

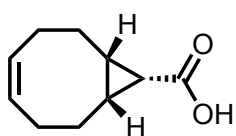
Large Scale Flow Photochemical Syntheses of Functionalized *trans*-Cyclooctenes Using Sulfonated Silica Gel

Ampofo Darko,^{#**} Samantha J. Boyd,^{†+} Joseph M. Fox^{†*}

[†]Department of Chemistry and Biochemistry, University of Delaware, Newark DE 19716

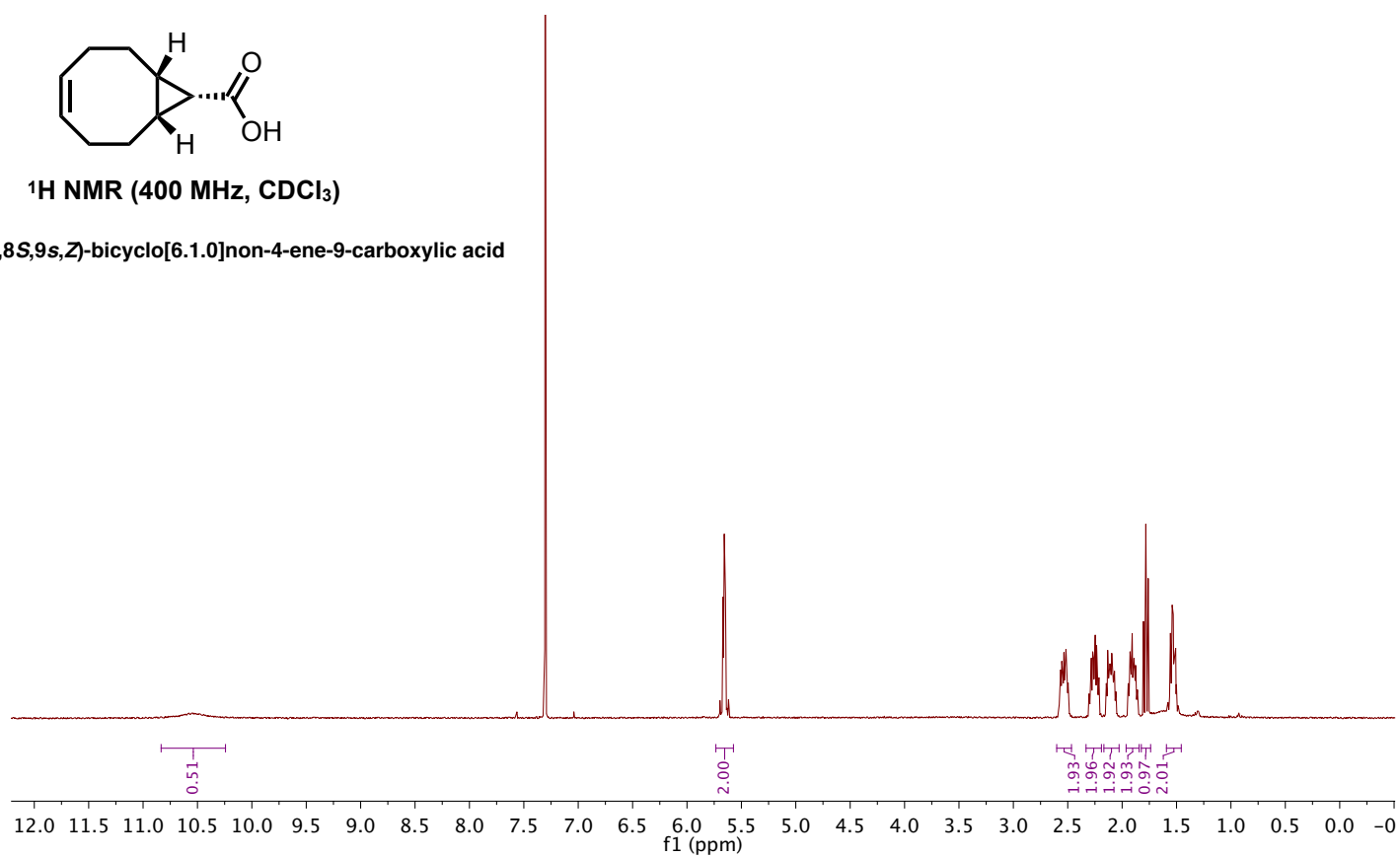
[#]Department of Chemistry, University of Tennessee, Knoxville, TN, 37996

- S1 ¹H NMR of (1*R*,8*S*,9*S*,*Z*)-bicyclo[6.1.0]non-4-ene-9-carboxylic acid
- S2 ¹³C NMR of (1*R*,8*S*,9*S*,*Z*)-bicyclo[6.1.0]non-4-ene-9-carboxylic acid
- S3 ¹H NMR of (*Z*)-*N*-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide
- S4 ¹³C NMR of (*Z*)-*N*-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide
- S5 ¹⁹F NMR of (*Z*)-*N*-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide
- S6 ¹H NMR of **1** (equatorial diastereomer)
- S7 ¹³C NMR of **1** (equatorial diastereomer)
- S8 ¹H NMR of **1** (axial diastereomer)
- S9 ¹³C NMR of **1** (axial diastereomer)
- S10 ¹H NMR of **2**
- S11 ¹³C NMR of **2**
- S12 ¹H NMR of **3**
- S13 ¹³C NMR of **3**
- S14 ¹H NMR of **4**
- S15 ¹³C NMR of **4**
- S16 ¹H NMR of **5** (equatorial diastereomer)
- S17 ¹³C NMR of **5** (equatorial diastereomer)
- S18 ¹H NMR of **5** (axial diastereomer)
- S19 ¹³C NMR of **5** (axial diastereomer)
- S20 ¹H NMR of **6** (mixture of diastereomers)
- S21 ¹³C NMR of **6** (mixture of diastereomers)
- S22 ¹H NMR of **7** (axial diastereomer)
- S23 ¹³C NMR of **7** (axial diastereomer)
- S24 ¹H NMR of **7** (equatorial diastereomer)
- S25 ¹³C NMR of **7** (equatorial diastereomer)
- S26 ¹H NMR of **8**
- S27 ¹³C NMR of **8**
- S28 ¹H NMR of **9** (axial diastereomer)
- S29 ¹³C NMR of **9** (axial diastereomer)
- S30 ¹⁹F NMR of **9** (axial diastereomer)
- S31 ¹H NMR of **7** (equatorial diastereomer)
- S32 ¹³C NMR of **7** (equatorial diastereomer)
- S33 ¹⁹F NMR of **9** (equatorial diastereomer)

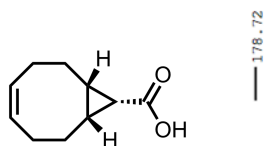


¹H NMR (400 MHz, CDCl₃)

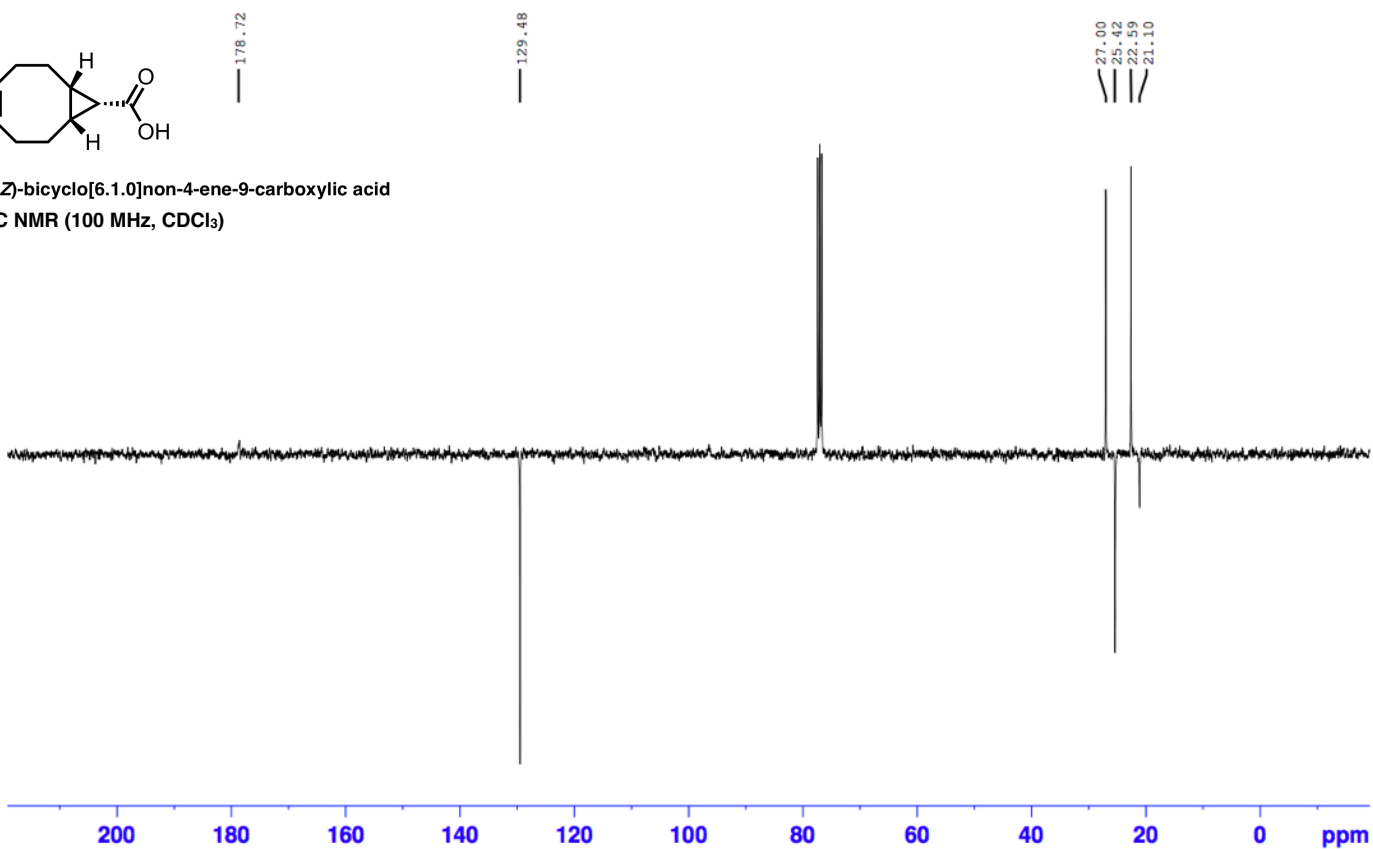
(1*R*,8*S*,9*s*,*Z*)-bicyclo[6.1.0]non-4-ene-9-carboxylic acid



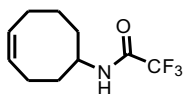
SJB-2-246b
C13APT32 CDC13 /opt/topspin sbrannic 31



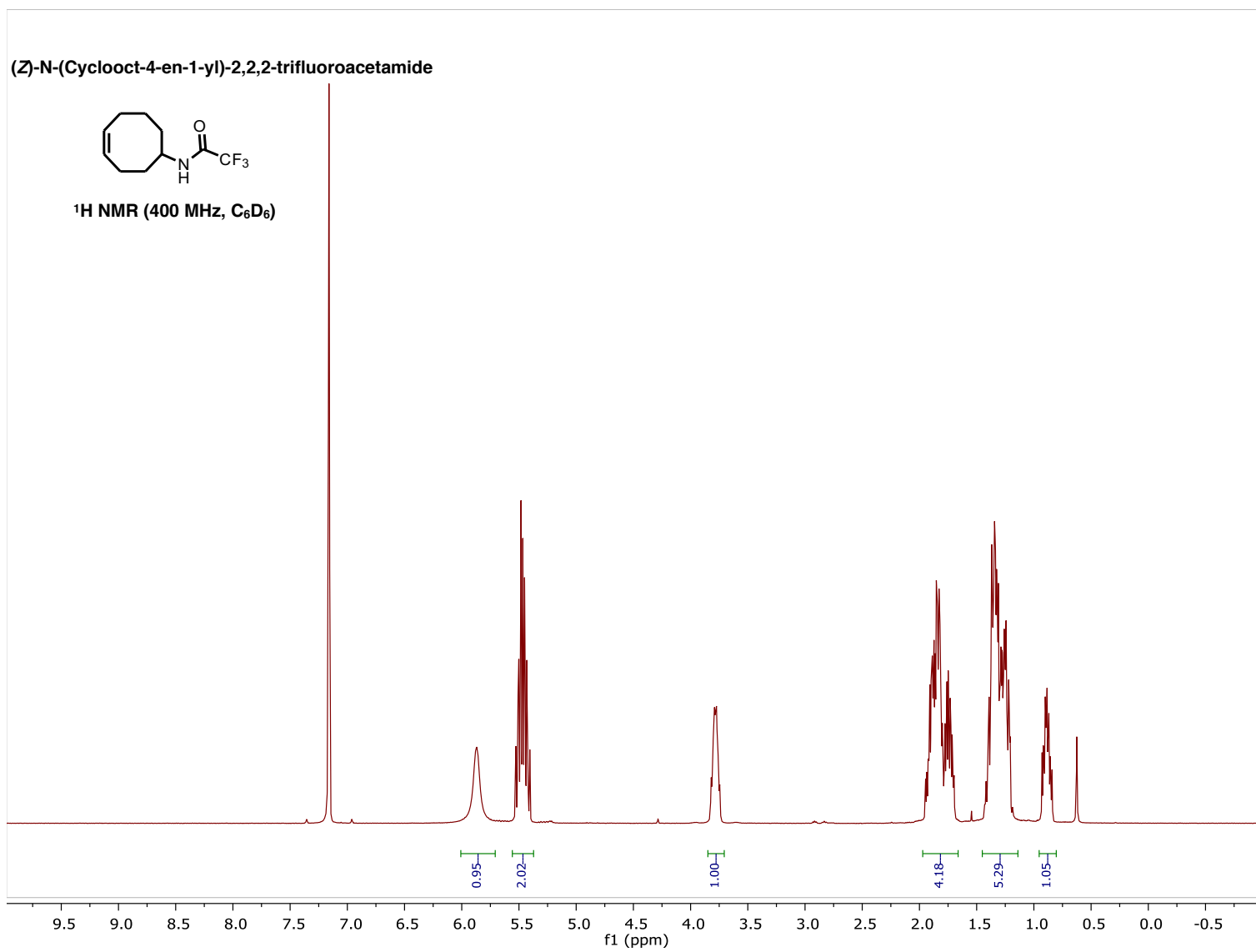
(1*R*,8*S*,9*s*,*Z*)-bicyclo[6.1.0]non-4-ene-9-carboxylic acid
¹³C NMR (100 MHz, CDCl₃)



