

# Supporting Information

## Facile sodium metabisulfite mediated synthesis of 1,2-disubstituted benzimidazoles and cytotoxicity evaluation

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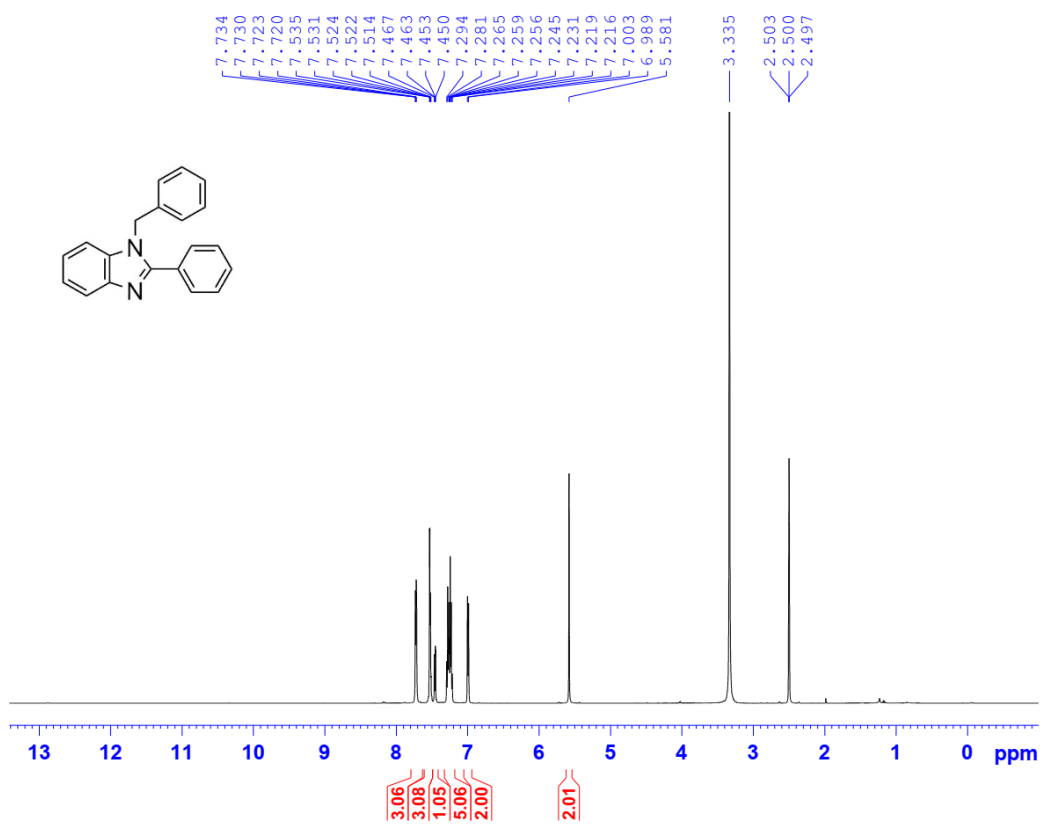


