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APPENDIX

a) Silica gel G/ acetone:benzene (1:9)

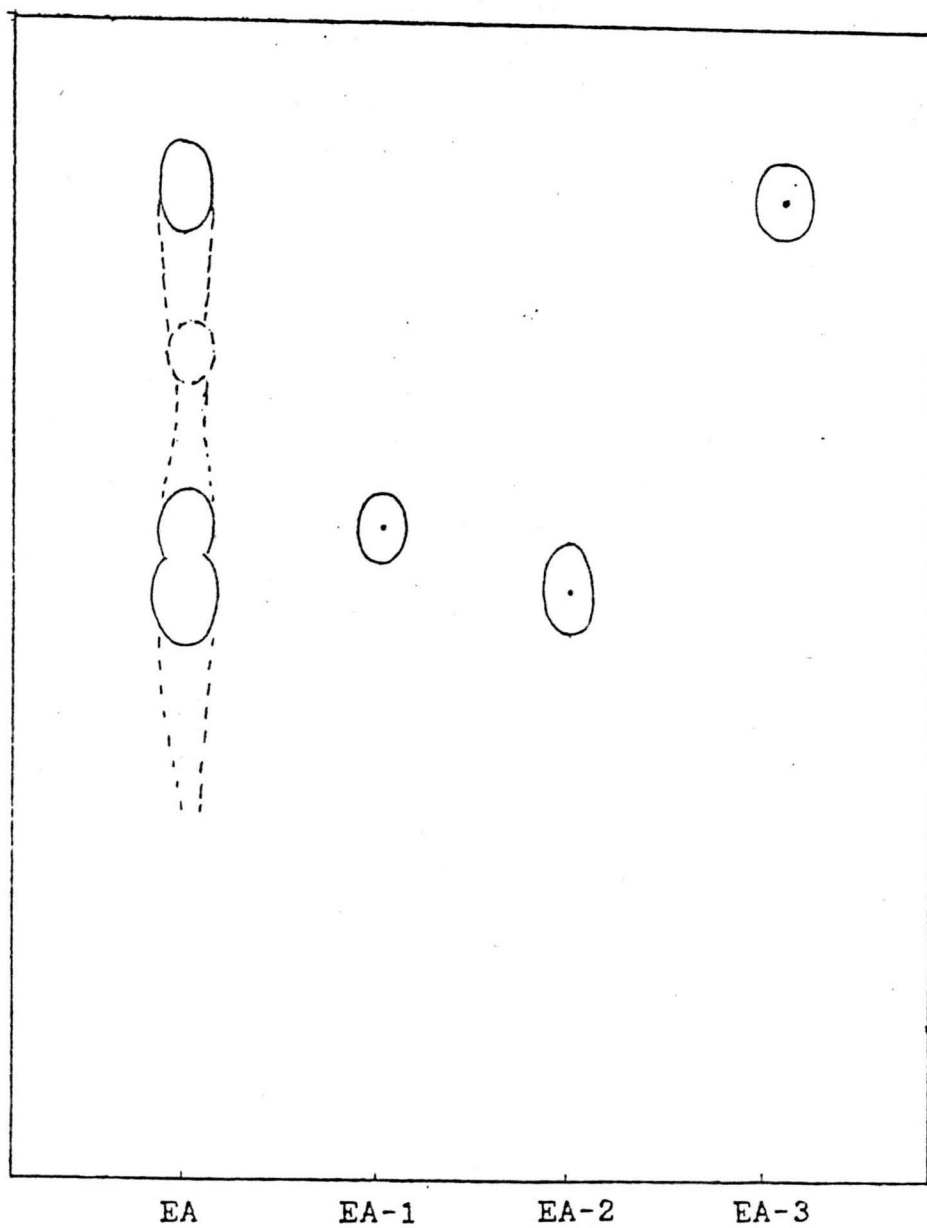


Figure 3.1 Thin-layer Chromatogram of Isolated compounds from Eupatorium adenophorum Spreng.

b) Silica gel G/ ethyl acetate:pet ether (3:7)

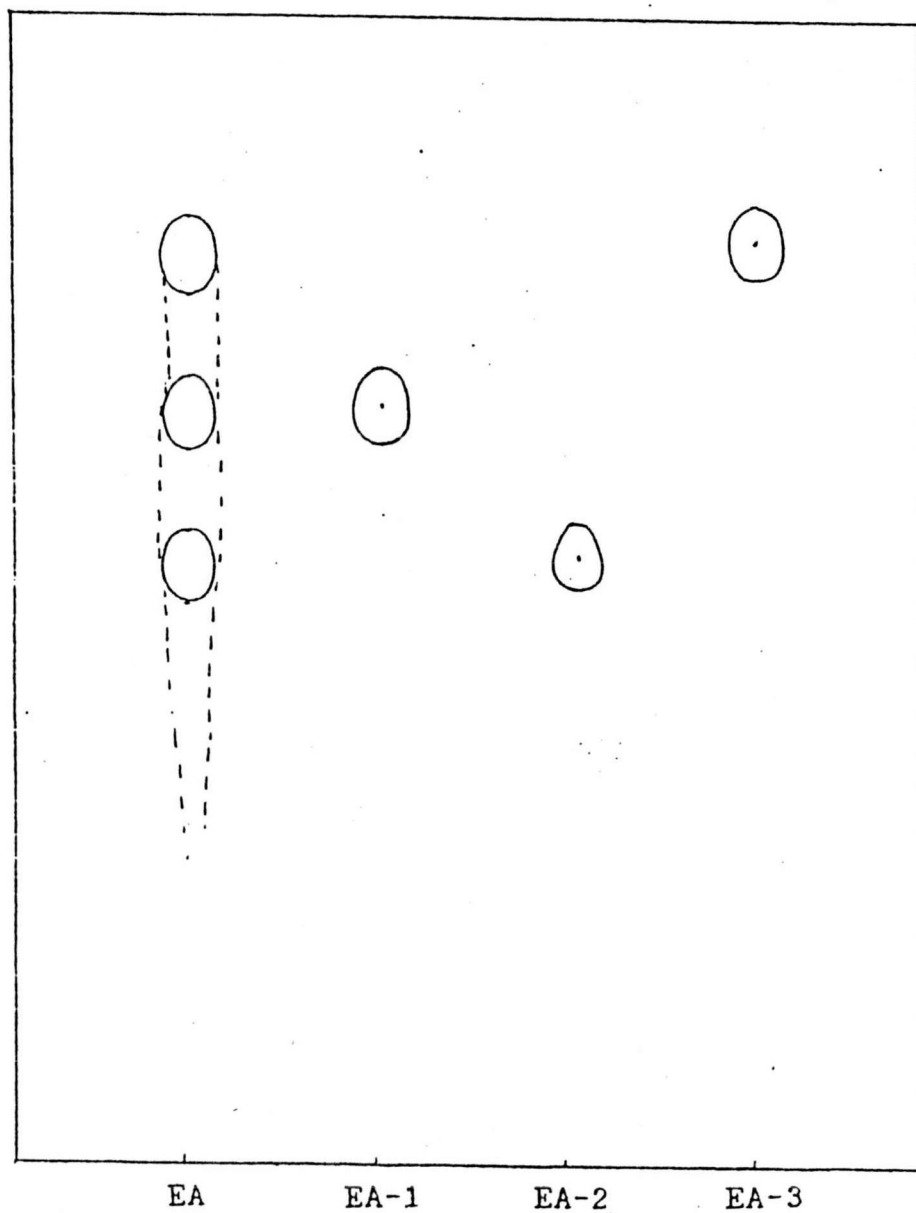


Figure 3.2 Thin-layer Chromatogram of Isolated compounds from *Eupatorium adenophorum* Spreng.

c) Silica gel G/ ethyl acetate:benzene (1:9)

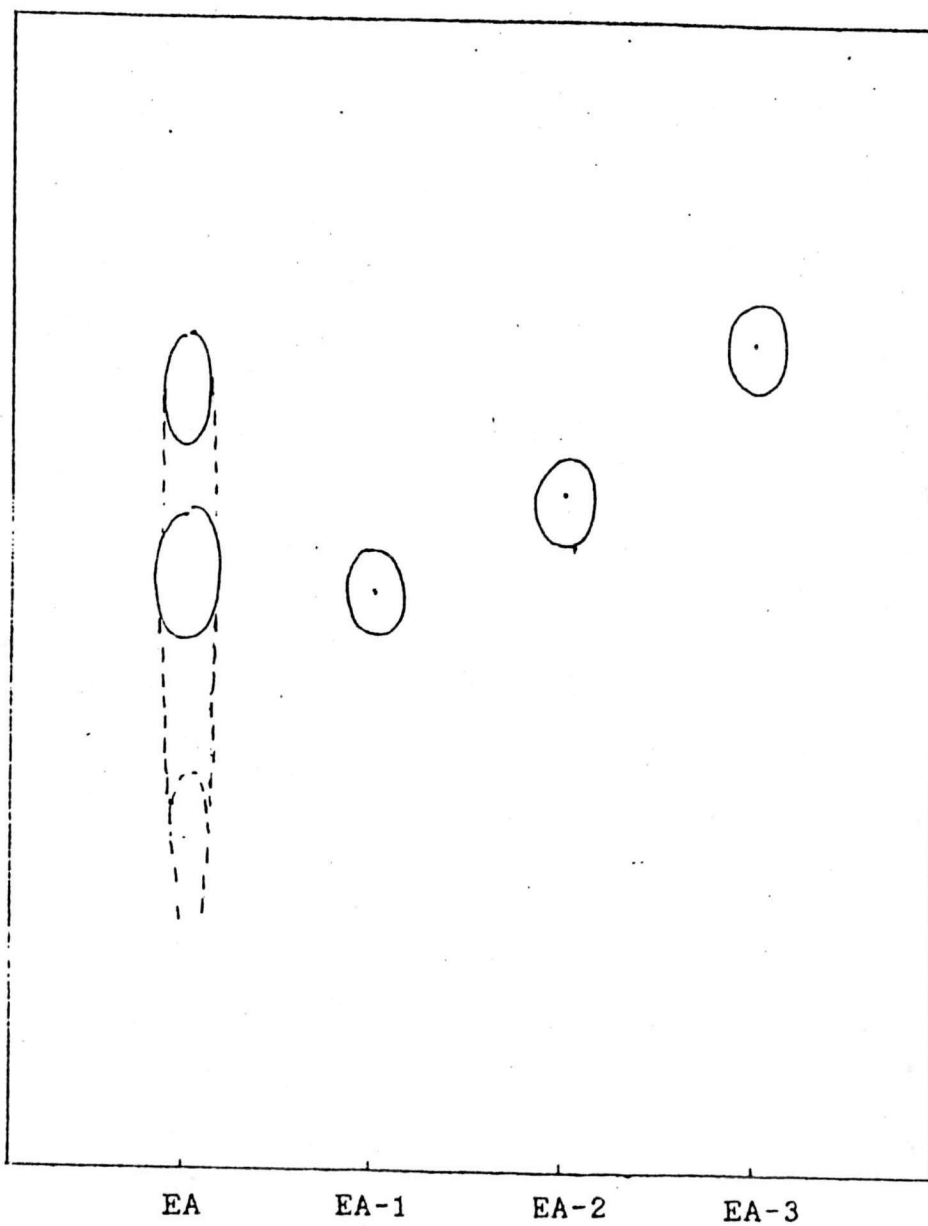


Figure 3.3 Thin-layer Chromatogram of Isolated compounds from *Eupatorium adenophorum* Spreng.

