

Supplementary Information

Synthesis of 10b-fluorinated analogues of protubonine A and its 11a-epimer via fluorocyclisation of tryptophan-containing dipeptides

Tomoya Fujiwara,* Hiroko Yasuda, Yushi Nishimura, Hisanori Nambu and Takayuki Yakura*

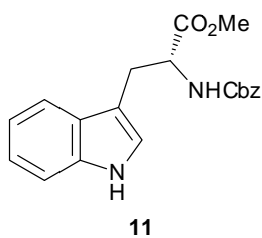
Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama,
Sugitani, Toyama 930-0194, Japan.

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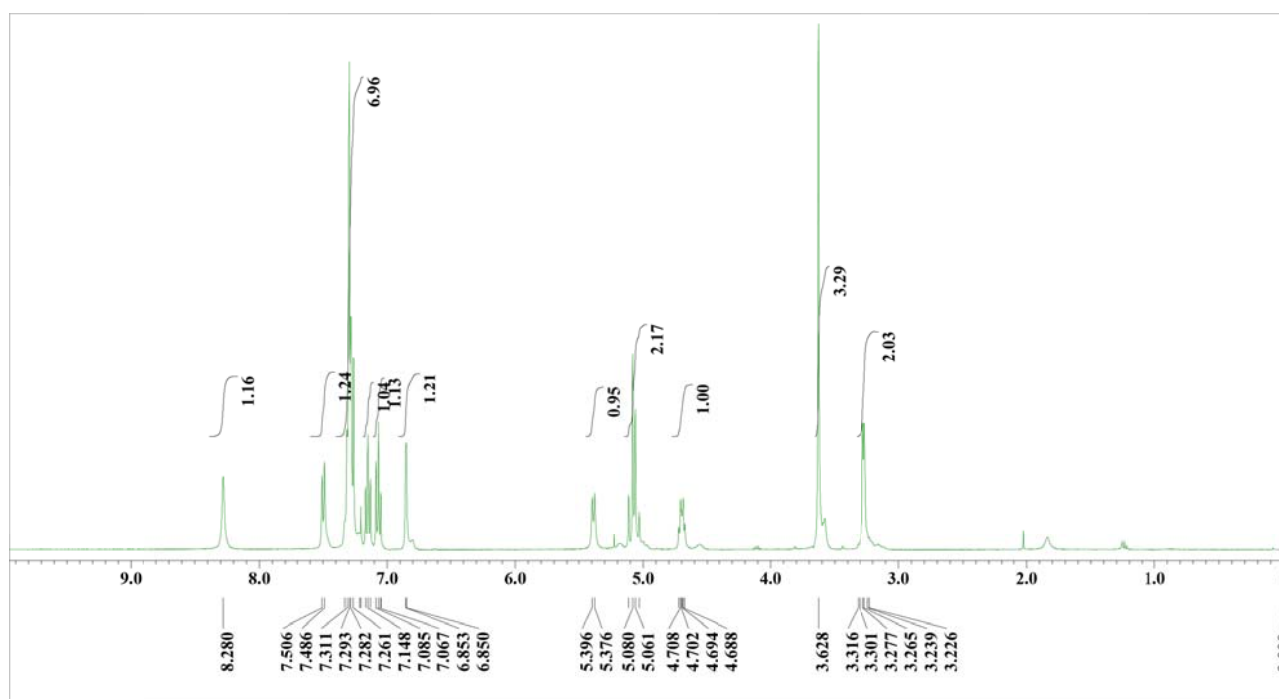
1. ^1H , ^{13}C and ^{19}F NMR Spectra

S1-S26

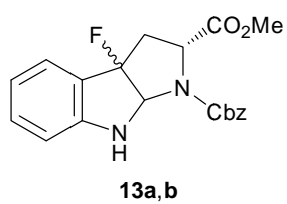
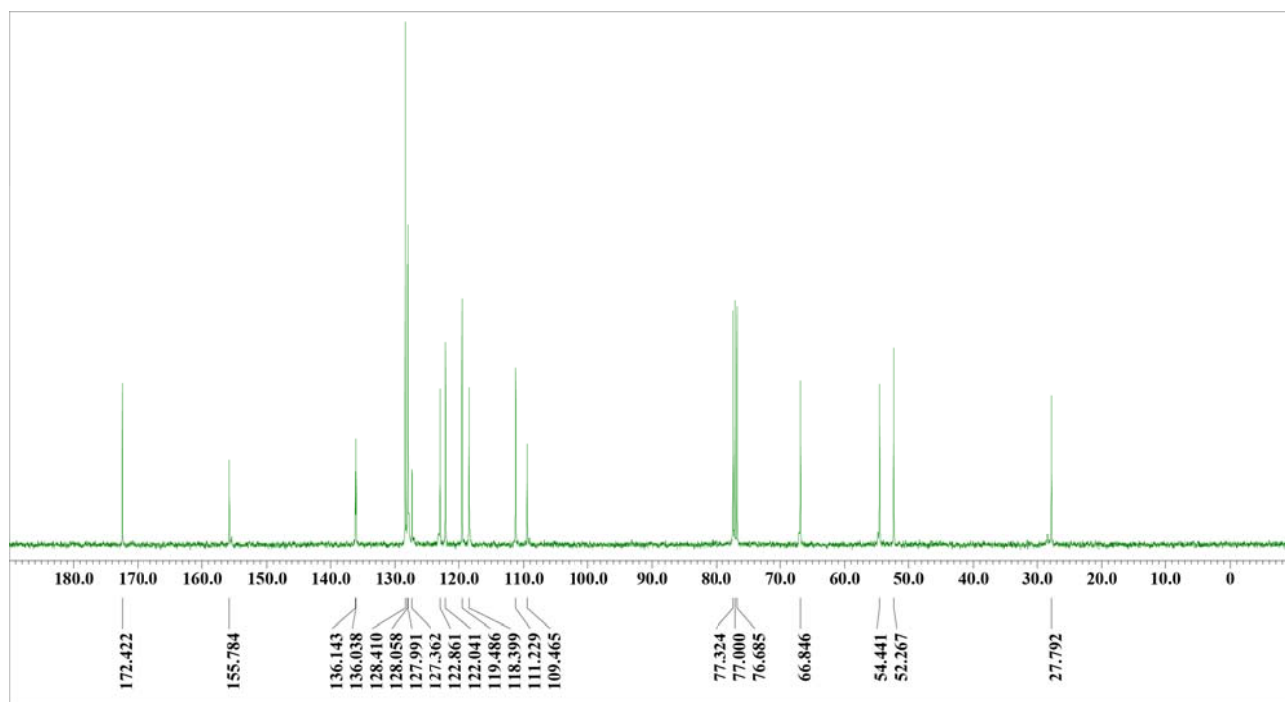
1. ^1H , ^{13}C and ^{19}F NMR Spectra



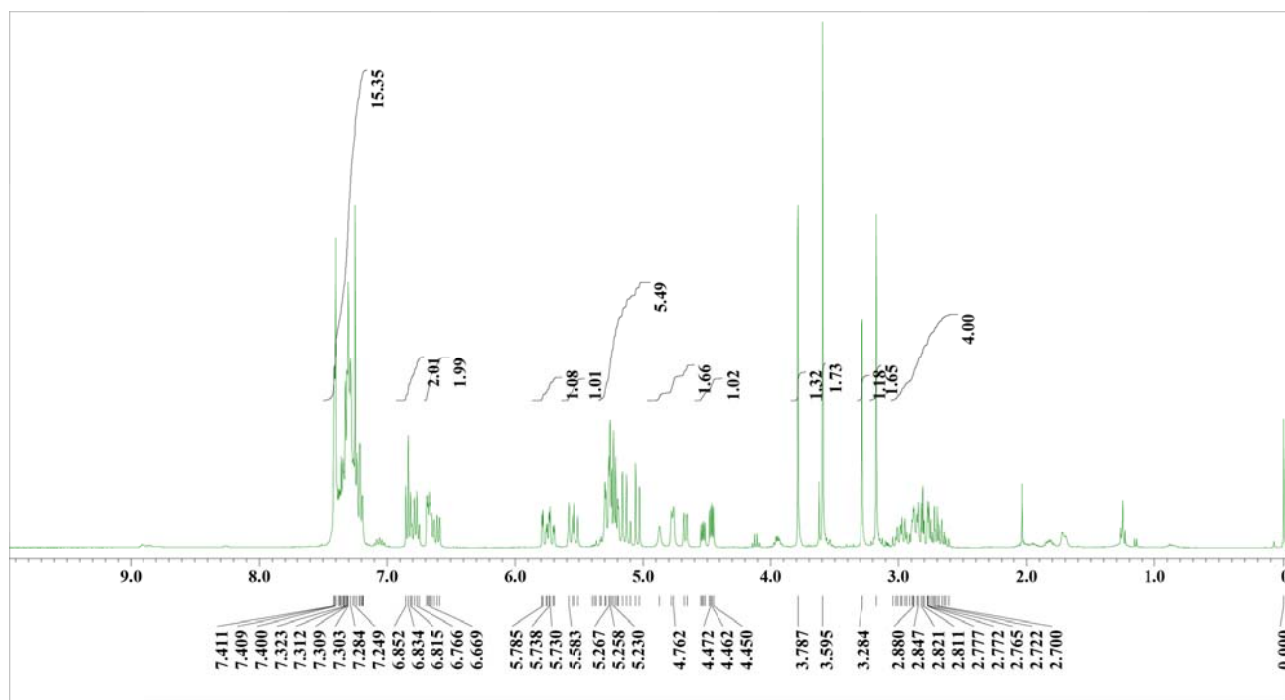
^1H NMR (400 MHz, CDCl_3) of **11**



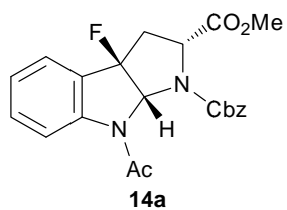
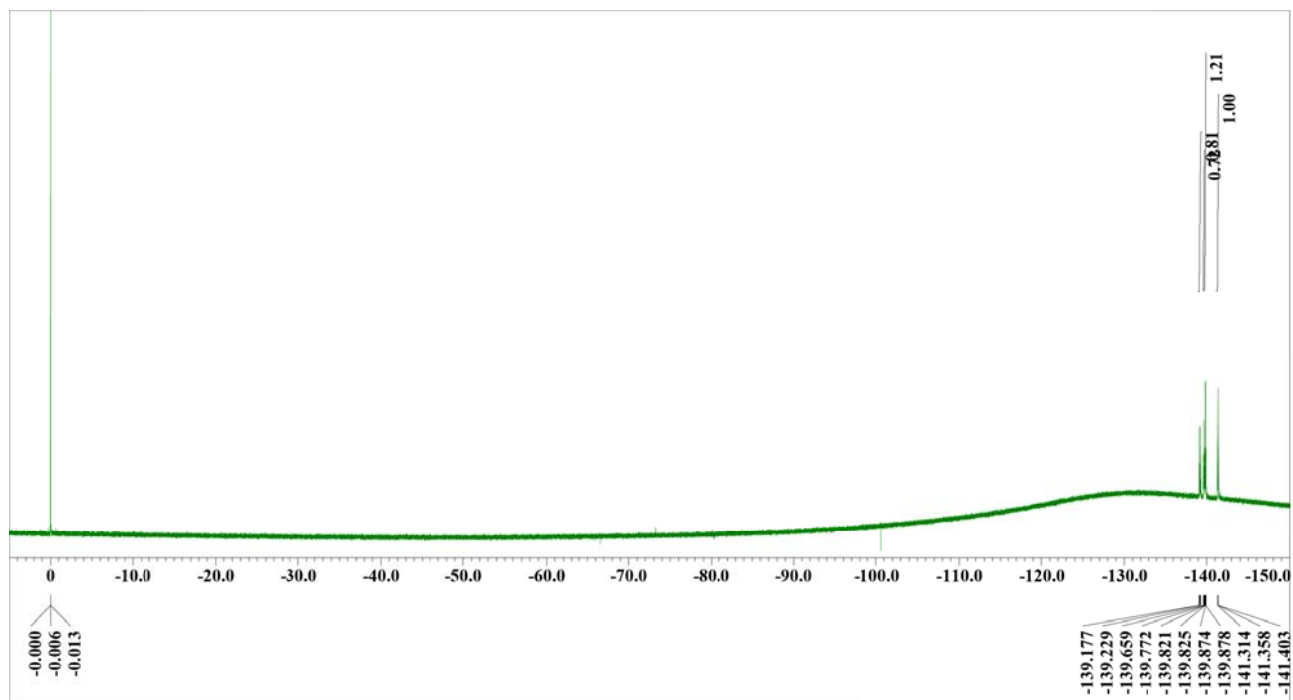
^{13}C NMR (100 MHz, CDCl_3) of **11**



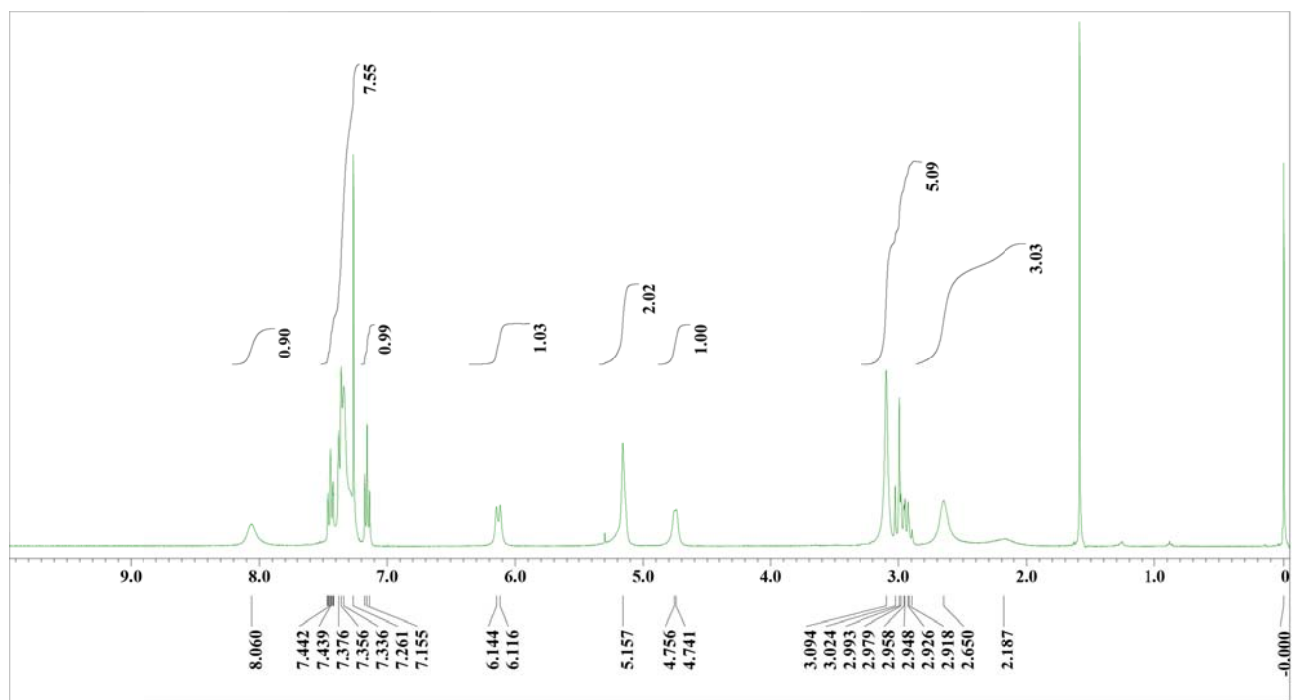
^1H NMR (400 MHz, CDCl_3) of **13a,b**



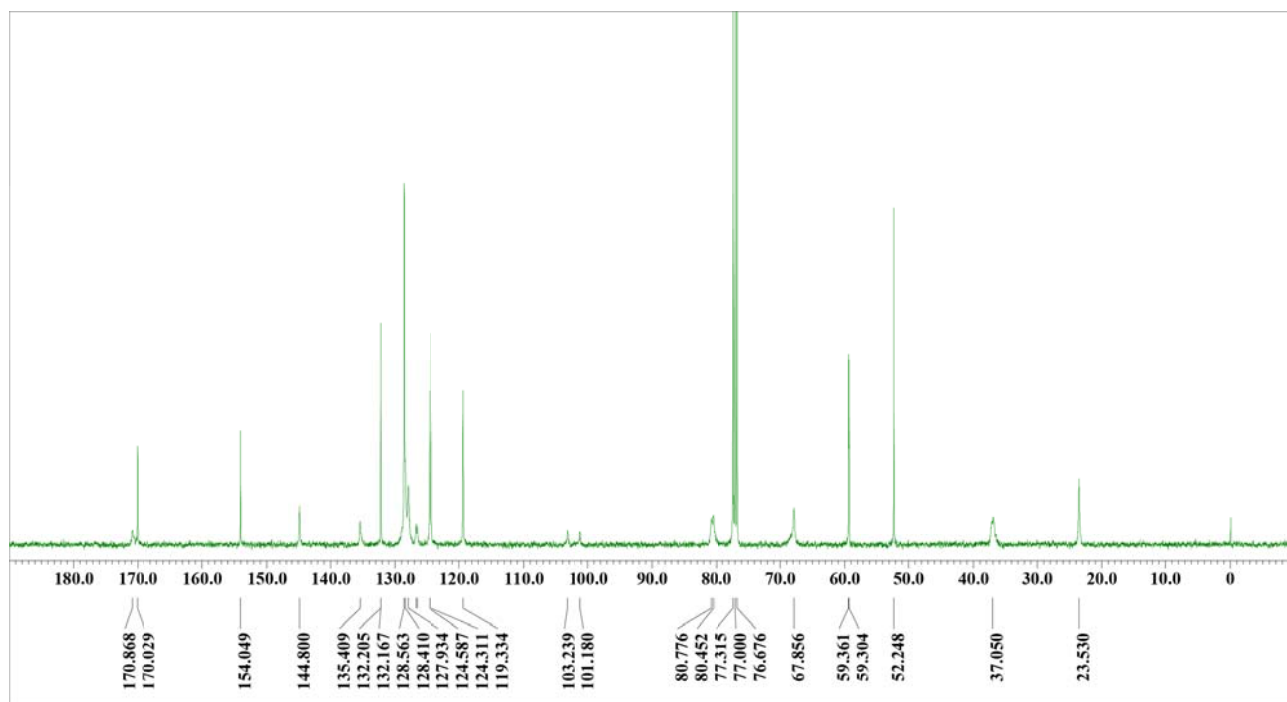
^{19}F NMR (376 MHz, CDCl_3) of **13a,b**



