

## Supporting Information

for

### Construct indeno[1,2-b]oxepine or cis-cyclopropylacrylate by sulfur ylides

qinfang Chen<sup>a</sup>, Yihao Pan<sup>a</sup>, Dongxin Zhao<sup>a</sup>, Weiran Yang<sup>a</sup>, Jing Zheng<sup>a\*</sup>

<sup>a</sup> *School of Resources Environmental and Chemical Engineering,  
Nanchang University, 999 XuFu Road, Nanchang, 330031, China.  
Nanchang, 330031, China.*

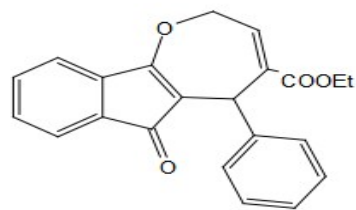
*E-mail: \*zhengjing@ncu.edu.cn*

## Contents

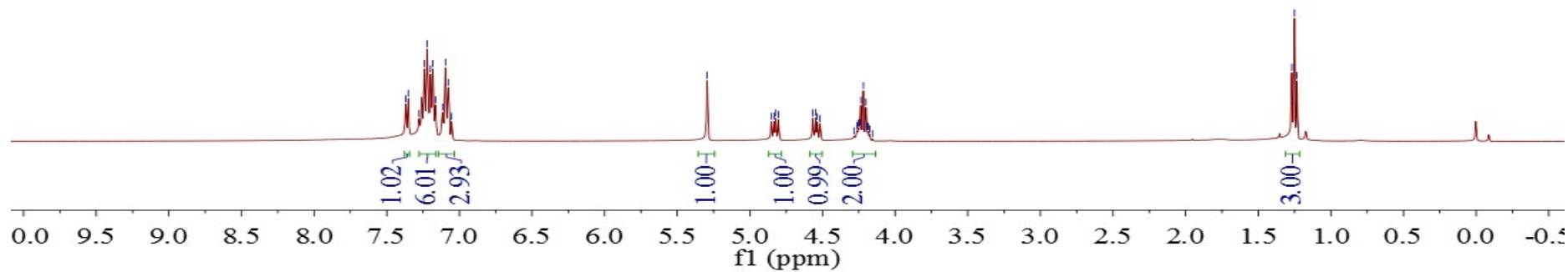
- |   |        |
|---|--------|
| 1. Copies of NMR Spectra                  | S1-S79 |
| 2. X-ray structure of compounds 4o and 6e | S82    |

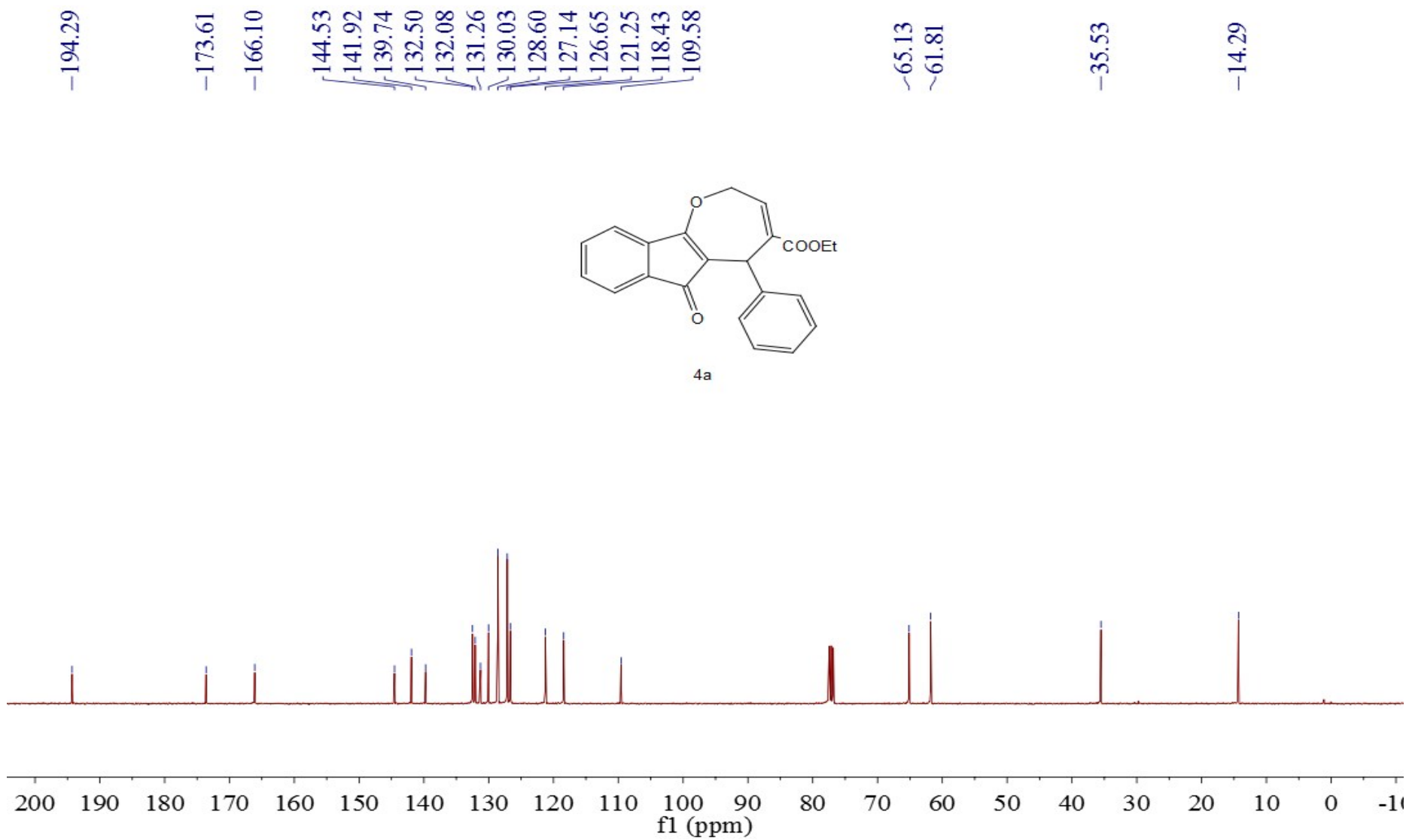
# 1、 NMR Spectra

7.369  
7.352  
7.278  
7.241  
7.222  
7.199  
7.182  
7.164  
7.116  
7.096  
7.076  
7.053  
5.294  
4.853  
4.834  
4.822  
4.803  
4.567  
4.548  
4.536  
4.517  
4.280  
4.263  
4.253  
4.244  
4.236  
4.218  
4.201  
4.193  
4.183  
4.175  
4.156  
1.269  
1.251  
1.233



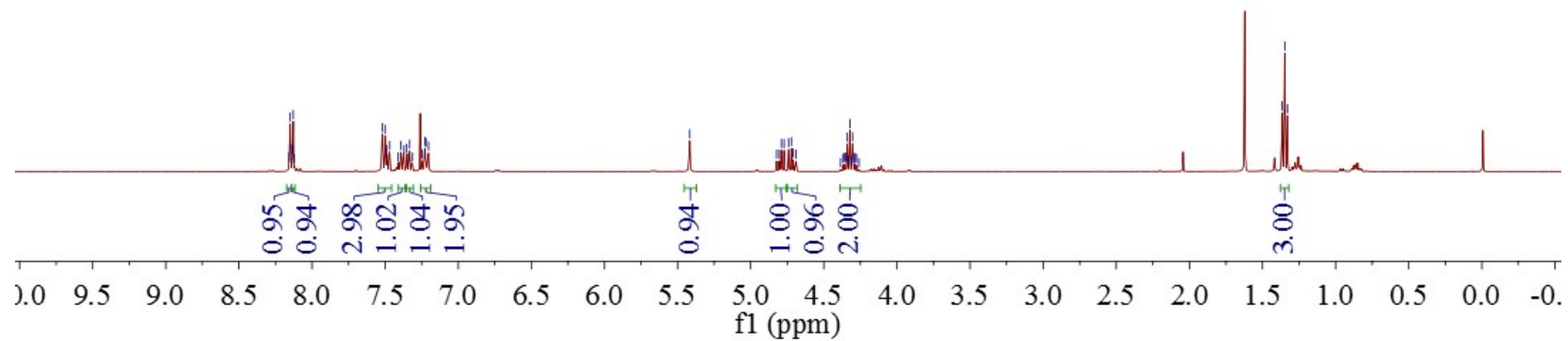
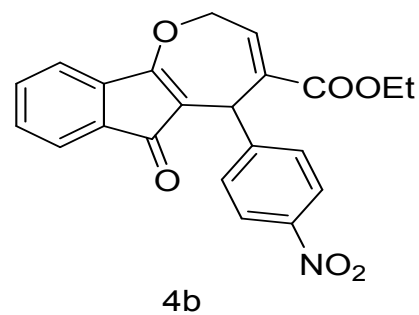
4a

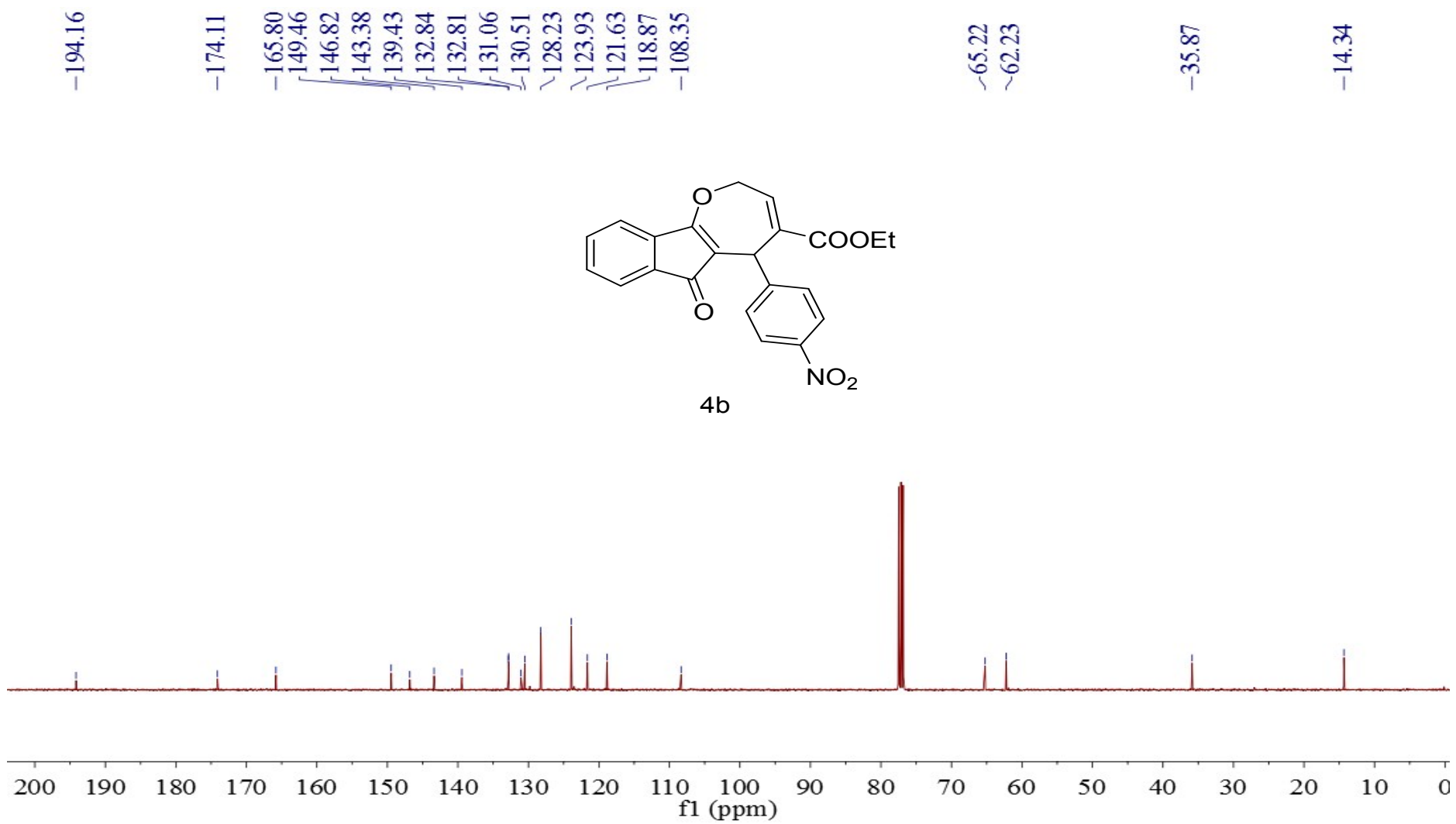


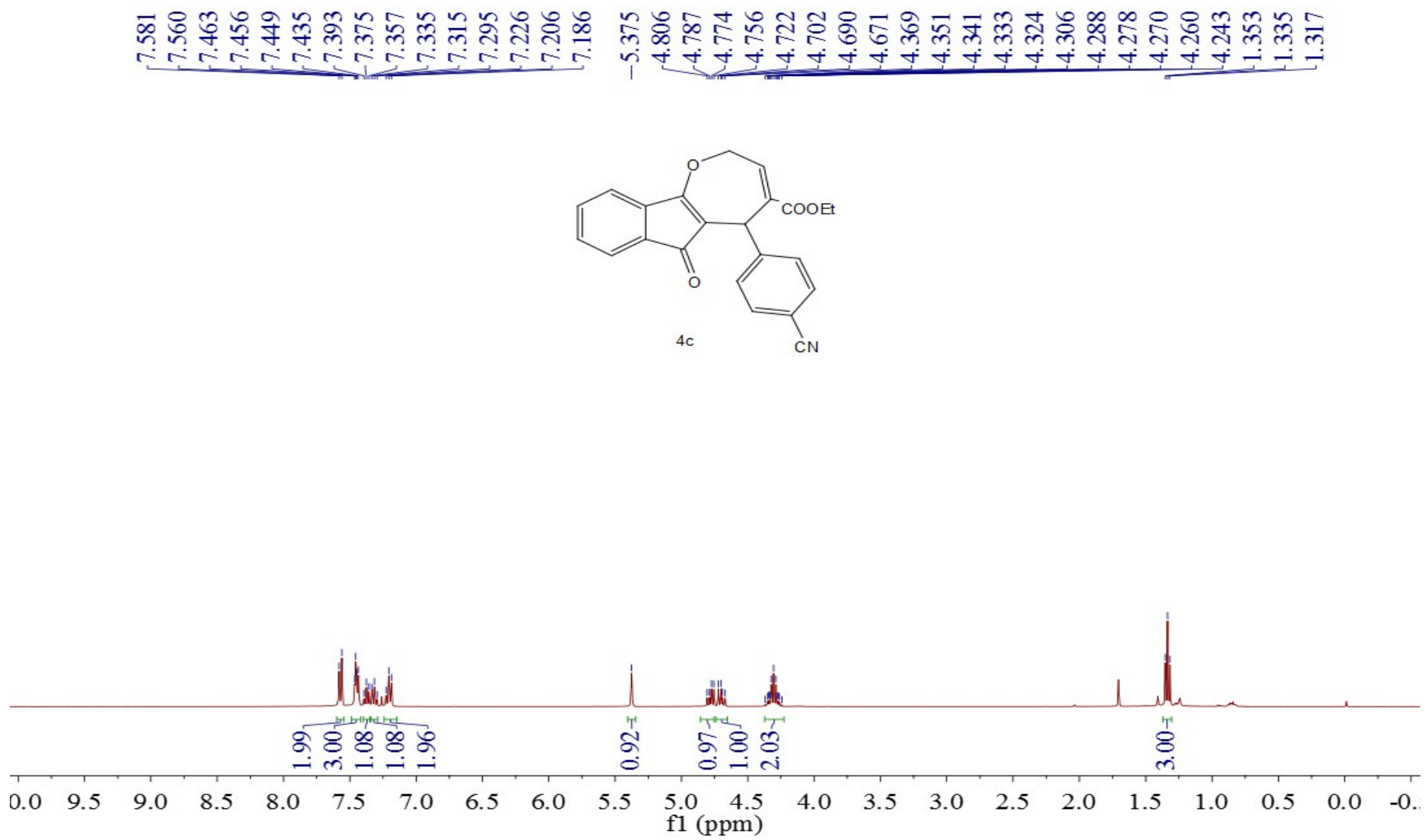


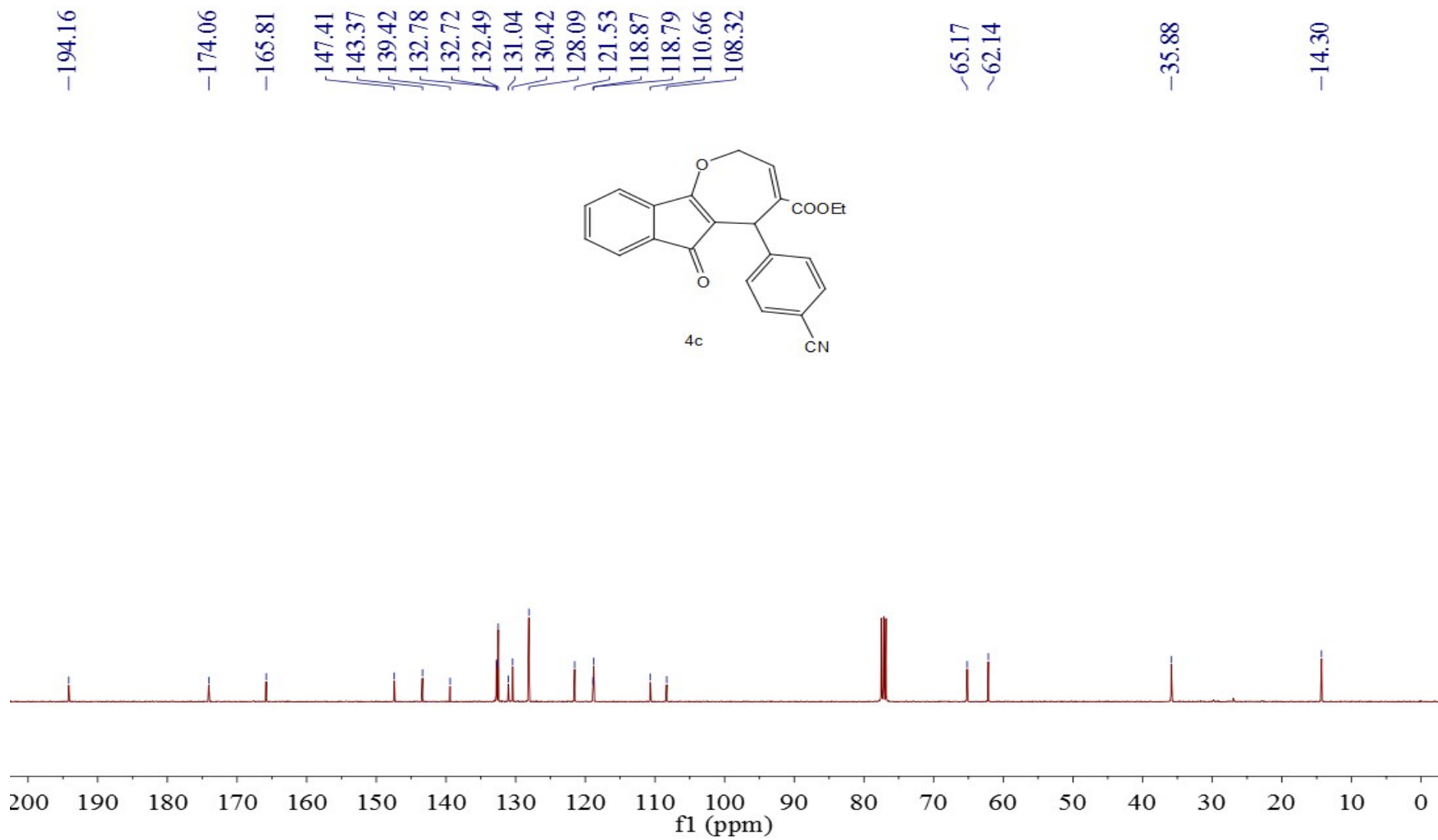
8.156  
8.150  
8.145  
8.133  
8.128  
8.122

7.518  
7.498  
7.488  
7.468  
7.411  
7.391  
7.371  
7.352  
7.332  
7.312  
7.247  
7.228  
7.221  
7.203  
5.417  
4.822  
4.804  
4.790  
4.772  
4.741  
4.722  
4.710  
4.690  
4.367  
4.358  
4.349  
4.340  
4.322  
4.304  
4.295  
4.286  
4.277  
1.366  
1.348  
1.330



