

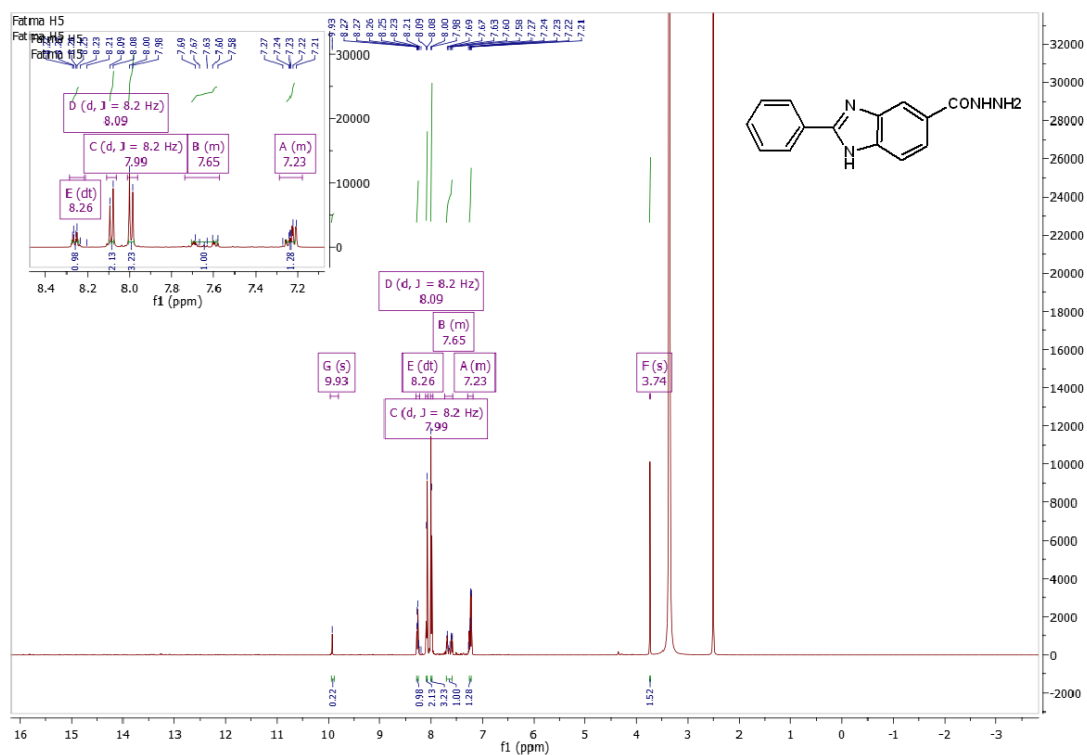


Fig.1. ¹H NMR of compound 5a (500 MHz, DMSO-*d*₆)

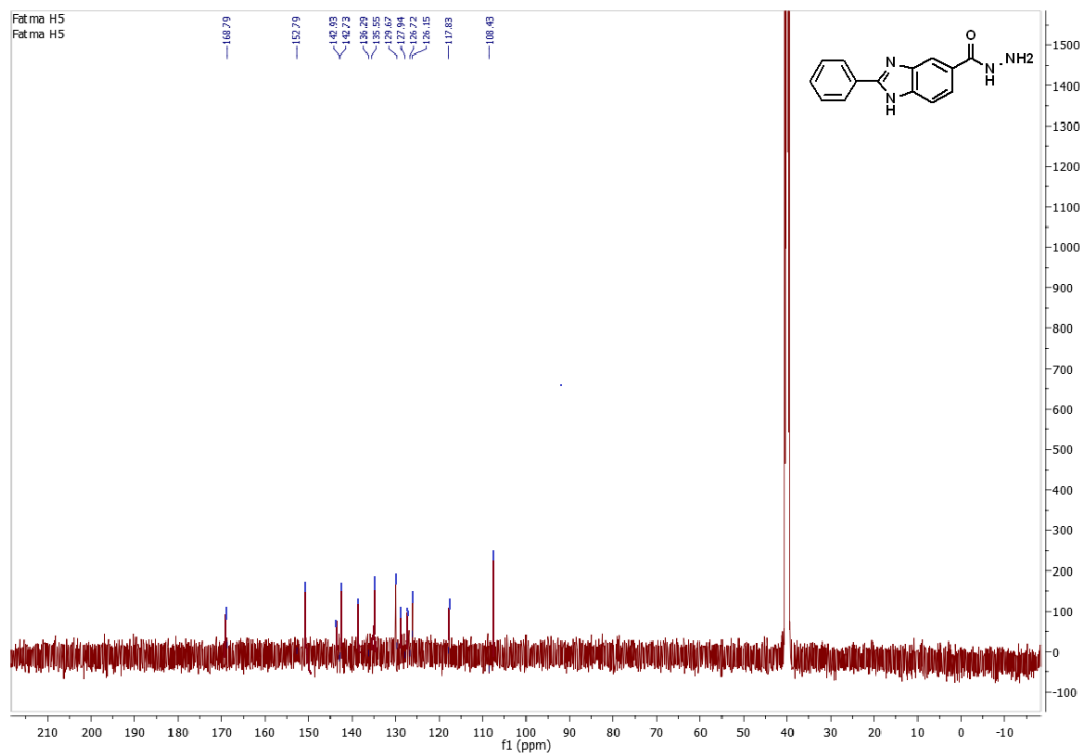


Fig.2. ¹³C NMR of compound 5a (125 MHz, DMSO-*d*₆).

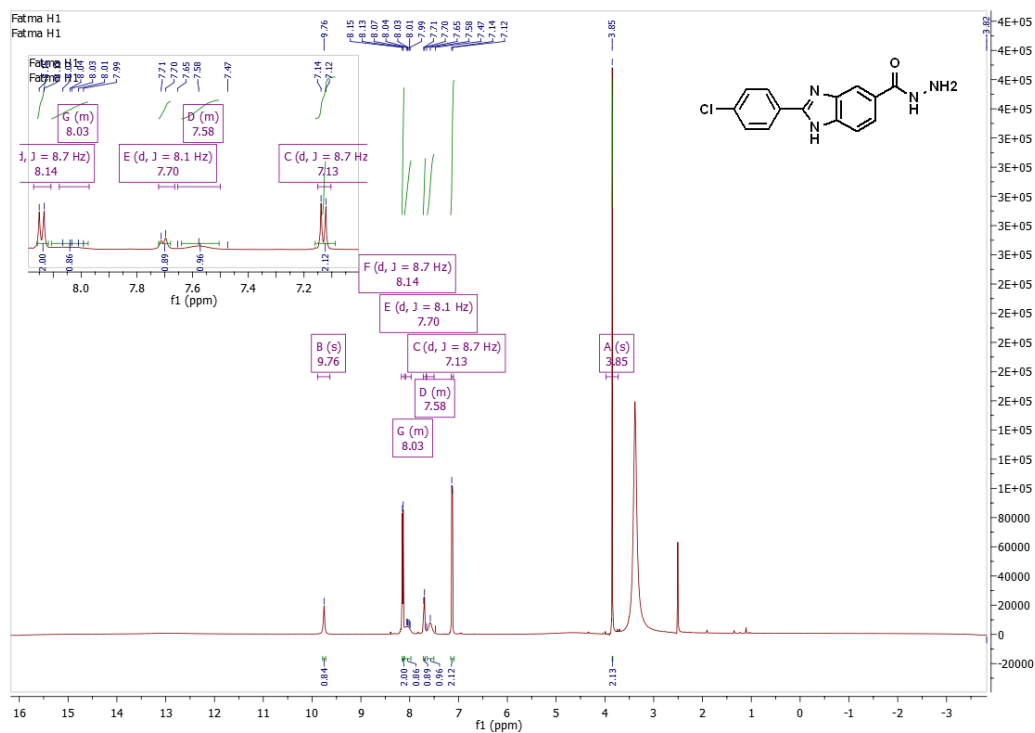


Fig.3. ¹H NMR of compound 5b (500 MHz, DMSO-*d*₆).

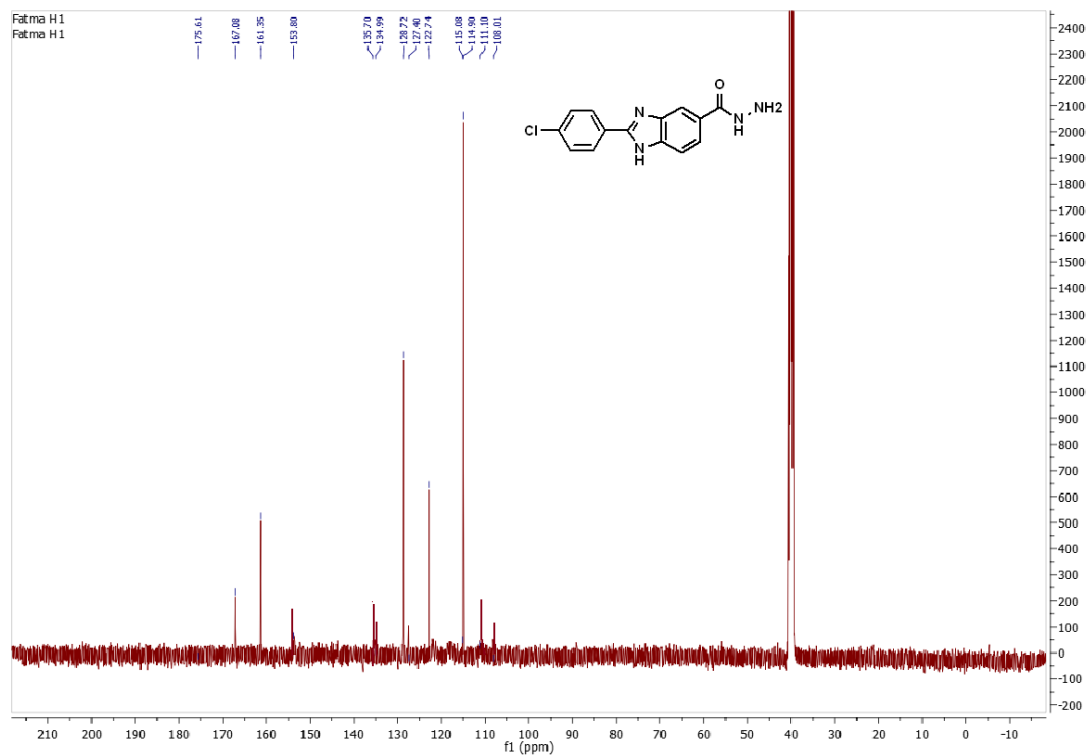


Fig.4. ¹³C NMR of compound 5b (125 MHz, DMSO-*d*₆).