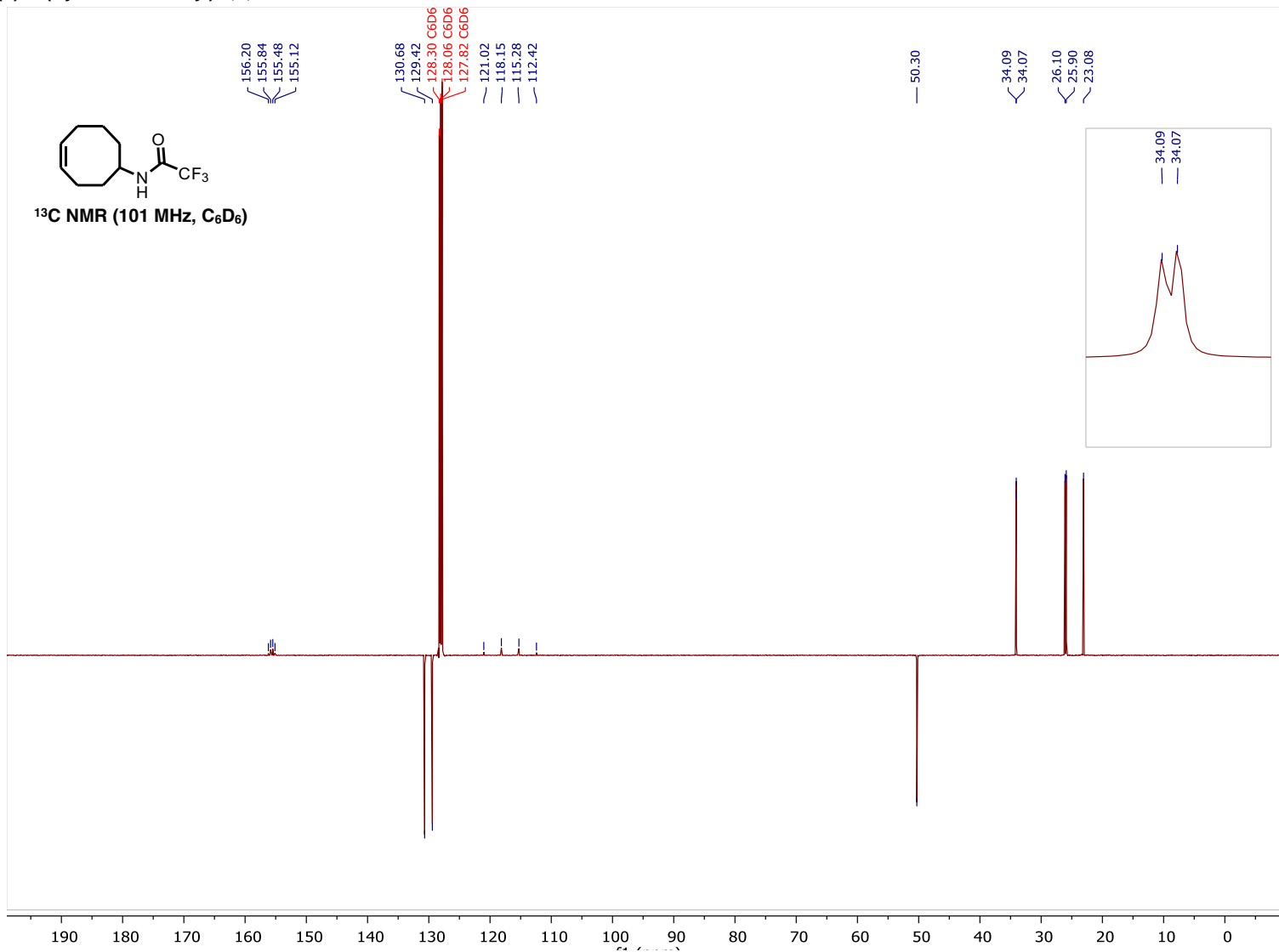
(Z)-N-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide



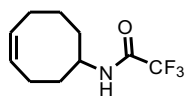
¹H NMR (400 MHz, C₆D₆)



(Z)-N-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide

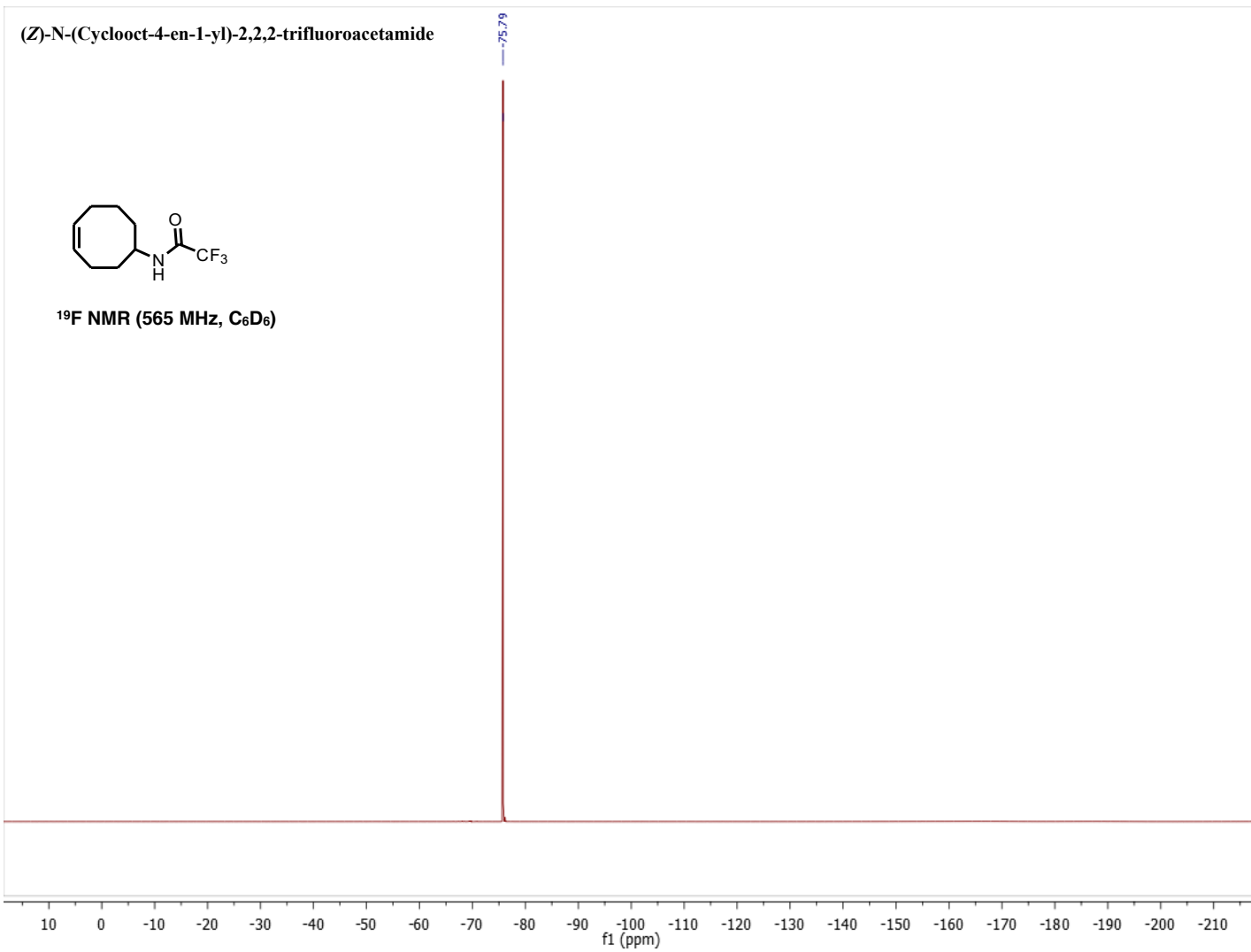


(Z)-N-(Cyclooct-4-en-1-yl)-2,2,2-trifluoroacetamide

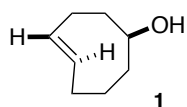


¹⁹F NMR (565 MHz, C₆D₆)

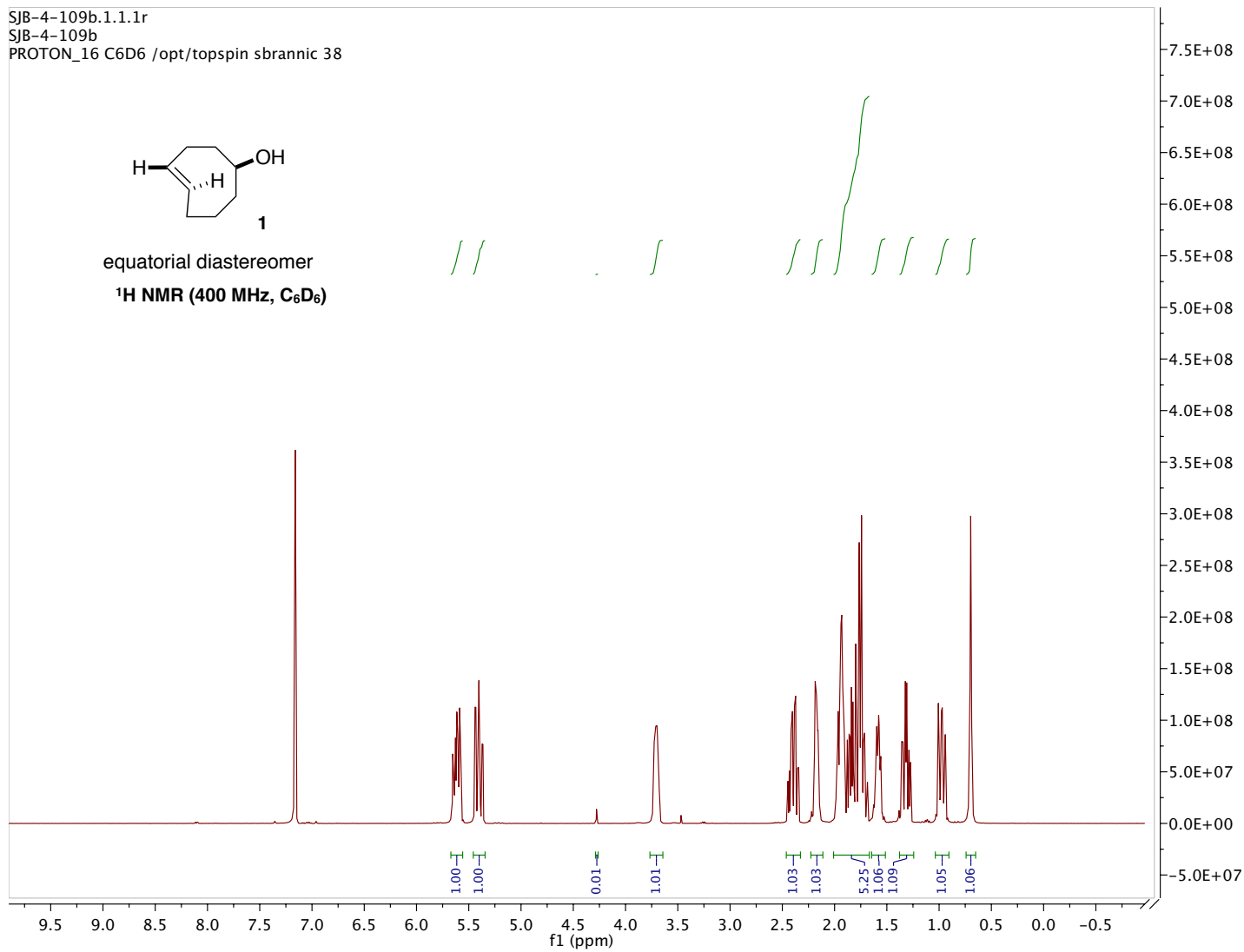
-75.79



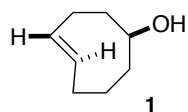
SJB-4-109b.1.1.1r
SJB-4-109b
PROTON_16 C6D6 /opt/topspin sbrannic 38



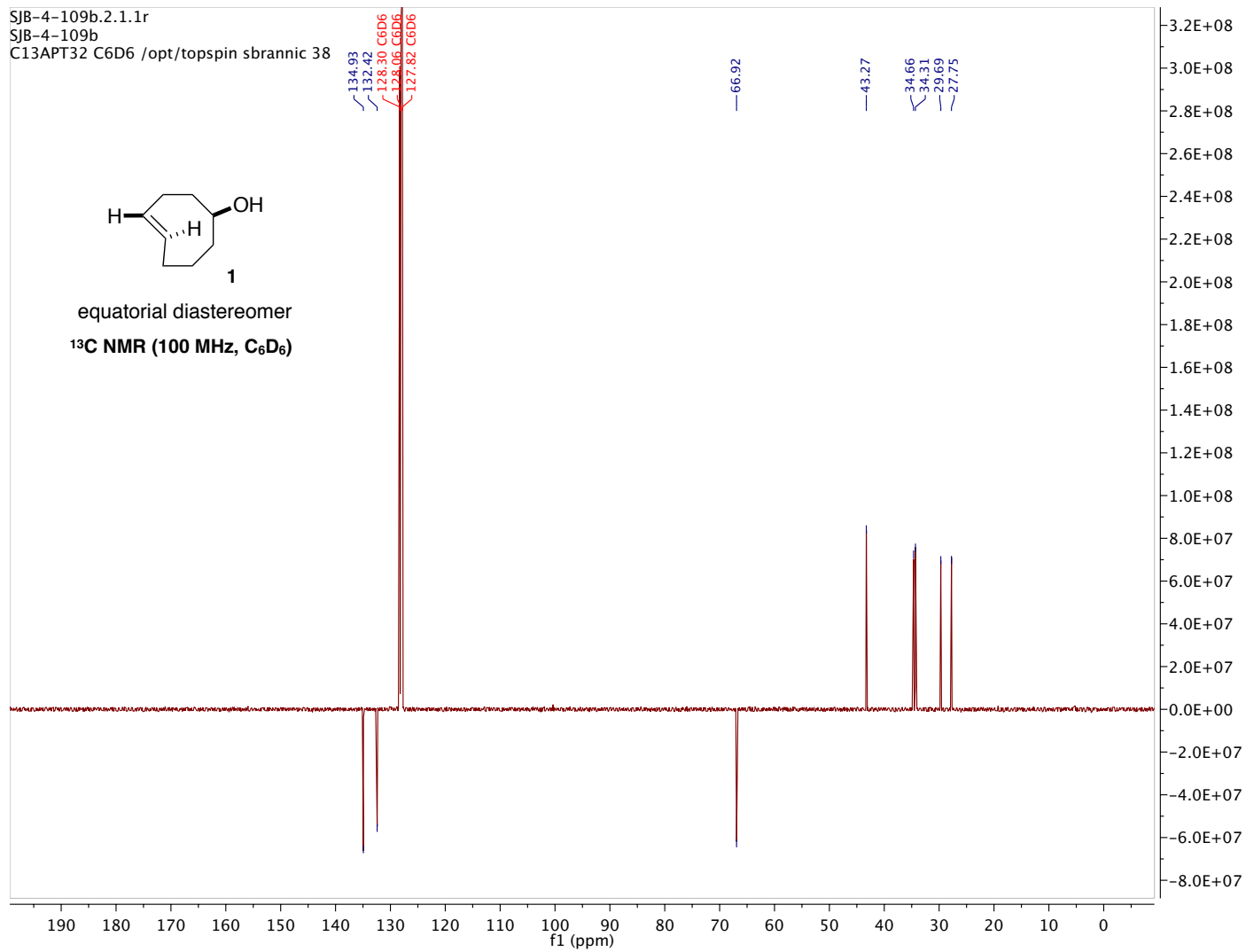
equatorial diastereomer
¹H NMR (400 MHz, C₆D₆)



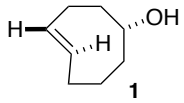
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SJB-4-109b
C13APT32 C6D6 /opt/topspin sbrannic 38



equatorial diastereomer
¹³C NMR (100 MHz, C₆D₆)

