

Appendix A

Infra-red spectroscopy (IR) data of the prepared dihydropyrimidinones/ thiones derivatives:

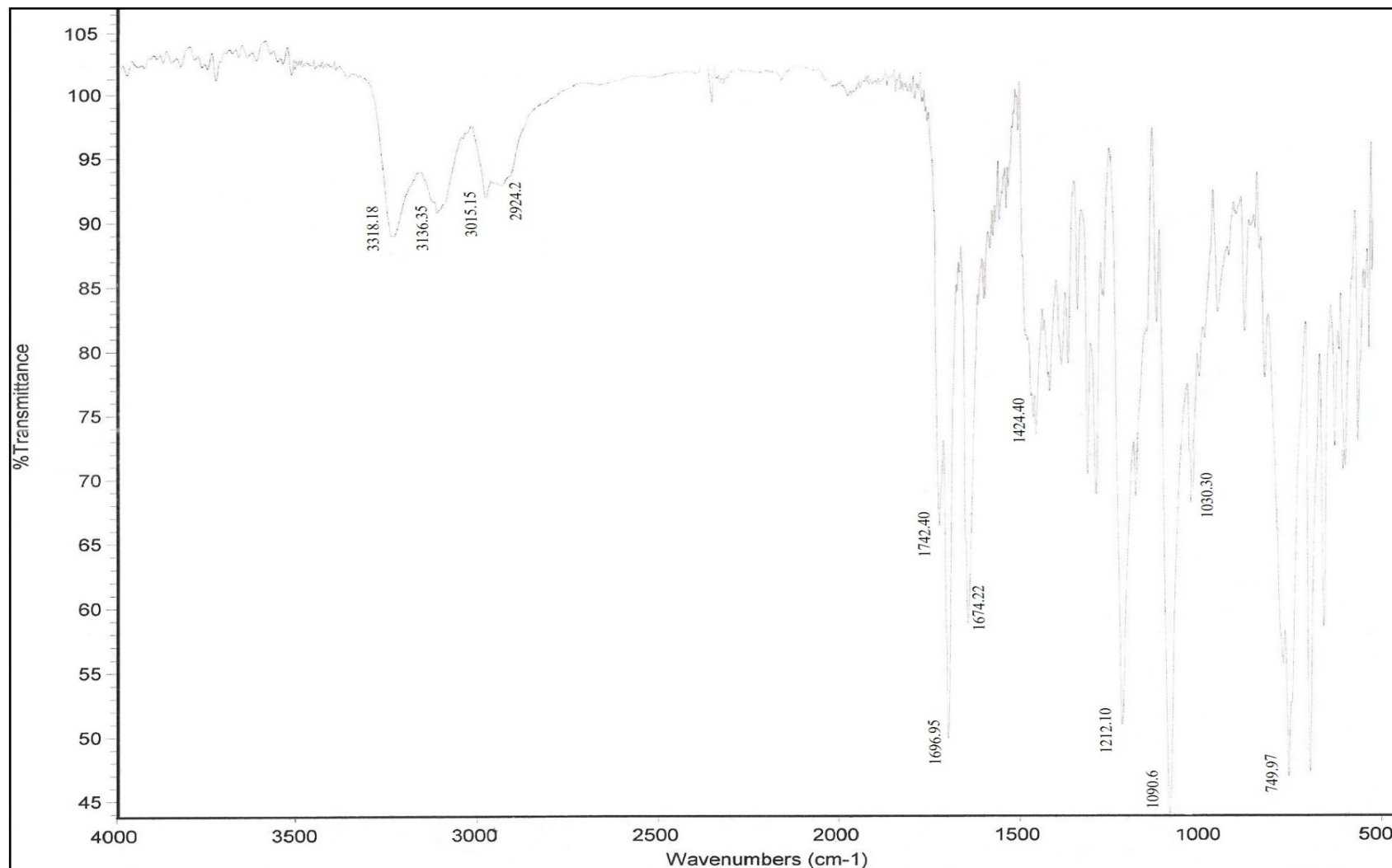


Fig A.1: IR spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)one (**I**).

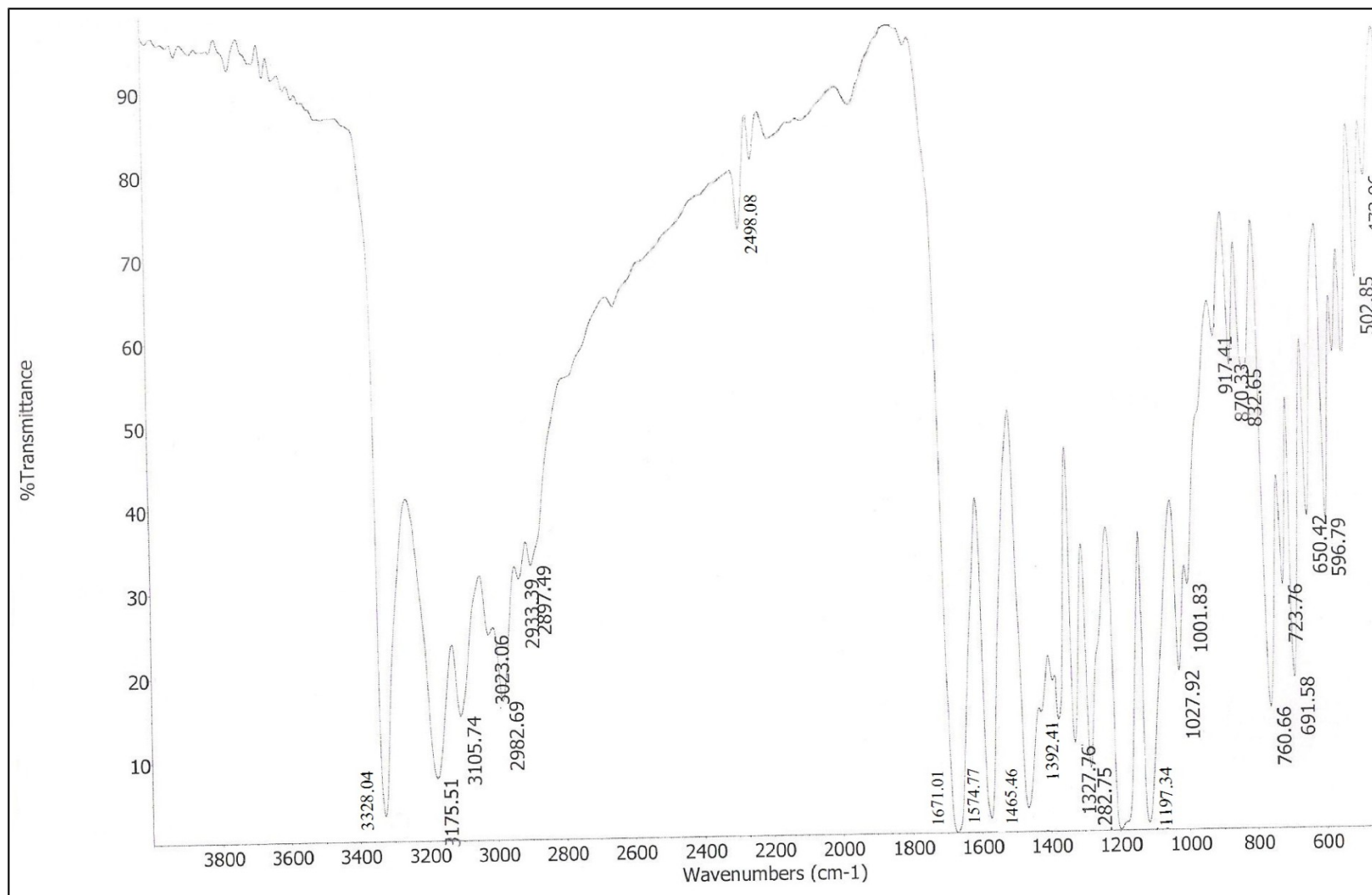


Fig A. 2: IR spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)thione (**II**).

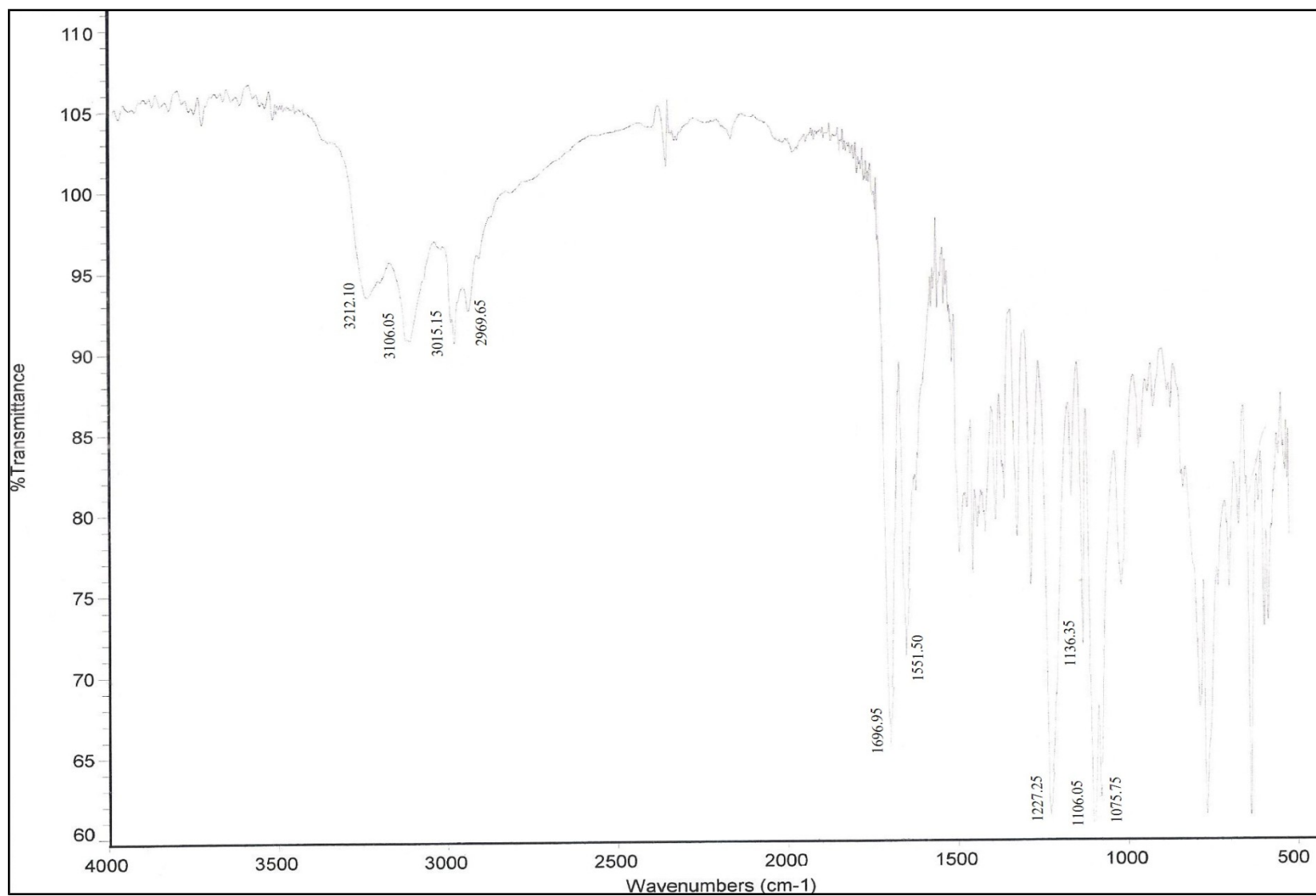


Fig A. 3: IR spectrum of 5-Ethoxy carbonyl-4,6-dimethyl-3,4-dihydropyrimidin-2(1H)one (**III**).

