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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



APPENDIX

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

1) Chloroform : Benzene (3 : 2)

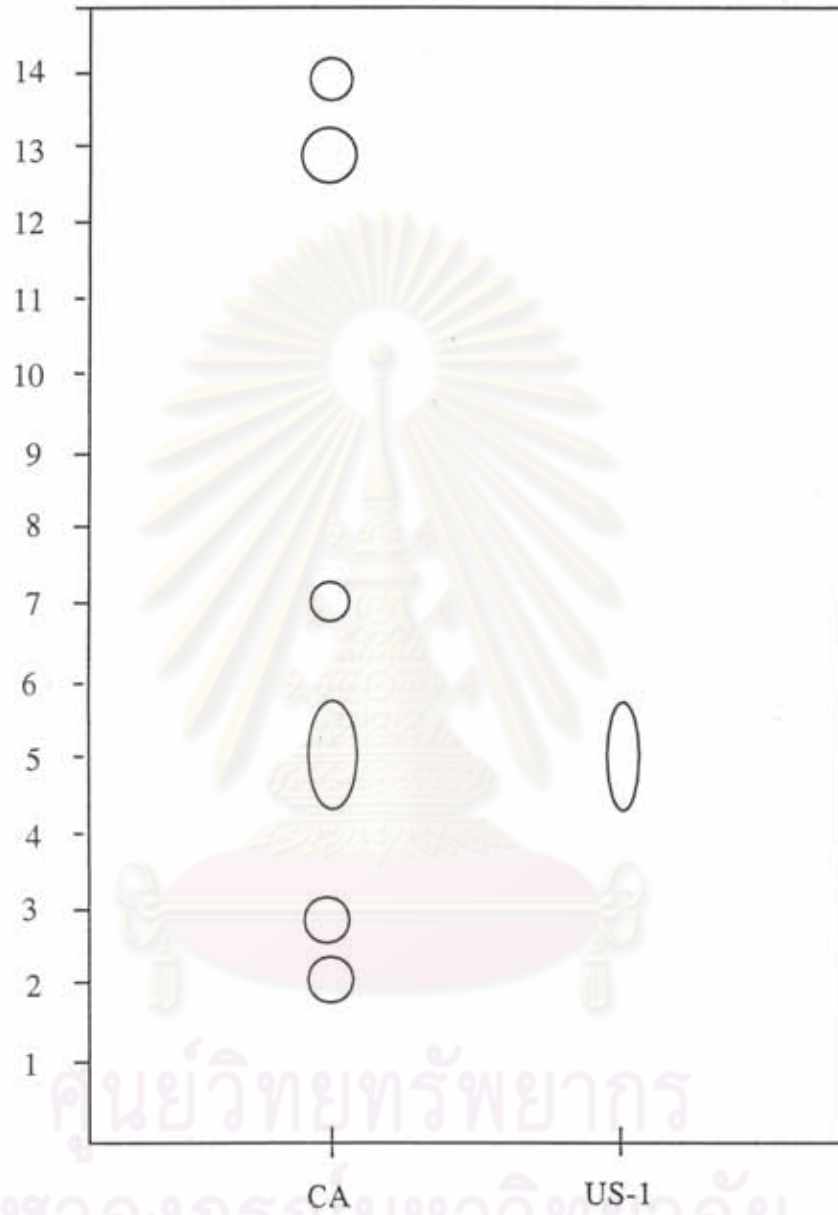


Figure 12 Thin-layer chromatogram of US-1

2) Petroleum ether : Ethyl acetate (9 : 1)

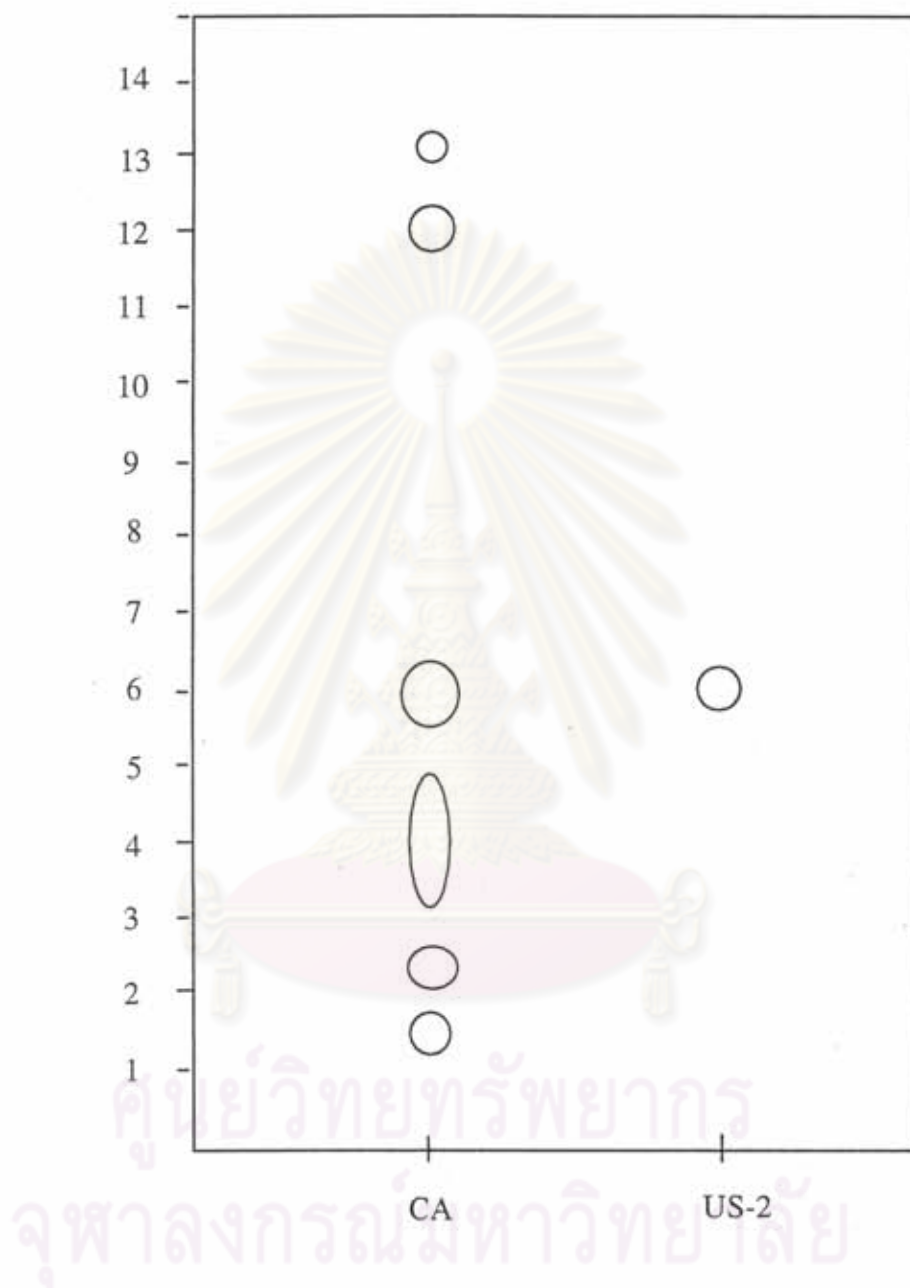


Figure 13 Thin-layer chromatogram of US-2

3) Chloroform : Methanol (9 : 1)

