Electronic Supplementary Material (ESI) for RSC Advances.

Design, green synthesis, and quorum sensing quenching potential of novel 2-oxo-pyridines containing thiophene/furan scaffold targeting lasr gene on *p. aeruginosa*

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[e] Department of Microbiology and Immunology, Faculty of Pharmacy (Girls), Al-Azhar University, Nasr City, Cairo, Egypt
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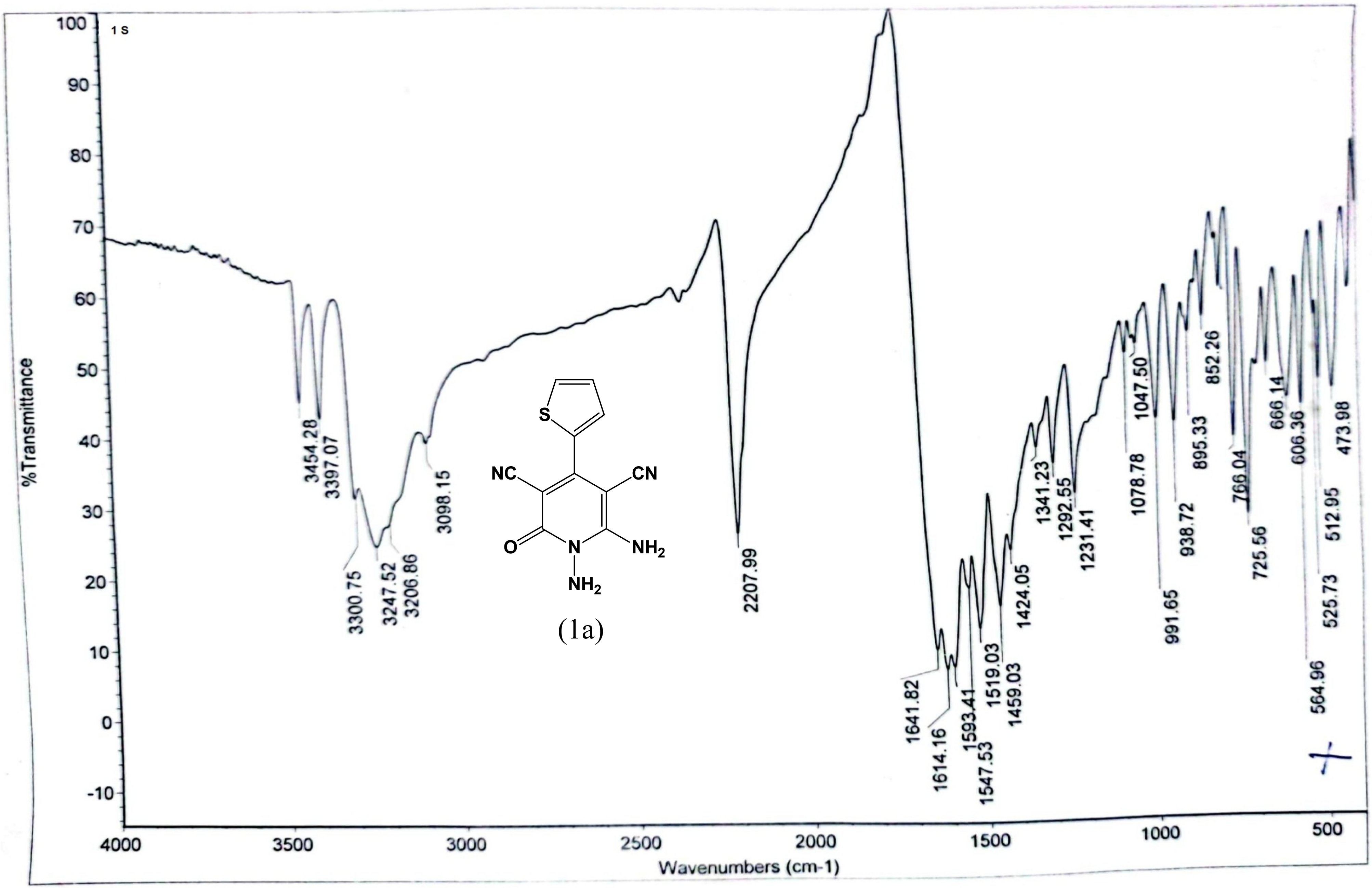
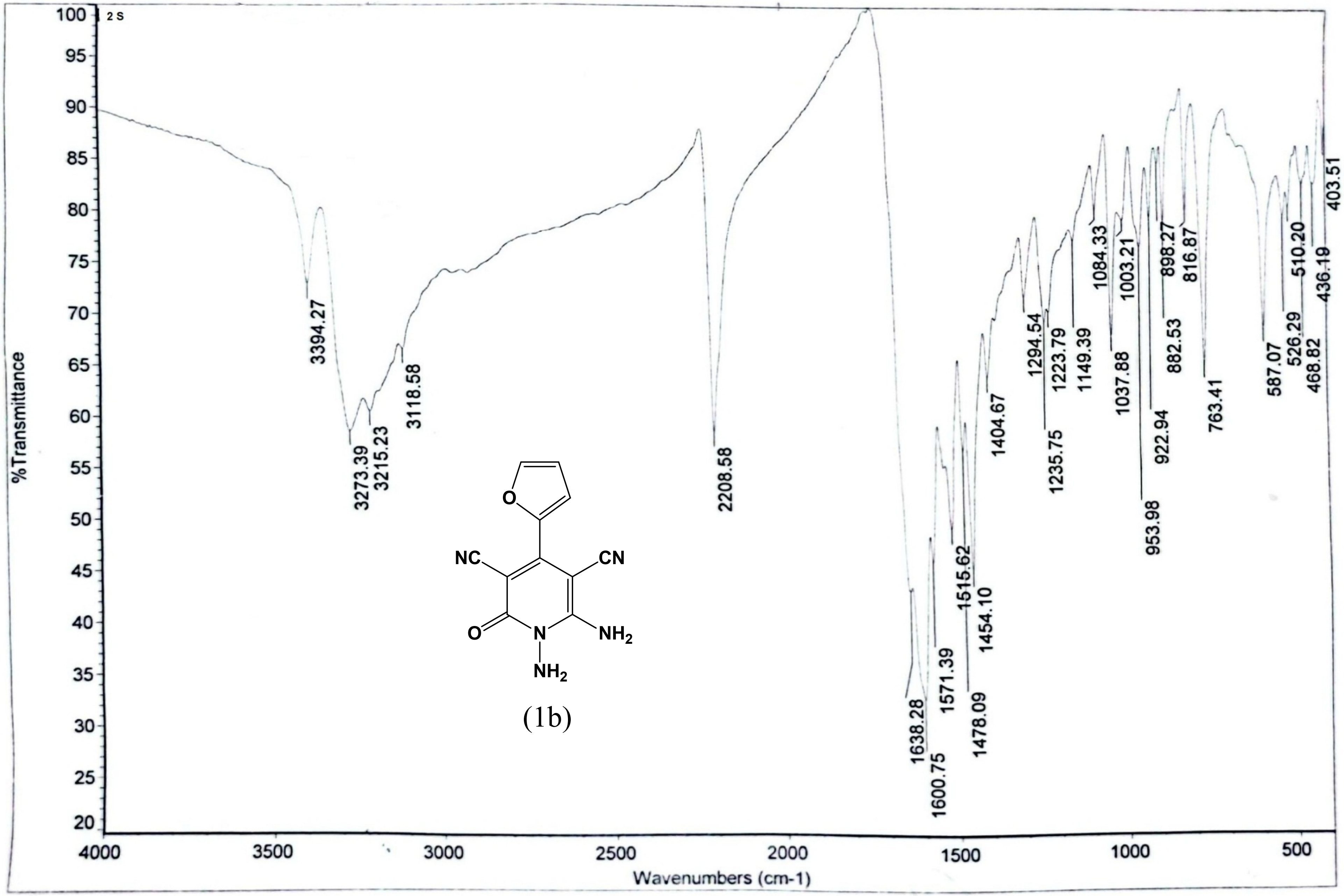

%Transmittance
Wavenumbers (cm-1)
1 S
100
90
80
70
60
50
40
30
20
10
0
-10
4000
3500
3000
2500
2000
1500
1000
500
3454.28
3397.07
3300.75
3247.52
3206.86
3098.15
2207.99
1641.82
1614.16
1593.41
1547.53
1519.03
1459.03
1424.05
1341.23
1292.55
1231.41
1078.78
1047.50
991.65
938.72
895.33
852.26
766.04
725.56
666.14
606.36
564.96
525.73
512.95
473.98
S
NC
CN
O
N
NH2
NH2
(1a)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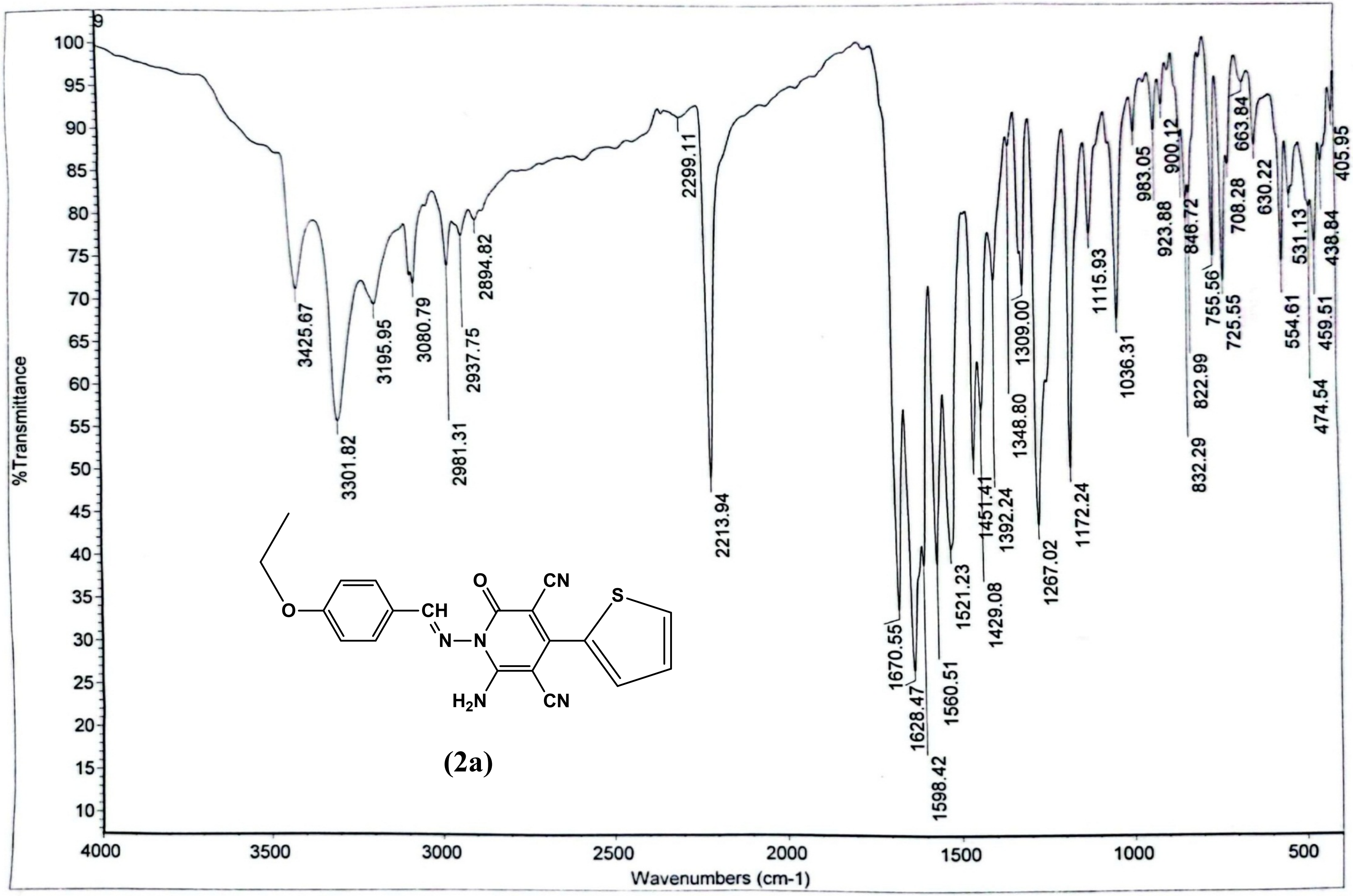
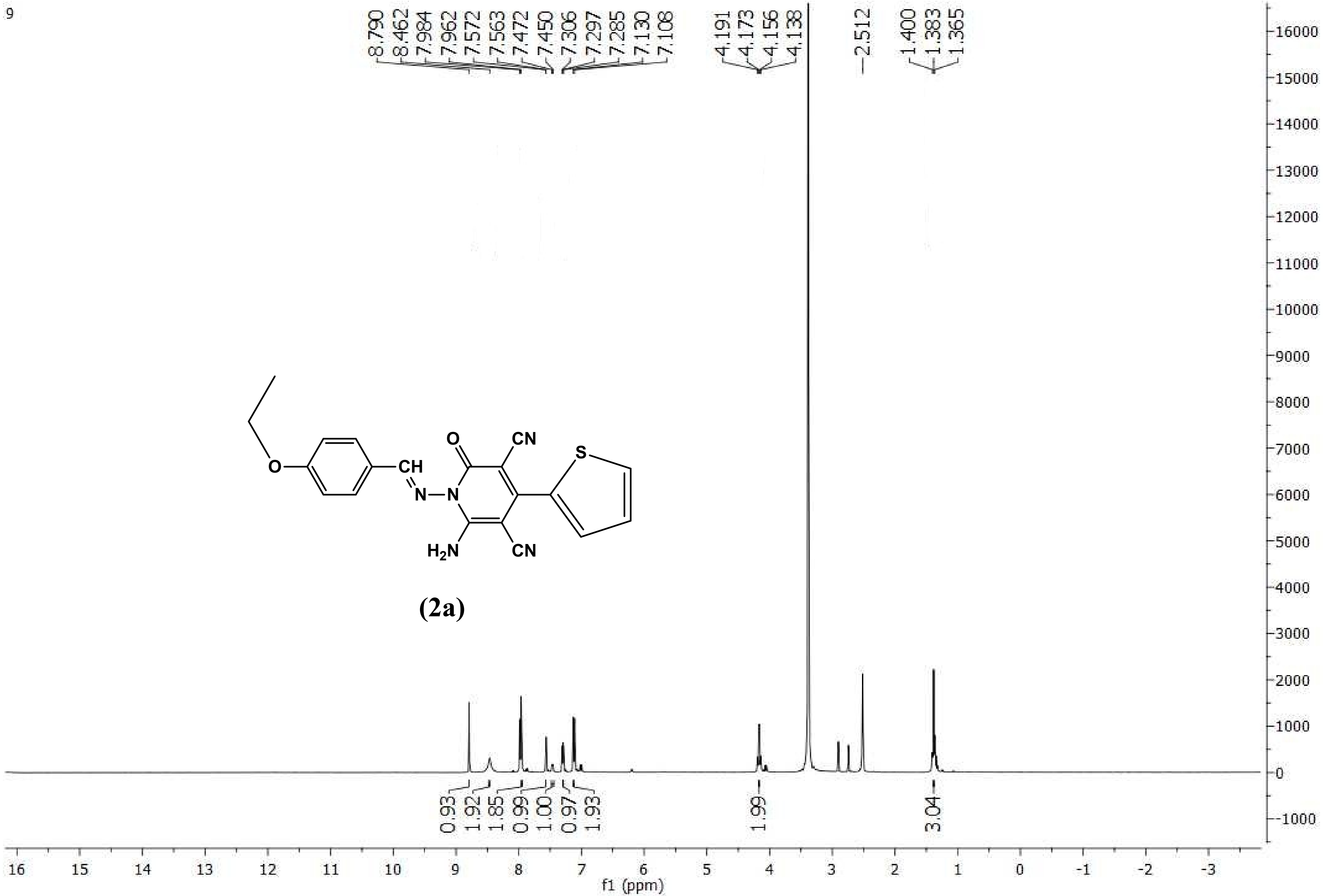
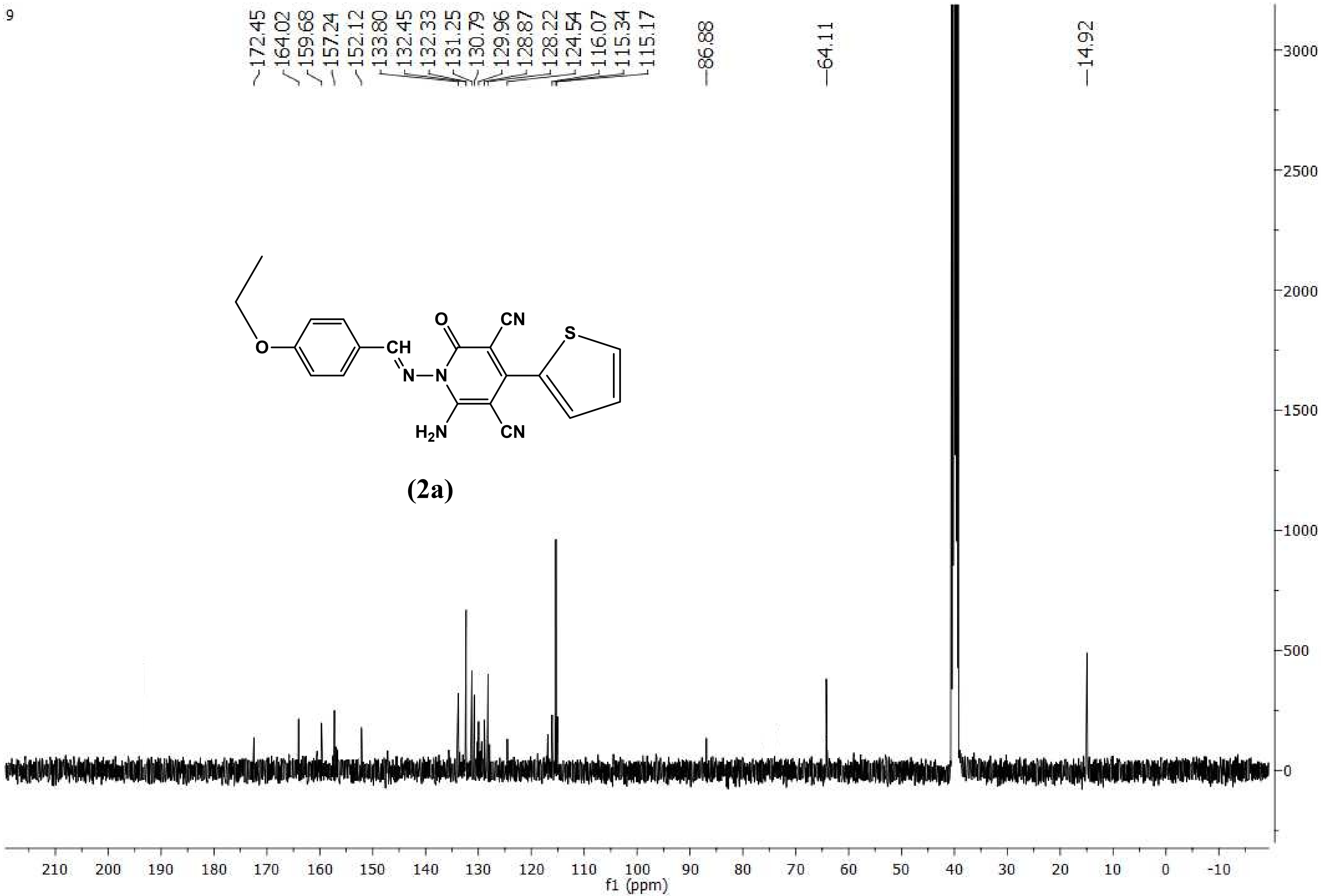
Wavenumbers (cm-1)
2S
4000
3500
3000
2500
2000
1500
1000
500
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
3394.27
3273.39
3215.23
3118.58
2208.58
1638.28
1600.75
1571.39
1515.62
1478.09
1454.10
1404.67
1294.54
1235.75
1223.79
1149.39
1084.33
1037.88
1003.21
953.98
922.94
898.27
882.53
816.87
763.41
587.07
526.29
510.20
468.82
436.19
403.51
NC
CN
O
N
NH2
NH2
O
(1b)

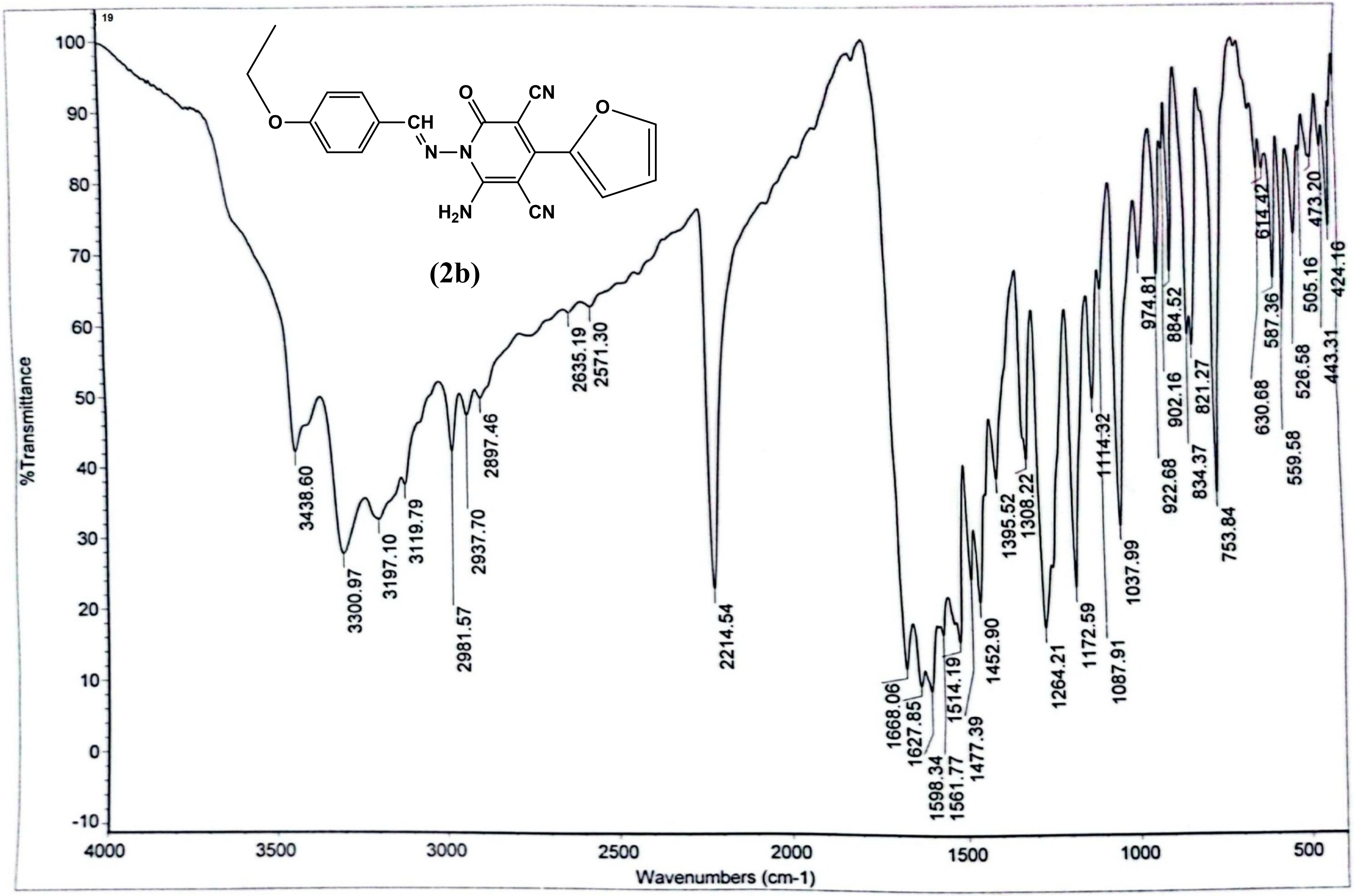

%Transmittance
Wavenumbers (cm-1)
3425.67
3301.82
3195.95
3080.79
2981.31
2937.75
2894.82
2299.11
2213.94
1670.55
1628.47
1598.42
1560.51
1521.23
1451.41
1429.08
1392.24
1348.80
1309.00
1267.02
1172.24
1115.93
1036.31
983.05
923.88
900.12
846.72
832.29
822.99
755.56
725.55
708.28
663.84
630.22
554.61
531.13
474.54
459.51
438.84
405.95
O
CN
CH
N
S
H2N
(2a)

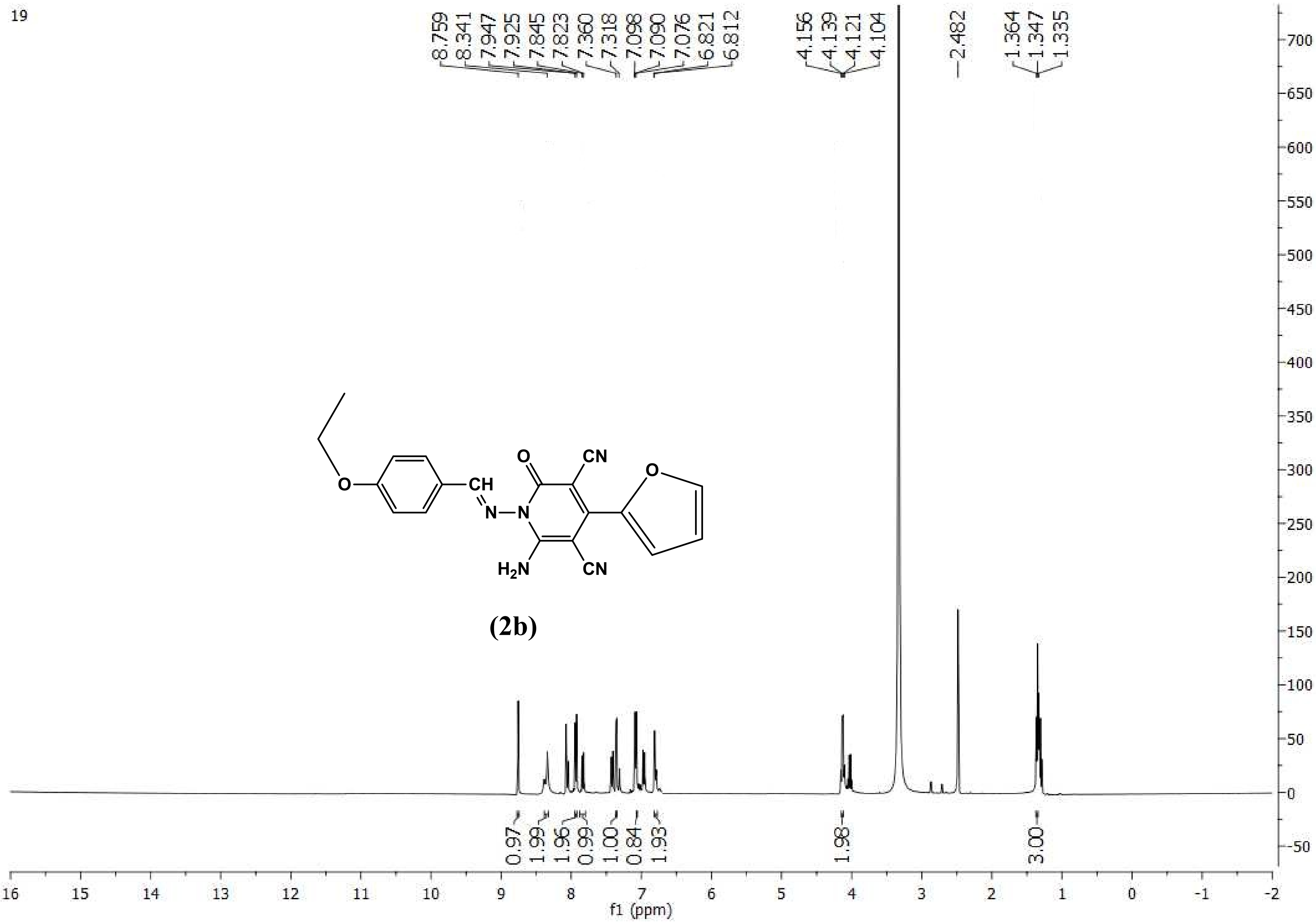

9
8.790
8.462
7.984
7.962
7.572
7.563
7.472
7.450
7.306
7.297
7.285
7.130
7.108
4.191
4.173
4.156
4.138
2.512
1.400
1.383
1.365
0.93
1.92
1.85
0.99
1.00
0.97
1.93
1.99
3.04
O
CN
S
CH
N
N
O
H2N
CN
(2a)
f1 (ppm)

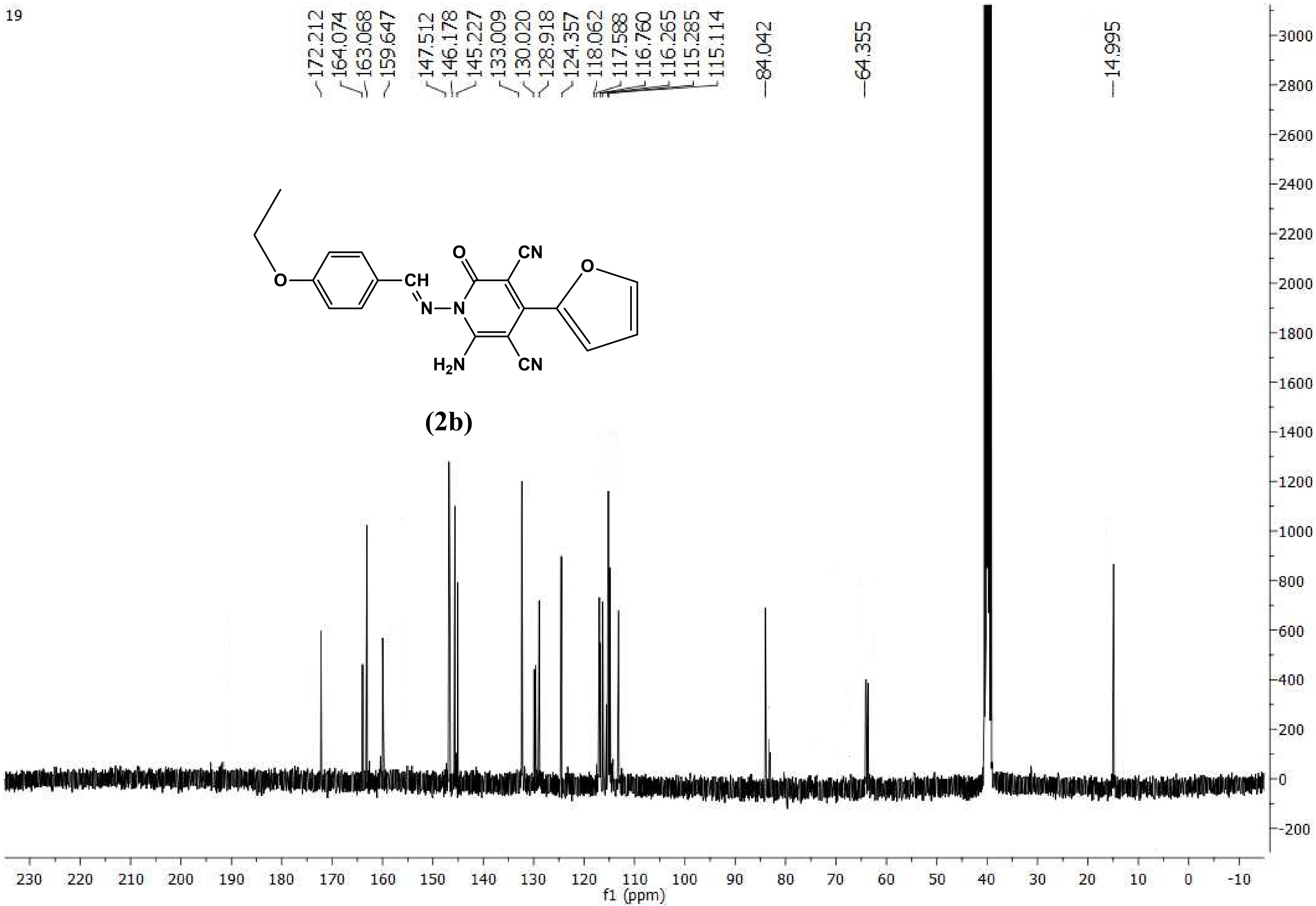
9

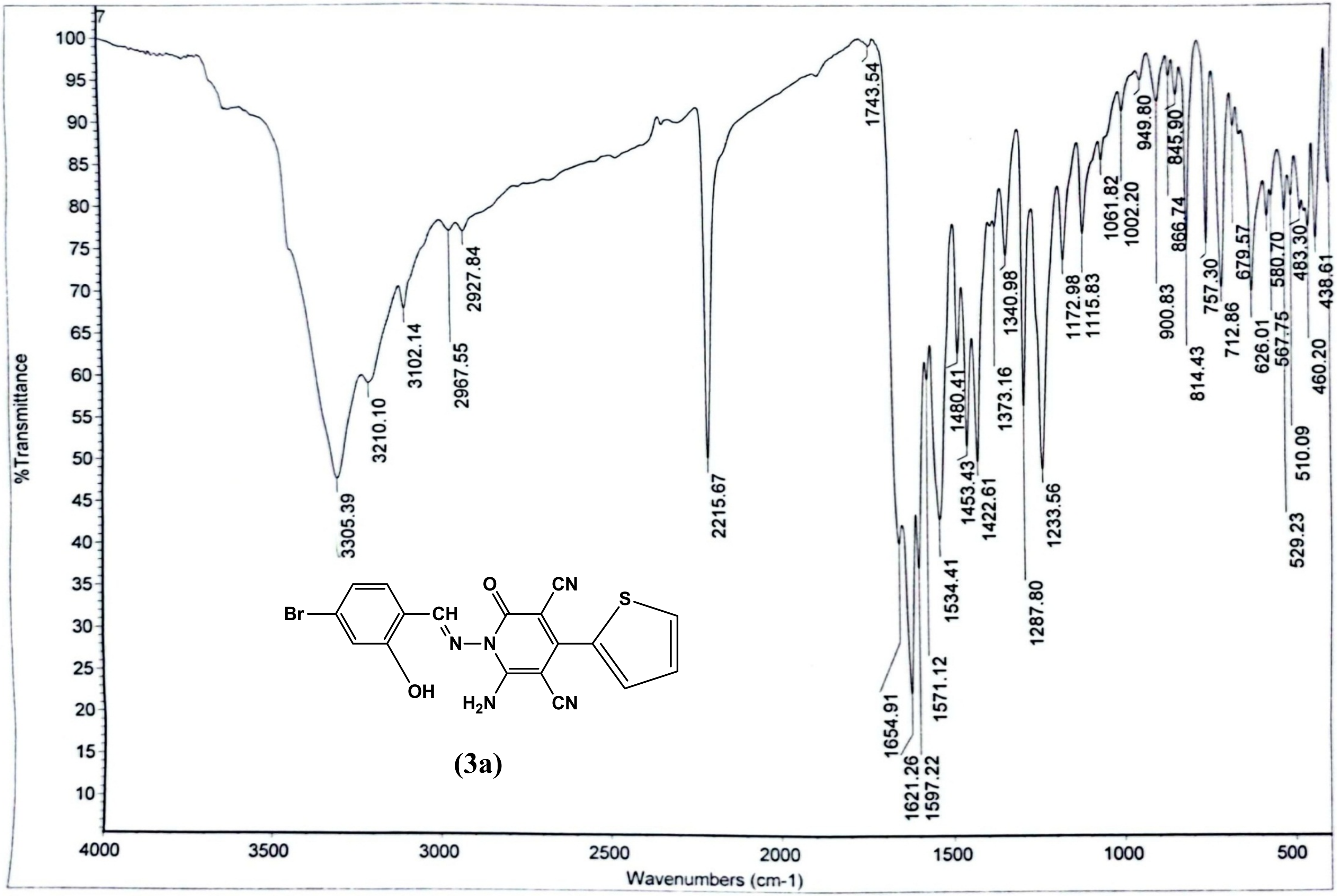


172.45
164.02
159.68
157.24
152.12
133.80
132.45
132.33
131.25
130.79
129.96
128.87
128.22
124.54
116.07
115.34
115.17
86.88
64.11
14.92
O
CH
N
N
O
CN
S
H2N
CN
(2a)
3000
2500
2000
1500
1000
500
0
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)

