

The Effect of 4-(Dimethylamino)phenyl-5-oxopyrrolidines on Breast and Pancreatic Cancer Cell Colony Formation, Migration, and Growth of Tumor Spheroids

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4-(1H-benzo[d]imidazol-2-yl)-1-(4-(dimethylamino)phenyl)pyrrolidin-2-one (3a)

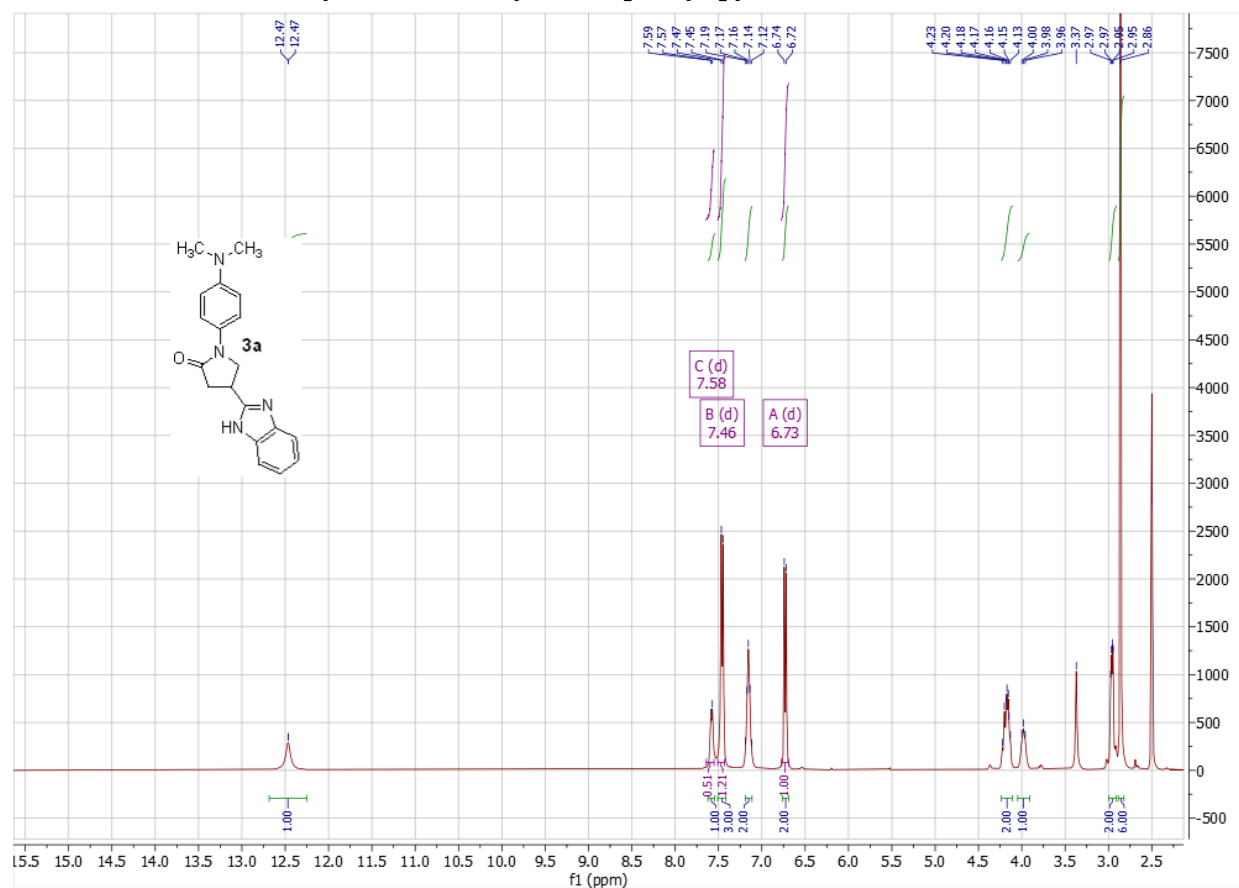


Figure S1. ¹H NMR spectrum of compound 3a.

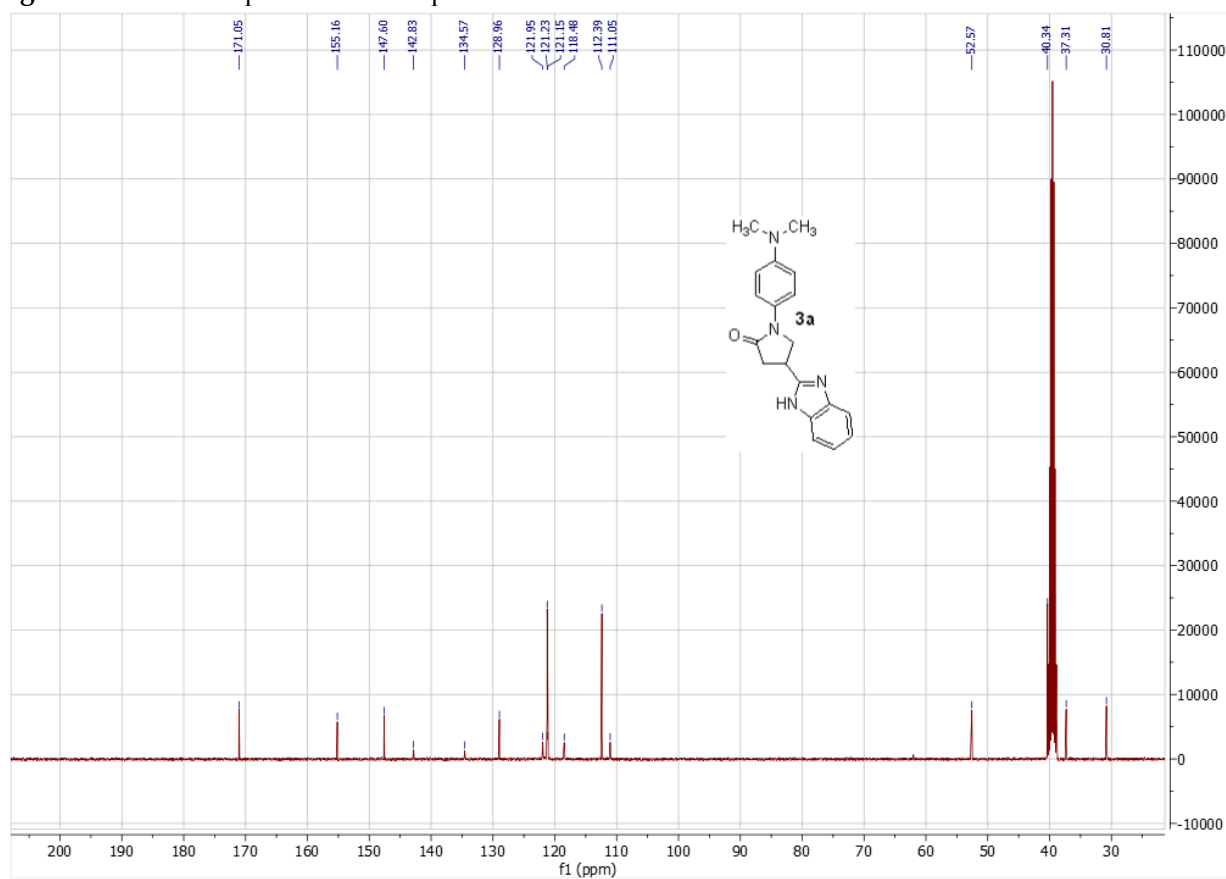


Figure S2. ¹³C NMR spectrum of compound 3a.

1-(4-(Dimethylamino)phenyl)-4-(5-fluoro-1H-benzo[d]imidazol-2-yl)pyrrolidin-2-one (3b)

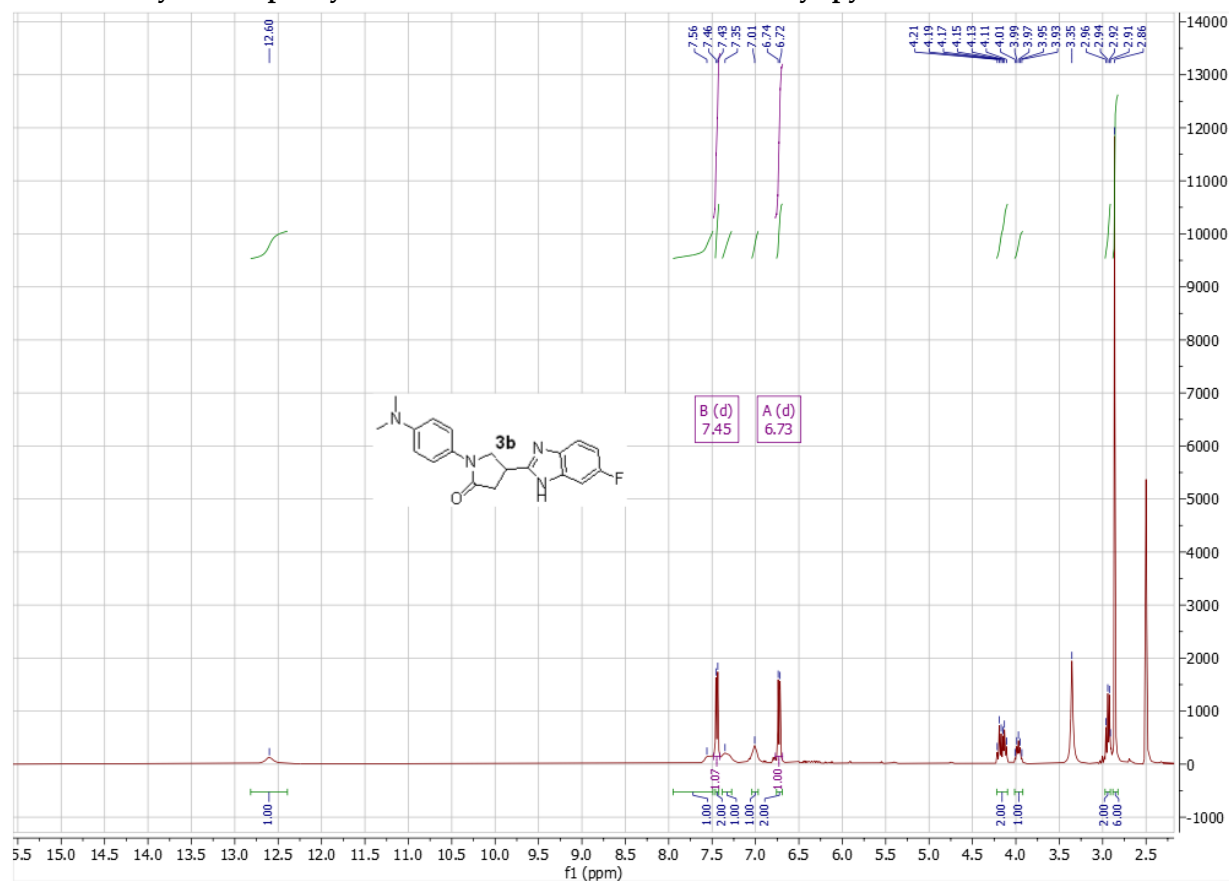


Figure S3. ^1H NMR spectrum of compound 3b.

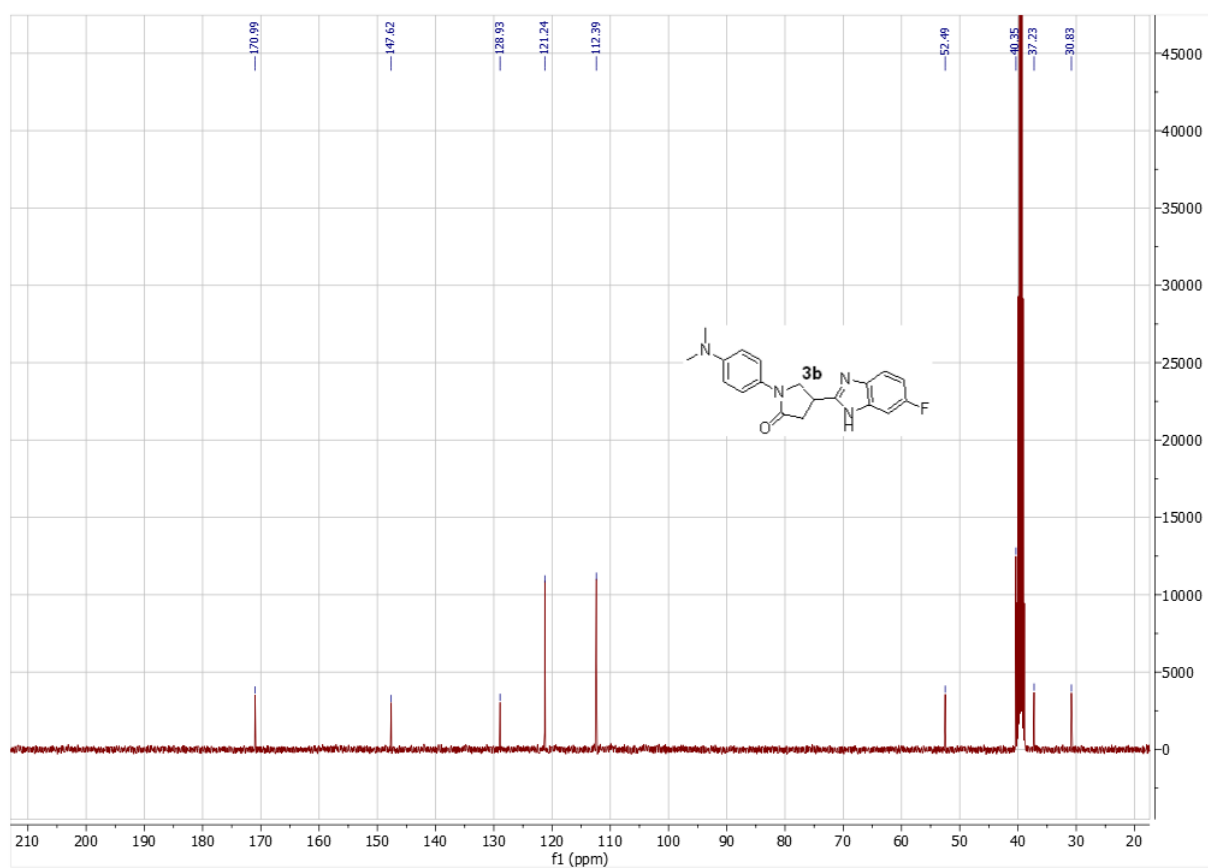


Figure S4. ^{13}C NMR spectrum of compound 3b.

1-(4-(Dimethylamino)phenyl)-4-(5-chloro-1H-benzo[d]imidazol-2-yl)pyrrolidin-2-one (3c)

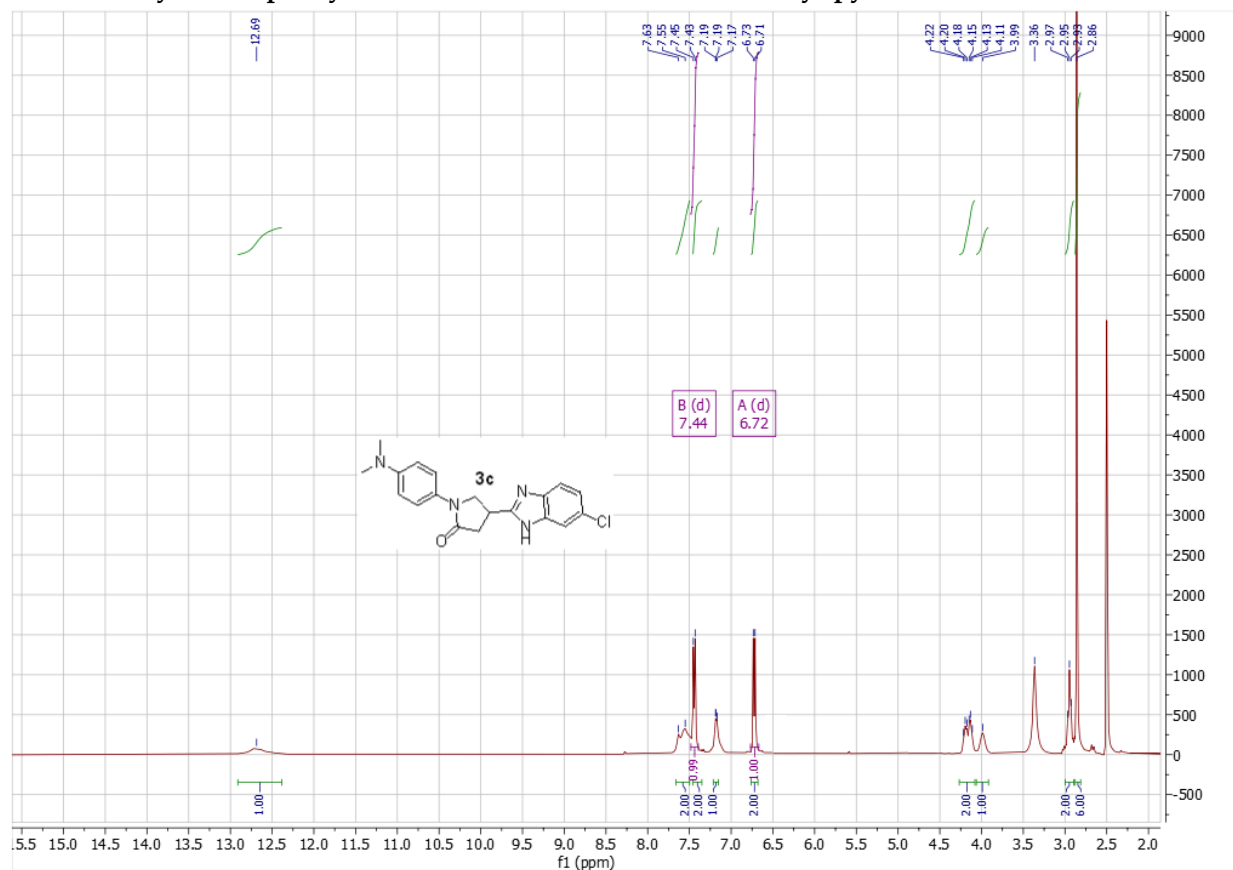


Figure S5. ¹H NMR spectrum of compound 3c.

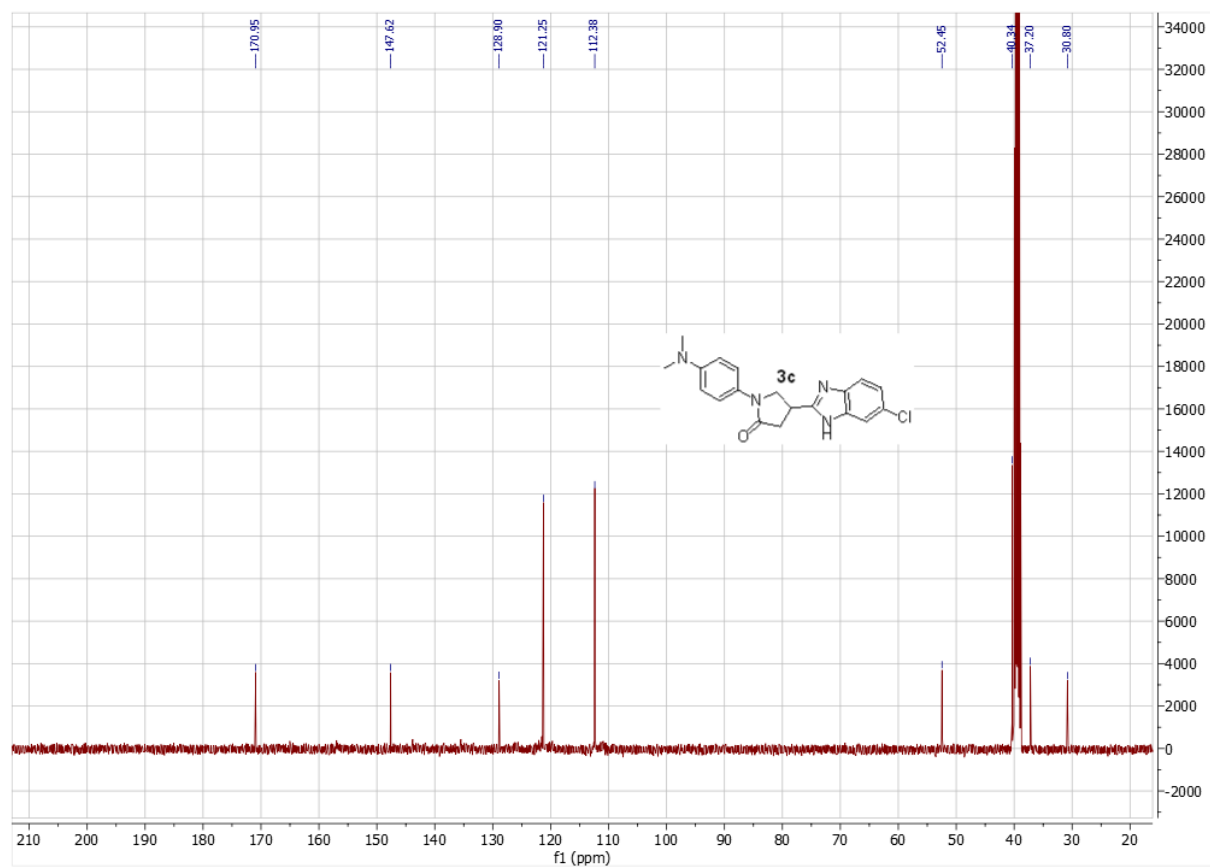


Figure S6. ¹³C NMR spectrum of compound 3c.

