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## APPENDIX

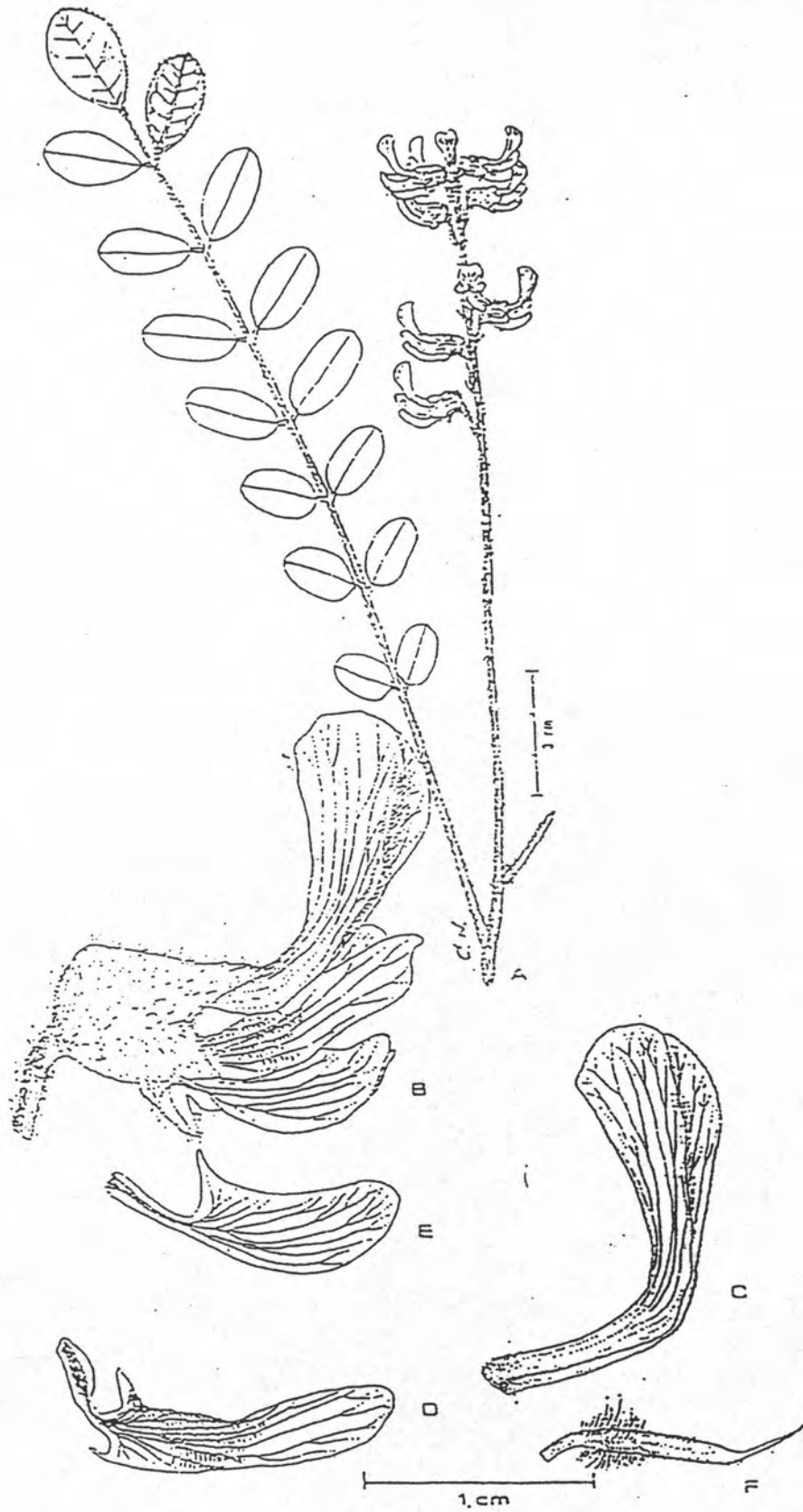


Figure 1 *Sophora exigua* Craib : A = flowering branch ; B = flower ;  
C = standard ; D = wing ; E = keel ; F = ovary

Silica gel GF<sub>254</sub> / Hexane : Ethyl acetate (90 : 10)

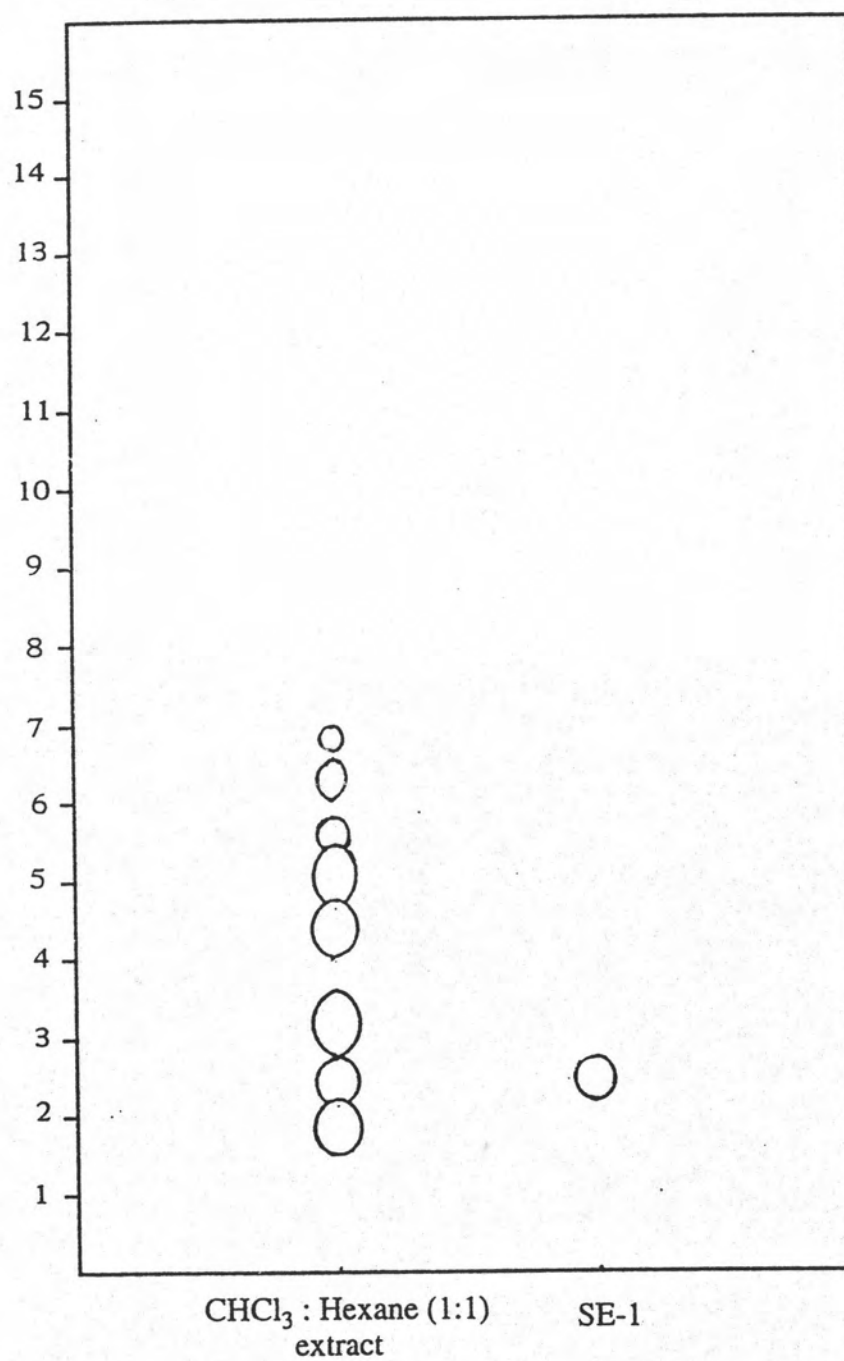


Figure 9 Thin-layer chromatogram of the CHCl<sub>3</sub> : Hexane (1:1) extract and the isolated compounds (SE-1)

Silica gel GF<sub>254</sub> / Chloroform : Hexane (95 : 5)

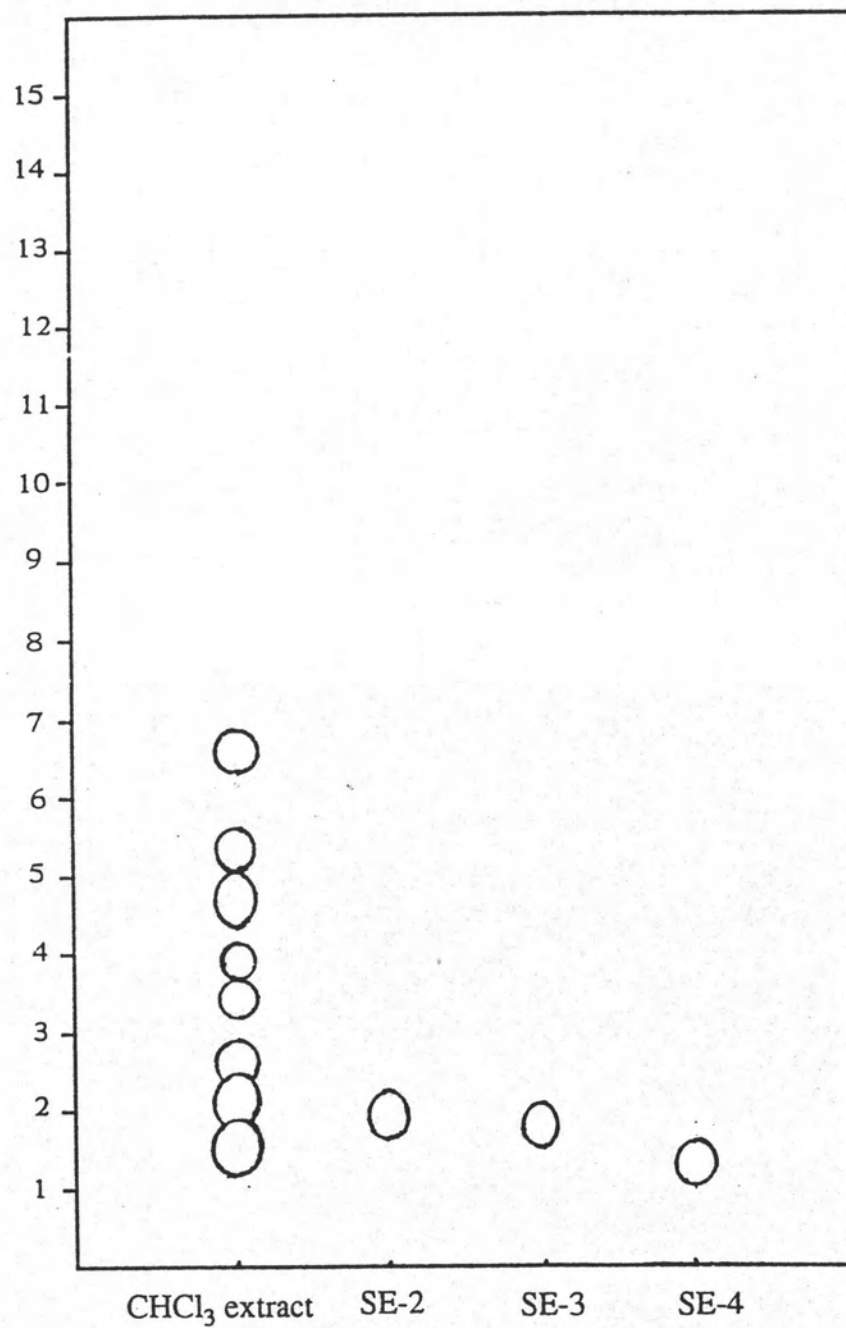


Figure 10 Thin-layer chromatogram of the  $\text{CHCl}_3$  extract and the isolated compounds (SE-2, SE-3, SE-4)

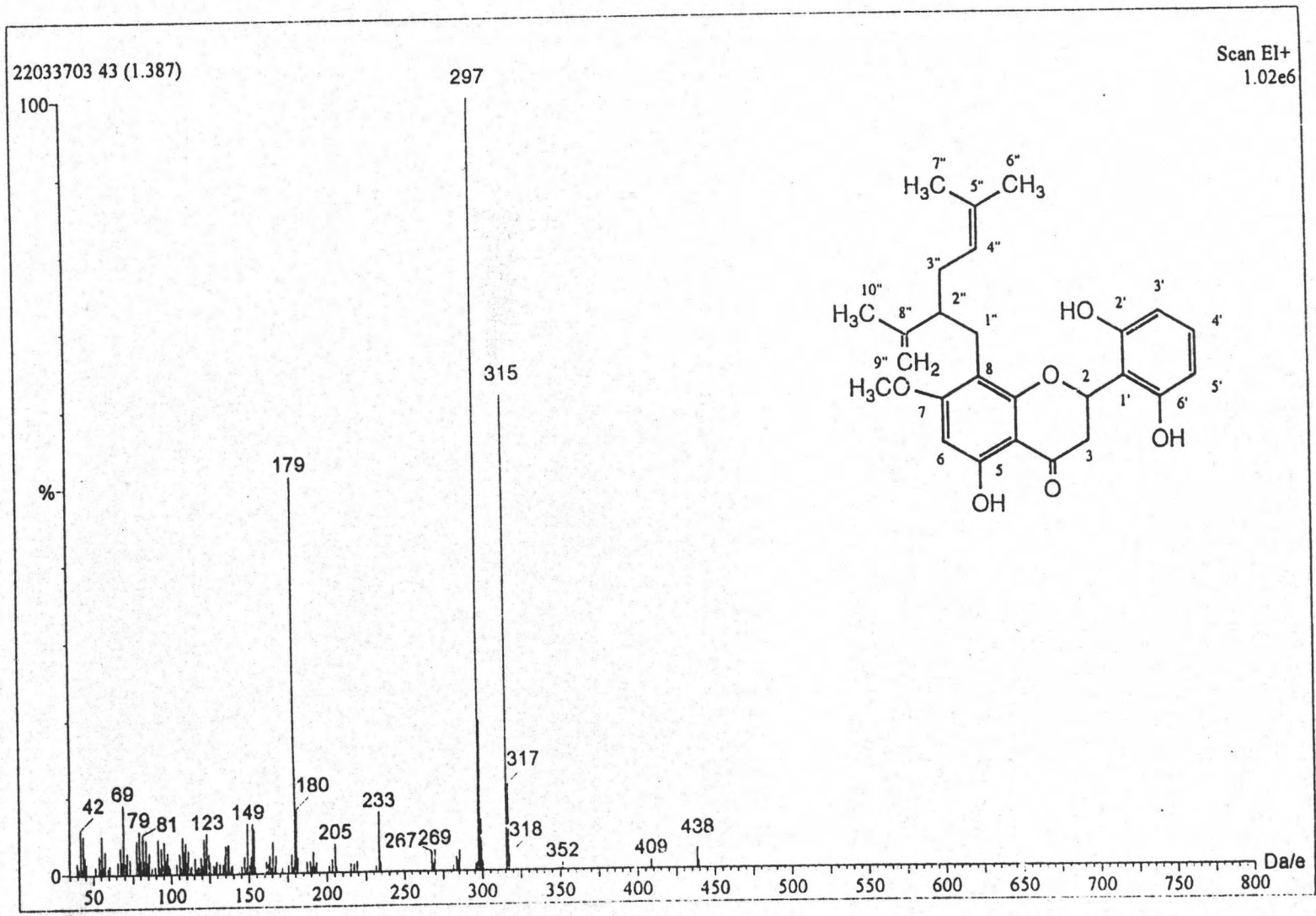


Figure 11 Mass spectrum of SE-1.

