

## Supplementary Material

### Chemoselective reaction of ethane-1,2-dithiol, hydrazines, and hydroxylamine onto $\gamma$ -keto allyl phosphonates and phosphine oxides

Haïtham Elleuch,<sup>a</sup> Narjes Baioui,<sup>a</sup> Jalloul Bouajila,<sup>b</sup> and Farhat Rezgui\*<sup>a</sup>

<sup>a</sup>Université de Tunis El Manar, Faculté des Sciences de Tunis, Laboratoire de Chimie Organique Structurale LR99ES14, Campus Universitaire, 2092 Tunis, Tunisia

<sup>b</sup>Université de Toulouse 3, Université Paul-Sabatier, Faculté des Sciences Pharmaceutiques, Laboratoire des IMRCP UMR CNRS 5623, 35 chemin des Maraîchers, 31062 Toulouse cedex 09, France

Email: [rez\\_far@yahoo.fr](mailto:rez_far@yahoo.fr)

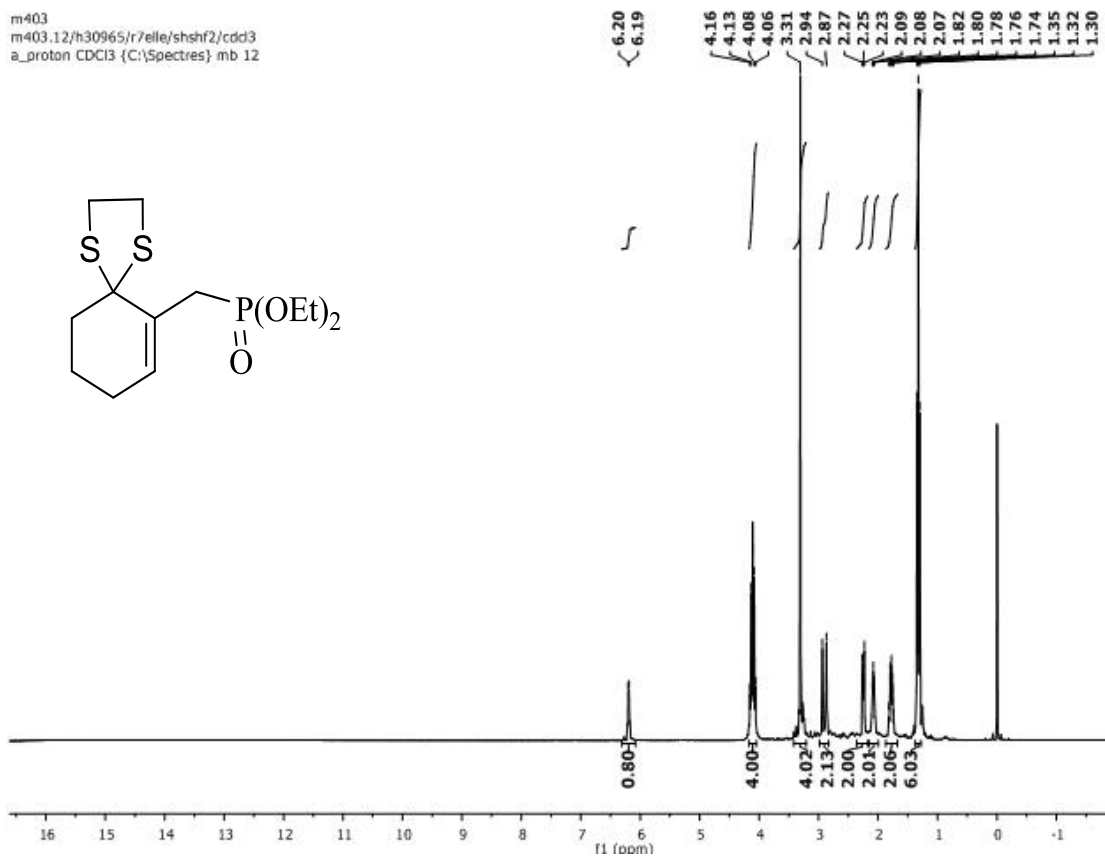
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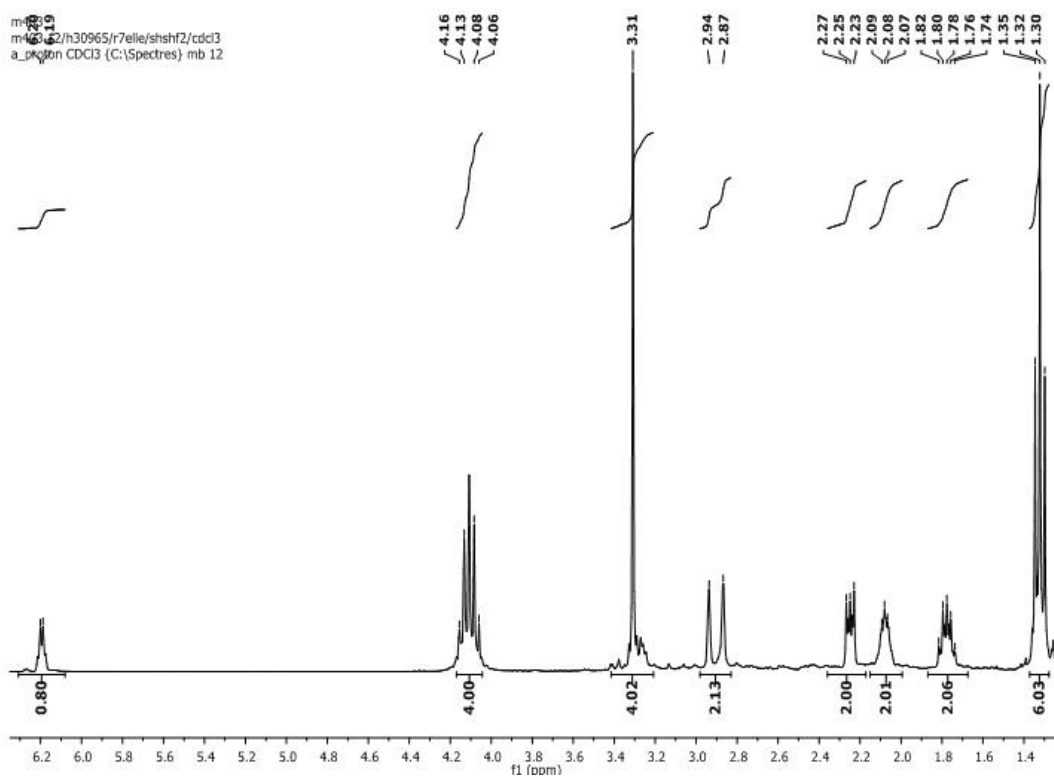
## Spectral data for compounds 2a-e, 3 and 4a-c

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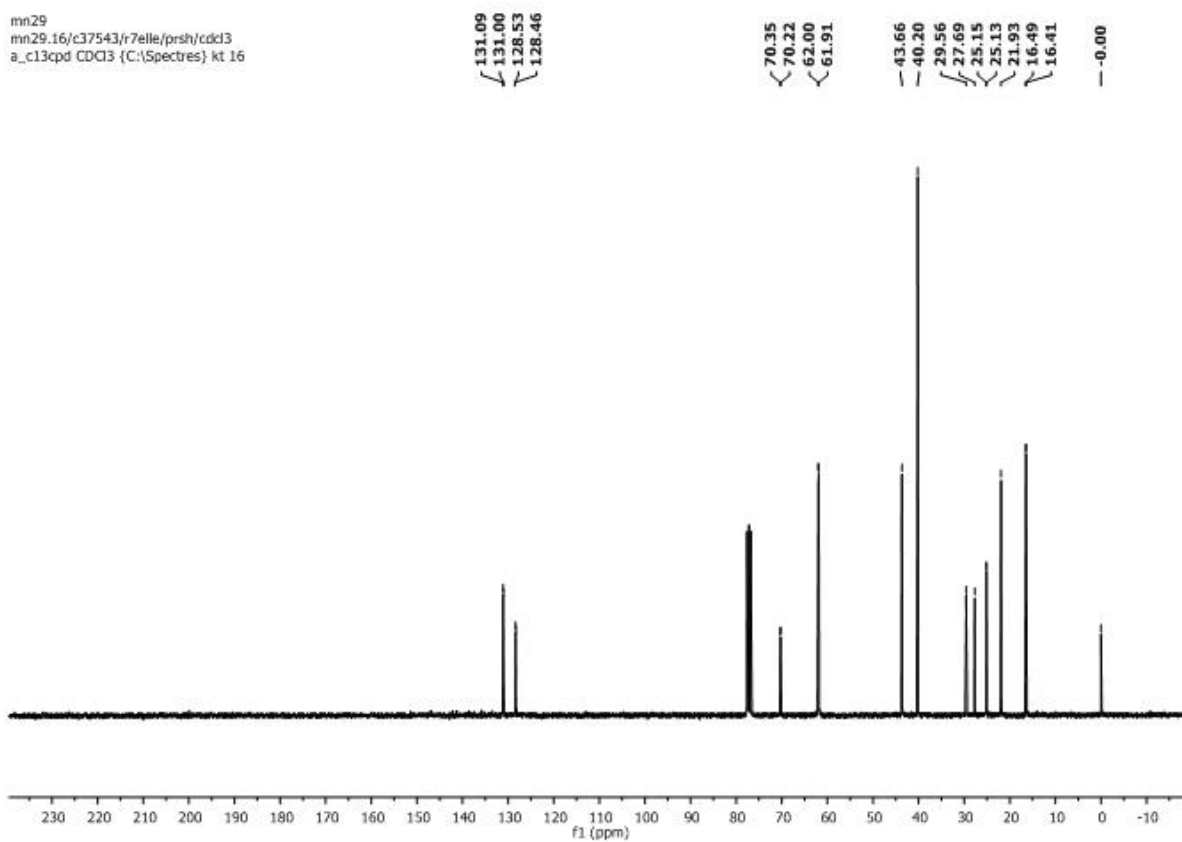
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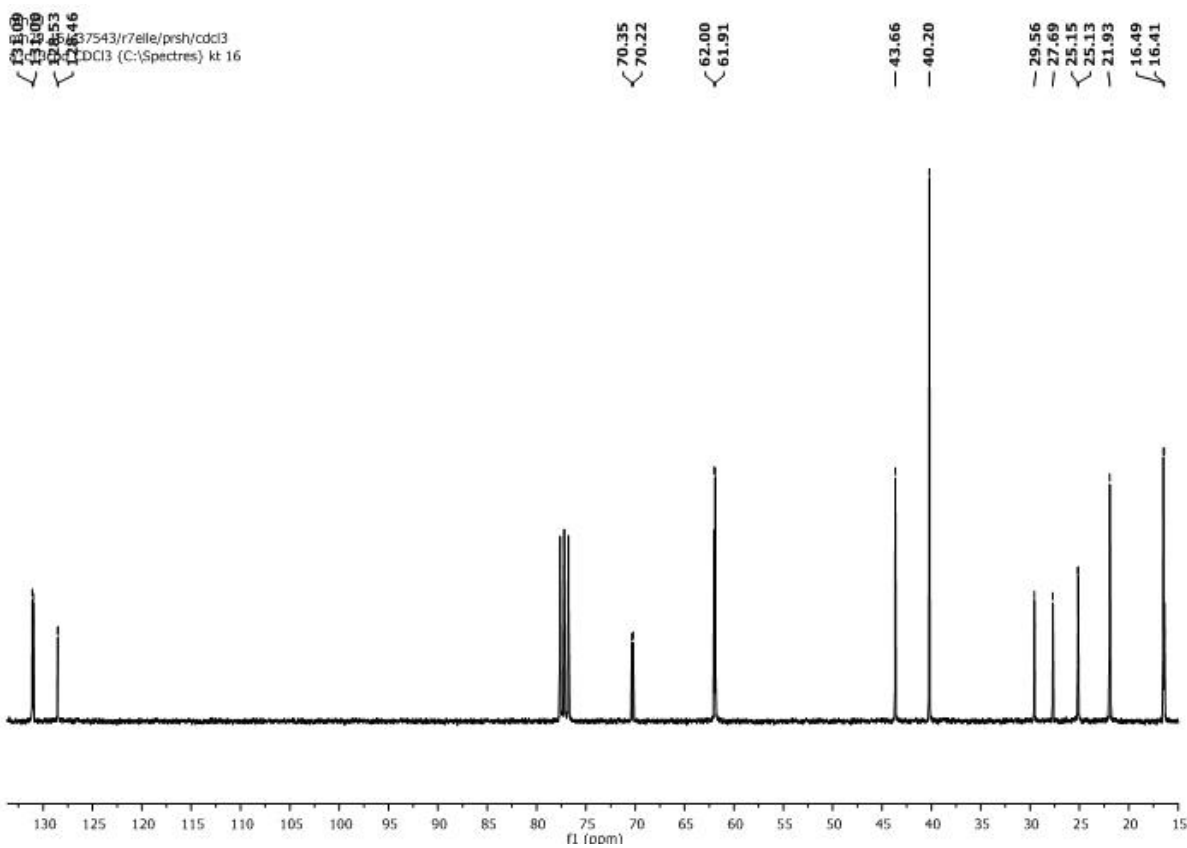
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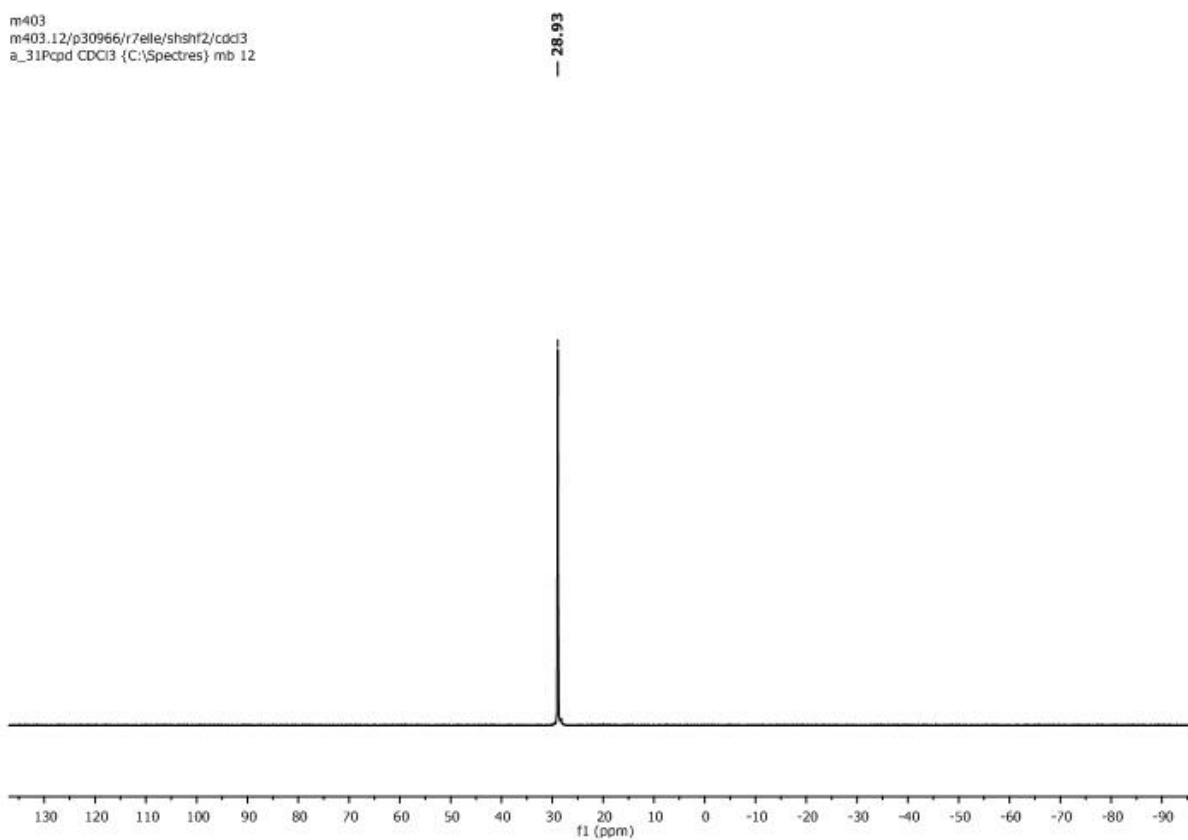
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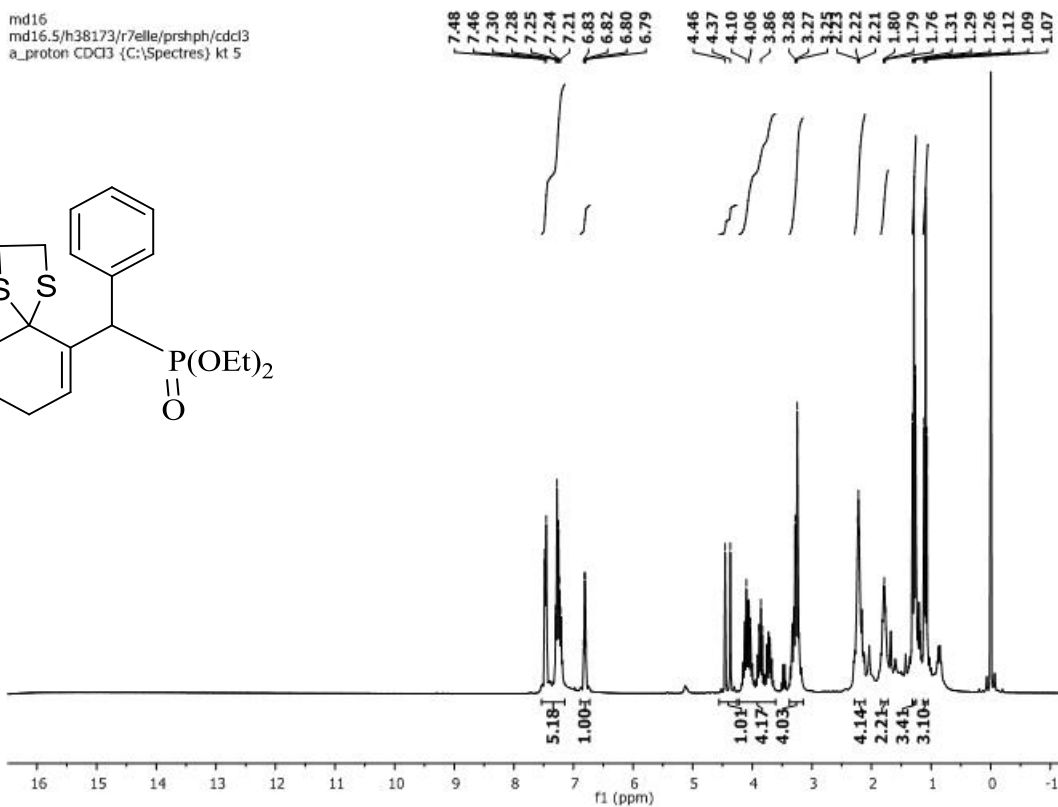
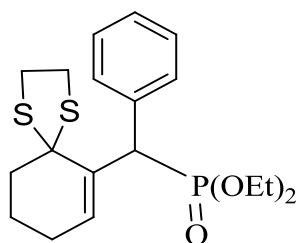
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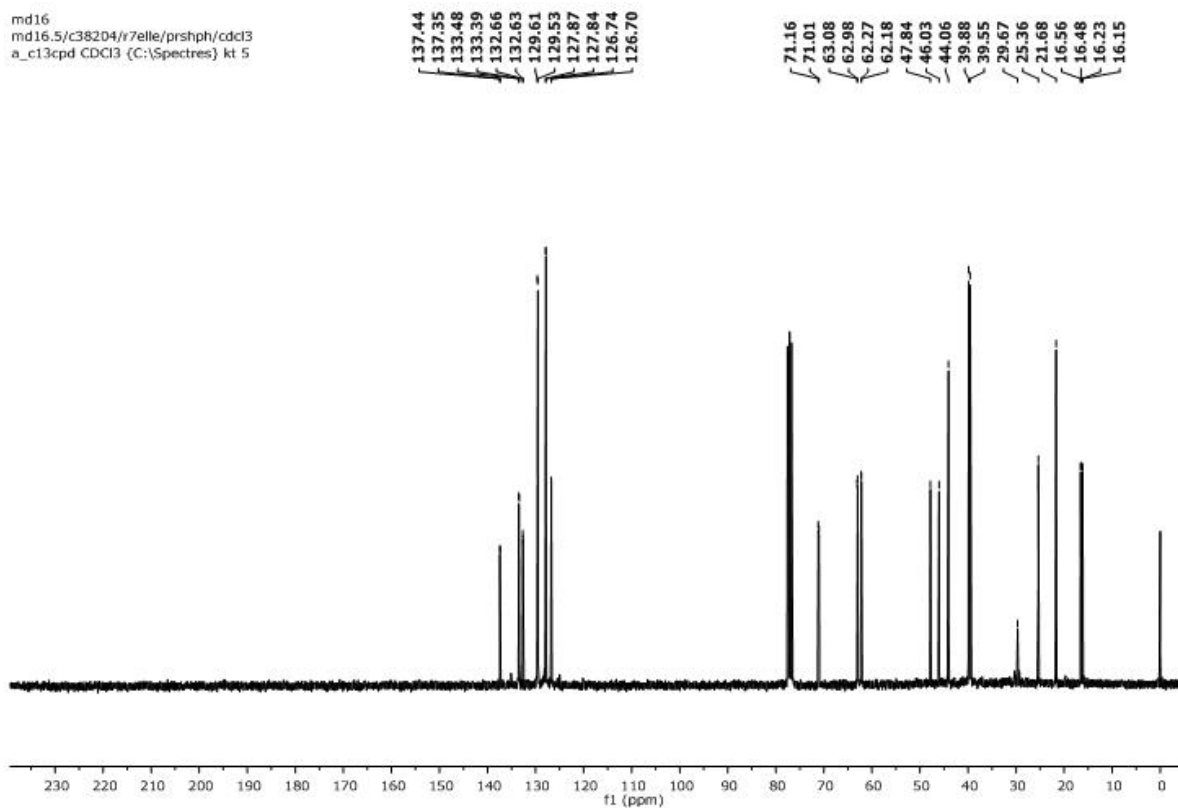
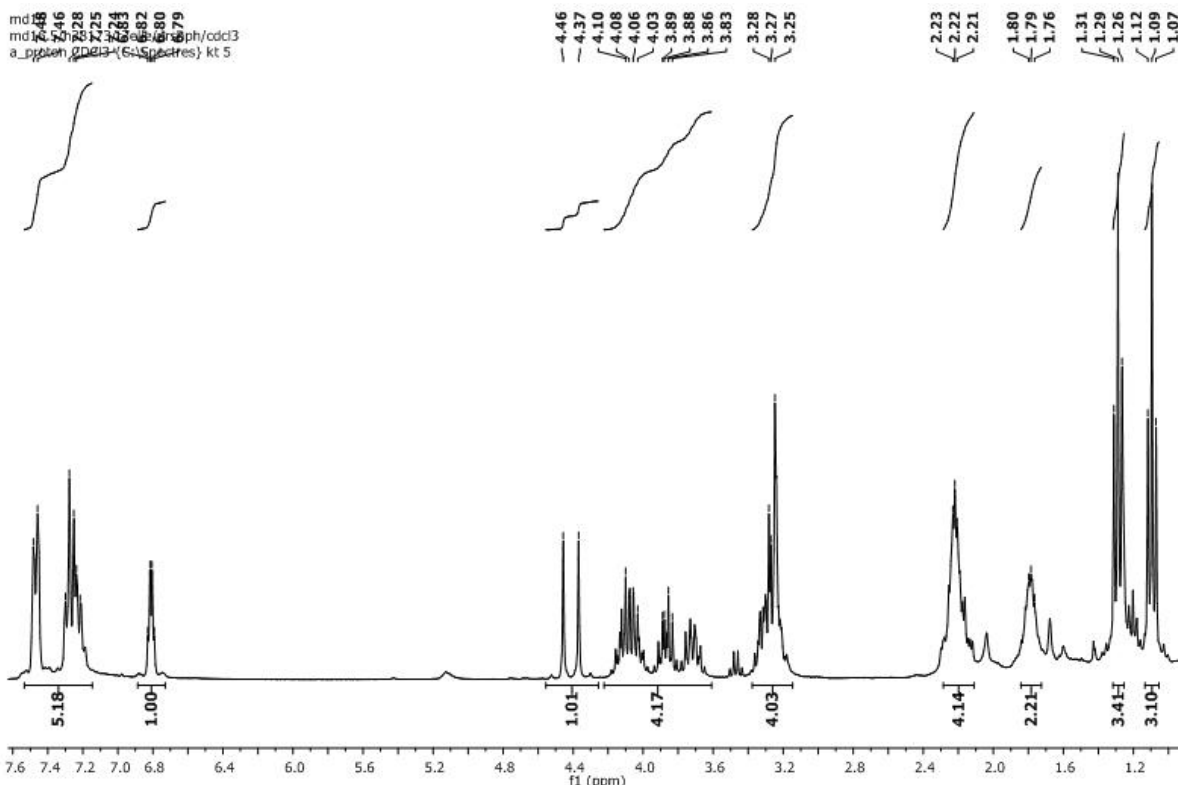