1-(4-(Dimethylamino)phenyl)-4-(5-methyl-1H-benzo[d]imidazol-2-yl)pyrrolidin-2-one (3d)

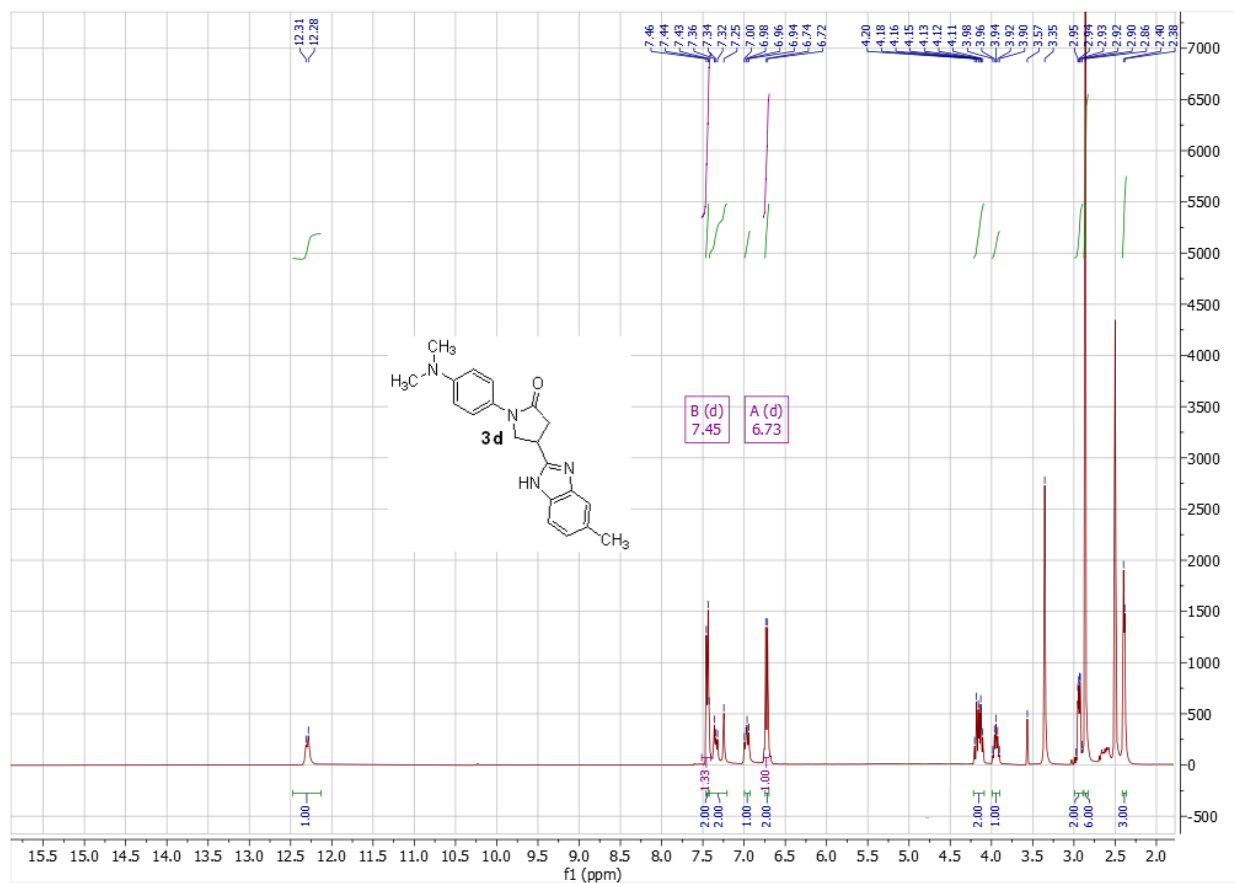


Figure S7. ¹H NMR spectrum of compound 3d.

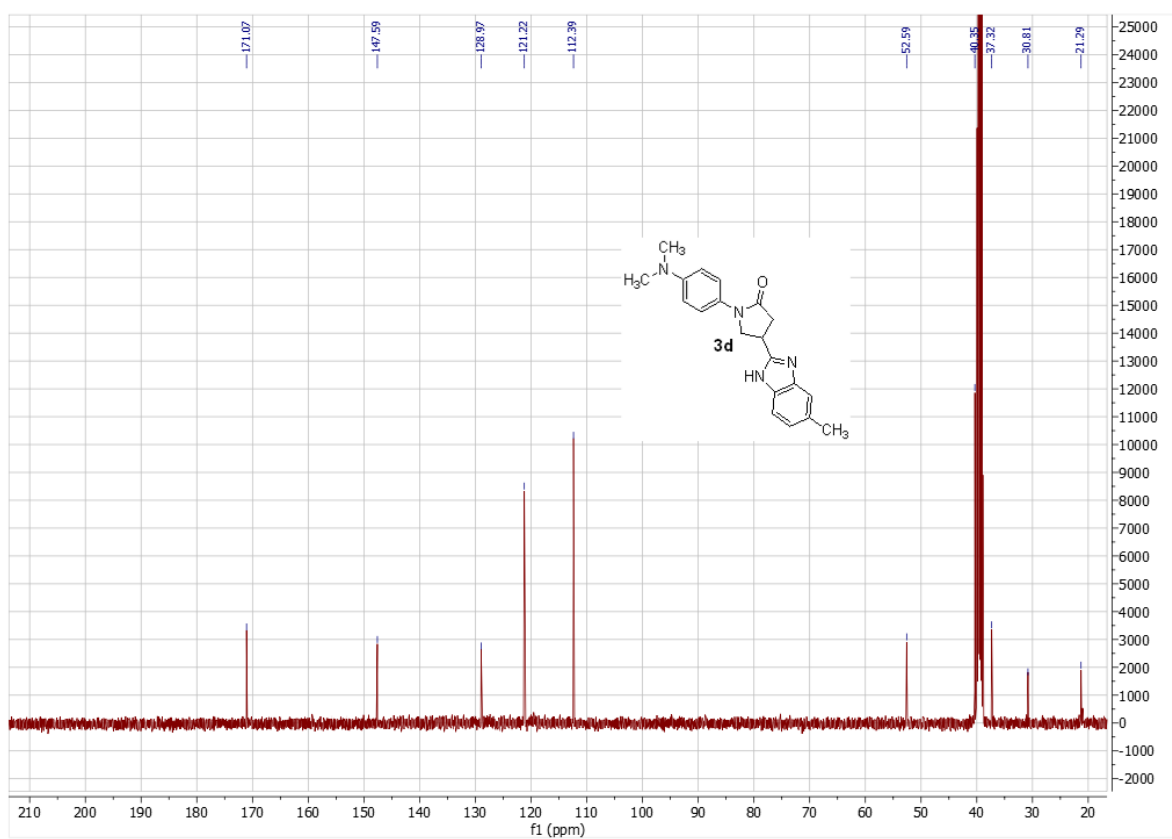


Figure S8. ¹³C NMR spectrum of compound 3d.

1-(4-(Dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (4)

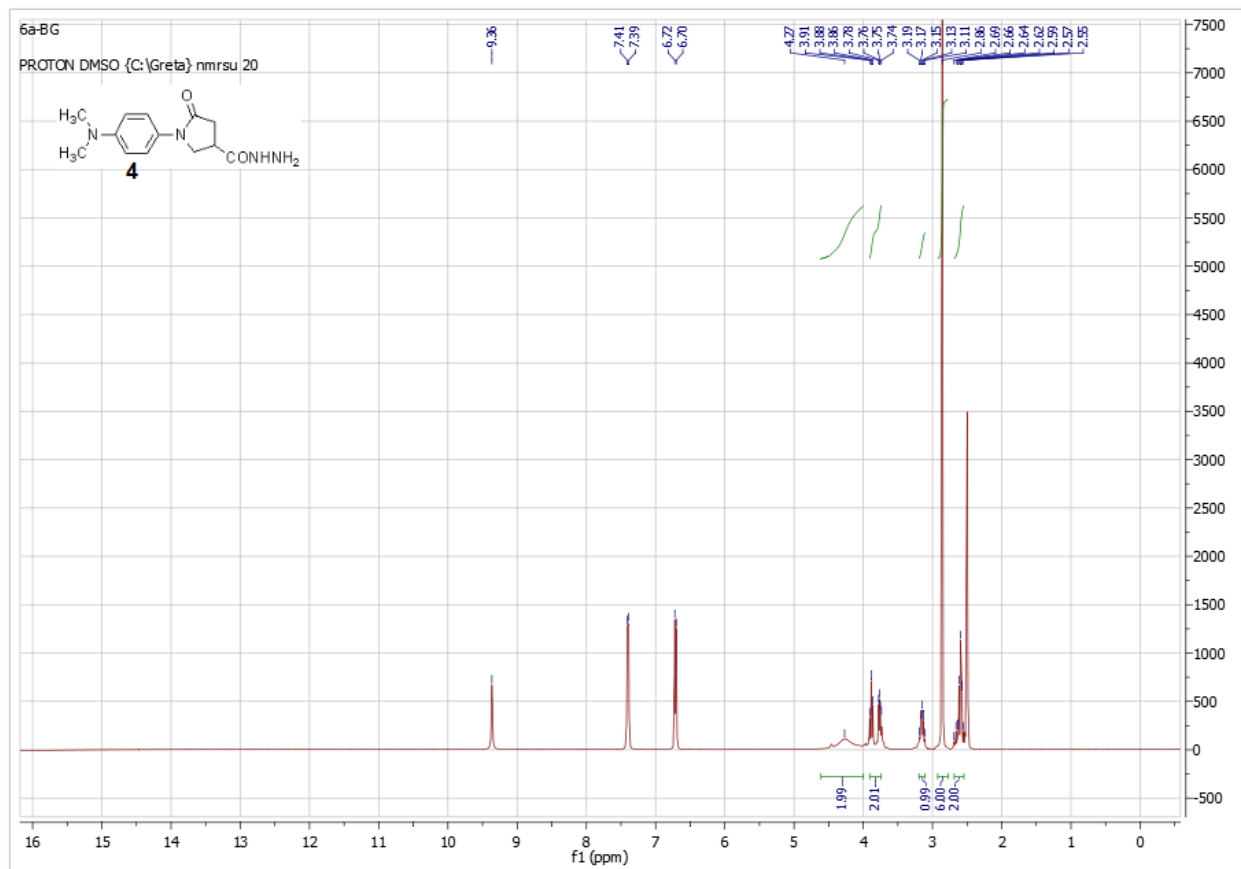


Figure S9. ^1H NMR spectrum of compound 4.

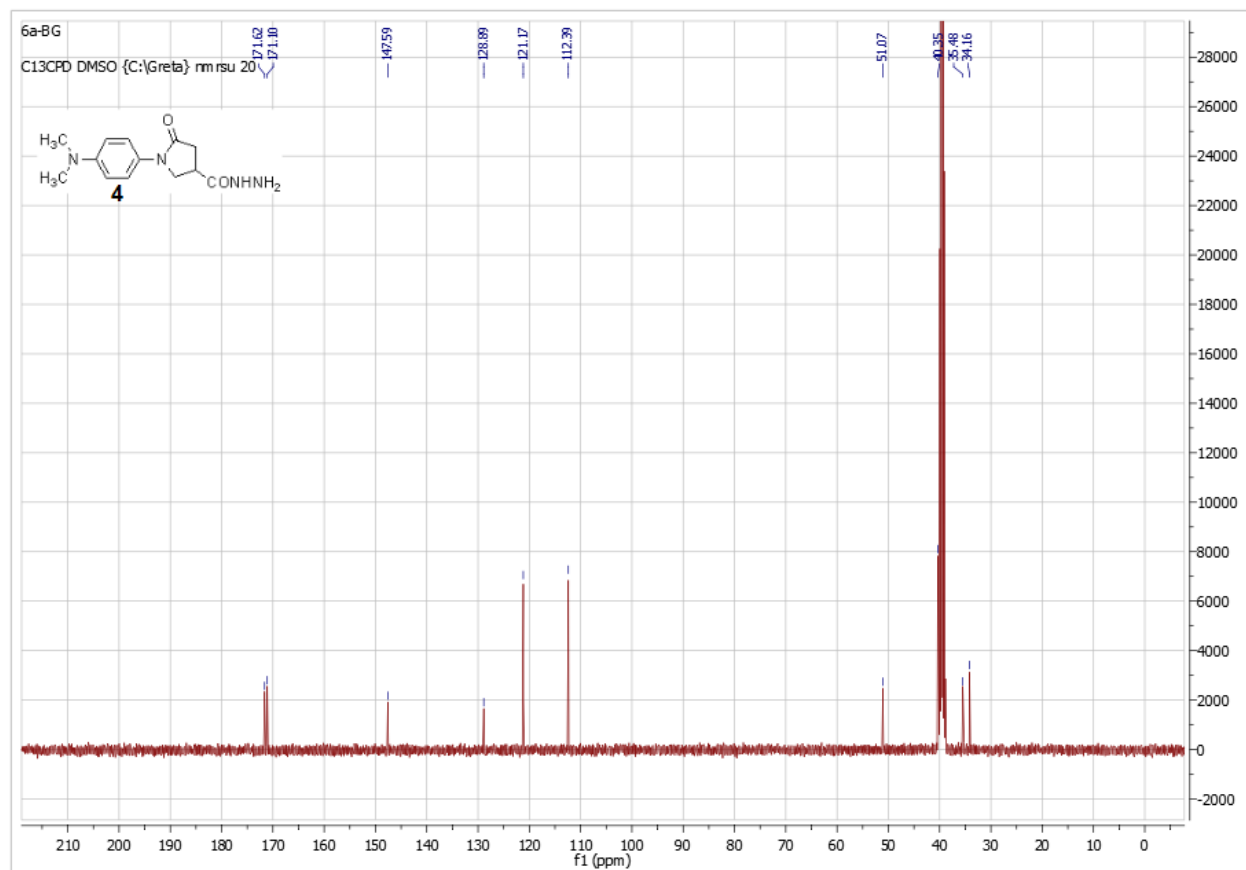


Figure S10. ^{13}C NMR spectrum of compound 4.

***N'*-benzylidene-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5a)**

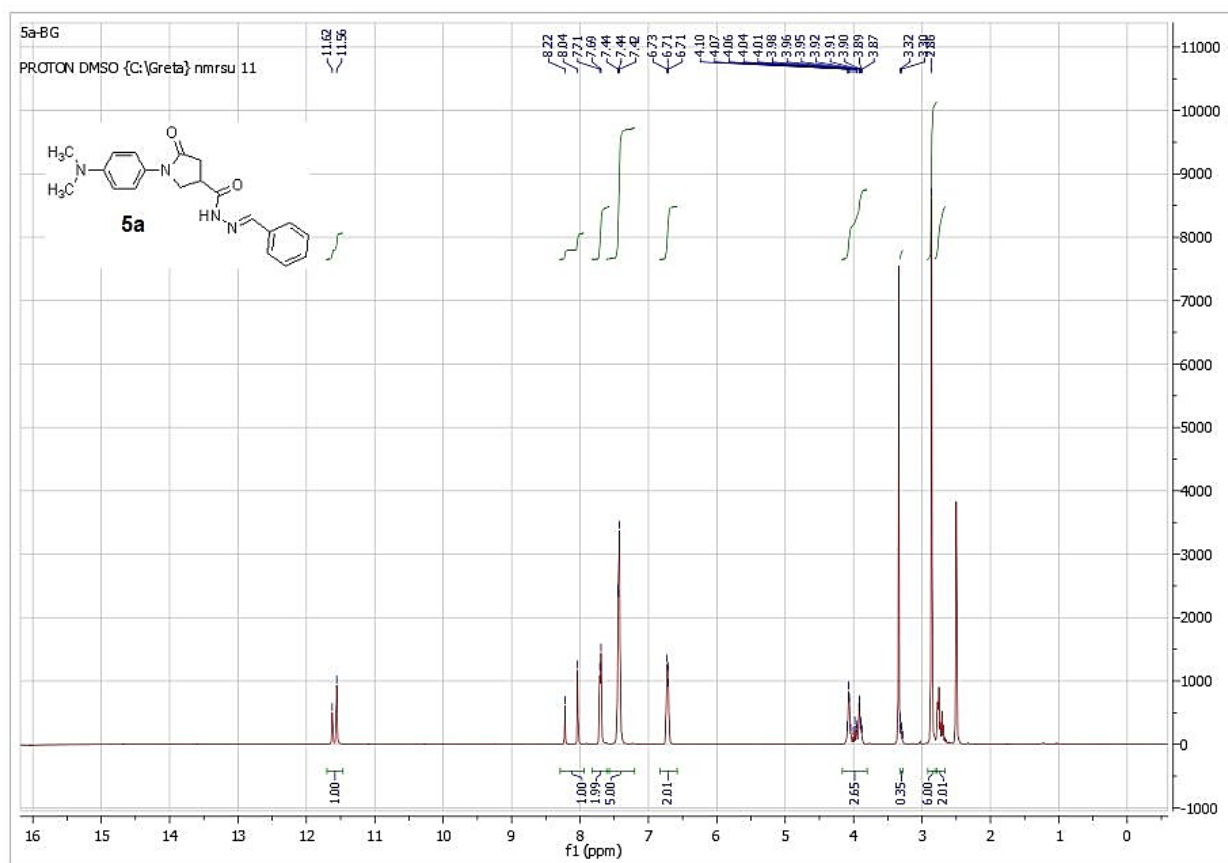


Figure S11. ^1H NMR spectrum of compound **5a**.

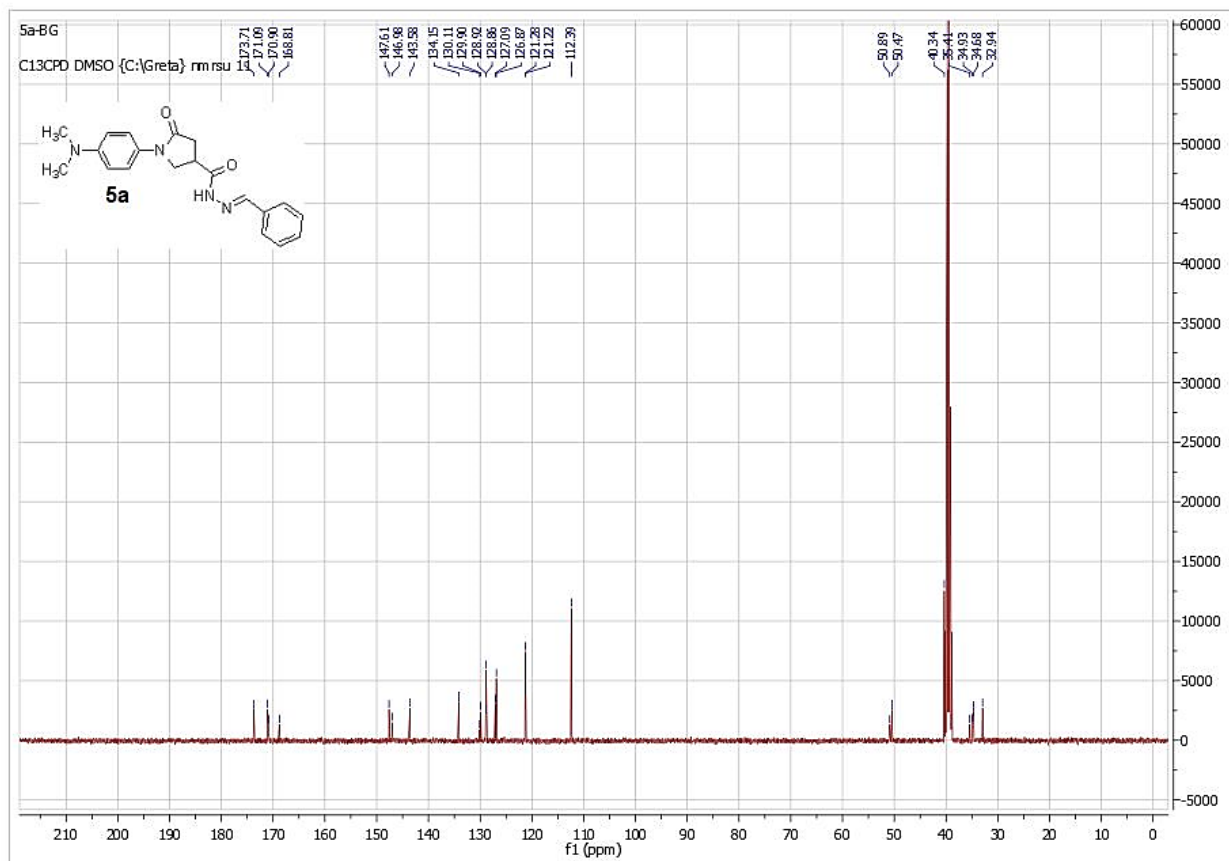


Figure S12. ^{13}C NMR spectrum of compound **5a**.

