

Supplementary file

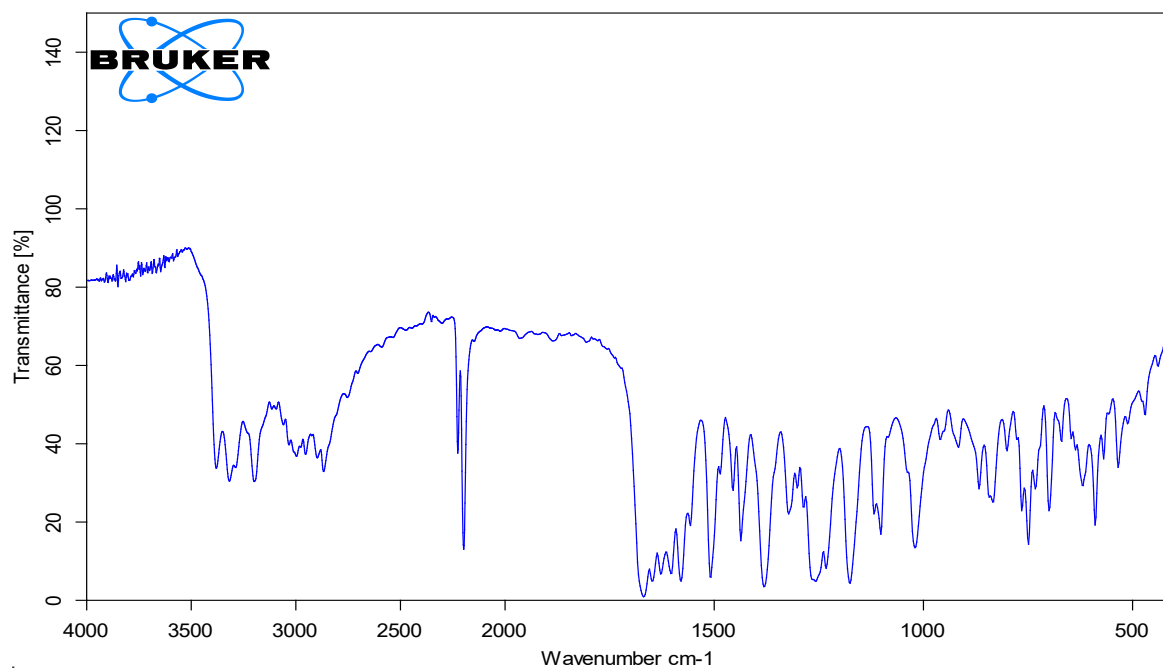


Figure S1: FT-IR spectrum of 2-amino-4-(4-(benzyloxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6a)

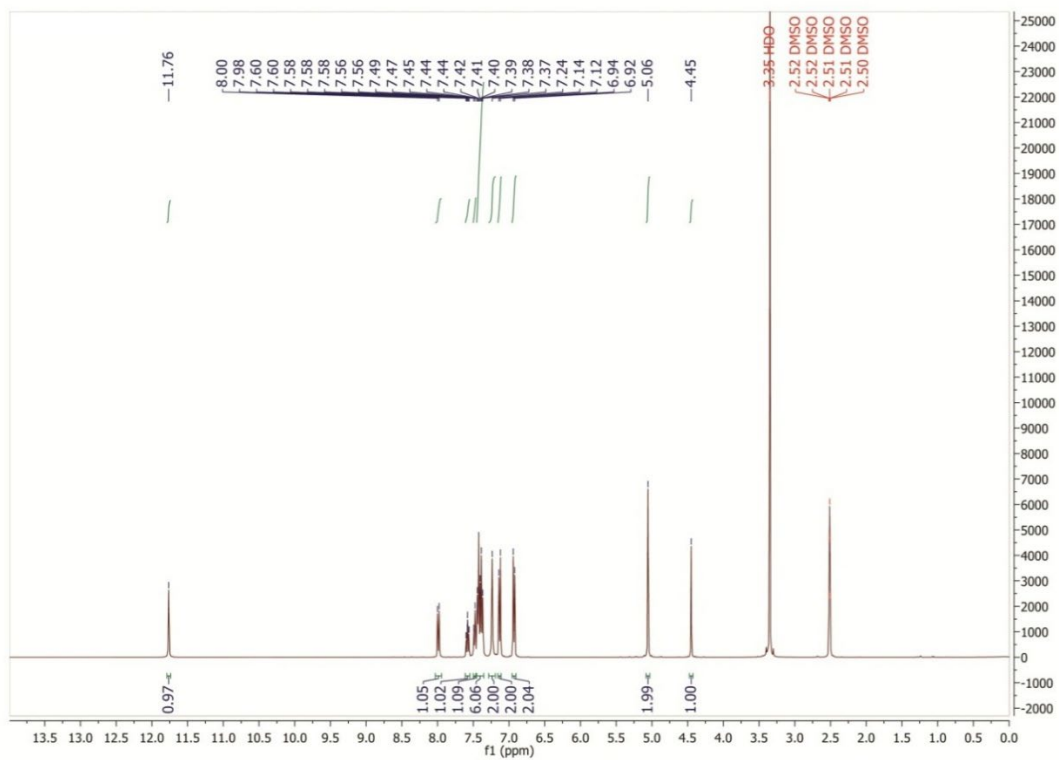


Figure S2. ^1H NMR spectrum of 2-amino-4-(4-(benzyloxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6a)

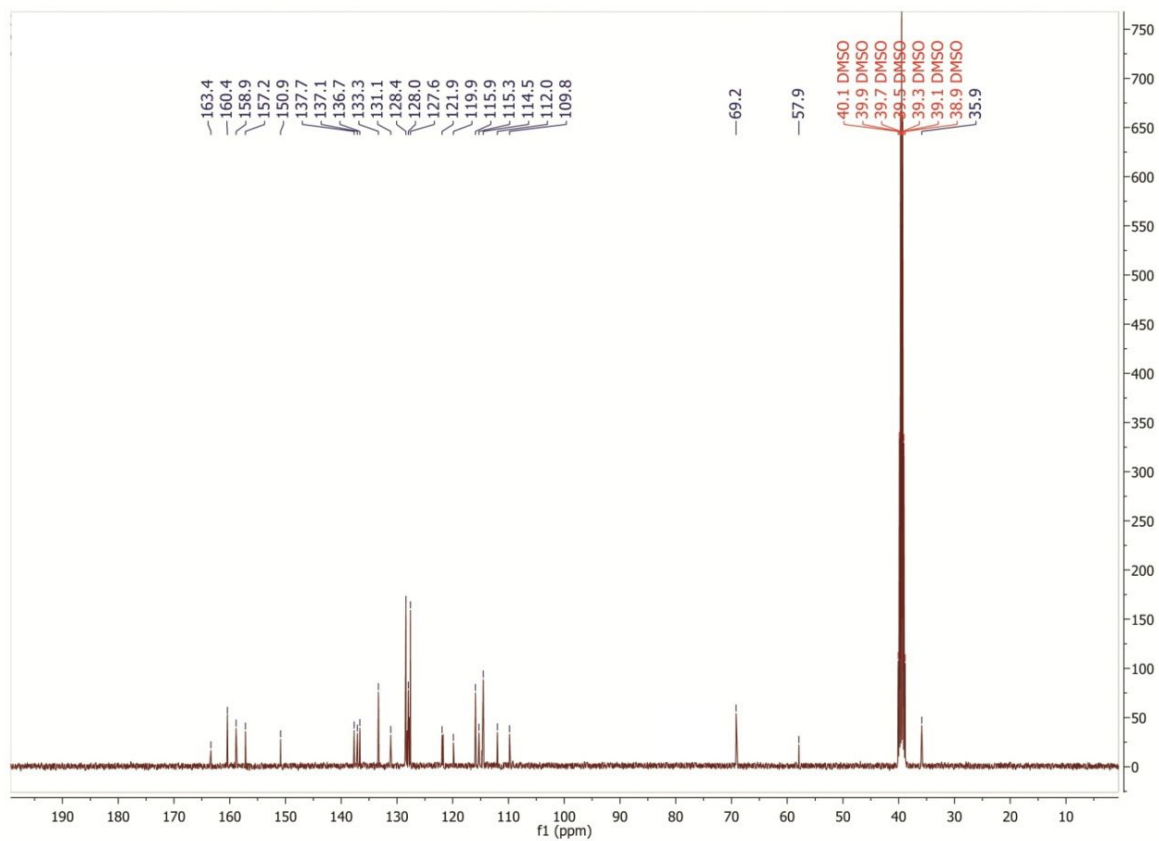


Figure S3. ^{13}C NMR spectrum of 2-amino-4-(4-(benzyloxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6a**)

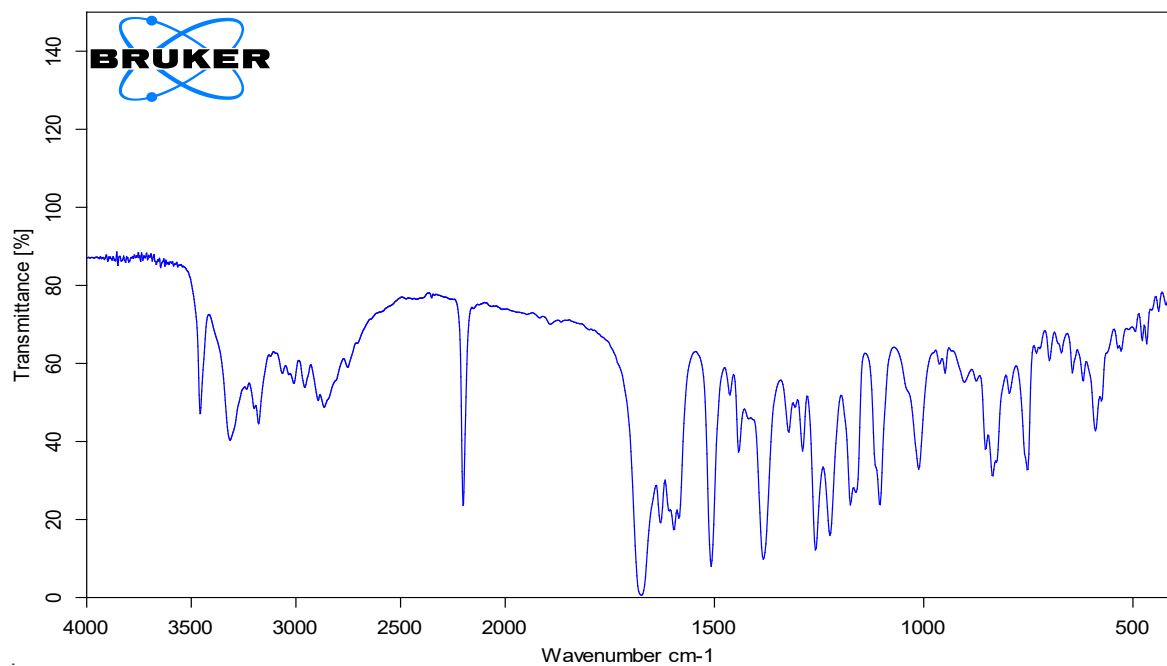


Figure S4: FT-IR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6b)

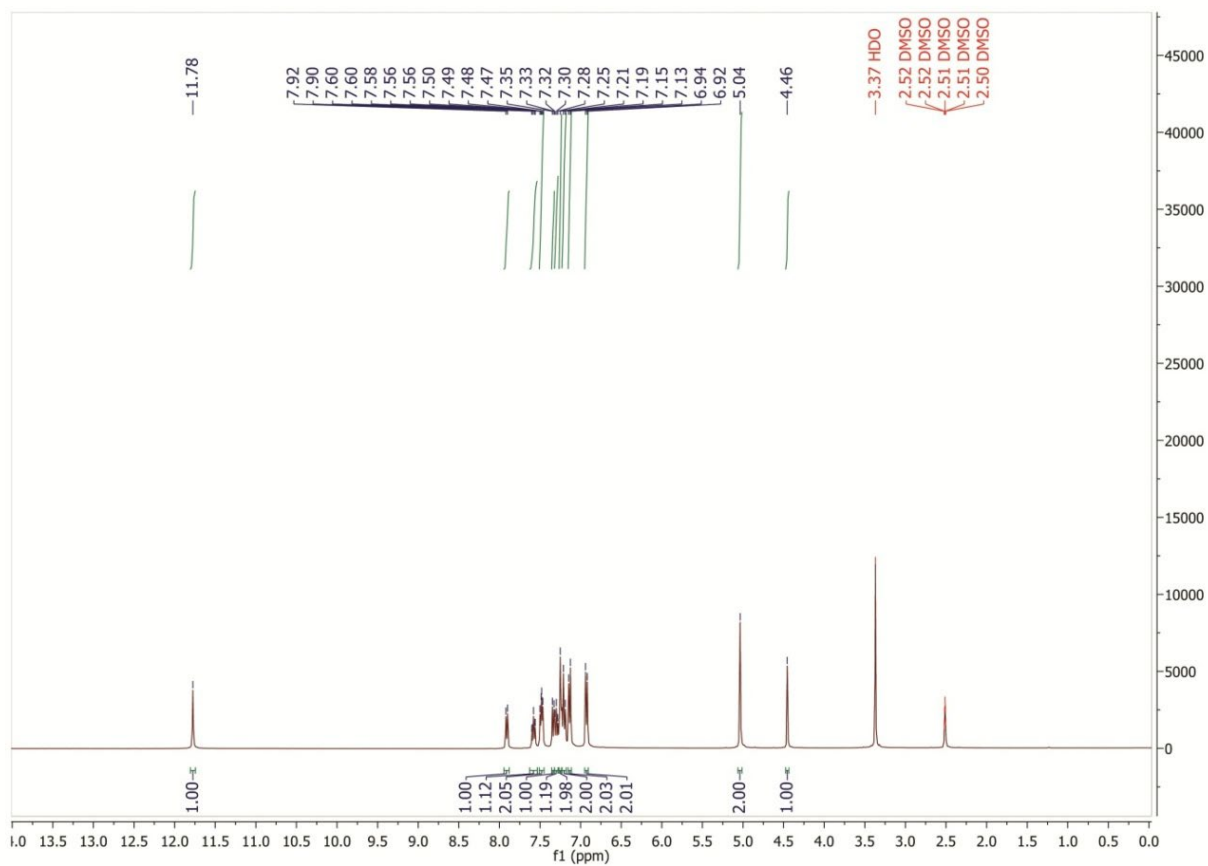


Figure S5. ¹H NMR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6b)

