

## Supplementary Information

### Design and synthesis of some novel 1-chloro-6-(4-(sulfonyl) piperidin-4-yl) phenyl)-6,7-dihydro-5H-cyclopenta[c]pyridin-5-ones as *in vitro* anticancer agents

Narender Reddy Modugu<sup>a</sup>, Kavitha Siddoju<sup>\*a</sup>, Jagadeesh Kumar Ega<sup>a</sup>, Bhimcharan Maiti<sup>b</sup> & Rajashekar Reddy Nimmareddy<sup>b</sup>

<sup>a</sup> Department of Chemistry, Chaitanya (Deemed to be University), Hanumakonda, Telangana 506 001, India

<sup>b</sup> Aragen Life Sciences Pvt. Ltd., Medicinal Chemistry Division, 28A, IDA Nacharam, Hyderabad 500 076, Telangana, India

E-mail: kavithavbr@gmail.com

Received 30 December 2023; accepted (revised) 28 June 2024

### A few Spectra of Compounds:

C6113-037-01

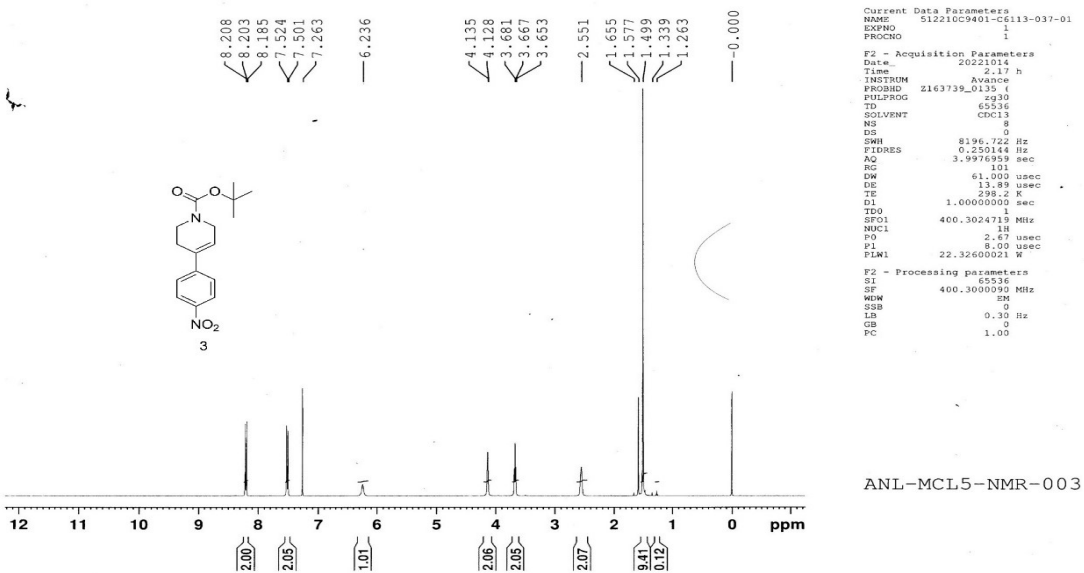


Figure 1  $^1\text{H}$  NMR spectra of compound 3