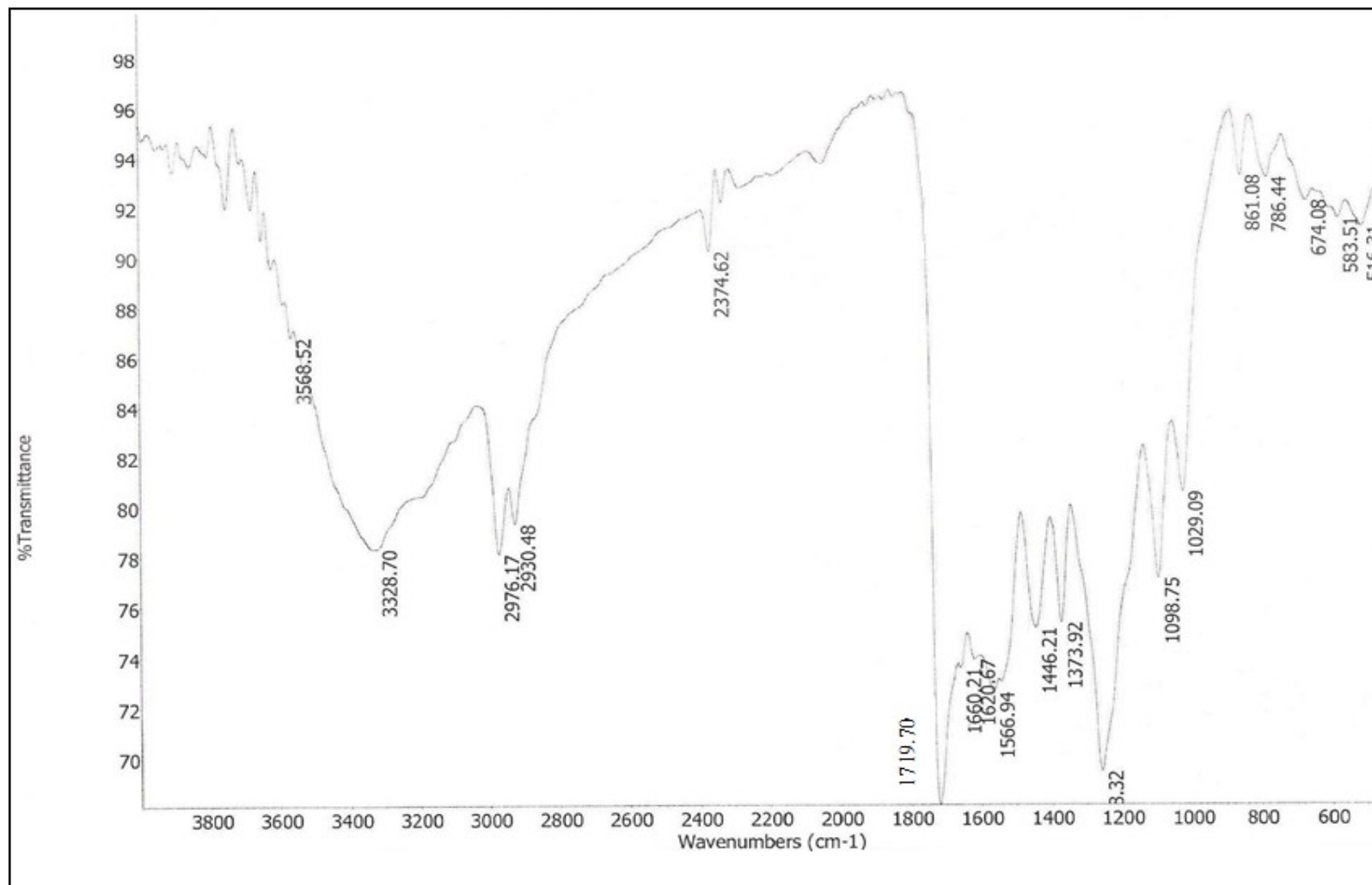


Fig A. 4: IR spectrum of 5-Ethoxy carbonyl-4,6-dimethyl-3,4-dihydropyrimidin-2(1H) thione (**IV**).

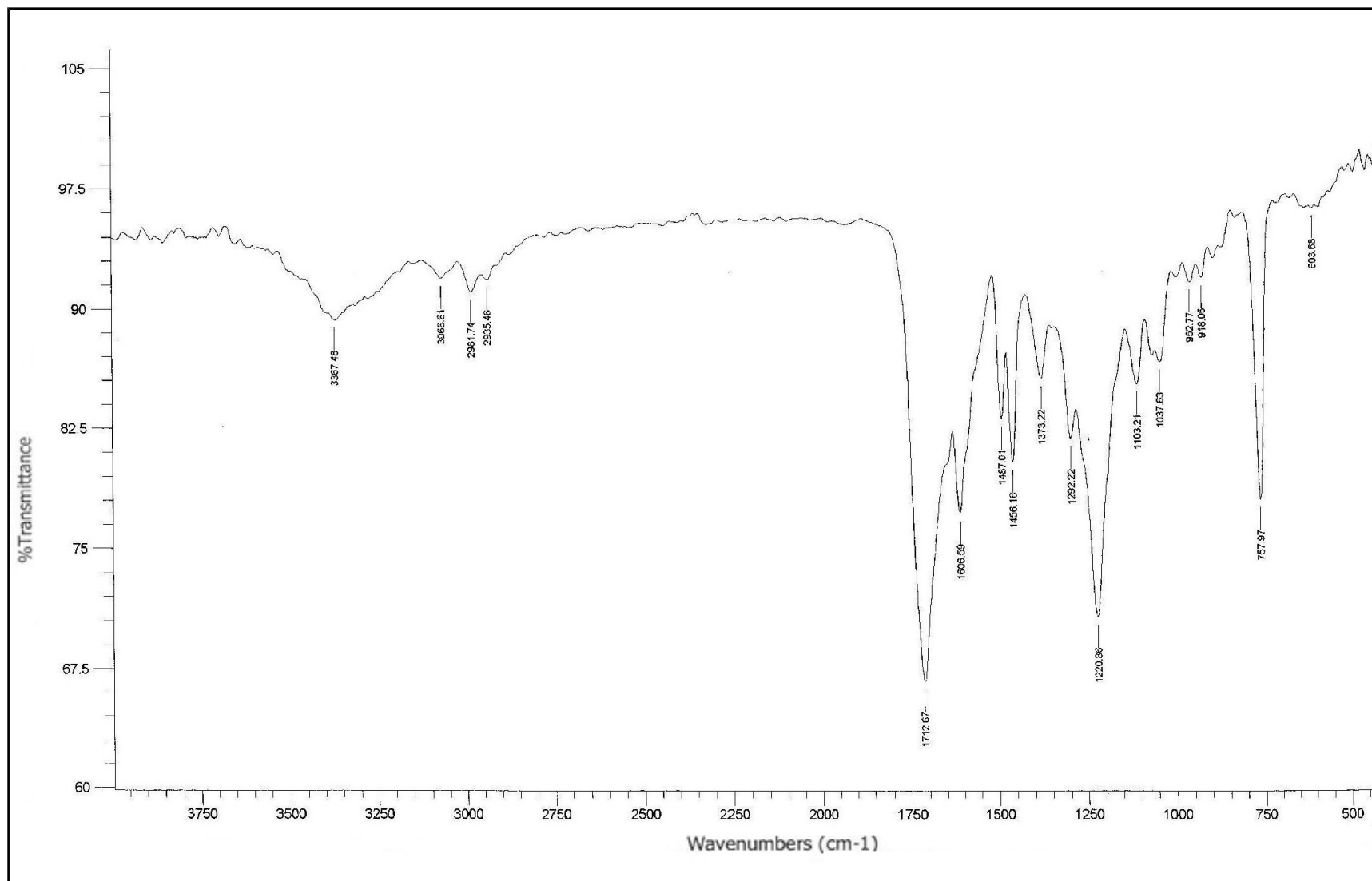


Fig A. 5: IR spectrum of 5-Ethoxy carbonyl-4-(6-hydroxyphenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**V**).

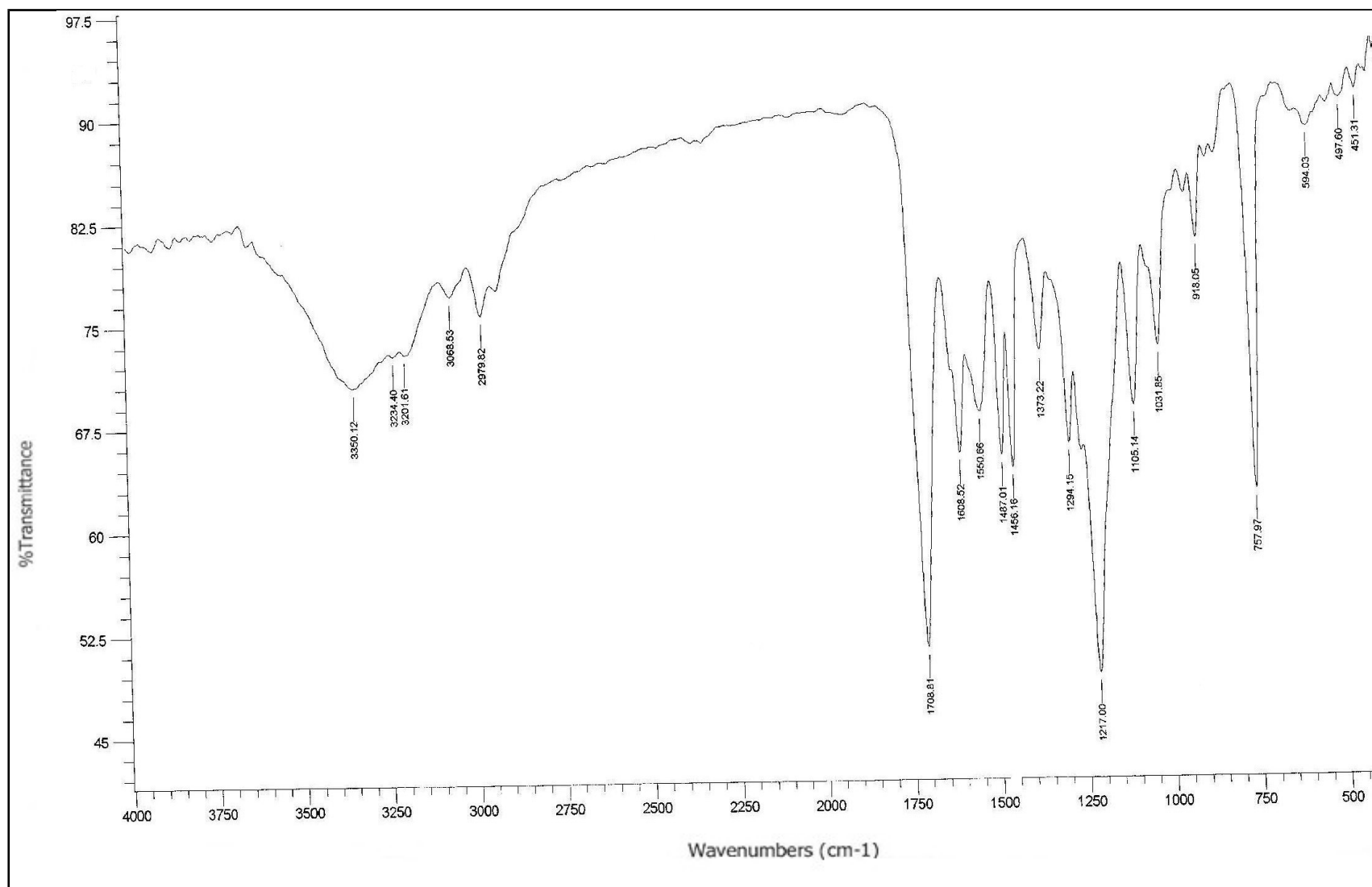


Fig A. 6: IR spectrum of 5-Ethoxy carbonyl-4, -(6-hydroxyphenyl)-6-methyl-3,4- dihydropyrimidin-2(1H) thione (**VI**).

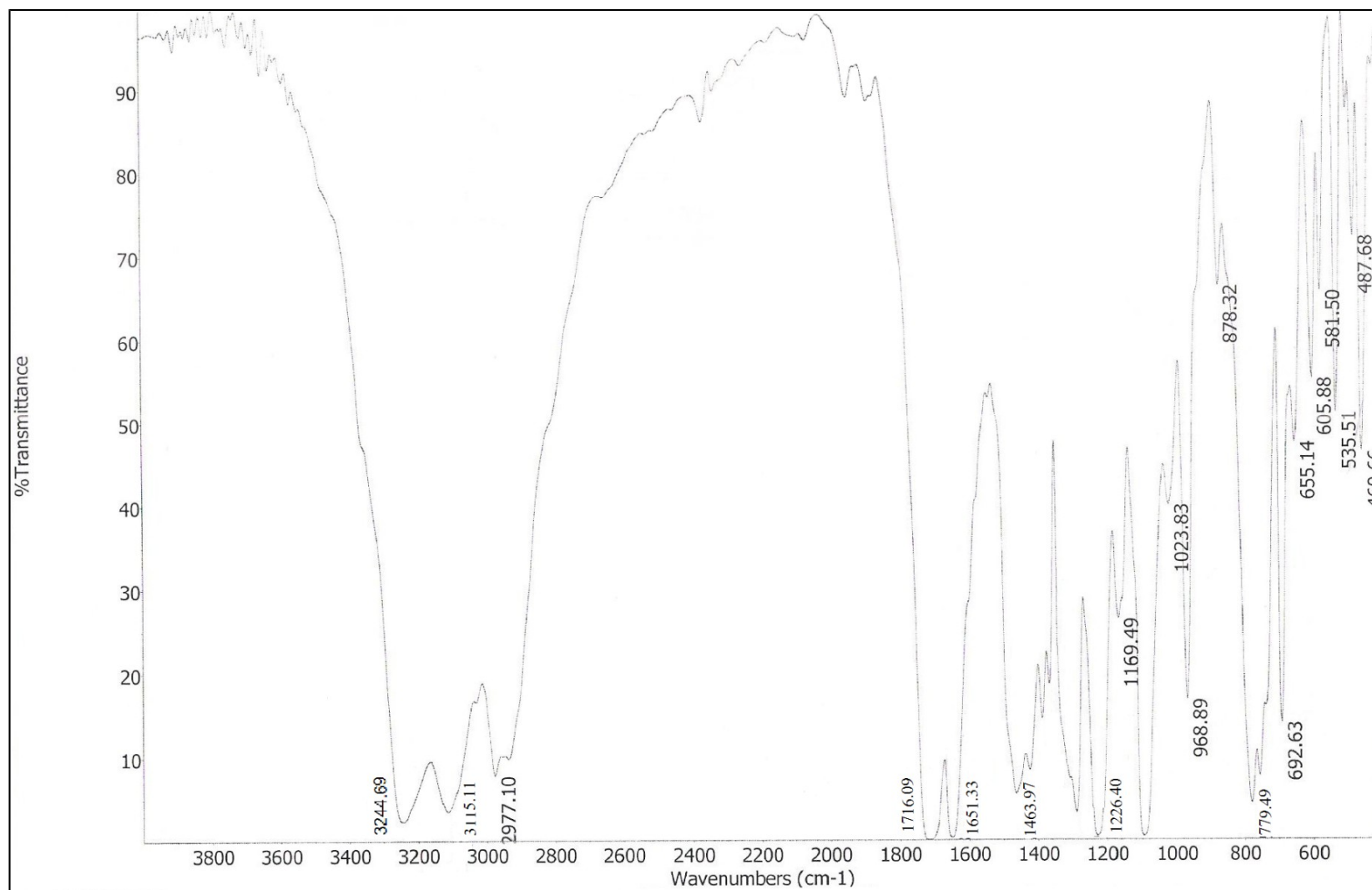


Fig A. 7: IR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**VII**).