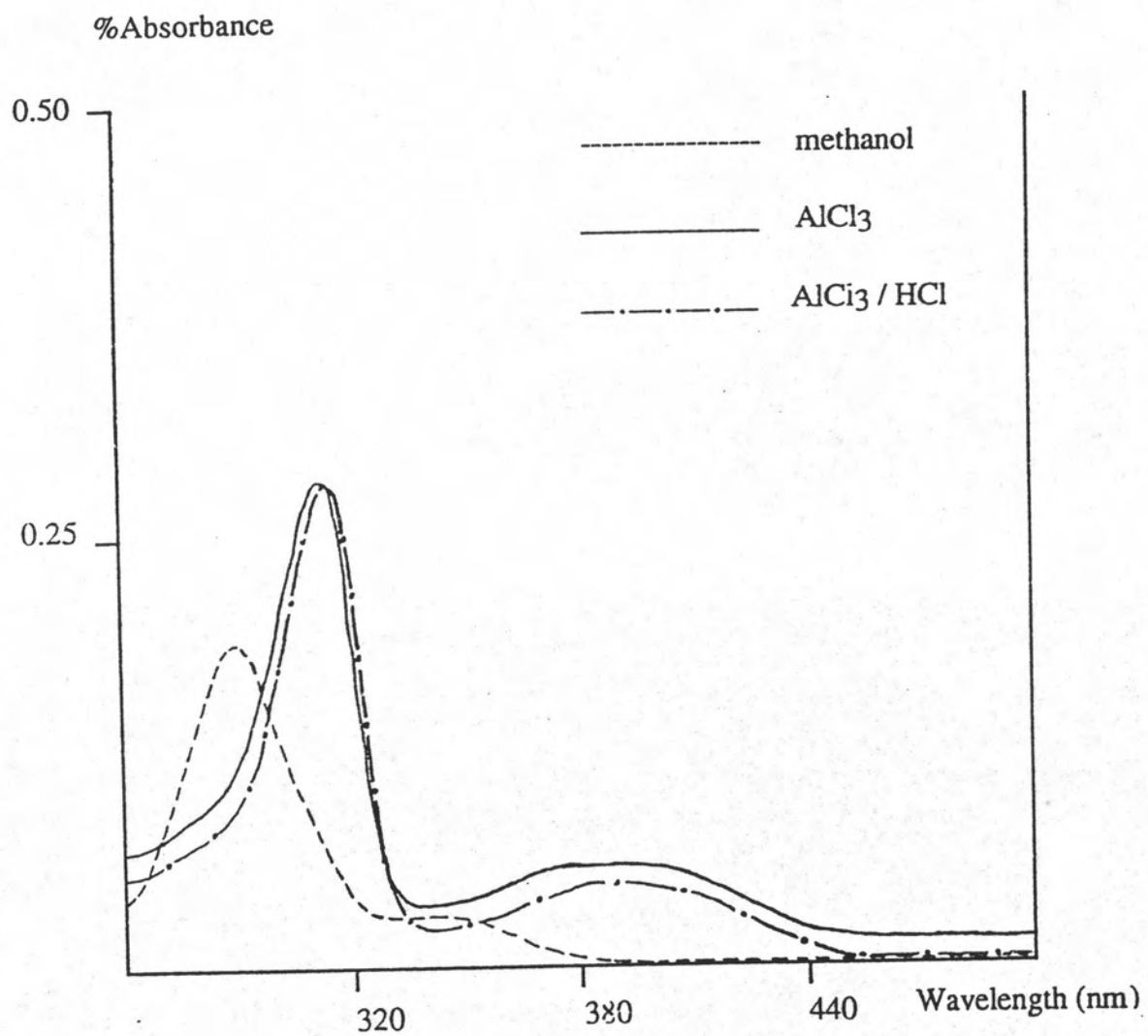


Figure 12 Ultraviolet absorption spectrum of SE-1 .

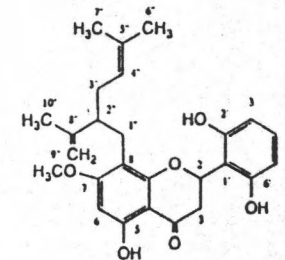
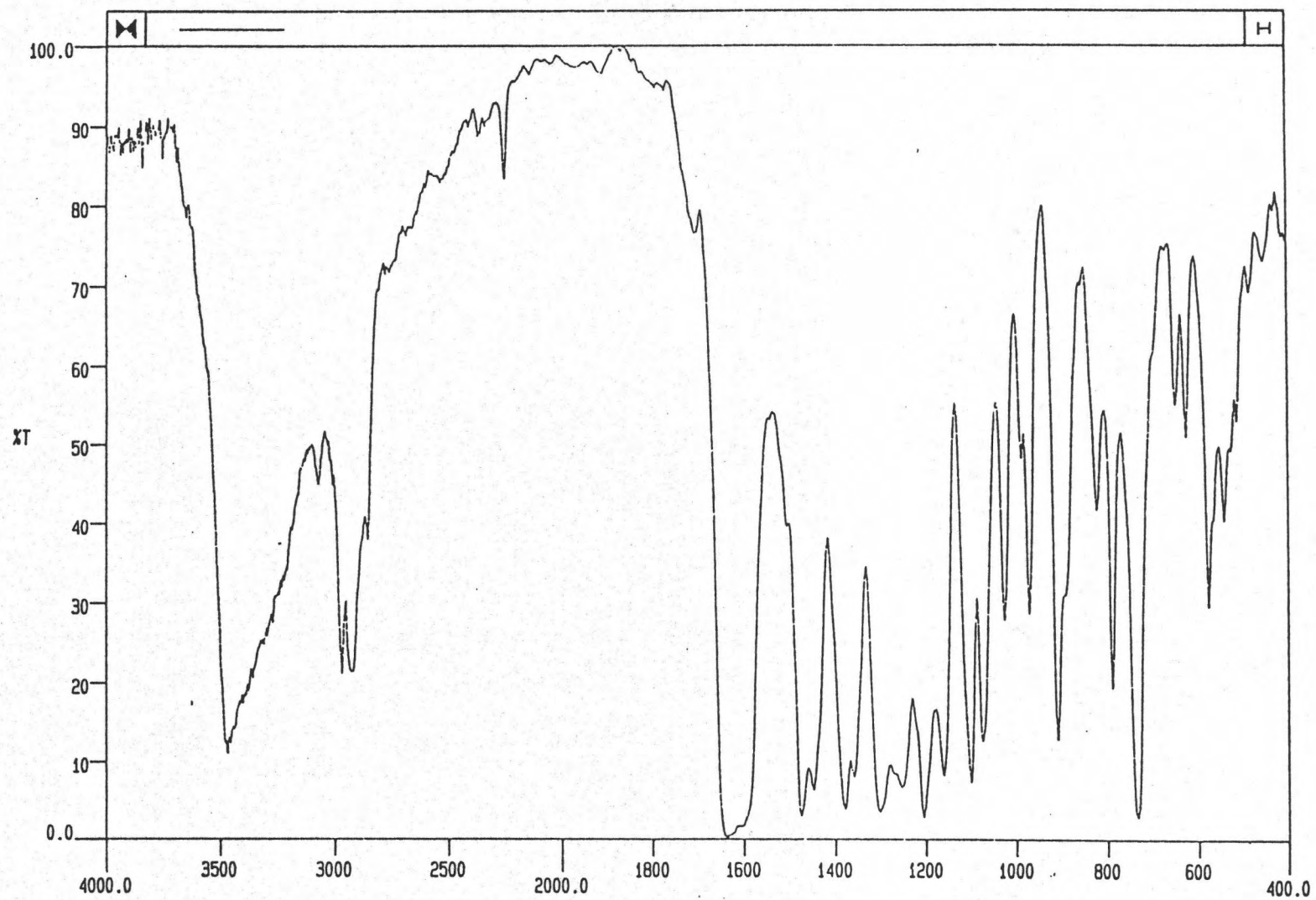


Figure 13 Infrared absorption spectrum of SE-1.

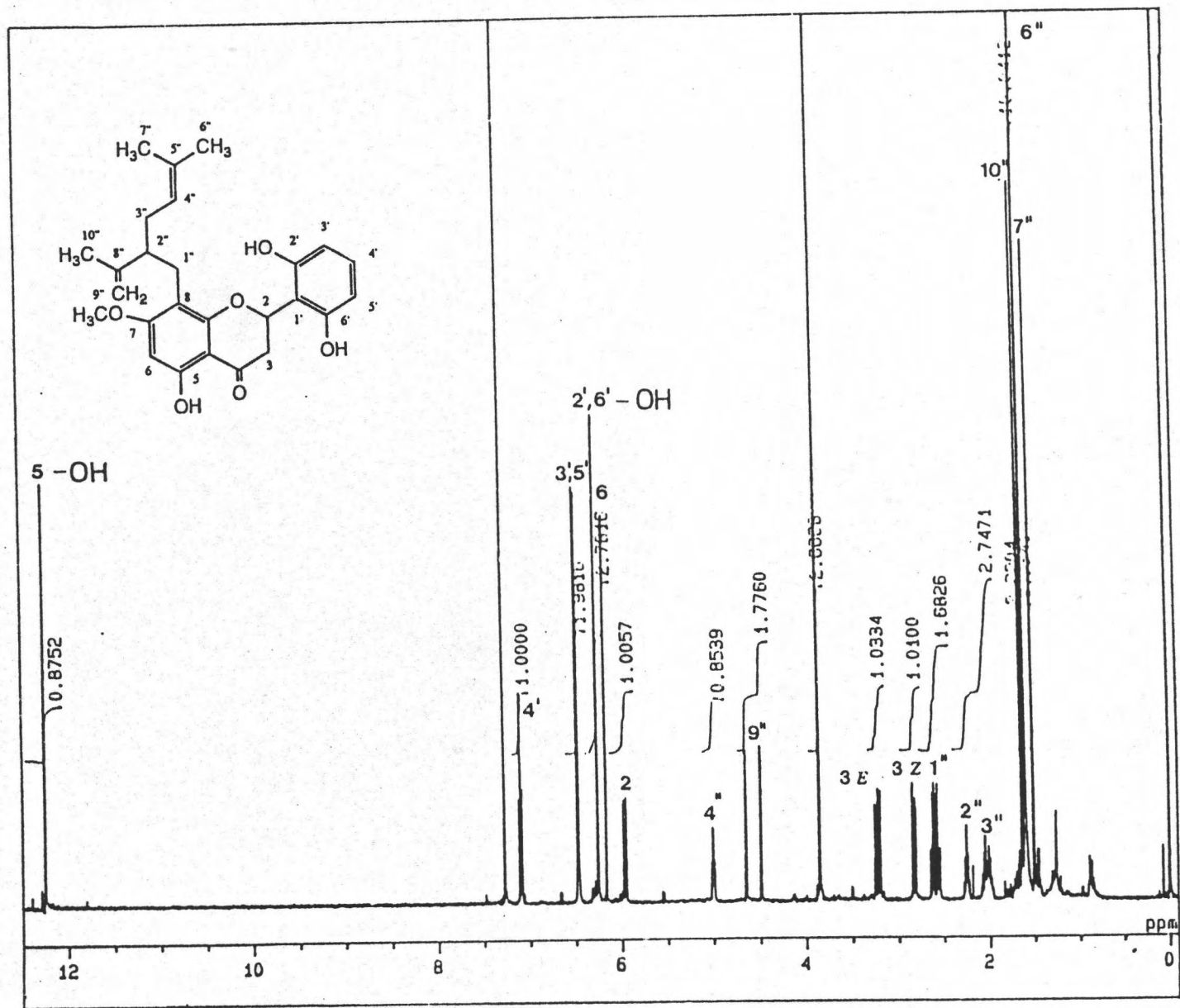


Figure 14  $^1\text{H-NMR}$  spectrum of SE-1 in deuterated chloroform (500 MHz).



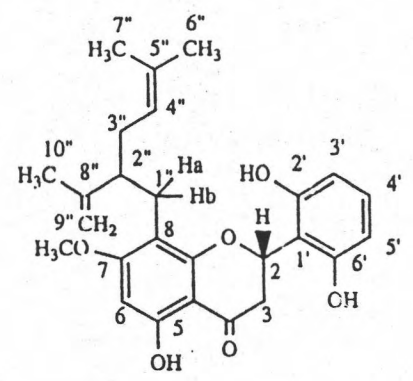
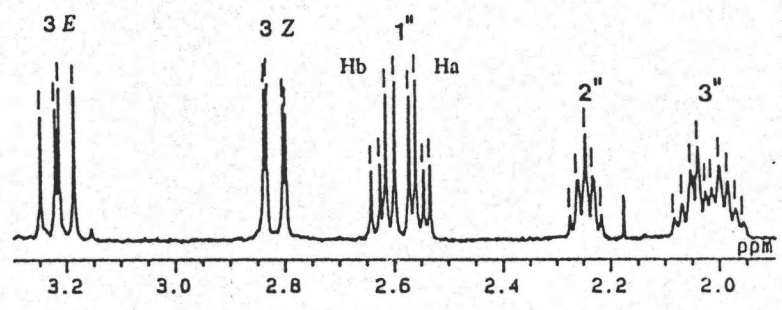
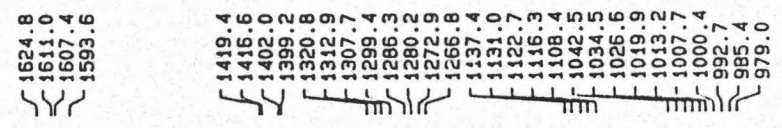
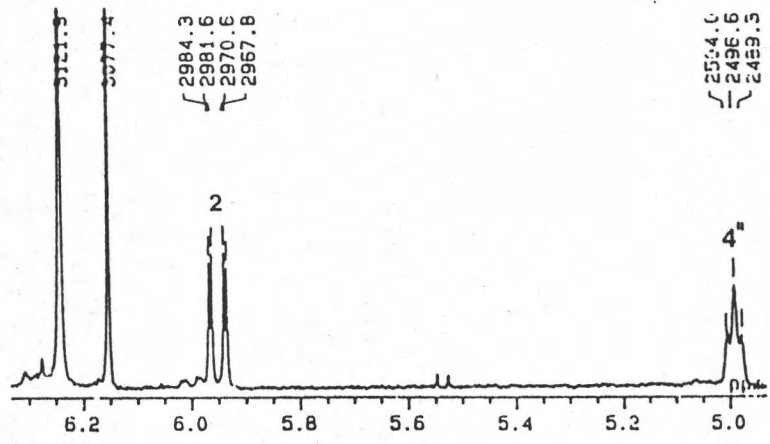
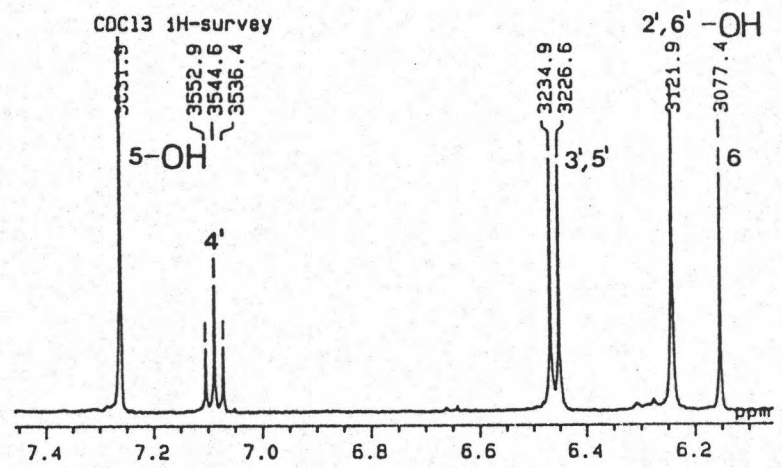


Figure 15 <sup>1</sup>H-NMR spectrum of SE-1 in deuterated chloroform (500 MHz) (expanded from 2.0-7.4 ppm).

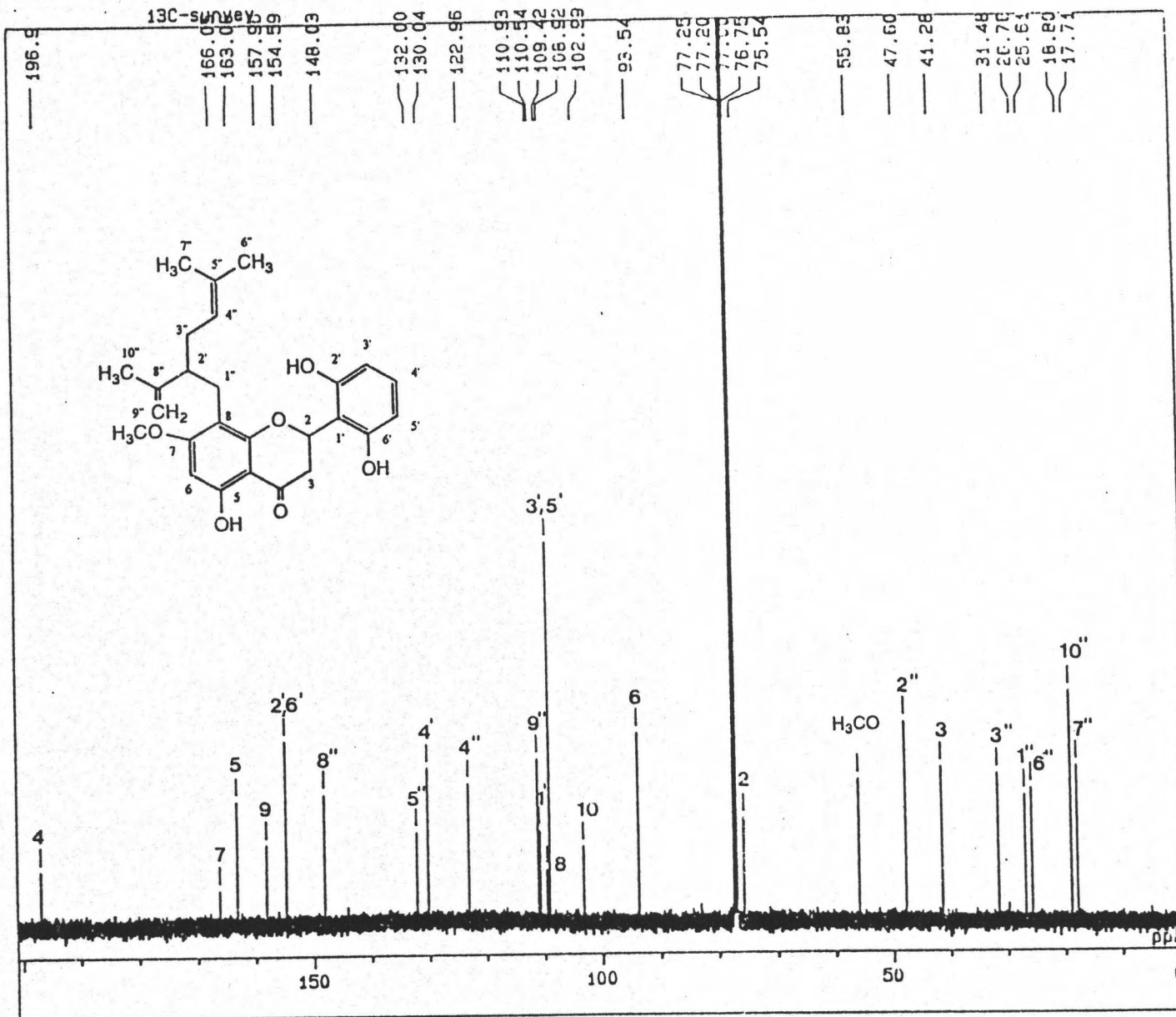


Figure 16 <sup>13</sup>C-NMR spectrum of SE-1 in deuterated chloroform (125 MHz).

