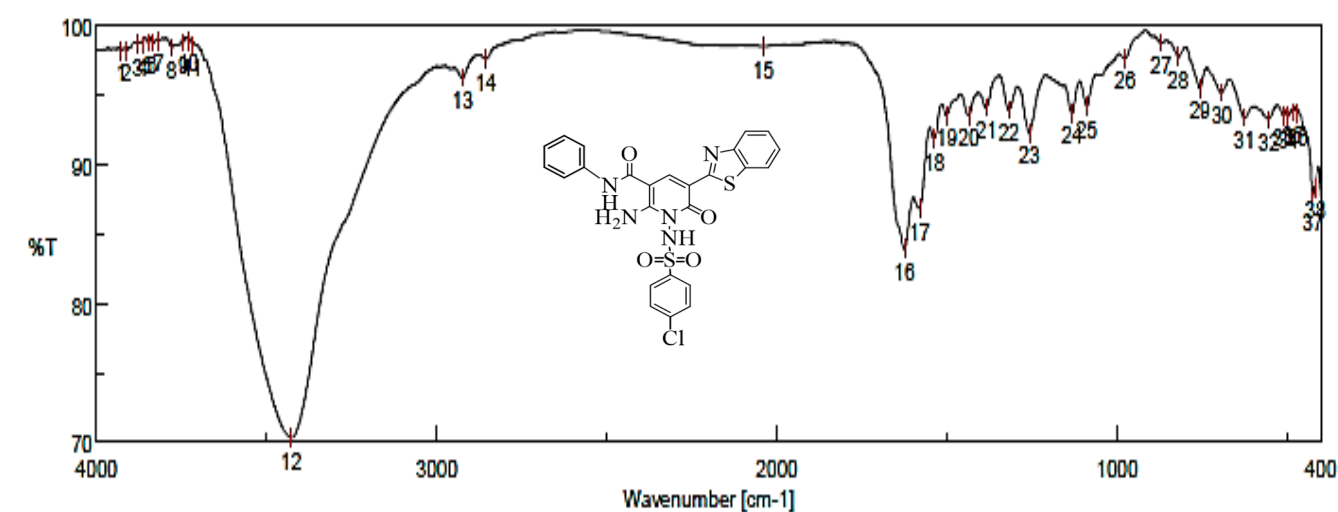




## Supplementary Materials



## [ Result of Peak Picking ]

No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity
1	3927.32	98.2283	2	3912.86	98.2096	3	3880.08	98.6903	4	3863.68	98.6728
5	3848.26	98.7736	6	3838.68	98.7822	7	3816.44	98.9016	8	3778.83	98.4877
9	3745.08	98.7875	10	3729.66	98.9392	11	3720.01	98.6372	12	3428.81	70.2728
13	2925.48	98.2631	14	2858.08	97.8107	15	2040.32	98.5373	16	1624.73	83.9286
17	1579.41	88.8268	18	1538.99	91.8624	19	1500.35	93.5445	20	1435.74	93.5328
21	1384.64	94.1278	22	1318.11	93.9589	23	1257.36	92.2671	24	1132.01	93.7253
25	1088.62	94.2059	26	976.769	97.6394	27	869.739	98.7906	28	819.588	97.7827
29	755.959	95.5005	30	691.355	95.2183	31	624.823	93.3559	32	553.47	93.2384
33	510.08	93.485	34	496.58	93.4417	35	483.081	93.7615	36	469.582	93.6562
37	424.263	87.4938	38	415.585	88.3182						

Figure S1. IR spectrum of compound 6a.



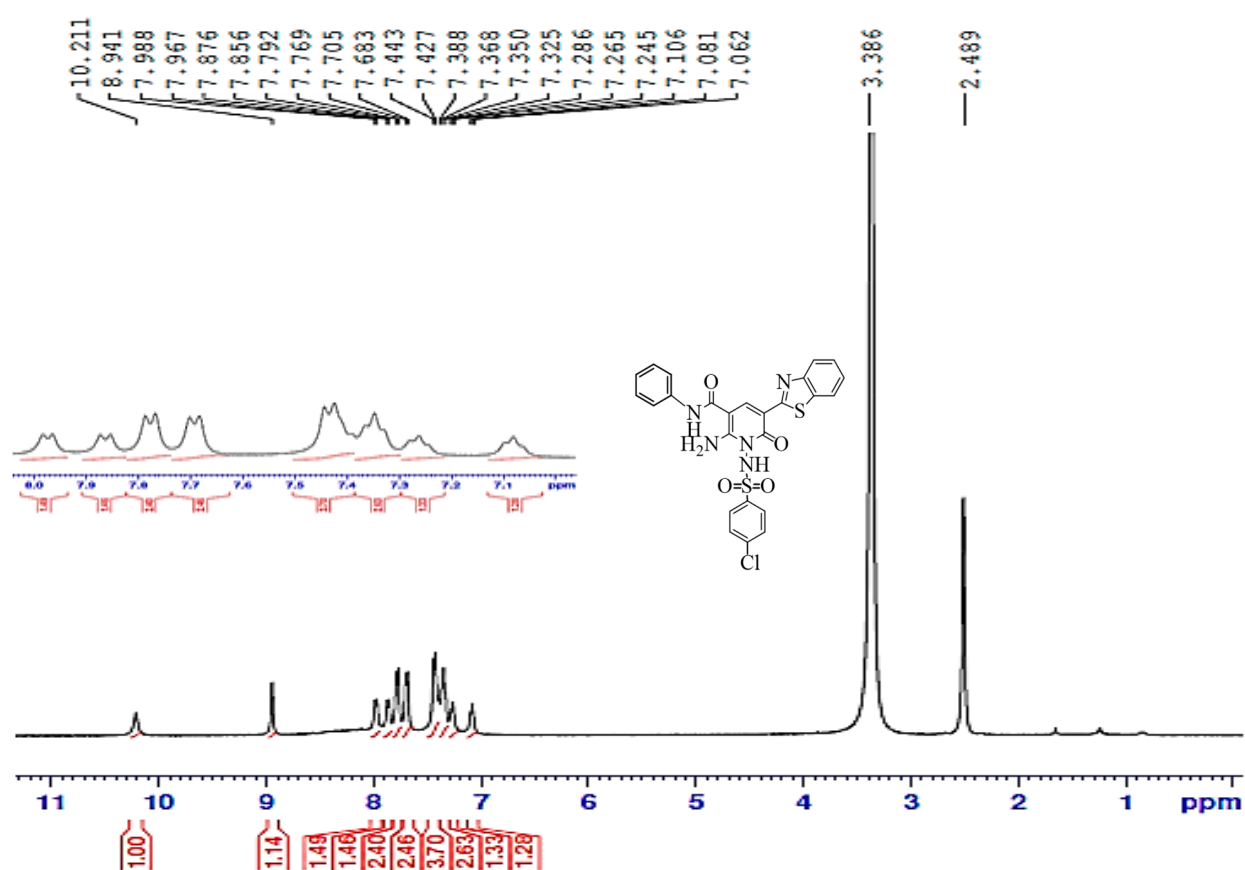


Figure S2.  $^1\text{H}$  NMR spectrum of compound 6a.



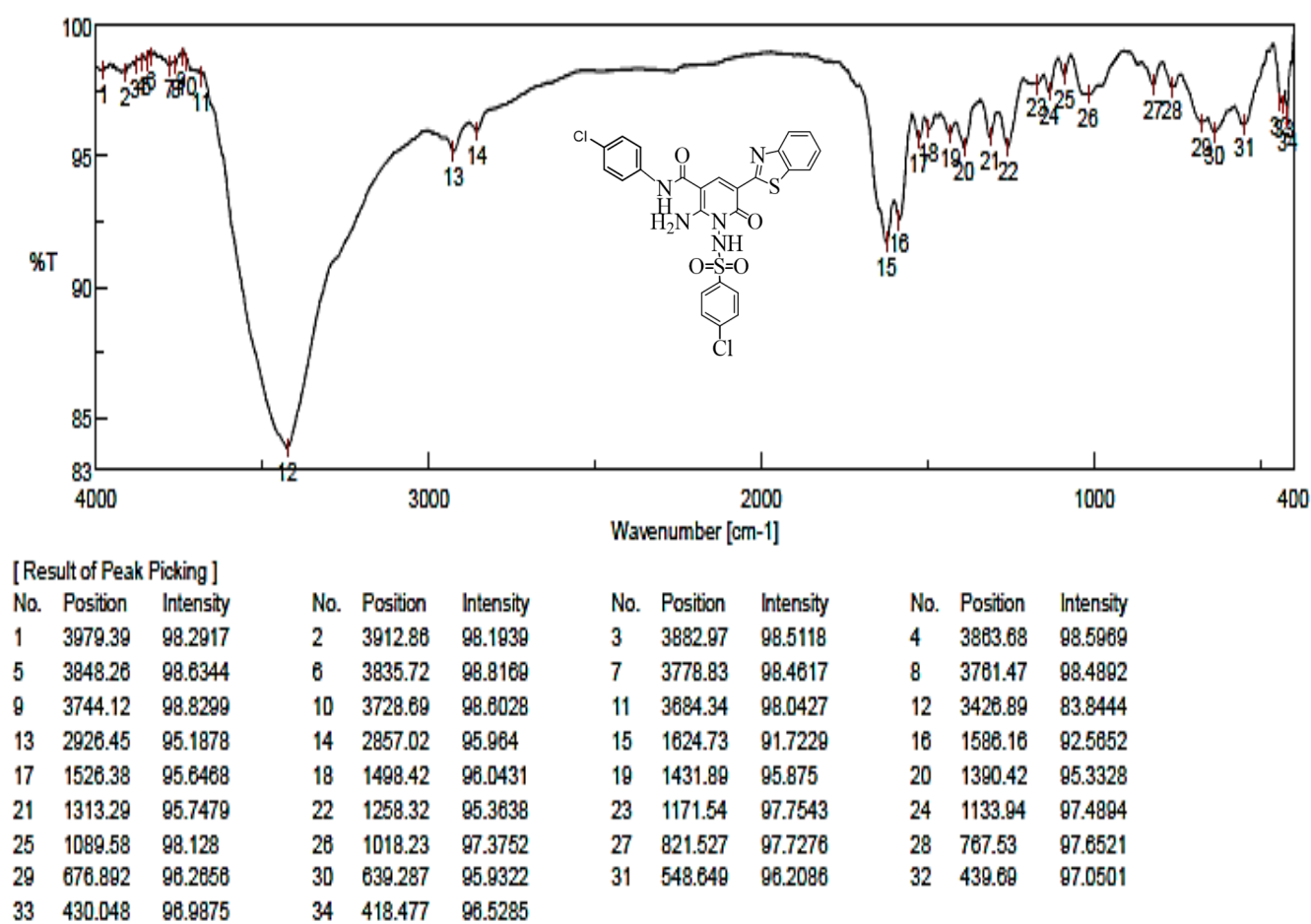


Figure S3. IR spectrum of compound 6b.



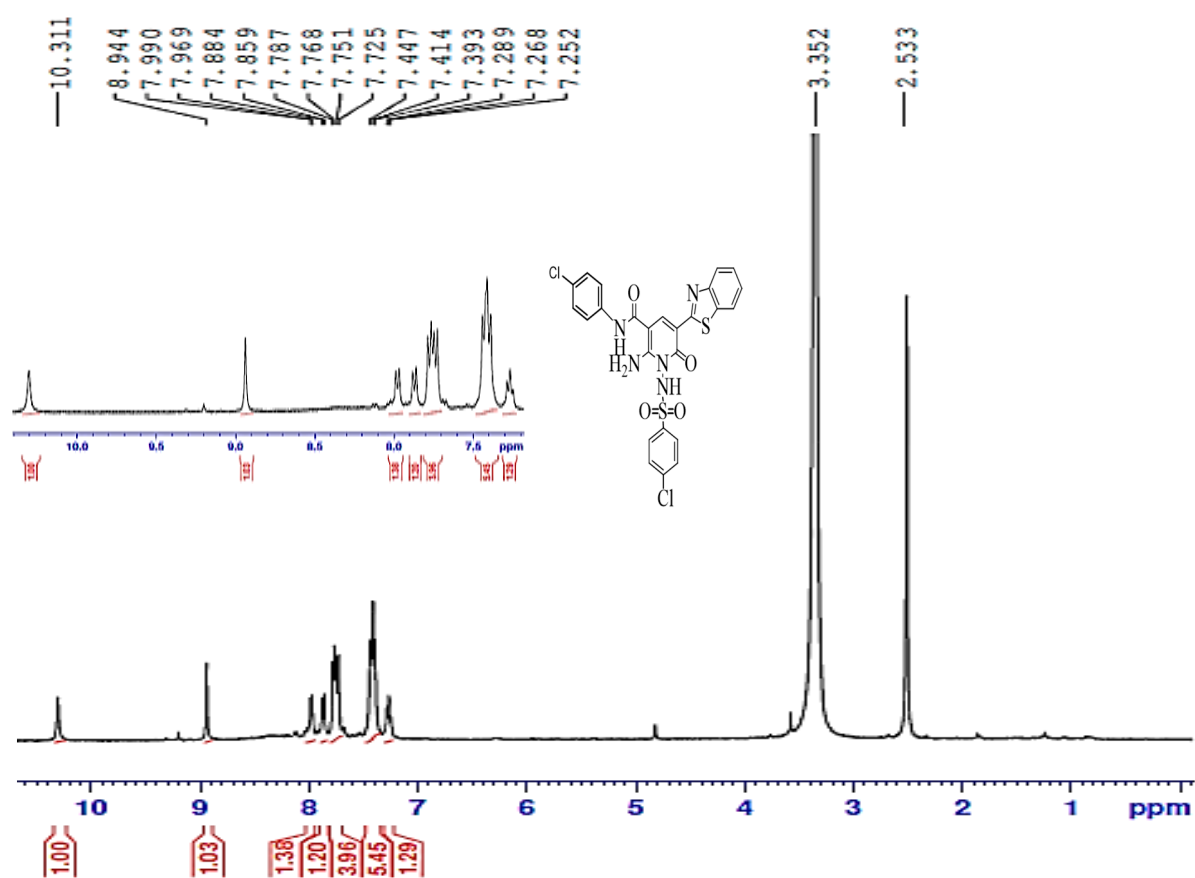


Figure S4.  $^1\text{H}$  NMR spectrum of compound **6b**.



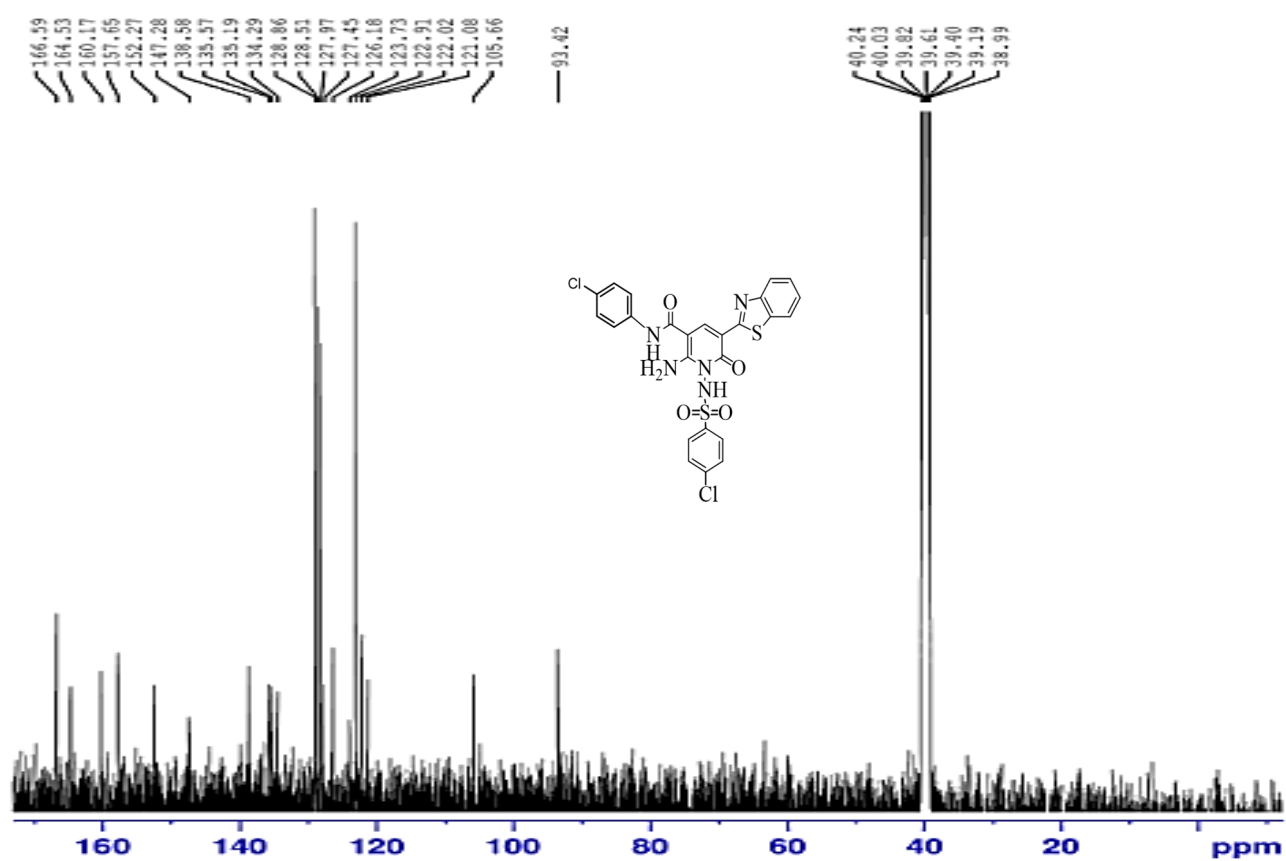


Figure S5.  $^{13}\text{C}$  NMR spectrum of compound 6b.