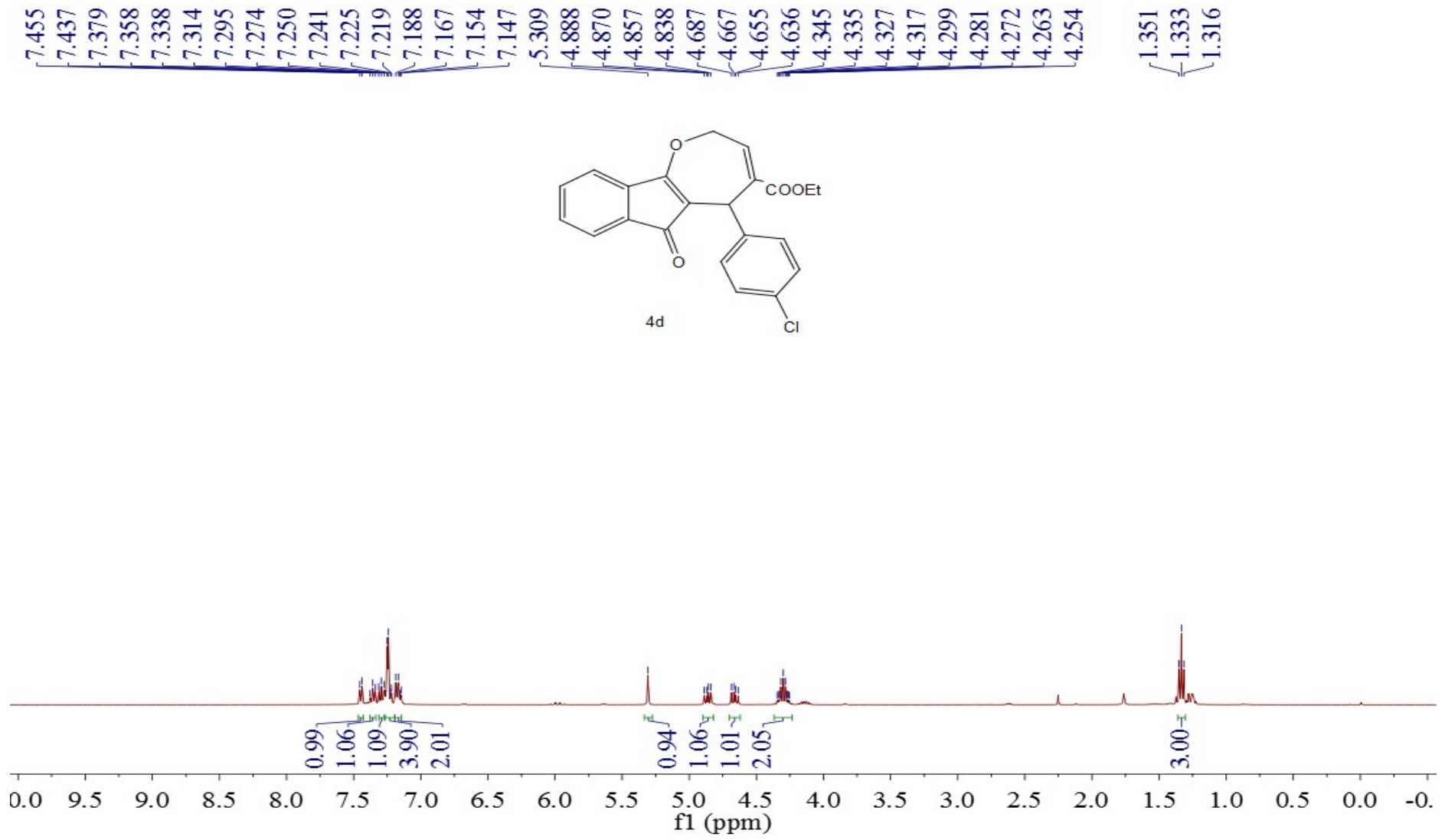


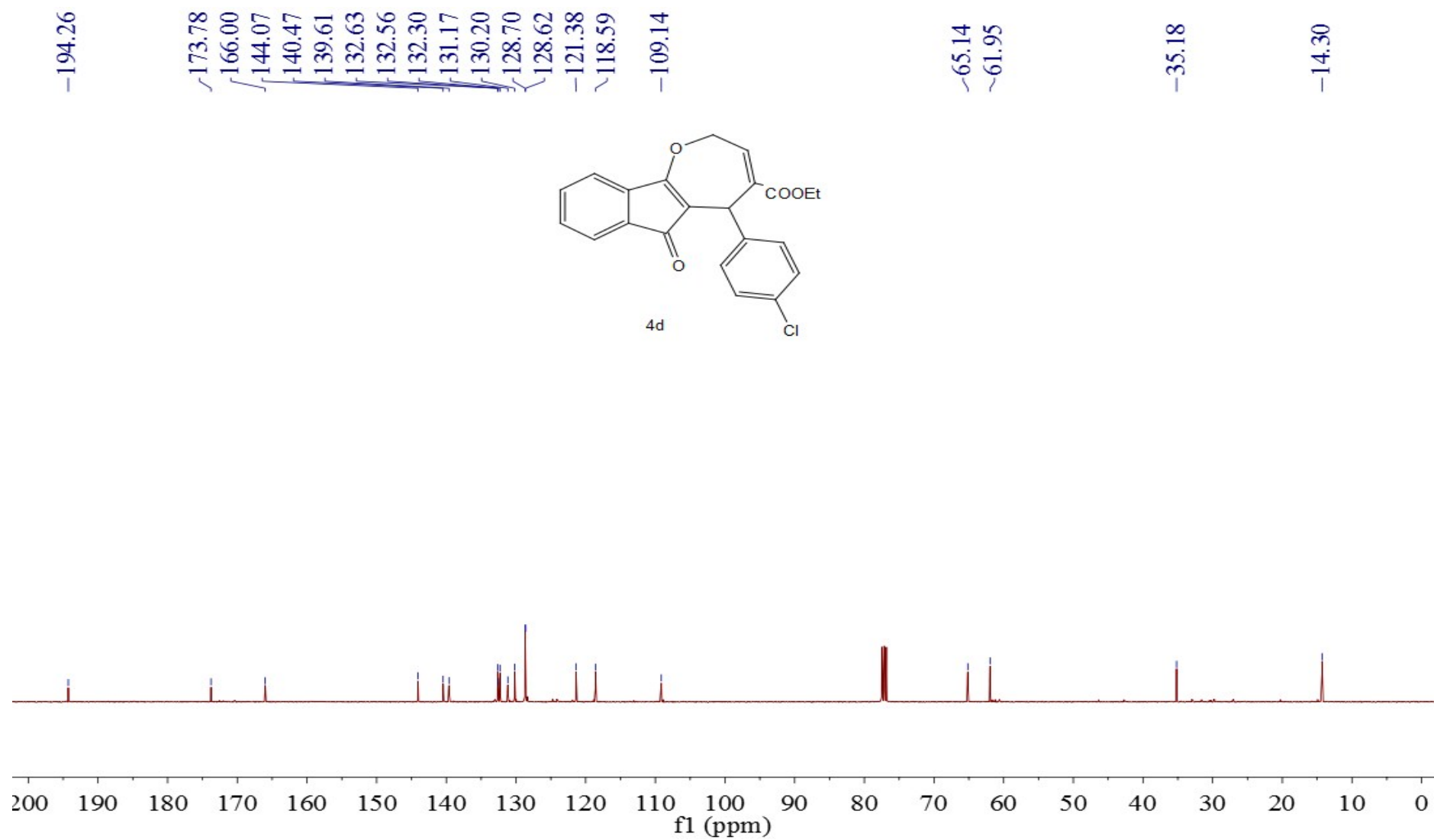


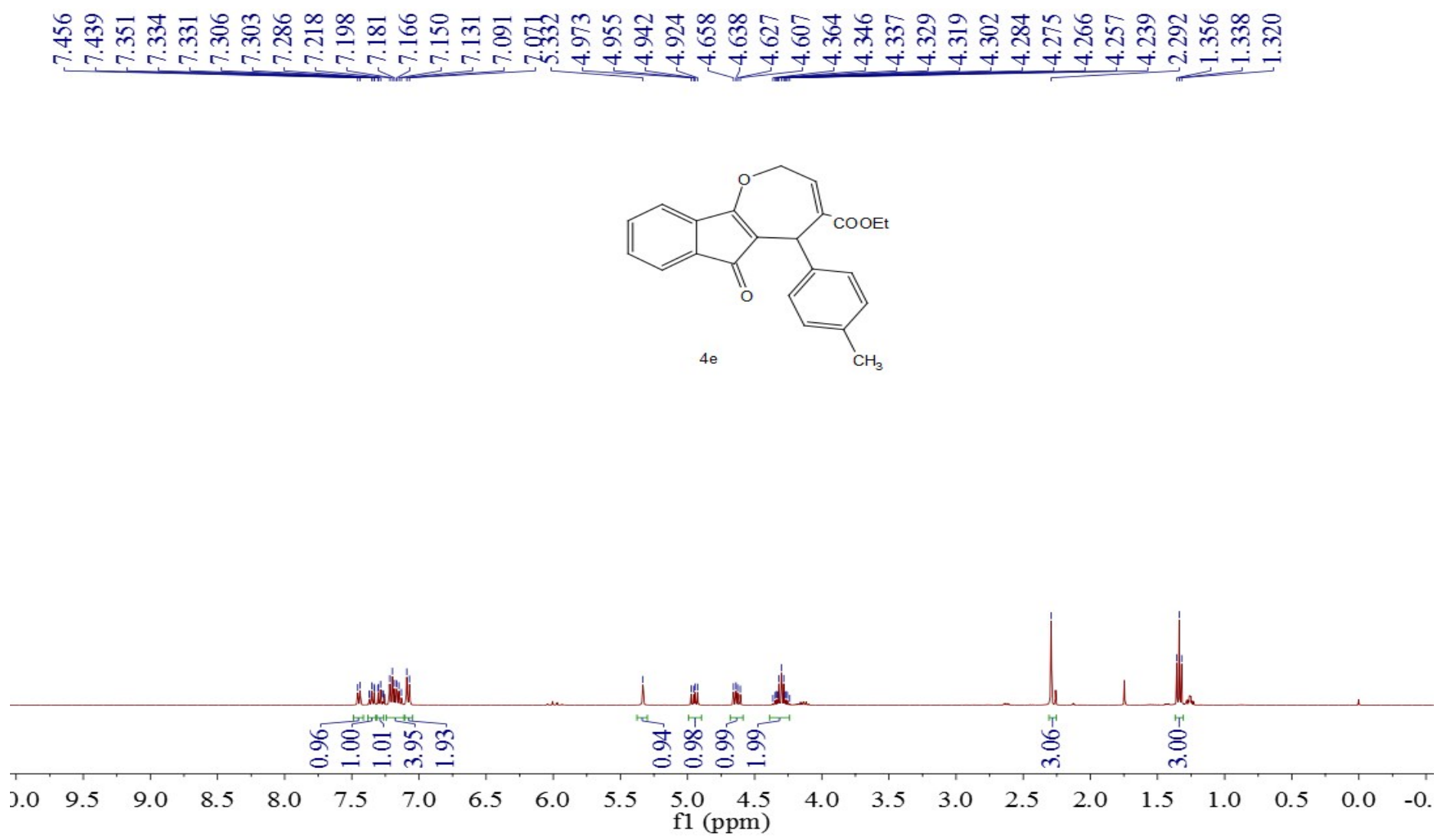


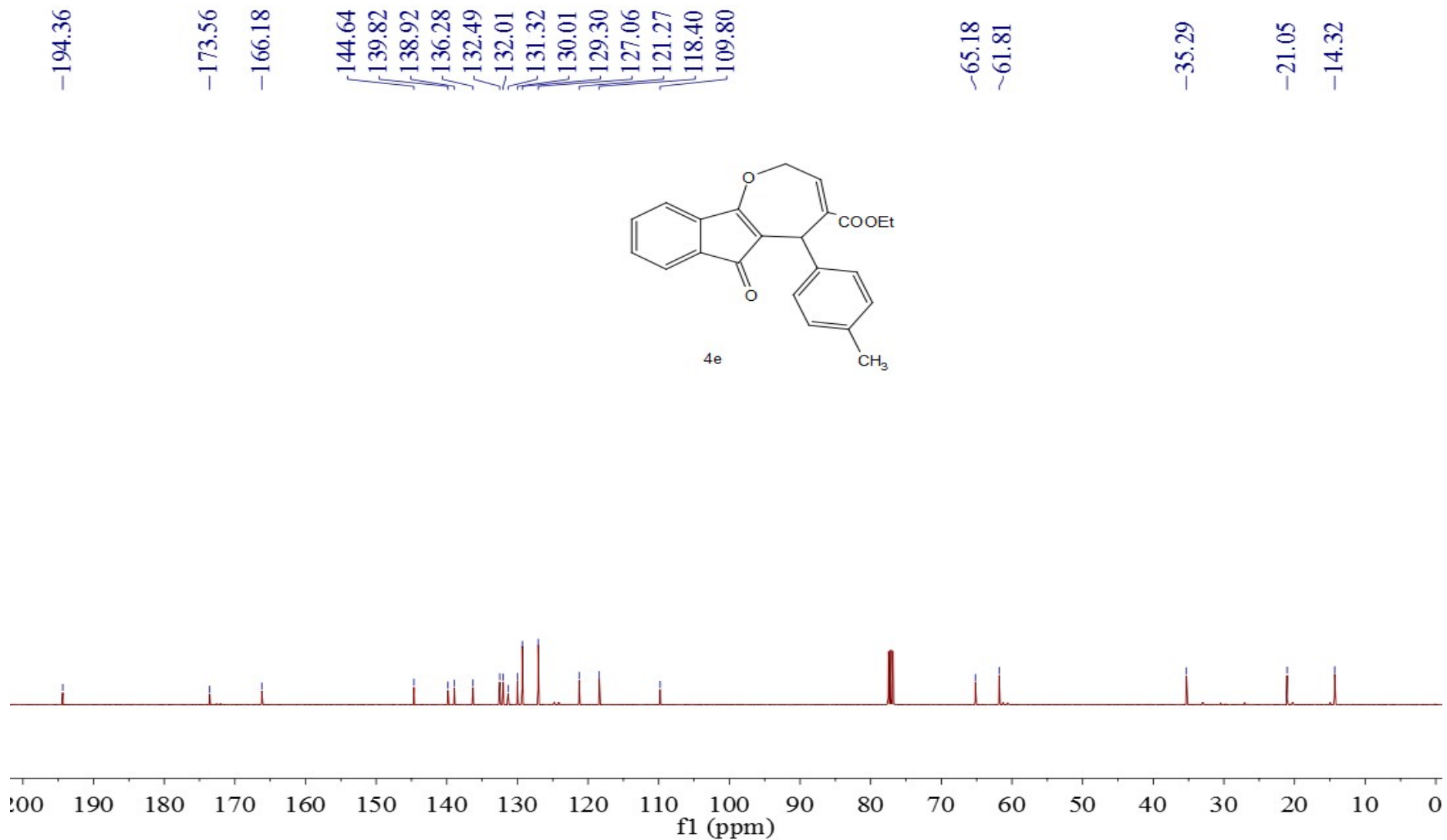


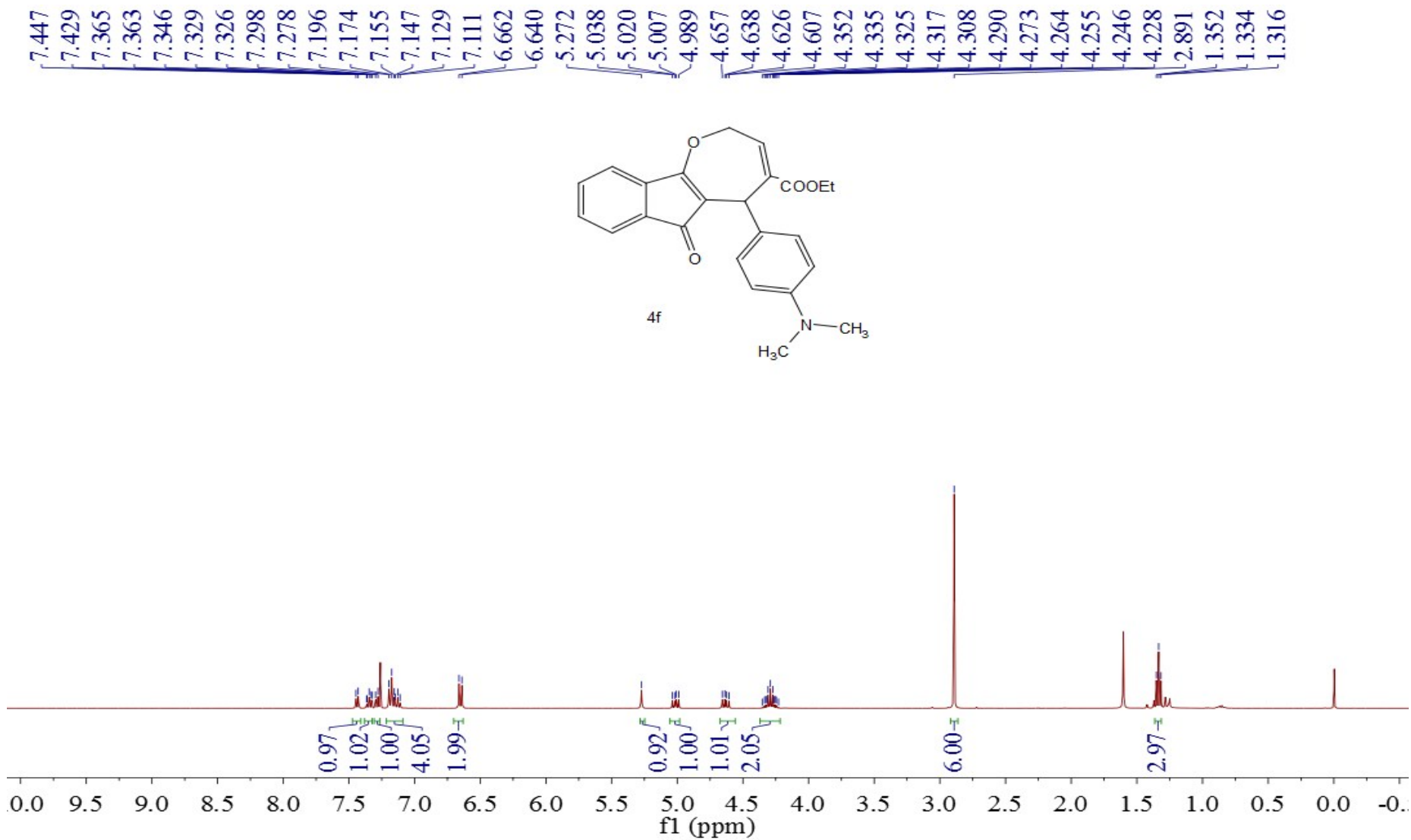


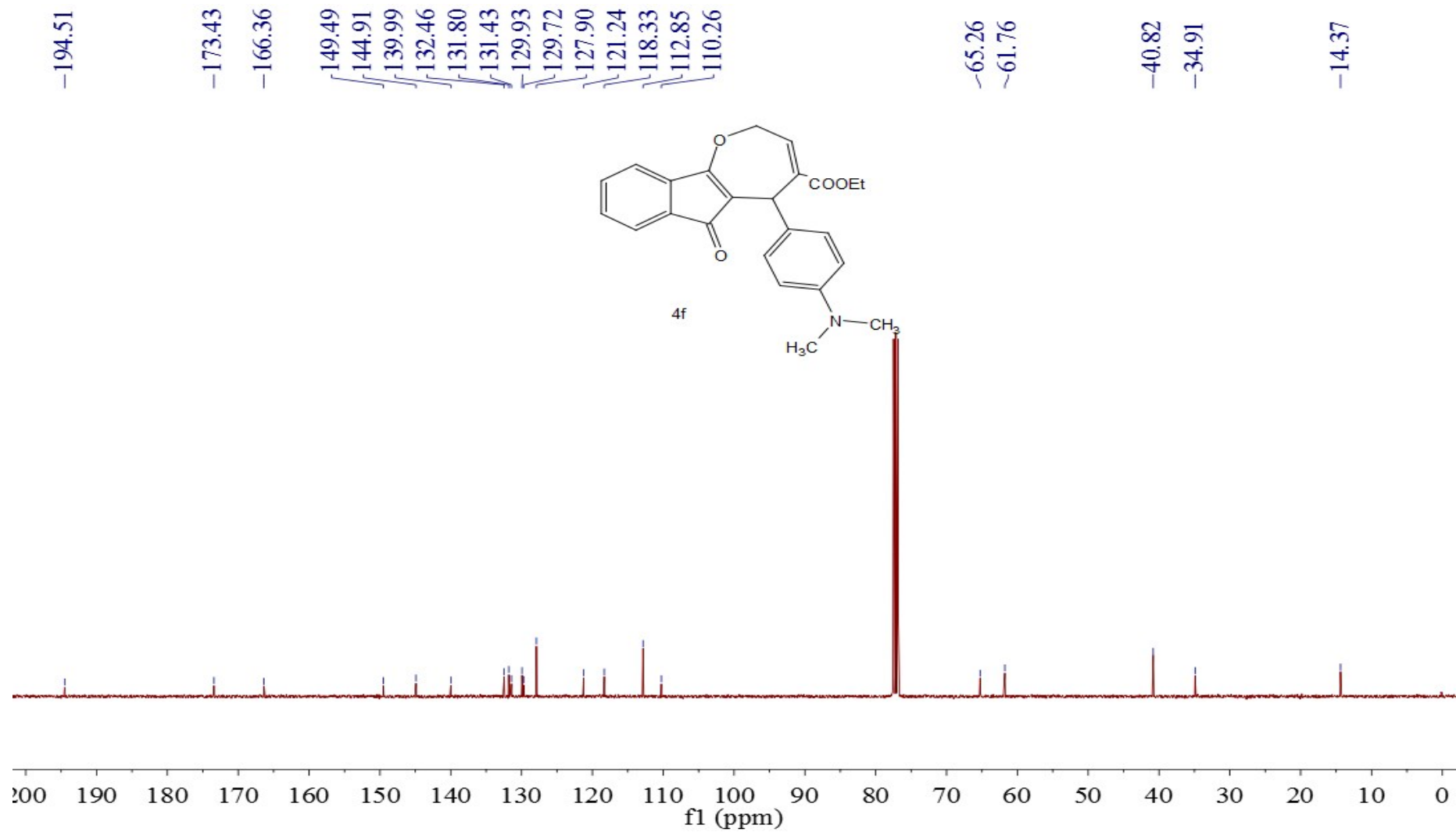


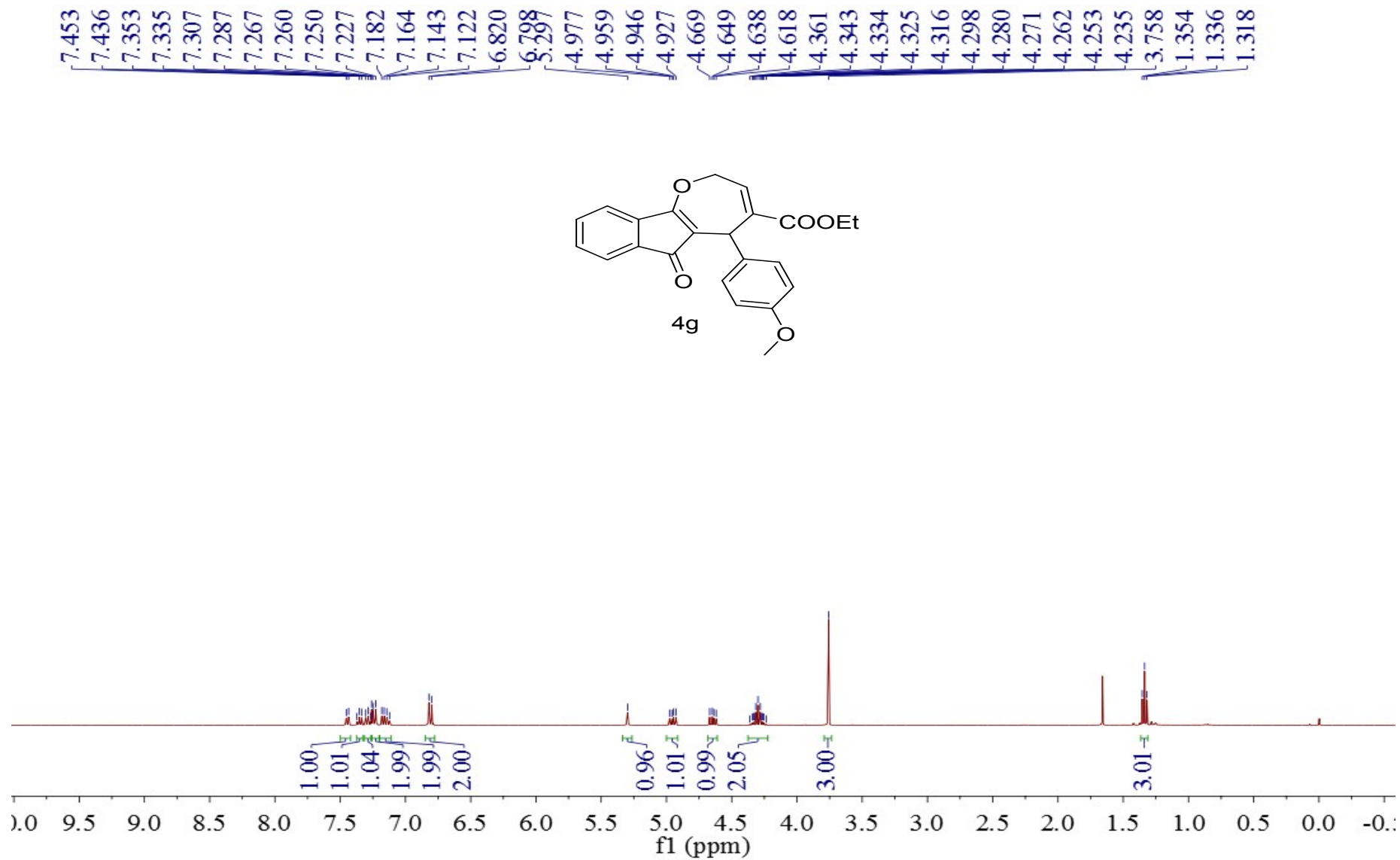


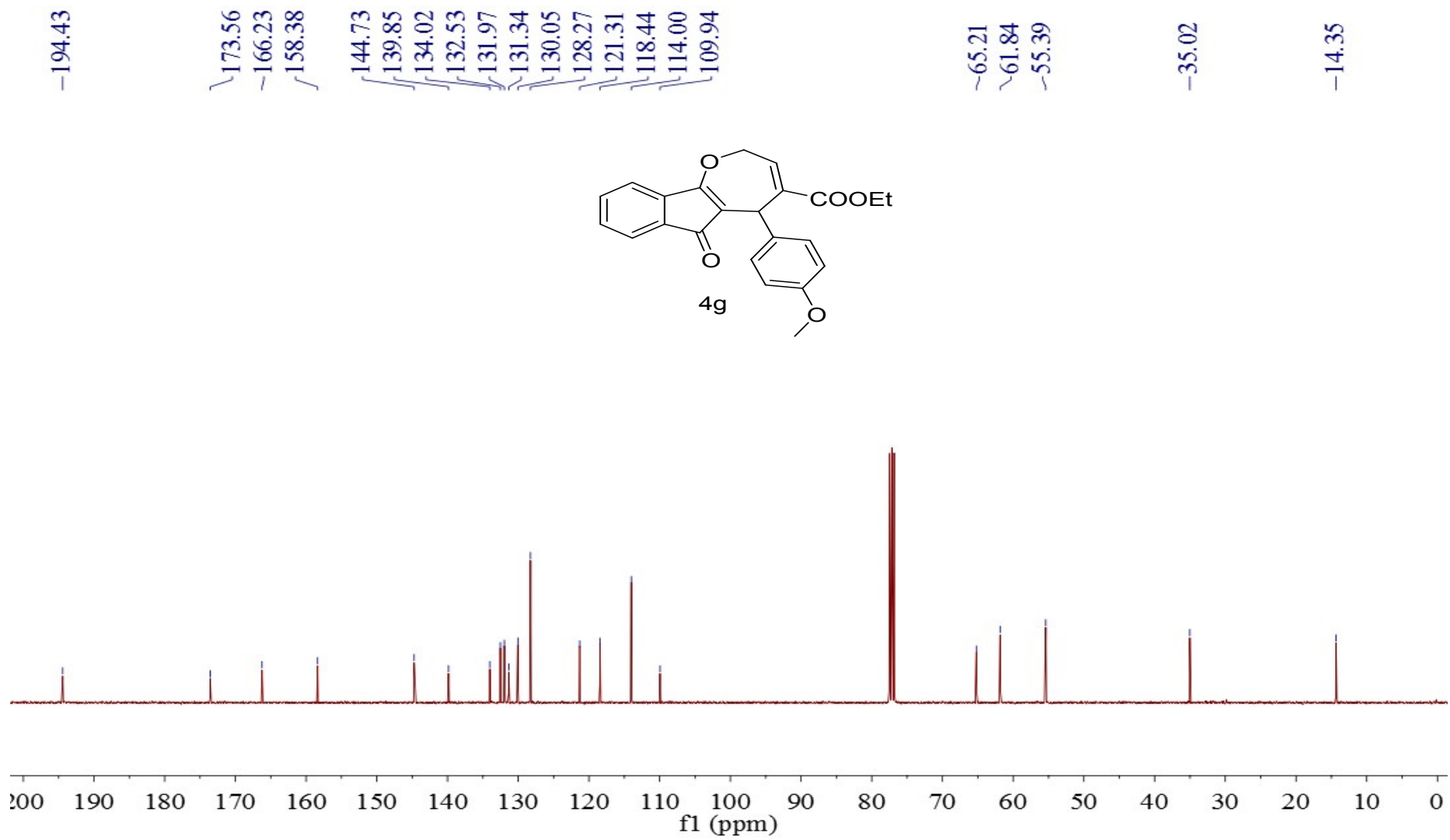






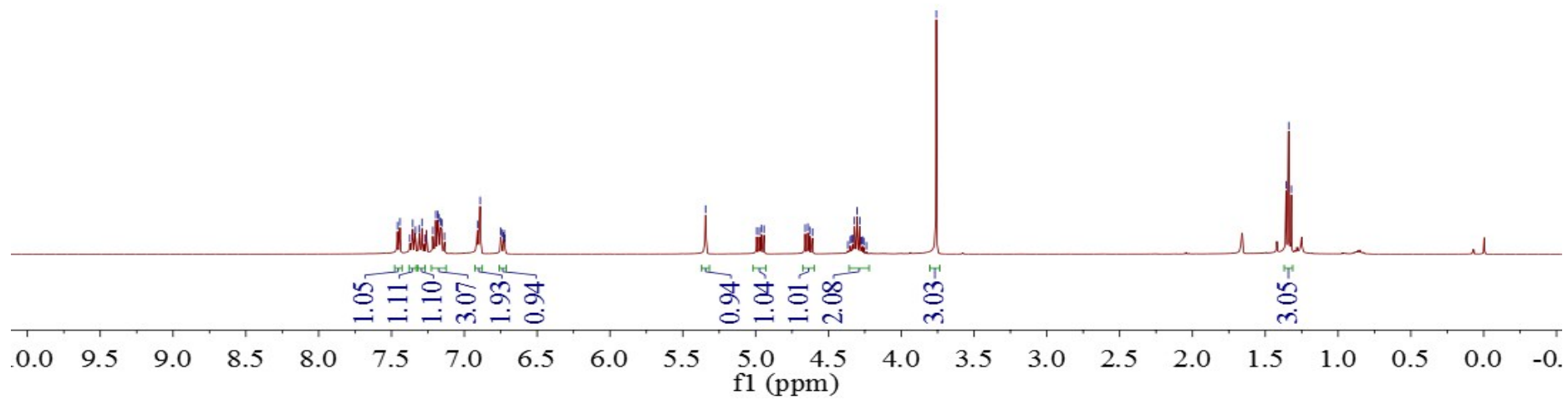
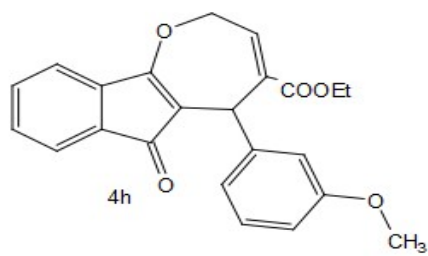


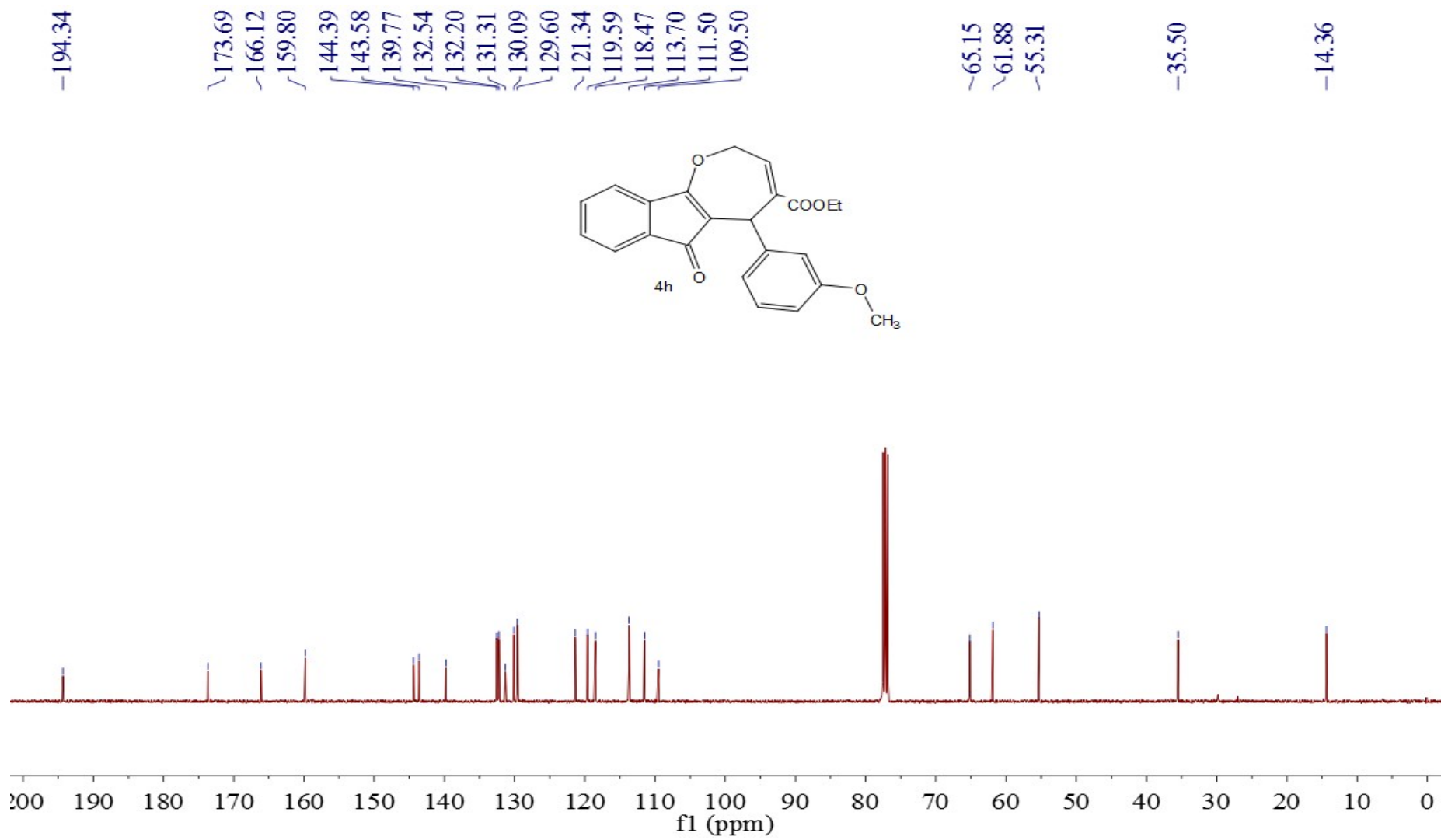


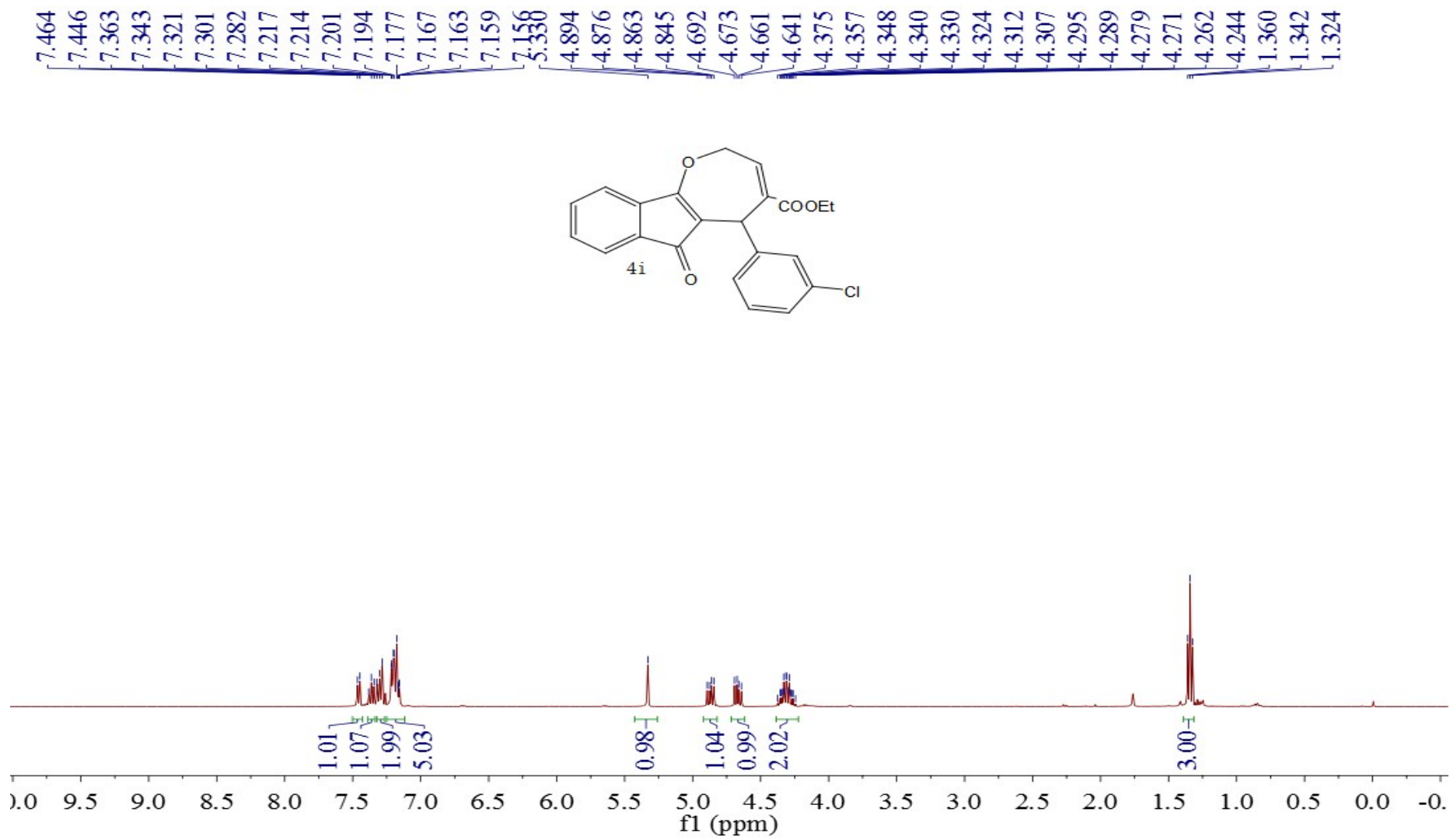


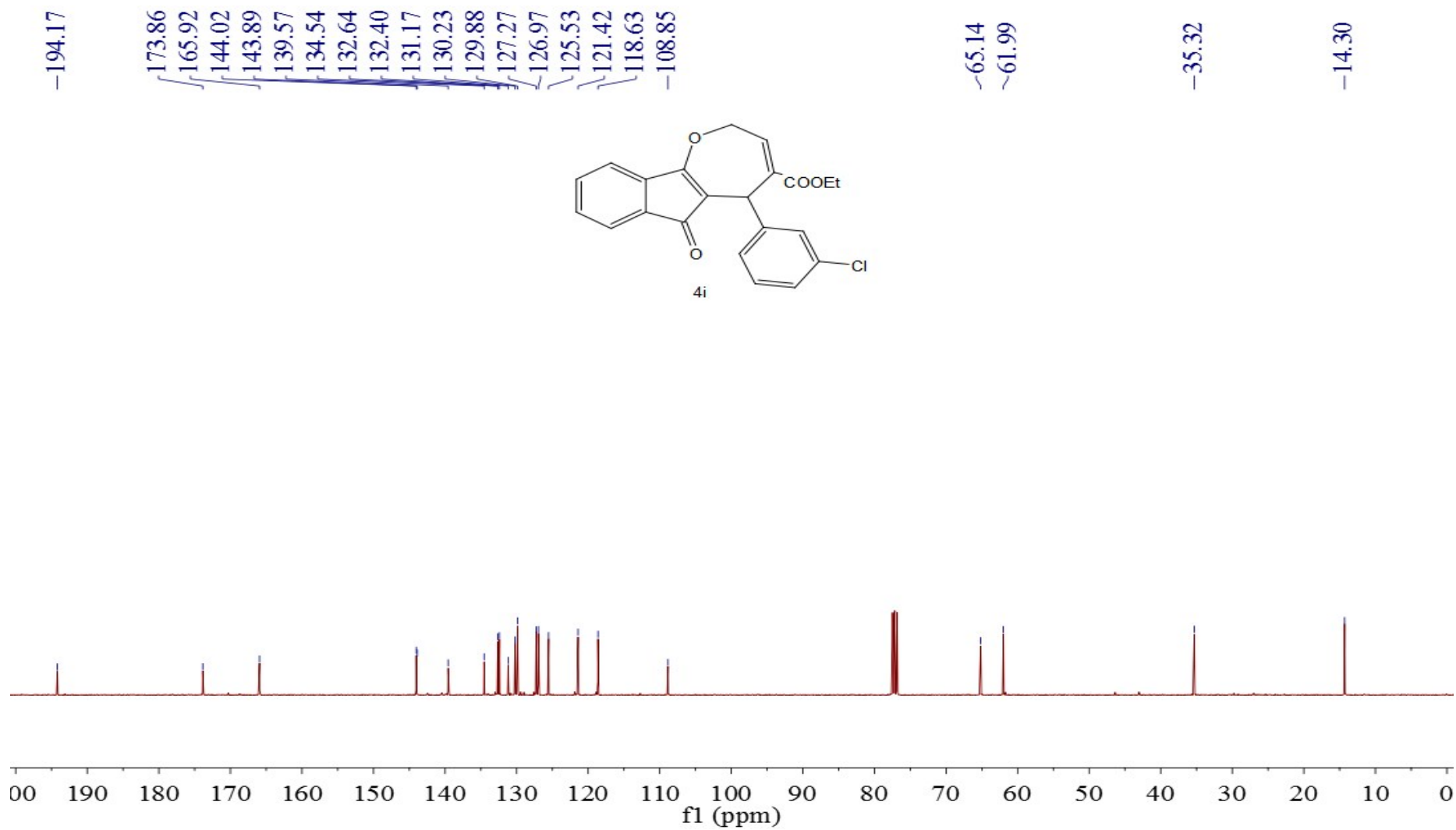


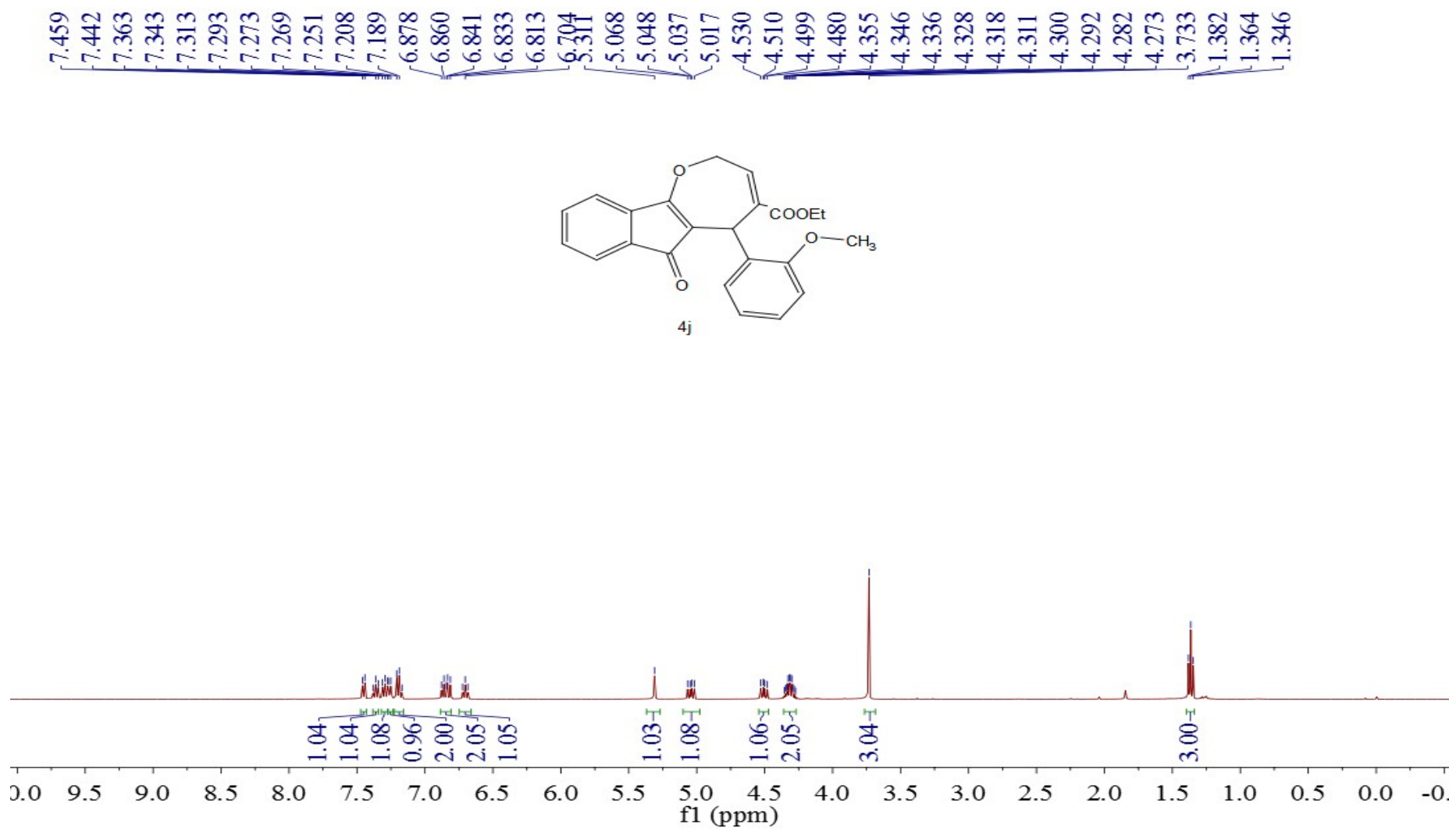
7.459  
7.442  
7.374  
7.354  
7.335  
7.311  
7.291  
7.272  
7.216  
7.196  
7.180  
7.175  
7.163  
7.154  
7.137  
6.909  
6.892  
6.750  
6.743  
6.731  
6.726  
6.722  
5.343  
4.992  
4.974  
4.961  
4.943  
4.660  
4.640  
4.629  
4.609  
4.366  
4.348  
4.339  
4.331  
4.321  
4.302  
4.284  
4.275  
4.266  
4.257  
3.759  
1.357  
1.339  
1.321