d) Silica gel G/ chloroform

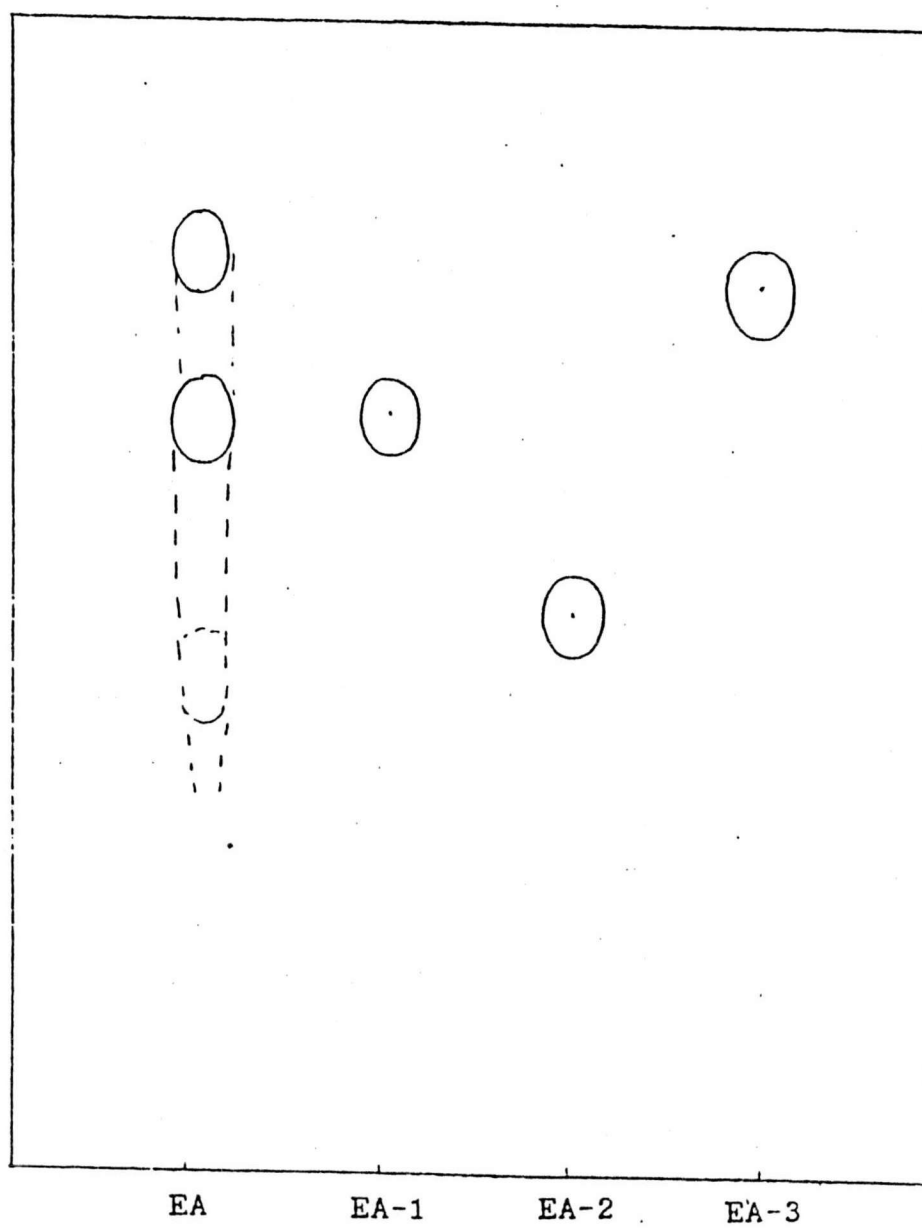


Figure 3.4 Thin-layer Chromatogram of Isolated compounds from *Eupatorium adenophorum* Spreng.

e) Silica gel G/ chloroform: acetone (9:1)

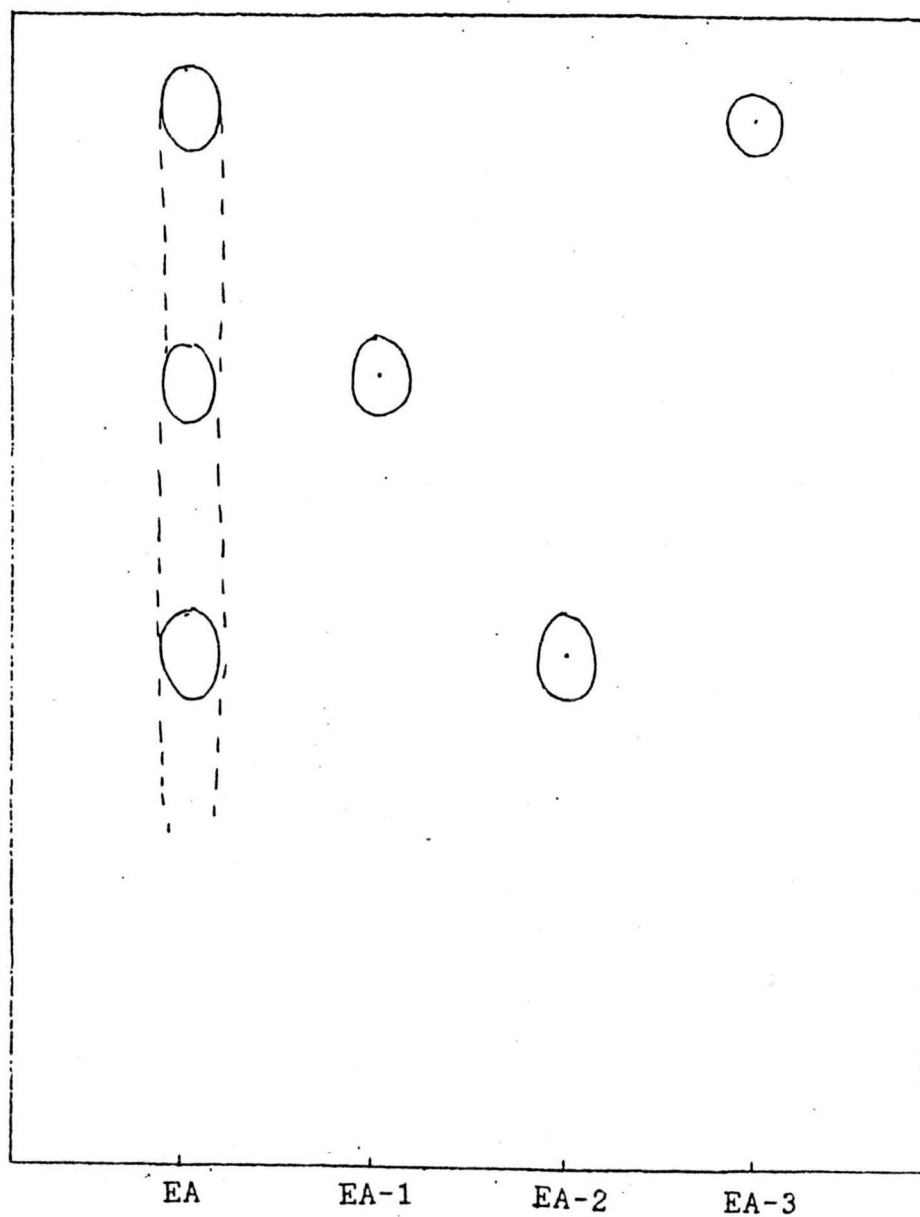


Figure 3.5 Thin-layer Chromatogram of Isolated compounds from *Eupatorium adenophorum* Spreng.