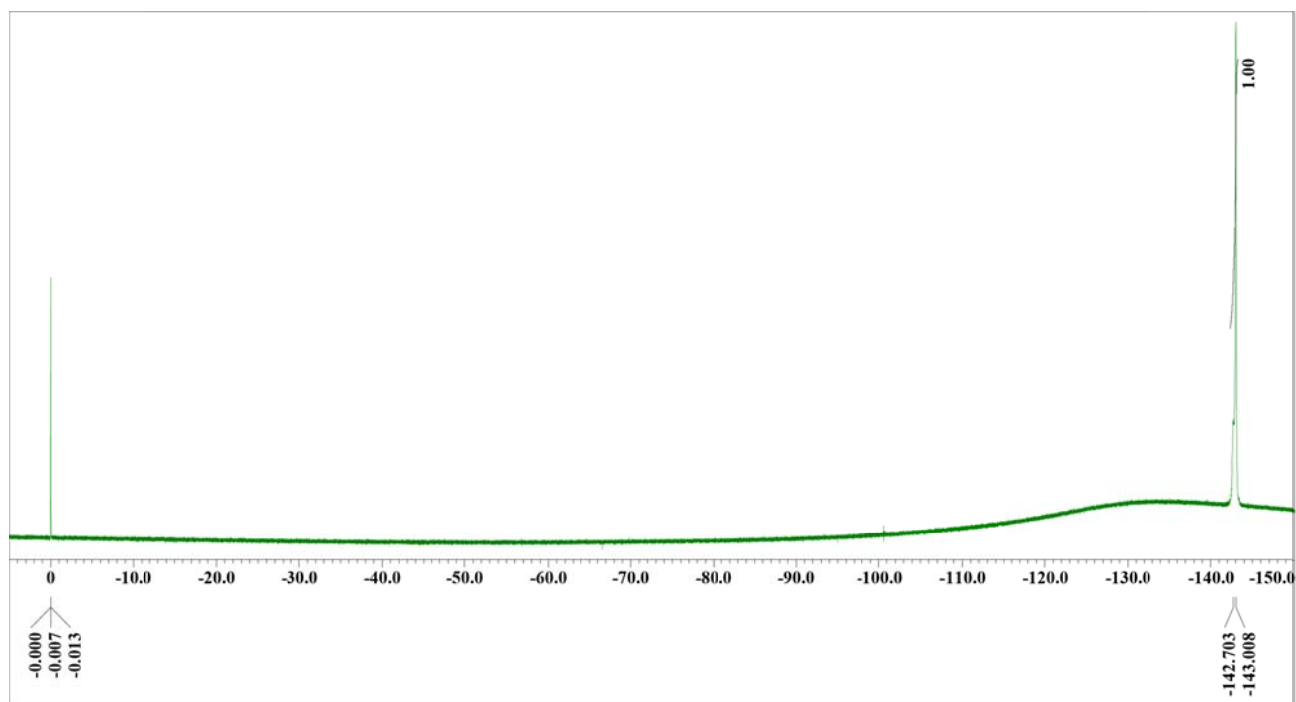
^1H NMR (400 MHz, CDCl_3) of **14a**

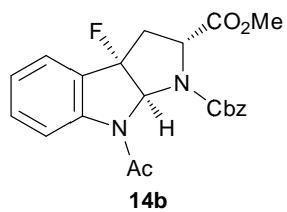


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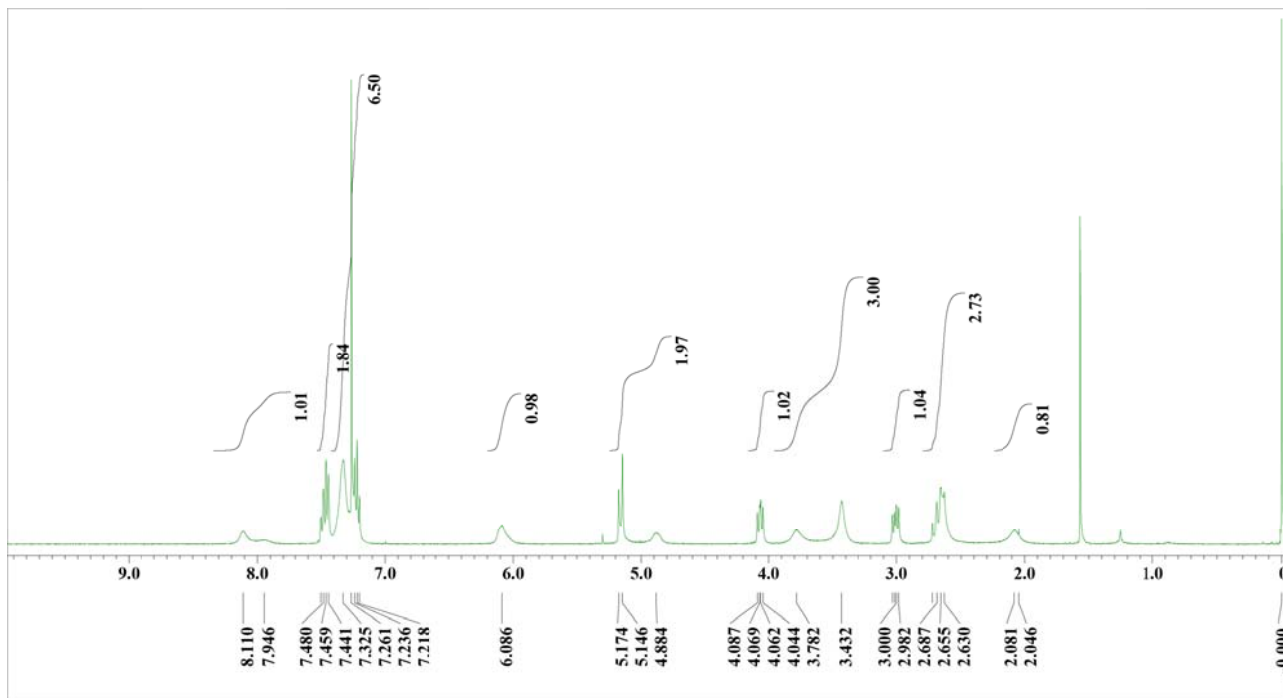


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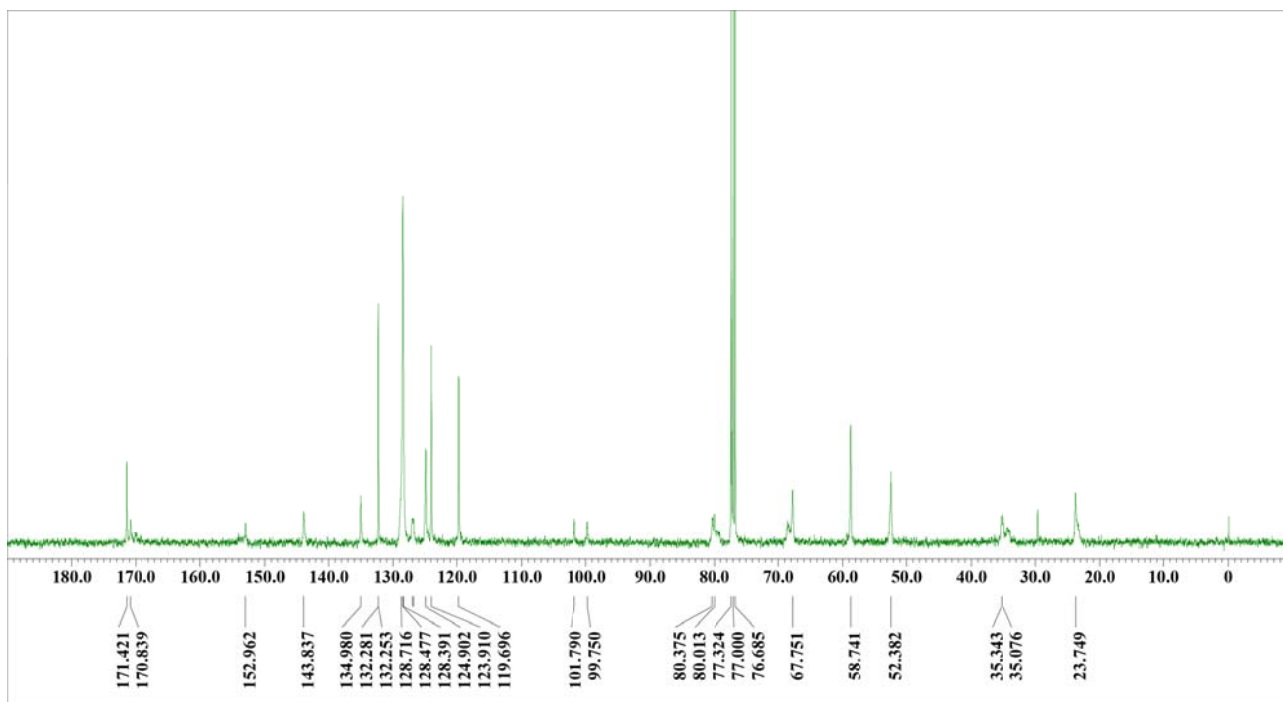




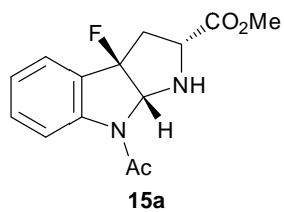
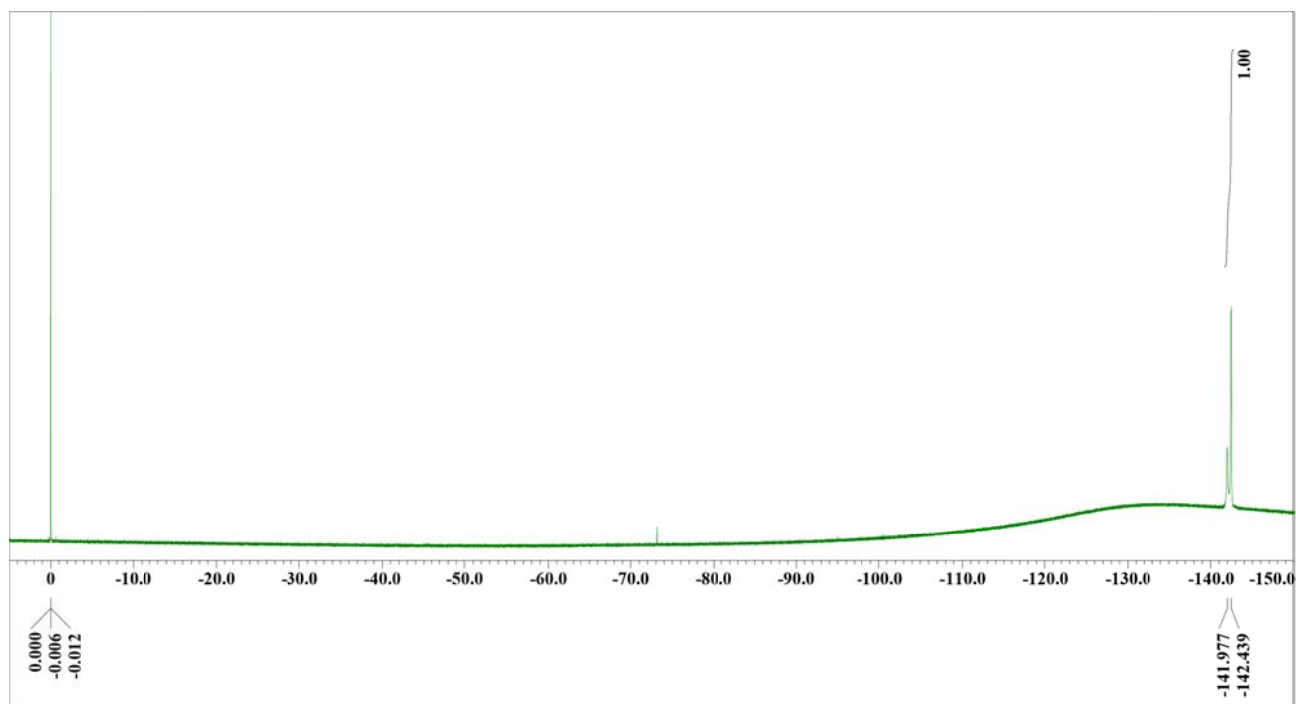
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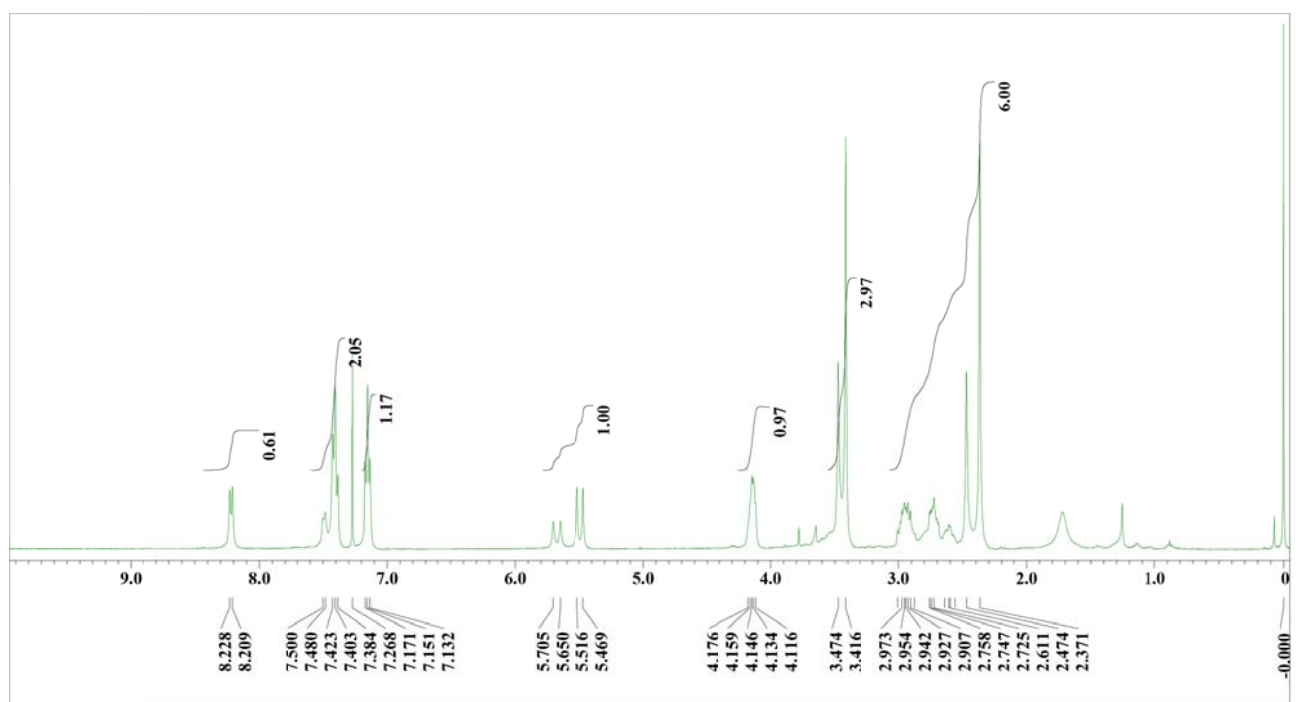
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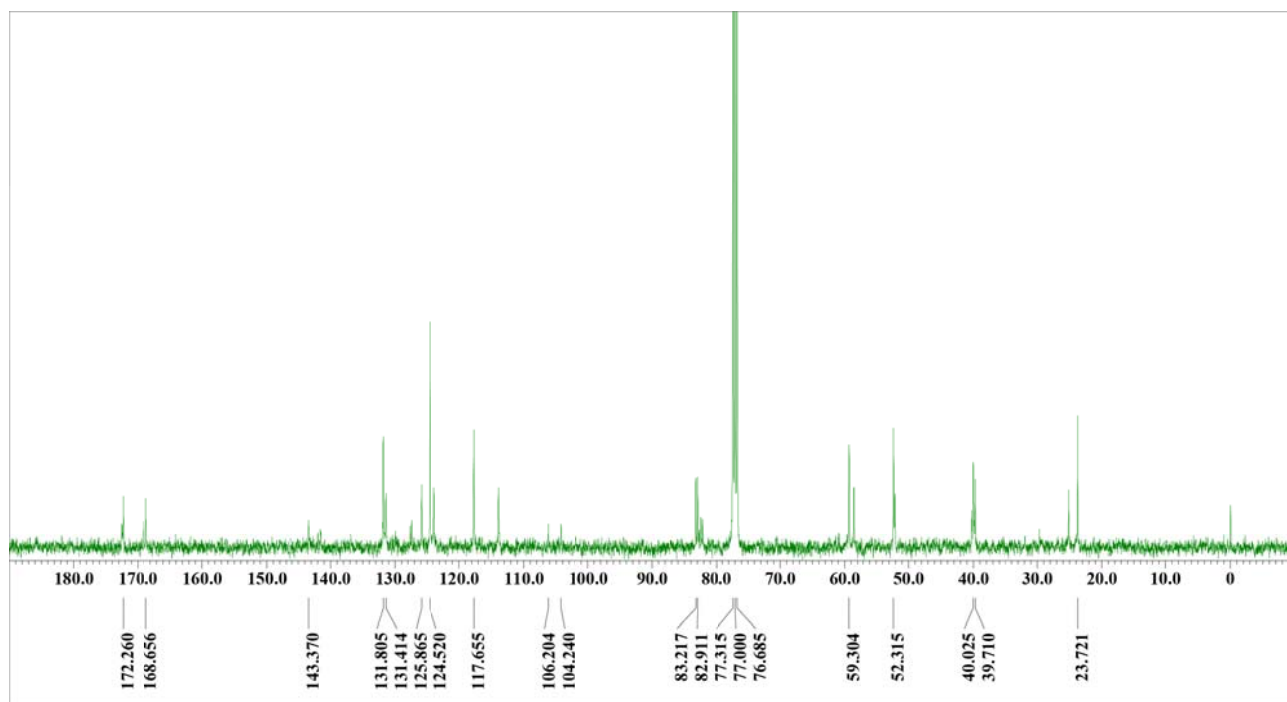
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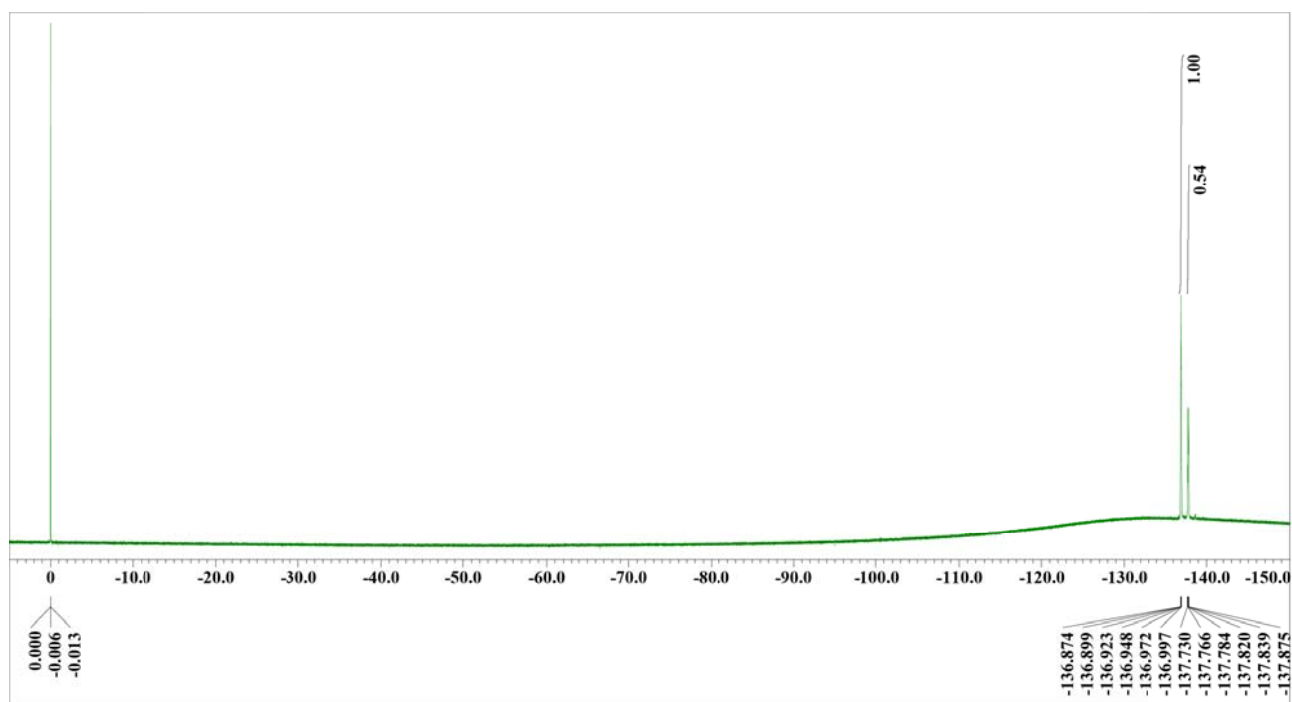
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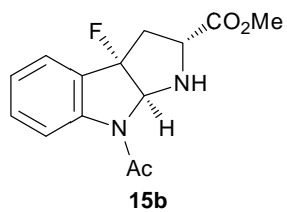