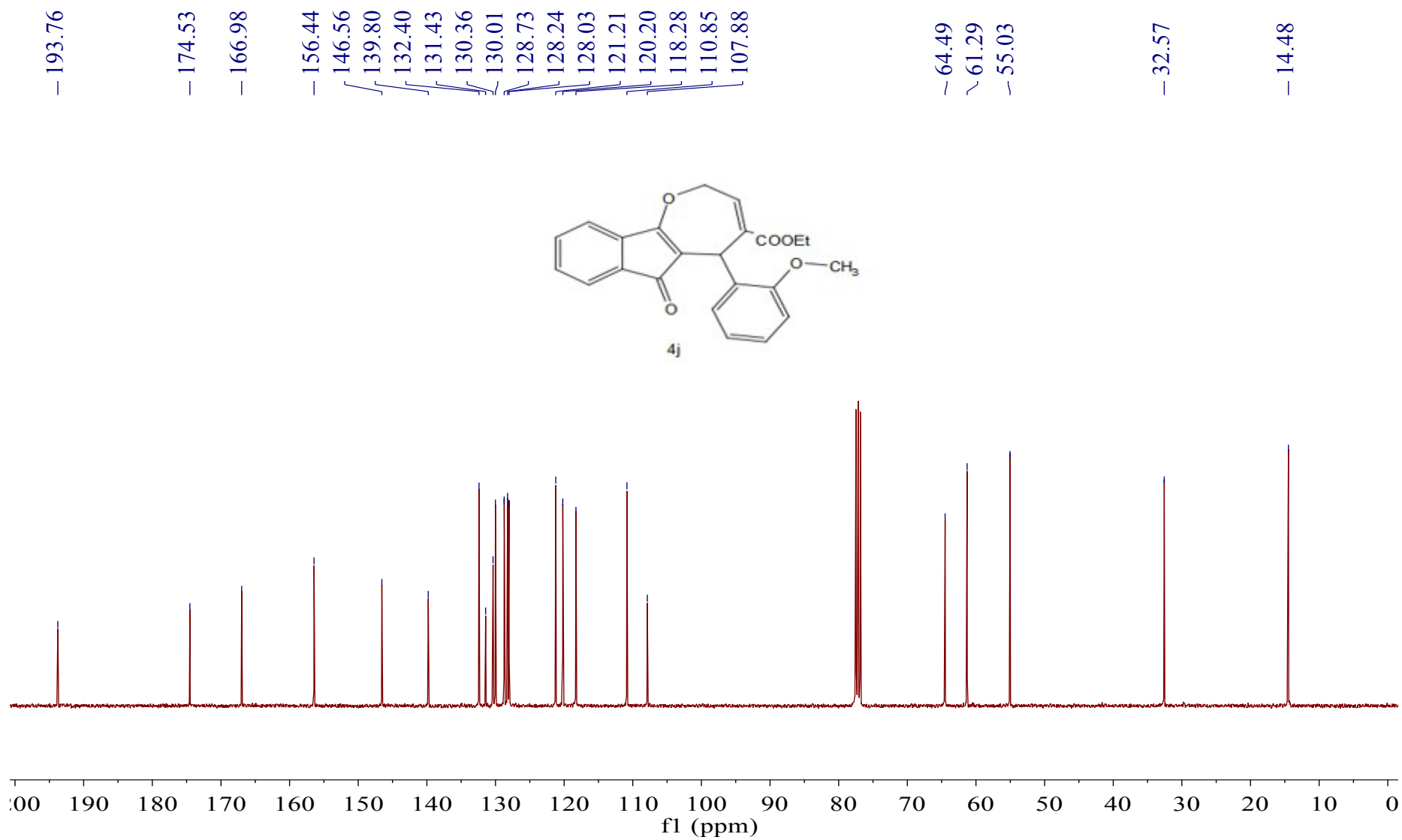


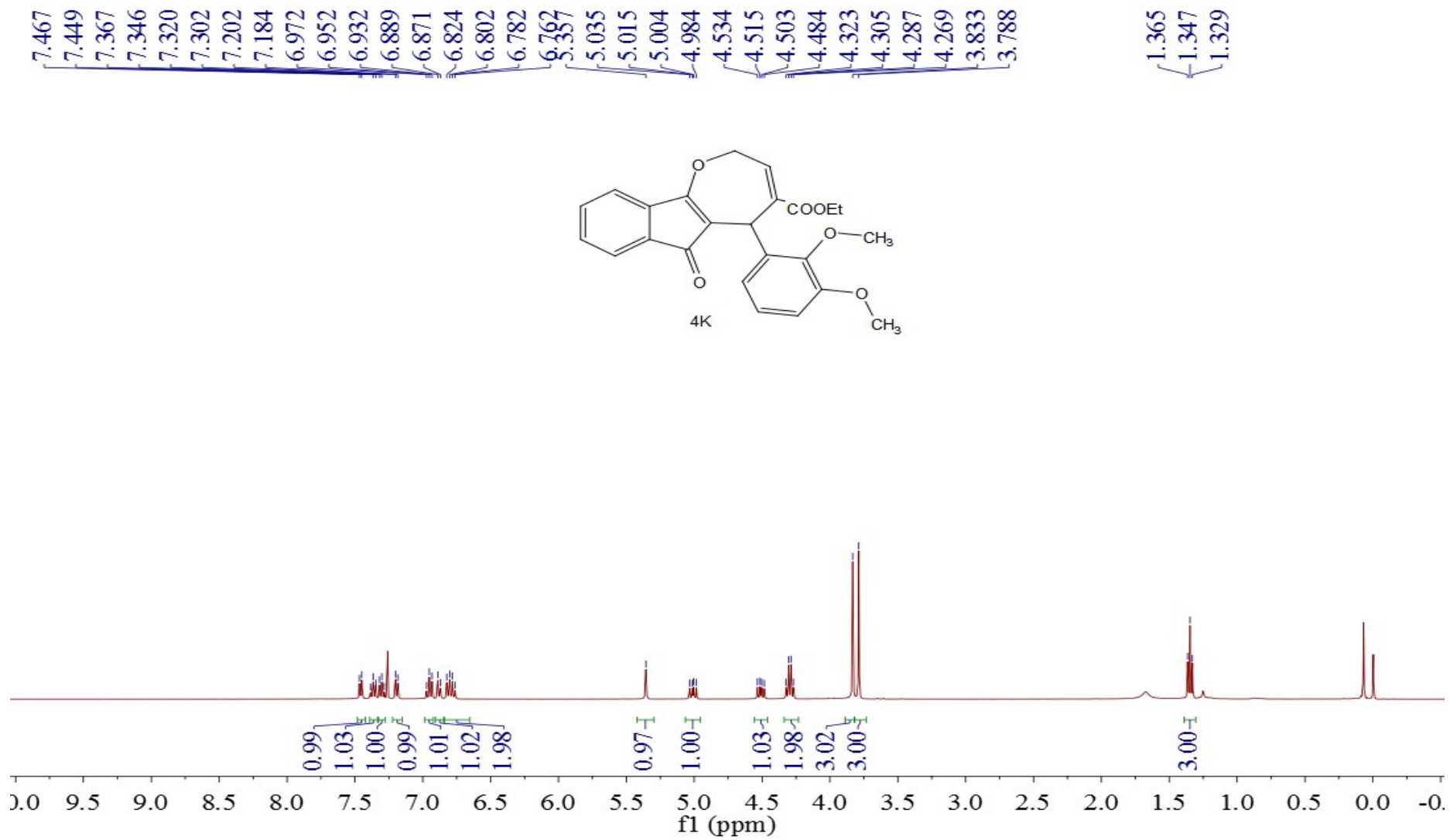


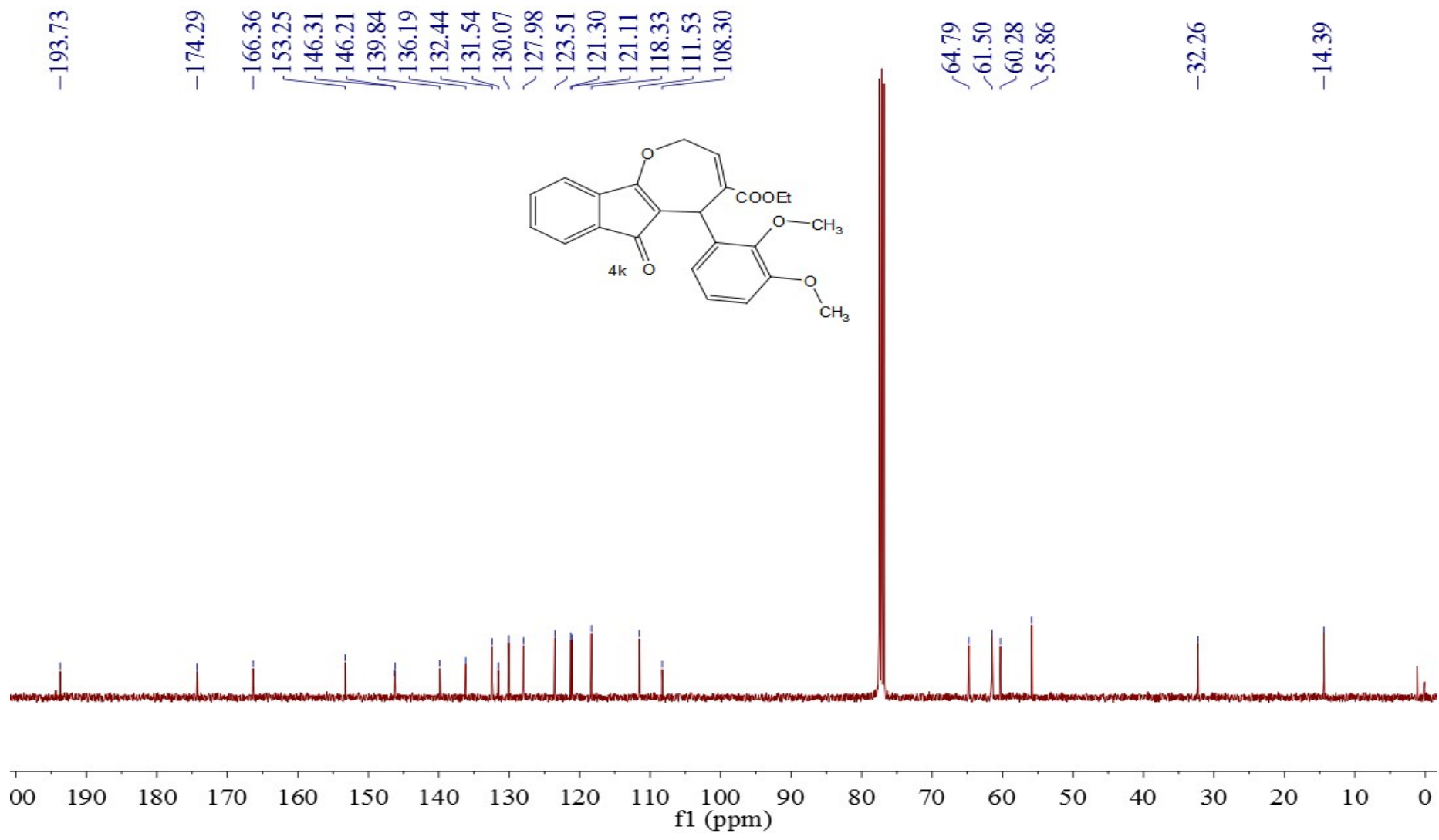




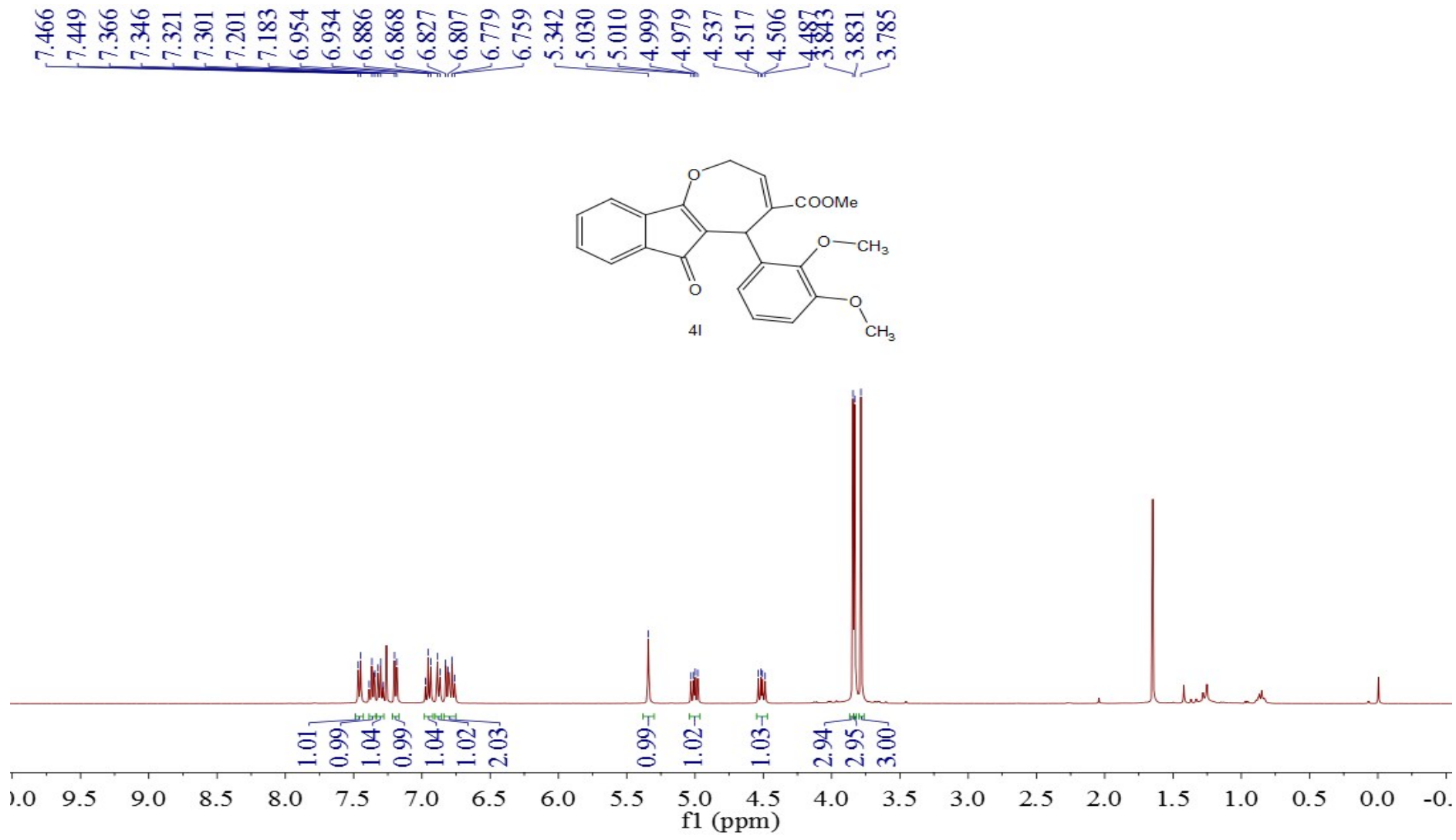


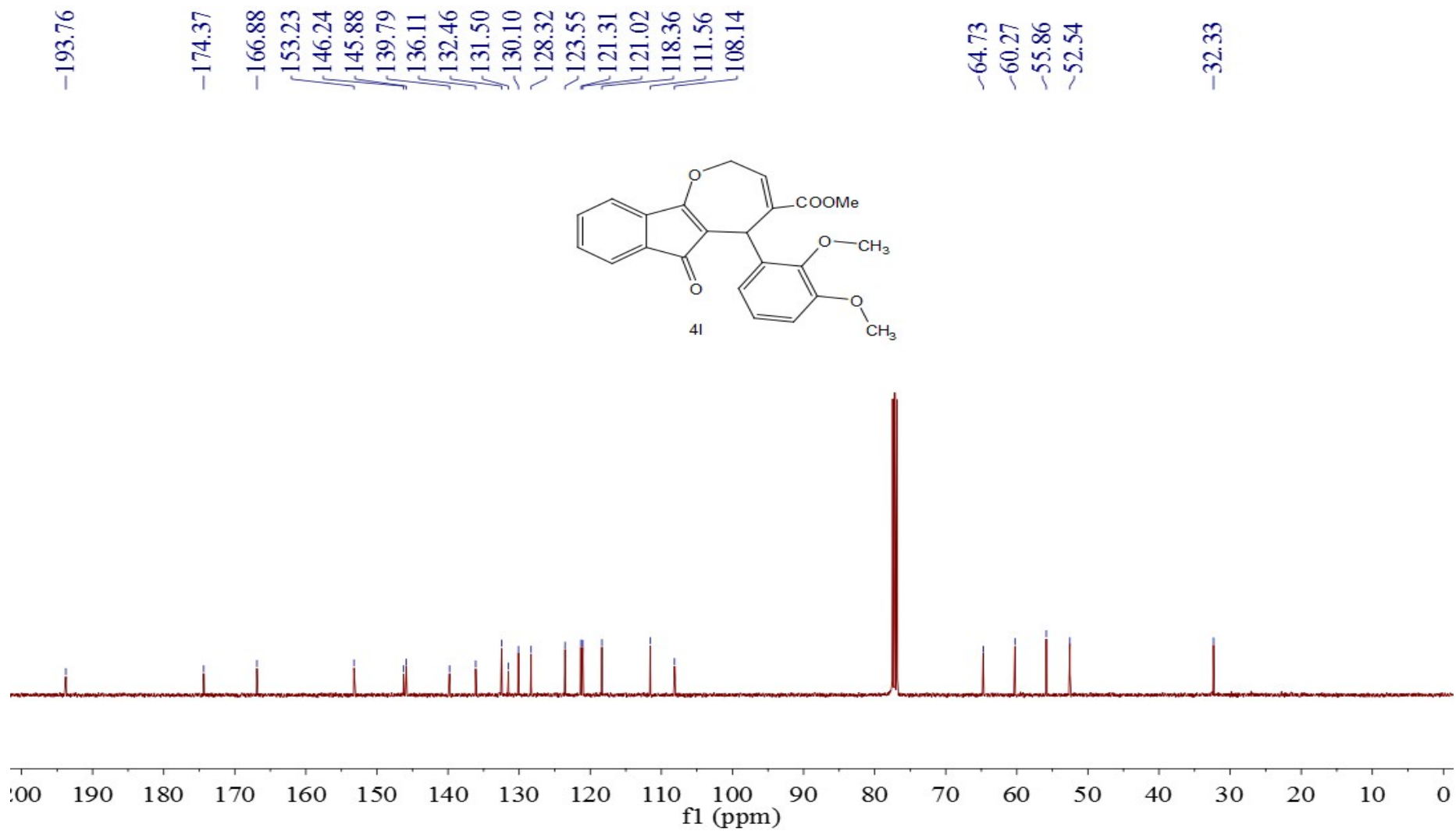




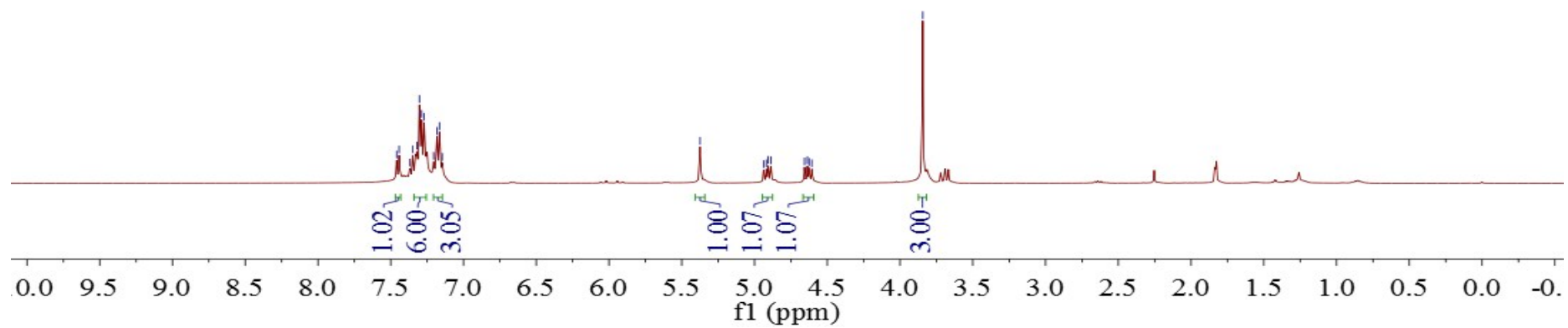
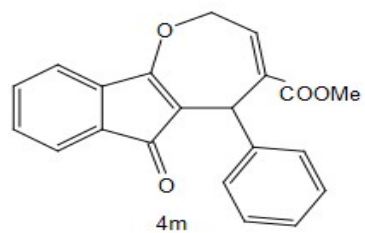


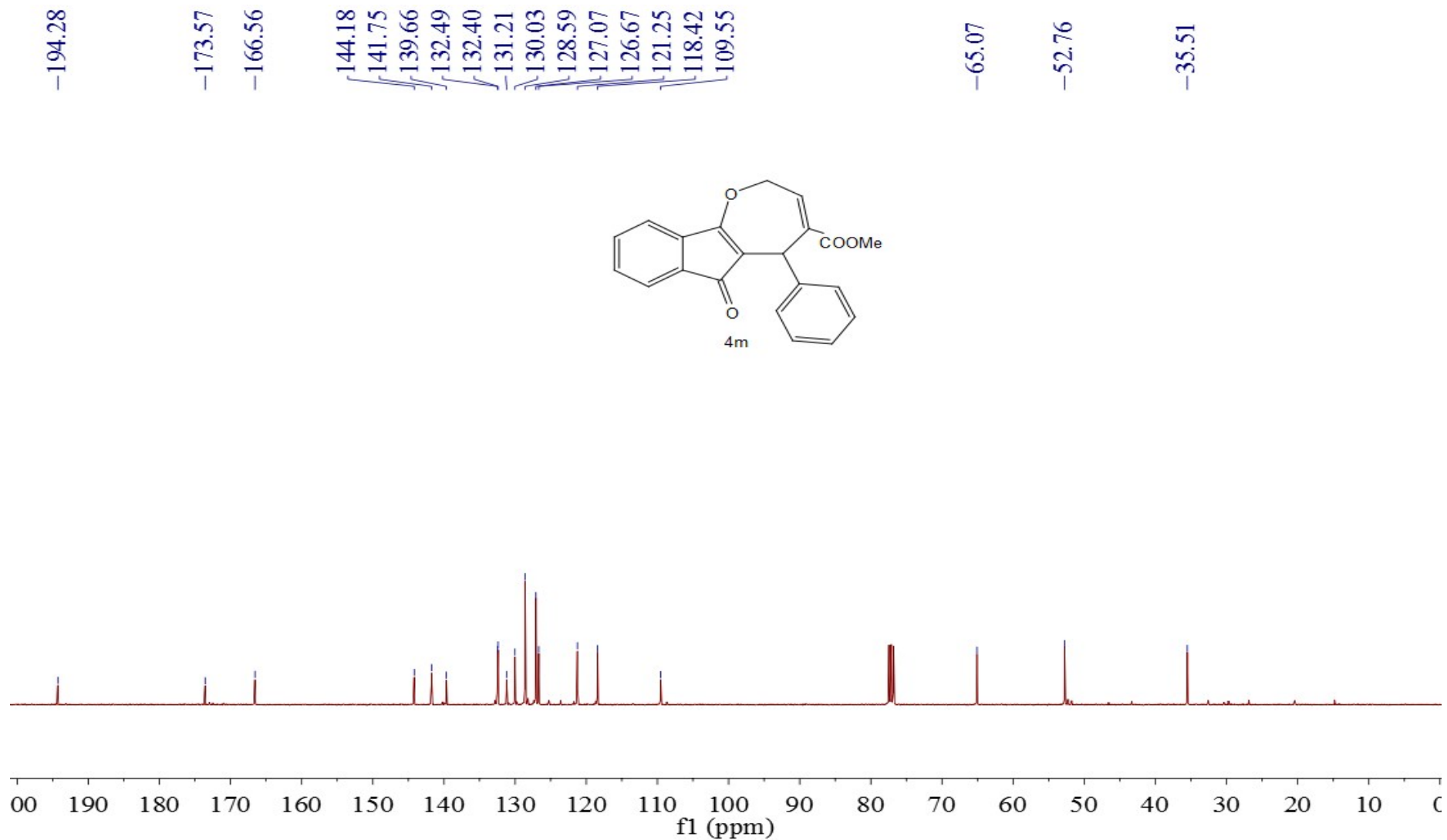


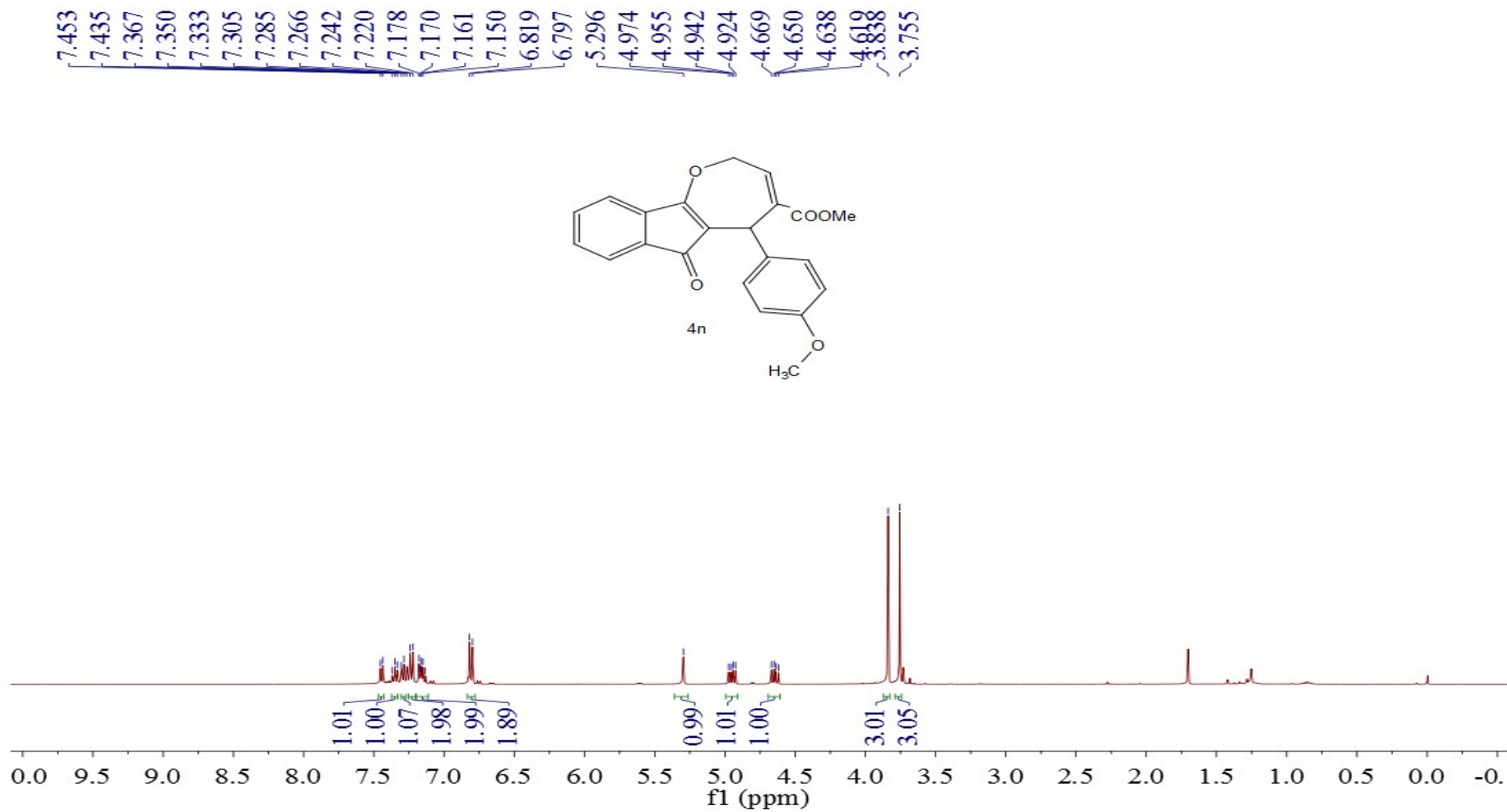


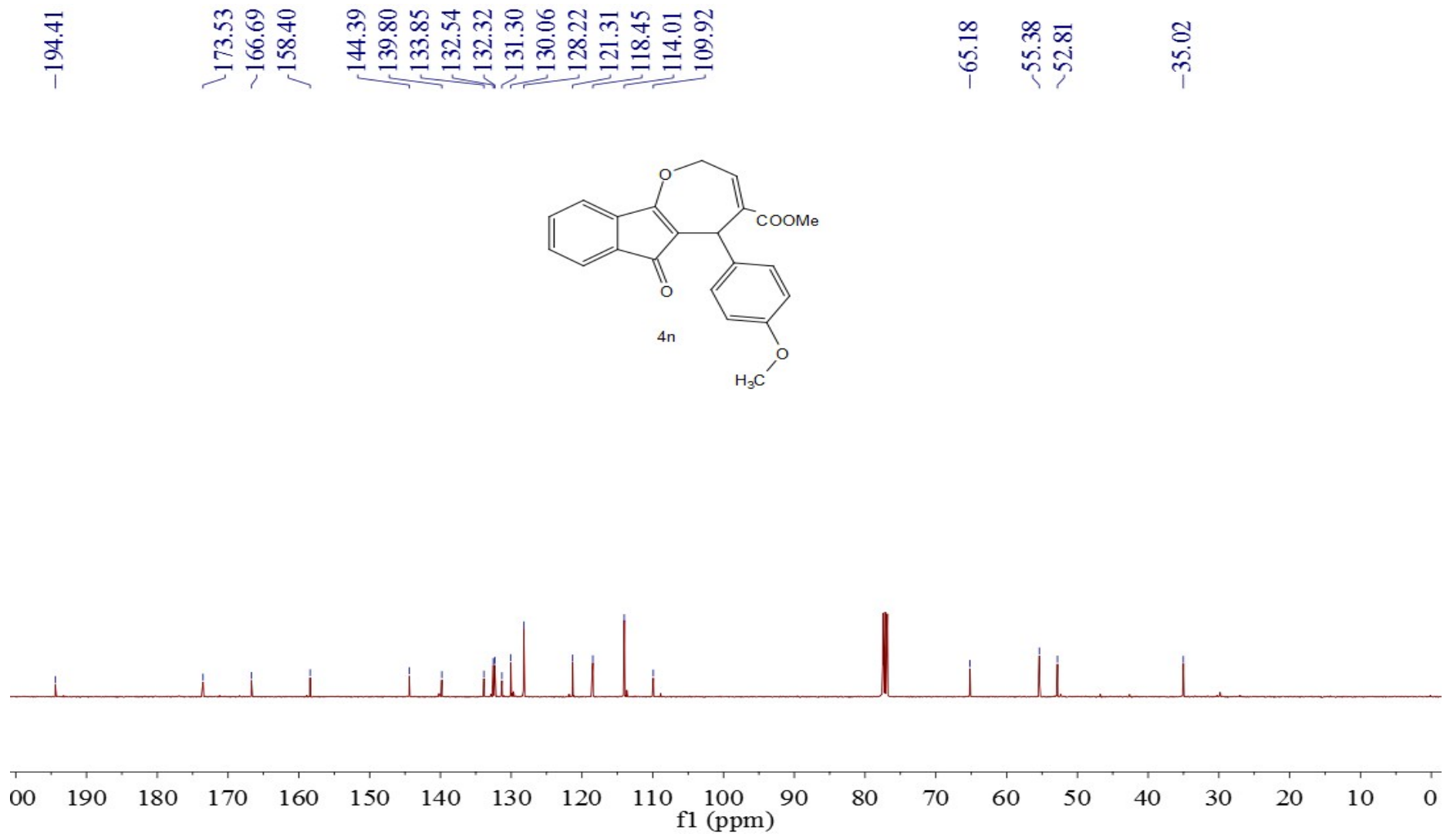


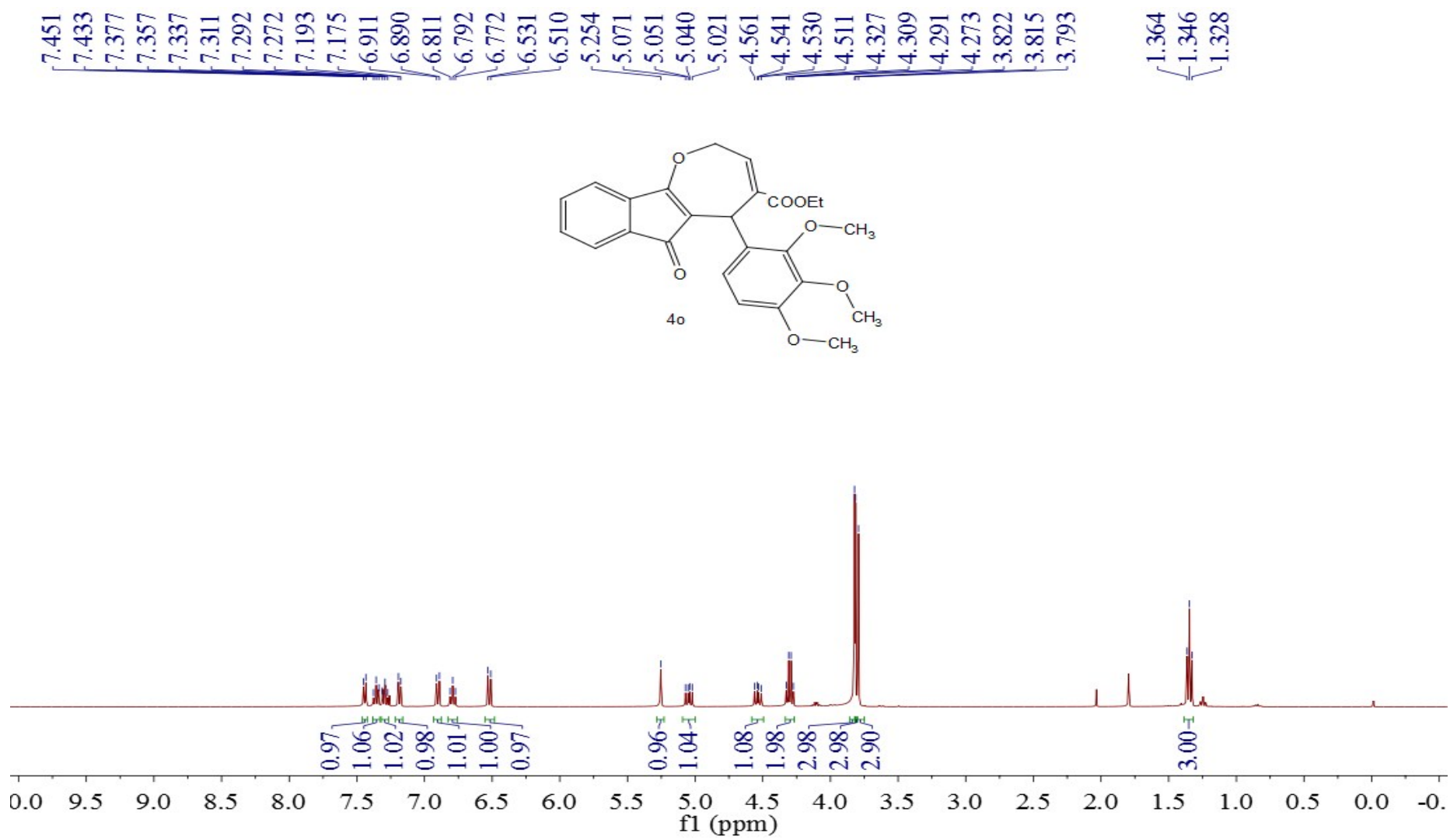
7.460  
7.442  
7.367  
7.349  
7.321  
7.303  
7.288  
7.270  
7.206  
7.184  
7.165  
7.147  
5.374  
4.938  
4.919  
4.907  
4.888  
4.656  
4.637  
4.625  
4.606  
-3.844

