

Zastosowanie spektroskopii NMR do badania związków pochodzenia naturalnego

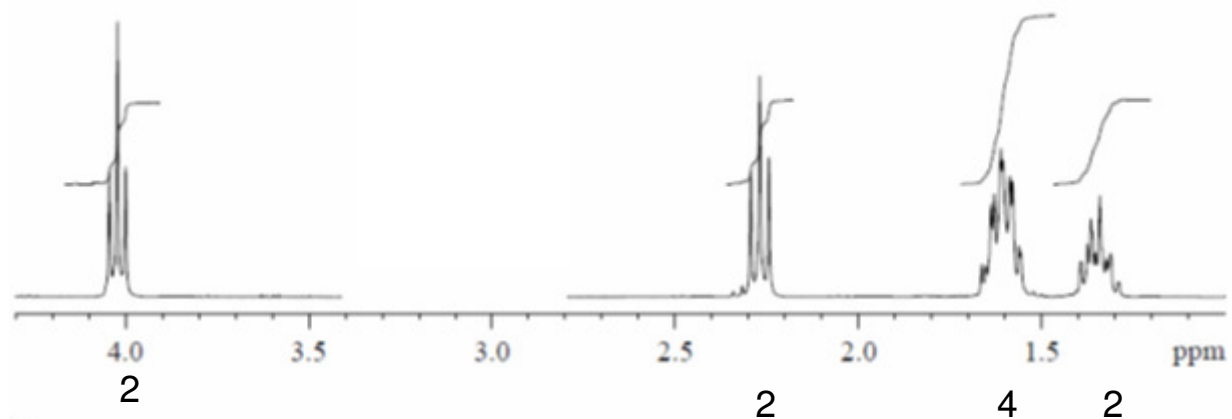
Zadania część druga - 2D NMR

Literatura:

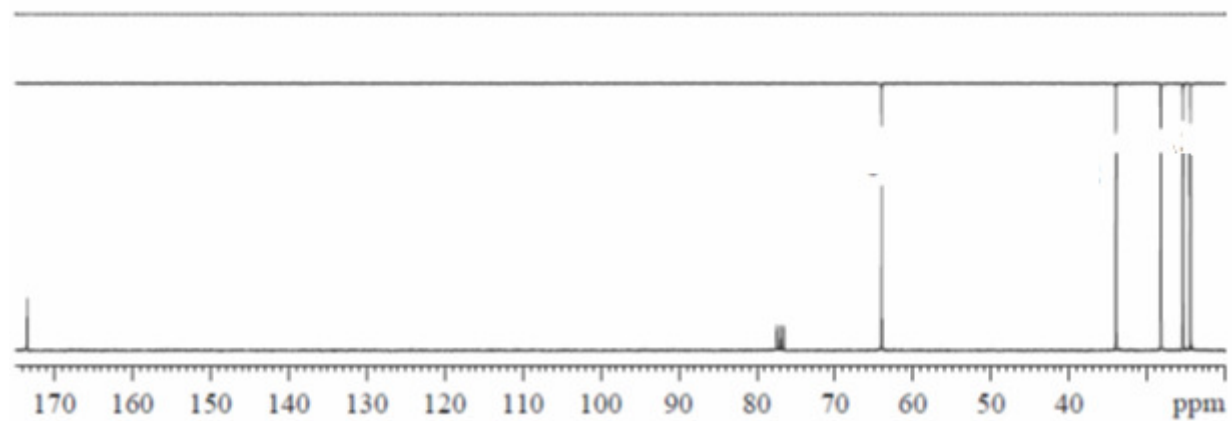
**A. R. SILVERSTEIN, F. WEBSTER, D. KIEMLE
SPEKTROSKOPOWE METODY IDENTYFIKACJI
ZWIĄZKÓW ORGANICZNYCH
WYDAWNICTWO NAUKOWE PWN, 2013.**



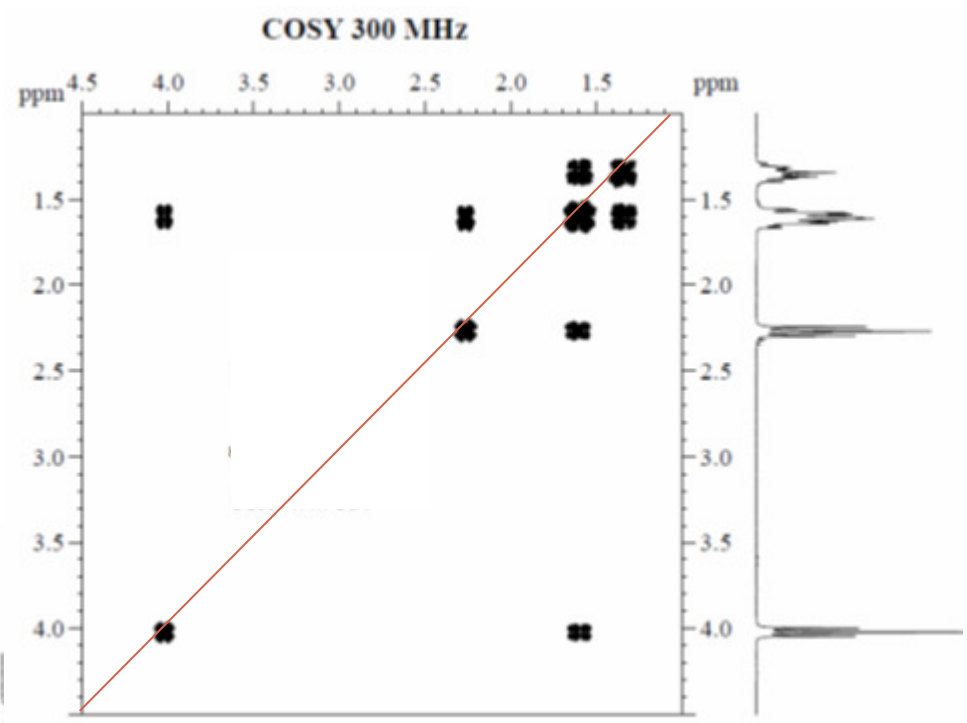
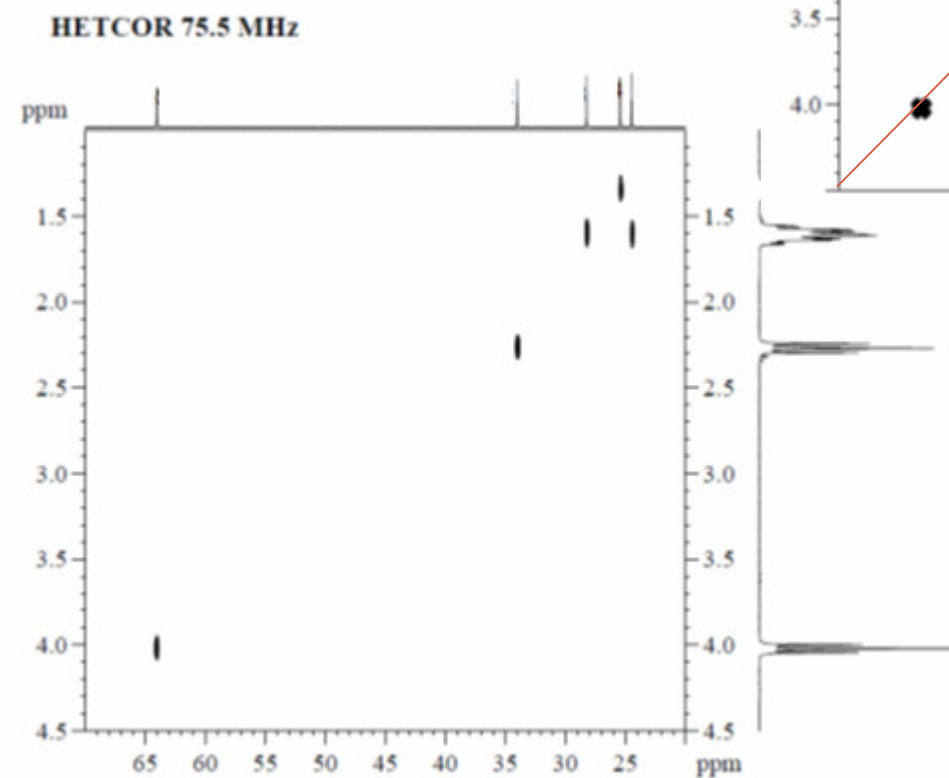
^1H NMR 300 MHz