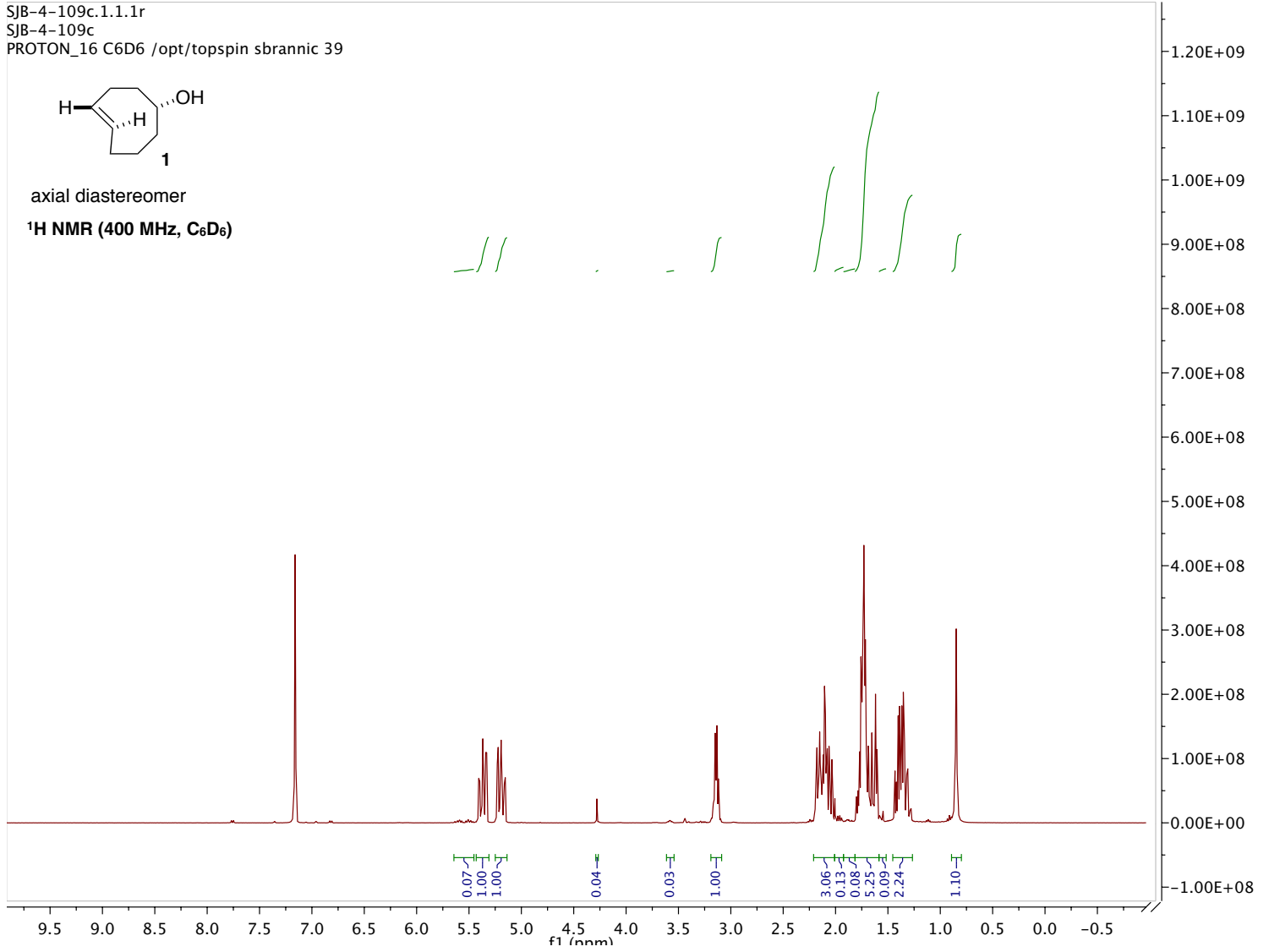


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SJB-4-109c
PROTON_16 C6D6 /opt/topspin sbrannic 39

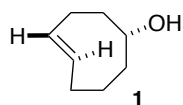


axial diastereomer

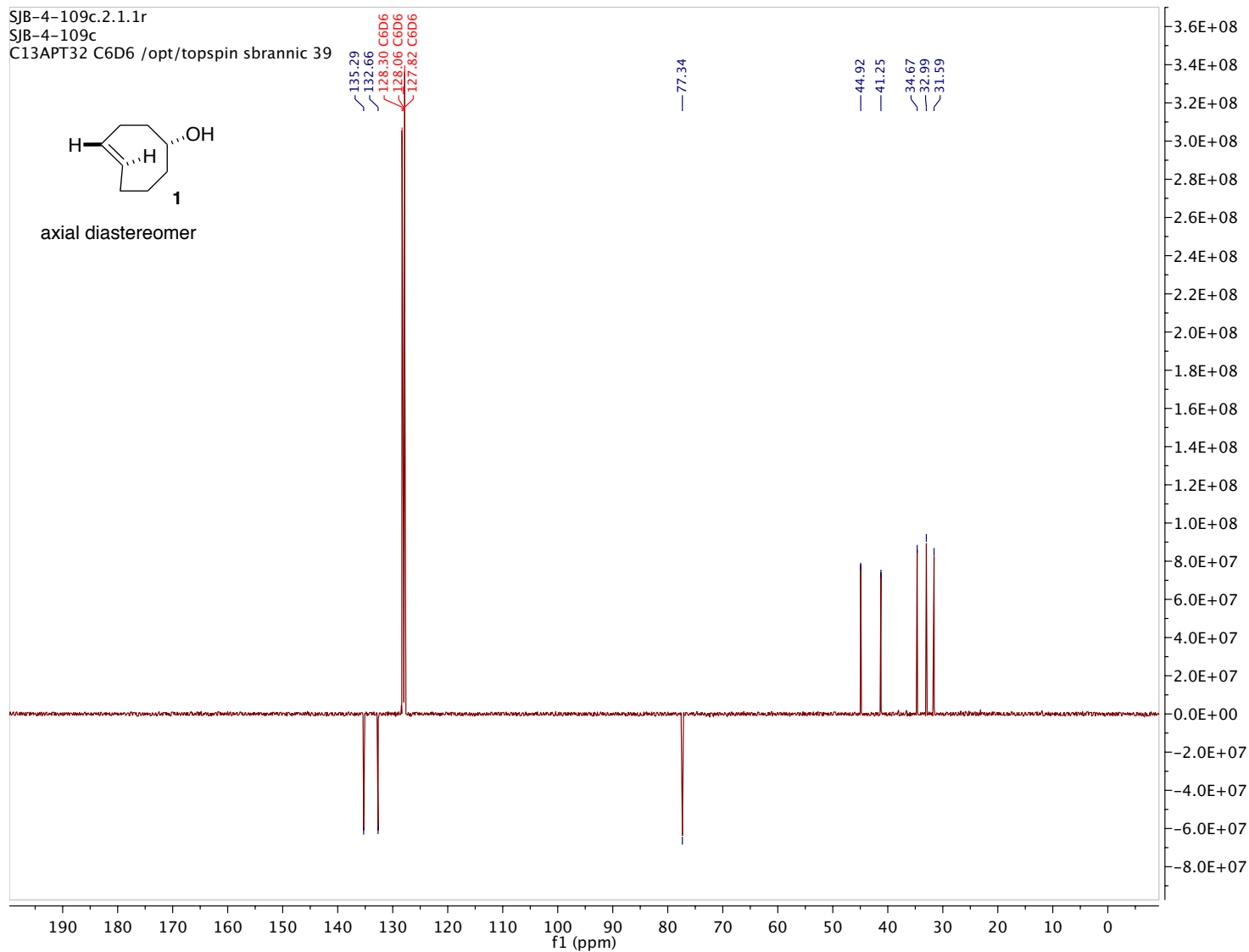
¹H NMR (400 MHz, C₆D₆)

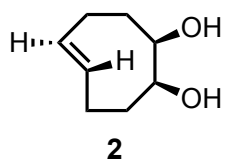


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C13APT32 C6D6 /opt/topspin sbrannic 39

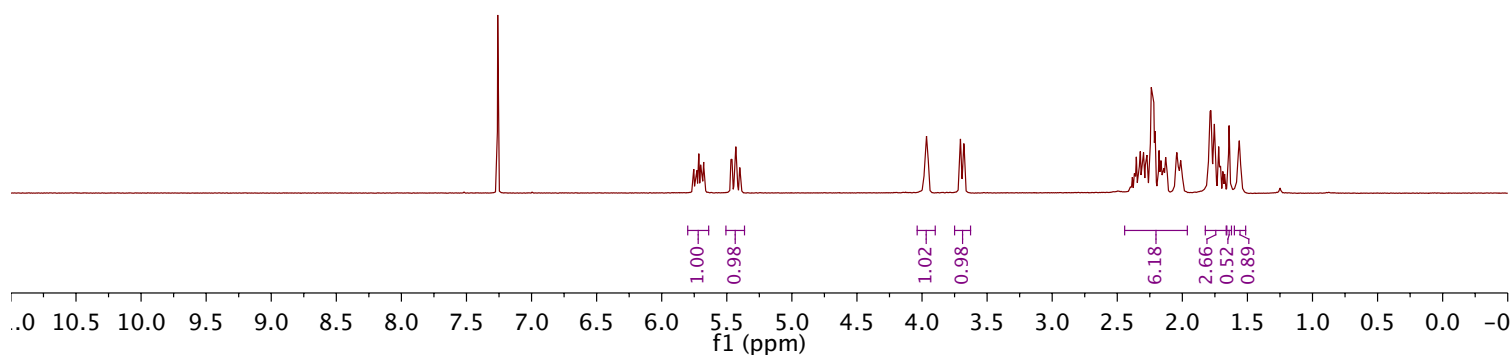


axial diastereomer

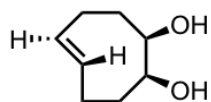




¹H NMR (400 MHz, CDCl₃)

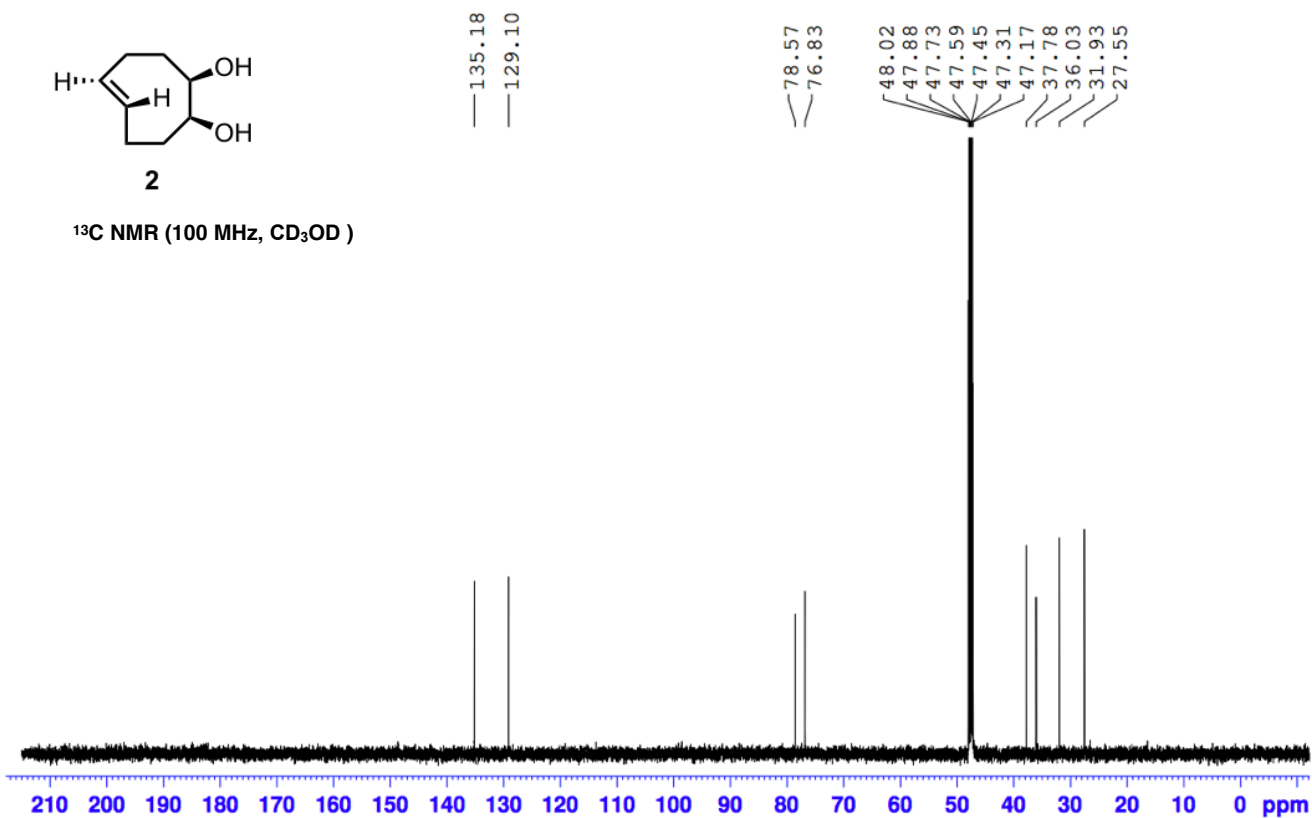


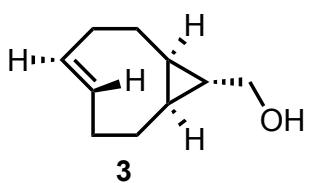
SJB-2-209a
diol
C13CPD256 MeOD /opt/nmrdata sbrannic 58



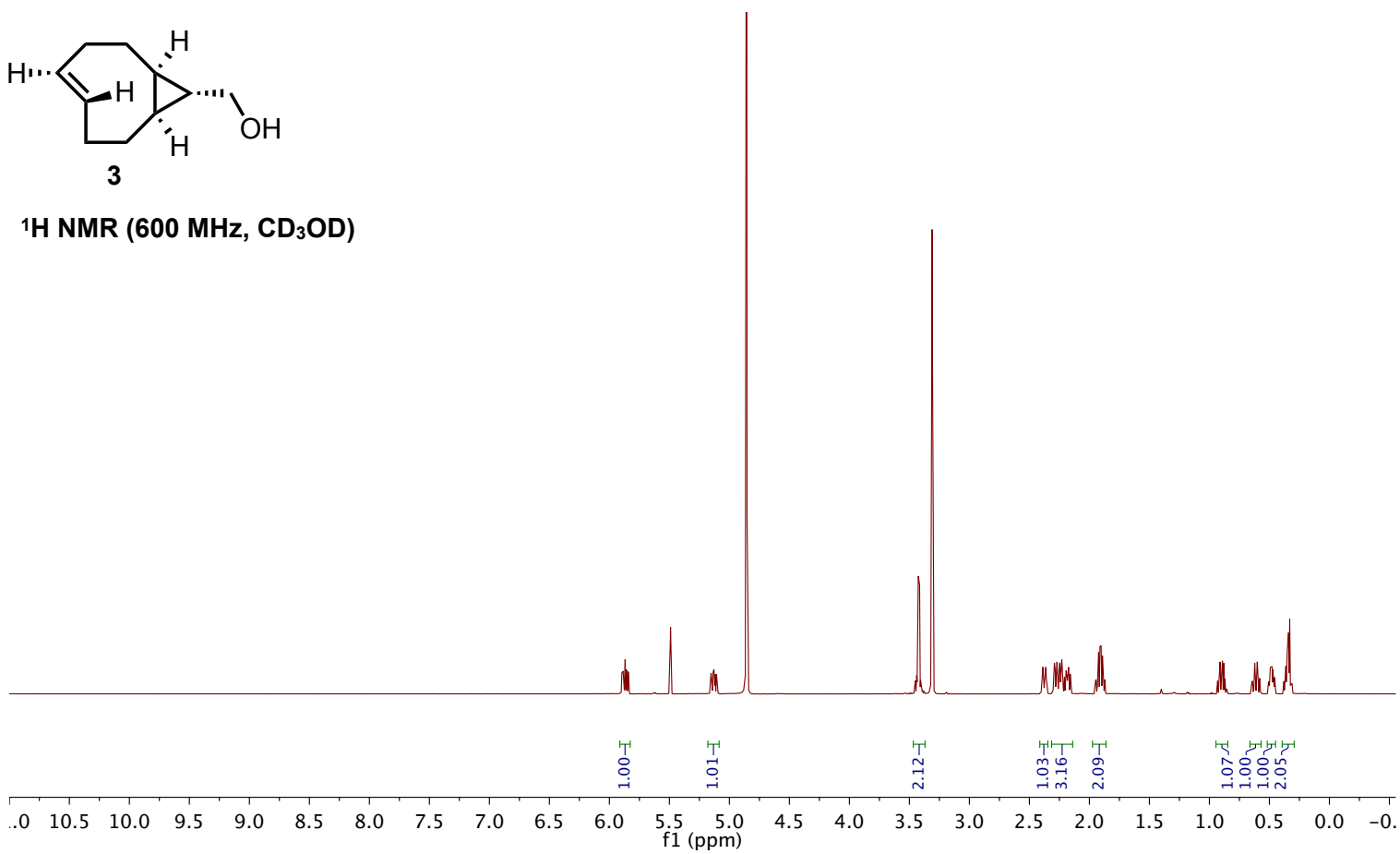
2

¹³C NMR (100 MHz, CD₃OD)