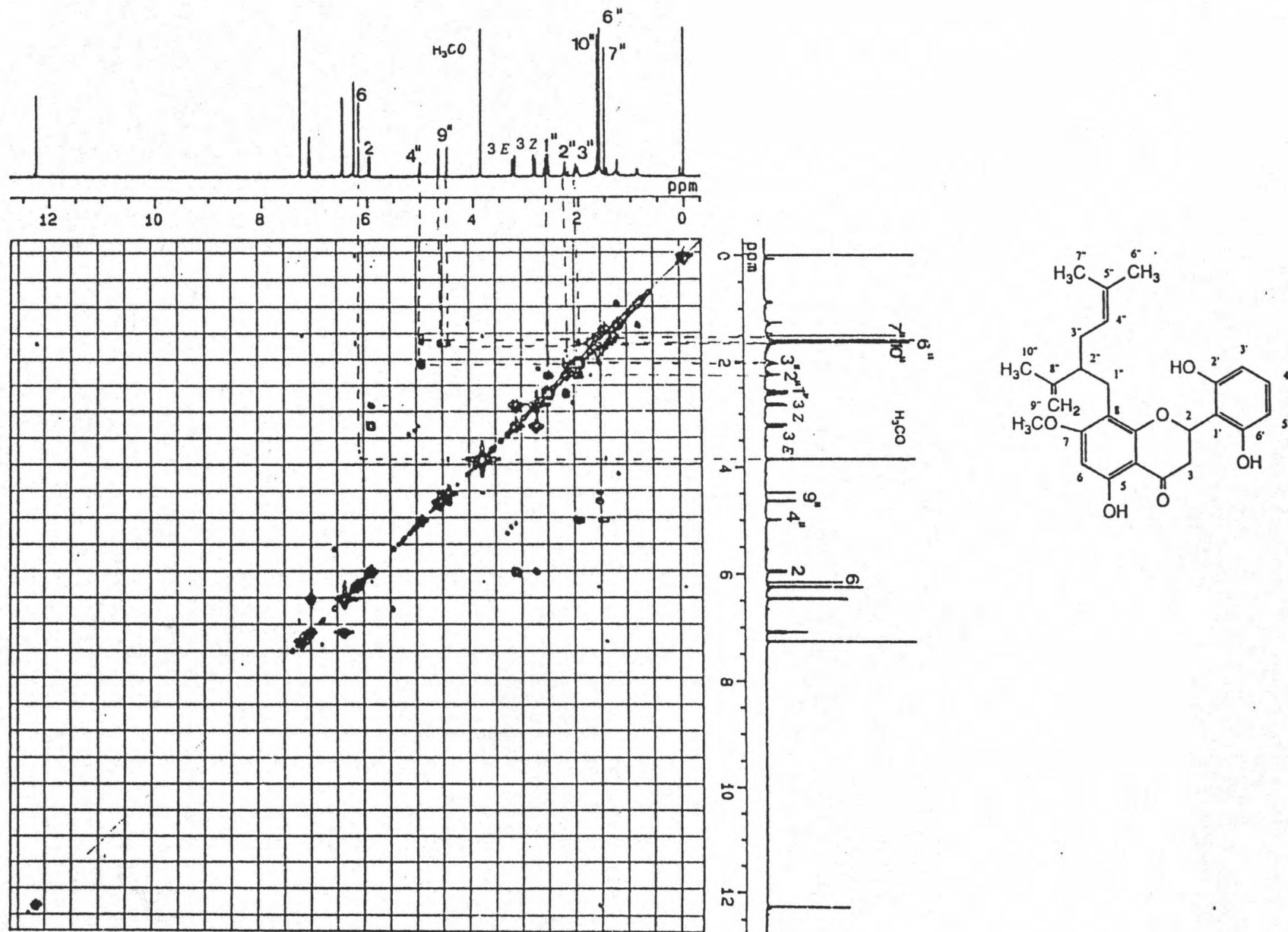


Figure 17 The 500 MHz  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of SE-1 in deuterated chloroform.

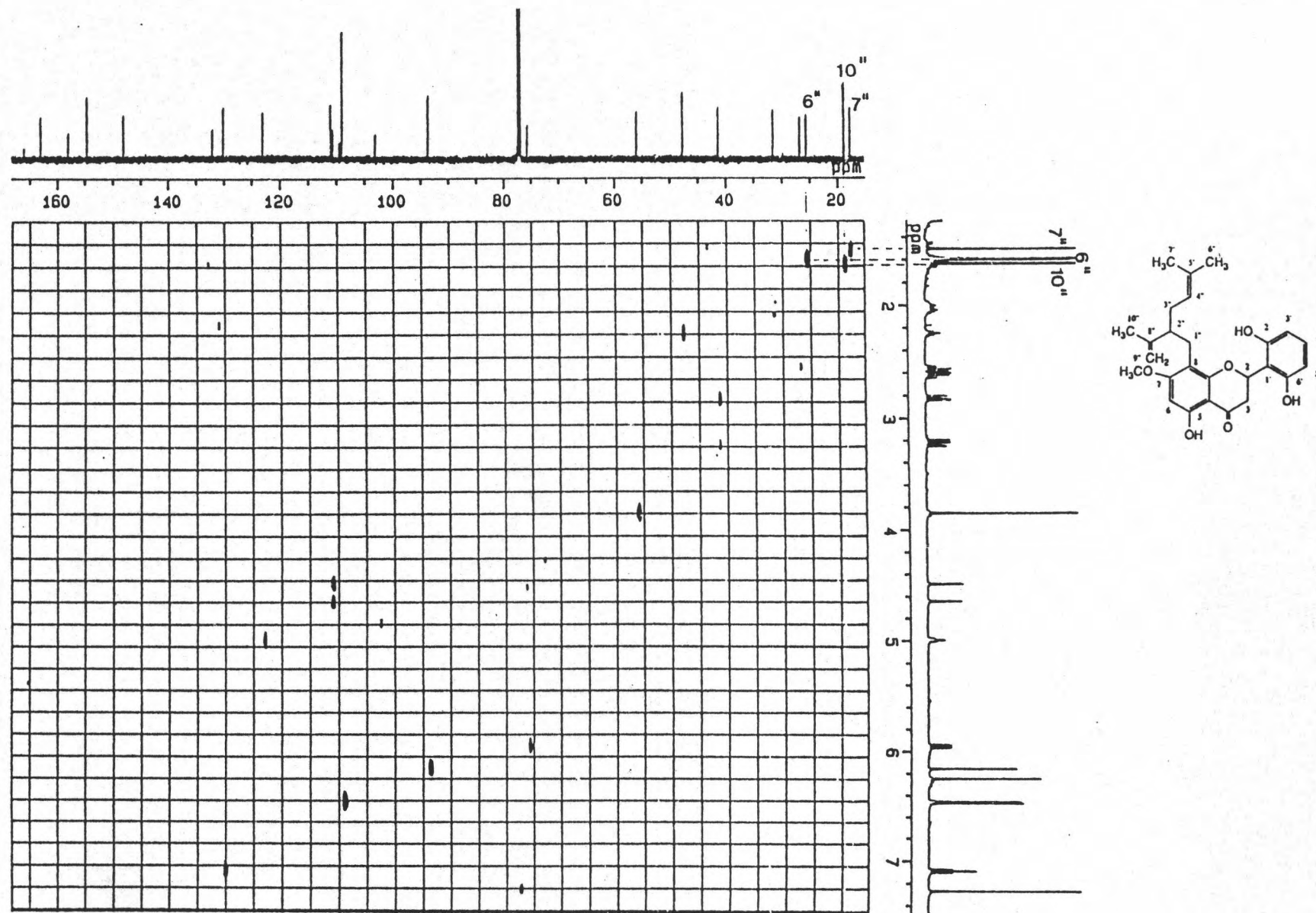


Figure 18 The 125 MHz  $^{13}\text{C}$ - $^1\text{H}$  COSY spectrum of SE-1 in deuterated chloroform.

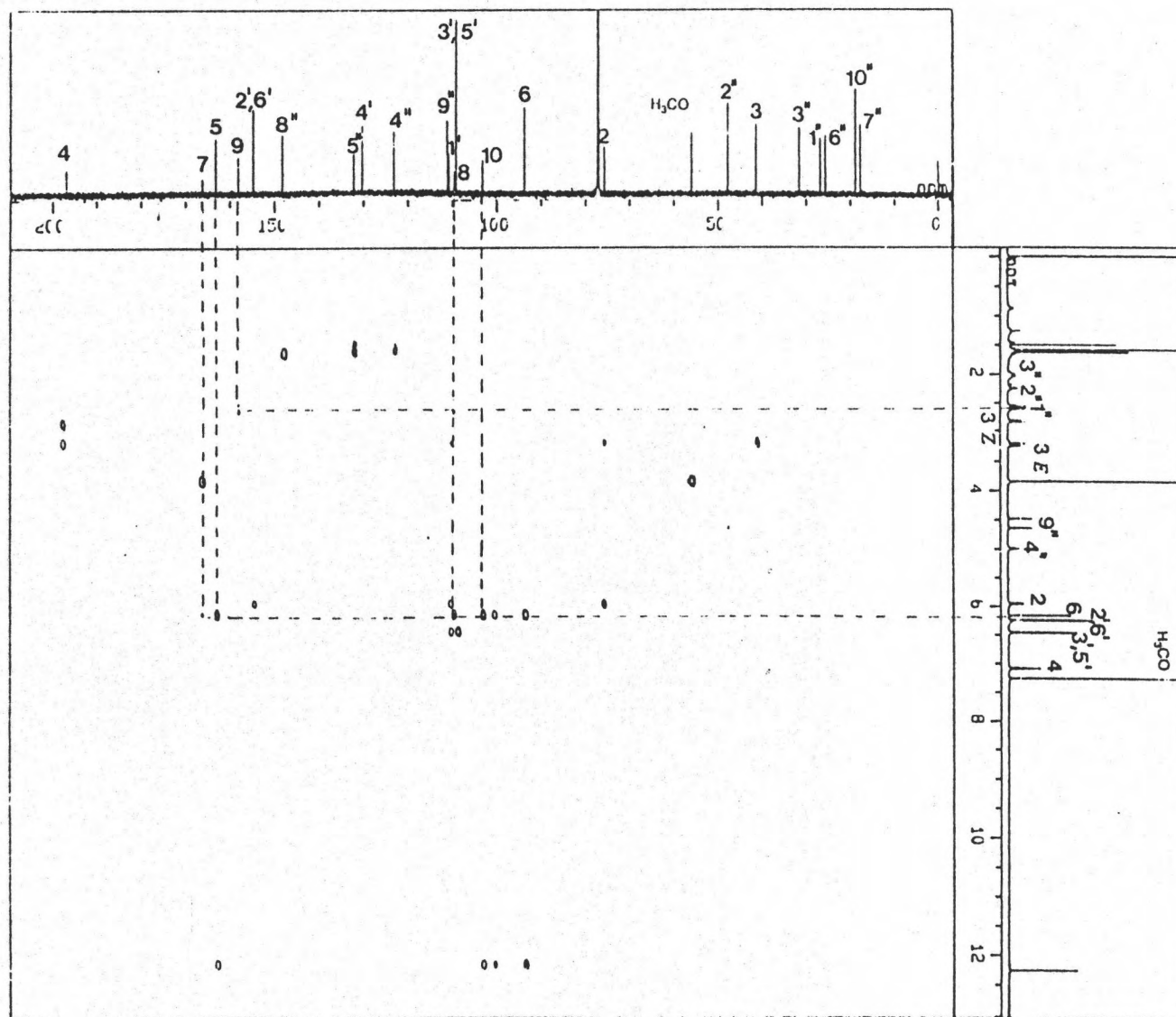
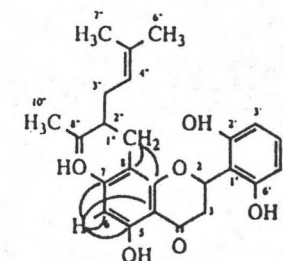


Figure 19 The 125 MHz  $^{13}\text{C}$ - $^1\text{H}$  COLOC spectrum of SE-1 in deuterated chloroform.



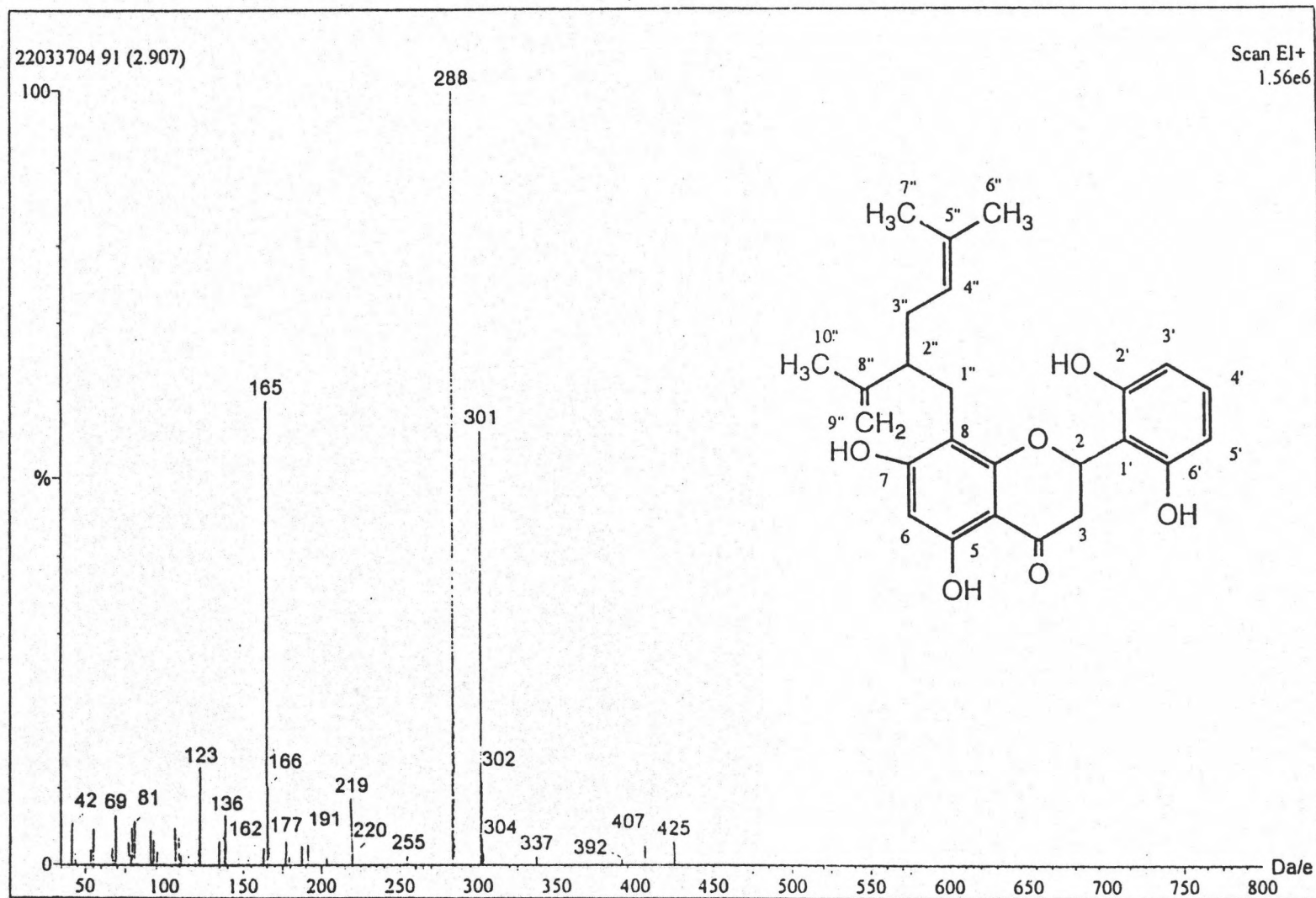


Figure 21 Mass spectrum of SE-2.

