

Unsymmetrical Tetrasubstituted Ureas from *tertiary* Carbamoylimidazole: activation by AlMe₃.

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SUPPORTING INFORMATION

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General Information -----S2

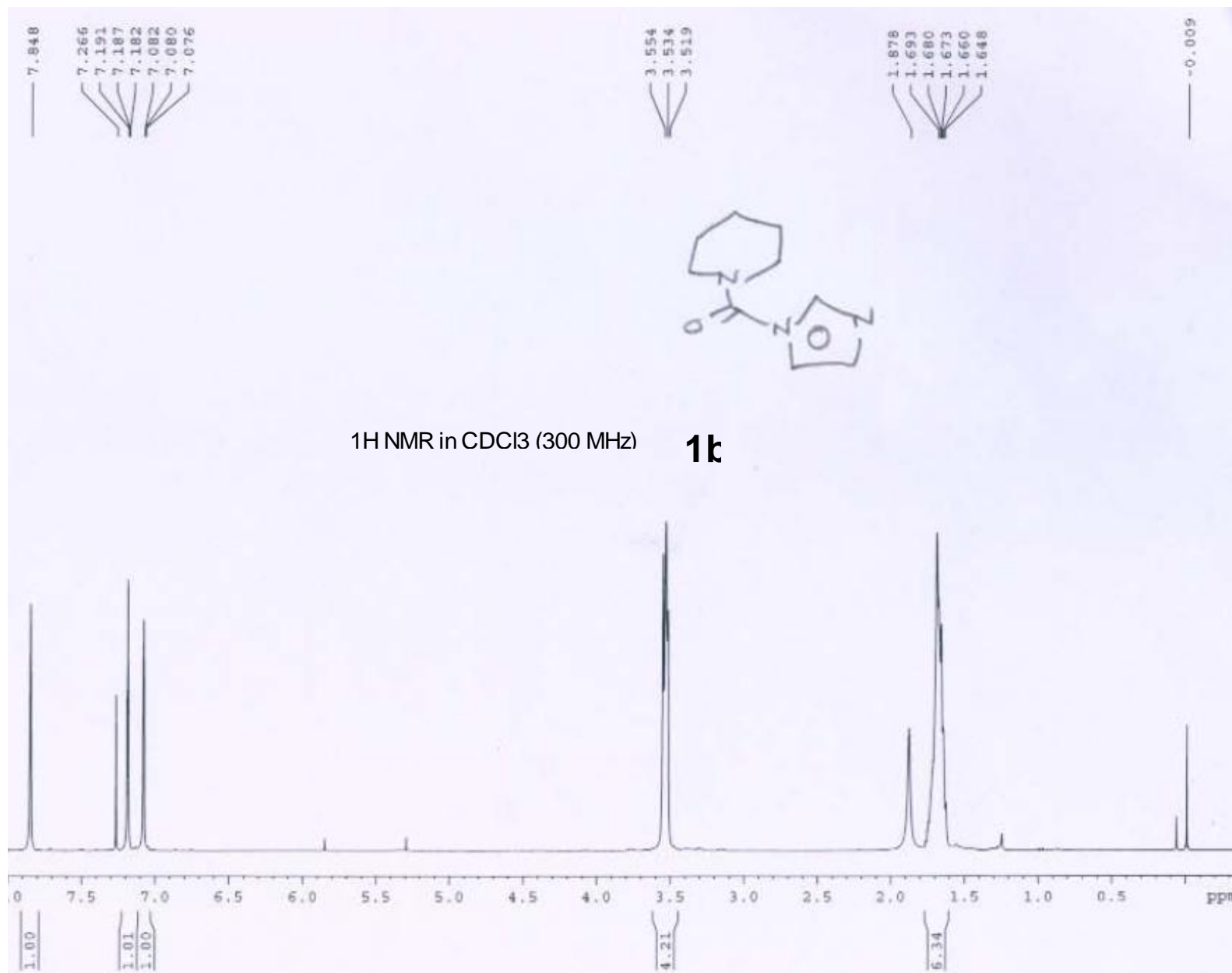
Copies of ¹H and ¹³C spectra -----S3-S76

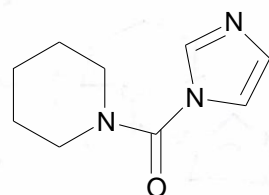
General Information:

All reactions were conducted under an atmosphere of dry nitrogen in oven dried glassware.

Dichloromethane and toluene were obtained by distillation from calcium hydride under nitrogen, and stored with dried molecular sieves.

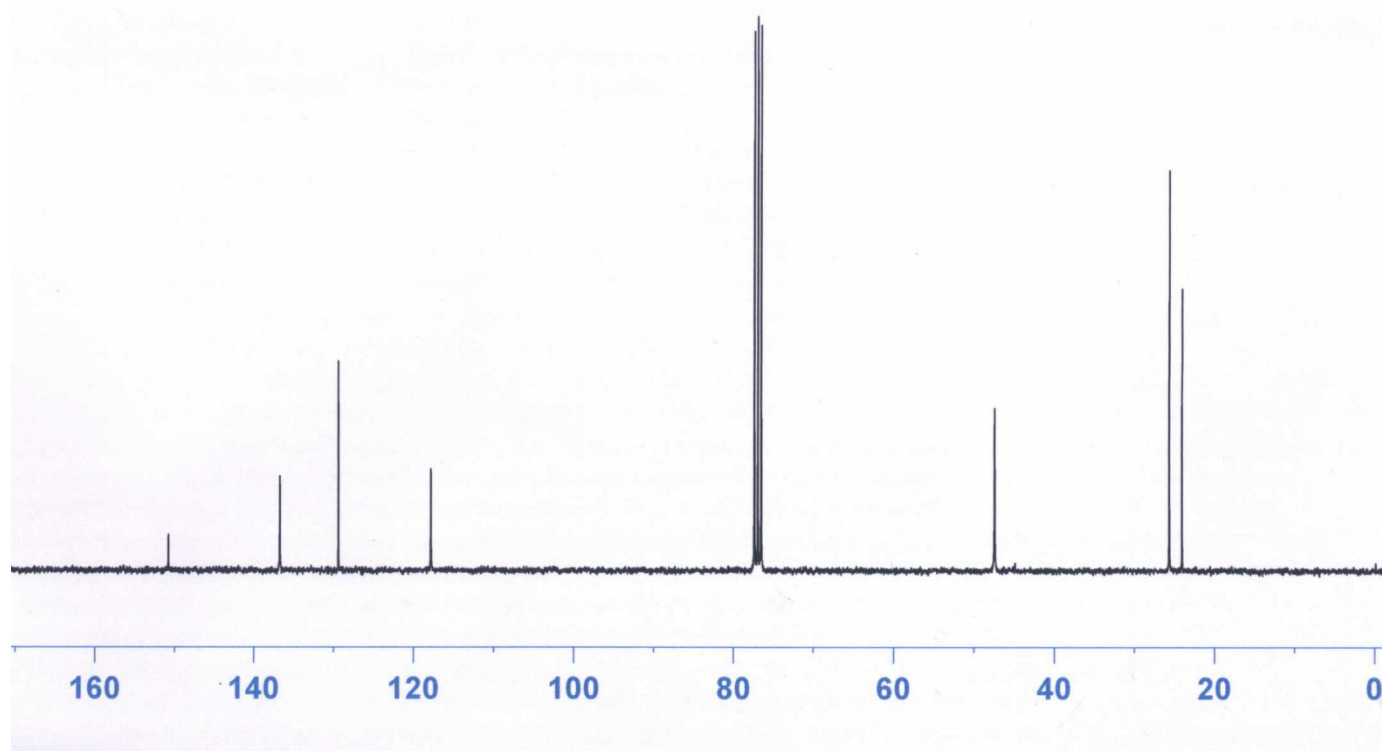
Amines were dried over KOH and passed over activated alumina before use. Me₃Al (2M in toluene) was purchased from Aldrich. All the products obtained were purified by column chromatography using silica gel (100-200 mesh). ¹H and ¹³C NMR were recorded in 300 MHz spectrometer in CDCl₃ or DMSO-d₆ at ambient temperature. Chemical shifts (δ) are reported in ppm using TMS as internal standard and spin-spin coupling constants (*J*) are given in Hz. The high resolution mass spectra (HRMS) were measured by ESI. Melting points were measured in open capillary tubes and are uncorrected.

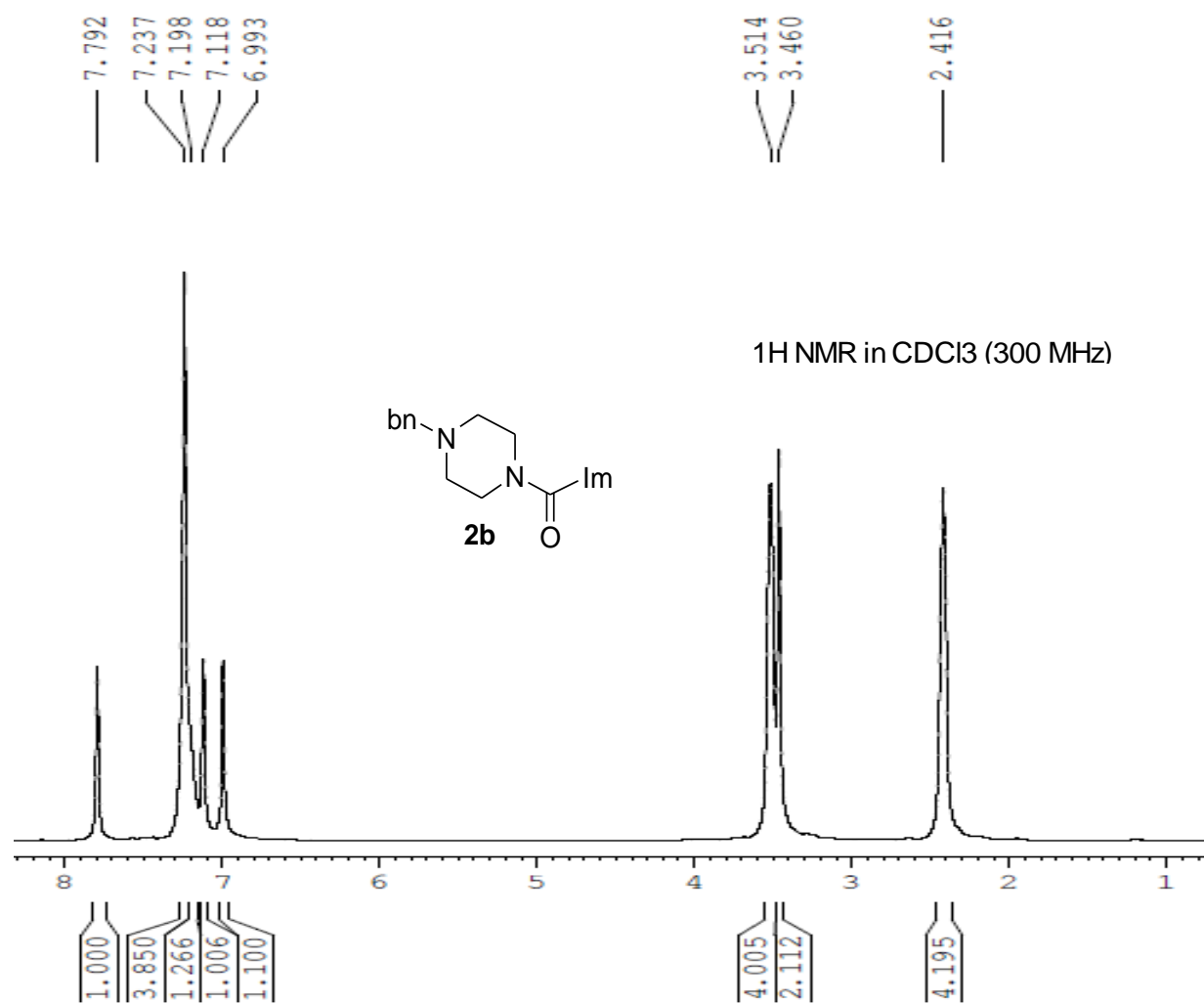


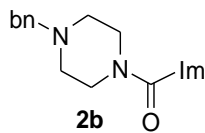


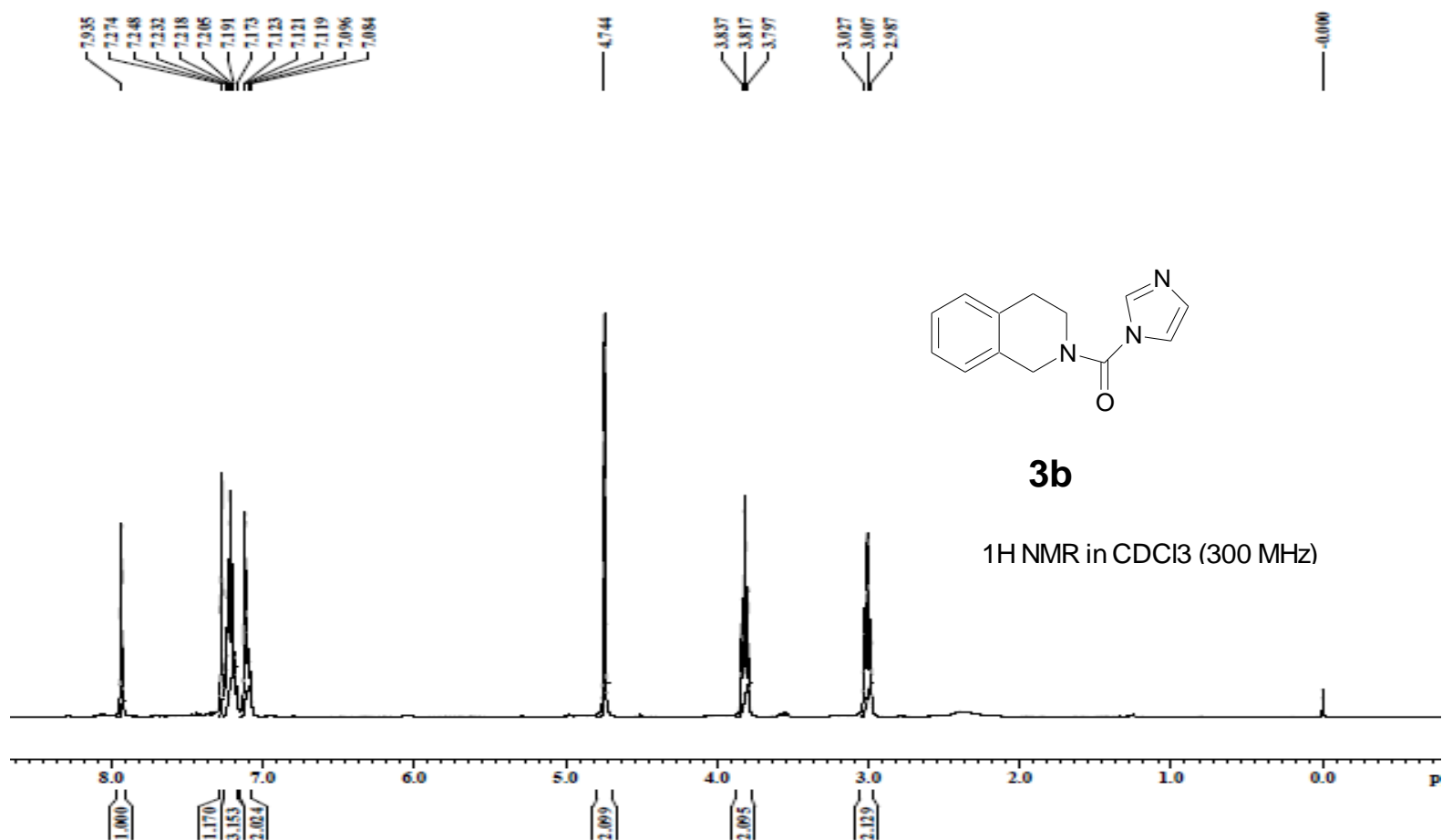
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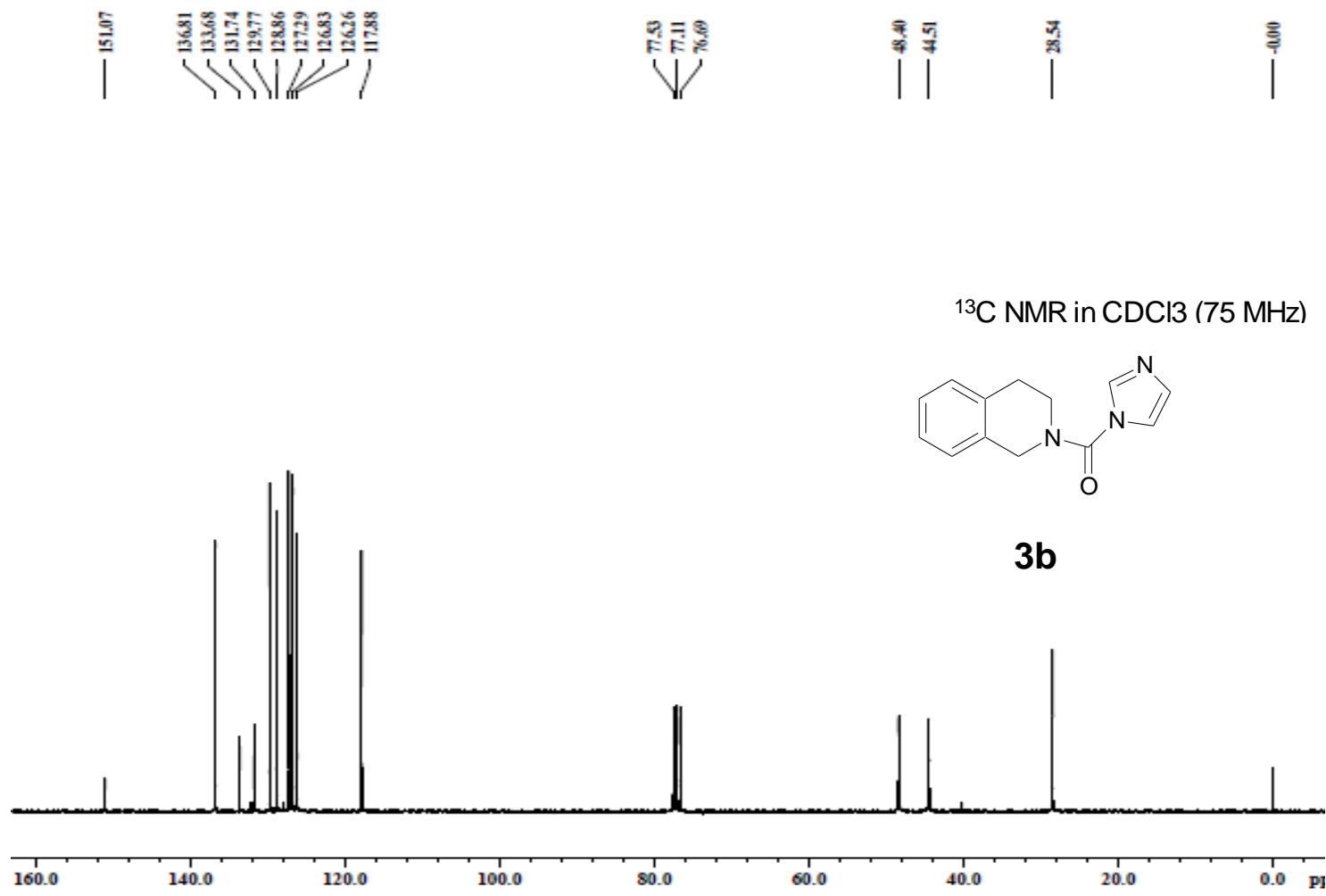
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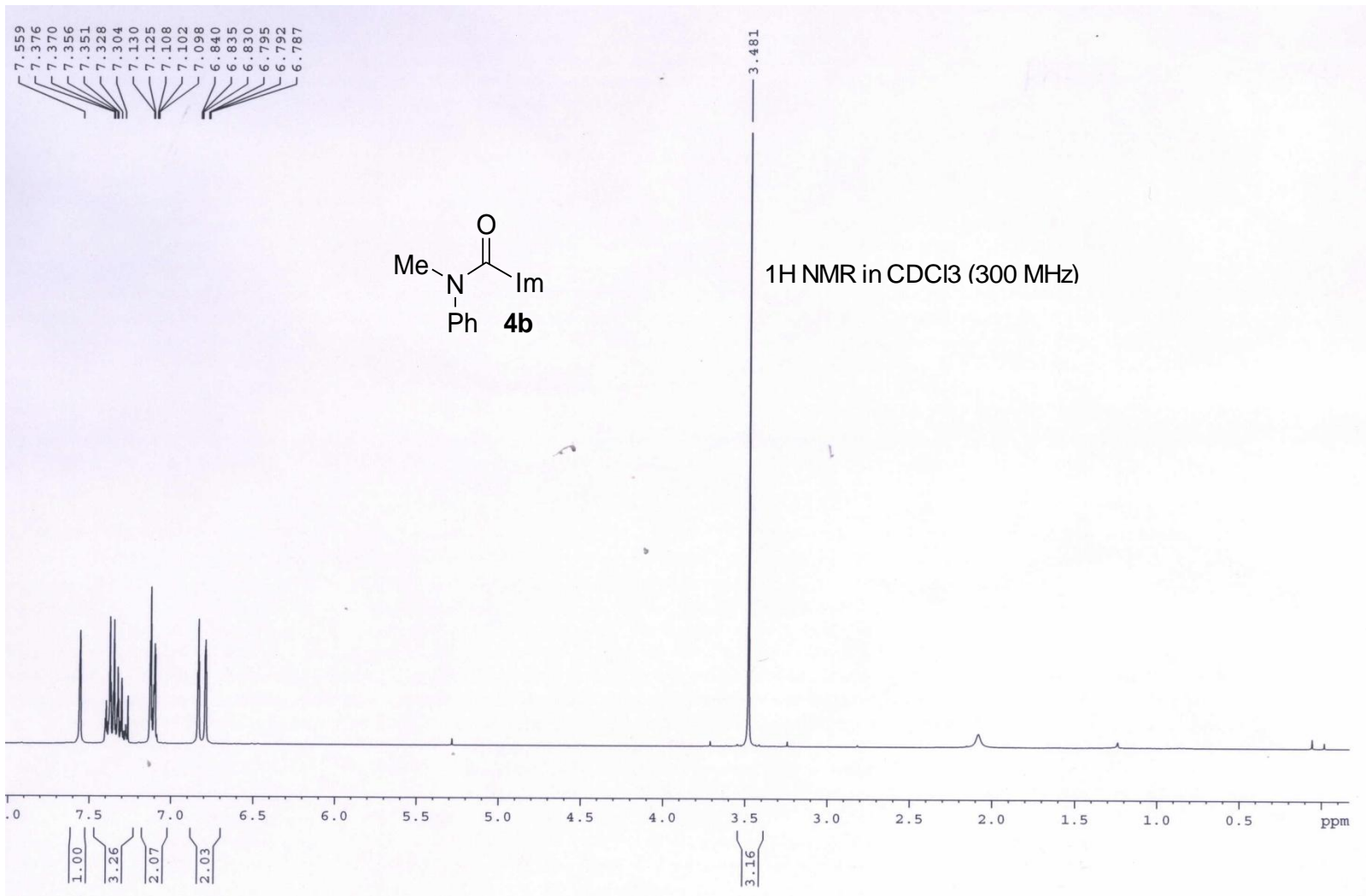


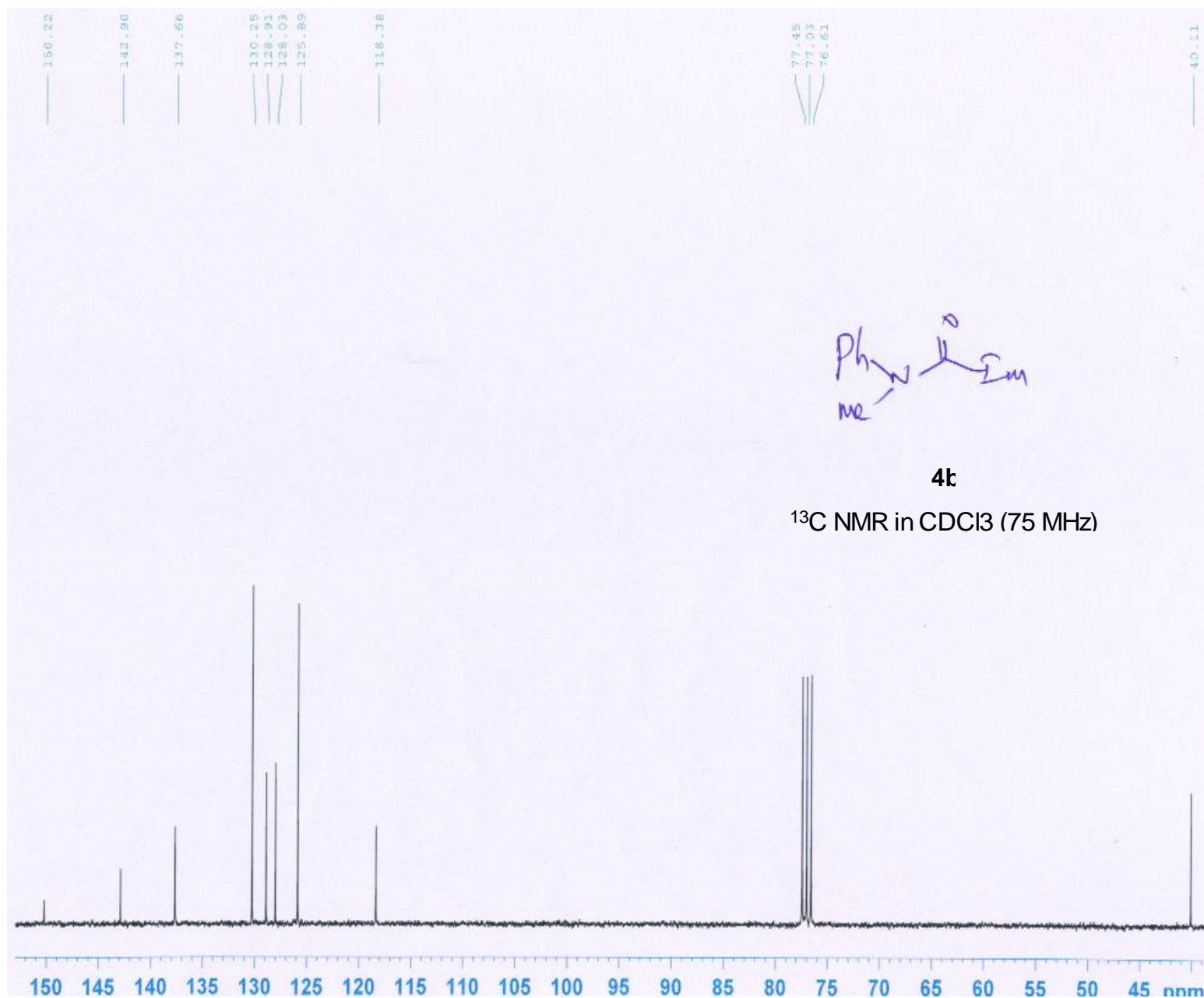


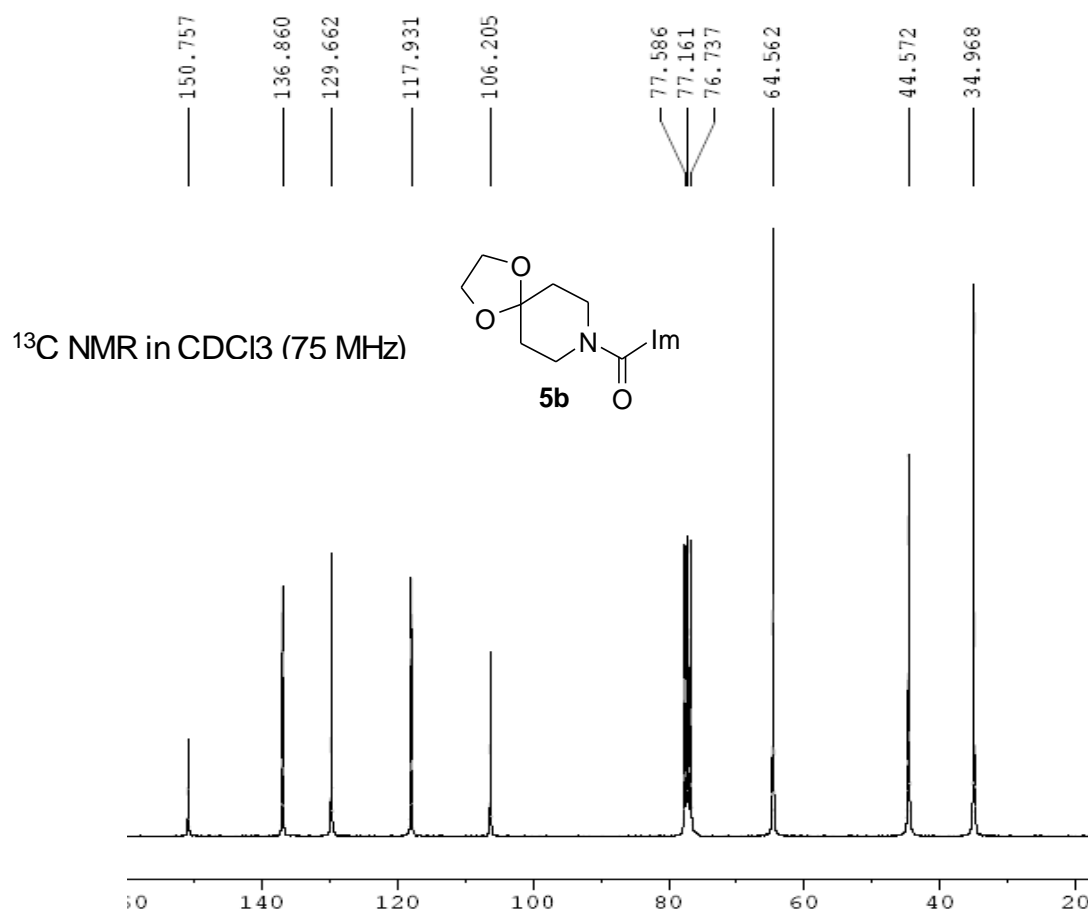
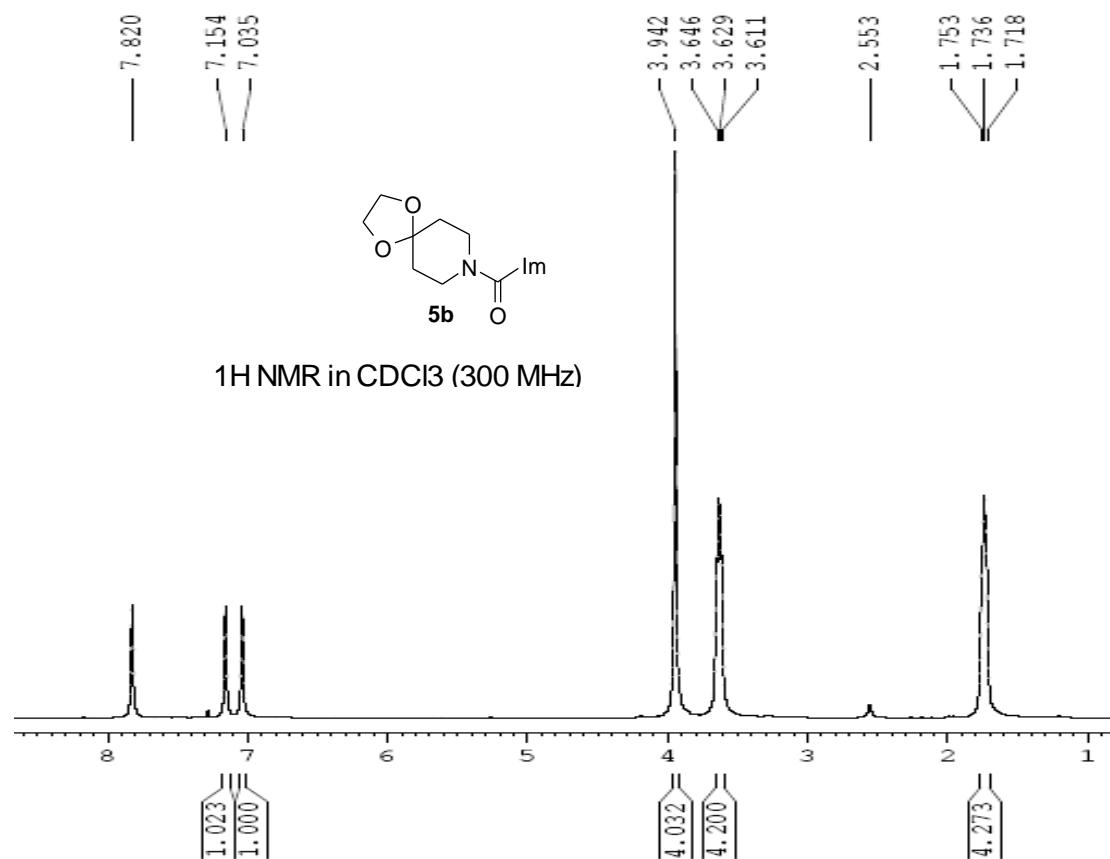