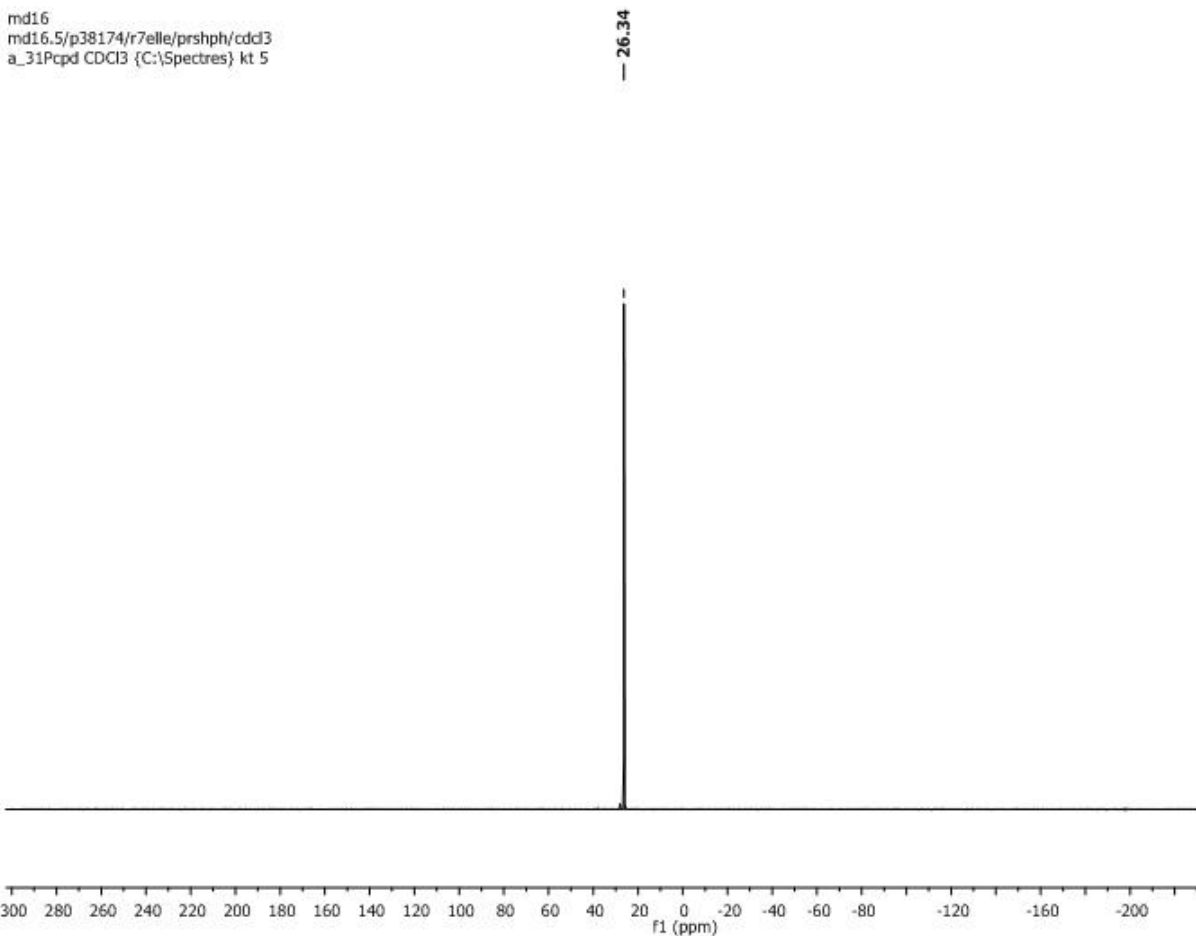
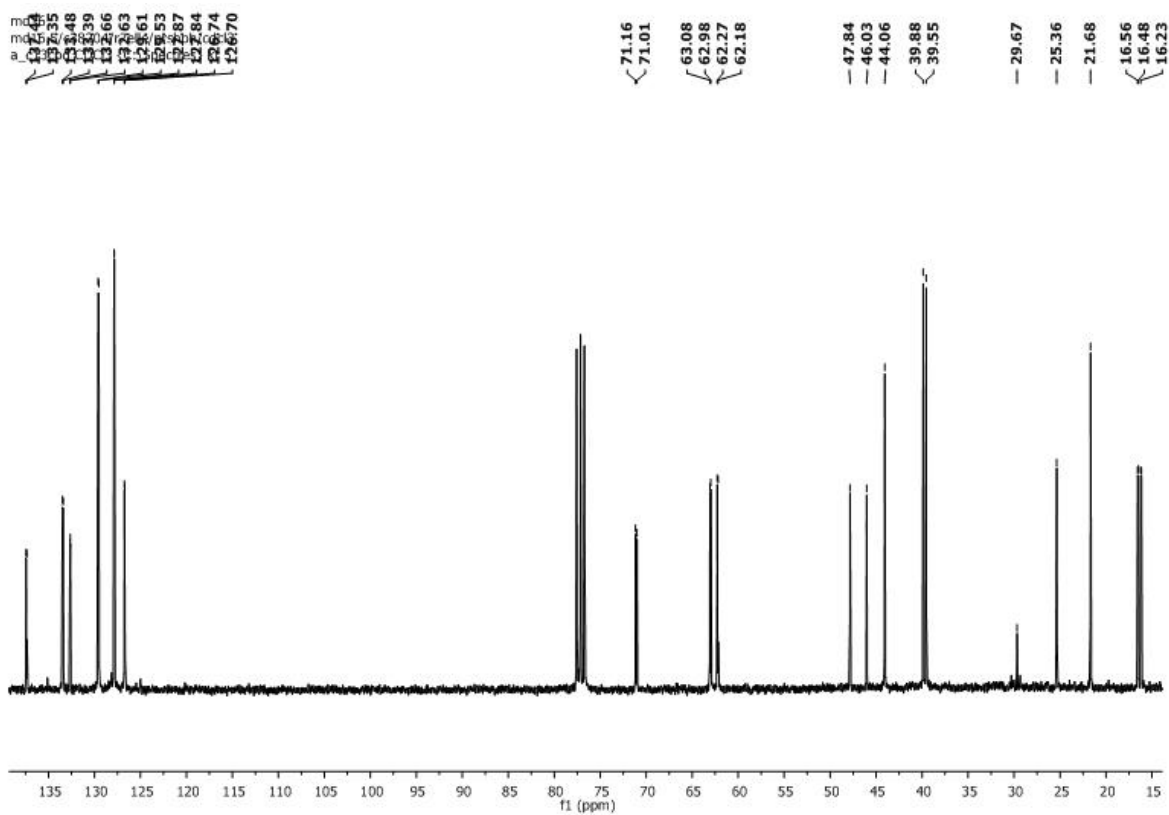
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**2b**

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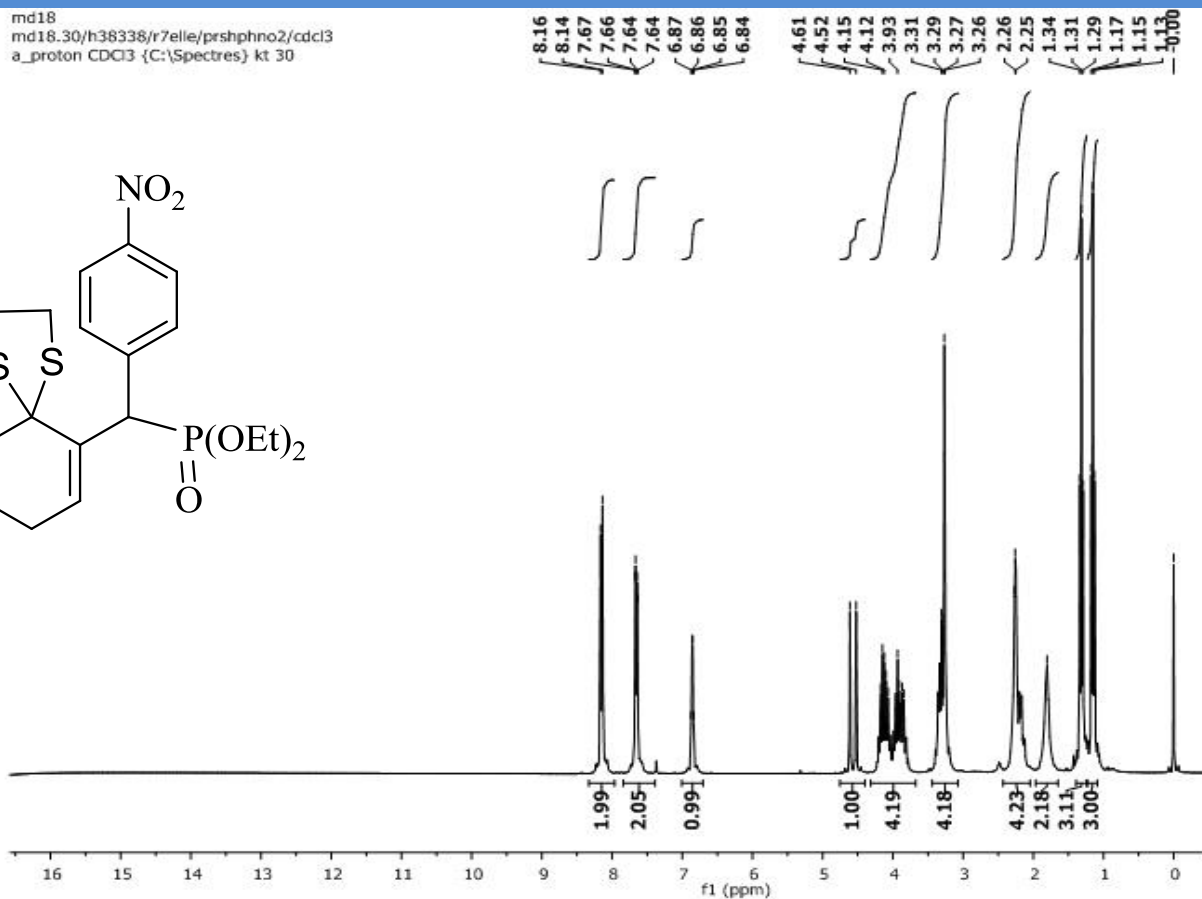
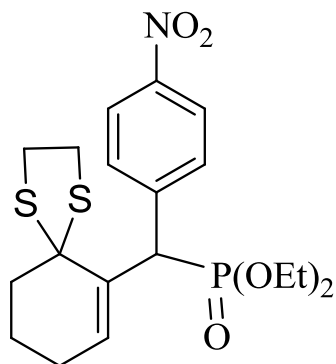




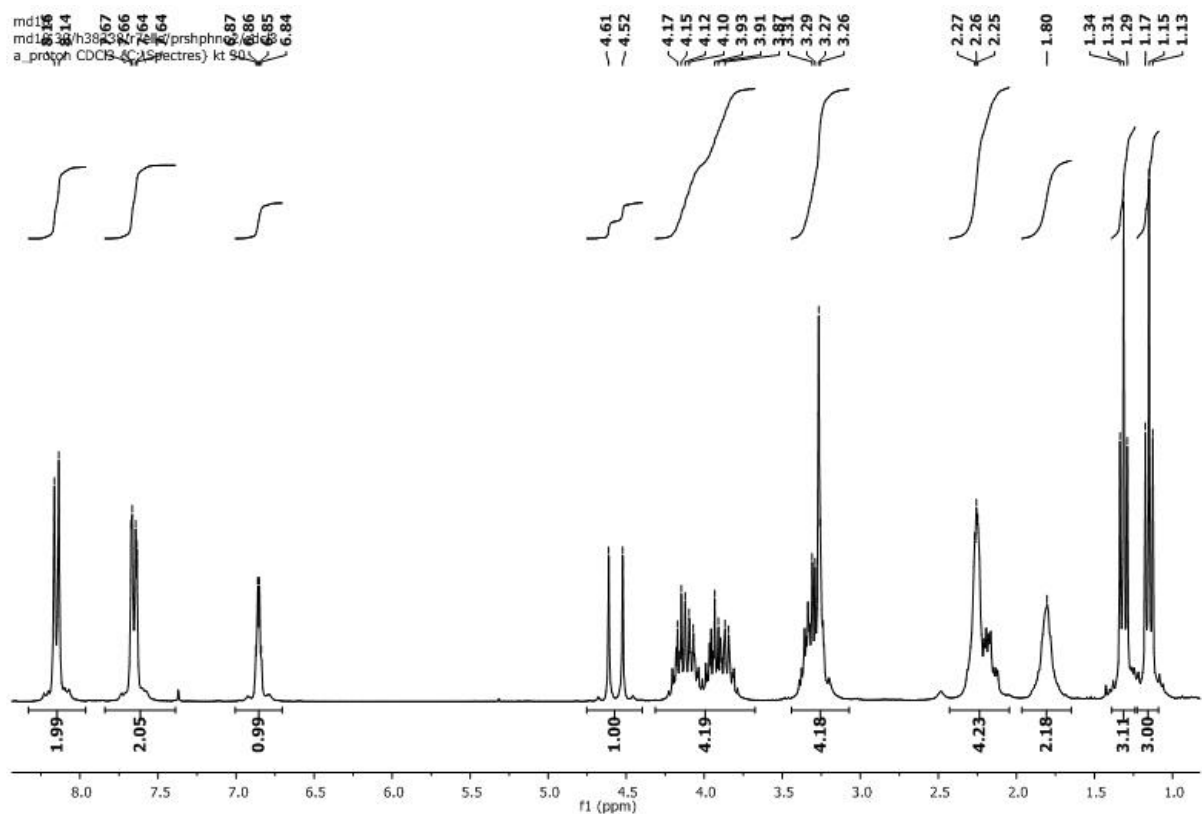
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2c

