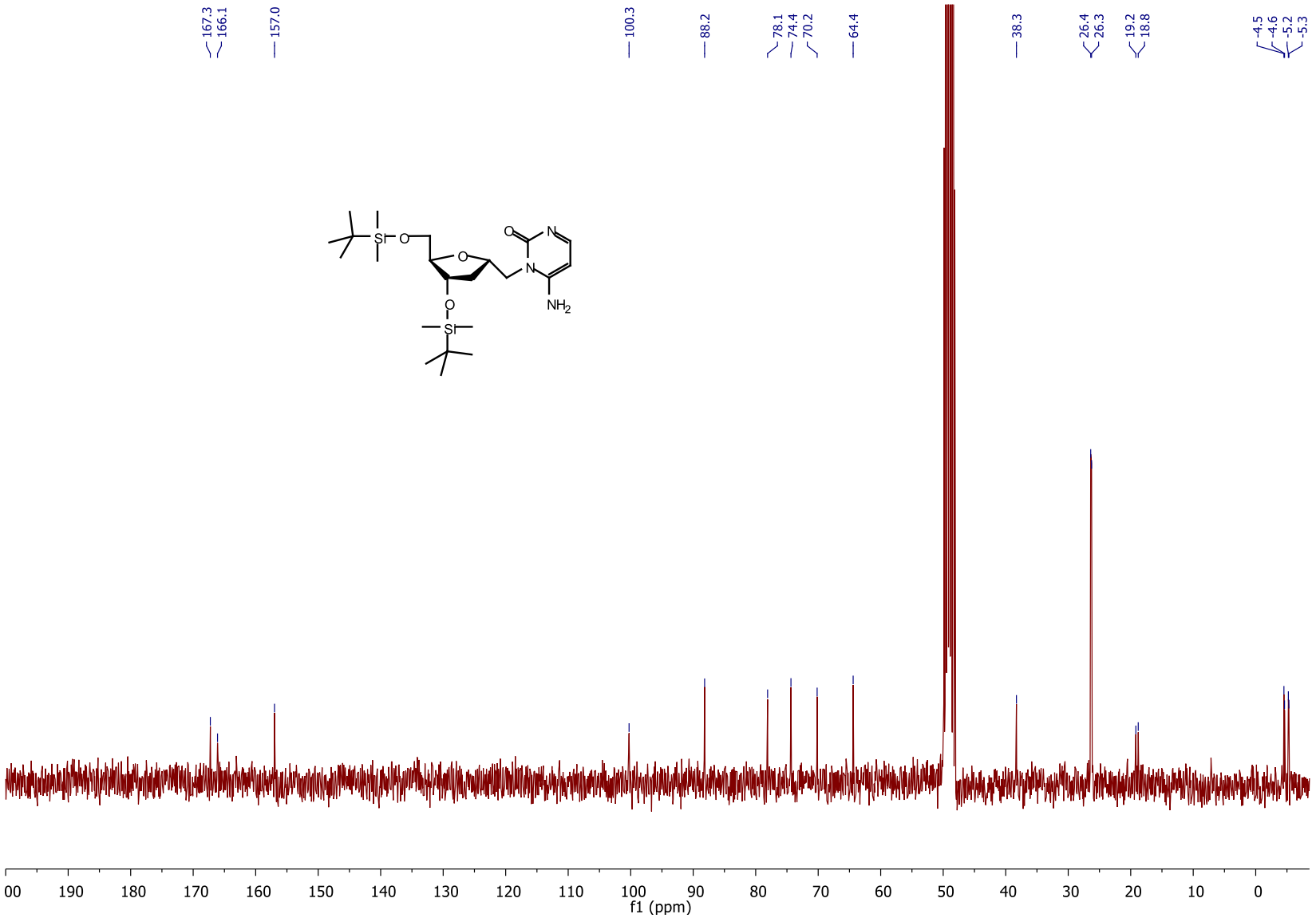
HMBC NMR (MeOH-d_4)



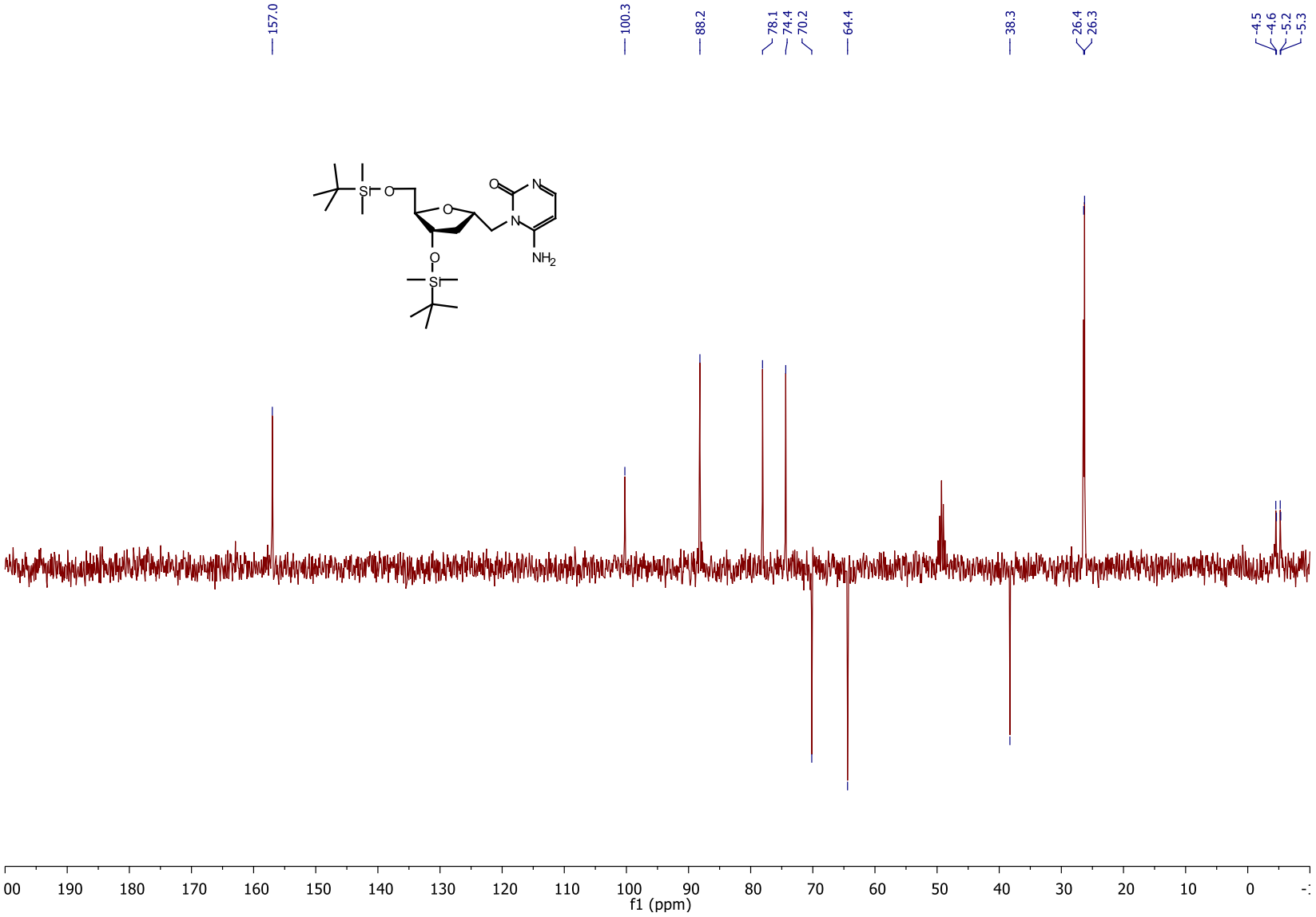
^{1}H NMR (300.13 MHz, MeOH-d_4)



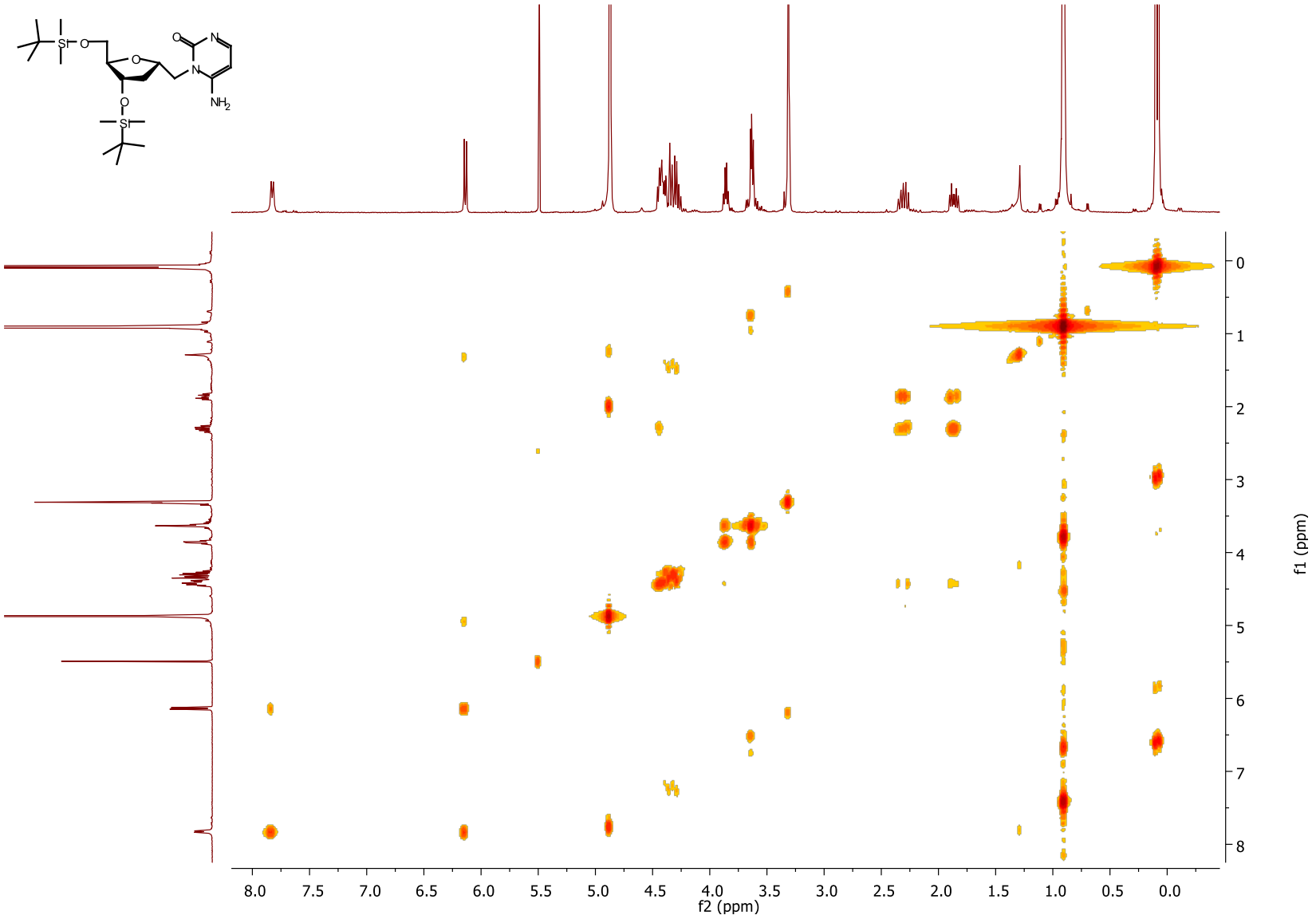
^{13}C NMR (75.5 MHz, MeOH-d_4)



DEPT NMR (75.5 MHz, MeOH-d_4)



COSY NMR (MeOH-d_4)



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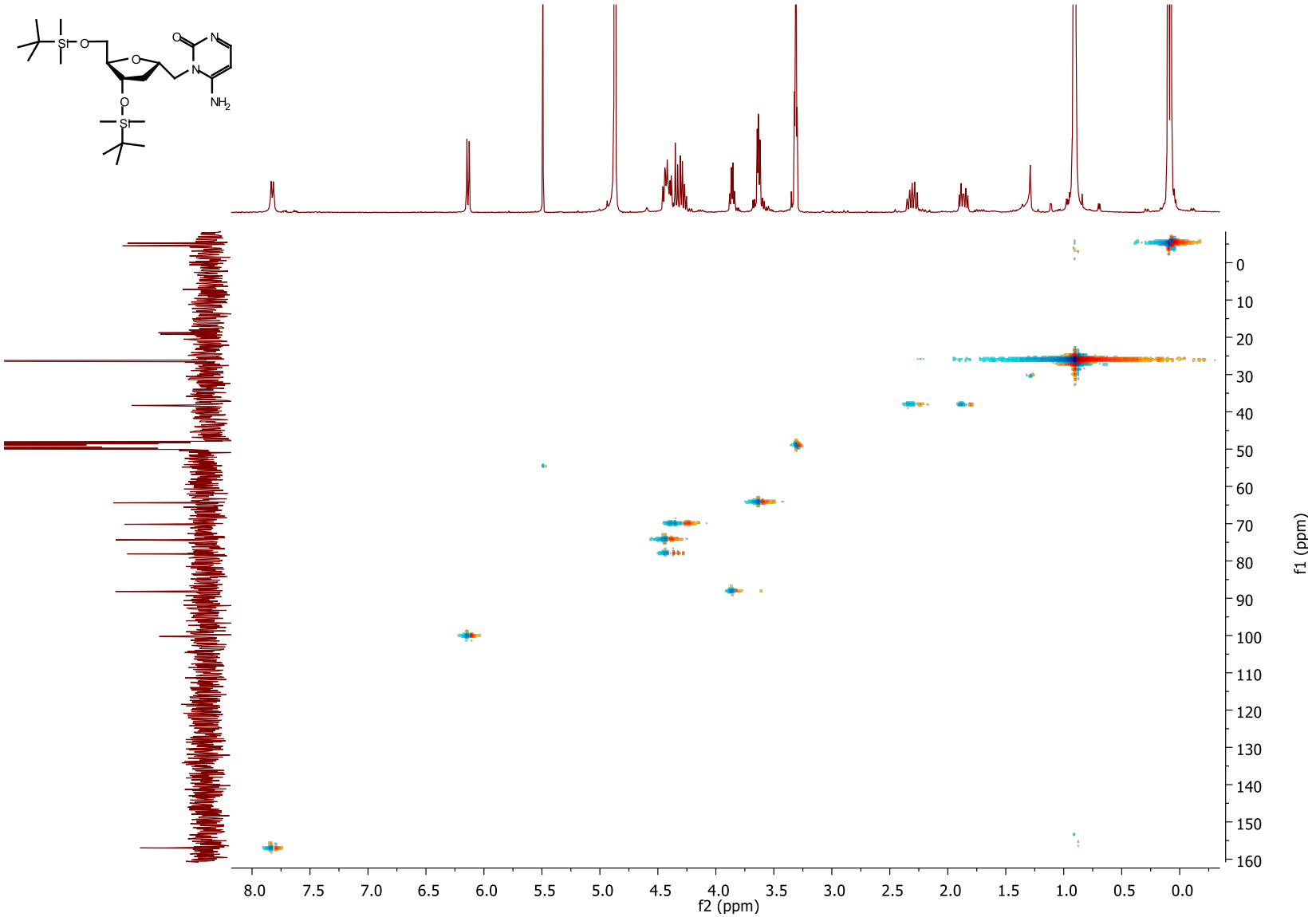
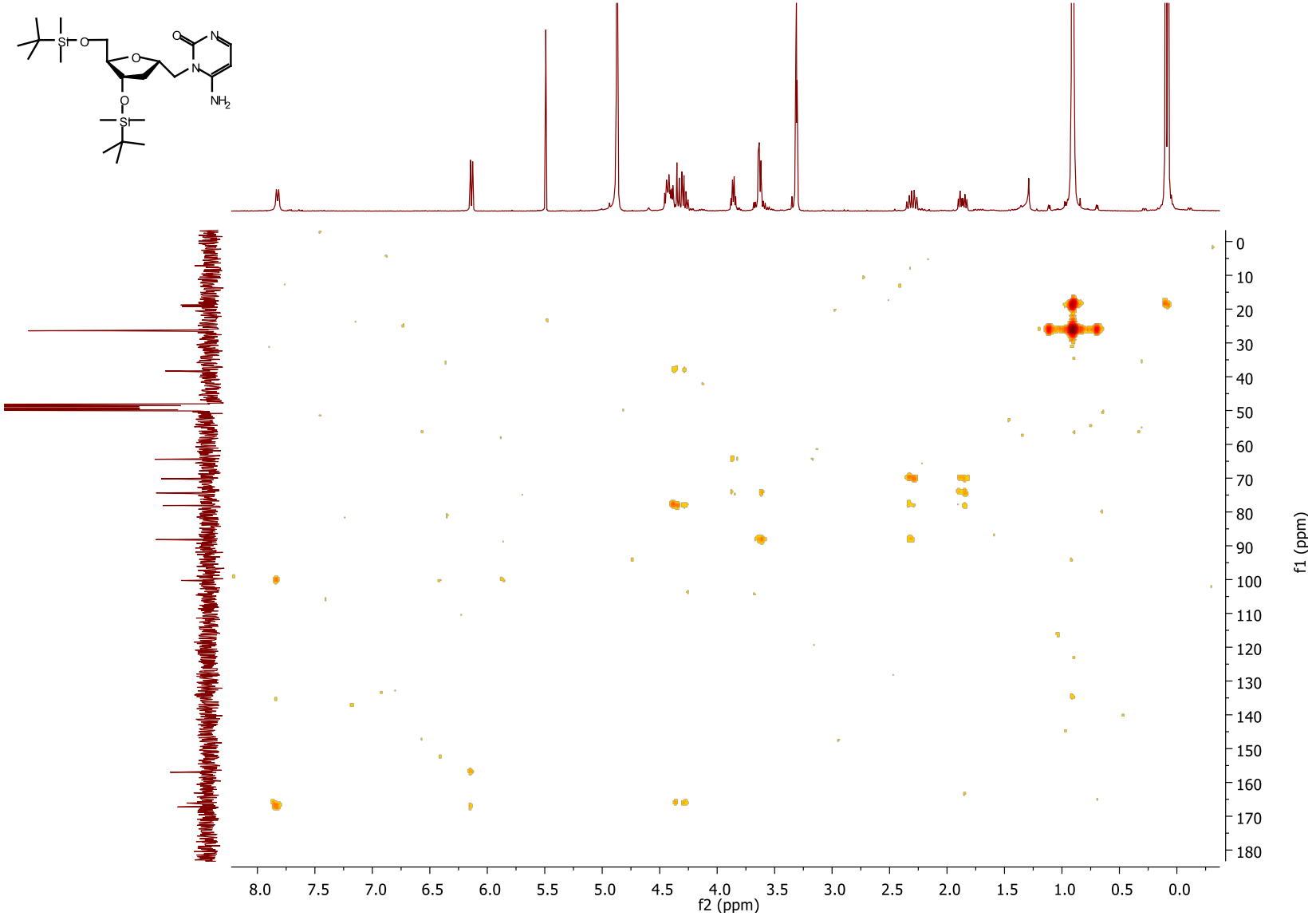
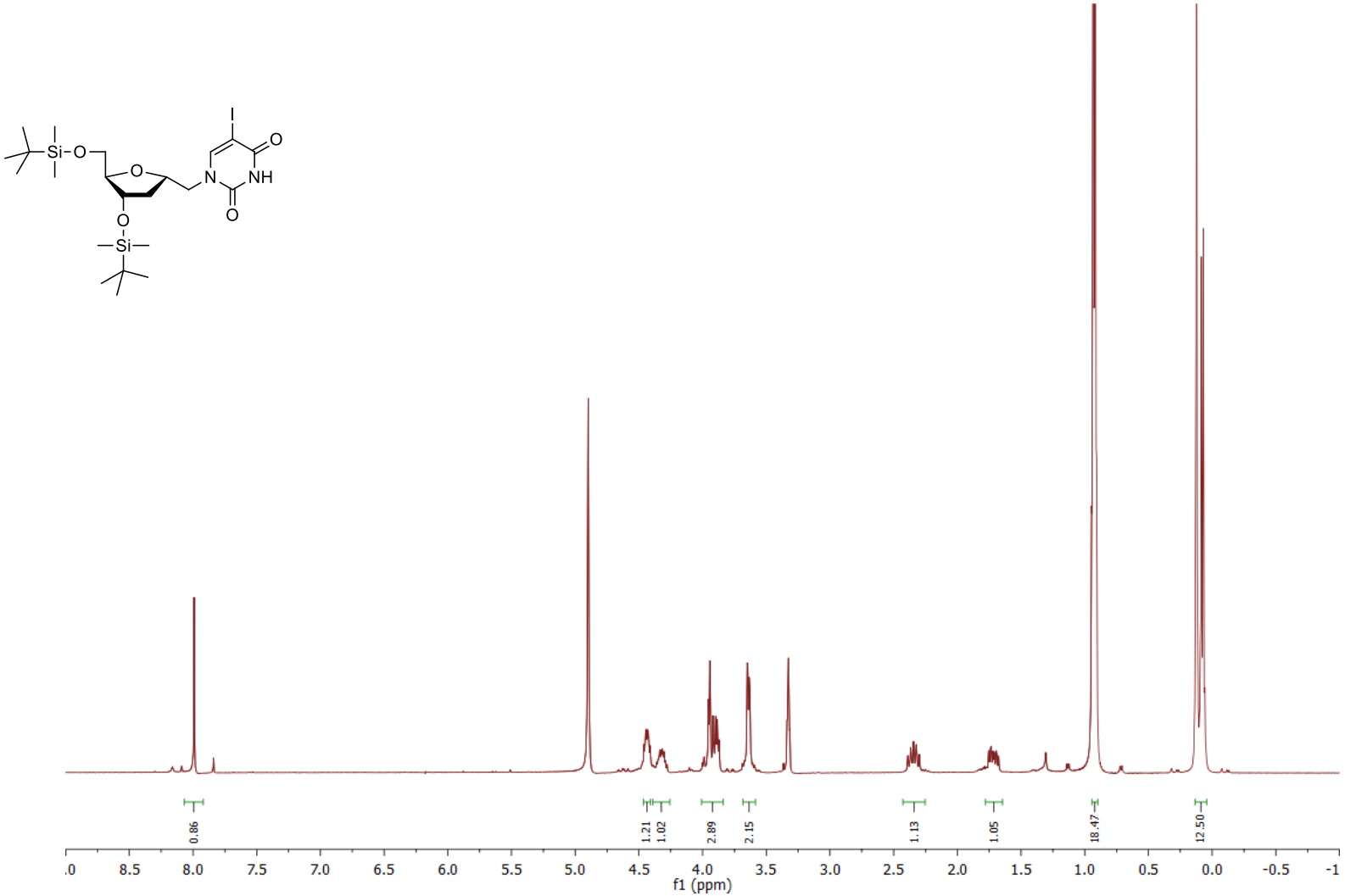


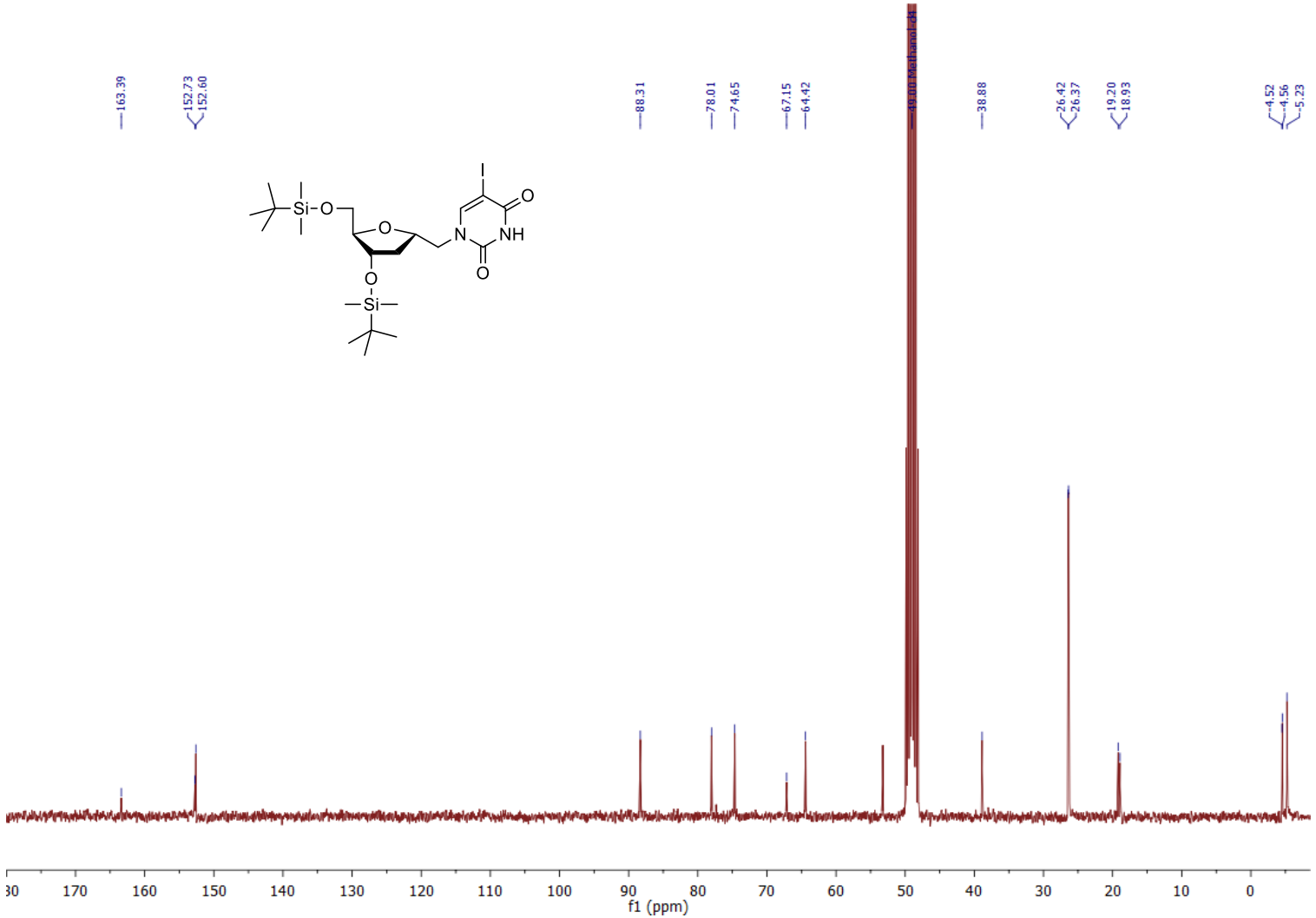
HMBC NMR (MeOH-d_4)