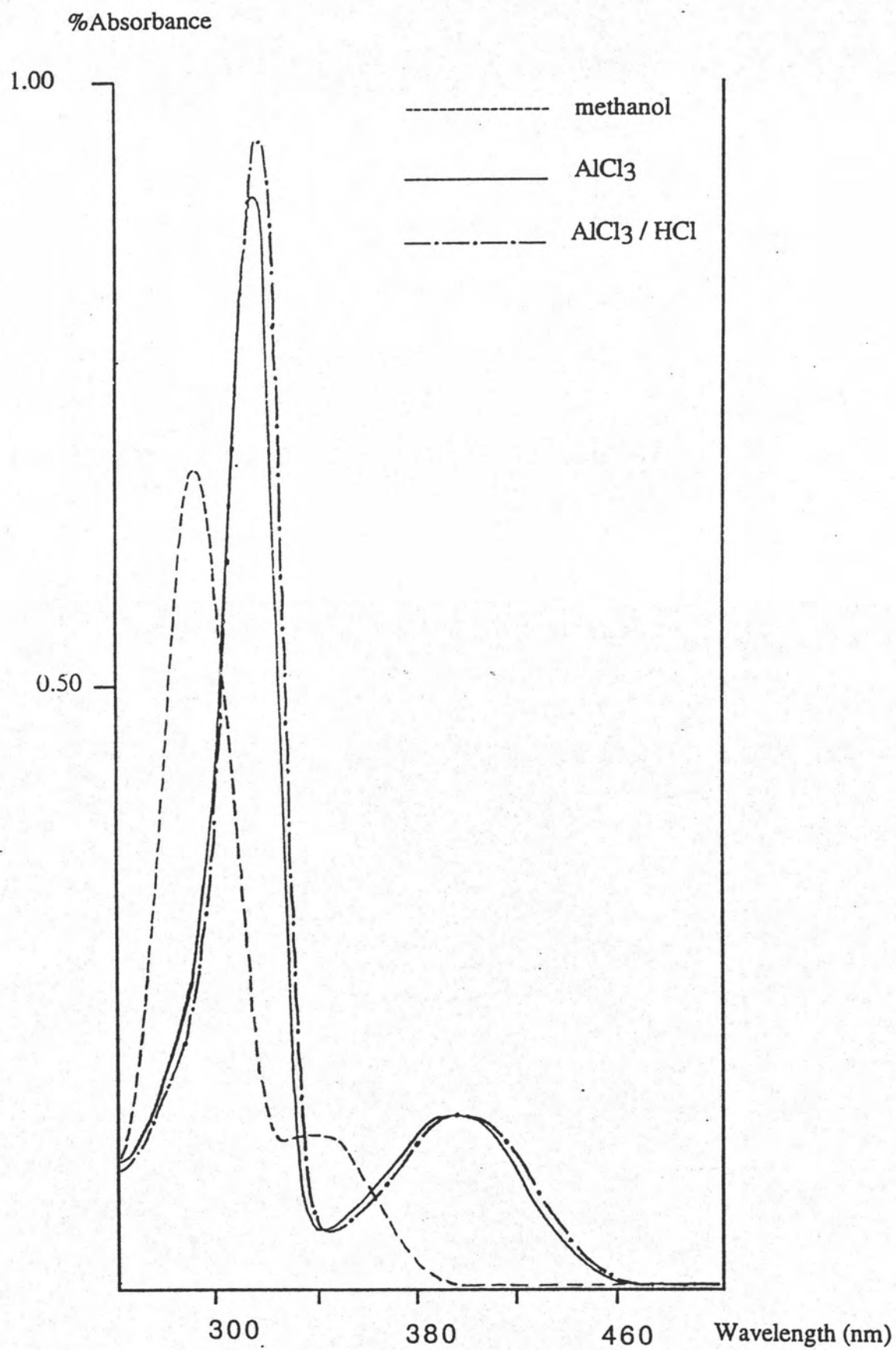


Figure 22 Ultraviolet absorption spectra of SE-2.

XT

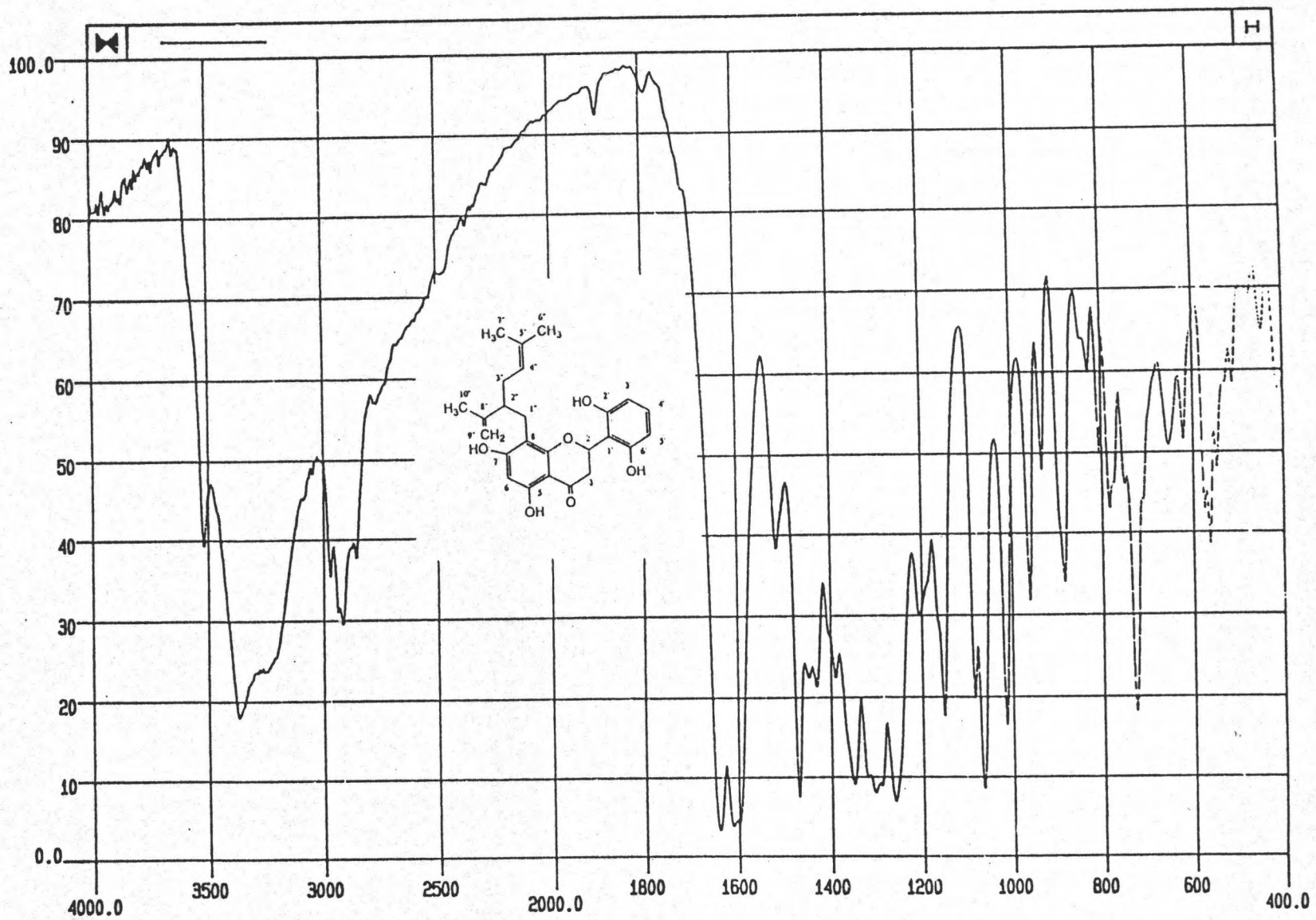


Figure 23 Infrared absorption spectrum of SE-2 in potassium bromide disc.



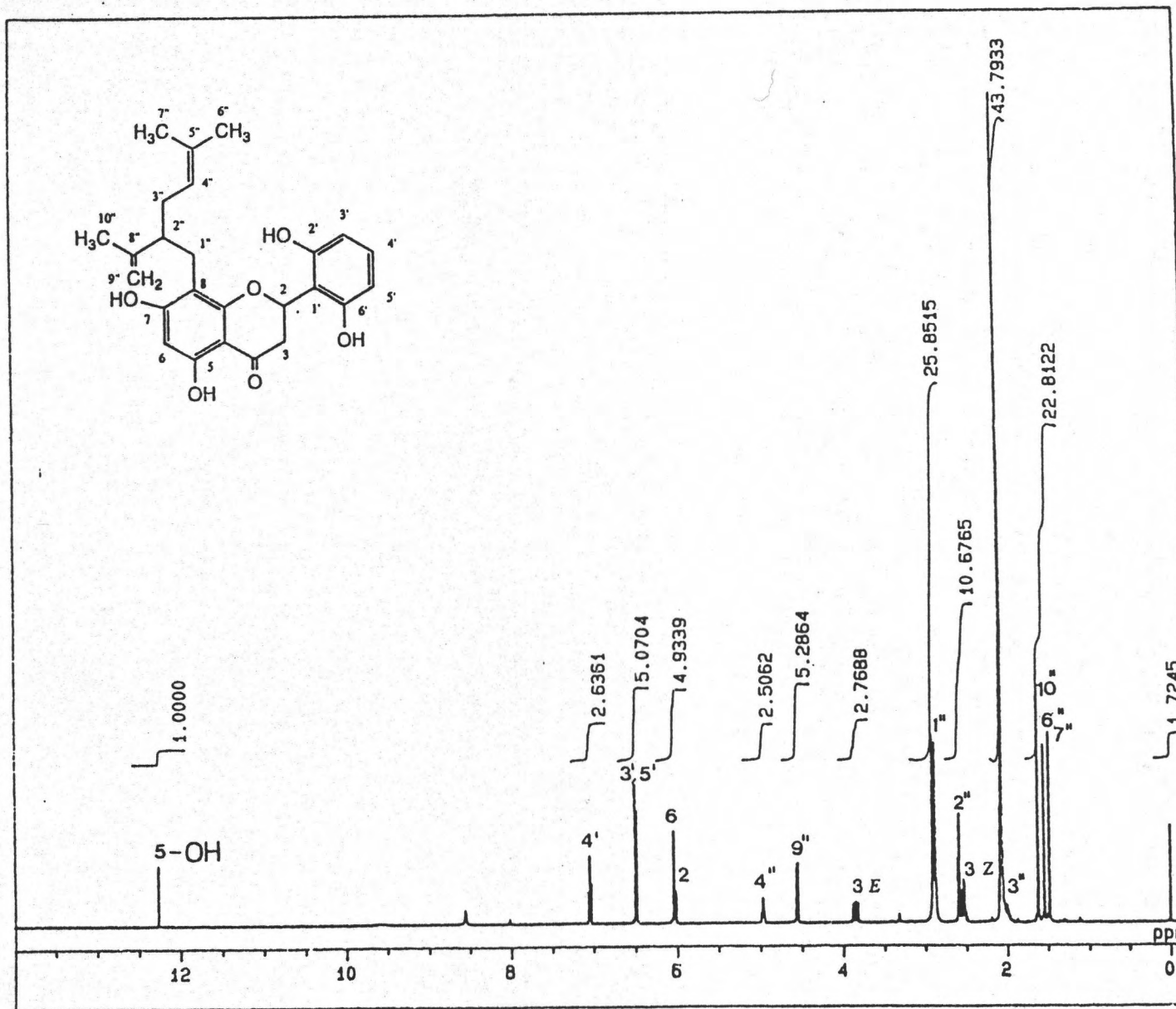


Figure 24 <sup>1</sup>H-NMR spectrum of SE-2 in deuterated acetone (500 MHz).

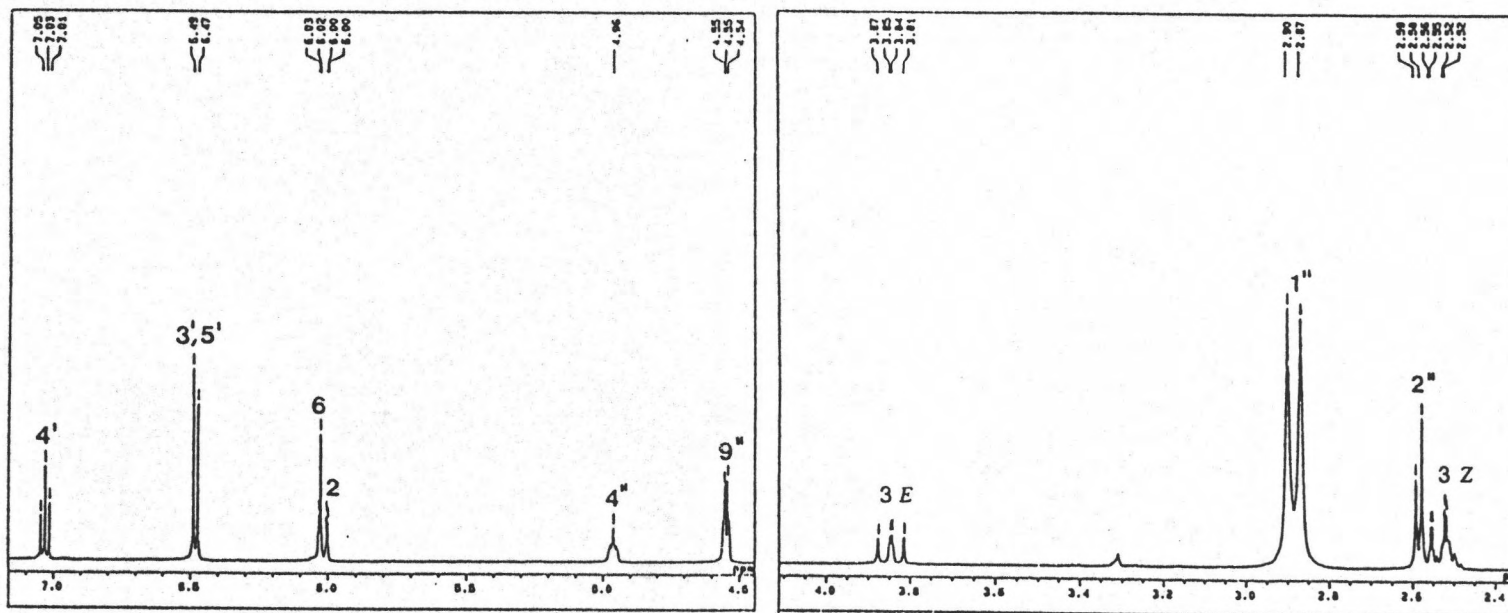
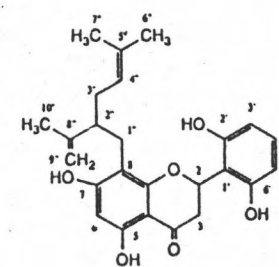


Figure 25  $^1\text{H-NMR}$  spectrum of SE-2 in deuterated acetone (500 MHz)  
 (expanded from 2.4-7.1 ppm).