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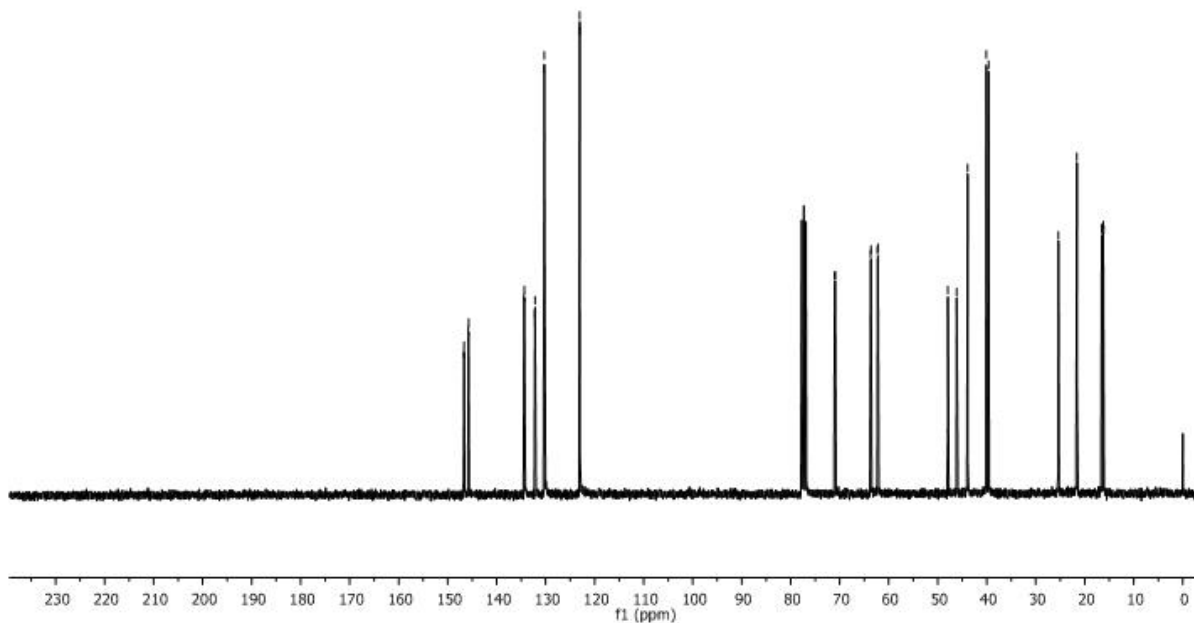
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146.71  
 146.66  
 145.79  
 145.71  
 134.43  
 134.34  
 132.21  
 132.17  
 130.35  
 130.27  
 123.10  
 123.06

71.04  
 70.90  
 63.70  
 63.61  
 62.29  
 62.19  
 47.95  
 46.14  
 43.90  
 40.10  
 39.62  
 25.38  
 21.60  
 16.56  
 16.49  
 16.23  
 16.14

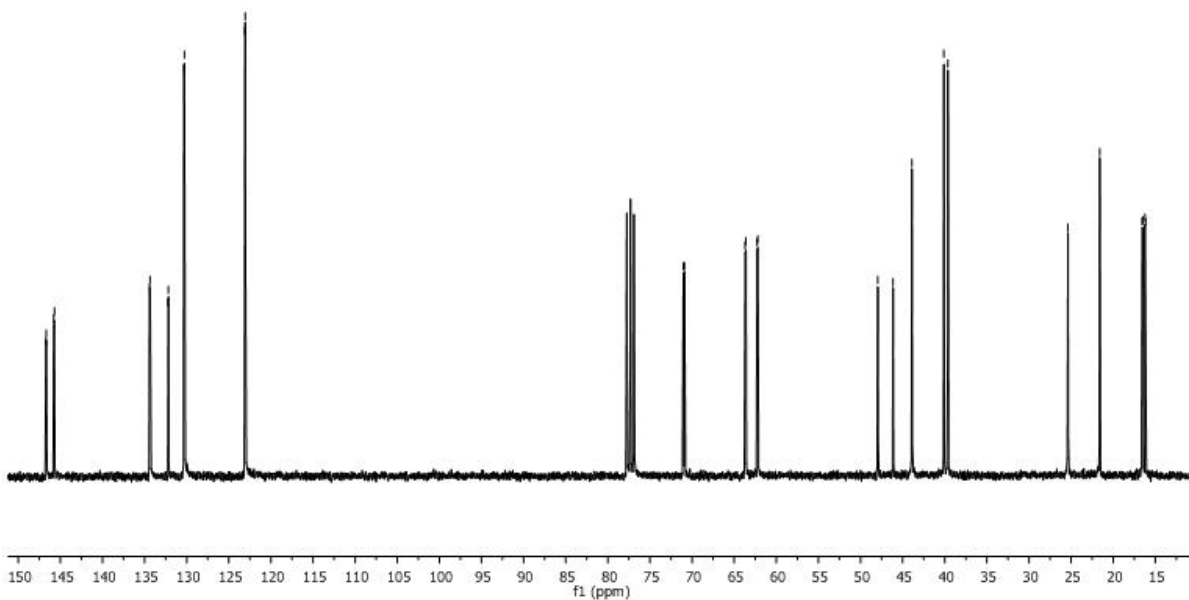


146.71  
 146.66  
 145.79  
 145.71  
 134.43  
 134.34  
 132.21  
 132.17  
 130.35  
 130.27  
 123.10  
 123.06

71.04  
 70.90  
 63.70  
 63.61  
 62.29  
 62.19

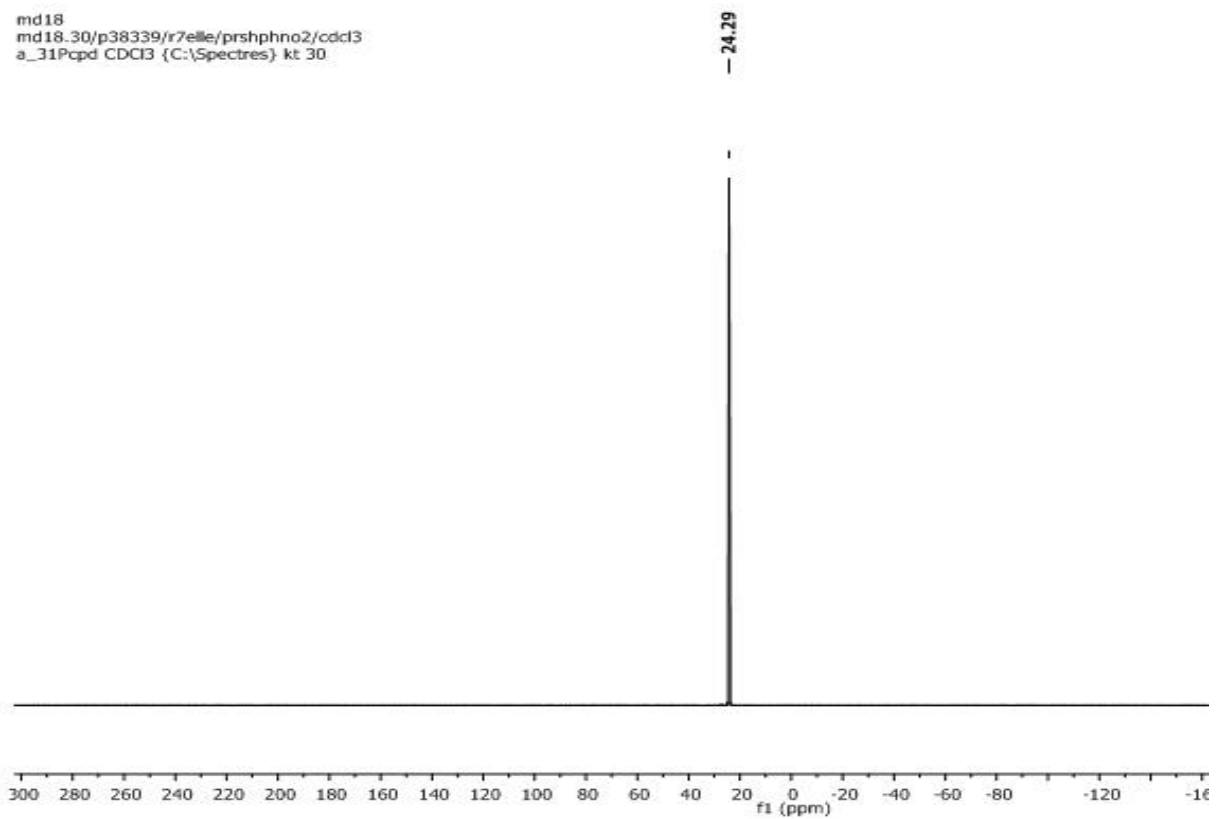
47.95  
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 39.62

25.38  
 21.60  
 16.56  
 16.49  
 16.23  
 16.14

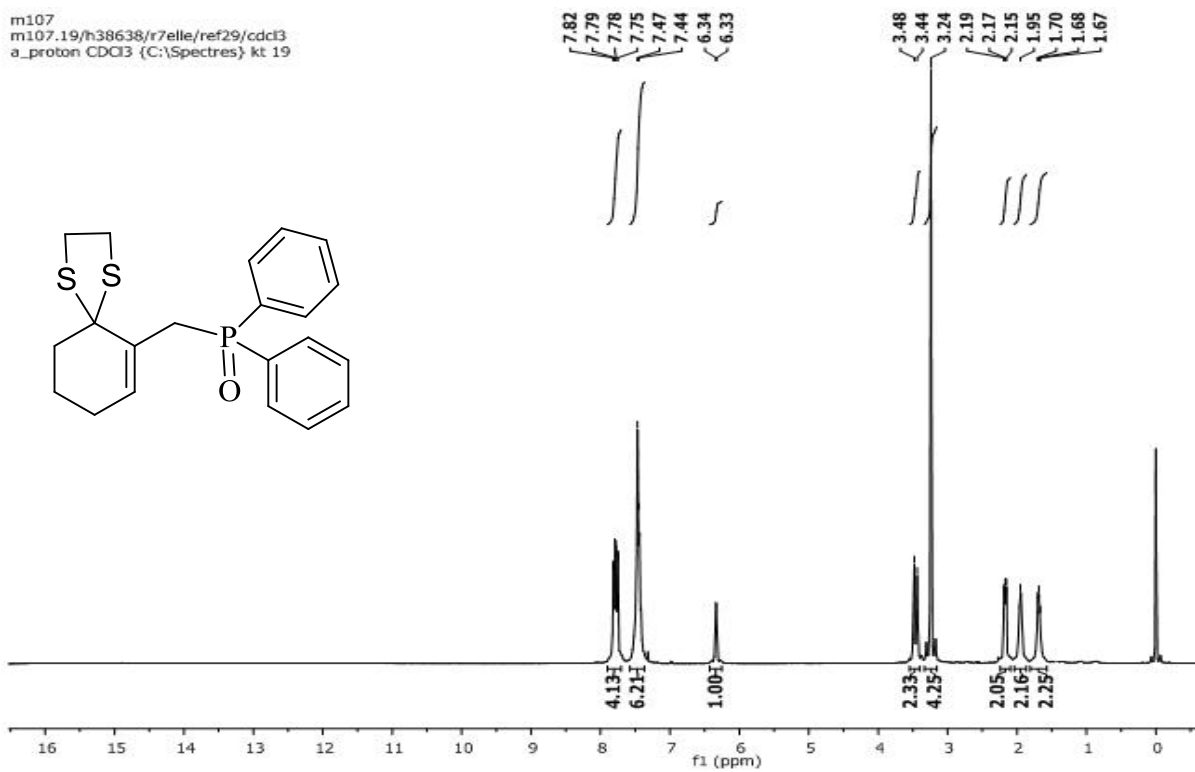


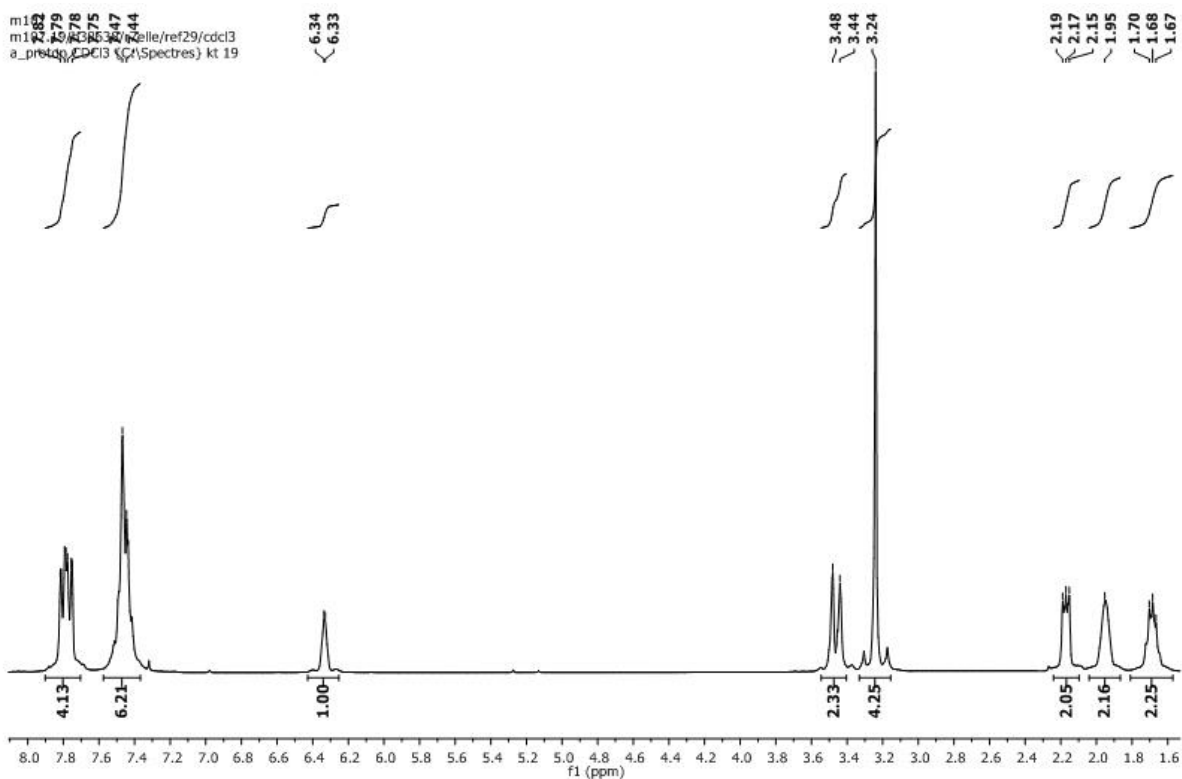


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**2d**

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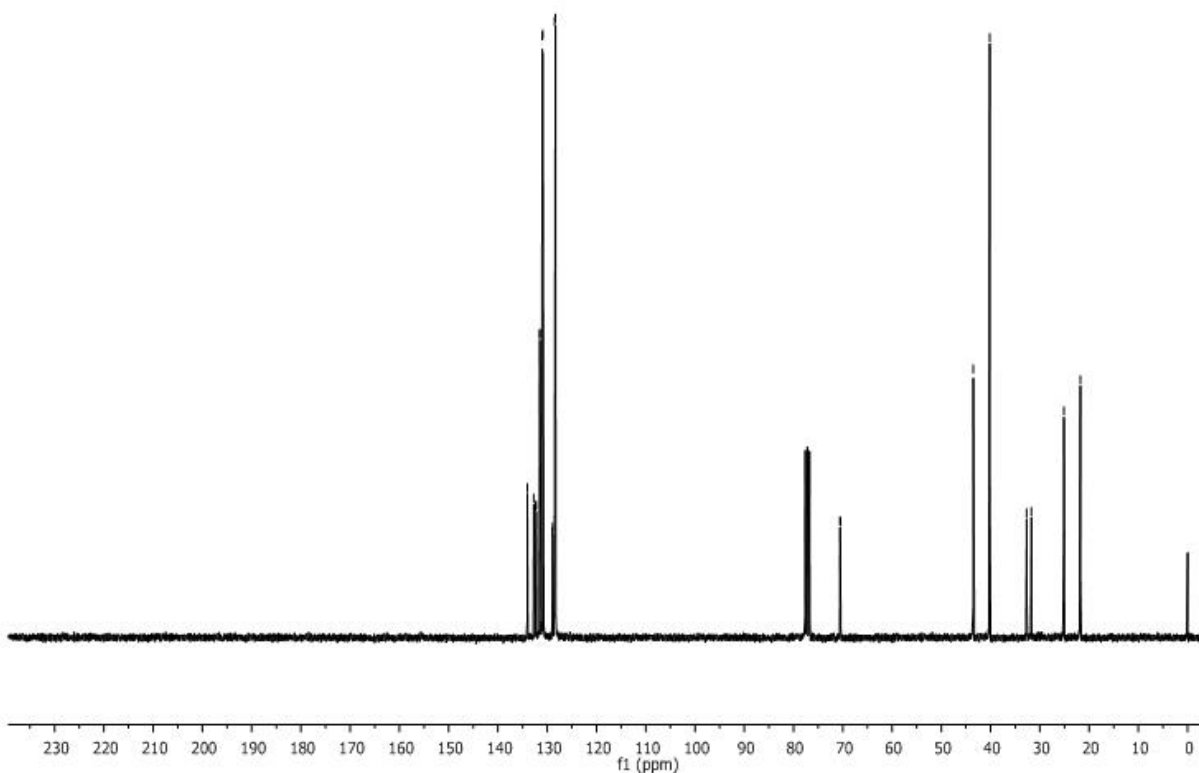


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131.02  
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128.96  
128.90  
128.48  
128.33