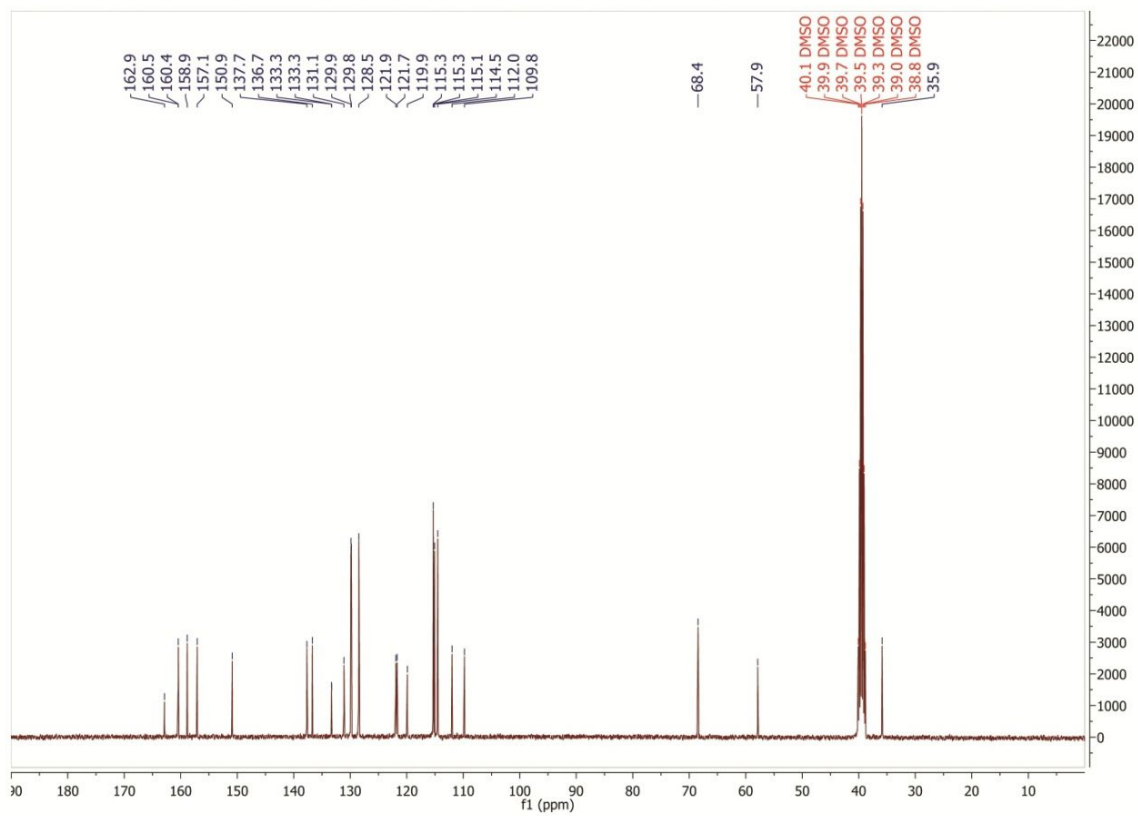


Figure S6. ^{13}C NMR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6b**)

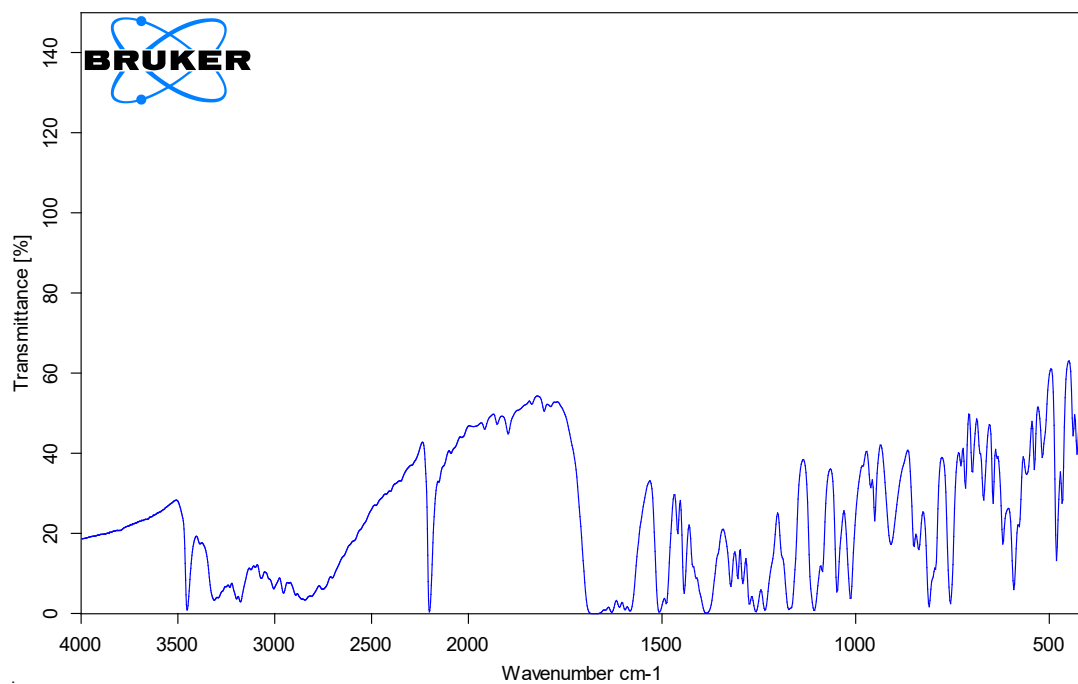


Figure S7. FT-IR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6c)

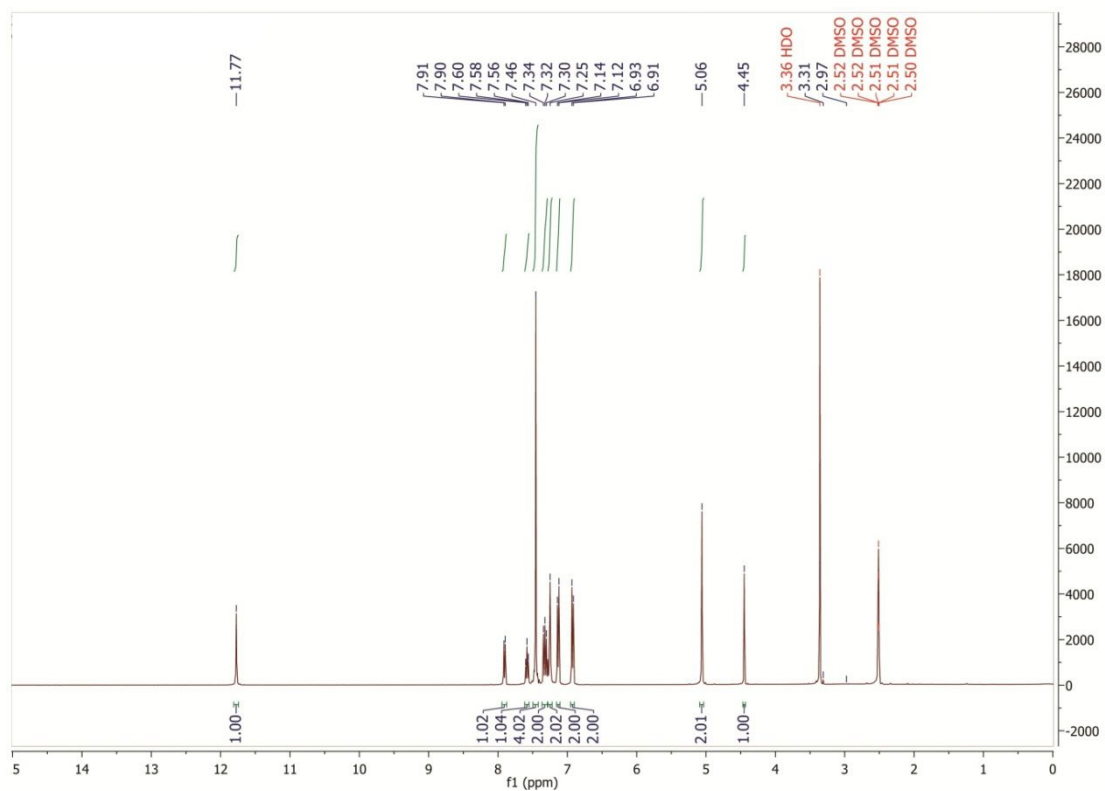


Figure S8. ^1H NMR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6c**)

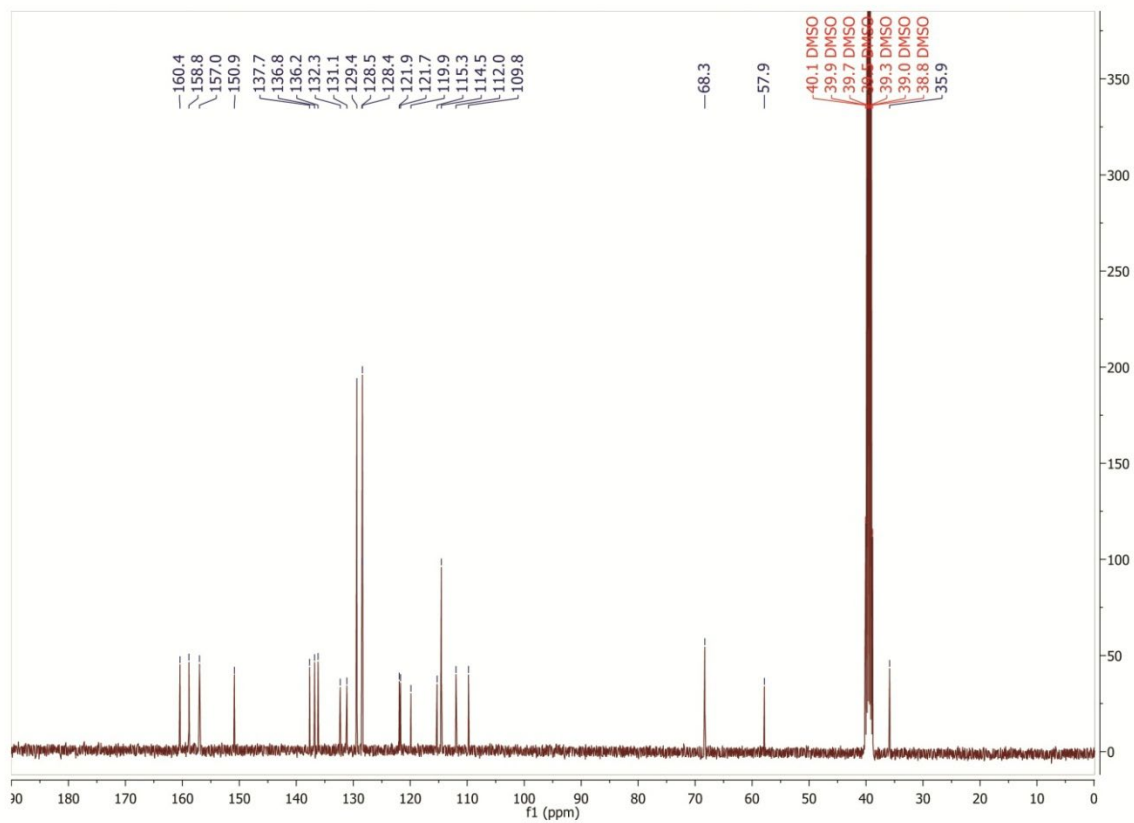


Figure S9. ^{13}C NMR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyran[3,2-c]quinoline-3-carbonitrile (6c)

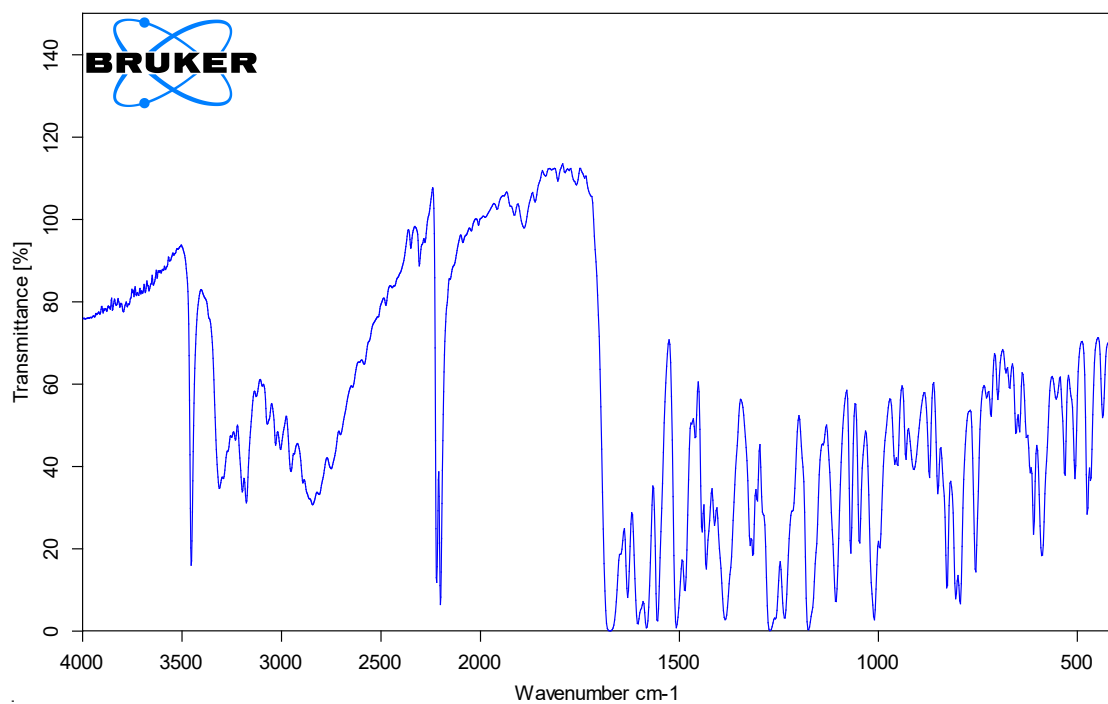


Figure S10. FT-IR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6d)

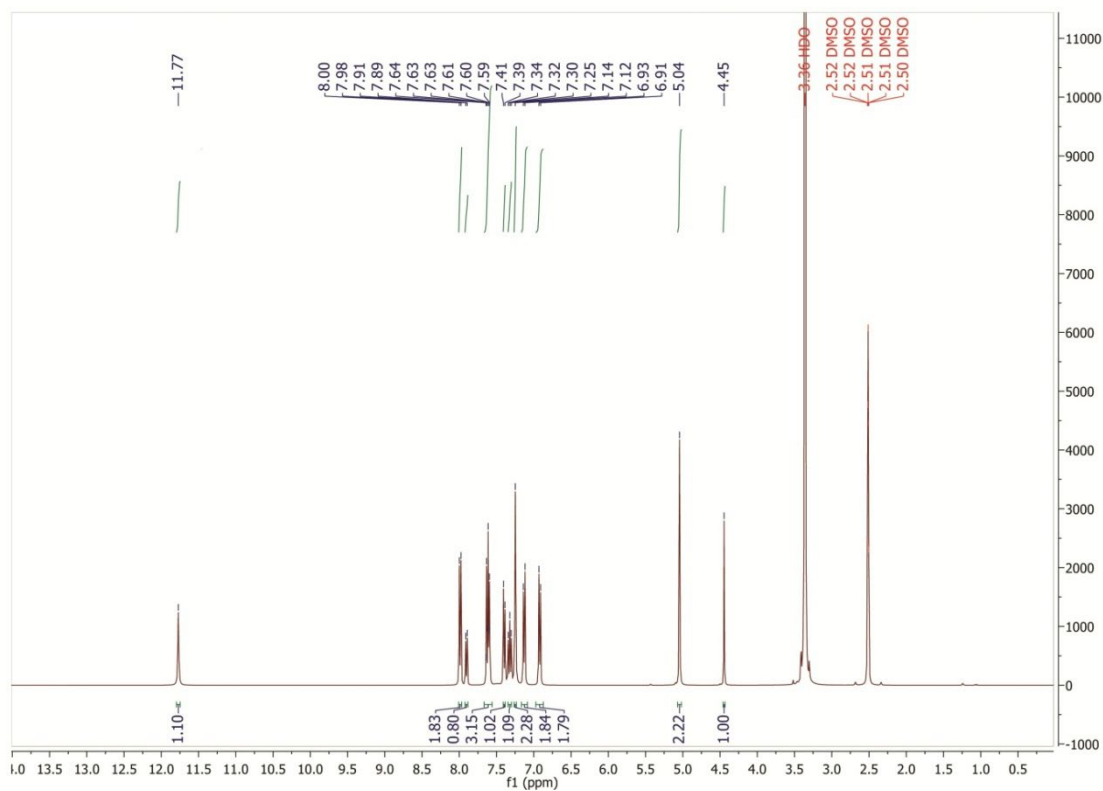


Figure S11. ¹H NMR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6d)

