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**APPENDIX**

สถาบันวิทยบริการ  
จุฬาลงกรณ์มหาวิทยาลัย



**Figure 3** *Fissistigma polyanthoides* (DC.) Merr.



**Figure 4** *Ochna integerrima* (Lour.) Merr.

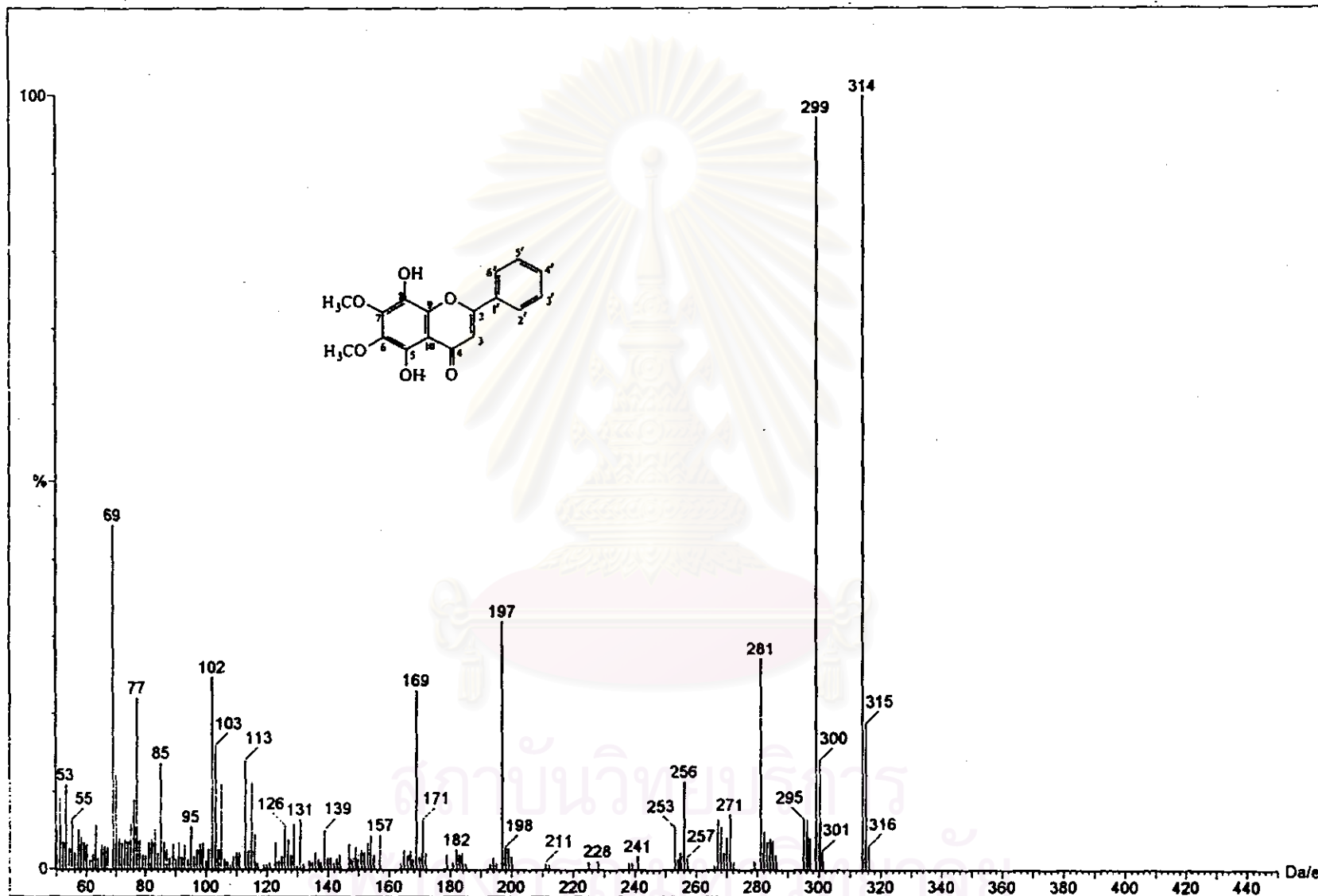


Figure 5 EI mass spectrum of compound FP-1



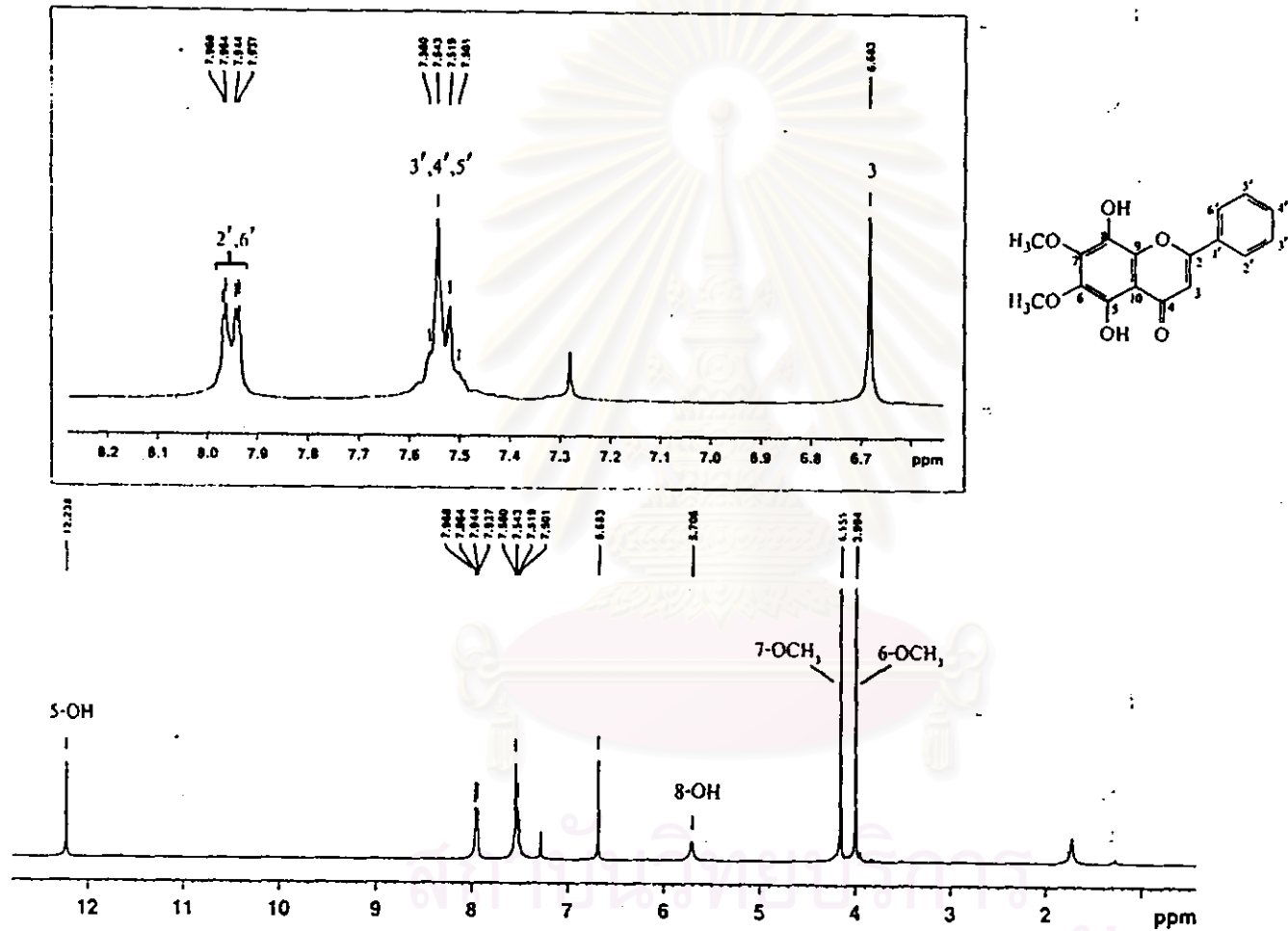


Figure 6 300 MHz  $^1\text{H}$  NMR spectrum of compound FP-1 (in  $\text{CDCl}_3$ )

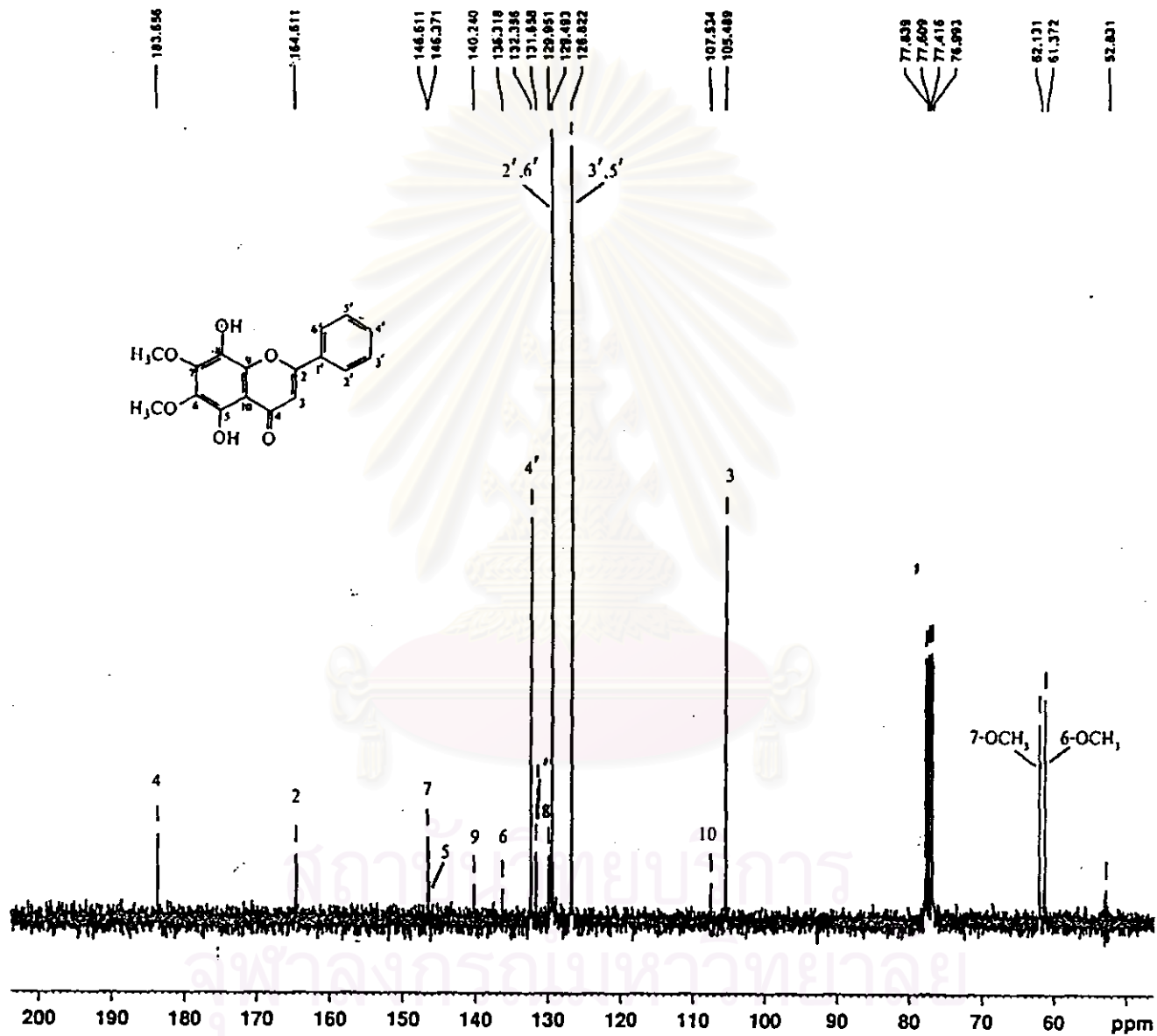


Figure 7 75 MHz  $^{13}\text{C}$  NMR spectrum of compound FP-1 (in  $\text{CDCl}_3$ )

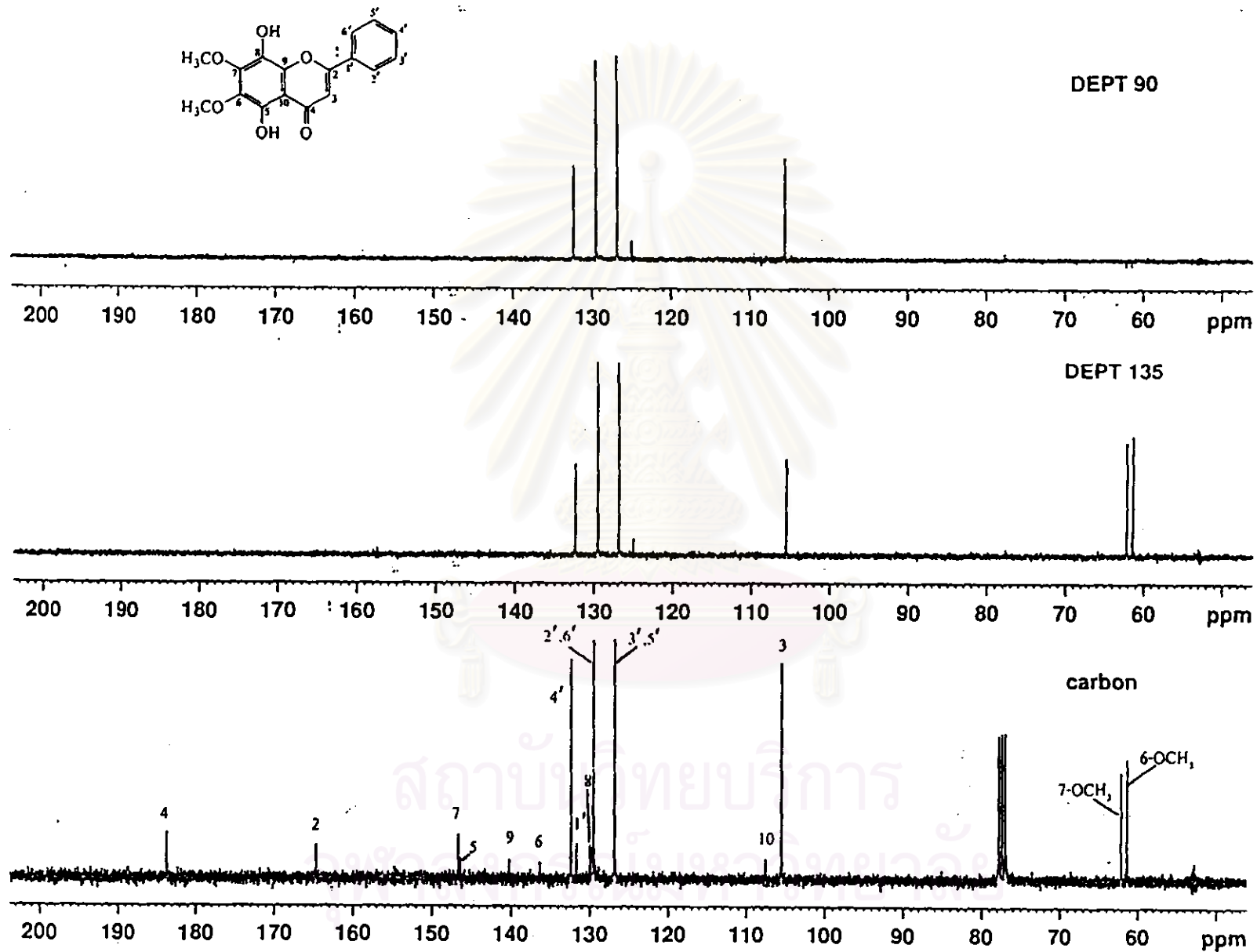


Figure 8 75 MHz  $^{13}\text{C}$  NMR, DEPT 90 and DEPT 135 spectra of compound FP-1 (in  $\text{CDCl}_3$ )

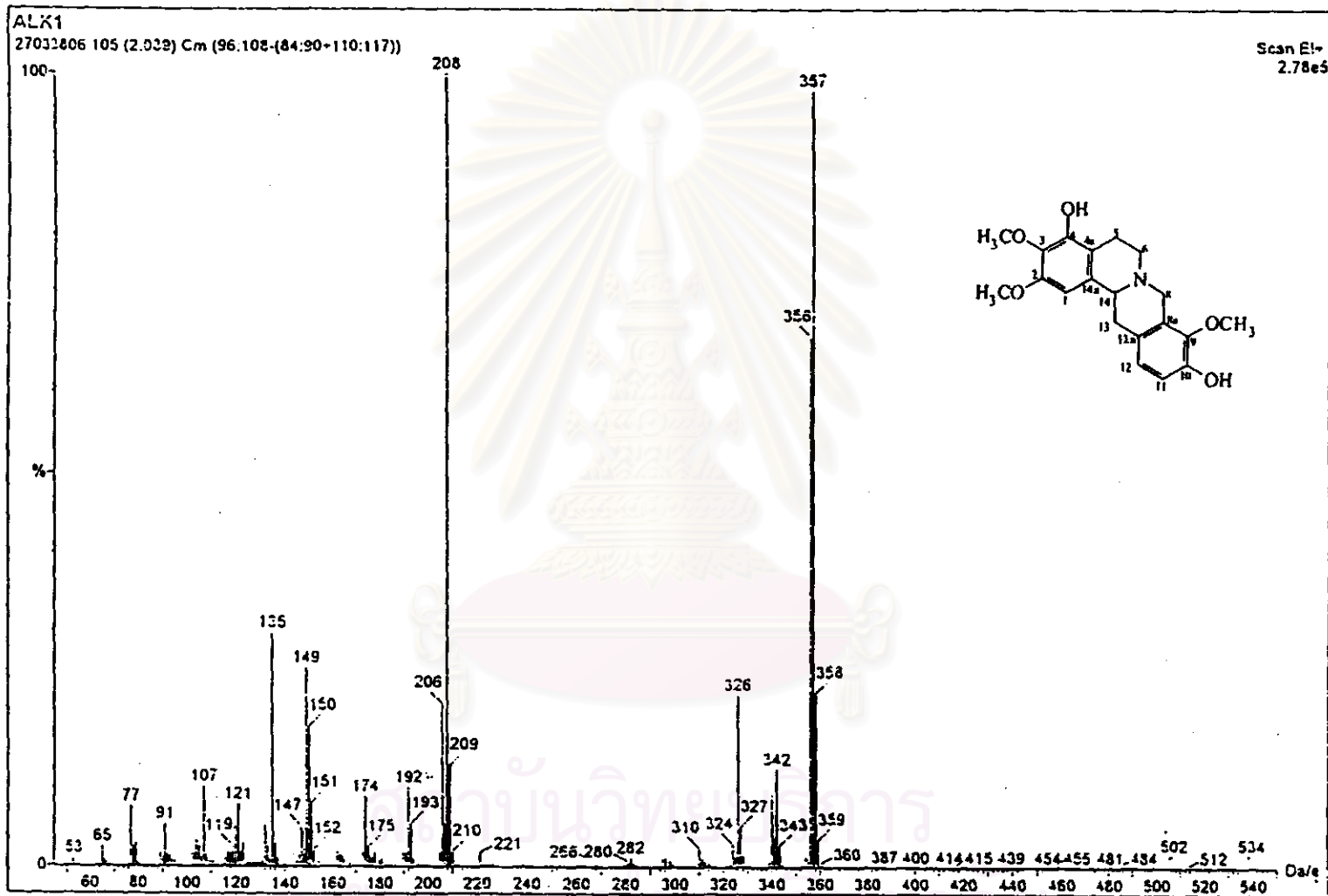


Figure 9 EI mass spectrum of compound ALK1

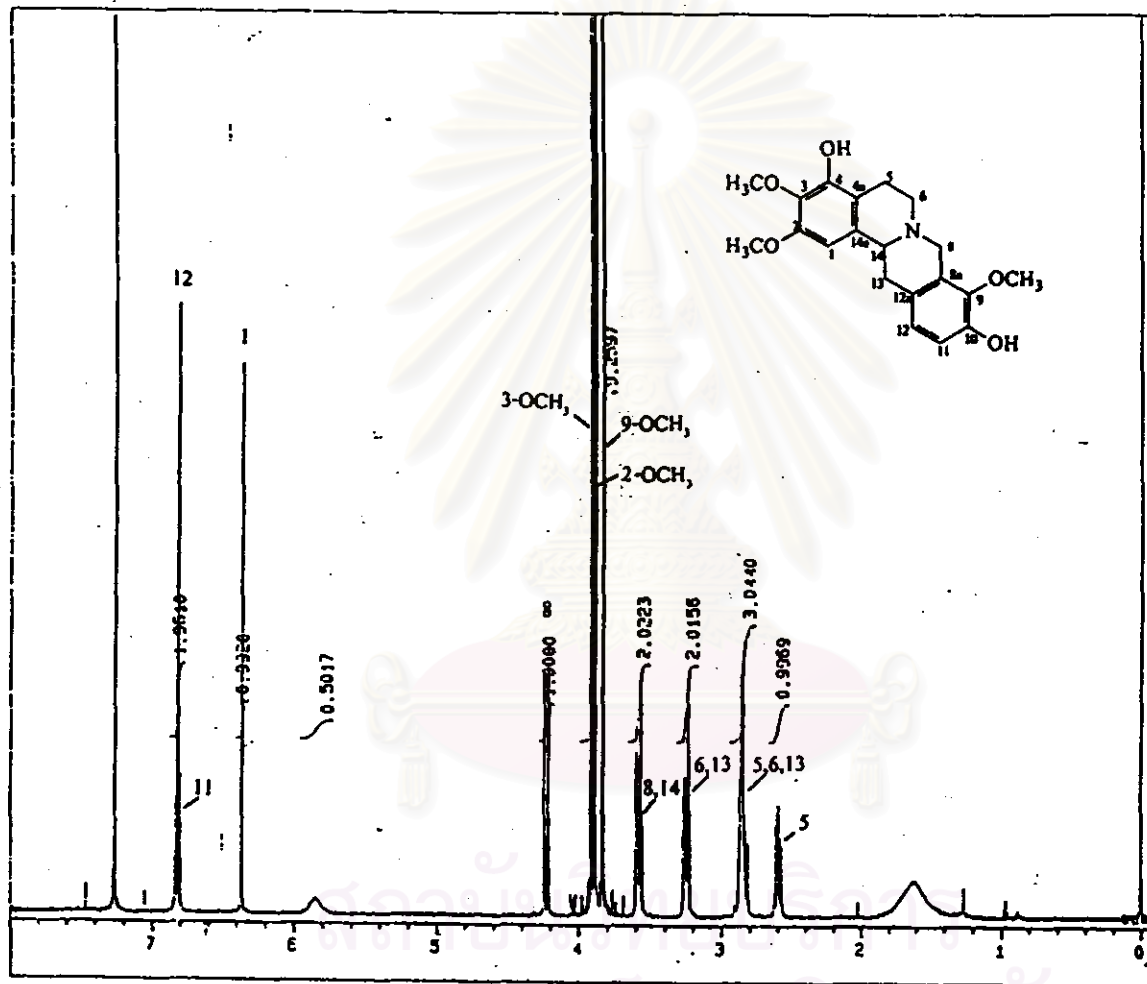


Figure 10 500 MHz <sup>1</sup>H NMR spectrum of compound ALK1 ( in CDCl<sub>3</sub> )

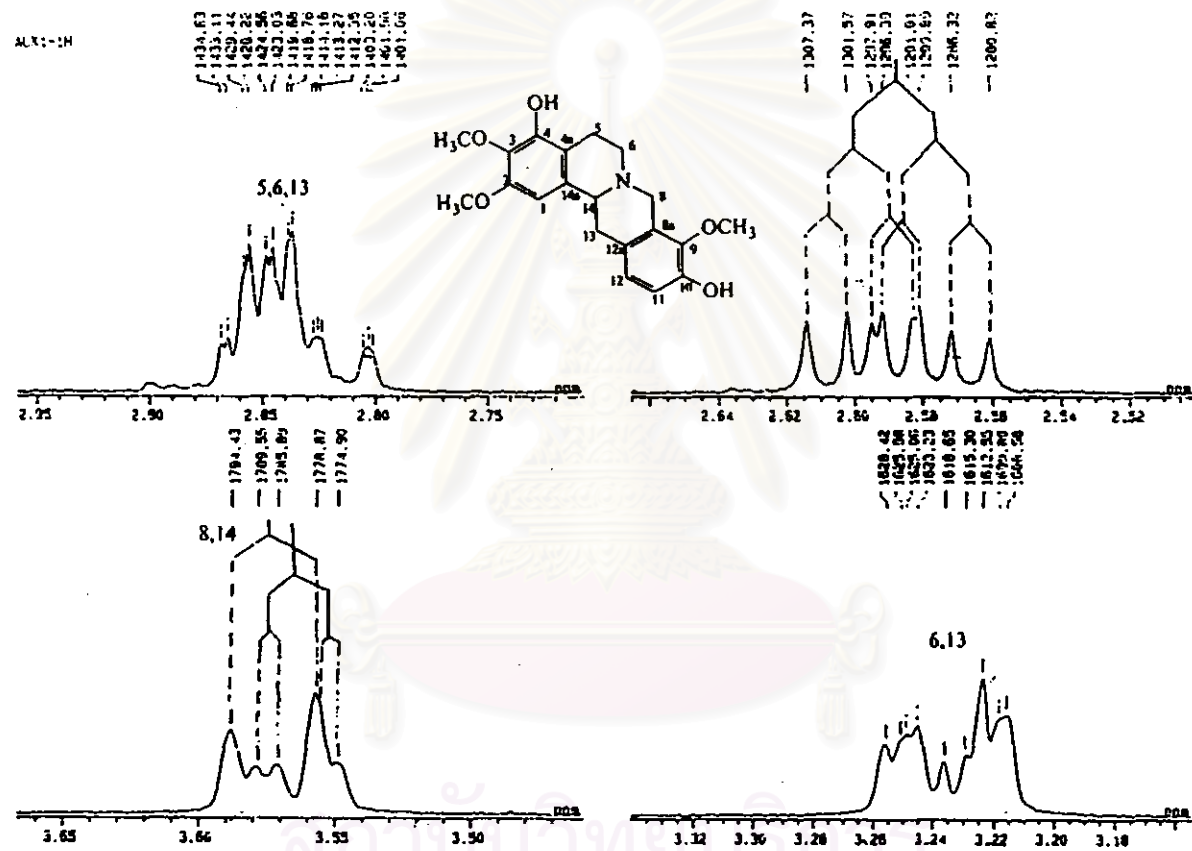


Figure 11 500 MHz  $^1\text{H}$  NMR spectrum (partially expanded:  $\delta_{\text{H}}$  2.5-3.6 ppm) of compound ALK1 (in  $\text{CDCl}_3$ )

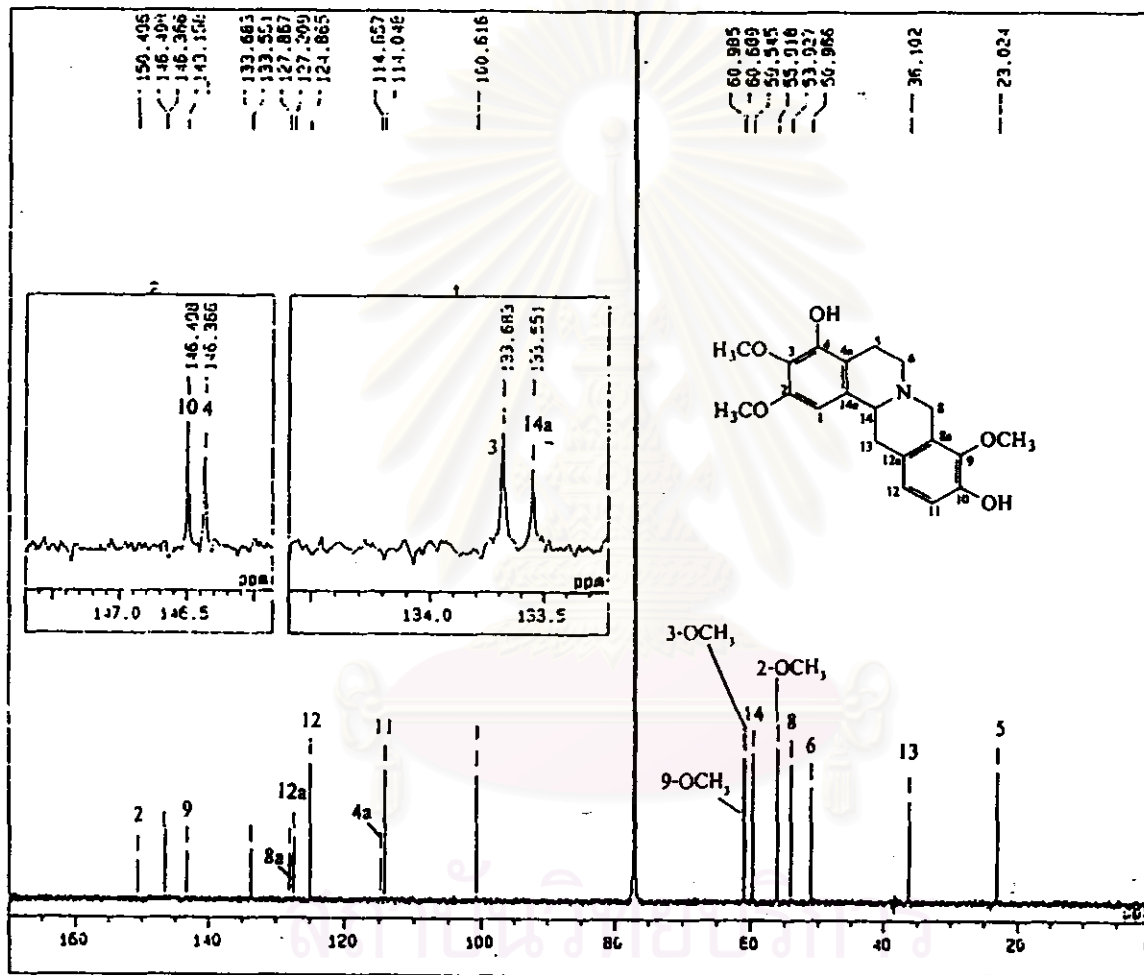


Figure 12 125 MHz  $^{13}\text{C}$  NMR spectrum of compound ALK1 ( in  $\text{CDCl}_3$  )