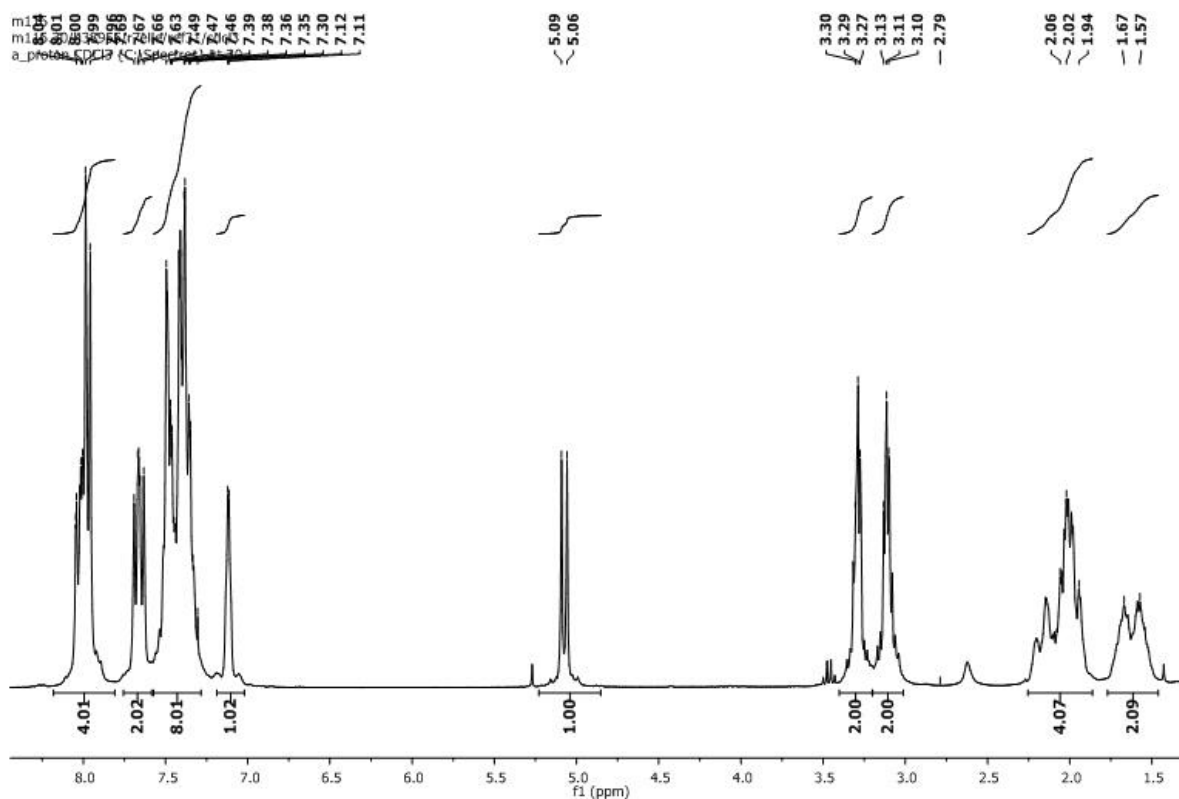
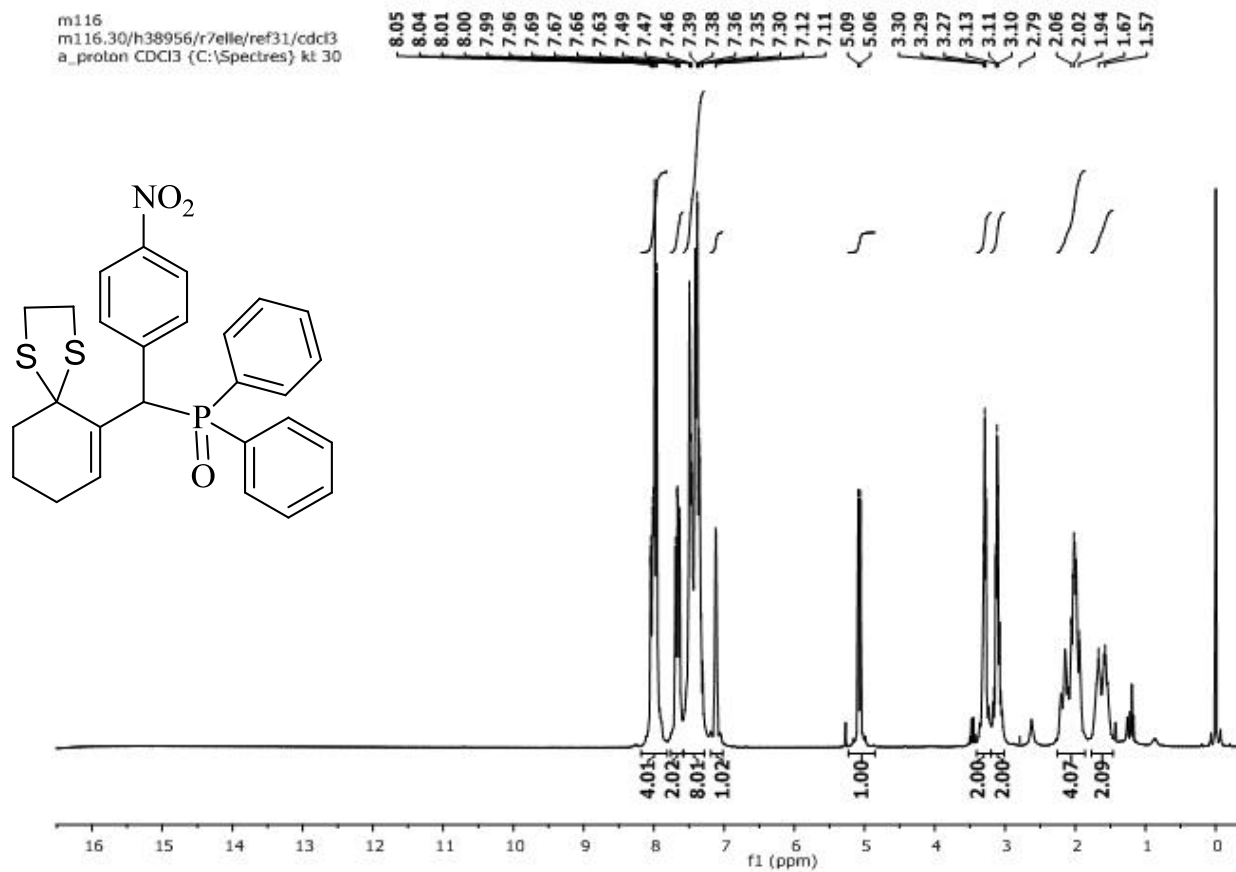
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43.50  
40.17  
32.67  
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21.78

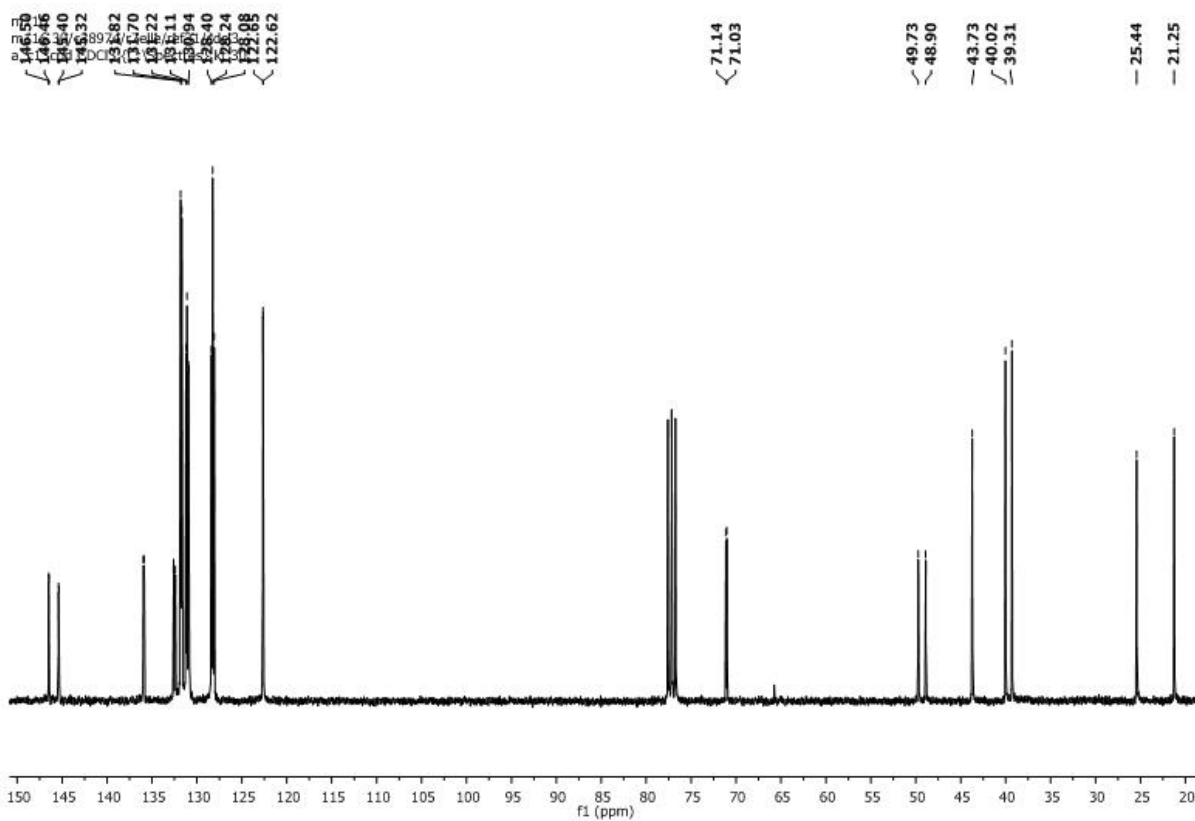
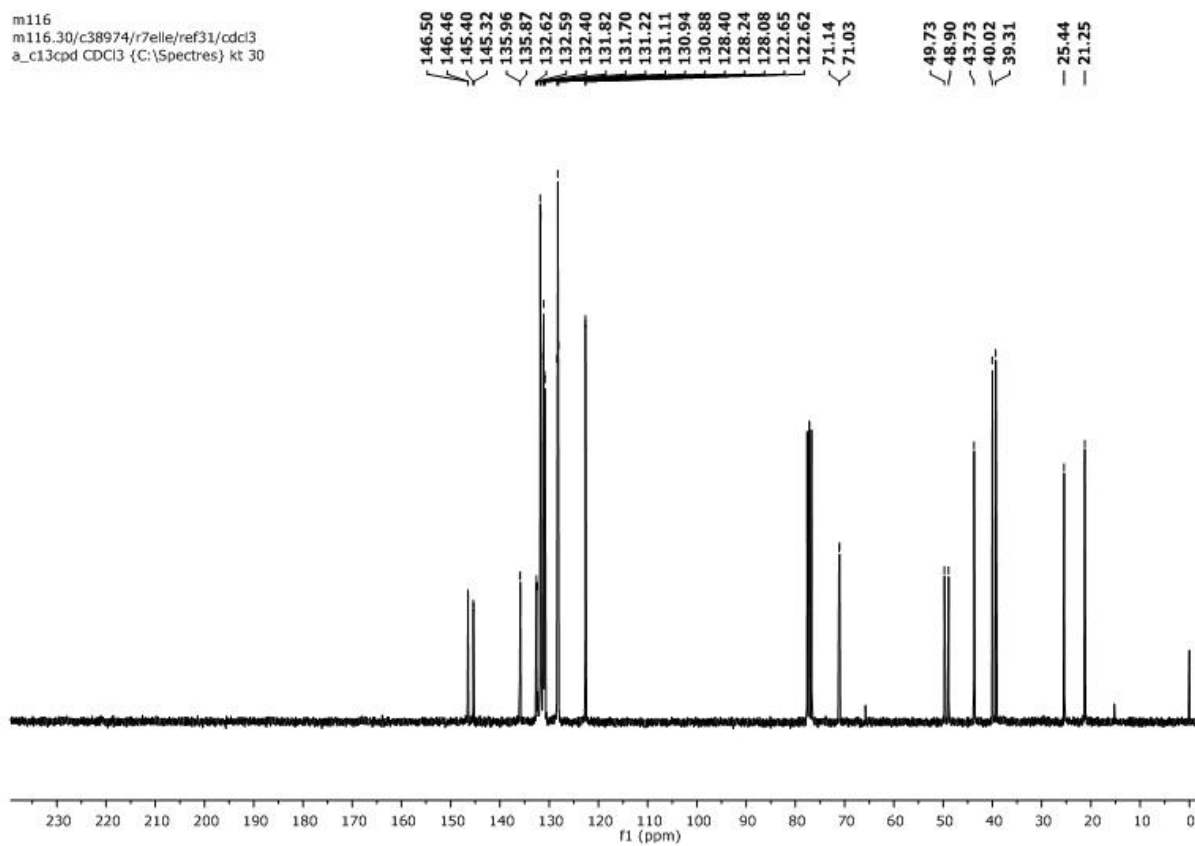




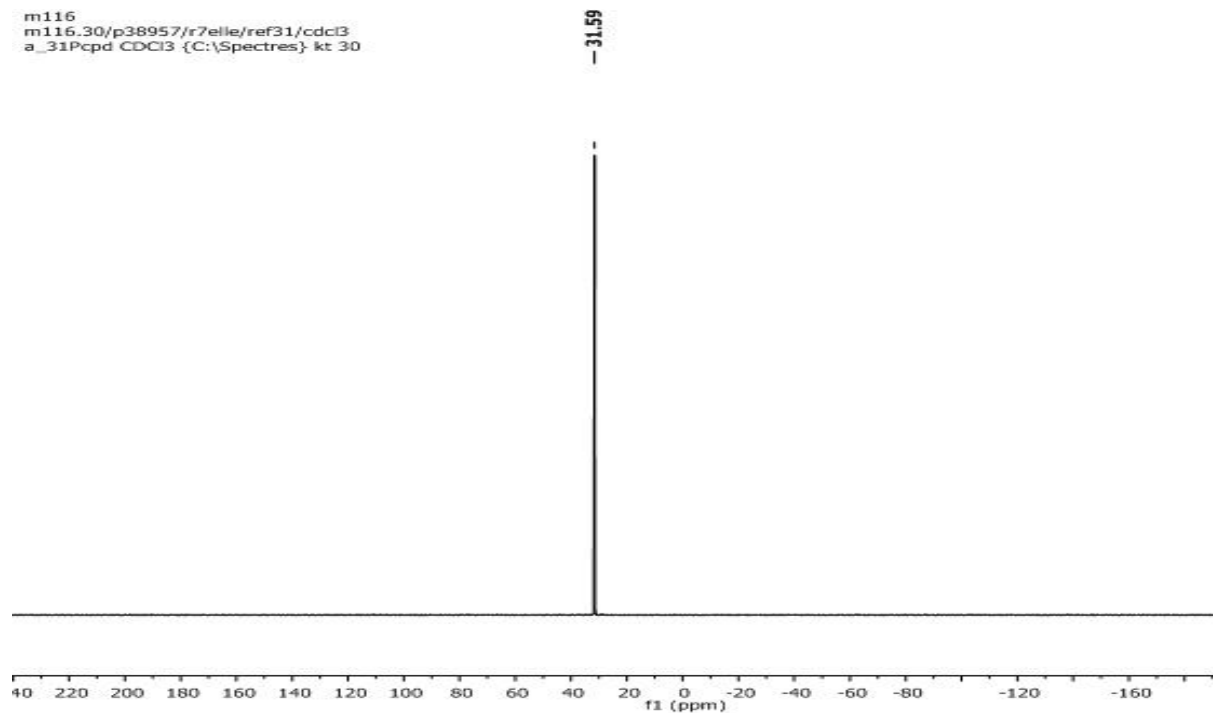
2e



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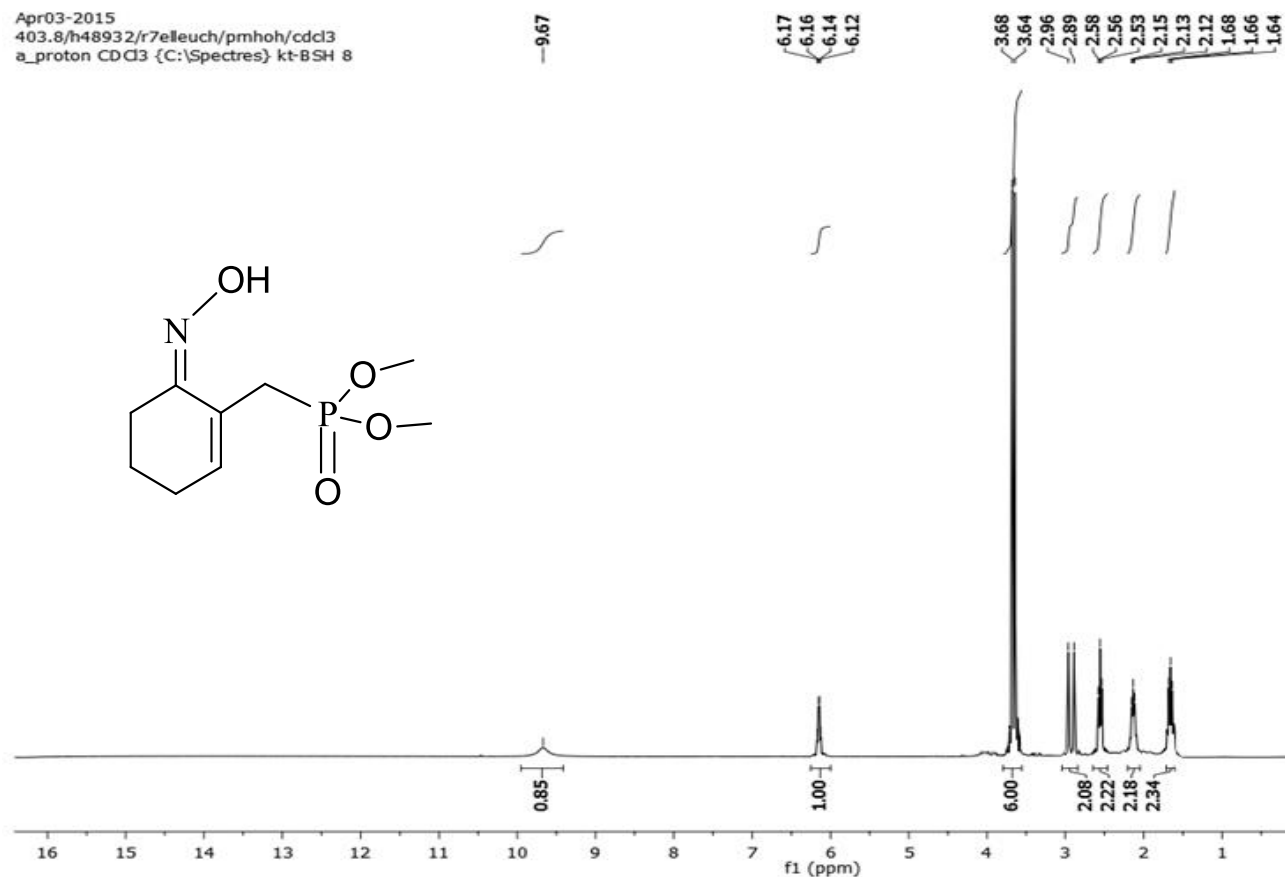


