CHAPTER IV

CONCLUSIONS.

In this course of research, five known compounds were isolated from root of Randia siamensis, namely D-Mannitol, a mixture of β-Sitosterol and Campesterol, 3β-Acetyl oleanolic acid, 3-O-[α-L-Arabinopyranosyl] oleanolic acid and 3β-29-dihydroxy-olean-12-ene--28-oic acid or Mesembryanthemoidigenic acid. All the chemical structures were elucidated by means of spectroscopic and chromatographic techniques as well as by comparisons with their respective authentic samples.

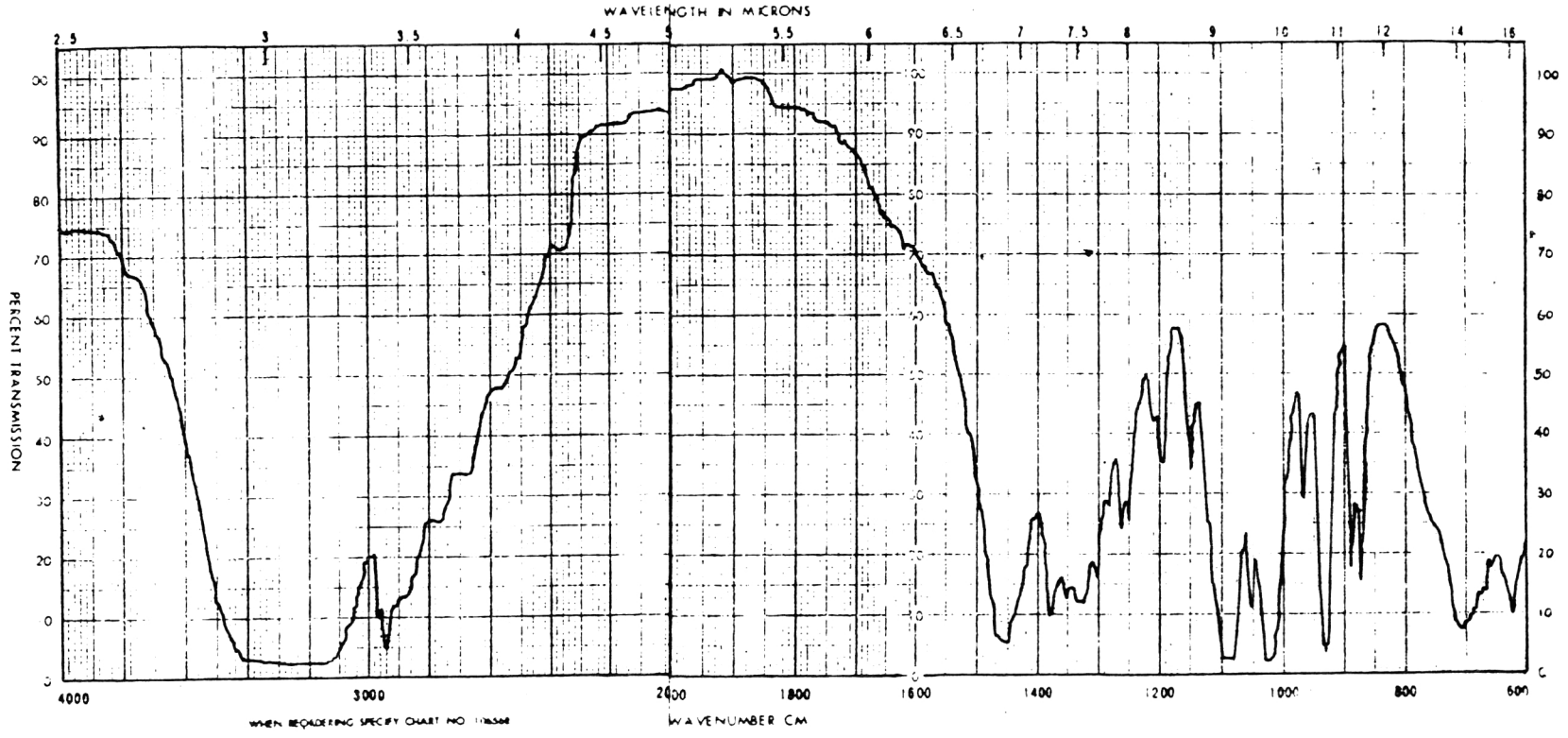

Fig. 1 IR spectrum of Compound 1