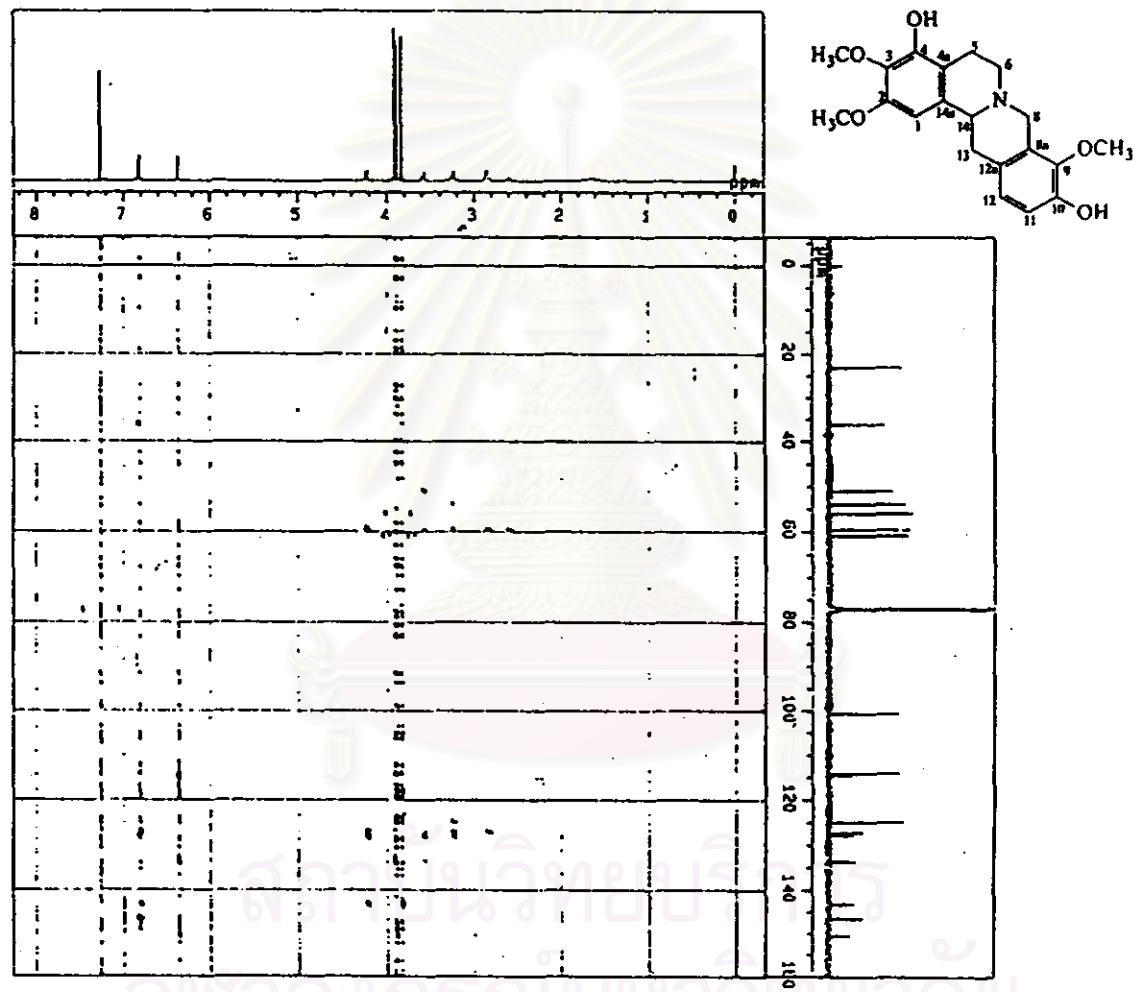


Figure 13 HMBC spectrum of compound ALK1 (in  $\text{CDCl}_3$ )



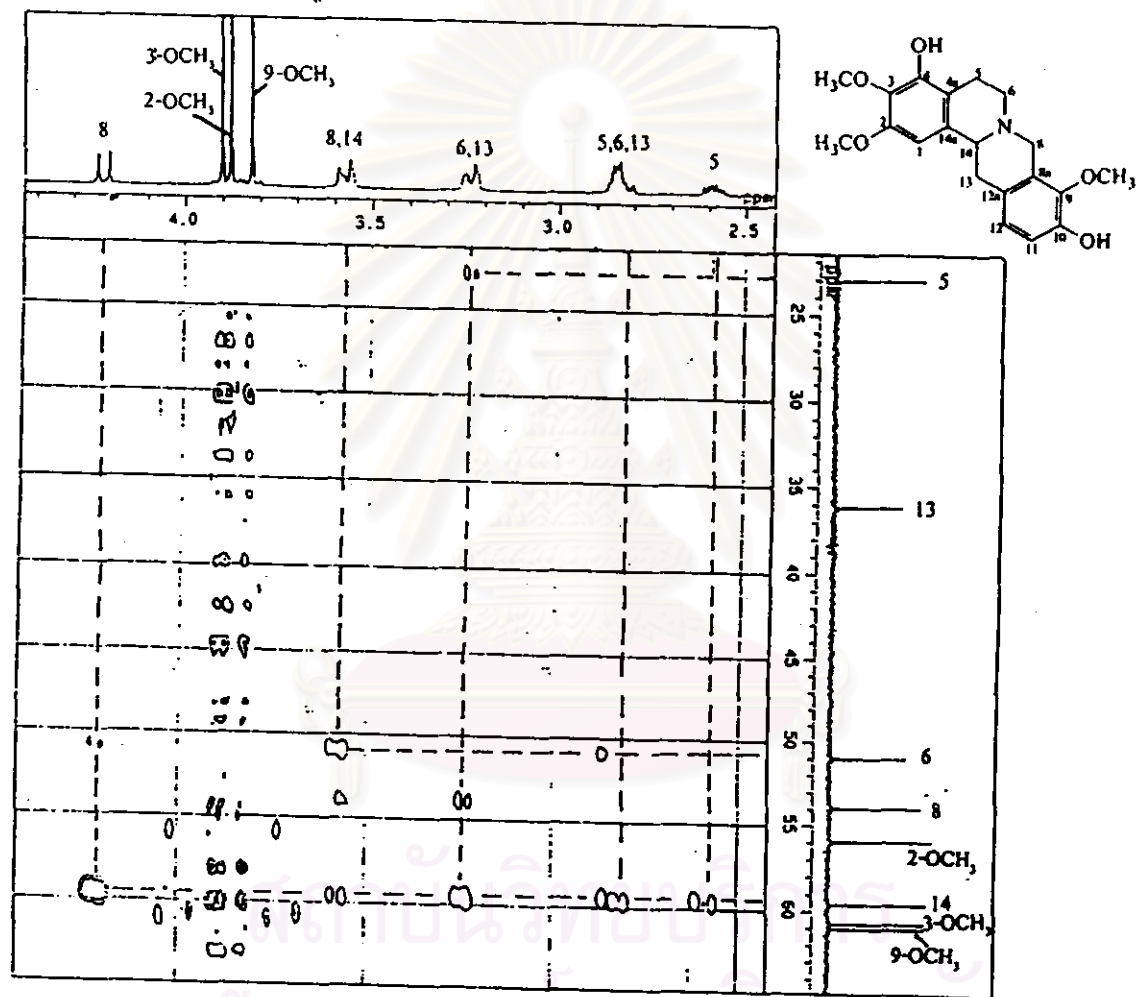


Figure 14 HMBC spectrum of compound ALK1 (in CDCl<sub>3</sub>) [δ<sub>H</sub> 2.5-4.4 ppm, δ<sub>C</sub> 22-64 ppm]

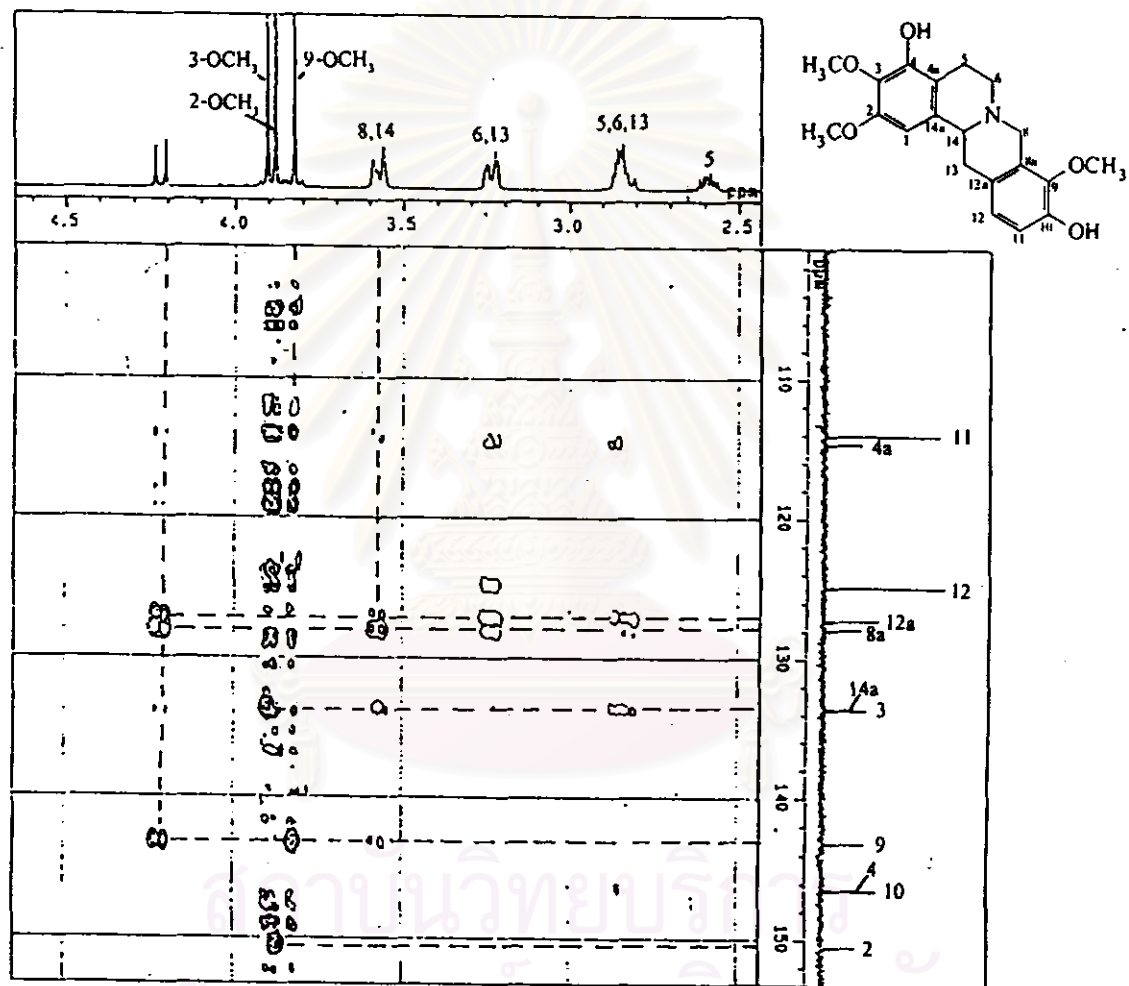


Figure 15 HMBC spectrum of compound ALK1 (in CDCl<sub>3</sub>) [ $\delta_H$  2.5-4.4 ppm,  $\delta_C$  102-152 ppm]

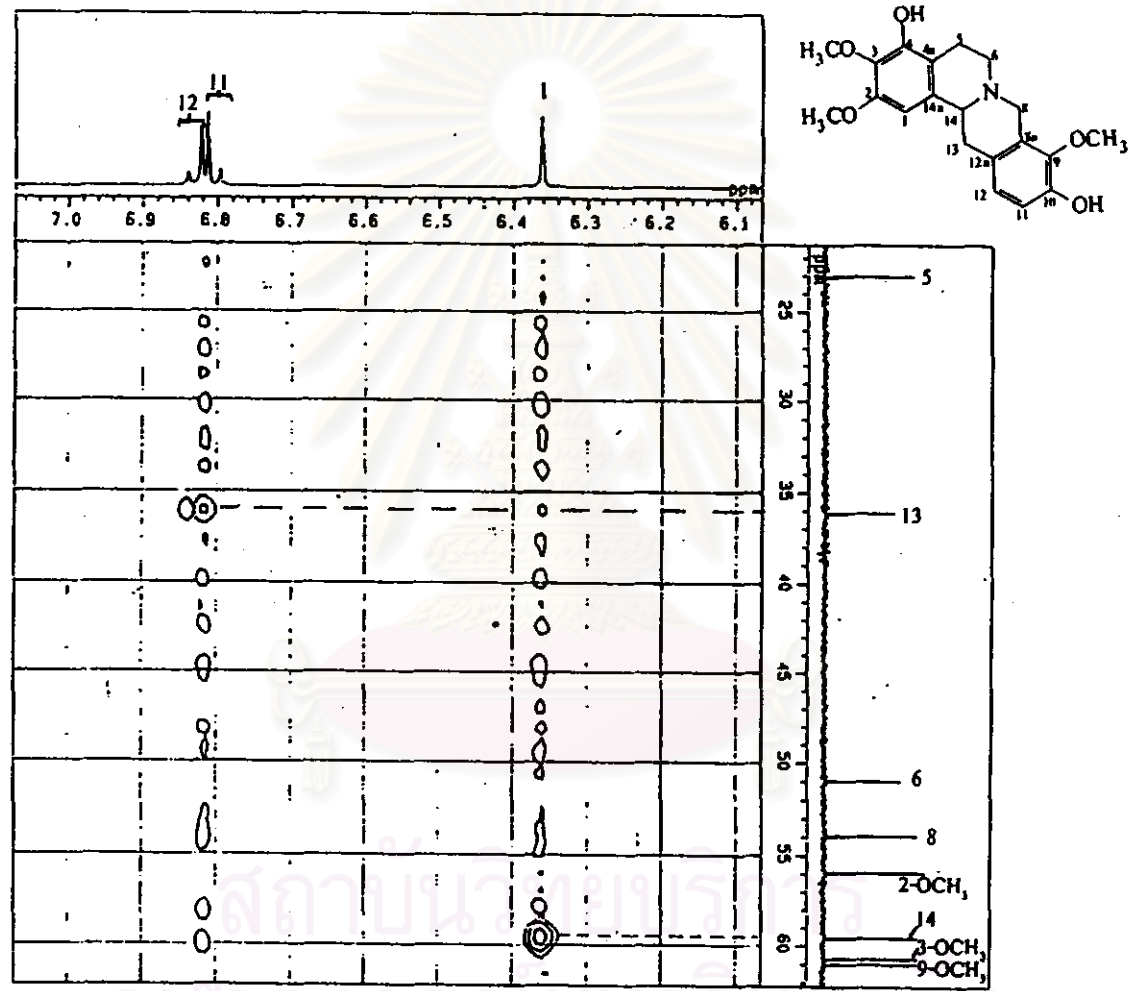


Figure 16 HMBC spectrum of compound ALK1 (in CDCl<sub>3</sub>) [ $\delta_H$  6.1-7.0 ppm,  $\delta_C$  22-62 ppm]

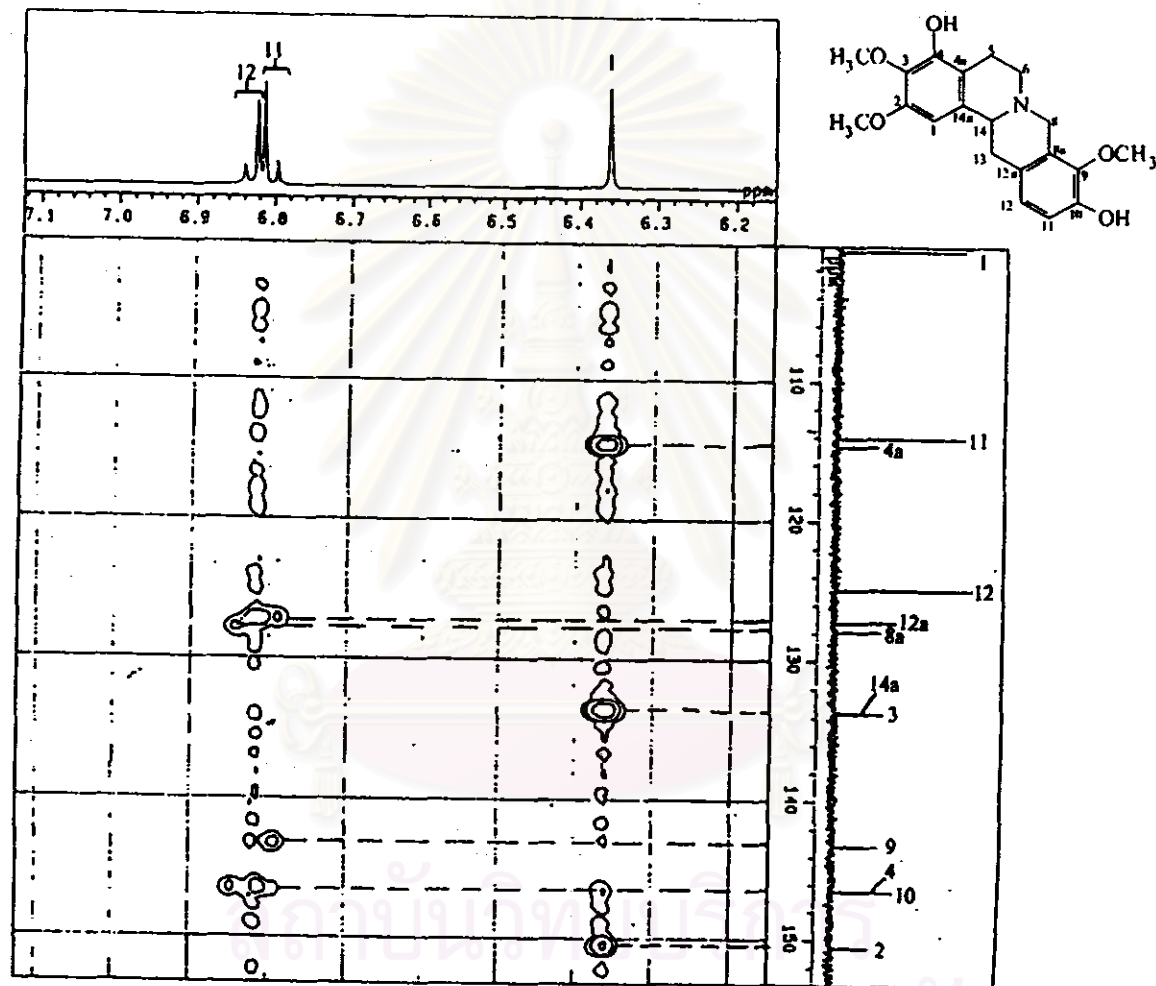


Figure 17 HMBC spectrum of compound ALK1 (in CDCl<sub>3</sub>) [ $\delta_{\text{H}}$  6.2-7.1 ppm,  $\delta_{\text{C}}$  100-152 ppm]

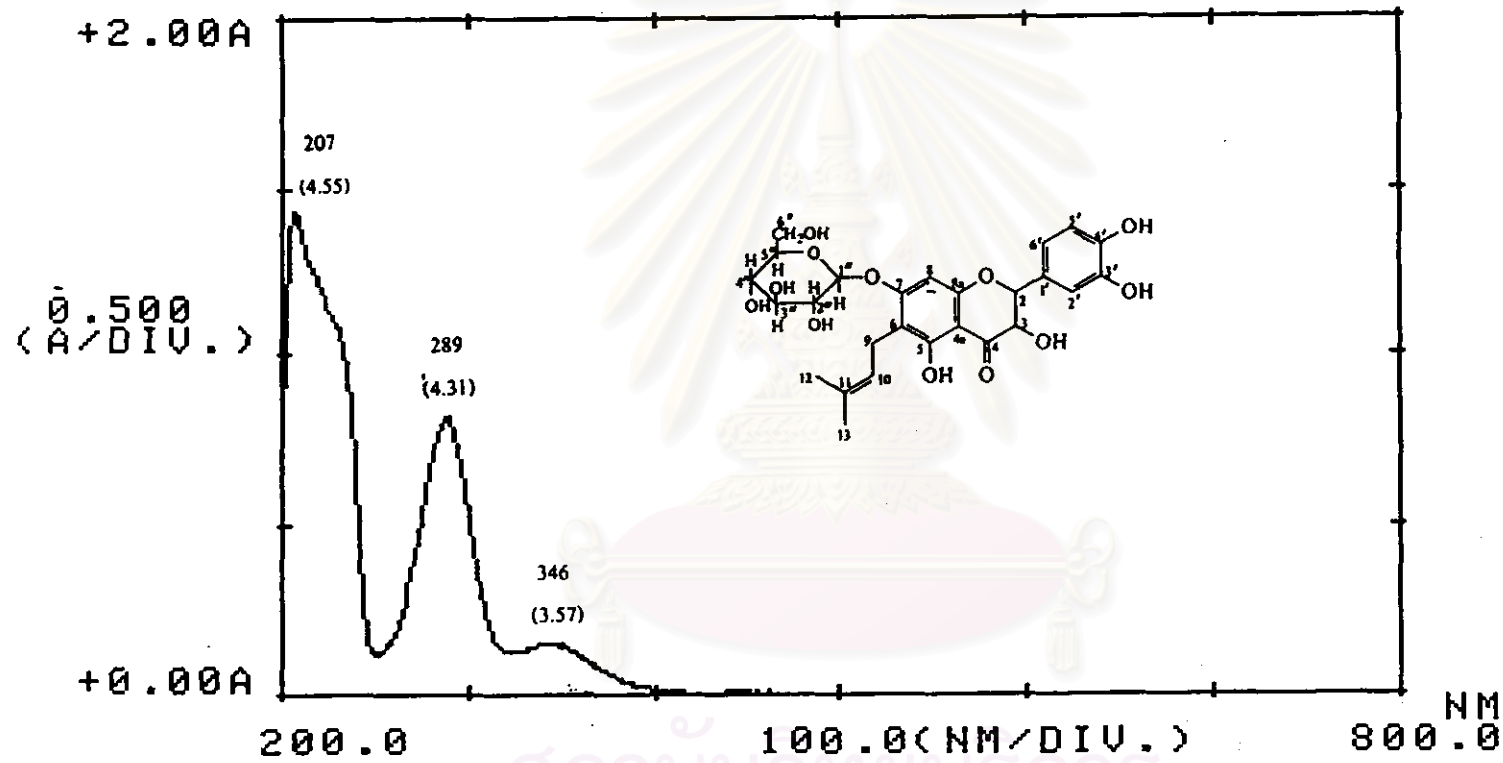


Figure 18 UV spectrum of compound OC-1 ( in MeOH )

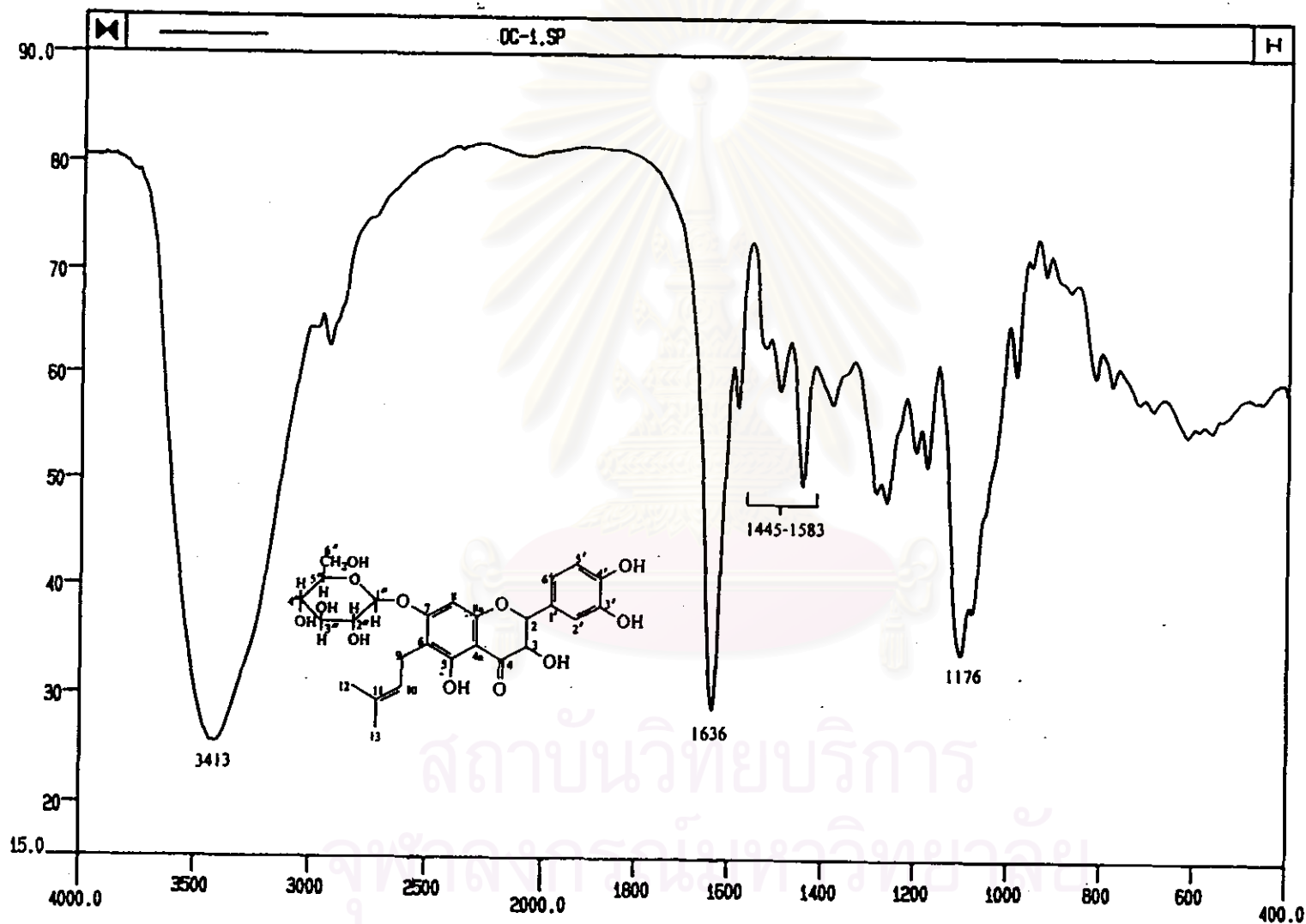


Figure 19 IR spectrum of compound OC-1 ( KBr disc )

