

CHAPTER IV

CONCLUSIONS



In this course of research, nine pure organic compounds were isolated from the roots of A. illicifolius. Five compounds were elucidated as S₈, octacosyl alcohol, stigmasterol, benzoxazoline-2-one and stigmasteryl- -D-glucopyranoside. It was found that this was the first report on the occurrence of these compounds, except stigmasterol, in this particular species. Chloride salts of sodium, potassium, manganese, magnesium and calcium were also found in aqueous fraction. From the literature study of these isolated compounds indicated that benzoxazoline-2-one, derivative of benzoxazoline-2-one and S₈ were claimed to be the active principles of this plant.

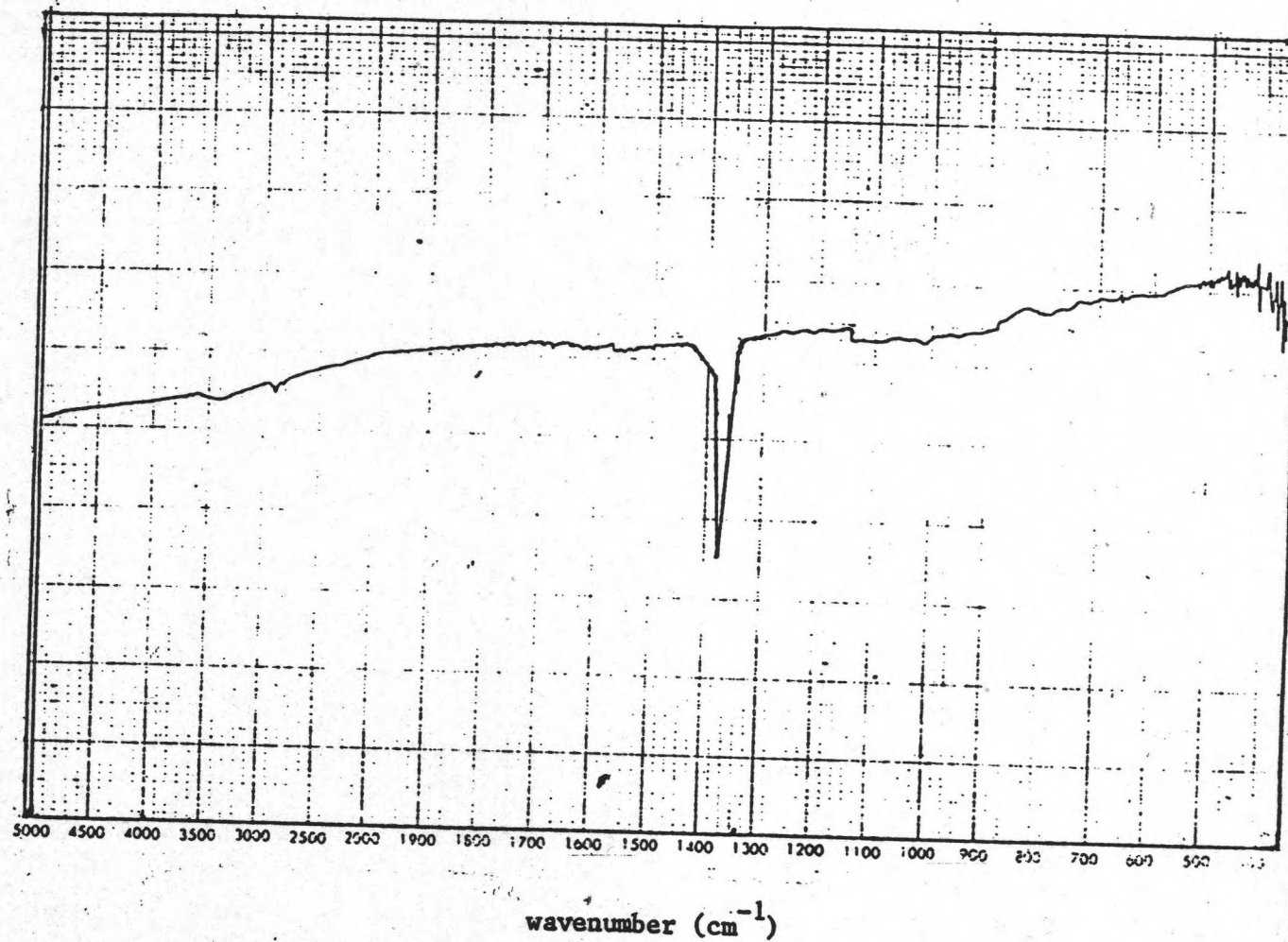


Figure 1 IR spectrum of Compound 1

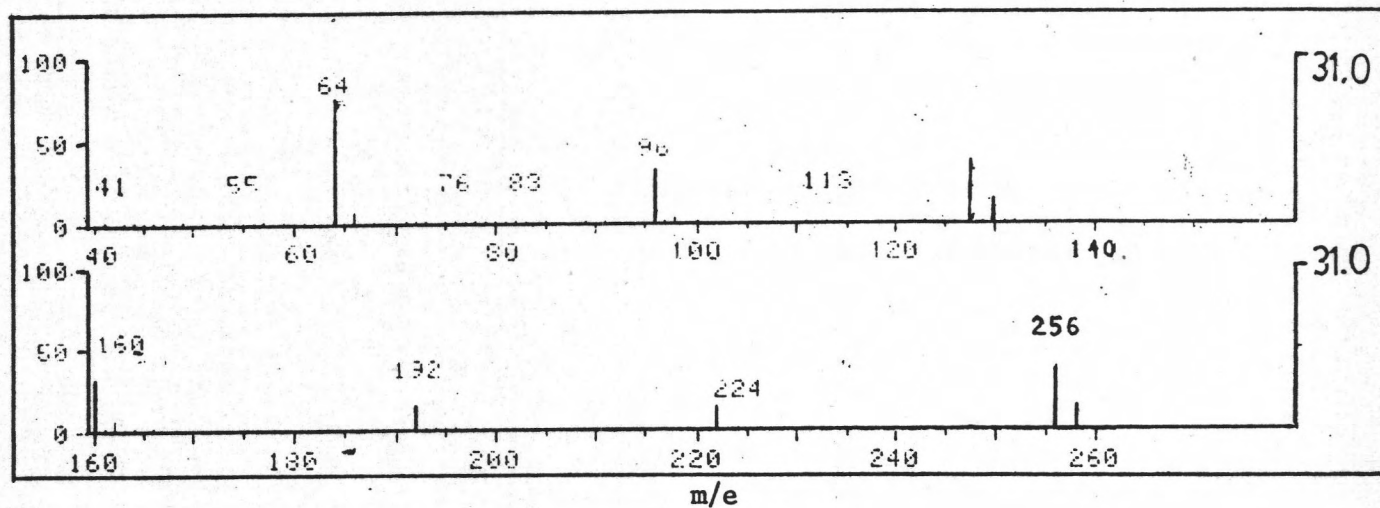


Figure 2 Mass spectrum of Compound 1

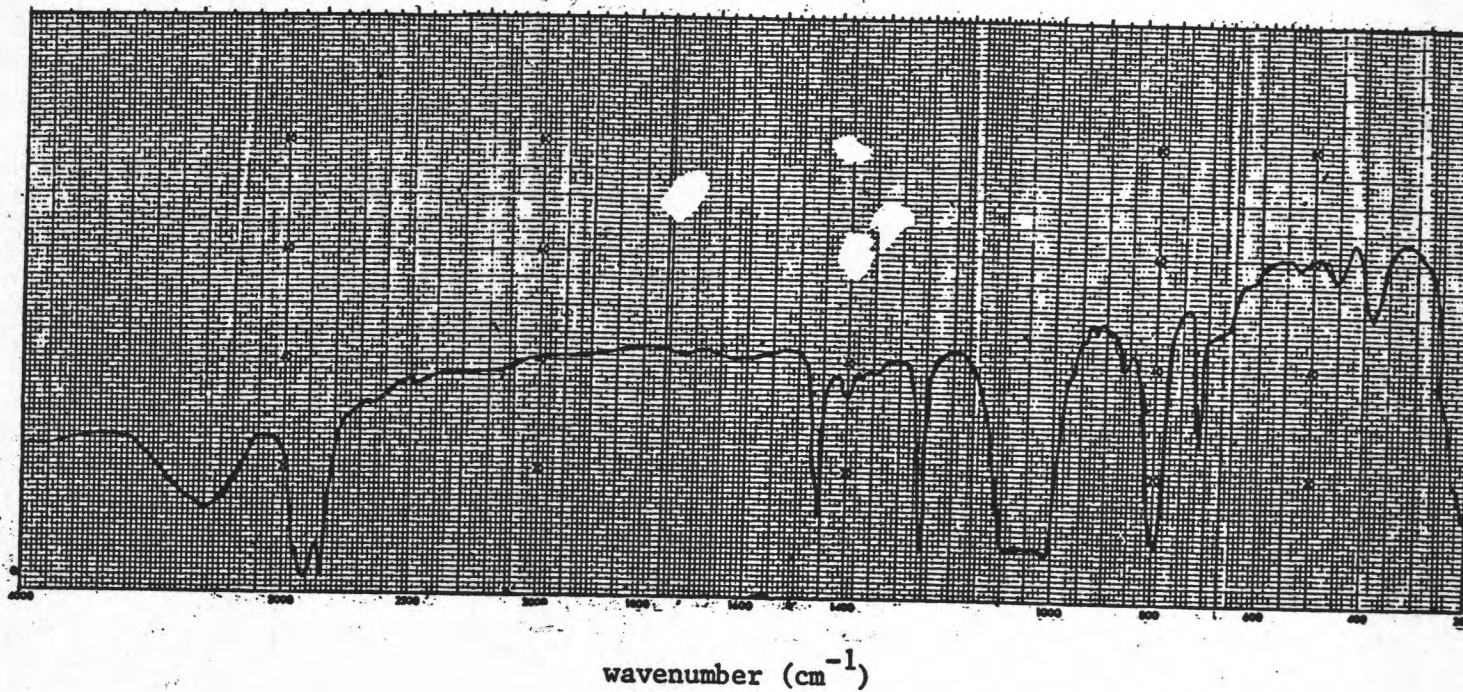


Figure 3 IR spectrum of Compound 2

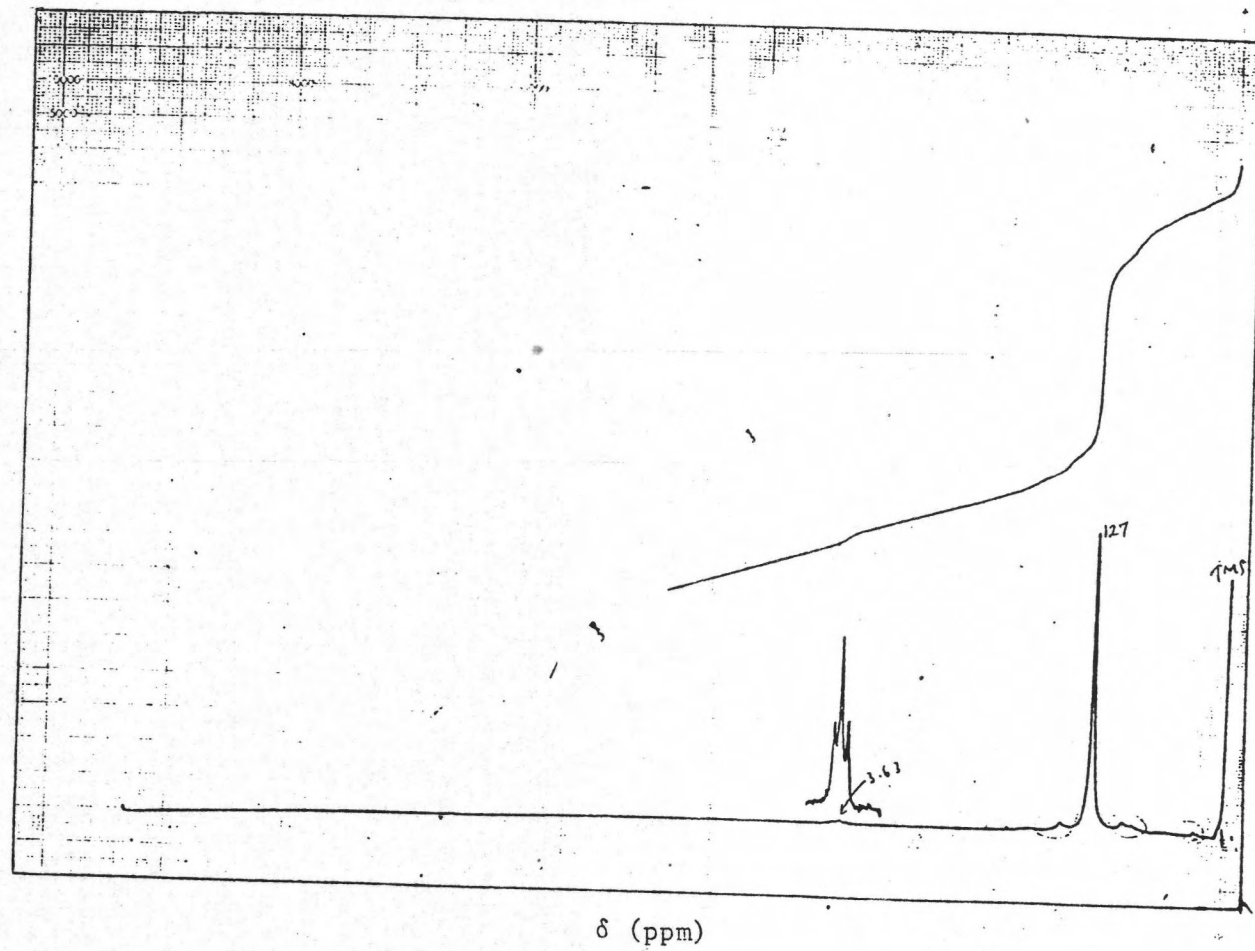


Figure 4 ^1H NMR spectrum of Compound 2

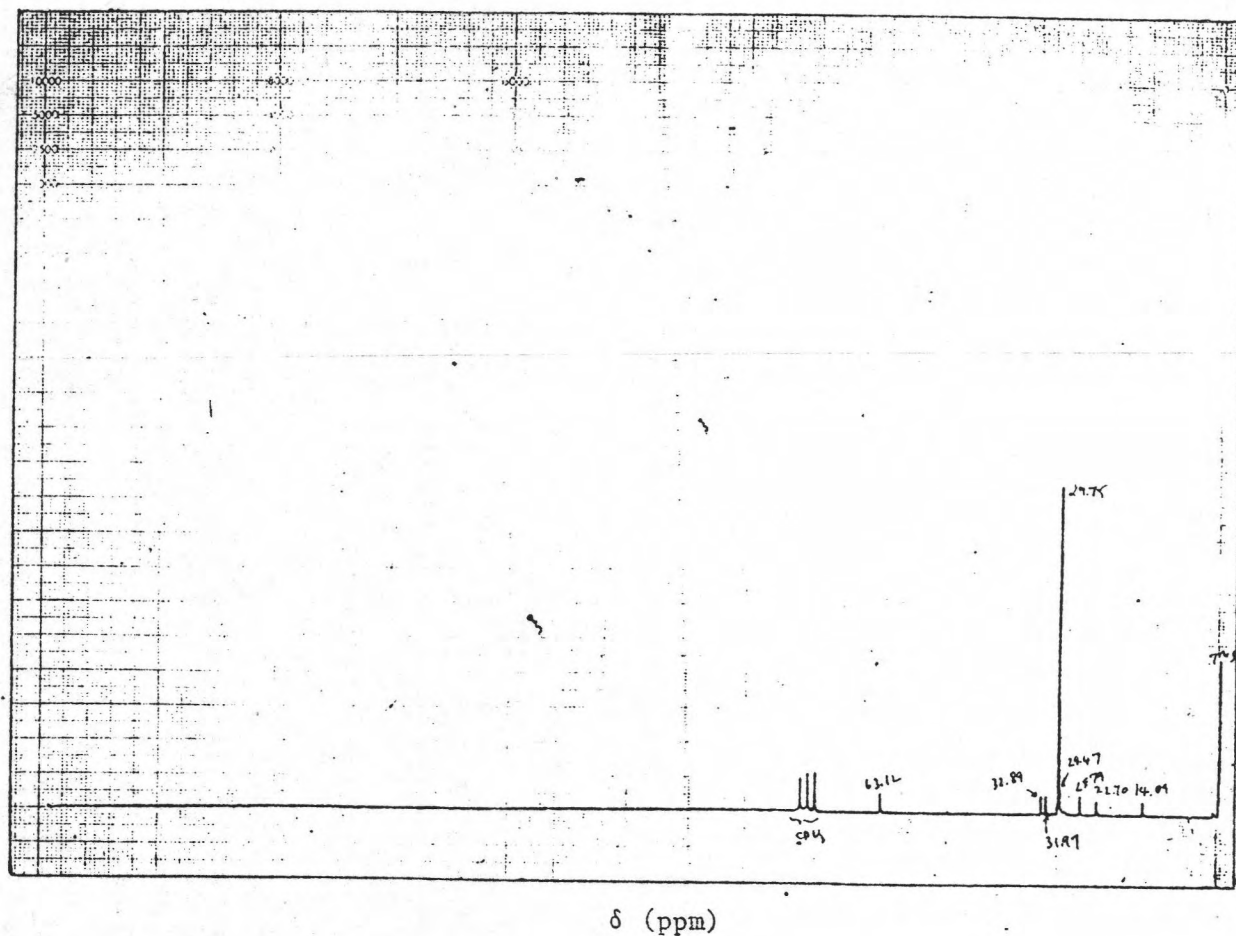


Figure 5 ^{13}C NMR spectrum of Compound 2

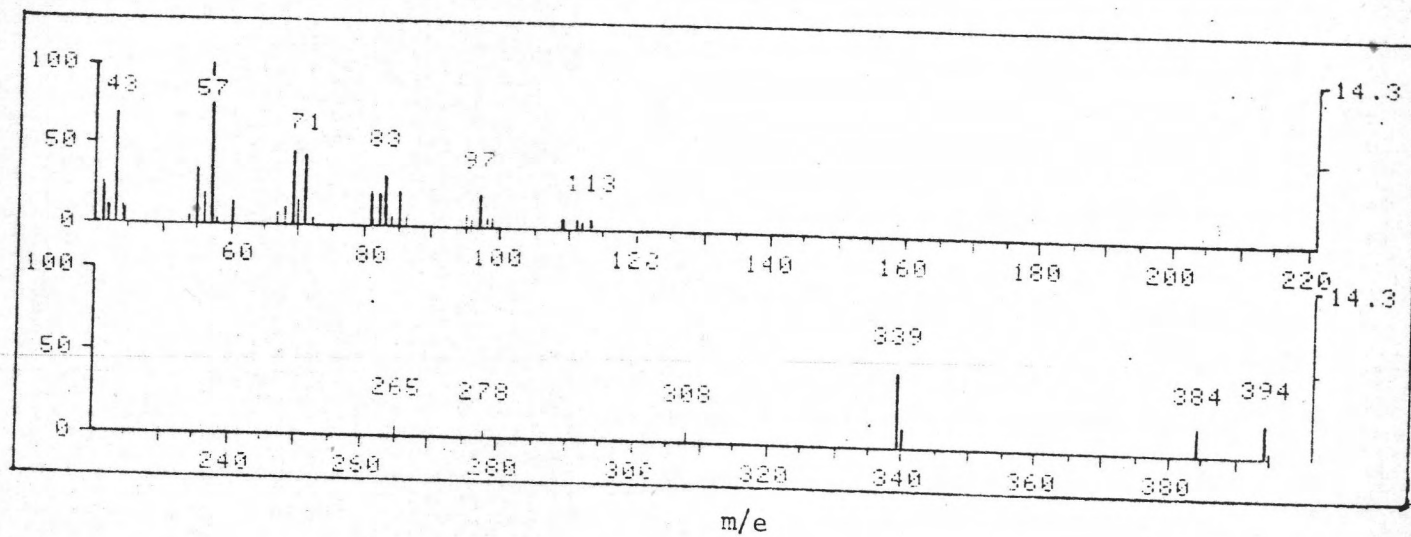


Figure 6 Mass spectrum of Compound 2



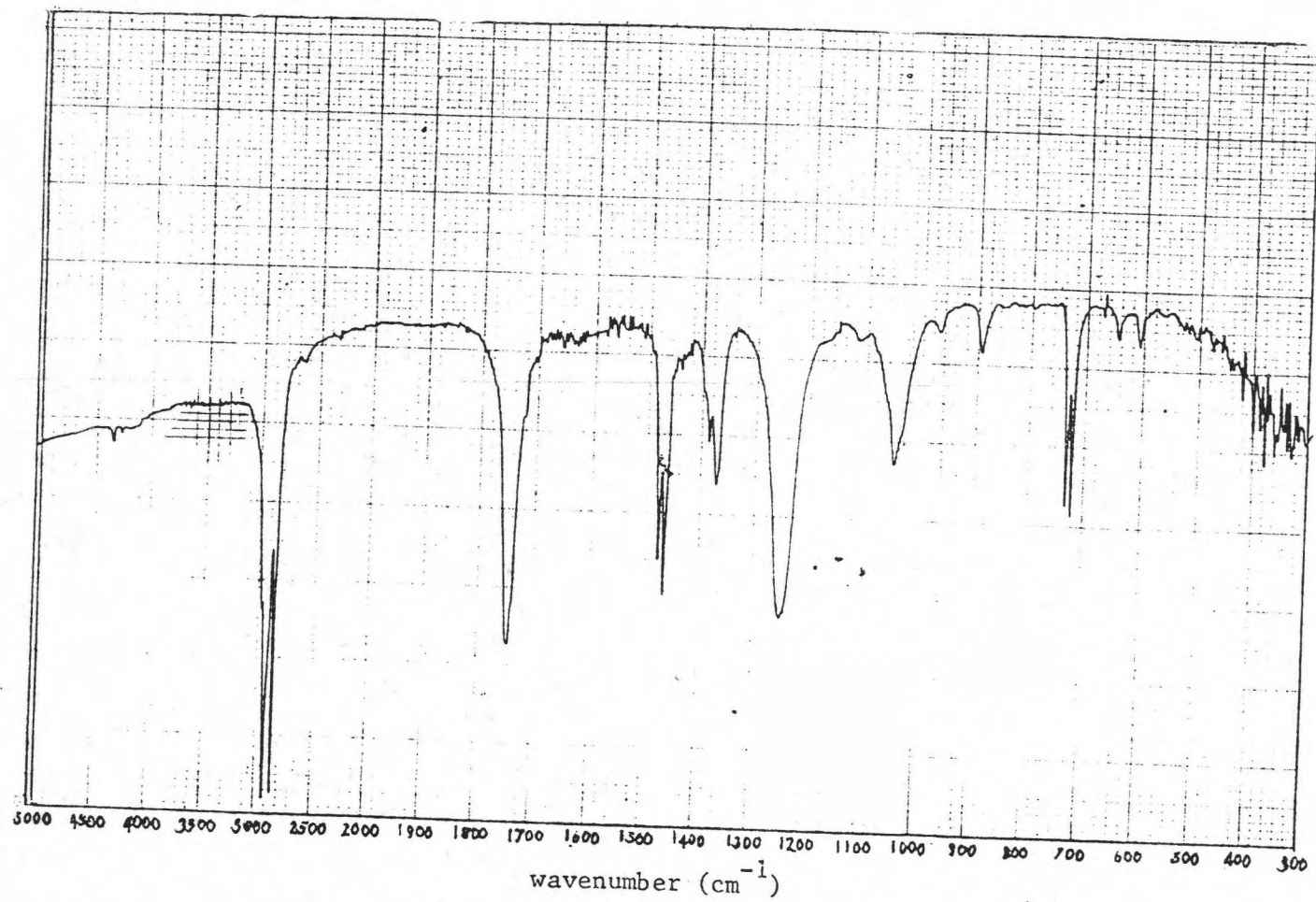


Figure 7 IR spectrum of Compound 2 acetate

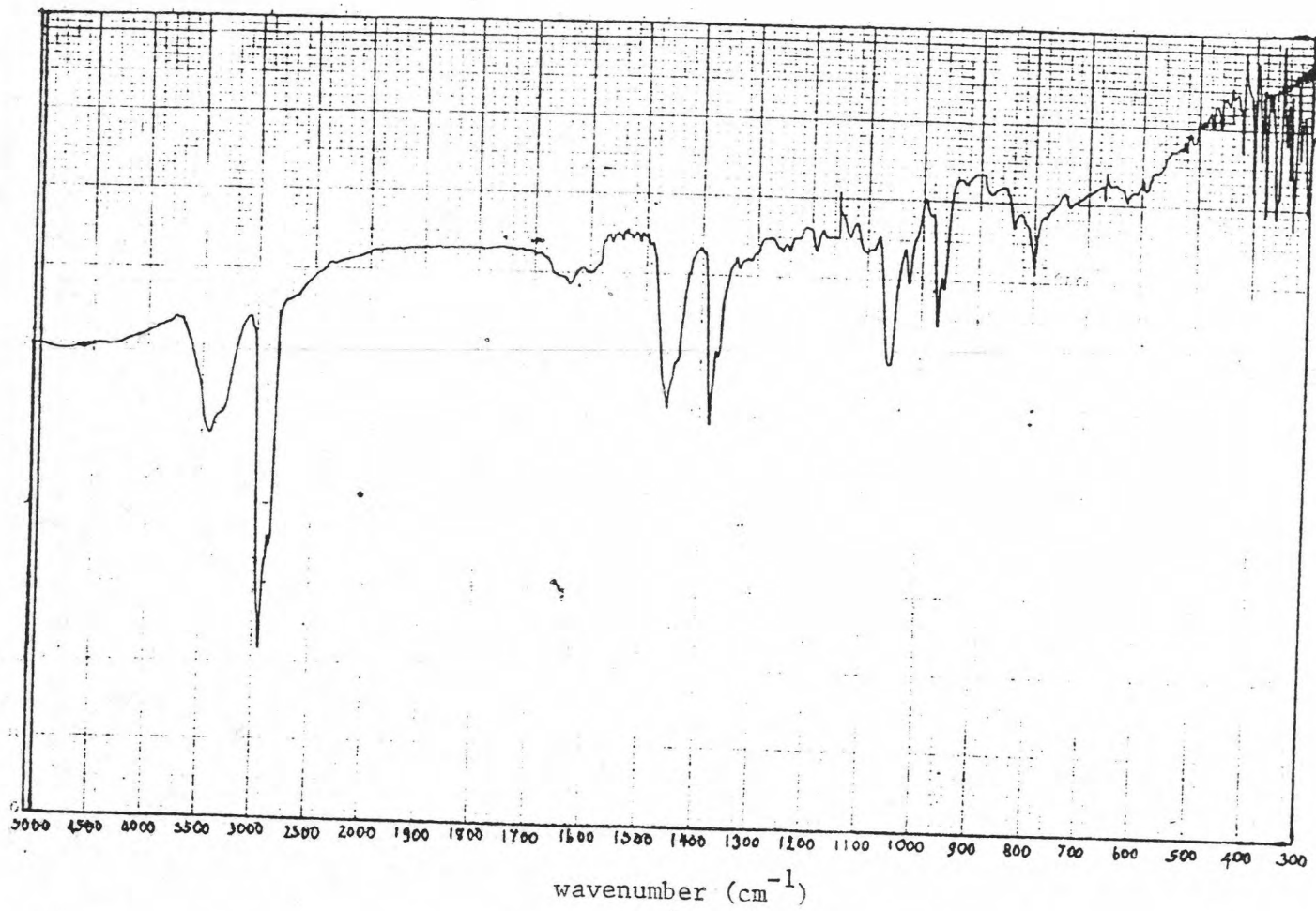


Figure 8 IR spectrum of Compound 3

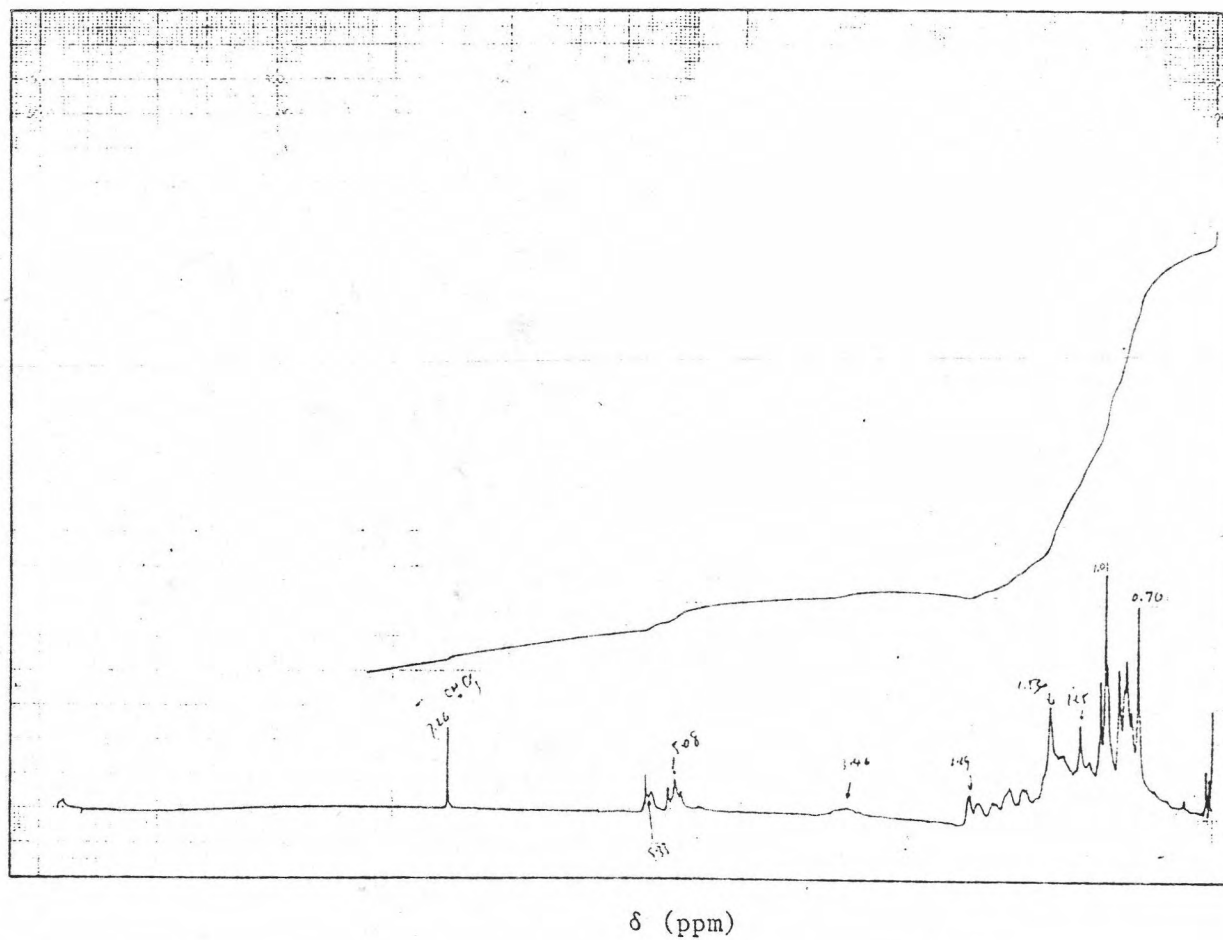


Figure 9 ^1H NMR spectrum of Compound 3.