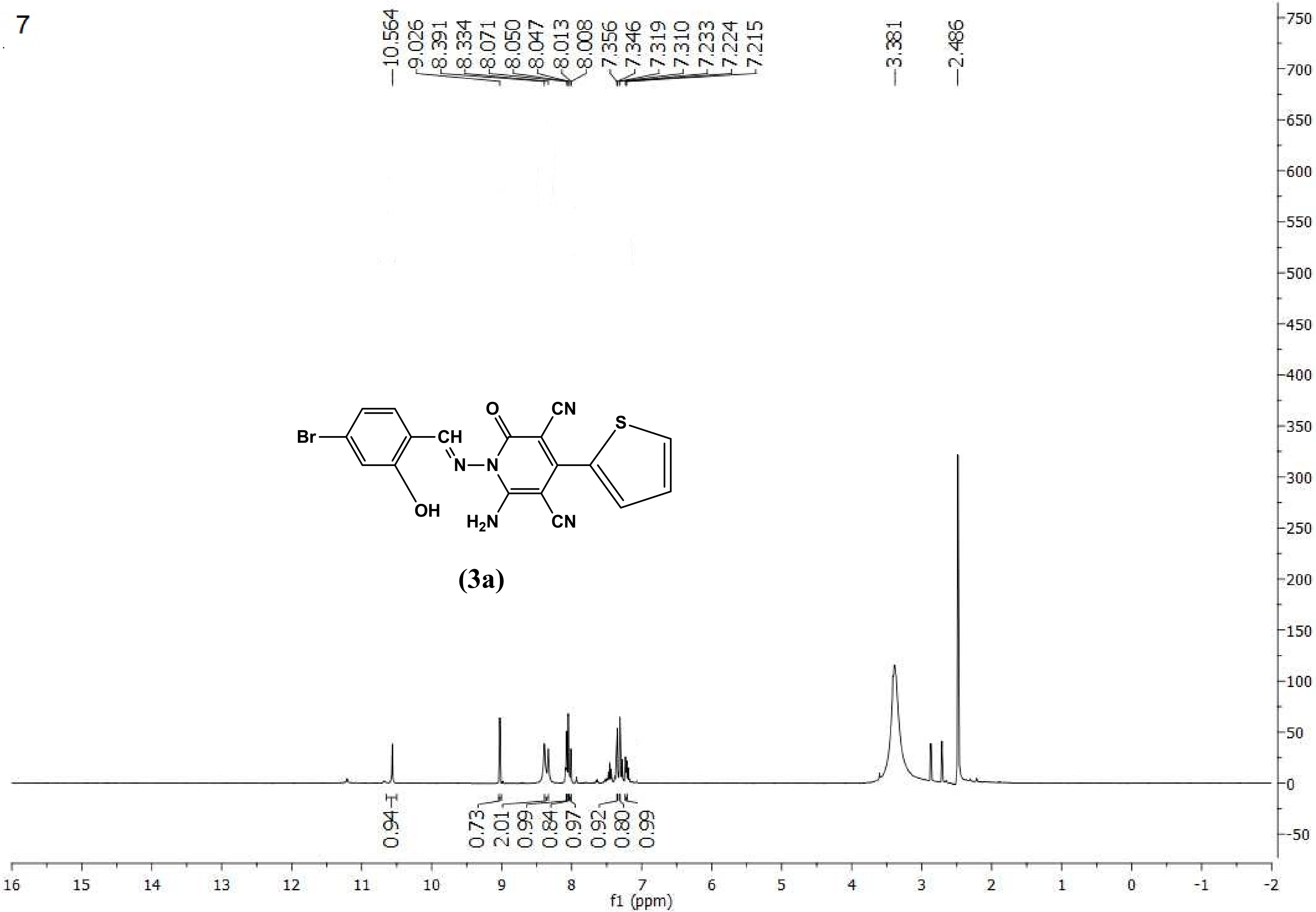

19
%Transmittance
Wavenumbers (cm-1)
(2b)
CN
O
CH
N
N
H2N
CN
3438.60
3300.97
3197.10
3119.79
2981.57
2937.70
2897.46
2635.19
2571.30
2214.54
1668.06
1627.85
1598.34
1561.77
1514.19
1477.39
1452.90
1395.52
1308.22
1264.21
1172.59
1114.32
1087.91
1037.99
974.81
922.68
902.16
884.52
834.37
821.27
753.84
630.68
614.42
587.36
559.58
526.58
505.16
473.20
443.31
424.16


19
8.759
8.341
7.947
7.925
7.845
7.823
7.360
7.318
7.098
7.090
7.076
6.821
6.812
4.156
4.139
4.121
4.104
2.482
1.364
1.347
1.335
0.97
1.99
1.96
0.99
1.00
0.84
1.93
1.98
3.00
O
CN
CH
N
H2N
(2b)
f1 (ppm)


172.212
164.074
163.068
159.647
147.512
146.178
145.227
133.009
130.020
128.918
124.357
118.062
117.588
116.760
116.265
115.285
115.114
84.042
64.355
14.995
O
CH
N
N
O
CN
O
H2N
CN
(2b)
f1 (ppm)


%Transmittance
Wavenumbers (cm-1)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
4000
3500
3000
2500
2000
1500
1000
500
3305.39
3210.10
3102.14
2967.55
2927.84
2215.67
1743.54
1654.91
1621.26
1597.22
1571.12
1534.41
1480.41
1453.43
1422.61
1373.16
1340.98
1287.80
1233.56
1172.98
1115.83
1061.82
1002.20
949.80
900.83
866.74
845.90
814.43
757.30
712.86
679.57
626.01
580.70
567.75
529.23
510.09
483.30
460.20
438.61
Br
CH
N
N
O
CN
S
OH
H2N
CN
(3a)

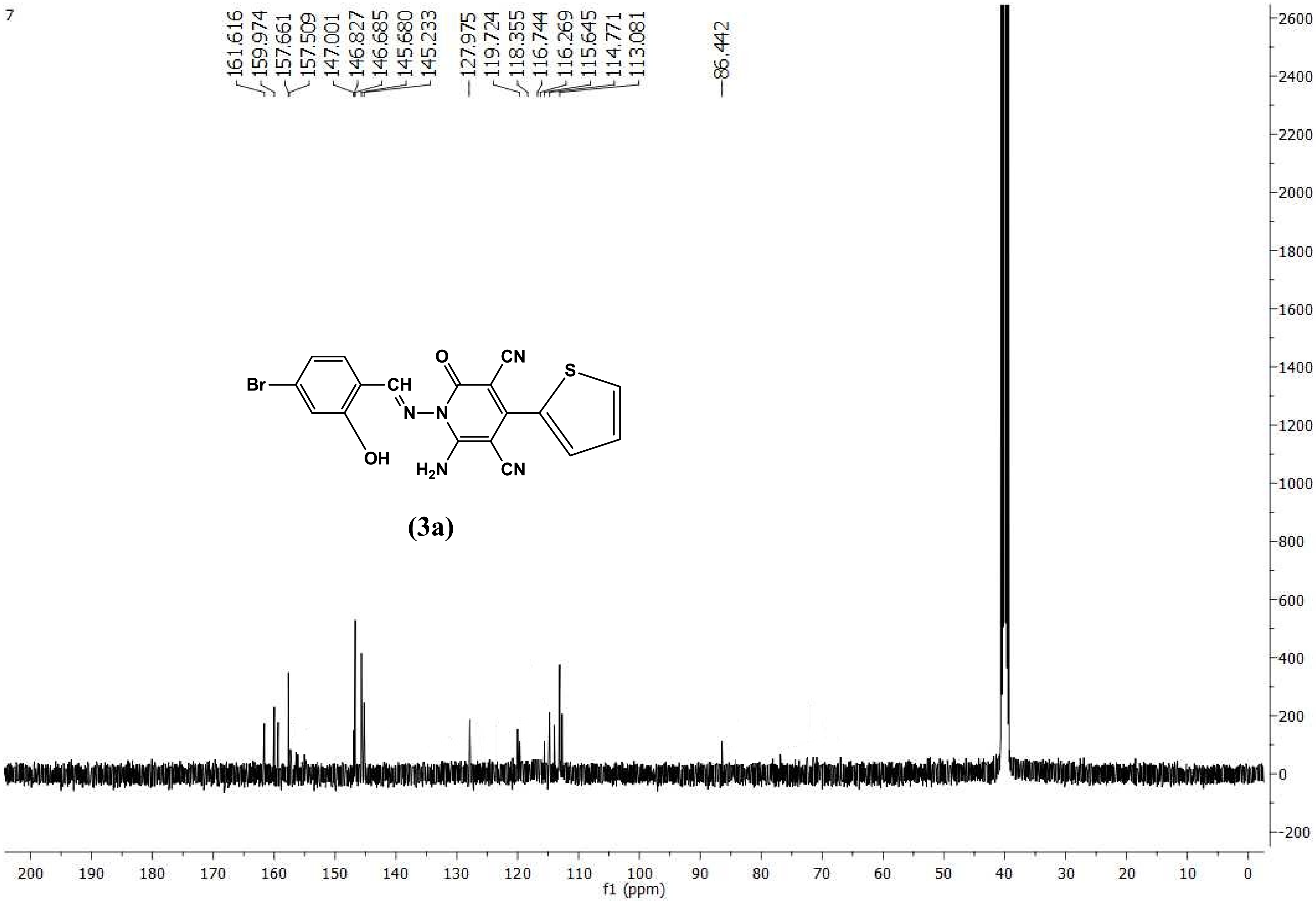
7



10.564
9.026
8.391
8.334
8.071
8.050
8.047
8.013
8.008
7.356
7.346
7.319
7.310
7.233
7.224
7.215
3.381
2.486
0.94
0.73
2.01
0.99
0.84
0.97
0.92
0.80
0.99
f1 (ppm)
Br
CH
N
O
CN
S
OH
H_2N
CN

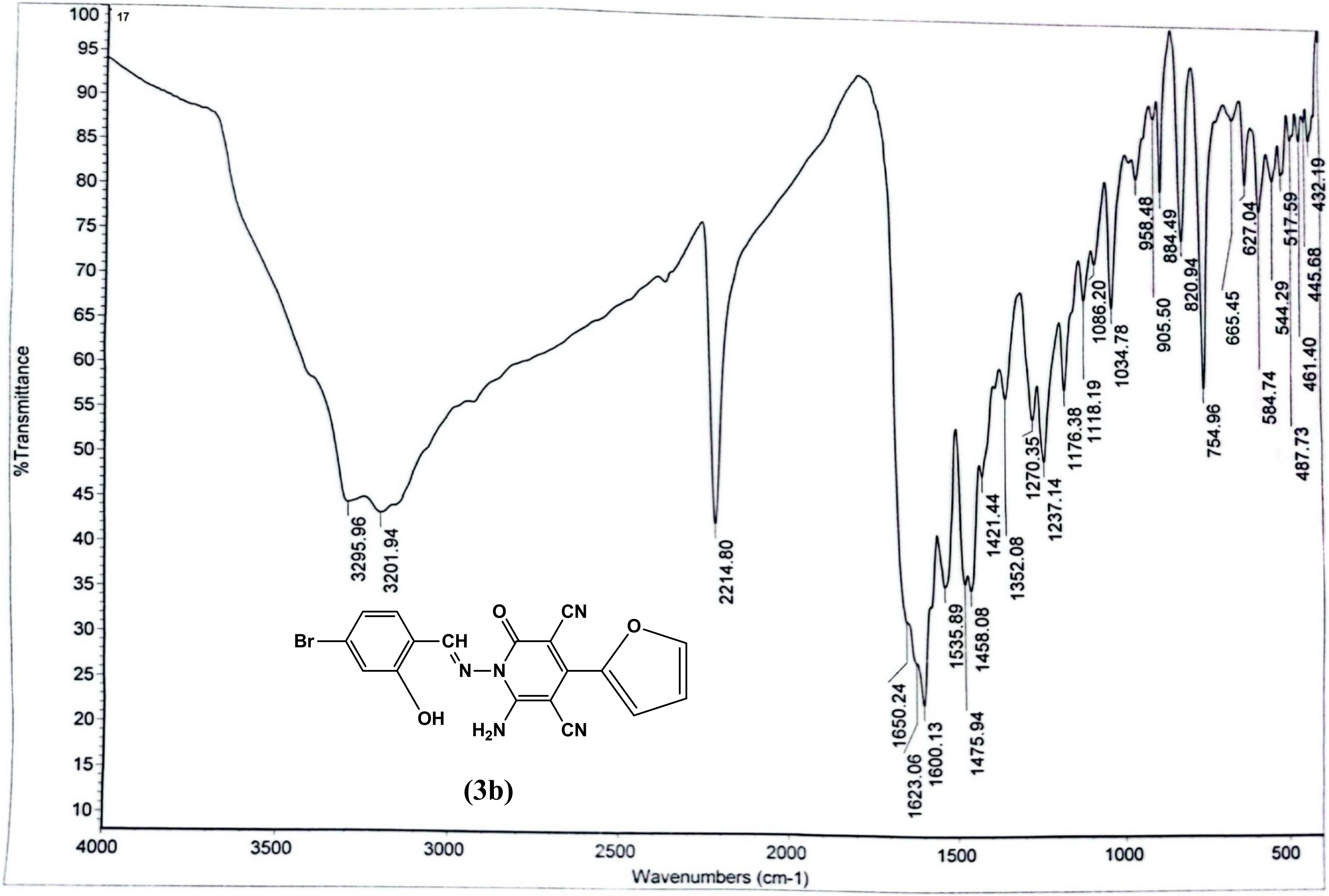
(3a)

7



161.616
159.974
157.661
157.509
147.001
146.827
146.685
145.680
145.233
127.975
119.724
118.355
116.744
116.269
115.645
114.771
113.081
86.442
Br
CH
N
N
O
CN
S
OH
H2N
CN
f1 (ppm)

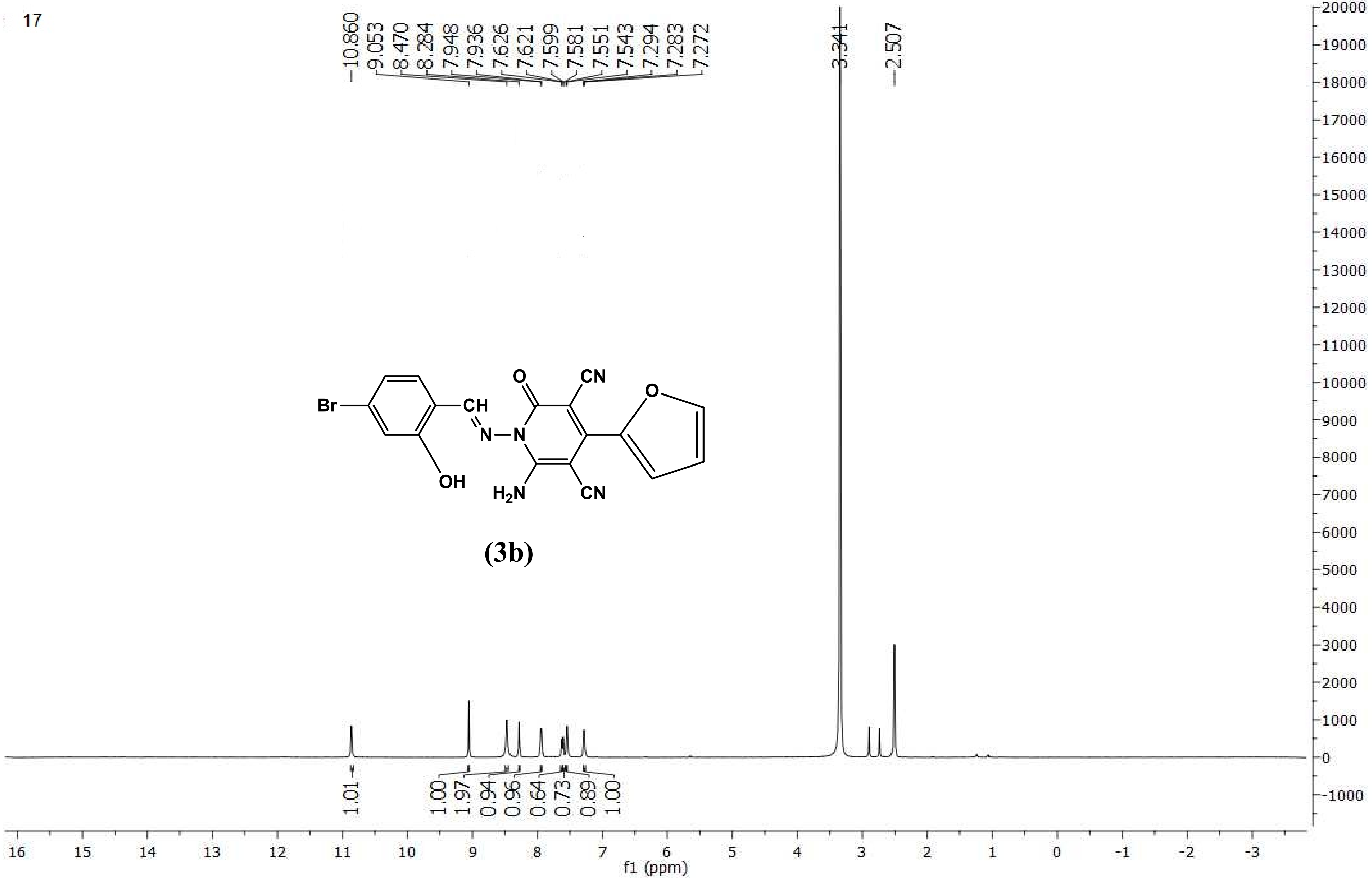
(3a)



17
%Transmittance
Wavenumbers (cm-1)
3295.96
3201.94
2214.80
1650.24
1623.06
1600.13
1535.89
1475.94
1458.08
1421.44
1352.08
1270.35
1237.14
1176.38
1118.19
1086.20
1034.78
958.48
905.50
884.49
820.94
754.96
665.45
627.04
584.74
544.29
517.59
487.73
461.40
445.68
432.19
Br
CH
N
N
O
CN
O
OH
H_2N
CN

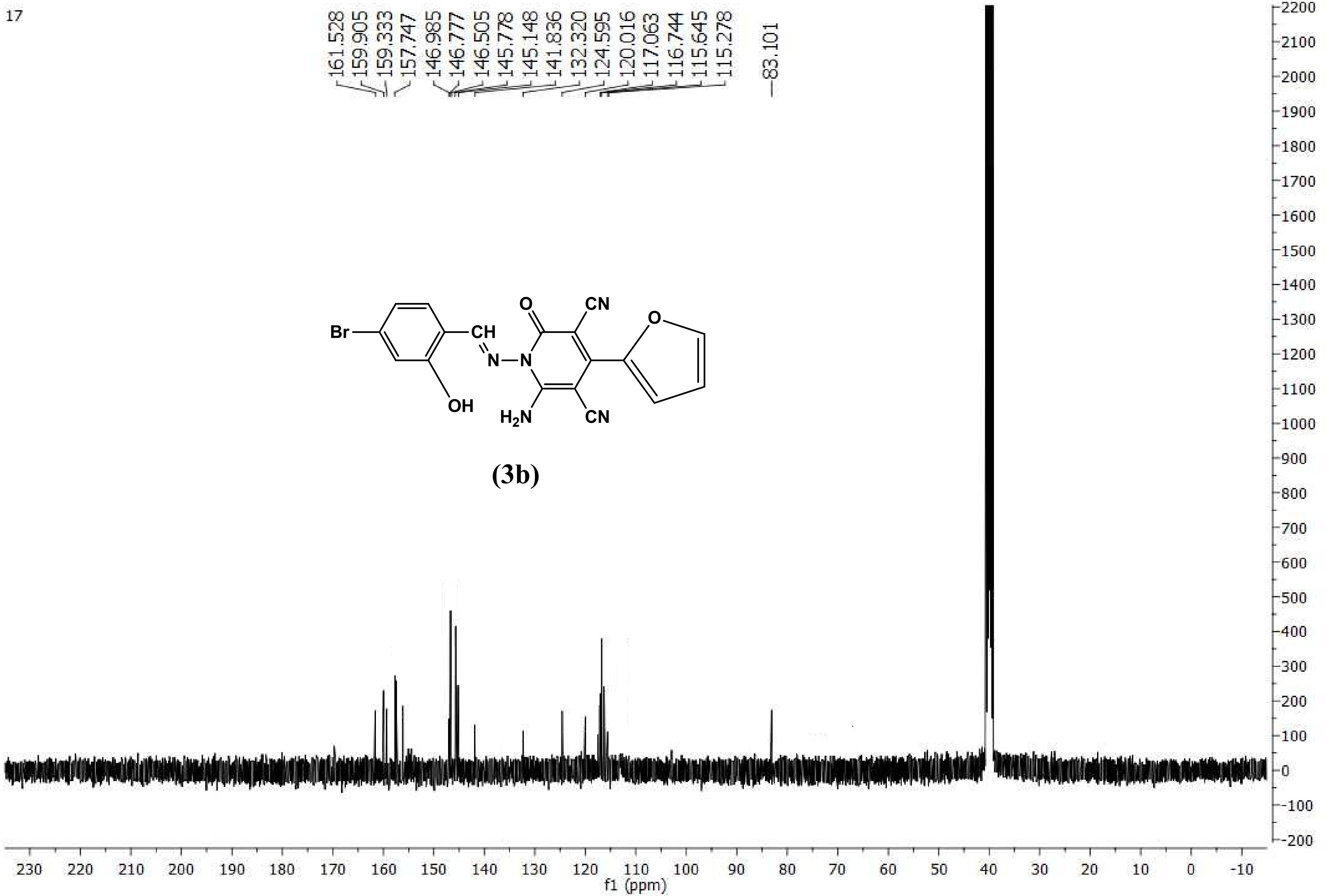
(3b)

17

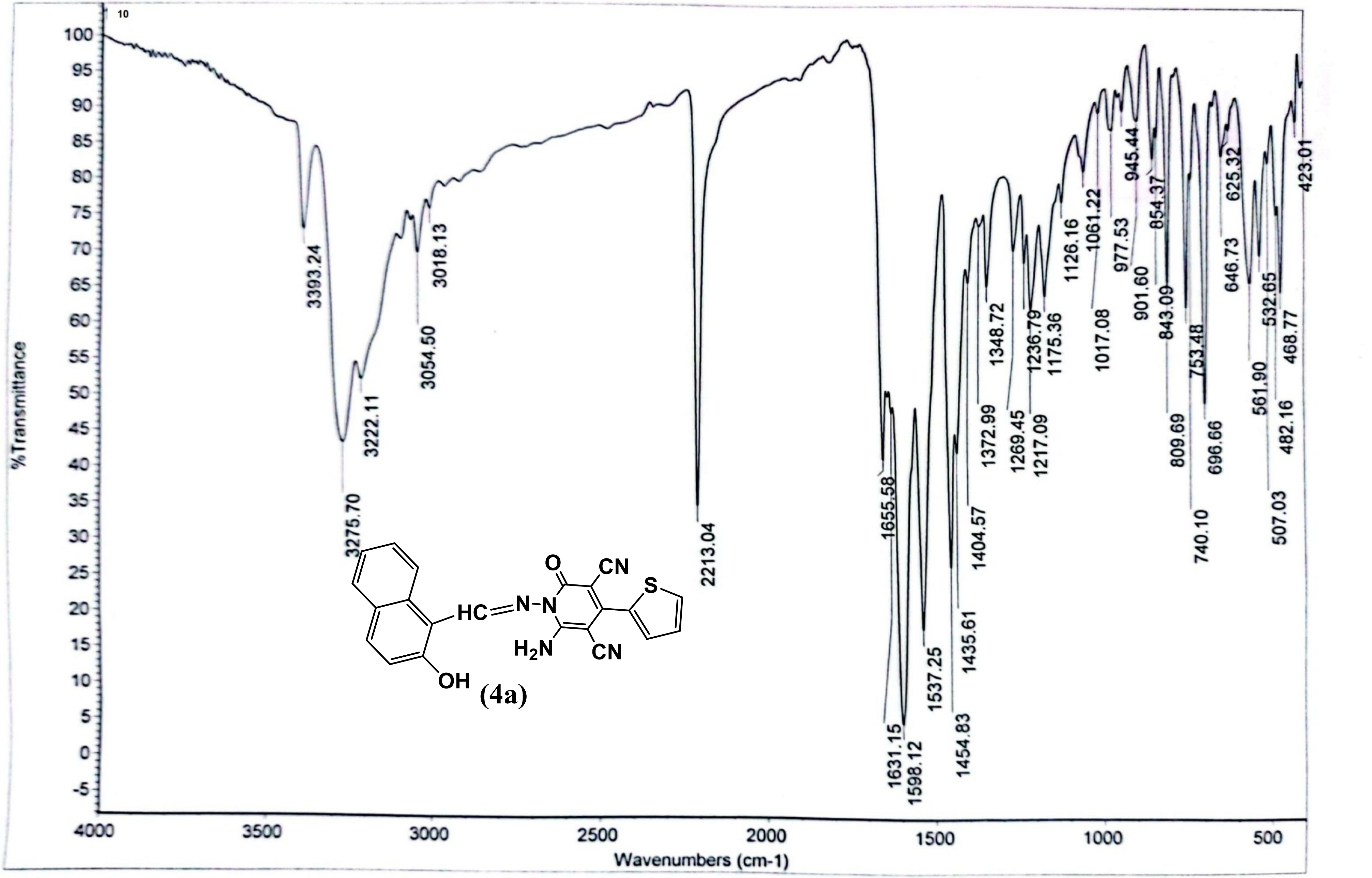

10.860
9.053
8.470
8.284
7.948
7.936
7.626
7.621
7.599
7.581
7.551
7.543
7.294
7.283
7.272
3.341
2.507
Br
CH
N
N
O
CN
O
OH
H2N
CN
1.01
1.00
1.97
0.94
0.96
0.64
0.73
0.89
1.00
f1 (ppm)

(3b)

17

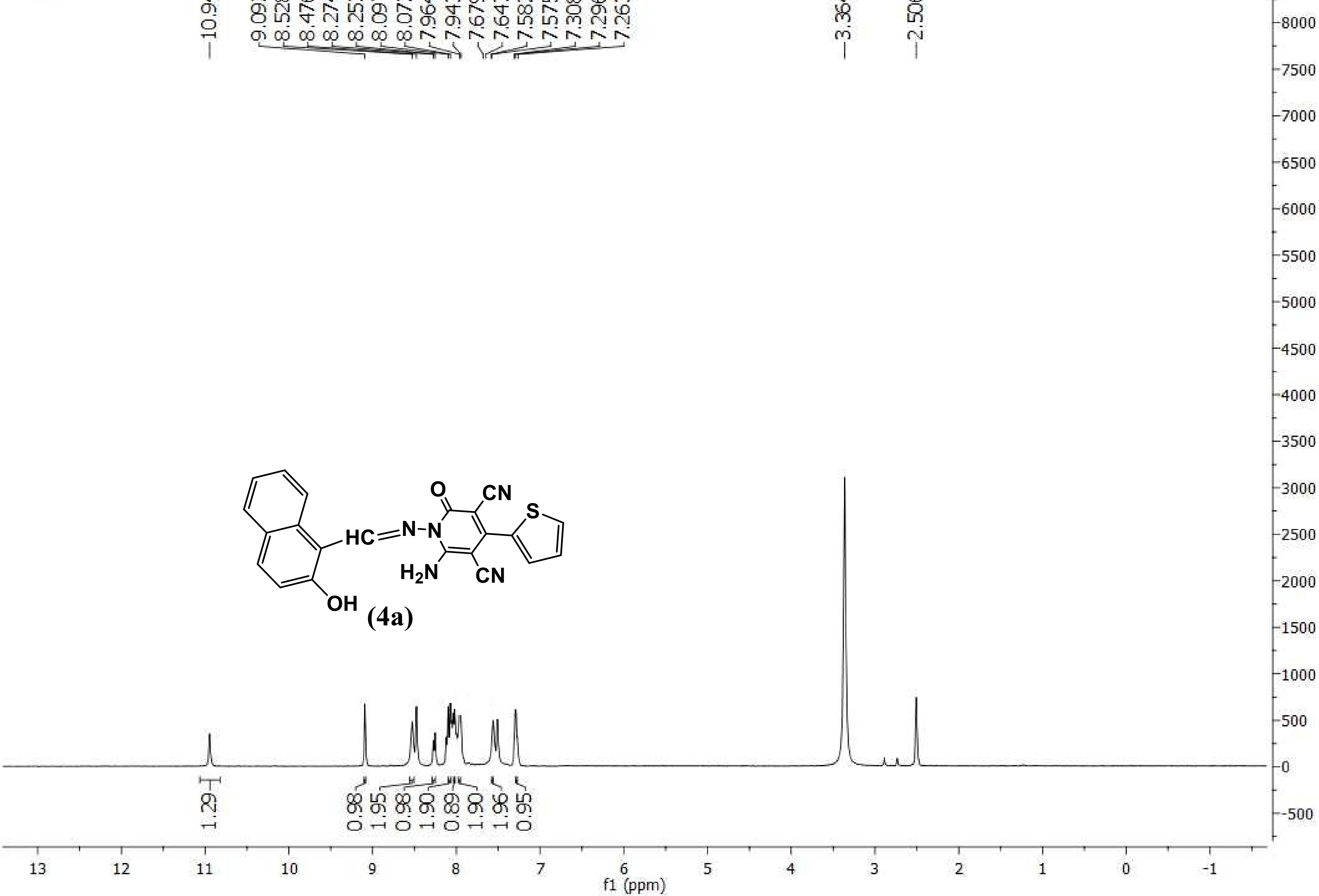


161.528
159.905
159.333
157.747
146.985
146.777
146.505
145.778
145.148
141.836
132.320
124.595
120.016
117.063
116.744
115.645
115.278
83.101
Br
CH
N
O
CN
O
N
OH
H2N
CN
(3b)
f1 (ppm)

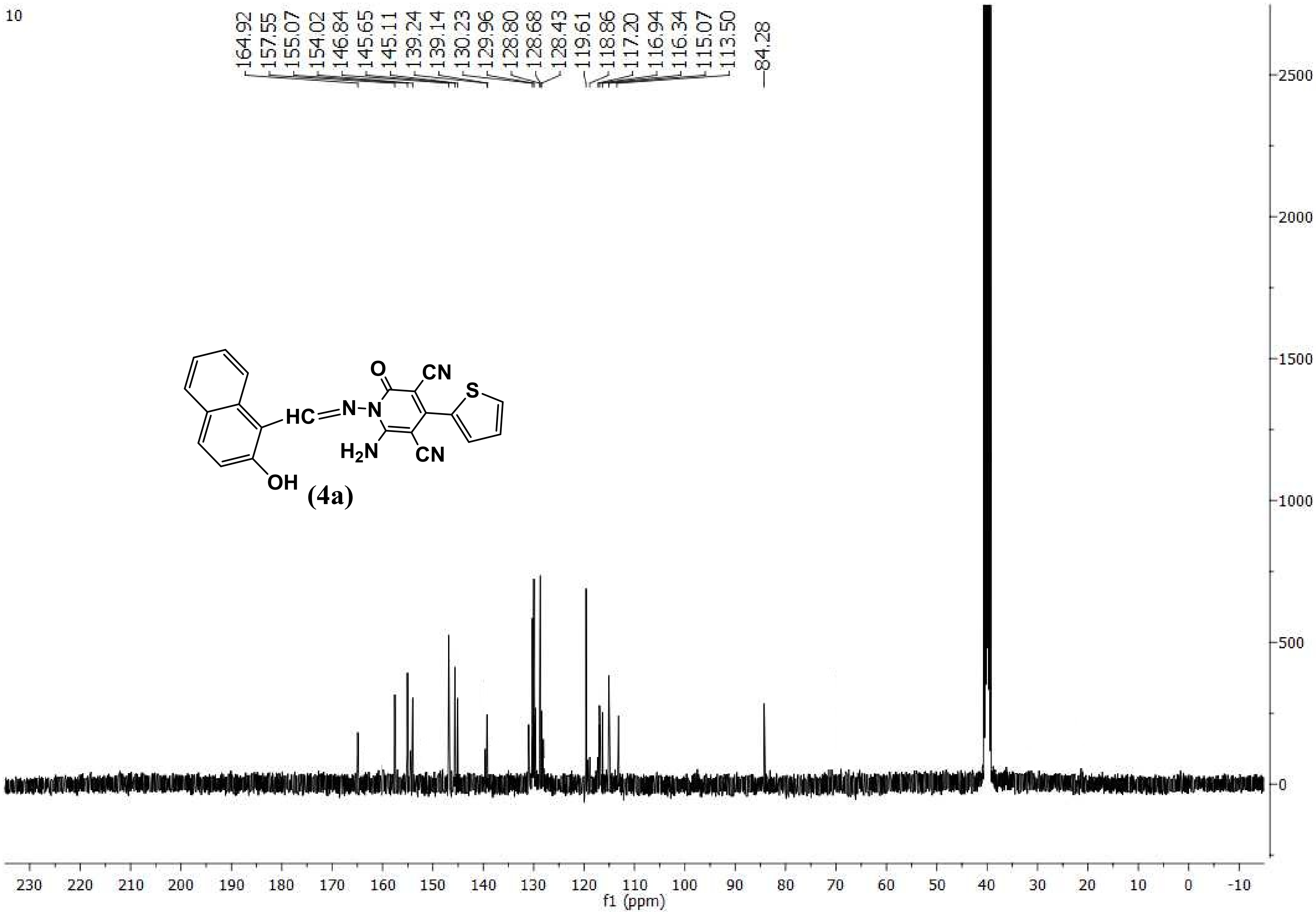


10
%Transmittance
Wavenumbers (cm-1)
4000
3500
3000
2500
2000
1500
1000
500
3393.24
3275.70
3222.11
3054.50
3018.13
2213.04
1655.58
1631.15
1598.12
1537.25
1454.83
1435.61
1404.57
1372.99
1348.72
1269.45
1236.79
1217.09
1175.36
1126.16
1061.22
1017.08
977.53
945.44
901.60
854.37
843.09
809.69
753.48
740.10
696.66
646.73
625.32
561.90
532.65
507.03
482.16
468.77
423.01
O
CN
S
HC
N
N
H2N
CN
OH
(4a)