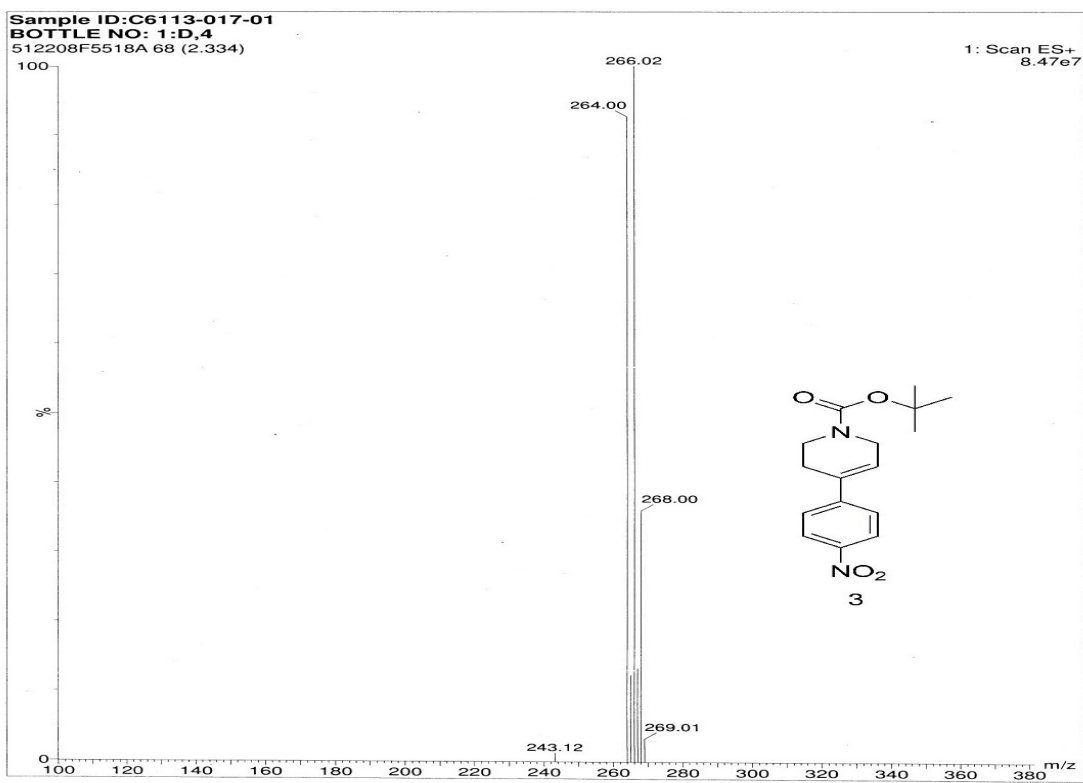


Figure 2 Mass spectra of compound 3

C6113-038-01

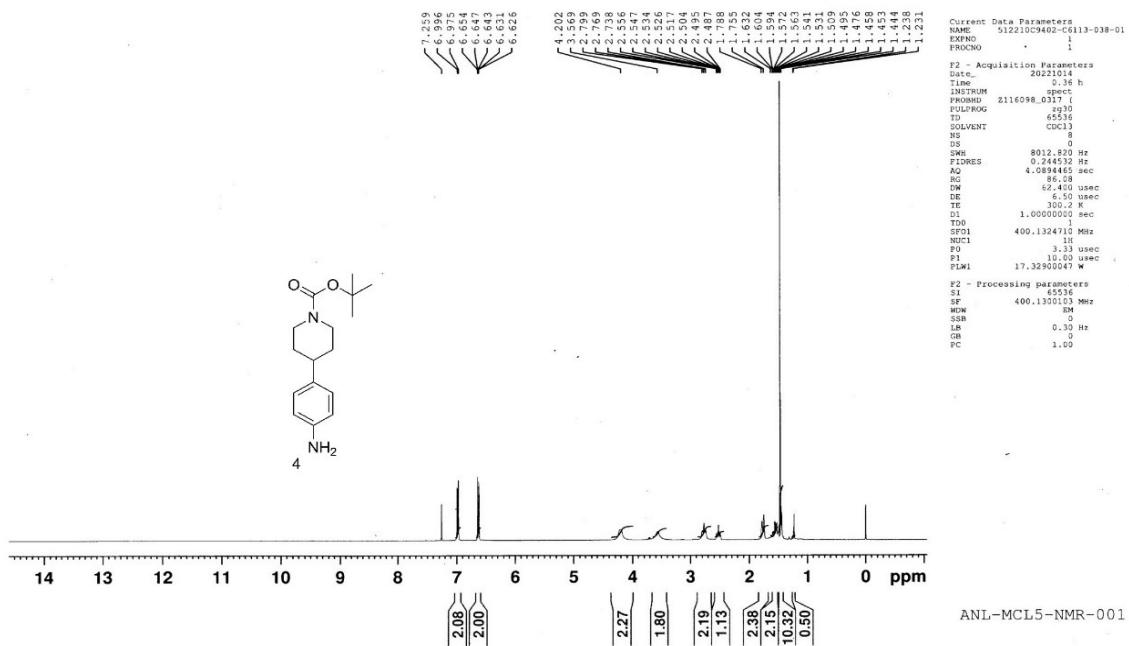


Figure 3  $^1\text{H}$  NMR spectra of compound 4

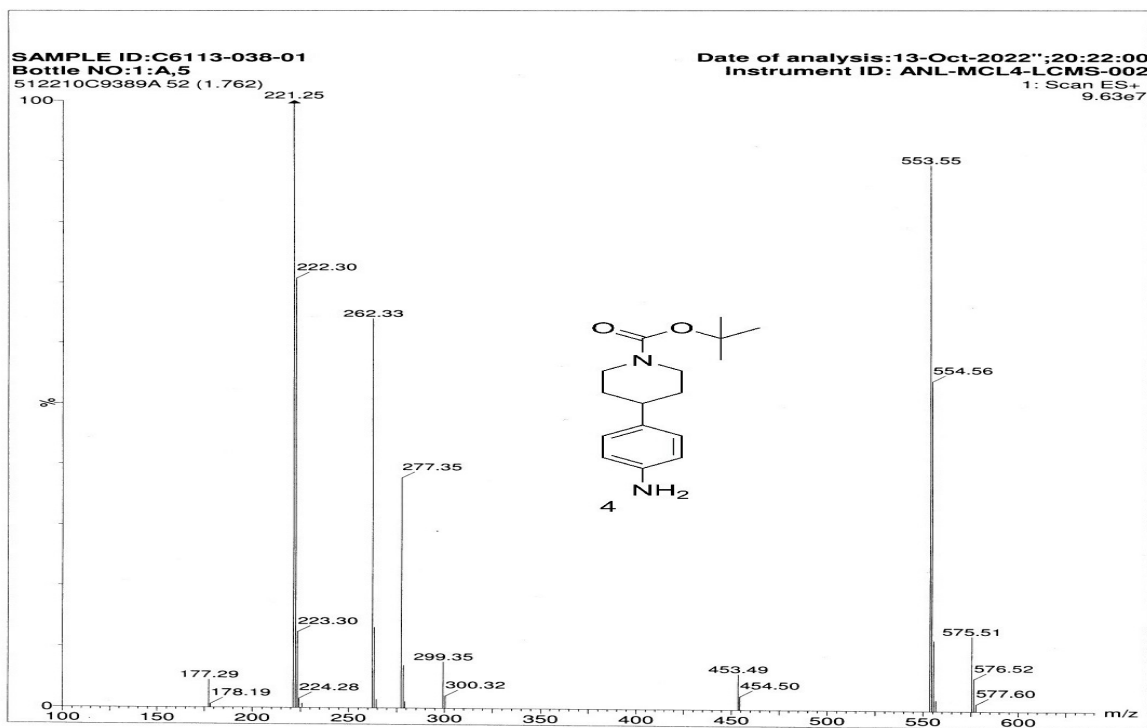


Figure 4 Mass spectra of compound 4

C6113-039-01

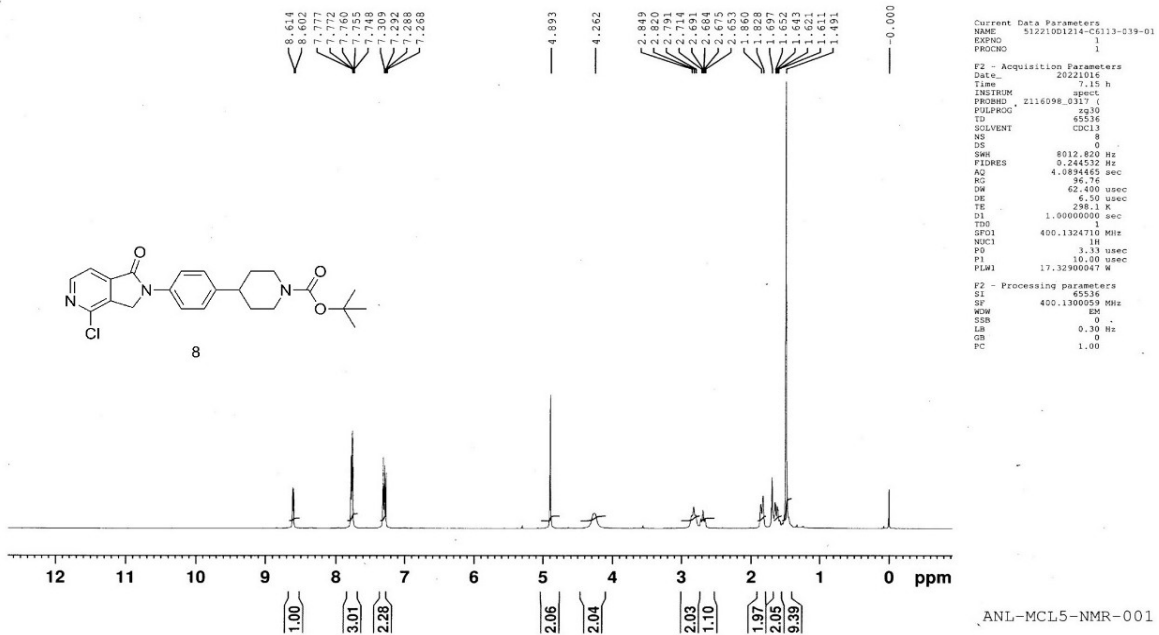


Figure 5 <sup>1</sup>H NMR spectra of compound 8

C6113-039-01

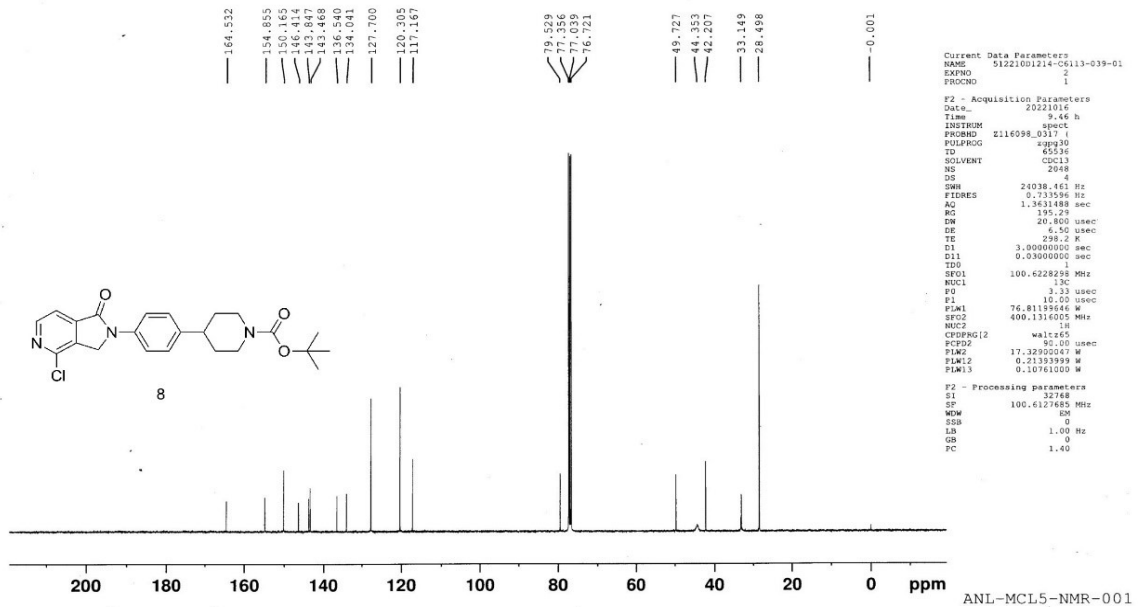


Figure 6 <sup>13</sup>C NMR spectra of compound 8

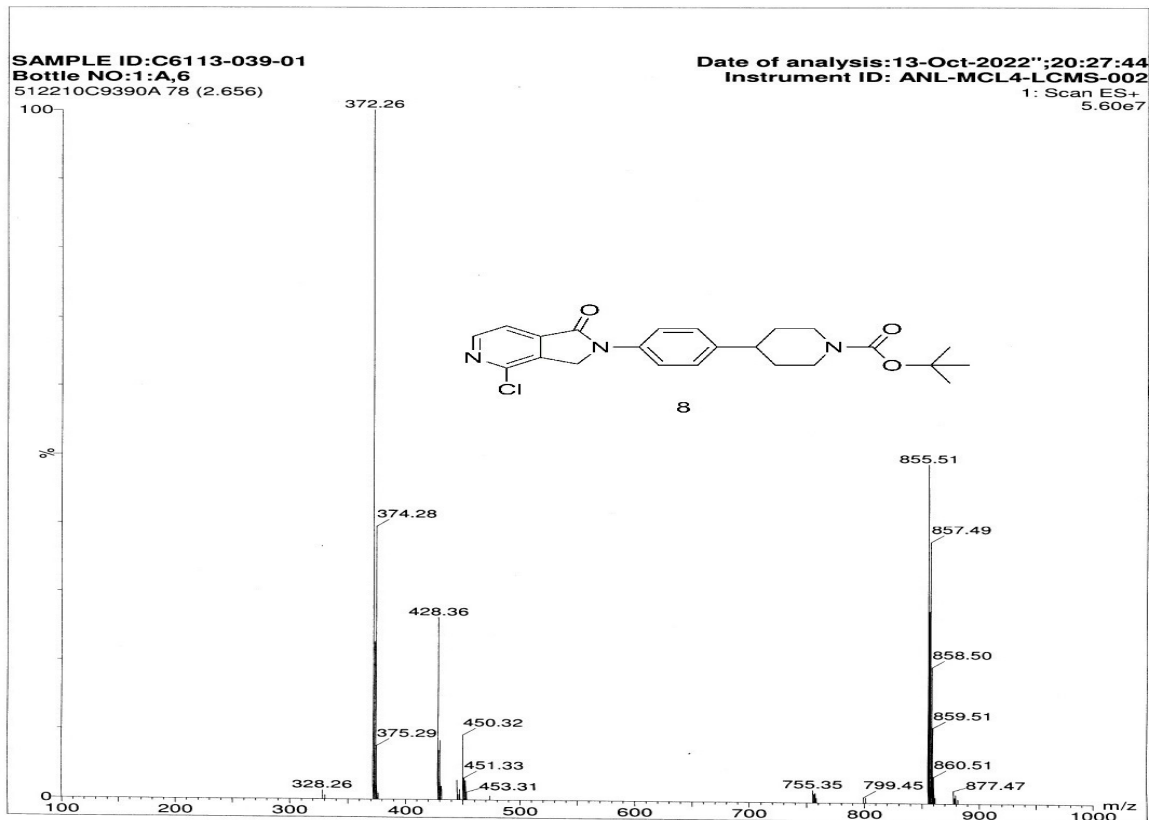


Figure 7 Mass spectra of compound 8

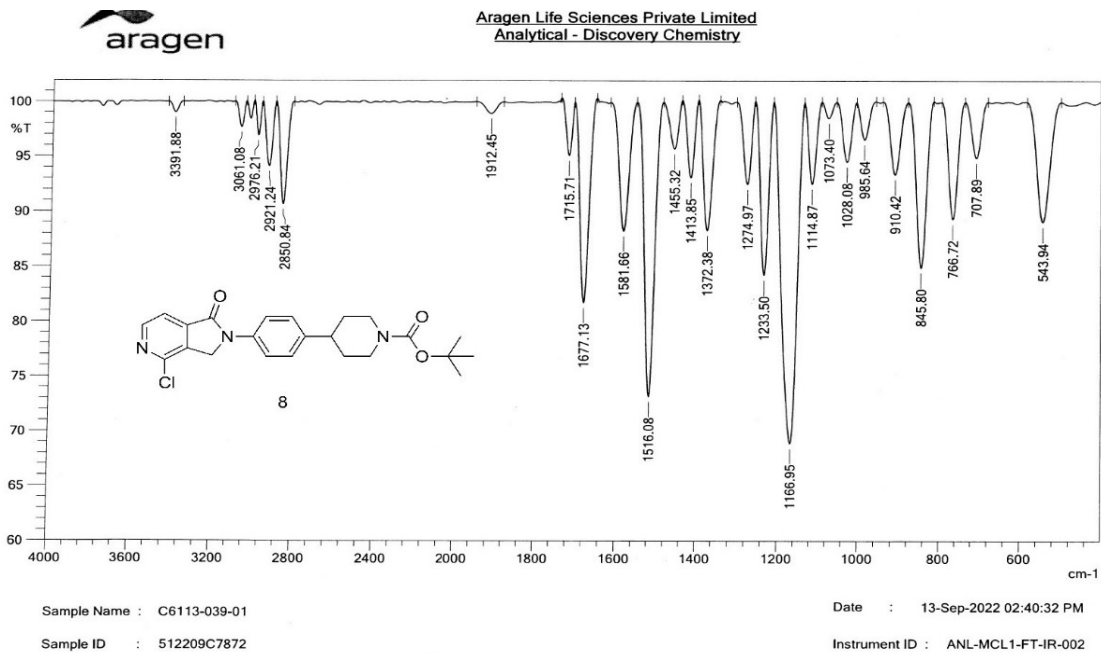


Figure 8 IR spectra of compound 8

C6113-040-01

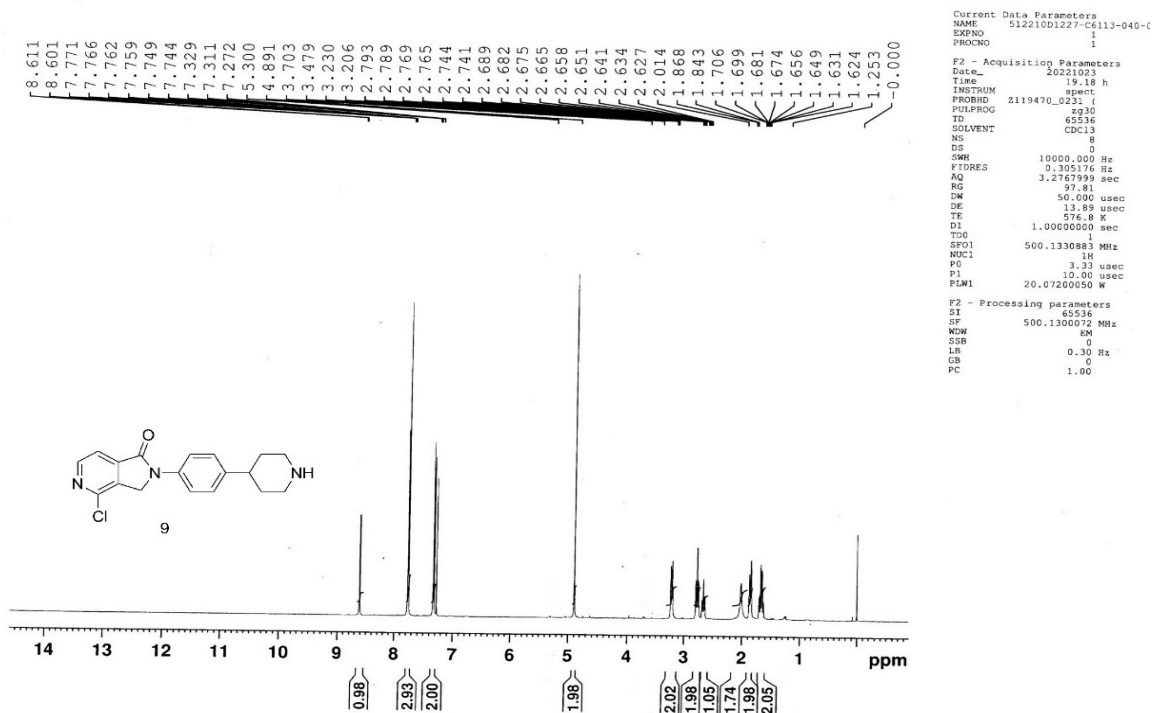


Figure 9 <sup>1</sup>H NMR spectra of compound 9

C6113-040-01

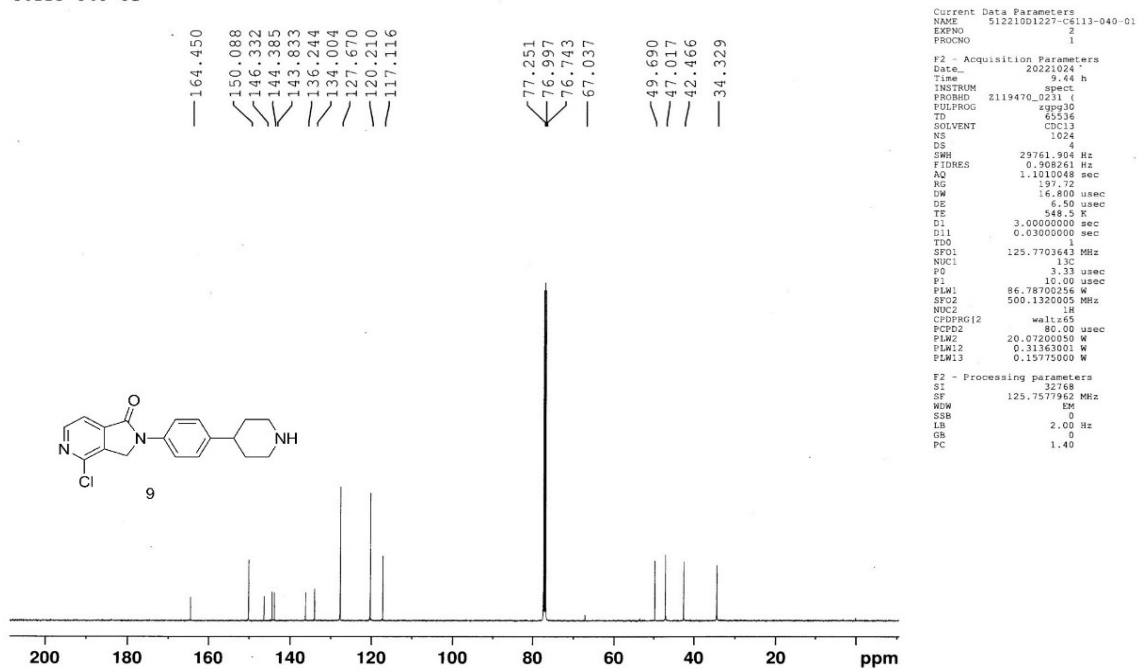
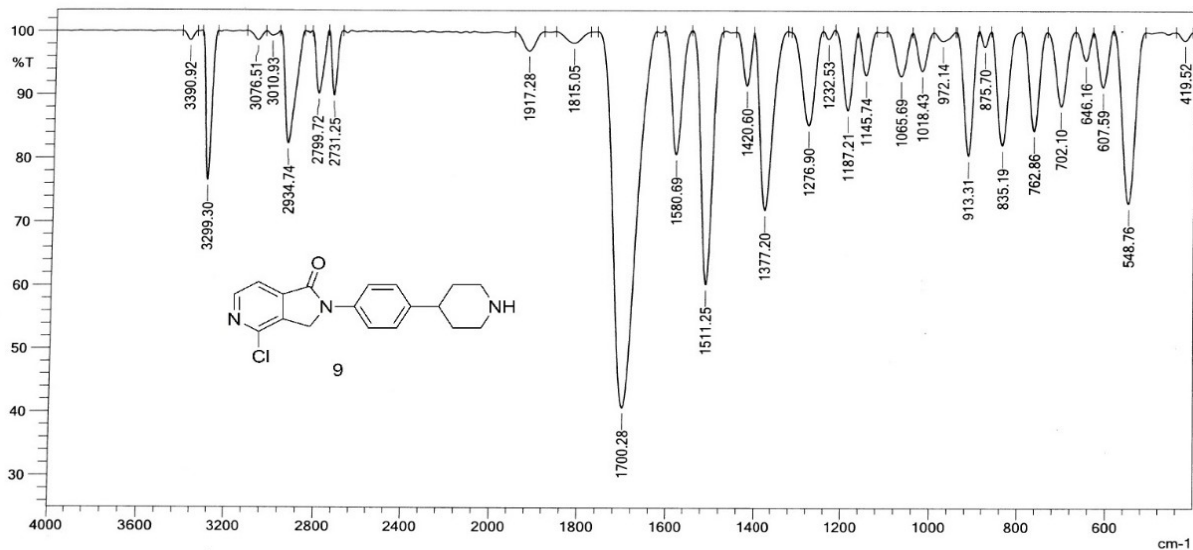