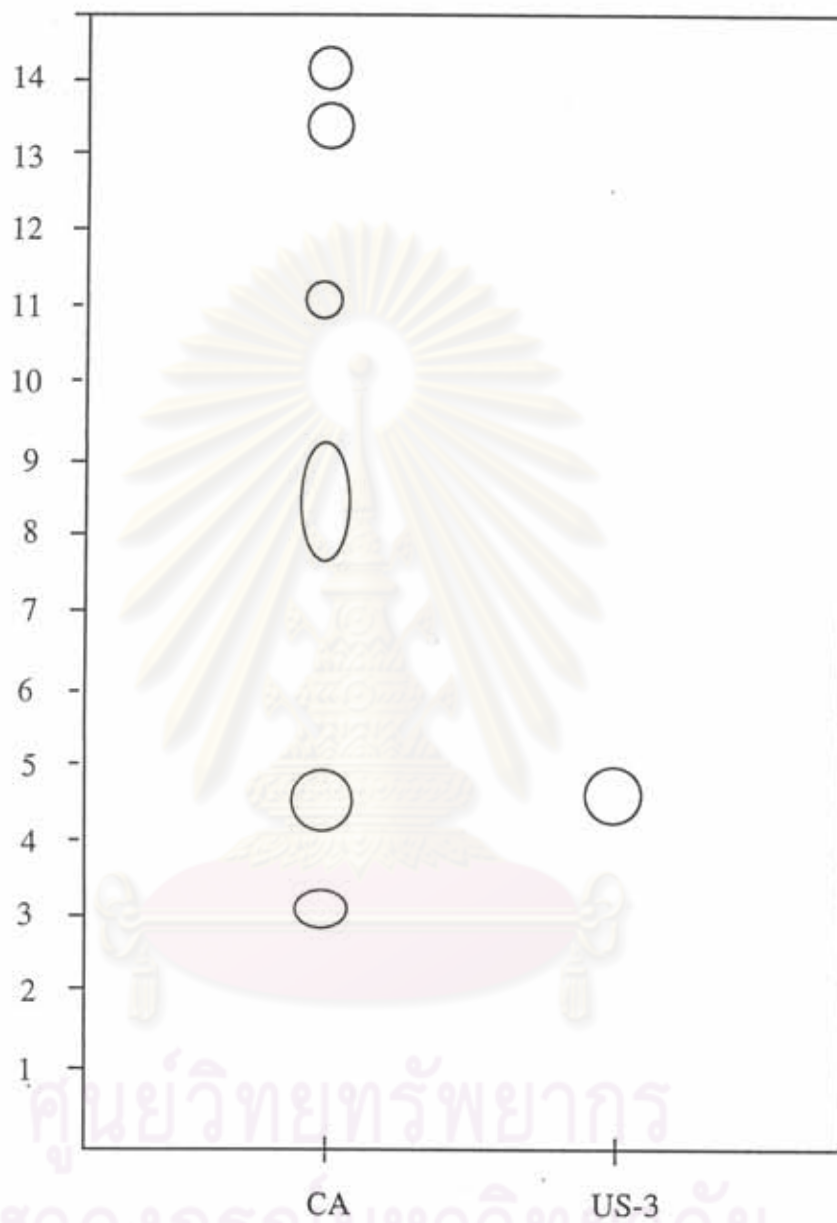


Figure 14 Thin-layer chromatogram of US-3

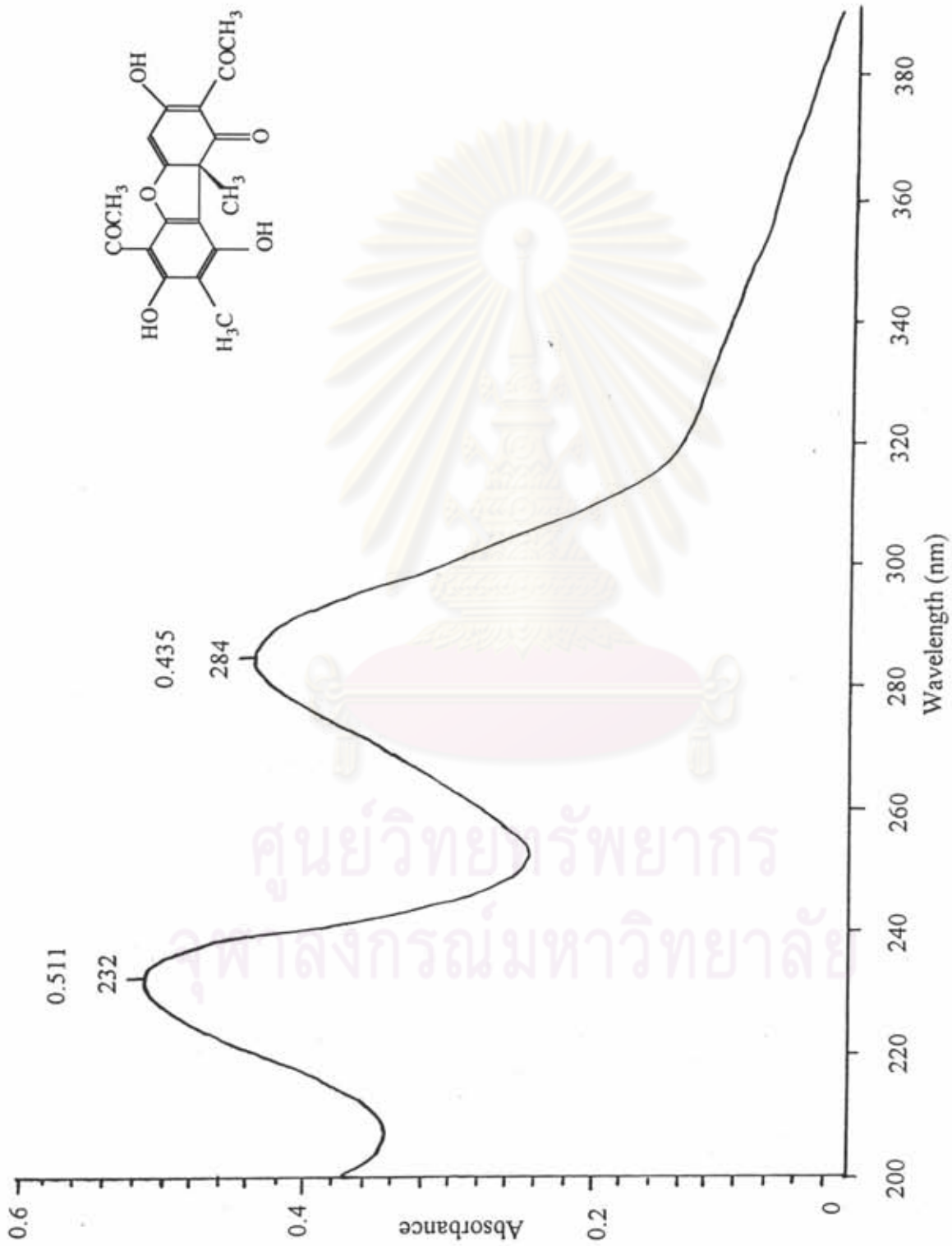