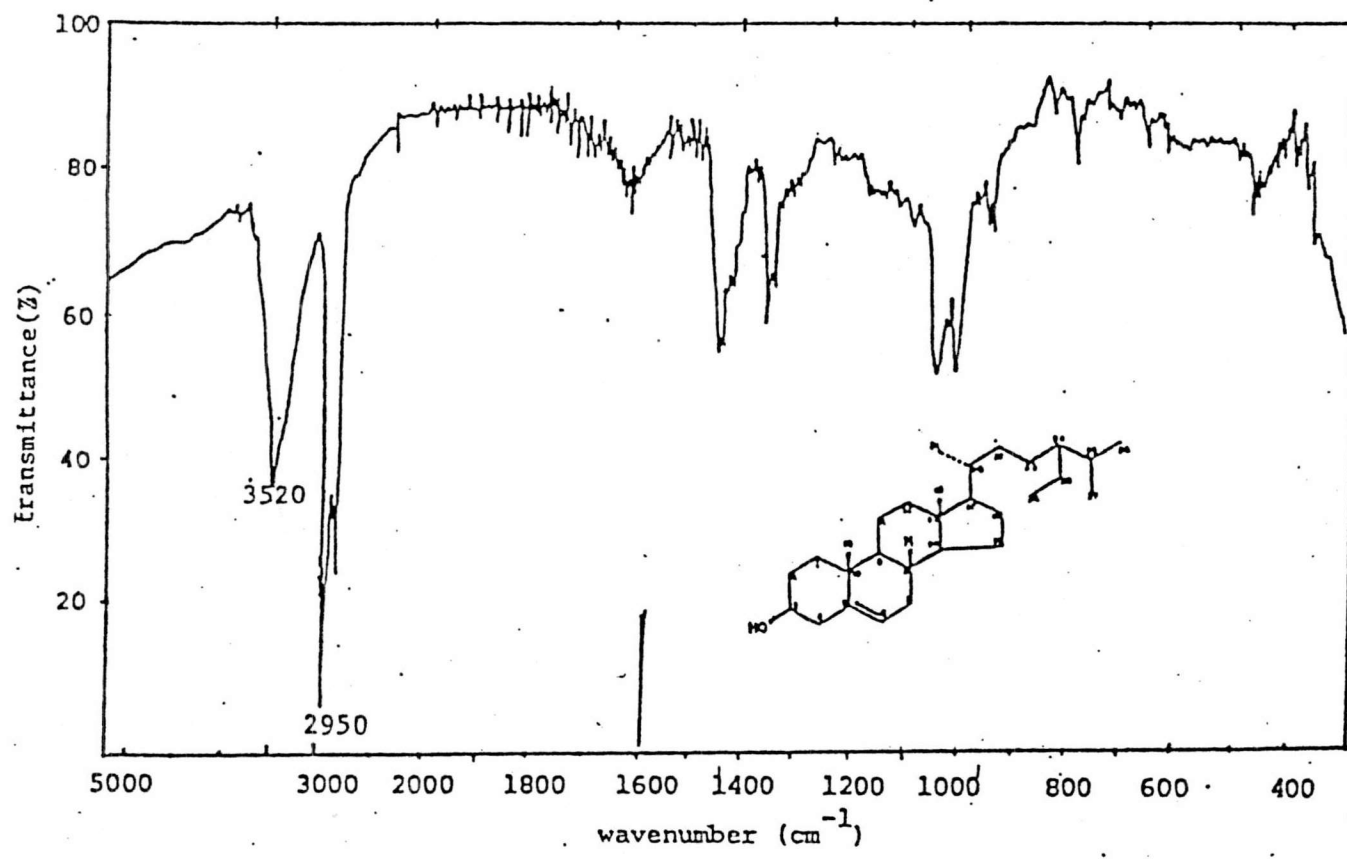


Figure 3.6 Infrared absorption spectrum of EA-1 from *Eupatorium adenophorum* Spreng. in KBr Disc

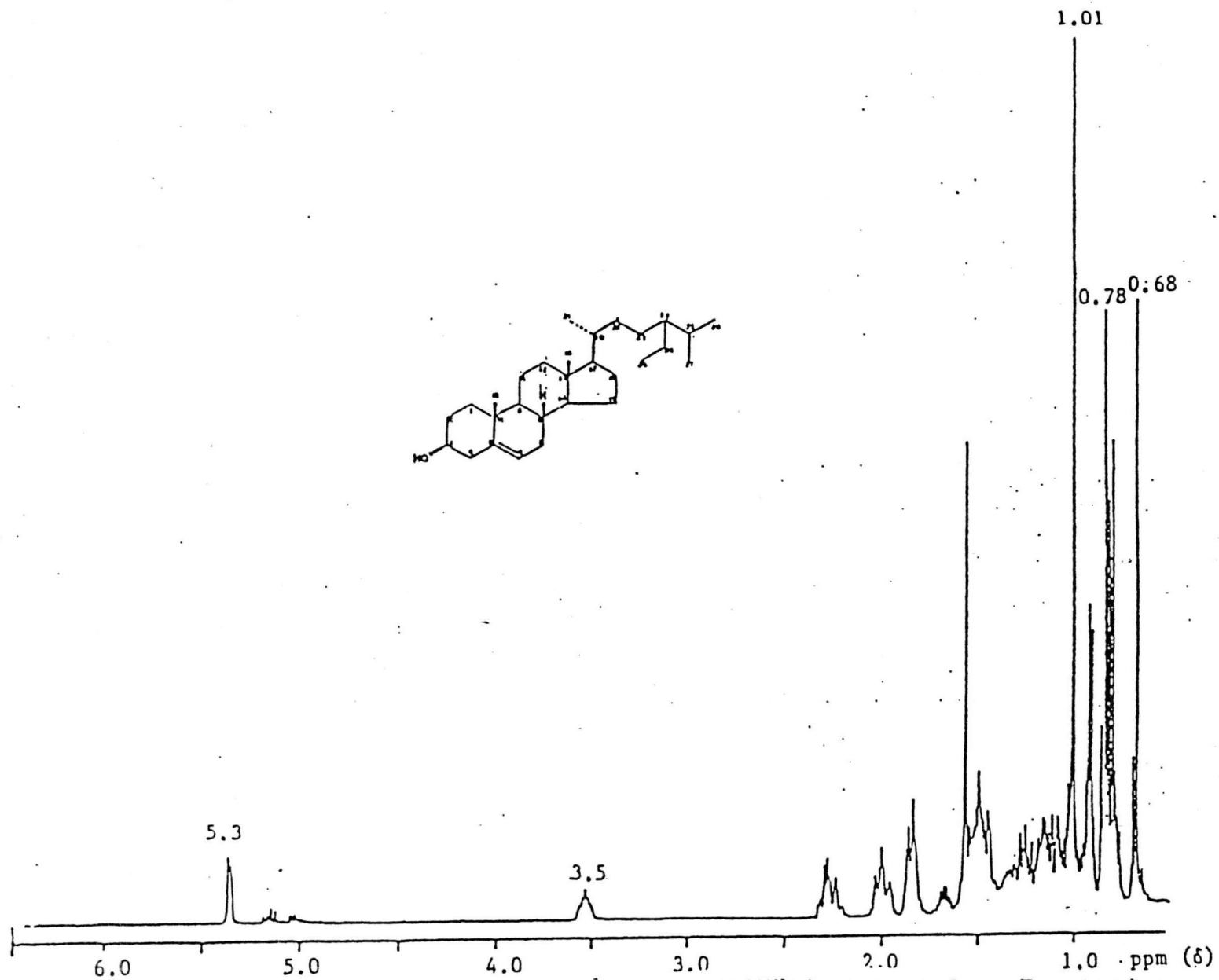


Figure 3.7 ^1H -Nuclear magnetic resonance spectrum (400MHz) of EA-1 from *Eupatorium adenophorum* Spreng. in CDCl_3 .

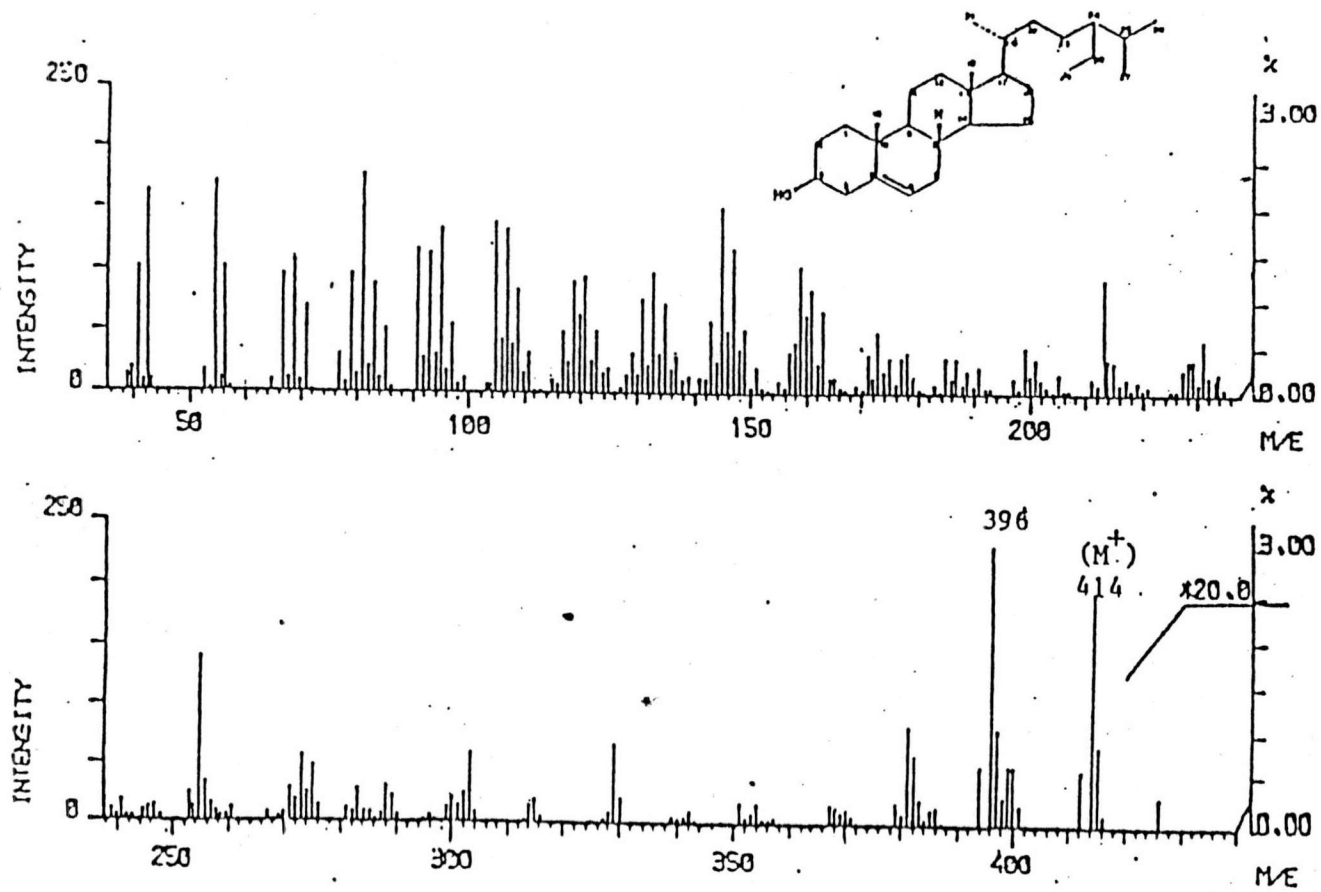


Figure 3.8 Electron impact mass spectrum of EA-1 from *Eupatorium adenophorum* Spreng.