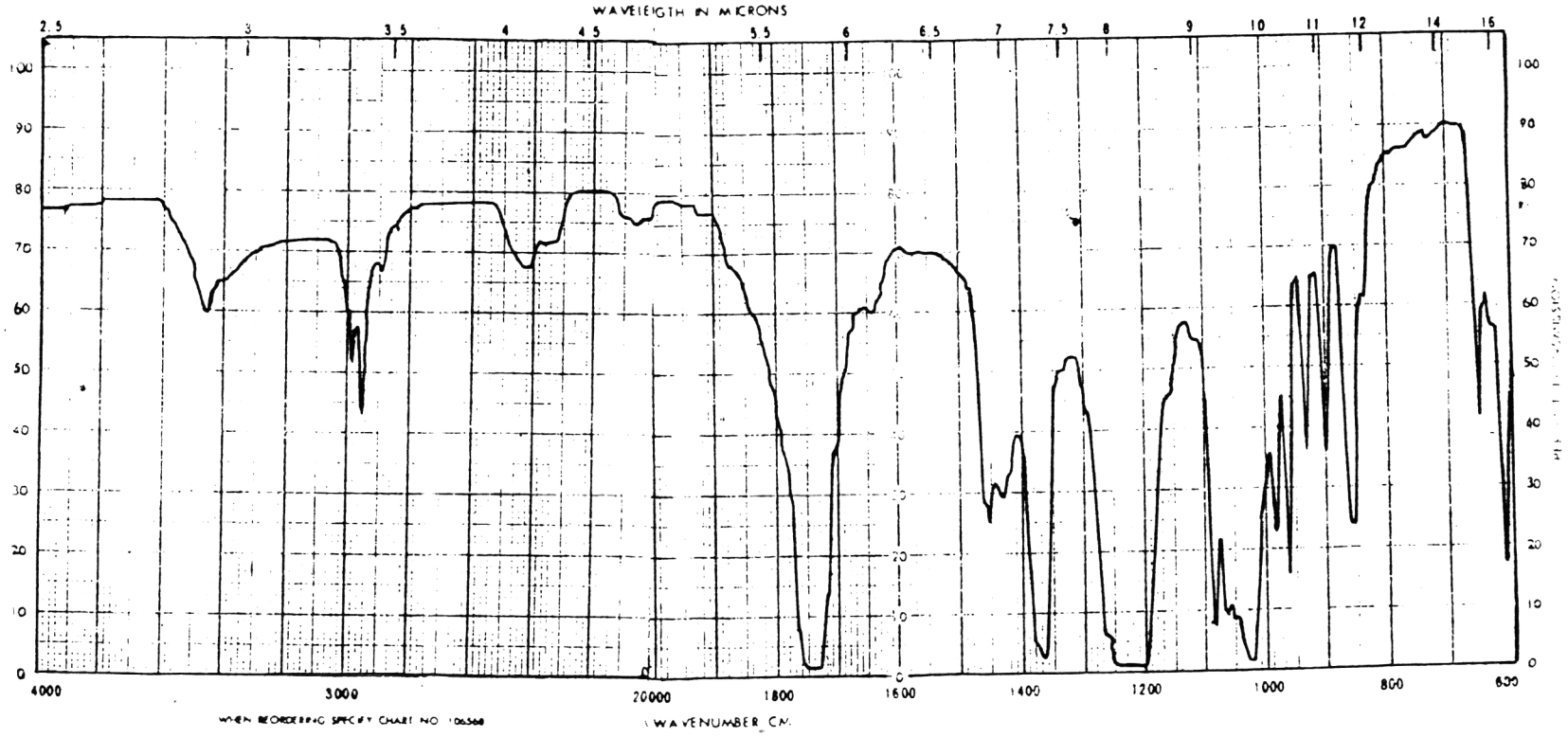

Fig. 2 IR spectrum of Compound 1 hexaacetate

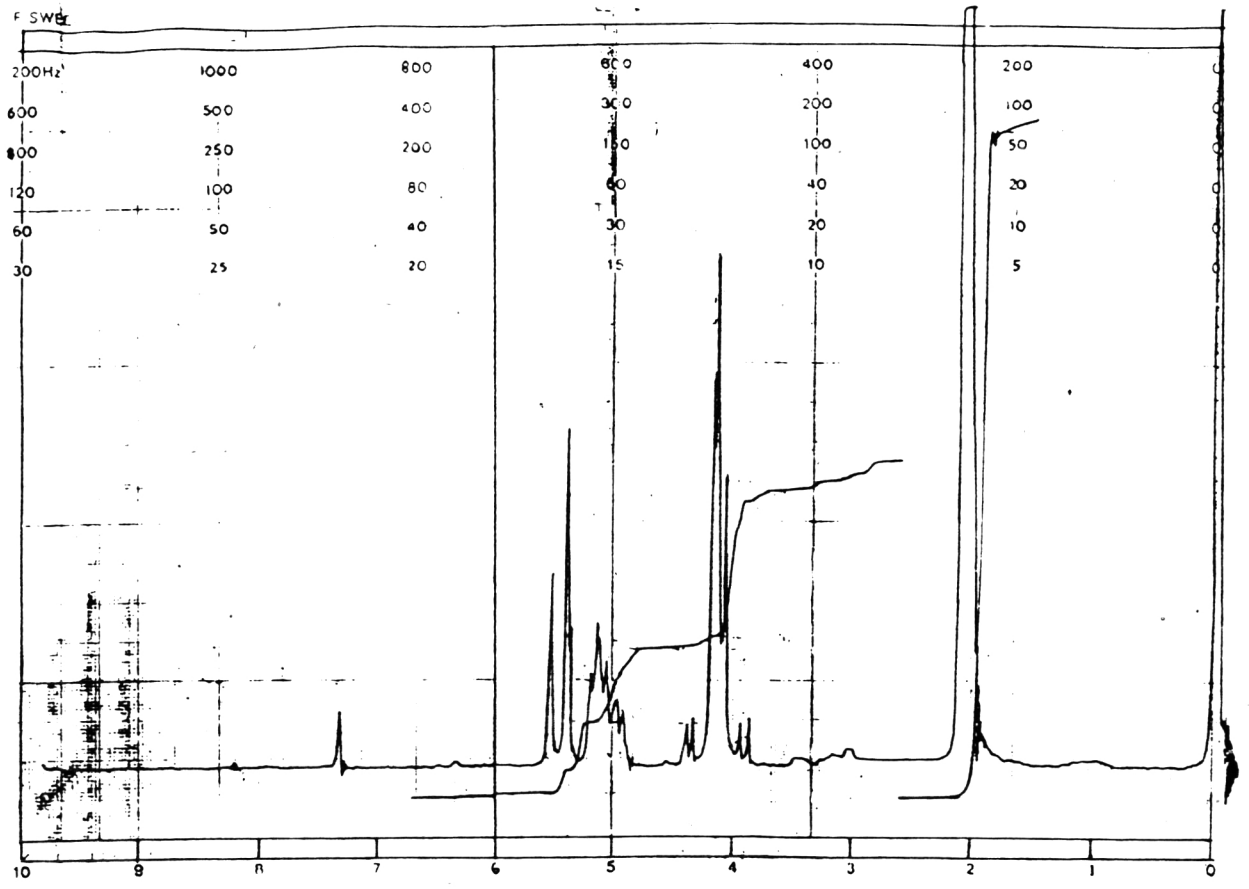

Fig. 3 ^{1}H NMR spectrum of Compound 1 hexaacetate

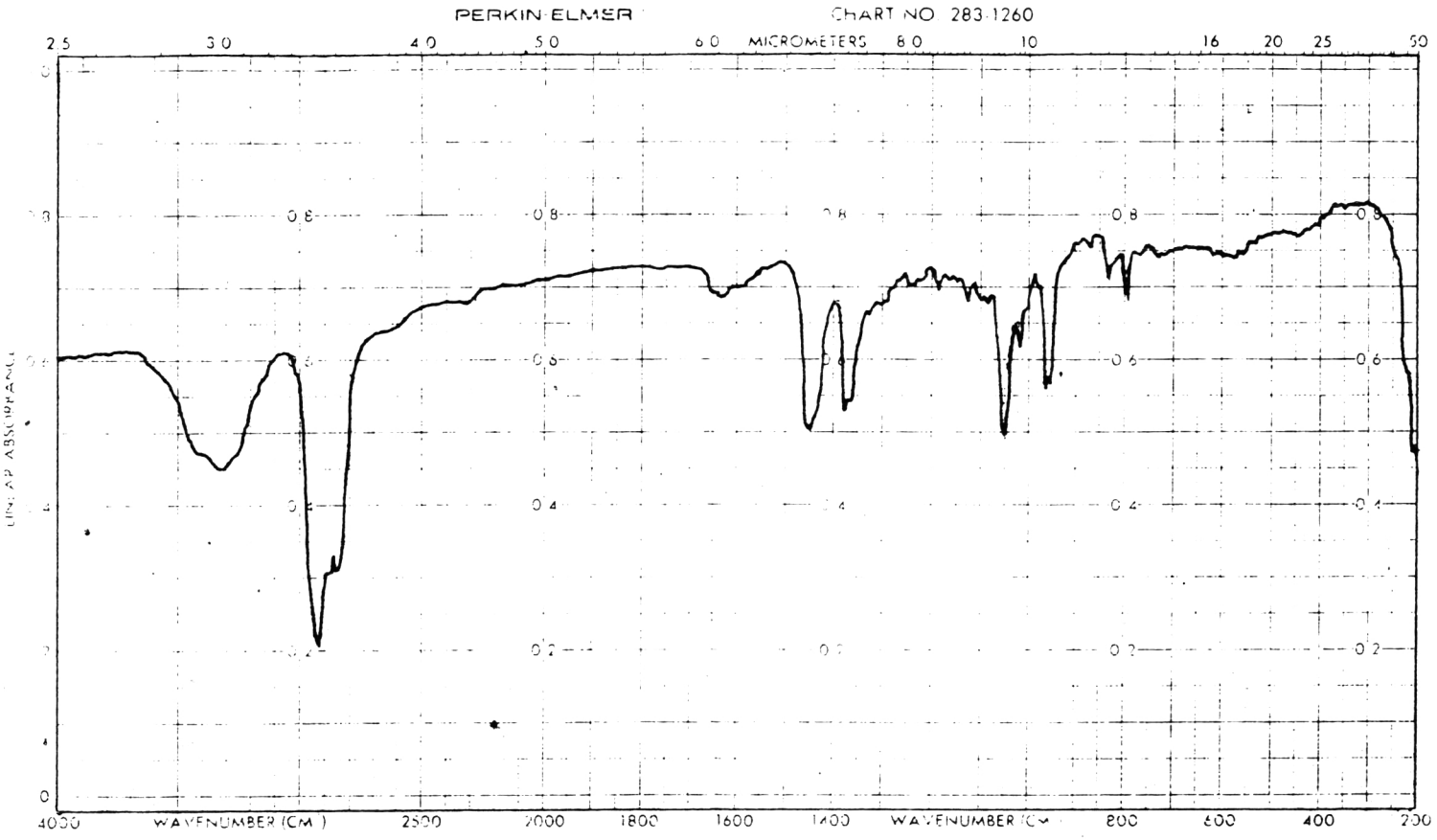

Fig. 4 IR spectrum of Compound 2

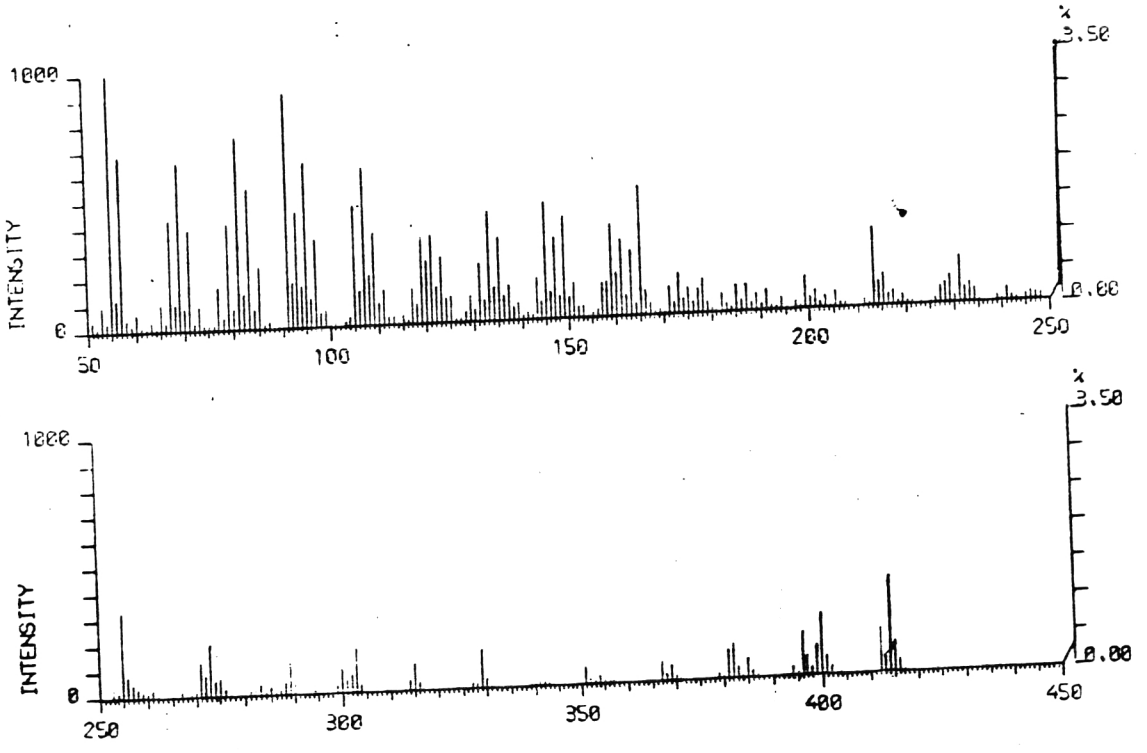

Fig. 5 Mass spectrum of Compound 2

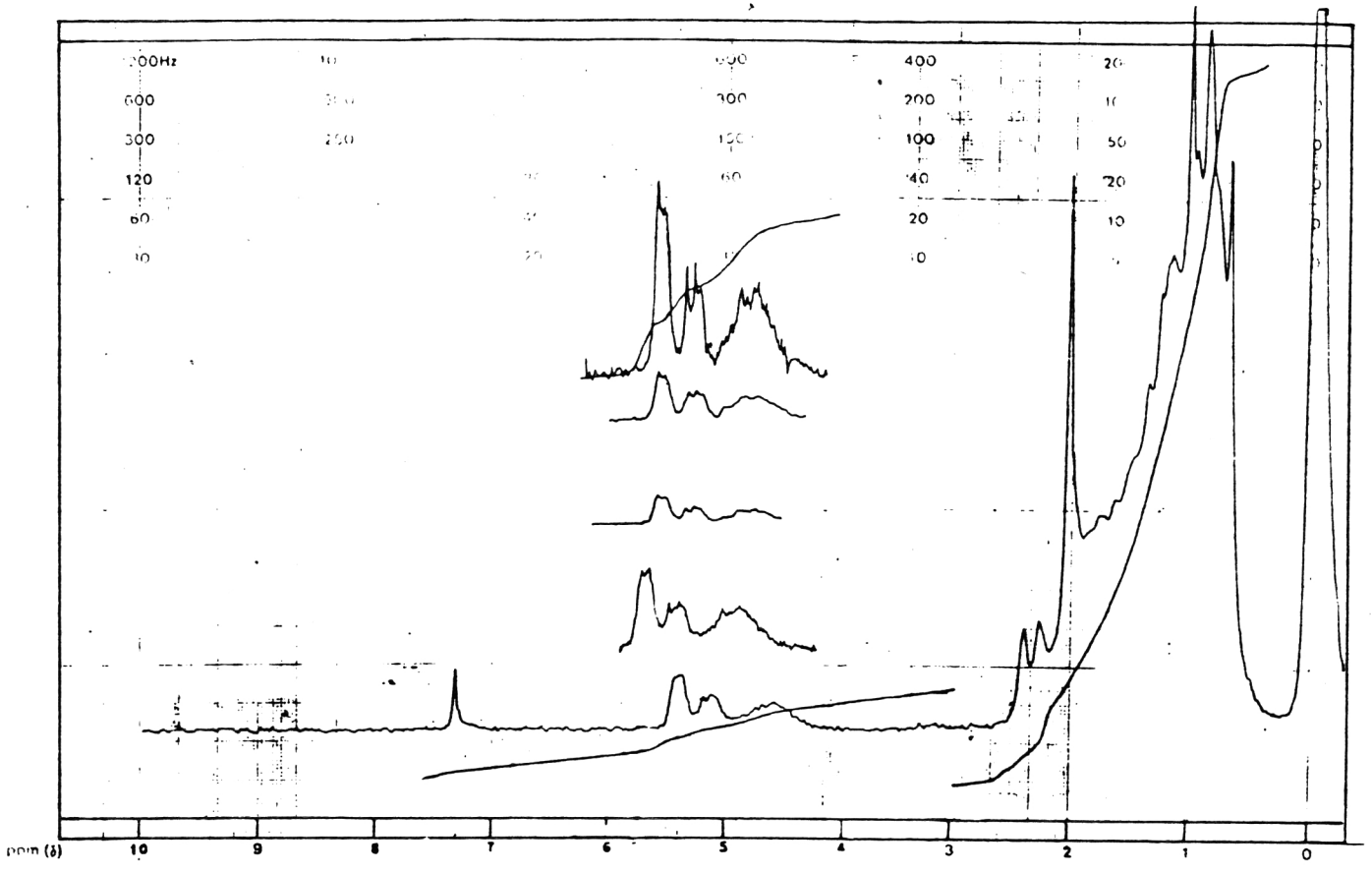

Fig. 6 ^{1}H NMR spectrum of Compound 2 acetate

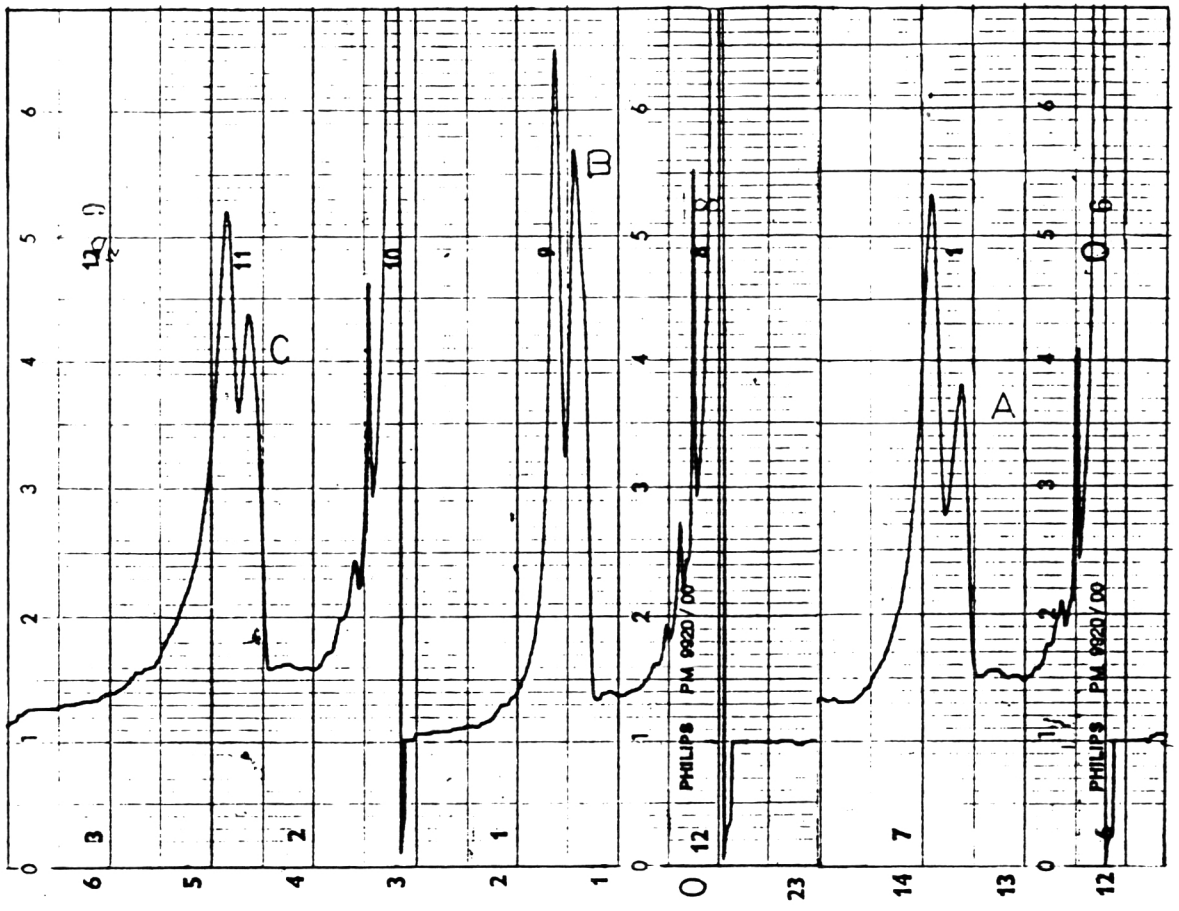

Fig. 7 Gas liquid chromatogram of Compound 2

A = standard campesterol and β-sitoslerol (R_t 2.8 and 3.2 min respectively)