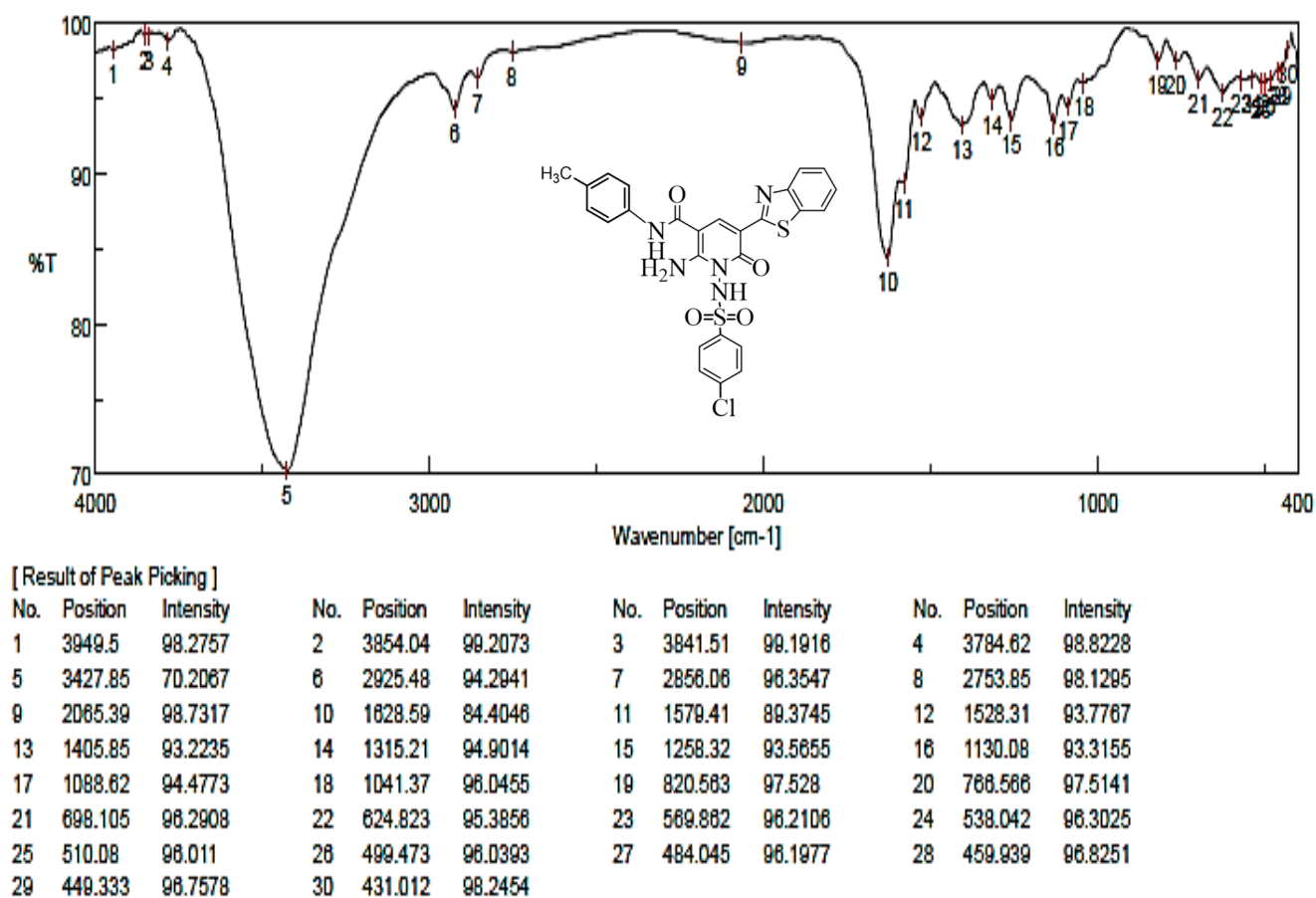


Figure S6. IR spectrum of compound 6c.



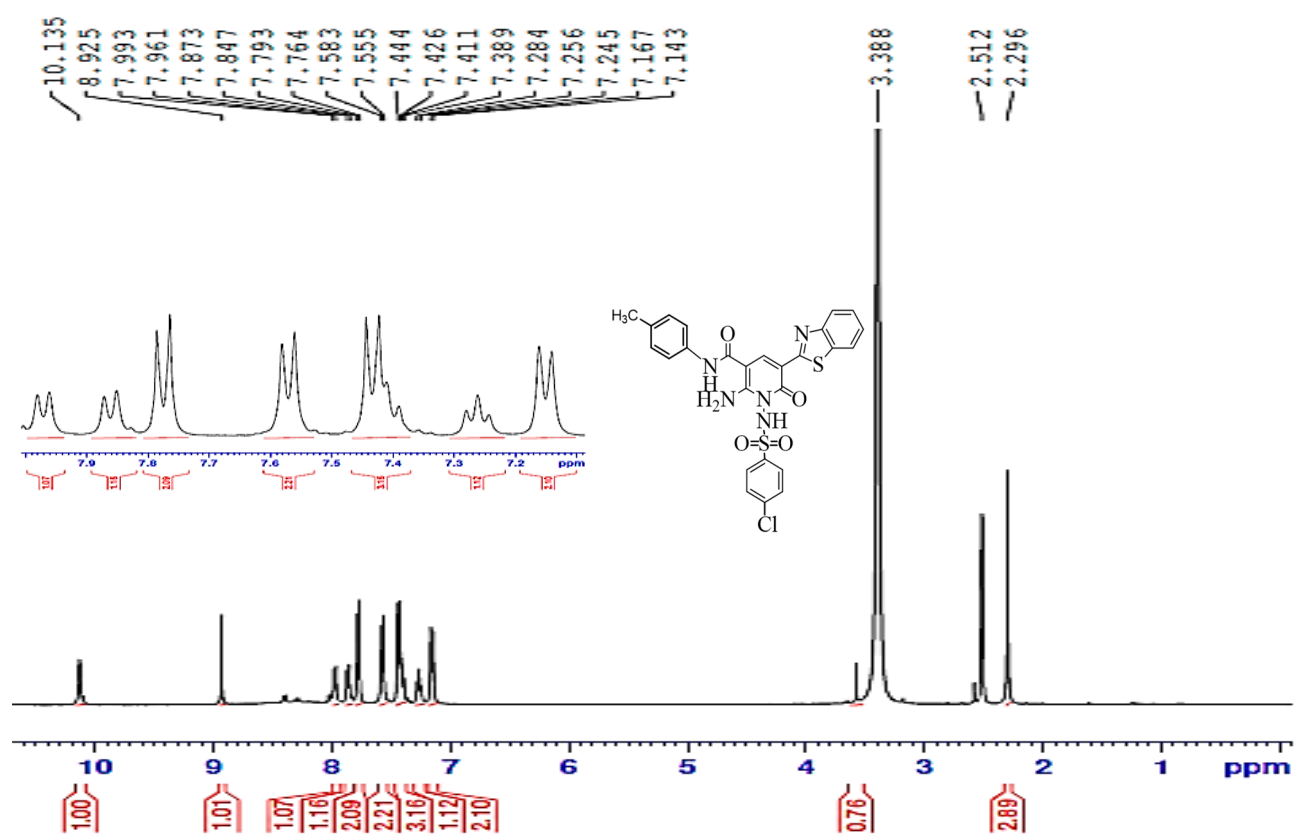


Figure S7. <sup>1</sup>H NMR spectrum of compound 6c.



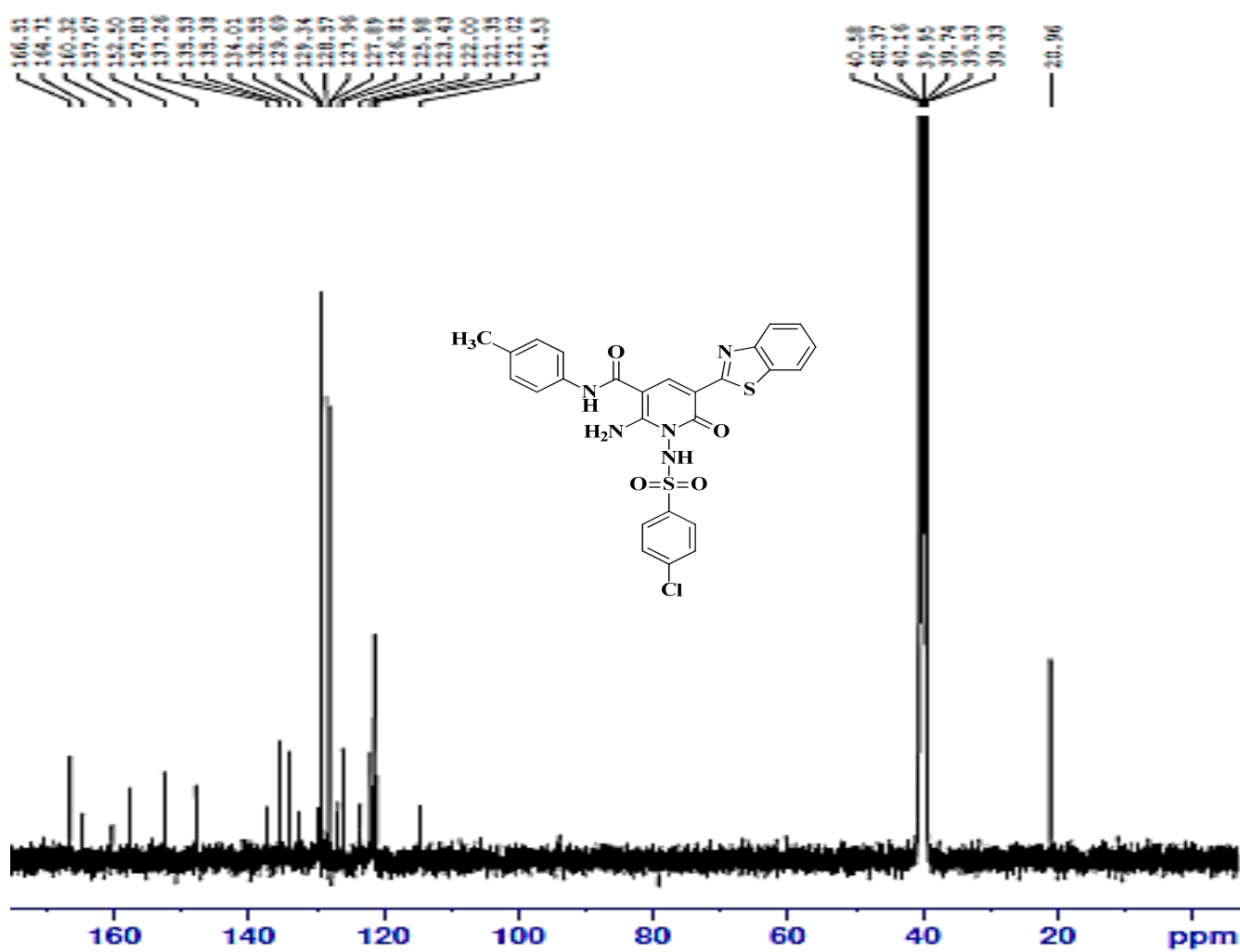


Figure S8.  $^{13}\text{C}$  NMR spectrum of compound 6c.



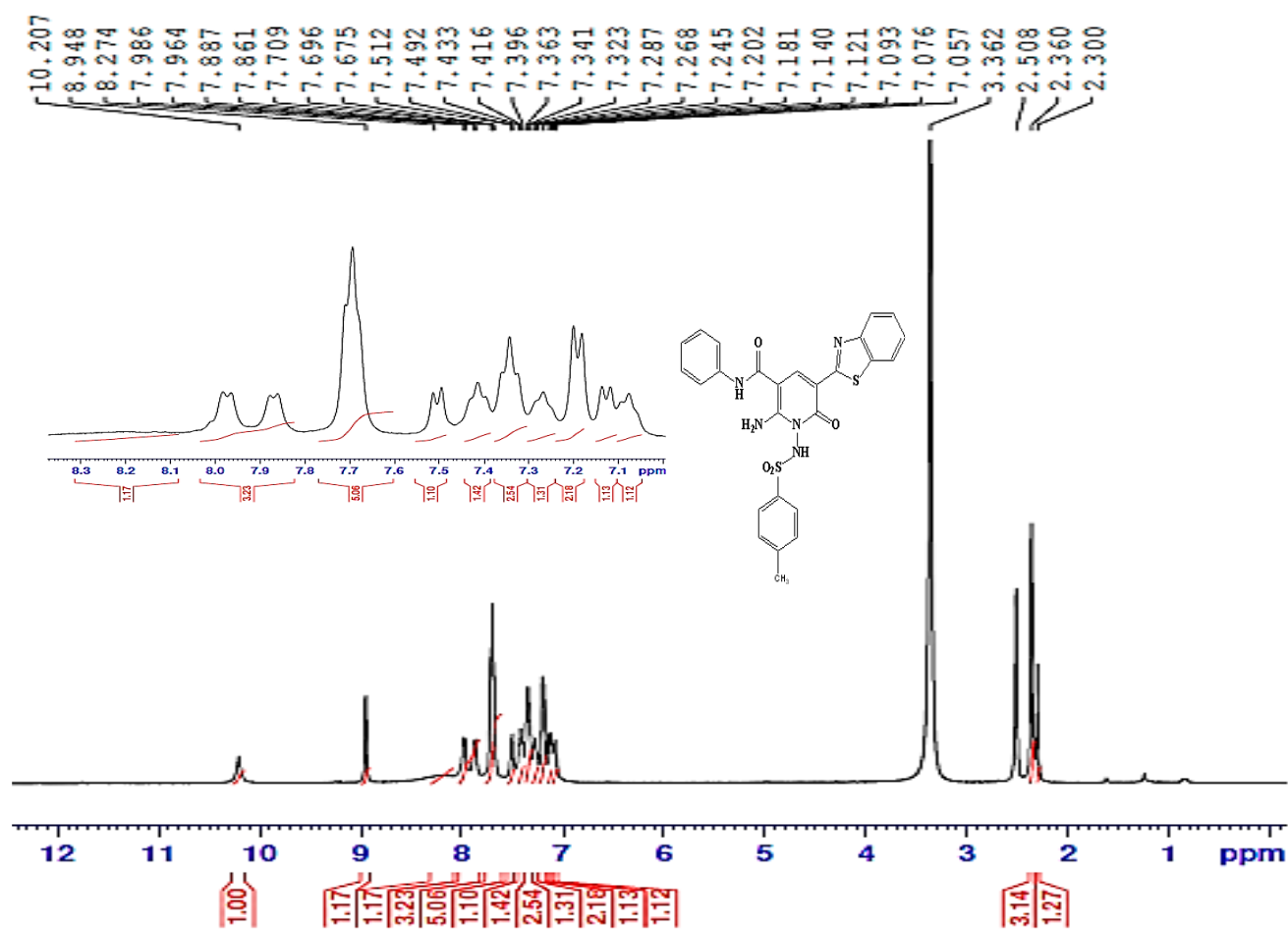
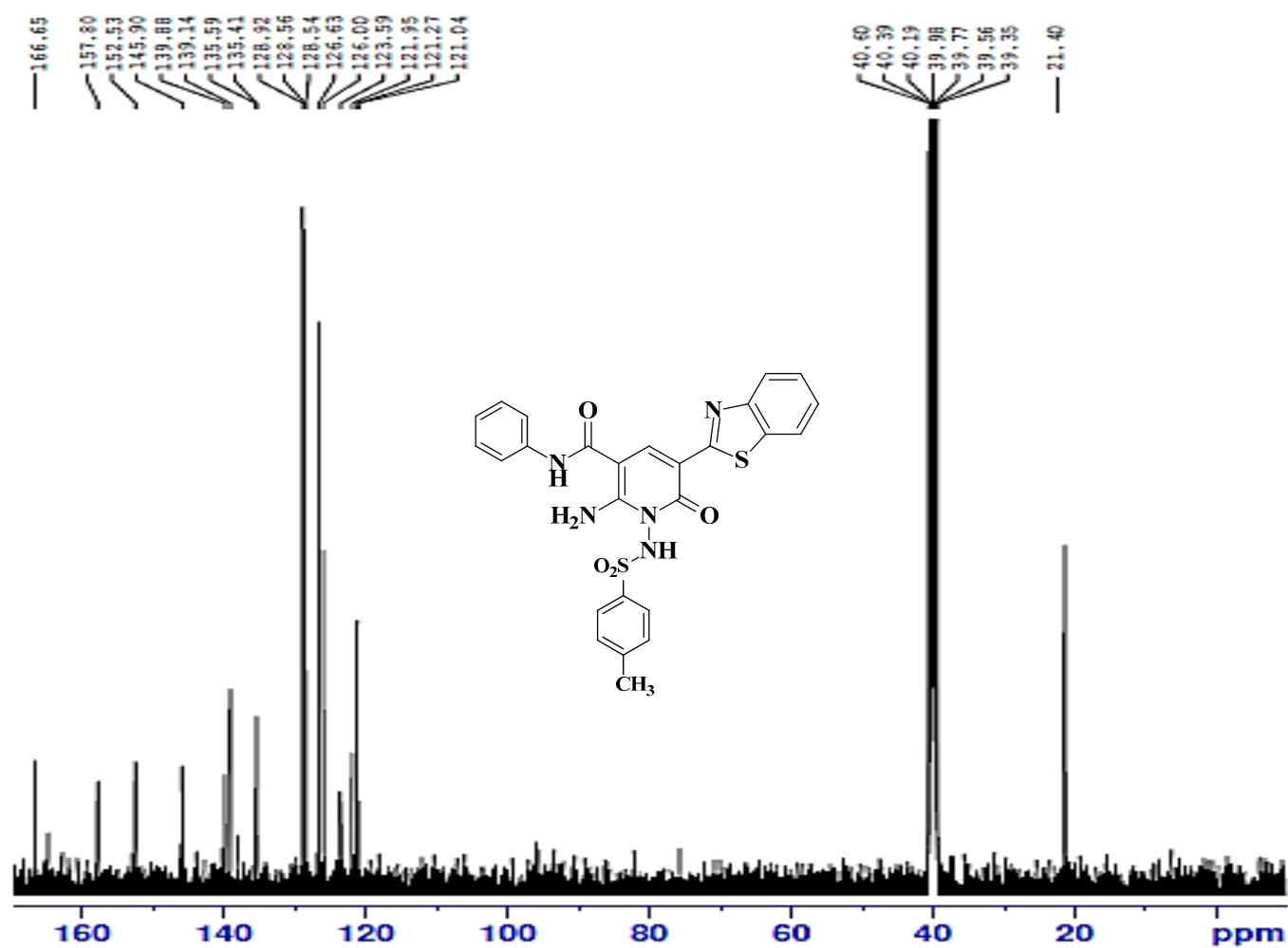


Figure S9.  $^1\text{H}$  NMR spectrum of compound 6d.



Figure S10.  $^{13}\text{C}$  NMR spectrum of compound 6d.