Figure 15 UV absorption spectrum of US-1 in MeOH

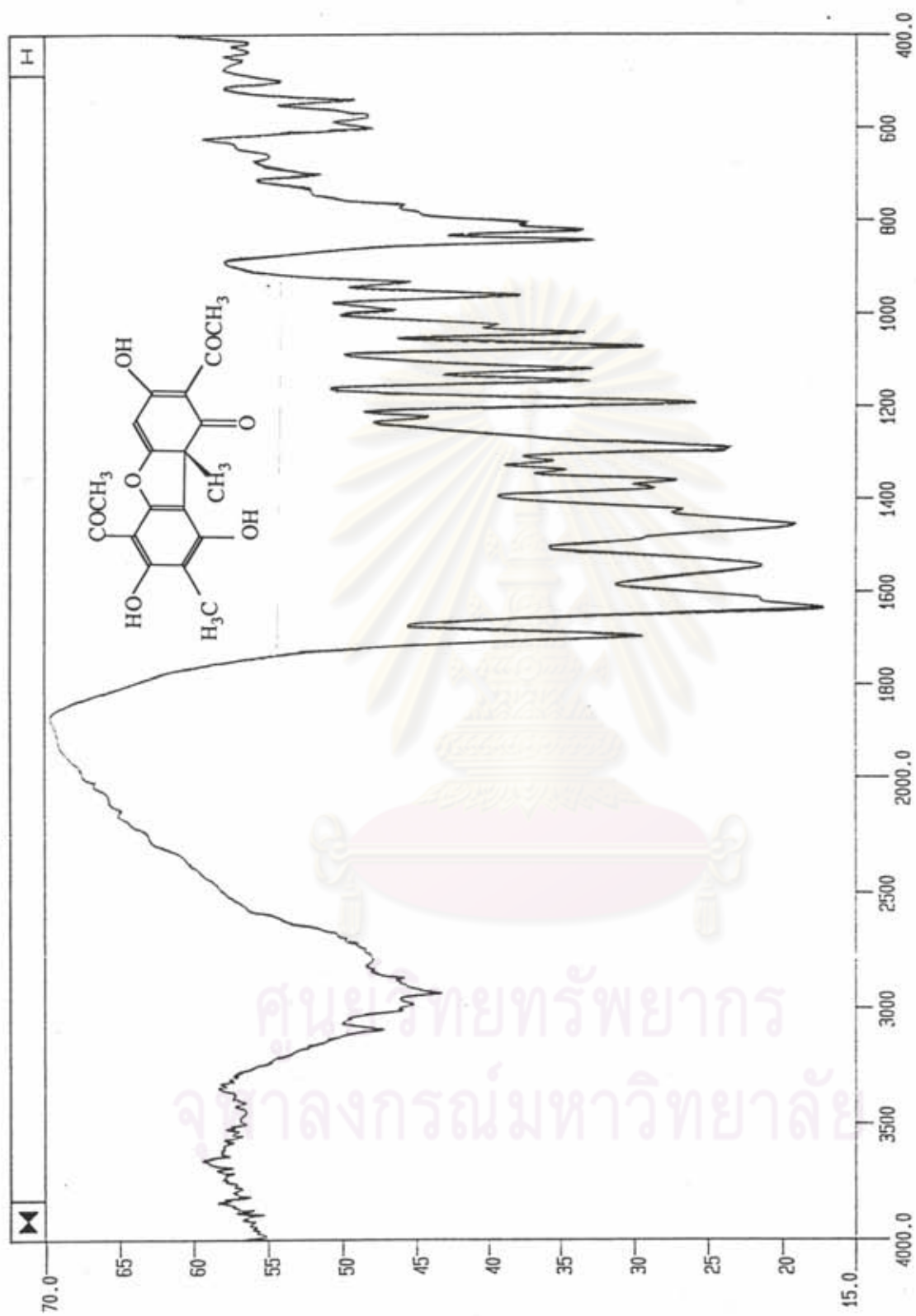


Figure 16 IR absorption spectrum of US-1 in KBr