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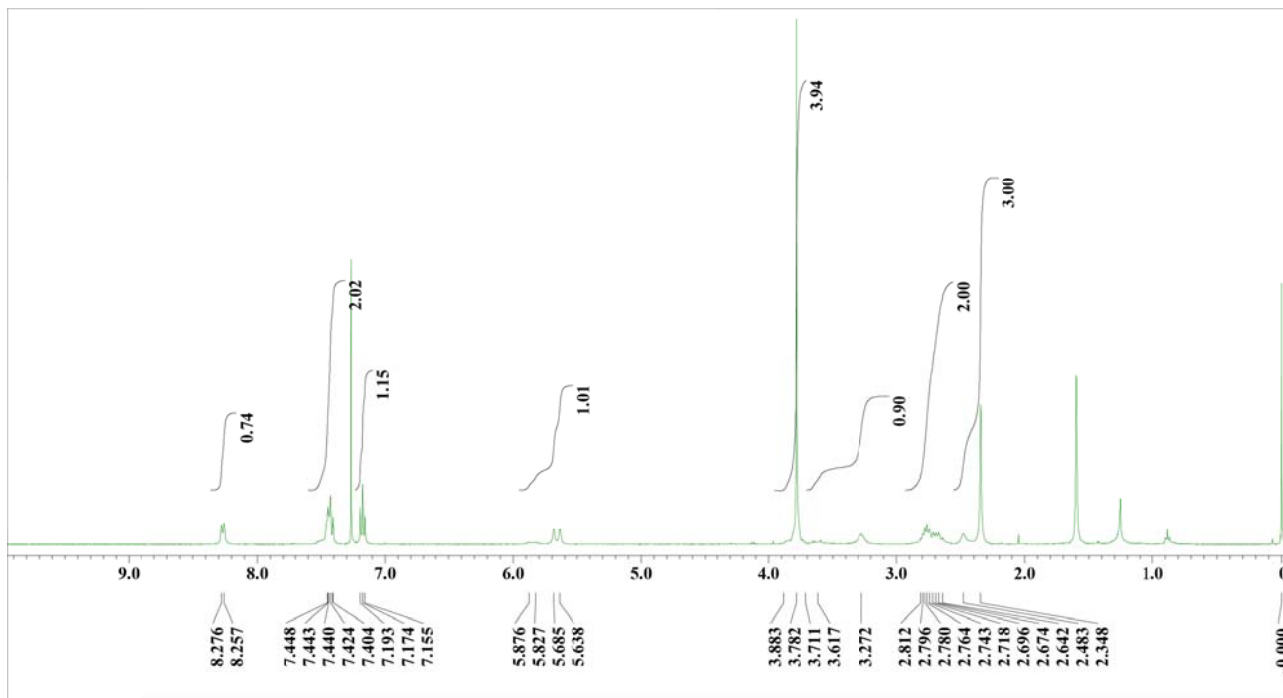


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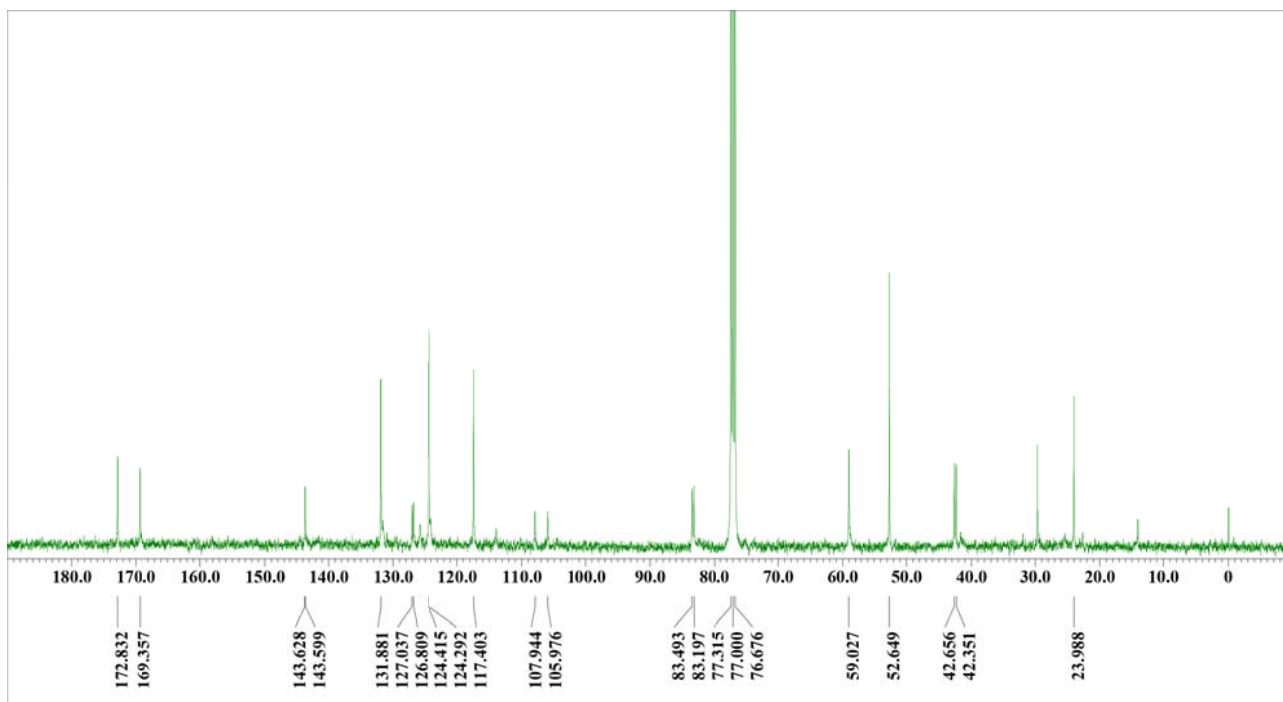