$^{13}\text{C}/\text{DEPT}$ NMR 75.5 MHz

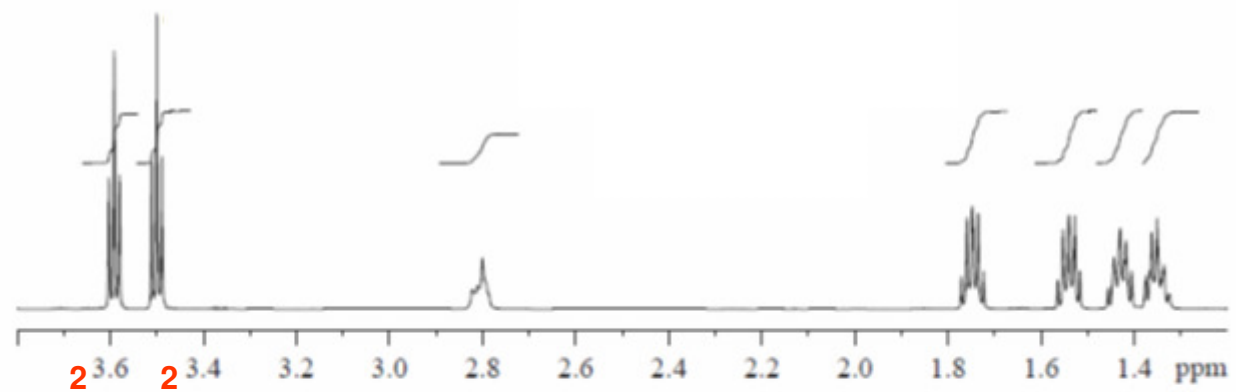


27

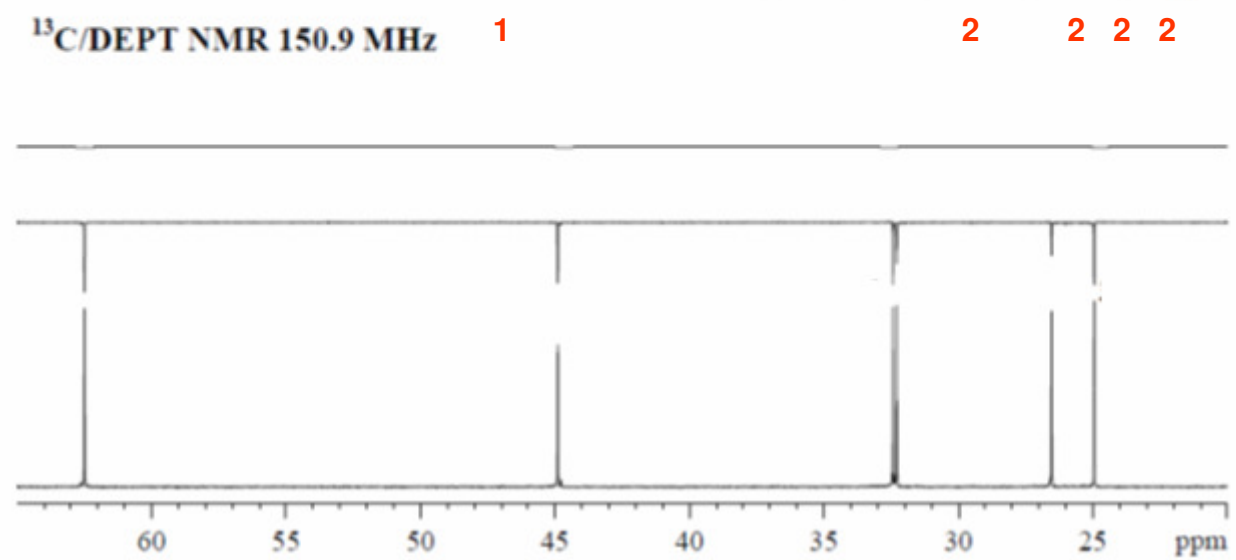




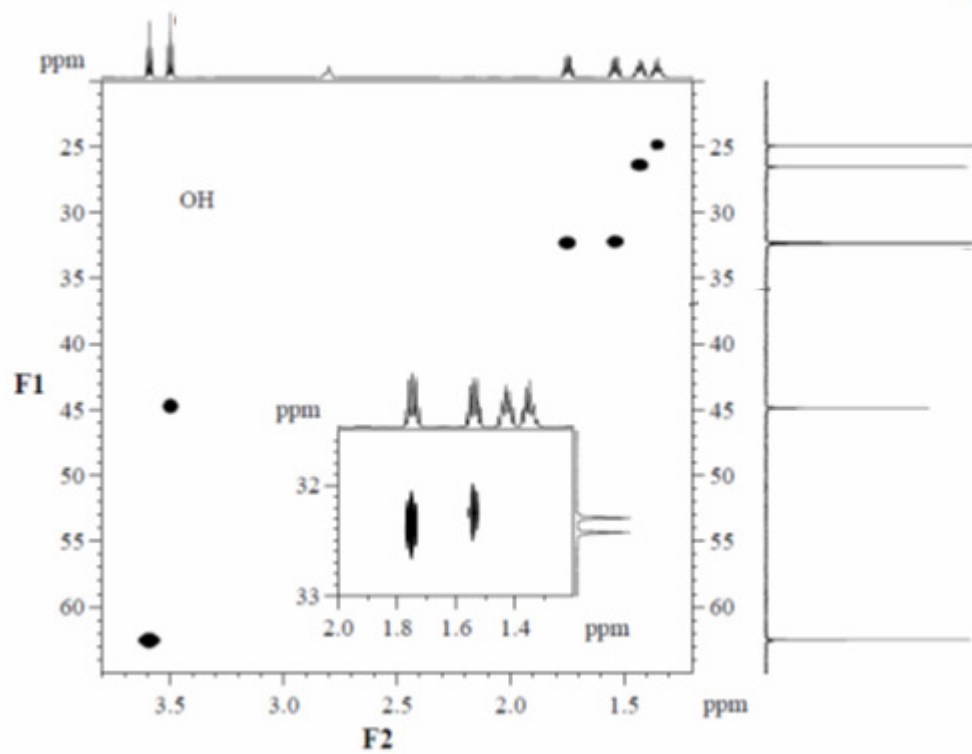
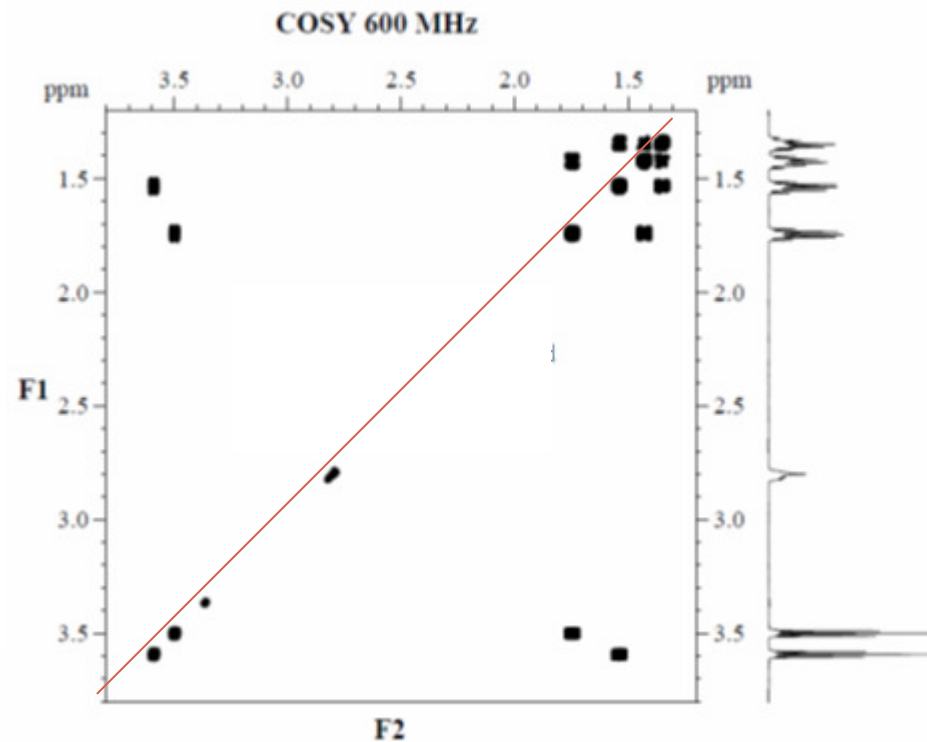
^1H NMR 600 MHz

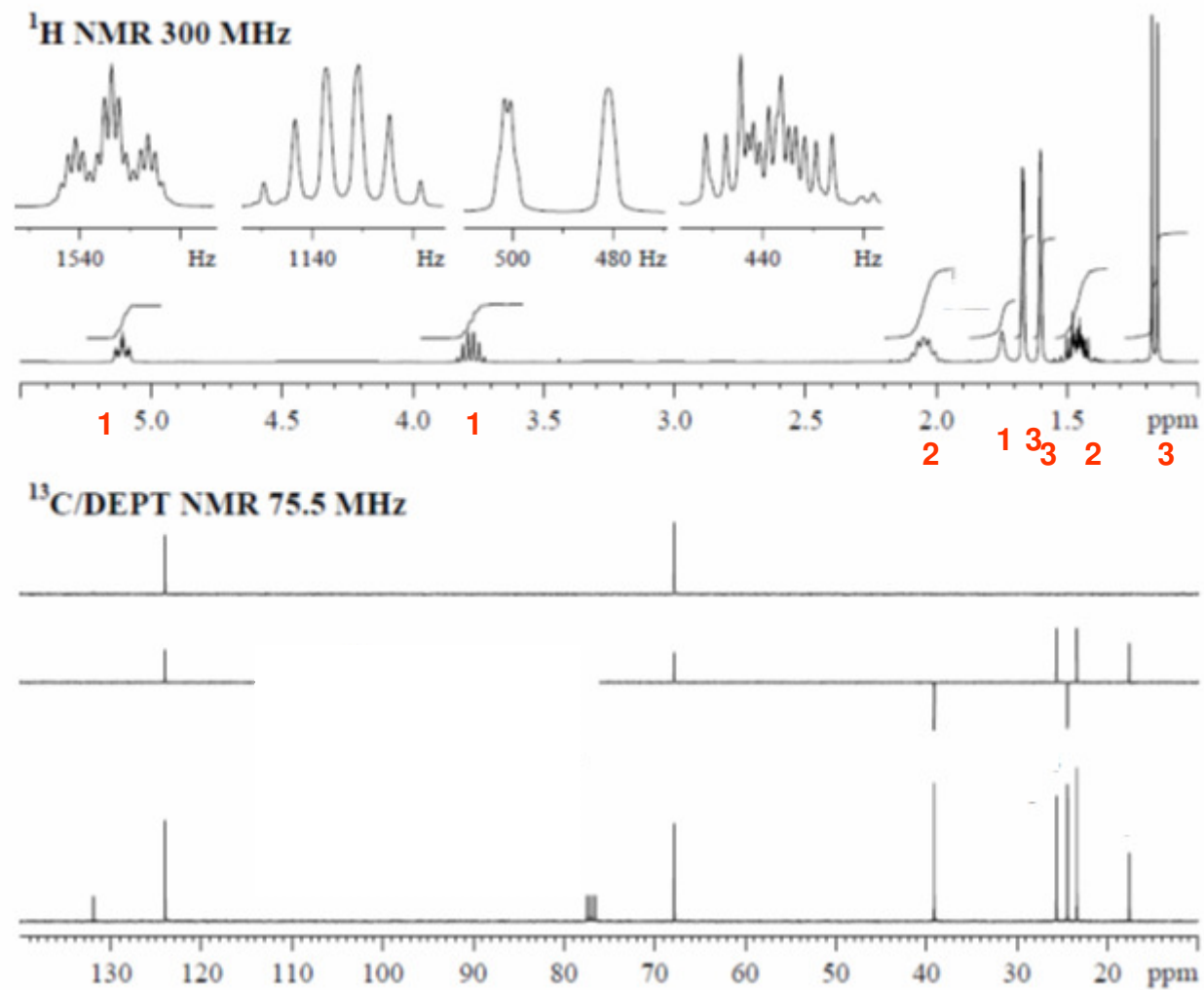


$^{13}\text{C}/\text{DEPT}$ NMR 150.9 MHz

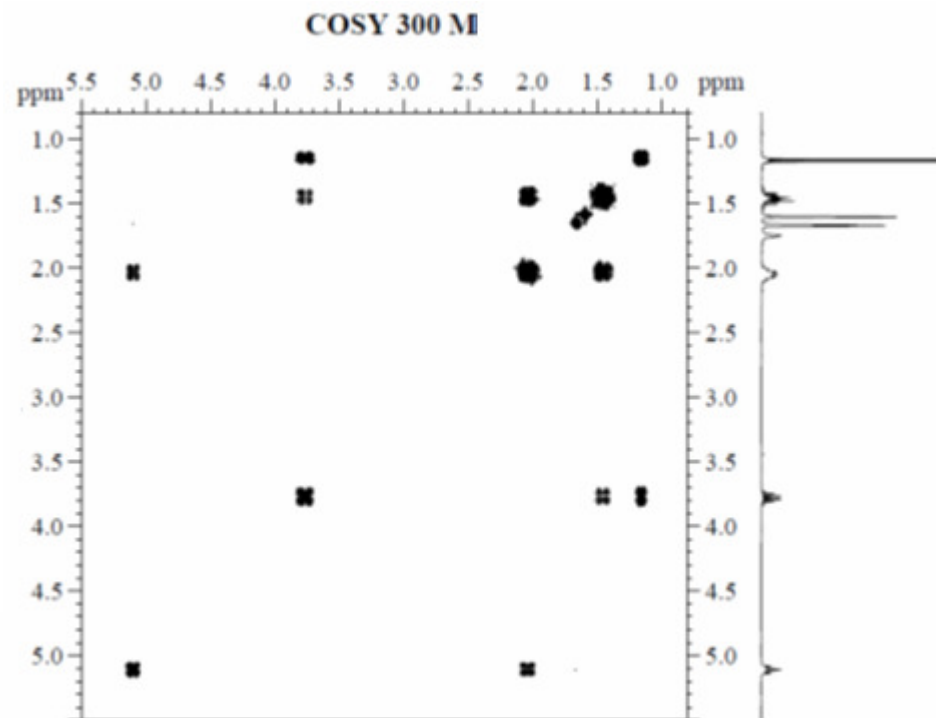
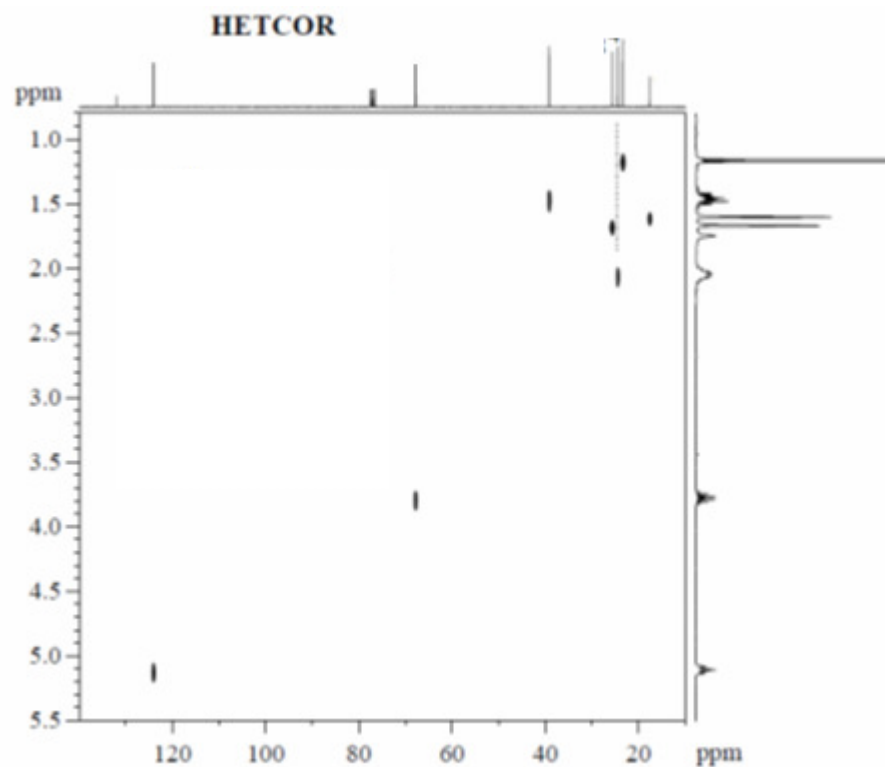