Figure S1. <sup>1</sup>H-NMR of compound 4a in DMSO-*d*<sub>6</sub>

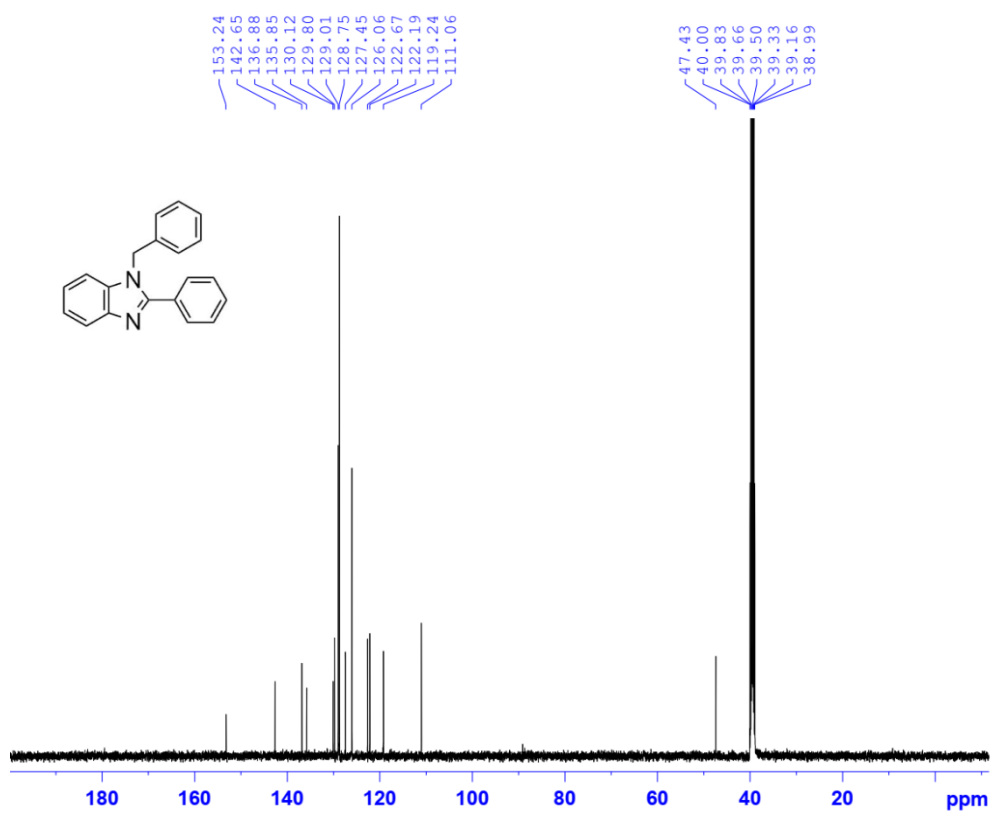


Figure S2. <sup>13</sup>C-NMR of compound 4a in DMSO-*d*<sub>6</sub>

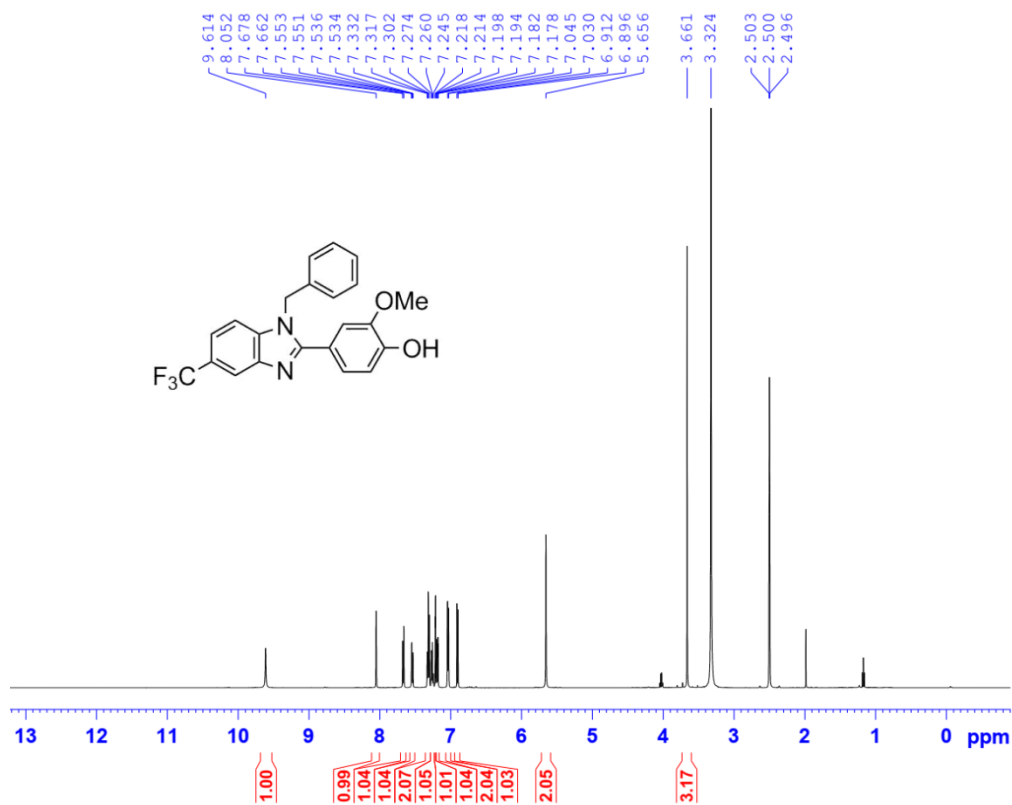


Figure S3. <sup>1</sup>H-NMR of compound **4b** in DMSO-*d*<sub>6</sub>

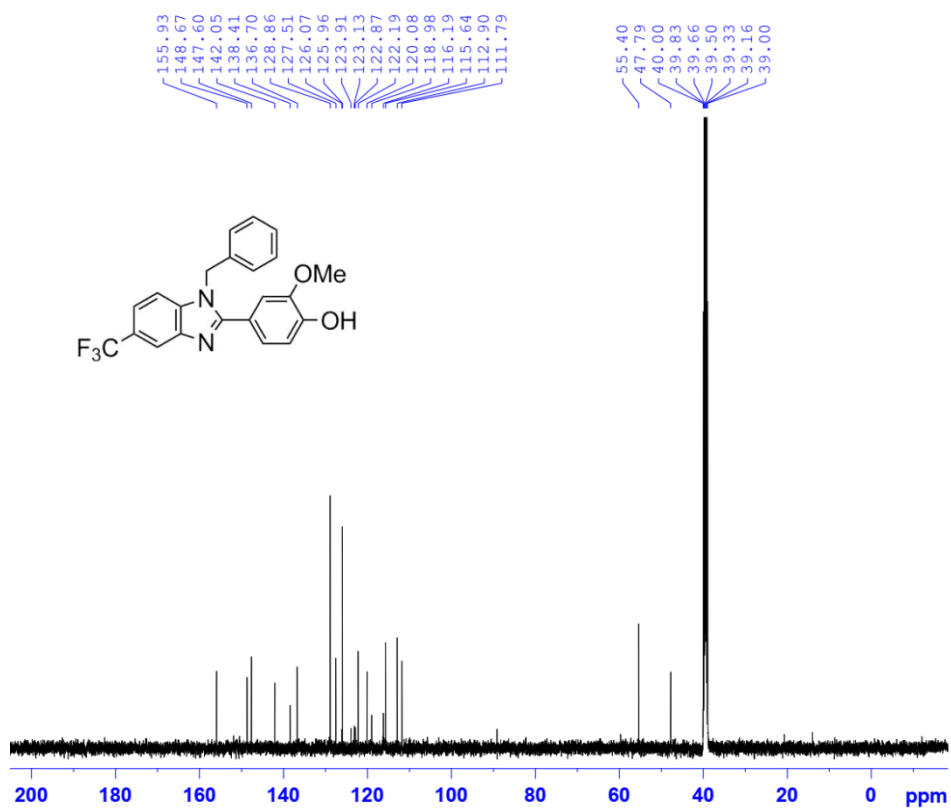


Figure S4. <sup>13</sup>C-NMR of compound **4b** in DMSO-*d*<sub>6</sub>

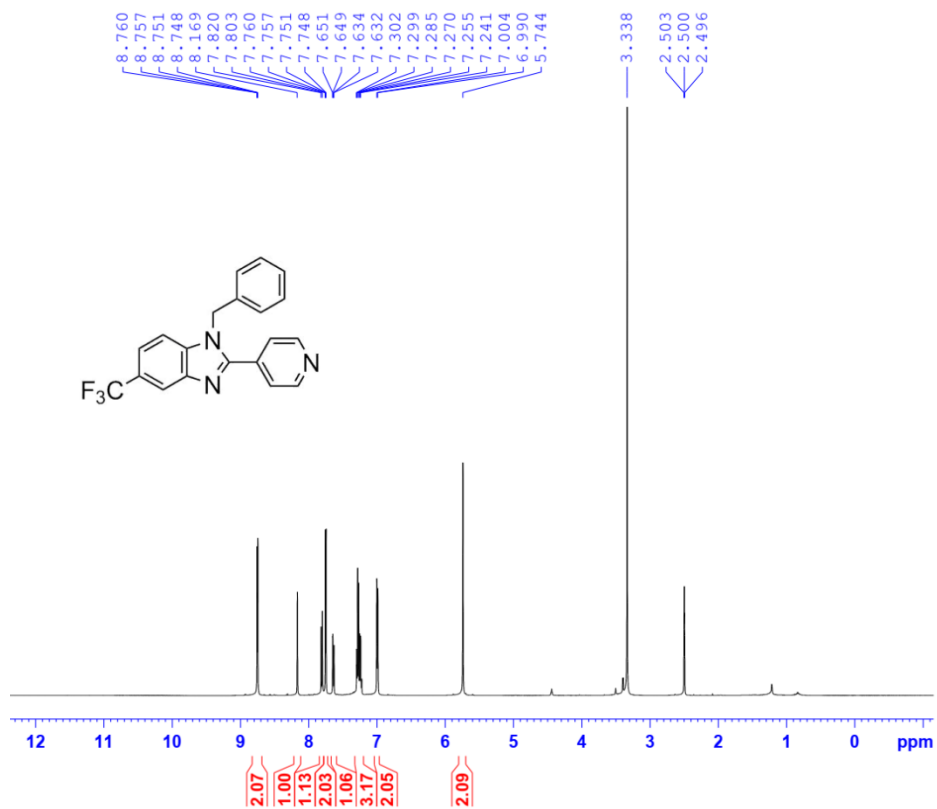


Figure S5. <sup>1</sup>H-NMR of compound **4c** in DMSO-*d*<sub>6</sub>

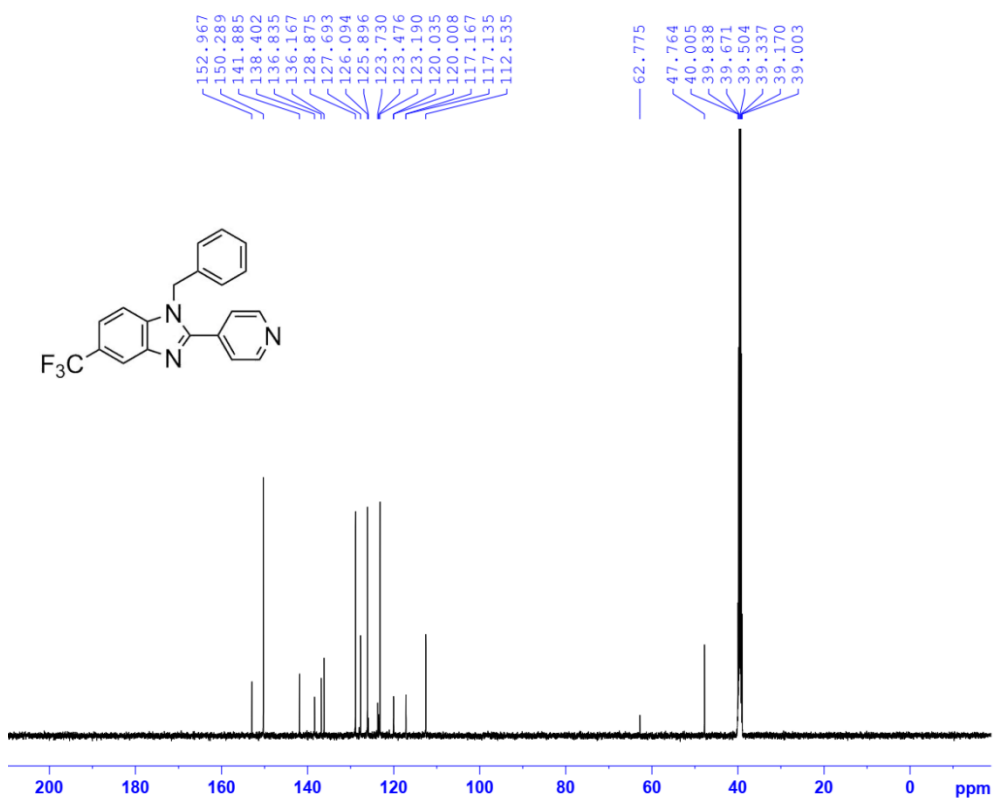


Figure S6. <sup>13</sup>C-NMR of compound **4c** in DMSO-*d*<sub>6</sub>

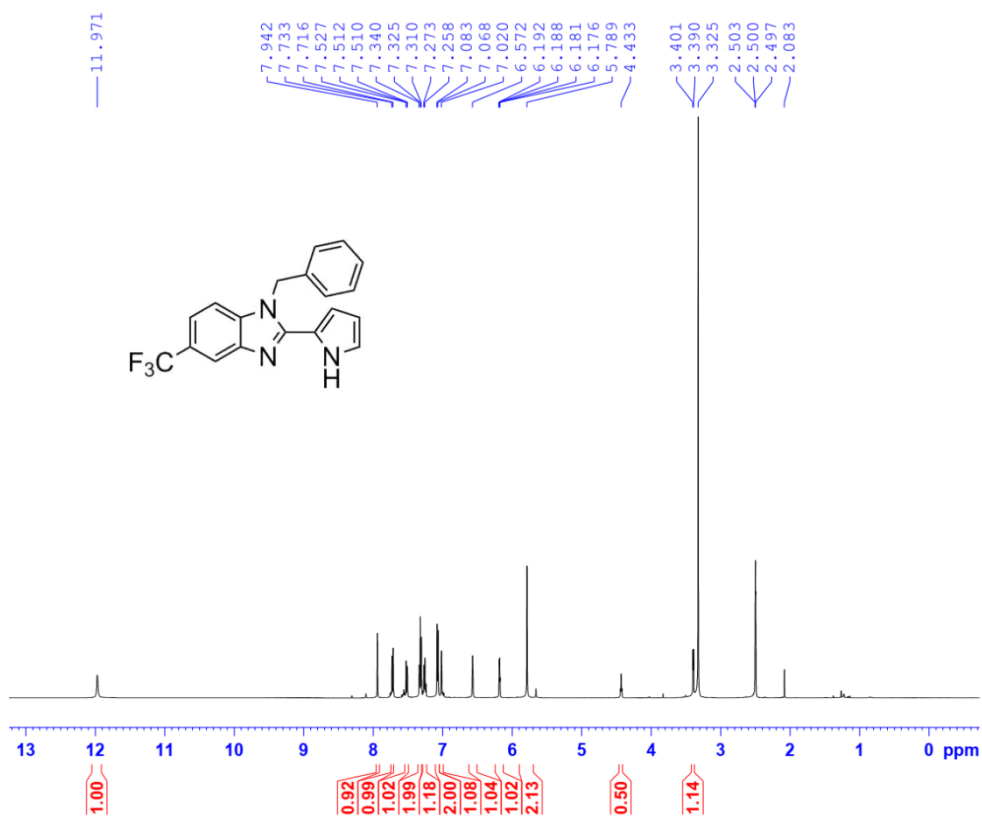


Figure S7.  $^1\text{H-NMR}$  of compound **4d** in  $\text{DMSO-}d_6$