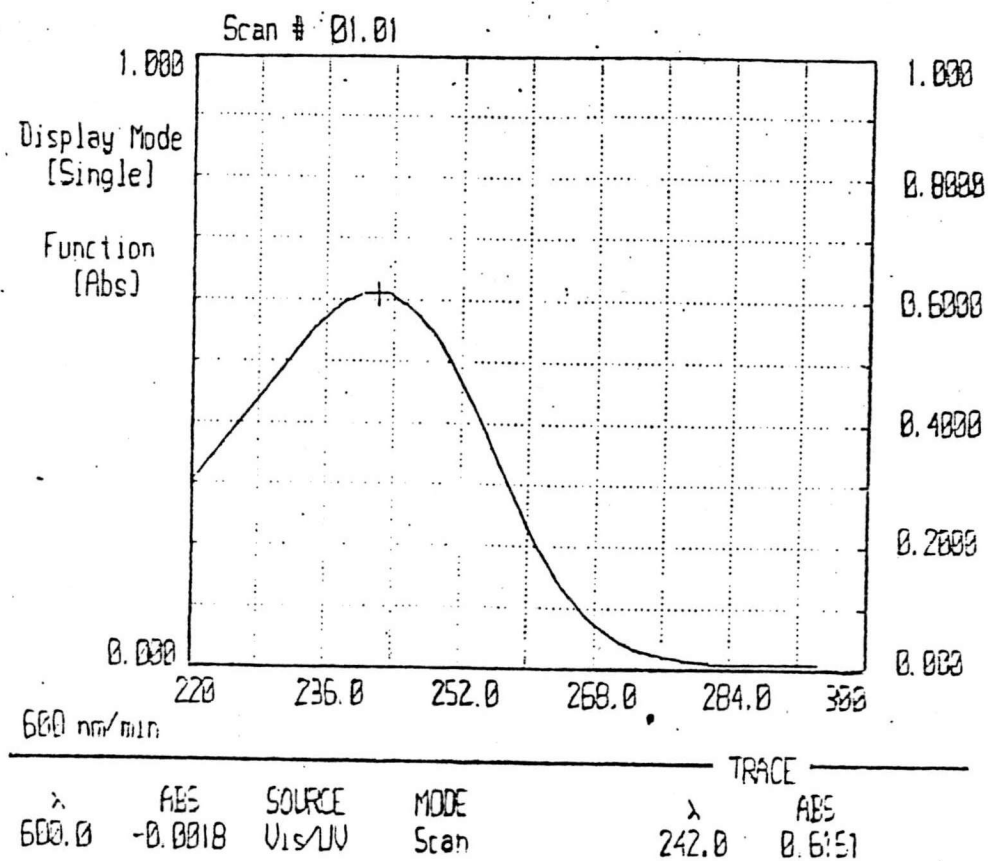


Figure 3.9 Ultraviolet absorption spectrum of EA-2 from *Eupatorium adenophorum* Spreng. in MeOH

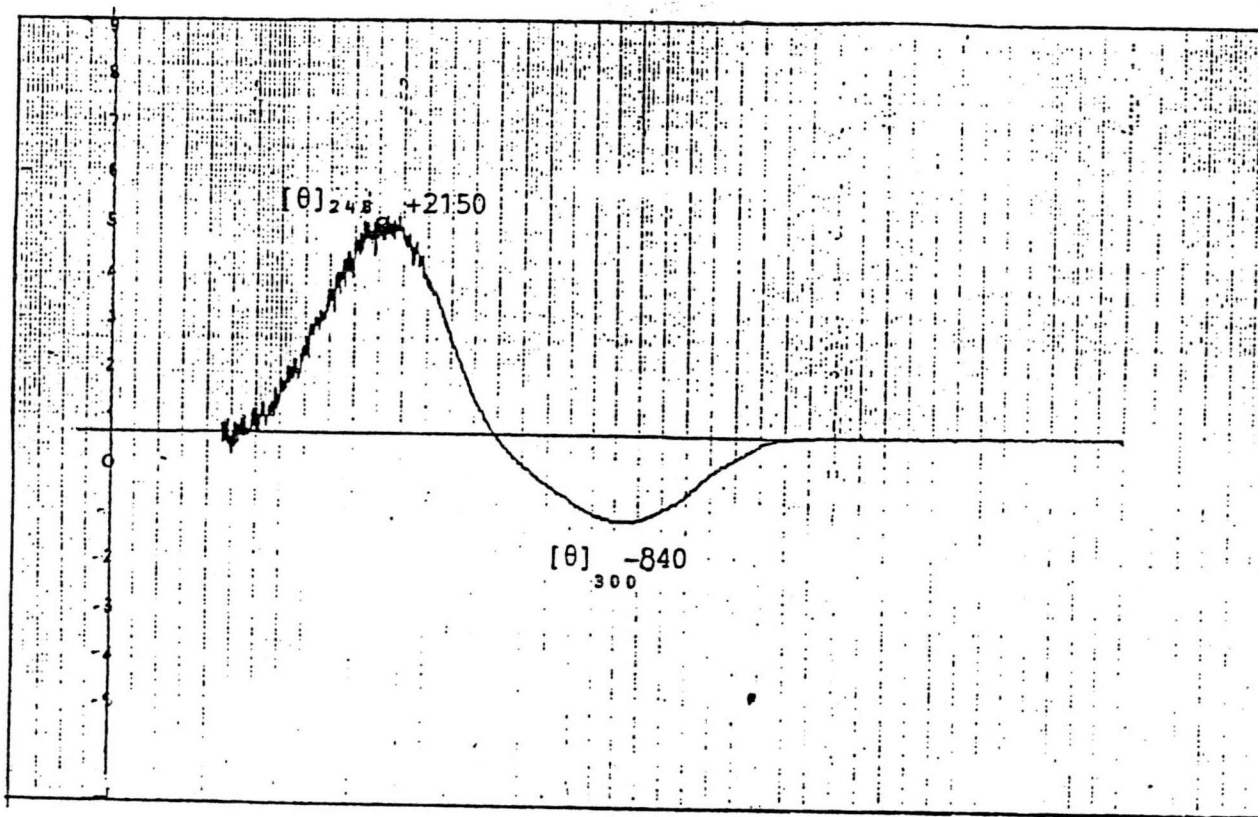


Figure 3.10 Circular dichroism spectrum of EA-2 from
Eupatorium adenophorum Spreng. in MeOH

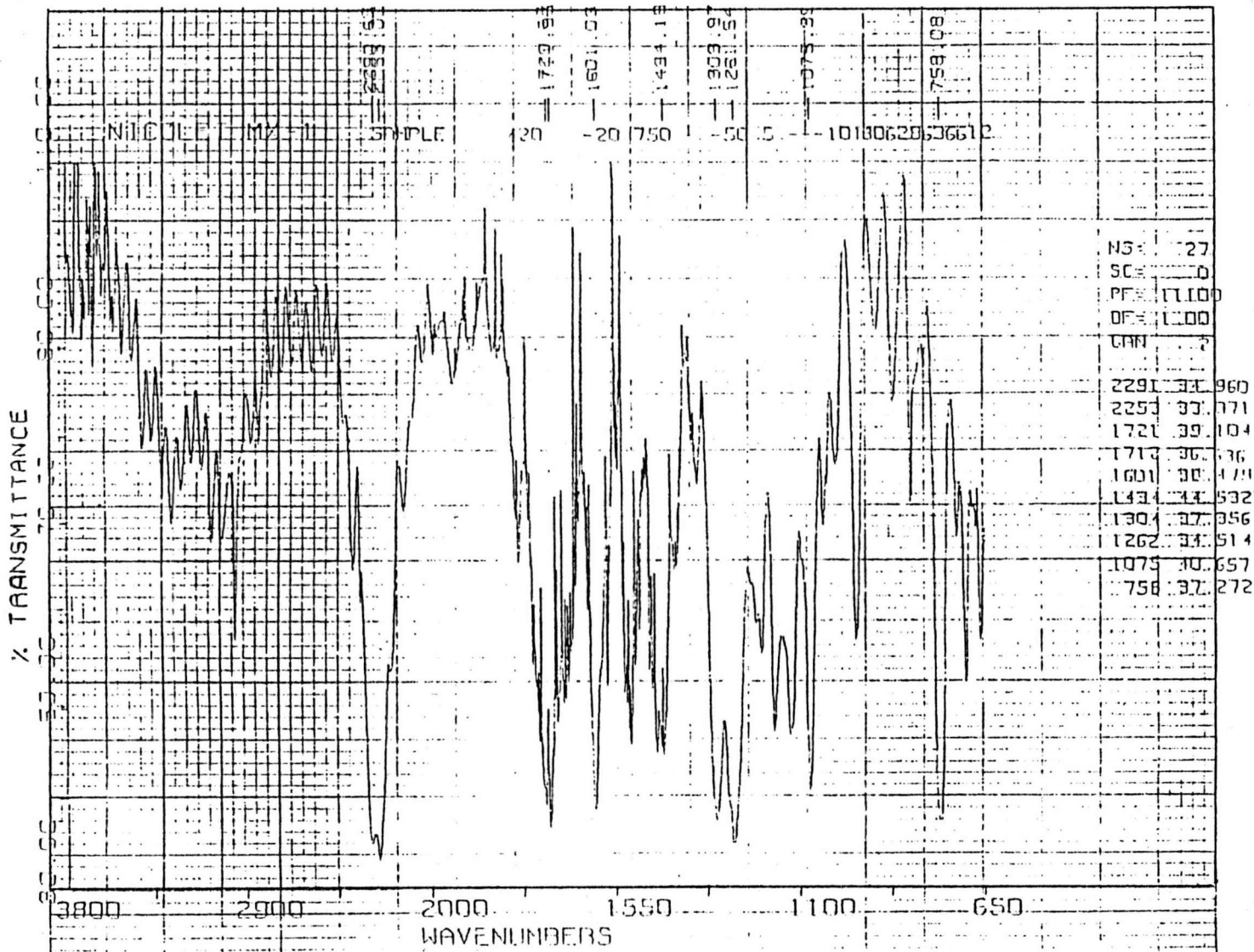


Figure 3.11 Infrared absorption spectrum of EA 2 from *Eupatorium adenophorum* Spreng. in KBr disc.