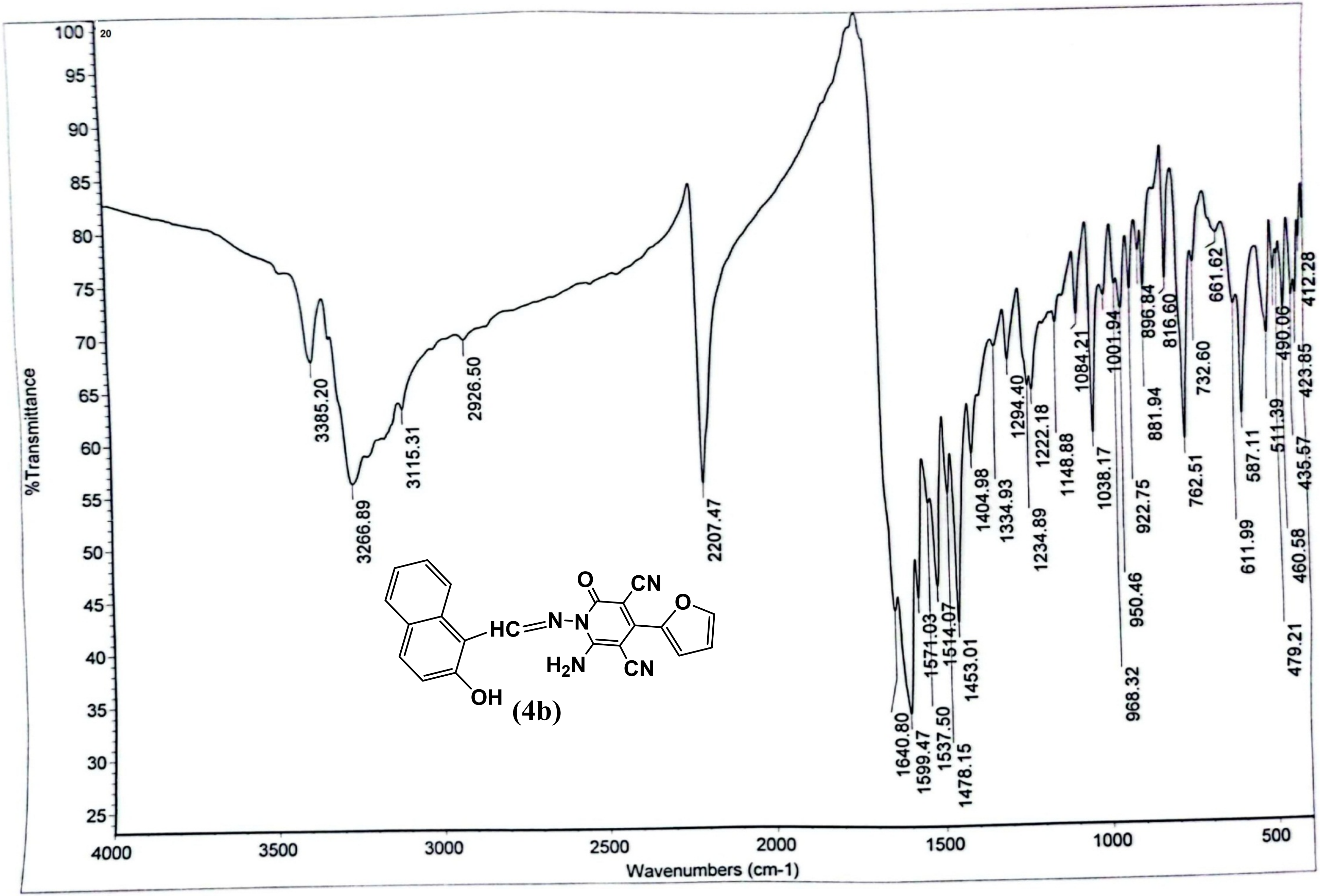
10



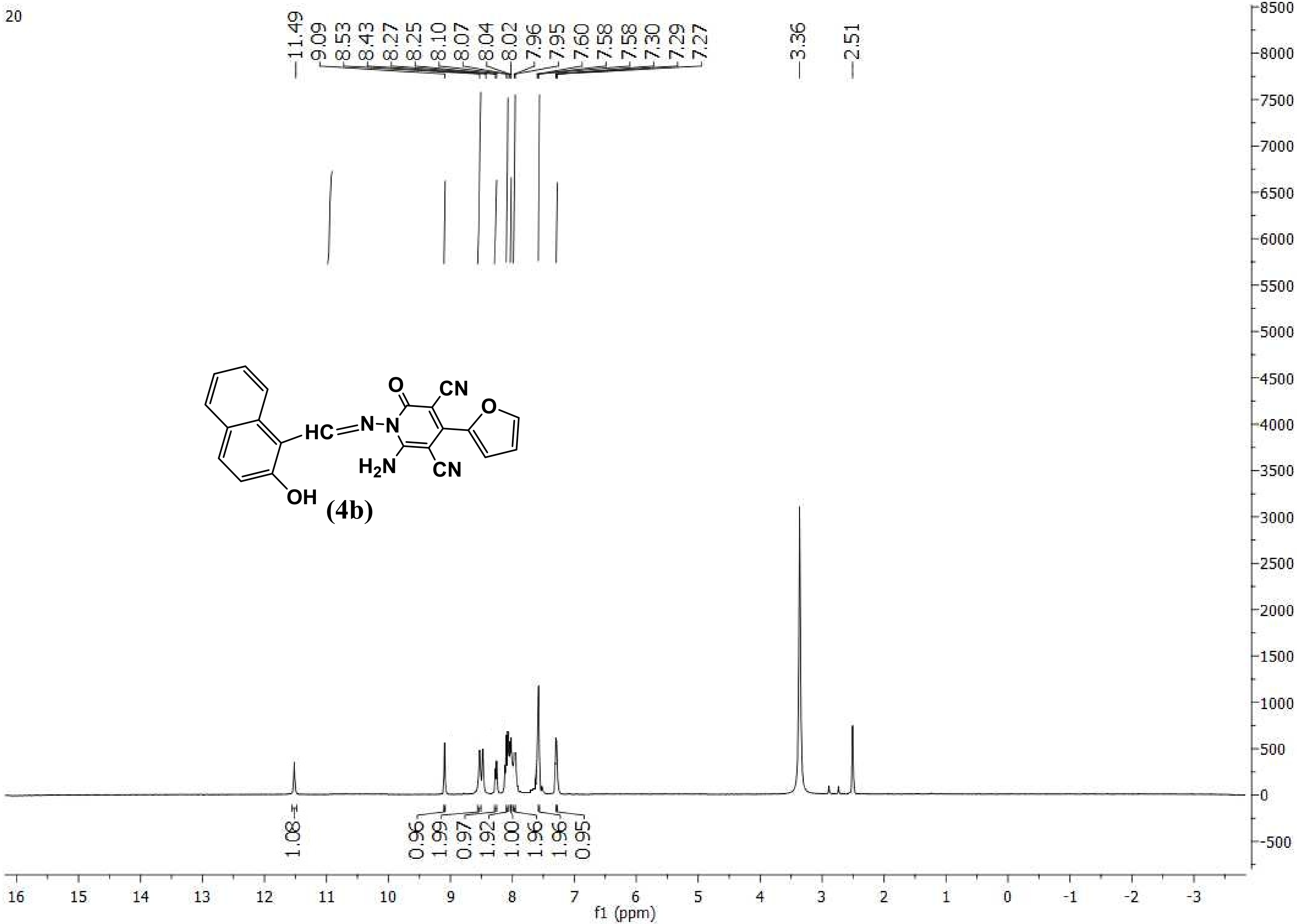
10.947
9.092
8.528
8.476
8.274
8.253
8.097
8.072
7.964
7.943
7.679
7.647
7.582
7.575
7.308
7.296
7.263
3.364
2.506
O
CN
S
HC=N-N
H2N
CN
OH
(4a)
1.29
0.98
1.95
0.98
1.90
0.89
1.90
1.96
0.95
f1 (ppm)



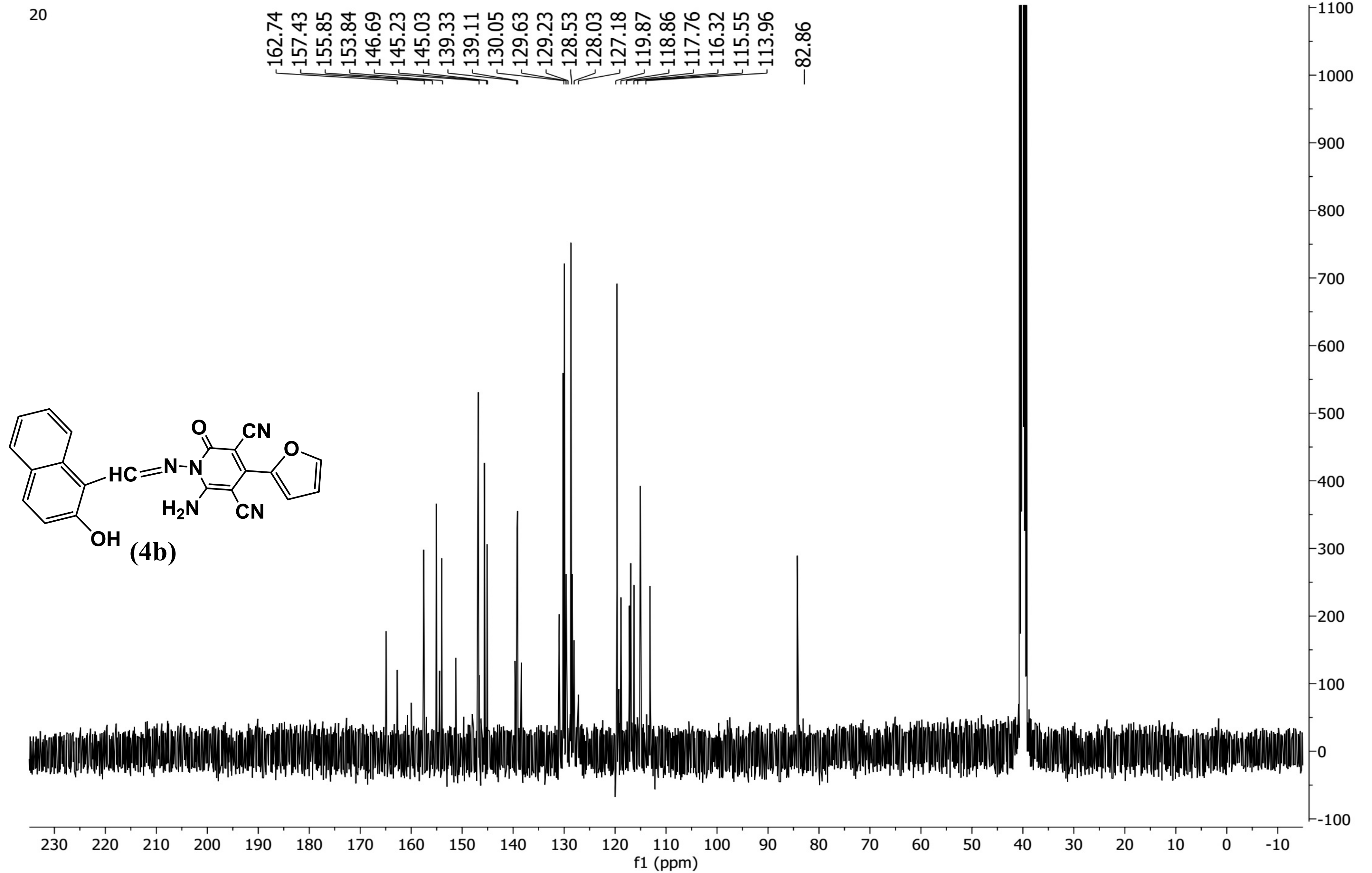
10
164.92
157.55
155.07
154.02
146.84
145.65
145.11
139.24
139.14
130.23
129.96
128.80
128.68
128.43
119.61
118.86
117.20
116.94
116.34
115.07
113.50
84.28
O
CN
S
HC
N
N
H2N
CN
OH
(4a)
2500
2000
1500
1000
500
0
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)

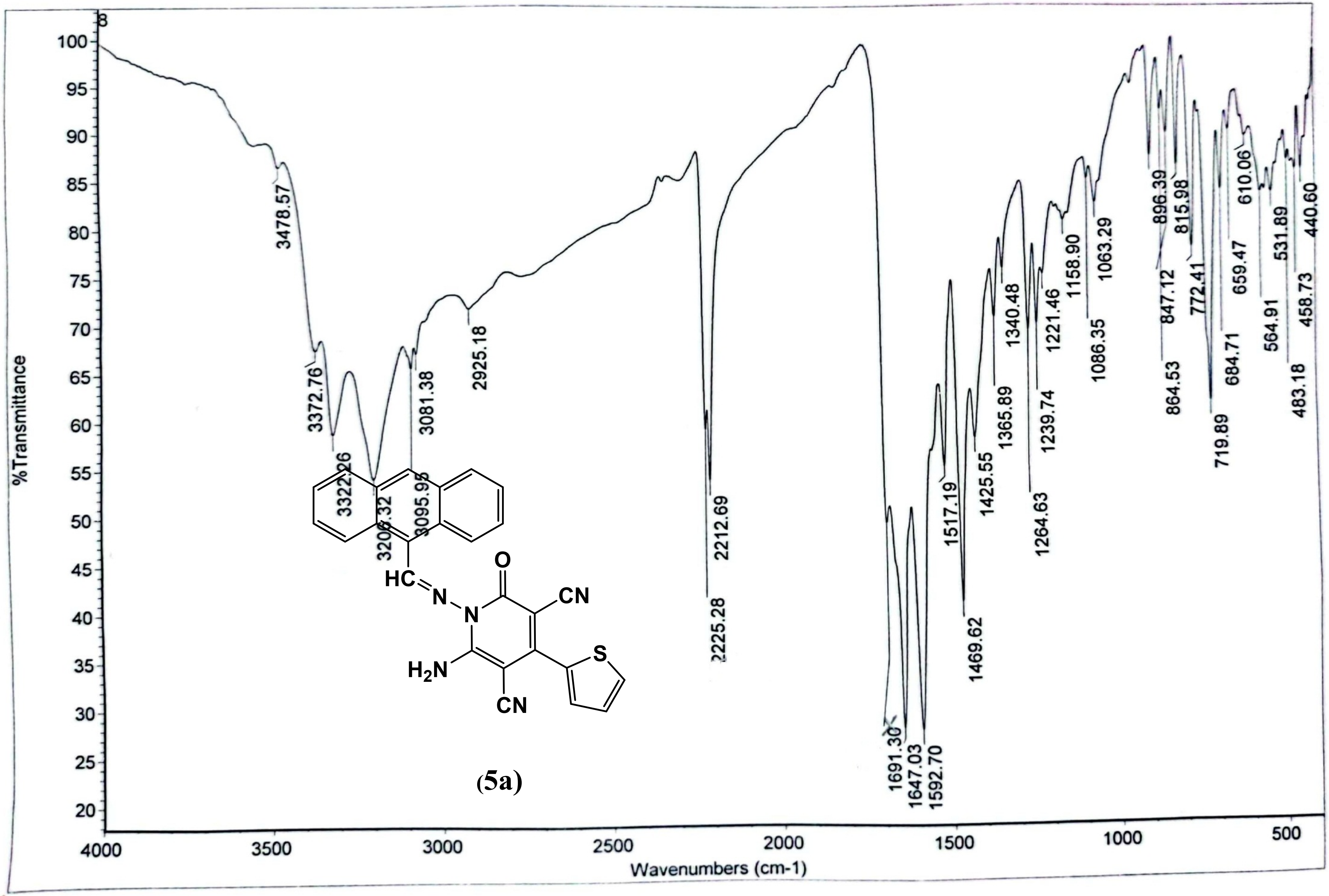


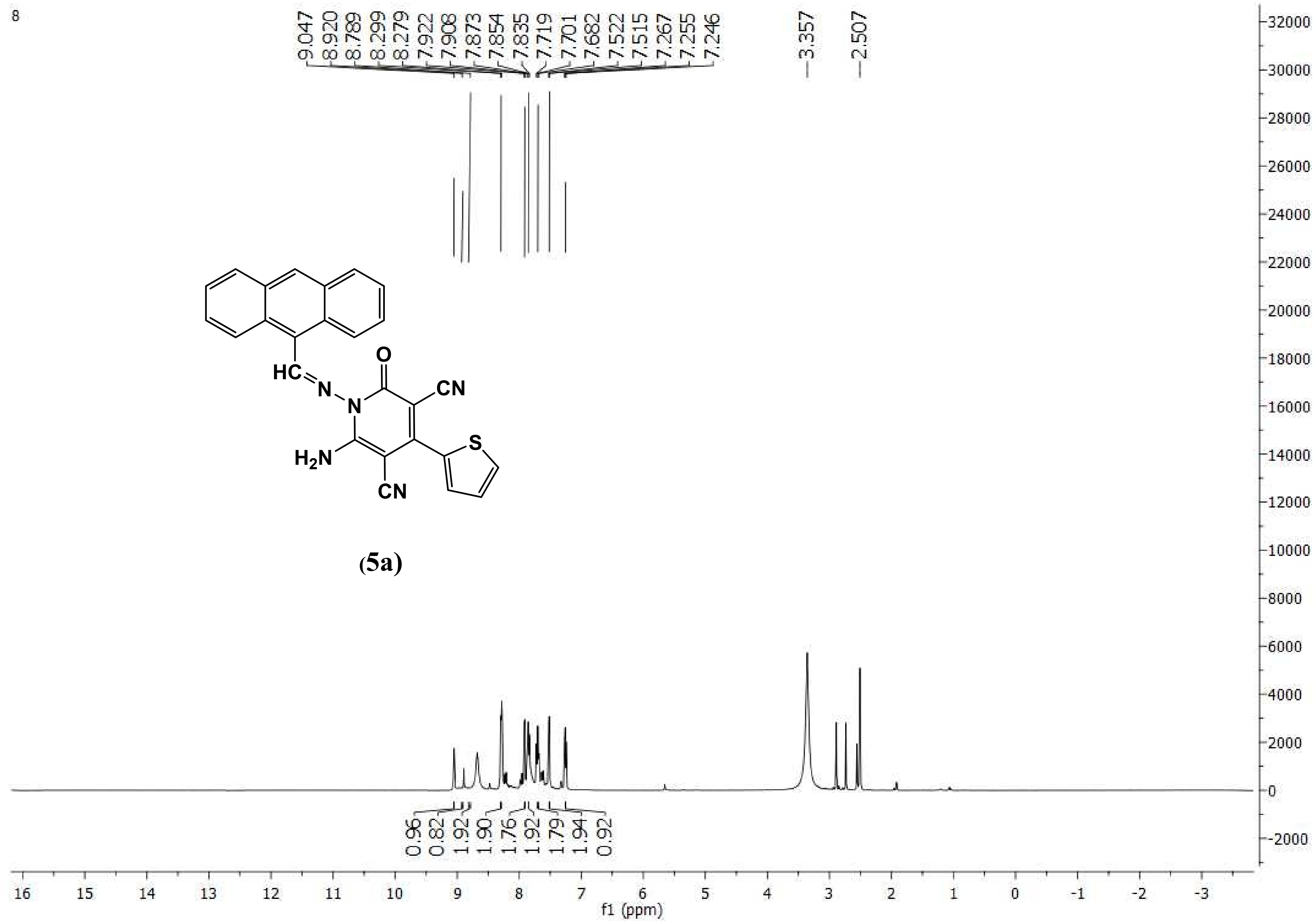
%Transmittance
Wavenumbers (cm-1)
3385.20
3266.89
3115.31
2926.50
2207.47
1640.80
1599.47
1571.03
1537.50
1514.07
1478.15
1453.01
1404.98
1334.93
1294.40
1234.89
1222.18
1148.88
1084.21
1038.17
1001.94
968.32
950.46
922.75
896.84
881.94
816.60
762.51
732.60
661.62
611.99
587.11
511.39
490.06
479.21
460.58
435.57
423.85
412.28
HC=N–N
O
CN
CN
H2N
OH
(4b)



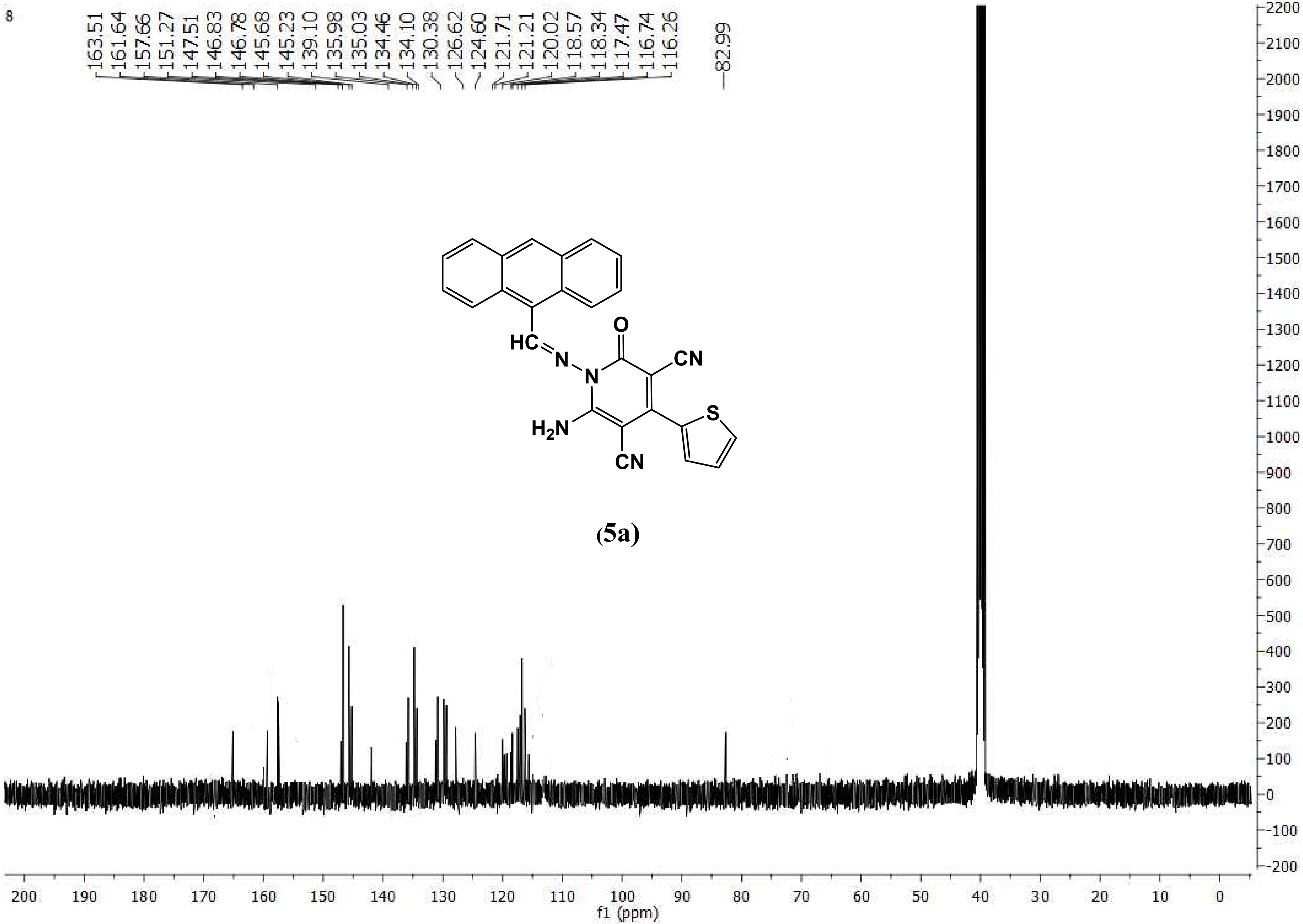
11.49
9.09
8.53
8.43
8.27
8.25
8.10
8.07
8.04
8.02
7.96
7.95
7.60
7.58
7.58
7.30
7.29
7.27
3.36
2.51
O
CN
O
HC=N-N
H2N
CN
OH
(4b)
1.08
0.96
1.99
0.97
1.92
1.00
1.96
1.96
0.95
f1 (ppm)


162.74
157.43
155.85
153.84
146.69
145.23
145.03
139.33
139.11
130.05
129.63
129.23
128.53
128.03
127.18
119.87
118.86
117.76
116.32
115.55
113.96
82.86
(4b)
f1 (ppm)

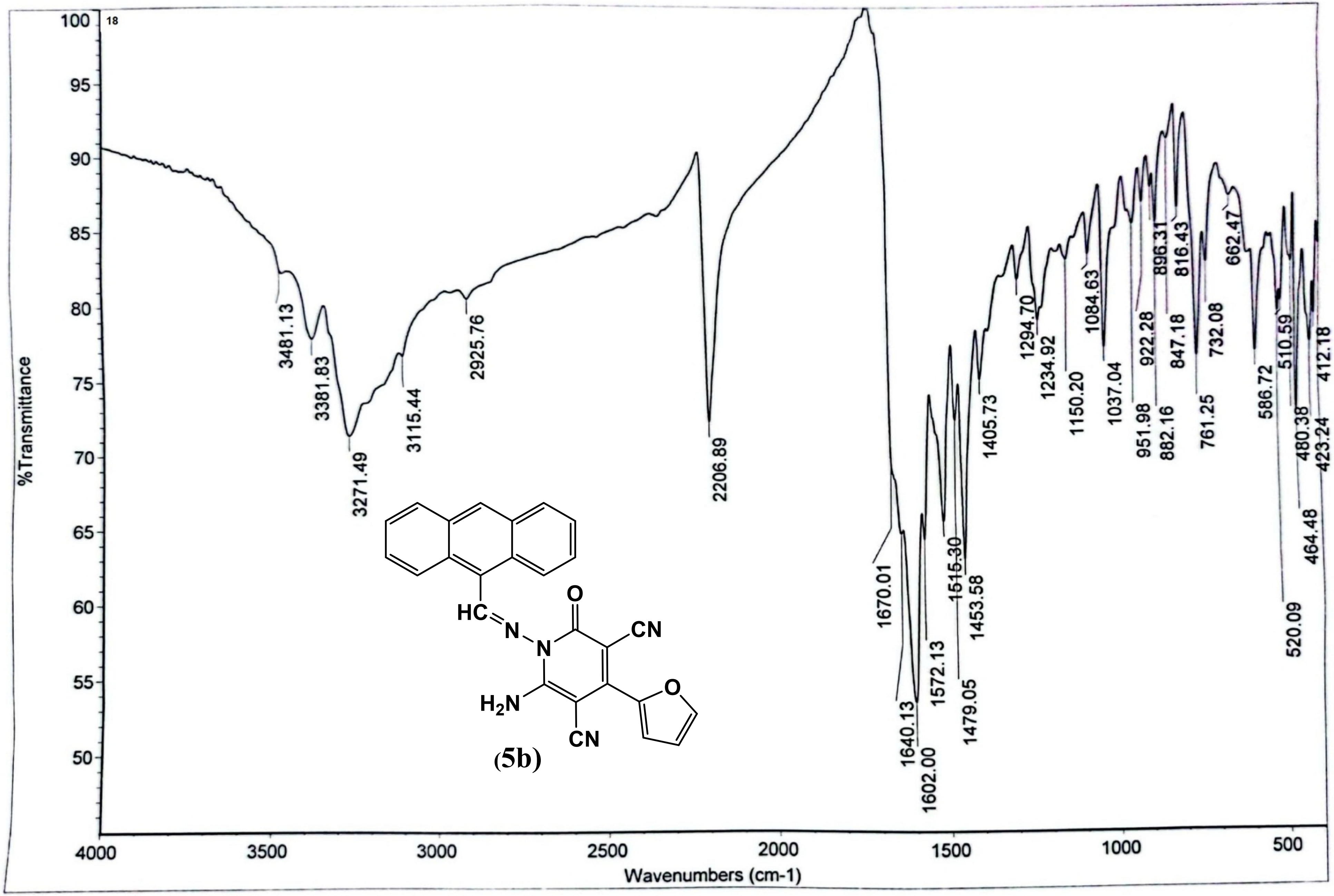

%Transmittance
Wavenumbers (cm-1)
3478.57
3372.76
3322.26
3206.32
3095.95
3081.38
2925.18
2225.28
2212.69
1691.30
1647.03
1592.70
1517.19
1469.62
1425.55
1365.89
1340.48
1264.63
1239.74
1221.46
1158.90
1086.35
1063.29
896.39
864.53
847.12
815.98
772.41
719.89
684.71
659.47
610.06
564.91
531.89
483.18
458.73
440.60
HC=N
N
O
CN
S
H2N
CN
(5a)


8
9.047
8.920
8.789
8.299
8.279
7.922
7.908
7.873
7.854
7.835
7.719
7.701
7.682
7.522
7.515
7.267
7.255
7.246
3.357
2.507
O
CN
HC
N
N
S
H2N
CN
0.96
0.82
1.92
1.90
1.76
1.92
1.79
1.94
0.92
f1 (ppm)

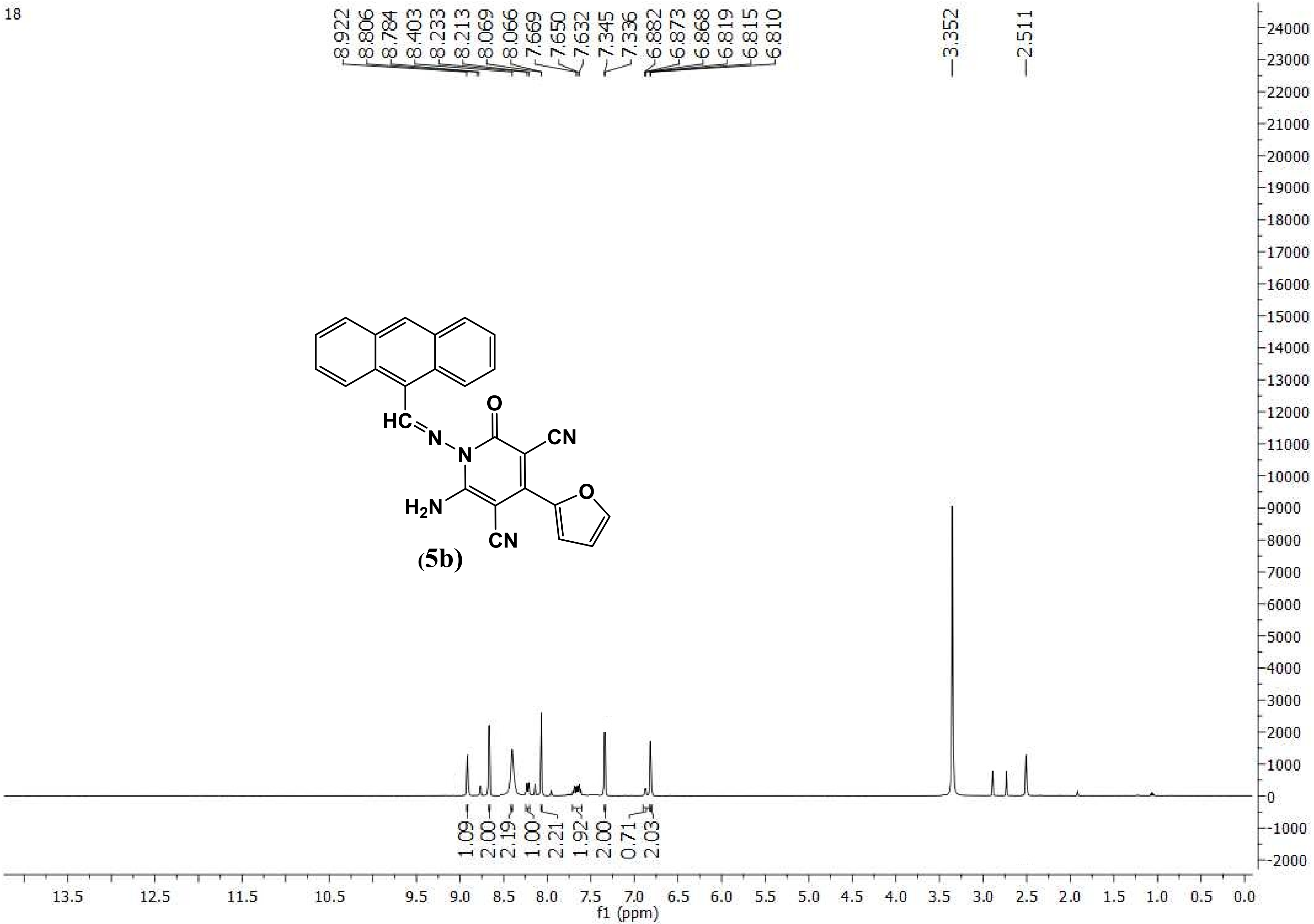
(5a)


8
163.51
161.64
157.66
151.27
147.51
146.83
146.78
145.68
145.23
139.10
135.98
135.03
134.46
134.10
130.38
126.62
124.60
121.71
121.21
120.02
118.57
118.34
117.47
116.74
116.26
82.99
HC
N
N
O
CN
S
H2N
CN
f1 (ppm)

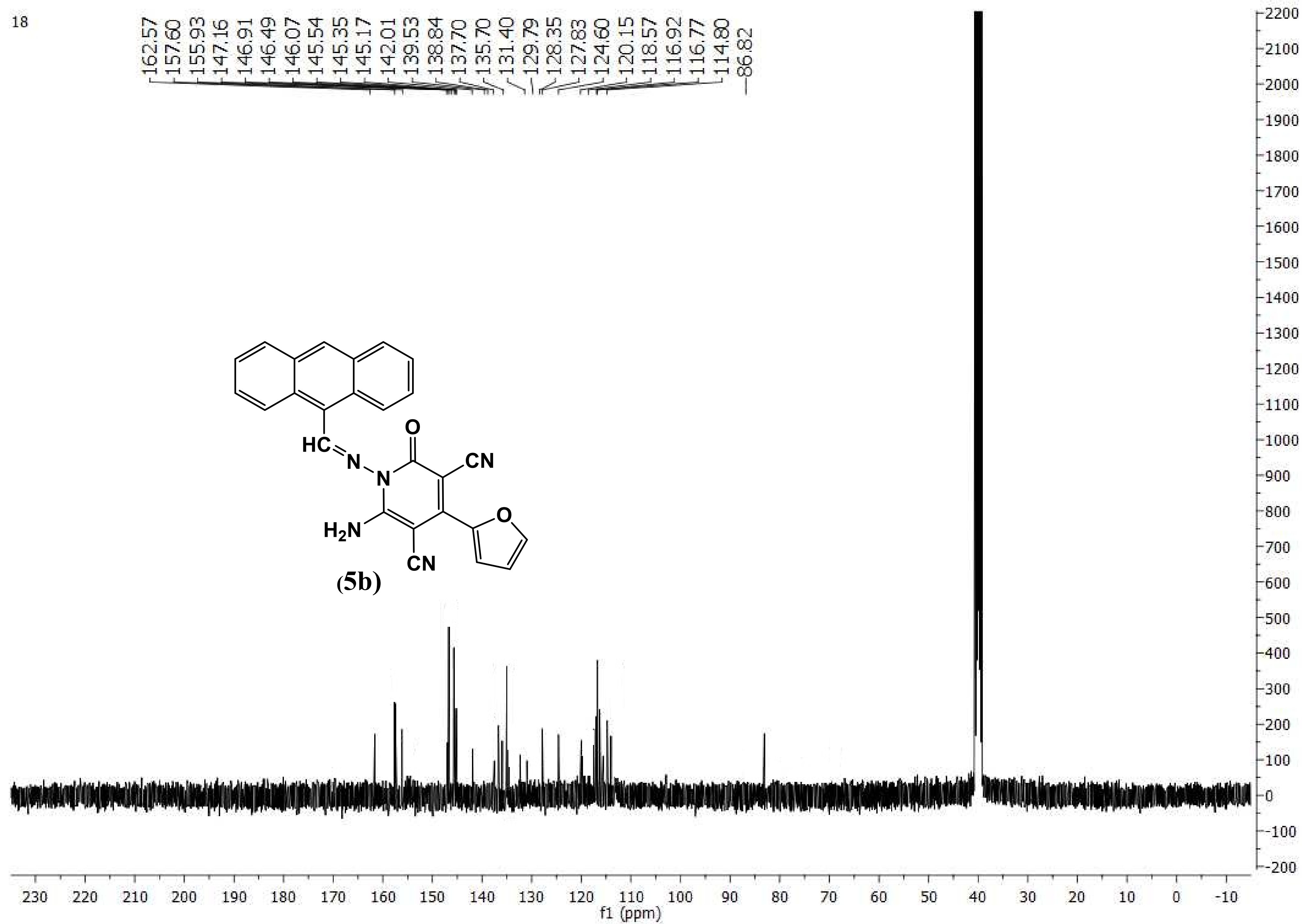
(5a)