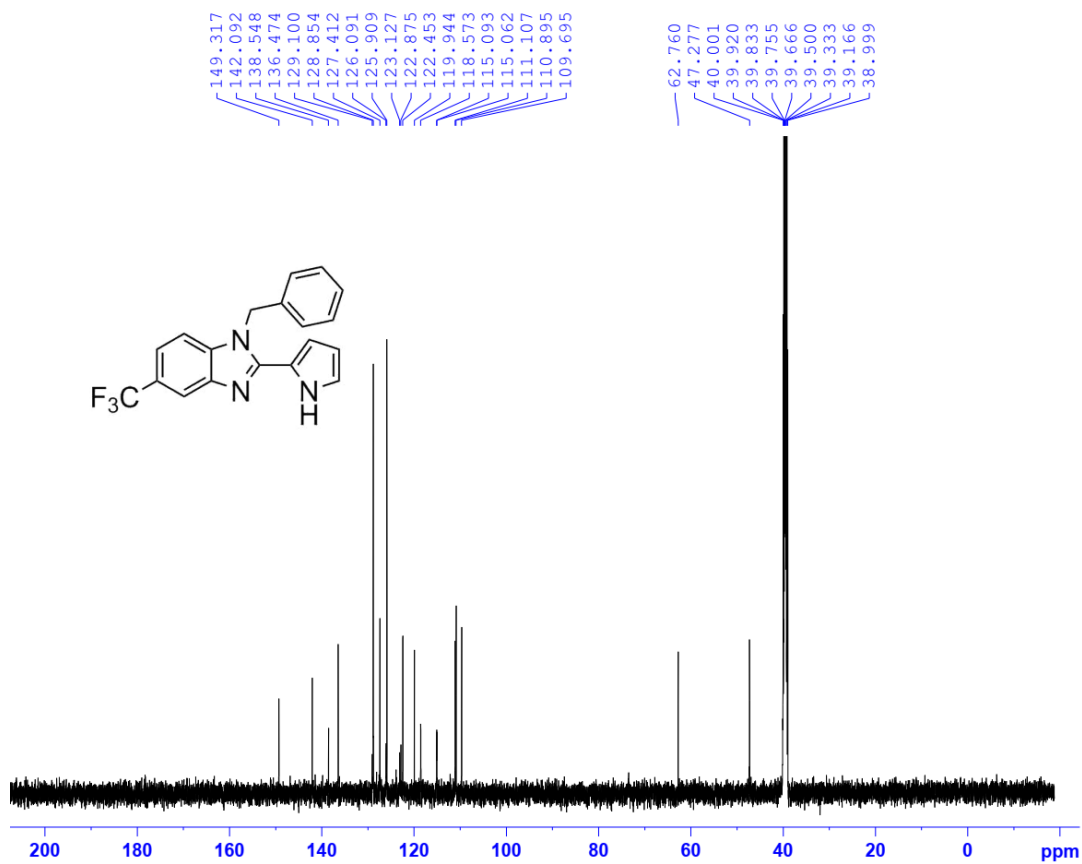


Figure S8.  $^{13}\text{C-NMR}$  of compound **4d** in  $\text{DMSO-}d_6$

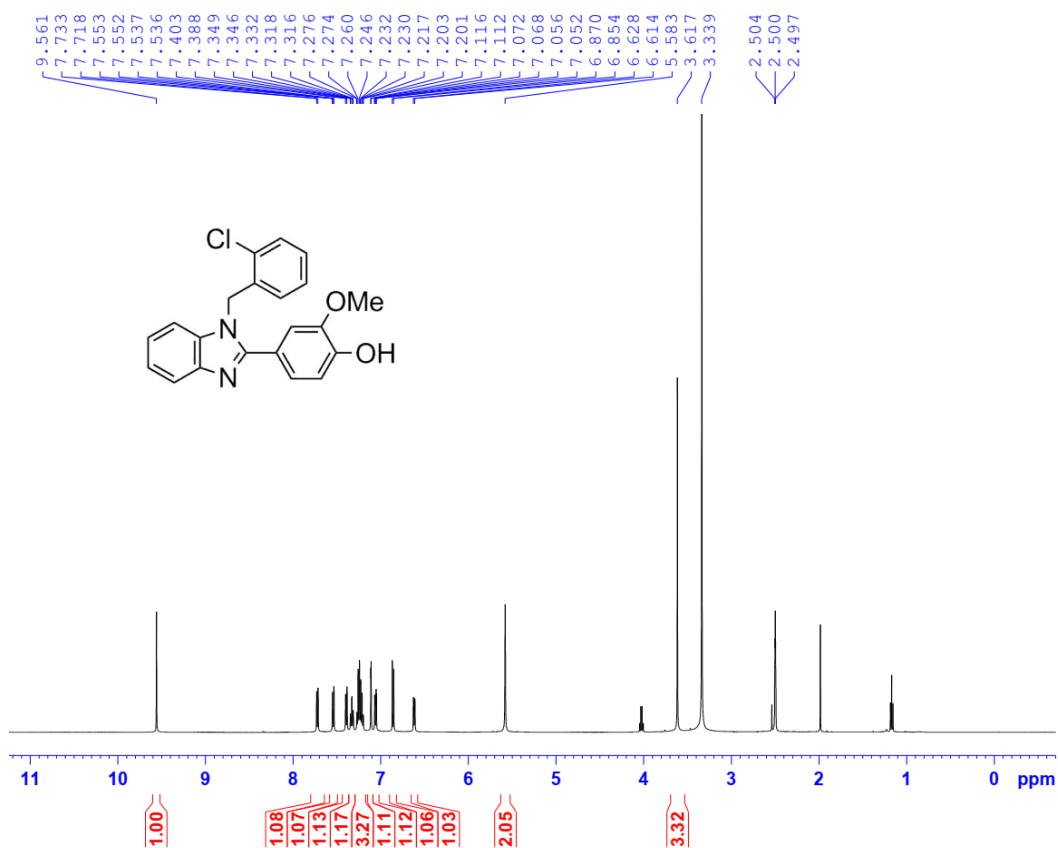


Figure S9.  $^1\text{H-NMR}$  of compound 4e in  $\text{DMSO-}d_6$

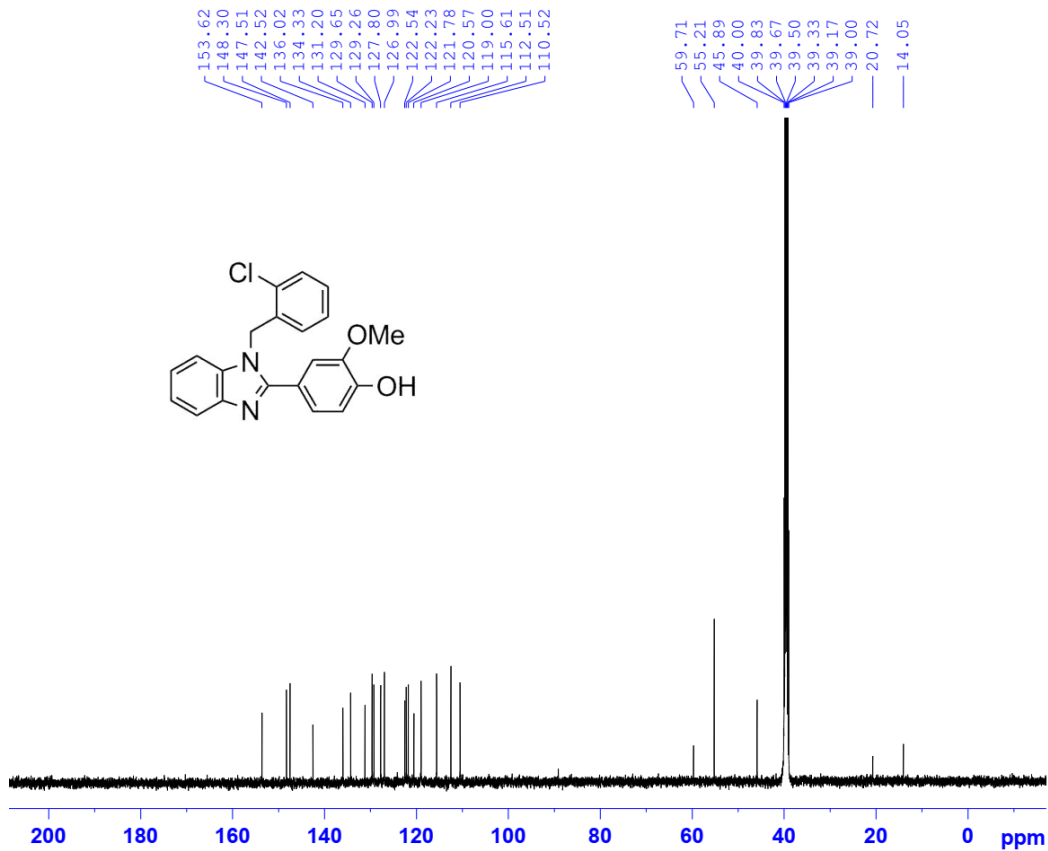


Figure S10.  $^{13}\text{C-NMR}$  of compound 4e in  $\text{DMSO-}d_6$

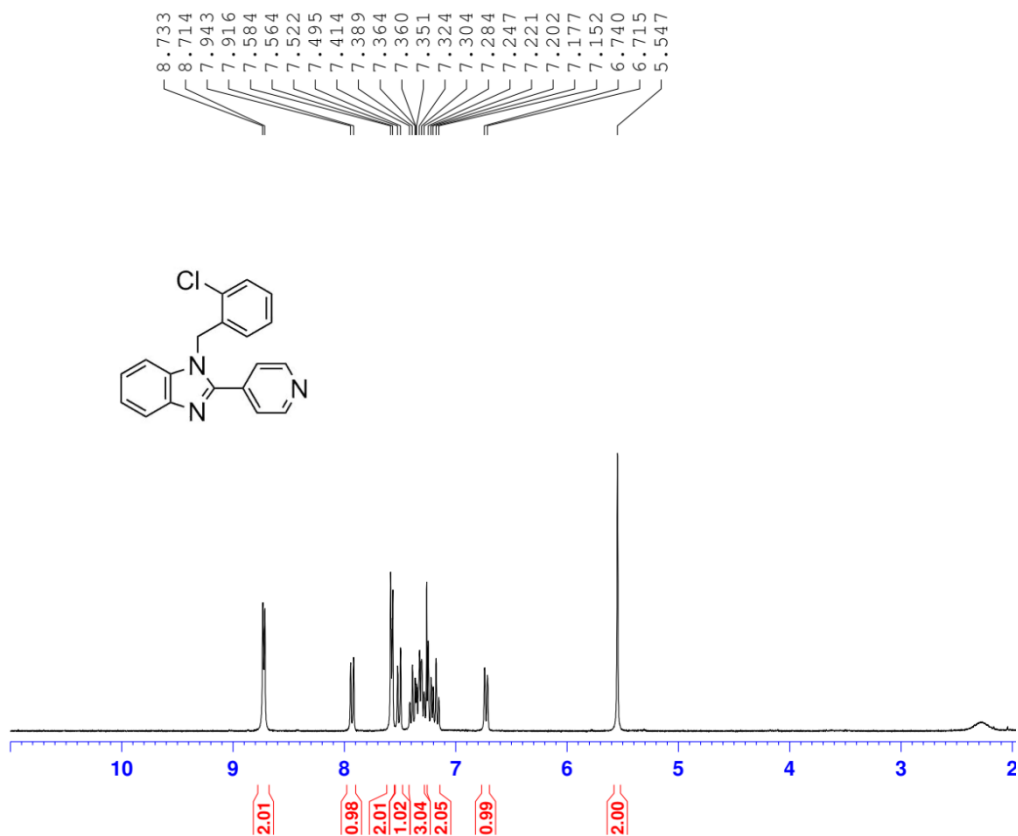


Figure S11. <sup>1</sup>H-NMR of compound 4f in CDCl<sub>3</sub>

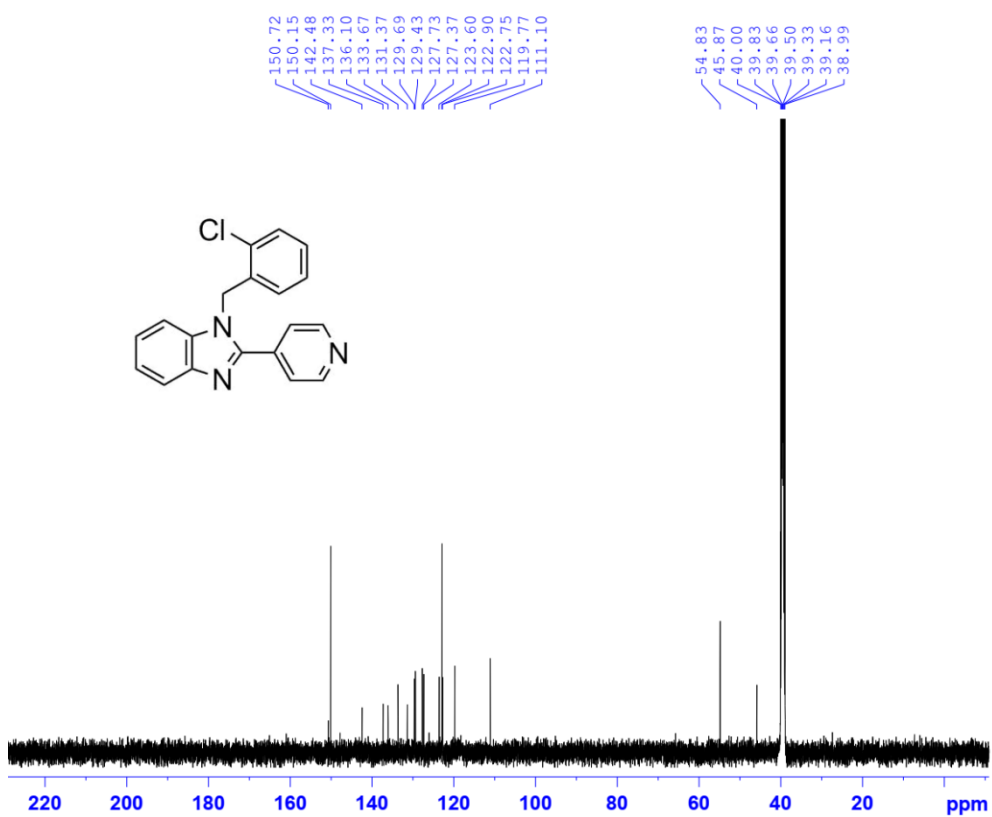


Figure S12. <sup>13</sup>C-NMR of compound 4f in DMSO-*d*<sub>6</sub>

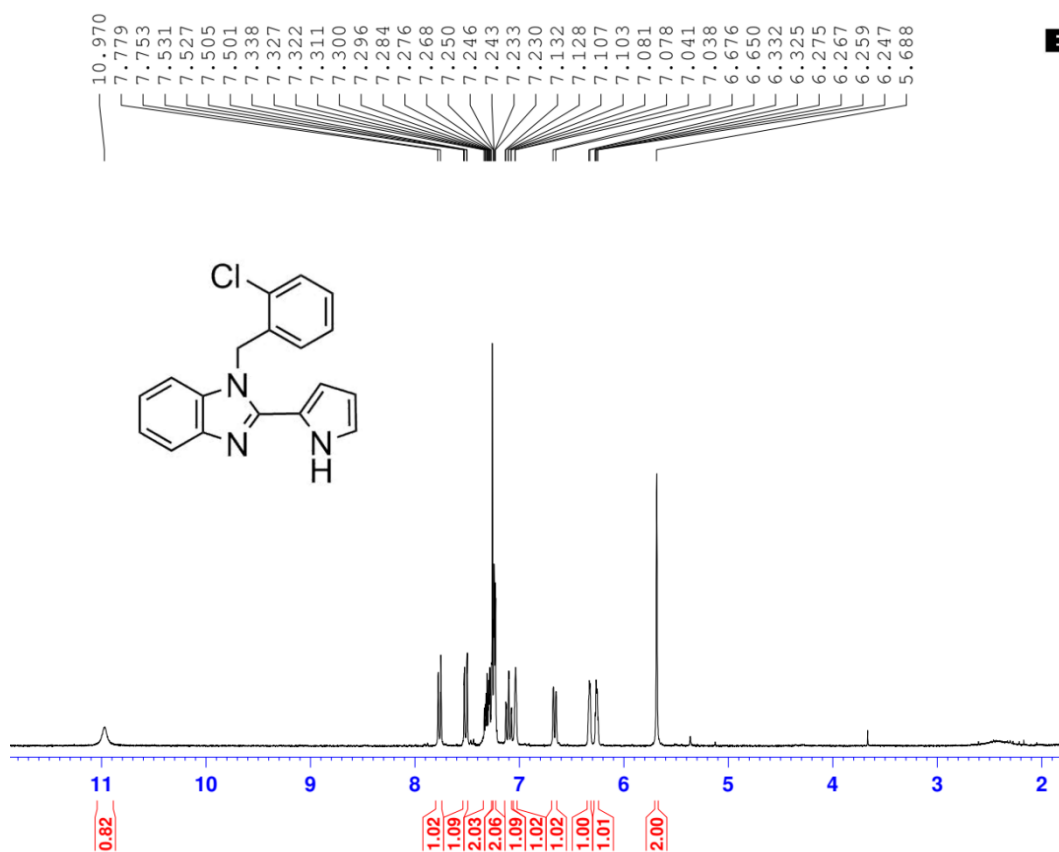


Figure S13. <sup>1</sup>H-NMR of compound 4g in CDCl<sub>3</sub>

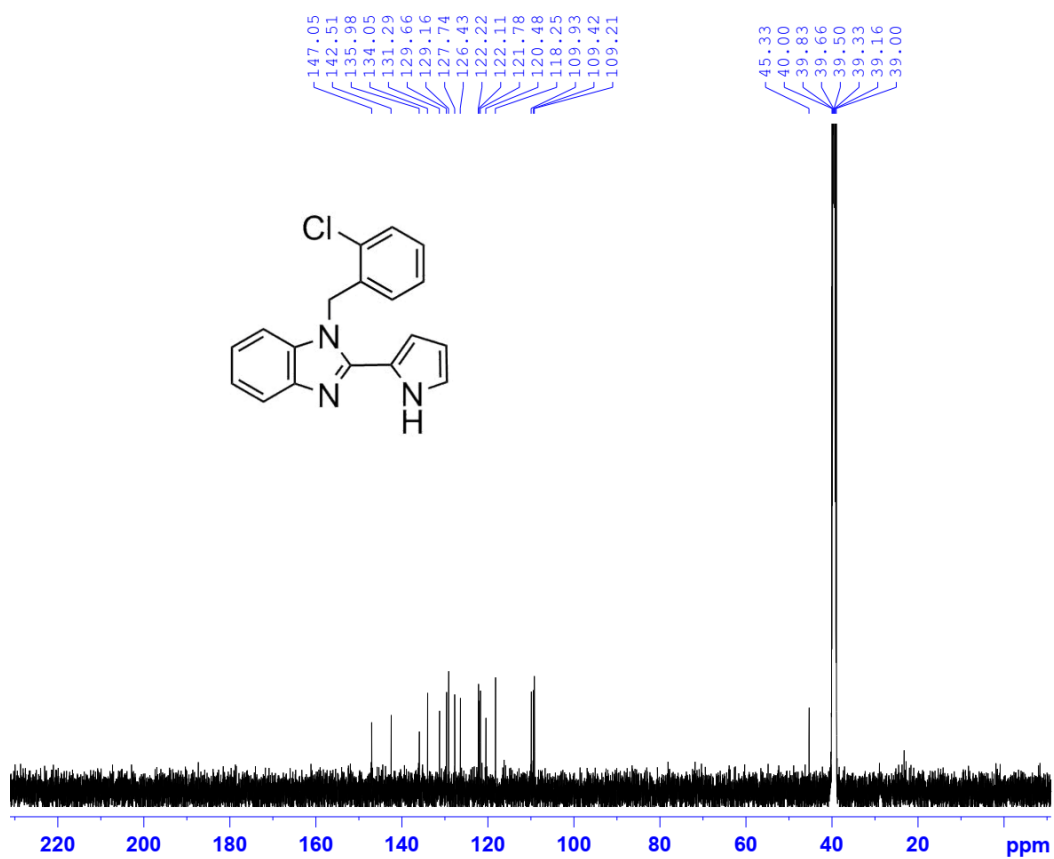


Figure S14. <sup>13</sup>C-NMR of compound 4g in DMSO-*d*<sub>6</sub>