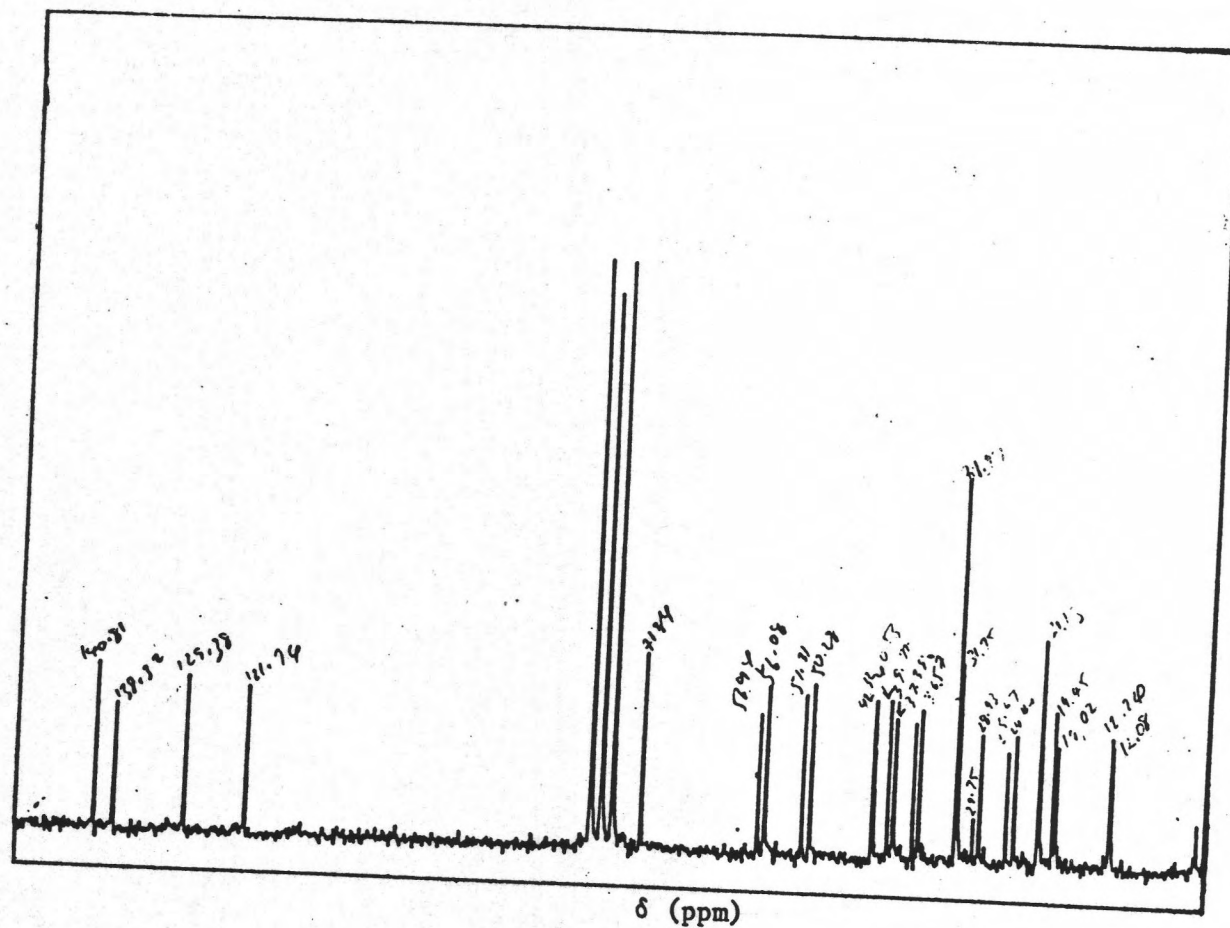


Figure 10 ^{13}C NMR spectrum of Compound 3



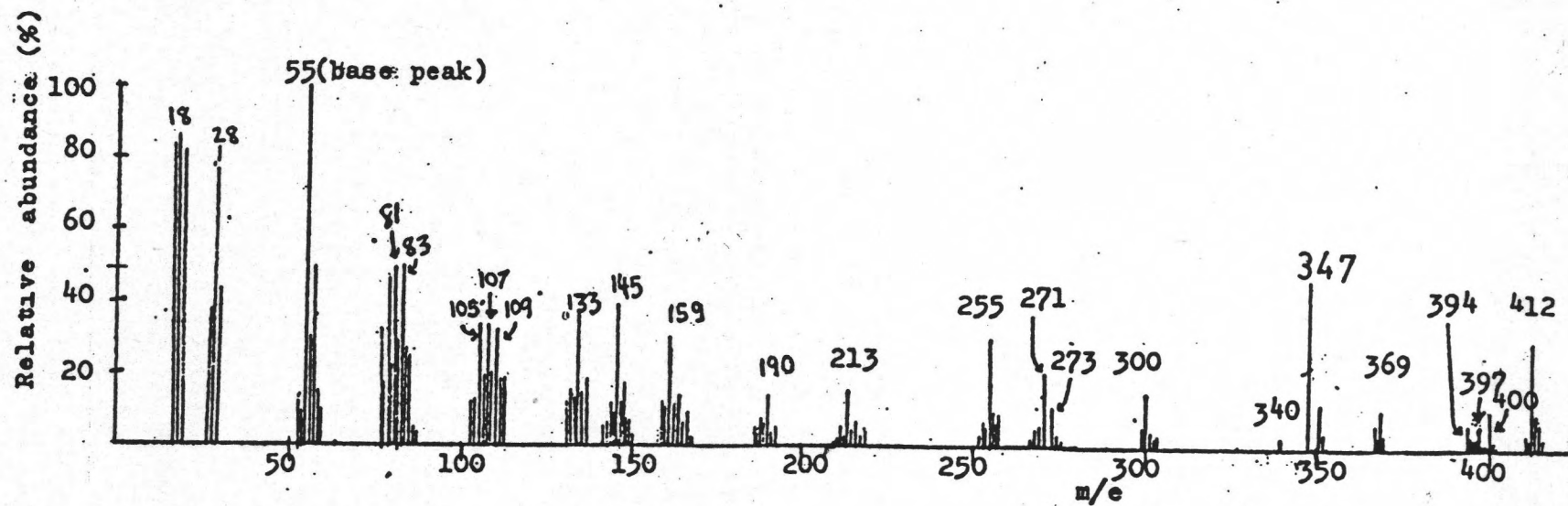


Figure 11 Mass spectrum of Compound 3

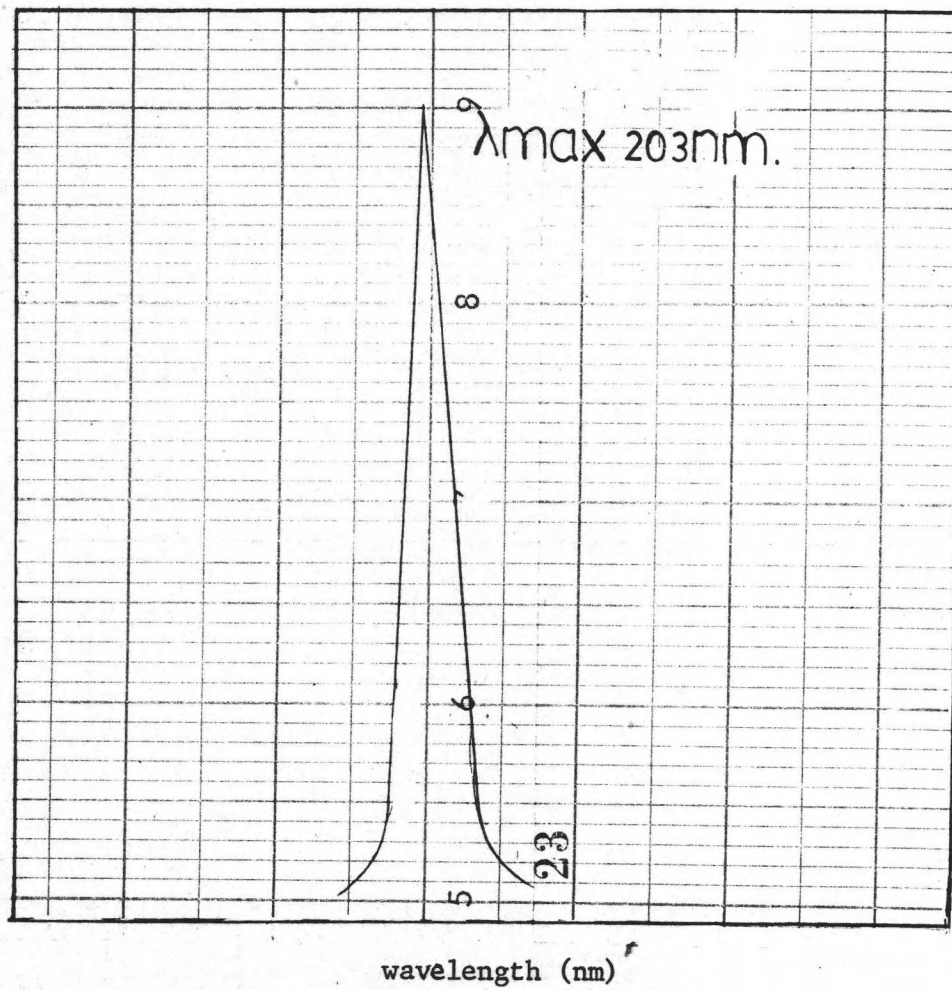


Figure 12 UV spectrum of Compound 3

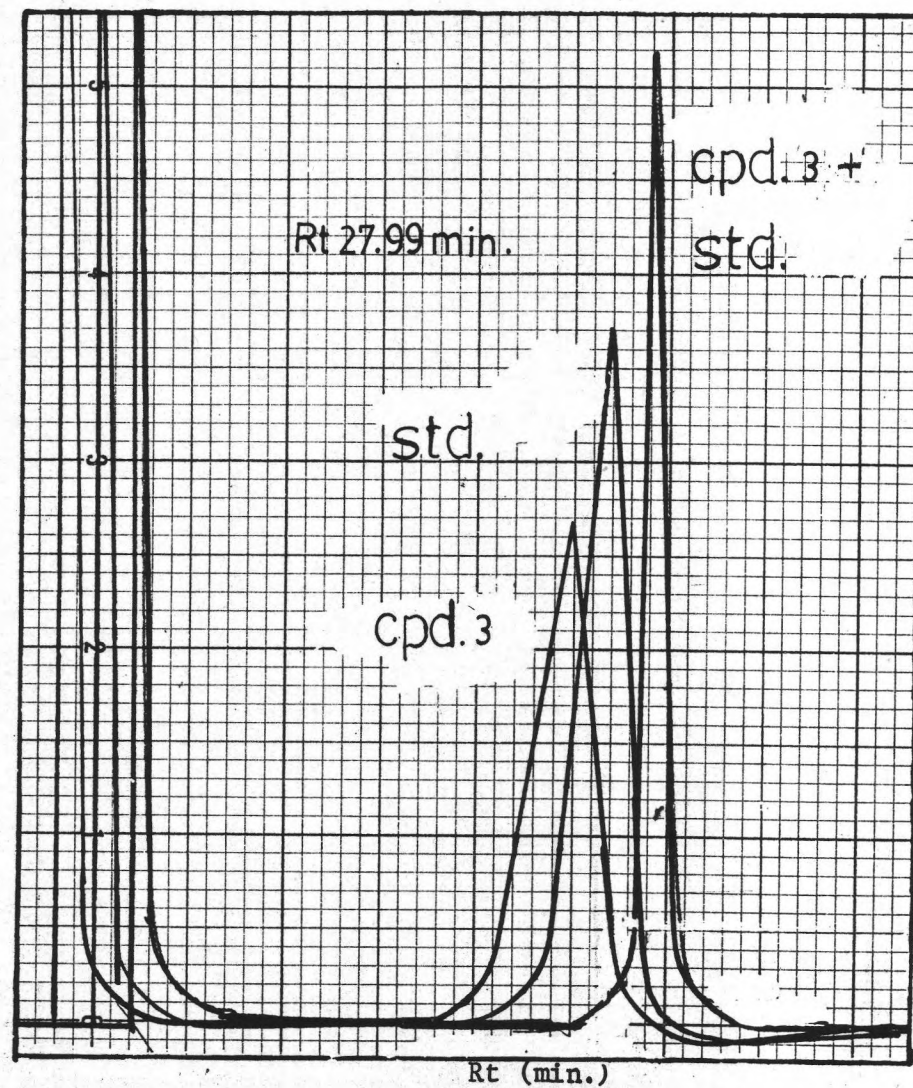


Figure 13 GC of Compound 3 and stigmasteral standard

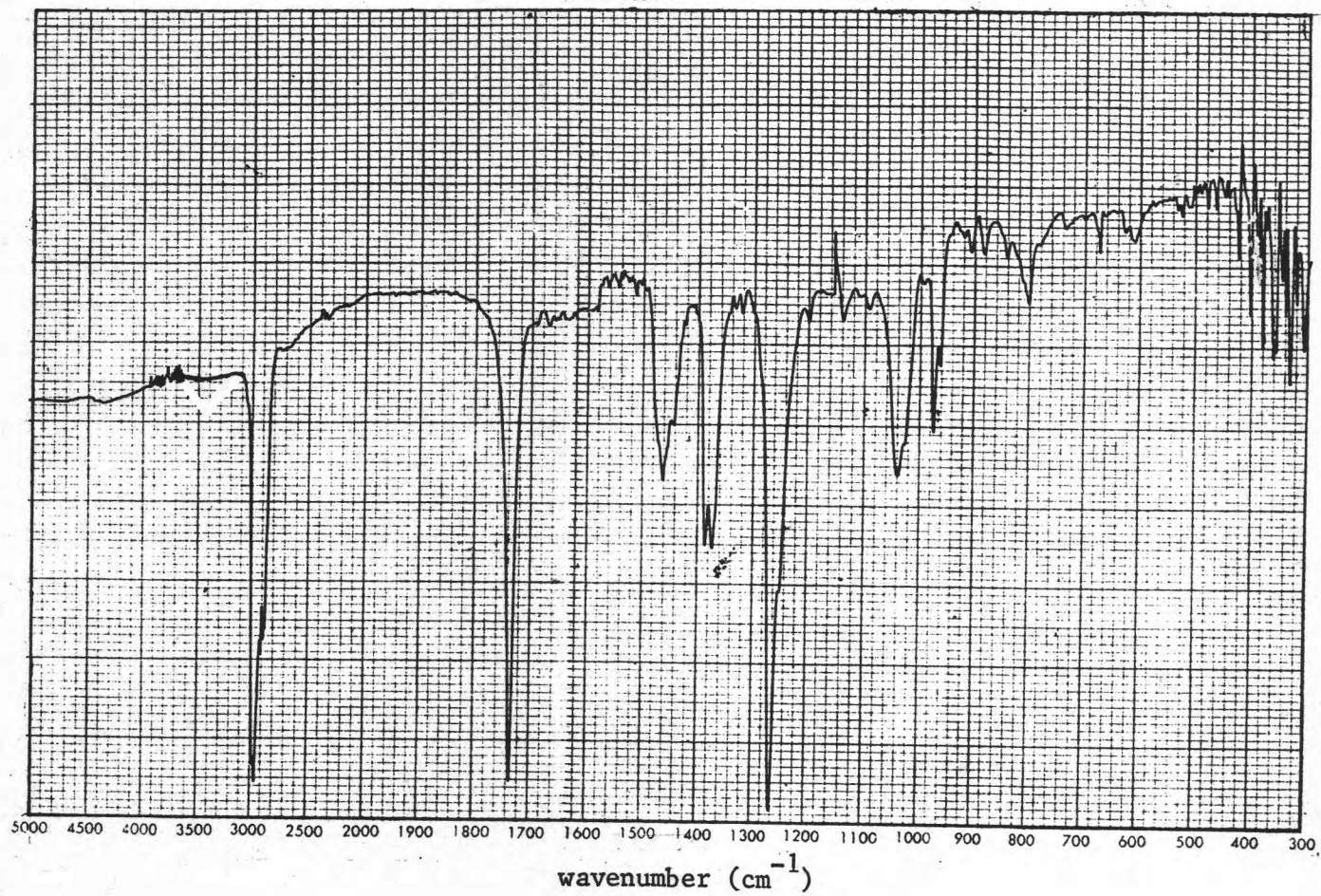


Figure 14 IR spectrum of Compound 3 acetate

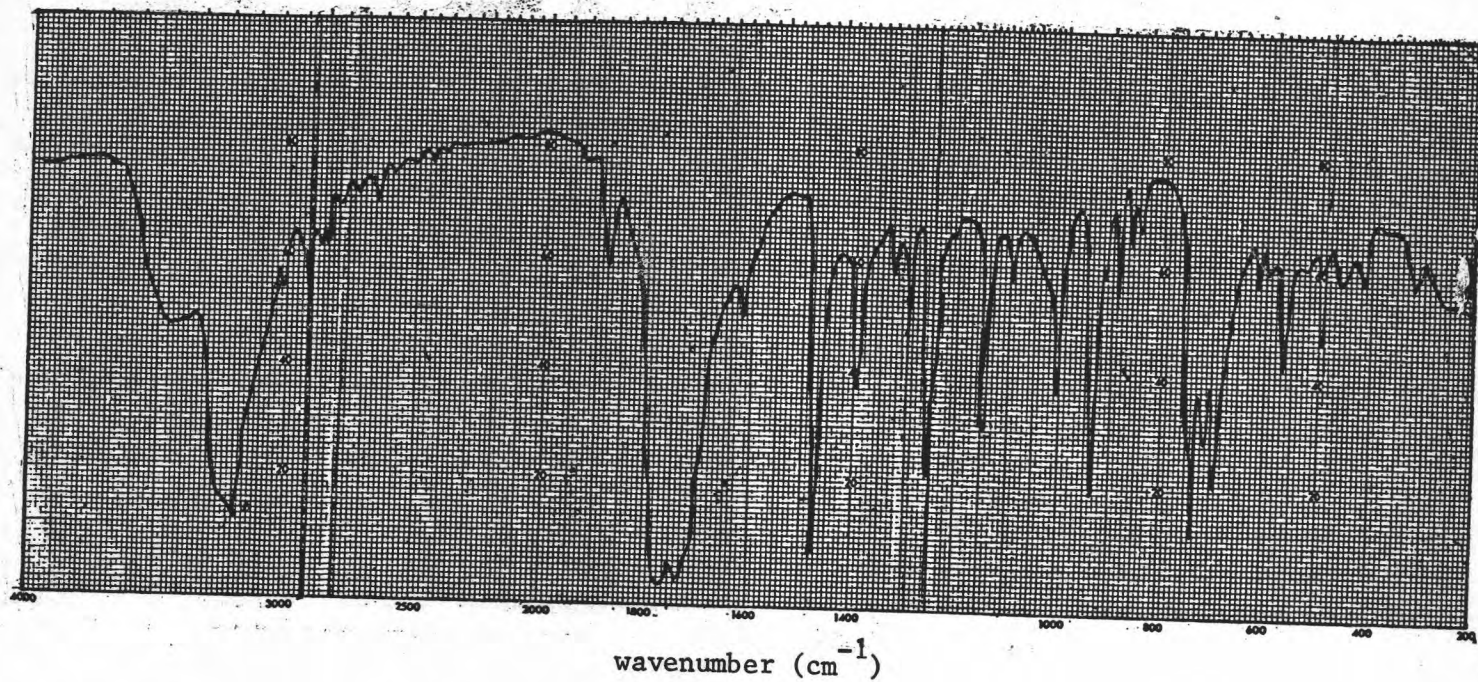