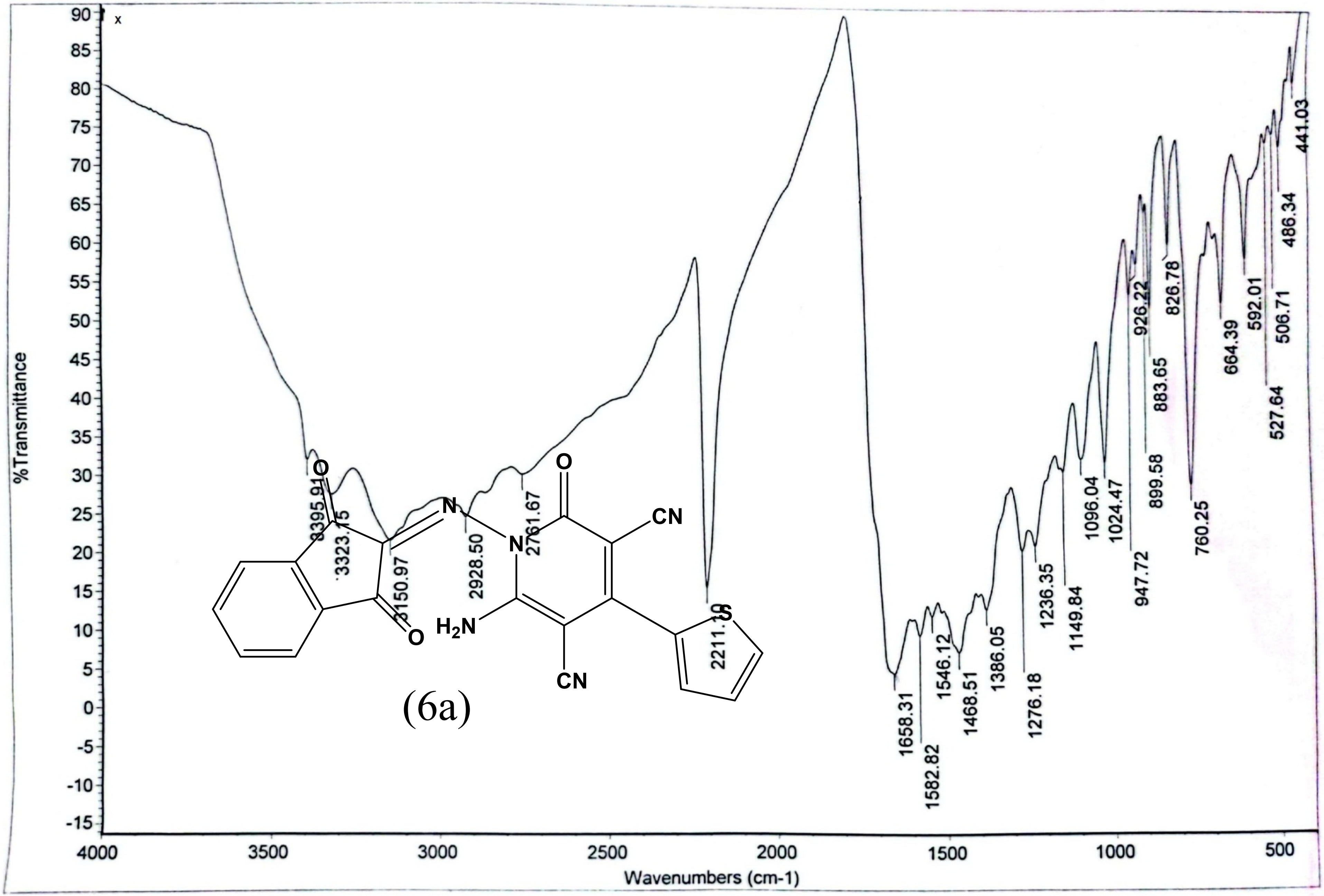

%Transmittance
Wavenumbers (cm-1)
18
3481.13
3381.83
3271.49
3115.44
2925.76
2206.89
1670.01
1640.13
1602.00
1572.13
1515.30
1479.05
1453.58
1405.73
1294.70
1234.92
1150.20
1084.63
1037.04
951.98
922.28
896.31
882.16
847.18
816.43
761.25
732.08
662.47
586.72
520.09
510.59
480.38
464.48
423.24
412.18
HC=N
N
O
CN
H2N
CN
O
(5b)

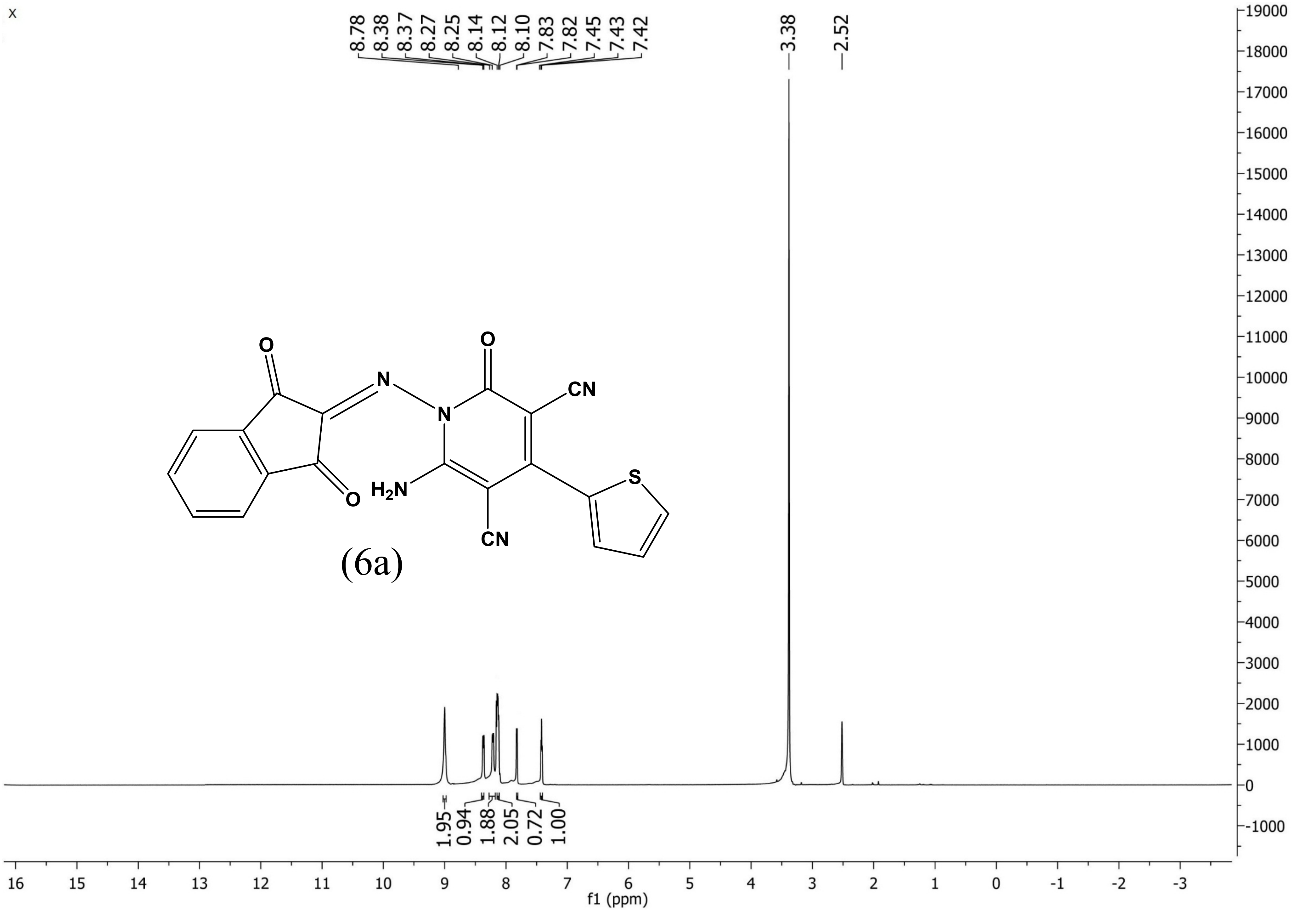
18

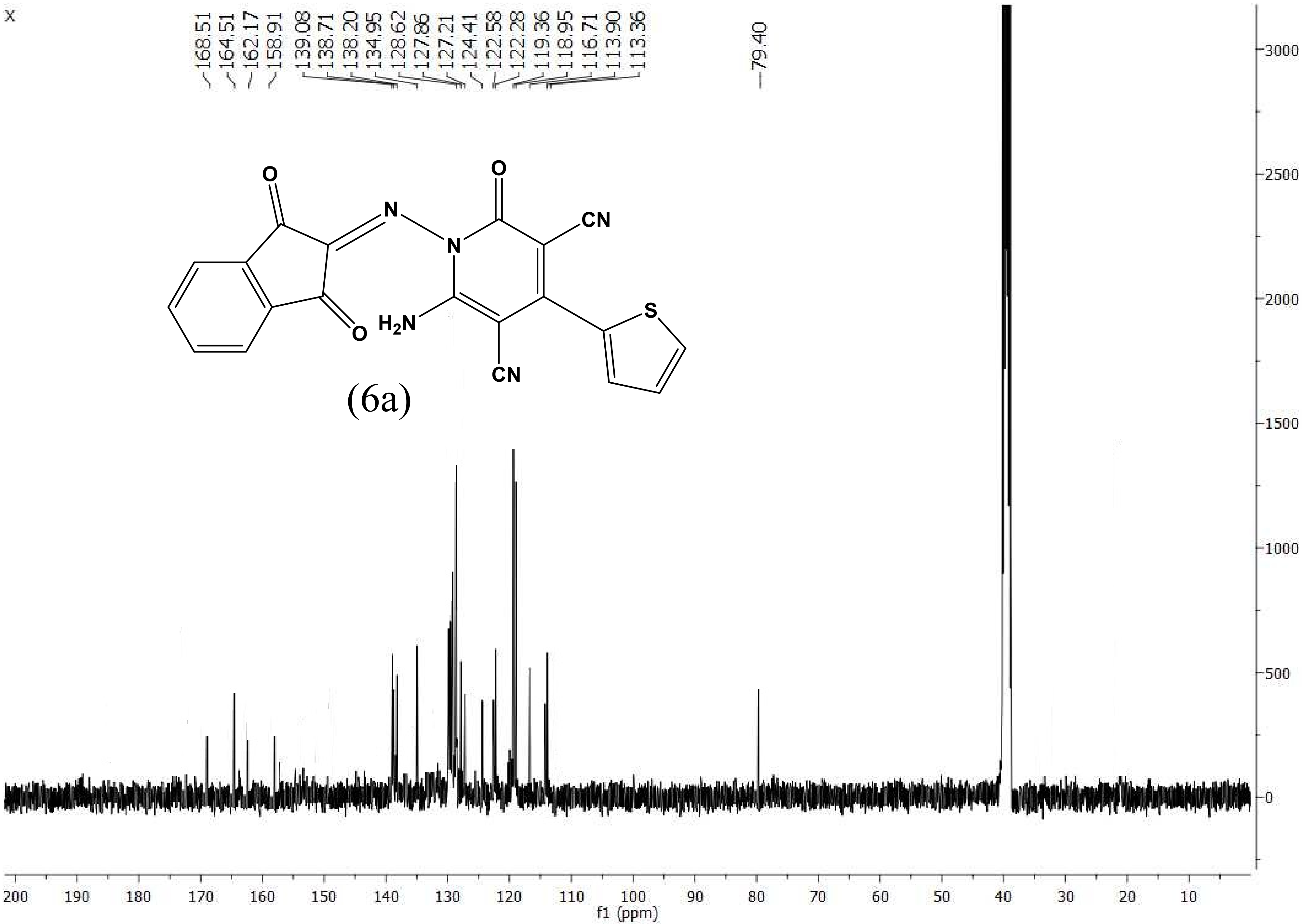

8.922
8.806
8.784
8.403
8.233
8.213
8.069
8.066
7.669
7.650
7.632
7.345
7.336
6.882
6.873
6.868
6.819
6.815
6.810
3.352
2.511
HC
N
N
O
CN
O
H2N
CN
1.09
2.00
2.19
1.00
2.21
1.92
2.00
0.71
2.03
f1 (ppm)

(5b)

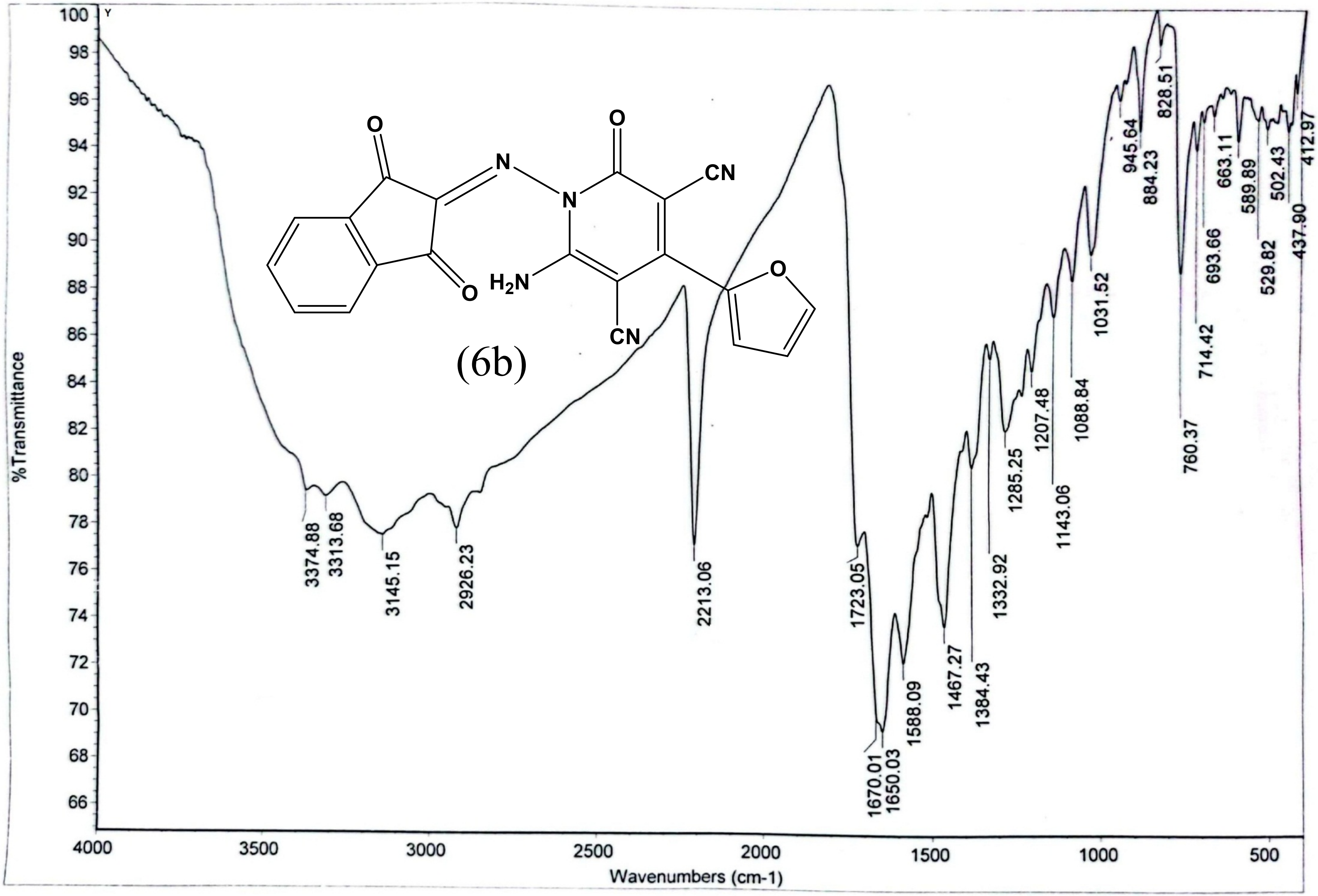

18
162.57
157.60
155.93
147.16
146.91
146.49
146.07
145.54
145.35
145.17
142.01
139.53
138.84
137.70
135.70
131.40
129.79
128.35
127.83
124.60
120.15
118.57
116.92
116.77
114.80
86.82
O
HC
N
N
CN
O
H2N
CN
(5b)
f1 (ppm)

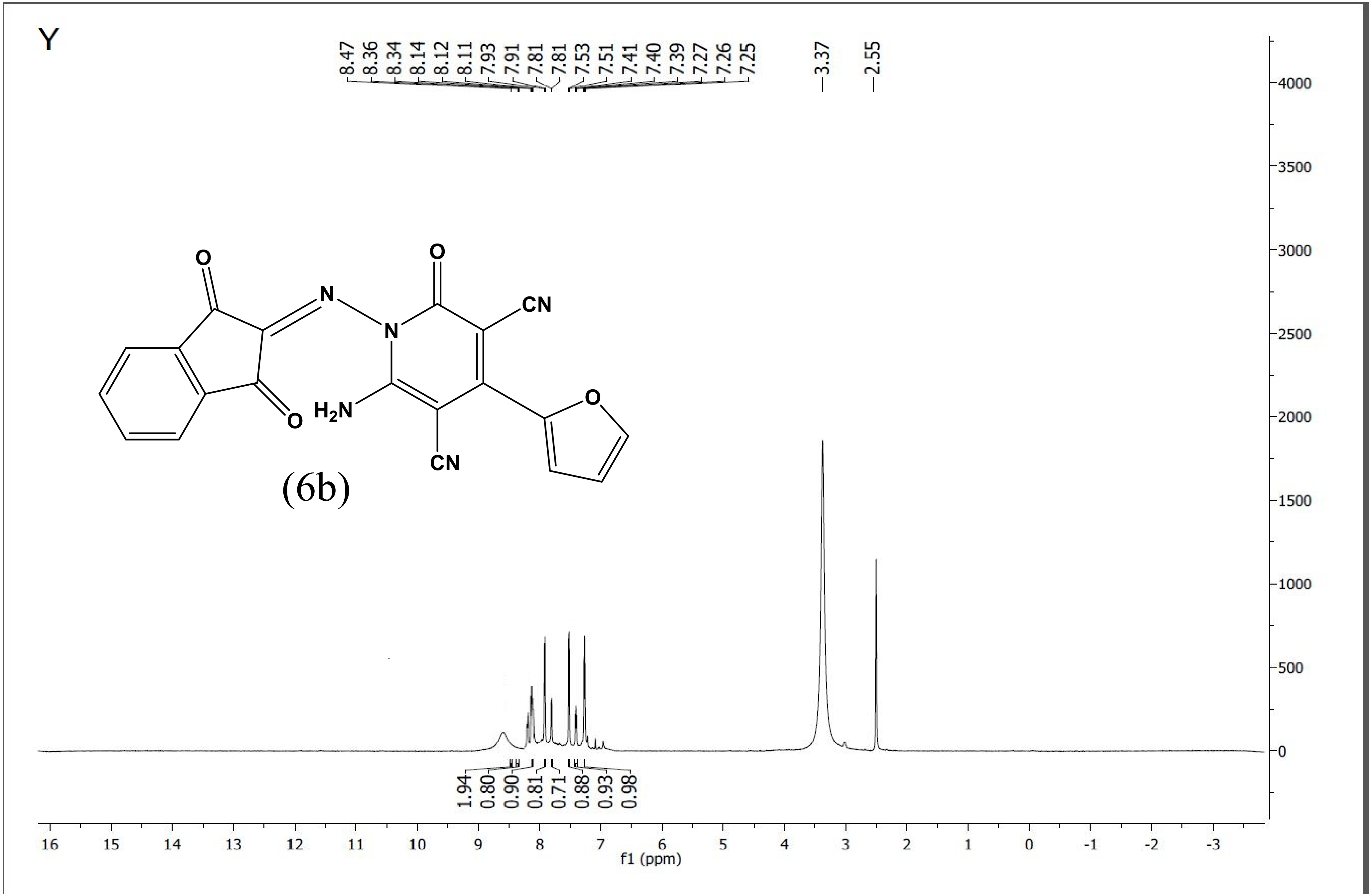

%Transmittance
Wavenumbers (cm-1)
3395.91
3323.15
3150.97
2928.50
2761.67
2211.10
1658.31
1582.82
1546.12
1468.51
1386.05
1276.18
1236.35
1149.84
1096.04
1024.47
947.72
926.22
899.58
883.65
826.78
760.25
664.39
592.01
527.64
506.71
486.34
441.03
CN
CN
H2N
S
(6a)

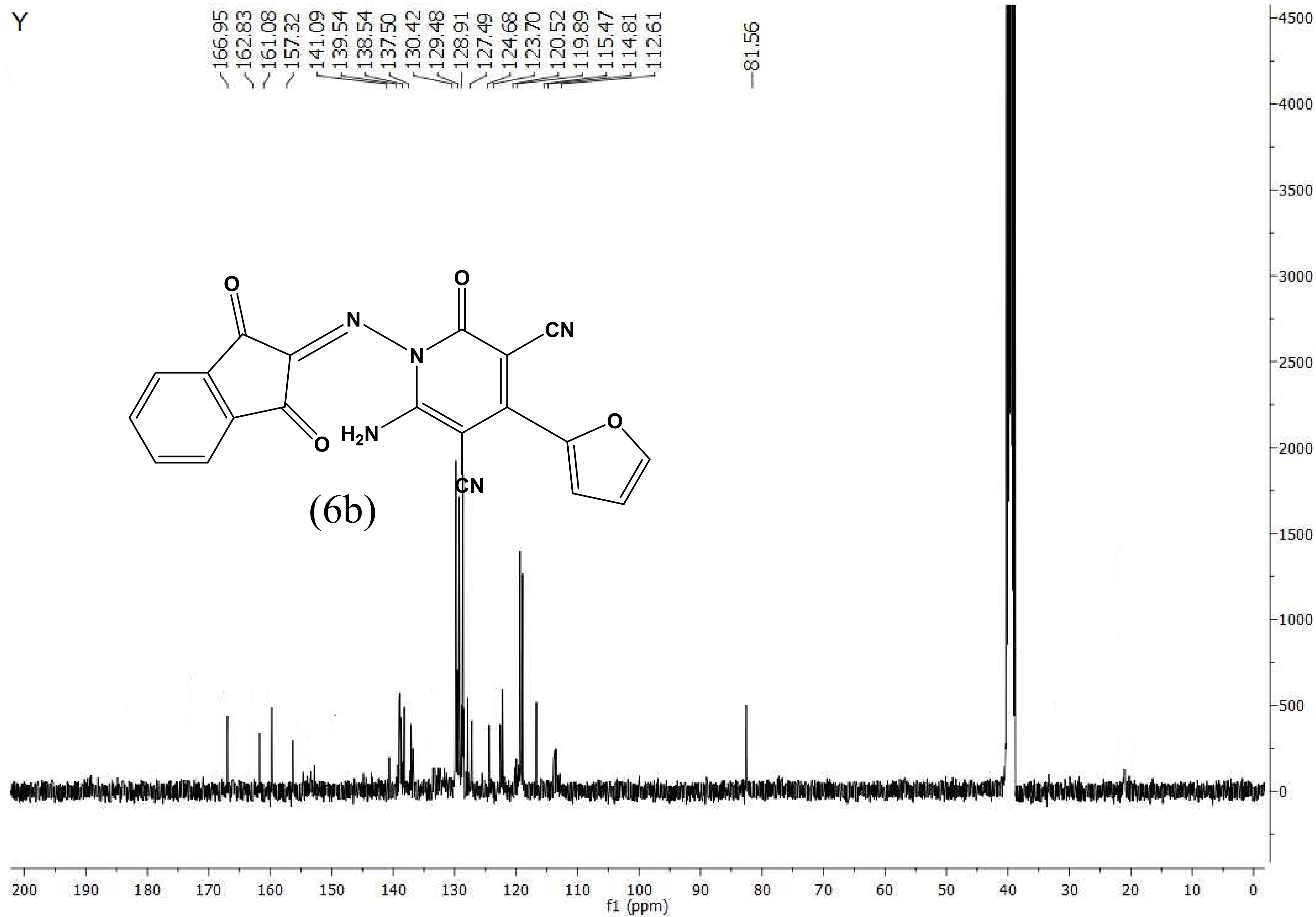

8.78
8.38
8.37
8.27
8.25
8.14
8.12
8.10
7.83
7.82
7.45
7.43
7.42
3.38
2.52
O
O
N
N
O
CN
CN
H_2N
S
(6a)
1.95
0.94
1.88
2.05
0.72
1.00
f1 (ppm)

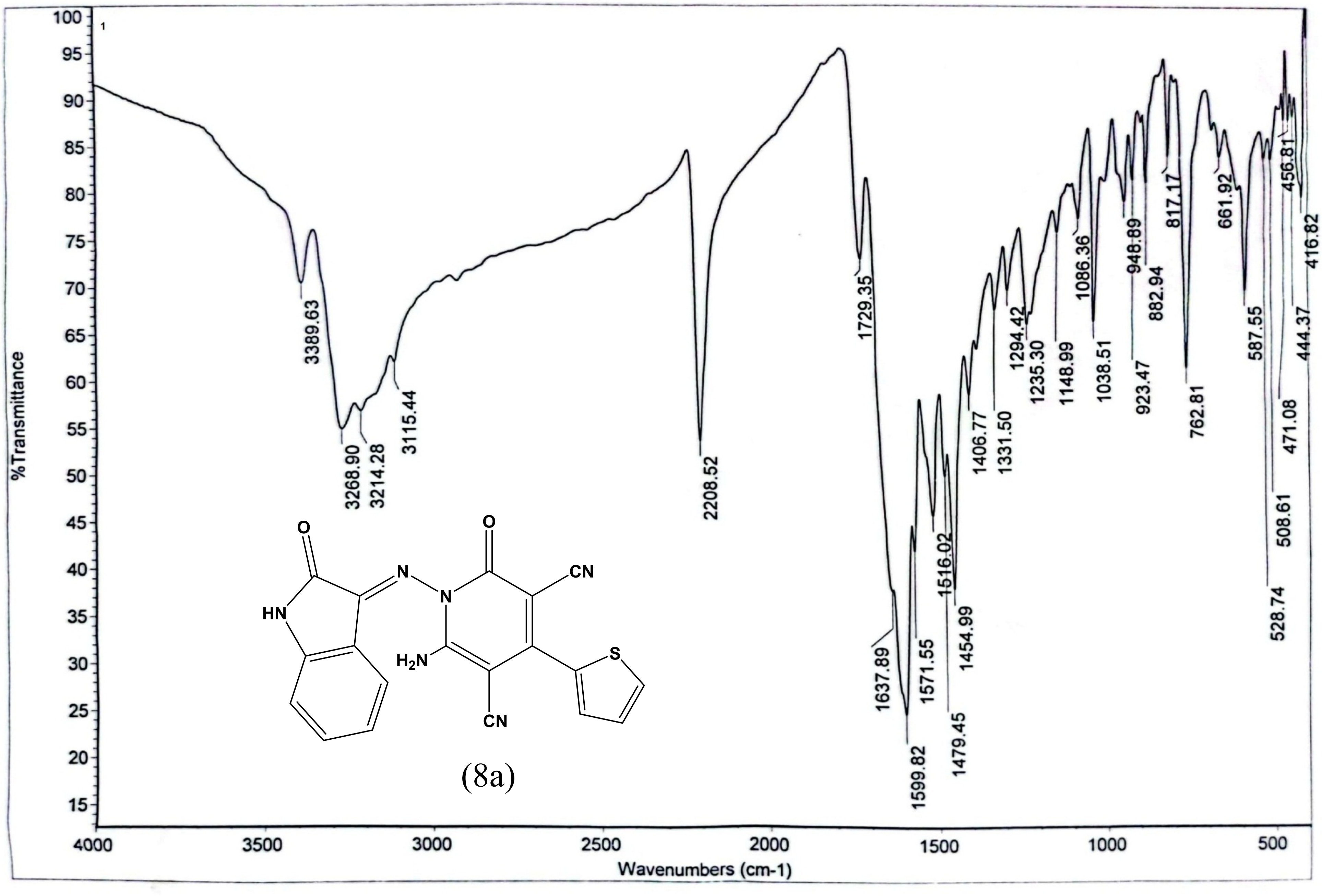


X
168.51
164.51
162.17
158.91
139.08
138.71
138.20
134.95
128.62
127.86
127.21
124.41
122.58
122.28
119.36
118.95
116.71
113.90
113.36
79.40
O
O
N
N
O
CN
H2N
O
S
CN
(6a)
3000
2500
2000
1500
1000
500
0
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
f1 (ppm)

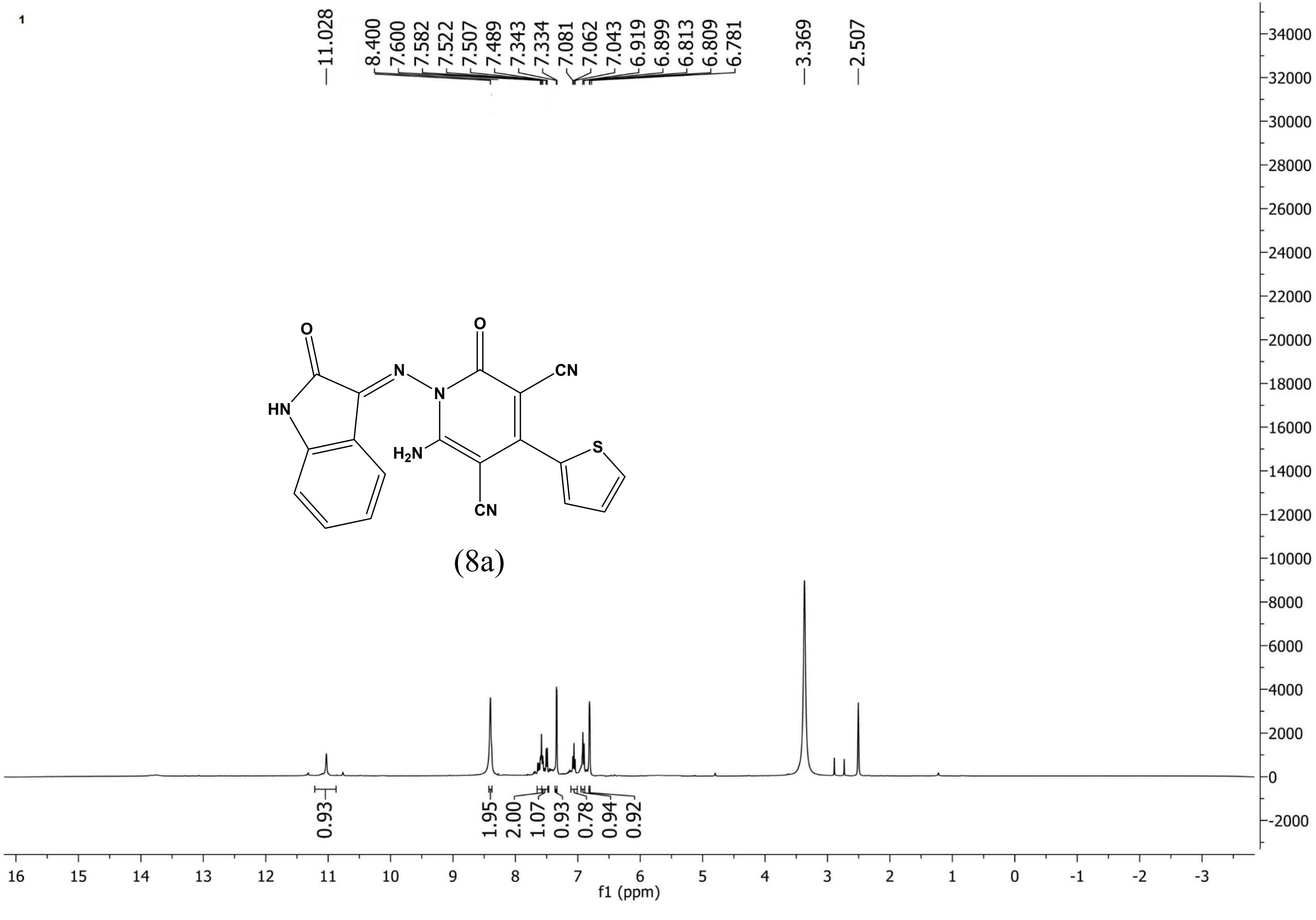

(6b)
%Transmittance
Wavenumbers (cm-1)
3374.88
3313.68
3145.15
2926.23
2213.06
1723.05
1670.01
1650.03
1588.09
1467.27
1384.43
1332.92
1285.25
1207.48
1143.06
1088.84
1031.52
945.64
884.23
828.51
760.37
714.42
693.66
663.11
589.89
529.82
502.43
437.90
412.97

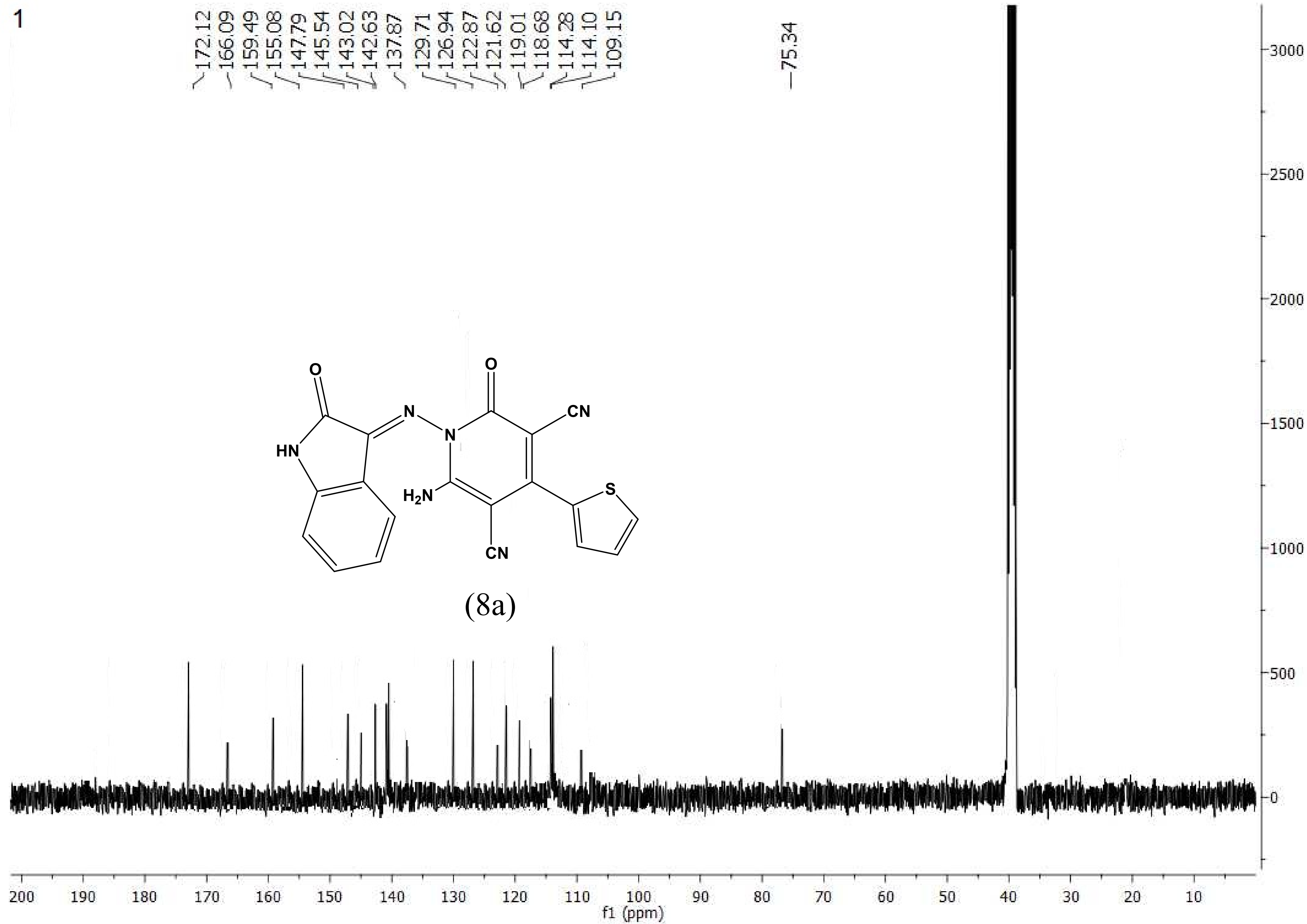

Y
8.47
8.36
8.34
8.14
8.12
8.11
7.93
7.91
7.81
7.81
7.53
7.51
7.41
7.40
7.39
7.27
7.26
7.25
3.37
2.55
O
O
N
N
O
CN
H2N
CN
O
(6b)
1.94
0.80
0.90
0.81
0.71
0.88
0.93
0.98
f1 (ppm)