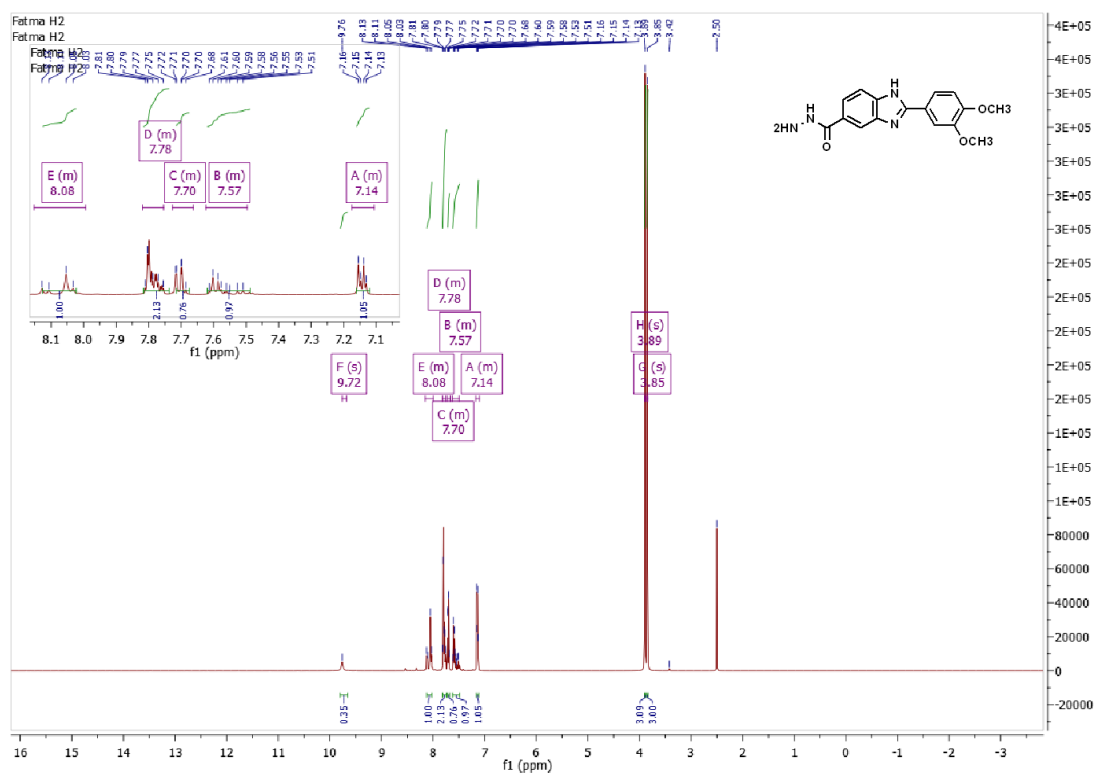


Fig.5. ¹H NMR of compound 5d (500 MHz, DMSO-*d*₆).

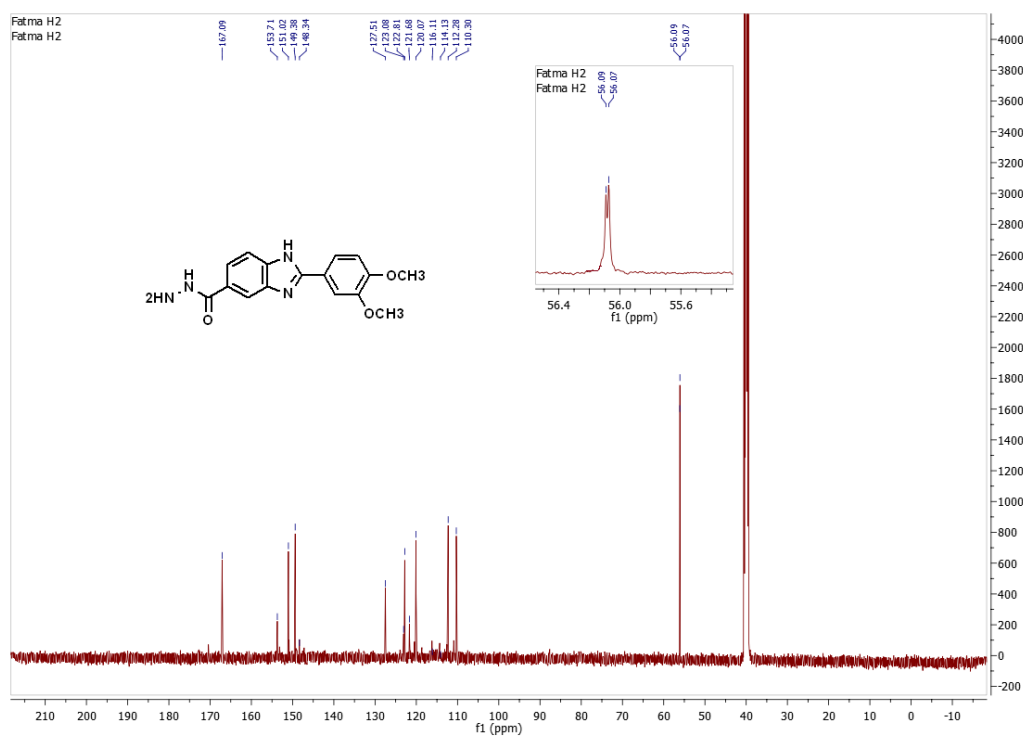


Fig.6. ¹³C NMR of compound 5d (125 MHz, DMSO-*d*₆).

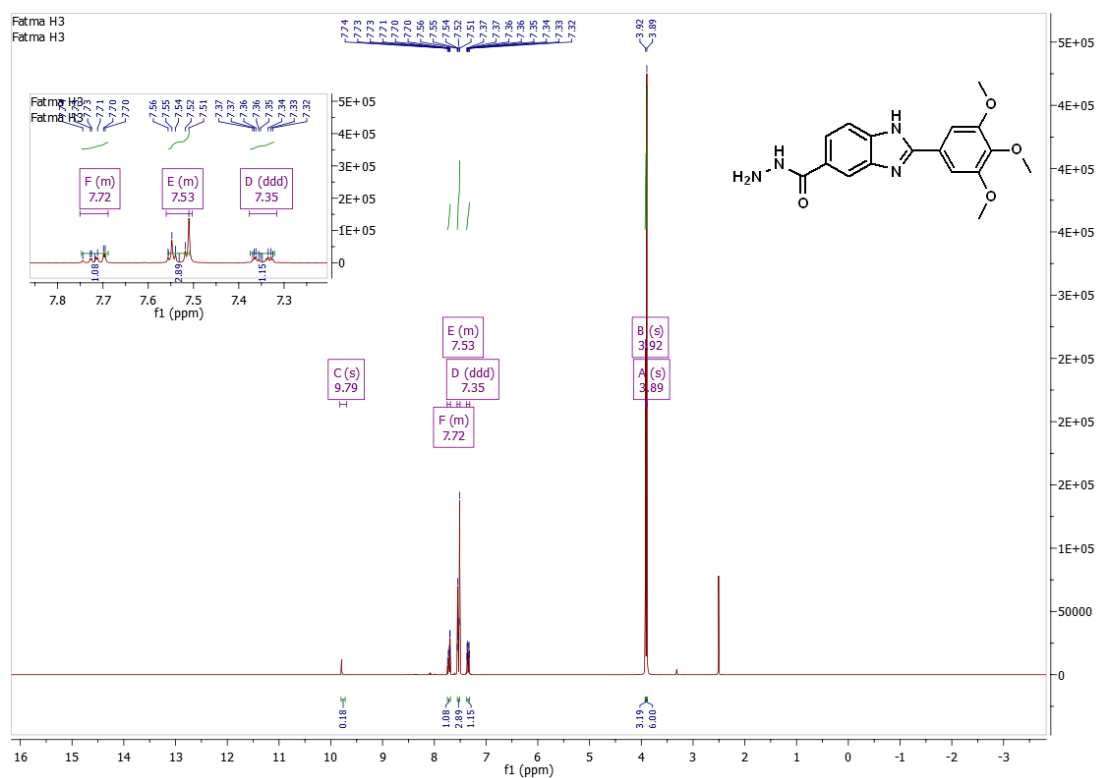


Fig.7. ¹H NMR of compound 5e (500 MHz, DMSO-*d*₆)