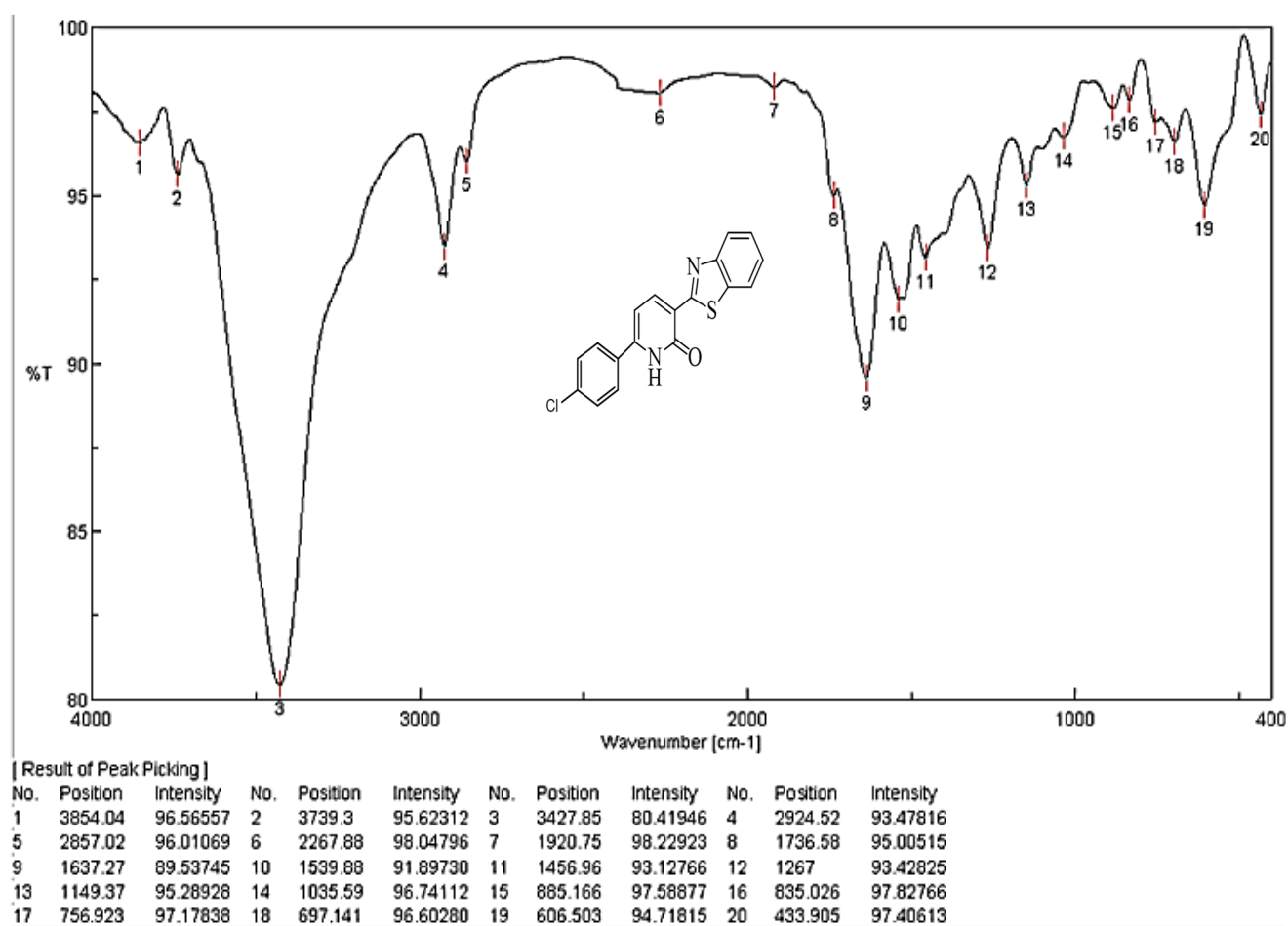


Figure S11. IR spectrum of compound 12a.



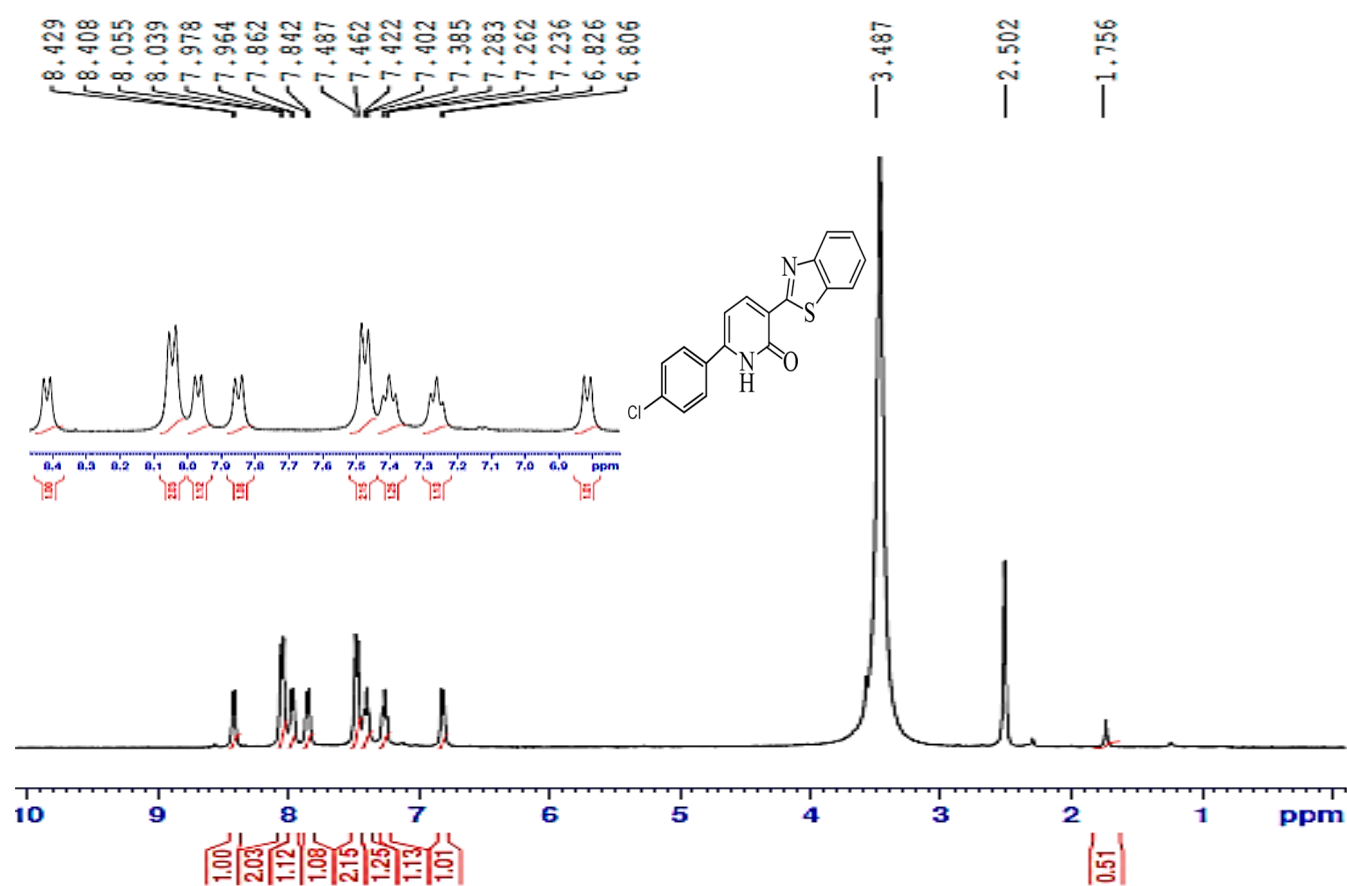


Figure S12.  $^1\text{H}$  NMR spectrum of compound 12a.



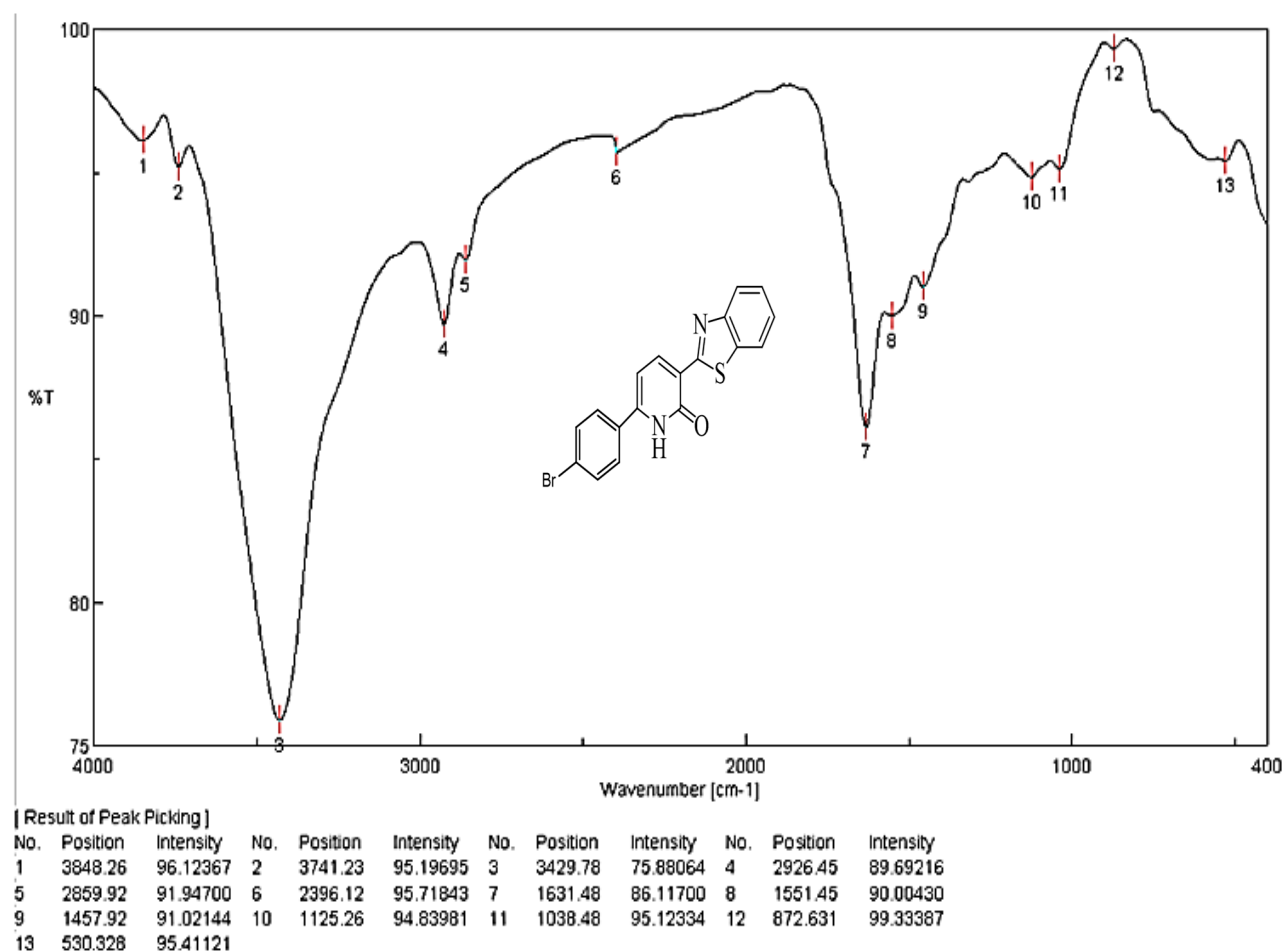


Figure S13. IR spectrum of compound 12b.



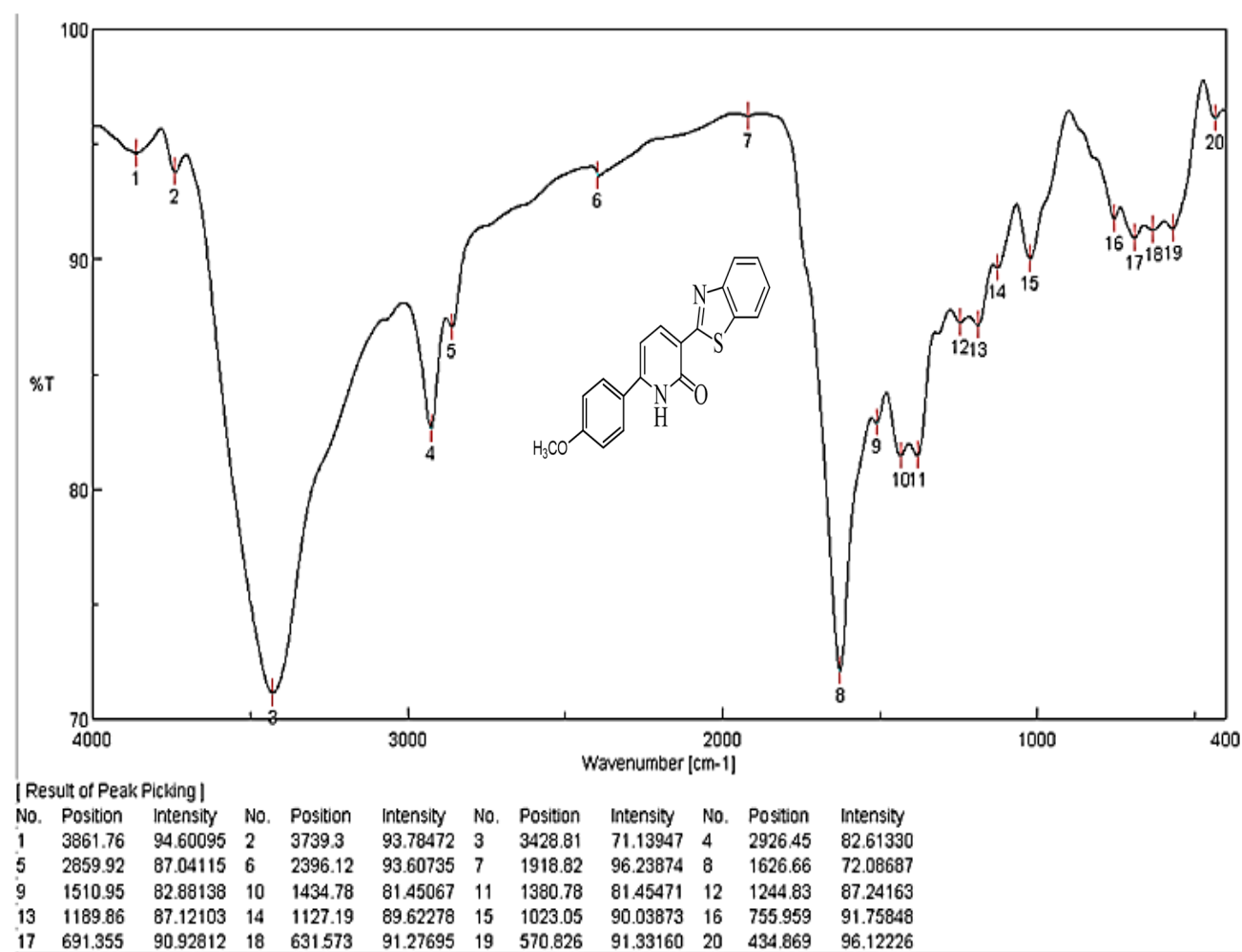


Figure S14. IR spectrum of compound 12c.



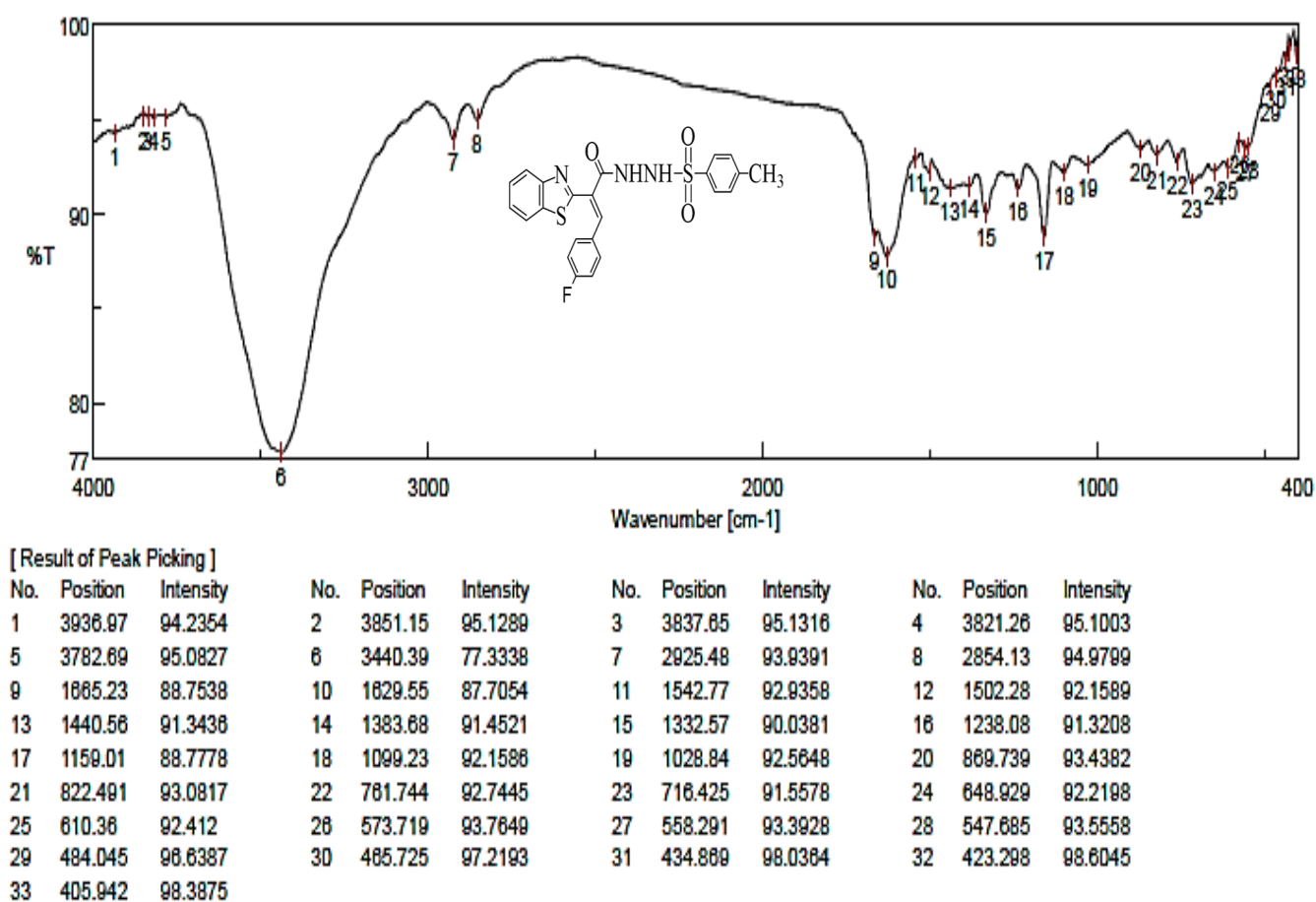


Figure S15. IR spectrum of compound 14a.