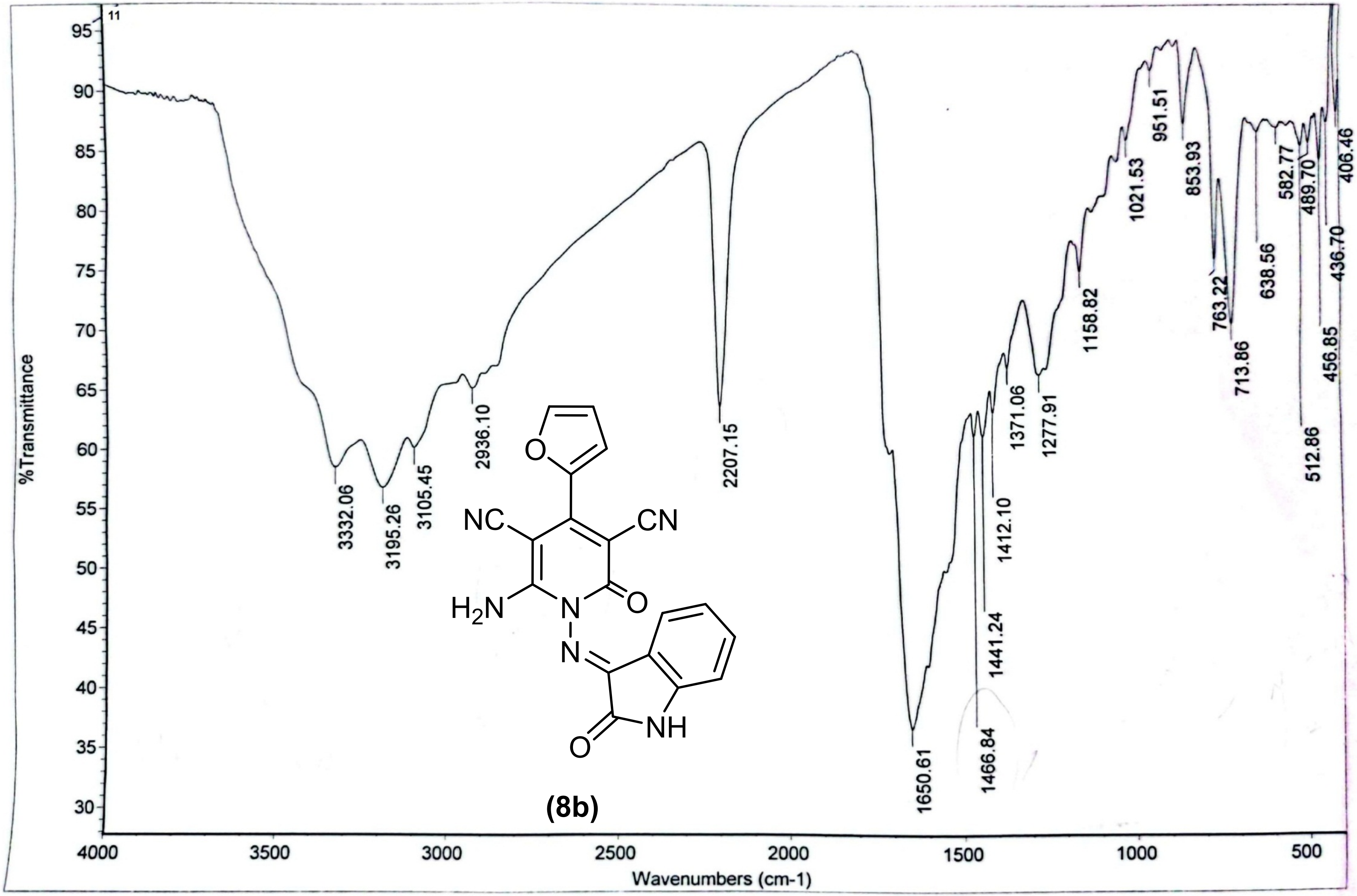

Y
166.95
162.83
161.08
157.32
141.09
139.54
138.54
137.50
130.42
129.48
128.91
127.49
124.68
123.70
120.52
119.89
115.47
114.81
112.61
81.56
O
O
N
N
O
CN
H2N
O
CN
O
(6b)
f1 (ppm)


%Transmittance
Wavenumbers (cm-1)
3389.63
3268.90
3214.28
3115.44
2208.52
1729.35
1637.89
1599.82
1571.55
1516.02
1479.45
1454.99
1406.77
1331.50
1294.42
1235.30
1148.99
1086.36
1038.51
948.89
923.47
882.94
817.17
762.81
661.92
587.55
528.74
508.61
471.08
456.81
444.37
416.82
O
HN
N
N
O
CN
H2N
CN
S

(8a)

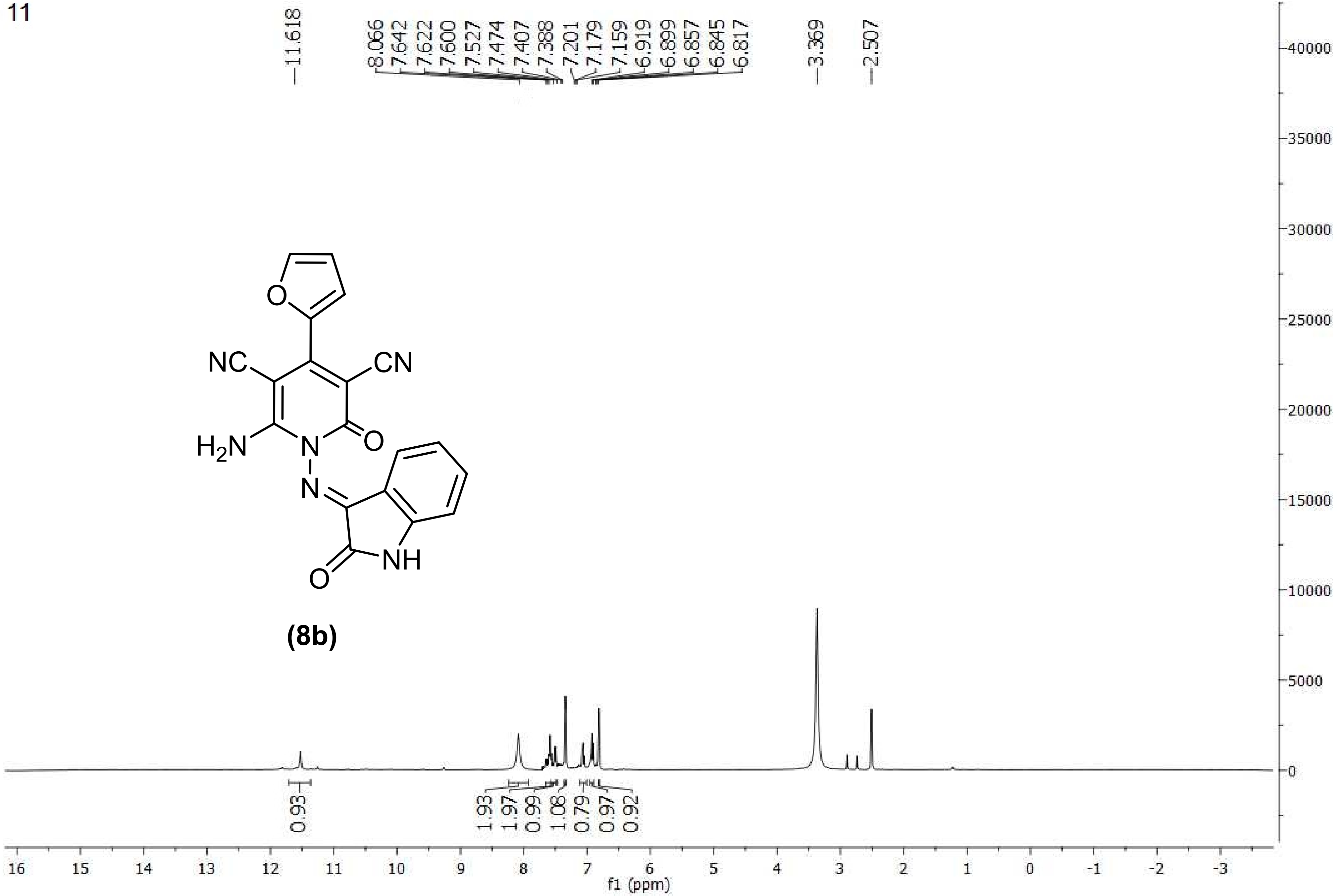

1
11.028
8.400
7.600
7.582
7.522
7.507
7.489
7.343
7.334
7.081
7.062
7.043
6.919
6.899
6.813
6.809
6.781
3.369
2.507
O
O
N
N
CN
HN
H_2N
S
CN
(8a)
0.93
1.95
2.00
1.07
0.93
0.78
0.94
0.92
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 -1 -2 -3
f1 (ppm)
34000 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 2000 0 -2000


1
172.12
166.09
159.49
155.08
147.79
145.54
143.02
142.63
137.87
129.71
126.94
122.87
121.62
119.01
118.68
114.28
114.10
109.15
75.34
O
O
N
N
CN
HN
H_2N
S
CN
(8a)
3000
2500
2000
1500
1000
500
0
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
f1 (ppm)



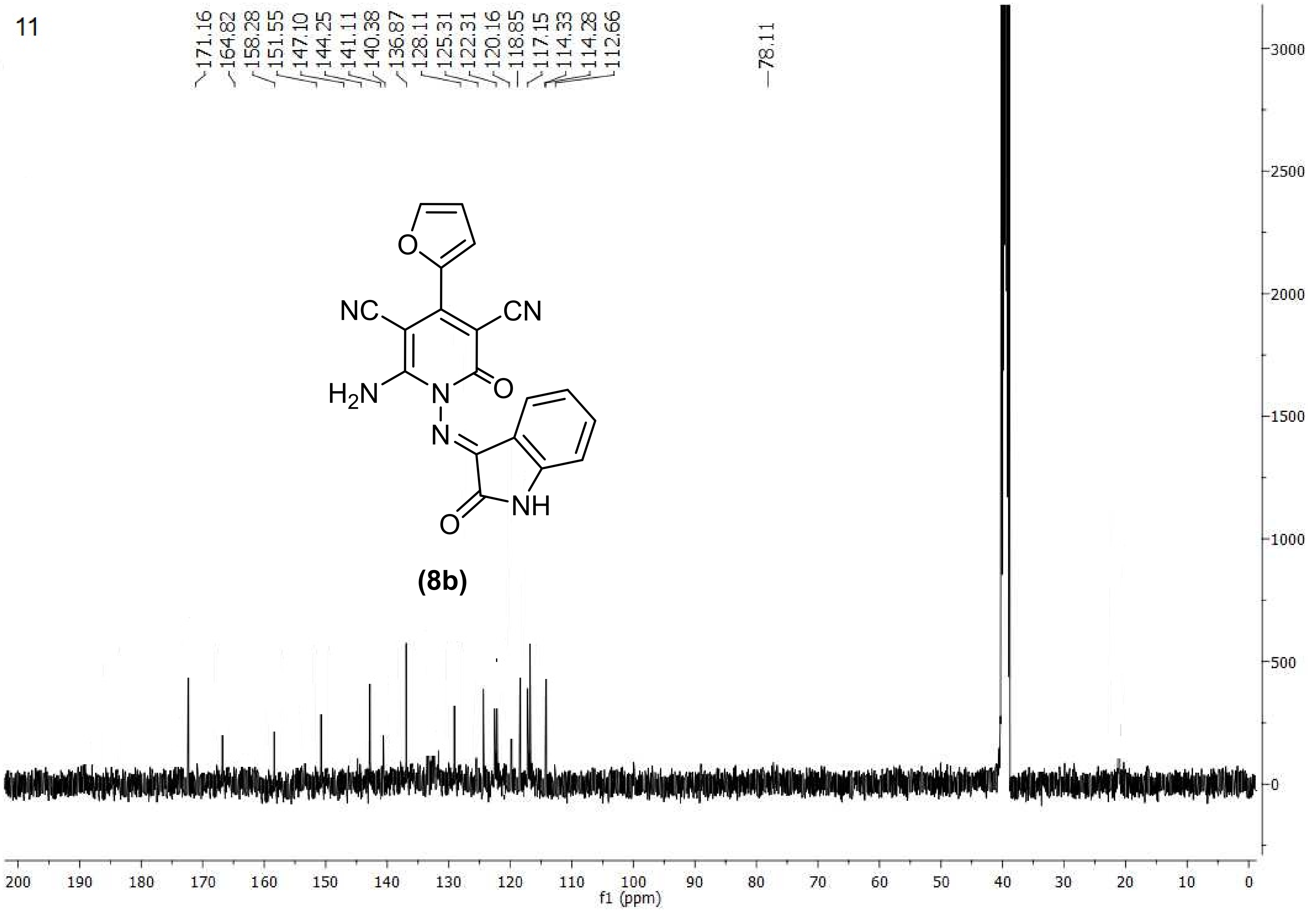
%Transmittance
Wavenumbers (cm-1)
3332.06
3195.26
3105.45
2936.10
2207.15
1650.61
1466.84
1441.24
1412.10
1371.06
1277.91
1158.82
1021.53
951.51
853.93
763.22
713.86
638.56
582.77
512.86
489.70
456.85
436.70
406.46
NC
CN
H_2N
O
NH
(8b)

11

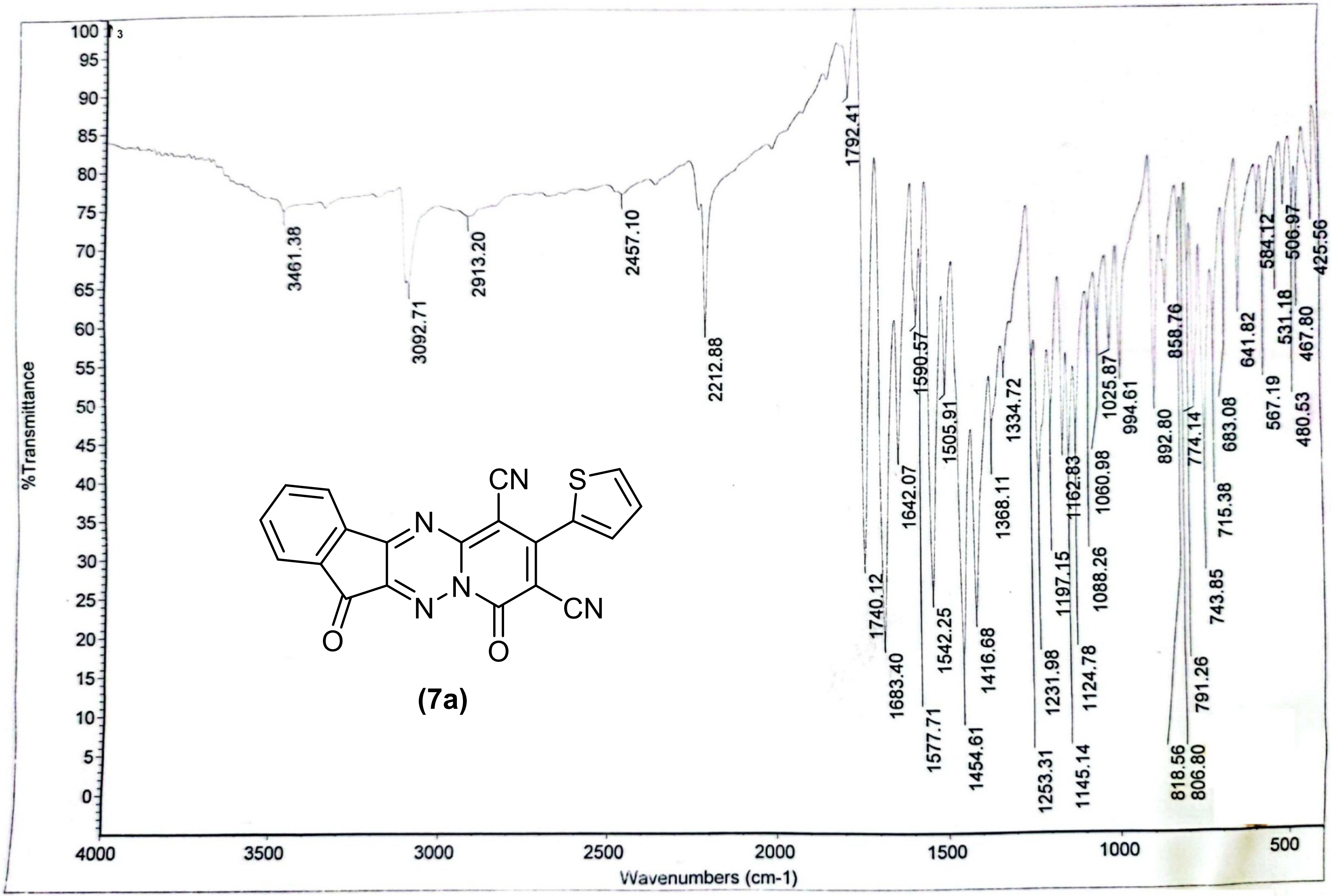


11.618
8.066
7.642
7.622
7.600
7.527
7.474
7.407
7.388
7.201
7.179
7.159
6.919
6.899
6.857
6.845
6.817
3.369
2.507
NC
CN
O
H2N
N
N
NH
(8b)
0.93
1.93
1.97
0.99
1.08
0.79
0.97
0.92
f1 (ppm)

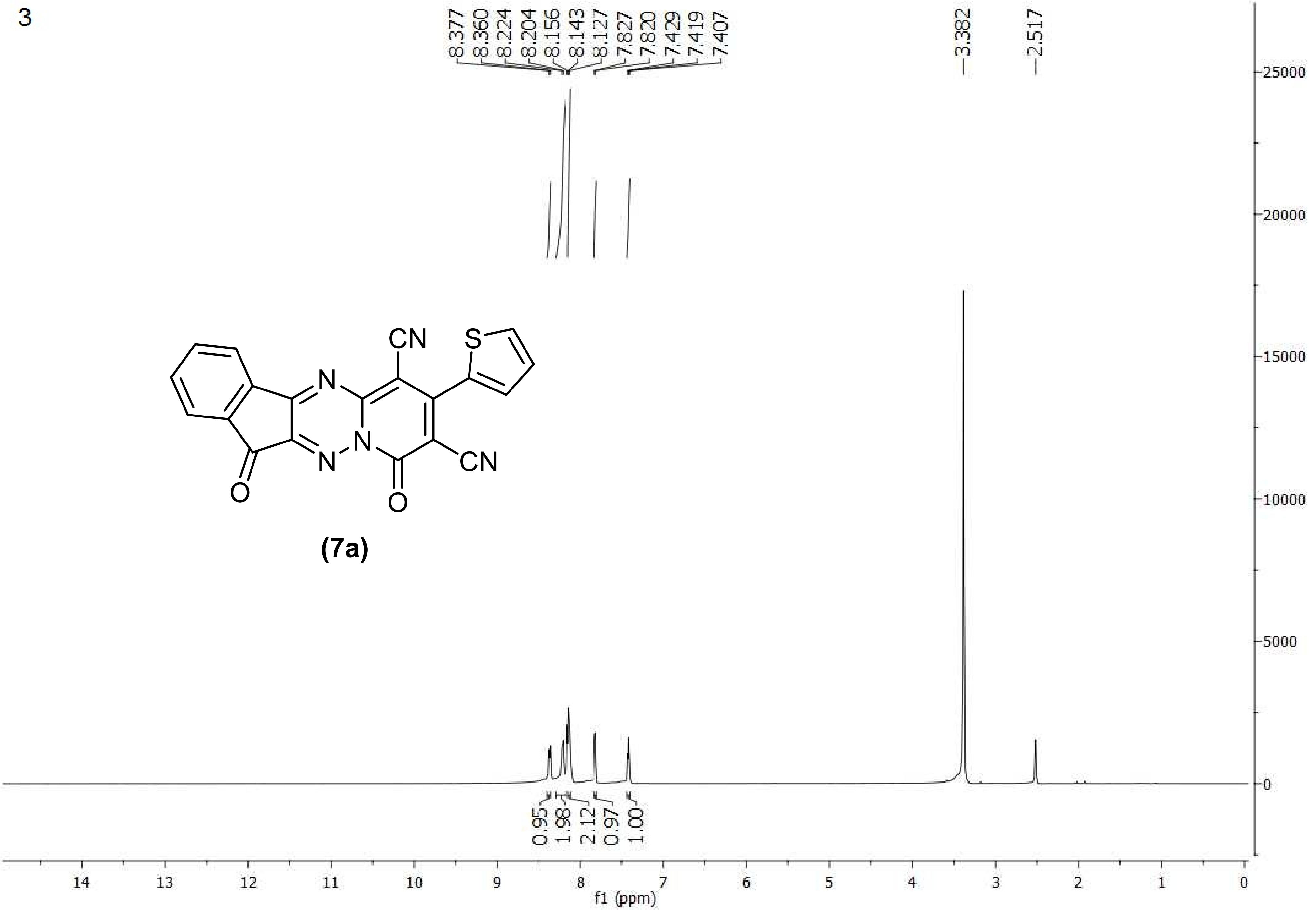
11



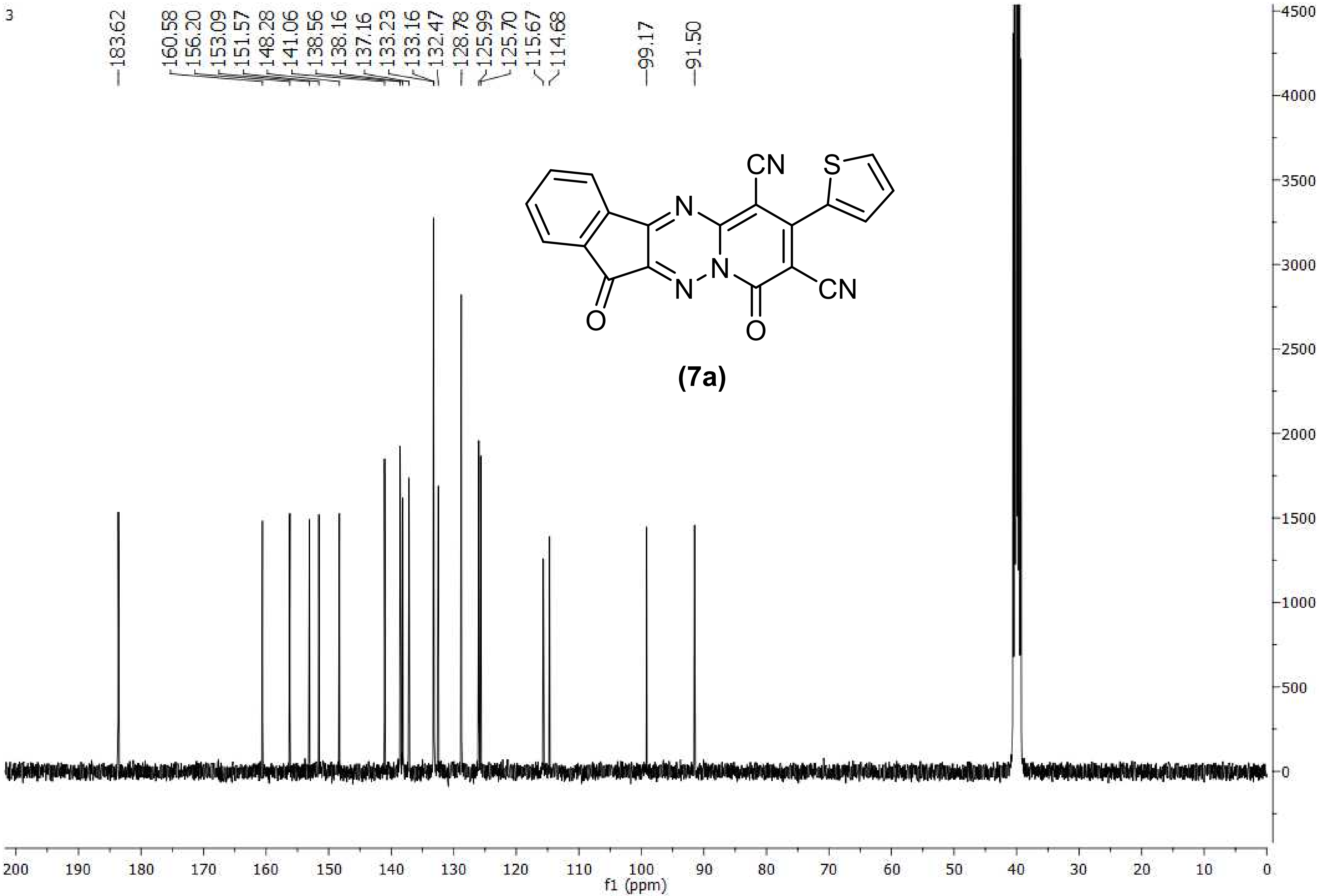
171.16
164.82
158.28
151.55
147.10
144.25
141.11
140.38
136.87
128.11
125.31
122.31
120.16
118.85
117.15
114.33
114.28
112.66
78.11
NC
CN
O
H2N
N
N
O
NH
O
(8b)
3000
2500
2000
1500
1000
500
0
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

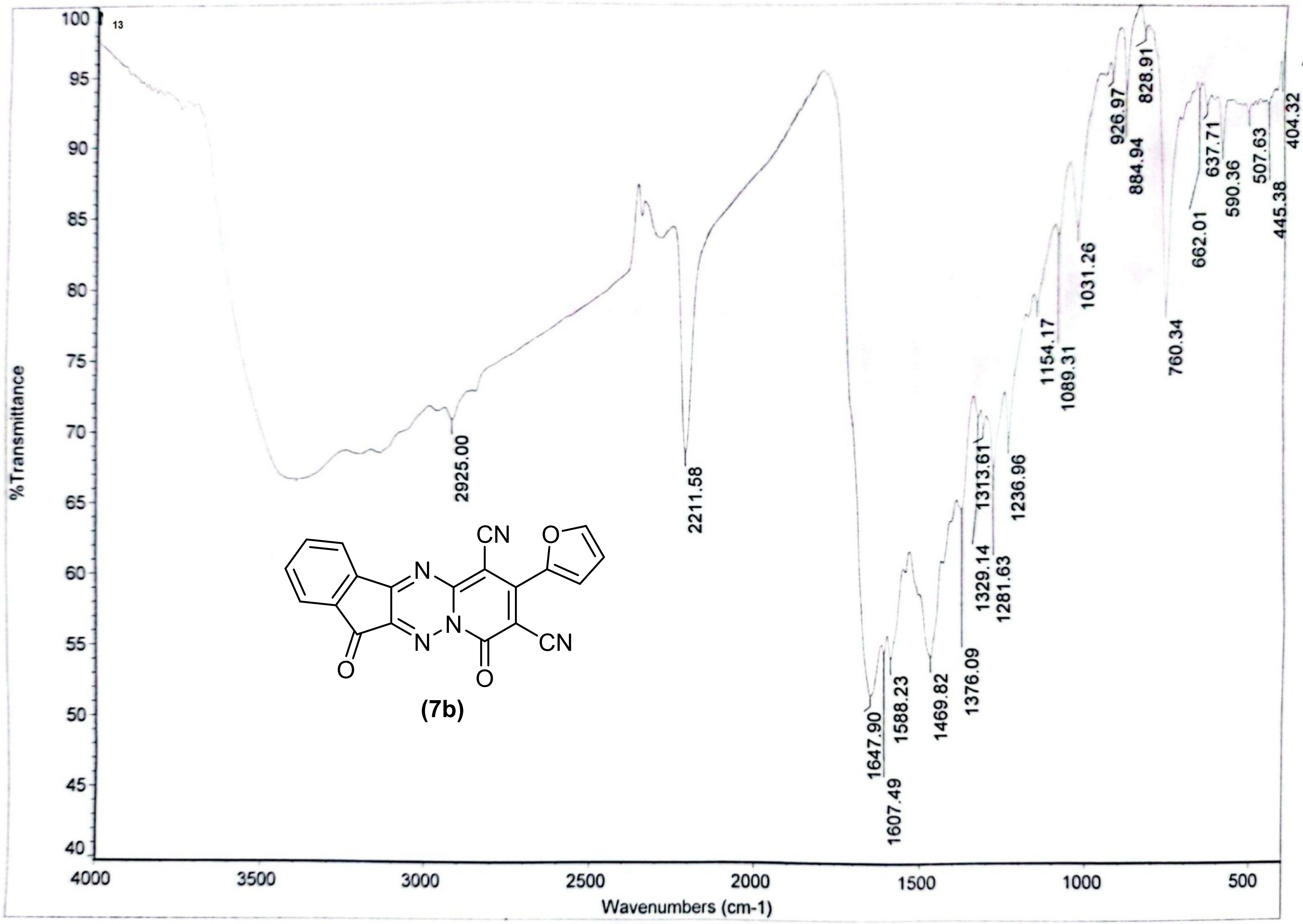

%Transmittance
Wavenumbers (cm-1)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
4000
3500
3000
2500
2000
1500
1000
500
3461.38
3092.71
2913.20
2457.10
2212.88
1792.41
1740.12
1683.40
1642.07
1590.57
1577.71
1542.25
1505.91
1454.61
1416.68
1368.11
1334.72
1253.31
1231.98
1197.15
1162.83
1145.14
1124.78
1088.26
1060.98
1025.87
994.61
892.80
858.76
818.56
806.80
791.26
774.14
743.85
715.38
683.08
641.82
584.12
567.19
531.18
506.97
480.53
467.80
425.56
CN
S
N
N
N
CN
O
O
(7a)

3



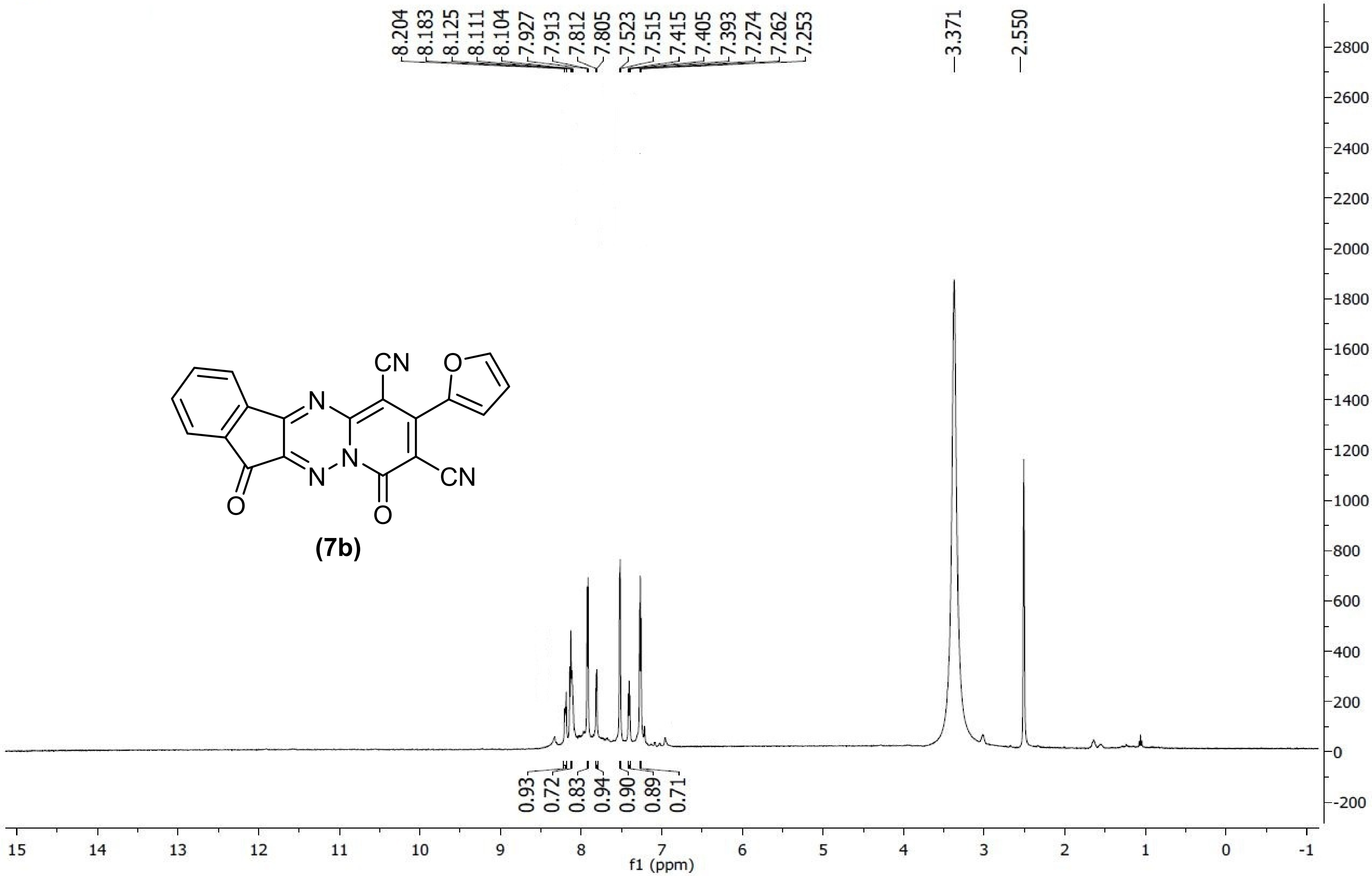
8.377
8.360
8.224
8.204
8.156
8.143
8.127
7.827
7.820
7.429
7.419
7.407
3.382
2.517
CN
S
N
N
N
CN
O
O
(7a)
0.95
1.98
2.12
0.97
1.00
25000
20000
15000
10000
5000
0
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
f1 (ppm)


3
183.62
160.58
156.20
153.09
151.57
148.28
141.06
138.56
138.16
137.16
133.23
133.16
132.47
128.78
125.99
125.70
115.67
114.68
99.17
91.50
CN
S
N
N
N
CN
O
O
(7a)
f1 (ppm)