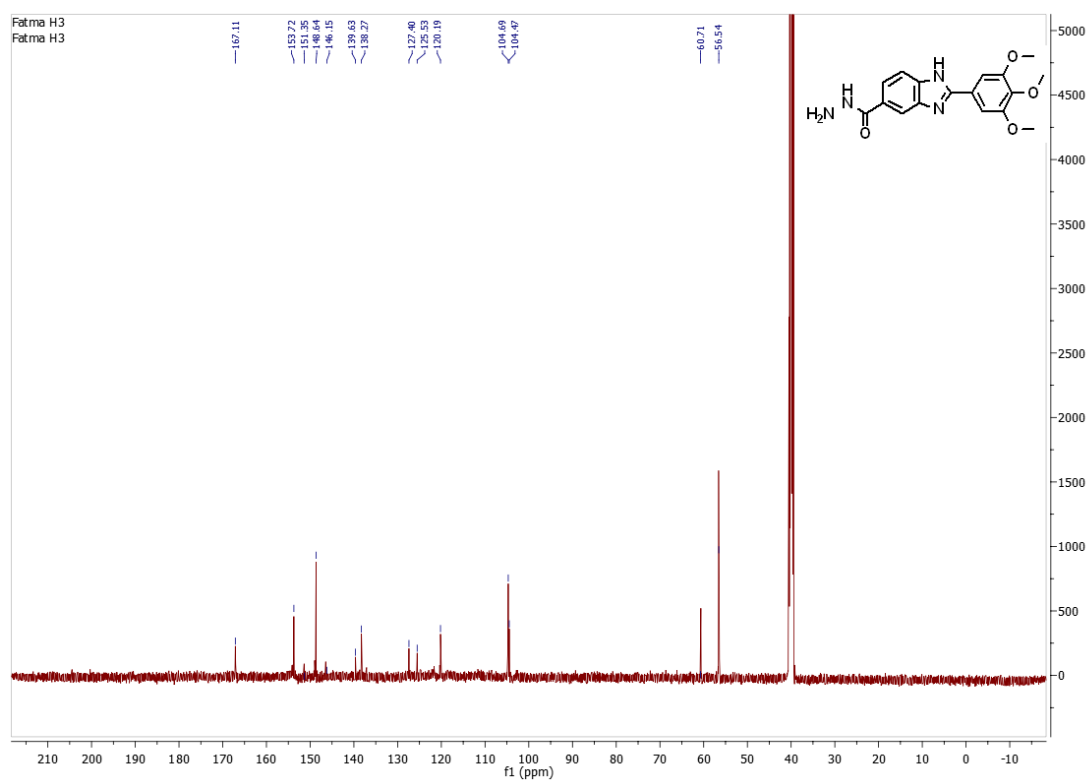


Fig.8. ¹³C NMR of compound 5e (125 MHz, DMSO-*d*₆)

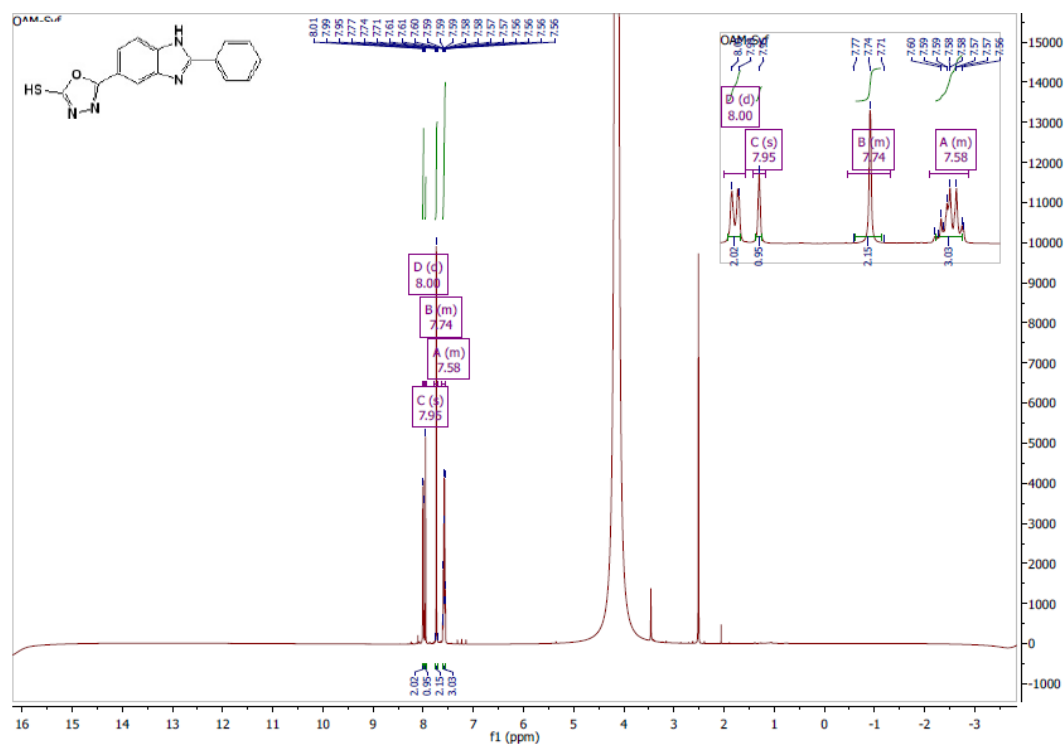


Fig.9. ¹H NMR of compound 6a (600 MHz, DMSO-*d*₆)

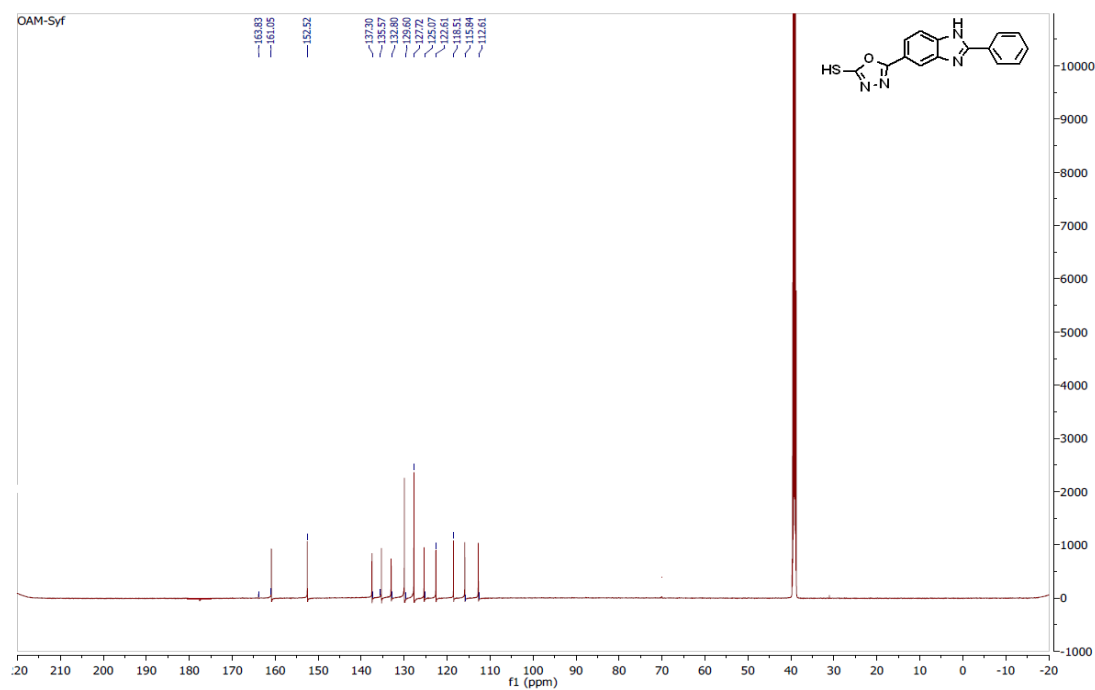


Fig.10. ¹³C NMR of compound 6a (150 MHz, DMSO-*d*₆)

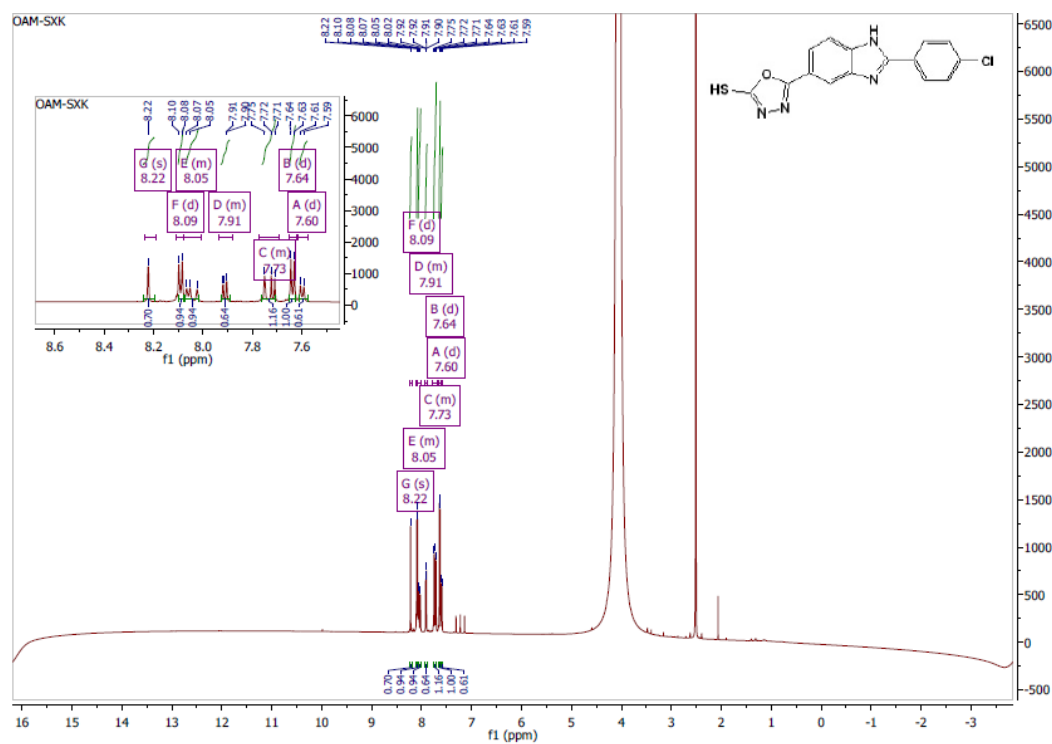


Fig.11. ¹H NMR of compound 6b (600 MHz, DMSO-*d*₆)