Figure 10 <sup>13</sup>C NMR spectra of compound 9



Sample Name : C6113-040-01

Date : 13-Sep-2022 02:44:31 PM

Sample ID : 512209C7873

Instrument ID : ANL-MCL1-FT-IR-002

Figure 11 IR spectra of compound 9

C6113-041-01

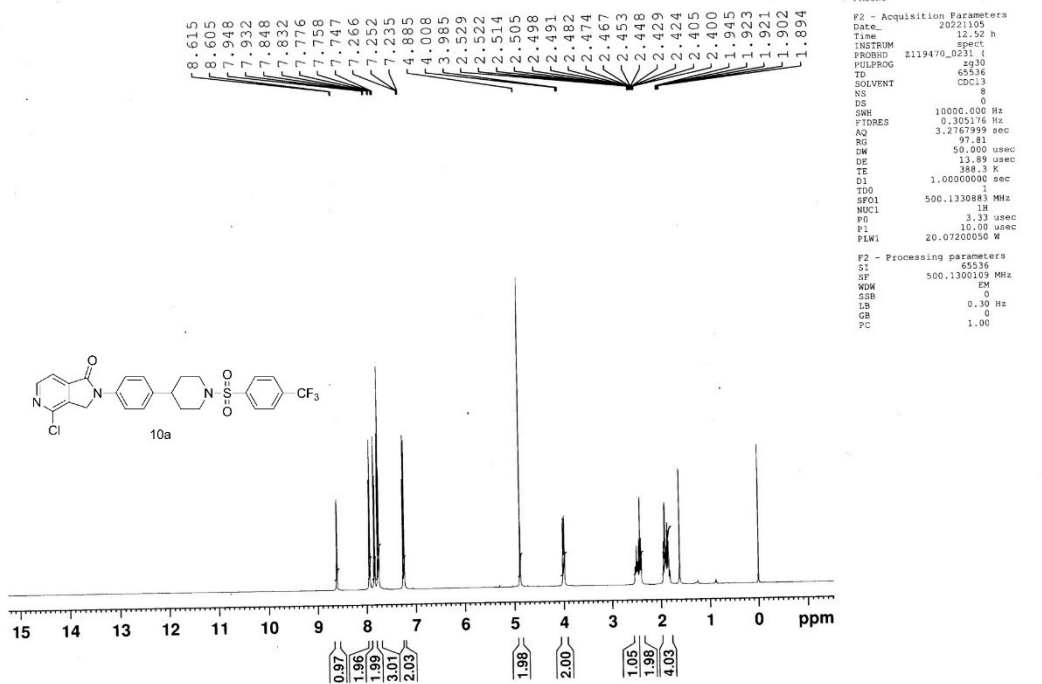


Figure 12 <sup>1</sup>H NMR spectra of compound 10a

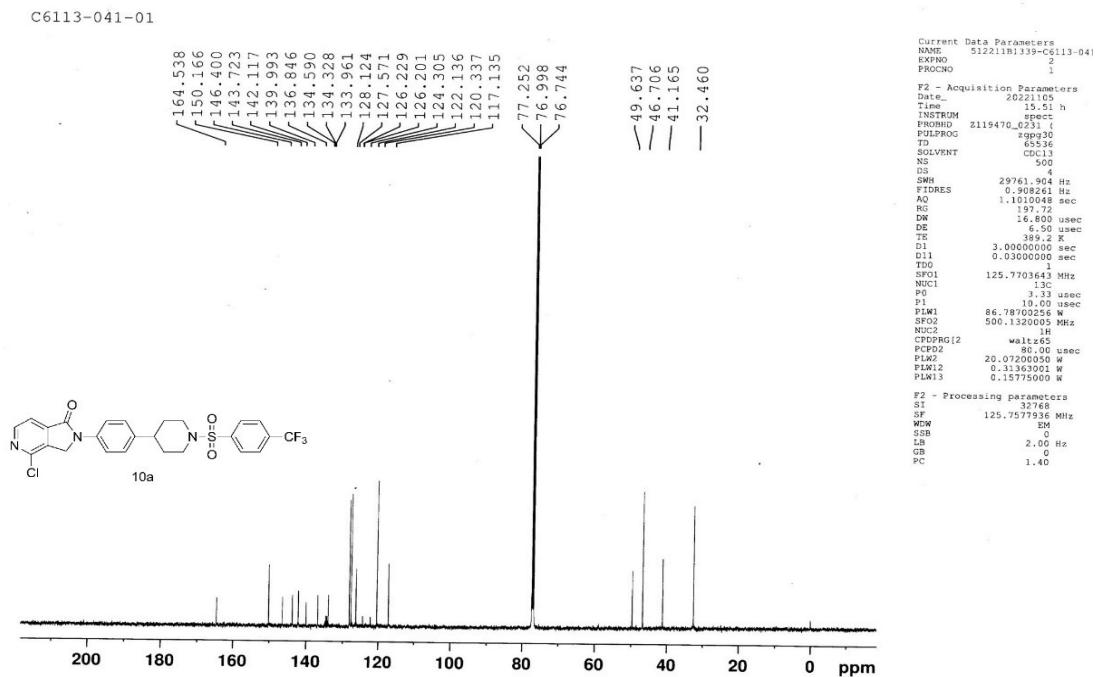


Figure 13  $^{13}\text{C}$  NMR spectra of compound 10a

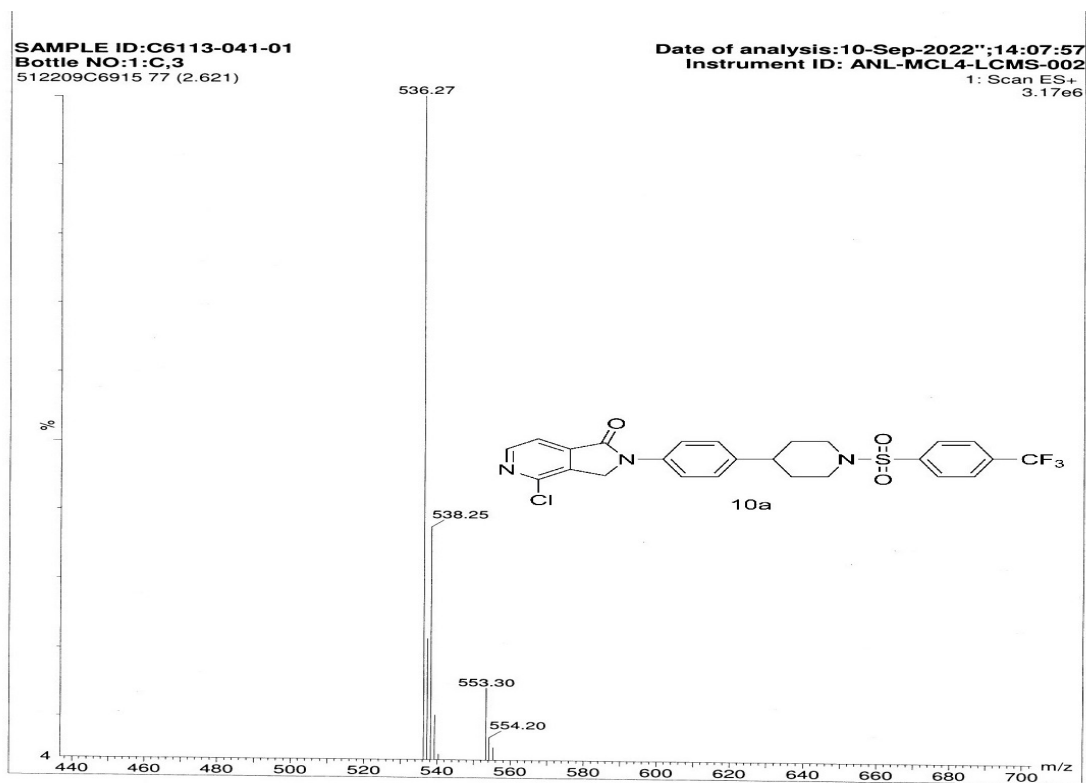


Figure 14 Mass spectra of compound 10a

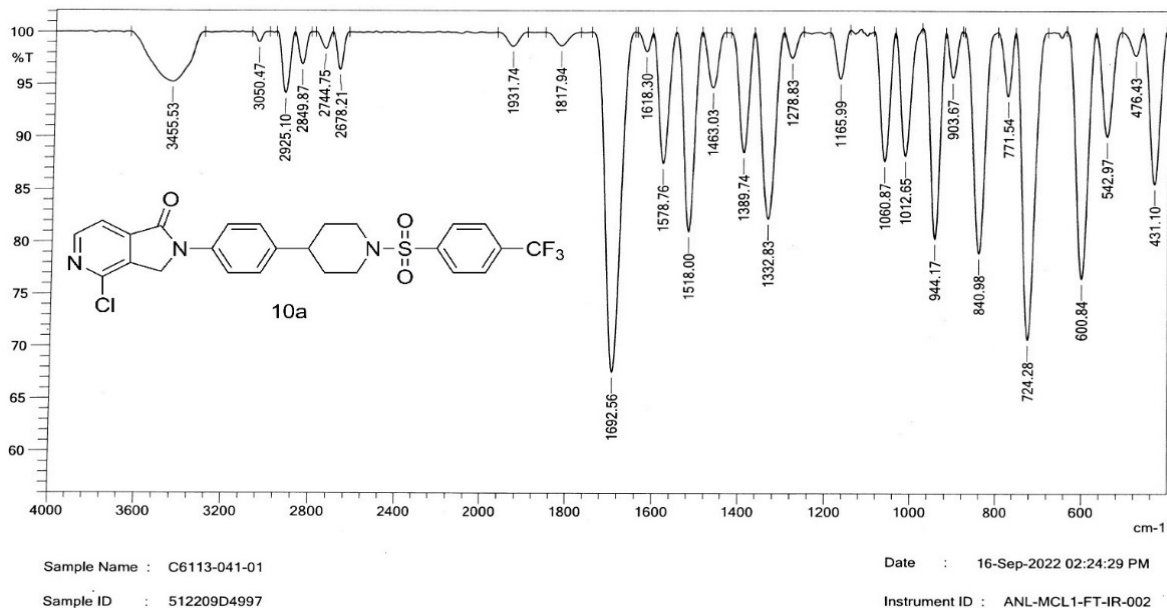


Figure 15 IR spectra of compound 10a

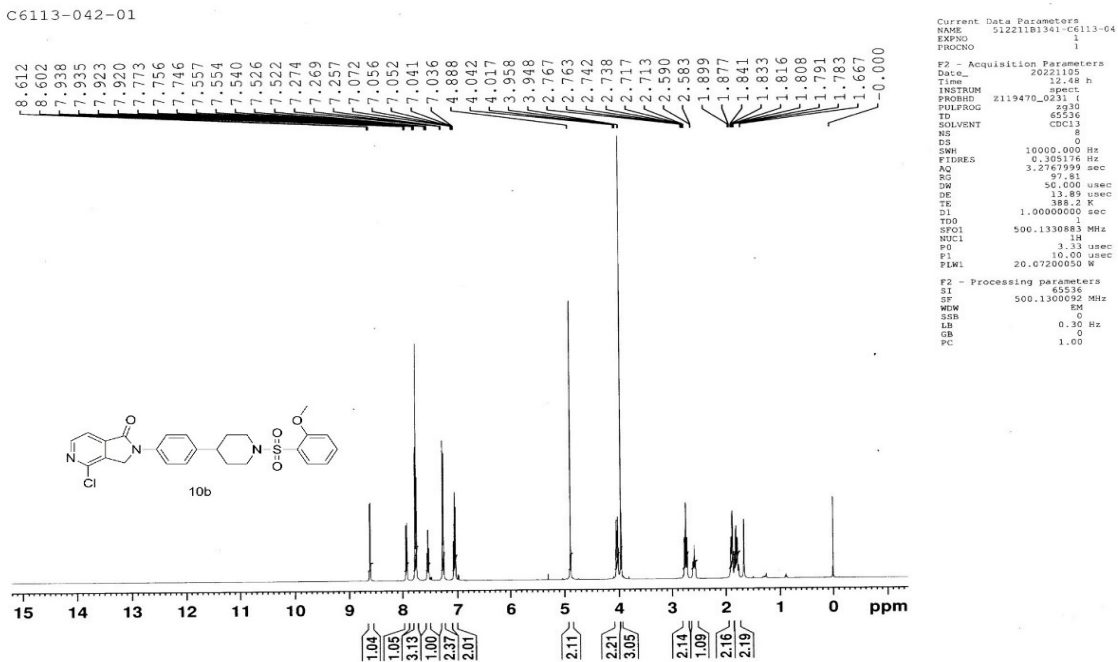


Figure 16 <sup>1</sup>H NMR spectra of compound 10b

C6113-042-01

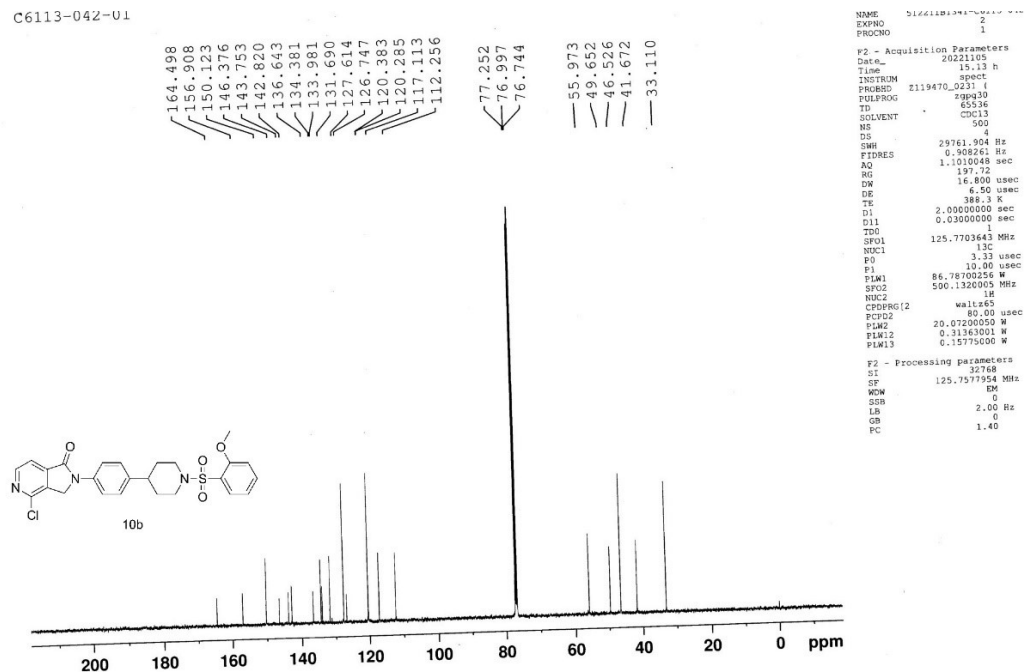


Figure 17 <sup>13</sup>C NMR spectra of compound **10b**