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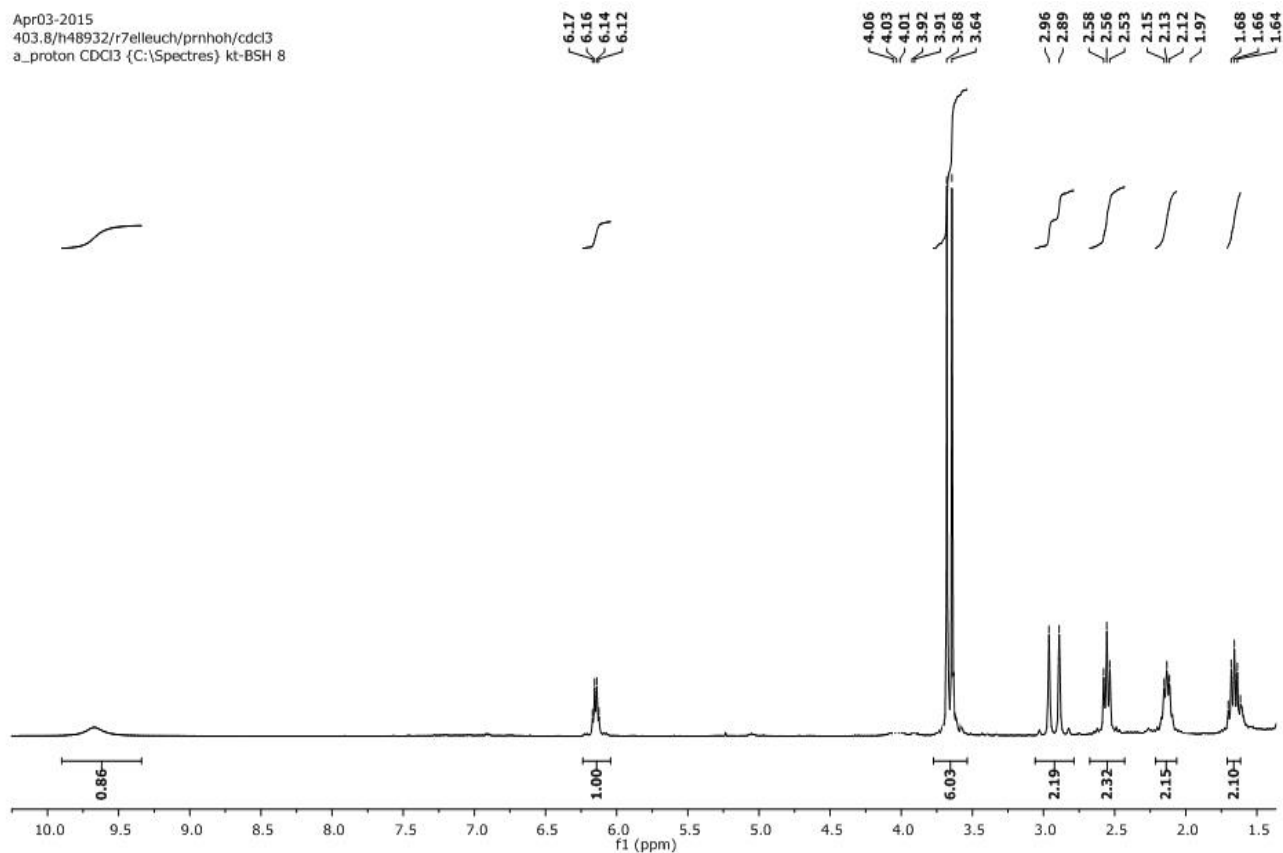


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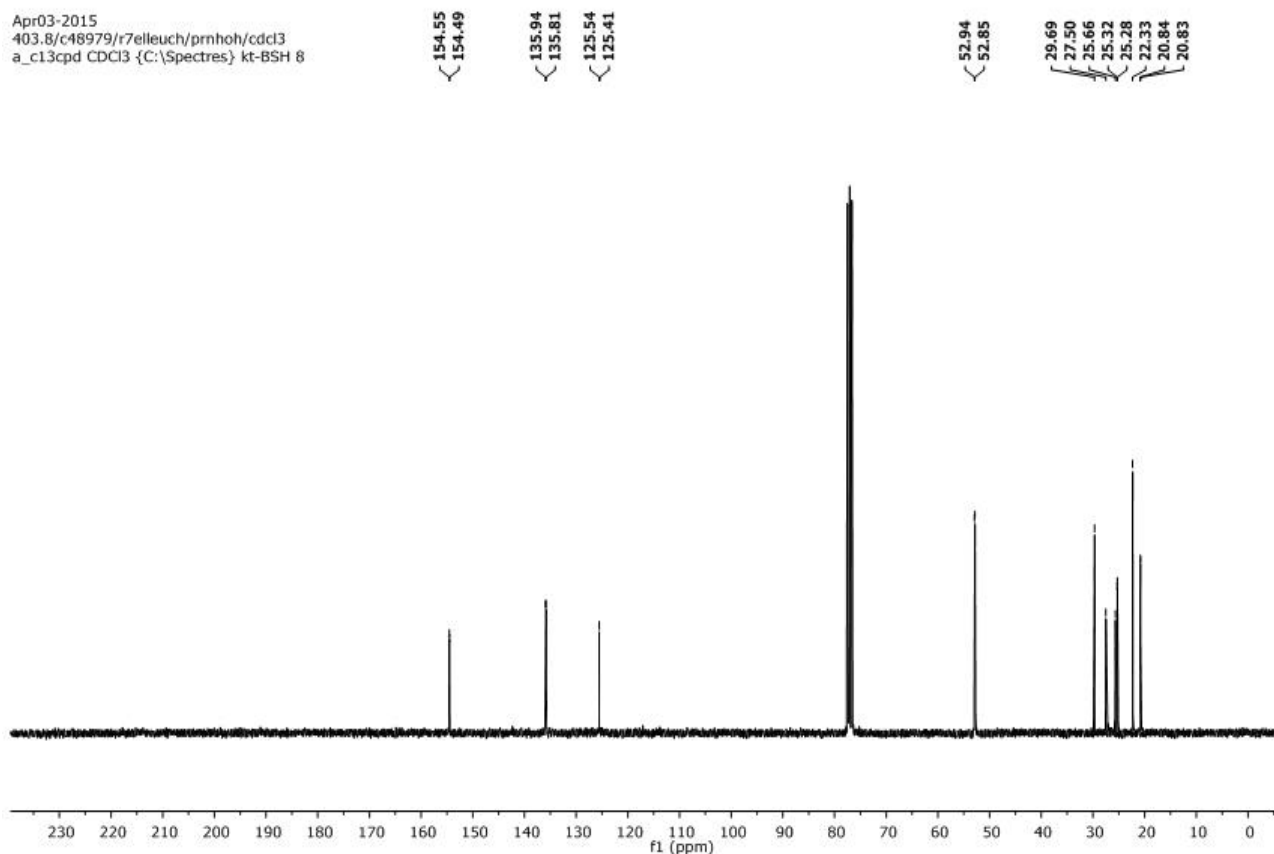
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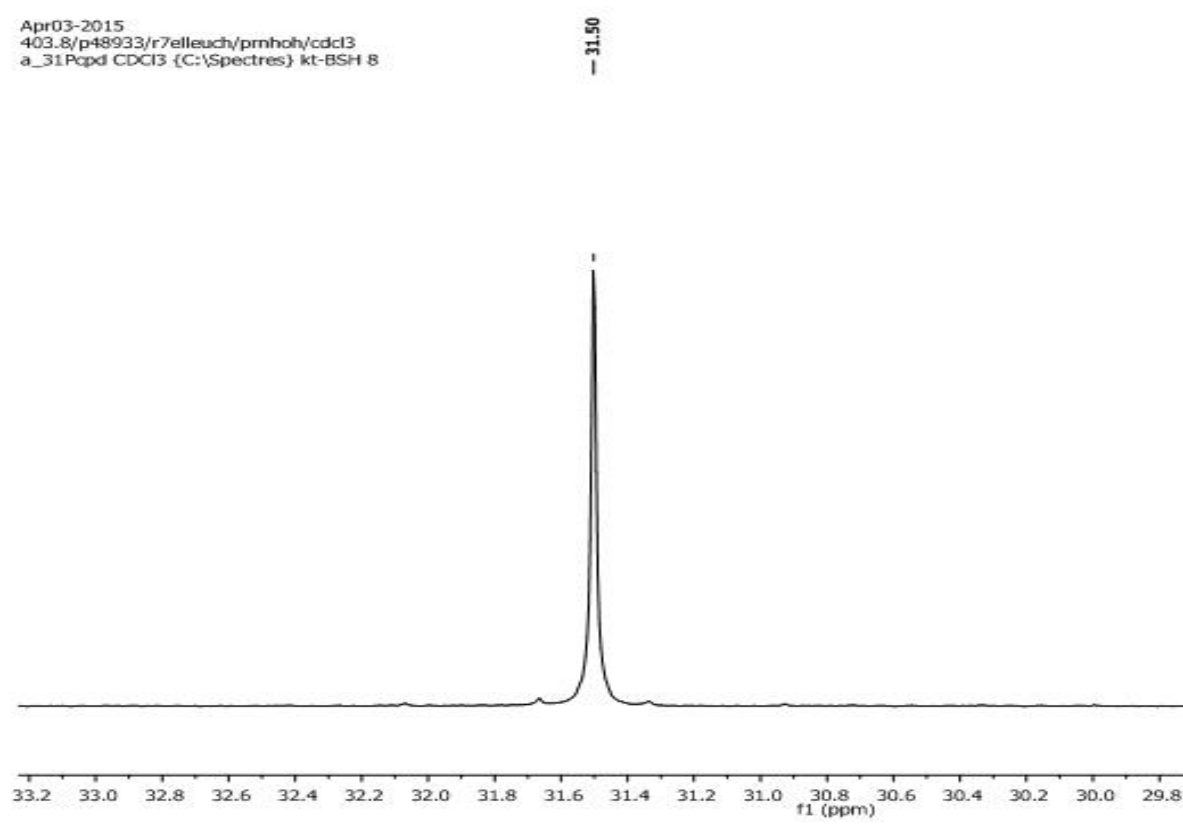
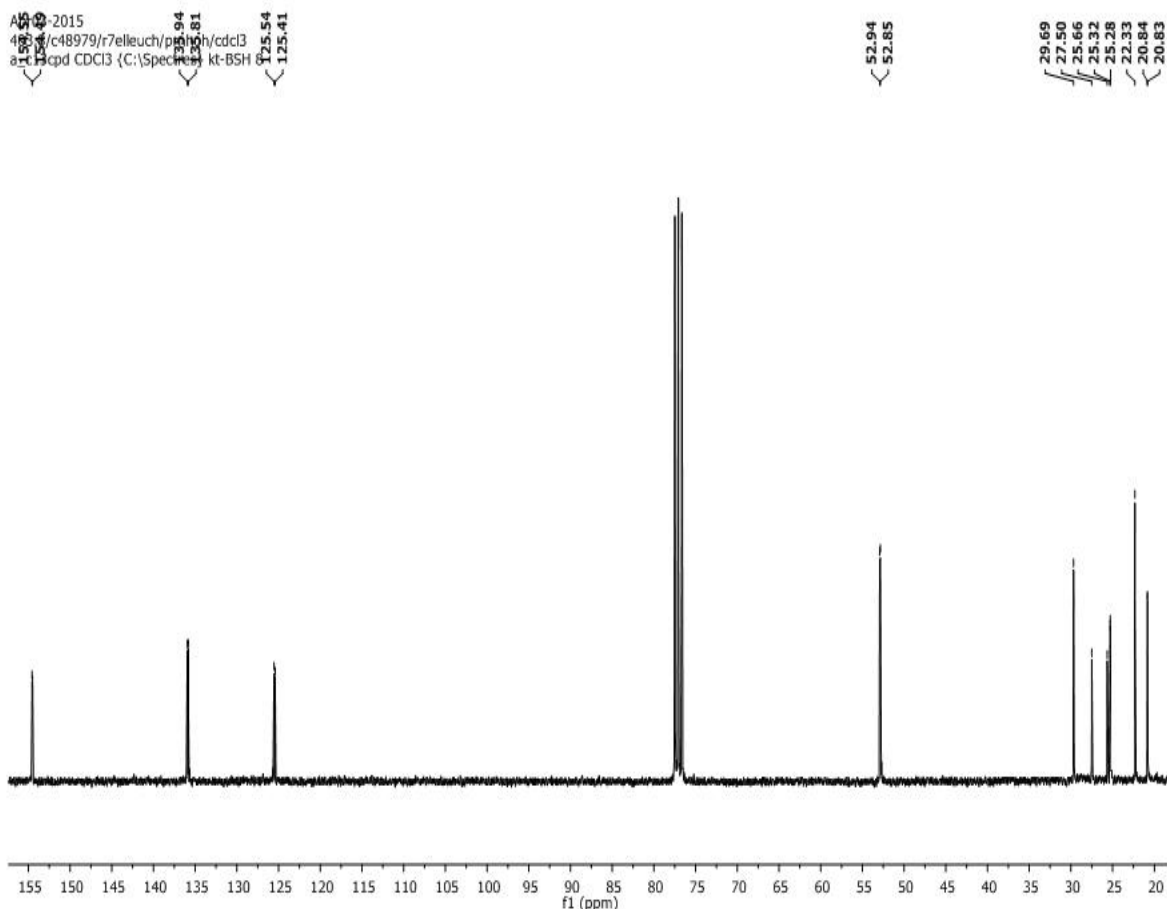


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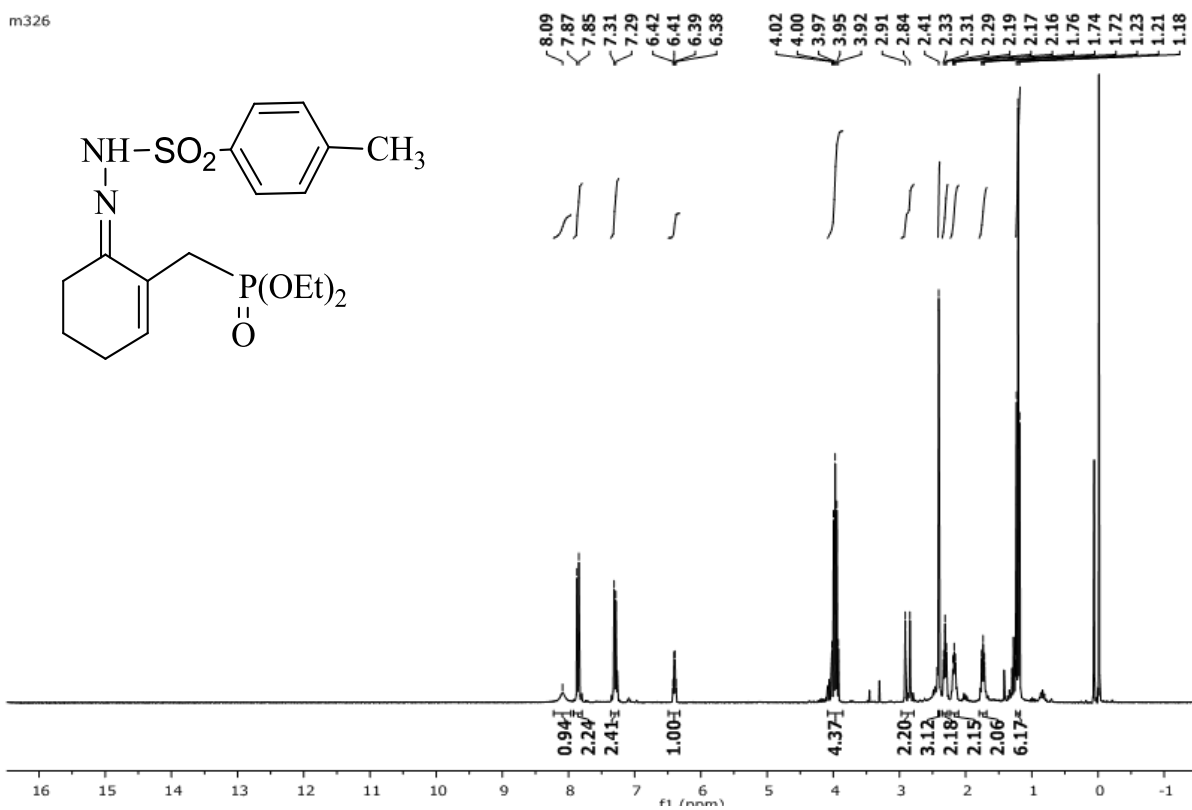