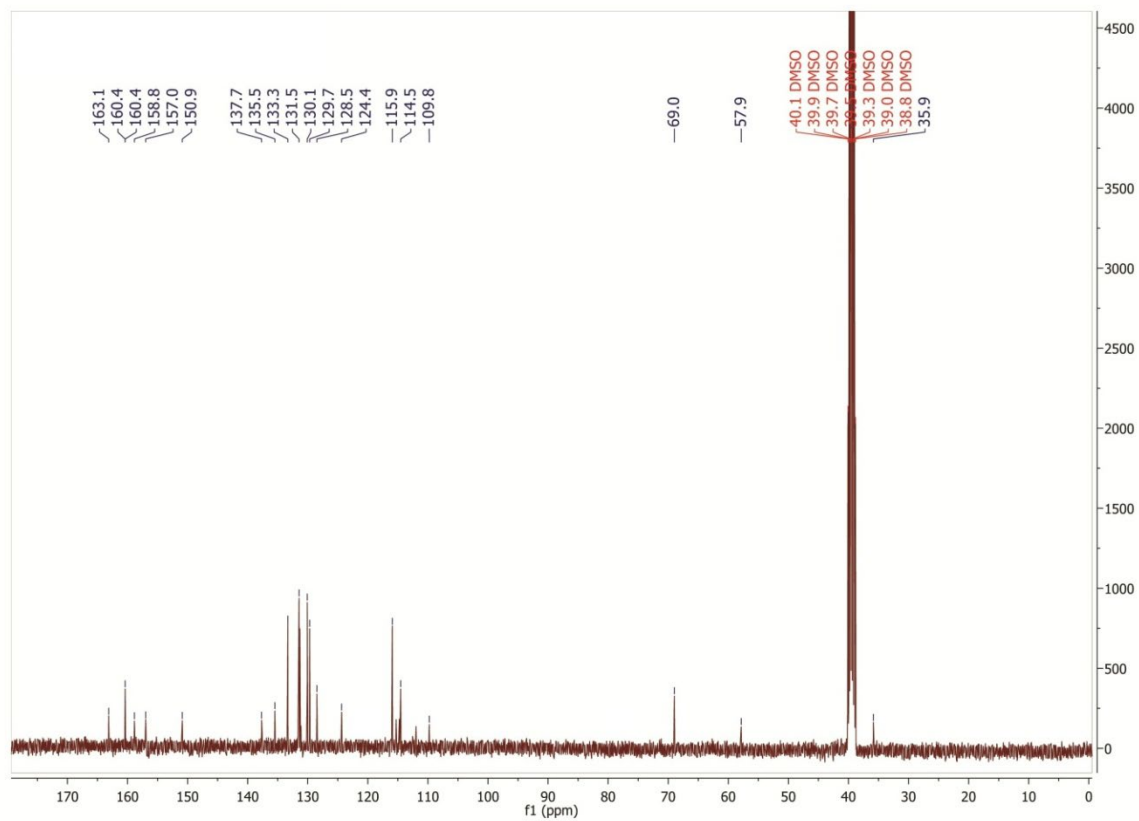


Figure S12. ^{13}C NMR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6d)

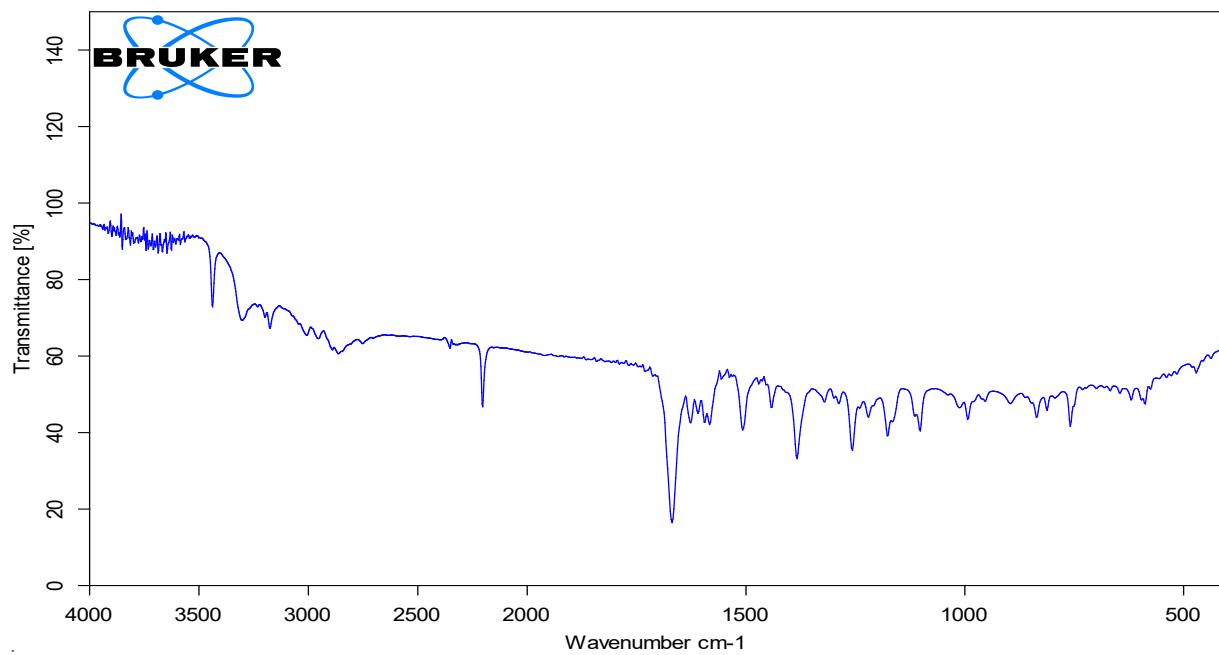


Figure S13. FT-IR spectrum of 2-amino-4-(4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6e)

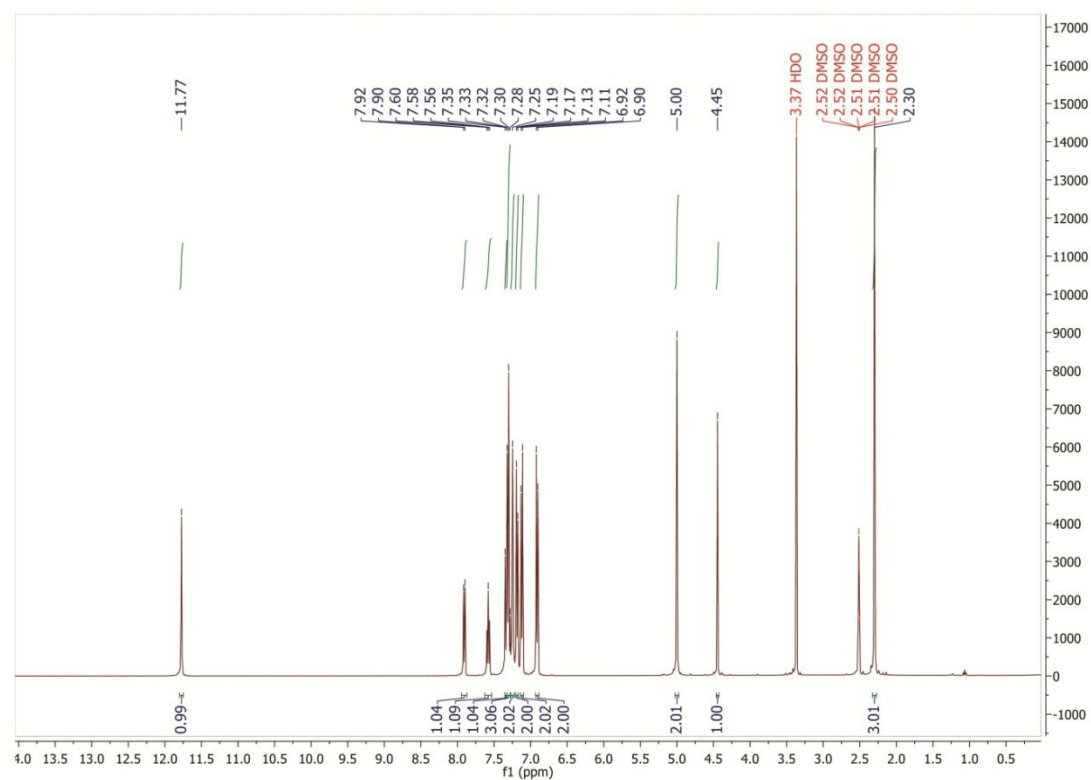


Figure S14. ¹H NMR spectrum of 2-amino-4-(4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6e)

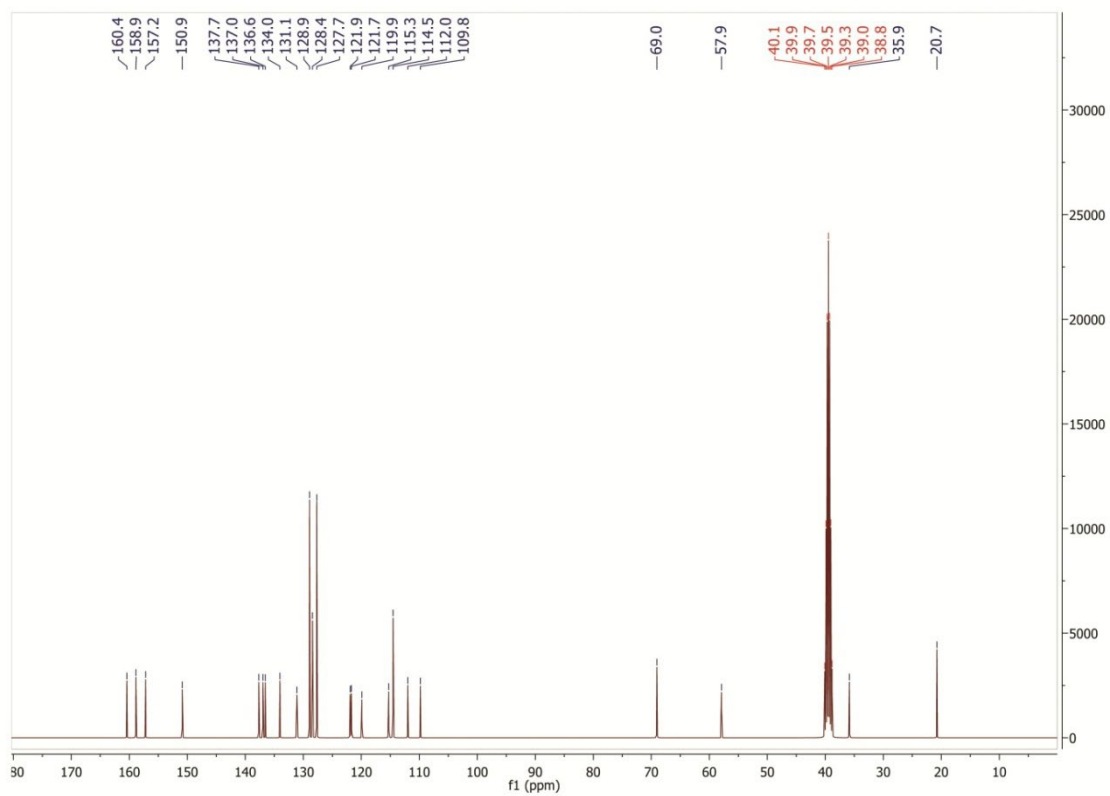


Figure S15. ^{13}C NMR of 2-amino-4-(4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6e**)

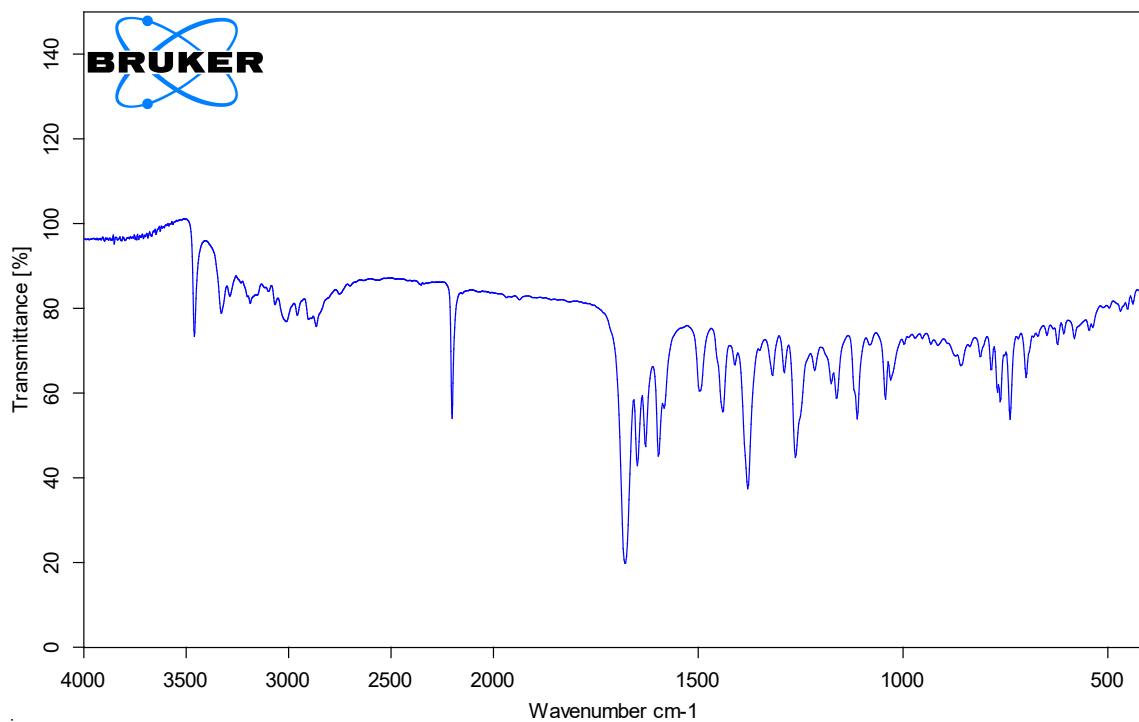


Figure S16. FT-IR spectrum of 2-amino-4-(3-(benzyloxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6f)

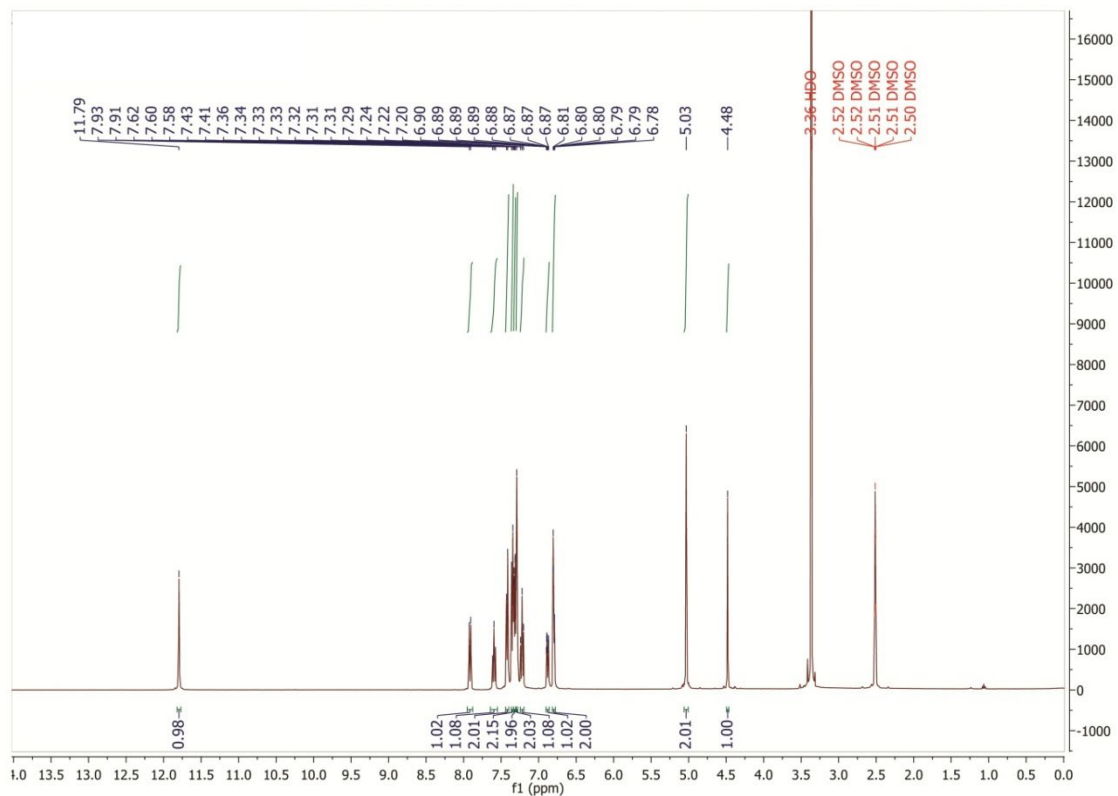


Figure S17. ¹H NMR spectrum of 2-amino-4-(3-(benzyloxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrido[3,2-c]quinoline-3-carbonitrile (6f)