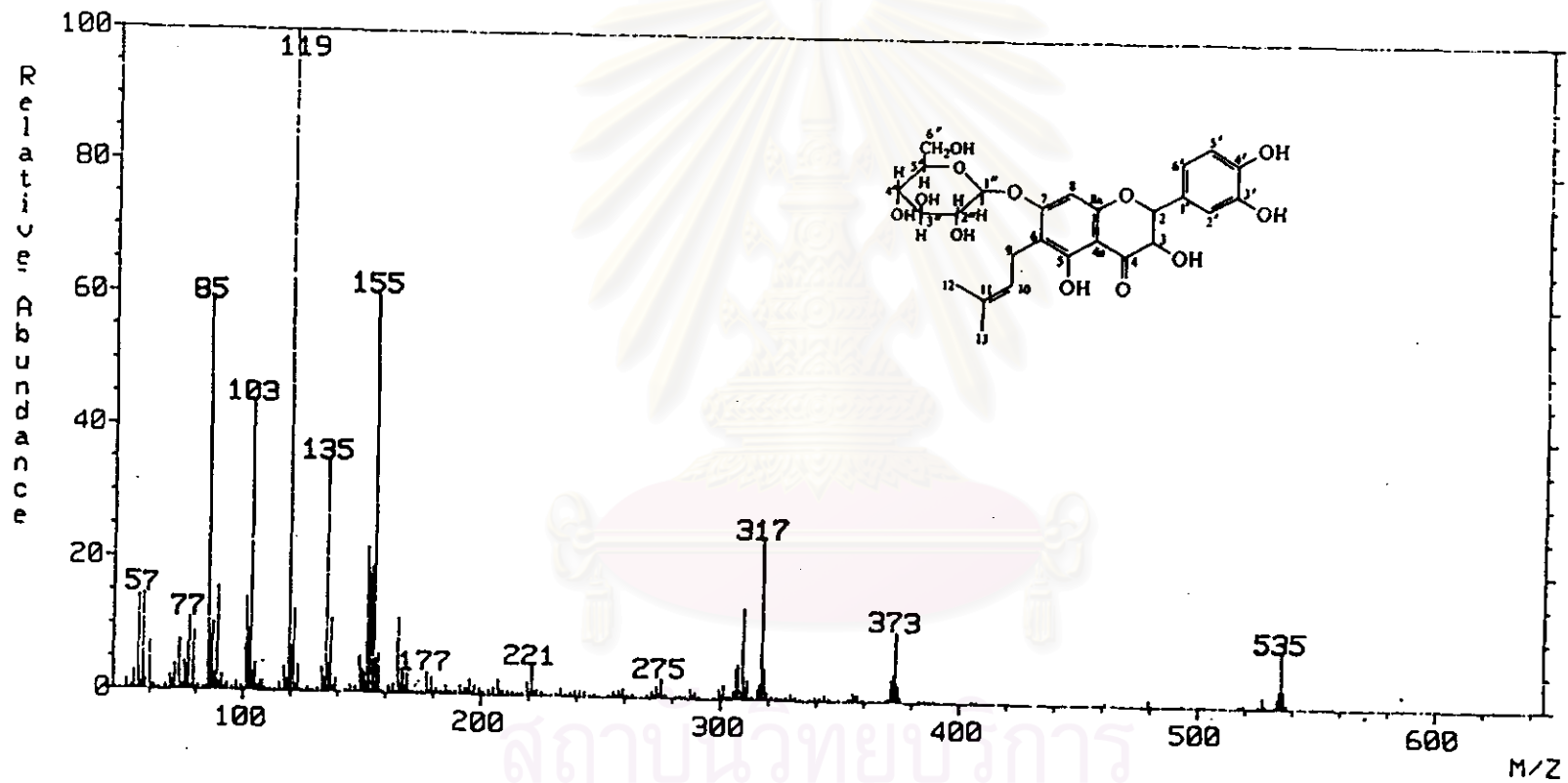


Figure 20 FAB mass spectrum of compound OC-1

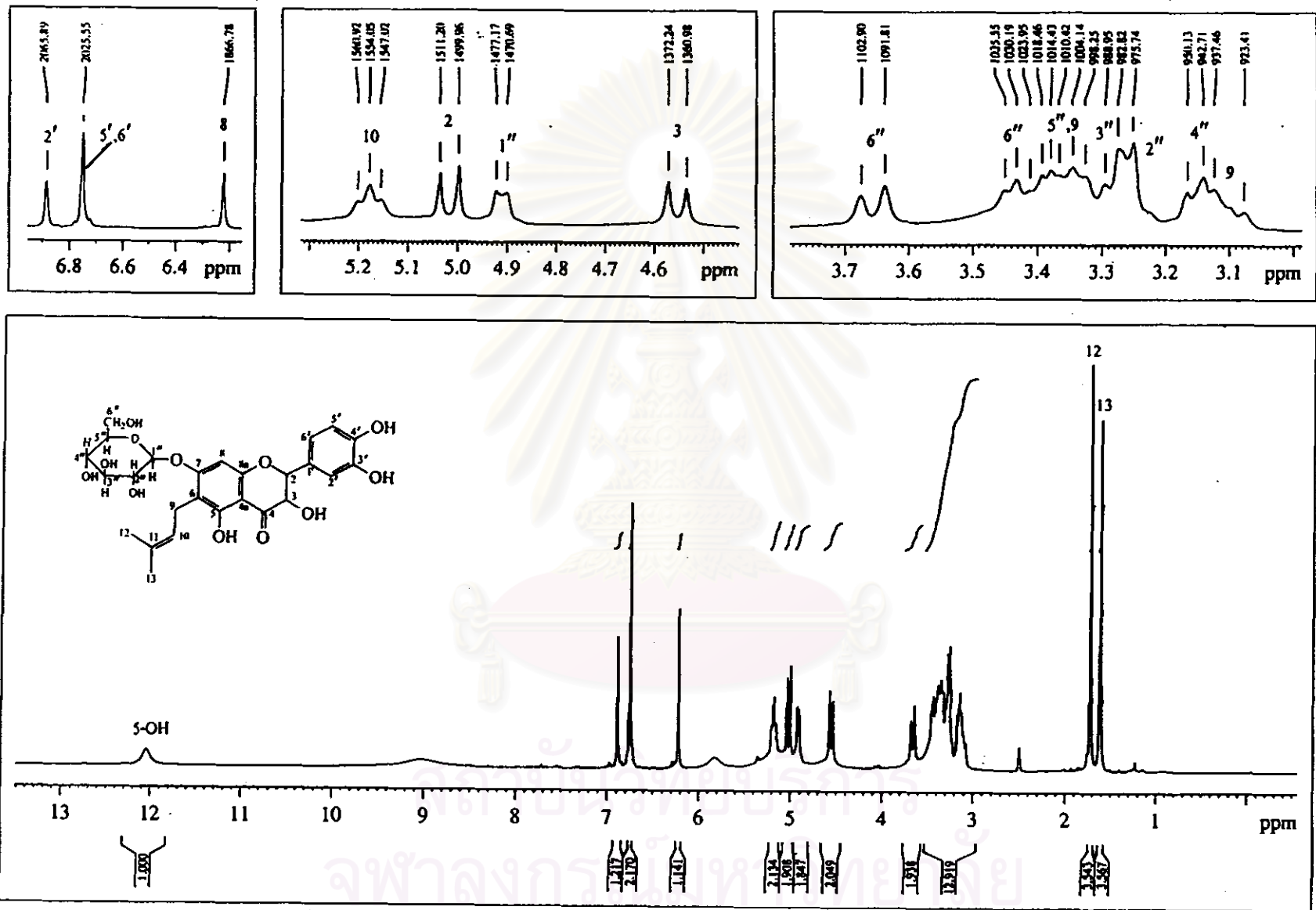


Figure 21 300 MHz <sup>1</sup>H NMR spectrum of compound OC-1 (in DMSO-d<sub>6</sub>)



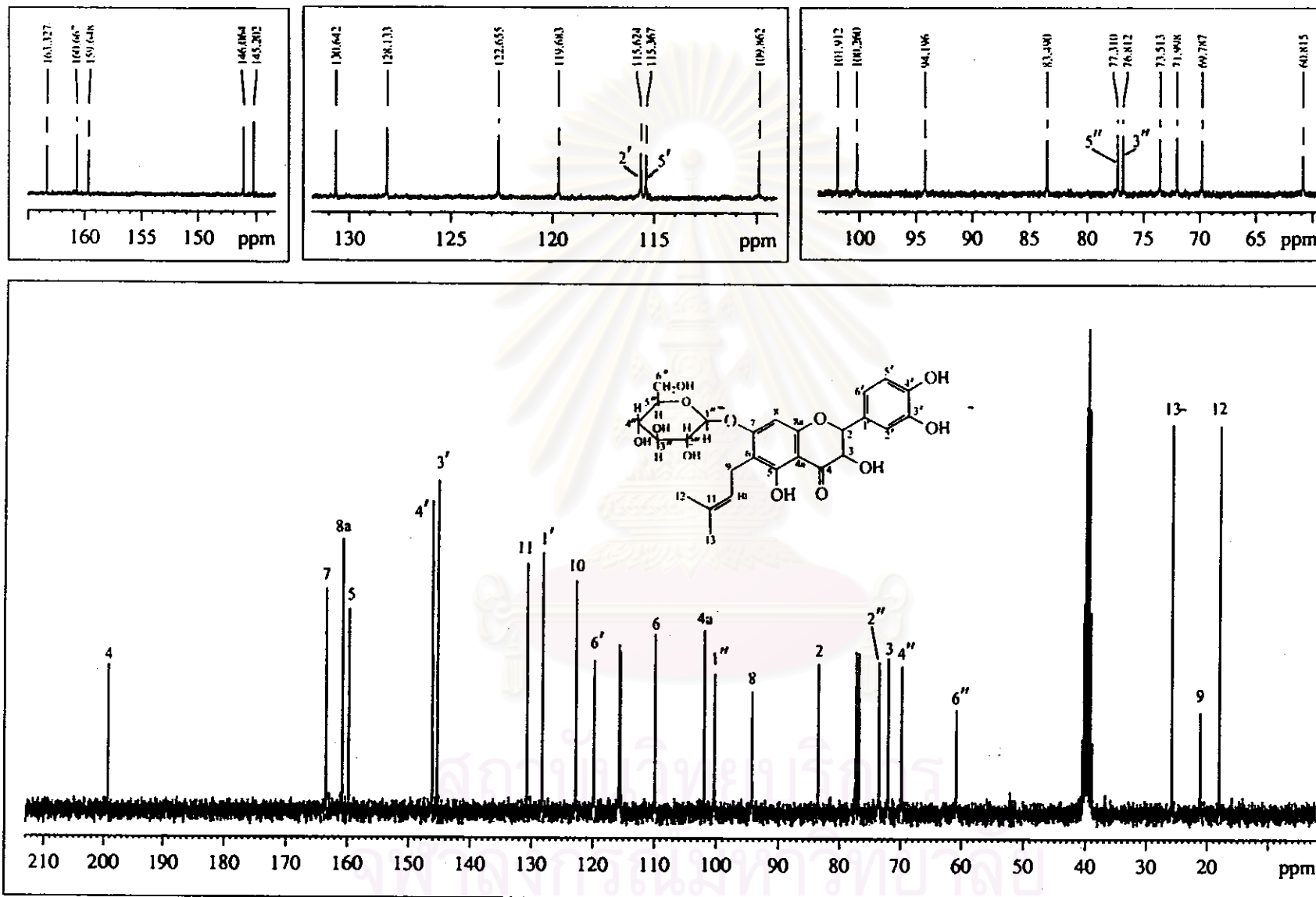


Figure 22 75 MHz  $^{13}\text{C}$  NMR spectrum of compound OC-1 ( in  $\text{DMSO-}d_6$  )

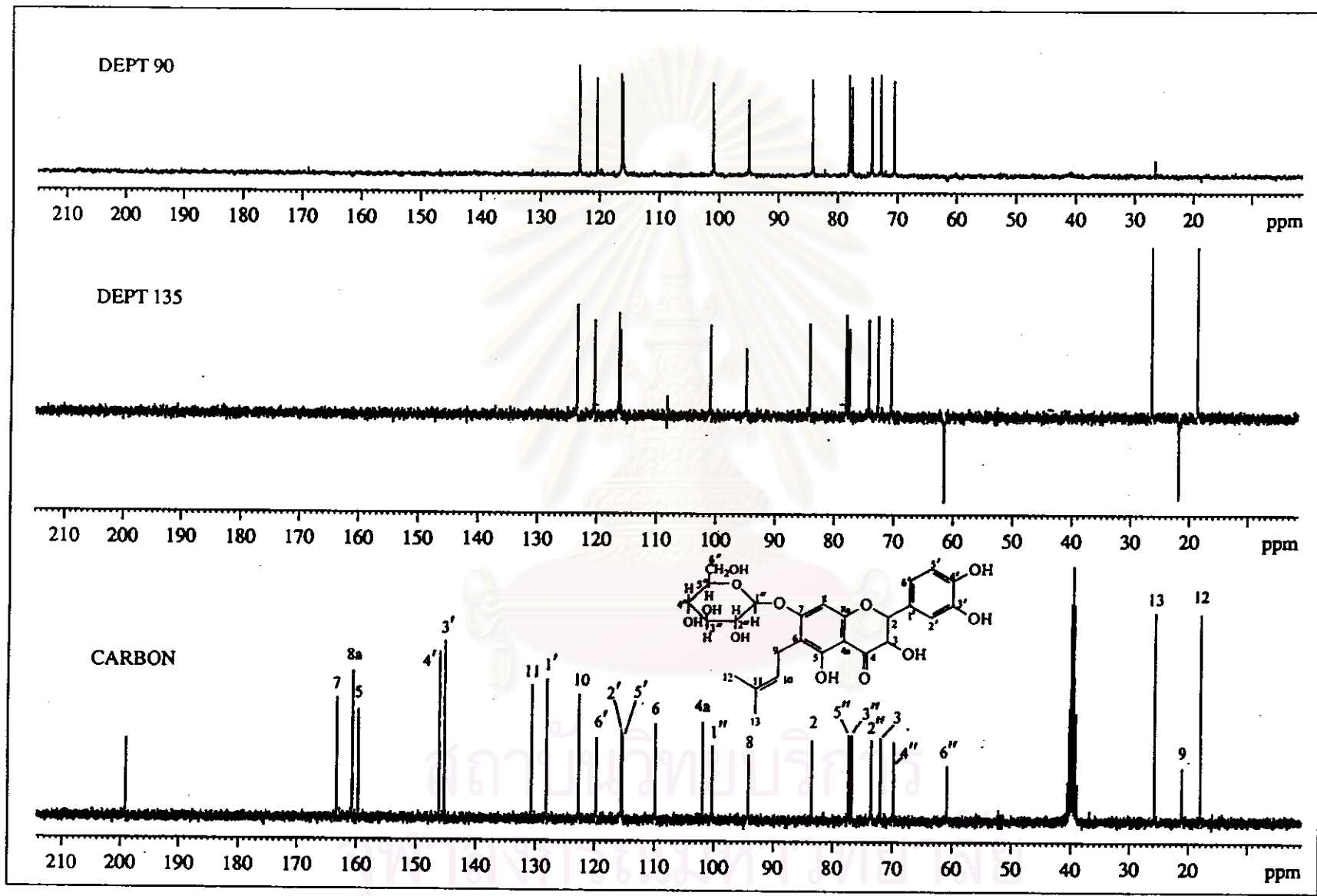


Figure 23 75 MHz  $^{13}\text{C}$  NMR, DEPT 90 and DEPT 135 spectra of compound OC-1 (in  $\text{DMSO-}d_6$ )

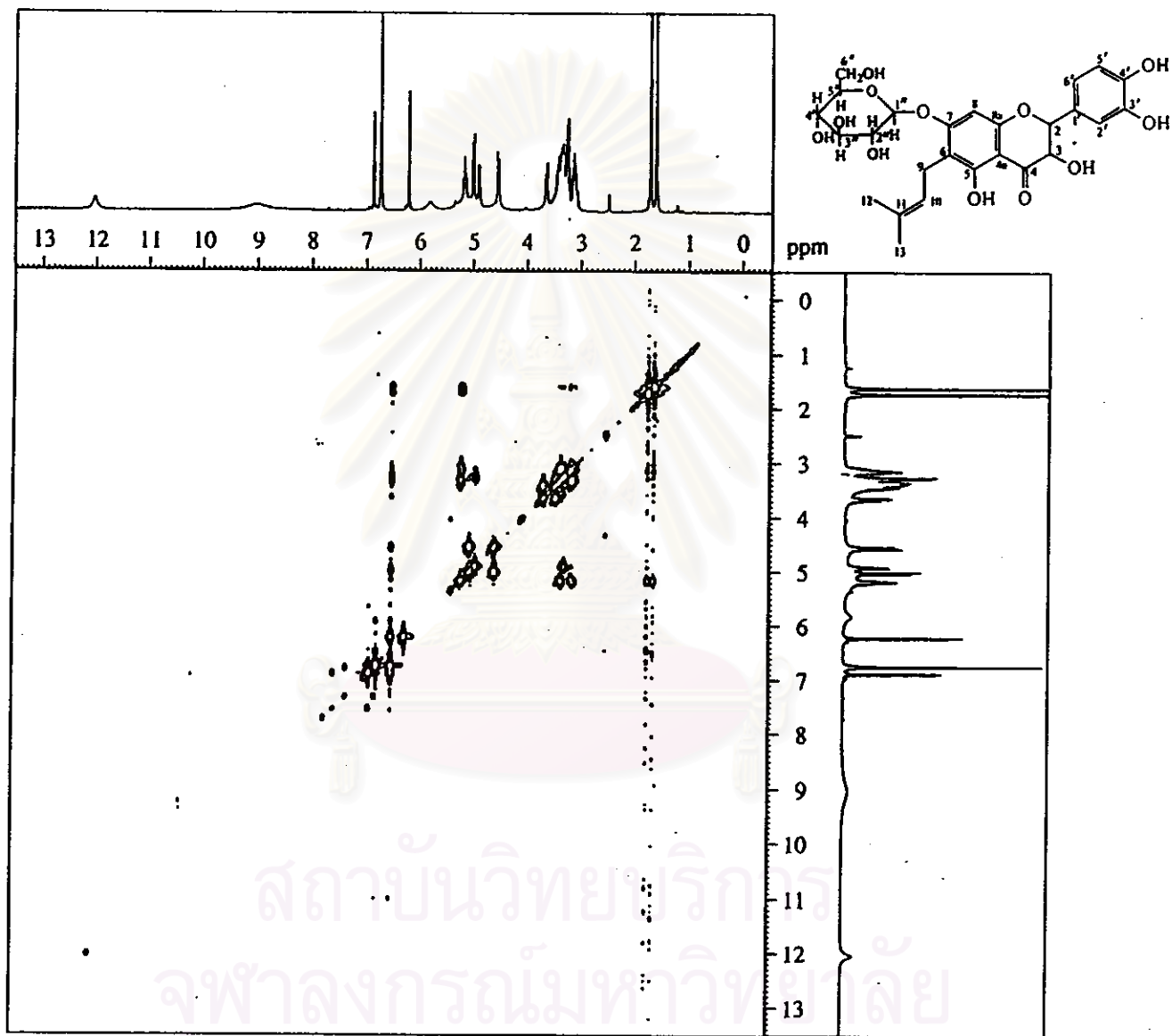


Figure 24  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound OC-1 (in  $\text{DMSO}-d_6$ )

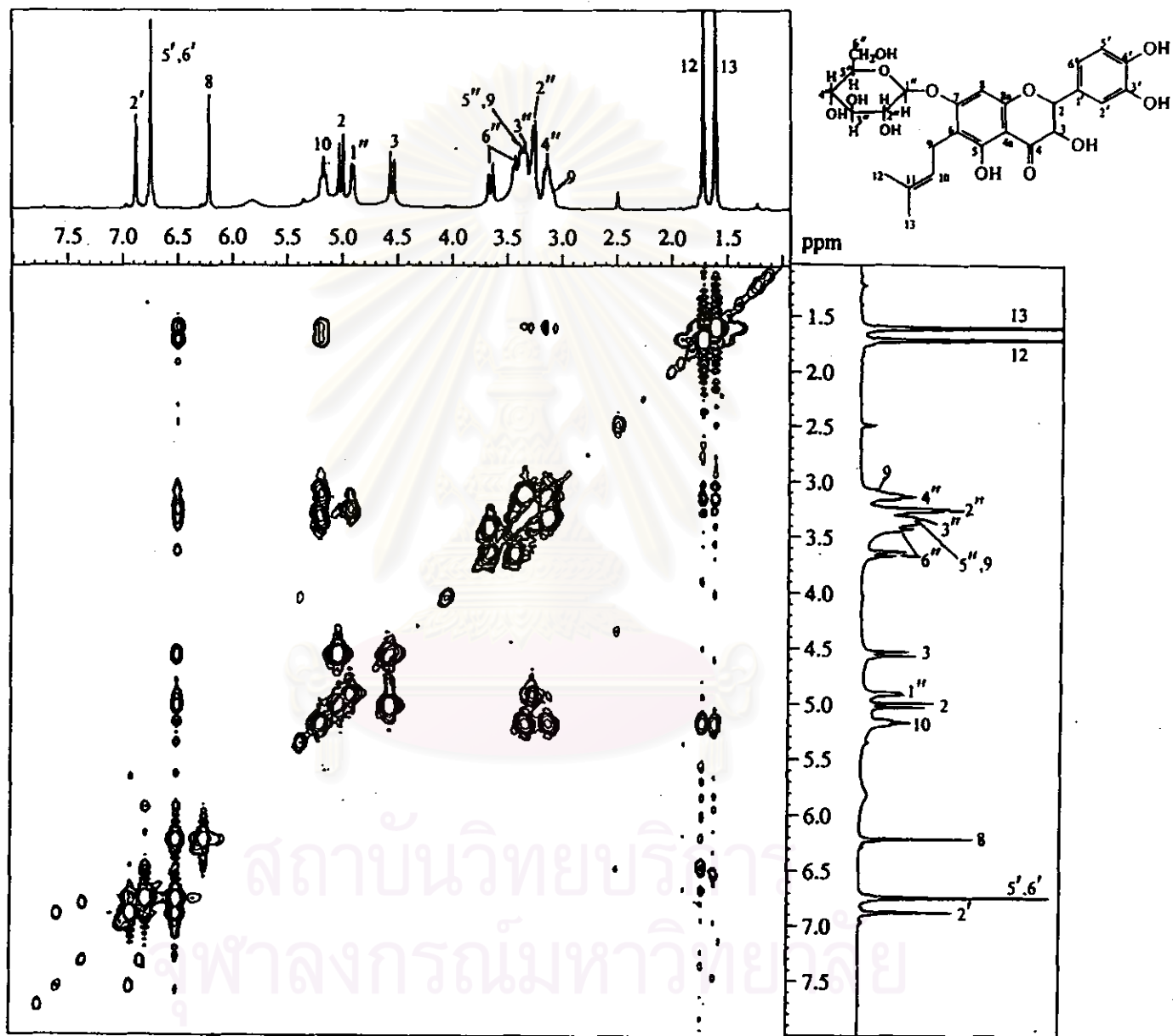


Figure 25  $^1\text{H}$ - $^1\text{H}$  COSY spectrum ( partially expanded:  $\delta_{\text{H}}$  1.0-8.0 ppm,  $\delta_{\text{H}}$  1.0-8.0 ppm ) of compound OC-1 ( in  $\text{DMSO}-d_6$  )

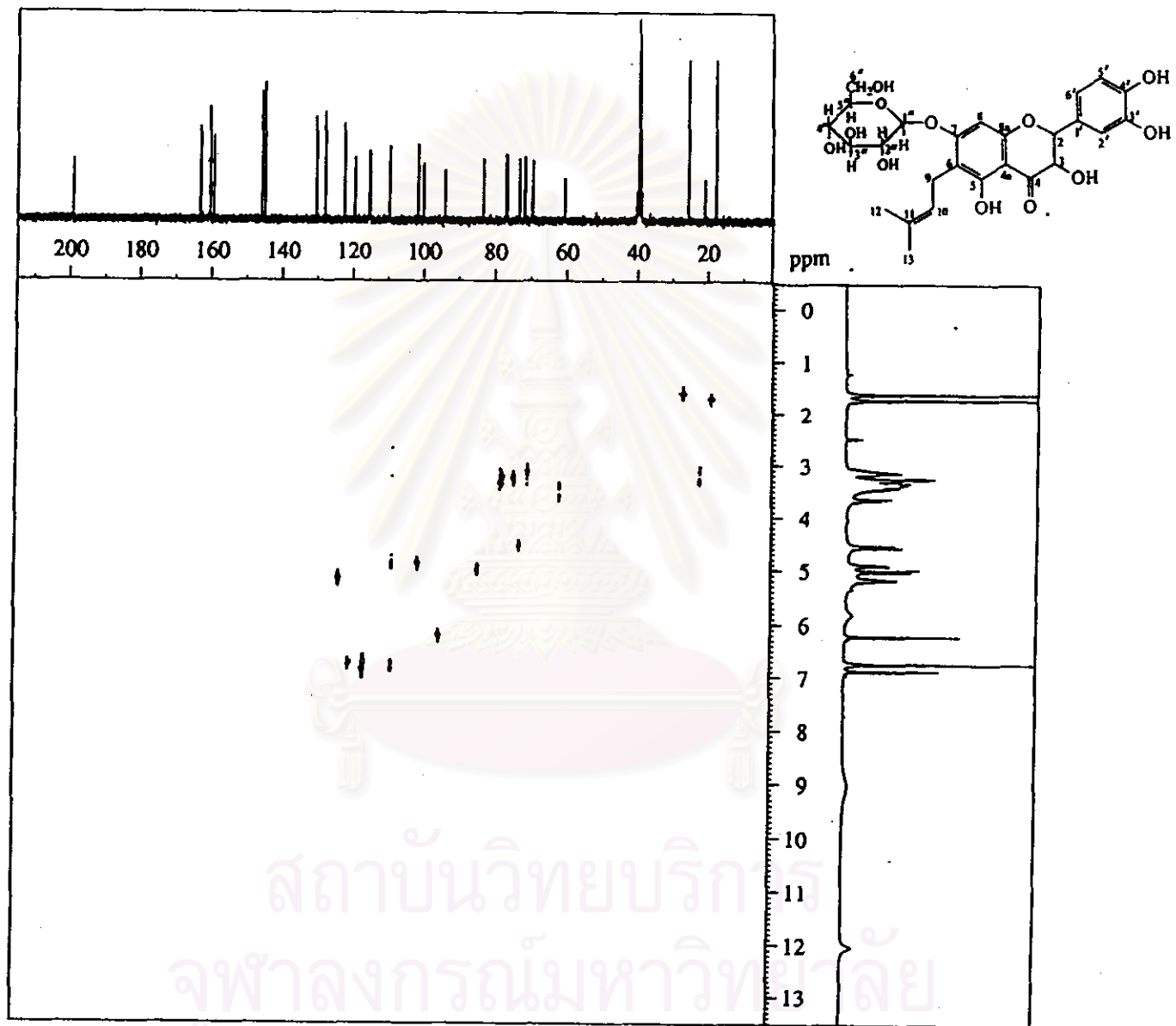


Figure 26 HETCOR spectrum of compound OC-1 ( in DMSO- $d_6$  )

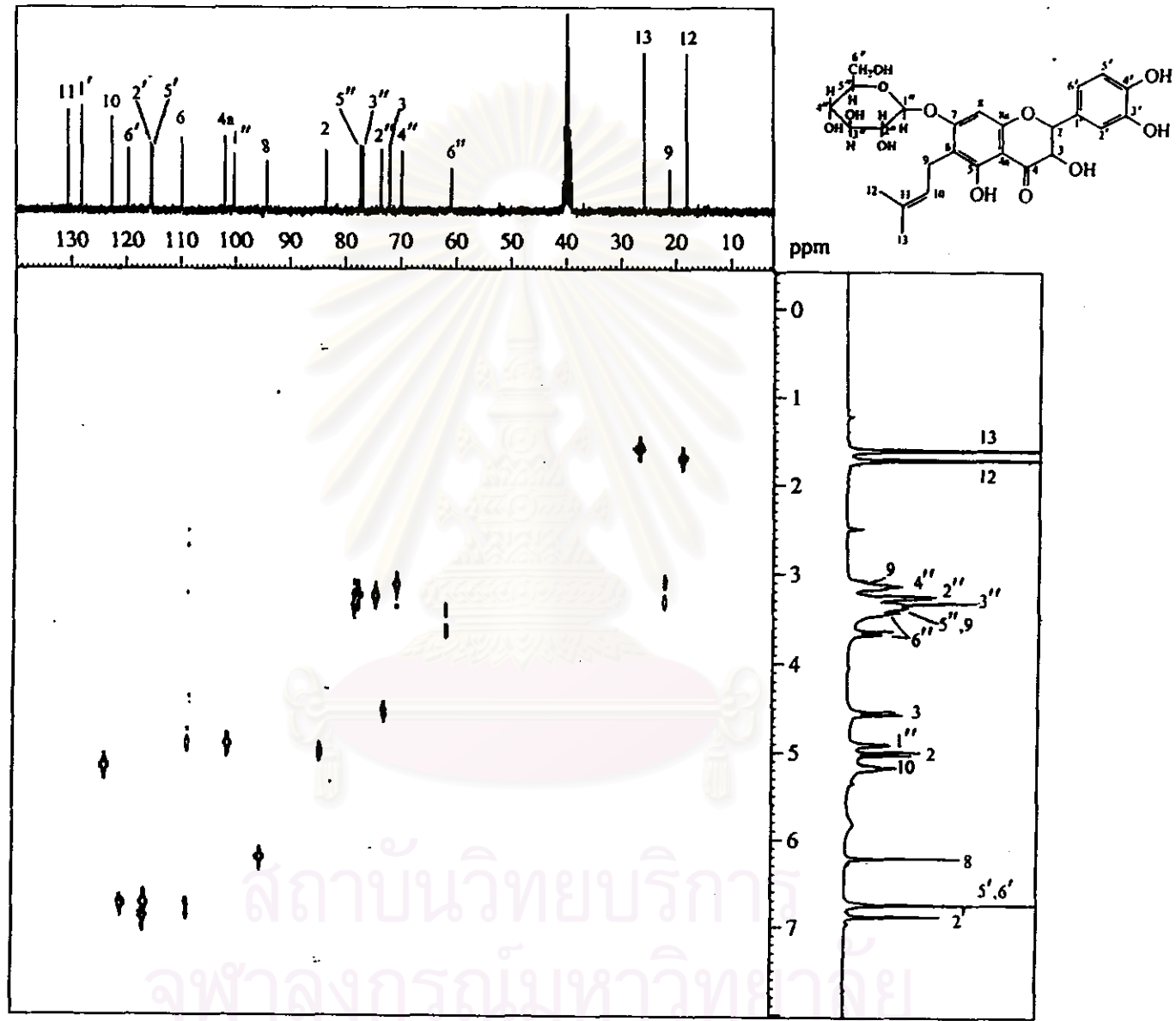


Figure 27 HETCOR spectrum (partially expanded:  $\delta_{\text{H}}$  0-8.0 ppm,  $\delta_{\text{C}}$  10-140 ppm) of compound OC-1 (in DMSO-*d*<sub>6</sub>)

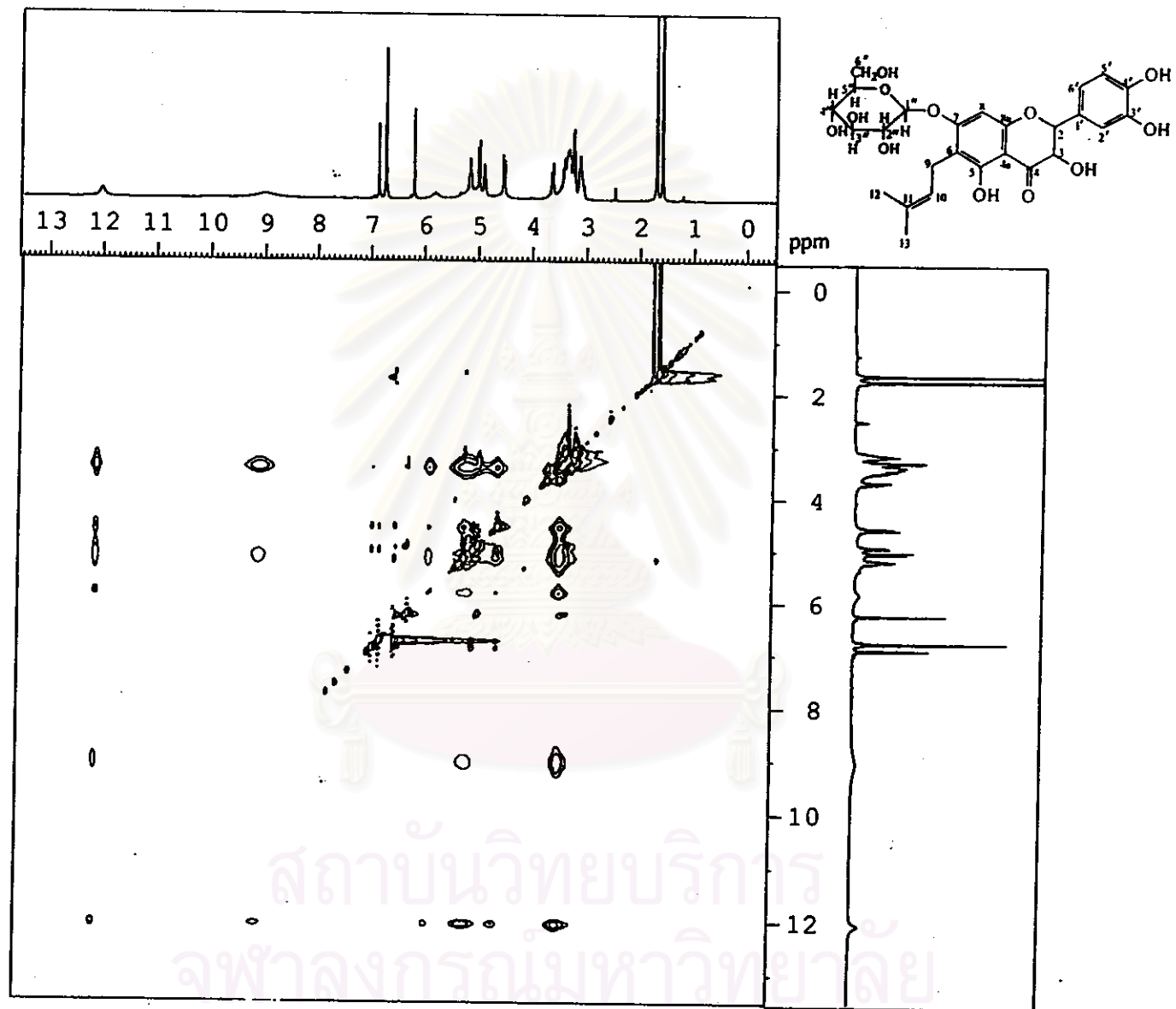


Figure 28 NOESY spectrum of compound OC-1 (in DMSO- $d_6$ )