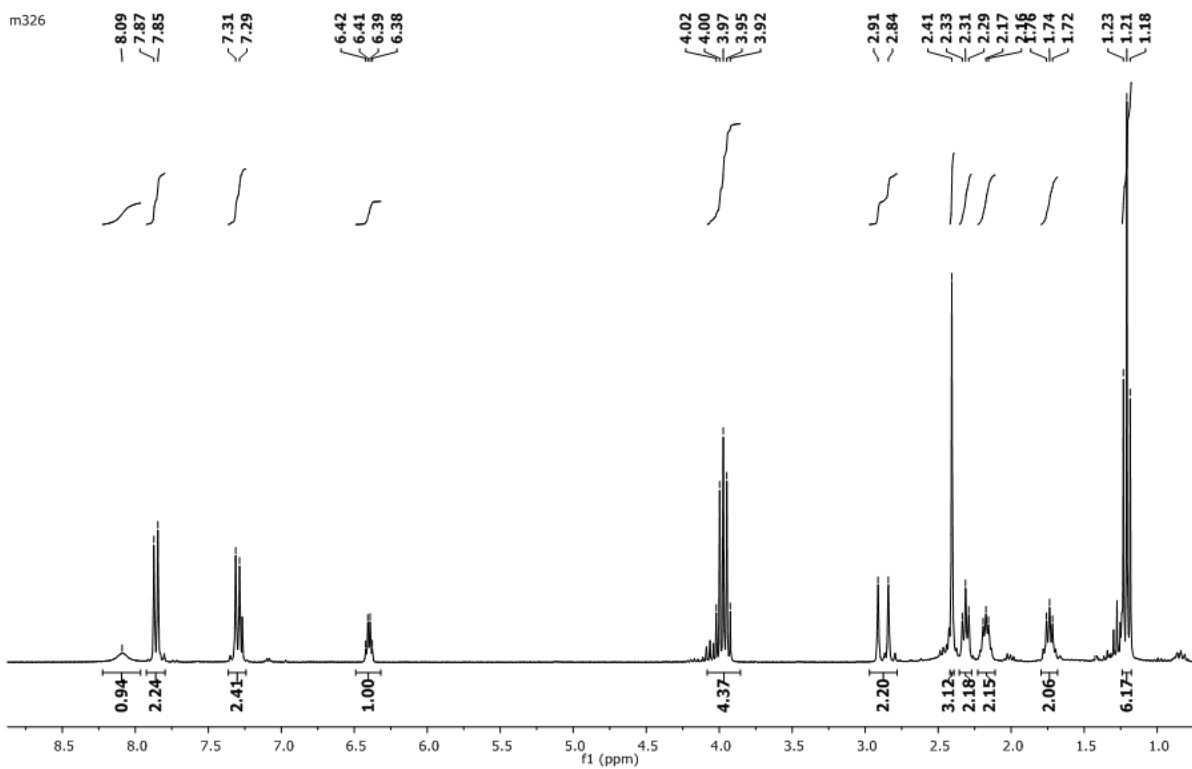


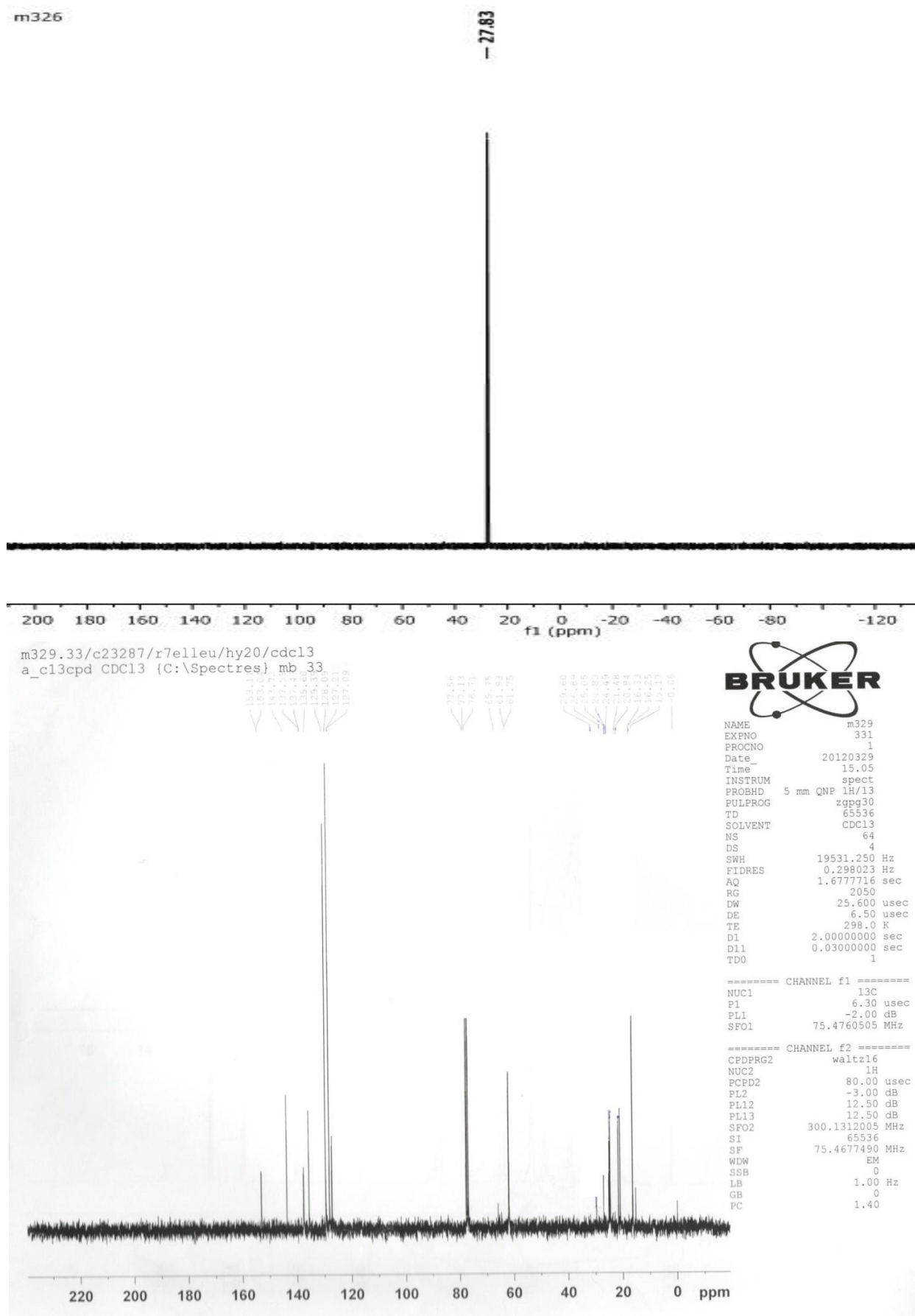
4a

m326

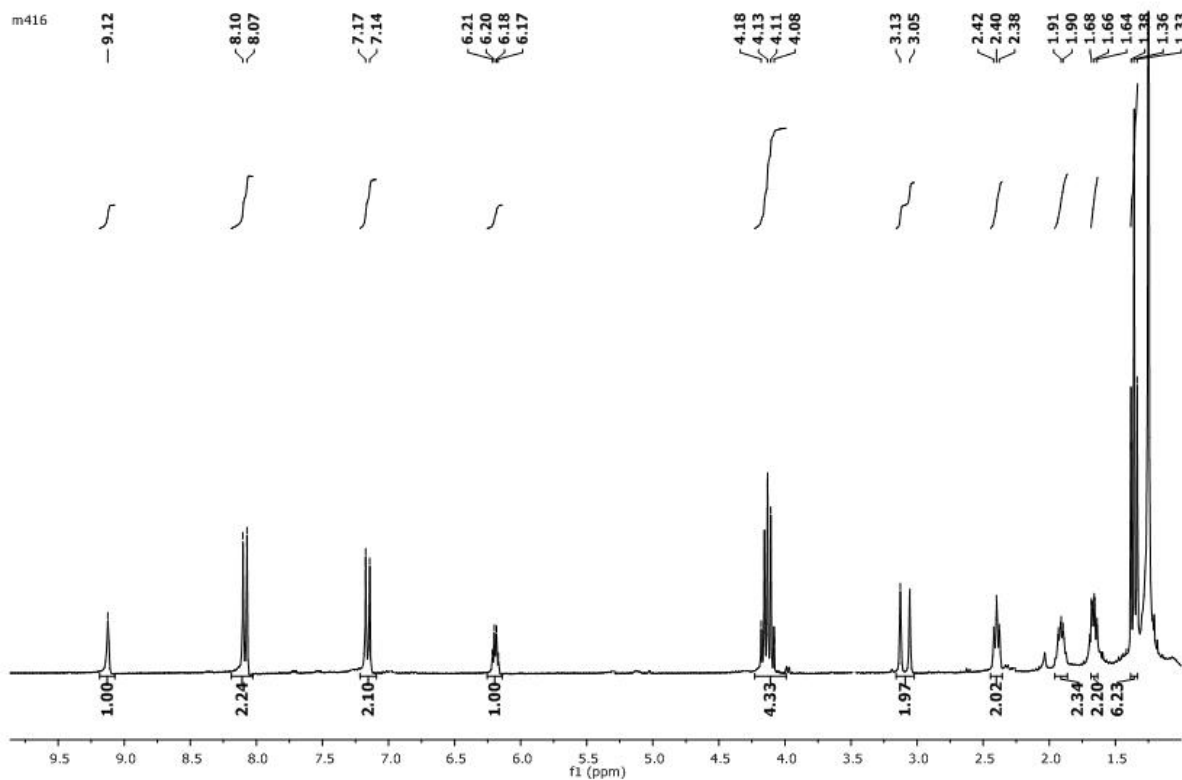
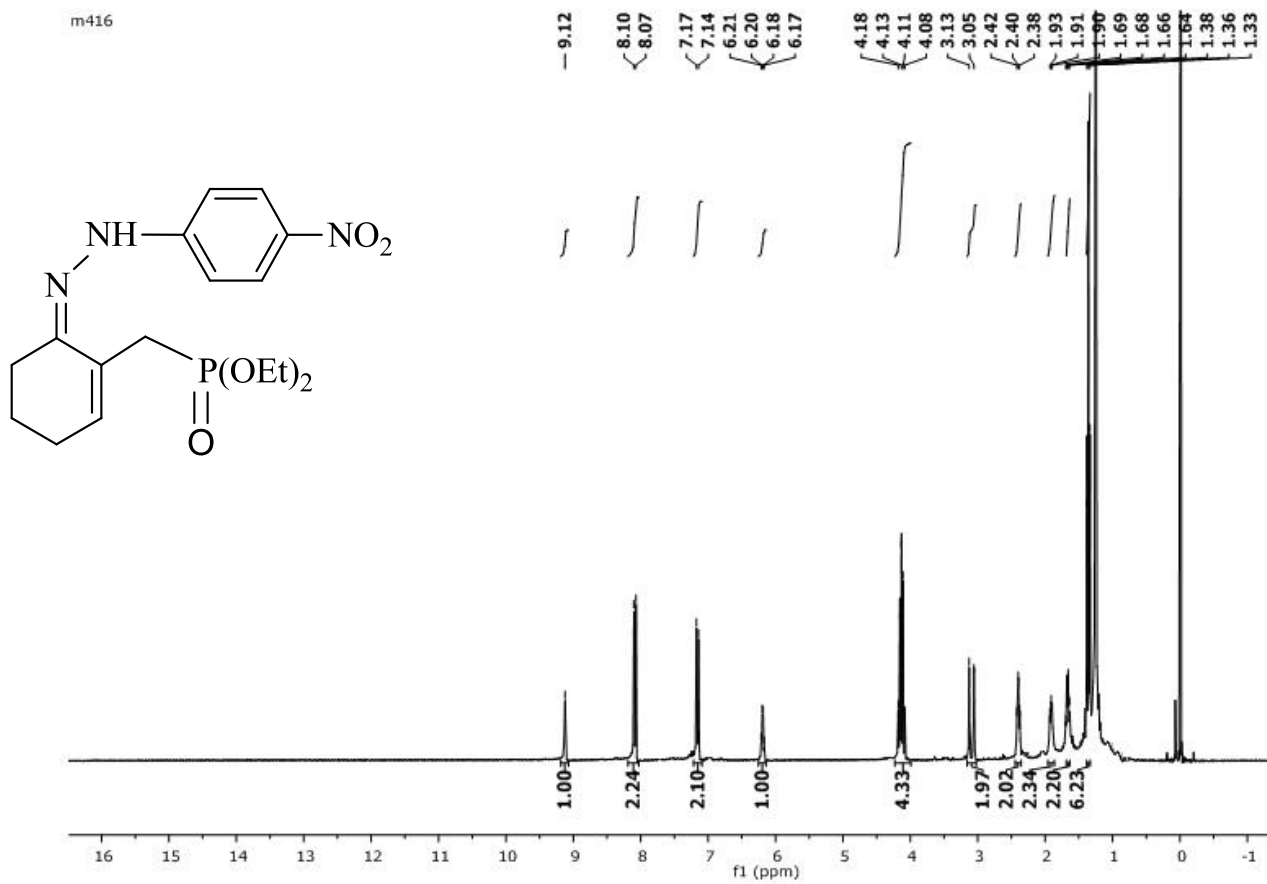


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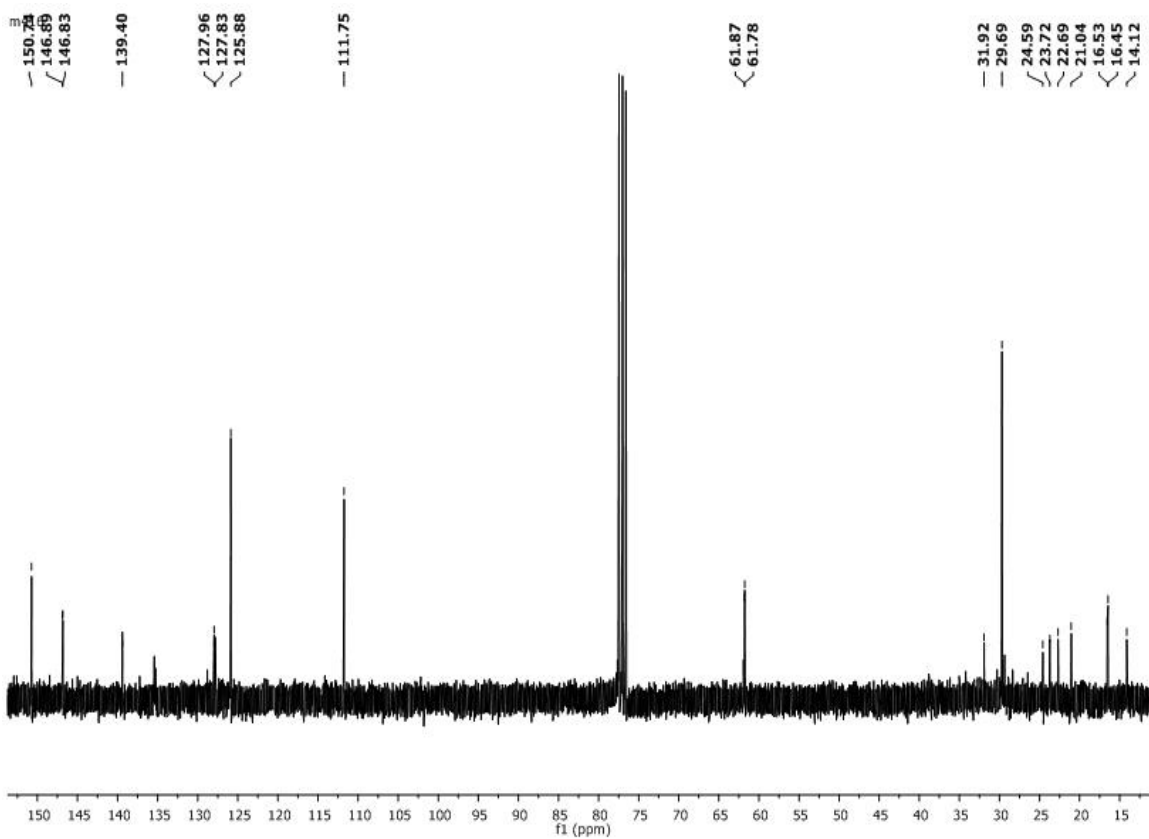
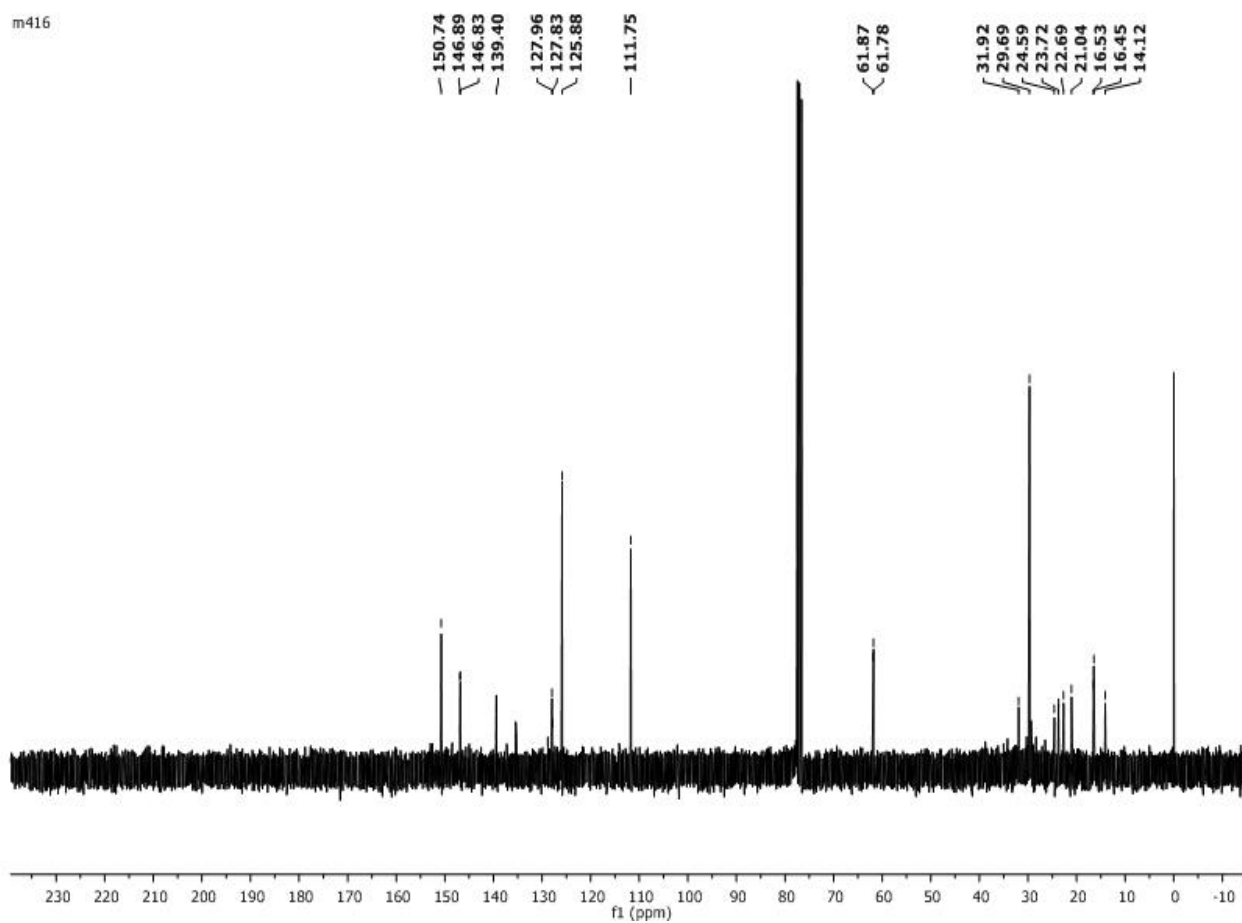