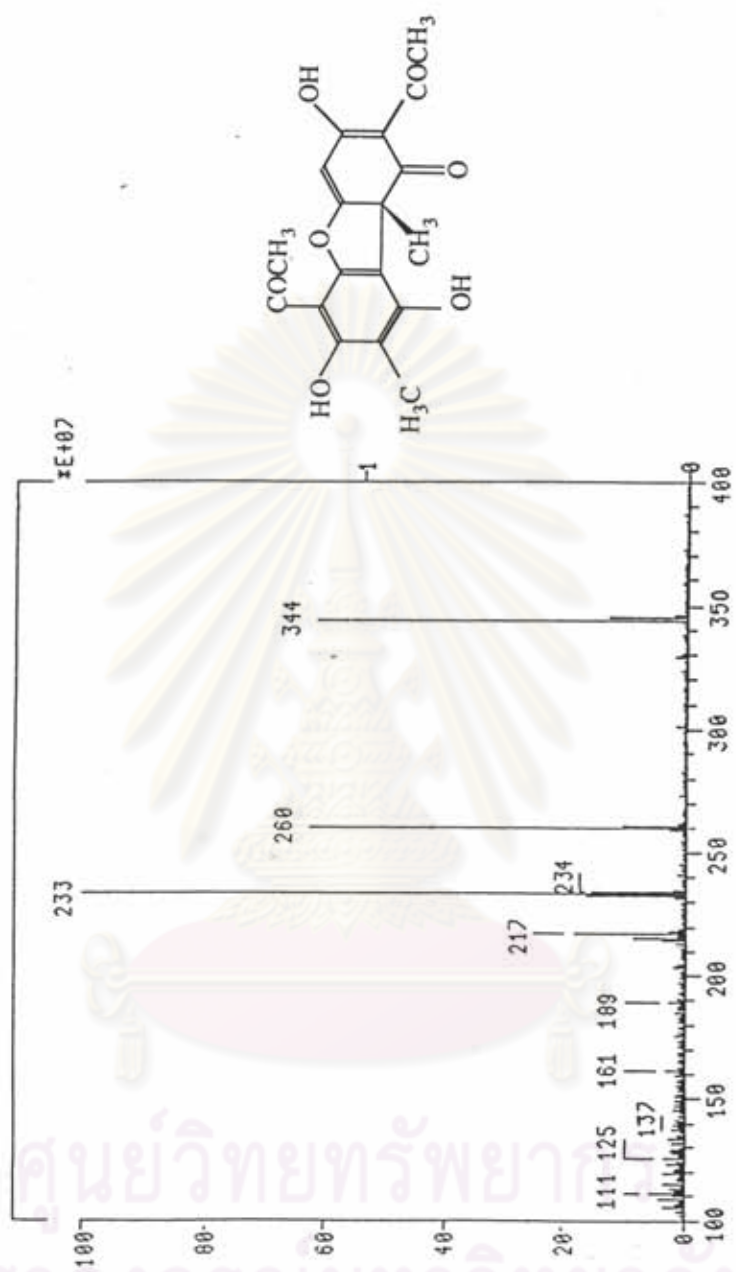
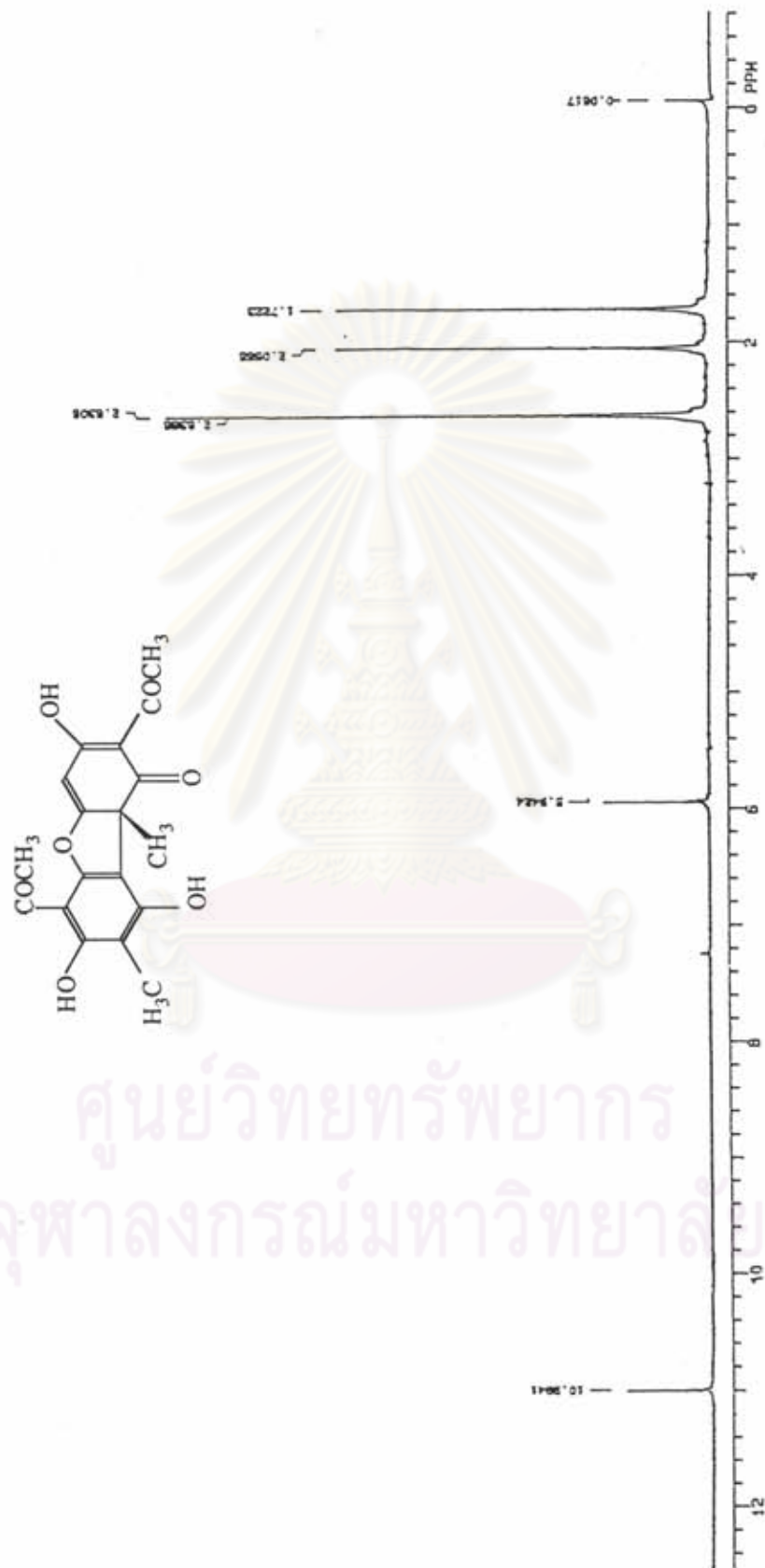
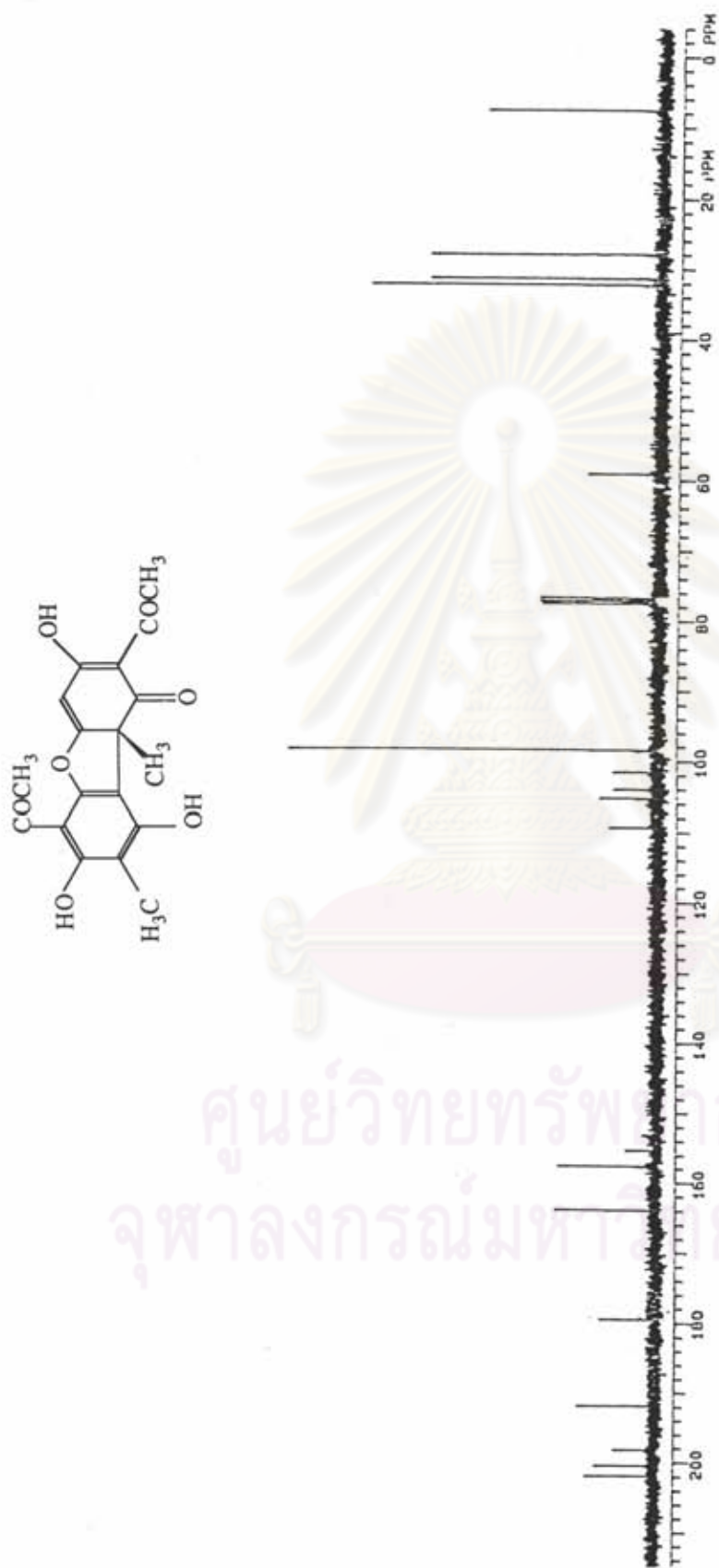