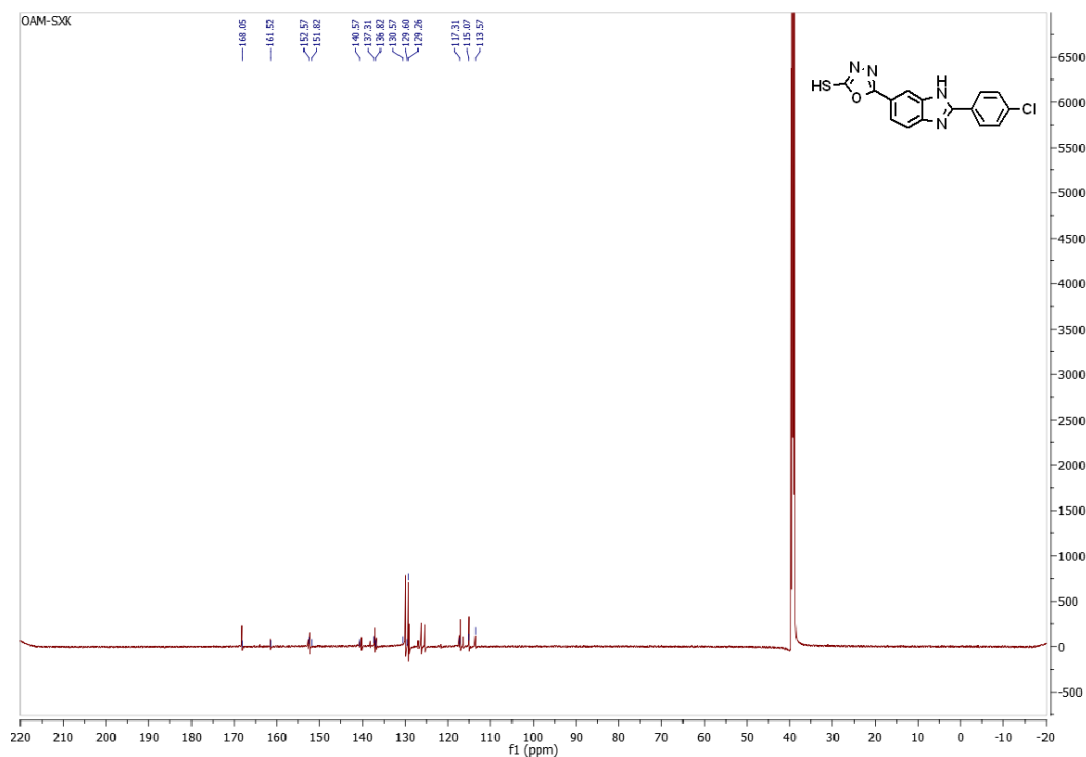


Fig.12. ¹³C NMR of compound 6b (150MHz, DMSO-*d*₆)

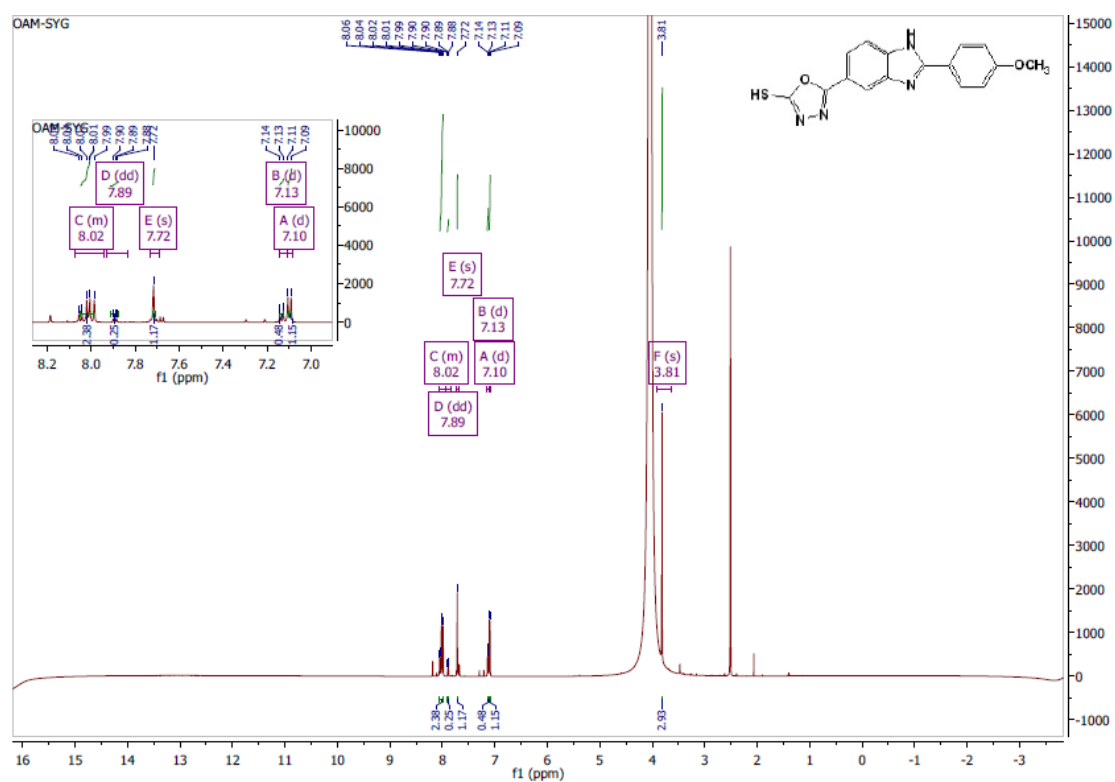


Fig.13. ¹H NMR of compound 6c (600 MHz, DMSO-*d*₆)

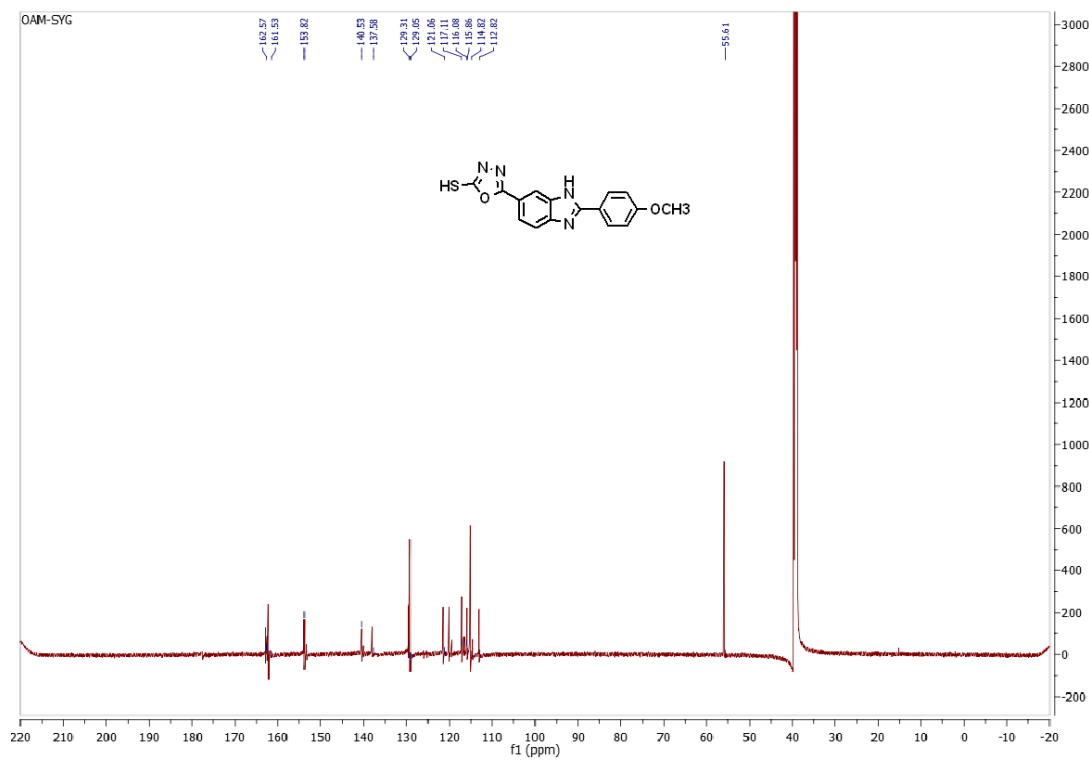


Fig.14. ¹³C NMR of compound 6c (150 MHz, DMSO-*d*₆)