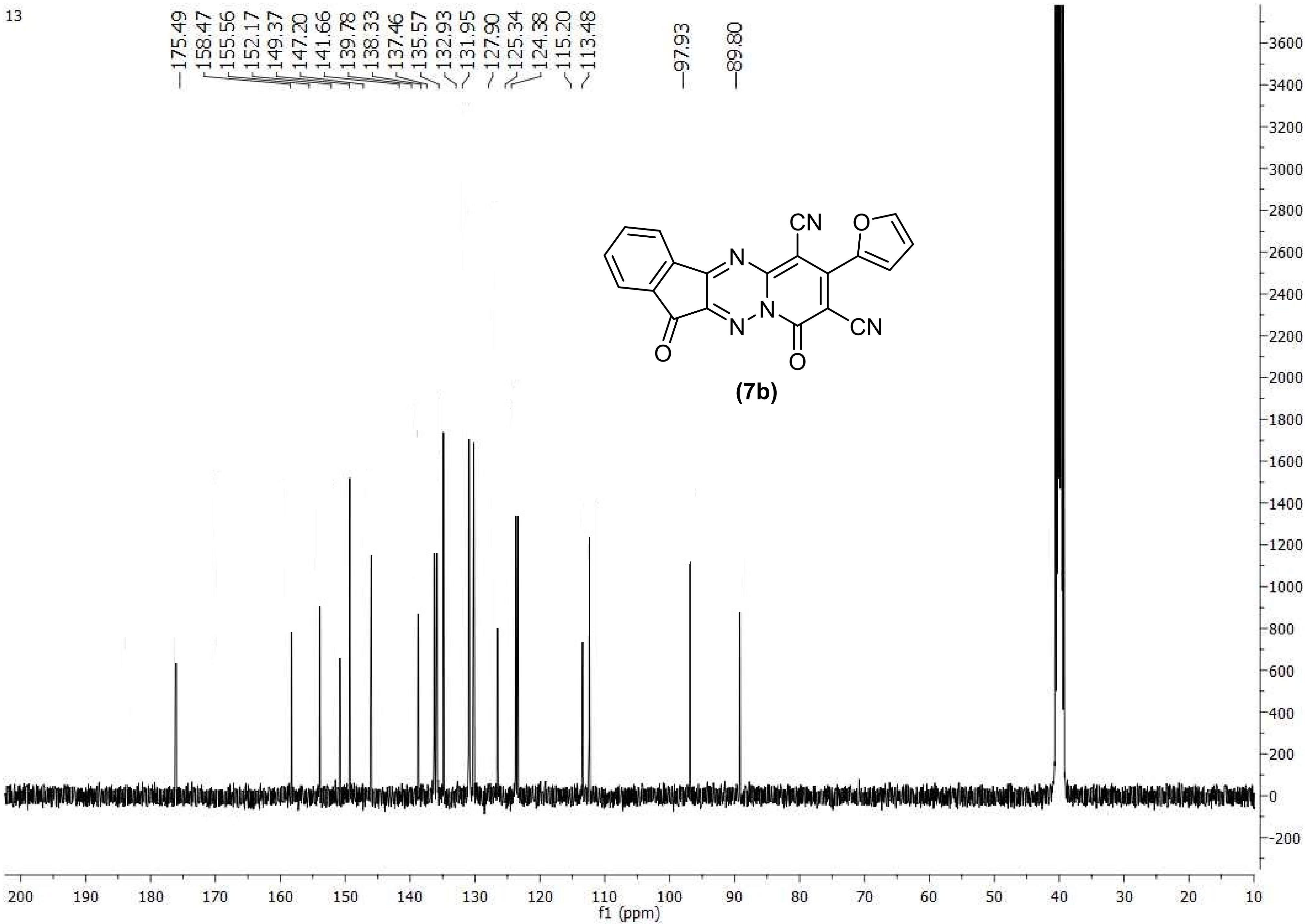


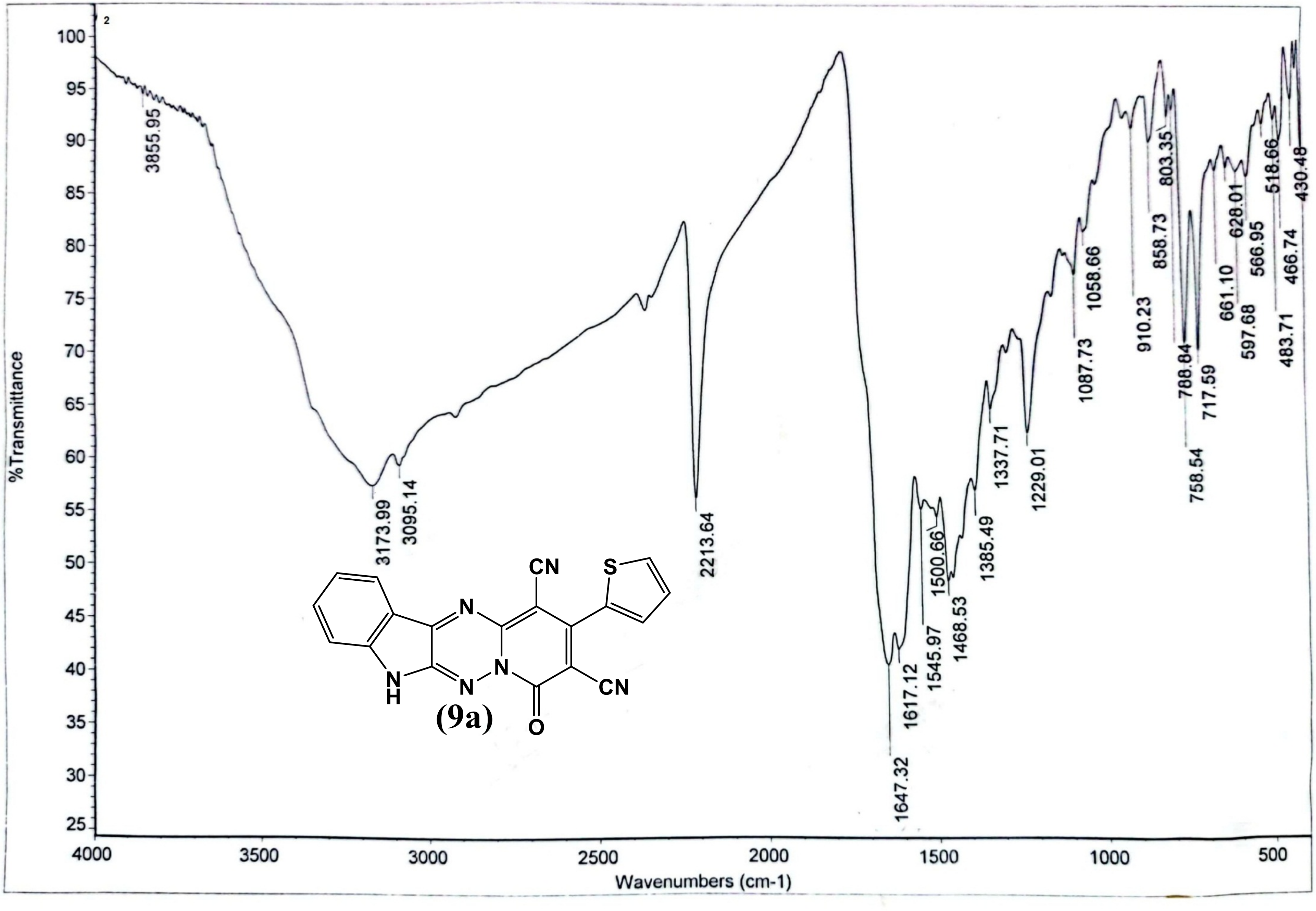
13
%Transmittance
Wavenumbers (cm-1)
100
95
90
85
80
75
70
65
60
55
50
45
40
4000
3500
3000
2500
2000
1500
1000
500
2925.00
2211.58
1647.90
1607.49
1588.23
1469.82
1376.09
1329.14
1313.61
1281.63
1236.96
1154.17
1089.31
1031.26
926.97
884.94
828.91
760.34
662.01
637.71
590.36
507.63
445.38
404.32
CN
CN
O
N
N
N
O
O
(7b)

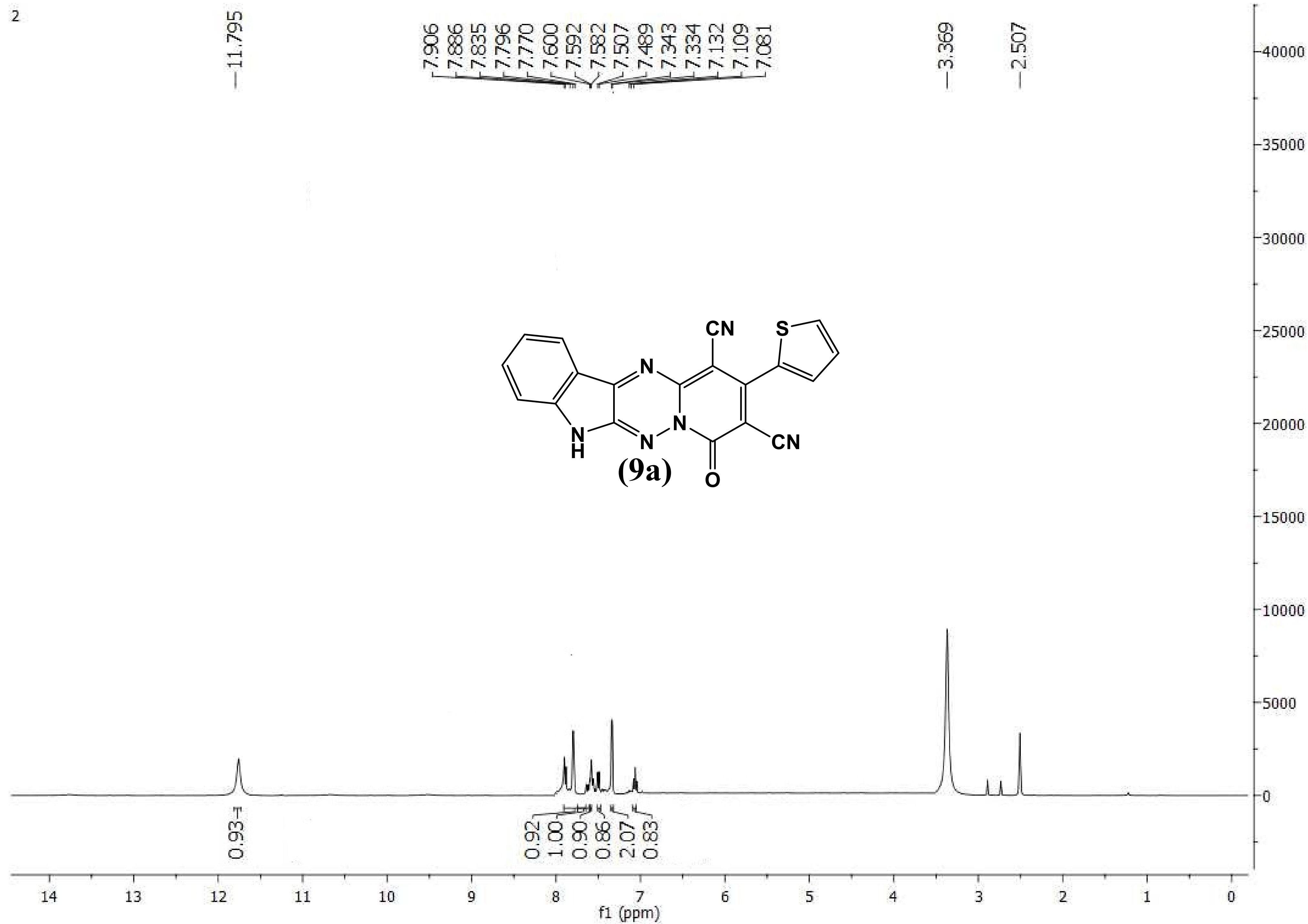
13

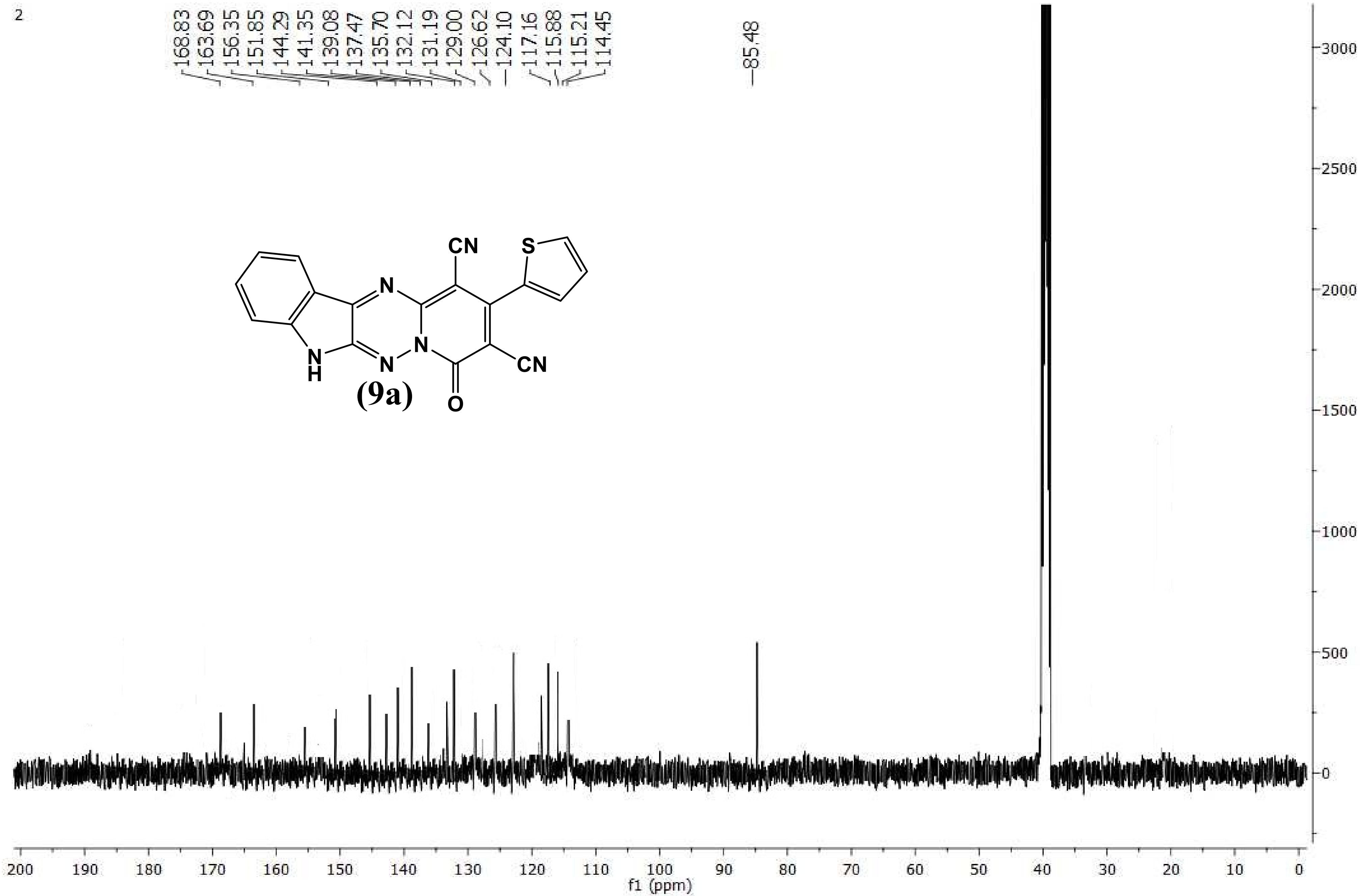


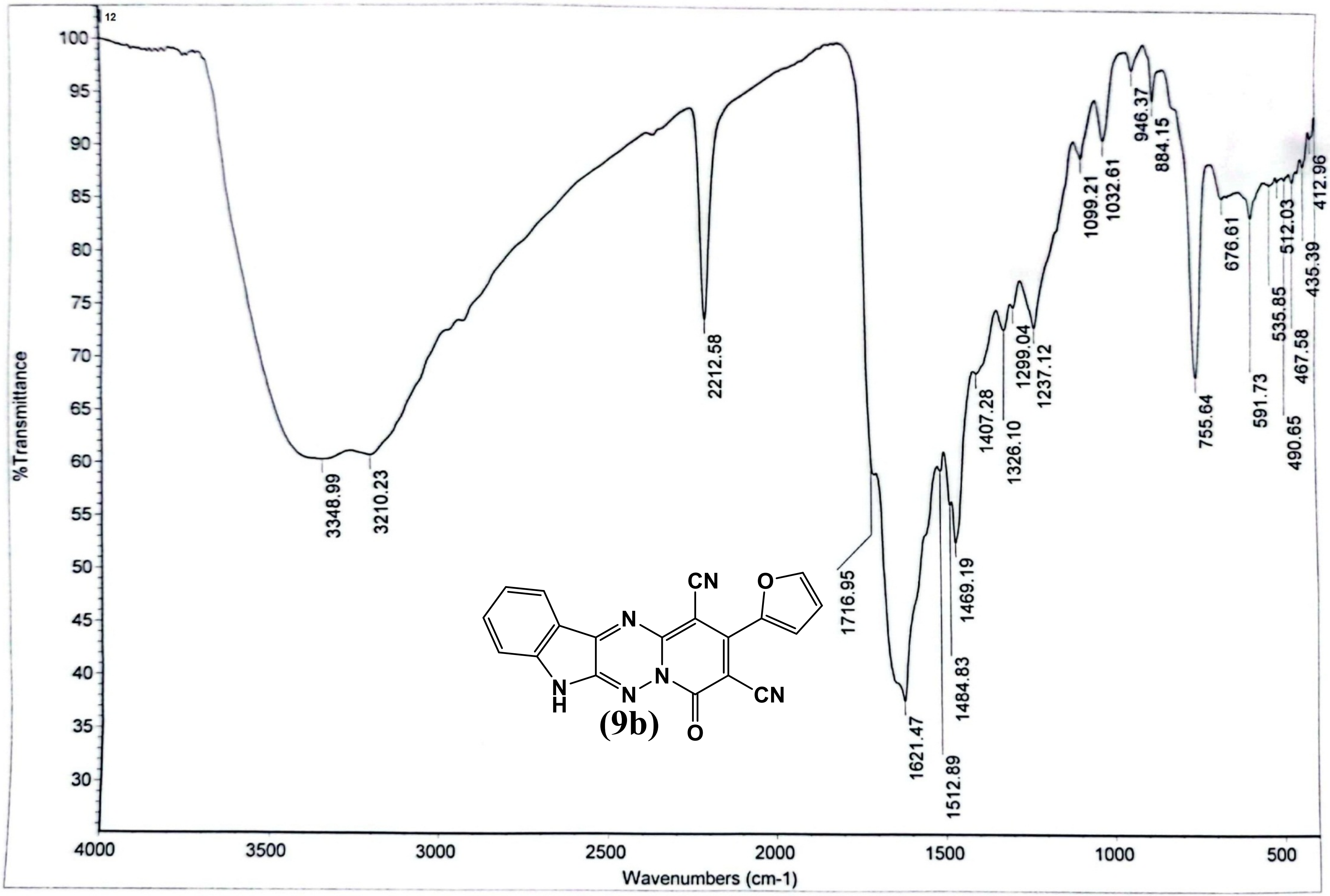
8.204
8.183
8.125
8.111
8.104
7.927
7.913
7.812
7.805
7.523
7.515
7.415
7.405
7.393
7.274
7.262
7.253
3.371
2.550
CN
O
N
N
N
CN
O
O
(7b)
0.93
0.72
0.83
0.94
0.90
0.89
0.71
f1 (ppm)


13
175.49
158.47
155.56
152.17
149.37
147.20
141.66
139.78
138.33
137.46
135.57
132.93
131.95
127.90
125.34
124.38
115.20
113.48
97.93
89.80
CN
O
N
N
N
O
O
CN
(7b)
f1 (ppm)


%Transmittance
Wavenumbers (cm-1)
4000
3500
3000
2500
2000
1500
1000
500
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
3855.95
3173.99
3095.14
2213.64
1647.32
1617.12
1545.97
1500.66
1468.53
1385.49
1337.71
1229.01
1087.73
1058.66
910.23
858.73
803.35
788.84
758.54
717.59
661.10
628.01
597.68
566.95
518.66
483.71
466.74
430.48
CN
S
N
N
N
NH
O
CN
(9a)

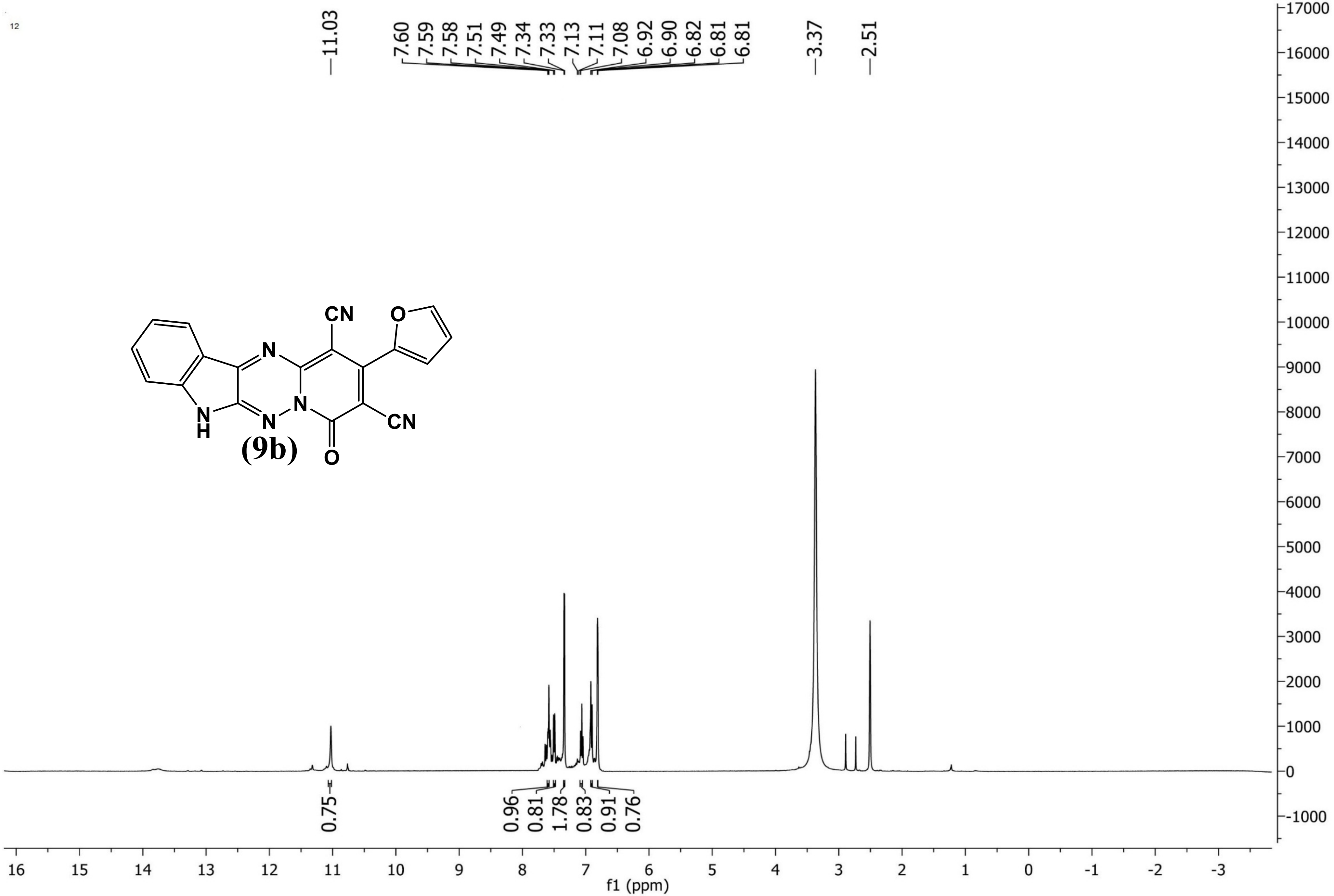

2
11.795
7.906
7.886
7.835
7.796
7.770
7.600
7.592
7.582
7.507
7.489
7.343
7.334
7.132
7.109
7.081
3.369
2.507
CN
S
N
N
N
NH
CN
O
(9a)
0.93
0.92
1.00
0.90
0.86
2.07
0.83
f1 (ppm)


2
168.83
163.69
156.35
151.85
144.29
141.35
139.08
137.47
135.70
132.12
131.19
129.00
126.62
124.10
117.16
115.88
115.21
114.45
85.48
CN
S
N
N
N
N
H
CN
O
(9a)
f1 (ppm)



12
%Transmittance
Wavenumbers (cm-1)
3348.99
3210.23
2212.58
1716.95
1621.47
1512.89
1484.83
1469.19
1407.28
1326.10
1299.04
1237.12
1099.21
1032.61
946.37
884.15
755.64
676.61
591.73
535.85
512.03
490.65
467.58
435.39
412.96
CN
O
N
N
NH
N
CN
O
(9b)

12



11.03
7.60
7.59
7.58
7.51
7.49
7.34
7.33
7.13
7.11
7.08
6.92
6.90
6.82
6.81
6.81
3.37
2.51
CN
O
N
CN
N
H
N
N
O
(9b)
0.75
0.96
0.81
1.78
0.83
0.91
0.76
f1 (ppm)

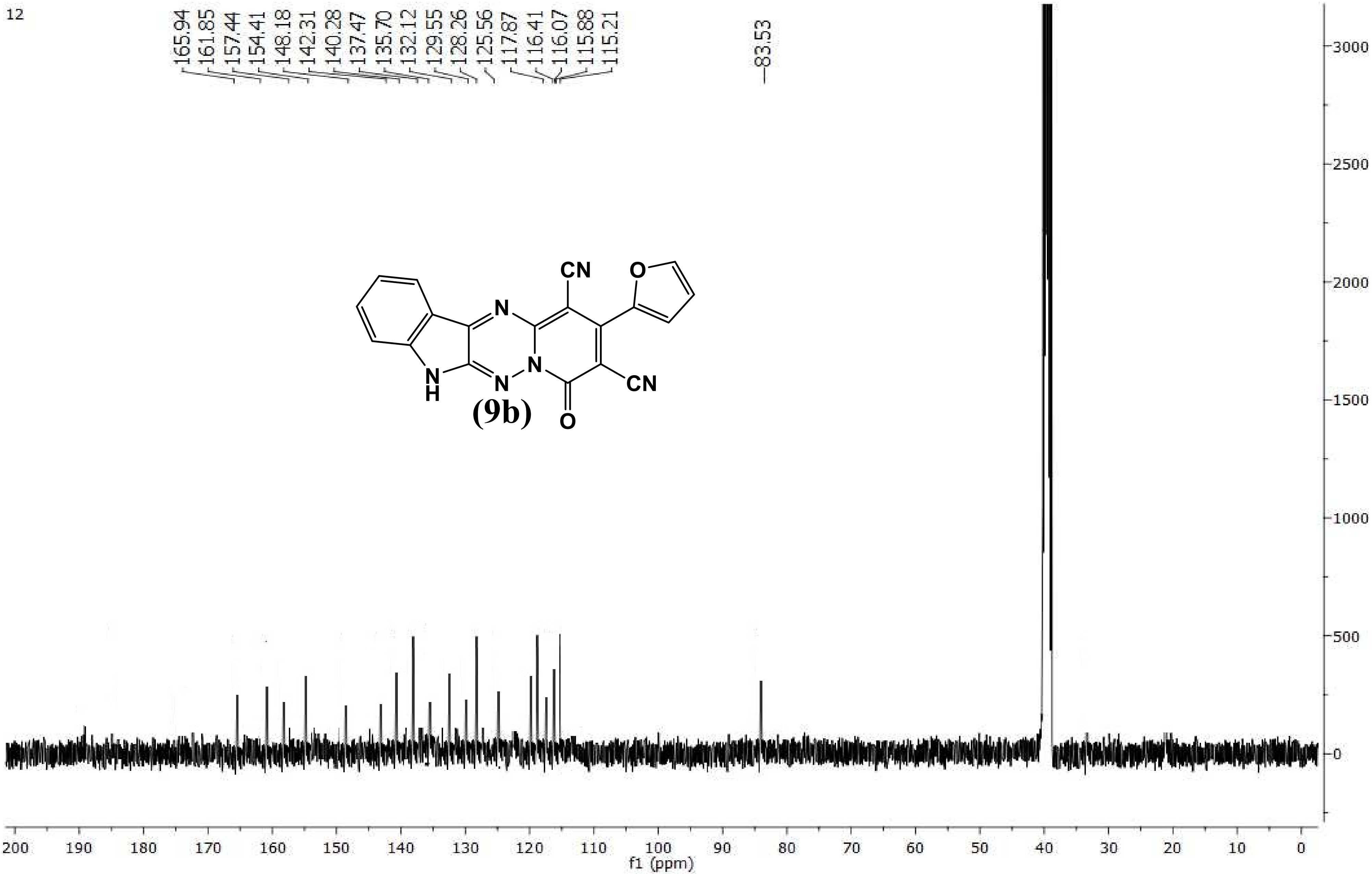

12
165.94
161.85
157.44
154.41
148.18
142.31
140.28
137.47
135.70
132.12
129.55
128.26
125.56
117.87
116.41
116.07
115.88
115.21
83.53
CN
O
N
NH
N
N
CN
O
(9b)
f1 (ppm)

Table (s1): The raw data of inhibition zone diameters mean ± SD expressed by (mm) of all synthesized derivatives 2a-9b against different pathogenic microorganisms

Comp. no.	**Gram +ve**		Gram -ve				**Fungi**
			Enterobacteriaceae		Non-Enterobacteriaceae		
	MS	MR	EC	K	PS	AC	C
2a	18	13	13	25	18	22	16
	19	13	13	26	19	22	17
	18	14	14	25	18	23	16
Mean	18.3	13.4	13.3	25.3	18.3	22.3	16.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
2b	16	13	17	21	18	22	18
	16	13	17	21	18	23	19
	17	14	18	22	19	23	18
Mean	16.3	13.3	17.3	21.3	18.3	22.6	18.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
3a	20	15	15	20	20	20	16
	21	16	15	21	20	21	17
	20	15	16	20	21	20	16
Mean	20.3	15.3	15.3	20.3	20.3	20.3	16.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
3b	23	20	16	20	18	20	14
	24	21	17	20	18	21	14
	23	20	17	21	19	22	15
Mean	23.3	20.3	16.7	20.3	18.3	21	14.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	1	0.57735
4a	15	15	17	20	18	23	17
	15	15	17	21	18	23	16
	16	16	18	20	19	24	17
Mean	15.3	15.3	17.3	20.3	18.3	23.3	16.6
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
4b	20	16	17	20	15	20	12
	21	17	18	21	16	21	13
	20	16	18	20	15	20	14
Mean	20.3	16.3	17.6	20.3	15.3	20.3	13

SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	1
5a	18	14	17	20	15	20	15
	18	15	18	21	16	21	15
	19	14	17	20	15	22	16
Mean	18.3	14.3	17.3	20.3	15.3	21	15.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	1	0.57735
5b	18	16	17	22	16	20	15
	18	17	17	23	16	21	16
	19	16	16	22	17	22	15
Mean	18.3	16.3	16.6	22.3	16.3	21	15.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	1	0.57735
6a	18	18	17	20	17	30	15
	19	19	18	20	18	31	16
	18	18	17	21	17	30	15
Mean	18.3	18.3	17.3	20.3	17.3	30.3	15.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
6b	17	16	18	20	18	15	15
	18	17	18	20	18	16	16
	17	16	19	21	19	17	16
Mean	17.3	16.3	18.3	20.3	18.3	16	15.6
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	1	0.57735
7a	20	17	14	20	12	26	15
	20	18	15	18	13	27	15
	21	17	15	19	12	26	16
Mean	20.3	17.3	14.6	19	12.3	26.3	15.3
SD	0.5773503	0.57735	0.57735	1	0.57735	0.57735	0.57735
SE	0.3333333	0.333333	0.333333	0.57735	0.333333	0.333333	0.333333
7b	15	NO ZONE	15	20	15	25	12
	15		15	20	16	26	13
	16		16	21	17	25	14
Mean	15.3		15.3	20.3	16	25.3	13
SD	0.5773503		0.57735	0.57735	1	0.57735	1
8a	20	15	15	18	15	23	15
	21	16	15	18	15	23	16
	20	15	16	19	16	24	15
Mean	20.3	15.3	15.3	18.3	15.3	23.3	15.3

SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
8b	13	14	17	22	16	23	14
	13	15	16	21	17	23	15
	14	14	17	23	16	24	14
Mean	13.3	14.3	16.6	22	16,3	23.3	14.3
SD	0.5773503	0.57735	0.57735	1	0.57735	0.57735	0.57735
9a	16	15	15	19	15	23	12
	17	16	16	20	16	24	12
	15	15	15	18	14	23	13
Mean	16	15.3	15.3	19	15	23.3	12.3
SD	1	0.57735	0.57735	1	1	0.57735	0.57735
9b	17	15	15	18	20	18	15
	17	15	15	18	20	18	15
	18	16	14	19	21	19	16
Mean	17.3	15.3	14.6	18.3	20.3	18.3	15.3
SD	0.5773503	0.57735	0.57735	0.57735	0.57735	0.57735	0.57735
Gentamicin	19	23	17	18	18	21	ND
	20	22	18	19	17	22	
	20	22	20	18	17	23	
Mean	19.6	22.3	18.3	18.3	17.3	22	
SD	0.5773503	0.57	1.527525	0.57735	0.57735	1	
Fluconazole	ND	ND	ND	ND	ND	ND	15
							17
							17
Mean							16.3
SD							1.15

Table S2: Percentage of inhibitory effect of different MICs of synthesized compounds on biofilm formation in various microorganisms:

	Methicillin resistant *S. aureus*			*E. coli*			*P. aeruginosa*			*C. albicans*		
	½ MIC	**¼ MIC**	**1/8 MIC**	**½ MIC**	**¼ MIC**	**1/8 MIC**	**½ MIC**	**¼ MIC**	**1/8 MIC**	**½ MIC**	**¼ MIC**	**1/8 MIC**
6b	74.1±0.45	71.3±0.5	61±0.9	68.2±1.3	65.7±0.9	63.8±1.6	57.6±1.7	50.9±2.5	45.4±1.3	76.9±0.2	76.1±0.45	75±0.51
3a	74.6±0.5	70.8±0.45	61.5±0.45	69.9±0.45	66.2±0.45	63.8±0.45	35.9±2.51	10±0.90	0.7±0.45	76.7±0.51	67.8±1.32	55.1±2.77
2a	71.3±0.5	45±0.45	27.6±8.79	67.9±0.70	56.1±0.70	46.2±0.95	78.4±1.04	77.6±0.55	1.6±2.23	75.6±0.46	74.4±0.9	17.6±0.92
3b	70.2±0.72	68.3±0.79	59.9±2.60	52.3±1.65	43.5±0.45	43±0.9	74.9±0.70	47.1±1.48	10.1±3.32	62.7±1.89	29.4±1.53	20.7±0.85
2b	73.7±1.20	68.8±0.72	64.7±1.85	65.1±0.70	64.6±0.72	63.2±0.288	72.5±1.53	37.6±2.85	3.1±2.41	75.6±1.32	66.5±0.61	29.7±1.50
8a	71.8±0.5	69.1±0.70	55.5±1.86	52.3±1.26	38.2±0.66	10.3±2.36	81.2±0.70	82.9±1.15	26.5±5.08	70.1±1.17	47.3±1.33	15.152±5.26

Table S3: effect of 1/8 MIC comp. on expression lasR gene that control the QS in *P. aeruginosa*