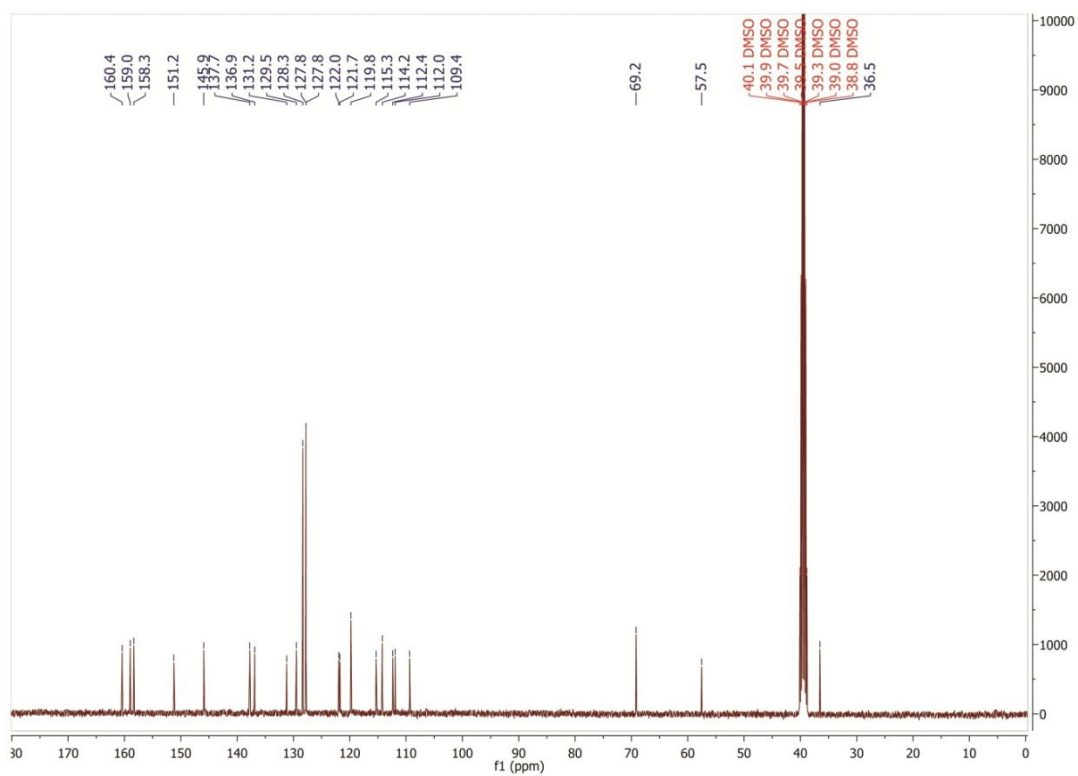


Figure S18. ^{13}C NMR spectrum of 2-amino-4-(4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6f)

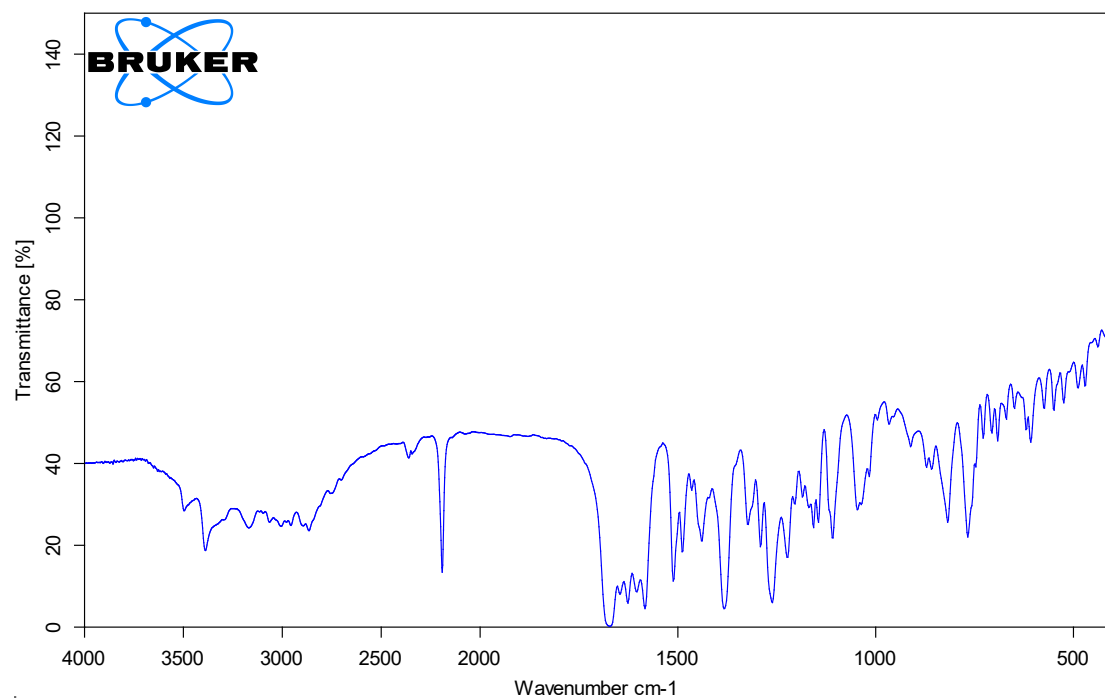


Figure S19. FT-IR spectrum of 2-amino-4-(3-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6g)

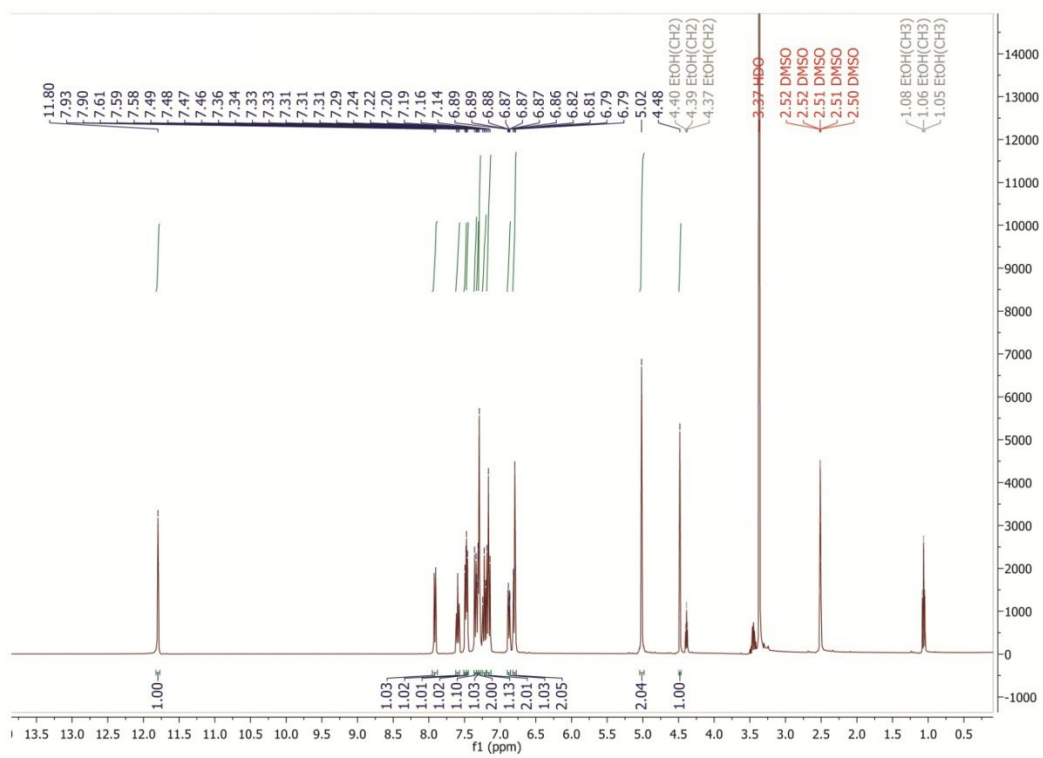


Figure S20. ¹H NMR spectrum of 2-amino-4-(3-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6g**)

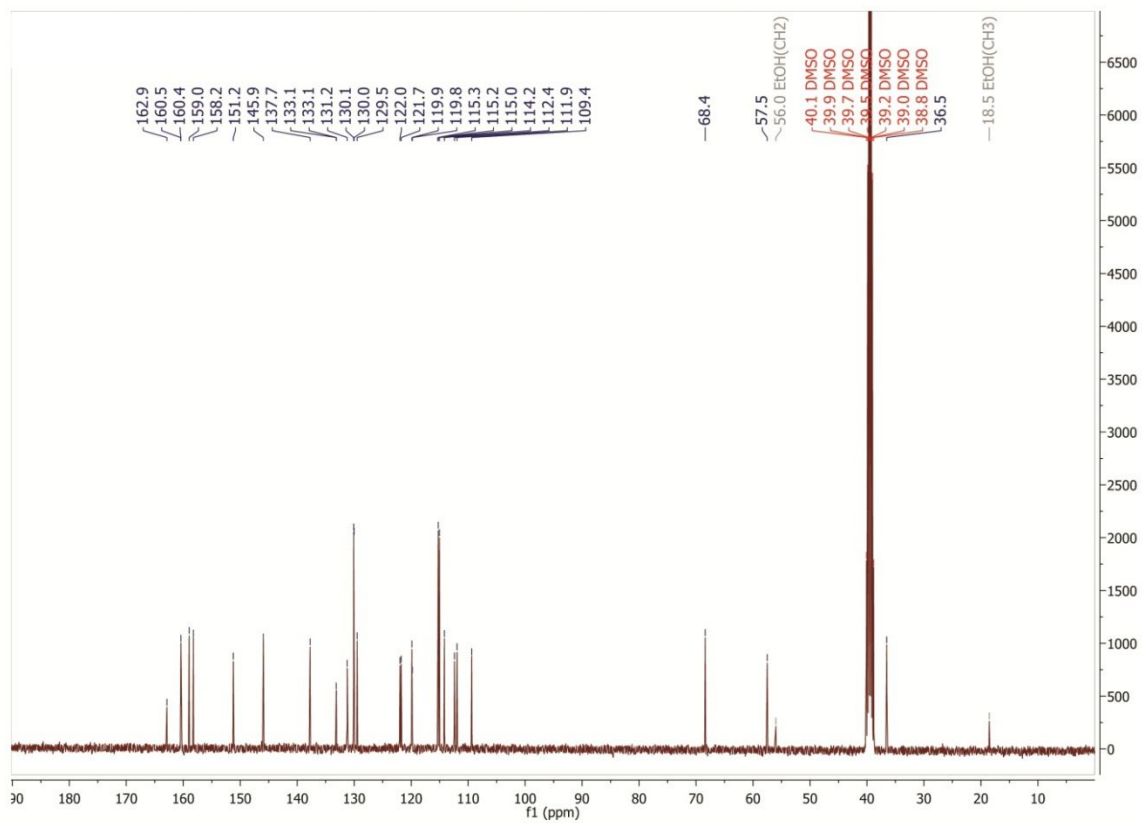


Figure S21. ^{13}C NMR spectrum of 2-amino-4-(3-((4-fluorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6g**)

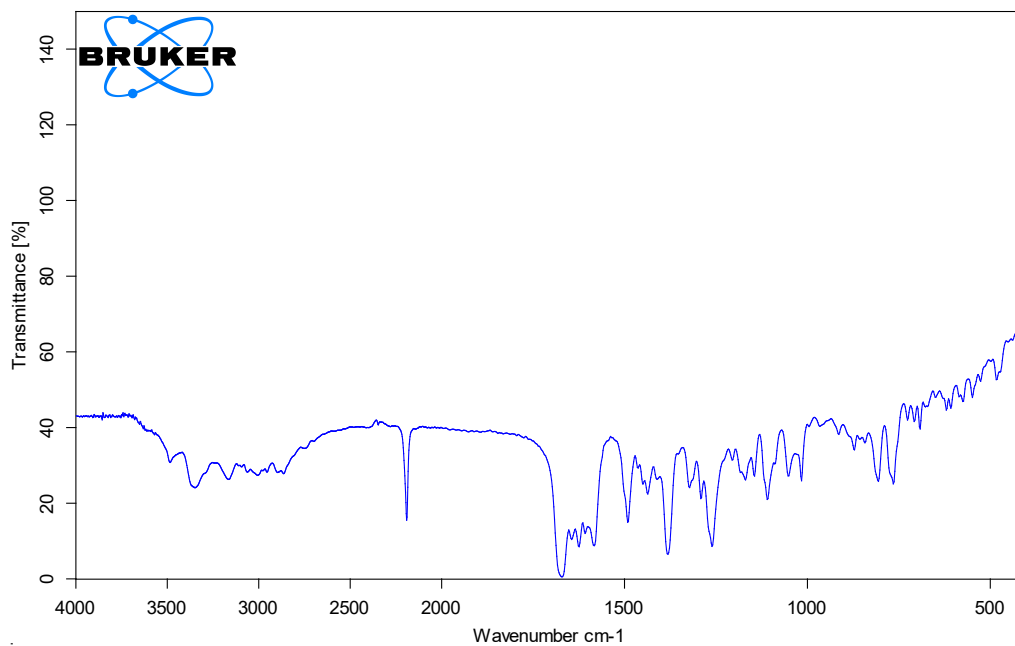


Figure S22. FT-IR spectrum of 2-amino-4-(3-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6h)