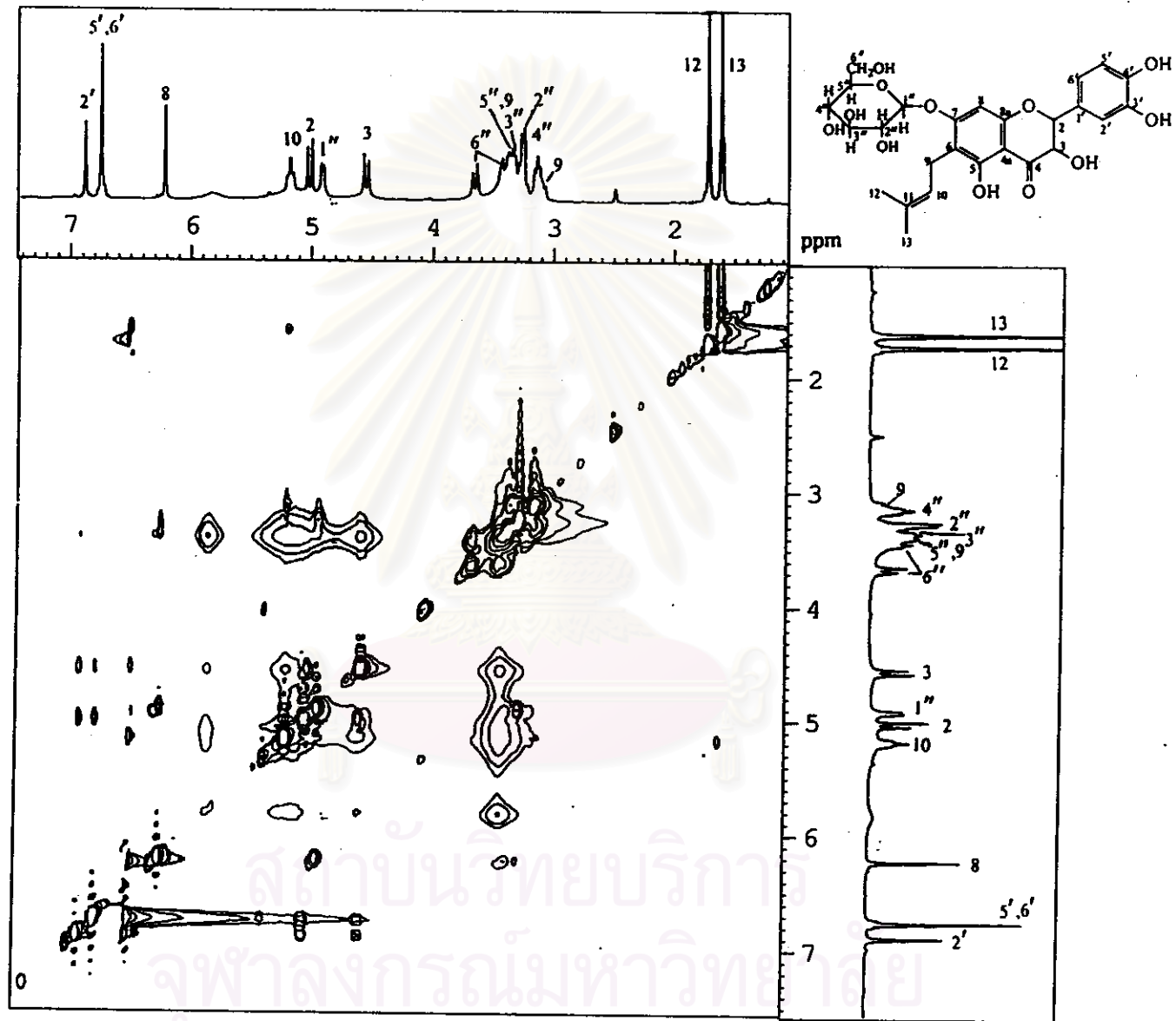


Figure 29 NOESY spectrum (partially expanded:  $\delta_H$  1.0-7.5 ppm,  $\delta_H$  1.0-7.5 ppm) of compound OC-1. (in DMSO- $d_6$ )



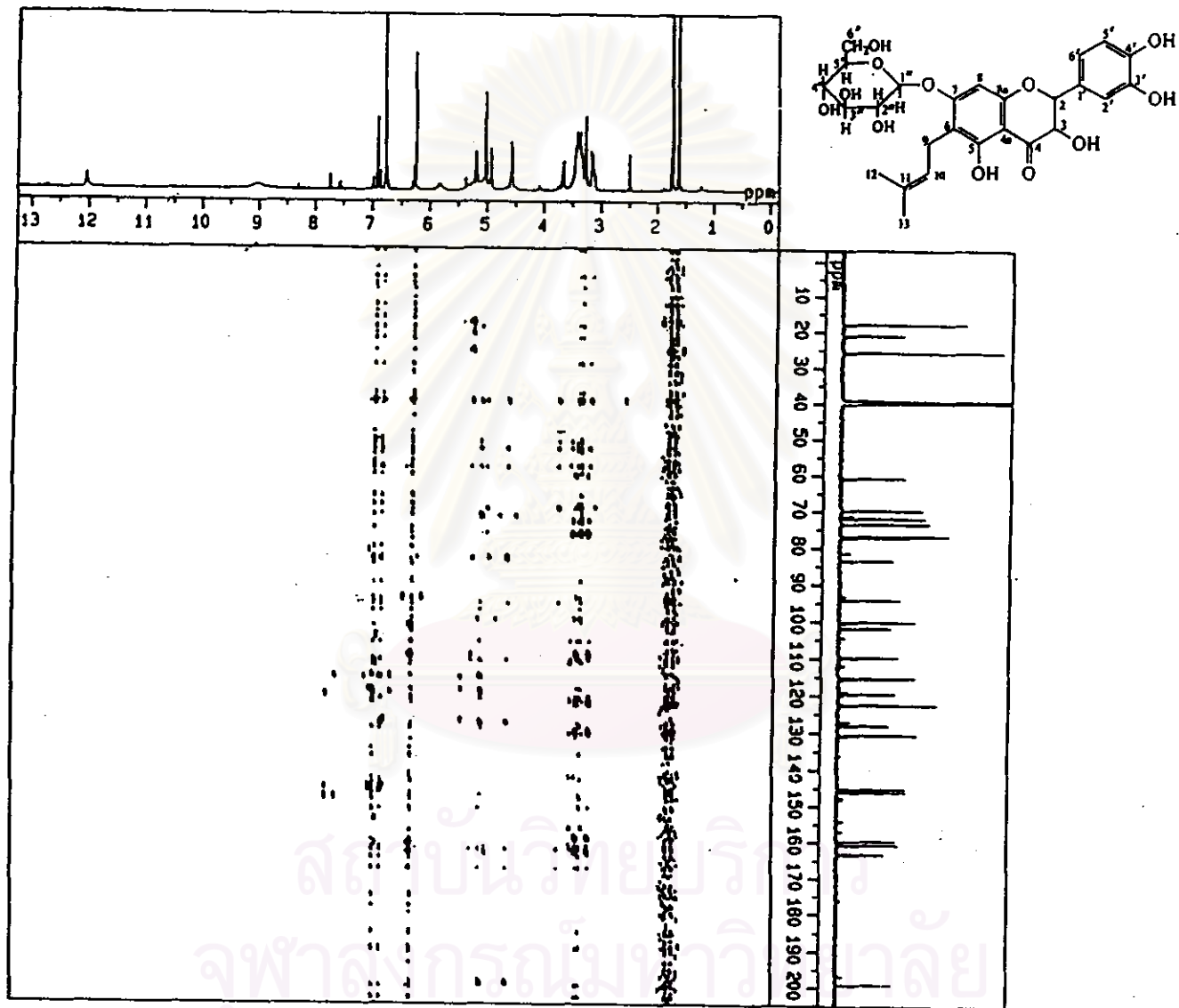


Figure 30 HMBC spectrum of compound OC-1 ( in DMSO- $d_6$  )

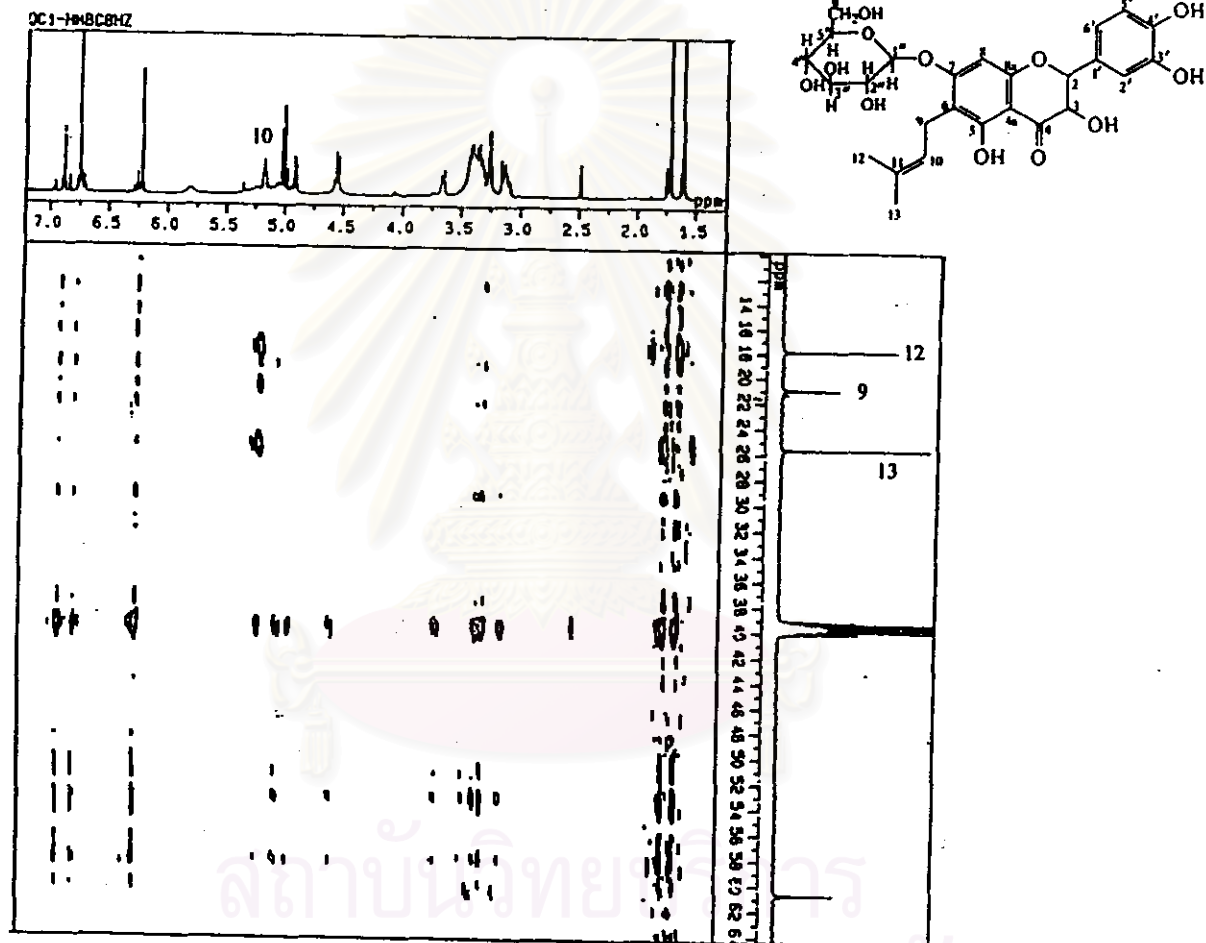


Figure 31 HMBC spectrum of compound OC-1 ( in  $\text{DMSO-}d_6$  ) [  $\delta_{\text{H}}$  1.5-7.0 ppm,  $\delta_{\text{C}}$  14-62 ppm ]

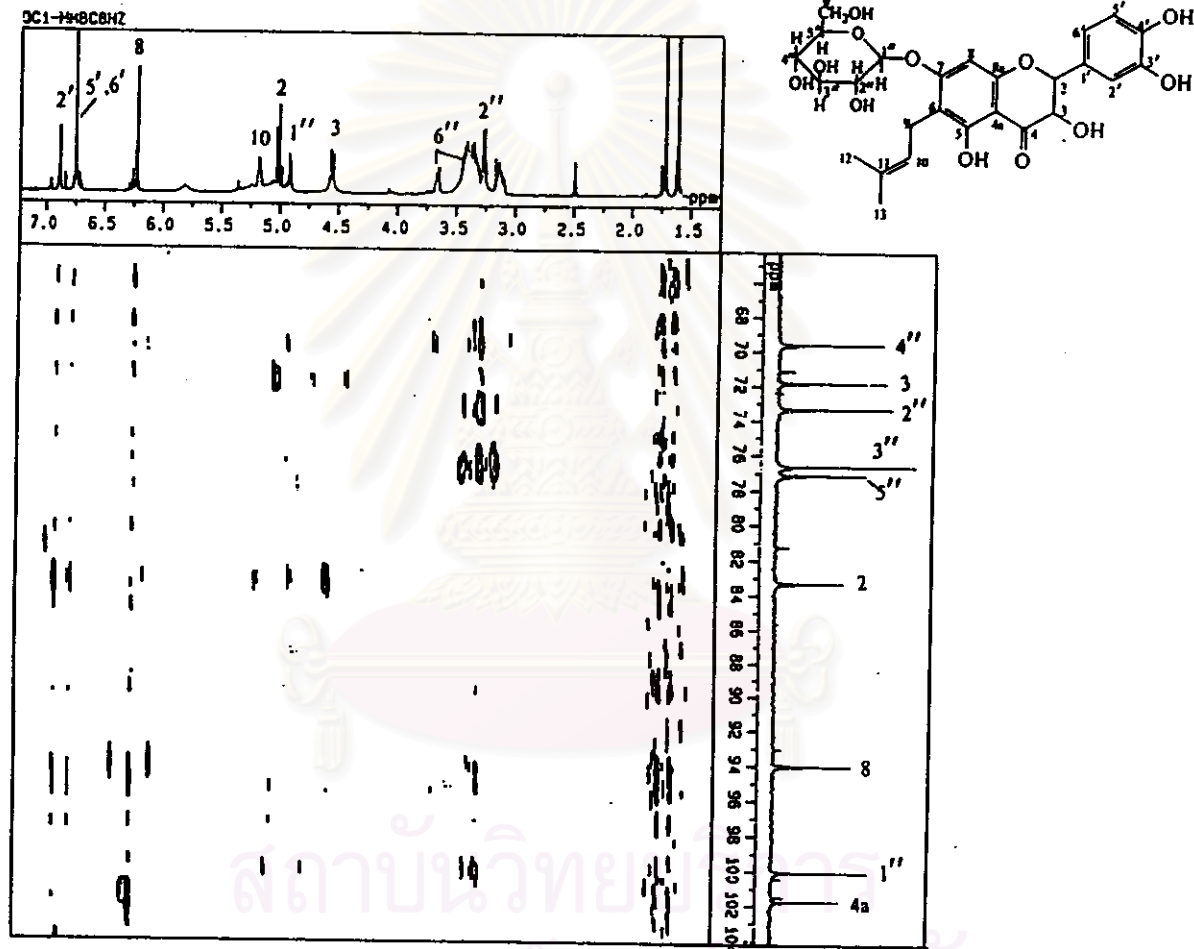


Figure 32 HMBC spectrum of compound OC-1 (in DMSO- $d_6$ ) [ $\delta_H$  1.5-7.0 ppm,  $\delta_C$  68-104 ppm]

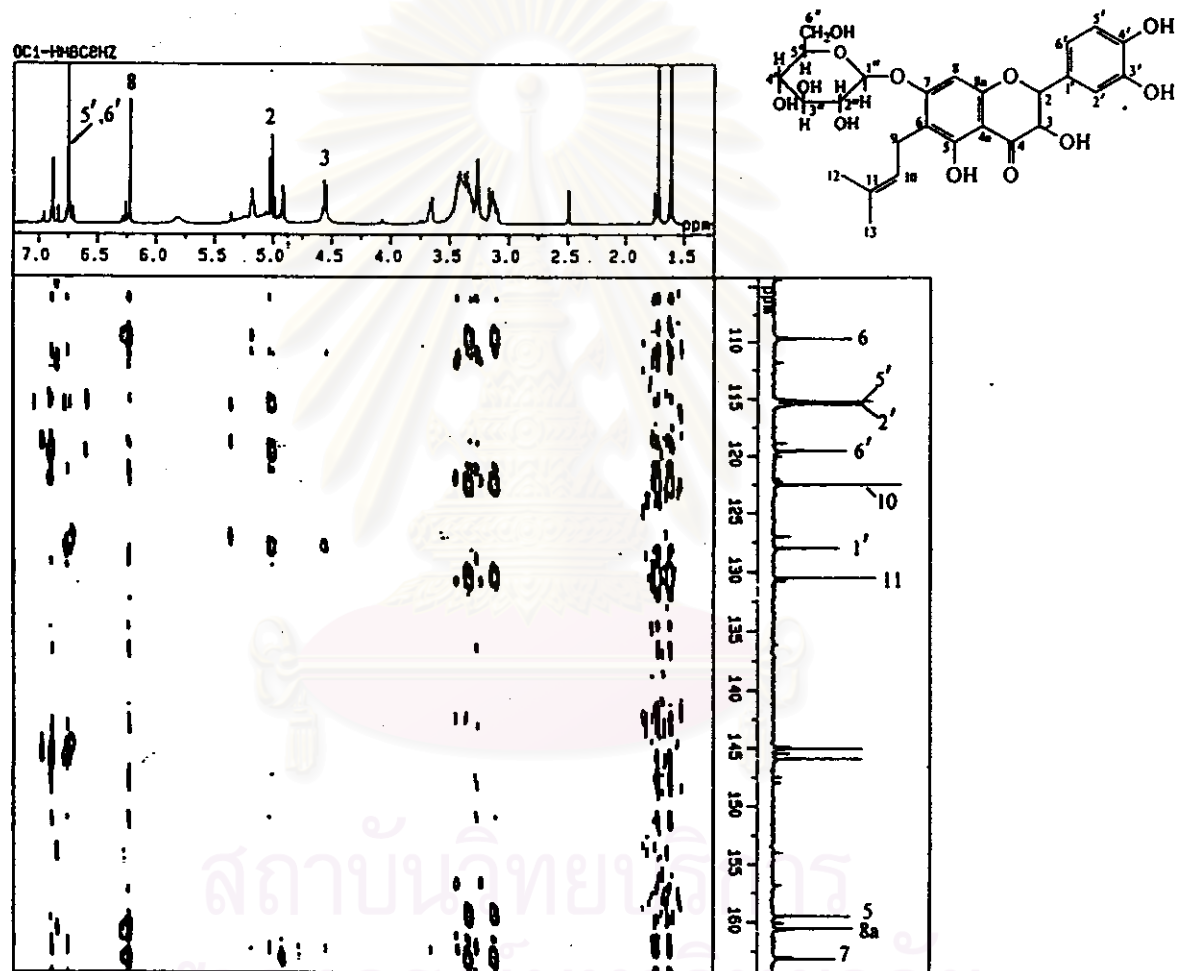


Figure 33 HMBC spectrum of compound OC-1 (in DMSO- $d_6$ ) [ $\delta_H$  1.5-7.0 ppm,  $\delta_C$  105-165 ppm]

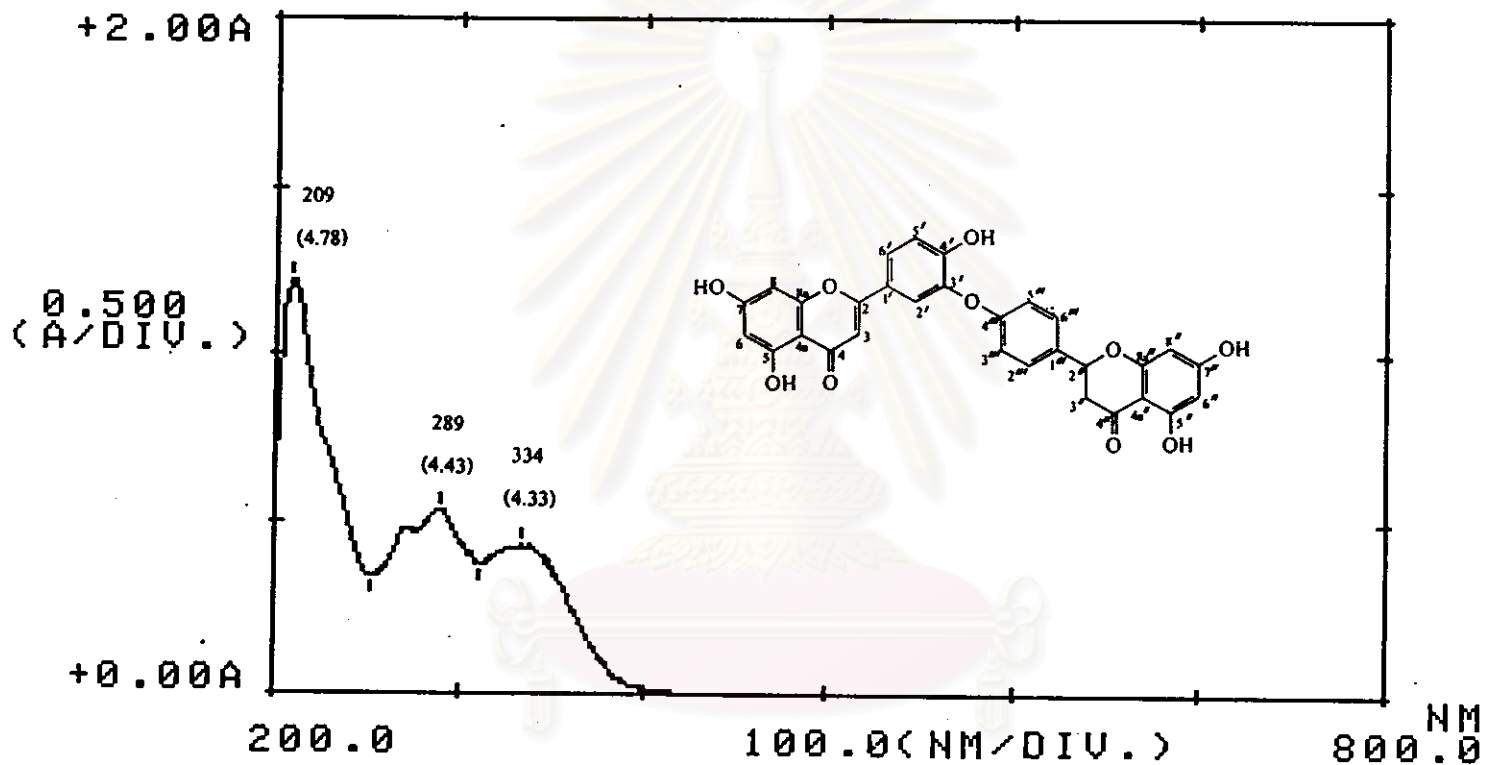


Figure 34 UV spectrum of compound OC-2 ( in MeOH )

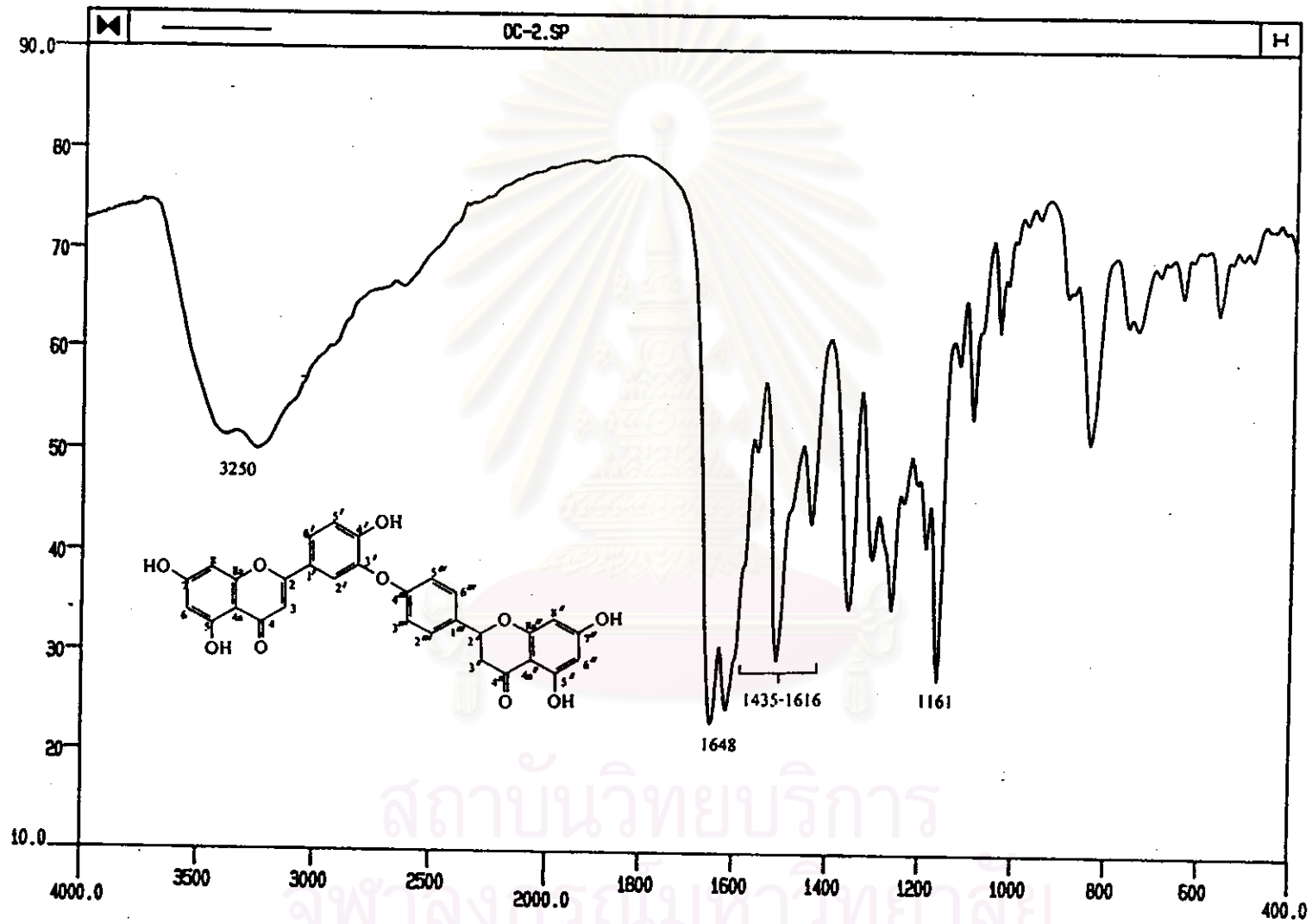


Figure 35 IR spectrum of compound OC-2 ( KBr disc )