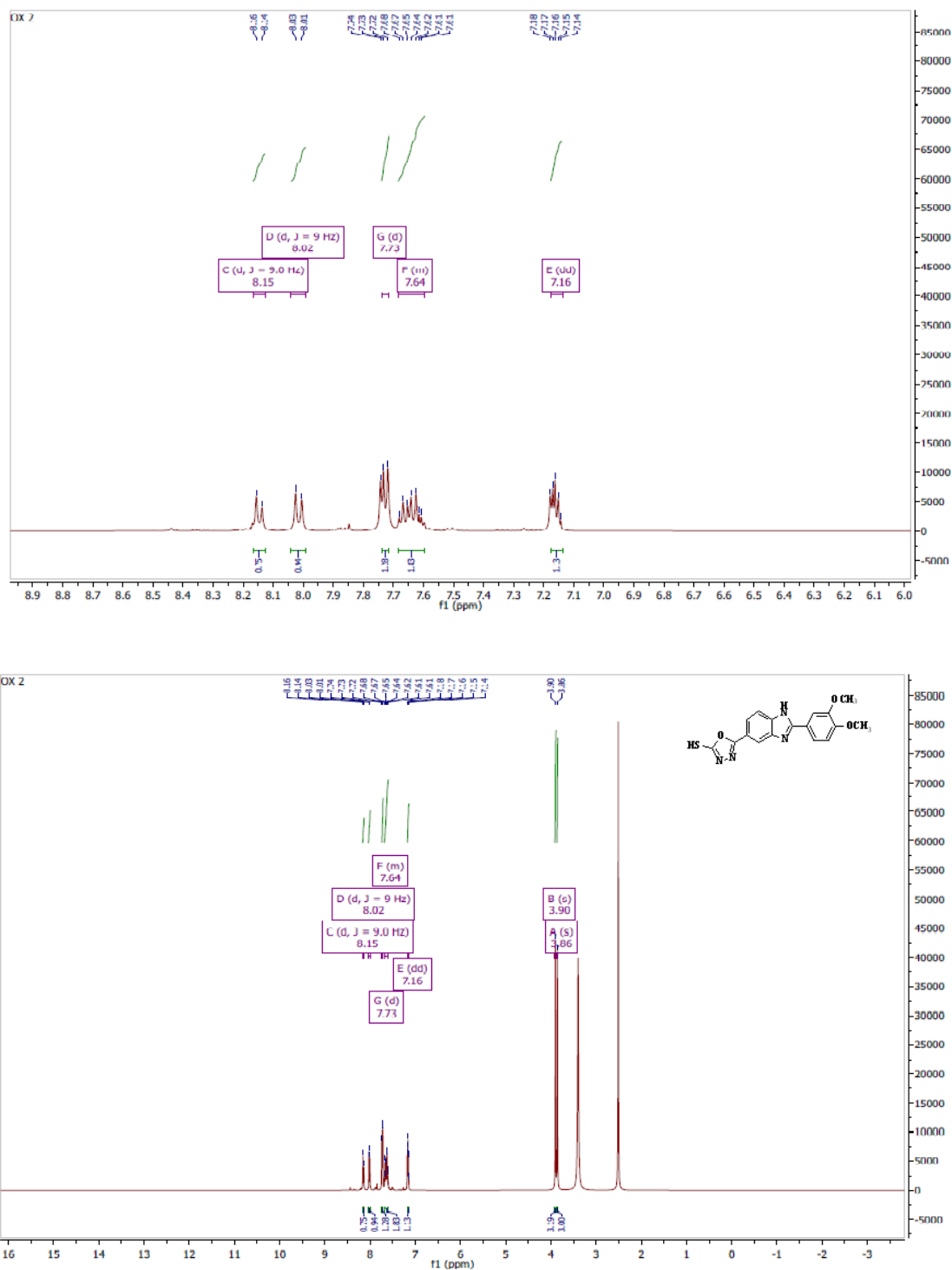


Fig.15. ^1H NMR of compound 6d (500 MHz, $\text{DMSO-}d_6$)

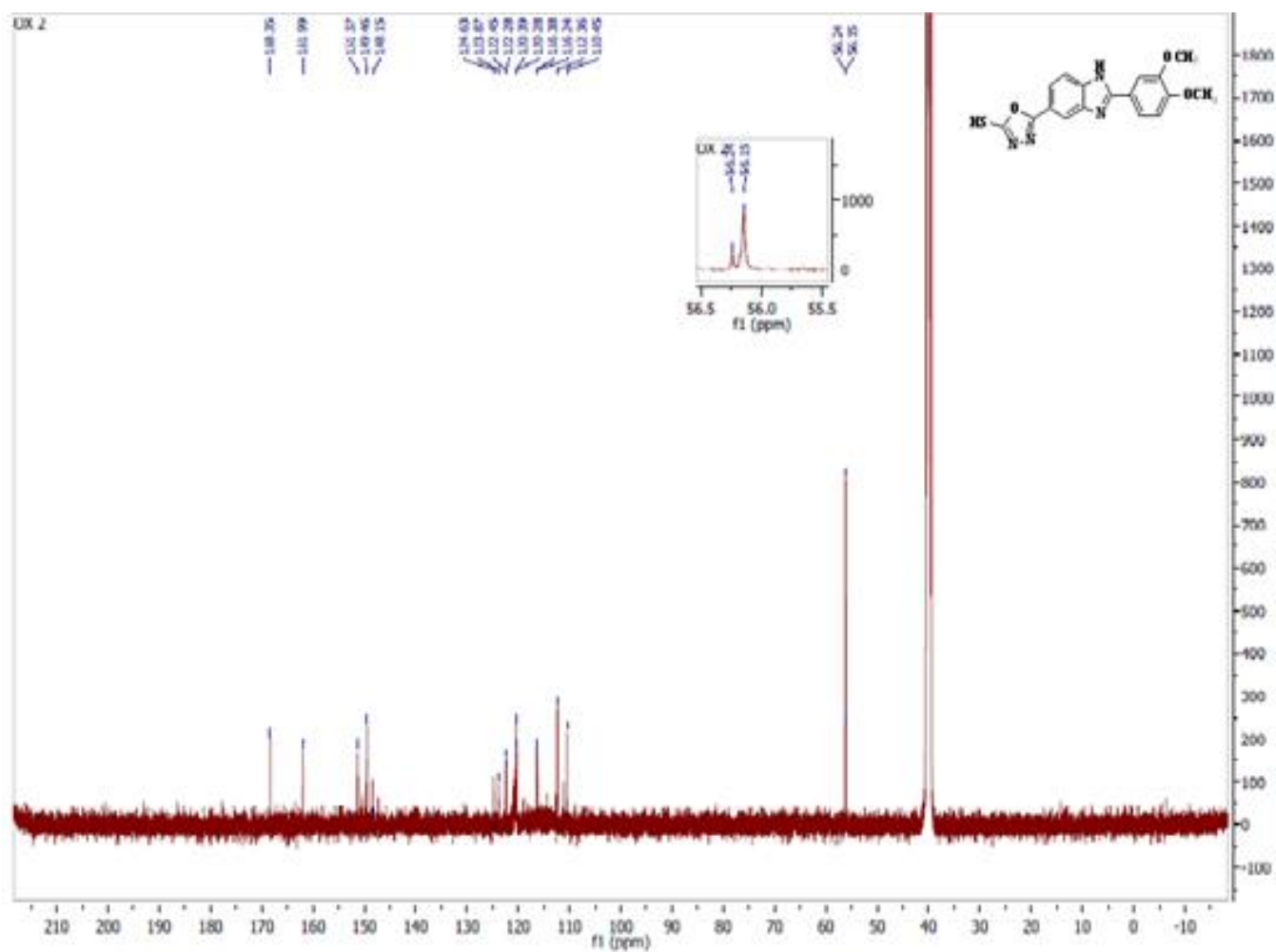


Fig.16. ^{13}C NMR of compound 6d (125 MHz, $\text{DMSO}-d_6$)

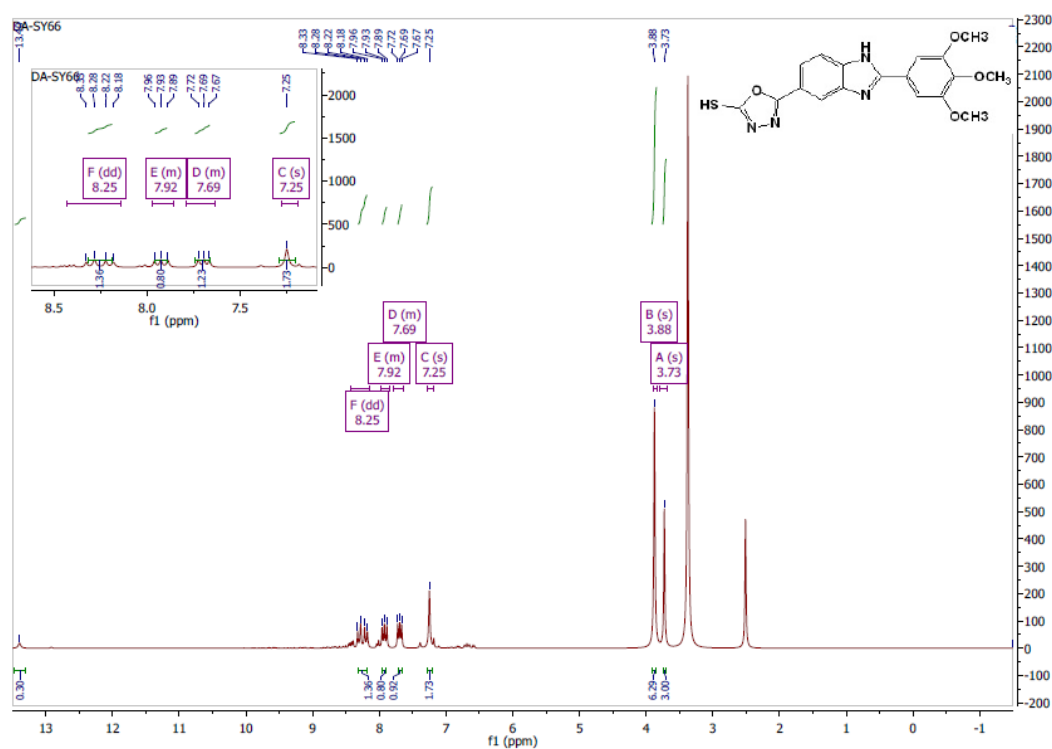


Fig.17. ¹H NMR of compound 6e (500 MHz, DMSO-*d*₆)