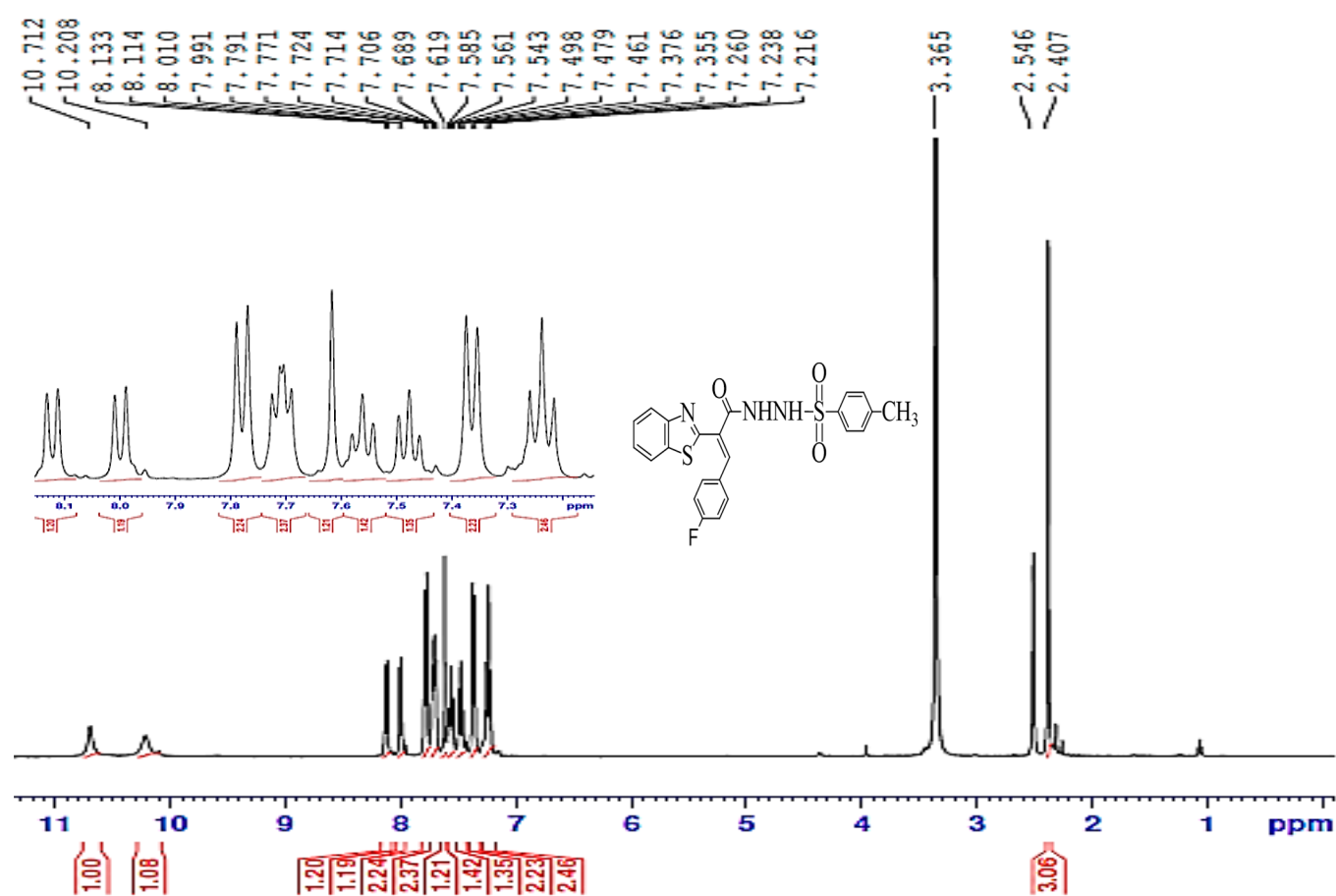


Figure 16. <sup>1</sup>H NMR spectrum of compound 14a.

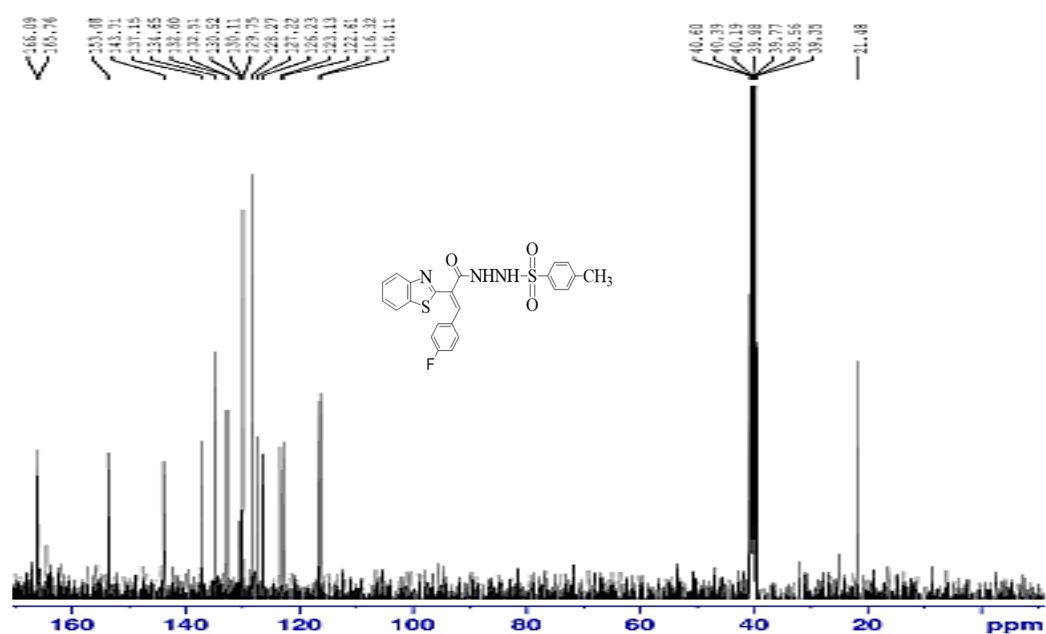


Figure S17. <sup>13</sup>C NMR spectrum of compound 14a.



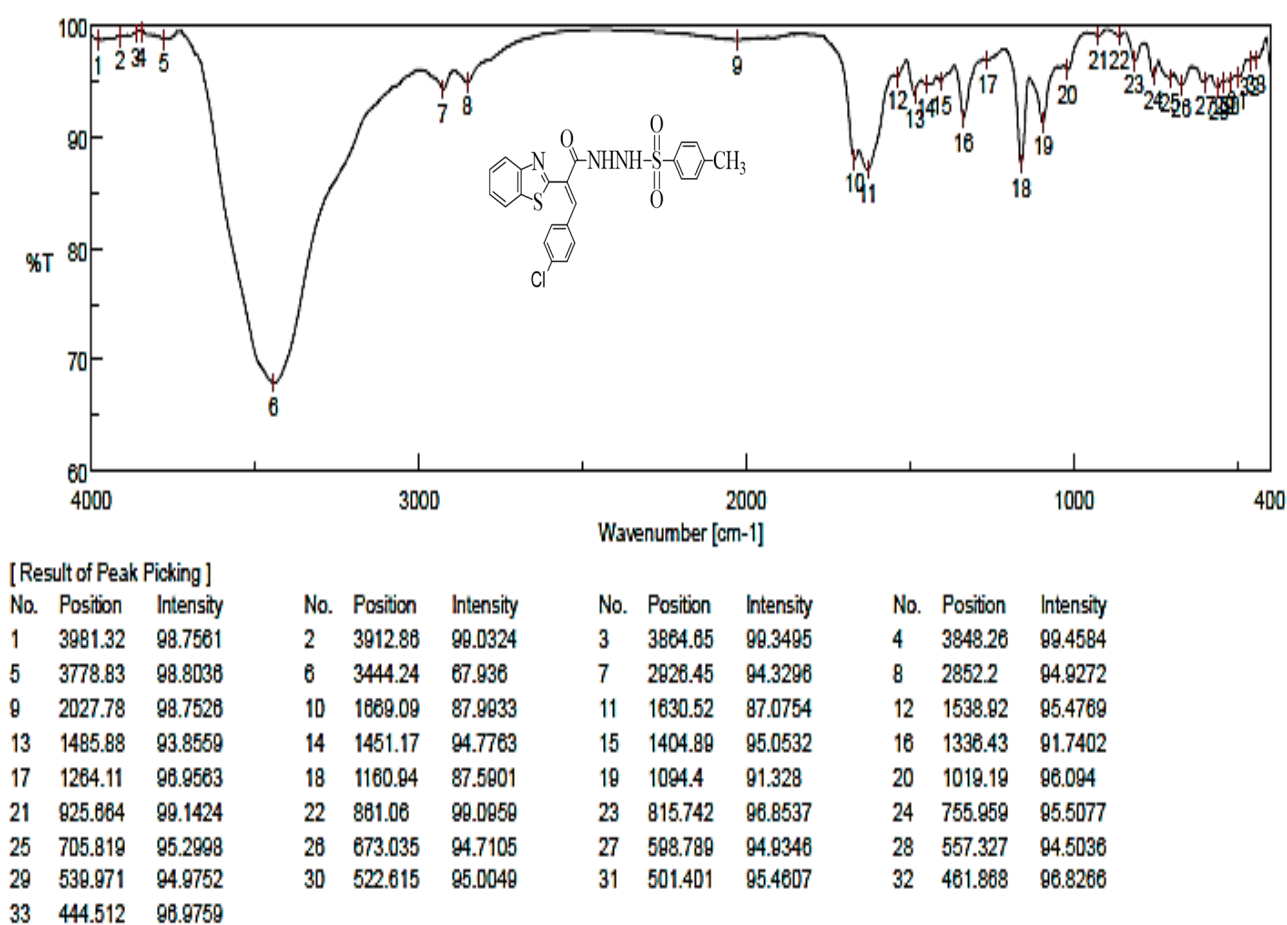


Figure S18. IR spectrum of compound 14b.



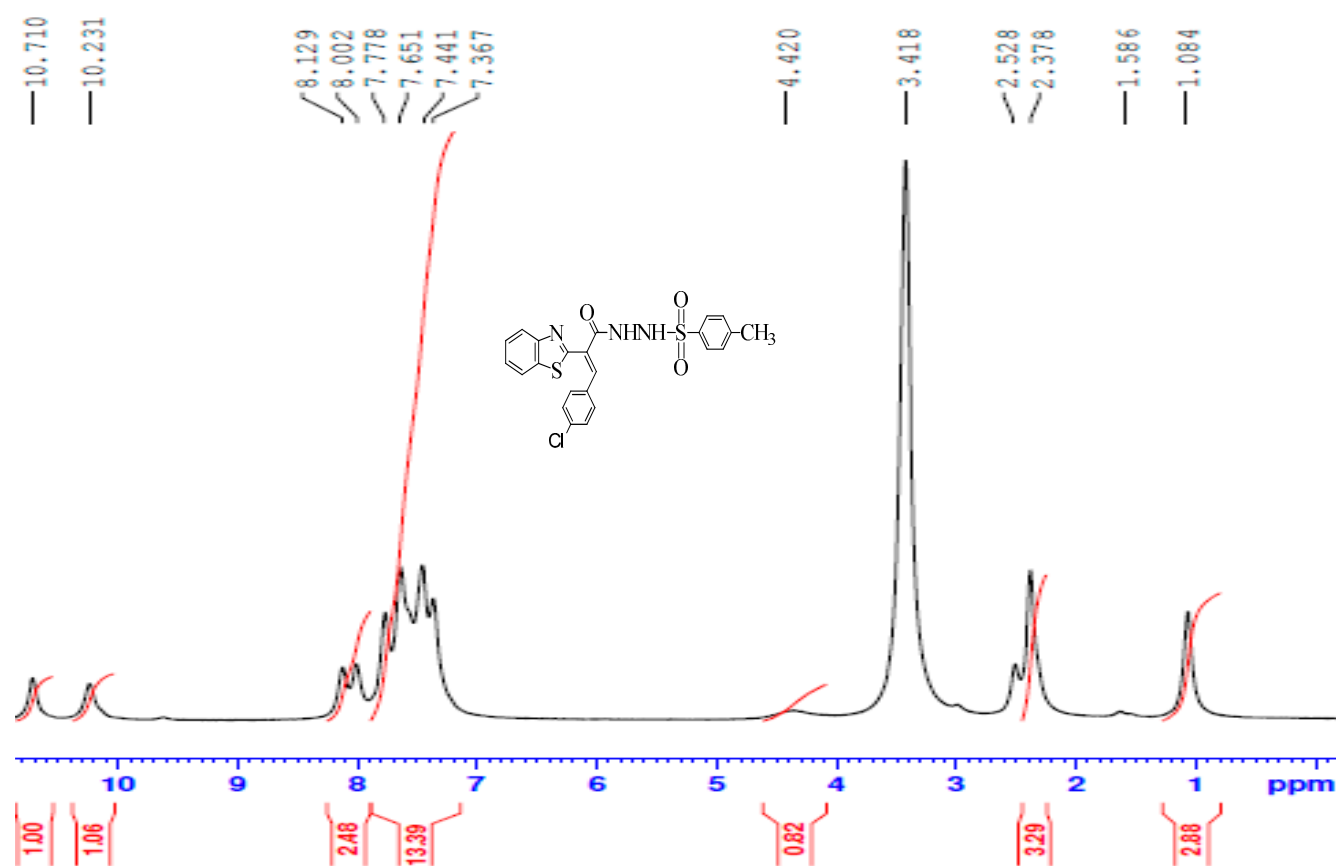


Figure S19.  $^1\text{H}$  NMR spectrum of compound 14b.



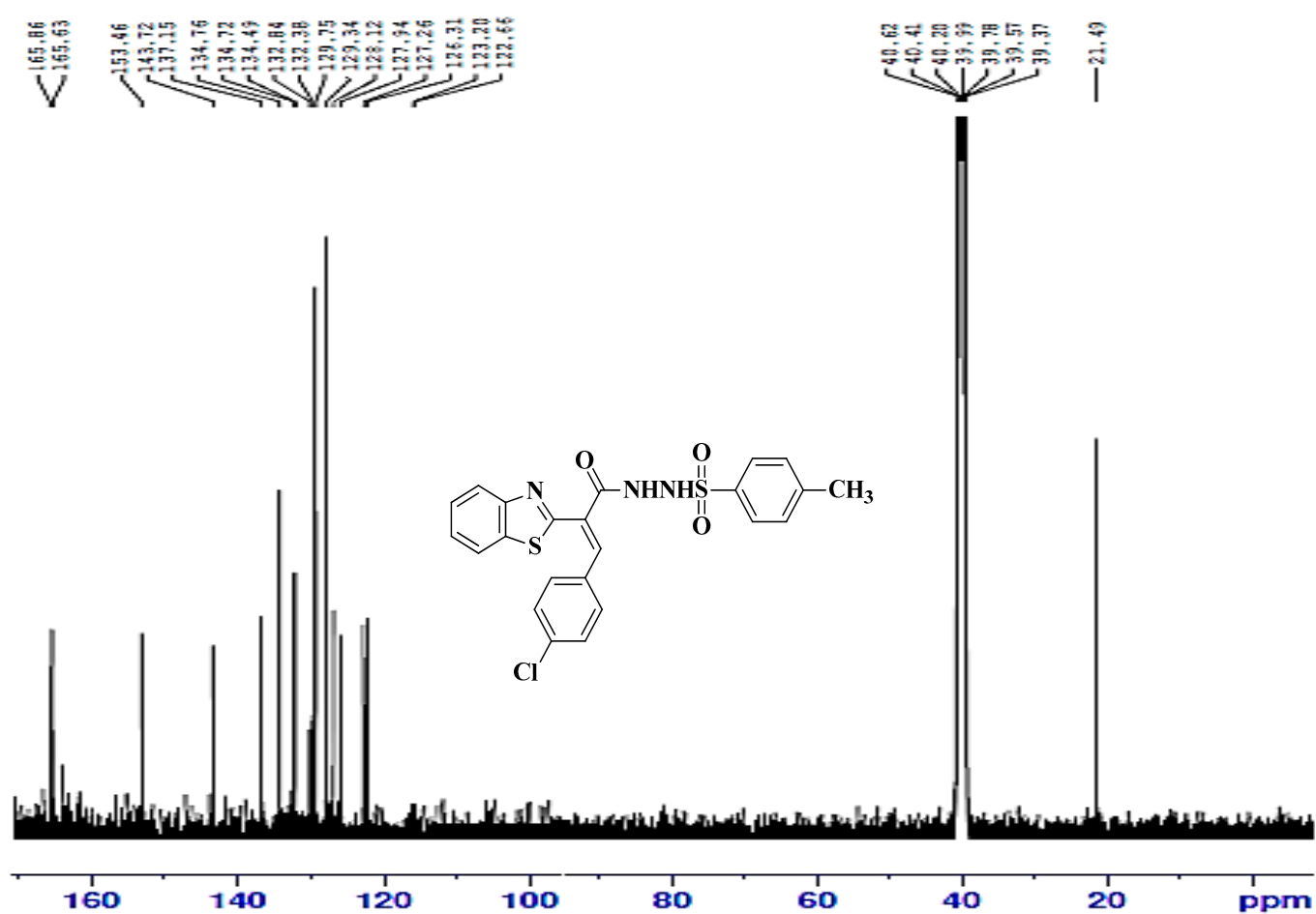


Figure S20. <sup>13</sup>C NMR spectrum of compound 14b.



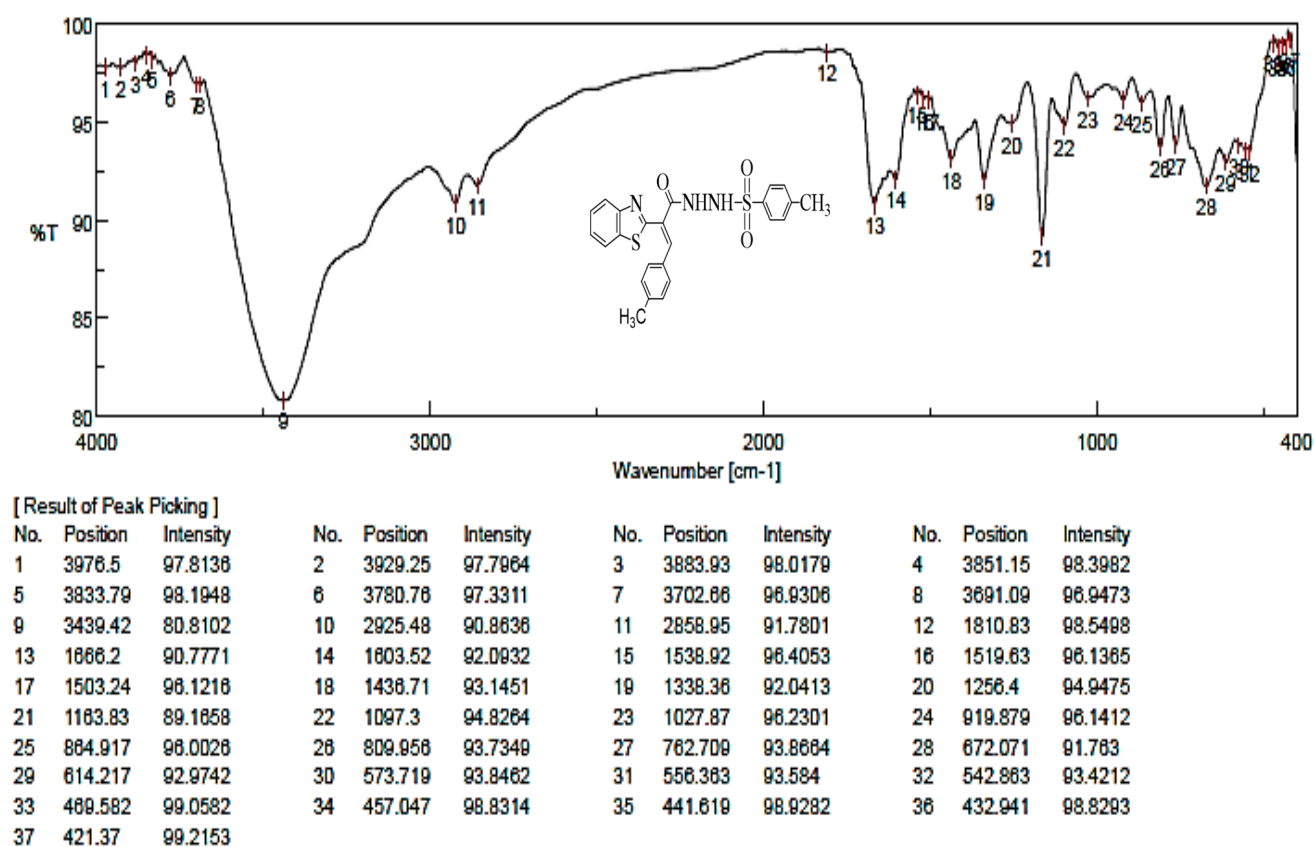


Figure S21. IR spectrum of compound 14c.