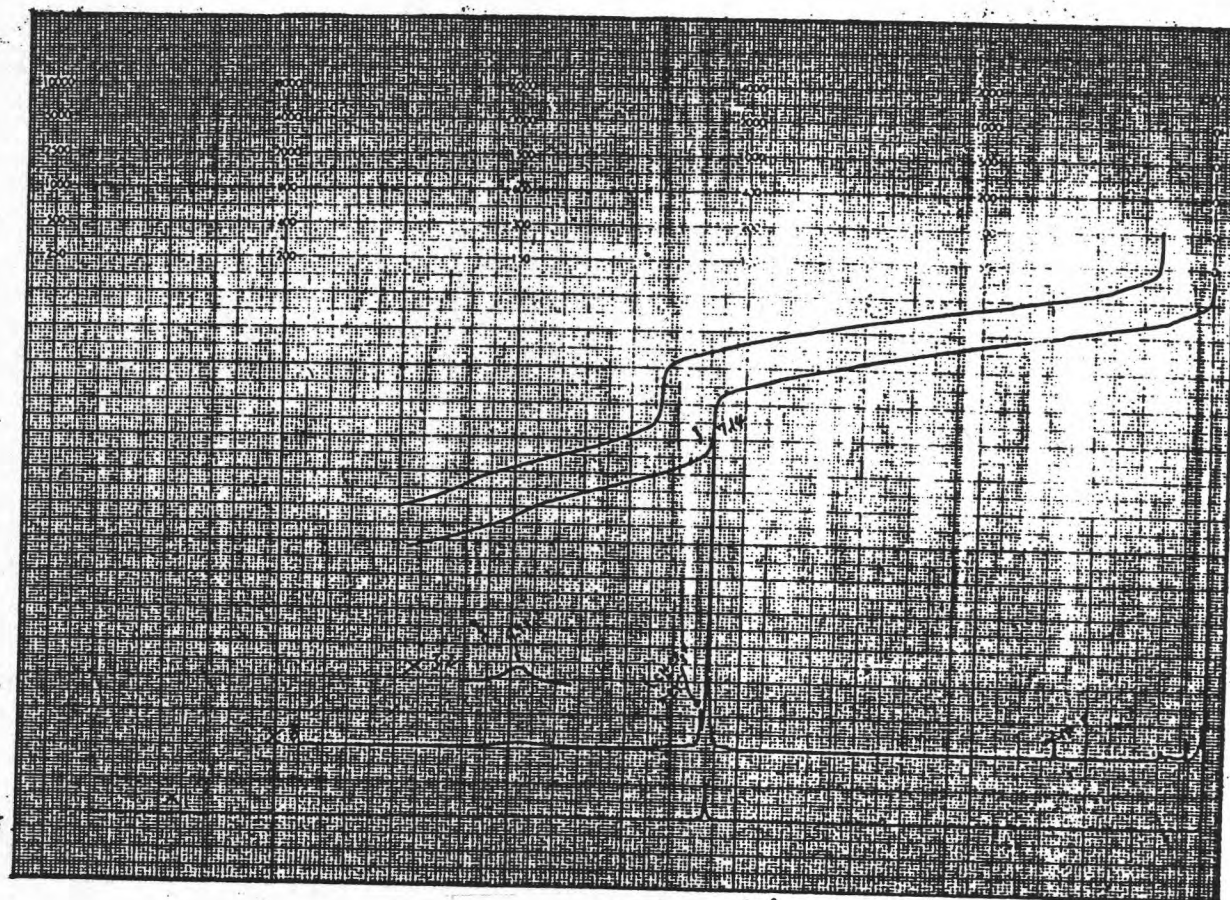


Figure 15 IR spectrum of Compound 4





δ (ppm)

Figure 16 ¹H NMR spectrum of Compound 4

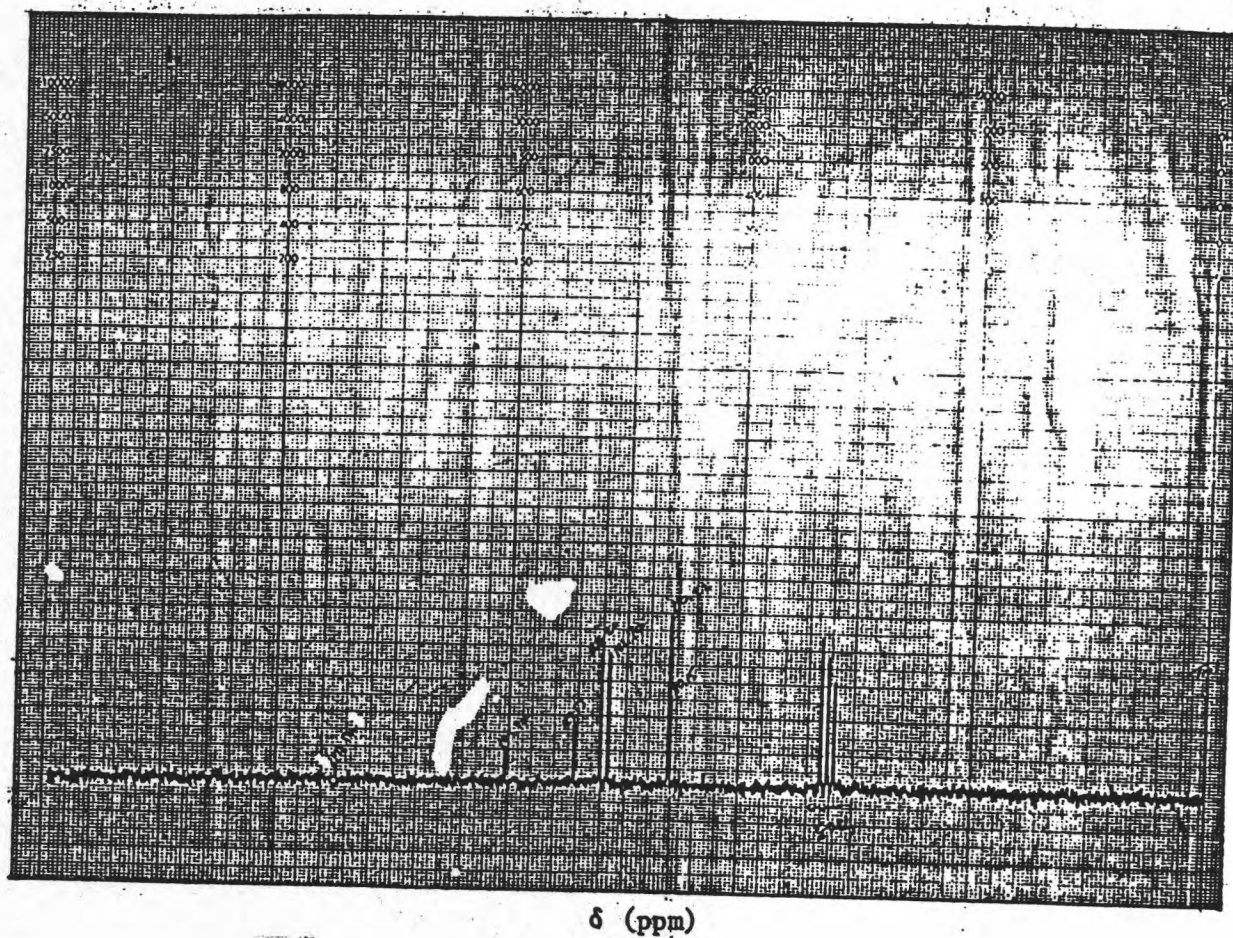


Figure 17 ^{13}C NMR spectrum of Compound 4

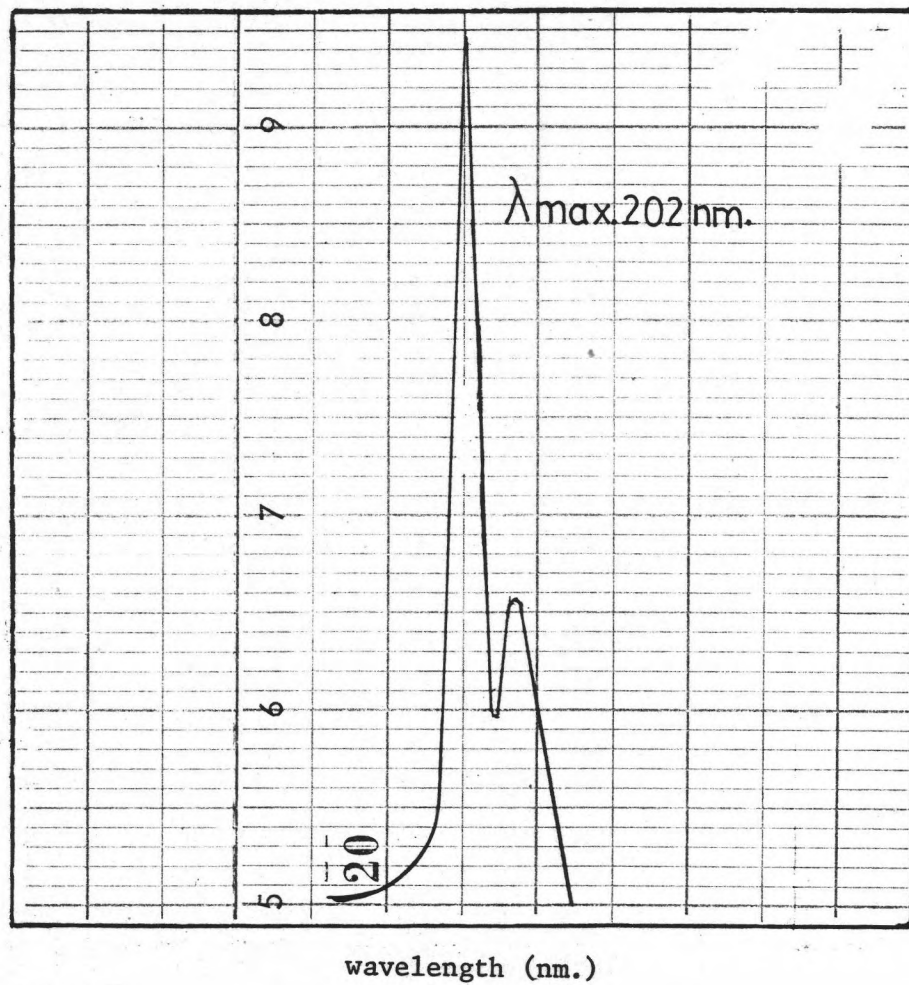


Figure 18 UV spectrum of Compound 4

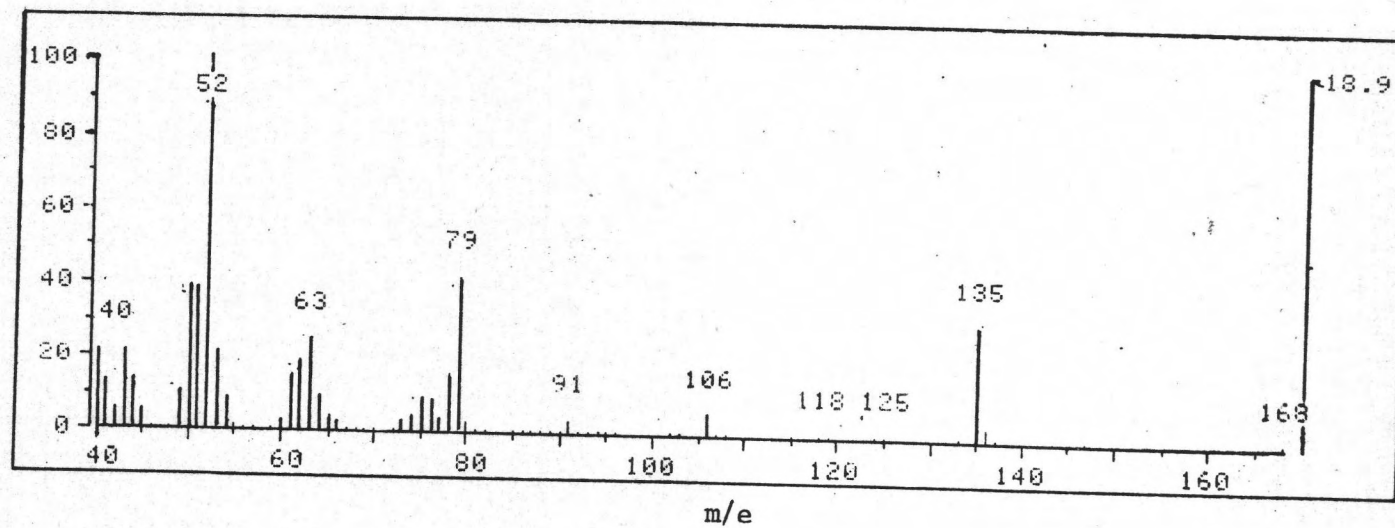


Figure 19 Mass spectrum of Compound 4

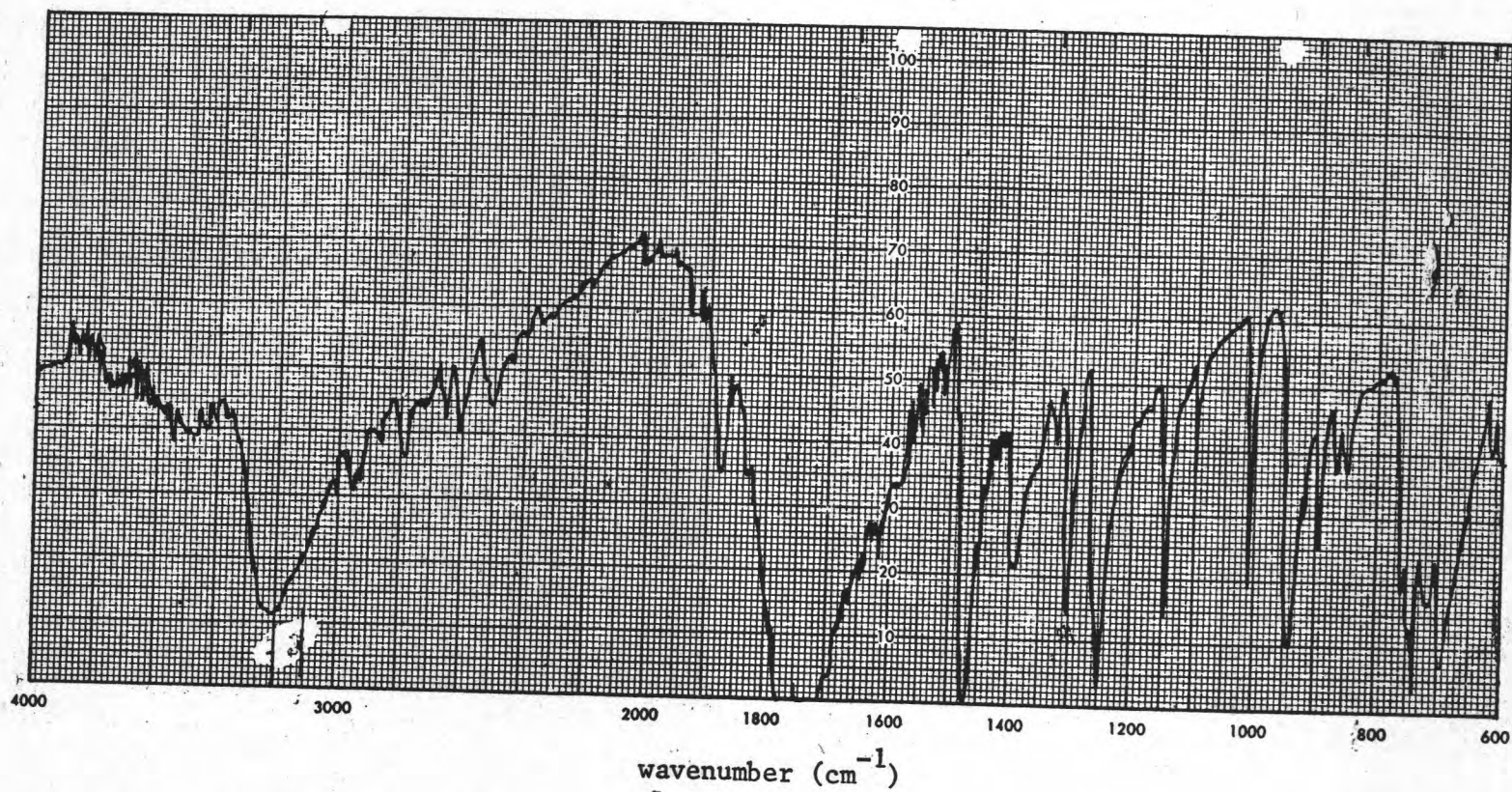


Figure 20 IR spectrum of synthetic Compound 4.