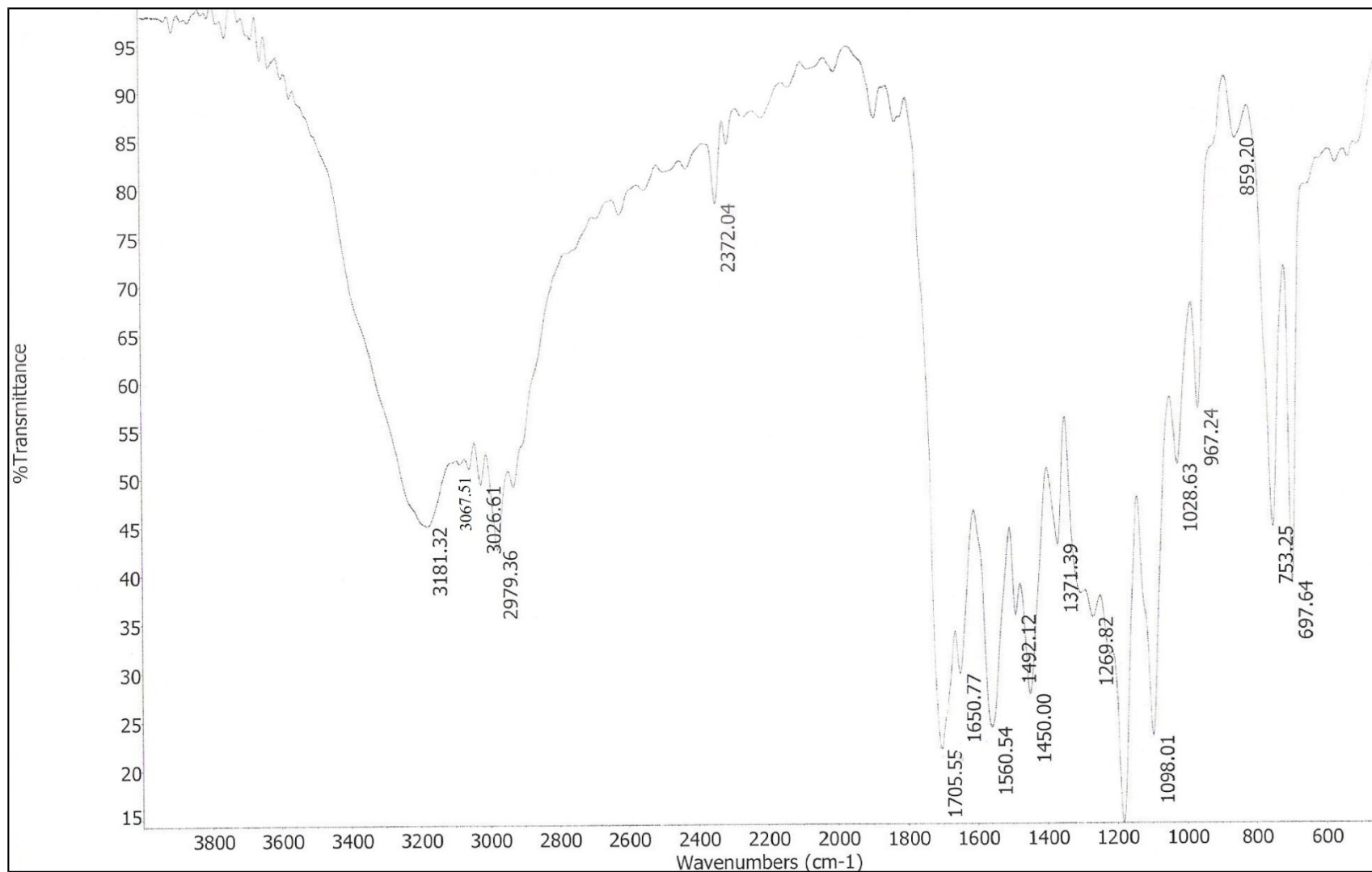


Fig A. 8: IR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**VIII**).

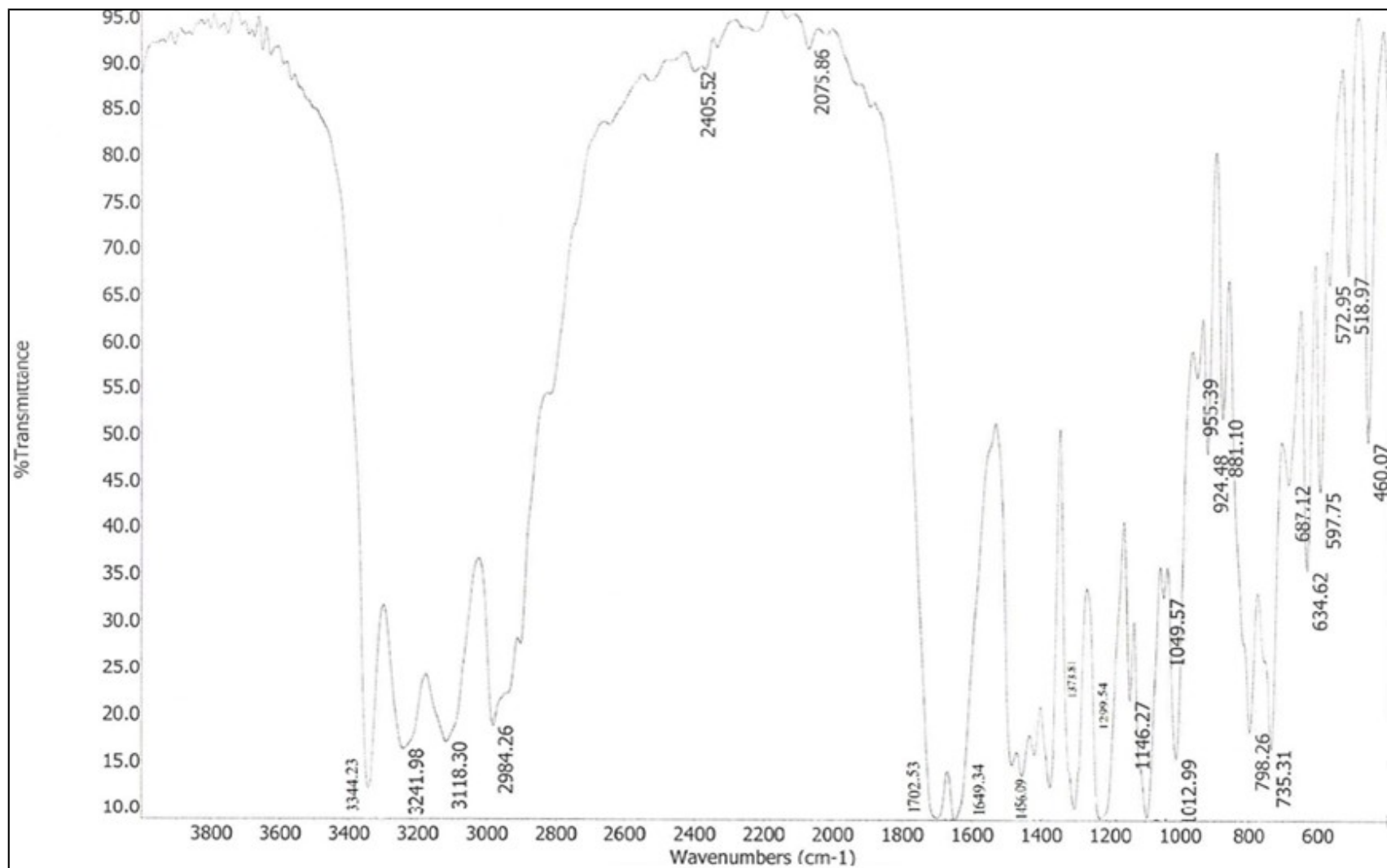


Fig A. 9: IR spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**IX**).

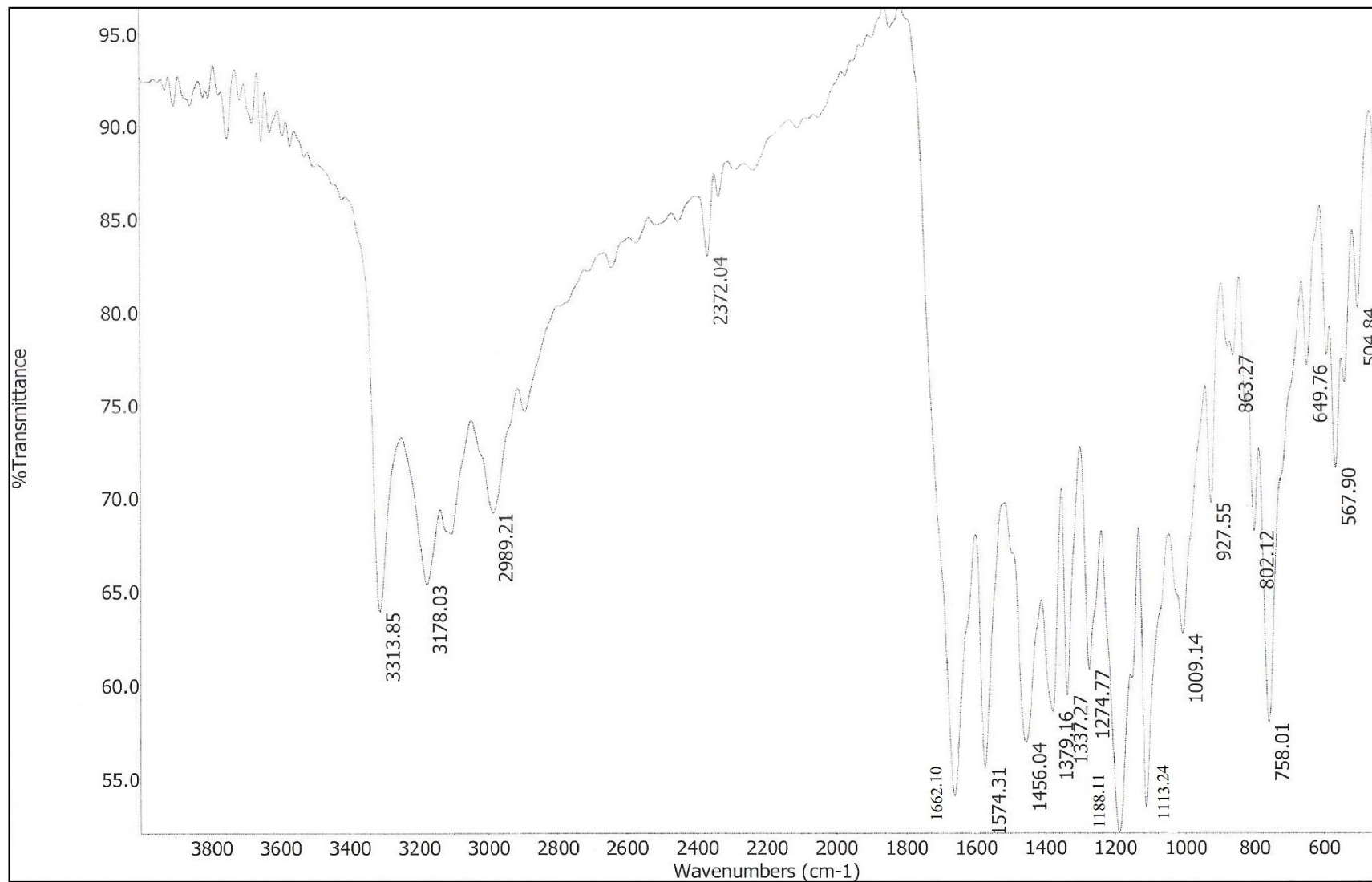


Fig A.10: IR spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**X**).