Figure 17 Mass spectrum of US-1

Figure 18 $^1\text{H-NMR}$ spectrum of US-1 in CDCl_3

Figure 19 ^{13}C -NMR spectrum of US-1 in CDCl₃

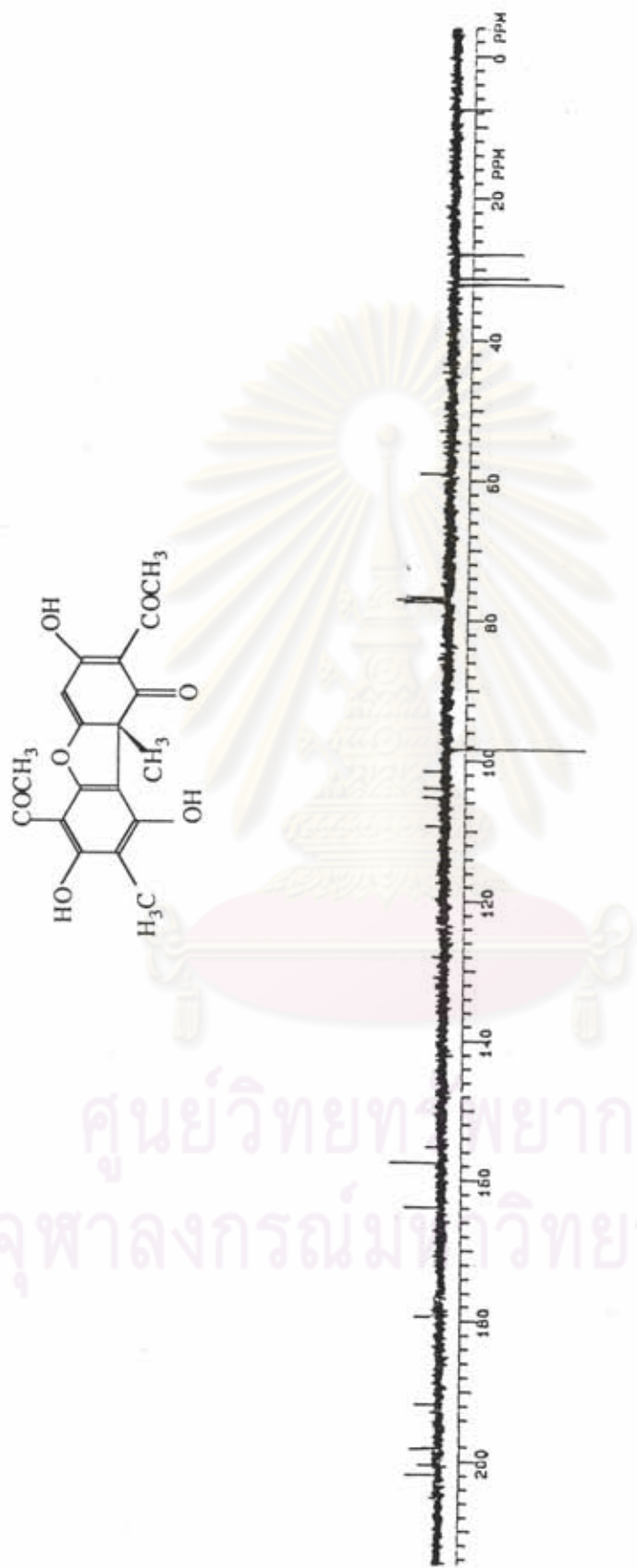


Figure 20 ^{13}C -NMR spectrum of US-1 (DEPT 135) in CDCl_3