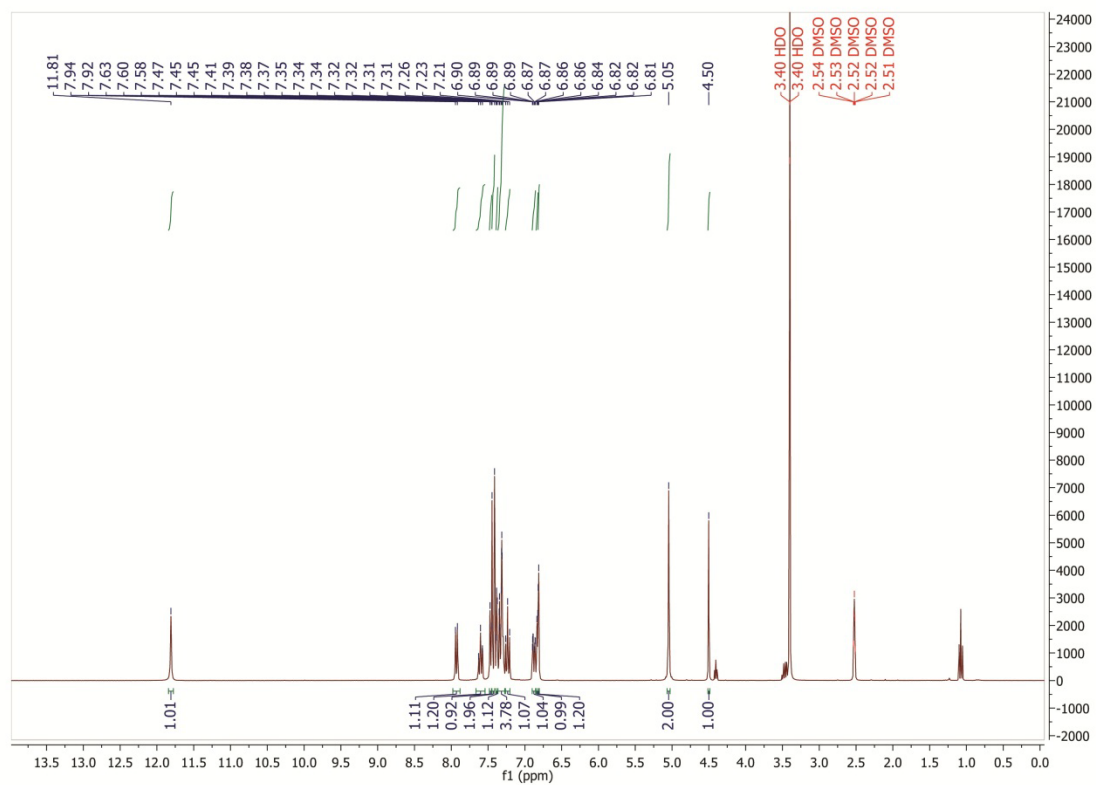


Figure S23. ¹H NMR spectrum of 2-amino-4-(3-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6h**)

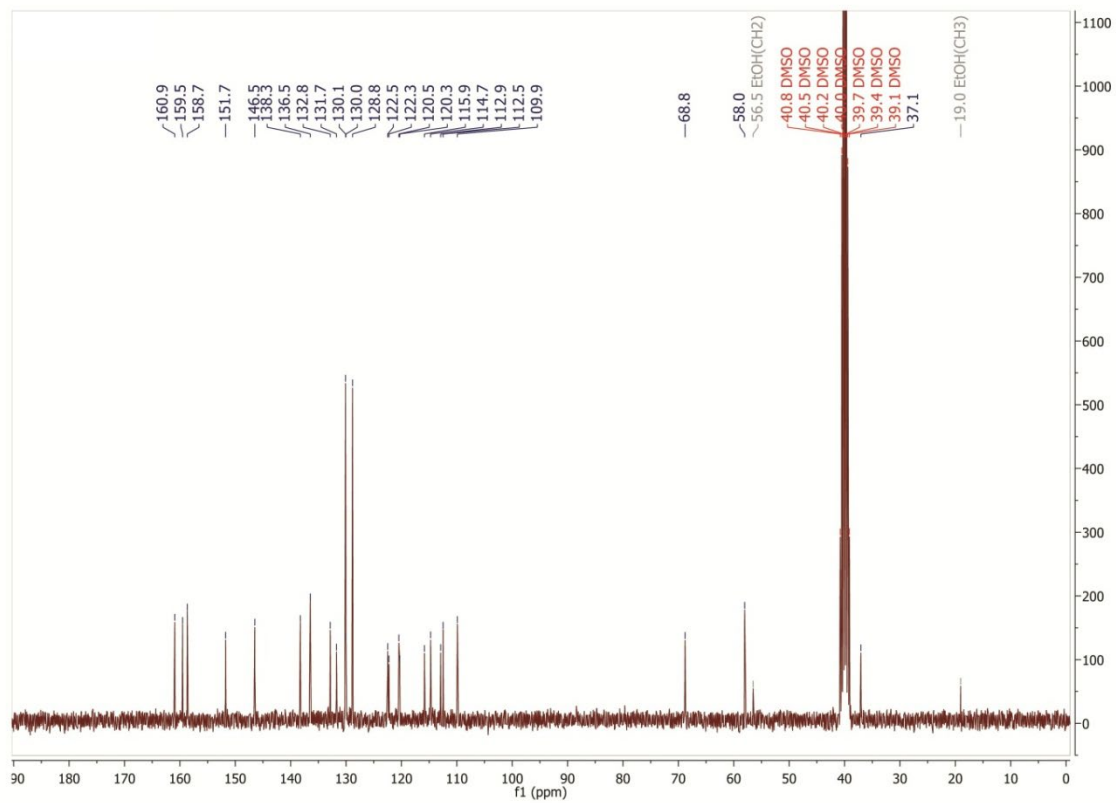


Figure S24. ^{13}C NMR spectrum of 2-amino-4-(3-((4-chlorobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6h)

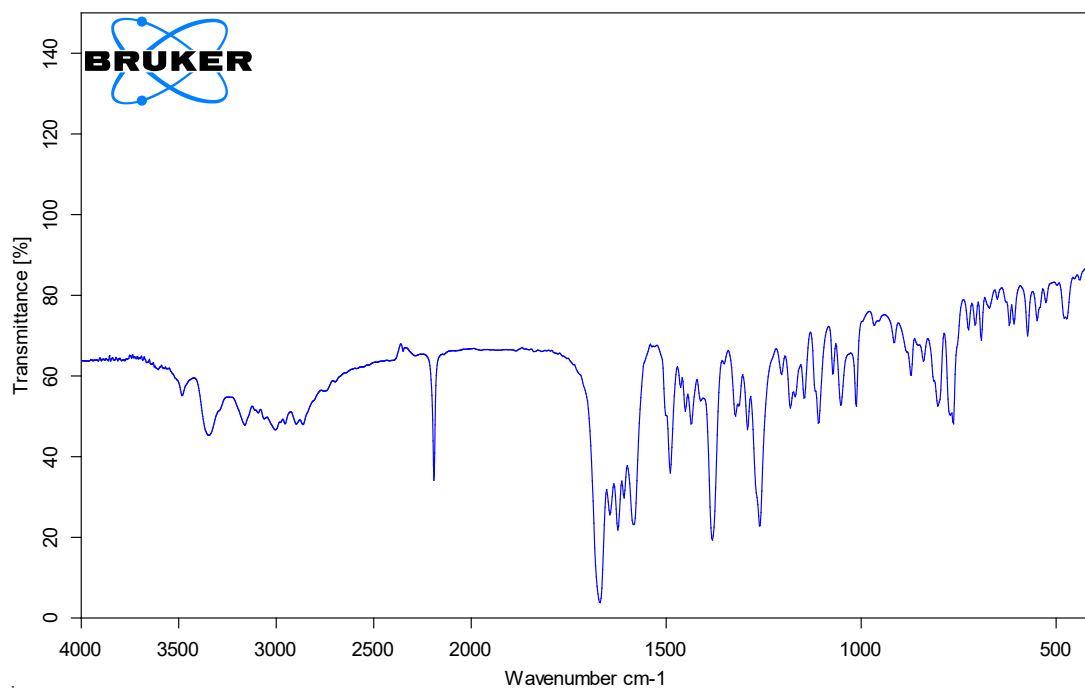


Figure S25. FT-IR spectrum of 2-amino-4-(3-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6i)

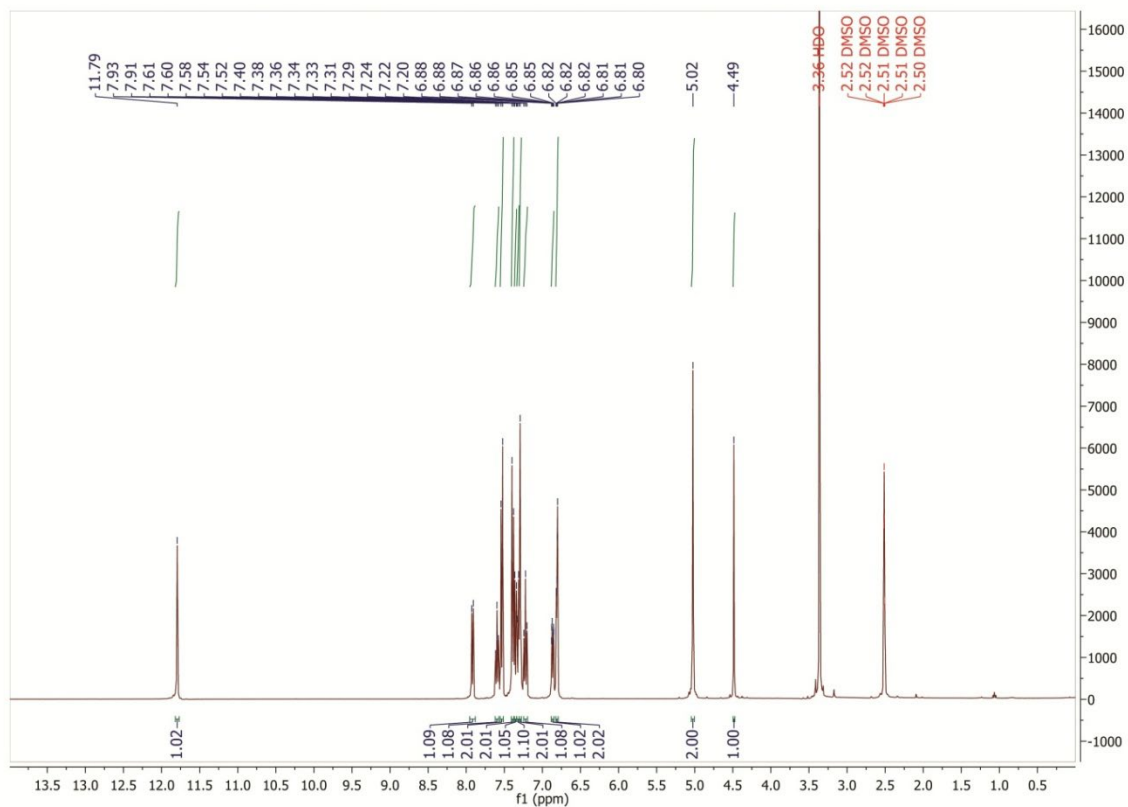


Figure S26. ¹H NMR spectrum of 2-amino-4-(3-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6i)

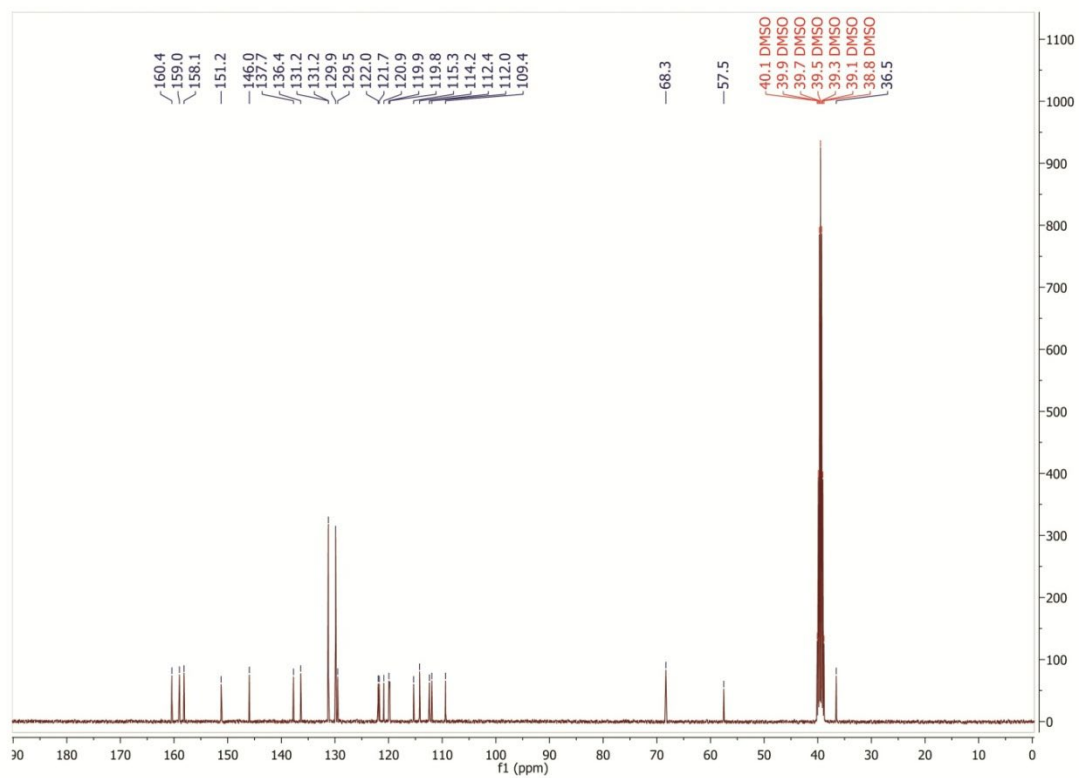


Figure S27. ^{13}C NMR spectrum of 2-amino-4-(3-((4-bromobenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6i**)



Figure S28. FT-IR spectrum of 2-amino-4-(3-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6j)

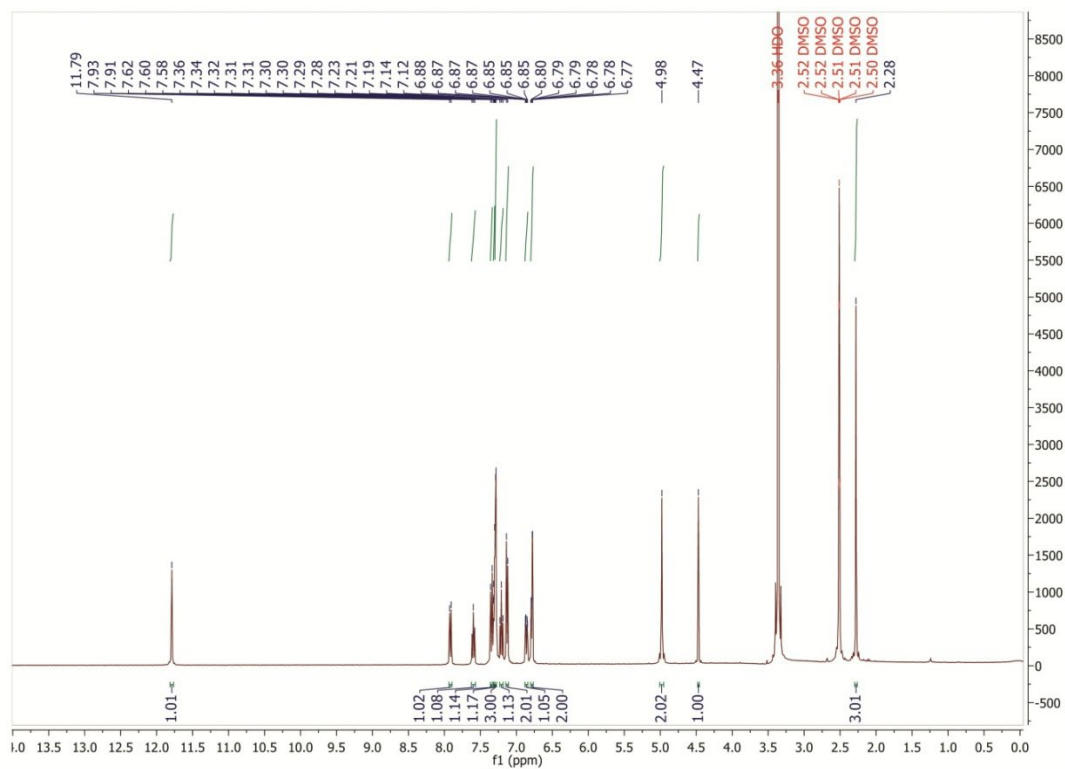


Figure S29. ¹H NMR spectrum of 2-amino-4-(3-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6j)