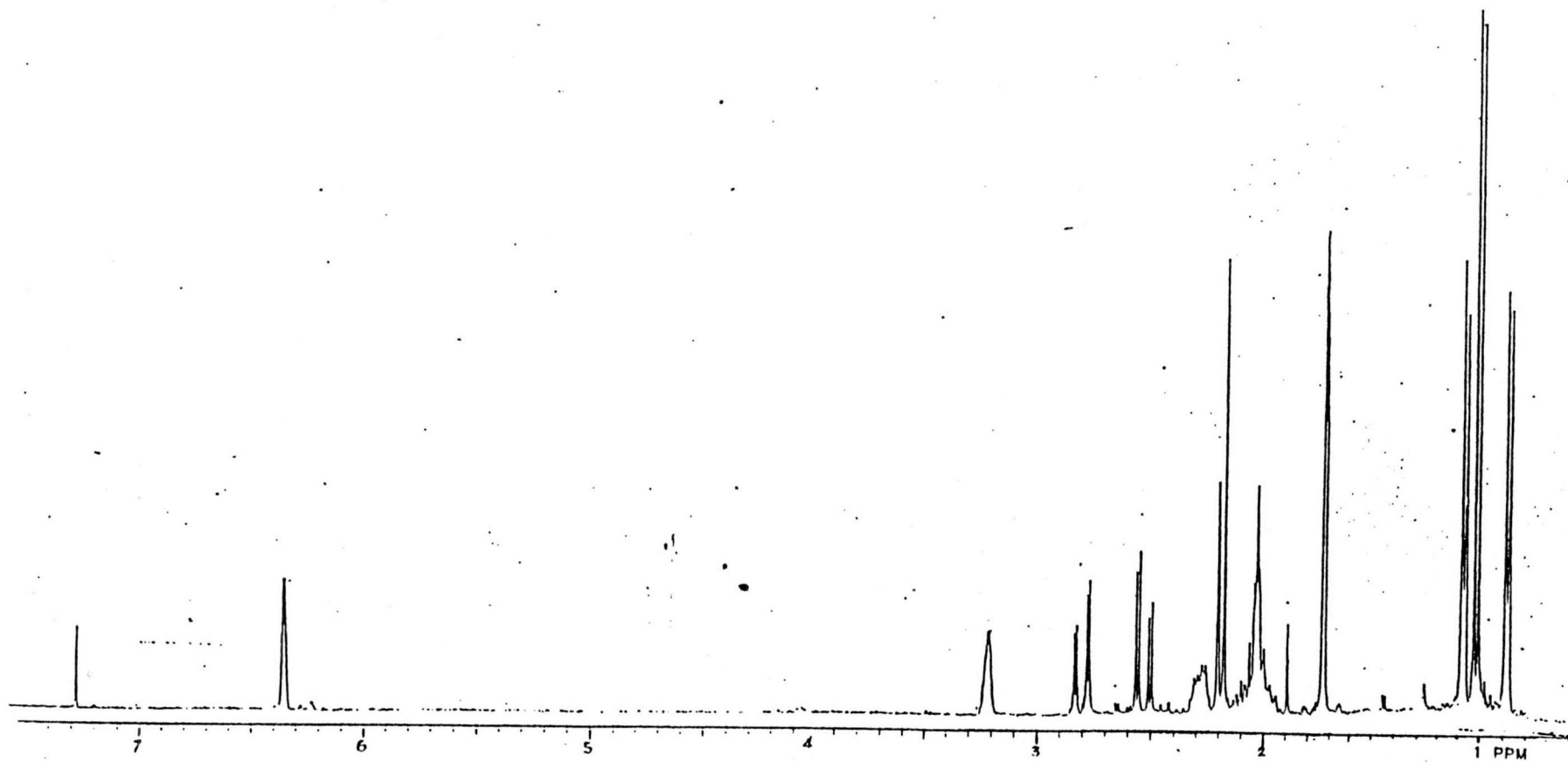


Figure 3.12 ^1H -Nuclear magnetic resonance spectrum of EA-2 from Eupatorium adenophorum
Spreng. in CDCl_3

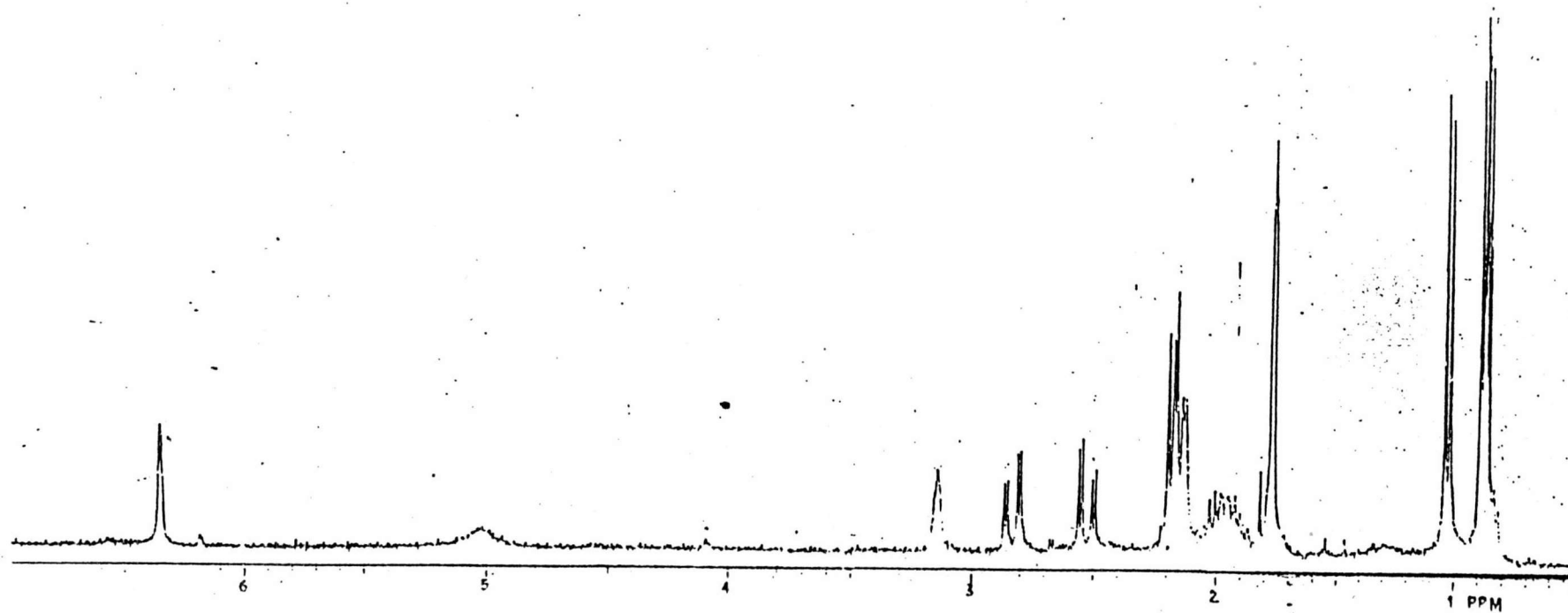


Figure 3.13 ^1H -Nuclear magnetic resonance spectrum of EA-2 from *Eupatorium adenophorum*
Spreng. in pyridine- D_5