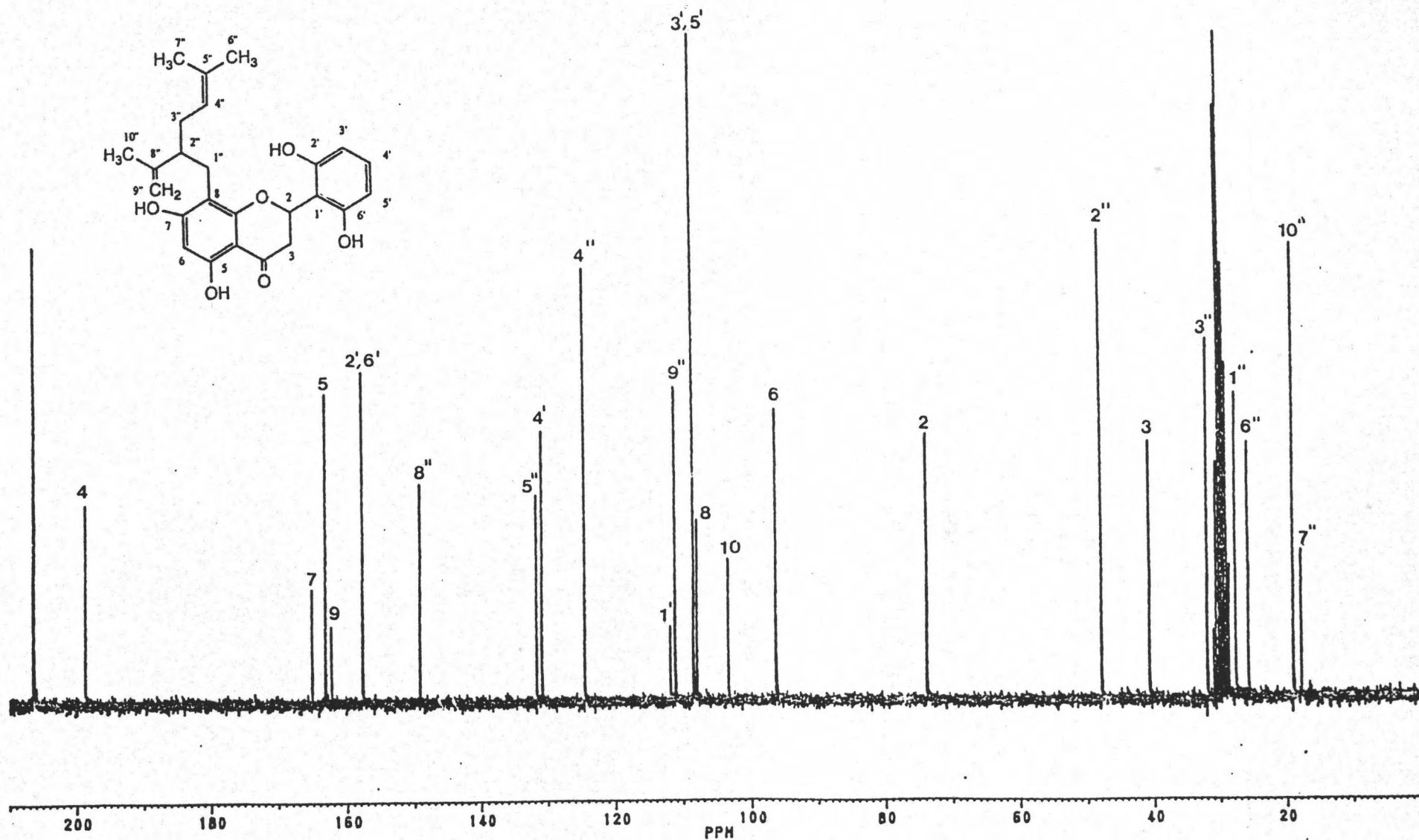


Figure 26  $^{13}\text{C}$ -NMR spectrum of SE-2 in deuterated acetone (50 MHz).

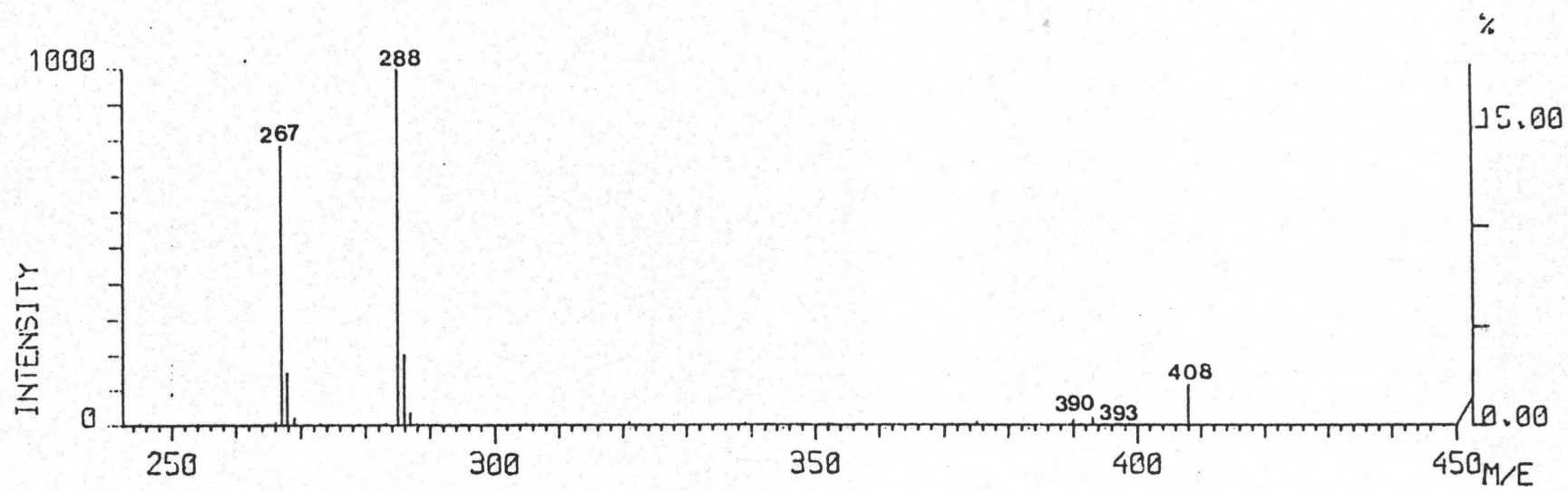
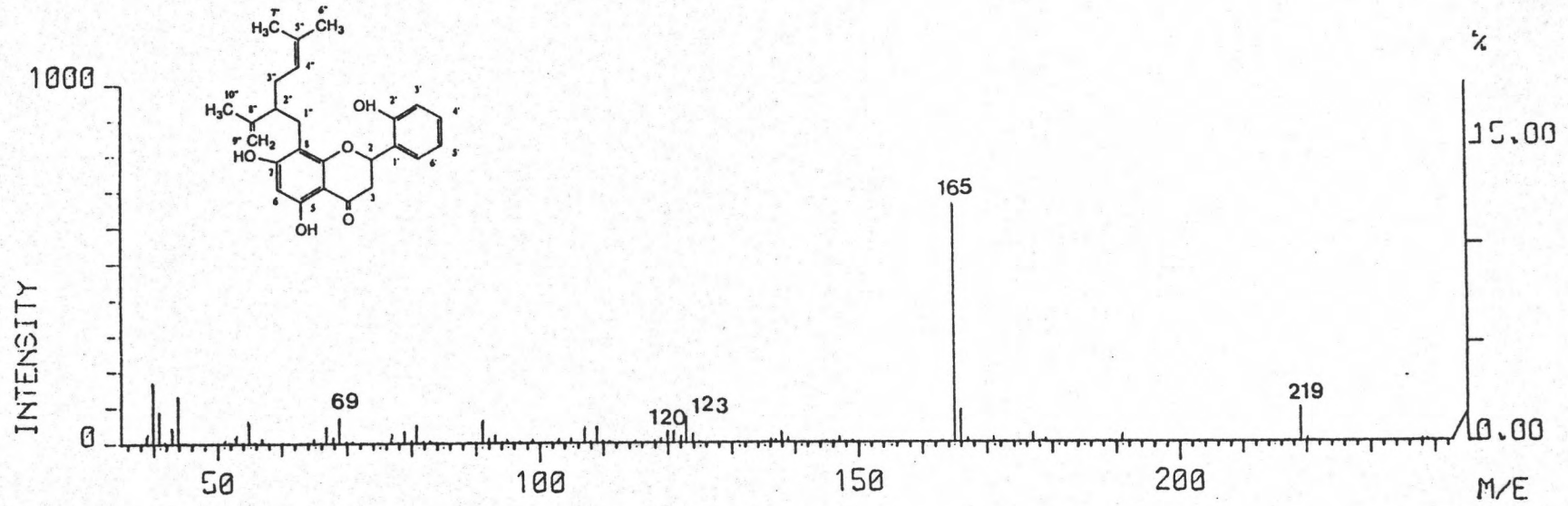


Figure 28 Mass spectrum of SE-3.

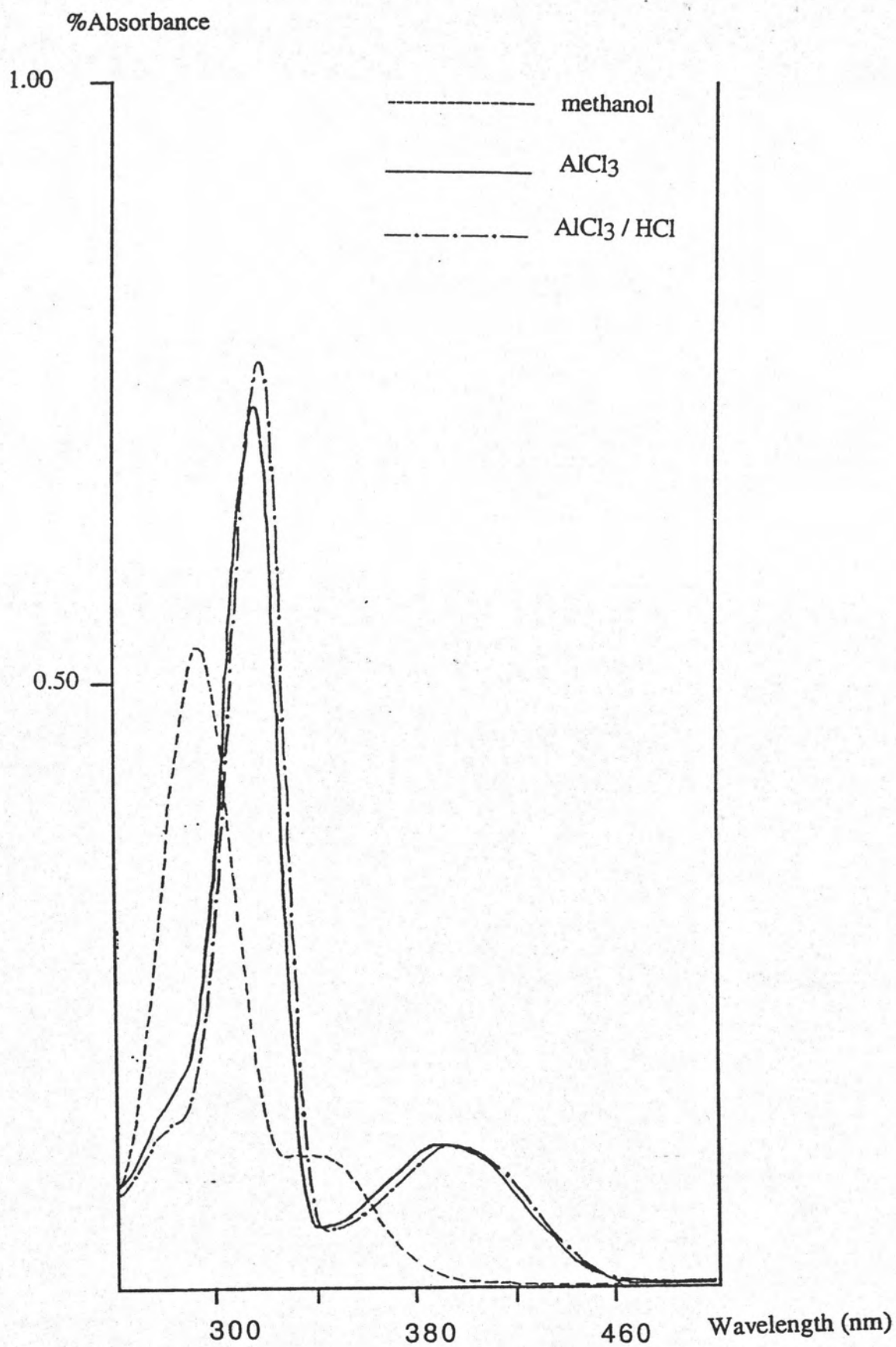


Figure 29 Ultraviolet absorption spectra of SE-3.

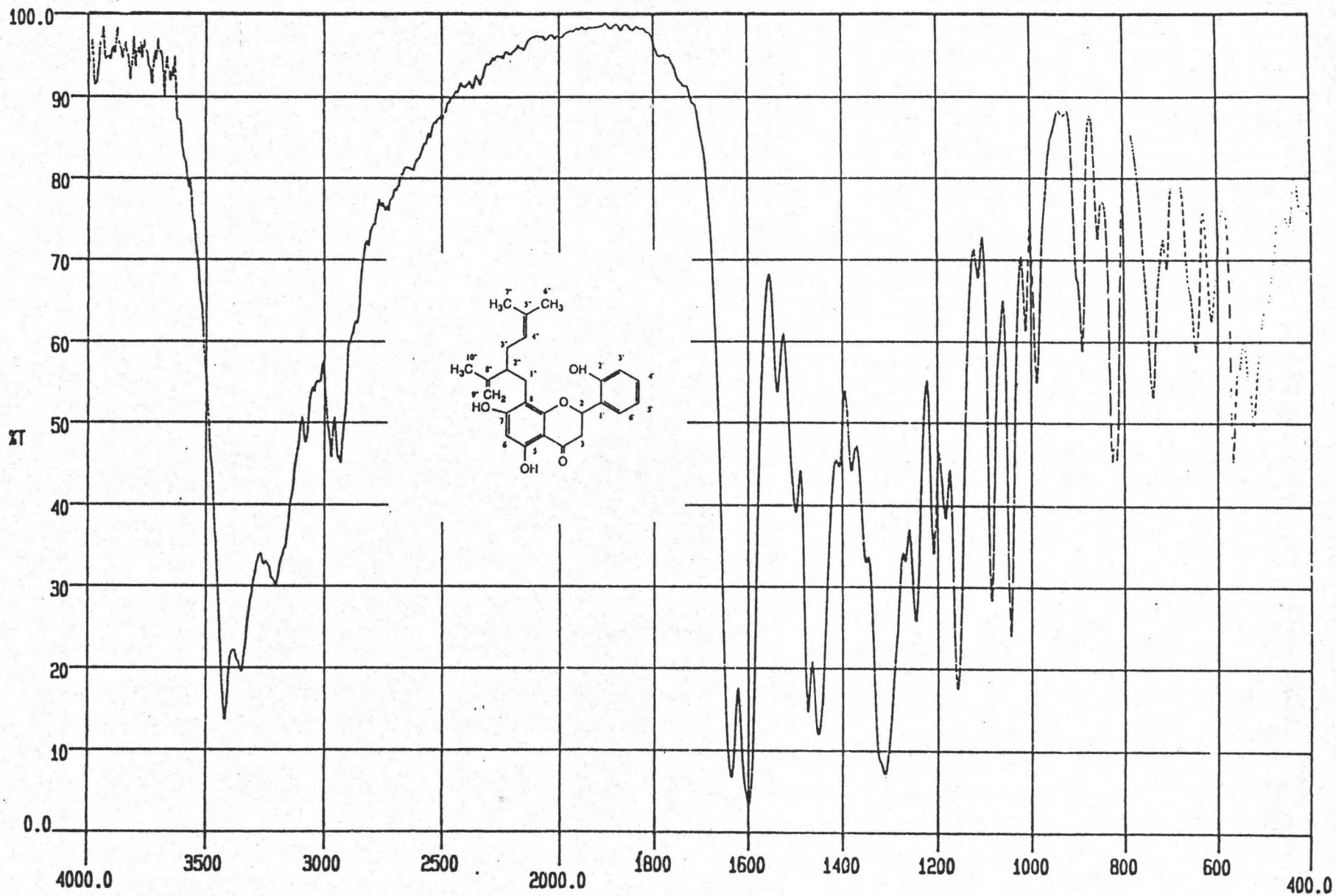


Figure 30 Infrared absorption spectrum of SE-3 in potassium bromide disc.