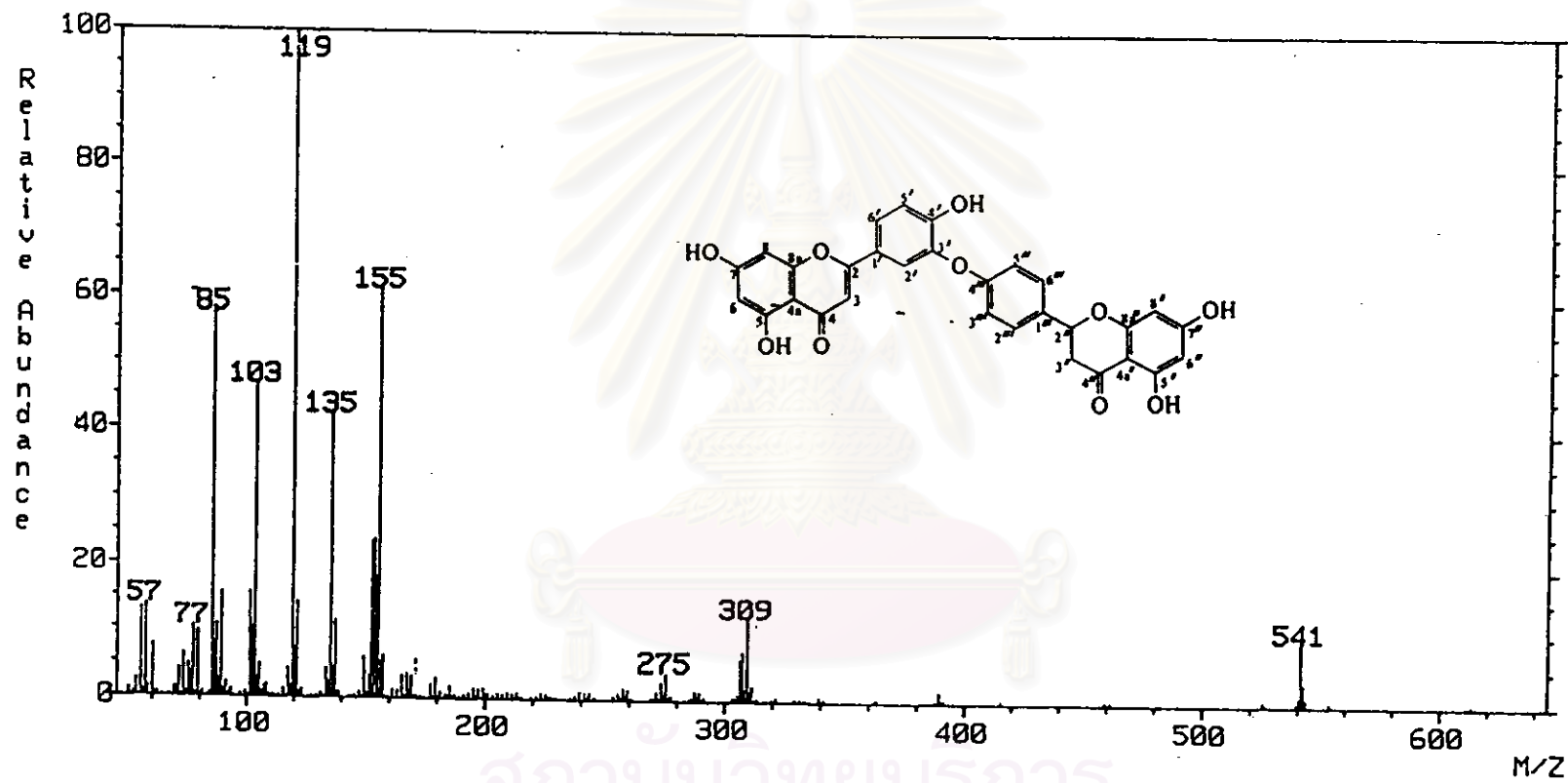


Figure 36 FAB mass spectrum of compound OC-2

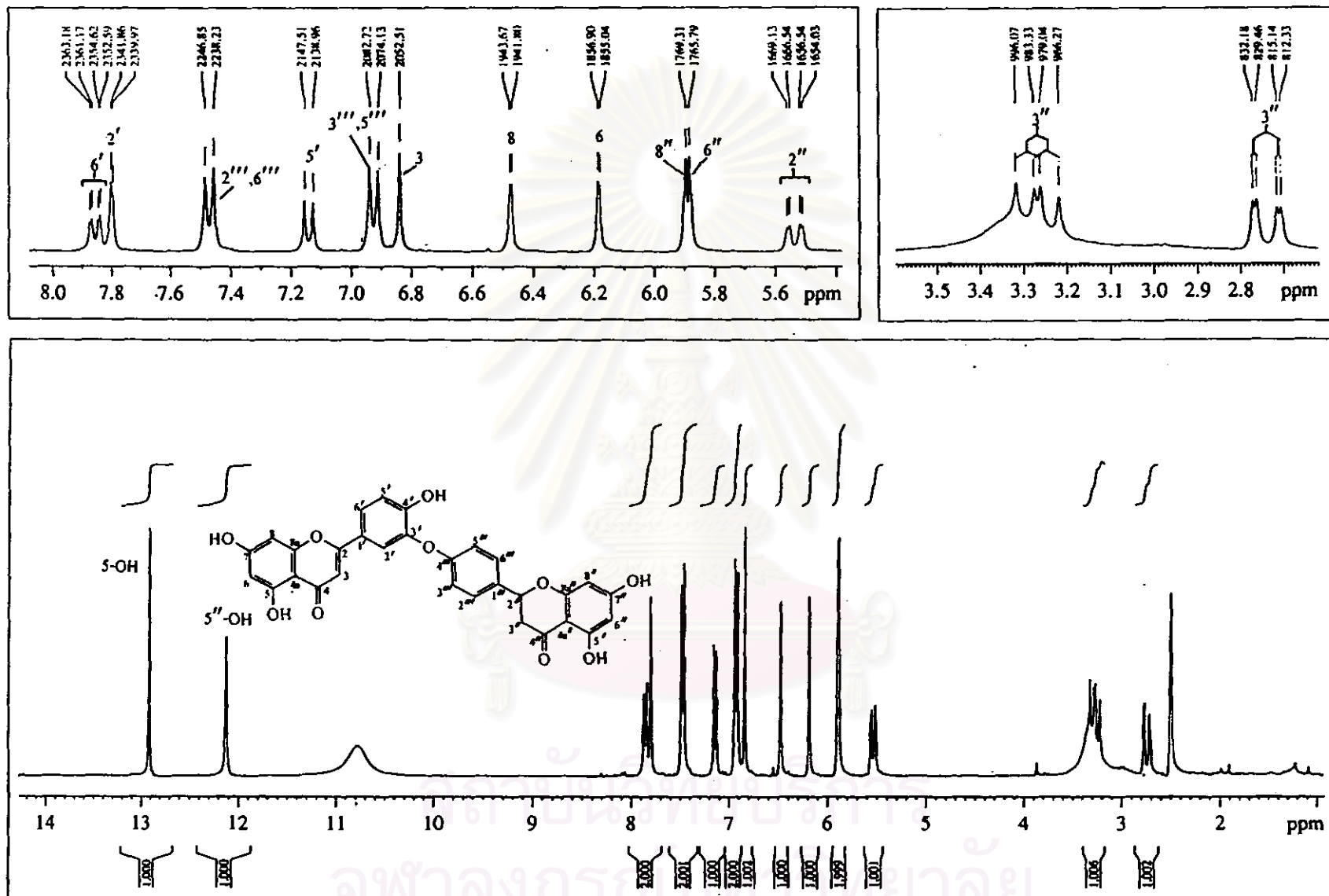


Figure 37 300 MHz  $^1\text{H}$  NMR spectrum of compound OC-2 (in  $\text{DMSO-}d_6$ )



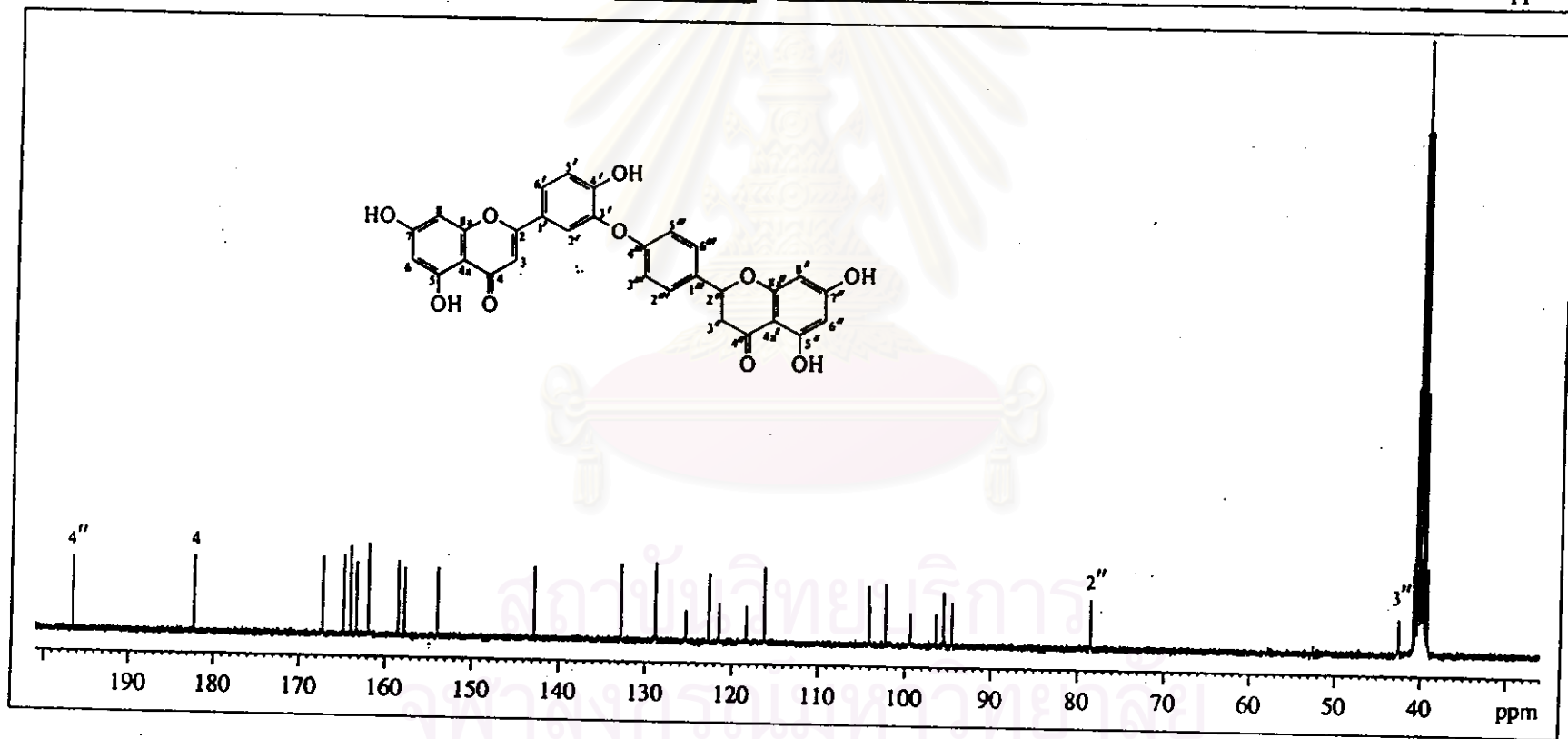
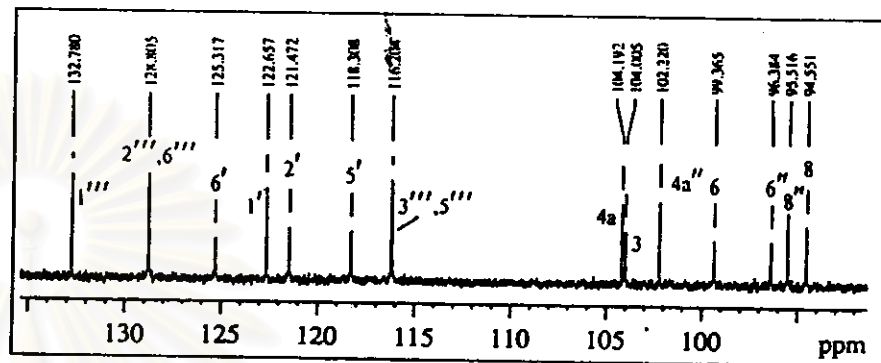
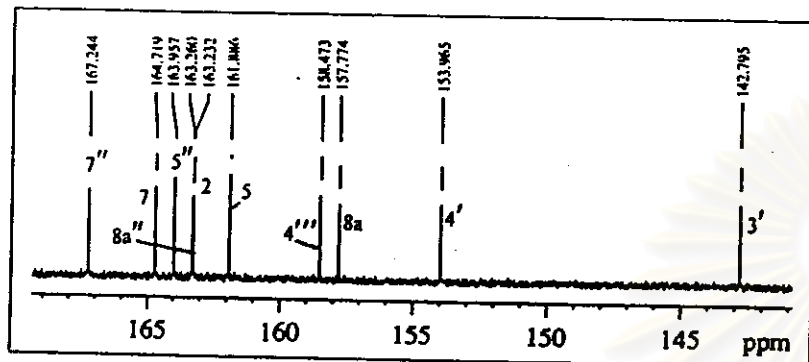


Figure 38 75 MHz  $^{13}\text{C}$  NMR spectrum of compound OC-2 ( in  $\text{DMSO}-d_6$  )

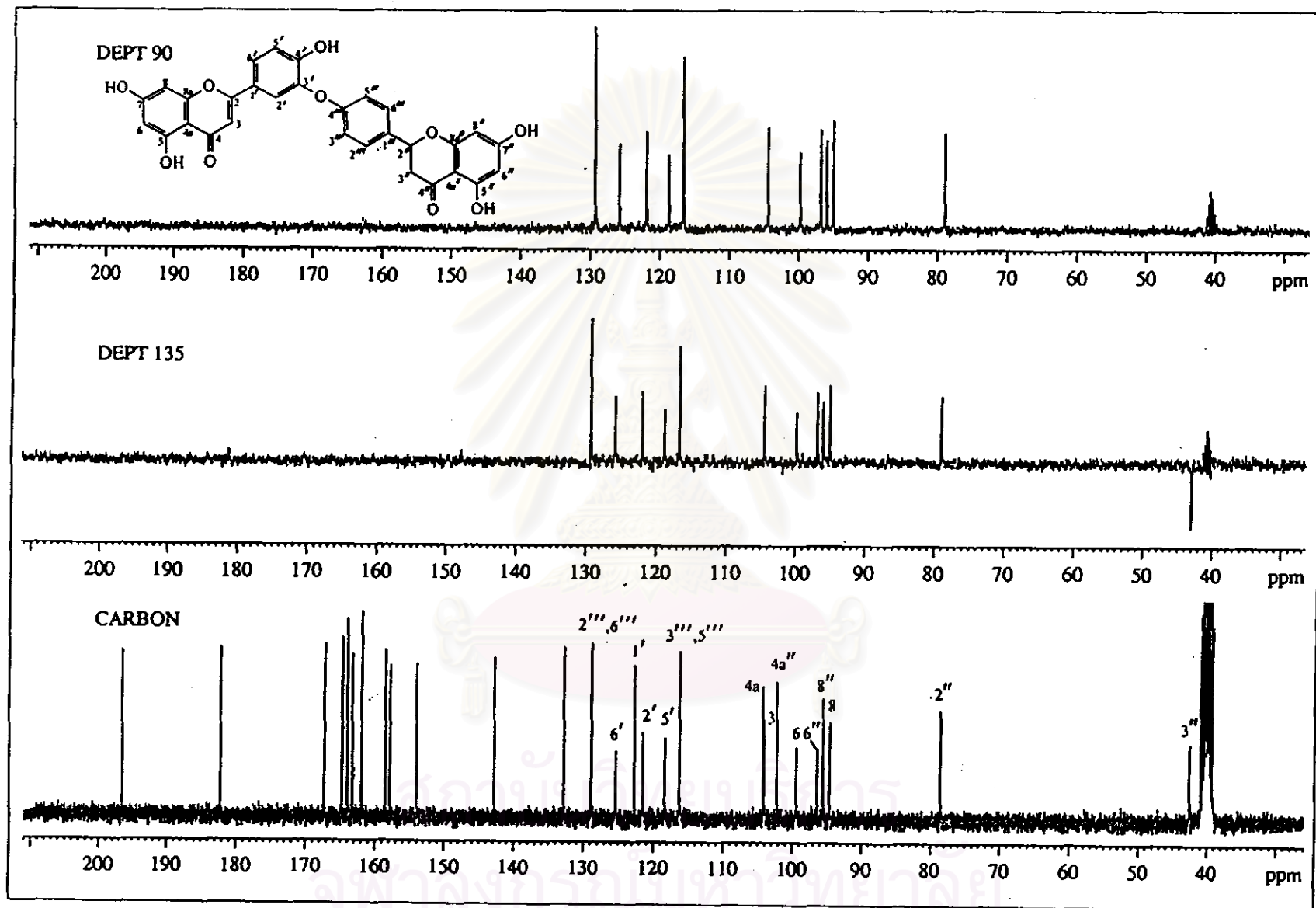


Figure 39 75 MHz  $^{13}\text{C}$  NMR, DEPT 90 and DEPT 135 spectra of compound OC-2 (in  $\text{DMSO-}d_6$ )

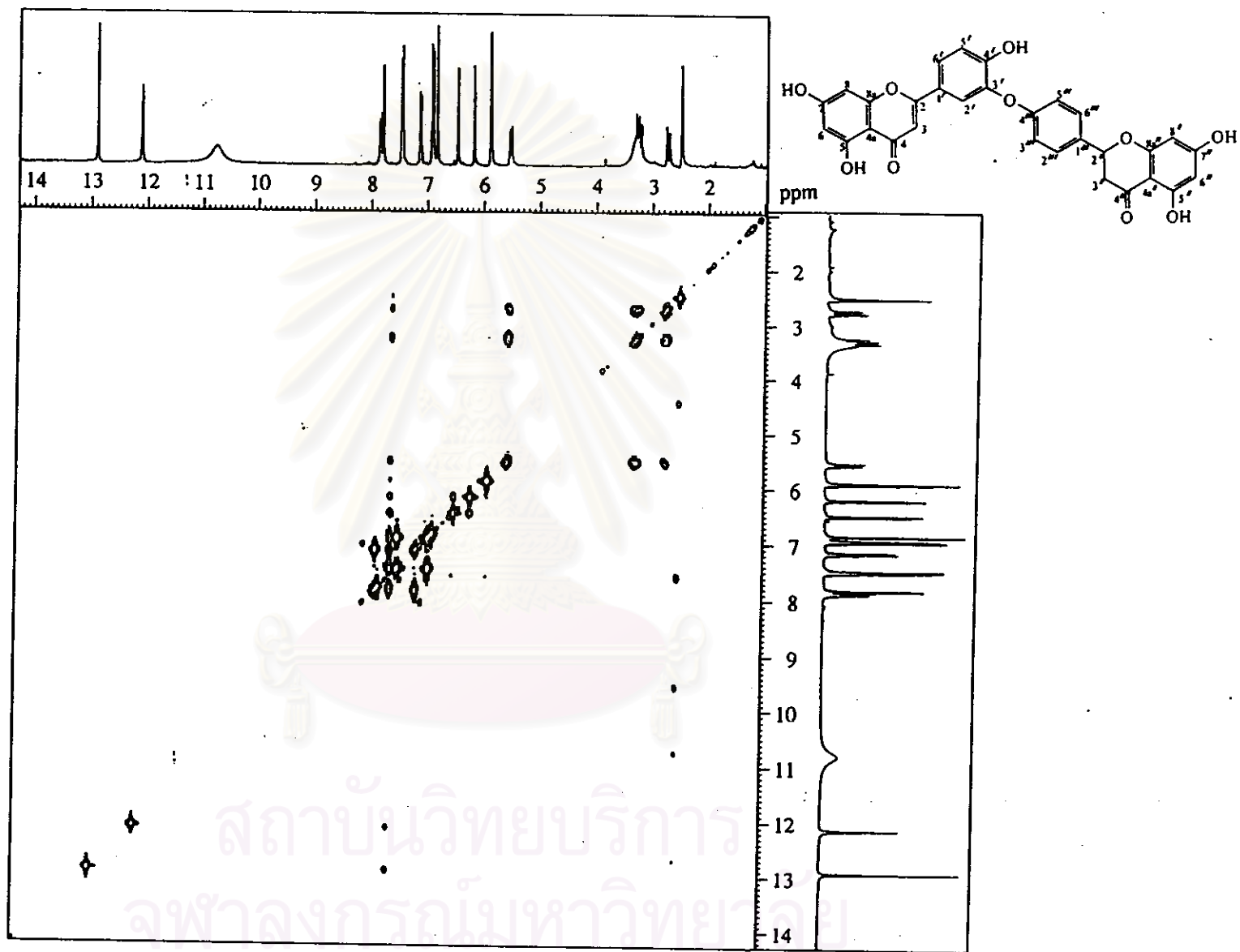


Figure 40  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound OC-2 (in  $\text{DMSO}-d_6$ )

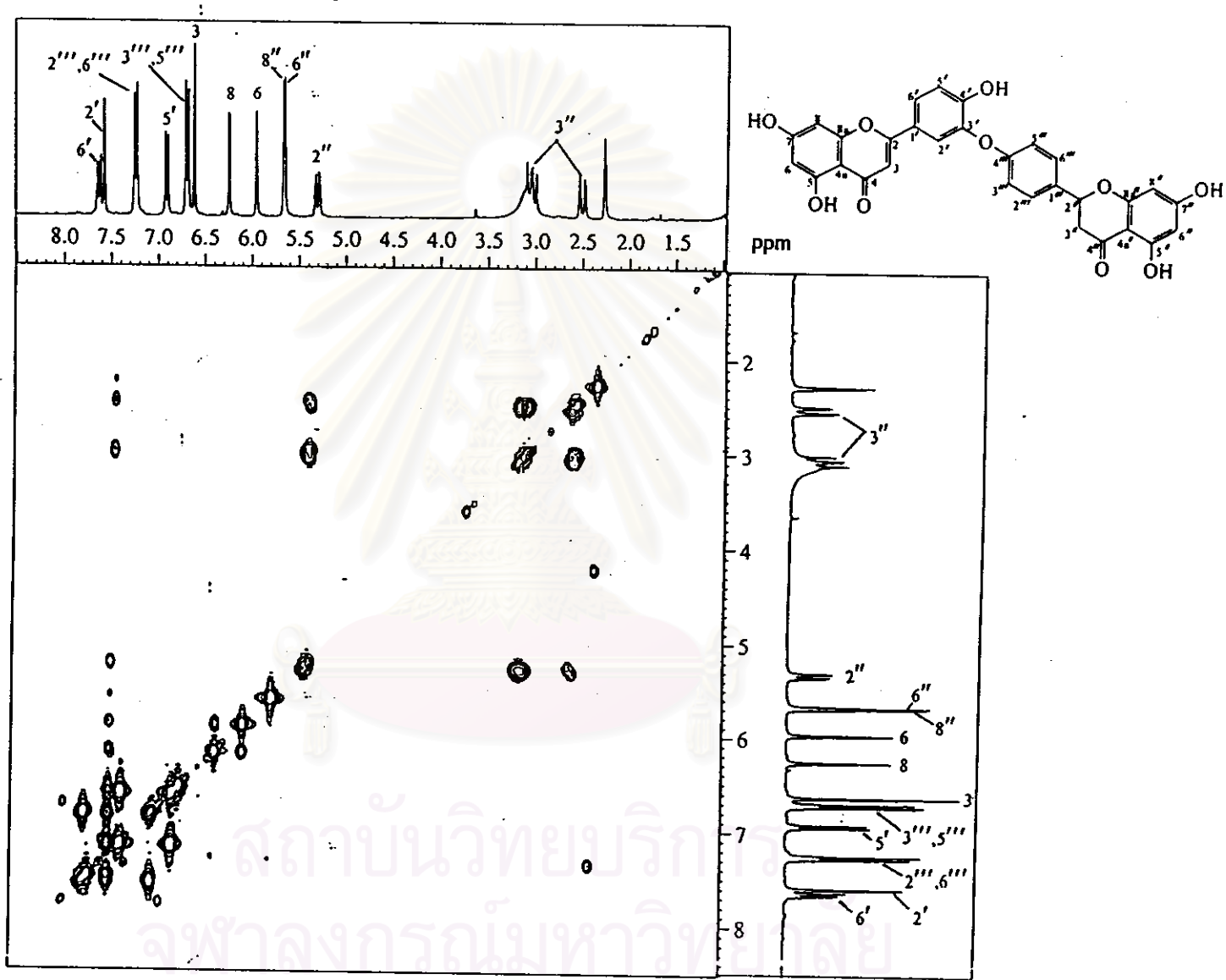


Figure 41  $^1\text{H}$ - $^1\text{H}$  COSY spectrum ( partially expanded:  $\delta_{\text{H}}$  1.0-8.5 ppm,  $\delta_{\text{H}}$  1.0-8.5 ppm ) of compound OC-2 (in  $\text{DMSO}-d_6$  )

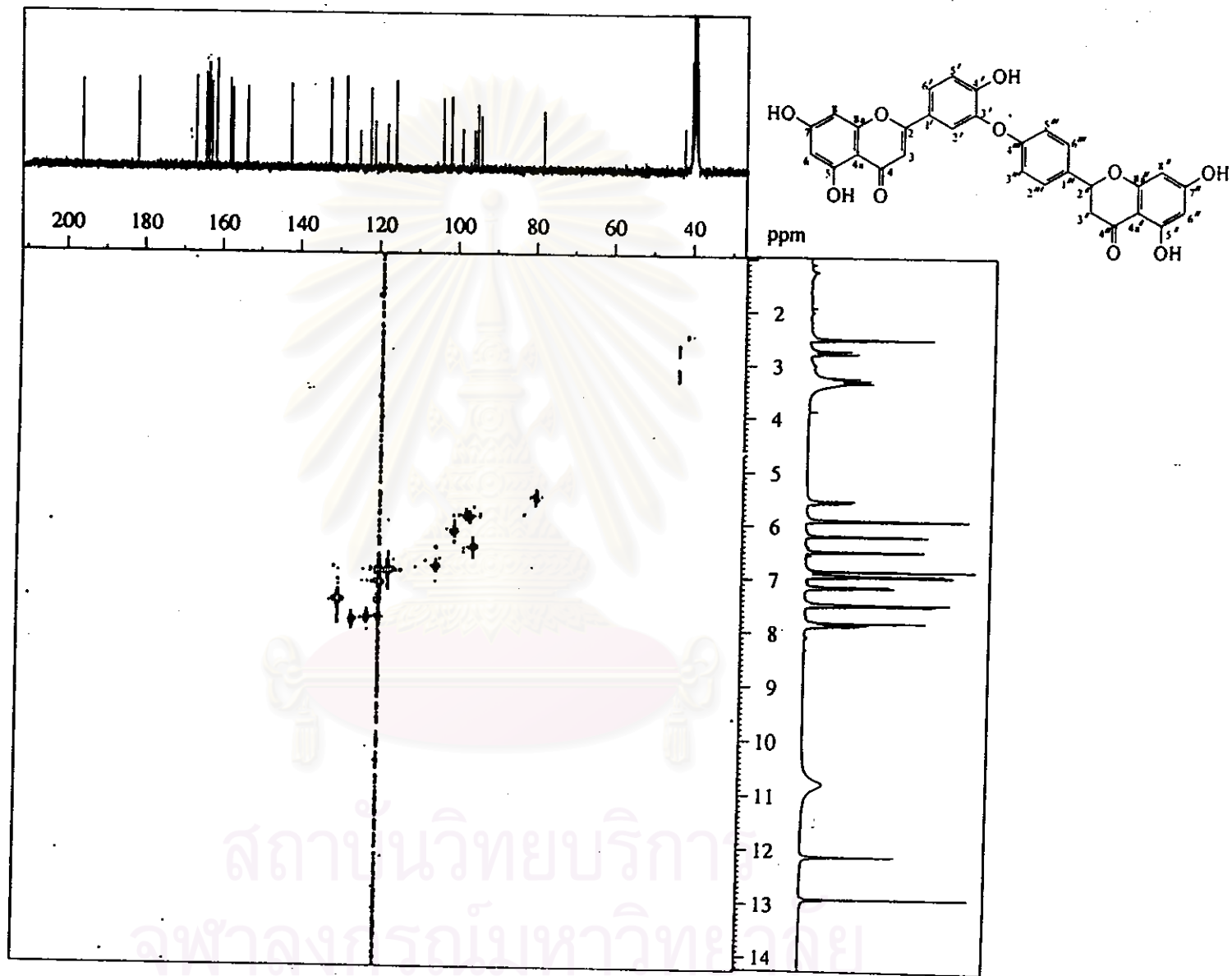


Figure 42 HETCOR spectrum of compound OC-2 ( in DMSO- $d_6$  )

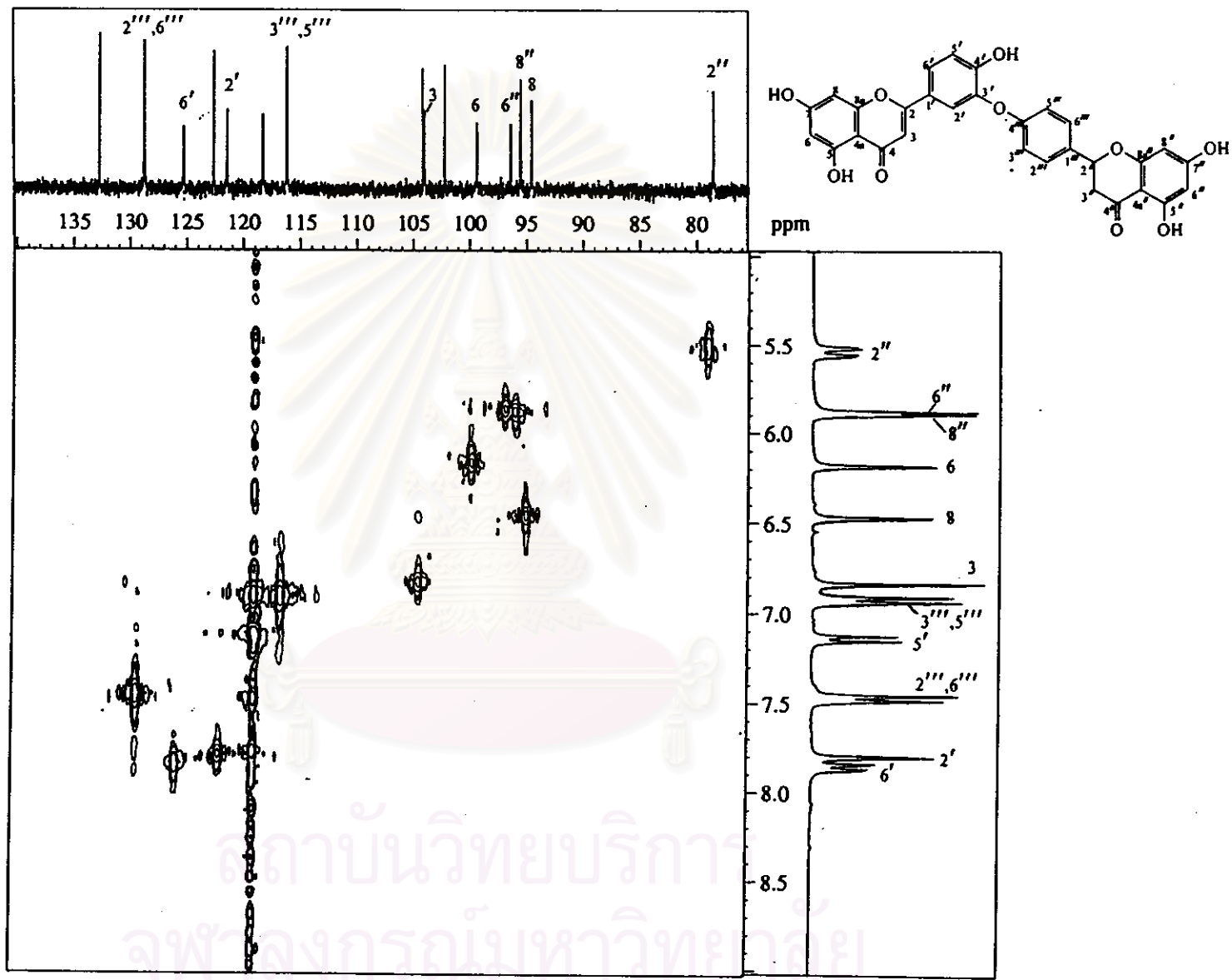


Figure 43 HETCOR spectrum ( partially expanded:  $\delta_H$  5.0-9.0 ppm,  $\delta_C$  76-140 ppm ) of compound OC-2 ( in DMSO- $d_6$  )