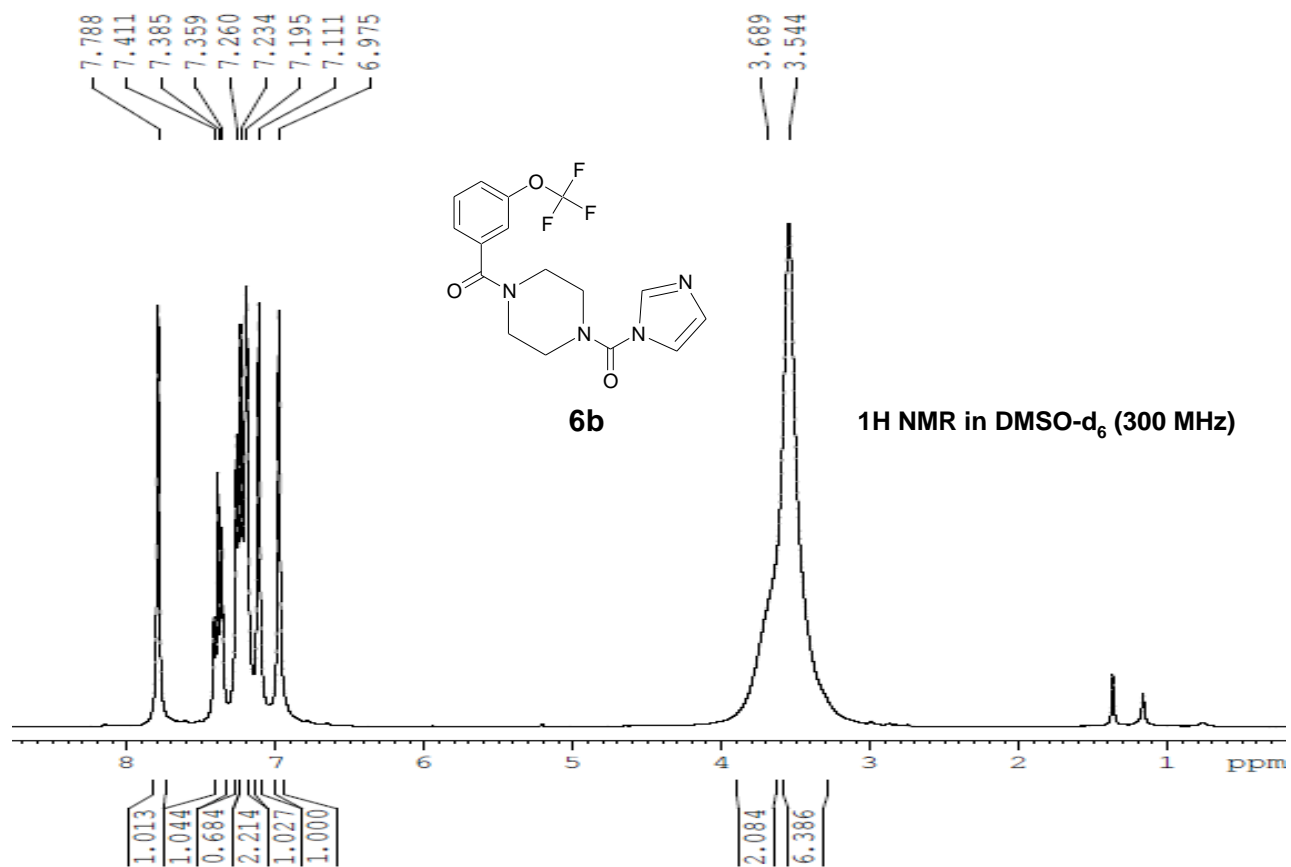


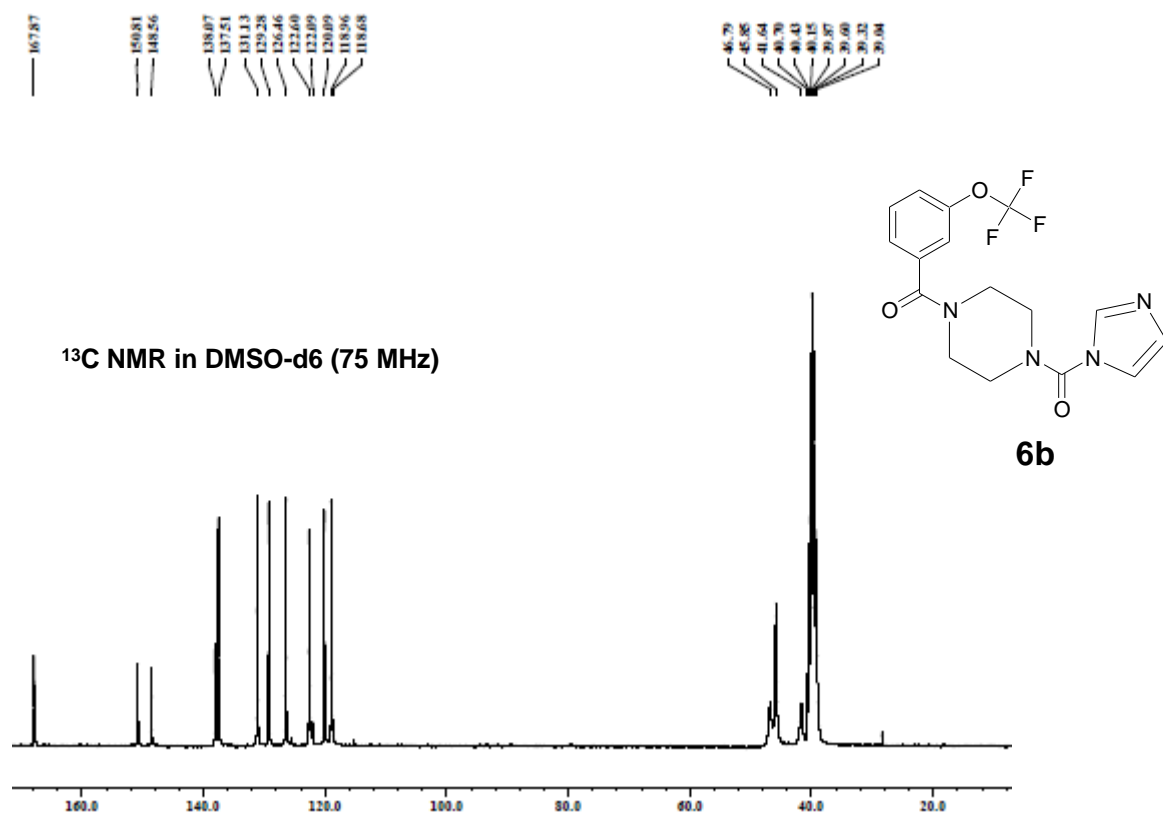


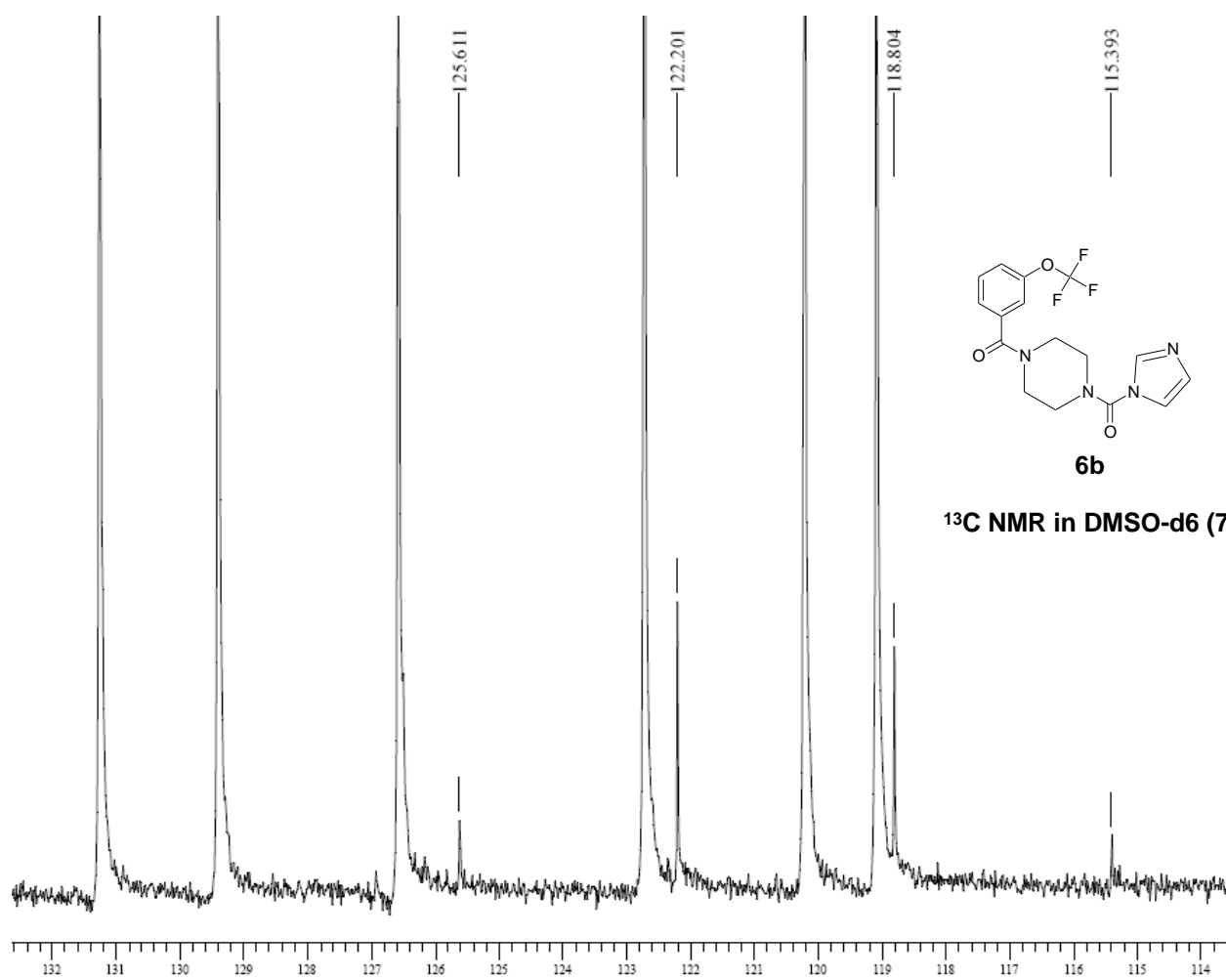


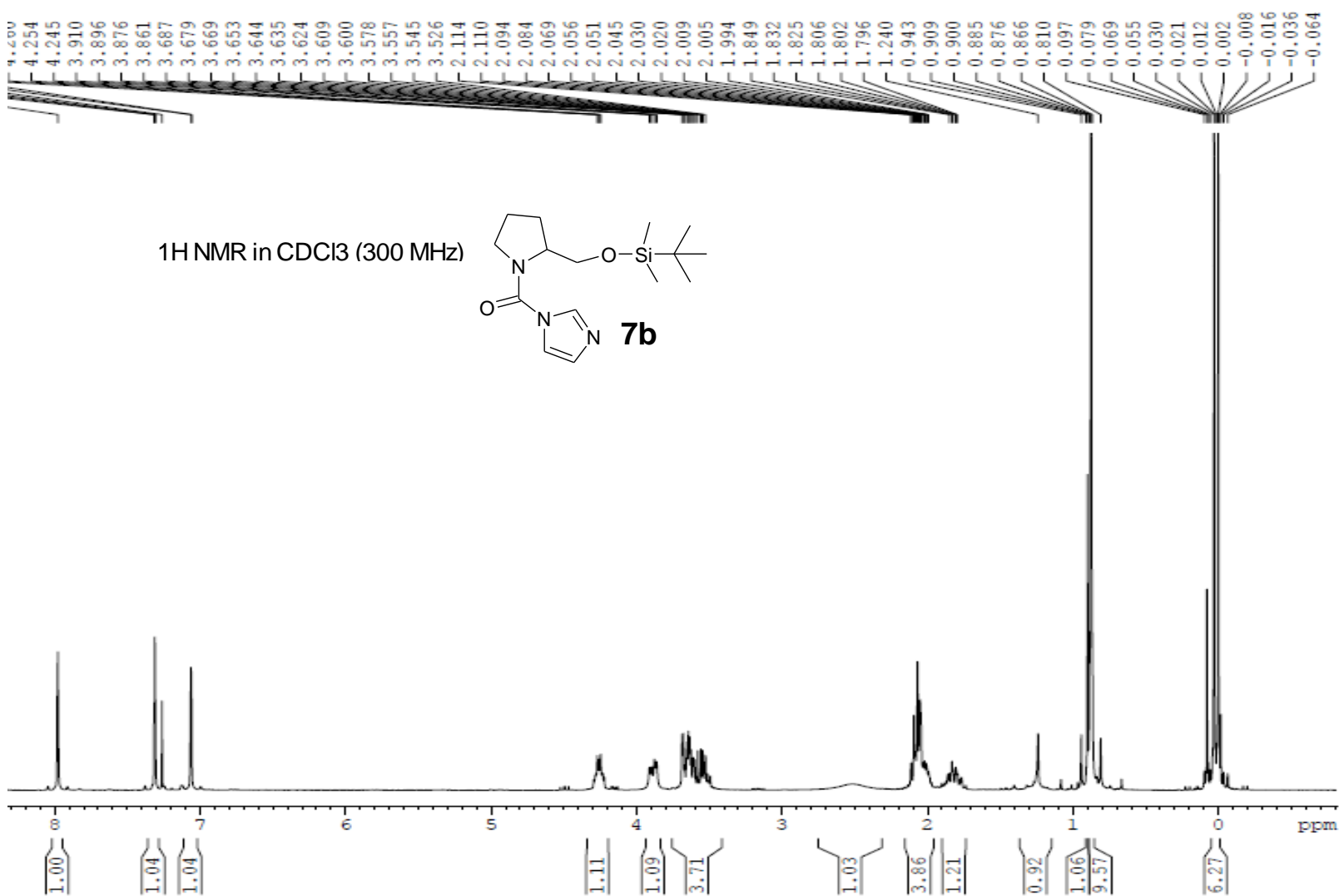


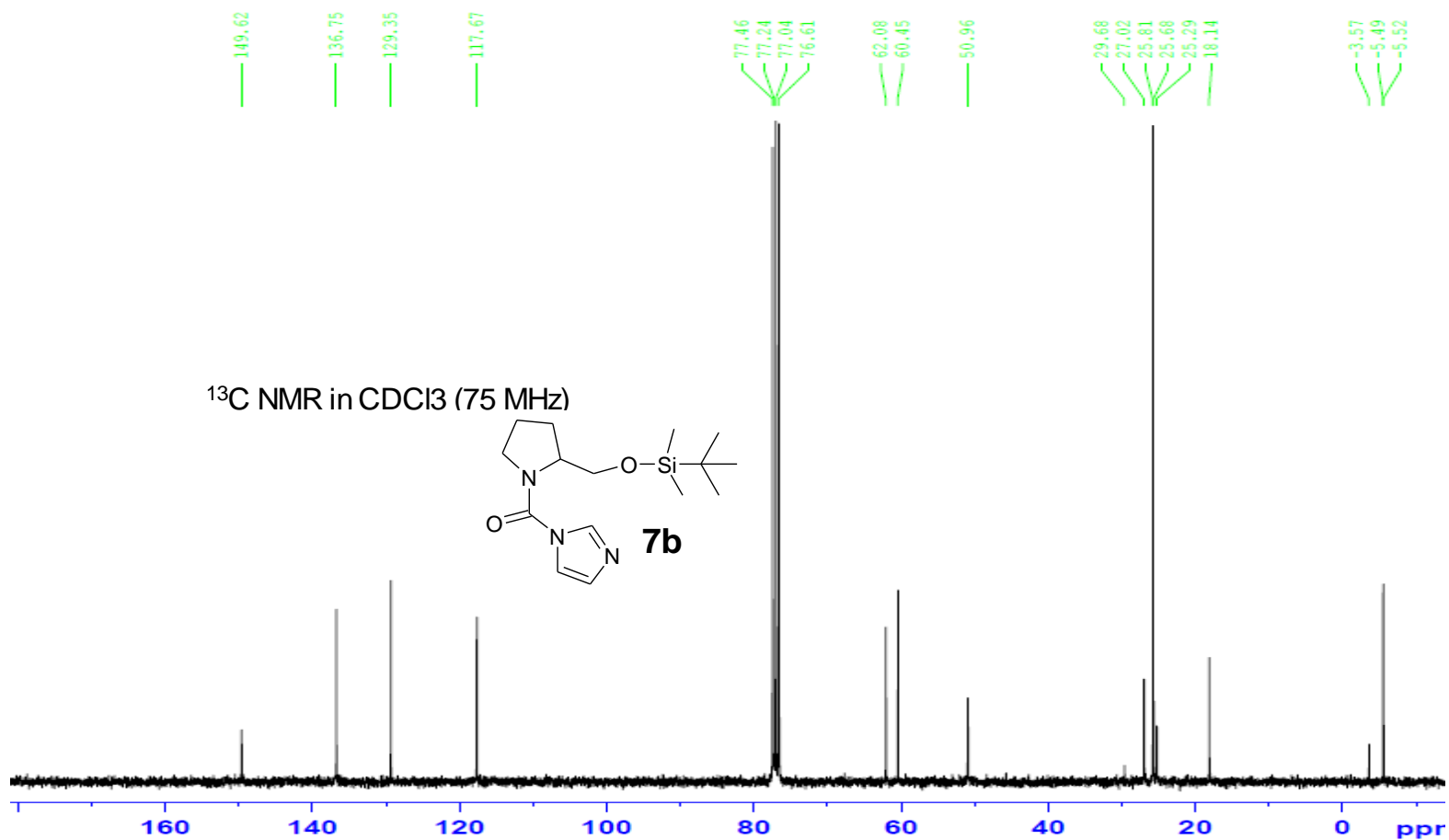


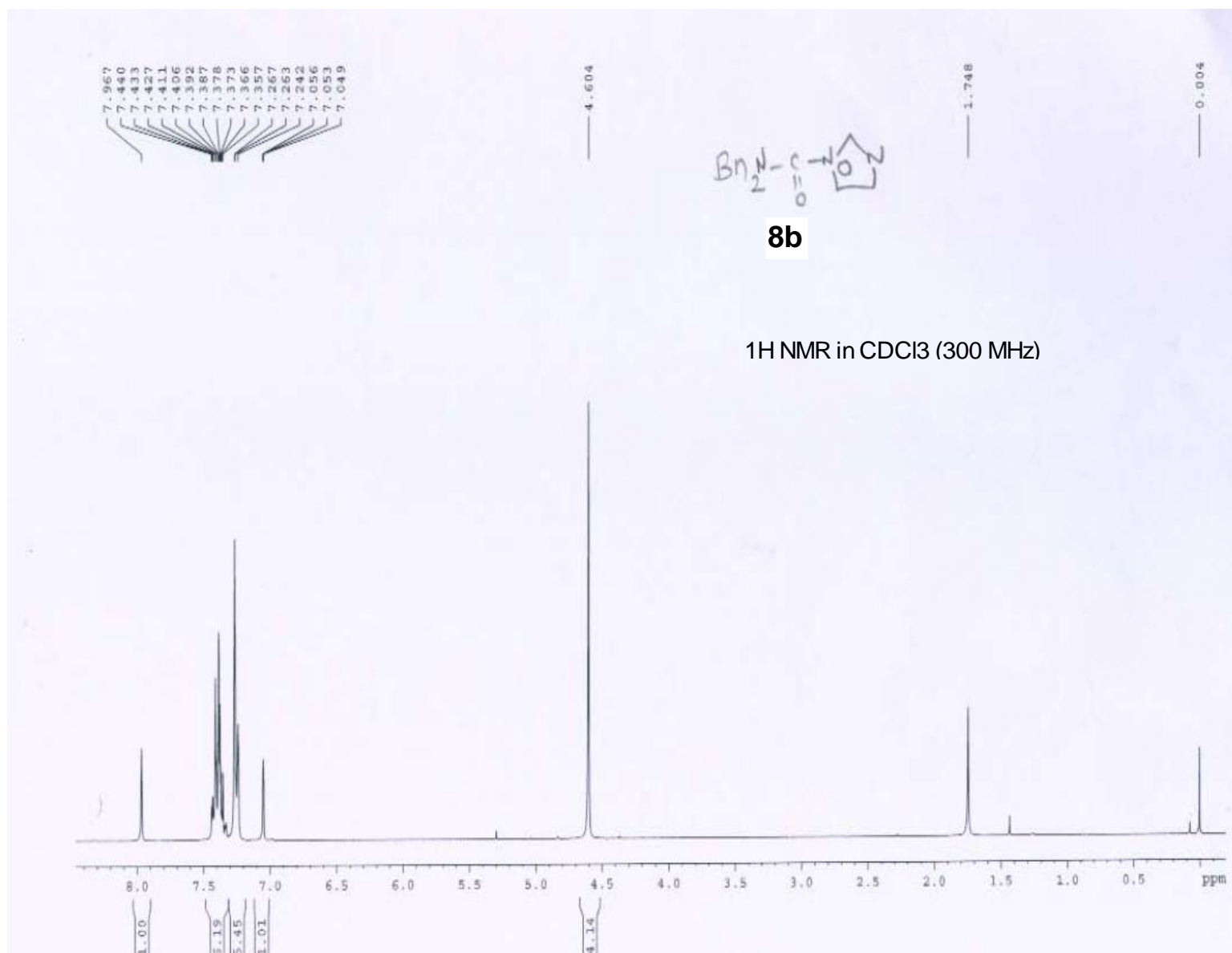


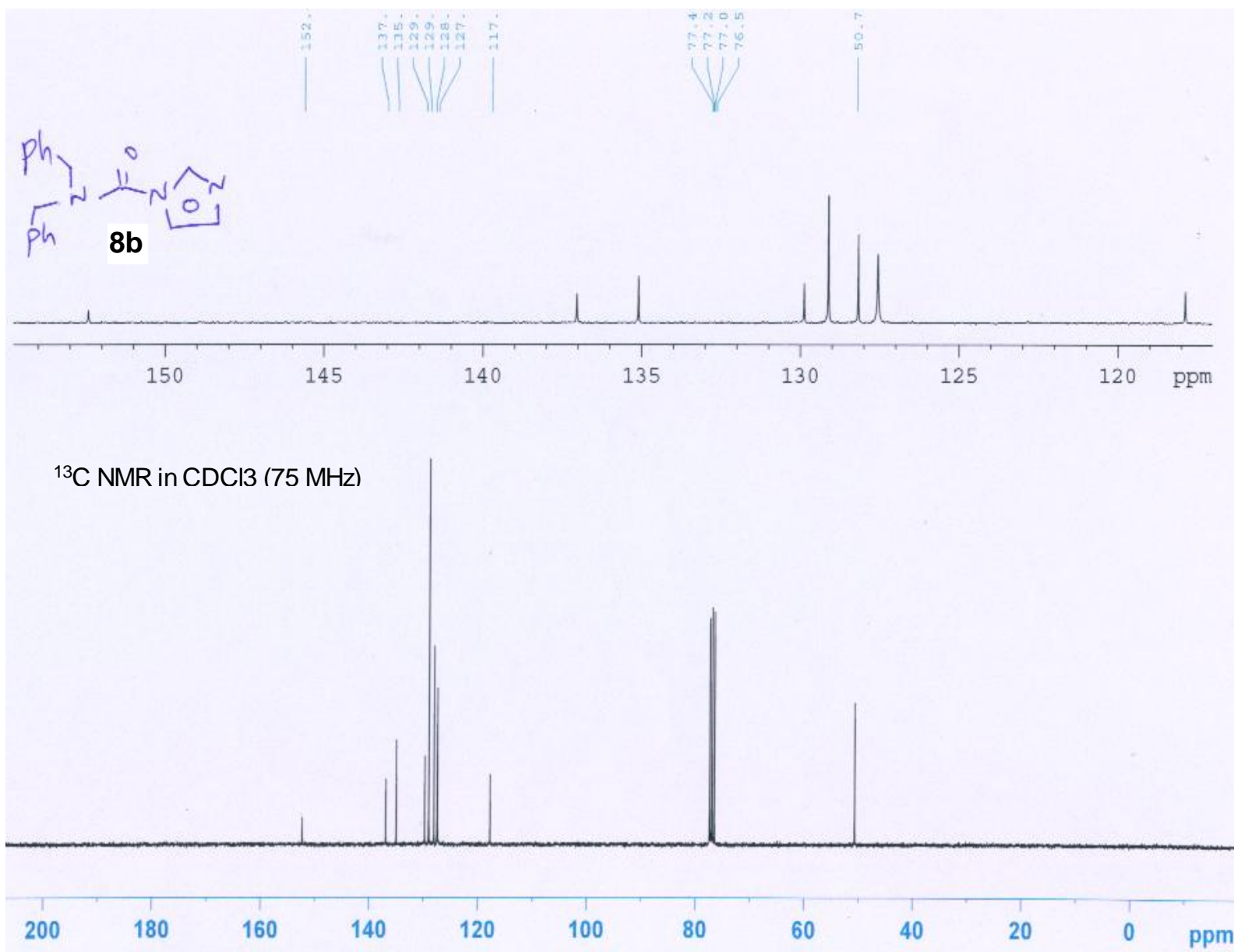


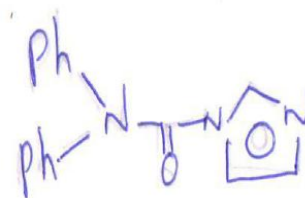






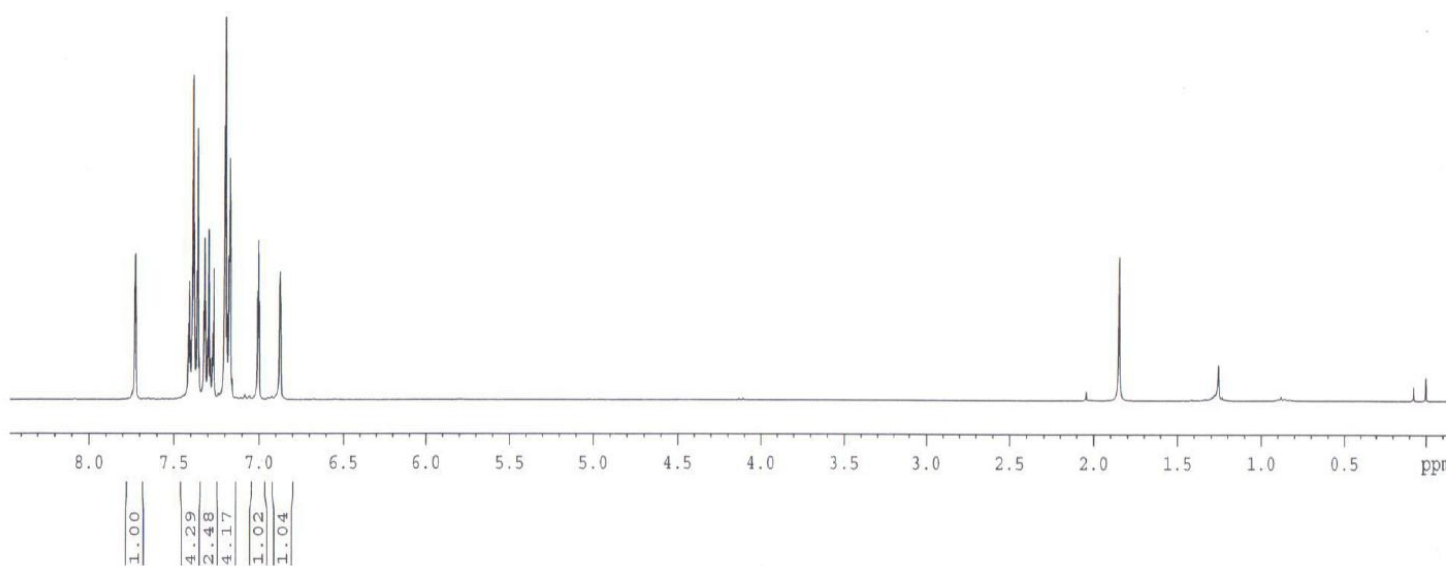
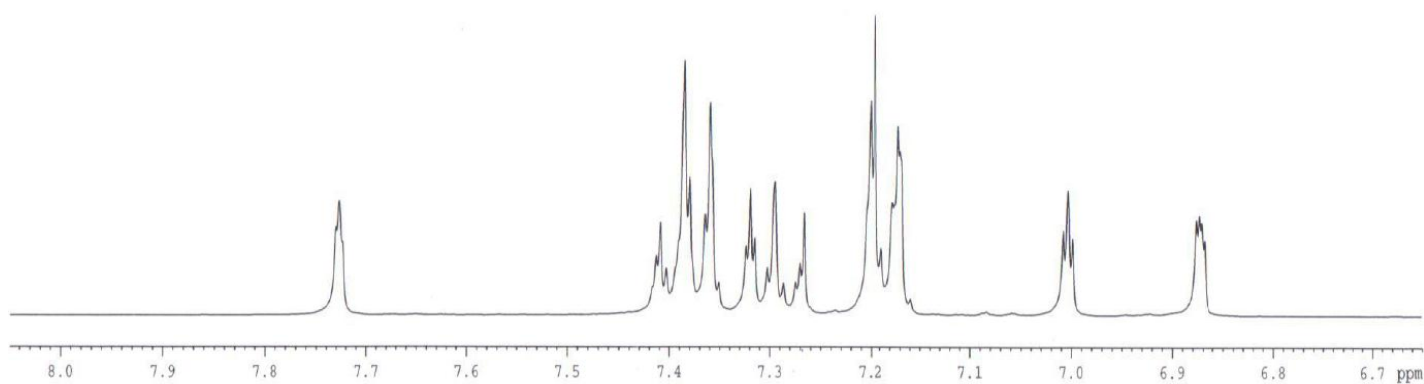
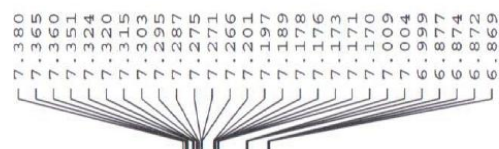


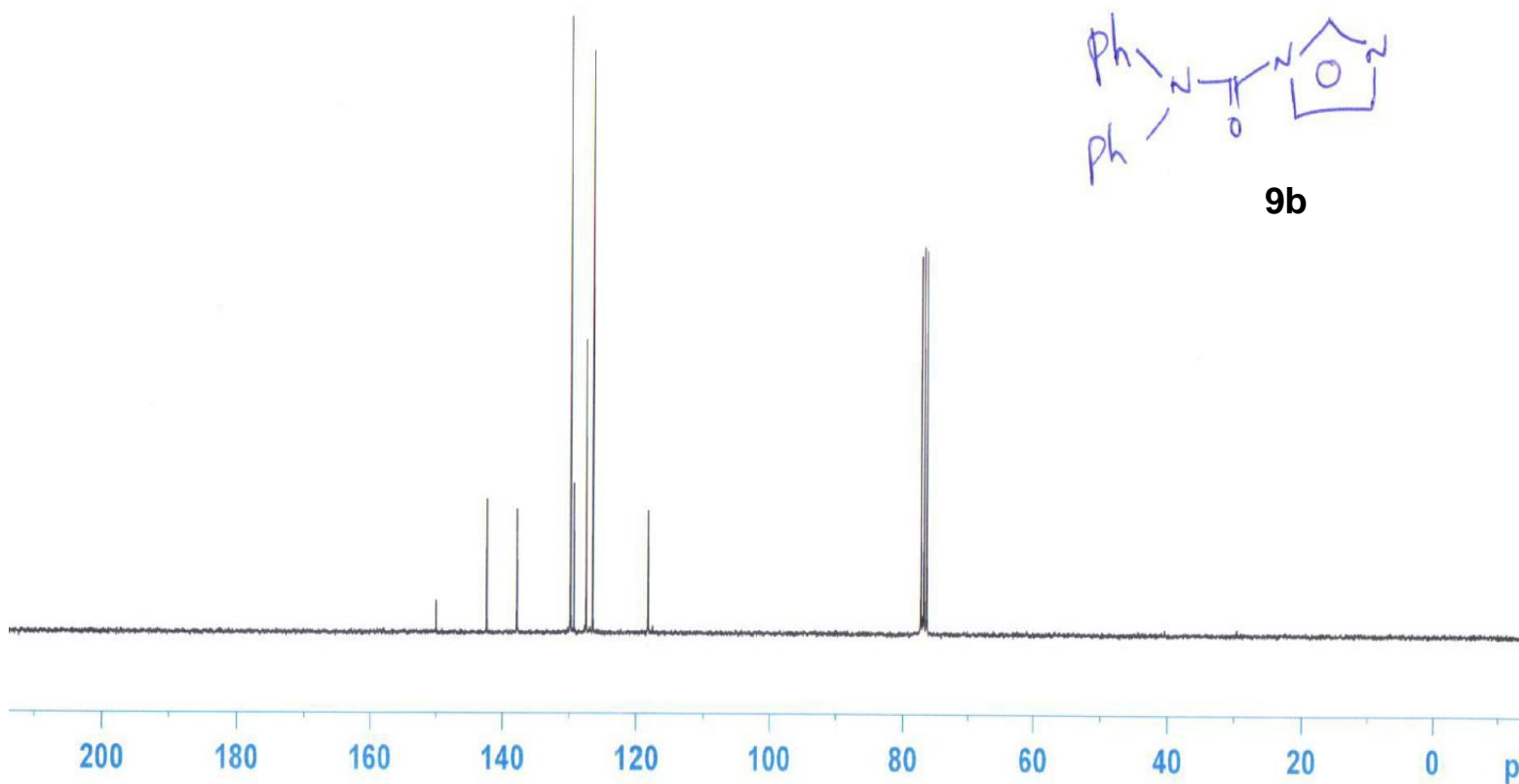
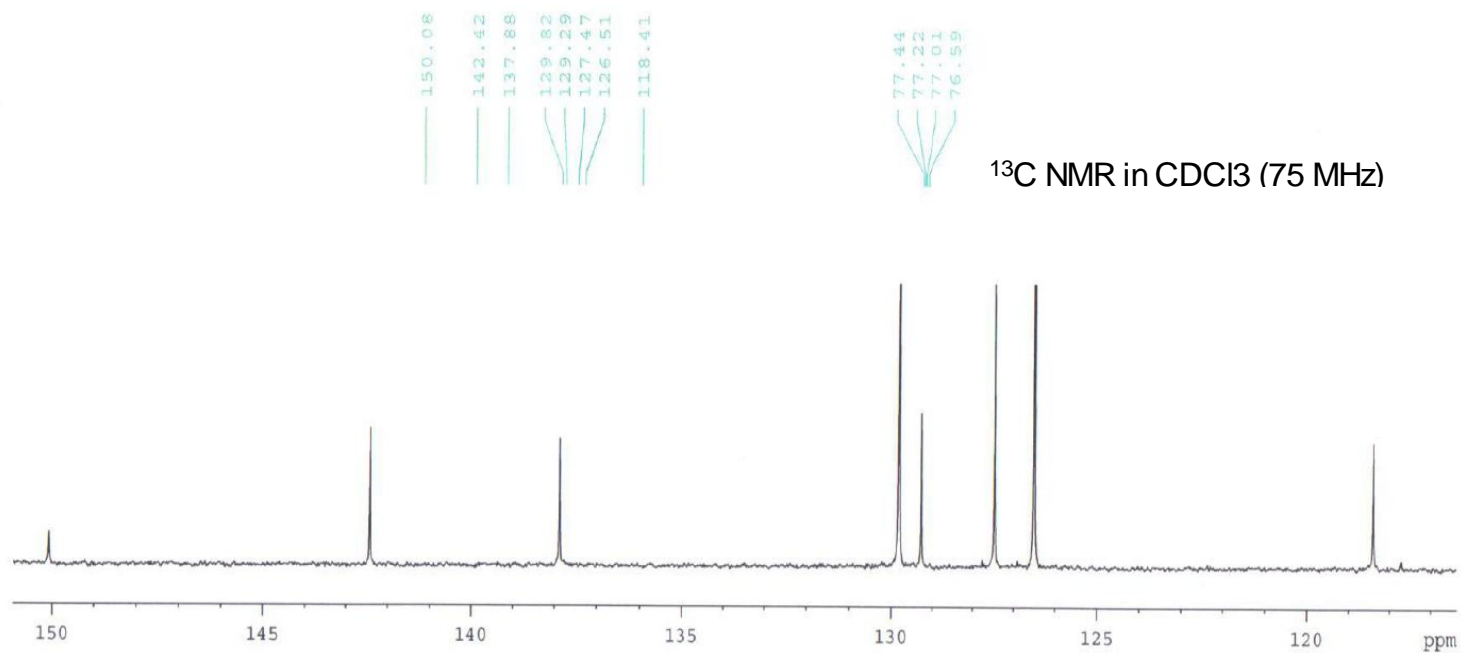