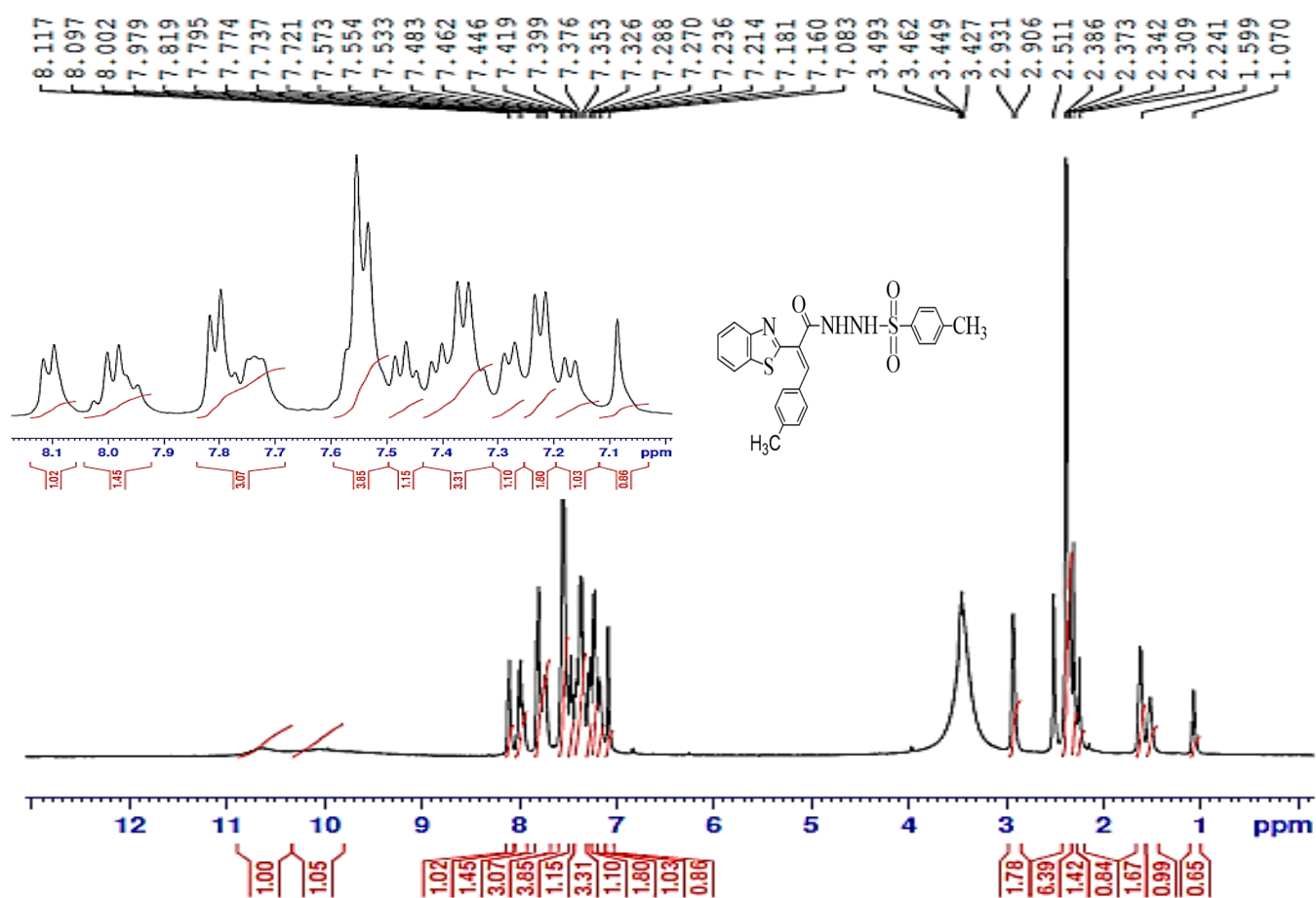


Figure S22.  $^1\text{H}$  NMR spectrum of compound 14c.



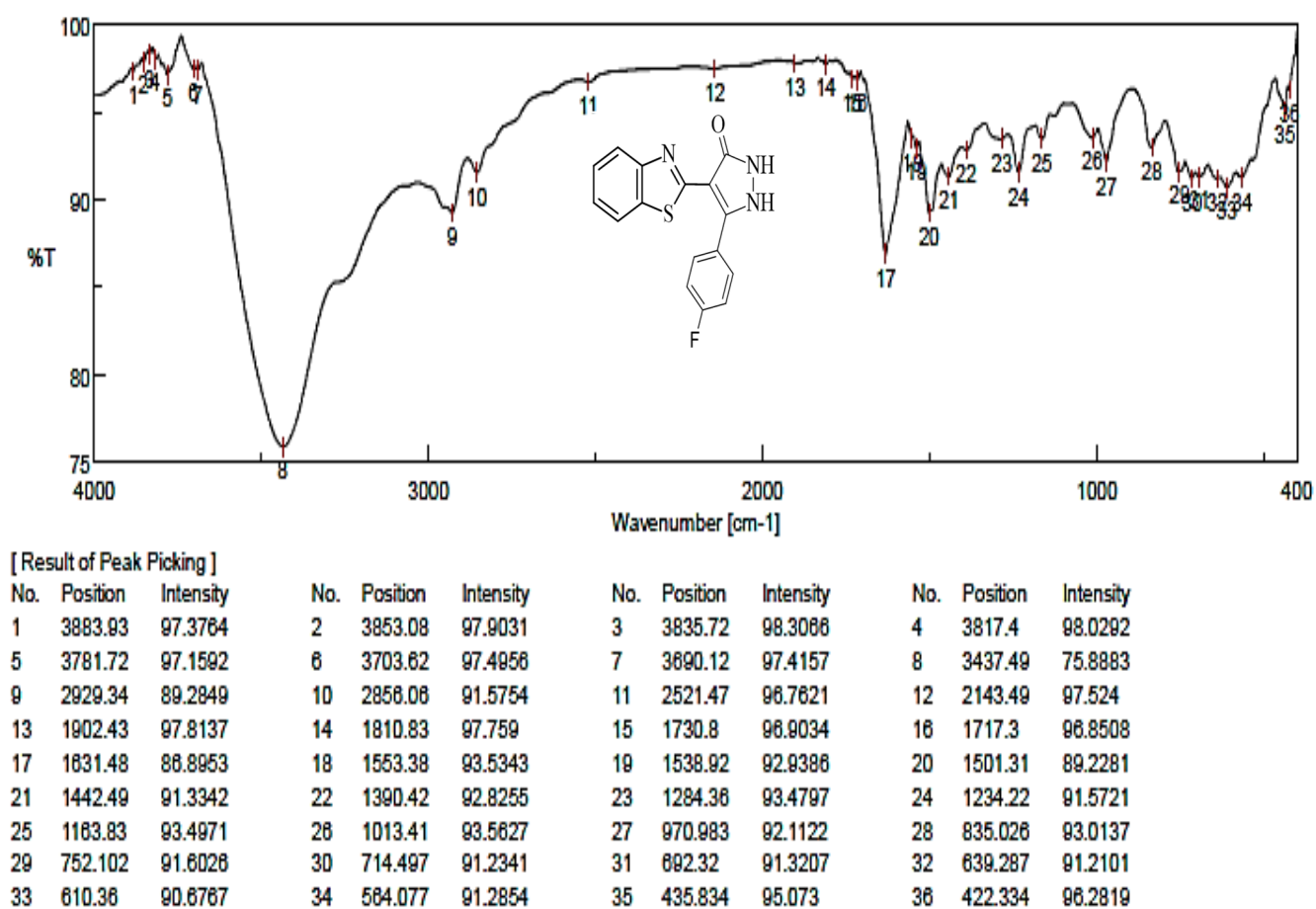


Figure S23. IR spectrum of compound 16a.



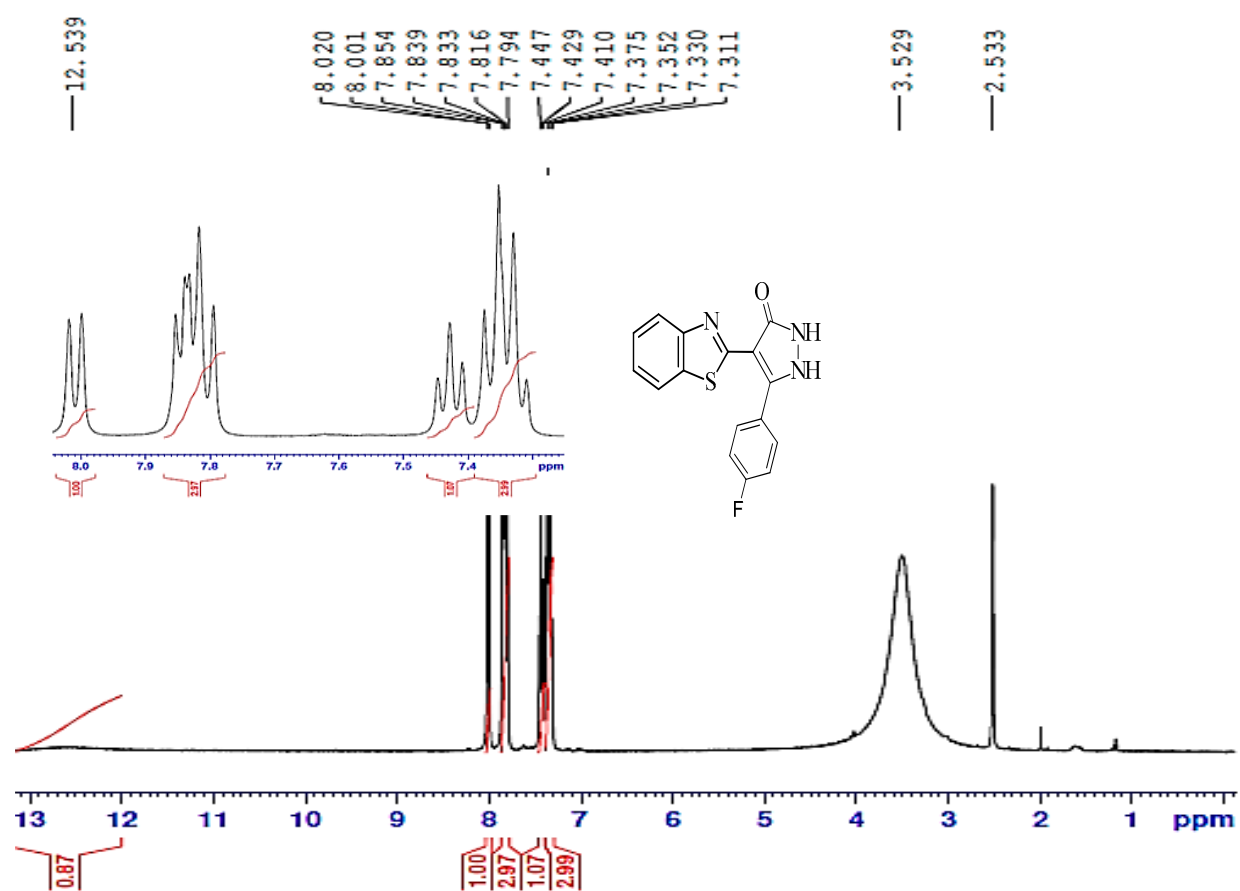


Figure S24.  $^1\text{H}$  NMR spectrum of compound 16a.



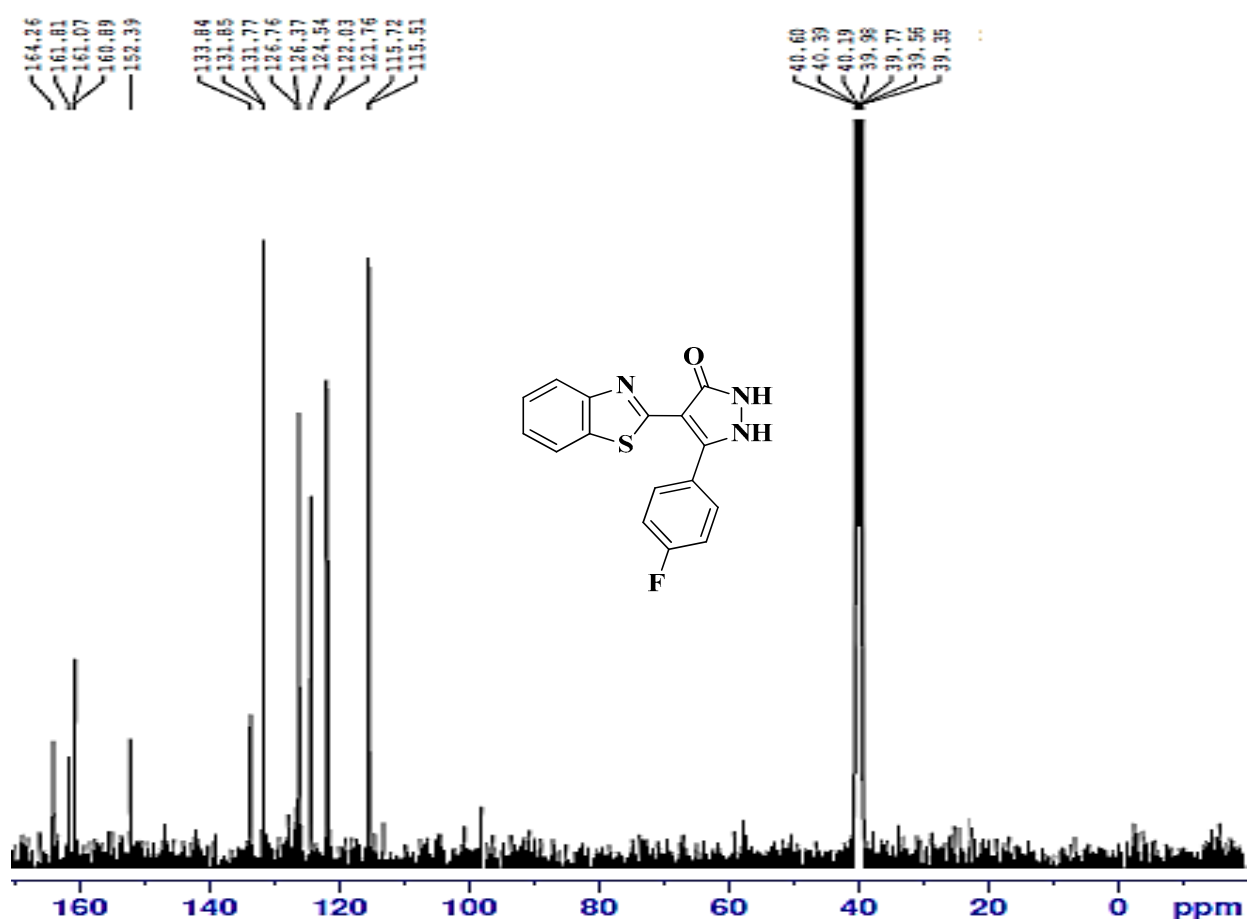
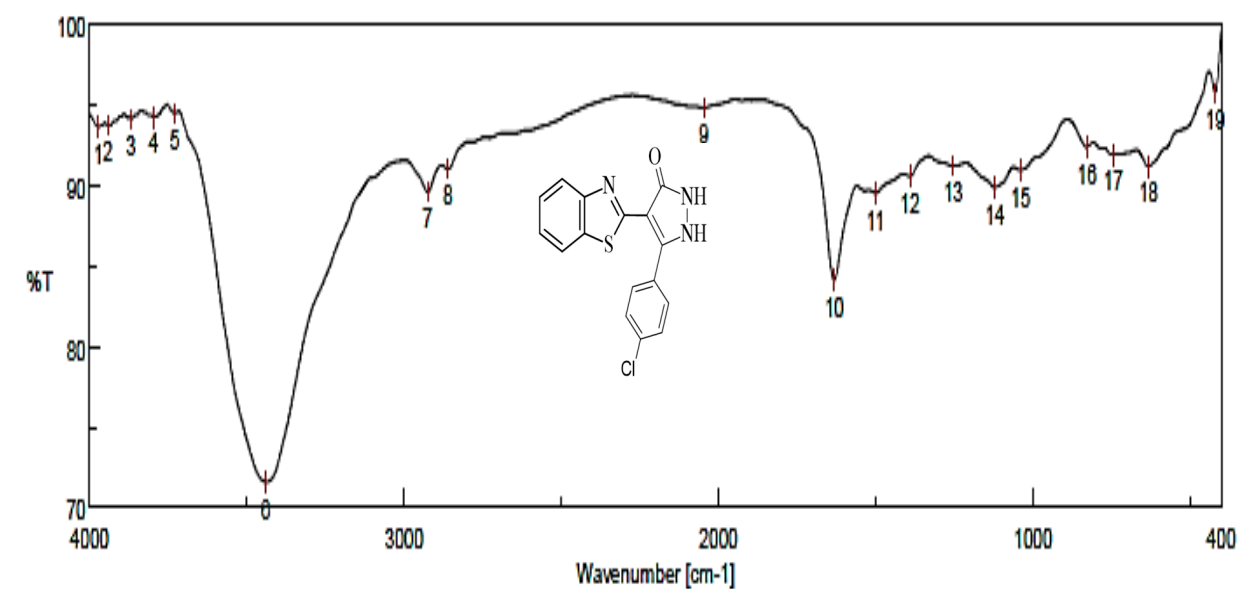


Figure S25.  $^{13}\text{C}$  NMR spectrum of compound 16a.





[ Result of Peak Picking ]

No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity
1	3972.64	93.6656	2	3041.79	93.8	3	3868.5	94.1651	4	3796.19	94.2498
5	3730.62	94.4921	6	3439.42	71.5424	7	2924.52	89.6097	8	2880.88	91.0454
9	2046.1	94.8877	10	1831.48	84.1206	11	1500.35	89.5484	12	1391.39	90.6189
13	1253.5	91.2511	14	1121.4	89.8957	15	1038.48	90.9876	16	828.277	92.3982
17	744.388	91.9158	18	631.573	91.2104	19	419.442	95.7847			

Figure S26. IR spectrum of compound 16b.