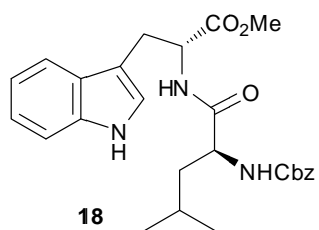
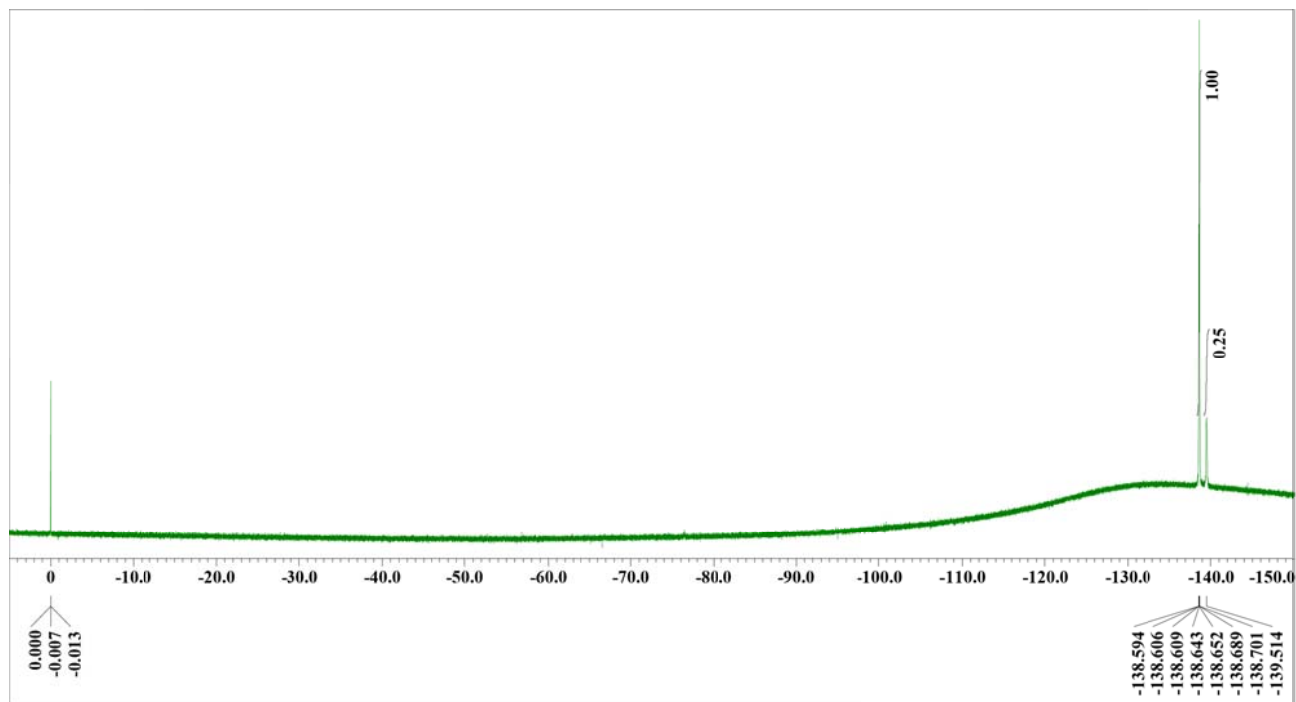
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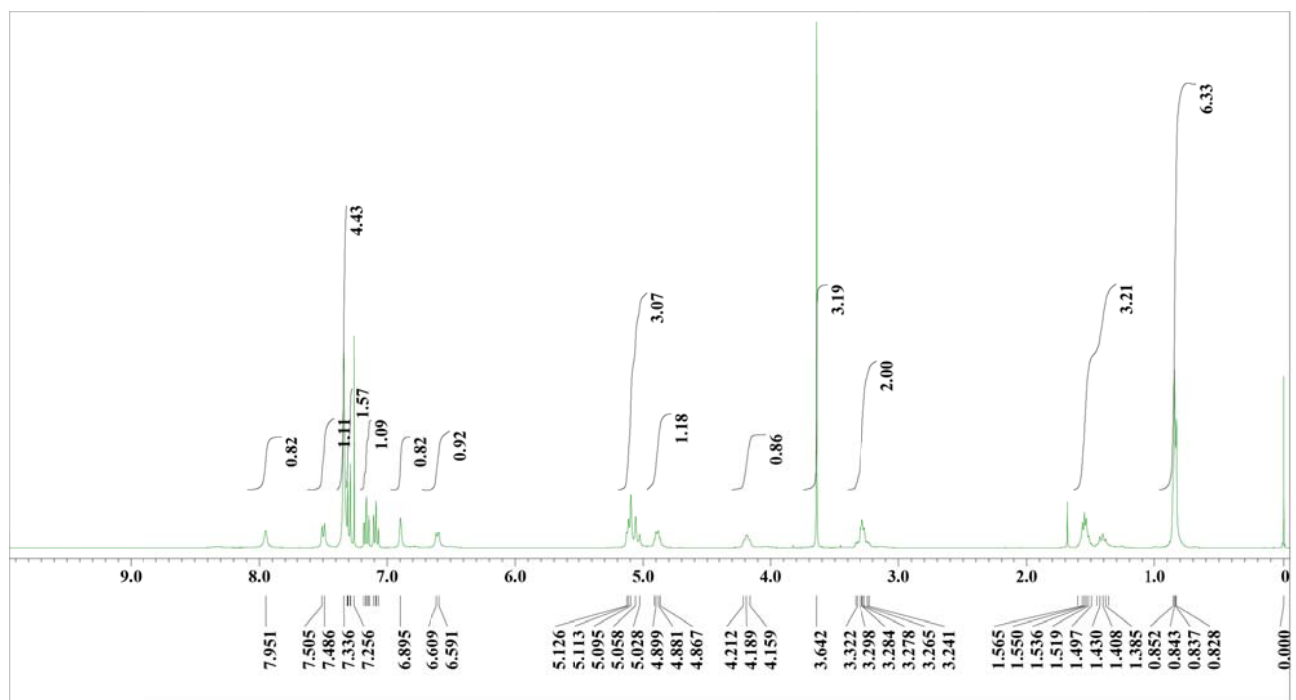
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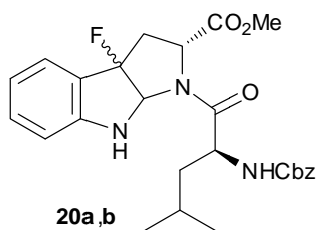
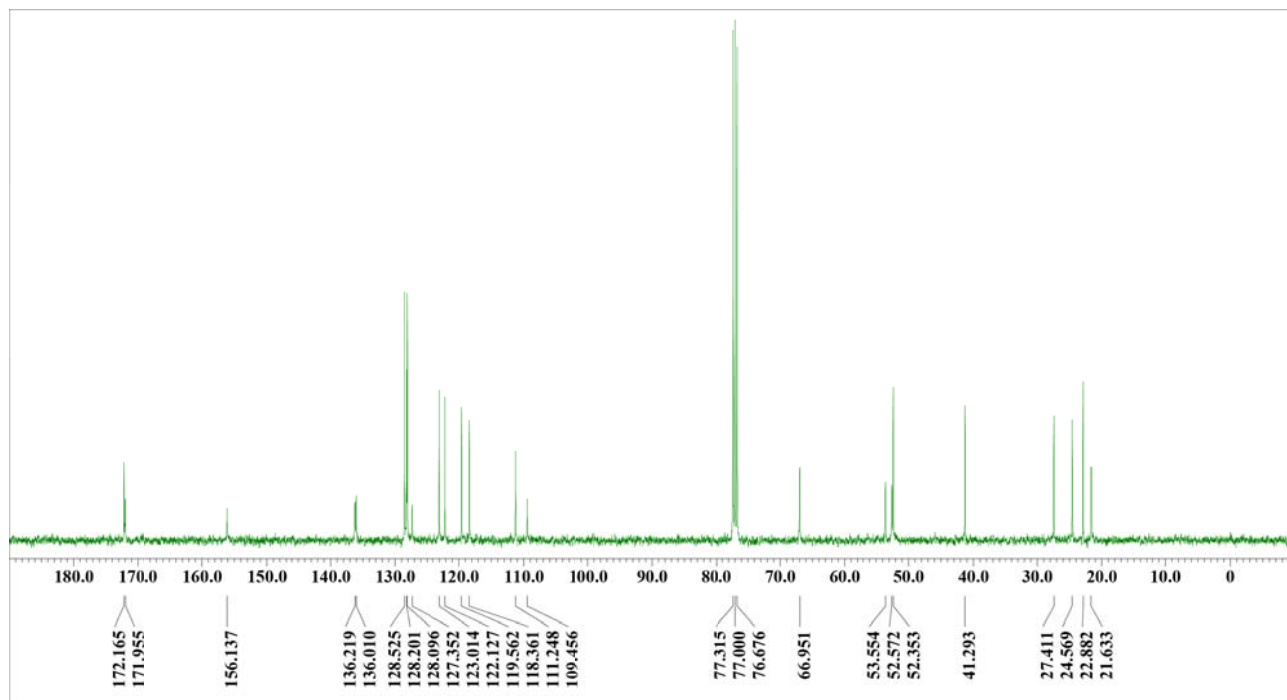
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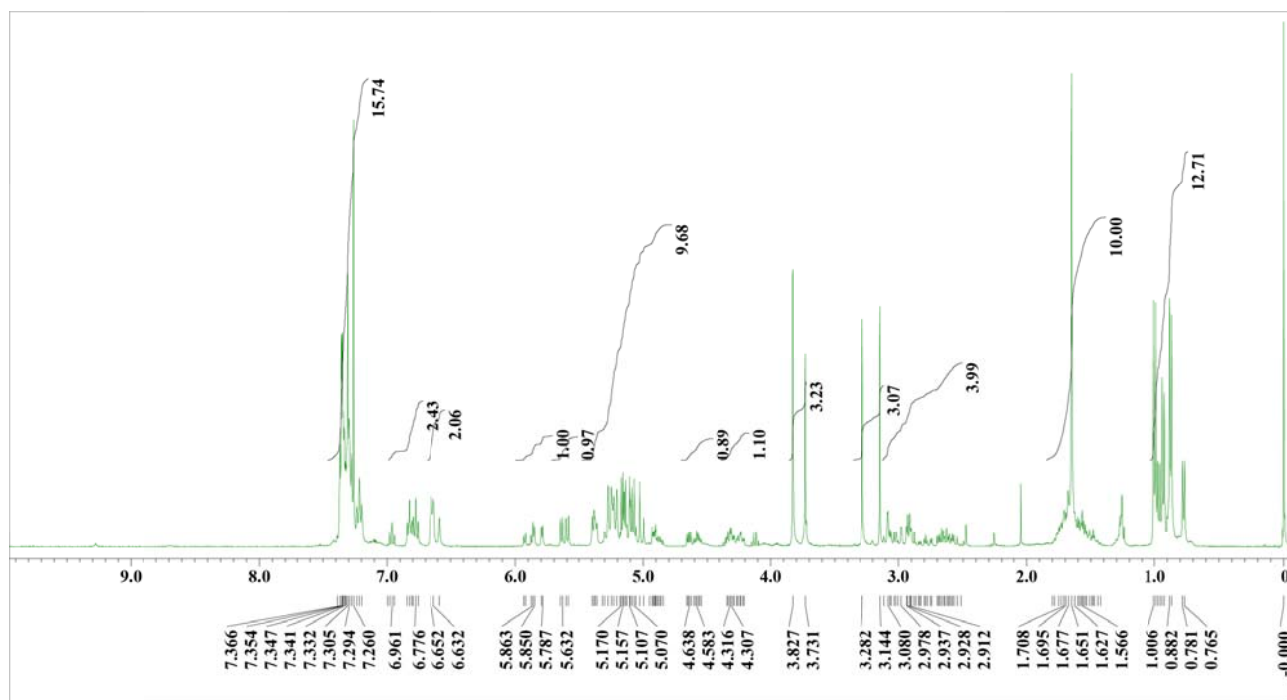
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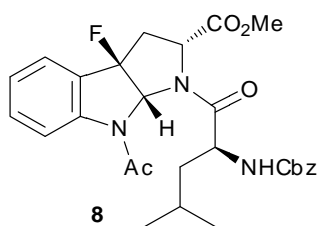
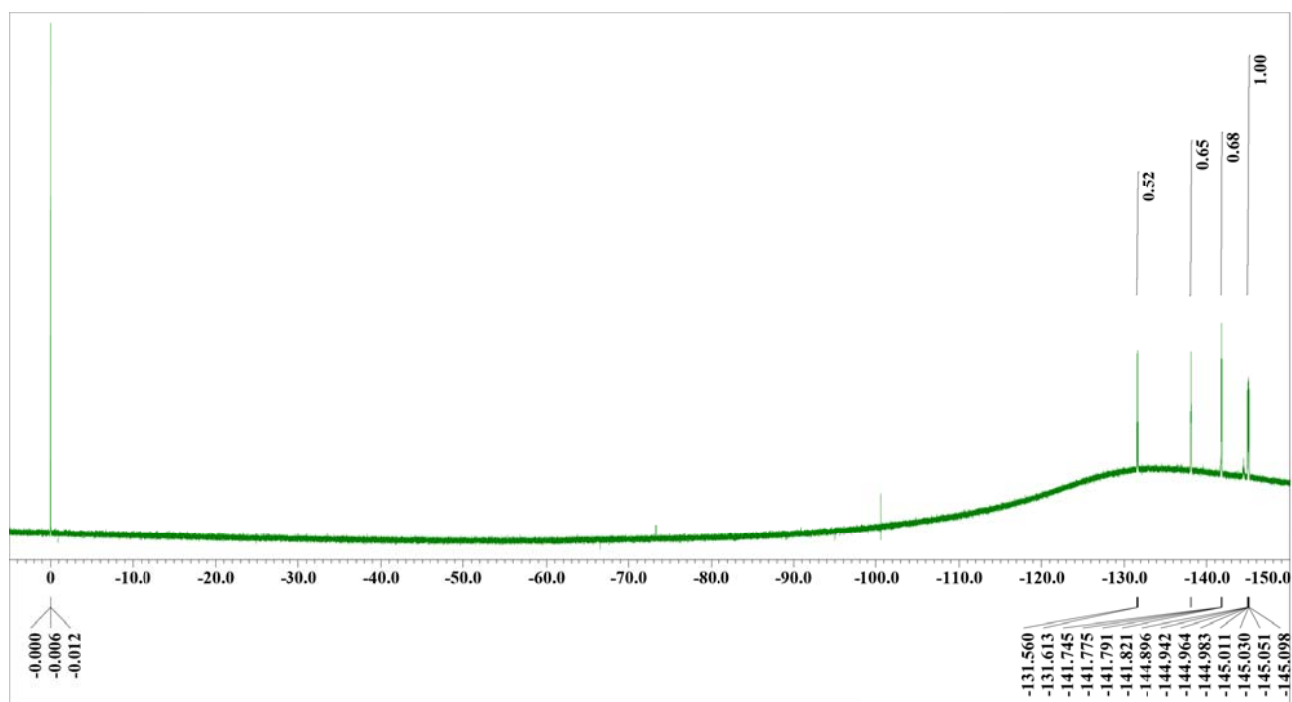
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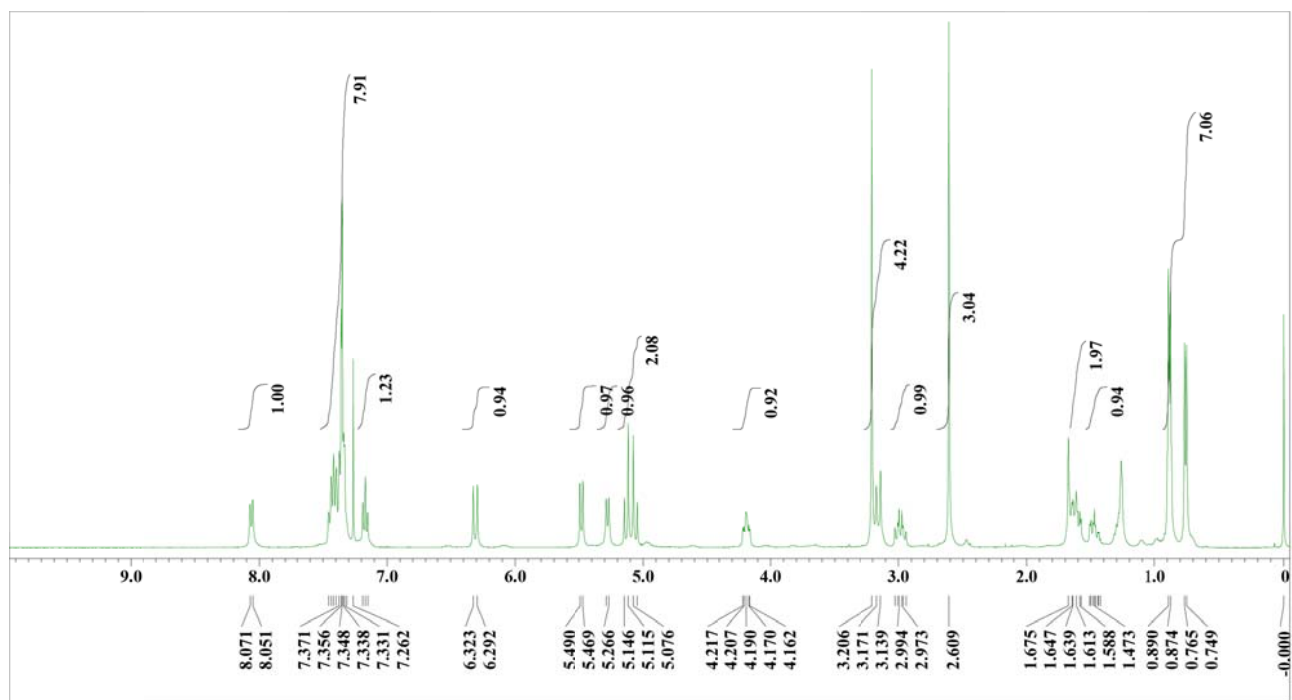
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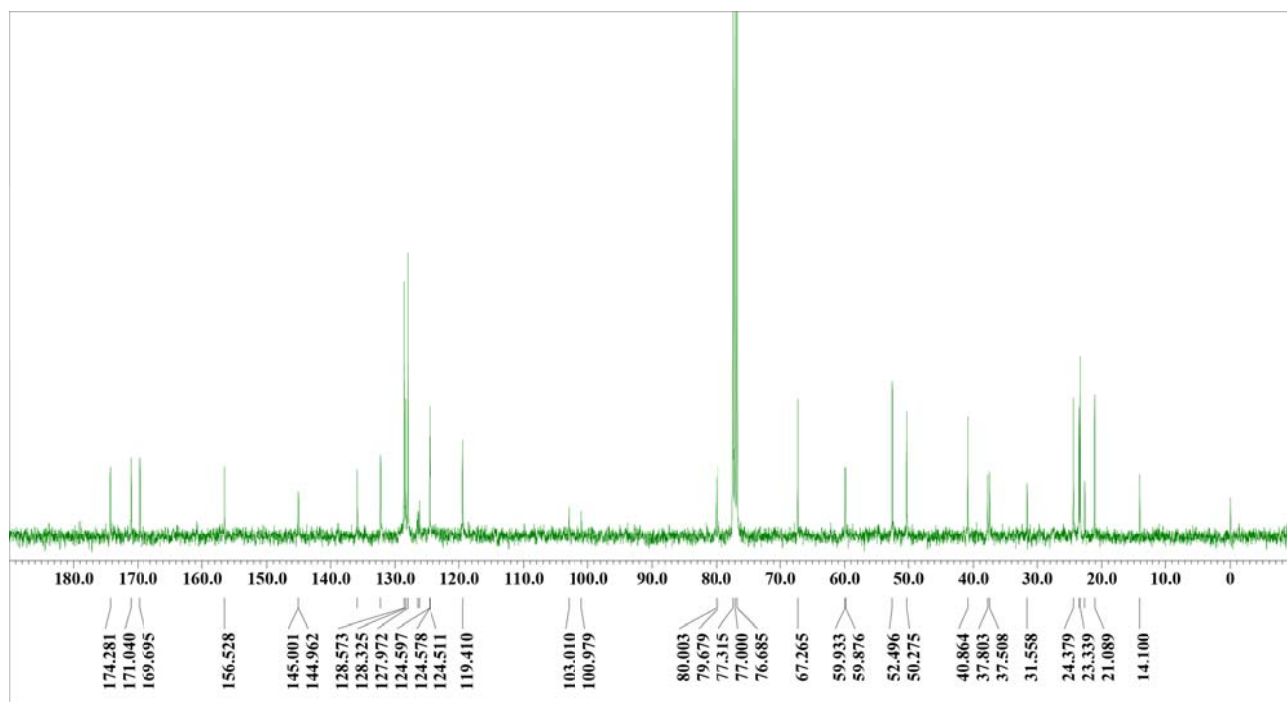
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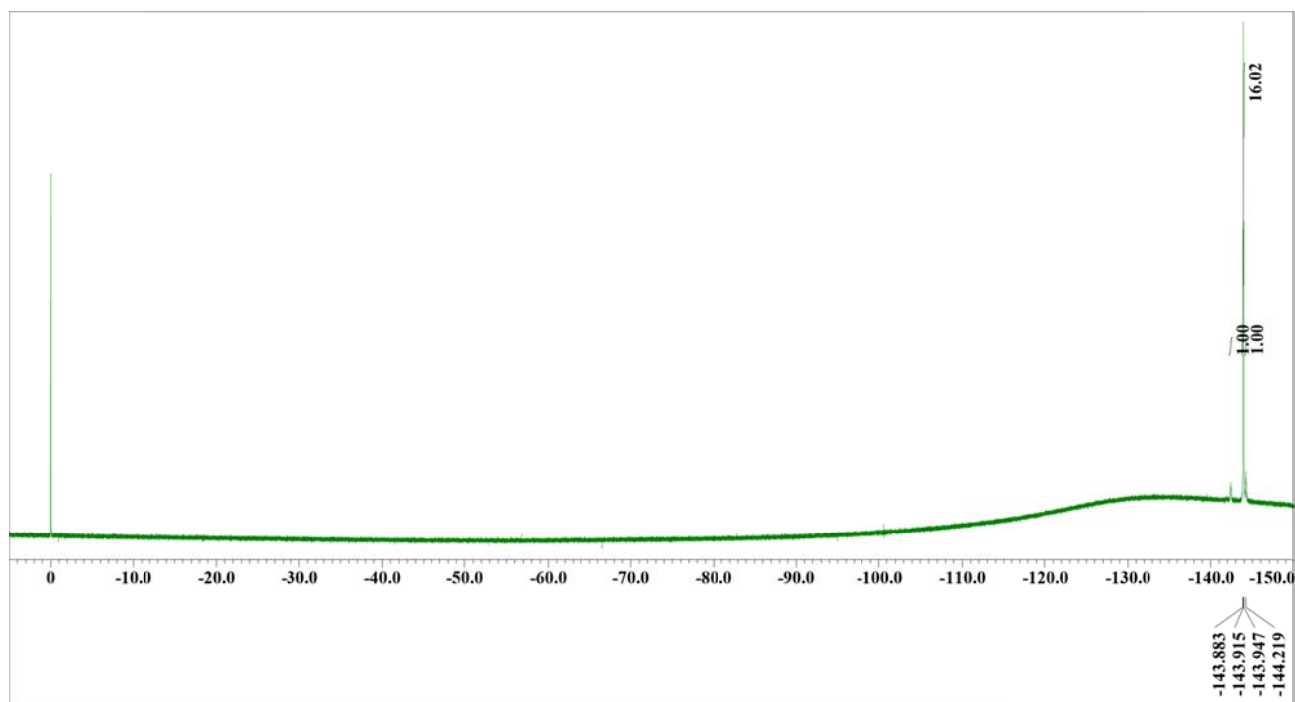
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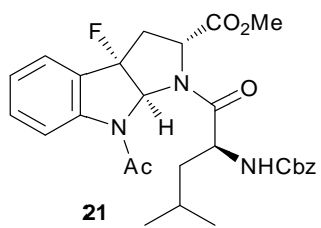


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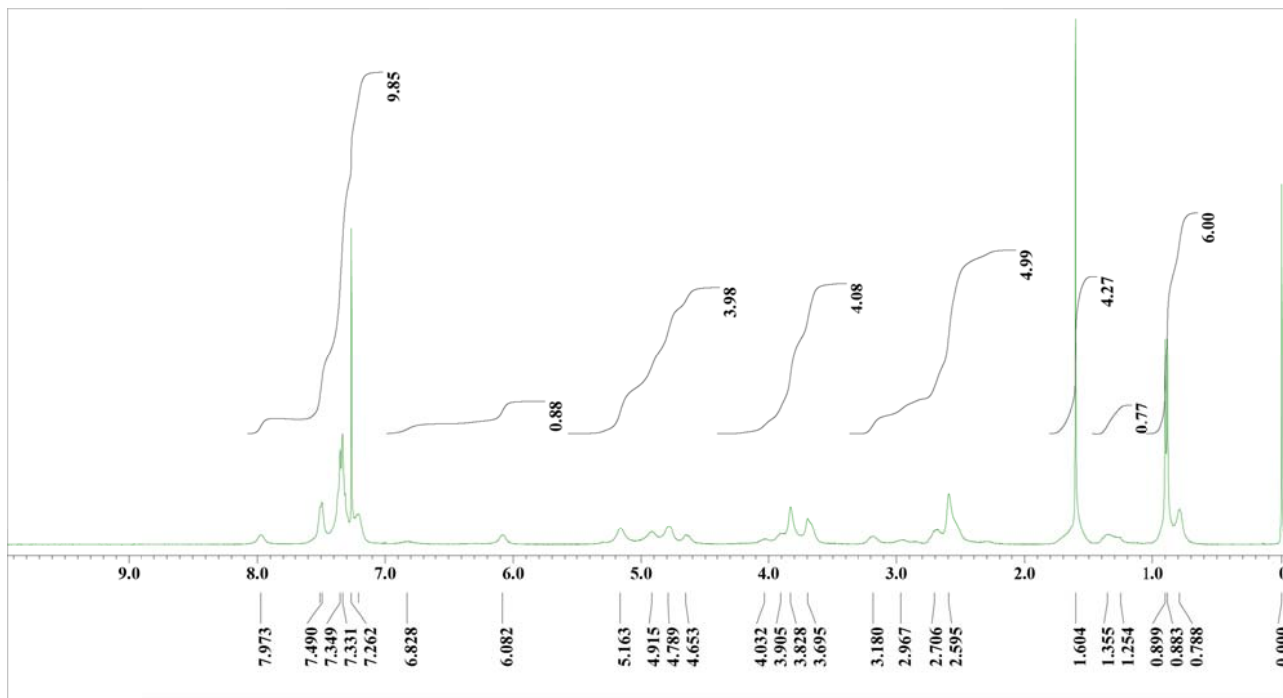


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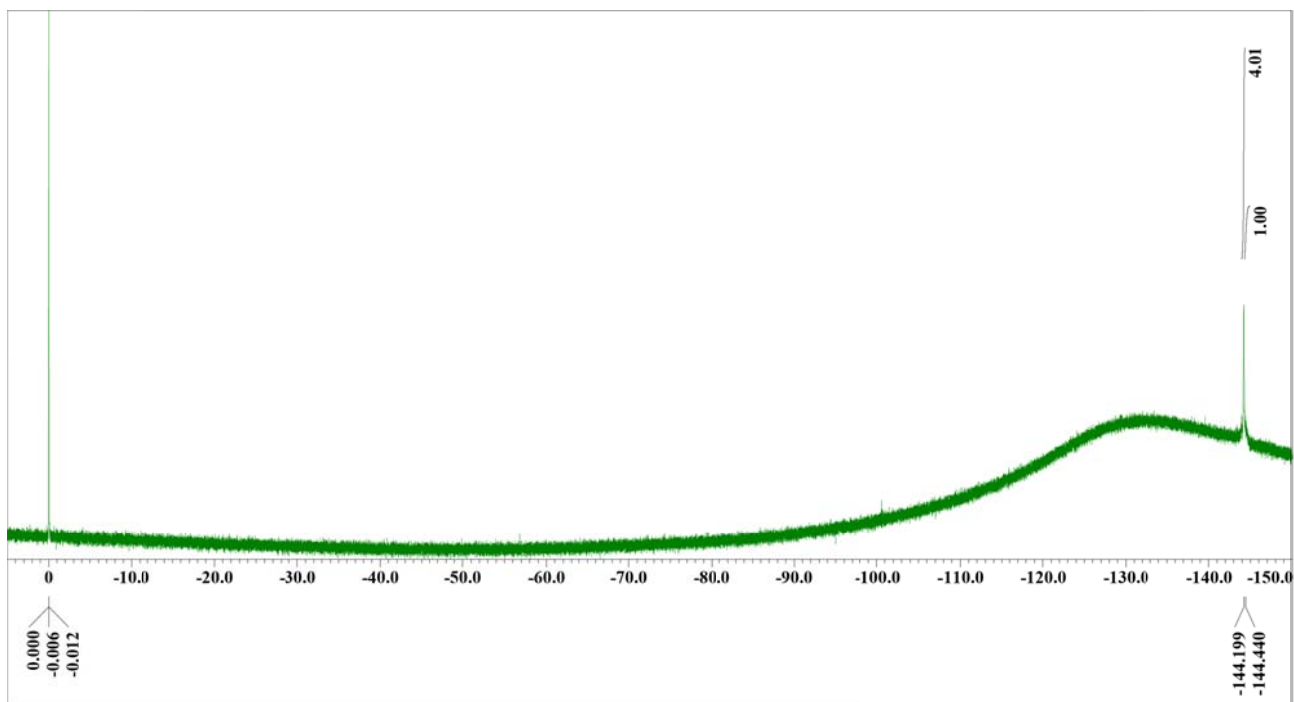