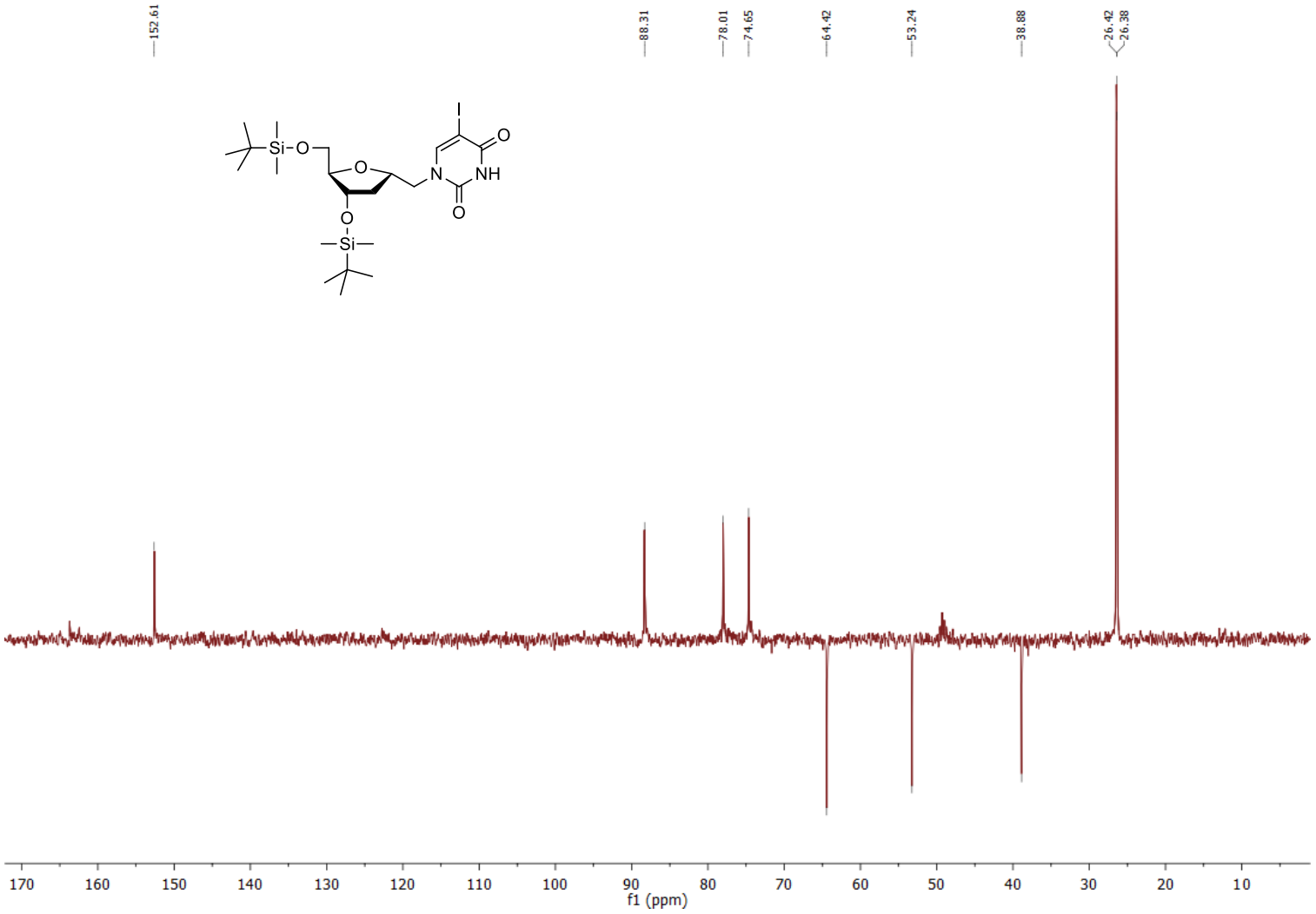
^{1}H NMR (300.13 MHz, MeOH-d_4)



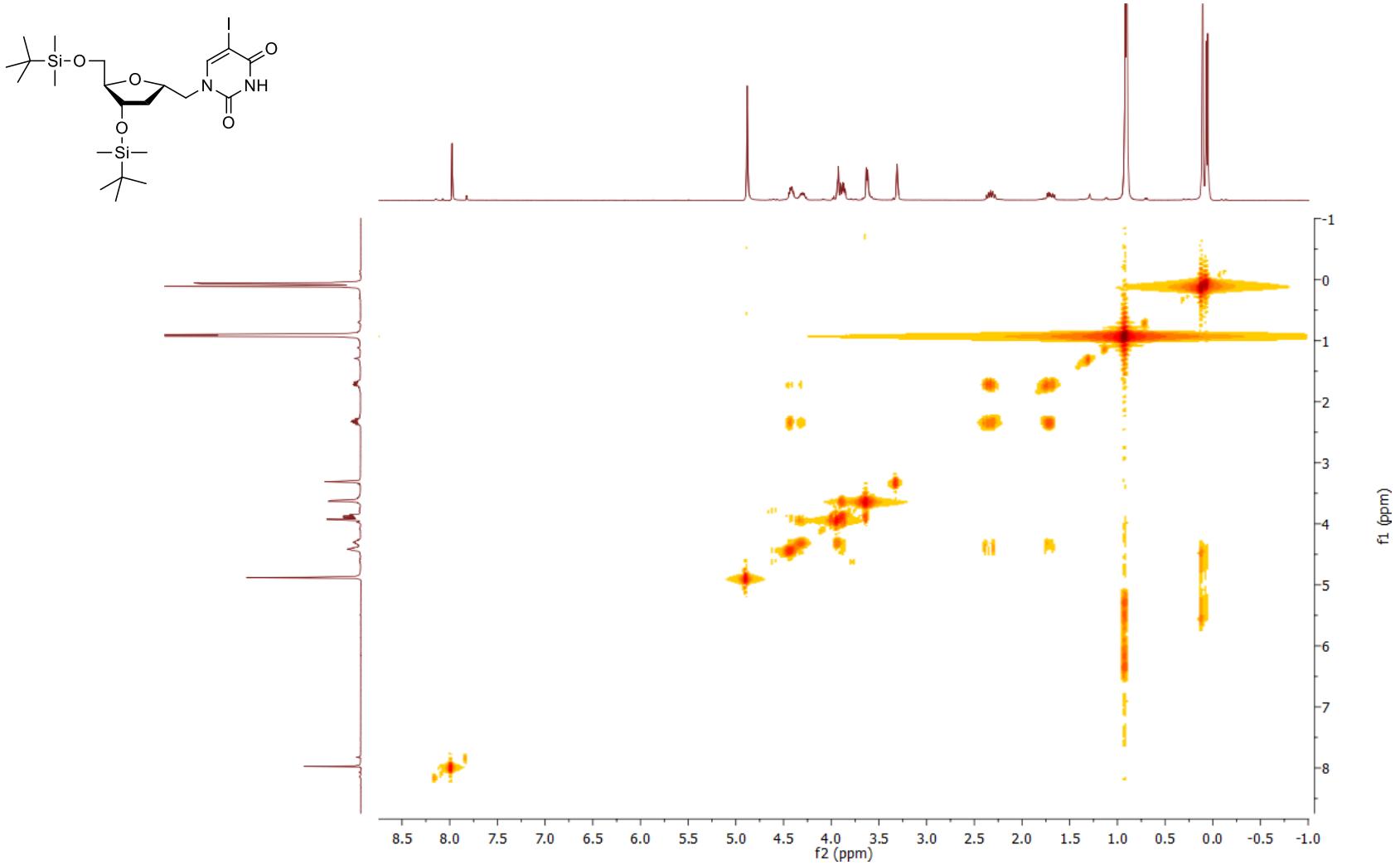
^{13}C NMR (75.5 MHz, MeOH-d_4)



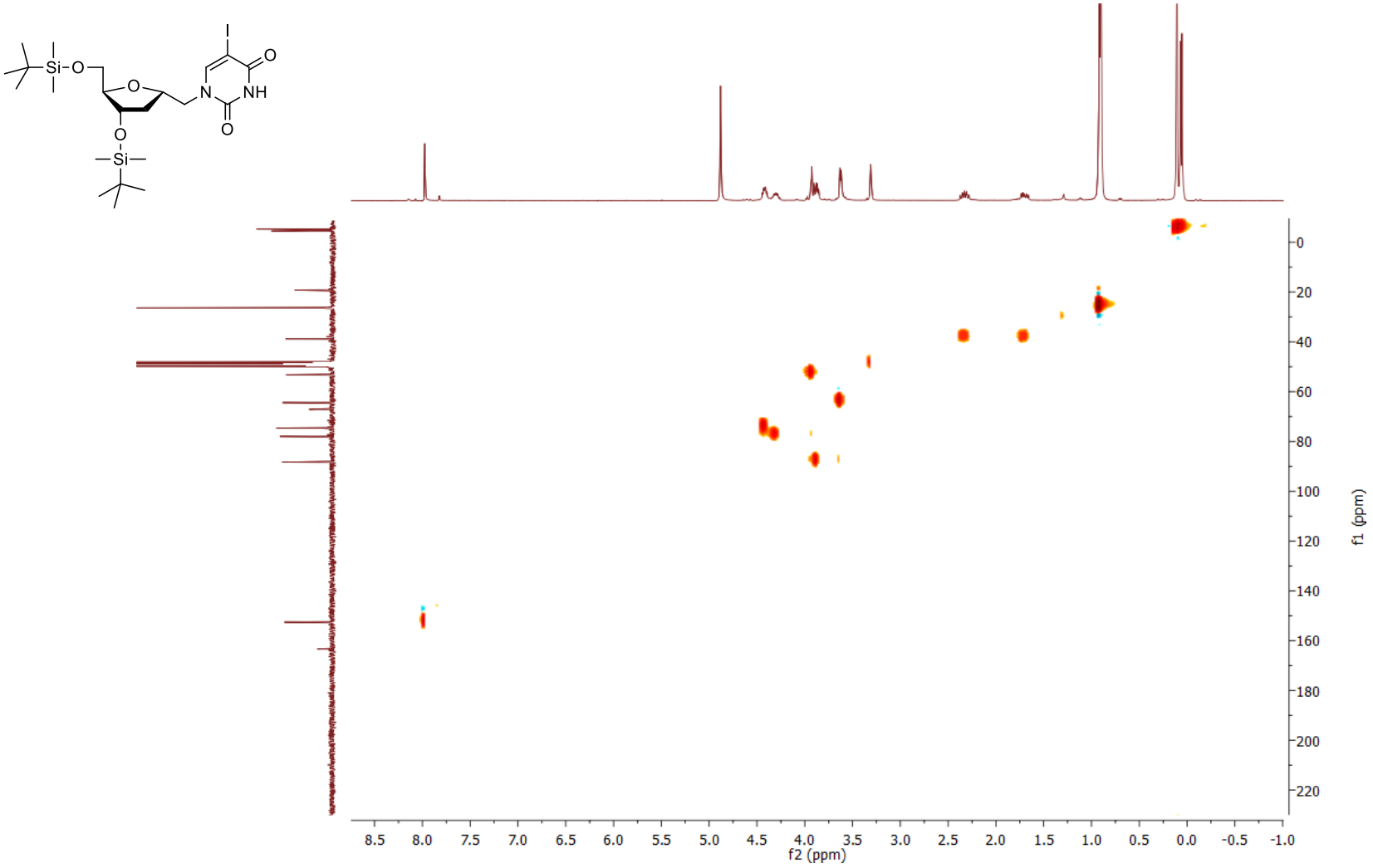
DEPT 135 NMR (75.5 MHz, MeOH-d_4)



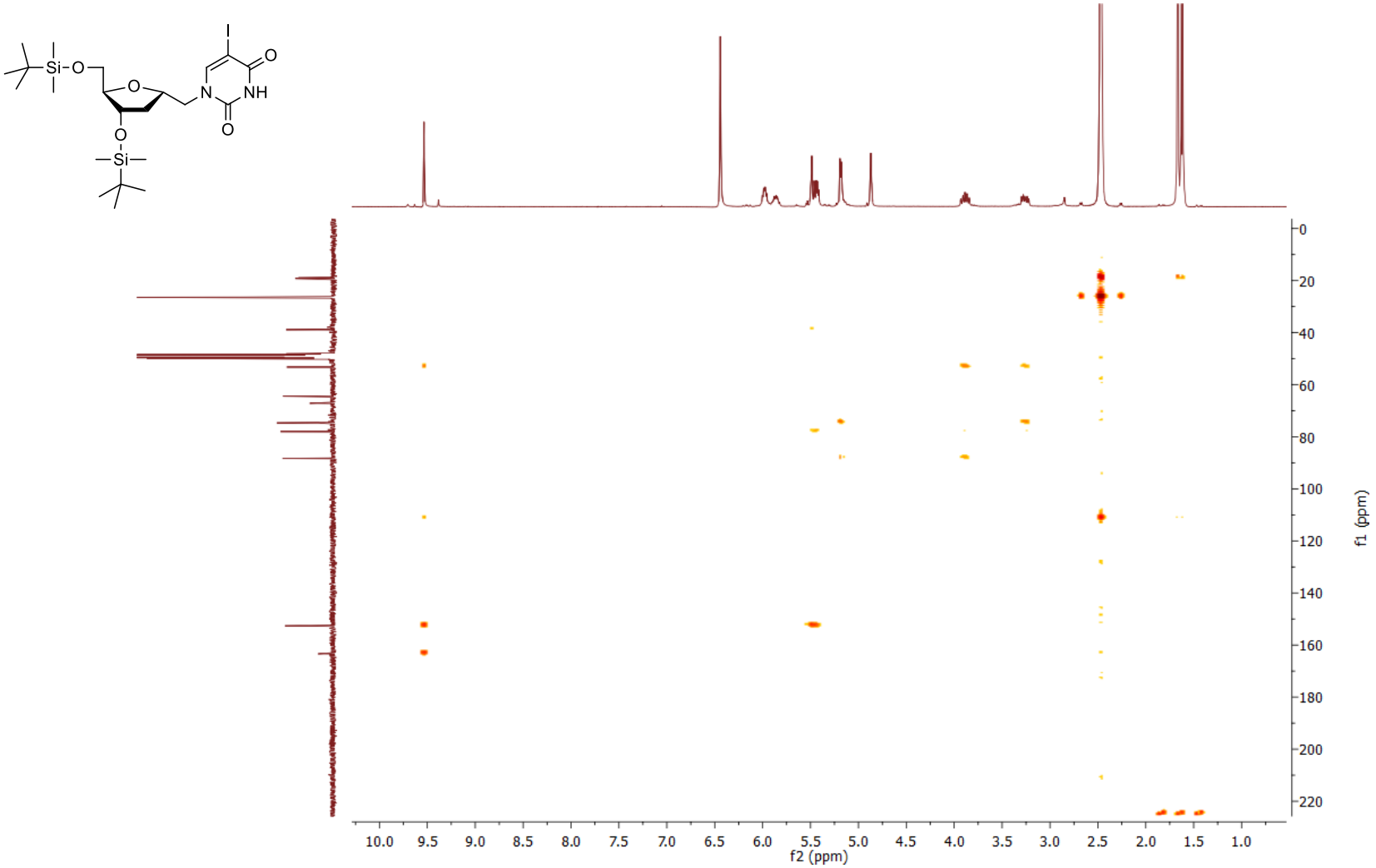
COSY NMR (MeOH-d_4)



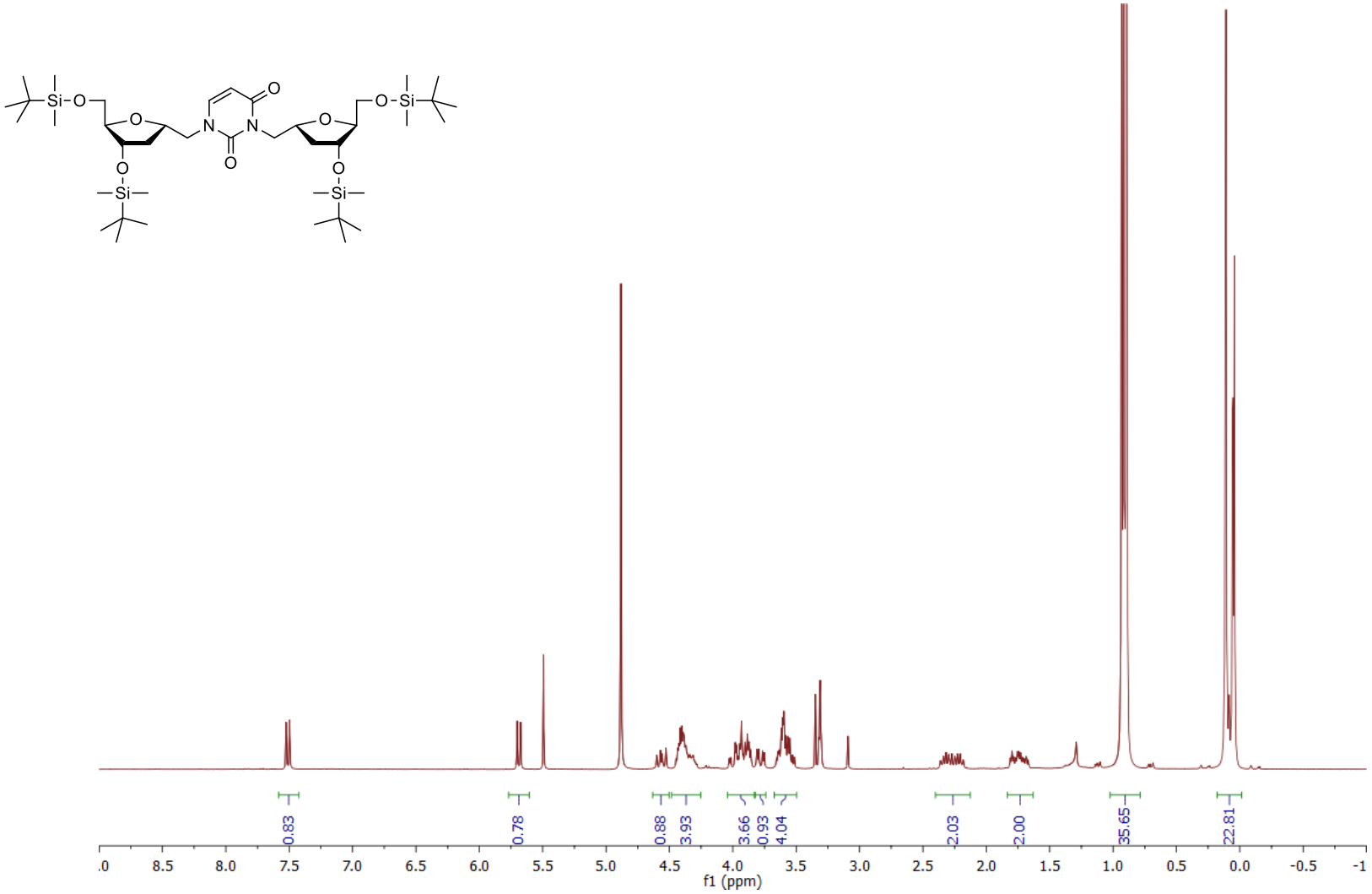
HSQC NMR (MeOH-d_4)



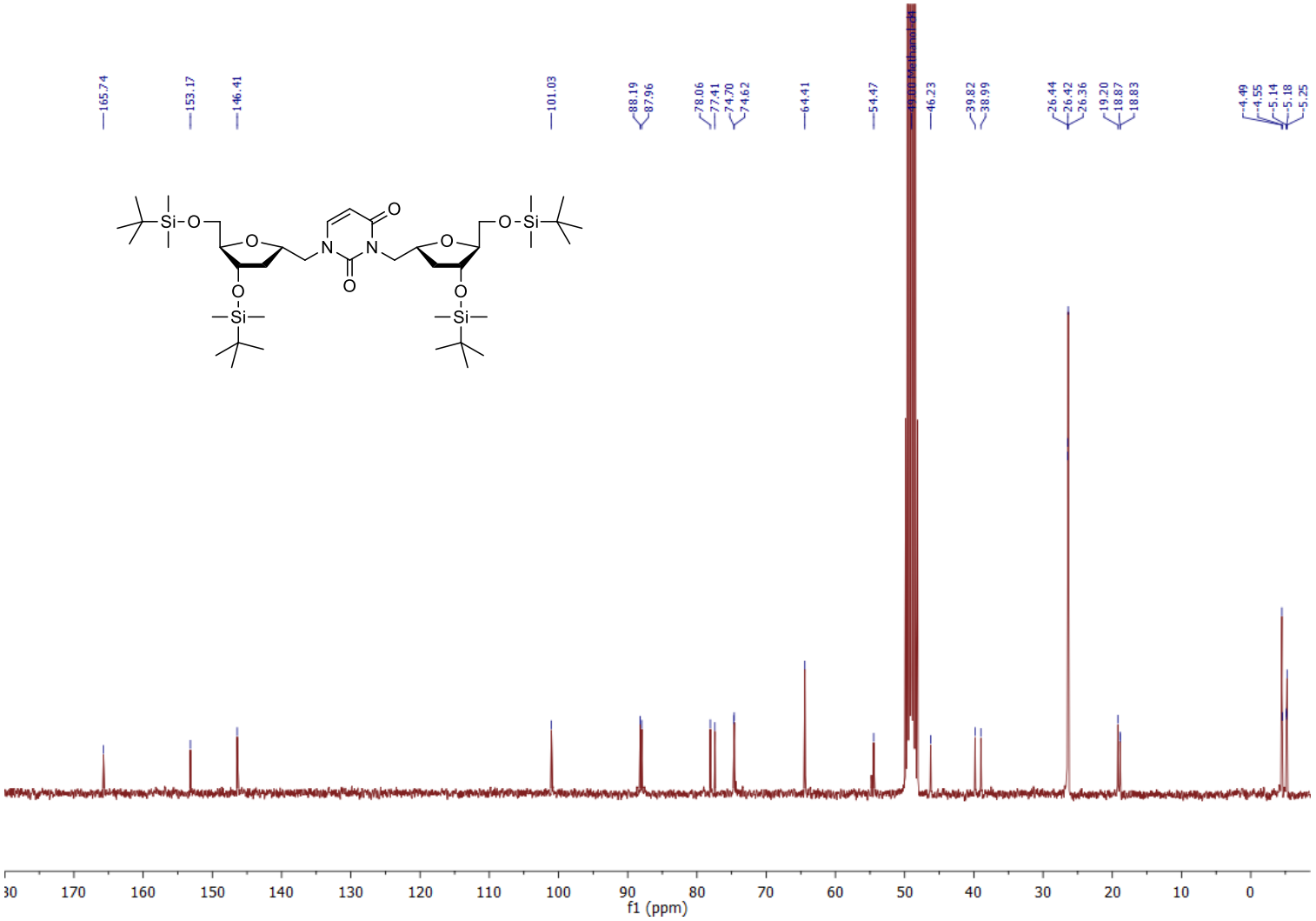
HMBC NMR (MeOH-d_4)



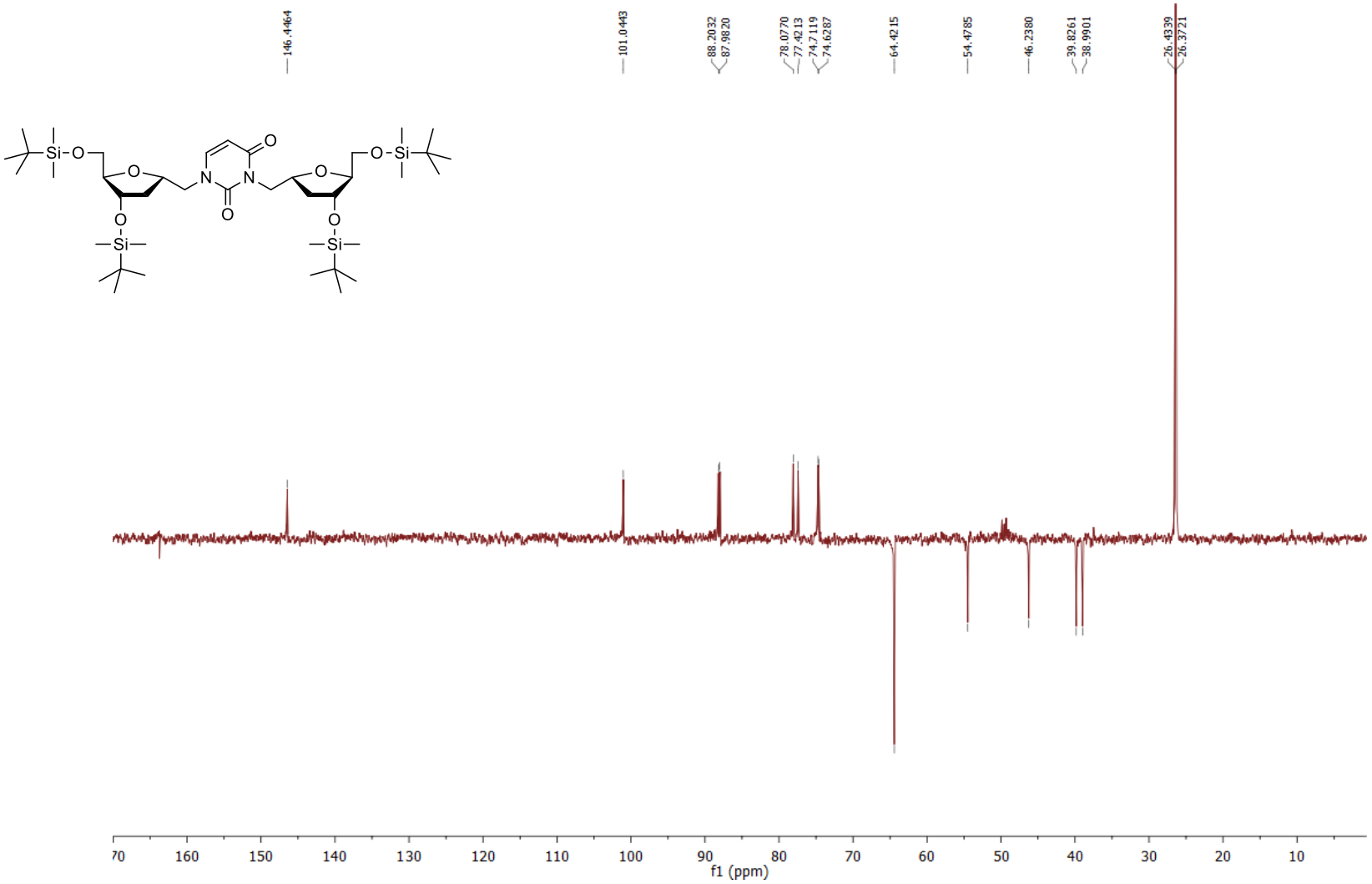
^{1}H NMR (300.13 MHz, MeOH-d_4)