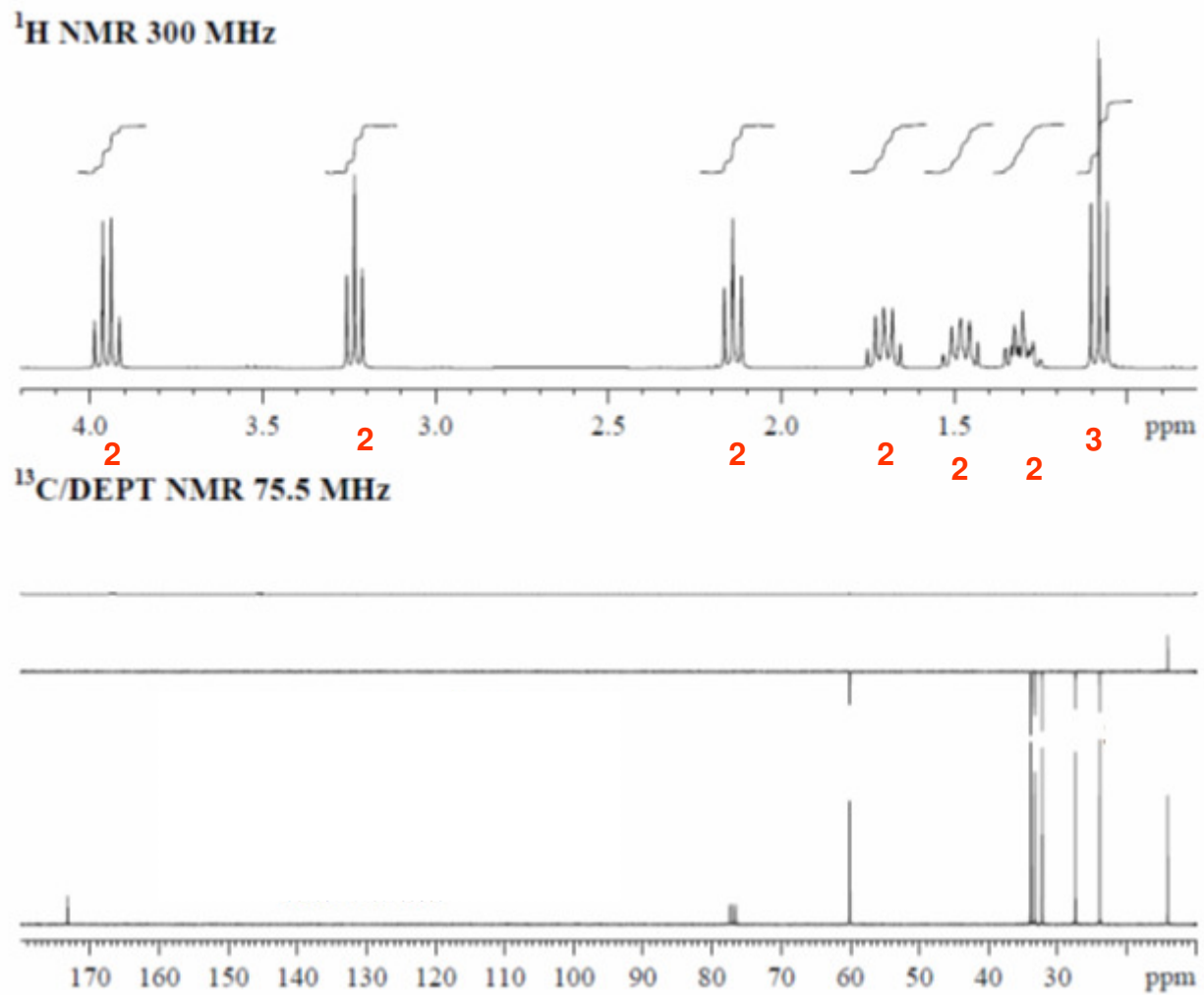
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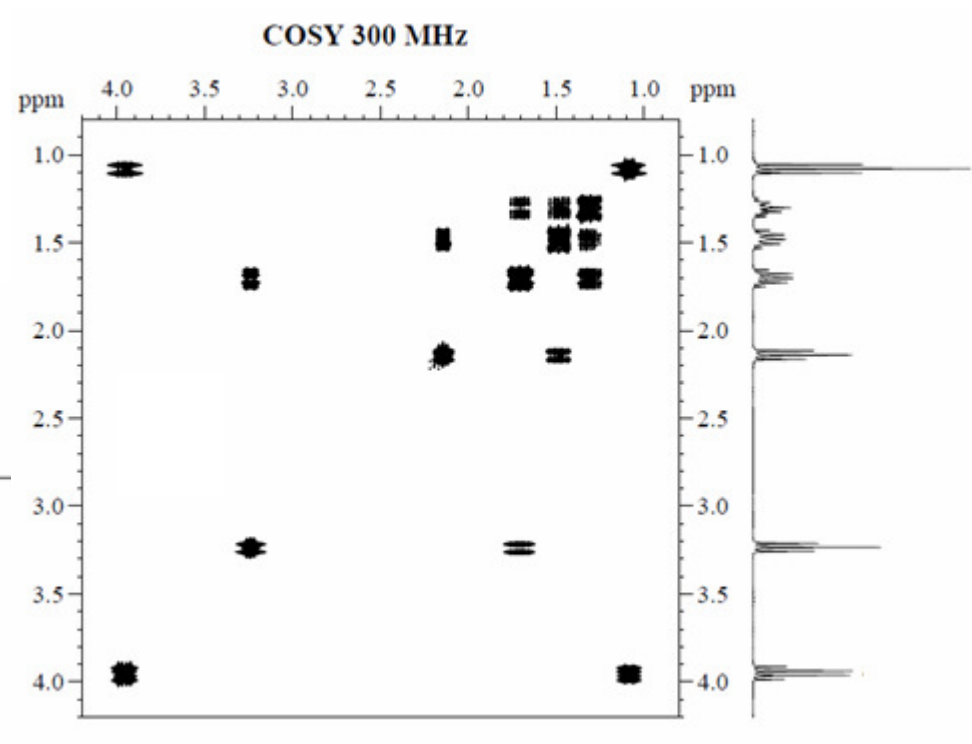
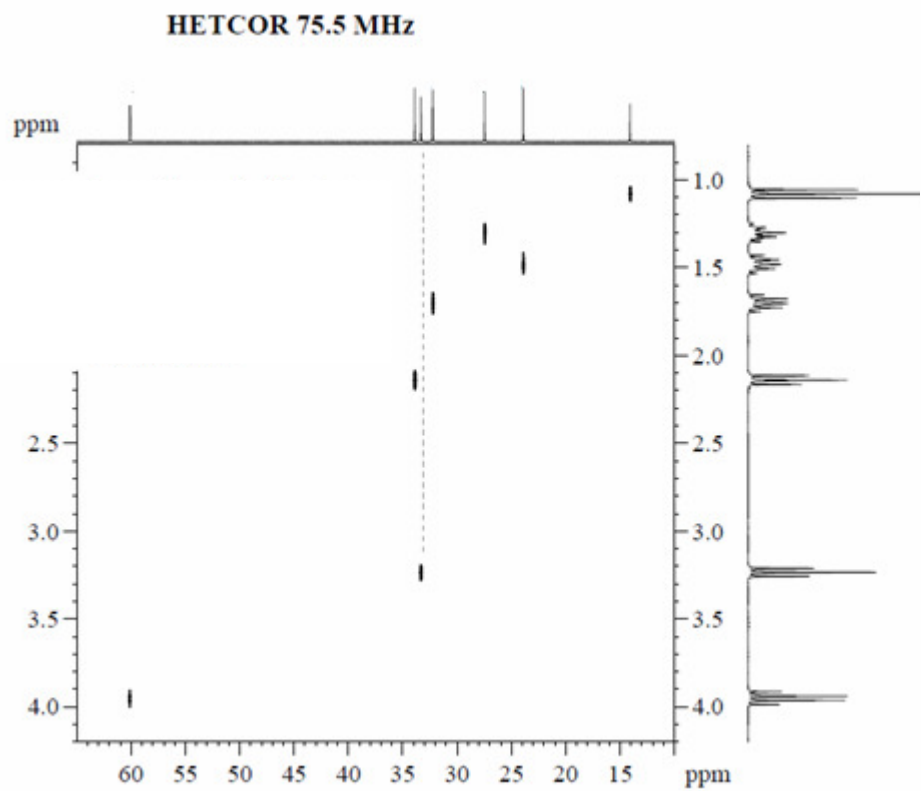


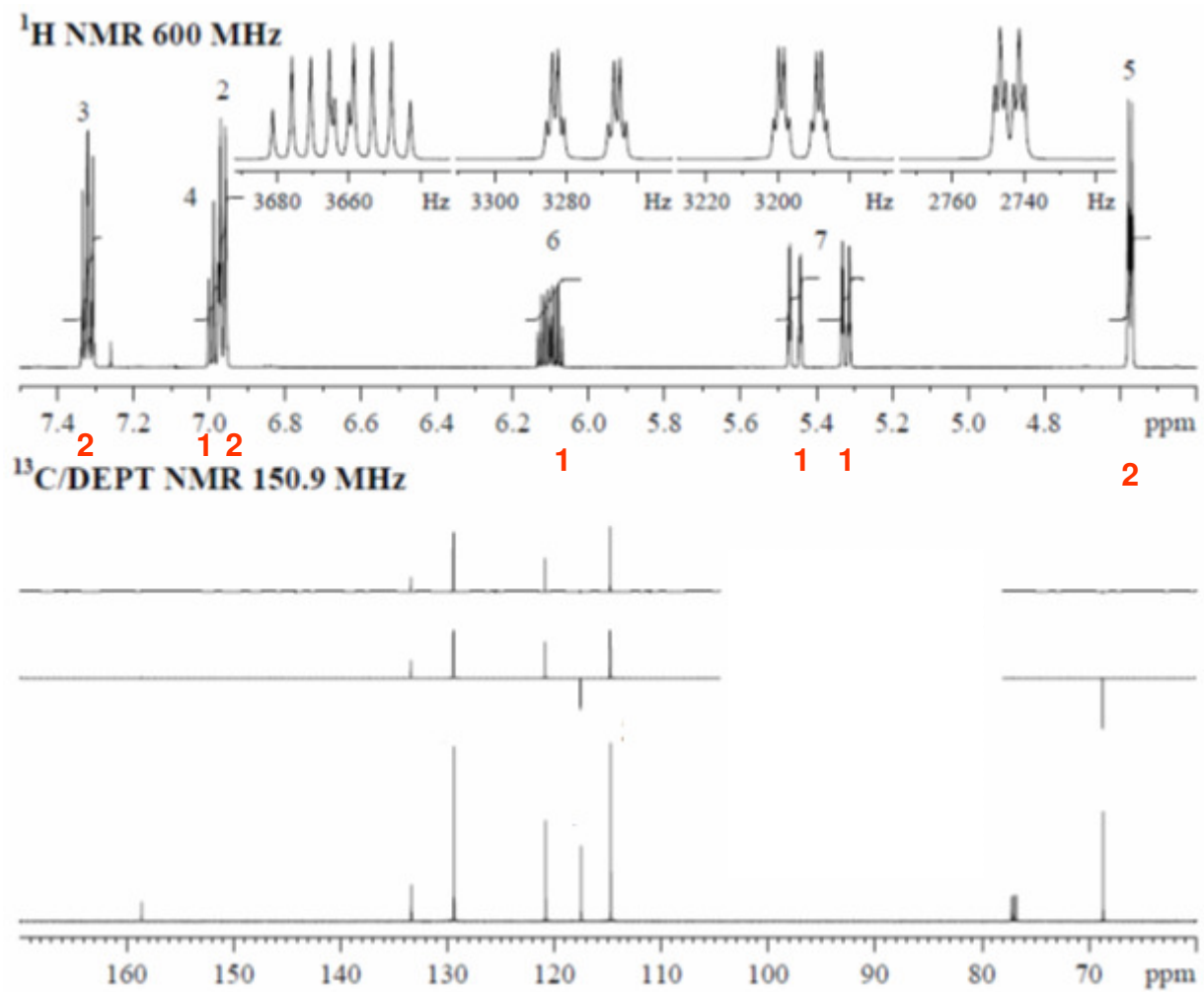
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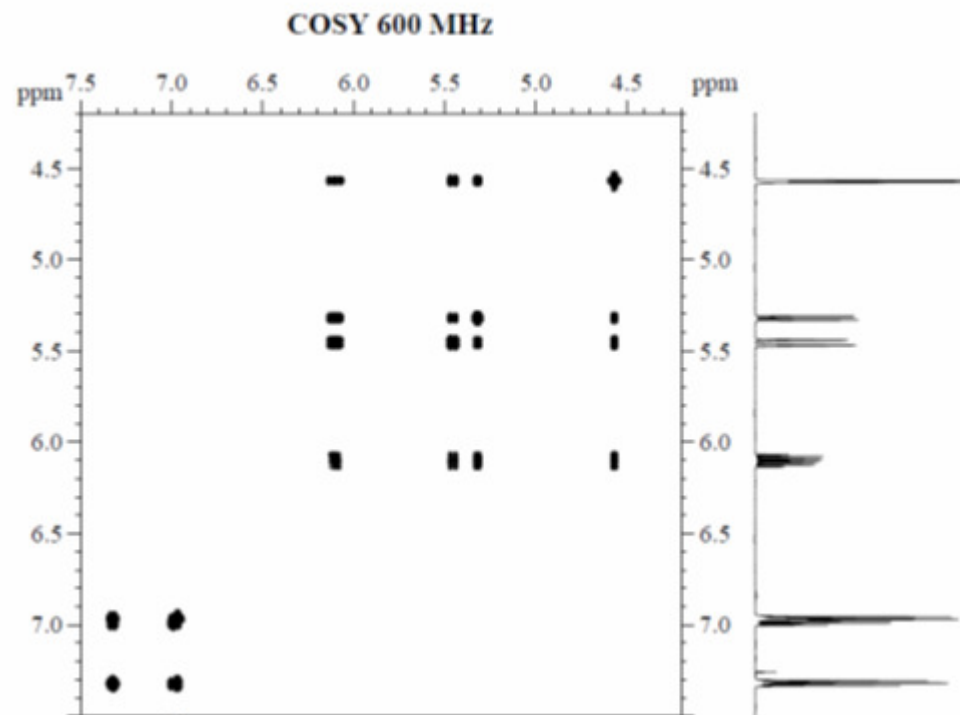
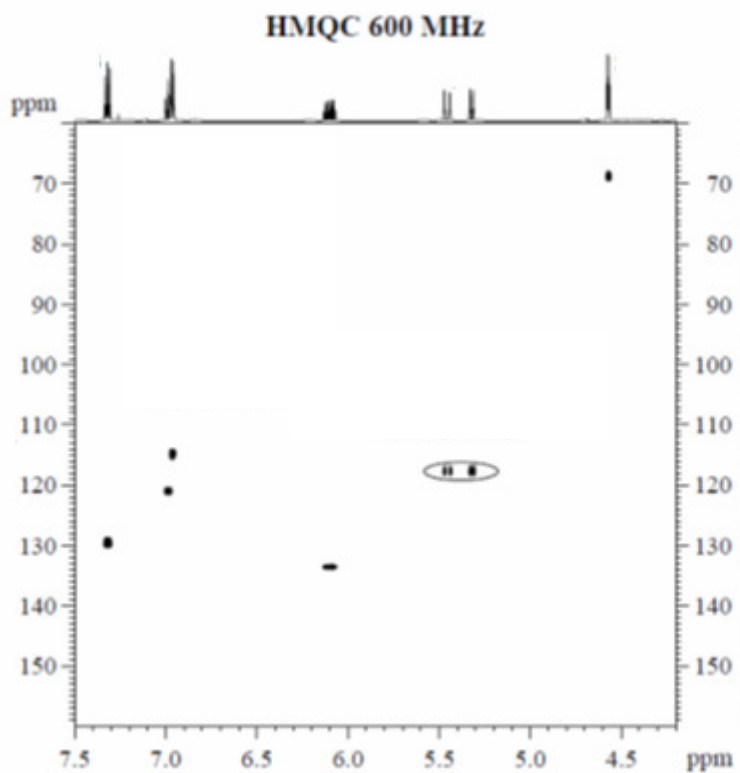