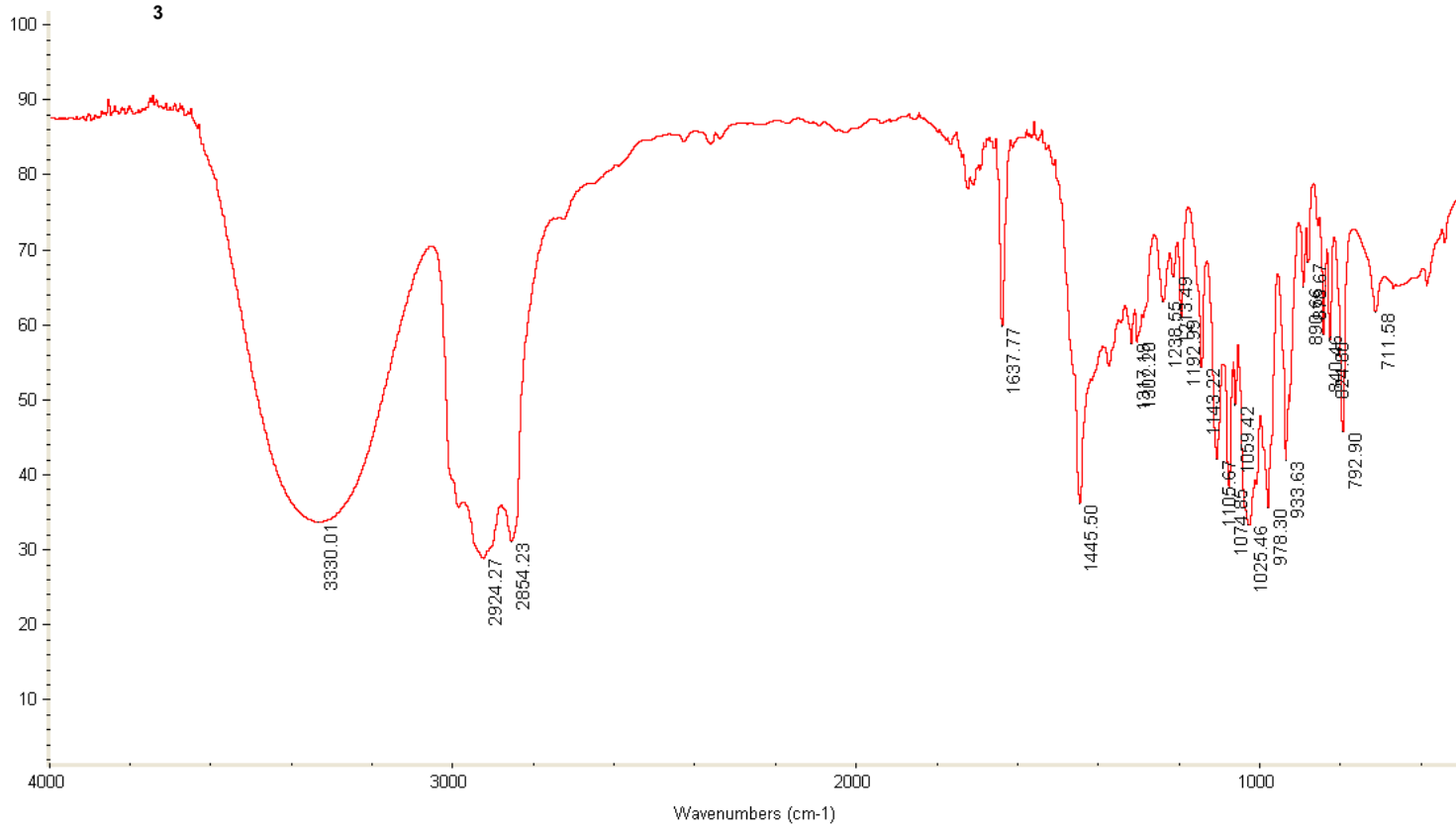
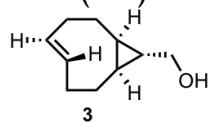


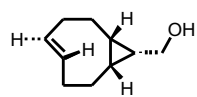


¹H NMR (600 MHz, CD₃OD)



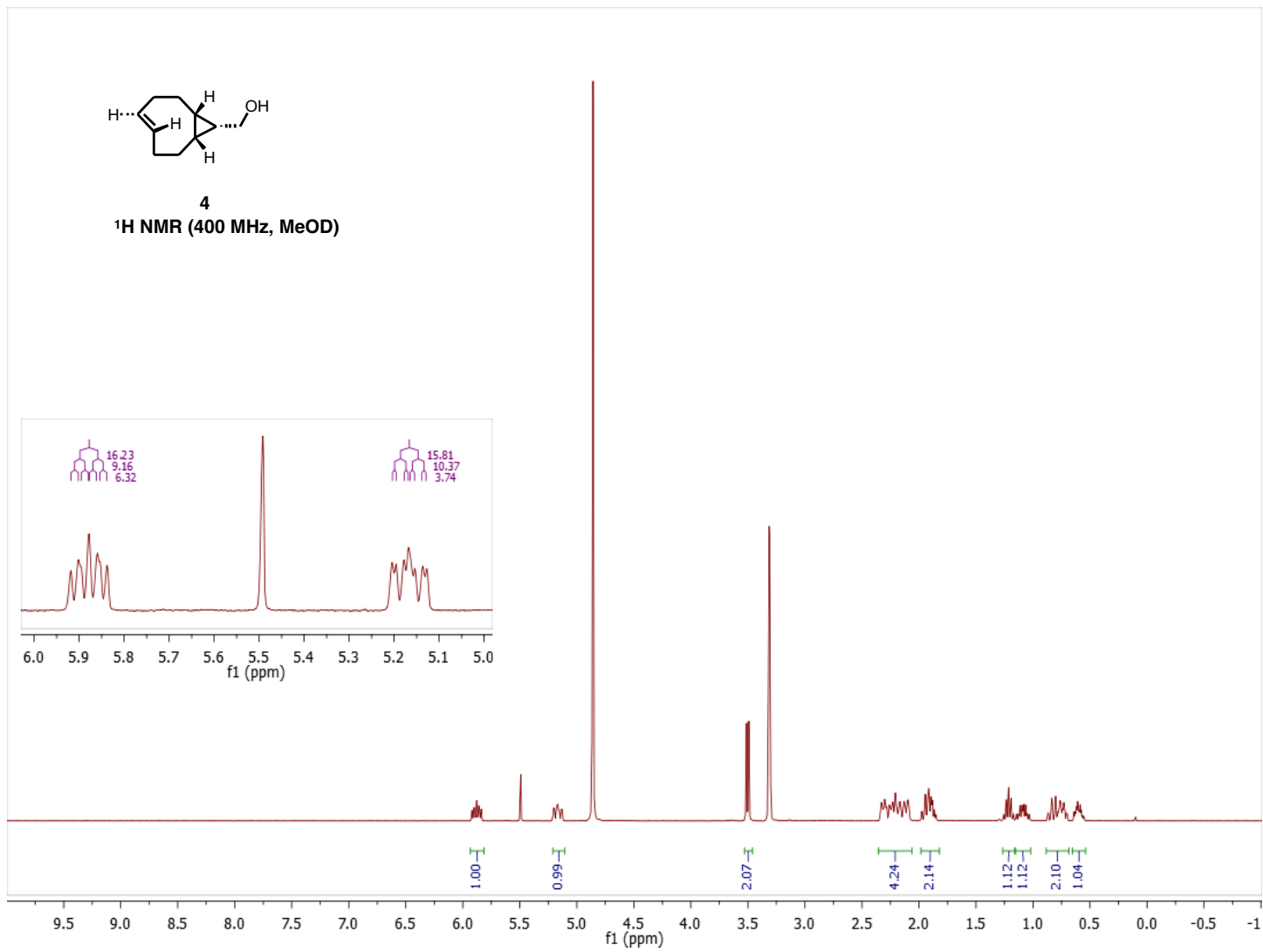
FT-IR (film)



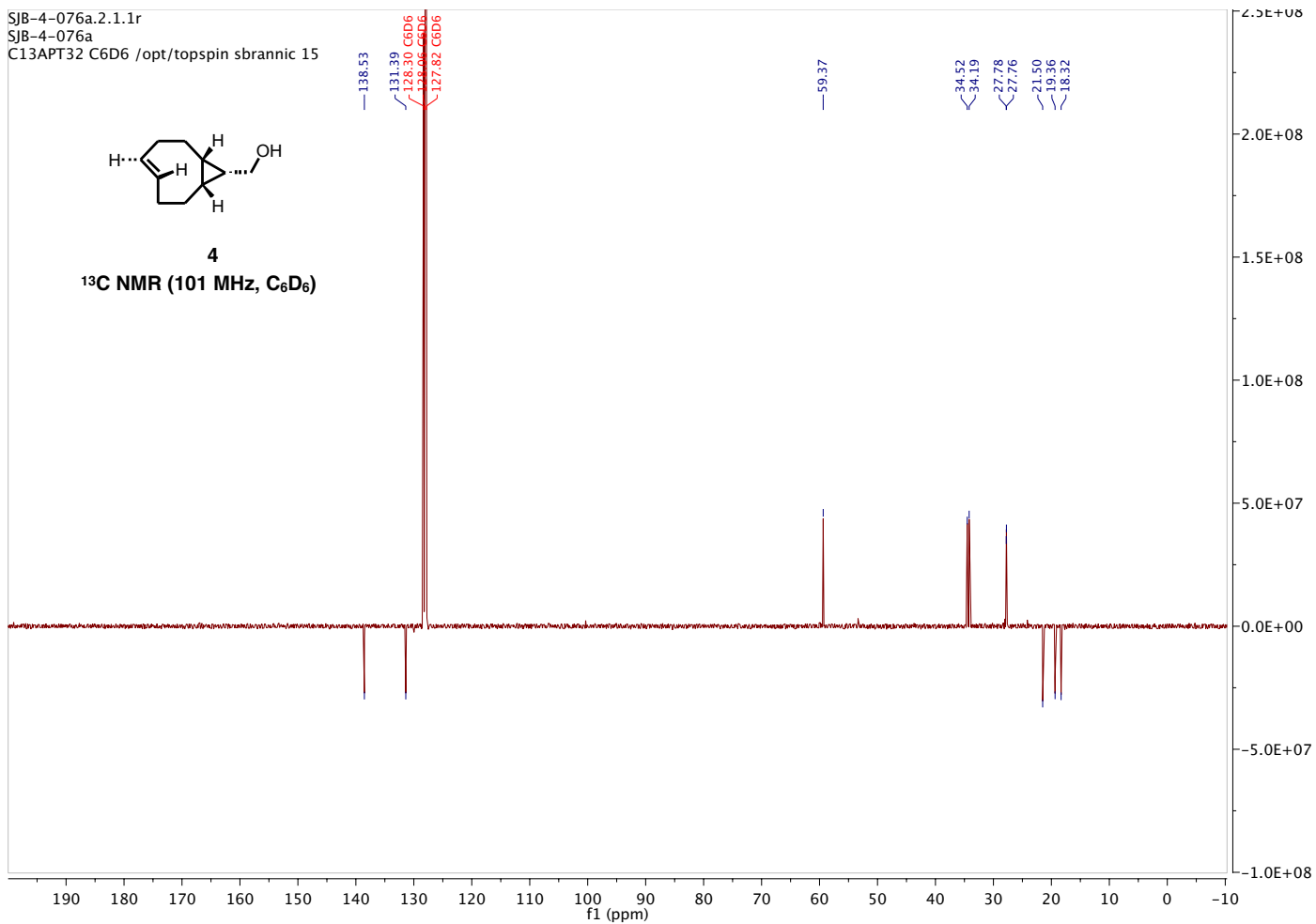


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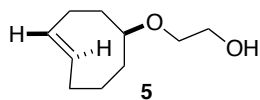
¹H NMR (400 MHz, MeOD)



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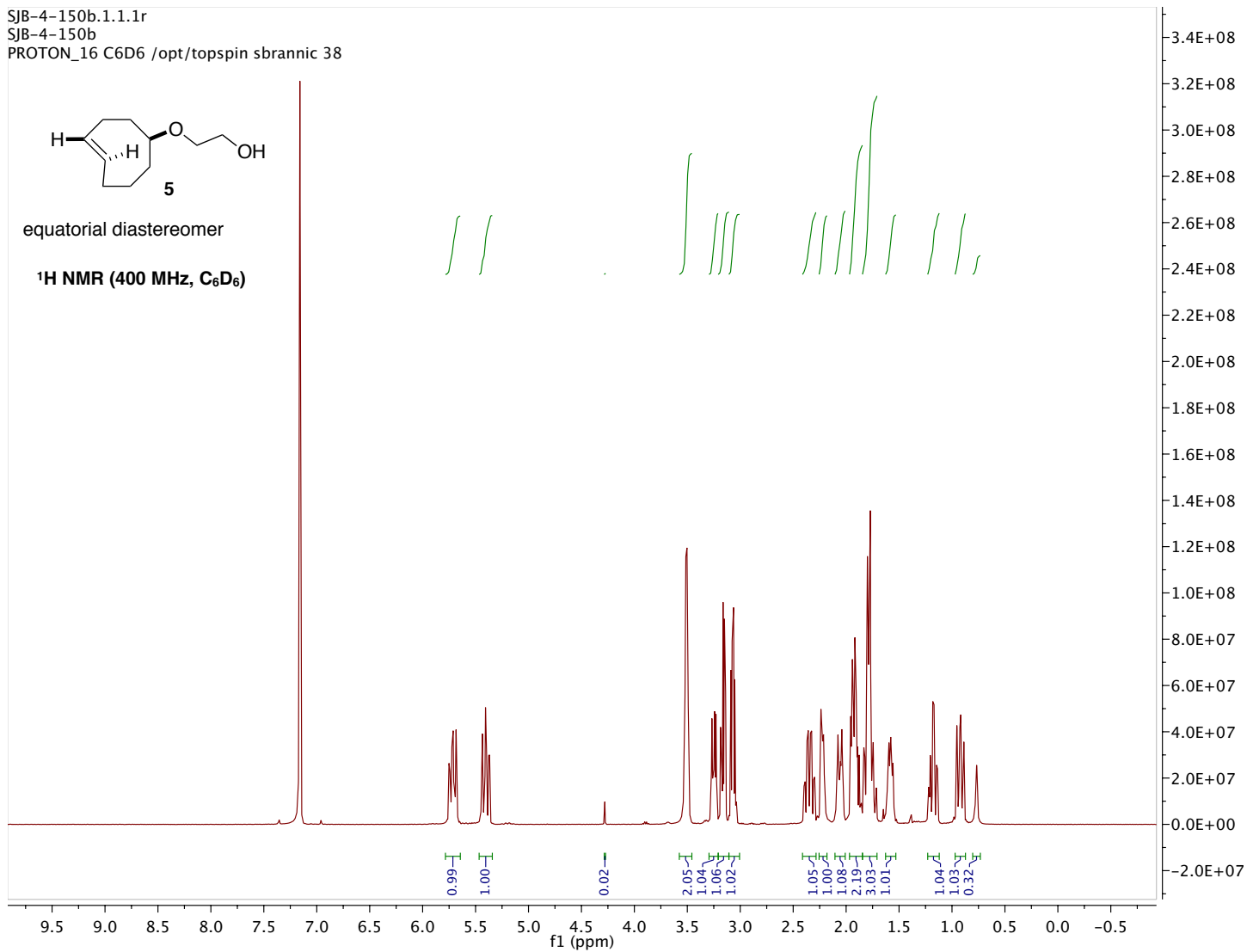