Appendix B

^1H Nuclear magnetic resonance (^1H NMR) data of the prepared dihydropyrimidinones/ thiones derivatives:

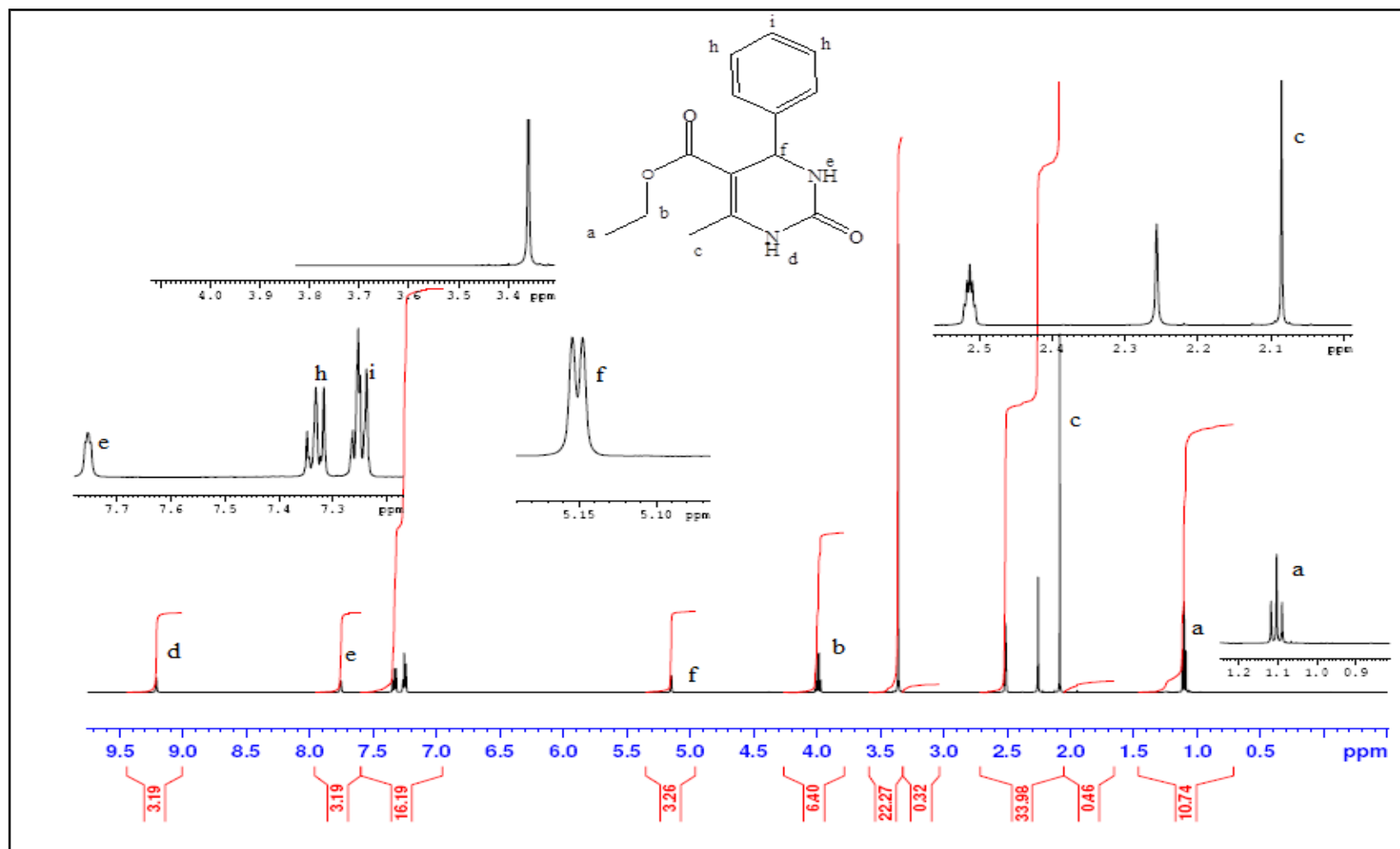


Fig B. 1: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)one (I).

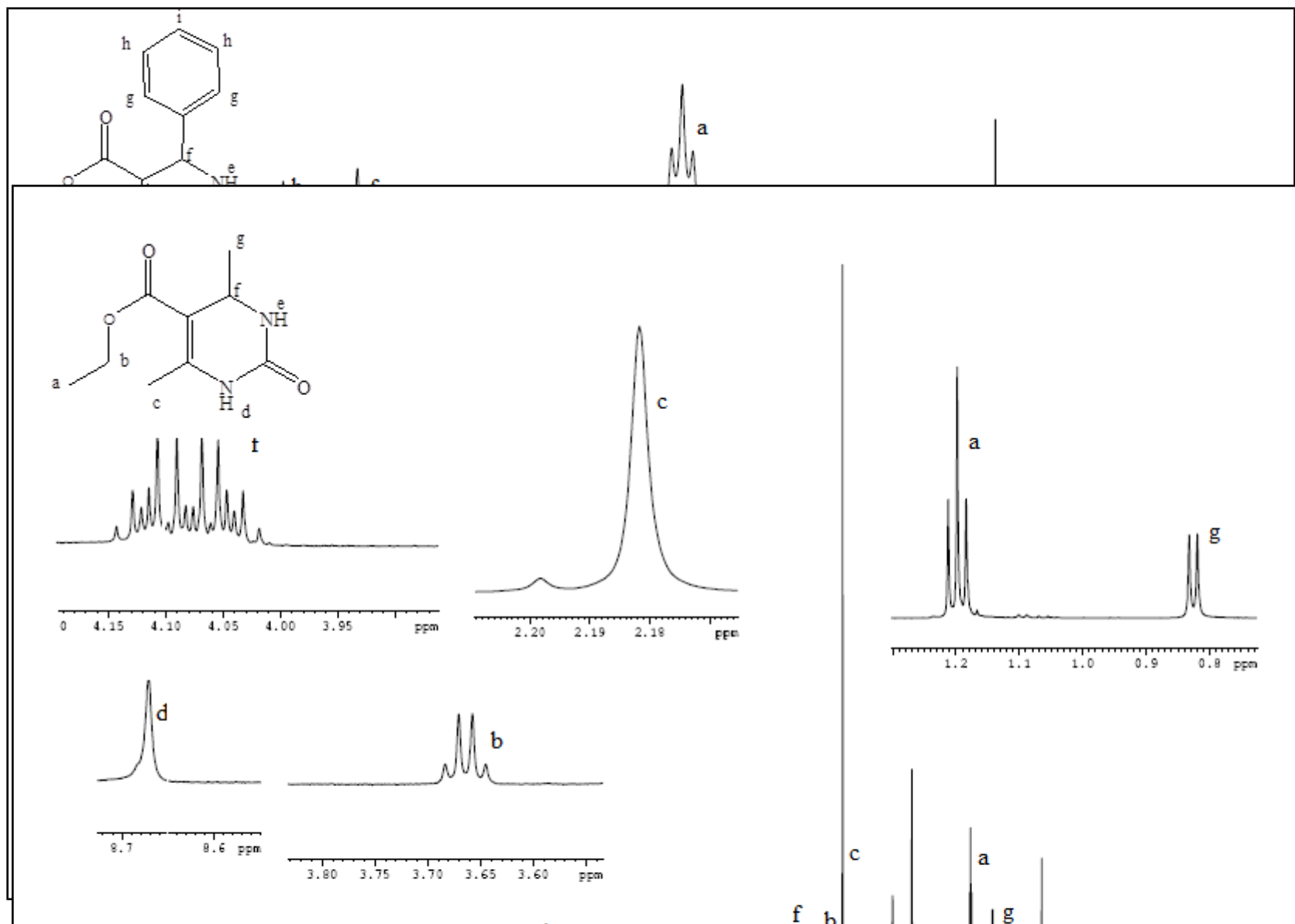


Fig B. 2: ¹H NMR spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)thione (**II**).

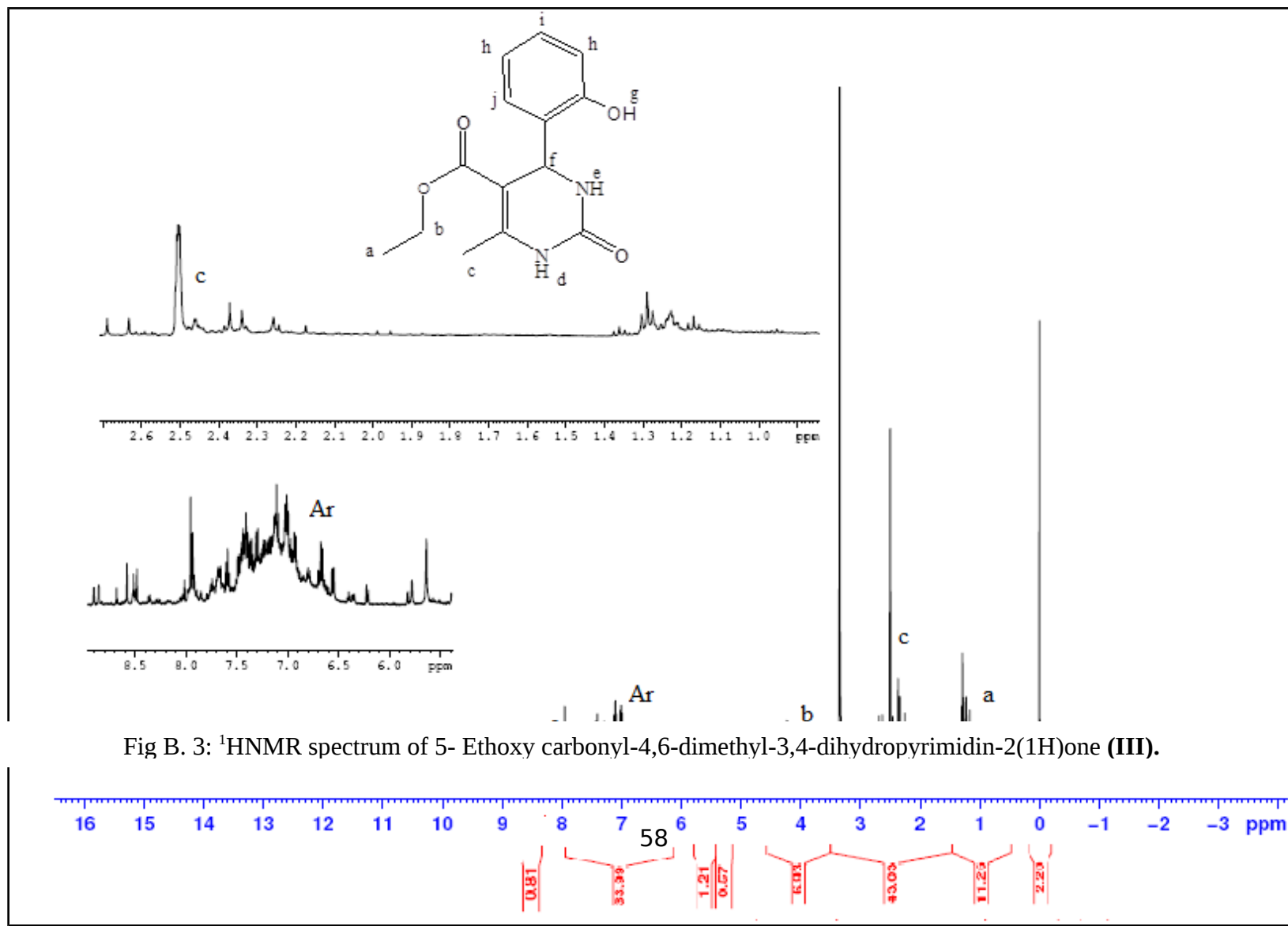


Fig B. 3: ^1H NMR spectrum of 5- Ethoxy carbonyl-4,6-dimethyl-3,4-dihydropyrimidin-2(1H)one (**III**).

Fig B. 4: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-(6-hydroxyphenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**V**)

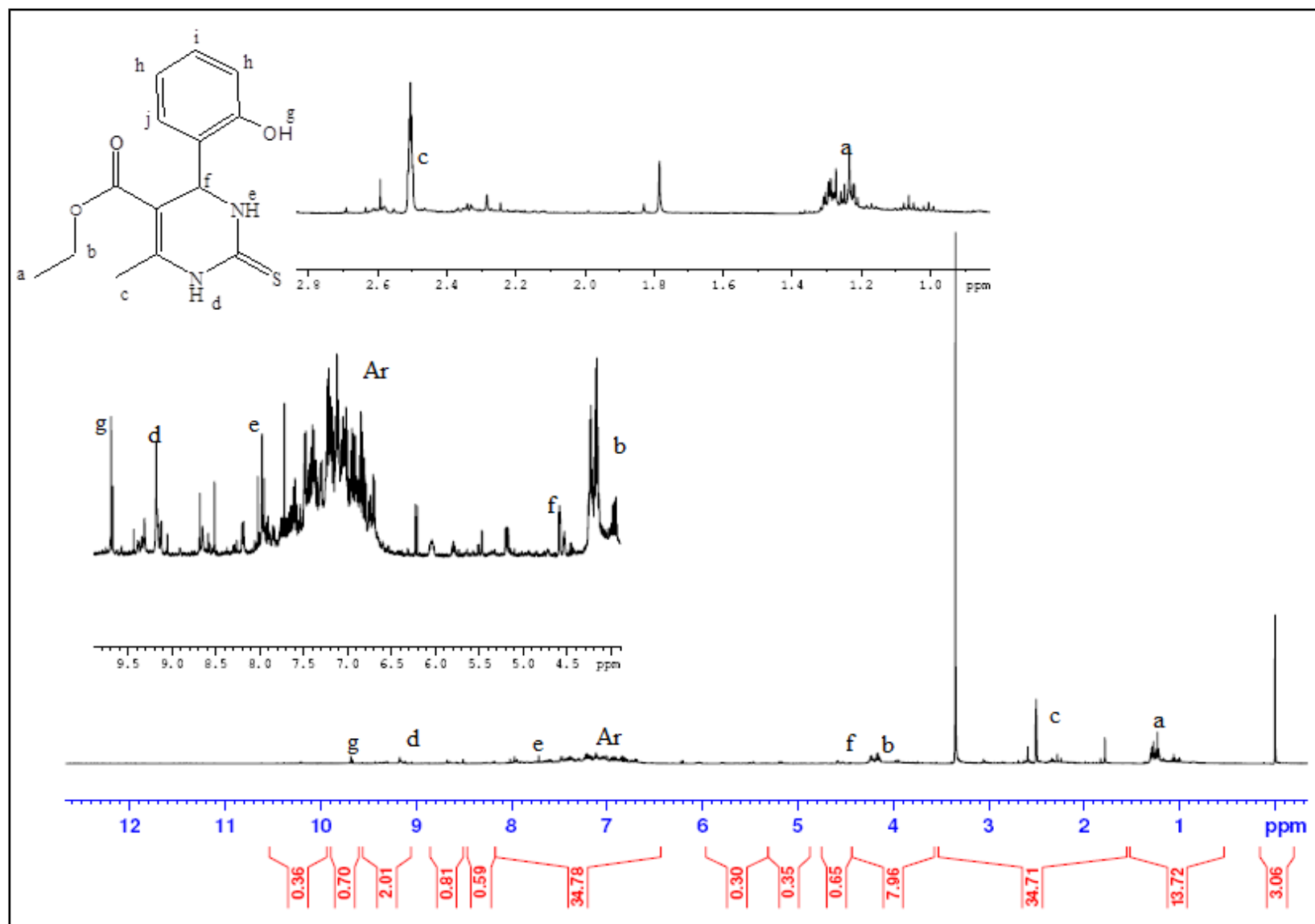


Fig B. 5: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-(6-hydroxyphenyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**VI**).