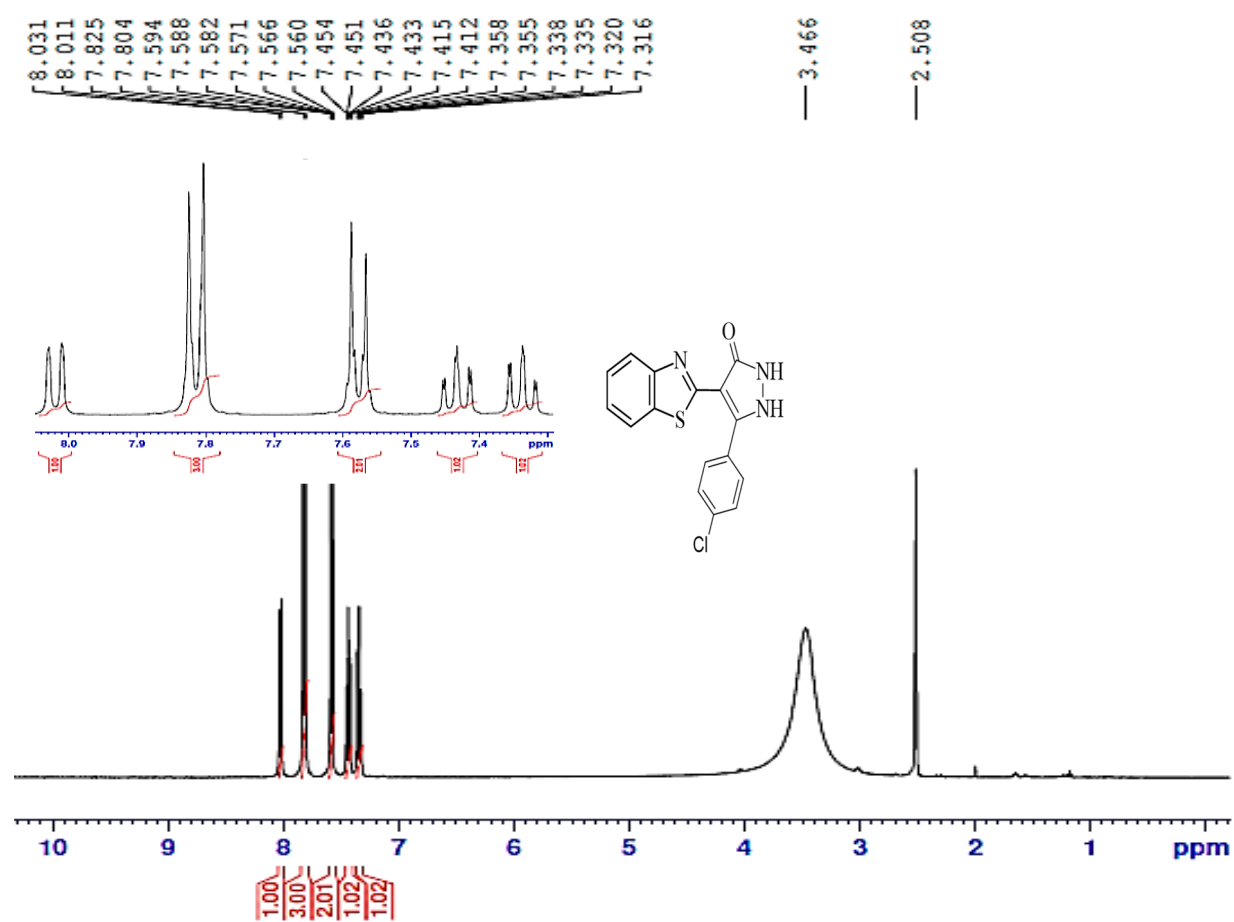


Figure S27.  $^1\text{H}$  NMR spectrum of compound **16b**.

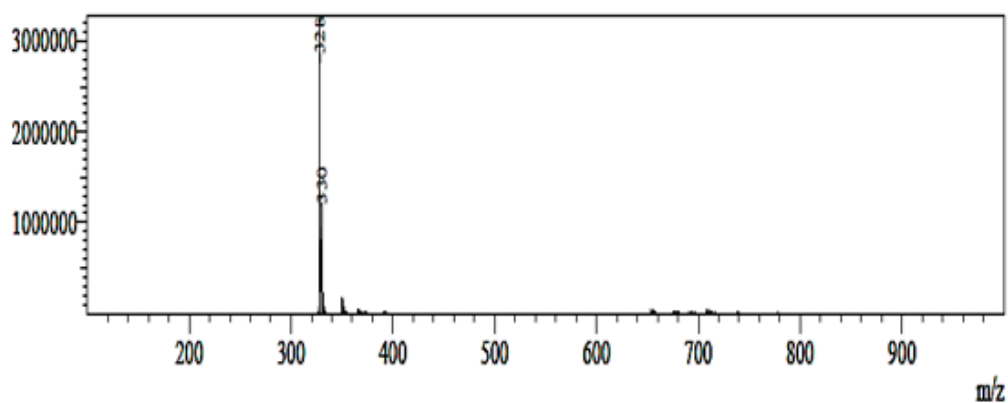


1?---Line#1 R.Time:---(Scan#:---)

MassPeaks:4

Spectrum Mode:Averaged 13.89-13.94(1183-1187) Base Peak:328(3277973)

BG Mode:Calc Segment 1 - Event 1



3?---Line#3 R.Time:---(Scan#:---)

MassPeaks:5

Spectrum Mode:Averaged 13.93-13.98(1186-1190) Base Peak:326(5242383)

BG Mode:Calc Segment 1 - Event 2

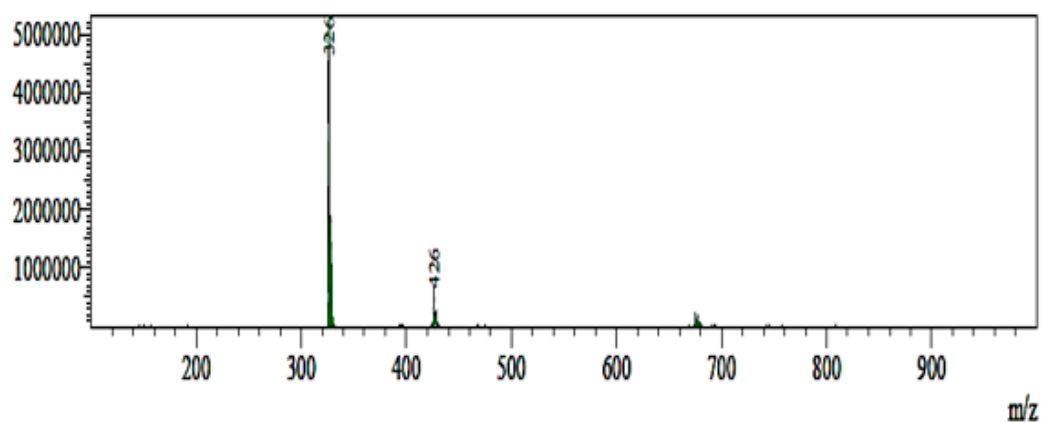


Figure S28. LC-Mass spectrum of compound 16b.



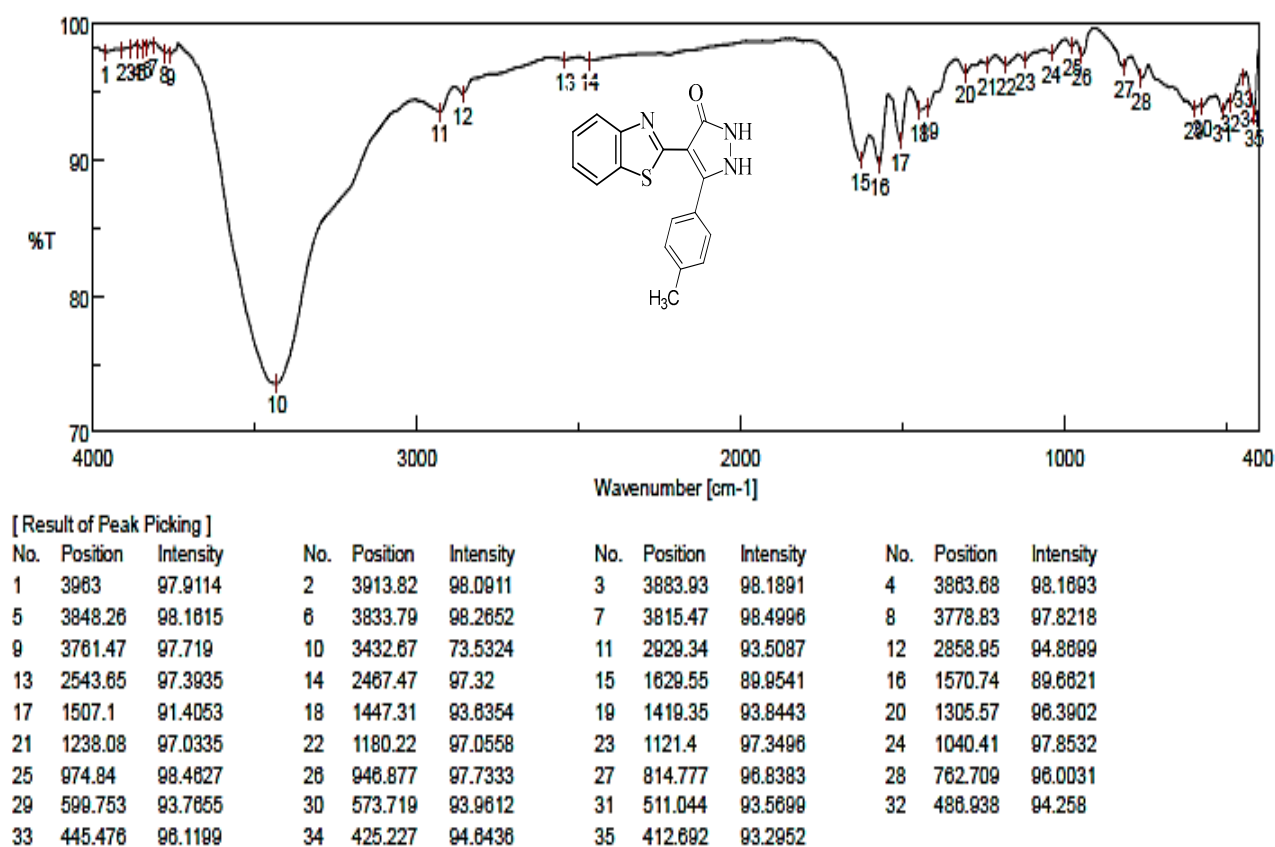
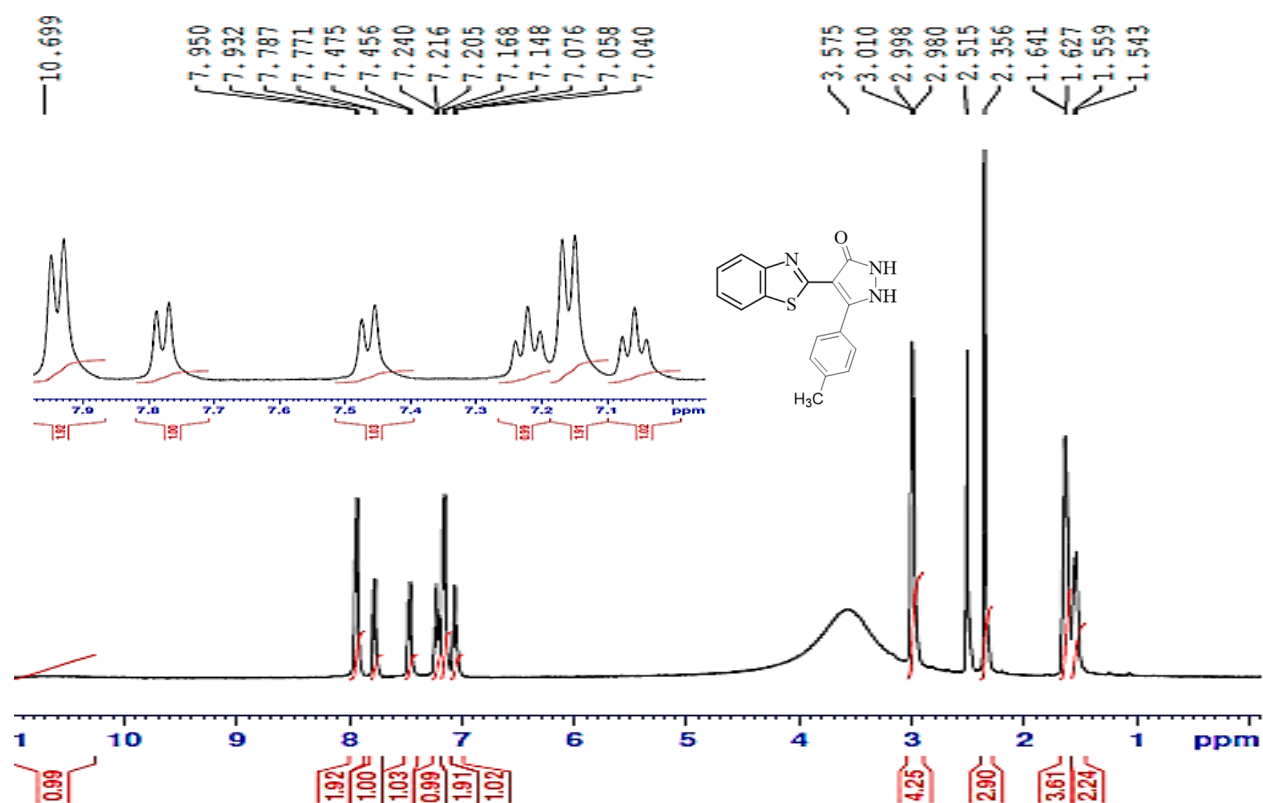


Figure S29. IR spectrum of compound 16c.

Figure S30.  $^1\text{H}$  NMR spectrum of compound 16c.



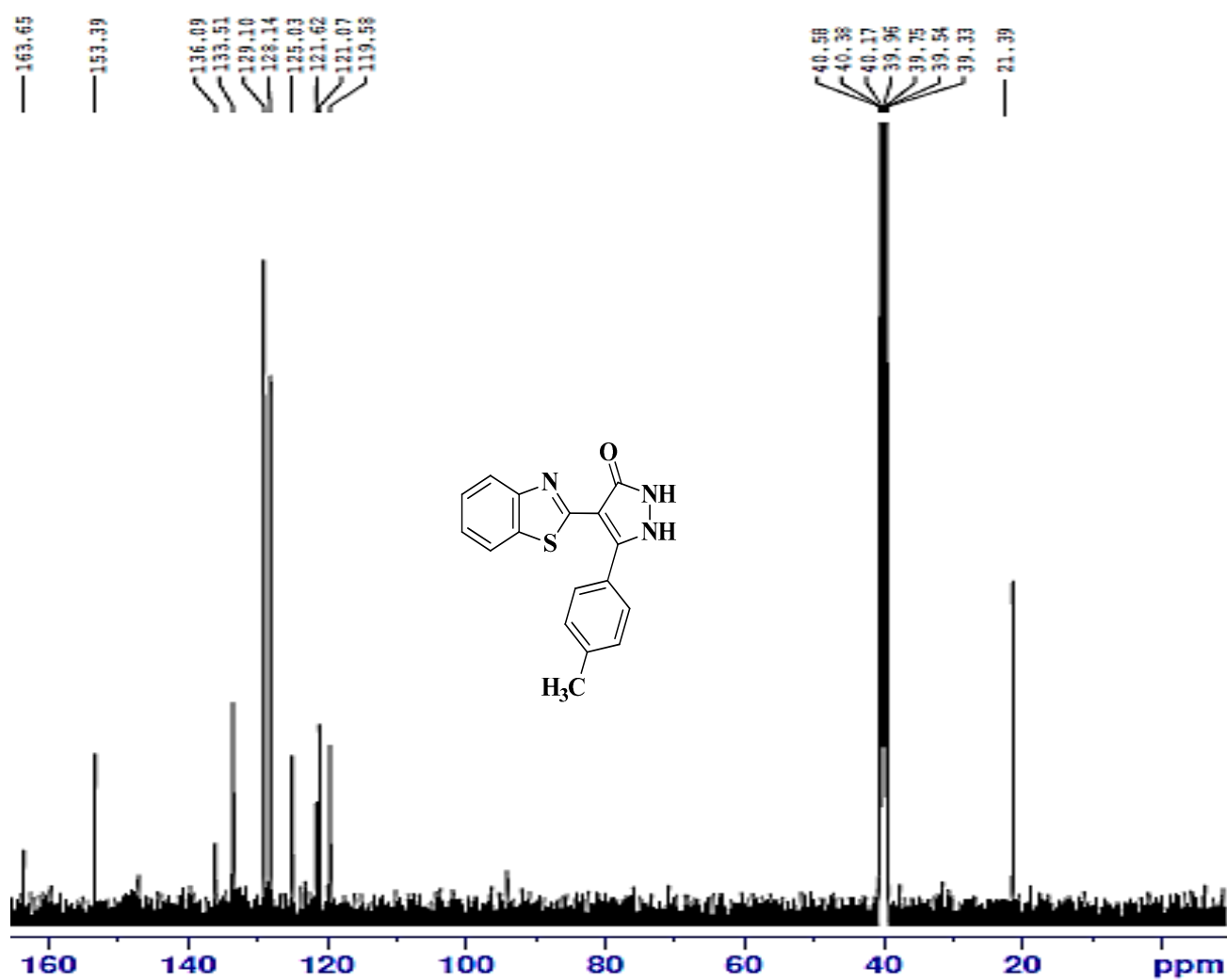


Figure S31.  $^{13}\text{C}$  NMR spectrum of compound 16c.



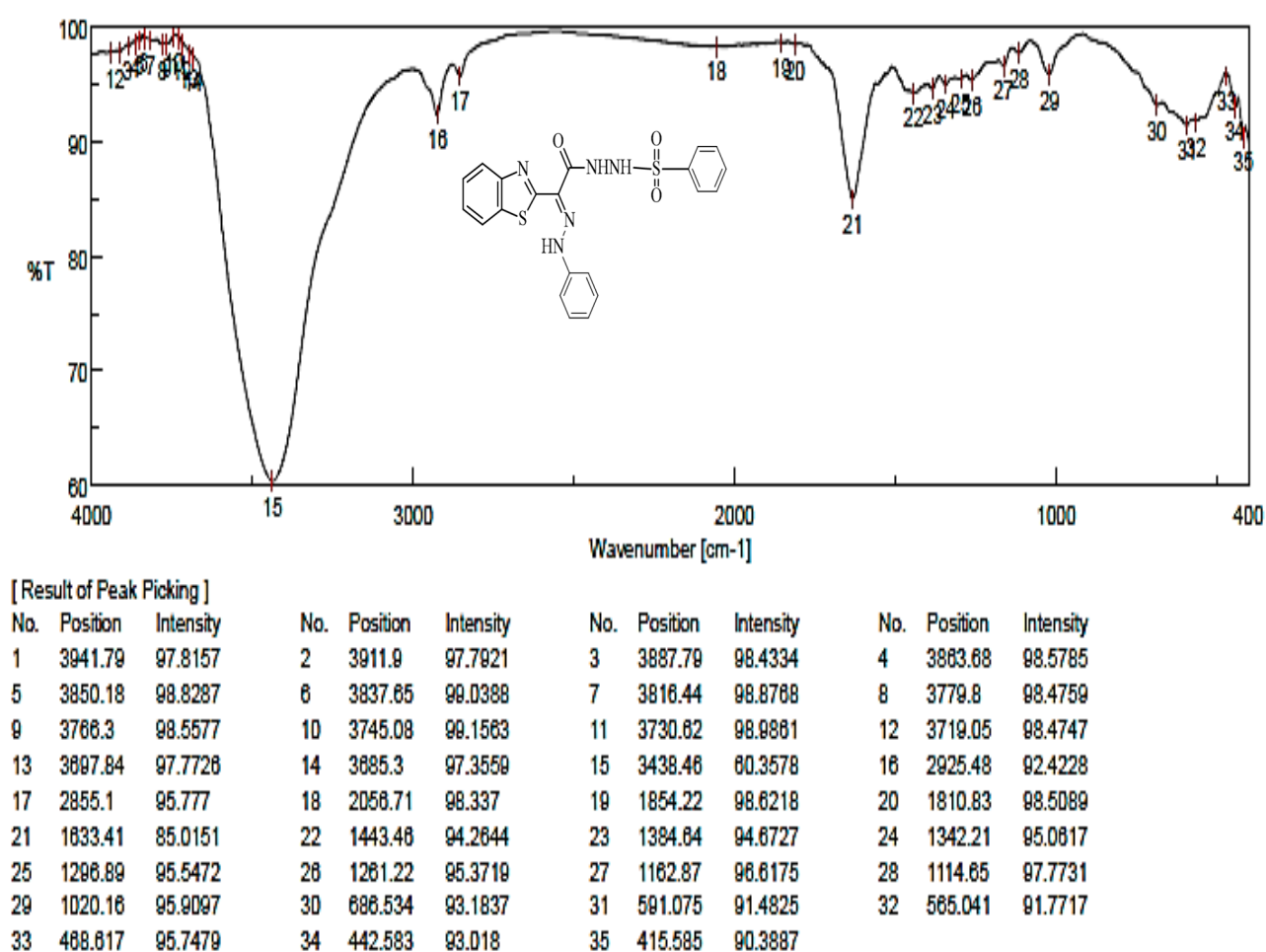


Figure S32. IR spectrum of compound 19a.