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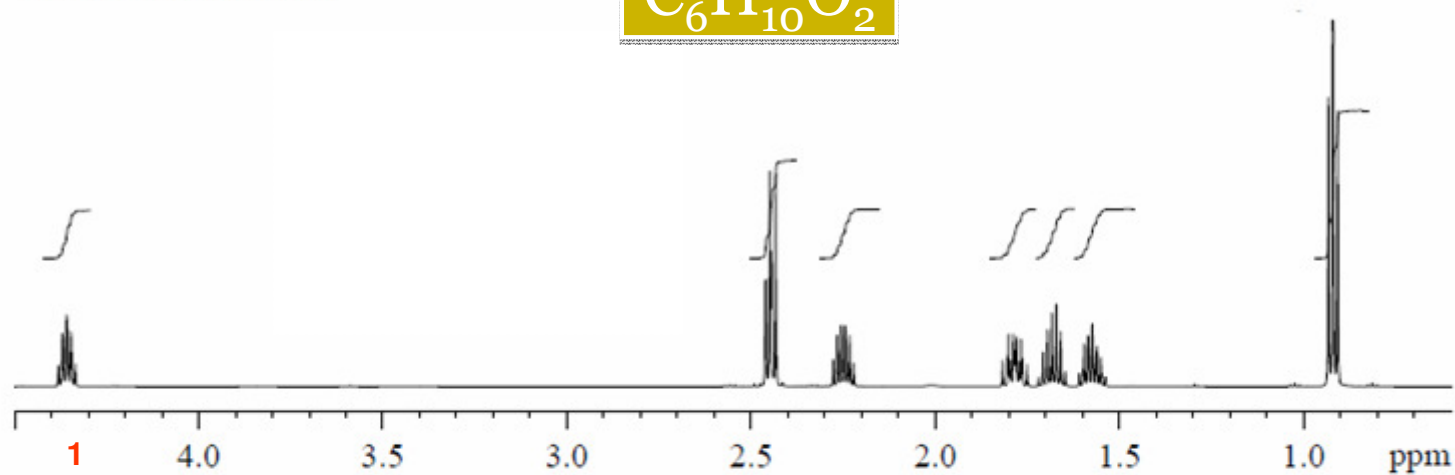


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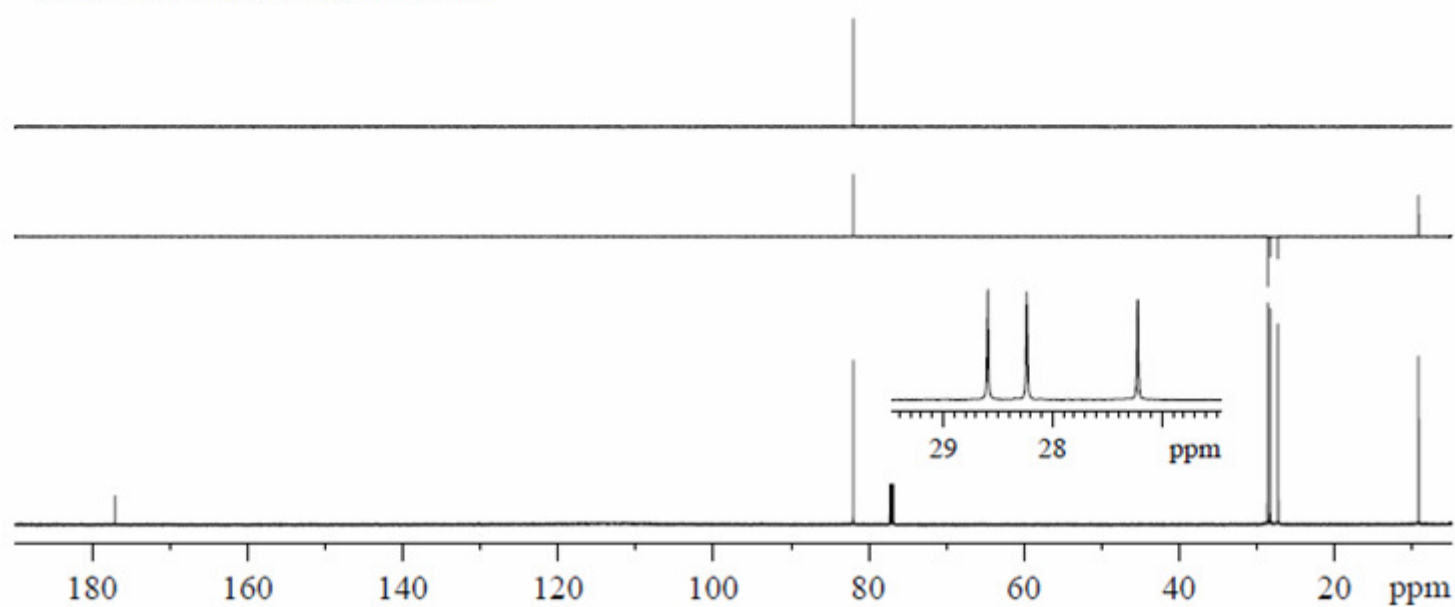


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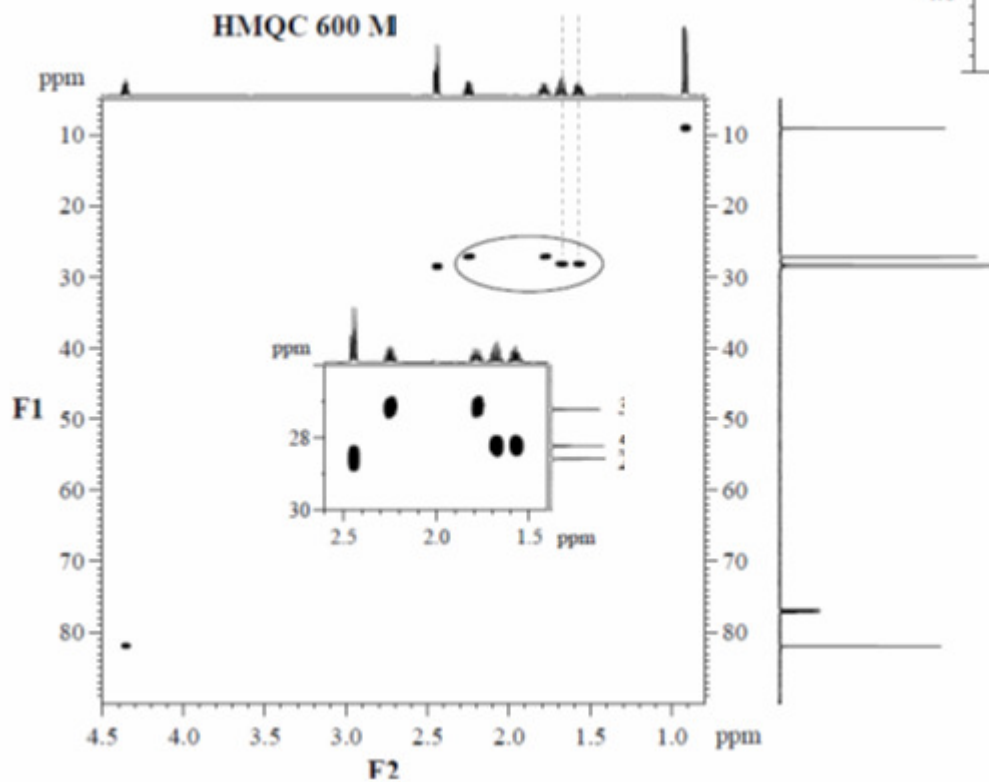
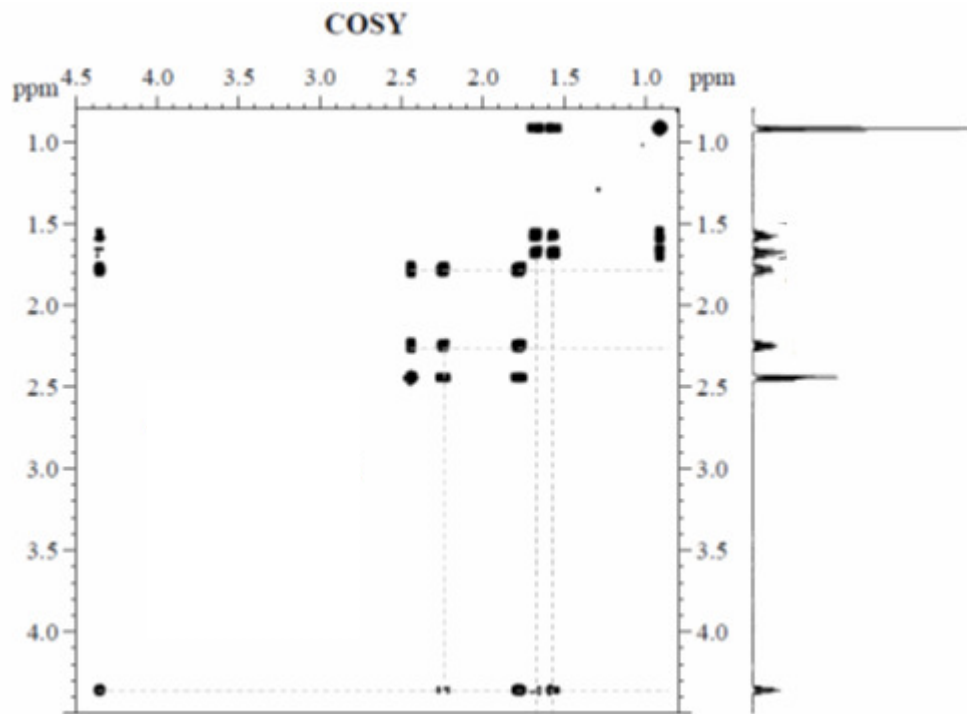
^1H NMR 600 MHz



$^{13}\text{C}/\text{DEPT}$ NMR 150.9 MHz

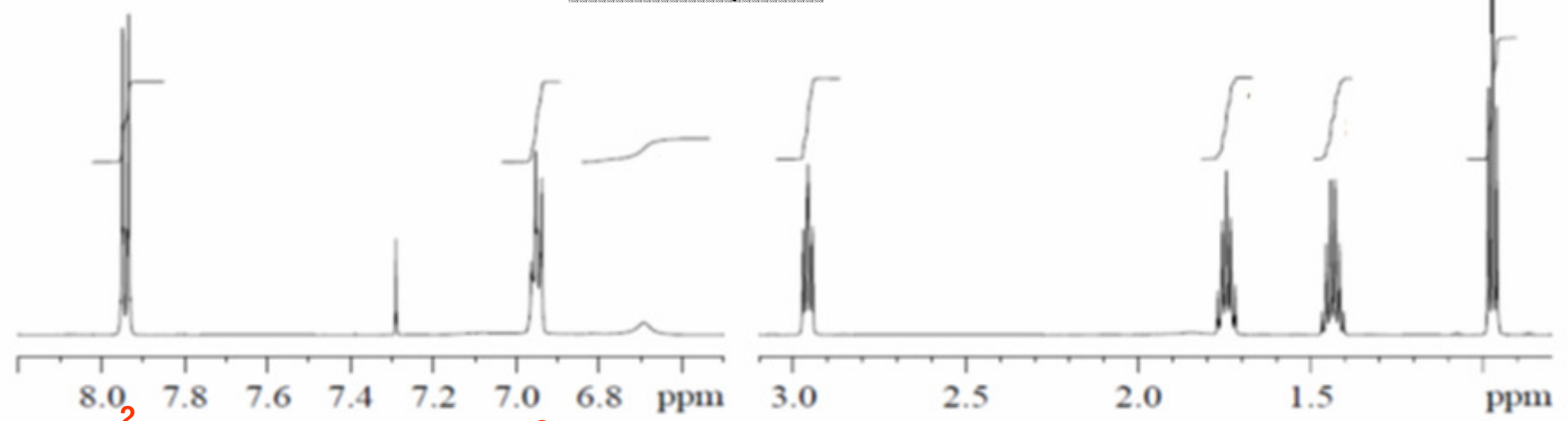


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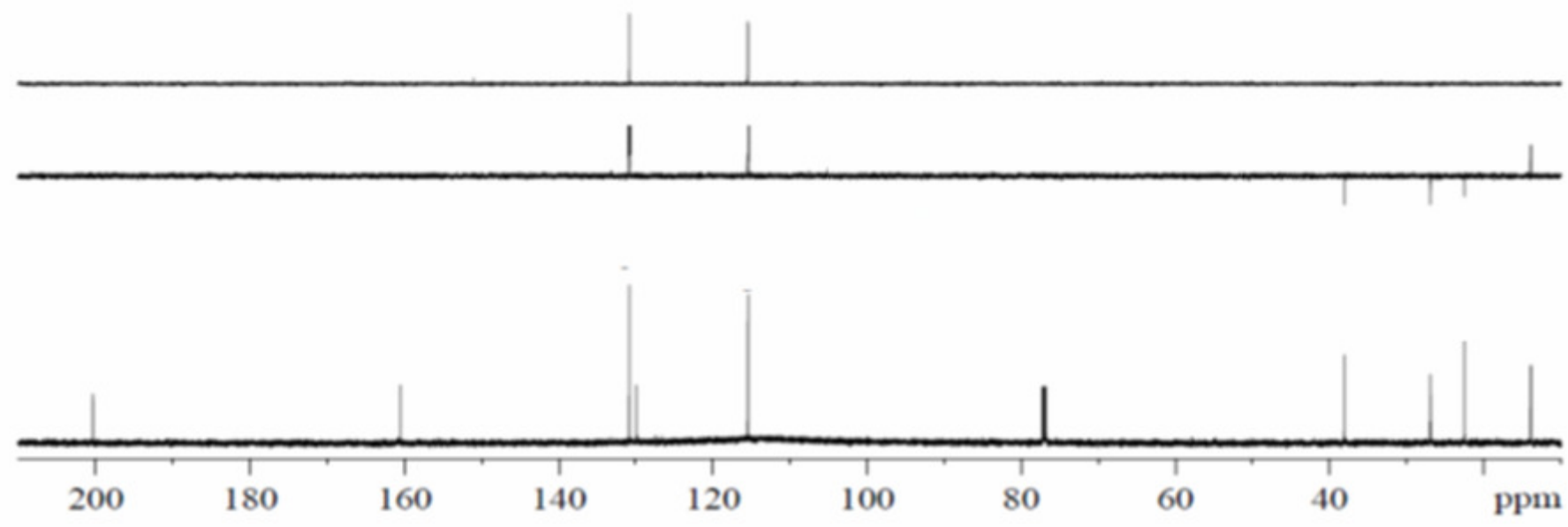