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PROTON_16 C6D6 /opt/topspin sbrannic 38

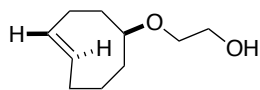


equatorial diastereomer

¹H NMR (400 MHz, C₆D₆)

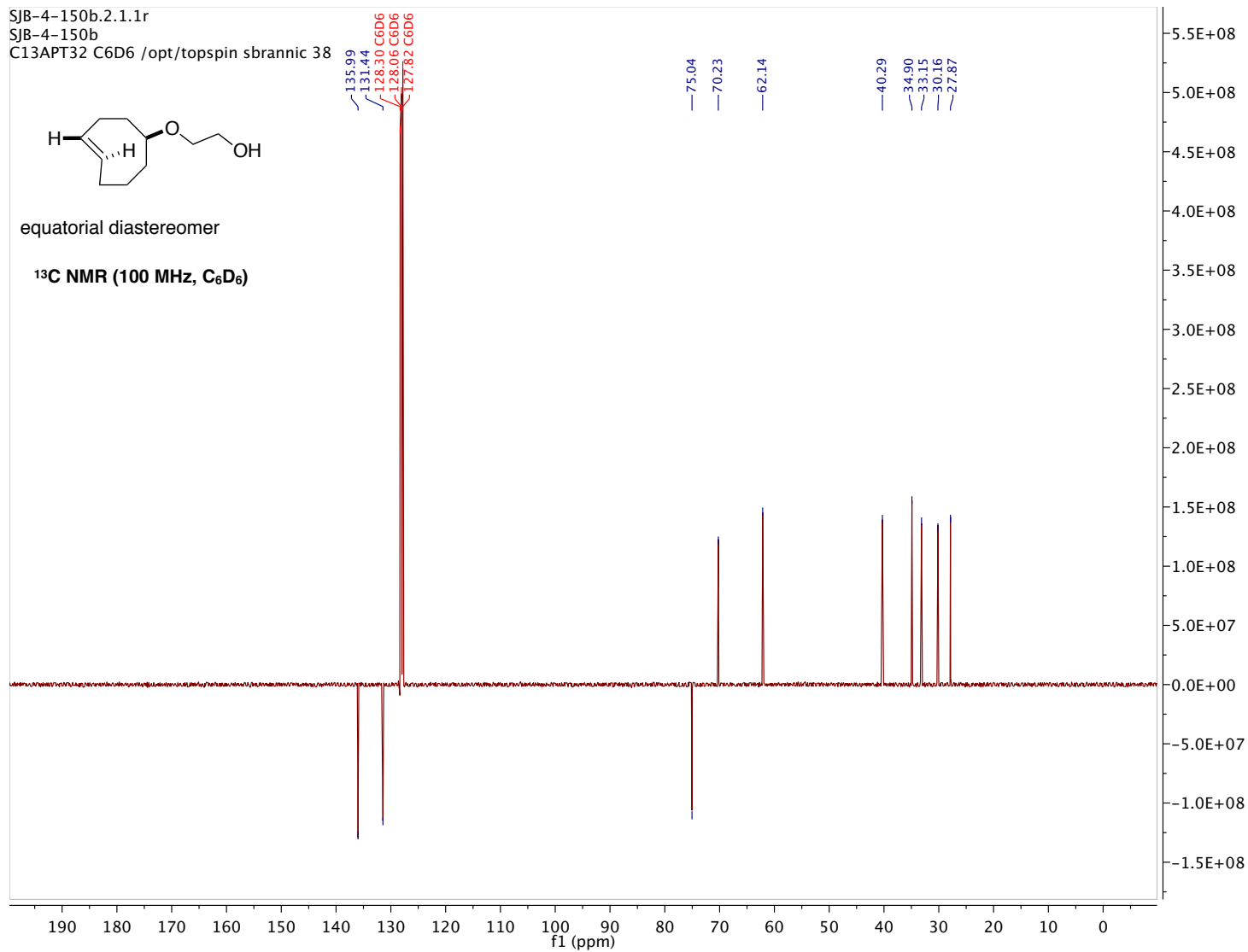


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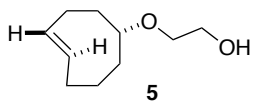


equatorial diastereomer

^{13}C NMR (100 MHz, C_6D_6)



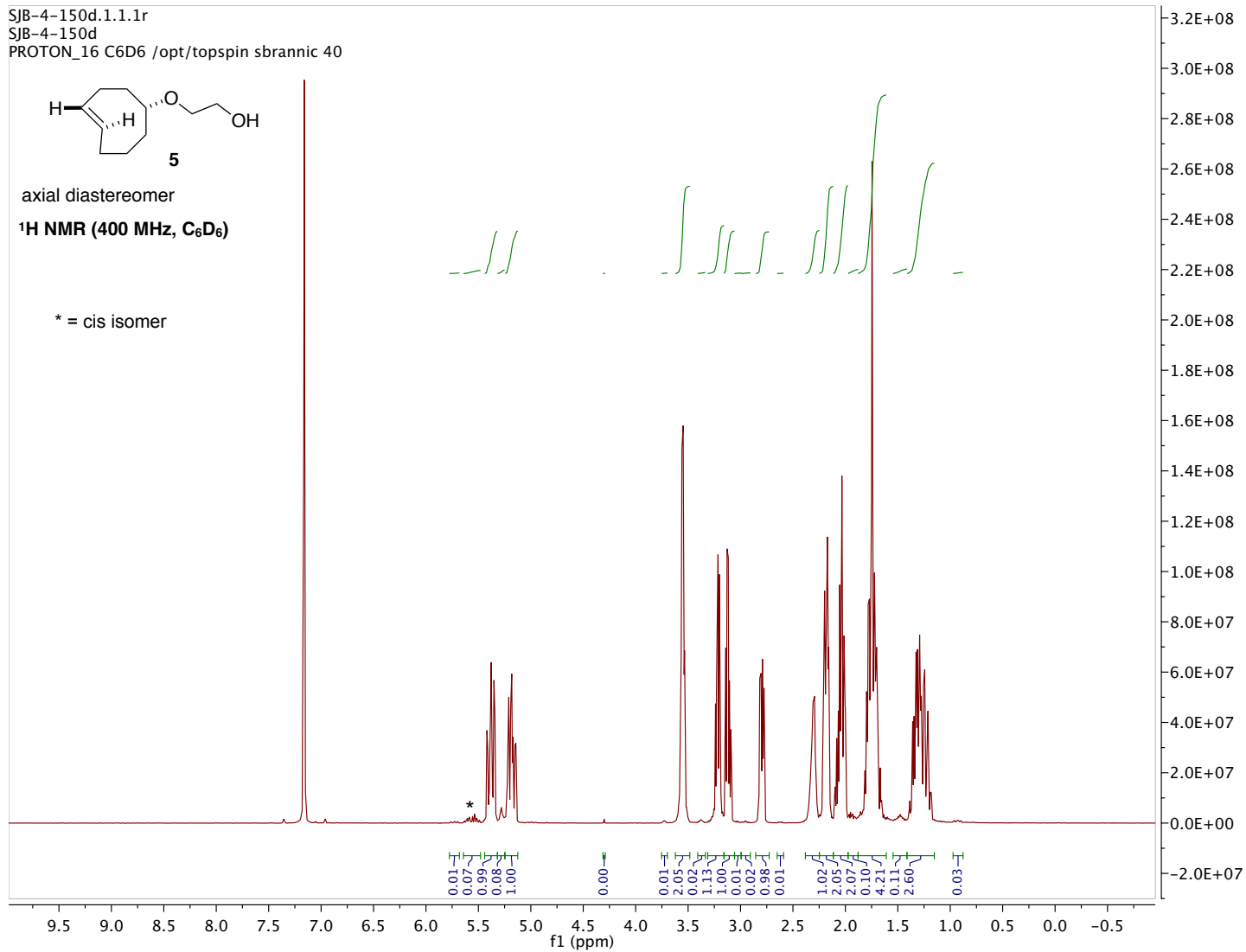
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SJB-4-150d
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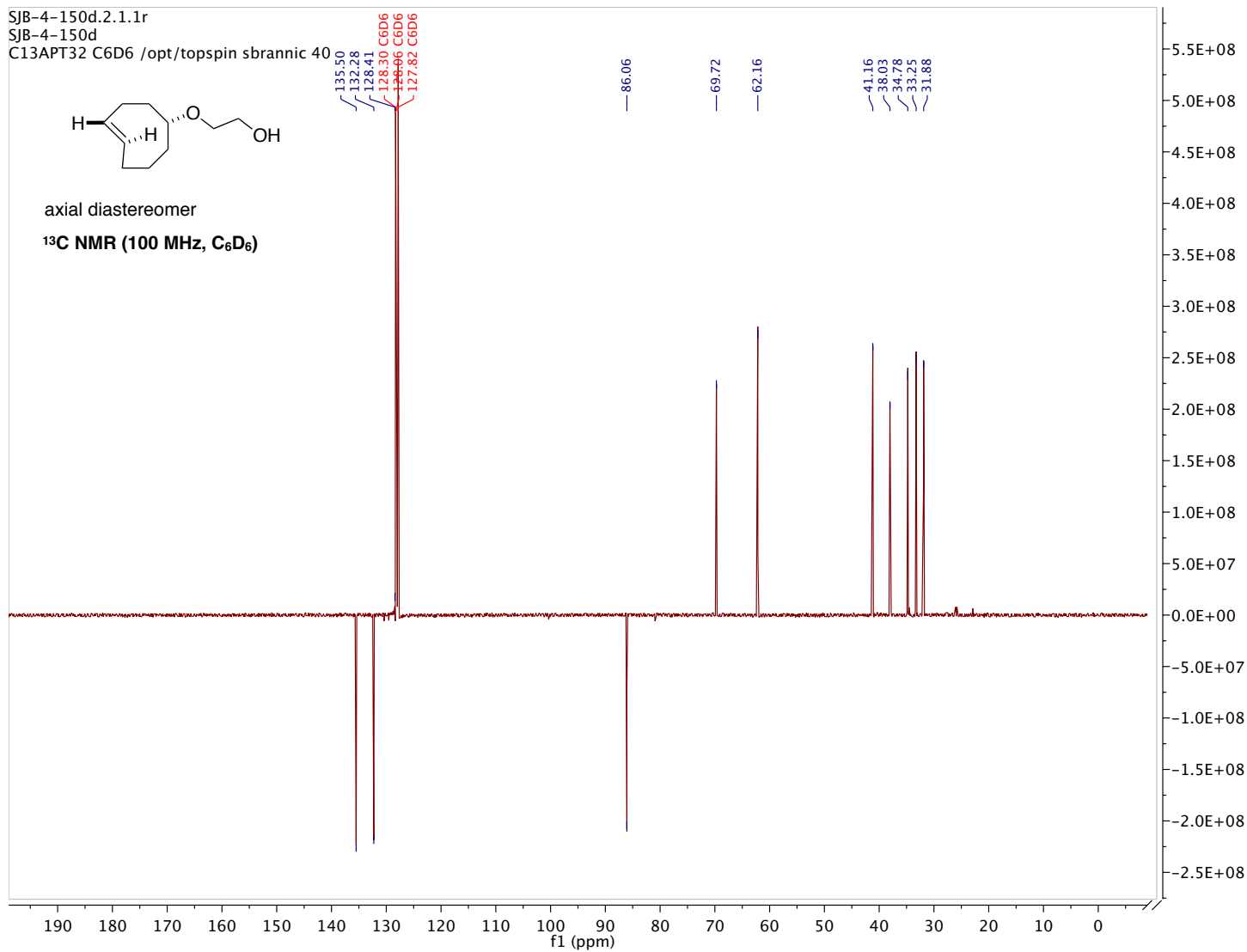


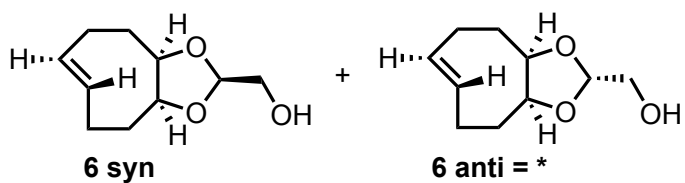
axial diastereomer

¹H NMR (400 MHz, C₆D₆)

