Supplementary Material

Discovery of novel biphenyl carboxylic acid derivatives as potent URAT1 inhibitors

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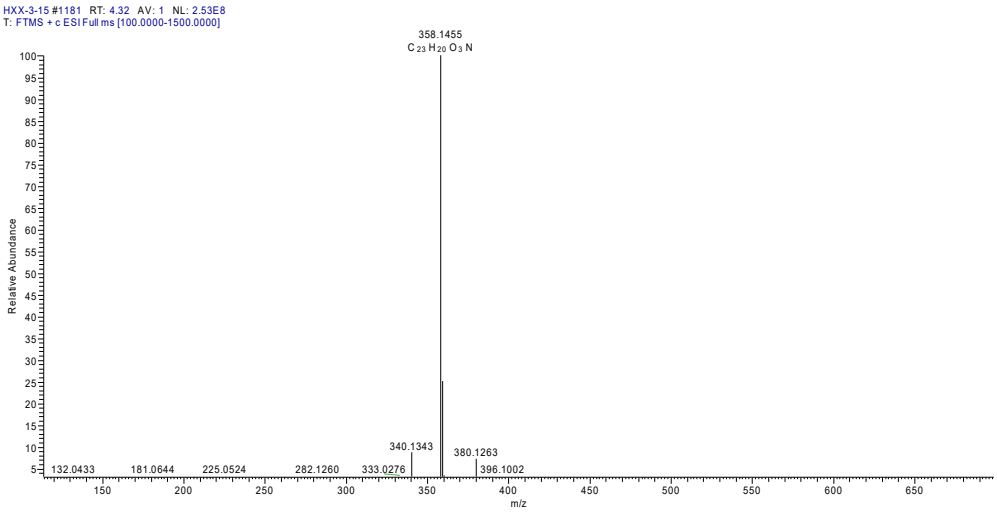
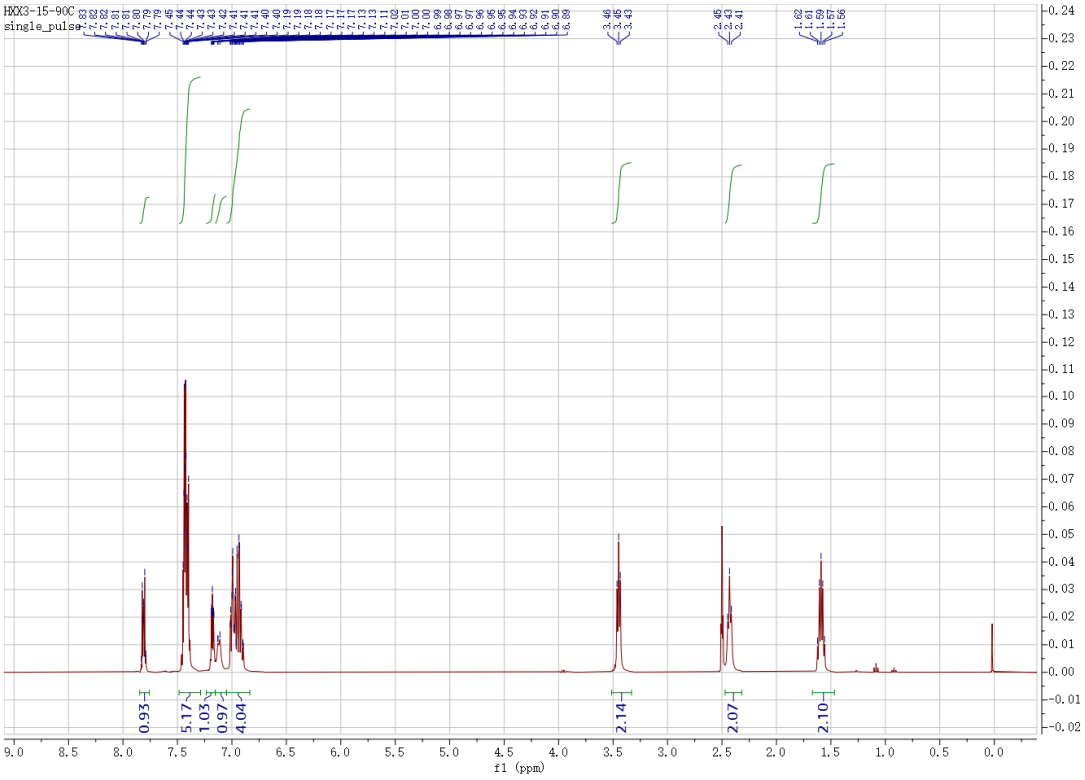
Spectral data, including HR-ESI-MS, ^{1}H-NMR and ^{13}C-NMR, for the target compounds are provided herein.

Compound **A1**:

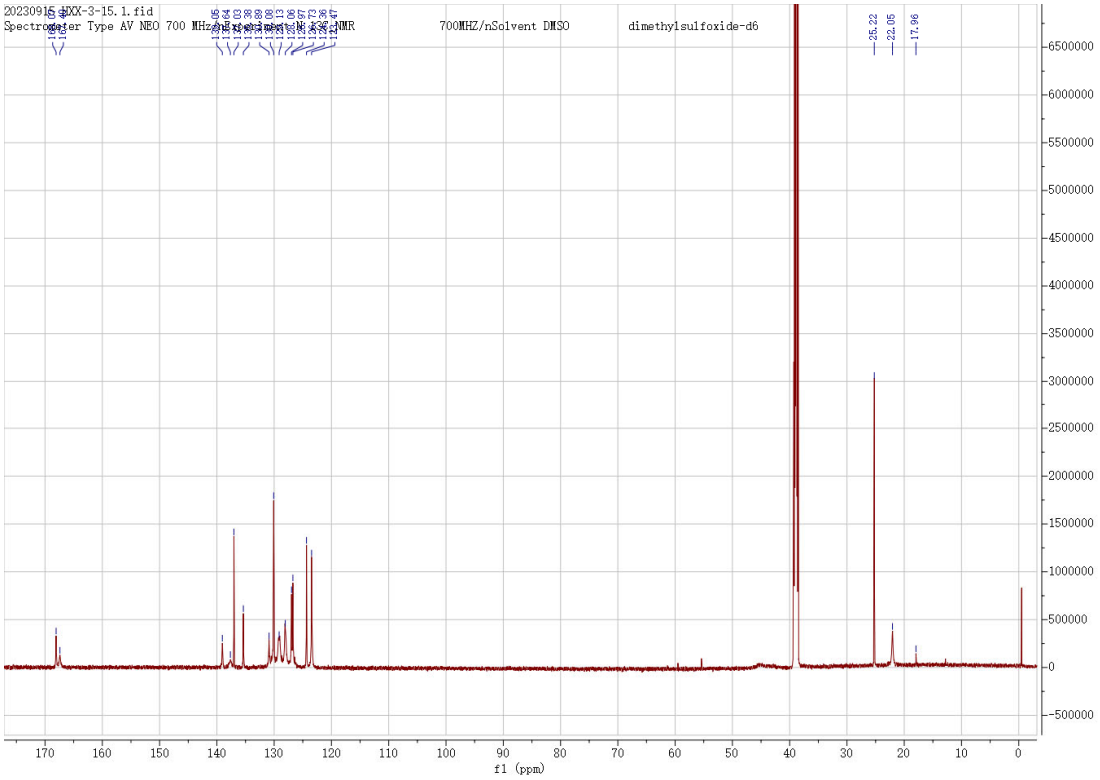
HR-ESI-MS:



^{1}H-NMR:

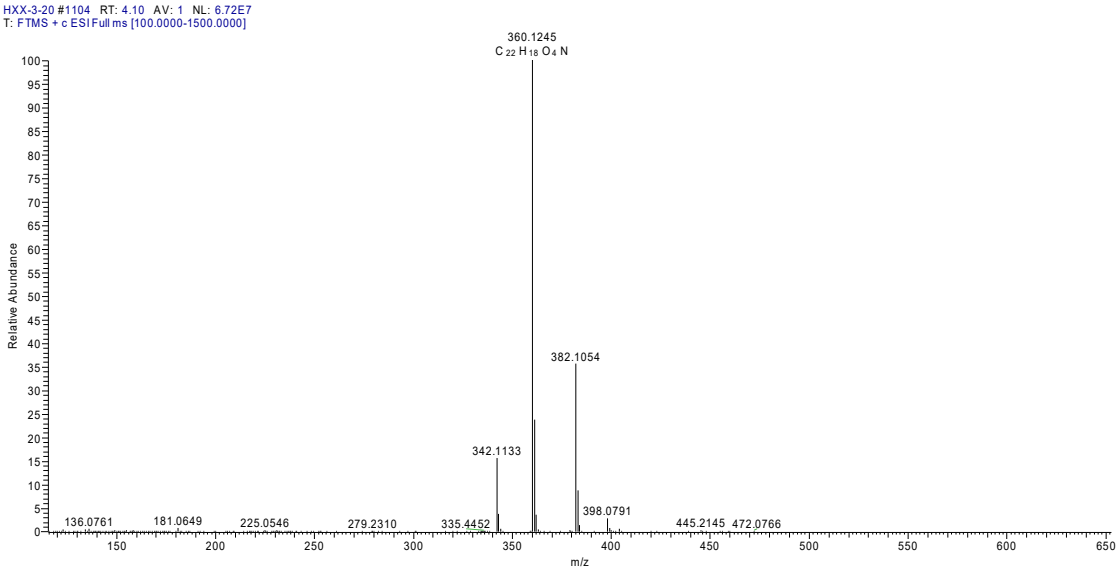


^{13}C-NMR:

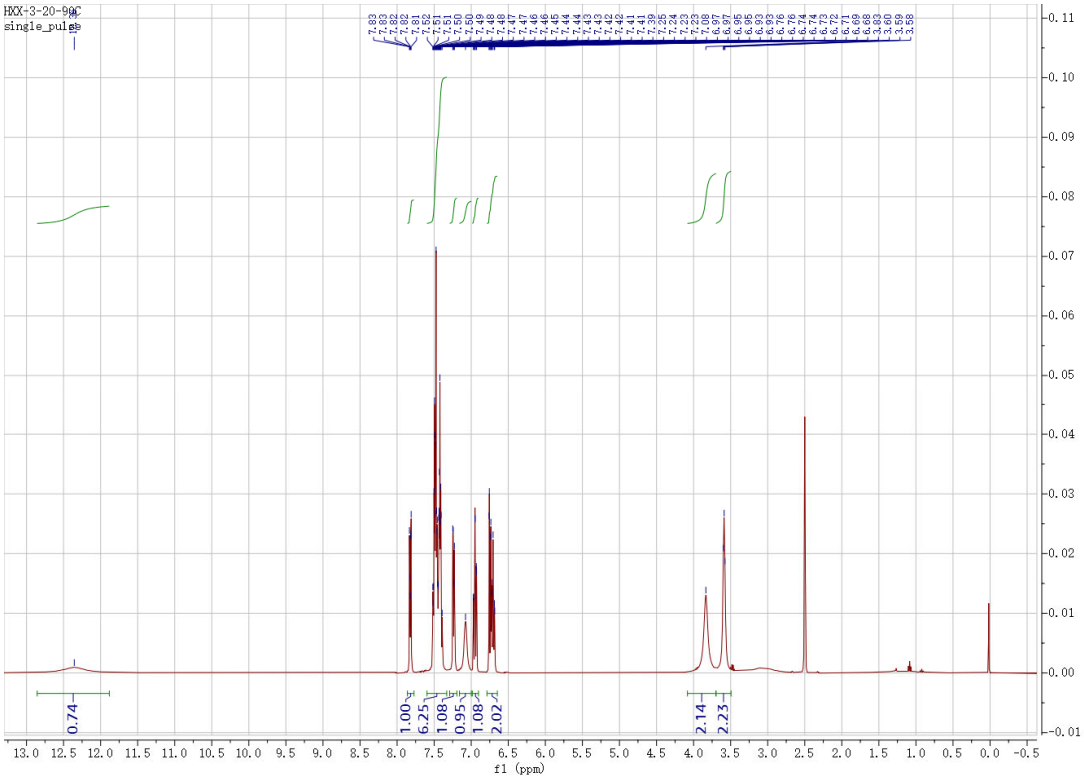


Compound **A2**:

HR-ESI-MS:



^{1}H-NMR:



Compound **A3**:

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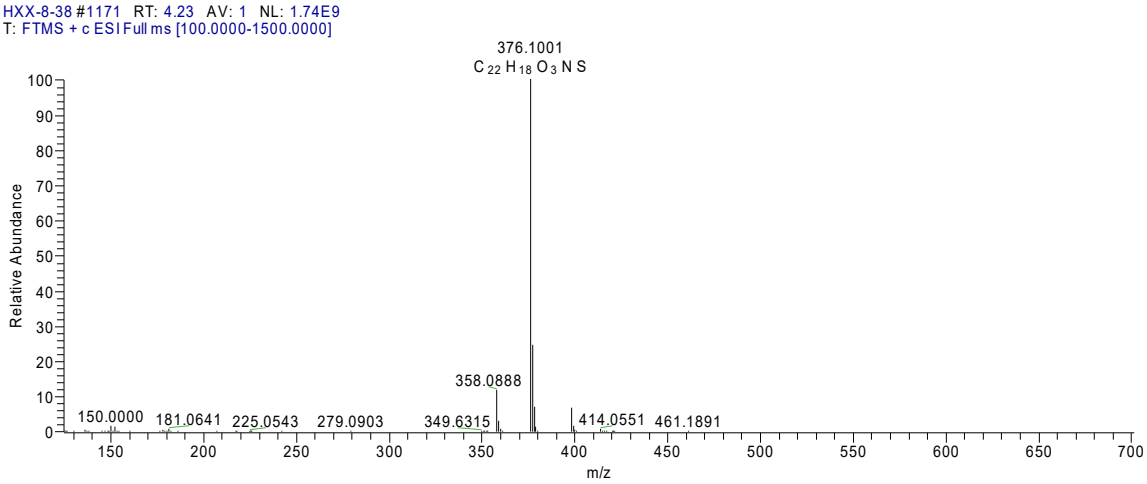
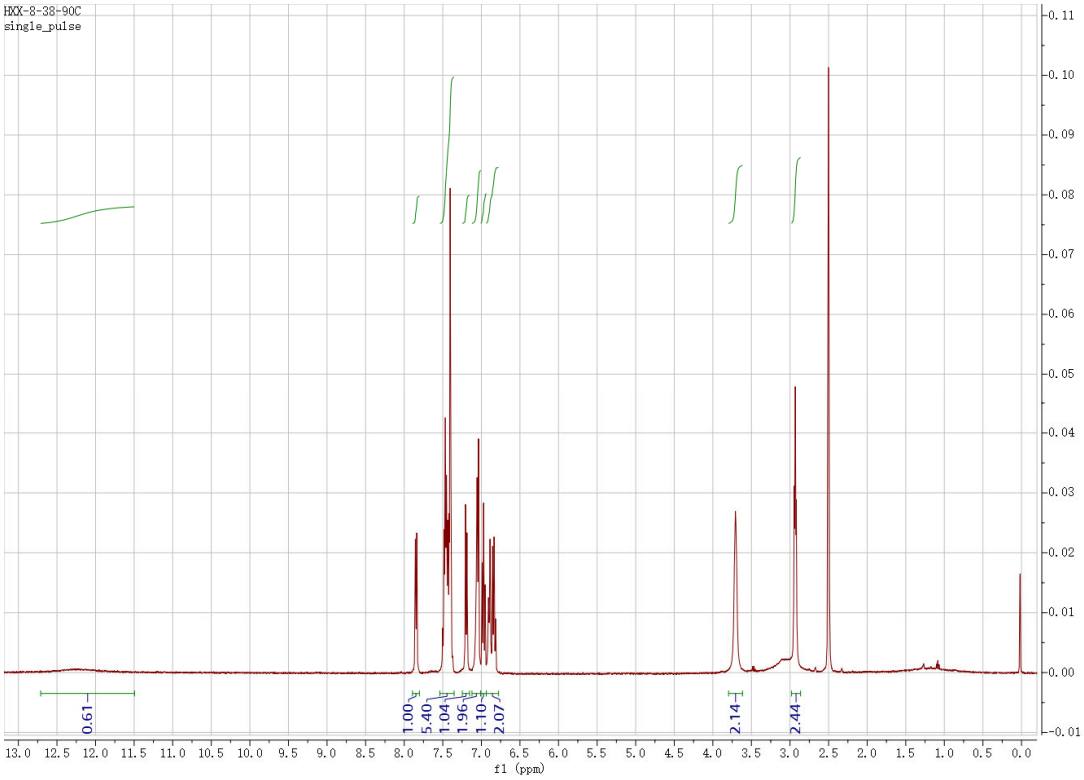


^{1}H-NMR:



Compound **A4**:

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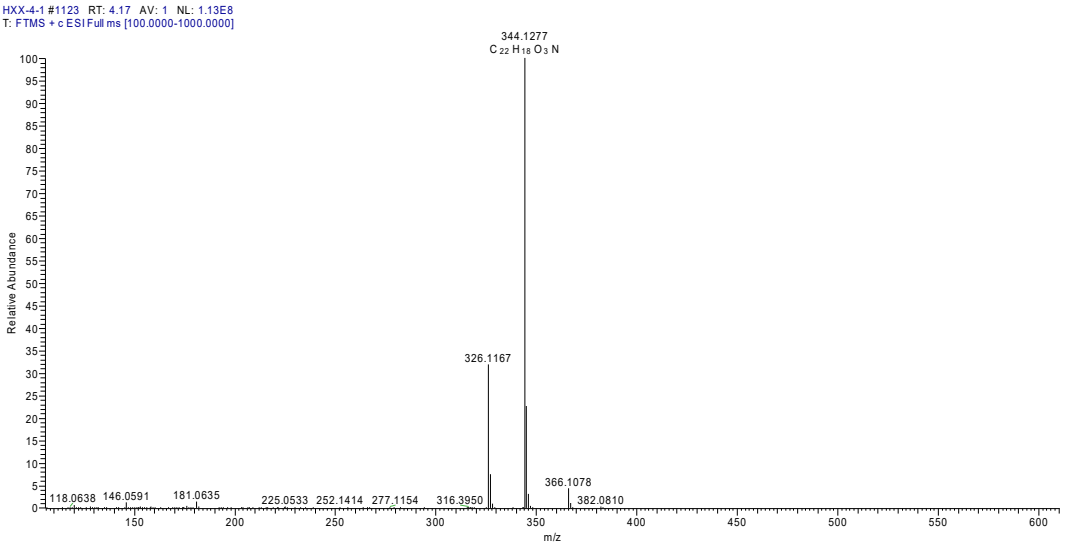
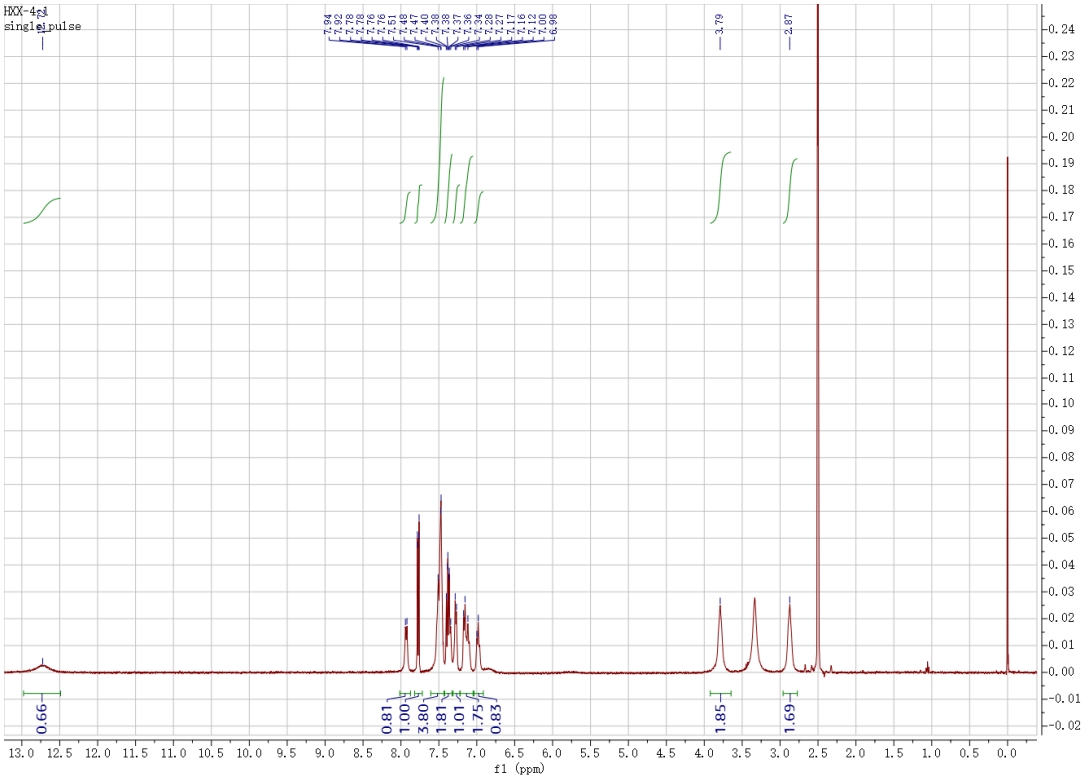


^{1}H-NMR:



Compound **A5**:

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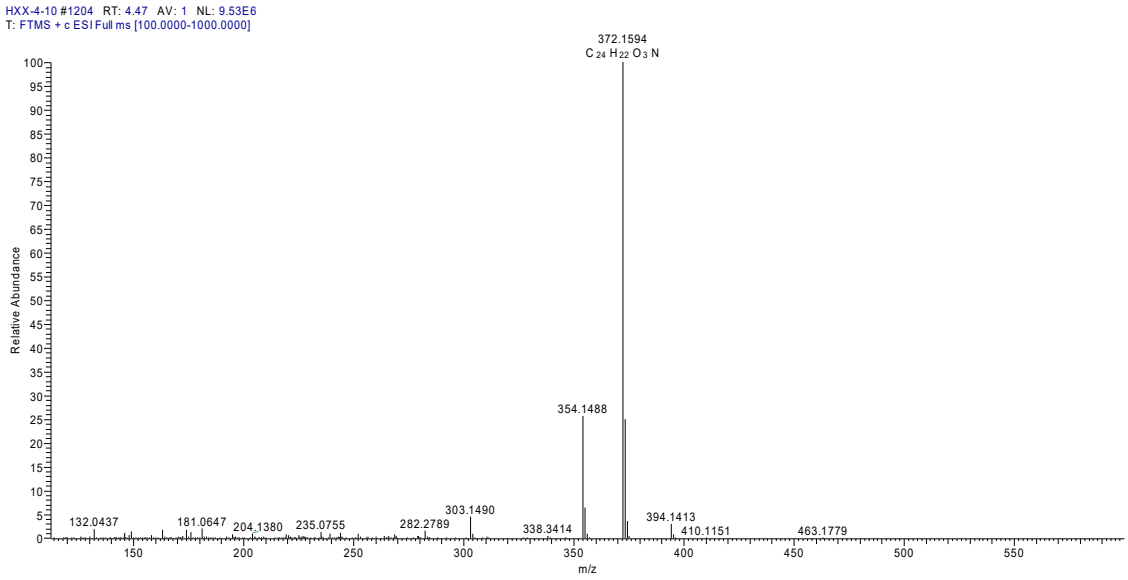
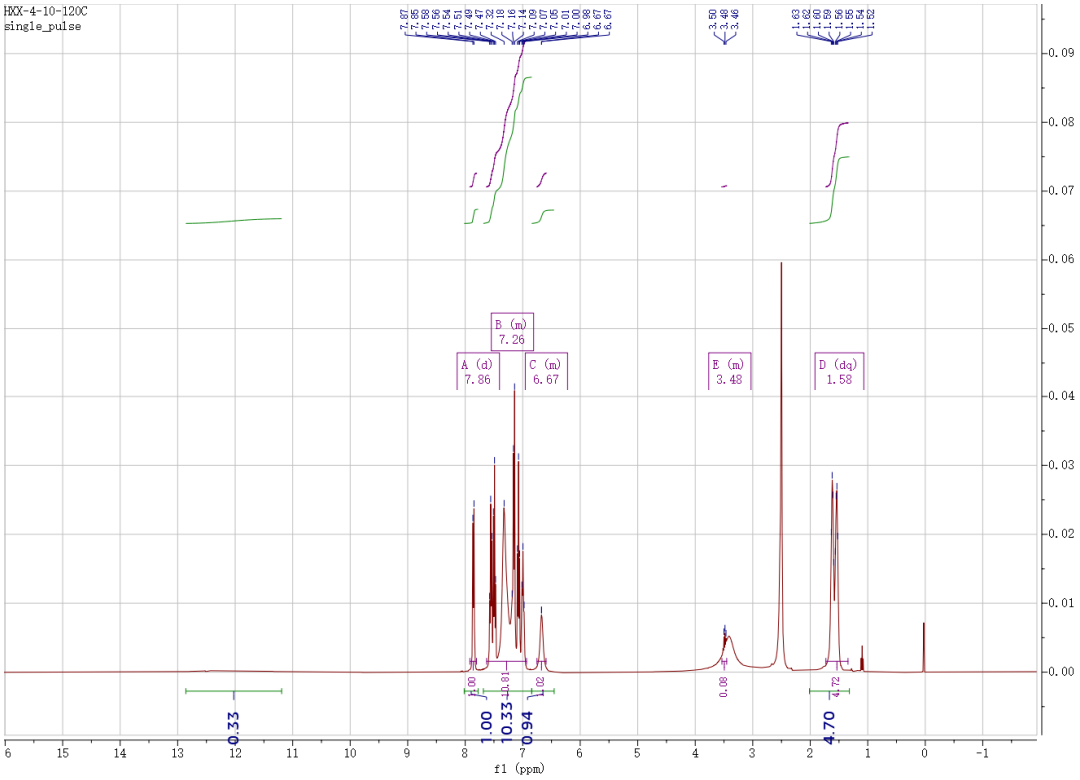
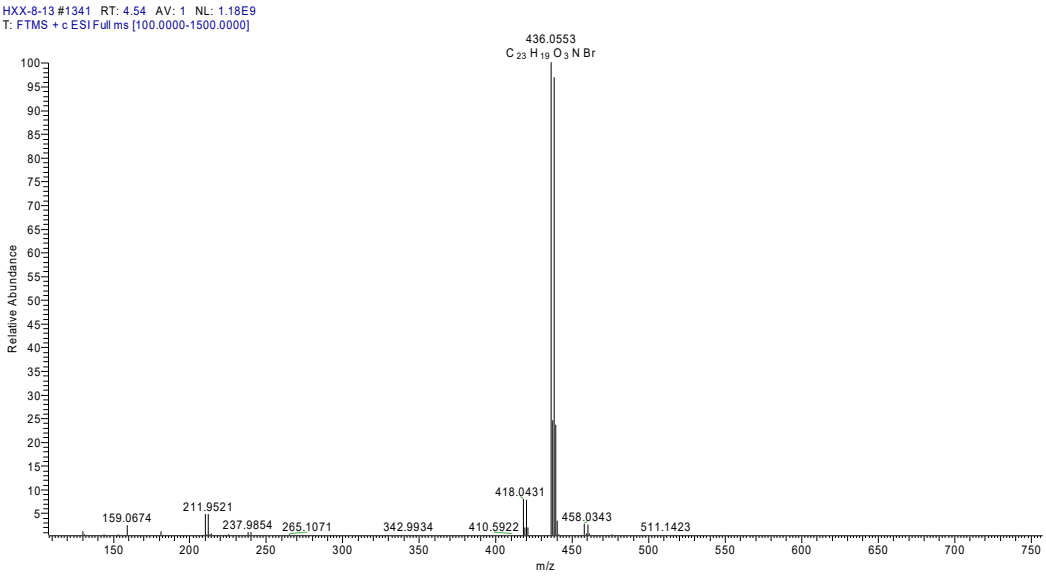


^{1}H-NMR:

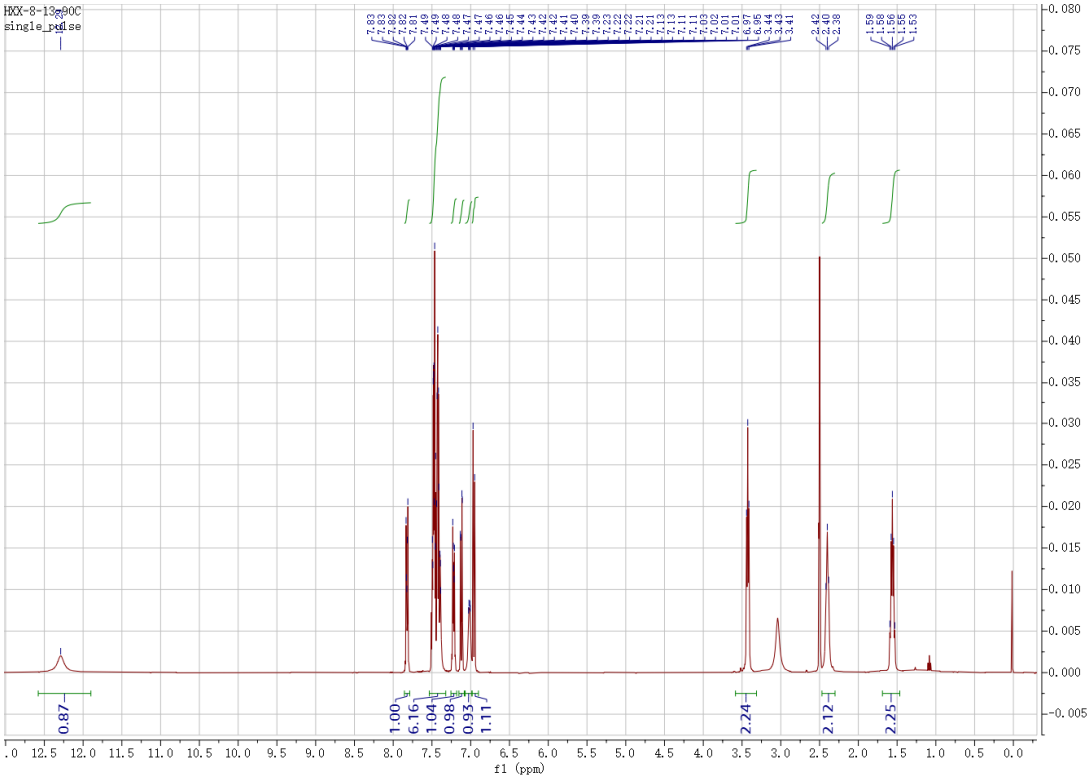


Compound **A6**:

HR-ESI-MS:

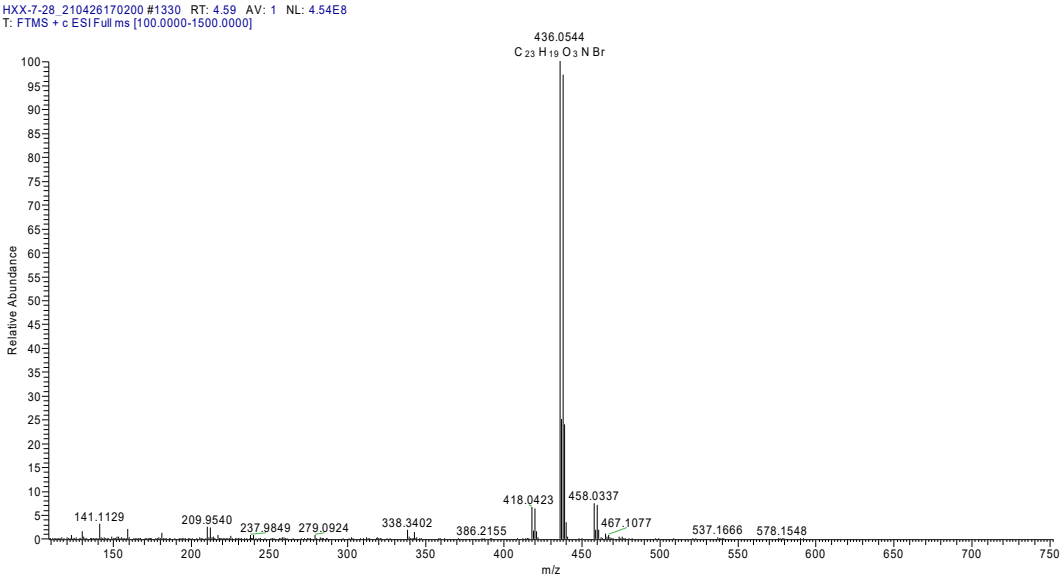


^{1}H-NMR:

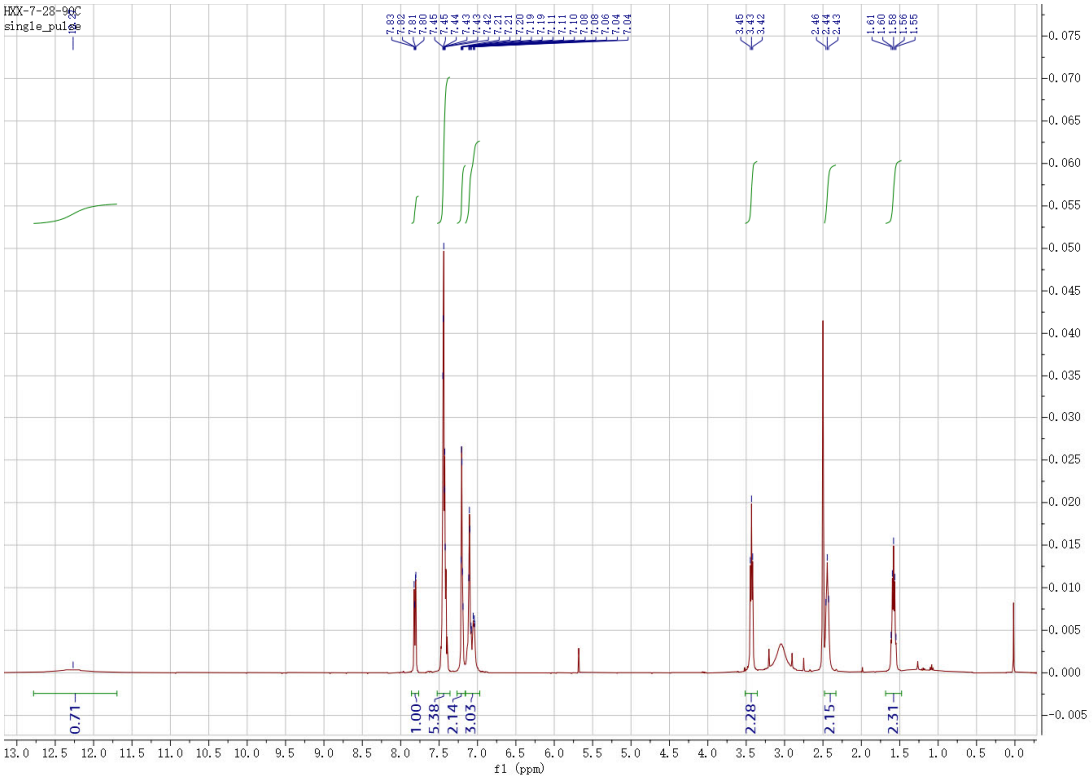


Compound **A7**:

HR-ESI-MS:

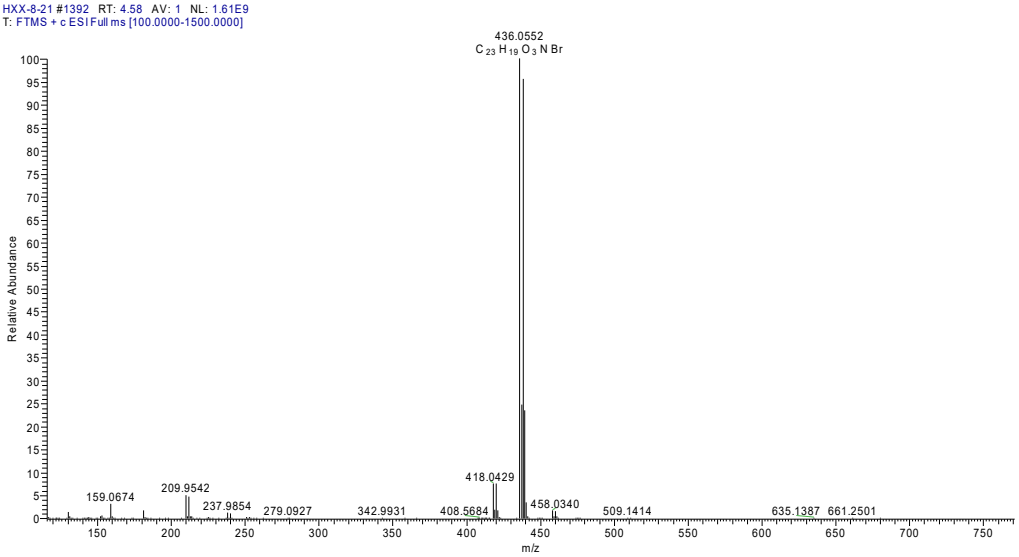


^{1}H-NMR:

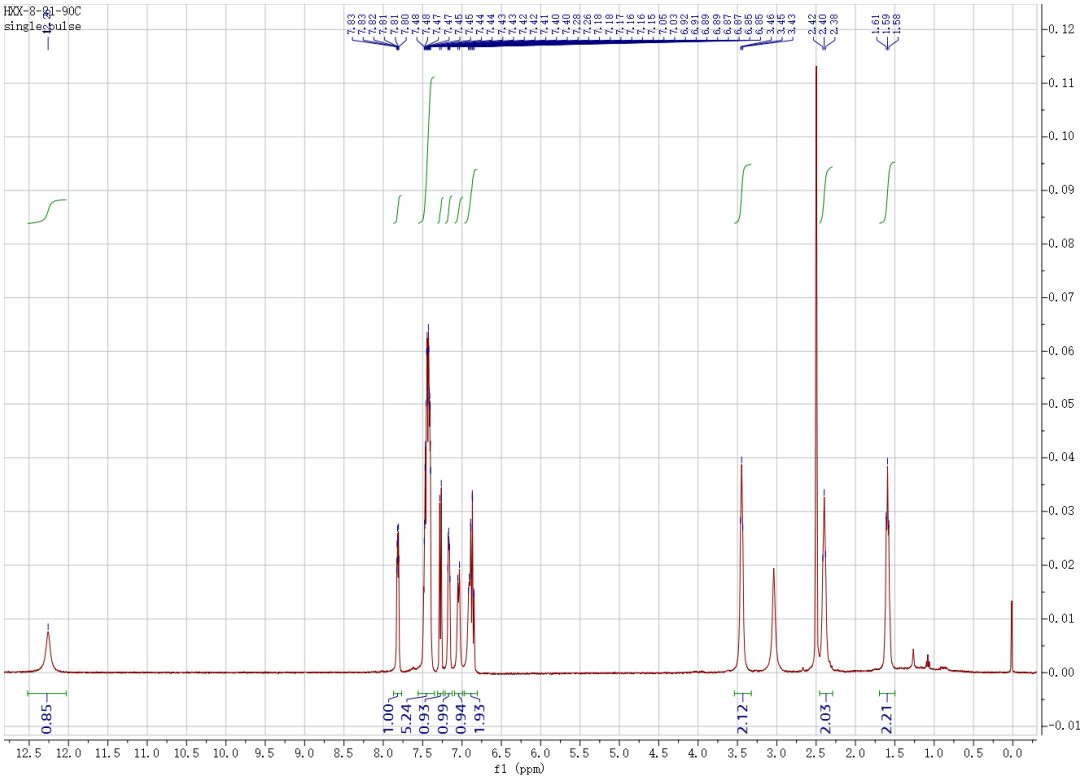


Compound **A8**:

HR-ESI-MS:



^{1}H-NMR:



Compound **A9**:

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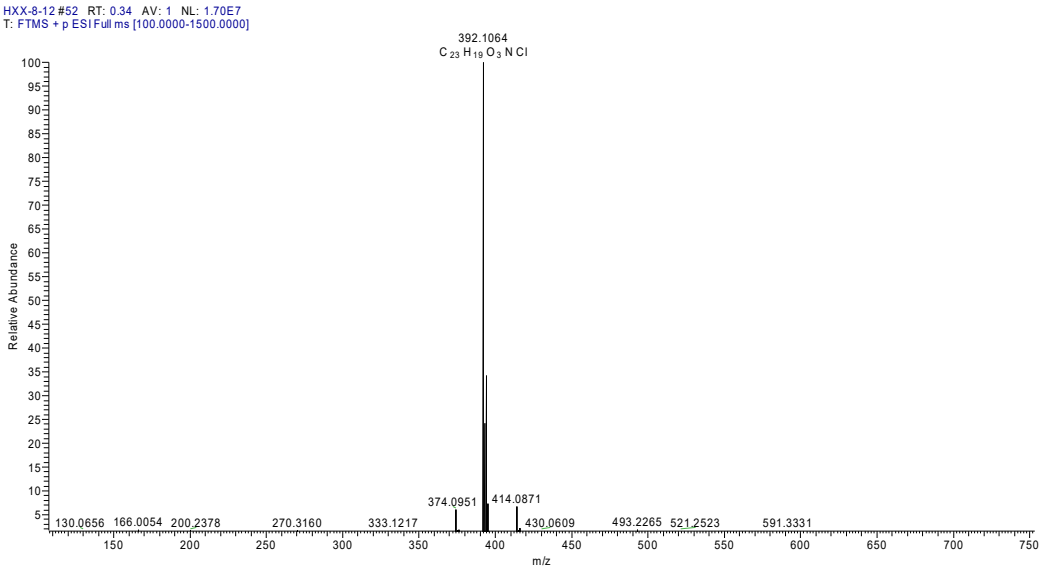
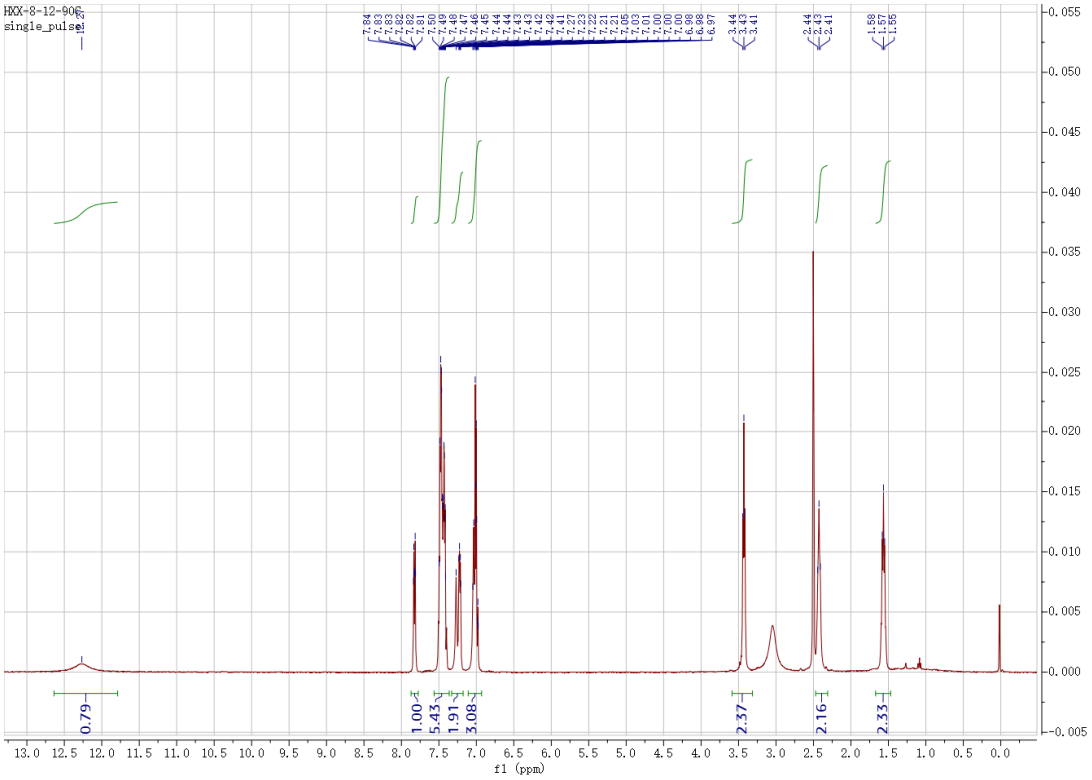