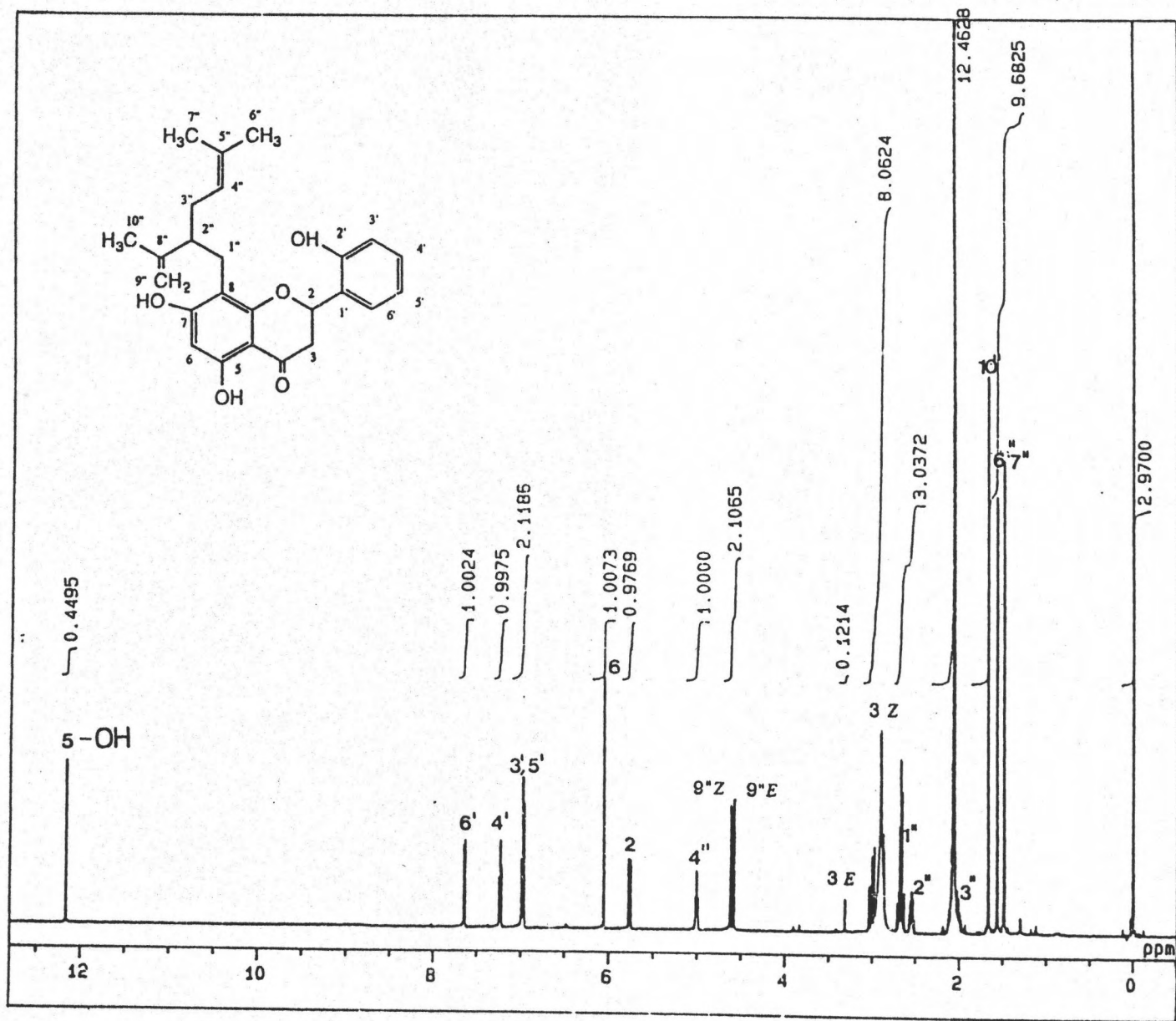


Figure 31 <sup>1</sup>H-NMR spectrum of SE-3 in deuterated acetone (500 MHz).

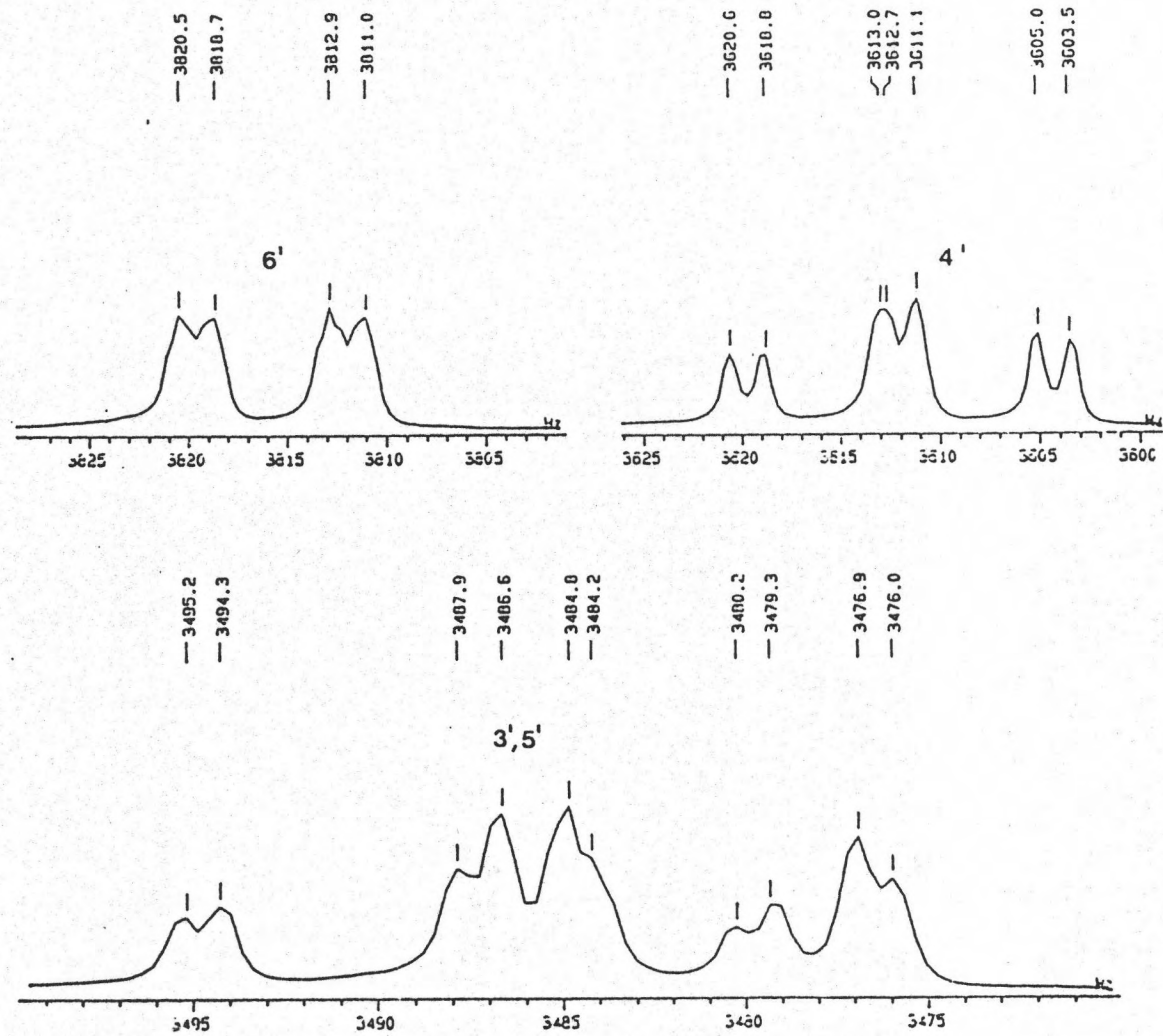


Figure 32

$^1\text{H}$ -NMR spectrum of SE-3 in deuterated acetone (500 MHz) (expanded from 6.9-7.2 ppm).



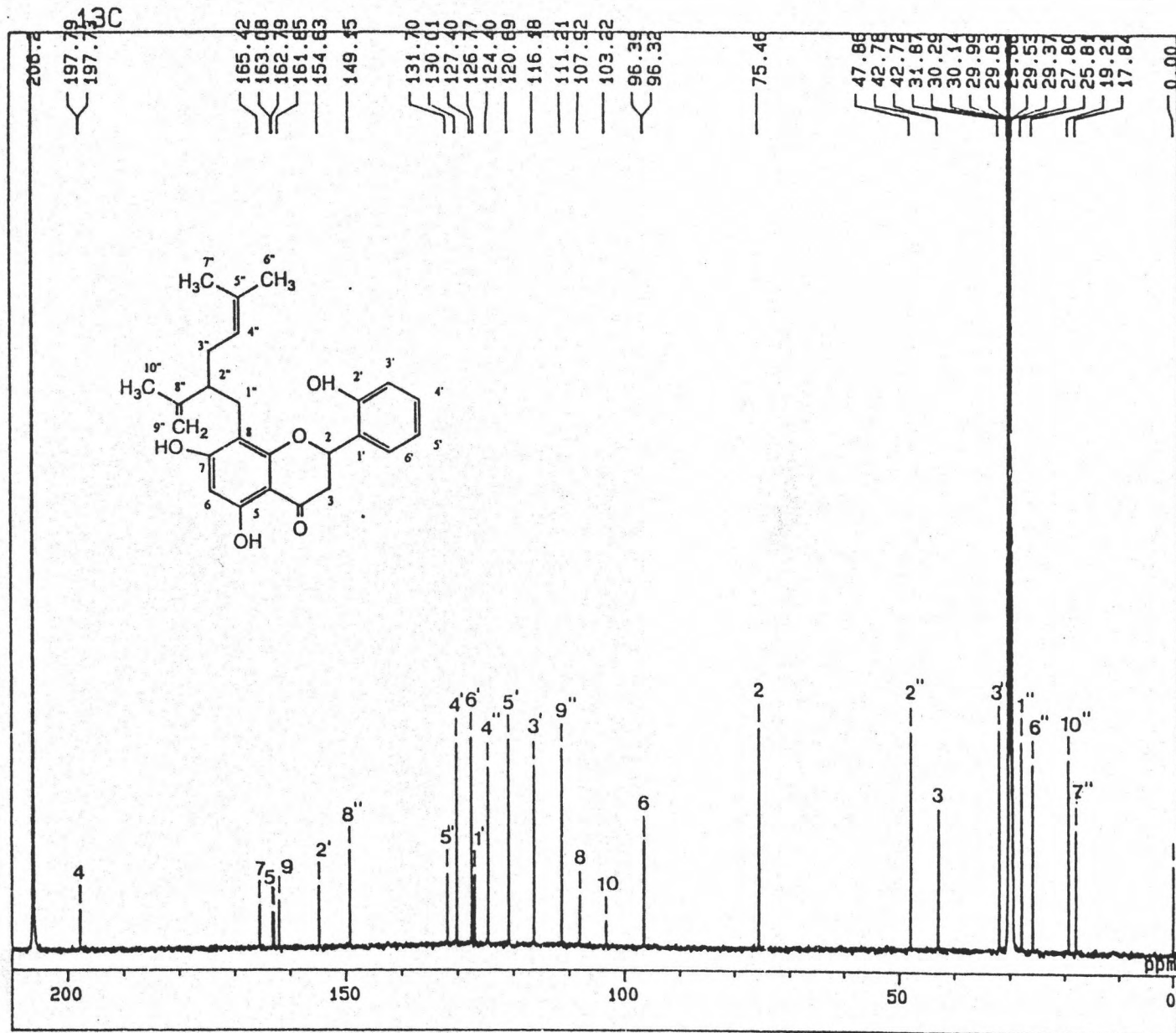


Figure 33  $^{13}\text{C}$ -NMR spectrum of SE-3 in deuterated acetone (125 MHz).

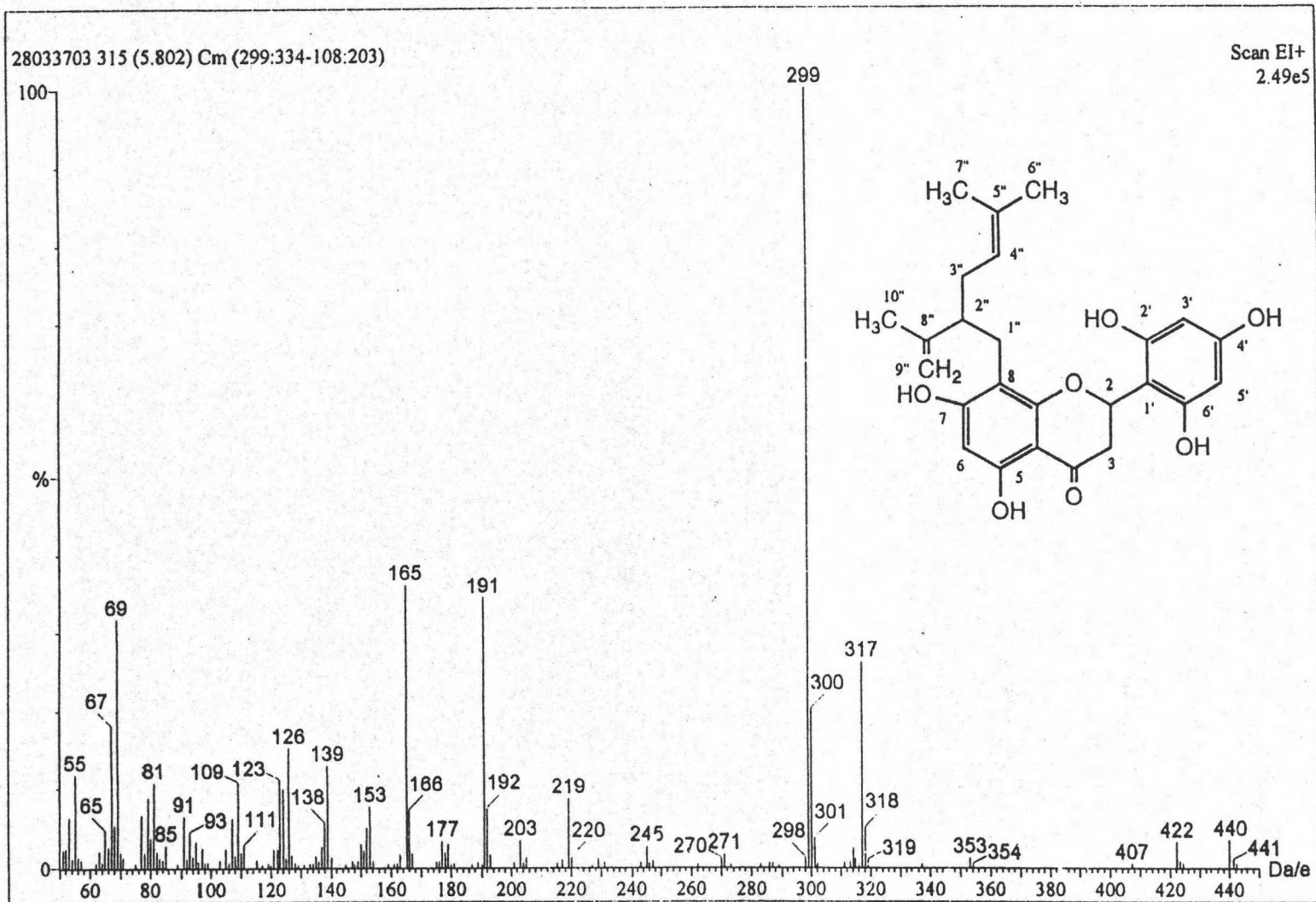


Figure 35 Mass spectrum of SE-4.