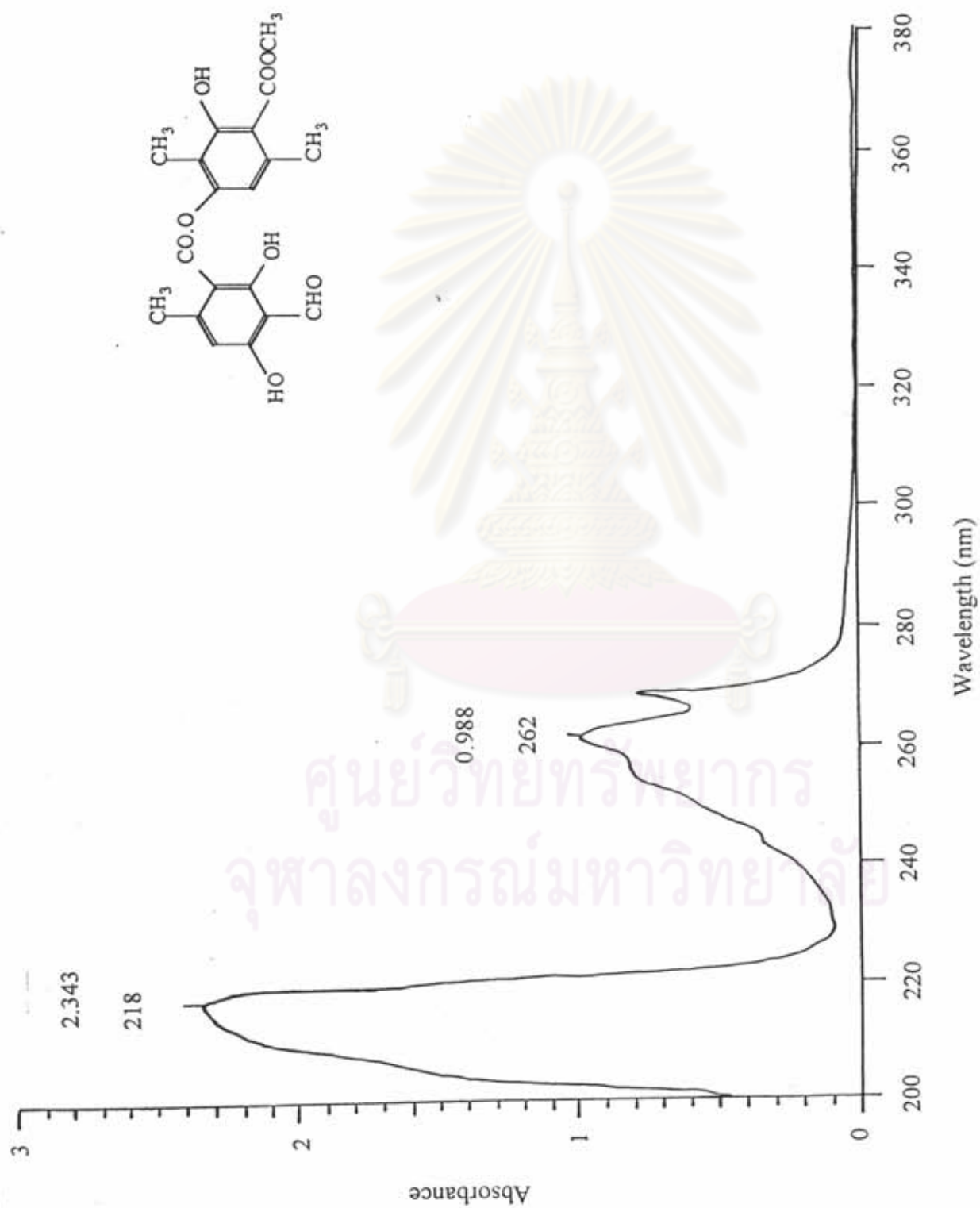


Figure 21 UV absorption spectrum of US-2 in MeOH

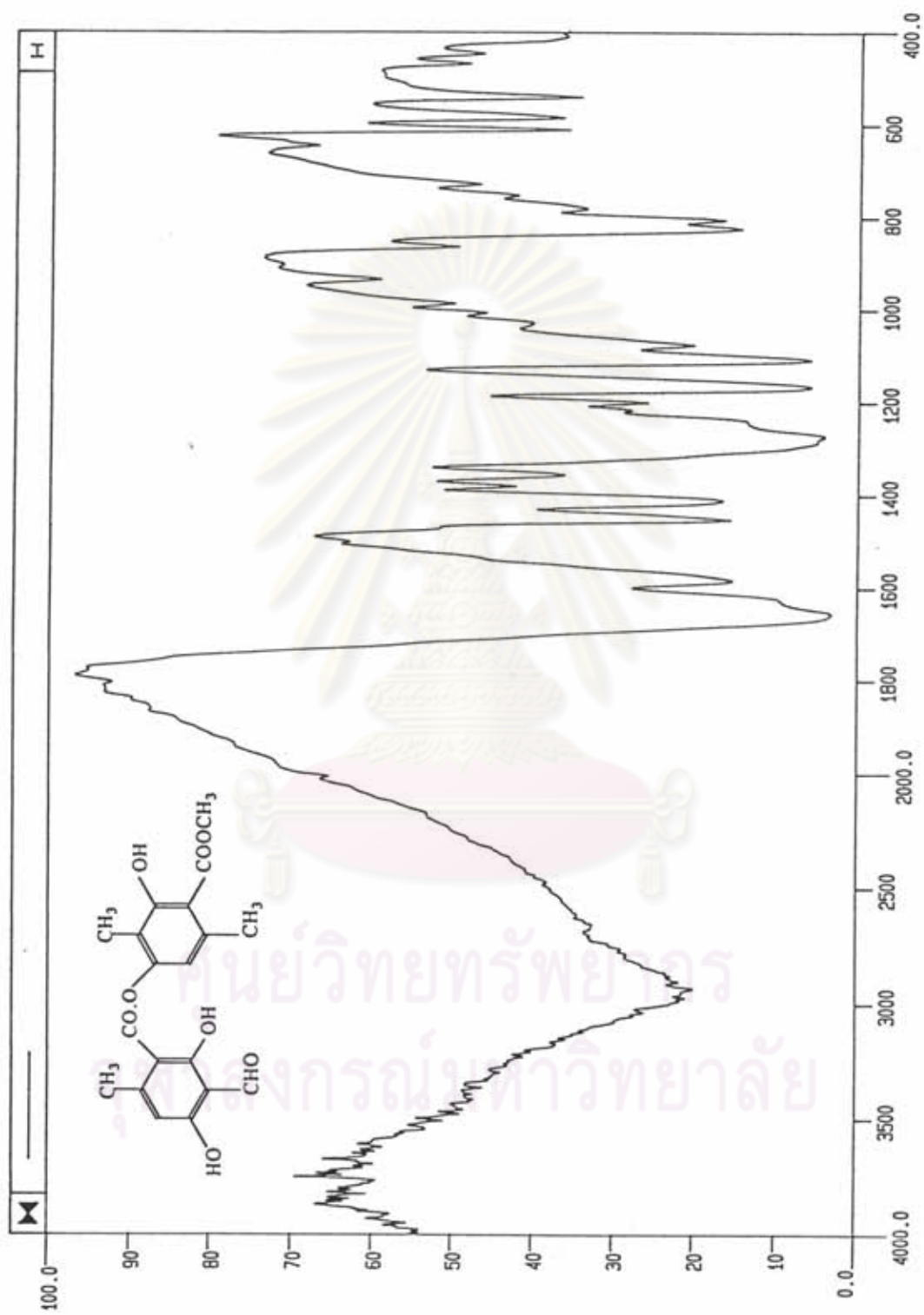


Figure 22 IR absorption spectrum of US-2 in Nujol