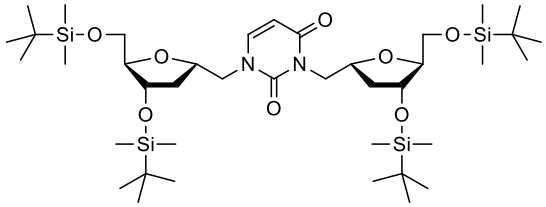
^{13}C NMR (75.5 MHz, MeOH-d_4)

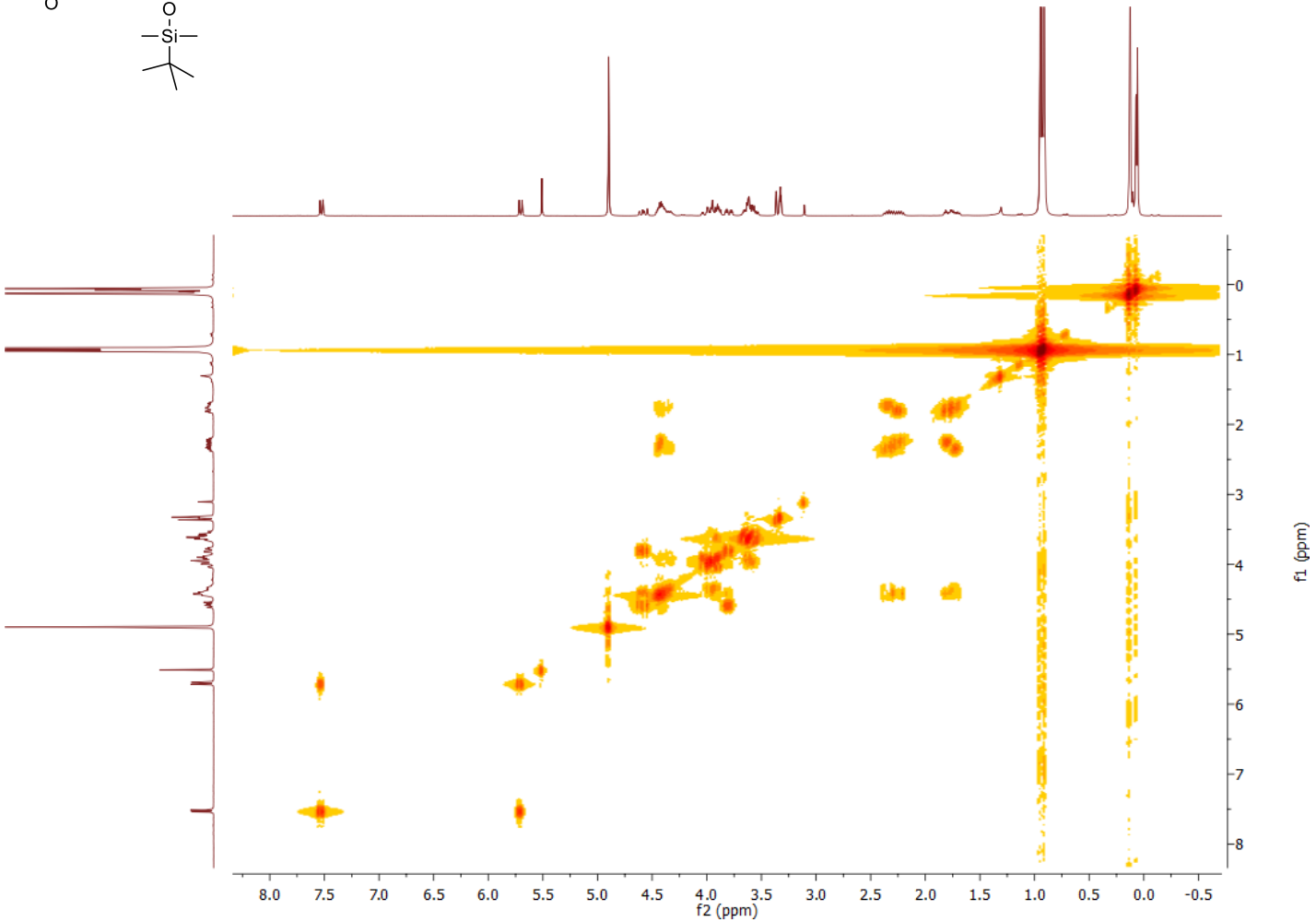


DEPT 135 NMR (75.5 MHz, MeOH-d_4)

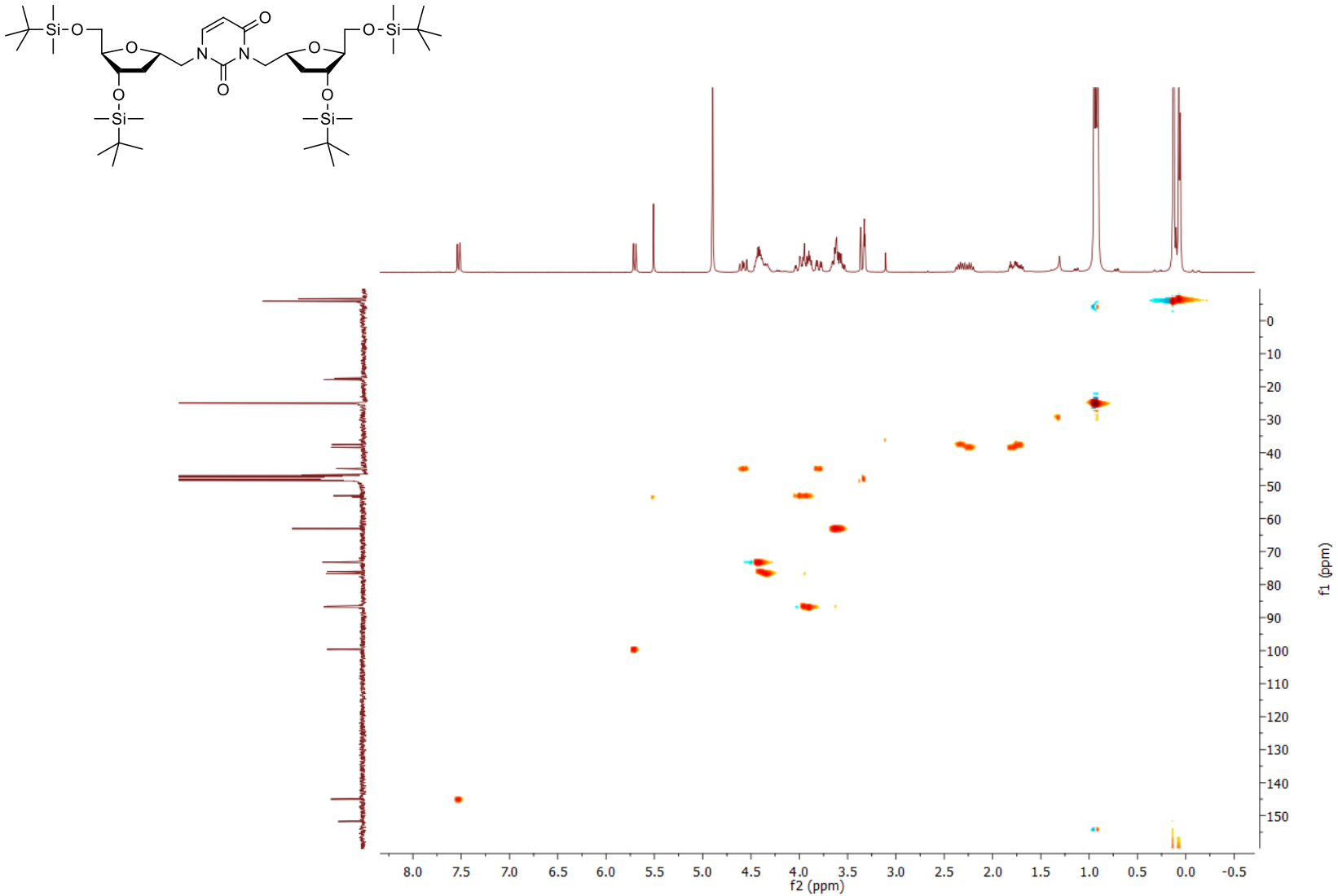


COSY NMR (MeOH-d_4)





HSQC NMR (MeOH-d_4)



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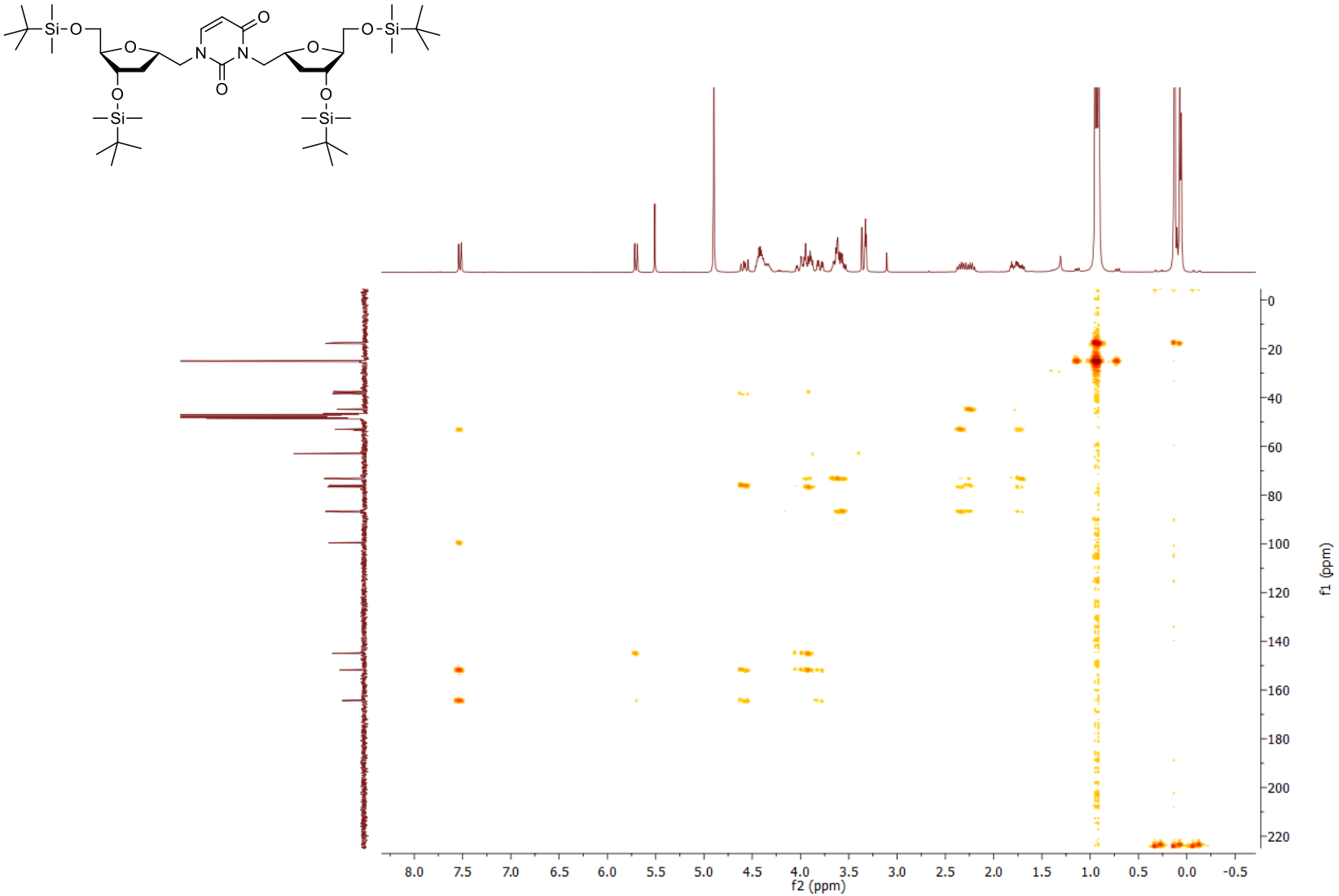
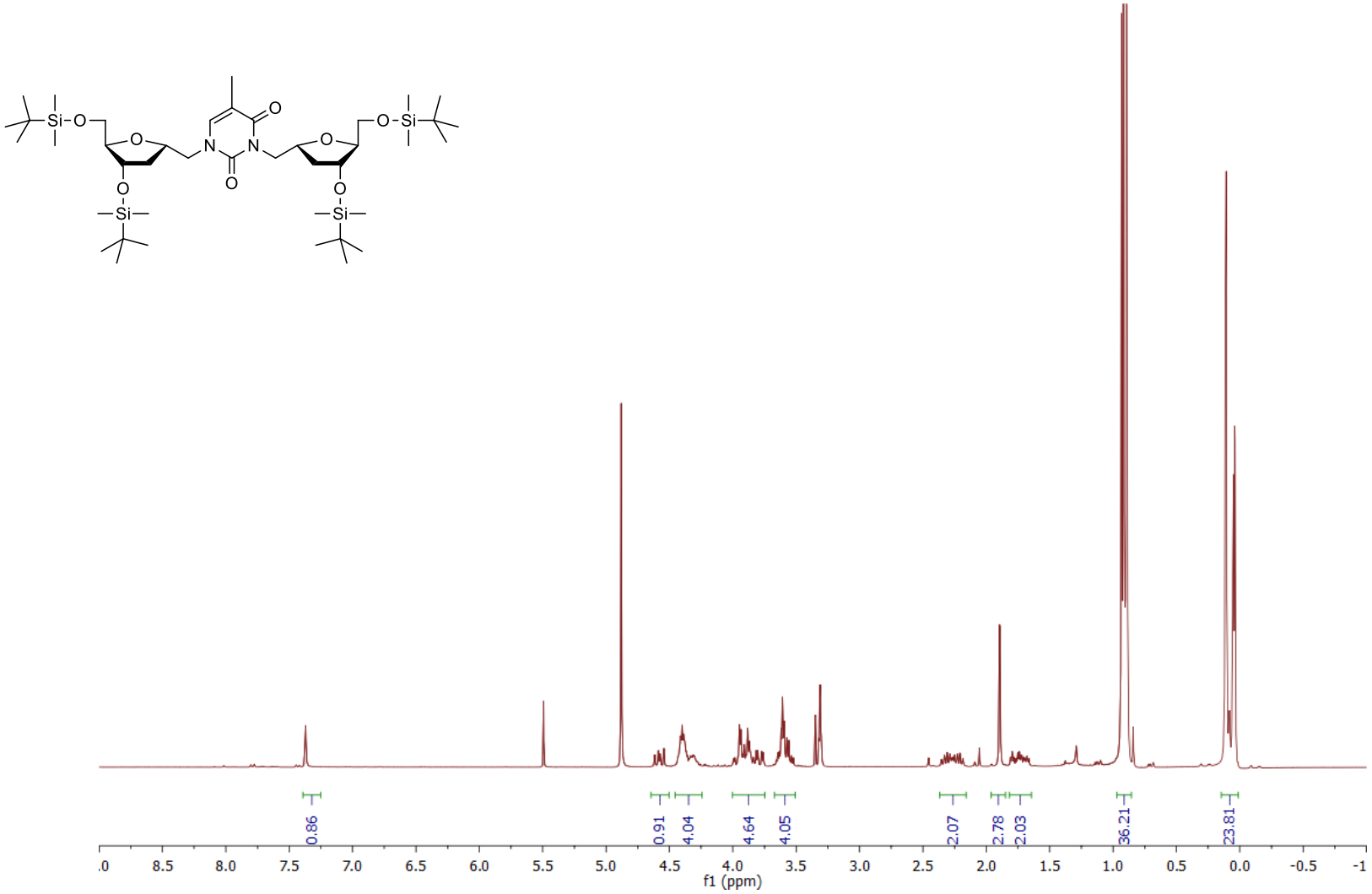
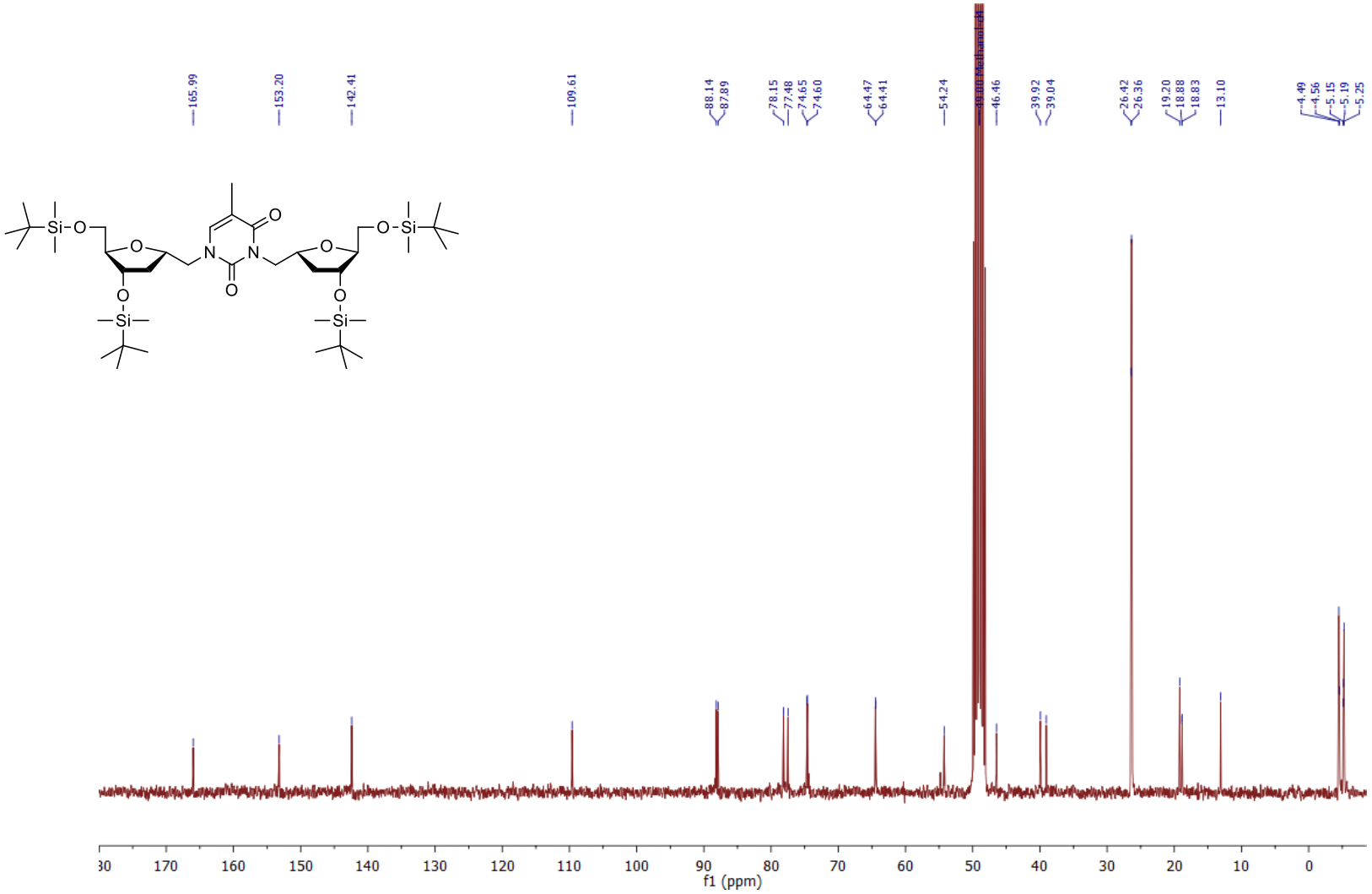


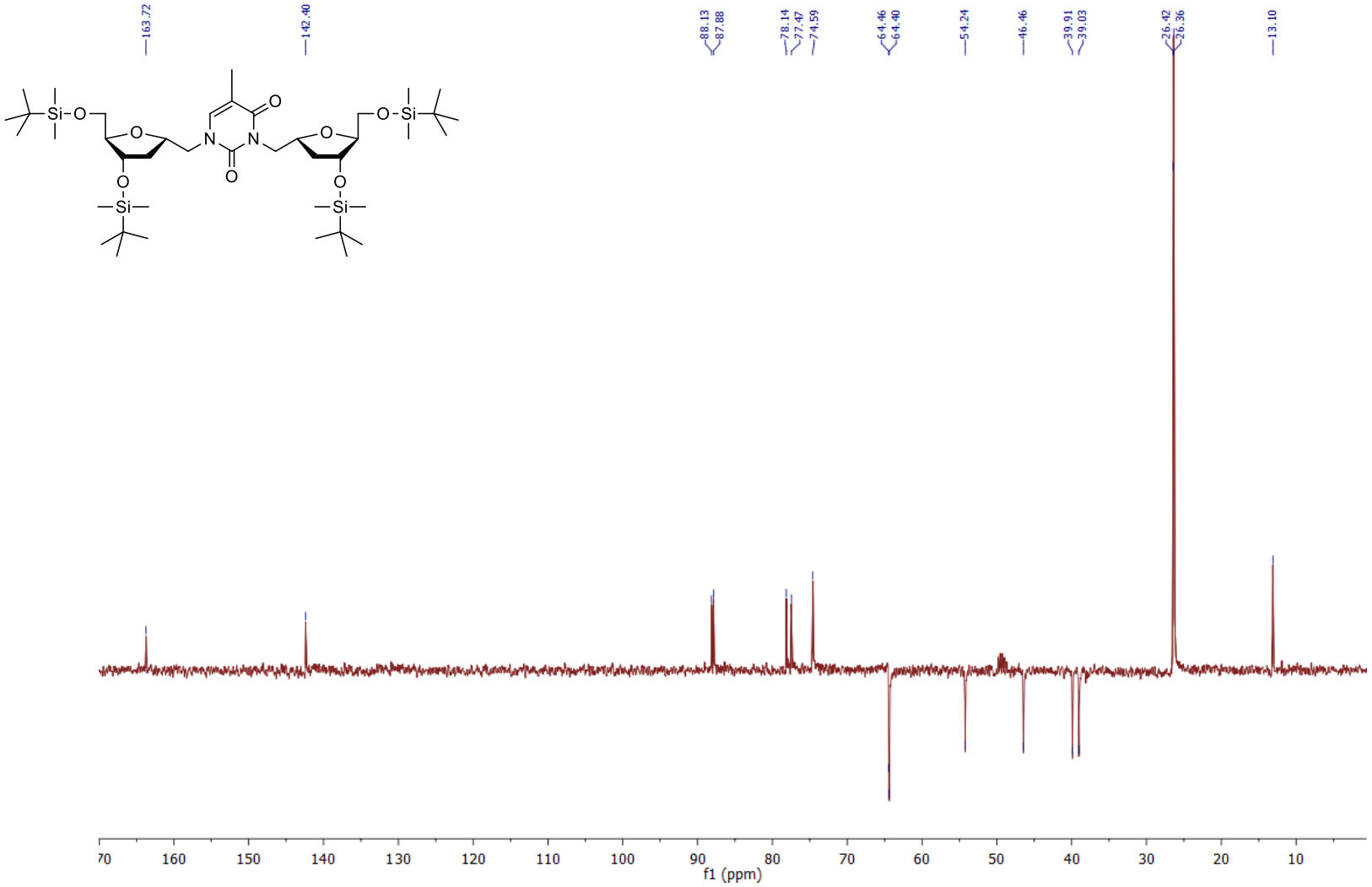
^{1}H NMR (300.13 MHz, MeOH-d_4)



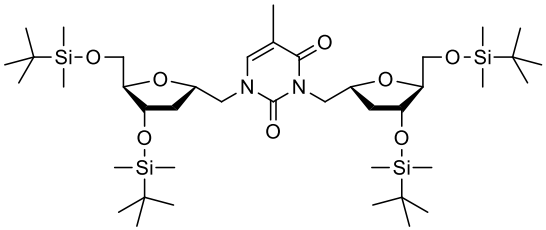
^{13}C NMR (75.5 MHz, MeOH-d_4)

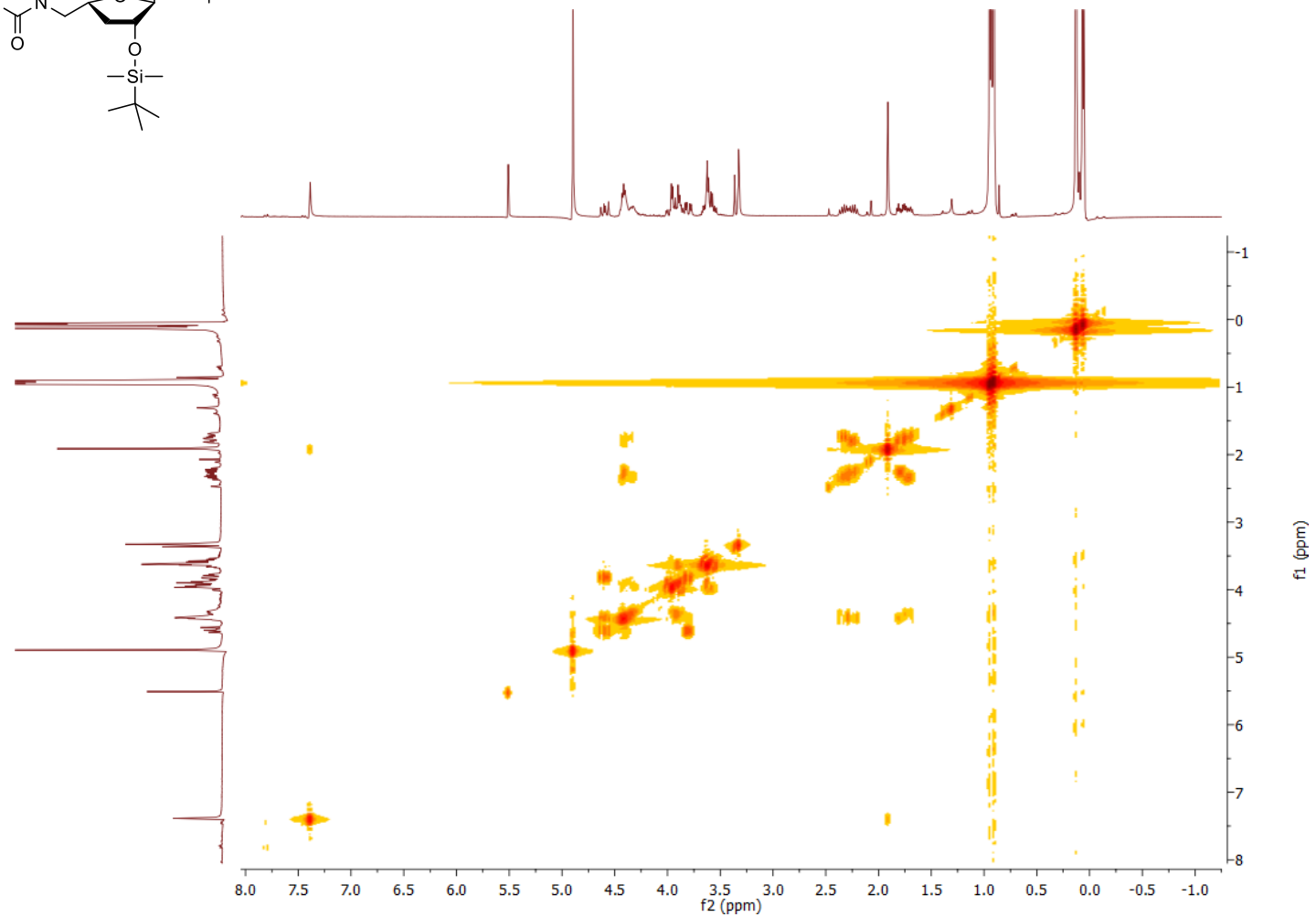


DEPT 135 NMR (75.5 MHz, MeOH-d_4)