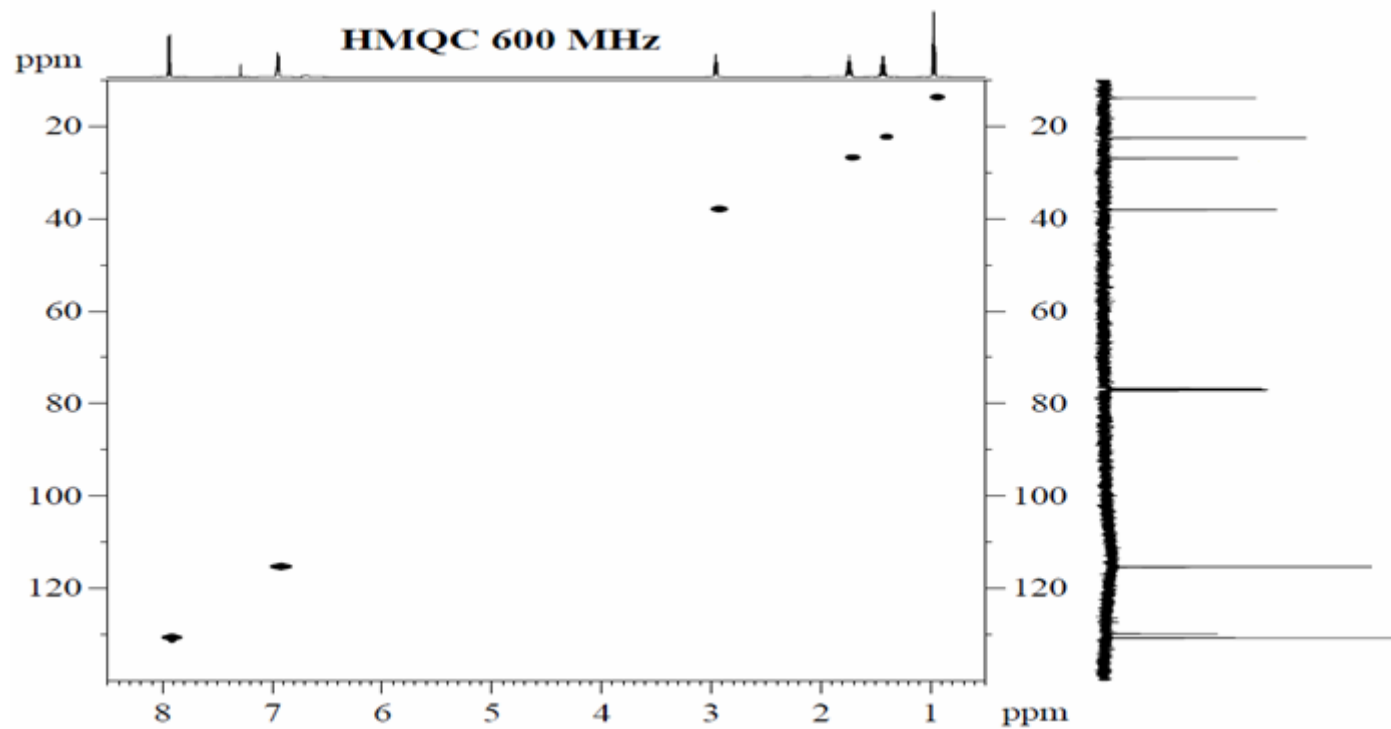
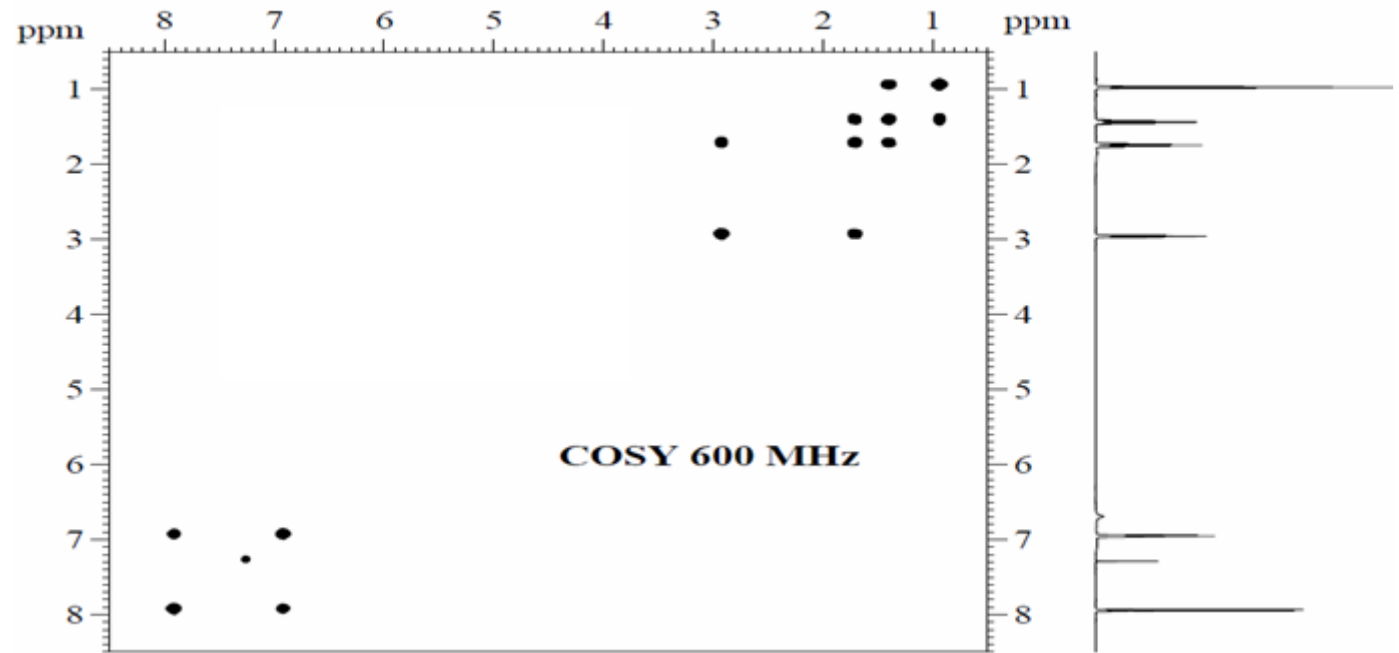
1H NMR 600 MHz



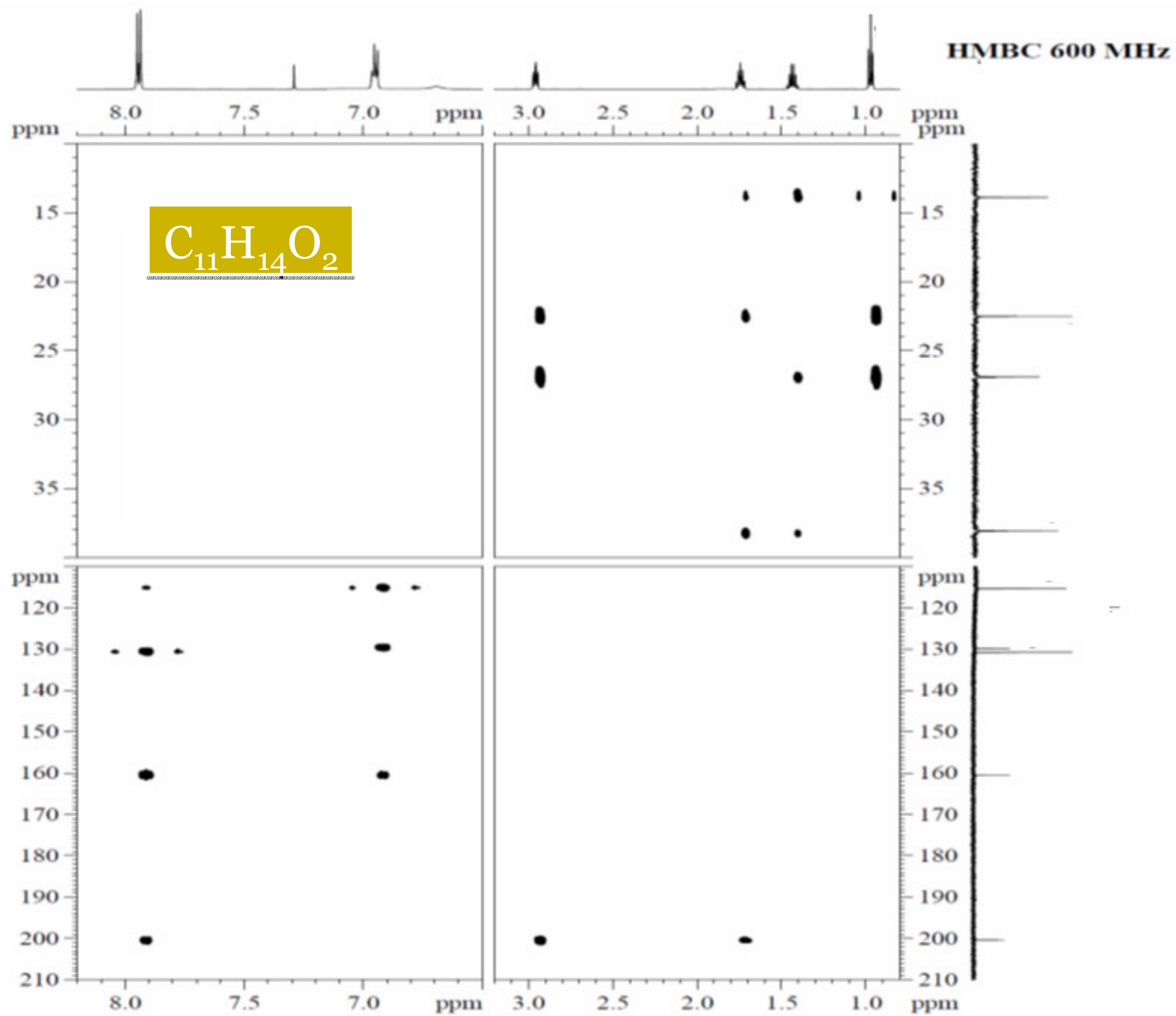
$^{13}C/DEPT$ NMR 150.9 MHz



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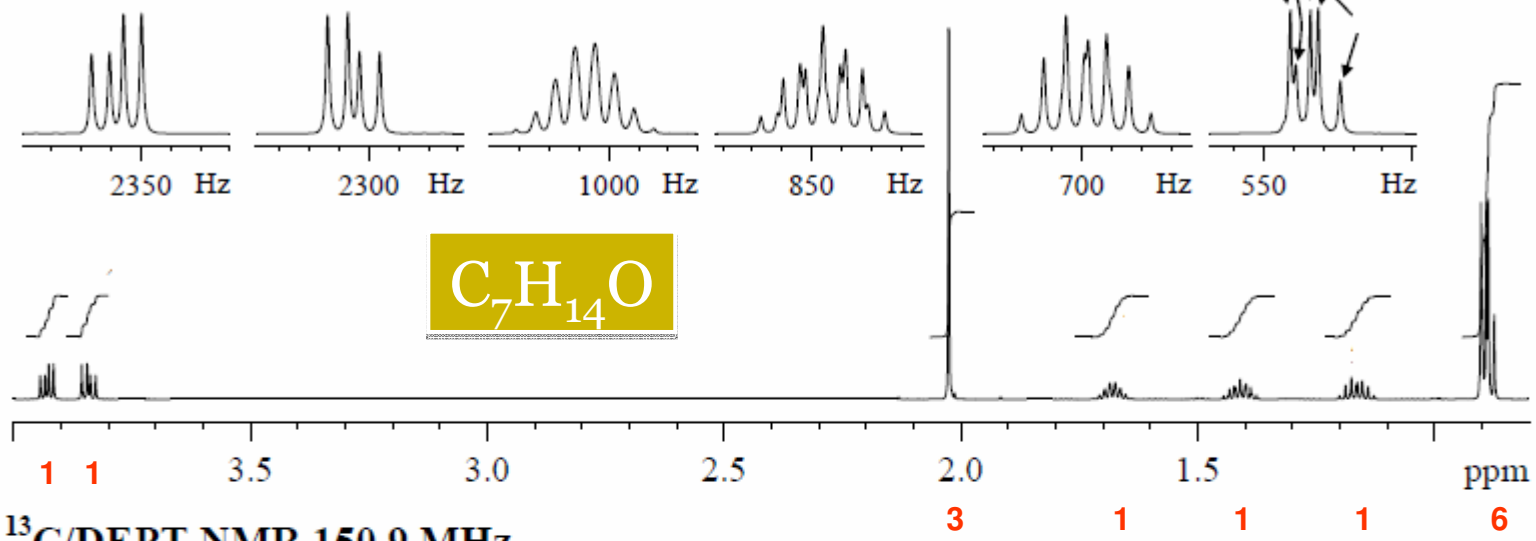