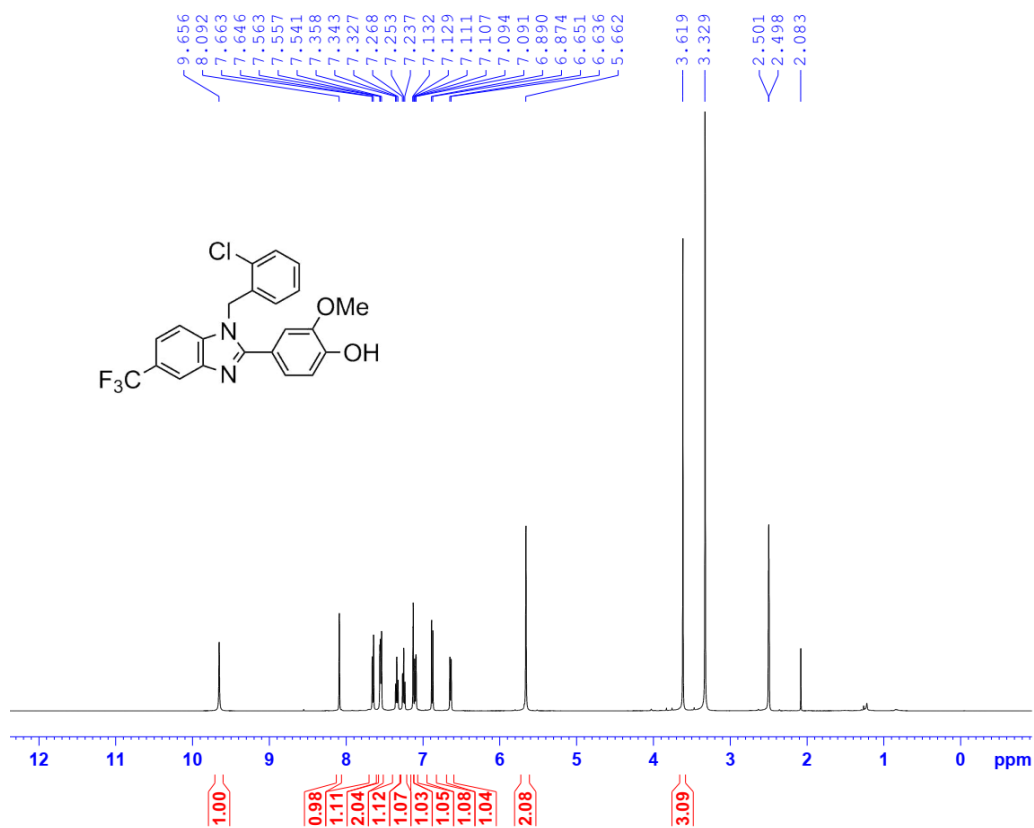


Figure S15. <sup>1</sup>H-NMR of compound 4h in DMSO-*d*<sub>6</sub>

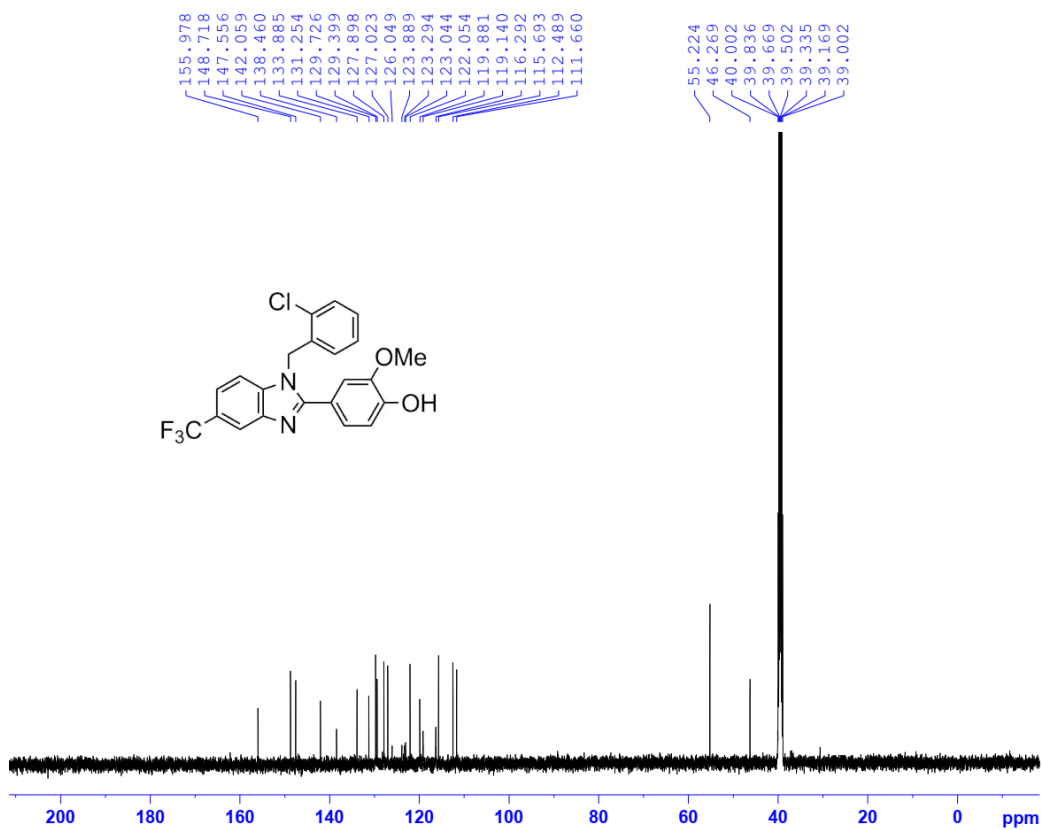


Figure S16. <sup>13</sup>C-NMR of compound 4h in DMSO-*d*<sub>6</sub>

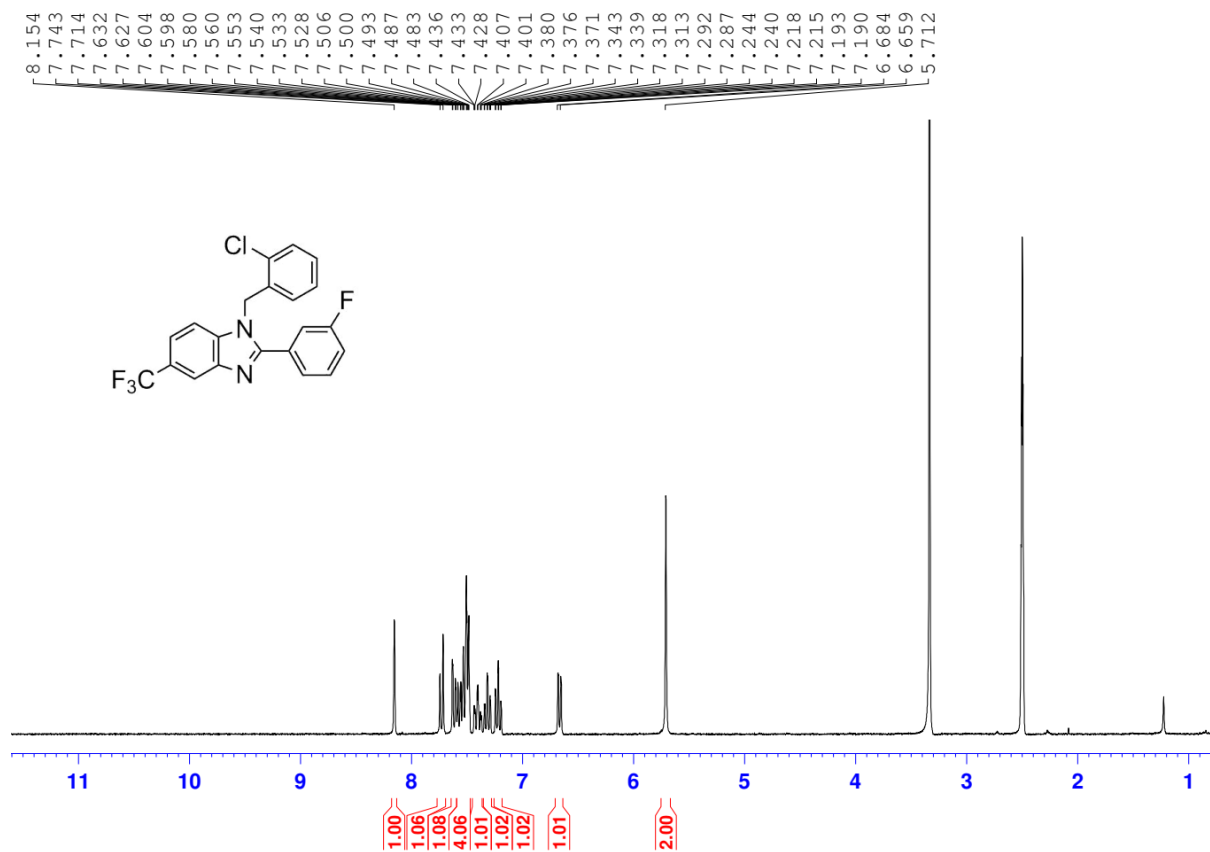


Figure S17. <sup>1</sup>H-NMR of compound 4i in DMSO-*d*<sub>6</sub>

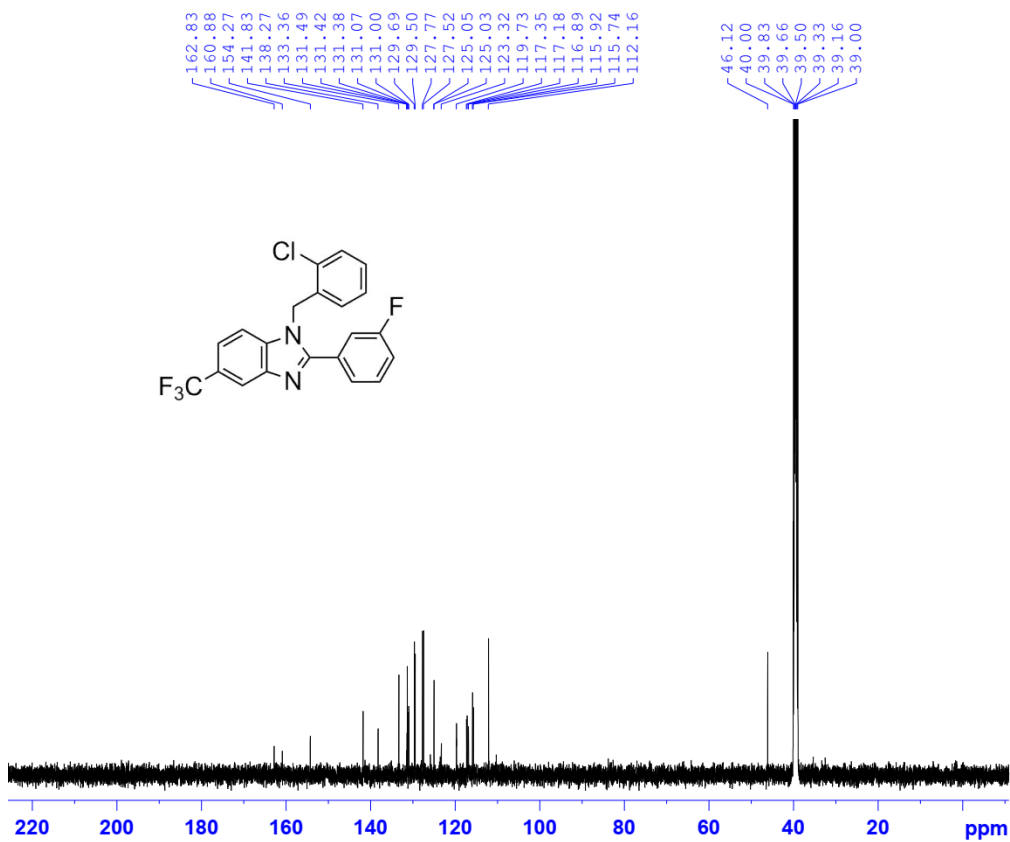


Figure S18. <sup>13</sup>C-NMR of compound 4i in DMSO-*d*<sub>6</sub>

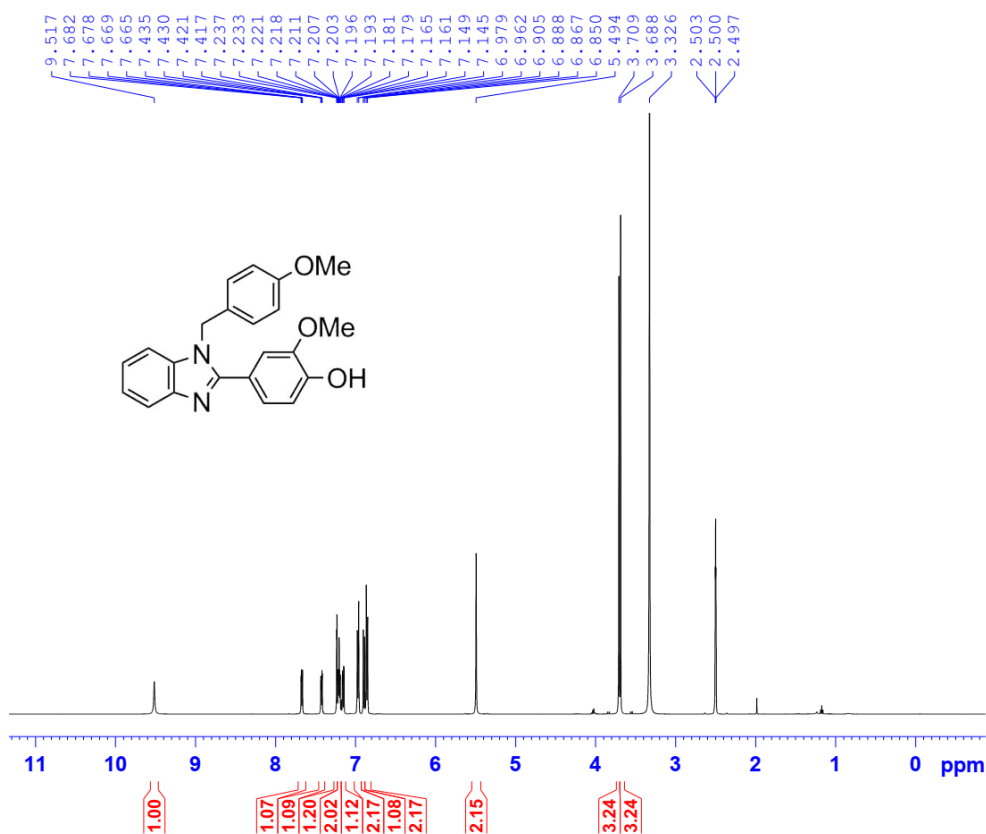


Figure S19. <sup>1</sup>H-NMR of compound 4j in DMSO-*d*<sub>6</sub>

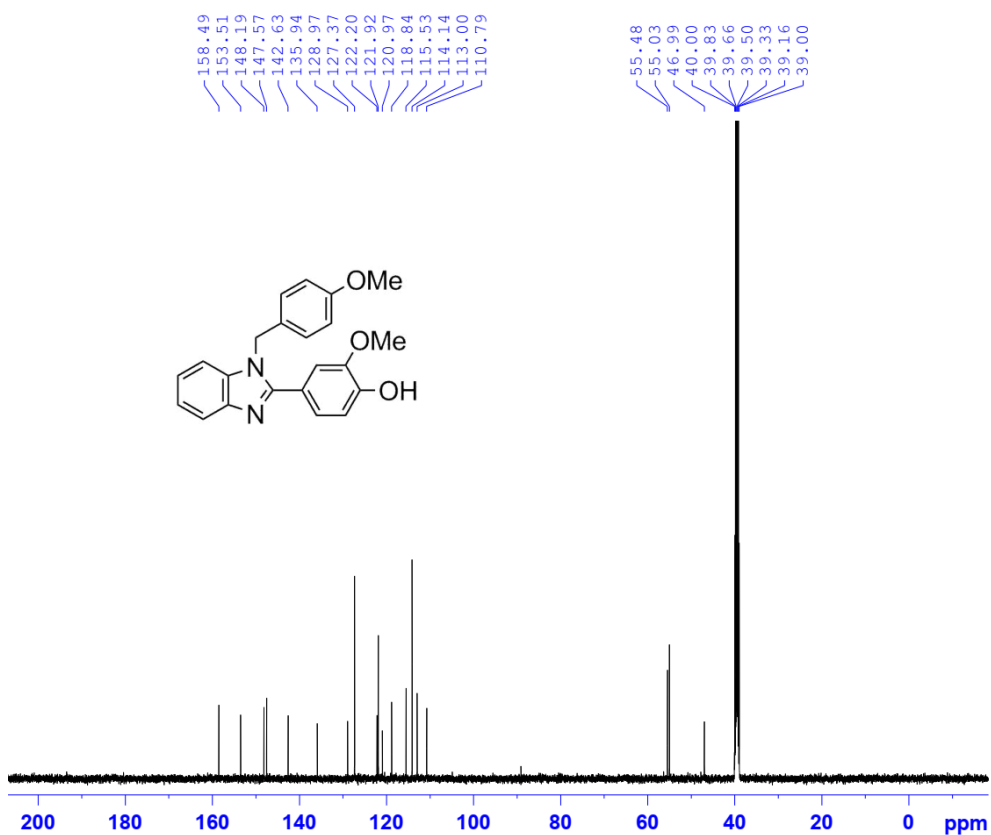


Figure S20. <sup>13</sup>C-NMR of compound 4j in DMSO-*d*<sub>6</sub>

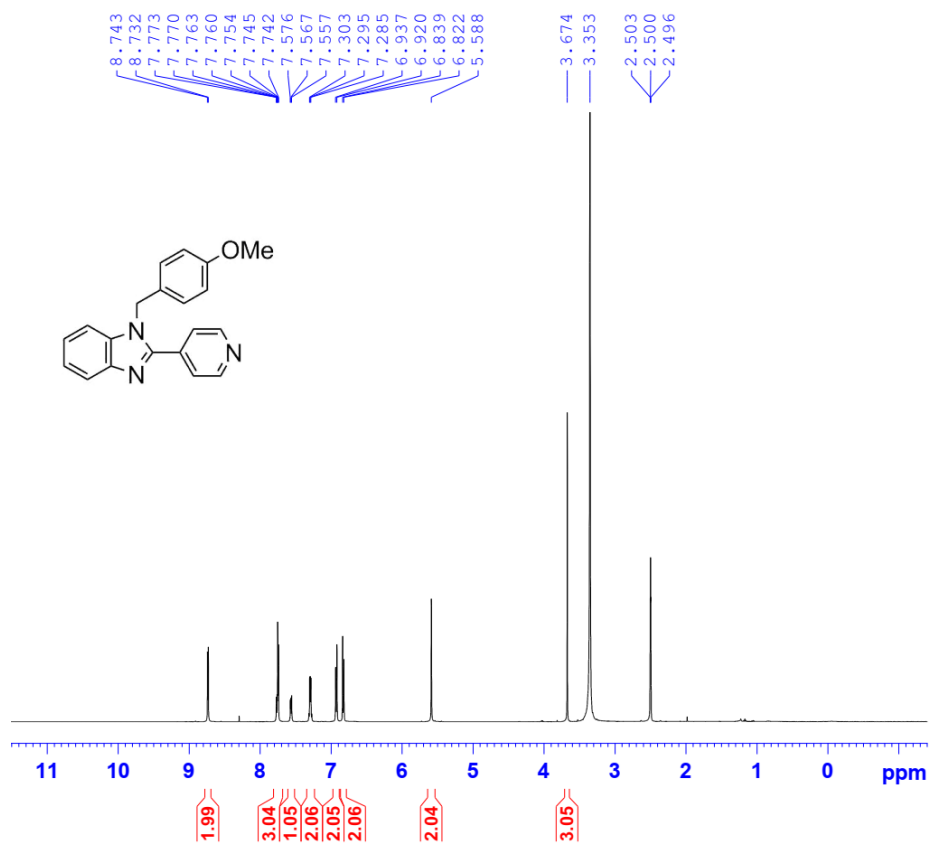


Figure S21. <sup>1</sup>H-NMR of compound 4k in DMSO-*d*<sub>6</sub>