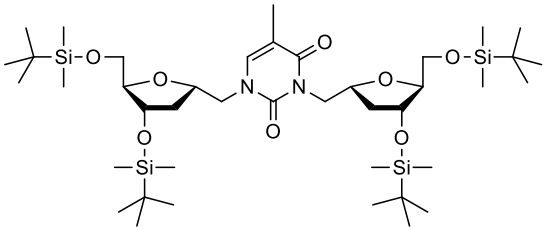


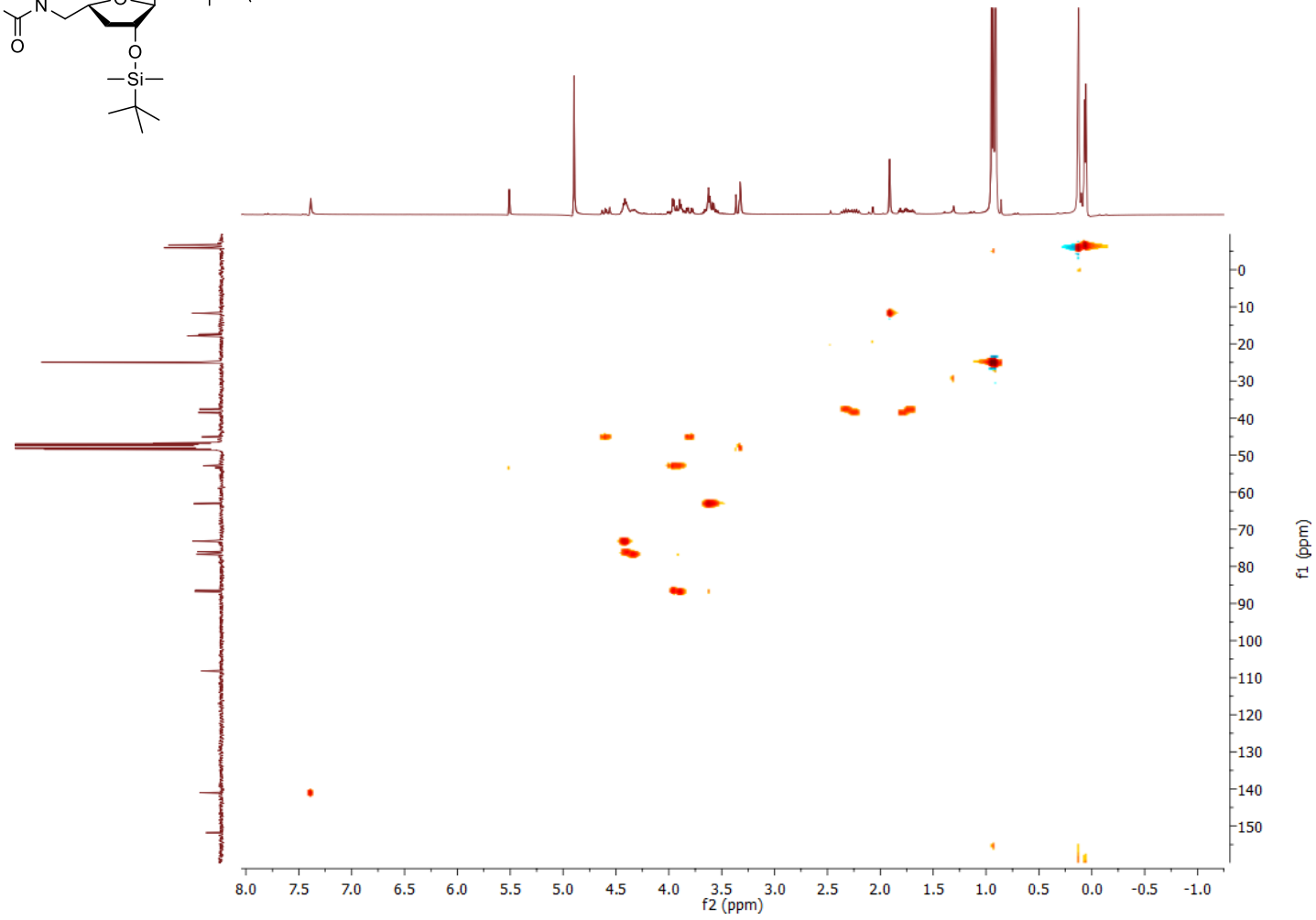
COSY NMR (MeOH-d_4)



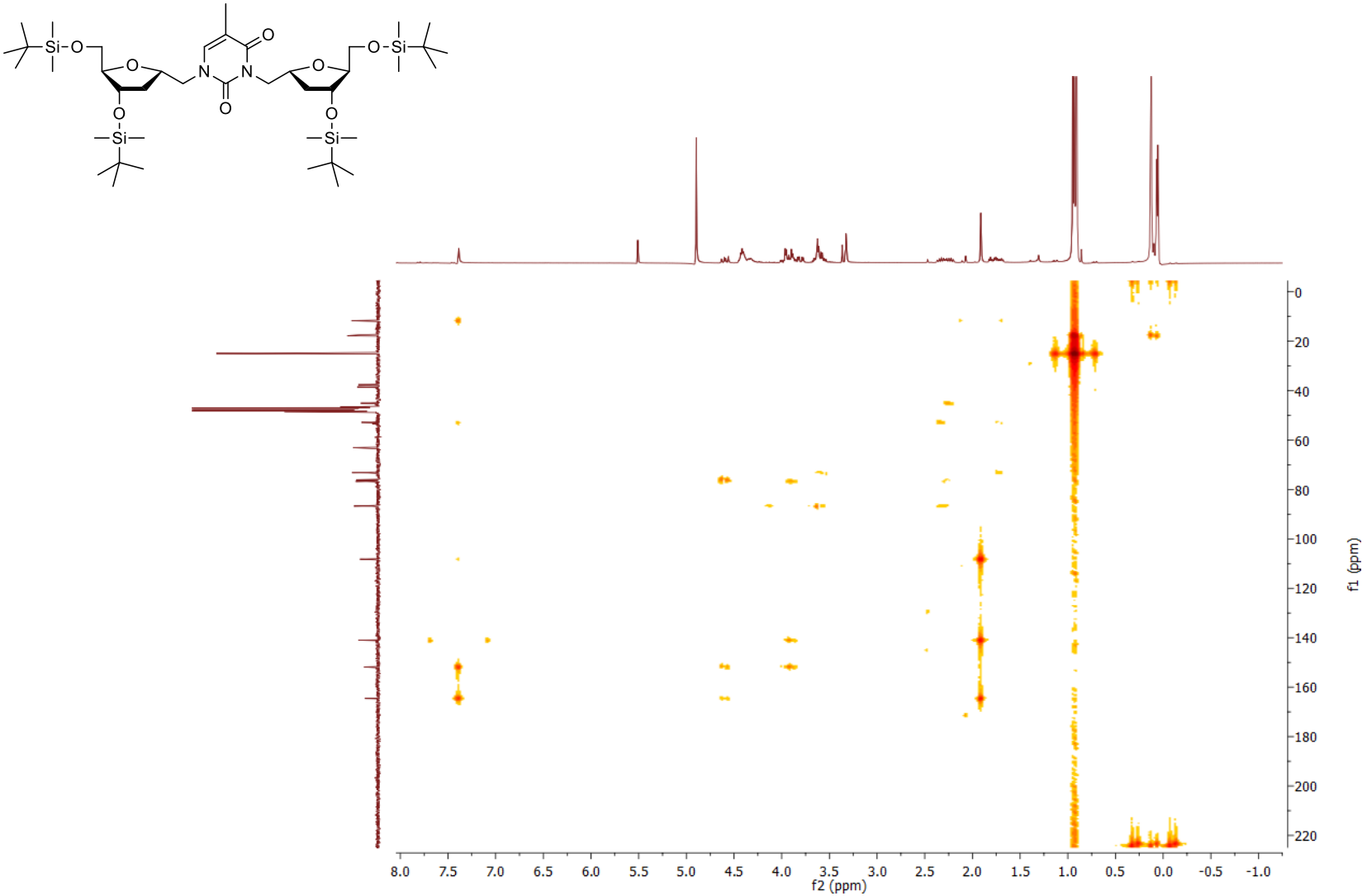


HSQC (75.5 MHz, MeOH-d_4)

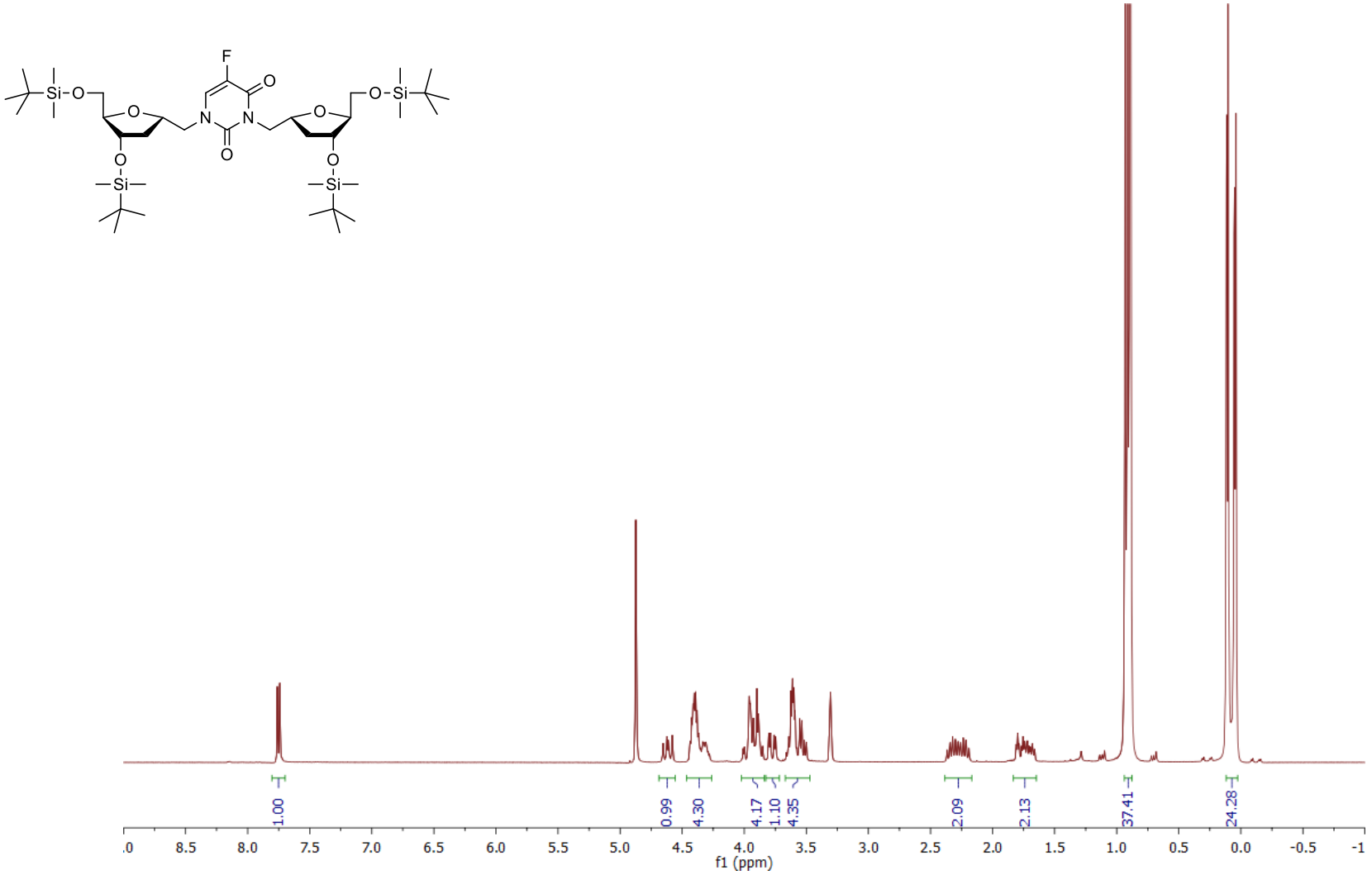




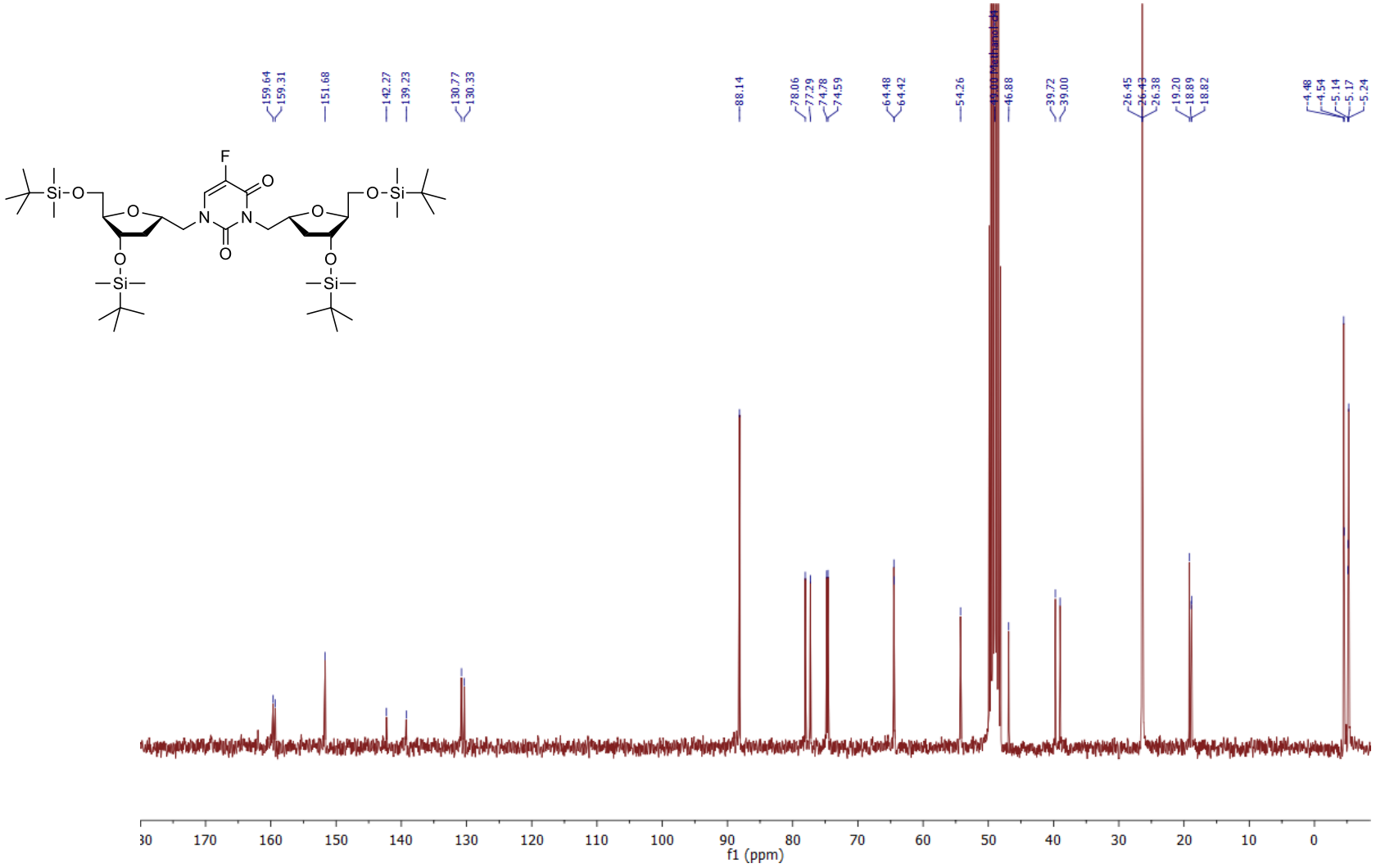
HMBC (MeOH-d_4)



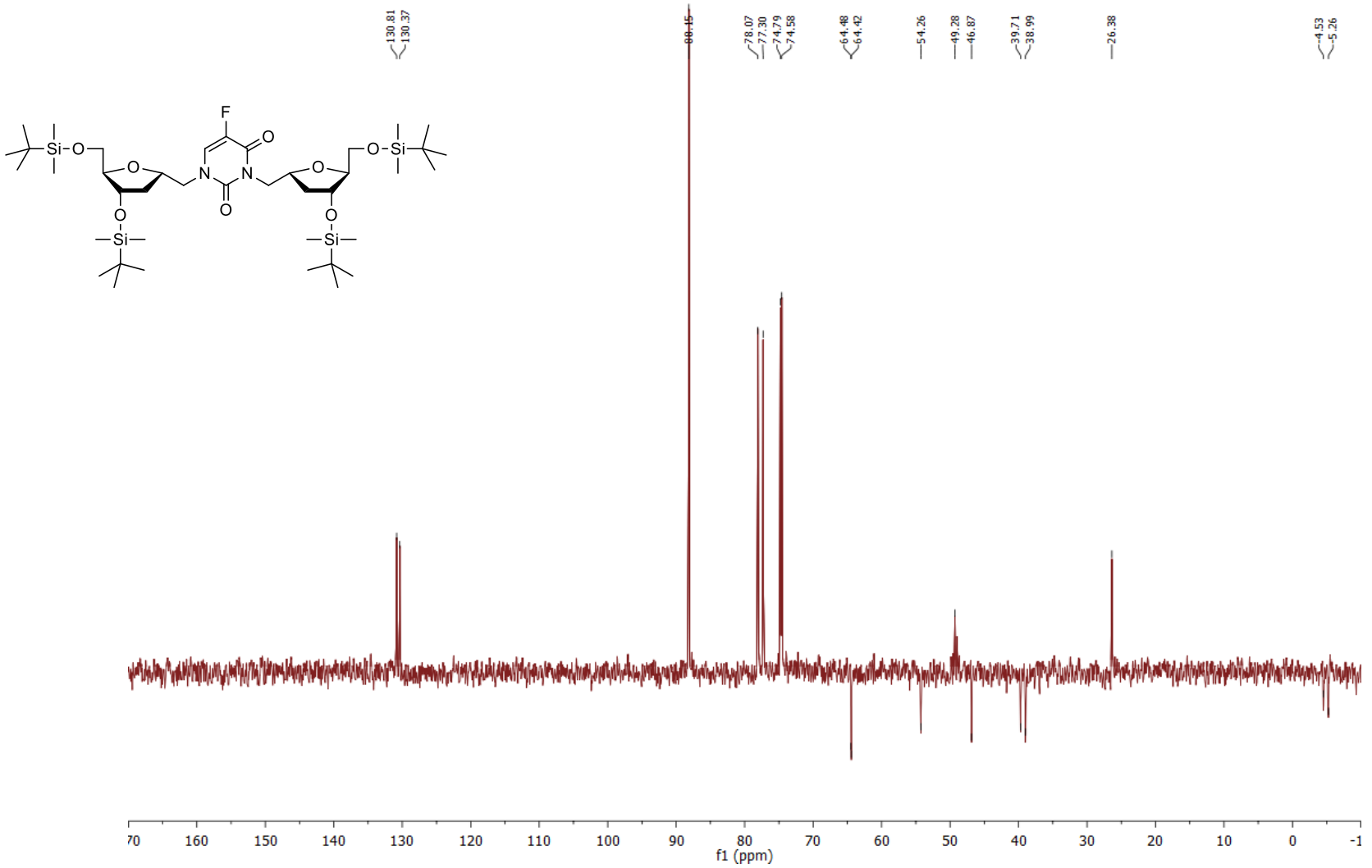
^{1}H NMR (300.13 MHz, MeOH-d_4)



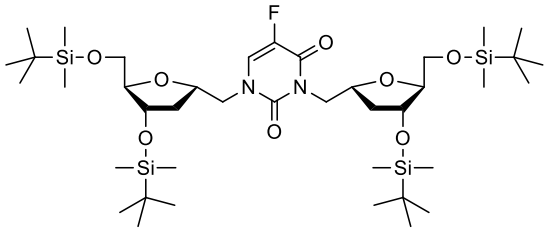
^{13}C NMR (75.5 MHz, MeOH-d_4)

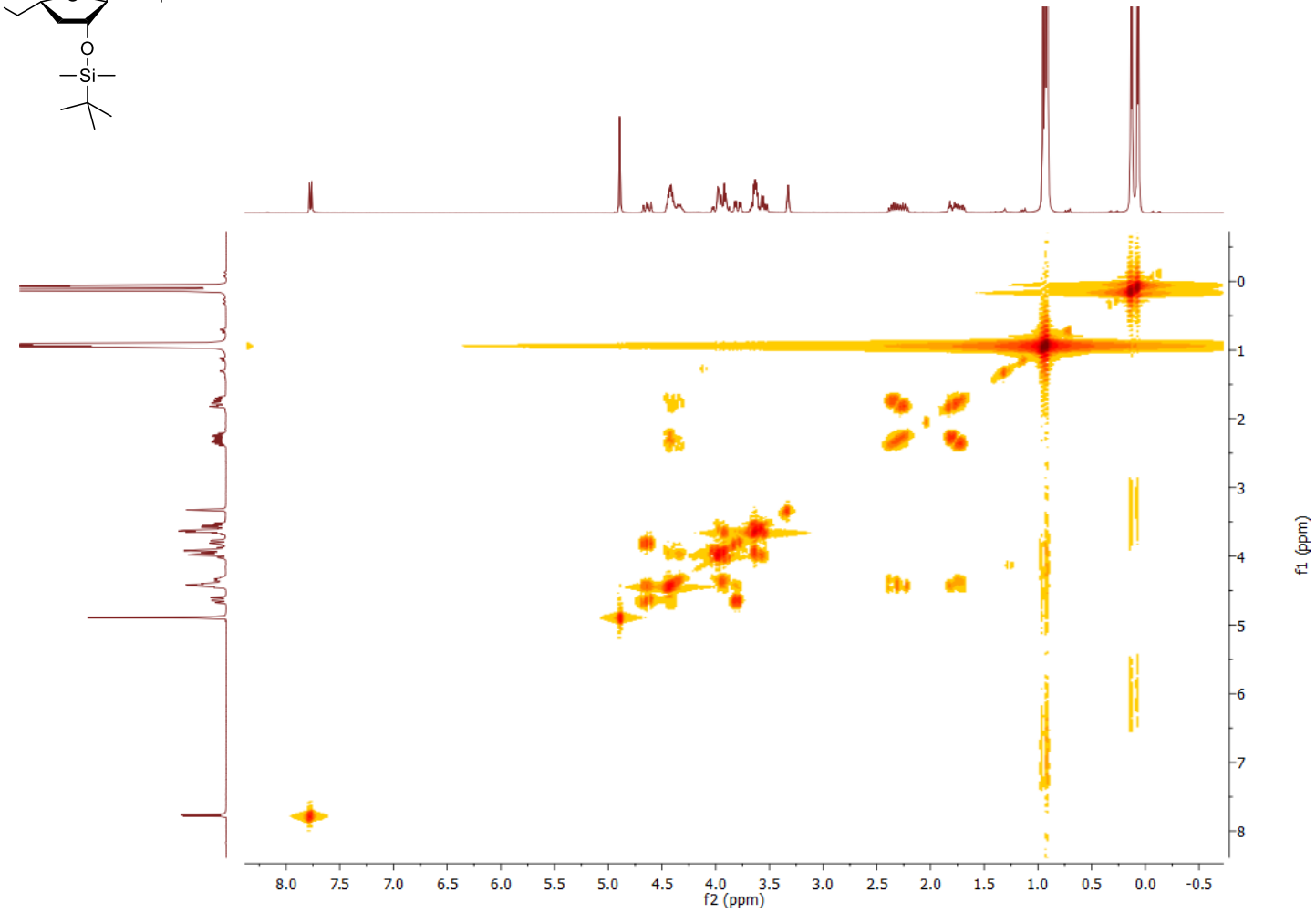


DEPT 135 NMR (75.5 MHz, MeOH-d_4)