B = Compound 2

C = mixed A and B

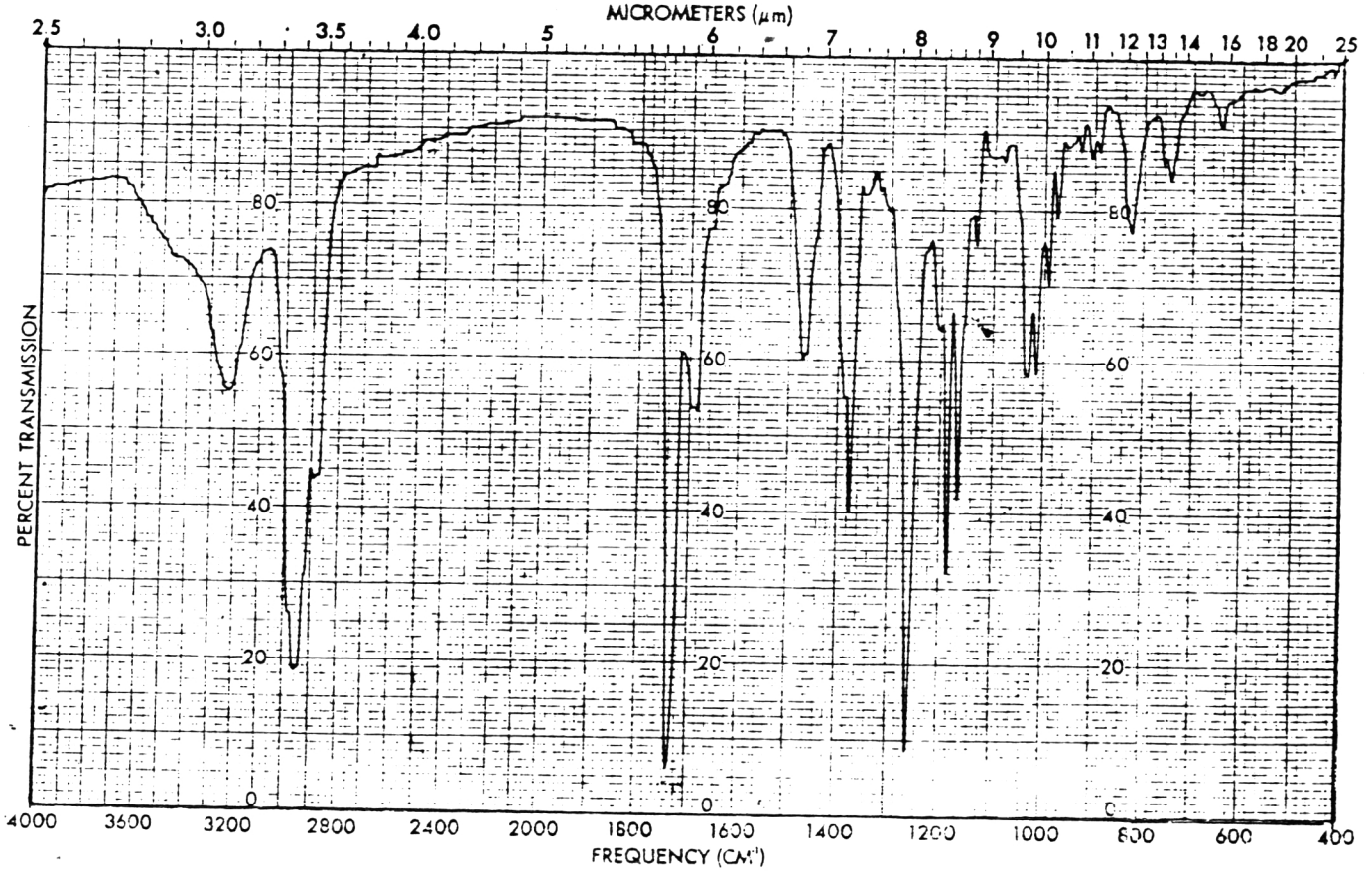

Fig. 8 IR spectrum of Compound 3

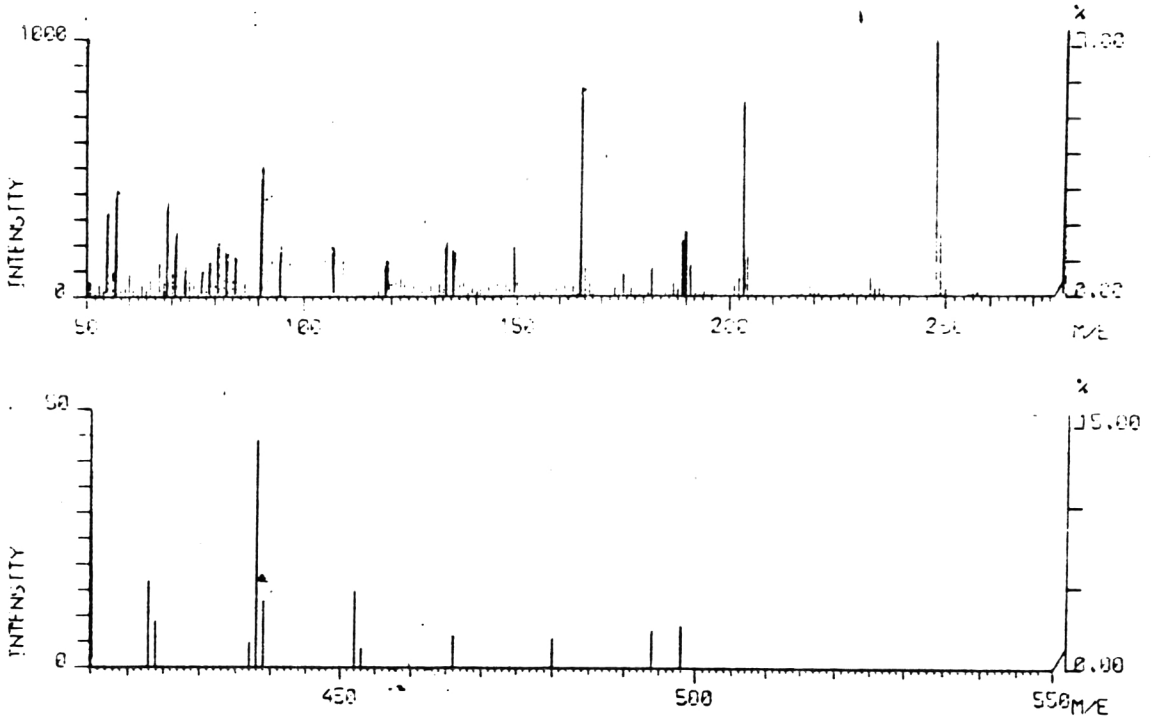

Fig. 9 Mass spectrum of Compound 3

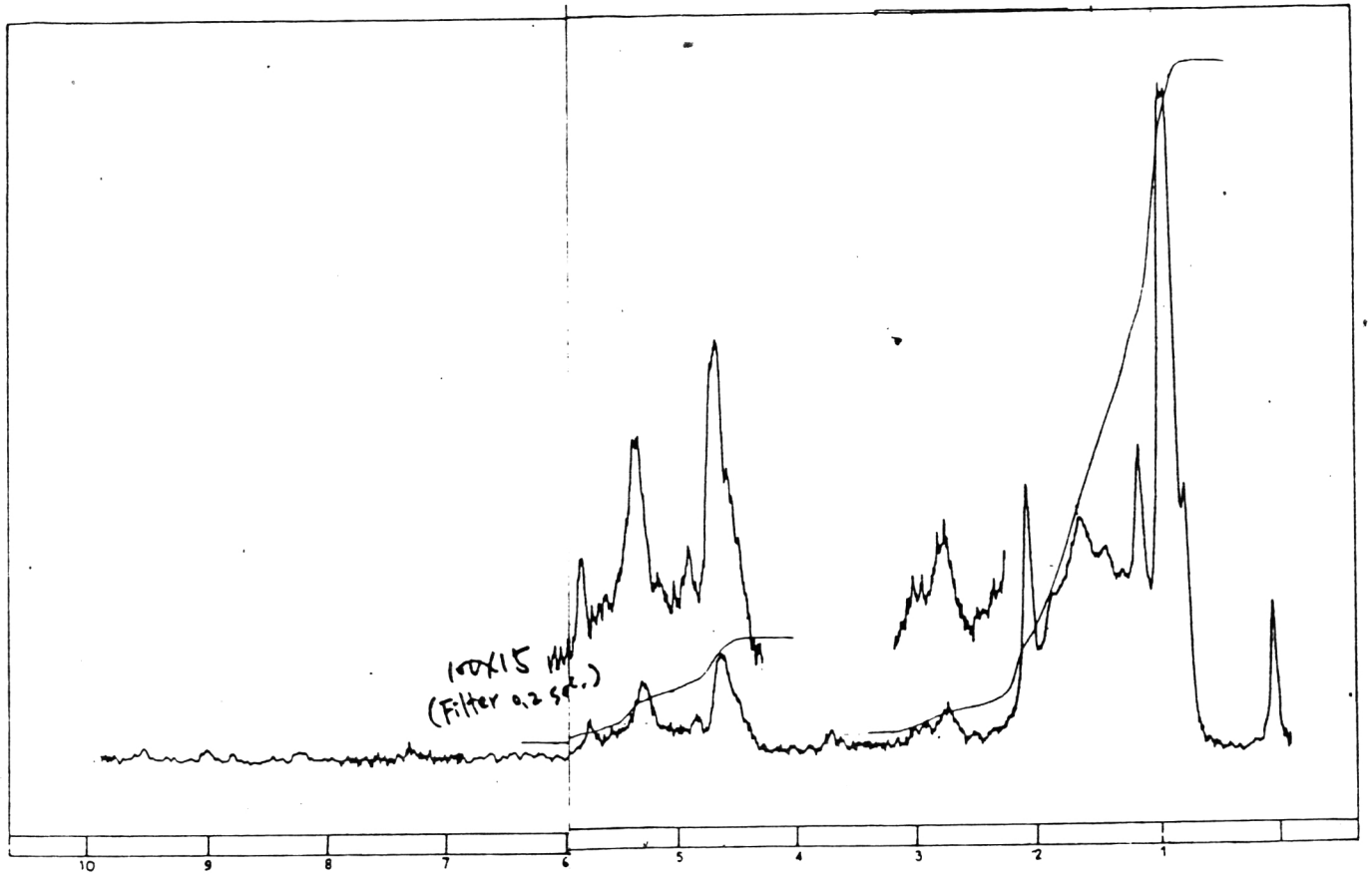