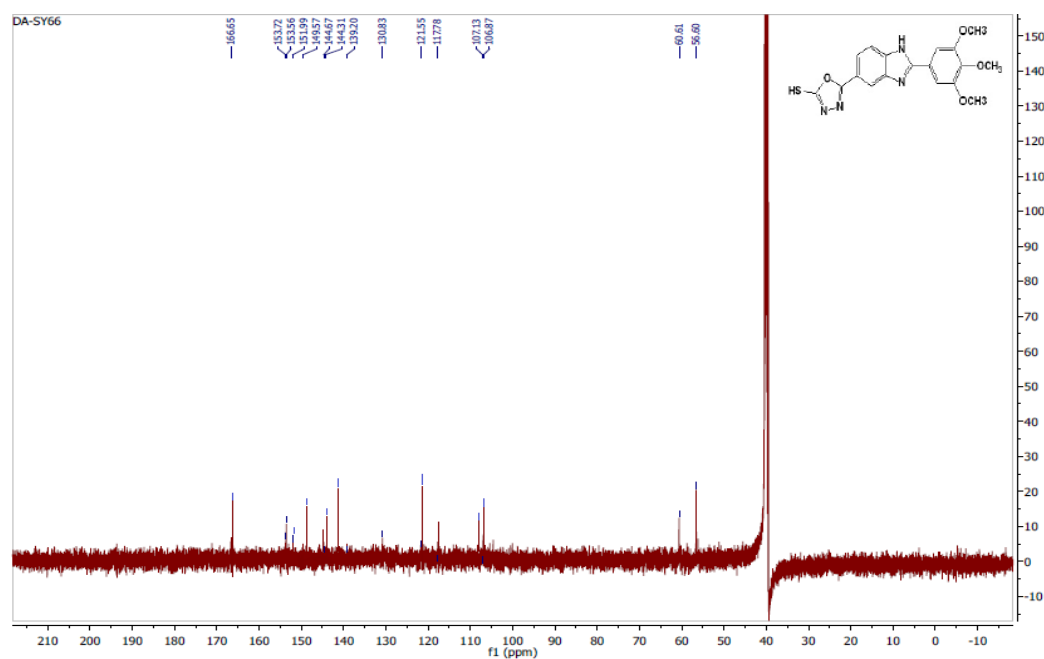
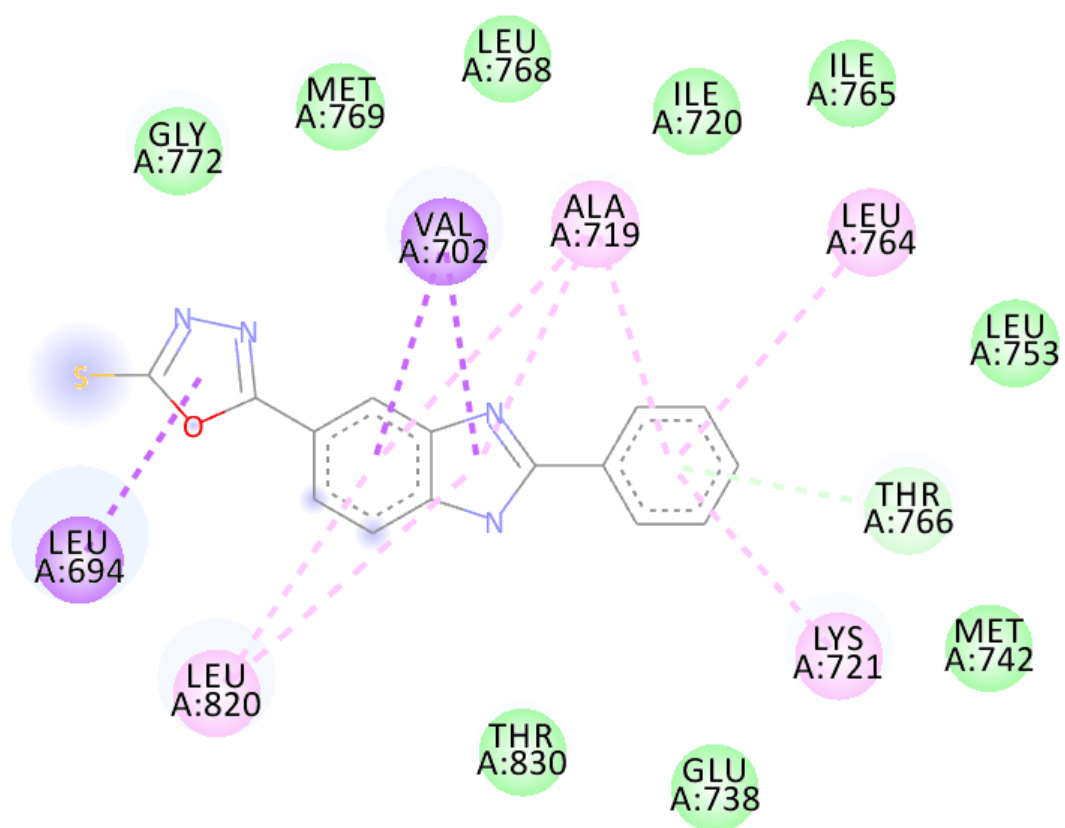
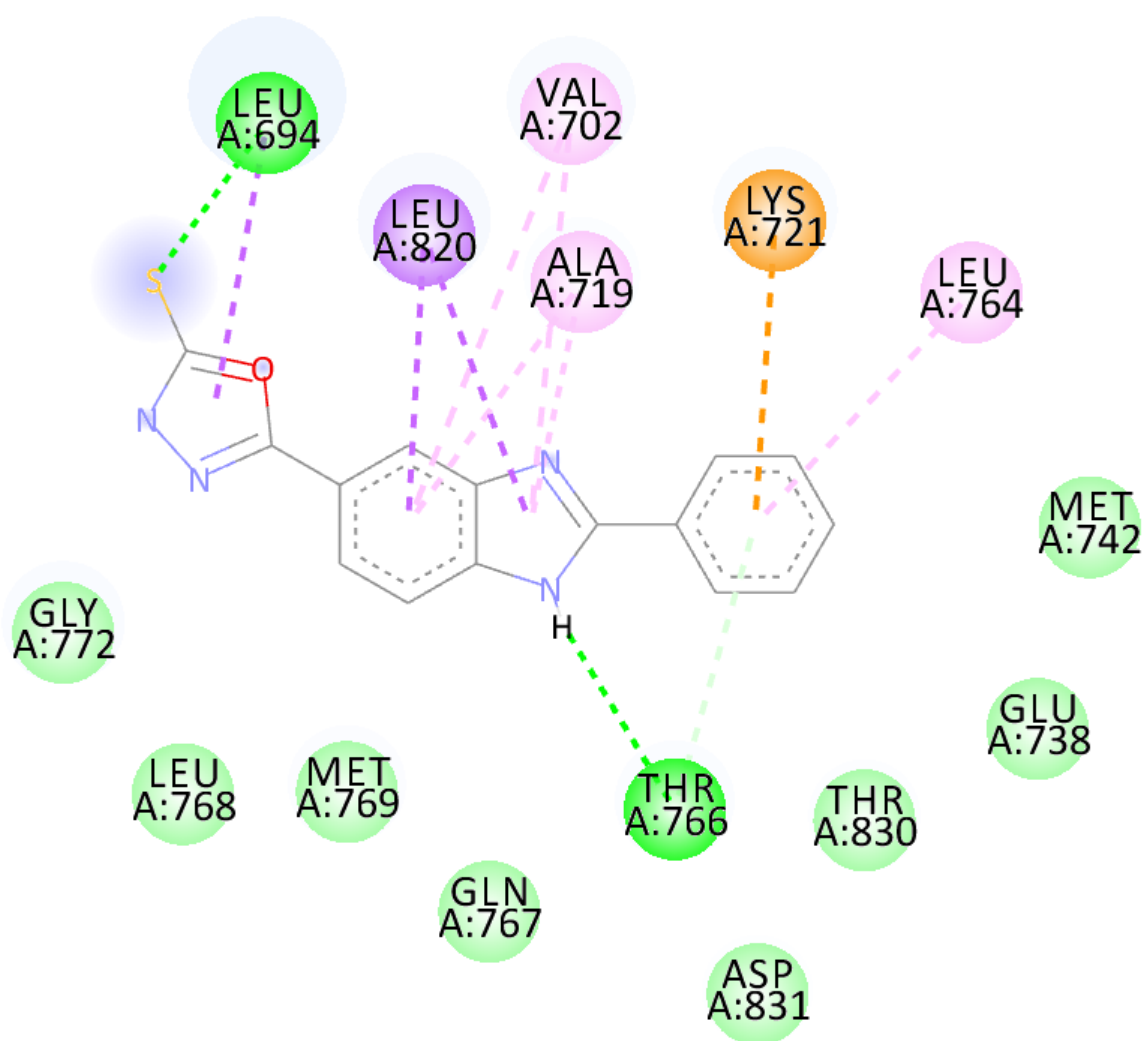