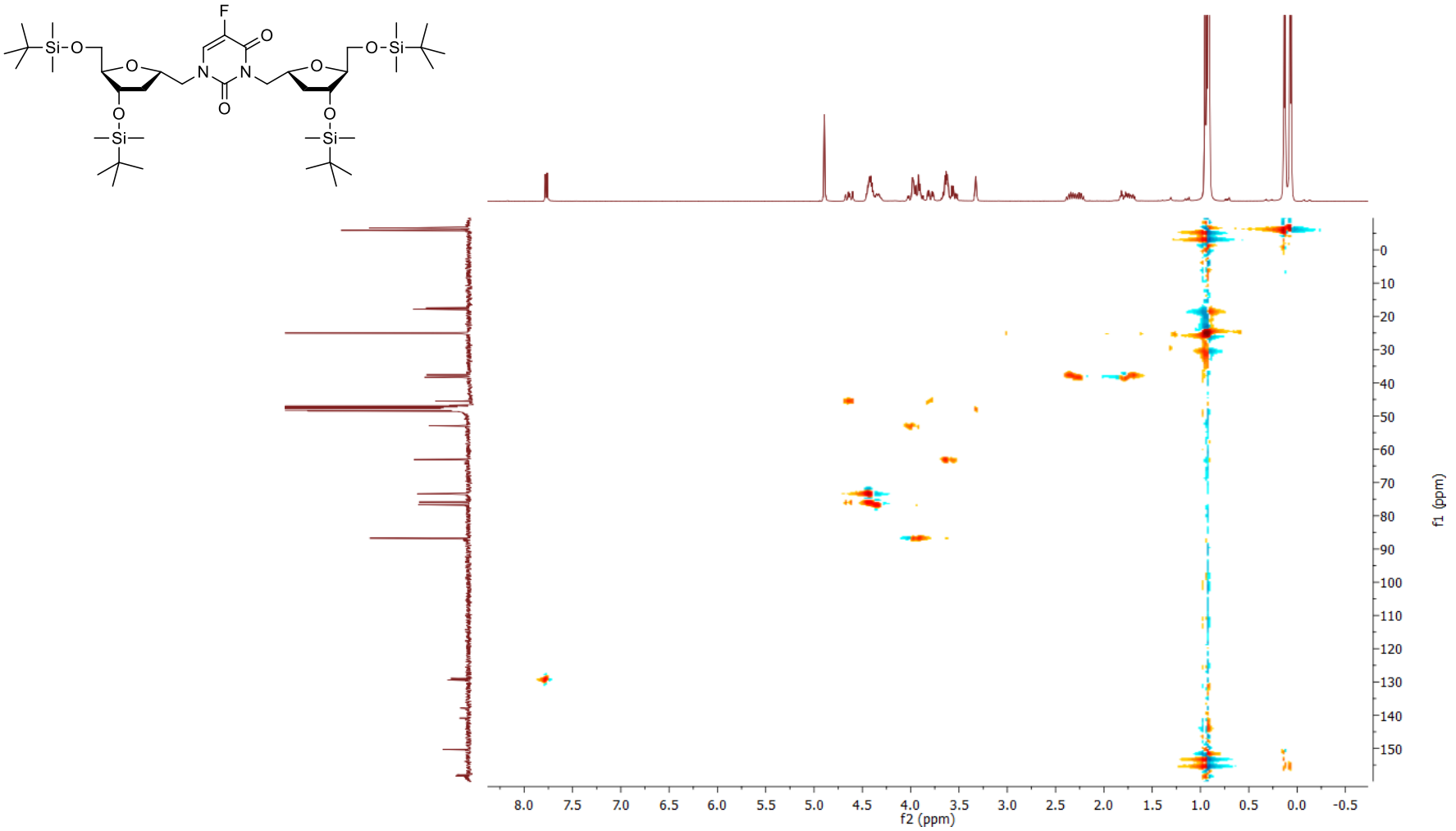


COSY NMR (MeOH-d_4)

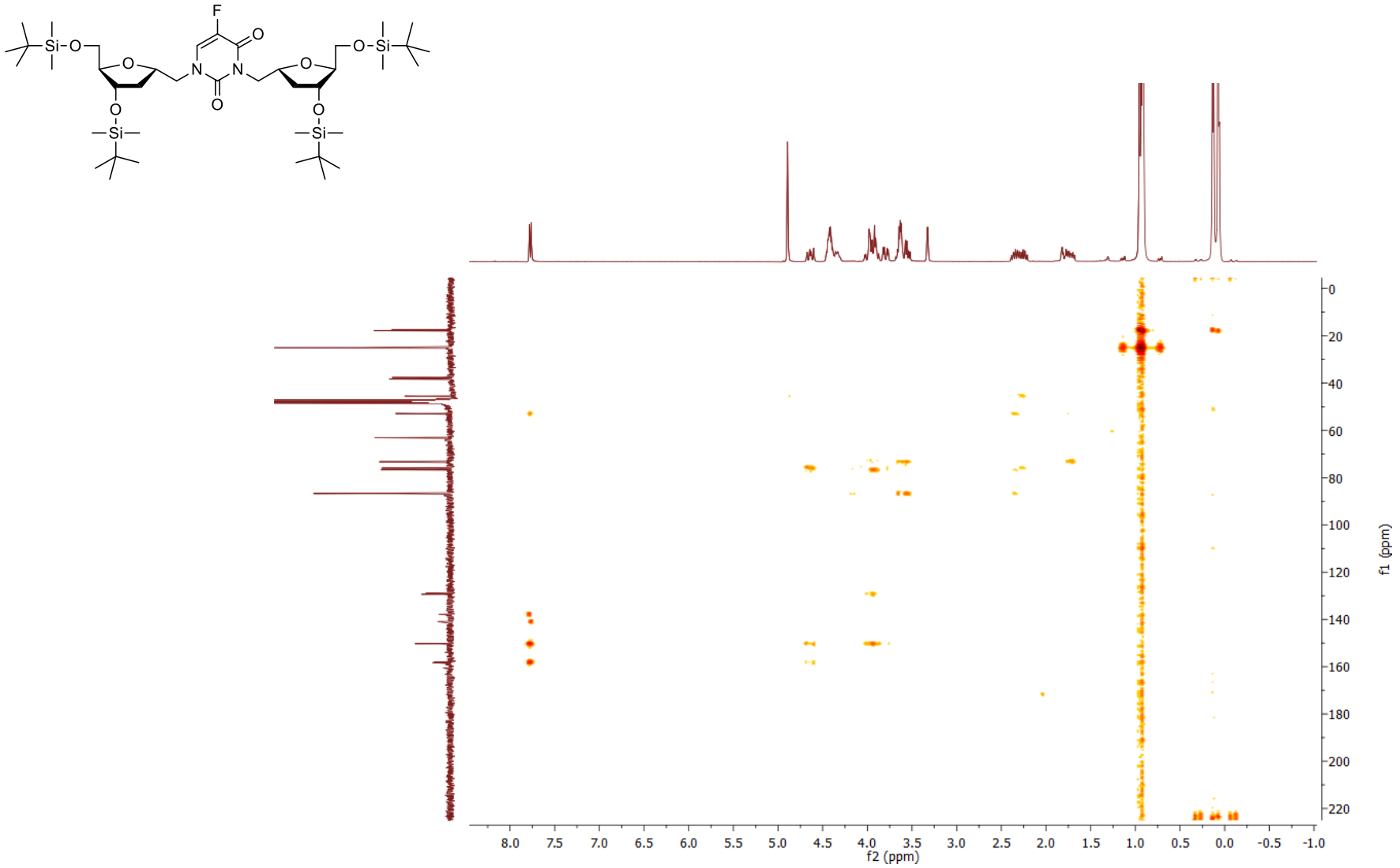




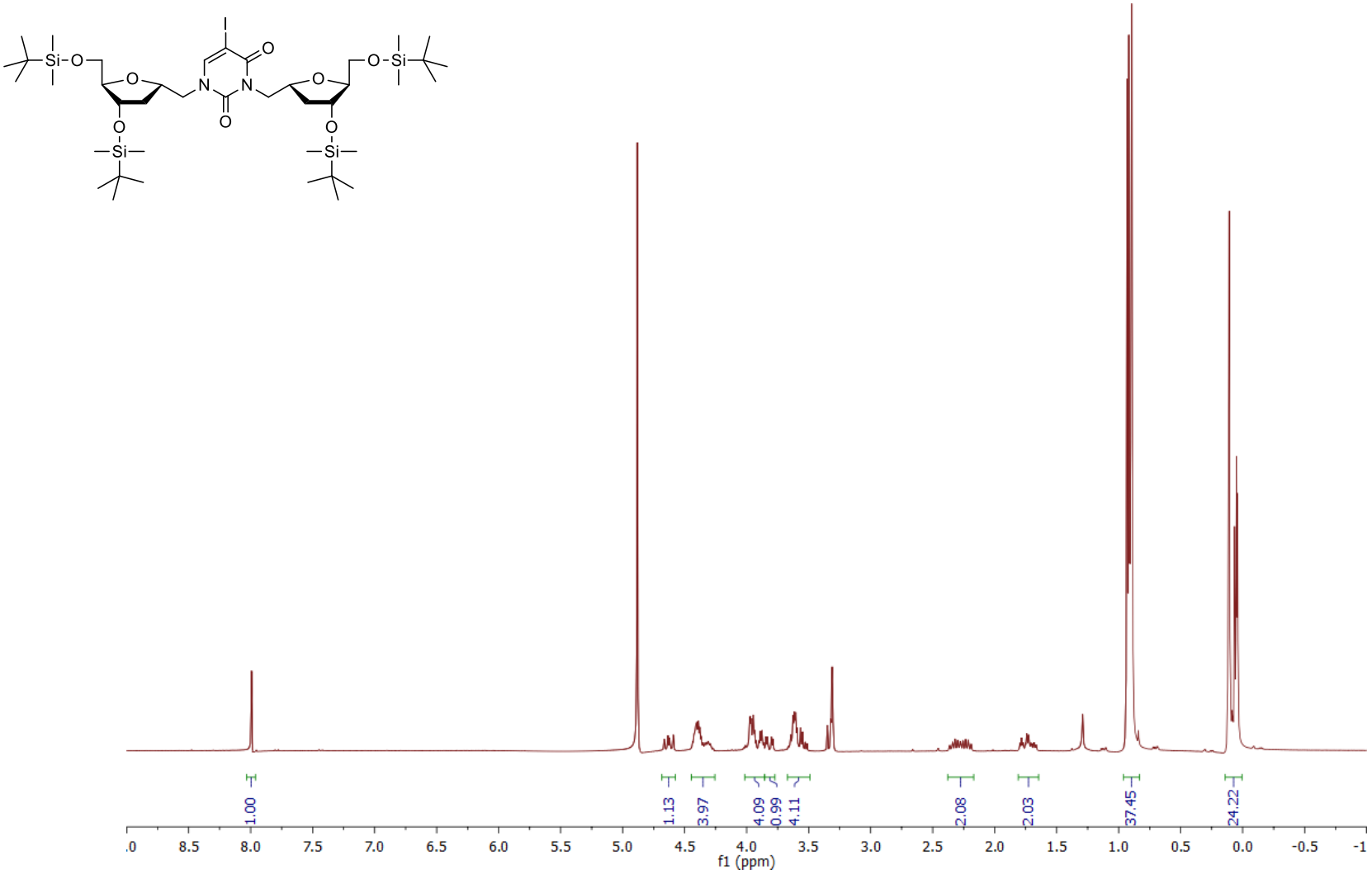
HSQC NMR (MeOH-d_4)



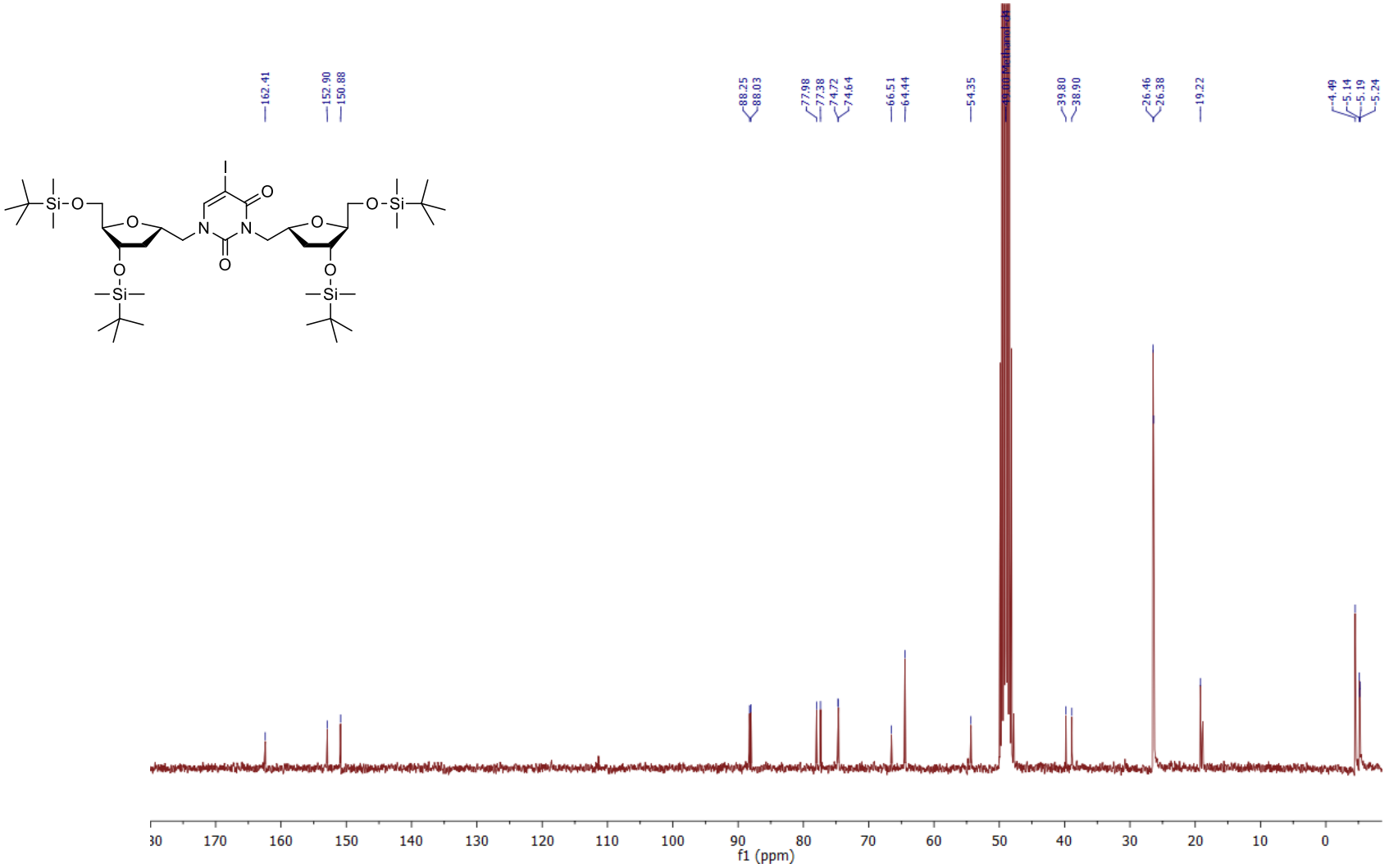
HMBC NMR (MeOH-d_4)



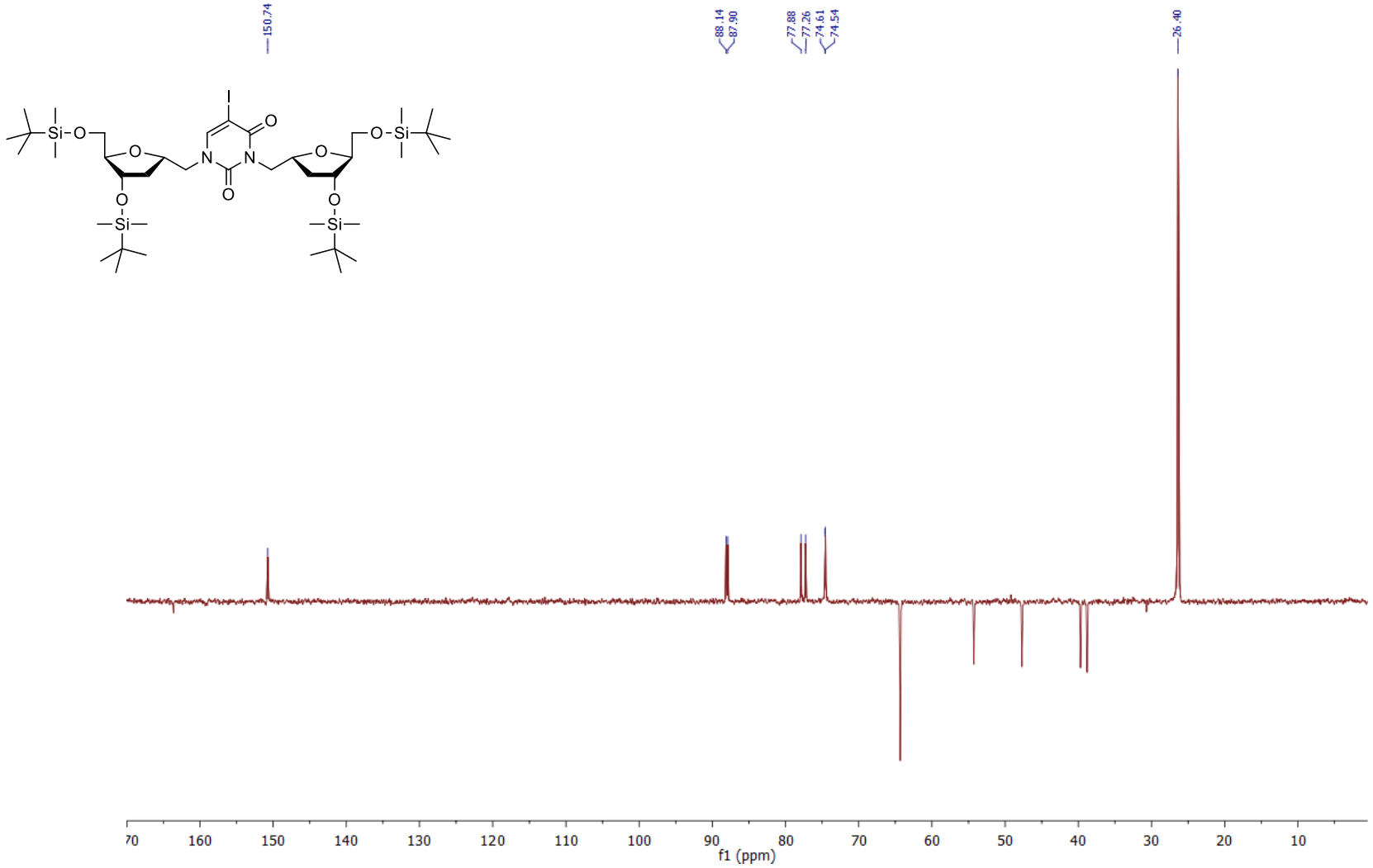
^{1}H NMR (300.13 MHz, MeOH-d_4)



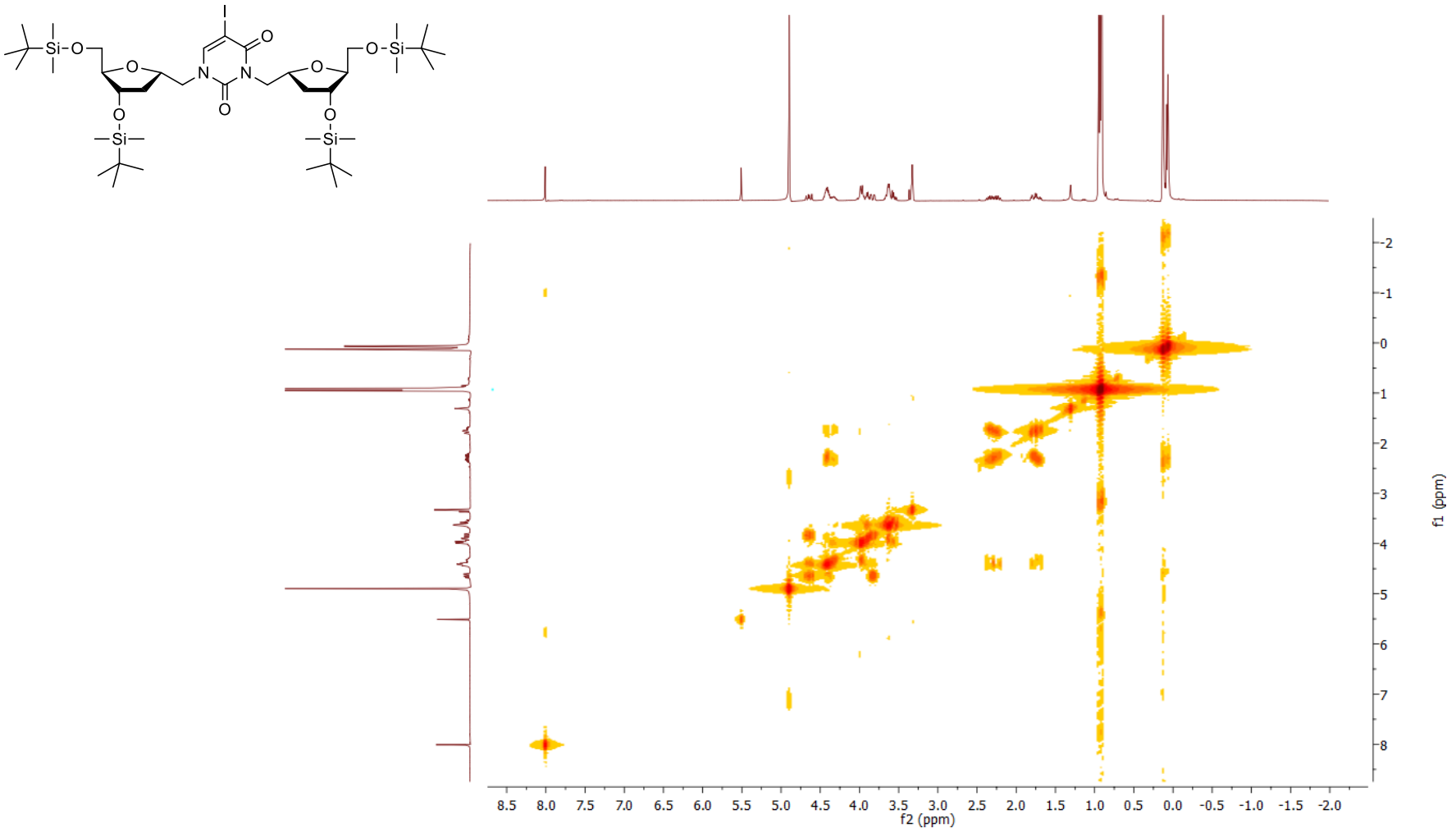
^{13}C NMR (75.5 MHz, MeOH-d_4)



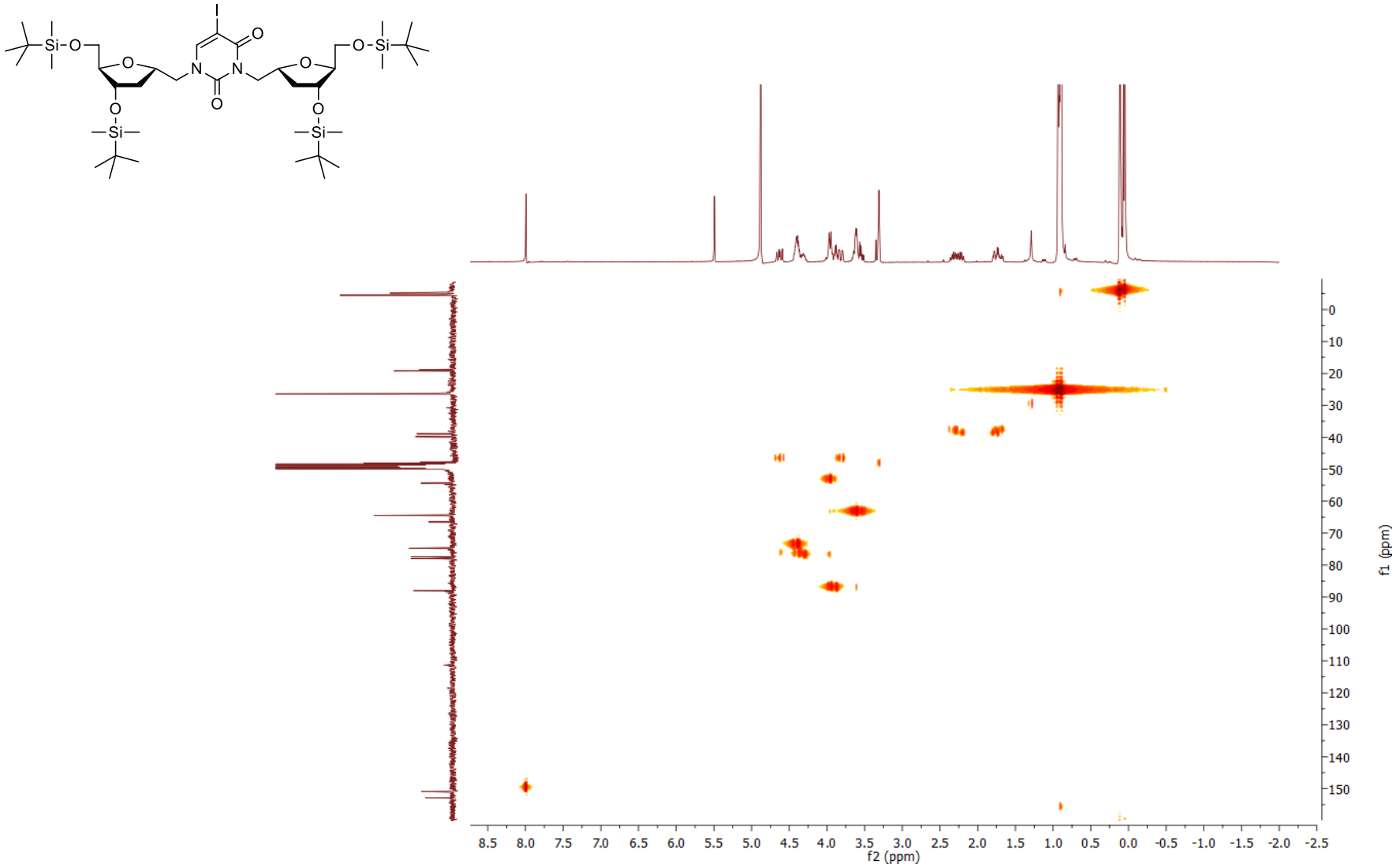
DEPT 135 NMR (75.5 MHz, MeOH-d_4)



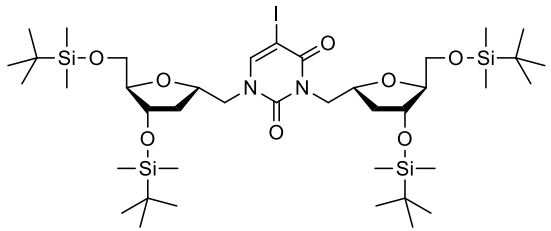
COSY NMR (MeOH-d_4)