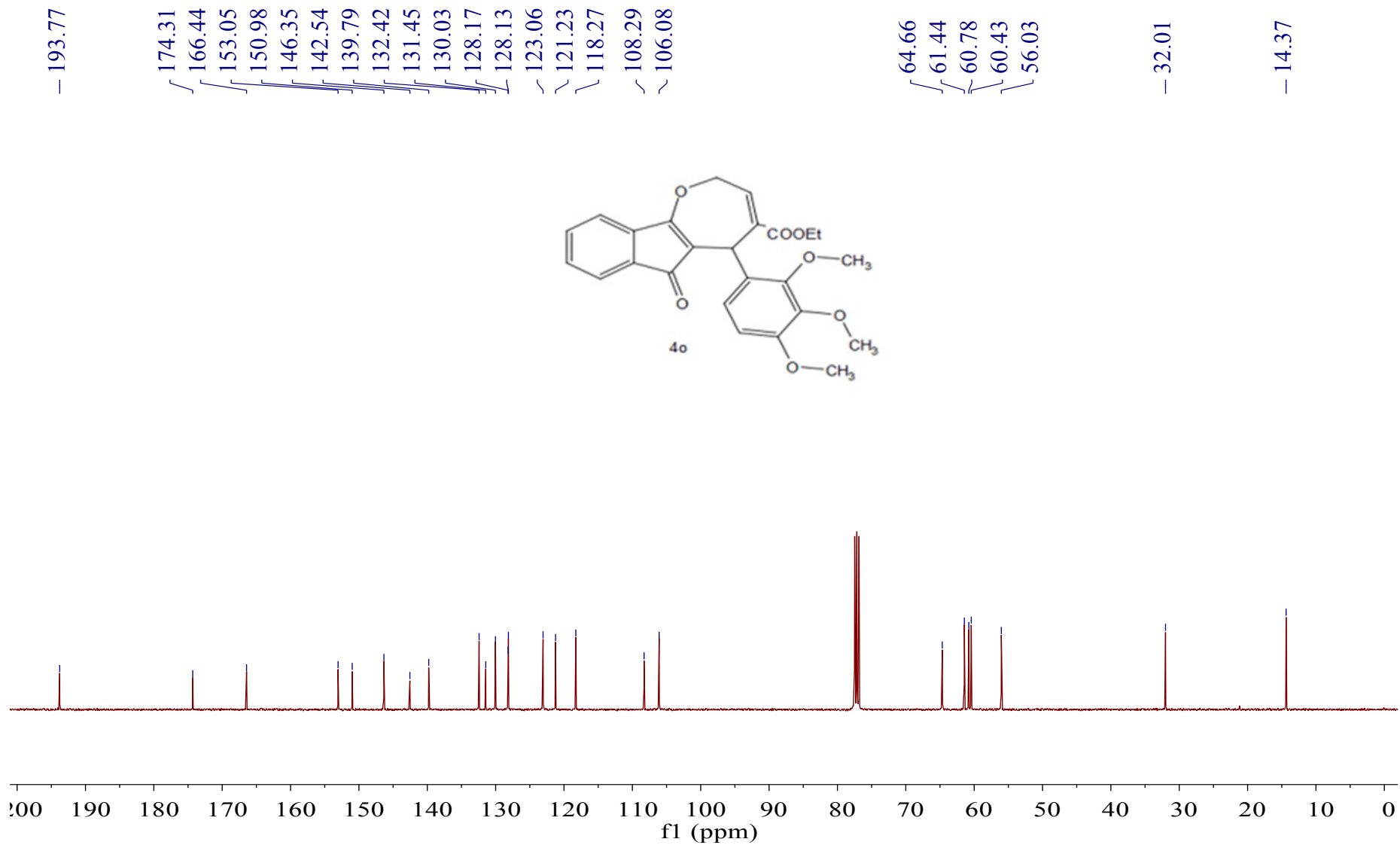




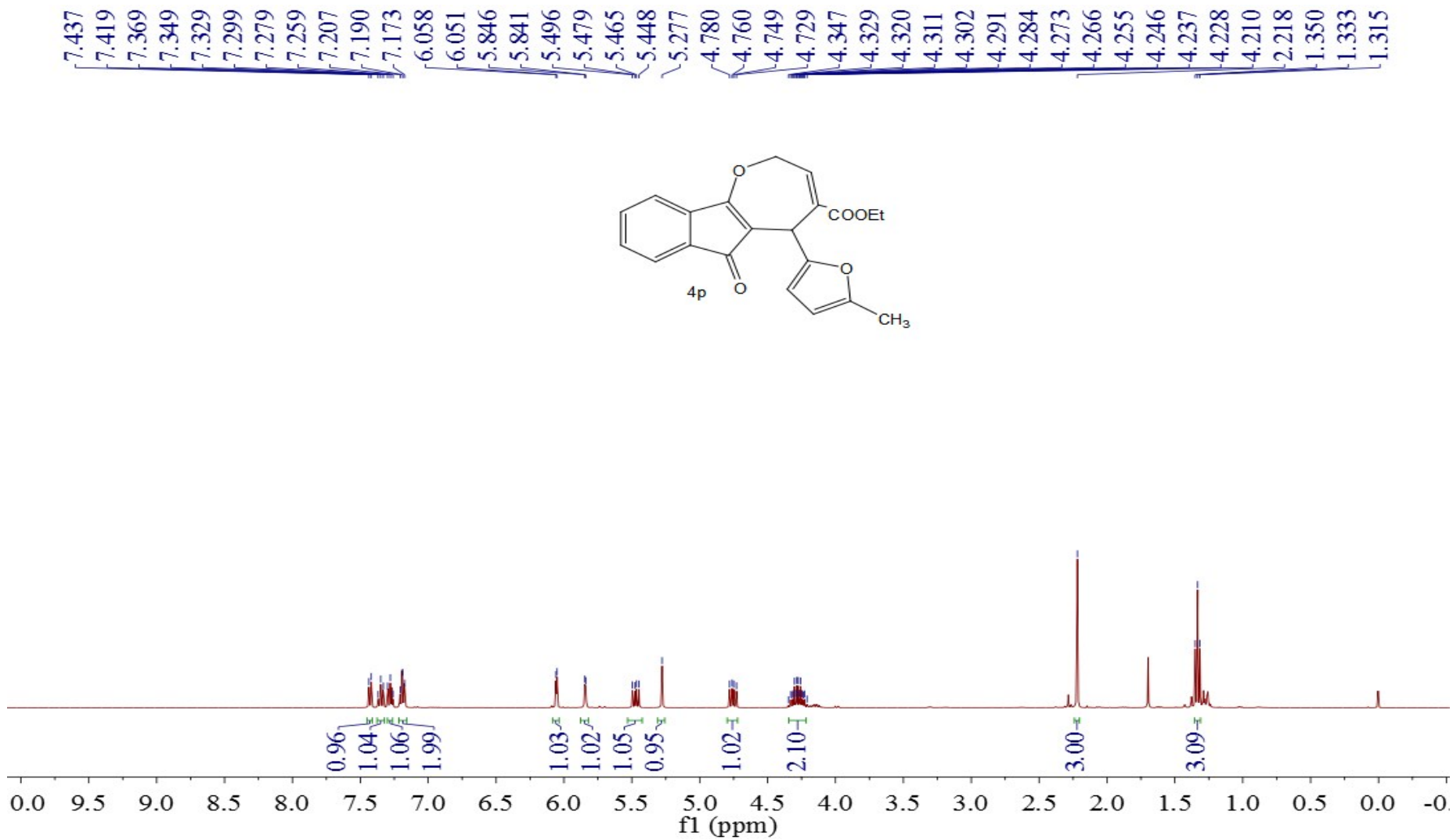


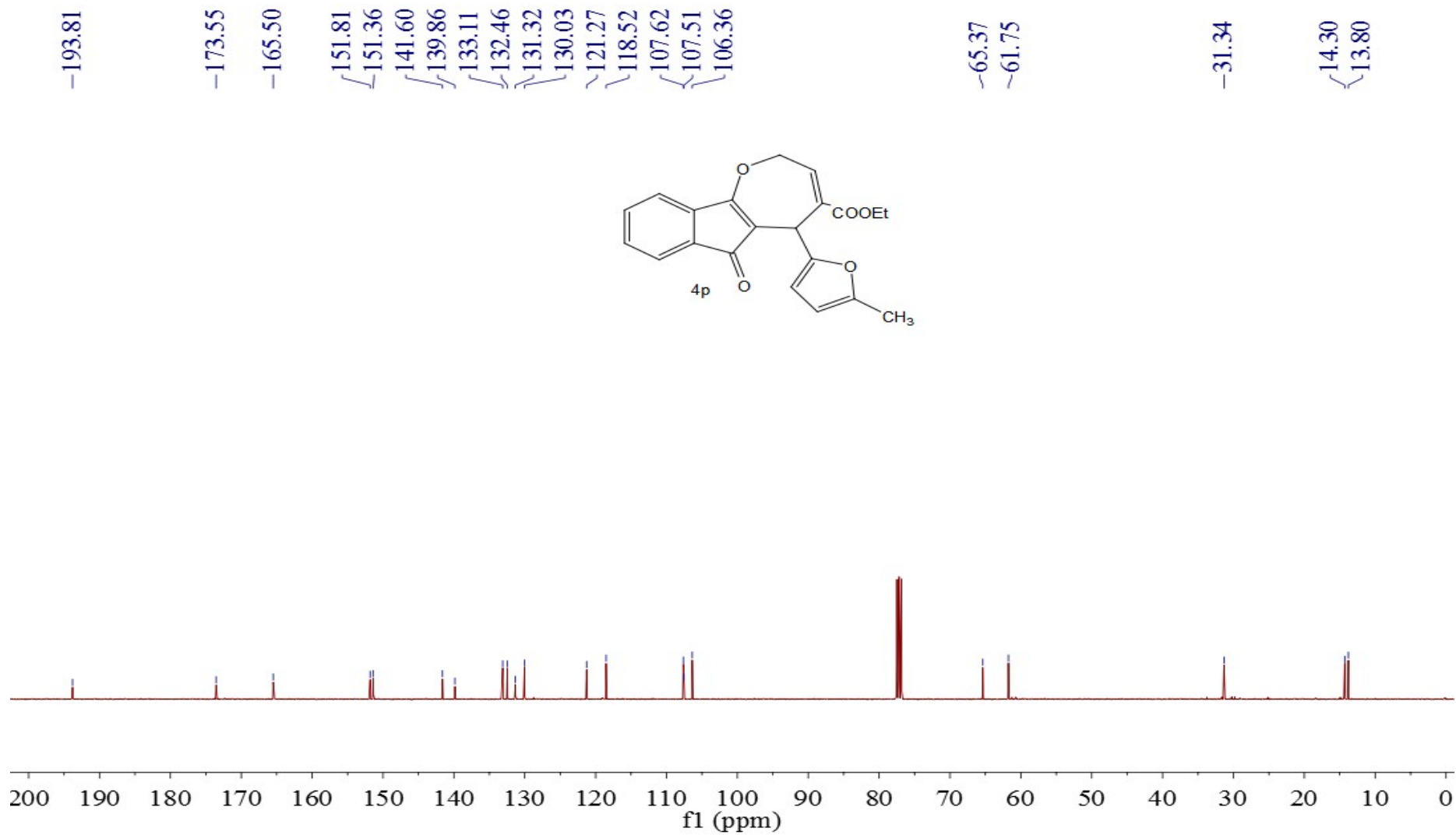


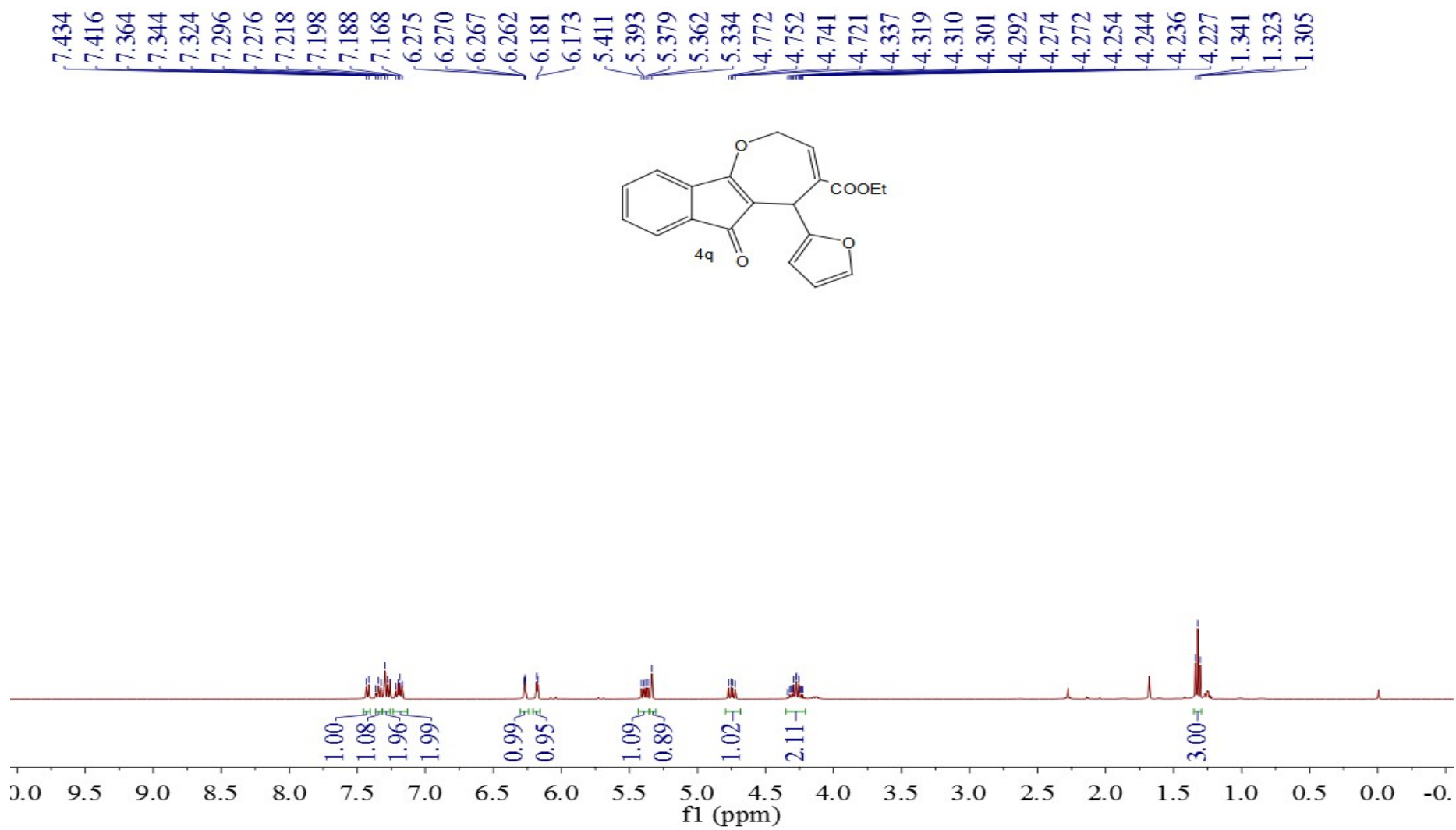


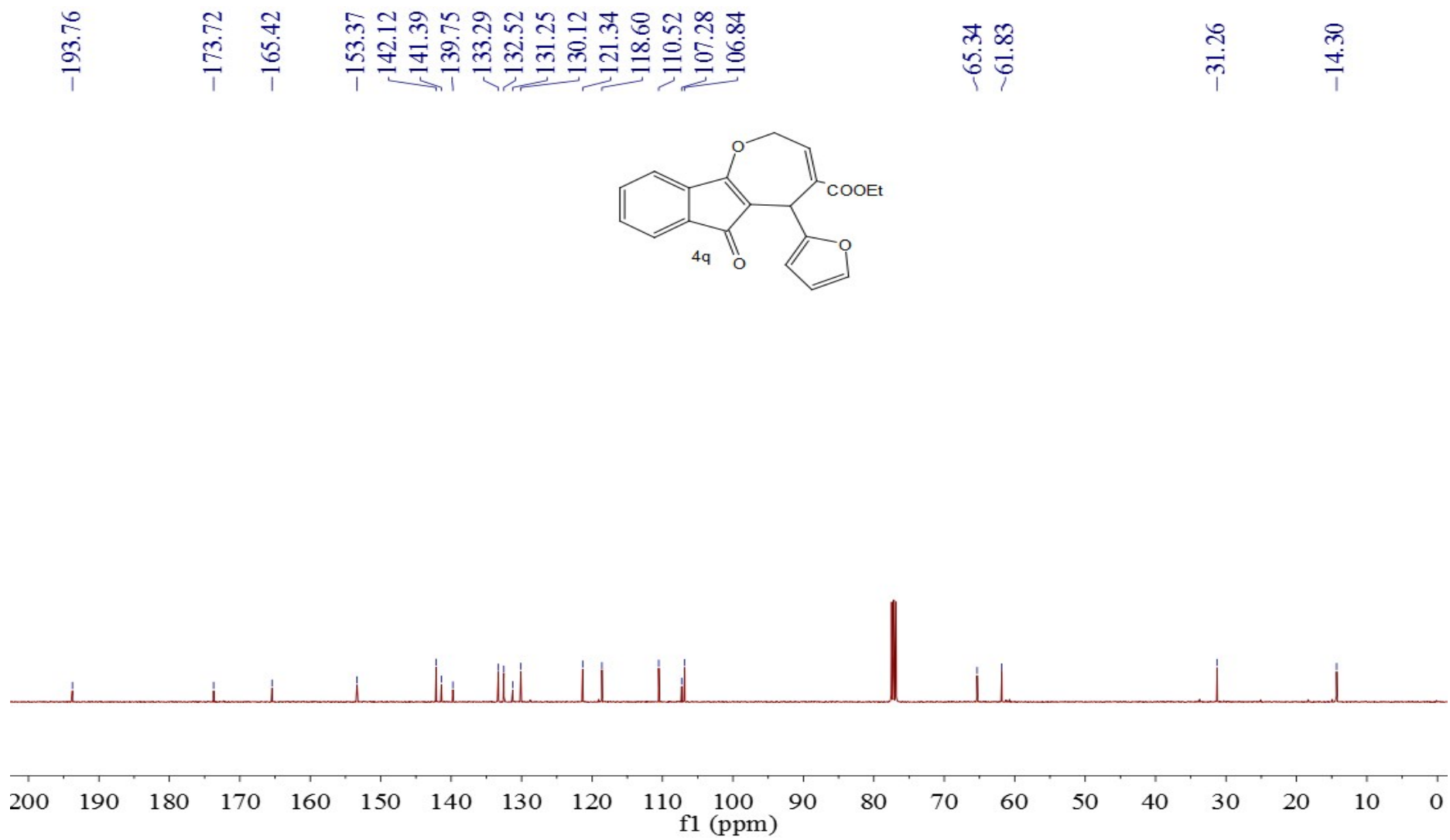




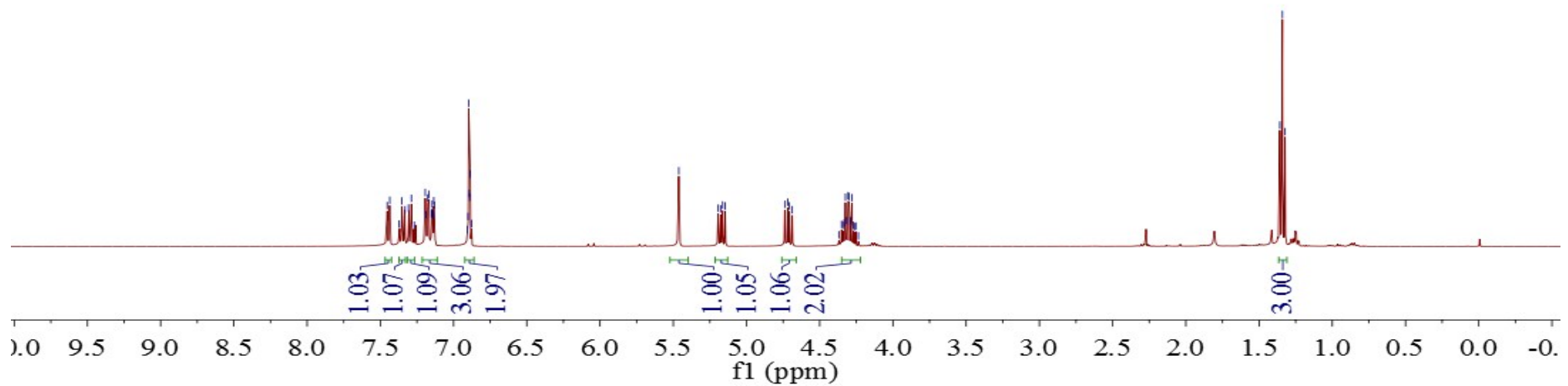
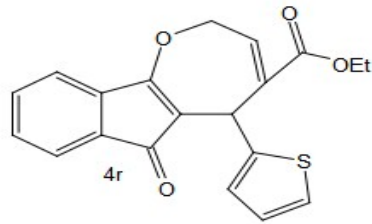


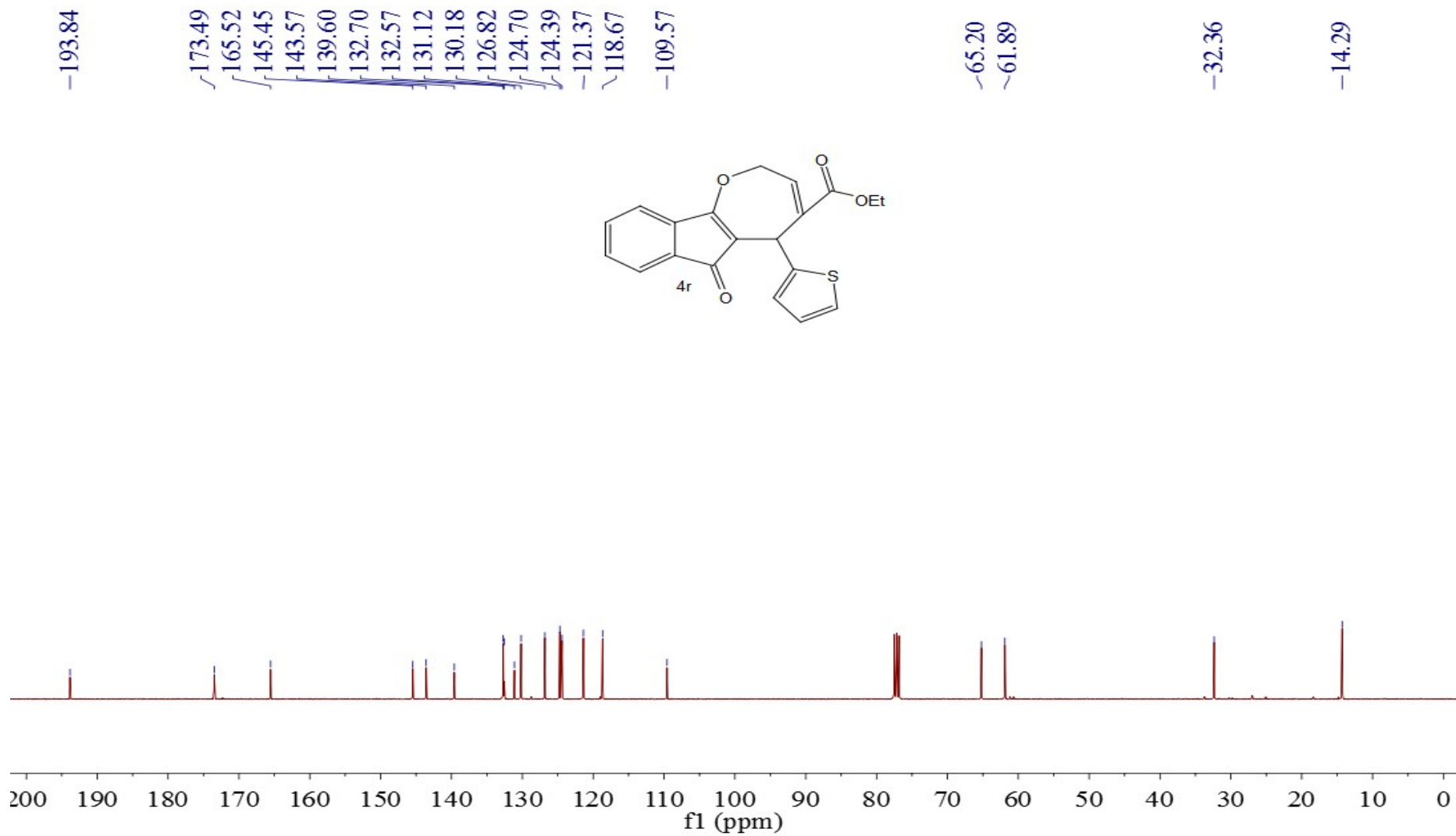


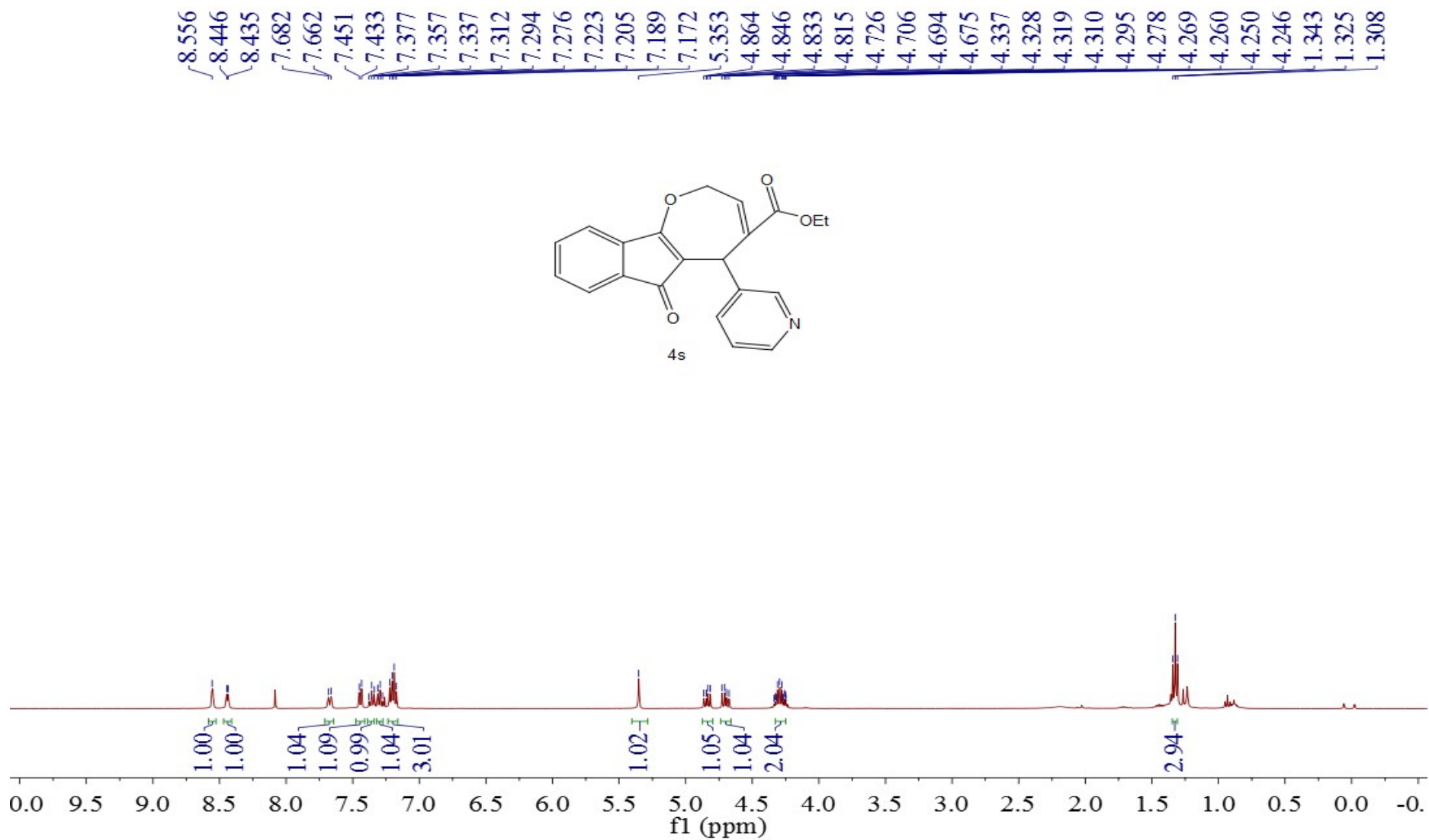


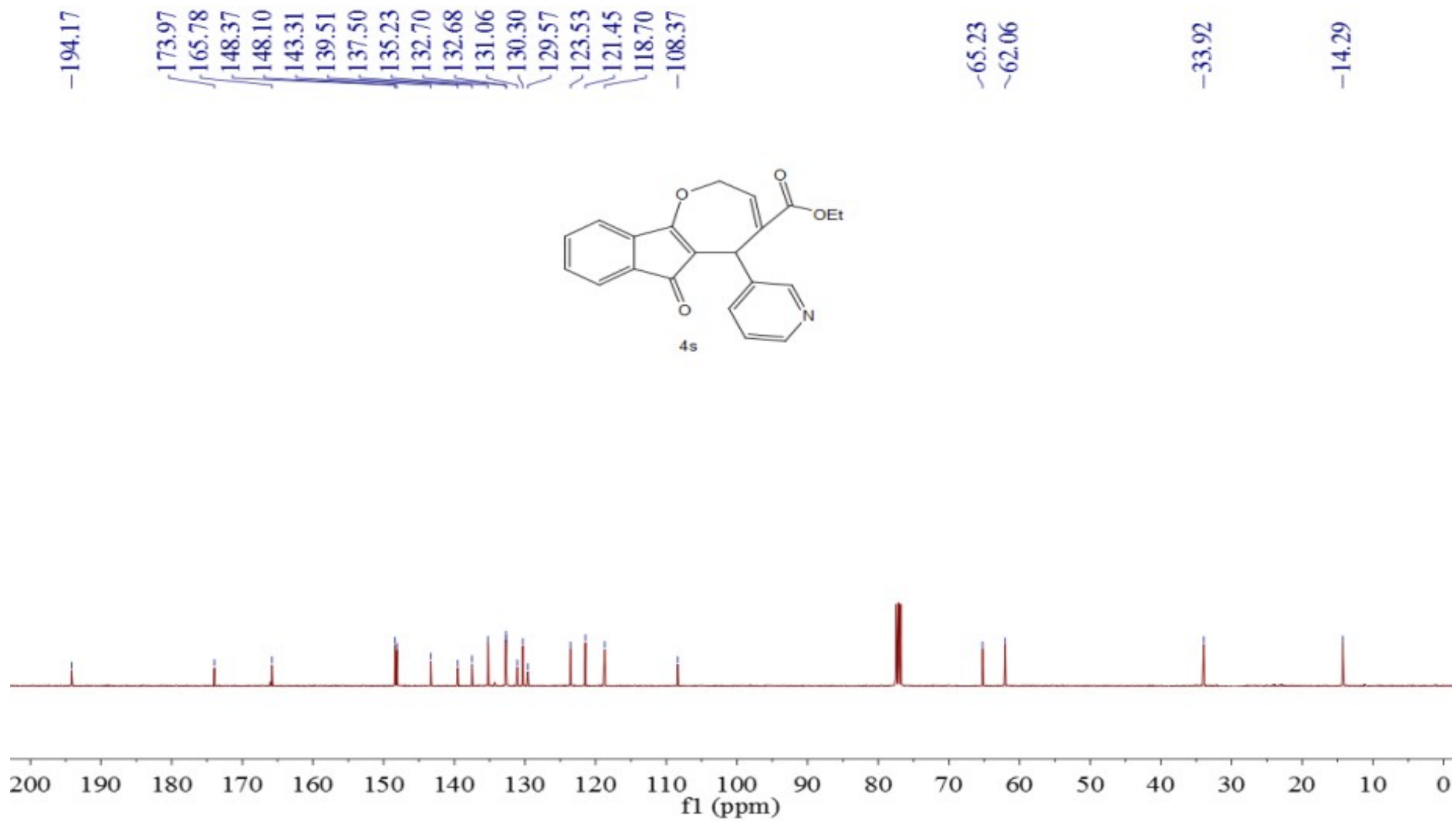


7.453  
7.435  
7.372  
7.352  
7.332  
7.308  
7.288  
7.268  
7.193  
7.187  
7.176  
7.169  
7.151  
7.149  
7.146  
7.142  
7.139  
7.135  
7.130  
6.901  
6.896  
6.893  
6.890  
6.885  
6.876  
5.462  
5.194  
5.177  
5.163  
5.145  
4.739  
4.719  
4.707  
4.687  
4.351  
4.333  
4.324  
4.316  
4.306  
4.299  
4.289  
4.281  
1.358  
1.340  
1.323