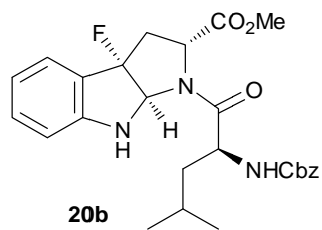


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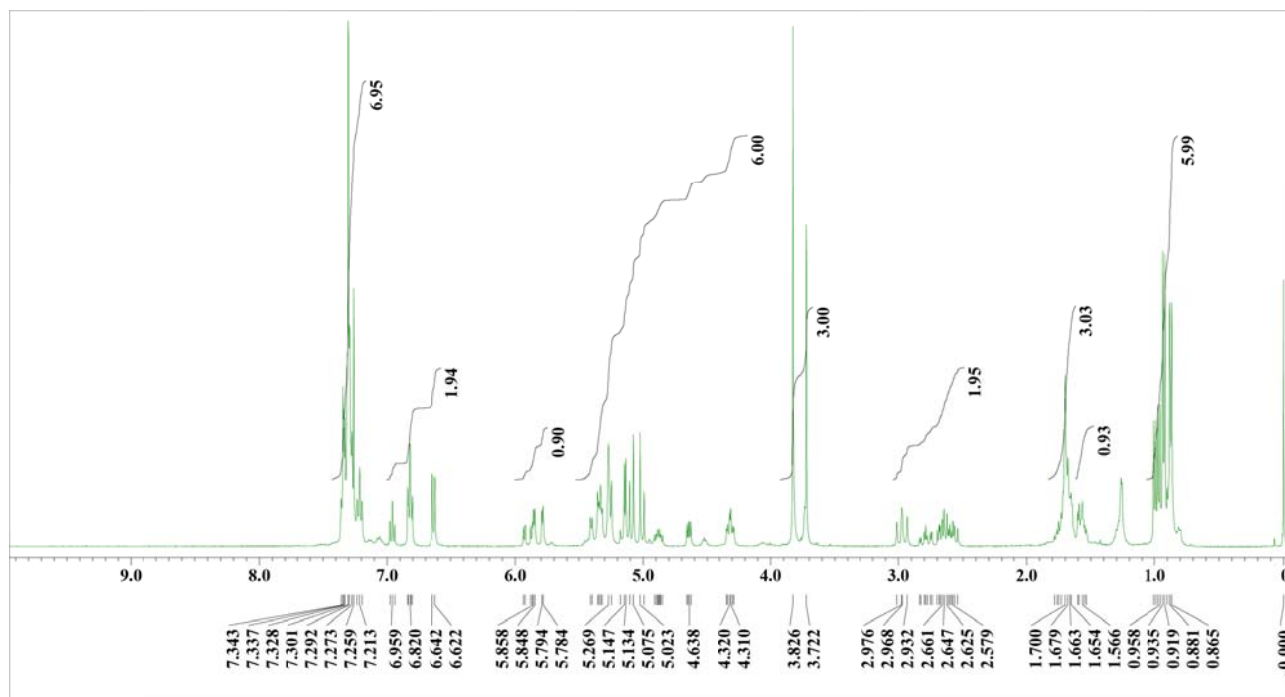


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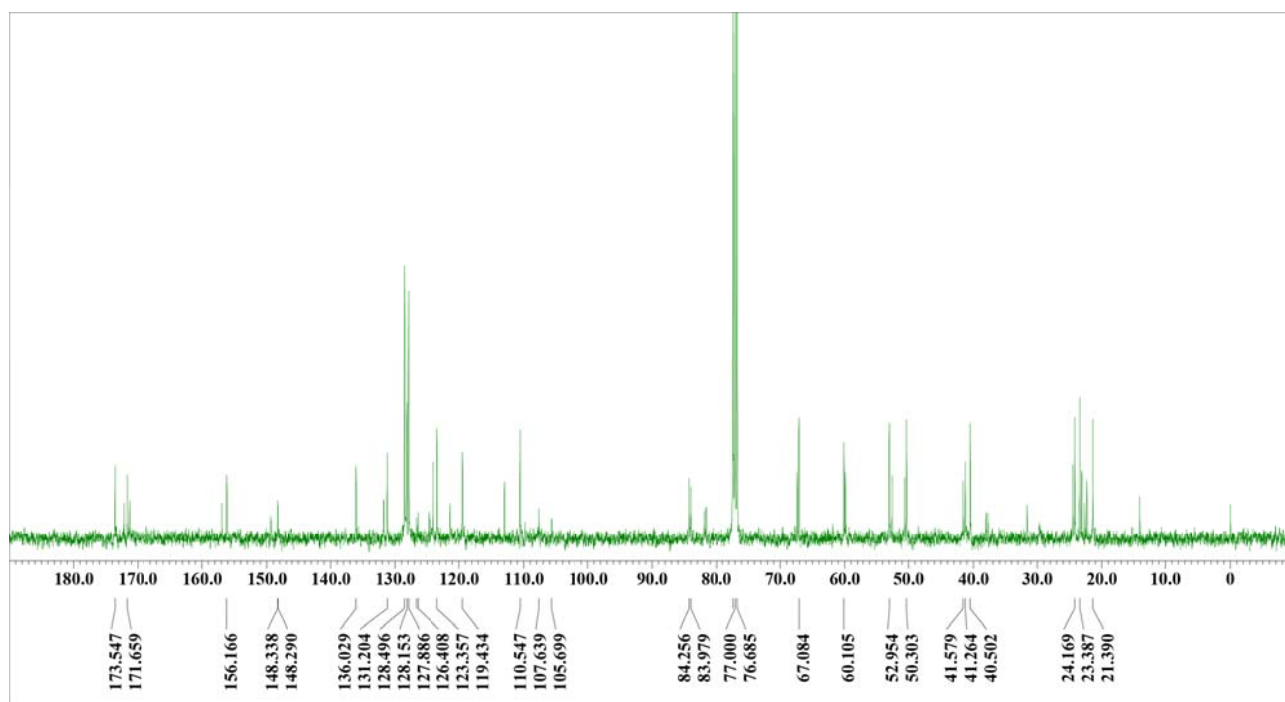




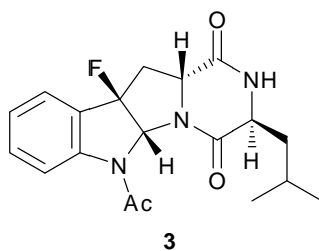
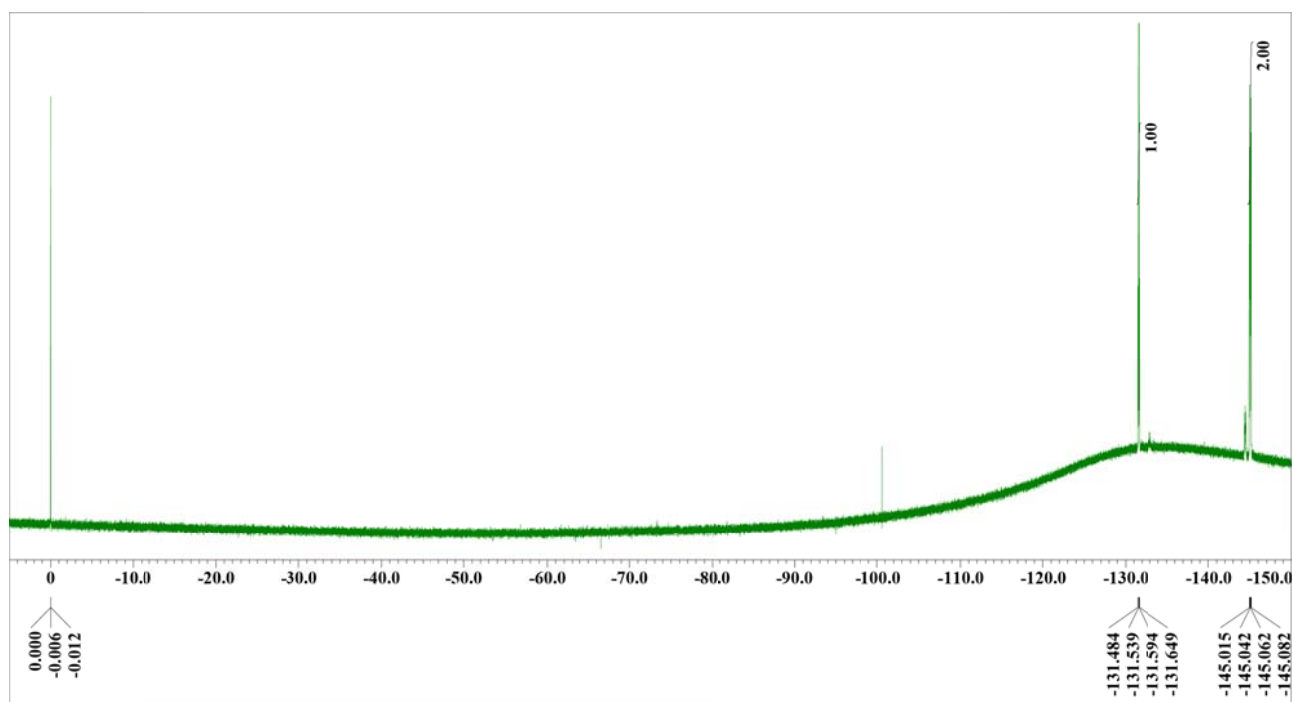
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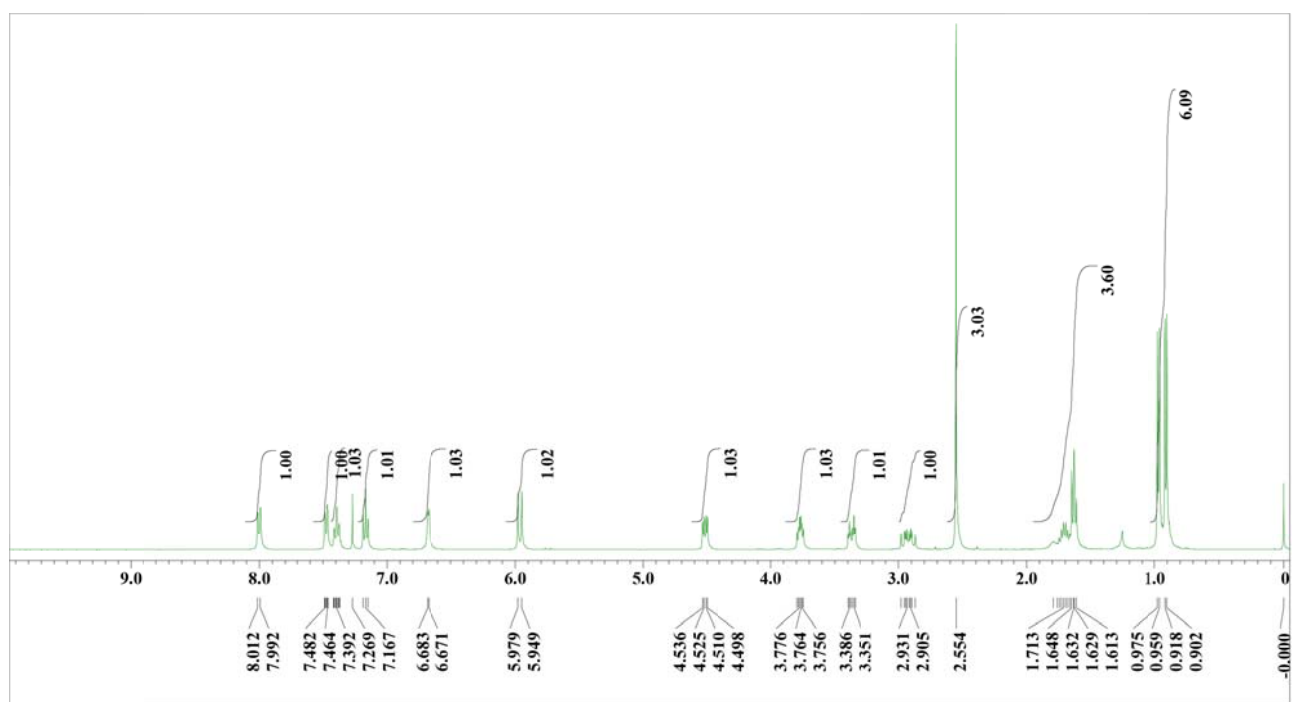
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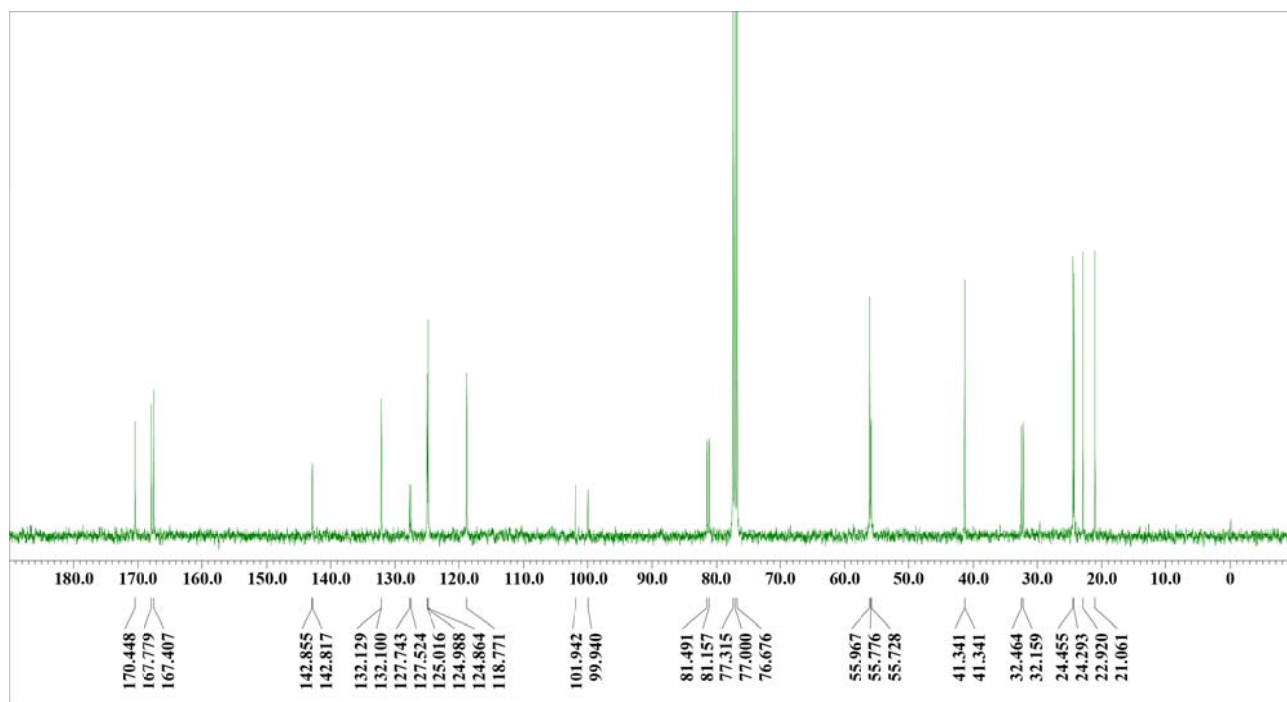
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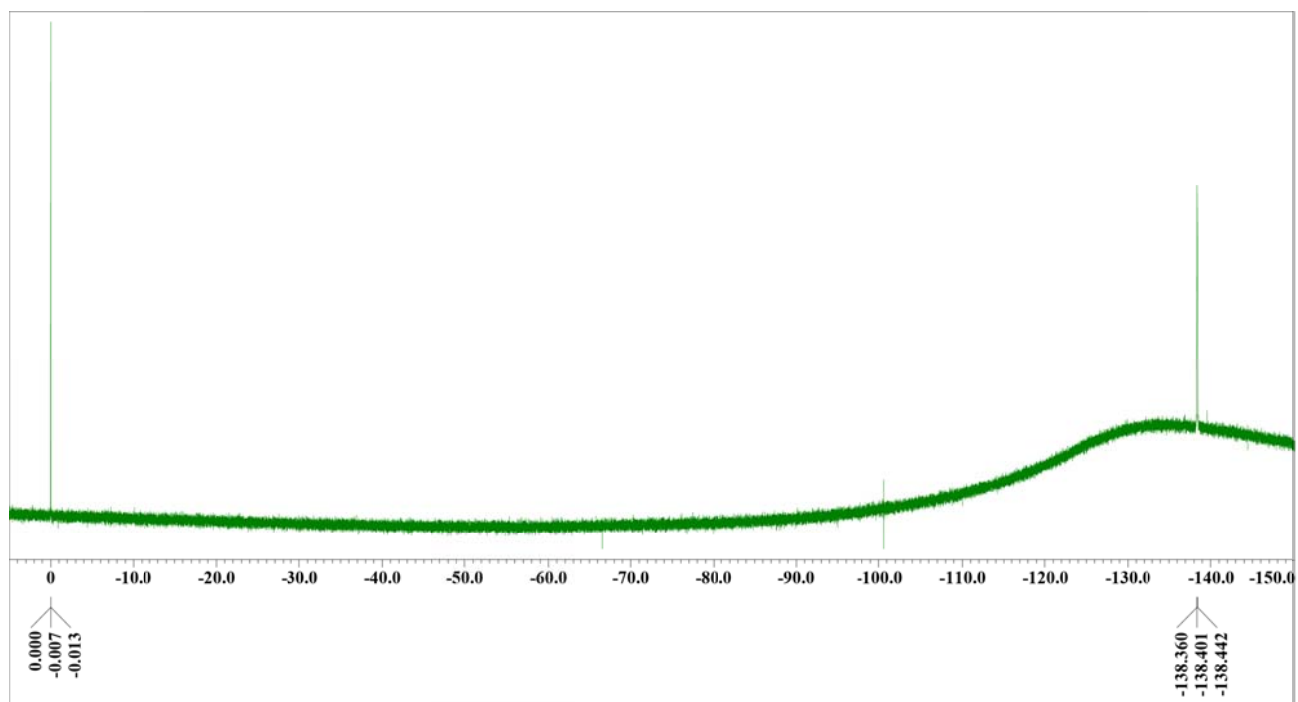
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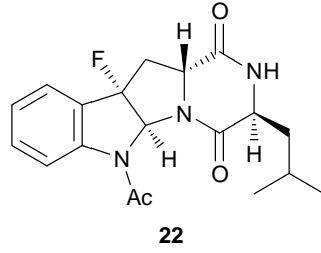