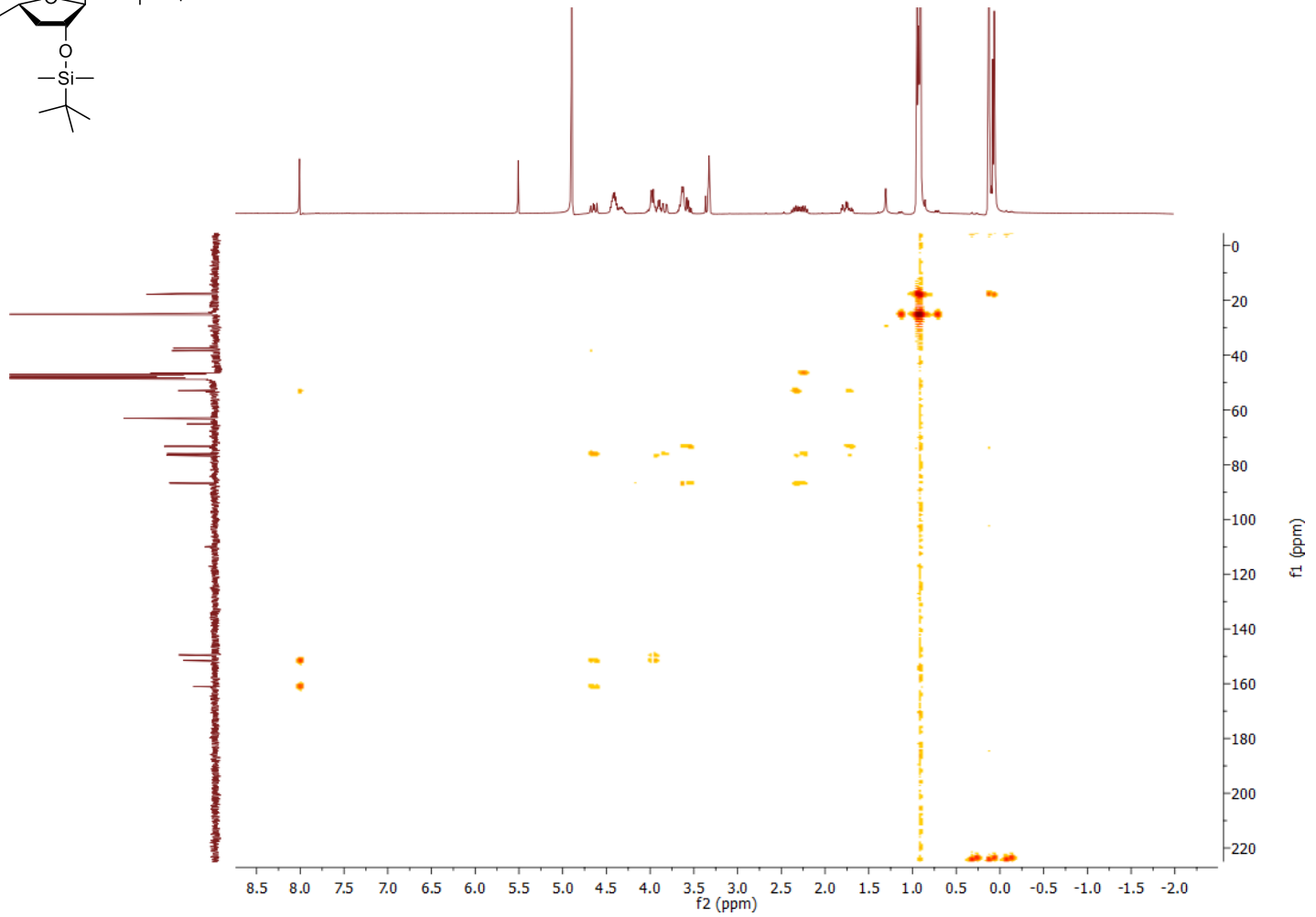


HSQC NMR (MeOH-d_4)



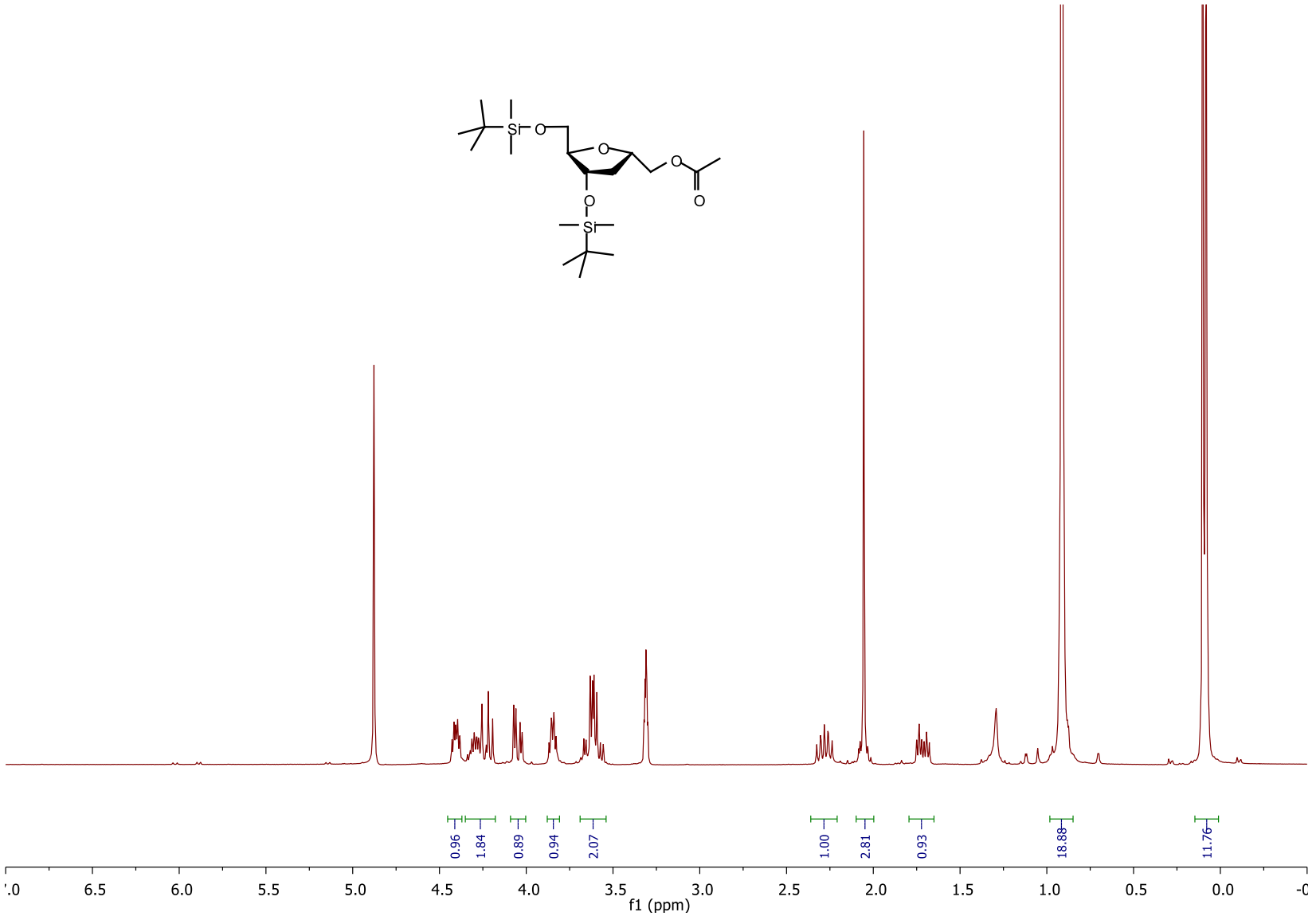
HMBC NMR (MeOH-d_4)



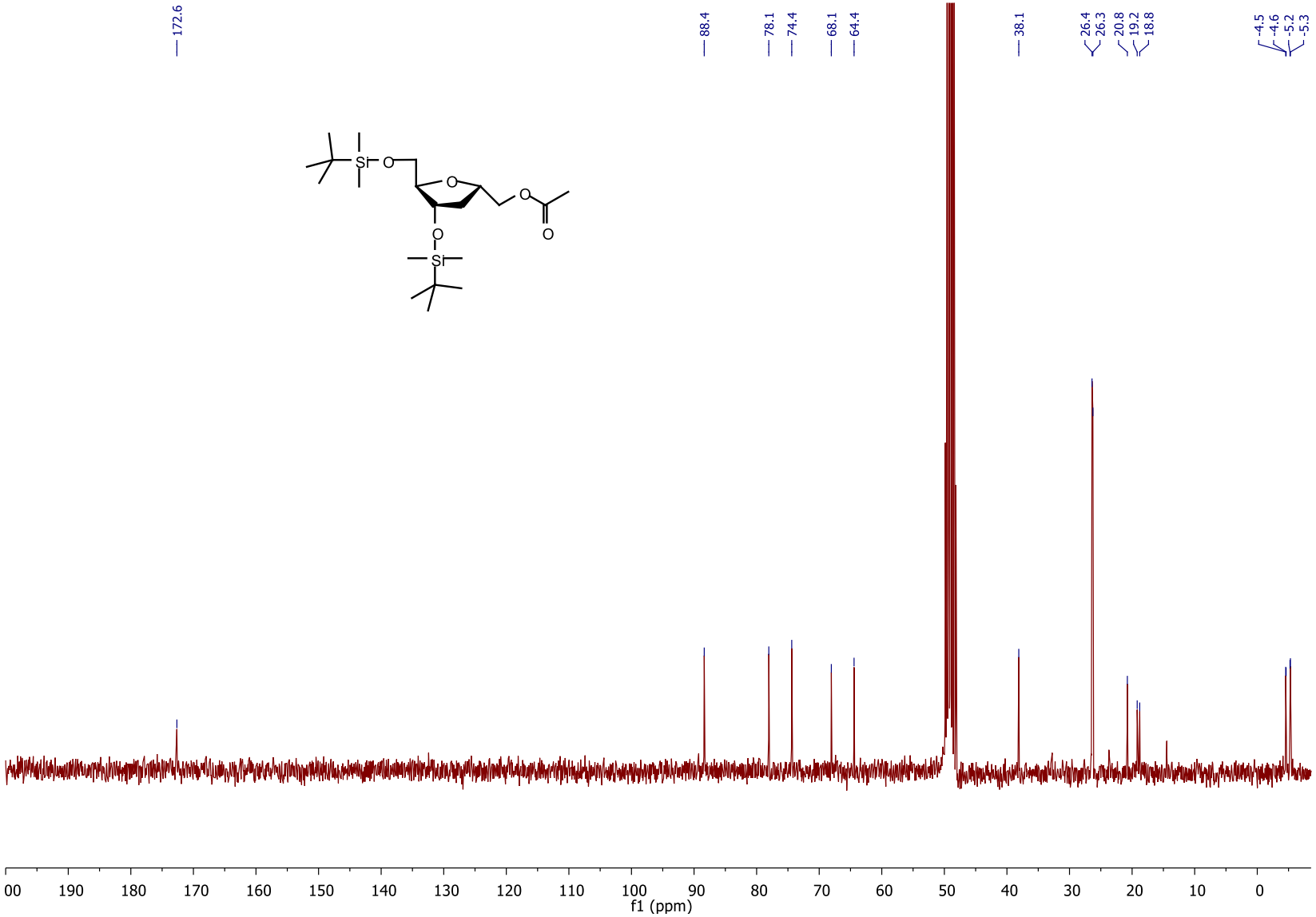


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1,2-dideoxy-1α-((acetoxy)methyl)-D-ribofuranose (19)

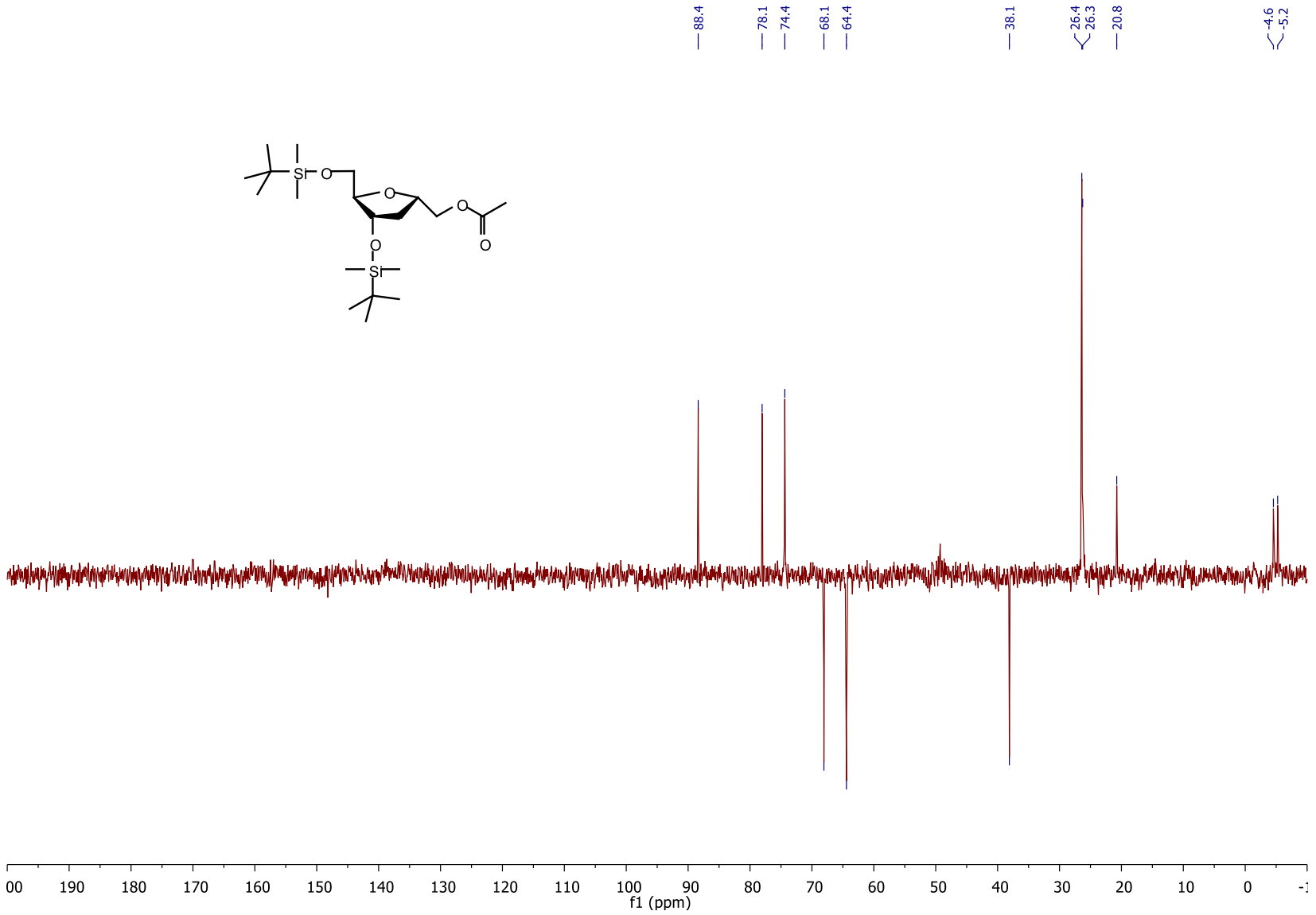
^{1}H NMR (300.13 MHz, MeOH-d_4)



^{13}C NMR (75.5 MHz, MeOH-d_4)

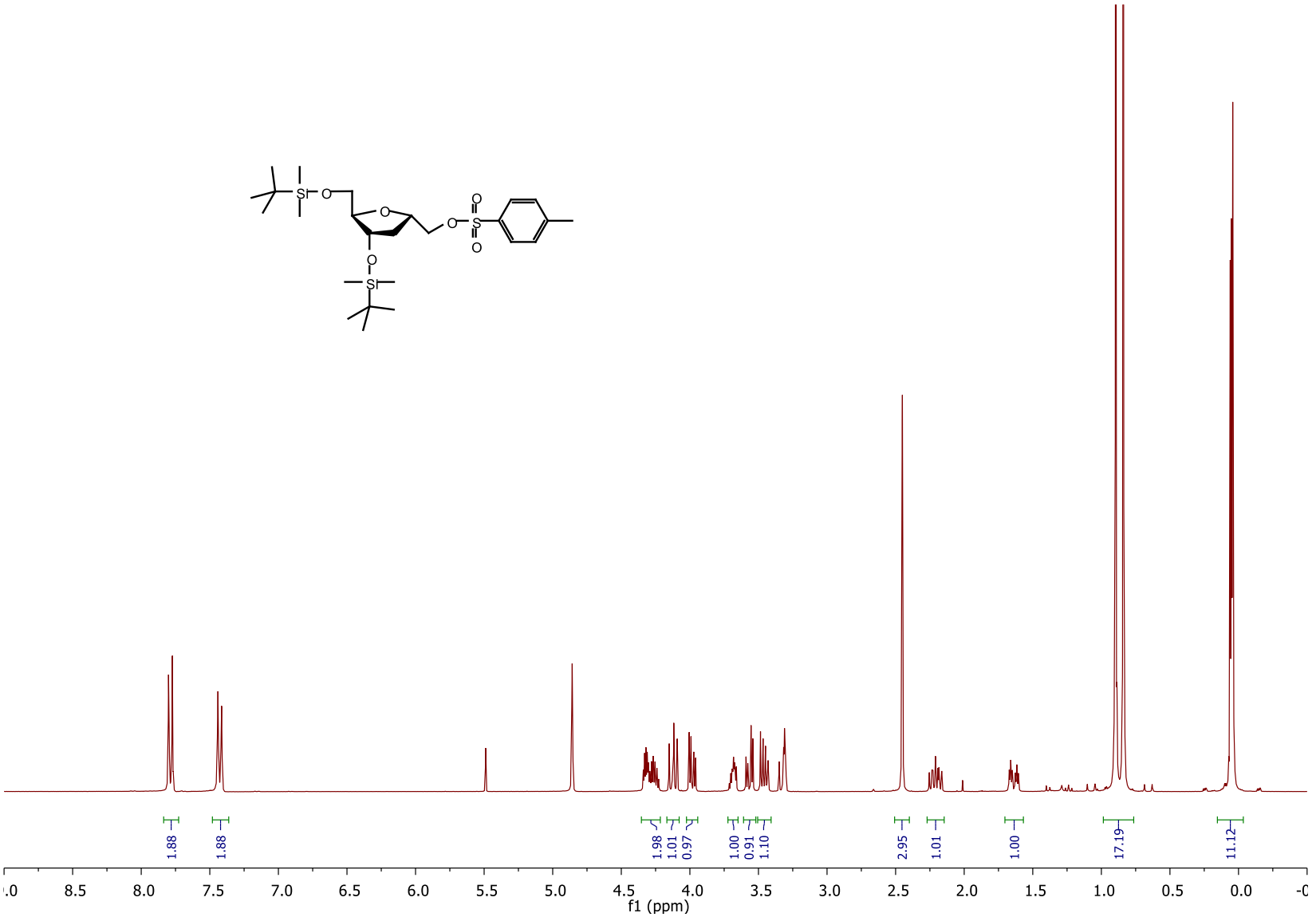


DEPT NMR (75.5 MHz, MeOH-d_4)

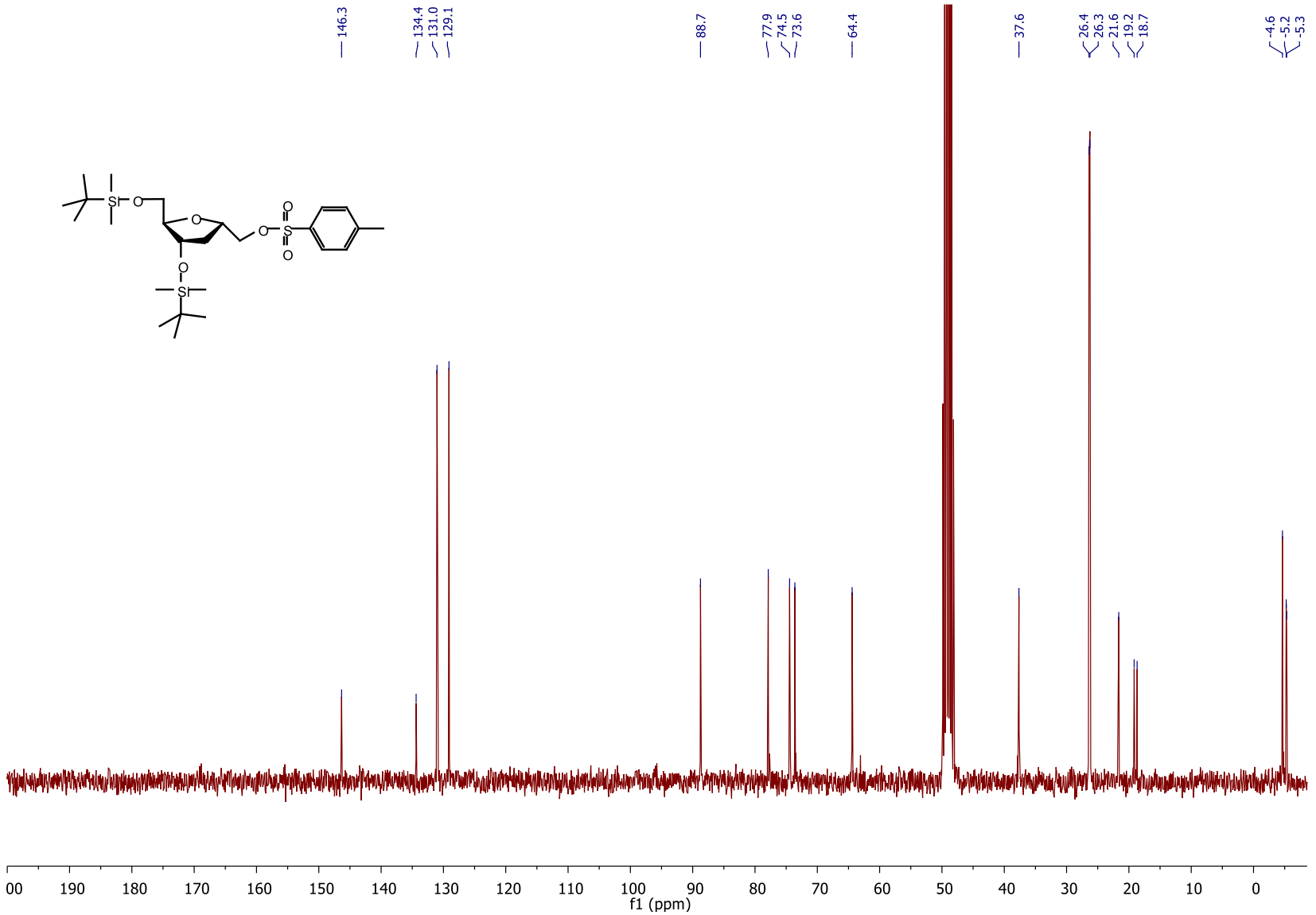


3,5-bis-*O*-(*tert*-Butyldimethylsilyl)-1,2-dideoxy-1α-((tosyloxy)methyl)-D-ribofuranose (20)

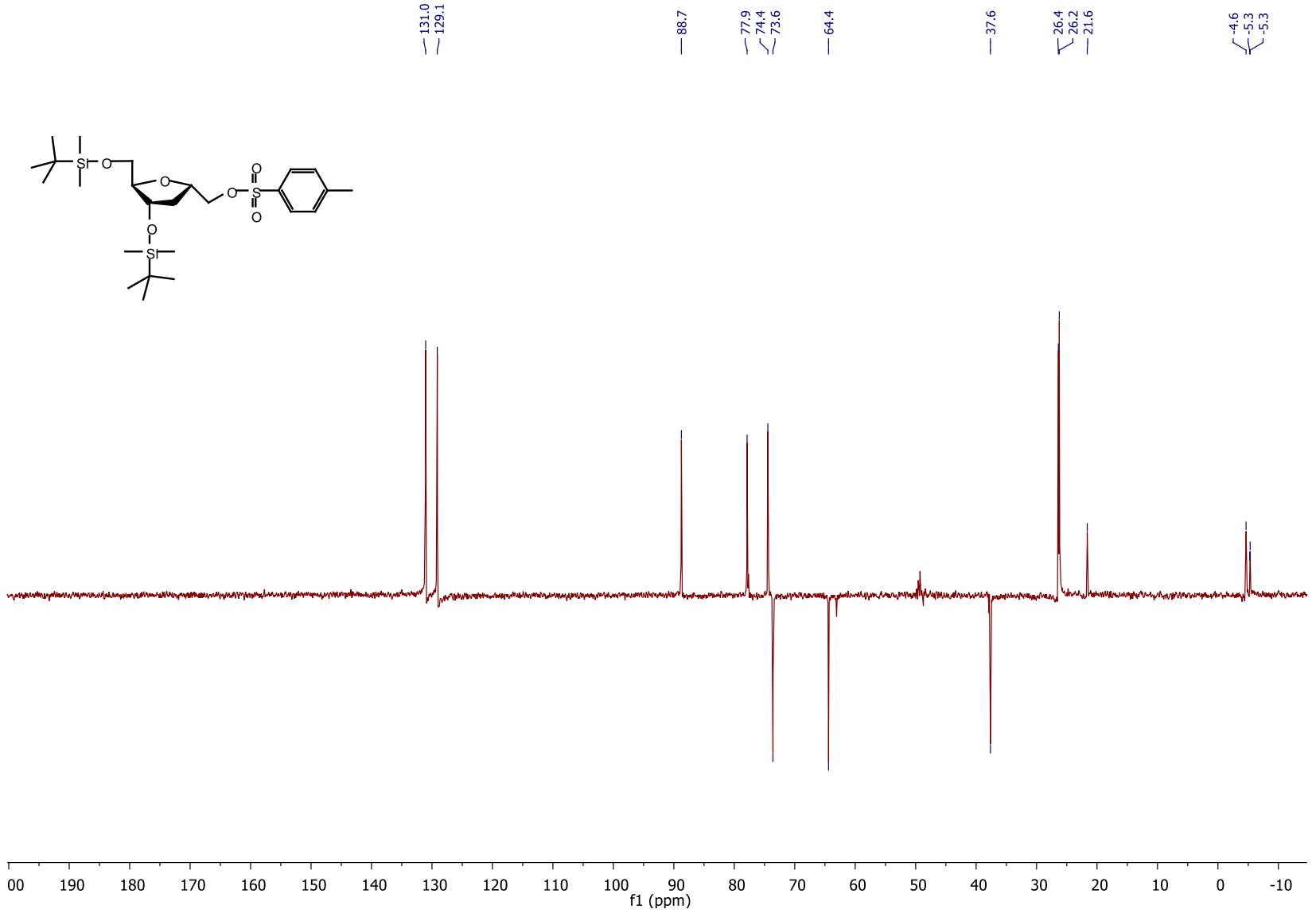
^{1}H NMR (300.13 MHz, MeOH-d_4)