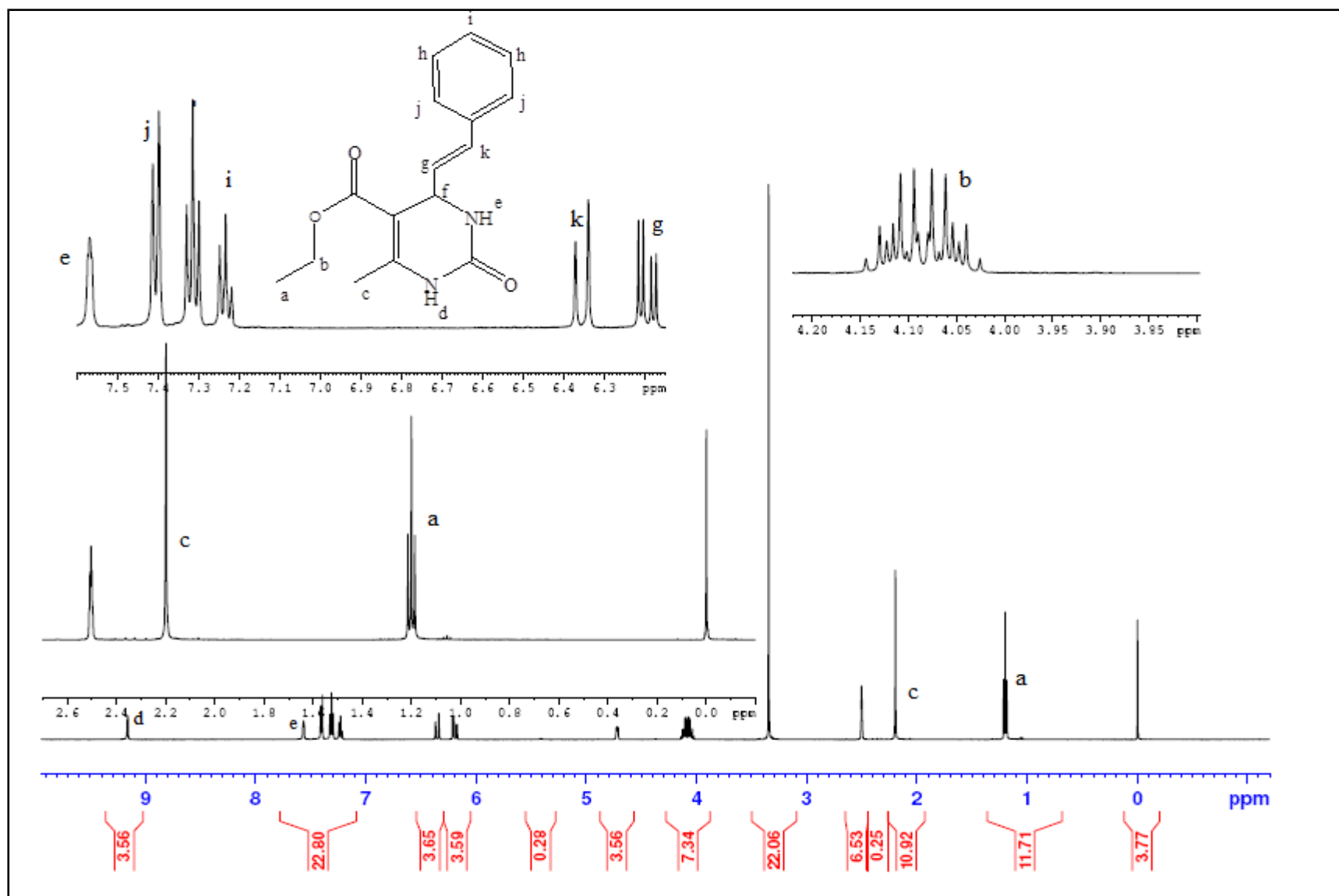


Fig B. 6: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**VII**).

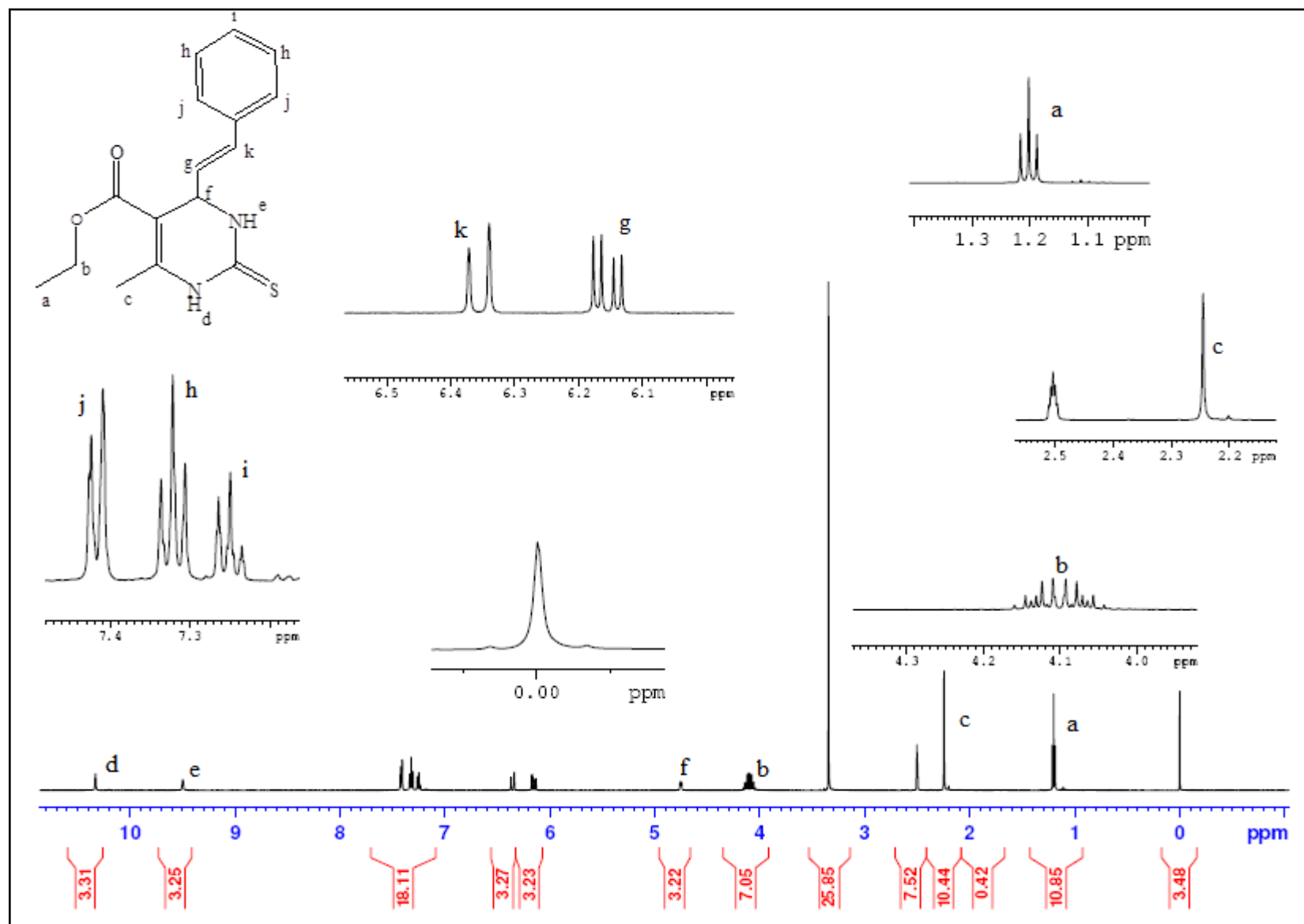


Fig B. 7: ¹H NMR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**VIII**).

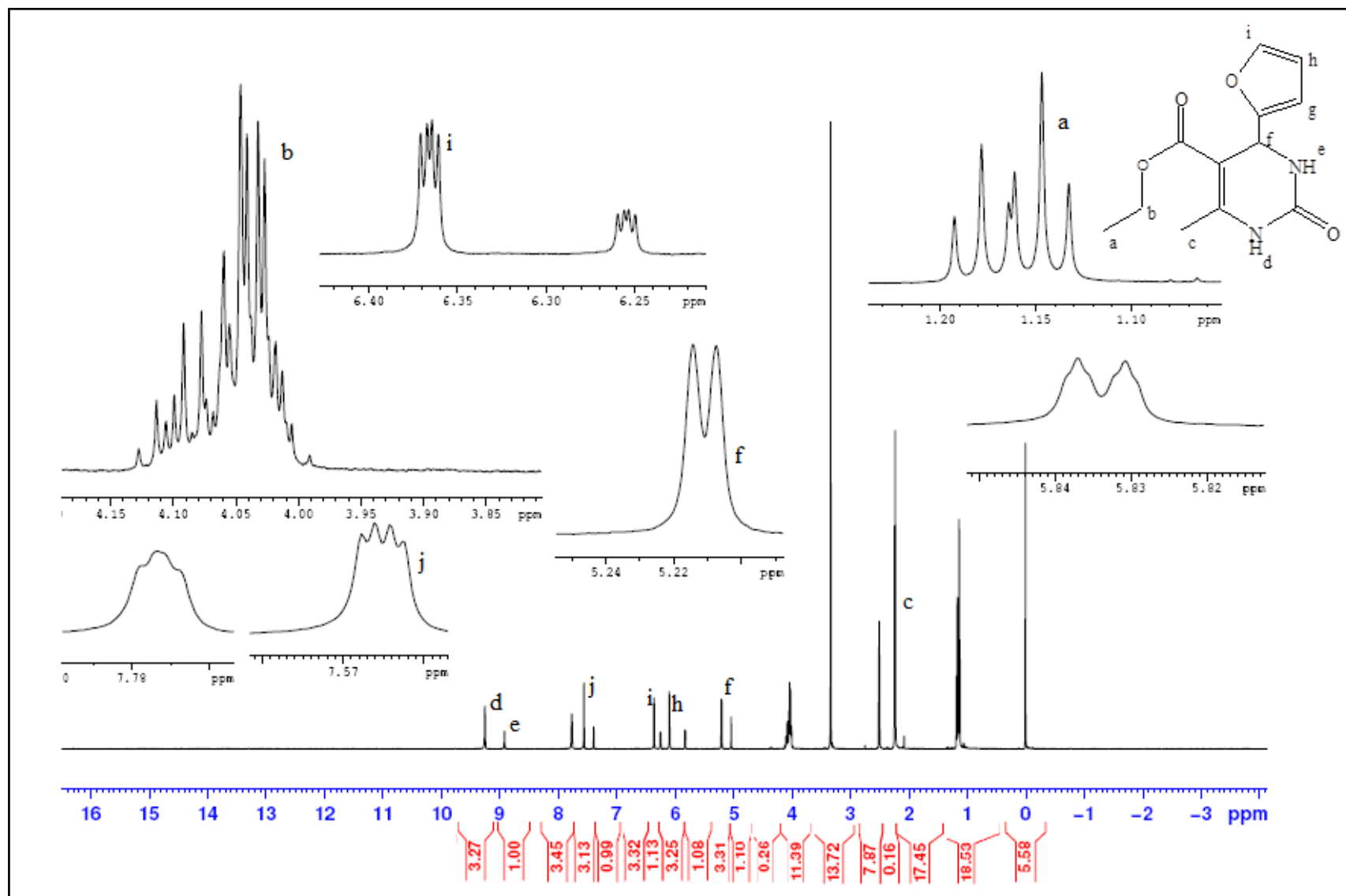


Fig B. 8: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H) one (IX).