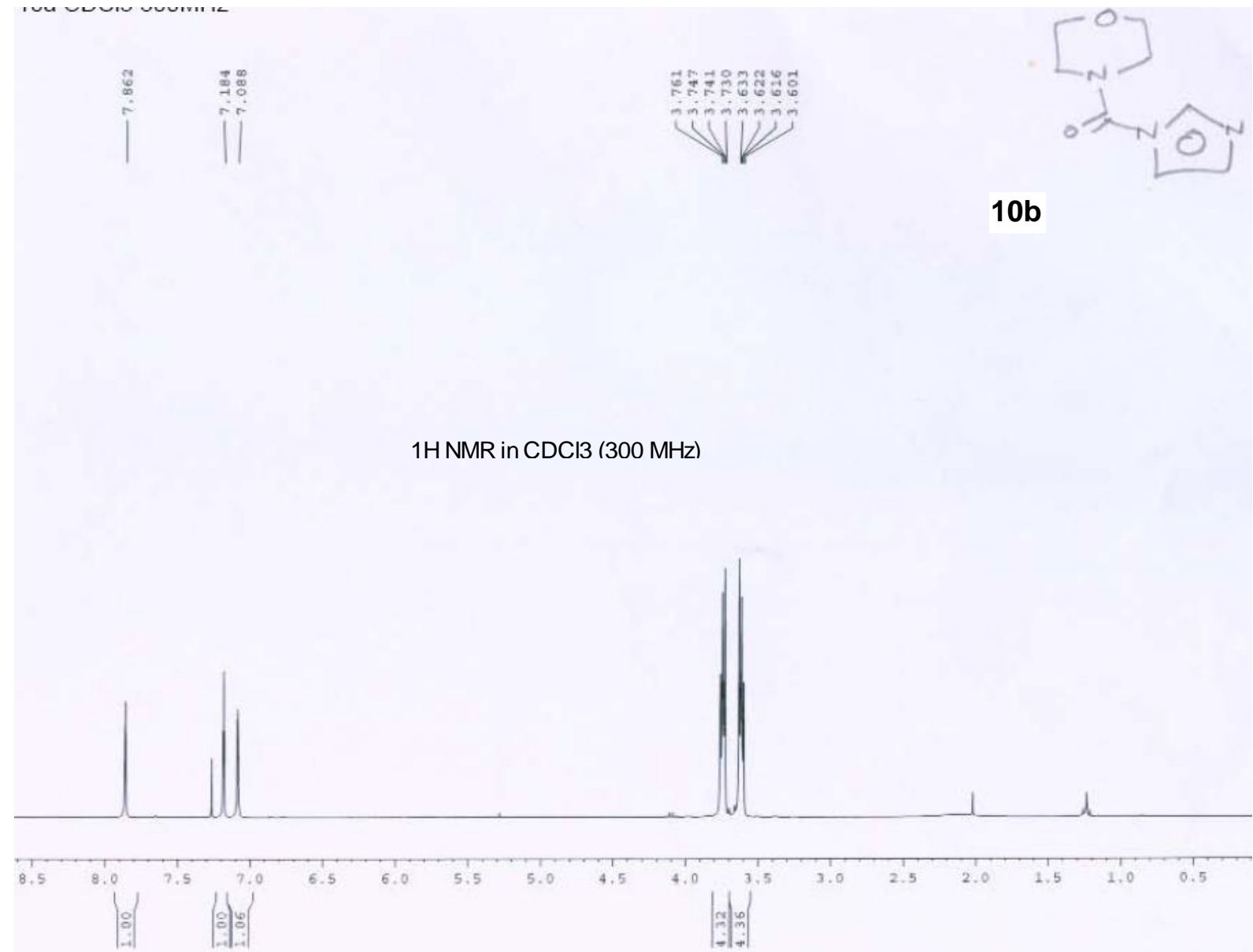


¹H NMR in CDCl₃ (300 MHz)

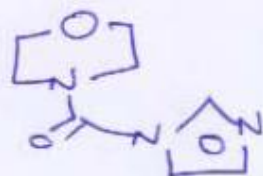
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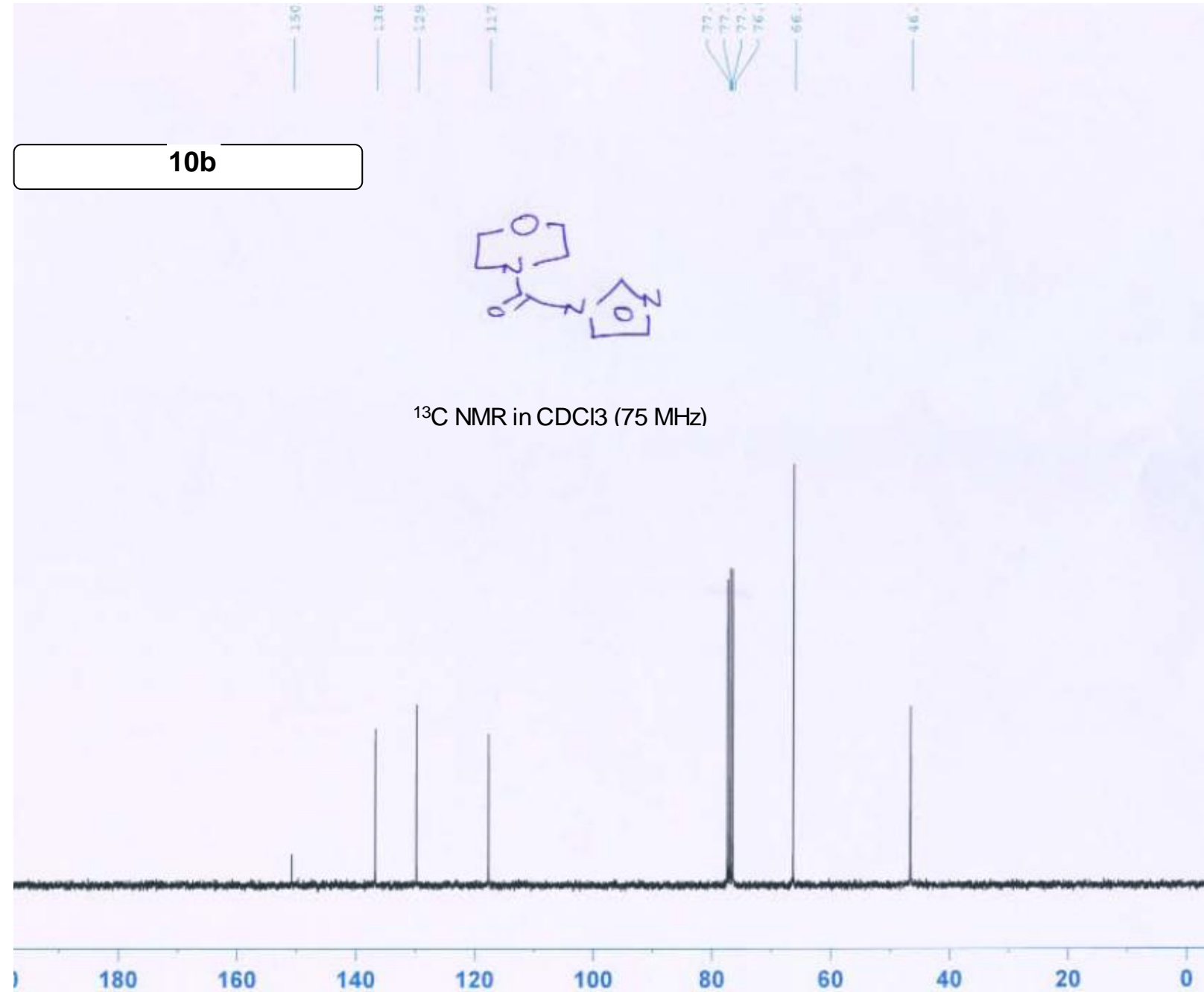


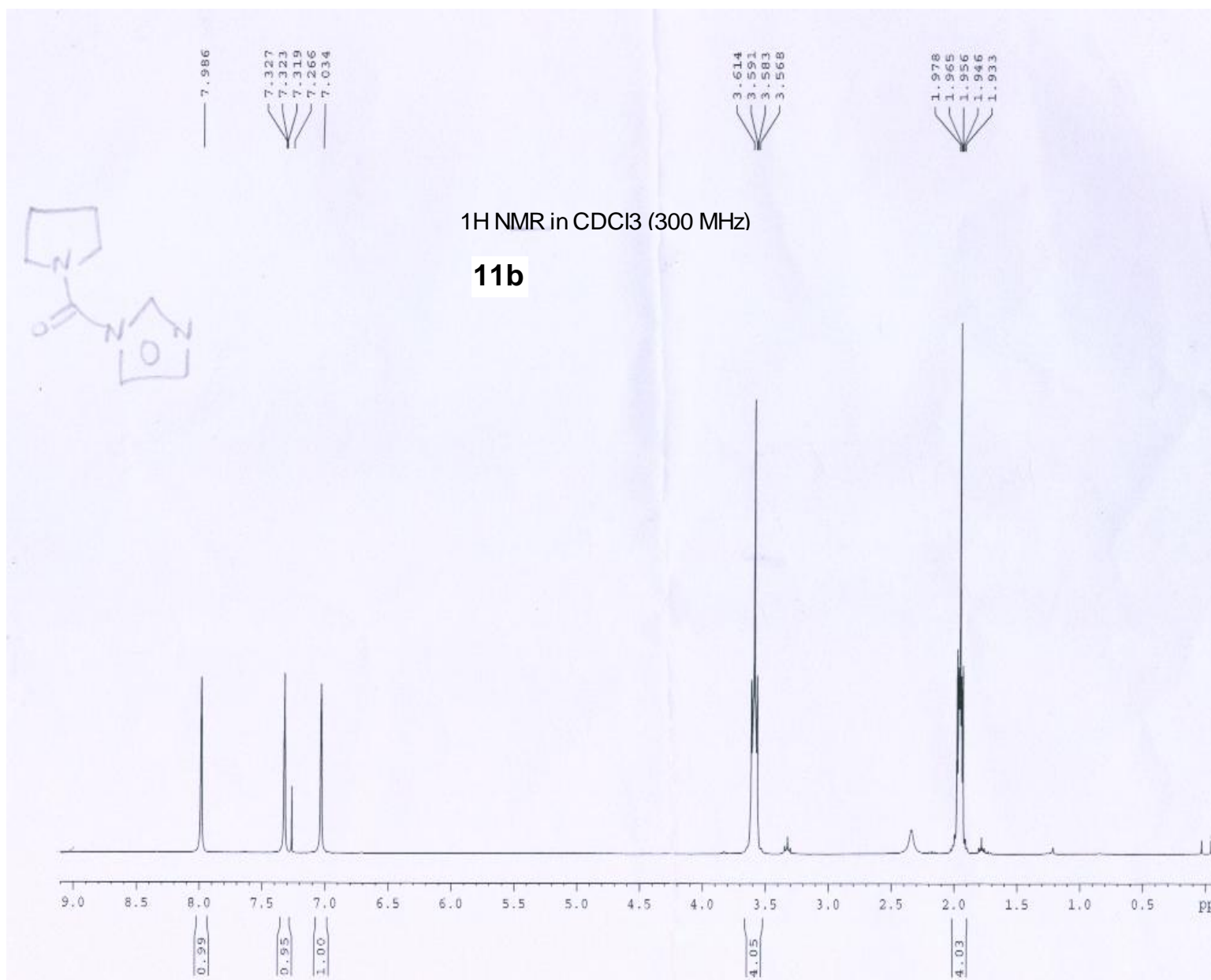


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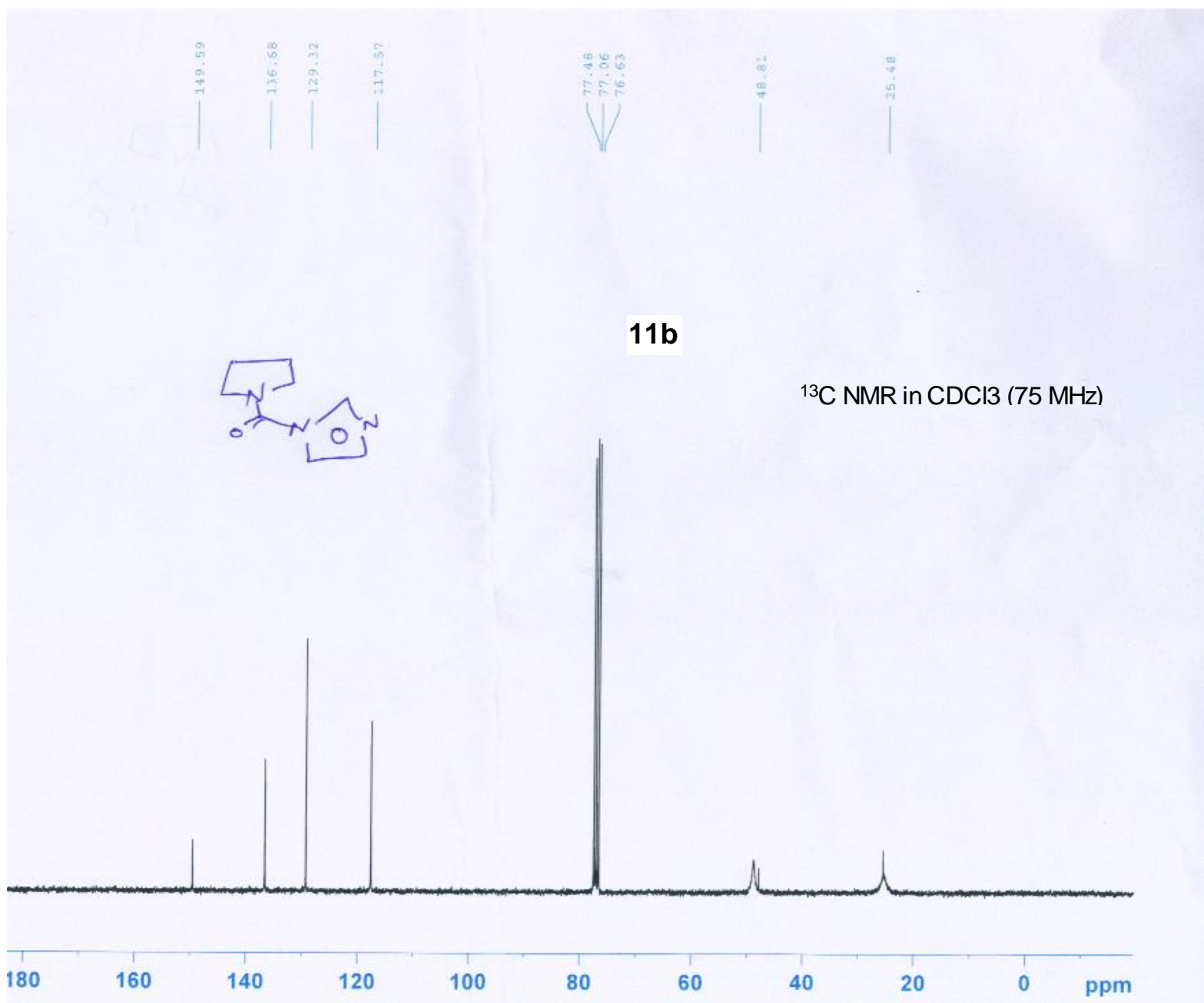


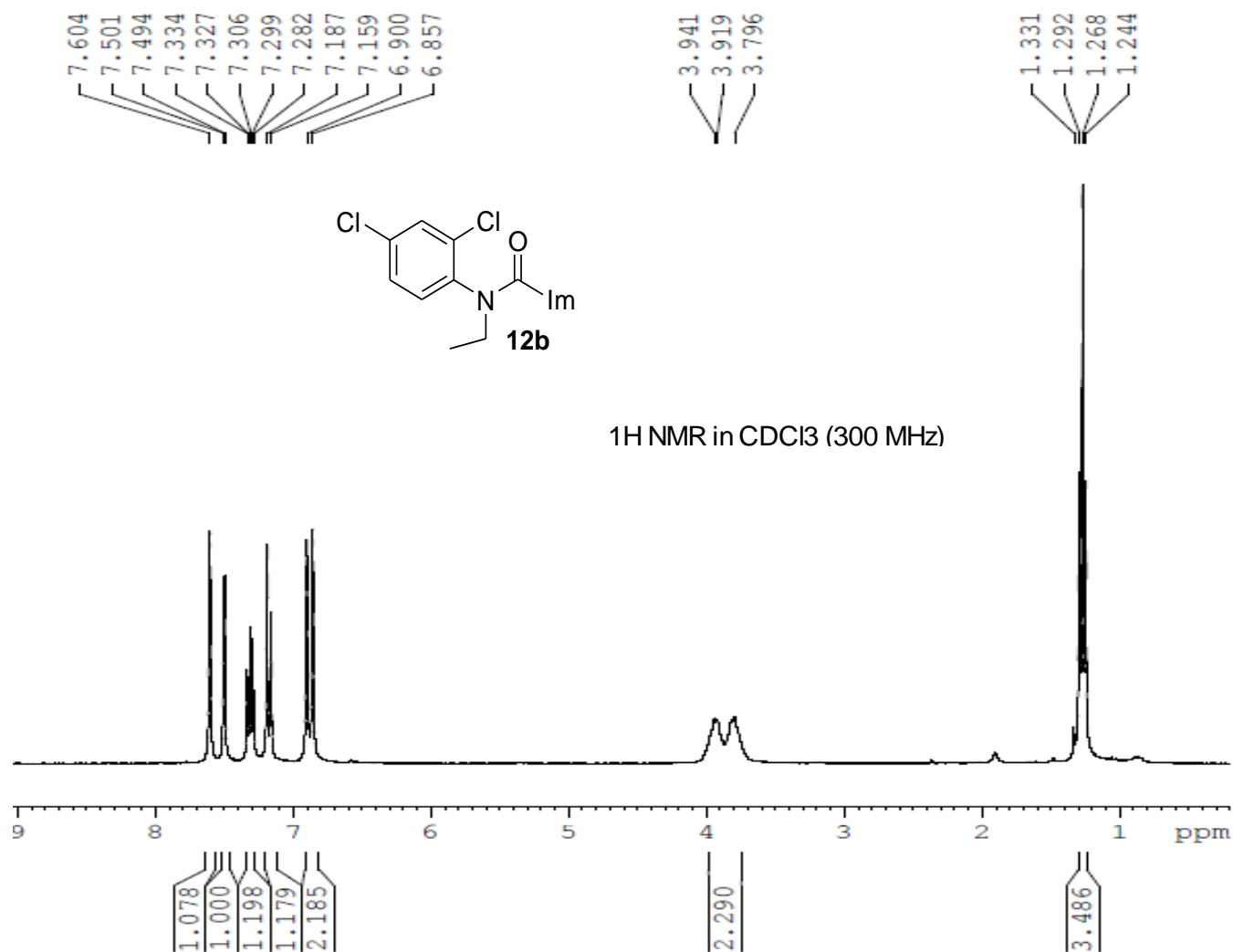
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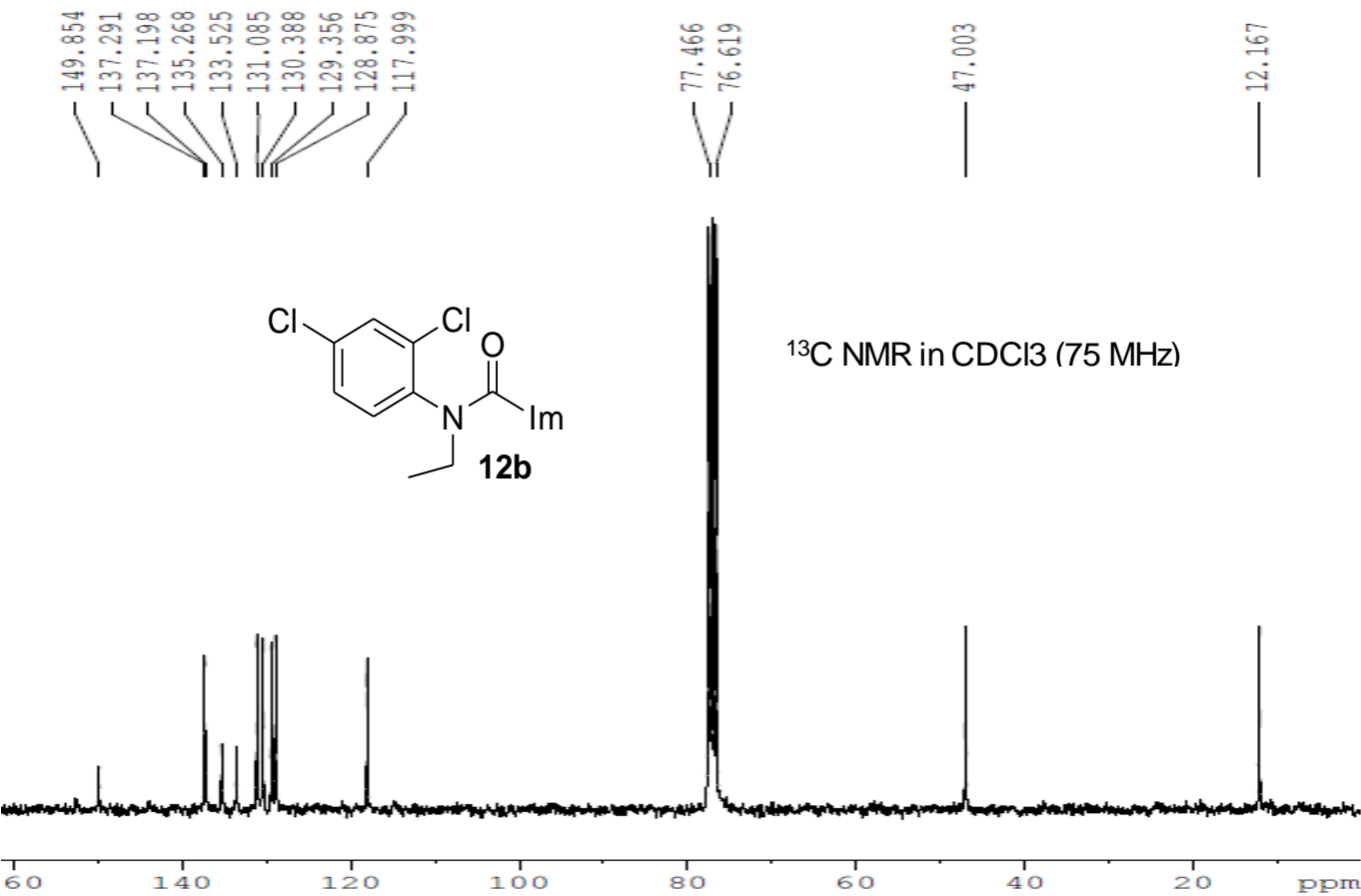


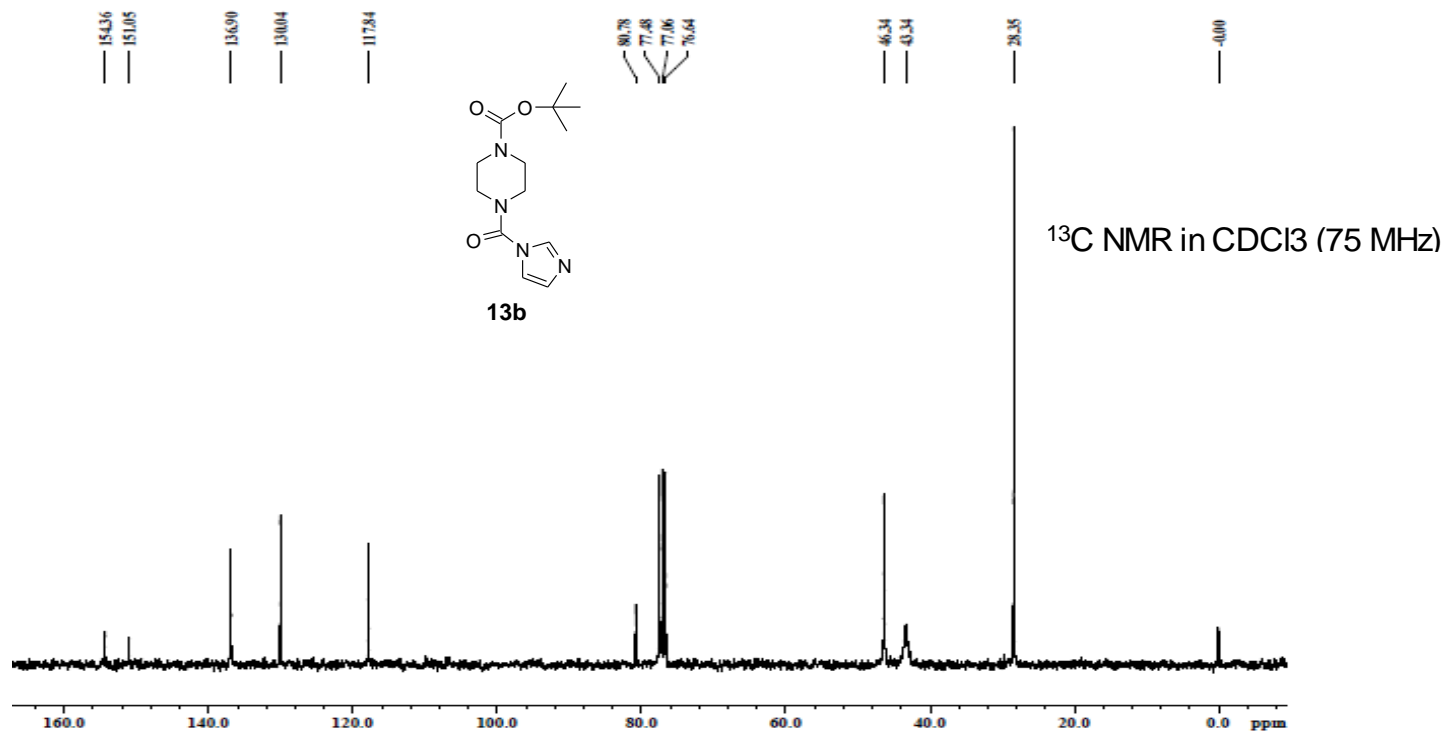
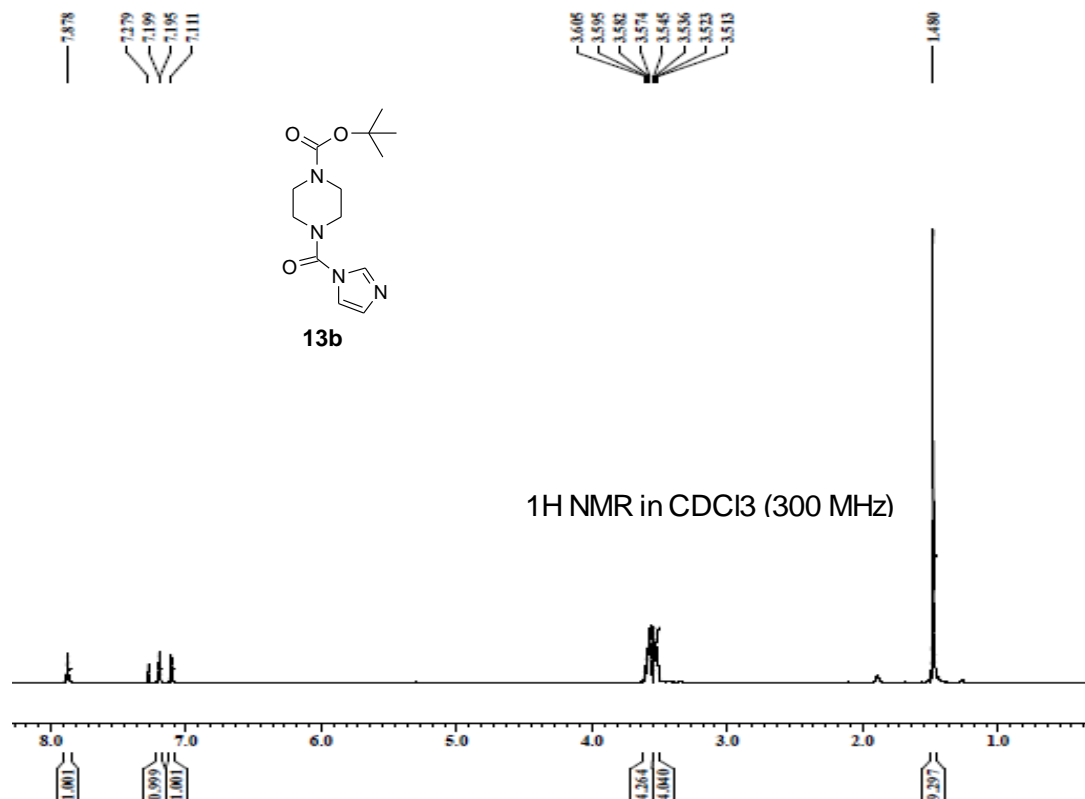


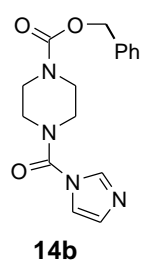
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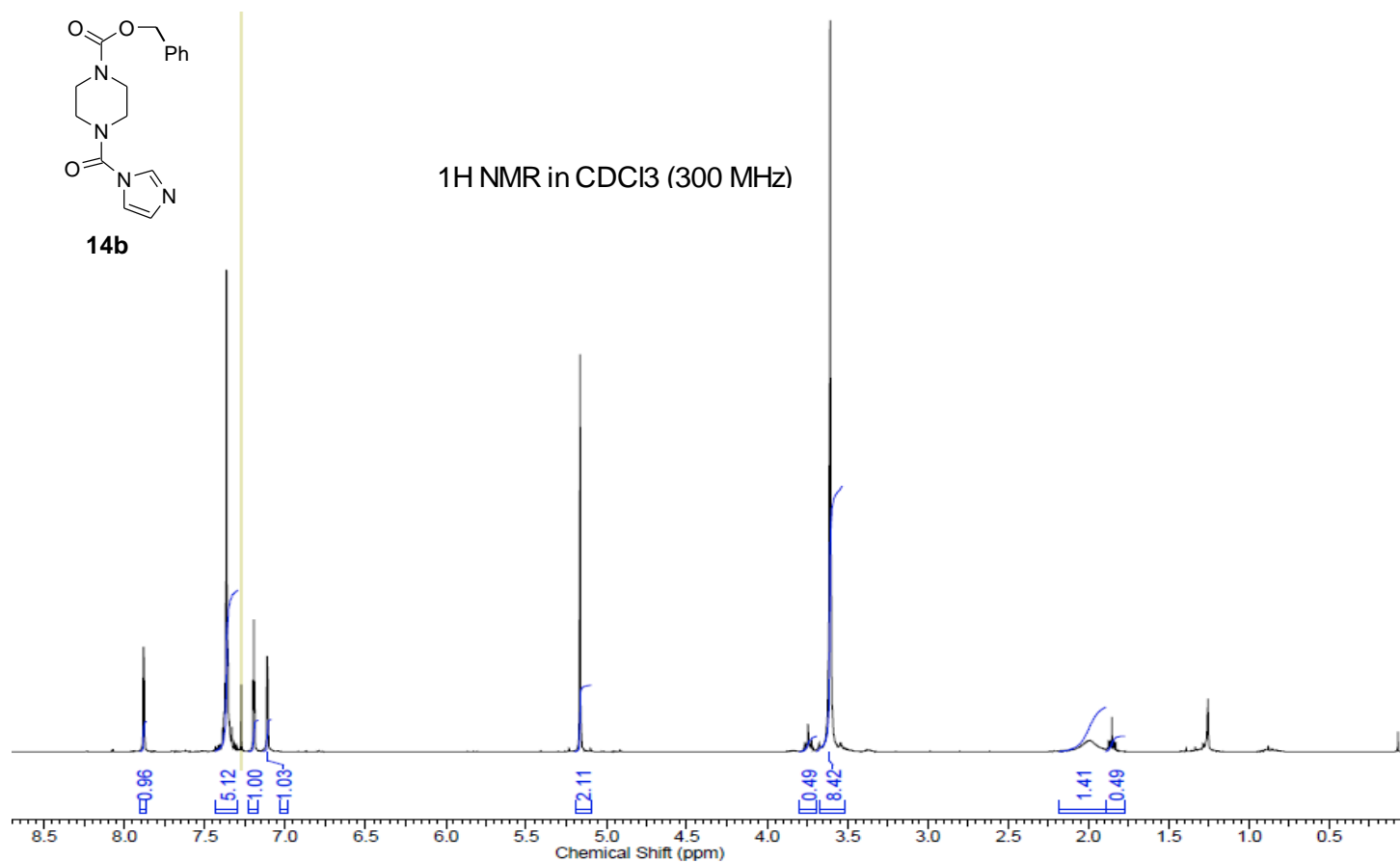