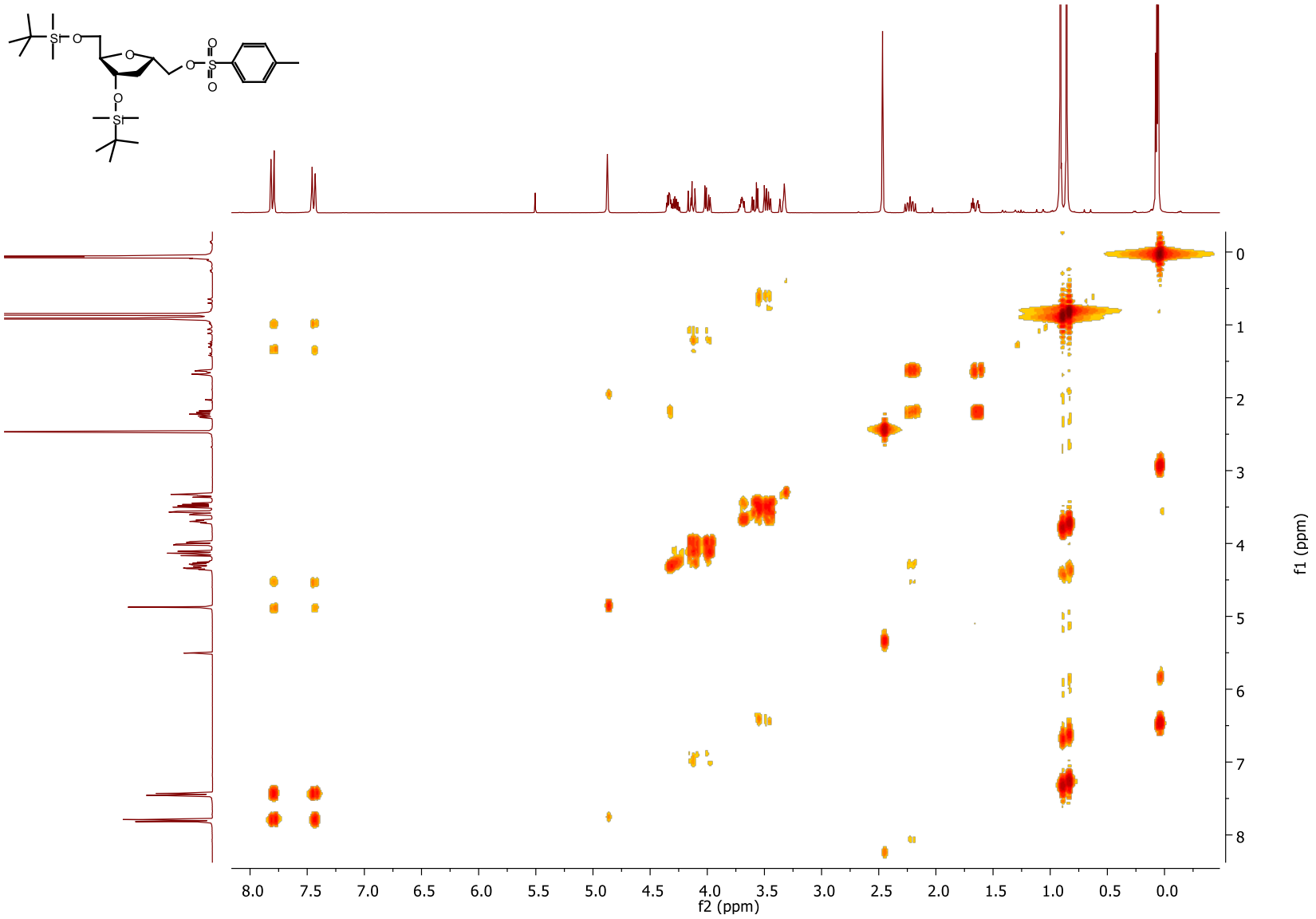
^{13}C NMR (75.5 MHz, MeOH-d_4)



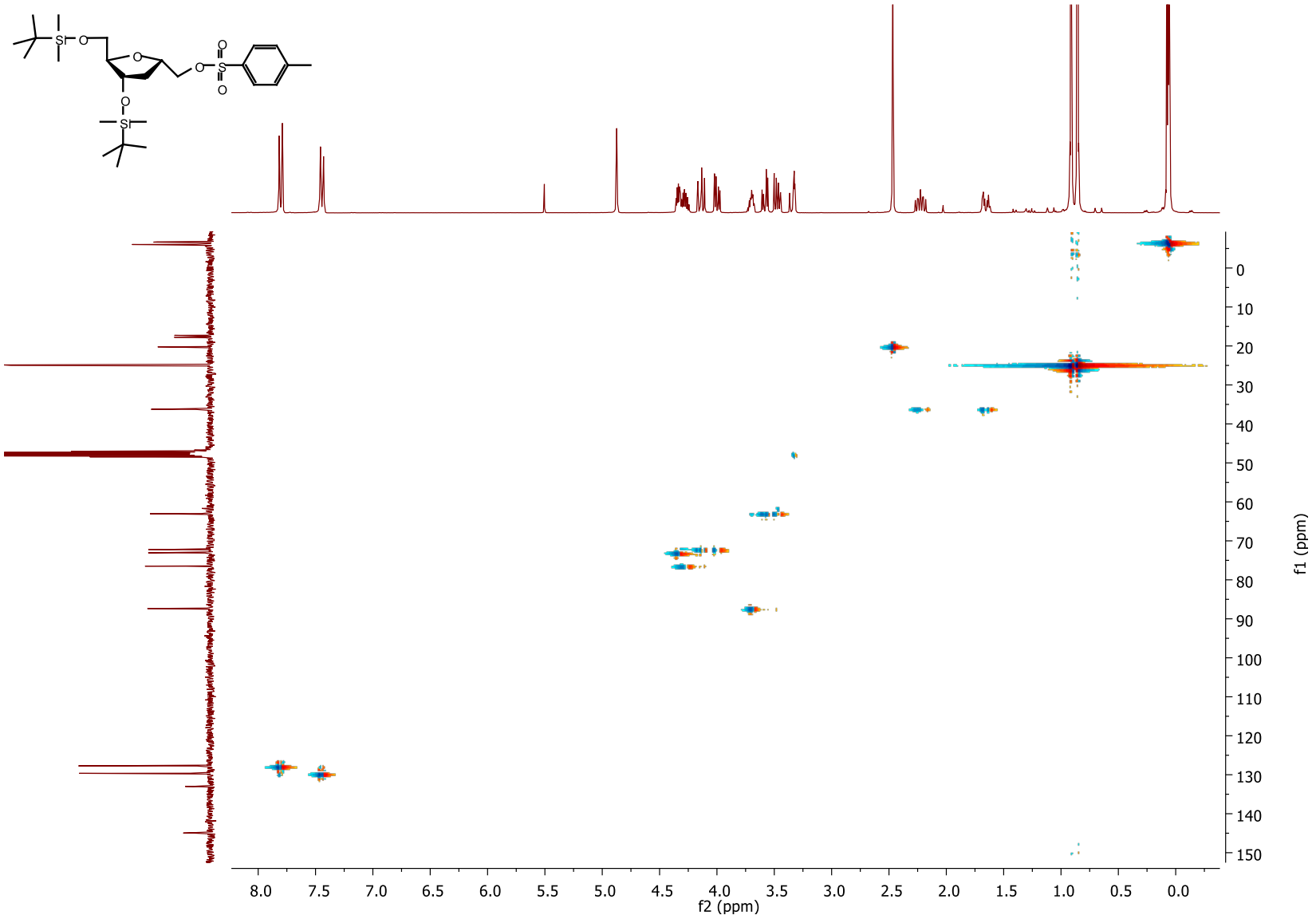
DEPT NMR (75.5 MHz, MeOH-d_4)



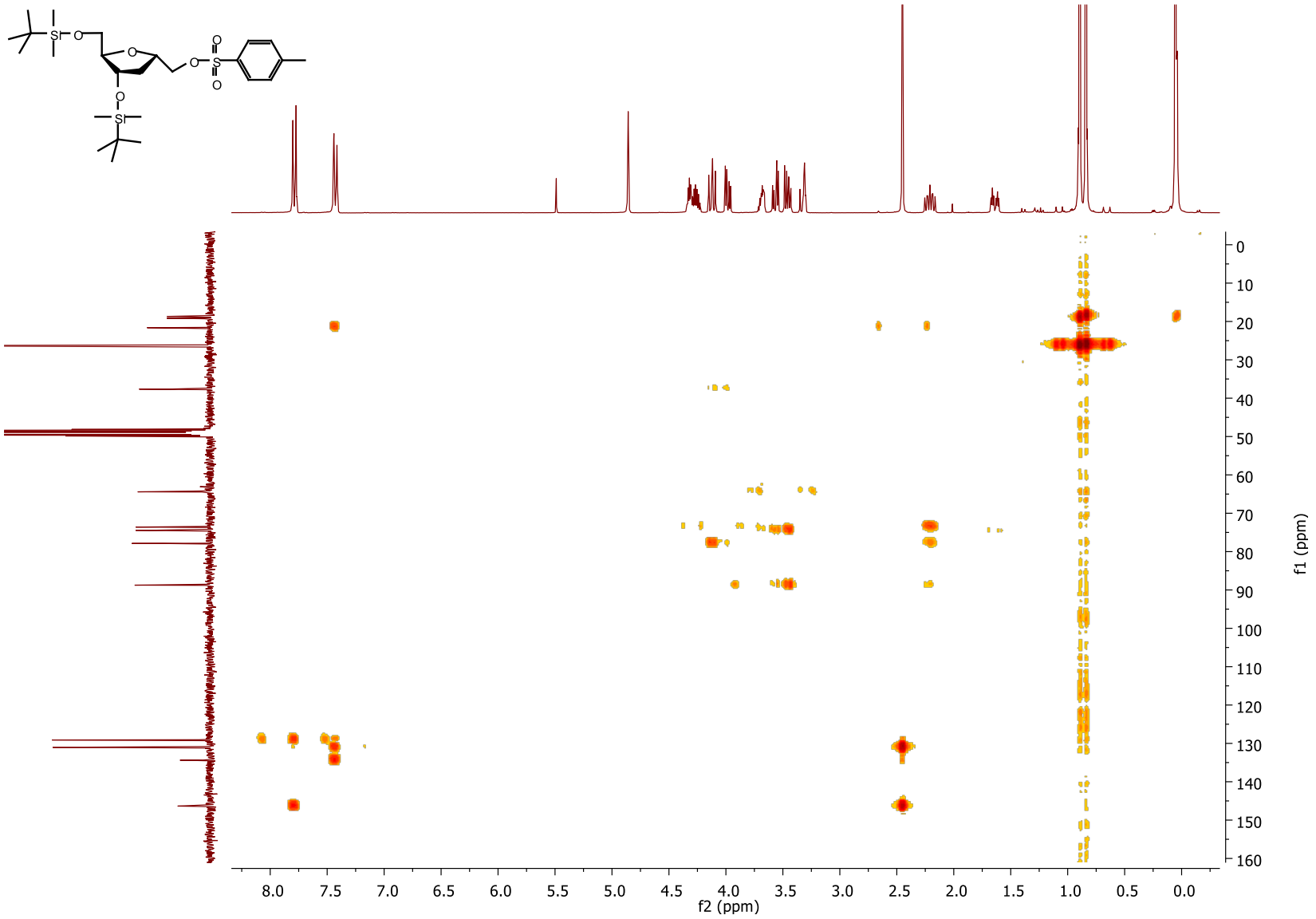
COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)

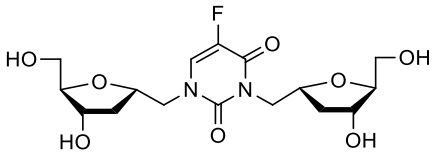


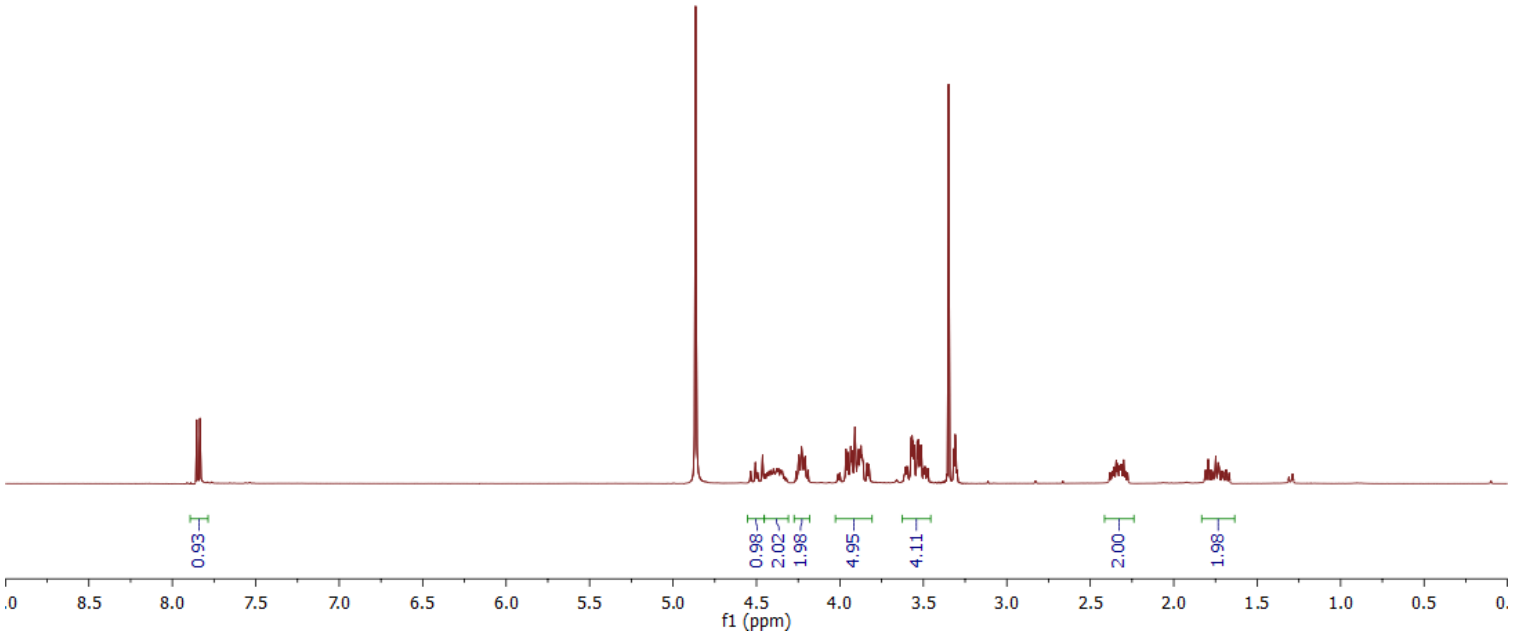
HMBC NMR (MeOH-d_4)



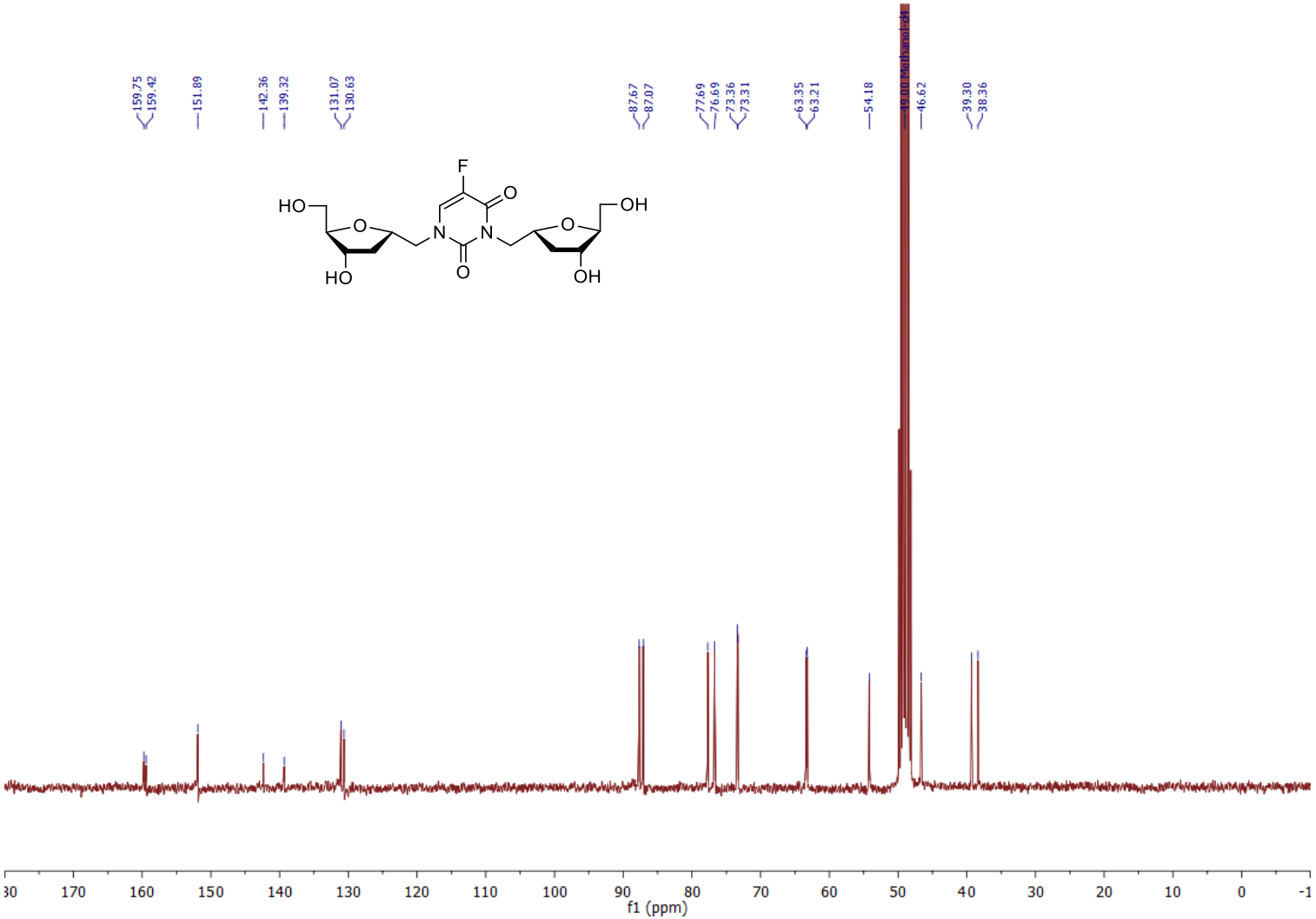
N^1,N^3-bis-(1,2-Dideoxy-α-ribofuranosylmethyl)-5-fluorouracil (21d)

^{1}H NMR (300.13 MHz, MeOH-d_4)

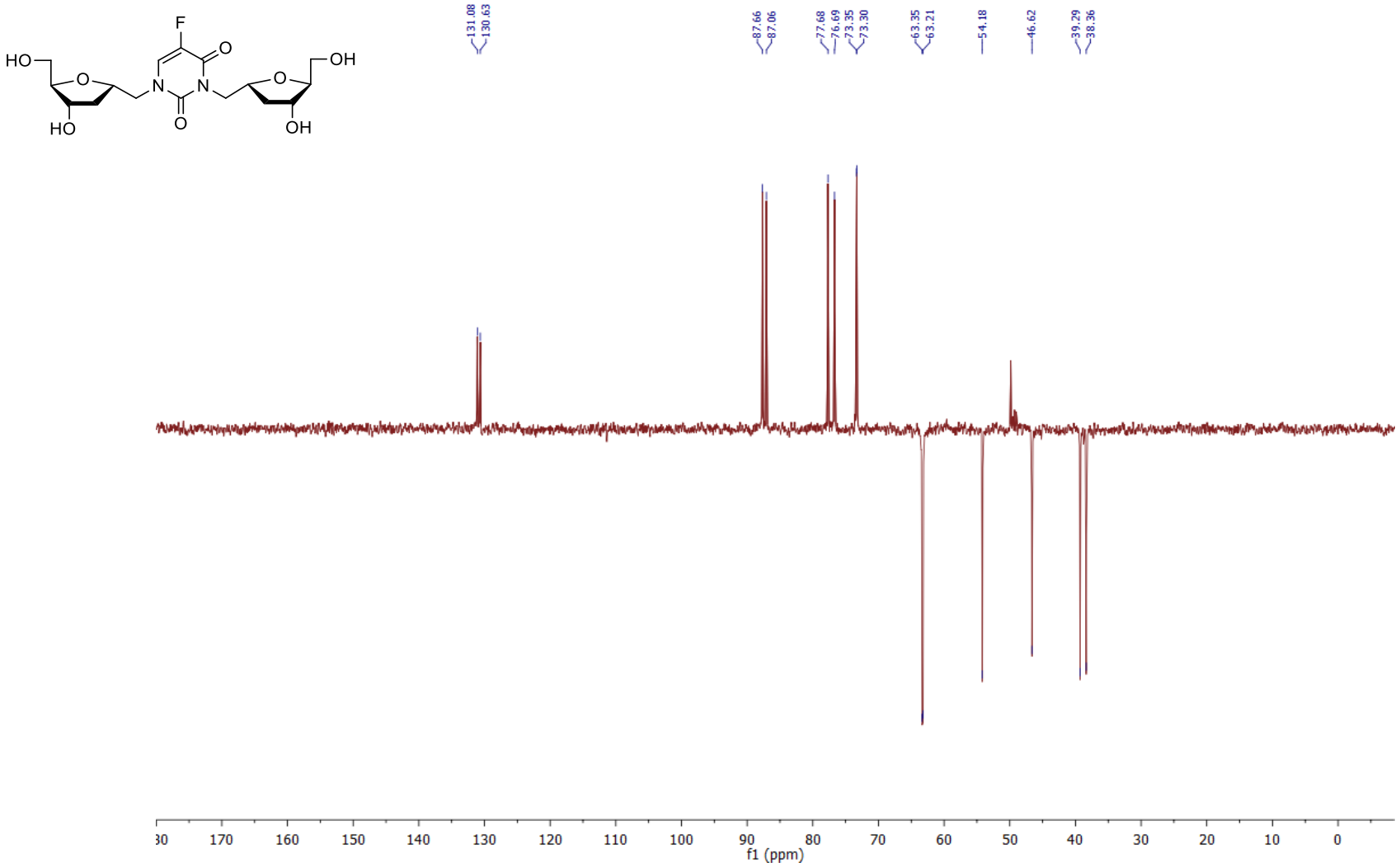




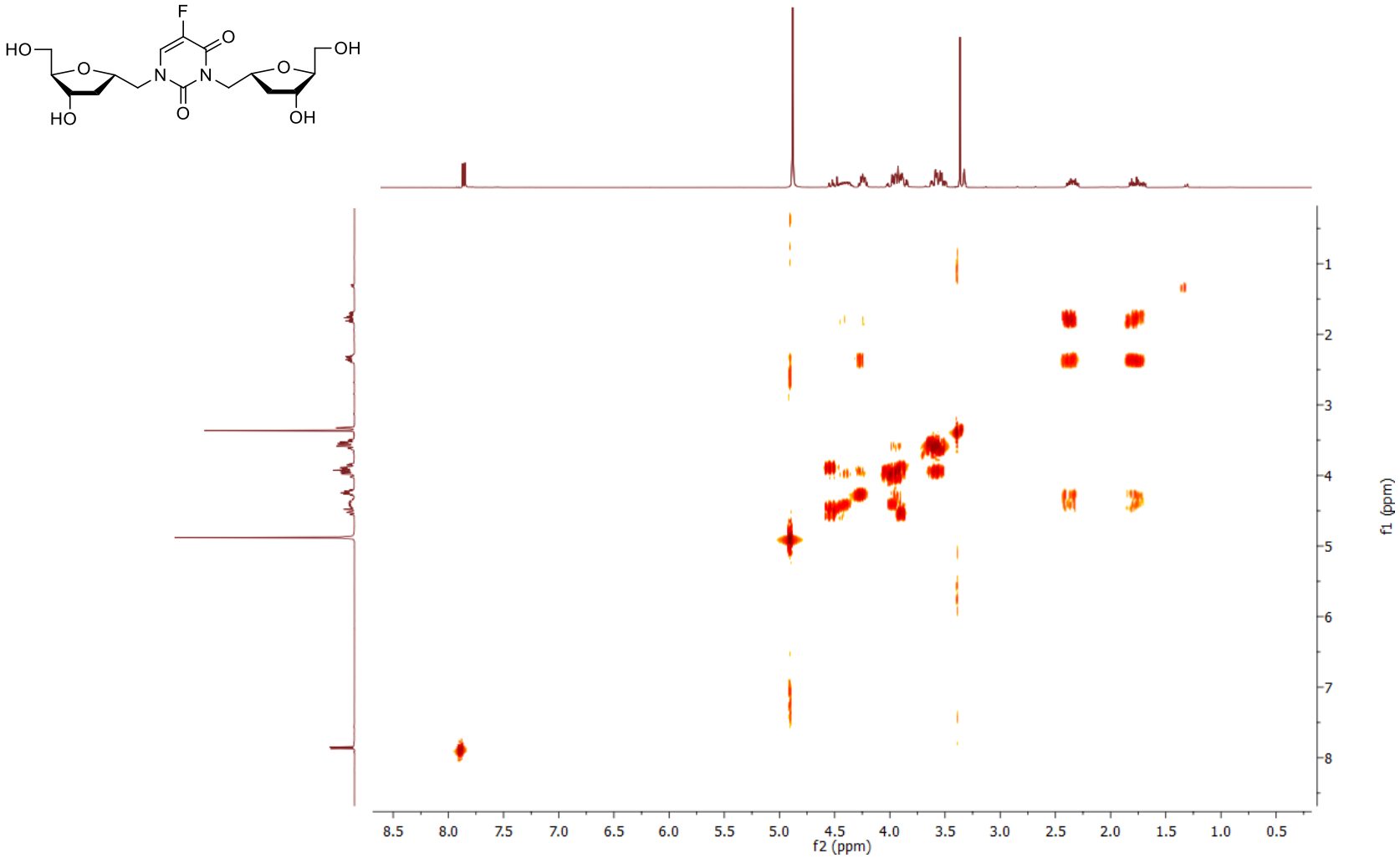
^{13}C NMR (75.5 MHz, MeOH-d_4)