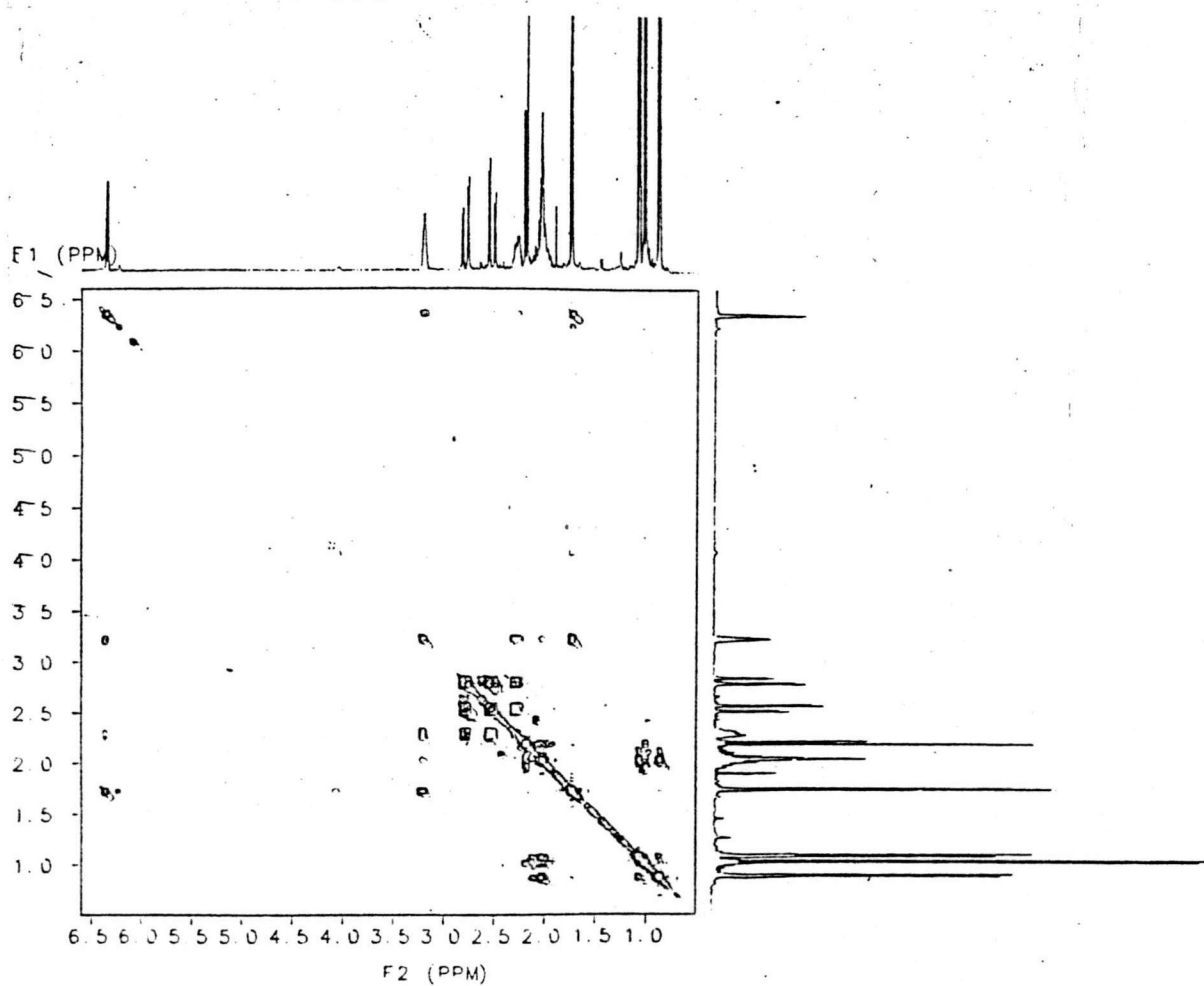


Figure 3.14 Two dimension ^1H nuclear magnetic resonance spectrum (COSY) of EA-2 from Eupatorium adenophorum Spreng. in CDCl_3 .

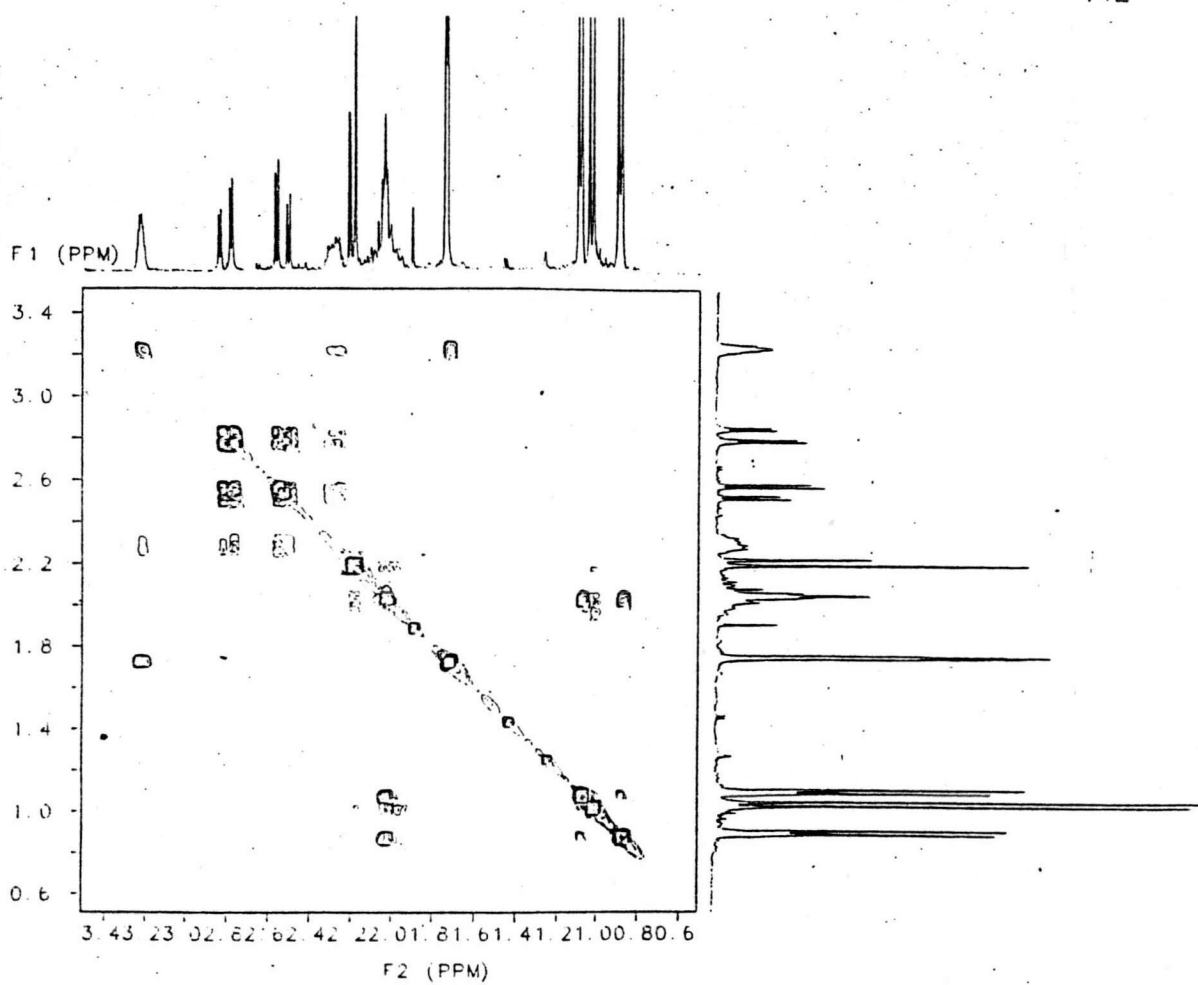


Figure 3.15 Two dimension ¹H nuclear magnetic resonance spectrum (COSY) of EA-2 from *Eupatorium adenophorum* Spreng. in CDCl₃

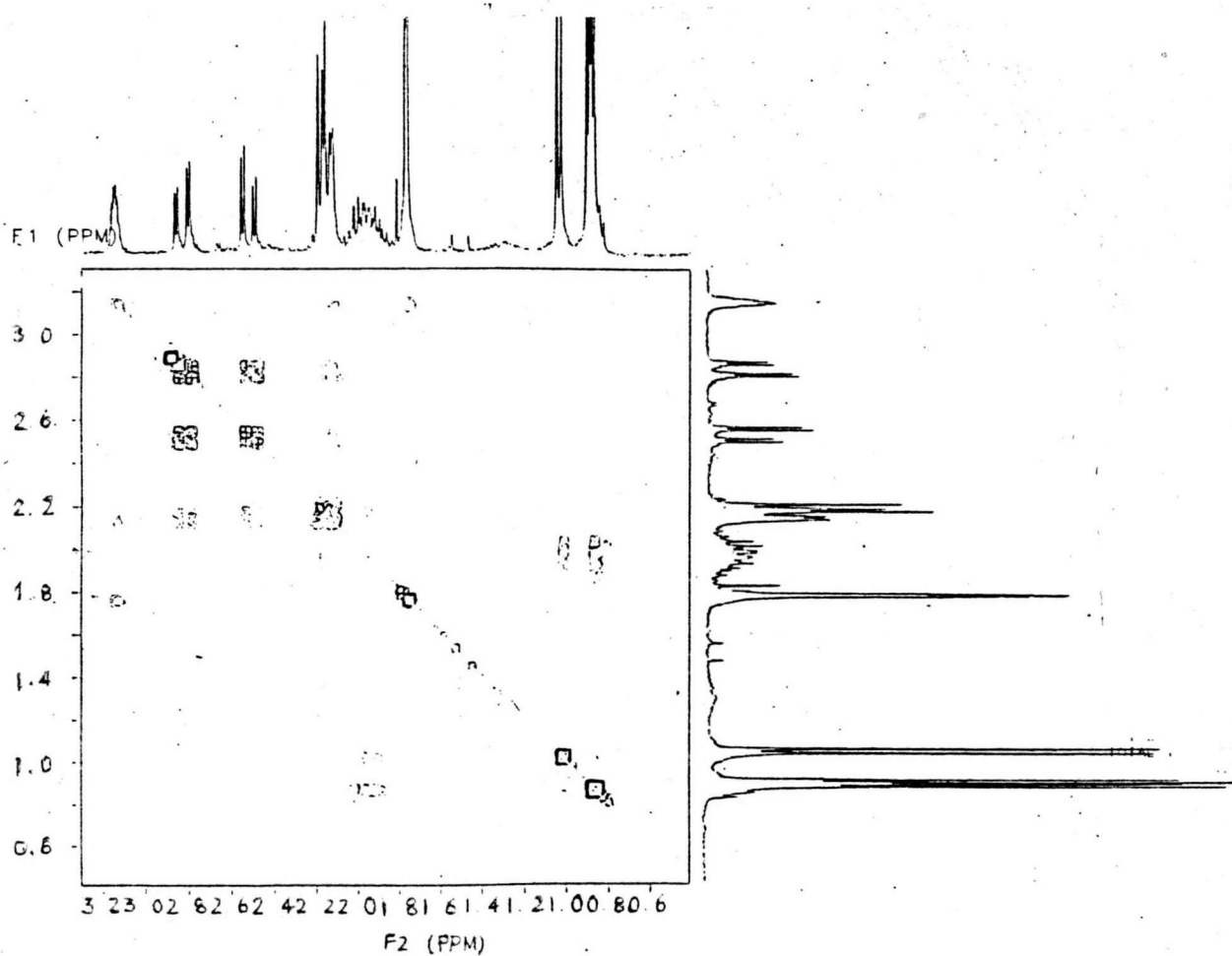


Figure 3.16 Two dimension ^1H nuclear magnetic resonance spectrum (COSY) of EA-2 from *Eupatorium adenophorum* Spreng. in pyridine- D_5