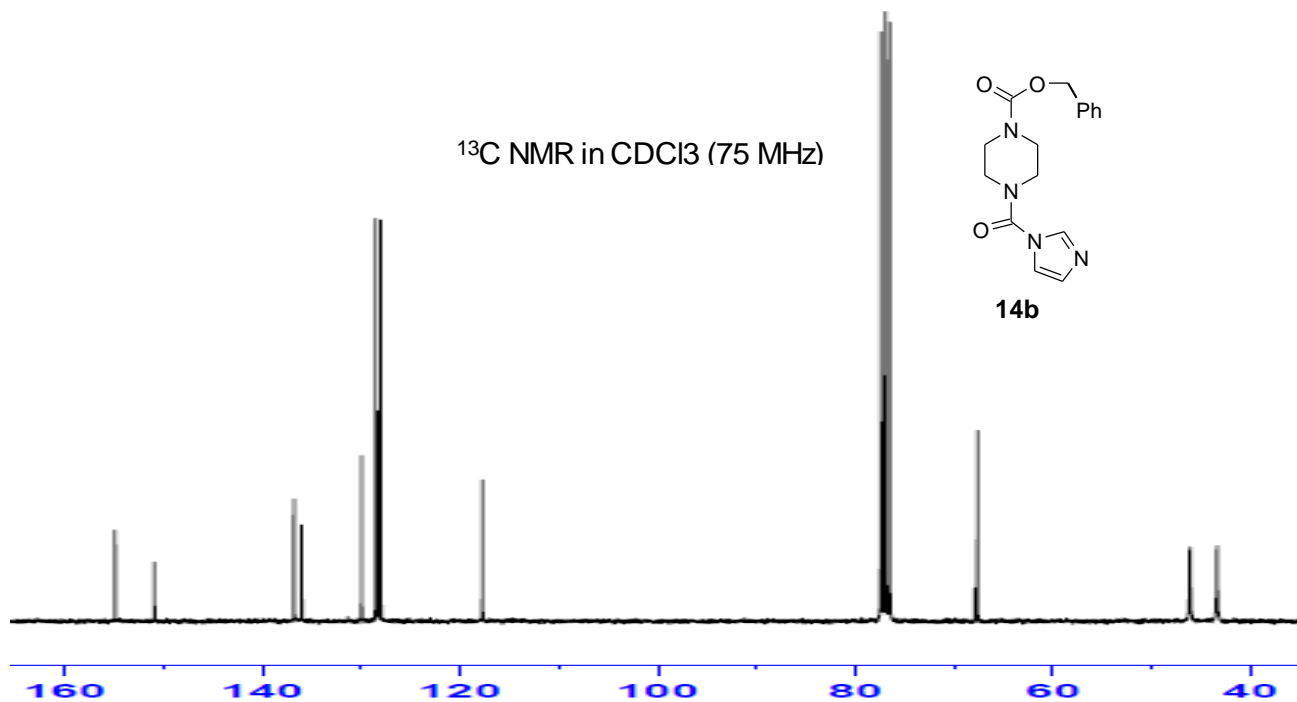


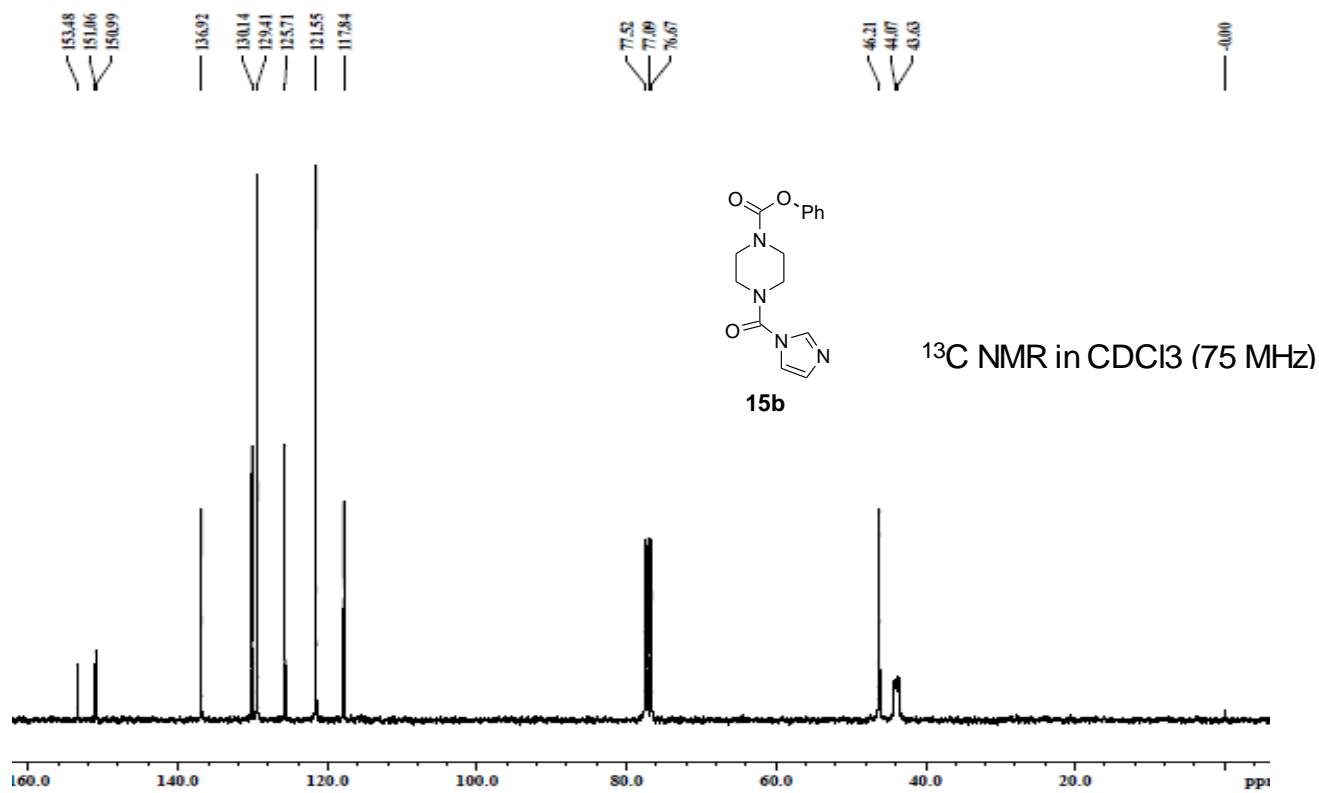
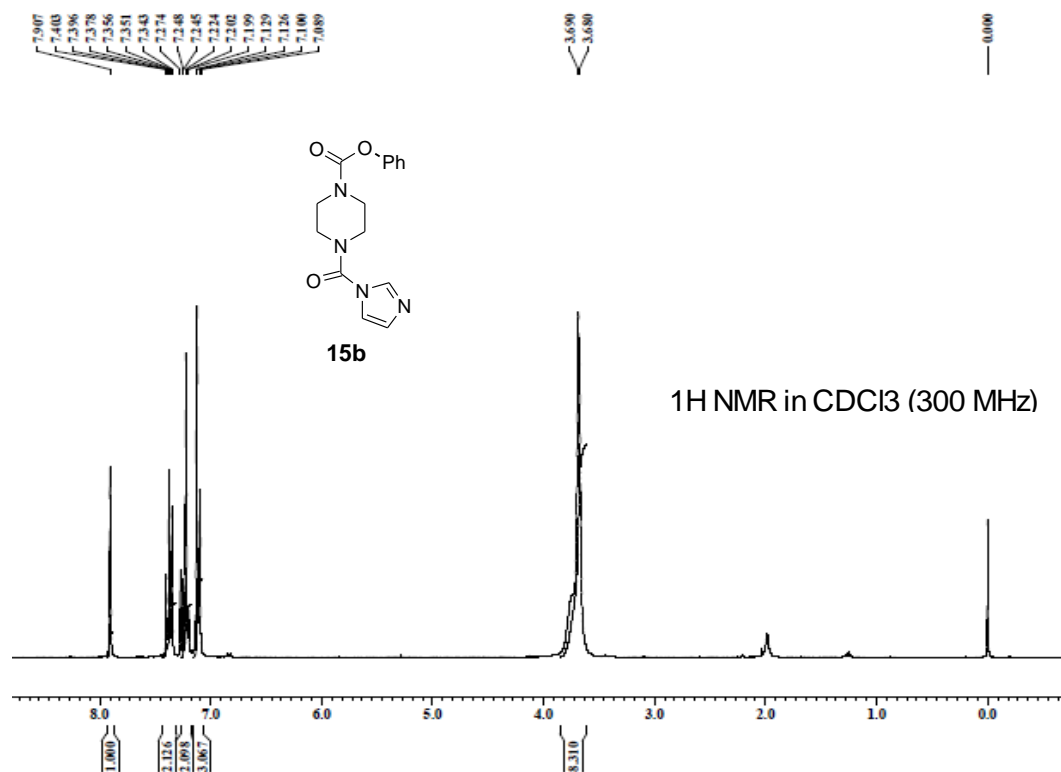


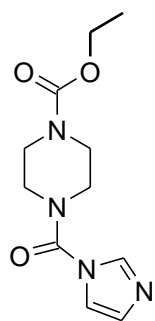
¹H NMR in CDCl₃ (300 MHz)



¹³C NMR in CDCl₃ (75 MHz)

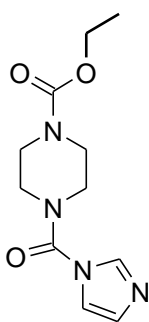
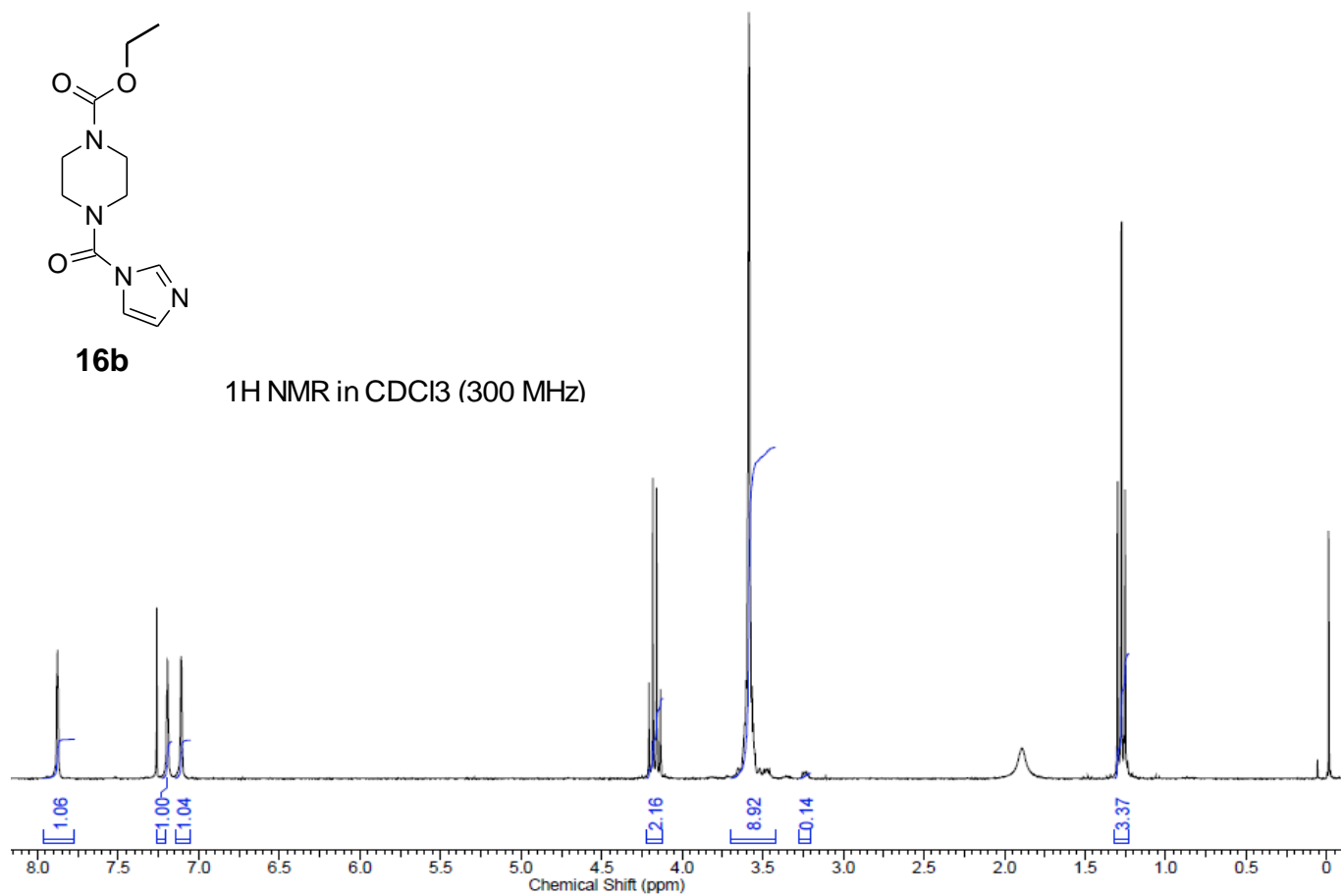






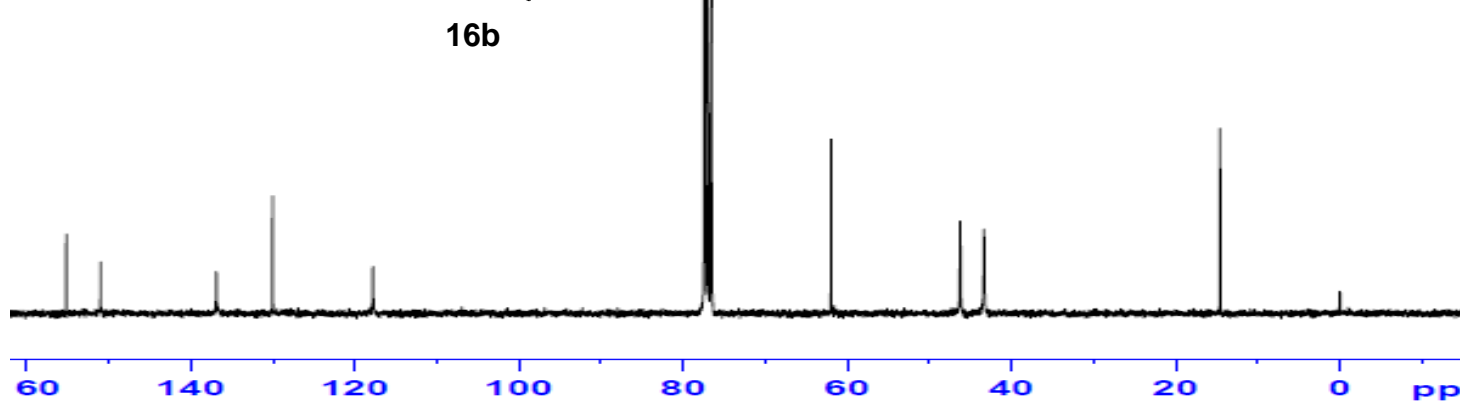
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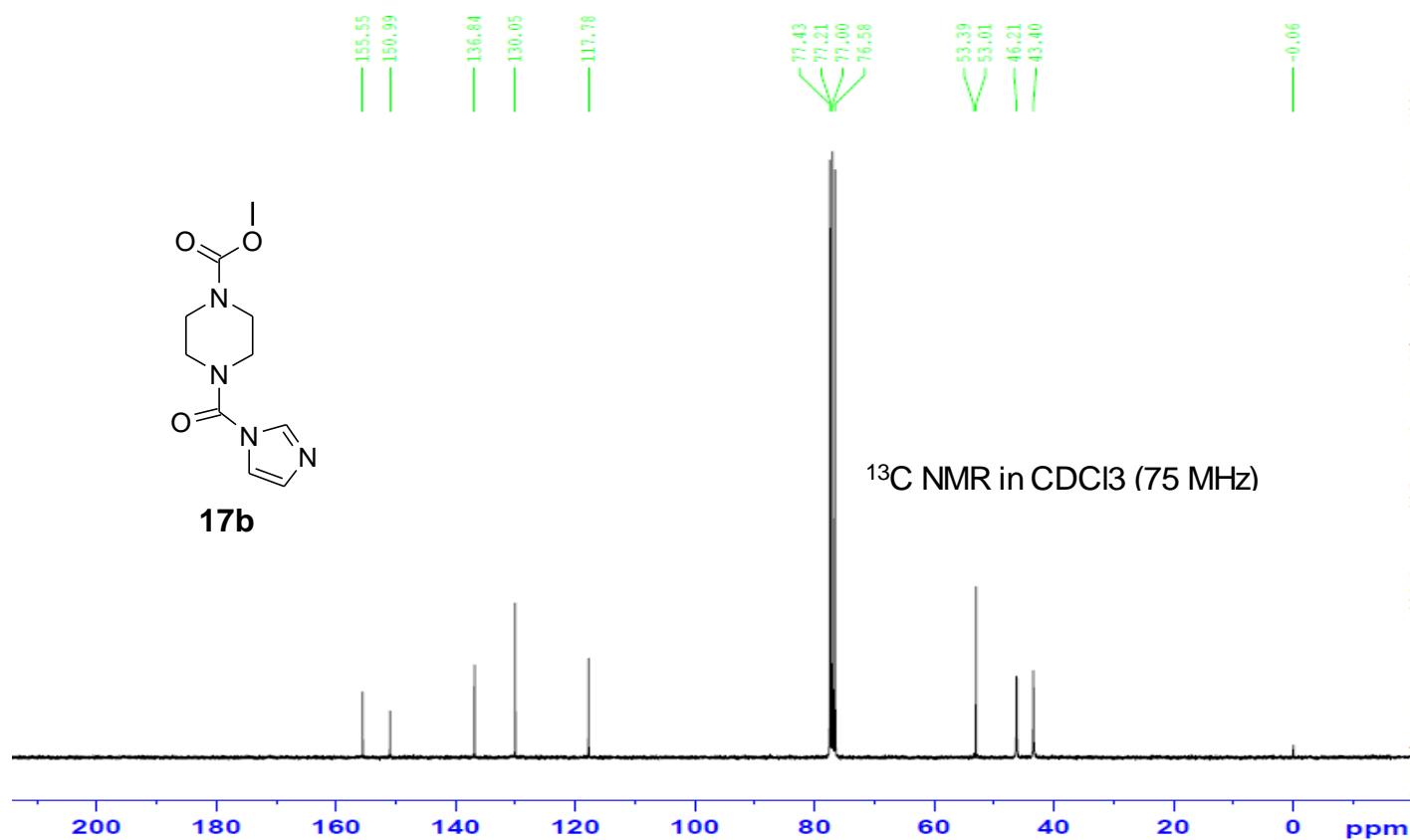
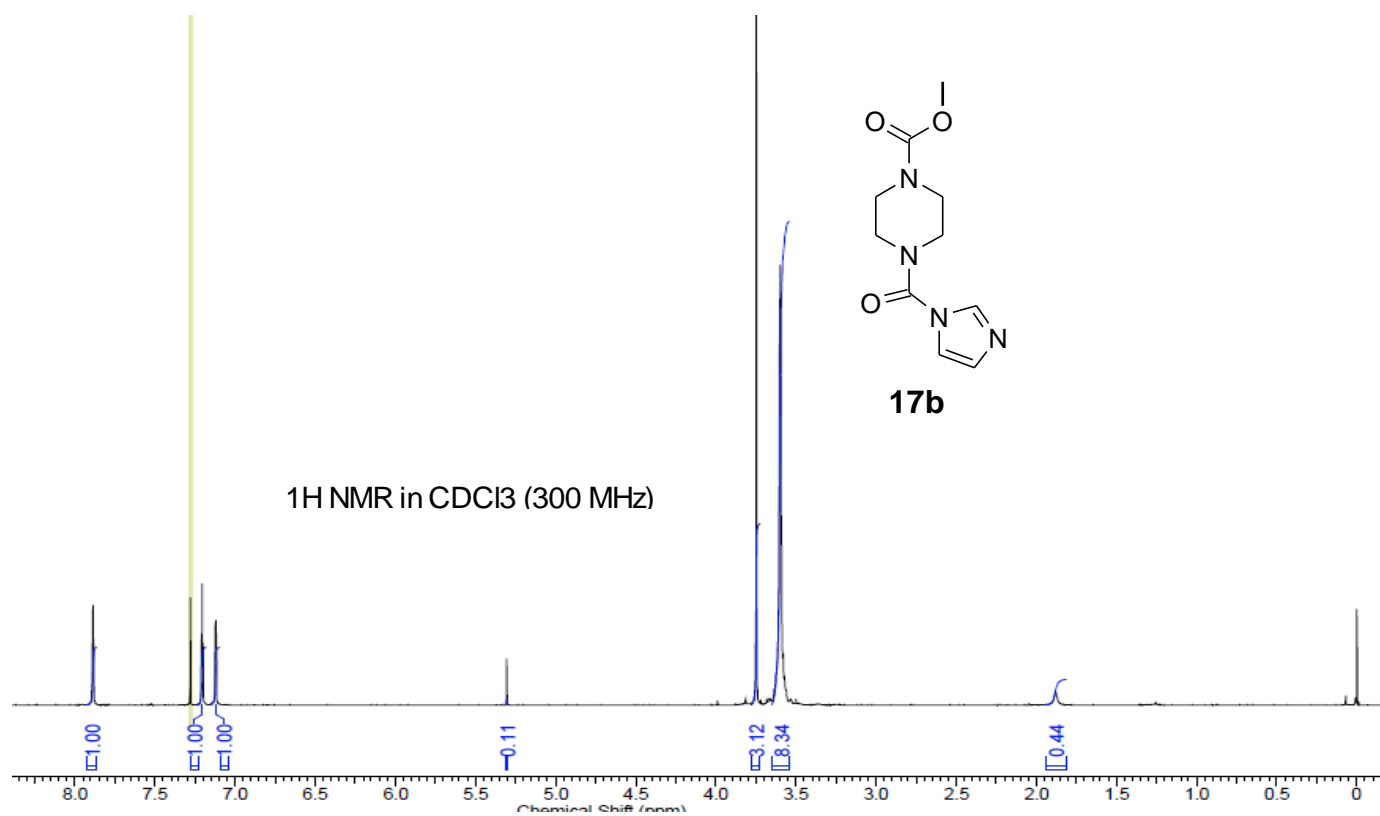
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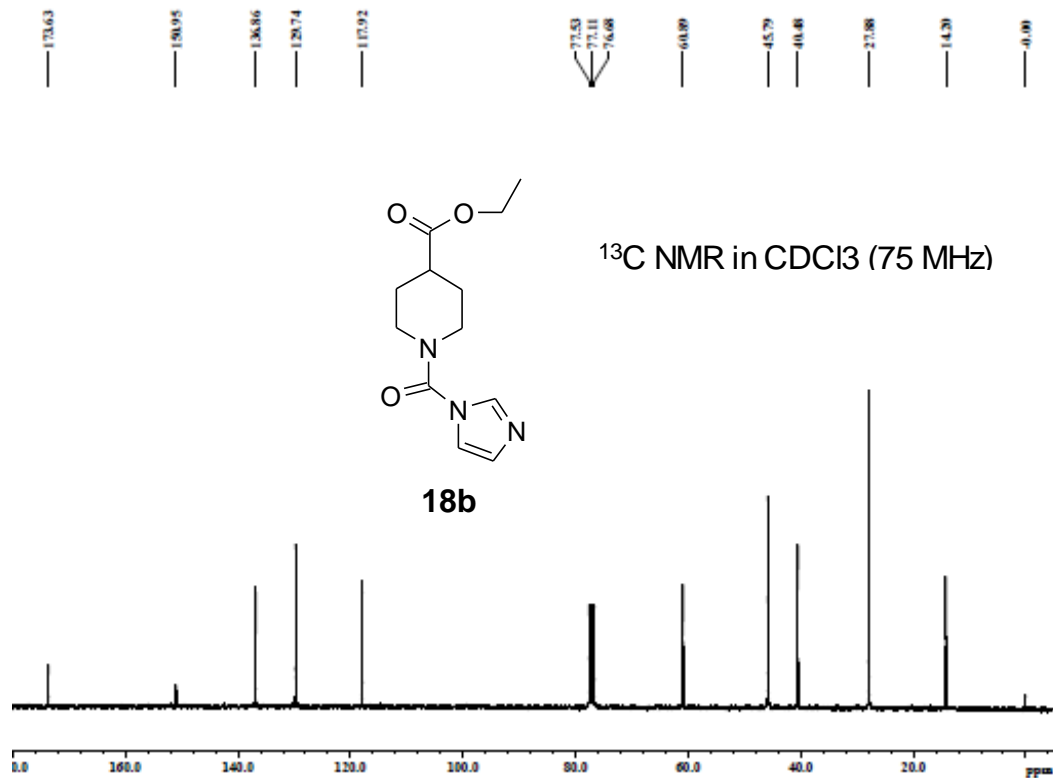
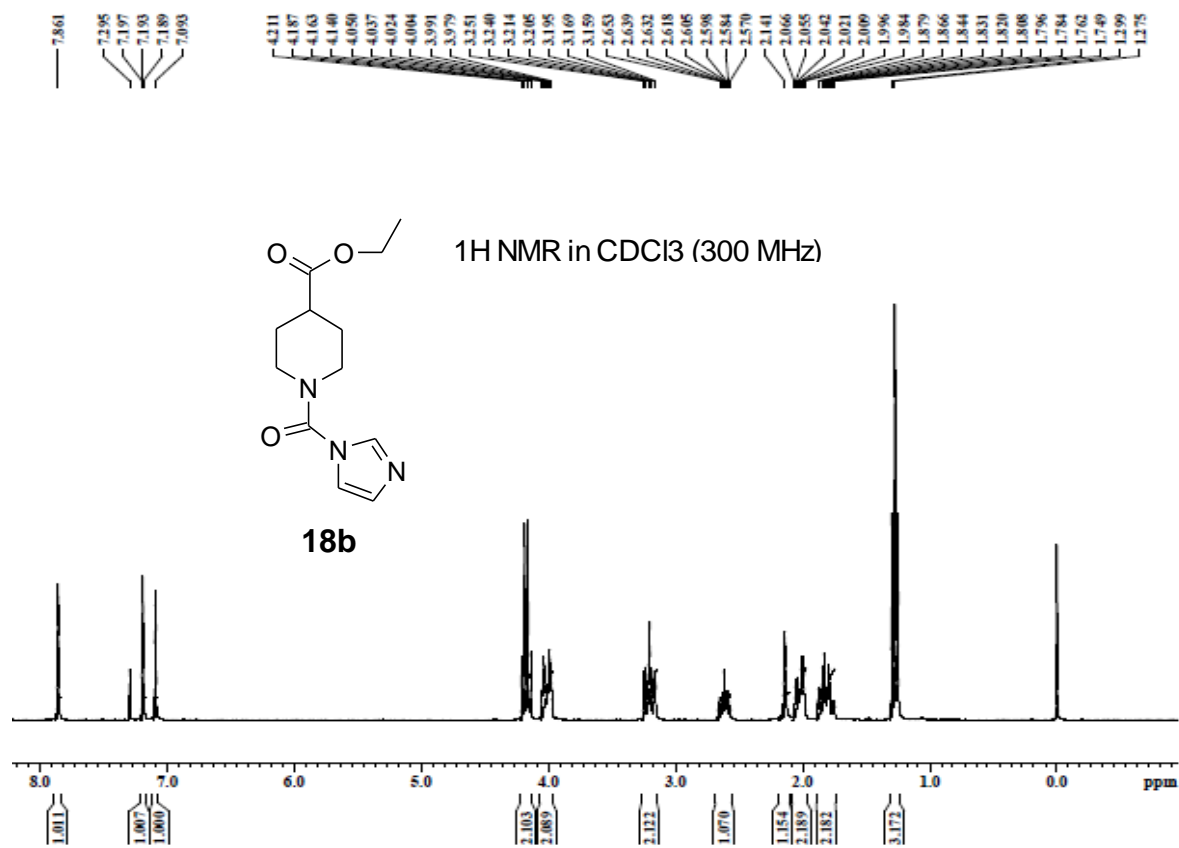


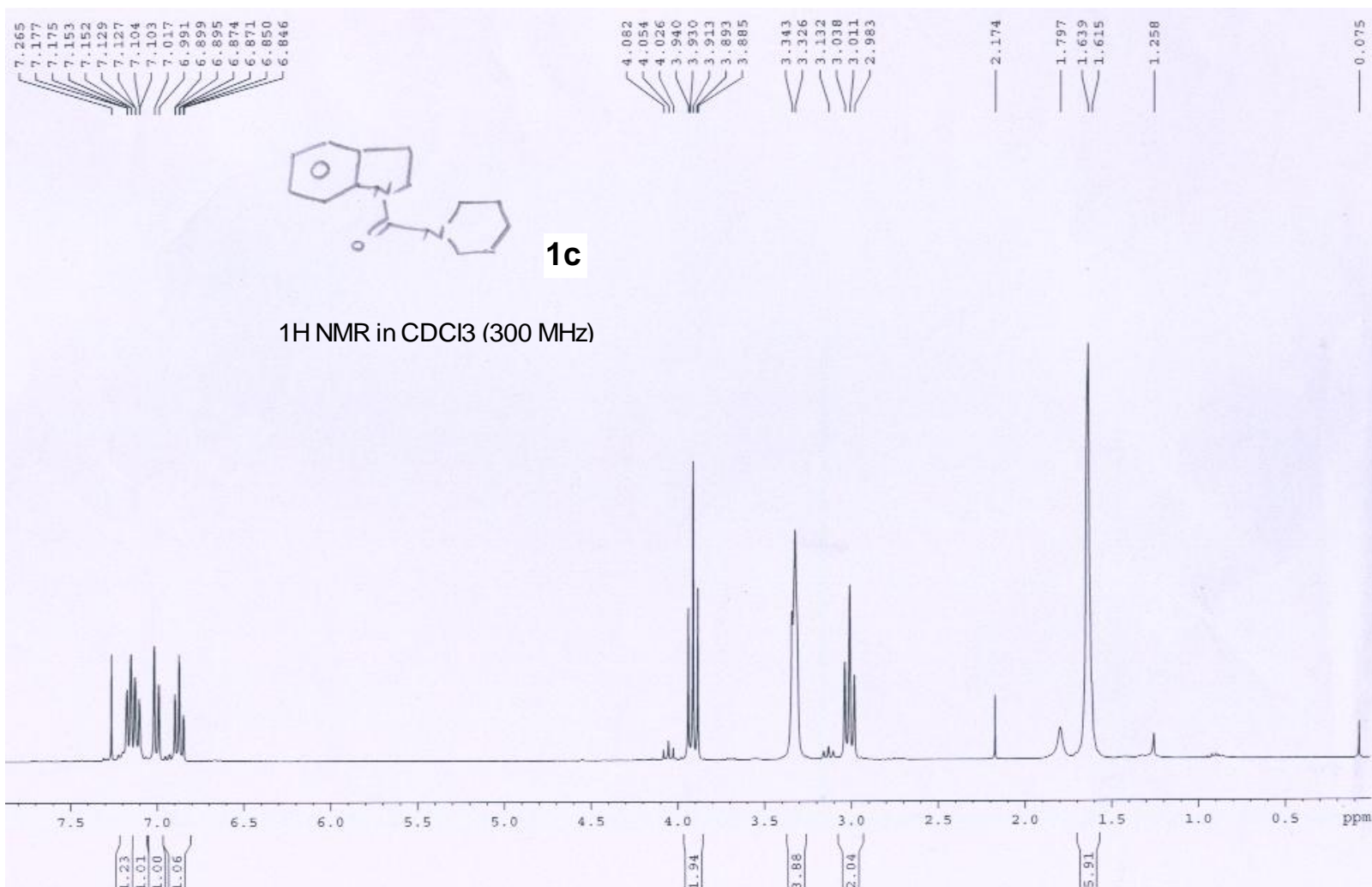
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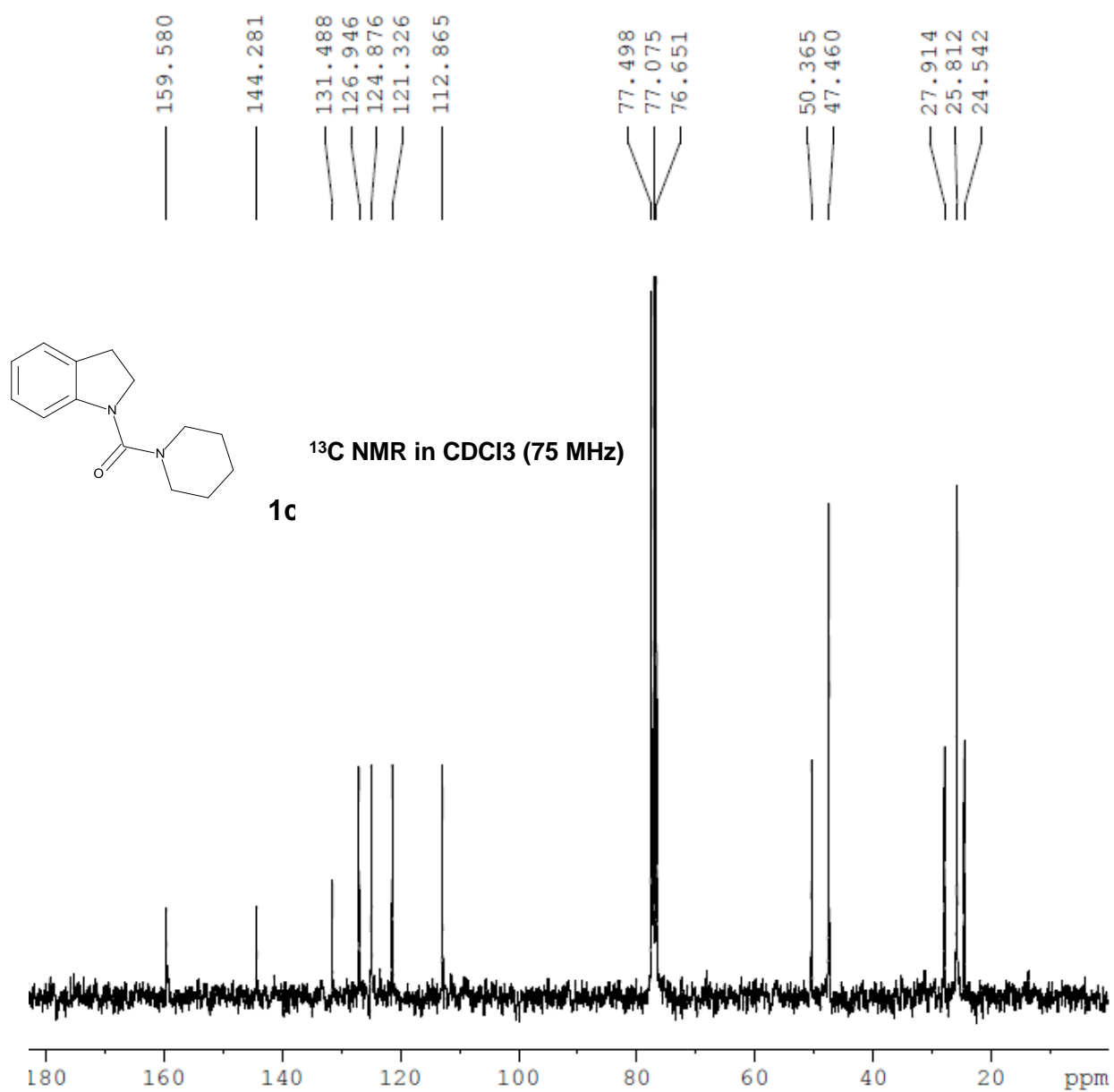
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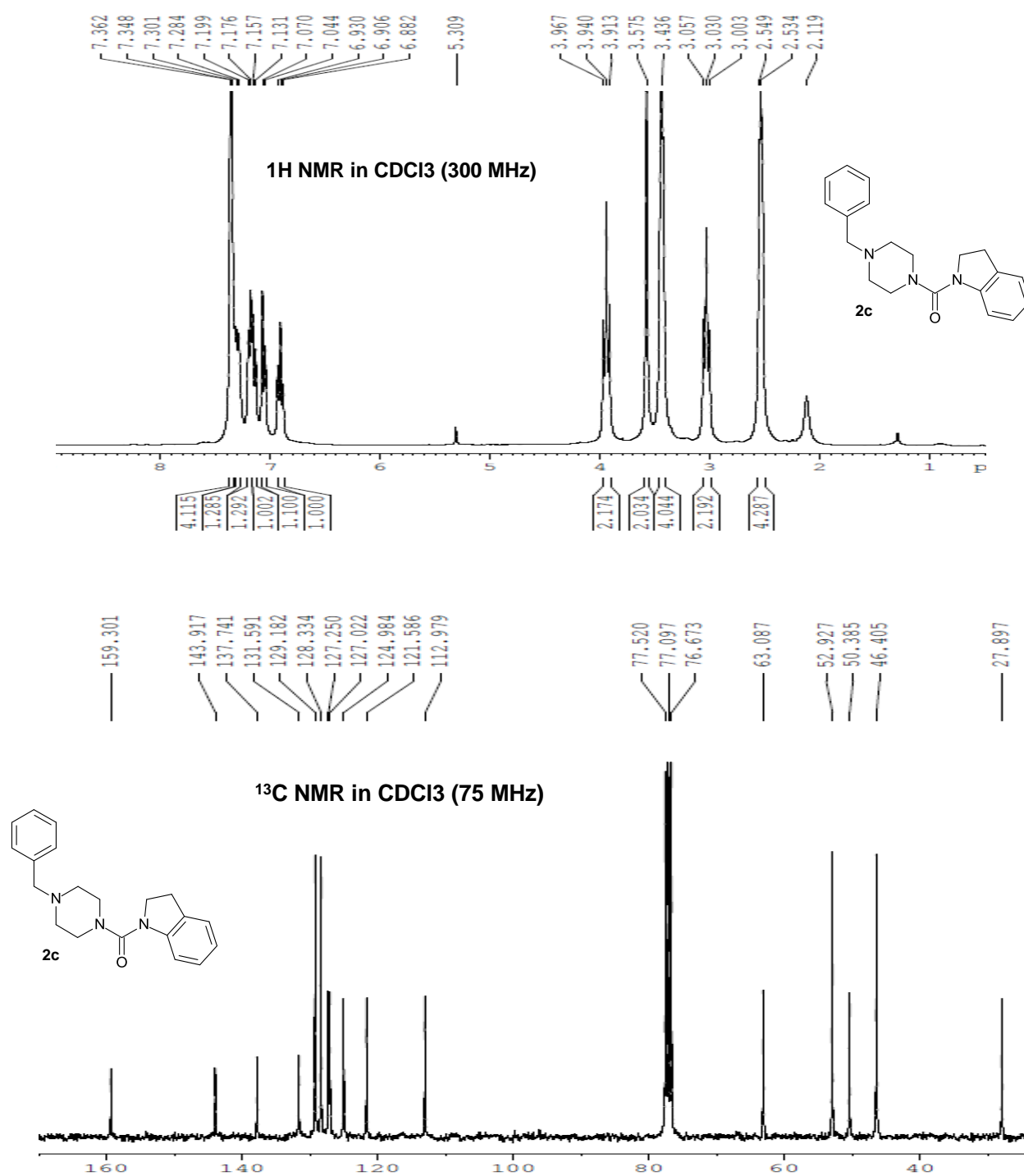