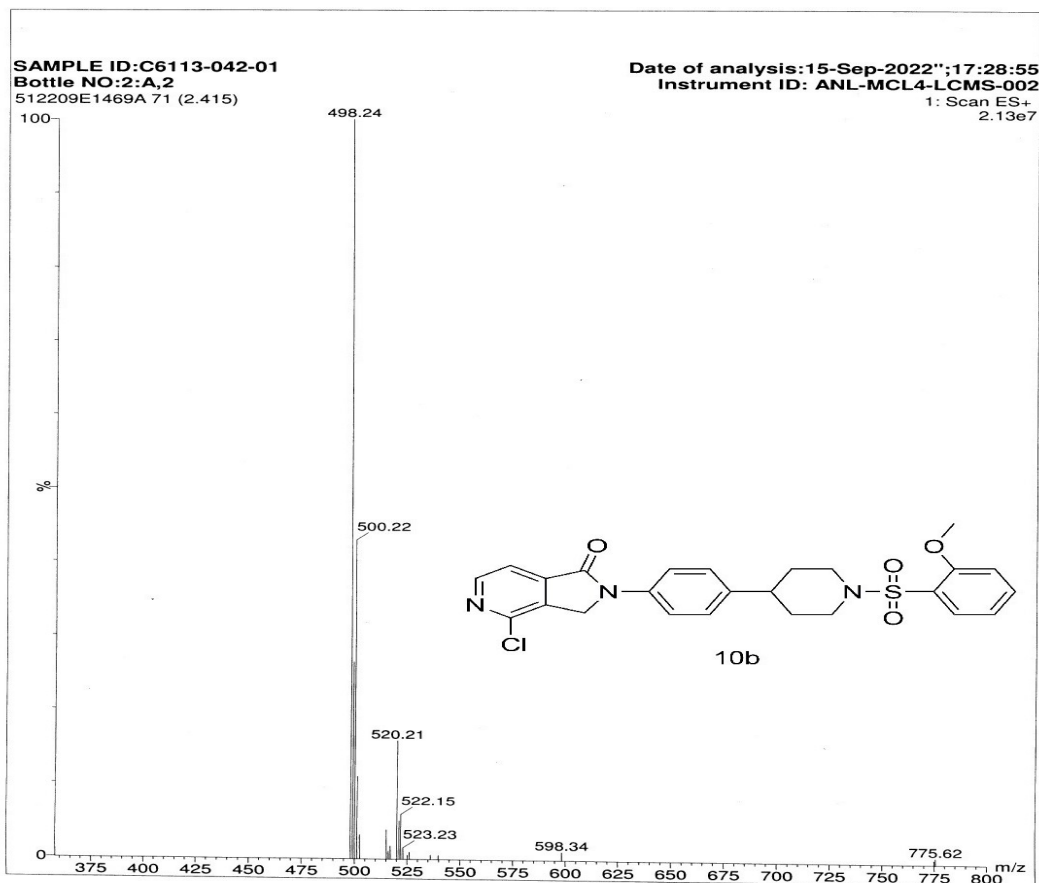


Figure 18 Mass spectra of compound **10b**

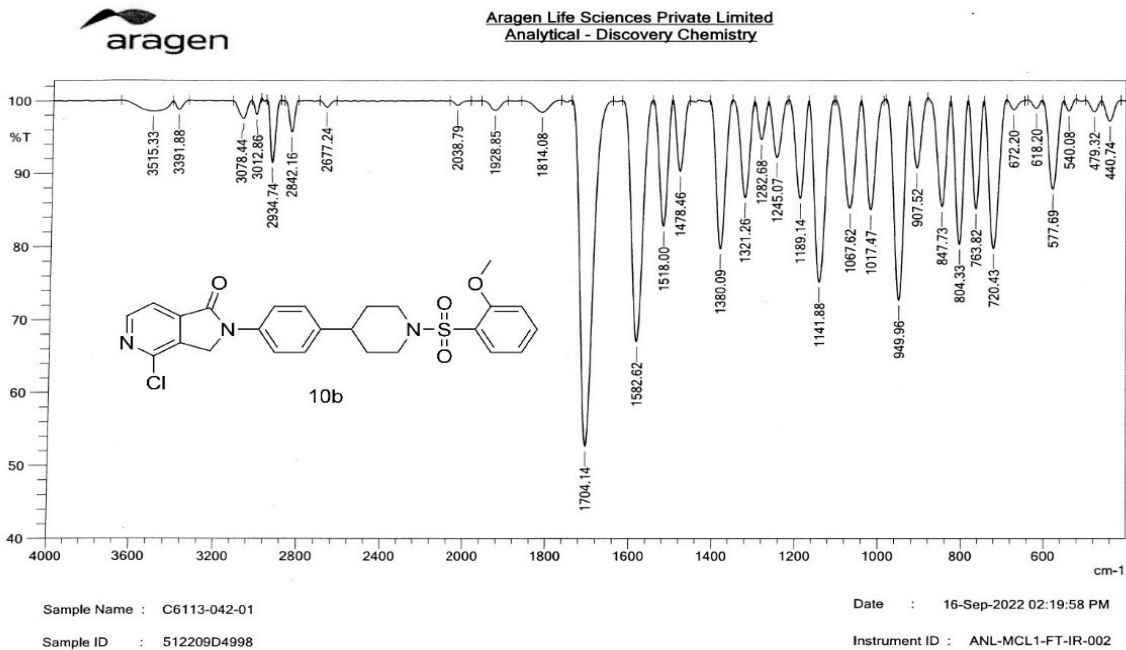


Figure 19 IR spectra of compound 10b

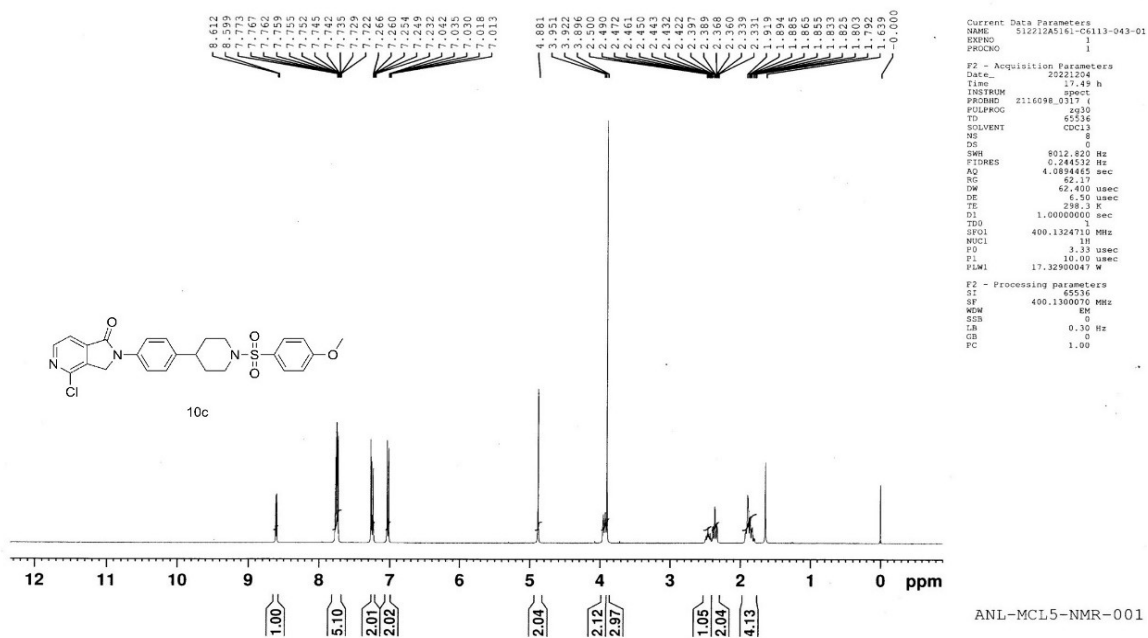


Figure 20 <sup>1</sup>H NMR spectra of compound 10c

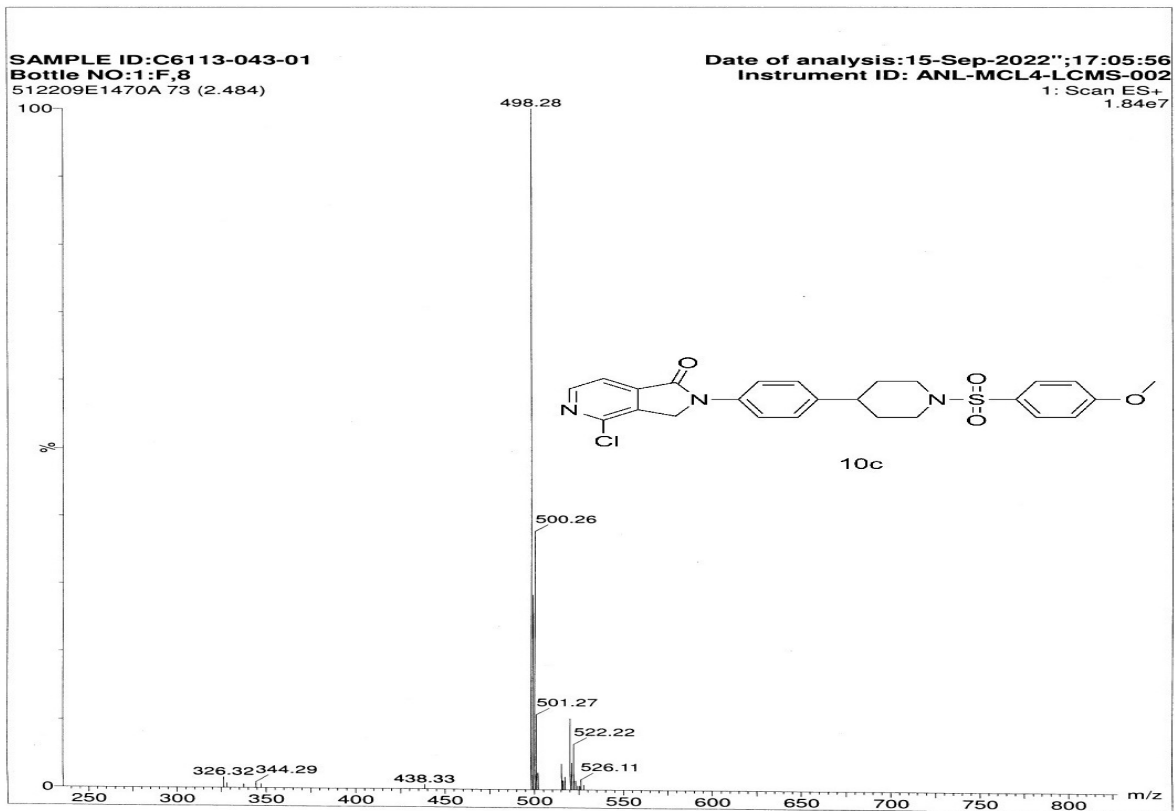


Figure 21 Mass spectra of compound 10c

C6113-044-01

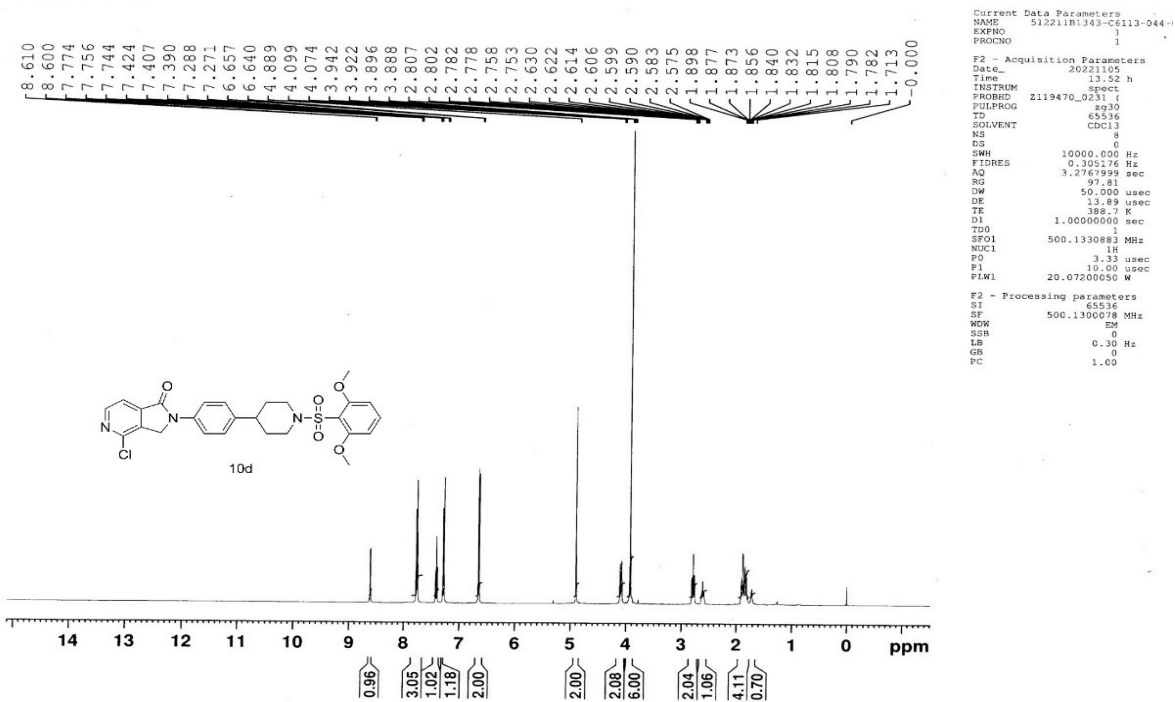


Figure 22 <sup>1</sup>H NMR spectra of compound 10d

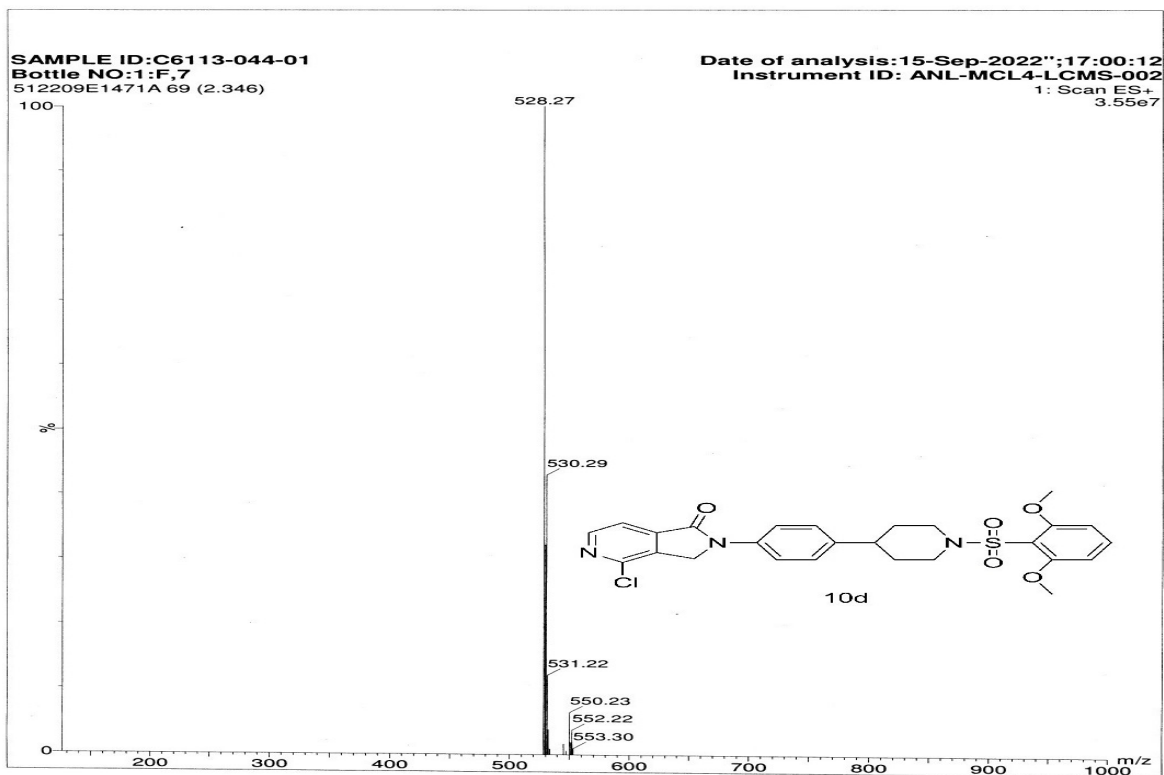


Figure 23 Mass spectra of compound 10d

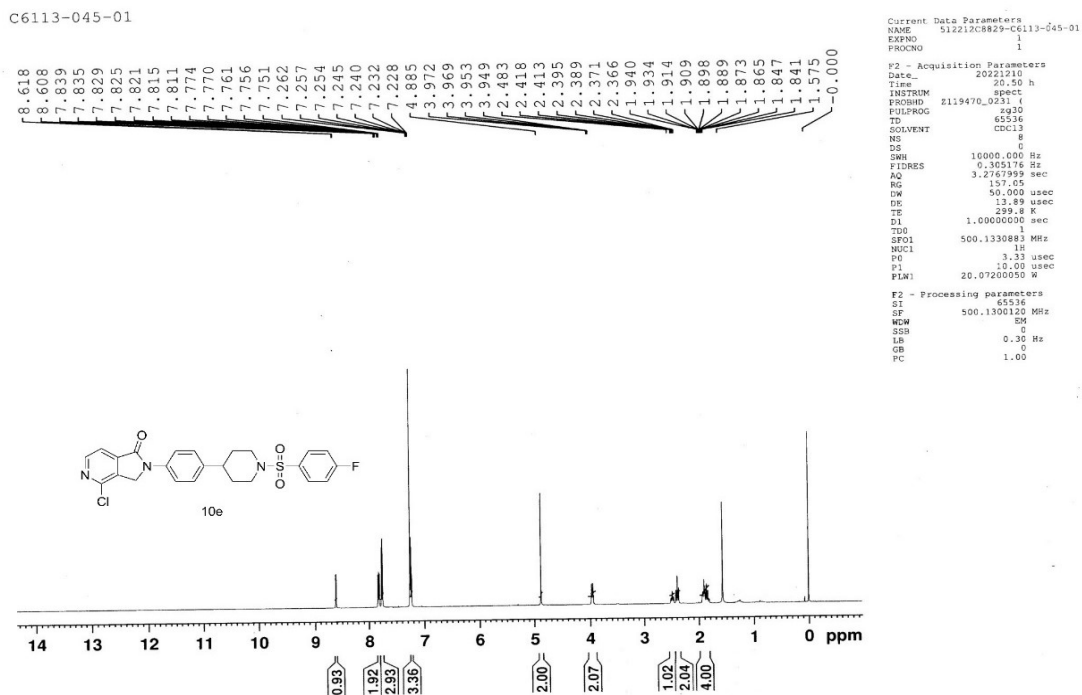


Figure 24 <sup>1</sup>H NMR spectra of compound 10d

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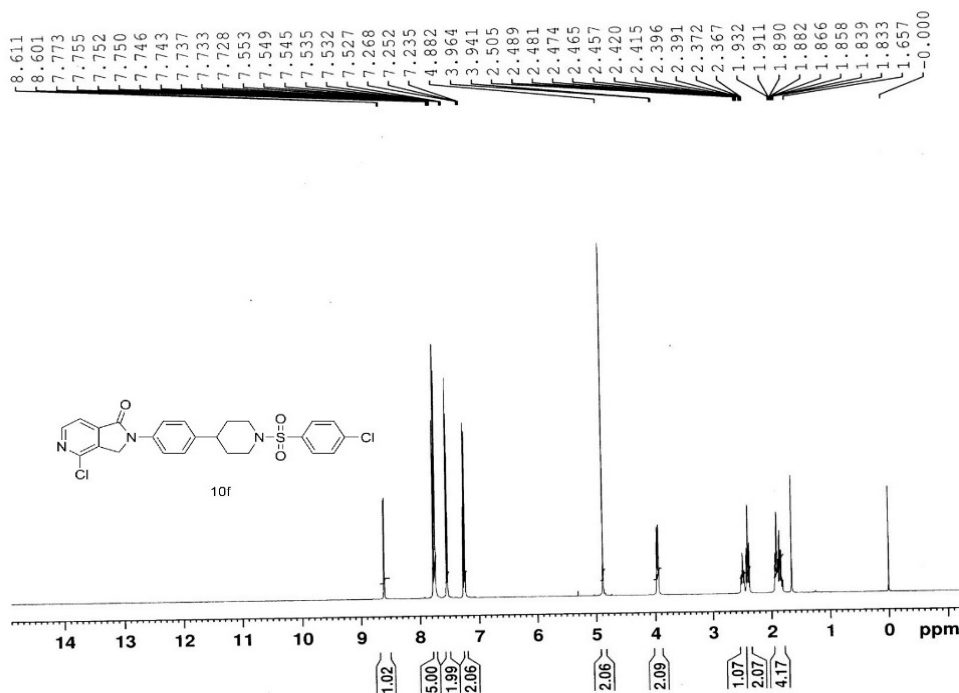
Date of analysis:15-Sep-2022";17:11:41  
Instrument ID: ANL-MCL4-LCMS-002