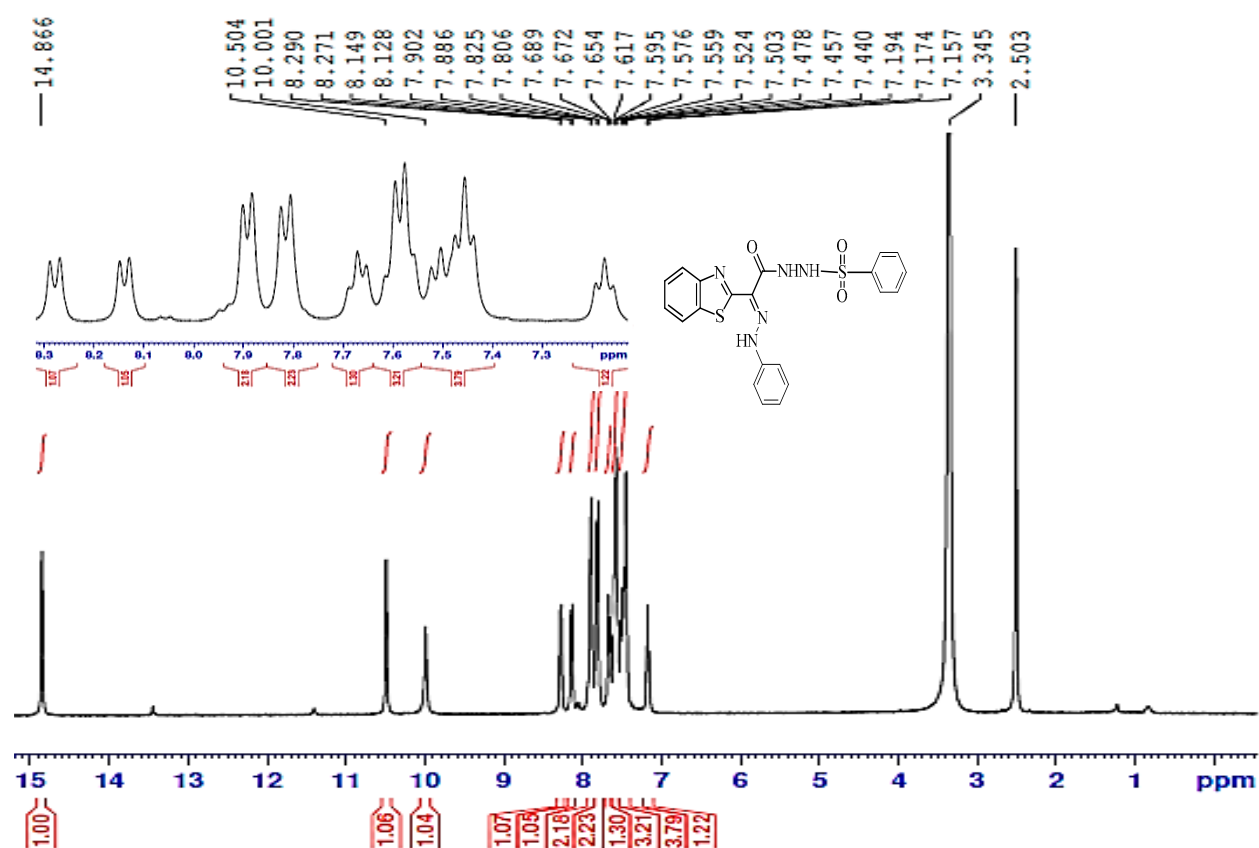


Figure S33. <sup>1</sup>H NMR spectrum of compound 19a.



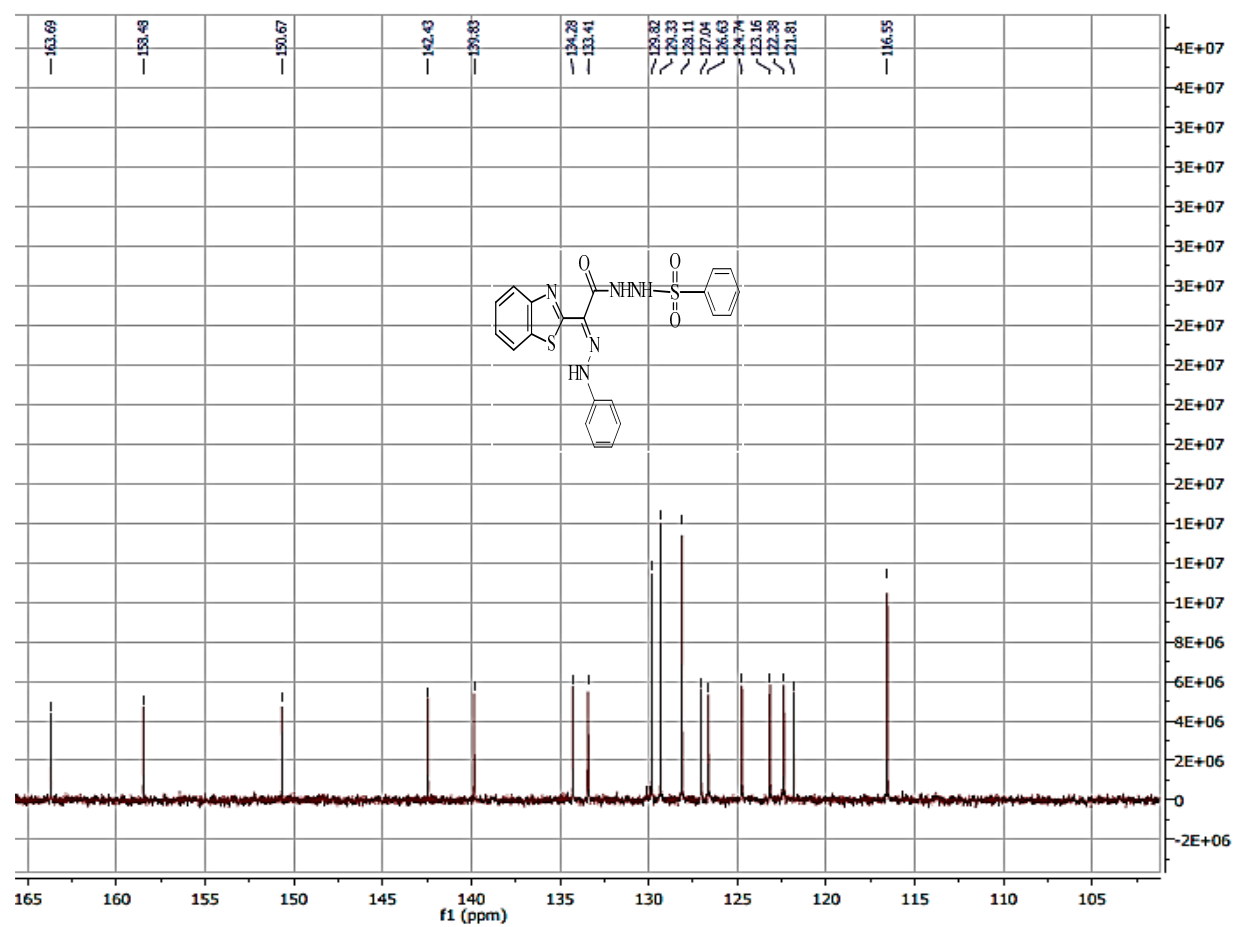


Figure S34.  $^{13}\text{C}$  NMR spectrum of compound 19a.



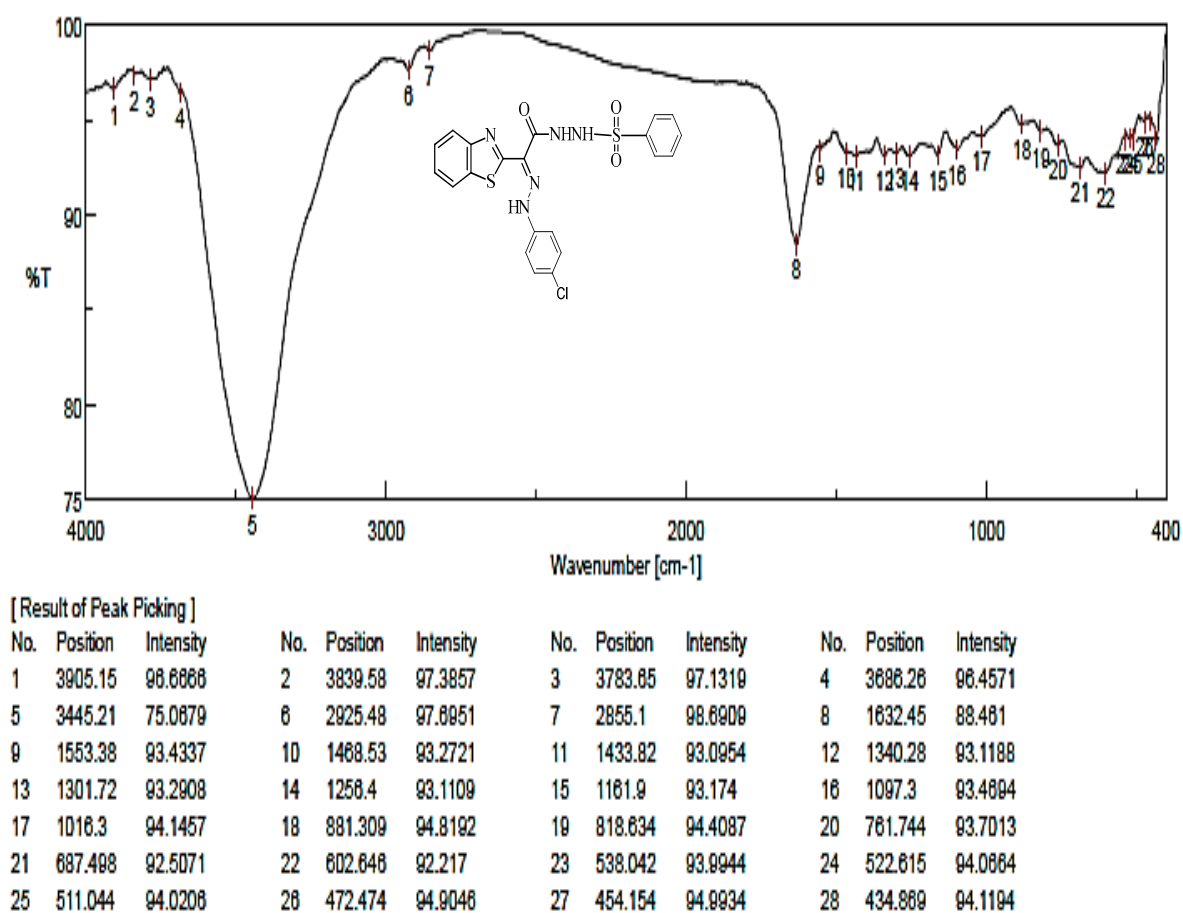


Figure S35. IR spectrum of compound 19b.



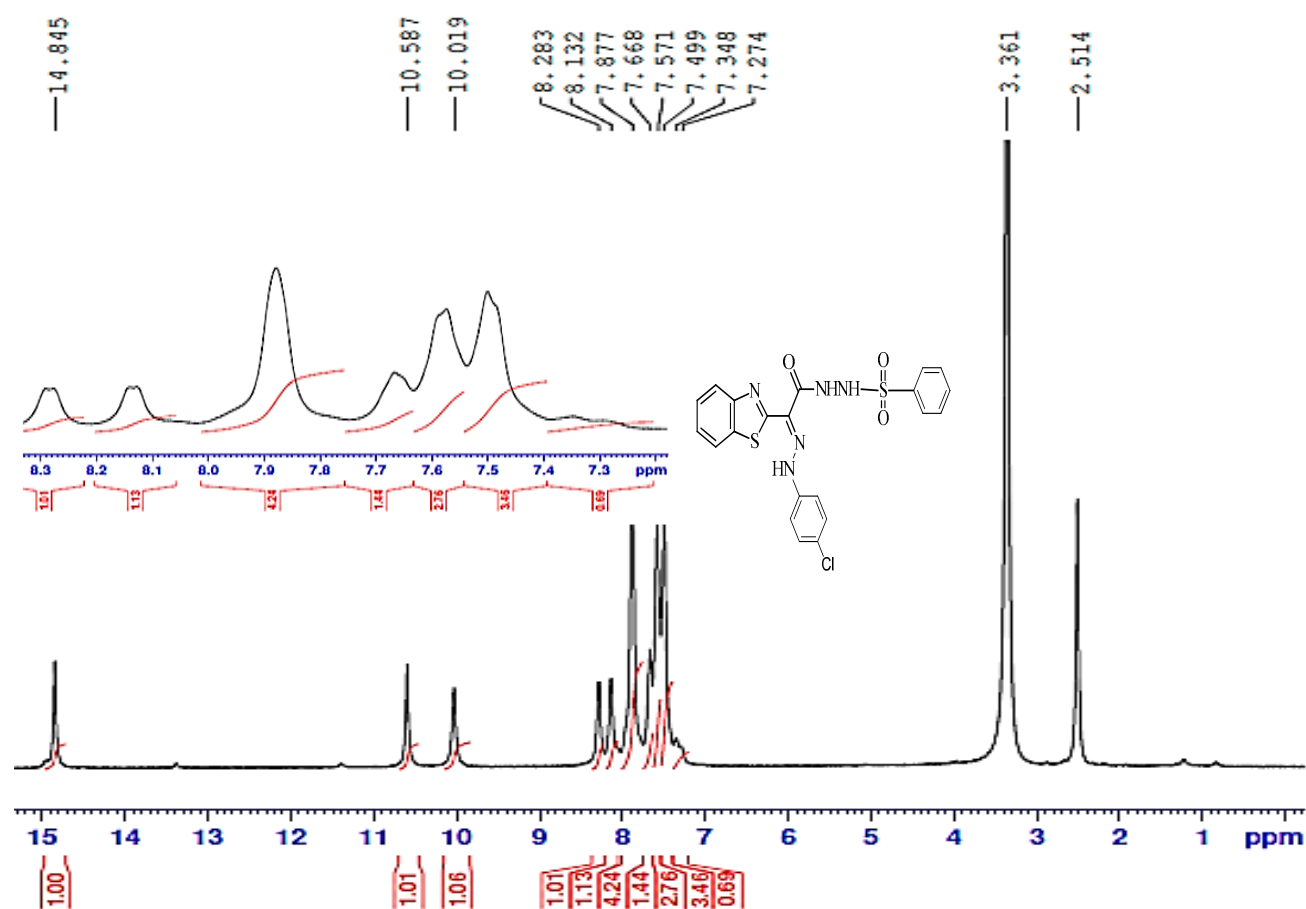


Figure S36.  $^1\text{H}$  NMR spectrum of compound **19b**.



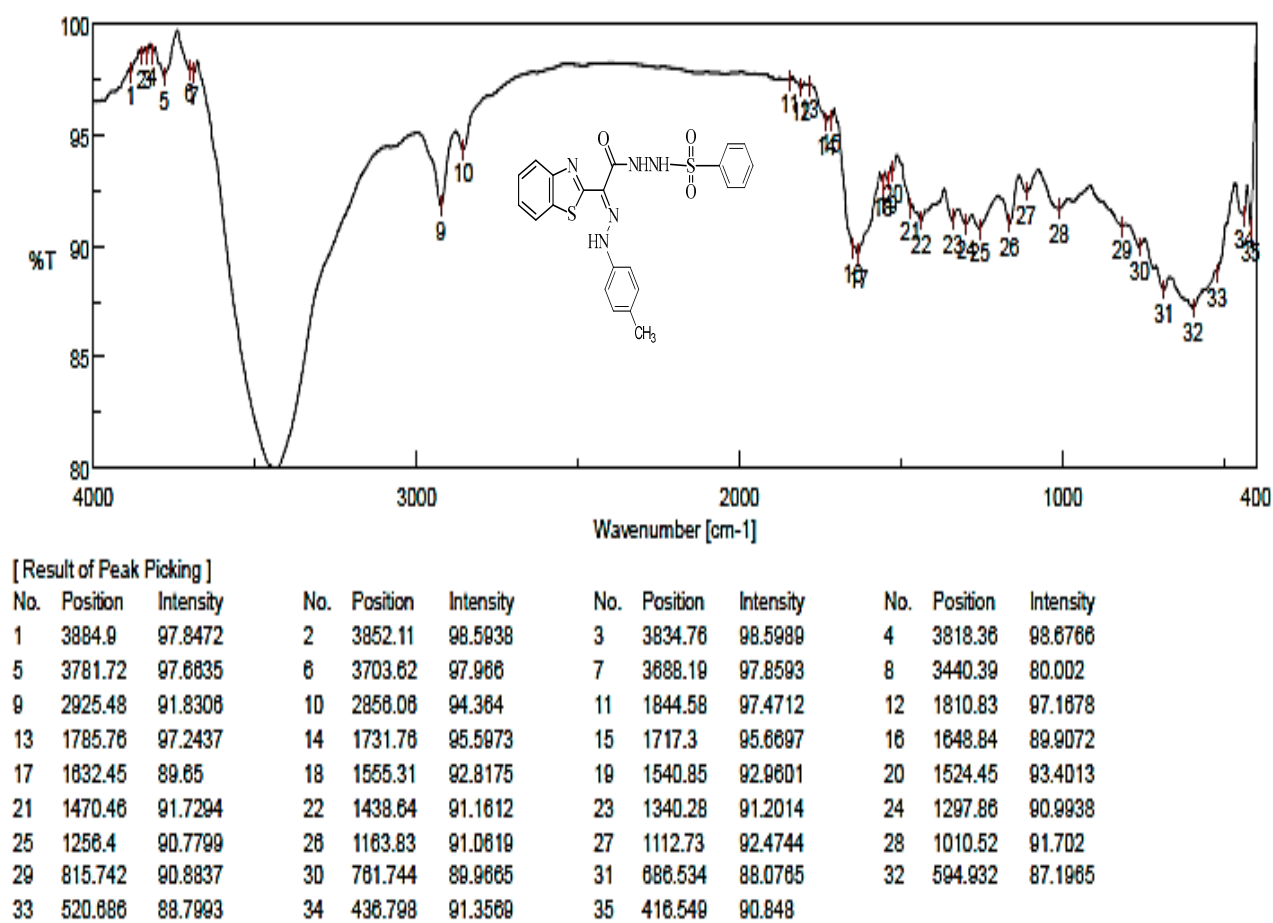


Figure S37. IR spectrum of compound 19c.