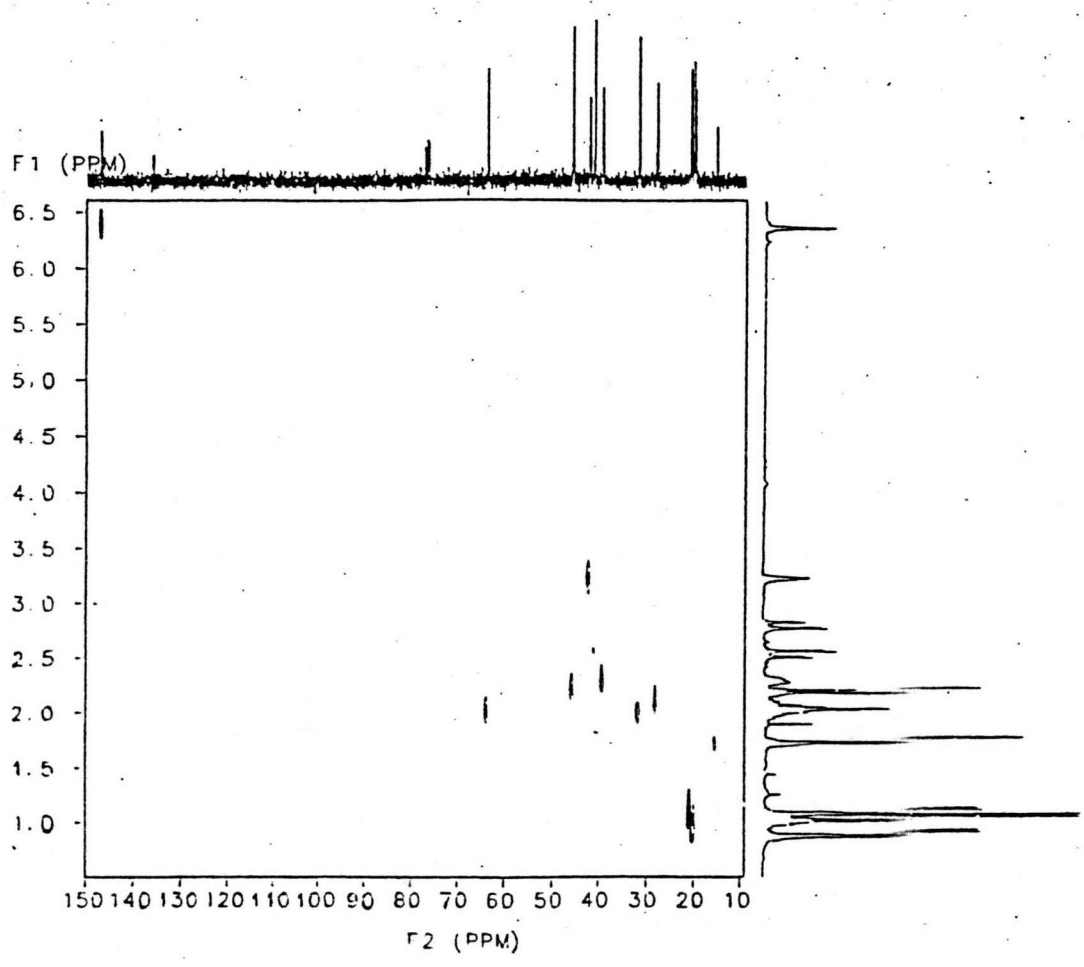


Figure 3.17 Two dimension ^{13}C nuclear magnetic resonance spectrum (HETCOR) of EA-2 from Eupatorium adenophorum Spreng in CDCl_3

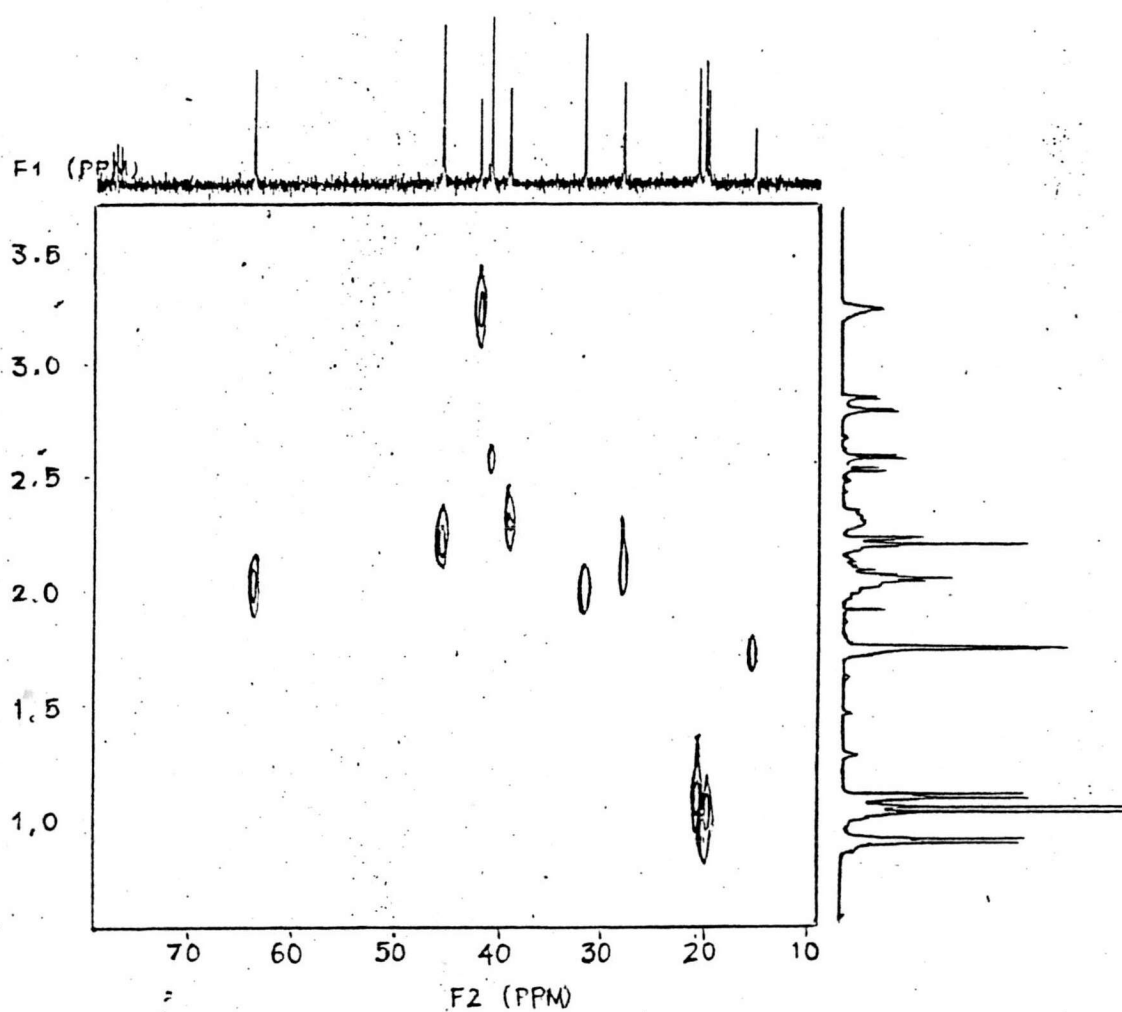


Figure 3.18 Two dimension ¹³C nuclear magnetic resonance spectrum (HETCOR) of EA-2 from *Eupatorium adenophorum* Spreng. in CDCl₃

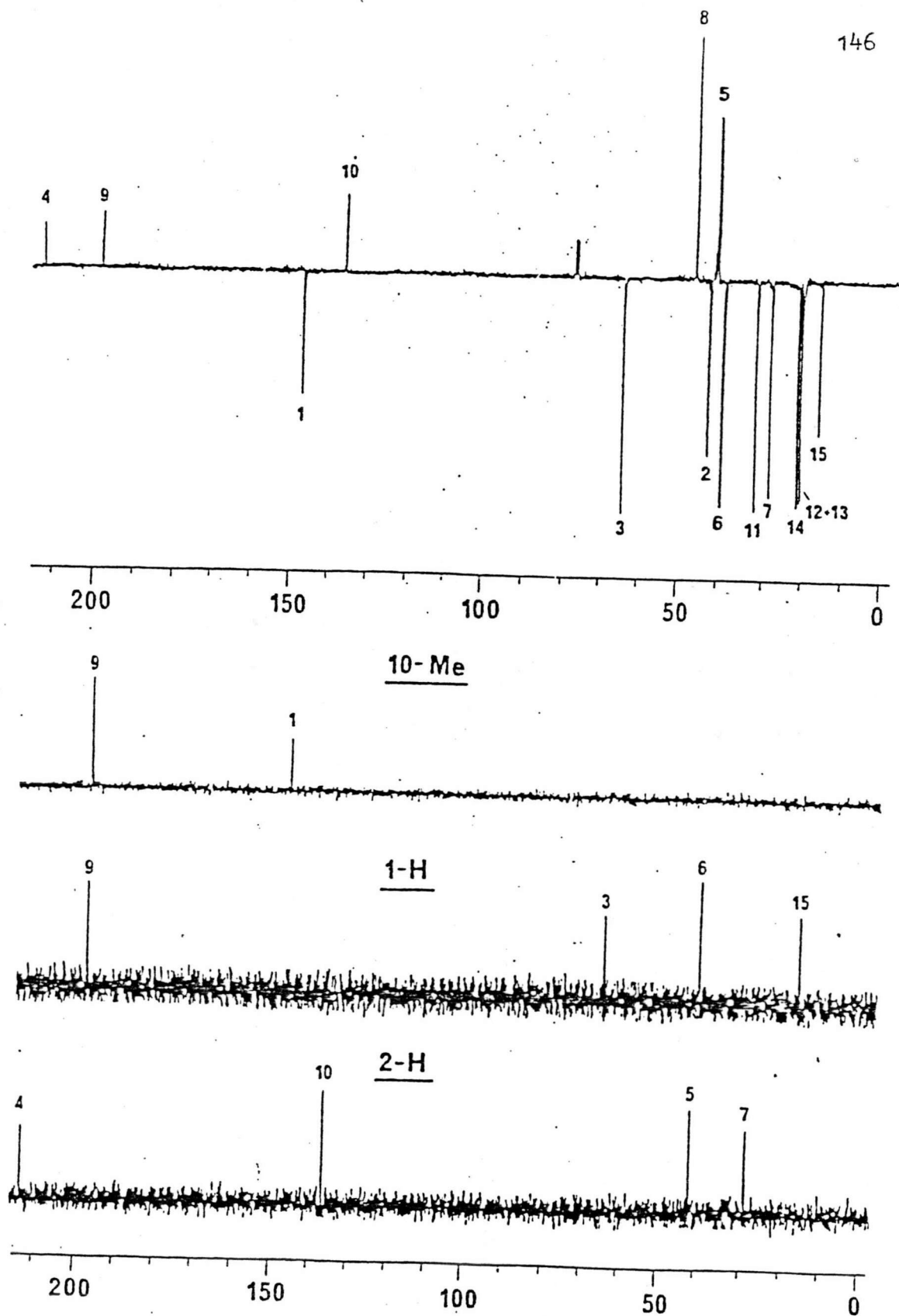


Figure 3.19 ^{13}C nuclear magnetic resonance spectrum (APT and SINEPT) of EA-2 from *Eupatorium adenophorum* Spreng. CDCl_3