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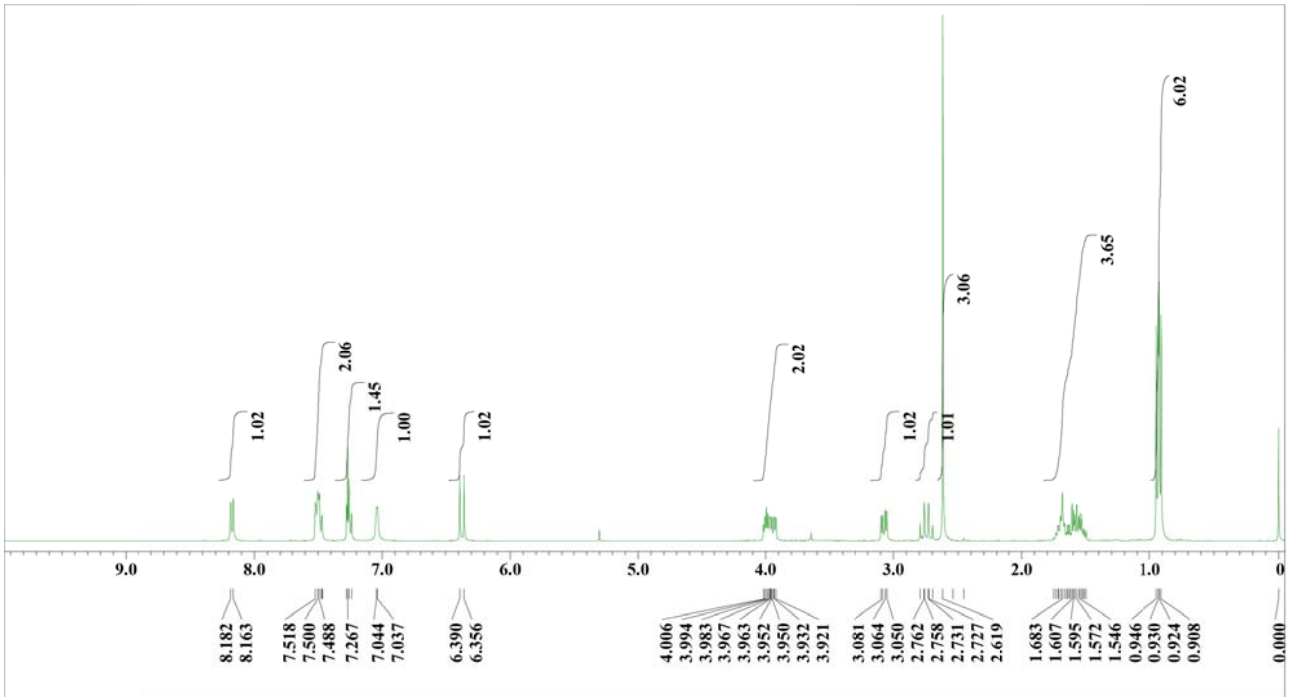


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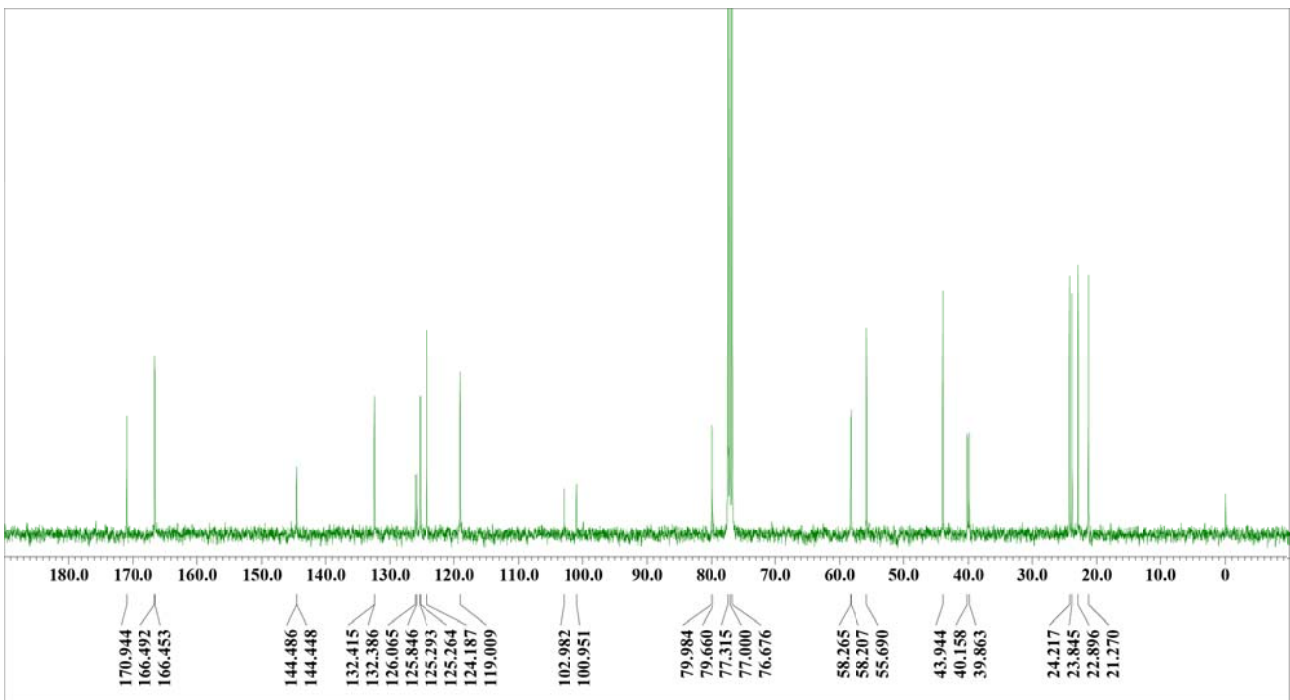




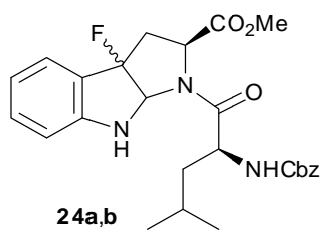
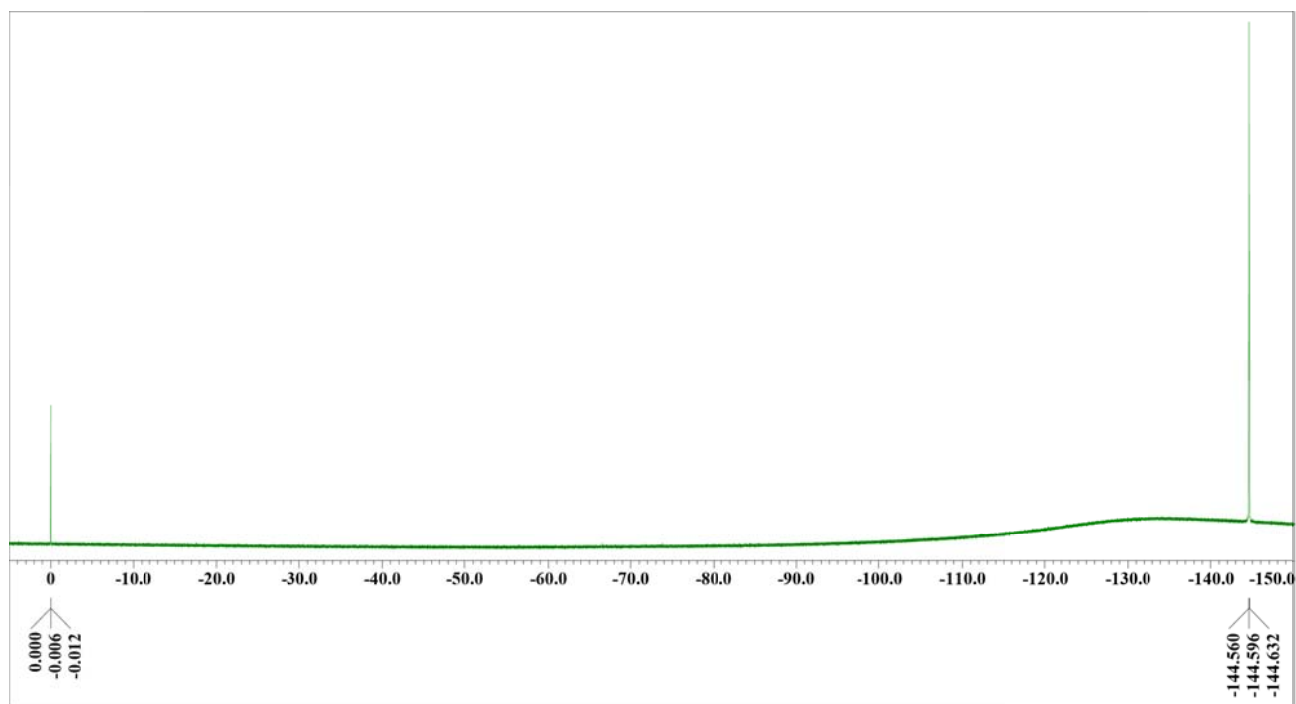
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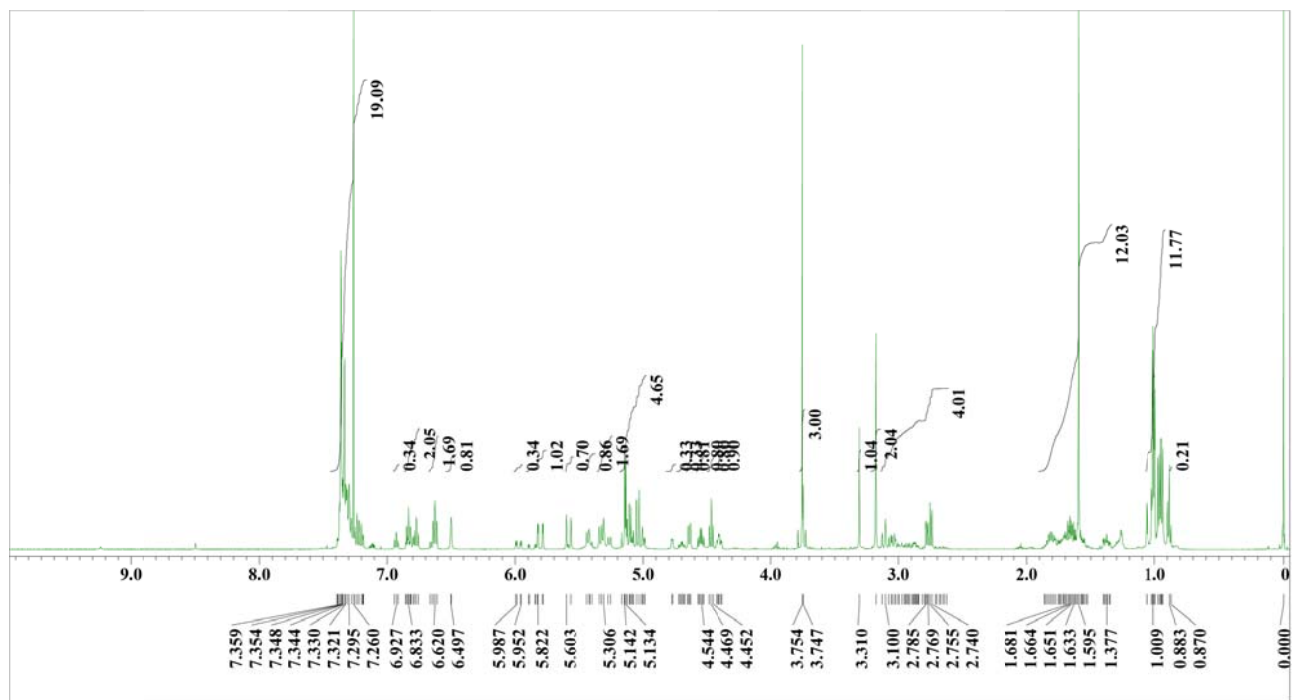
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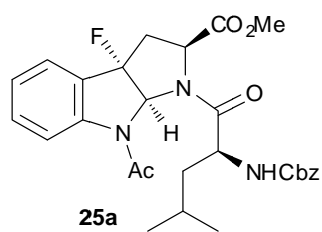
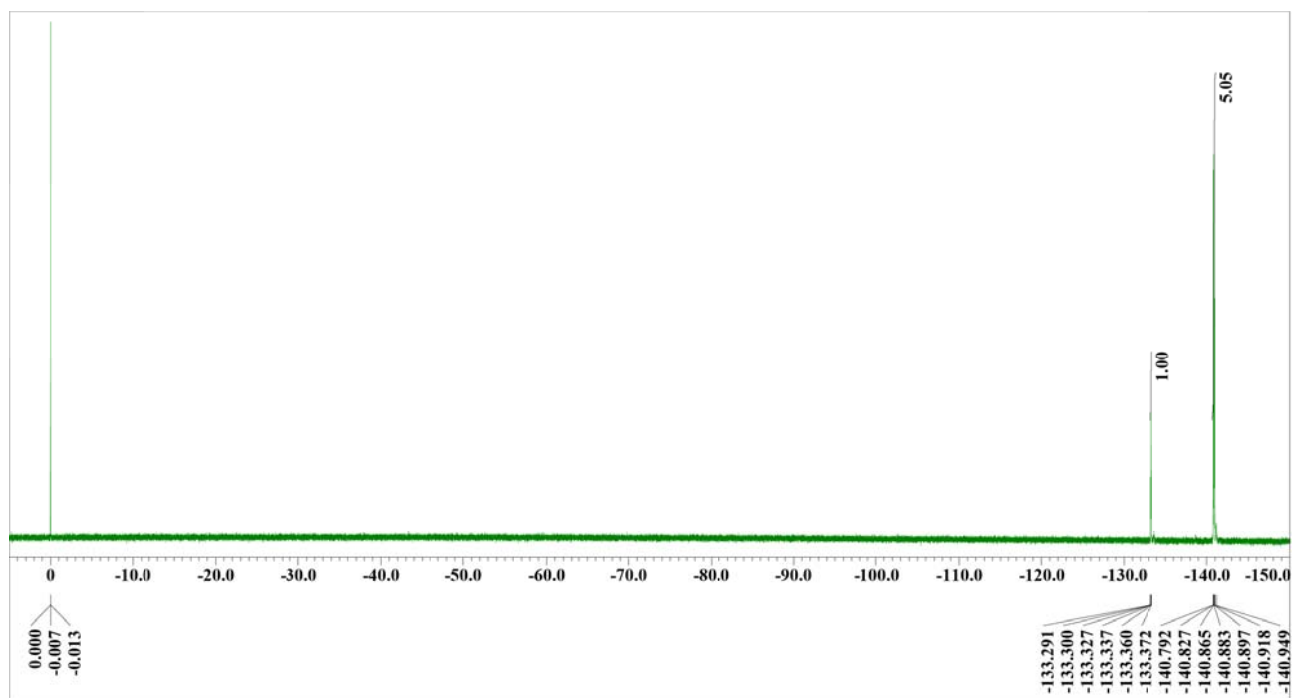
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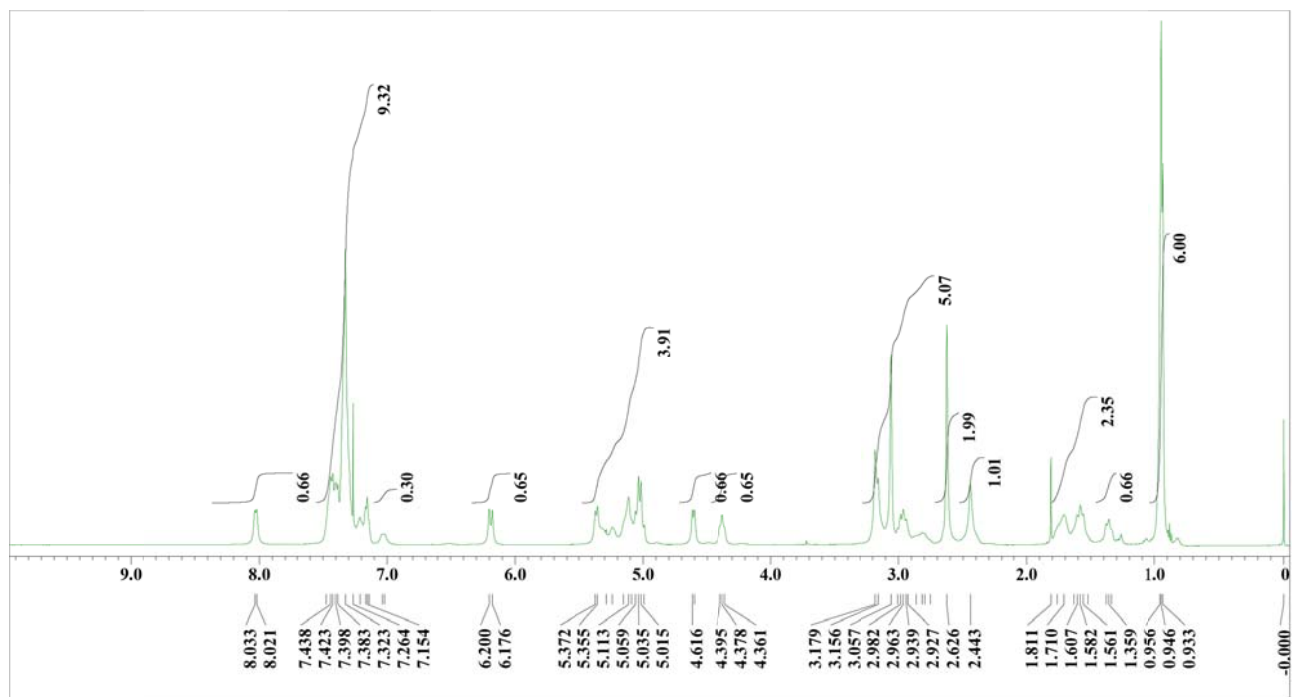
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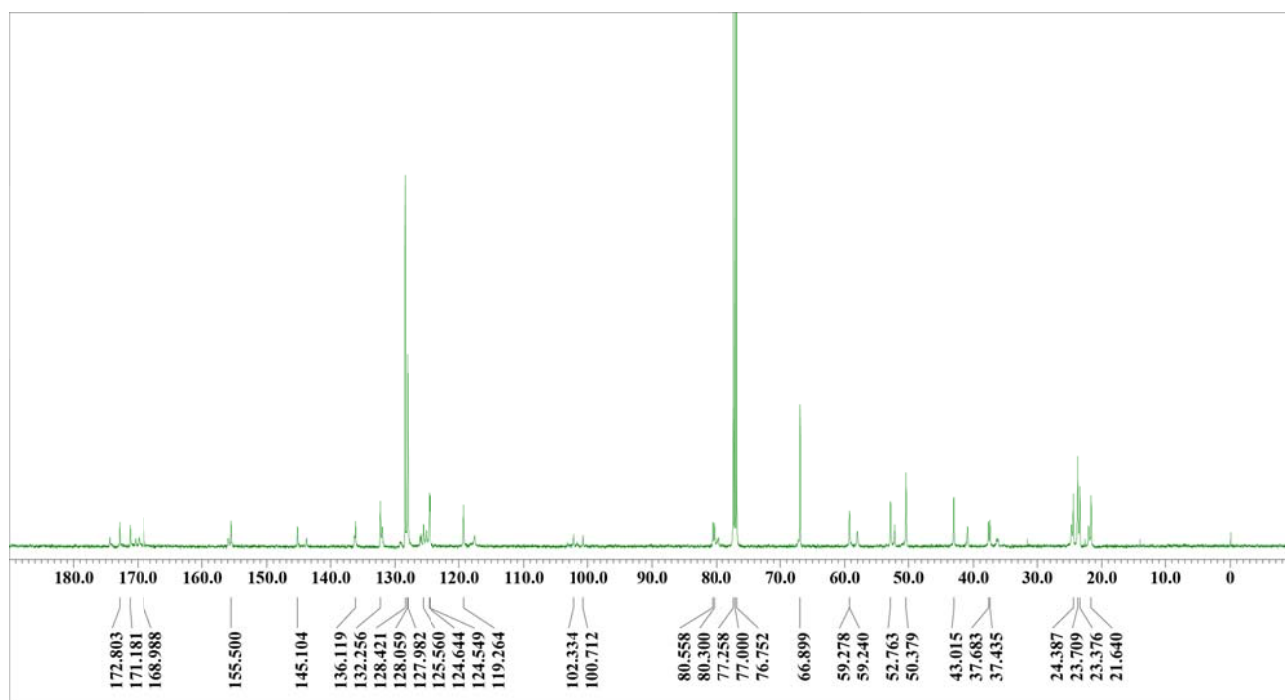
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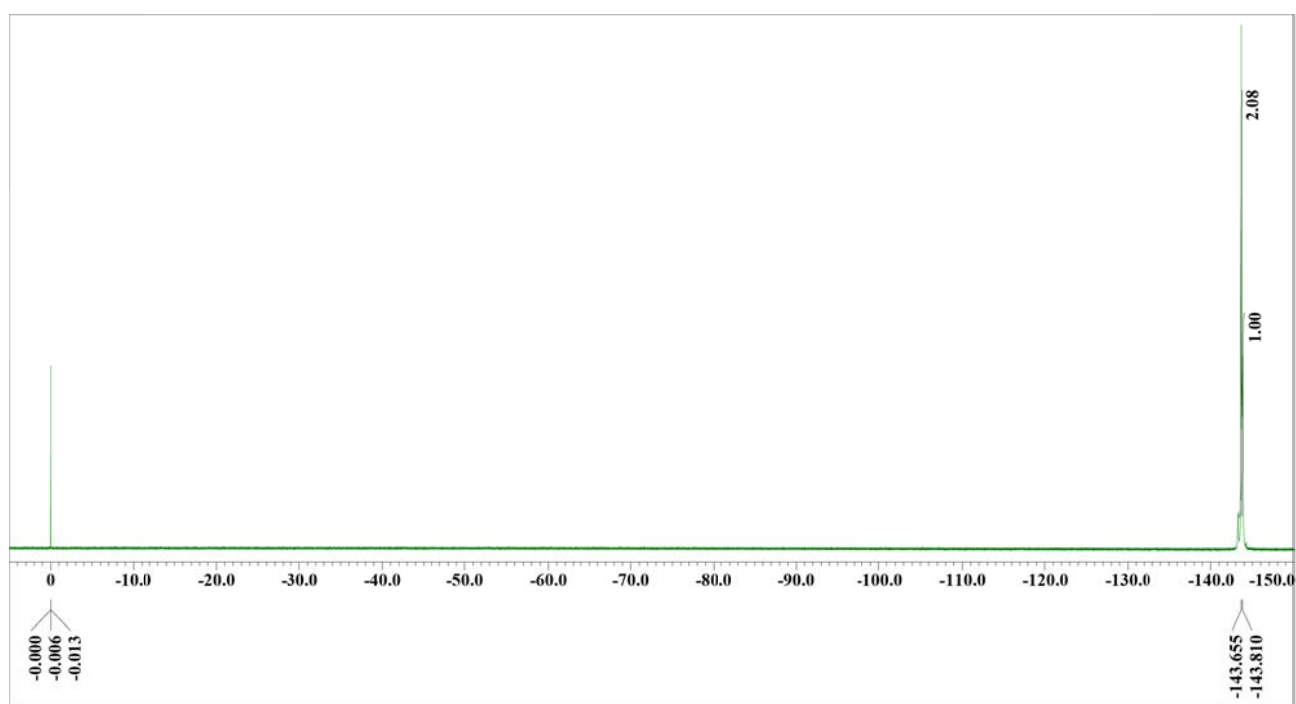
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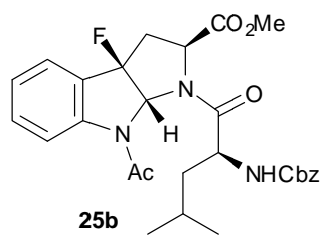