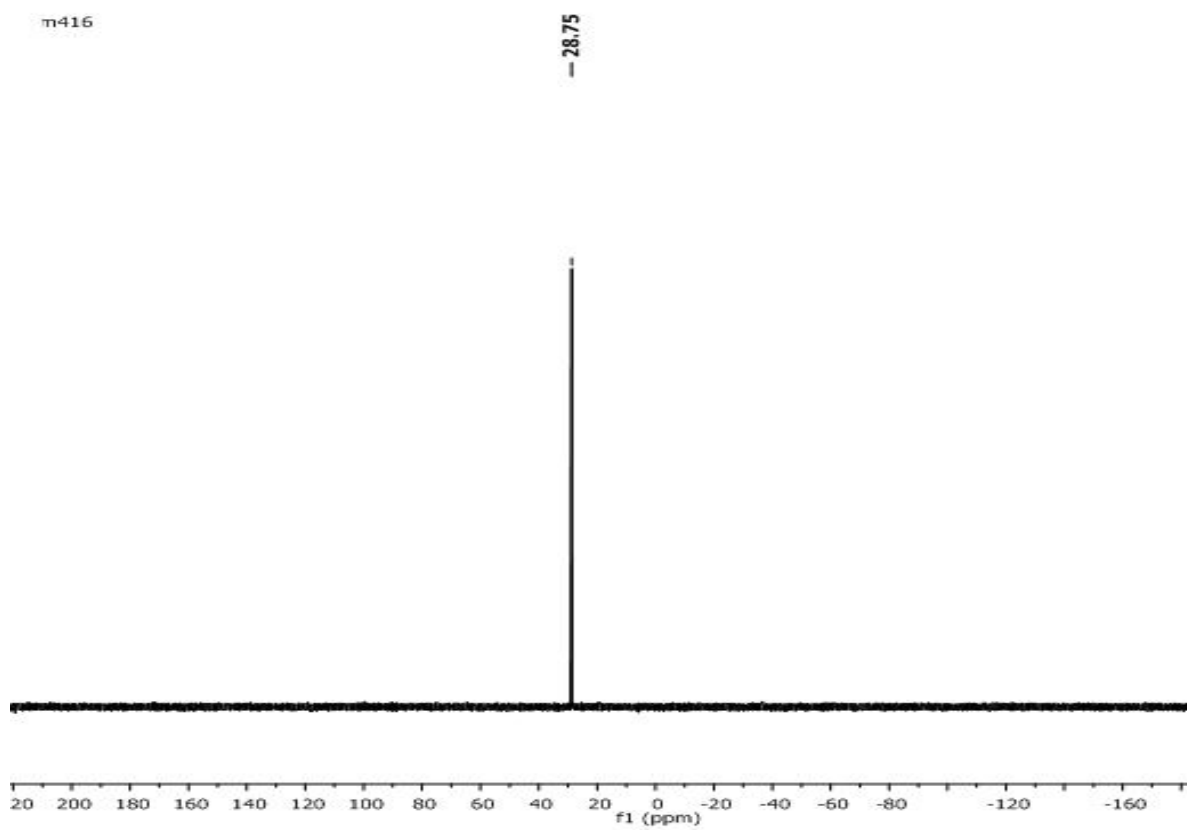


## 4b

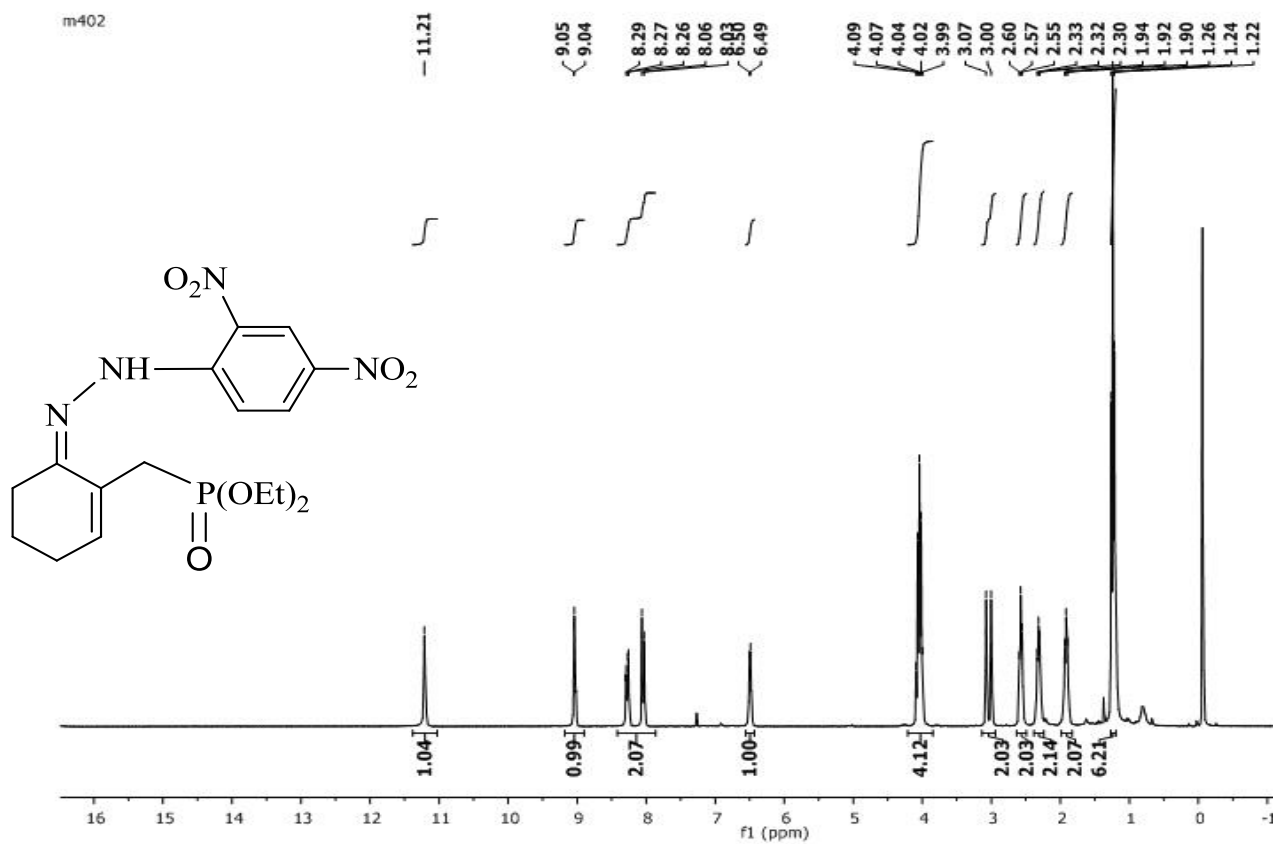


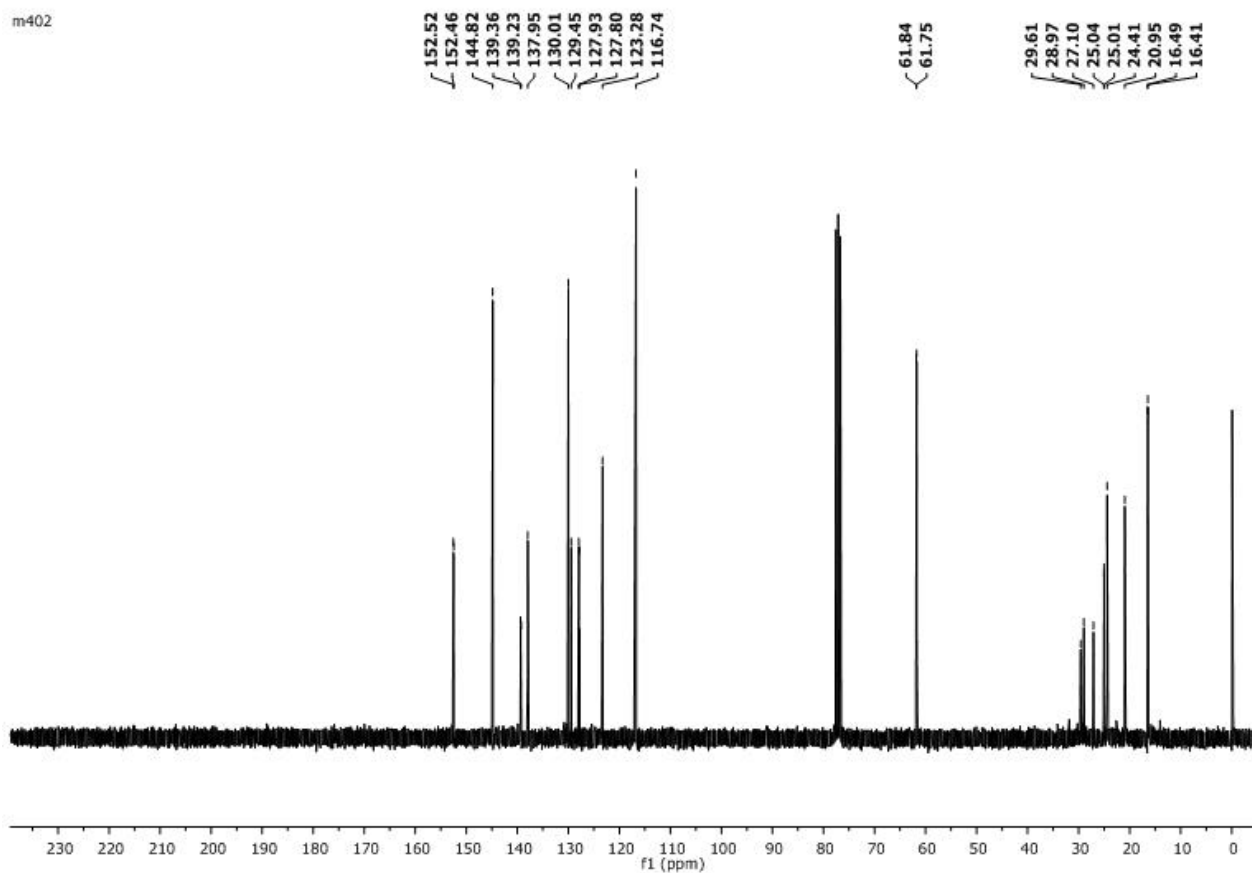
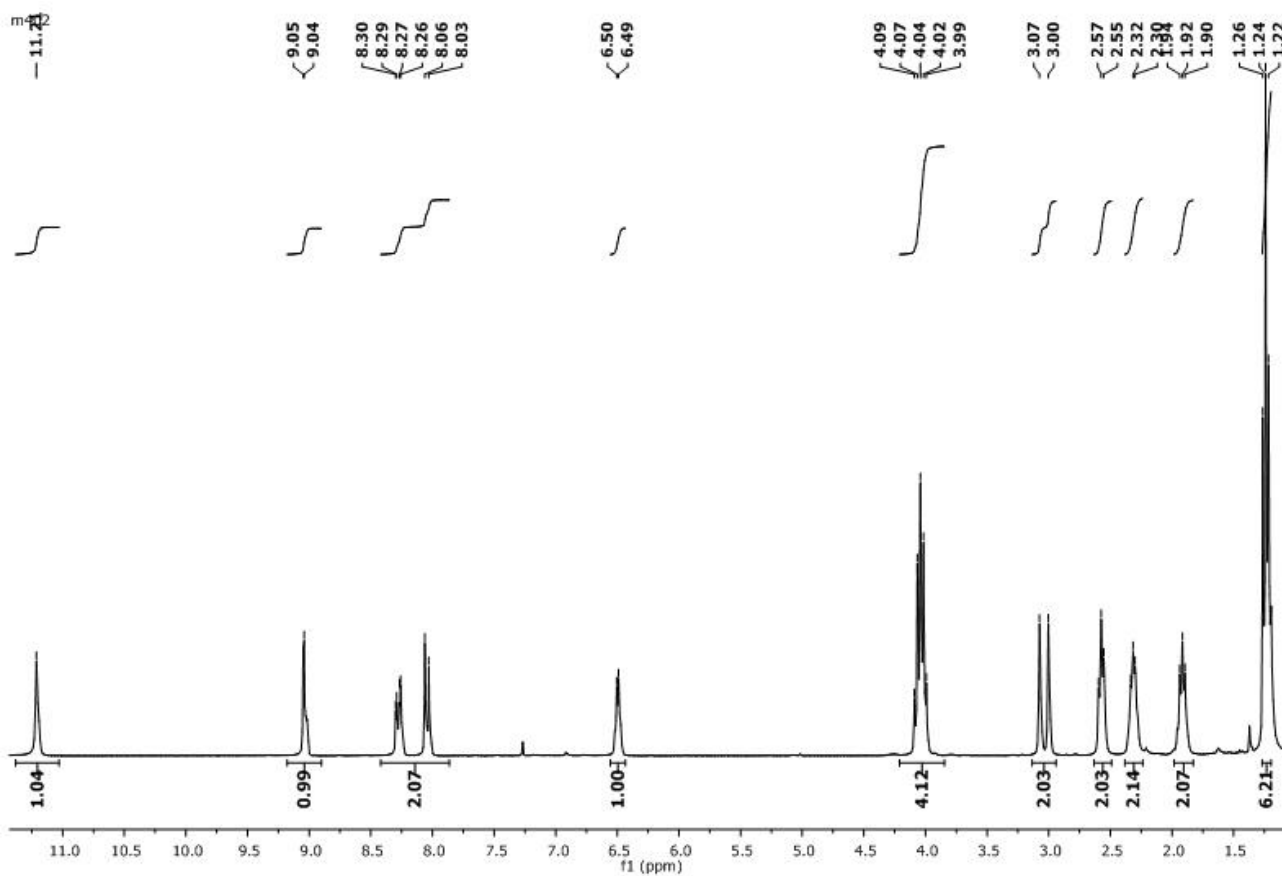
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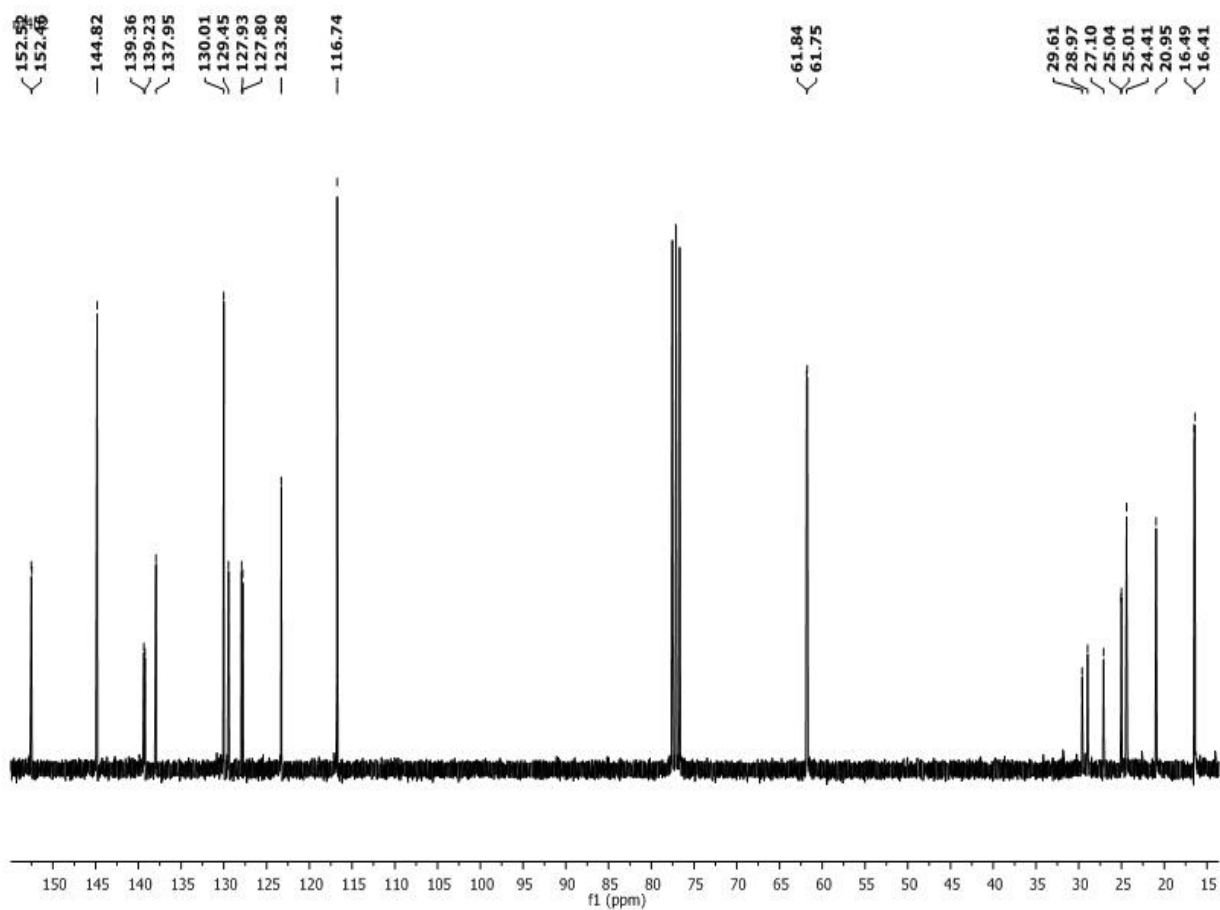




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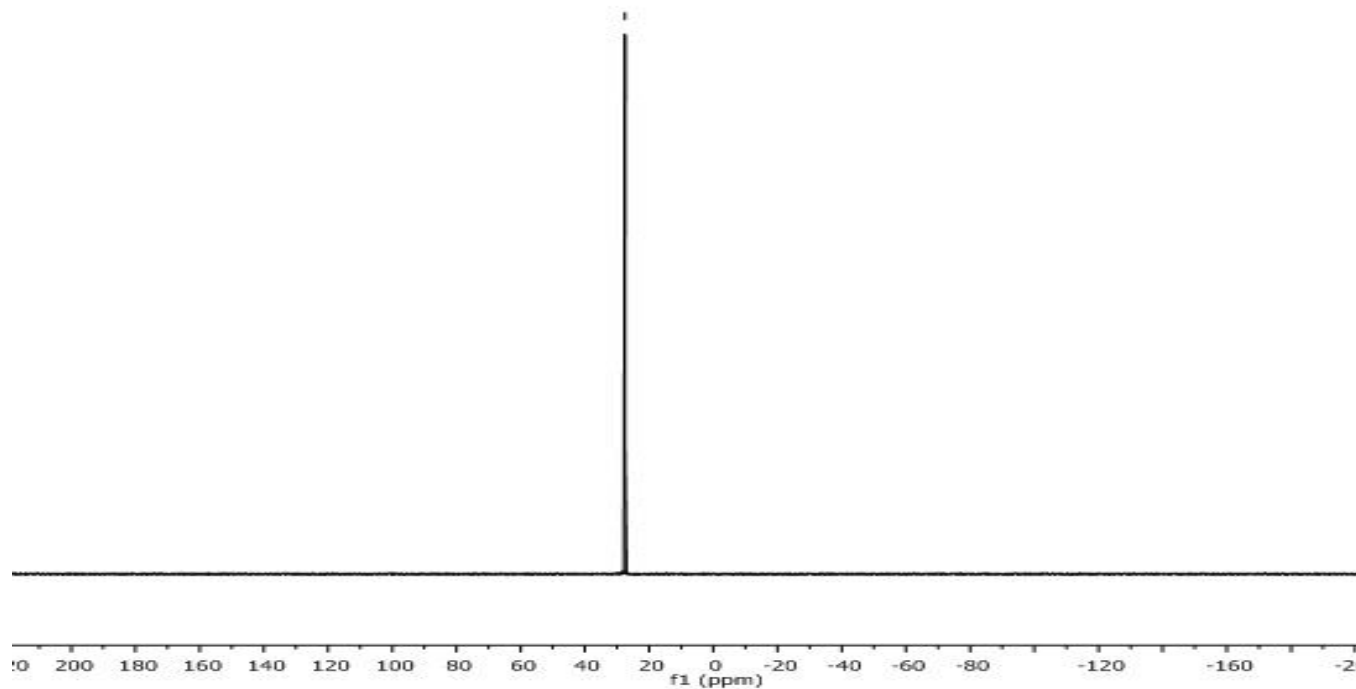