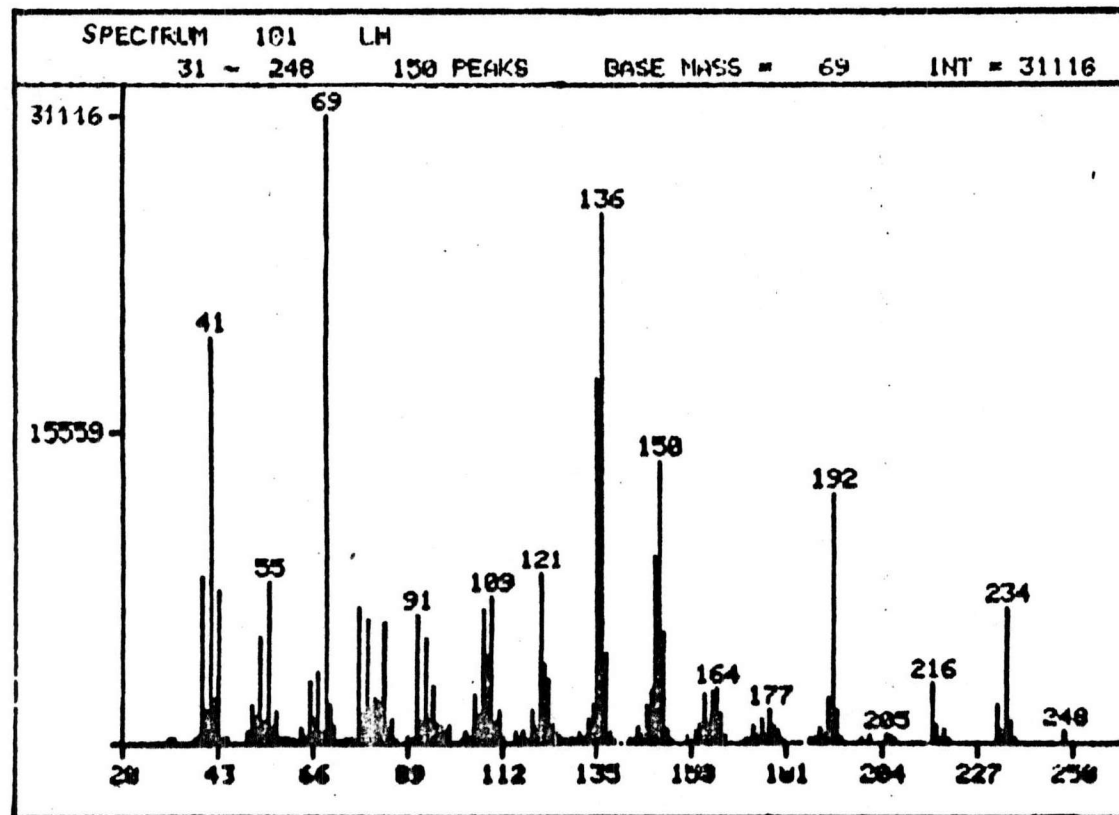


Figure 3.20 Mass spectrum of EA 2 from *Eupatorium adenophorum* Spreng.

VARIAN XL-100
 SPECTRAL LINES FOR T1= 10.00
 SFL= 150.4 P2P= 0

INDEX	FREQ	PPM	INTENSITY
01	1332.33	4.503	11.275
02	1379.67	4.600	12.277
03	694.91	2.317	13.202
04	687.48	2.292	20.726
05	673.95	2.267	17.653
06	506.44	1.536	14.702
07	498.22	1.511	16.466
08	485.62	1.485	27.196
09	473.44	1.459	19.231
10	457.62	1.524	11.173
11	406.21	1.421	11.551
12	412.63	1.277	24.761
13	400.44	1.252	22.332
14	383.24	1.278	67.052
15	376.02	1.254	429.376
16	350.62	1.159	12.376
17	339.23	1.133	27.175
18	313.21	1.045	17.175
19	309.23	1.021	26.932
20	306.19	1.021	69.032
21	302.55	1.009	36.267
22	299.73	0.999	11.667
23	290.56	0.369	36.151
24	294.97	0.950	13.651
25	278.54	0.923	51.425
26	278.54	0.902	20.205
27	263.22	0.878	97.635
28	250.77	0.869	92.935
29	255.52	0.855	87.935
30	253.43	0.845	126.985
31	249.15	0.831	36.437

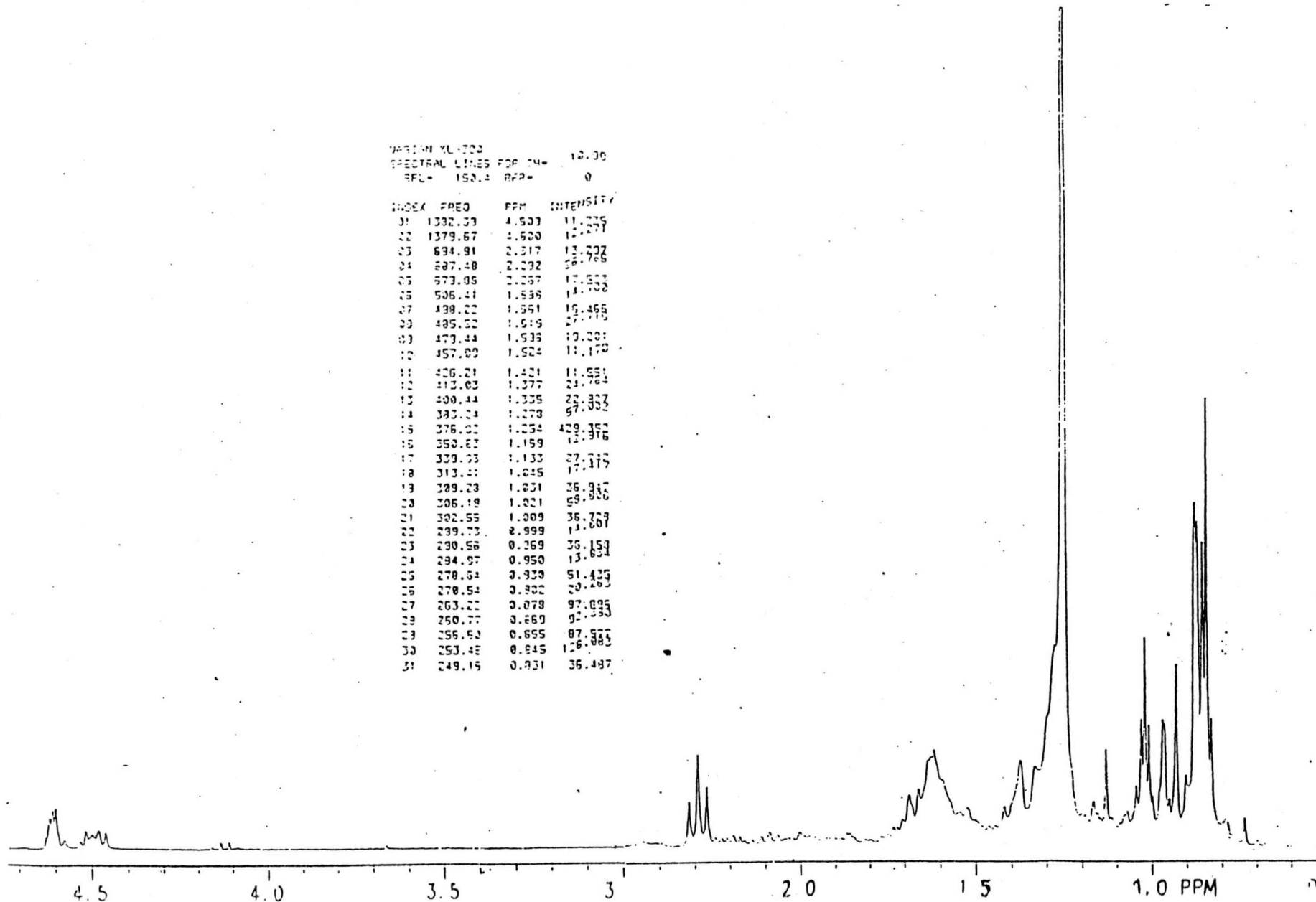


Figure 3.21 ^1H Nuclear magnetic resonance spectrum of EA-3 from *Eupatorium adenophorum*
 Spreng. in CDCl_3



VITA

Miss Sirinart Ananvoranich was born on December 7, 1964 in Songkhla province, Thailand. She obtained her Bachelor of Science (First class honour) in Pharmacy in 1987 from the Faculty of Pharmaceutical Sciences, Chulalongkorn University, Bangkok, Thailand. At present, she is a quality control pharmacist of Police General Office.