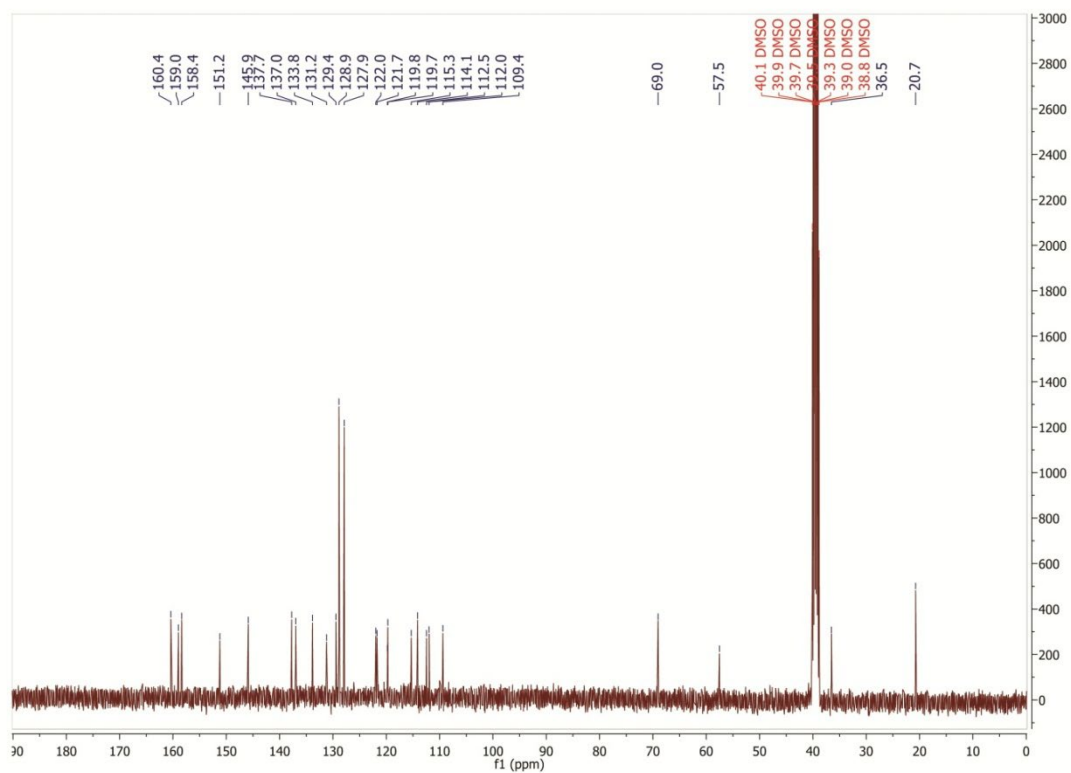


Figure S30. ^{13}C NMR spectrum of 2-amino-4-(3-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (**6j**)

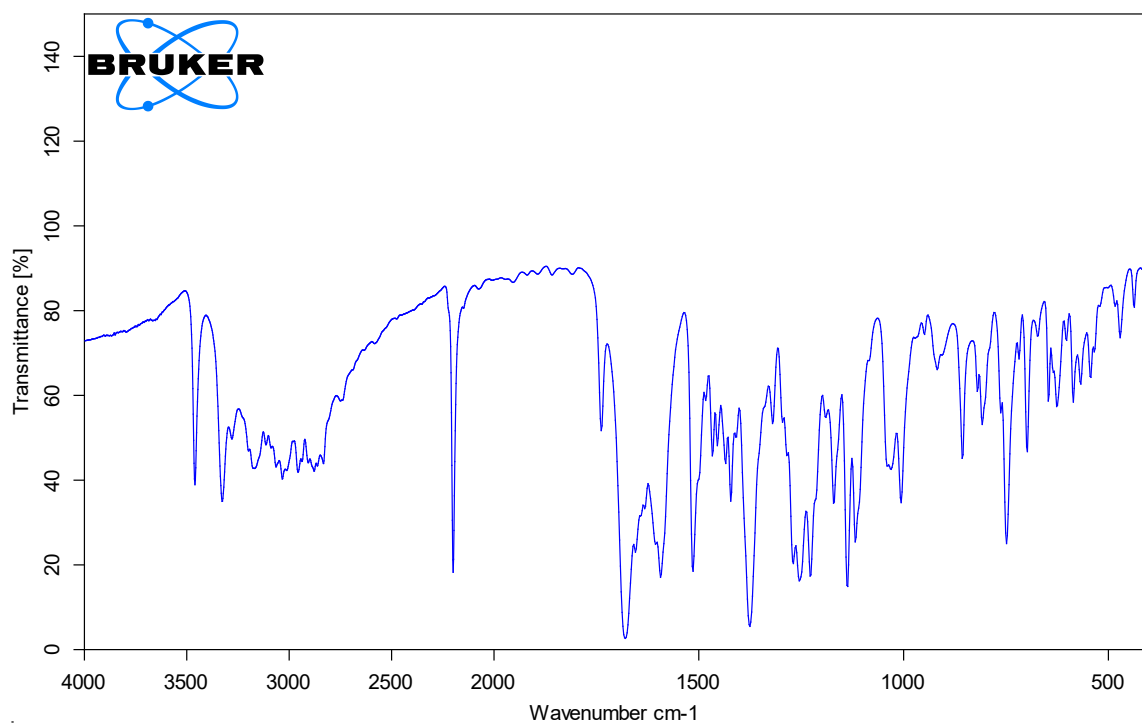


Figure S31. FT-IR spectrum of 2-amino-4-(4-(benzyloxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6k)

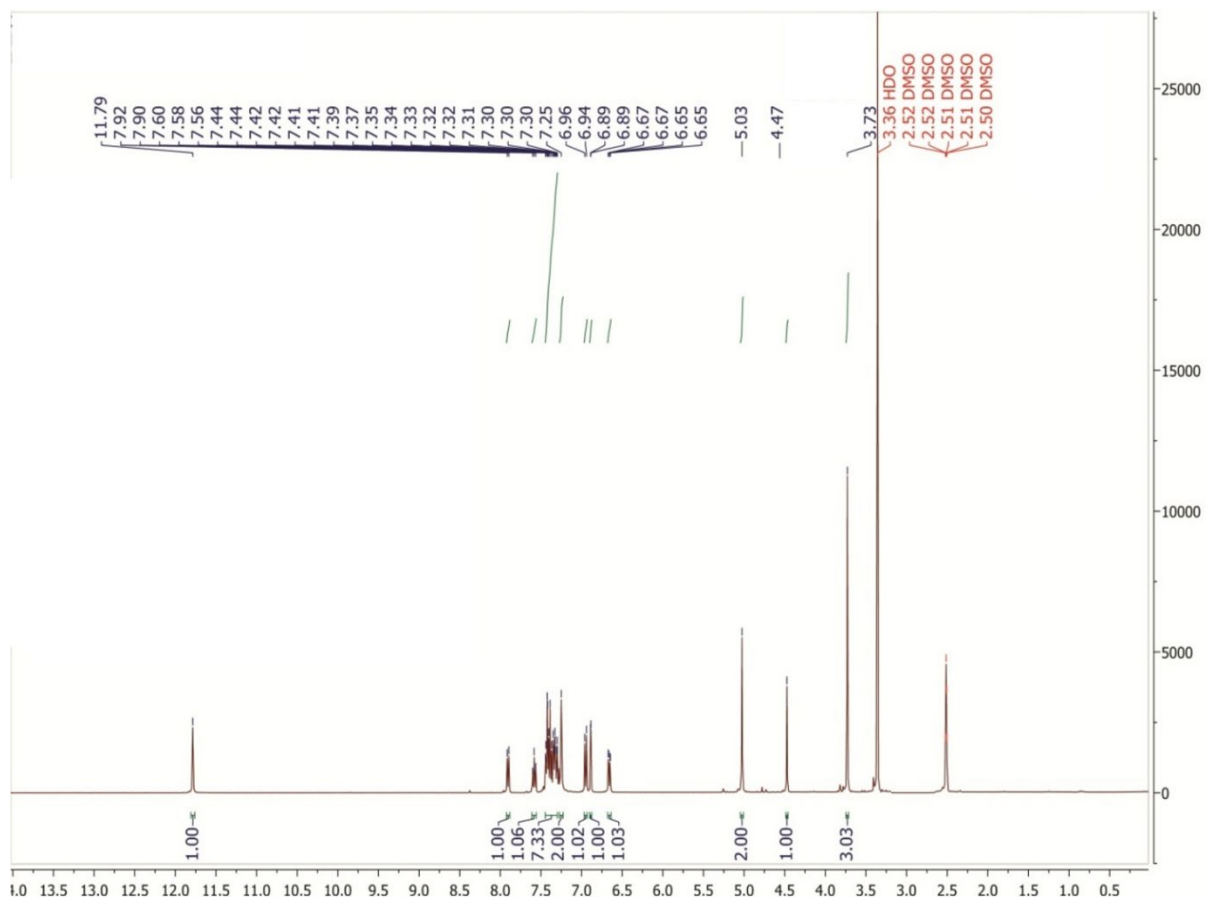


Figure S32. ¹H NMR spectrum of 2-amino-4-(4-(benzyloxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6k)

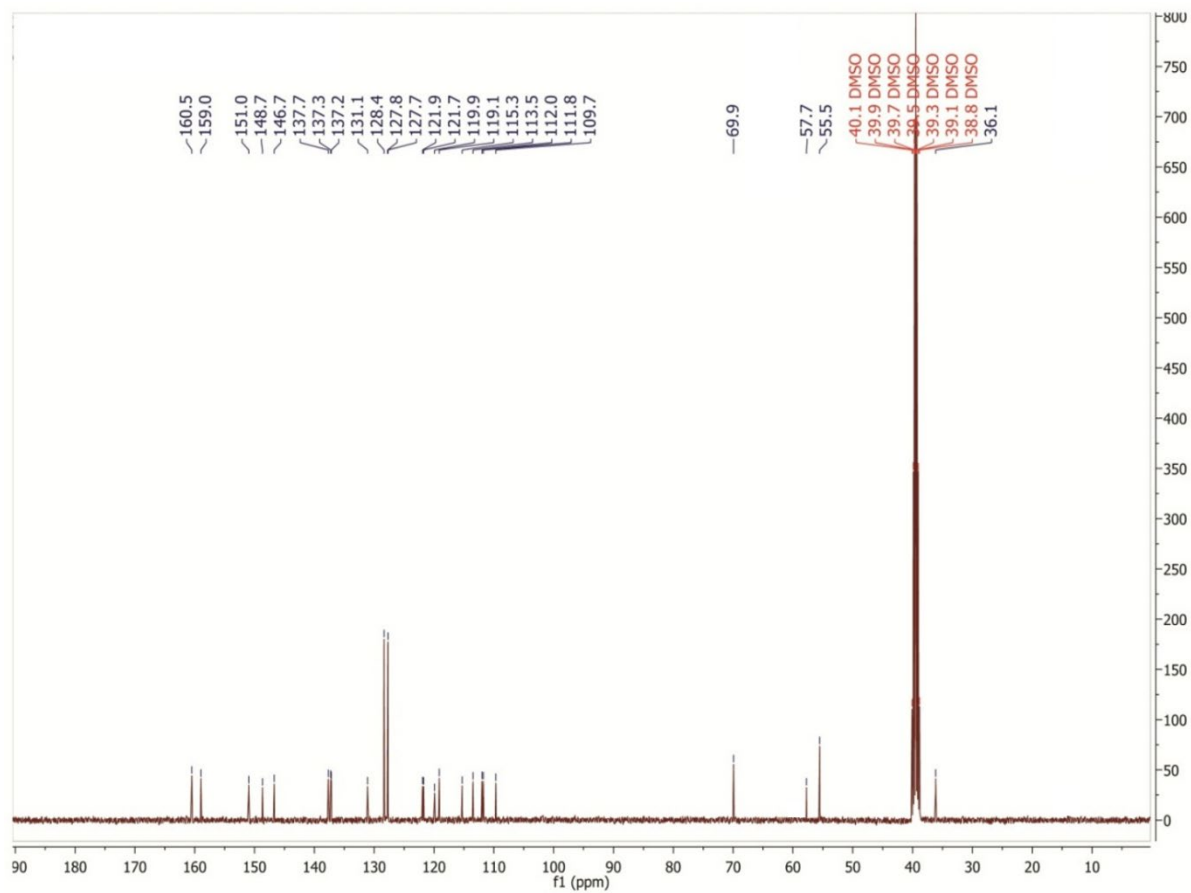


Figure S33. ¹³CNMR spectrum of 2-amino-4-(4-(benzyloxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6k)

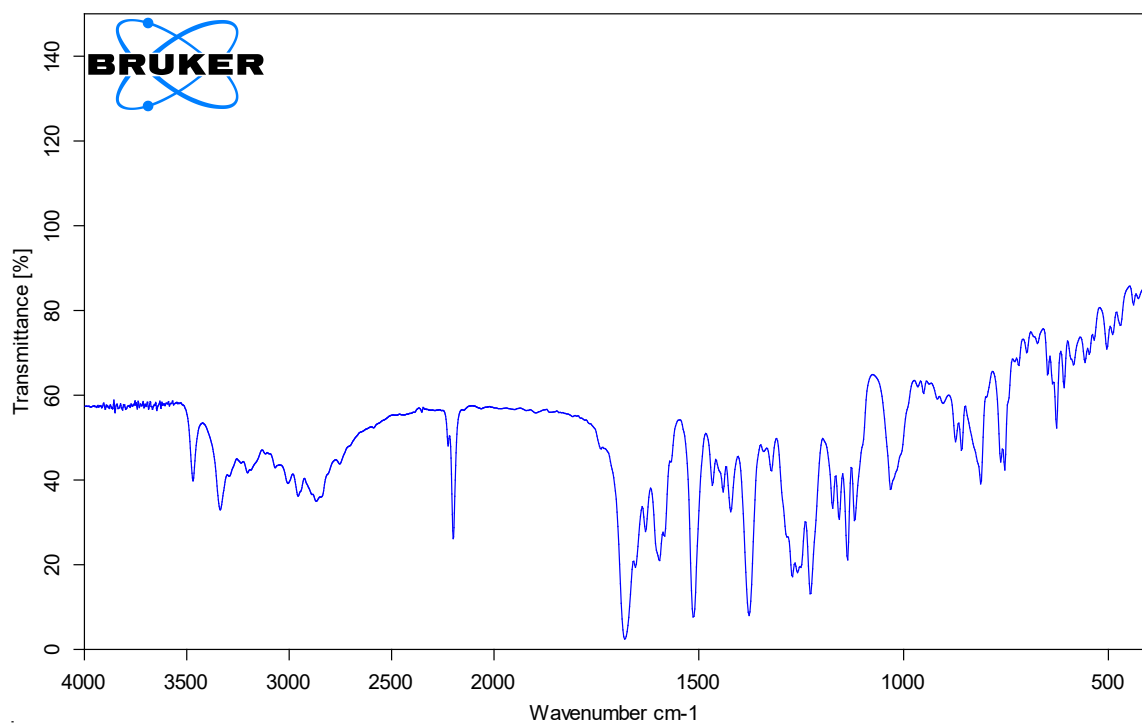


Figure S34. FT-IR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6l)