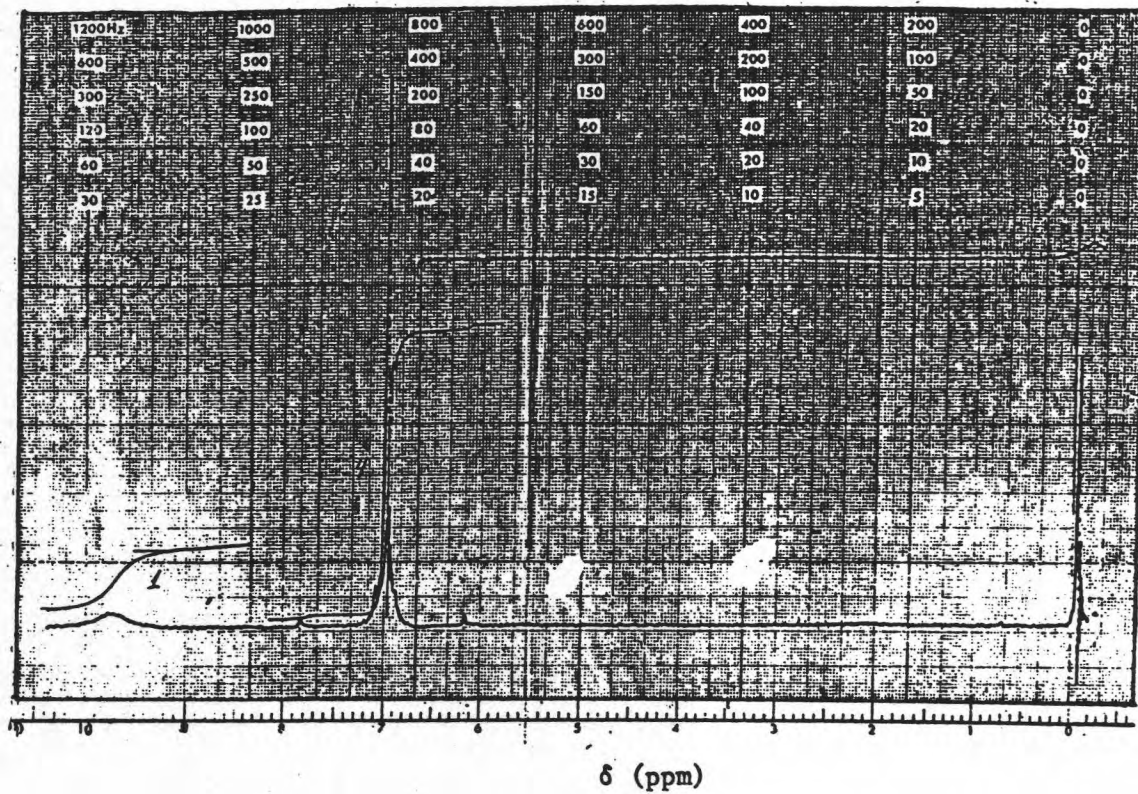


Figure 21 ^1H NMR spectrum of synthetic Compound 4.

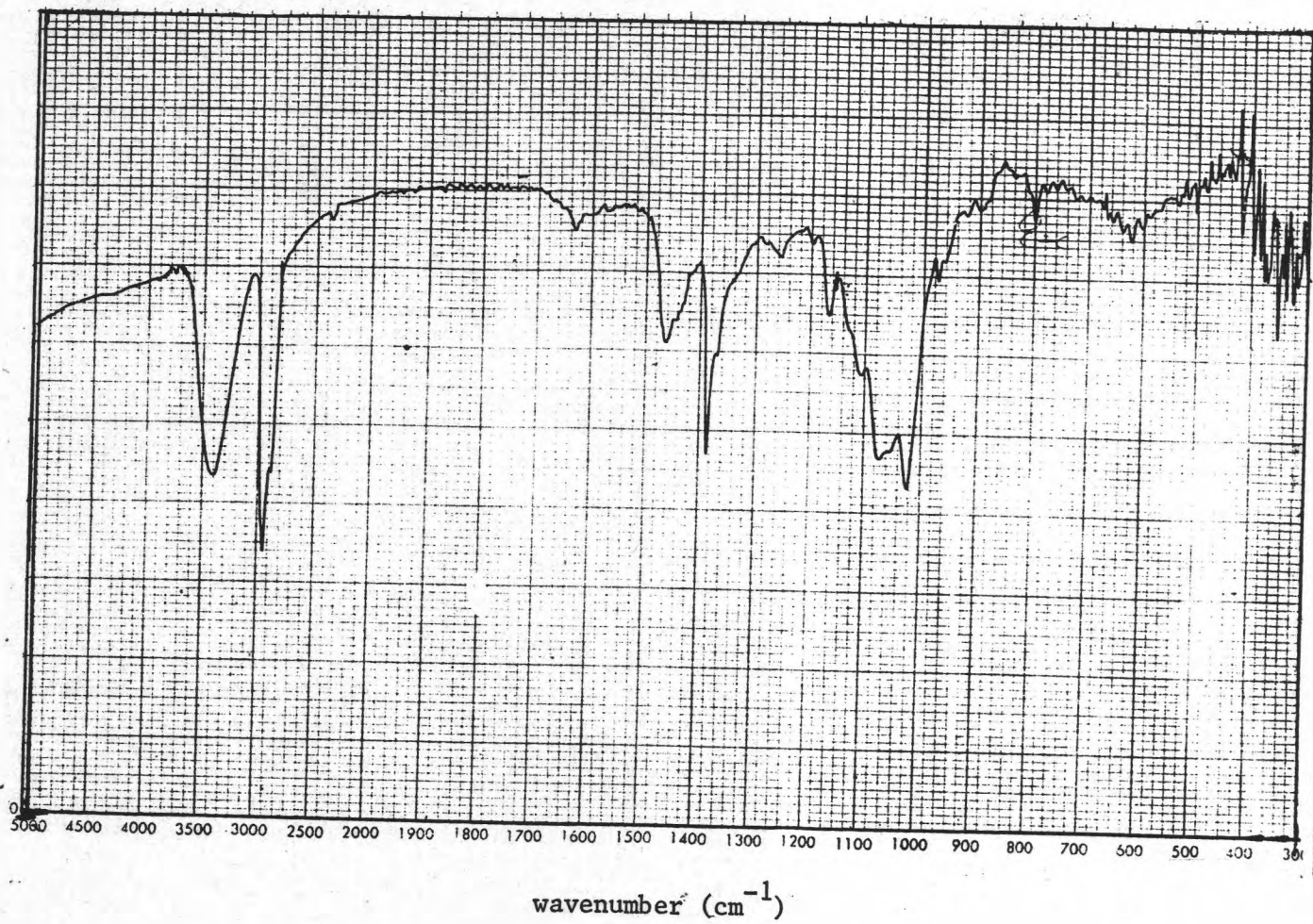


Figure 22 IR spectrum of Compound 5

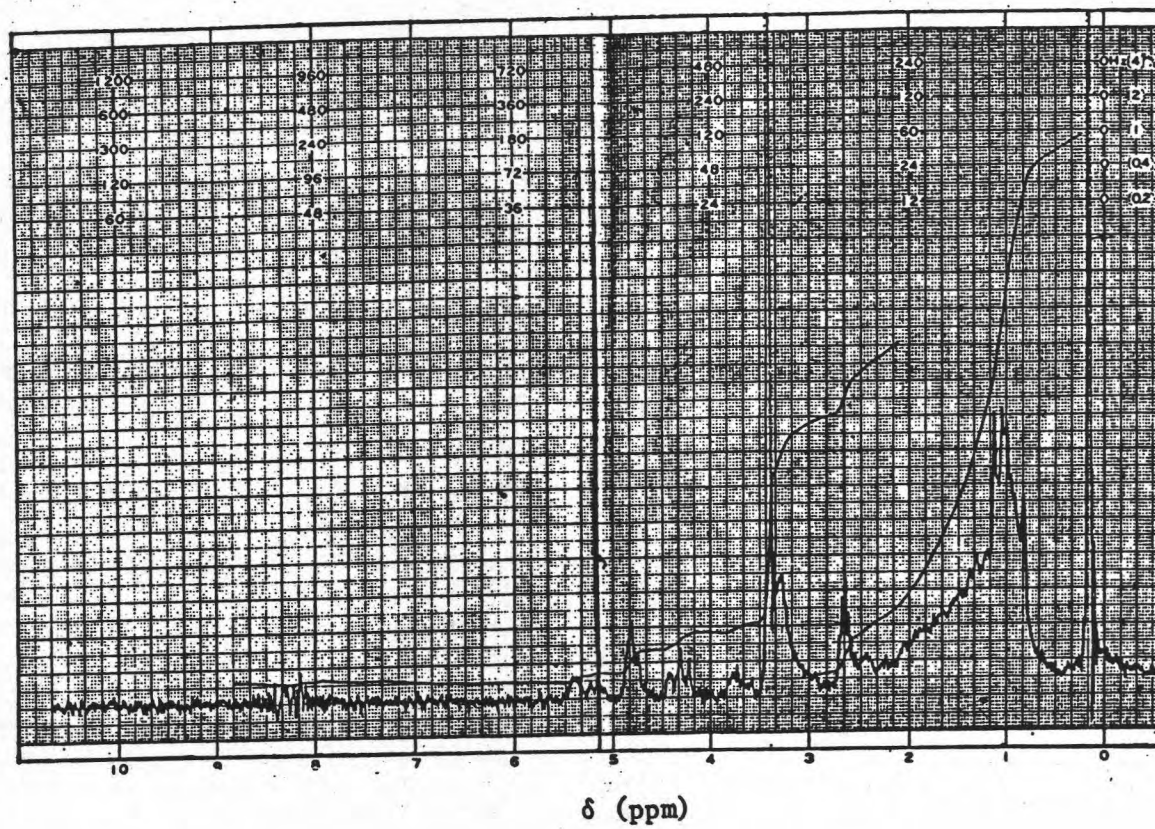


Figure 23 ^1H NMR spectrum of Compound 5

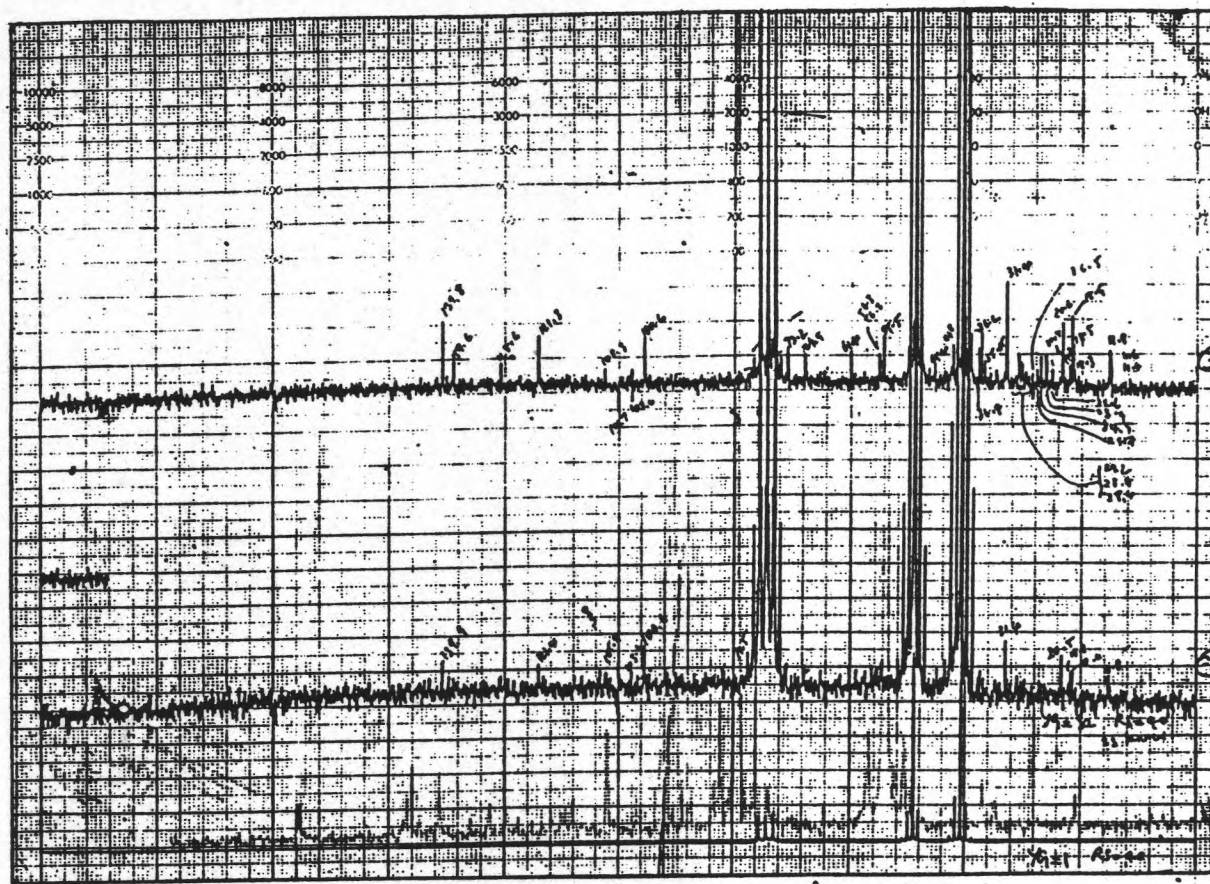


Figure 24 ^{13}C NMR spectrum of Compound 5

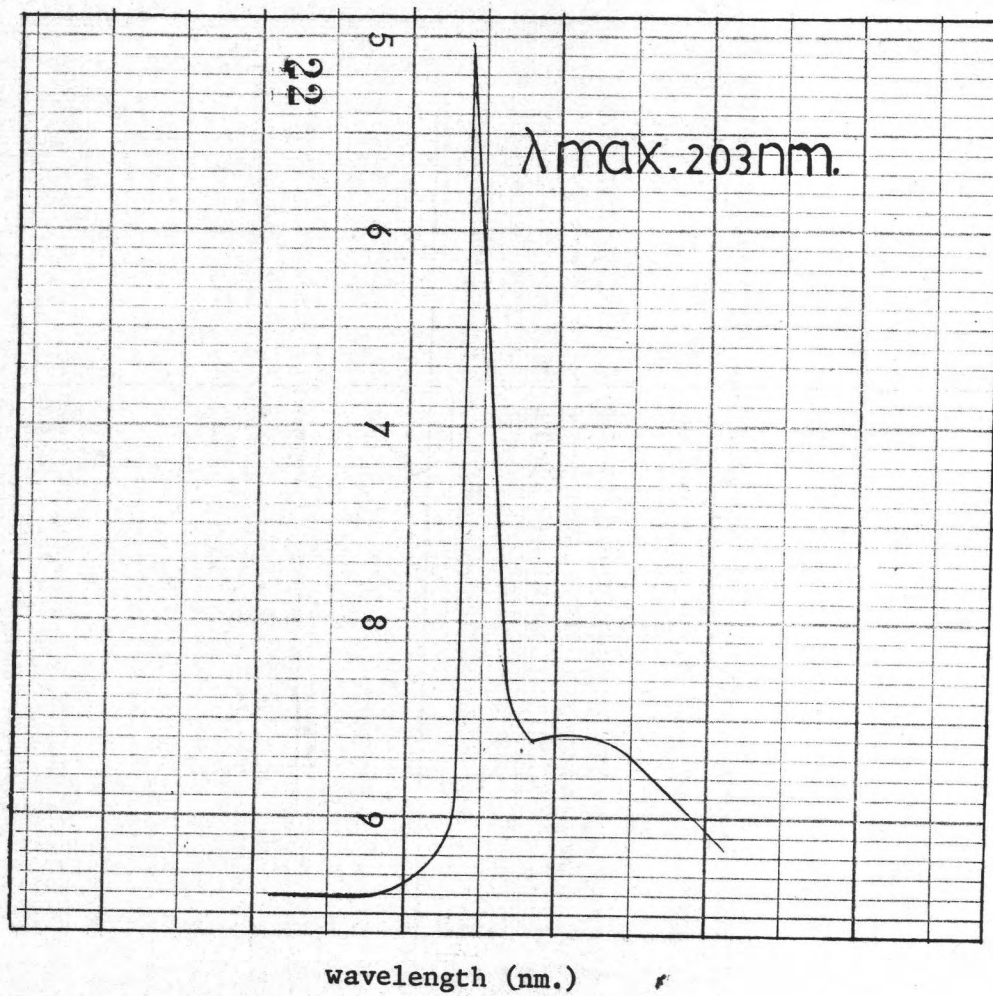


Figure 25 UV spectrum of Compound 5

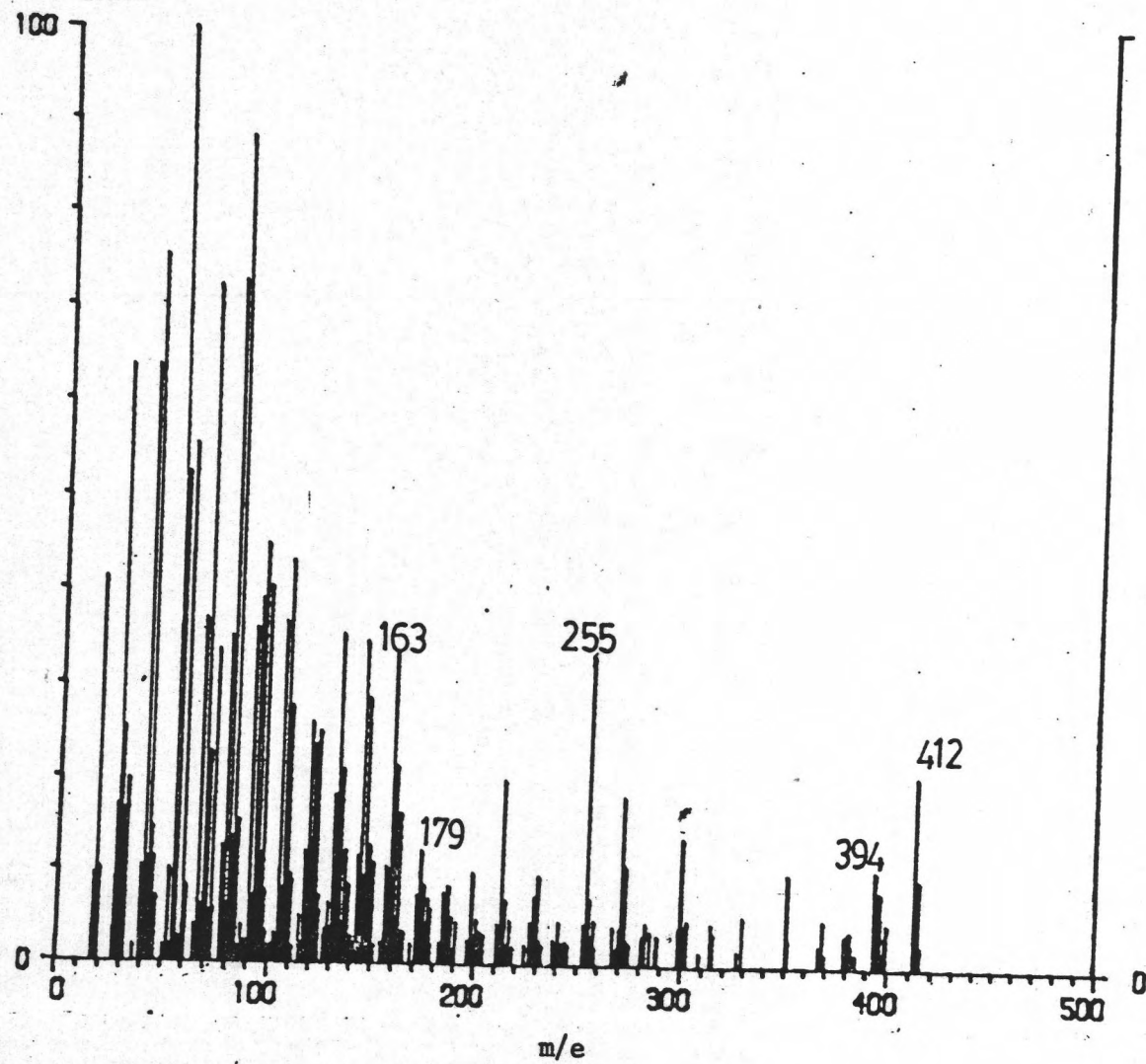


Figure 26 Mass spectrum of Compound 5

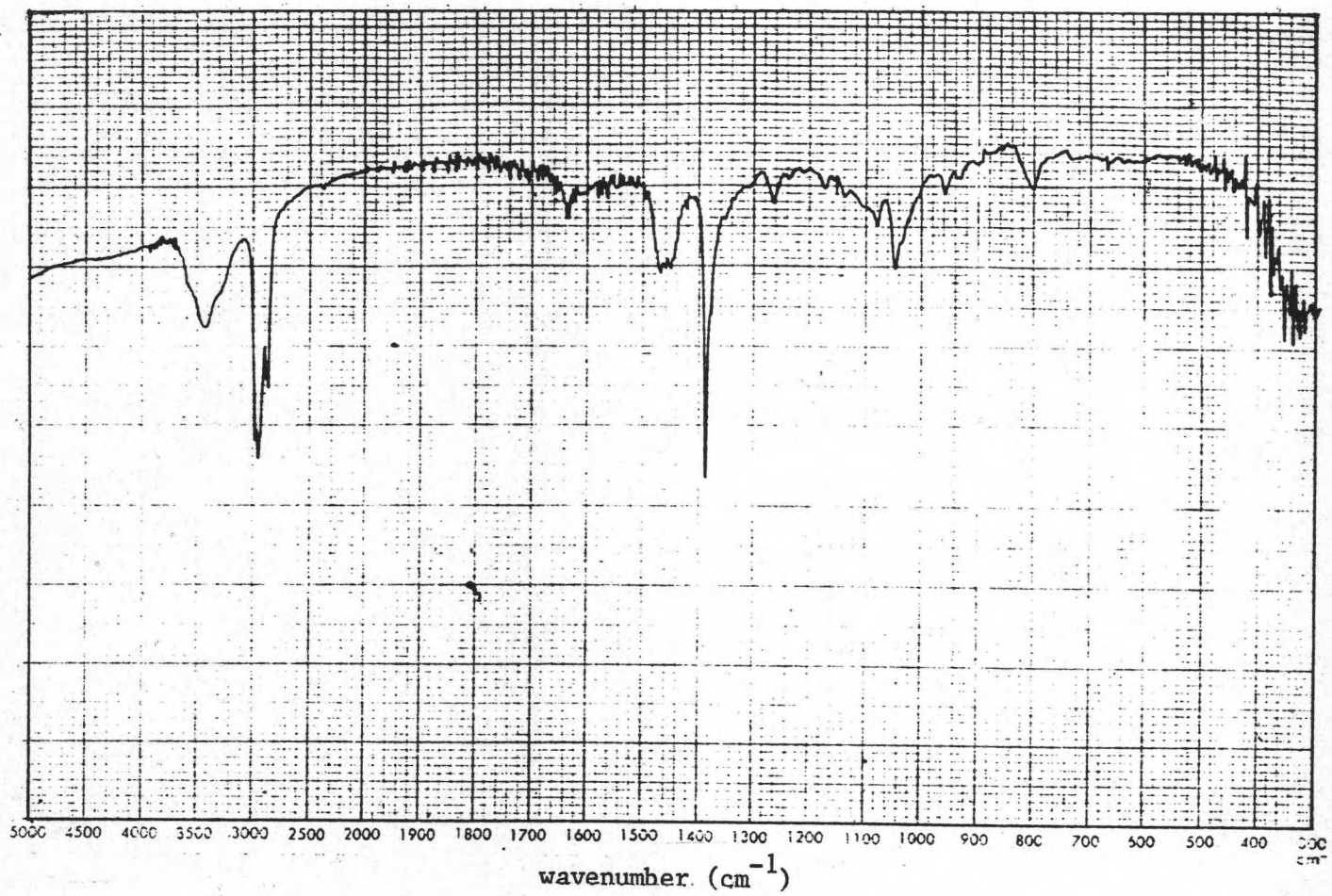


Figure 27 IR spectrum of Aglycone (Et₂O part) of Compound 5.