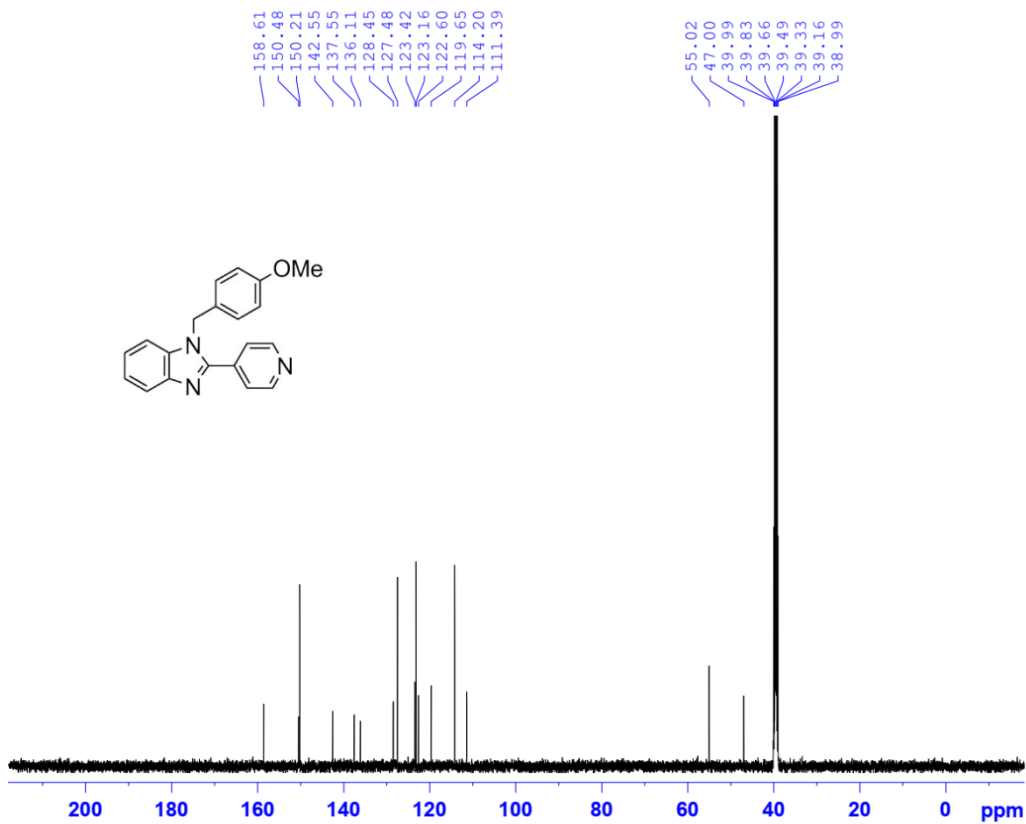


Figure S22. <sup>13</sup>C-NMR of compound 4k in DMSO-*d*<sub>6</sub>

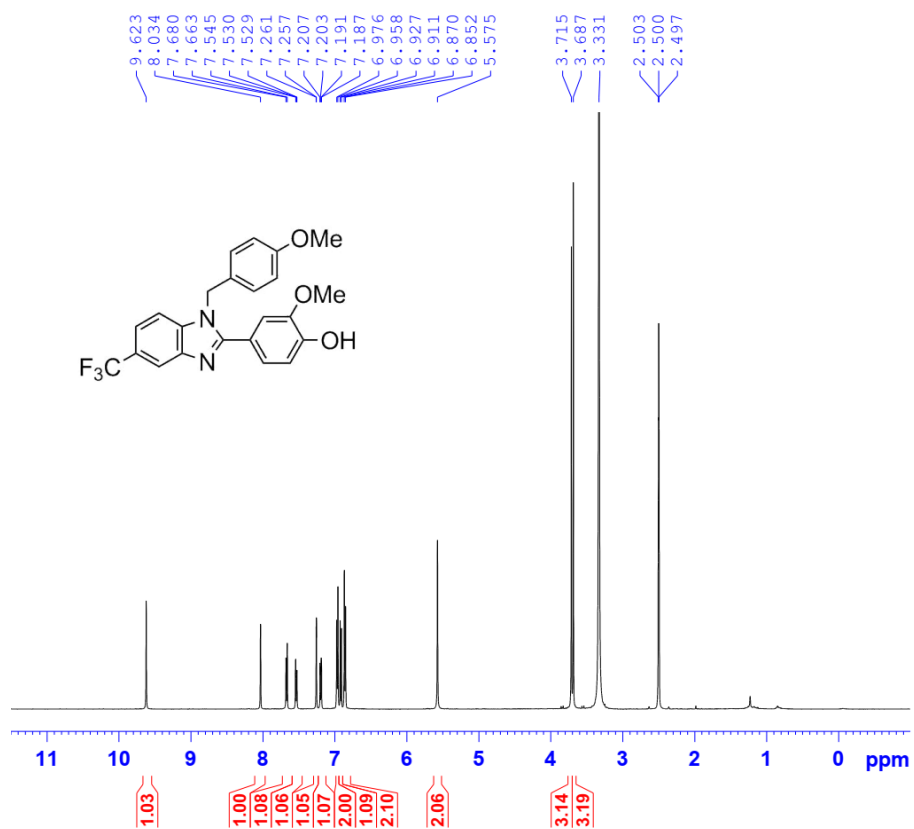


Figure S23. <sup>1</sup>H-NMR of compound 4l in DMSO-*d*<sub>6</sub>

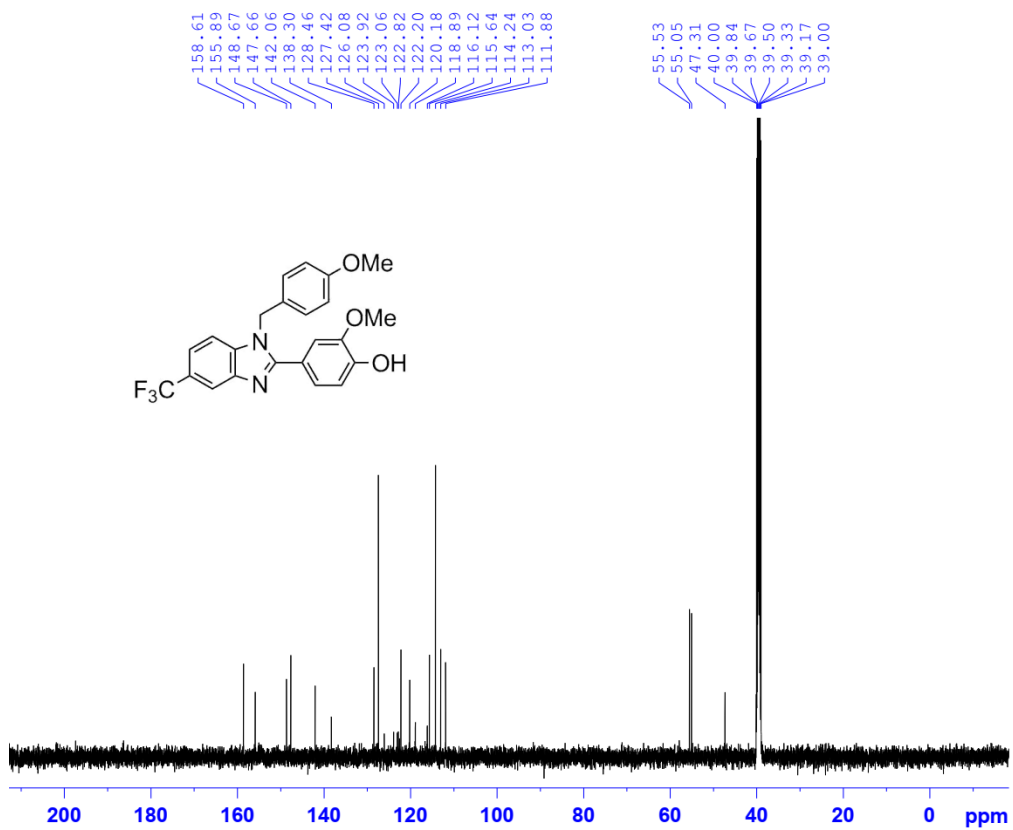


Figure S24. <sup>13</sup>C-NMR of compound 4l in DMSO-*d*<sub>6</sub>

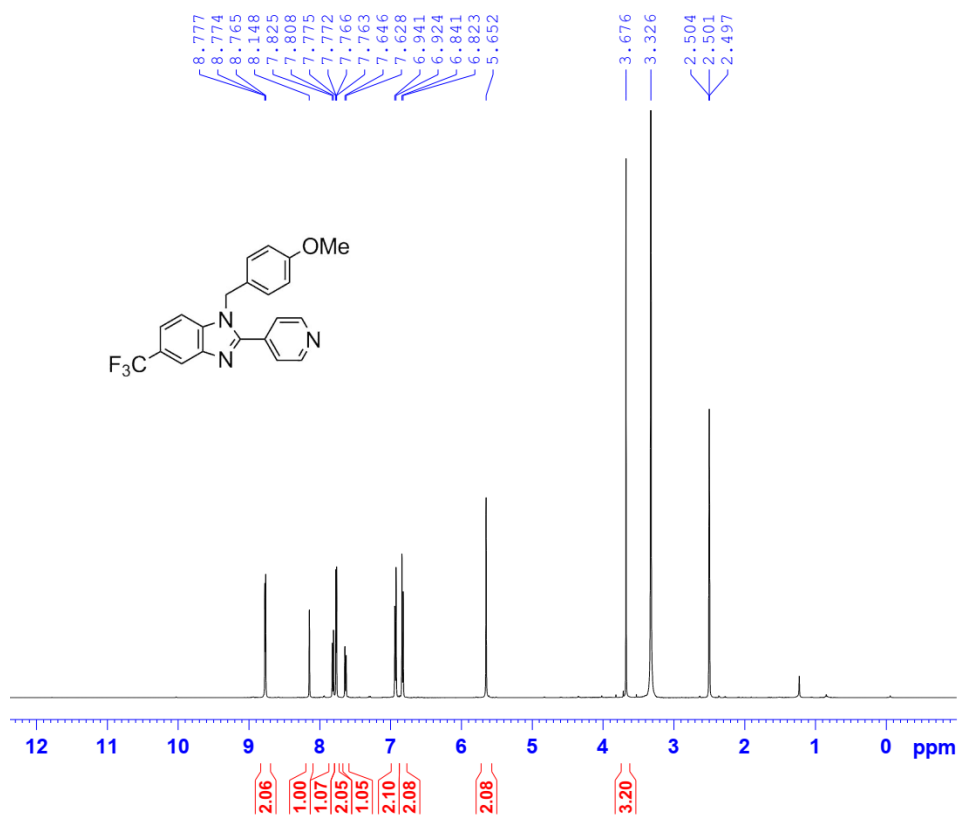


Figure S25. <sup>1</sup>H-NMR of compound 4m in DMSO-*d*<sub>6</sub>

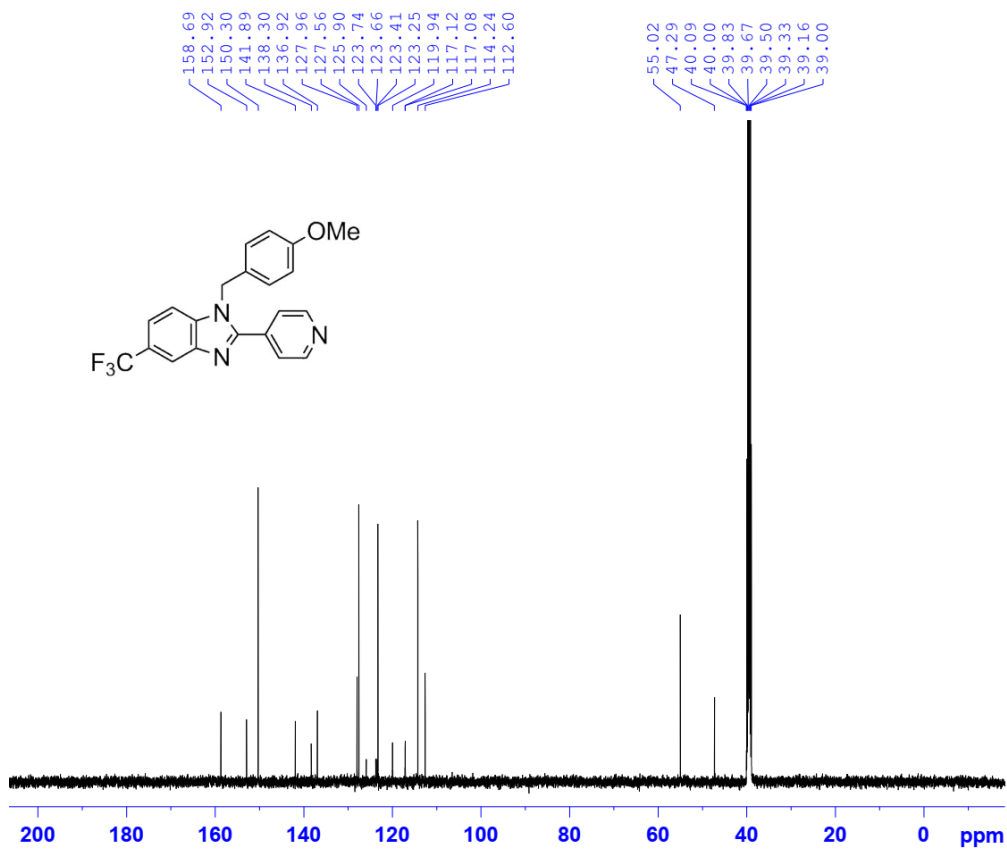


Figure S26. <sup>13</sup>C-NMR of compound 4m in DMSO-*d*<sub>6</sub>

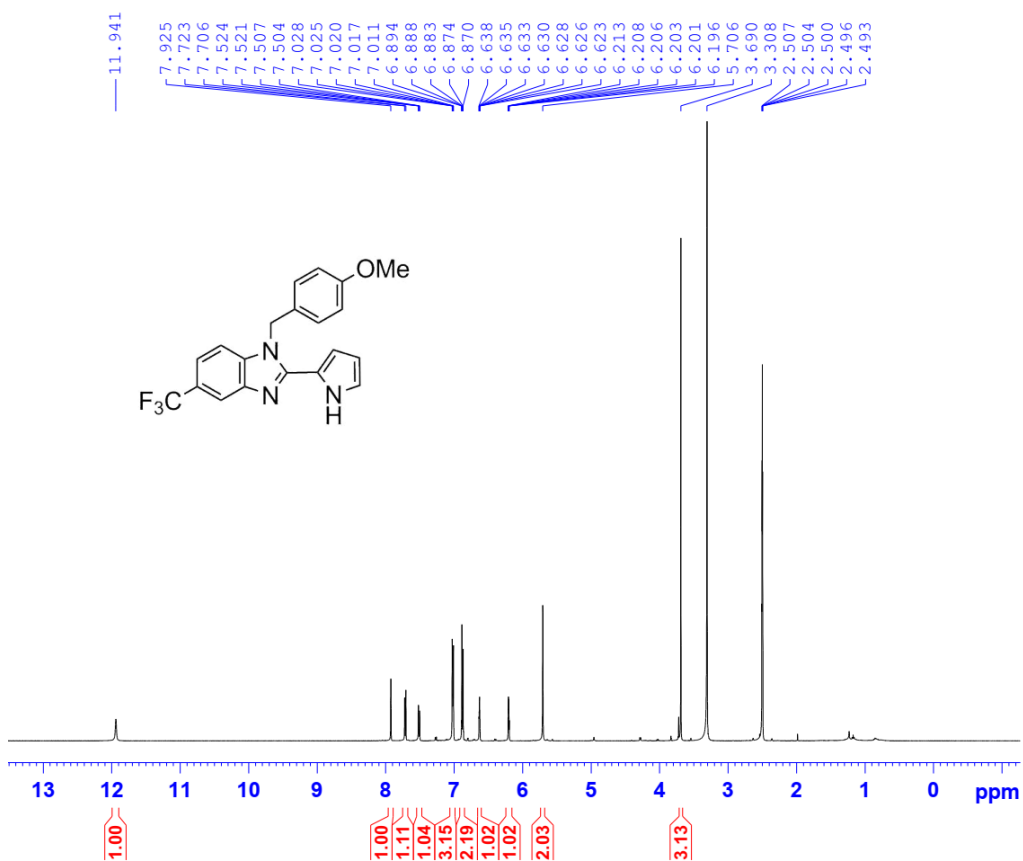


Figure S27.  $^1\text{H-NMR}$  of compound 4n in  $\text{DMSO-}d_6$

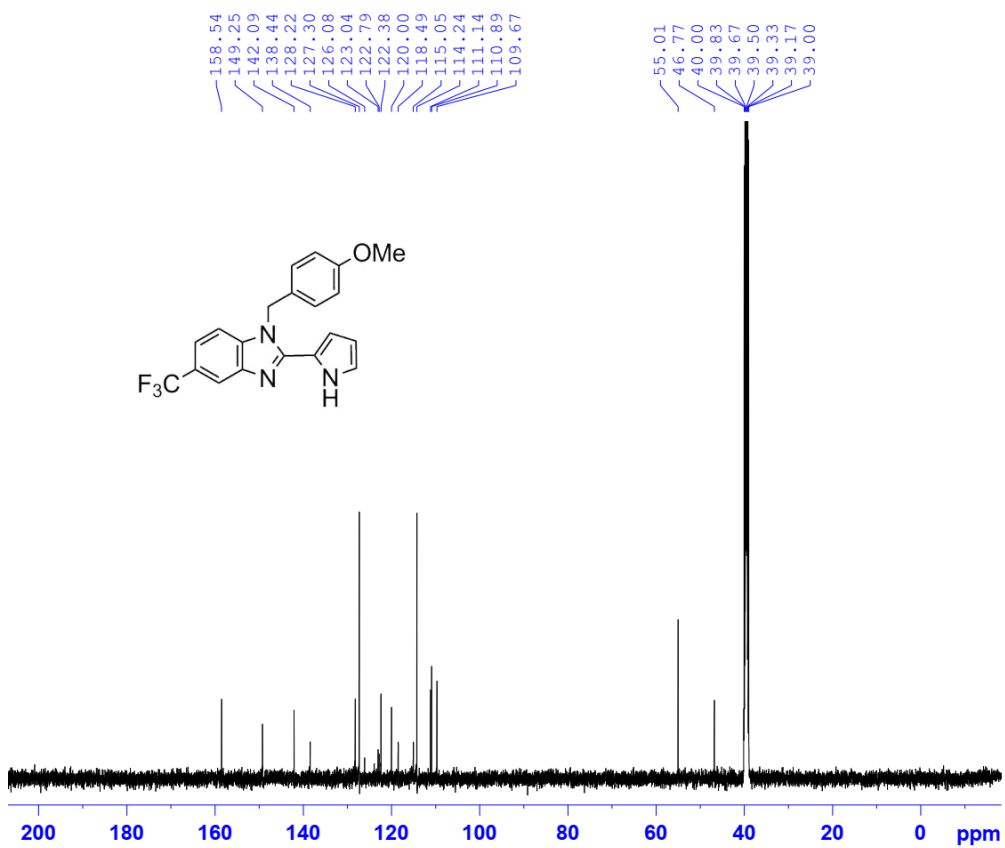