***N'*-(4-chlorobenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5b)**

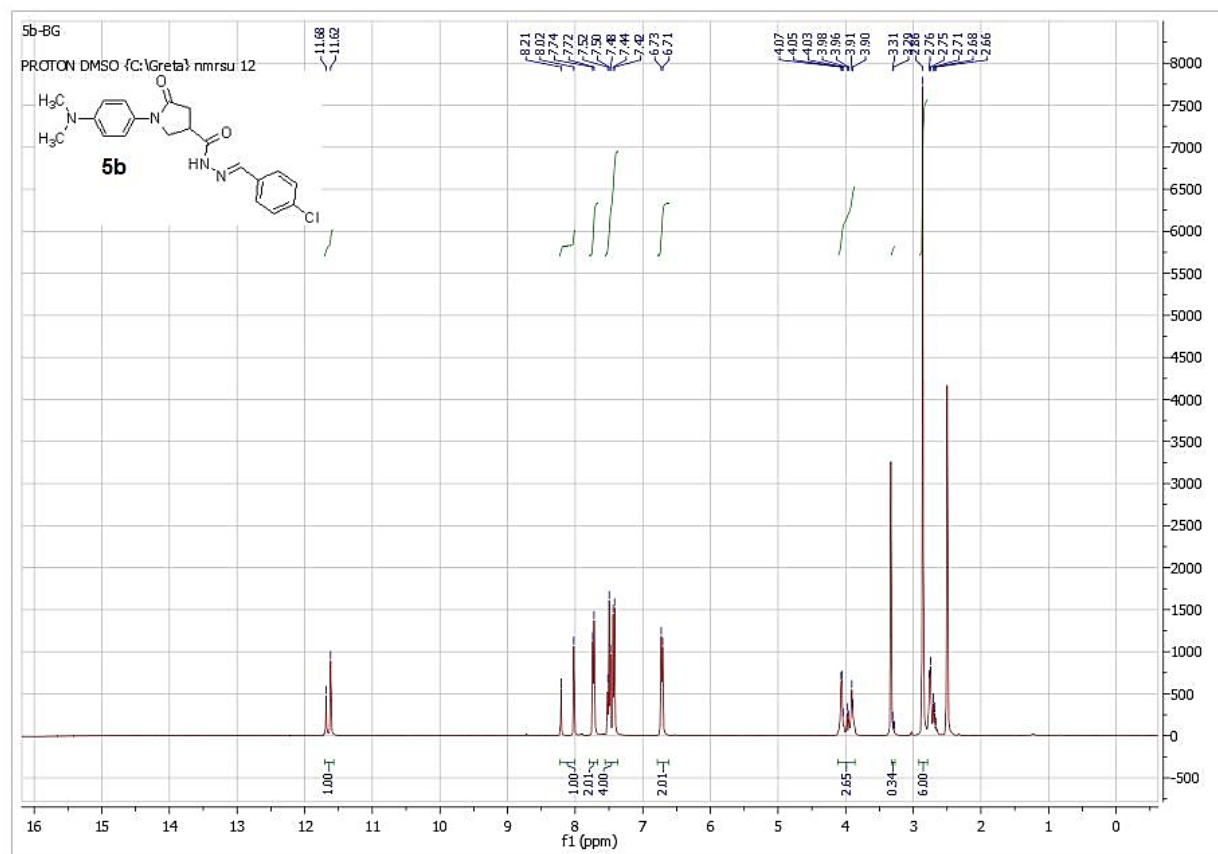


Figure S13. ^1H NMR spectrum of compound **5b**.

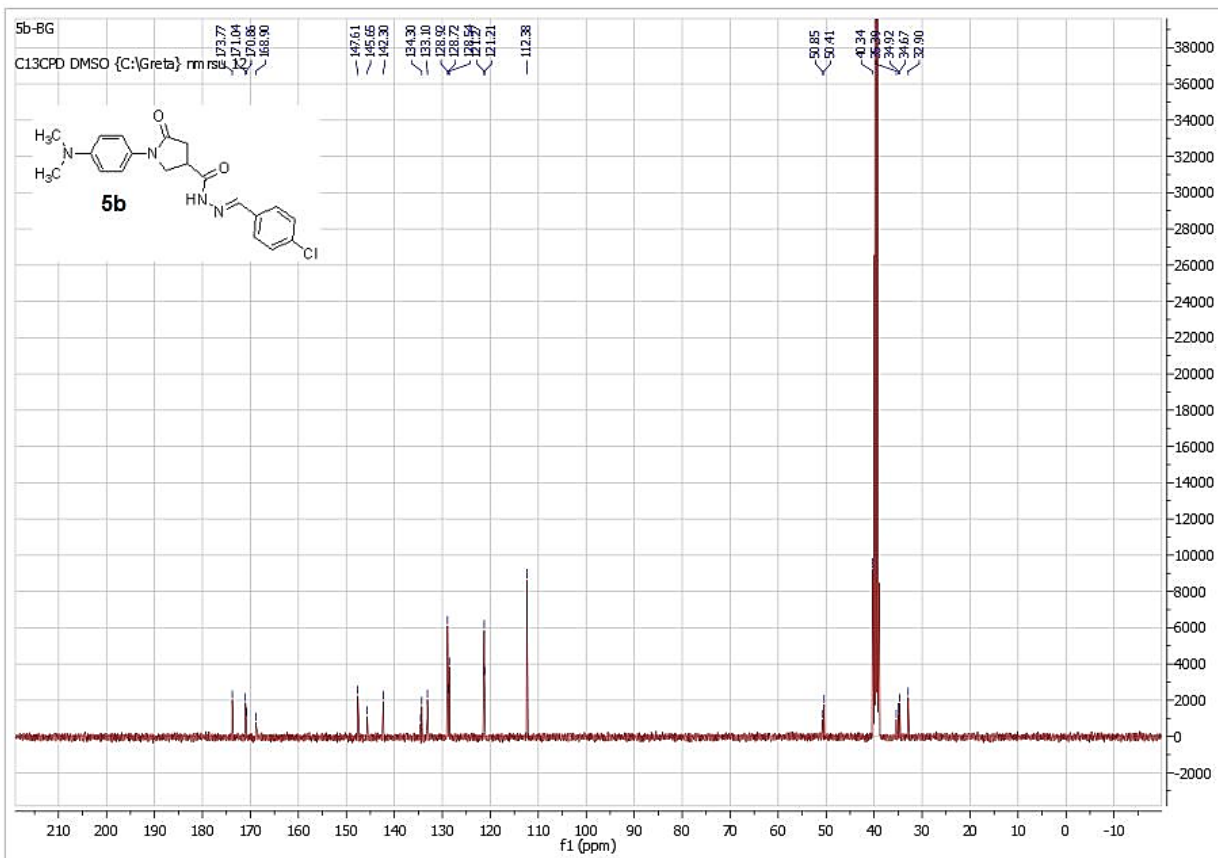


Figure S14. ^{13}C NMR spectrum of compound **5b**.

***N'*-(4-bromobenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5c)**

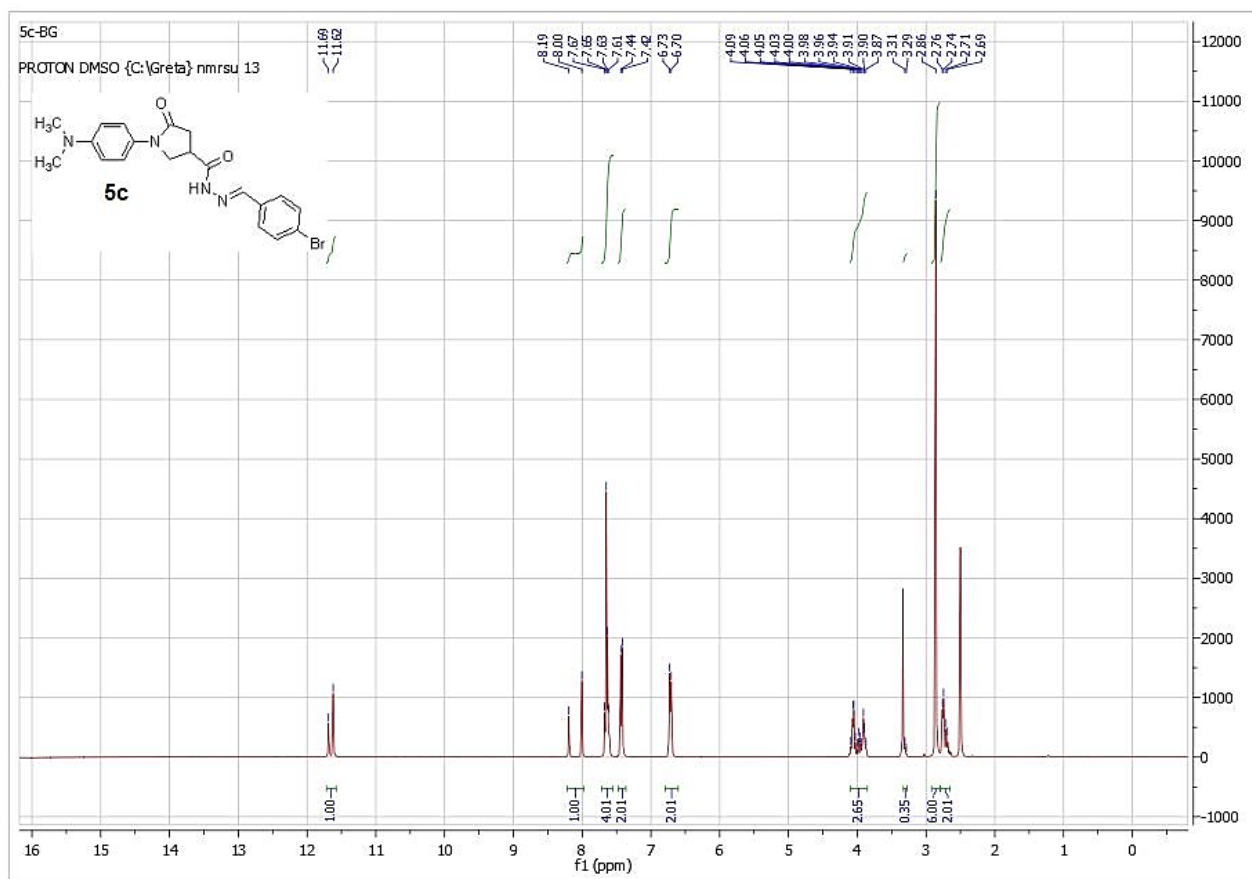


Figure S15. ^1H NMR spectrum of compound **5c**.

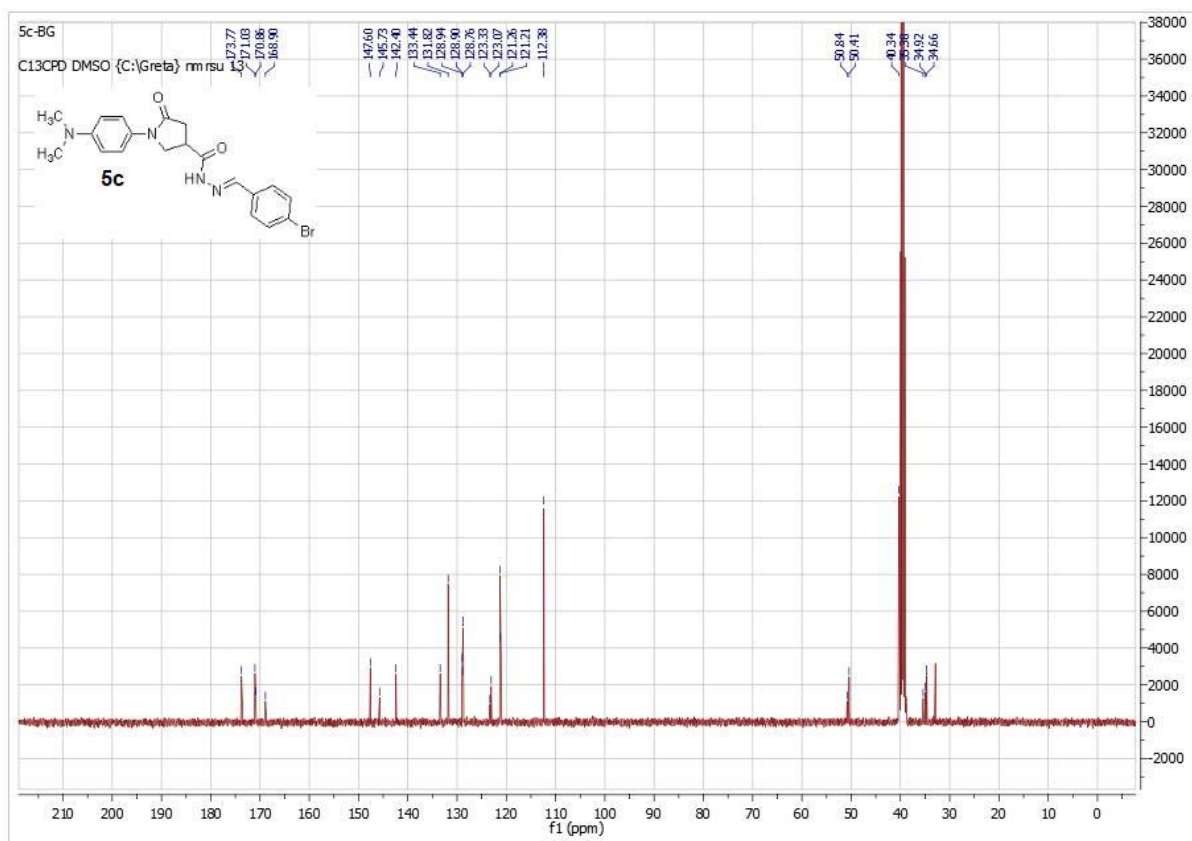


Figure S16. ^{13}C NMR spectrum of compound **5c**.

***N'*-((4-dimethylamino)benzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5d)**

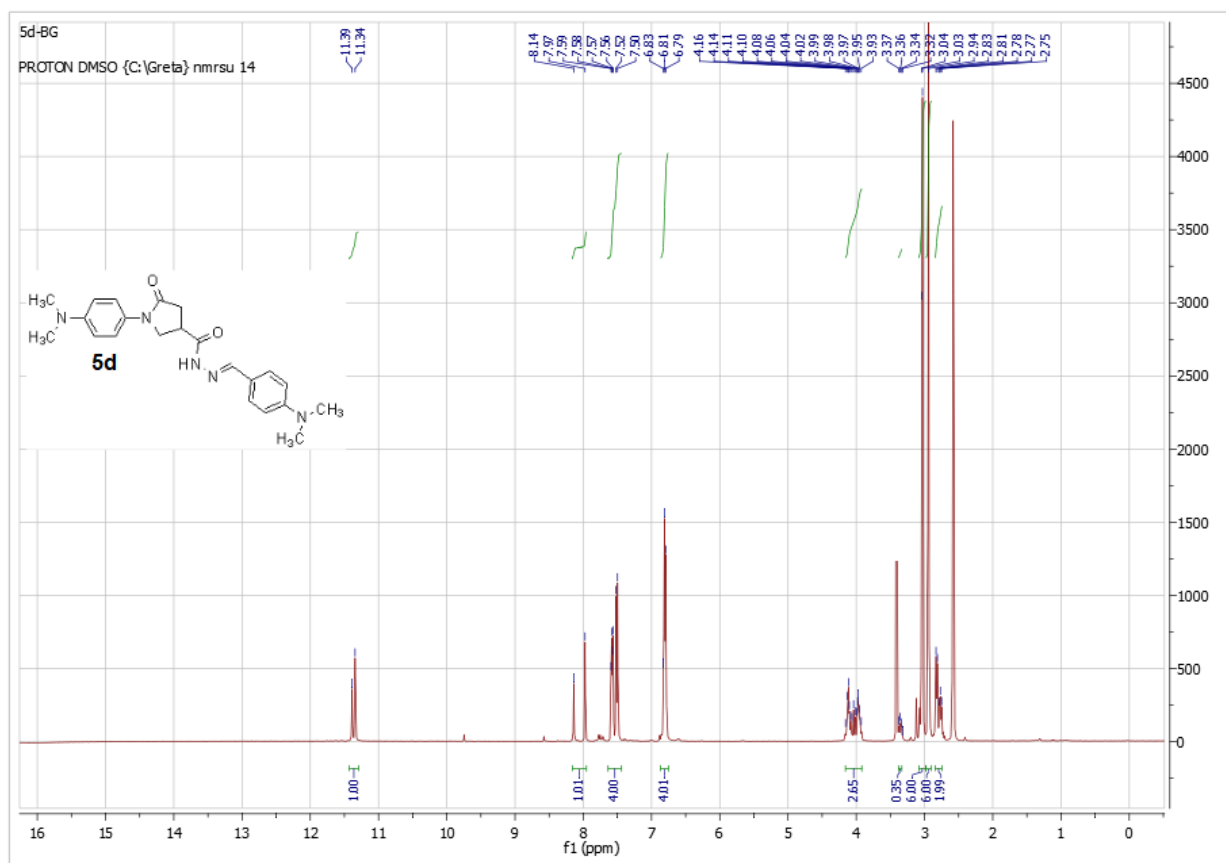


Figure S17. ¹H NMR spectrum of compound **5d**.

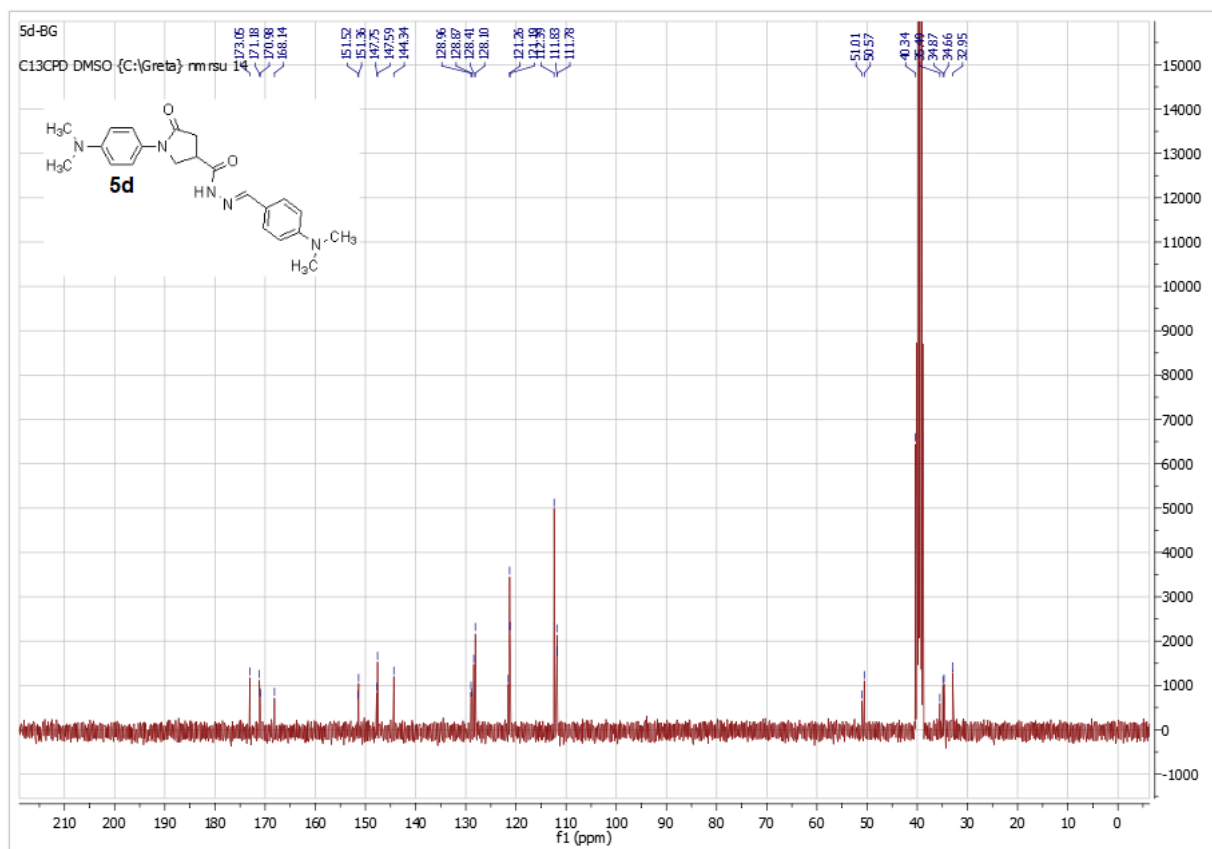


Figure S18. ¹³C NMR spectrum of compound **5d**.