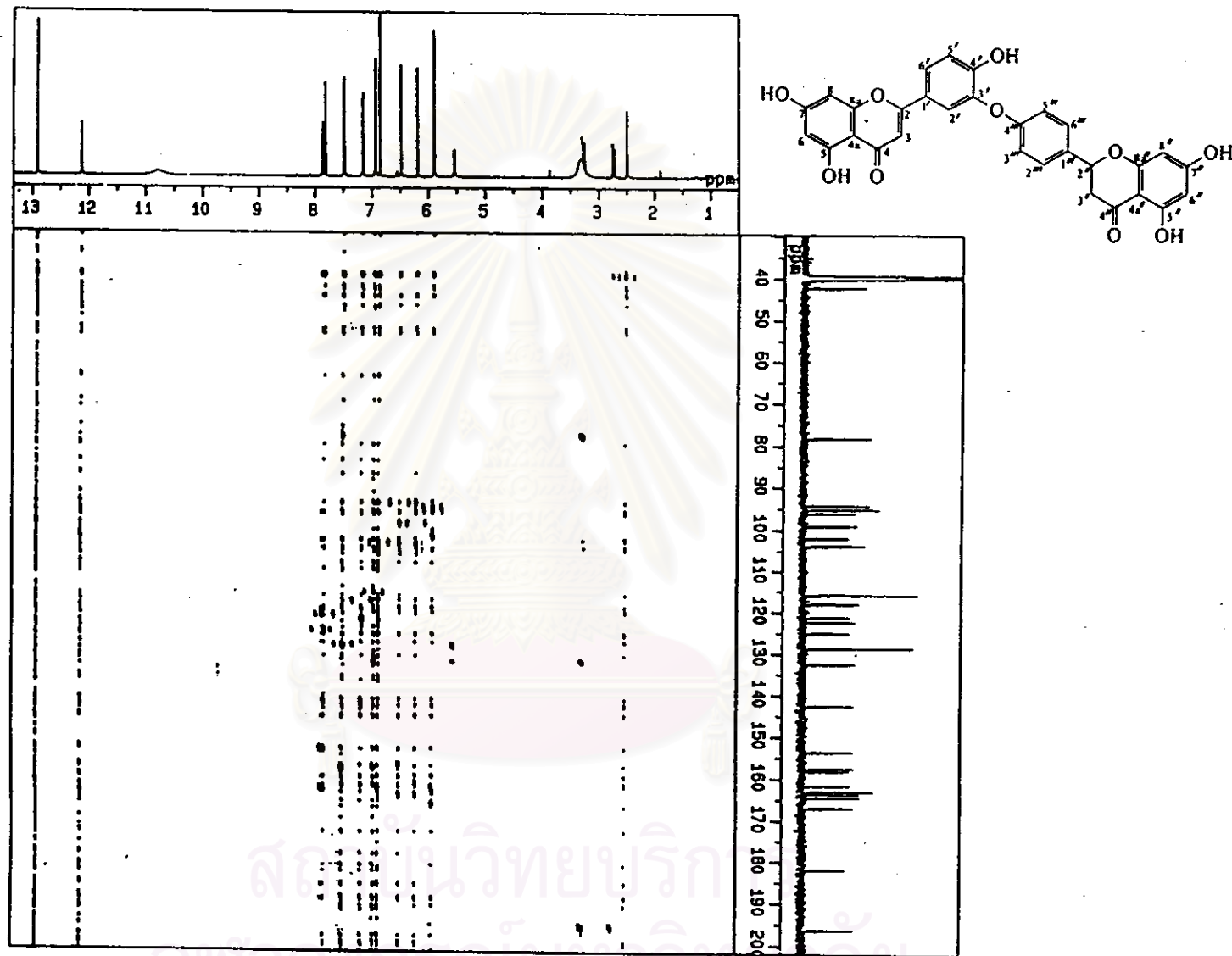


Figure 44 HMBC spectrum of compound OC-2 ( in DMSO- $d_6$  )

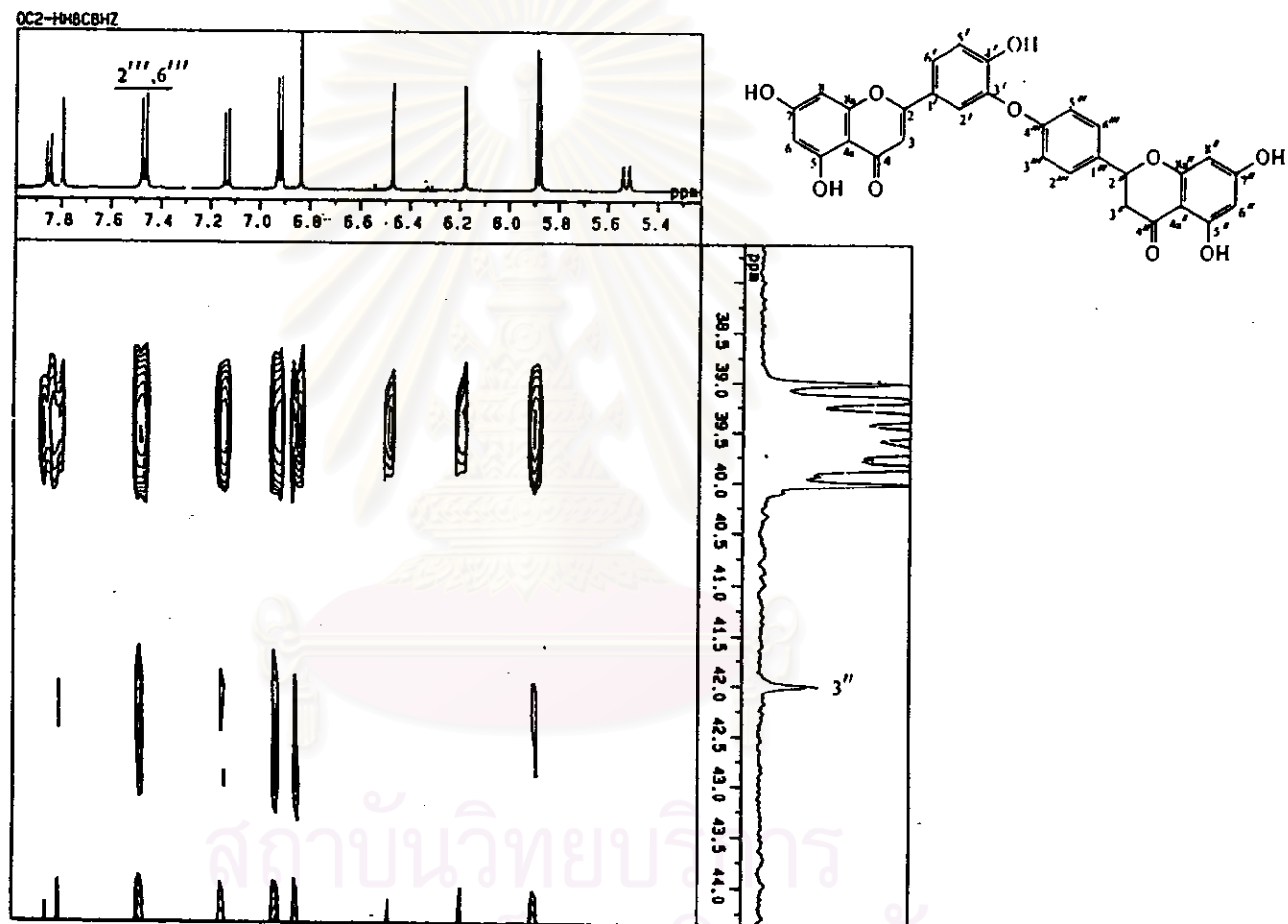


Figure 45 HMBC spectrum of compound OC-2 ( in  $\text{DMSO-}d_6$  ) [  $\delta_{\text{H}}$  5.4-7.9 ppm,  $\delta_{\text{C}}$  38-44 ppm ]



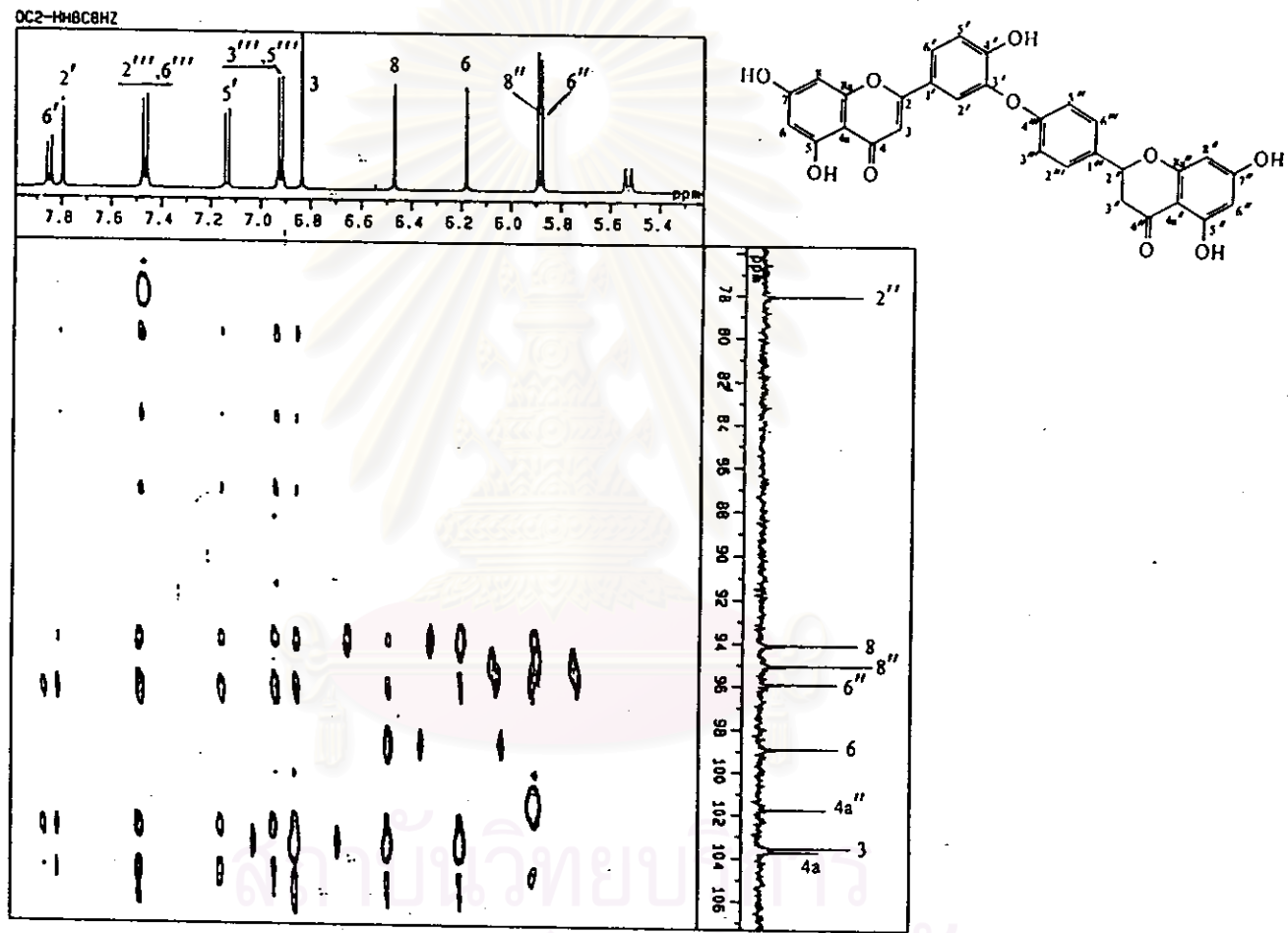


Figure 46 HMBC spectrum of compound OC-2 ( in DMSO- $d_6$  ) [  $\delta_H$  5.4-7.9 ppm,  $\delta_C$  77-106 ppm ]

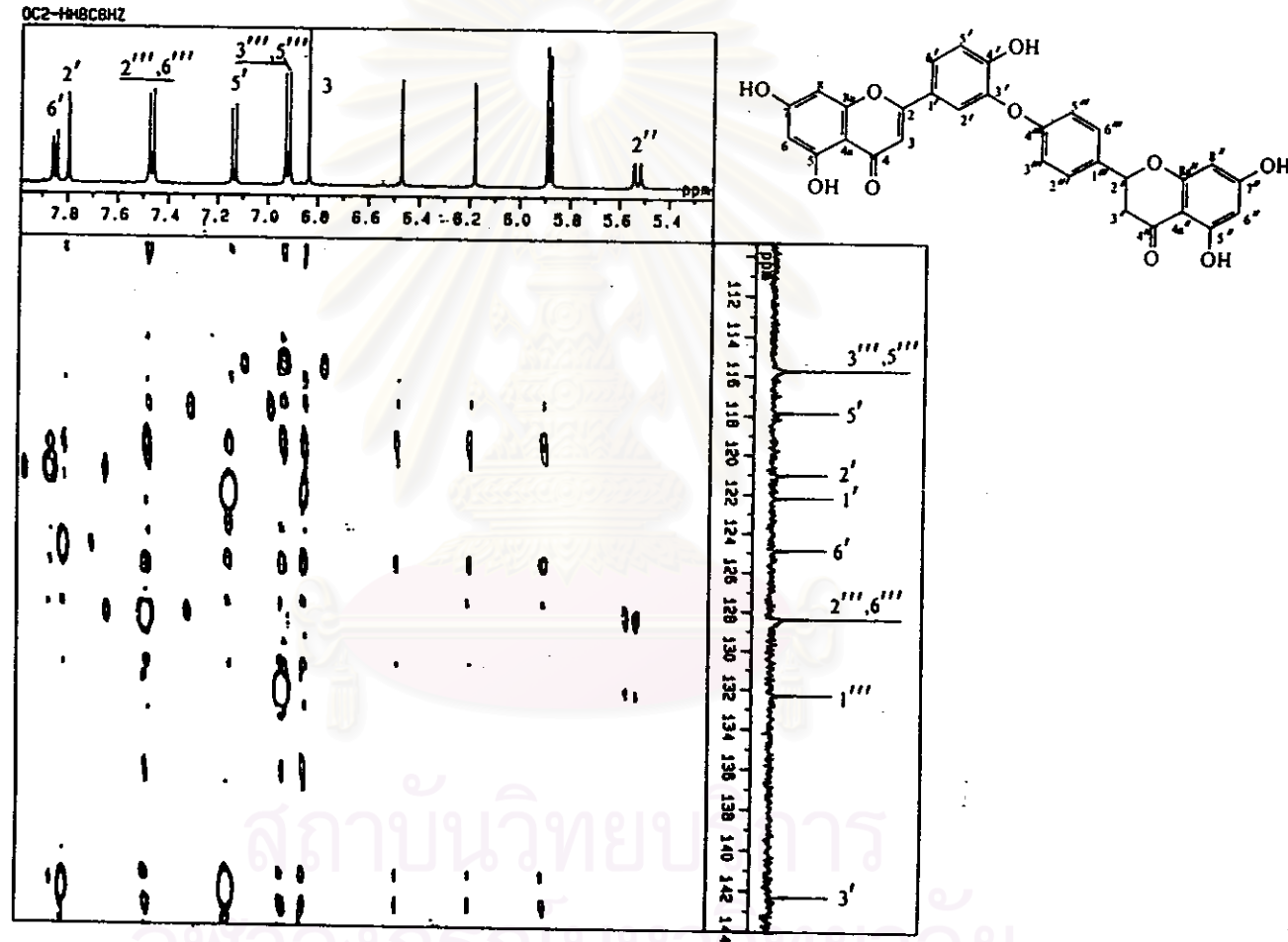


Figure 47 HMBC spectrum of compound OC-2 ( in  $\text{DMSO}-d_6$  ) [  $\delta_{\text{H}}$  5.4-7.9 ppm,  $\delta_{\text{C}}$  112-144 ppm ]

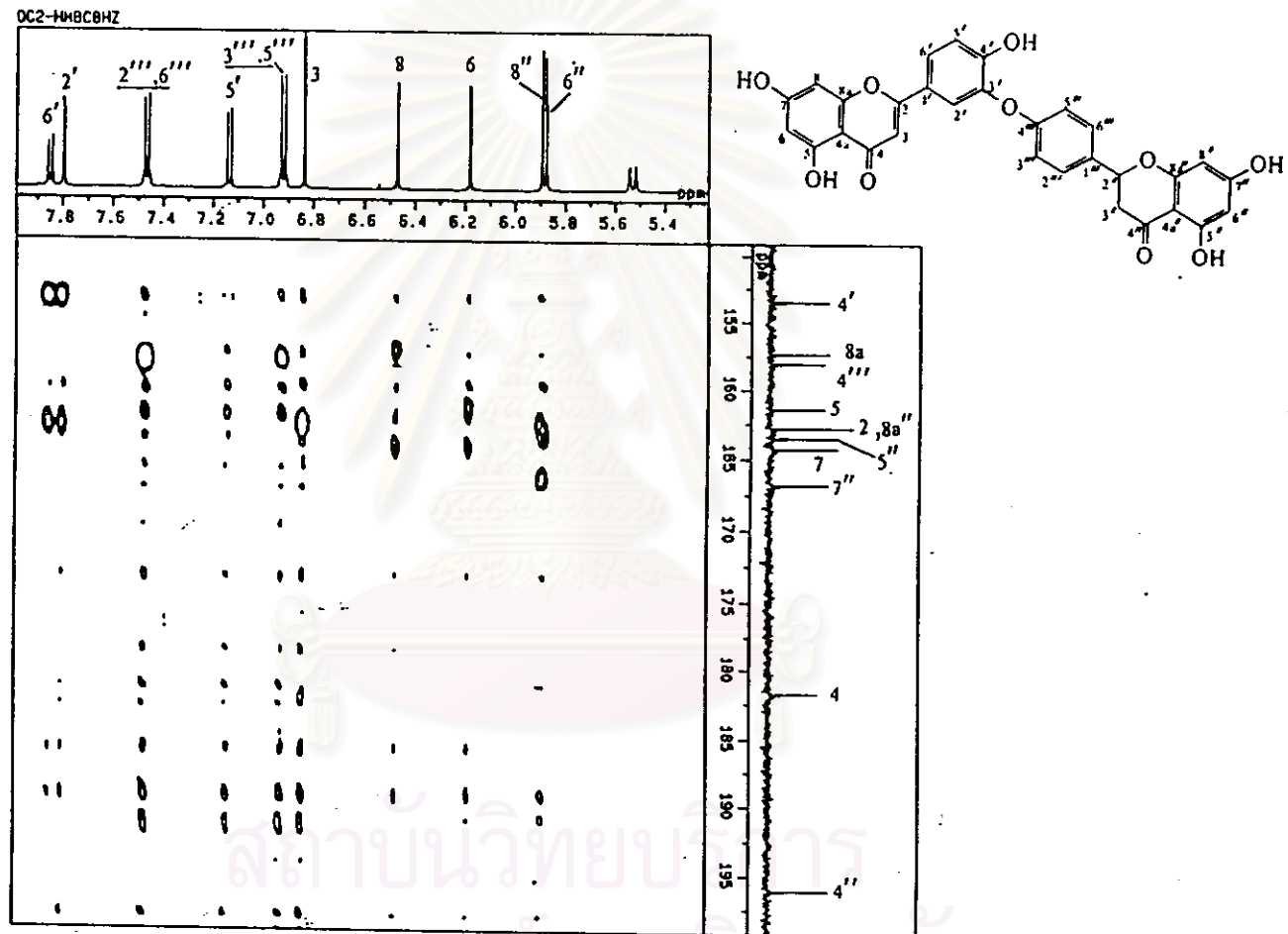


Figure 48 HMBC spectrum of compound OC-2 ( in DMSO- $d_6$  ) [  $\delta_H$  5.4-7.9 ppm,  $\delta_C$  150-200 ppm ]

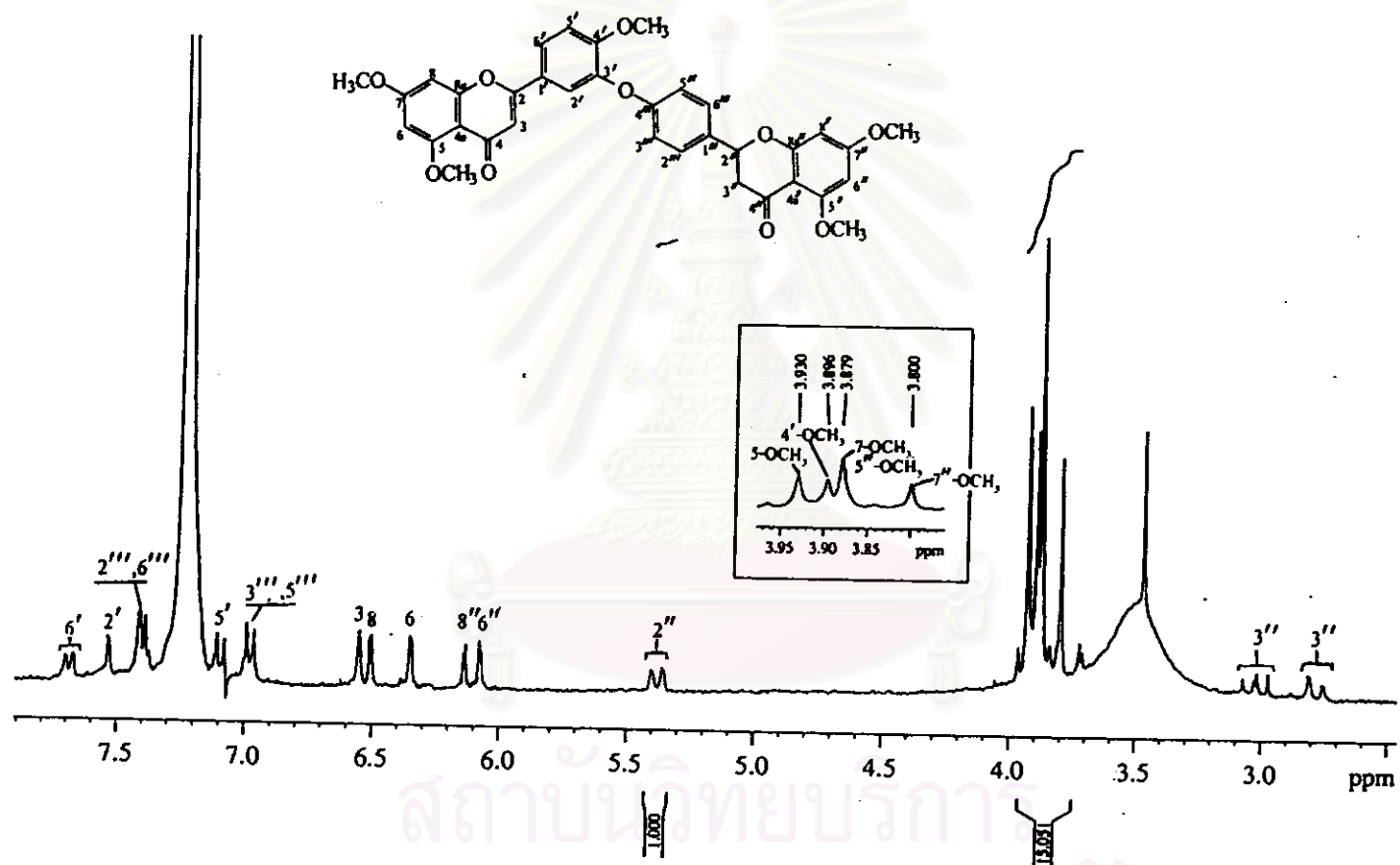


Figure 49 300 MHz  $^1\text{H}$  NMR spectrum of OC-2-Me (in  $\text{CDCl}_3$ )

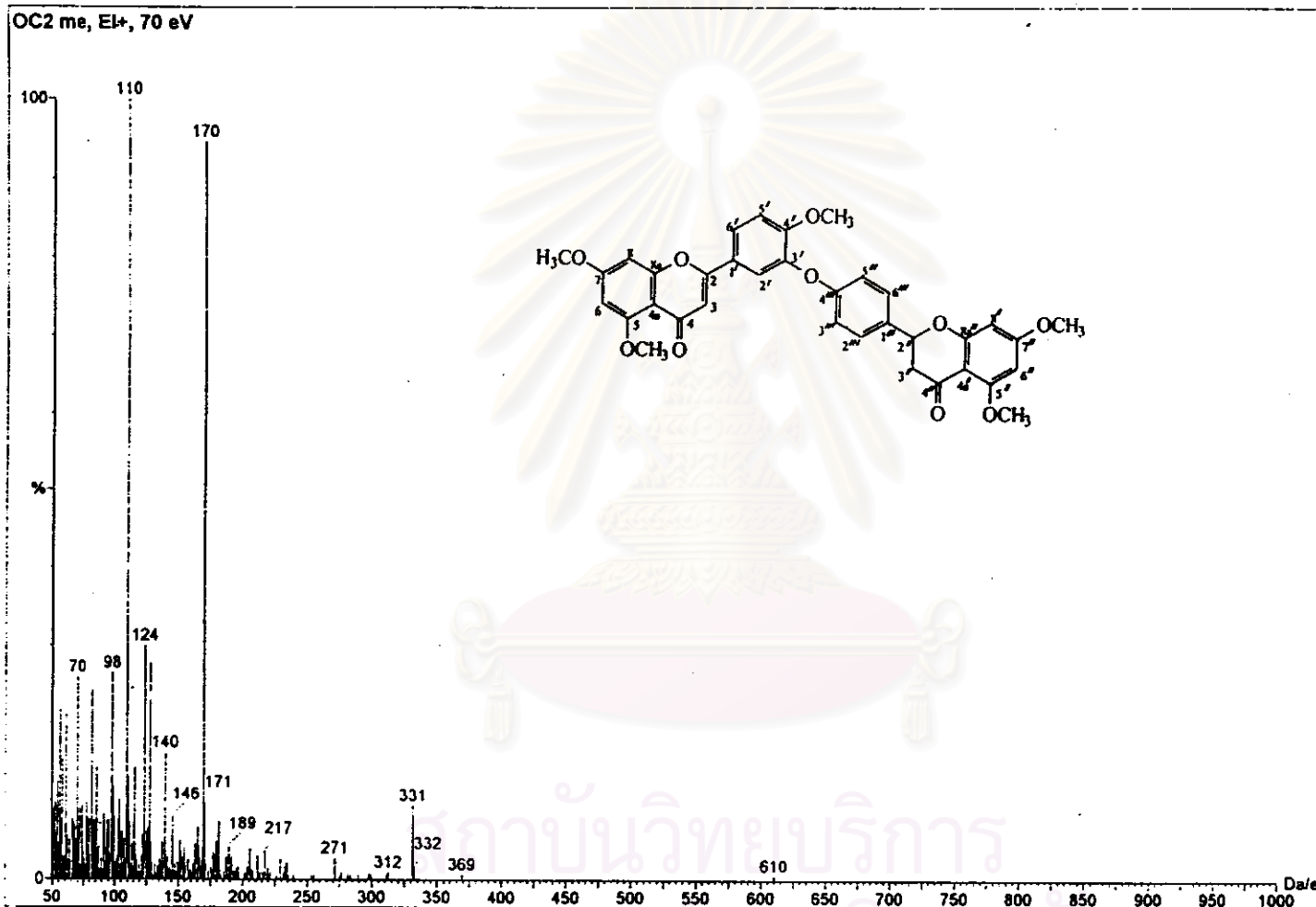


Figure 50 EI mass spectrum of OC-2-Me ( in CHCl<sub>3</sub> )

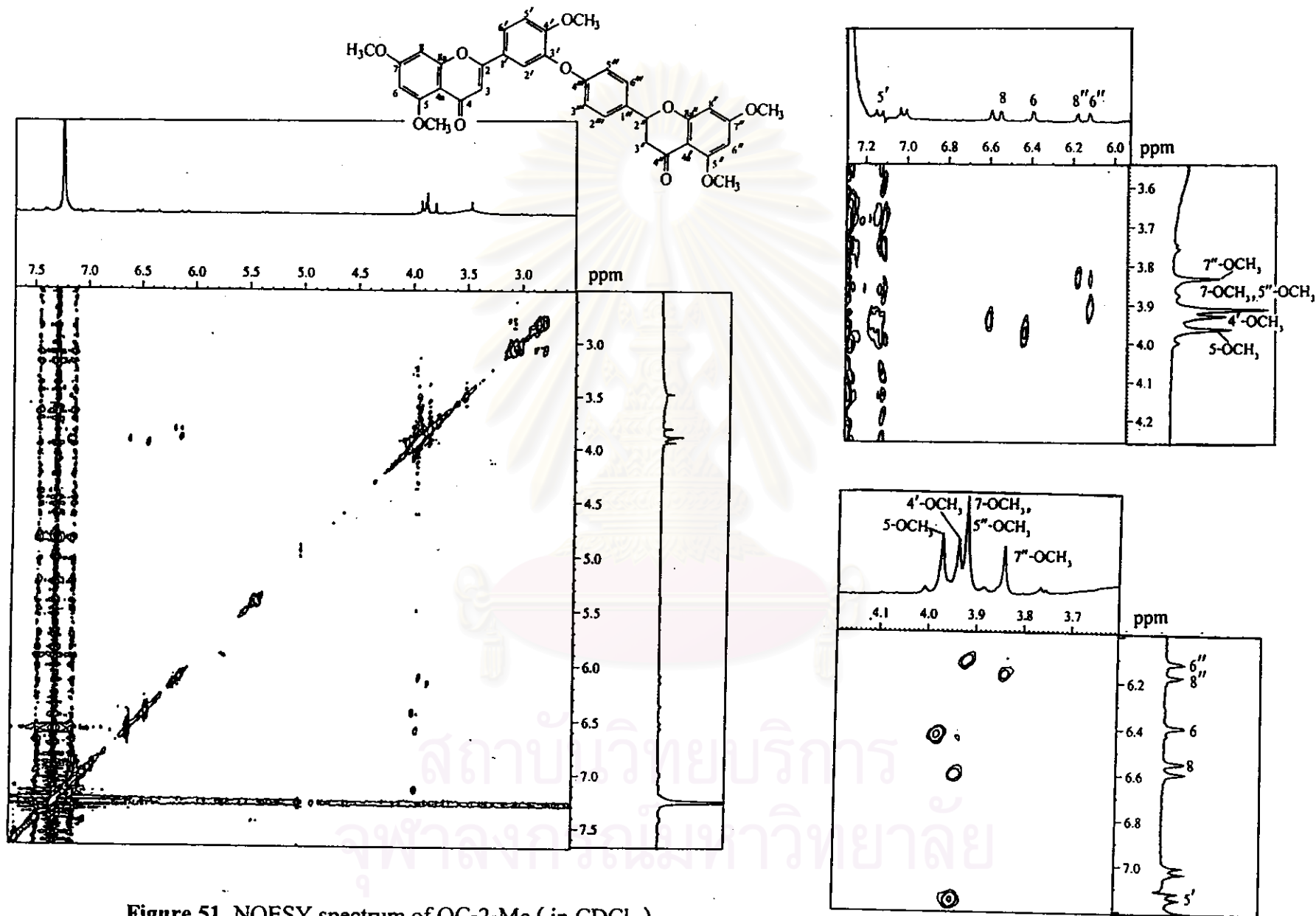


Figure 51 NOESY spectrum of OC-2-Me (in CDCl<sub>3</sub>)