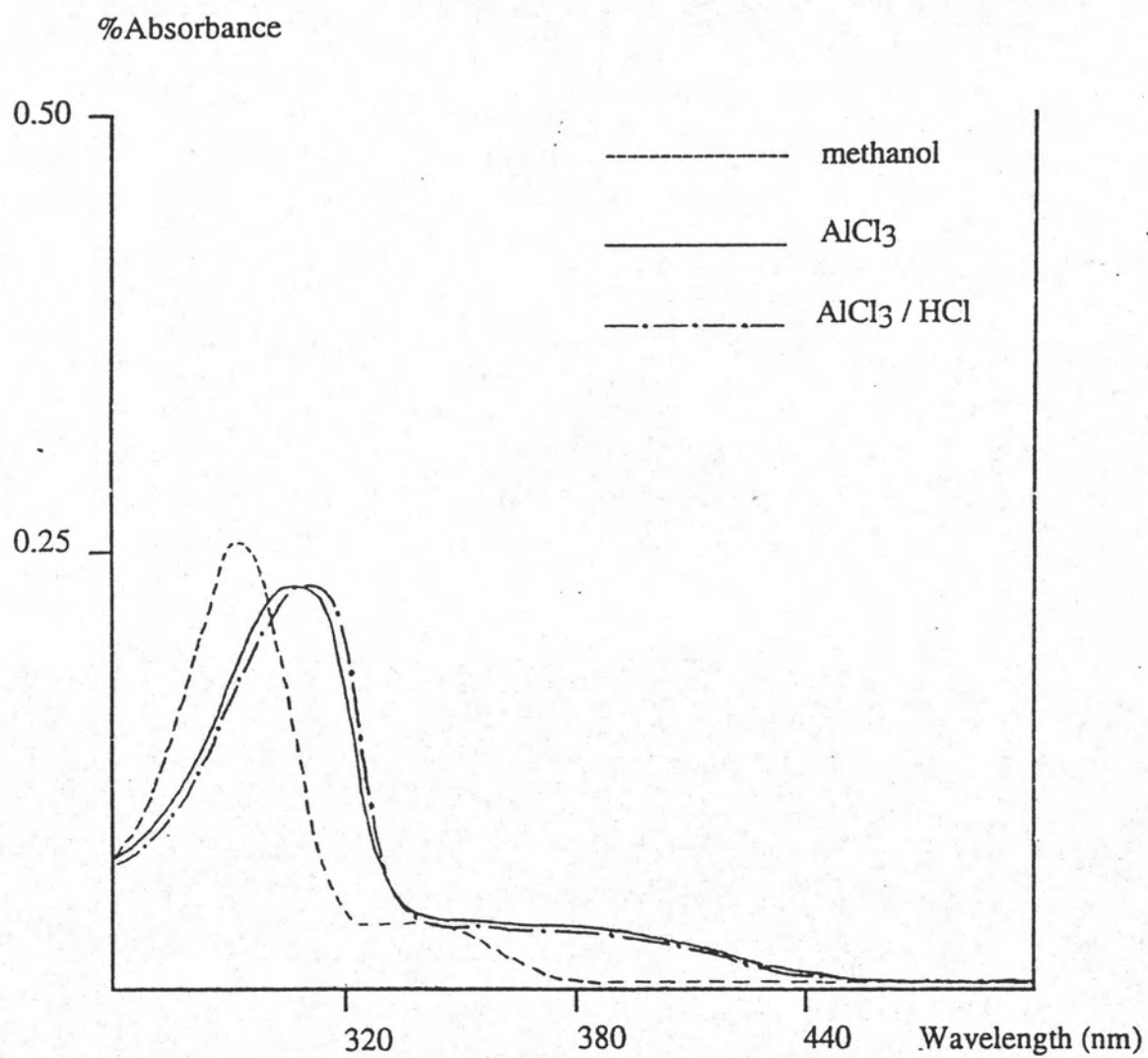


Figure 36 Ultraviolet absorption spectra of SE-4.

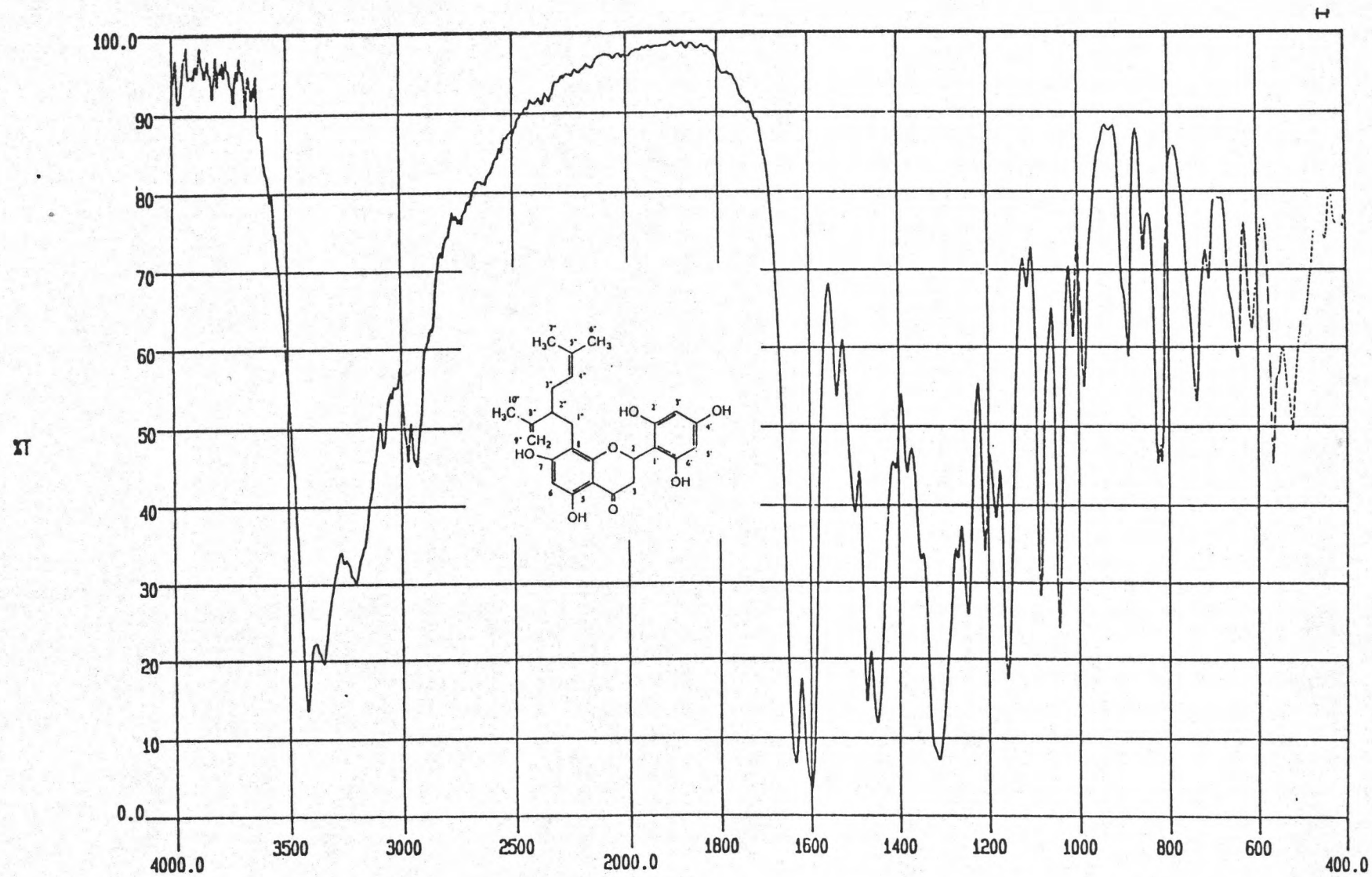


Figure 37 Infrared absorption spectrum of SE-4 in potassium bromide disc.

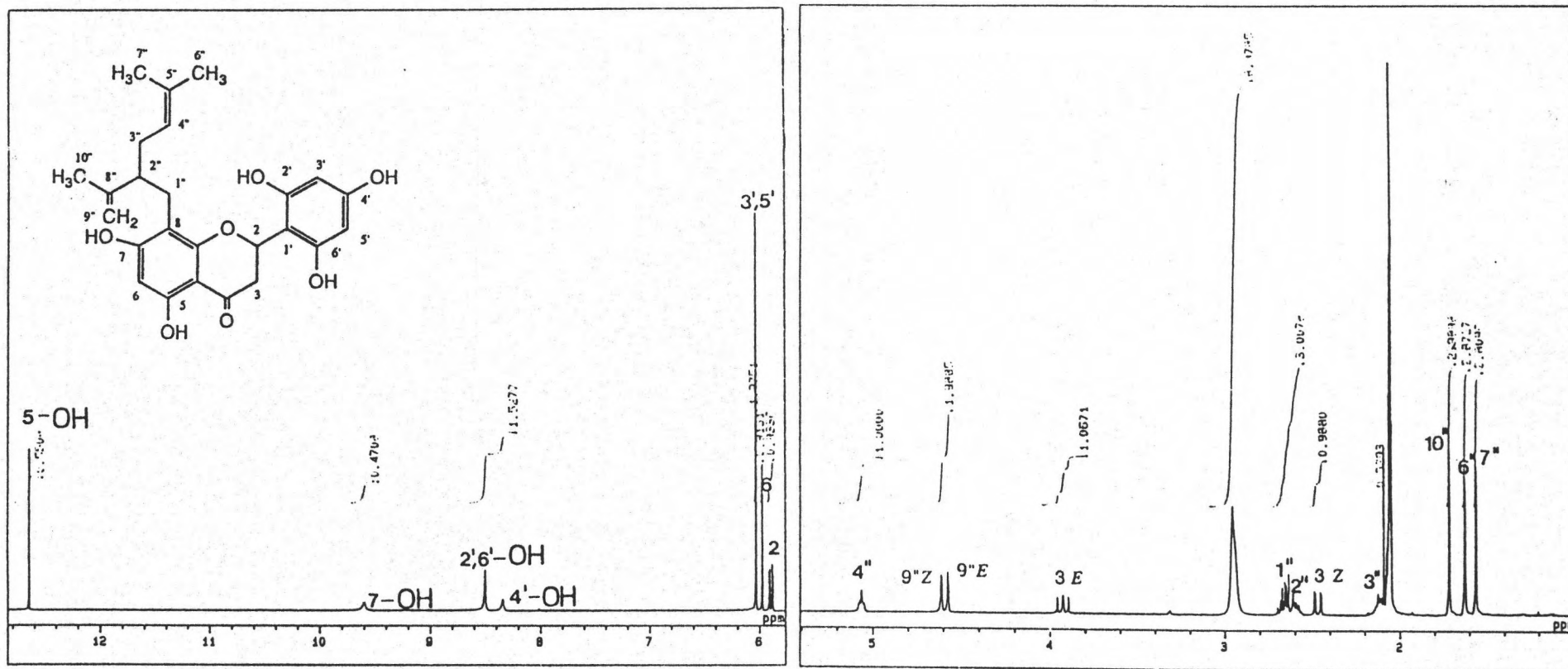


Figure 38  $^1\text{H-NMR}$  spectrum of SE-4 in deuterated acetone (500 MHz).

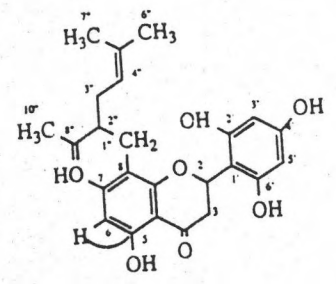
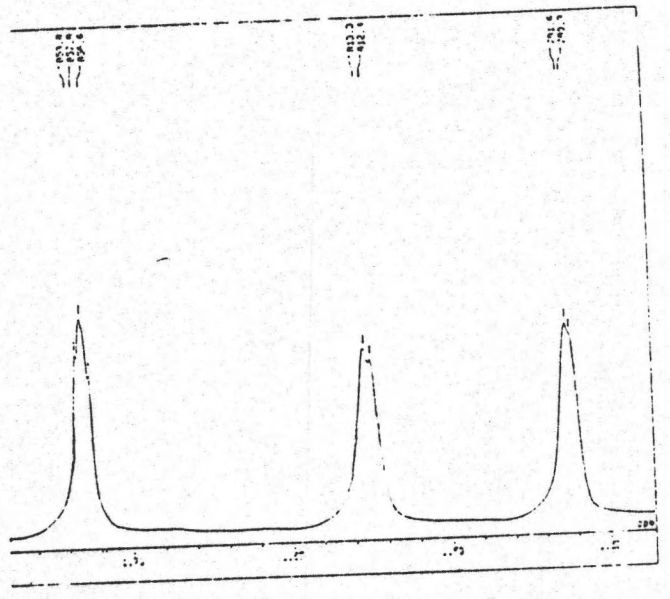
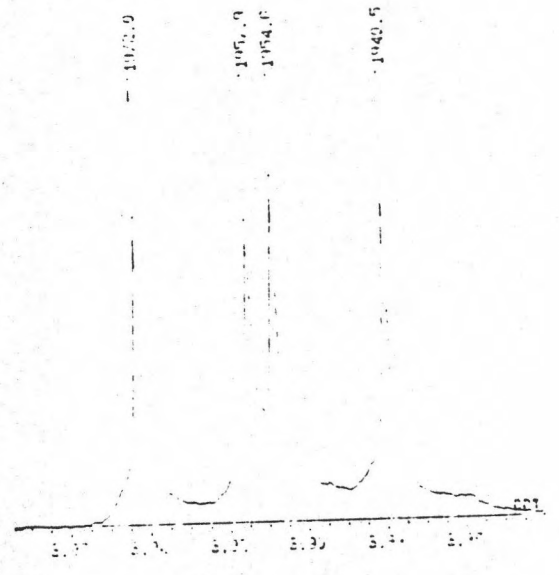
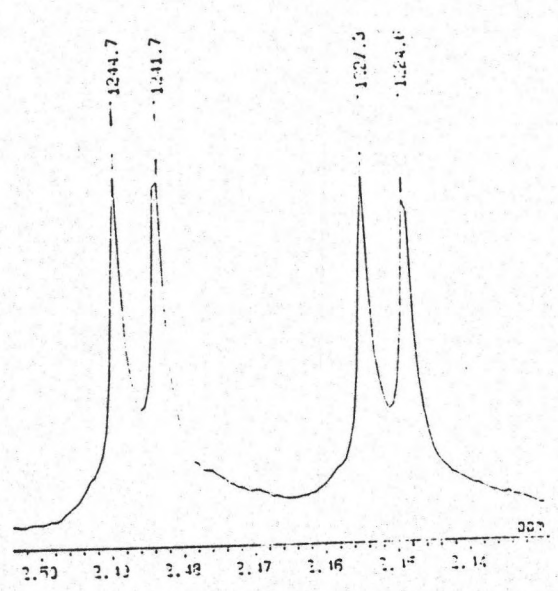


Figure 39 <sup>1</sup>H-NMR spectrum of SE-4 in deuterated acetone (500 MHz)

(expanded from 1.4-4.0 ppm)

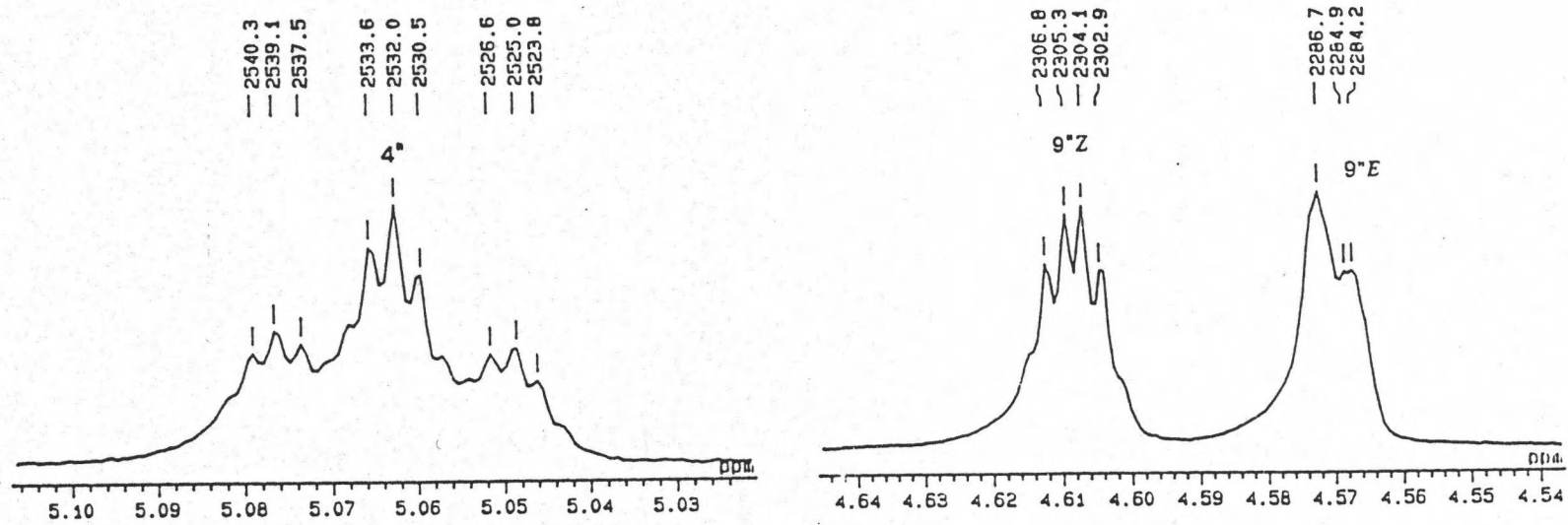
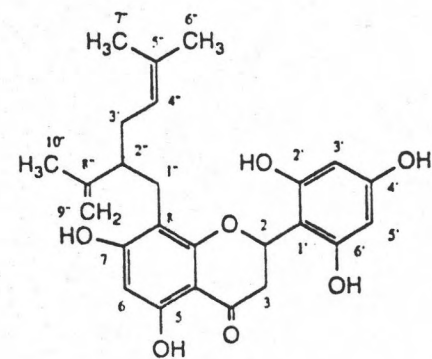


Figure 40  $^1\text{H-NMR}$  spectrum of SE-4 in deuterated acetone (500 MHz' (expanded from 4.5-5.1 ppm)