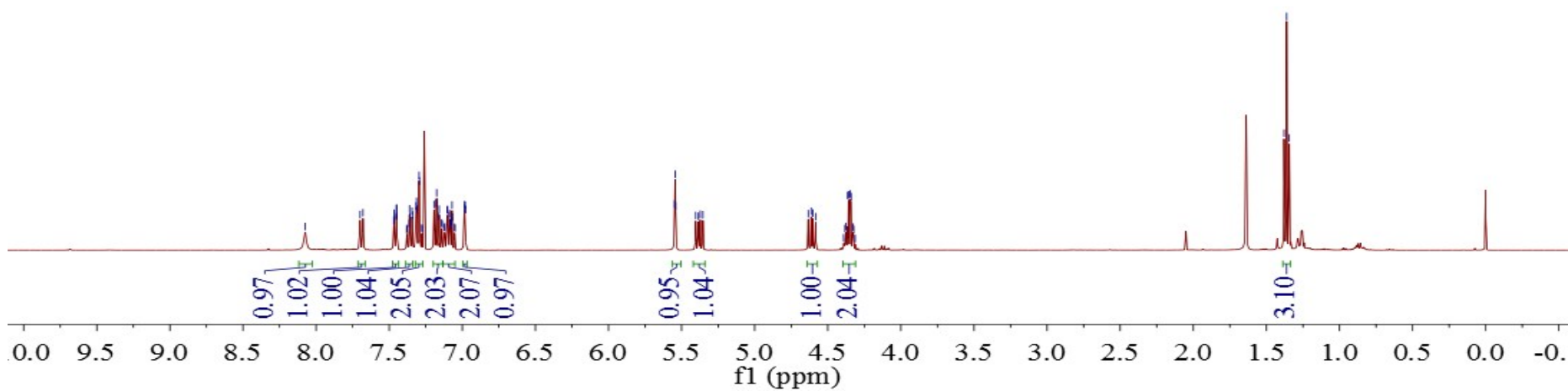
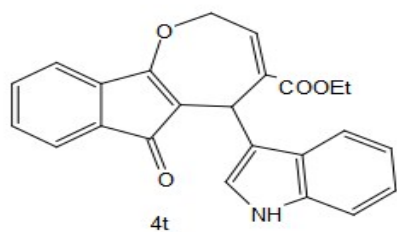


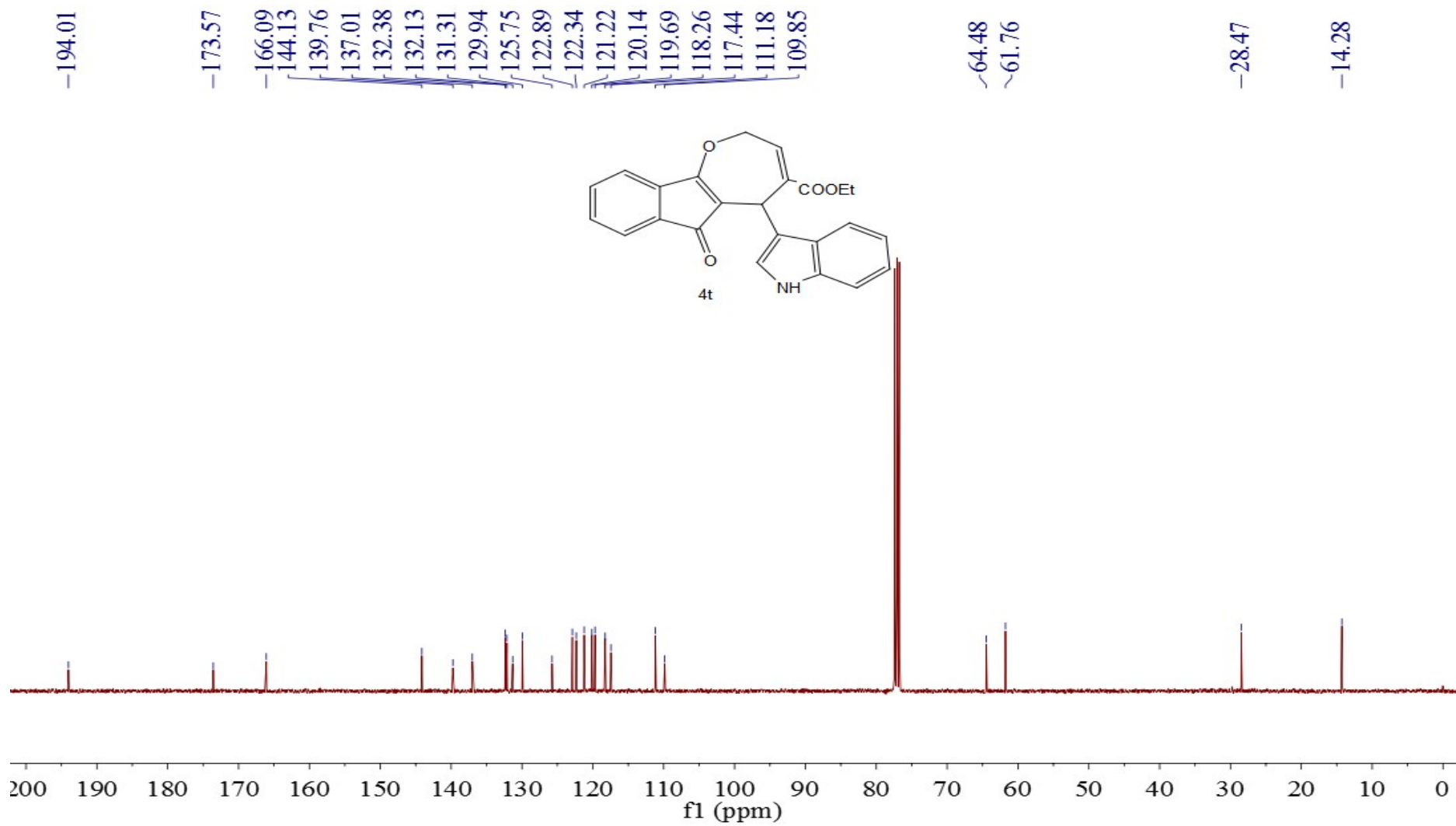


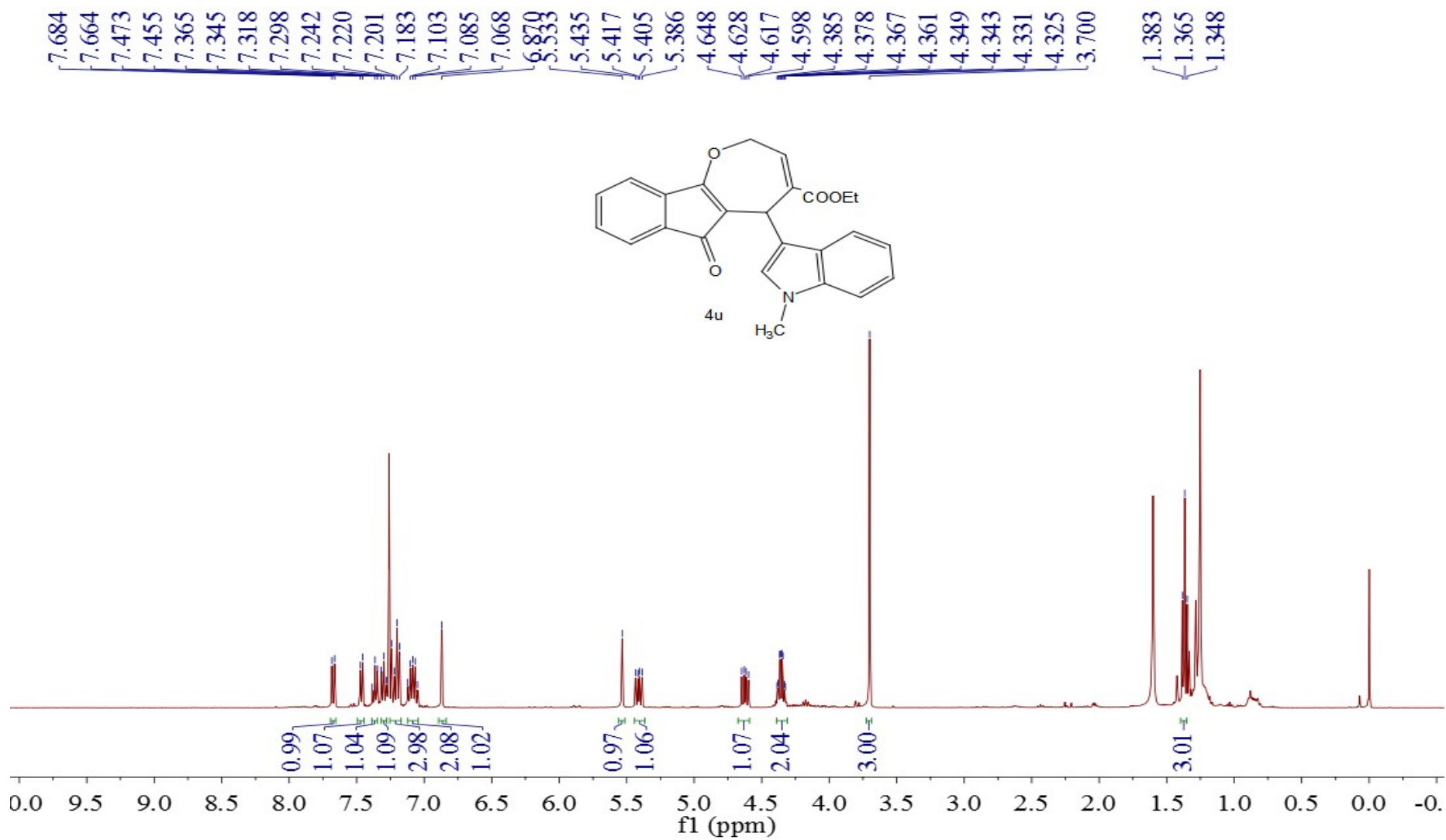


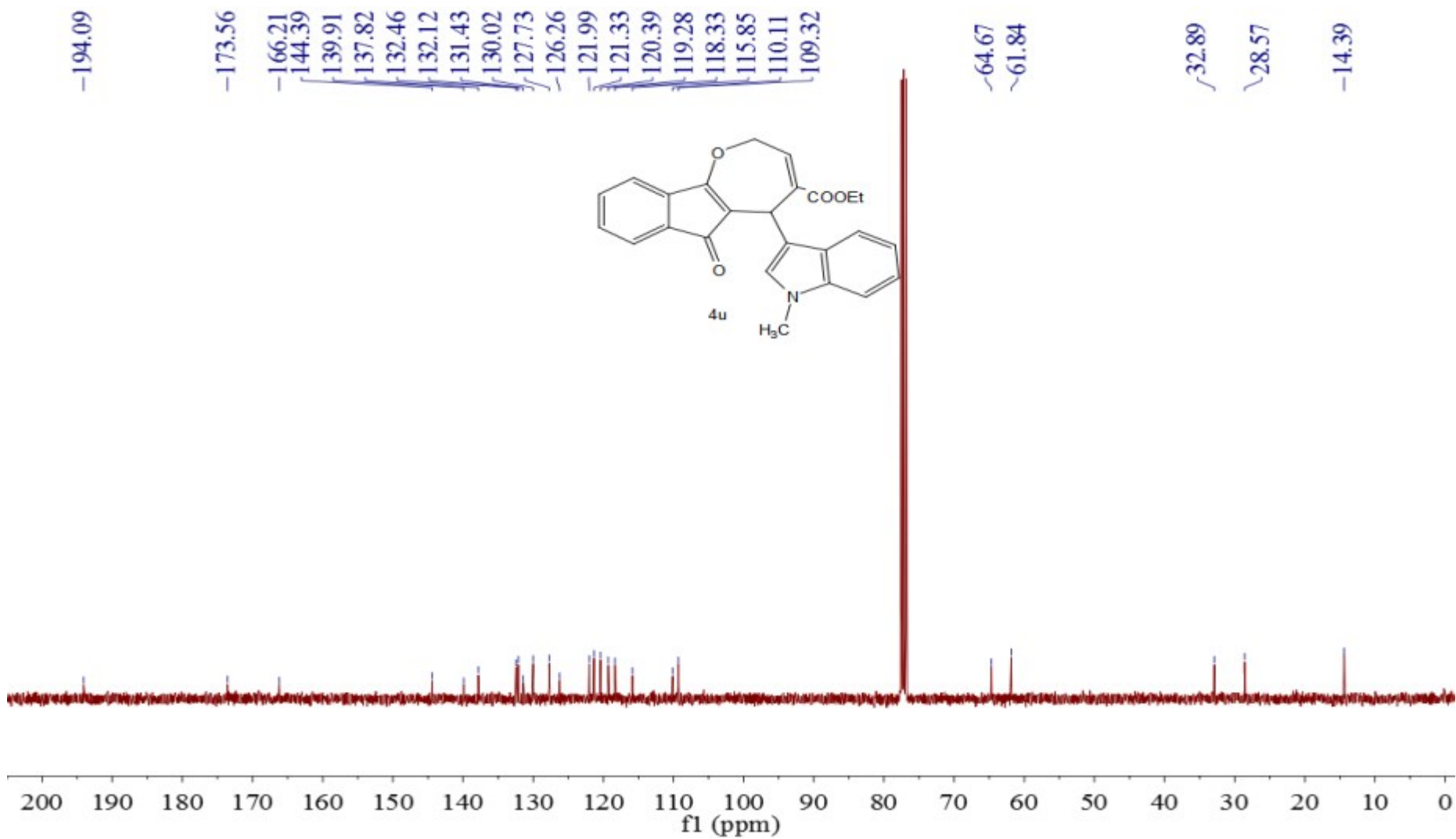


7.699  
7.679  
7.466  
7.452  
7.450  
7.449  
7.447  
7.361  
7.344  
7.341  
7.316  
7.313  
7.310  
7.296  
7.293  
7.193  
7.178  
7.176  
7.158  
7.104  
7.101  
7.090  
7.088  
7.070  
6.987  
6.984  
6.981  
6.978  
5.547  
5.544  
5.541  
5.403  
5.385  
5.373  
5.354  
4.634  
4.614  
4.603  
4.364  
4.358  
4.347  
4.340  
1.379  
1.362  
1.344



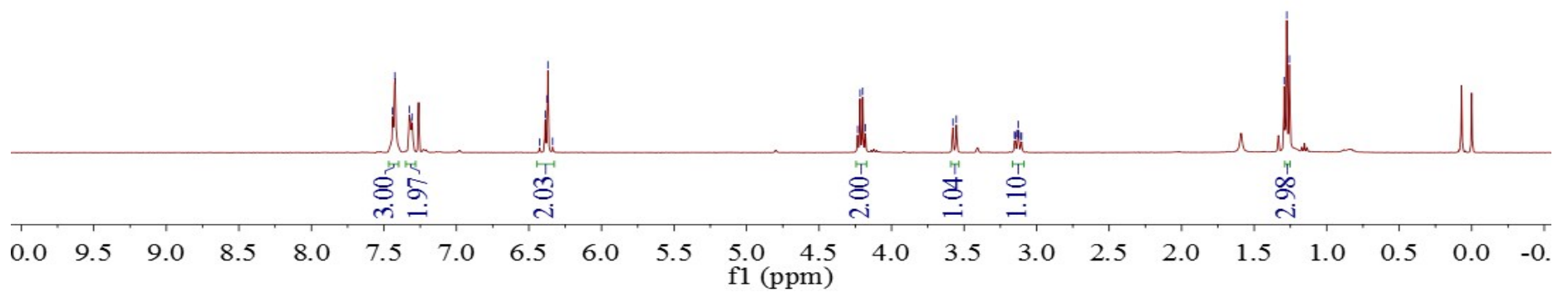
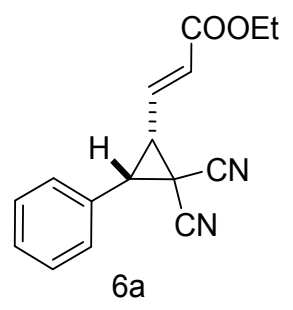


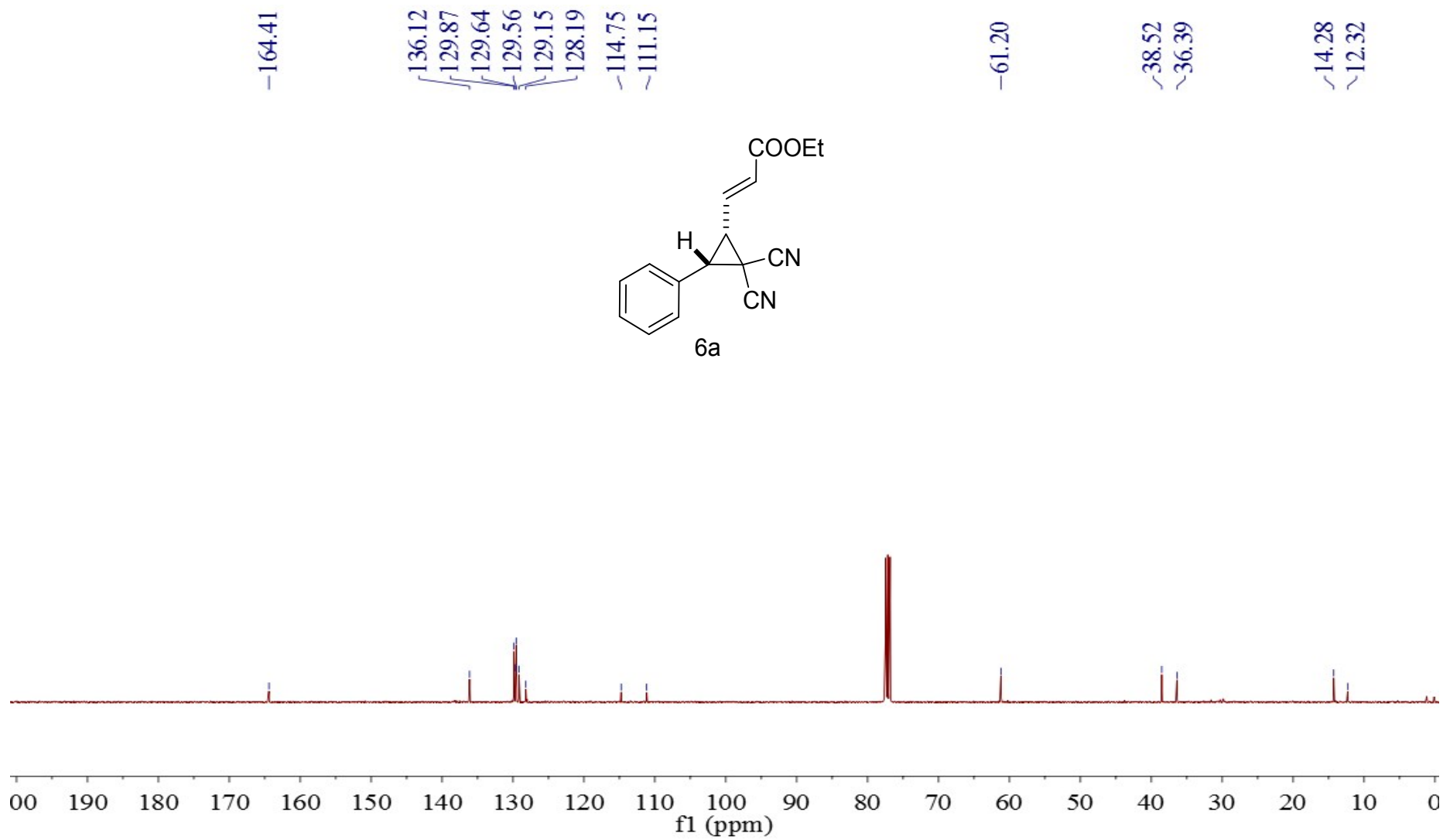




7.440  
7.425  
7.324  
7.307  
6.427  
6.388  
6.374  
6.369  
6.336

4.234  
4.216  
4.198  
4.181  
3.577  
3.553  
3.152  
3.146  
3.133  
3.128  
3.122  
3.109  
3.104  
1.293  
1.275  
1.257



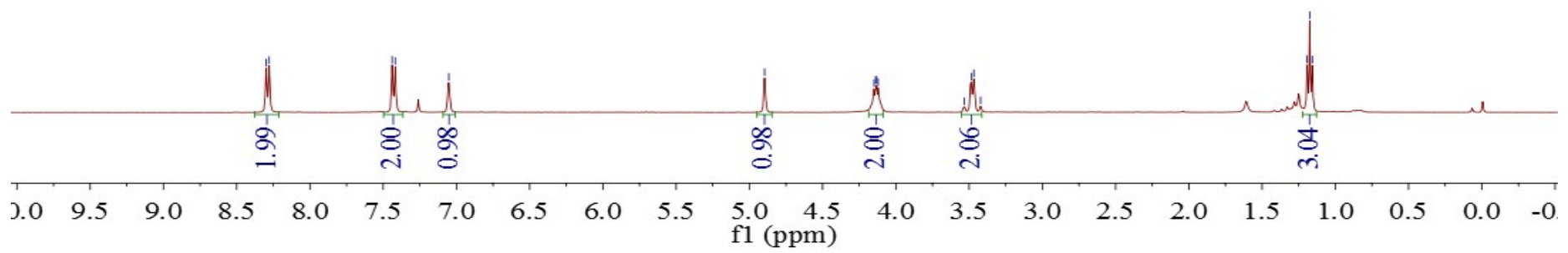
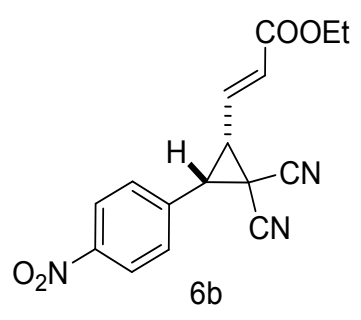


8.300  
8.278

7.439  
7.418  
7.051

4.896  
4.149  
4.139  
4.131  
4.121  
3.532  
3.485  
3.468  
3.421

1.193  
1.175  
1.157



-161.74

~148.63

~141.17

~139.38

~136.56

~129.25

~124.62

~115.89

~113.14

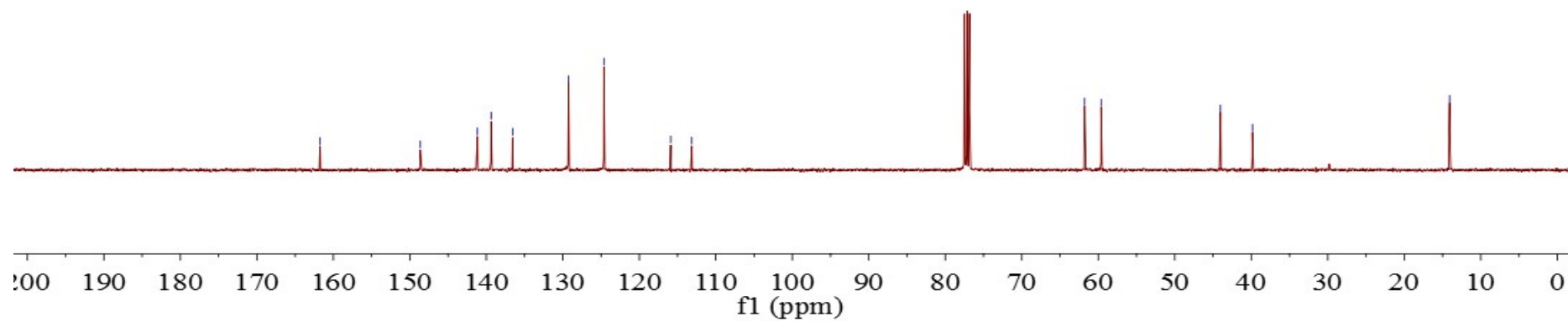
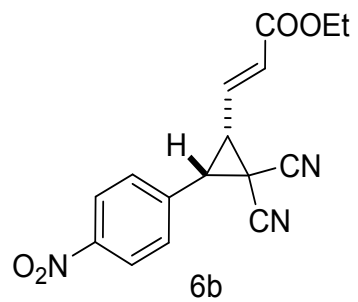
~61.78

~59.62

-44.03

-39.84

-14.07

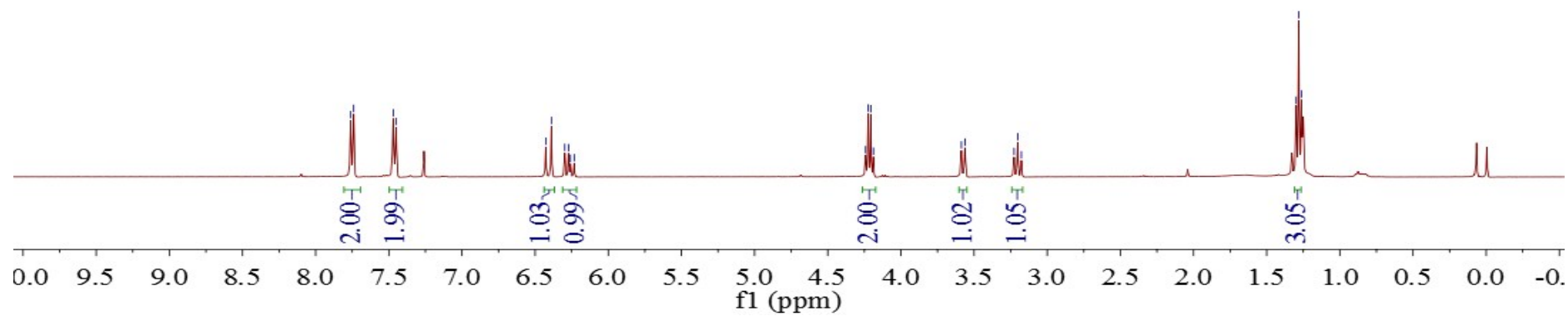
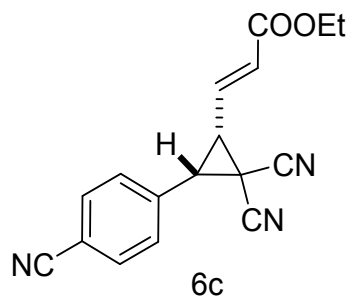


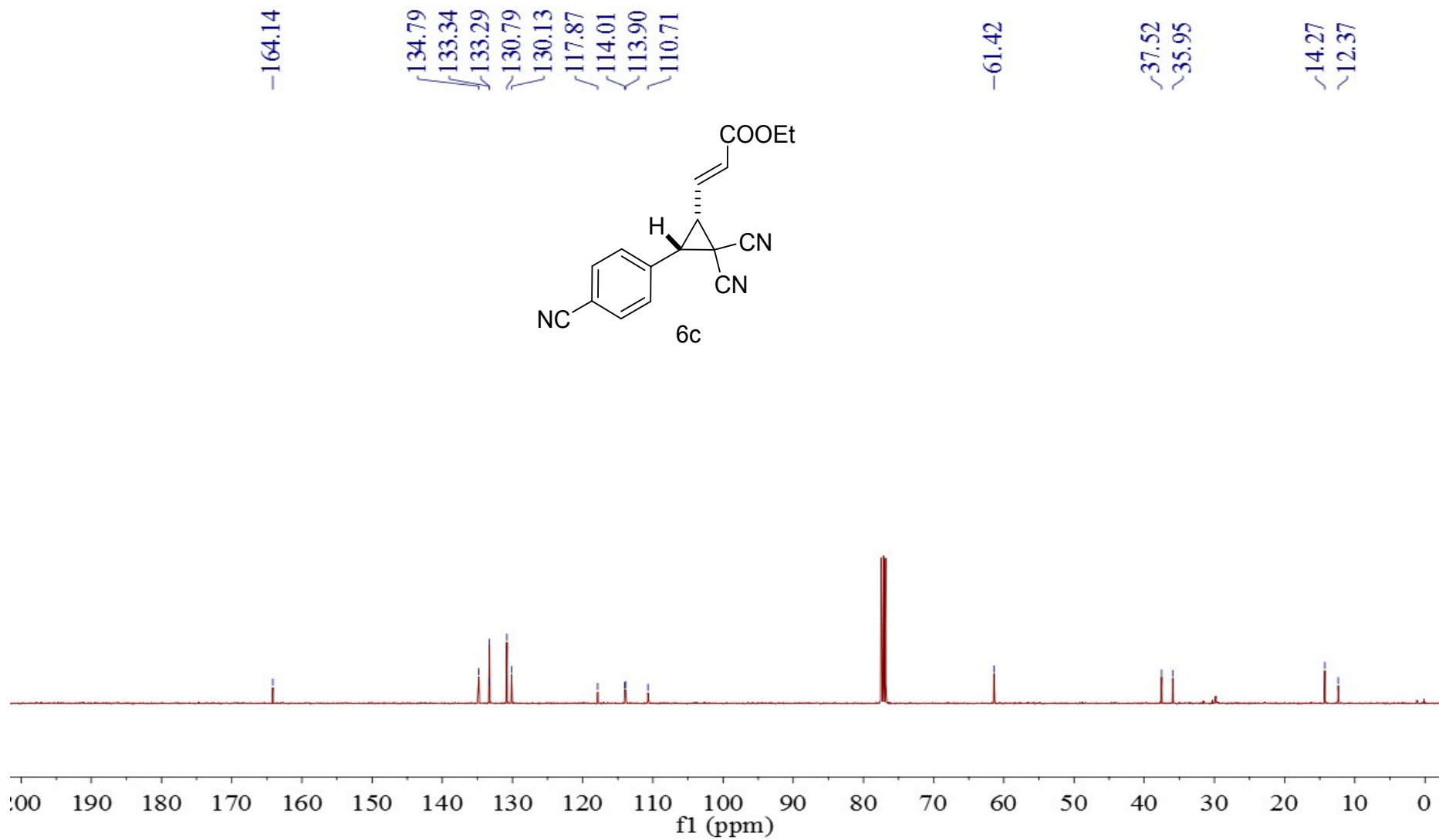


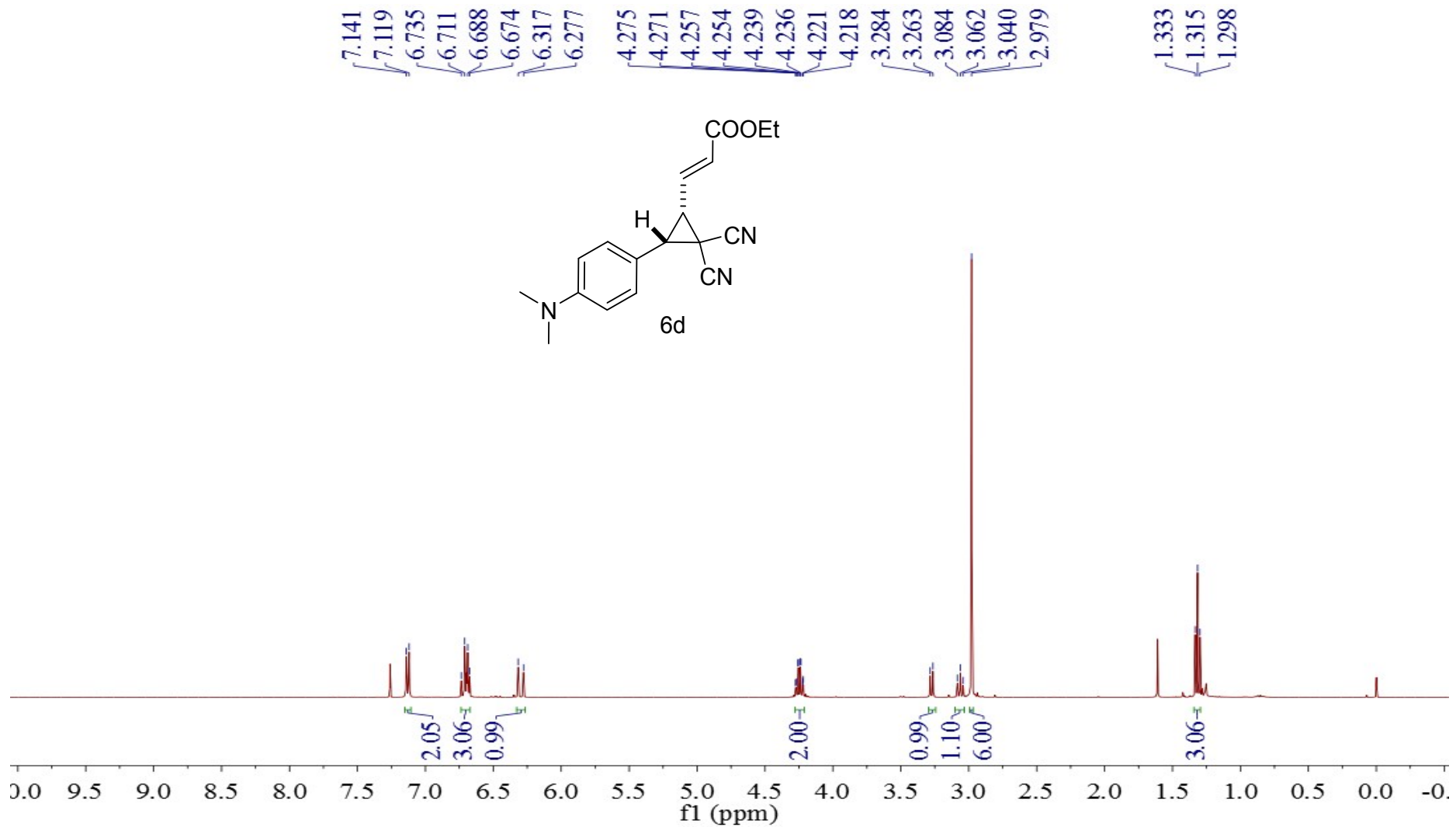
7.761  
7.740  
7.470  
7.450  
6.427  
6.389  
6.297  
6.272  
6.258  
6.233