Fig. 10 ^{1}H NMR spectrum of Compound 3

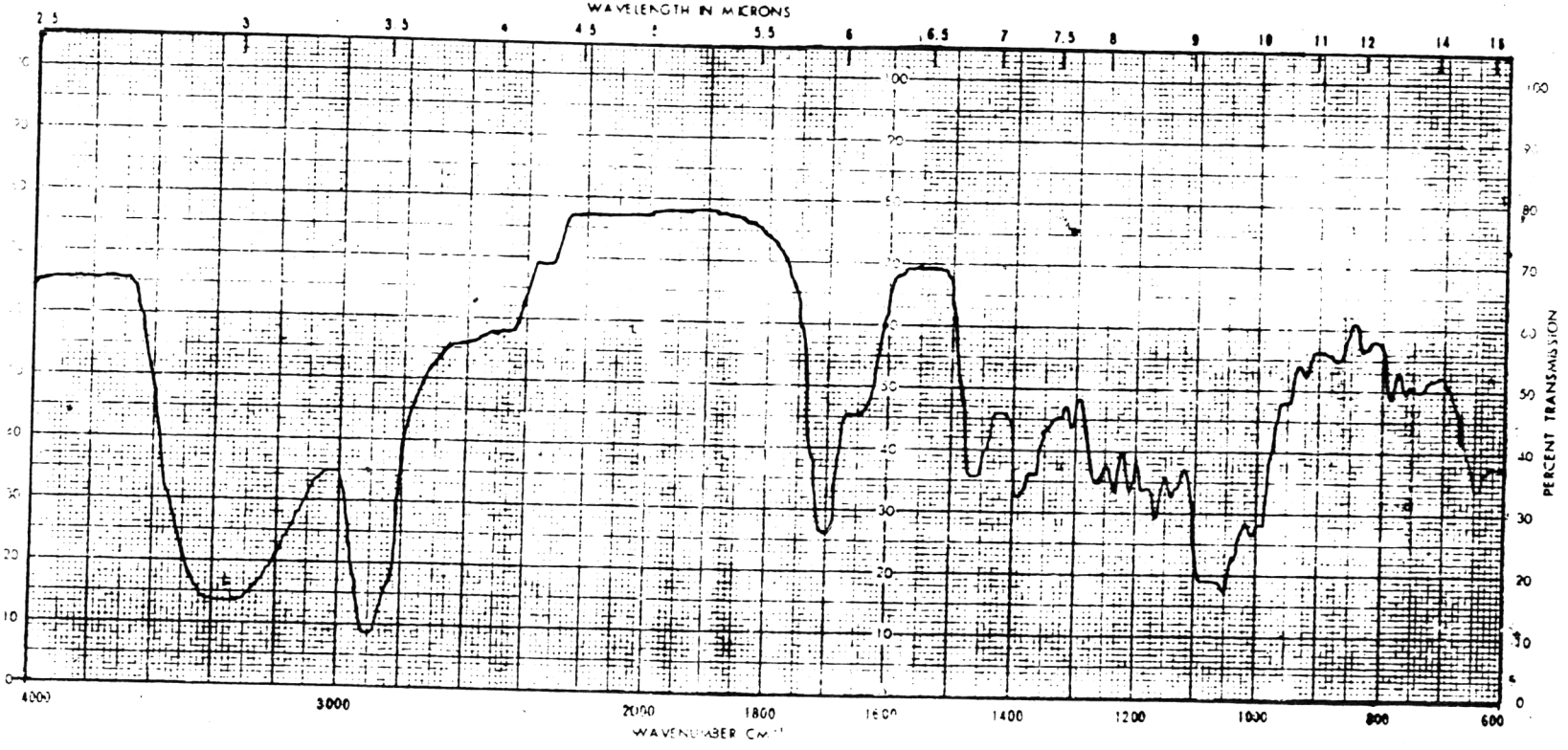

Fig. 11 IR spectrum of Compound 4

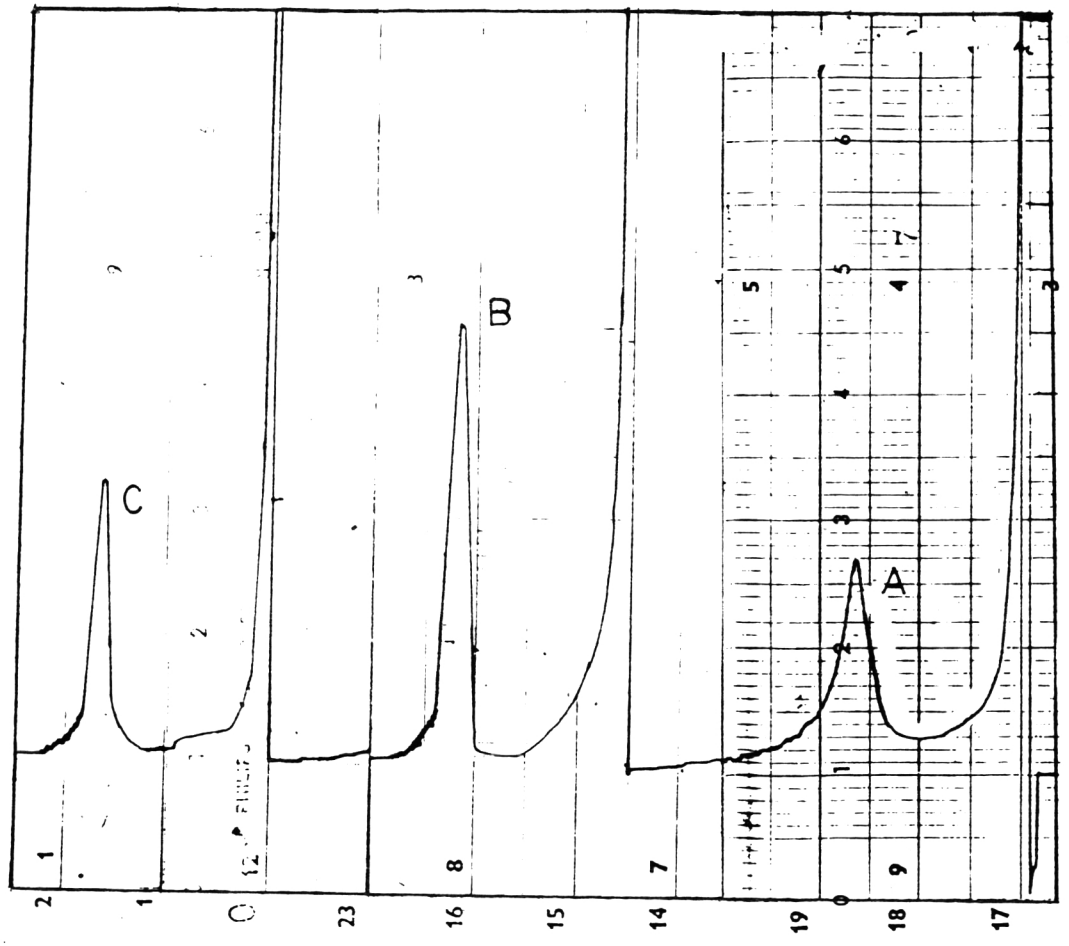

Fig. 12 Gas liquid chromatogram of carbohydrate component of Compound 4

A = standard arabinose (R_t 1.6 min)