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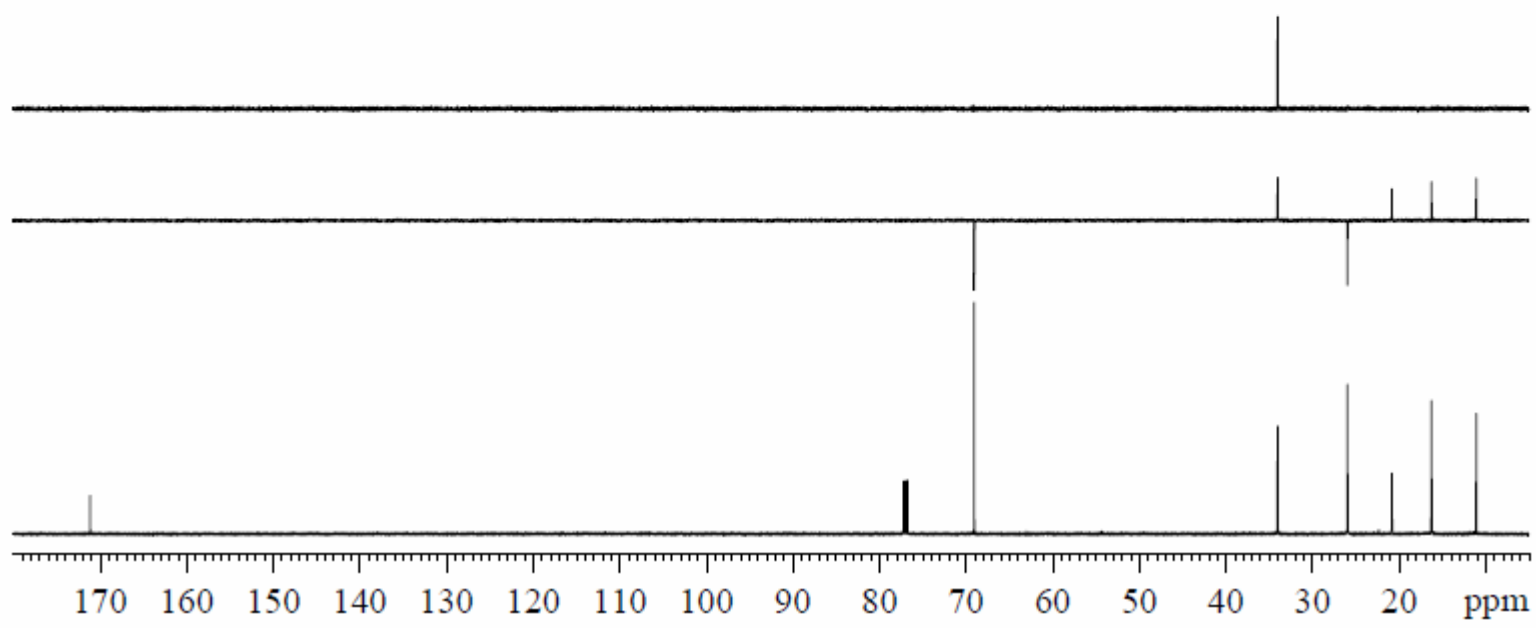


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^1H NMR 600 MHz

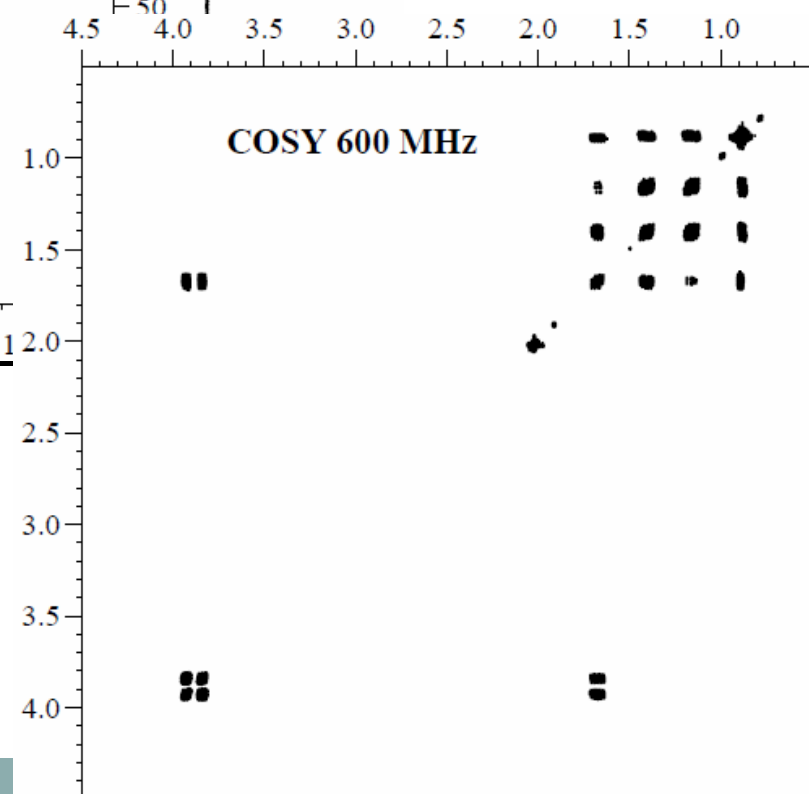
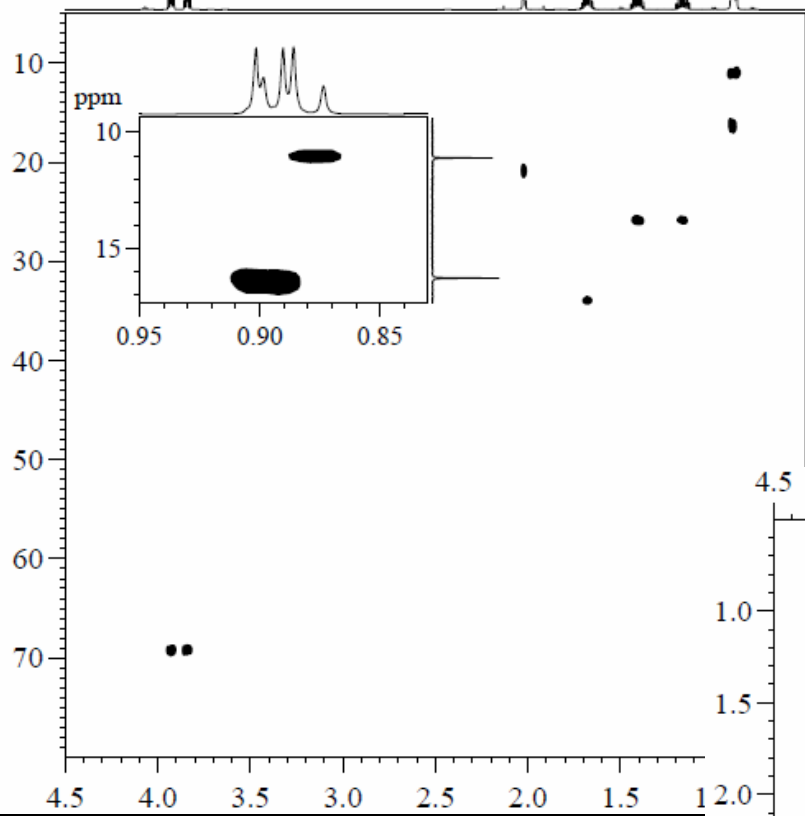


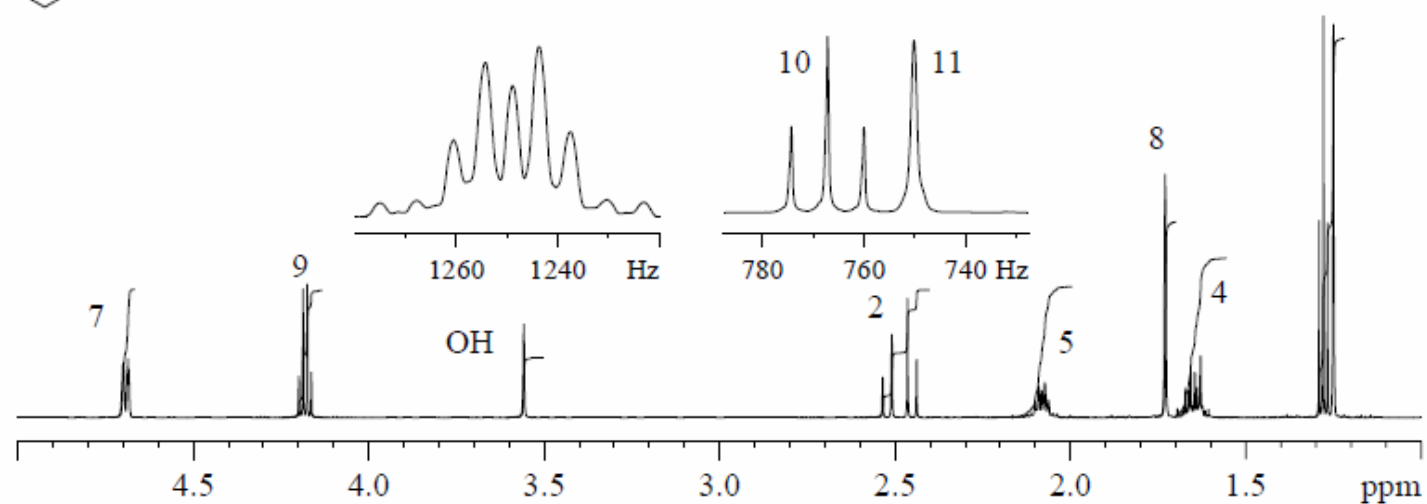
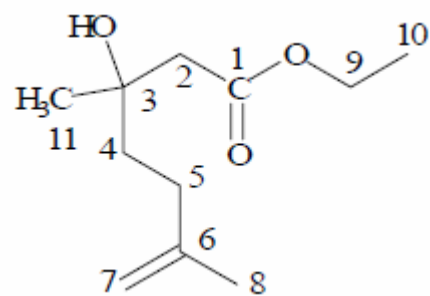
$^{13}\text{C}/\text{DEPT}$ NMR 150.9 MHz



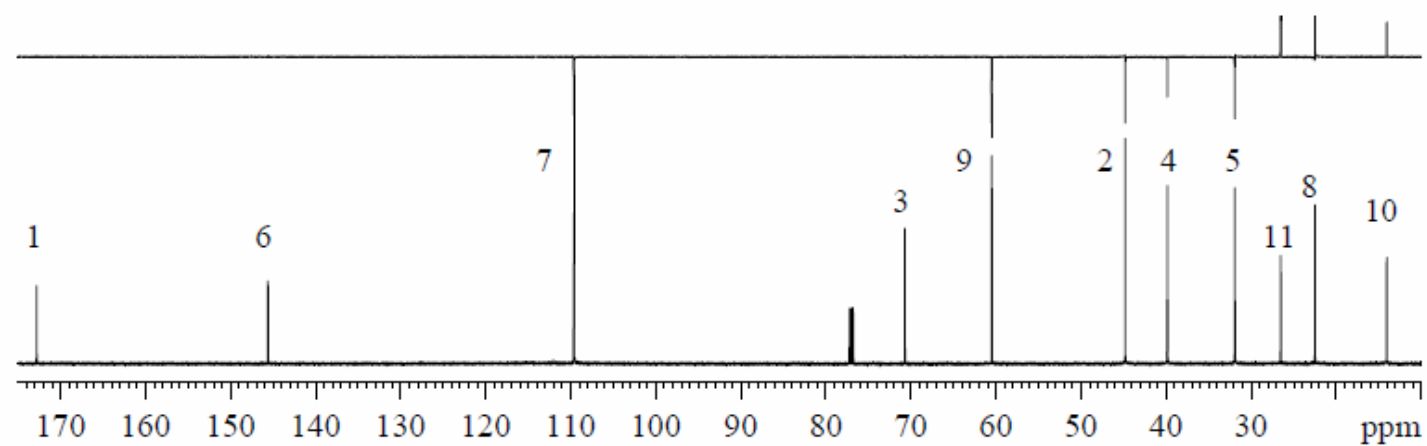
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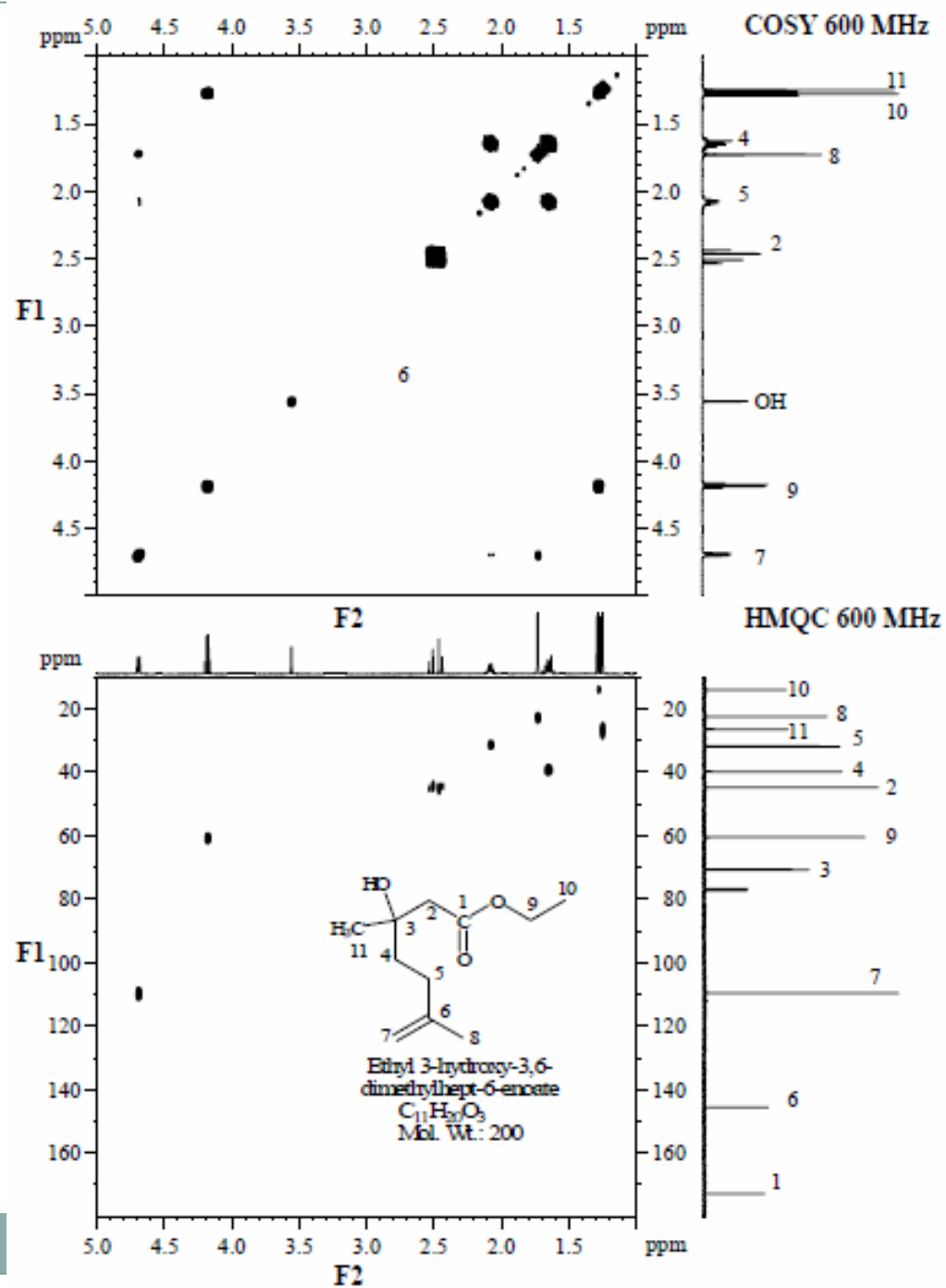
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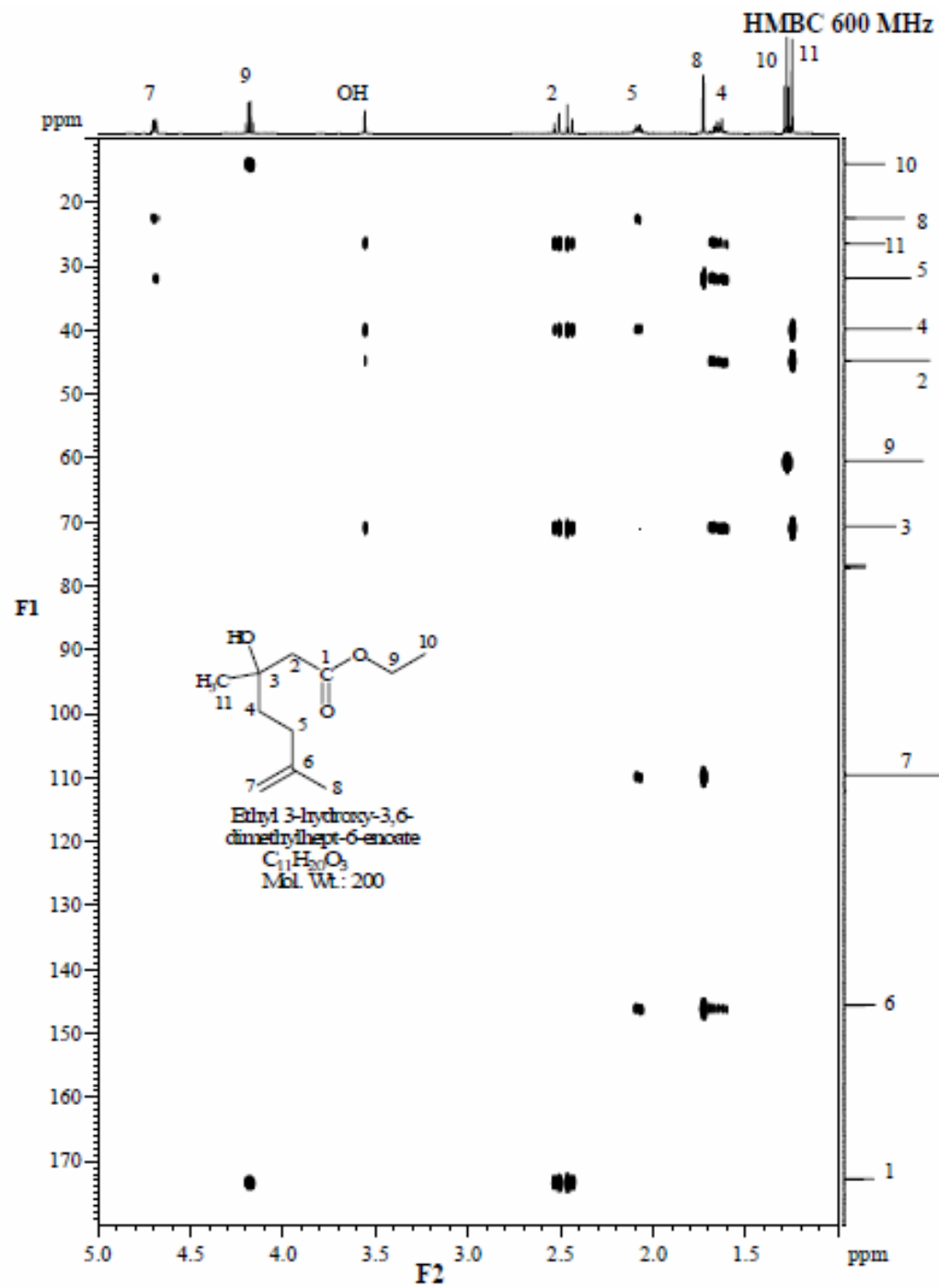