4.241  
4.223  
4.206  
4.188  
3.587  
3.562  
3.226  
3.202  
3.177

1.299  
1.281  
1.263







-164.71

-151.18

-138.37

-129.06

-128.18

-115.93

-113.28

-112.67

-112.40

-61.23

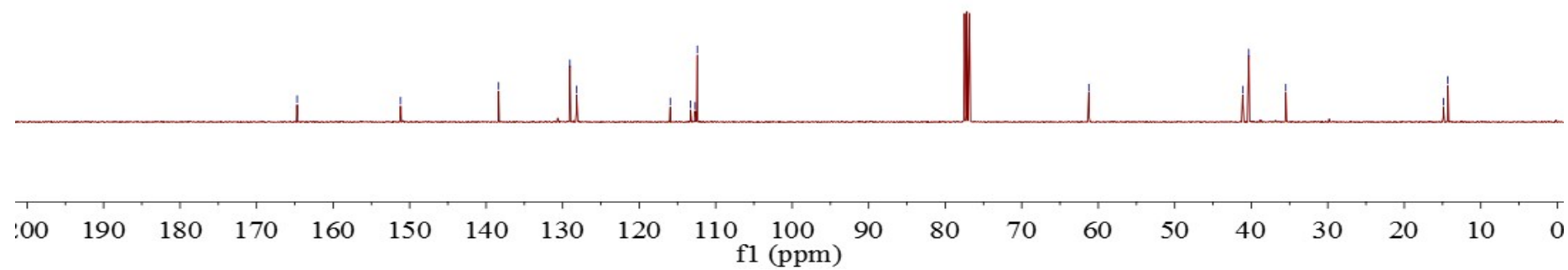
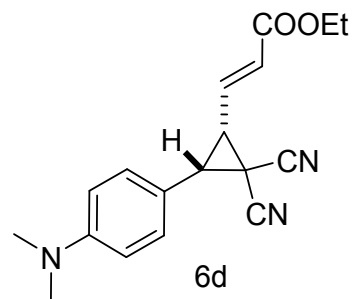
-41.13

-40.32

-35.49

-14.89

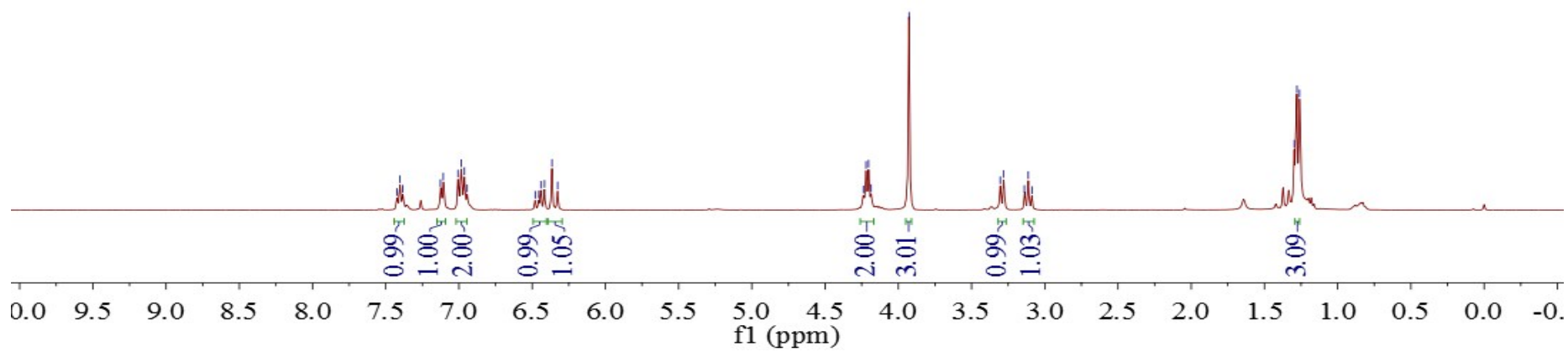
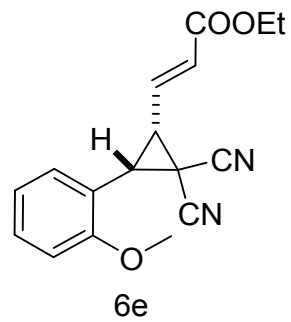
-14.31

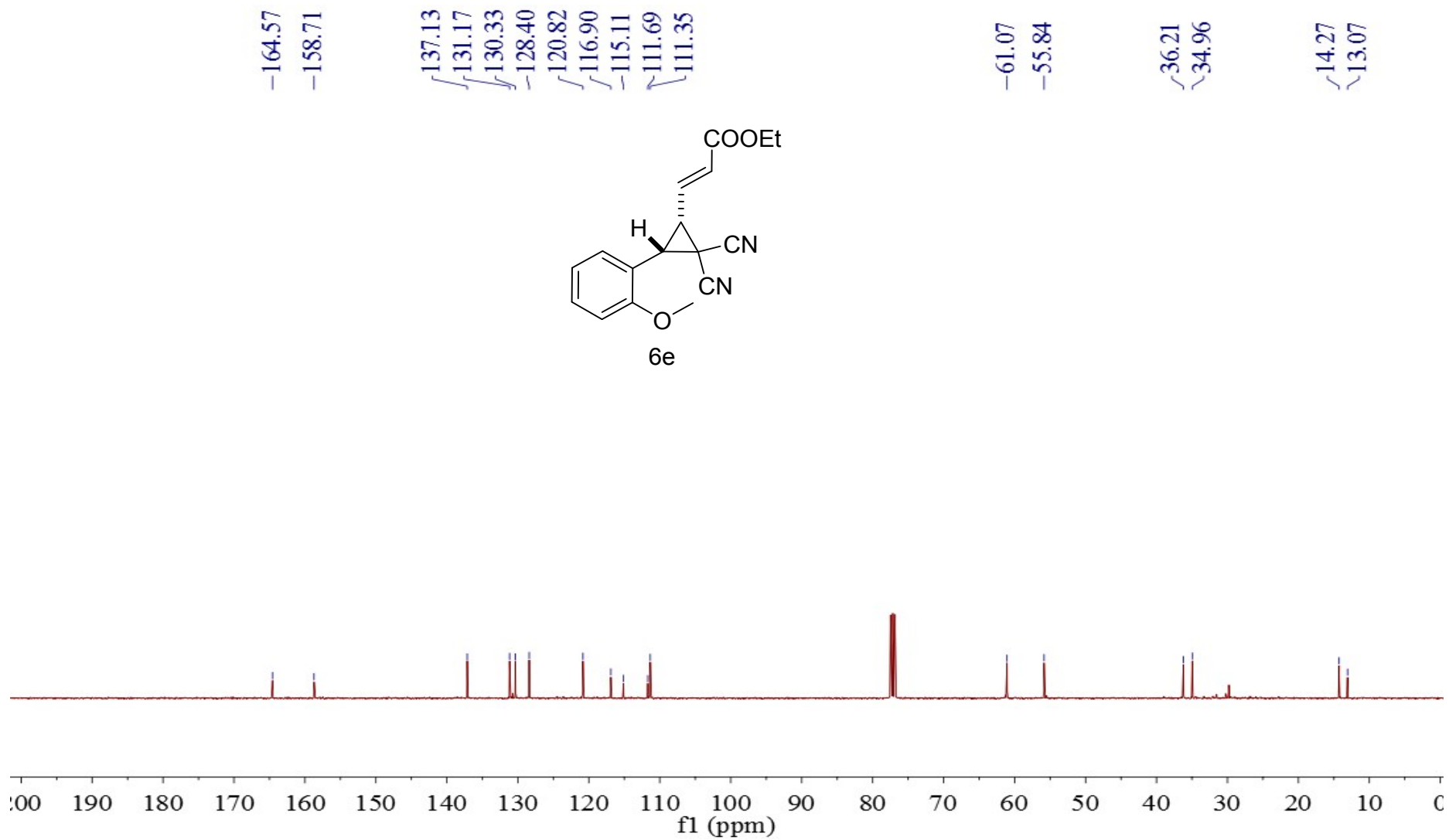


7.423  
7.403  
7.383  
7.126  
7.107  
7.007  
6.984  
6.963  
6.944  
6.480  
6.455  
6.441  
6.416  
6.365  
6.326

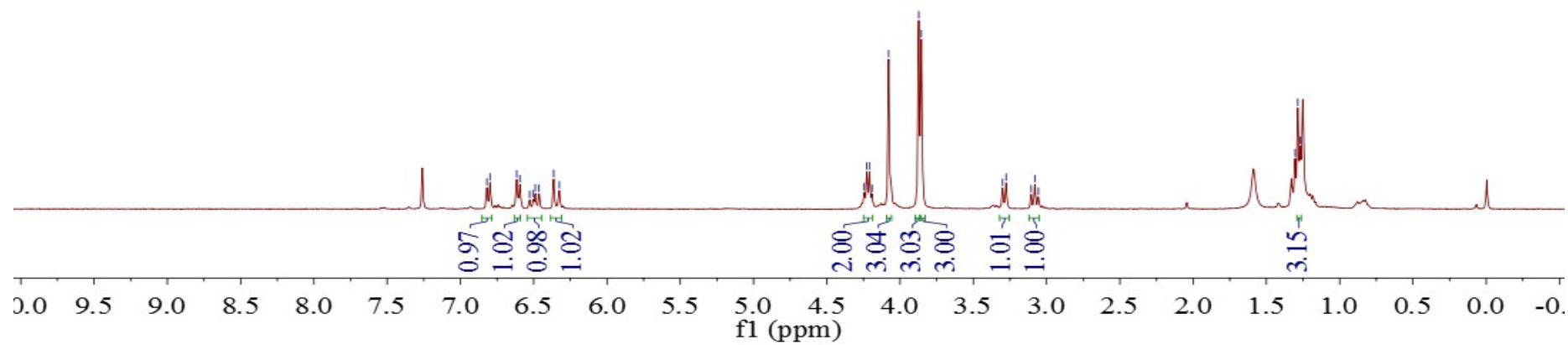
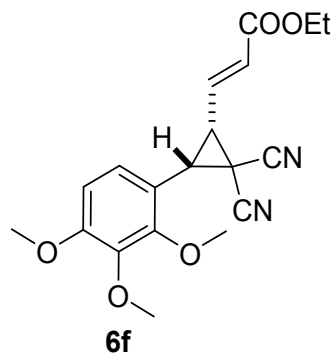
4.239  
4.221  
4.203  
4.186  
3.926  
3.304  
3.280  
3.139  
3.113  
3.087

1.296  
1.278  
1.261





6.819  
6.798  
6.616  
6.595  
6.528  
6.502  
6.489  
6.464  
6.364  
6.325  
4.245  
4.227  
4.209  
4.192  
4.077  
3.872  
3.855  
3.300  
3.277  
3.106  
3.081  
3.056  
1.304  
1.286  
1.268



-164.62

155.44

153.27

141.93

137.13

128.49

124.65

115.04

114.00

111.80

106.58

61.36

61.14

61.07

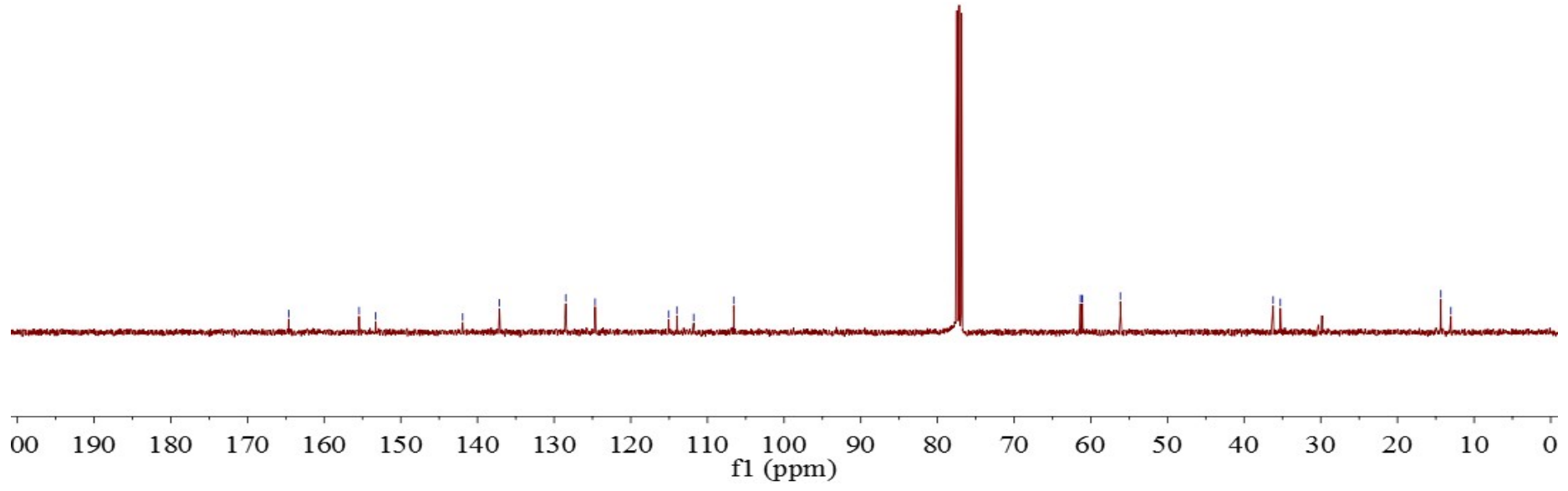
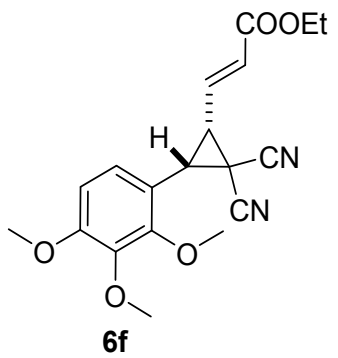
56.15

36.21

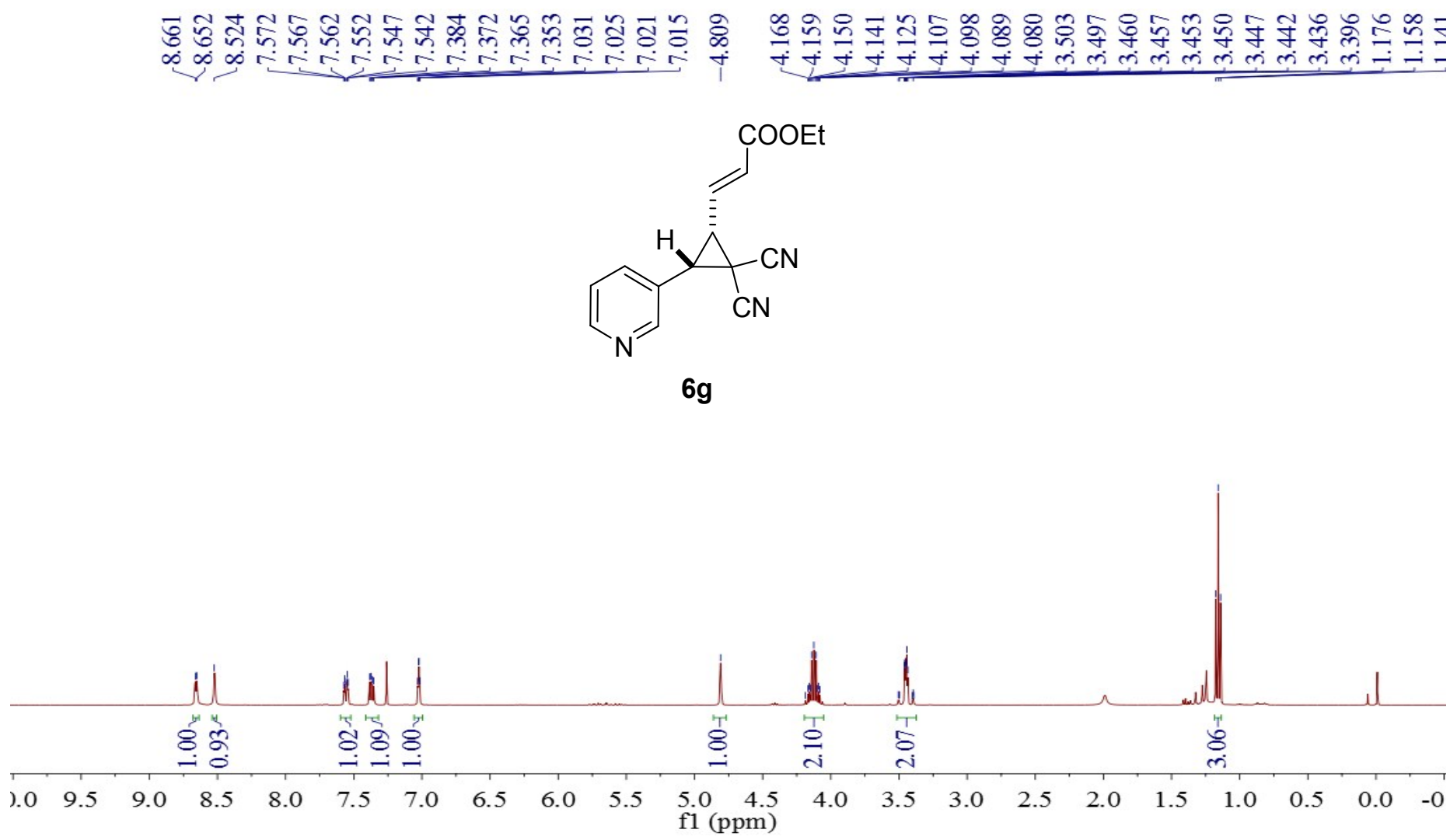
35.28

14.33

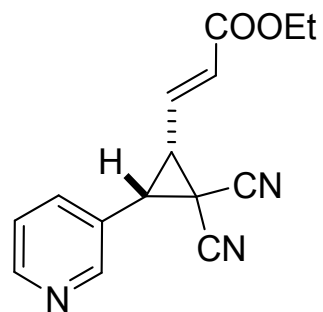
13.02



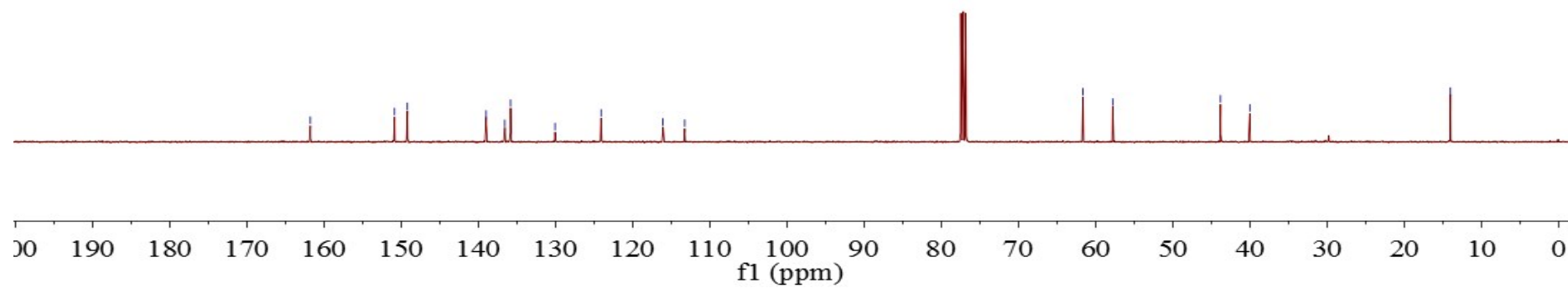


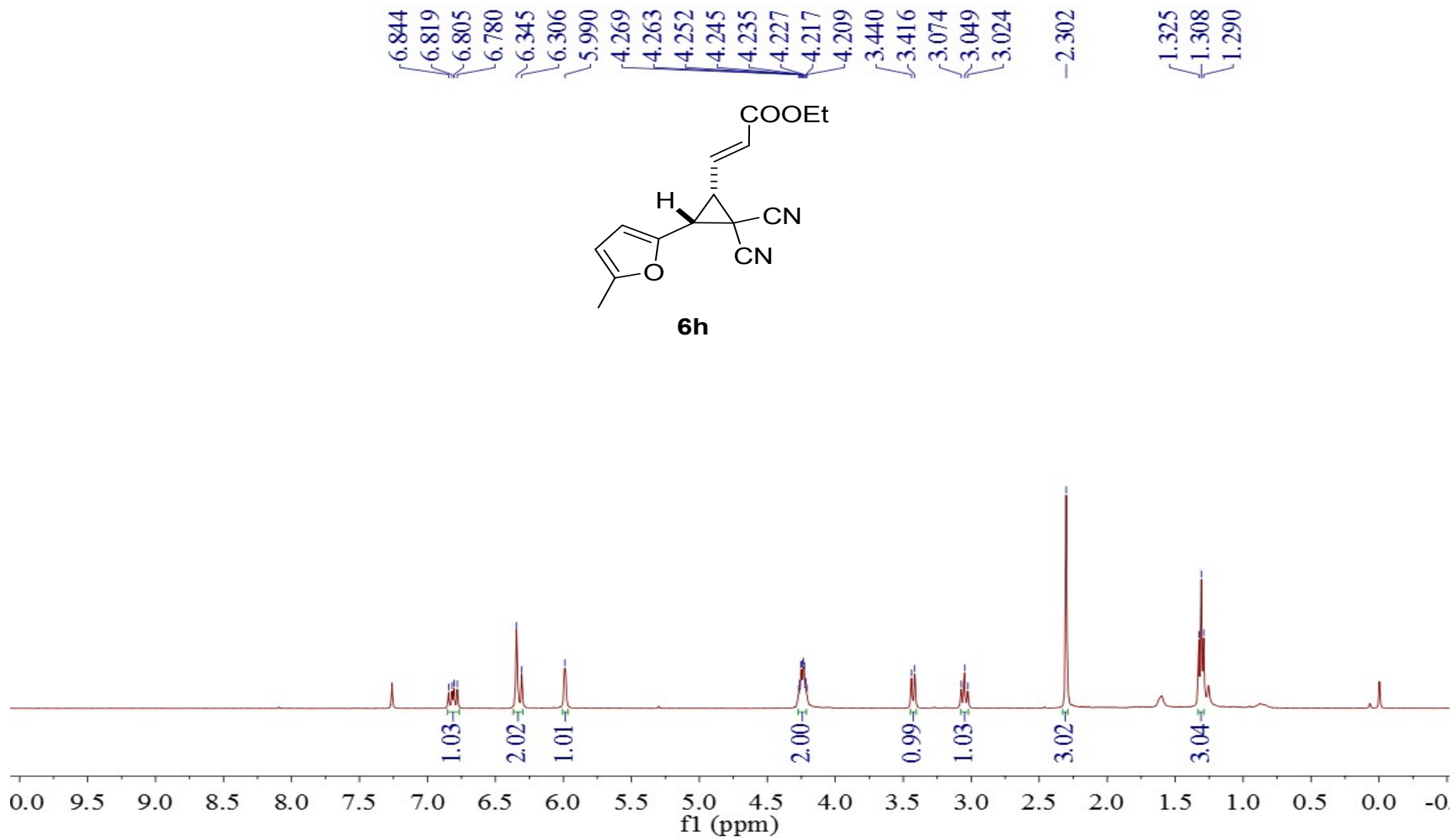


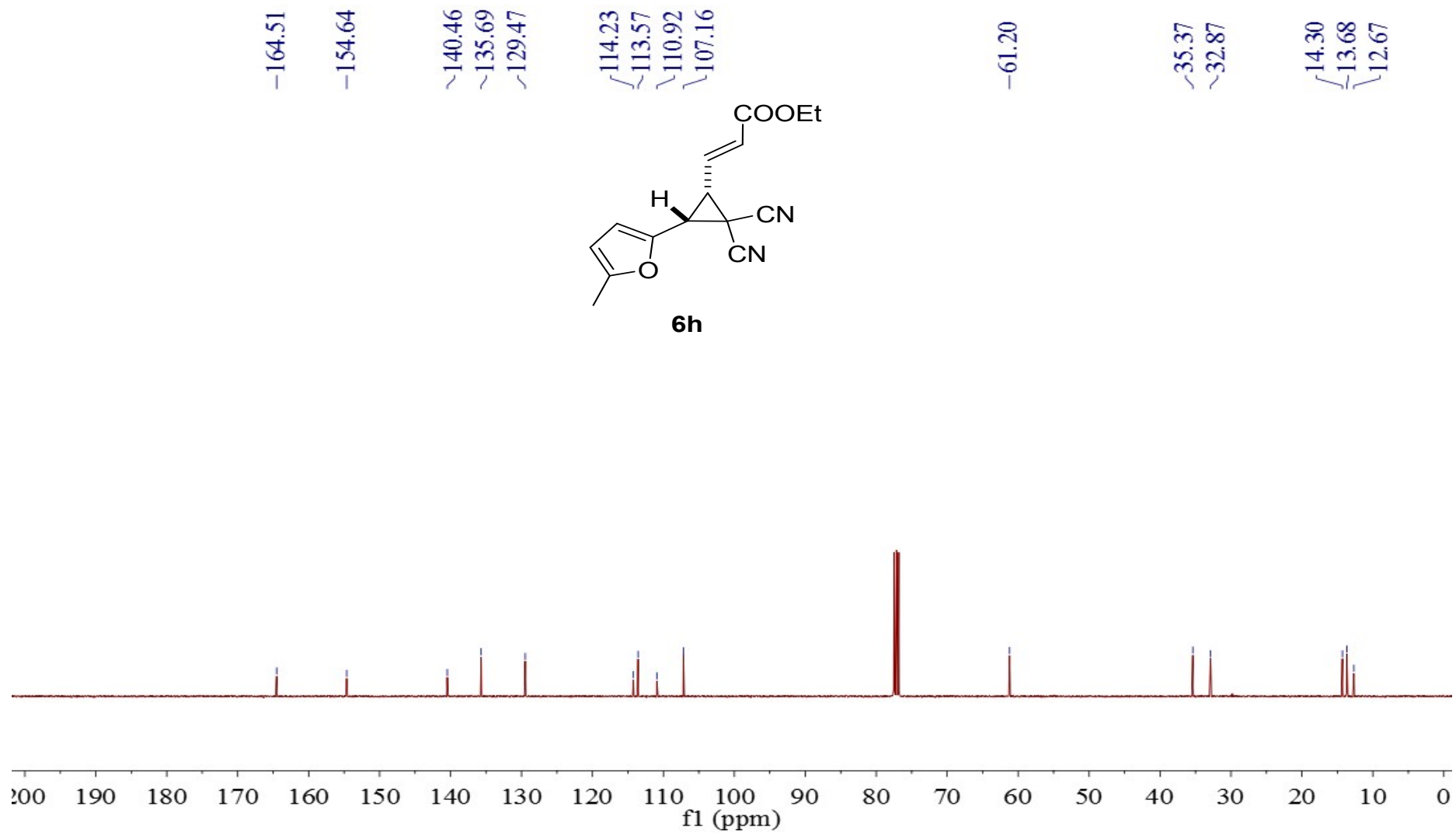
-161.77  
-150.87  
-149.20  
-139.00  
-136.58  
-135.83  
-130.07  
-124.11  
-116.09  
-113.26  
-61.67  
-57.82  
-43.85  
-40.04  
-14.05