B = carbohydrate component of Compound 4

C = mixed A and B

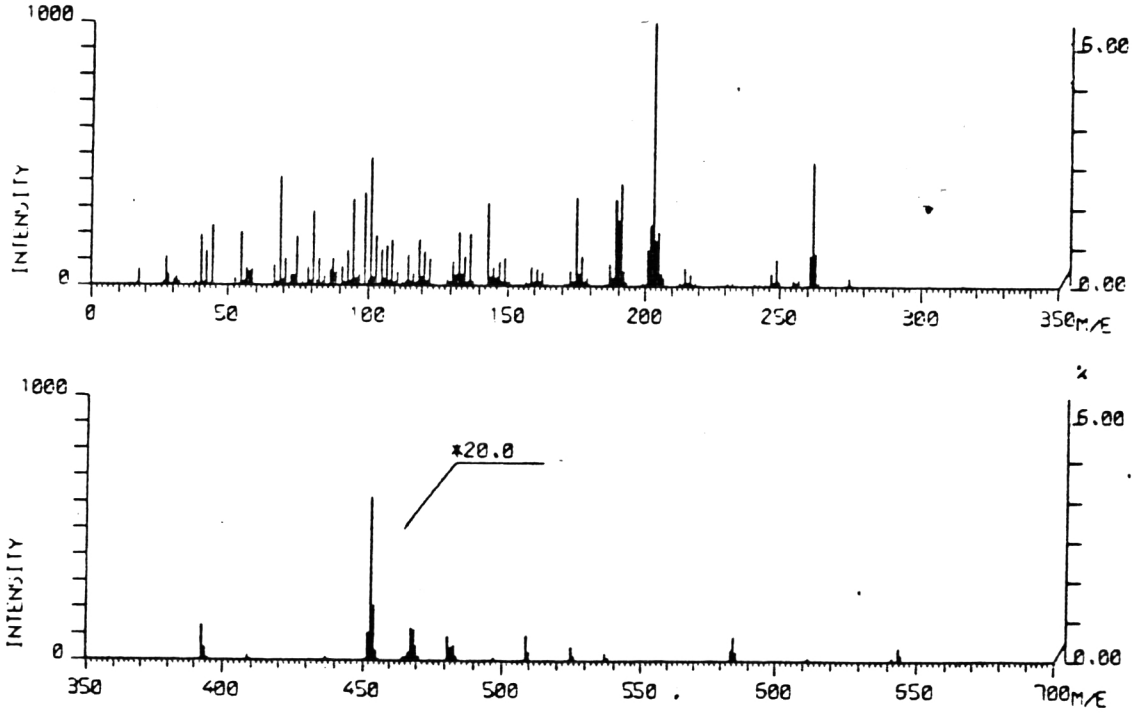

Fig. 13 Mass spectrum of permethylated Compound 4

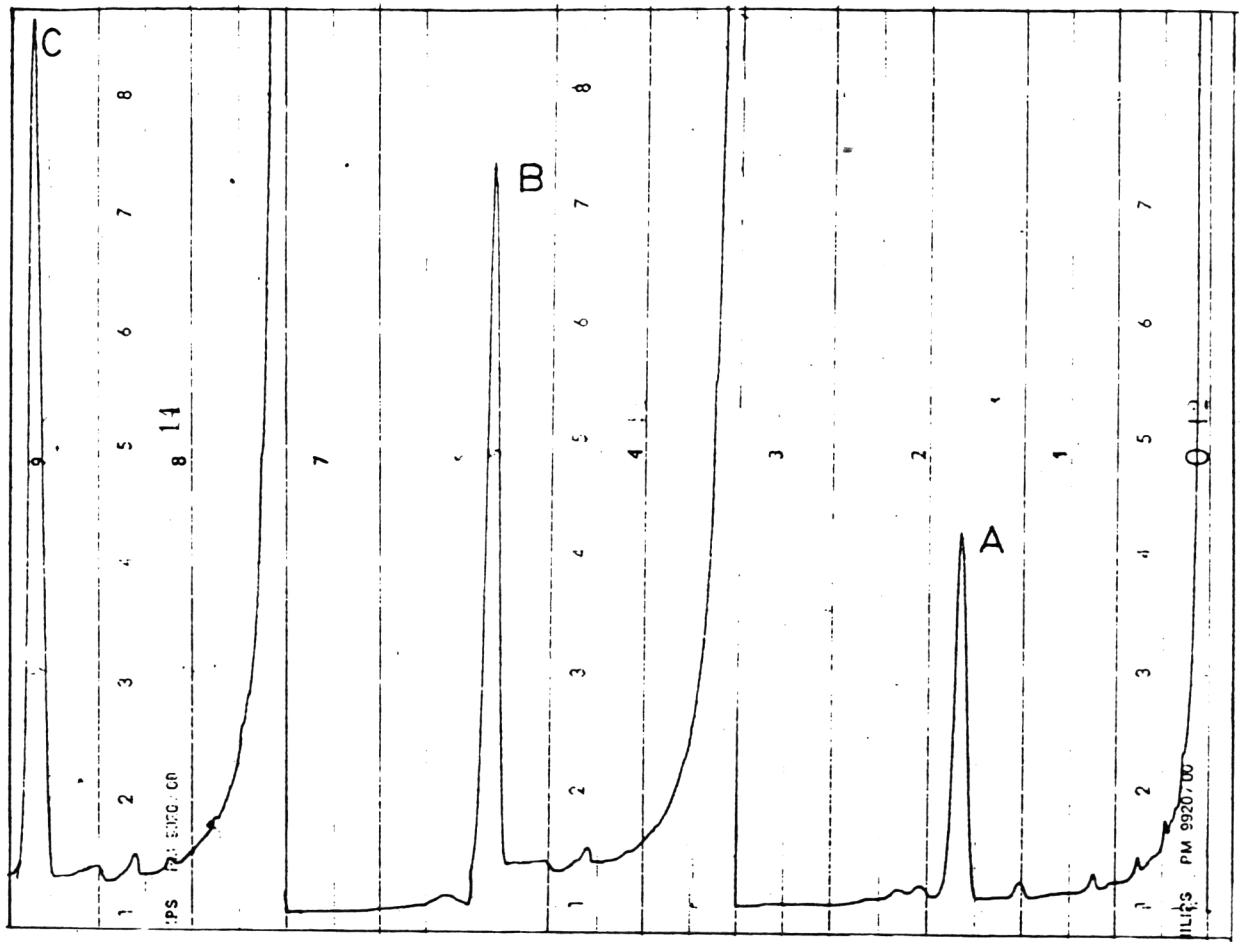

Fig. 14 Gas liguid chromatogram of carbohydrate component of permethylated Compound 4

A = methyl -2,3,4-tri-O-methyl arabinopyronoside (R_t 3.4 min)