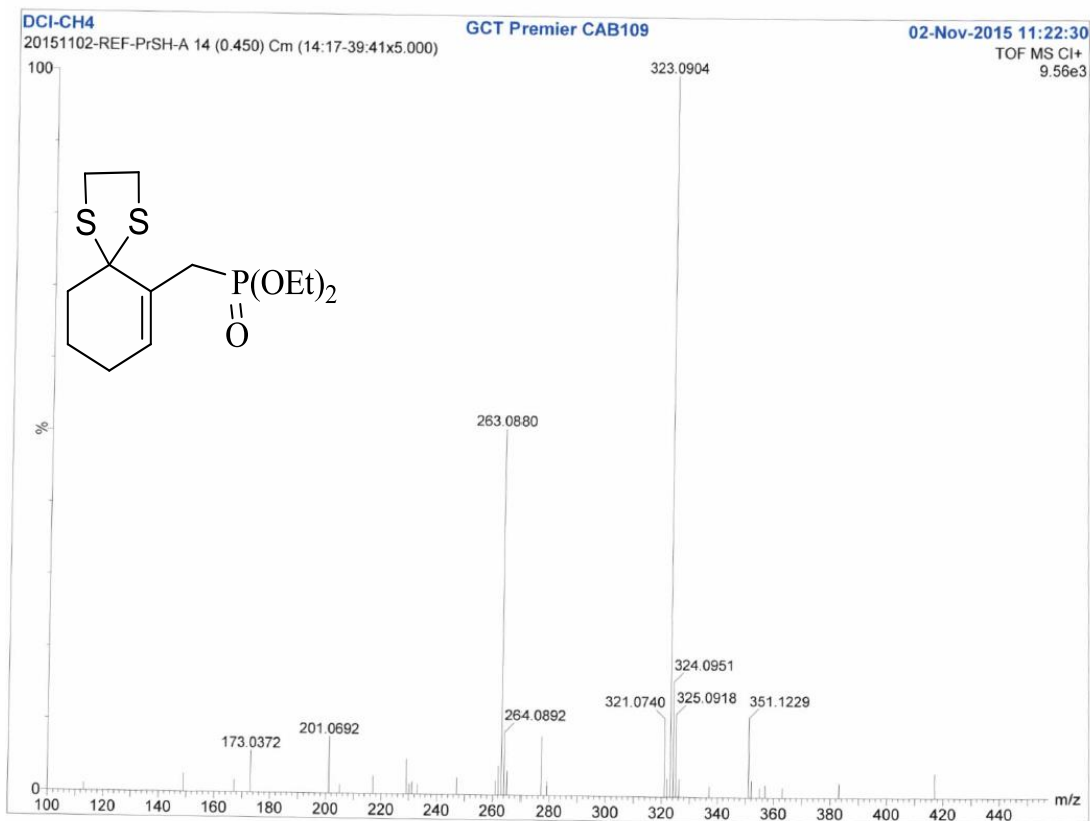
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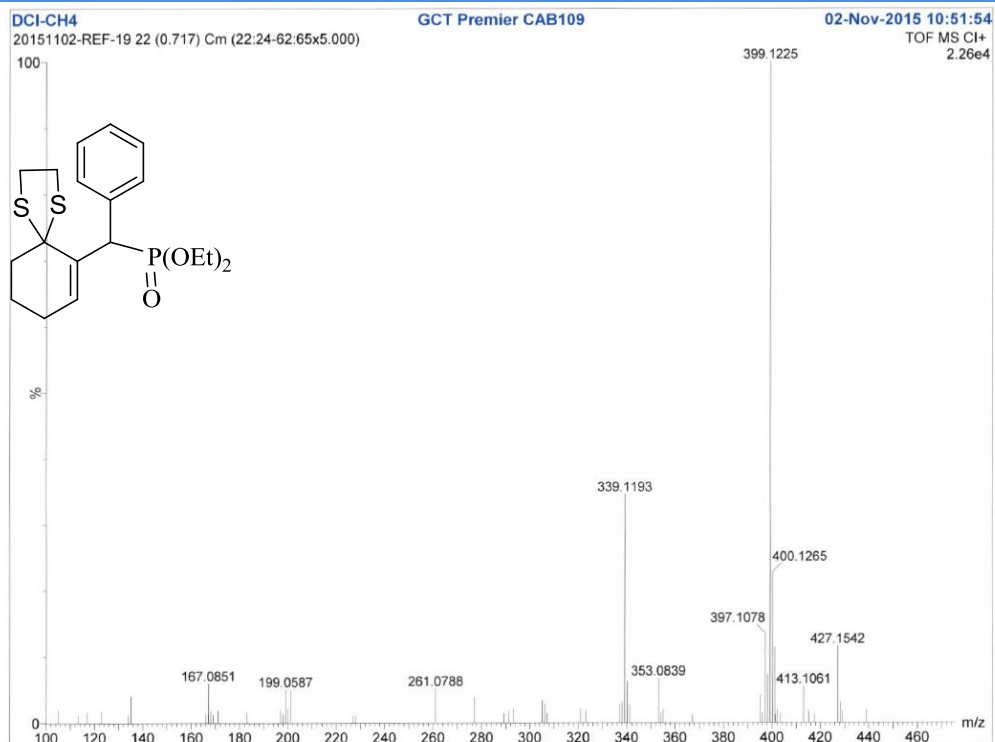


## ESI-HRMS data for compounds 2a-e, 3 and 4a-c

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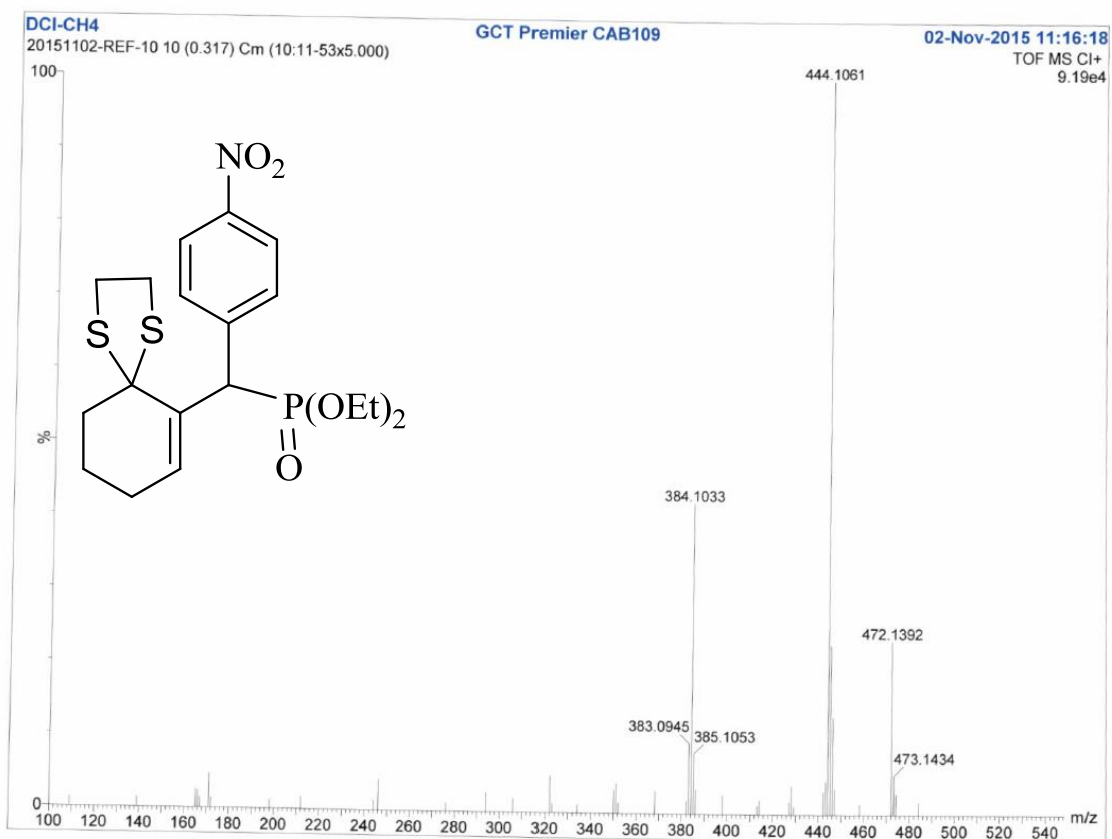


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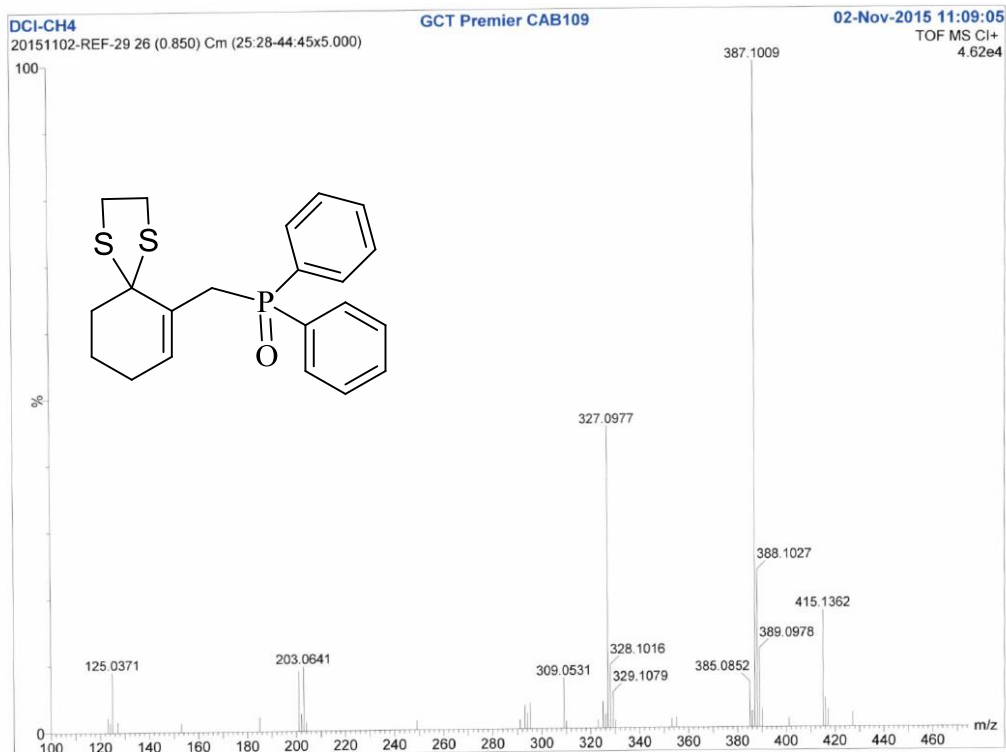




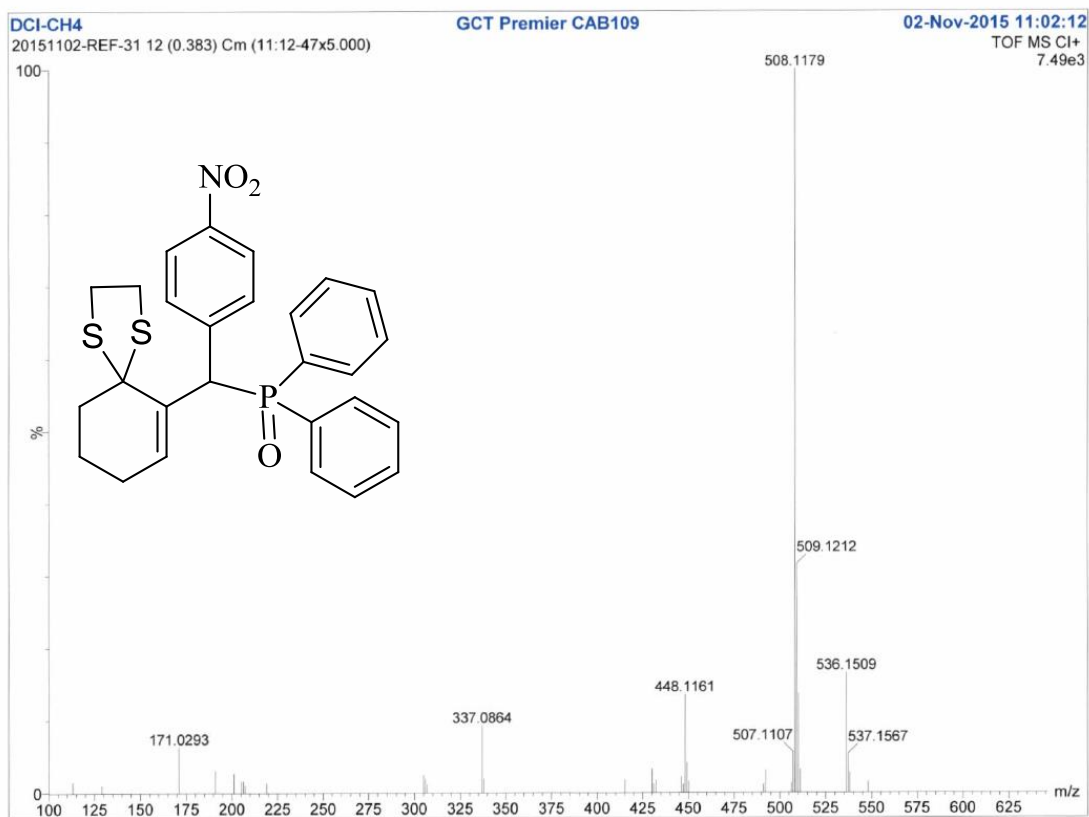
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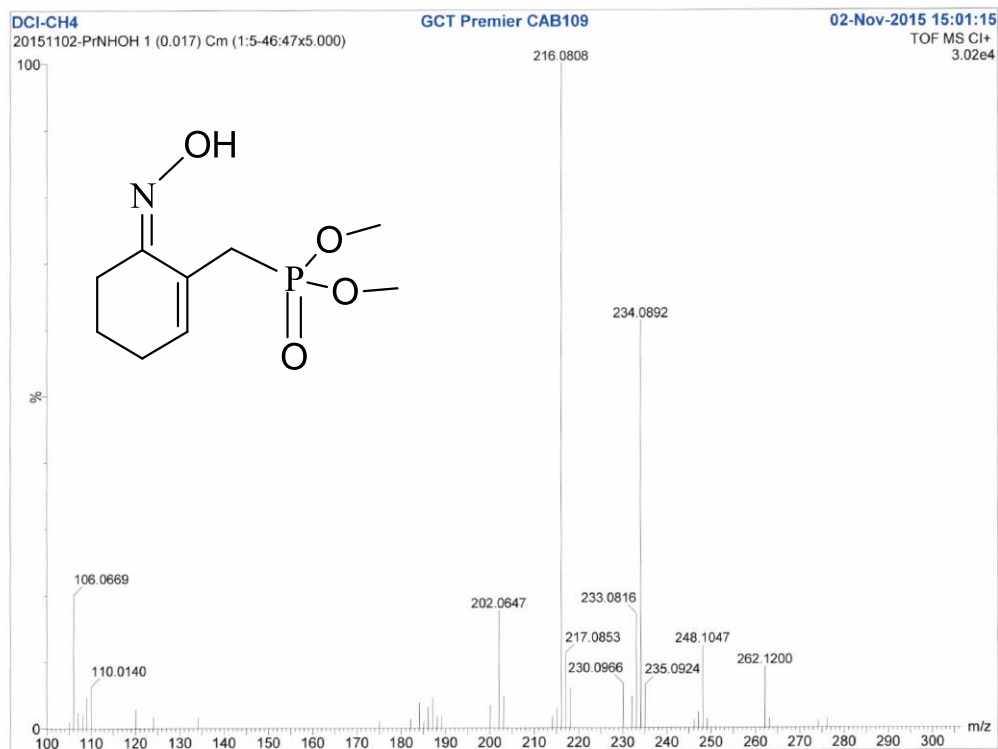
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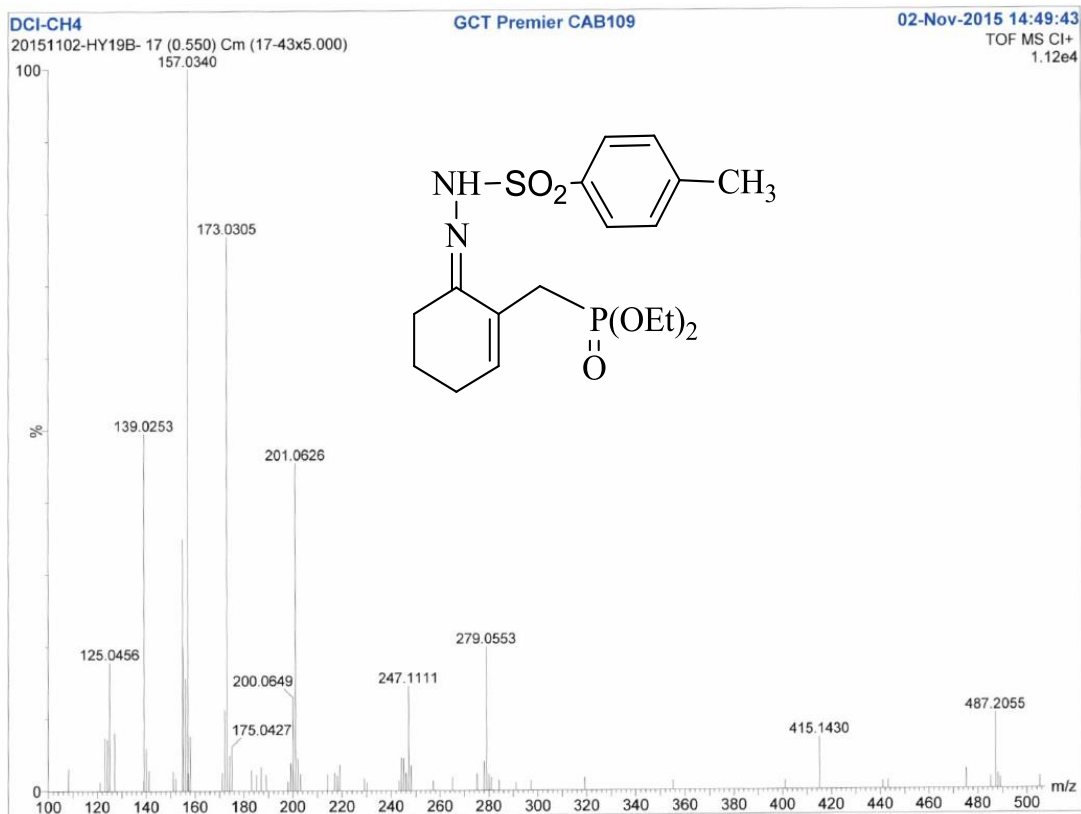
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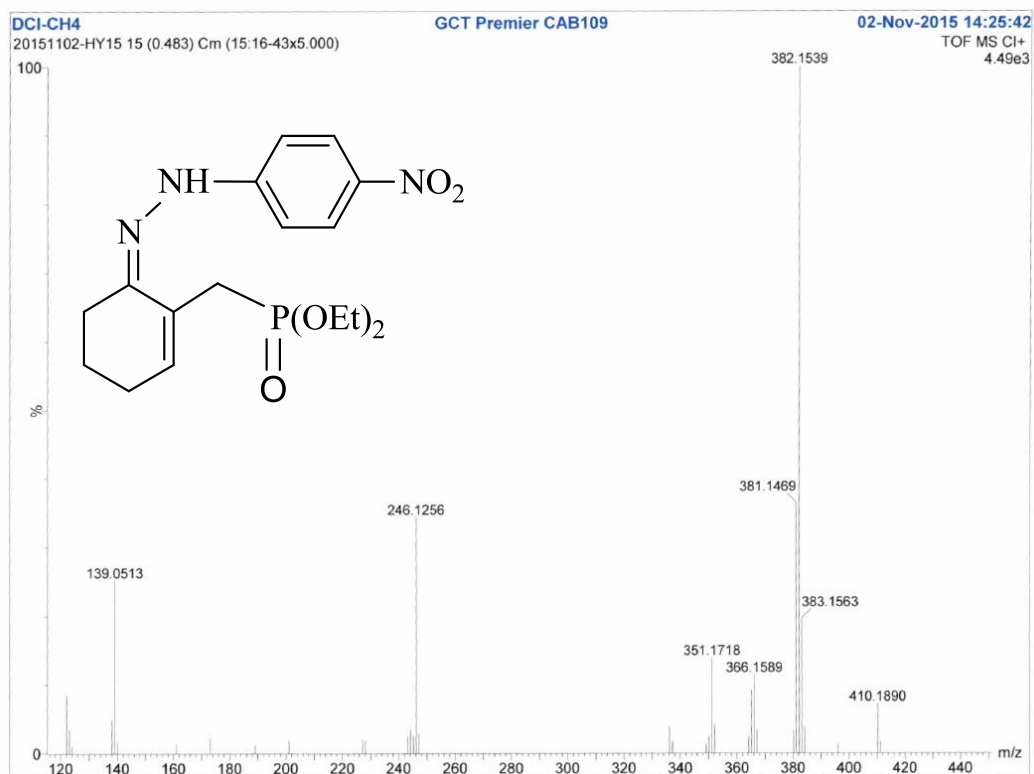
3



## 4a



## 4b



## 4c