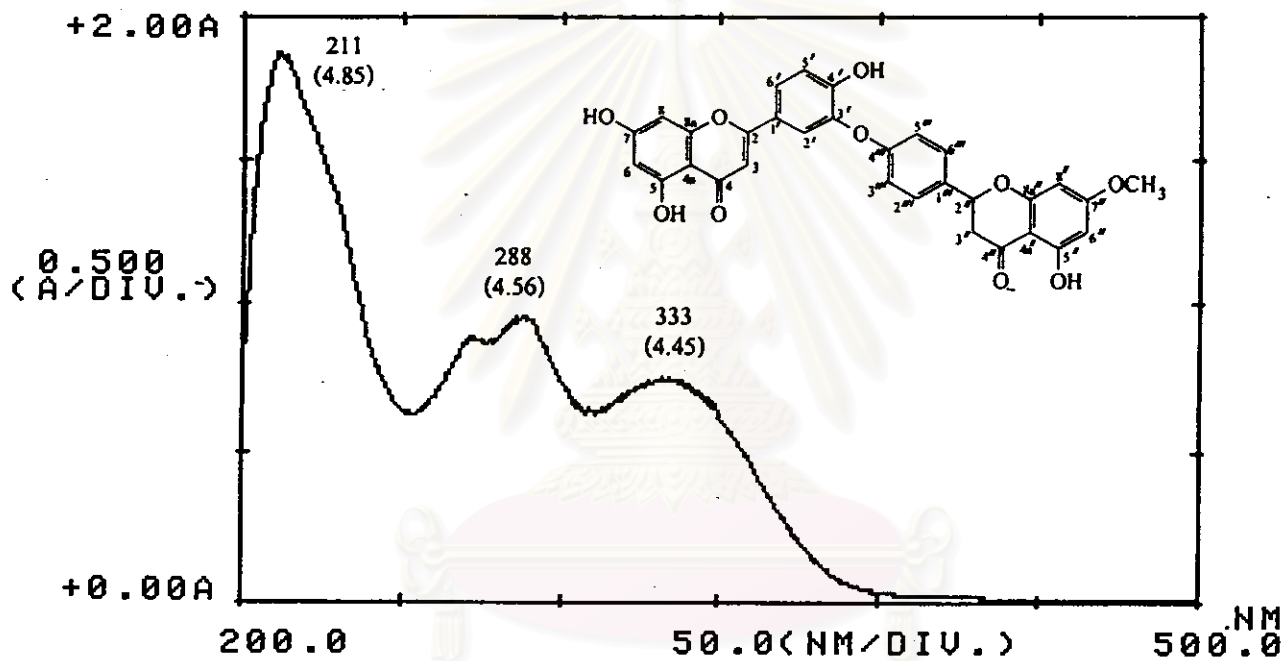


Figure 52 UV spectrum of compound OC-3 ( in MeOH )

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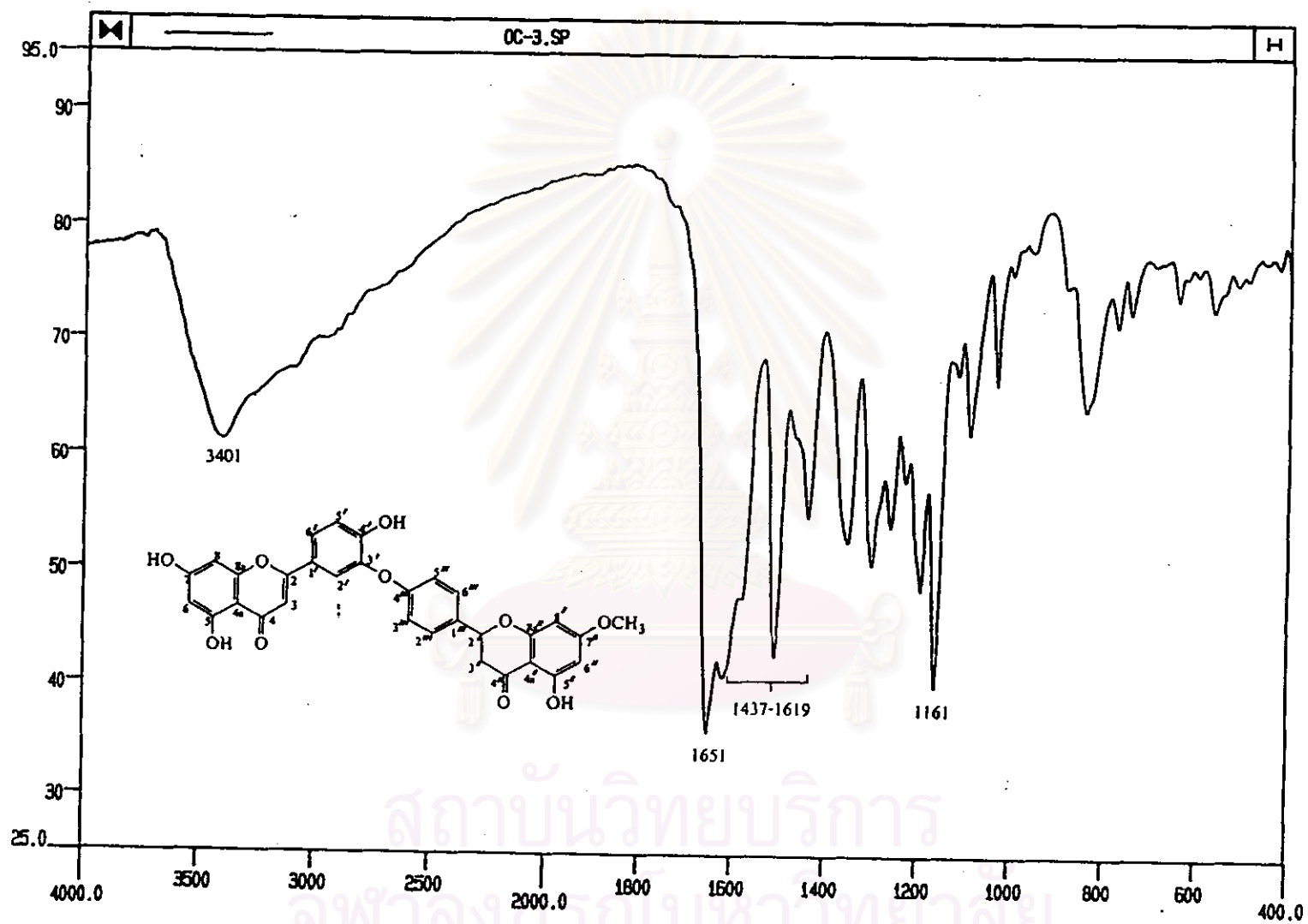


Figure 53 IR spectrum of compound OC-3 ( KBr disc )



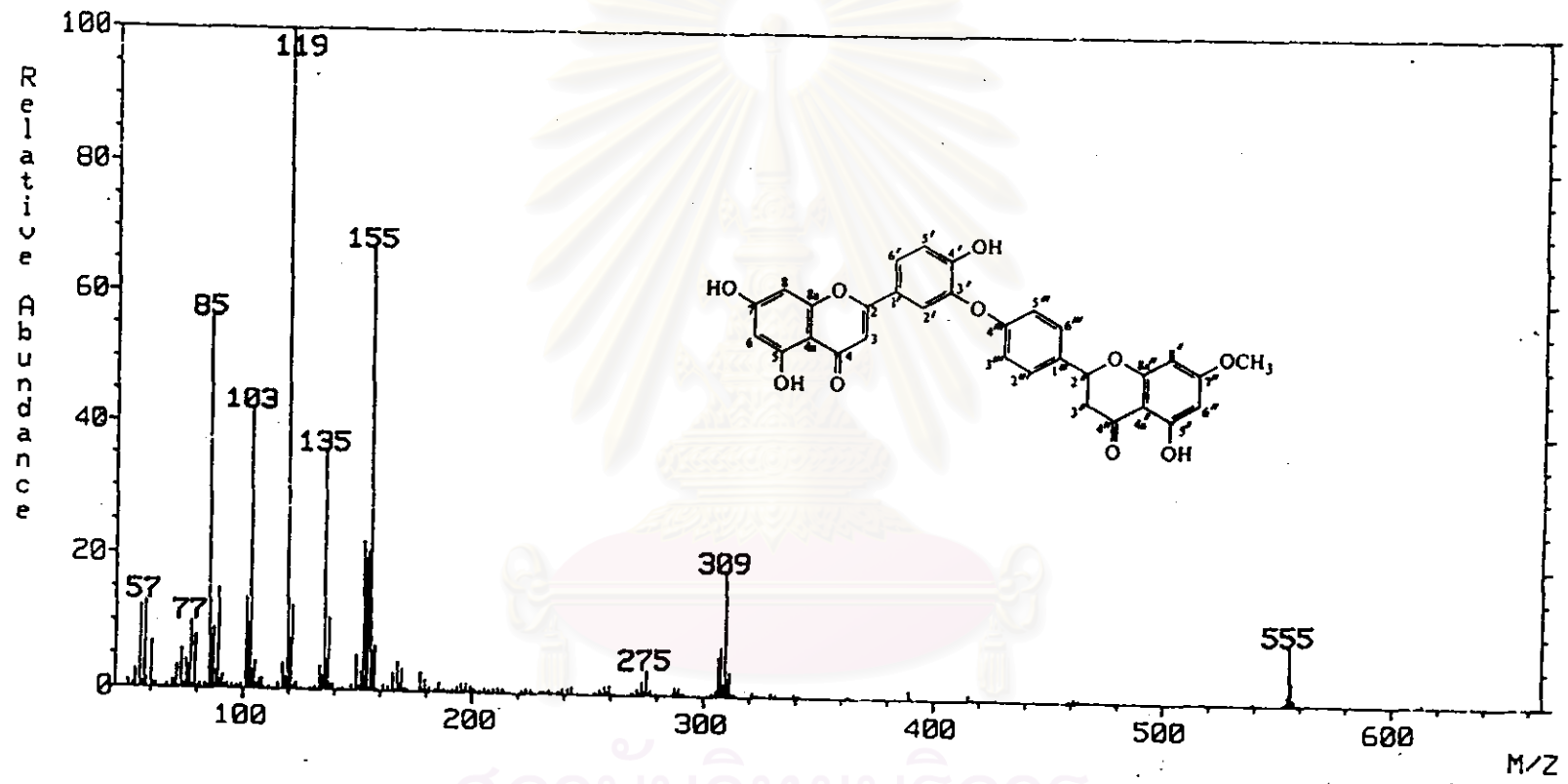


Figure 54 FAB mass spectrum of compound OC-3

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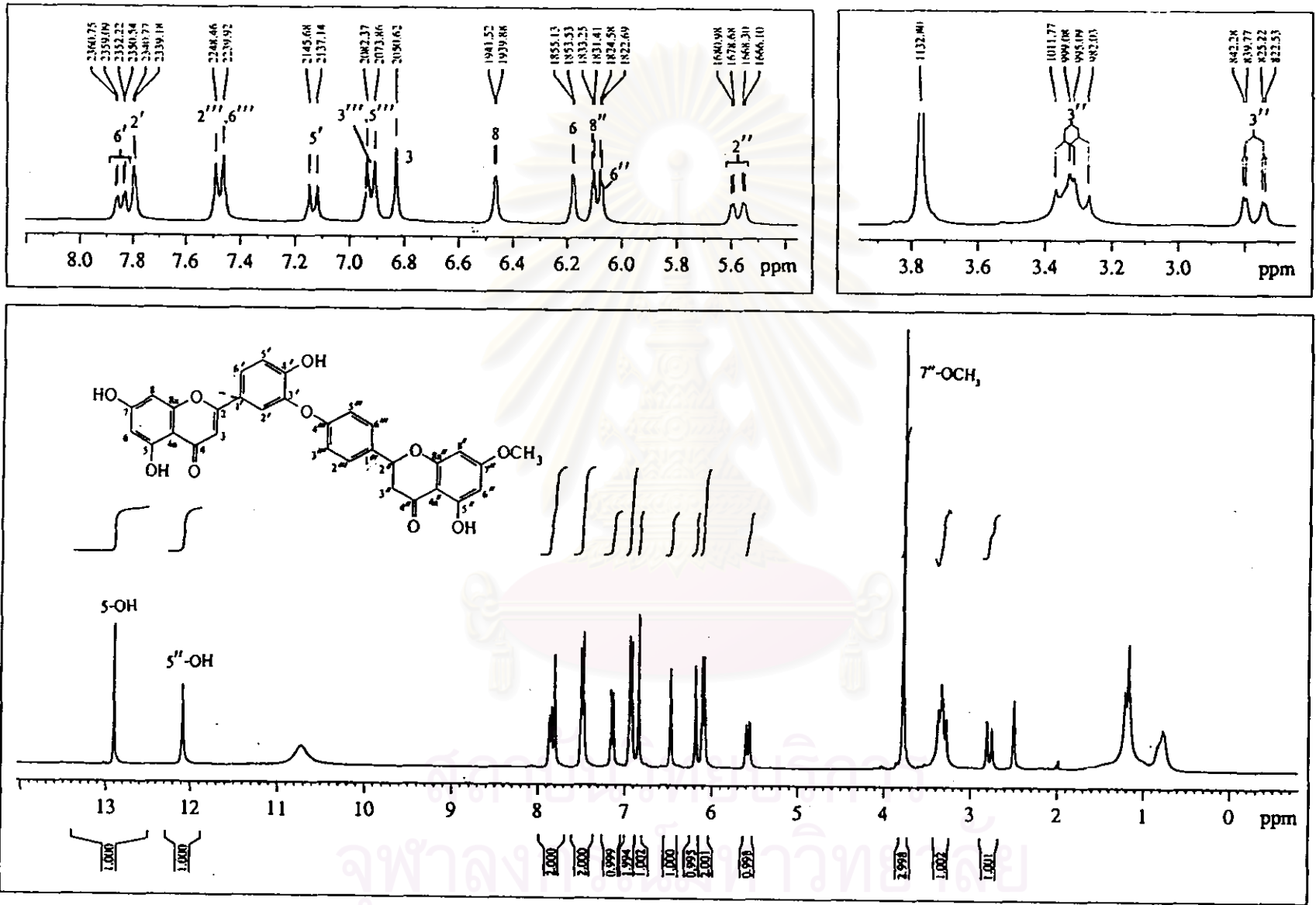


Figure 55 300 MHz  $^1\text{H}$  NMR spectrum of compound OC-3 (in  $\text{DMSO}-d_6$ )

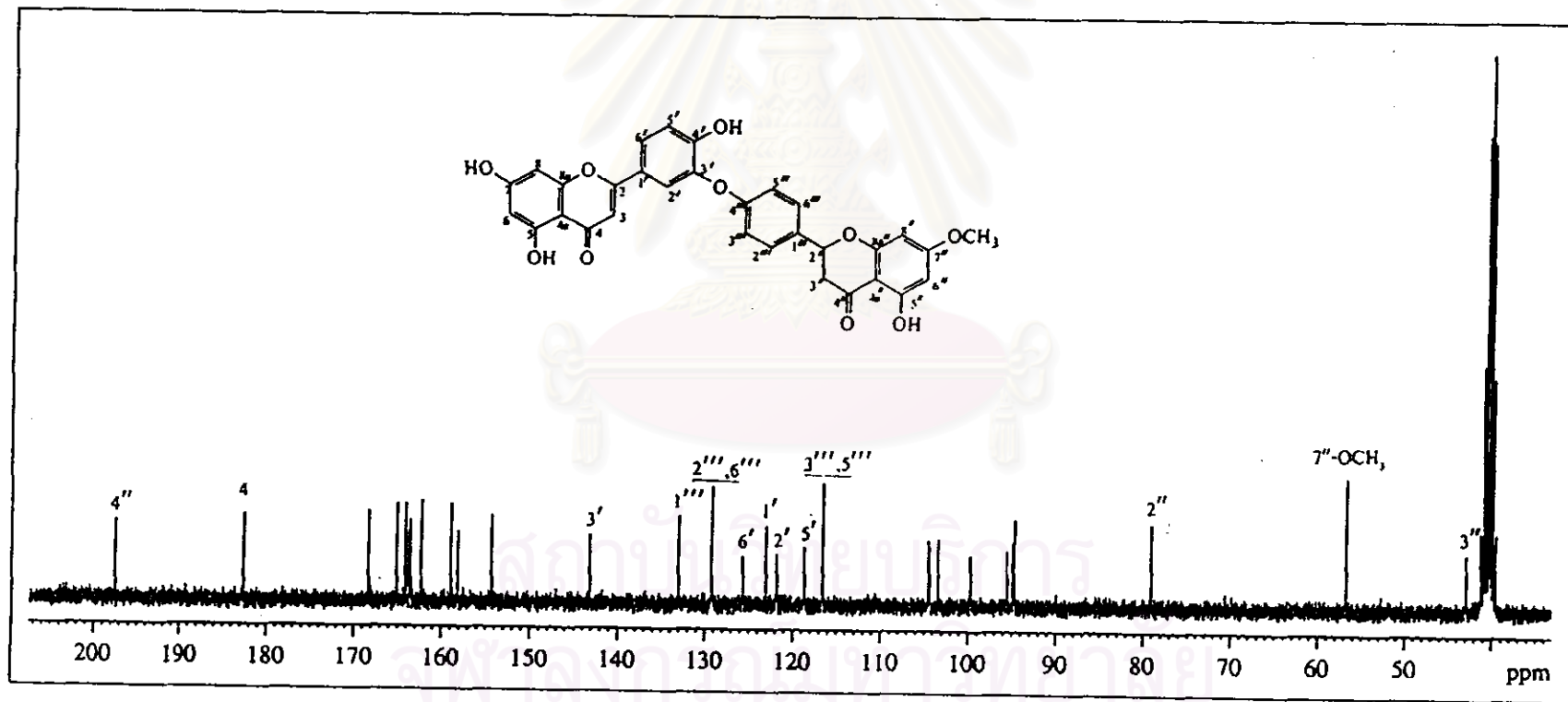
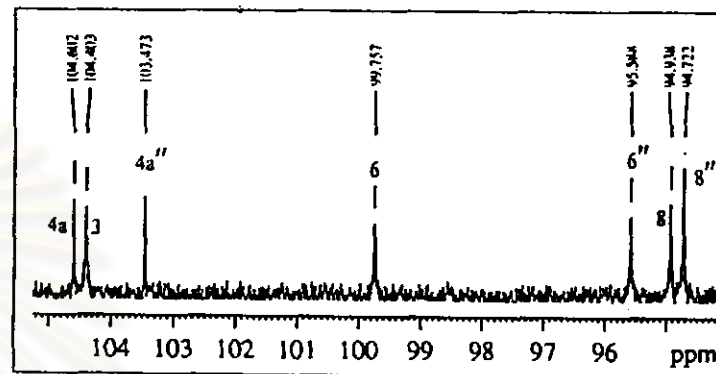
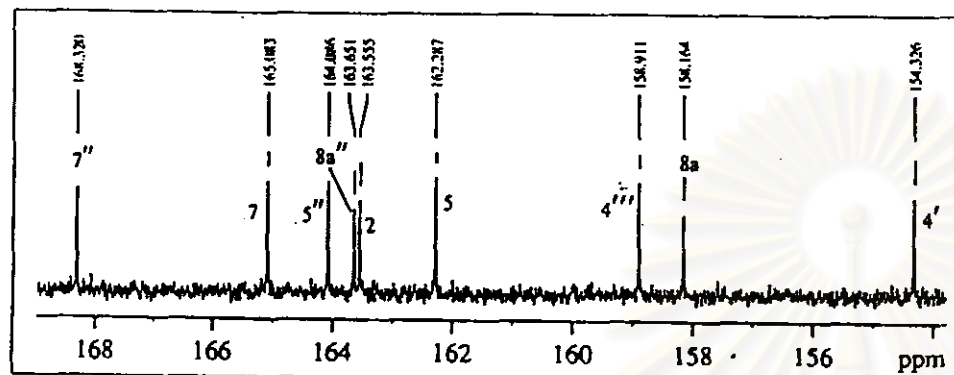


Figure 56 75 MHz  $^{13}\text{C}$  NMR spectrum of compound OC-3 (in  $\text{DMSO}-d_6$ )

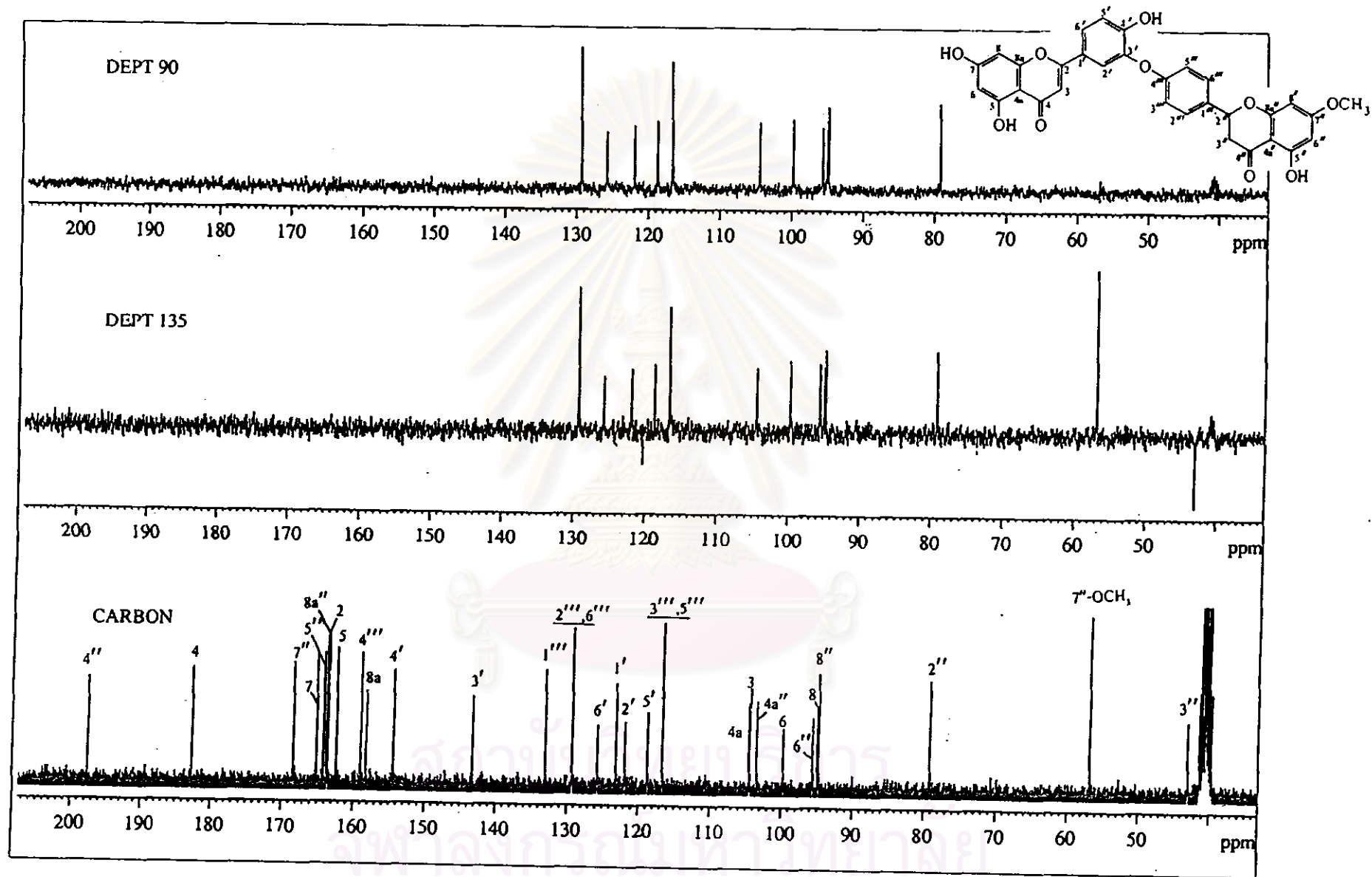


Figure 57 75 MHz  $^{13}\text{C}$  NMR, DEPT 90 and DEPT 135 spectra of compound OC-3 (in  $\text{DMSO}-d_6$ )

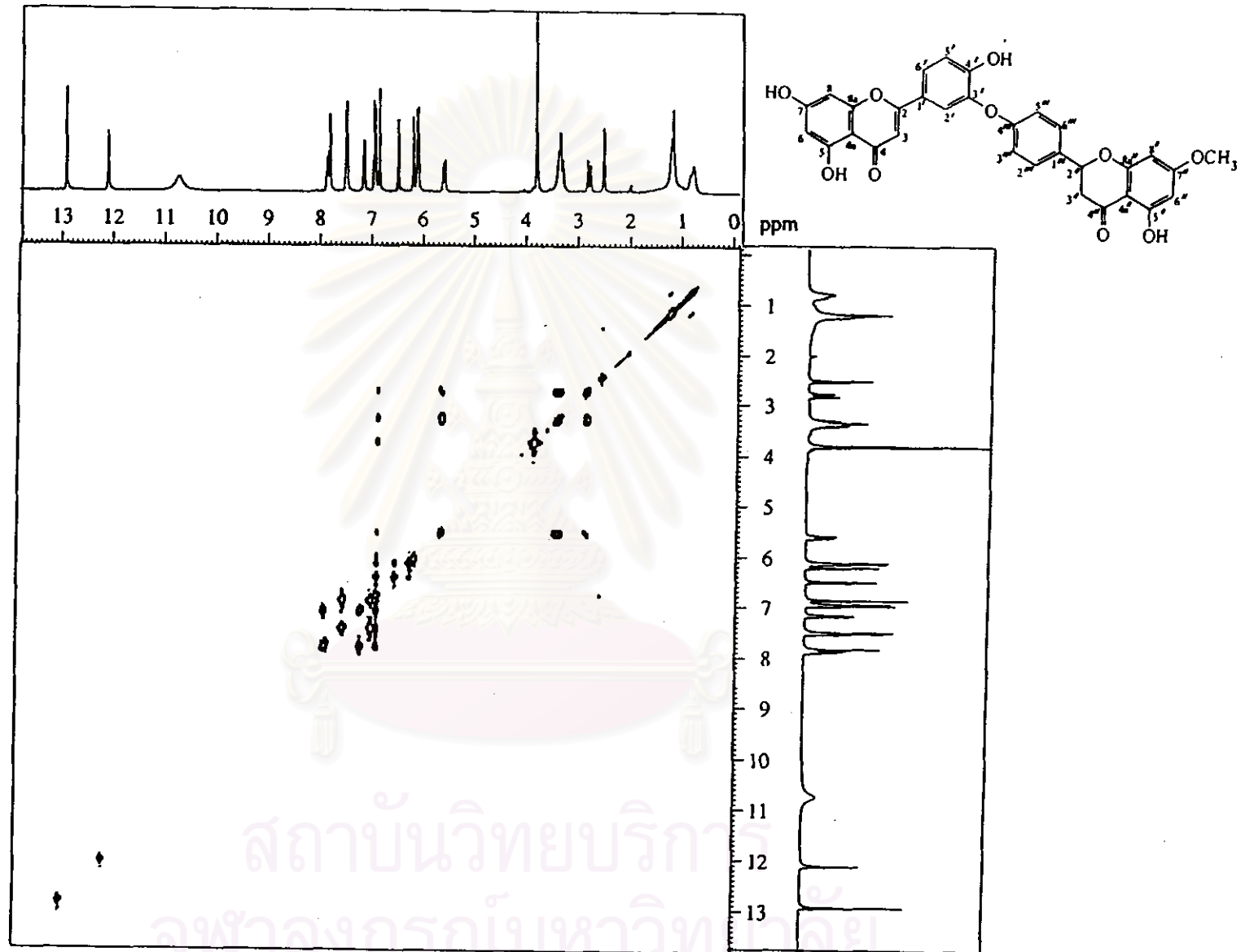


Figure 58  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound OC-3 (in  $\text{DMSO}-d_6$ )