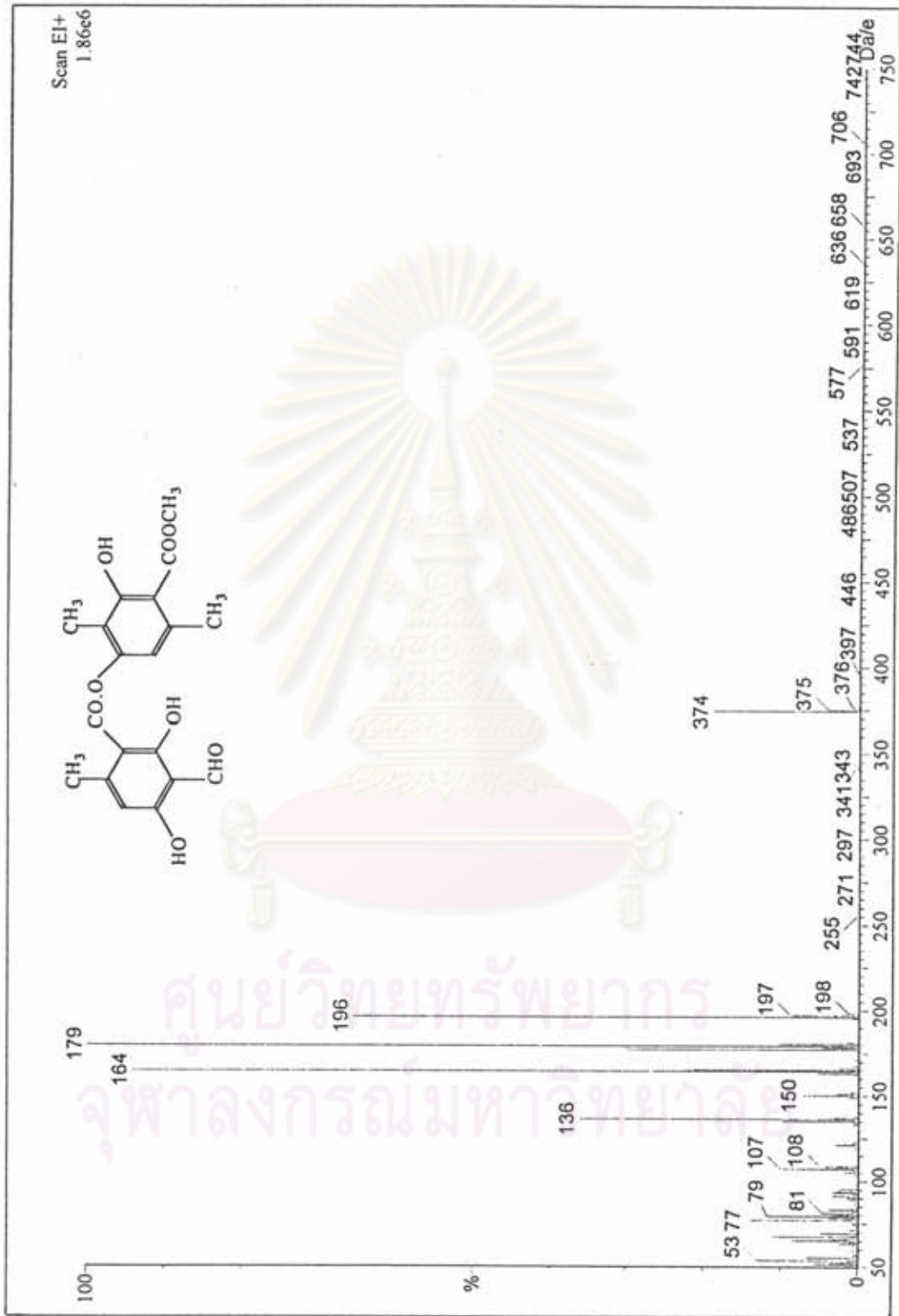
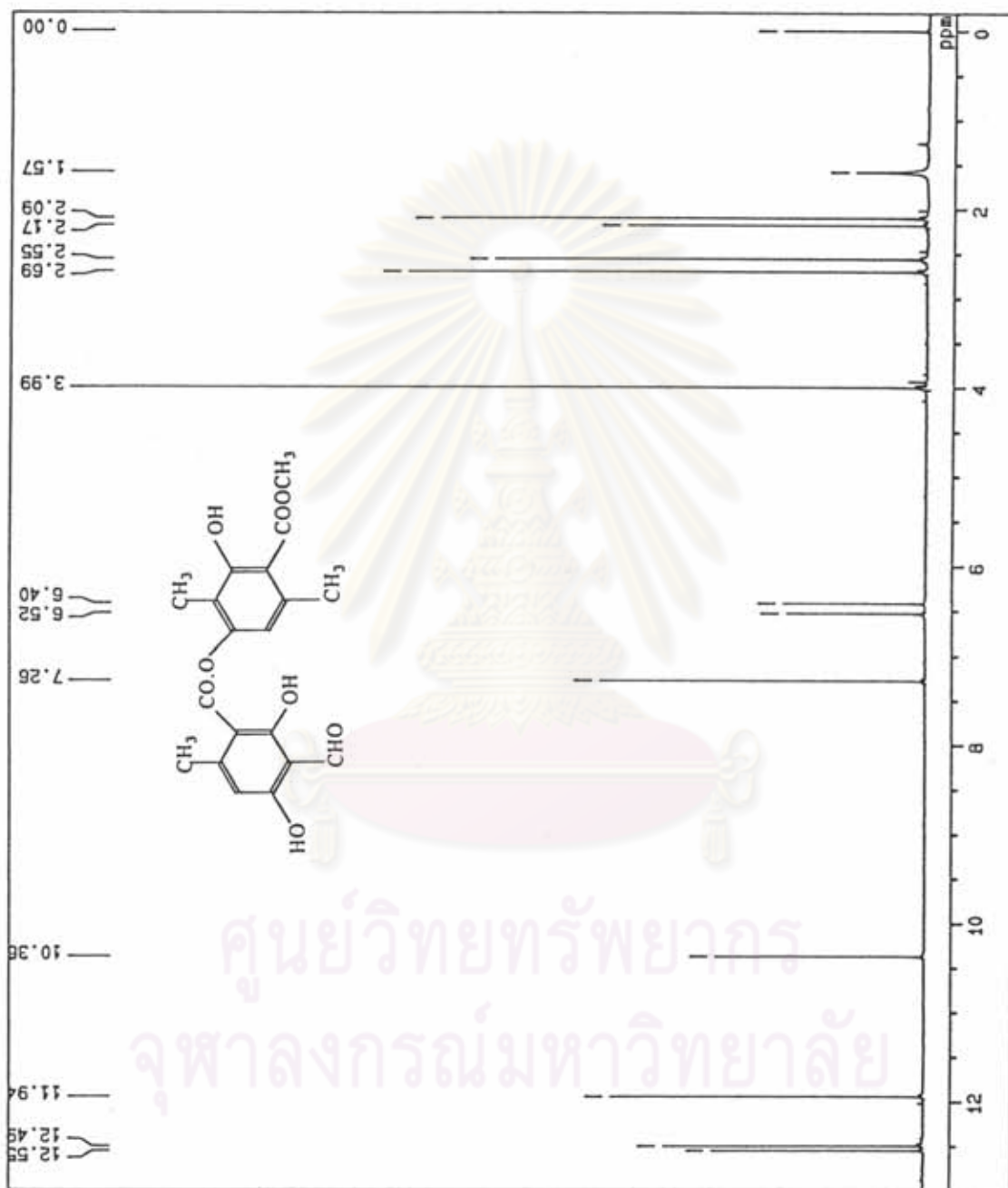
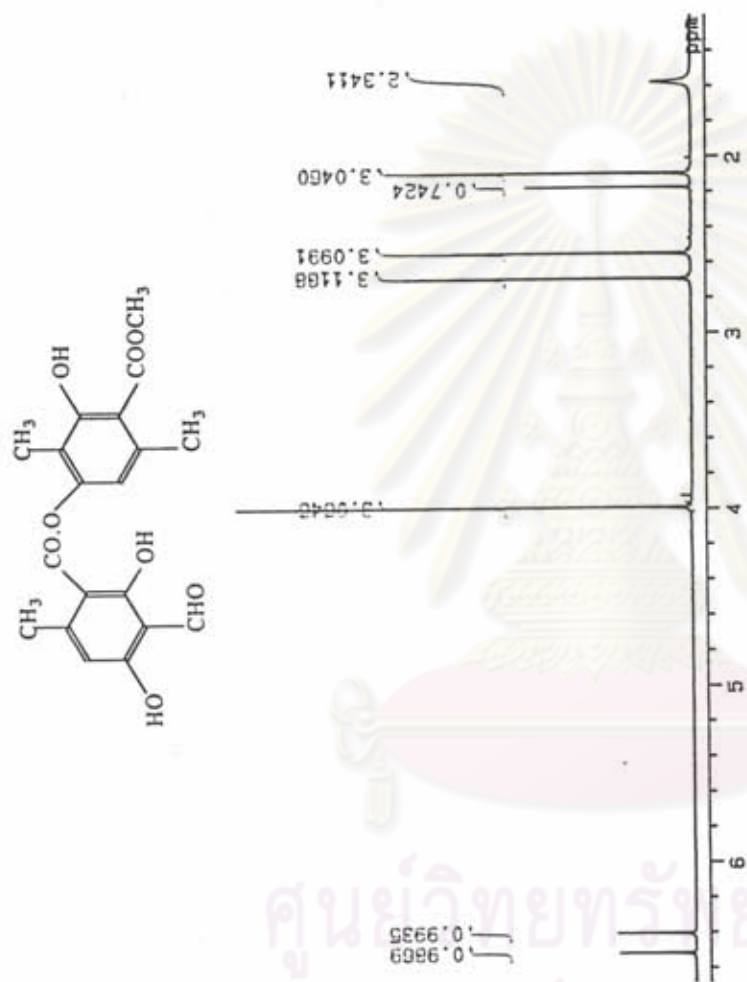
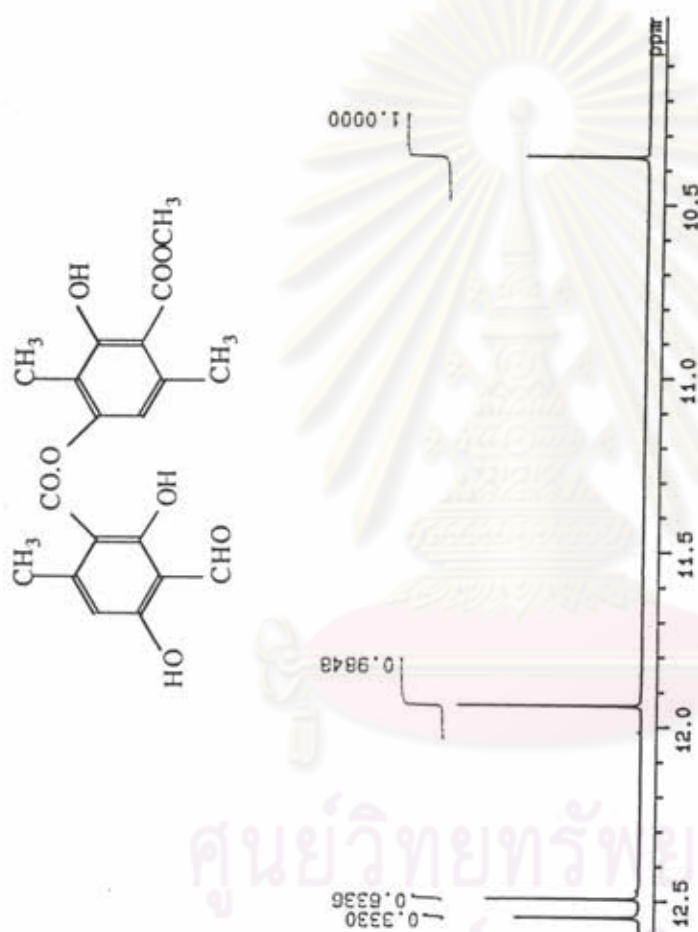
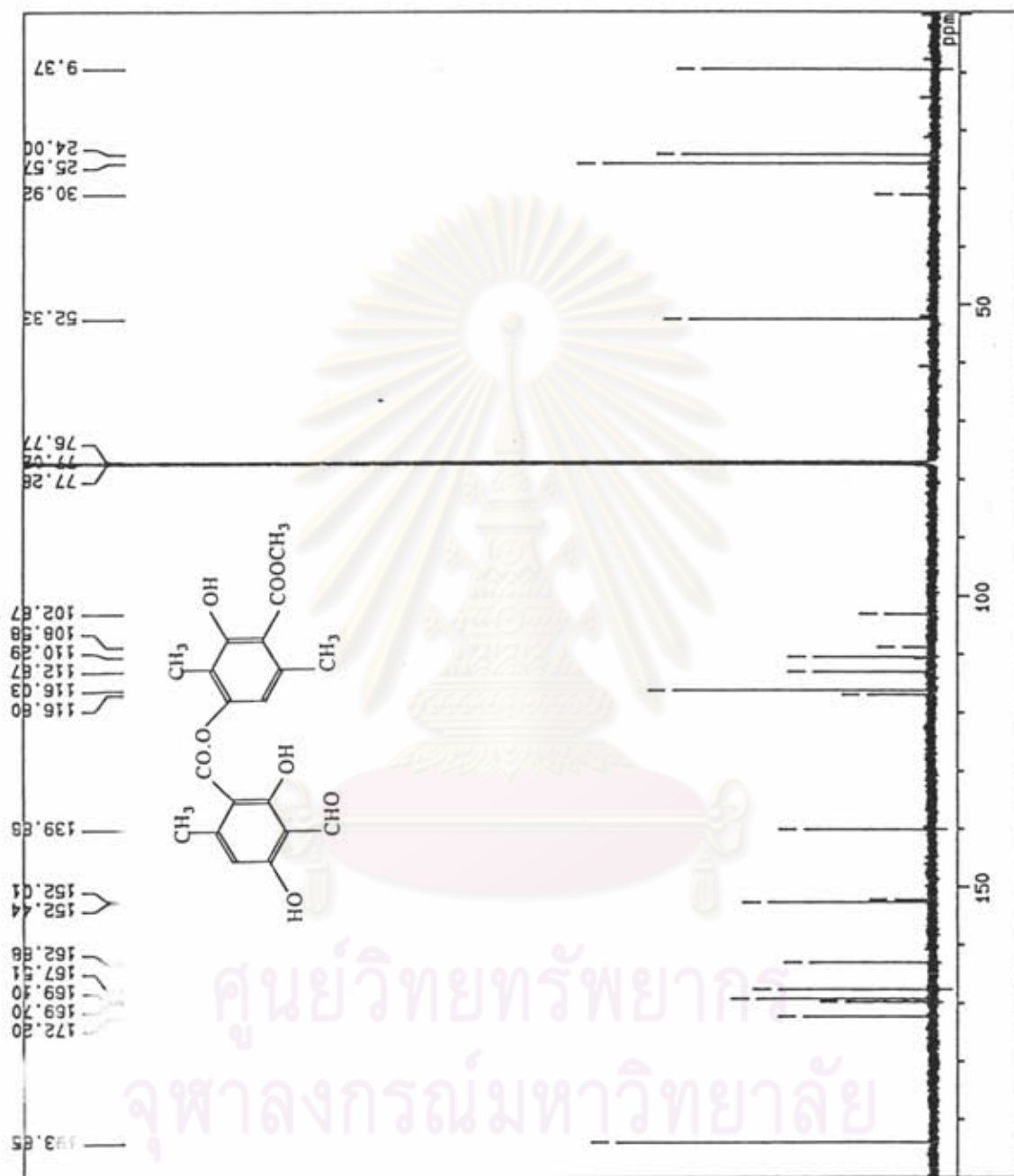