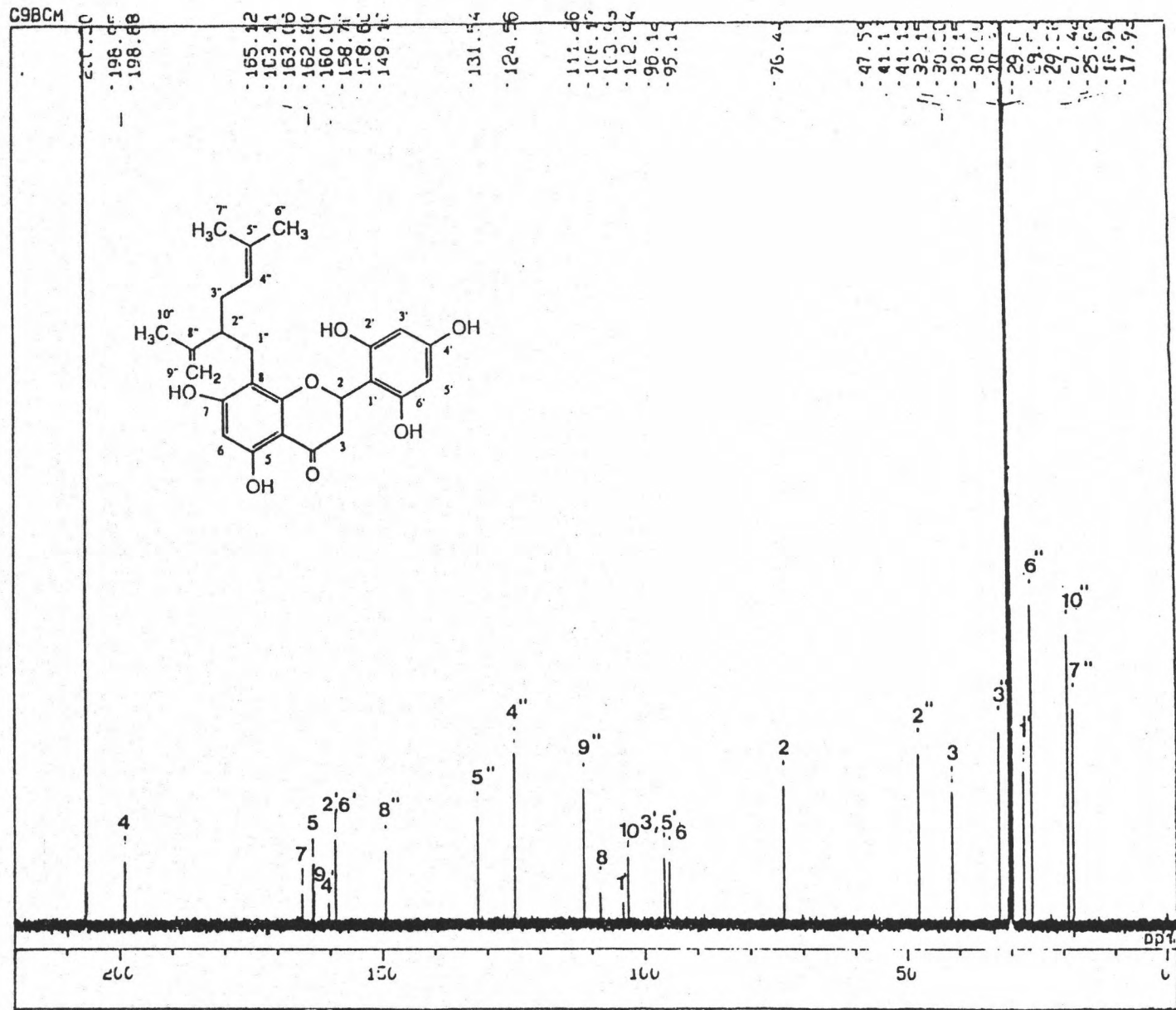


Figure 41  $^{13}\text{C}$ -NMR spectrum of SE-4 in deuterated acetone (125 MHz).



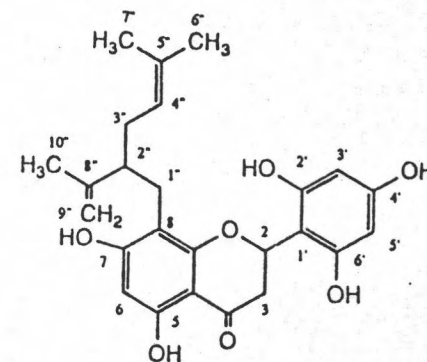
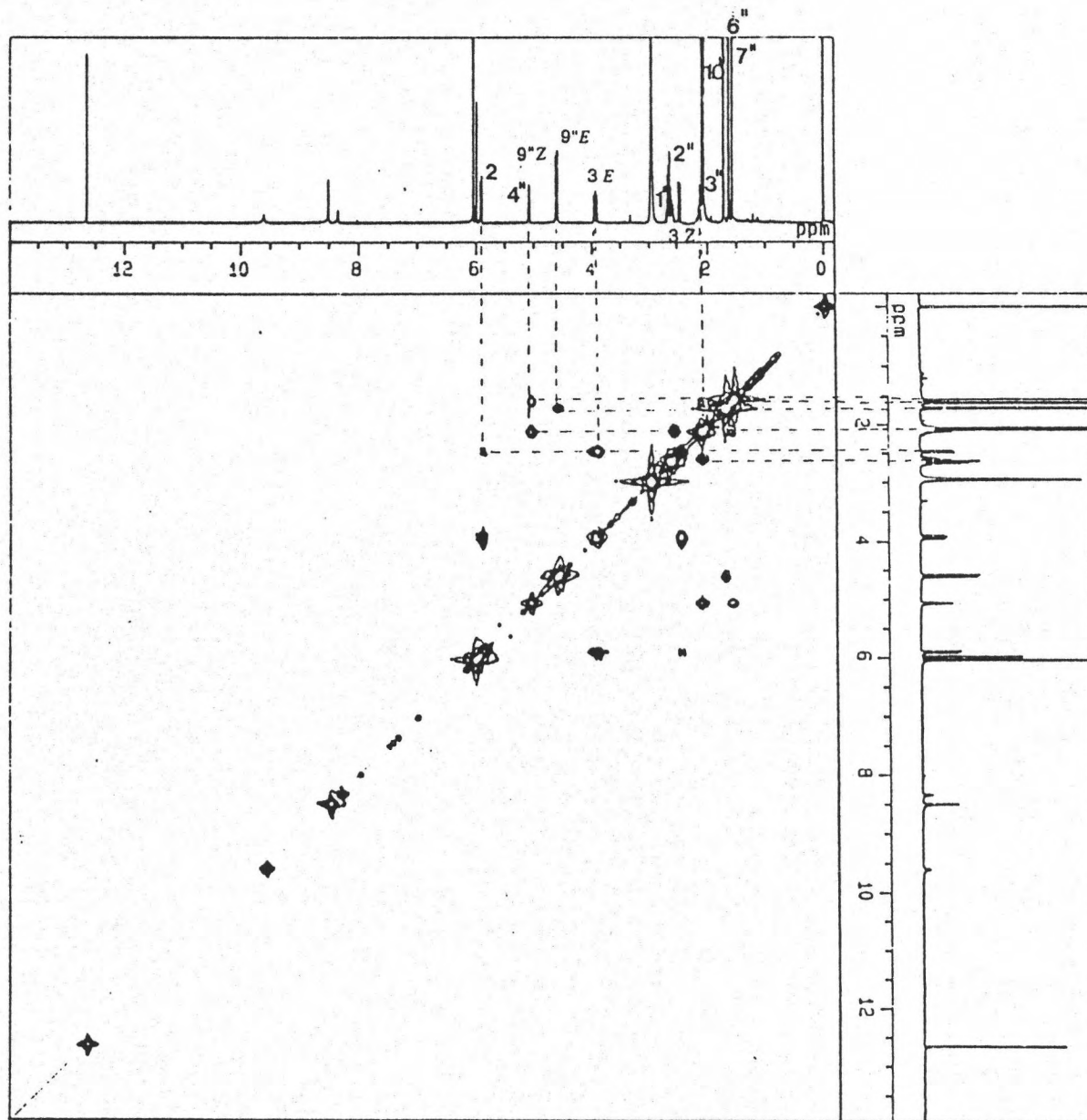


Figure 42 The 500 MHz  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of SE-4 in deuterated acetone.

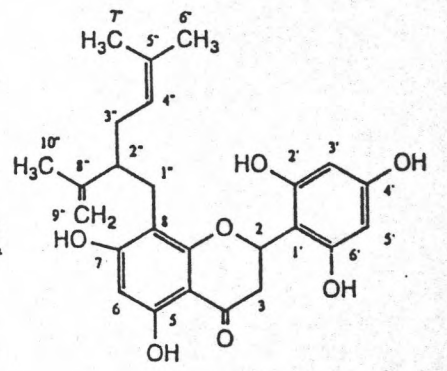
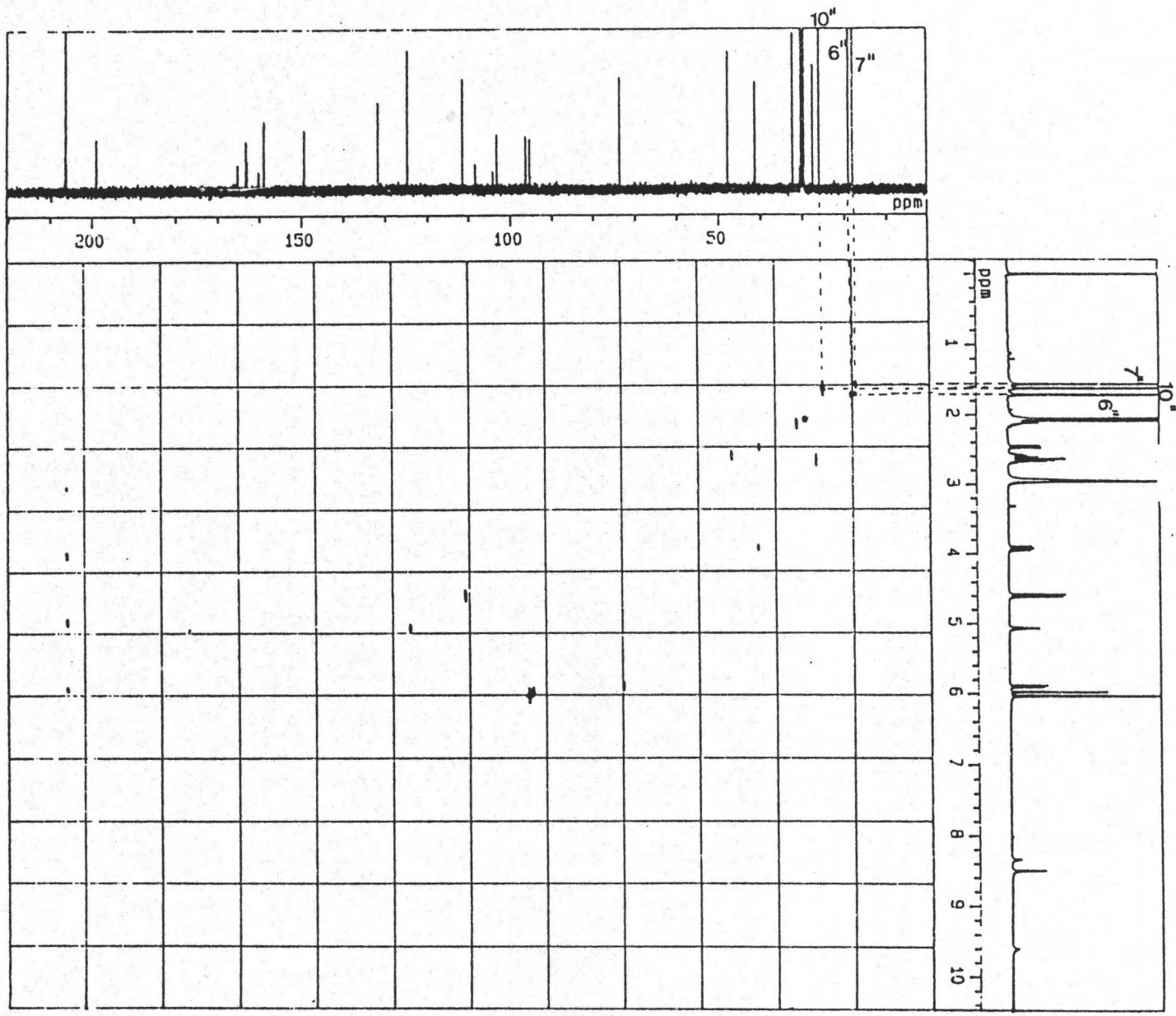


Figure 43 The 125 MHz  $^{13}\text{C}$ - $^1\text{H}$  COSY spectrum of SE-4 in deuterated acetone.

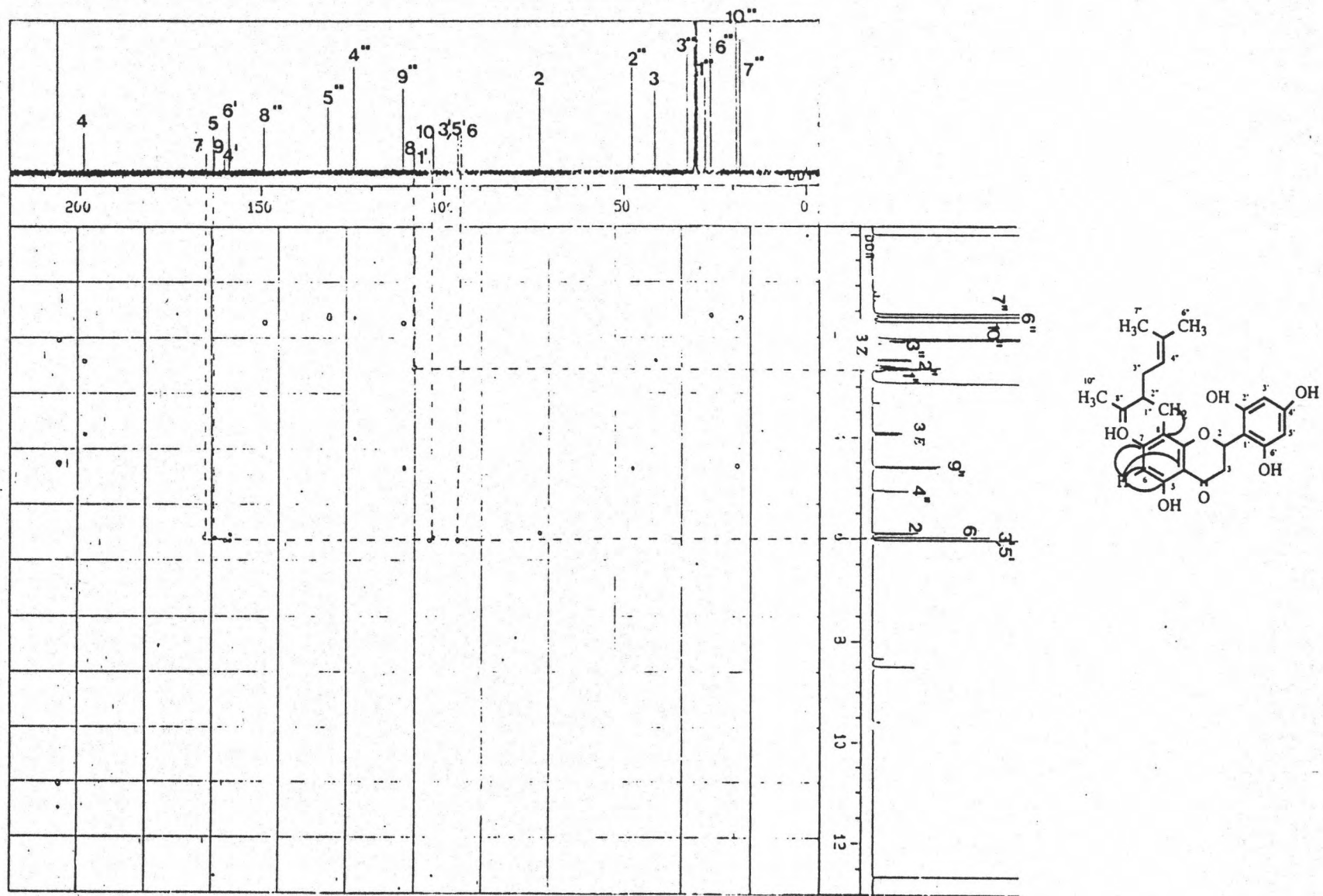


Figure 44 The 125 MHz  $^{13}\text{C}$ - $^1\text{H}$  COLOC spectrum of SE-4 in deuterated acetone.



## VITA

Miss Supaporn Khuanmon was born on February 29, 1968 in Bangkok, Thailand. She received her Bachelor degree of Science in Pharmacy (Second Class Honor) in 1992 from the Faculty of Pharmaceutical Sciences, Chulalongkorn University. At present she is a faculty member of the Department of Pharmacognosy, Faculty of Pharmaceutical Sciences, Naresuan University, Phitsanulok, Thailand.