1: Scan ES+  
1.63e7



Figure 25 Mass spectra of compound 10e

C6113-046-01



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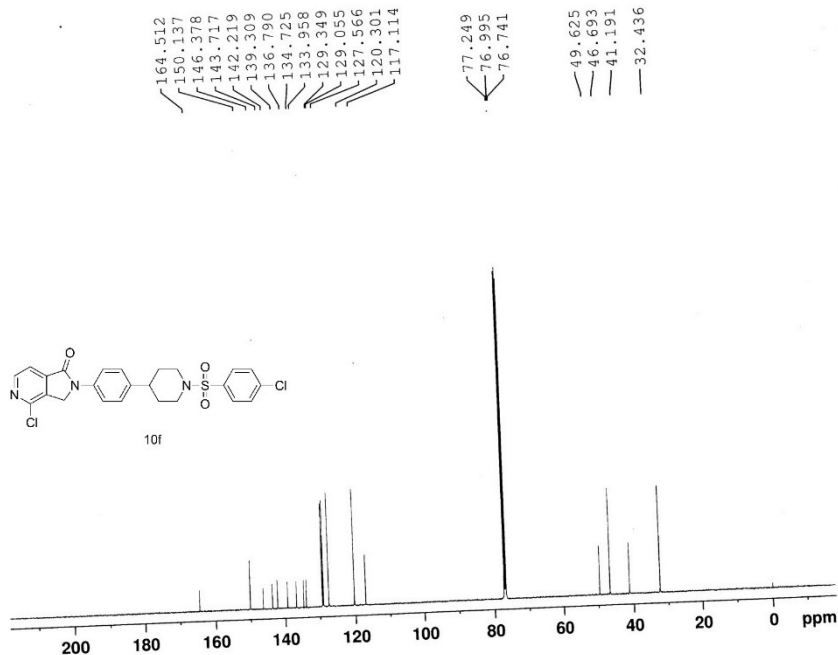
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PROCNO   1

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PULPROG zg30
TD       65536
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NS       8
DS       0
SWH      10000.000 Hz
FIDRES   0.305176 Hz
AQ       3.2767999 sec
RG       97.81
DW       50.000 usec
DE       13.89 usec
TE       383.2 K
D1       1.0000000 sec
TDC
SFO1     500.1330883 MHz
NUC1     1H
RG       3.15 usec
P1       10.00 usec
PLW1     20.07200050 W

F2 - Processing parameters
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WDW      EM
SSB      0
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PC       1.00
    
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Figure 26 <sup>1</sup>H NMR spectra of compound 10f

C6113-046-01



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PROCNO   1

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PULPROG zgpg30
TD       65536
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NS       4
DS       1500
SWH      29761.904 Hz
FIDRES   0.308261 Hz
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RG       187.72
DW       16.800 usec
DE       6.50 usec
TE       390.2 K
D1       3.0000000 sec
D11      0.0300000 sec
TDC
SFO1     125.7703643 MHz
NUC1     13C
RG       3.33 usec
P1       10.00 usec
PLW1     86.78000256 W
SFO2
NUC2     waltz16
PCPD2    80.00 usec
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PLW12    0.31363001 W
PLW13    0.15775000 W

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Figure 27 <sup>13</sup>C NMR spectra of compound 10f