¹³C/DEPT NMR 150.9 MHz

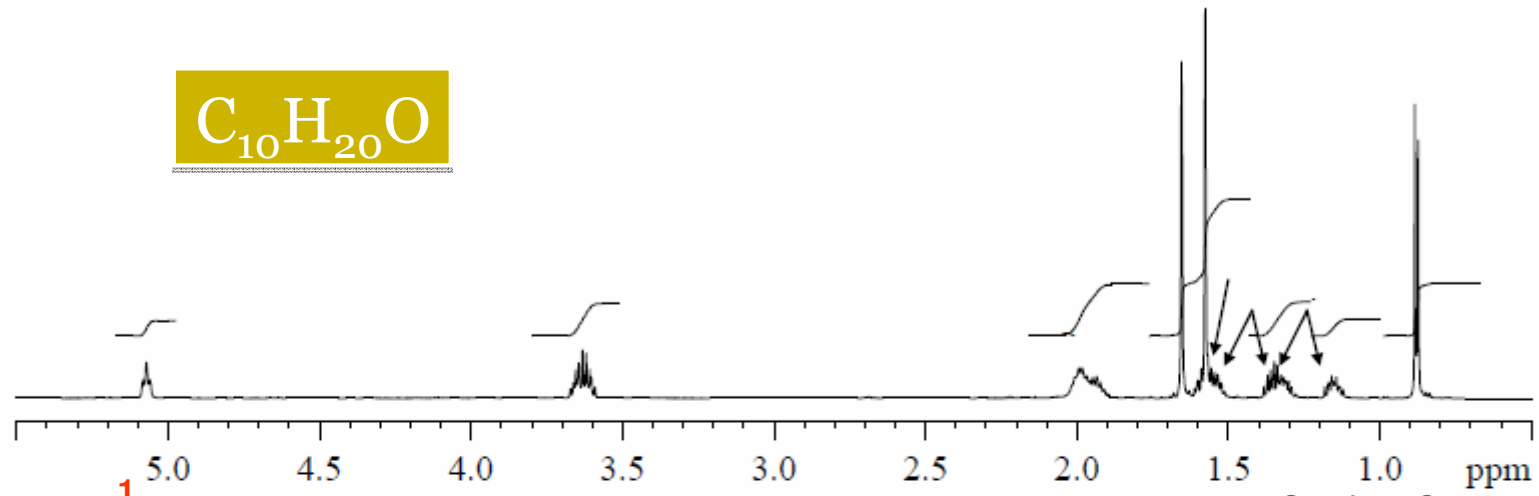




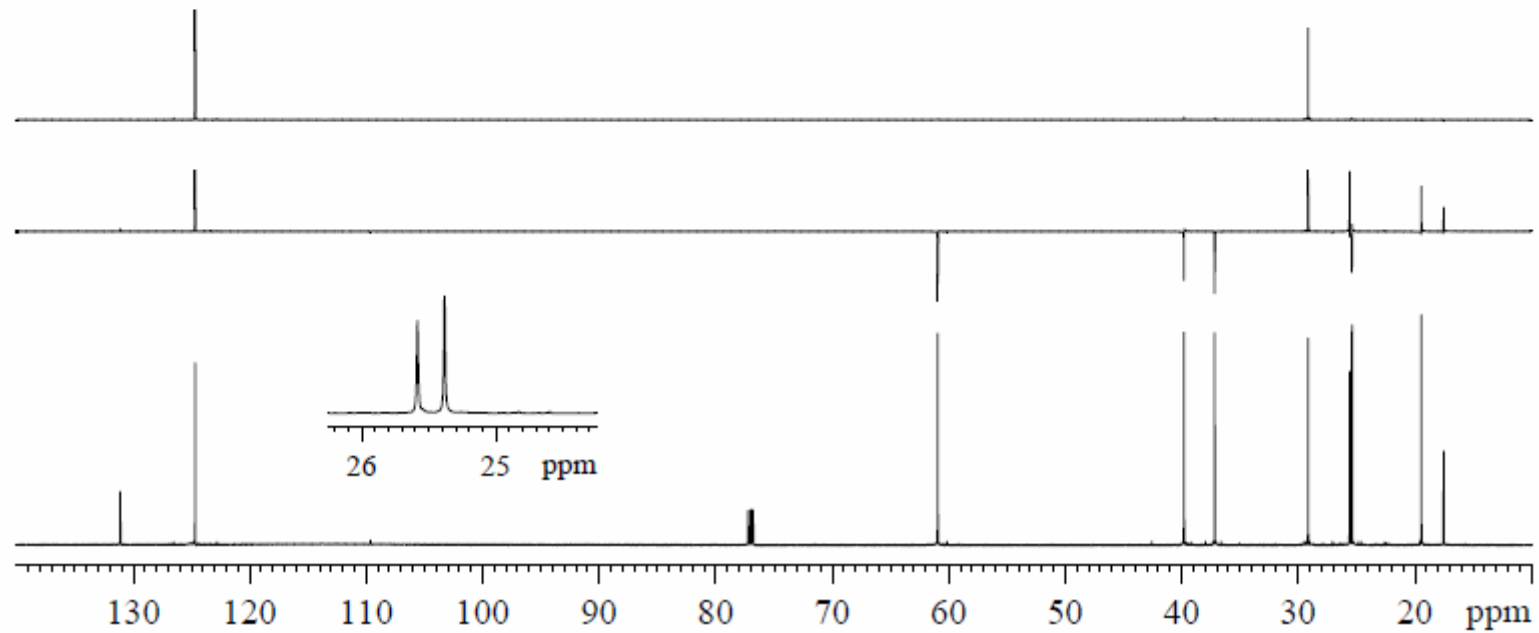


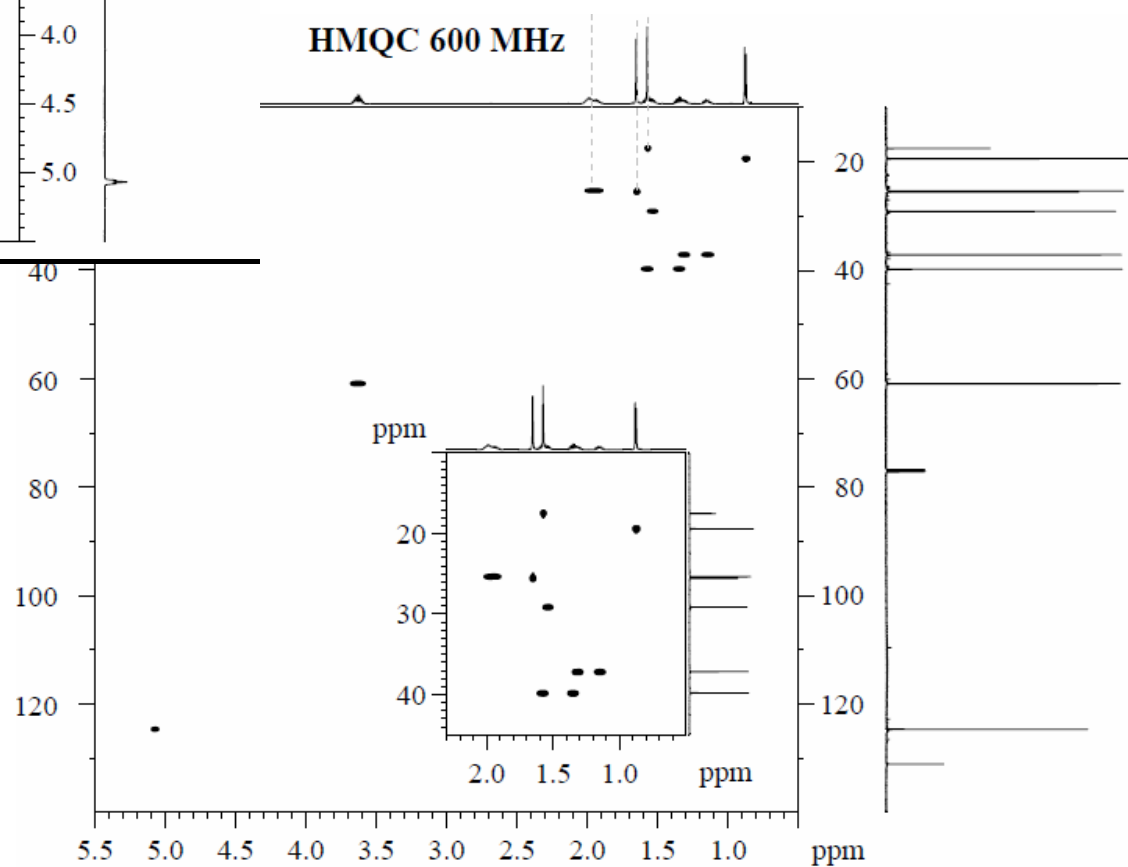
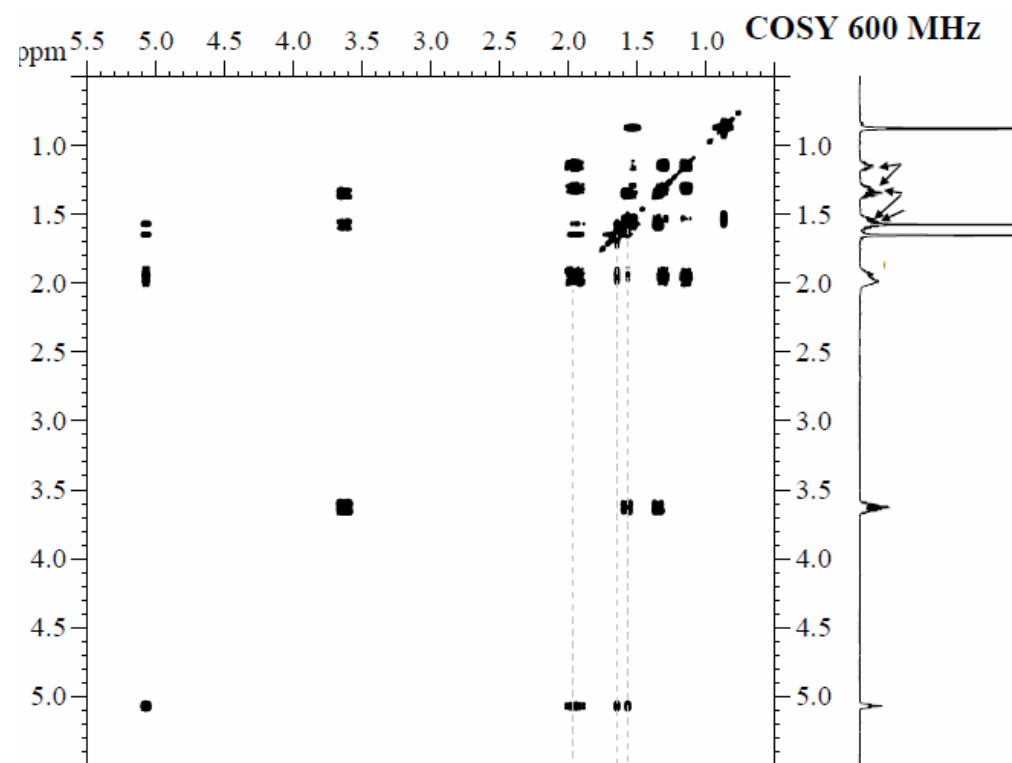
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^1H NMR 600 MHz