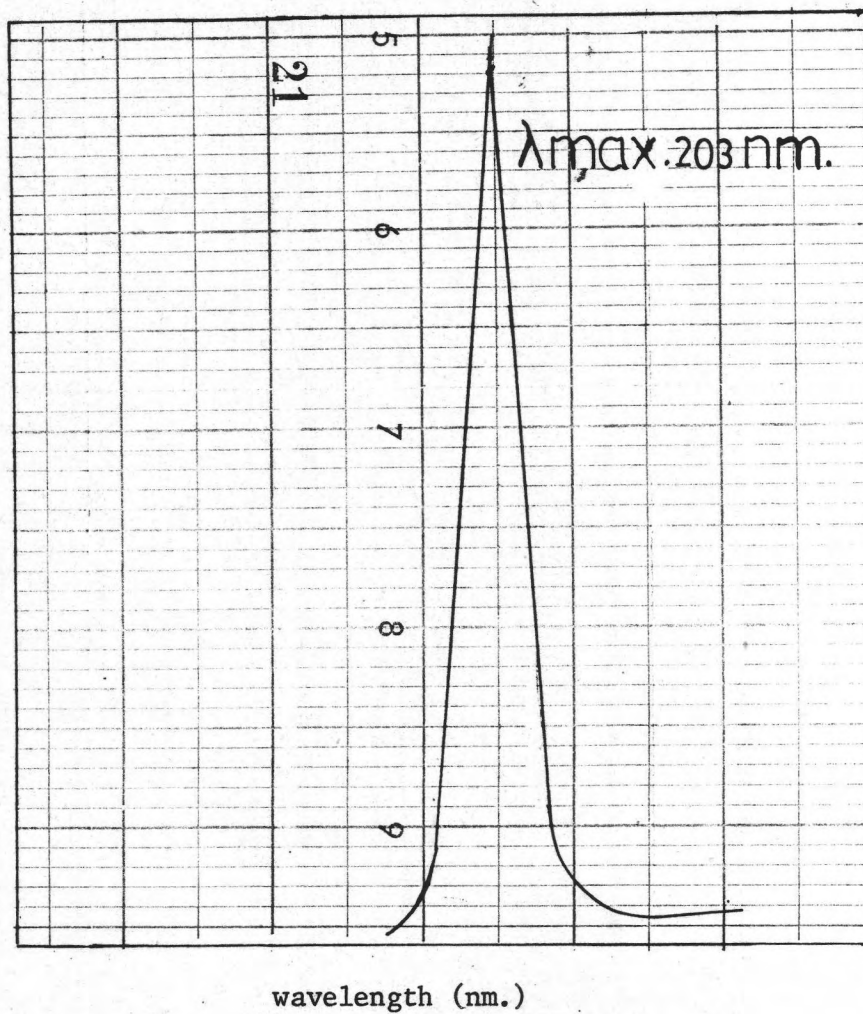


Figure 28 UV spectrum of Aglycone (Et₂O part) of Compound 5.

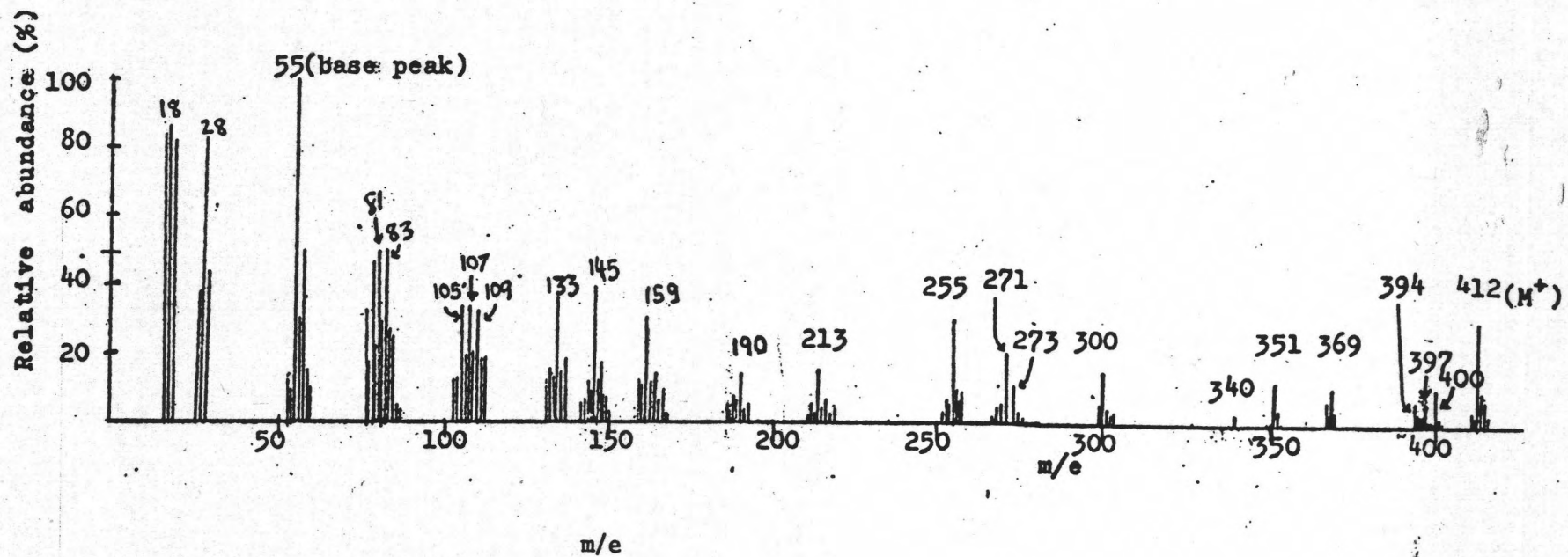


Figure 29 Mass spectrum of Aglycone (Et₂O part) of Compound 5.

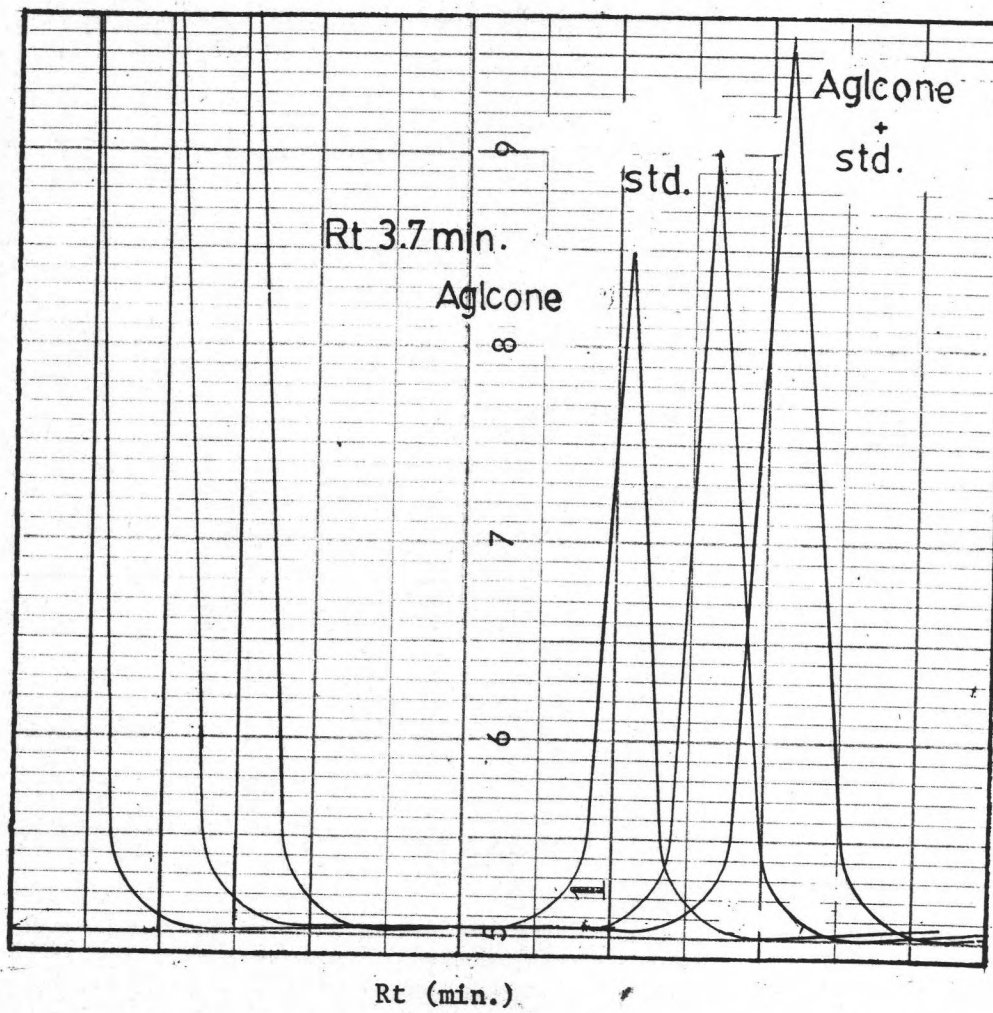


Figure 30 GC of Aglycone of Compound 5 and stigmasterol standard.

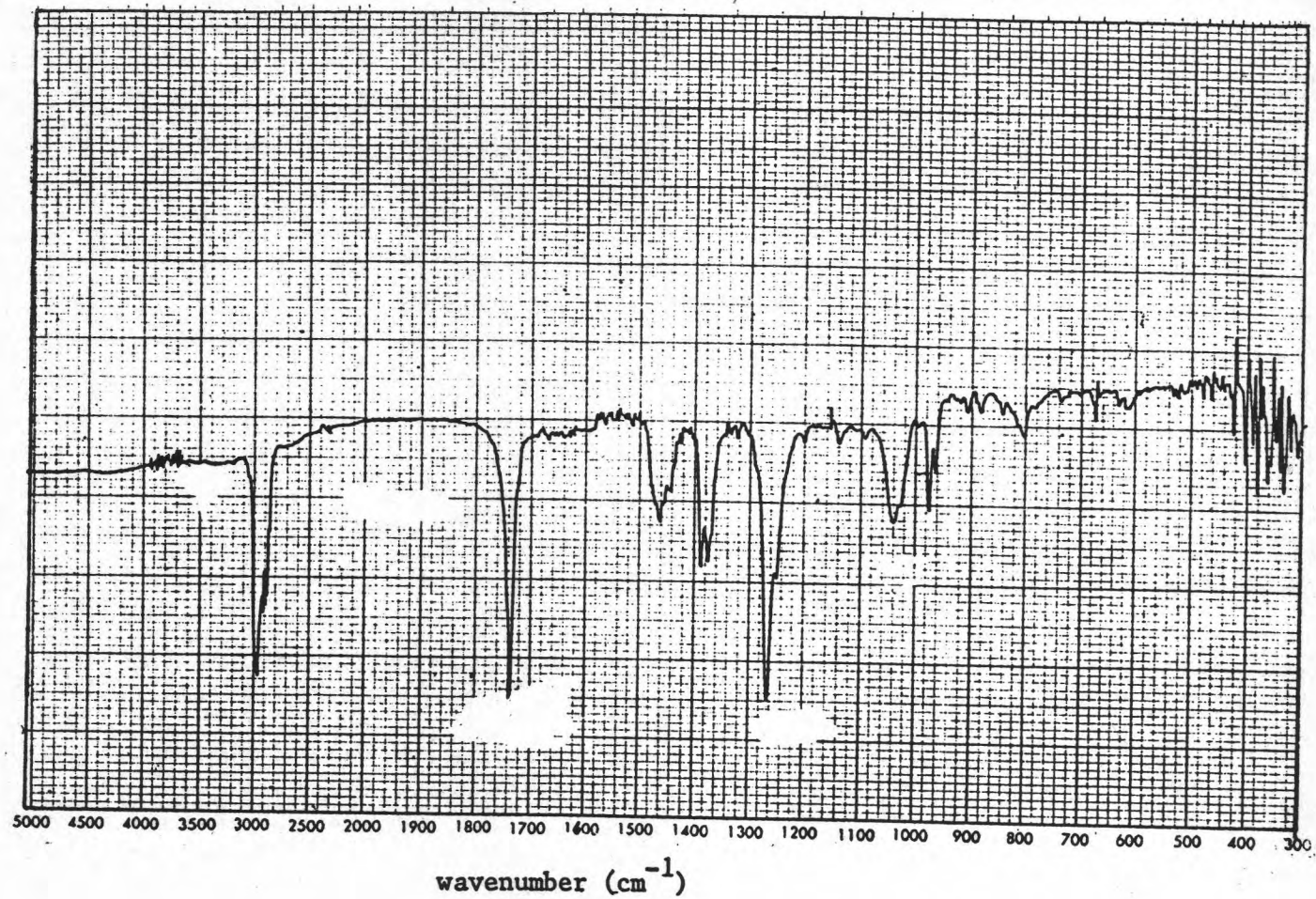


Figure 31 IR spectrum of Aglycone acetate of Compound 5.



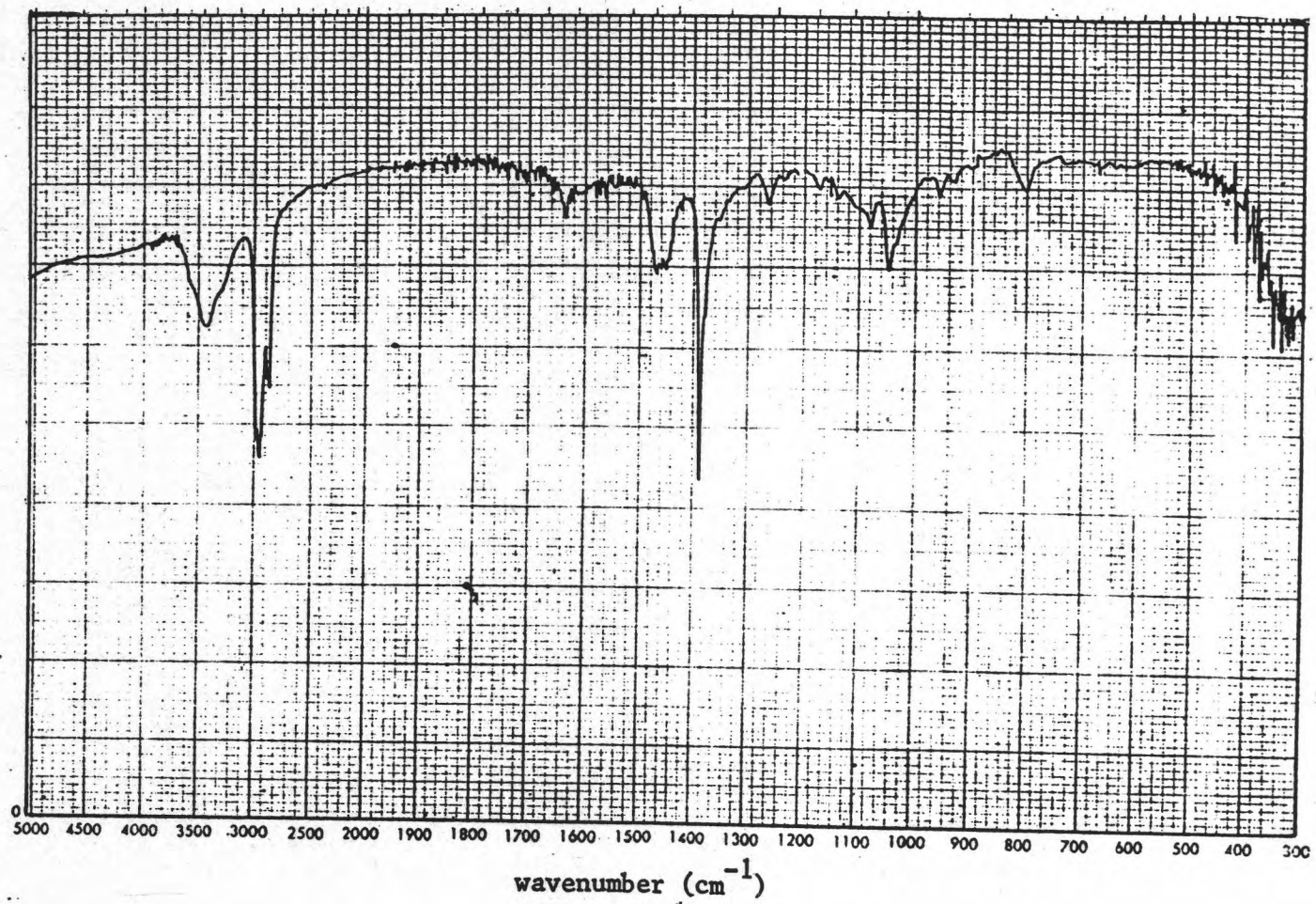


Figure 32 IR spectrum of hydrogenated aglycone of Compound 5.

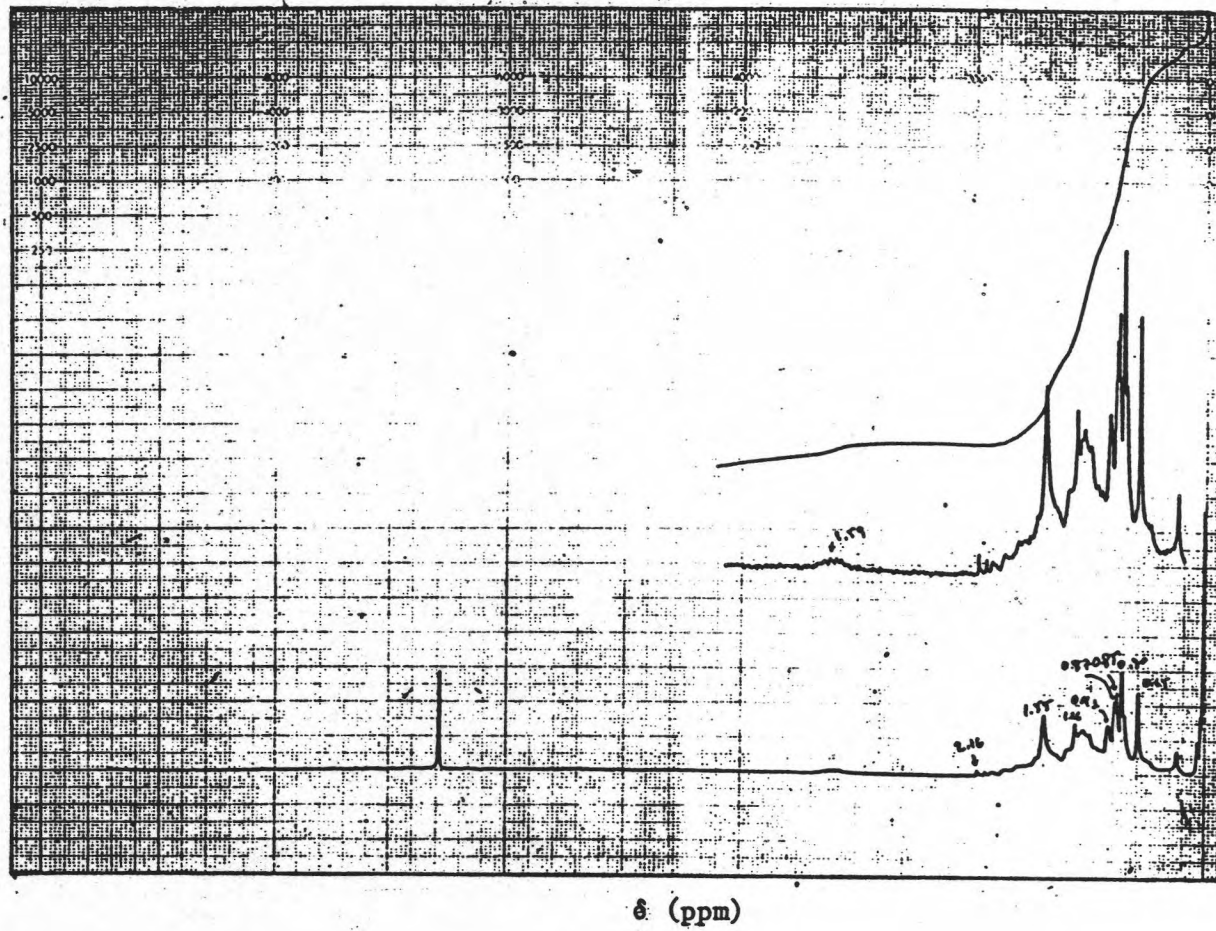


Figure 33 ^1H NMR spectrum of hydrogenated aglycone of Compound 5.