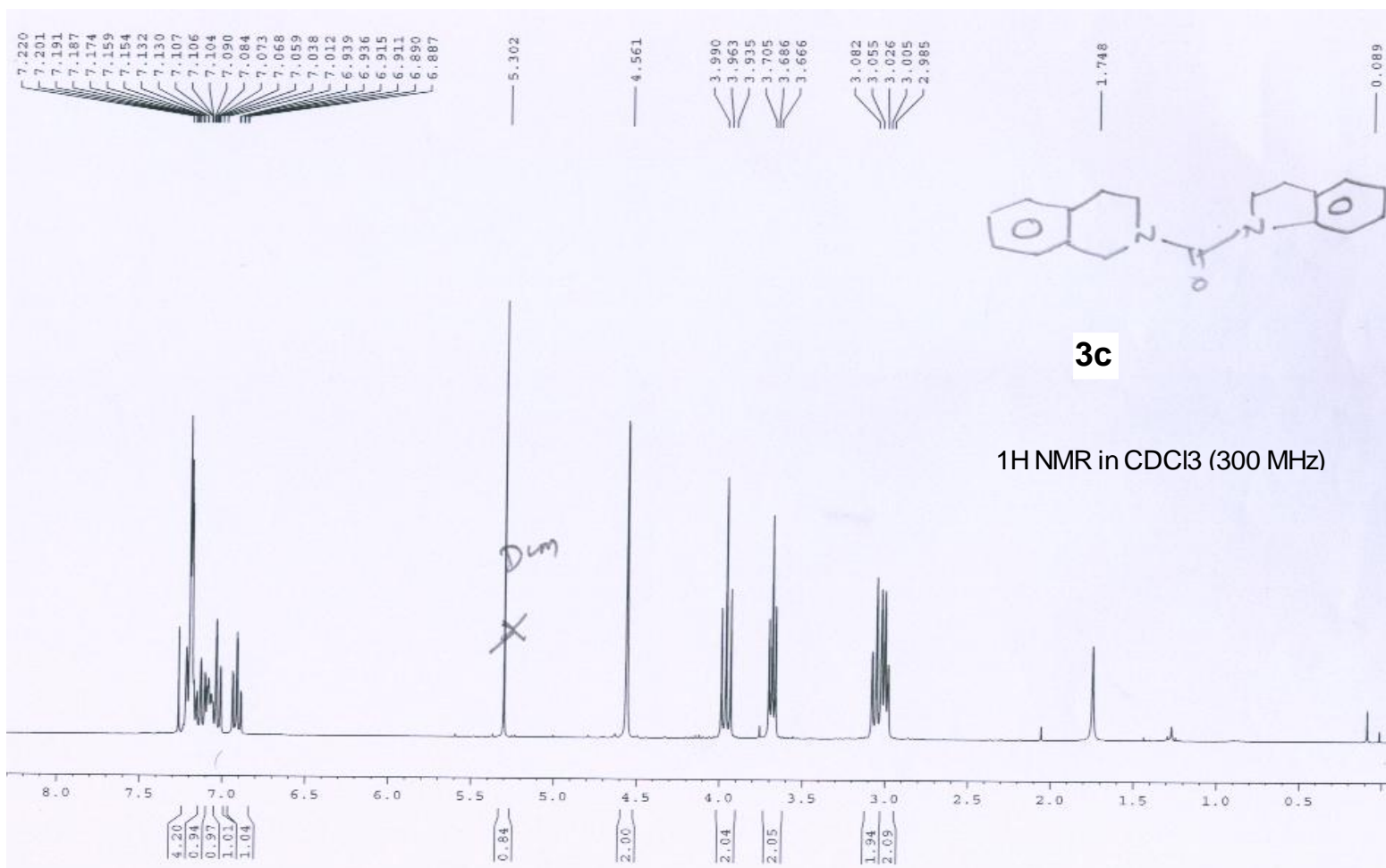


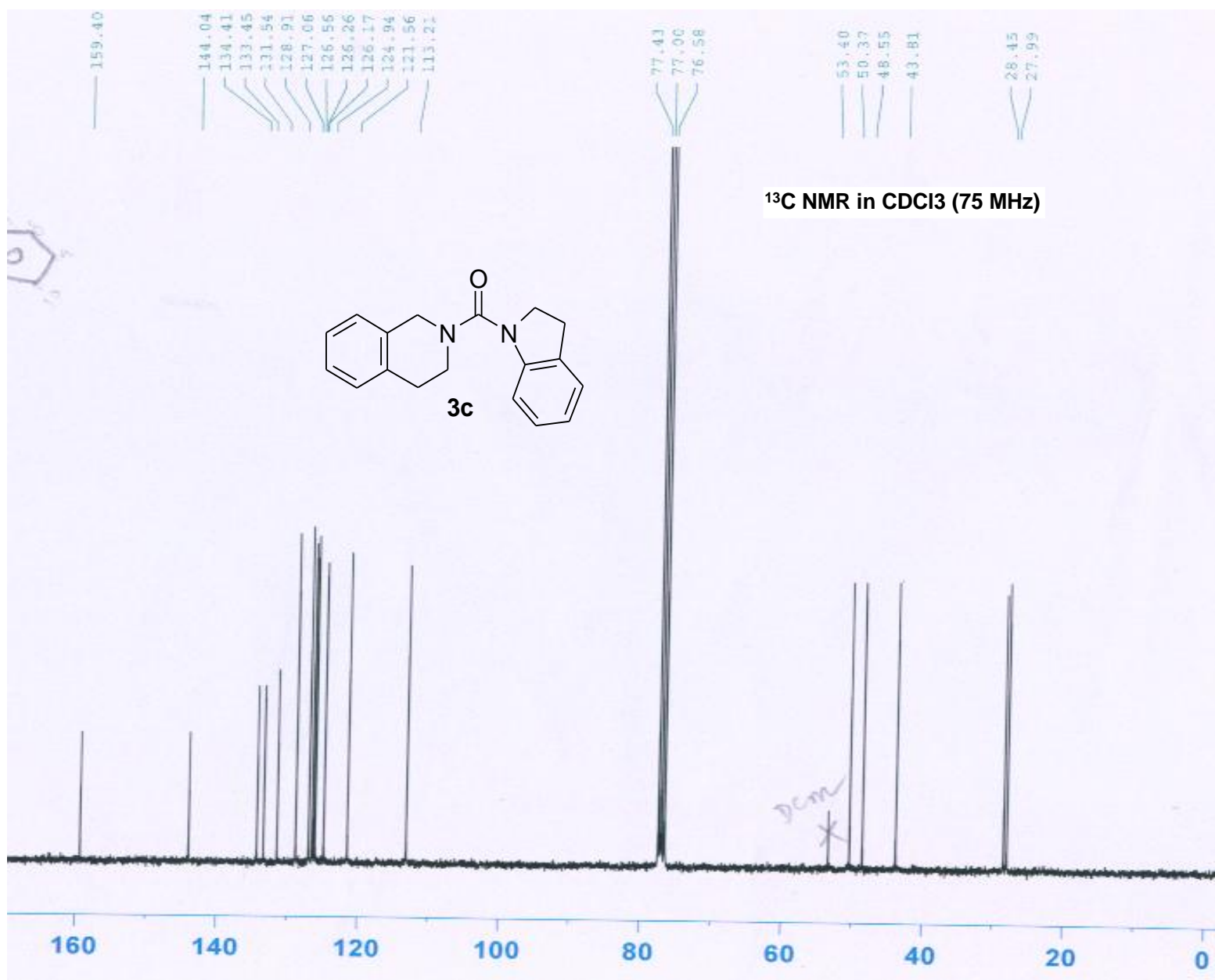


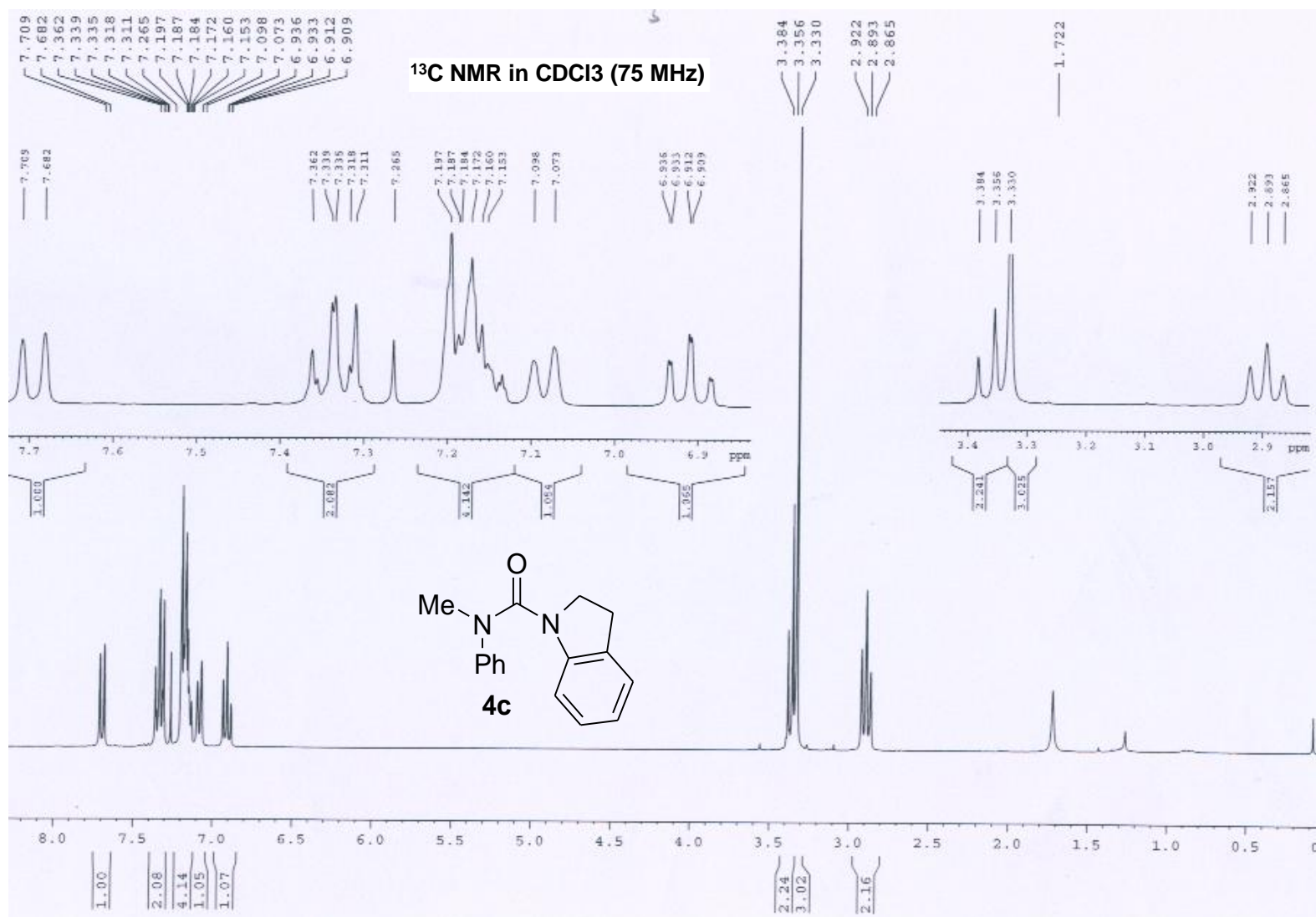


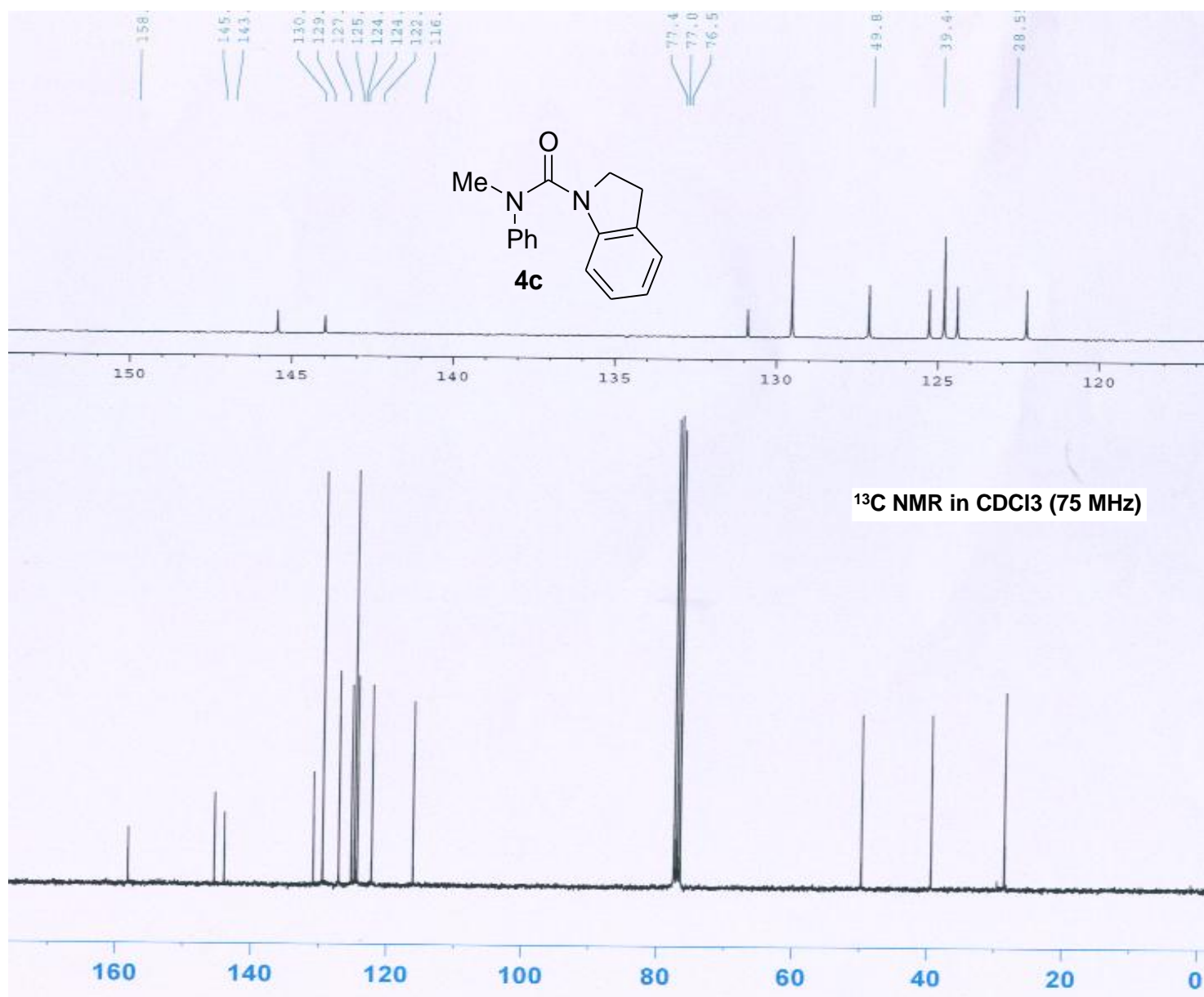


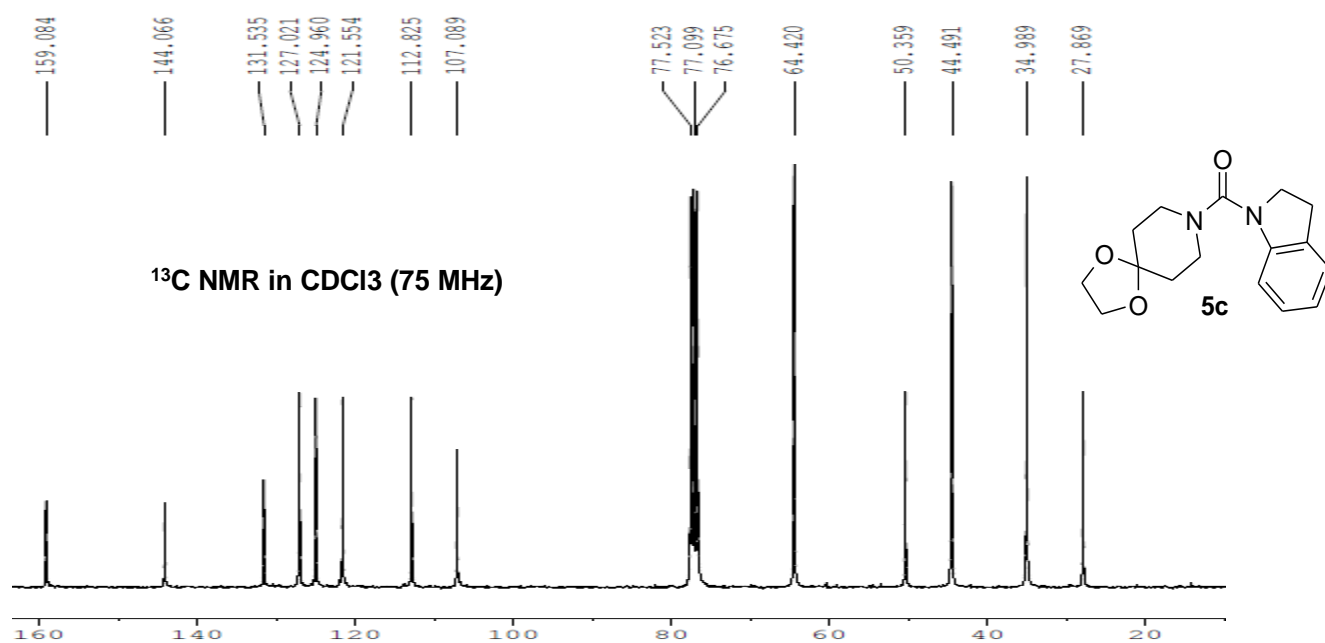
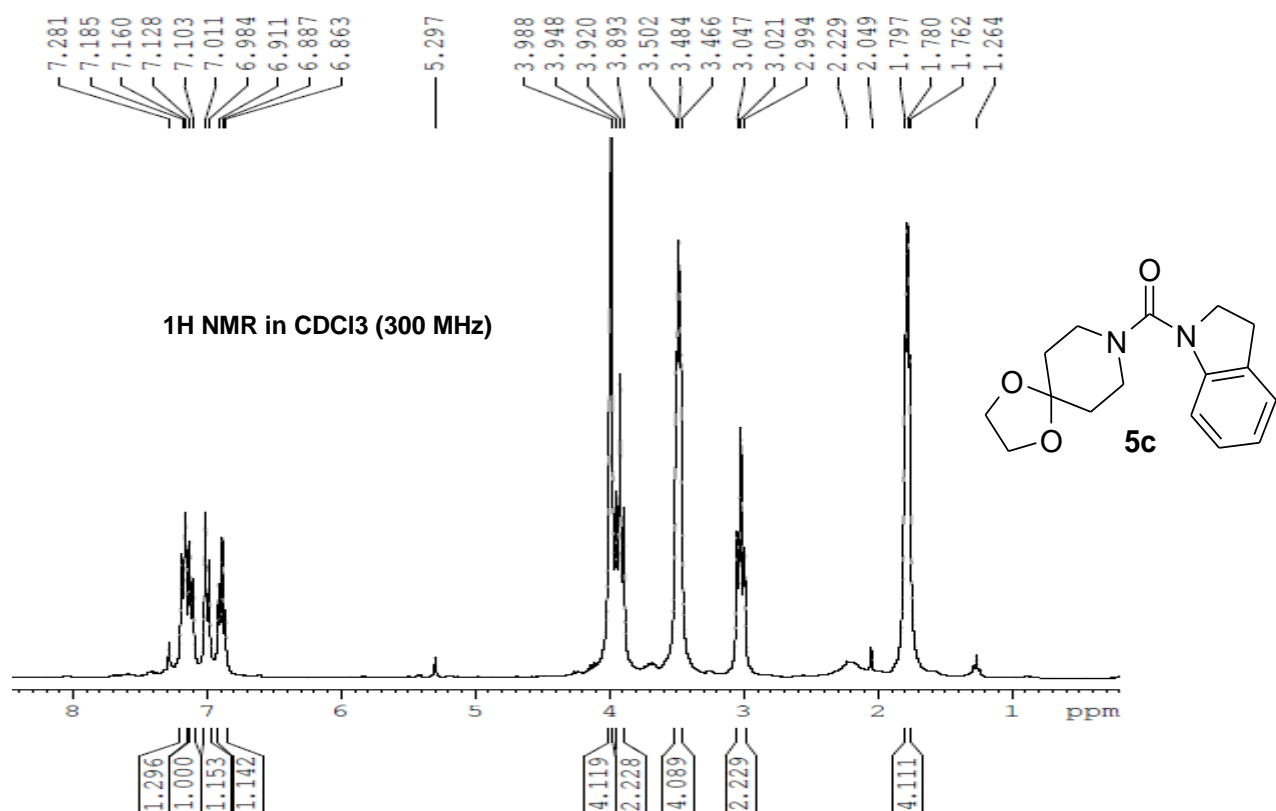


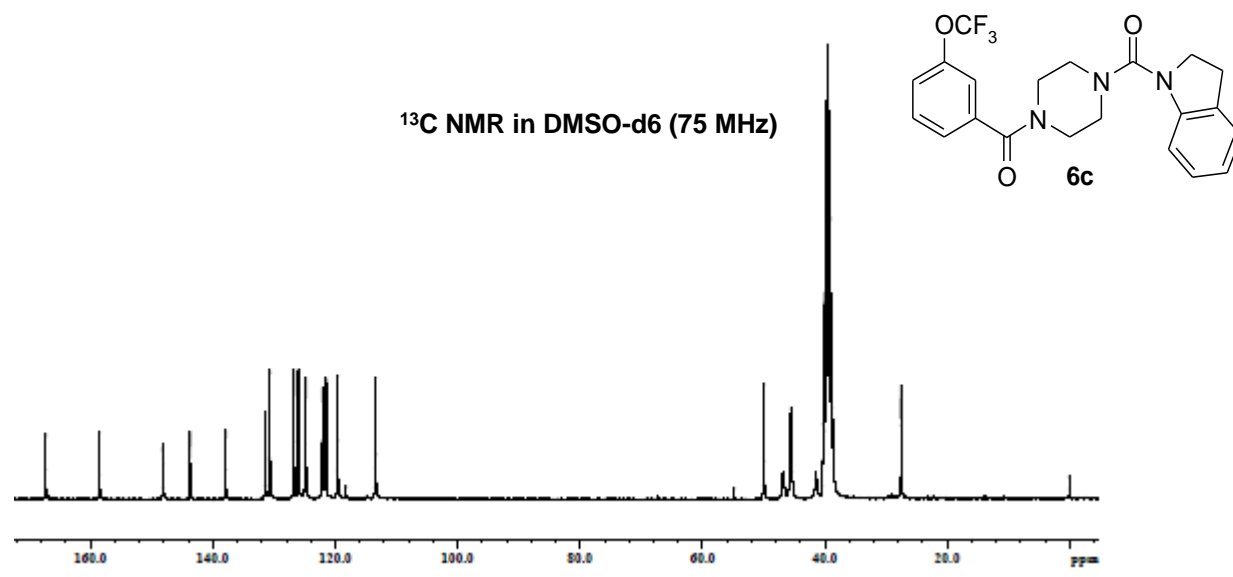
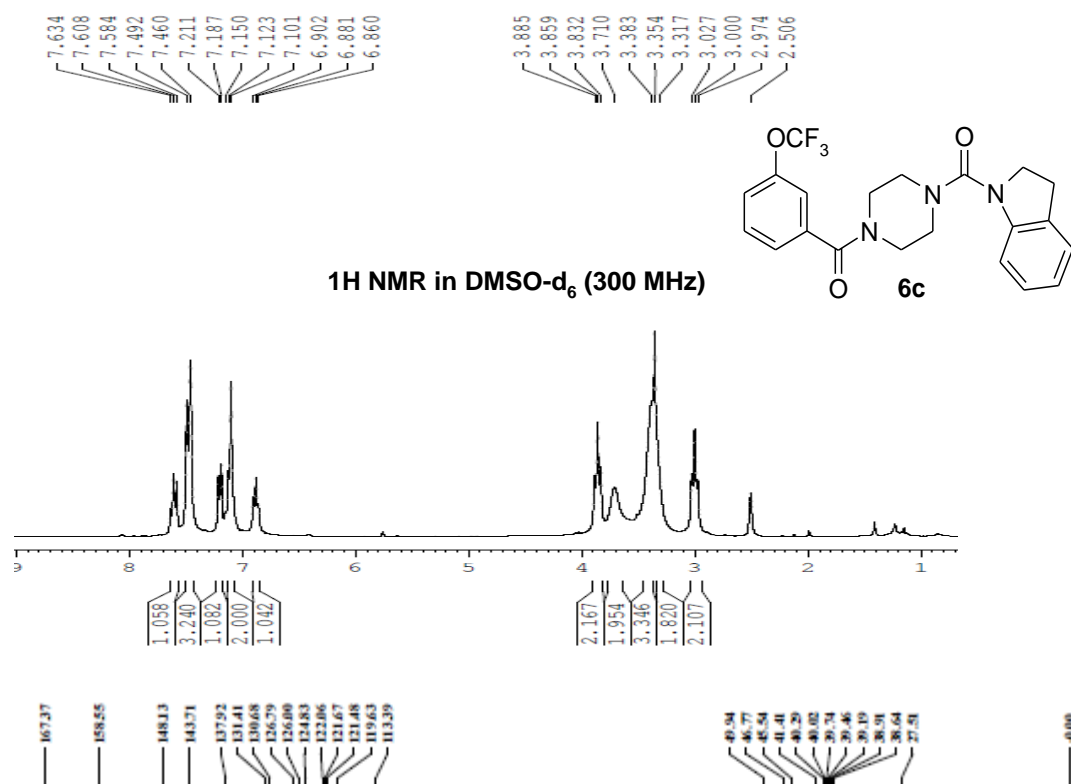