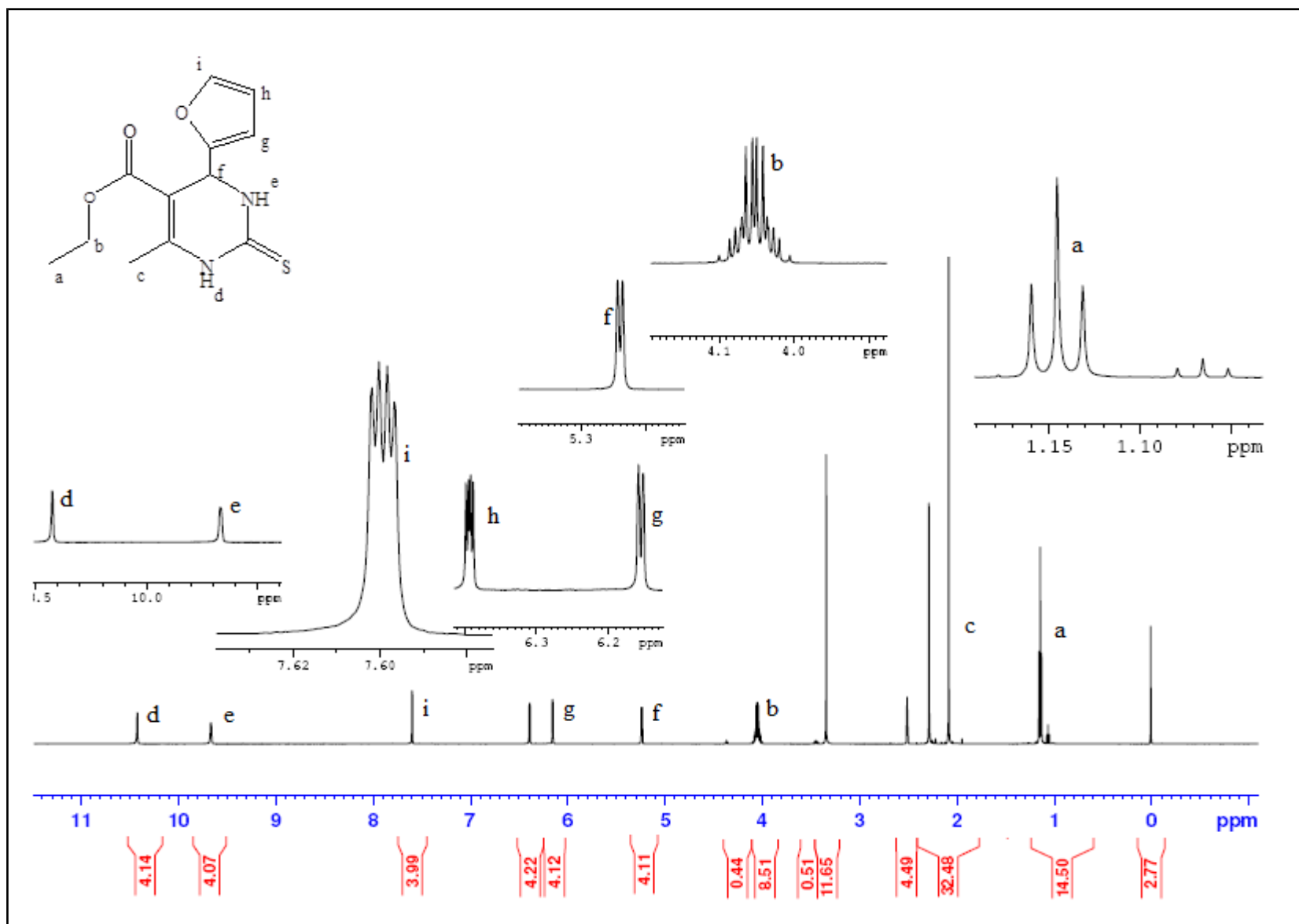
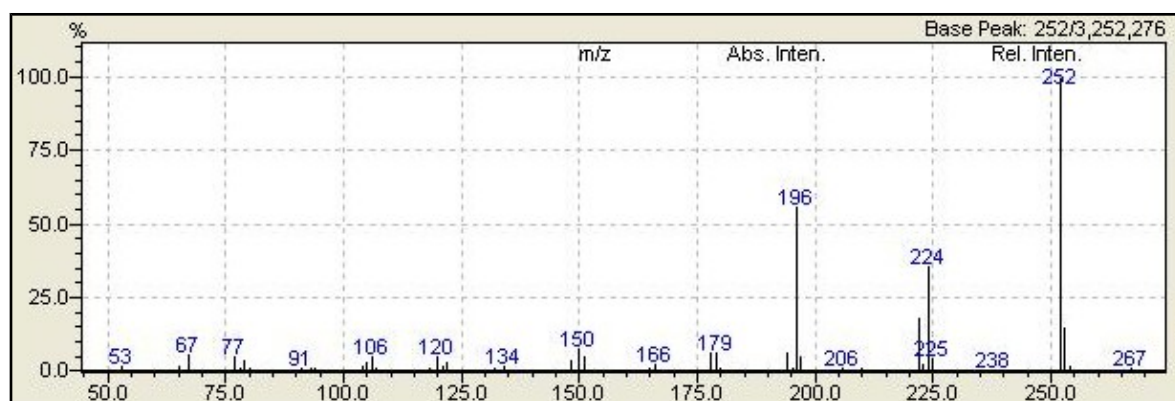
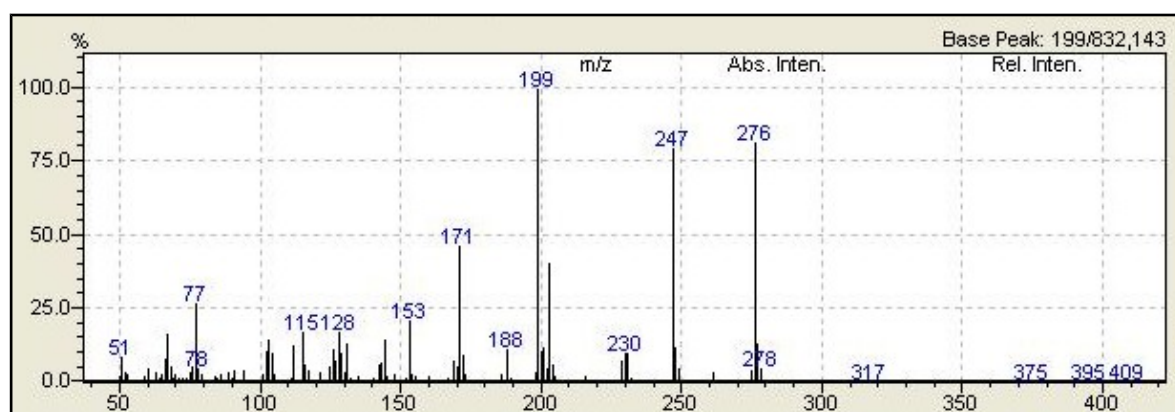
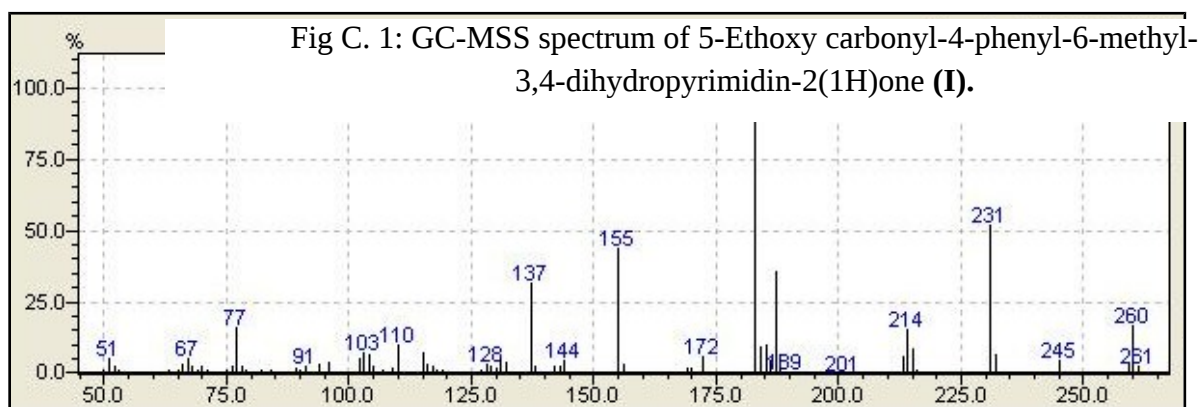


Fig B. 9: ^1H NMR spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**X**).

Appendix C

Gas chromatography- mass spectroscopy (GCMS) data of the dihydropyrimidinones/thiones dervatives



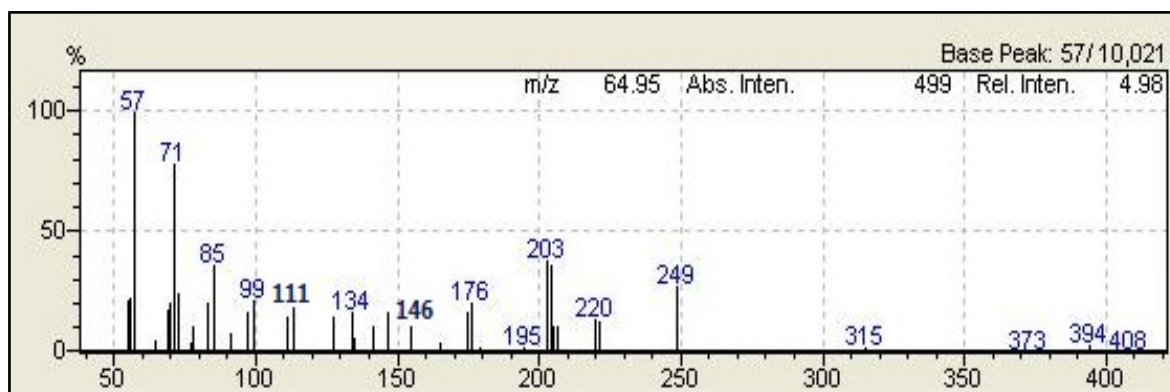


Fig C. 4: GC-MSS spectrum of 5-Ethoxy carbonyl-4,6-dimethyl-3,4-dihydropyrimidin-2(1H) thione (**IV**).

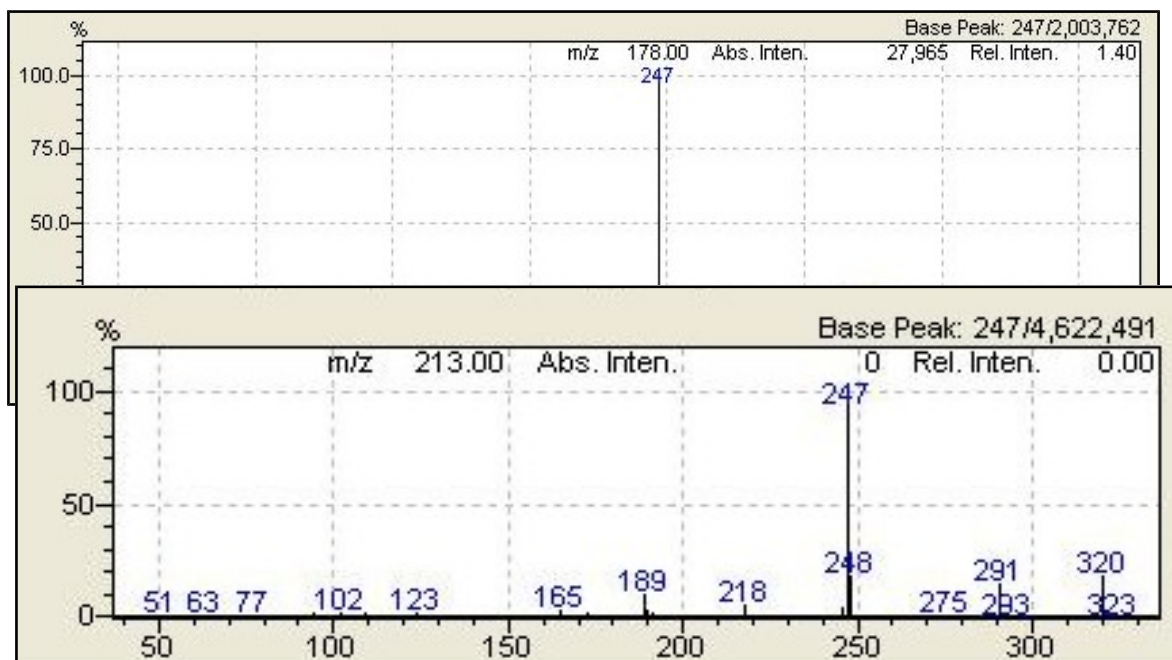


Fig C. 6: GC-MSS spectrum of 5-Ethoxy carbonyl-4, -(6-hydroxyphenyl)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**VI**).

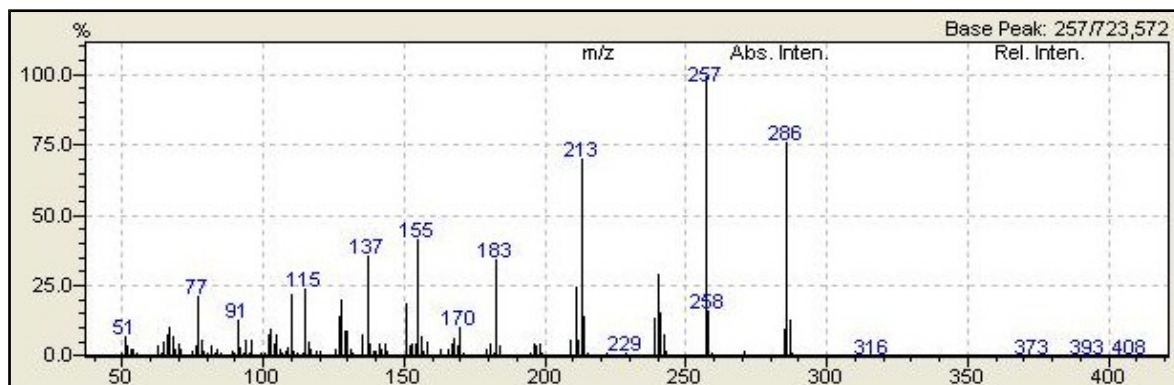


Fig C. 7: GC-MSS spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**VII**).

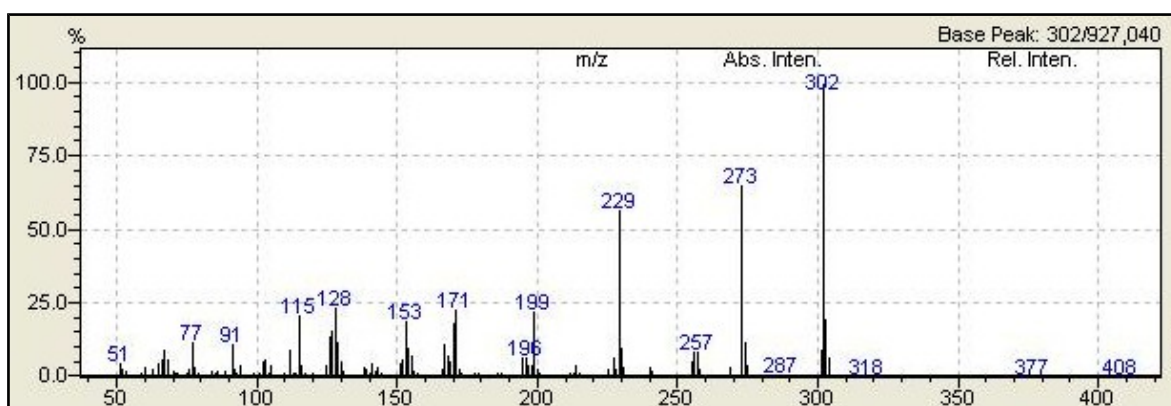


Fig C. 8: GC-MSS spectrum of 5-Ethoxy carbonyl-4-(2-phenyl ethylene)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**VIII**).