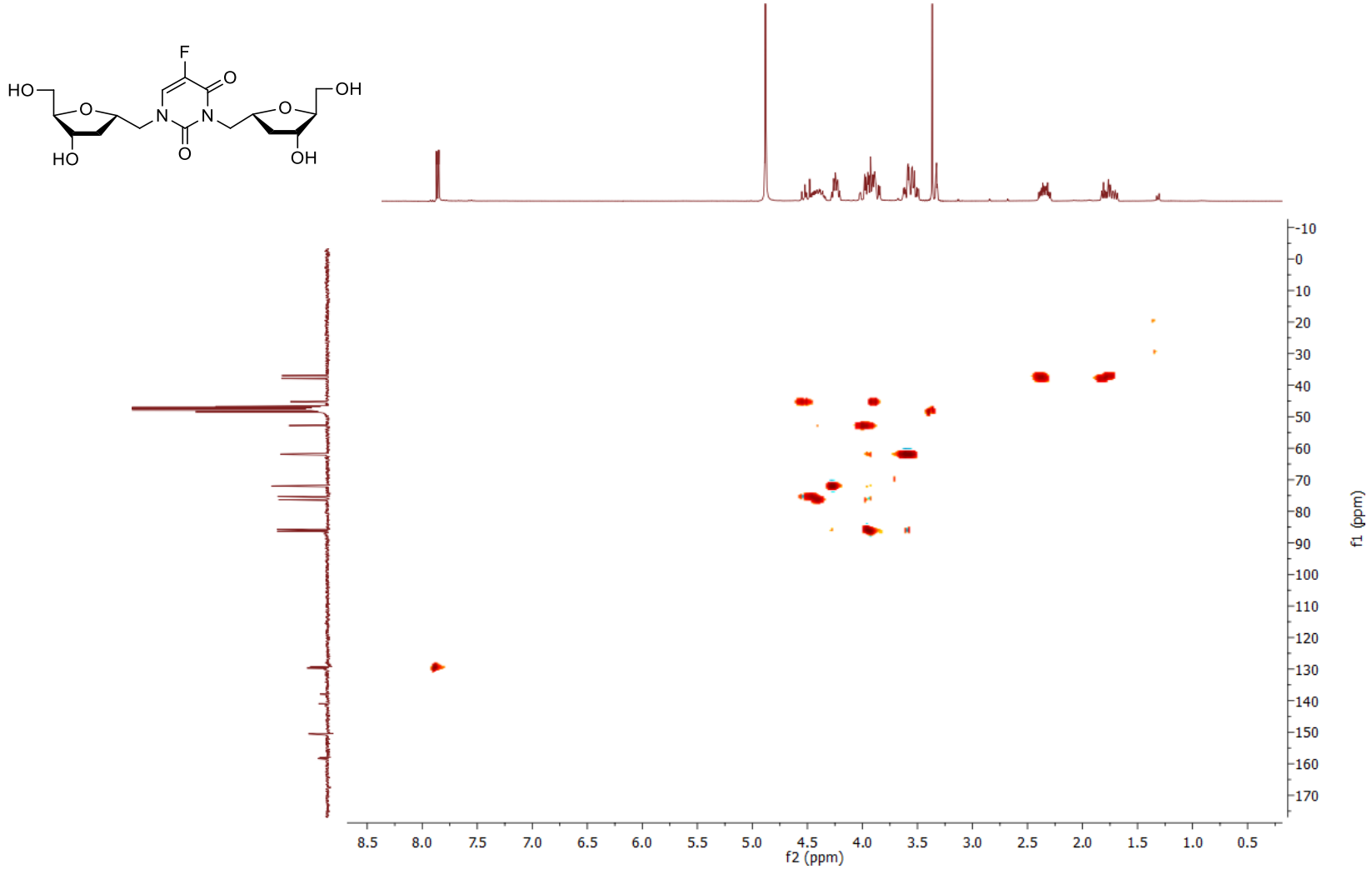
DEPT 135 NMR (75.5 MHz, MeOH-d_4)



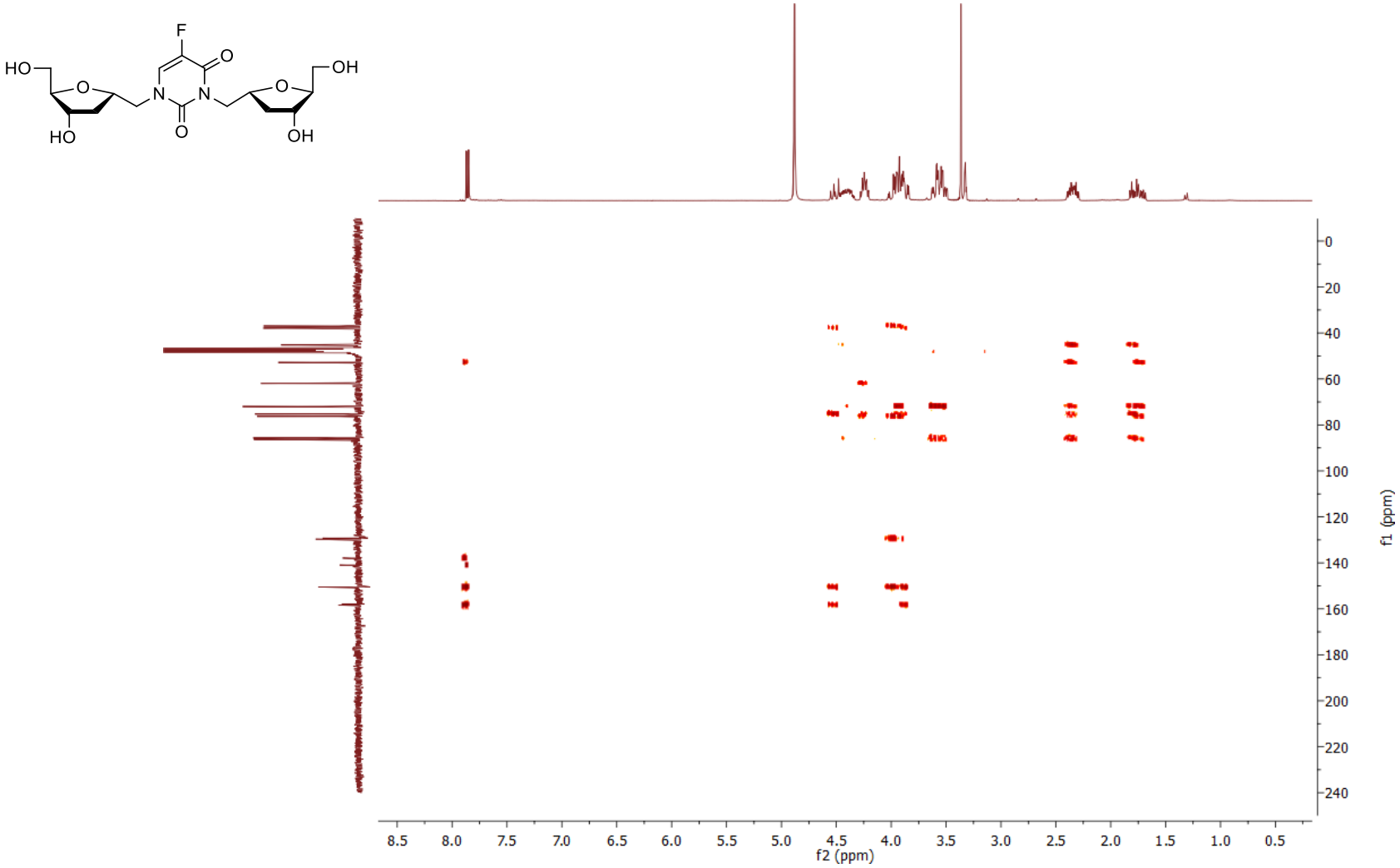
COSY NMR (MeOH-d_4)



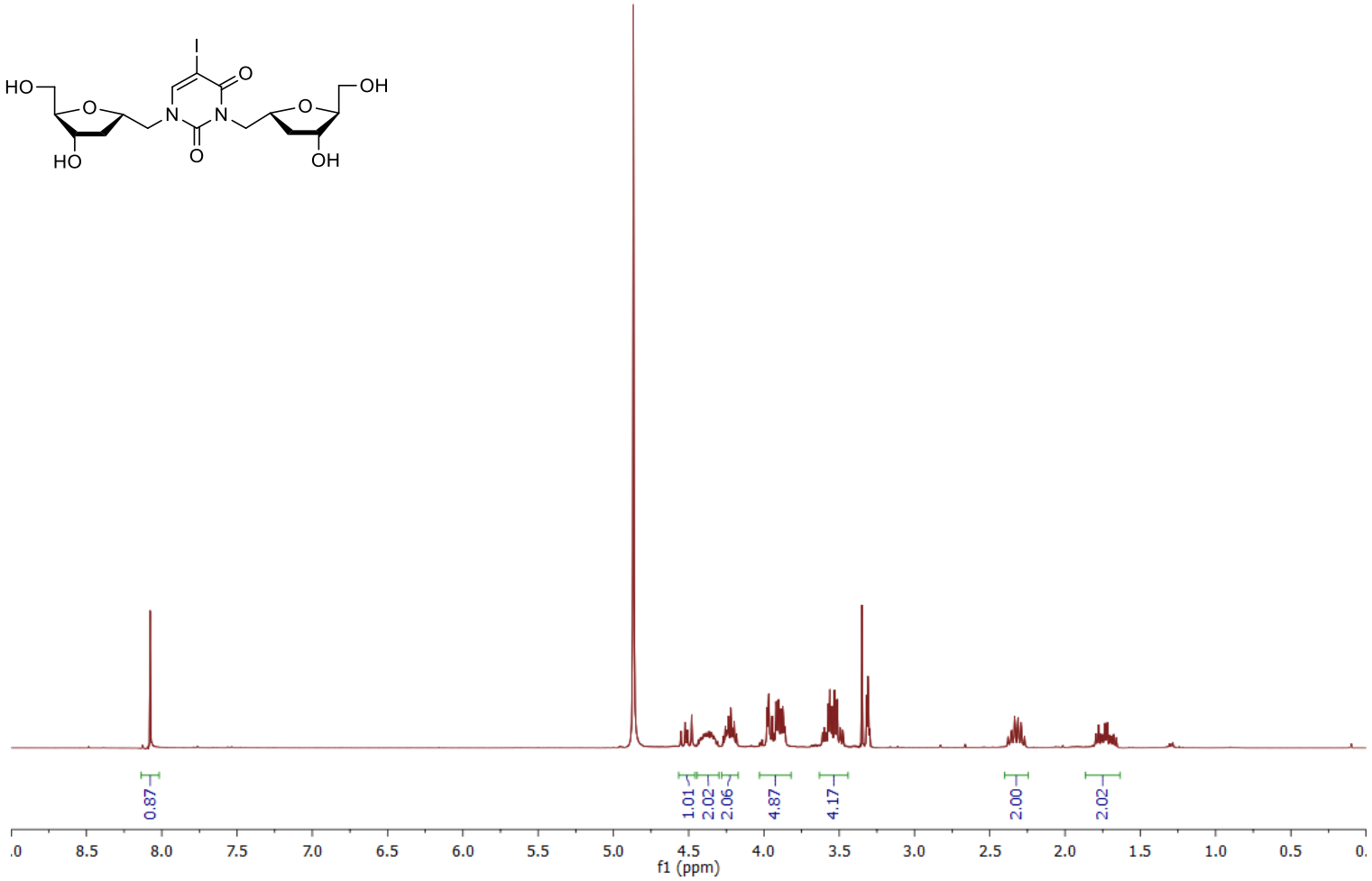
HSQC NMR (MeOH-d_4)



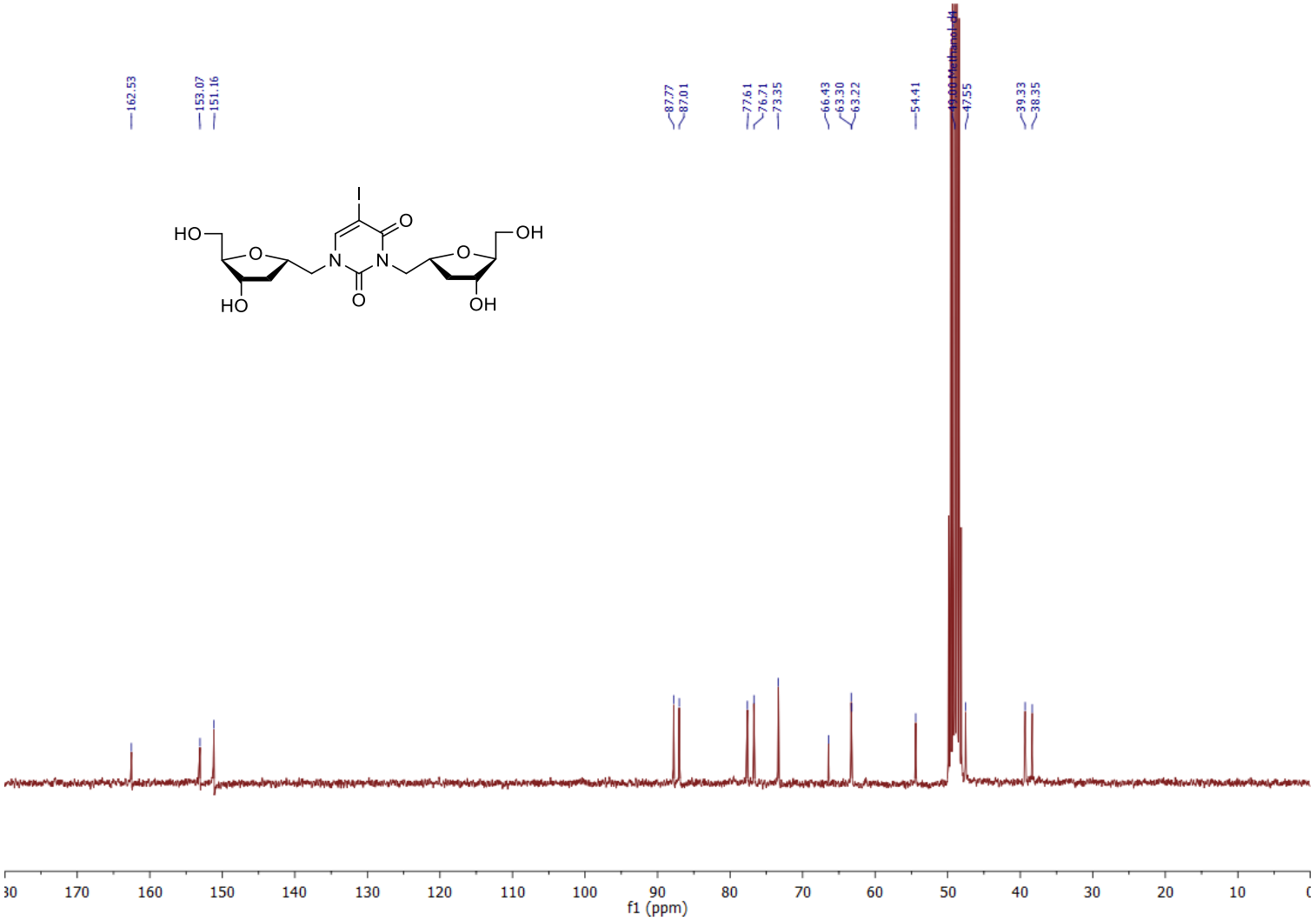
HMBC NMR (MeOH-d_4)



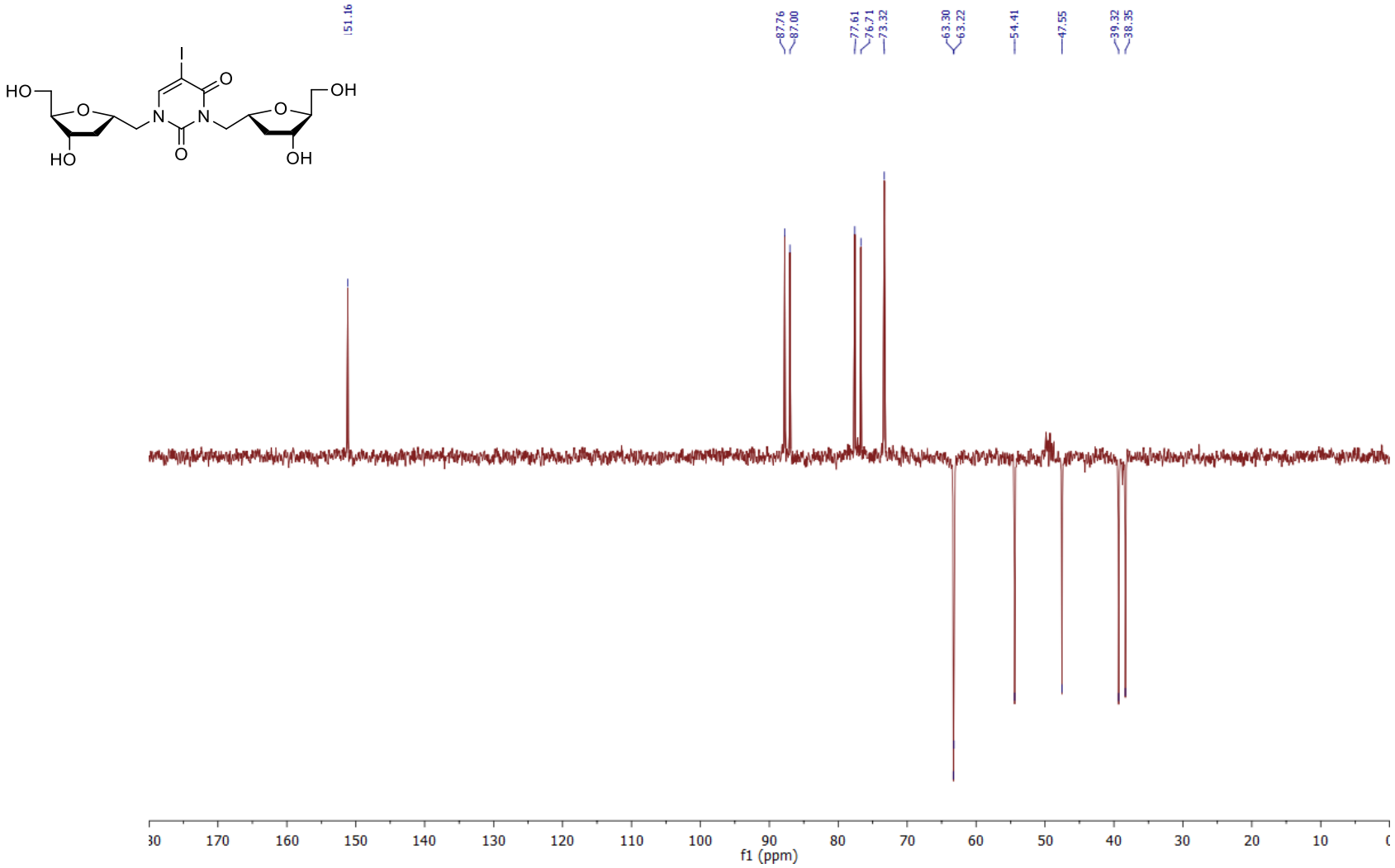
^{1}H NMR (300.13 MHz, MeOH-d_4)



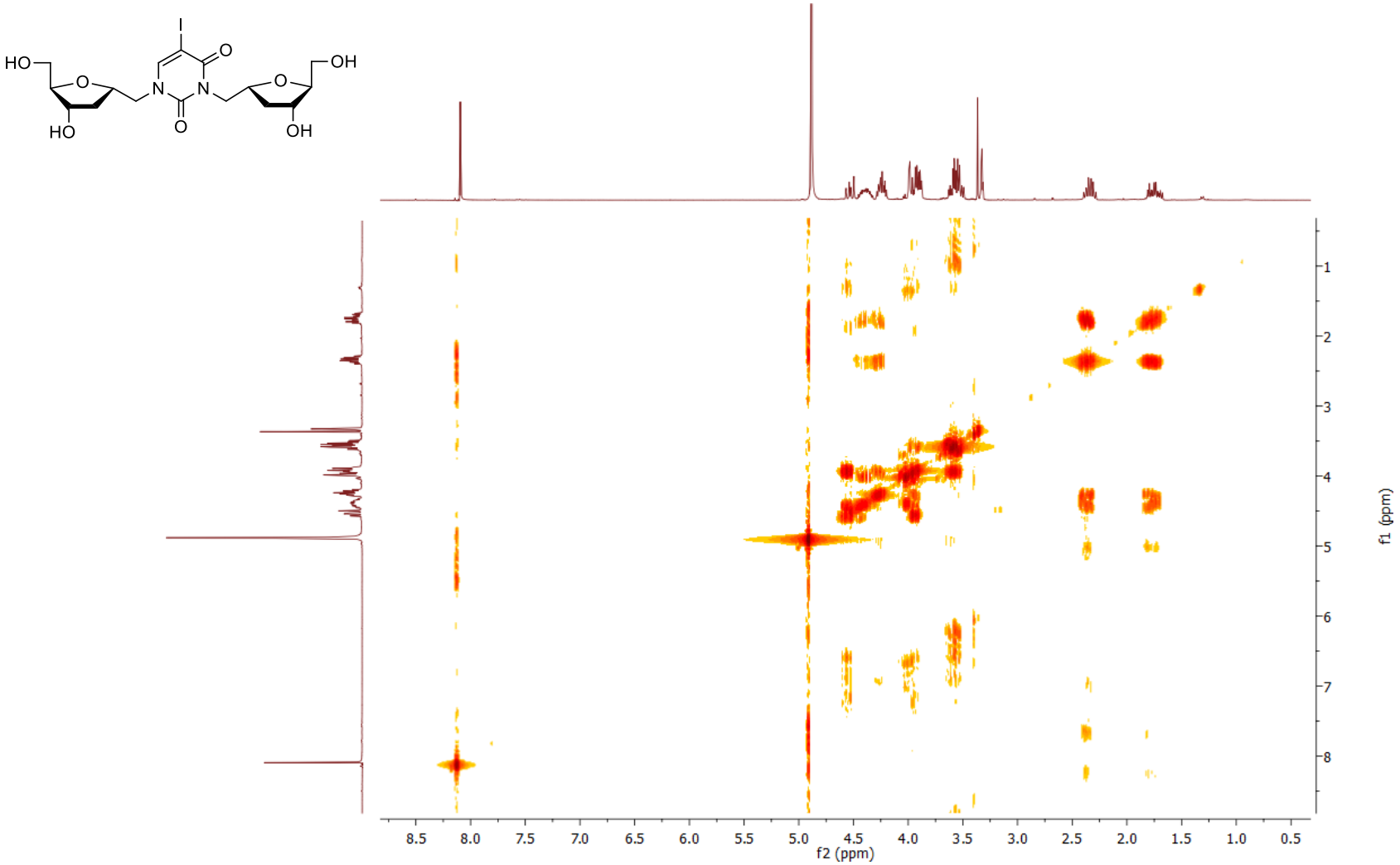
^{13}C NMR (75.5 MHz, MeOH-d_4)



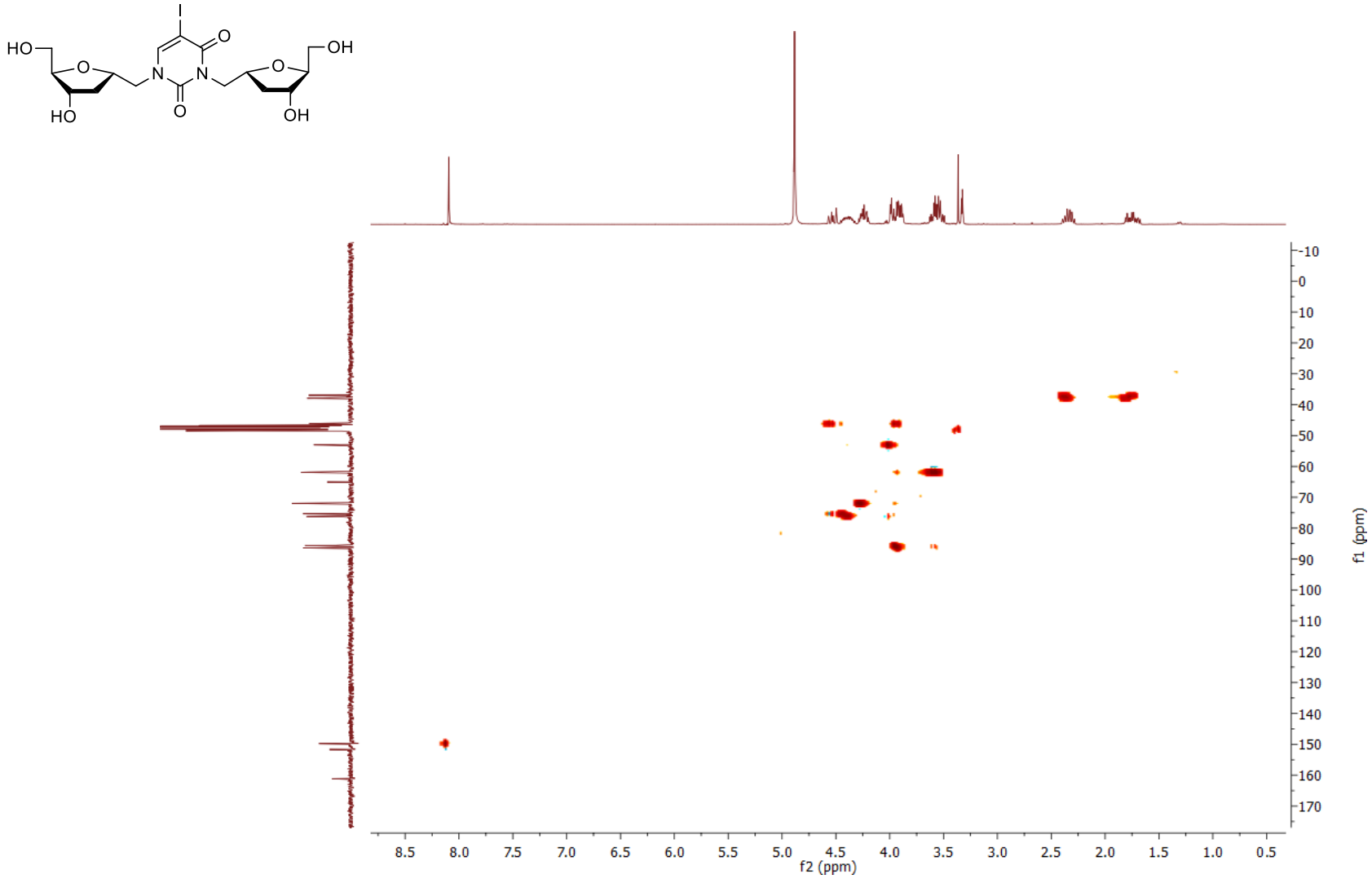
DEPT 135 NMR (75.5 MHz, MeOH-d_4)



COSY NMR (MeOH-d_4)



HSQC NMR (MeOH-d_4)



HMBC NMR (MeOH-d_4)