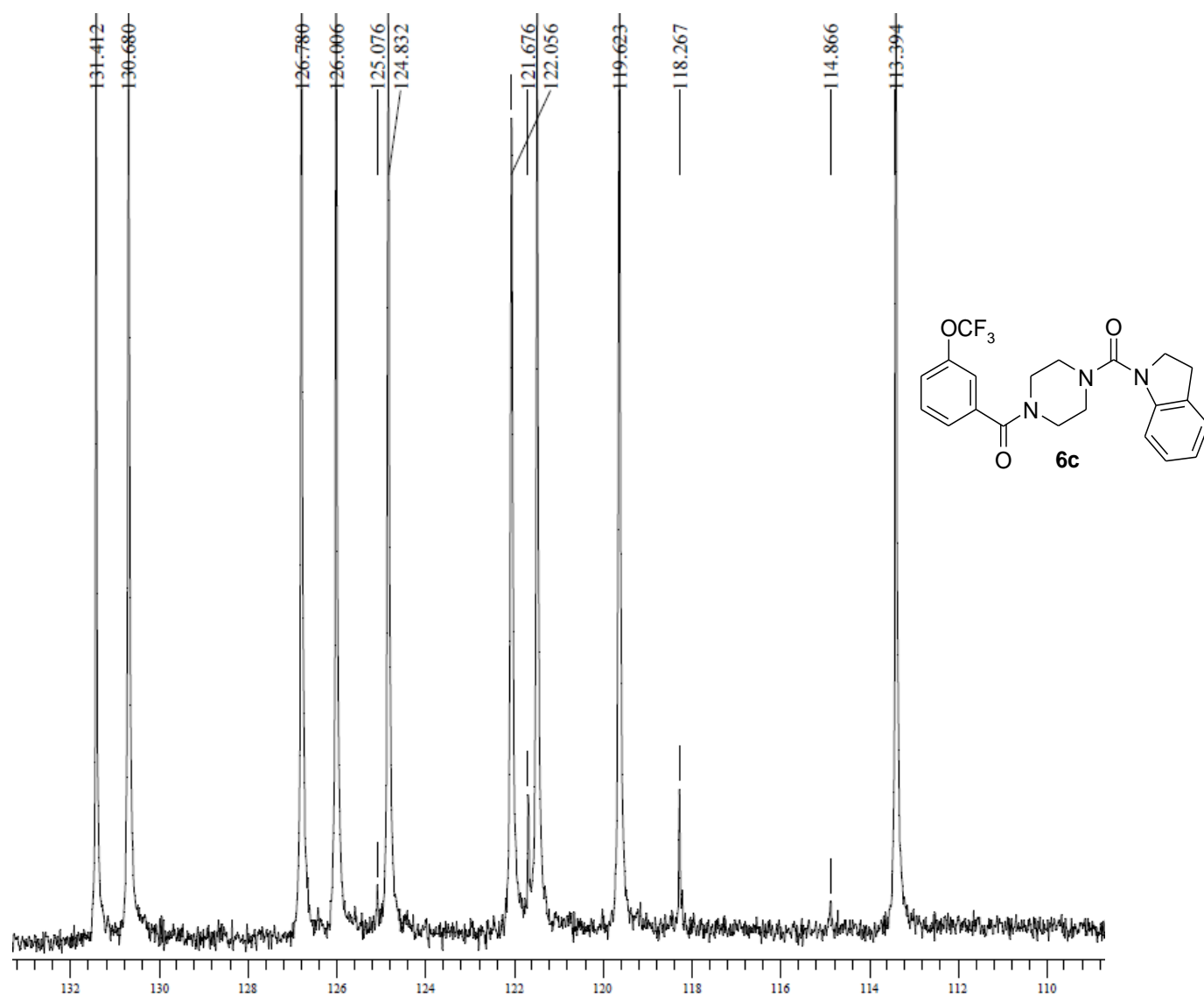


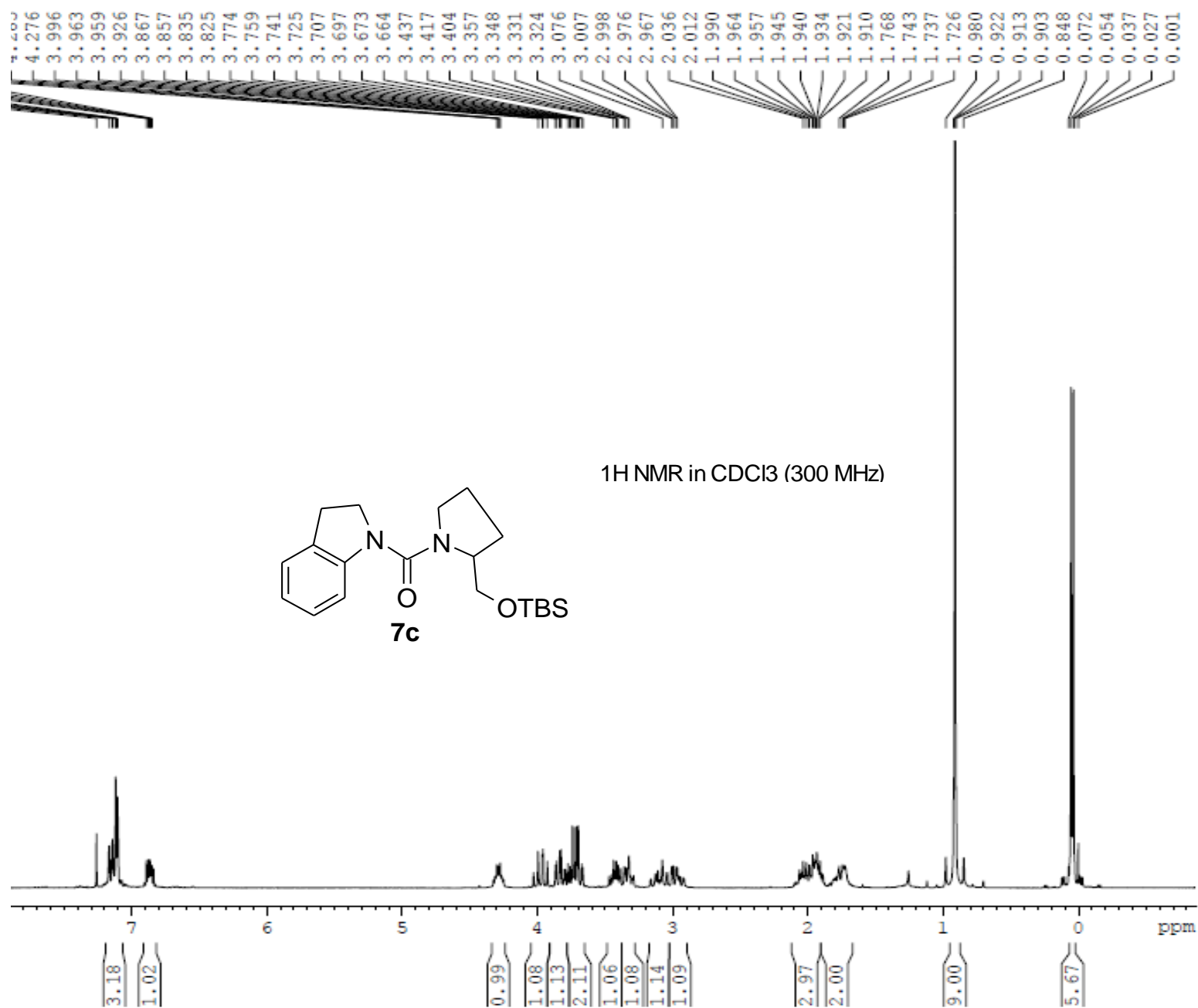


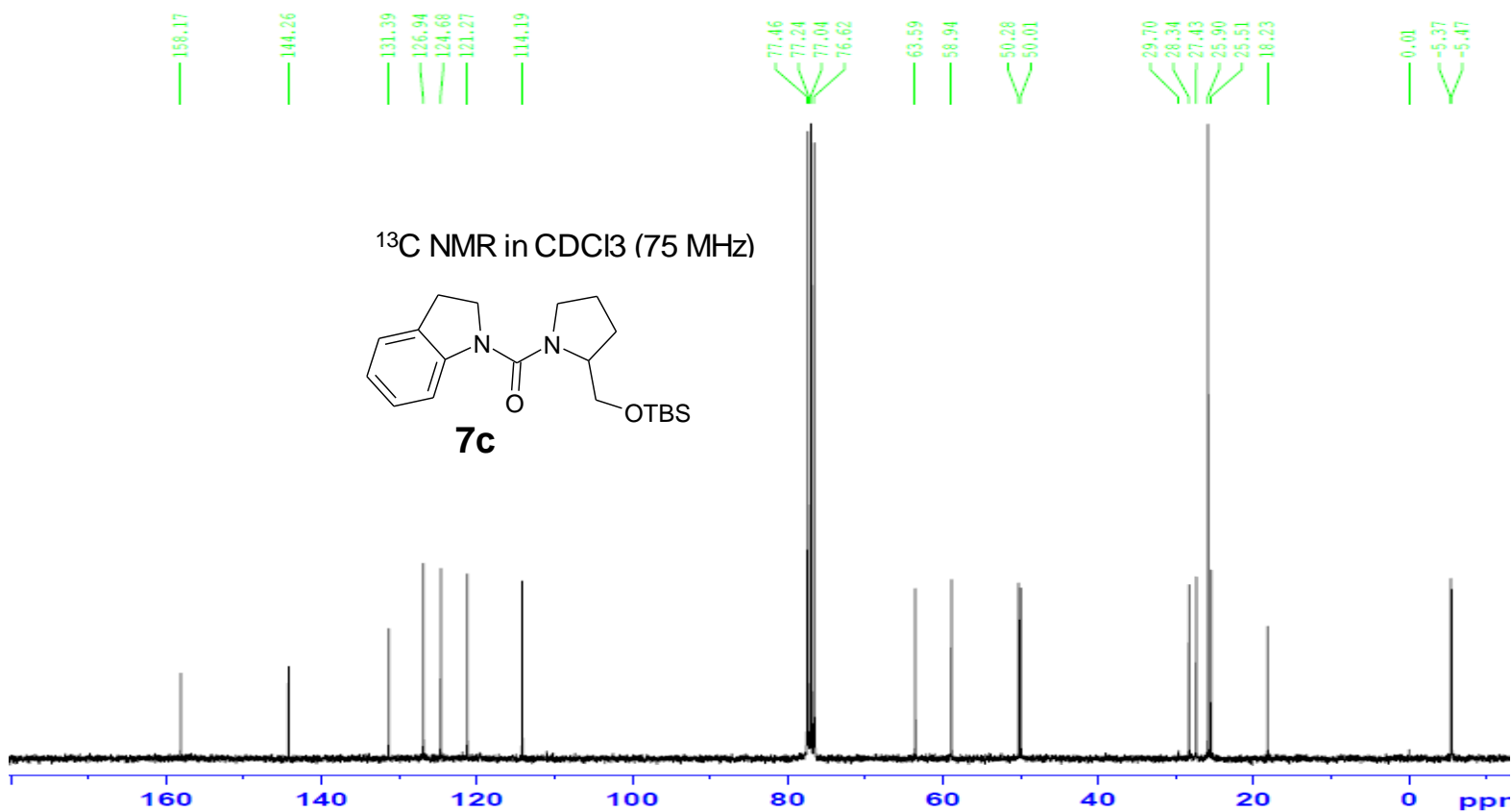


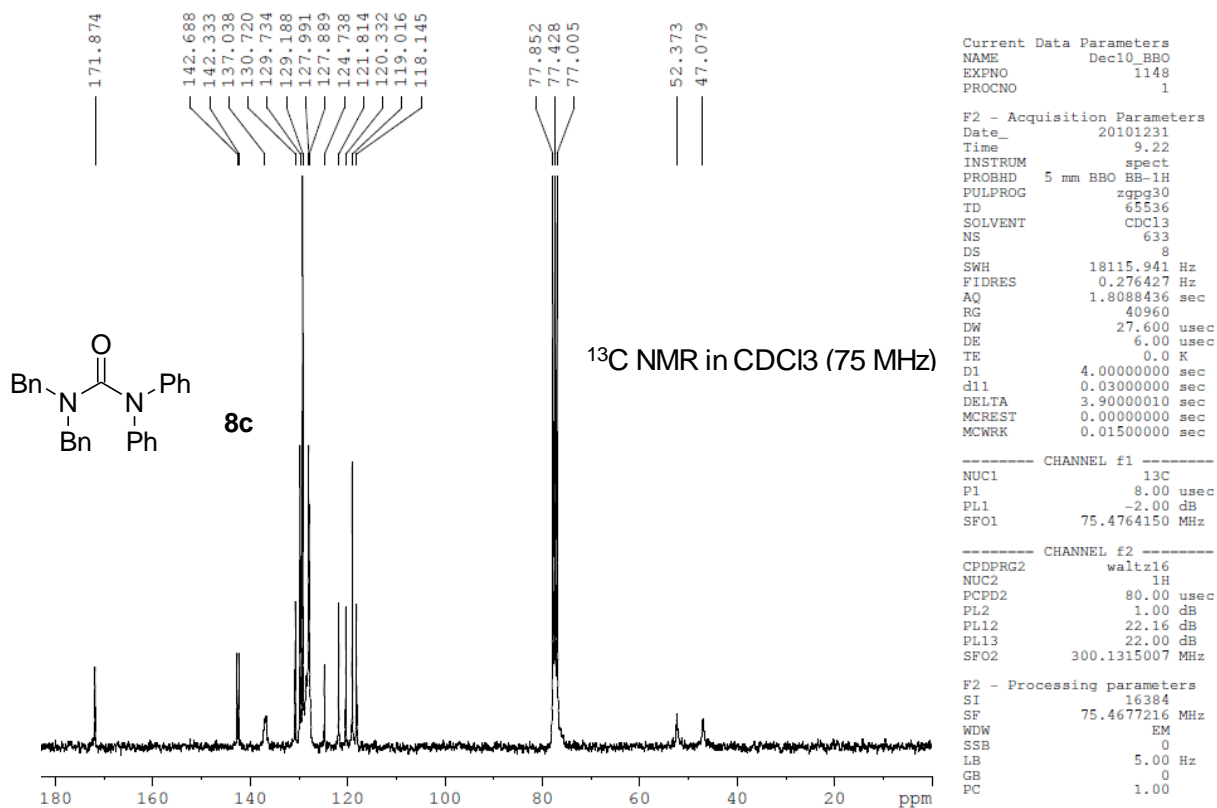
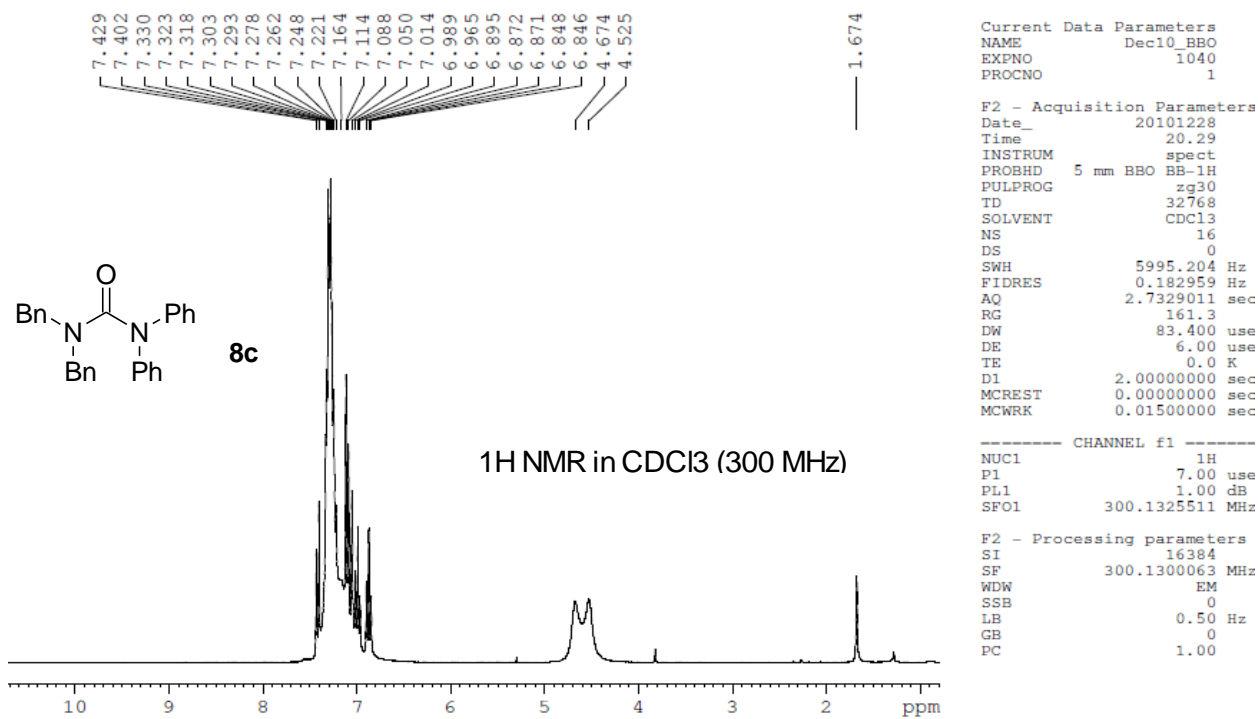


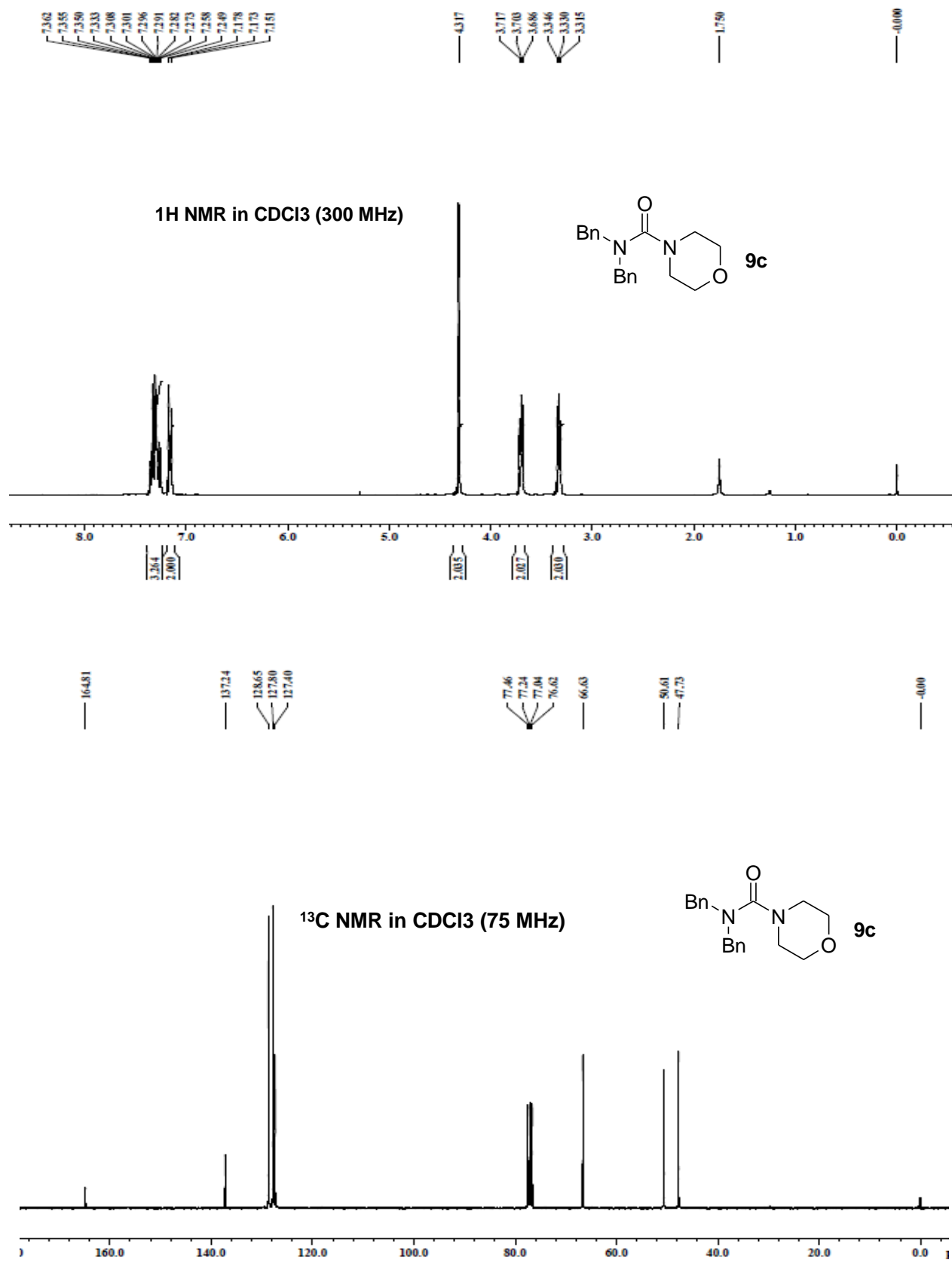


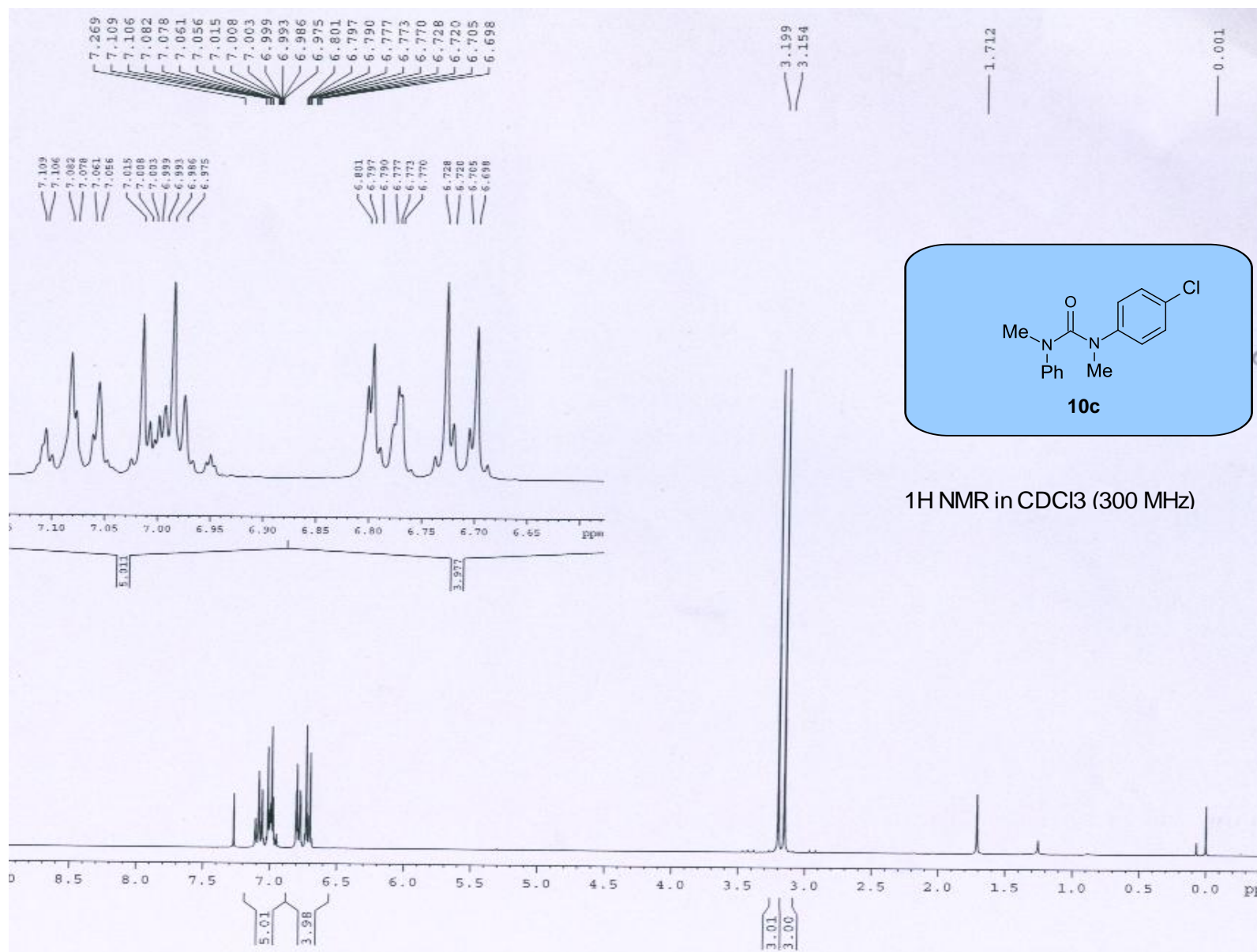




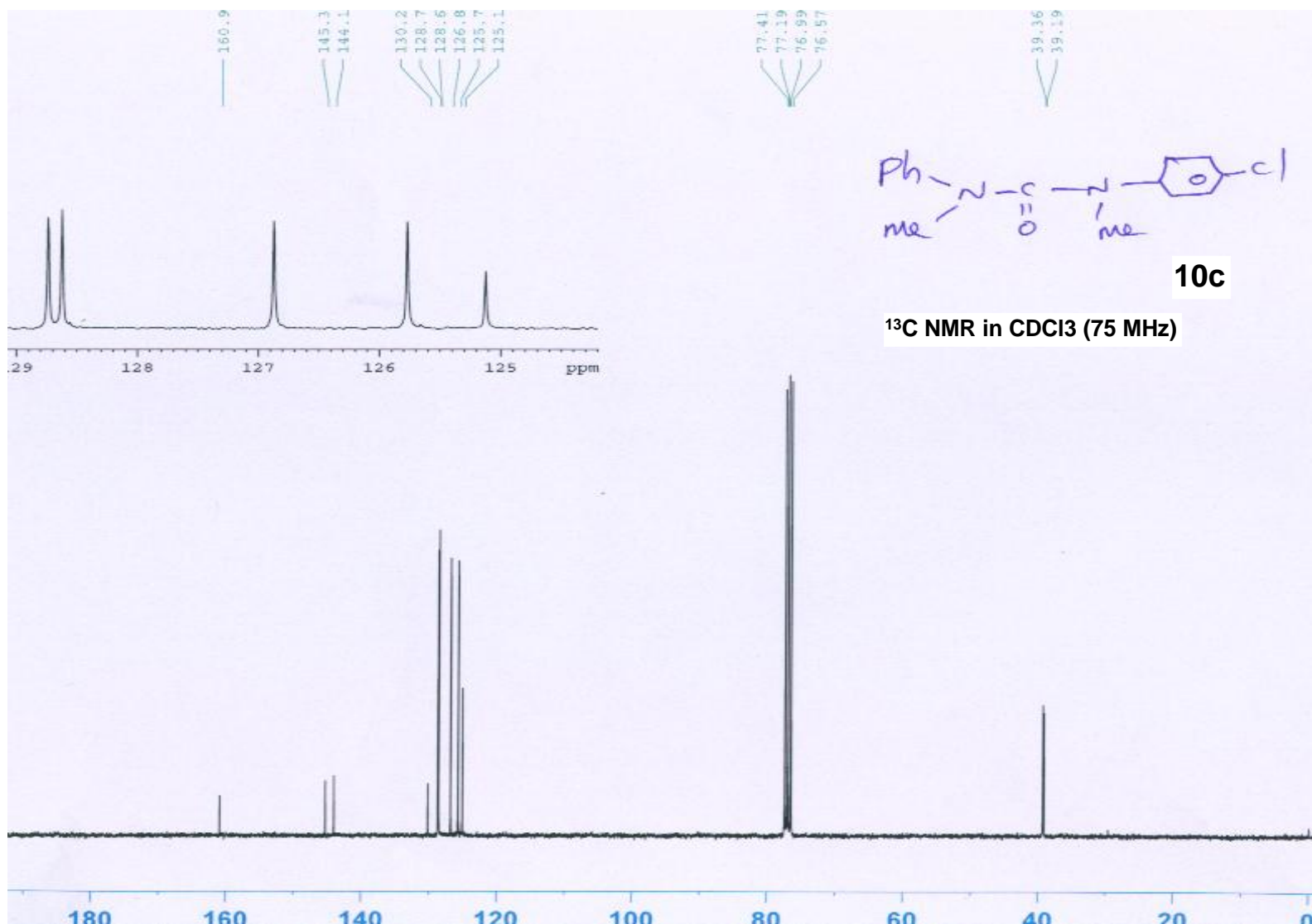


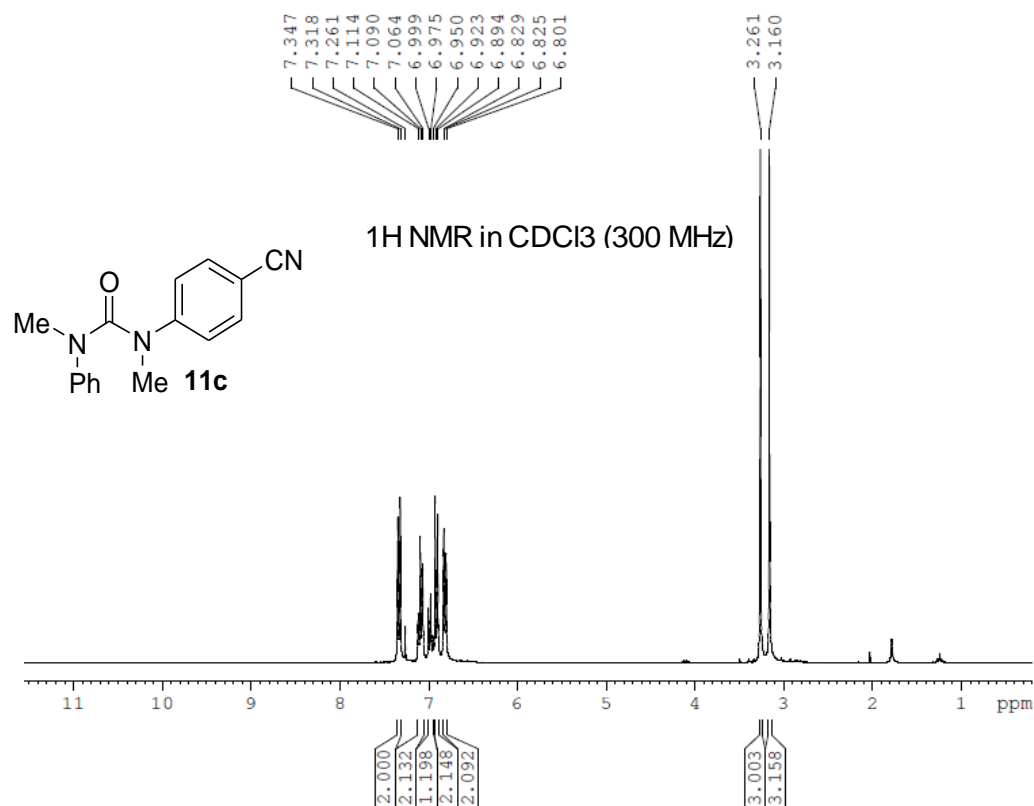






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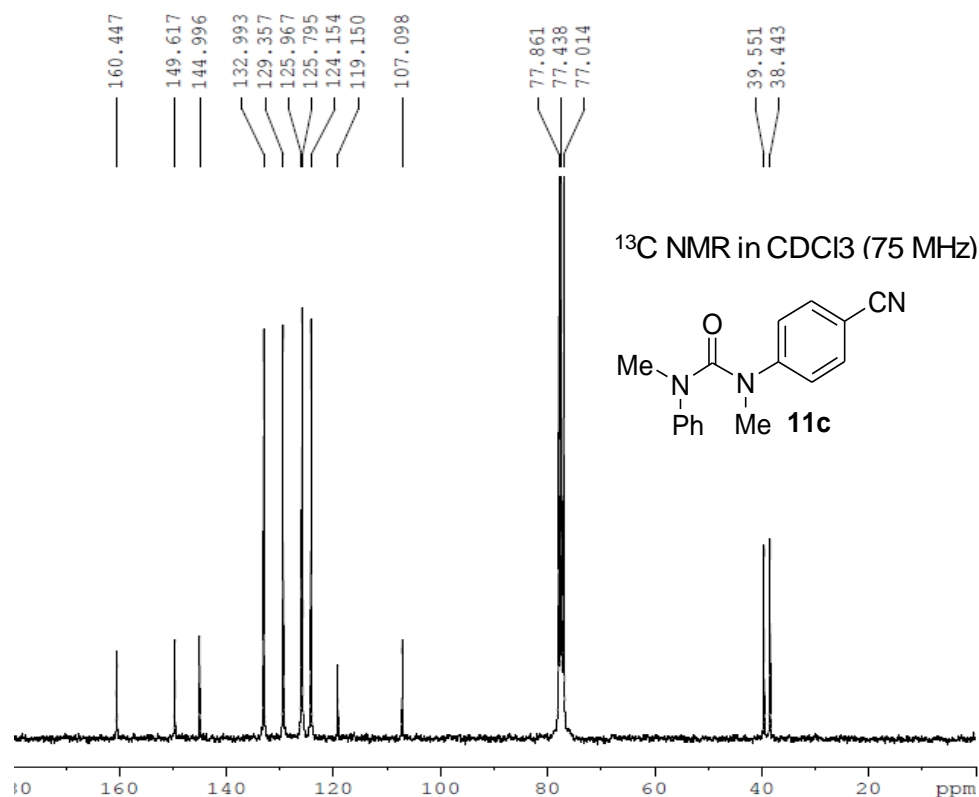


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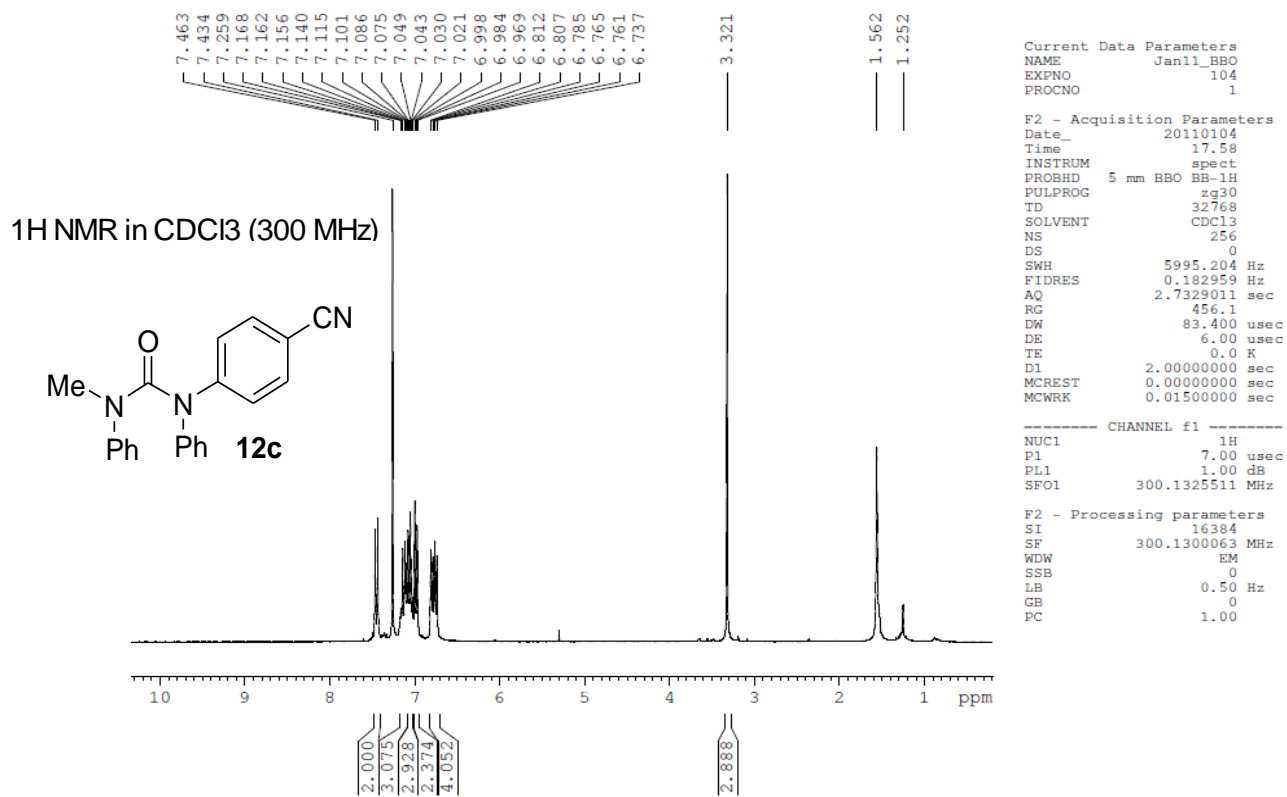
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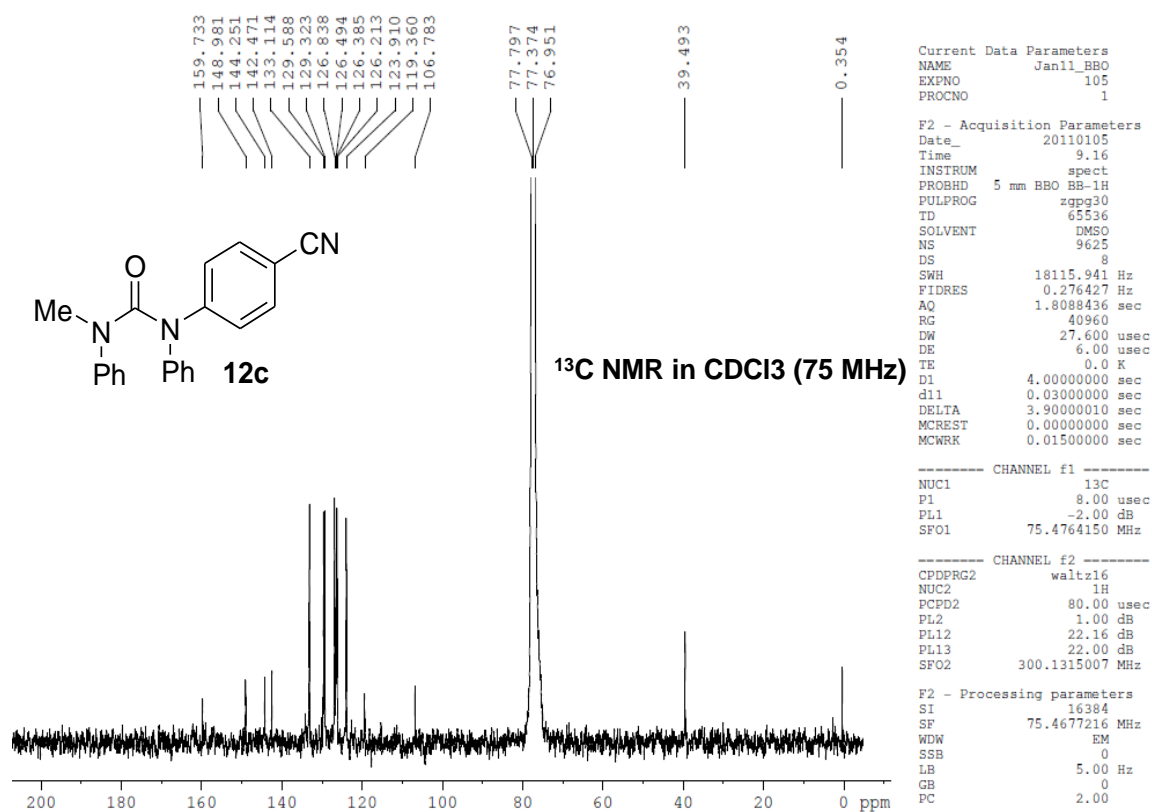
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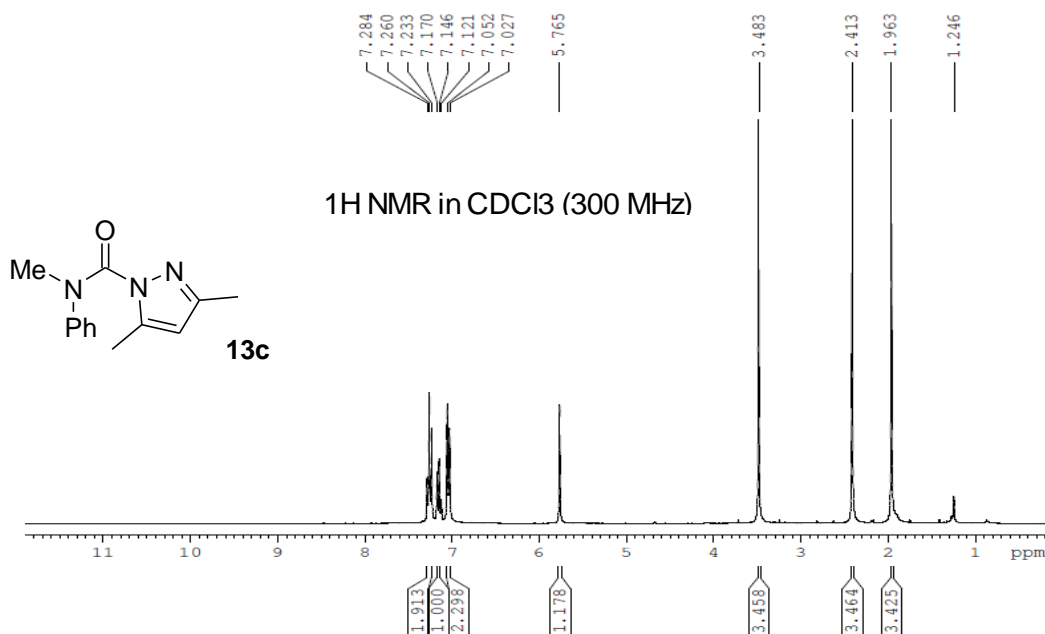
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PL13 22.00 dB
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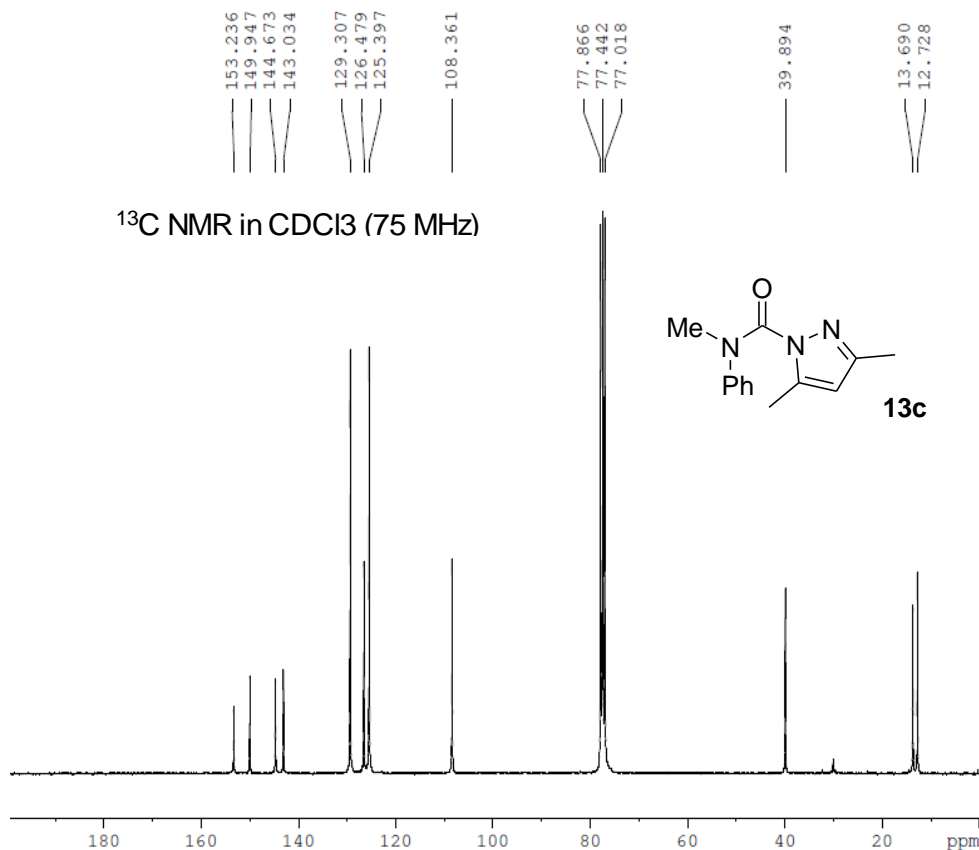