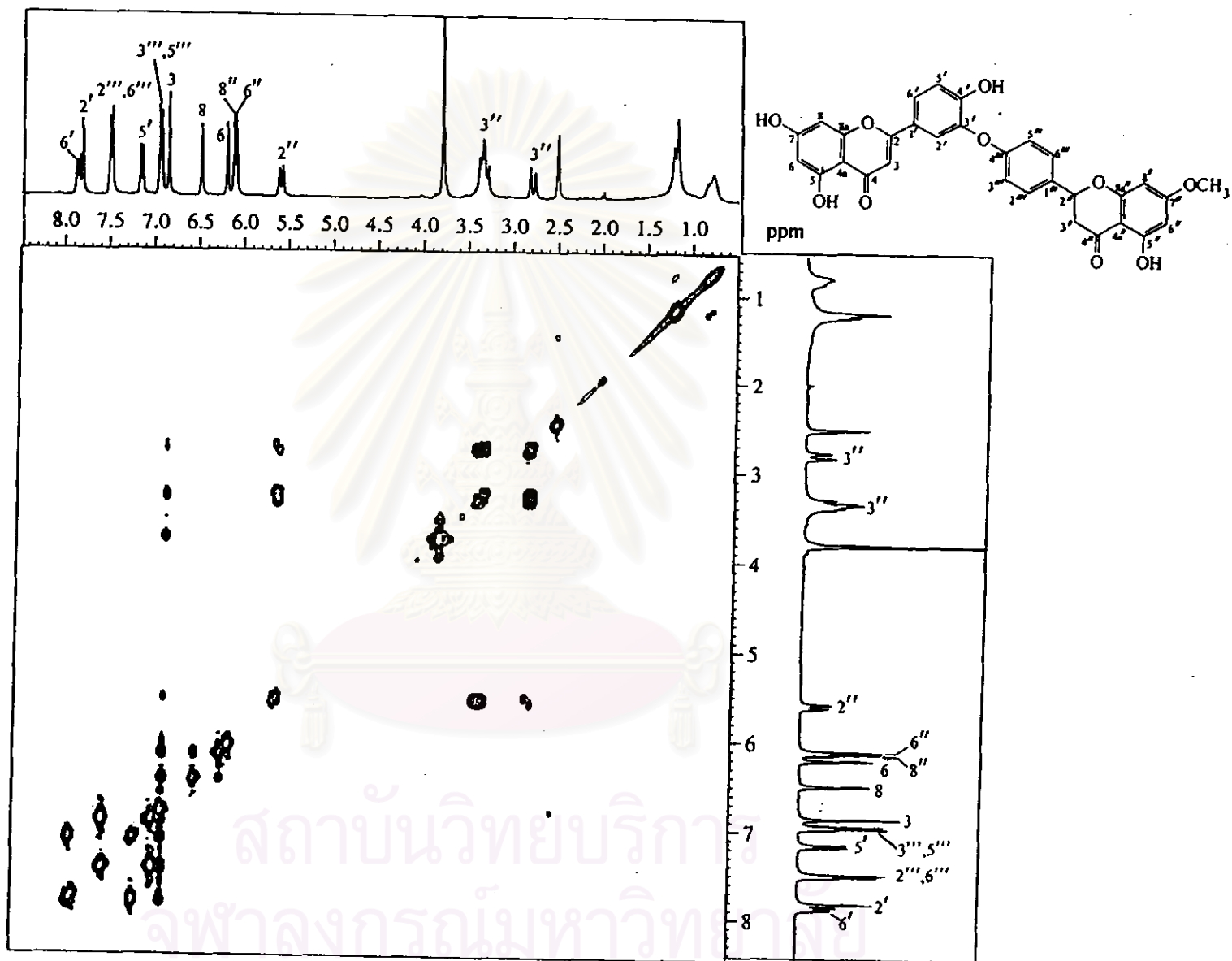


Figure 59  $^1\text{H}$ - $^1\text{H}$  COSY spectrum ( partially expanded:  $\delta_{\text{H}}$  1.0-8.3 ppm,  $\delta_{\text{H}}$  1.0-8.3 ppm ) of compound OC-3 ( in  $\text{DMSO}-d_6$  )

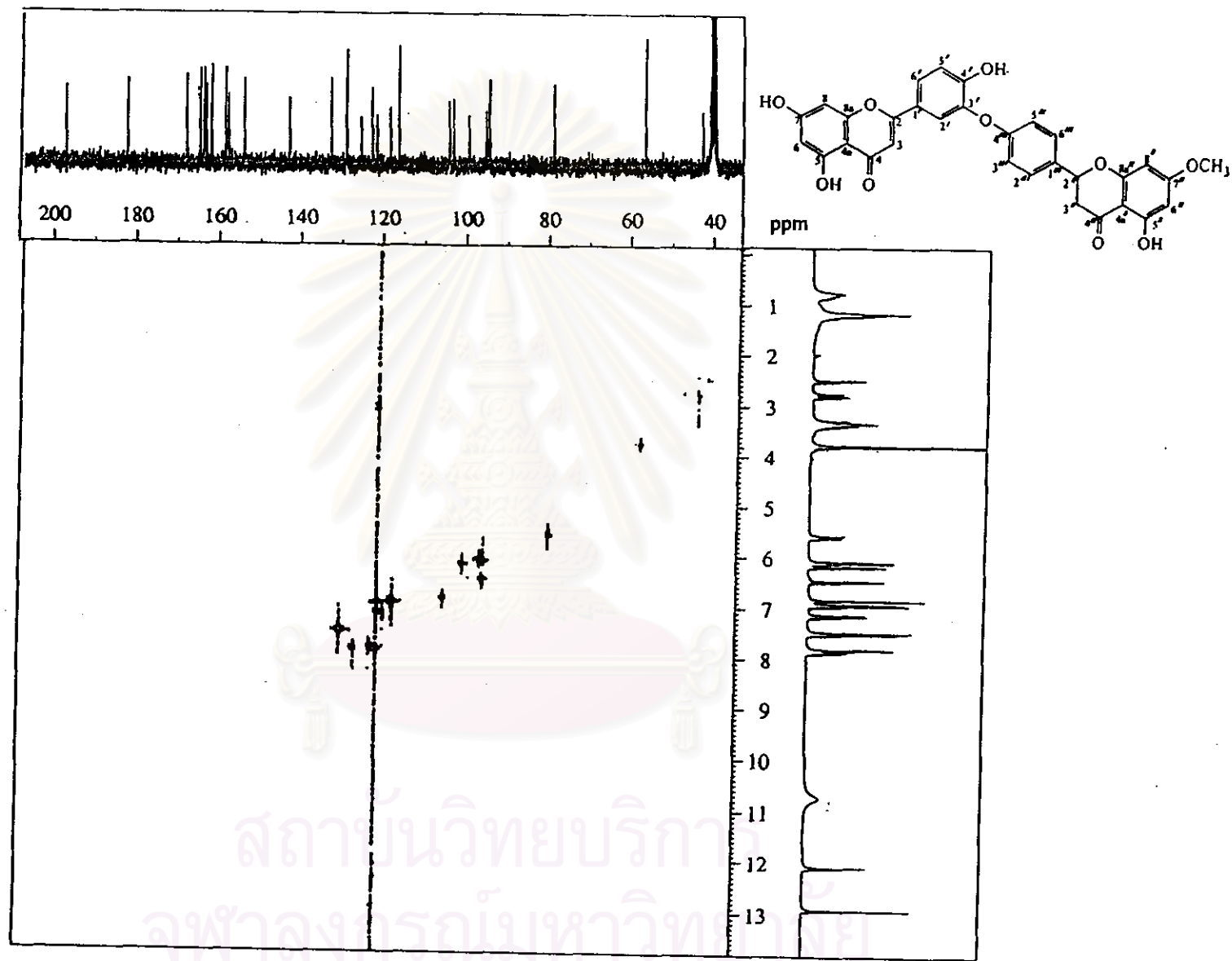


Figure 60 HETCOR spectrum of compound OC-3 (in DMSO-*d*<sub>6</sub>)

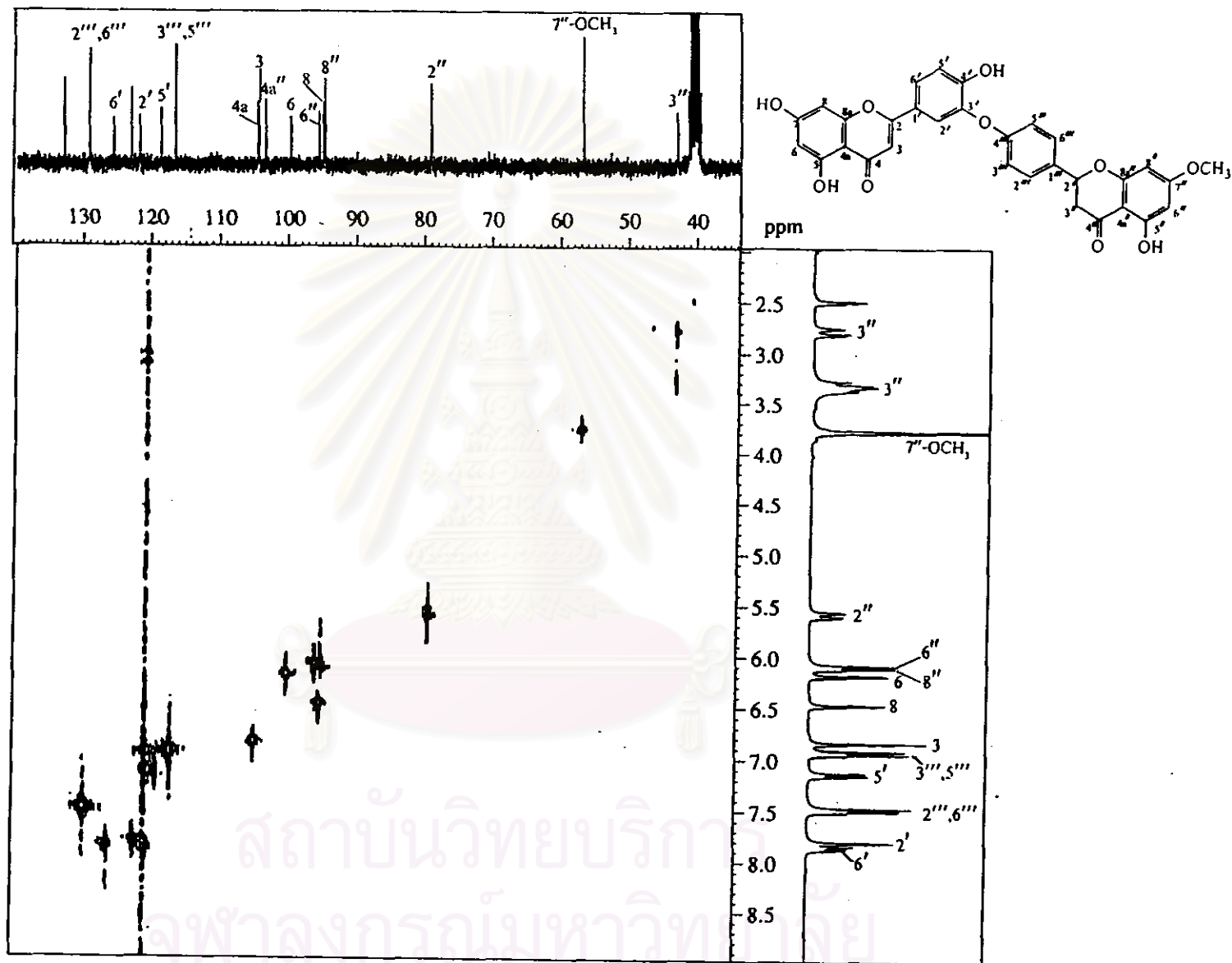


Figure 61 HETCOR spectrum ( partially expanded:  $\delta_{\text{H}} 2.0\text{-}8.9$  ppm,  $\delta_{\text{C}} 35\text{-}140$  ppm ) of compound OC-3 ( in  $\text{DMSO-}d_6$  )



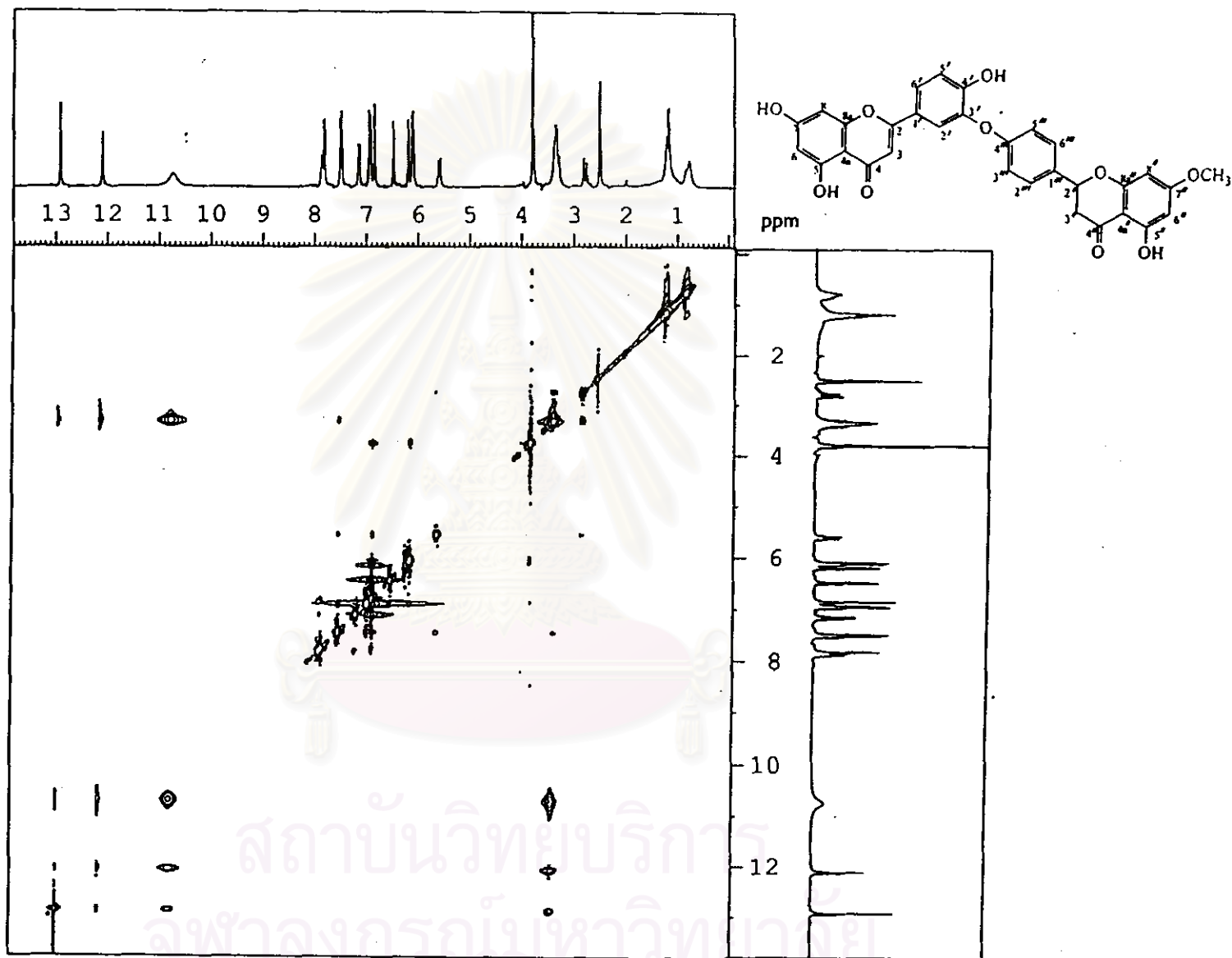


Figure 62 NOESY spectrum of compound OC-3 (in DMSO- $d_6$ )

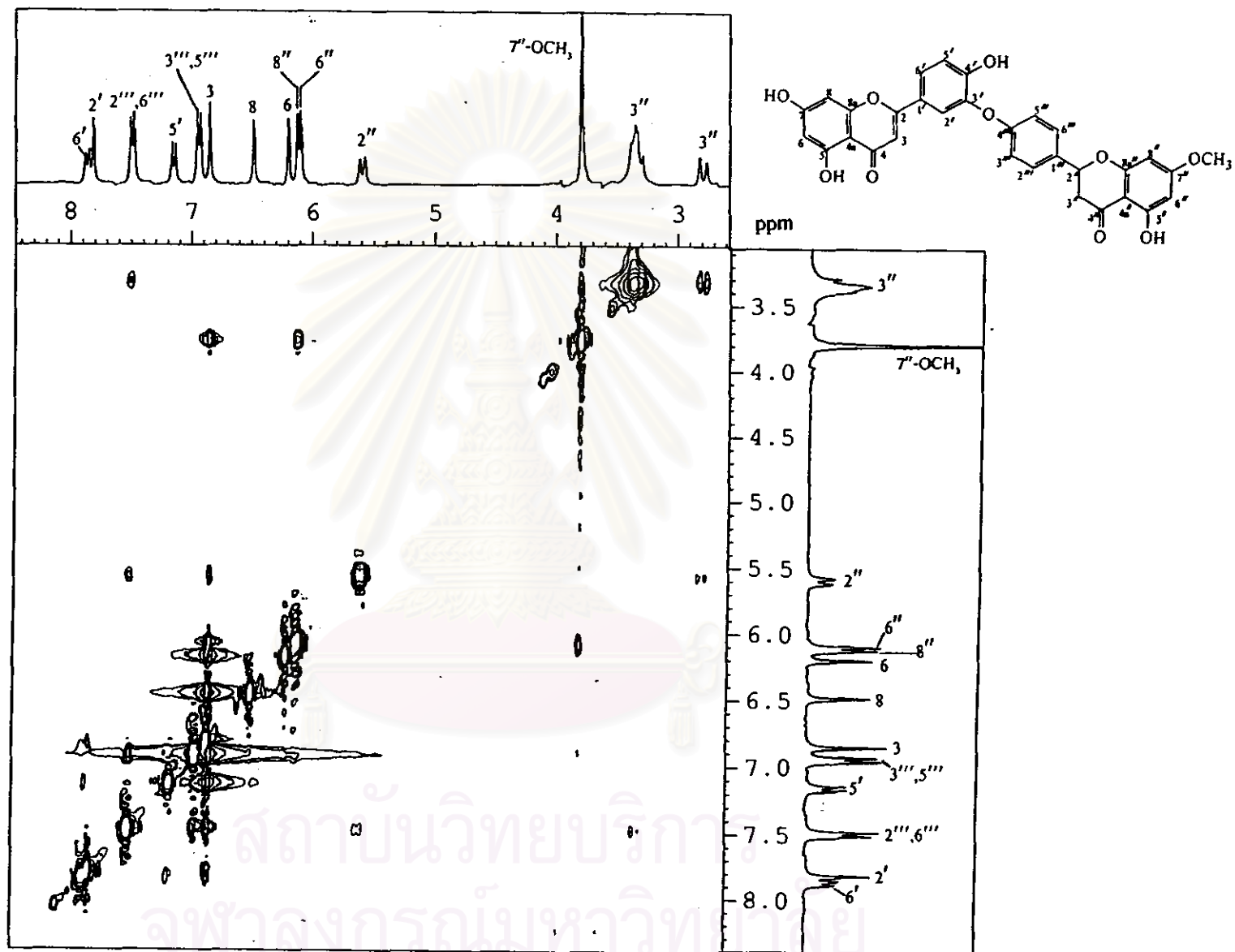


Figure 63 NOESY spectrum ( partially expanded:  $\delta_{\text{H}}$  2.1-8.3 ppm,  $\delta_{\text{H}}$  2.1-8.3 ppm ) of compound OC-3 ( in DMSO- $d_6$  )

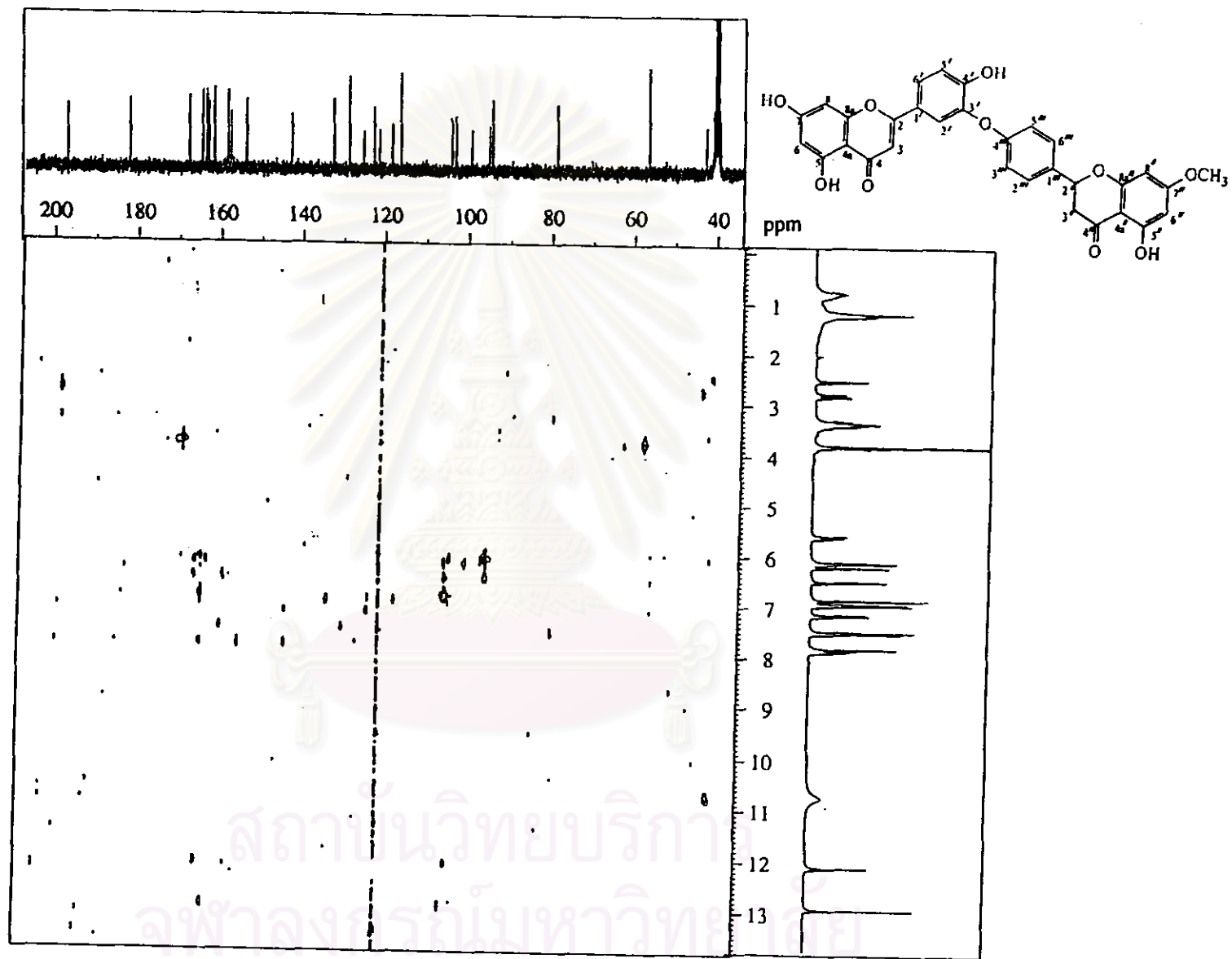


Figure 64 COLOC spectrum of compound OC-3 ( in DMSO- $d_6$  )

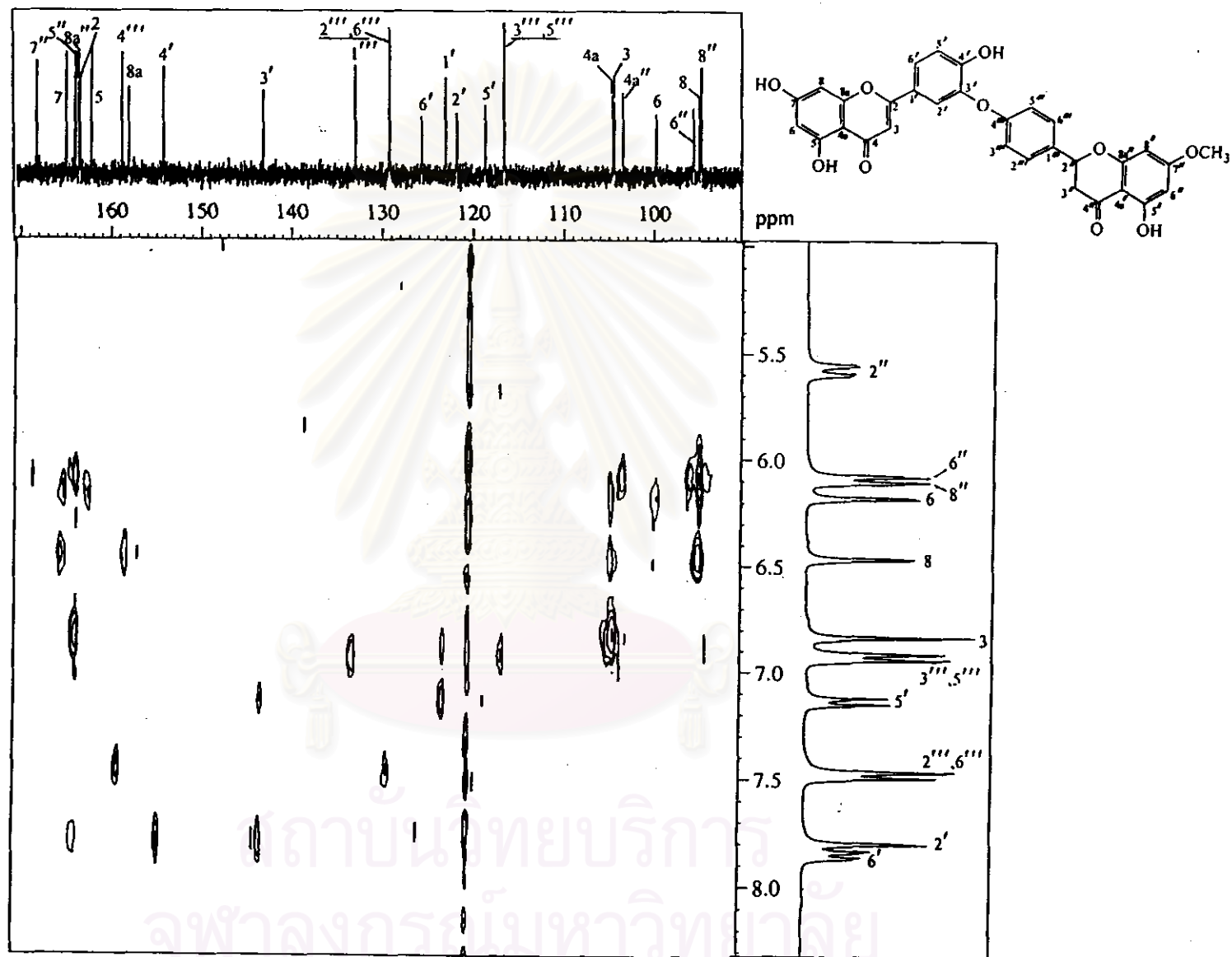


Figure 65 COLOC spectrum (partially expanded:  $\delta_{\text{H}}$  5.0-8.3 ppm,  $\delta_{\text{C}}$  91-170 ppm) of compound OC-3 (in  $\text{DMSO}-d_6$ )

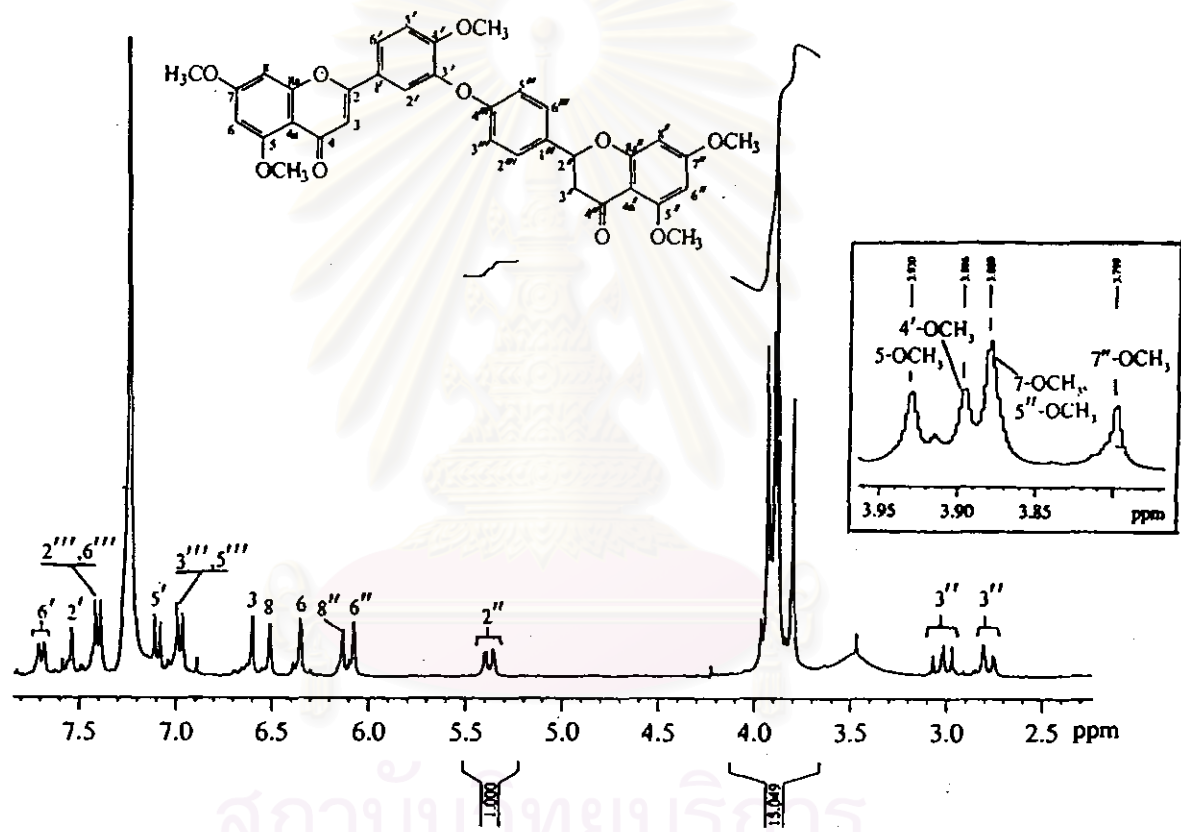


Figure 66 300 MHz  $^1\text{H}$  NMR spectrum of OC-3-Me ( in  $\text{CDCl}_3$  )

## VITA



Miss Rungruedee Rungserichai was born on April 18, 1972 in Bangkok, Thailand. She received her Bachelor's degree of Science in Pharmacy in 1996 from the Faculty of Pharmaceutical Science, Rangsit University, Thailand.

### Publication

1. Jongbunprasert, V., Bavovada, R., Theraratchailert, P., Rungserichai, R. and Likhitwitayawuid, K. 1999. Chemical constituents of *Fissistigma polyanthoides*. Science Asia 25:31-33.

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