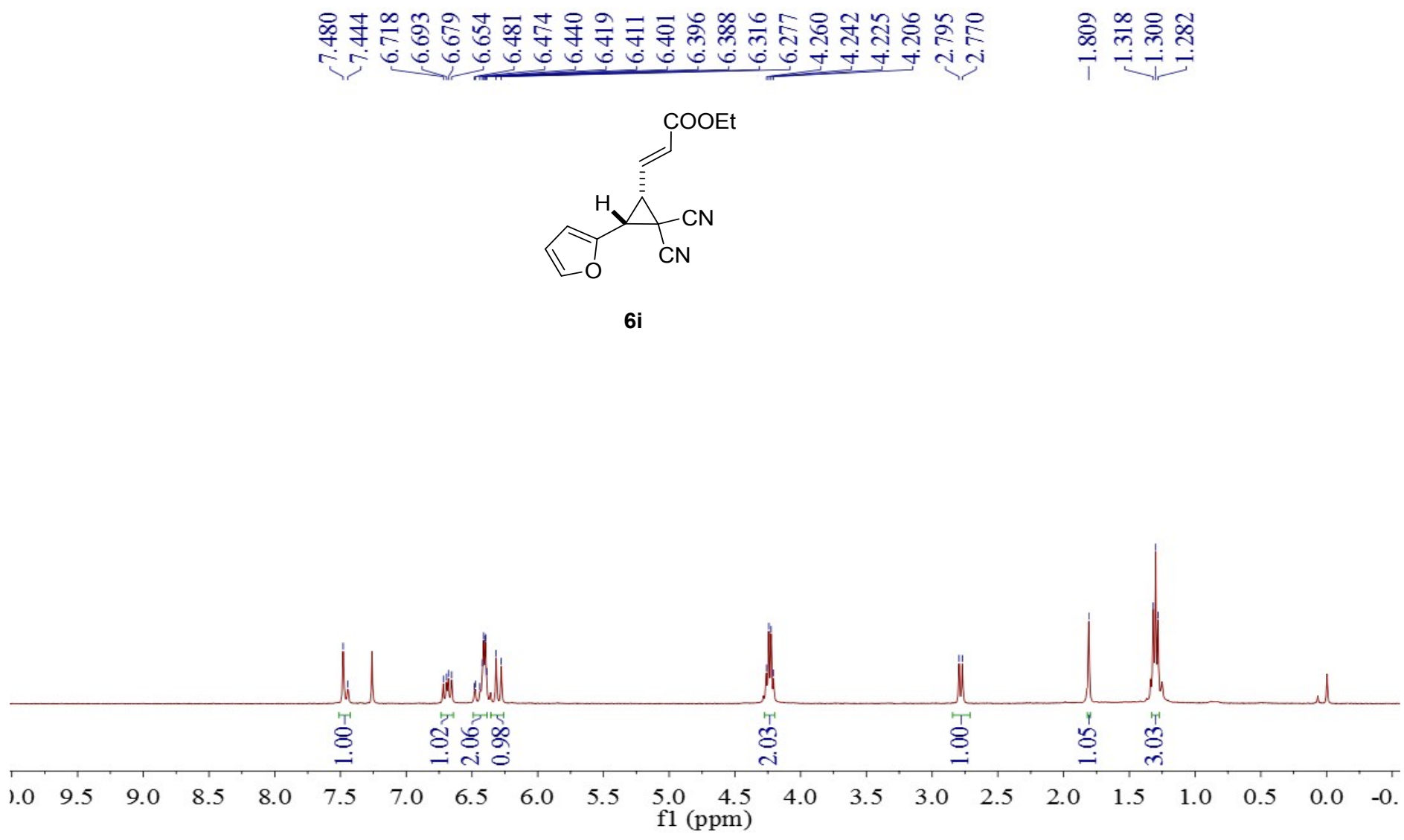


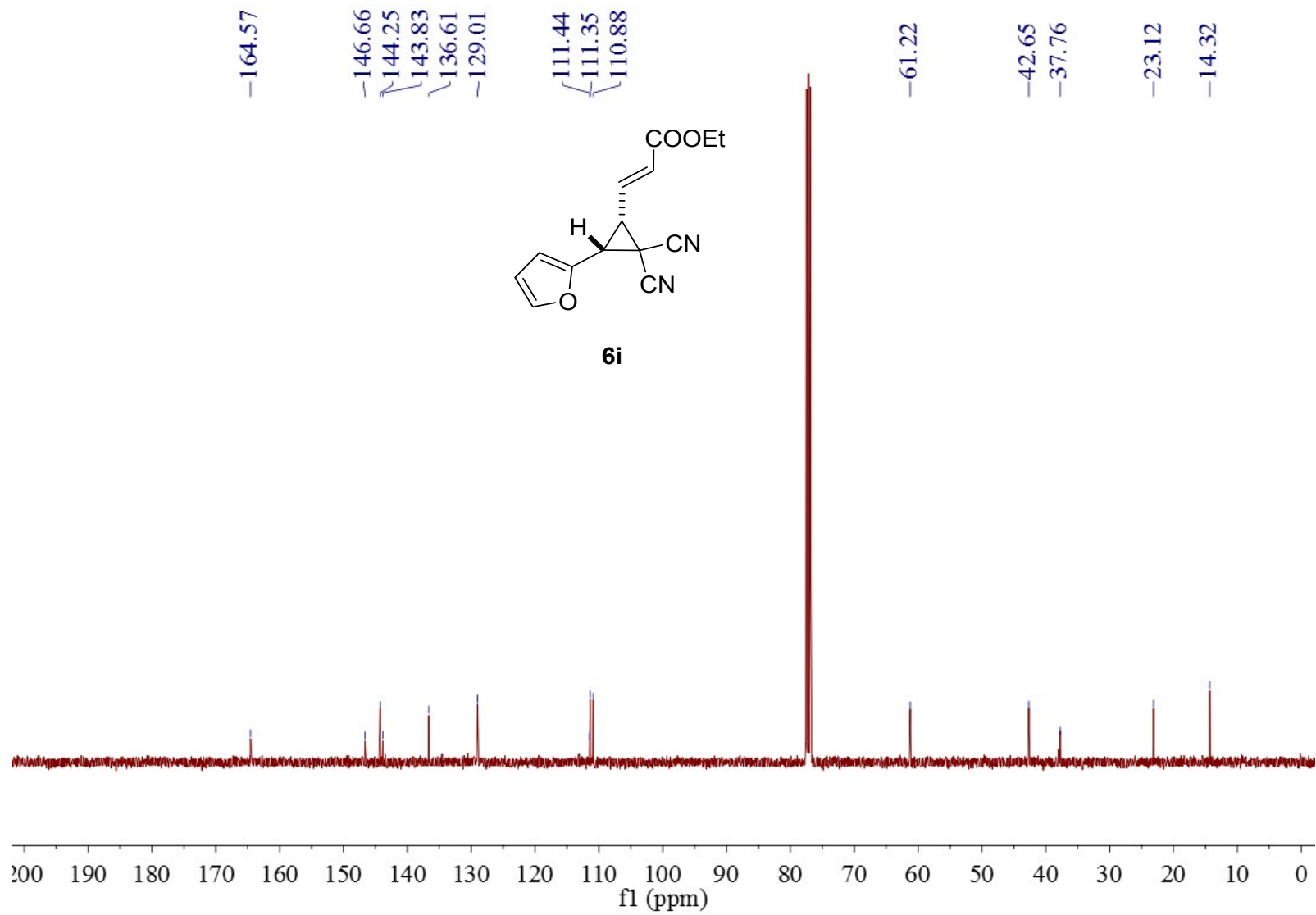
6g

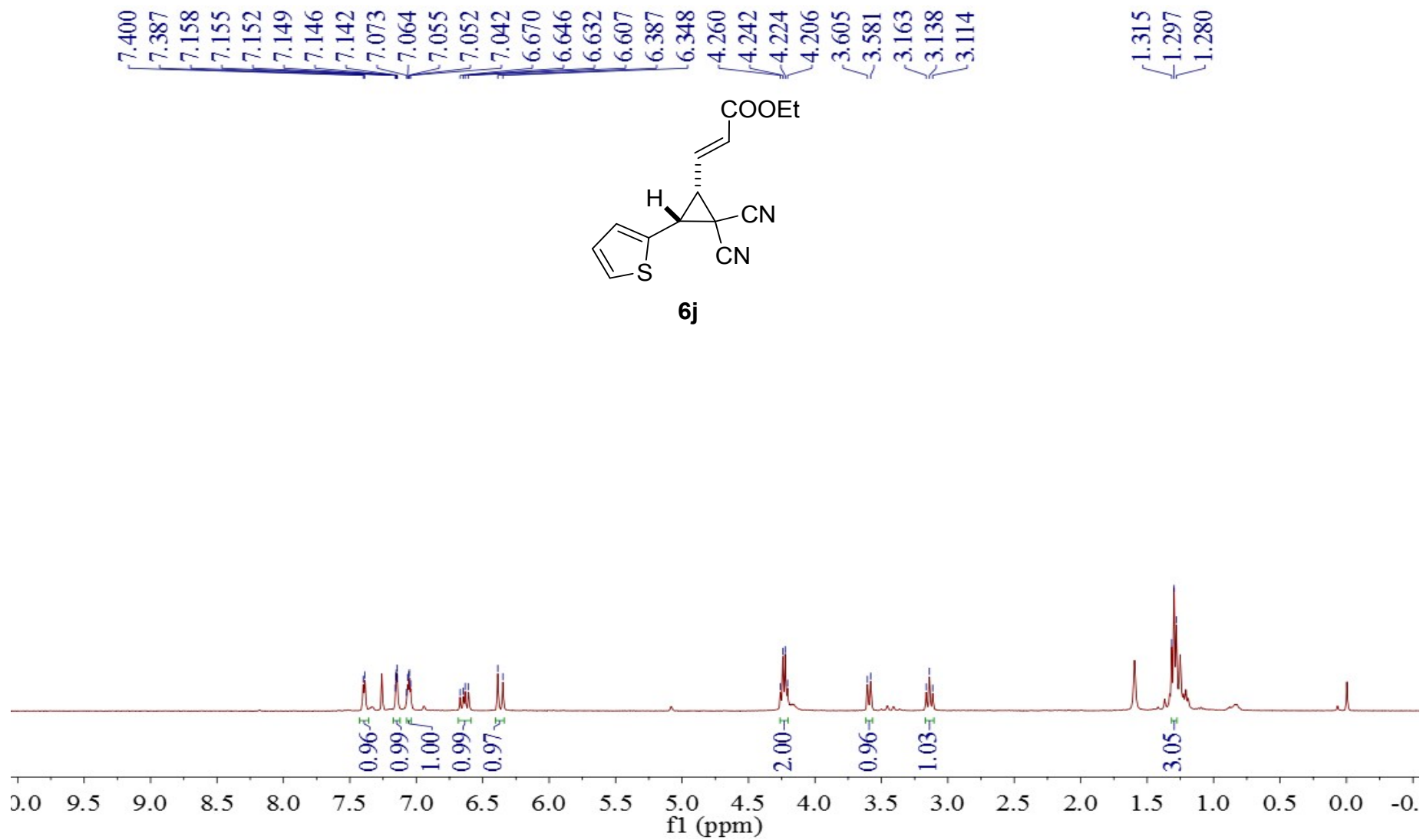


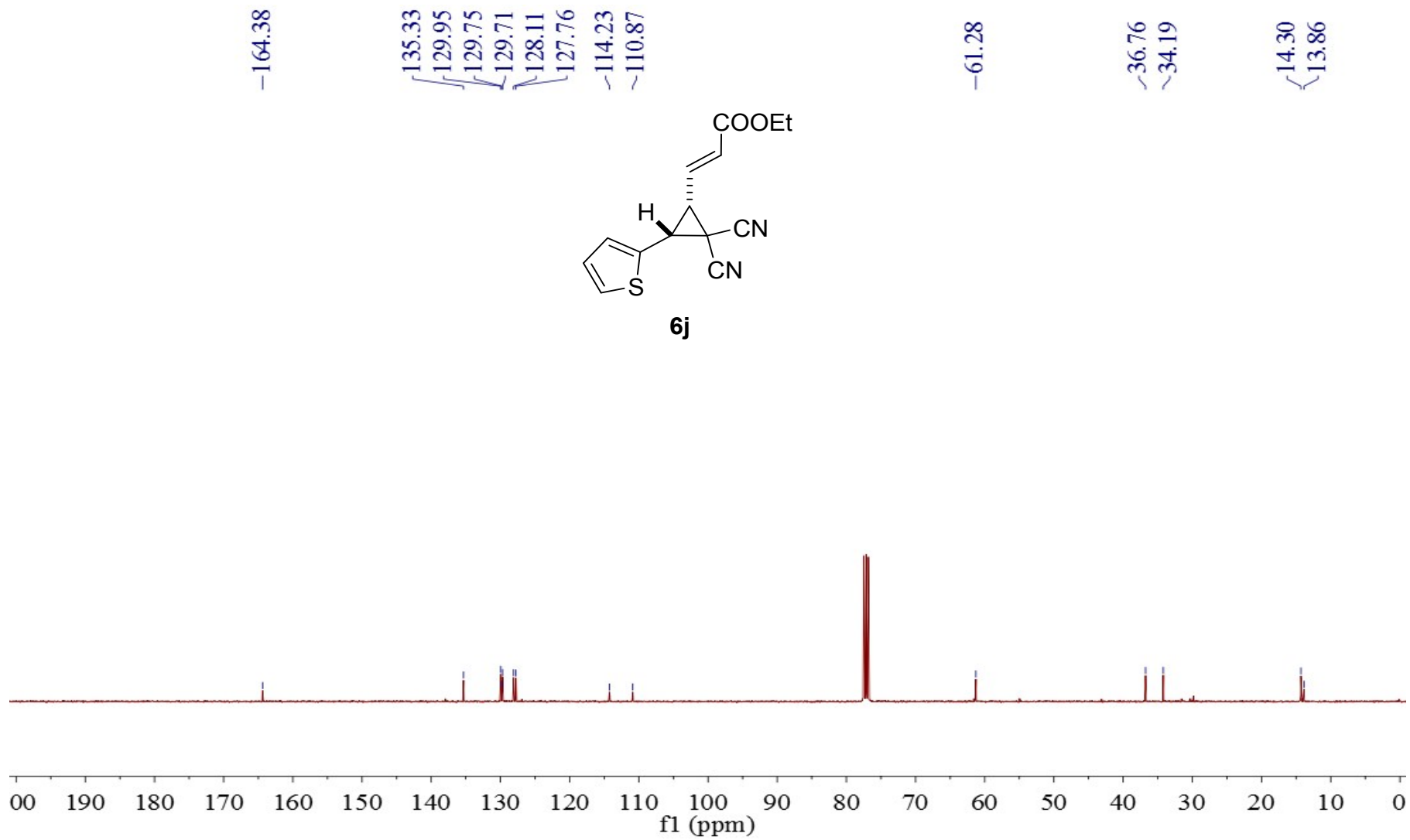




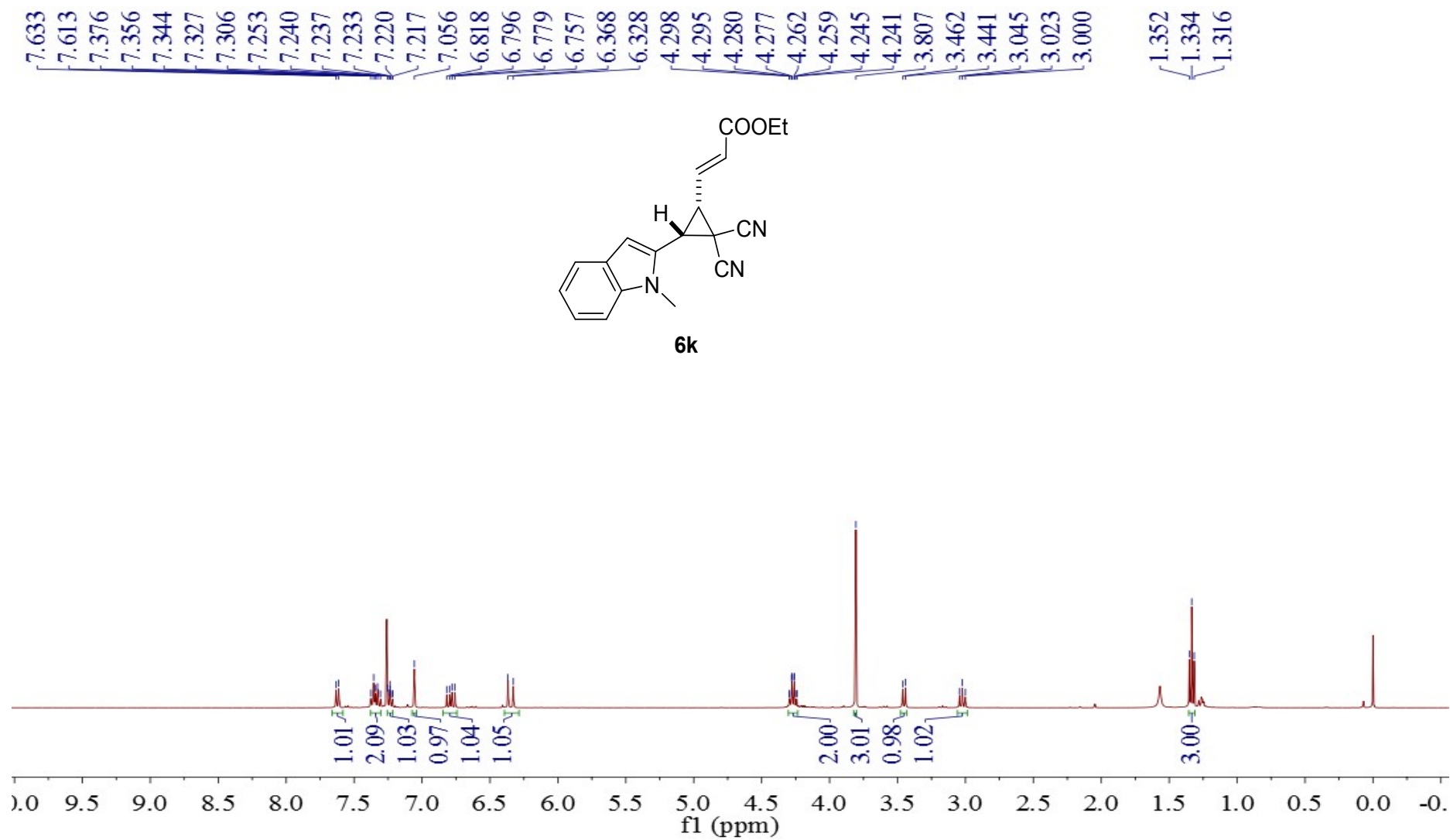


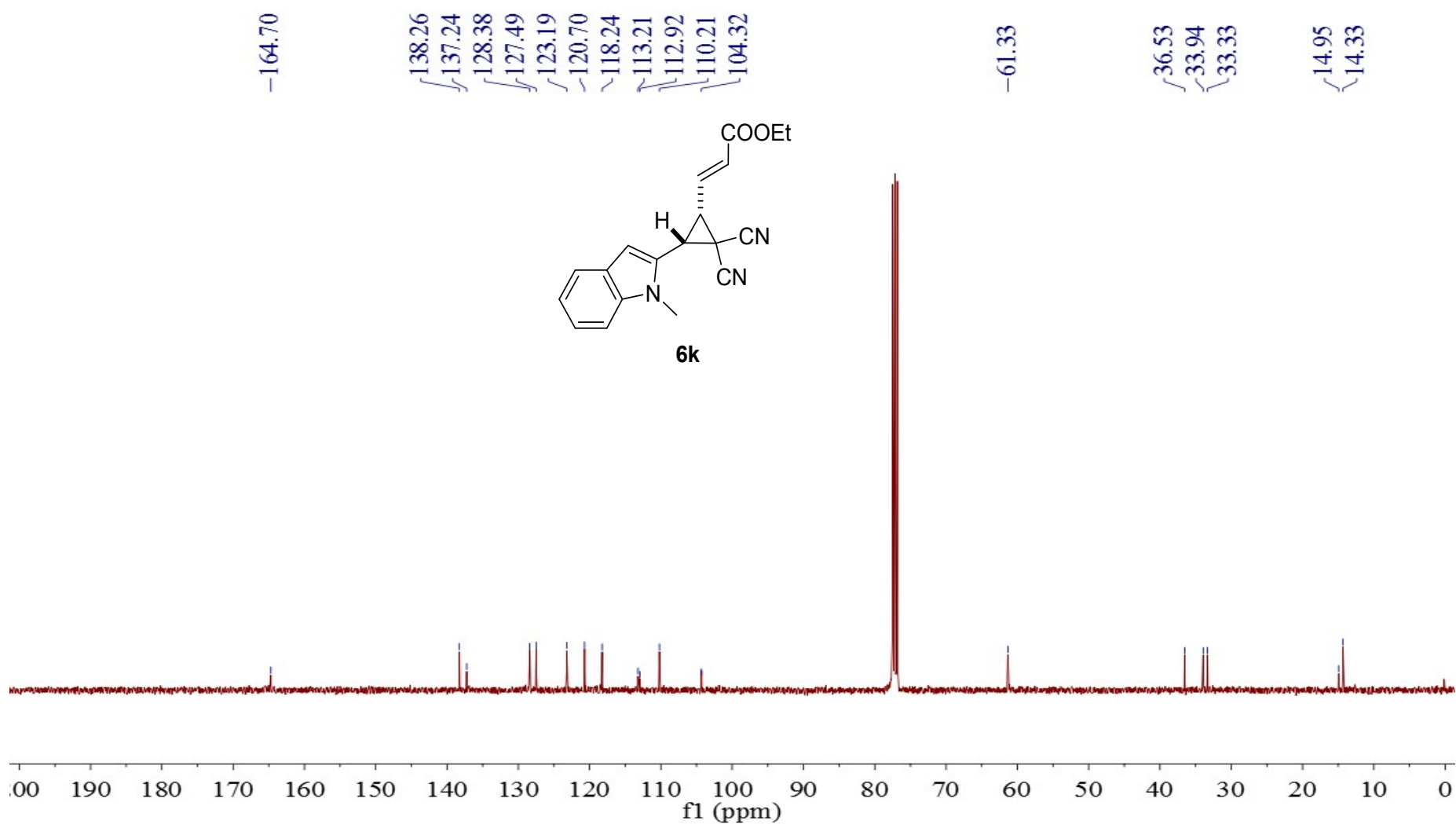




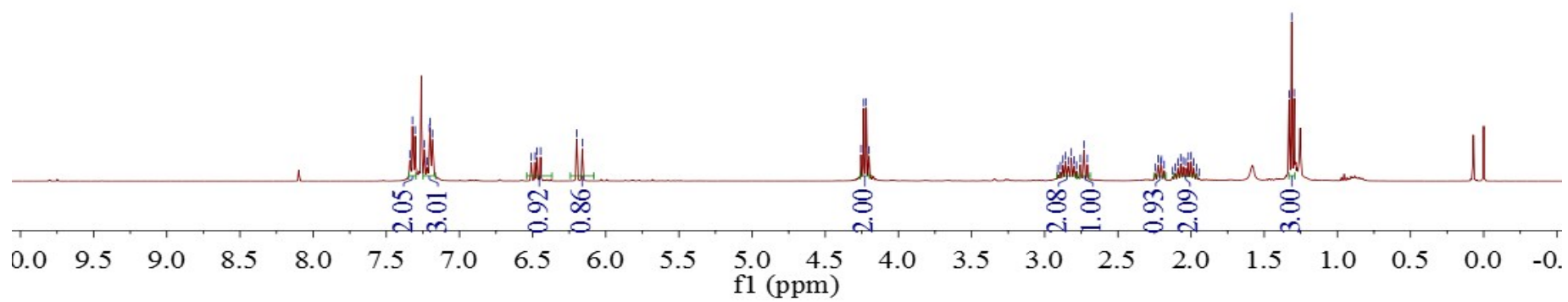
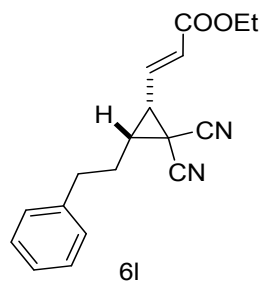


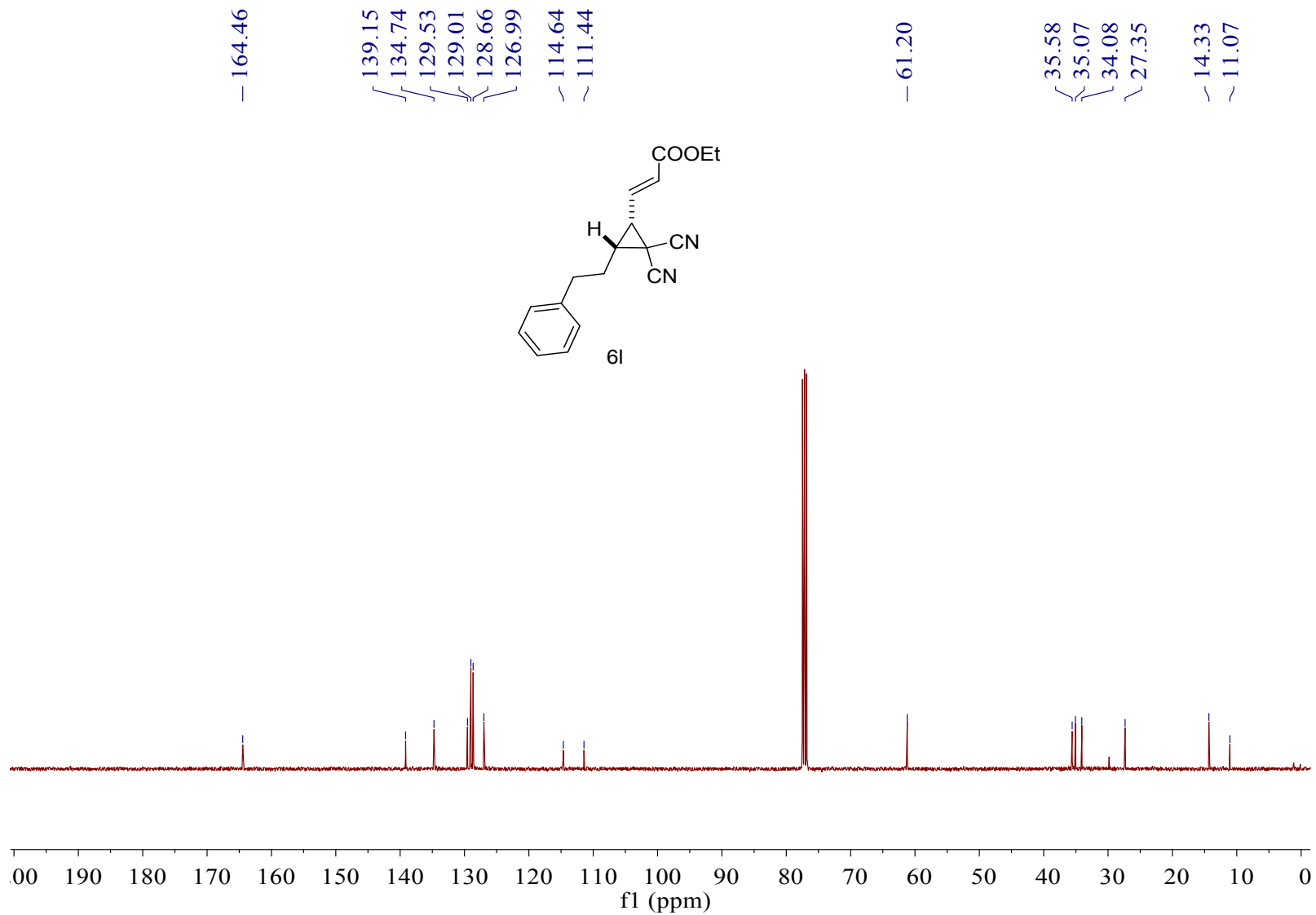






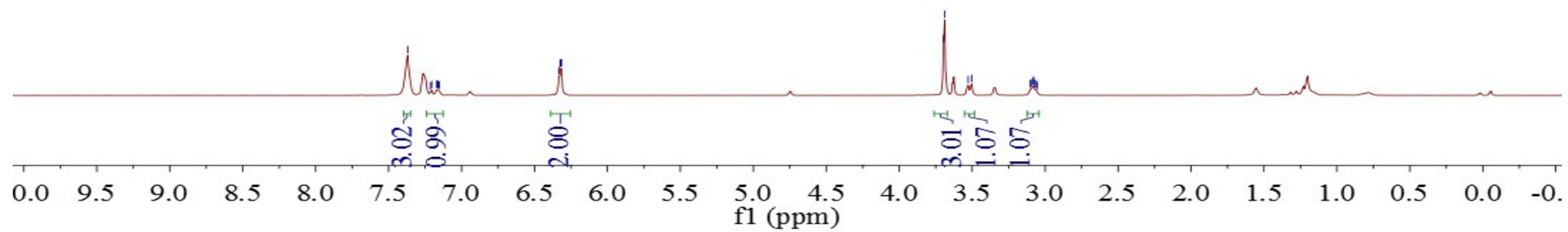
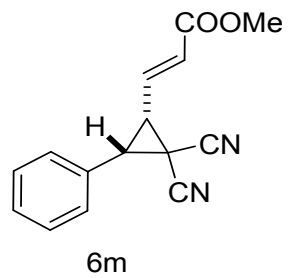
7.339  
7.321  
7.302  
7.238  
7.220  
7.205  
7.201  
7.184  
6.509  
6.484  
6.470  
6.445  
6.198  
6.160  
4.255  
4.237  
4.220  
4.202  
2.892  
2.875  
2.858  
2.836  
2.818  
2.800  
2.783  
2.757  
2.732  
2.708  
2.244  
2.226  
2.207  
2.202  
2.183  
2.108  
2.090  
2.071  
2.054  
2.035  
2.017  
1.999  
1.981  
1.963  
1.330  
1.312  
1.294

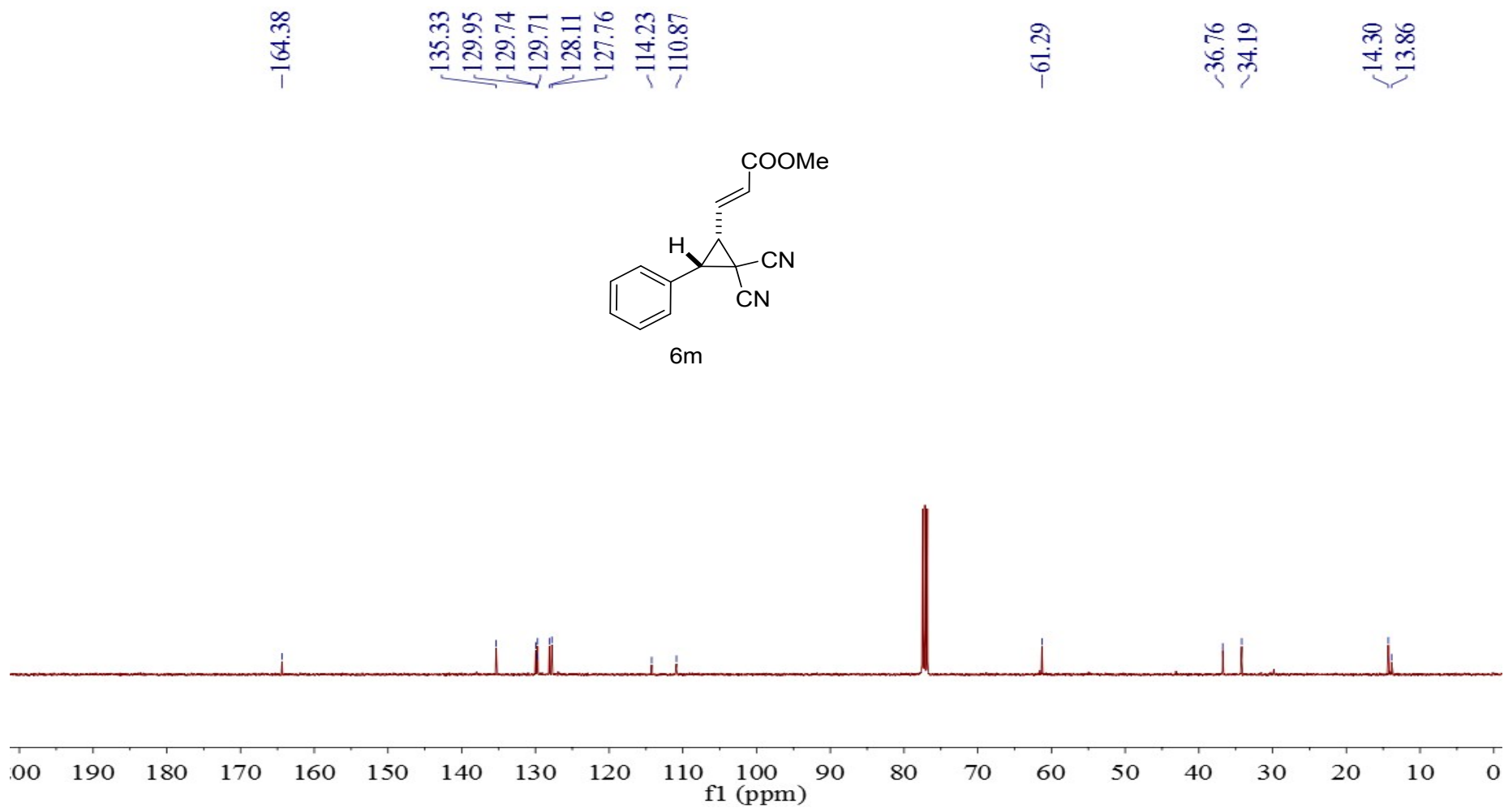




7.369  
7.214  
7.205  
7.170  
7.165  
7.161  
7.158  
7.153  
6.332  
6.324  
6.322  
6.315

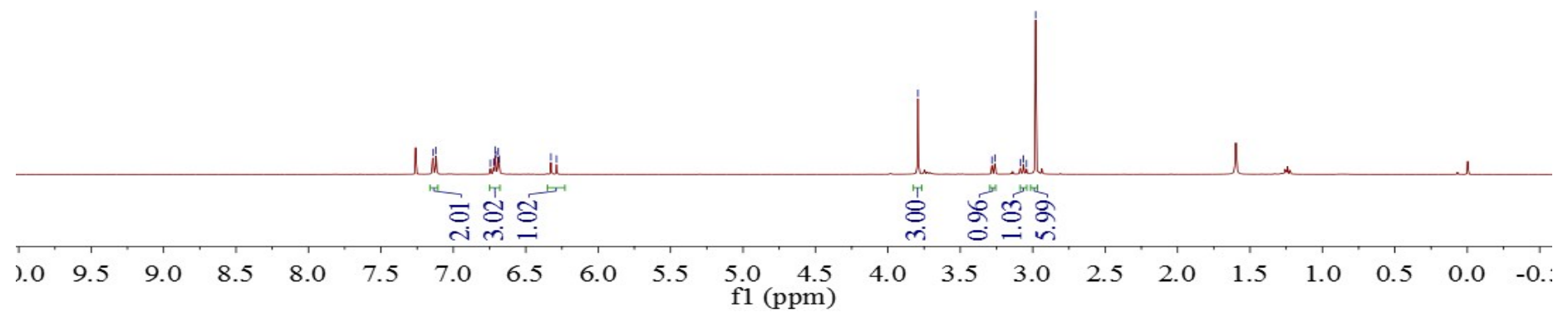
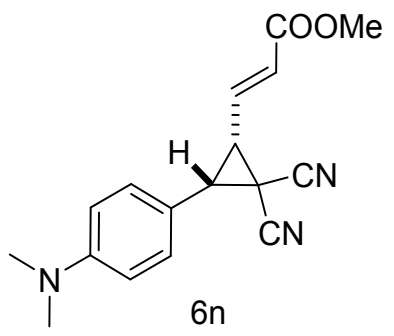
3.697  
3.688  
3.527  
3.503  
3.103  
3.095  
3.085  
3.078  
3.071  
3.061  
3.054

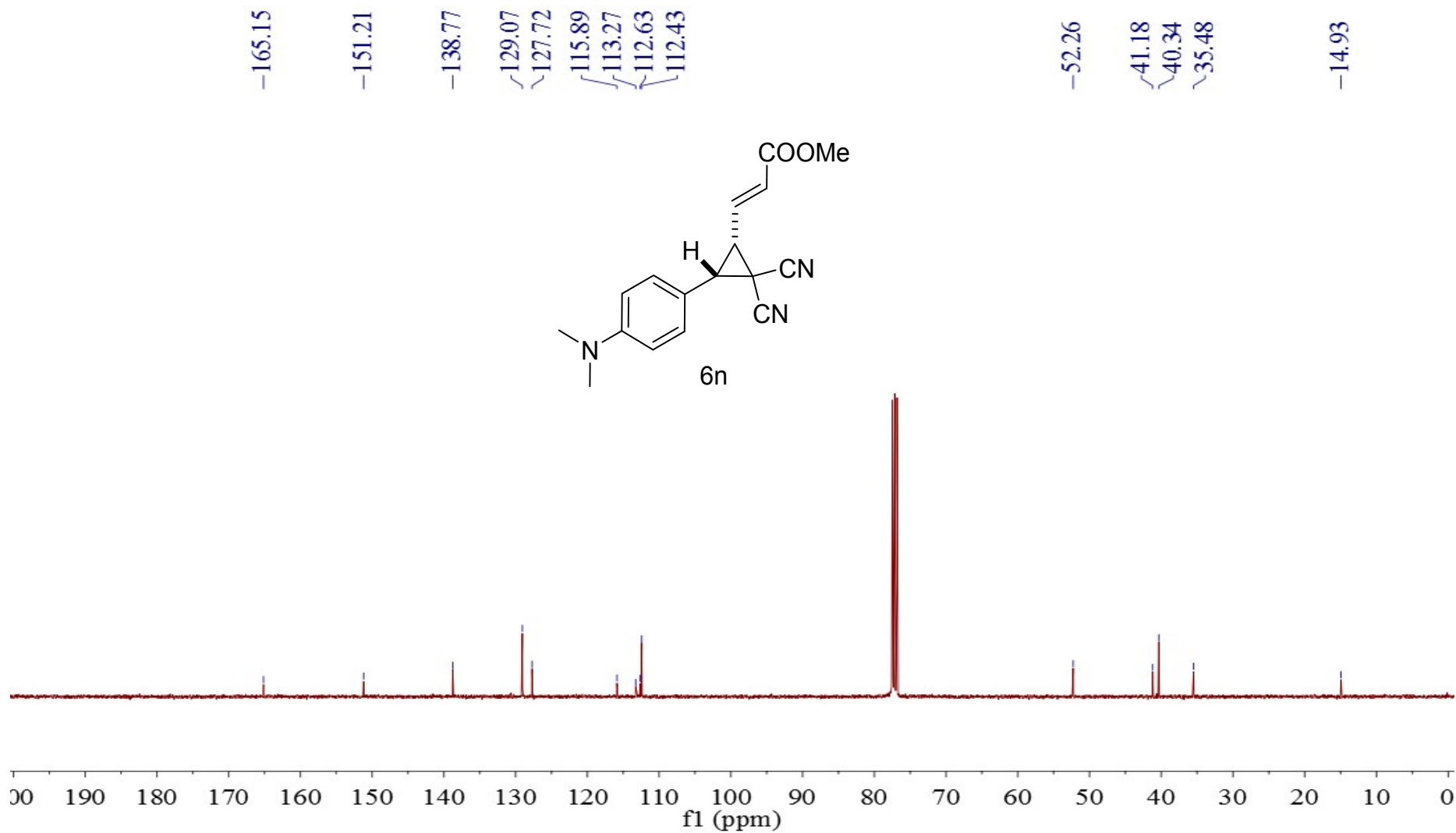




7.141  
7.119  
6.745  
6.722  
6.711  
6.706  
6.689  
6.684  
6.326  
6.288

-3.792  
3.282  
3.261  
3.086  
3.064  
3.043  
2.980

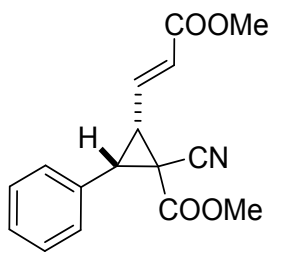




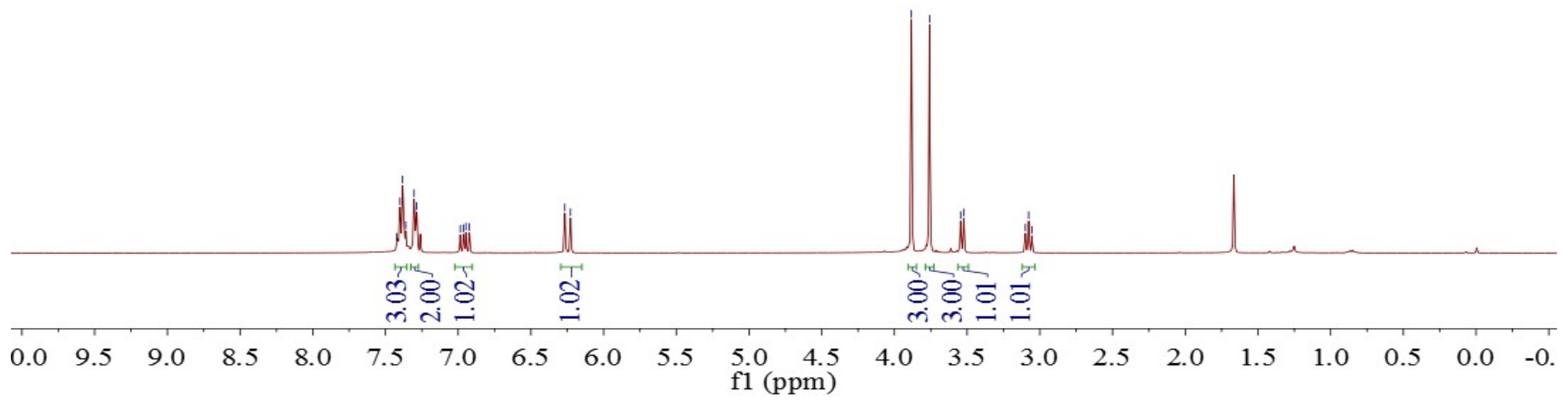


7.423  
7.401  
7.382  
7.360  
7.303  
7.286  
6.986  
6.962  
6.947  
6.923  
6.267  
6.228