***N'*-(4-methoxybenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5e)**

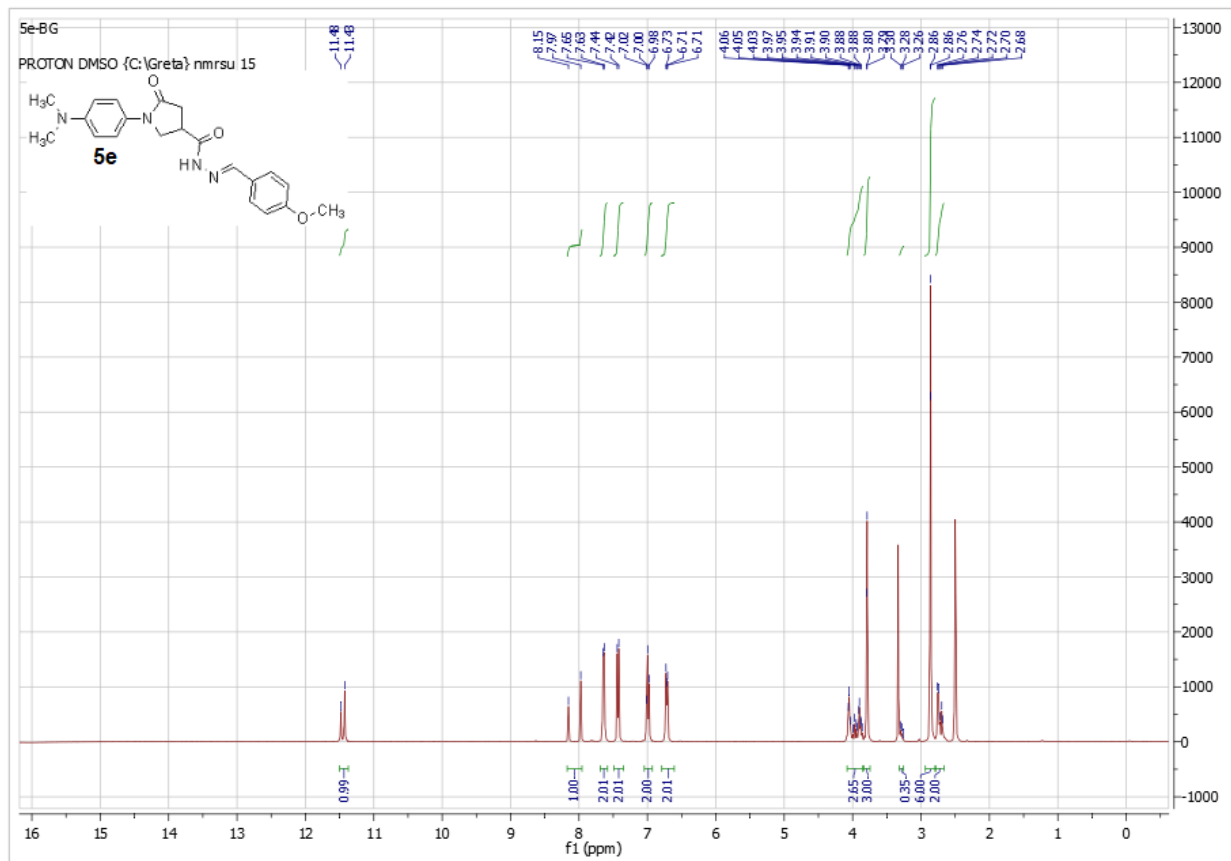


Figure S19. ^1H NMR spectrum of compound **5e**.

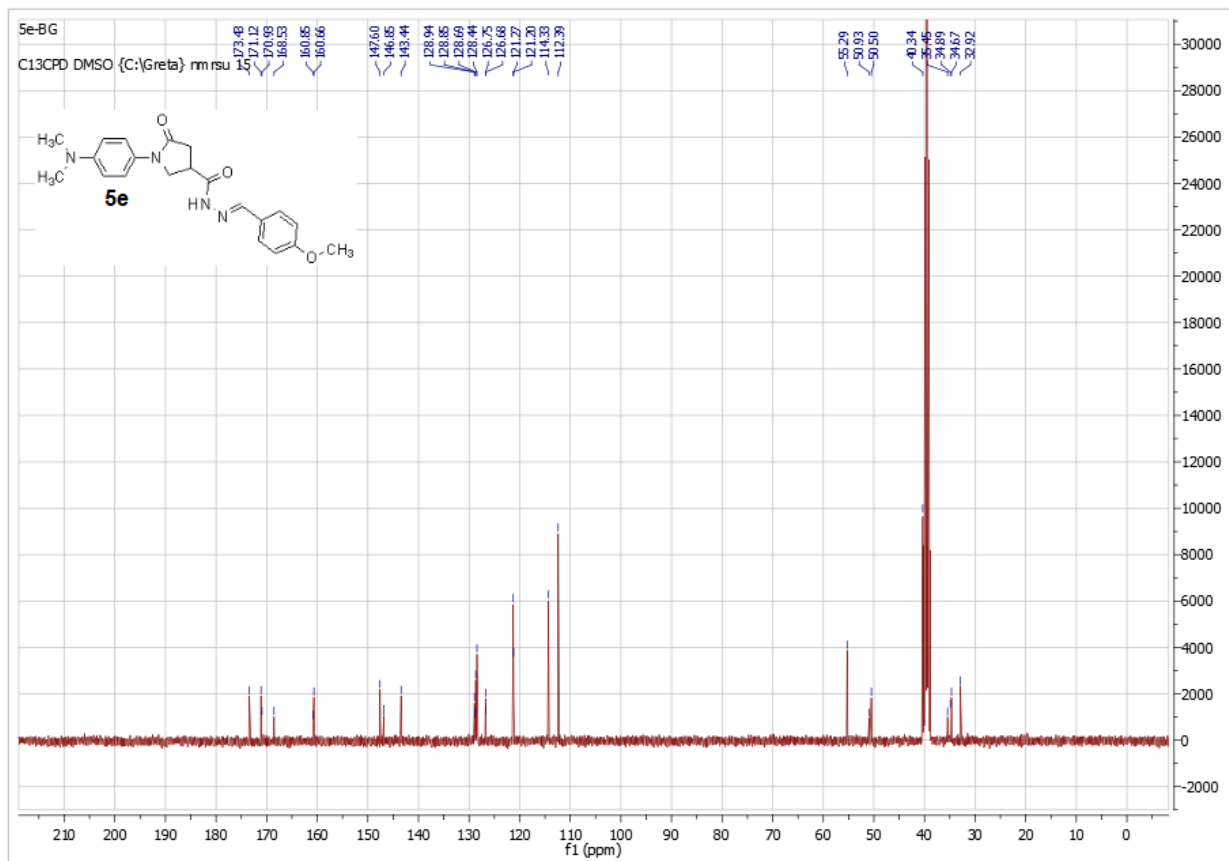


Figure S20. ^{13}C NMR spectrum of compound **5e**.

N'-(2,5-dimethoxybenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (**5f**)

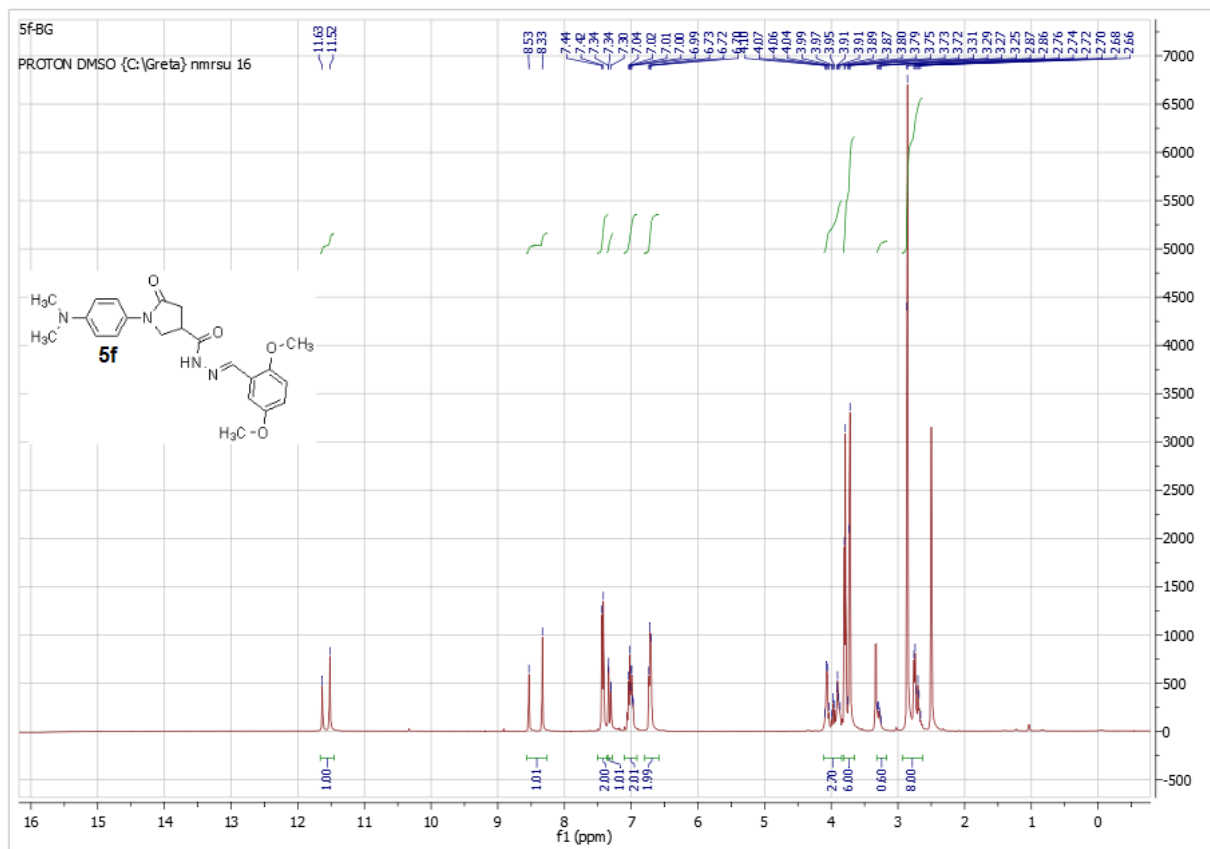


Figure S21. ¹H NMR spectrum of compound **5f**.

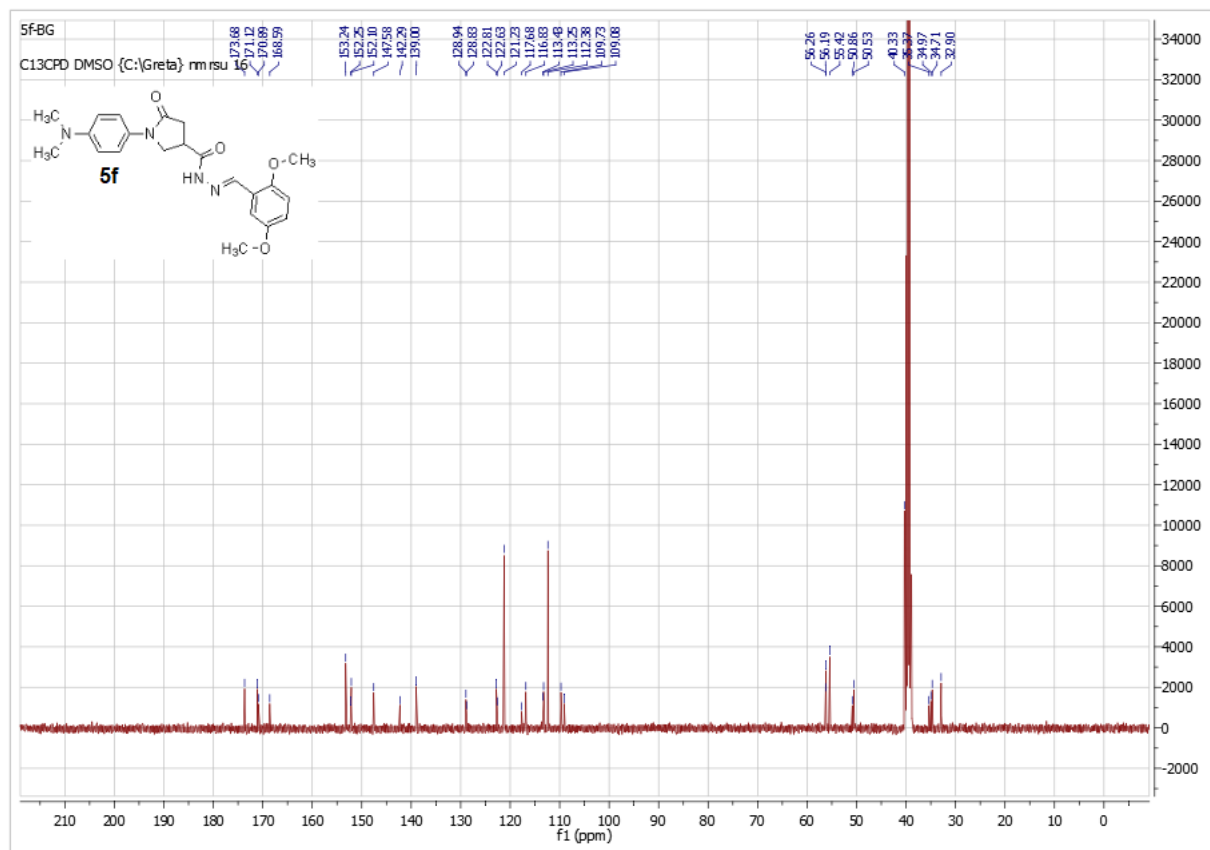


Figure S22. ¹³C NMR spectrum of compound **5f**.

***N'*-(2,4,6-trimethoxybenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5g)**

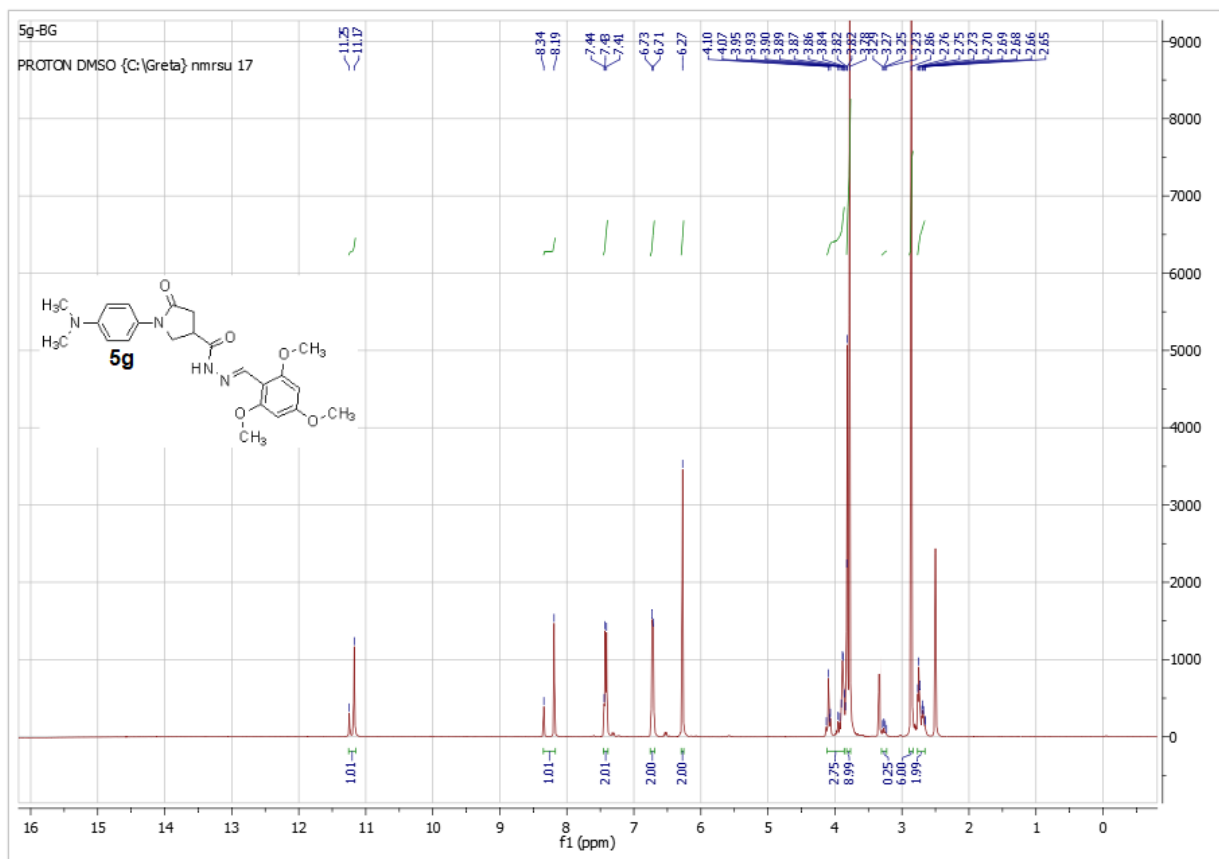


Figure S23. ^1H NMR spectrum of compound **5g**.

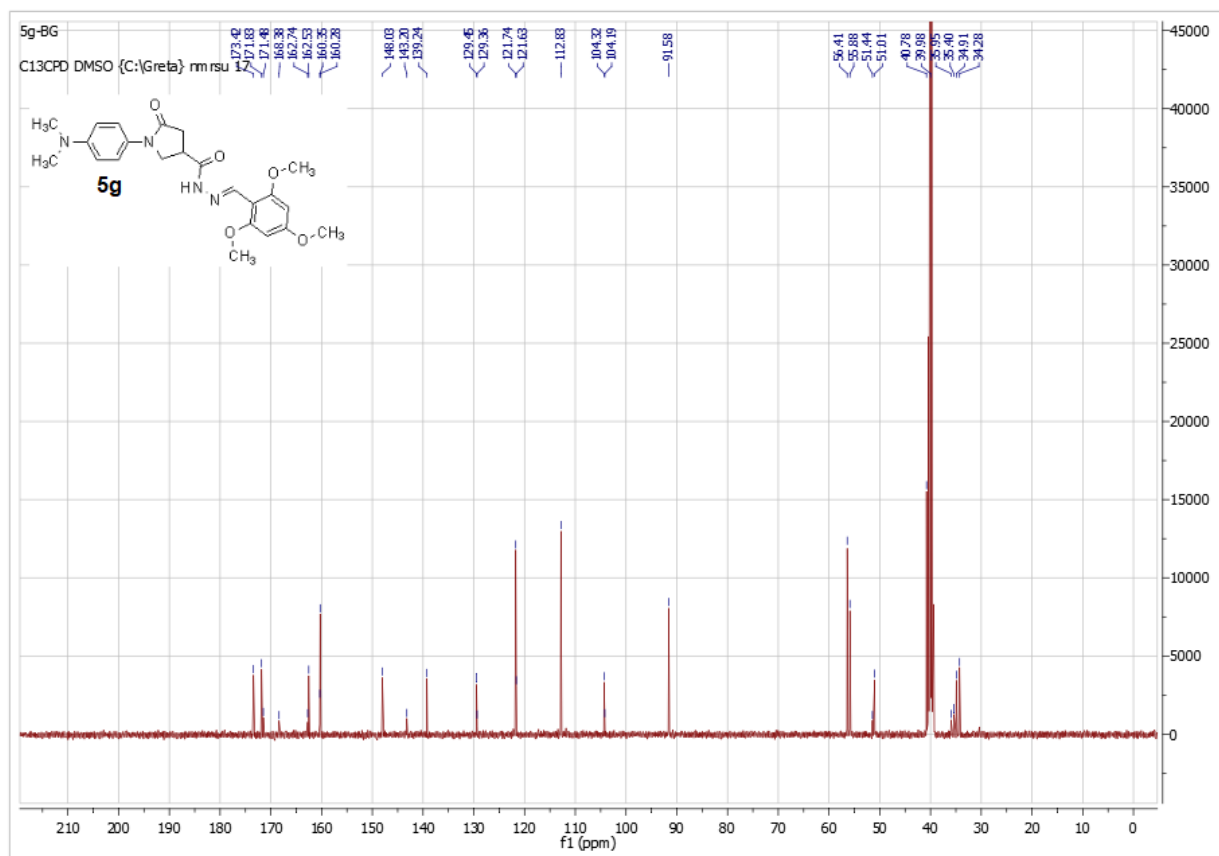


Figure S24. ^{13}C NMR spectrum of compound **5g**.