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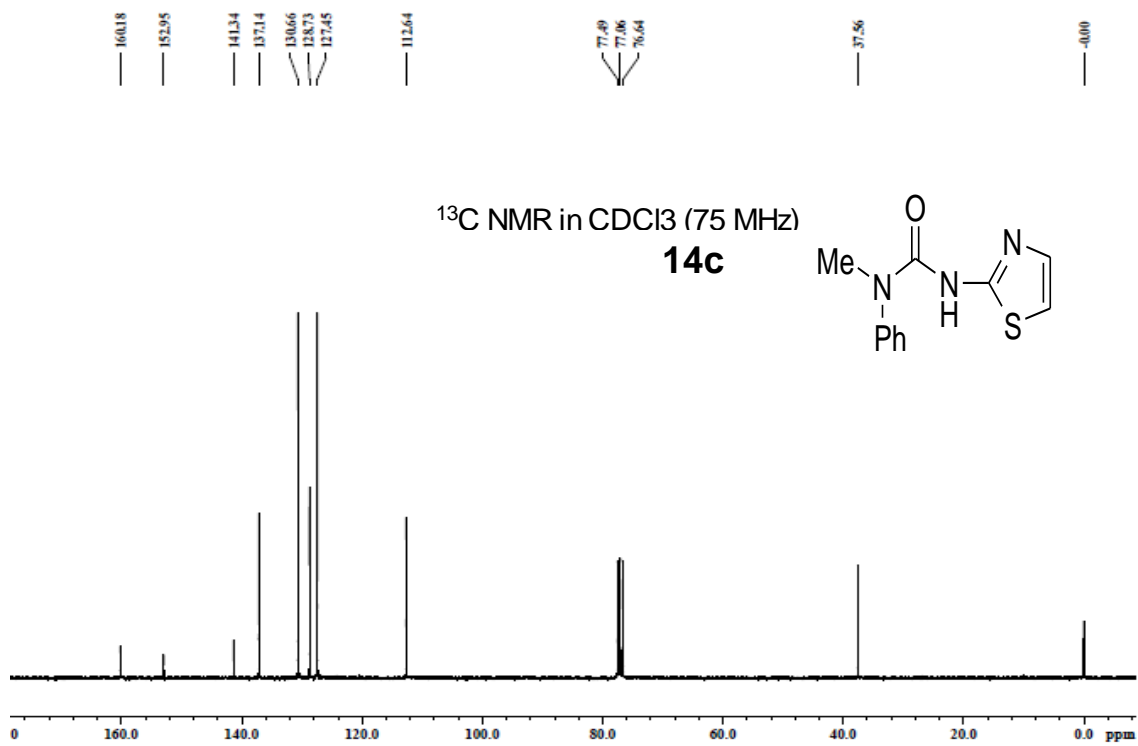
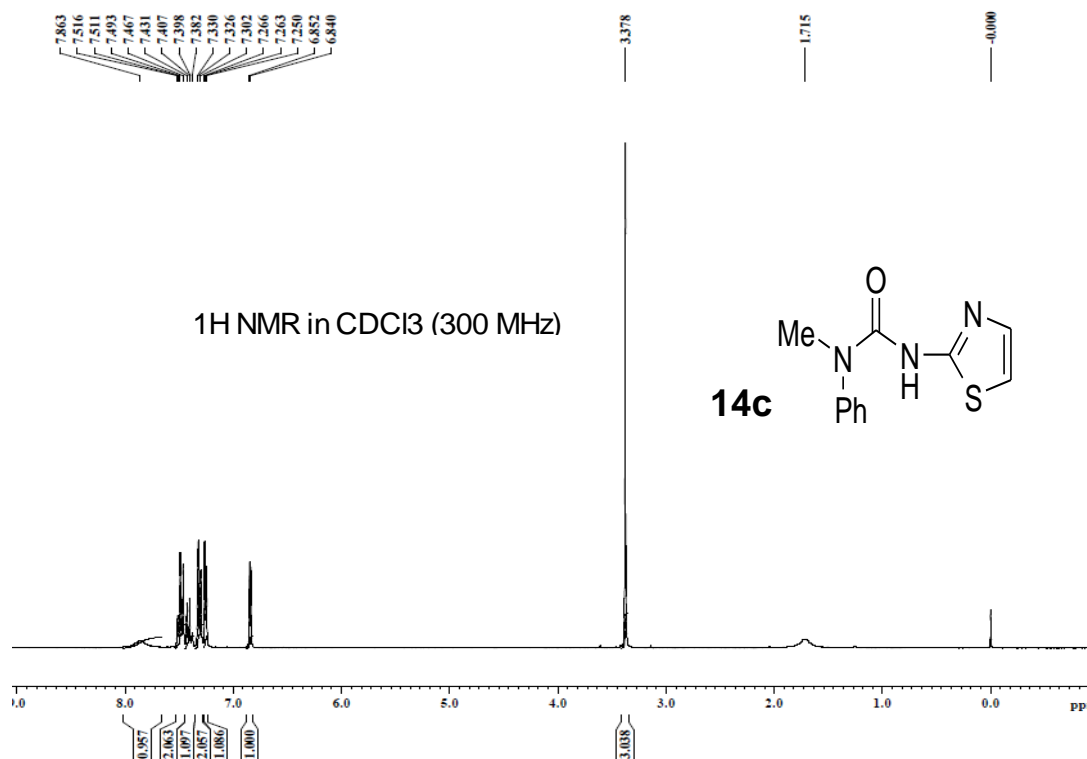
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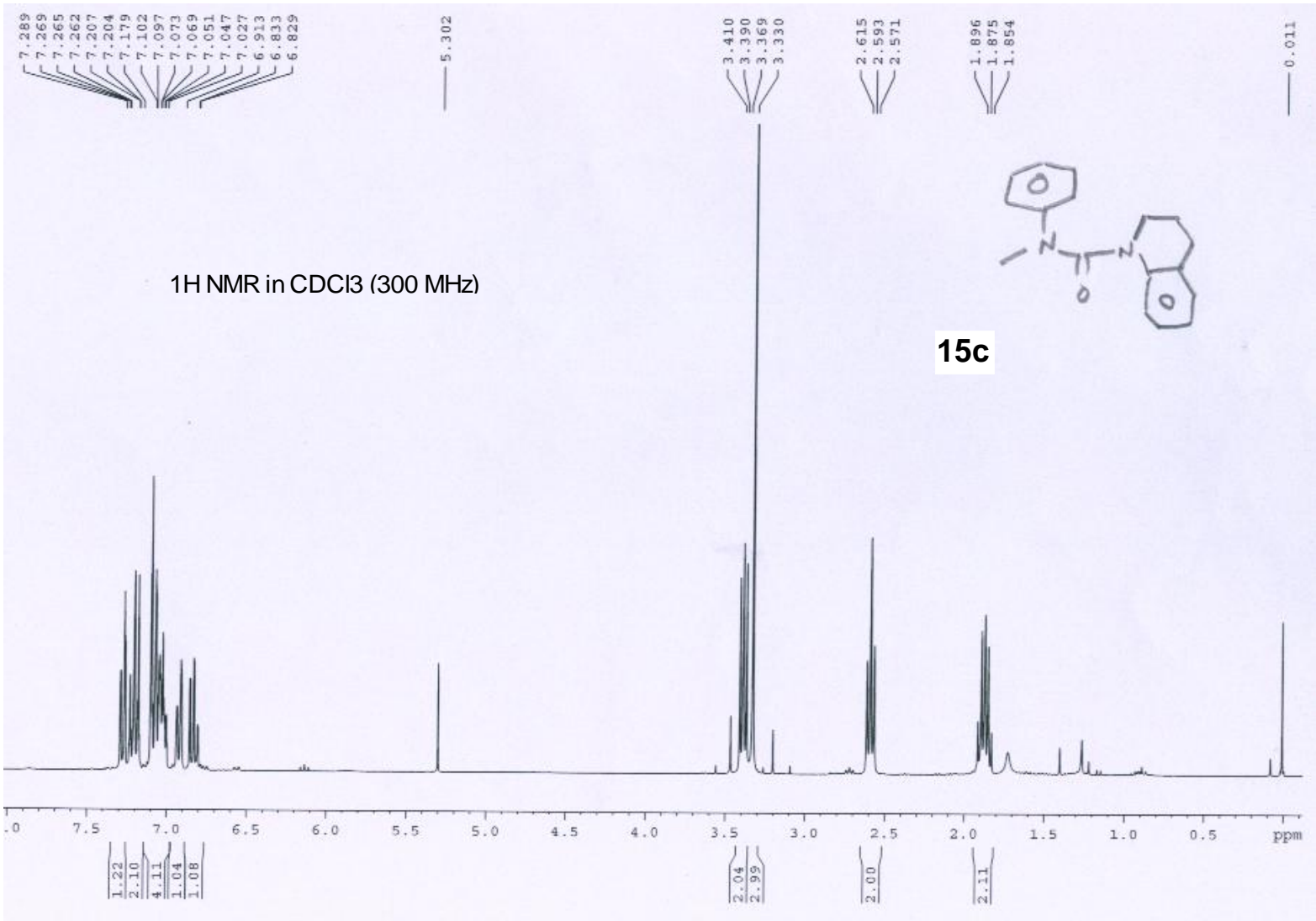
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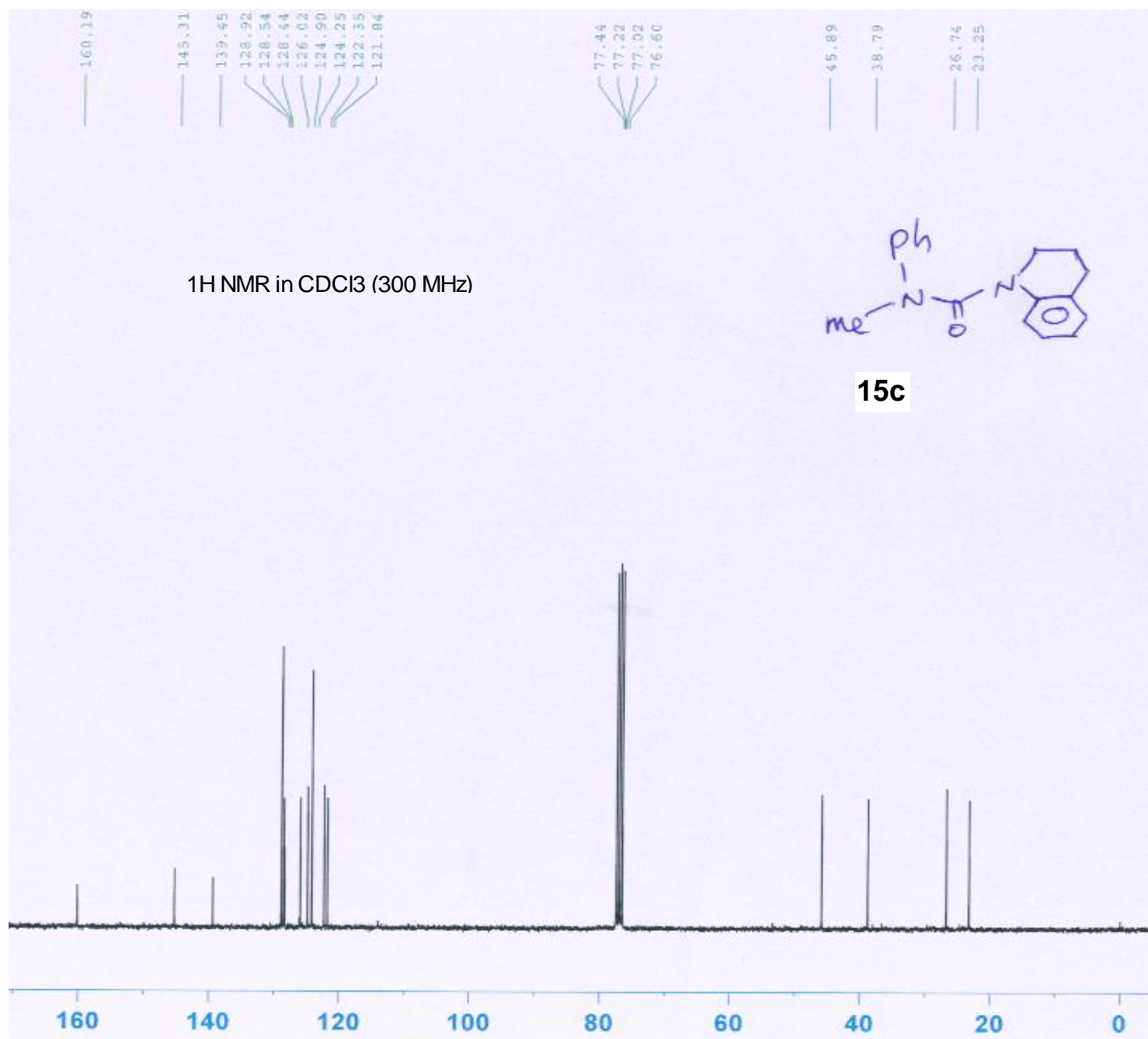
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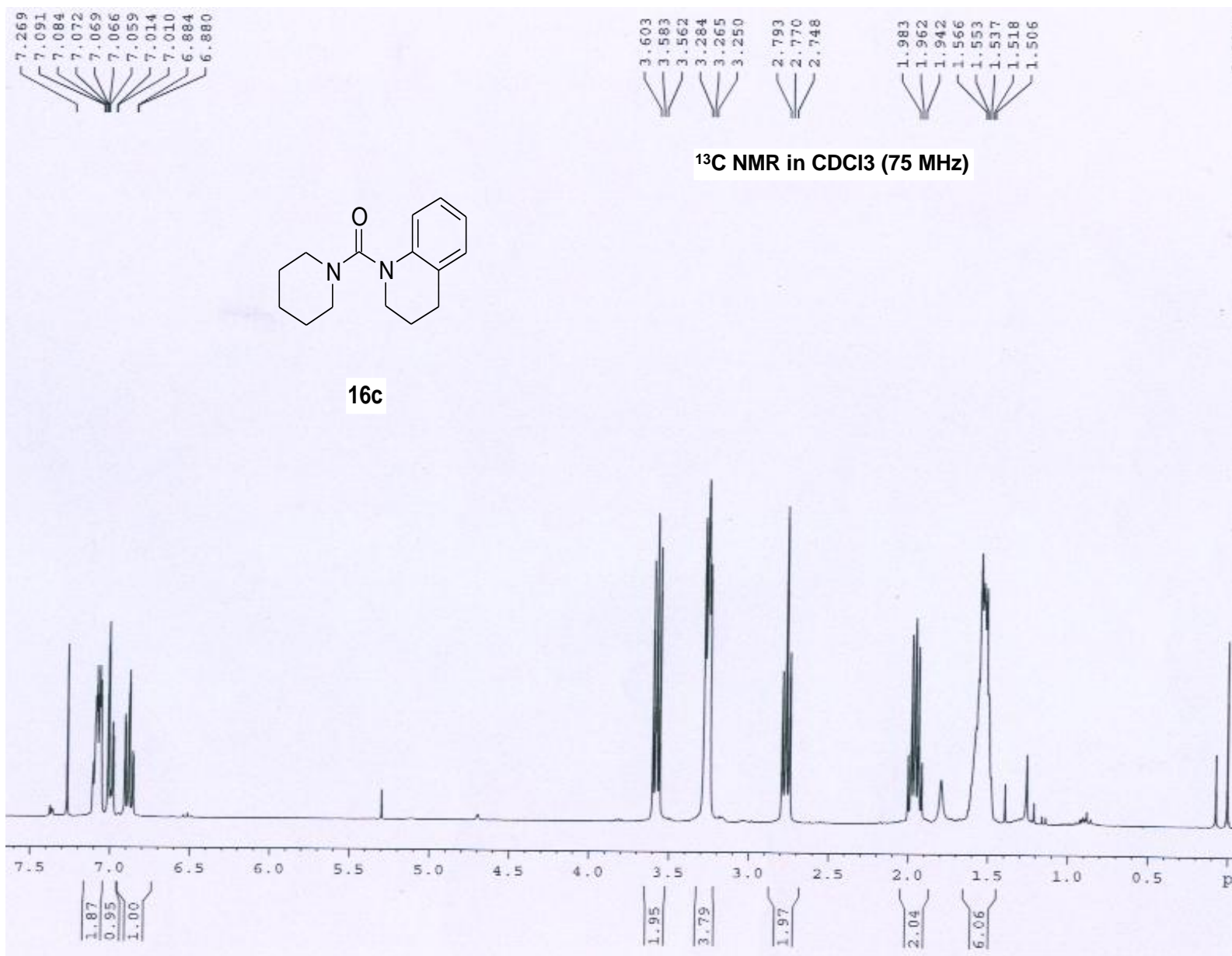
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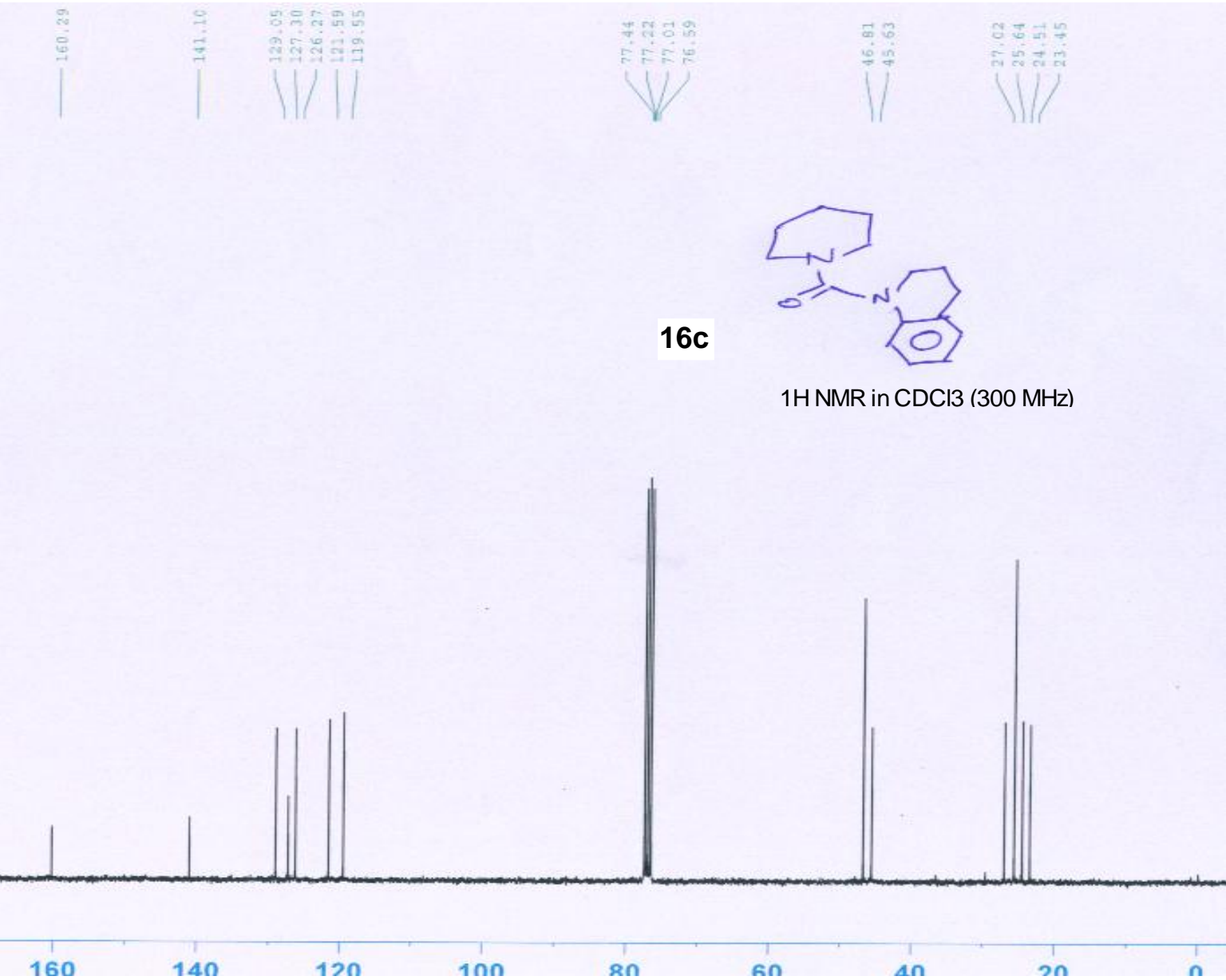