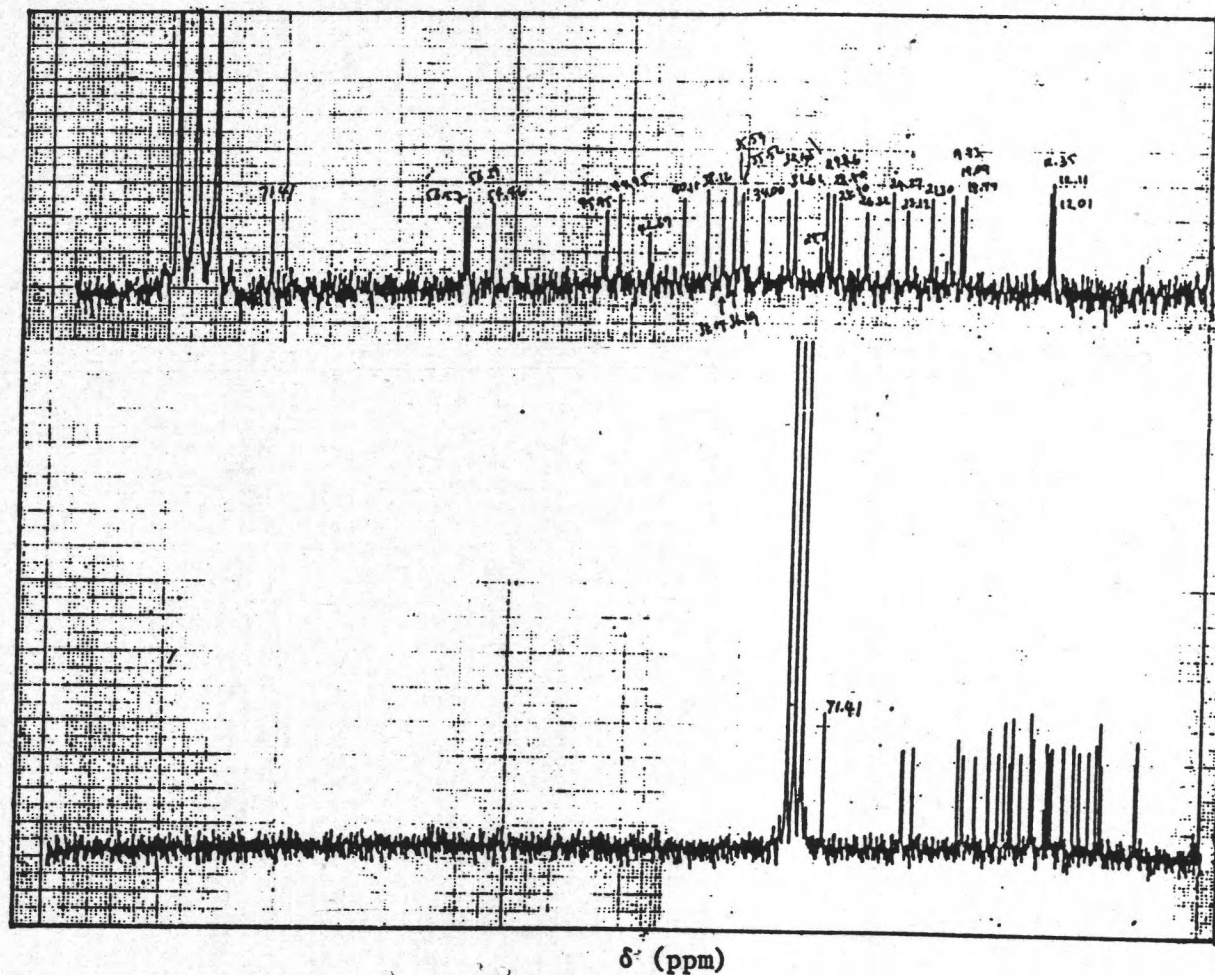


Figure 34 ^{13}C NMR spectrum of hydrogenated aglycone of Compound 5.

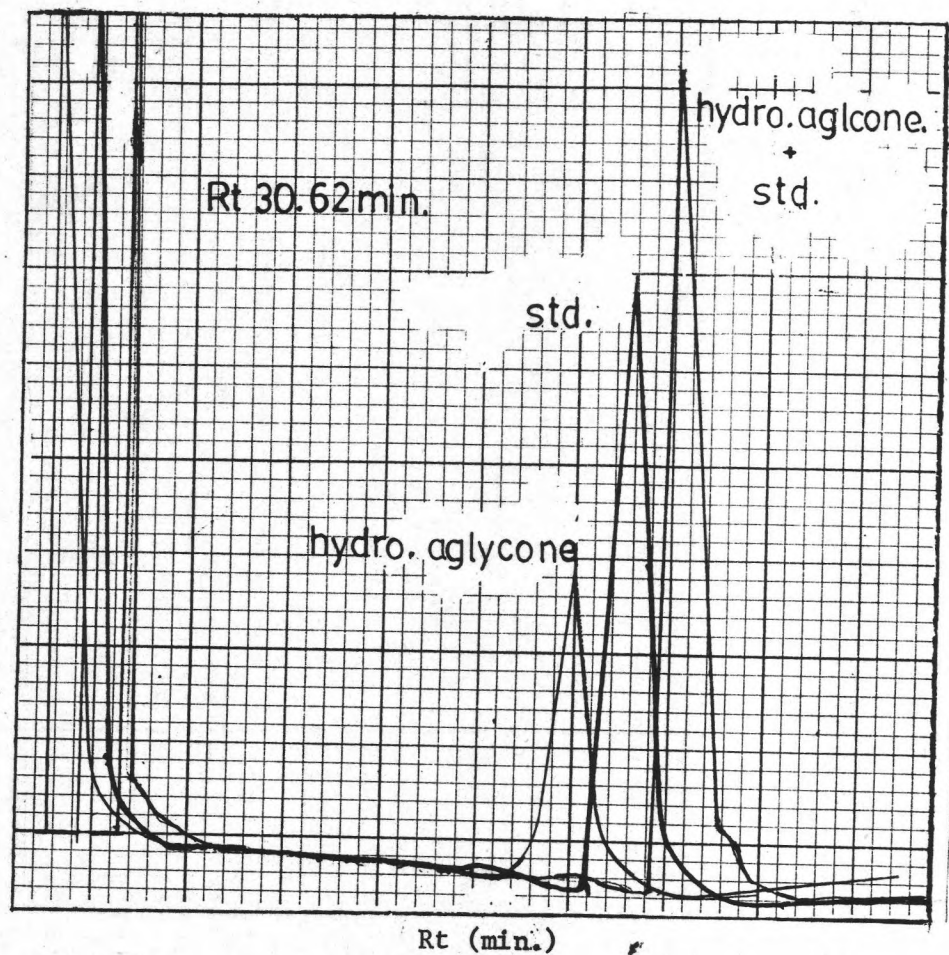


Figure 35 GC of hydrogenated aglycone of Compound 5 and stigmastanol standard.



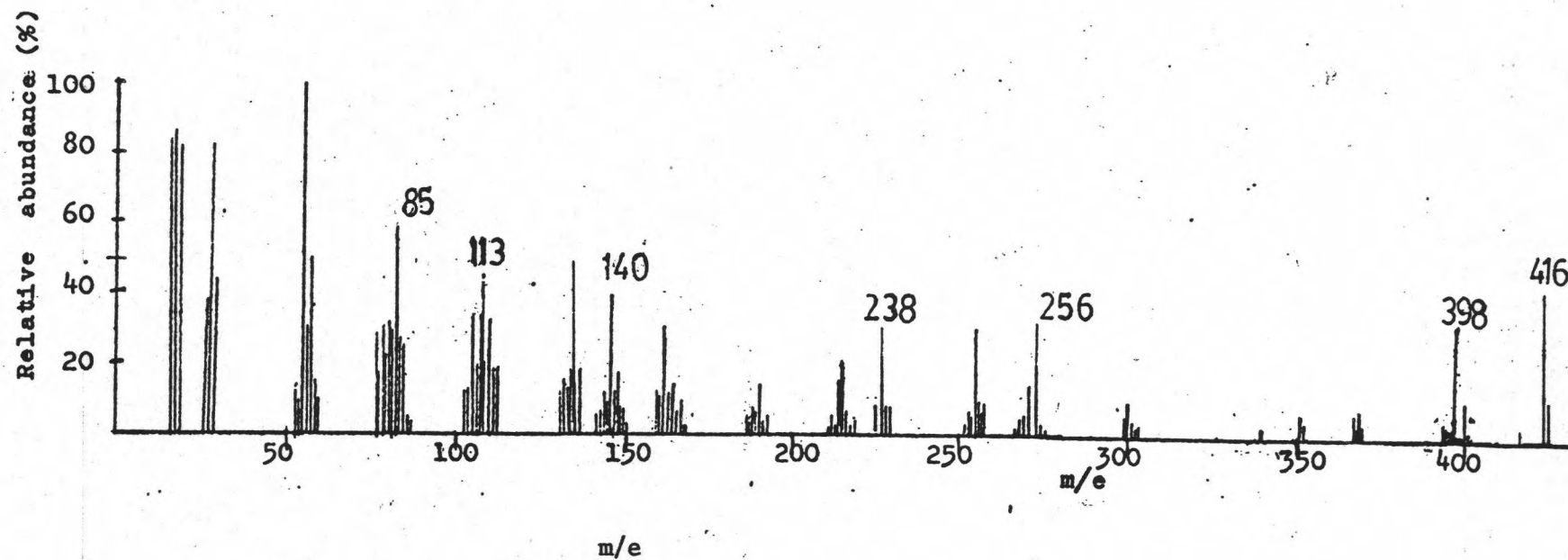


Figure 36 Mass spectrum of hydrogenated aglycone of Compound 5.

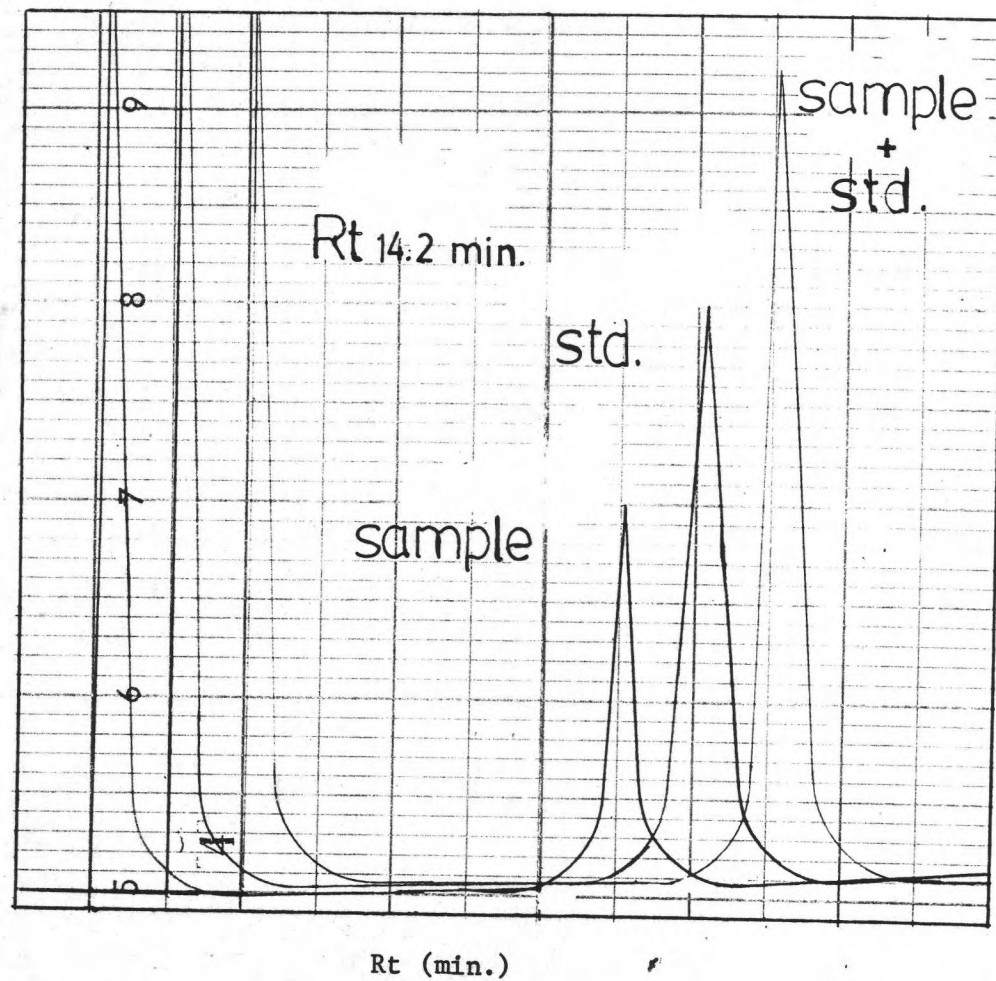


Figure 37 GC of Trimethylsilylated sugar of compound 5 and standard of penta-trimethylsilylated glucose.

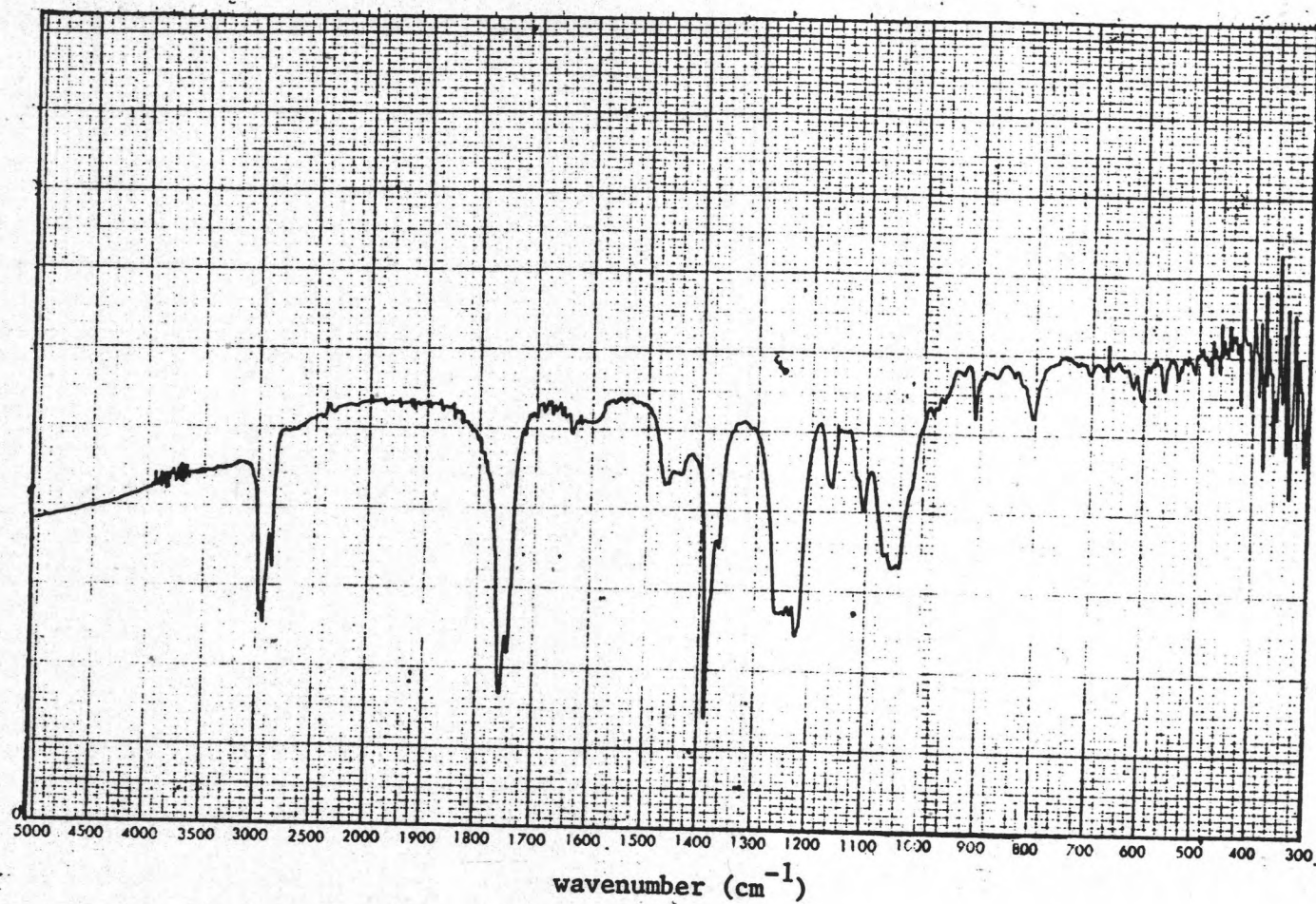


Figure 38 IR spectrum of Compound 5 acetate



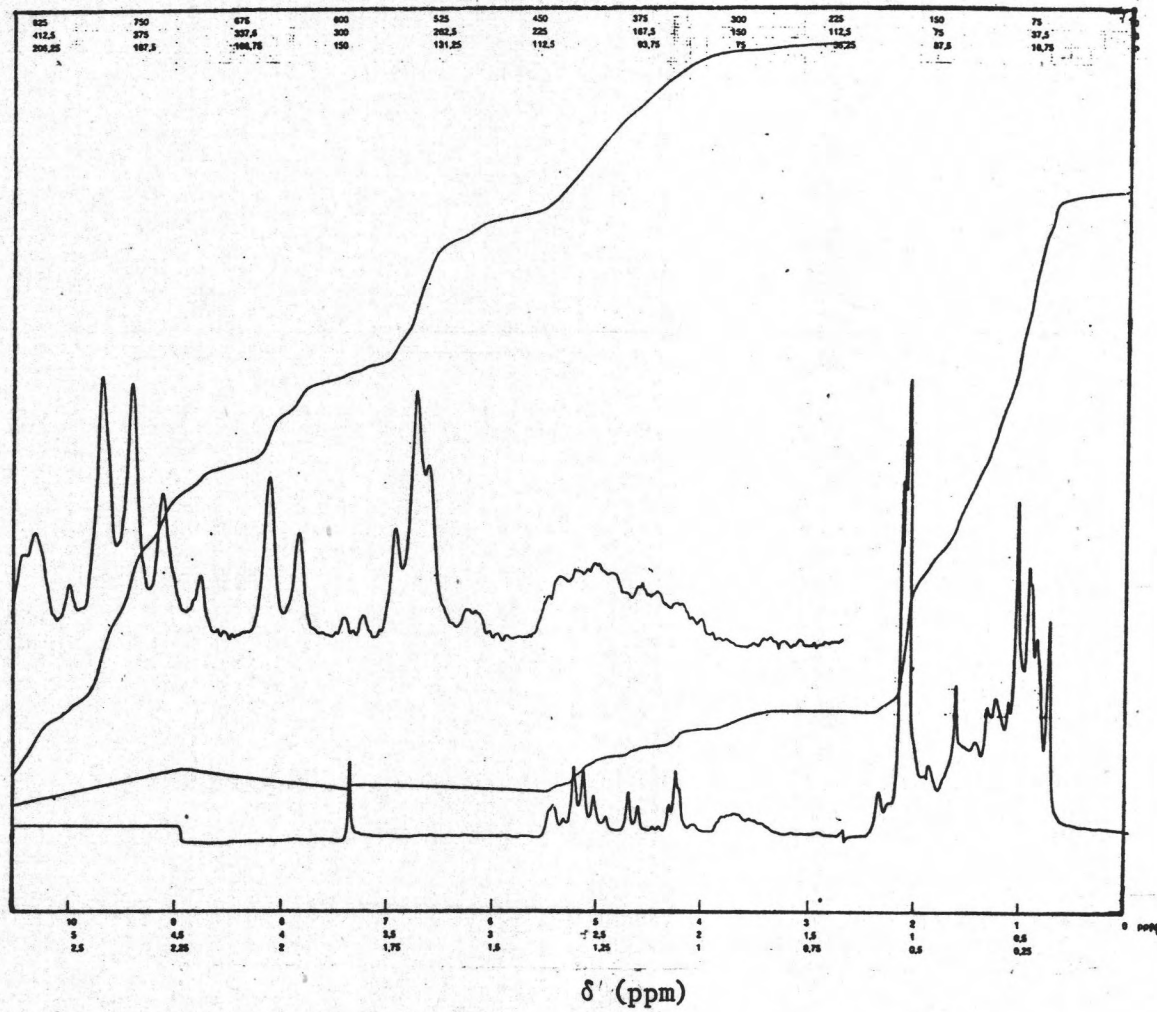
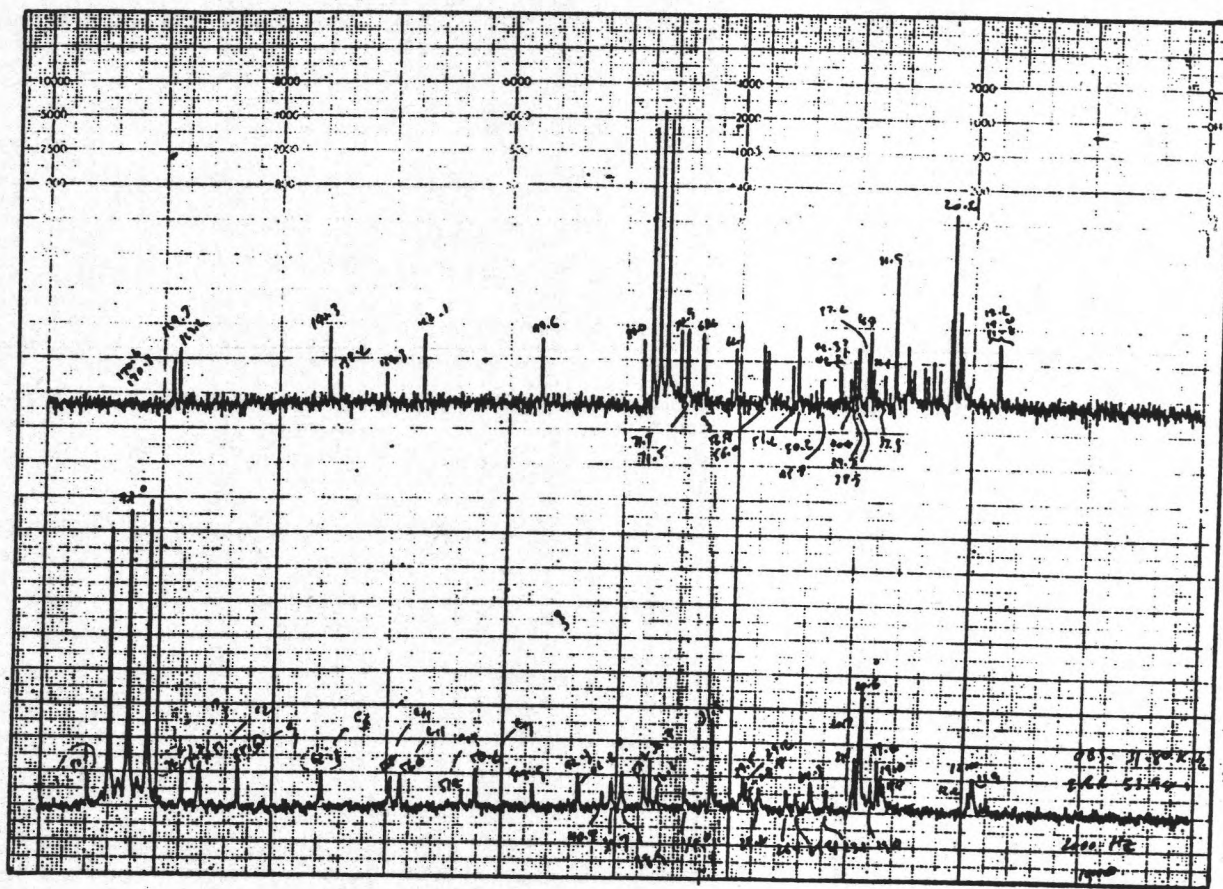


Figure 39 ^1H NMR spectrum of Compound 5 acetate



δ (ppm)

Figure 40 ¹³C NMR spectrum of Compound 5 acetate.