B = carbohydrate component of permethylated Compound 4

C = mixed A and B

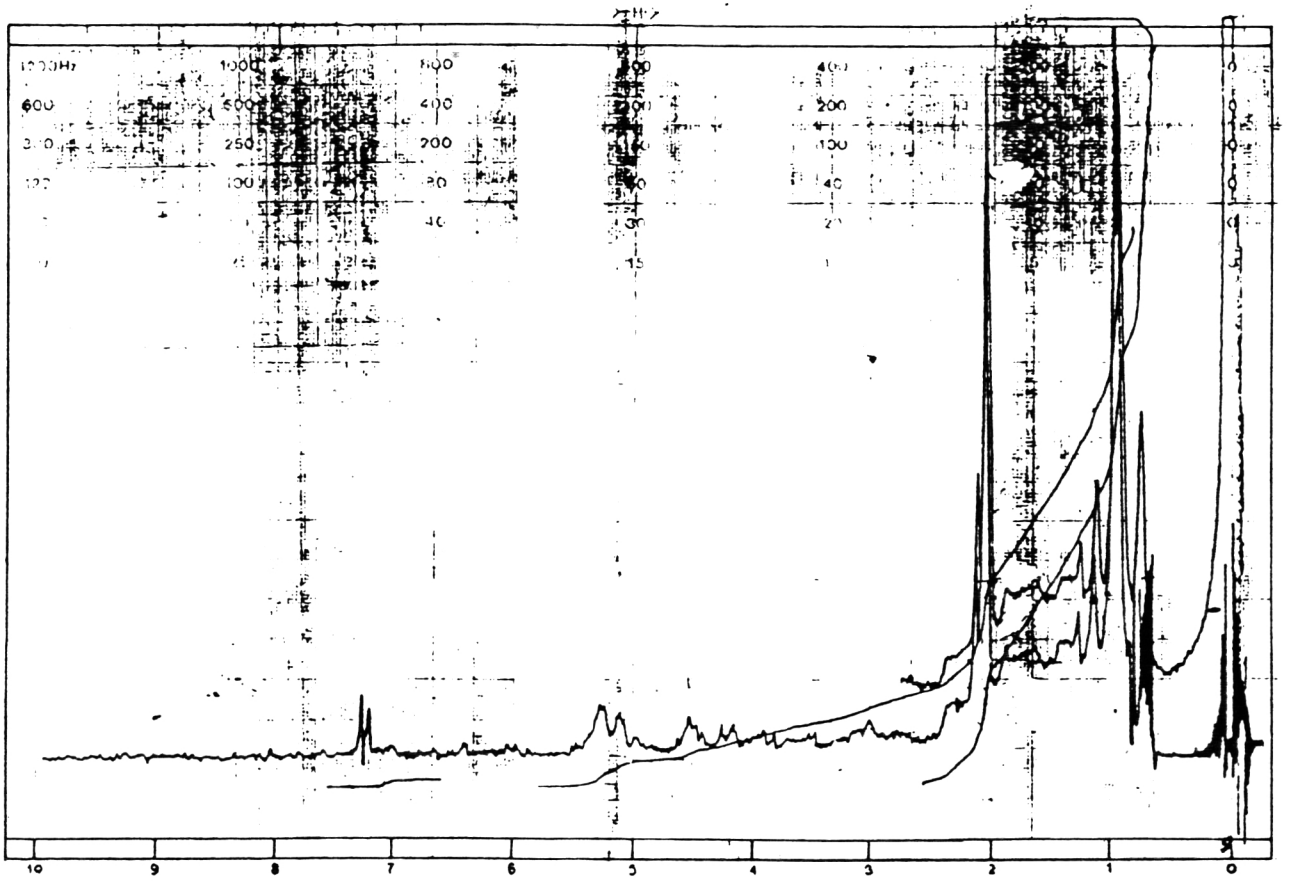

Fig. 15 ^{1}H NMR spectrum of Compound 4 peracetate

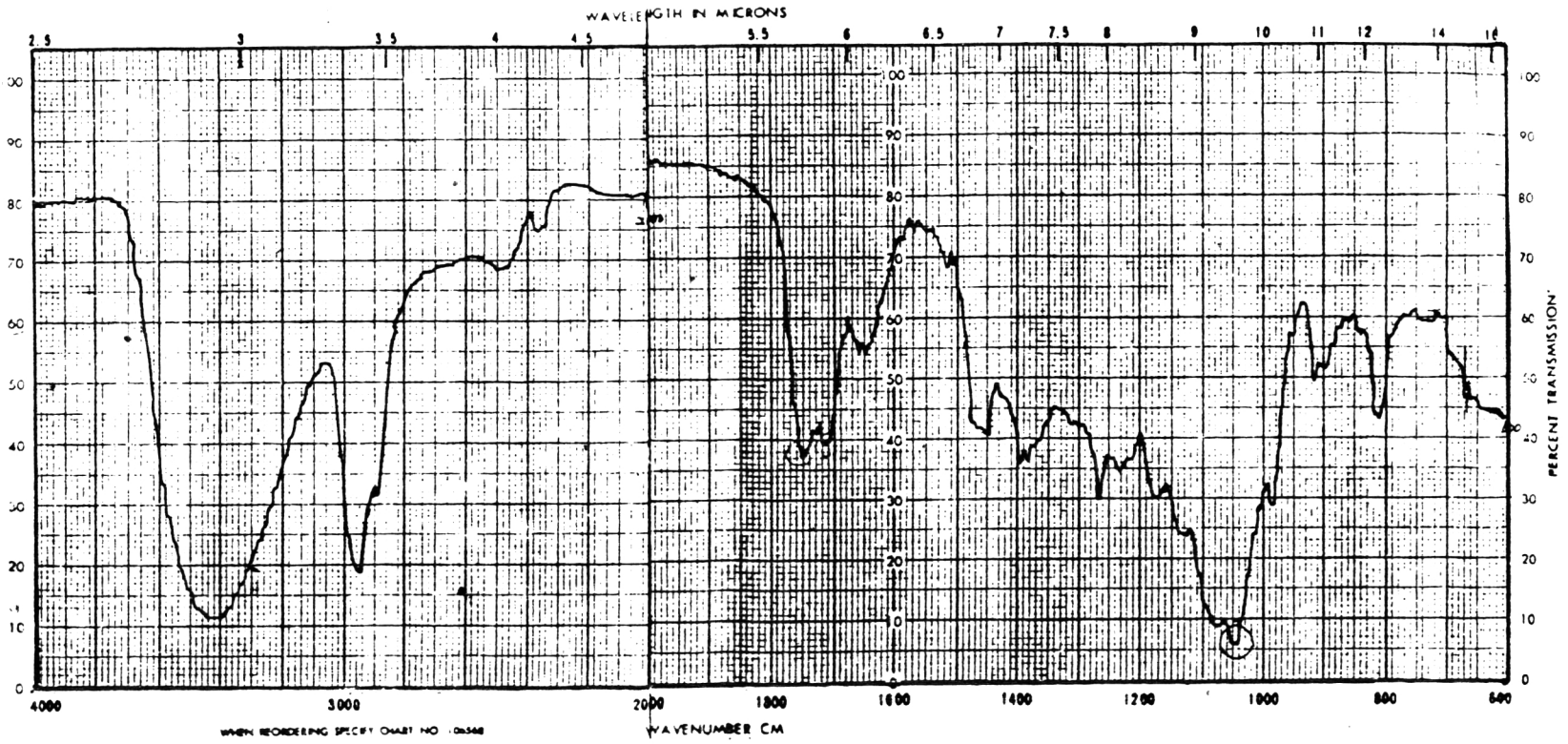

Fig. 16 IR spectrum of Product A

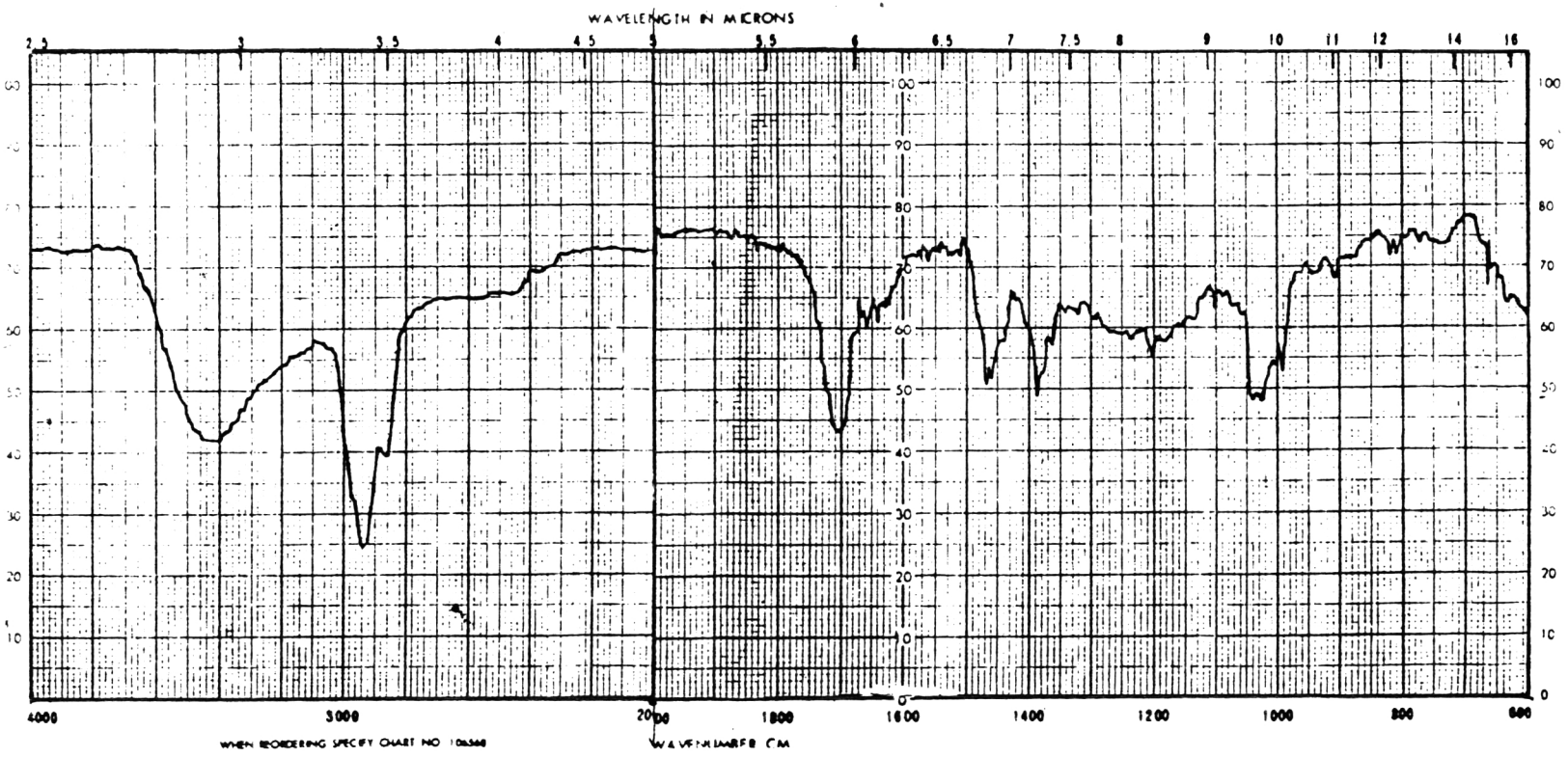

Fig. 17 IR spectrum of Compound 5