***N'*-(3,4,5-trimethoxybenzylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (5h)**

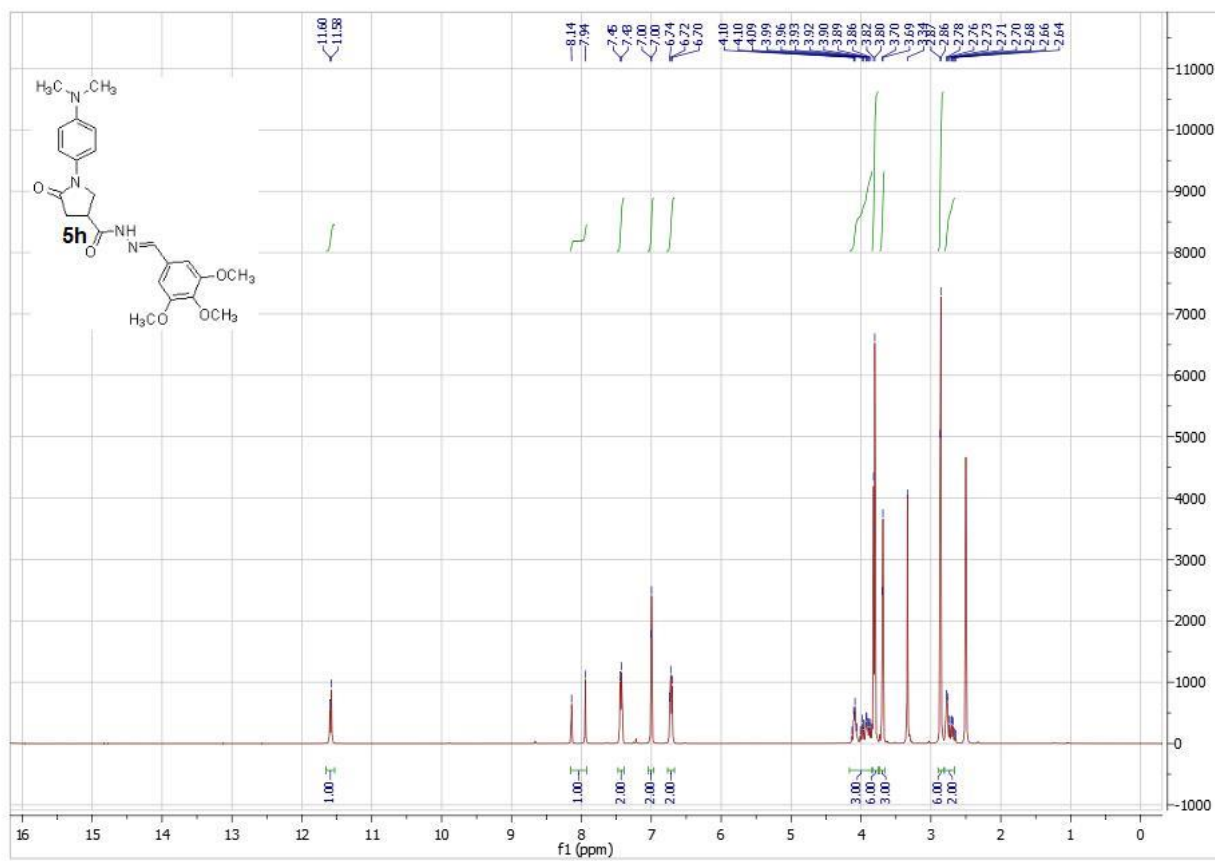


Figure S25. ¹H NMR spectrum of compound 5h.

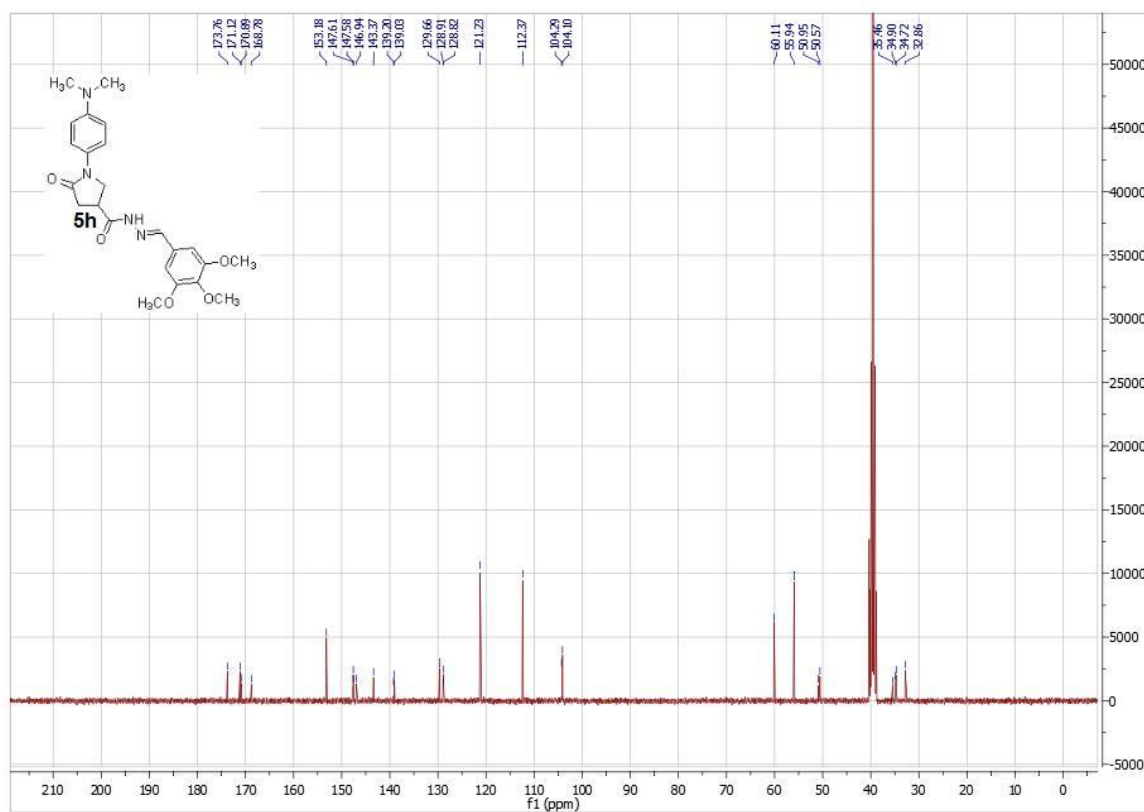


Figure S26. ¹³C NMR spectrum of compound 5h.

1-(4-(Dimethylamino)phenyl)-N'-(4-nitrobenzylidene)-5-oxopyrrolidine-3-carbohydrazide (**5i**)

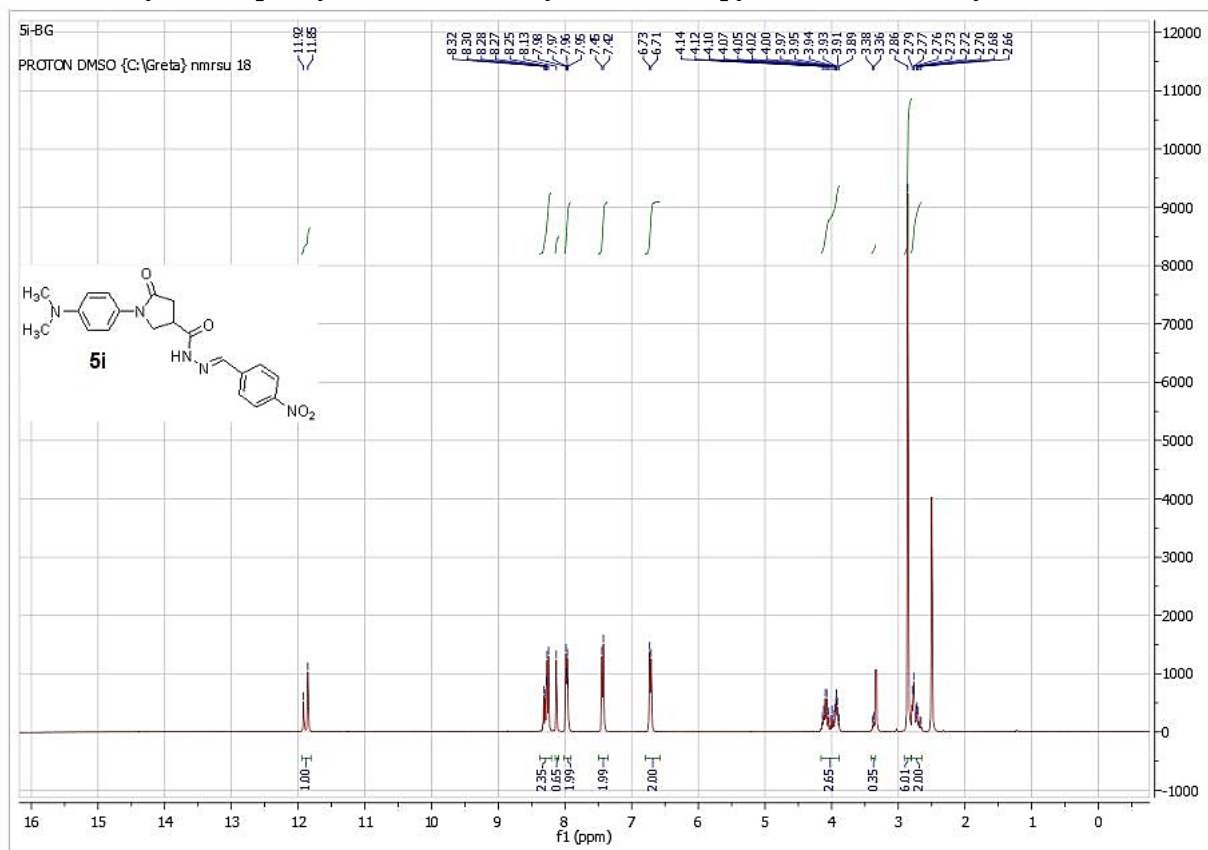


Figure S27. ¹H NMR spectrum of compound **5i**.

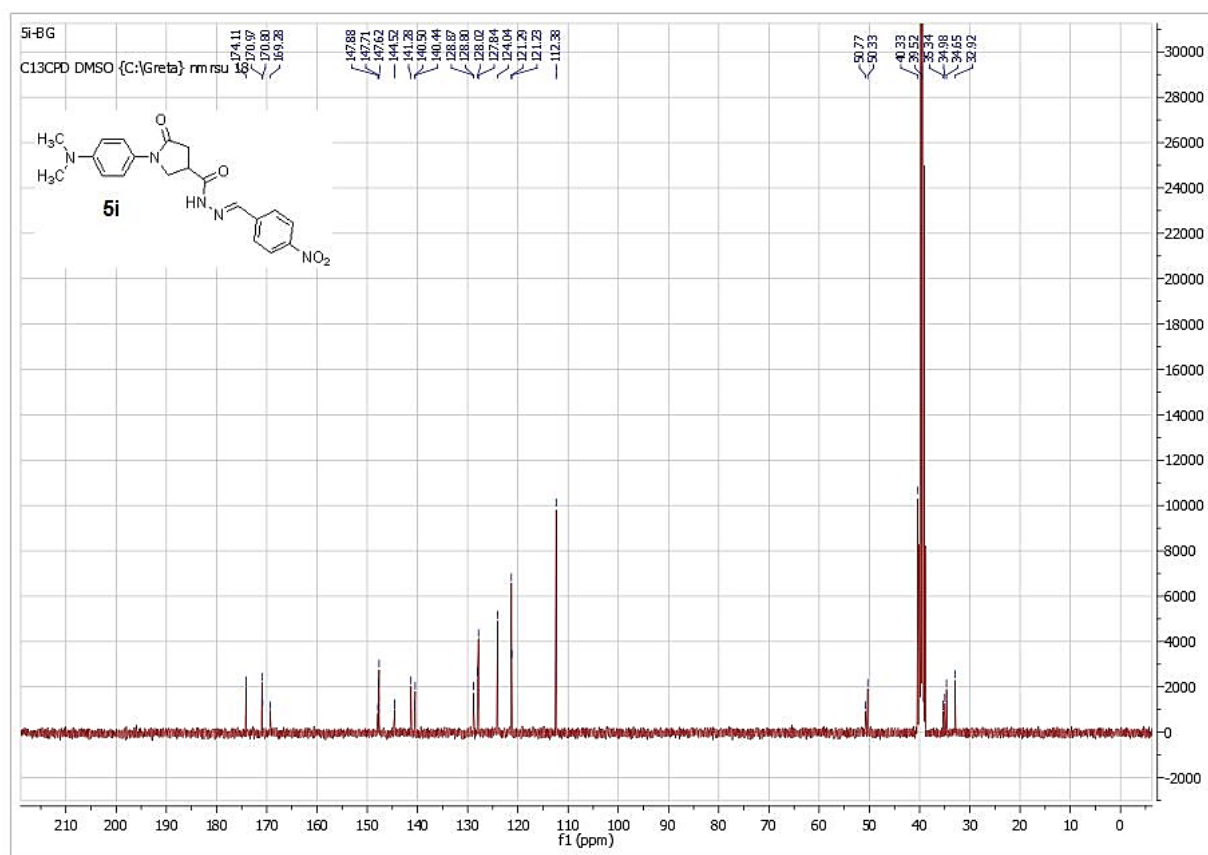


Figure S28. ¹³C NMR spectrum of compound **5i**.

1-(4-(Dimethylamino)phenyl)-5-oxo-N'-(thiophen-2-ylmethylene)pyrrolidine-3-carbohydrazide (5j)

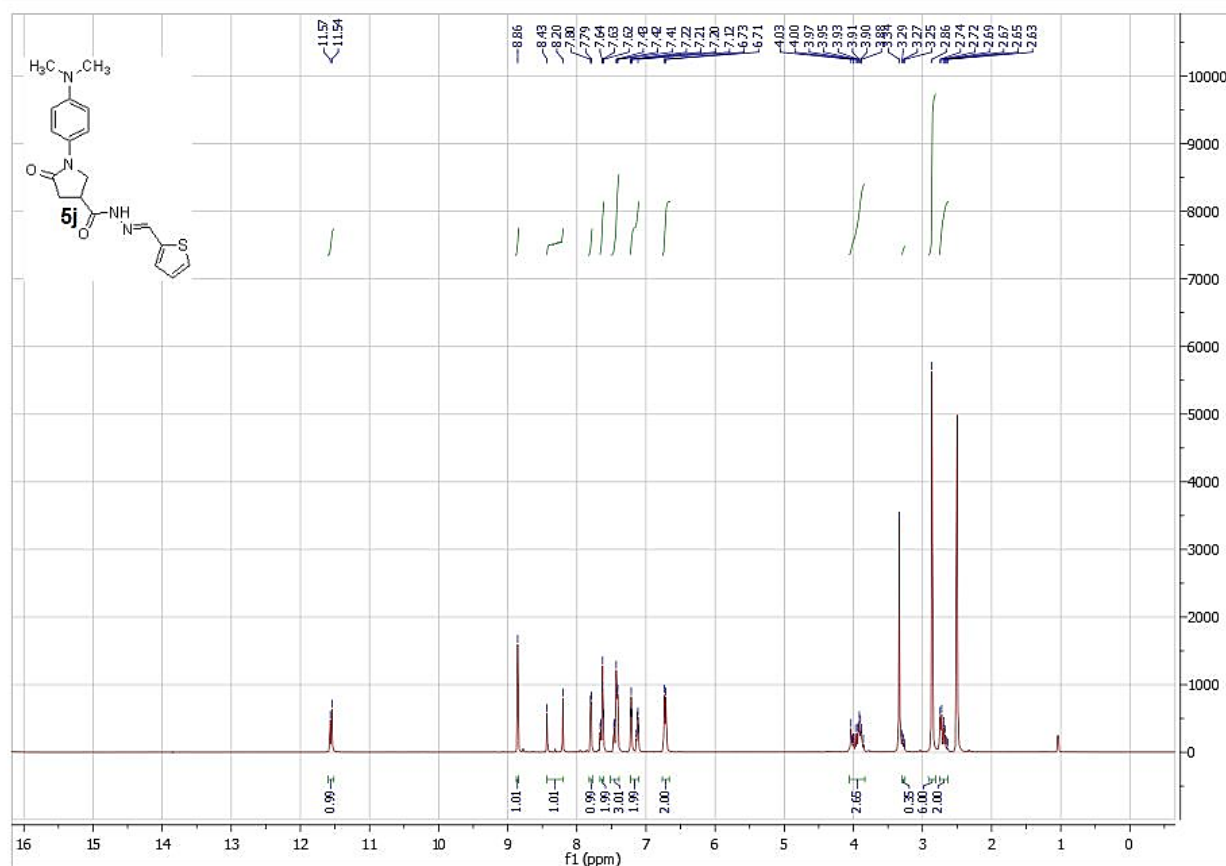


Figure S29. ¹H NMR spectrum of compound 5j.

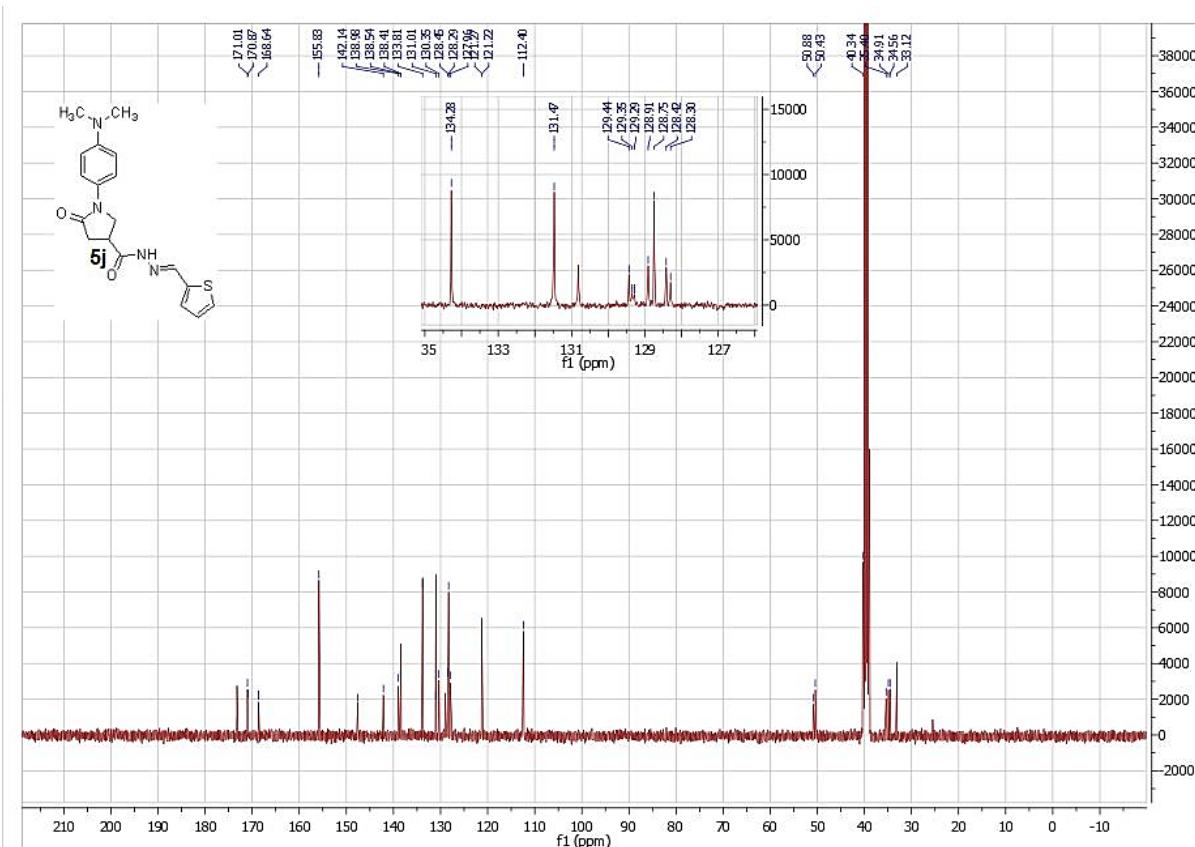


Figure S30. ¹³C NMR spectrum of compound 5j.

1-(4-(Dimethylamino)phenyl)-N'-((5-nitrothiophen-2-yl)methylene)-5-oxopyrrolidine-3-carbohydrazide (**5k**)

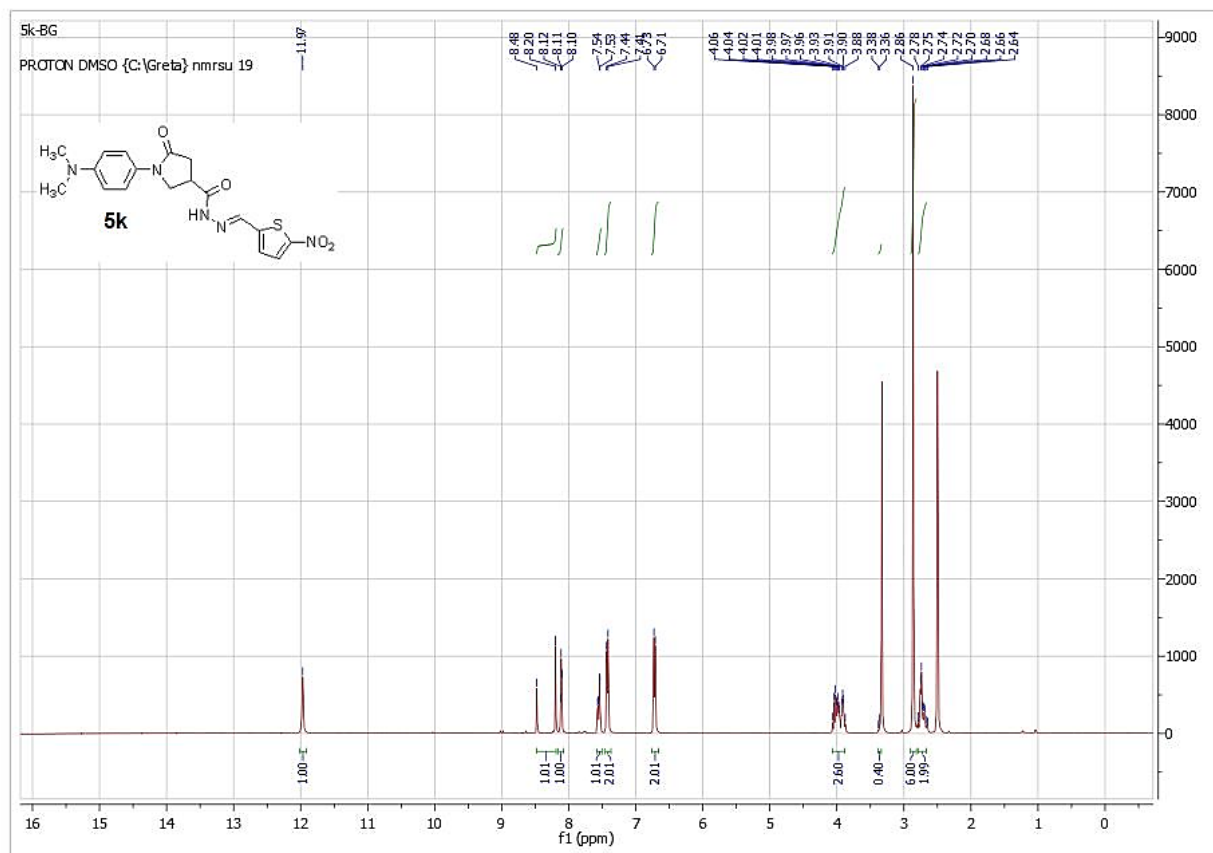


Figure S31. ¹H NMR spectrum of compound **5k**.