C6113-047-01

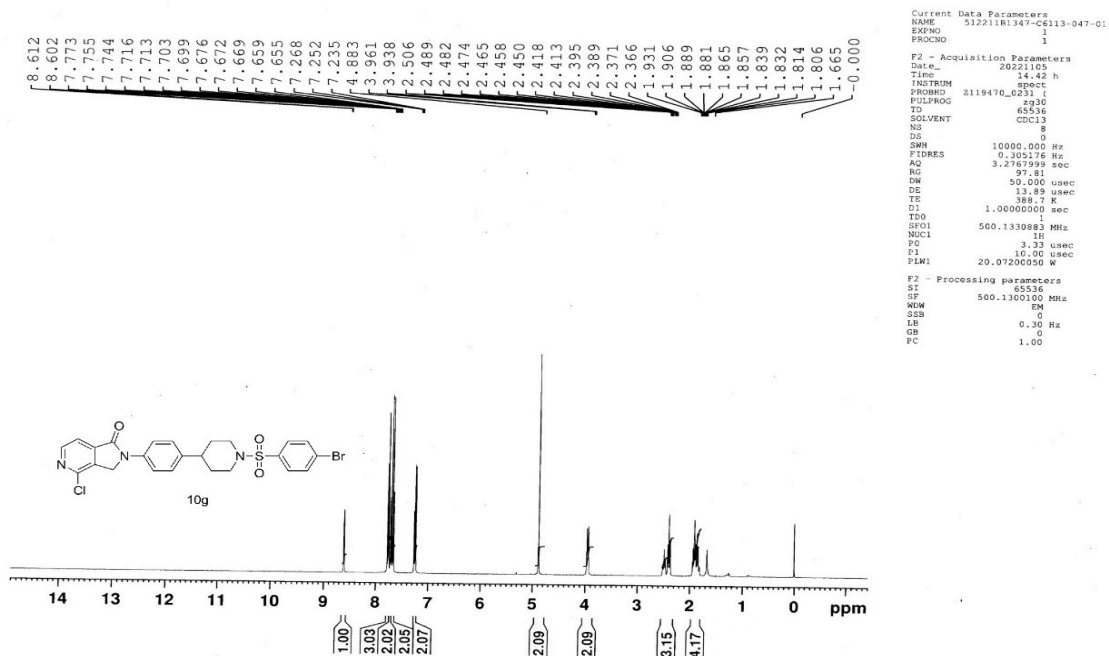


Figure 28 <sup>1</sup>H NMR spectra of compound 10g

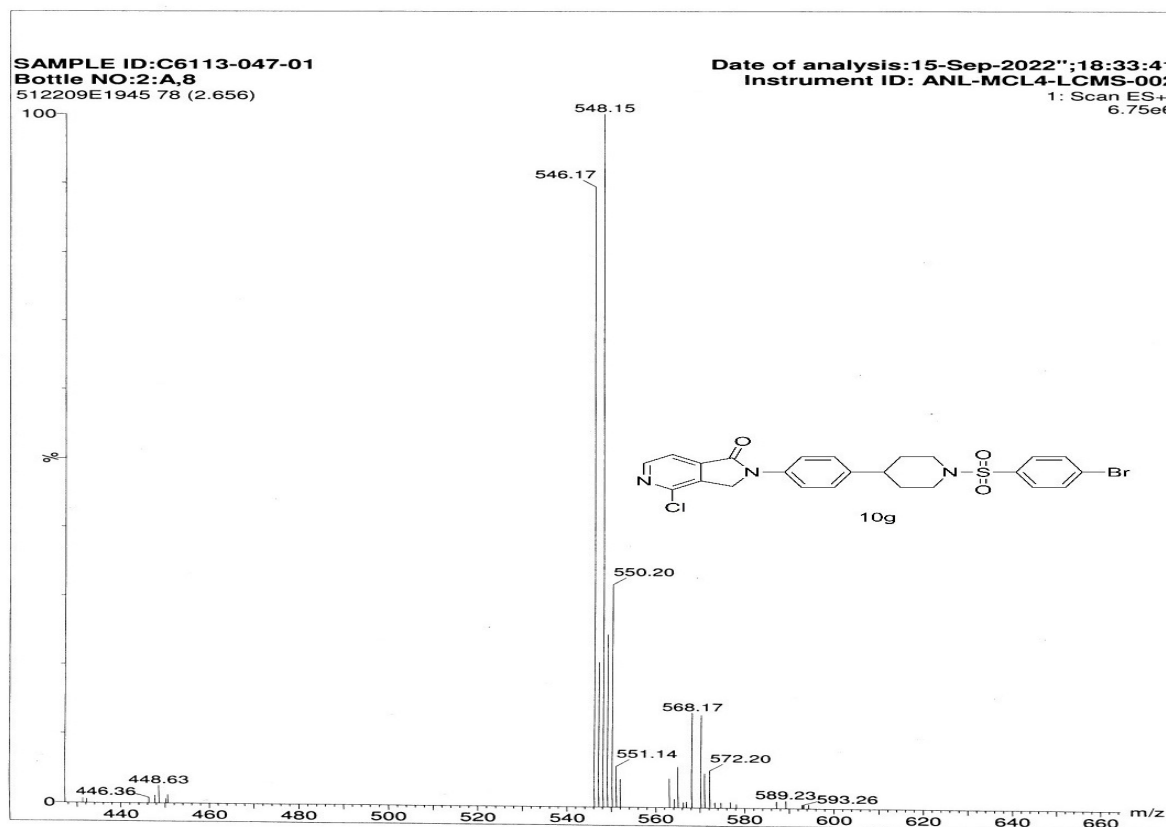


Figure 29 Mass spectra of compound 10g

C6113-048-01

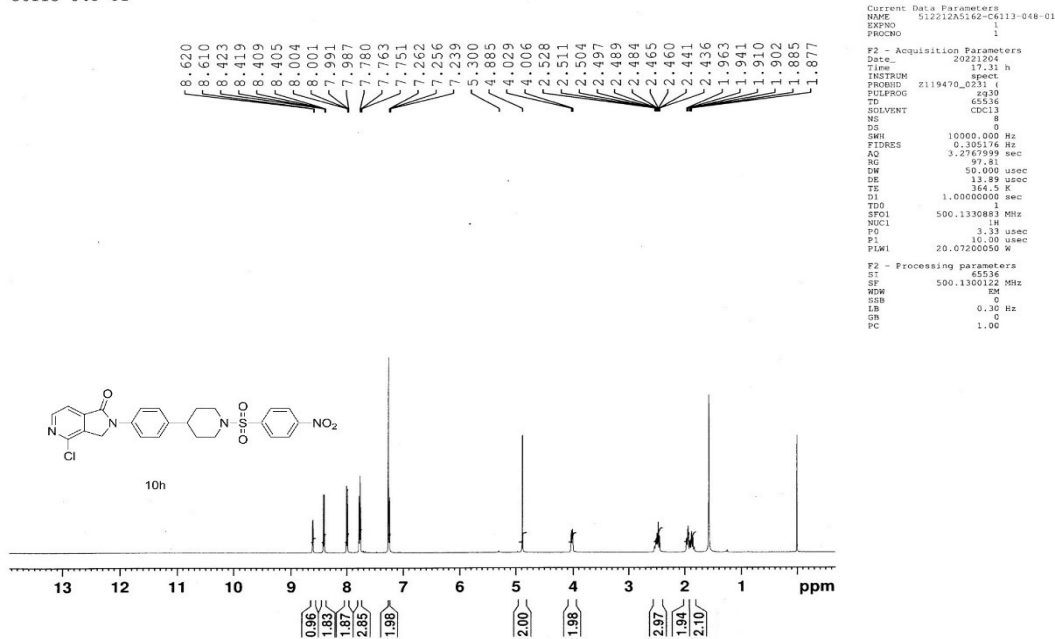


Figure 30 <sup>1</sup>H NMR spectra of compound 10h

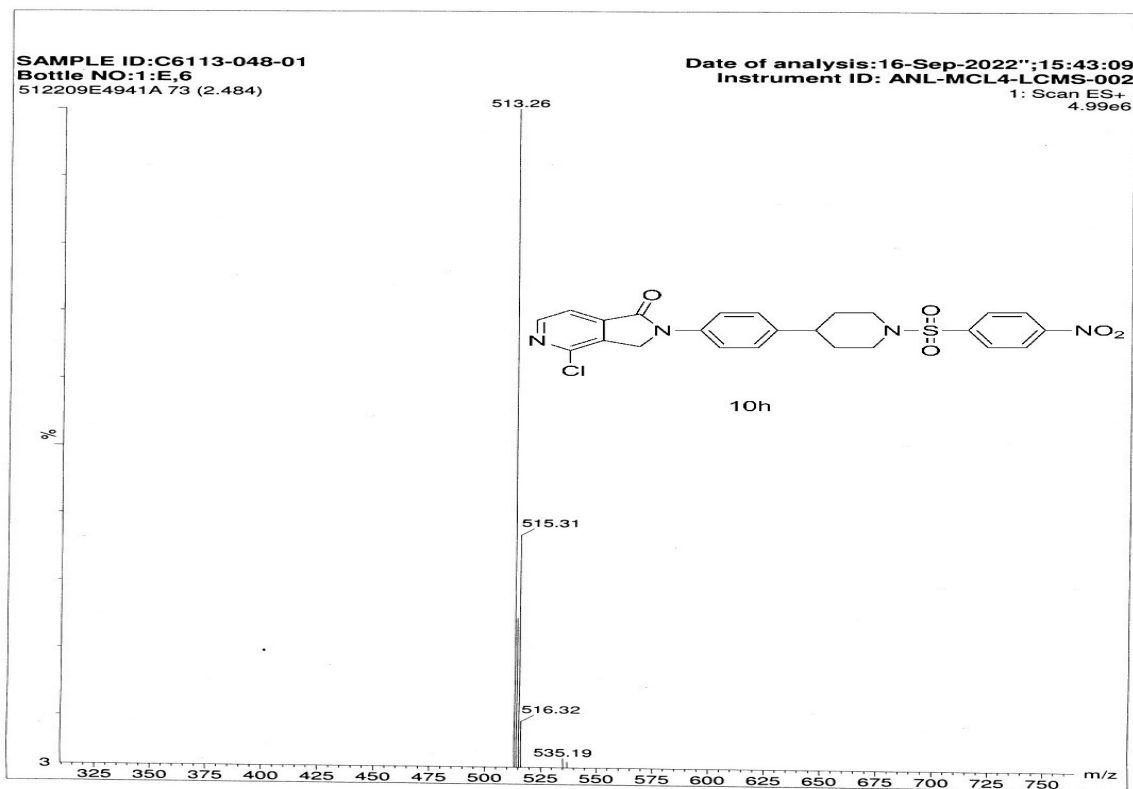


Figure 31 Mass spectra of compound 10g

C6113-049-01

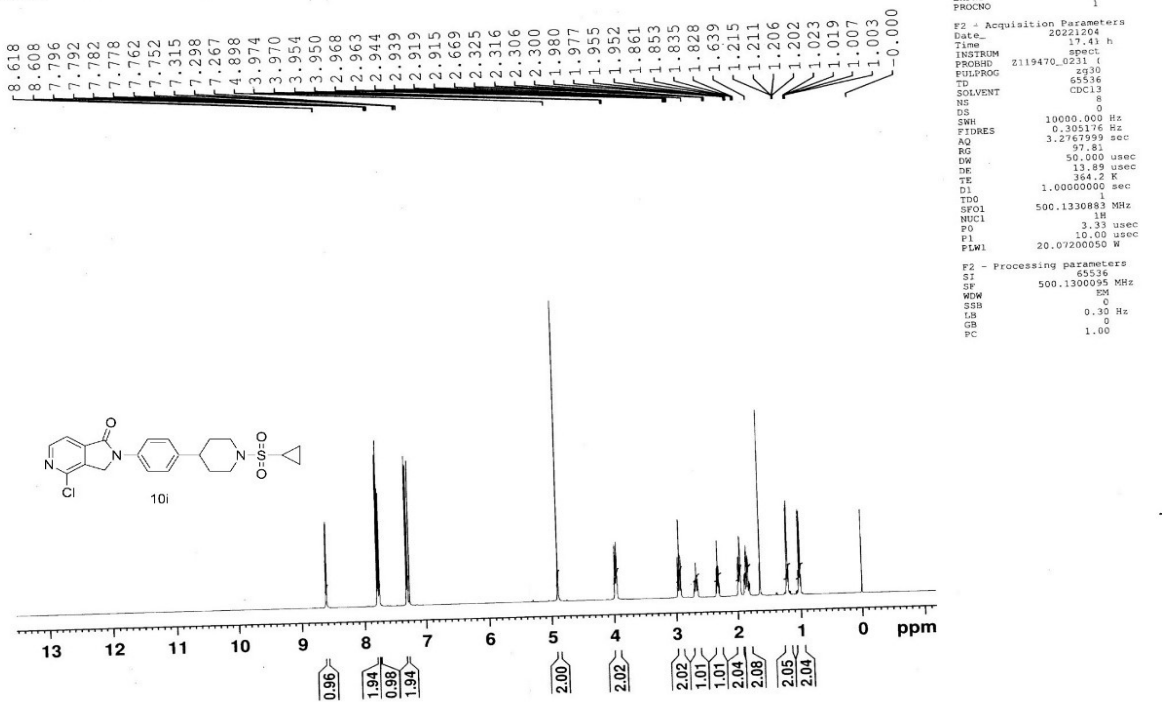


Figure 32 <sup>1</sup>H NMR spectra of compound 10i

C6113-049-01

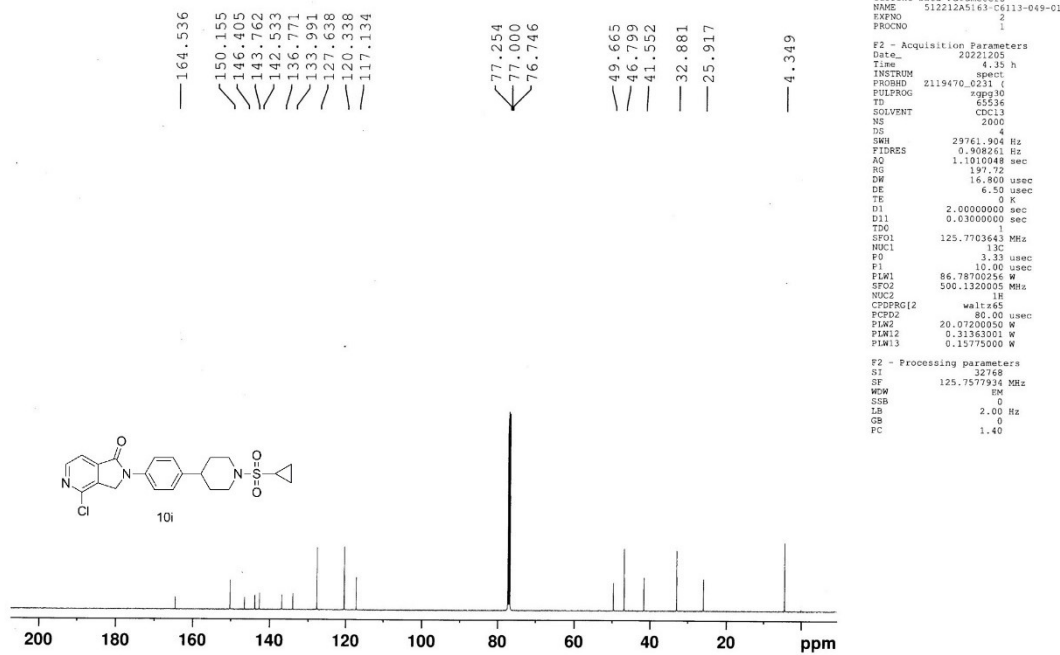


Figure 33 <sup>13</sup>C NMR spectra of compound 10i

C6113-050-01

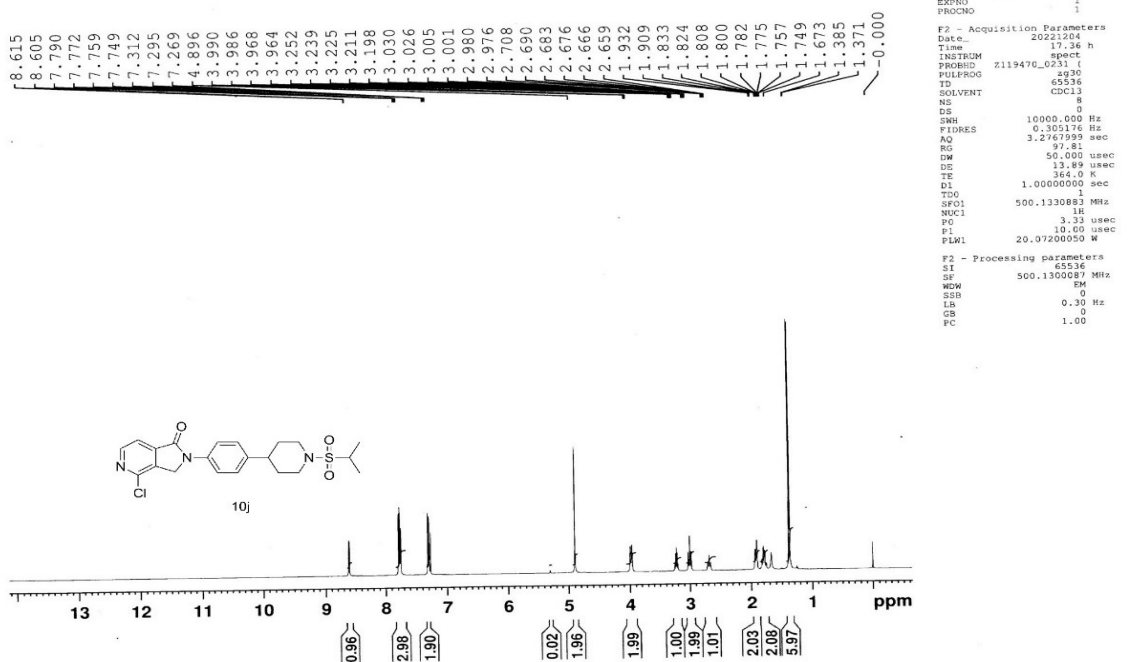


Figure 34 <sup>1</sup>H NMR spectra of compound 10j

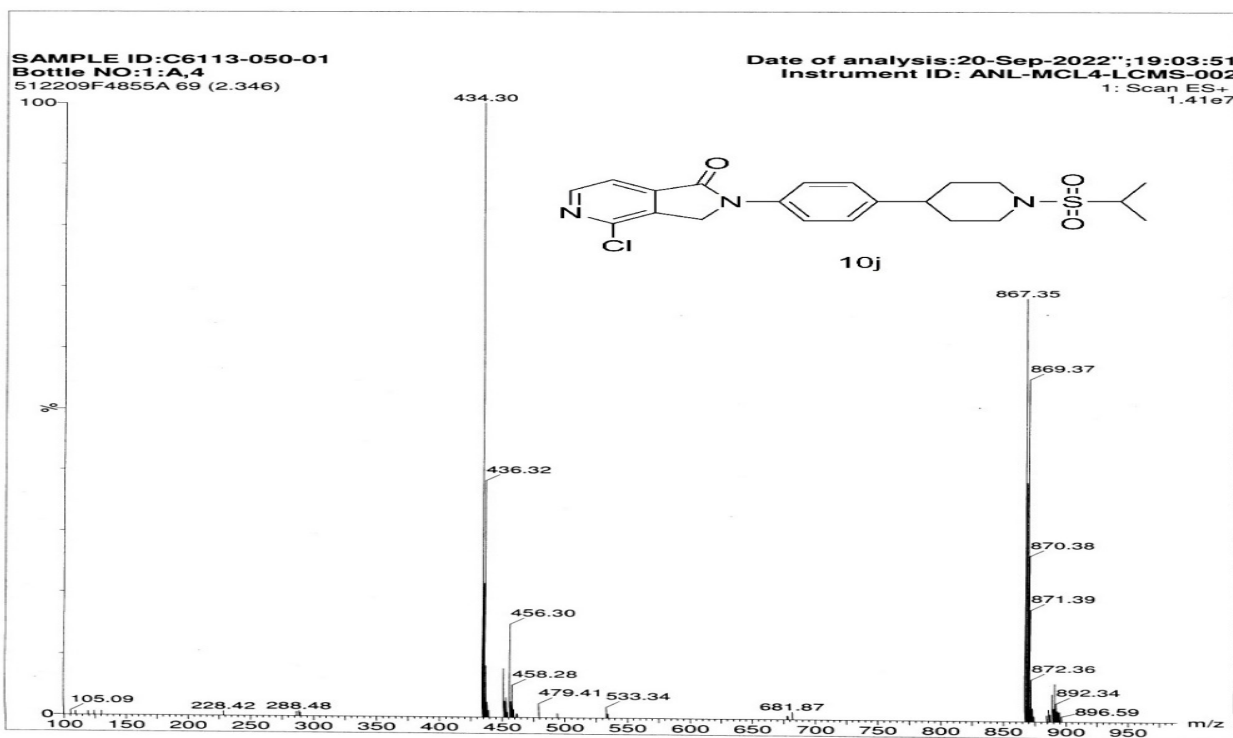


Figure 35 Mass spectra of compound 10j

C6113-051-01

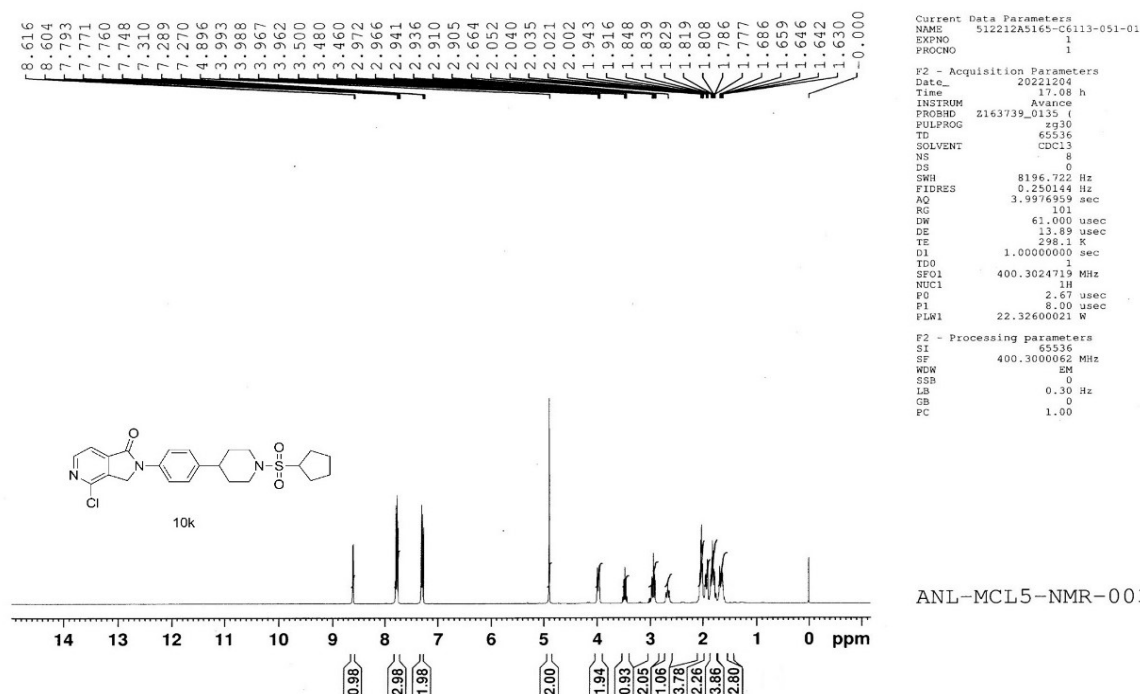


Figure 36 <sup>1</sup>H NMR spectra of compound 10i

C6113-051-01

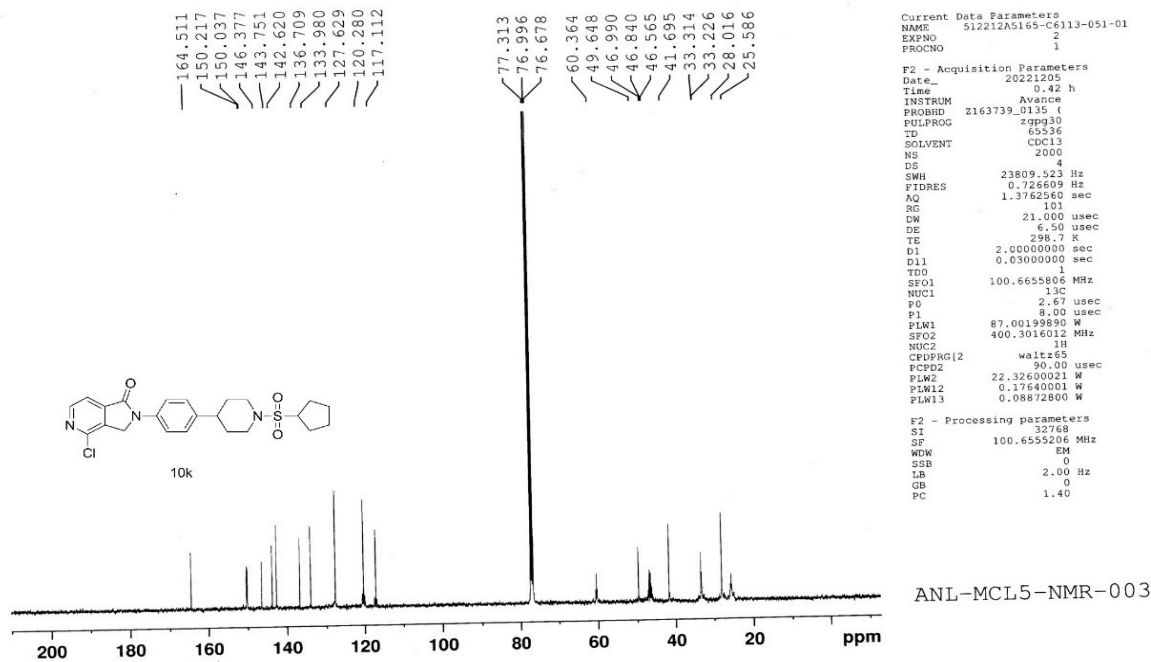


Figure 37 <sup>13</sup>C NMR spectra of compound 10k