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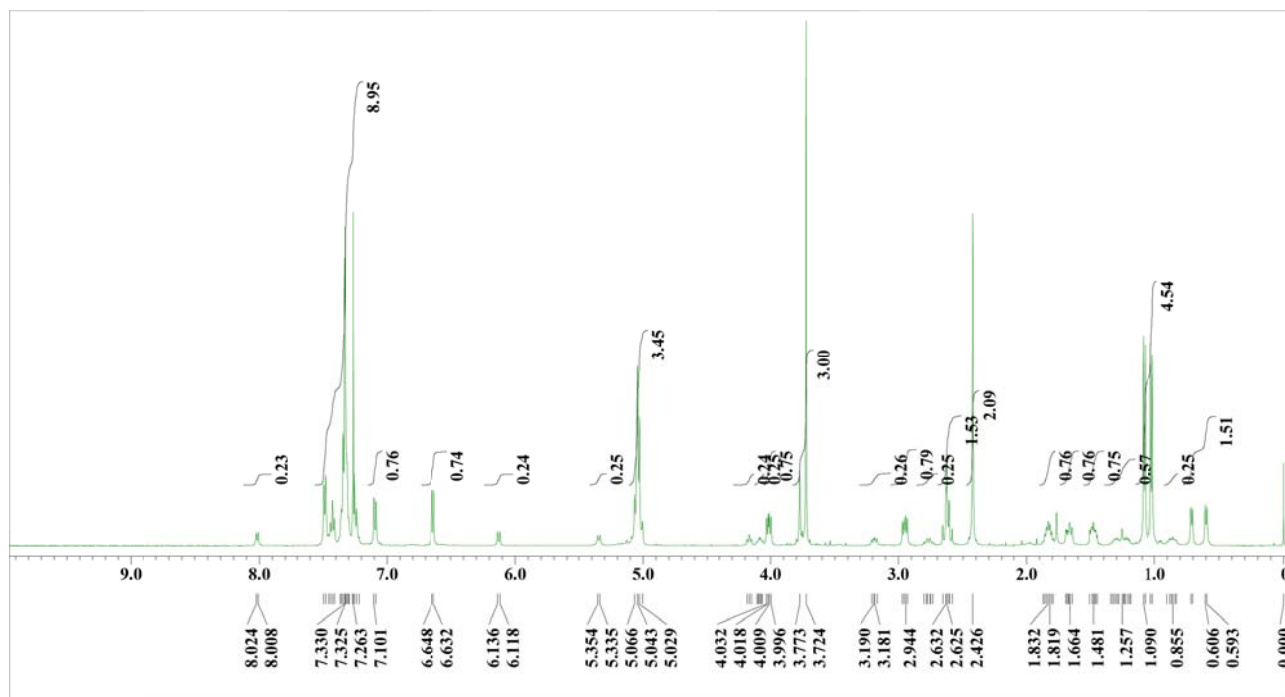


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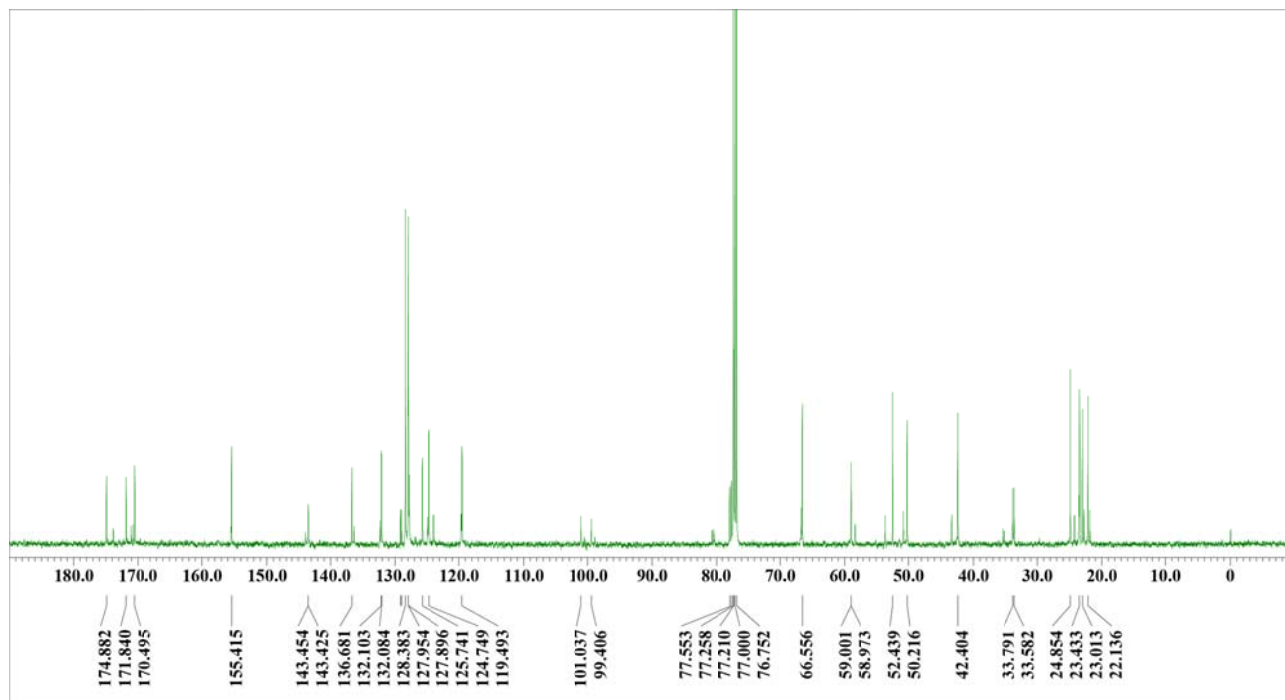




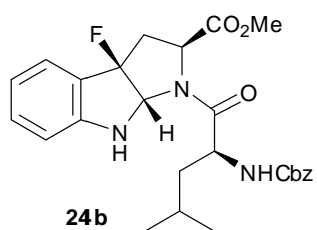
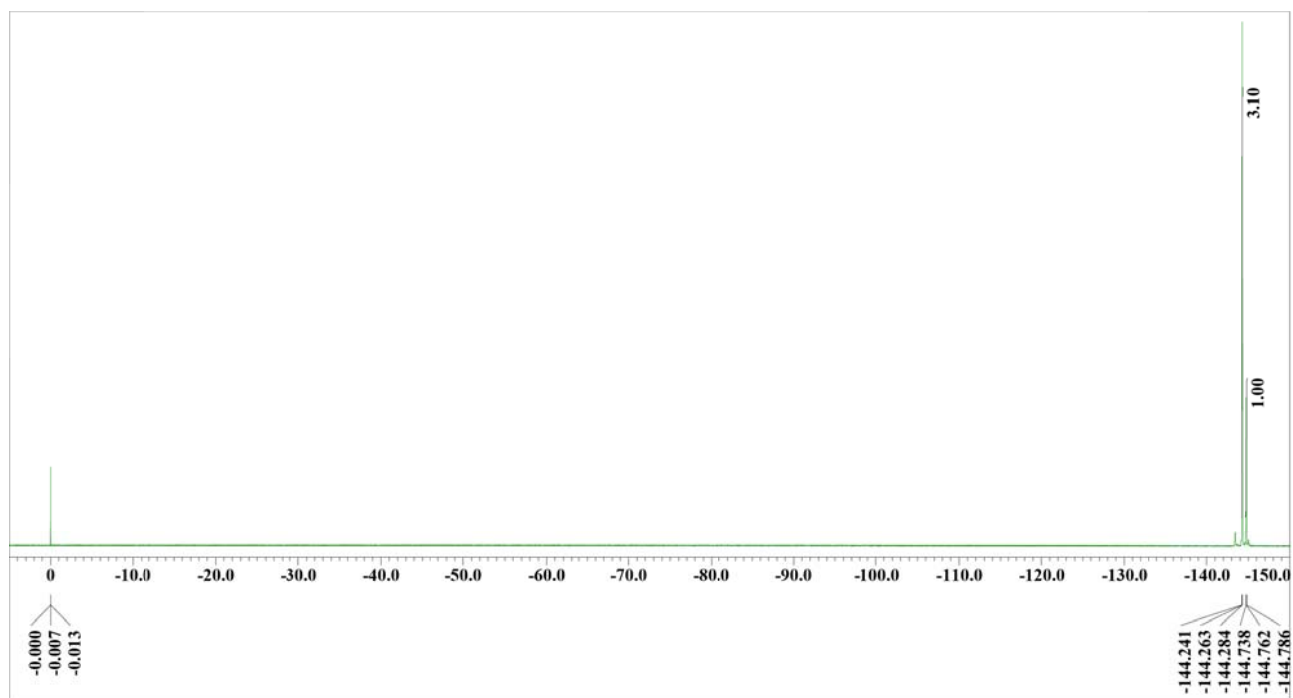
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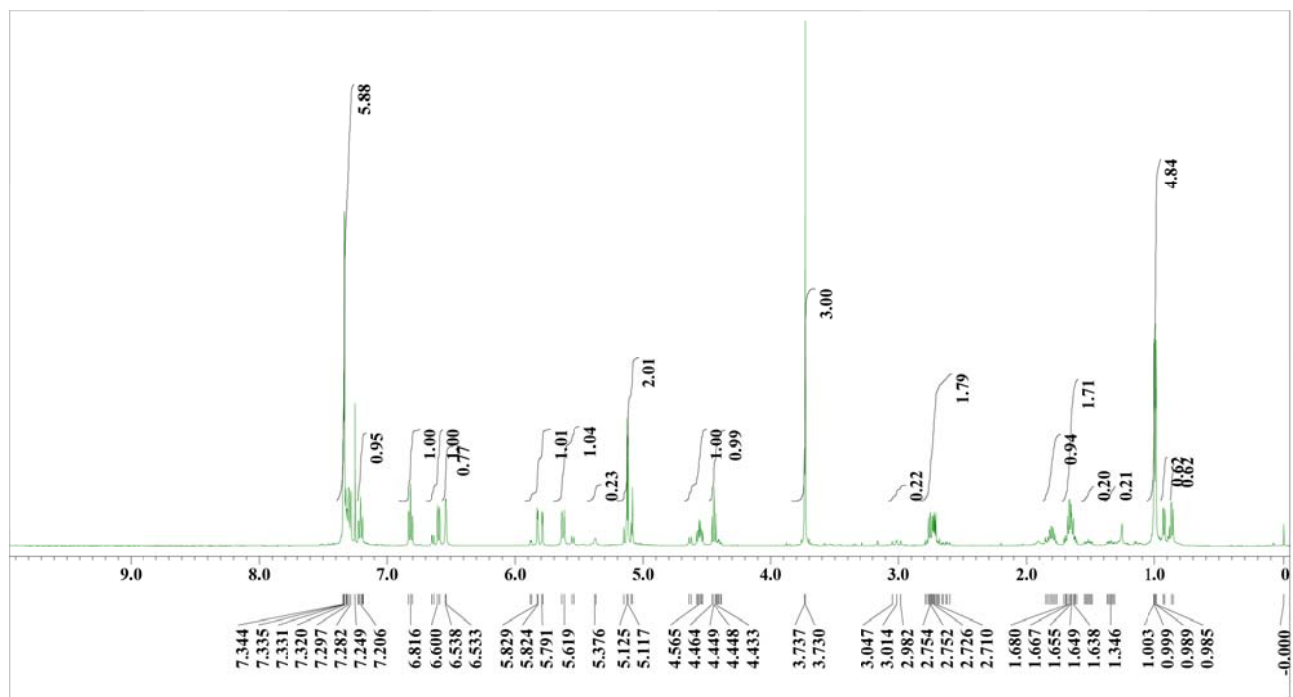
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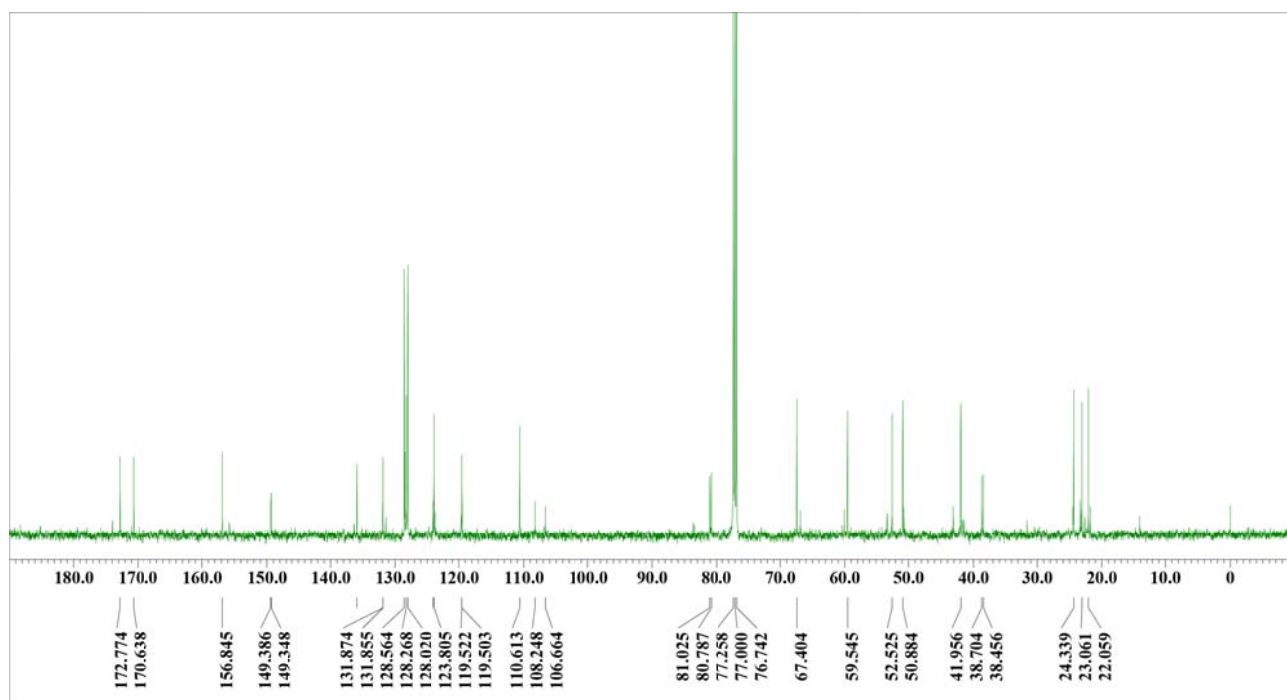
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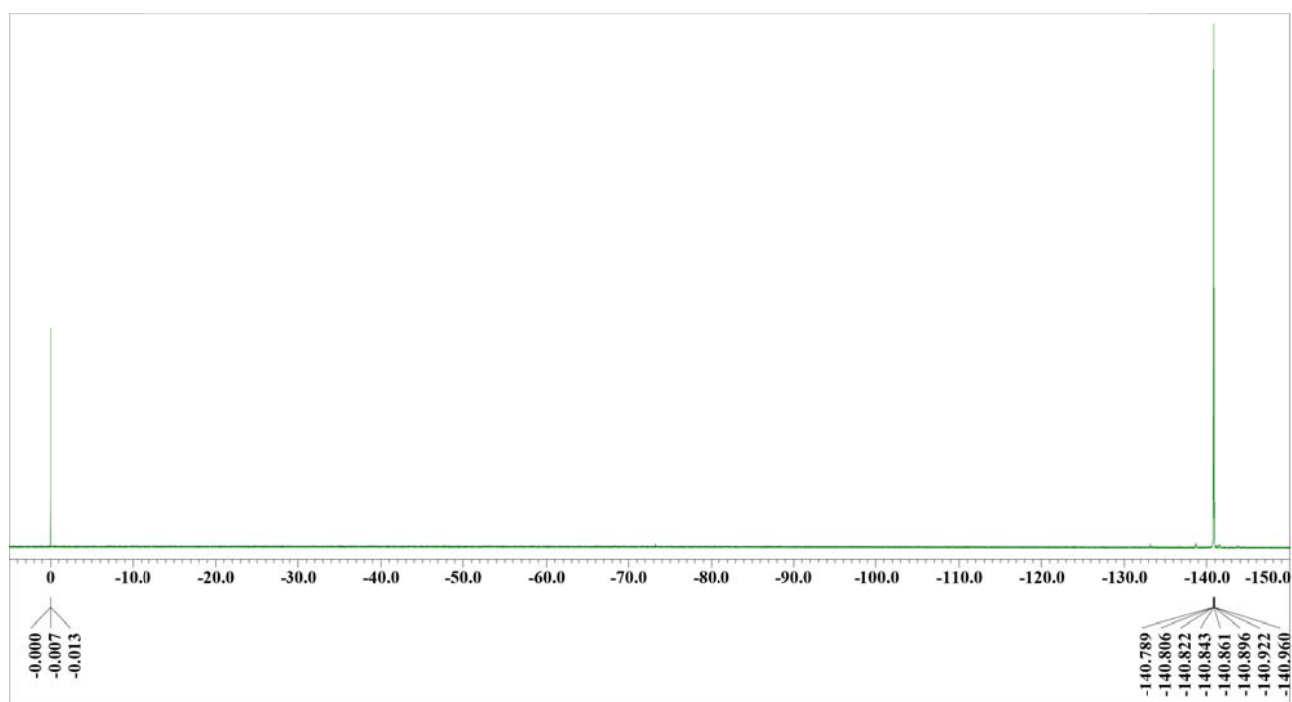
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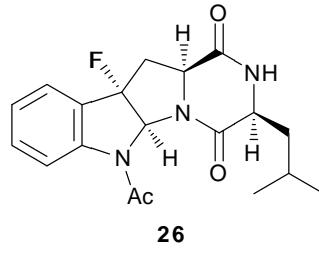