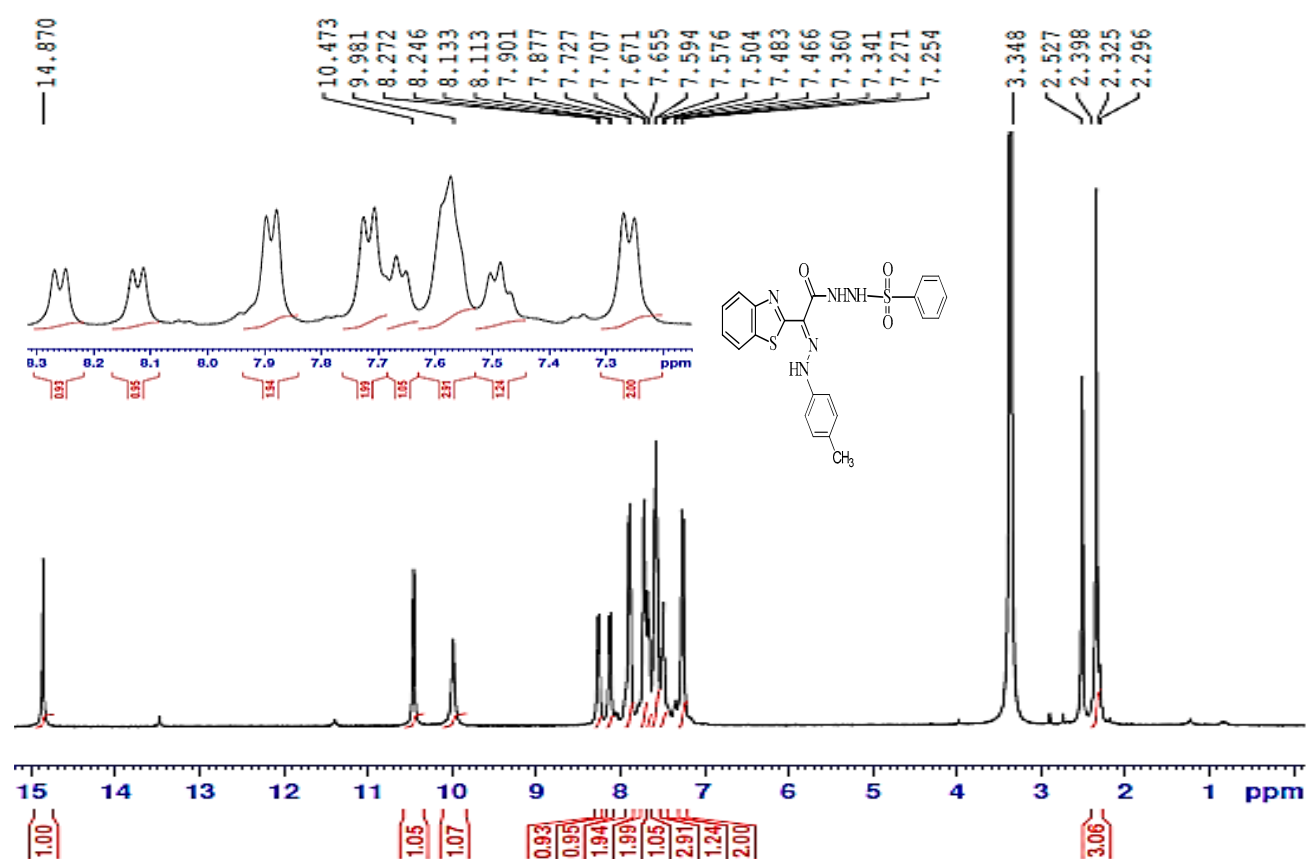
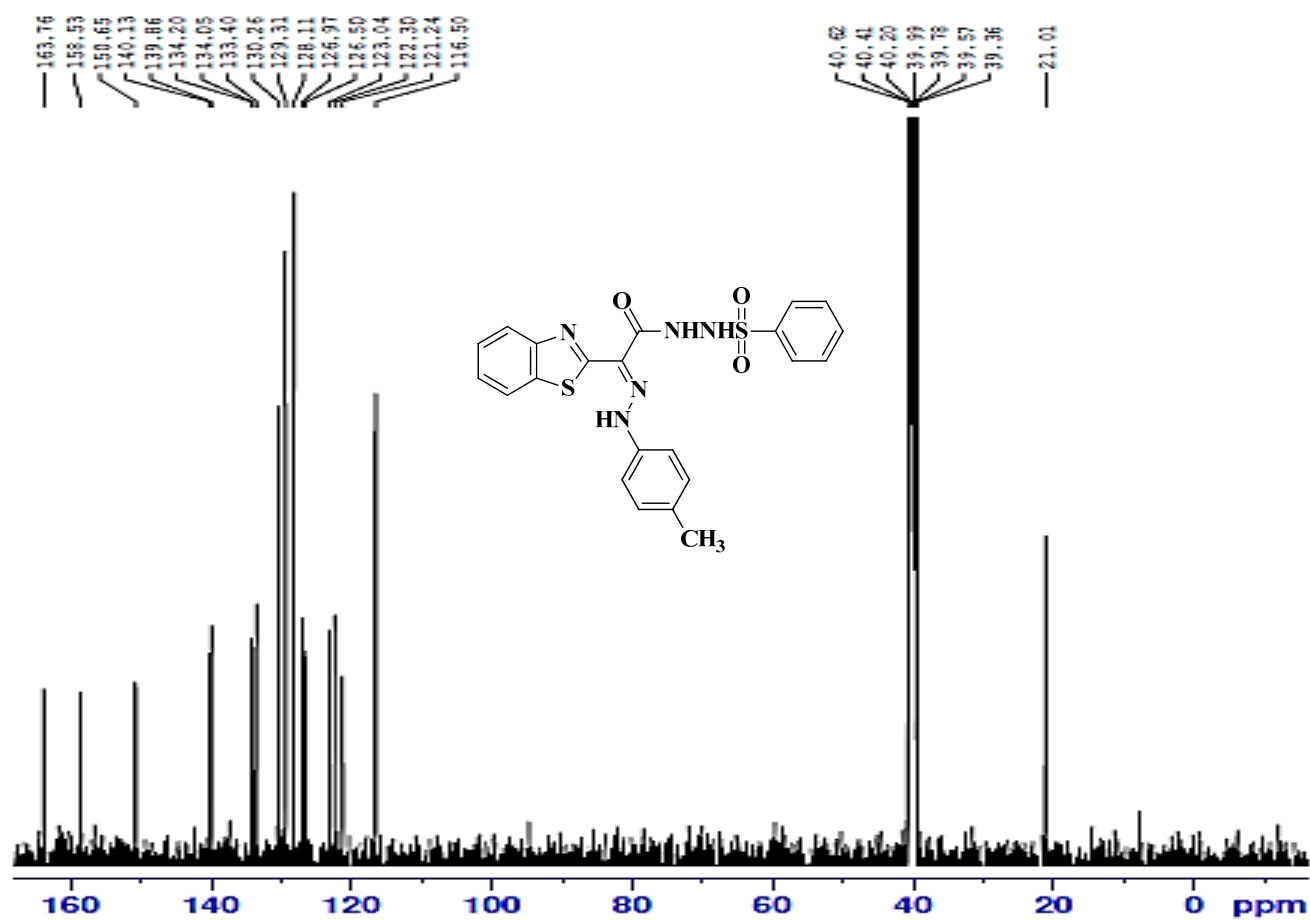


Figure S38. <sup>1</sup>H NMR spectrum of compound 19c.



Figure S39. <sup>13</sup>C NMR spectrum of compound 19c.



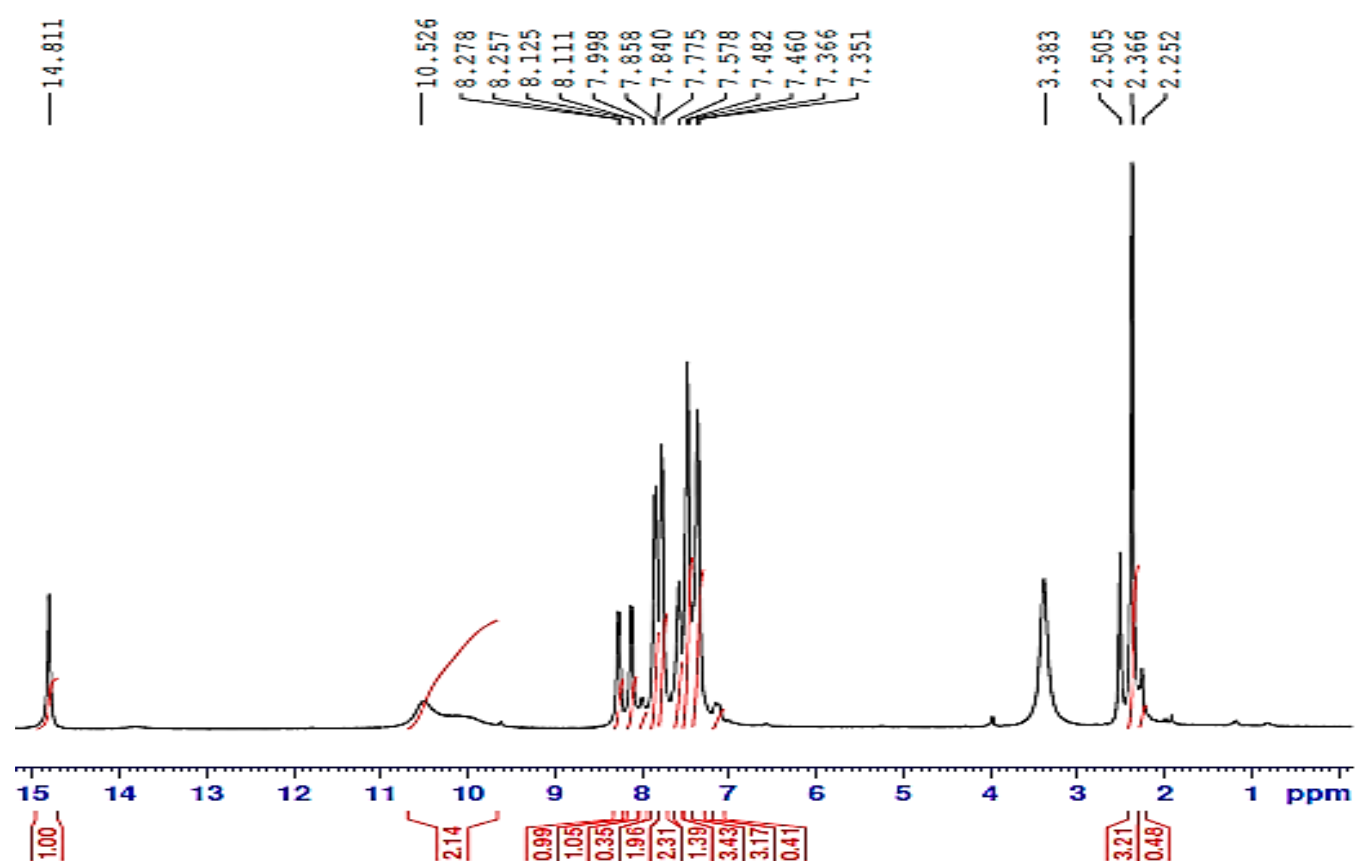
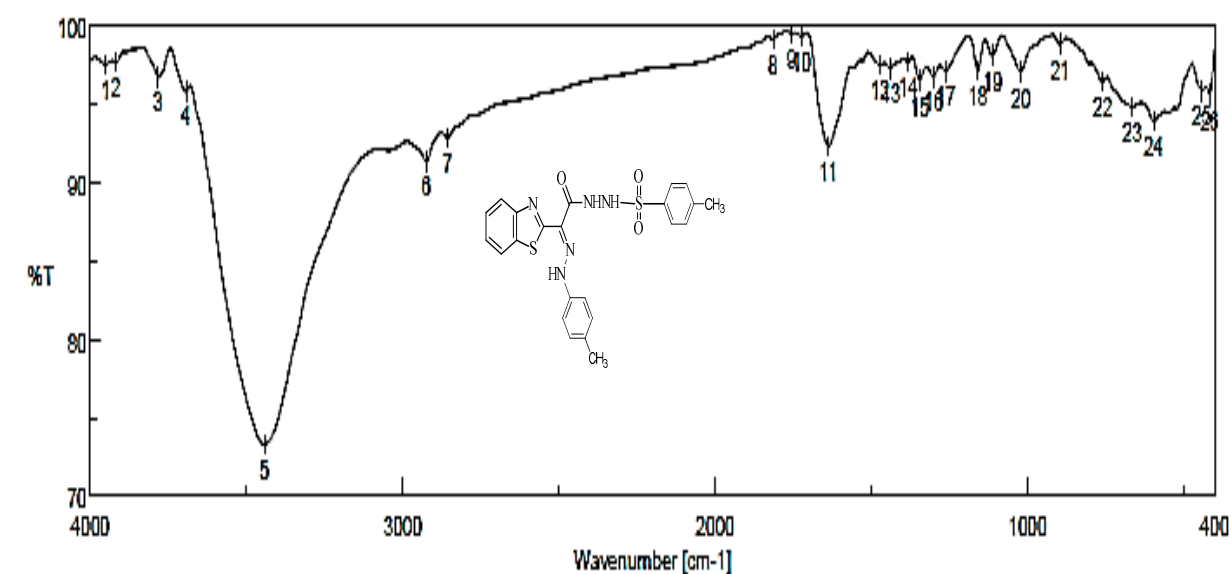


Figure S40.  $^1\text{H}$  NMR spectrum of compound 19d.





## [ Result of Peak Picking ]

No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity	No.	Position	Intensity
1	3950.48	97.5827	2	3917.68	97.7104	3	3782.89	98.7587	4	3693.98	95.8465
5	3442.31	73.2688	6	2924.52	91.3447	7	2858.08	92.8915	8	1813.72	99.1886
9	1753.94	99.5306	10	1723.09	98.3882	11	1636.3	92.3175	12	1472.38	97.539
13	1438.64	97.3152	14	1381.75	97.736	15	1345.11	98.5719	16	1300.75	98.784
17	1261.22	97.1375	18	1159.01	97.1938	19	1111.78	98.1311	20	1021.12	97.1048
21	894.809	98.8631	22	758.852	98.4637	23	684.357	94.8005	24	594.932	93.9454
25	441.619	95.8784	26	416.549	95.6441						

Figure S41. IR spectrum of compound 19e.



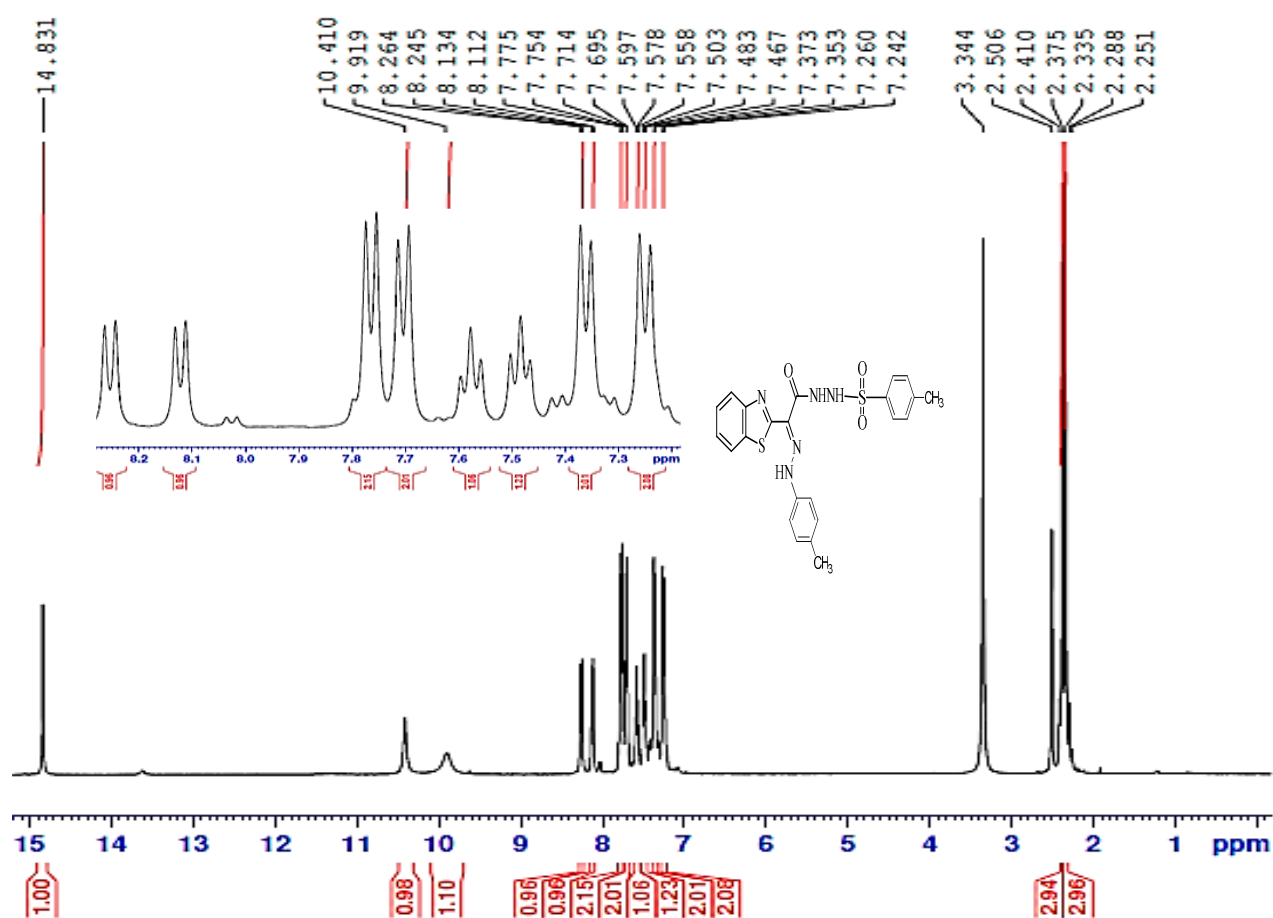


Figure S42.  $^1\text{H}$  NMR spectrum of compound 19e.