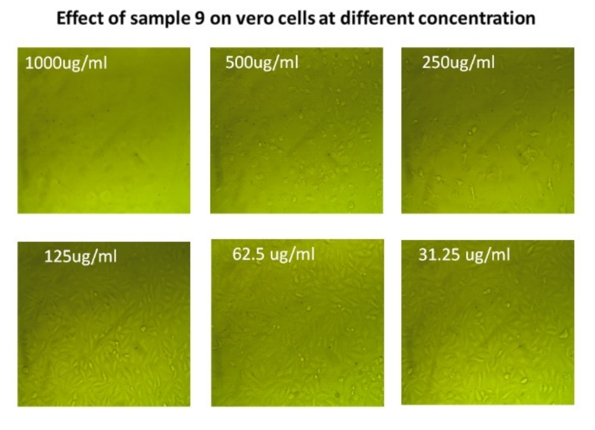
		Ct of lasR gene	Ct of housekeeping gene	ΔCt	ΔΔCt	2^-ΔΔCt
lasR gene expression before treatment	control	25.6	25	0.6	0	1
	2a	25.5	24.5	1	0.4	0.8
	2b	25.1	24.4	0.7	0.1	0.9
	3a	25.2	24.4	0.8	0.2	0.9
	3b	25.4	24.6	0.8	0.2	0.9
	6a	25.7	24.7	1	0.4	0.8
	6b	25.8	24.4	1.4	0.8	0.6
	Doxycycline	26	24.1	1.9	1.3	0.4

Table S4: displayed the Cytotoxicity and Viability assay

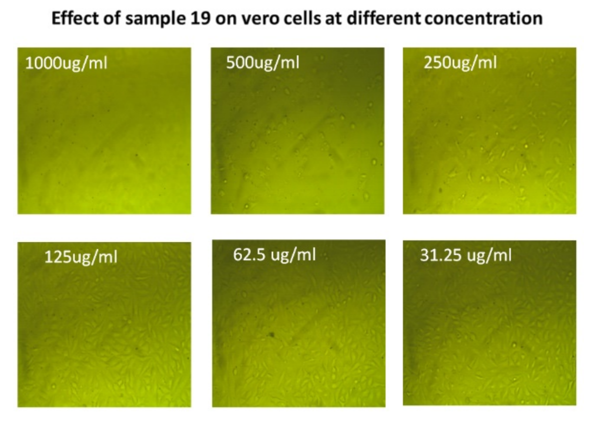
ID	ug/ml	O.D			Mean O.D	±SE	Viability %	Toxicity %	IC50 ± SD
vero	--------	0.732	0.697	0.725	0.718	0.010693	100	0	ug
6b	1000	0.027	0.031	0.024	0.027333	0.002028	3.806870938	96.19312906	207.87 ± 5.14
	500	0.086	0.08	0.093	0.086333	0.003756	12.02414113	87.97585887	
	250	0.217	0.243	0.229	0.229667	0.007513	31.98700093	68.01299907	
	125	0.658	0.682	0.688	0.676	0.009165	94.15041783	5.849582173	
	62.5	0.724	0.711	0.712	0.715667	0.004177	99.67502321	0.324976787	
	31.25	0.713	0.72	0.694	0.709	0.007767	98.74651811	1.253481894	
3a	1000	0.02	0.017	0.022	0.019667	0.001453	2.739090065	97.26090994	344.27 ± 3.81
	500	0.132	0.119	0.153	0.134667	0.009905	18.75580316	81.24419684	
	250	0.463	0.46	0.482	0.468333	0.006888	65.22748375	34.77251625	
	125	0.728	0.722	0.698	0.716	0.009165	99.72144847	0.278551532	
	62.5	0.709	0.725	0.717	0.717	0.004619	99.86072423	0.139275766	
	31.25	0.724	0.699	0.712	0.711667	0.007219	99.11792015	0.882079851	
2a	1000	0.017	0.019	0.018	0.018	0.000577	2.506963788	97.49303621	230.57 ± 6.52
	500	0.138	0.174	0.155	0.155667	0.010398	21.68059424	78.31940576	
	250	0.296	0.32	0.302	0.306	0.007211	42.6183844	57.3816156	
	125	0.684	0.702	0.673	0.686333	0.008452	95.58960074	4.410399257	
	62.5	0.722	0.719	0.707	0.716	0.004583	99.72144847	0.278551532	
	31.25	0.713	0.724	0.712	0.716333	0.003844	99.76787372	0.232126277	
3b	1000	0.023	0.052	0.048	0.041	0.009074	5.710306407	94.28969359	335.3 ± 7.95
	500	0.089	0.126	0.104	0.106333	0.010745	14.80965645	85.19034355	
	250	0.462	0.45	0.479	0.463667	0.008413	64.57753018	35.42246982	
	125	0.713	0.719	0.722	0.718	0.002646	100	0	
	62.5	0.695	0.716	0.713	0.708	0.006557	98.60724234	1.39275766	

	31.25	0.727	0.711	0.716	0.718	0.004726	100	0	
2b	1000	0.016	0.019	0.018	0.017667	0.000882	2.460538533	97.53946147	231.82 ± 2.21
	500	0.096	0.074	0.068	0.079333	0.008511	11.04921077	88.95078923	
	250	0.315	0.297	0.322	0.311333	0.007446	43.36118849	56.63881151	
	125	0.683	0.709	0.708	0.7	0.008505	97.49303621	2.506963788	
	62.5	0.718	0.699	0.723	0.713333	0.007311	99.35004643	0.649953575	
	31.25	0.715	0.719	0.72	0.718	0.001528	100	0	
8a	1000	0.022	0.017	0.02	0.019667	0.001453	2.739090065	97.26090994	175.17 ± 3.49
	500	0.048	0.032	0.039	0.039667	0.004631	5.524605385	94.47539461	
	250	0.044	0.062	0.05	0.052	0.005292	7.242339833	92.75766017	
	125	0.699	0.701	0.684	0.694667	0.005364	96.75023213	3.249767874	
	62.5	0.674	0.699	0.703	0.692	0.009074	96.37883008	3.621169916	
	31.25	0.722	0.714	0.705	0.713667	0.00491	99.39647168	0.603528319	

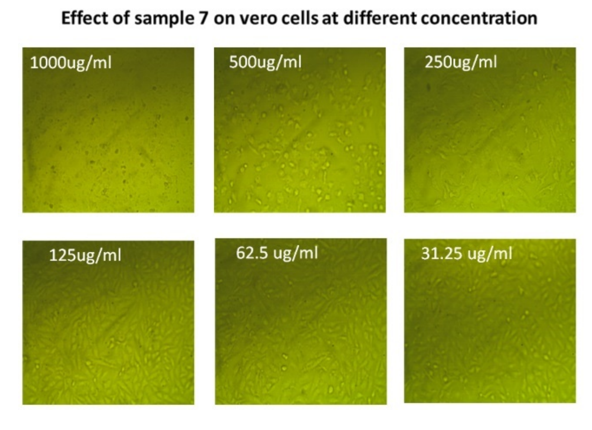
Figure S1: Effect of different concentrations of the synthetized compound on Vero cells.



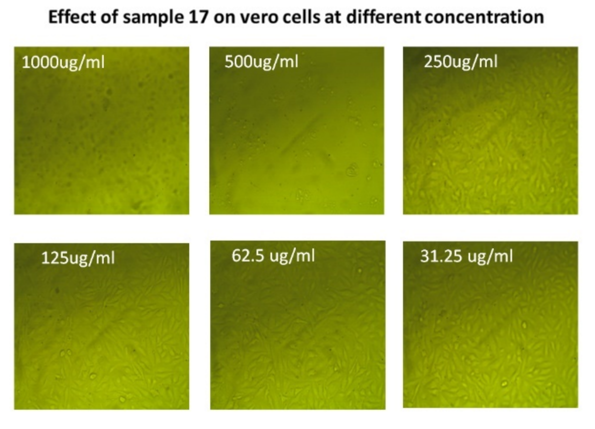
Effect of different concentrations of the syn. **compound 2a** on Vero cells



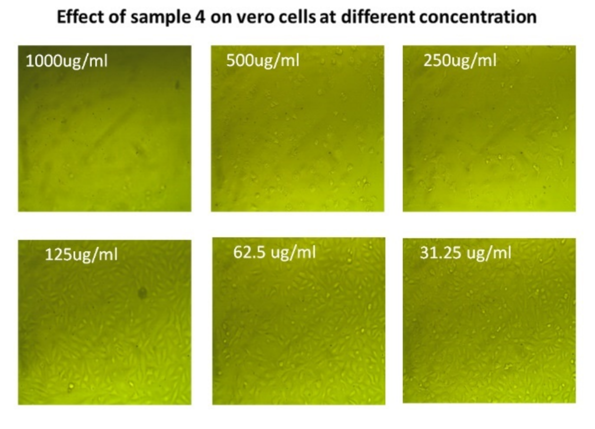
Effect of different concentrations of the syn. **compound 2b** on Vero cells



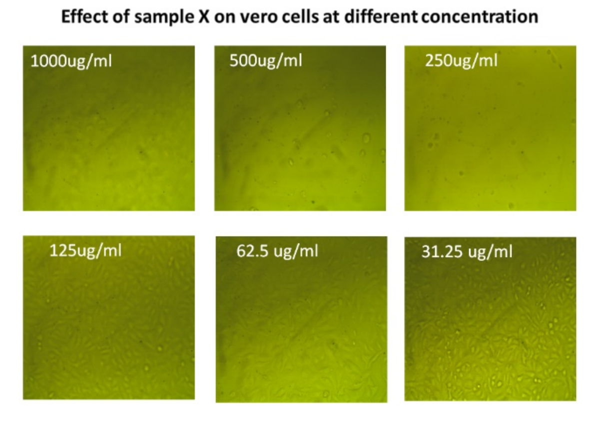
Effect of different concentrations of the syn. **compound 3a** on Vero cells



Effect of different concentrations of the syn. **compound 3b** on Vero cells



Effect of different concentrations of the syn. **compound 6b** on Vero cells



Effect of different concentrations of the syn. **compound 8a** on Vero cells

Docking simulation figures

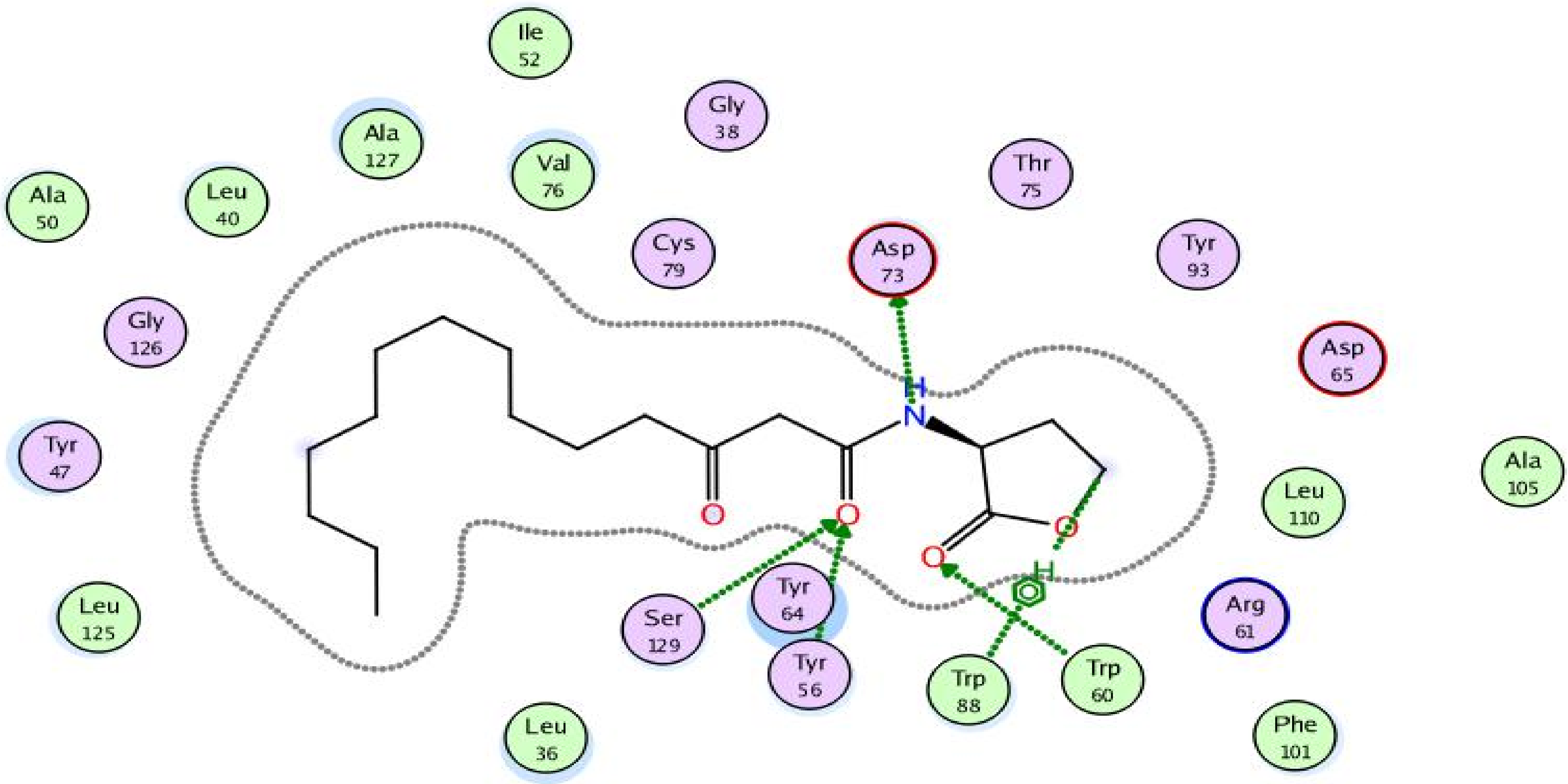


Figure S2: 2D structure of Docking pose and ligand interaction of compound **Co-crystallized ligand** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

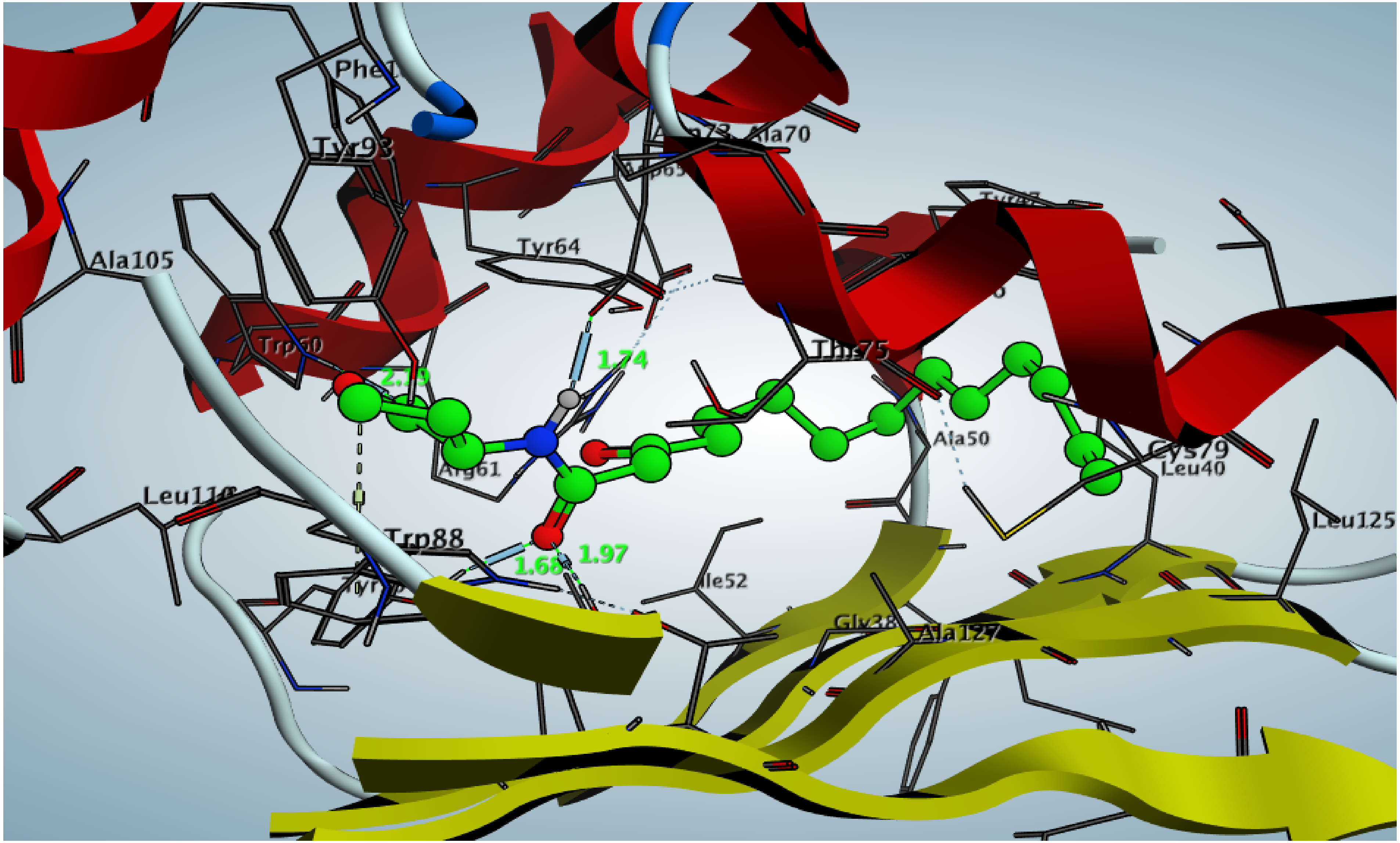


Figure S3: 3D structure of Docking pose and ligand interaction of compound **Co-crystallized ligand** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

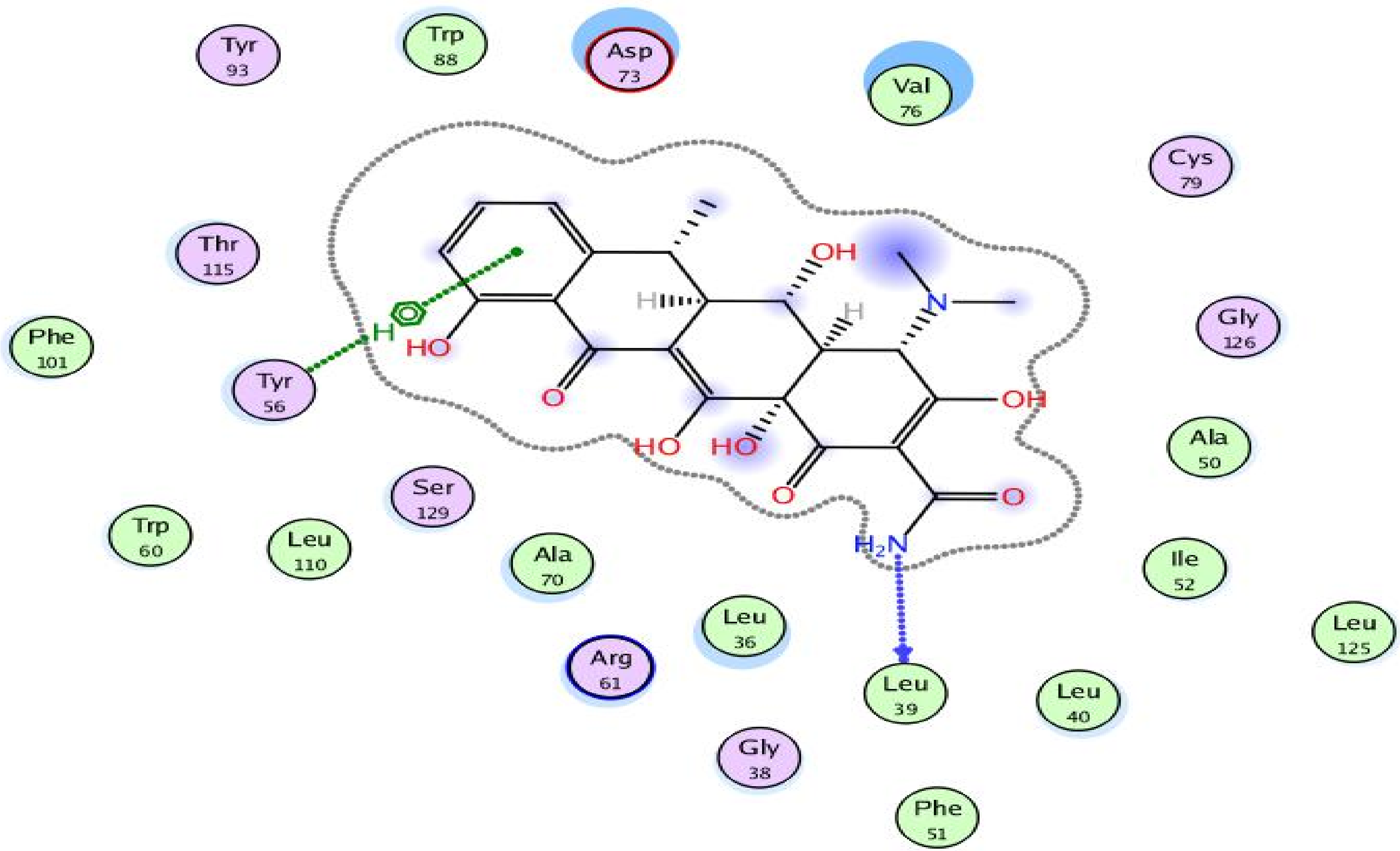


Figure S4: 2D structure of Docking pose and ligand interaction of compound **Doxycycline** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

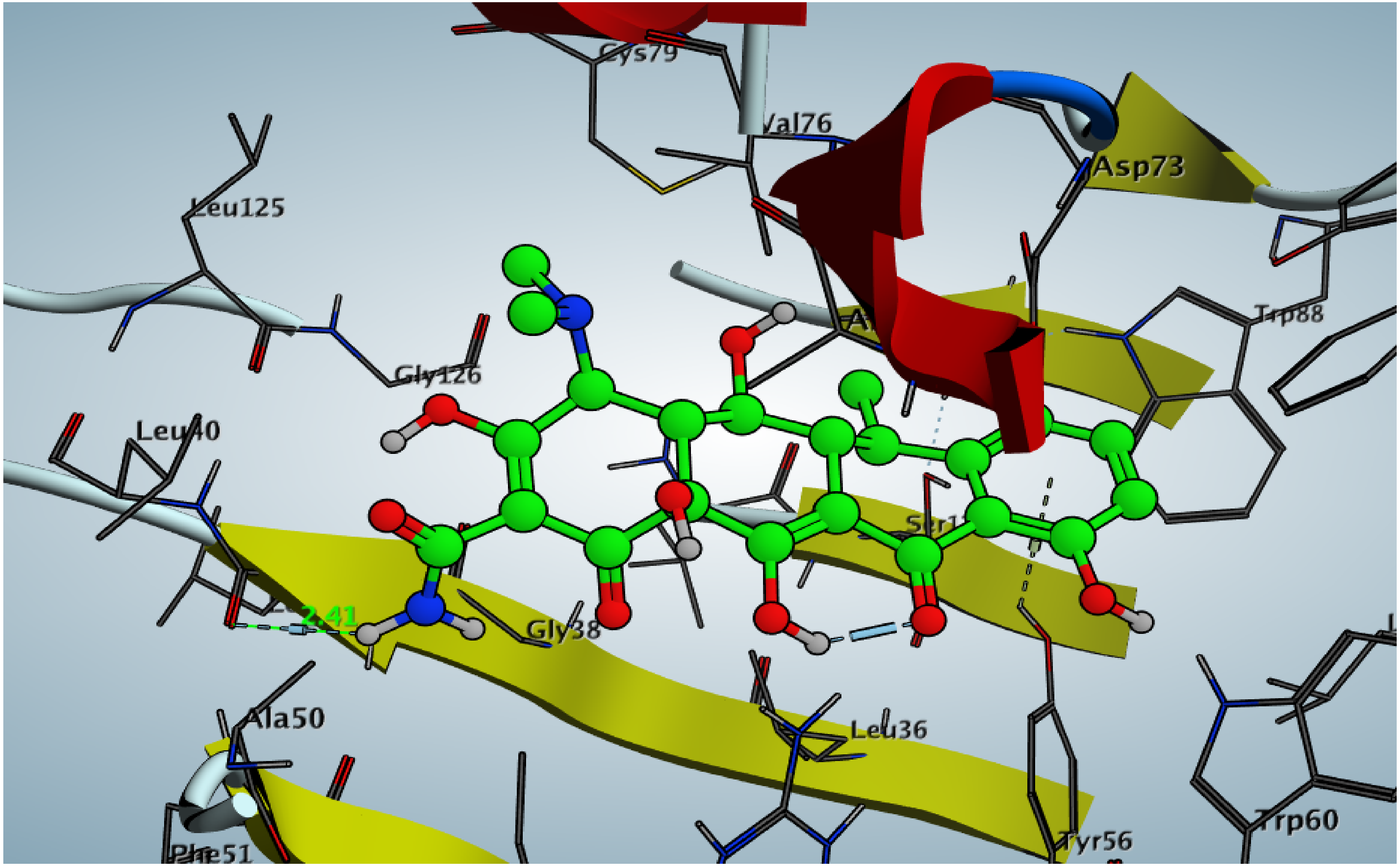


Figure S5: 3D structure of Docking pose and ligand interaction of compound **Doxycycline** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

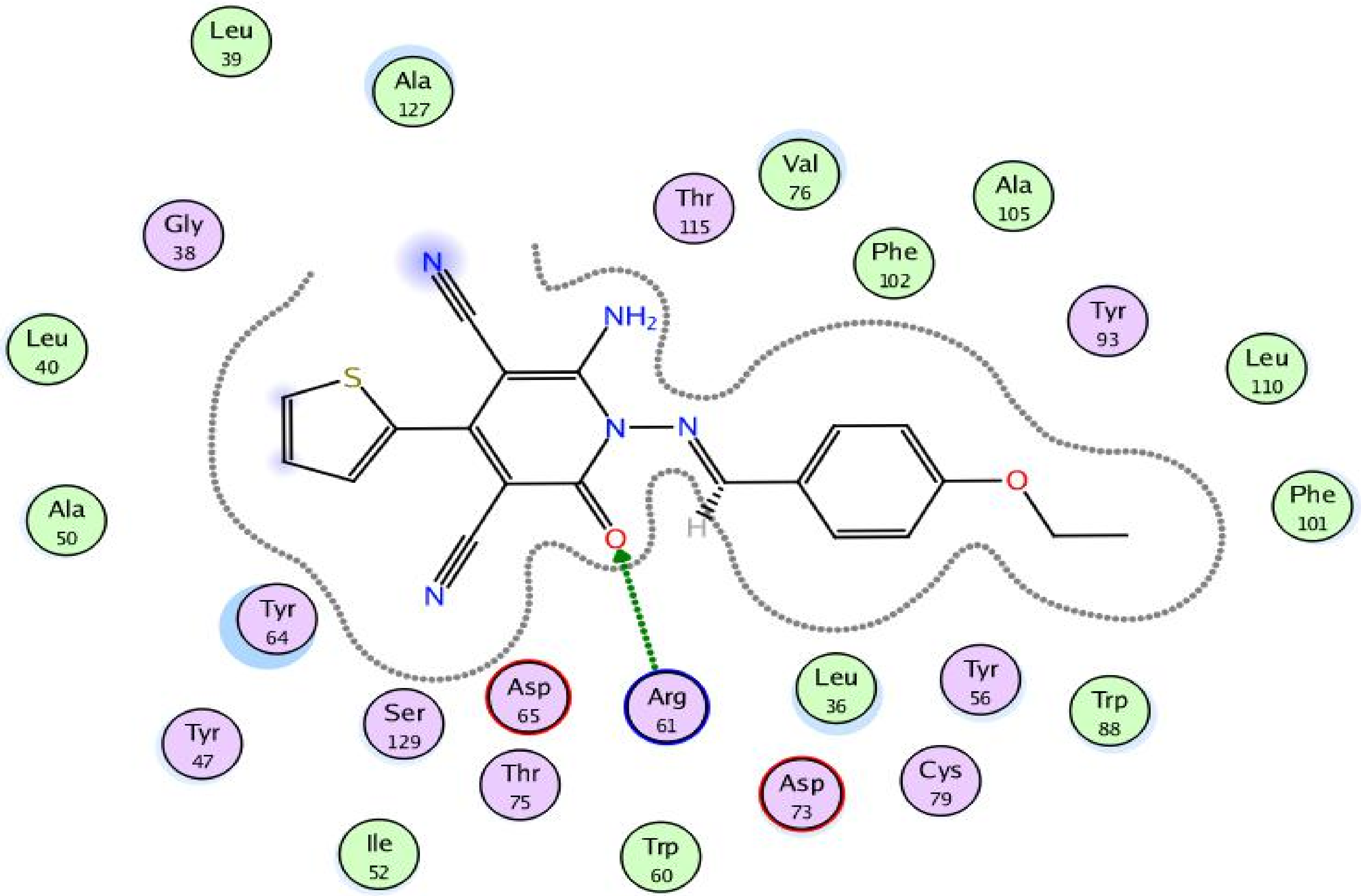


Figure S6: 2D structure of Docking pose and ligand interaction of compound **2a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

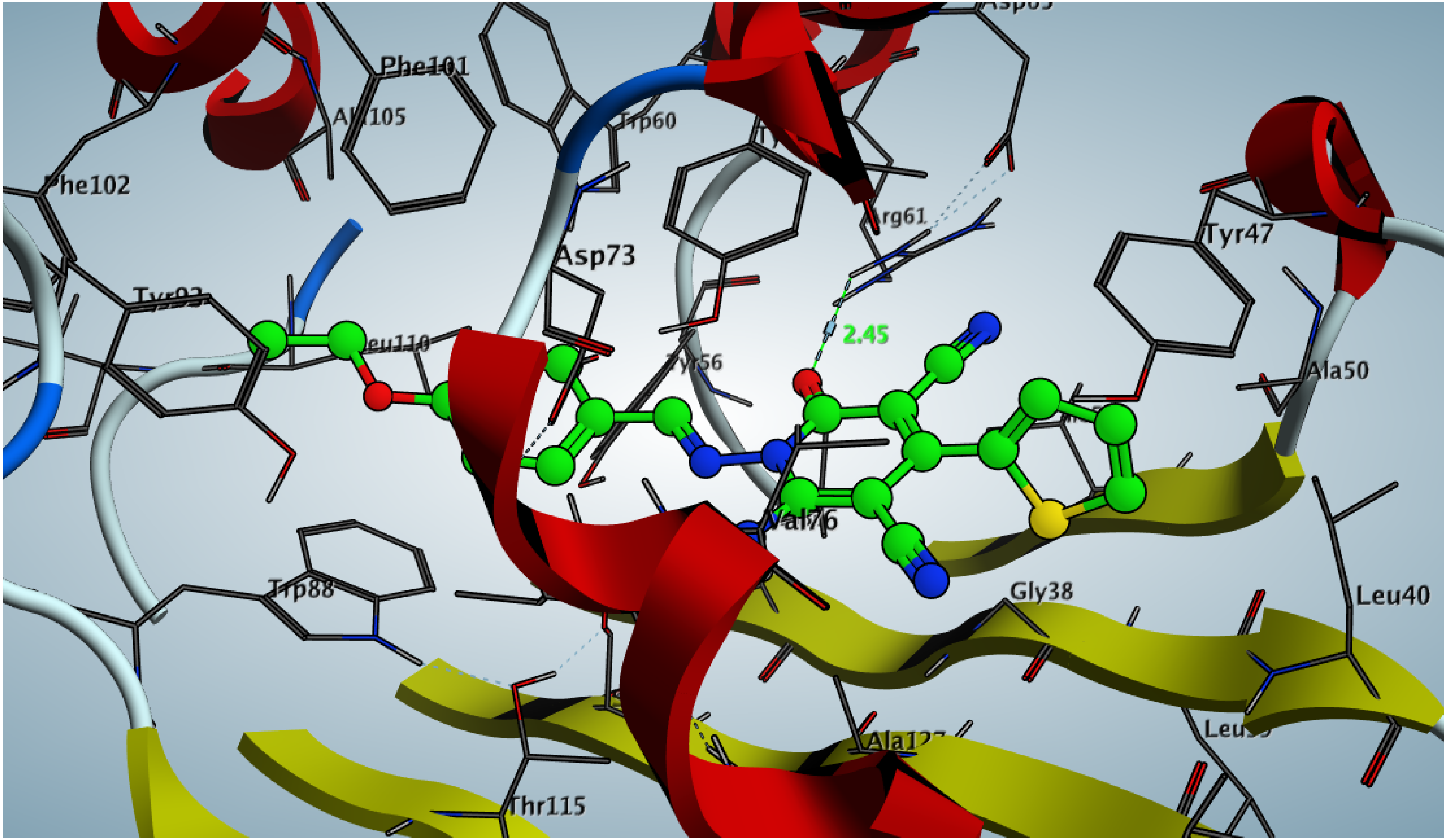


Figure S7: 3D structure of Docking pose and ligand interaction of compound **2a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

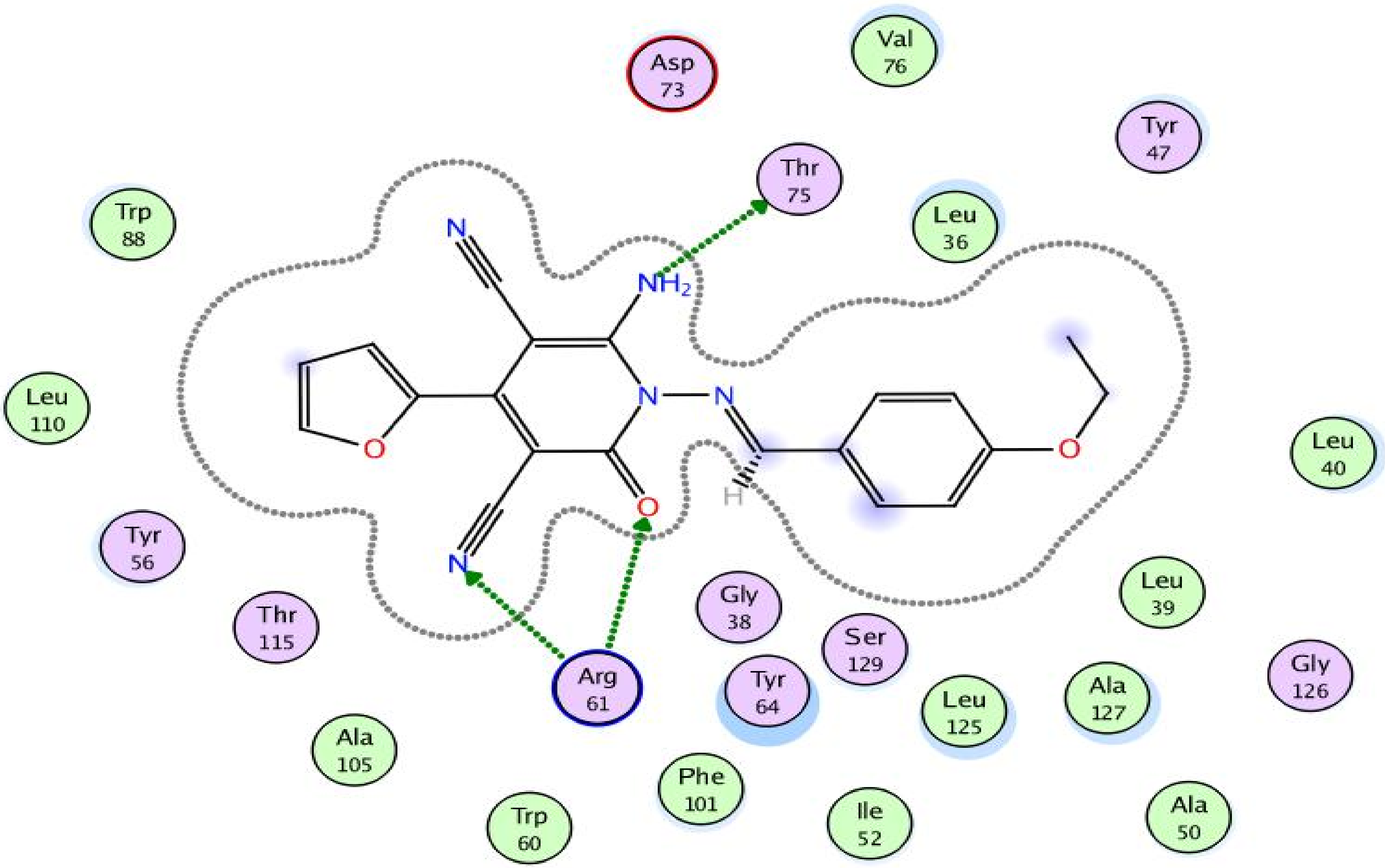


Figure S8: 2D structure of Docking pose and ligand interaction of compound **2b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