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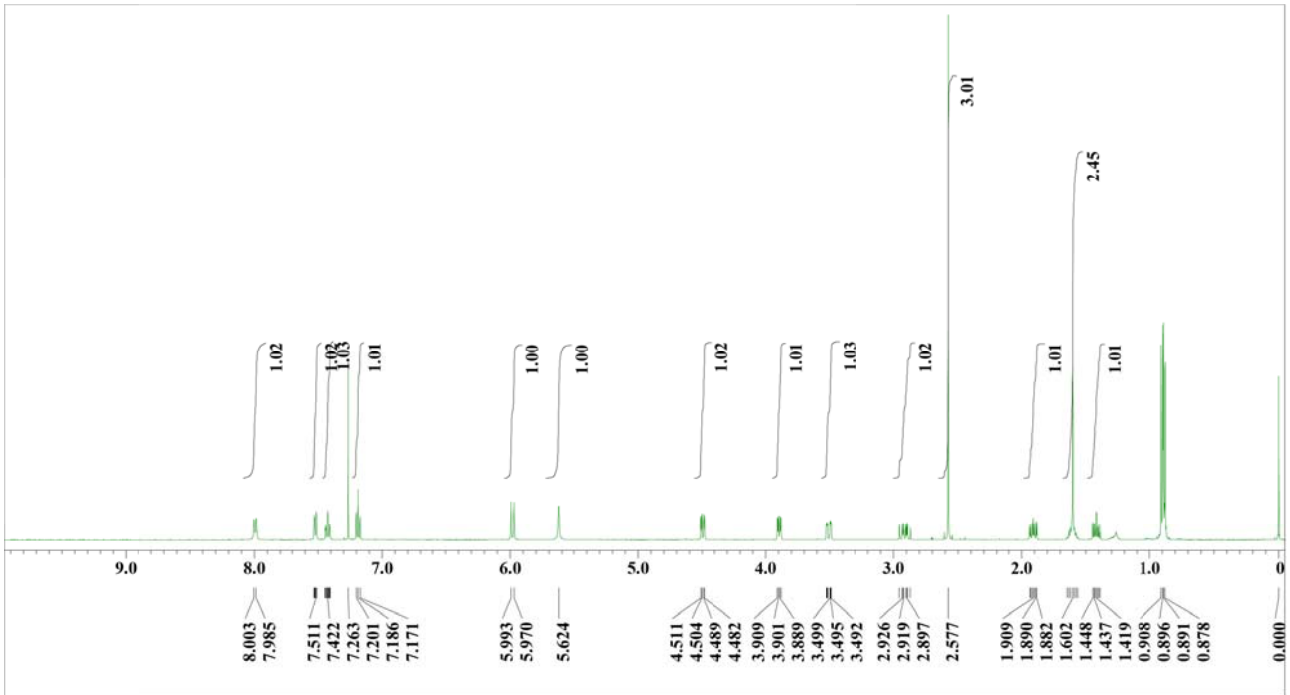


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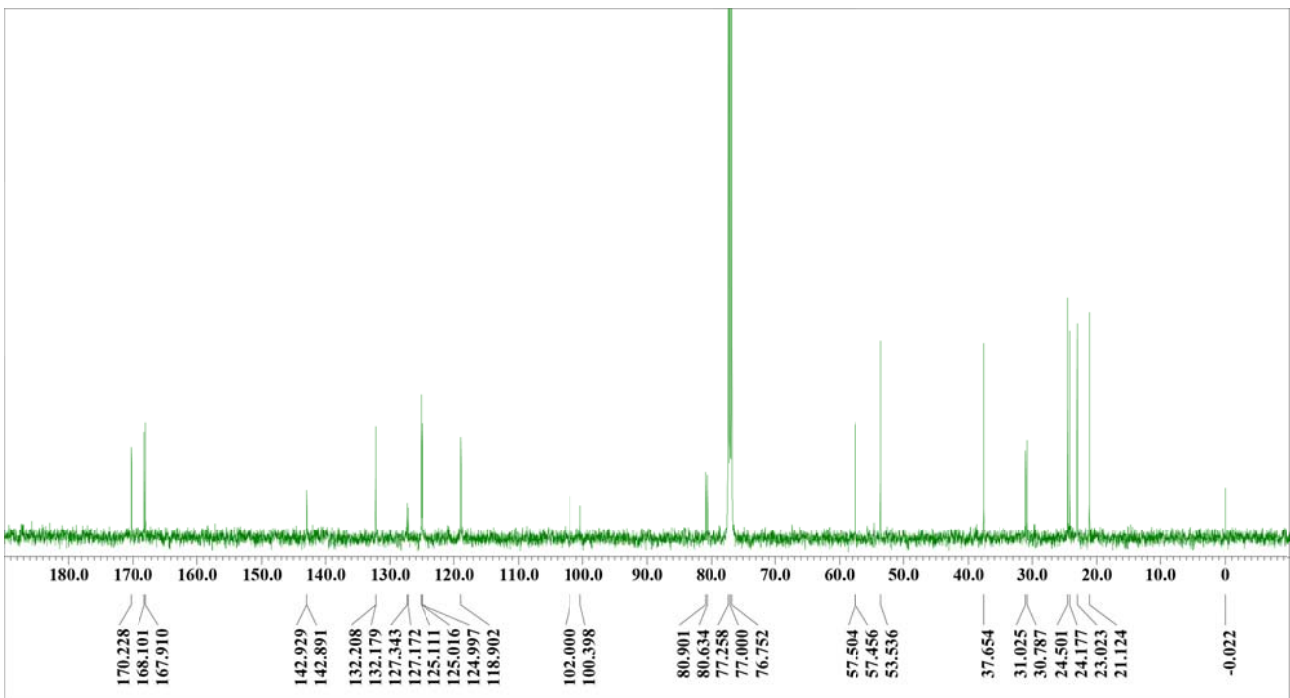




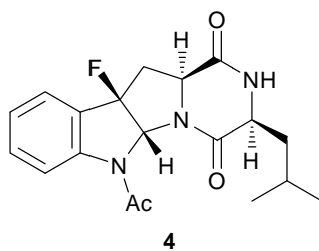
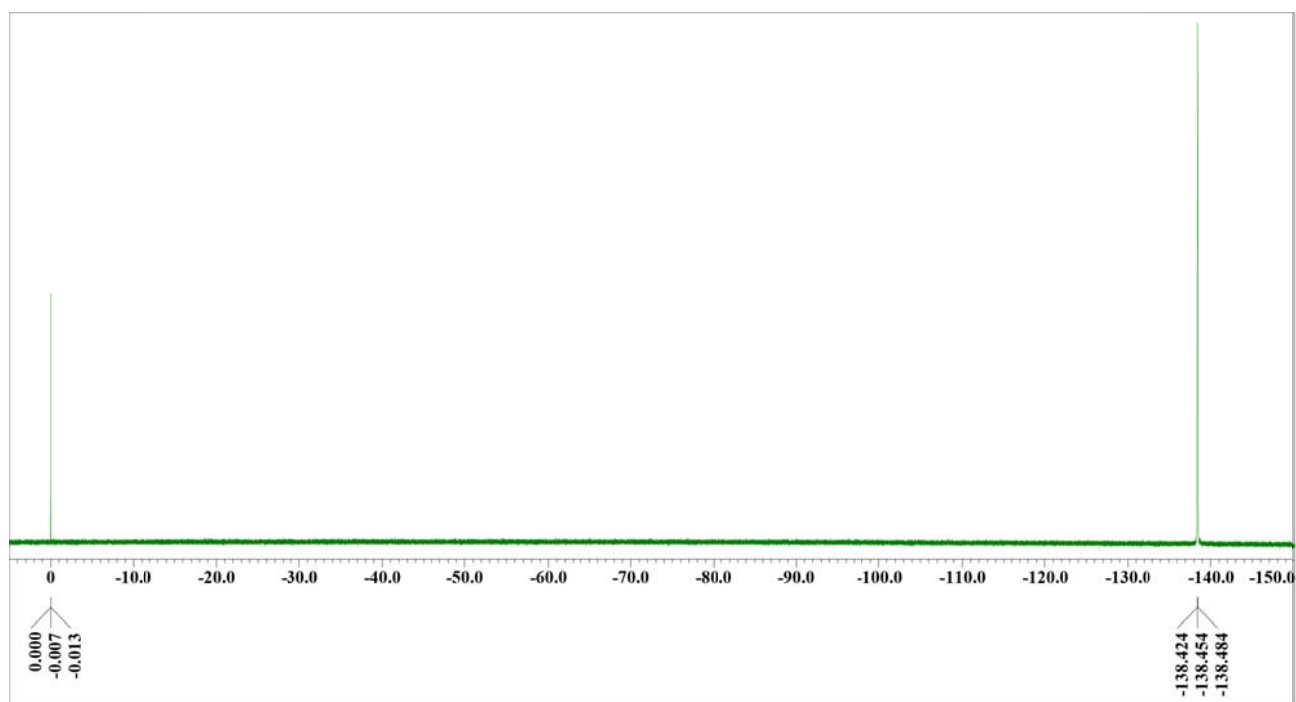
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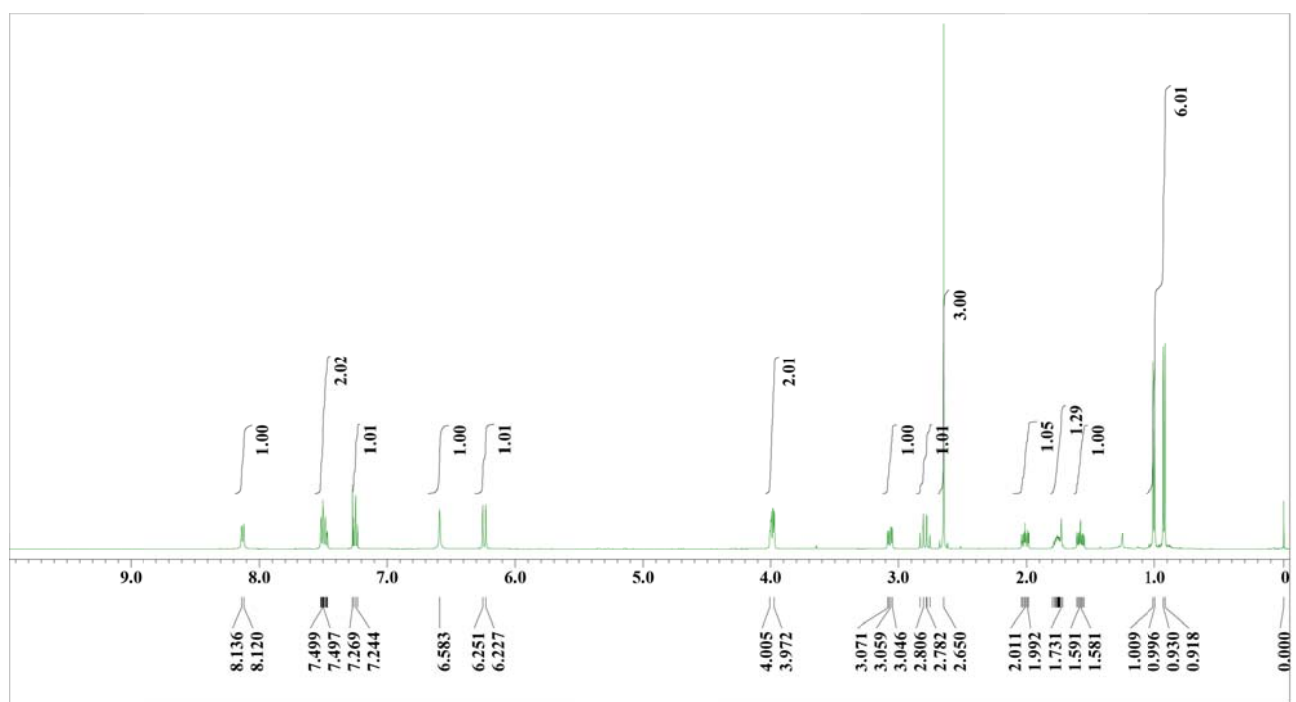
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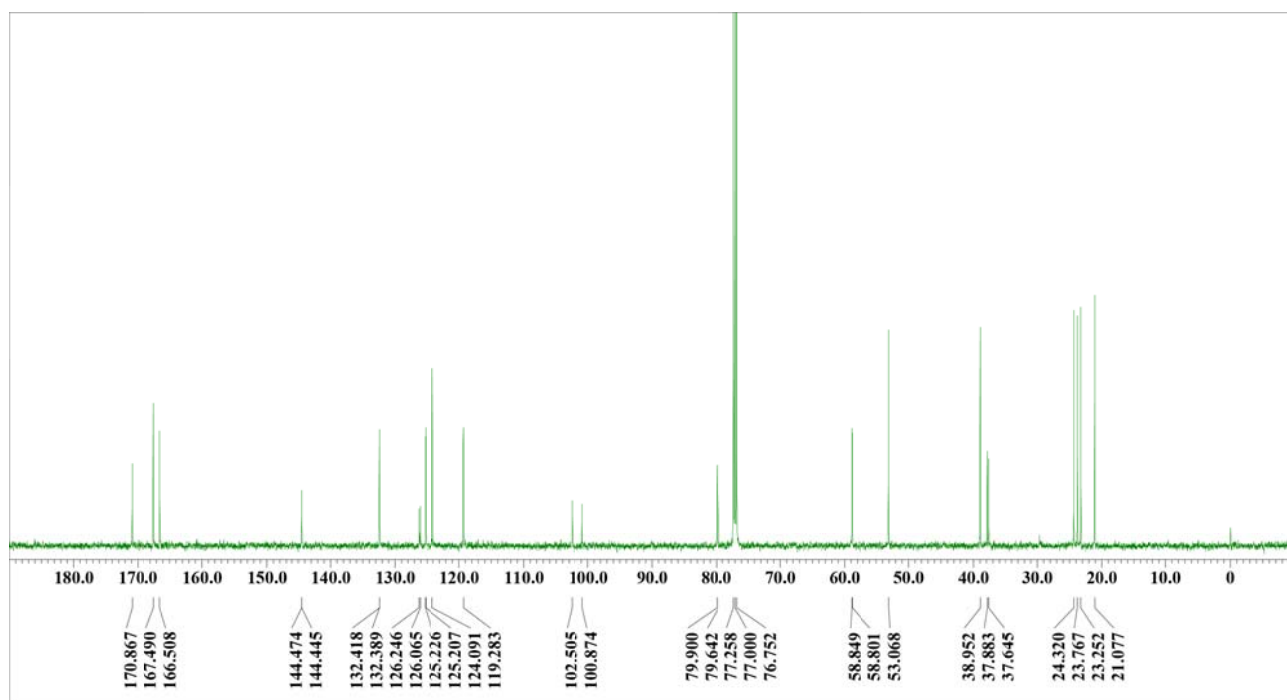
^{19}F NMR (470 MHz, CDCl_3) of **26**



^1H NMR (500 MHz, CDCl_3) of **4**



^{13}C NMR (126 MHz, CDCl_3) of **4**



^{19}F NMR (470 MHz, CDCl_3) of **4**