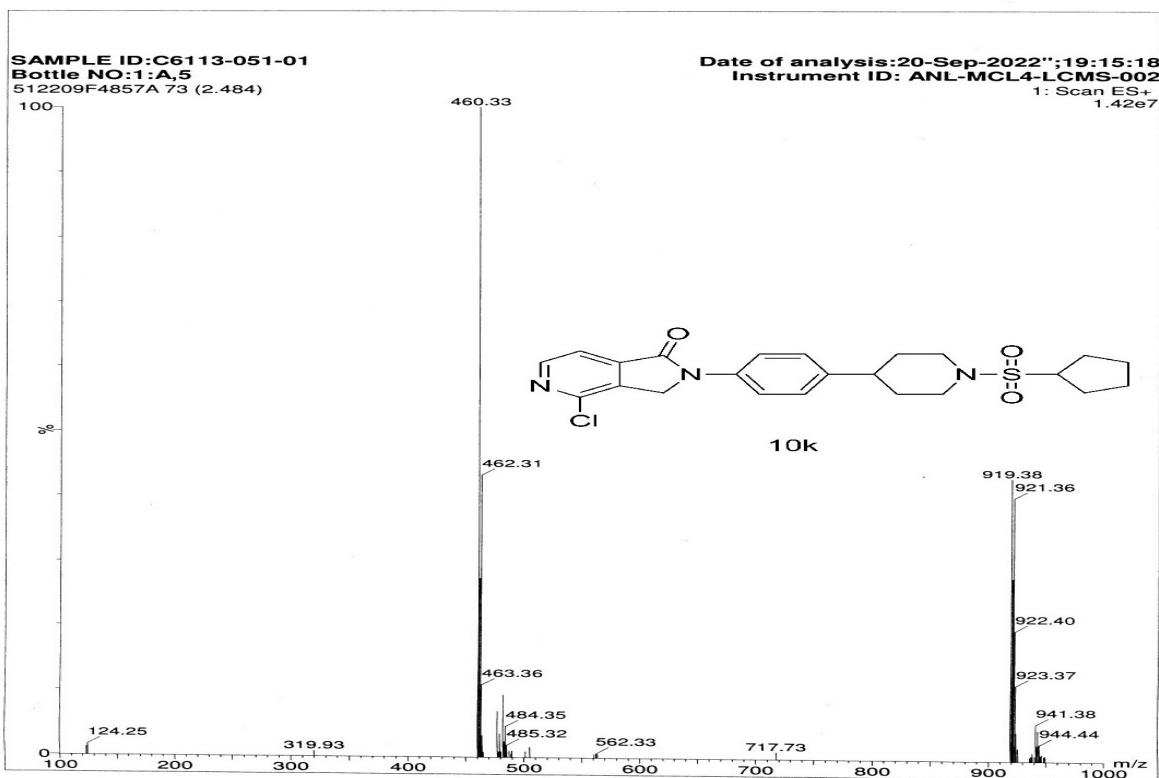


Figure 38 Mass spectra of compound 10k

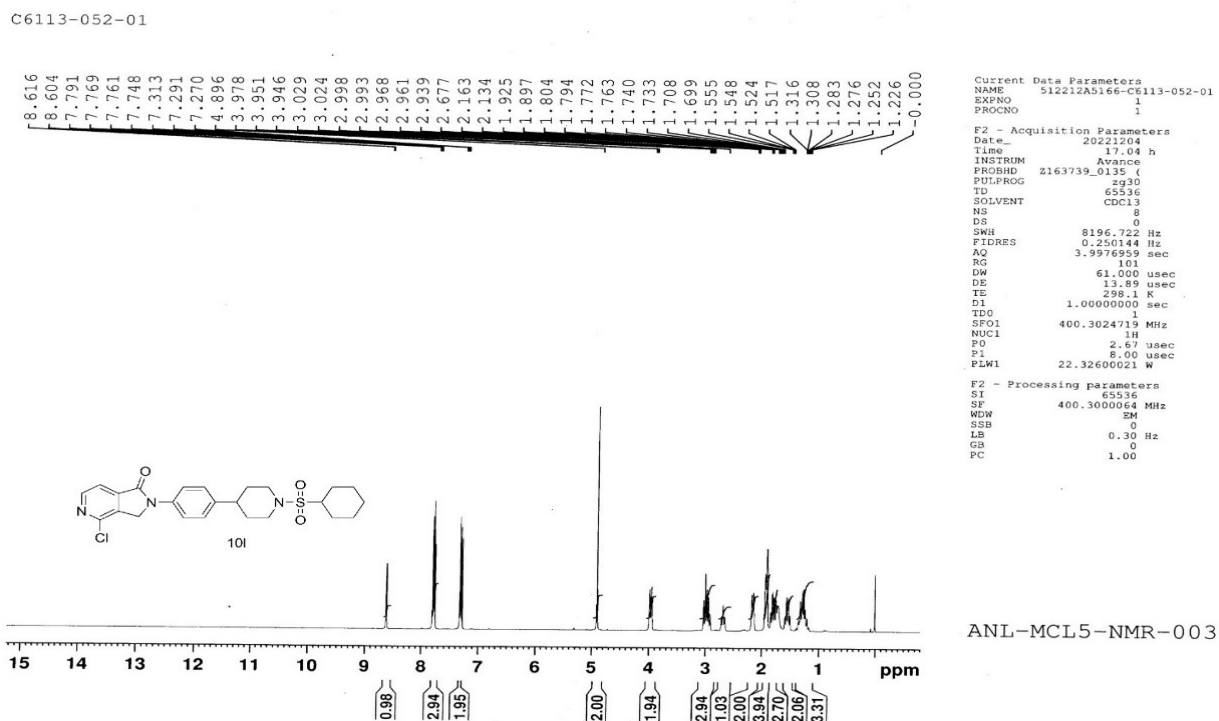
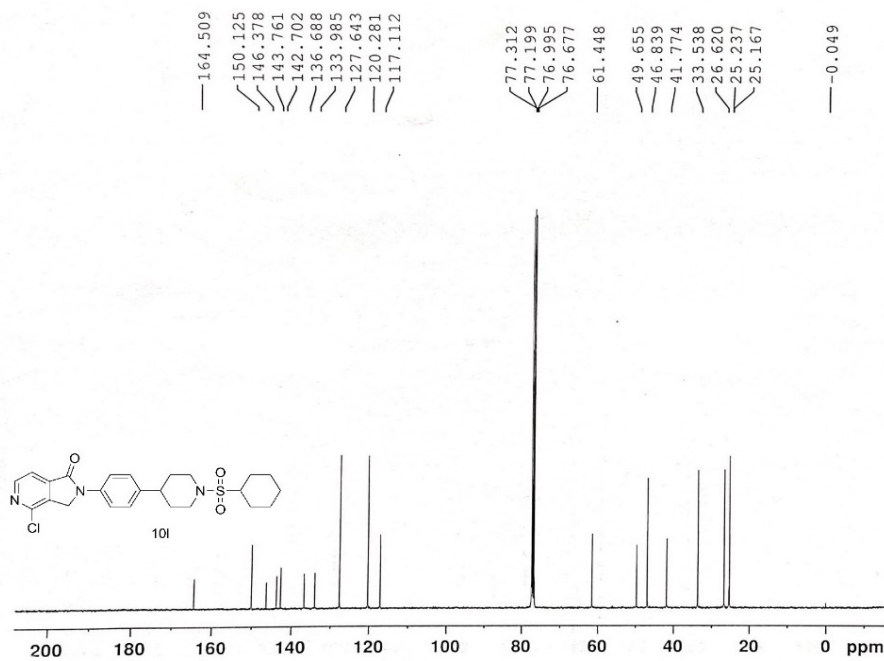


Figure 39 <sup>1</sup>H NMR spectra of compound 10l

C6113-052-01



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PROCNO   1

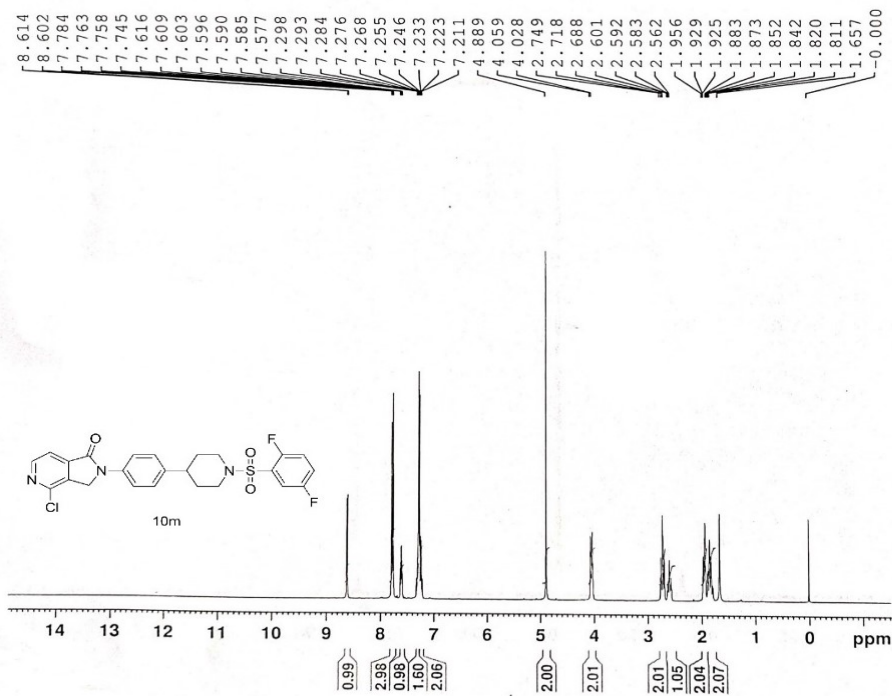
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D11      0.0300000 sec
TD0      1
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PC       2.67 usec
PI       8.00 usec
PLW1     87.0019880 W
SFO2     400.3016012 MHz
NUC2     1H
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PCPD2    90.00 usec
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PLW12    0.17640001 W
PLW13    0.08872800 W

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ANL-MCL5-NMR-003

Figure 40 <sup>13</sup>C NMR spectra of compound 10l

C6113-053-01



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TE       298.2 K
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ANL-MCL5-NMR-003