3.884  
3.759  
3.545  
3.524  
3.100  
3.077  
3.055



60

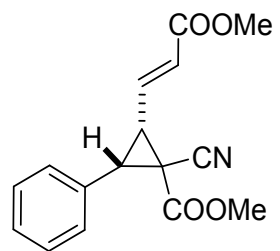


165.72  
165.12

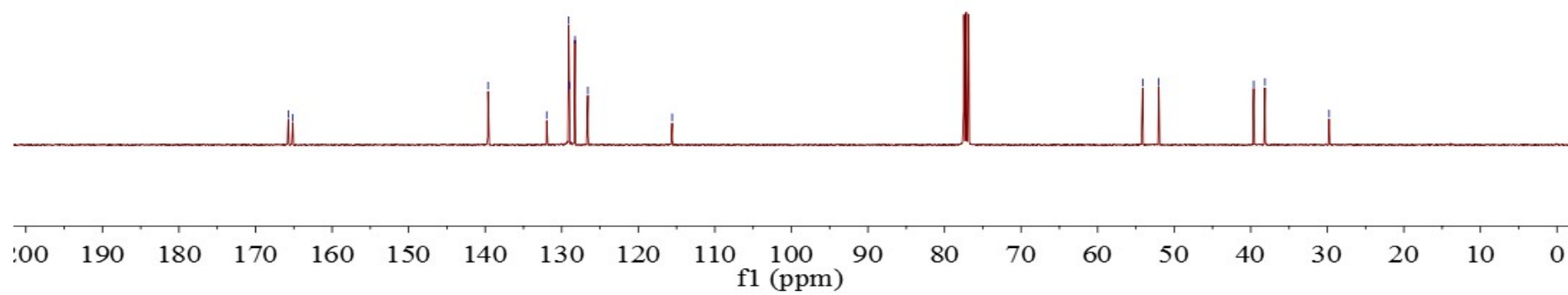
139.63  
131.96  
129.09  
129.00  
128.27  
126.60  
-115.58

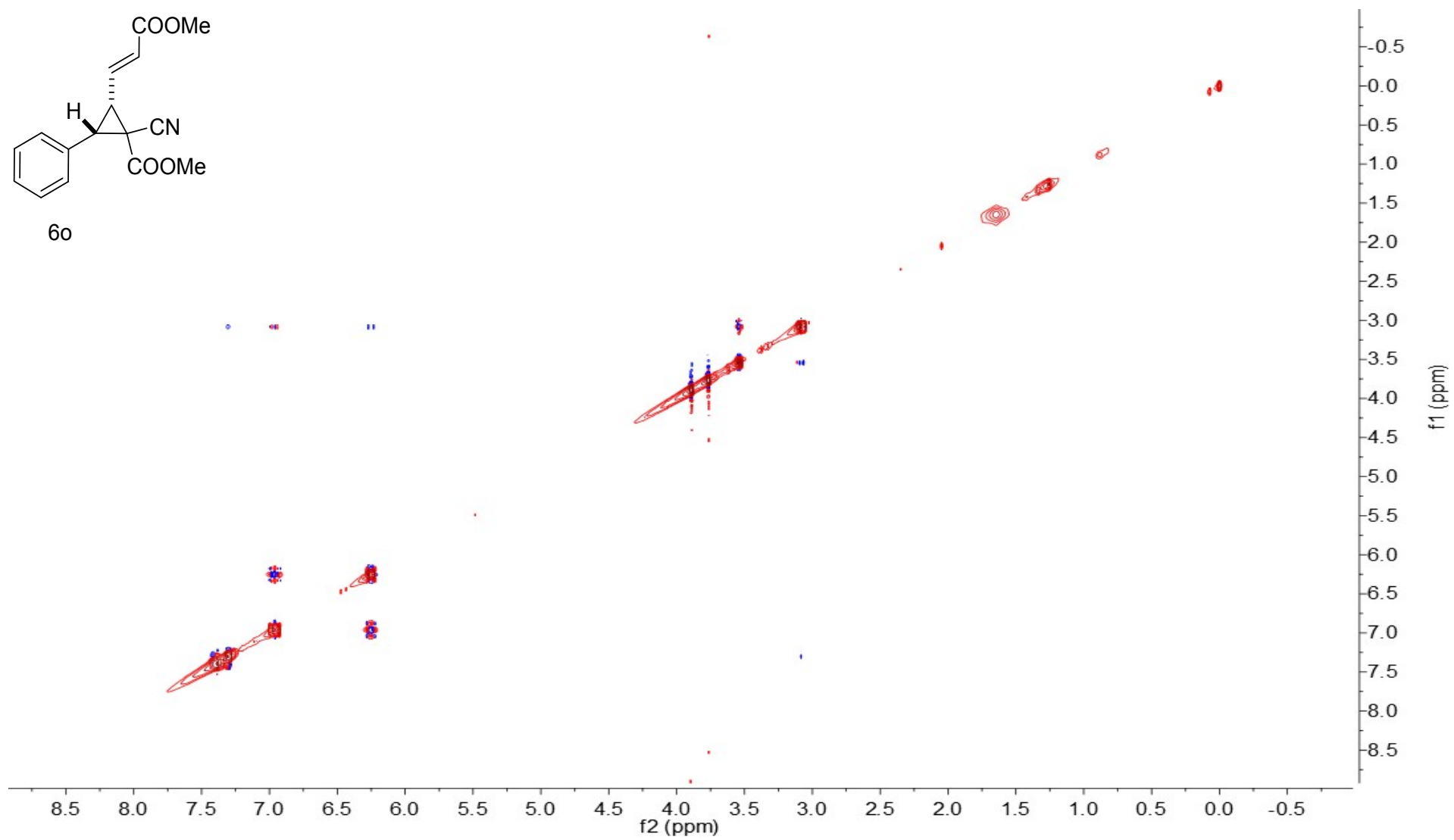
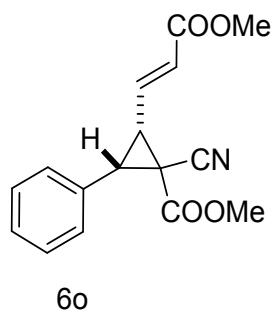
54.11  
52.01

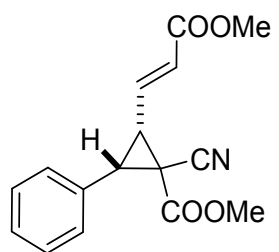
39.61  
38.15  
29.76



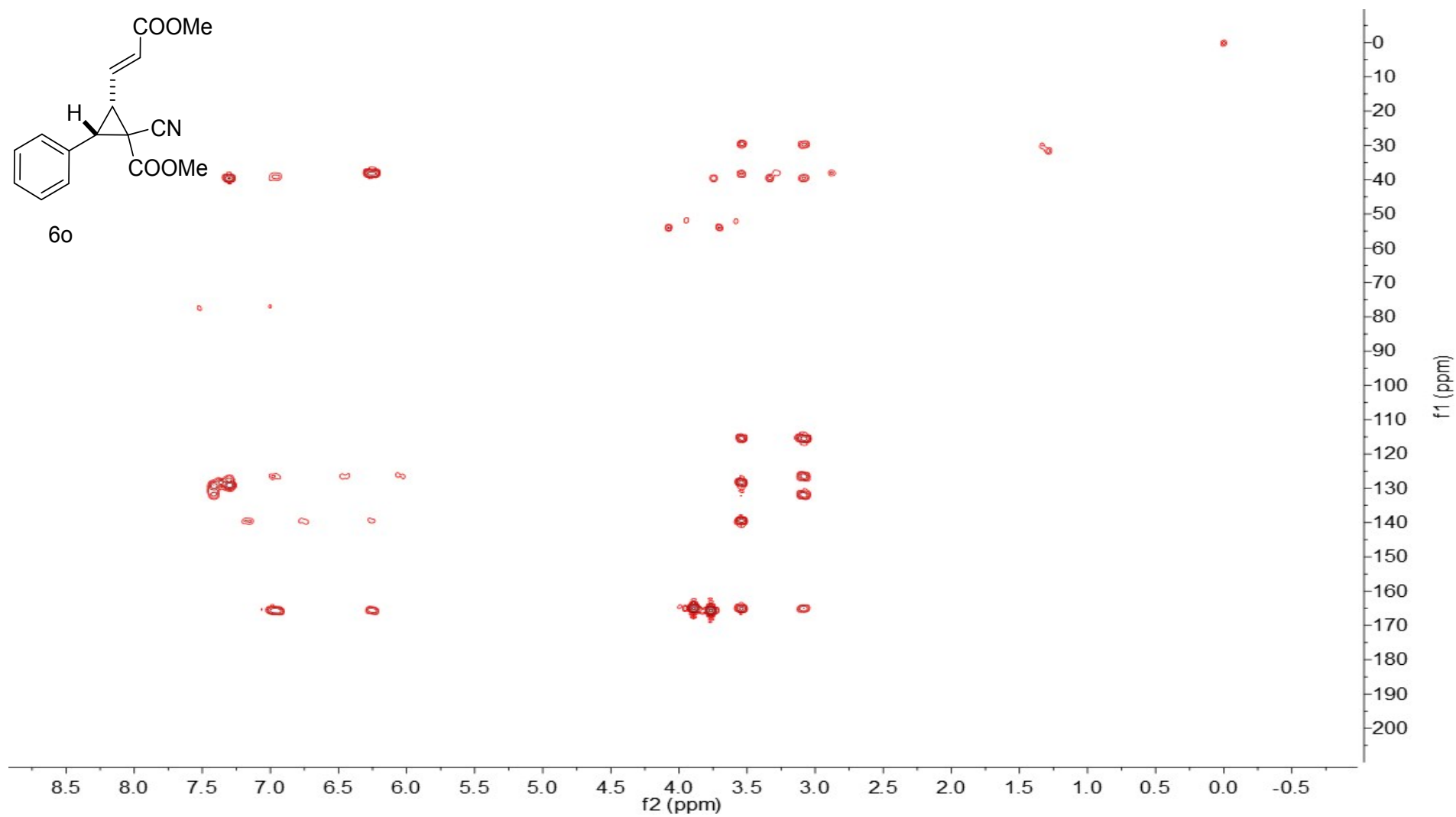
60

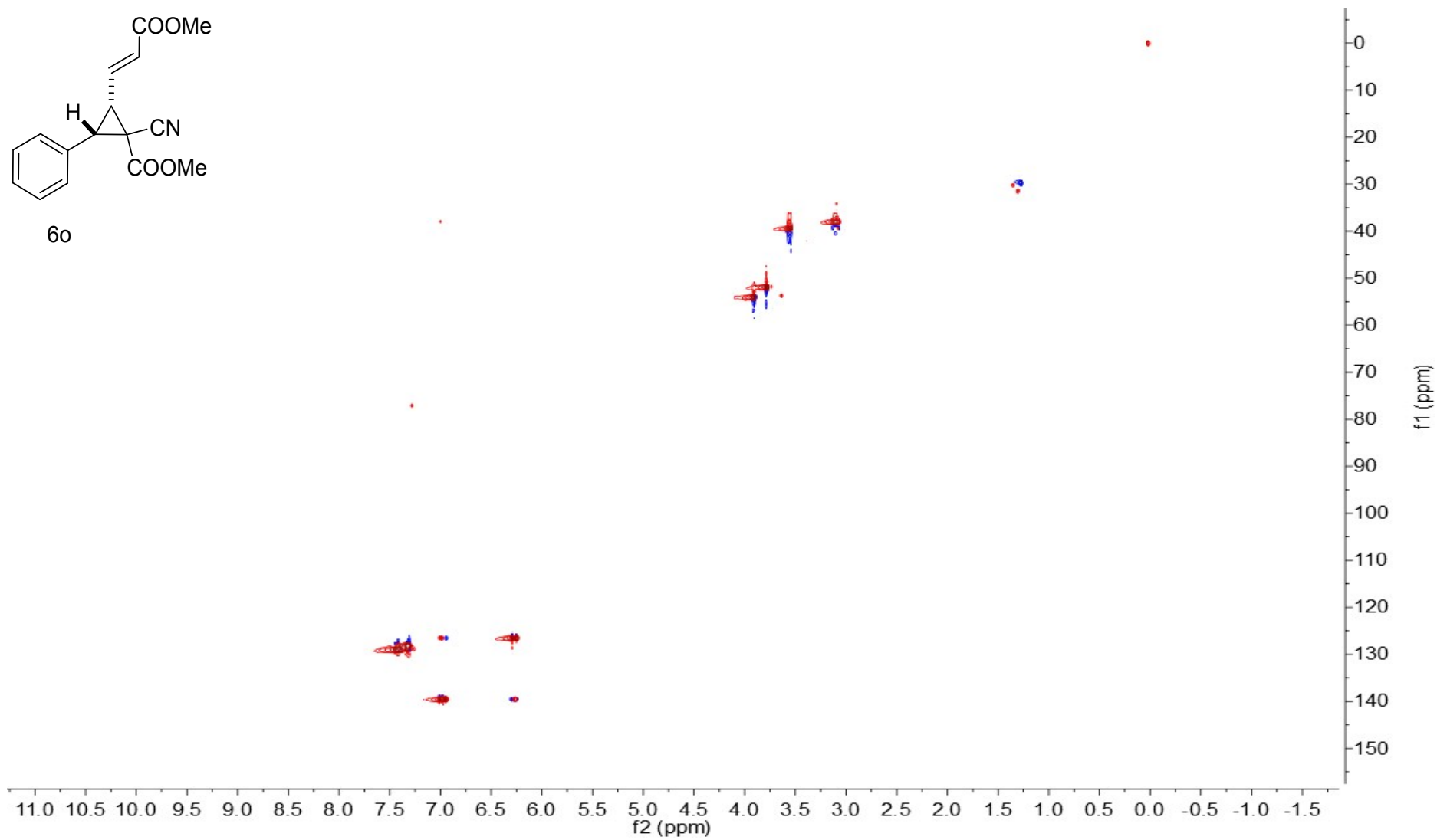
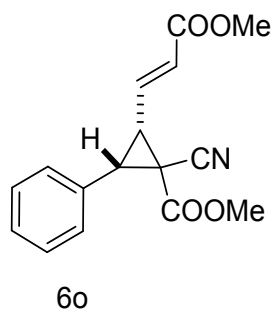


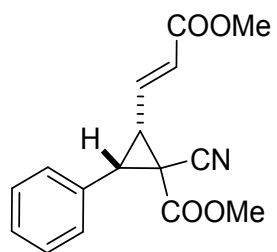




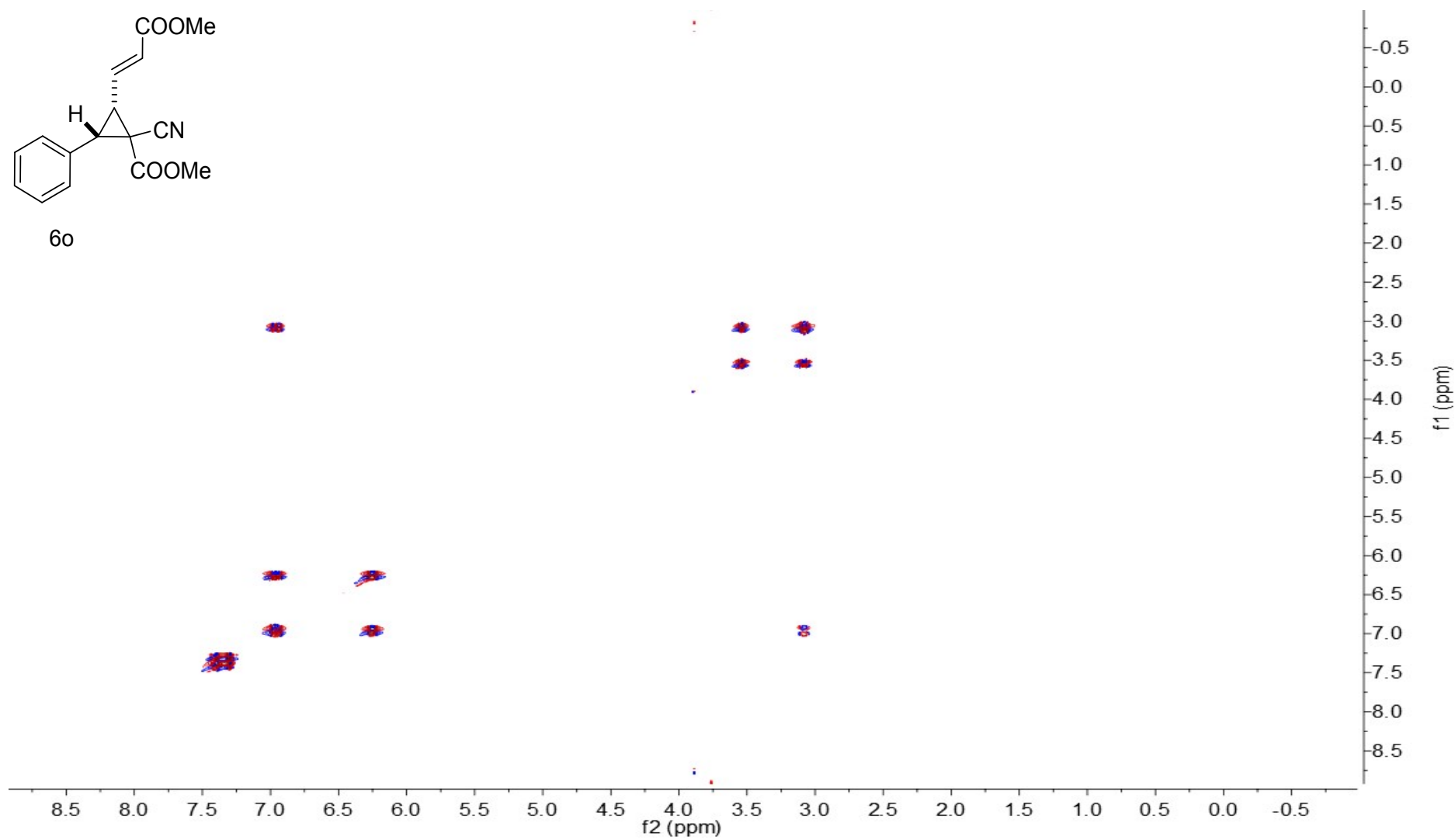
60







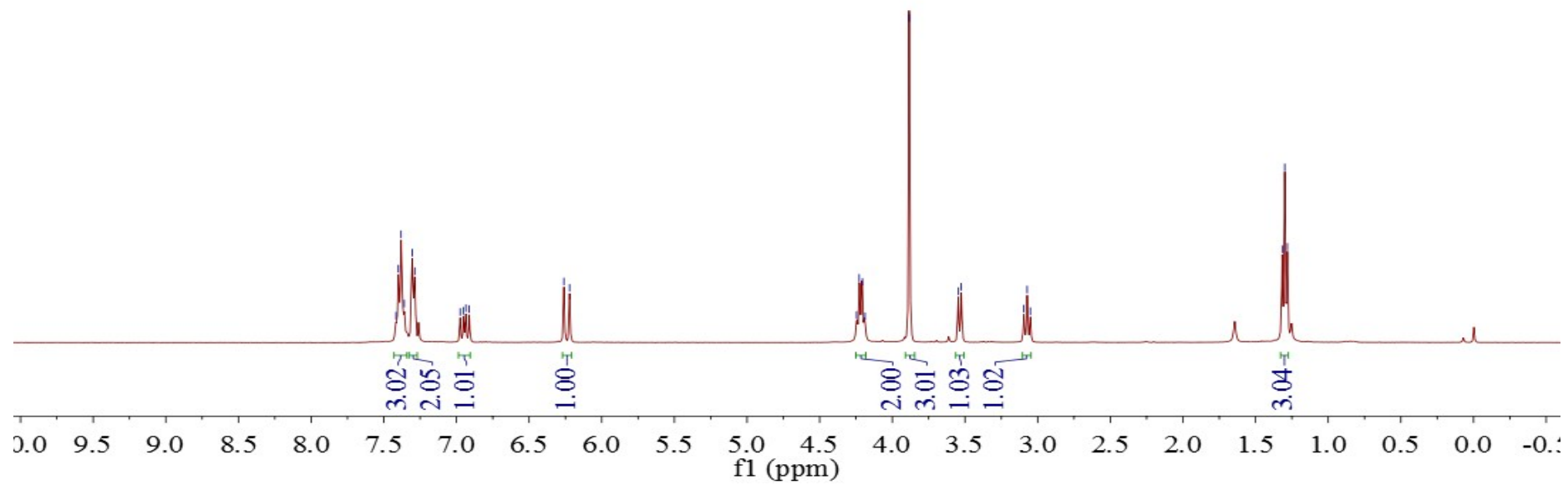
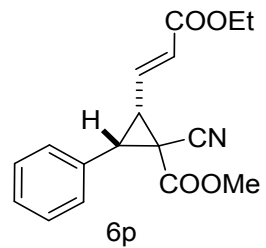
60



7.416  
7.400  
7.381  
7.359  
7.304  
7.287  
6.974  
6.951  
6.936  
6.912  
6.261  
6.221

4.246  
4.228  
4.206  
4.188  
3.884  
3.547  
3.525  
3.095  
3.072  
3.050

1.317  
1.299  
1.281



165.29  
165.11

139.26  
132.03  
129.09  
128.99  
128.28  
127.09

-115.62

-60.91

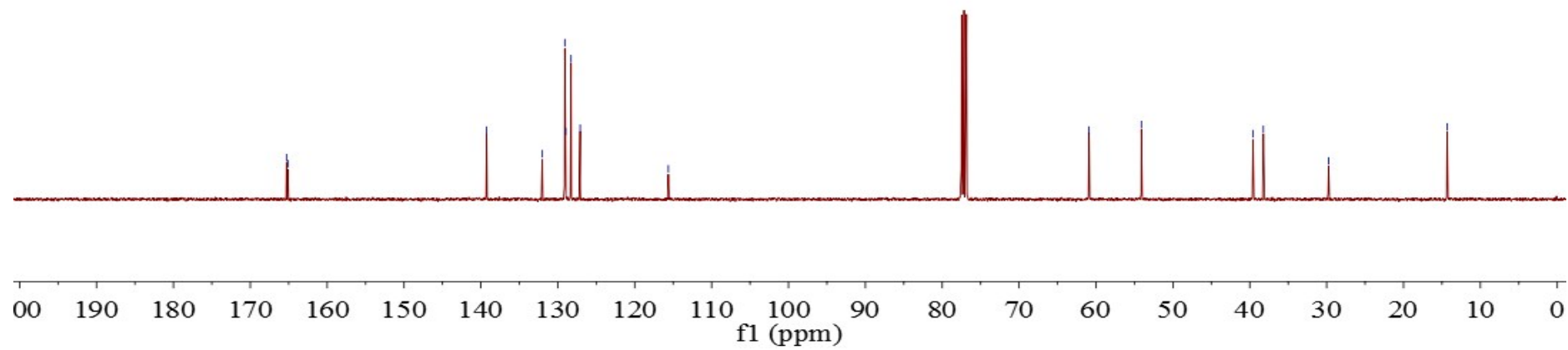
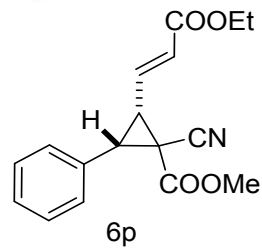
-54.09

-39.58

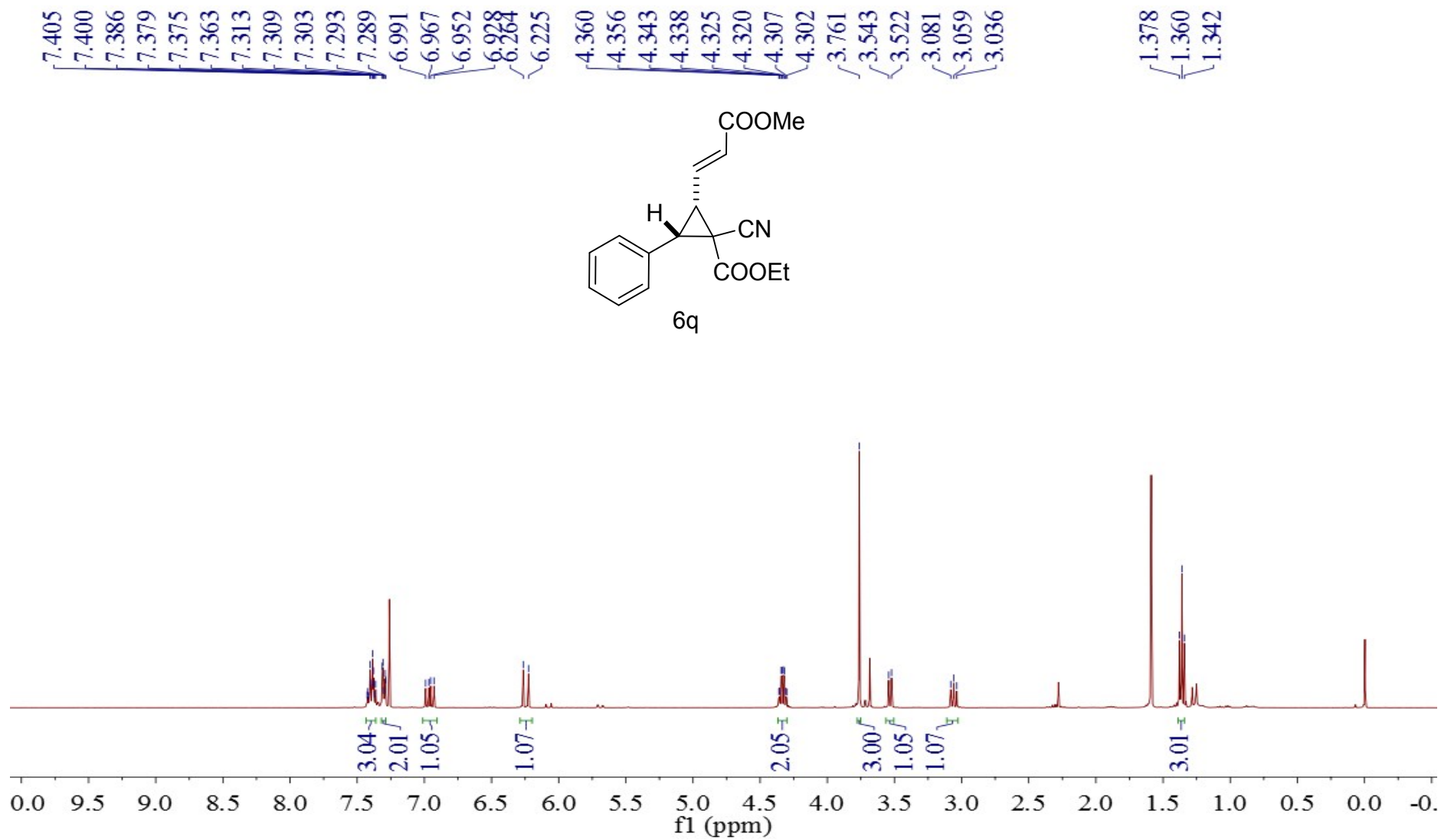
-38.23

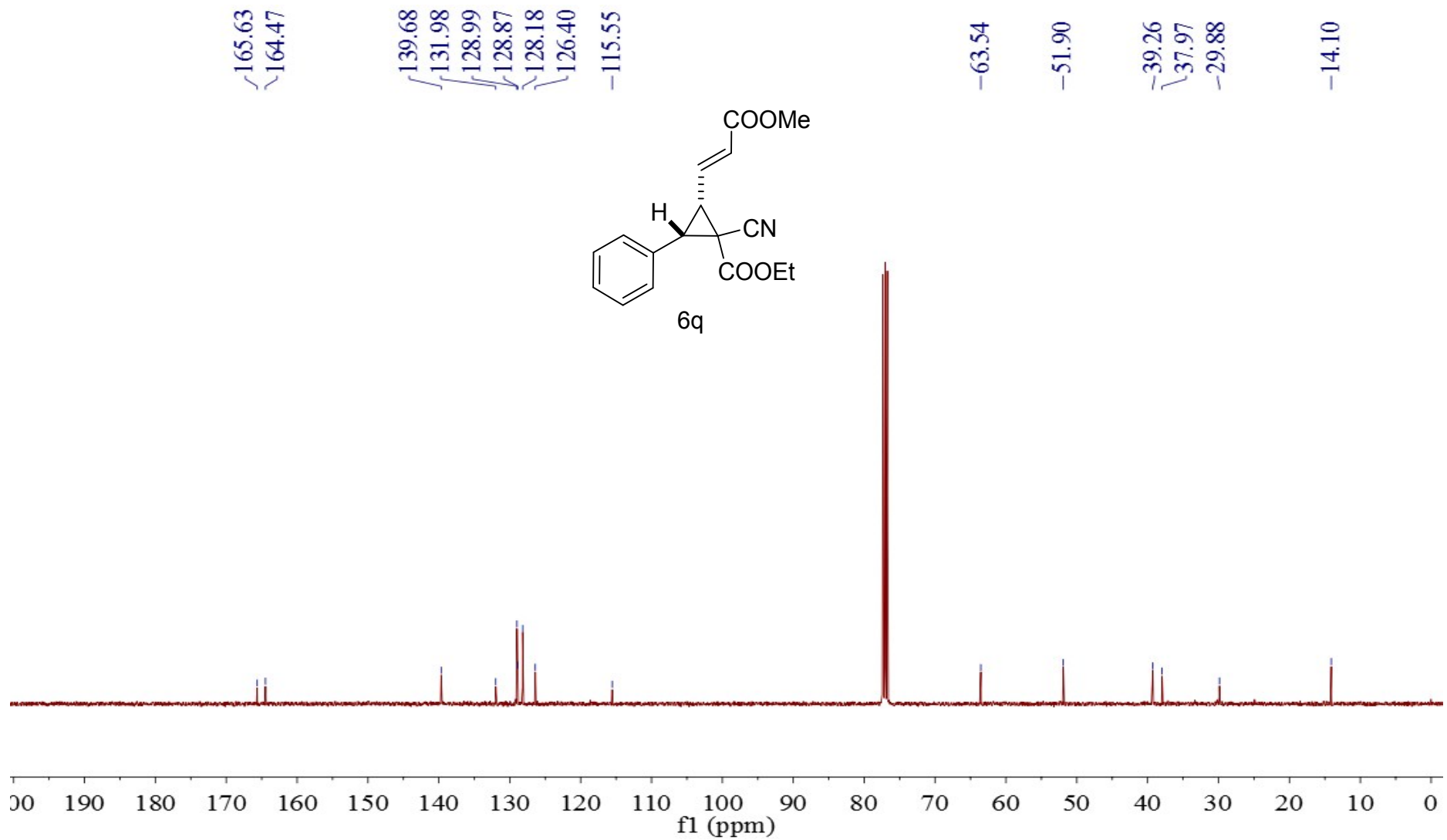
-29.74

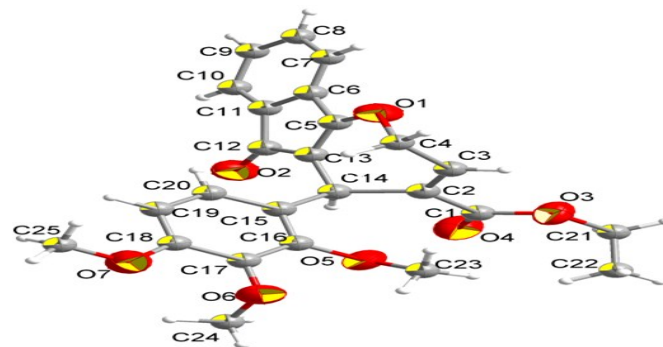
-14.34



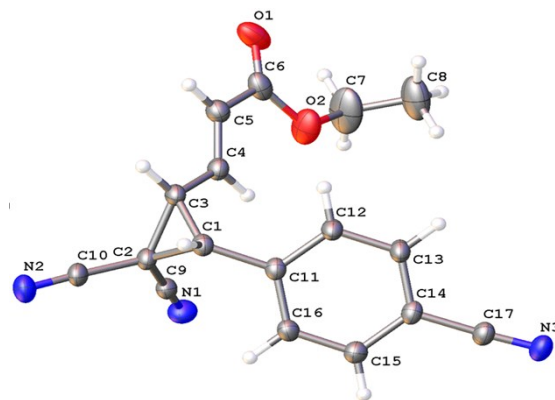








40



6e