Figure S28.  $^{13}\text{C-NMR}$  of compound 4n in  $\text{DMSO-}d_6$

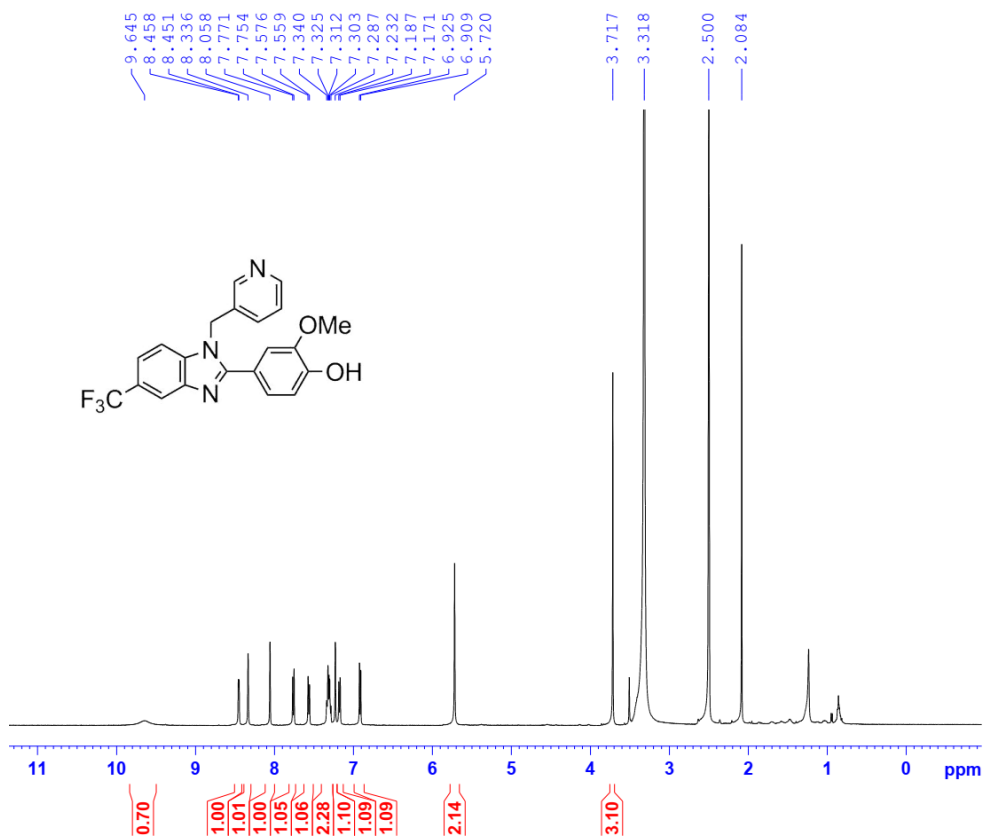


Figure S29. <sup>1</sup>H-NMR of compound **4o** in DMSO-*d*<sub>6</sub>

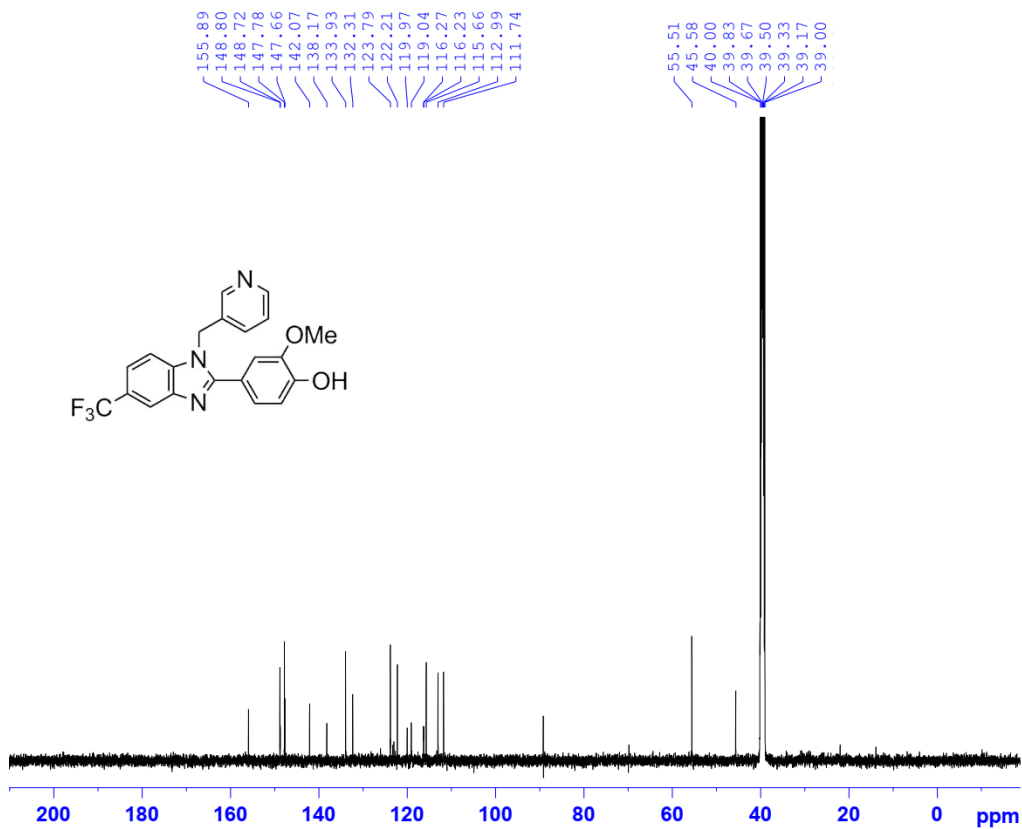


Figure S30. <sup>13</sup>C-NMR of compound **4o** in DMSO-*d*<sub>6</sub>

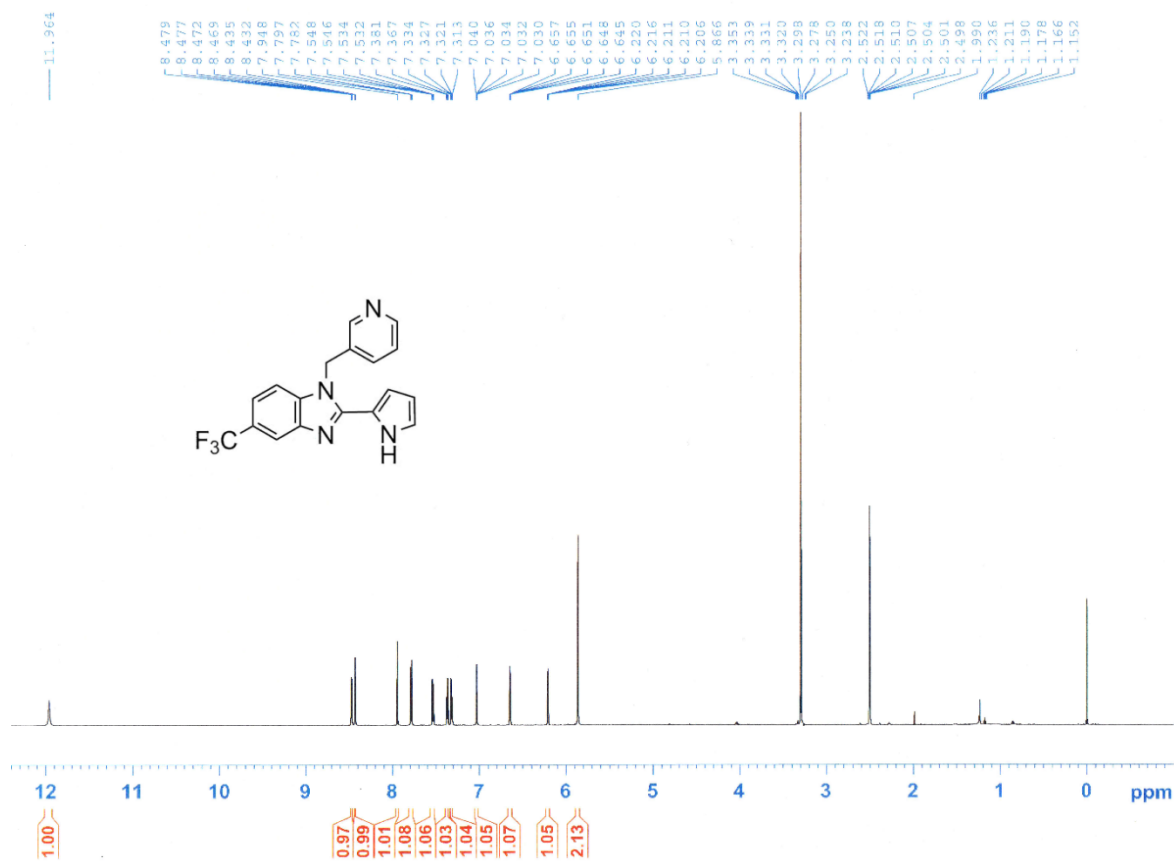


Figure S31. <sup>1</sup>H-NMR of compound 4p in DMSO-*d*<sub>6</sub>

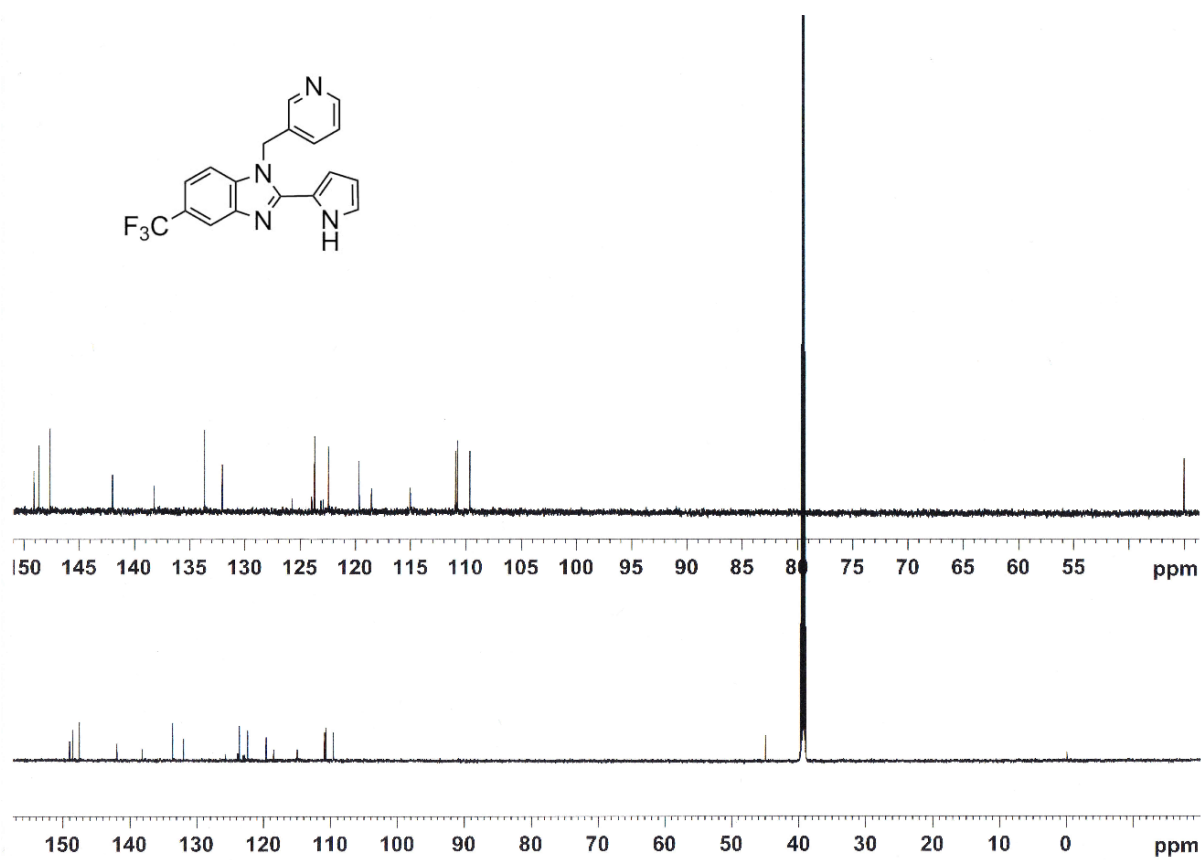


Figure S32. <sup>13</sup>C-NMR of compound 4p in DMSO-*d*<sub>6</sub>

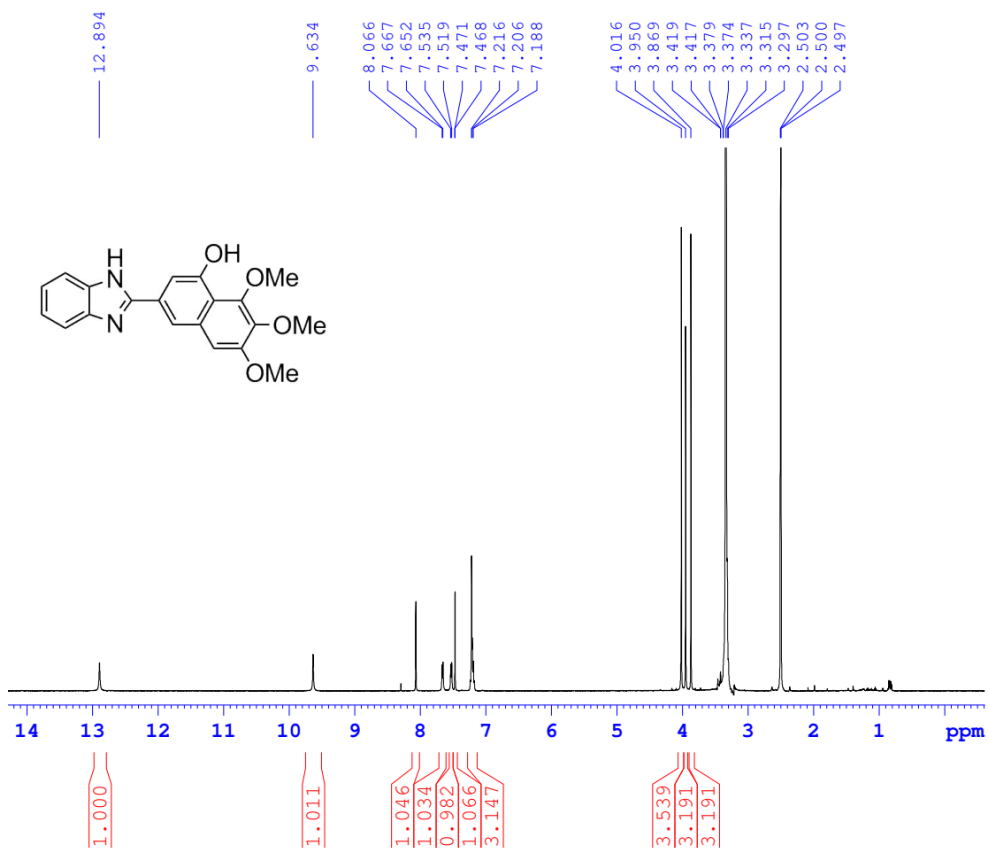


Figure S33. <sup>1</sup>H-NMR of compound 4q in DMSO-*d*<sub>6</sub>

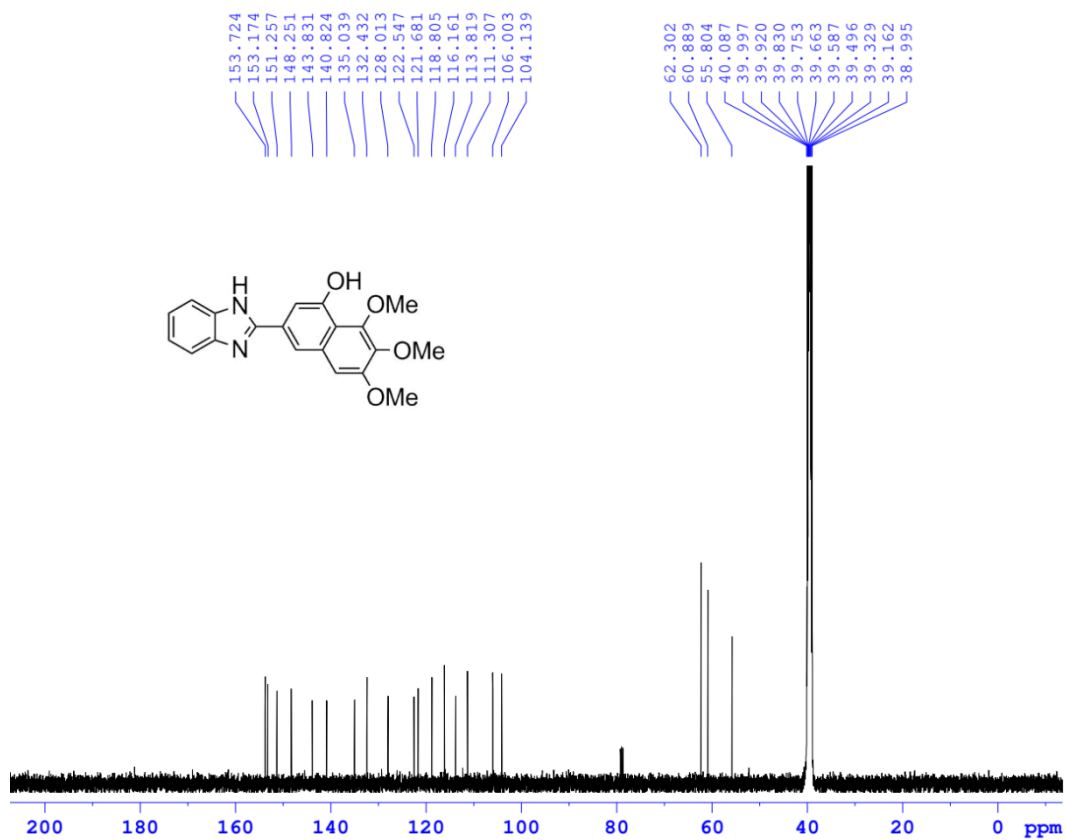


Figure S34. <sup>13</sup>C-NMR of compound 4q in DMSO-*d*<sub>6</sub>

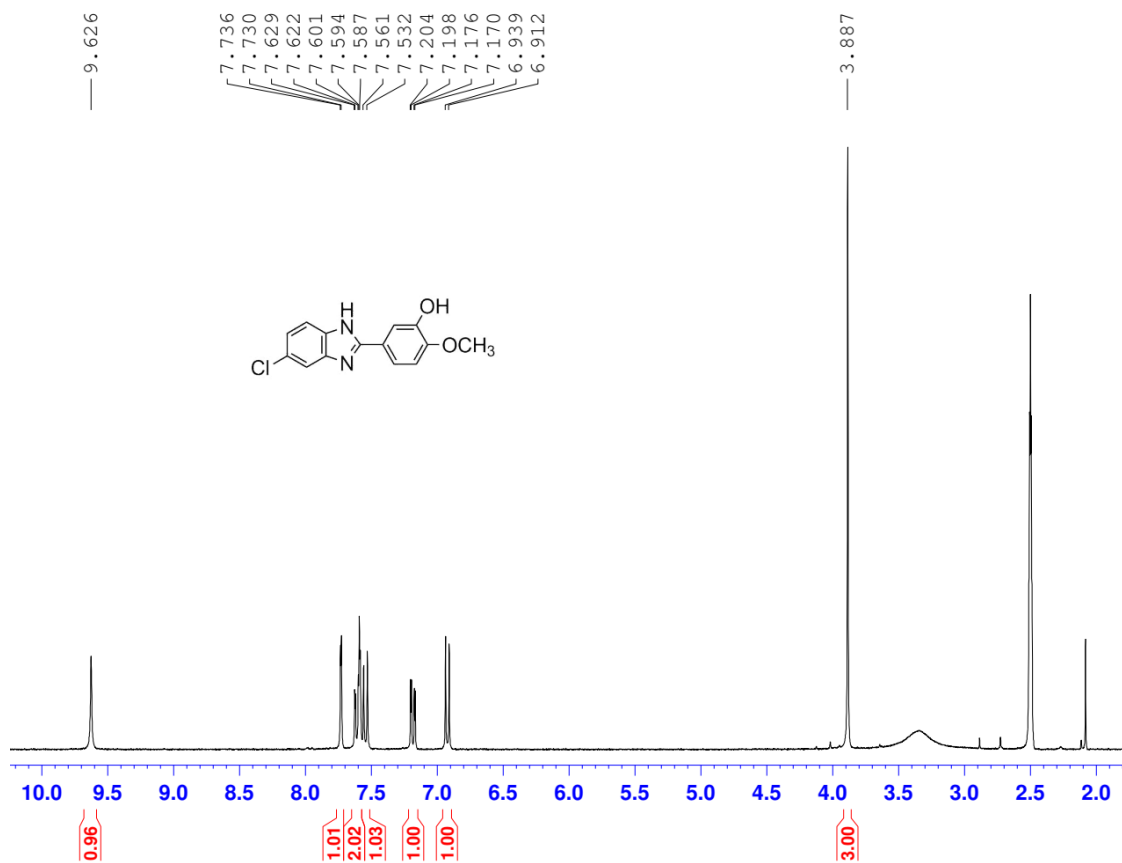