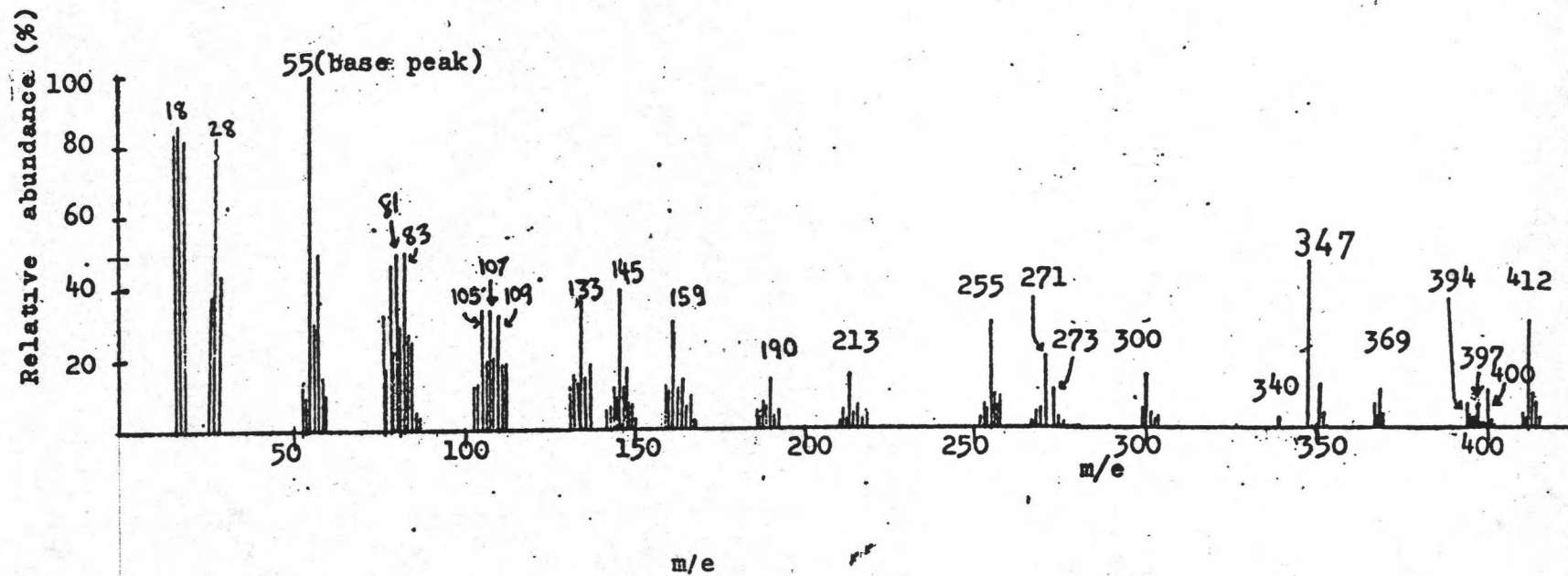


Figure 41 Mass spectrum of Compound 5 acetate.



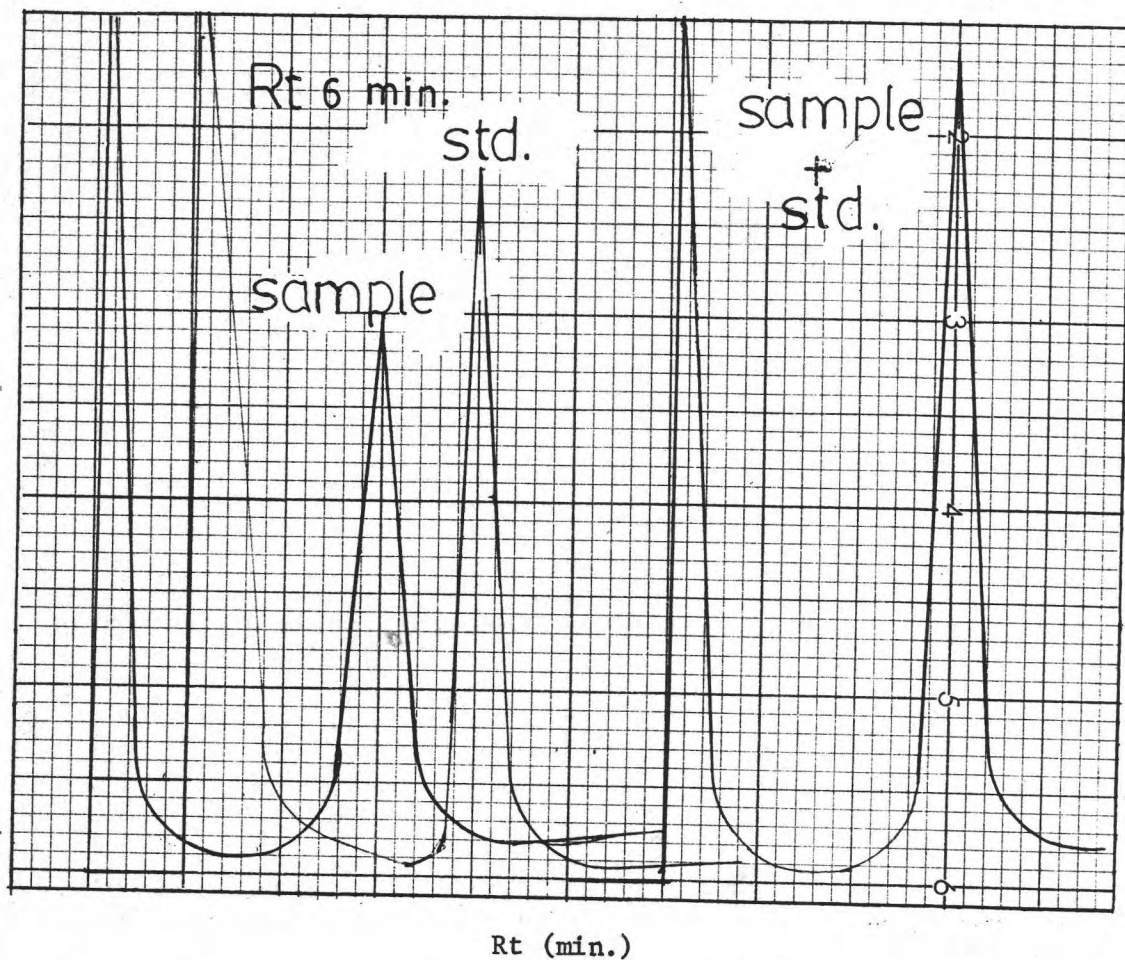


Figure 42 GC of permethylated sugar of Compound 5 and standard of methyl-2,3, 4,6-tetra-O-glucopyranoside.

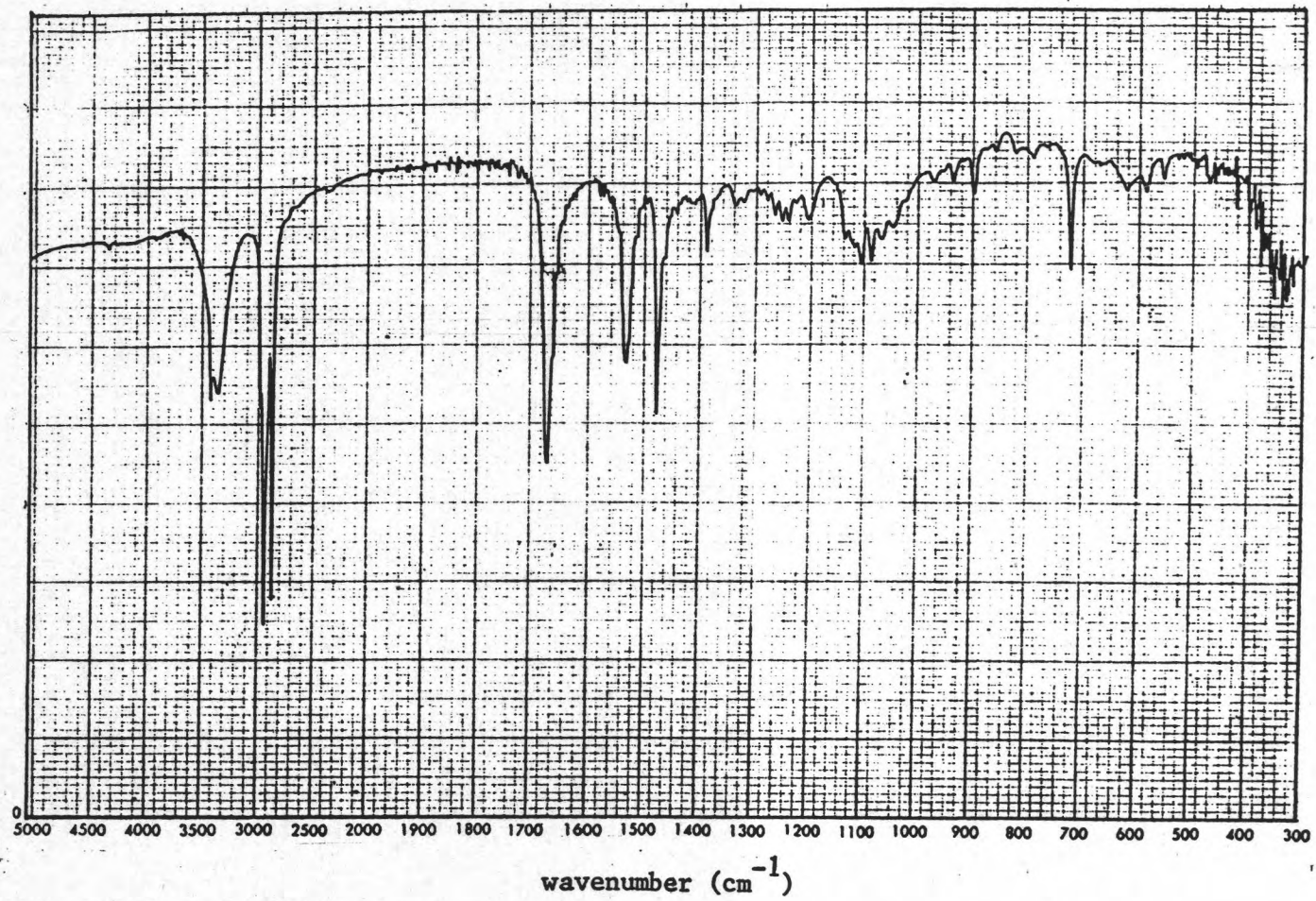
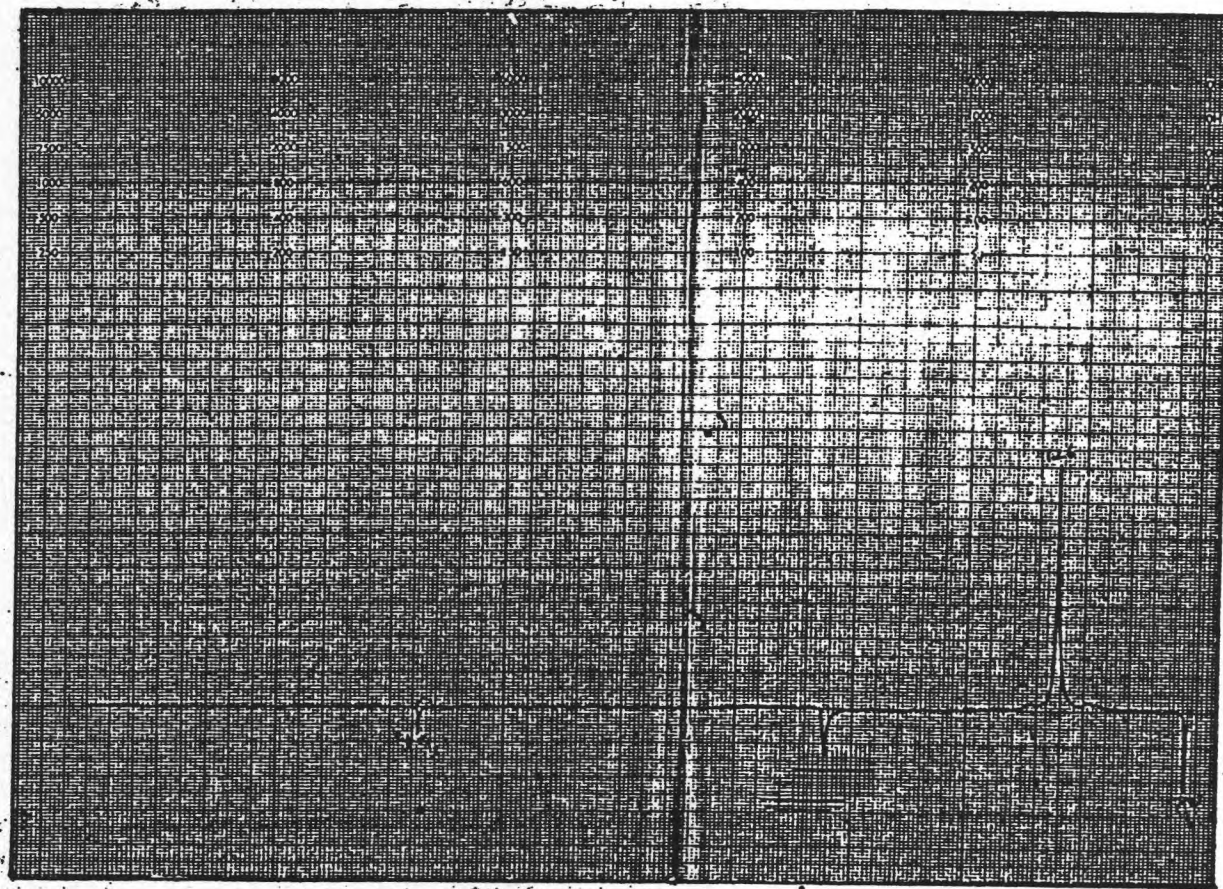


Figure 43 IR spectrum of Compound A



δ (ppm)

Figure-44 ^1H NMR spectrum of Compound A

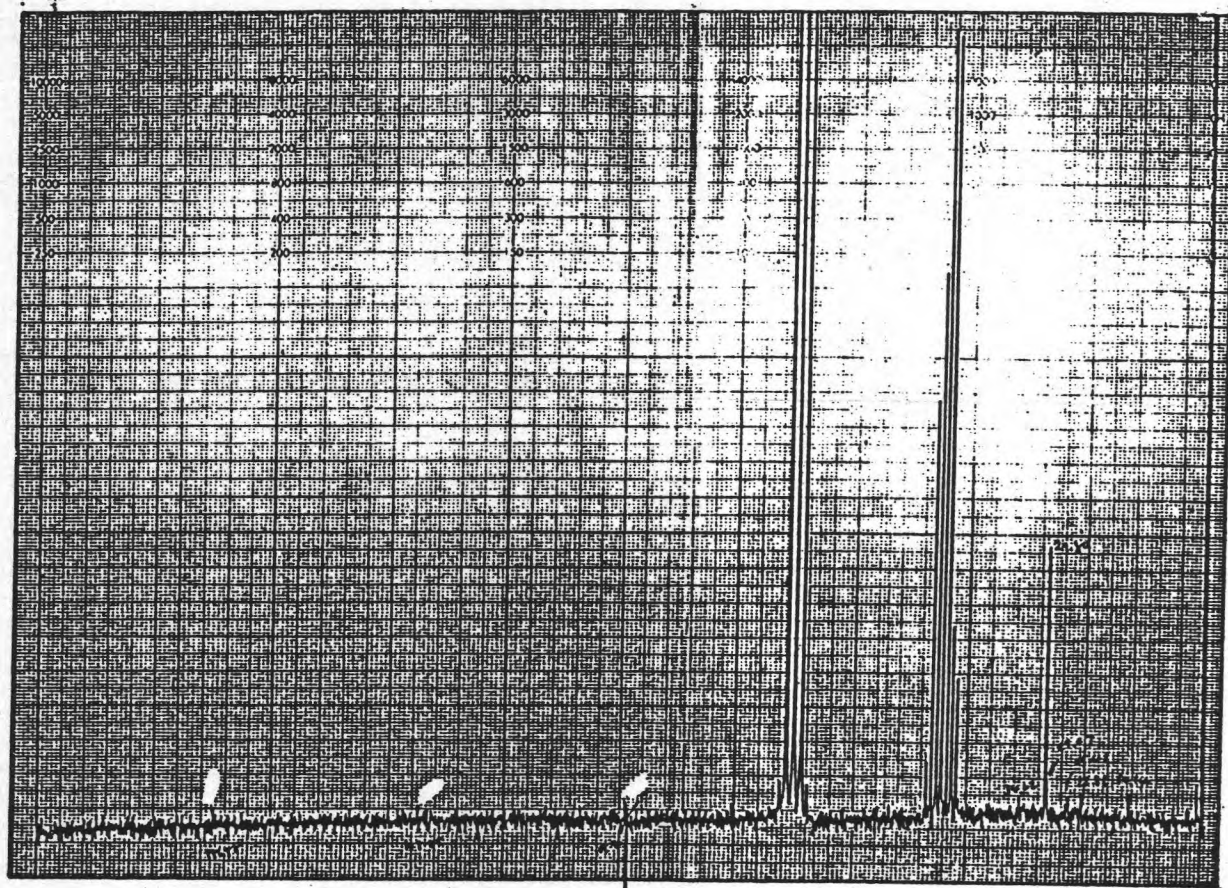


Figure 45 ^{13}C NMR spectrum of Compound A.