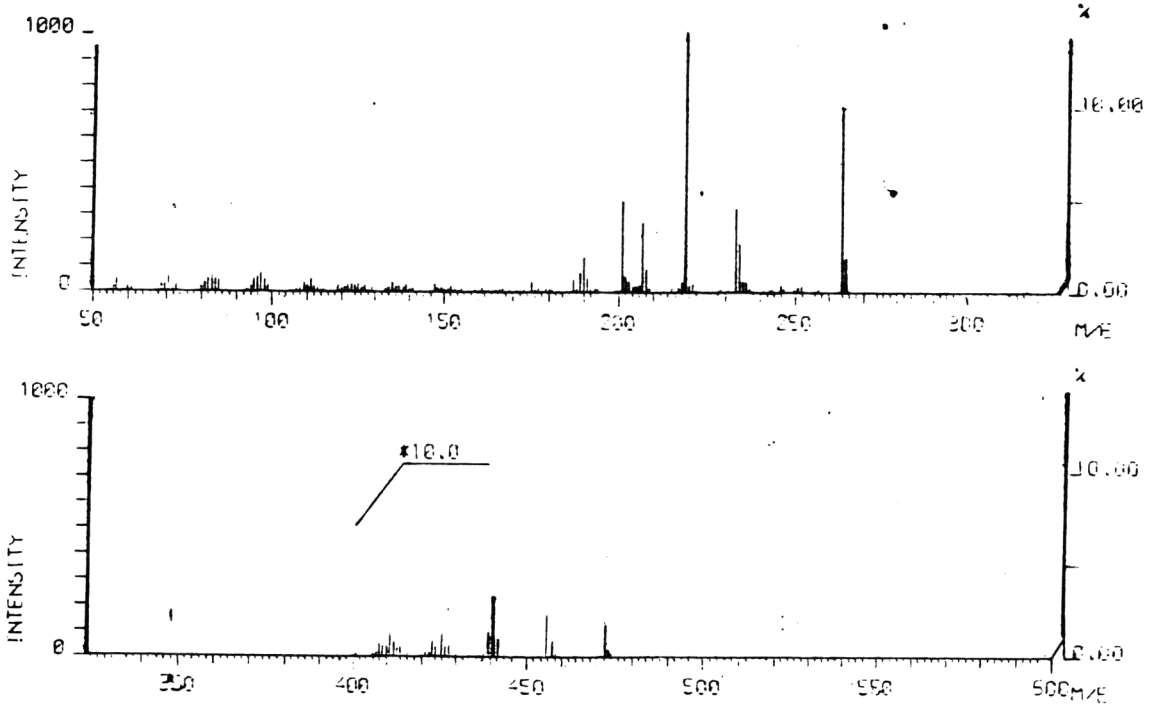

Fig. 18 Mass spectrum of Compound 5

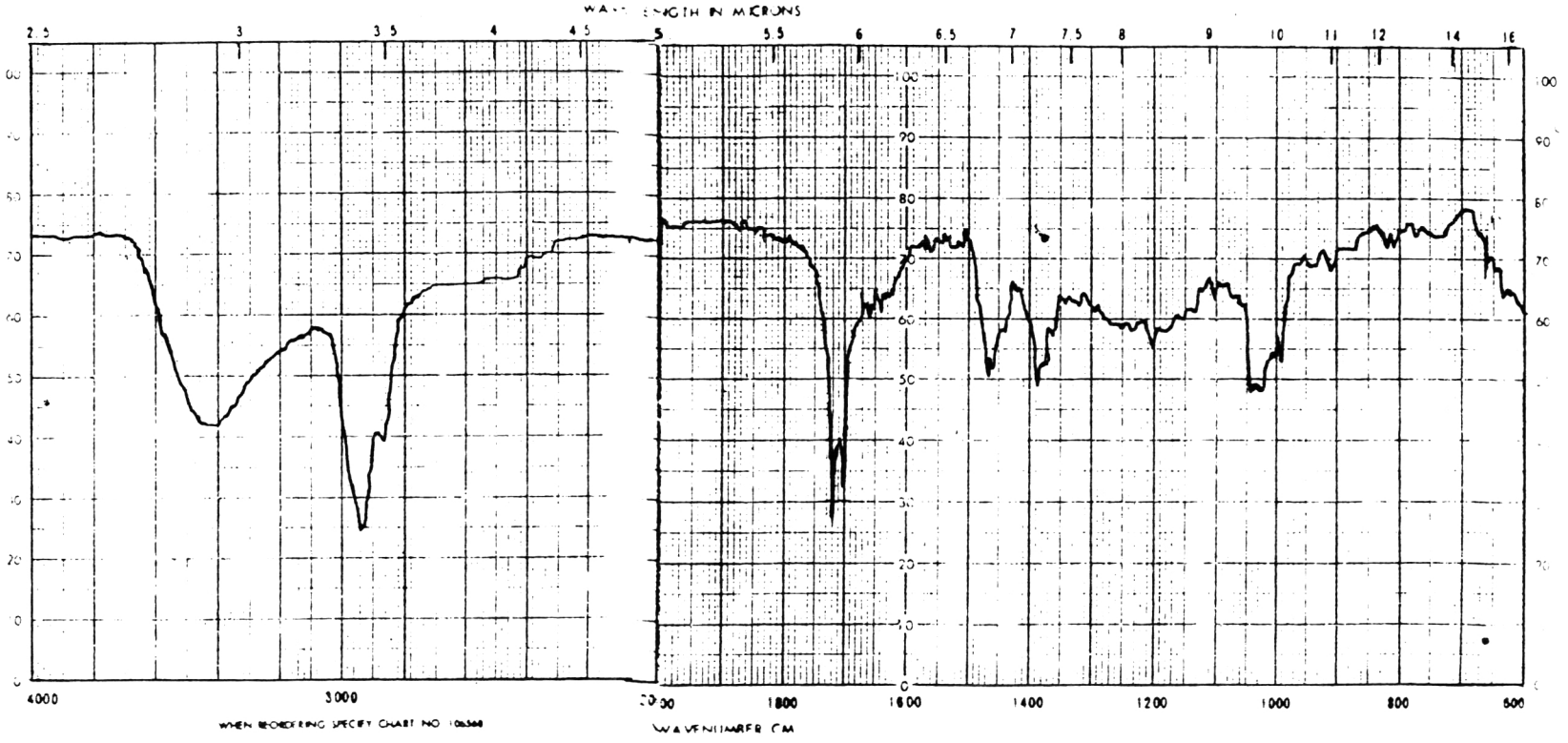

Fig. 19 IR spectrum of Compound 5 diacetate

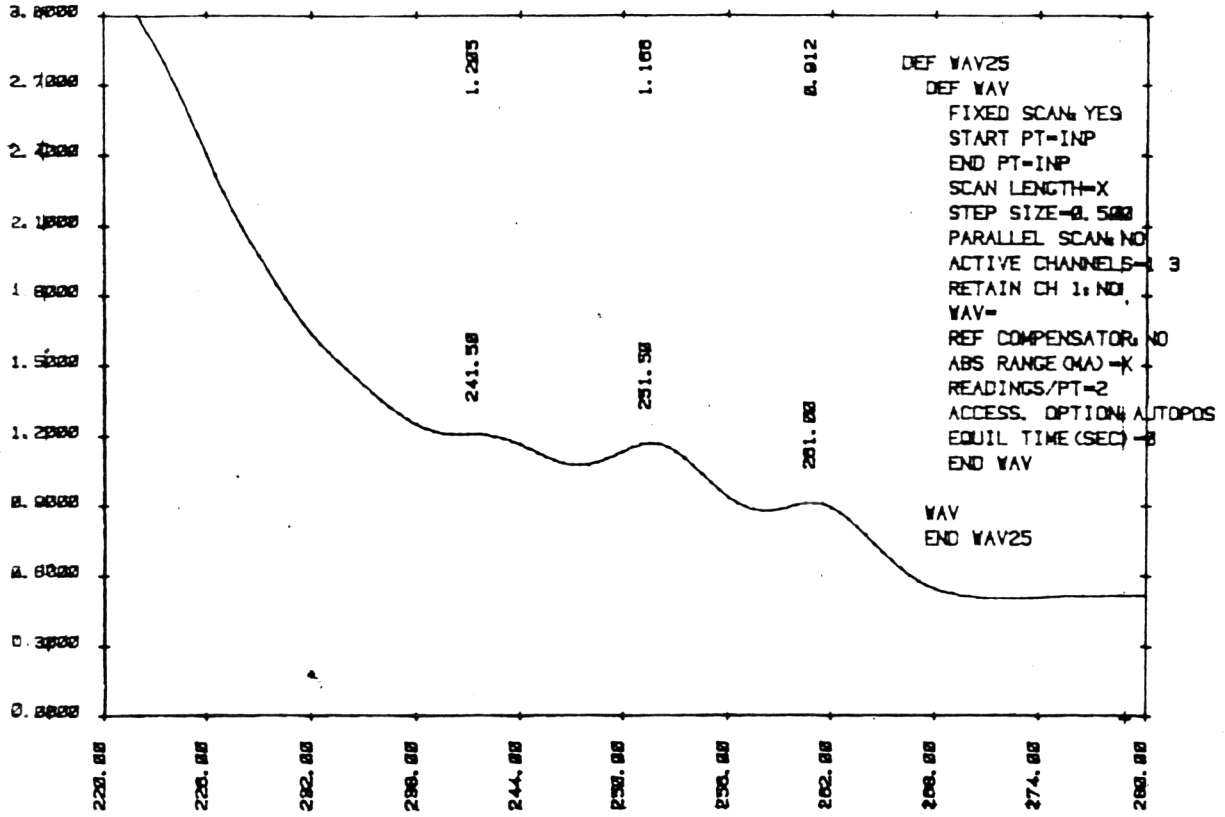

Fig. 20 UV spectrum of Compound 5 diene

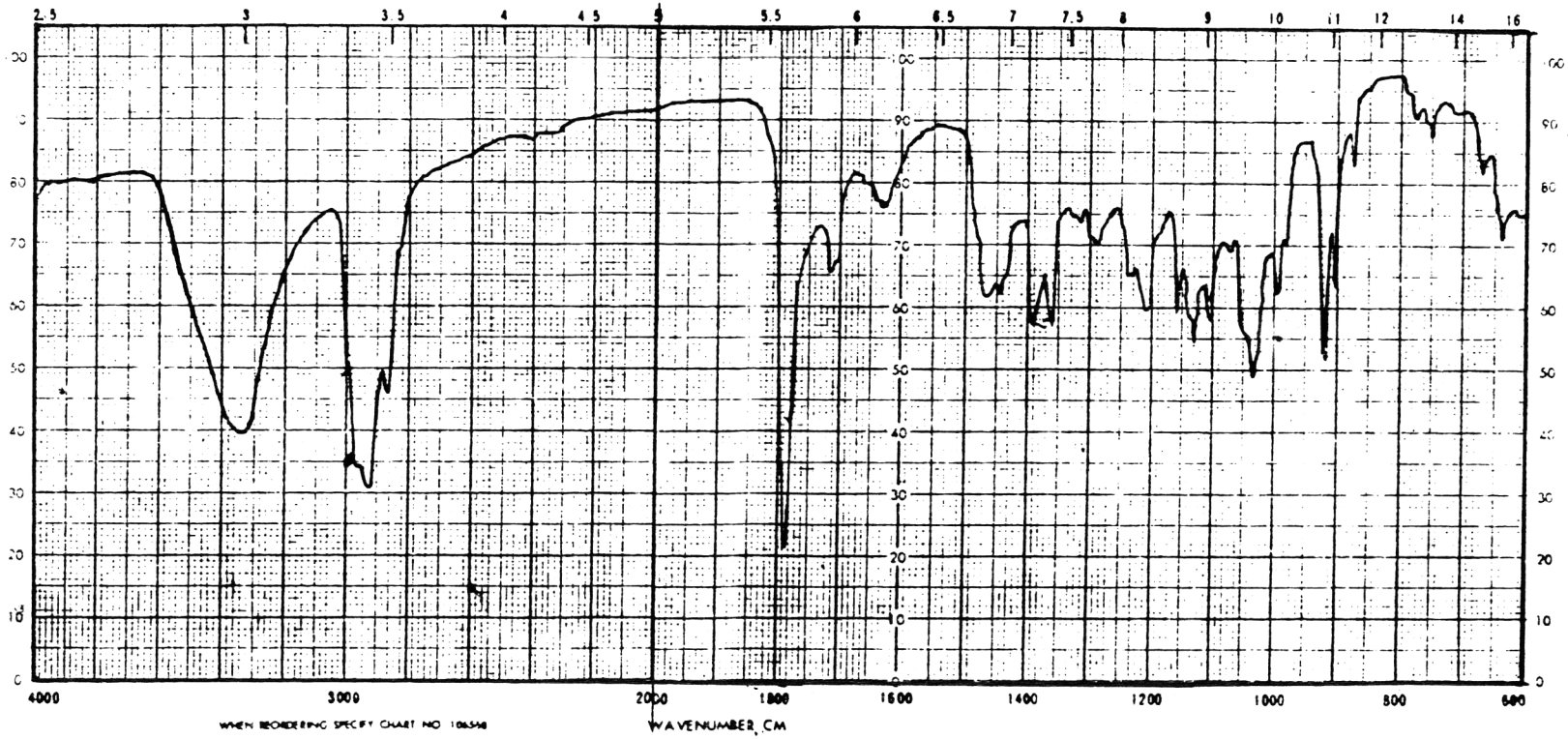