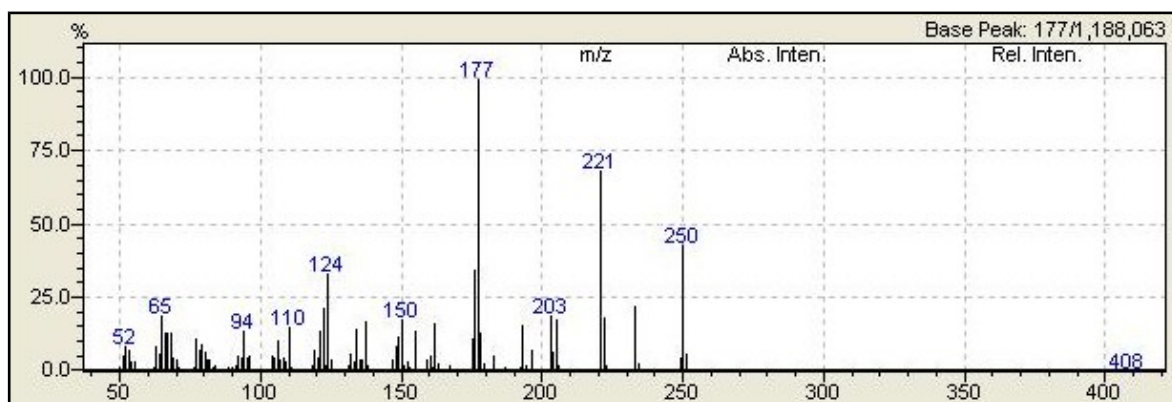


Fig C. 9: GC-MSS spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (**IX**).

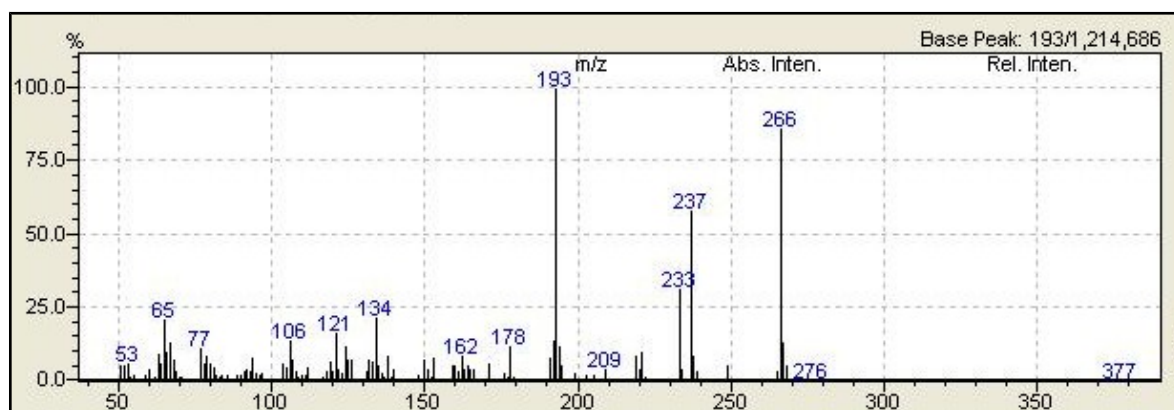


Fig C.10: GC-MSS spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**X**).

Appendix D

Ultraviolet spectroscopy (UV) data of the prepared dihydropyrimidinones /thiones derivatives:

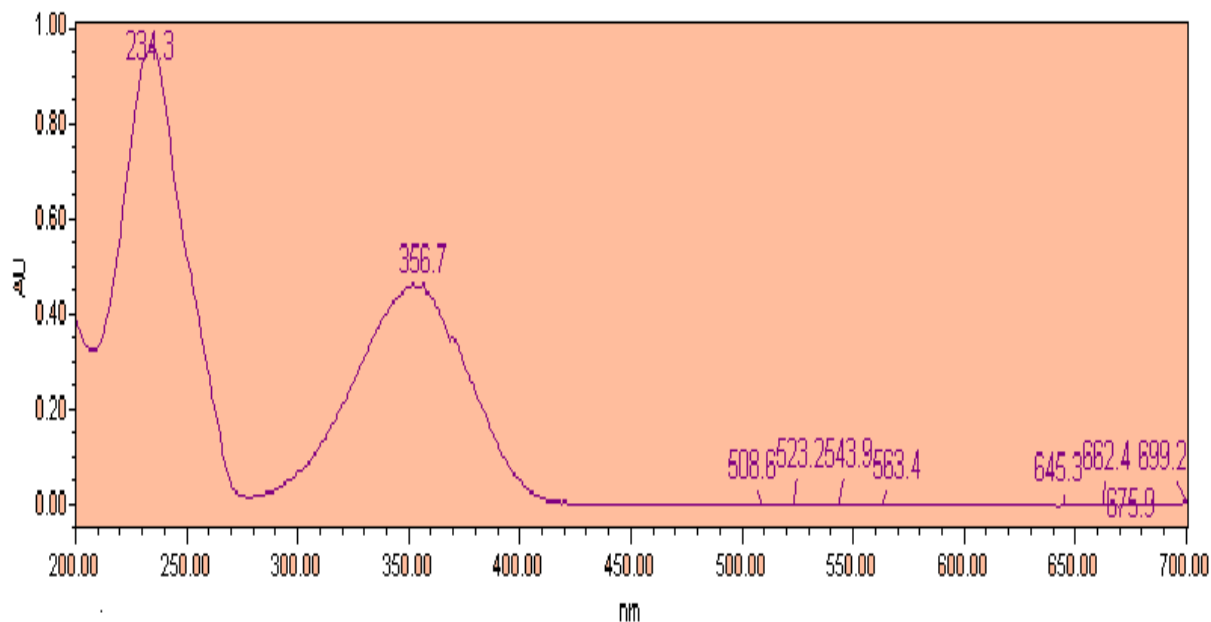


Fig D.1: UV spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)one (I).

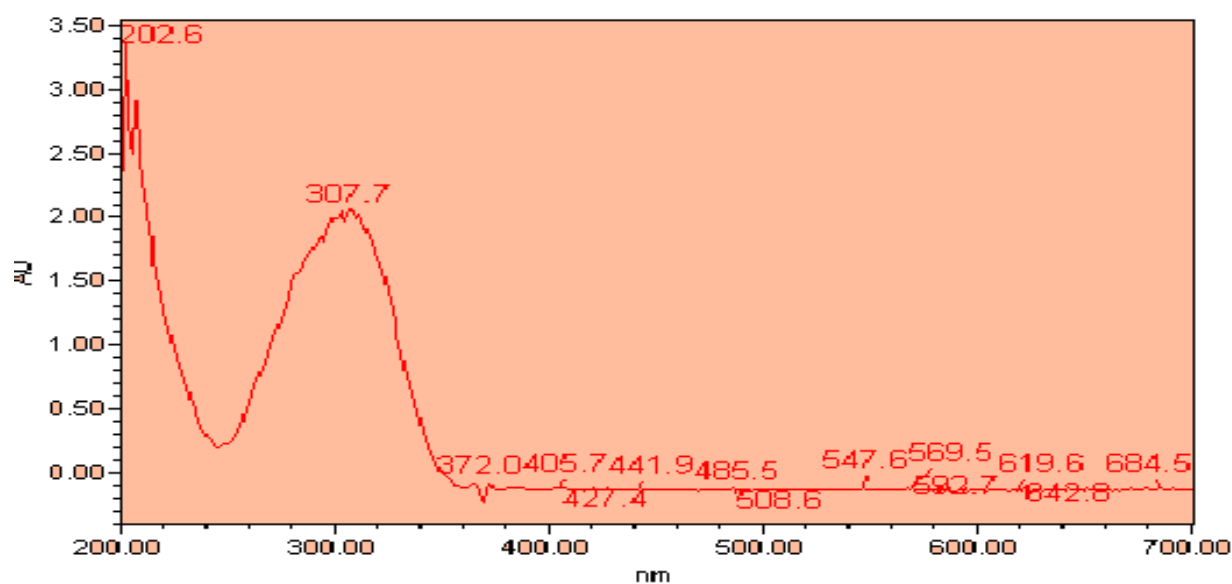


Fig D.2: UV spectrum of 5-Ethoxy carbonyl-4-phenyl-6-methyl-3,4-dihydropyrimidin-2(1H)thione (II).

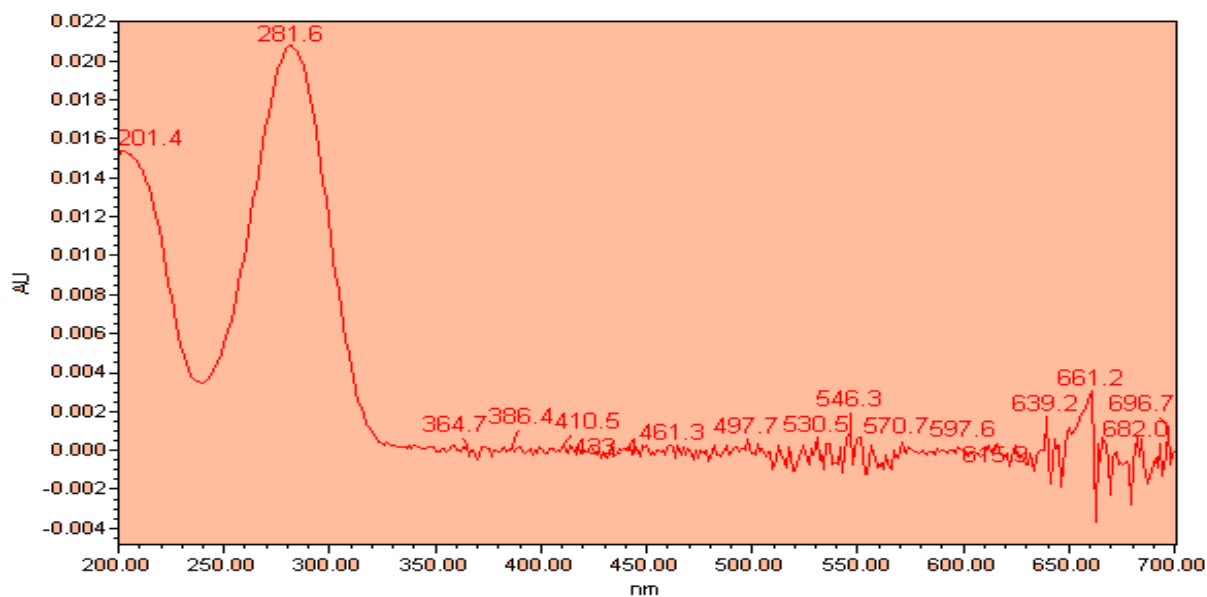


Fig D. 3: UV spectrum of 5-Ethoxy carbonyl-4,6-dimethyl-
3,4-dihydropyrimidin-2(1H)one (**III**).

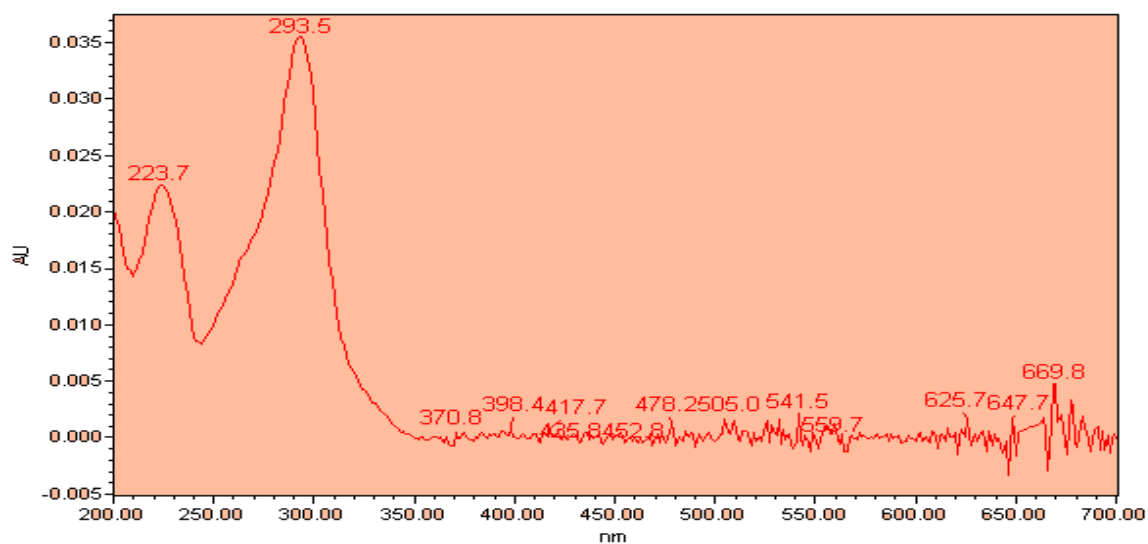


Fig D. 4: UV spectrum of 5-Ethoxy carbonyl-4,6-dimethyl-
3,4-dihydropyrimidin-2(1H) thione (**IV**).