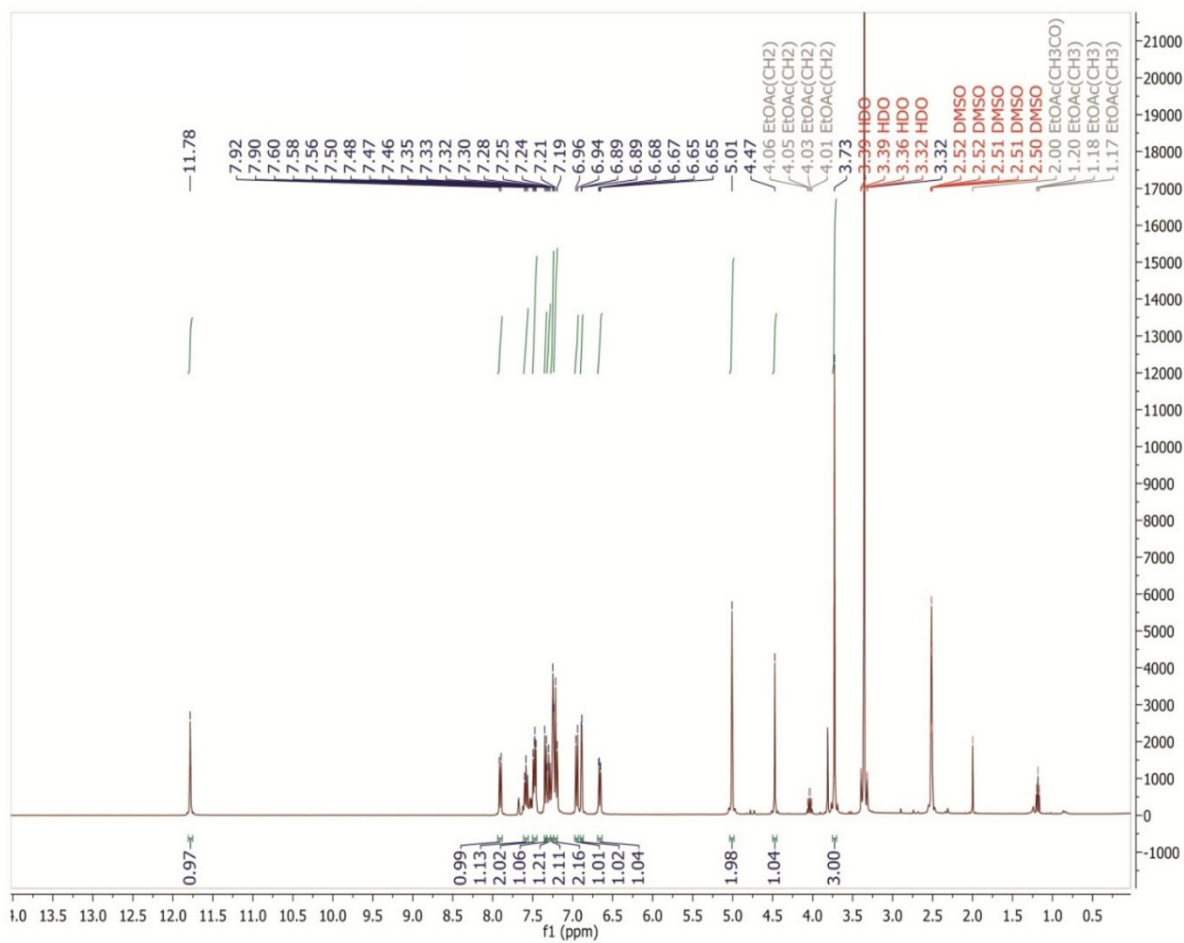


Figure S35. ¹H NMR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6l)

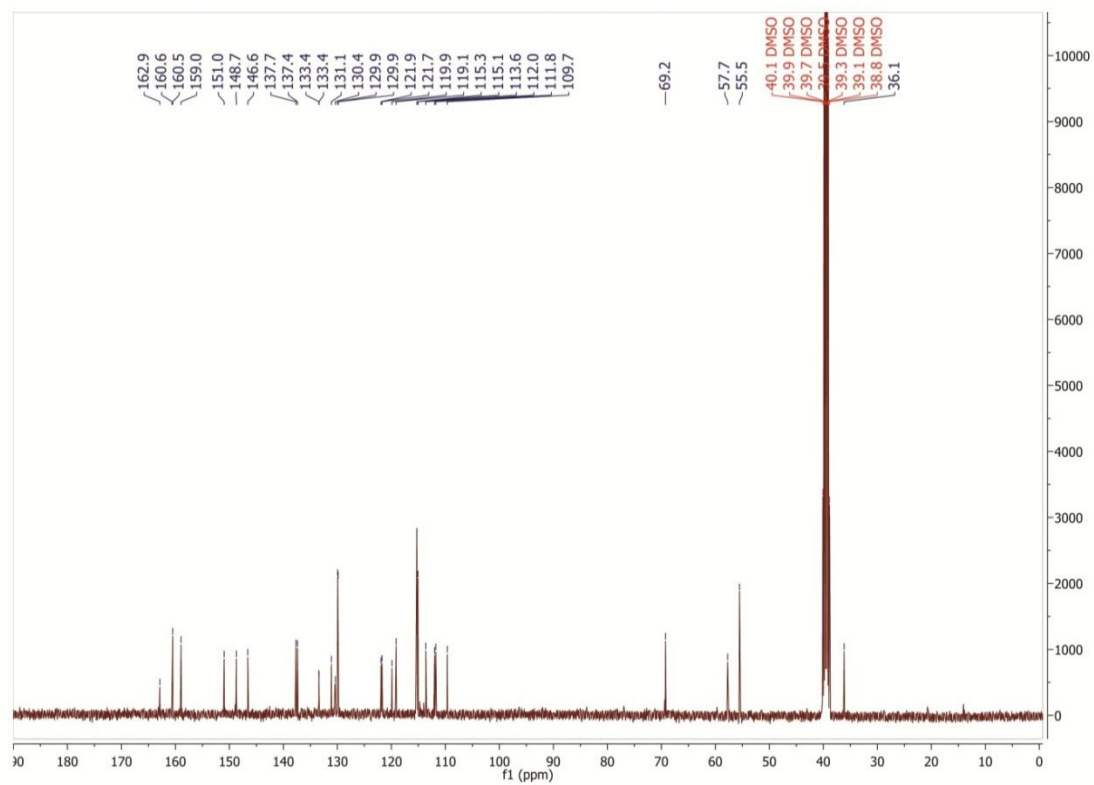


Figure S36. ^{13}C NMR spectrum of 2-amino-4-(4-((4-fluorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6l)

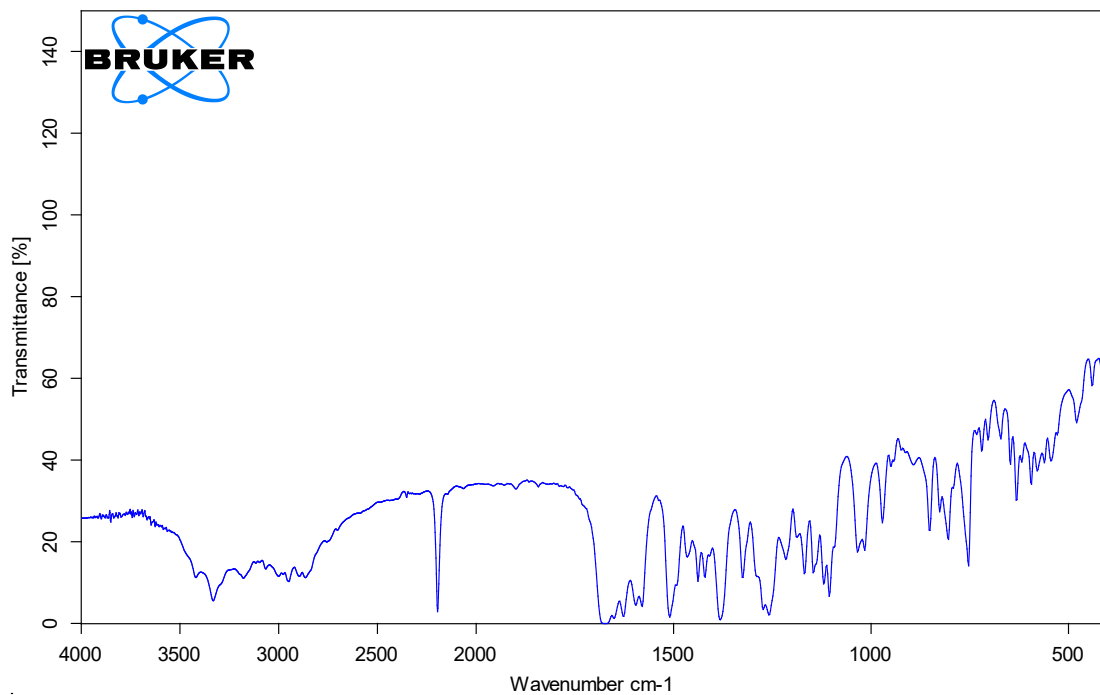


Figure S37. FT-IR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6m)

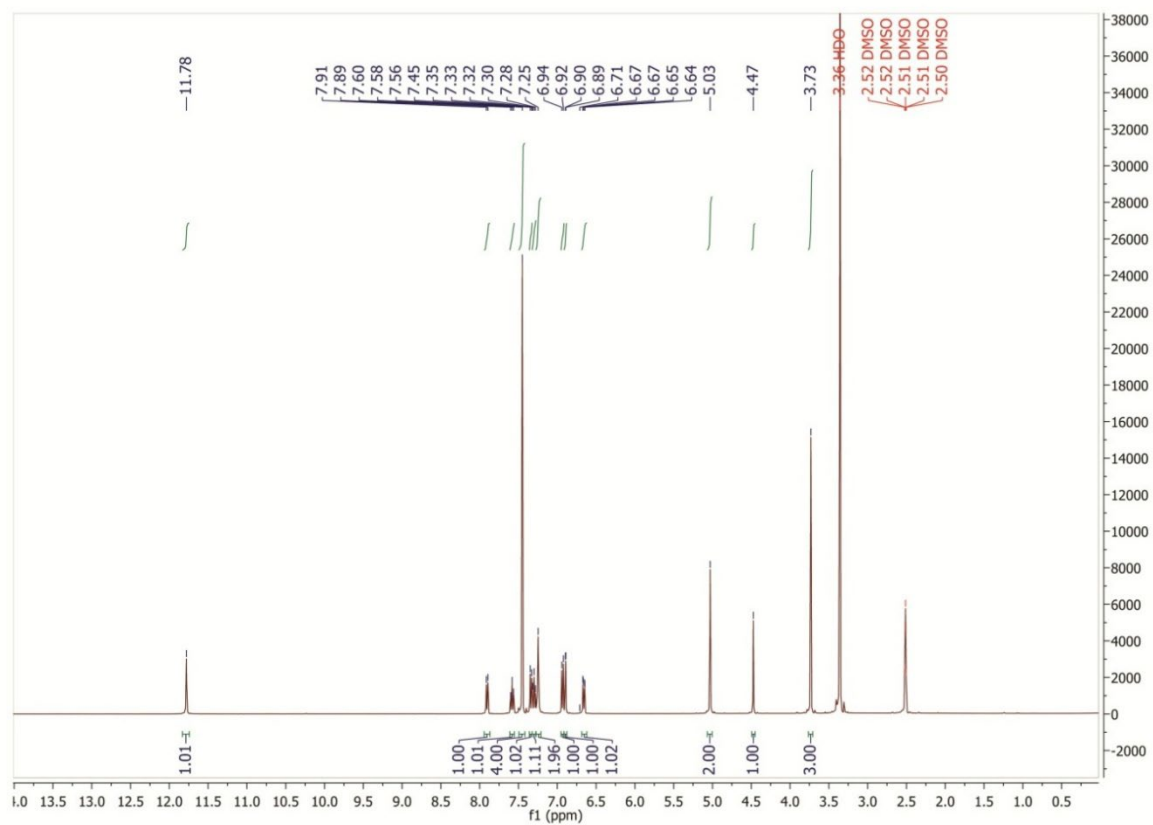


Figure S38. ¹H NMR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6m)

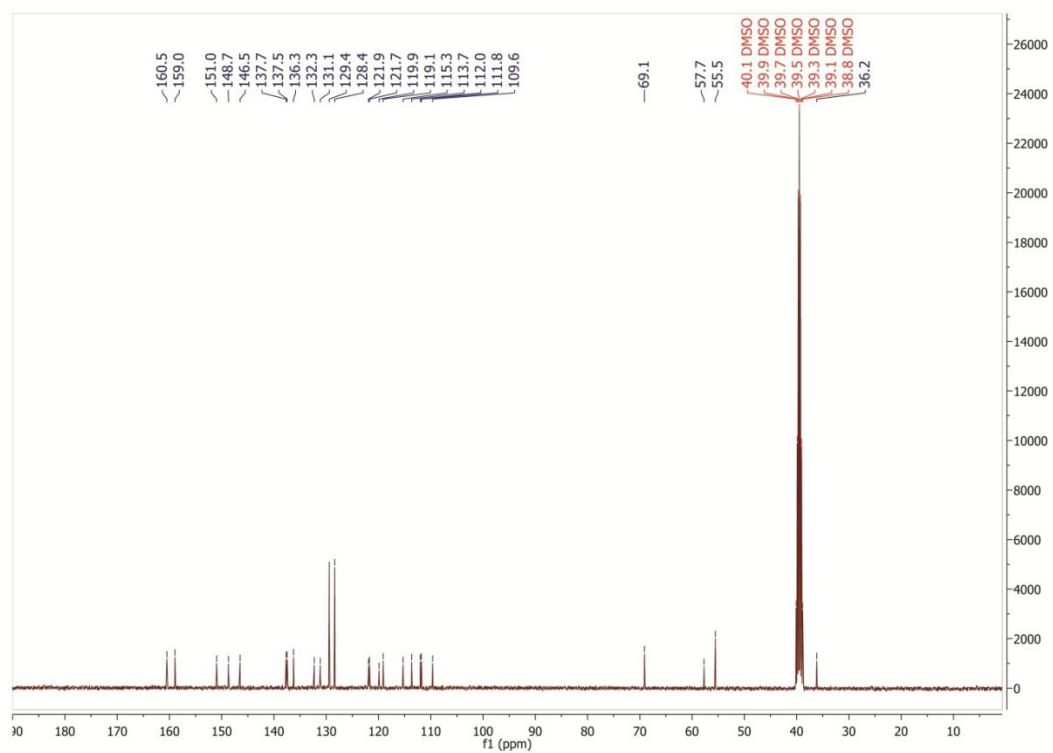


Figure S39. ^{13}C NMR spectrum of 2-amino-4-(4-((4-chlorobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6m)

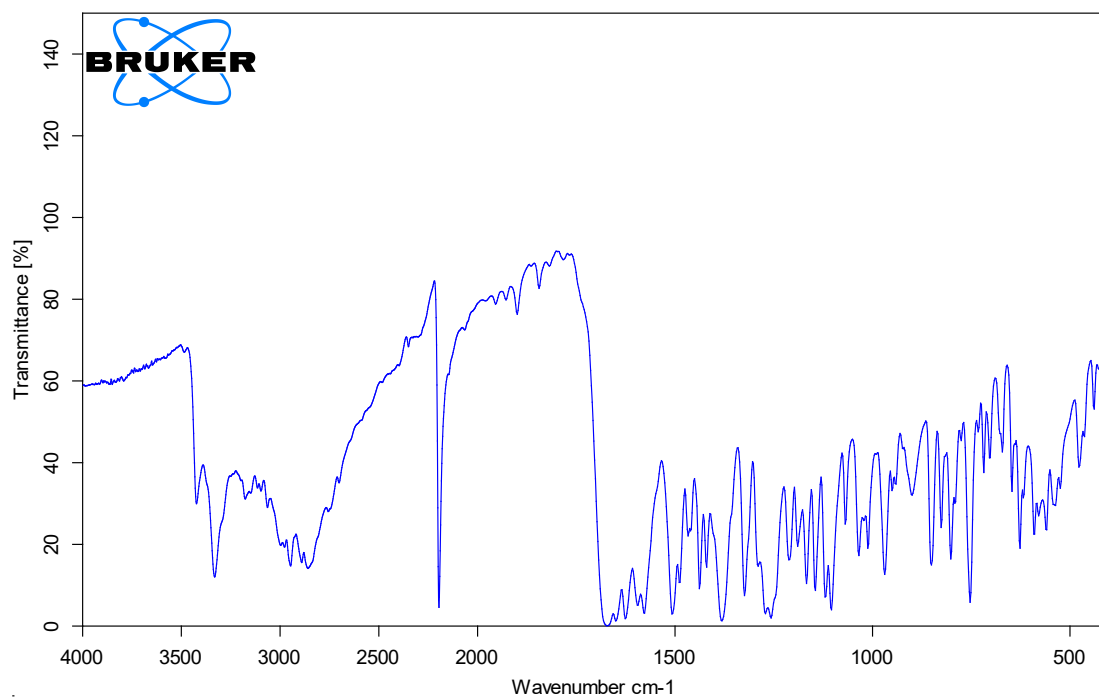


Figure S40. FT-IR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6n)