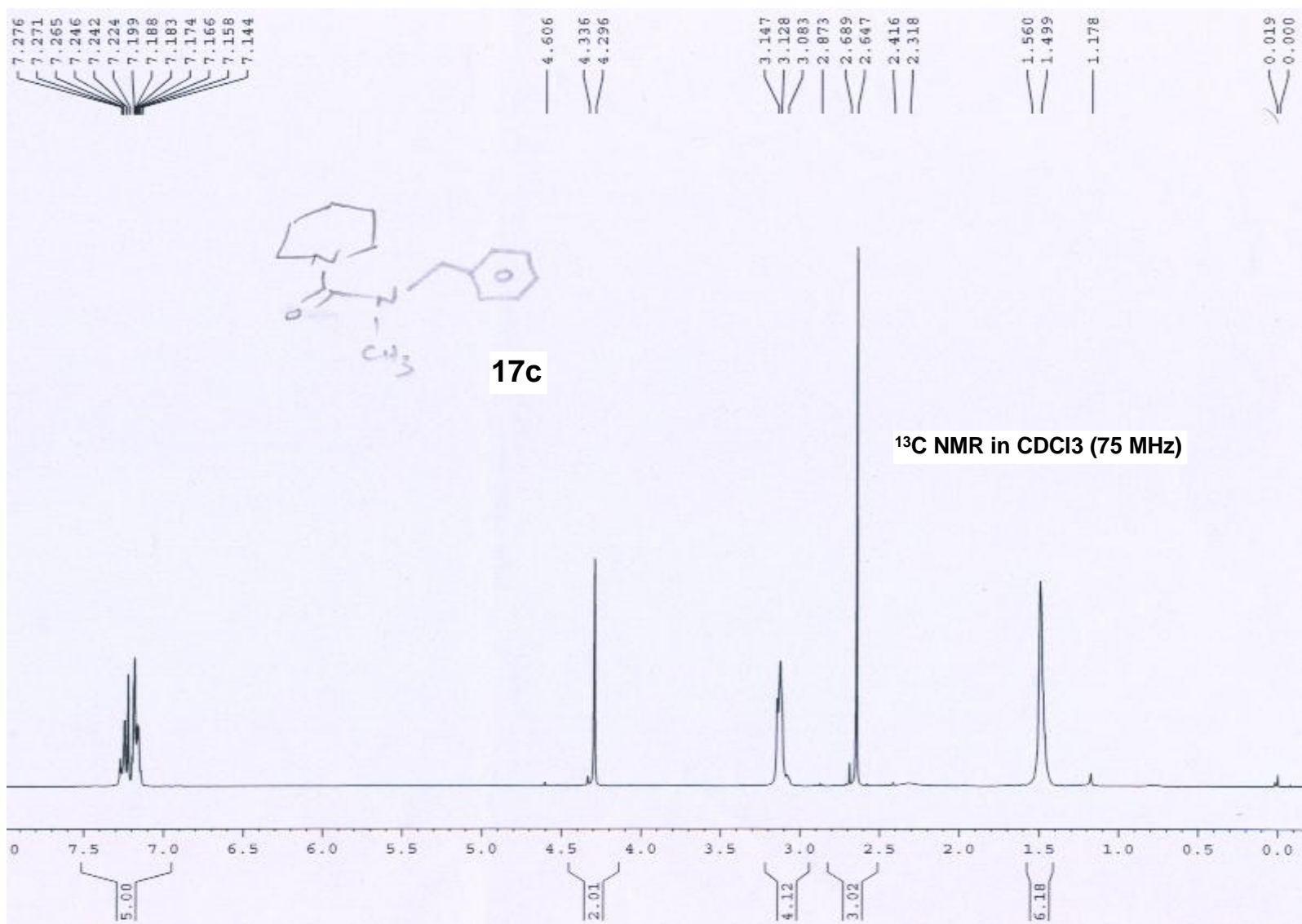


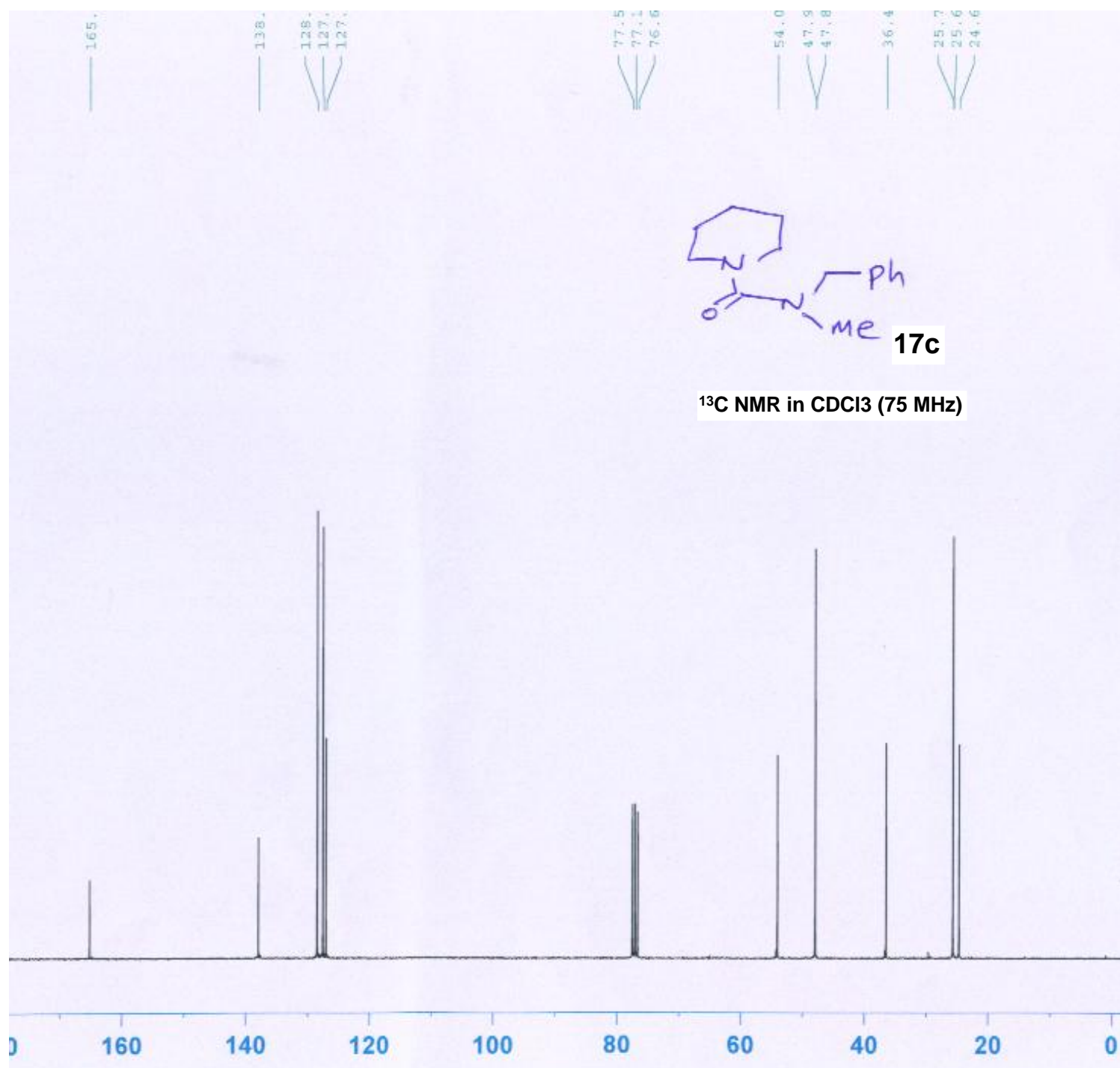


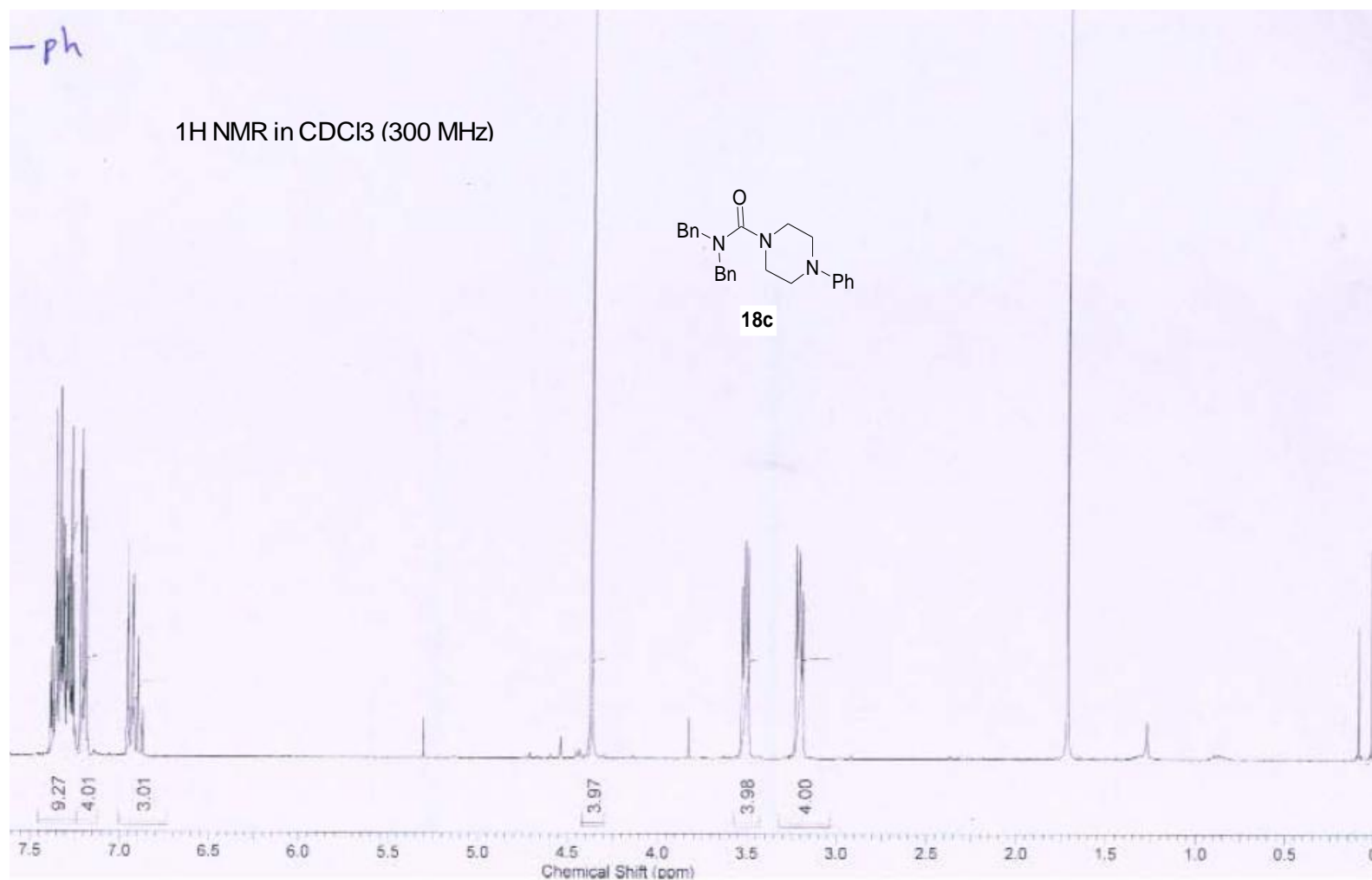
Compound 16c

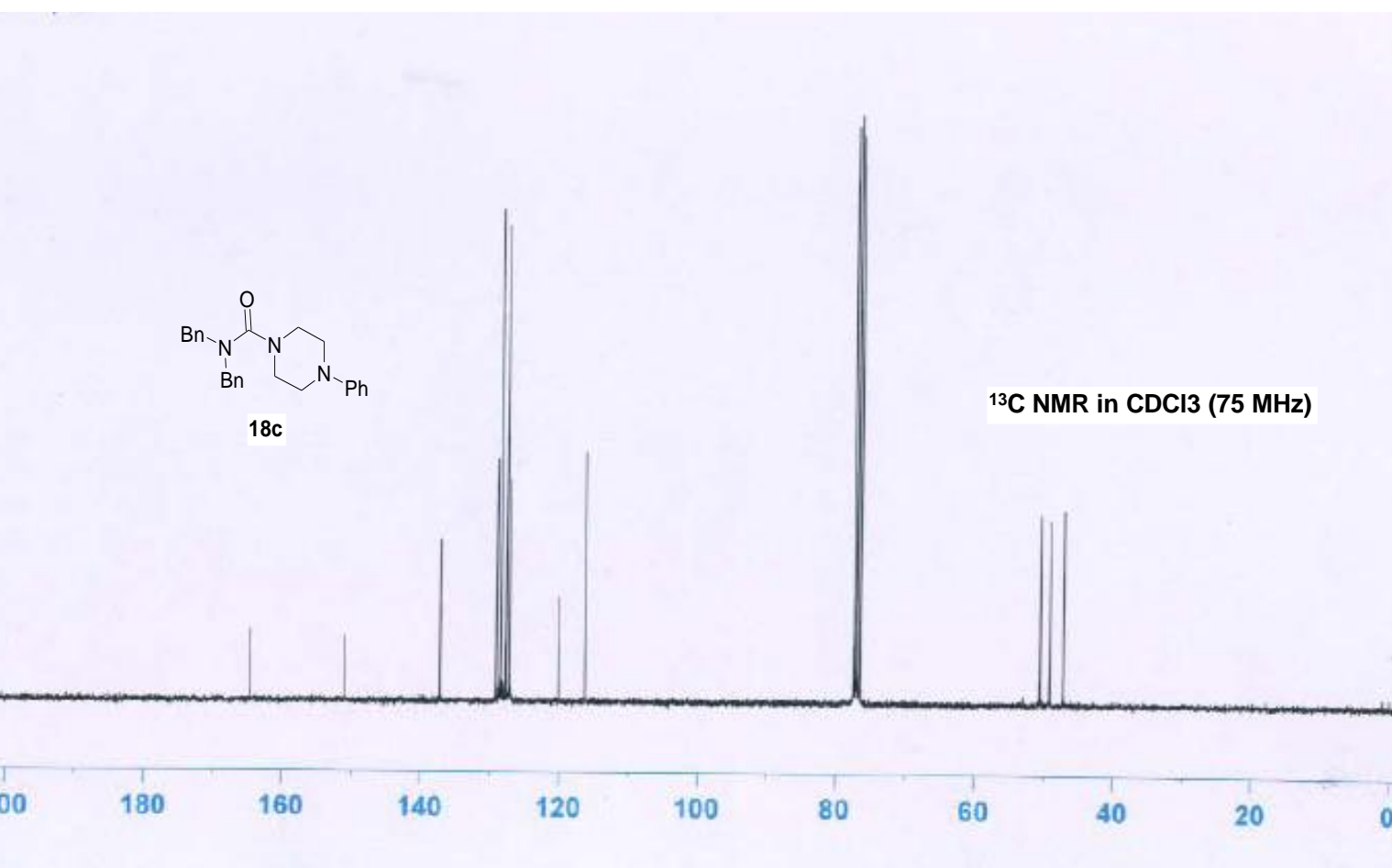


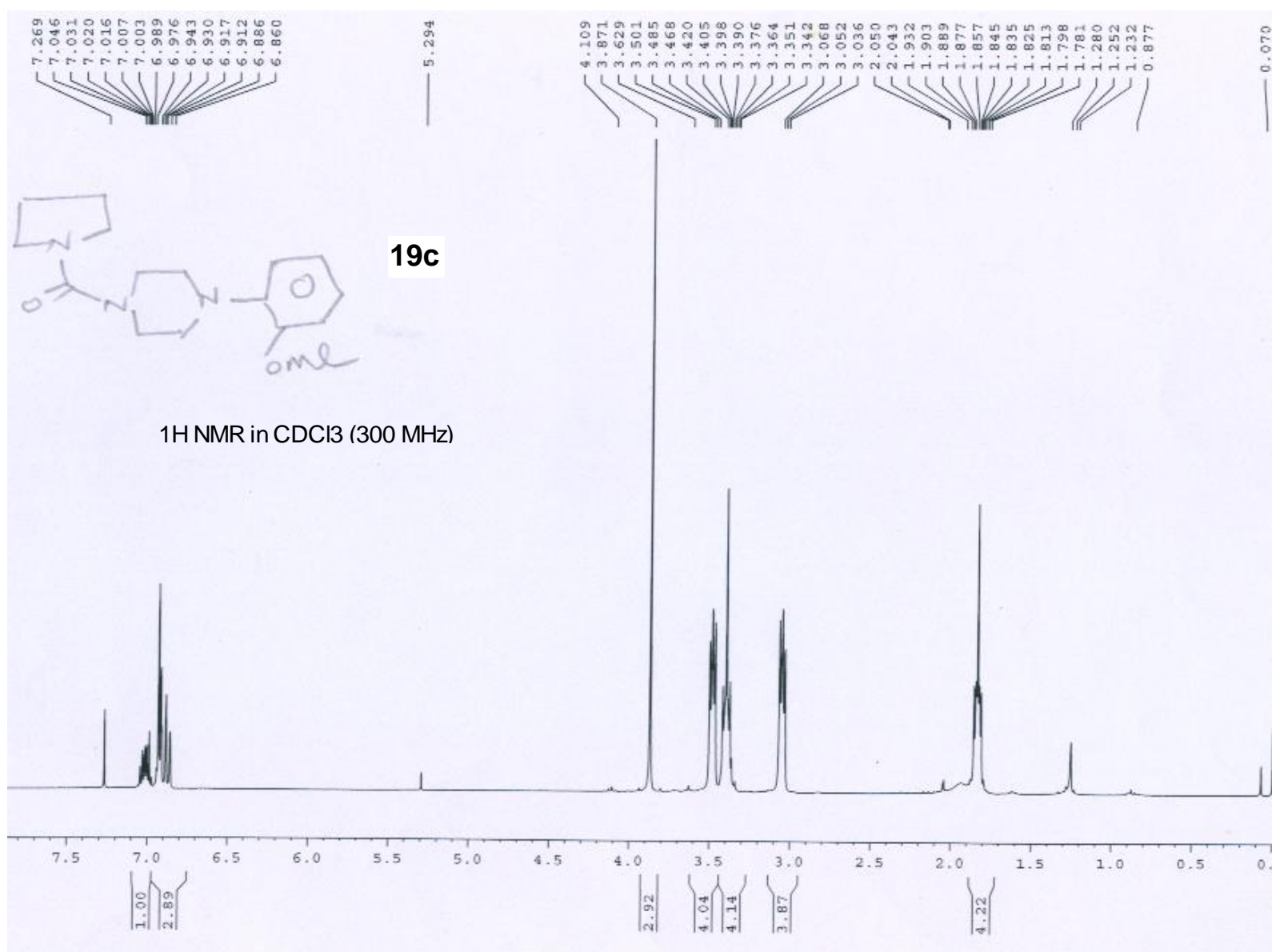


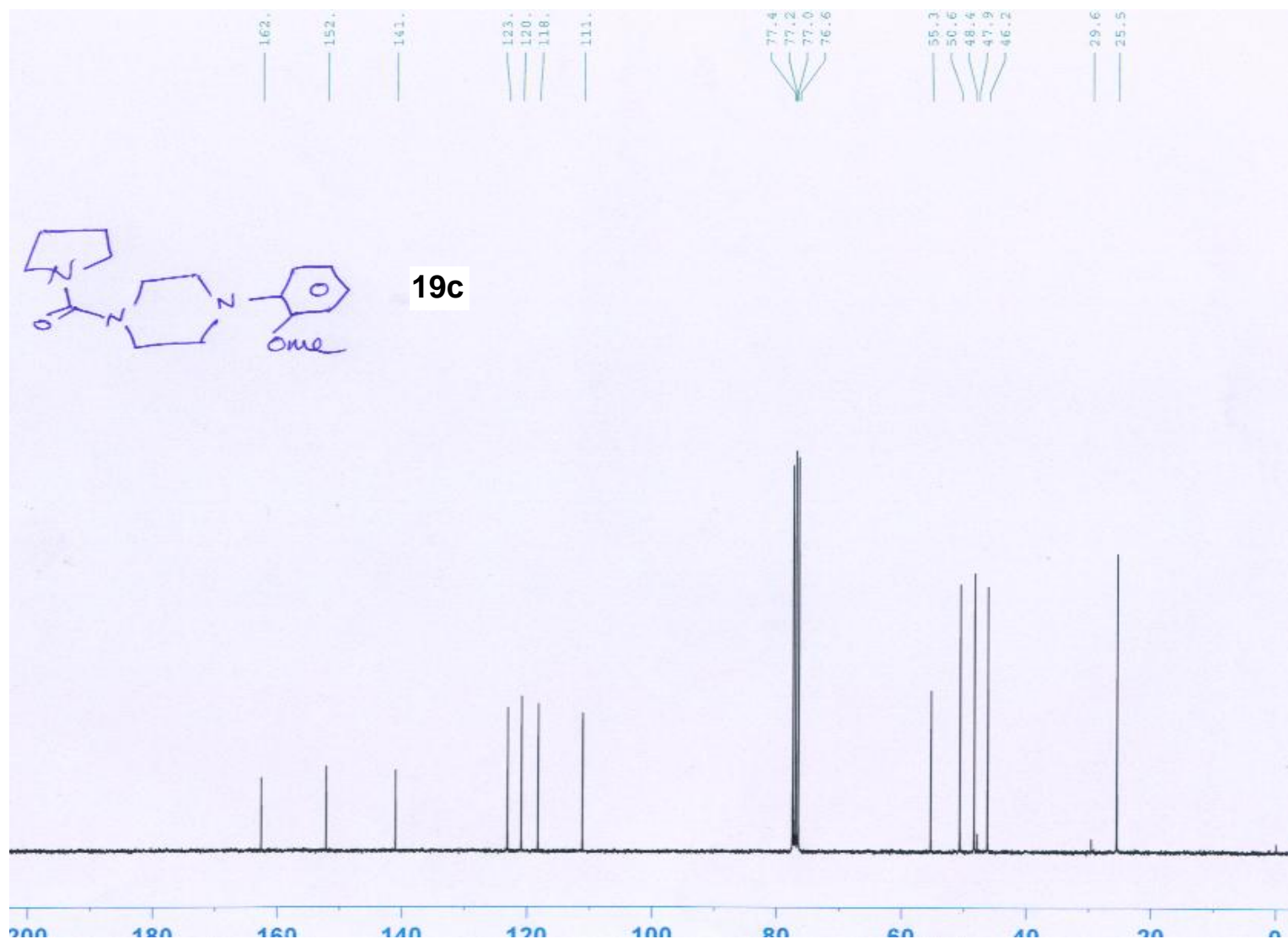


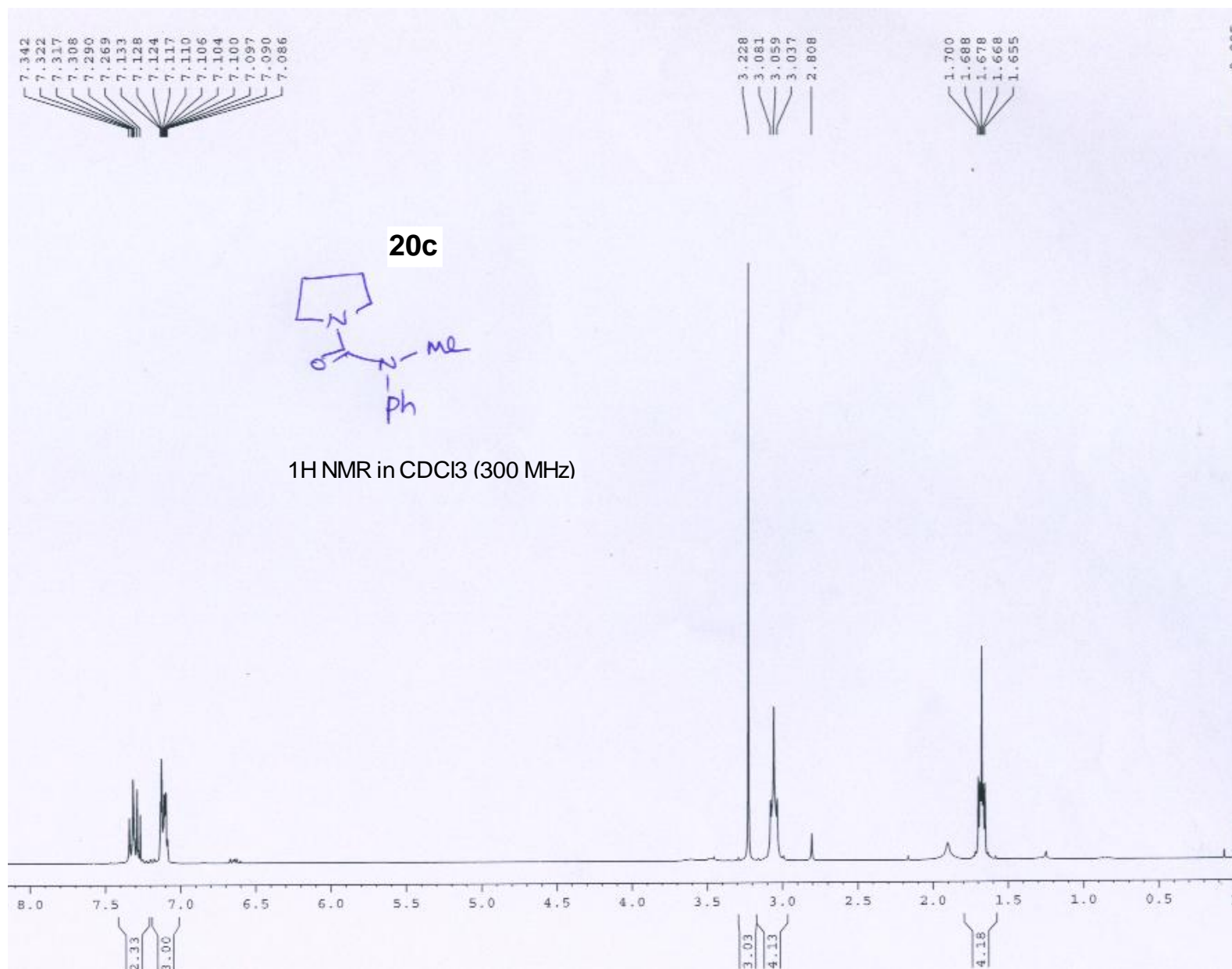


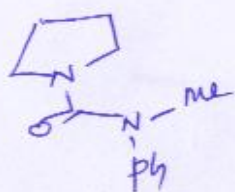






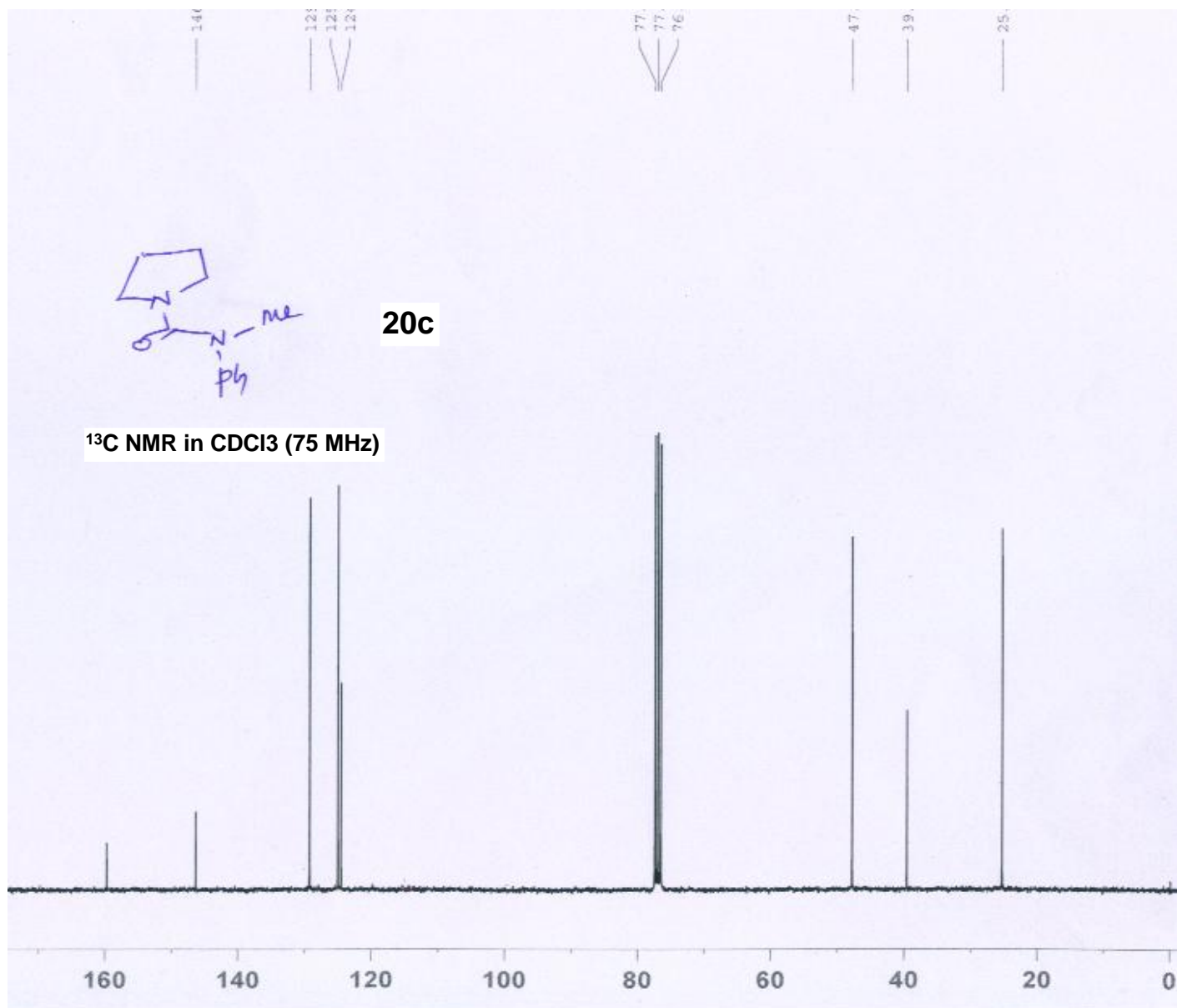


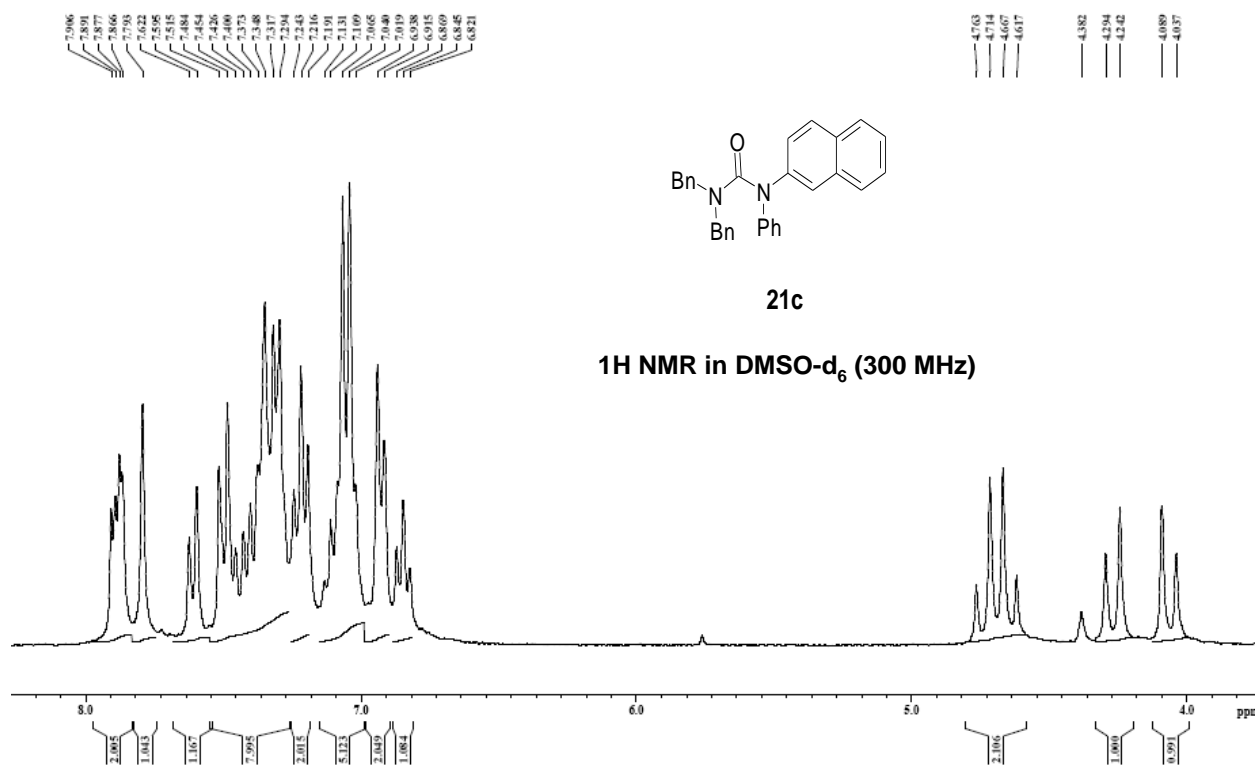
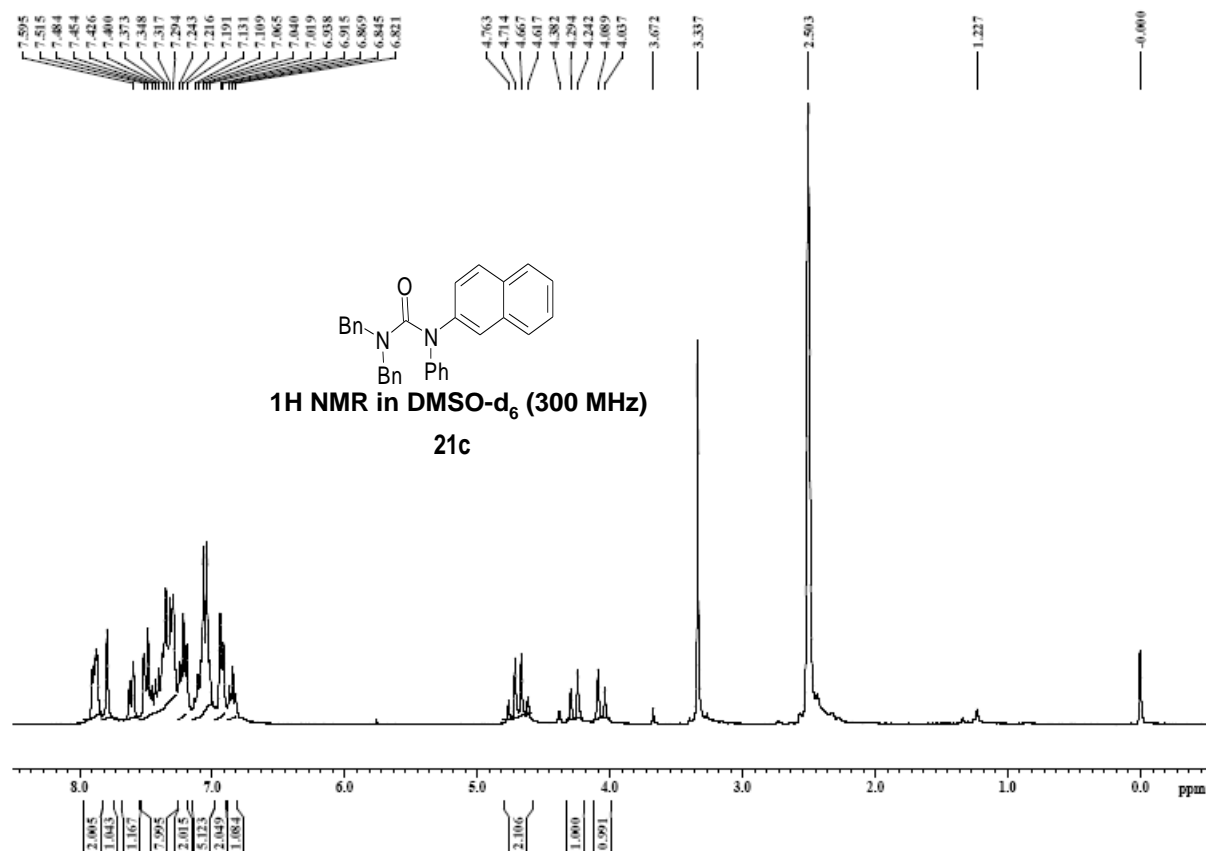


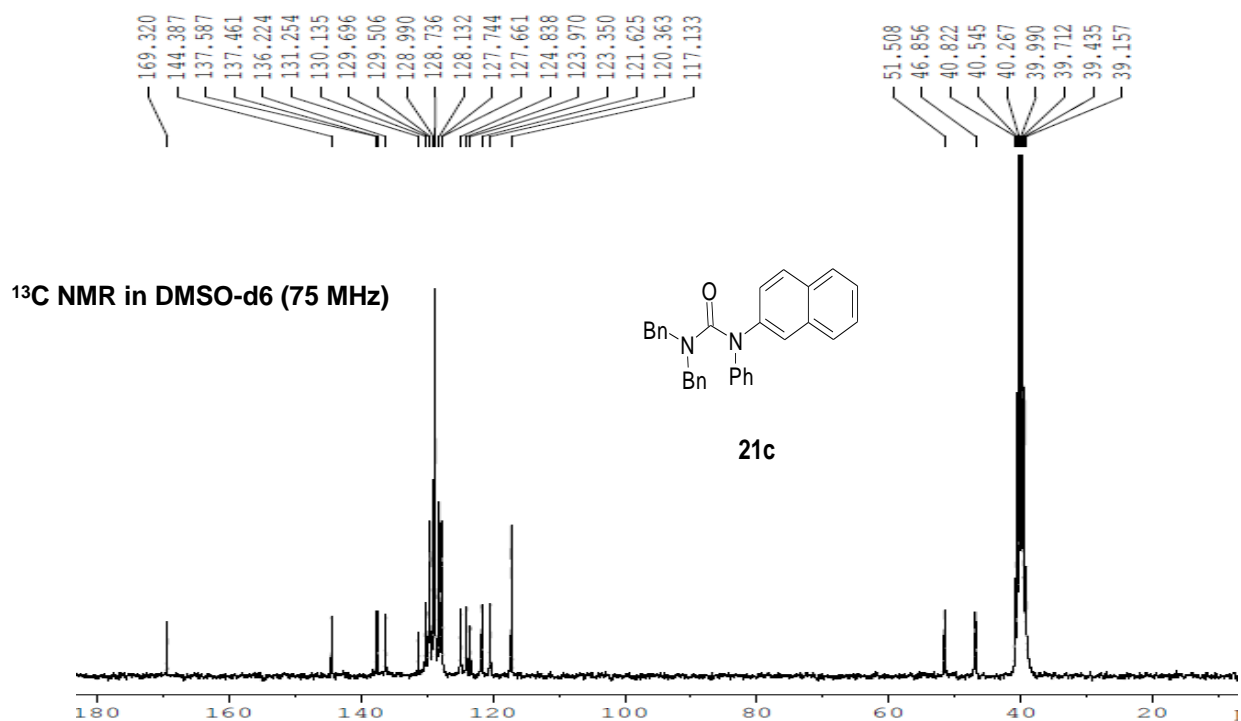


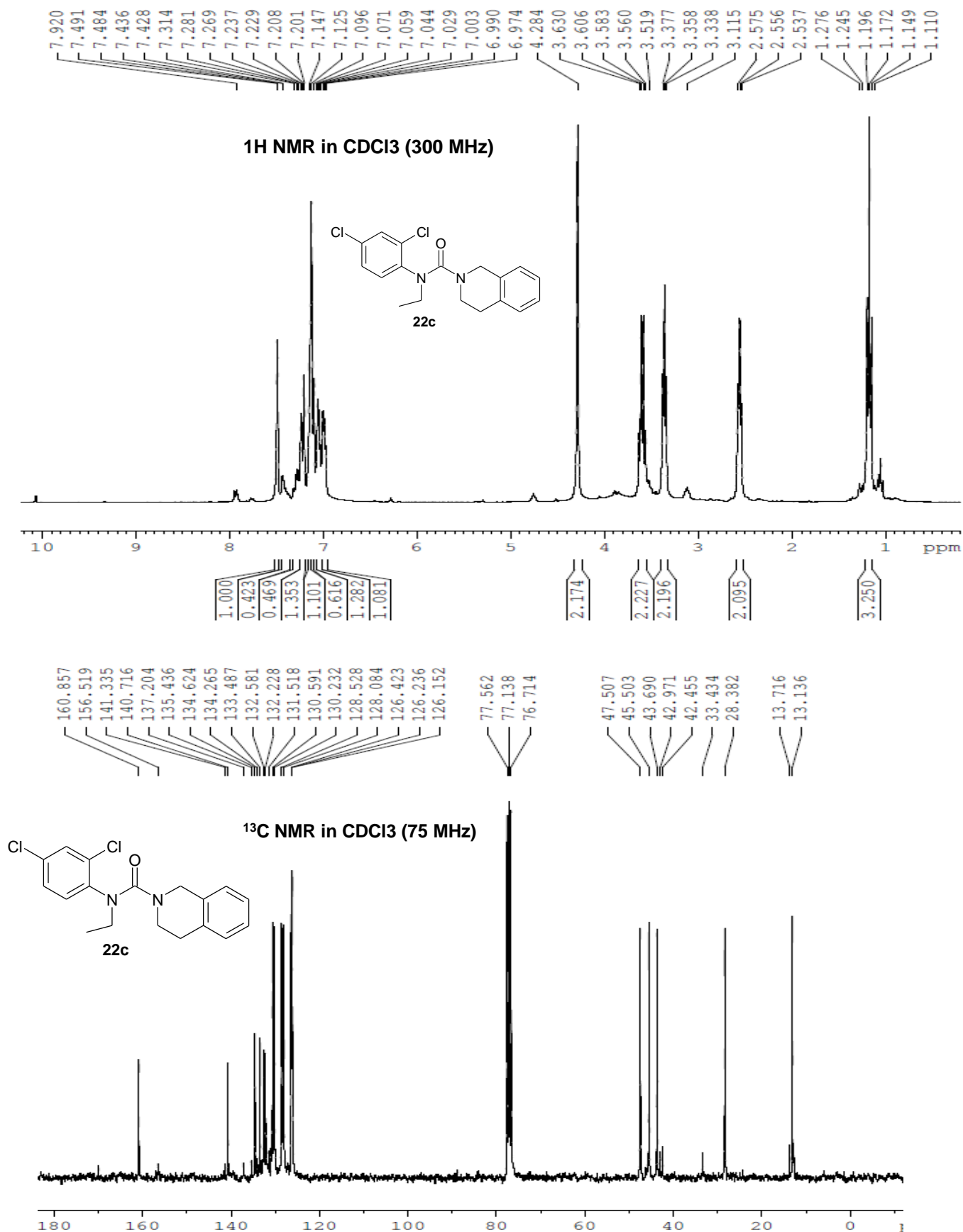
20c

^{13}C NMR in CDCl_3 (75 MHz)

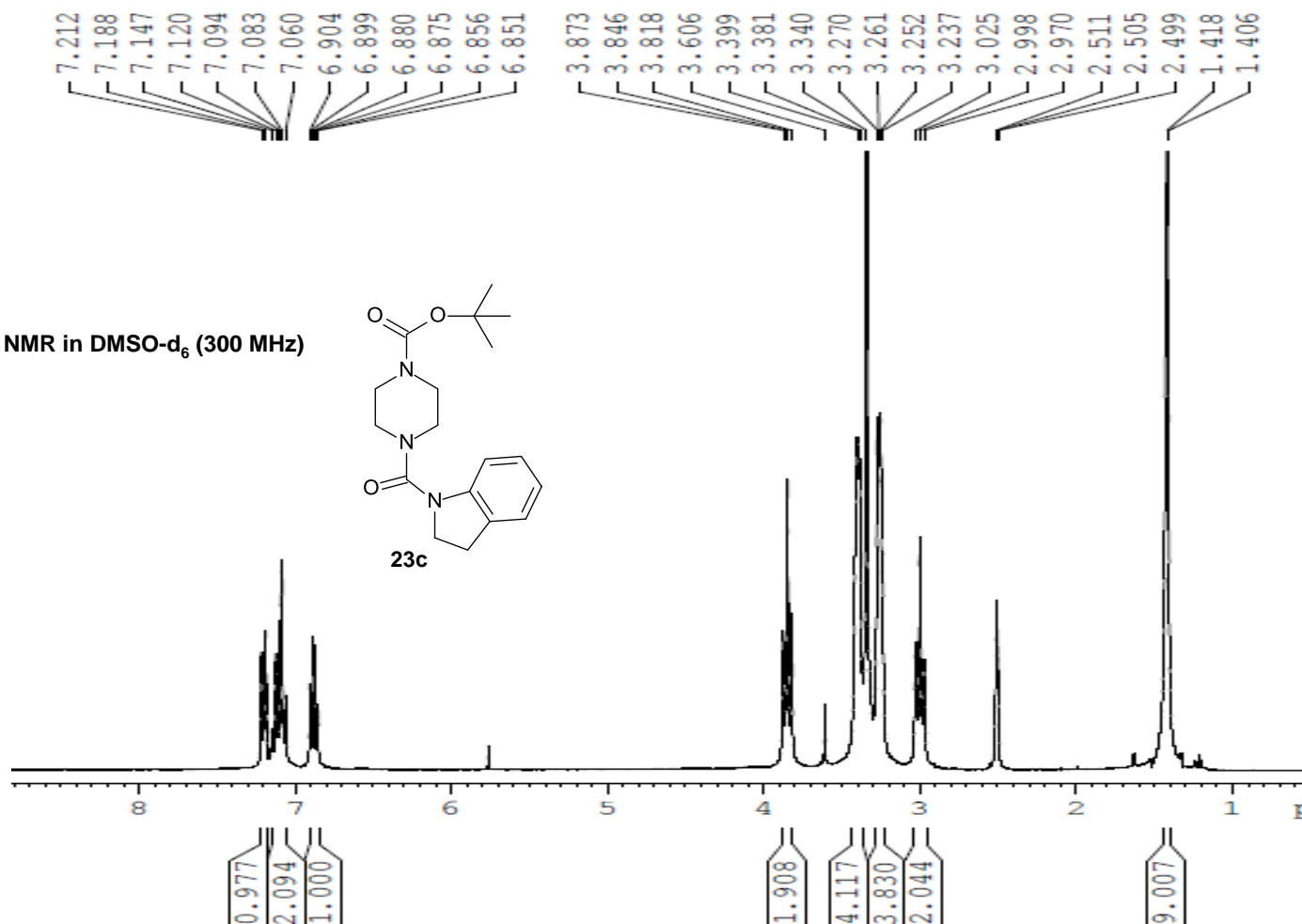
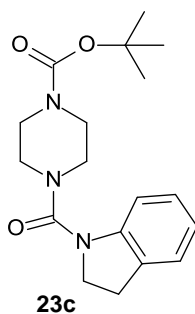








¹H NMR in DMSO-d₆ (300 MHz)



¹³C NMR in DMSO-d₆ (75 MHz)