Fig D. 5: UV spectrum of 5-Ethoxy carbonyl-4-(6-hydroxyphenyl)-6-methyl-

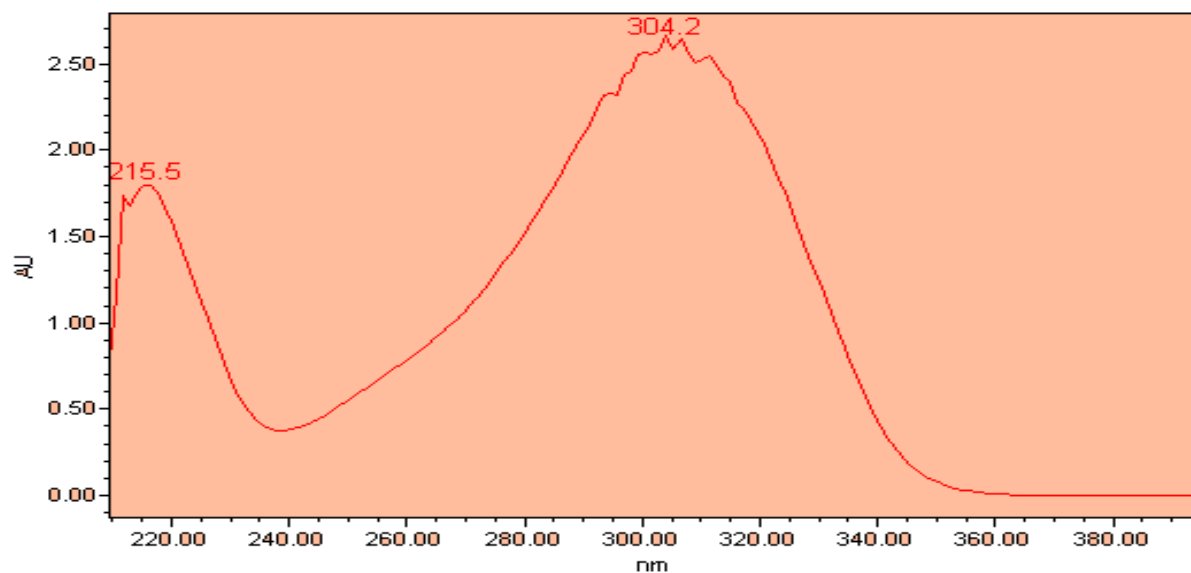
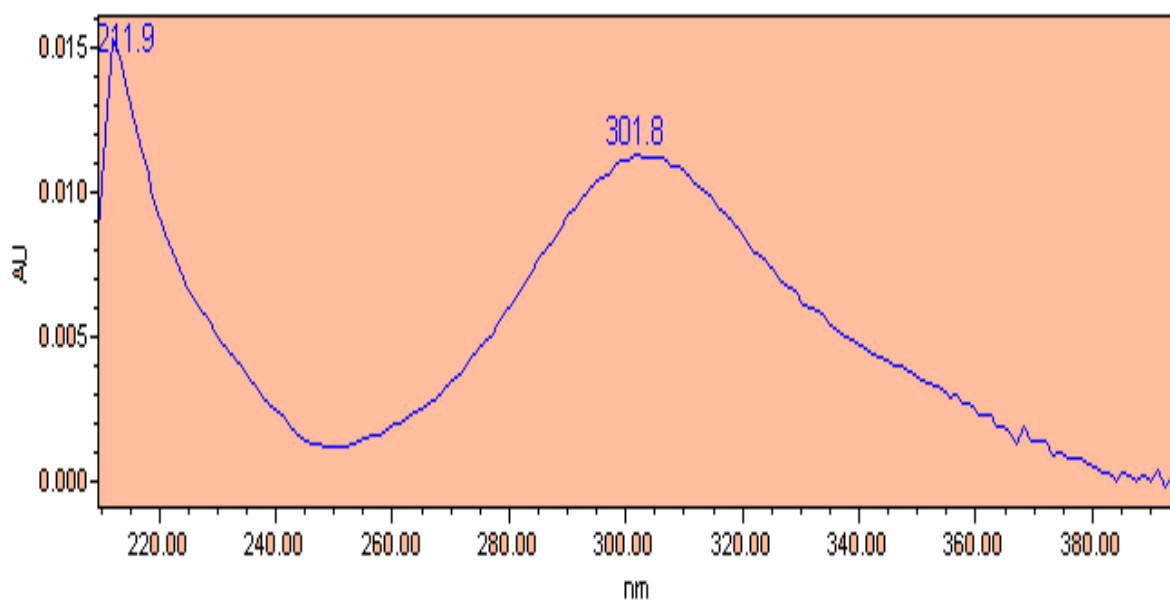
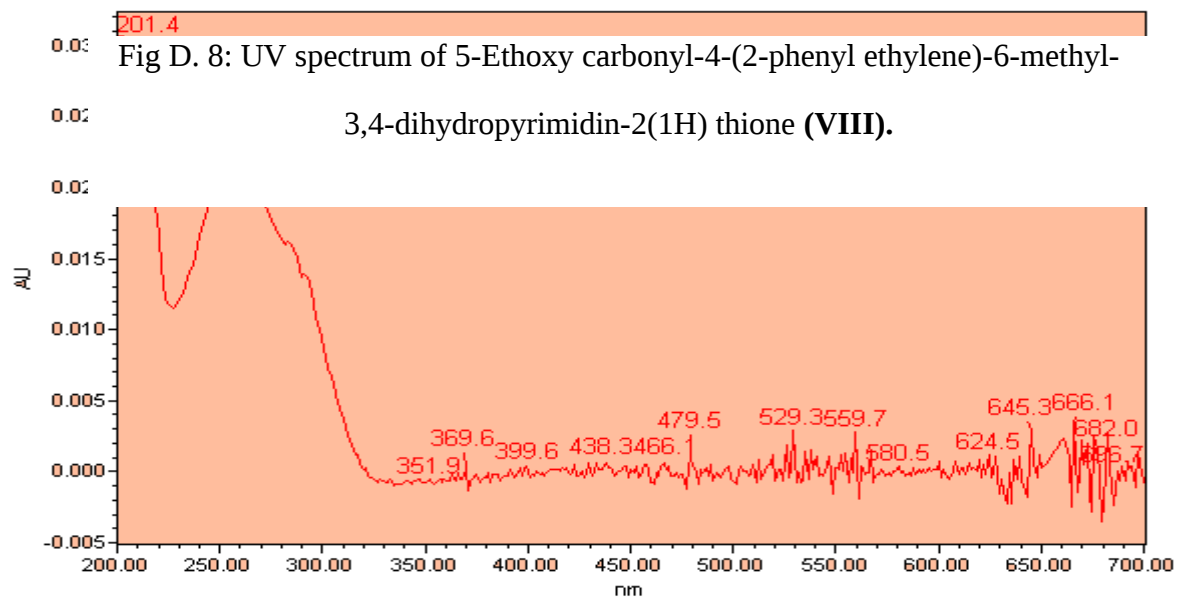
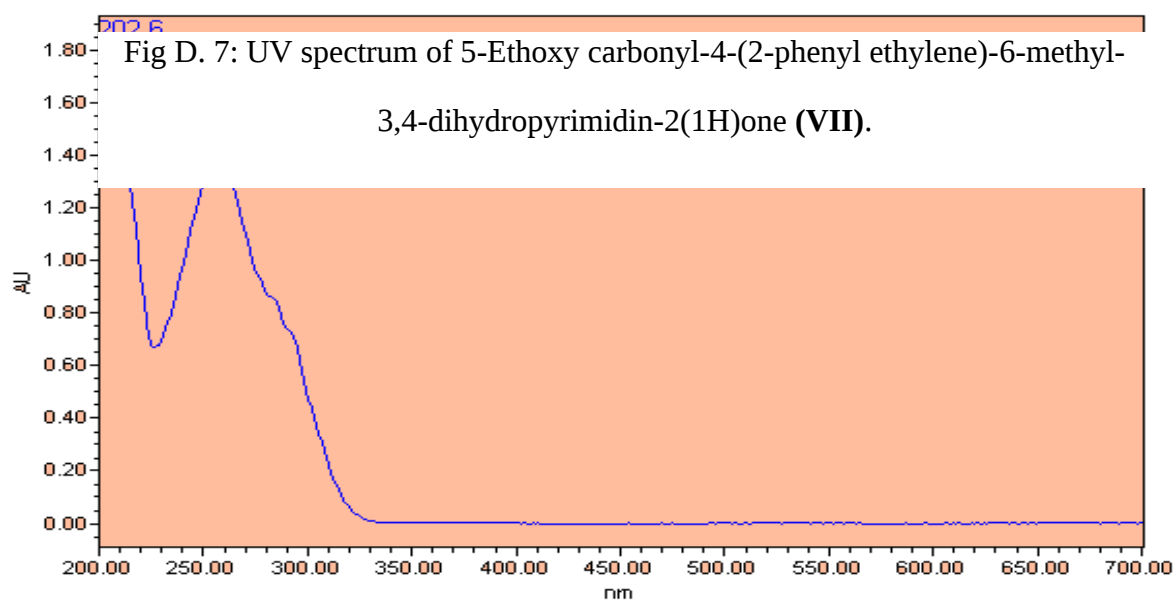


Fig D. 6: UV spectrum of 5-Ethoxy carbonyl-4-(6-hydroxyphenyl)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (**VI**).



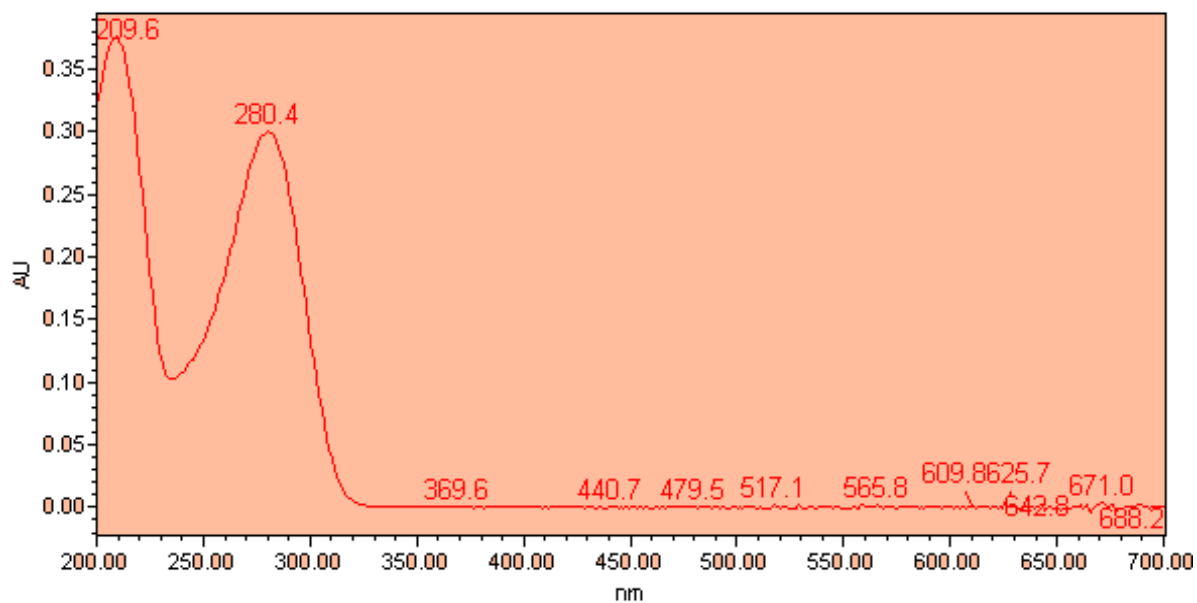


Fig D. 9: UV spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H)one (IX).

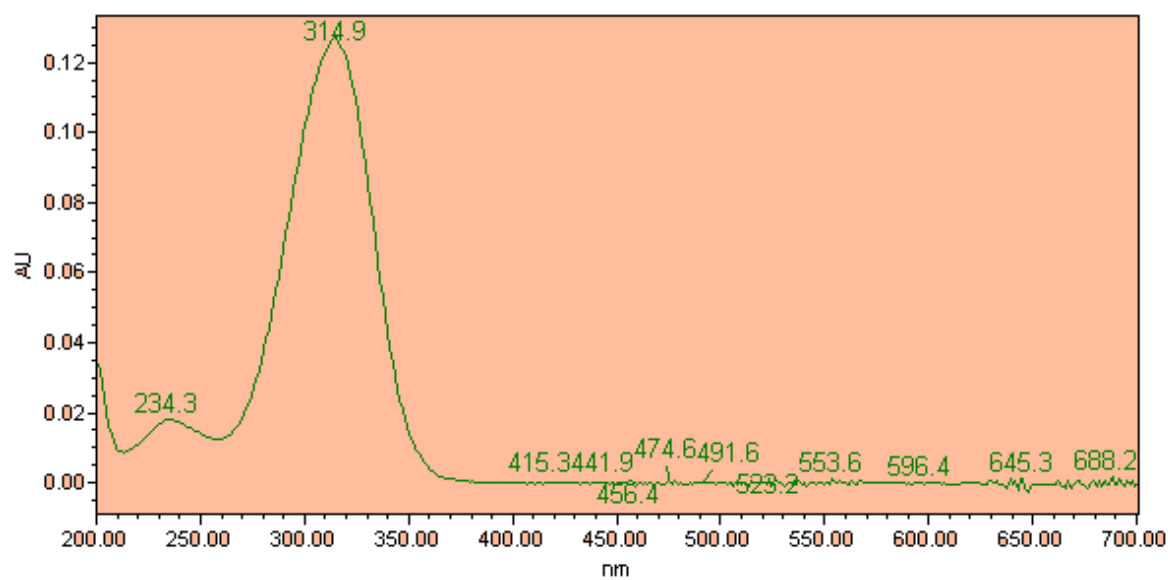


Fig D.10: UV spectrum of 5-Ethoxy carbonyl-4-(2-furyl)-6-methyl-3,4-dihydropyrimidin-2(1H) thione (X).