^{1}H-NMR:



Compound **A10**:

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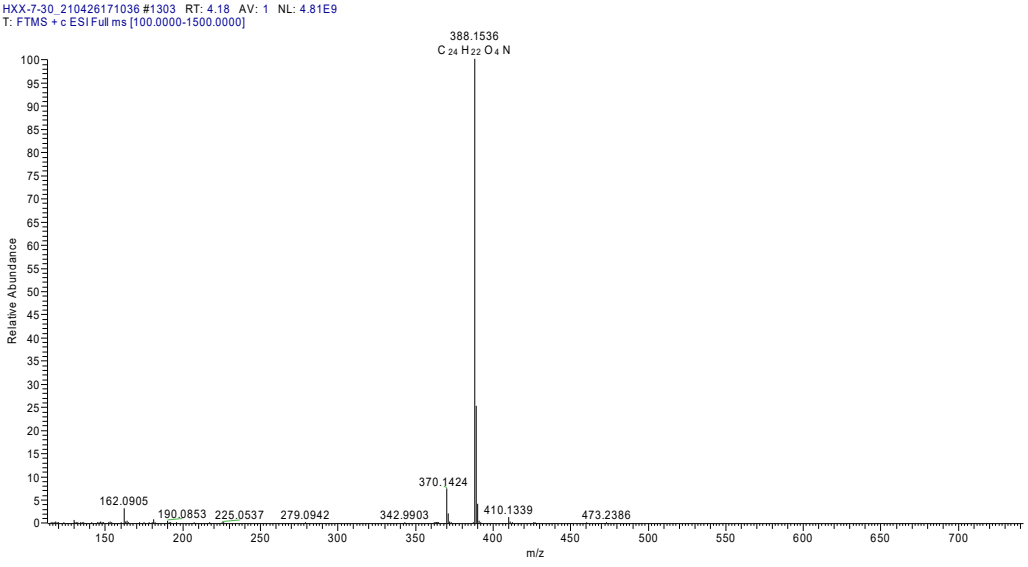

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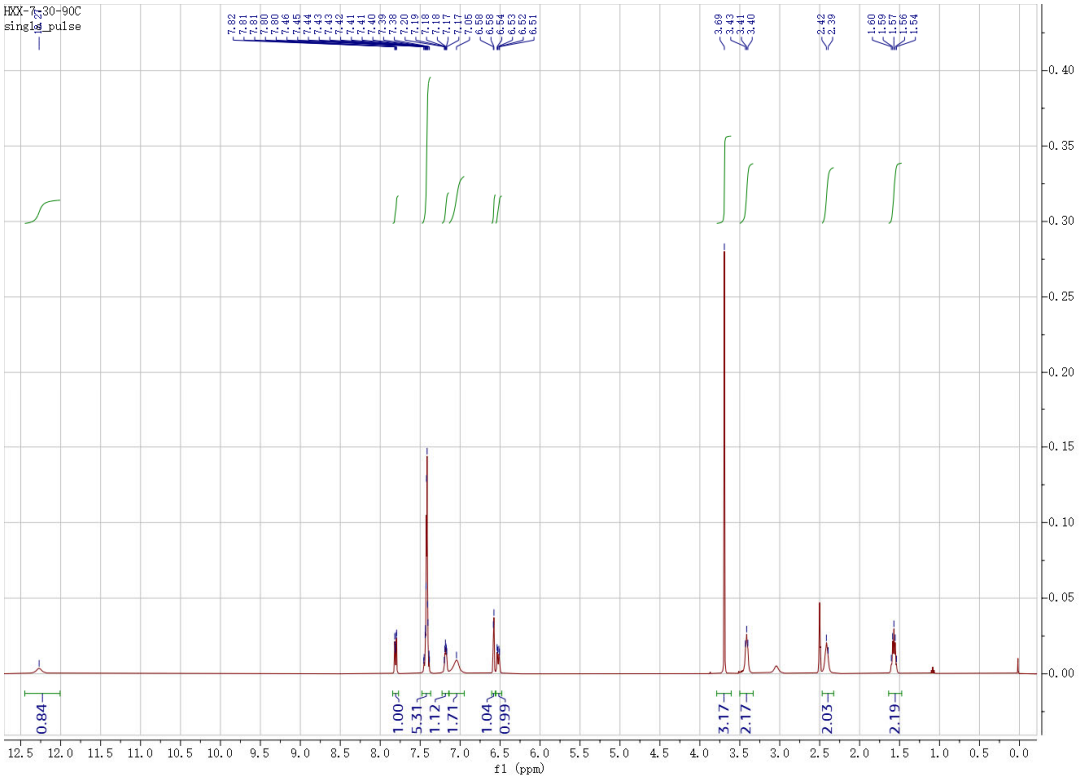
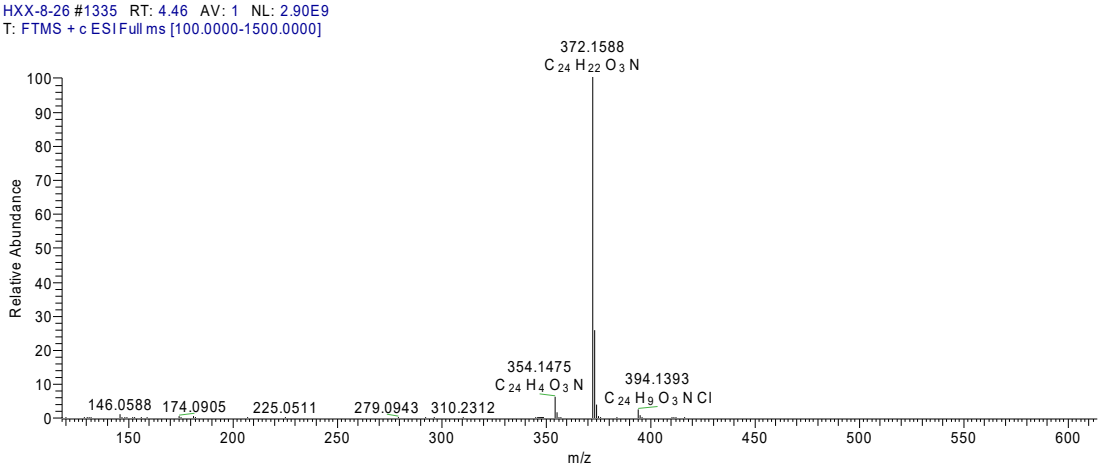


Compound **A11**:

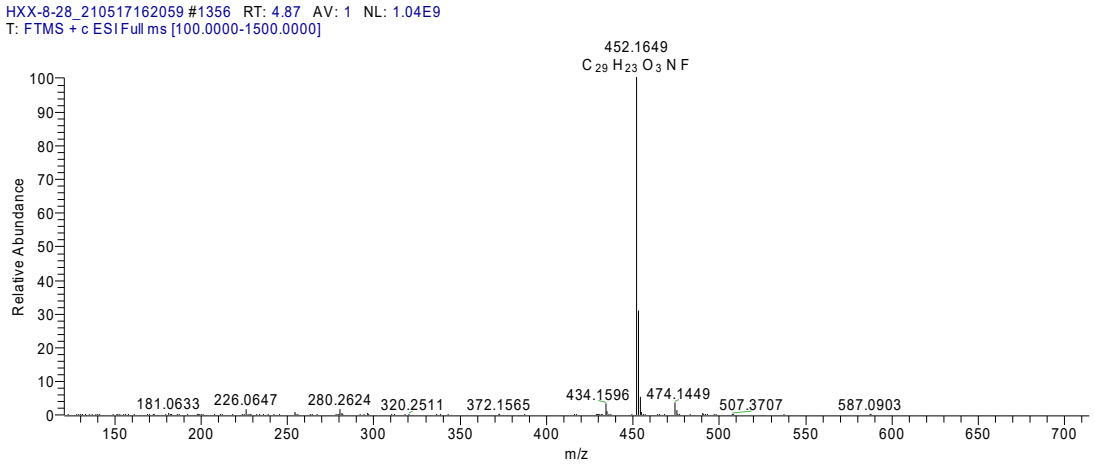
HR-ESI-MS:



^{1}H-NMR:

Compound **A12**:

HR-ESI-MS:



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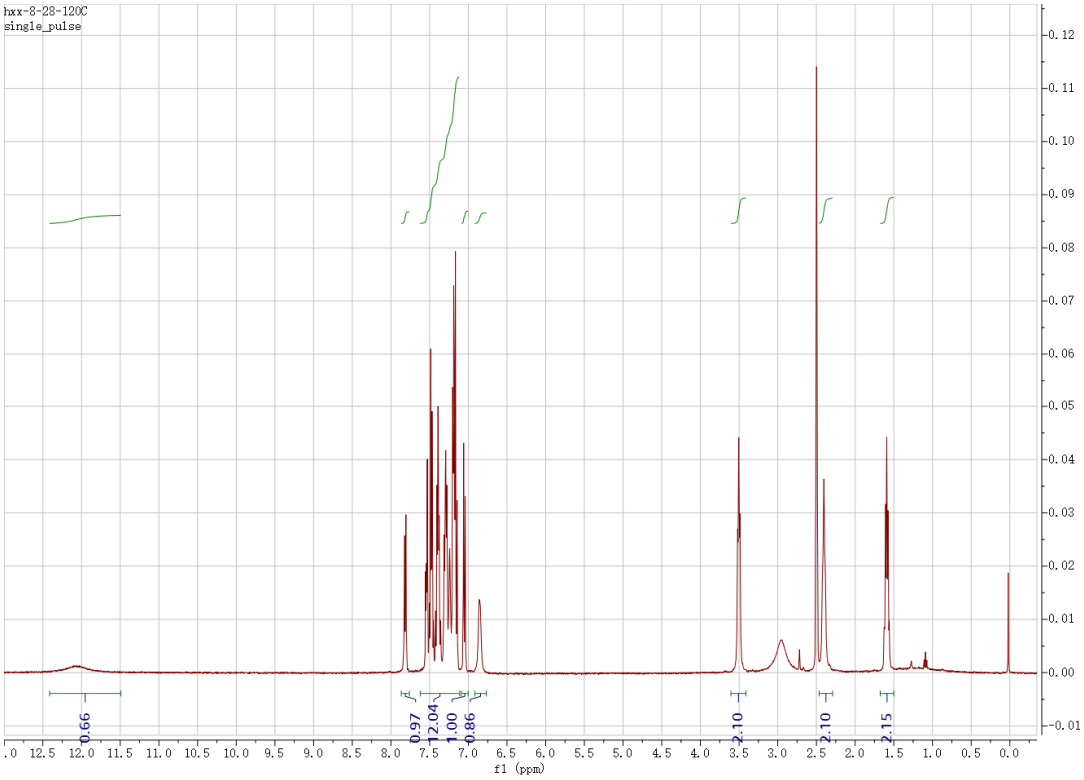

Compound **A13**:

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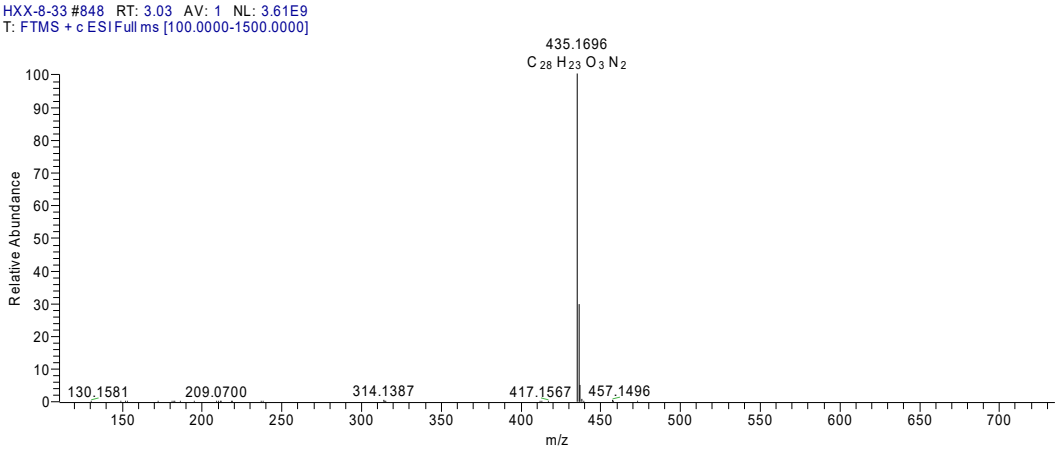
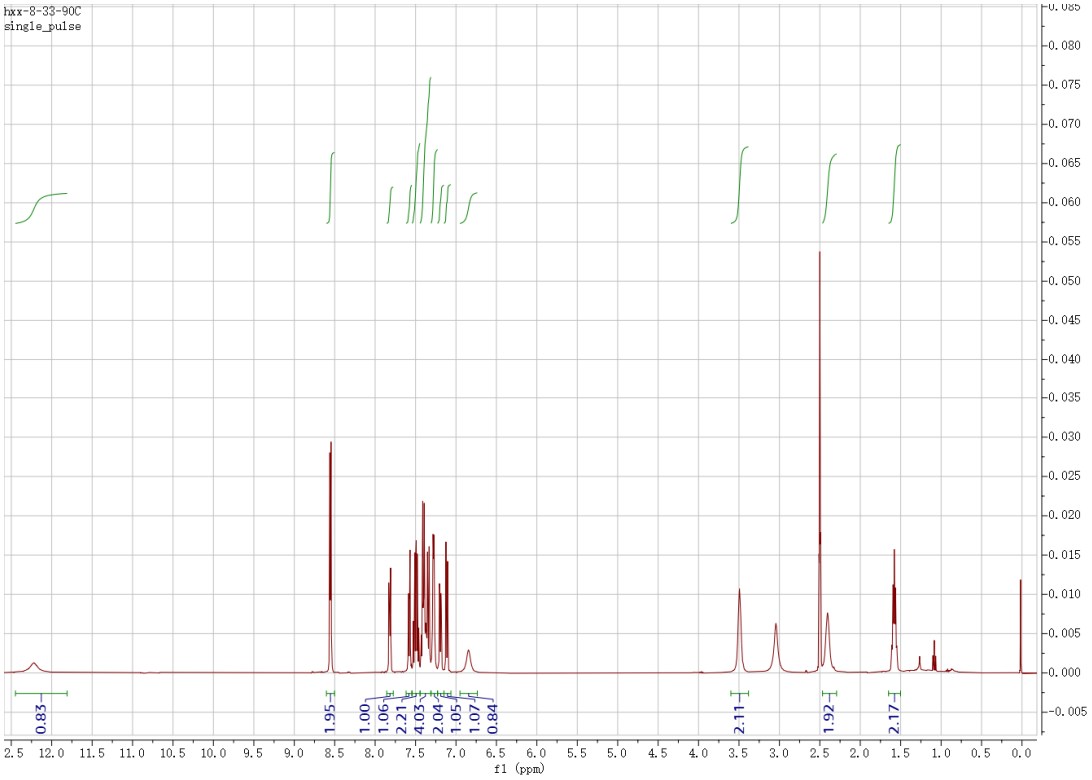


^{1}H-NMR:



Compound **A14**:

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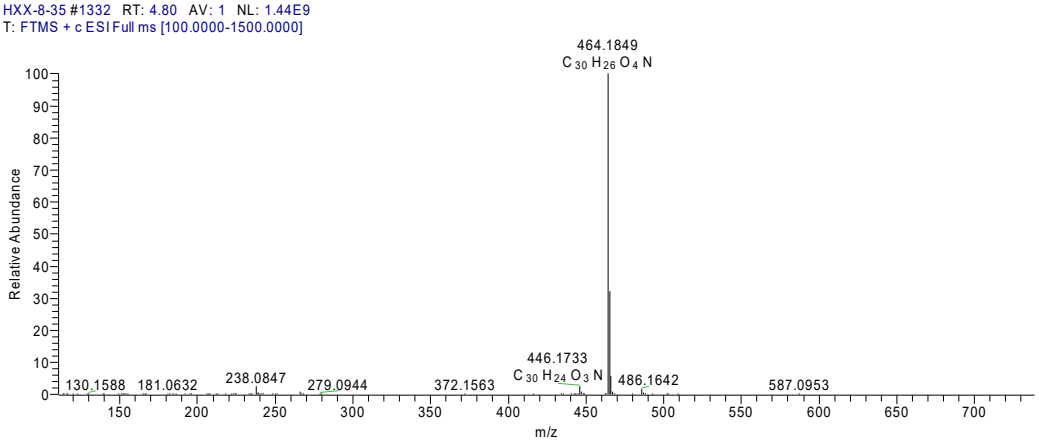
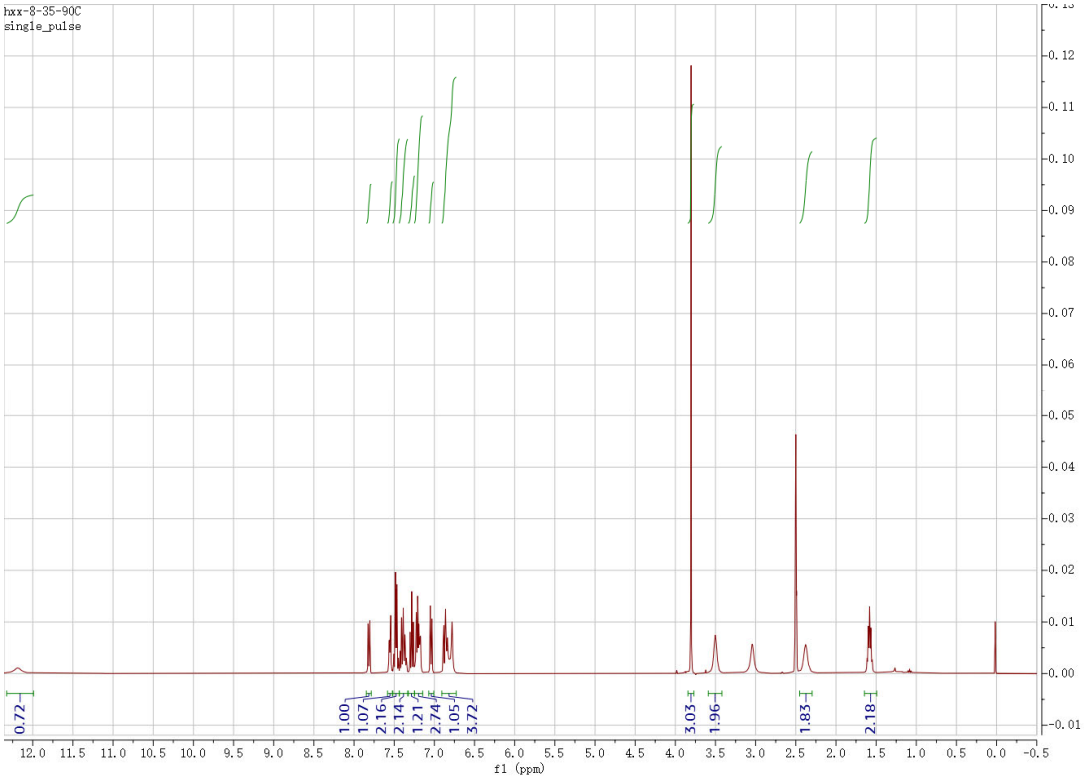


^{1}H-NMR:



Compound **A15**:

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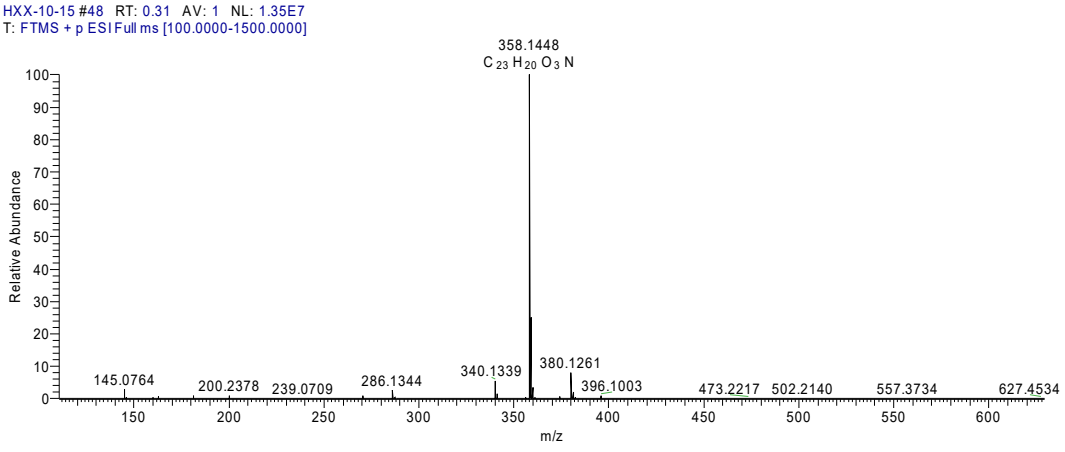
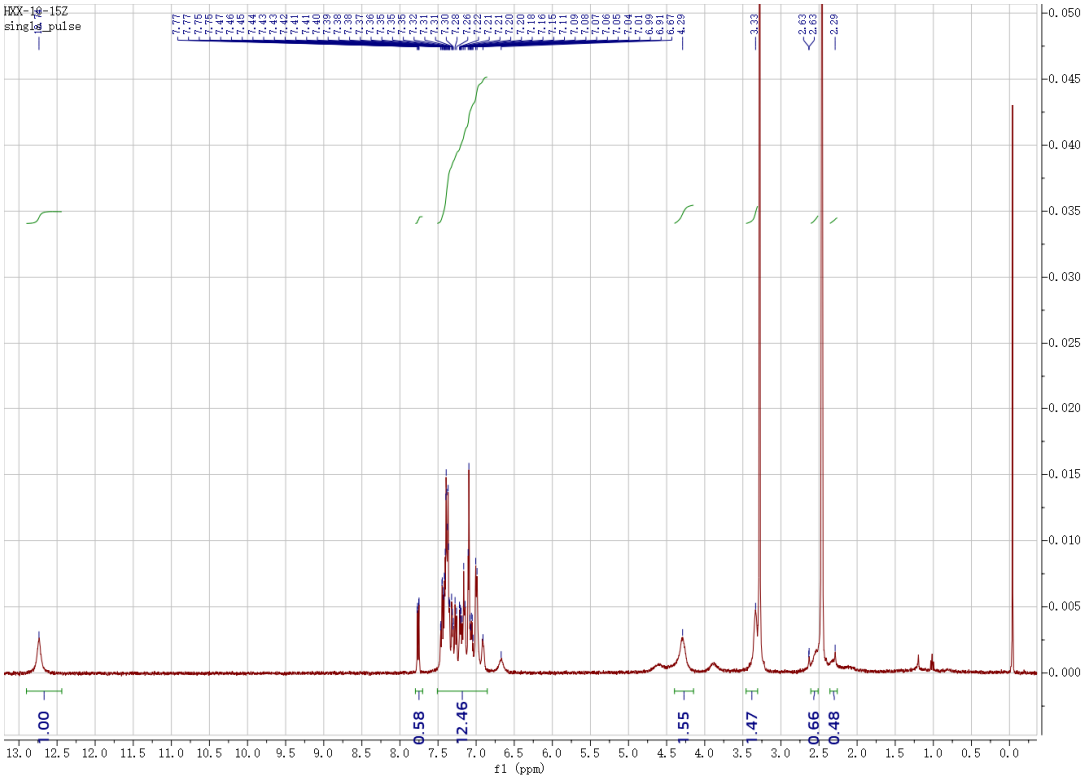


^{1}H-NMR:



Compound **A16**:

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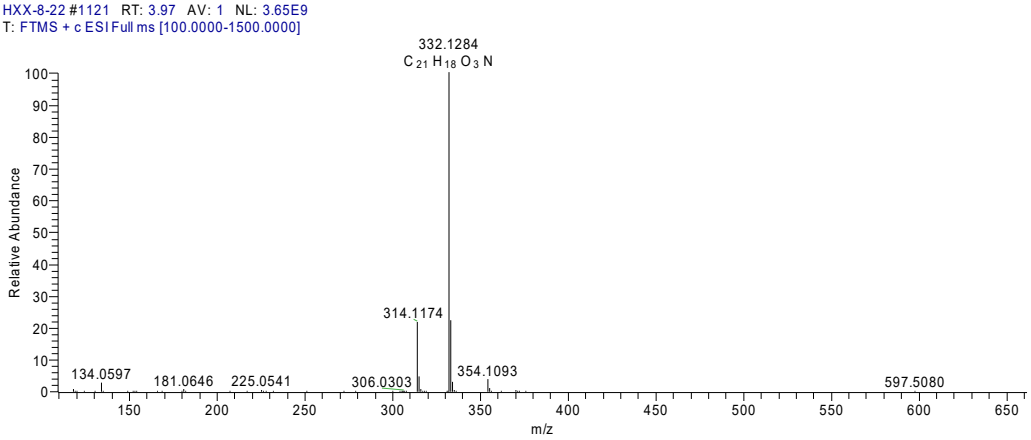
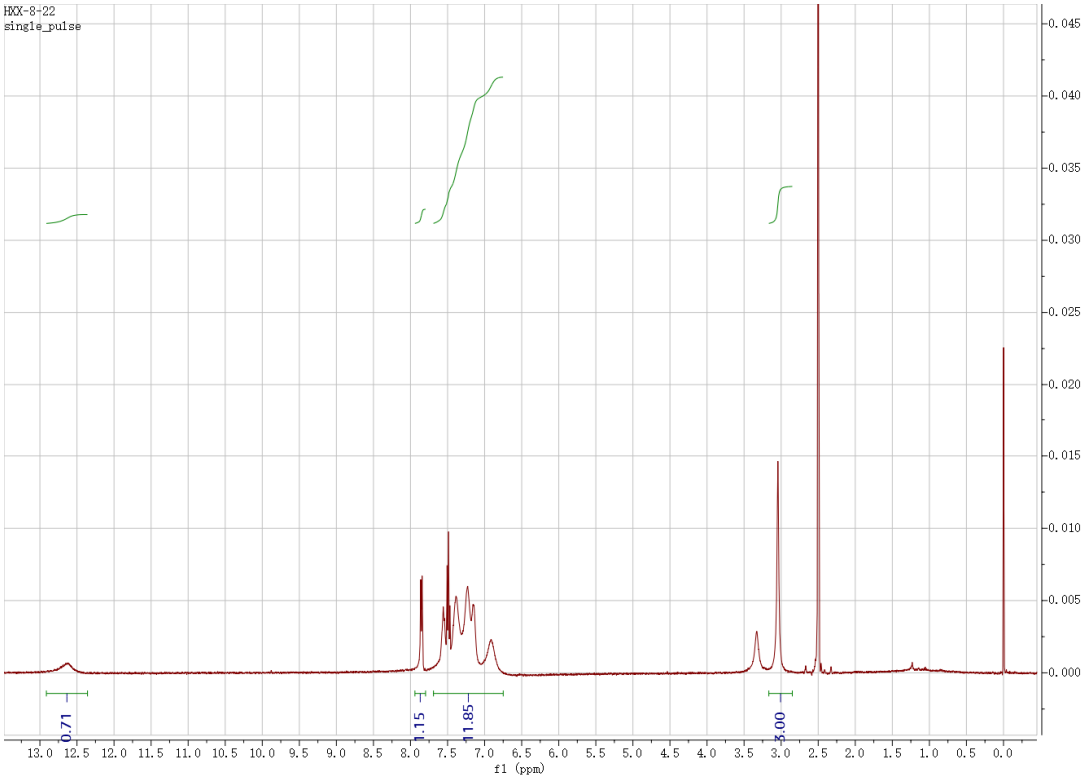


^{1}H-NMR:



Compound **A17**:

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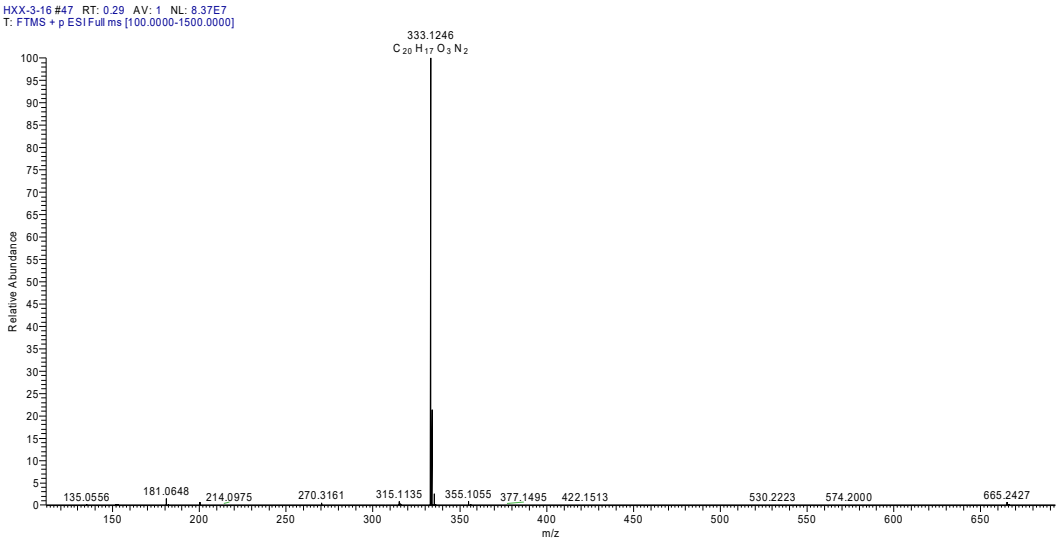
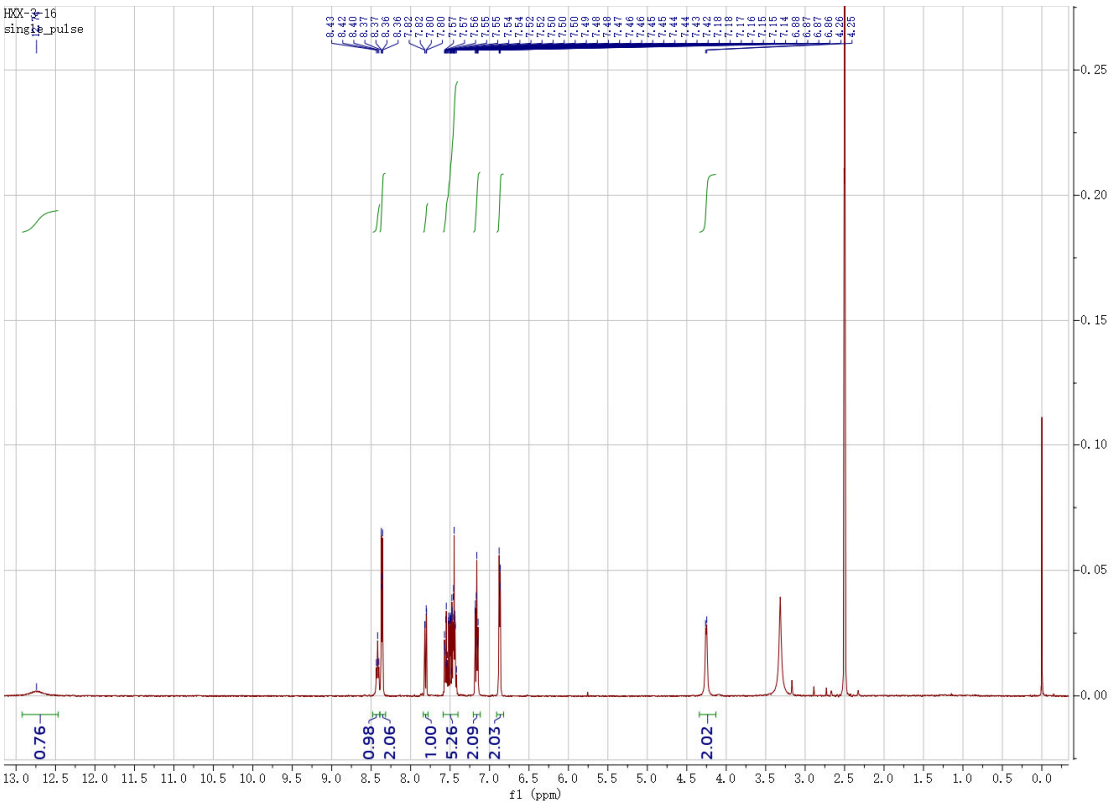


^{1}H-NMR:



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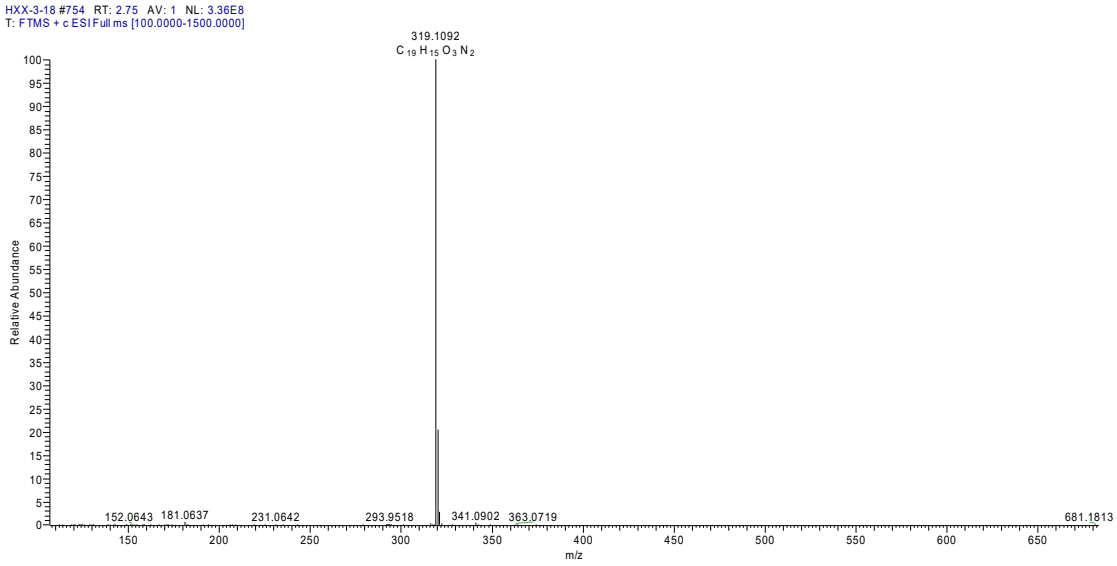
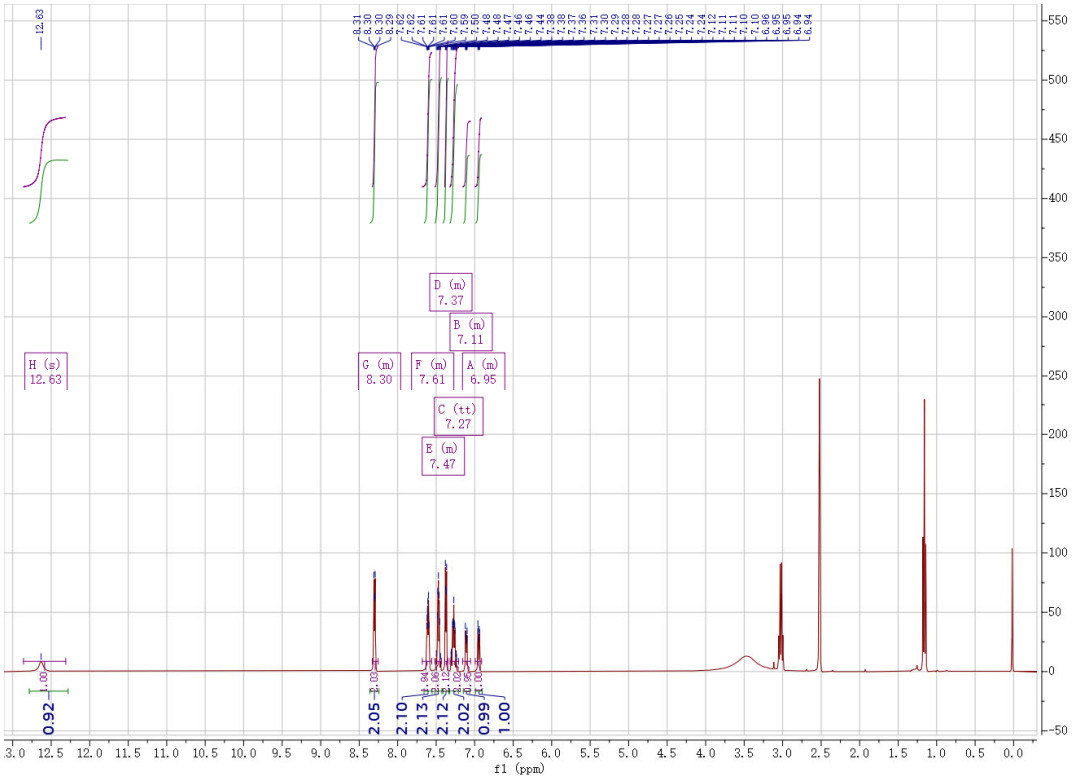


^{1}H-NMR:



Compound **A19**:

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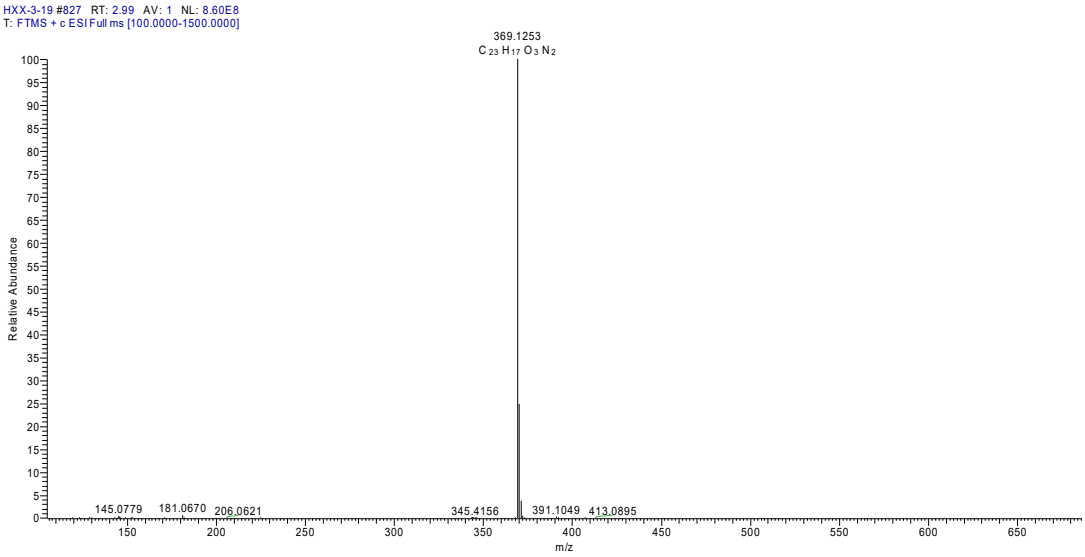

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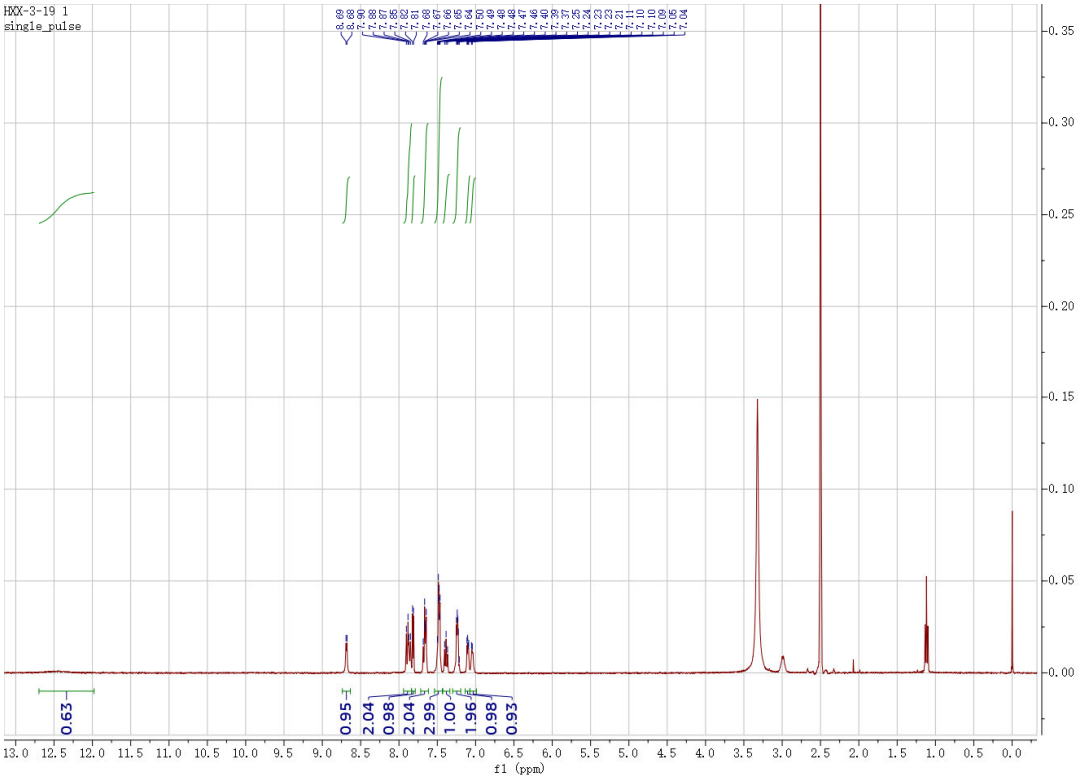

Compound **A20**:

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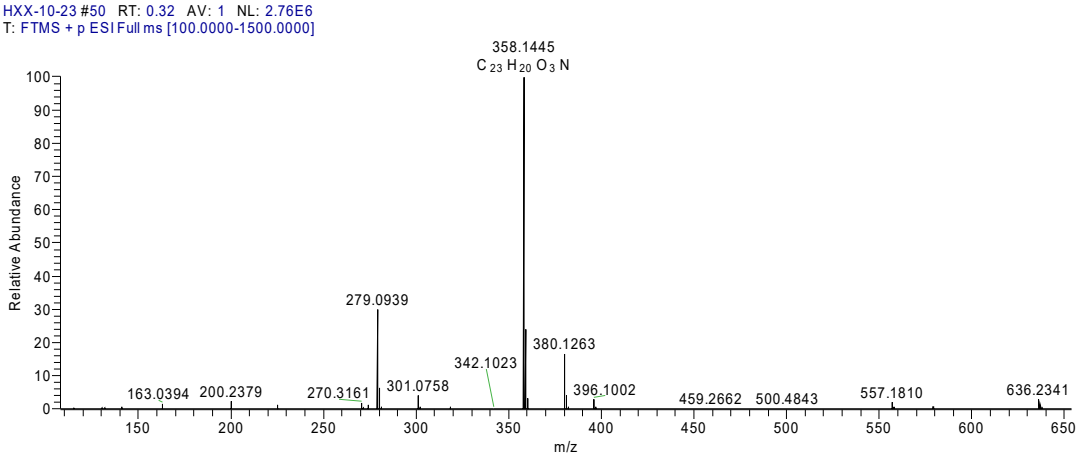
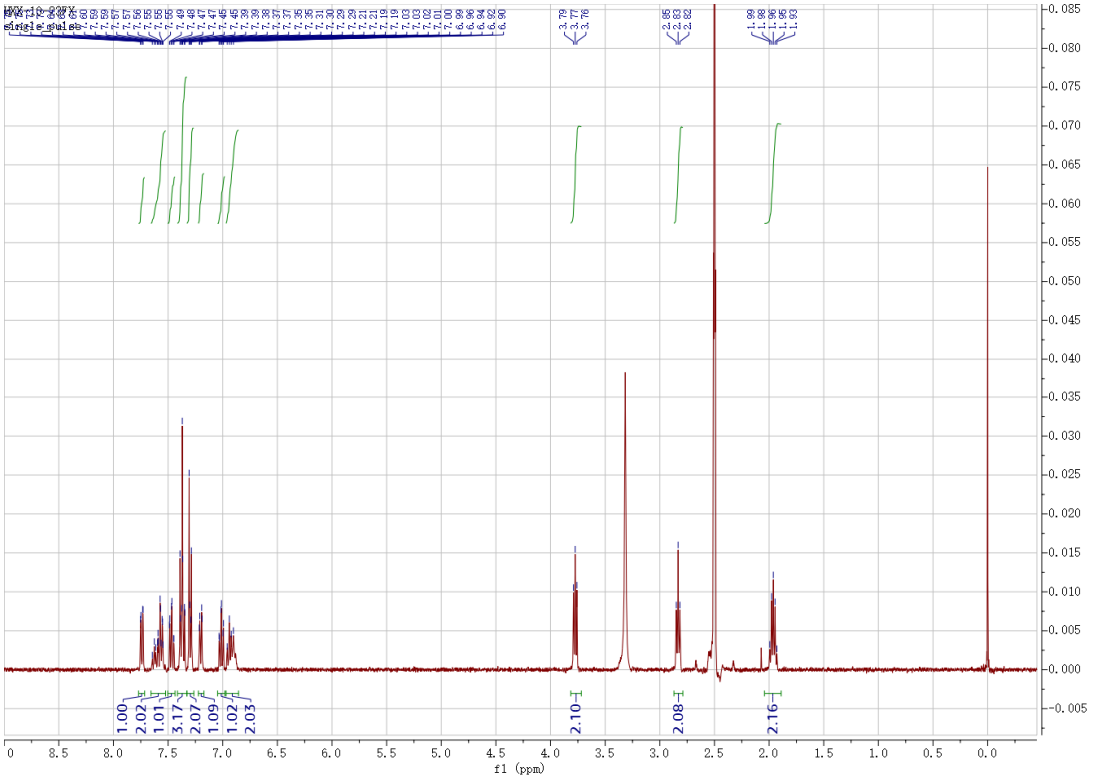
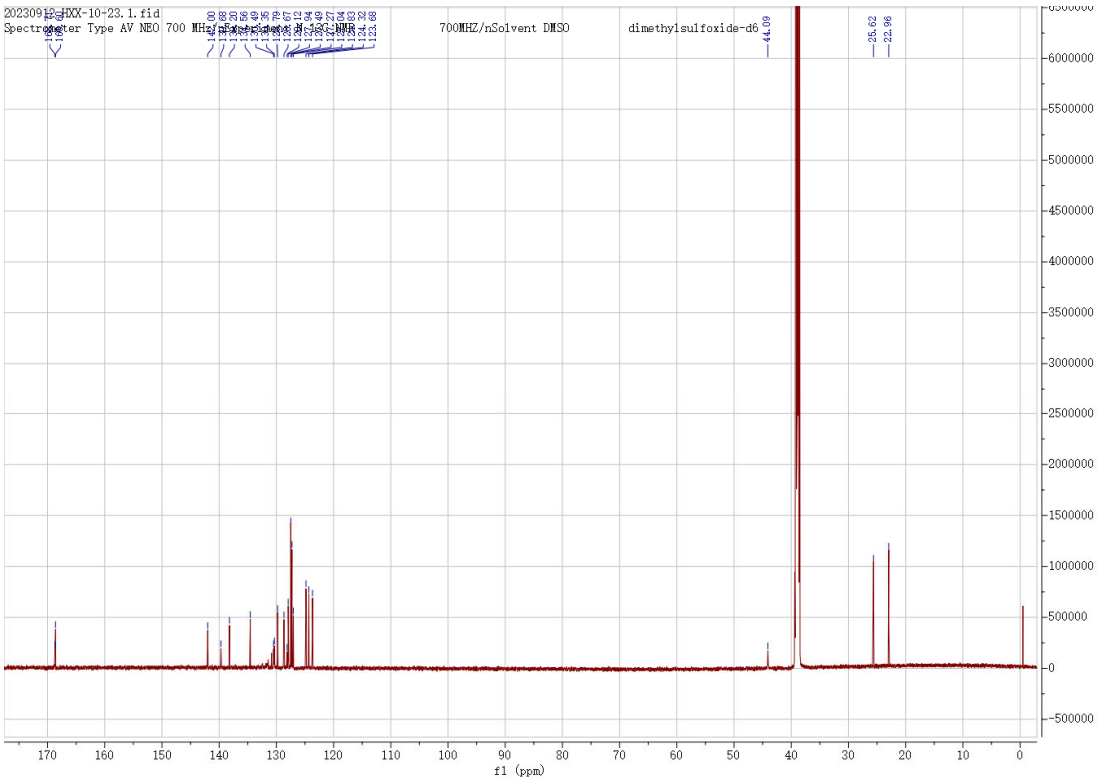


^{1}H-NMR:



^{13}C-NMR:



Compound **A21**:

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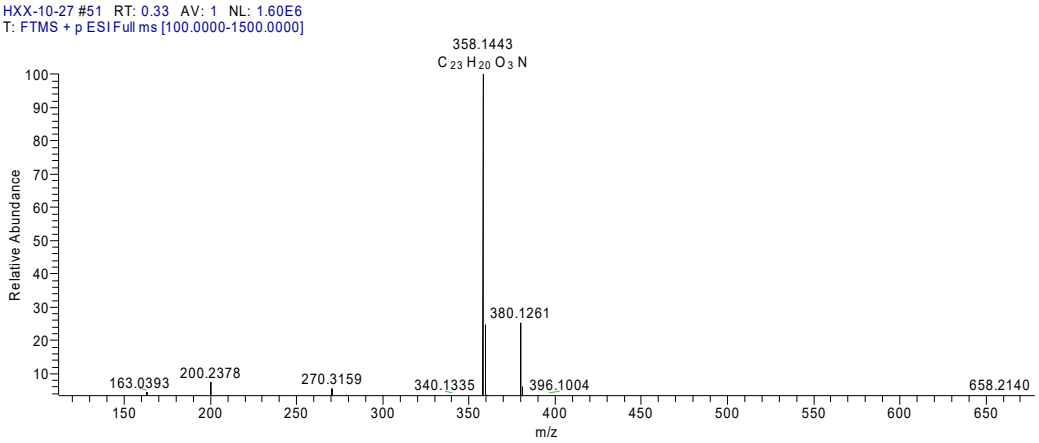
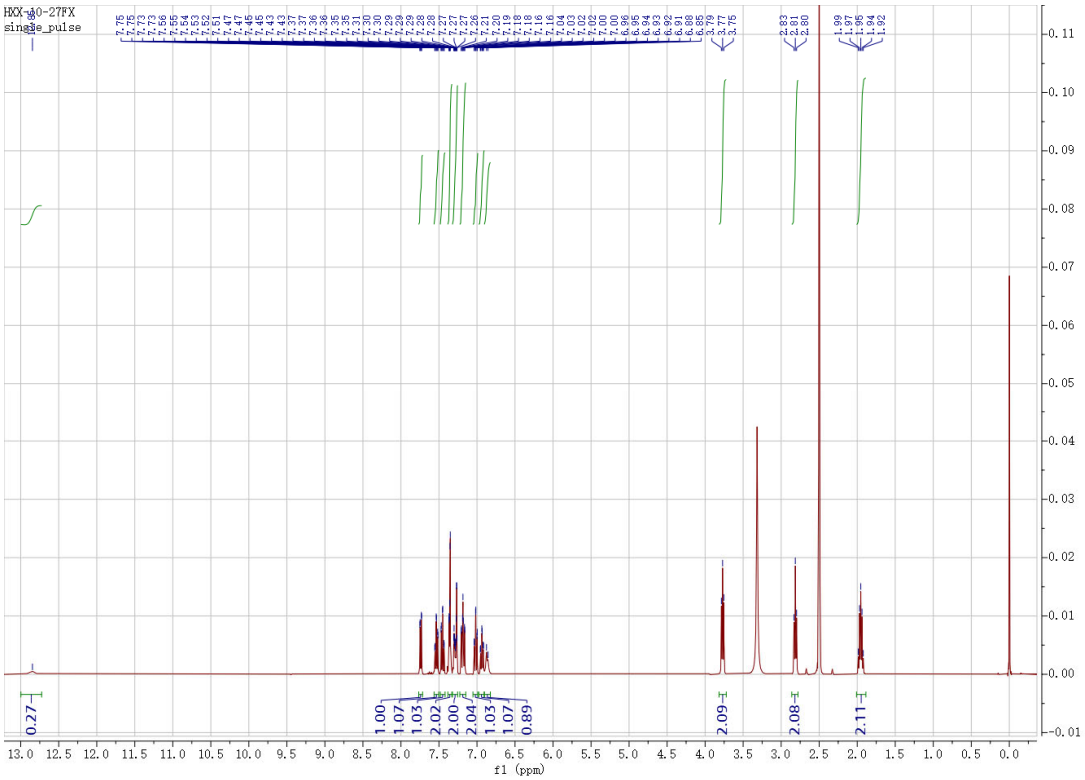


^{1}H-NMR:



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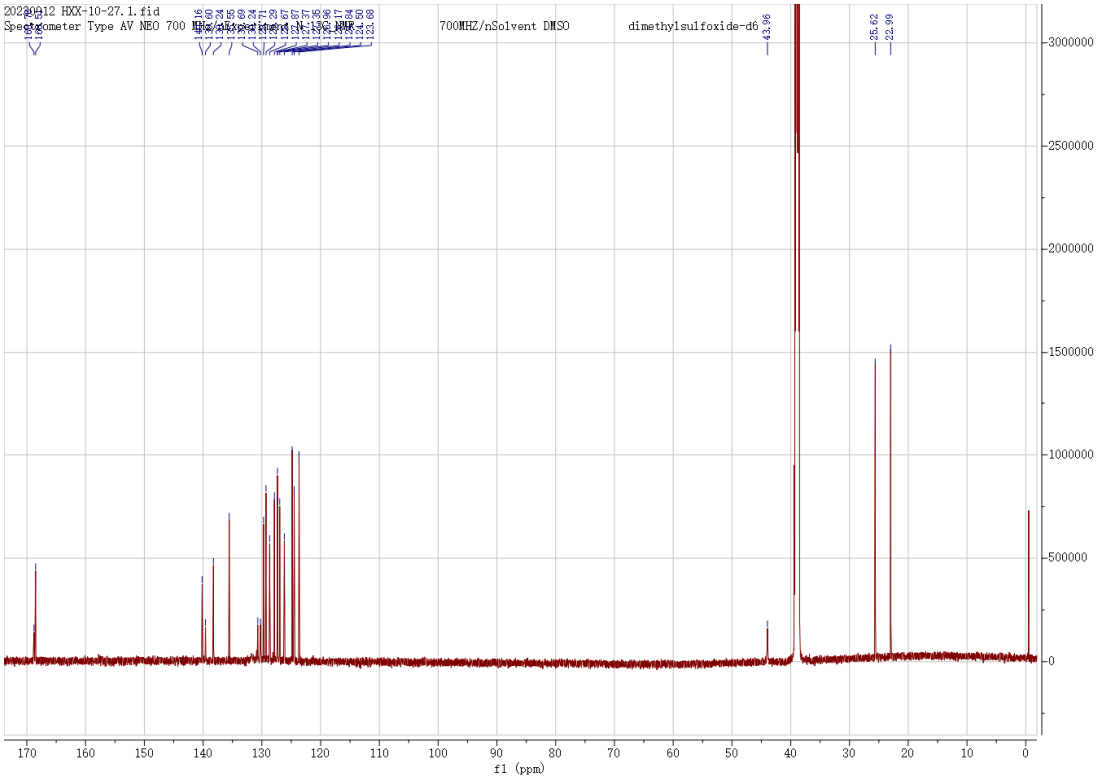

Compound **B1**:

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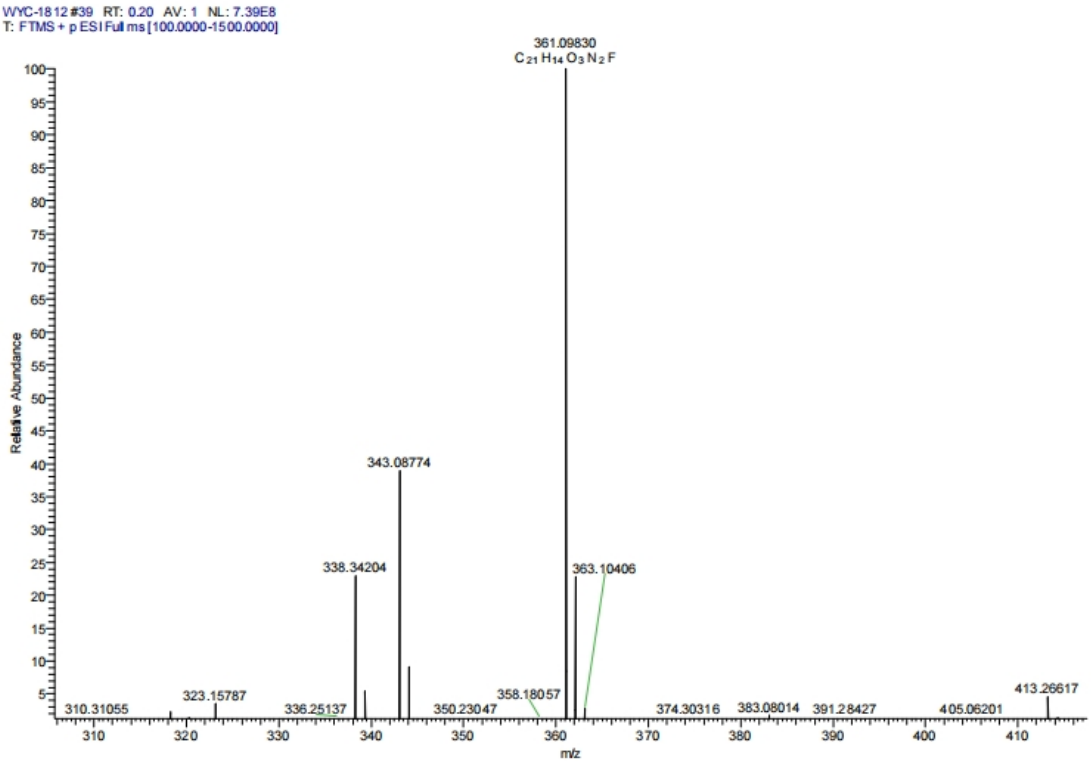
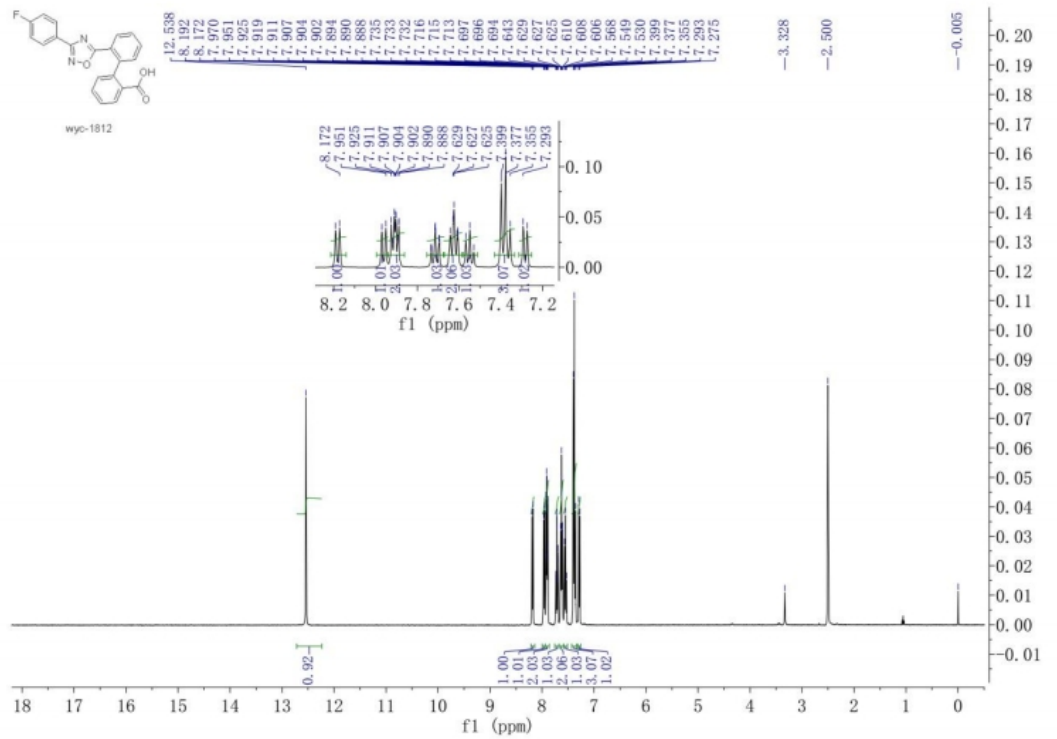
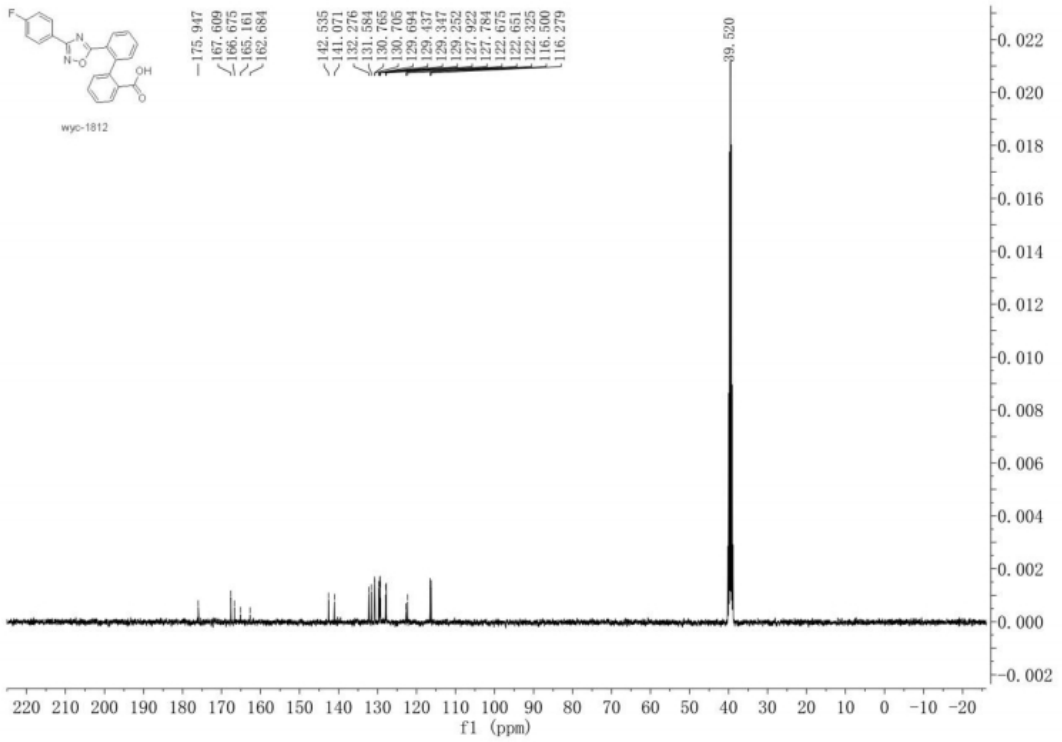


^{1}H-NMR:

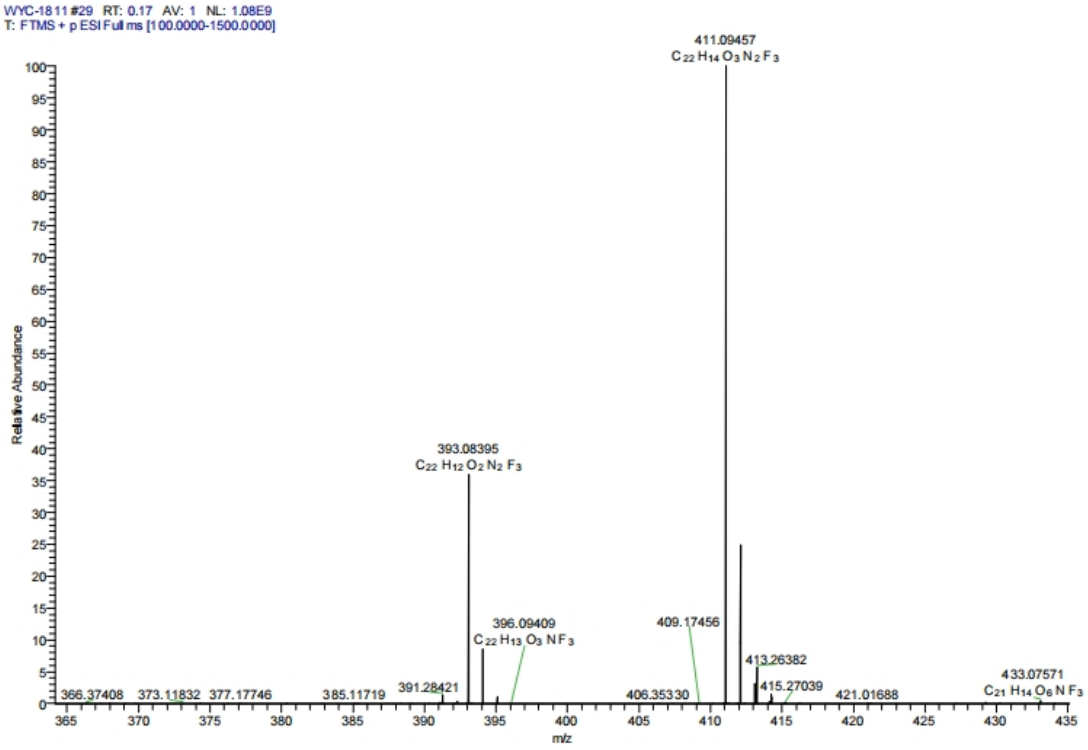


^{13}C-NMR:

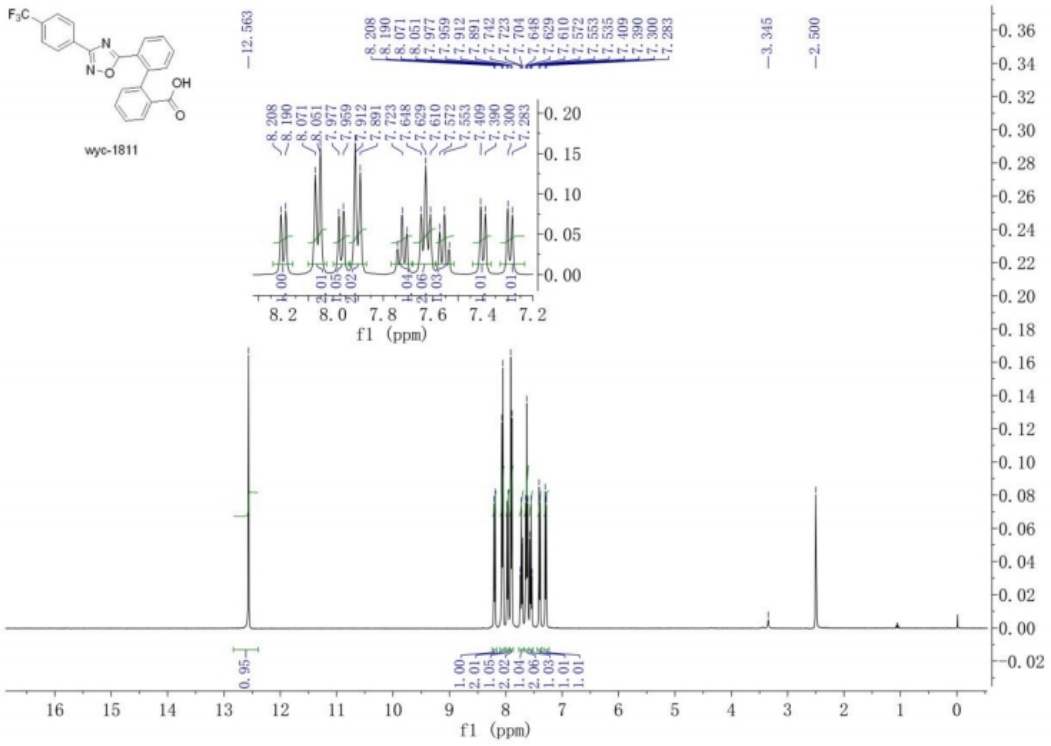


Compound **B2**:

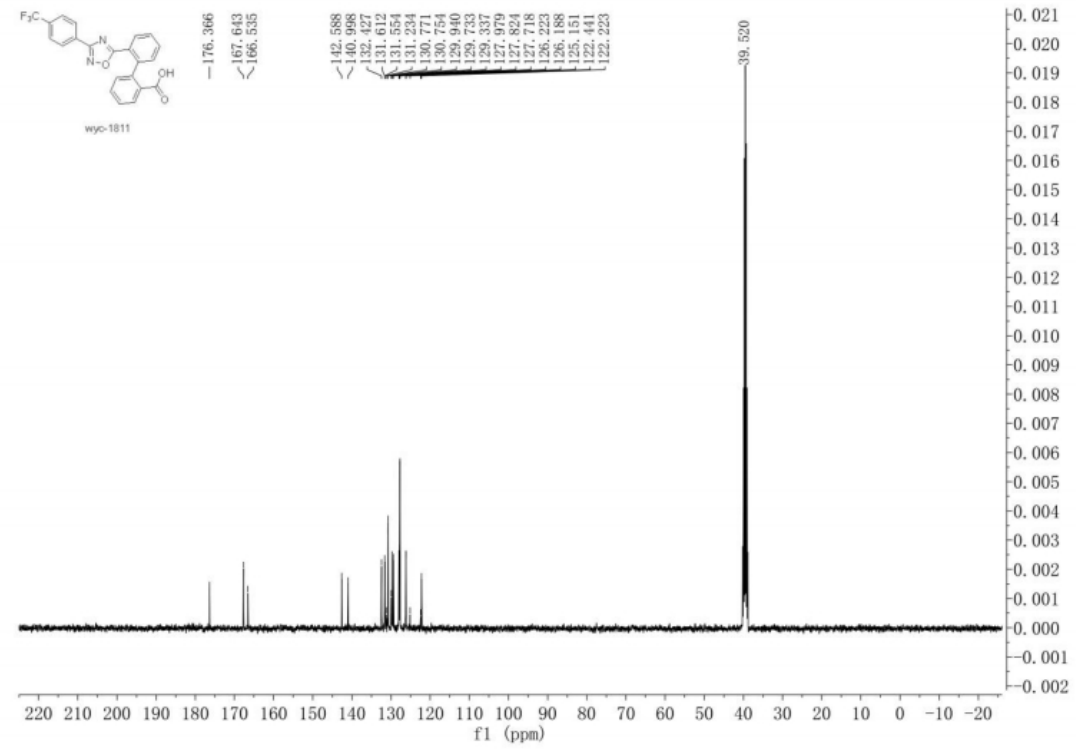
HR-ESI-MS:



^{1}H-NMR:

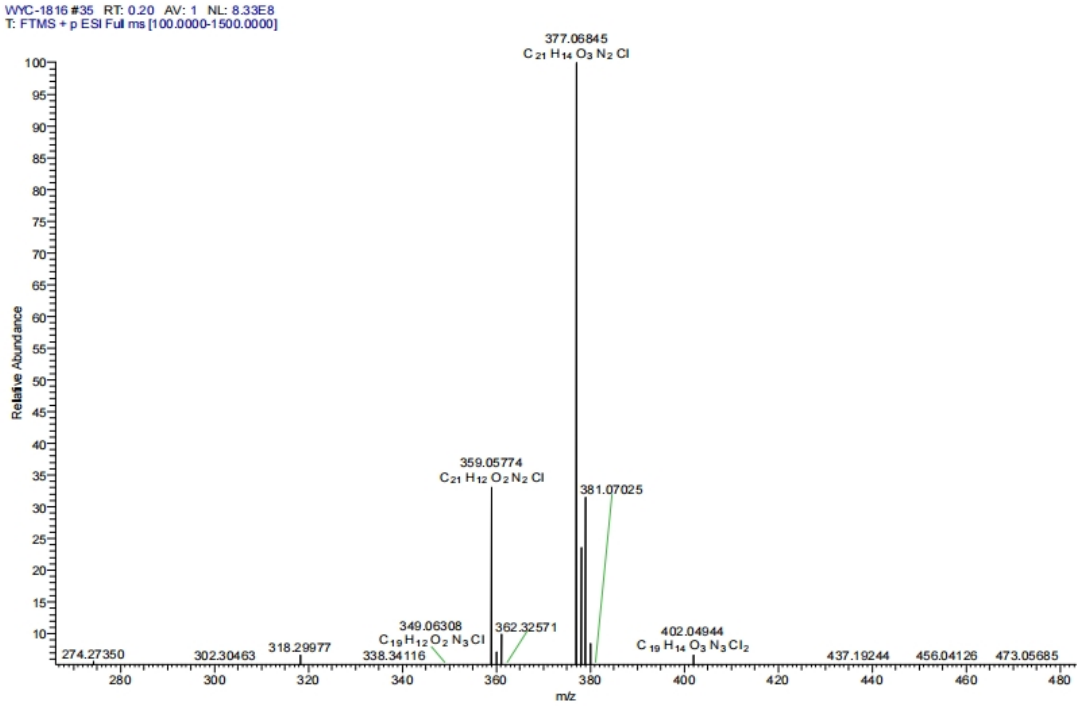


^{13}C-NMR:

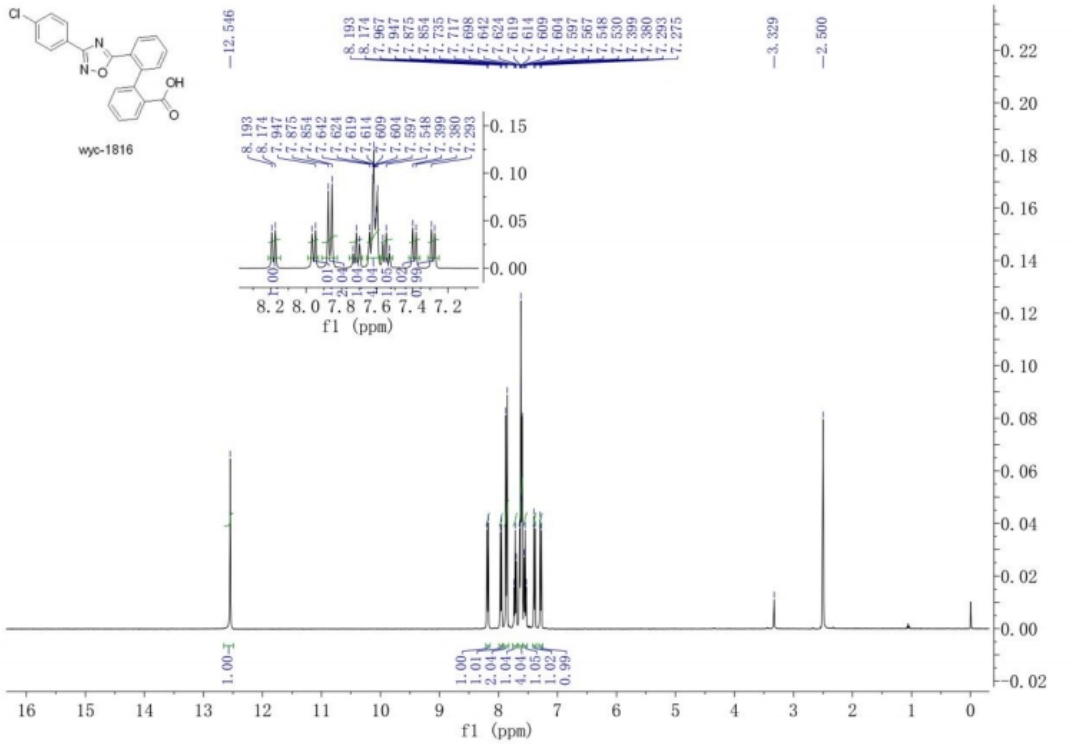


Compound **B3**:

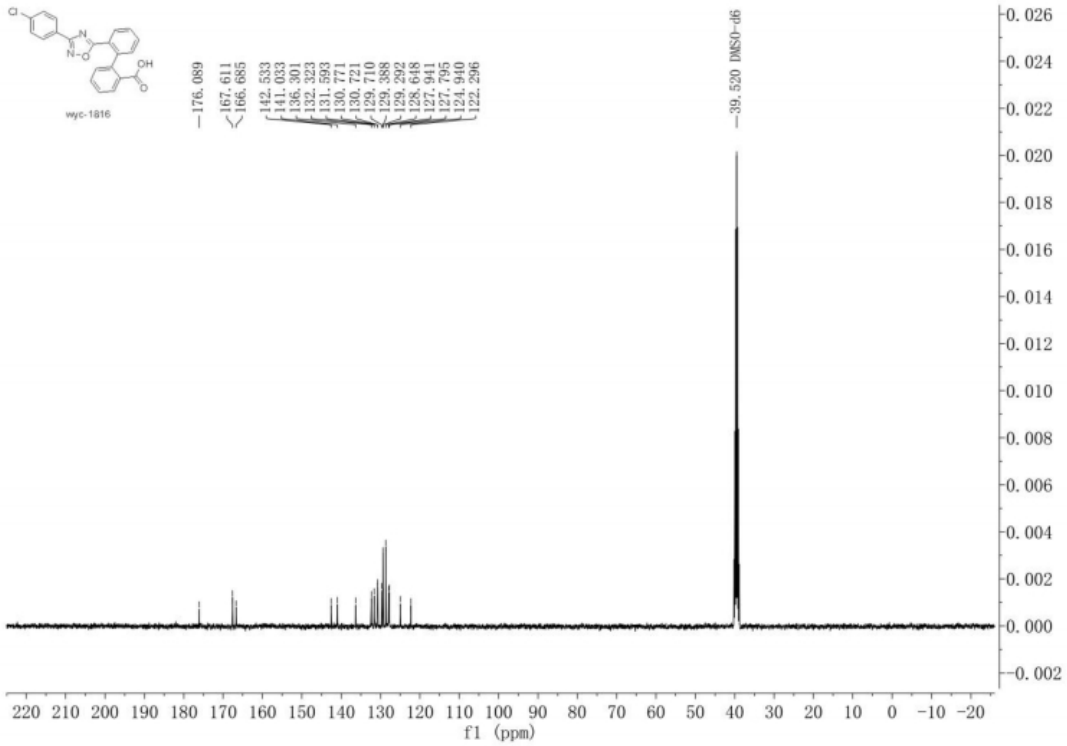
HR-ESI-MS:



^{1}H-NMR:

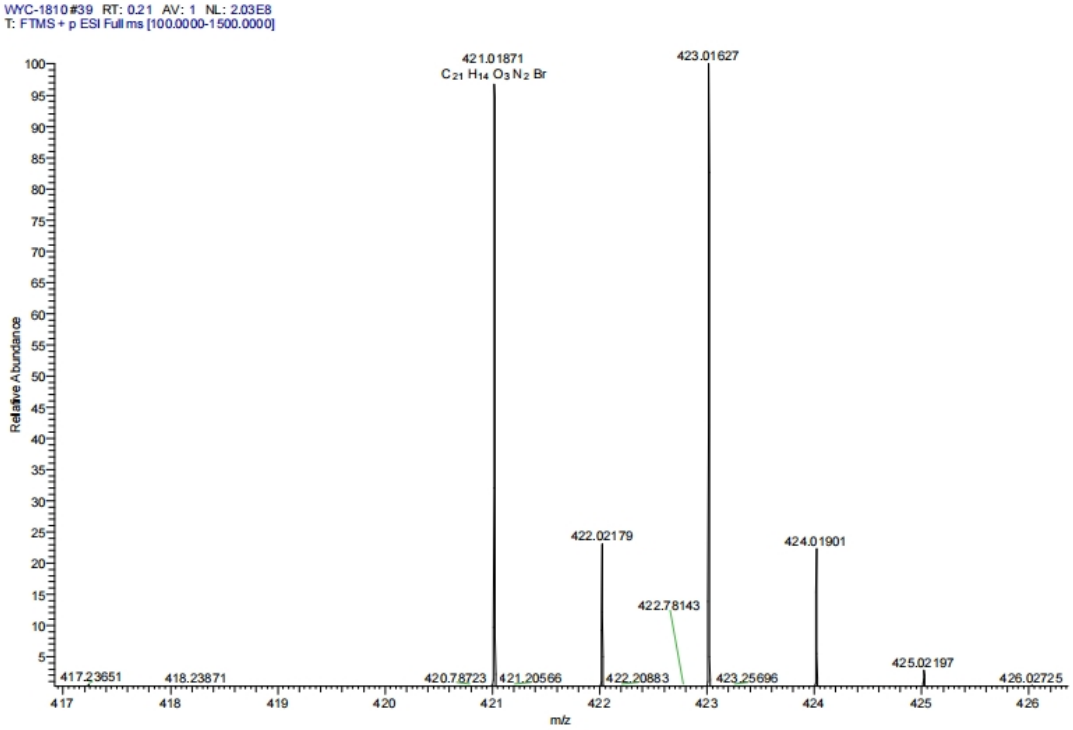


^{13}C-NMR:

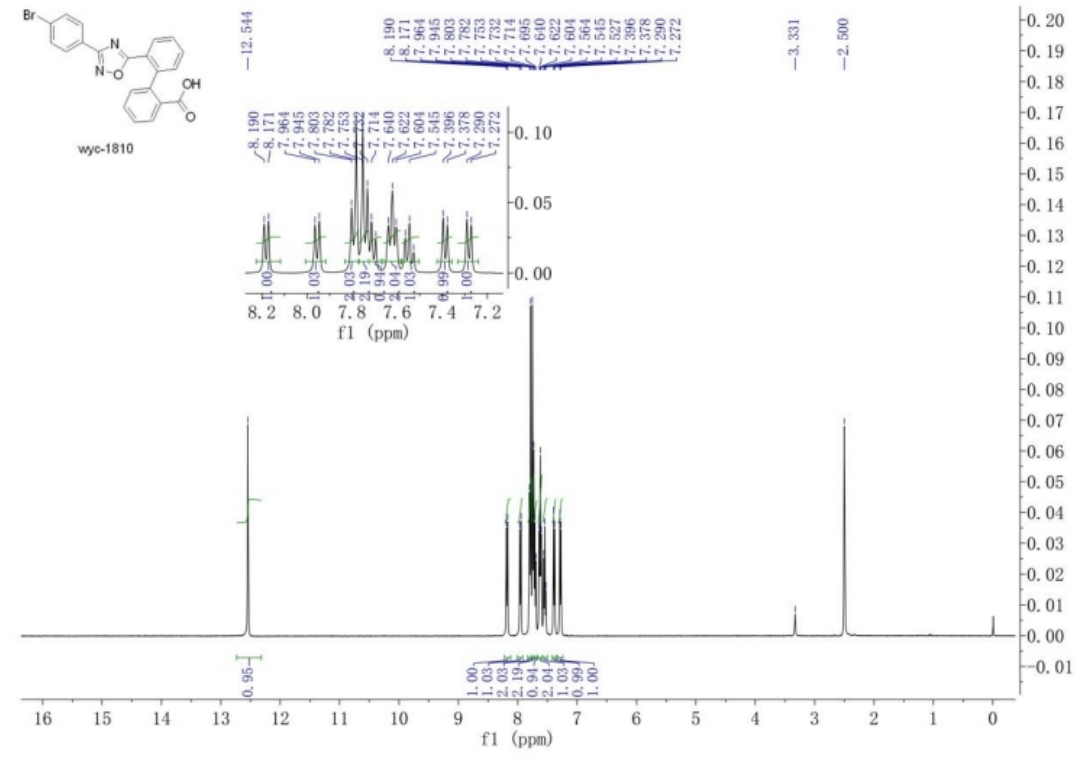


Compound **B4**:

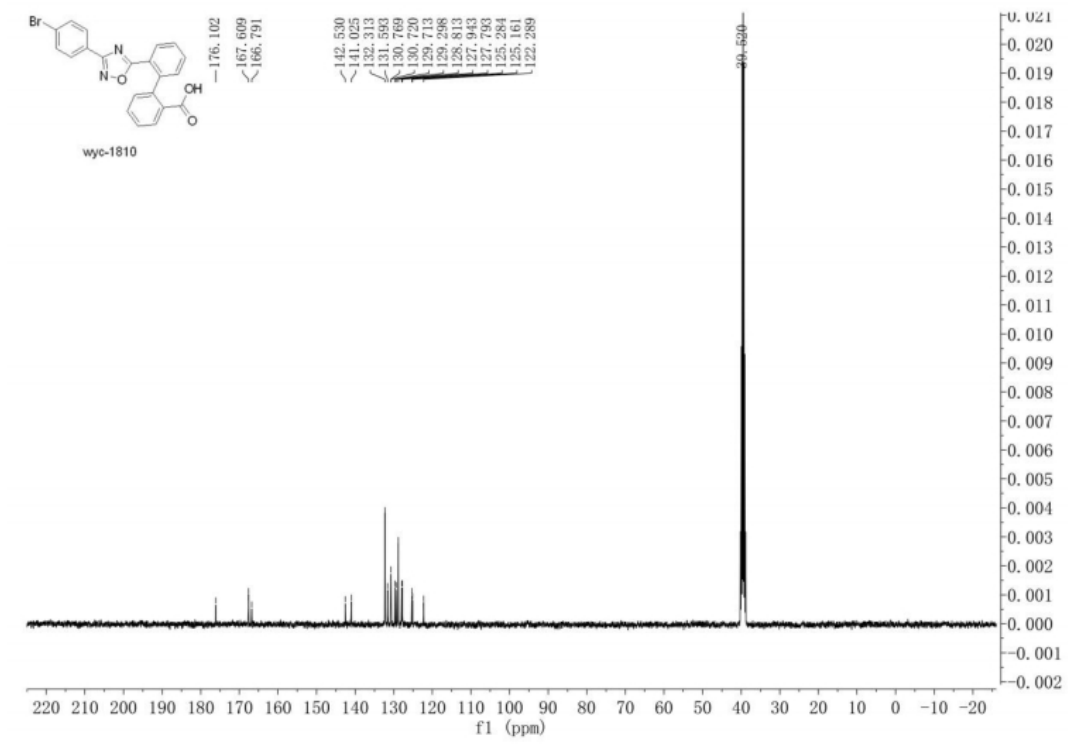
HR-ESI-MS:



^{1}H-NMR:

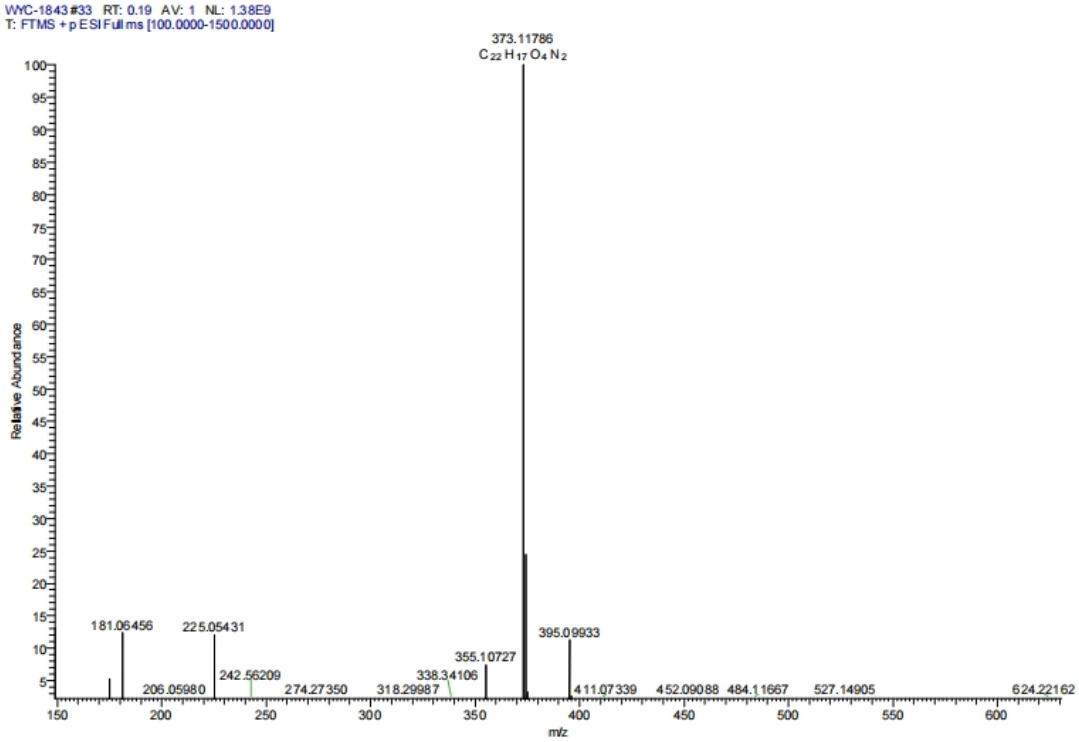


^{13}C-NMR:

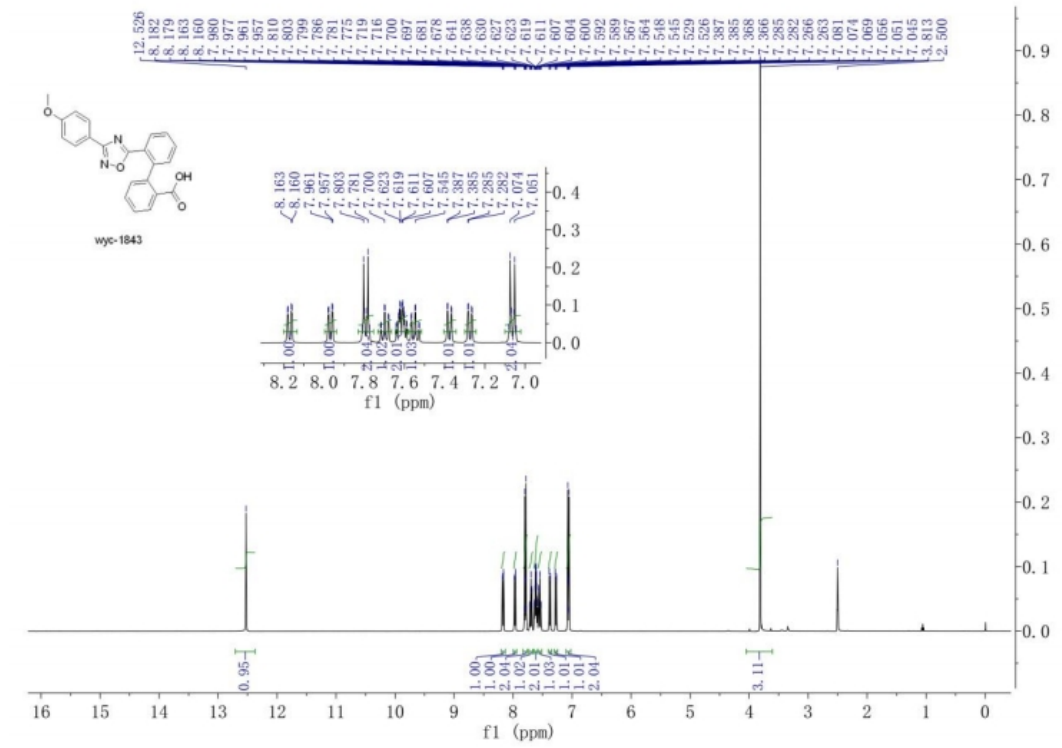


Compound **B5**:

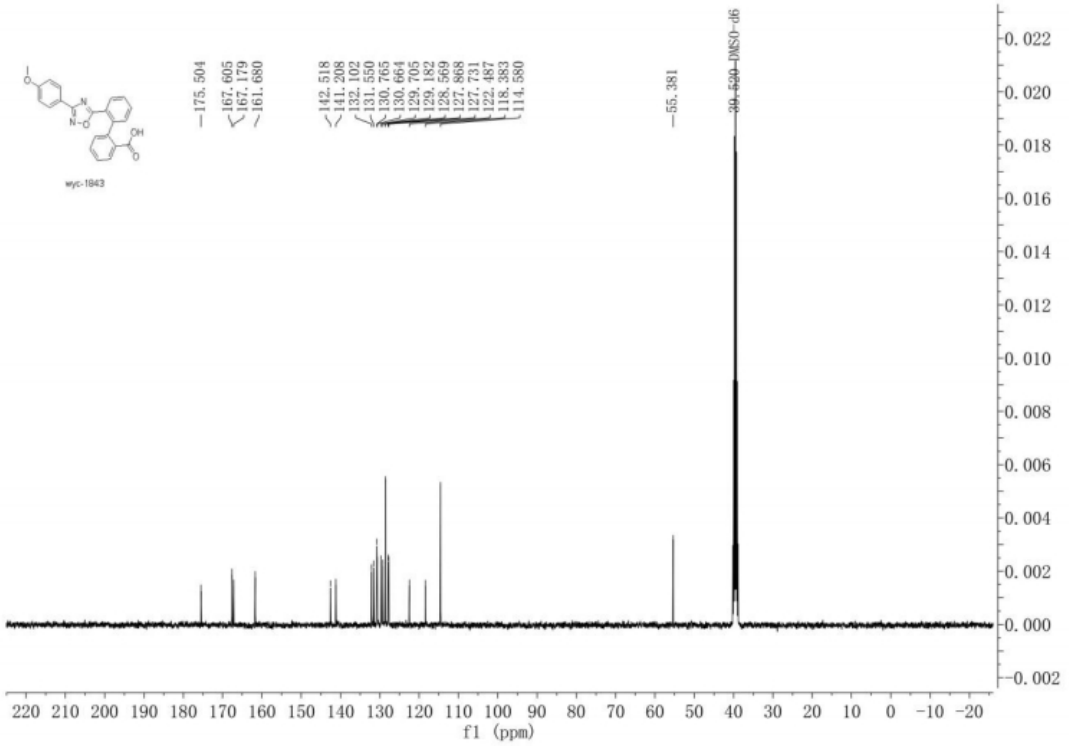
HR-ESI-MS:



^{1}H-NMR:

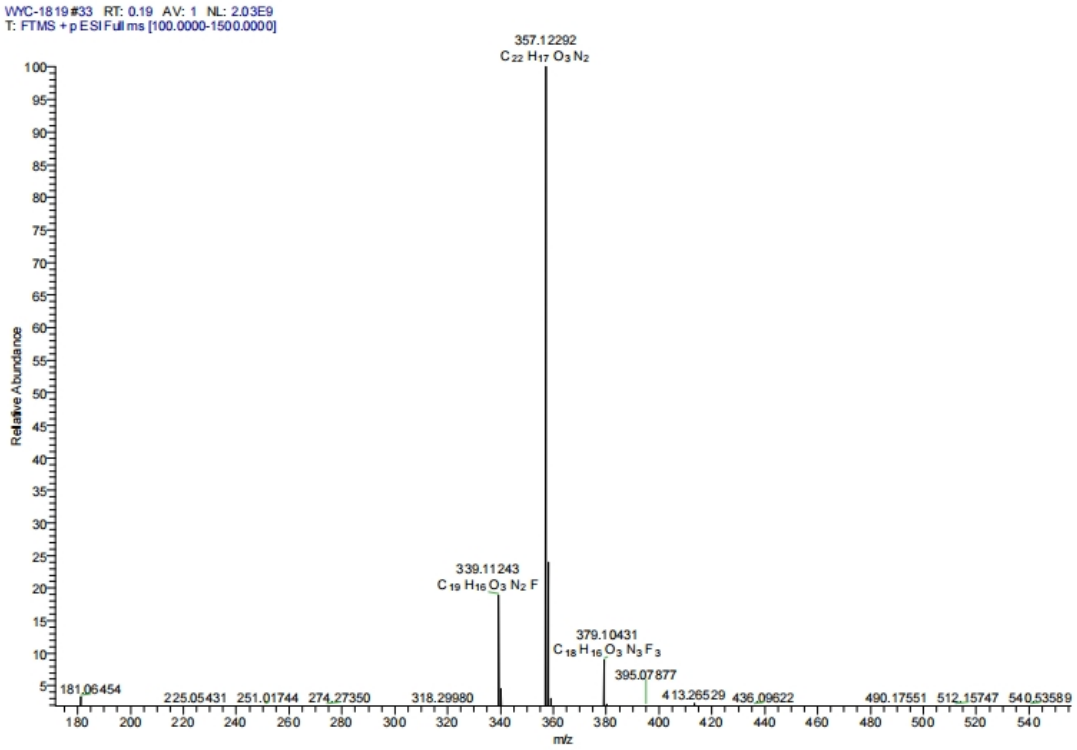


^{13}C-NMR:

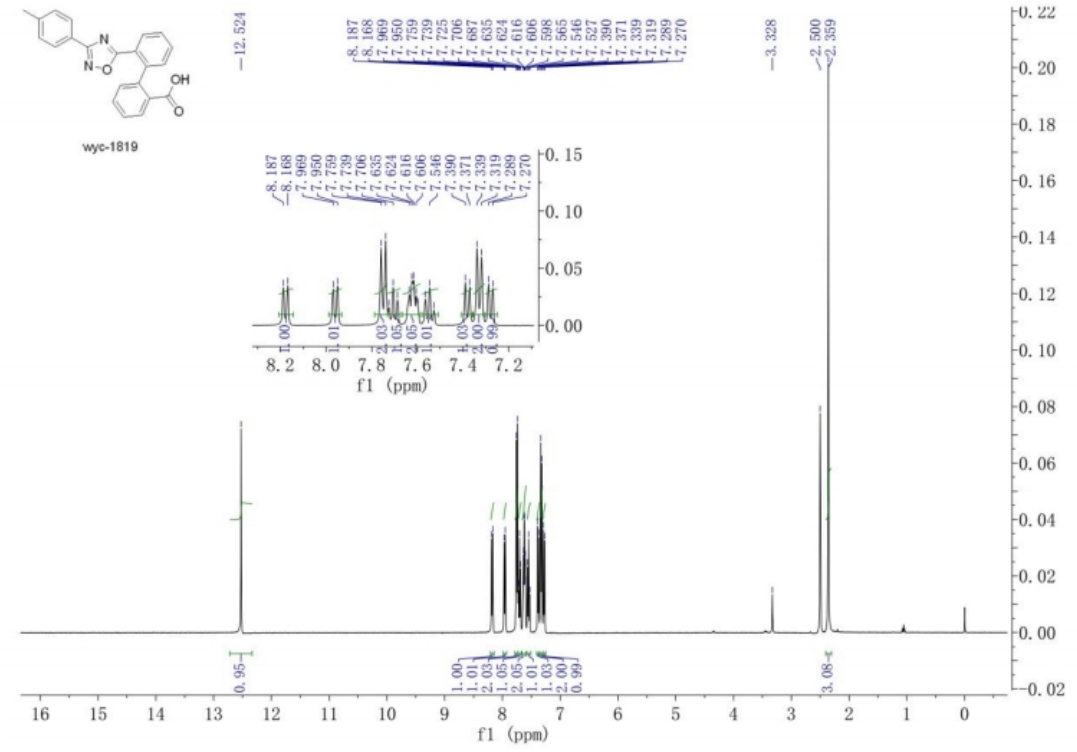


Compound **B6**:

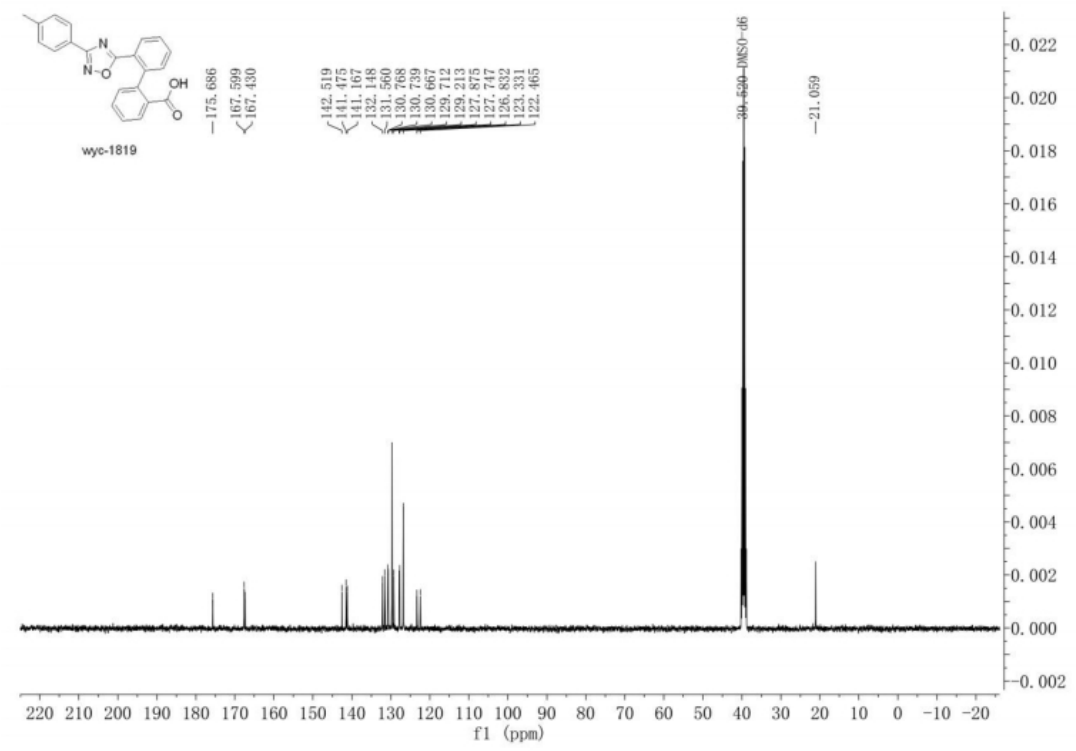
HR-ESI-MS:



^{1}H-NMR:

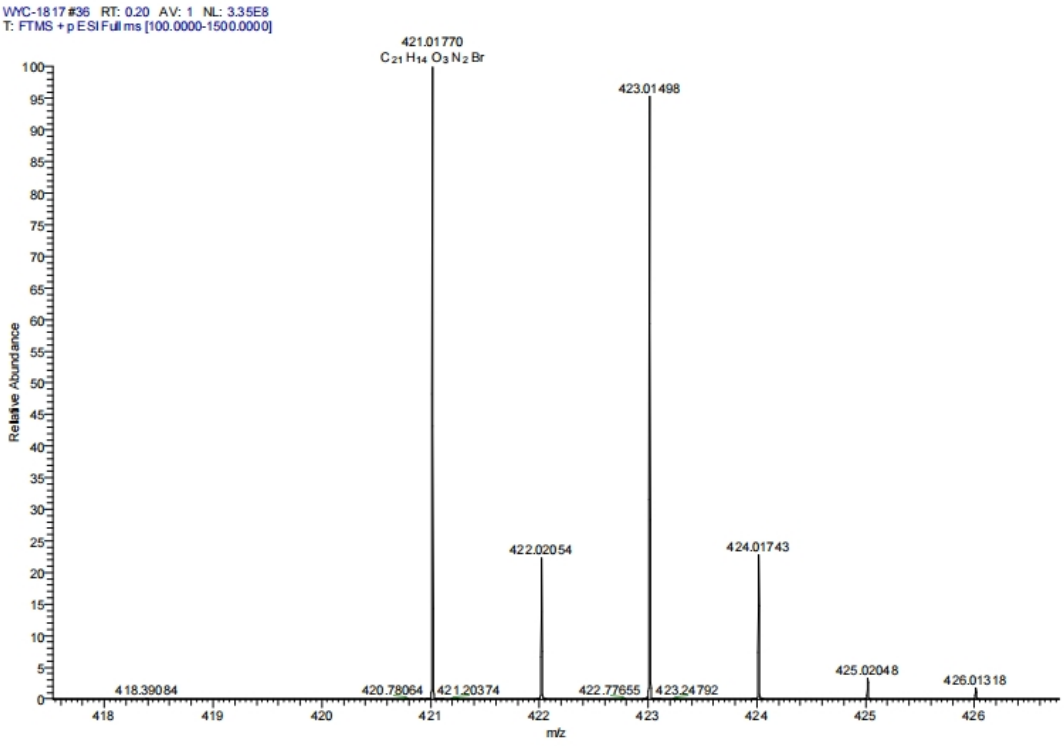


^{13}C-NMR:

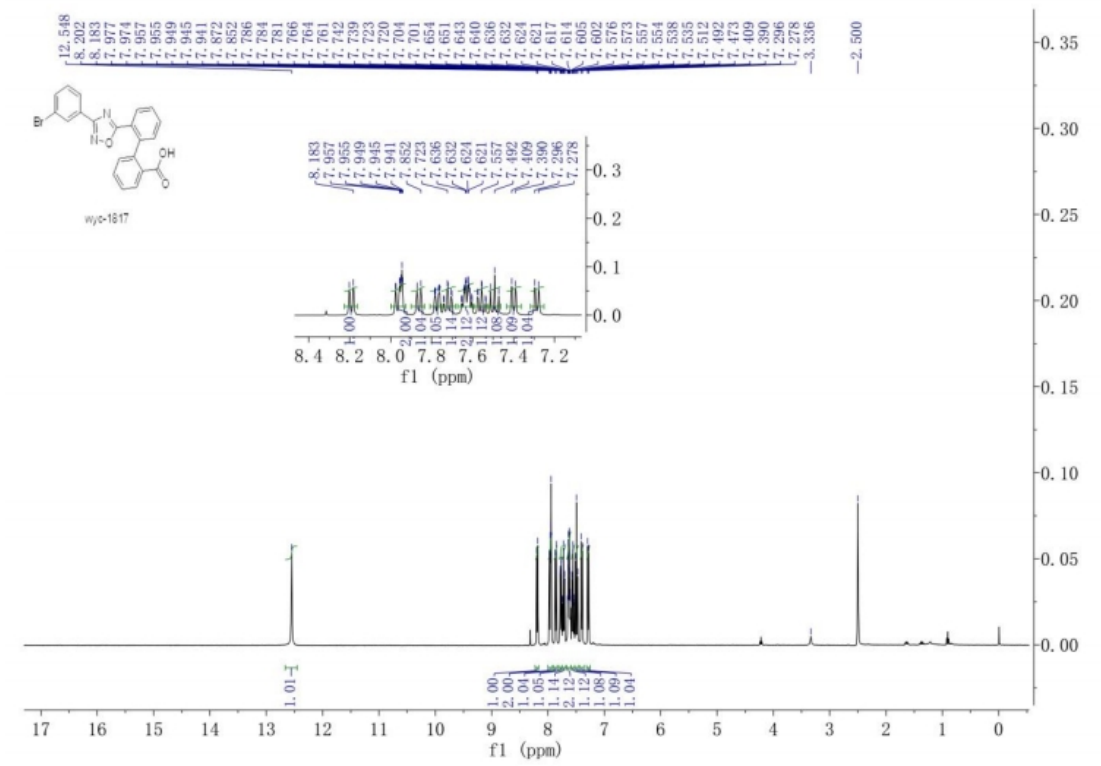


Compound **B7**:

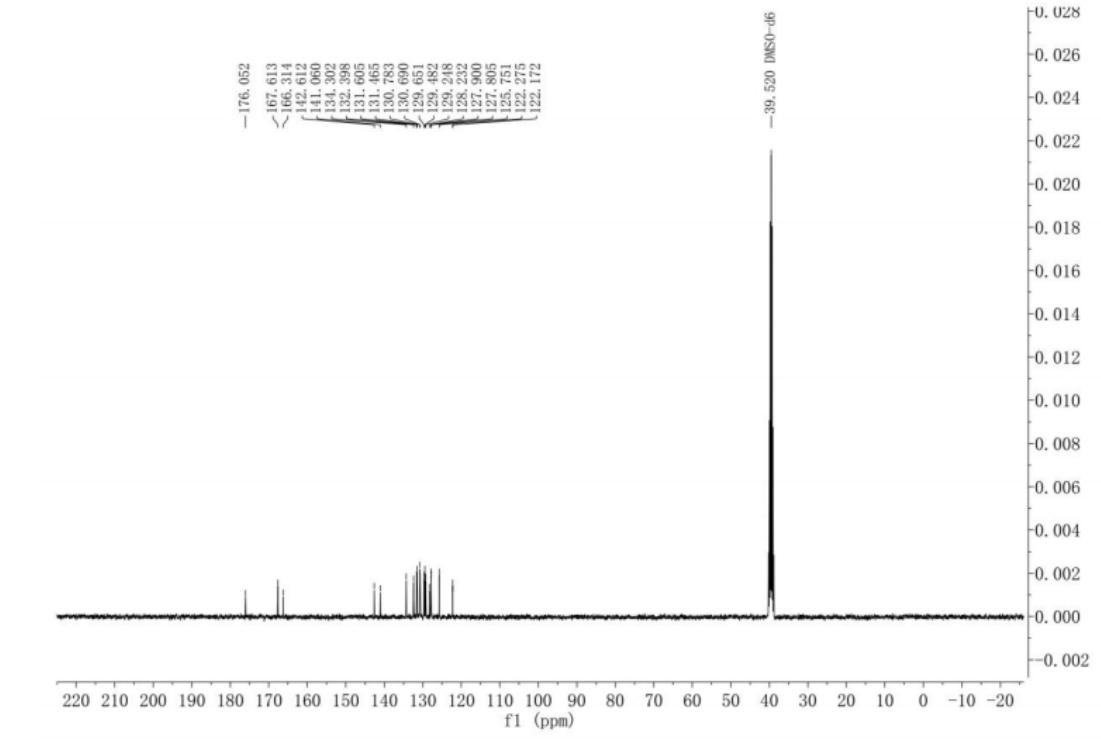
HR-ESI-MS:



^{1}H-NMR:

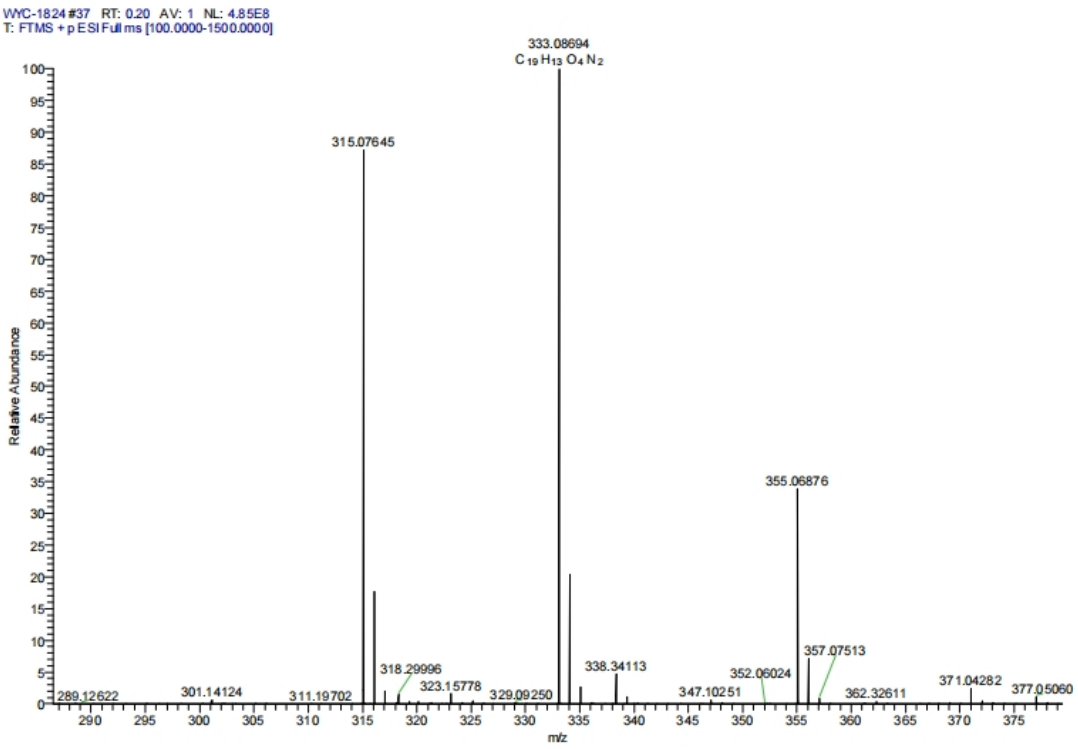


^{13}C-NMR:

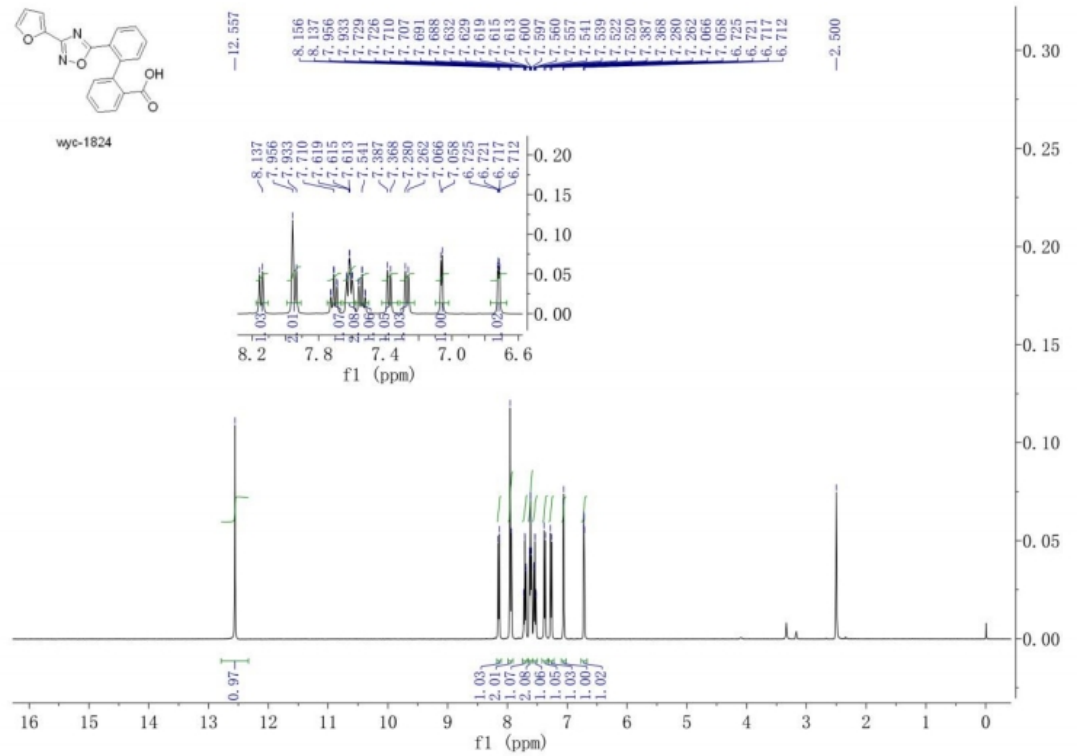


Compound **B8**:

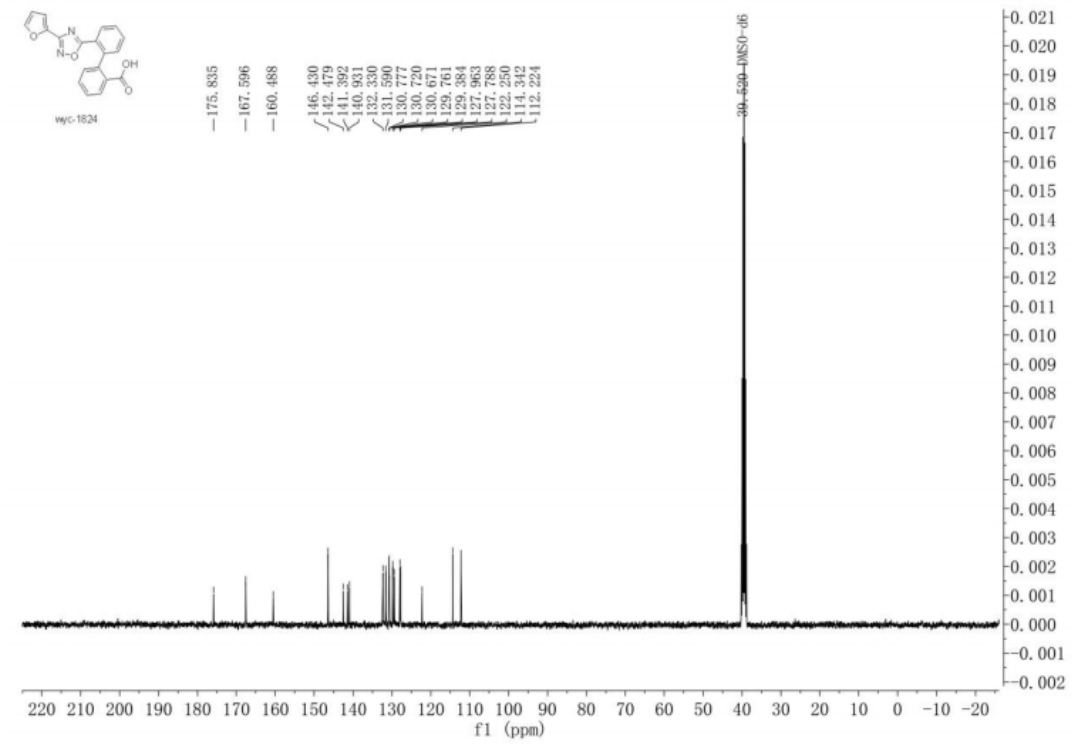
HR-ESI-MS:



^{1}H-NMR:

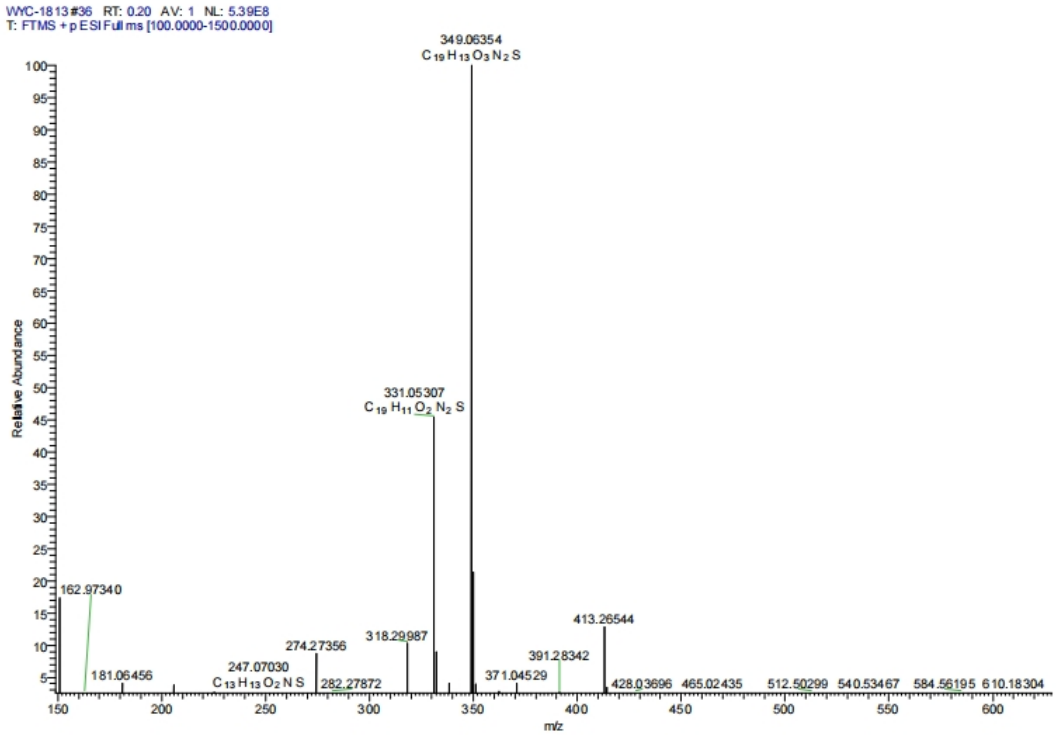


^{13}C-NMR:

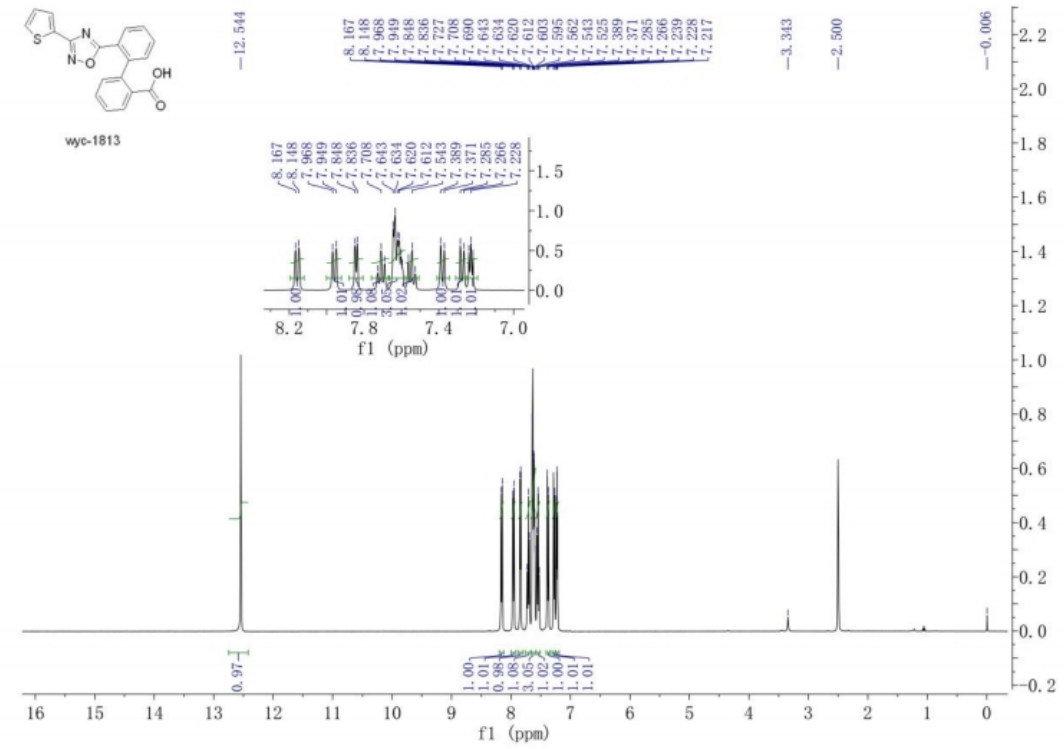


Compound **B9**:

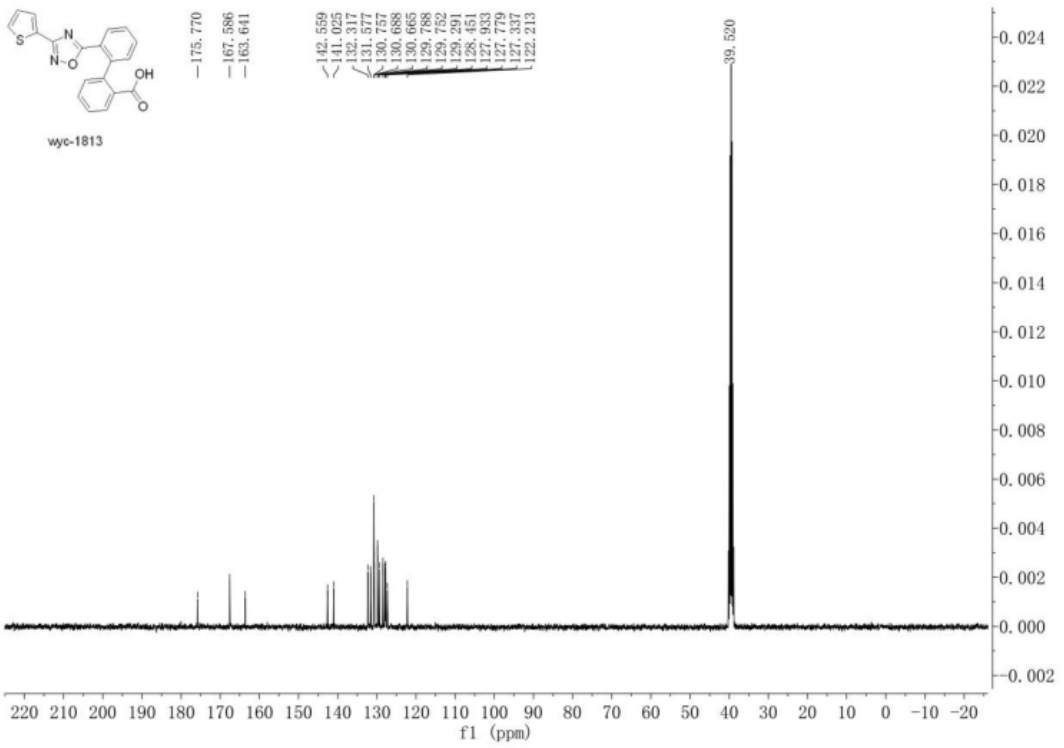
HR-ESI-MS:



^{1}H-NMR:

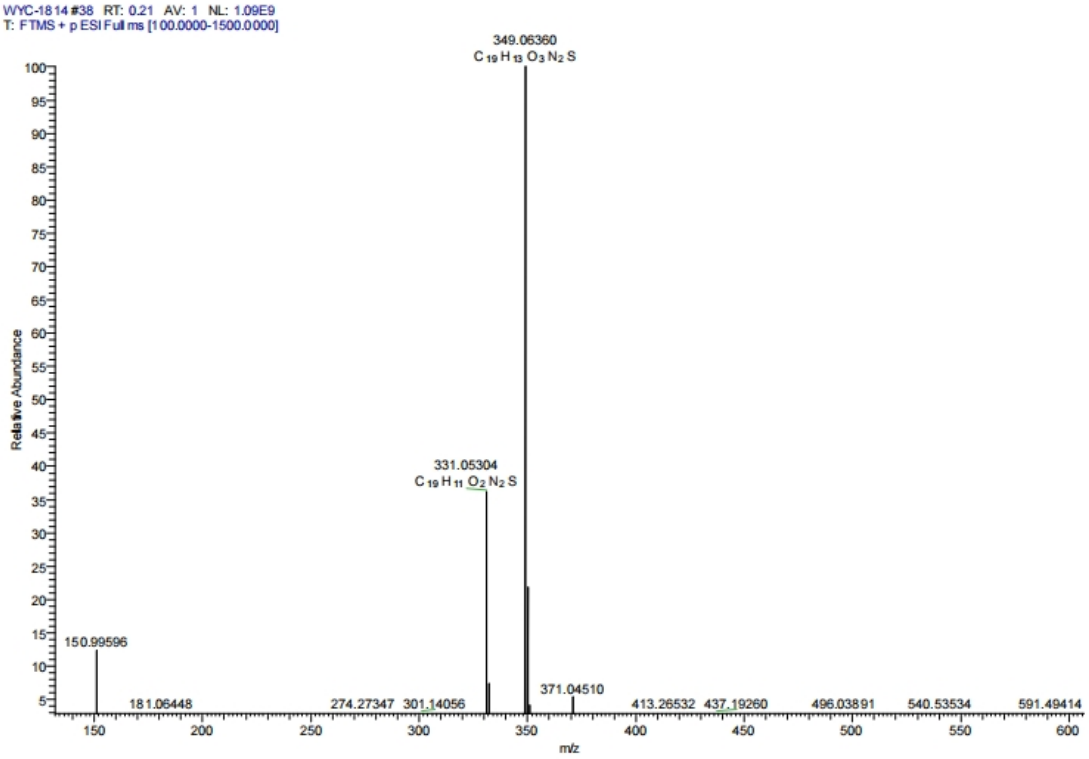


^{13}C-NMR:

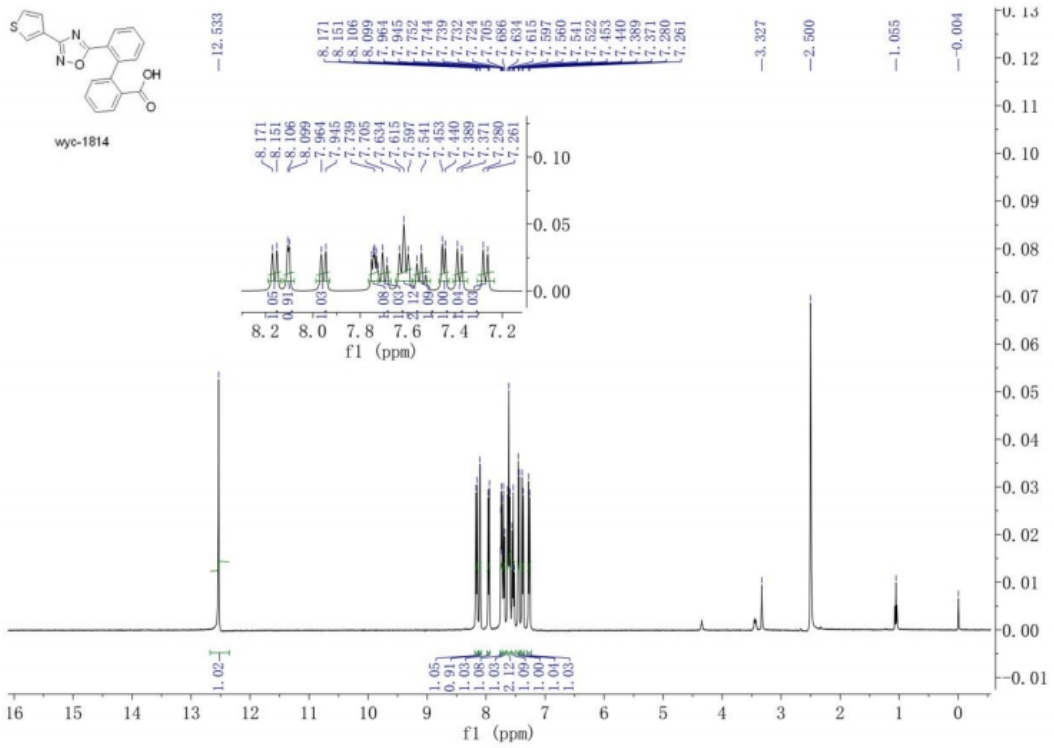


Compound **B10**:

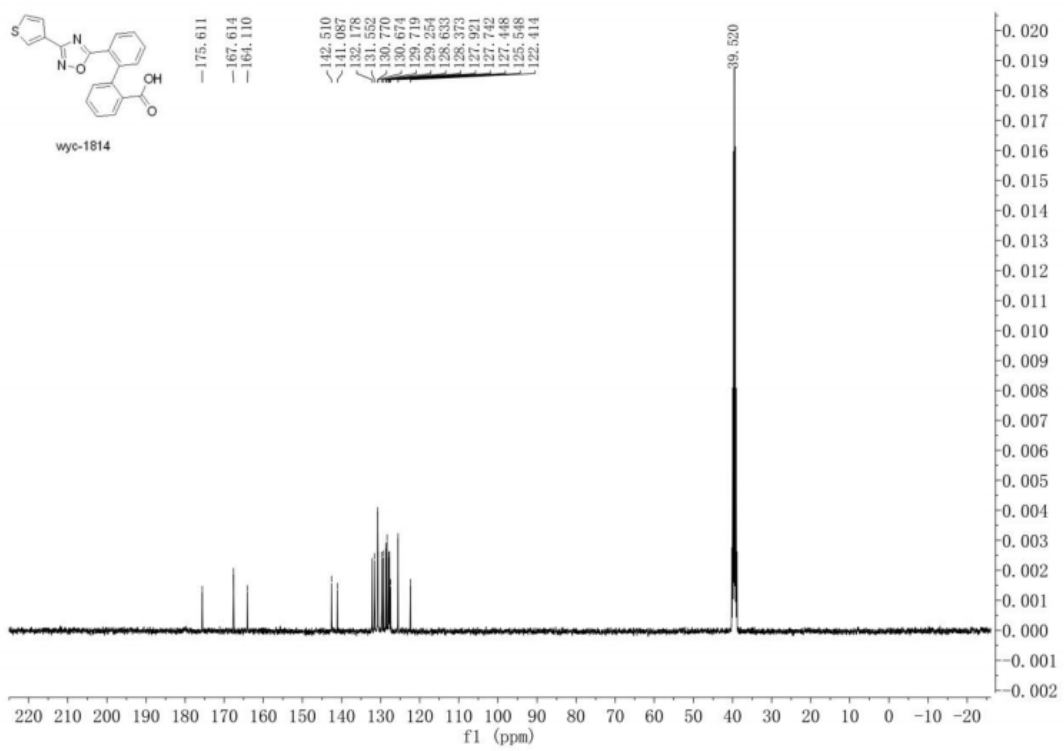
HR-ESI-MS:



^{1}H-NMR:

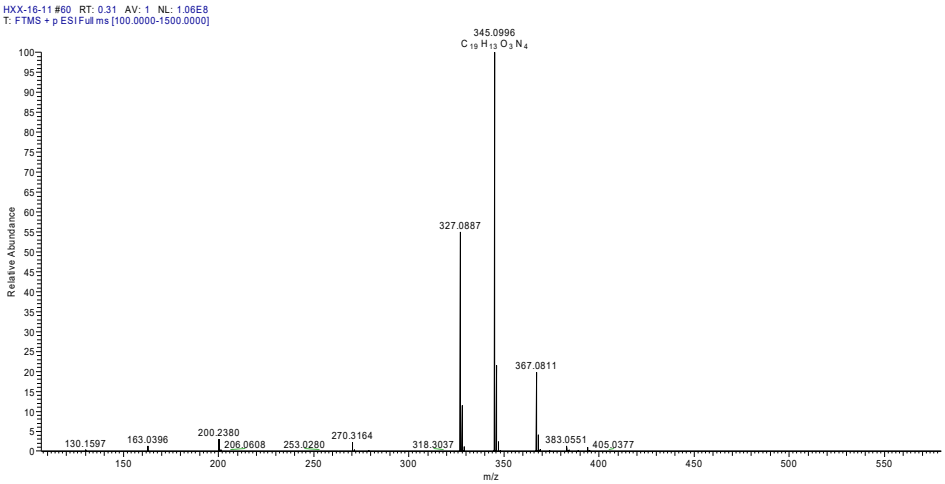


^{13}C-NMR:

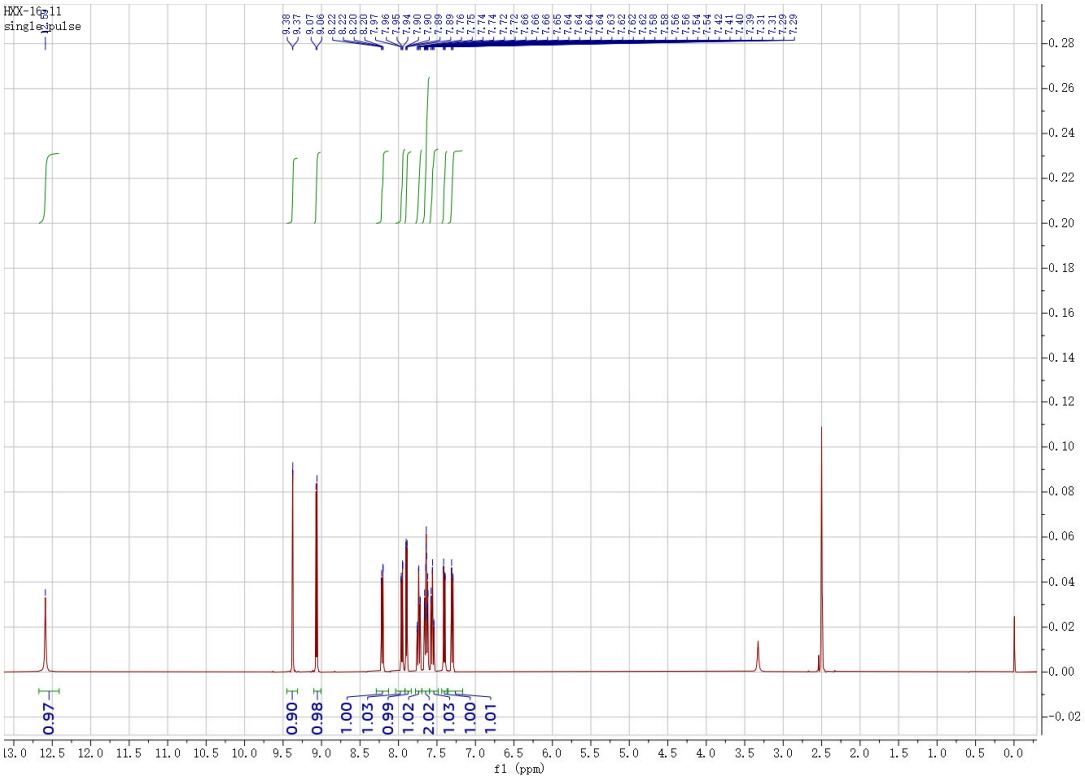


Compound **B11**:

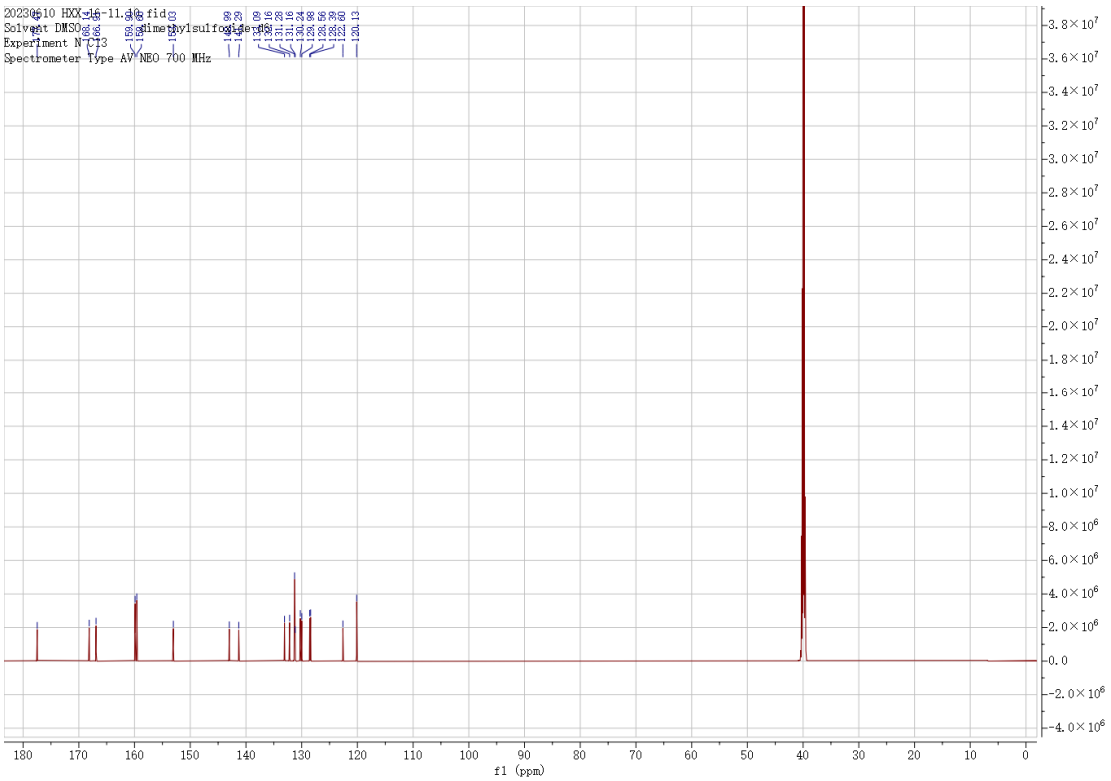
HR-ESI-MS:



^{1}H-NMR:

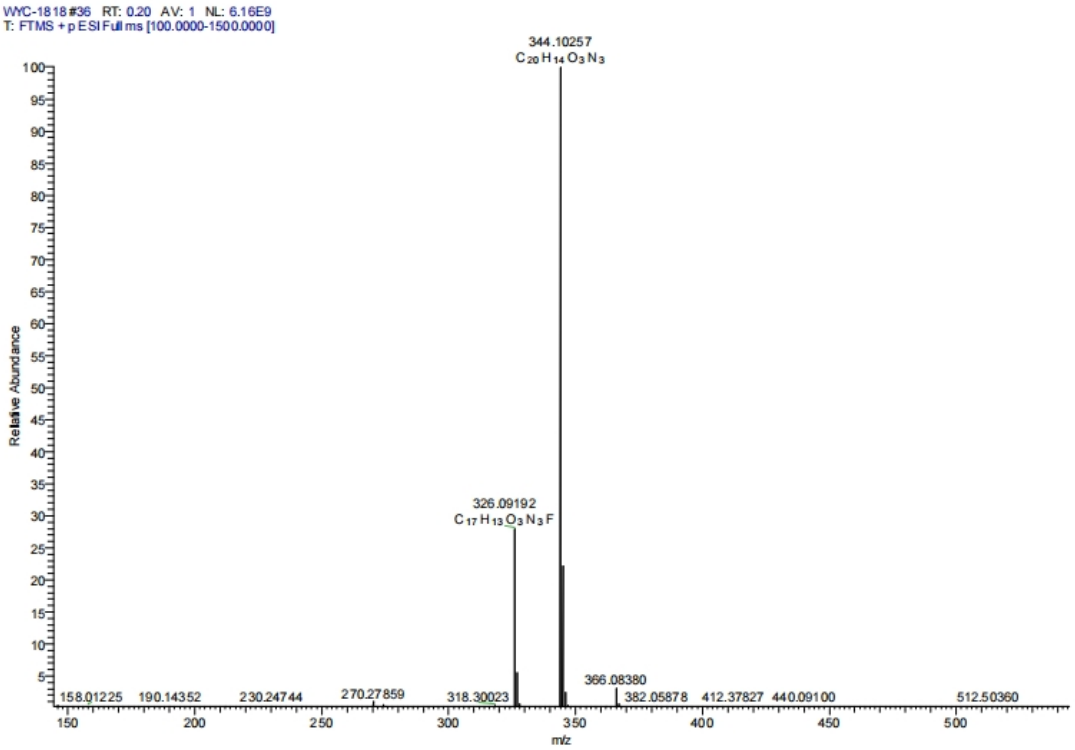


^{13}C-NMR:

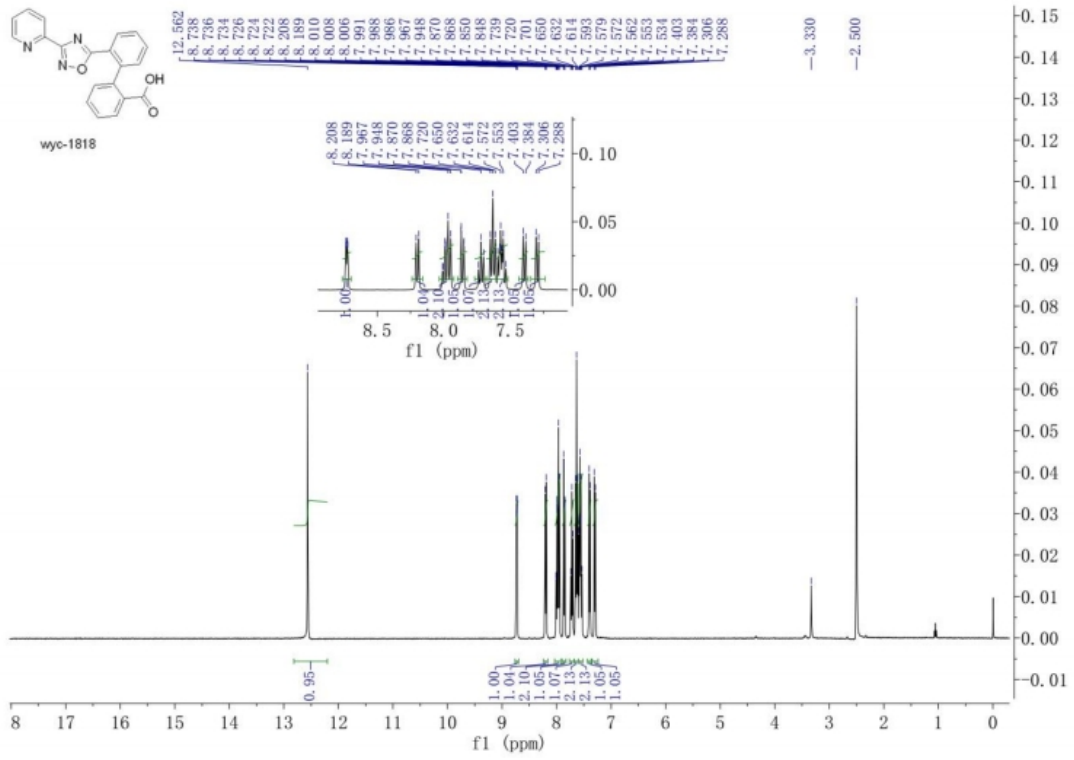


Compound **B12**:

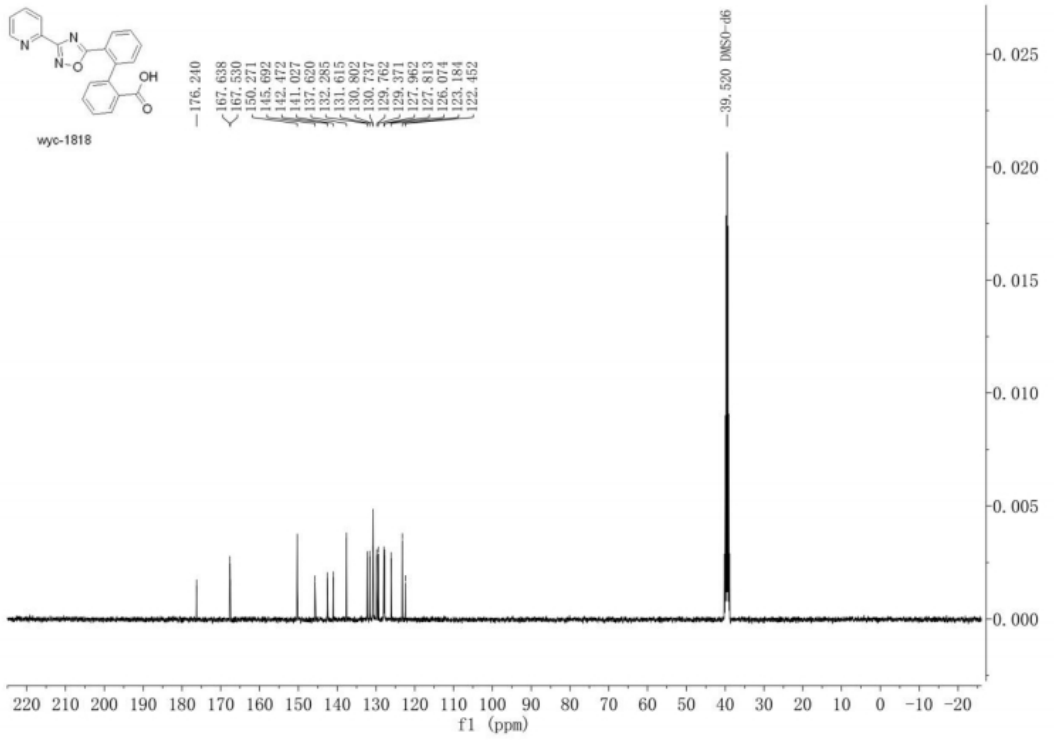
HR-ESI-MS:



^{1}H-NMR:

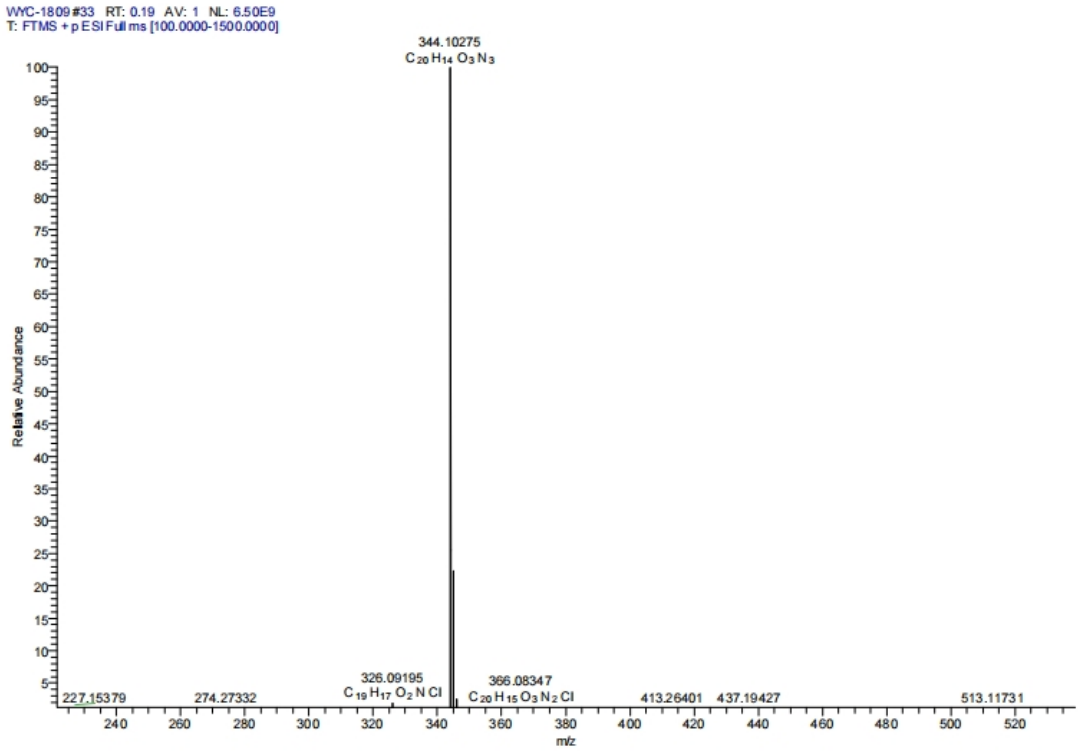


^{13}C-NMR:

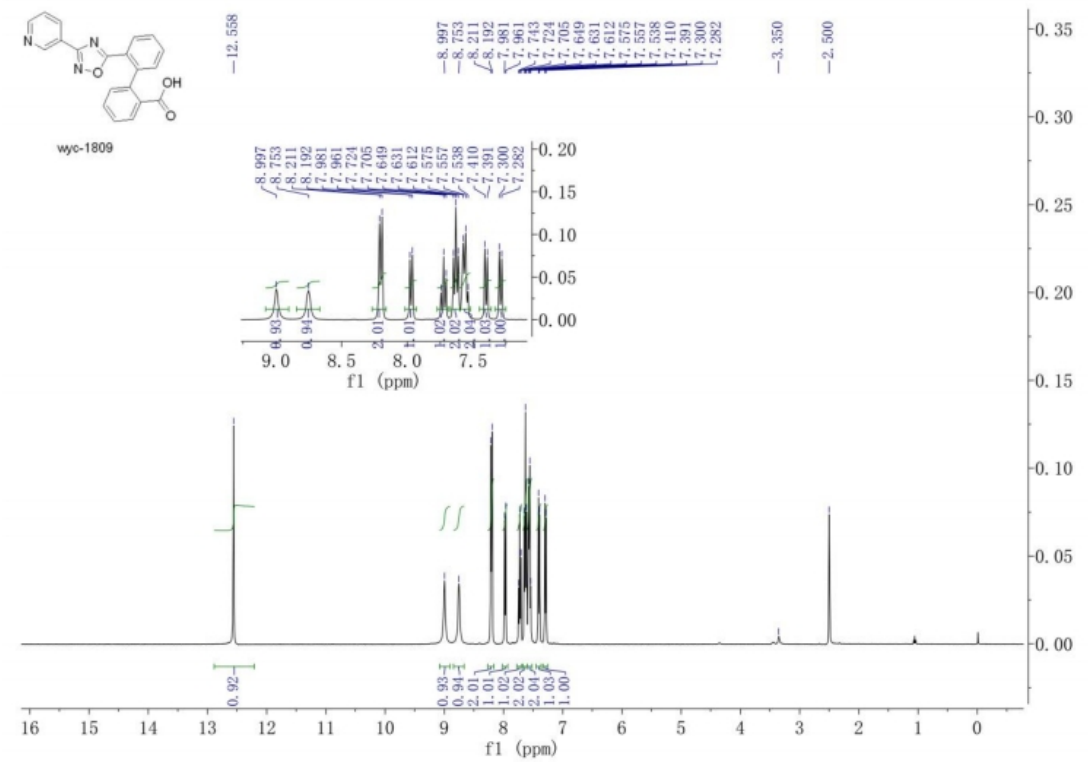


Compound **B13**:

HR-ESI-MS:



^{1}H-NMR:



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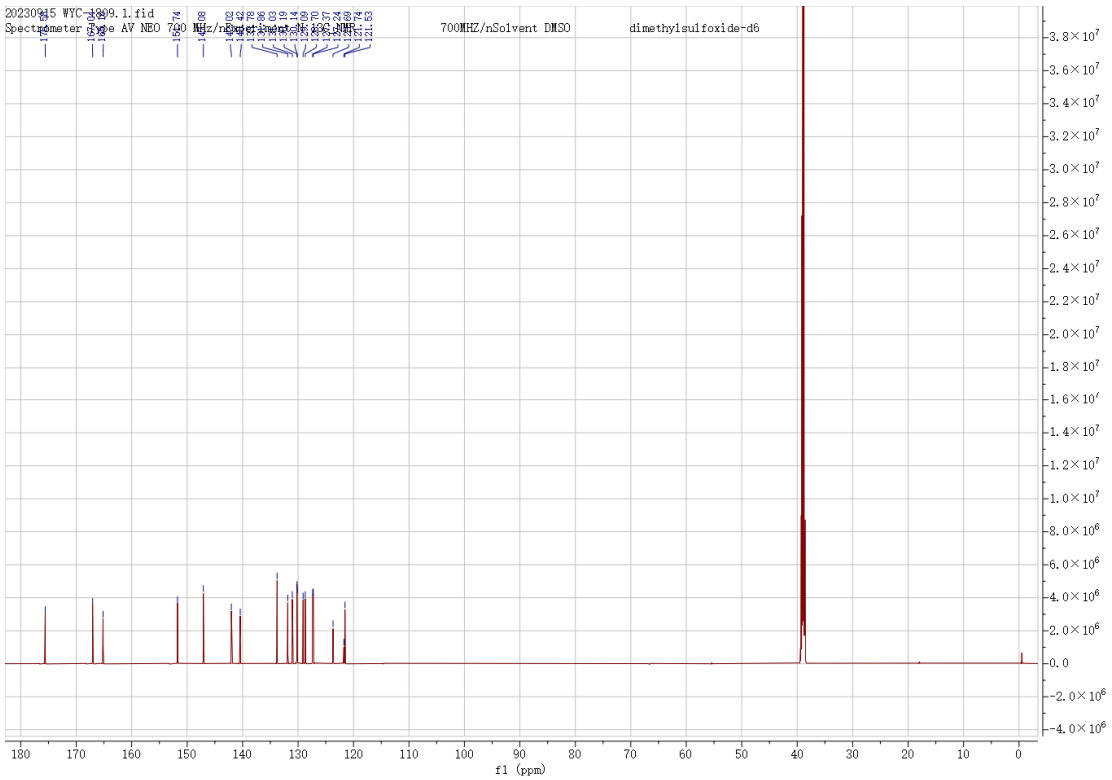
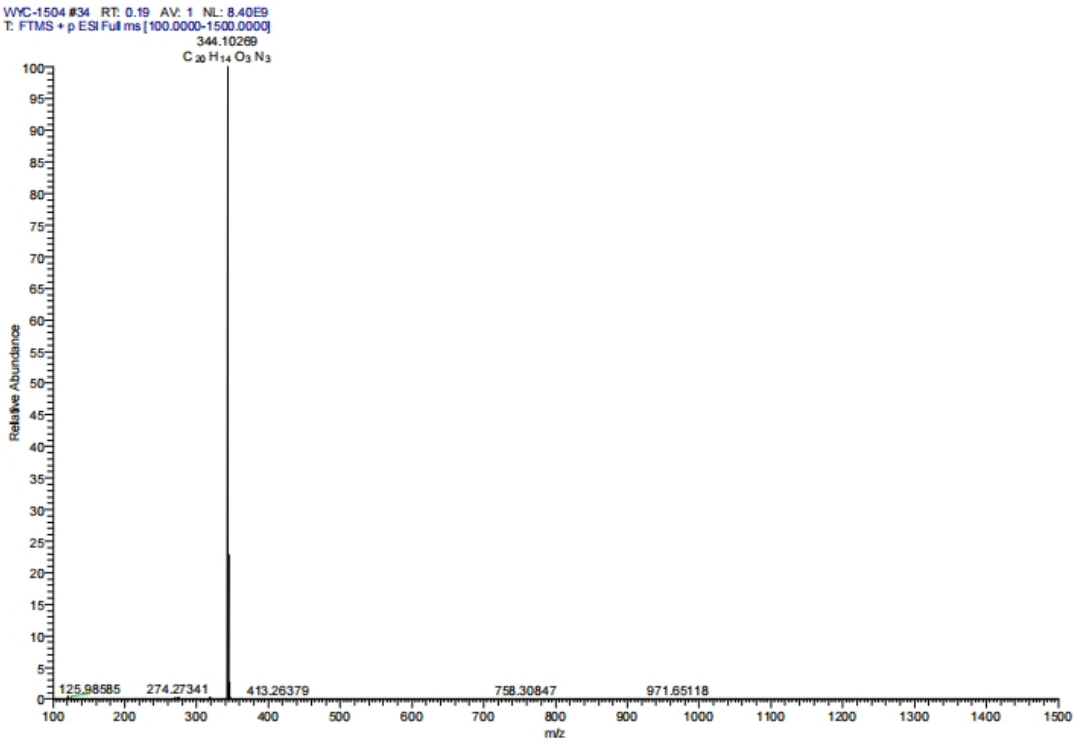


Compound **B14**:

HR-ESI-MS:



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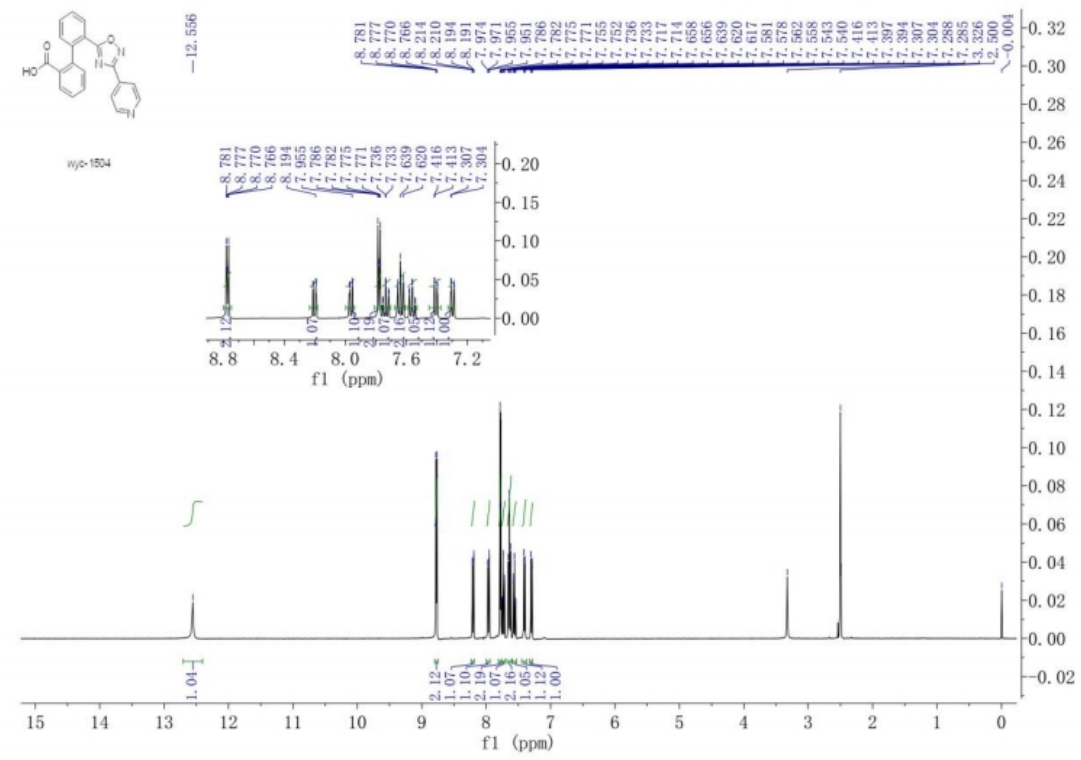

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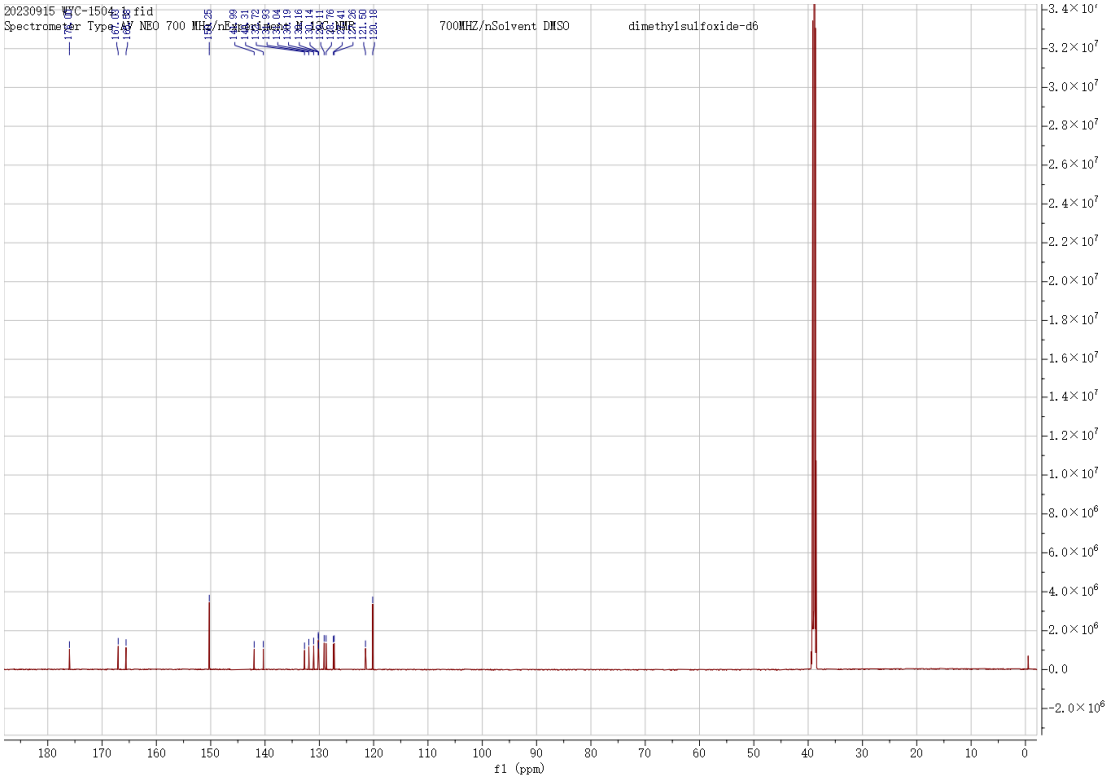
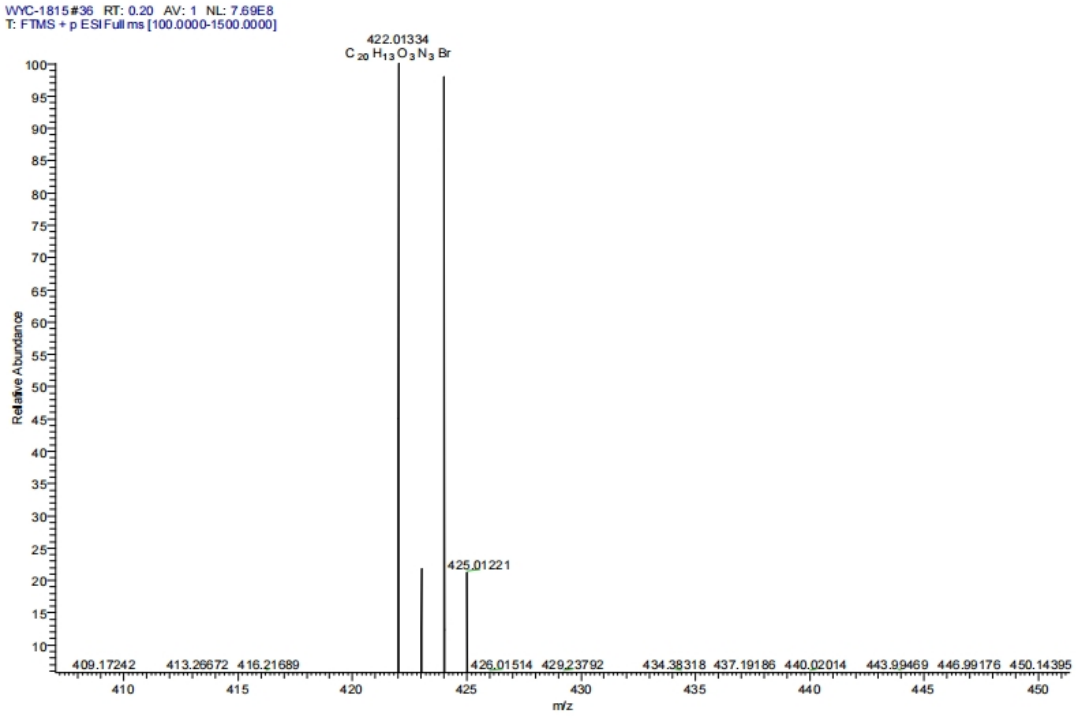
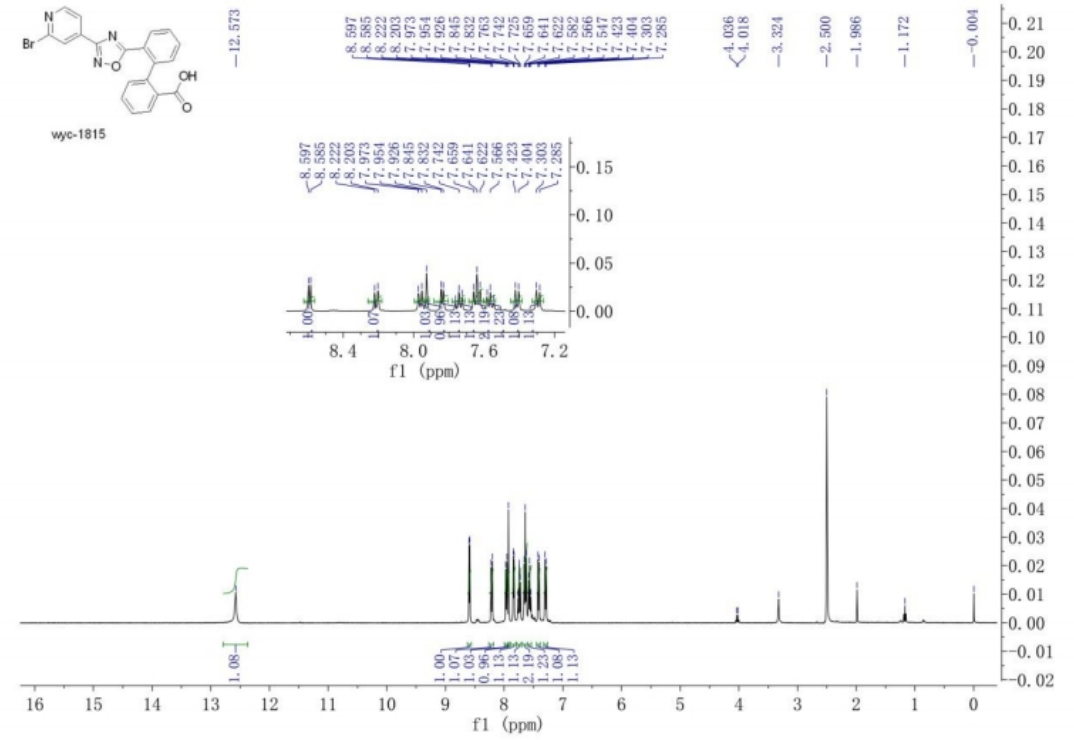


Compound **B15**:

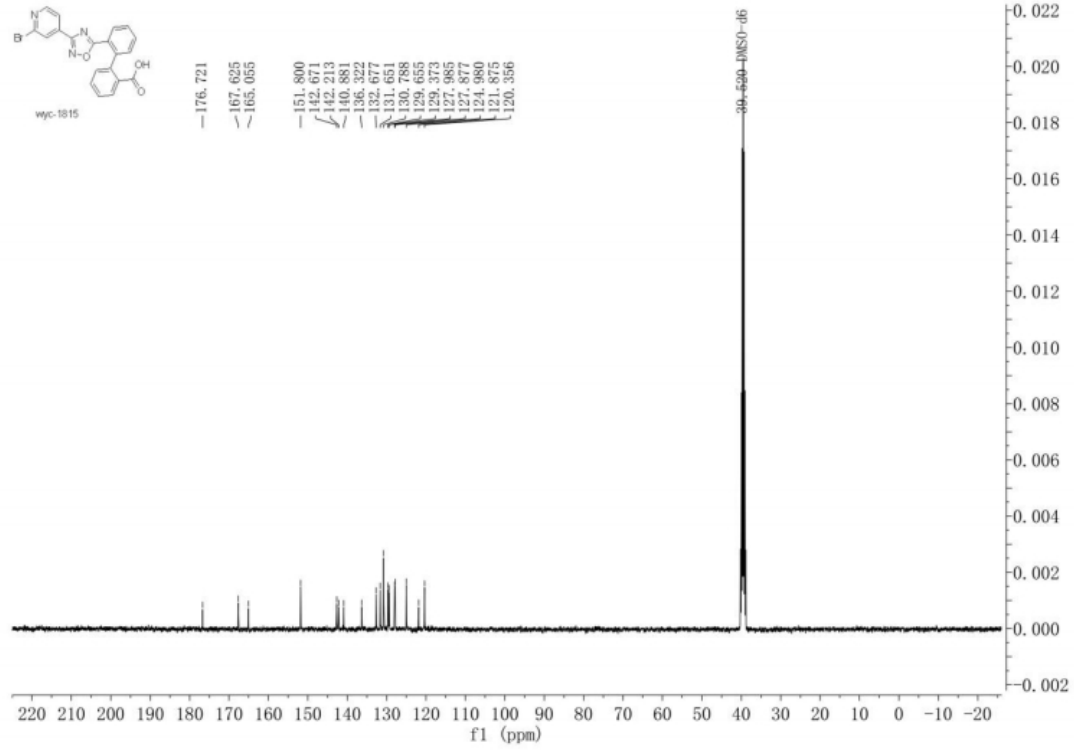
HR-ESI-MS:



^{1}H-NMR:

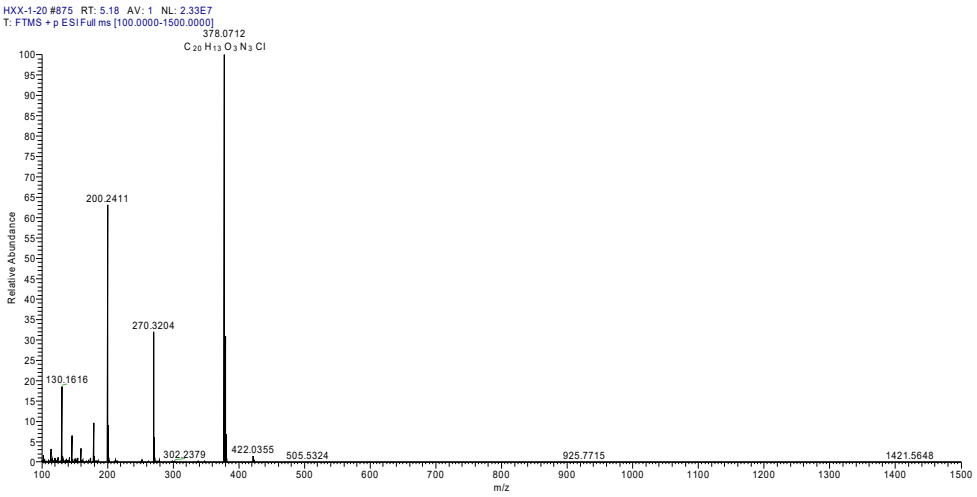


^{13}C-NMR:

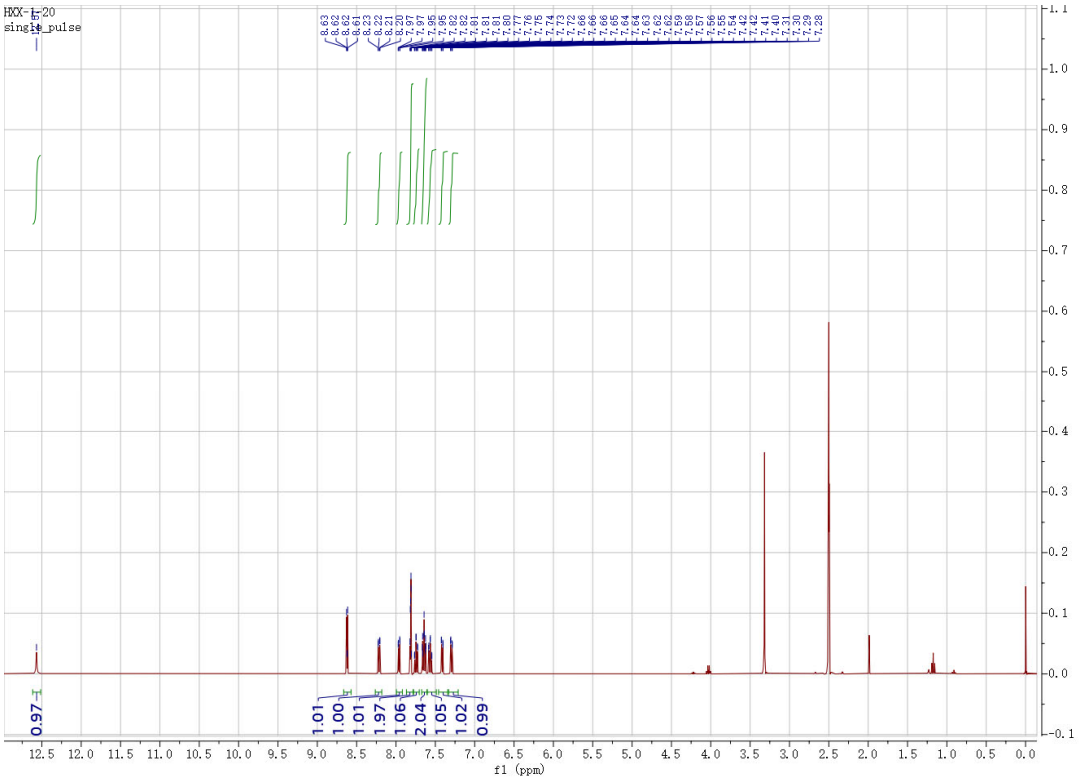


Compound **B16**:

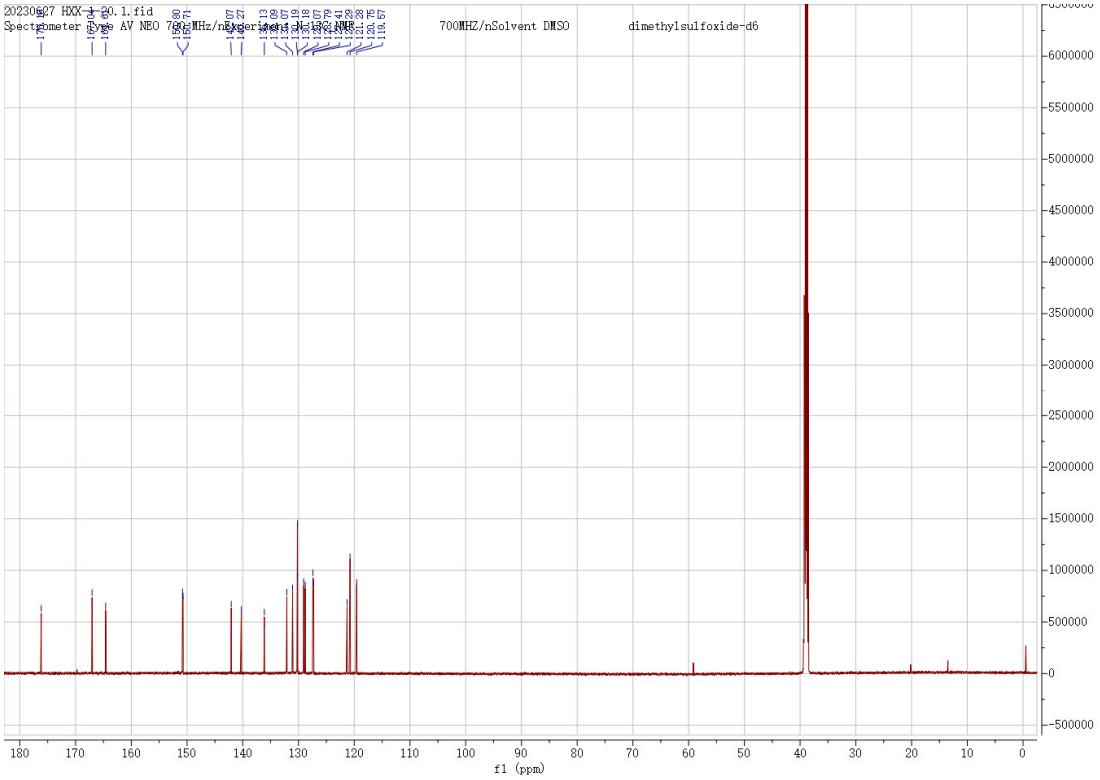
HR-ESI-MS:



^{1}H-NMR:

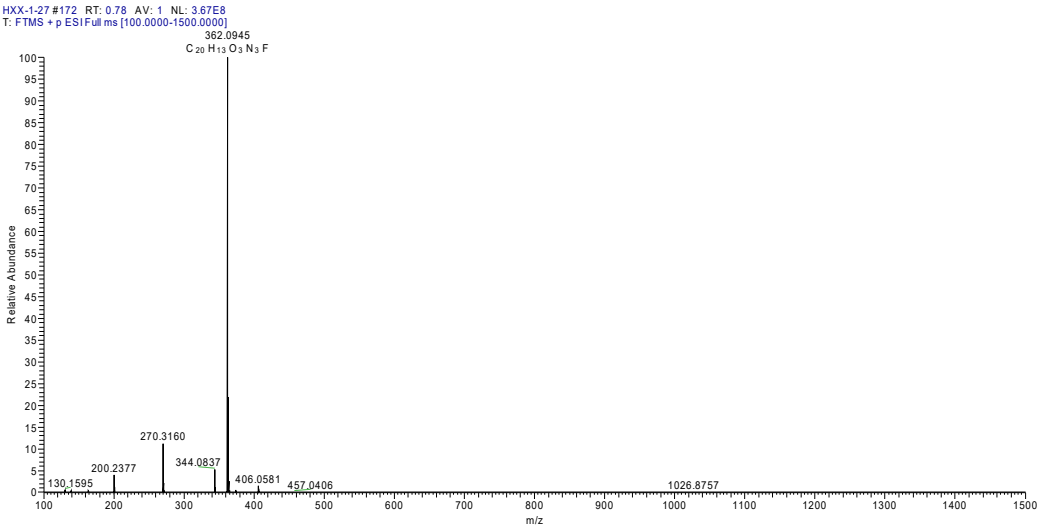


^{13}C-NMR:

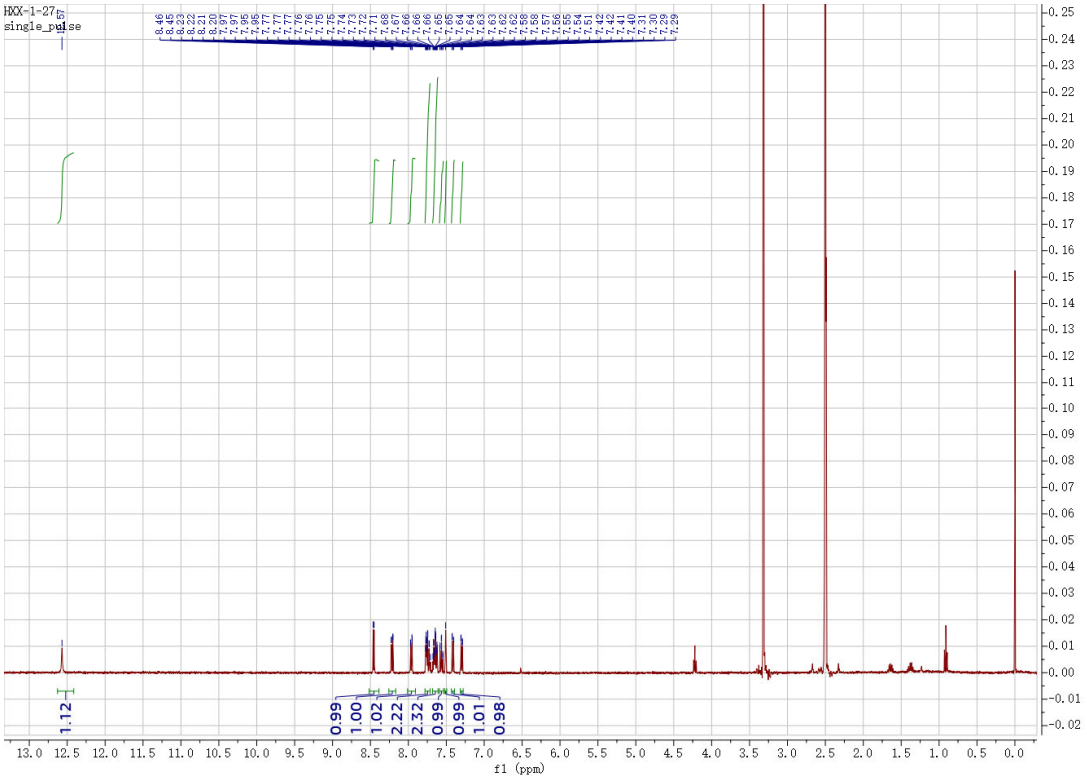


Compound **B17**:

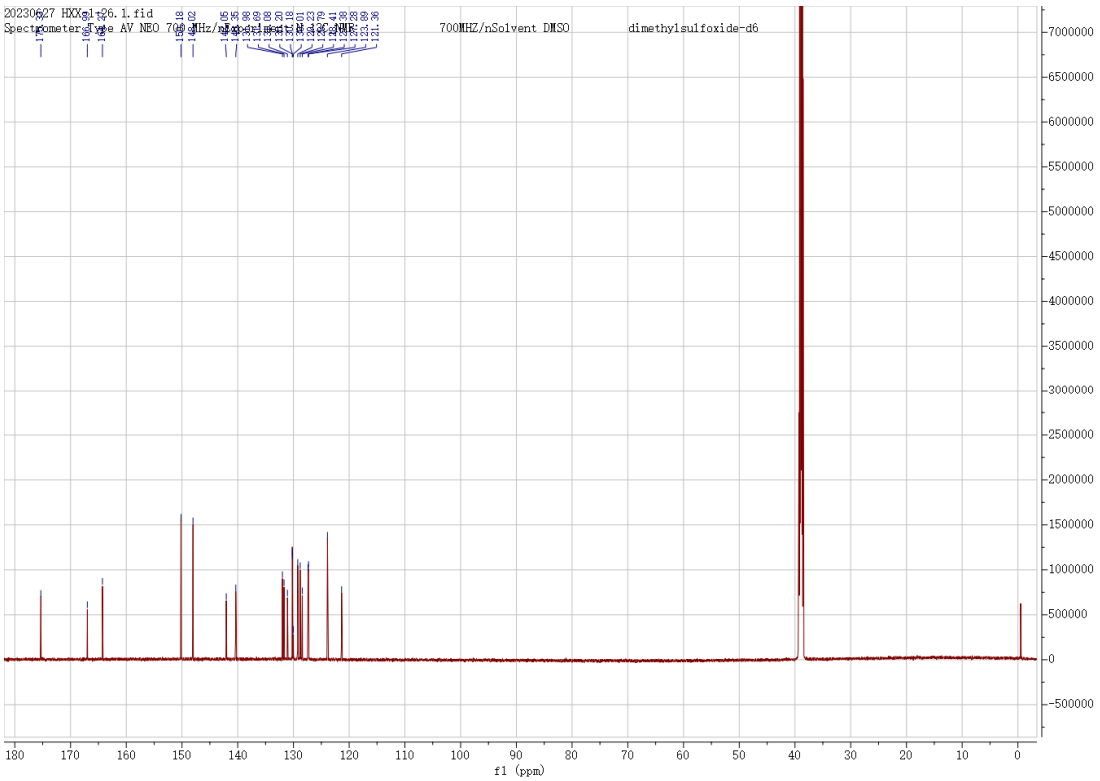
HR-ESI-MS:



^{1}H-NMR:

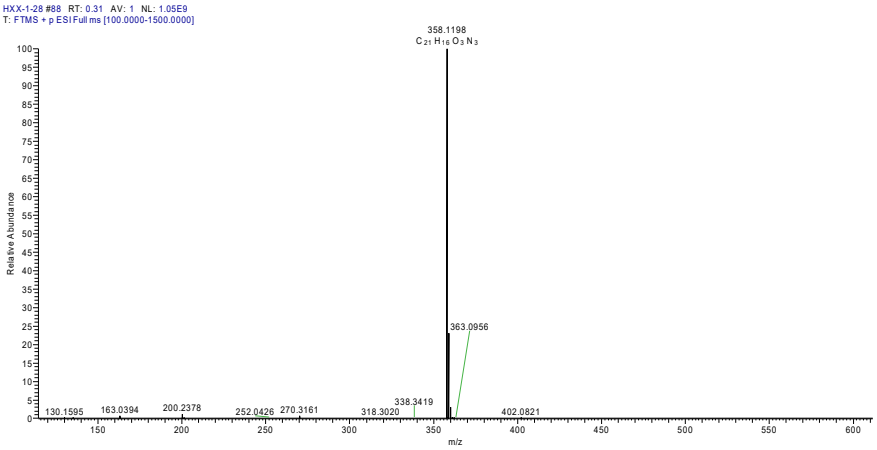


^{13}C-NMR:

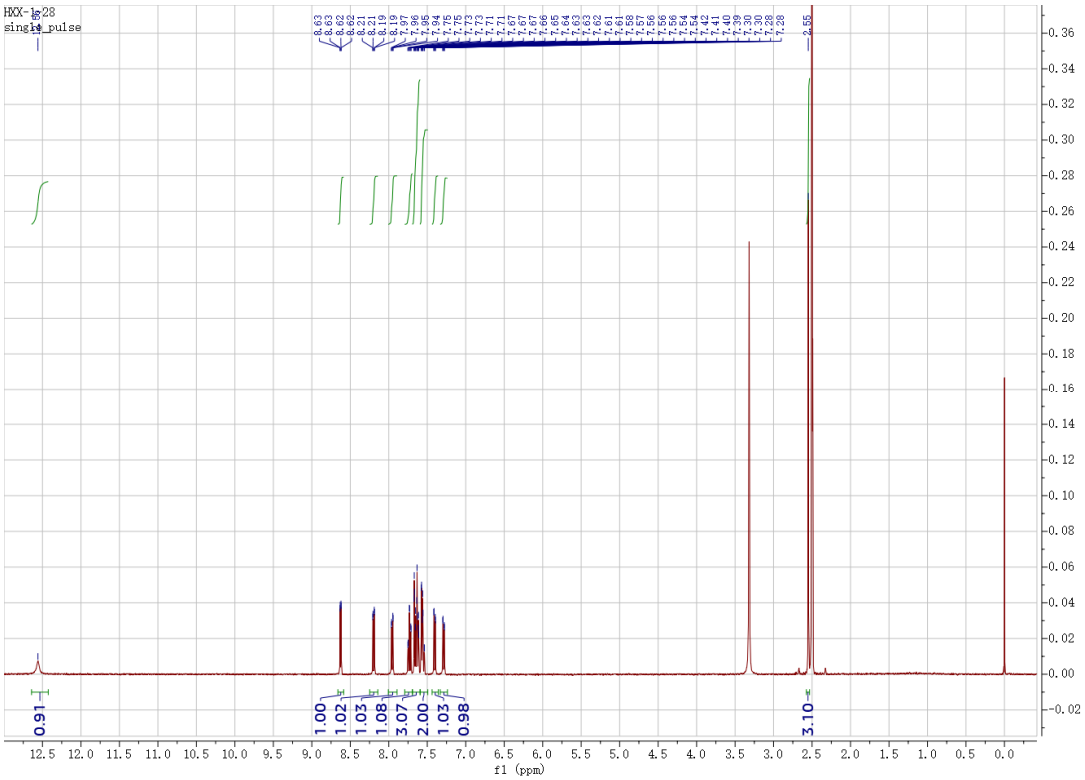


Compound **B18**:

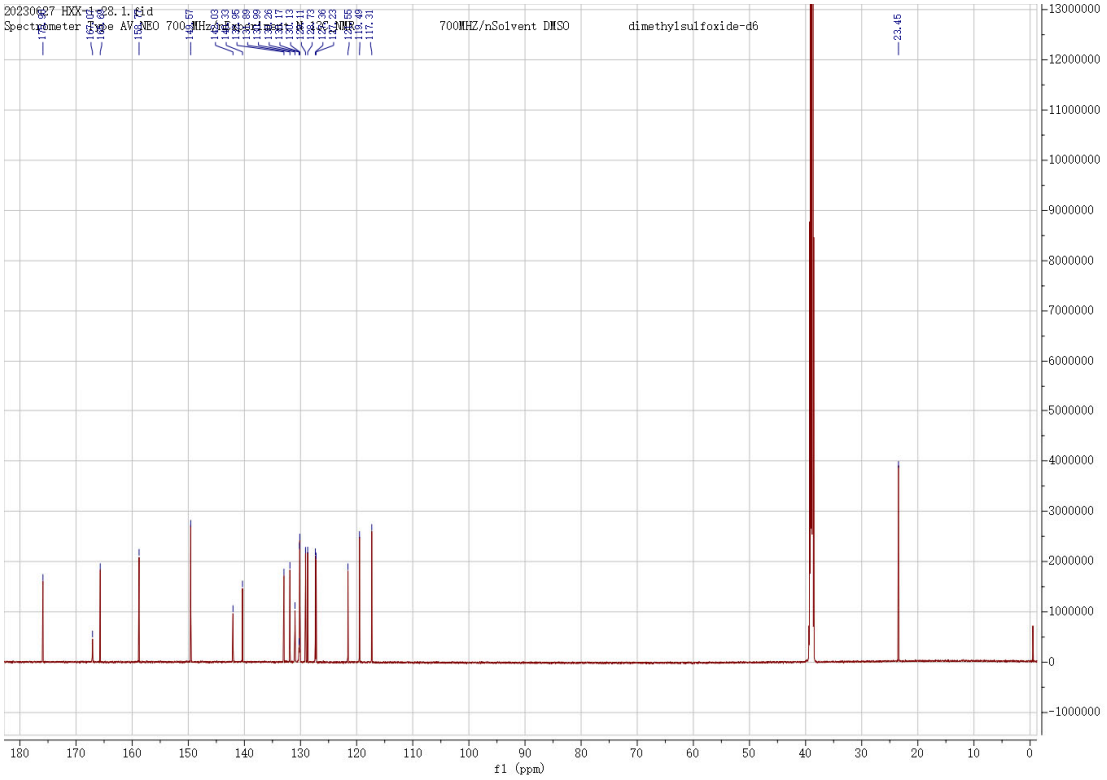
HR-ESI-MS:



^{1}H-NMR:

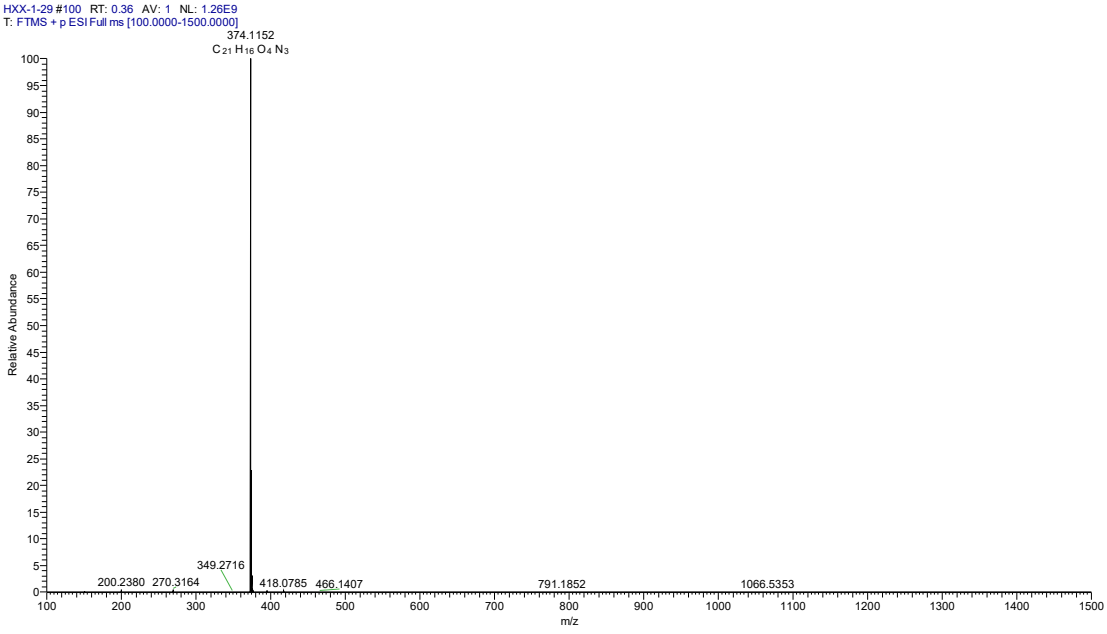


^{13}C-NMR:

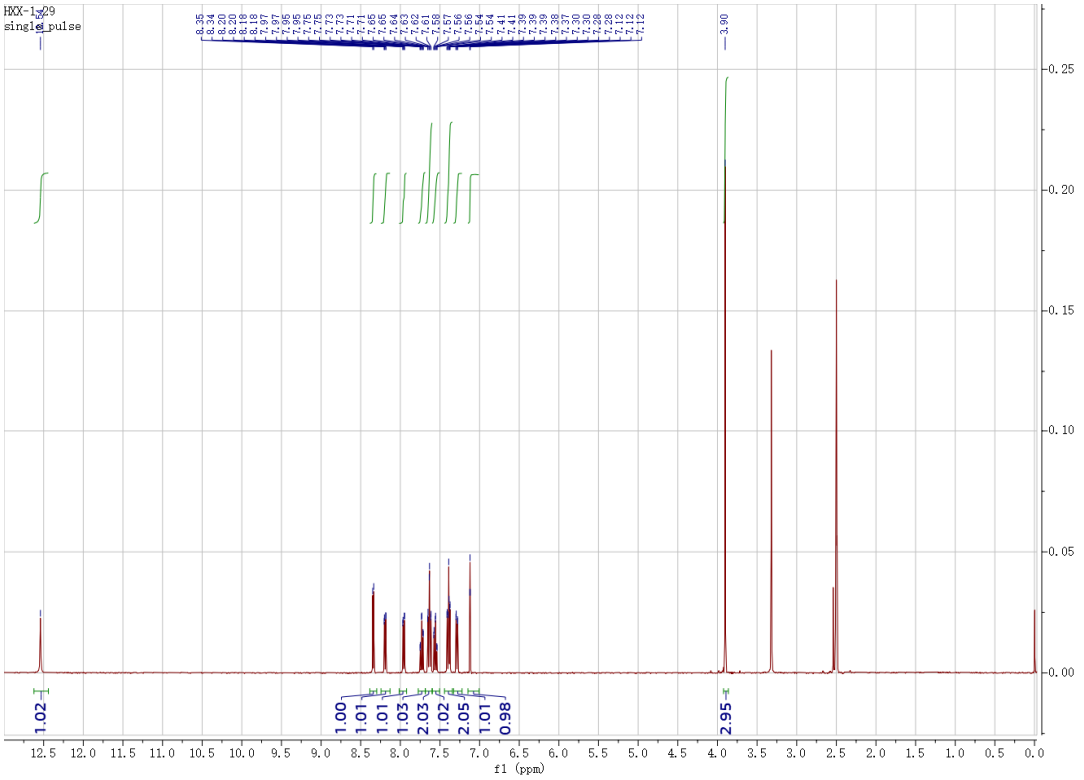


Compound **B19**:

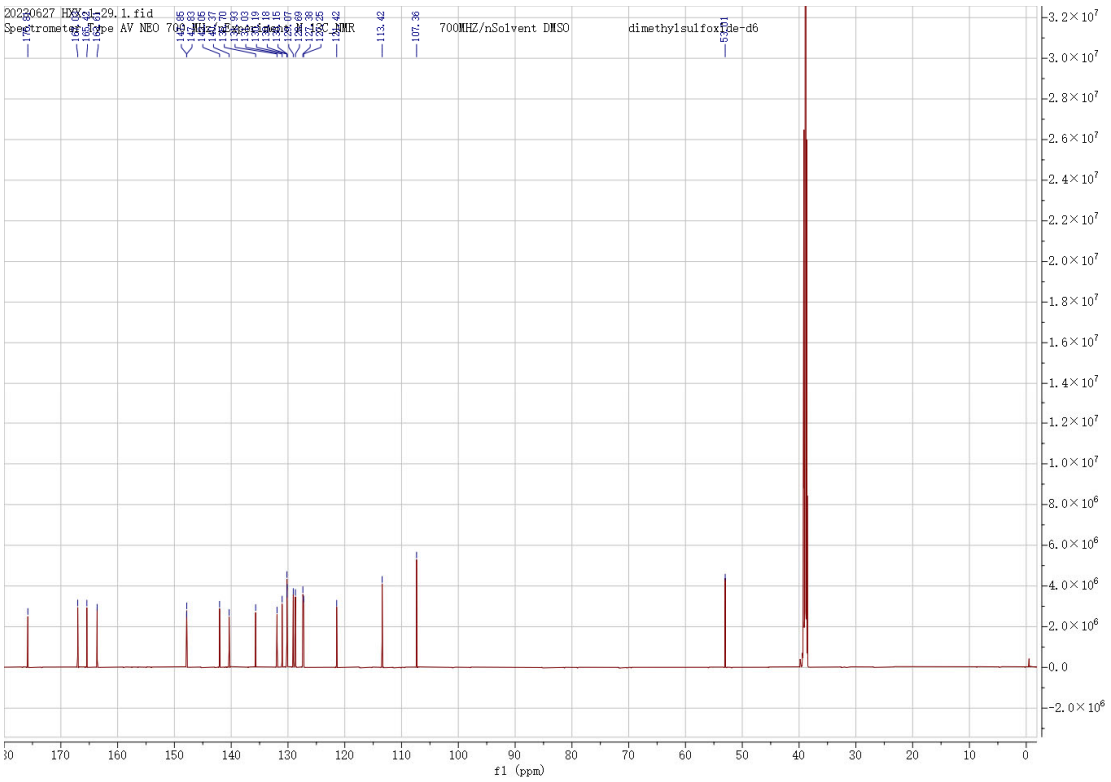
HR-ESI-MS:



^{1}H-NMR:

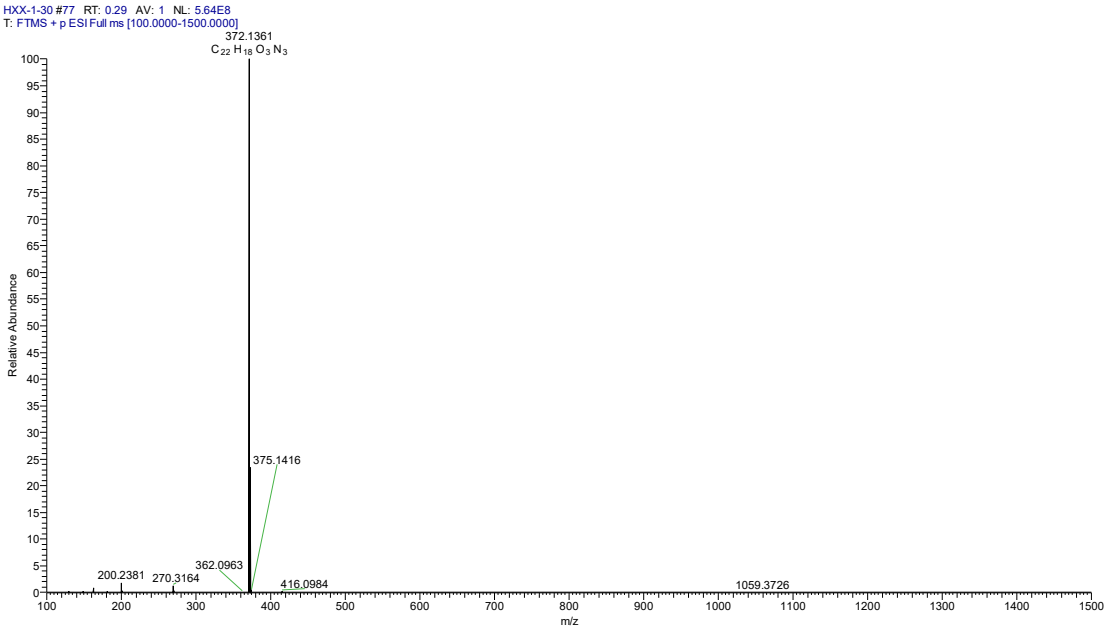


^{13}C-NMR:

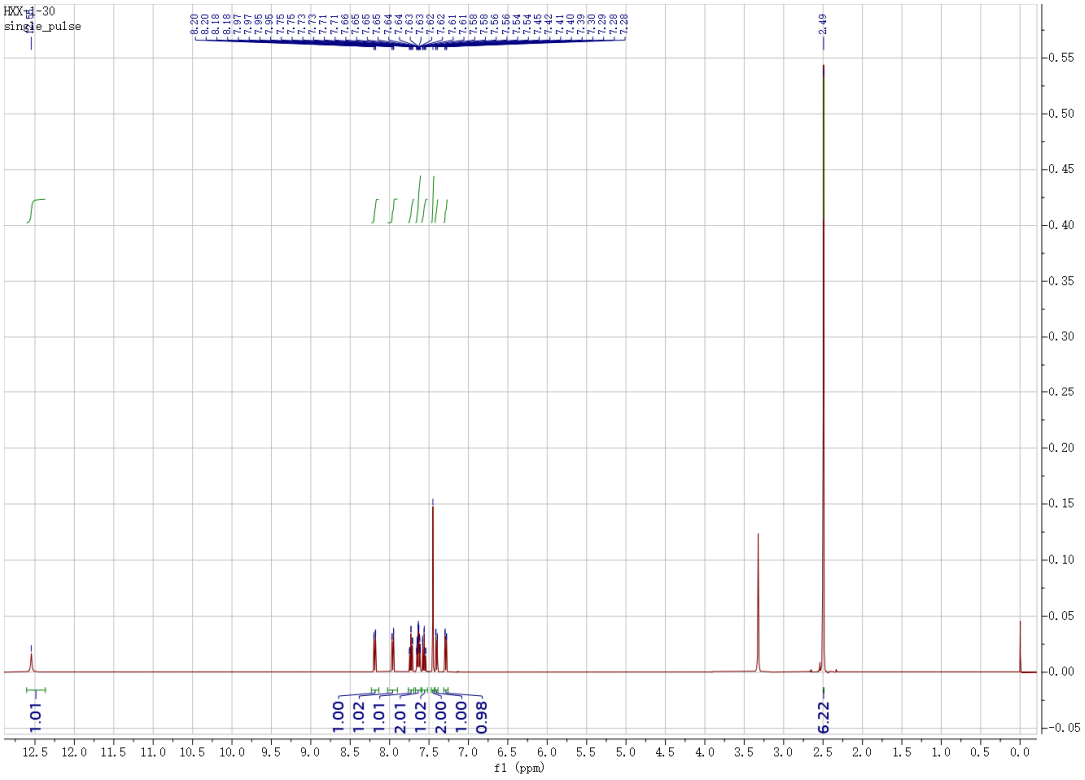


Compound **B20**:

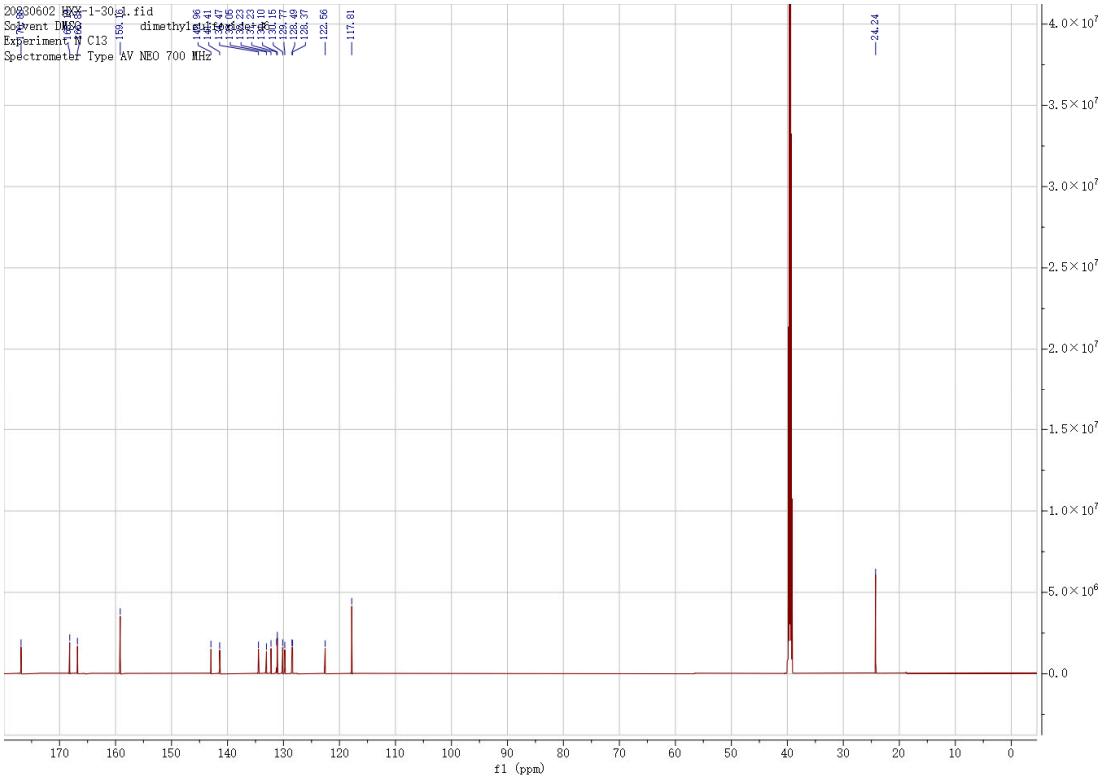
HR-ESI-MS:



^{1}H-NMR:

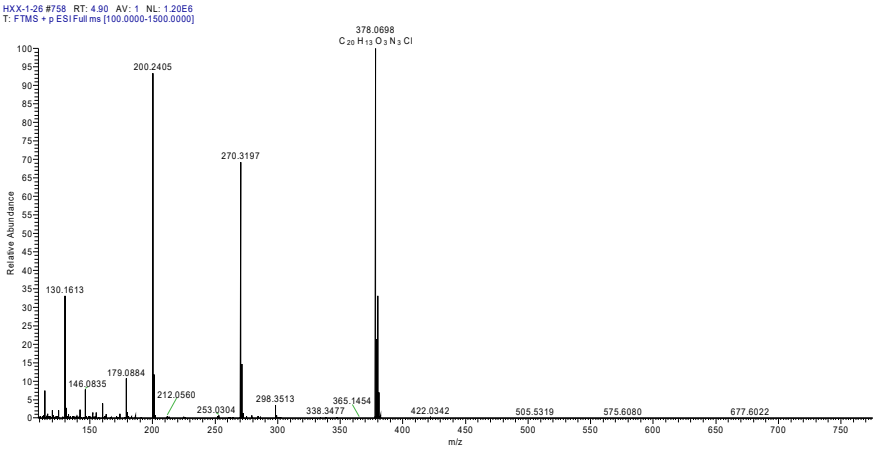


^{13}C-NMR:

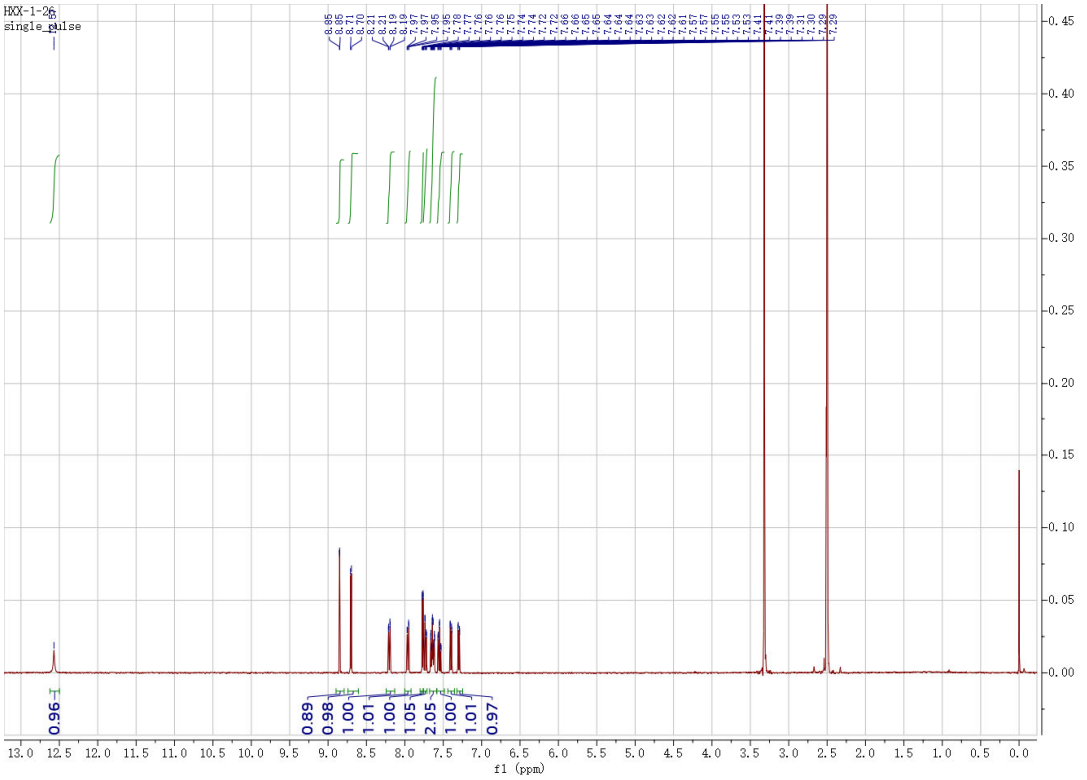


Compound **B21**:

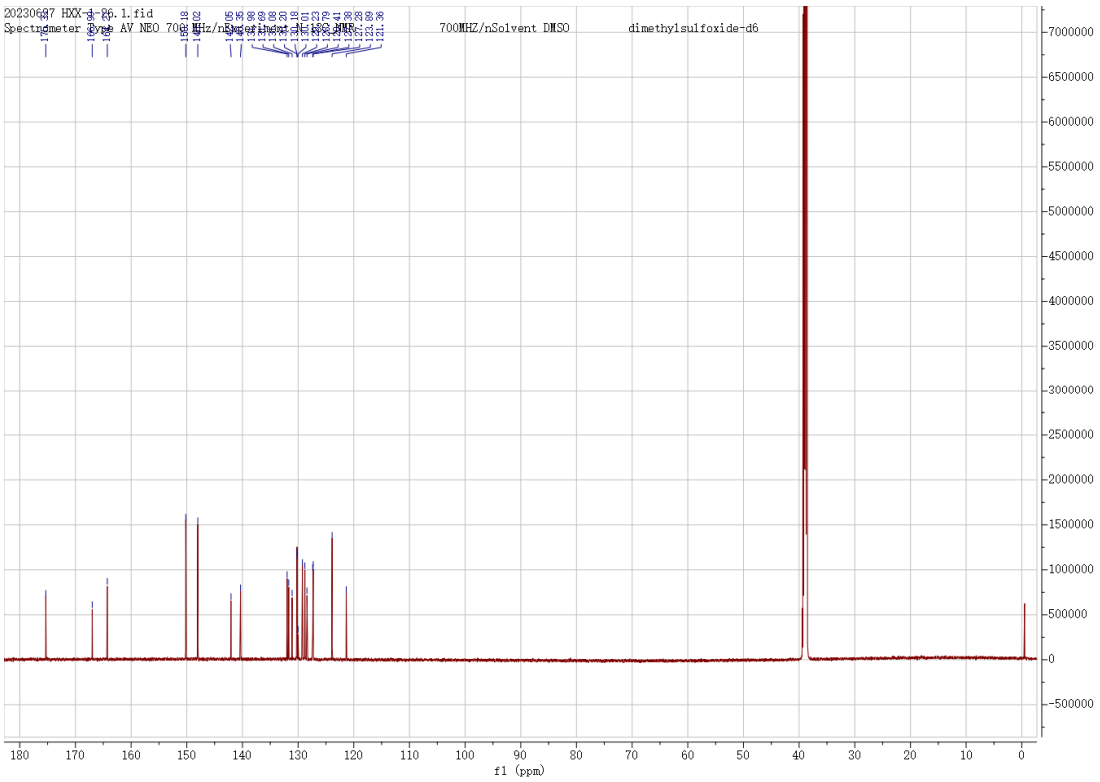
HR-ESI-MS:



^{1}H-NMR:

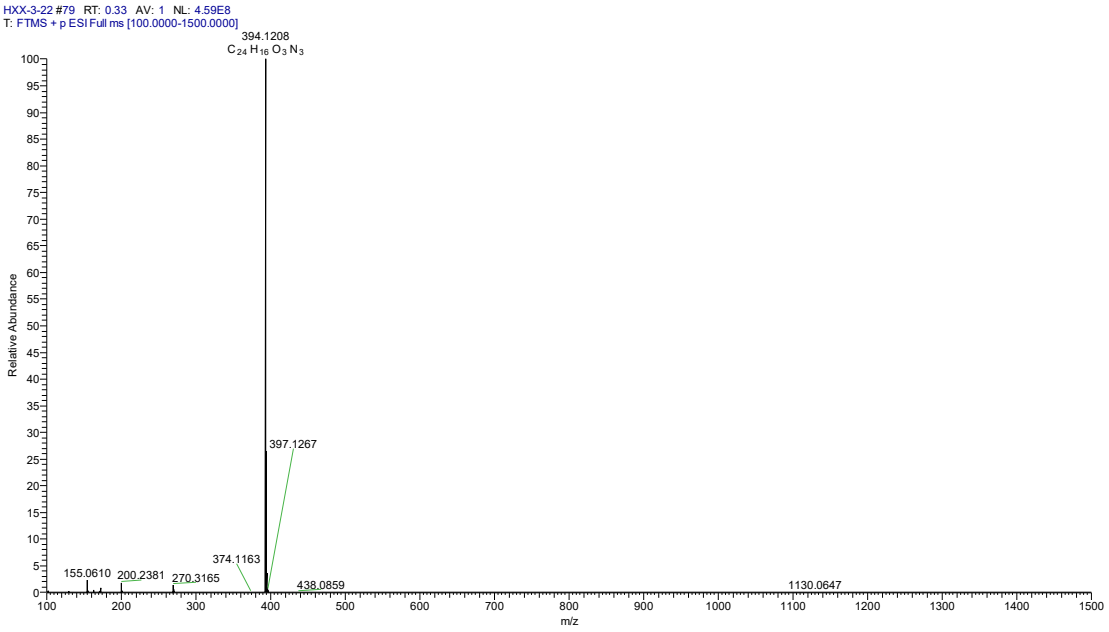


^{13}C-NMR:

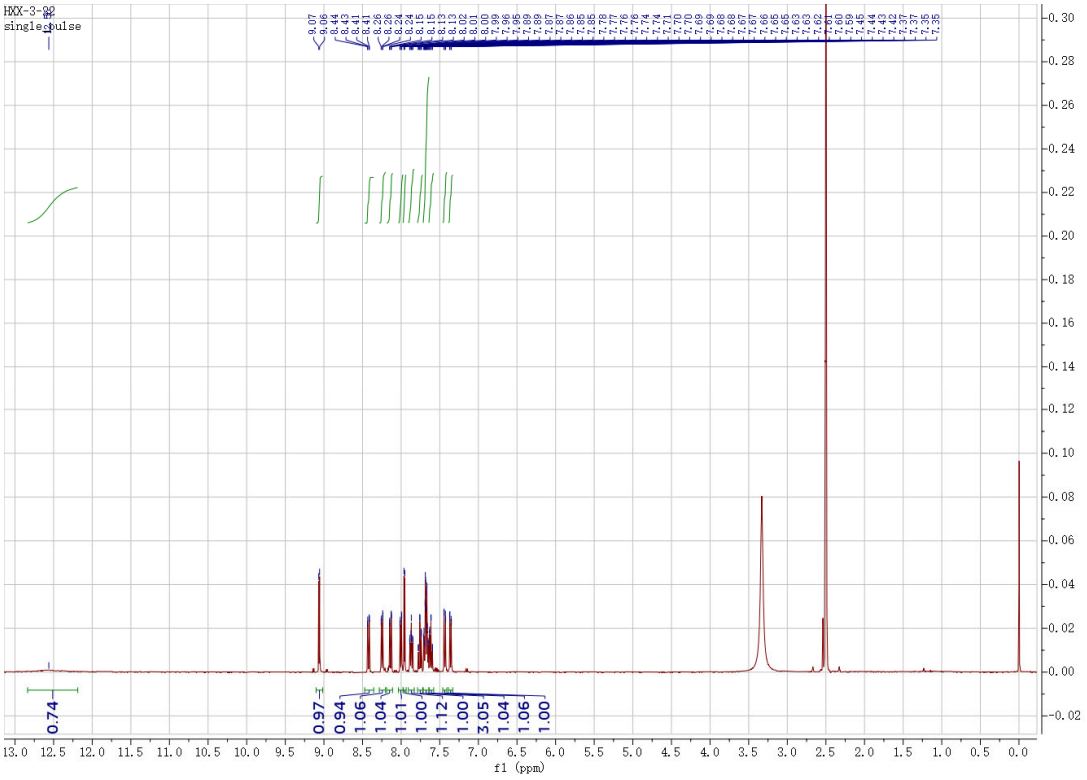


Compound **B22**:

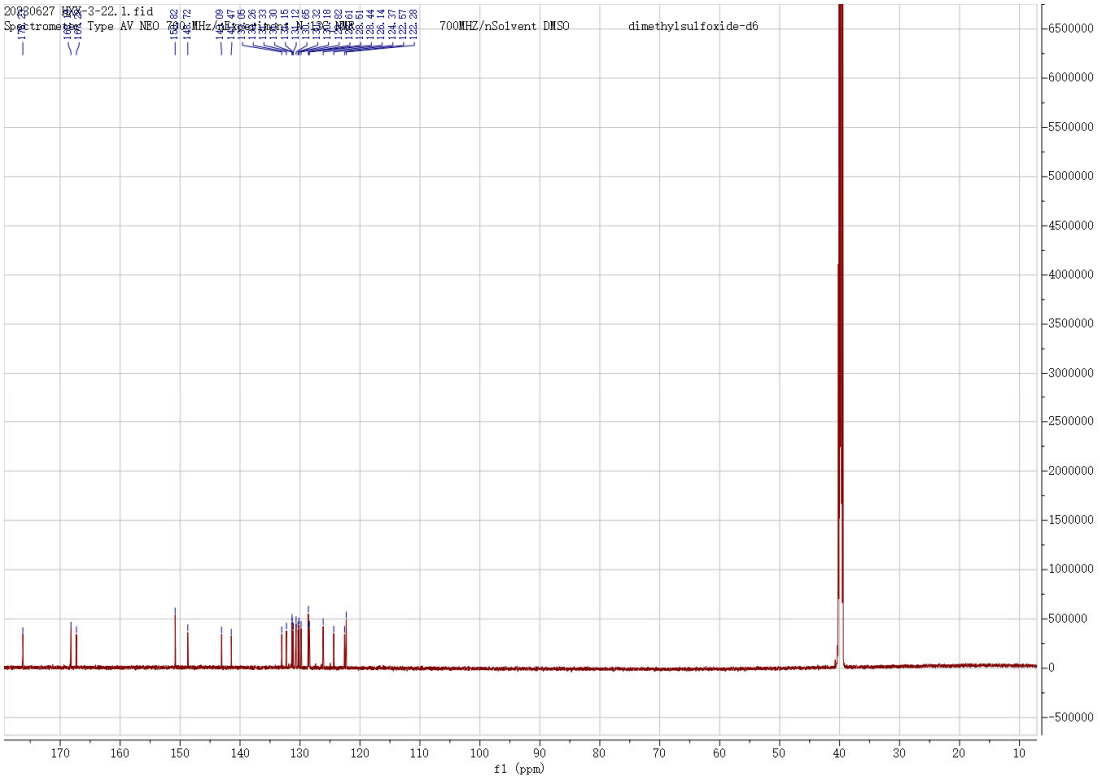
HR-ESI-MS:



^{1}H-NMR:

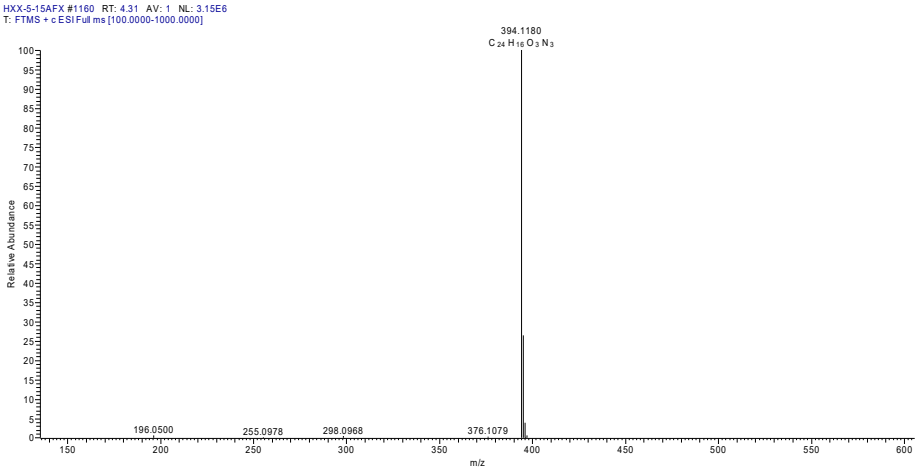


^{13}C-NMR:

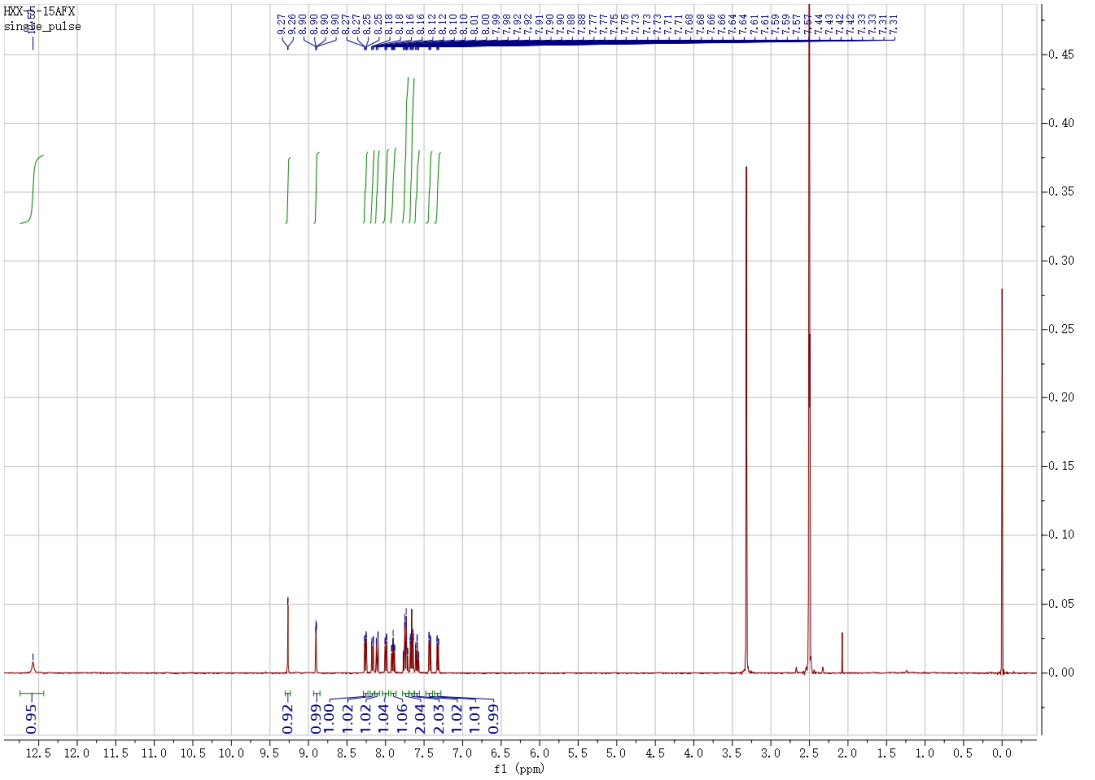


Compound **B23**:

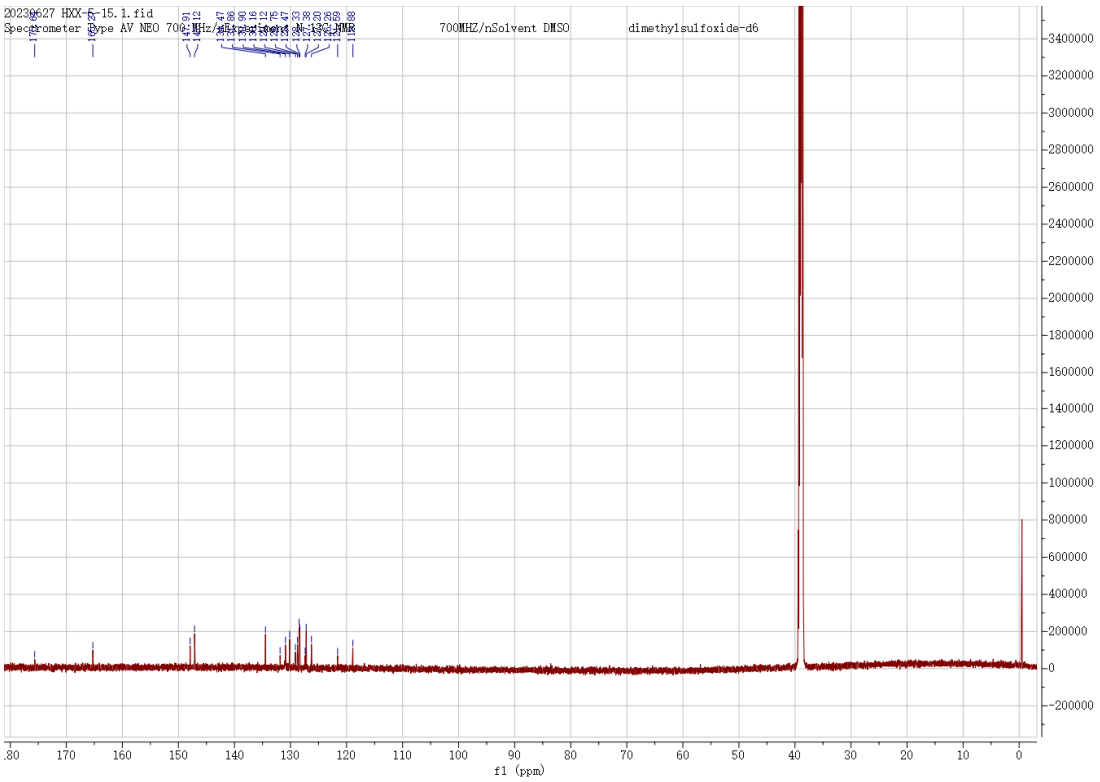
HR-ESI-MS:



^{1}H-NMR:

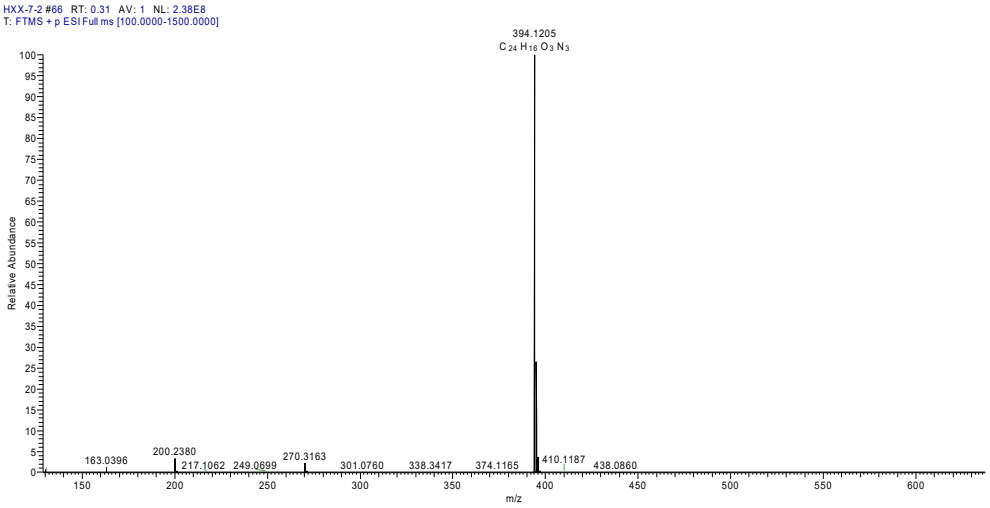


^{13}C-NMR:

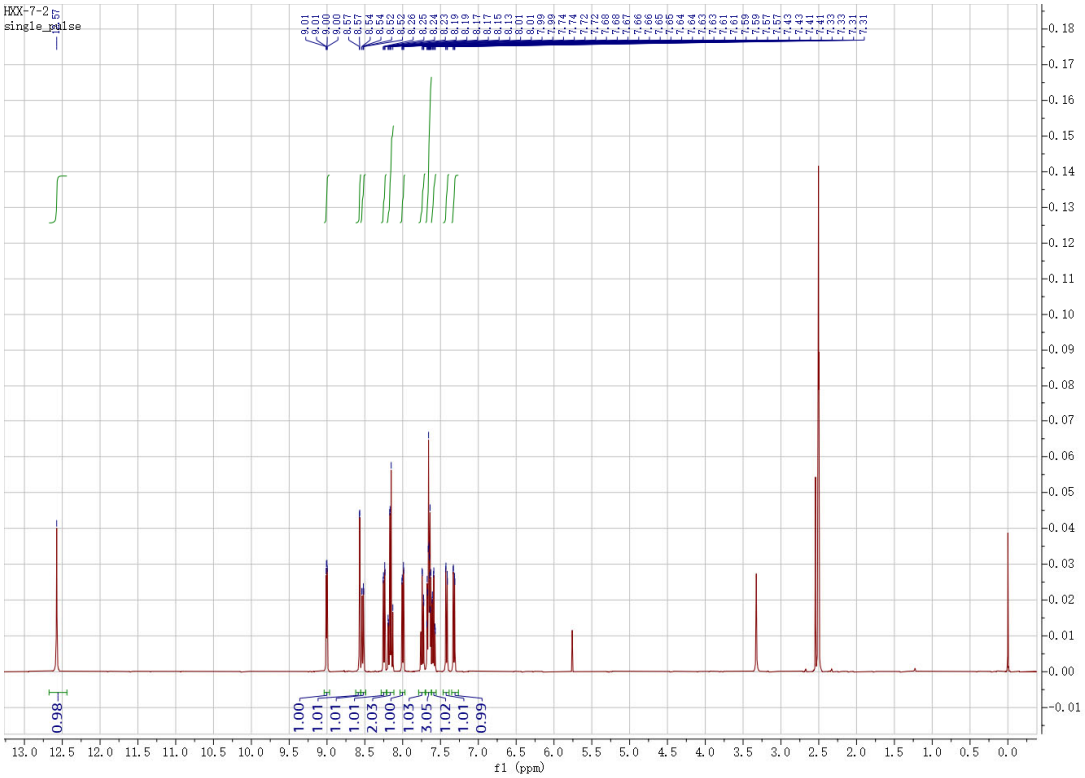


Compound **B24**:

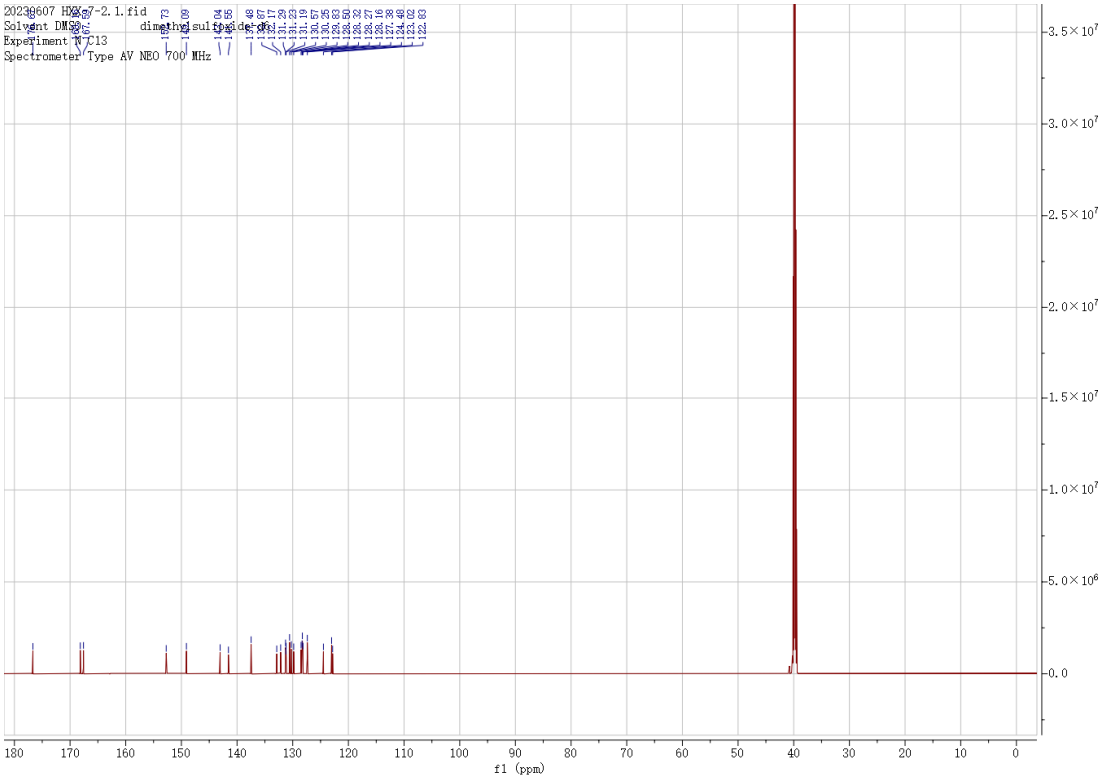
HR-ESI-MS:



^{1}H-NMR:

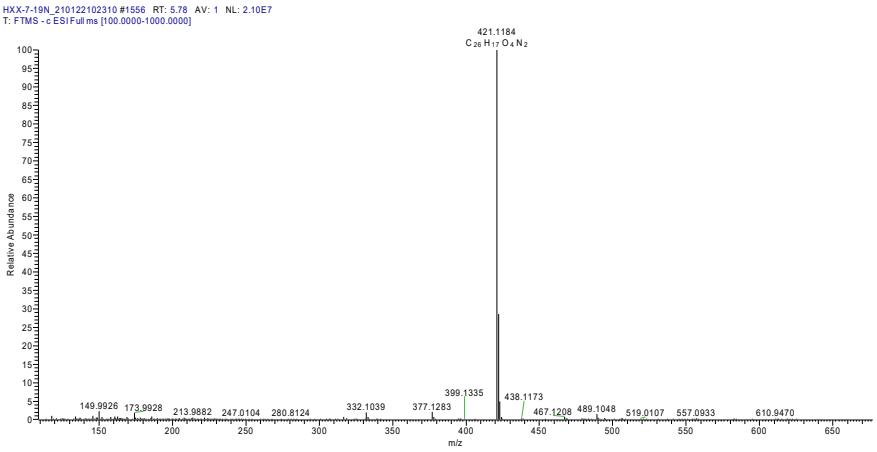


^{13}C-NMR:

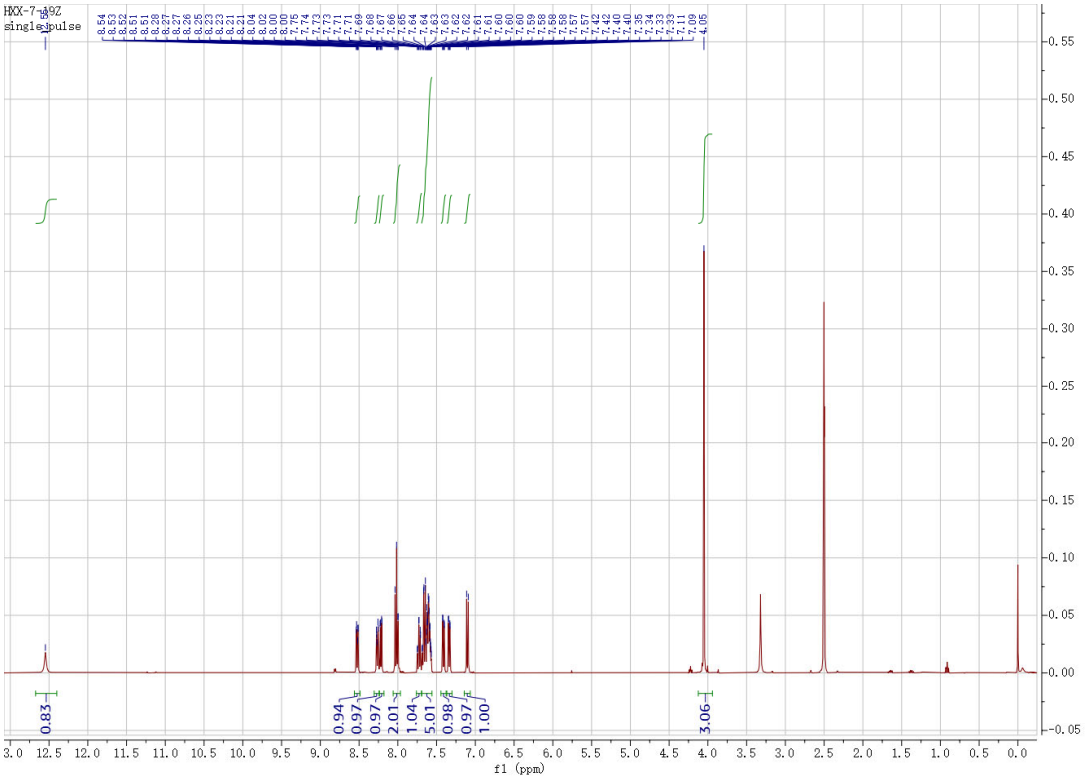


Compound **B25**:

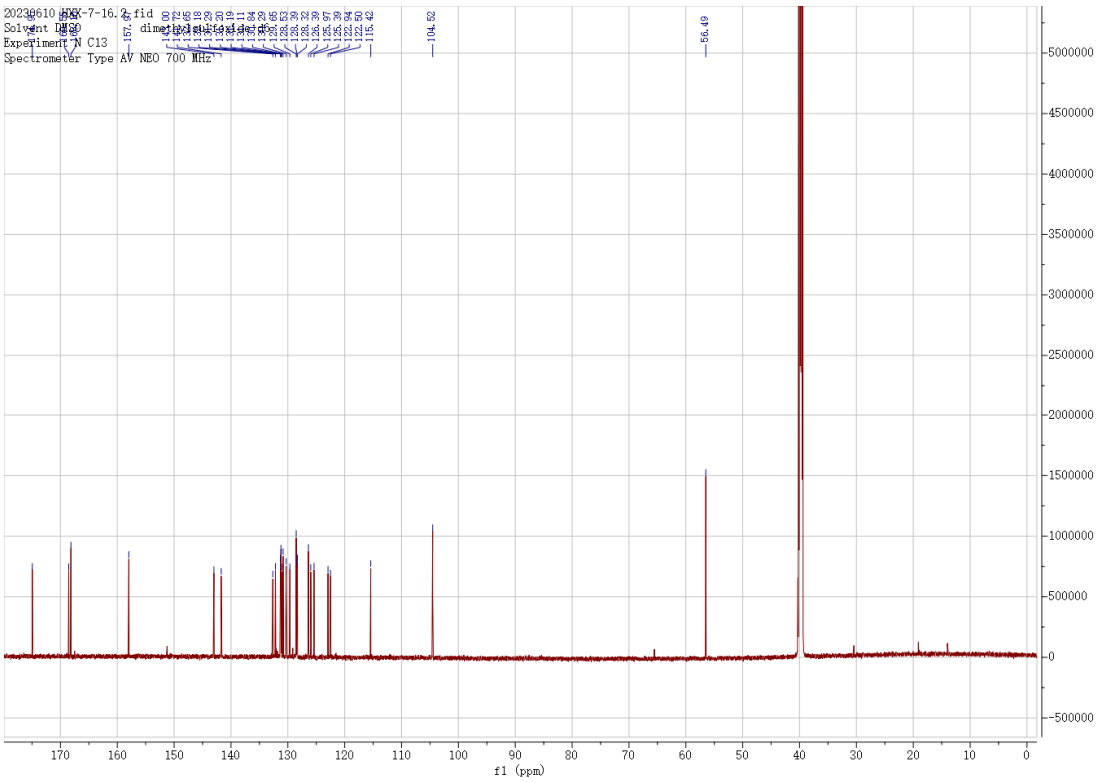
HR-ESI-MS:



^{1}H-NMR:

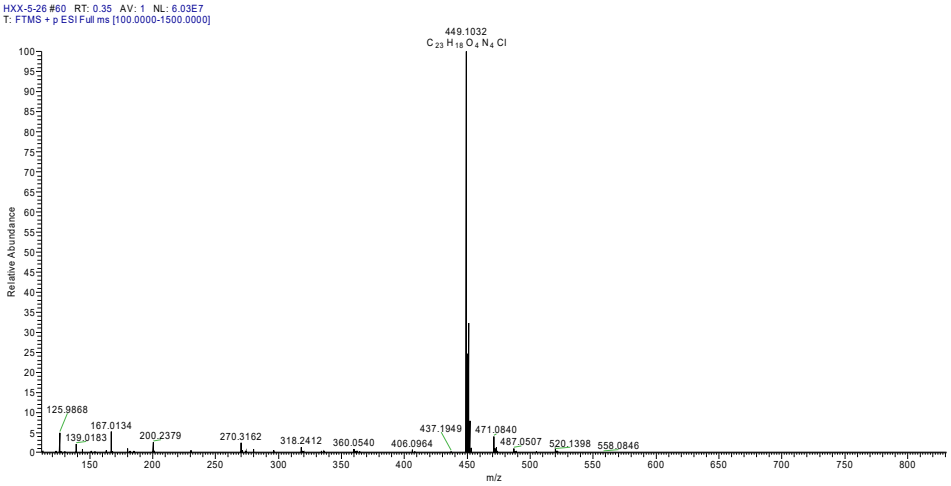


^{13}C-NMR:



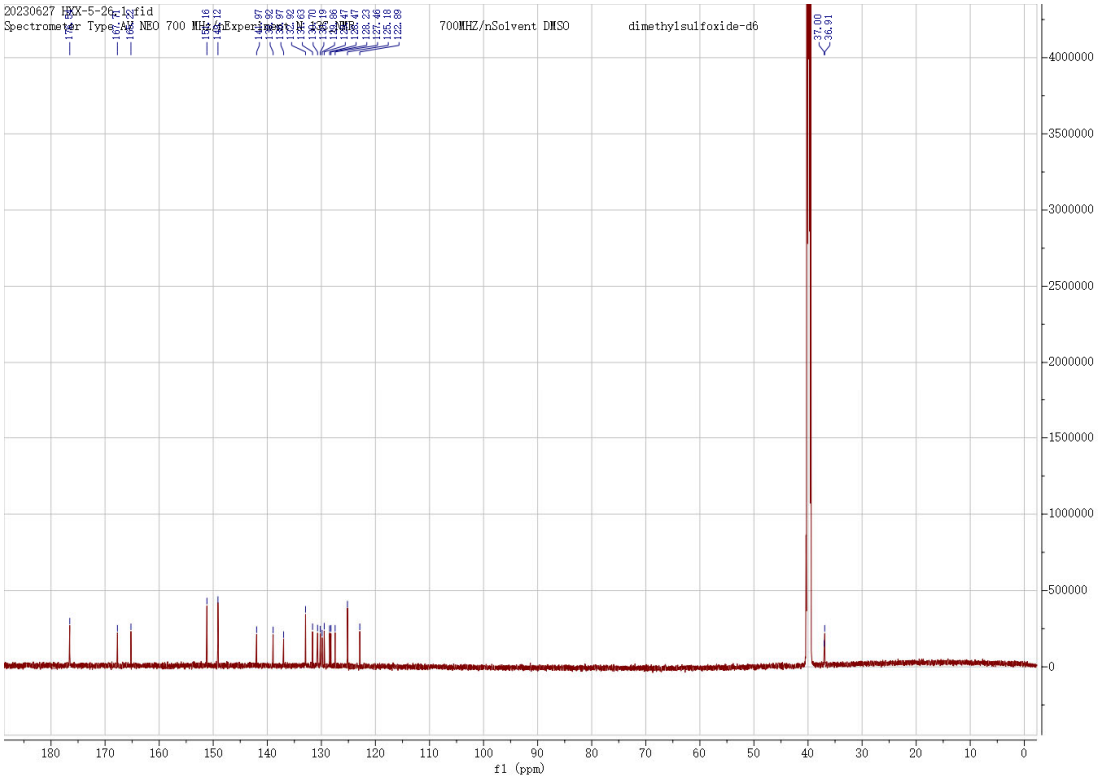
Compound **B26**:

HR-ESI-MS:



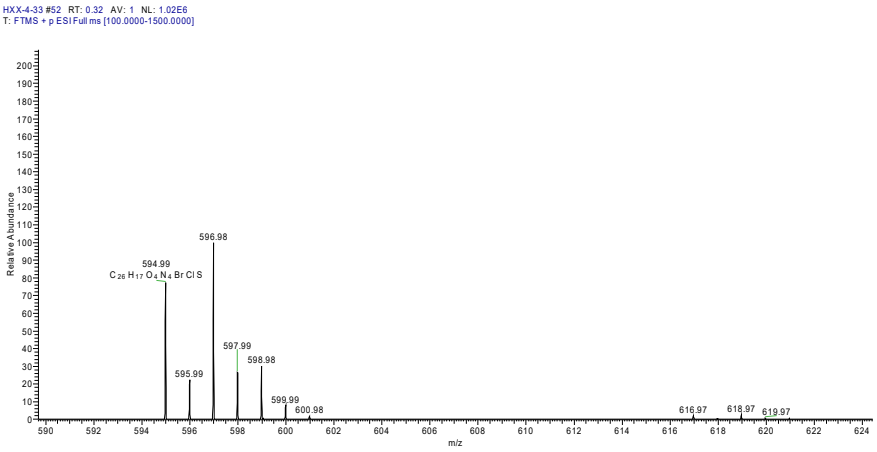
^{1}H-NMR:

^{13}C-NMR:

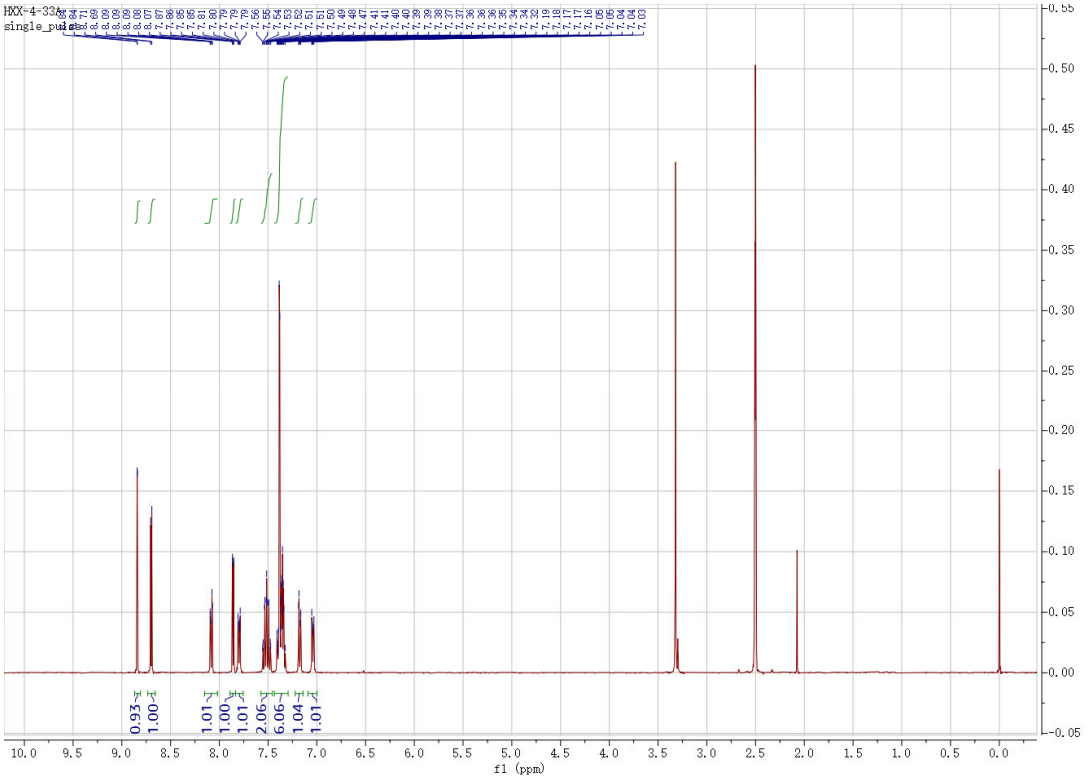


Compound **B27**:

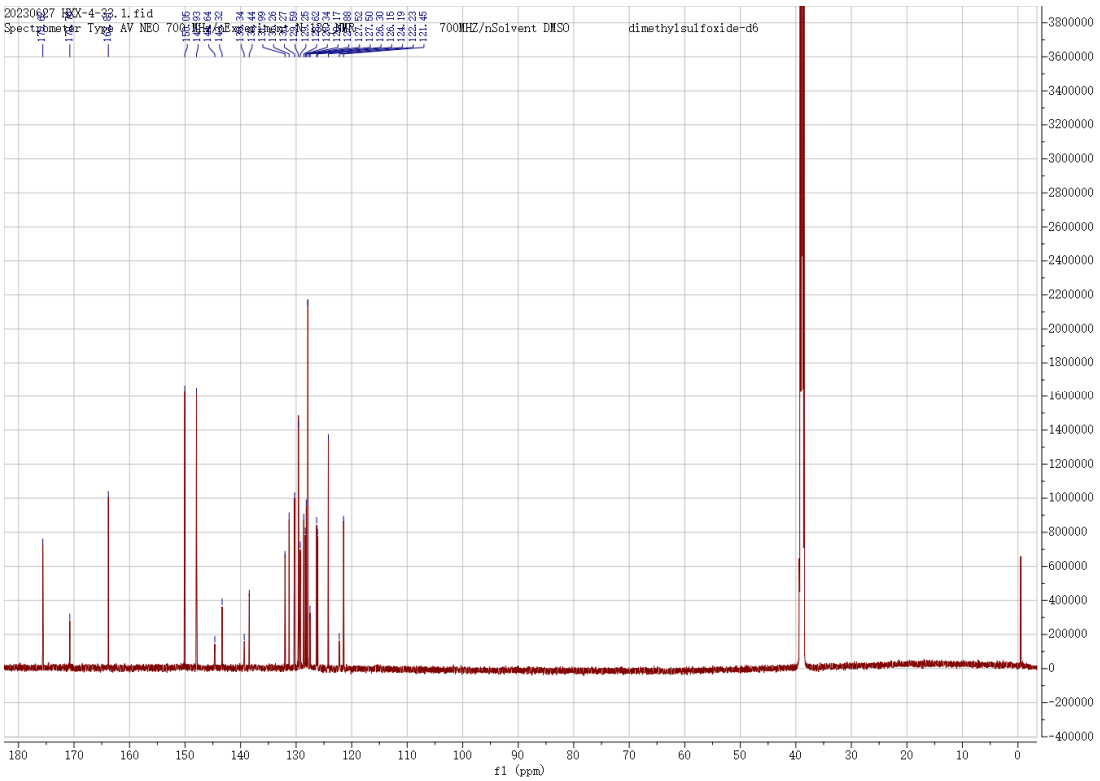
HR-ESI-MS:



^{1}H-NMR:

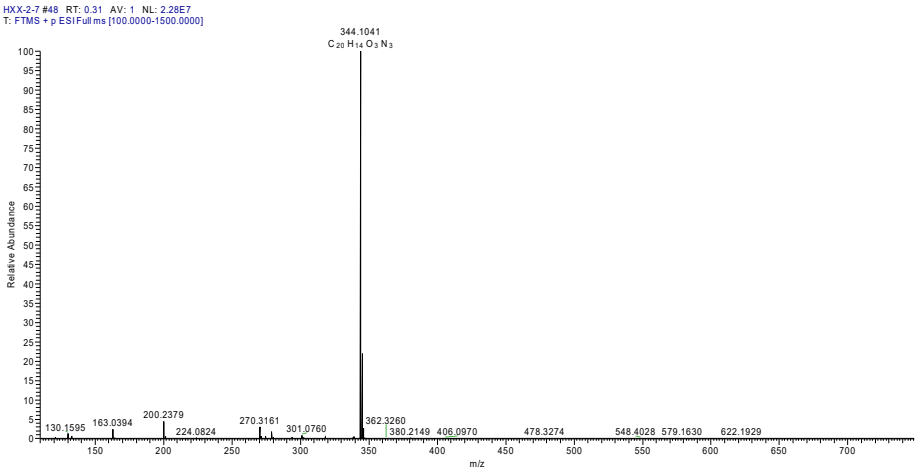


^{13}C-NMR:

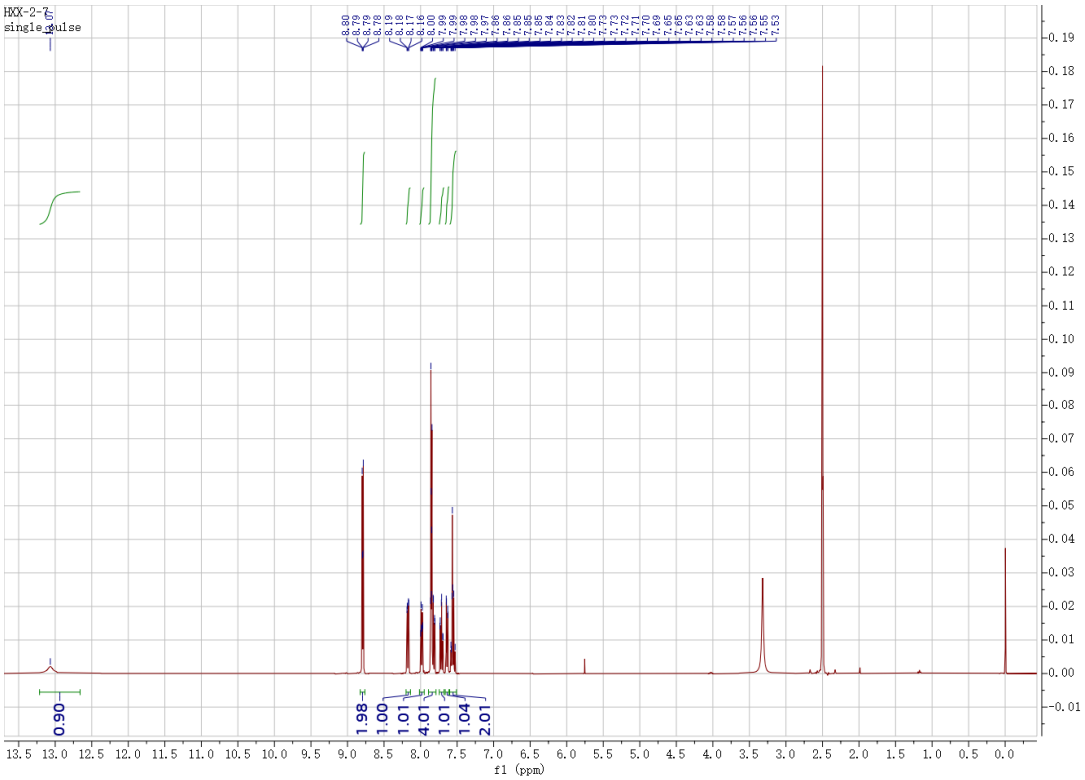


Compound **B28**:

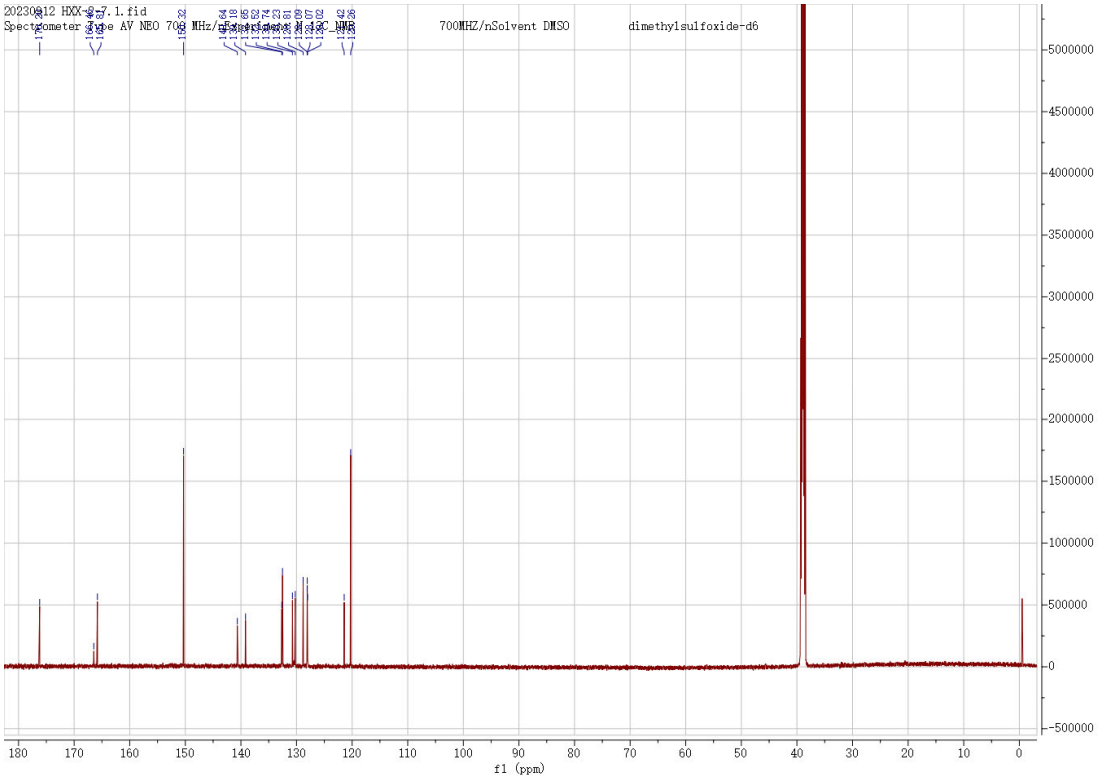
HR-ESI-MS:



^{1}H-NMR:

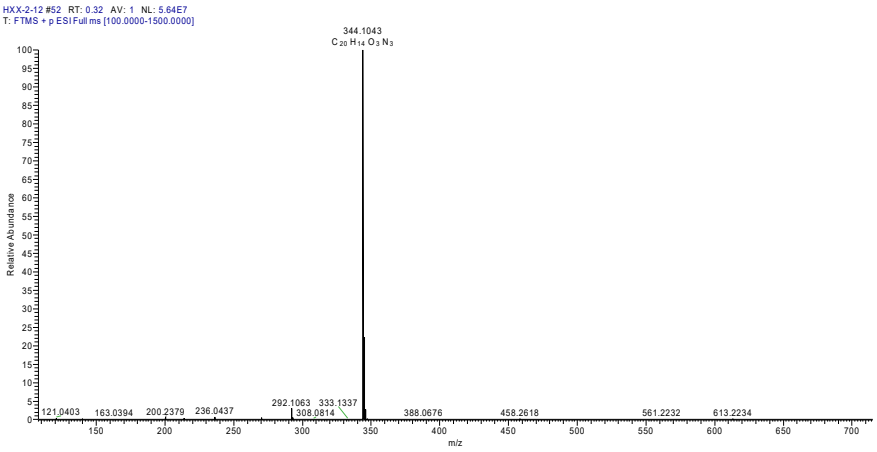


^{13}C-NMR:

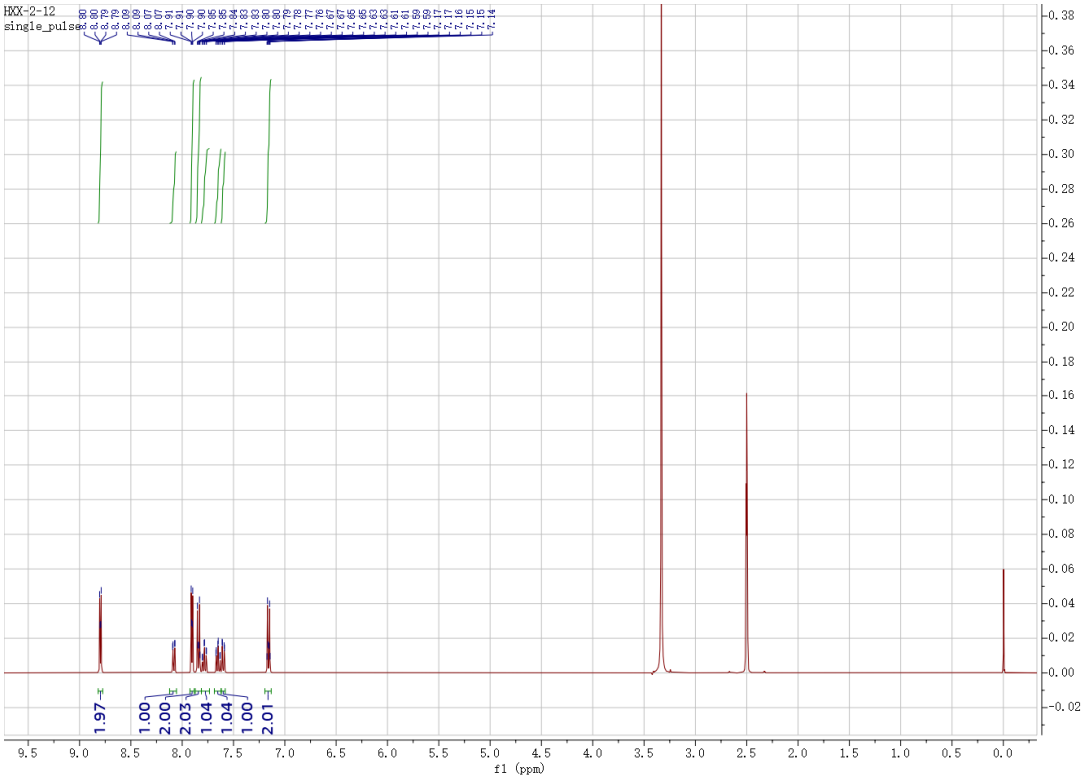


Compound **B29**:

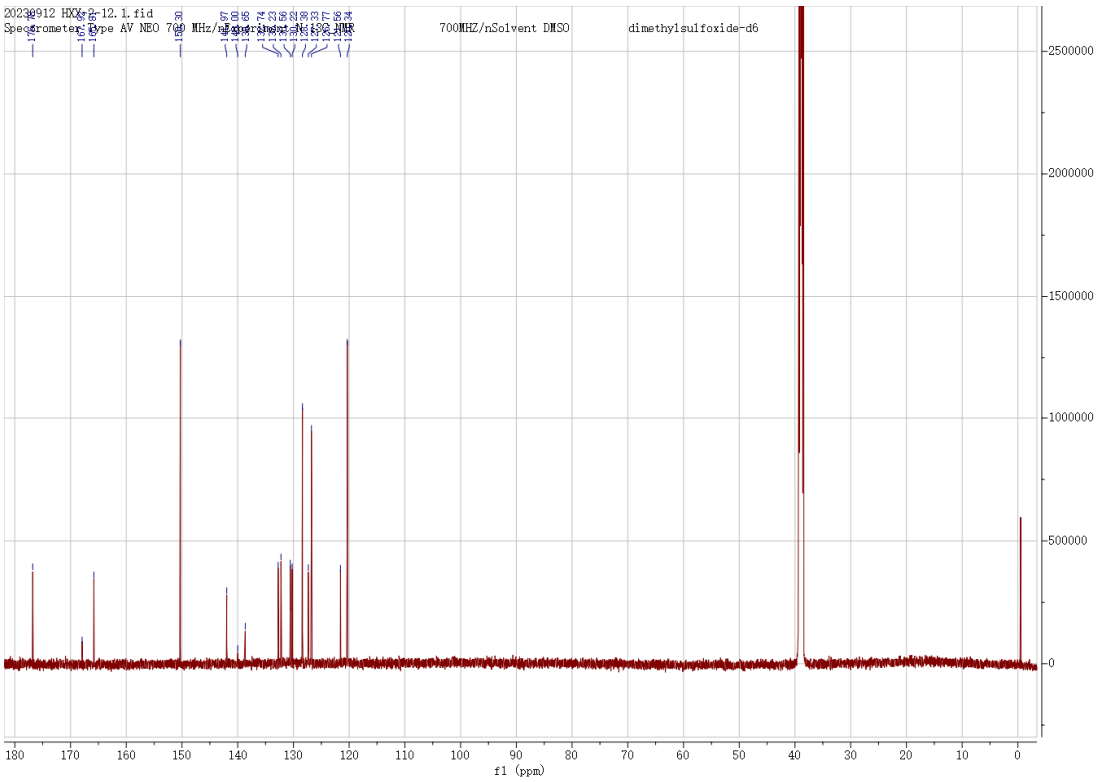
HR-ESI-MS:



^{1}H-NMR:

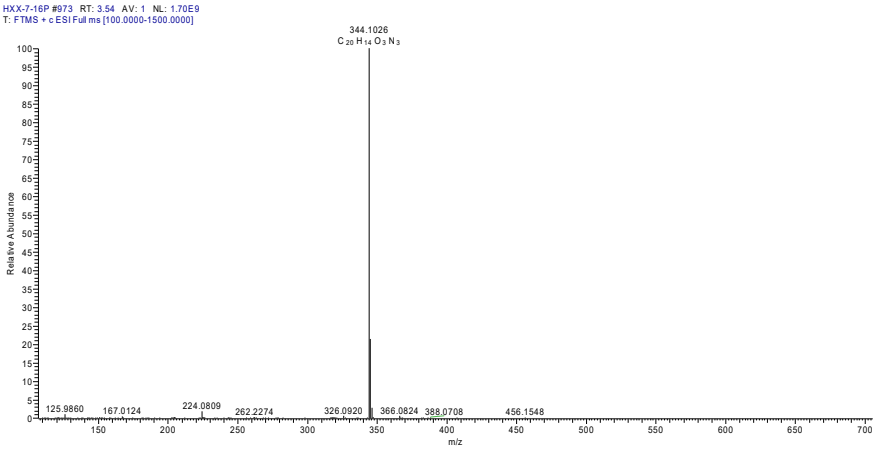


^{13}C-NMR:

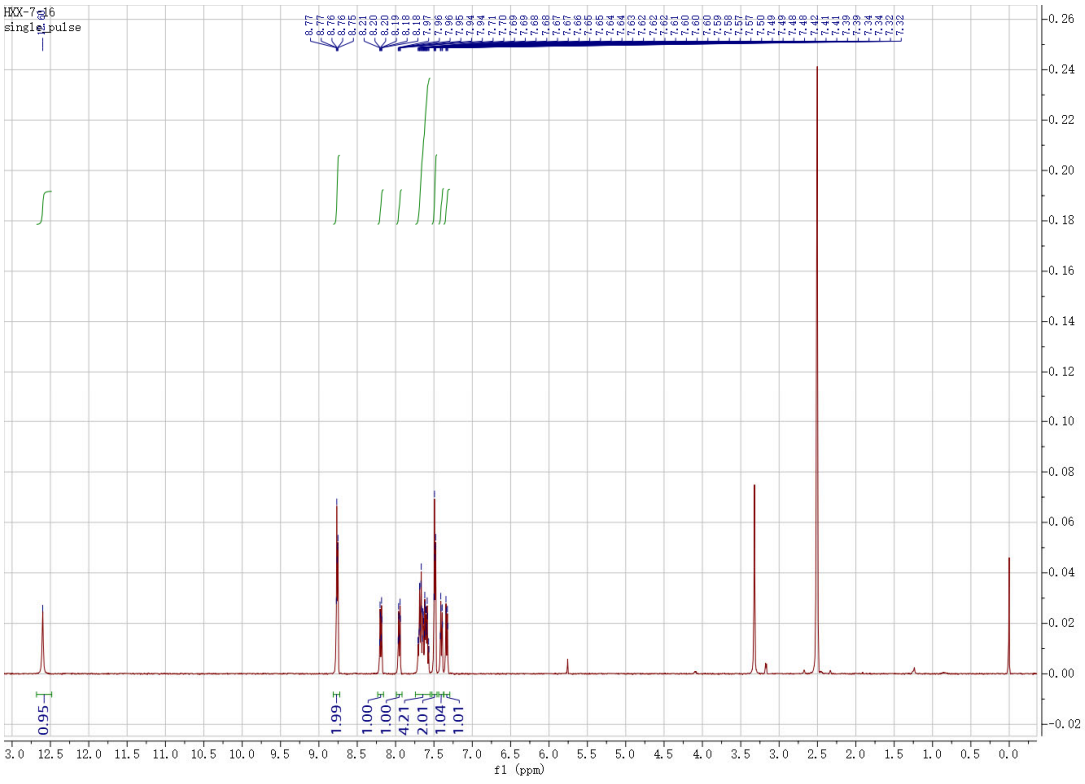


Compound **B30**:

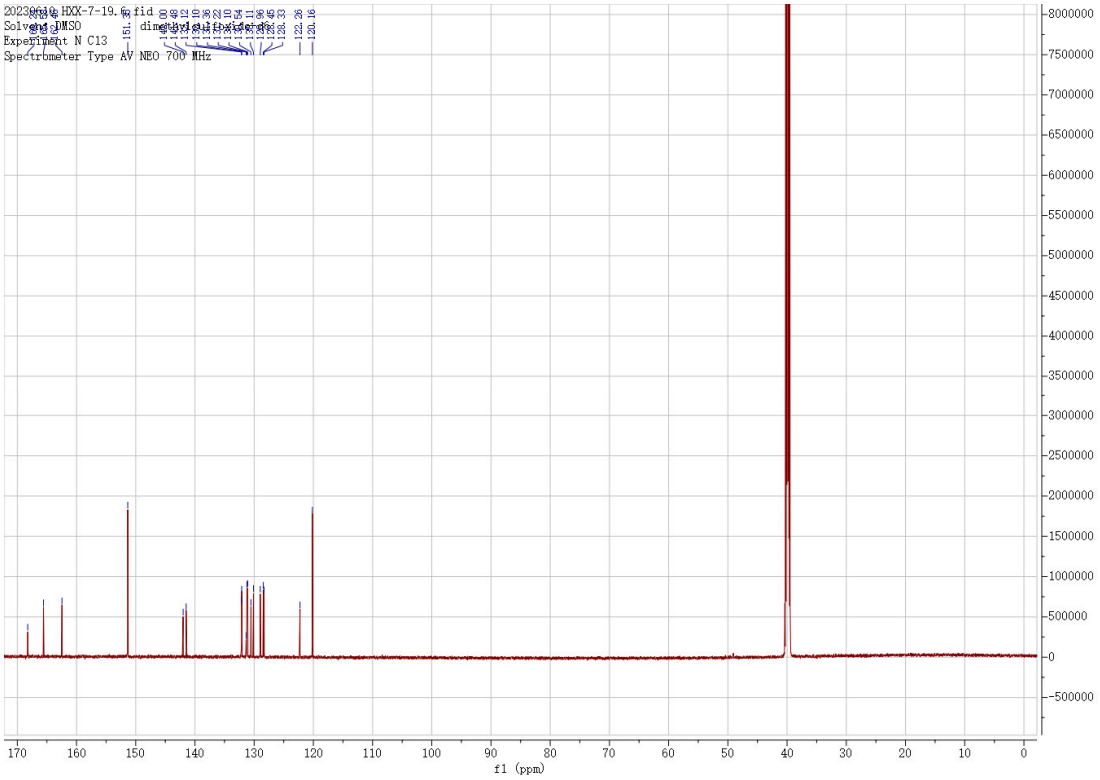
HR-ESI-MS:



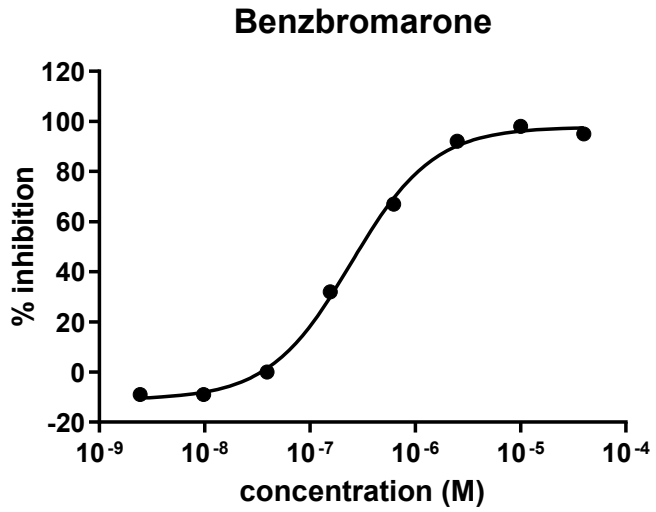
^{1}H-NMR:

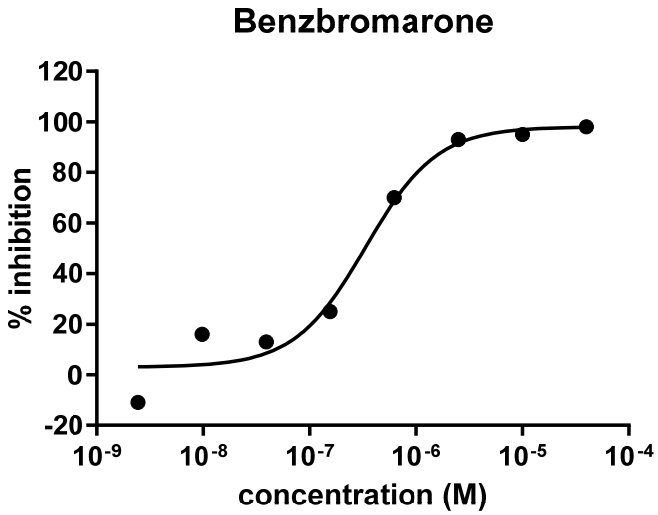


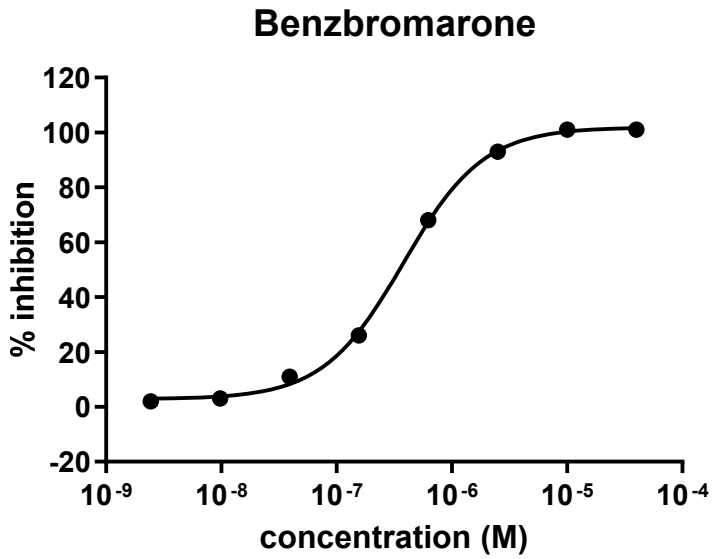
^{13}C-NMR:

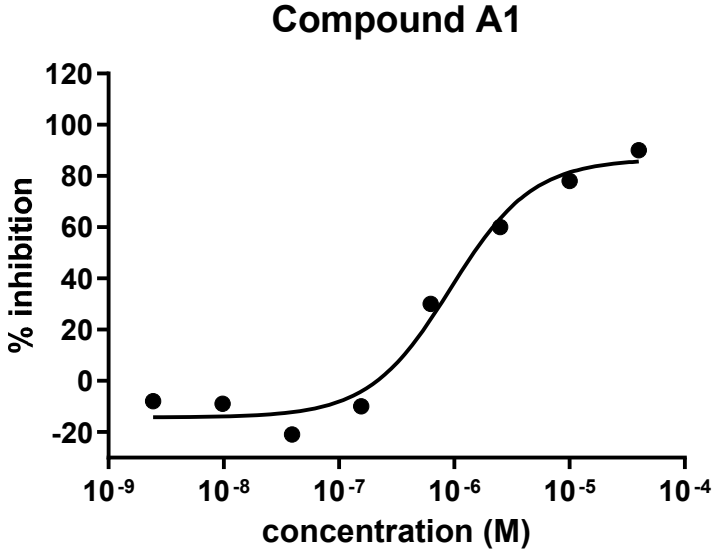

Solvent DMSO
Experiment N C13
Spectrometer Type AV NEO 700 MHz
f1 (ppm)

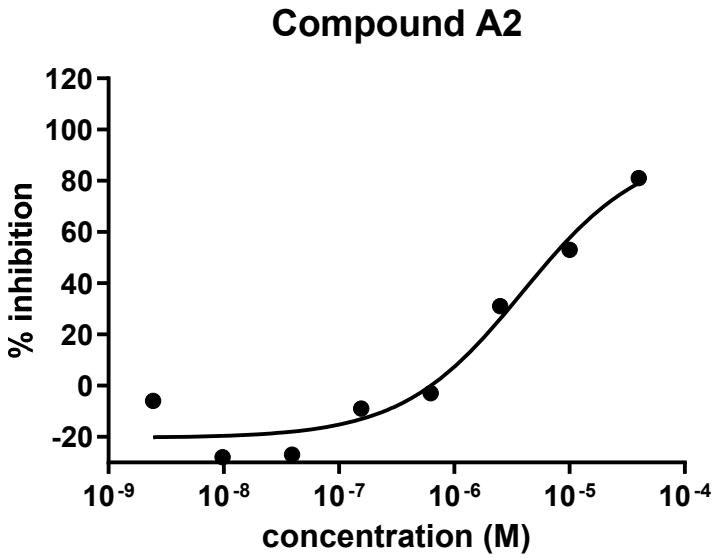
IC_{50} curves for all the target compounds are provided herein.

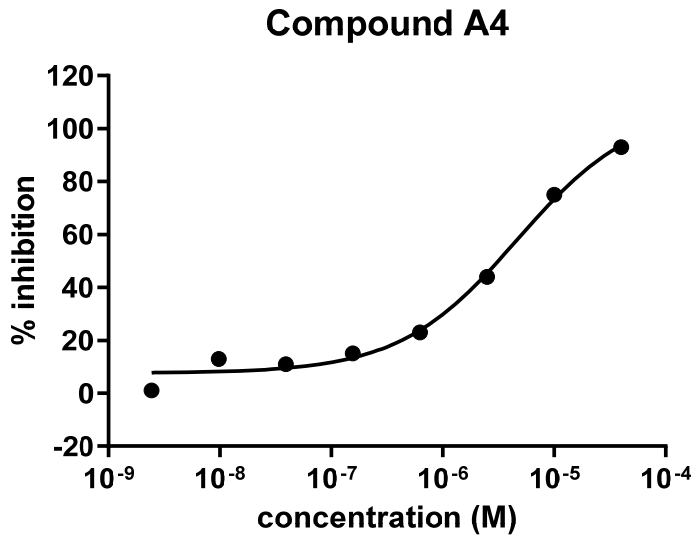




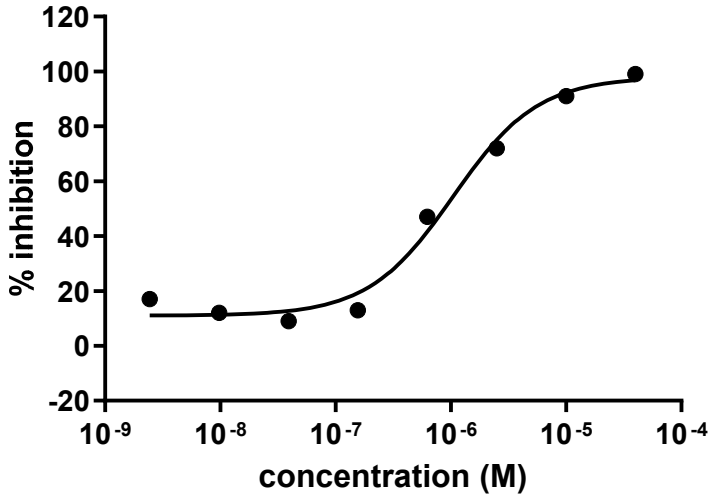

Benzbromarone
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound A1
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

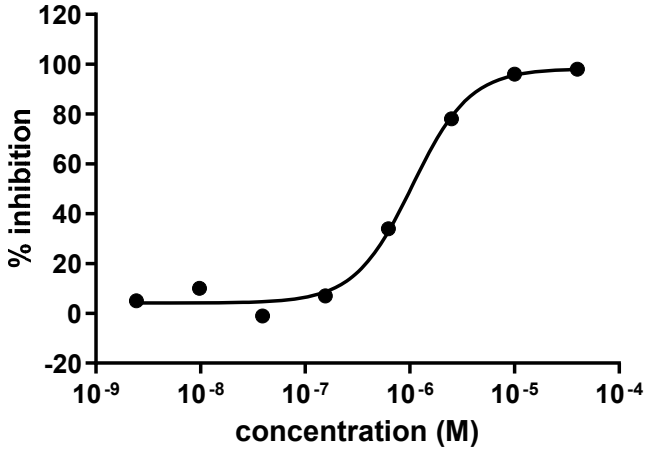

Compound A2
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound A4
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

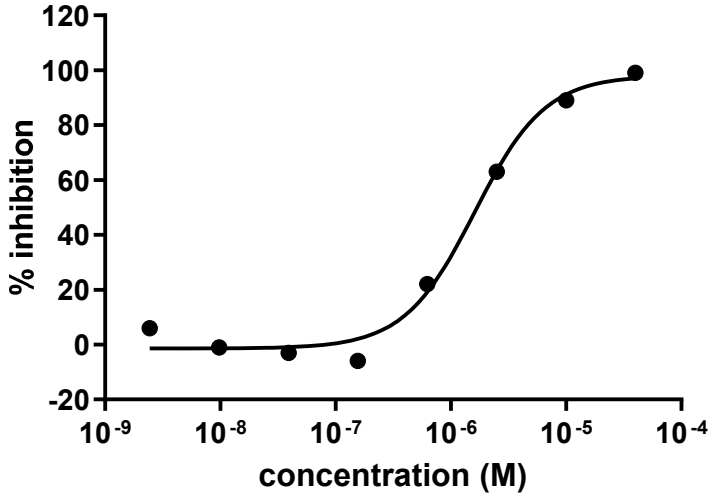
Compound A6

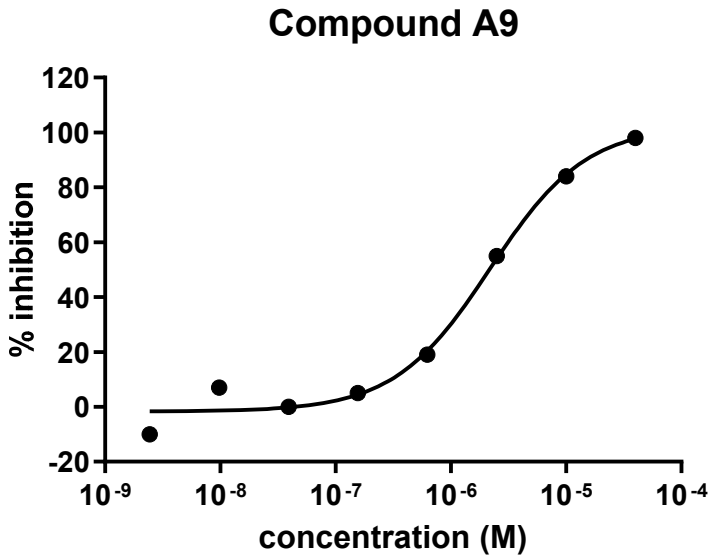


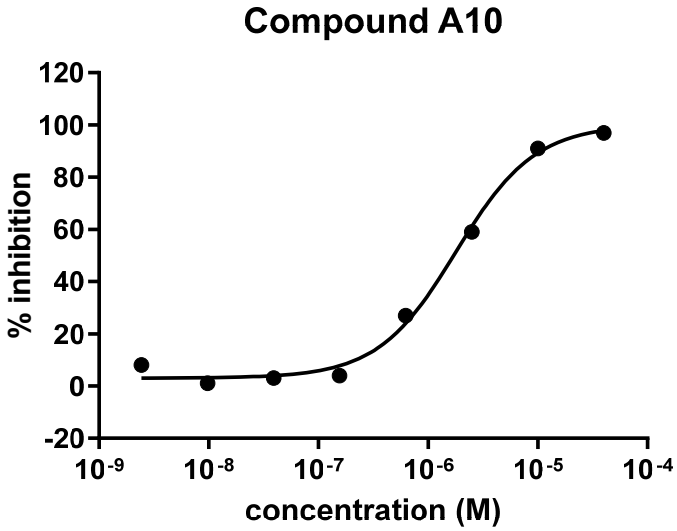
Compound A7

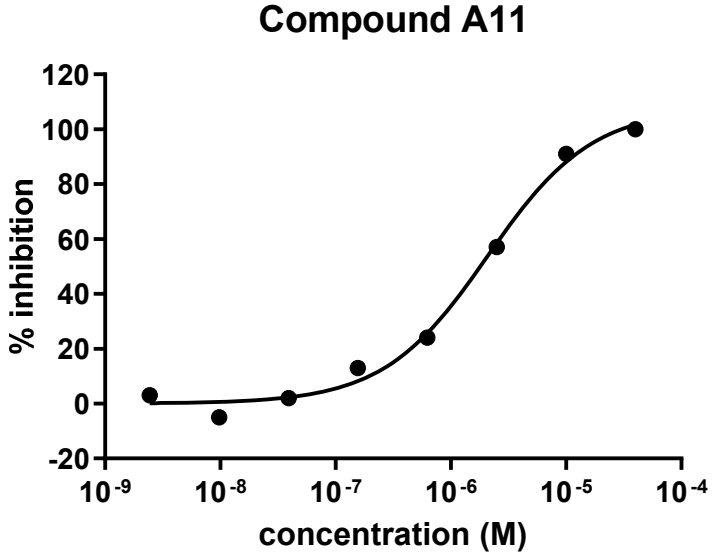


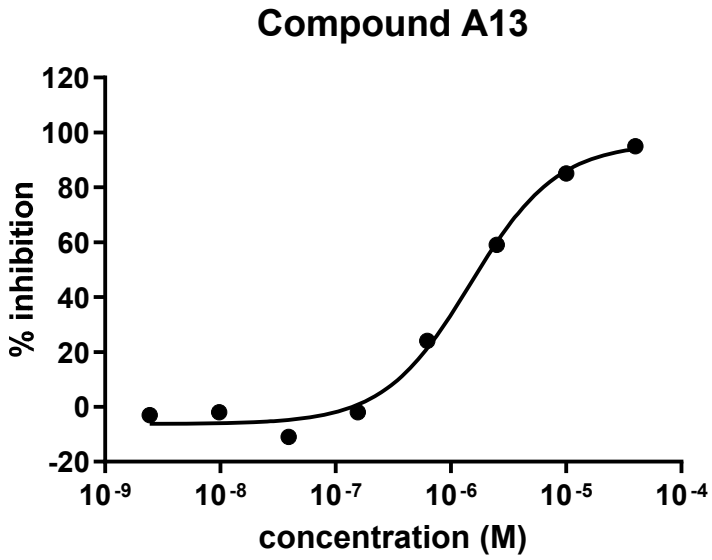
Compound A8

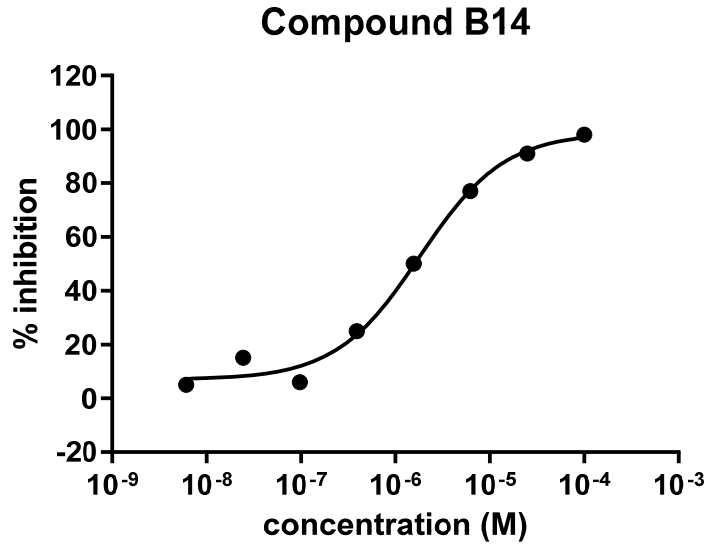


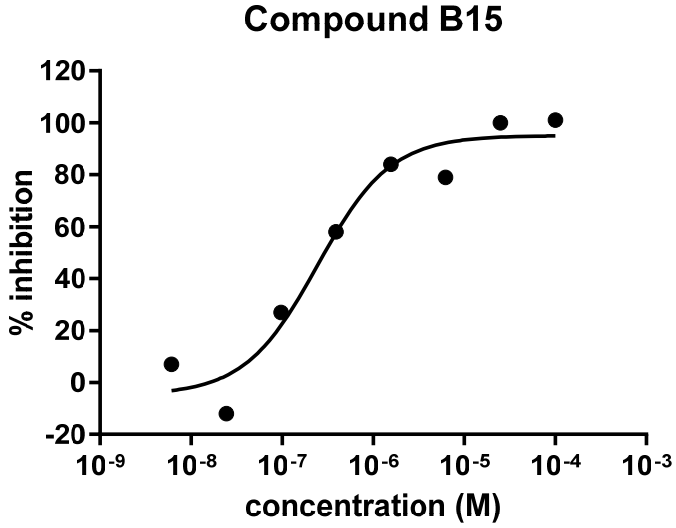

Compound A9
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

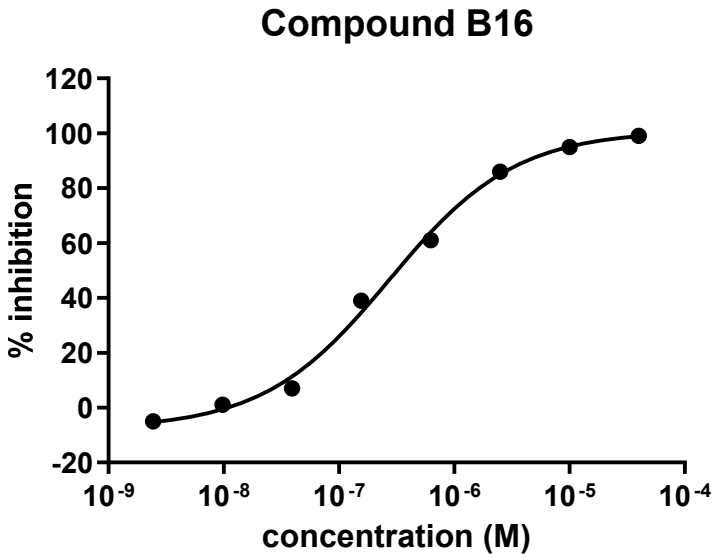

Compound A10
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

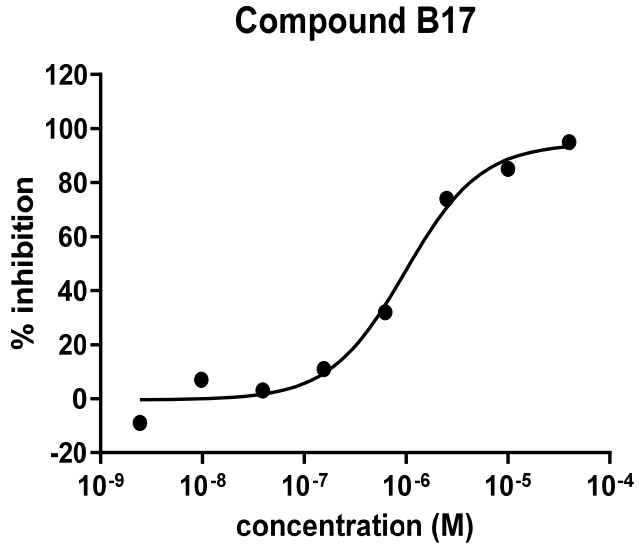

Compound A11
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

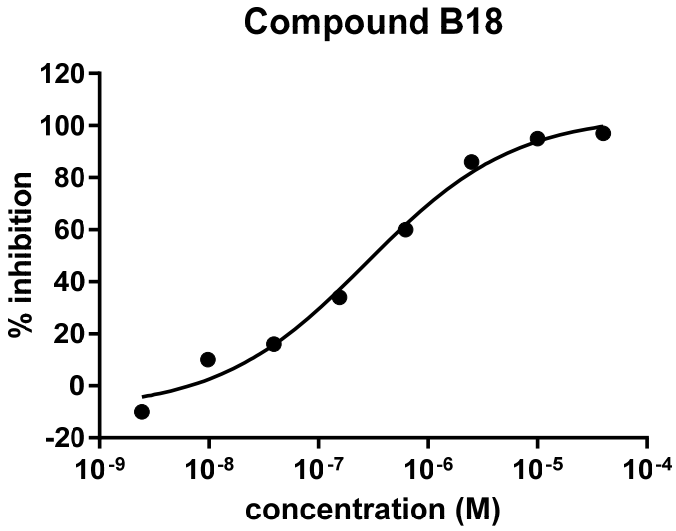

Compound A13
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

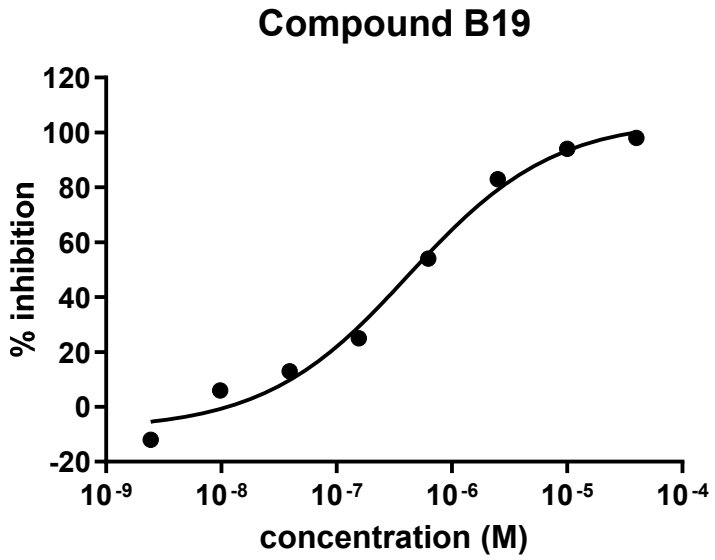

Compound B14
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
10-3
concentration (M)

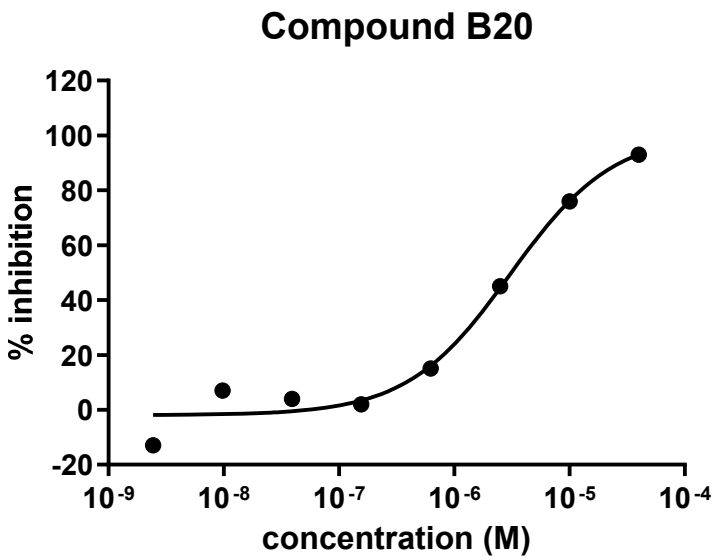

Compound B15
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
10-3
concentration (M)

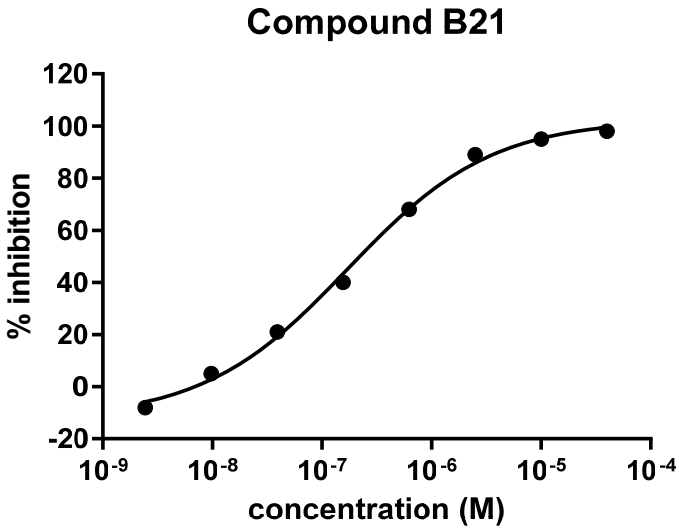

Compound B16
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

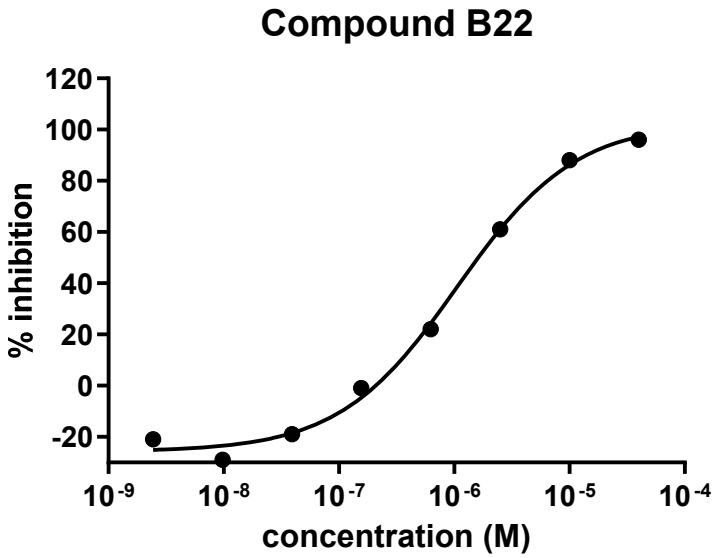

Compound B17
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

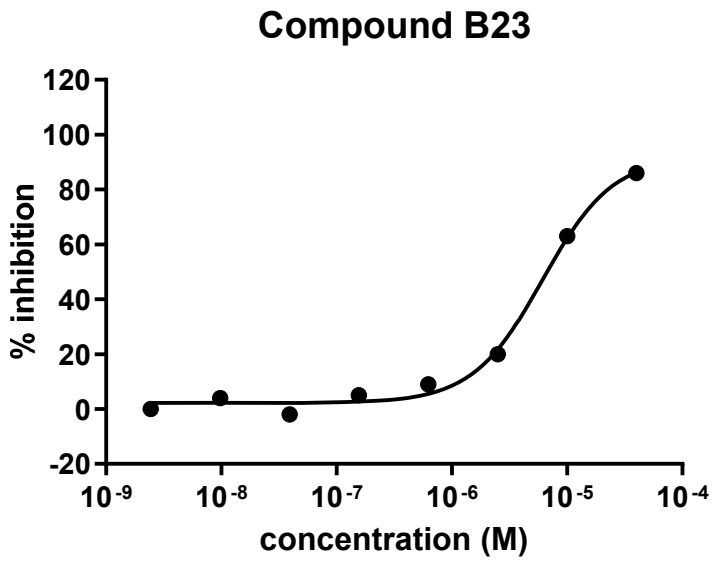

Compound B18
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)

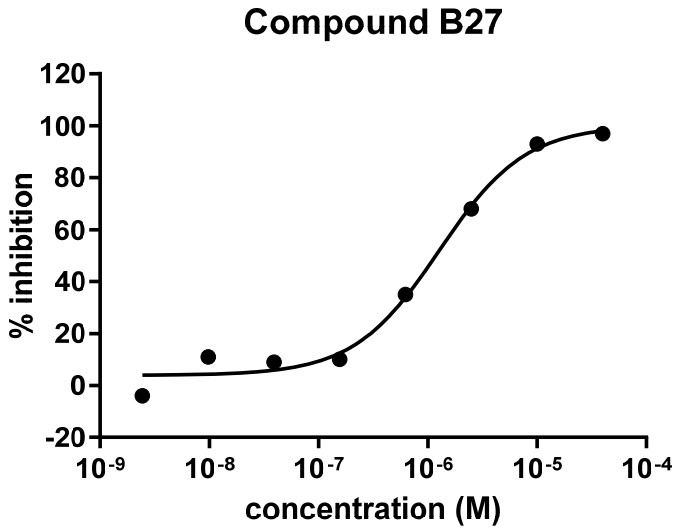

Compound B19
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound B20
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound B21
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound B22
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound B23
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)


Compound B27
120
100
80
60
40
20
0
-20
% inhibition
10-9
10-8
10-7
10-6
10-5
10-4
concentration (M)