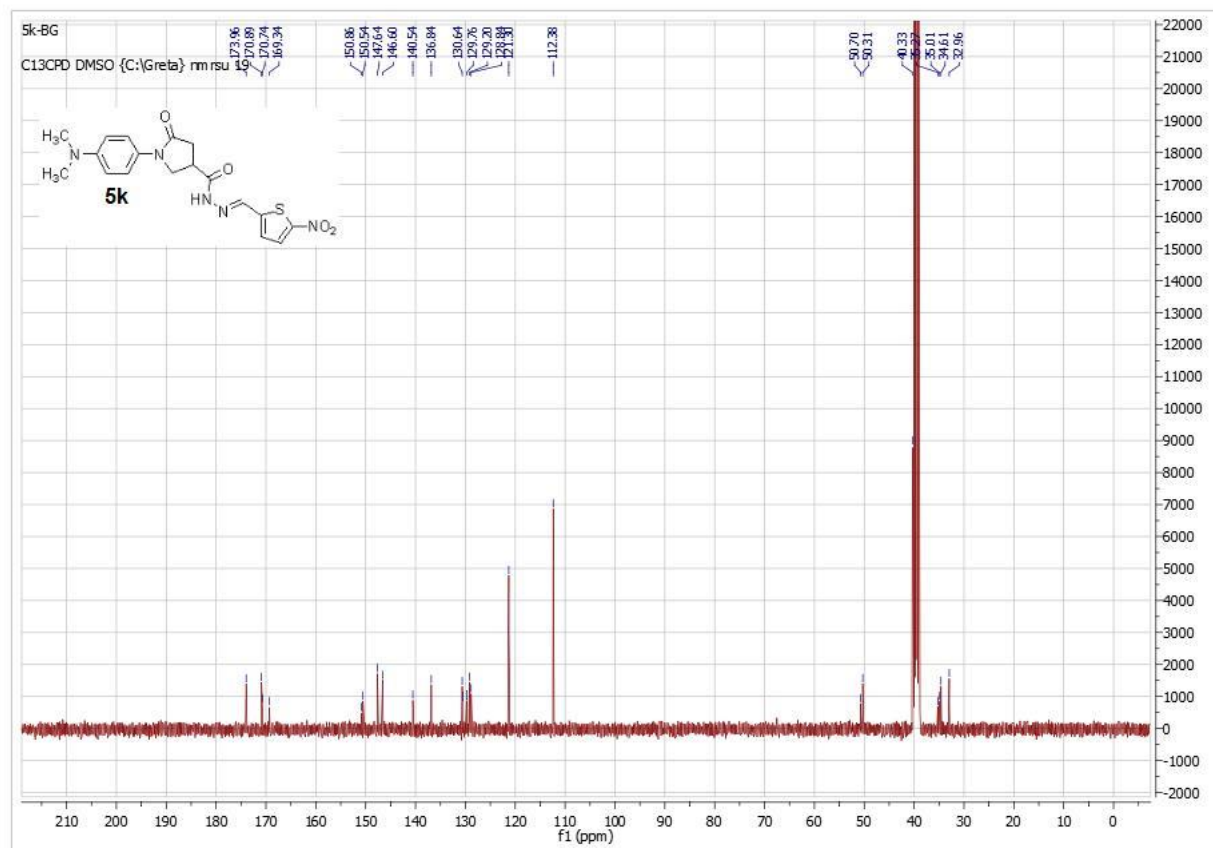


Figure S32. ¹³C NMR spectrum of compound **5k**.

1-(4-(Dimethylamino)phenyl)-N'-(naphthalen-1-ylmethylene)-5-oxopyrrolidine-3-carbohydrazide (51)

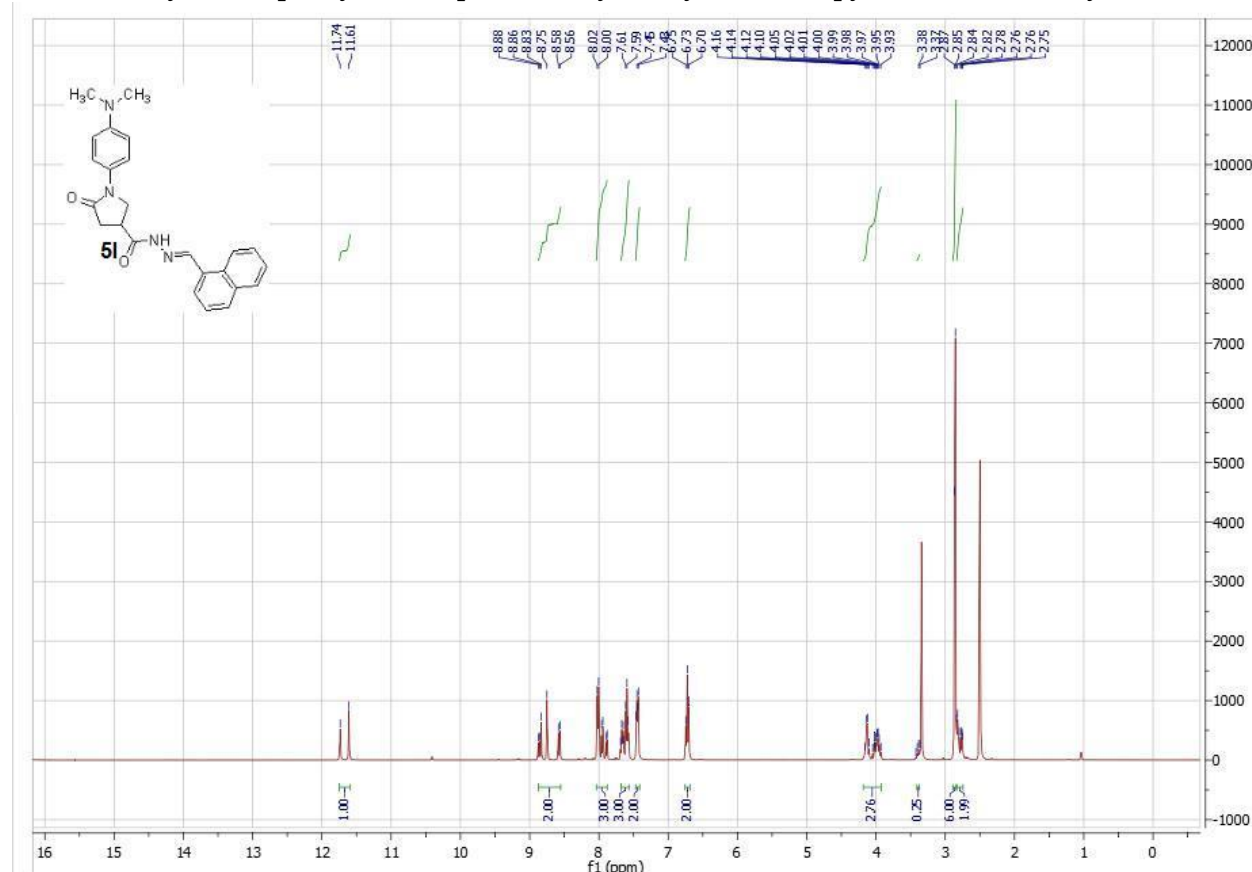


Figure S33. ¹H NMR spectrum of compound 51.

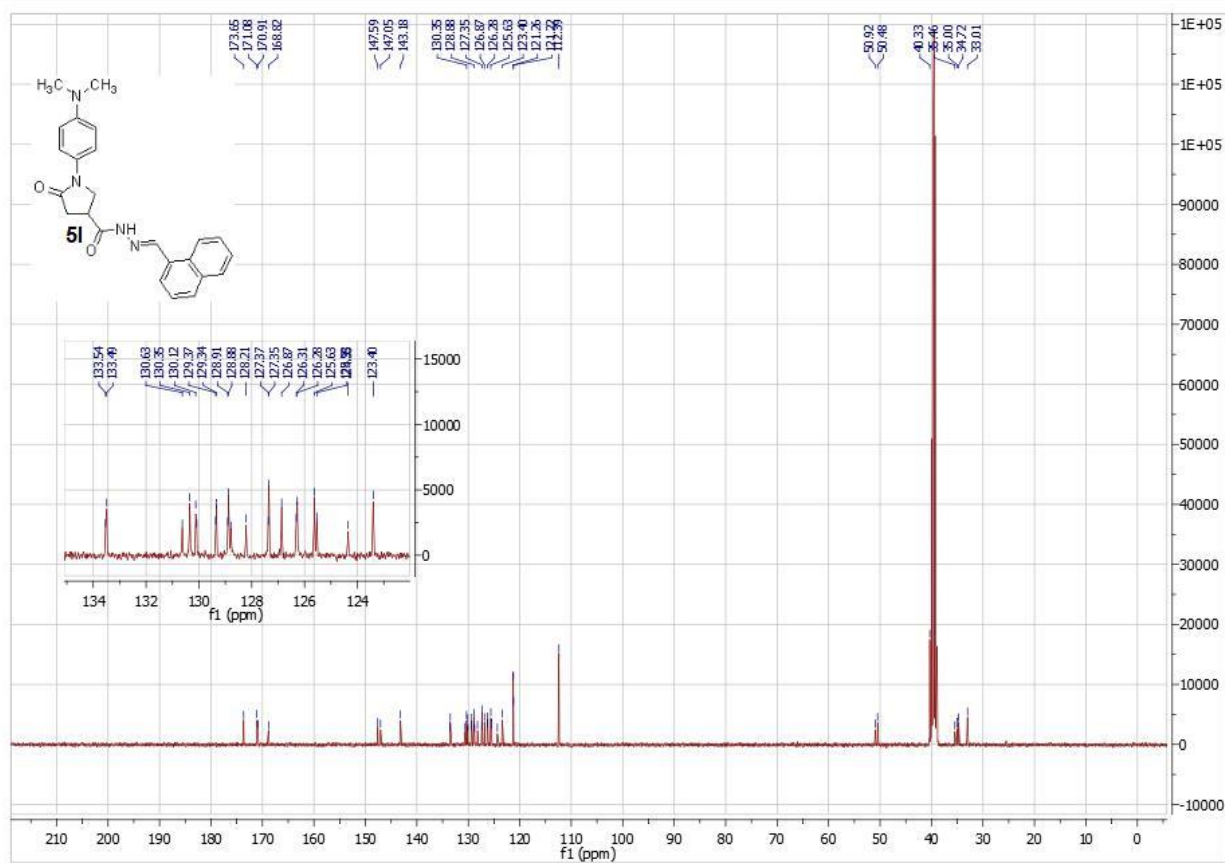


Figure S34. ¹³C NMR spectrum of compound 51.

1-(4-(Dimethylamino)phenyl)-5-oxo-N'-(propan-2-ylidene)pyrrolidine-3-carbohydrazide (6a)

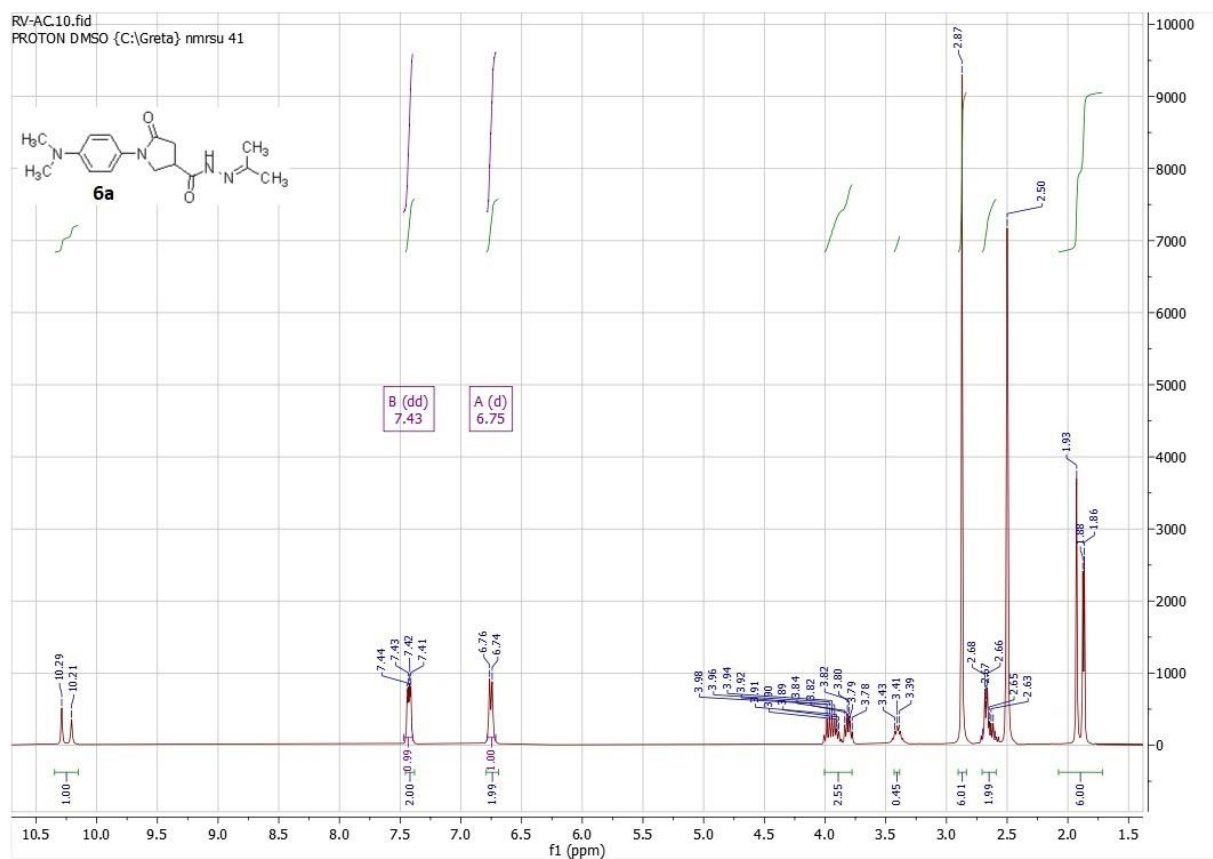


Figure S35. ^1H NMR spectrum of compound **6a**.

N'-(butan-2-ylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (**6b**)

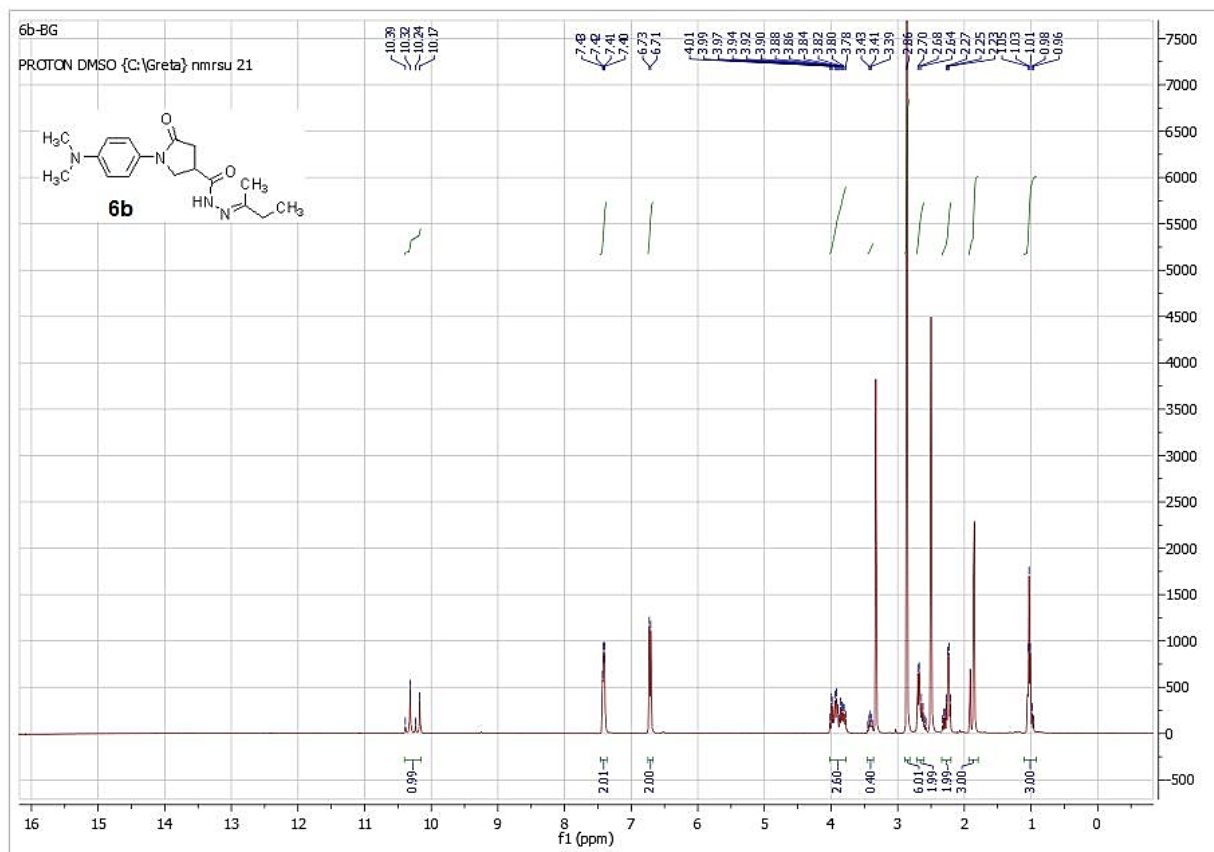


Figure S36. ¹H NMR spectrum of compound **6b**.

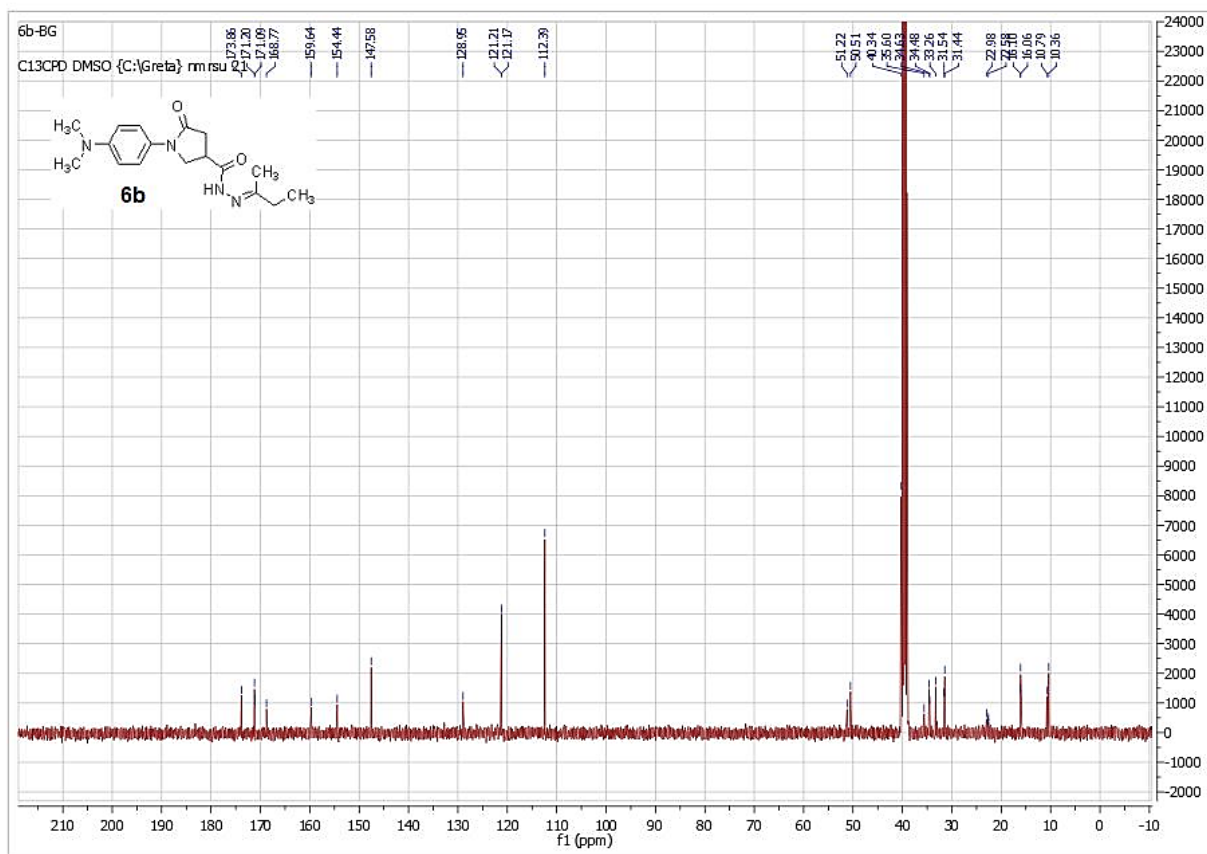


Figure S37. ¹³C NMR spectrum of compound **6b**.