Figure 41 <sup>1</sup>H NMR spectra of compound 10m

C6113-053-01

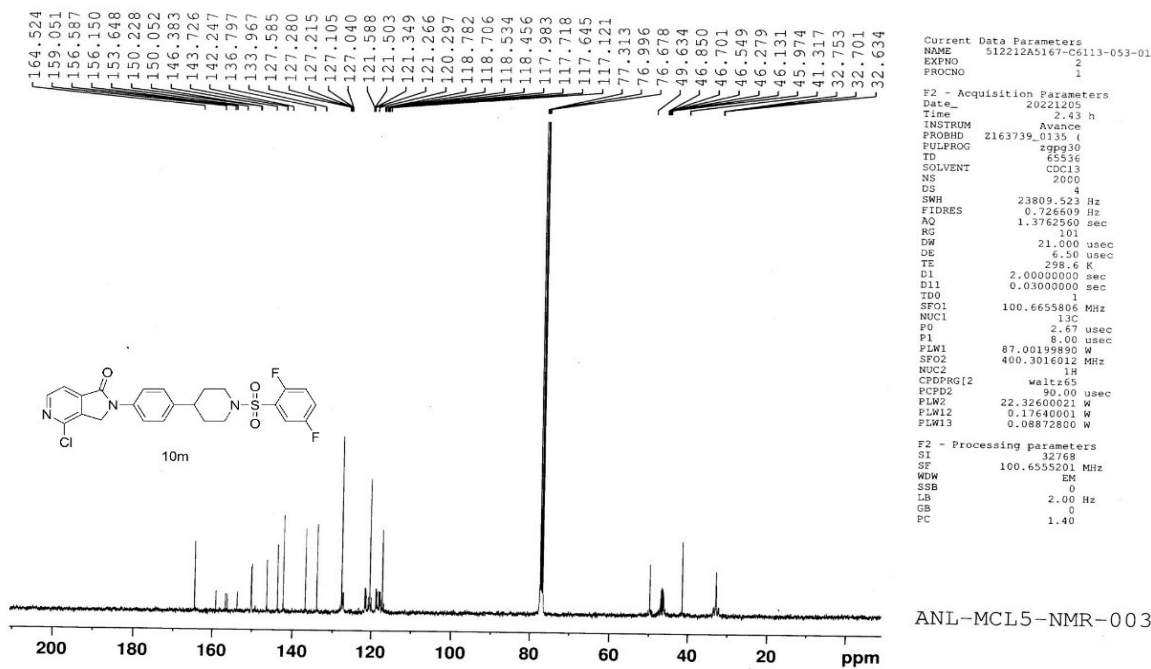


Figure 42 <sup>13</sup>C NMR spectra of compound 10m

C6113-054-01

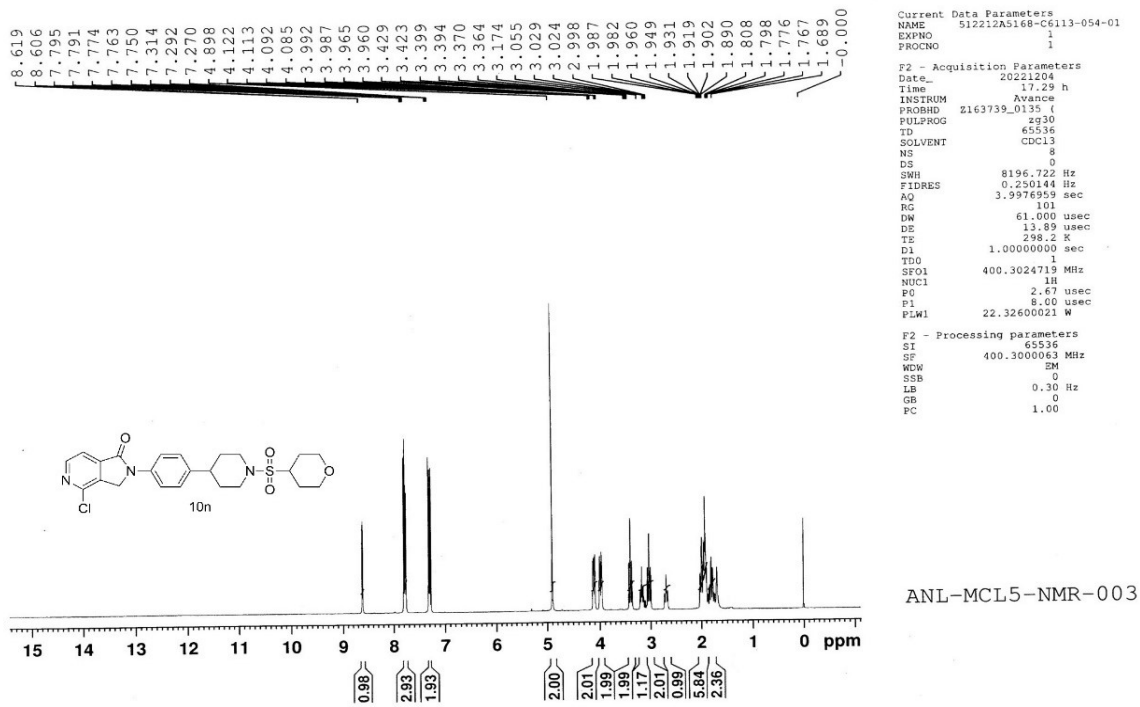


Figure 43 <sup>1</sup>H NMR spectra of compound 10n

C6113-054-01

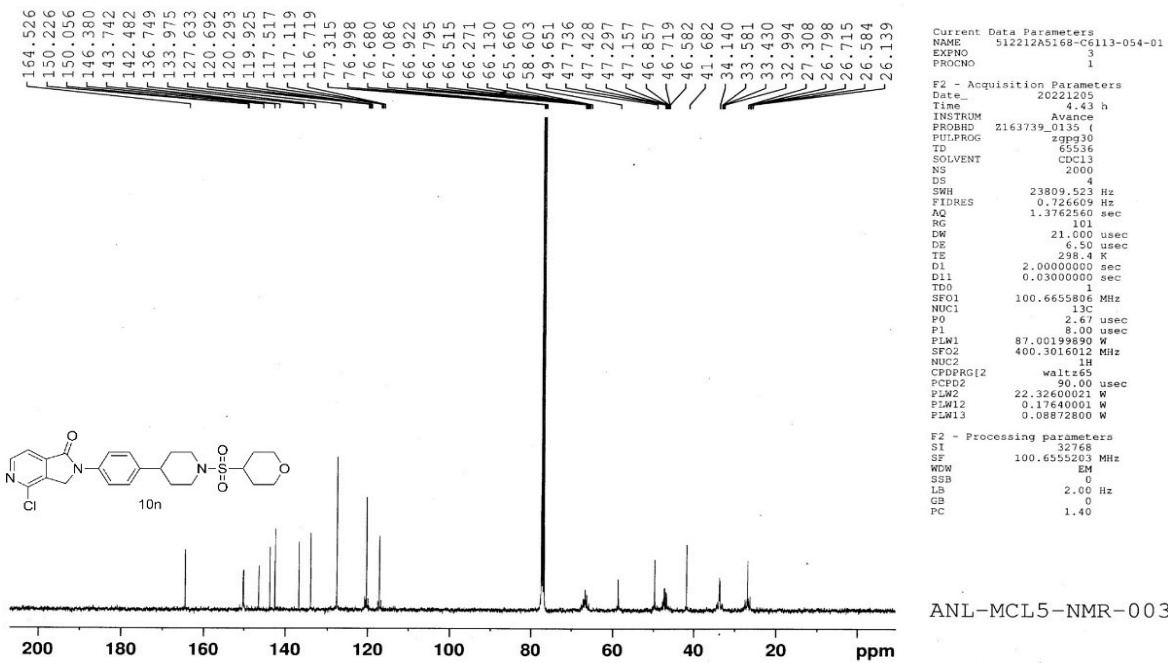


Figure 44 <sup>13</sup>C NMR spectra of compound 10n

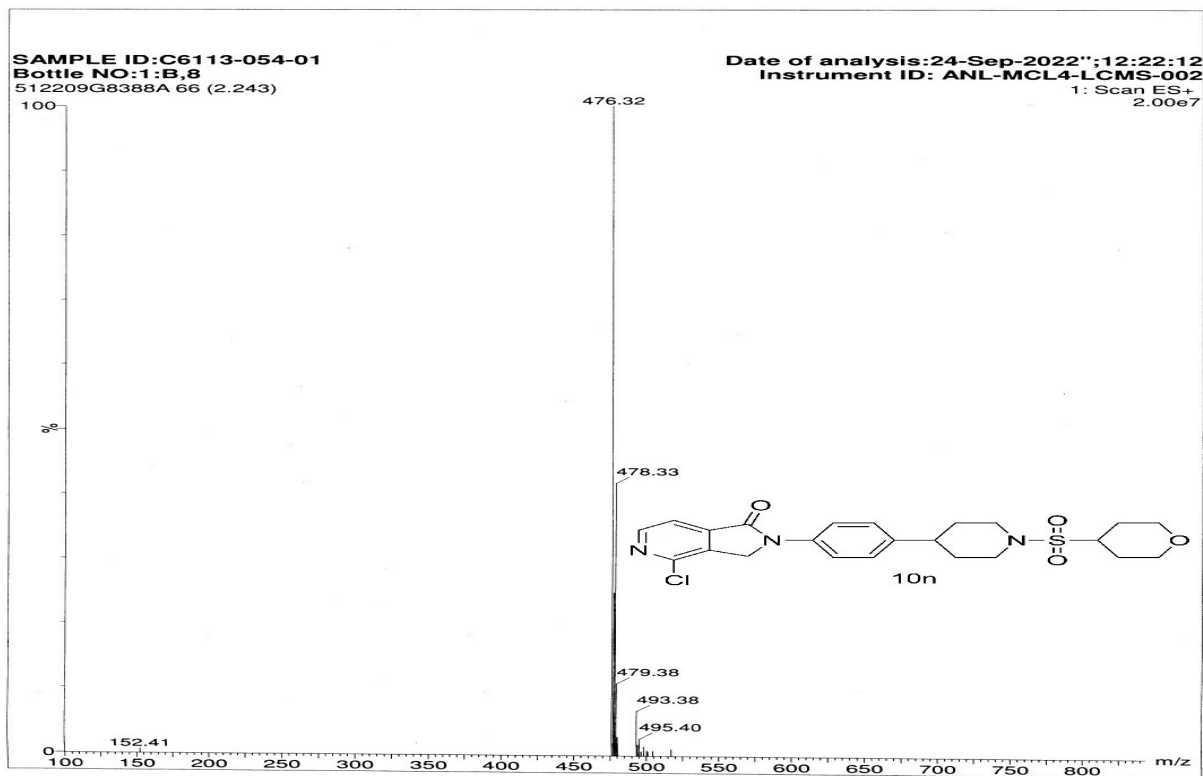
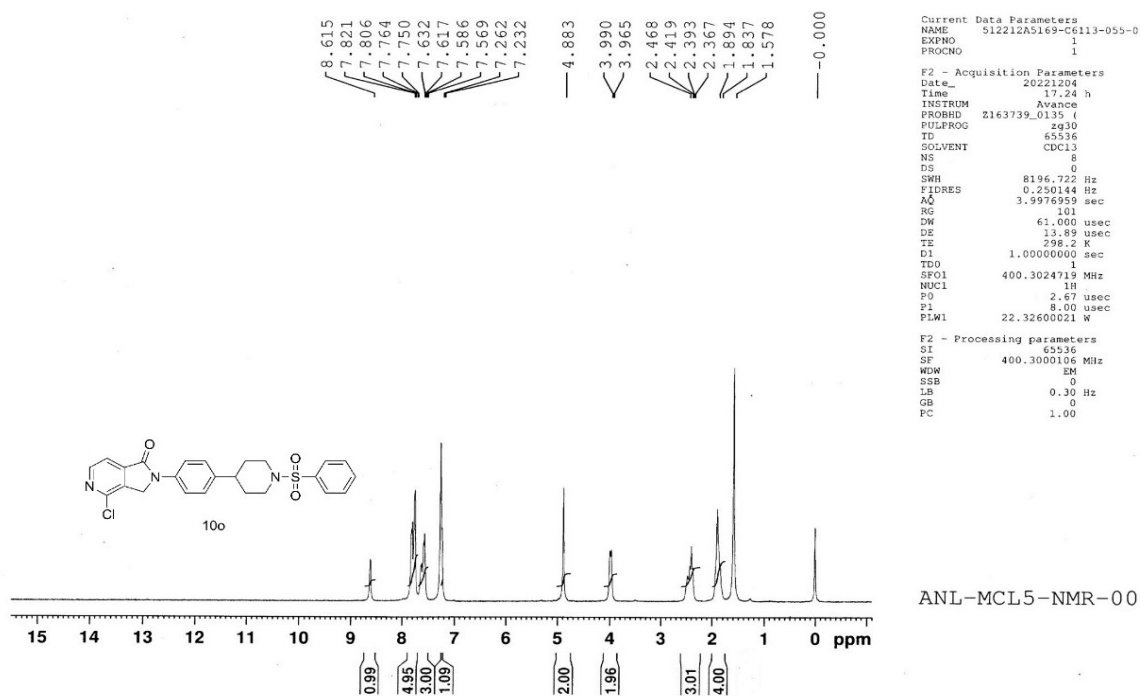


Figure 45 Mass spectra of compound 10g

C6113-055-01



ANL-MCL5-NMR-00

Figure 46 <sup>1</sup>H NMR spectra of compound **10o**

C6113-055-01

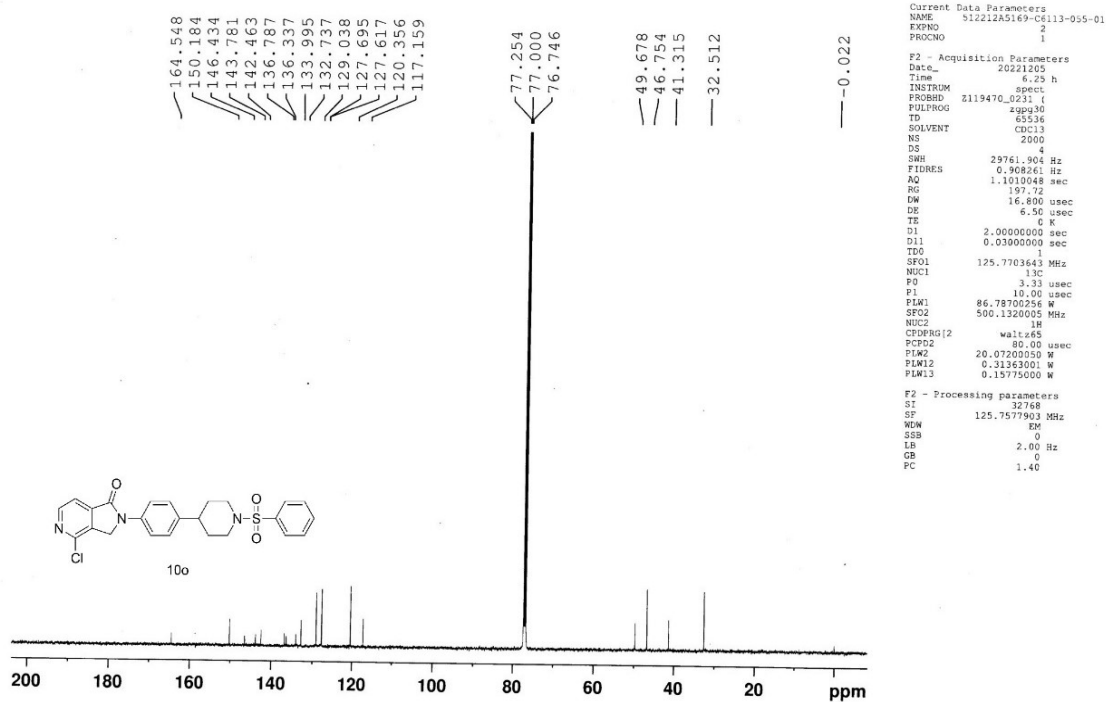


Figure 47 <sup>13</sup>C NMR spectra of compound **10o**

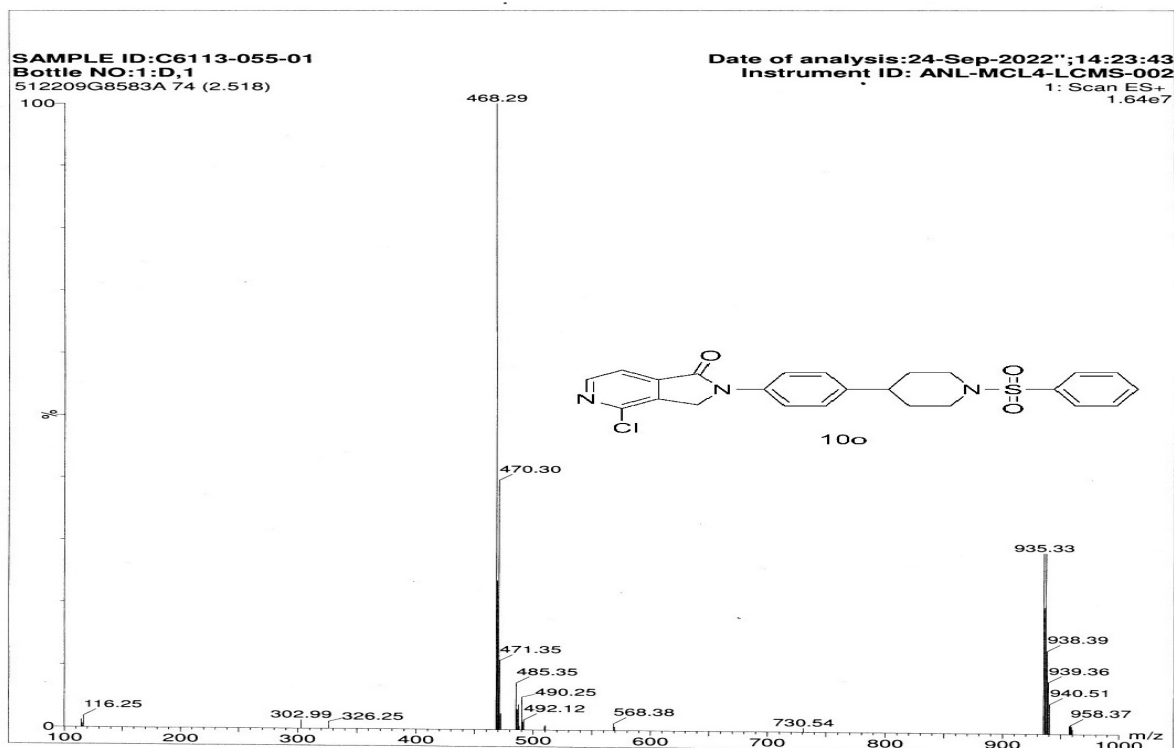


Figure 48 Mass spectra of compound **10o**

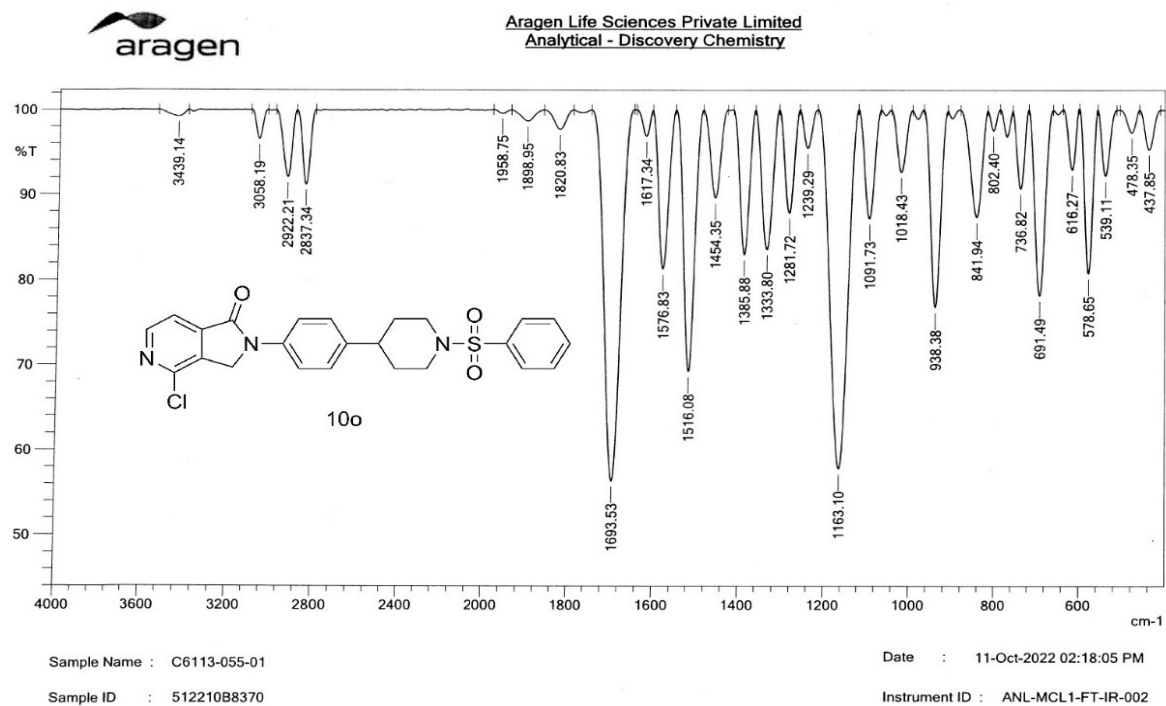


Figure 49 IR spectra of compound **10o**