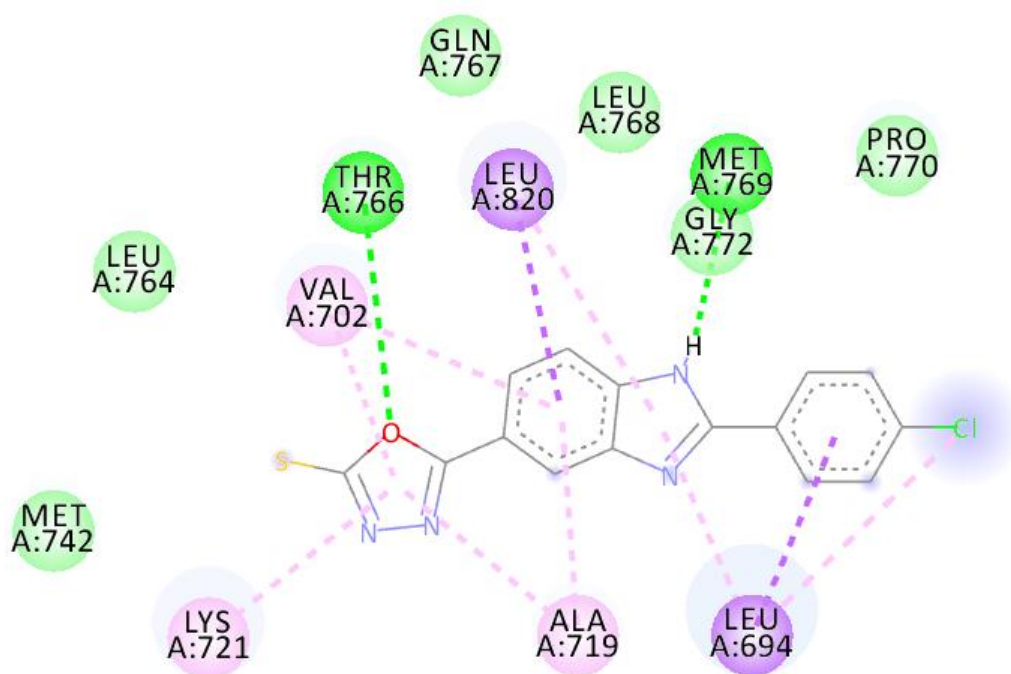
Fig.18. ¹³C NMR of compound 6e (125 MHz, DMSO-*d*₆)