***N'*-(1-(4-aminophenyl)ethylidene)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carbohydrazide (6c)**

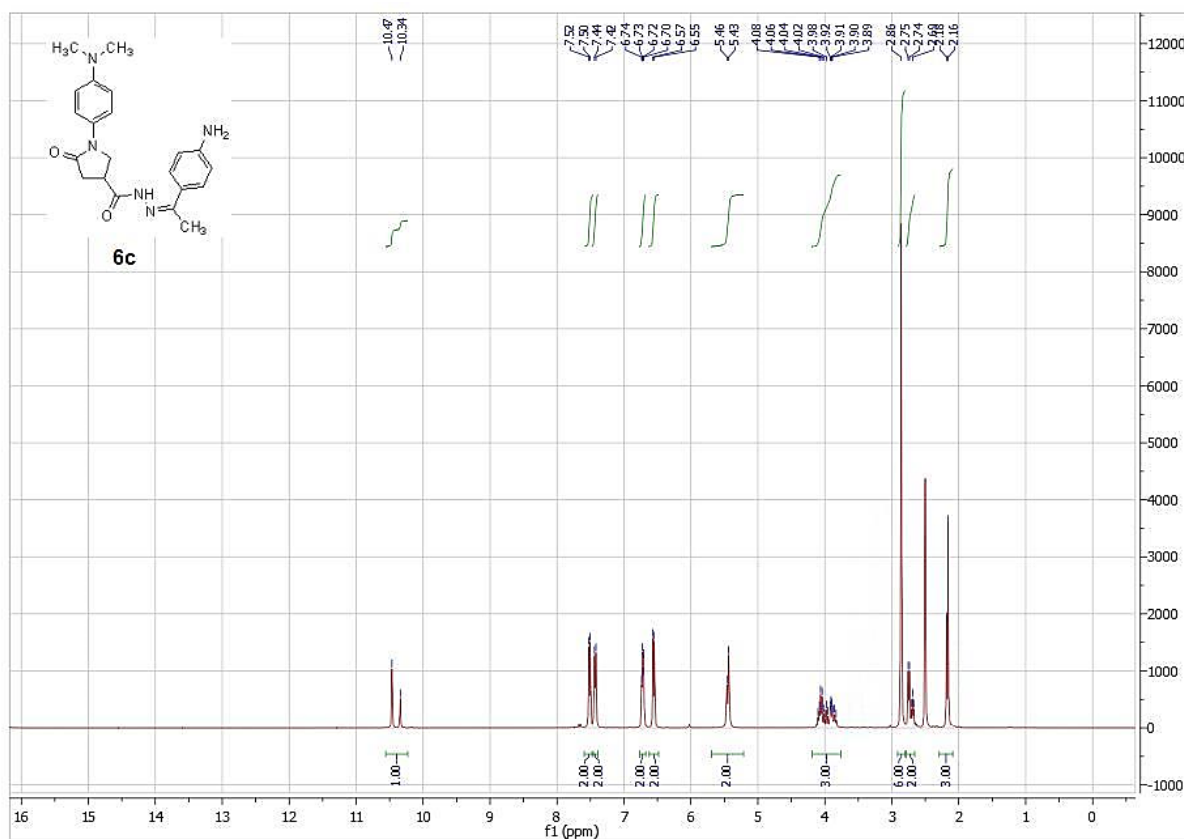


Figure S38. ¹H NMR spectrum of compound **6c**.

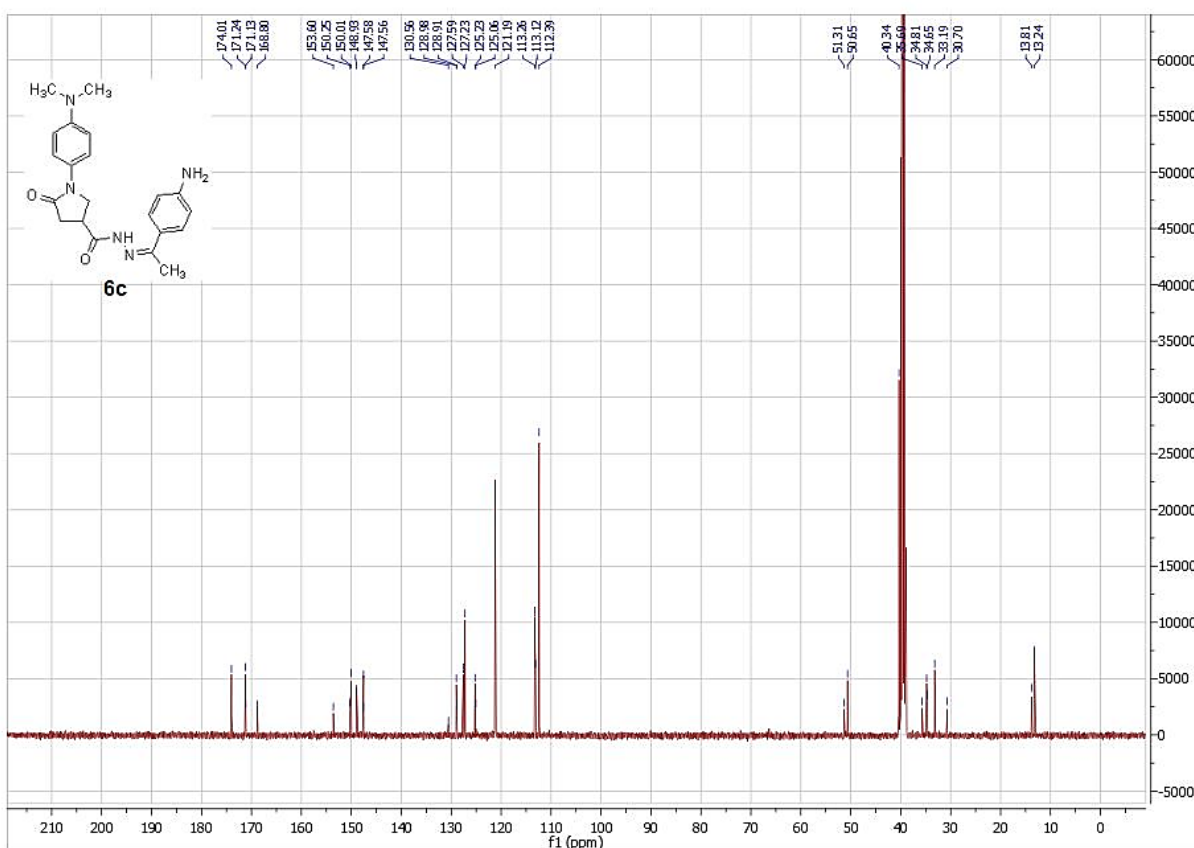


Figure S39. ¹³C NMR spectrum of compound **6c**.

***N*-(2,5-dimethyl-1*H*-pyrrol-1-yl)-1-(4-(dimethylamino)phenyl)-5-oxopyrrolidine-3-carboxamide (7)**

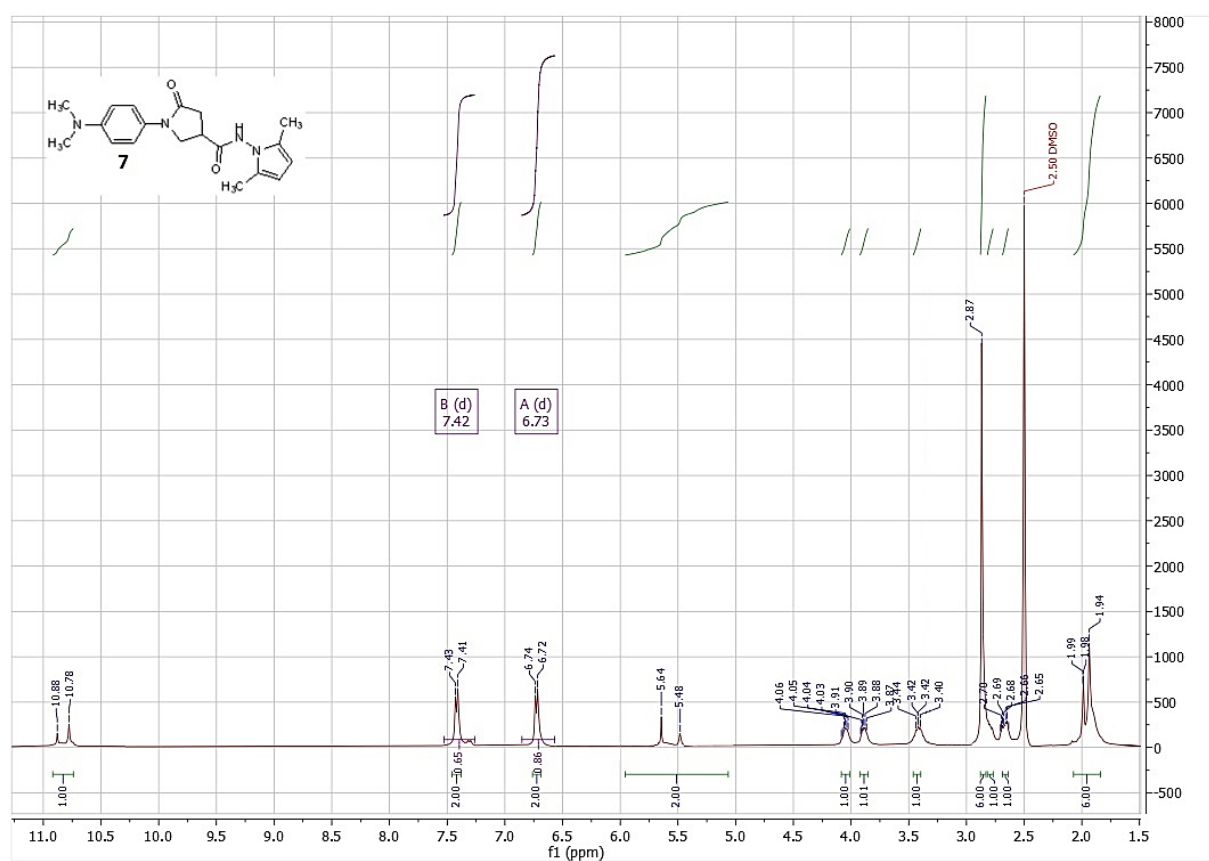


Figure S40. ¹H NMR spectrum of compound 7.

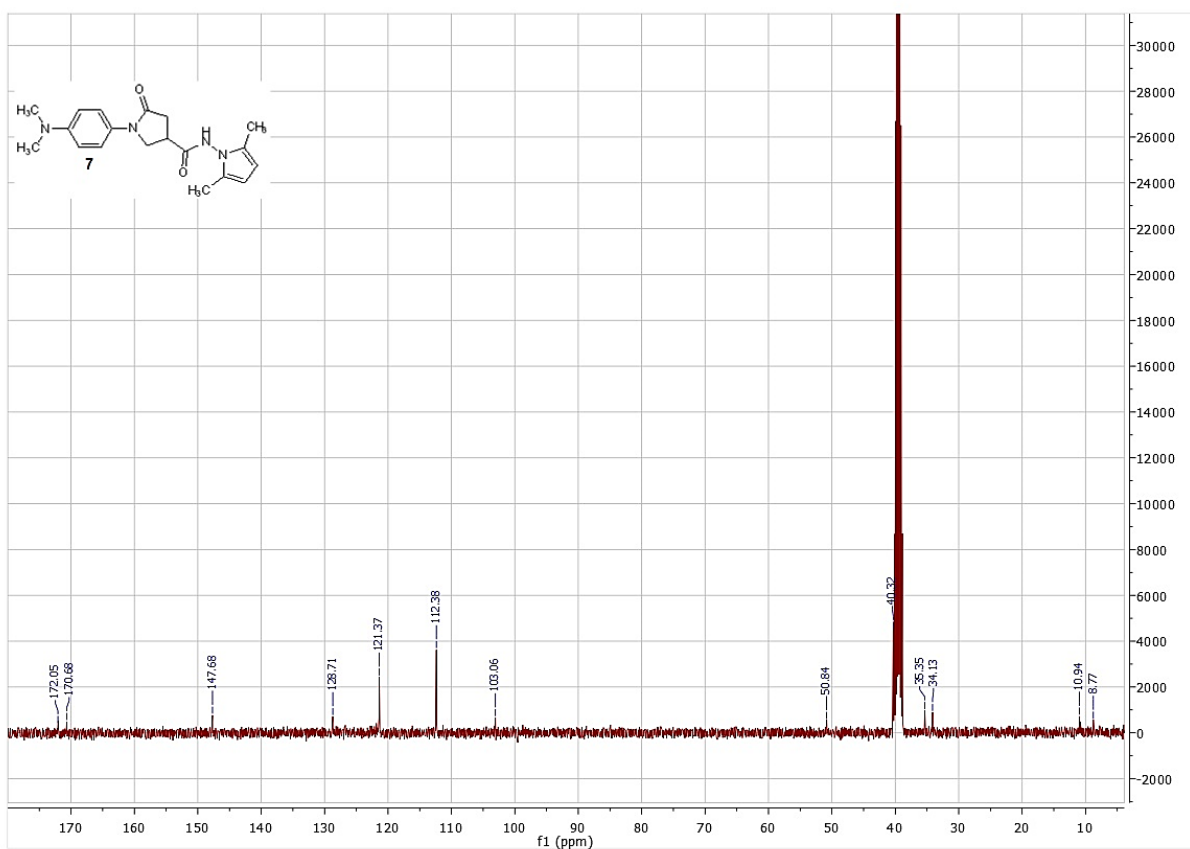


Figure S41. ¹³C NMR spectrum of compound 7.

1-(1-(4-(Dimethylamino)phenyl)-5-oxopyrrolidine-3-carboxamido)-5-oxopyrrolidine-3-carboxylic acid
(8)

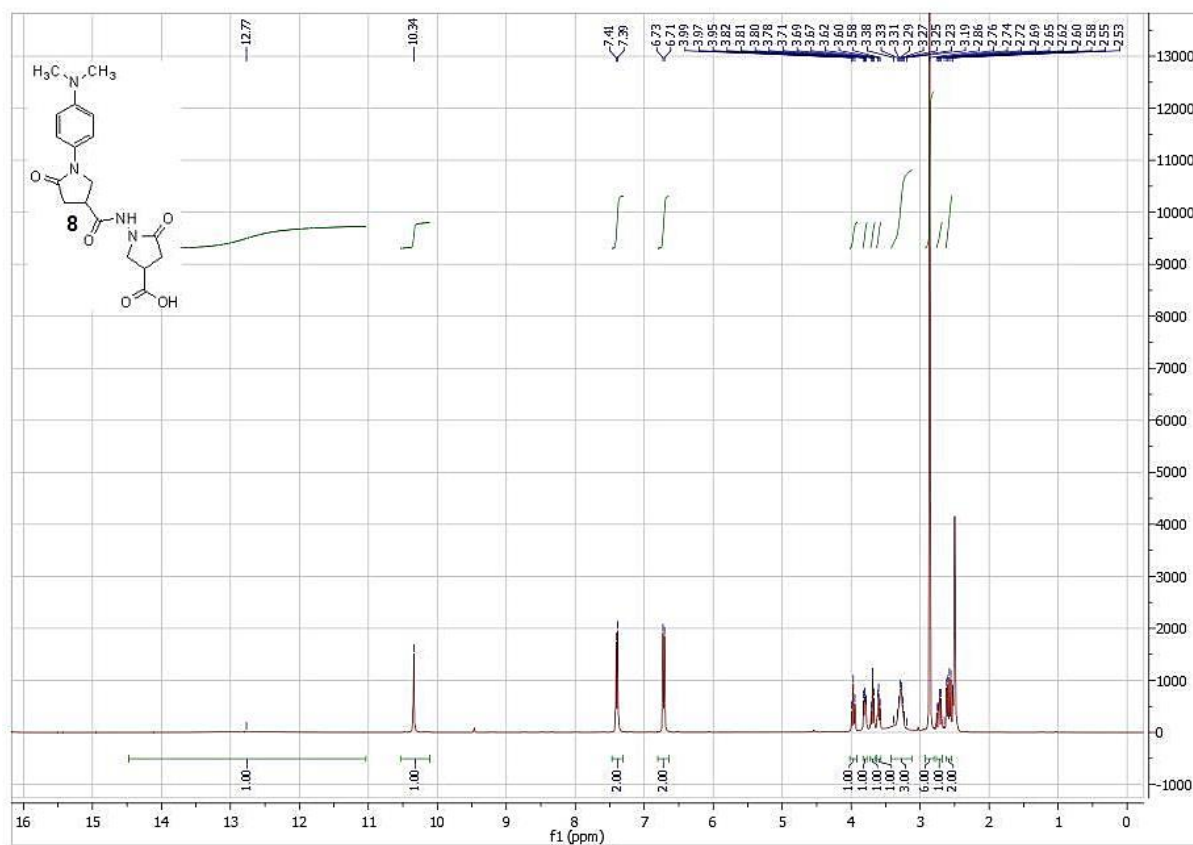


Figure S42. ^1H NMR spectrum of compound 8.

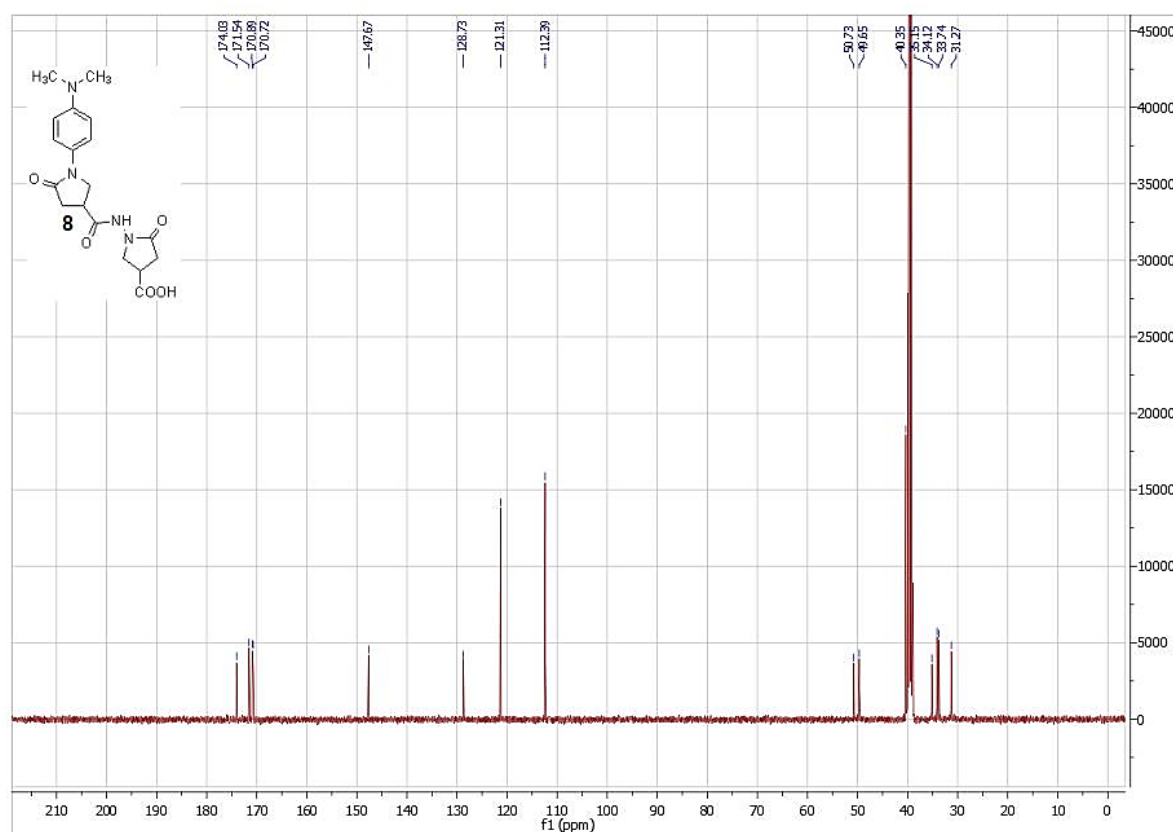


Figure S43. ^{13}C NMR spectrum of compound 8.