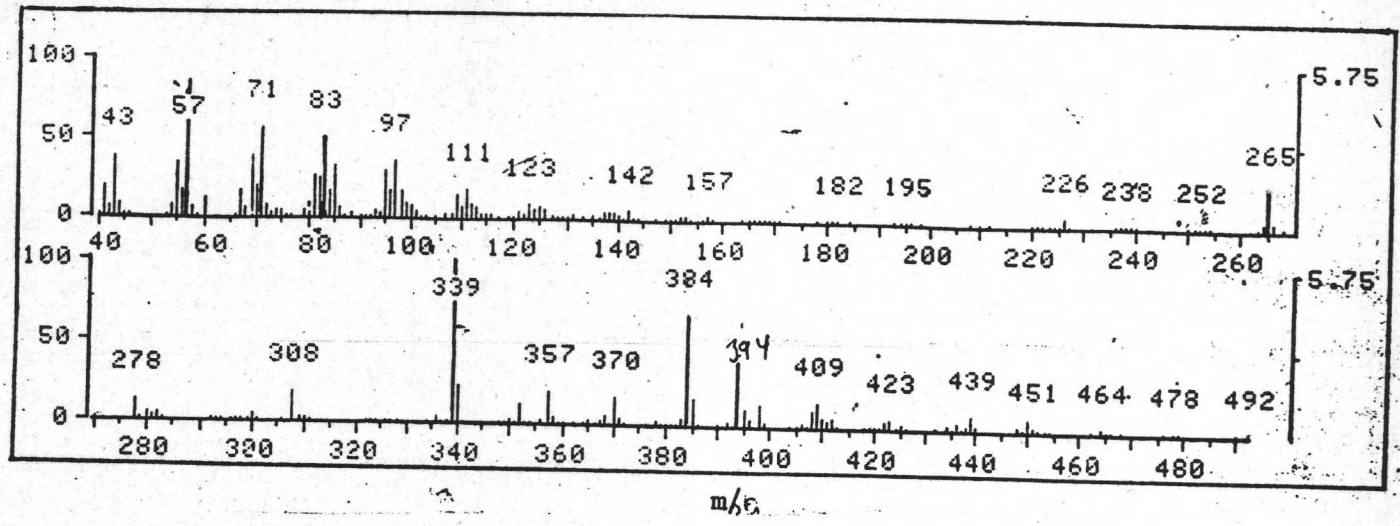


Figure 46. Mass spectrum of Compound A

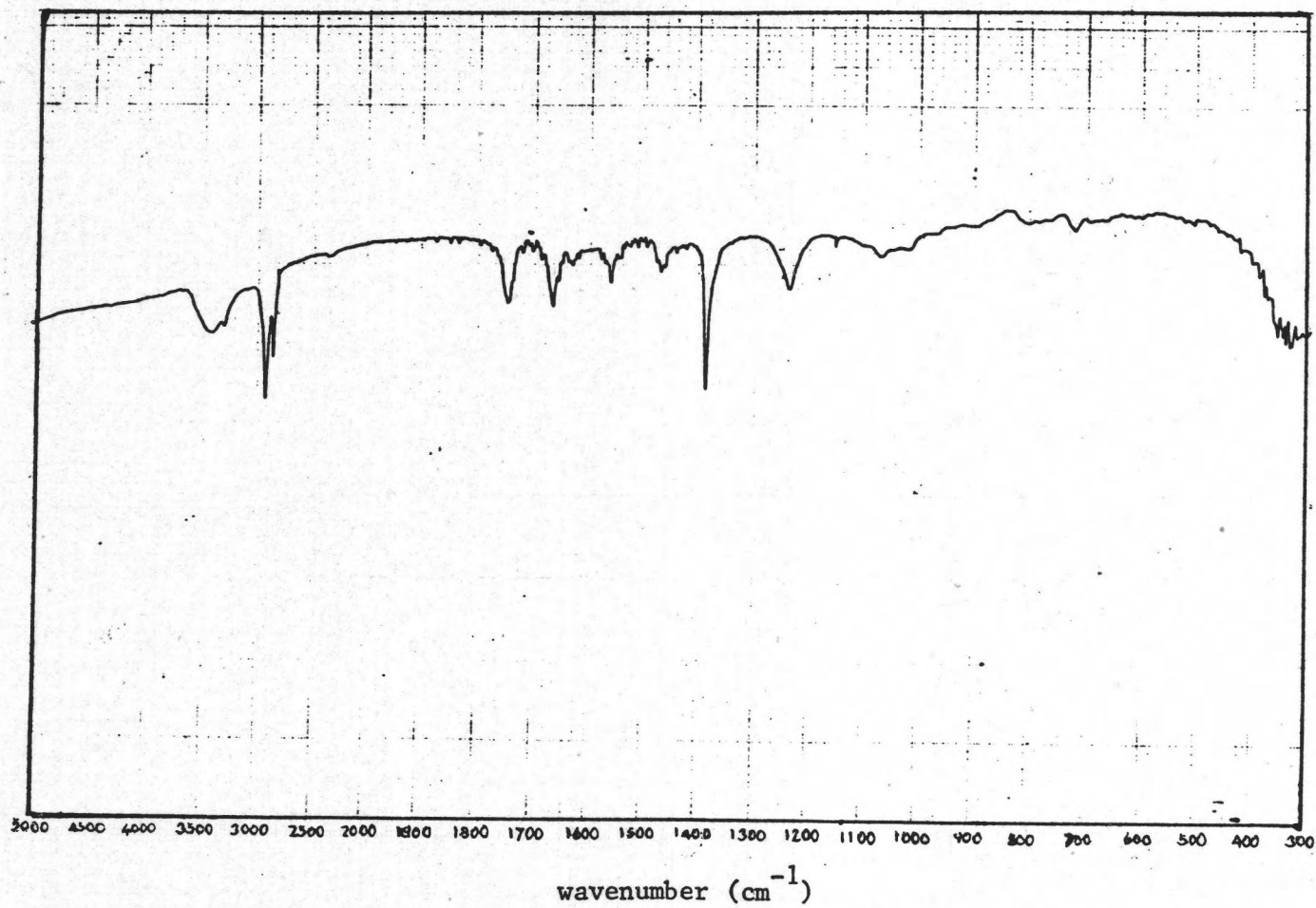


Figure 47 IR spectrum of Compound A acetate



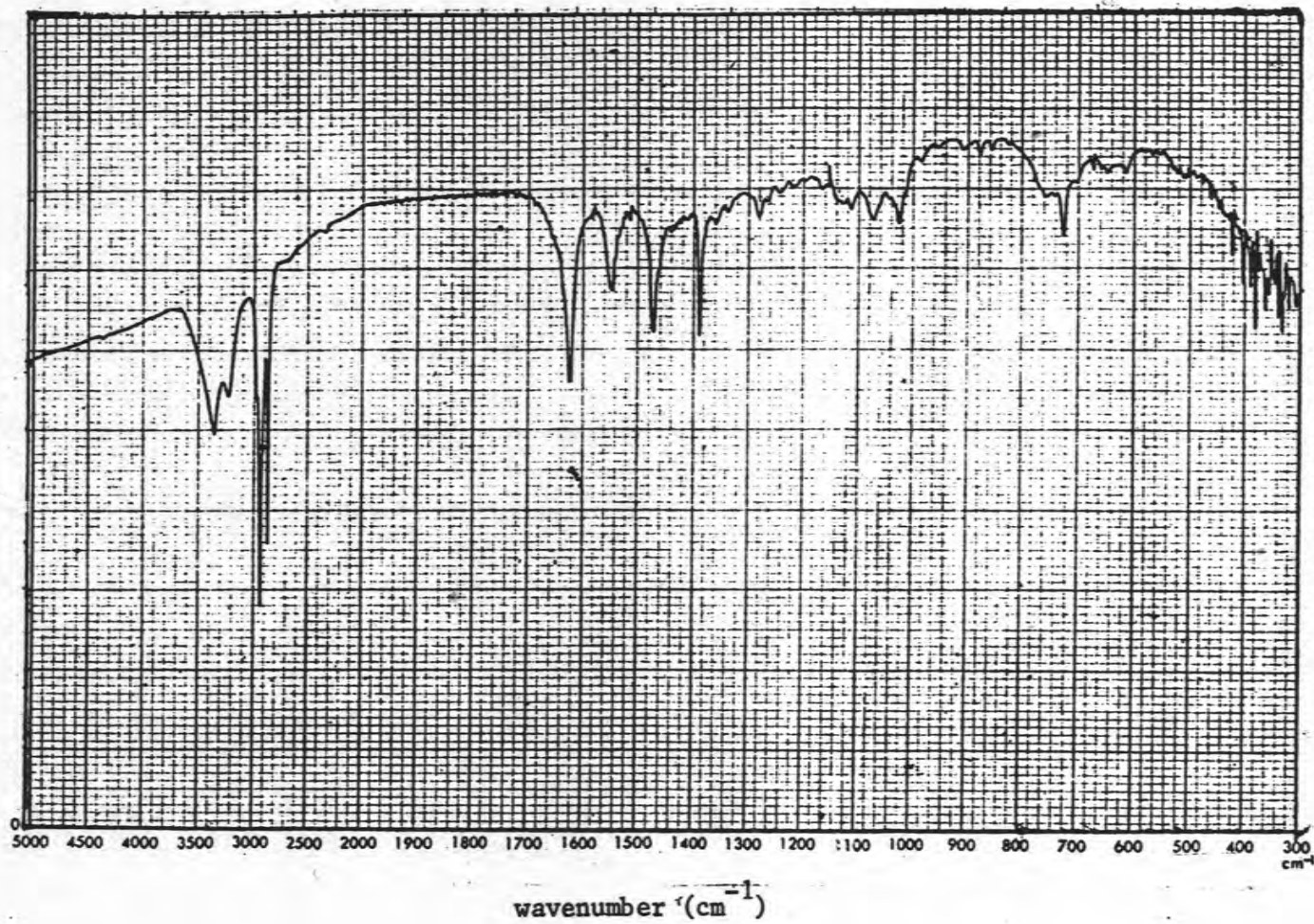


Figure 48 IR spectrum of Compound B

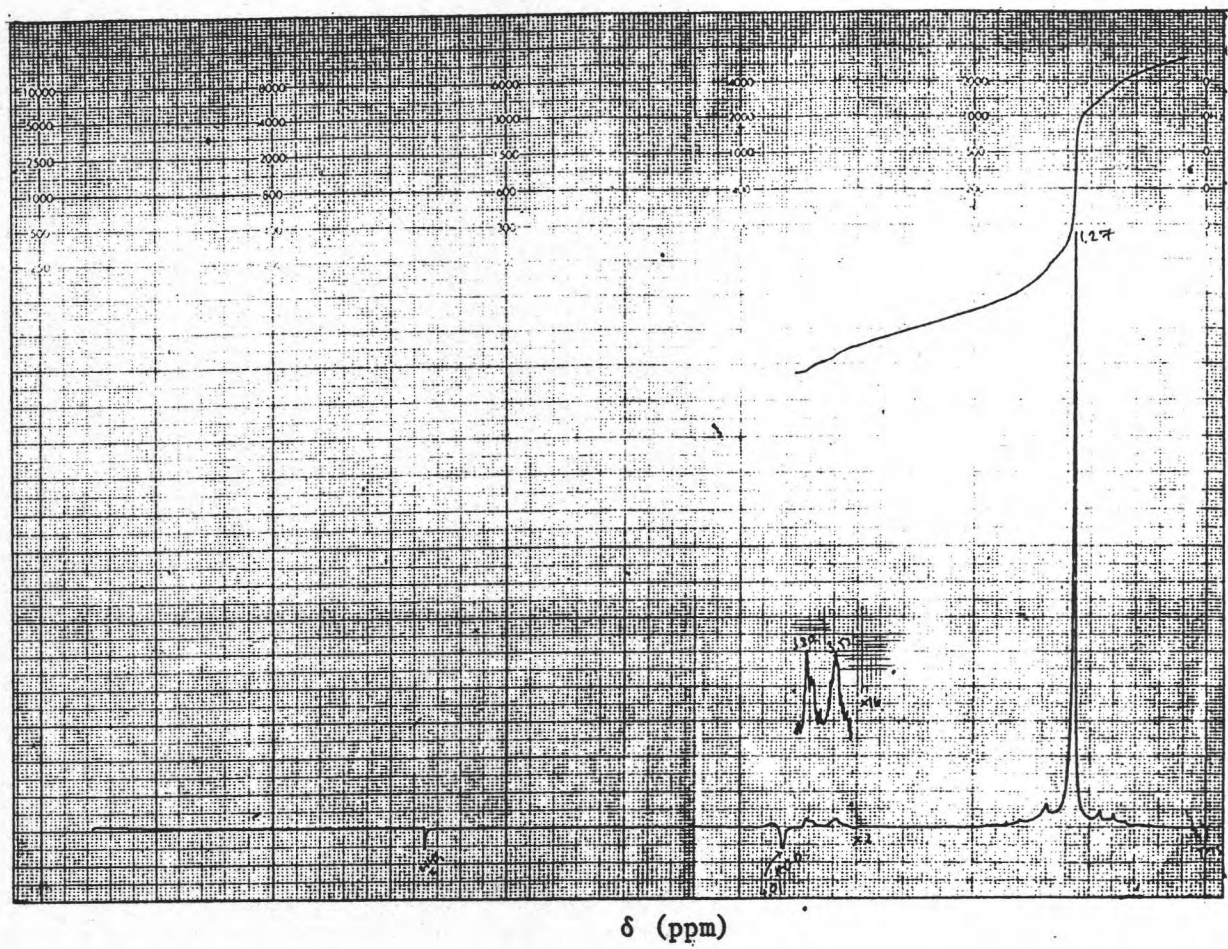


Figure 49 ^1H NMR spectrum of Compound B.



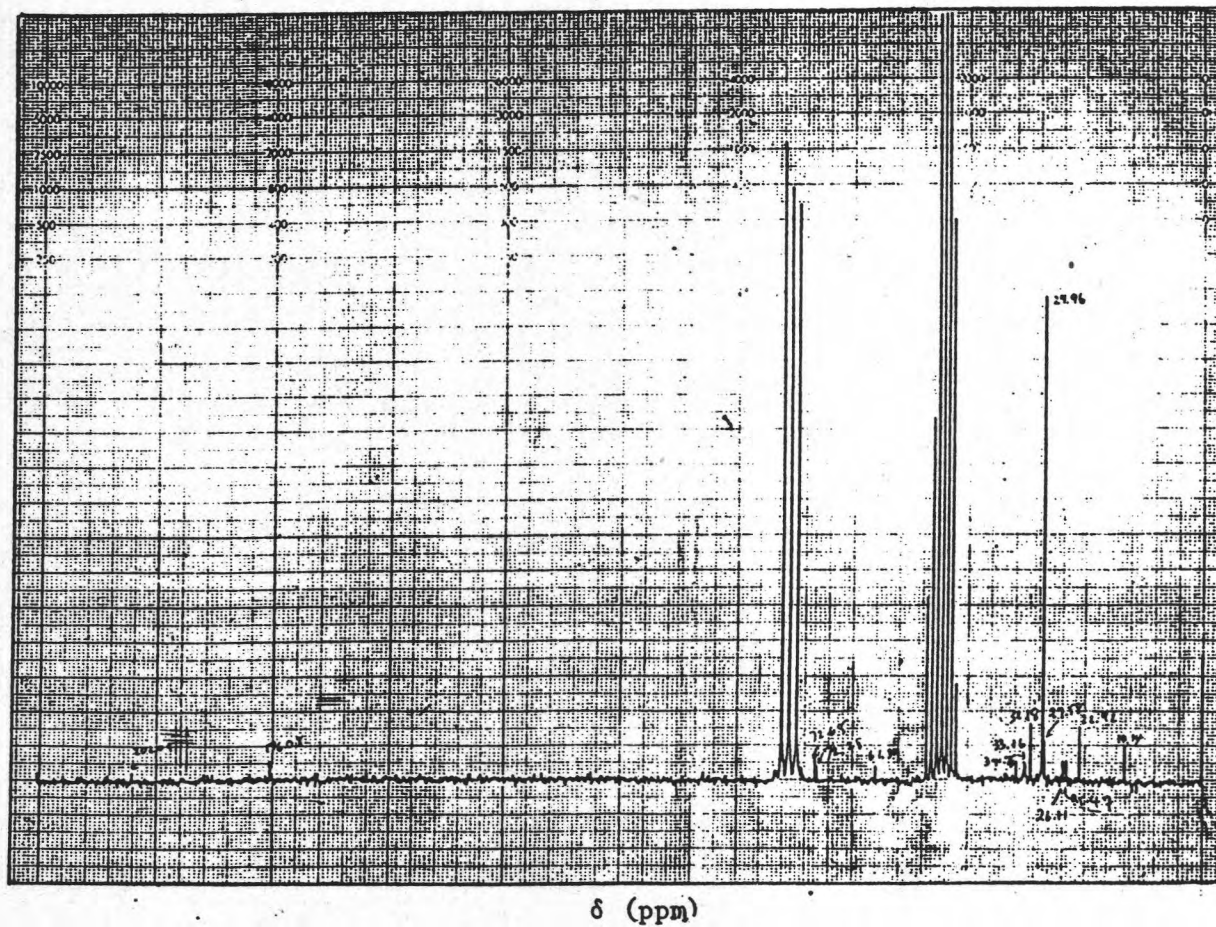


Figure 50 ^{13}C NMR spectrum of Compound B

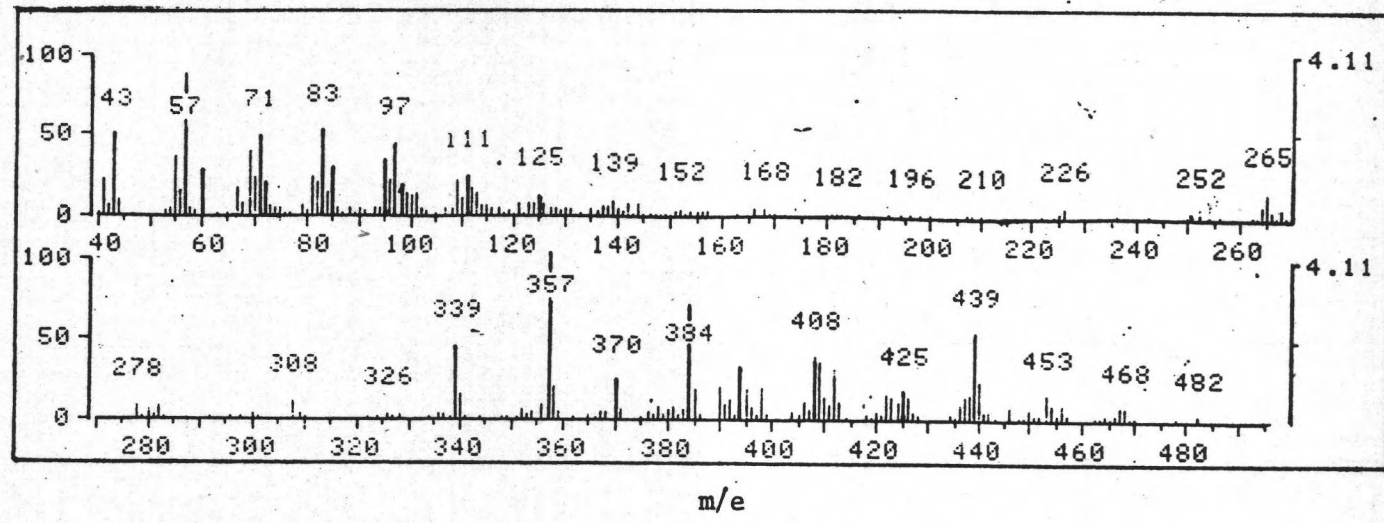


Figure 51 Mass spectrum of Compound B



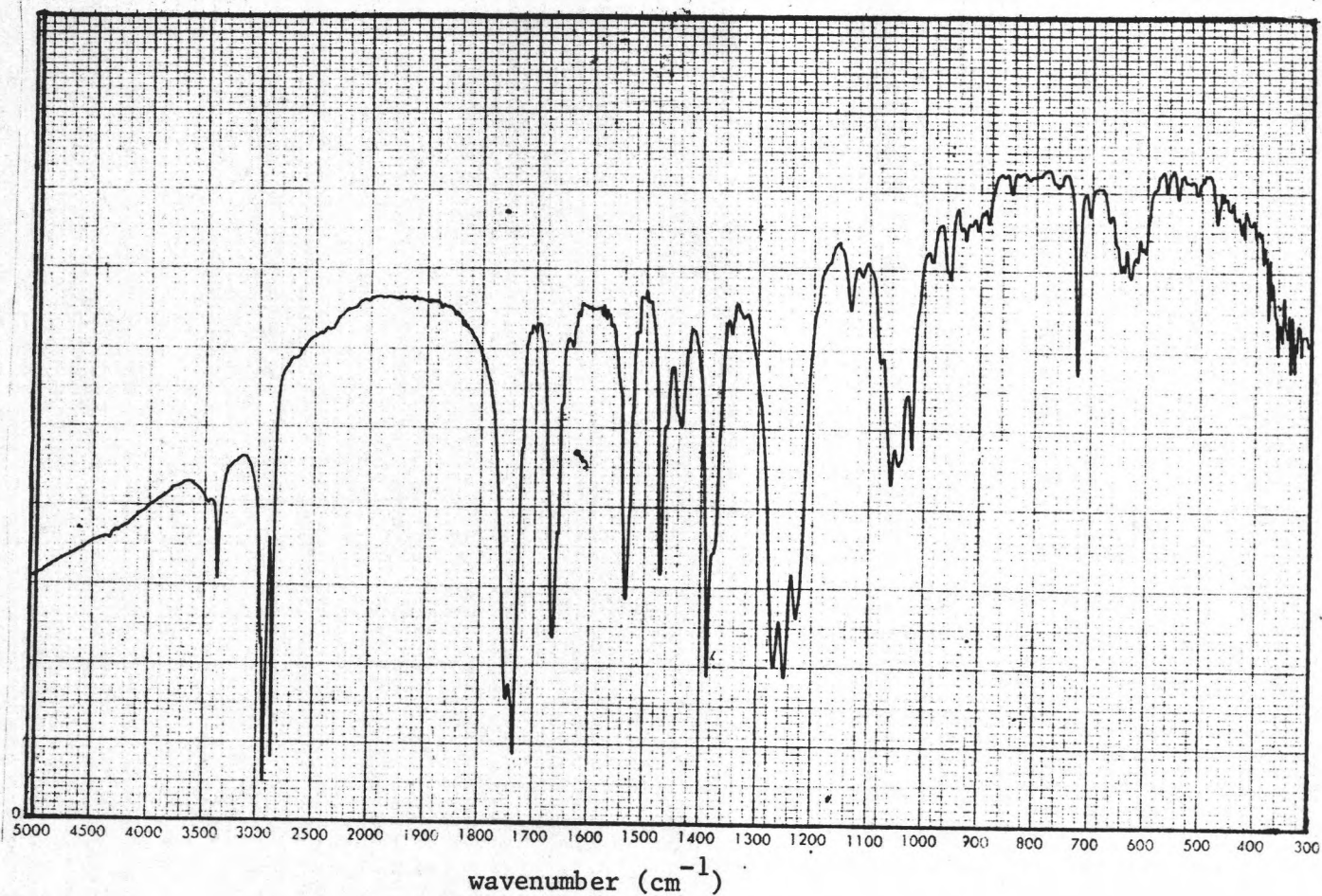


Figure 52 IR spectrum of Compound B acetate.

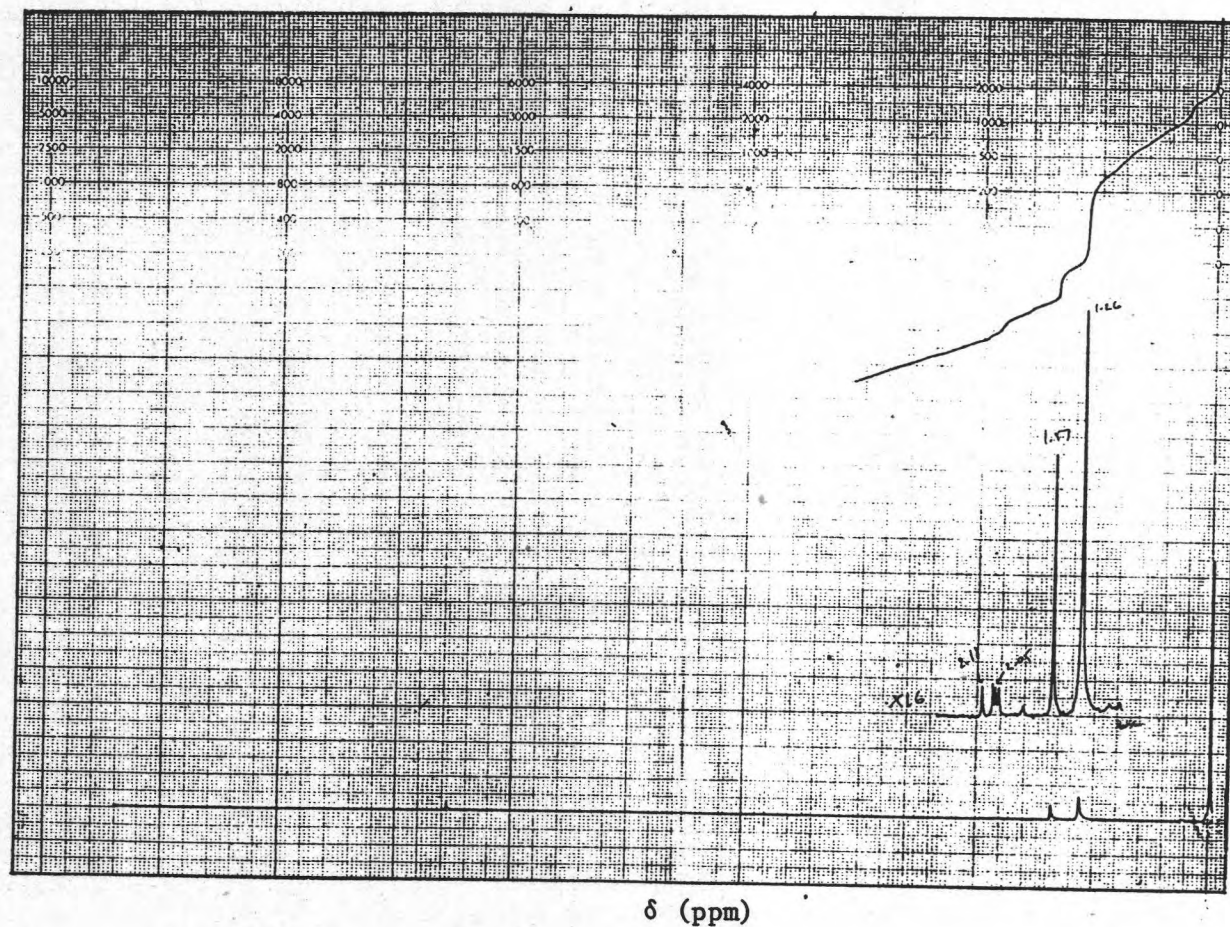


Figure 53 ^1H NMR spectrum of Compound B acetate.