Fig. 21 IR spectrum of Compound 5 mono bromo γ-lactone

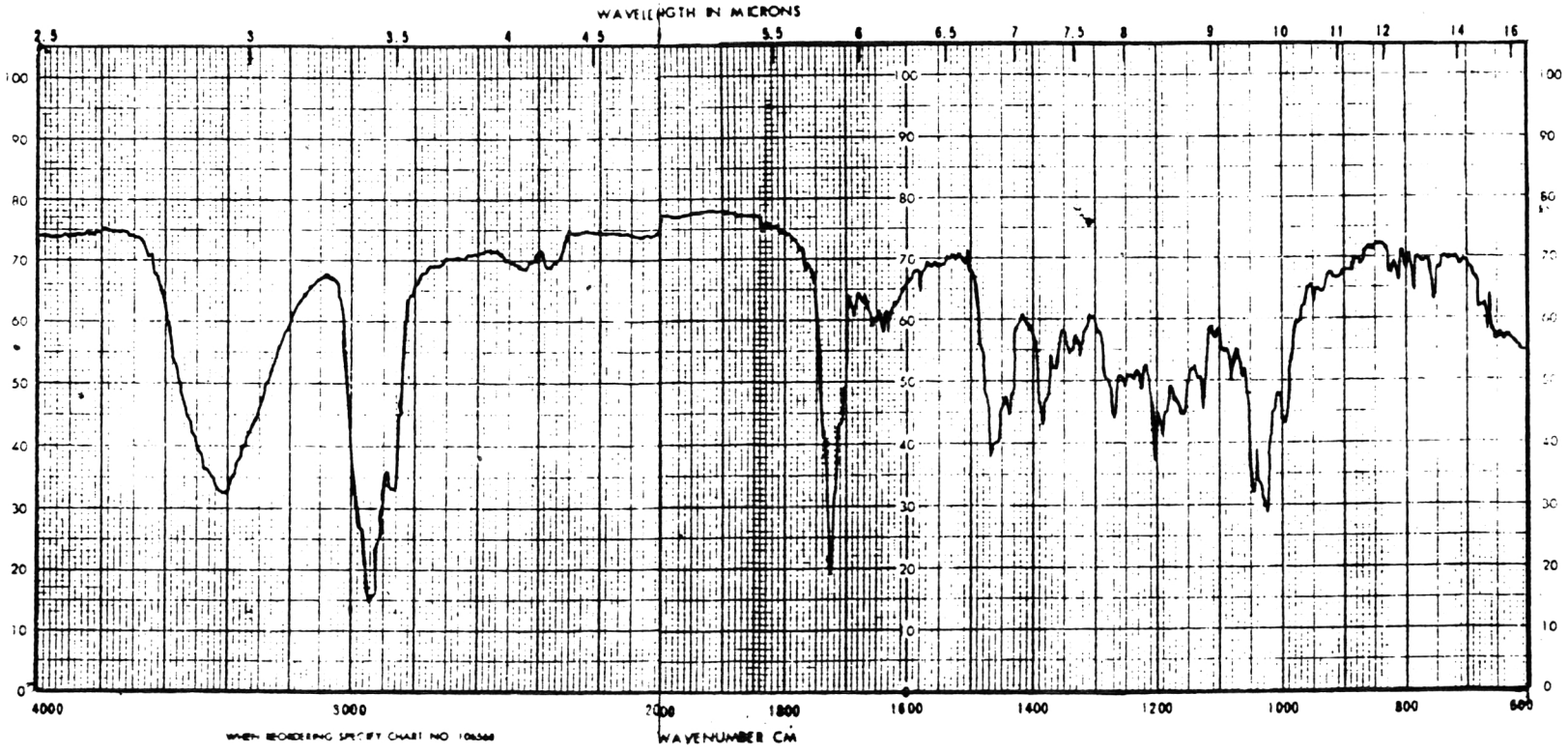

Fig. 22 IR spectrum of Compound 5 methyl ester

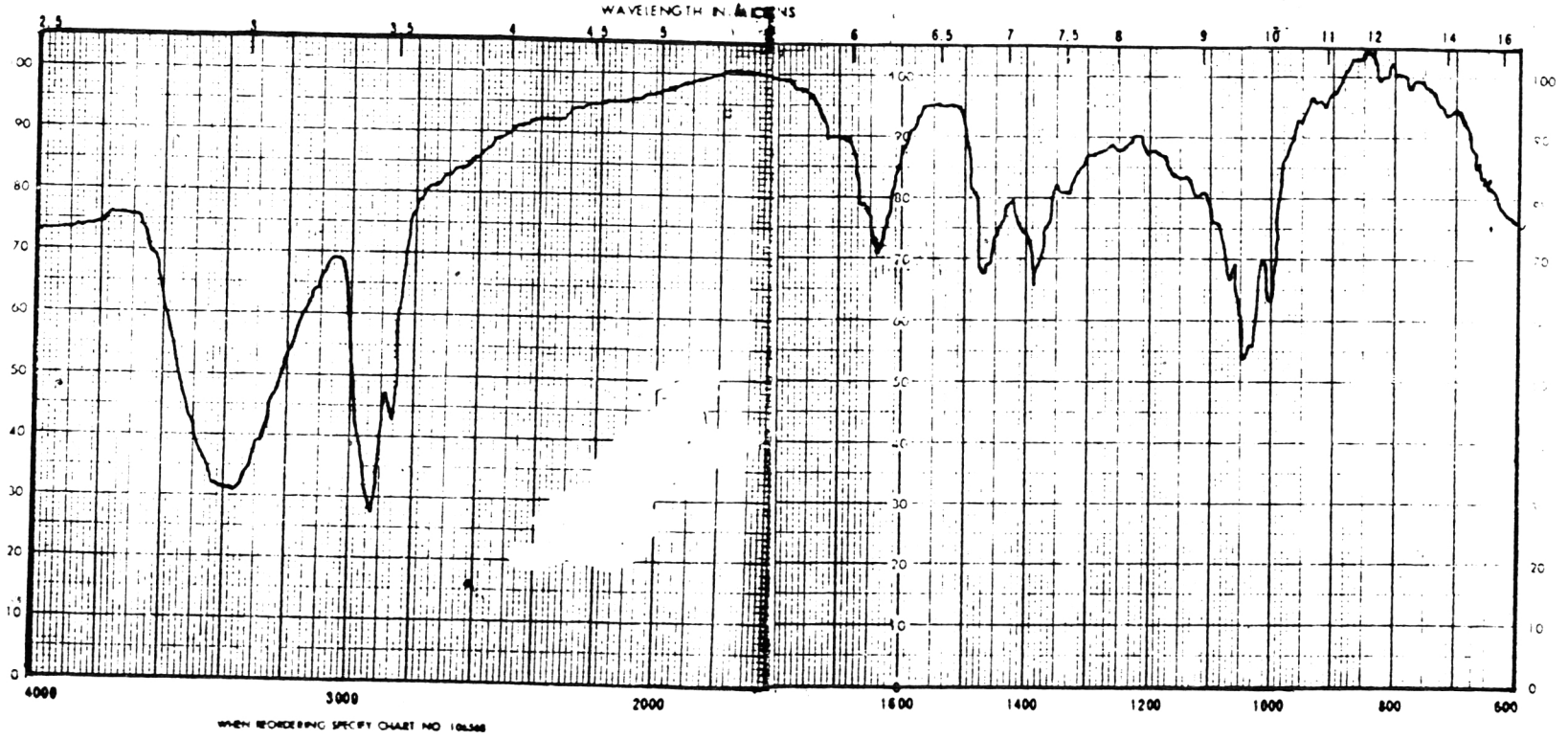

Fig. 23 IR spectrum of Compound 5 triol

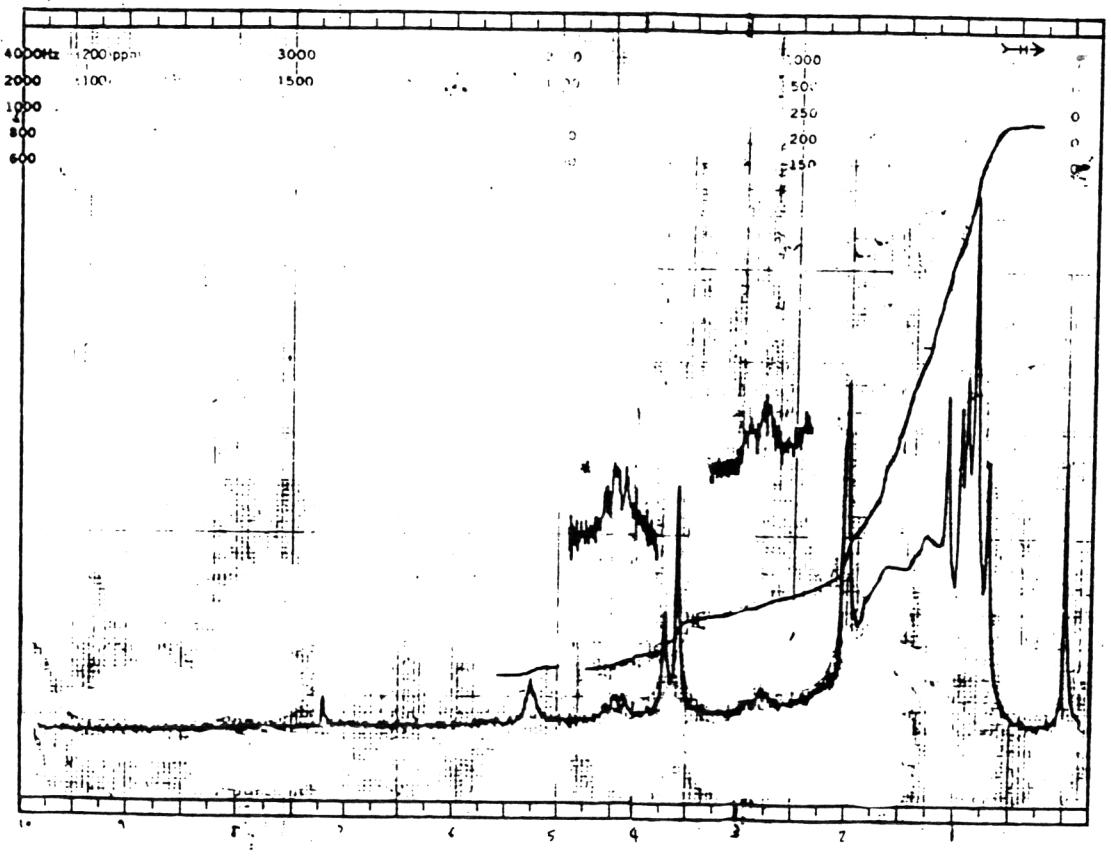

Fig. 24 ^{1}H NMR spectrum of Compound 5 methyl ester diacetate