1-(4-(Dimethylamino)phenyl)-5-oxo-N'-(2-oxoindolin-3-ylidene)pyrrolidine-3-carbohydrazide (9)

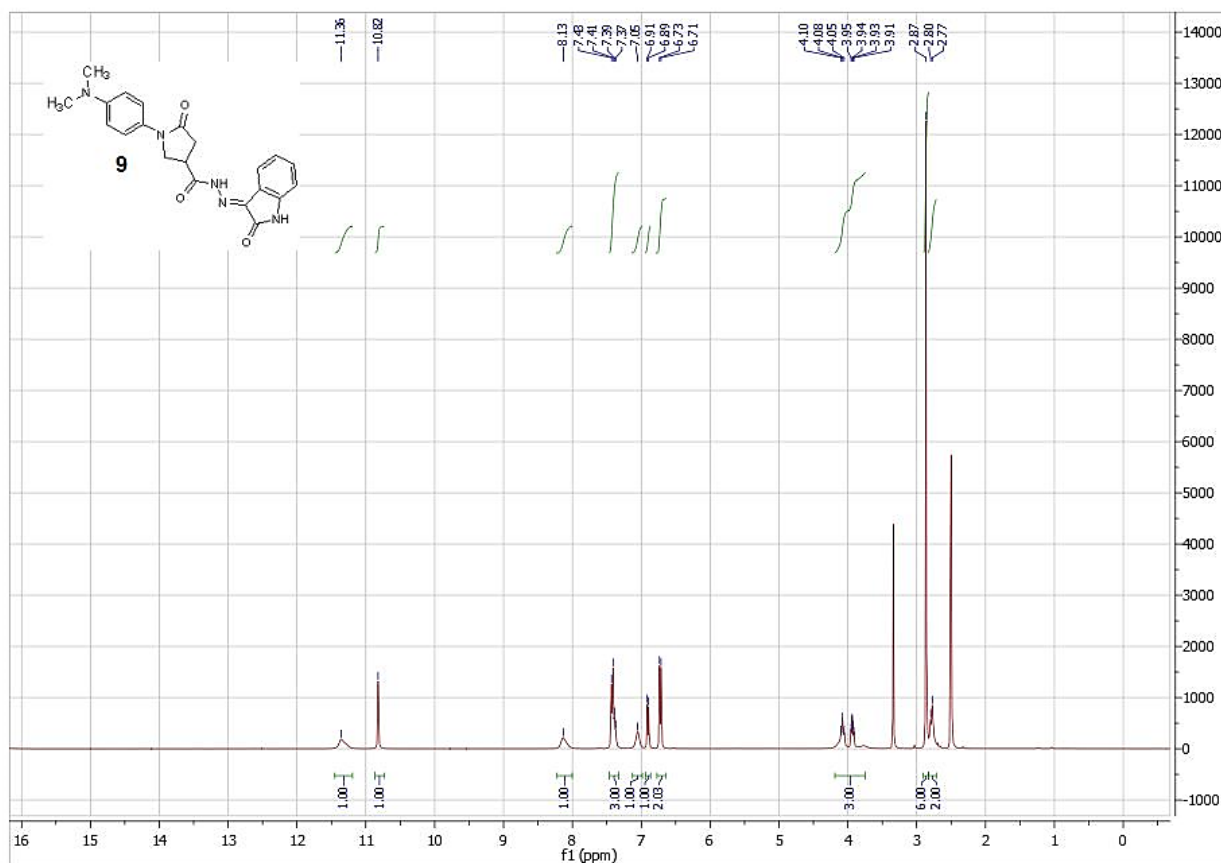


Figure S44. ¹H NMR spectrum of compound 9.

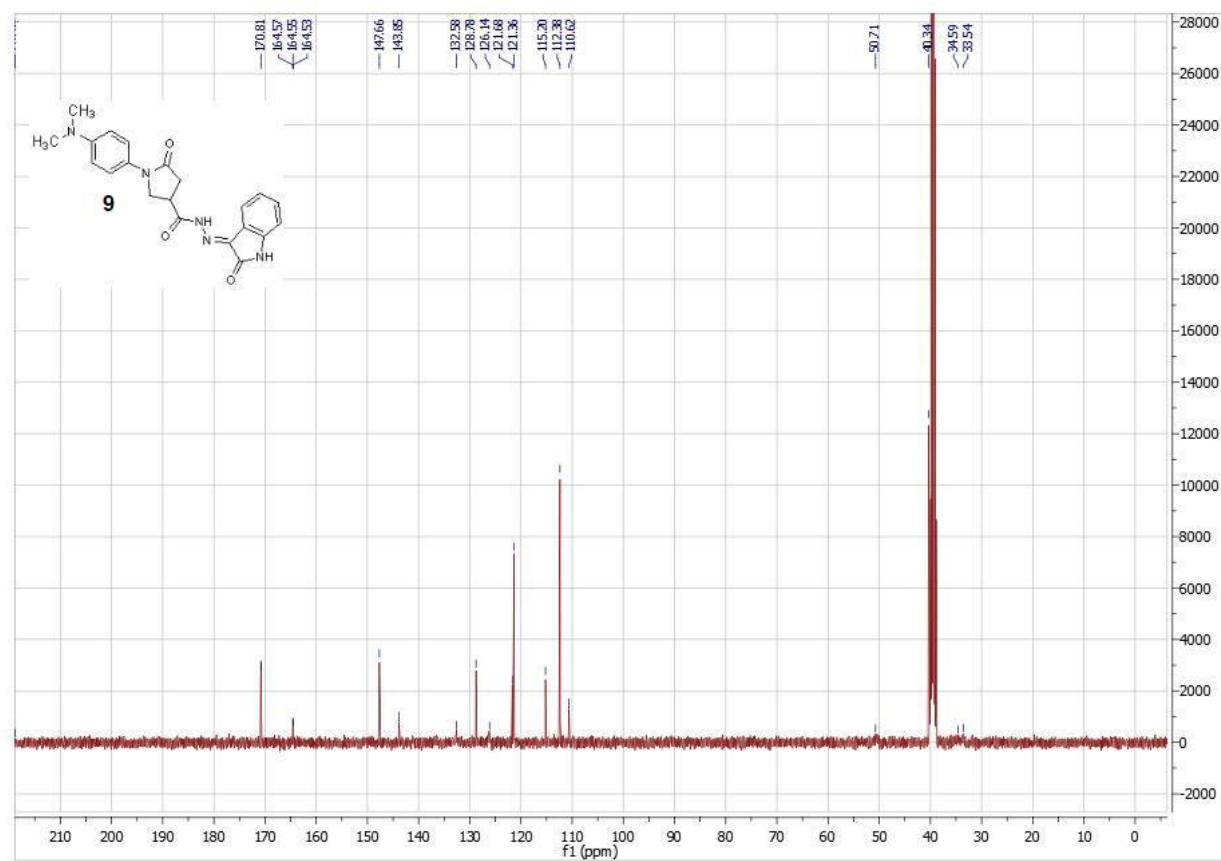


Figure S45. ¹³C NMR spectrum of compound 9.

1-(4-(Dimethylamino)phenyl)-4-(5-thioxo-4,5-dihydro-1,3,4-oxadiazol-2-yl)pyrrolidin-2-one (10)

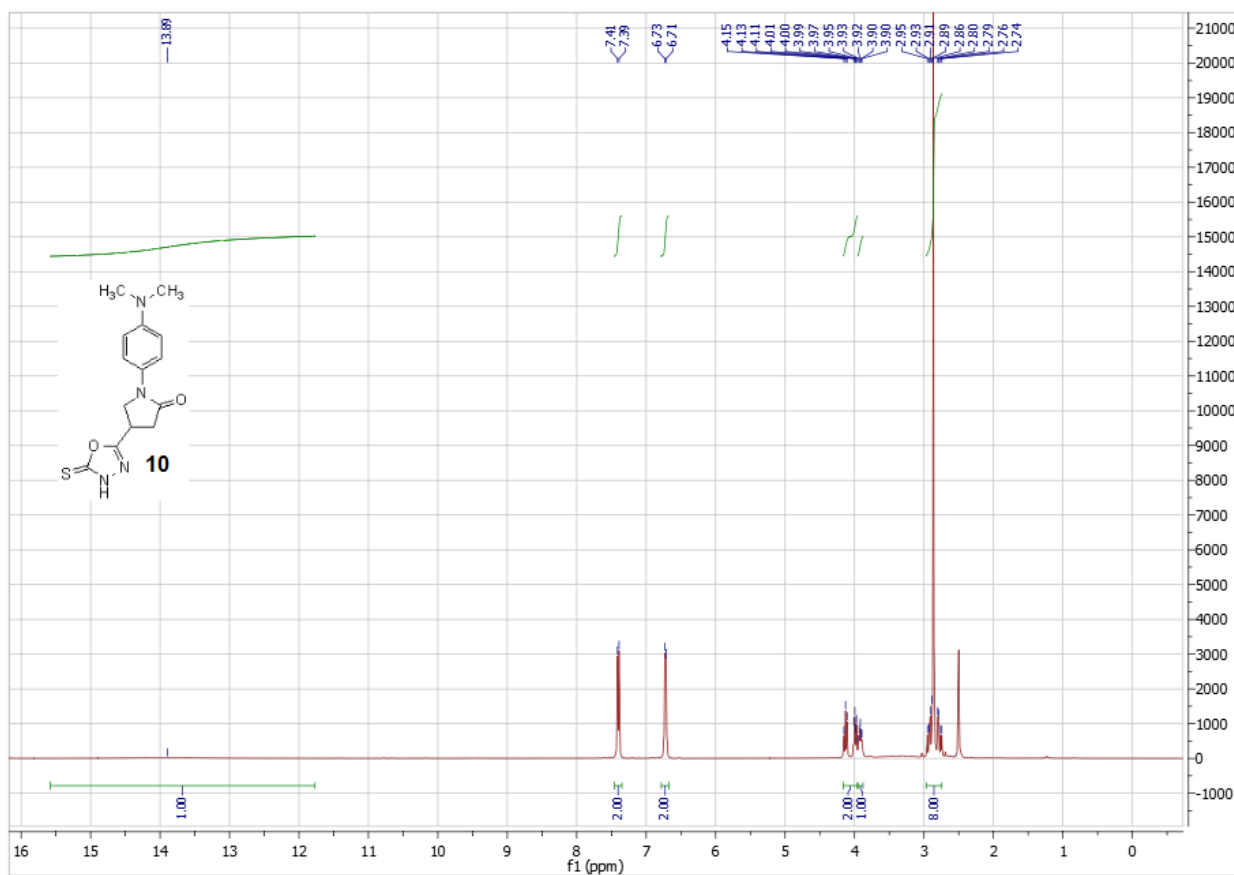


Figure S46. ^1H NMR spectrum of compound 10.

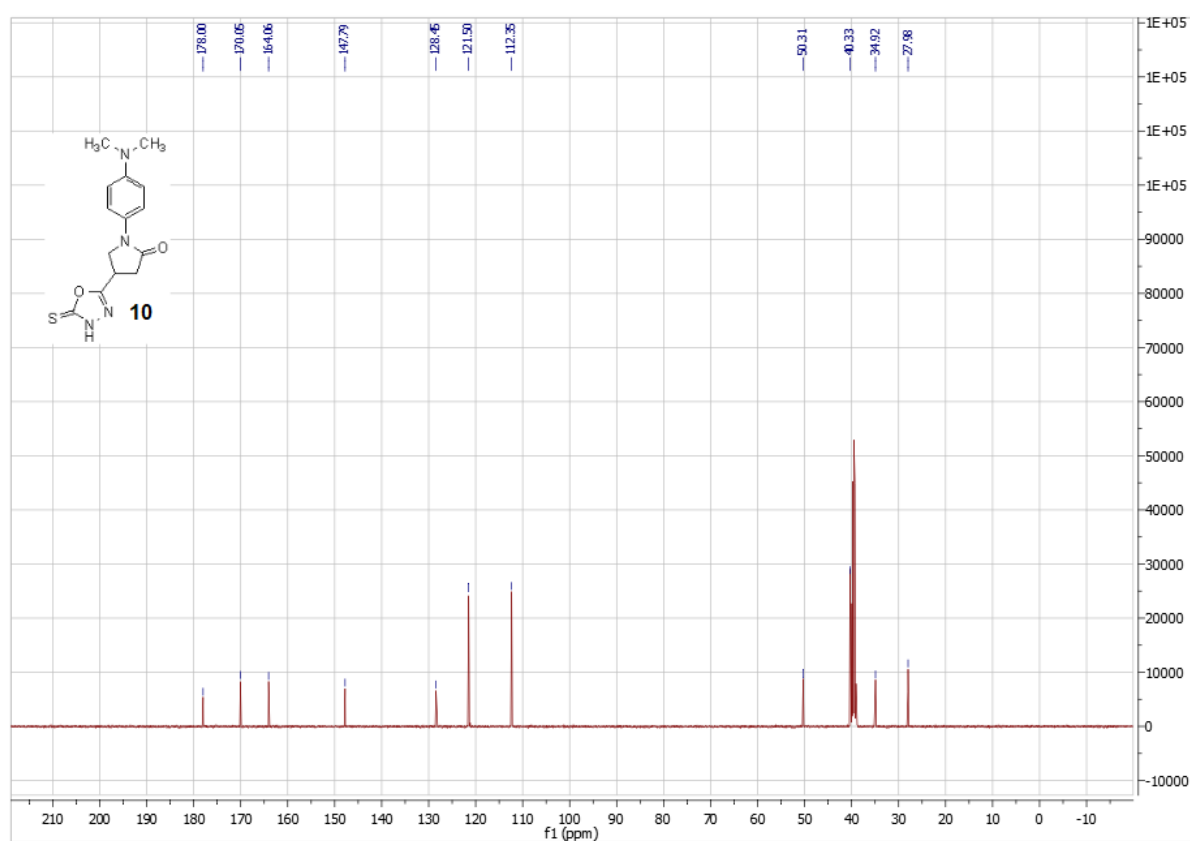


Figure S47. ^{13}C NMR spectrum of compound 10.

1-(4-(Dimethylamino)phenyl)-4-(5,6-diphenyl-1,2,4-triazin-3-yl)pyrrolidin-2-one (11)

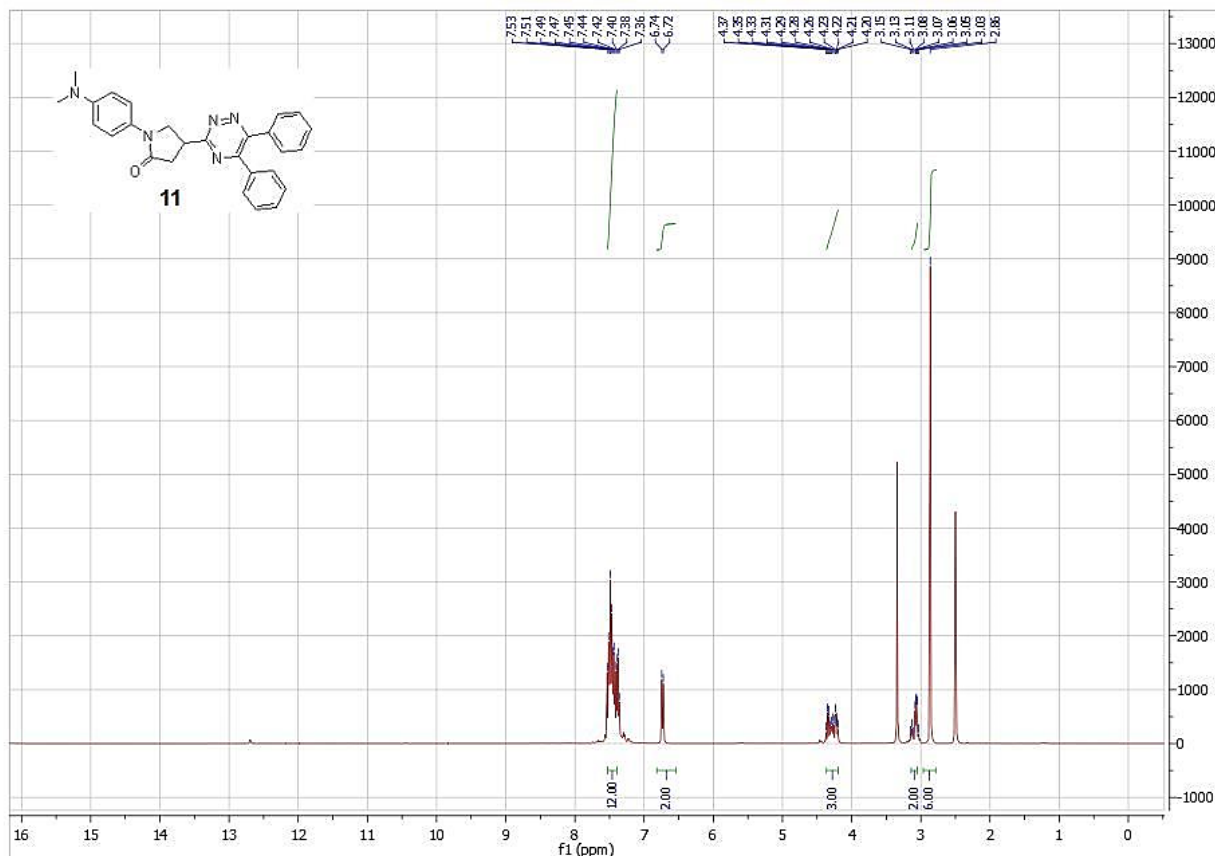


Figure S48. ¹H NMR spectrum of compound 11.

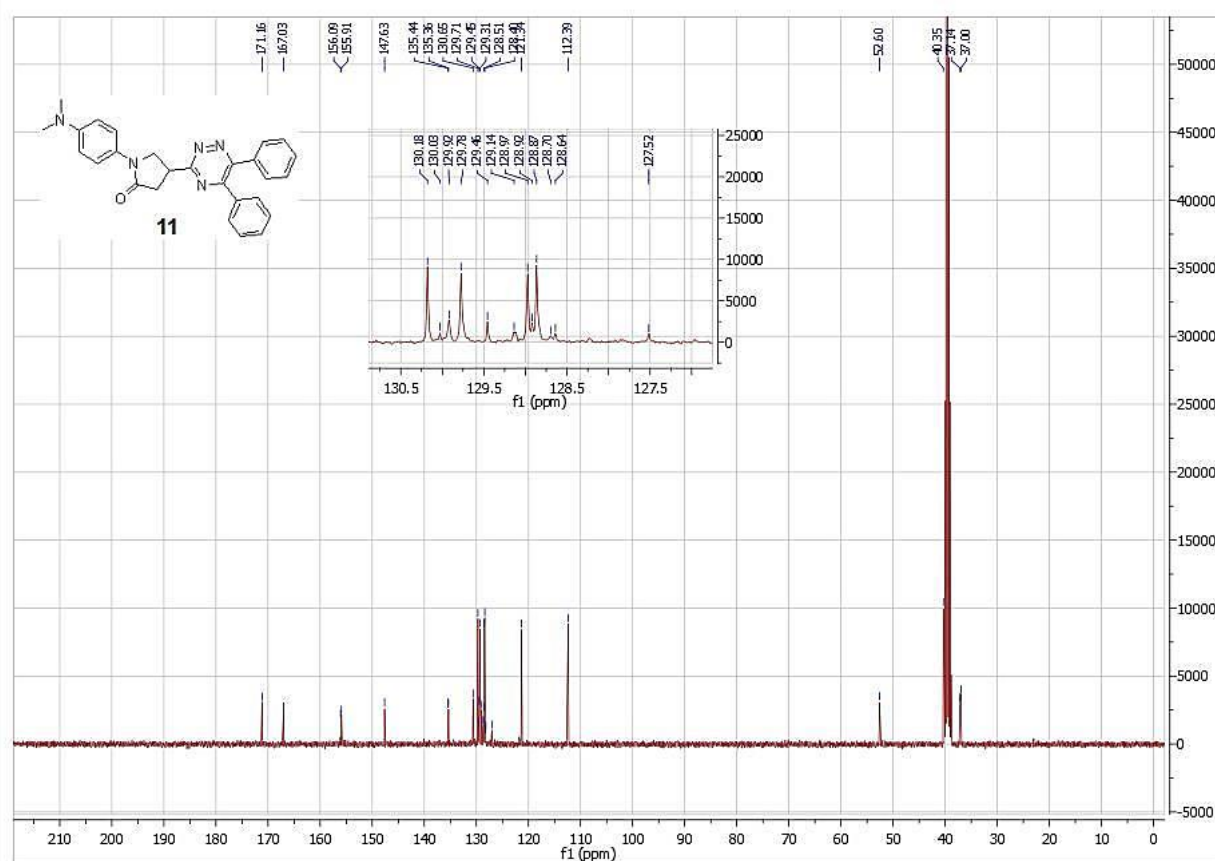


Figure S49. ¹³C NMR spectrum of compound 11.