* = cis isomer

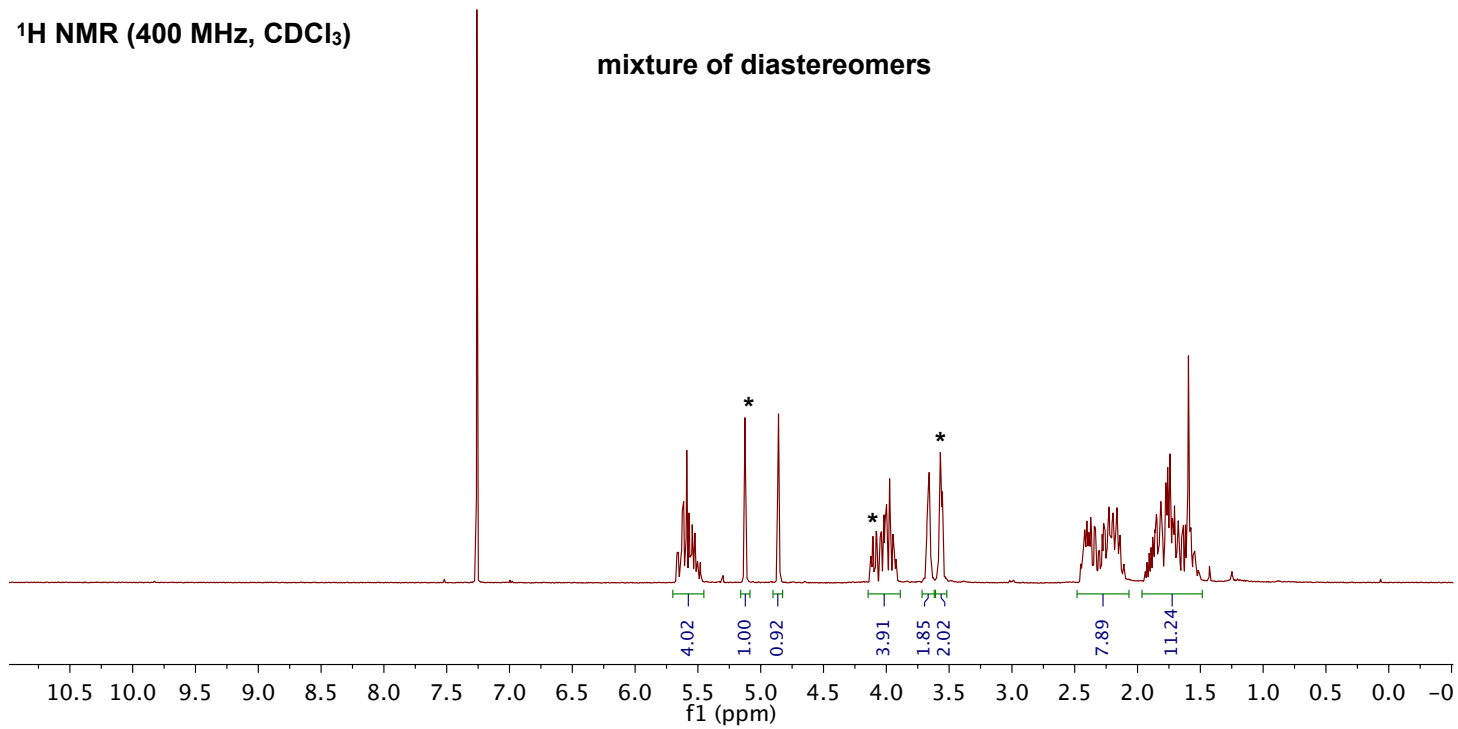


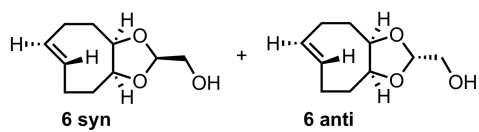




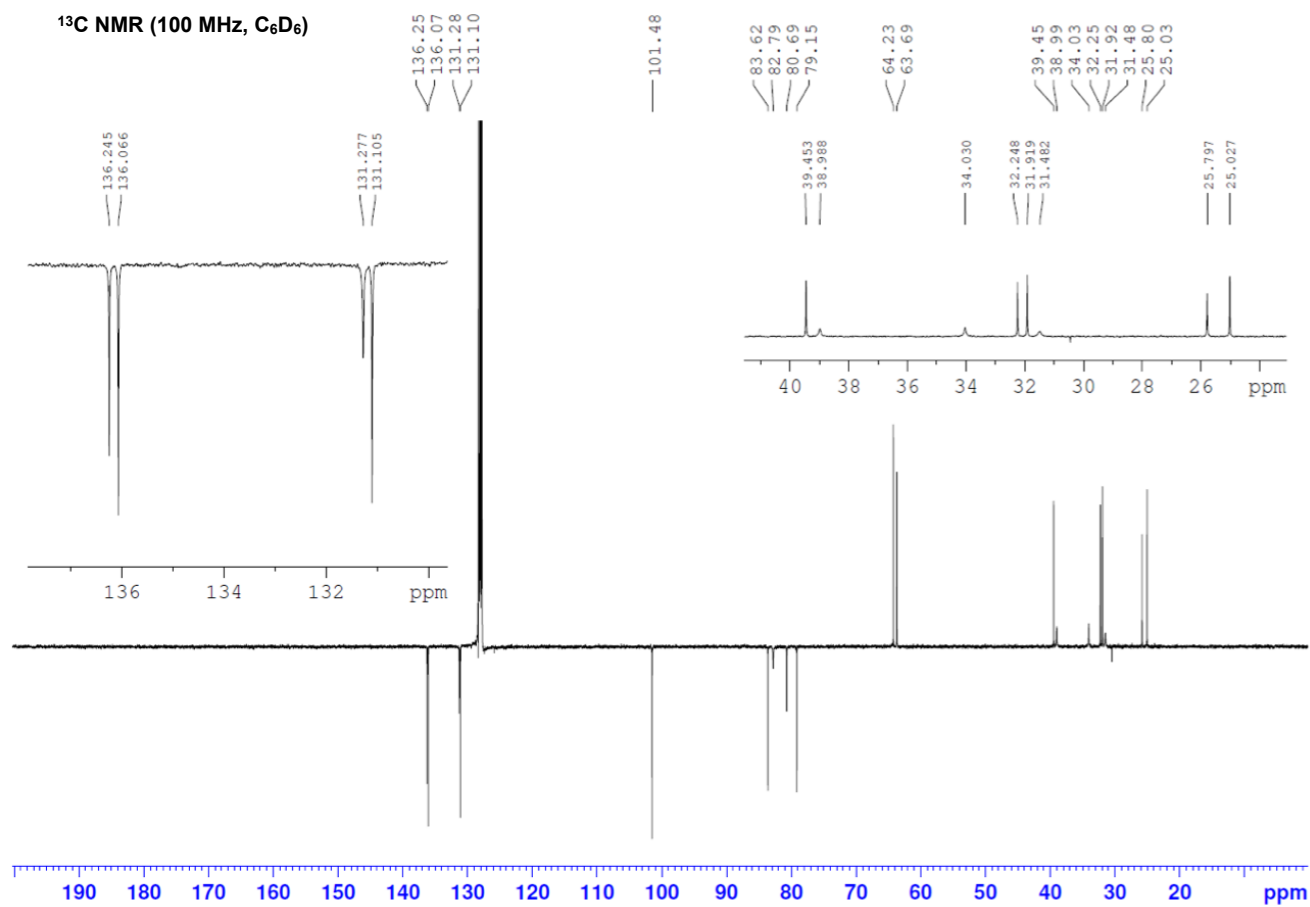
¹H NMR (400 MHz, CDCl₃)

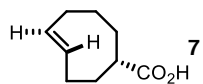
mixture of diastereomers





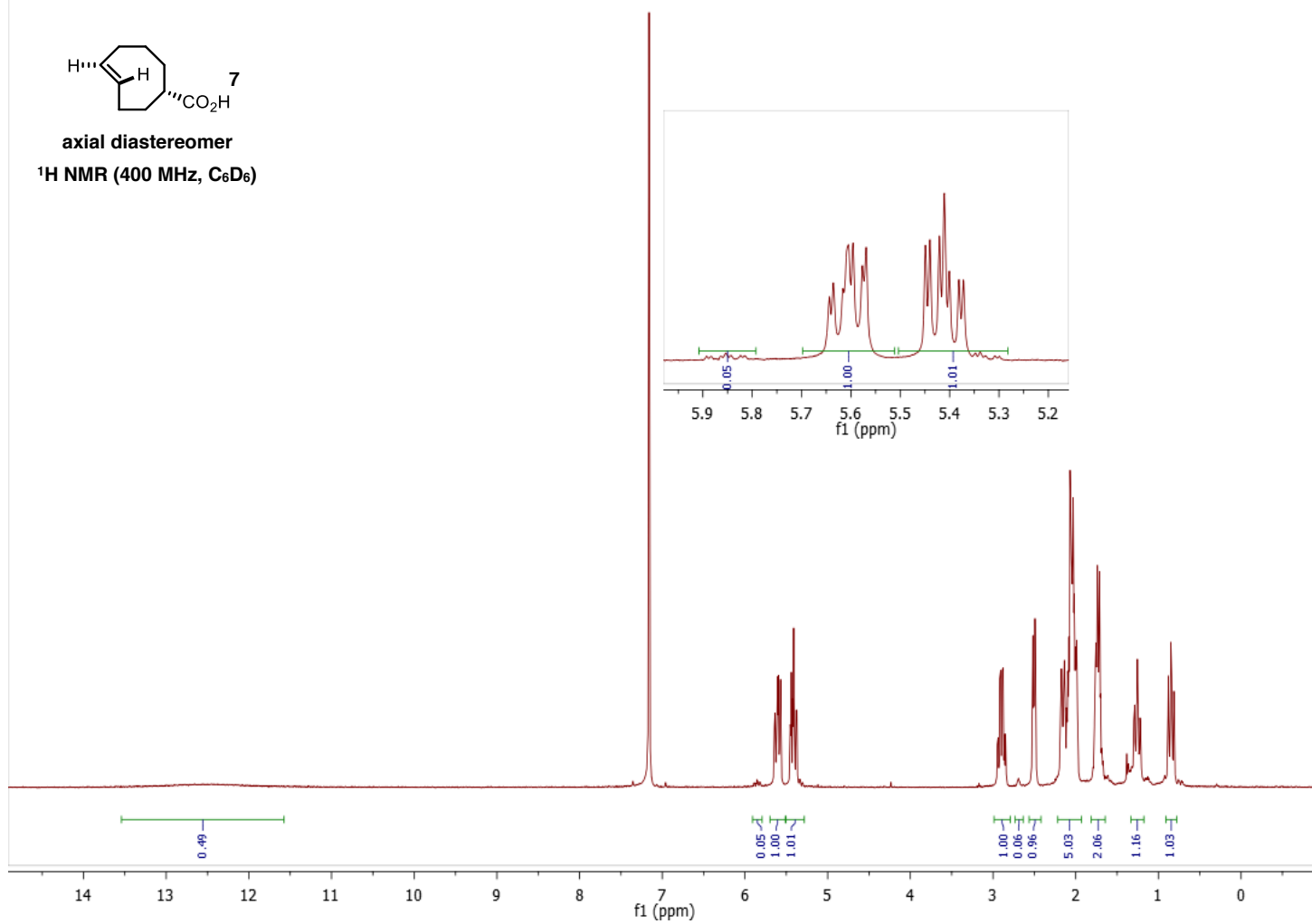
^{13}C NMR (100 MHz, C_6D_6)

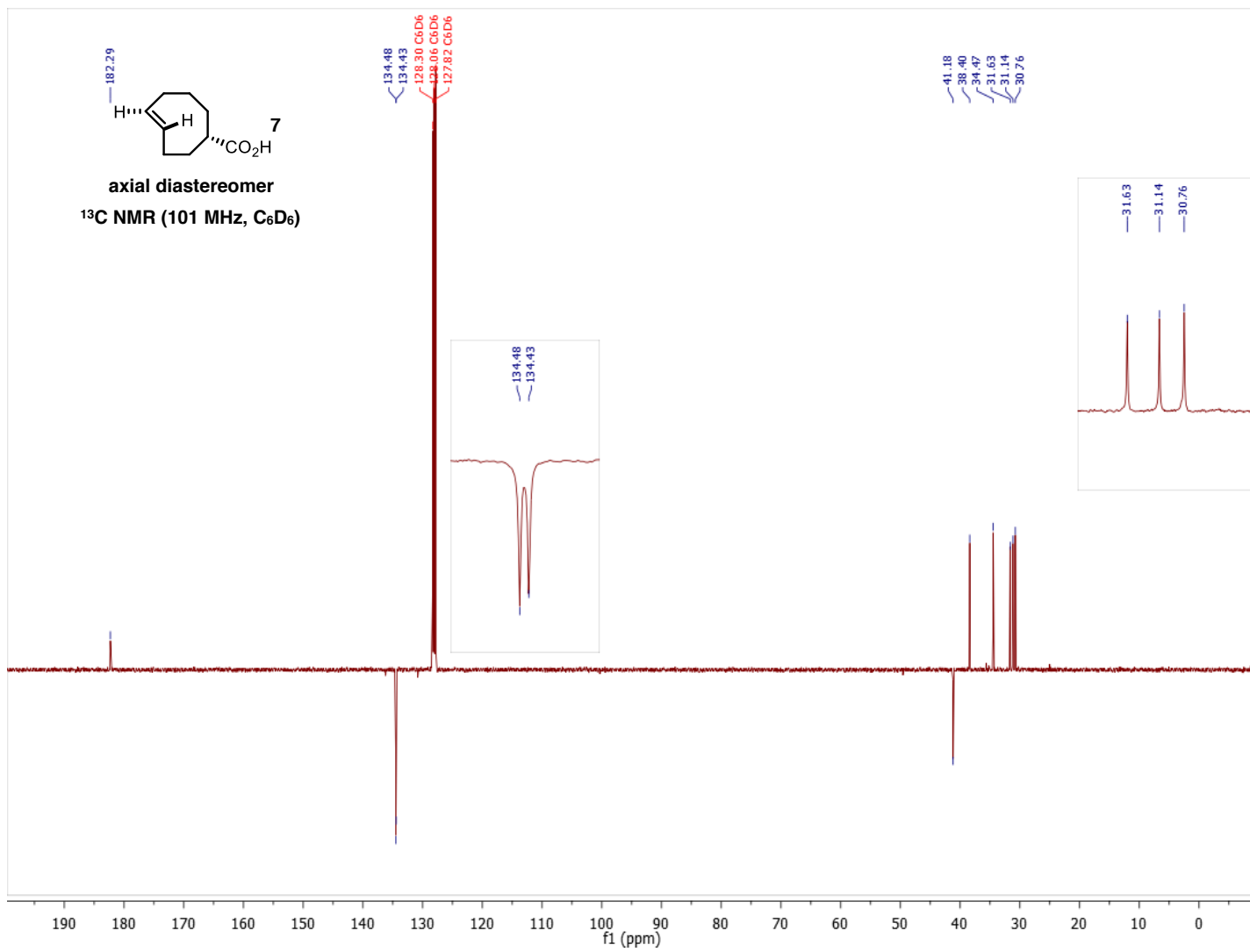


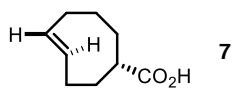


axial diastereomer

^1H NMR (400 MHz, C_6D_6)