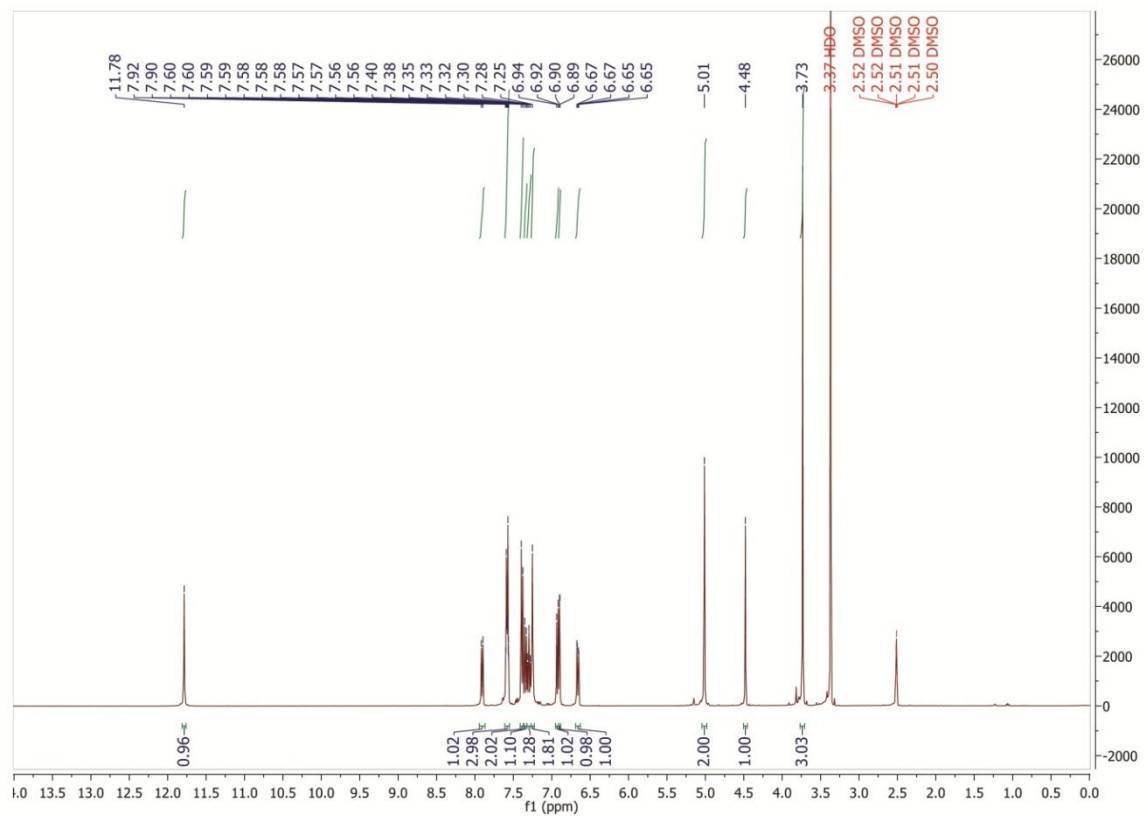


Figure S41. ¹H NMR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6n)

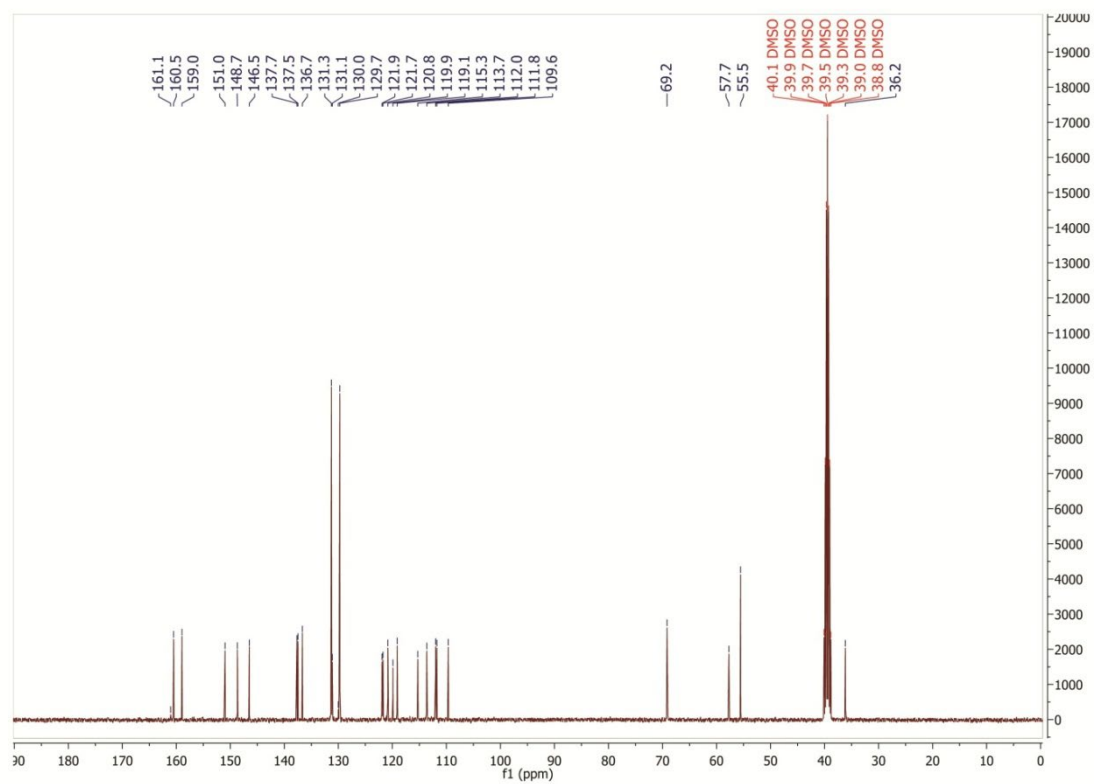


Figure S42. ^{13}C NMR spectrum of 2-amino-4-(4-((4-bromobenzyl)oxy)-3-methoxyphenyl)-5-oxo-5,6-dihydro-4H-pyran[3,2-c]quinoline-3-carbonitrile (6n)

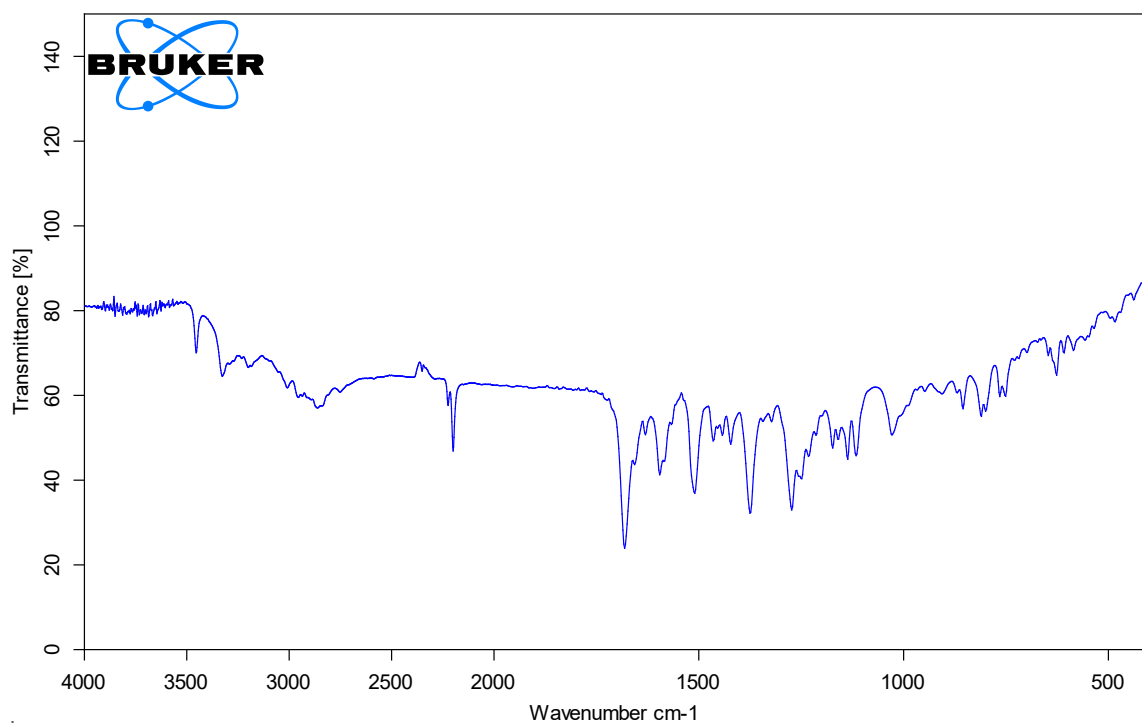


Figure S43. FT-IR spectrum of 2-amino-4-(3-methoxy-4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6o)

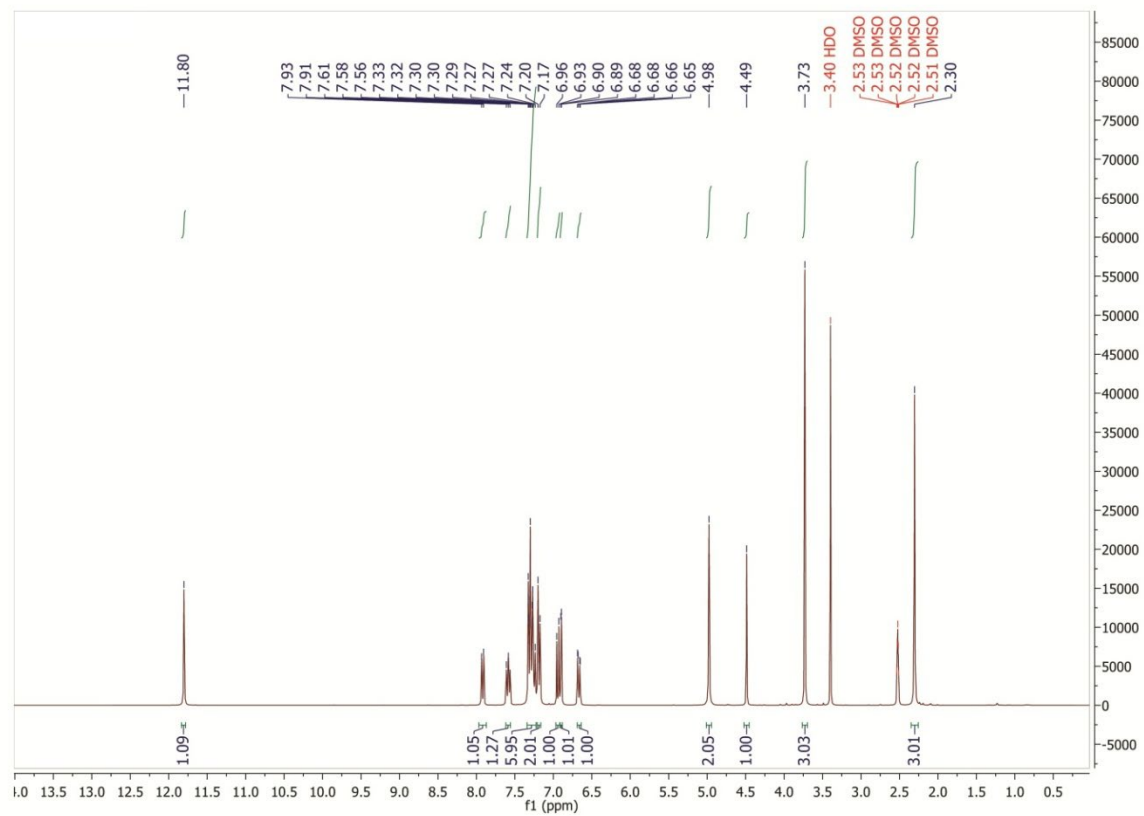


Figure S44. ¹H NMR spectrum of 2-amino-4-(3-methoxy-4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyran[3,2-c]quinoline-3-carbonitrile (6o)

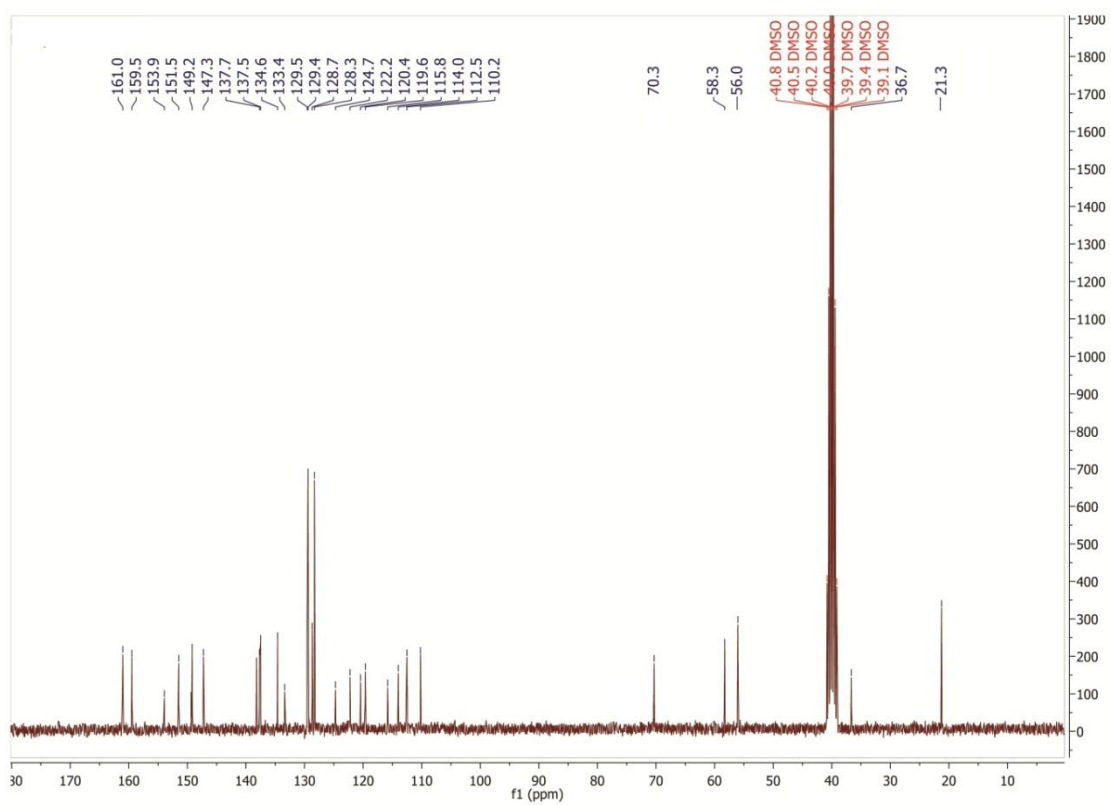


Figure S45. ¹³CNMR spectrum of 2-amino-4-(3-methoxy-4-((4-methylbenzyl)oxy)phenyl)-5-oxo-5,6-dihydro-4H-pyrano[3,2-c]quinoline-3-carbonitrile (6o)