Figure S35. <sup>1</sup>H-NMR of compound 4r in DMSO-*d*<sub>6</sub>

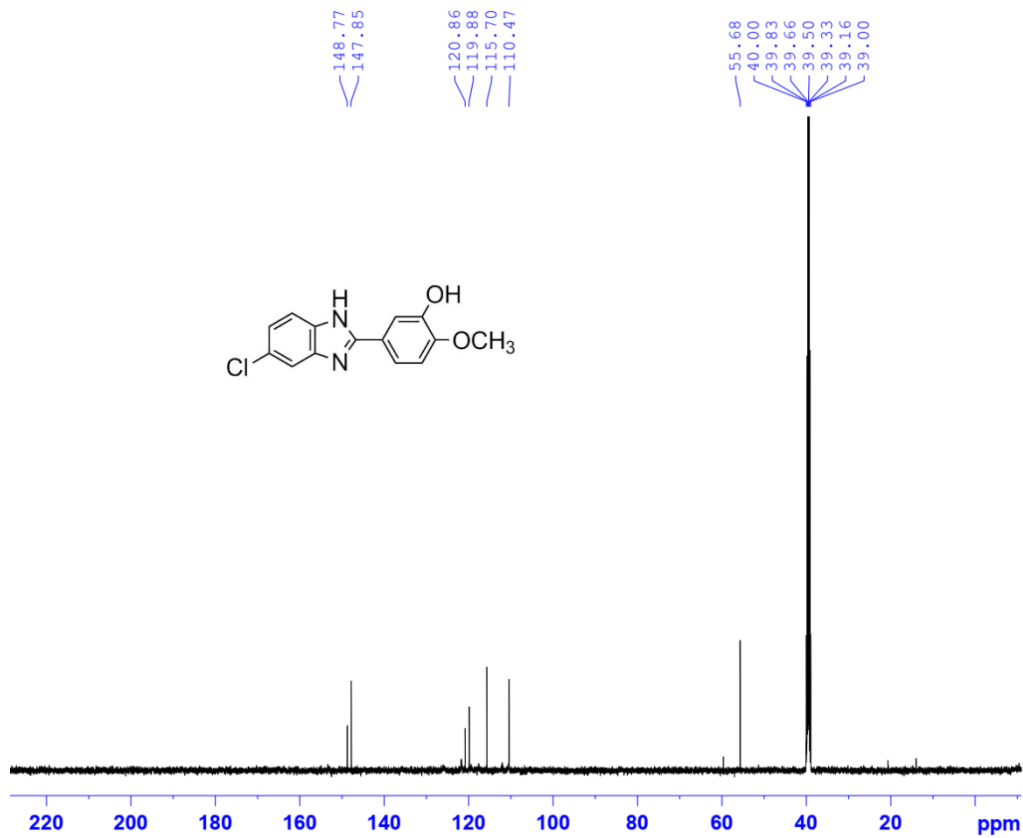


Figure S36. <sup>13</sup>C-NMR of compound 4r in DMSO-*d*<sub>6</sub>

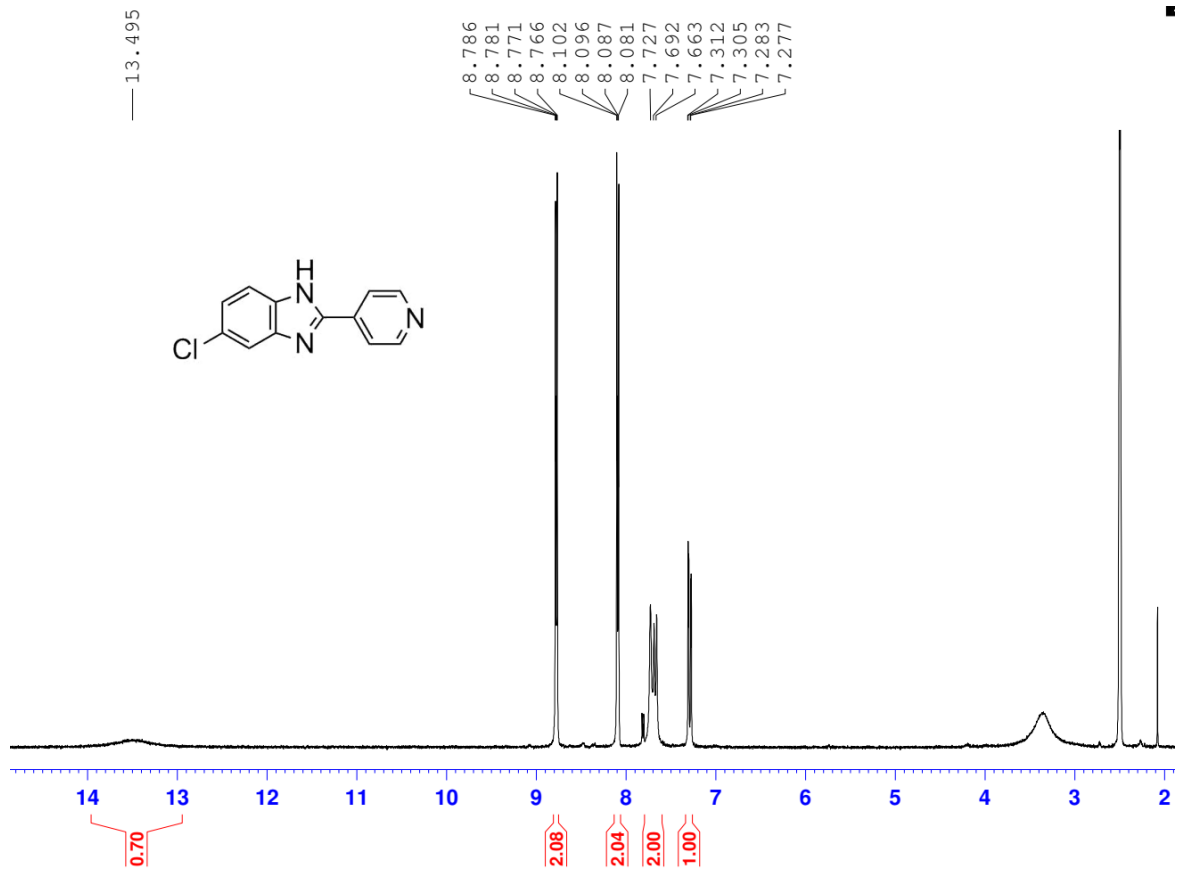


Figure S37.  $^1\text{H-NMR}$  of compound 4s in  $\text{DMSO-}d_6$

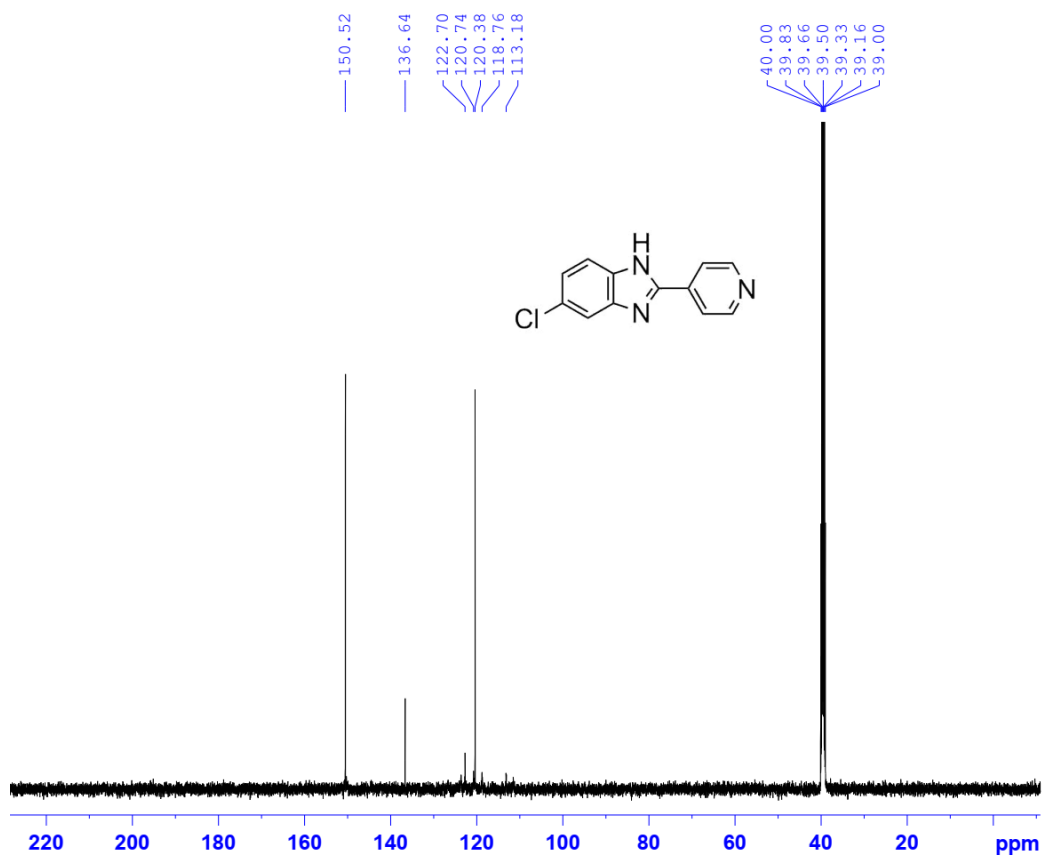


Figure S38.  $^{13}\text{C-NMR}$  of compound 4s in  $\text{DMSO-}d_6$

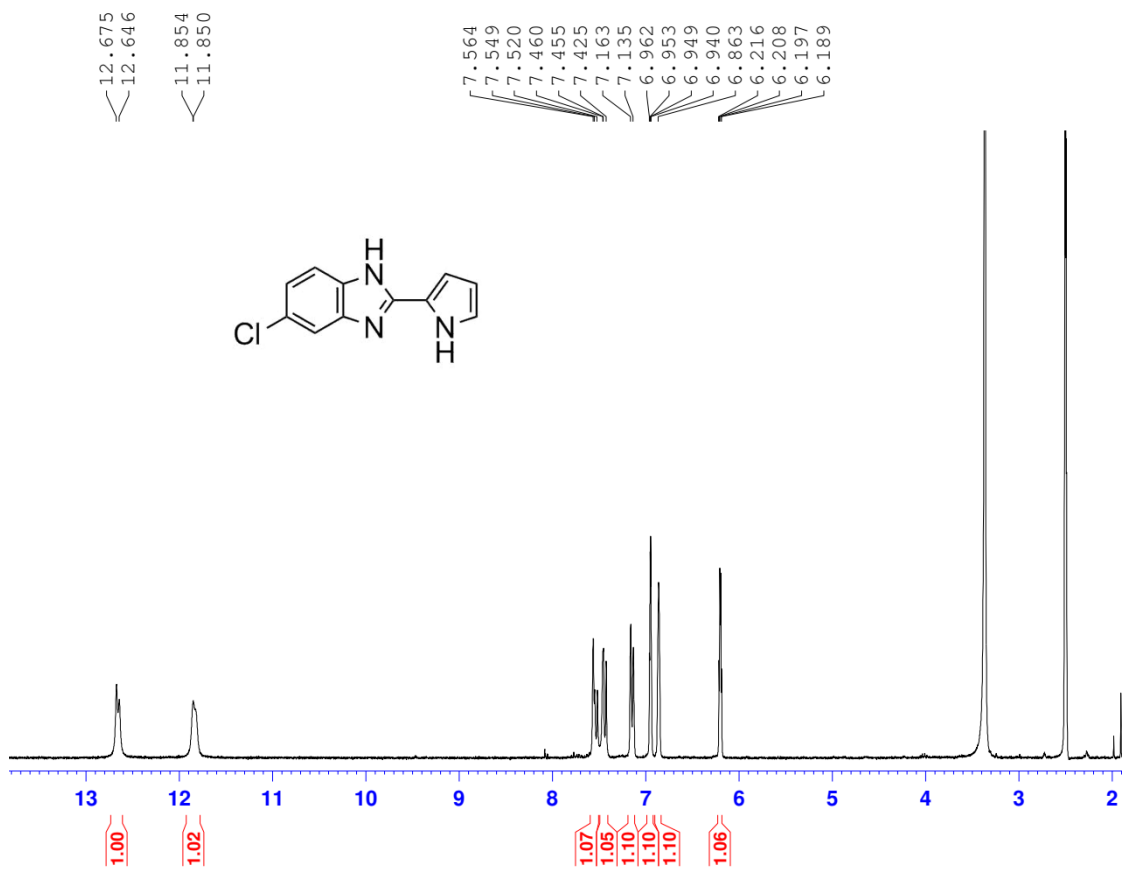


Figure S39.  $^1\text{H-NMR}$  of compound 4t in  $\text{DMSO-}d_6$

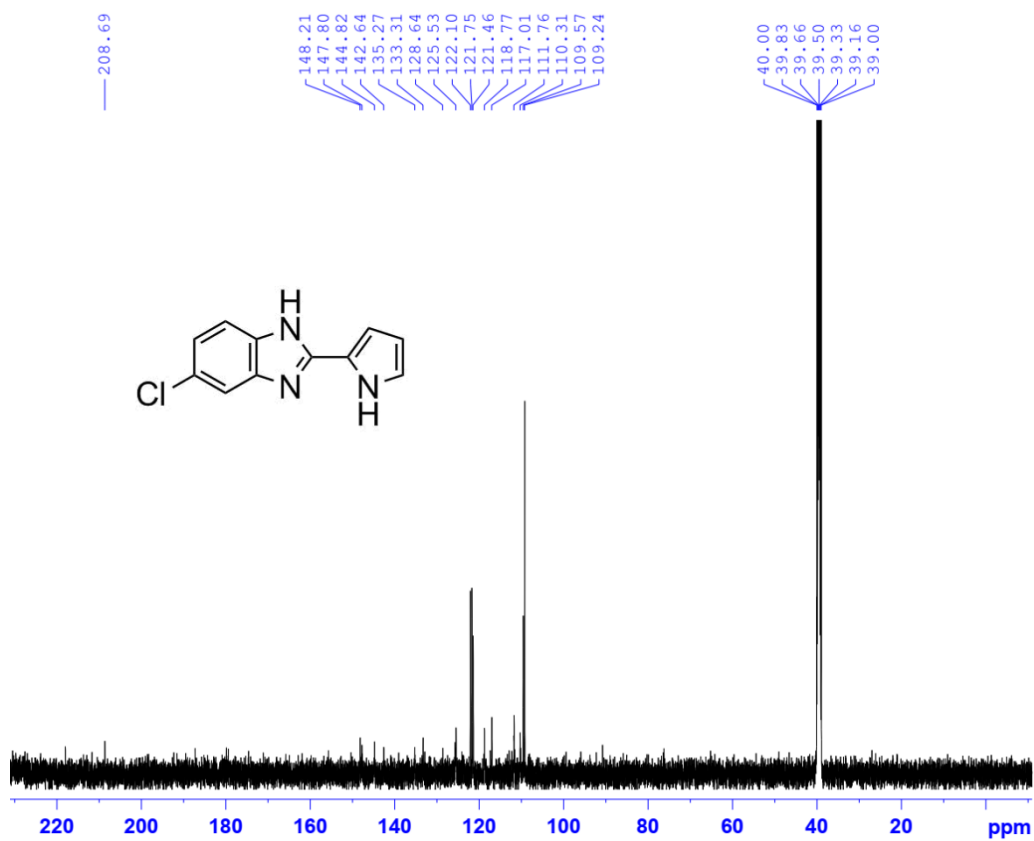


Figure S40.  $^{13}\text{C-NMR}$  of compound 4t in  $\text{DMSO-}d_6$

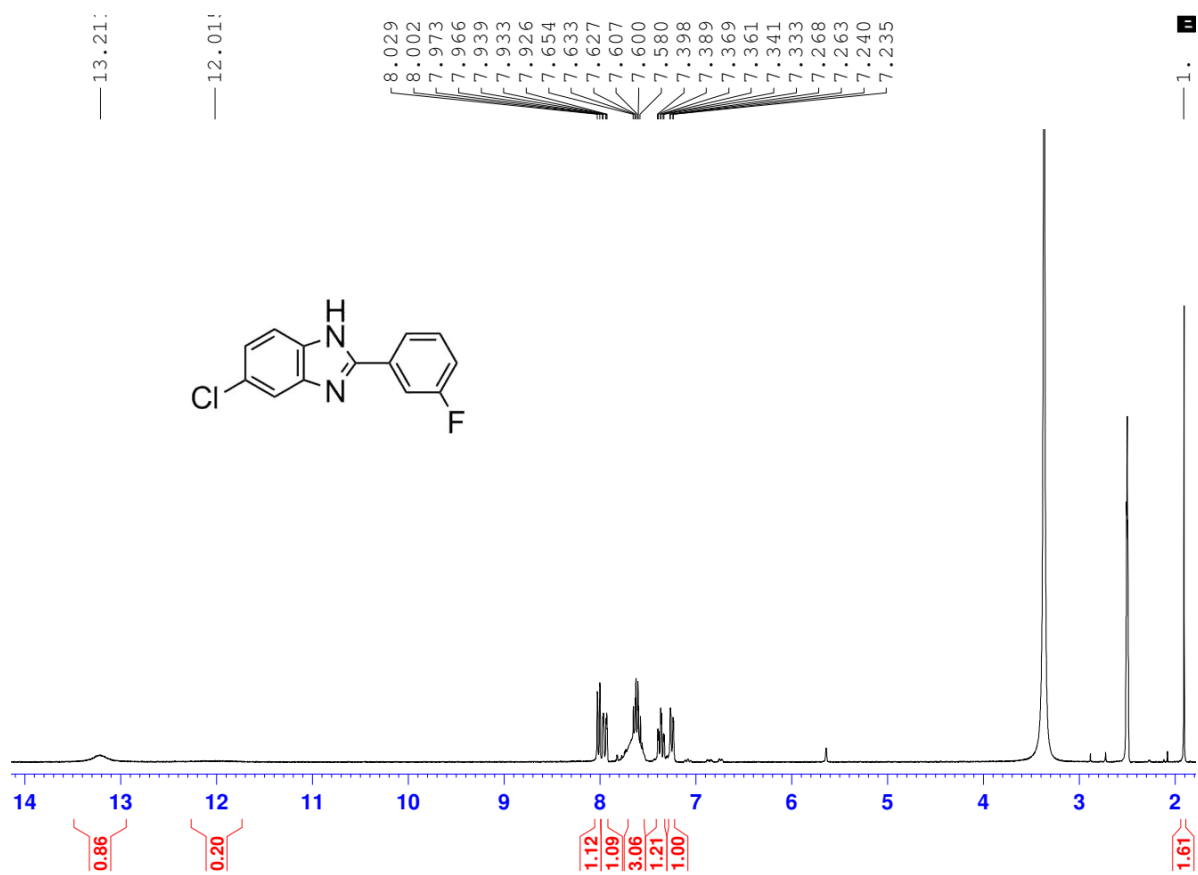


Figure S41.  $^1\text{H-NMR}$  of compound **4u** in  $\text{DMSO-}d_6$

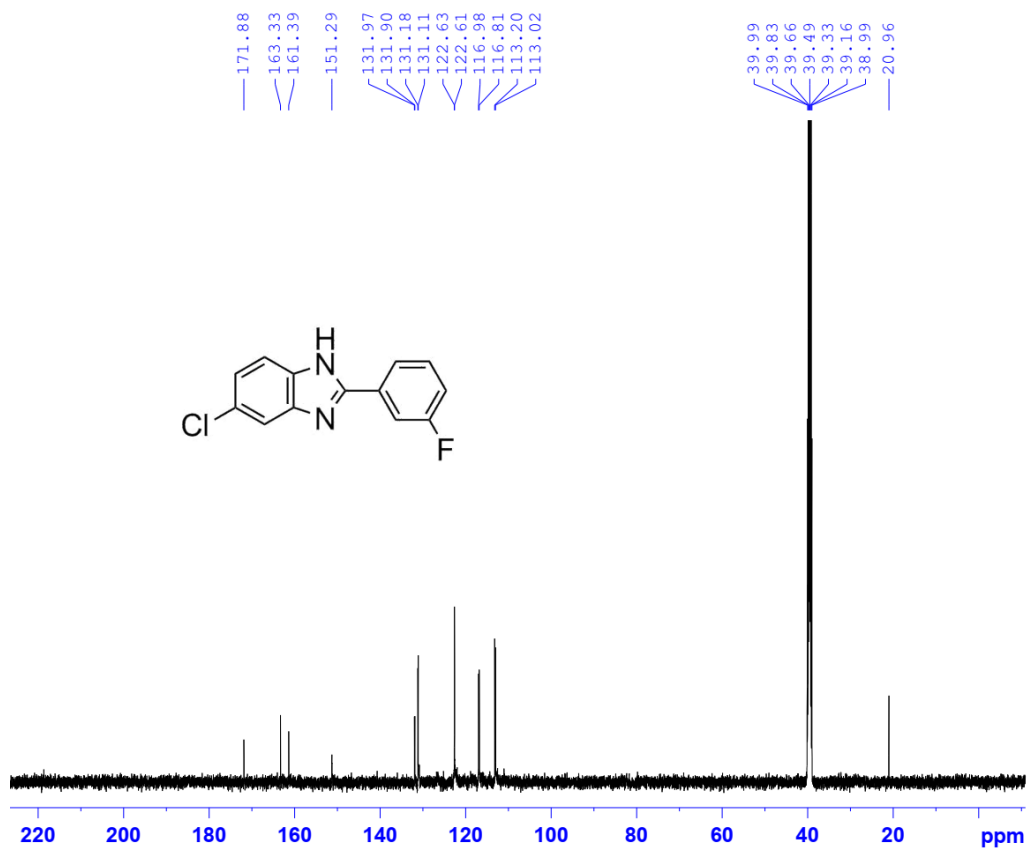