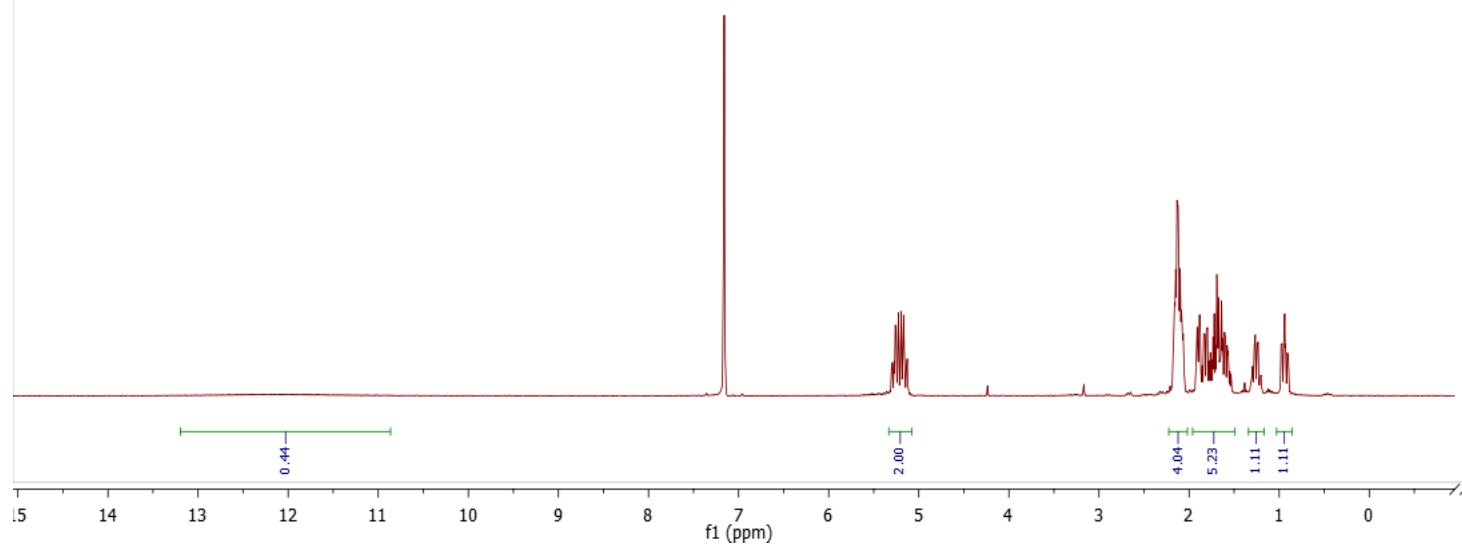


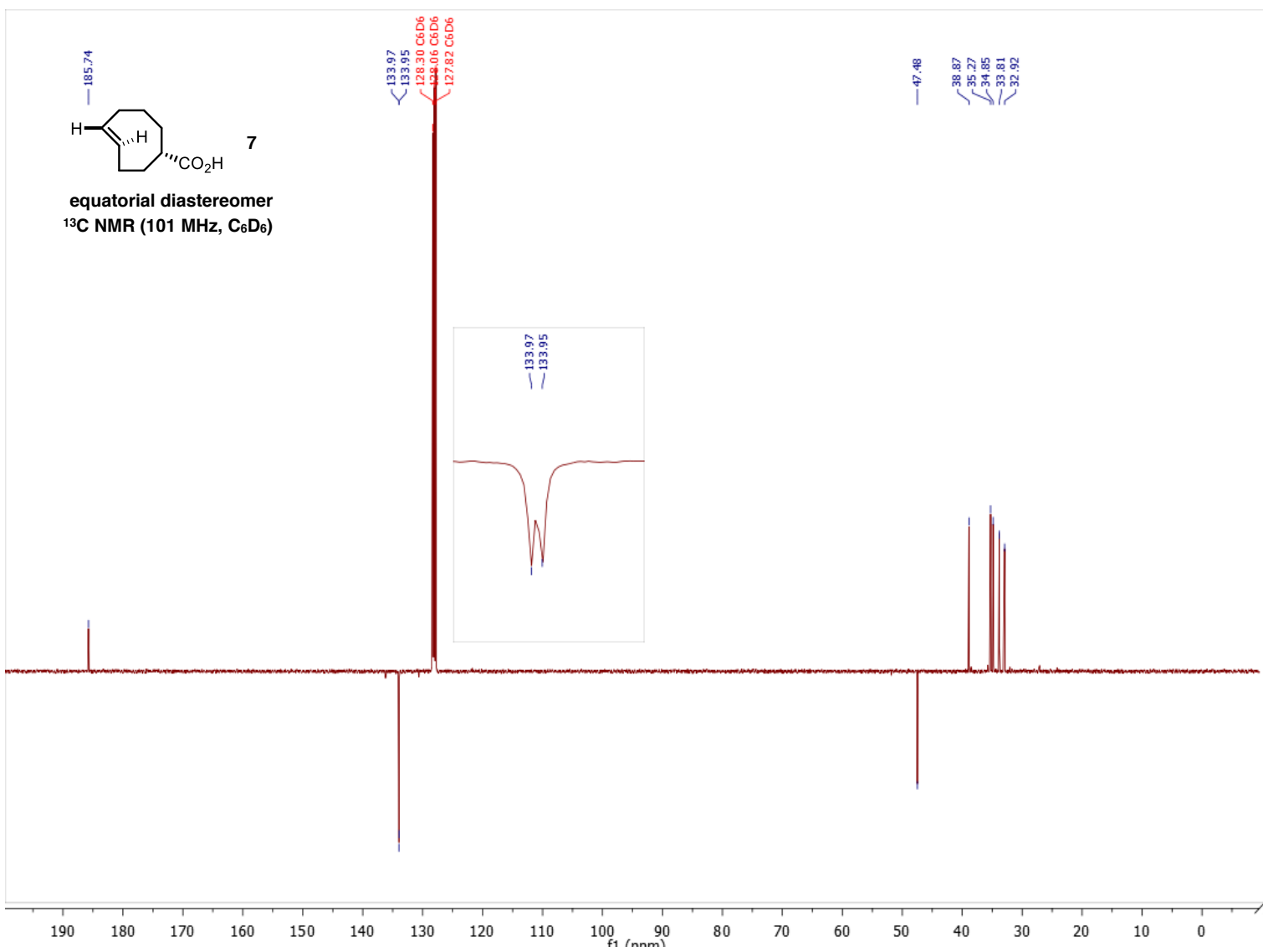


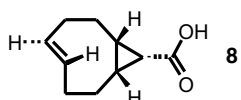


equatorial diastereomer

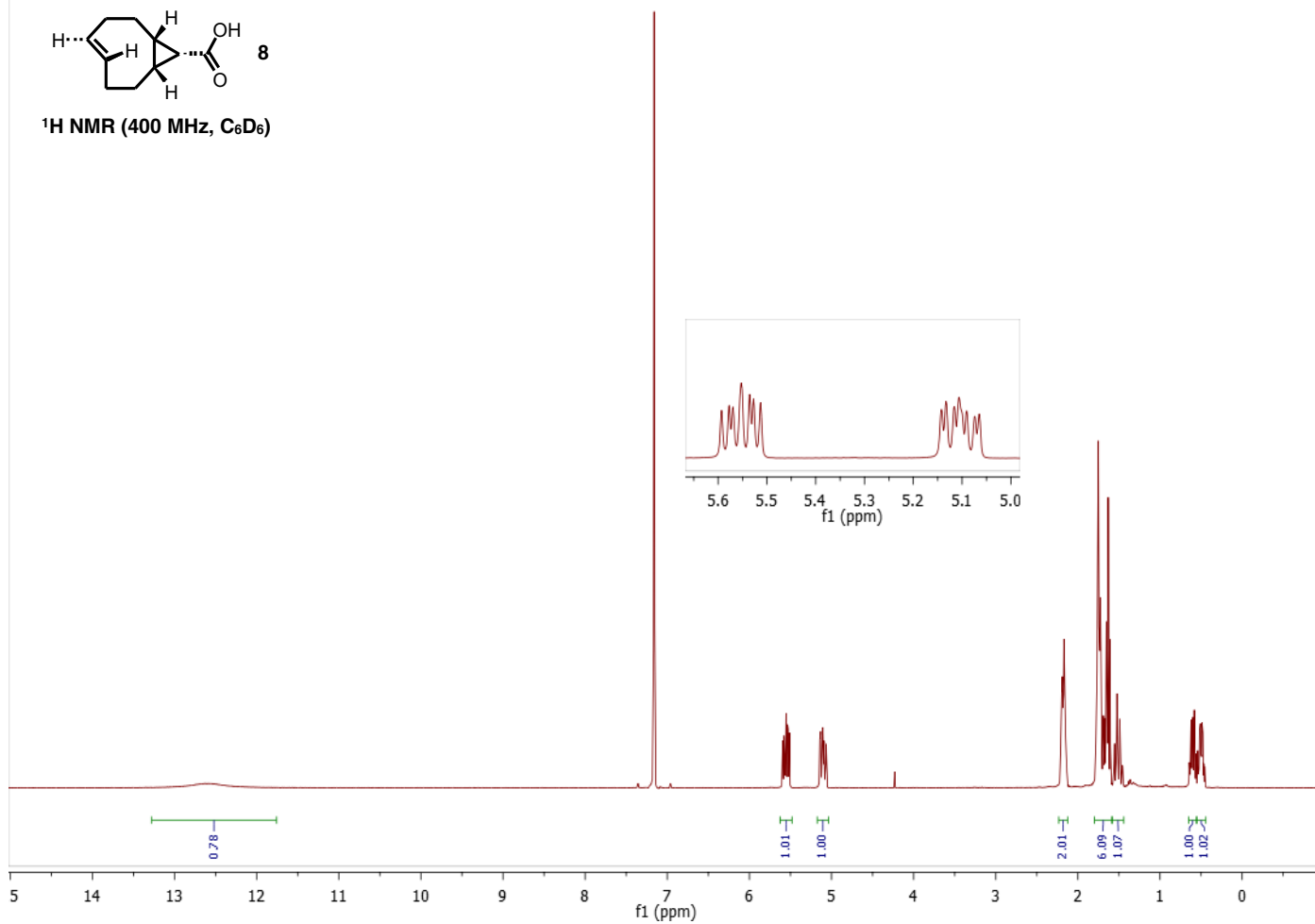
^1H NMR (400 MHz, C_6D_6)

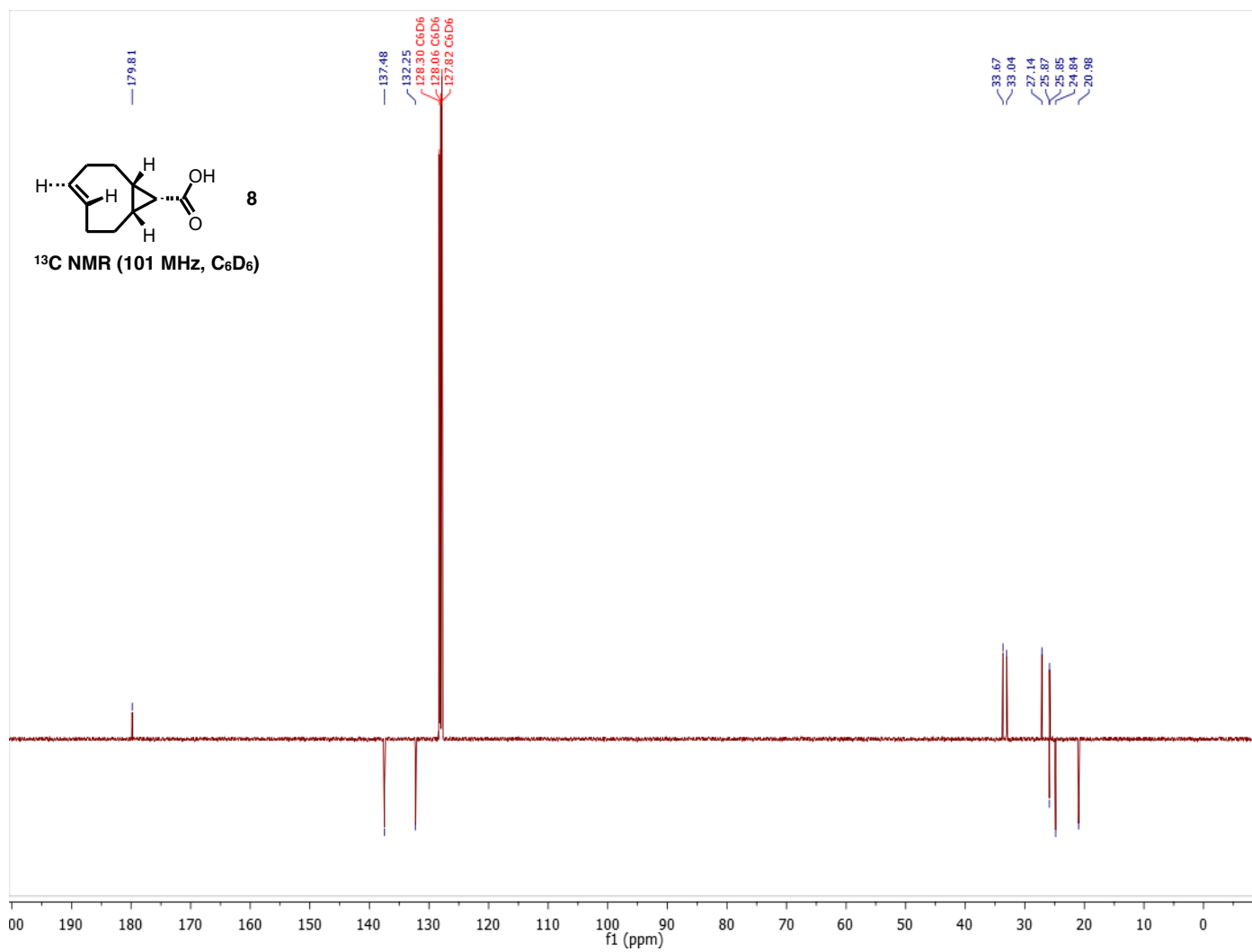


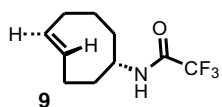




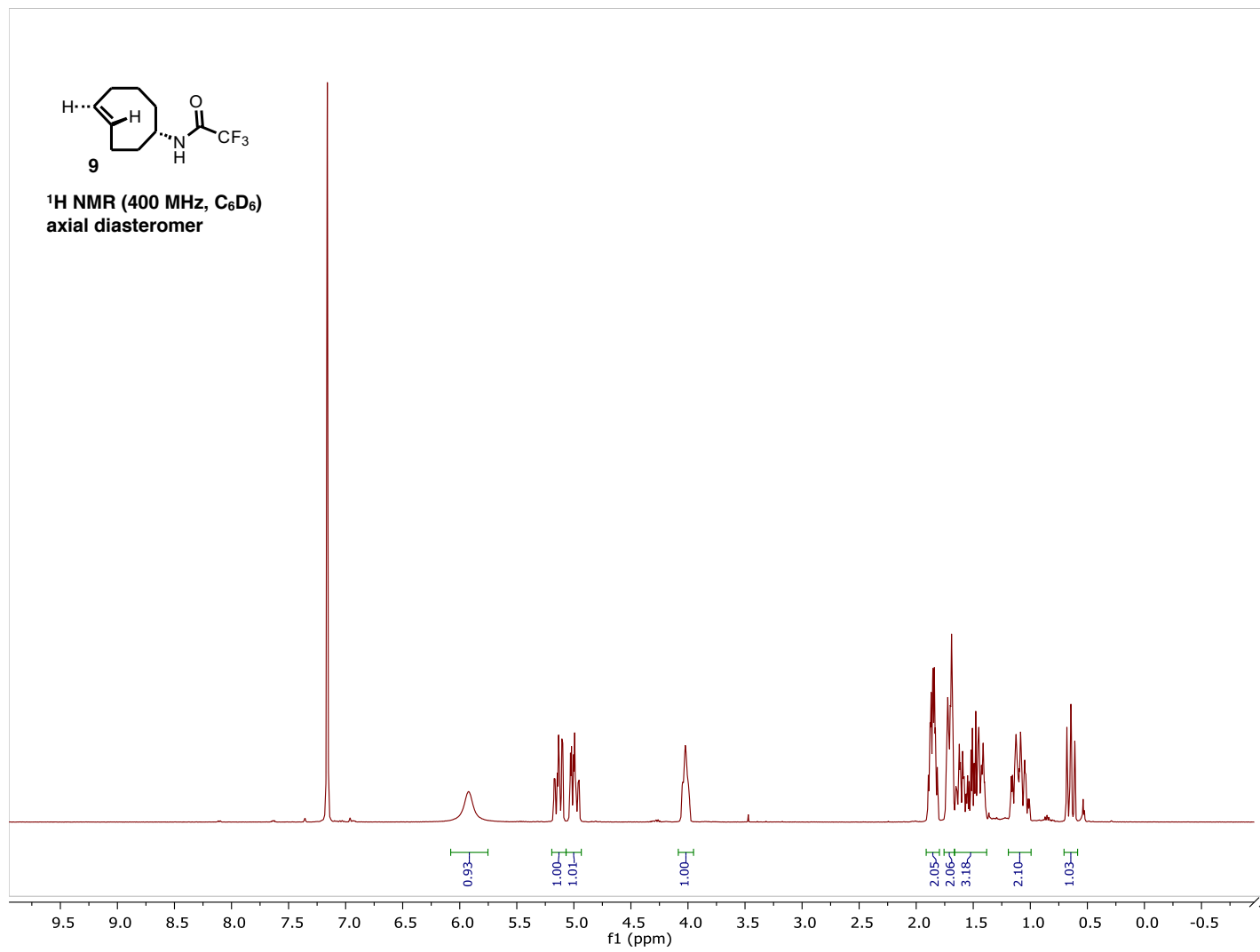
¹H NMR (400 MHz, C₆D₆)