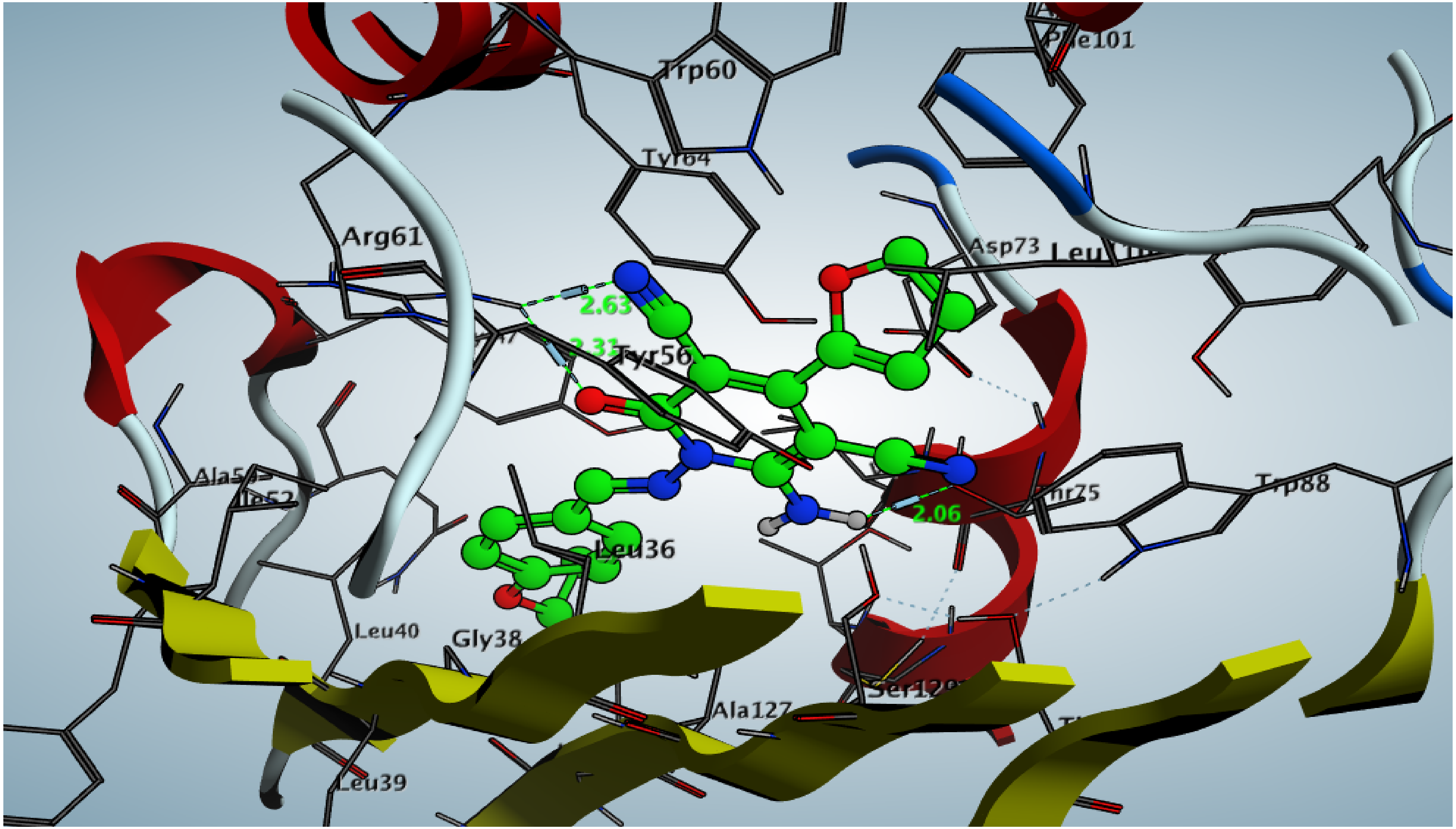


Figure S9: 3D structure of Docking pose and ligand interaction of compound **2b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

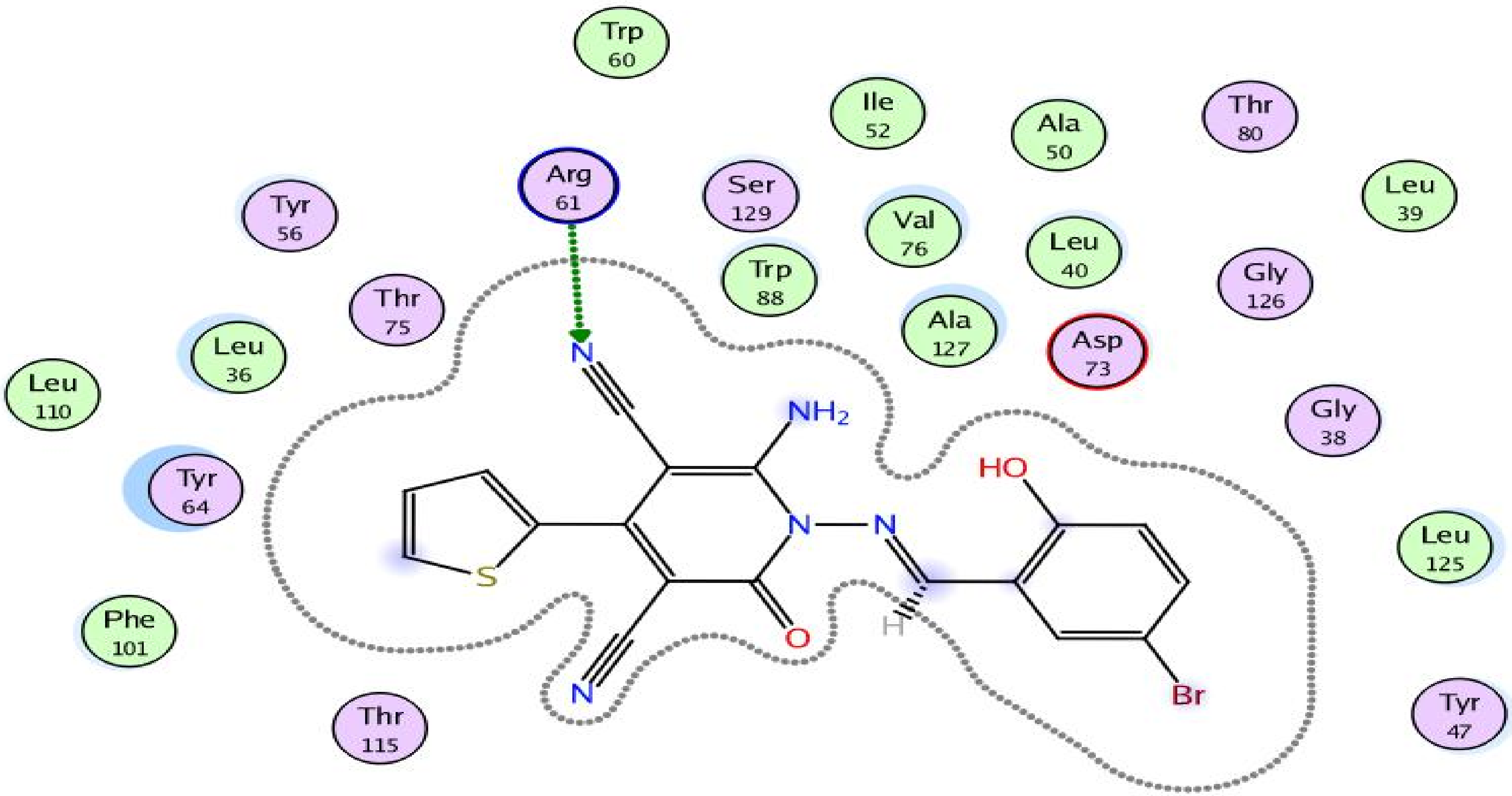


Figure S10: 2D structure of Docking pose and ligand interaction of compound **3a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

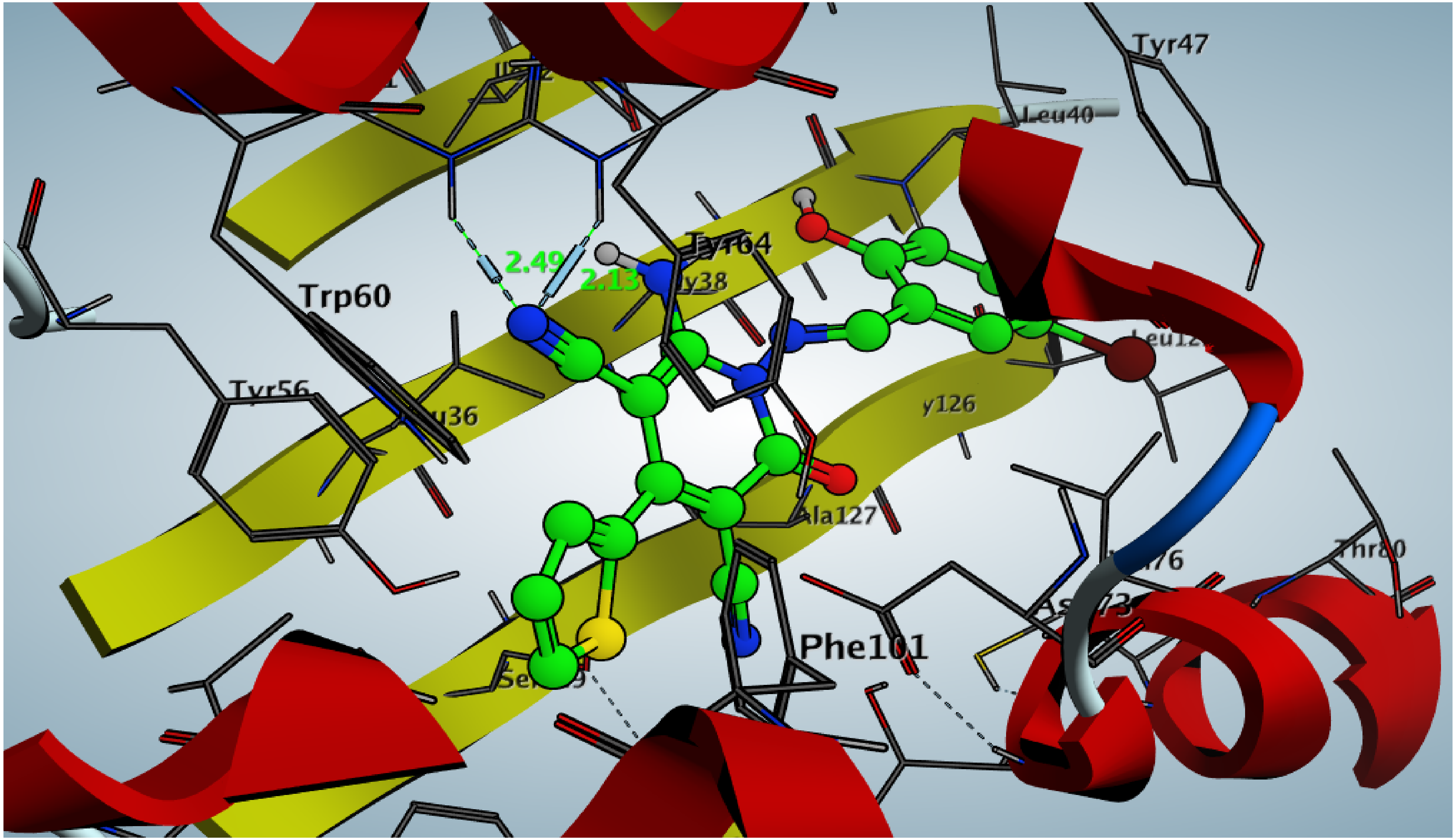


Figure S11: 3D structure of Docking pose and ligand interaction of compound **3a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

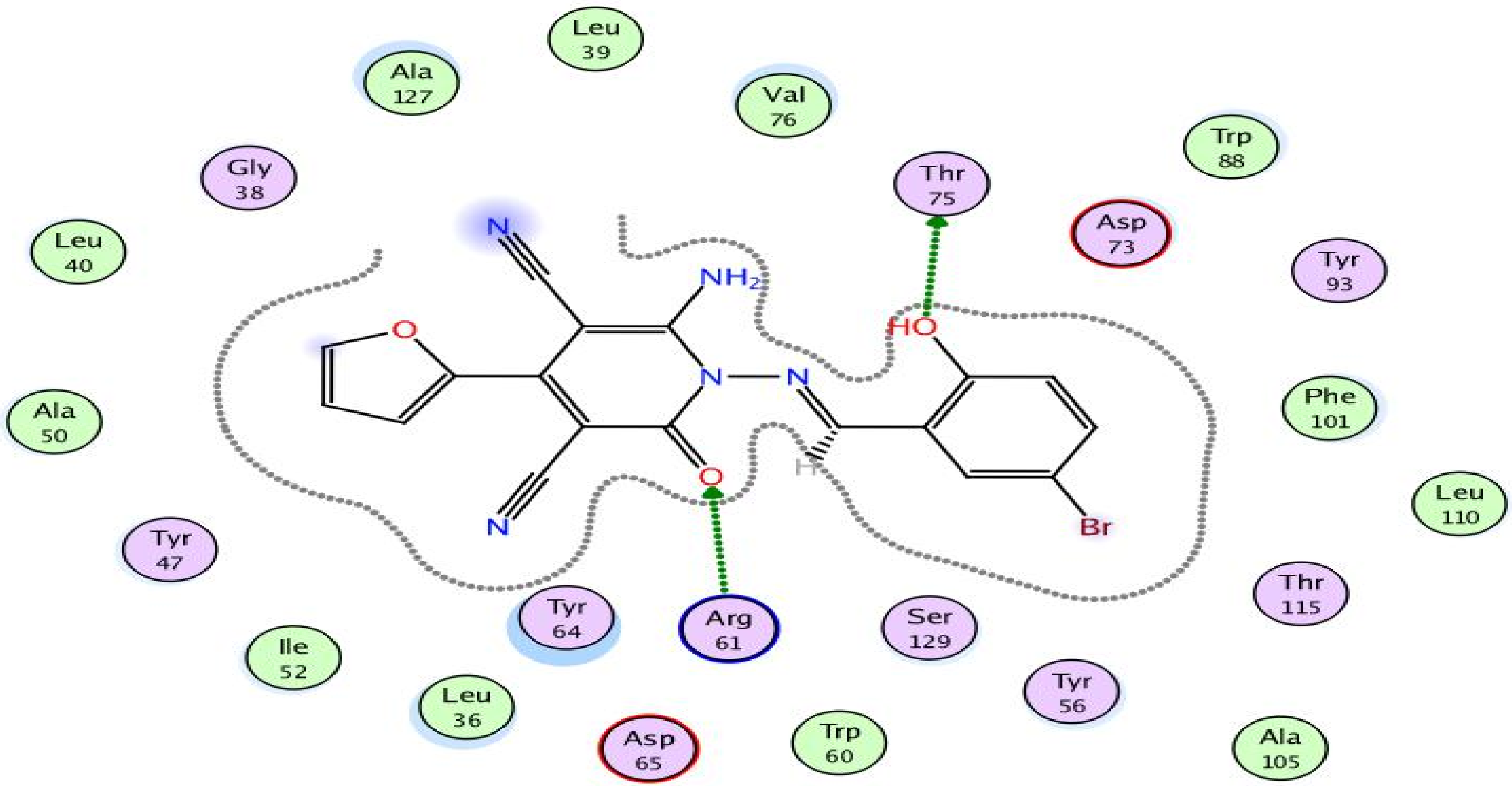


Figure S12: 2D structure of Docking pose and ligand interaction of compound **3b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

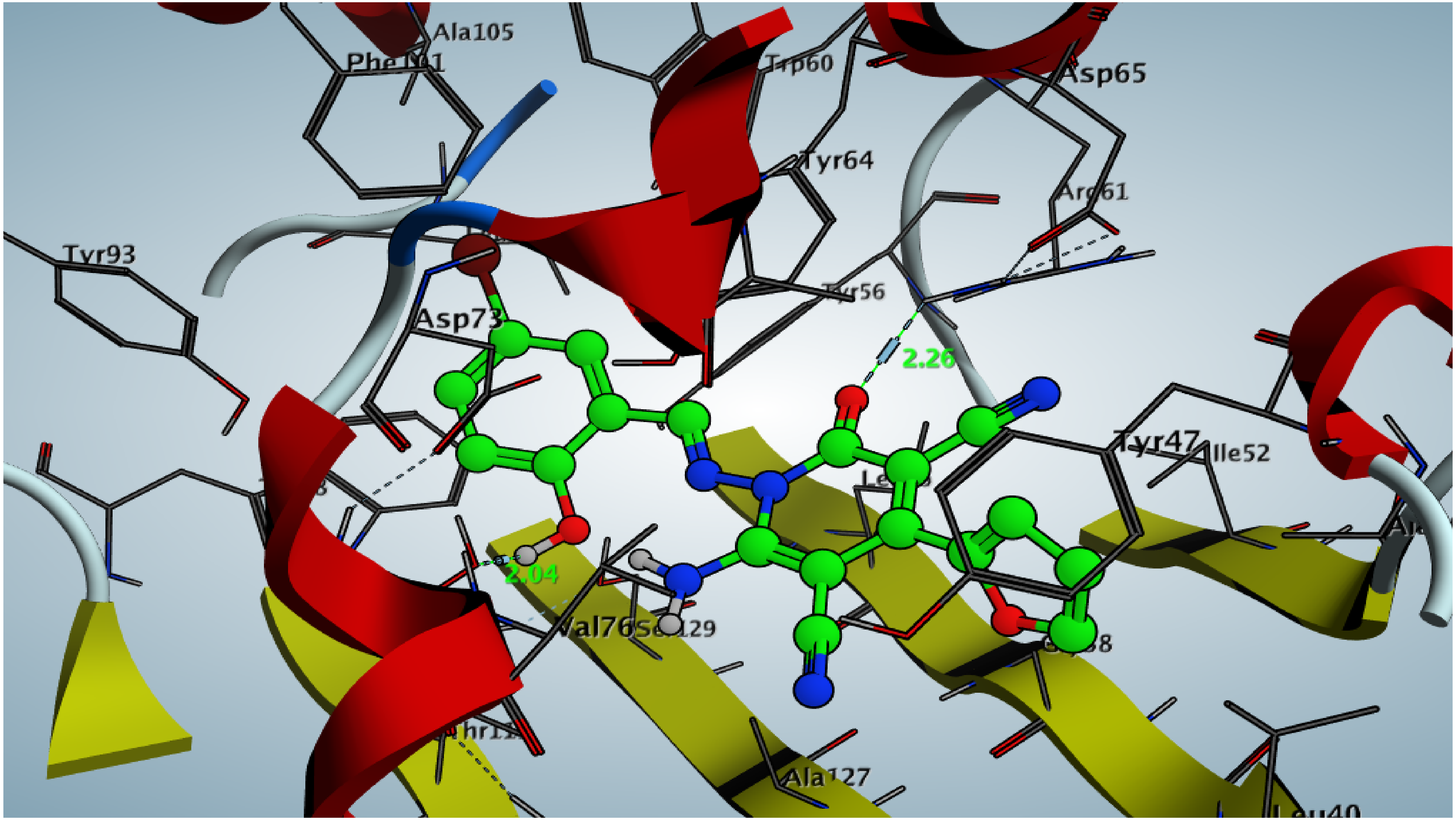


Figure S13: 3D structure of Docking pose and ligand interaction of compound **3b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

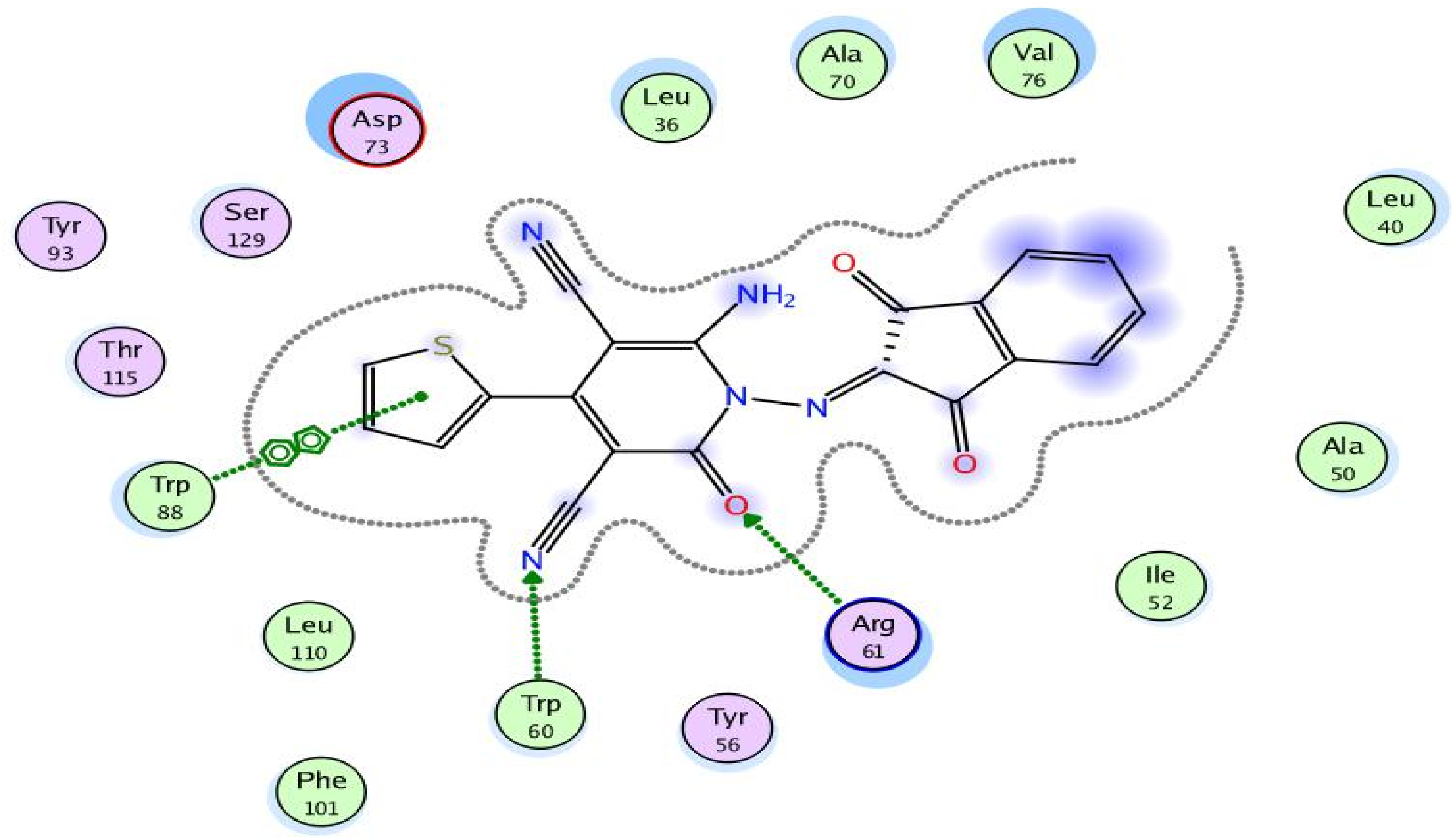


Figure S14: 2D structure of Docking pose and ligand interaction of compound **6a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

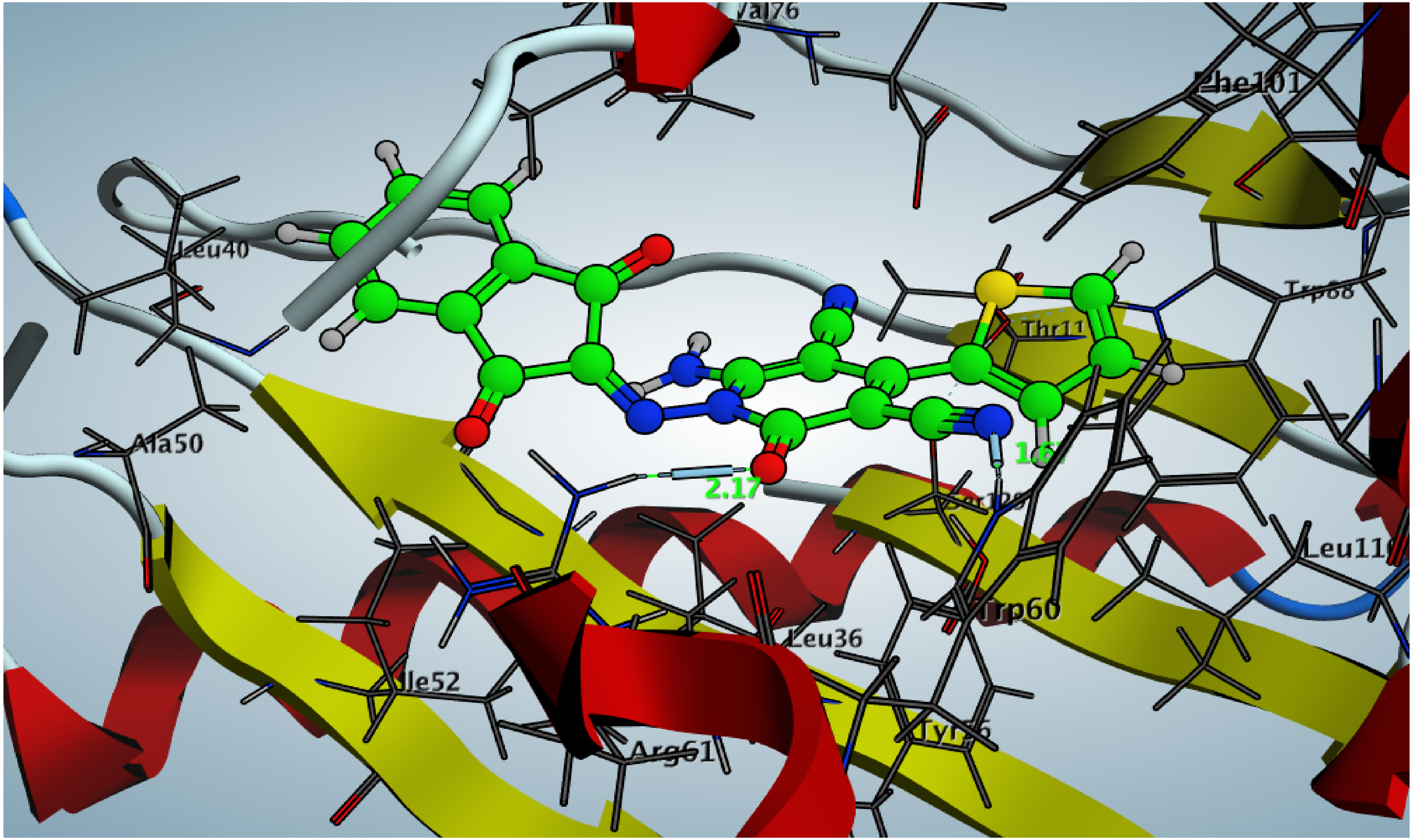


Figure S15: 3D structure of Docking pose and ligand interaction of compound **6a** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

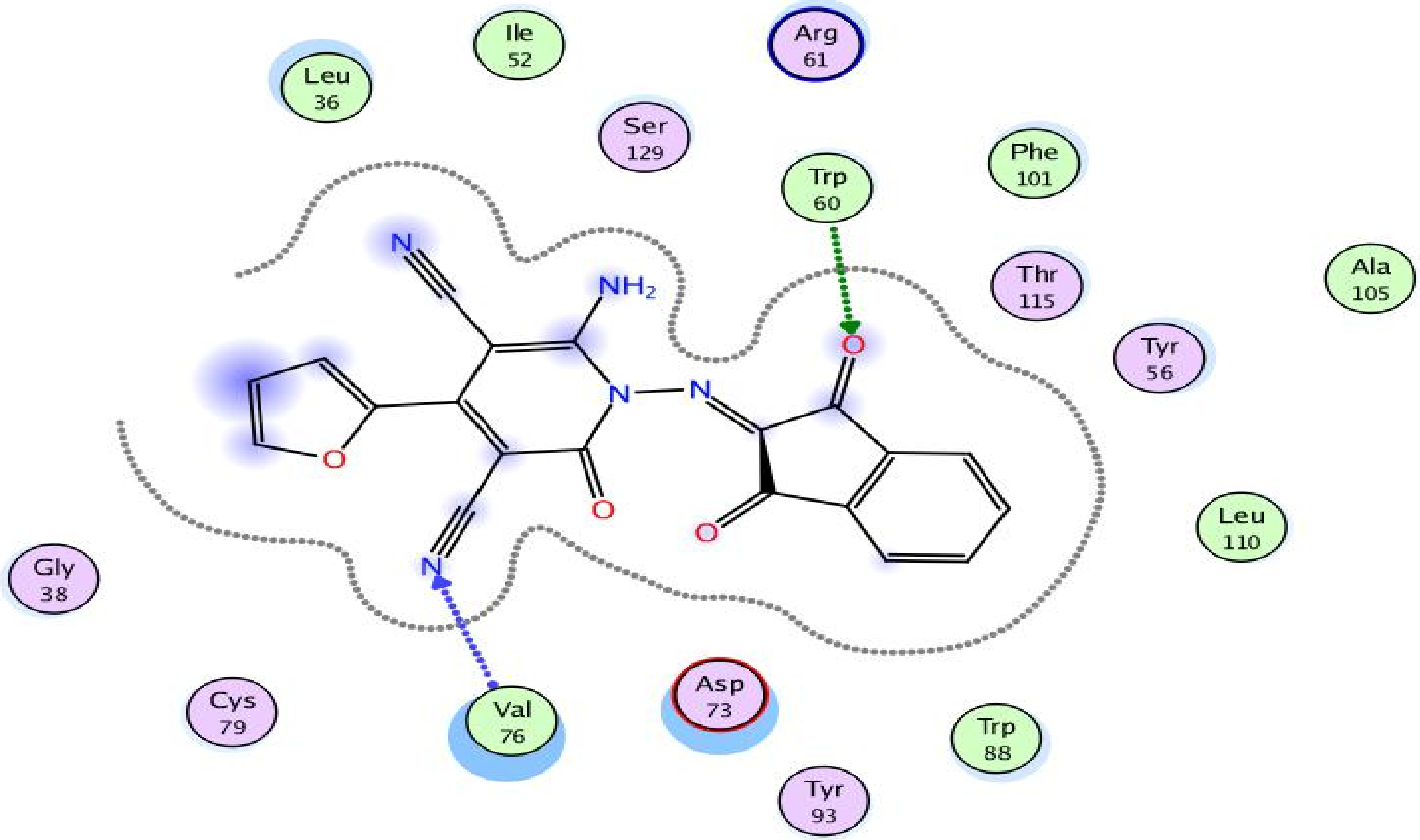


Figure S16: 2D structure of Docking pose and ligand interaction of compound **6b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)

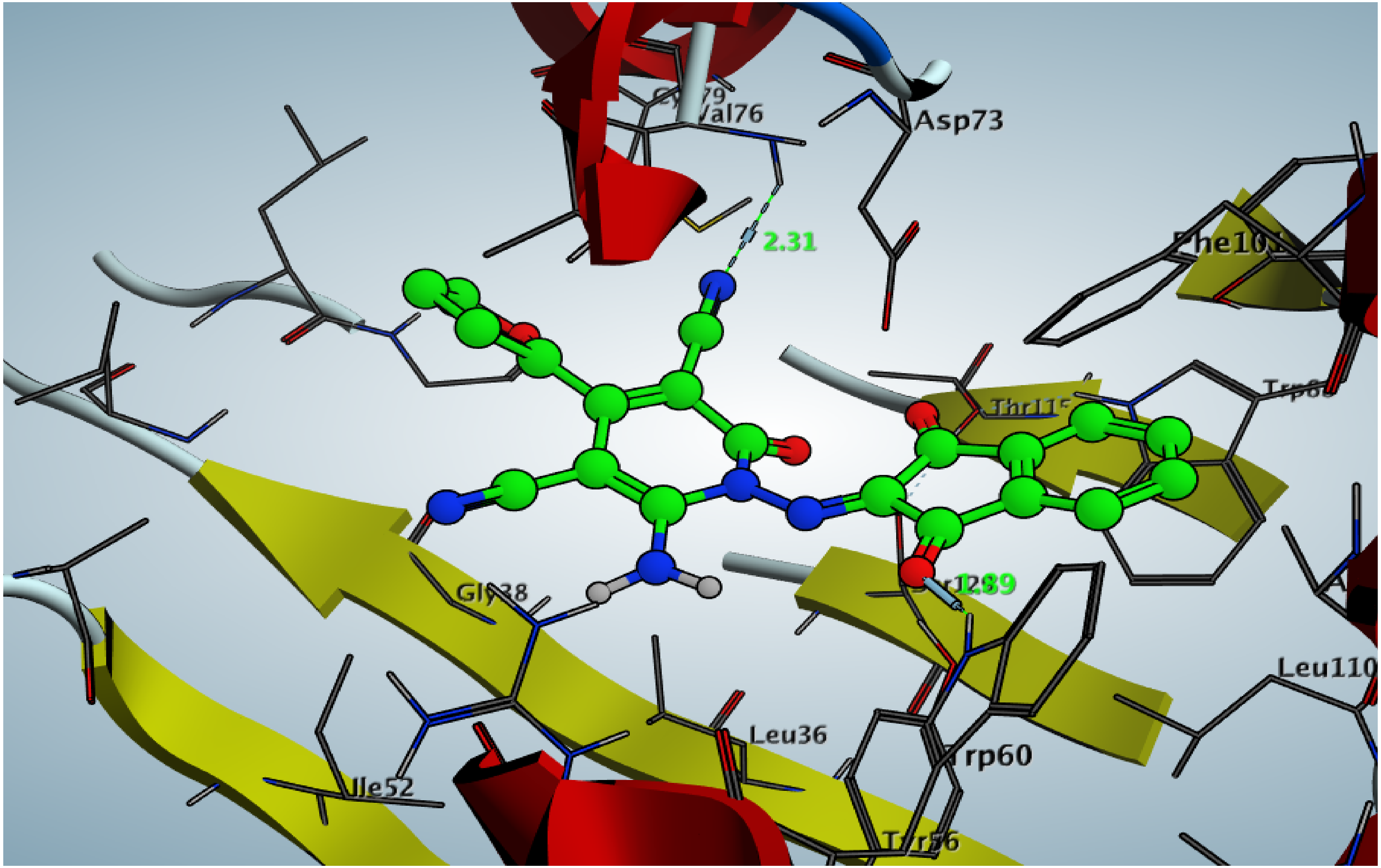


Figure S17: 3D structure of Docking pose and ligand interaction of compound **6b** inside the active site of LasR (PDB: 6MVN) in *P. aeruginosa* (UCBPP-PA14)