Figure S42.  $^{13}\text{C-NMR}$  of compound **4u** in  $\text{DMSO-}d_6$

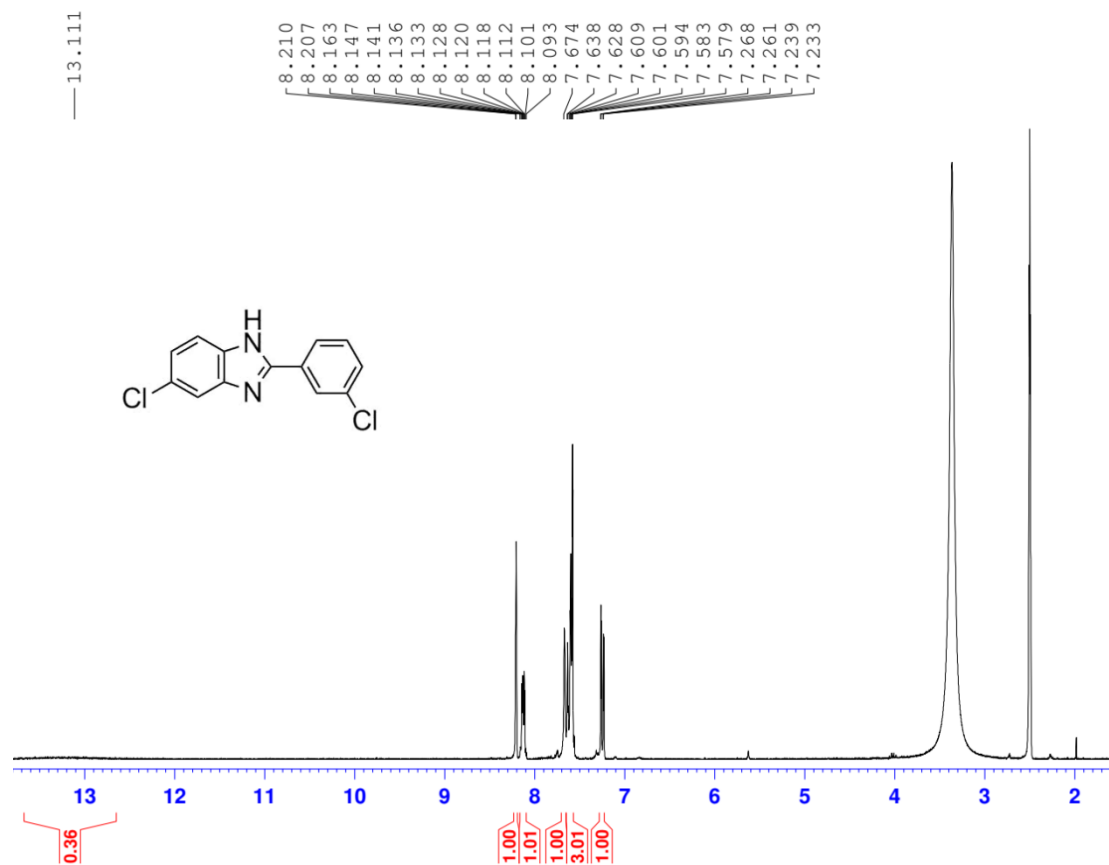


Figure S43.  $^1\text{H-NMR}$  of compound **4v** in  $\text{DMSO-}d_6$

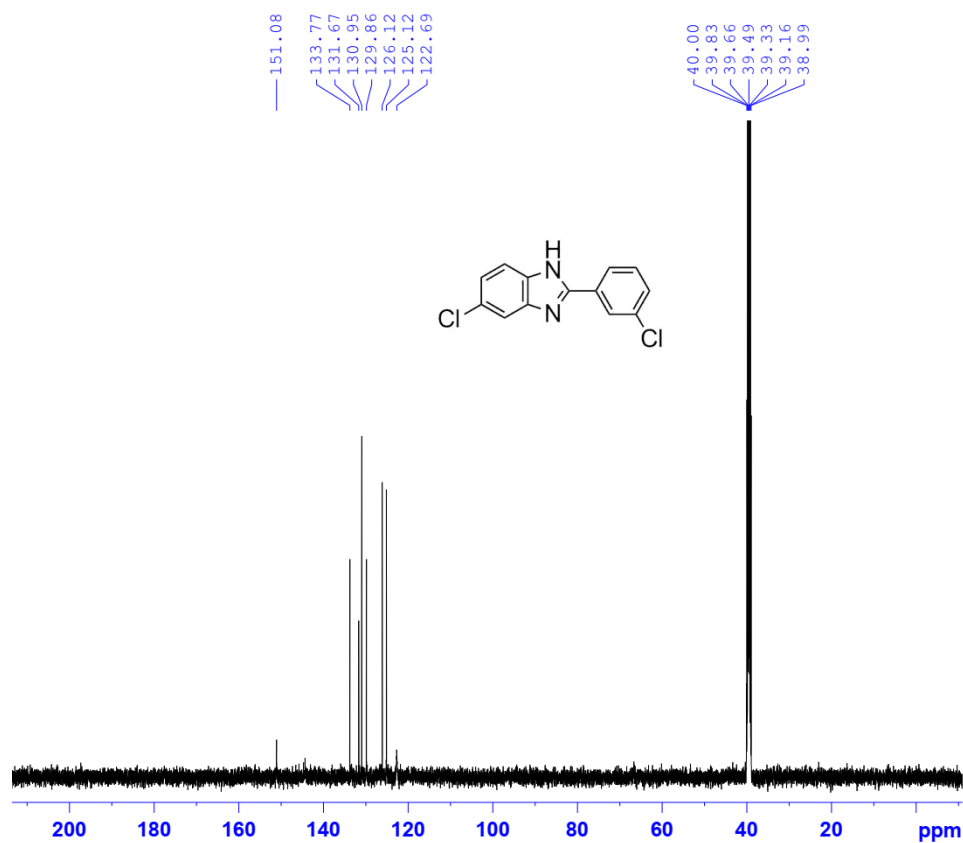


Figure S44.  $^{13}\text{C-NMR}$  of compound **4v** in  $\text{DMSO-}d_6$

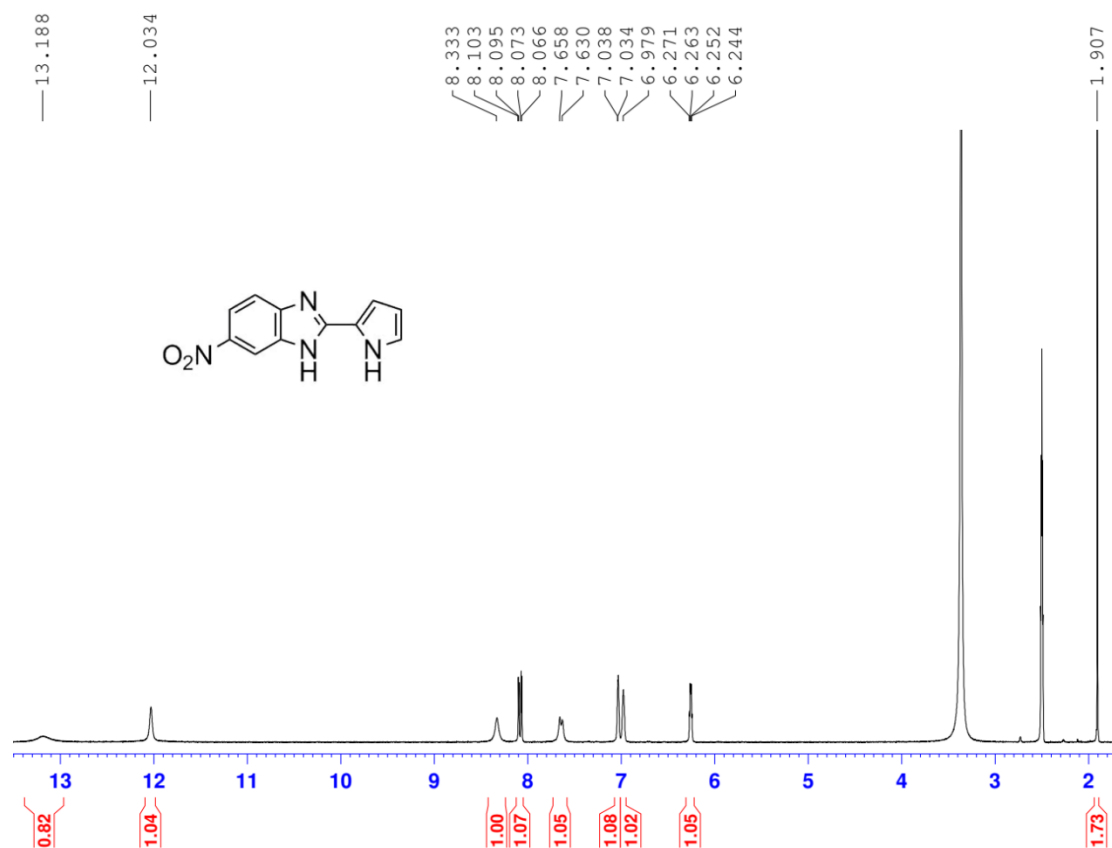


Figure S45. <sup>1</sup>H-NMR of compound 4w in DMSO-*d*<sub>6</sub>

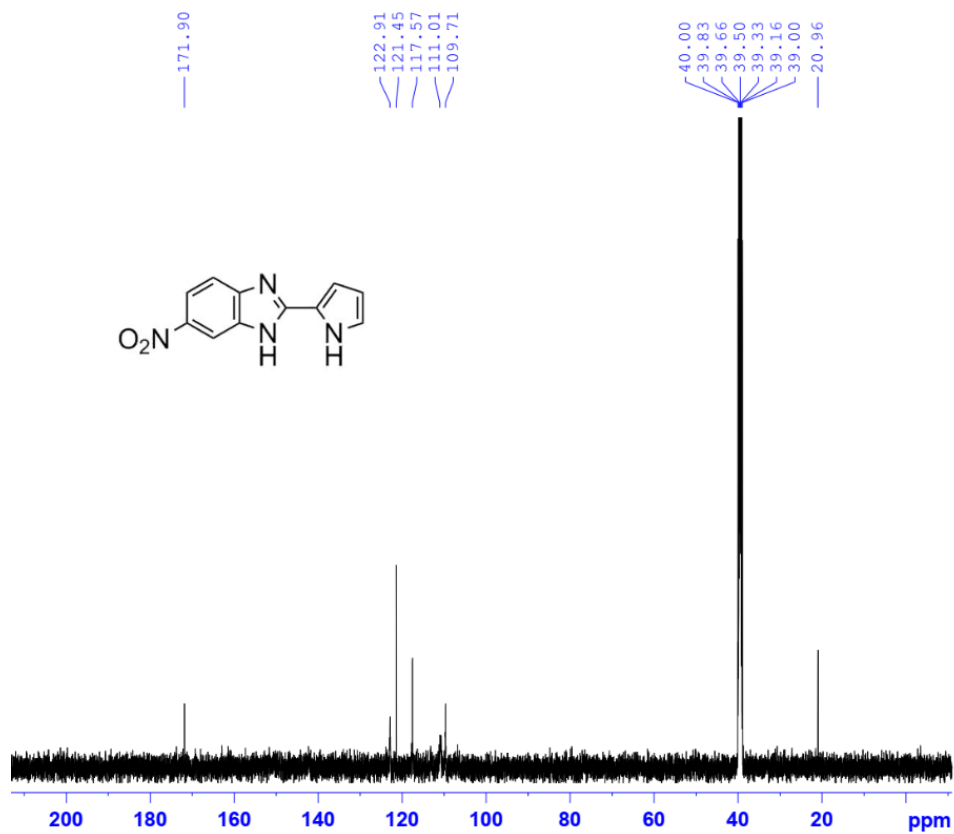


Figure S46. <sup>13</sup>C-NMR of compound 4w in DMSO-*d*<sub>6</sub>

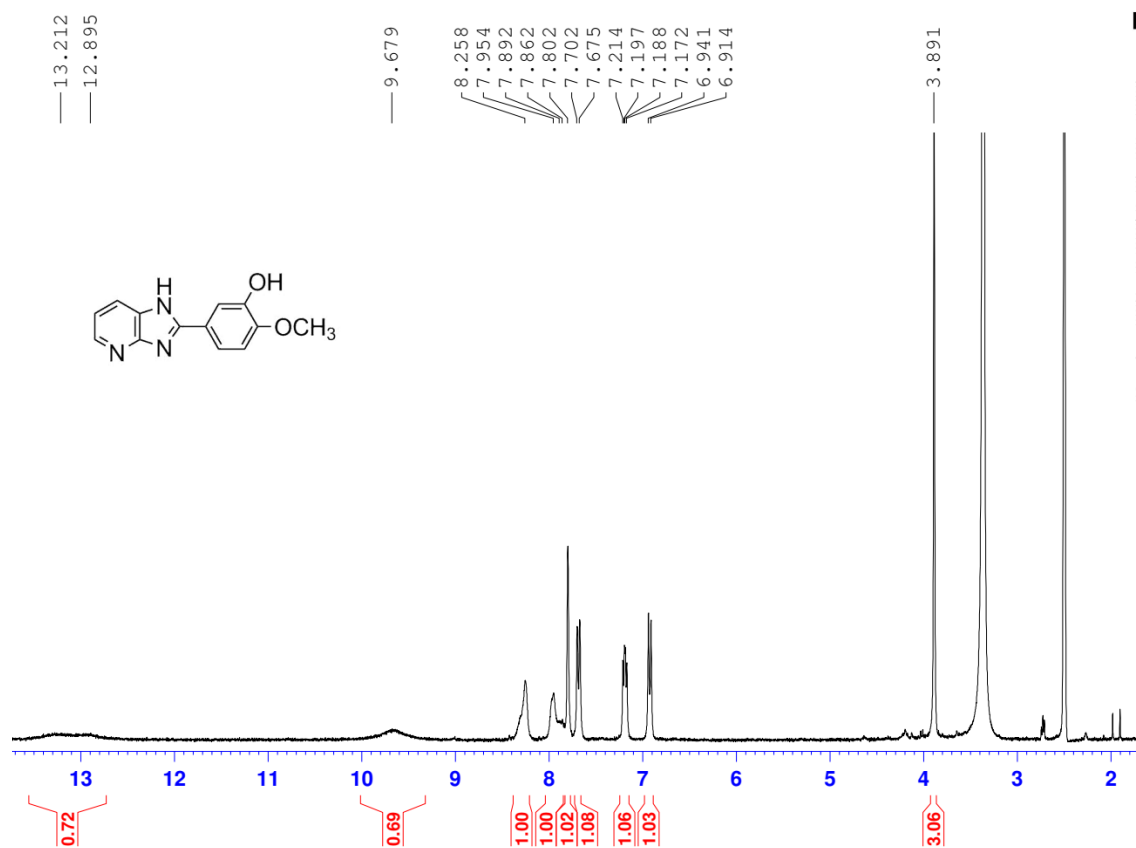


Figure S47. <sup>1</sup>H-NMR of compound 4x in DMSO-*d*<sub>6</sub>

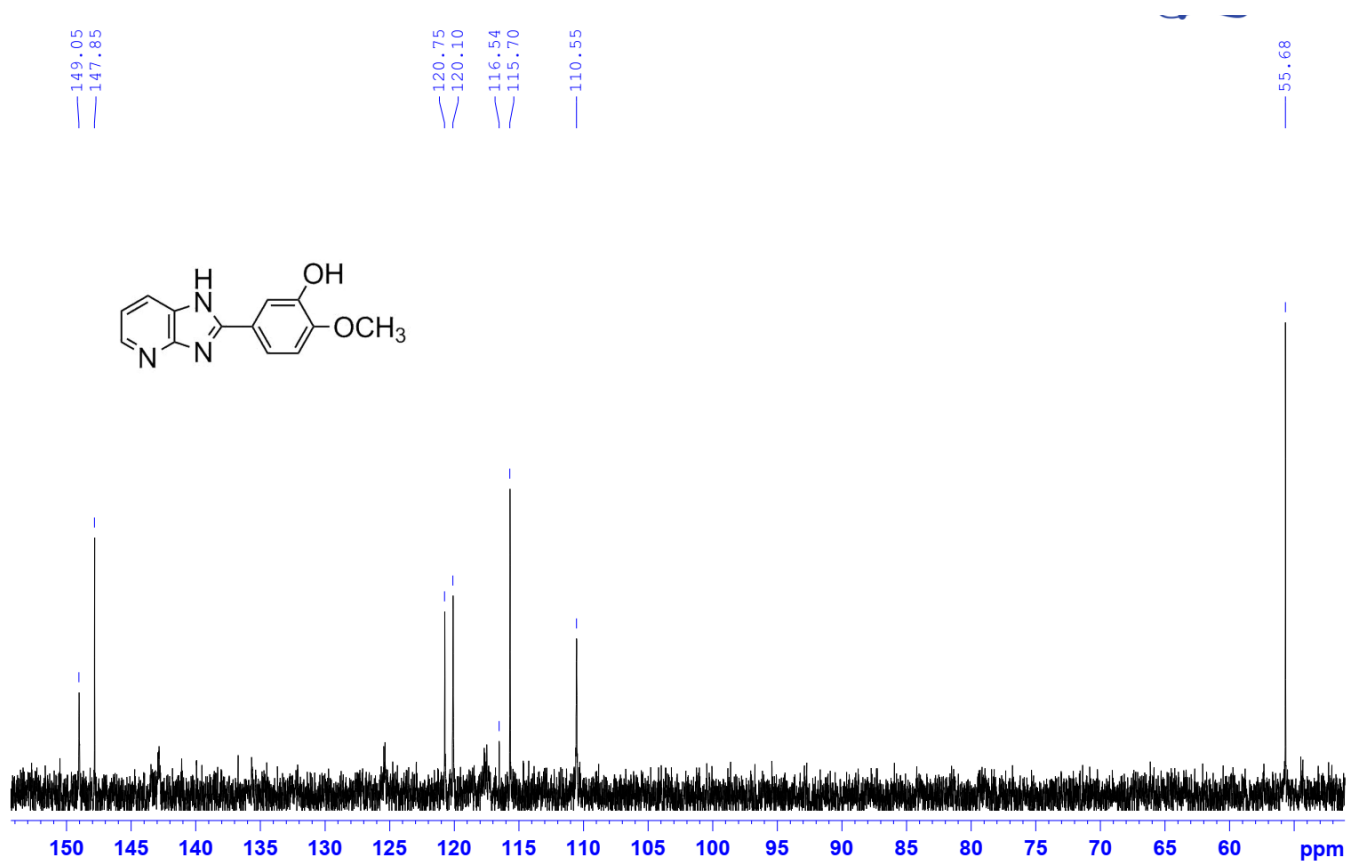


Figure S48. <sup>13</sup>C-NMR of compound 4x in DMSO-*d*<sub>6</sub>