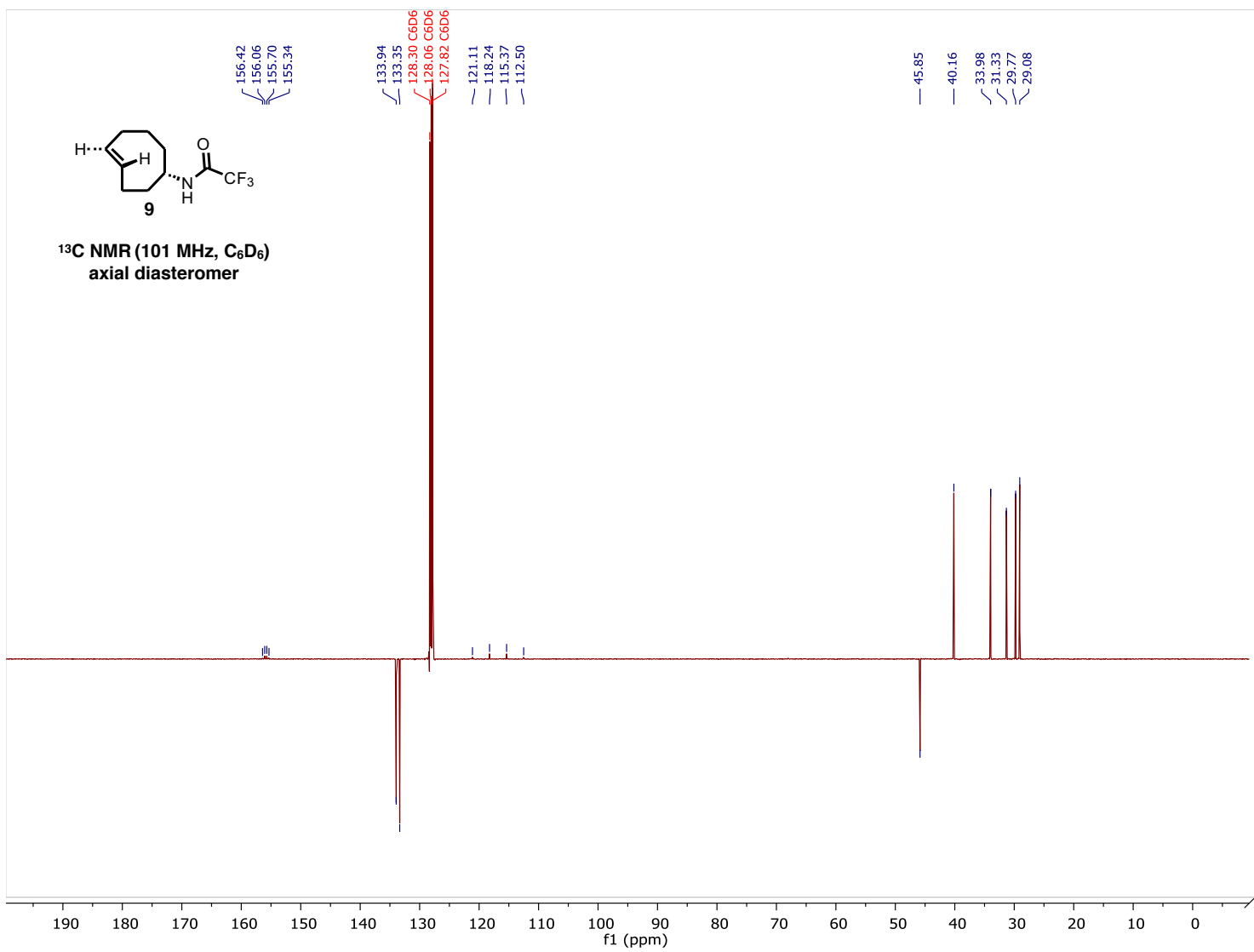


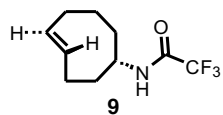




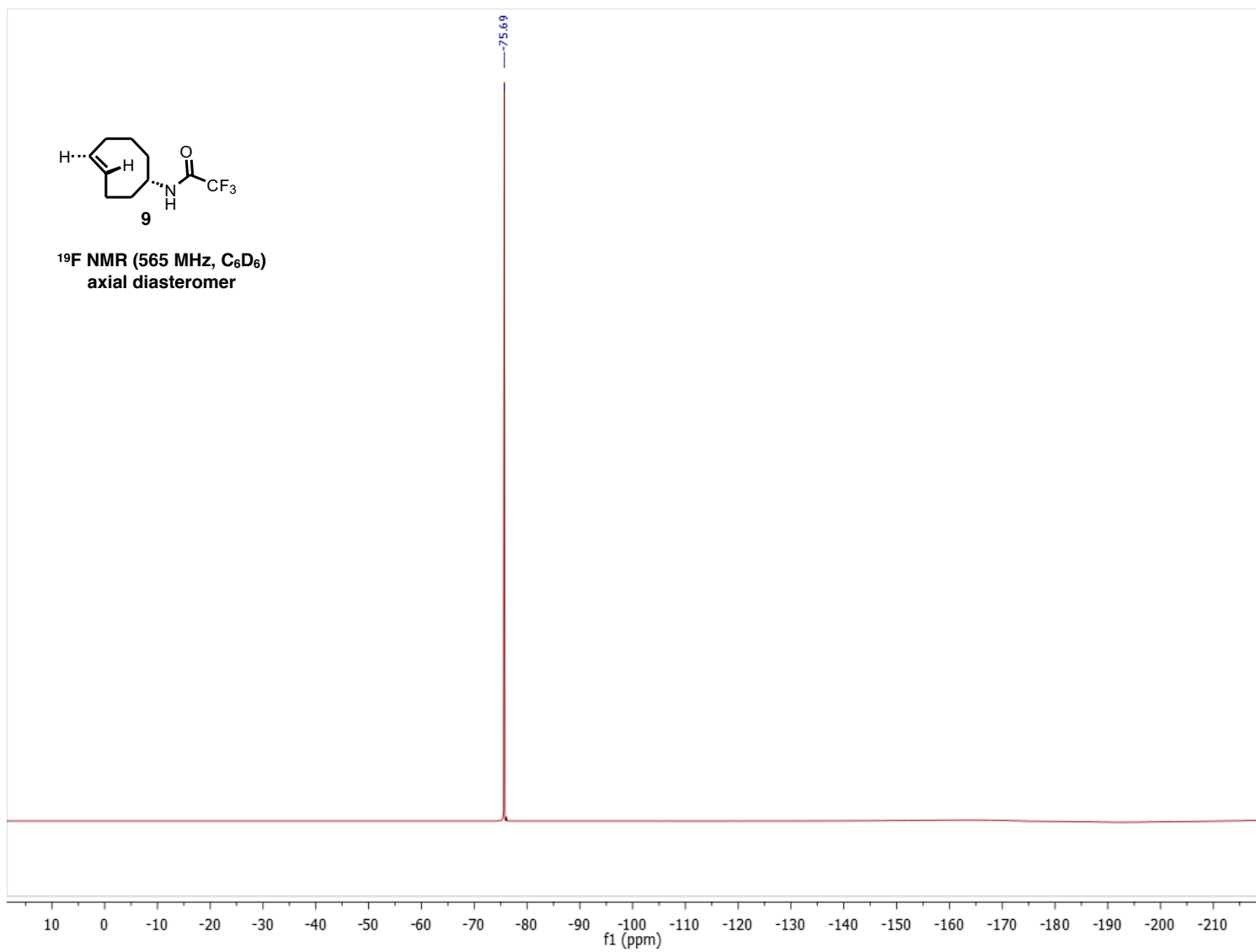
**¹H NMR (400 MHz, C₆D₆)
axial diastereomer**

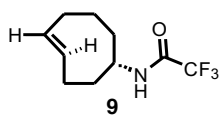




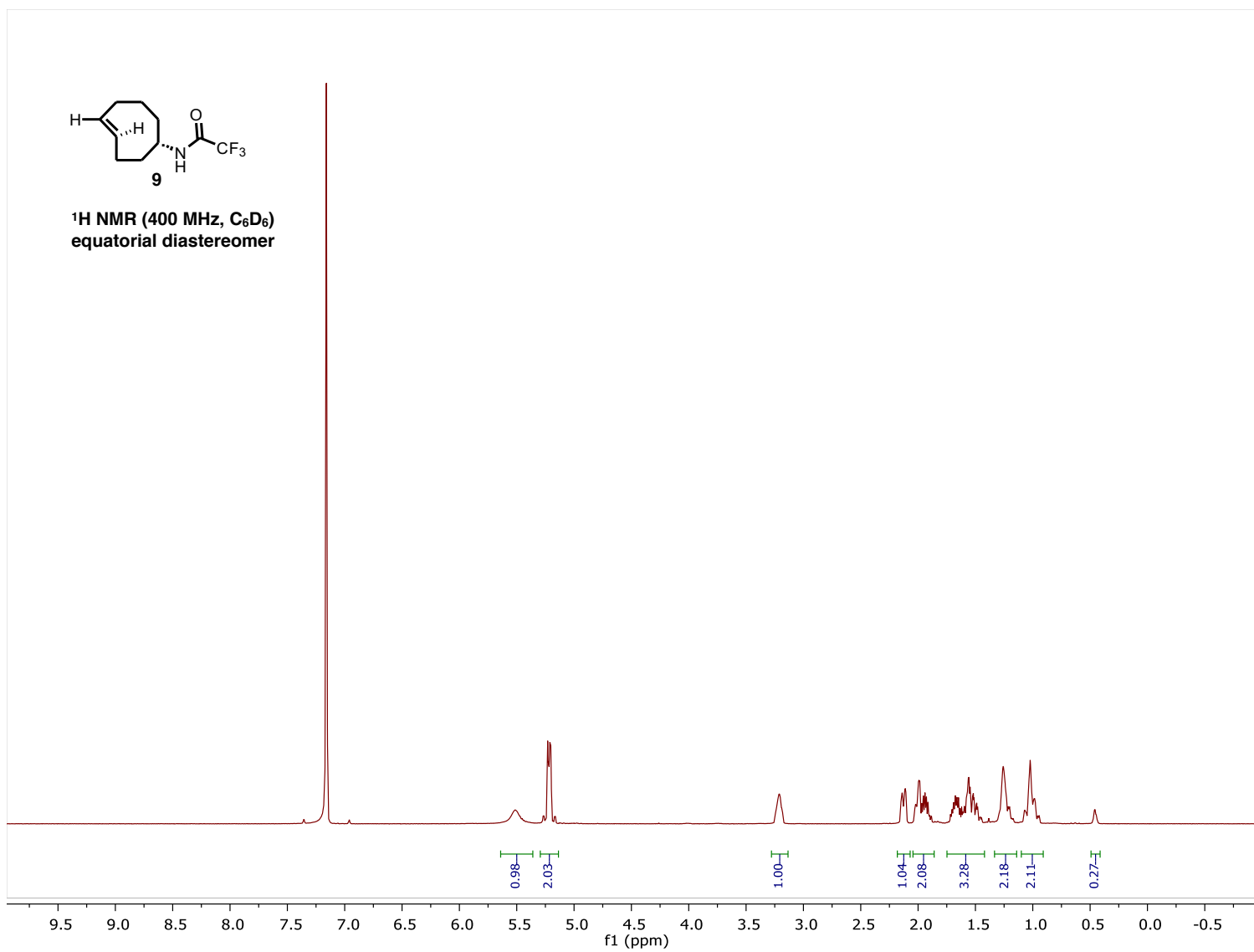


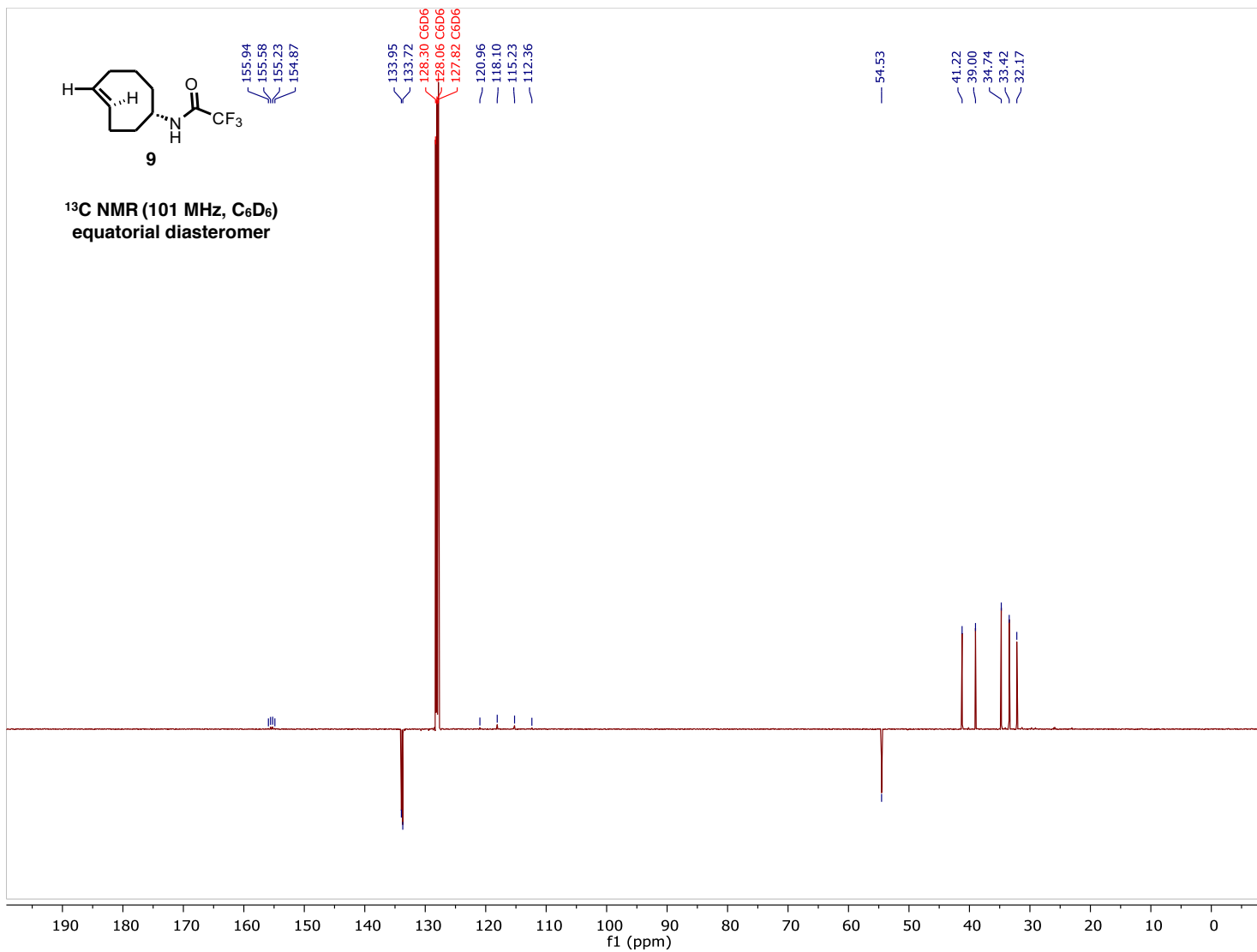
**¹⁹F NMR (565 MHz, C₆D₆)
axial diastereomer**

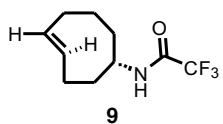




**¹H NMR (400 MHz, C₆D₆)
equatorial diastereomer**







**¹⁹F NMR (565 MHz, C₆D₆)
equatorial diastomer**