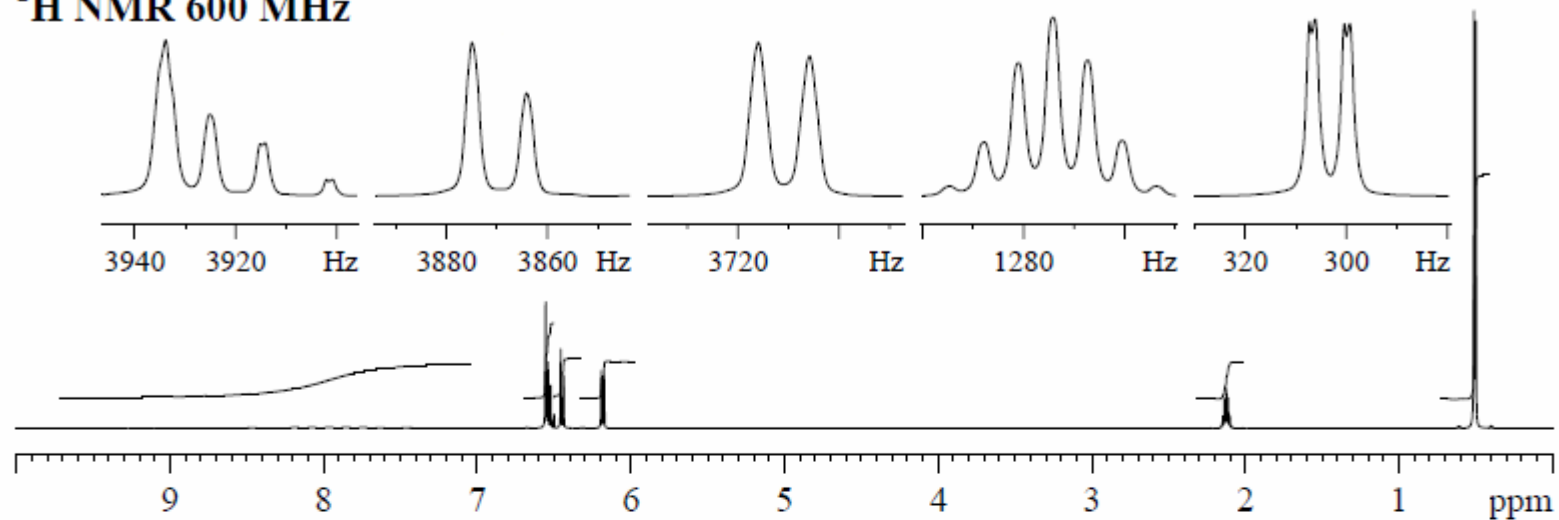
$^{13}\text{C}/\text{DEPT}$ NMR 150.9 MHz



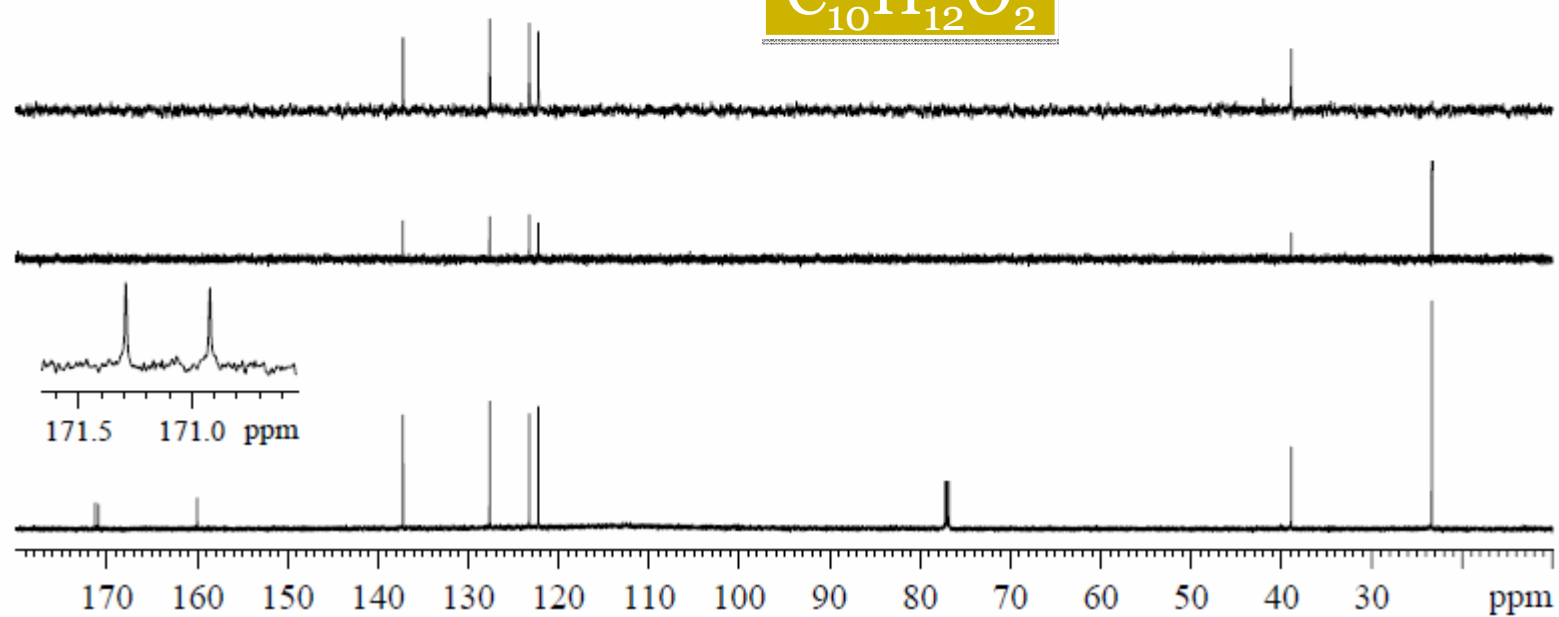


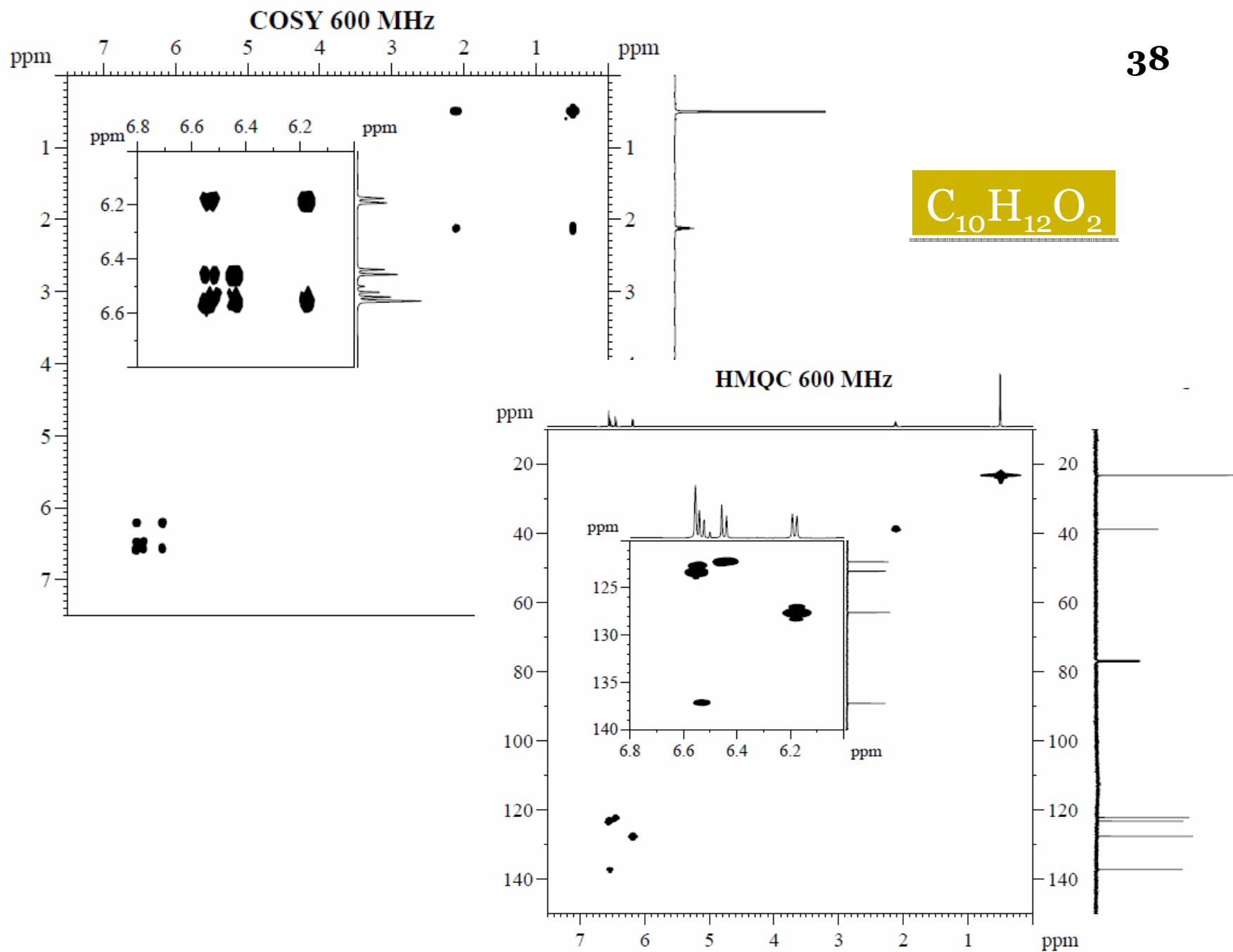
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¹H NMR 600 MHz



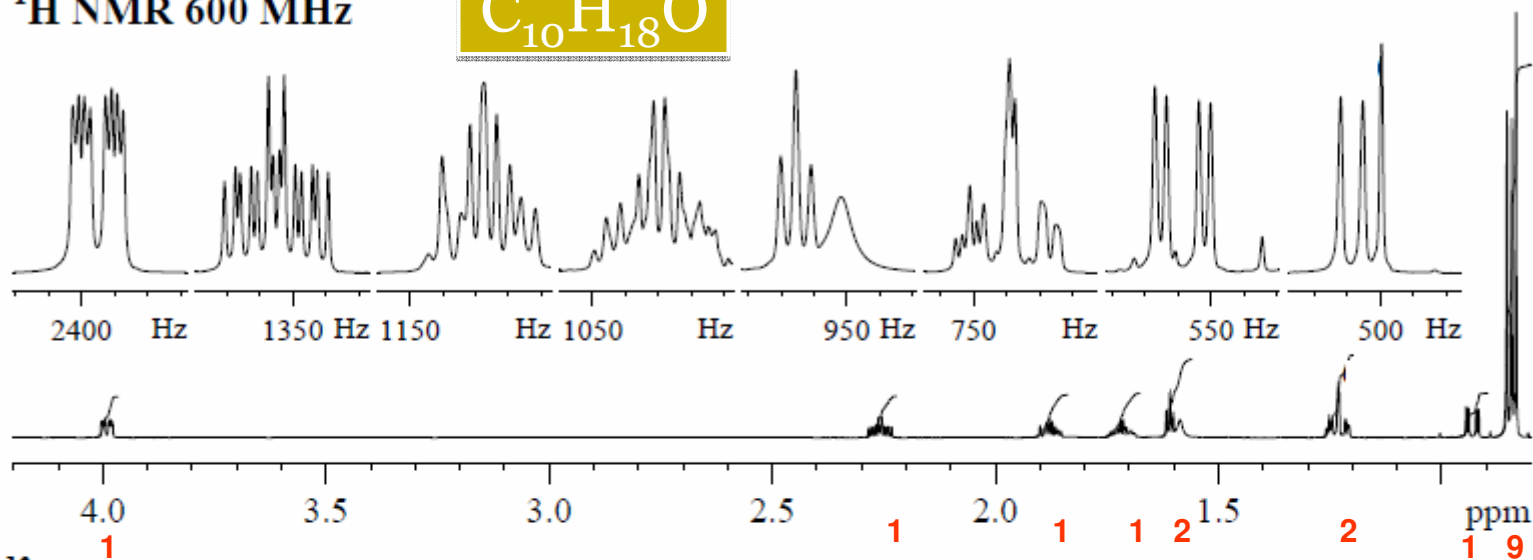
¹³C/DEPT NMR 150.9 MHz





32

^1H NMR 600 MHz



$^{13}\text{C}/\text{DEPT}$ NMR 150.9 MHz