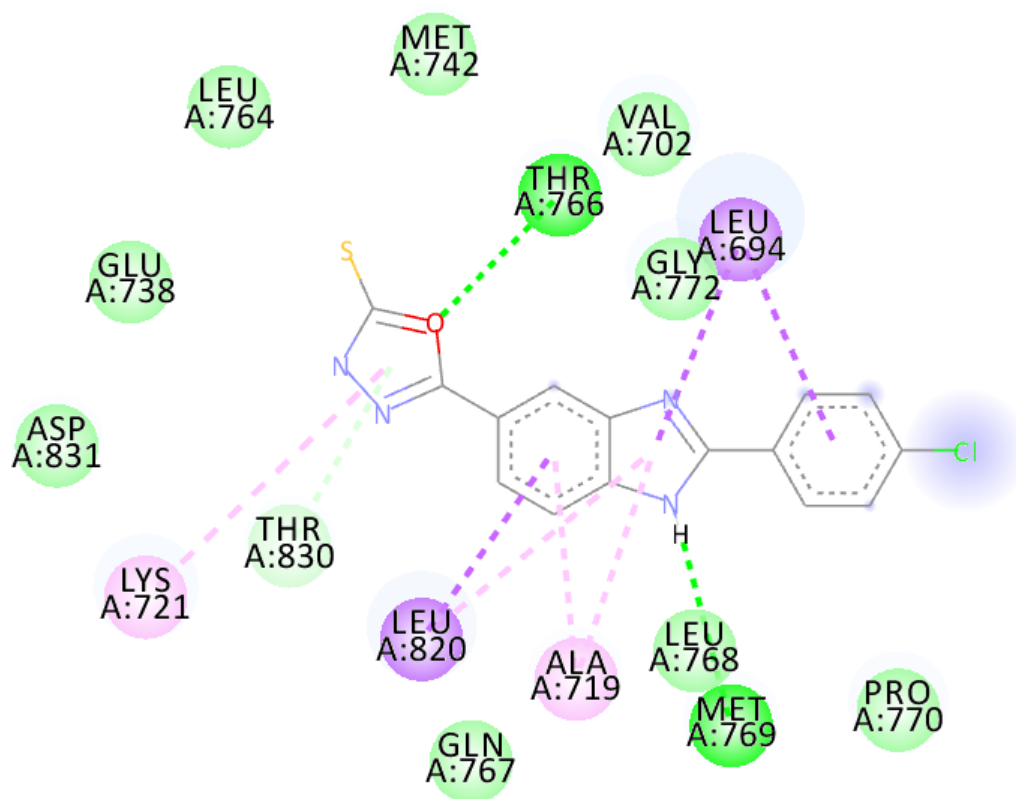
4a thiole_-8.2



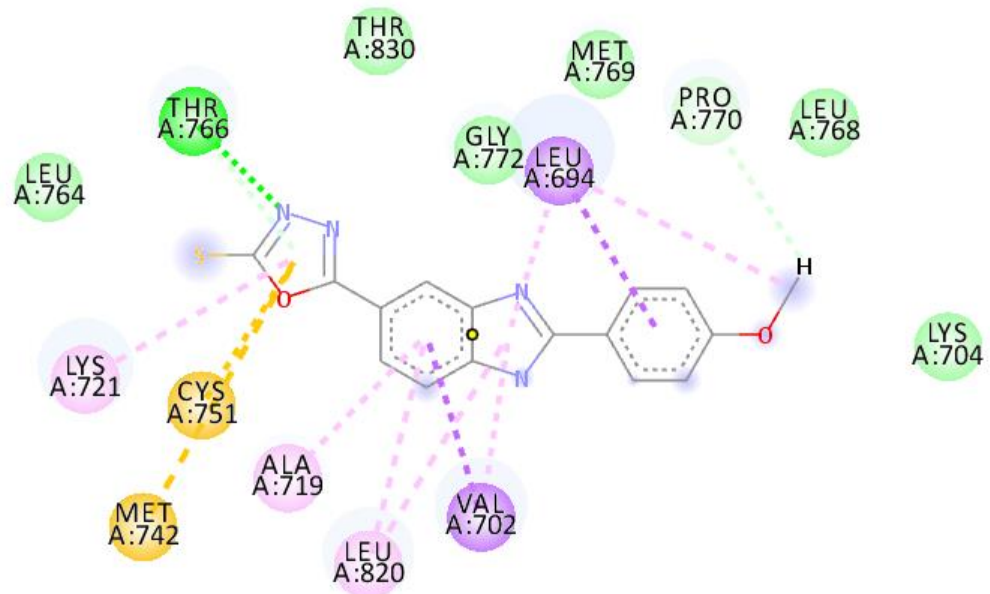
4a thione_-8.7



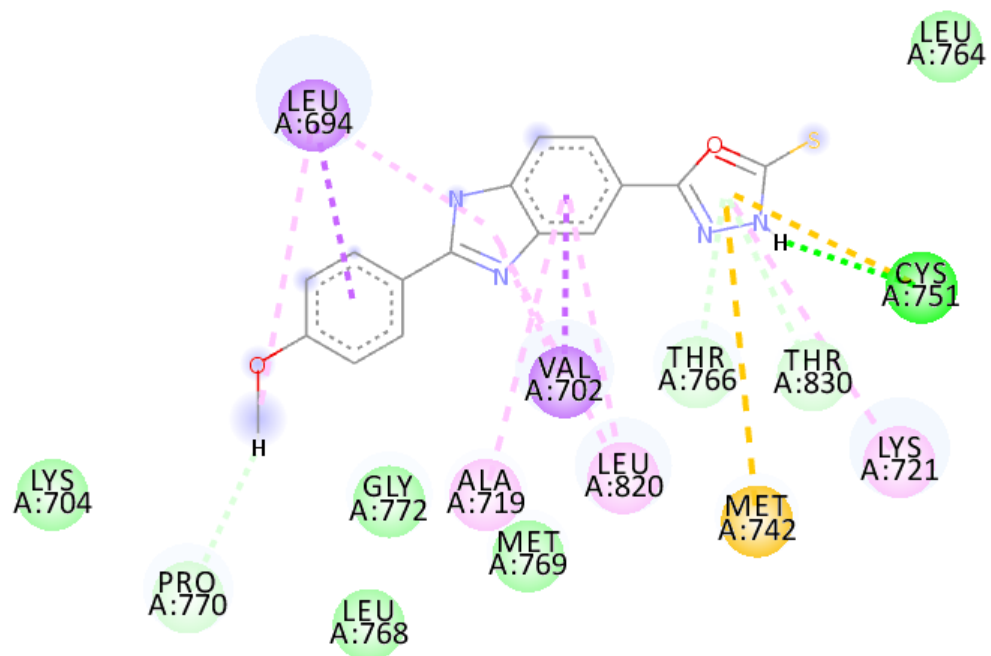
4b thiole_-8.1



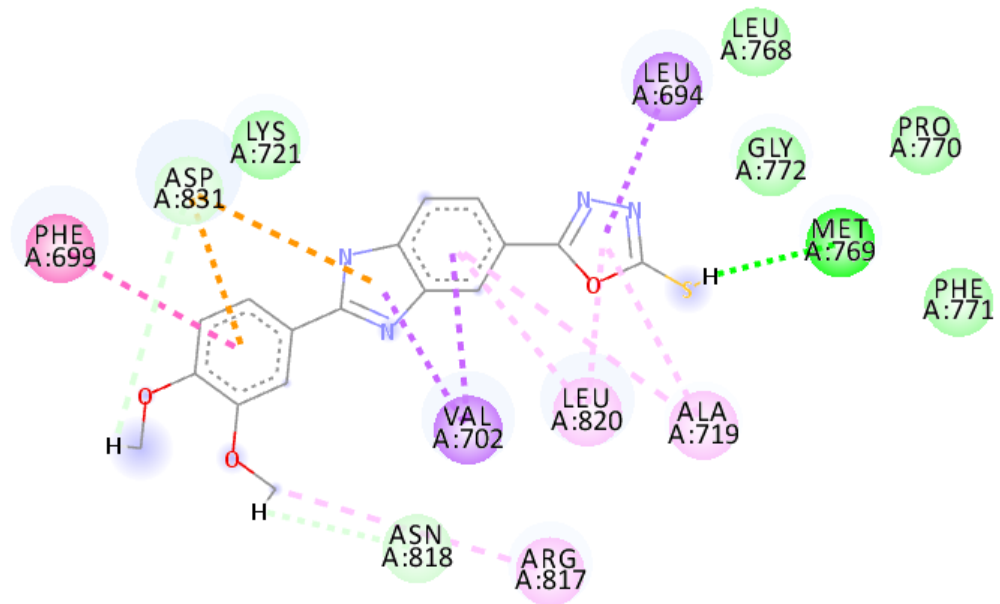
4b thione_8.3



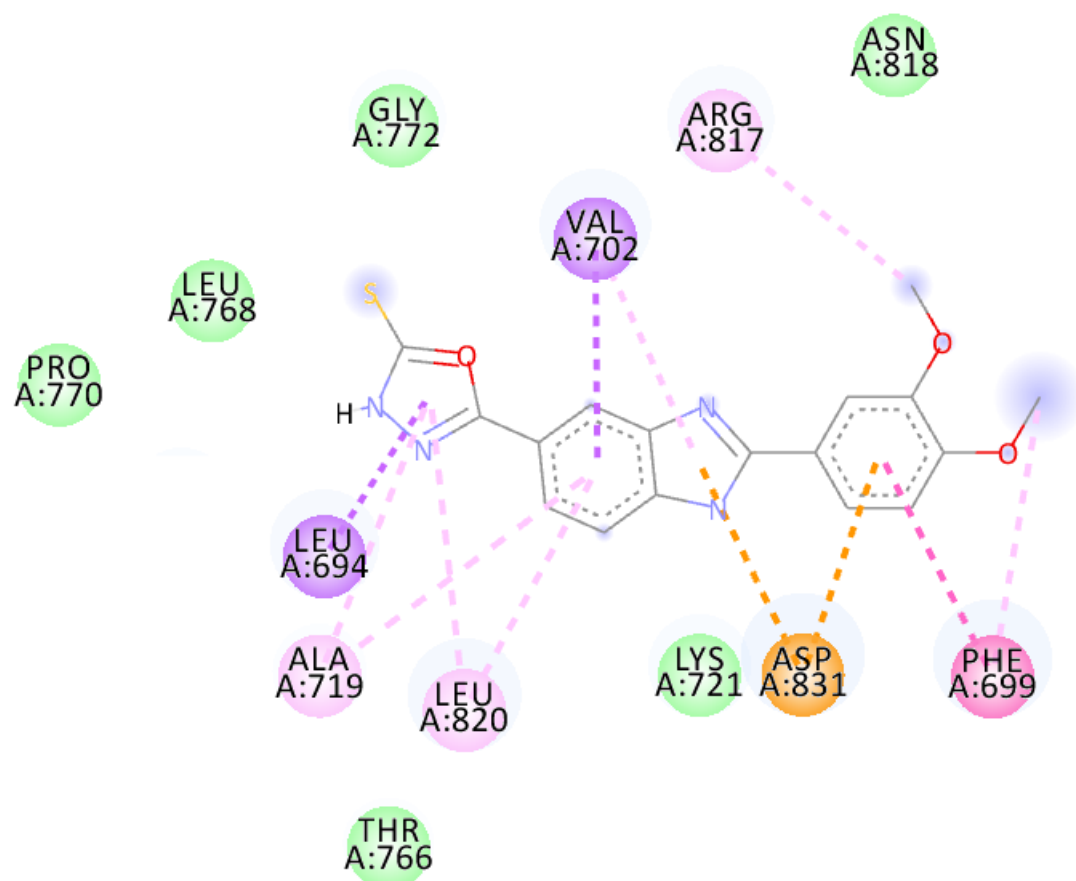
4c thiole_-7.8



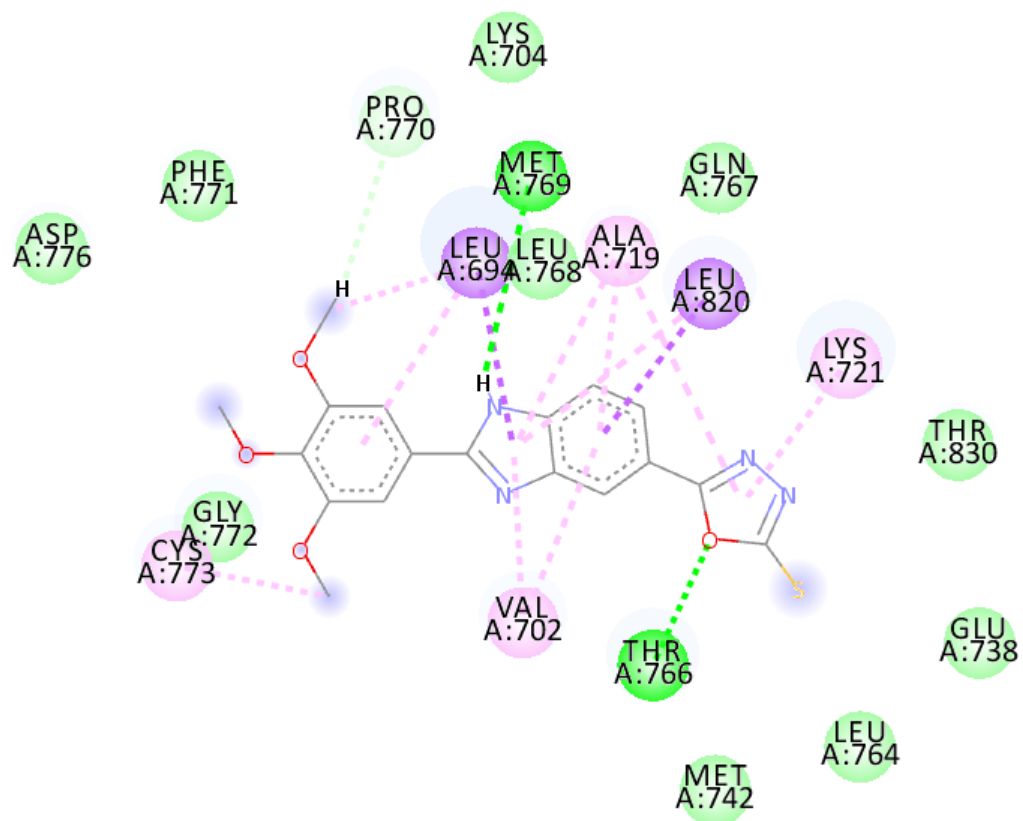
4c thione_-8.0



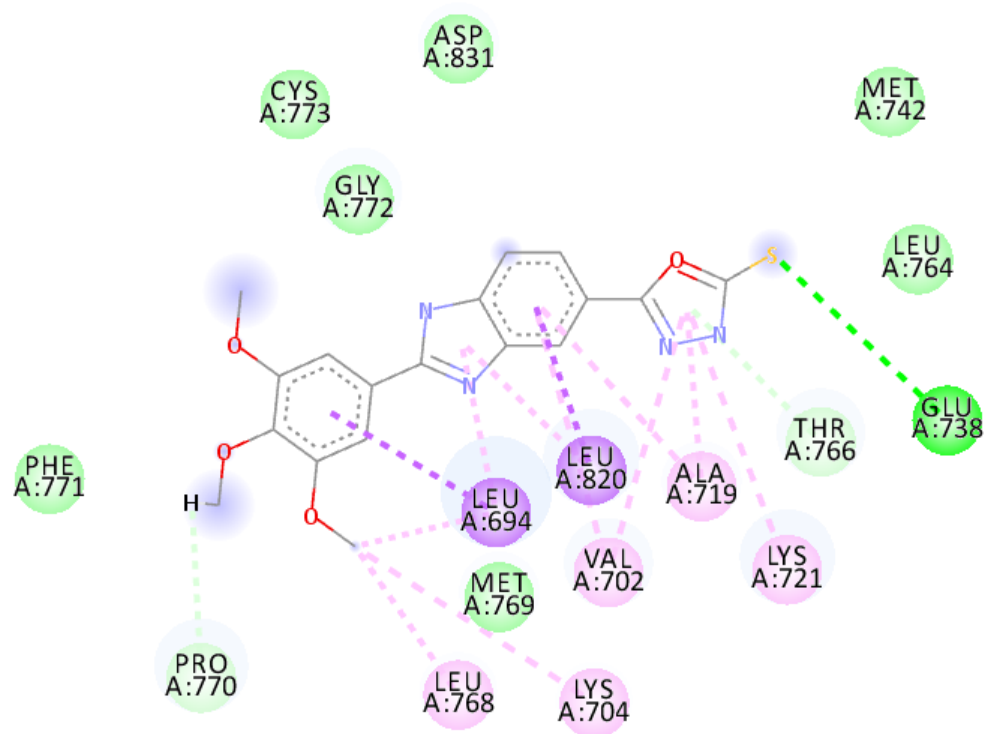
4d thiole_-7.7



4d thione_-8.0



4e thiole_-7.4



4e thione_-7.6