Figure 23 Mass spectrum of US-2

Figure 24 ¹H-NMR spectrum of US-2 in CDCl₃

Figure 24 $^1\text{H-NMR}$ spectrum of US-2 in CDCl_3

Figure 24 $^1\text{H-NMR}$ spectrum of US-2 in CDCl_3

Figure 25 ¹³C-NMR spectrum of US-2 in CDCl₃

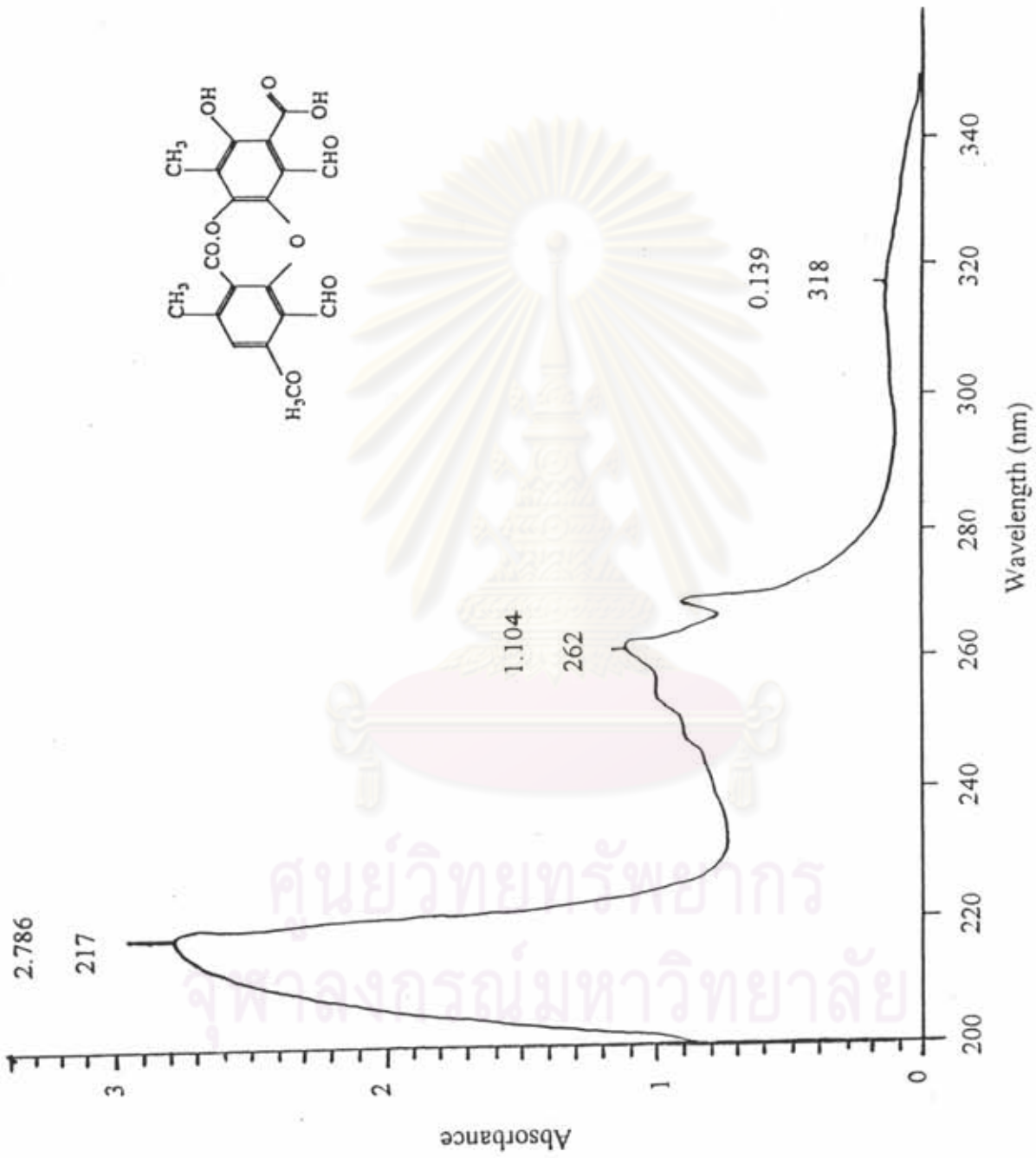


Figure 26 UV absorption spectrum of US-3 in MeOH

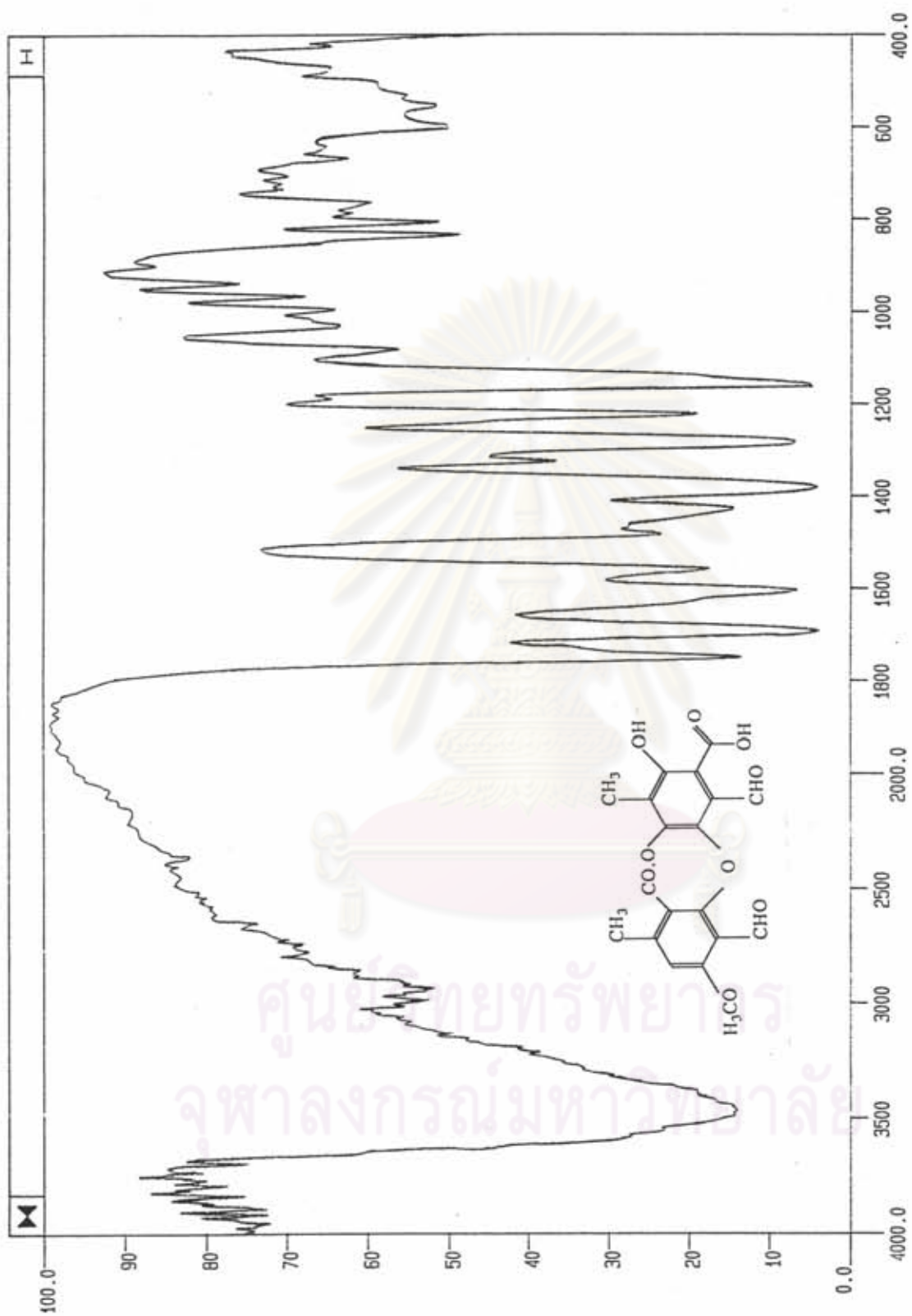


Figure 27 IR absorption spectrum of US-3 in Nujol

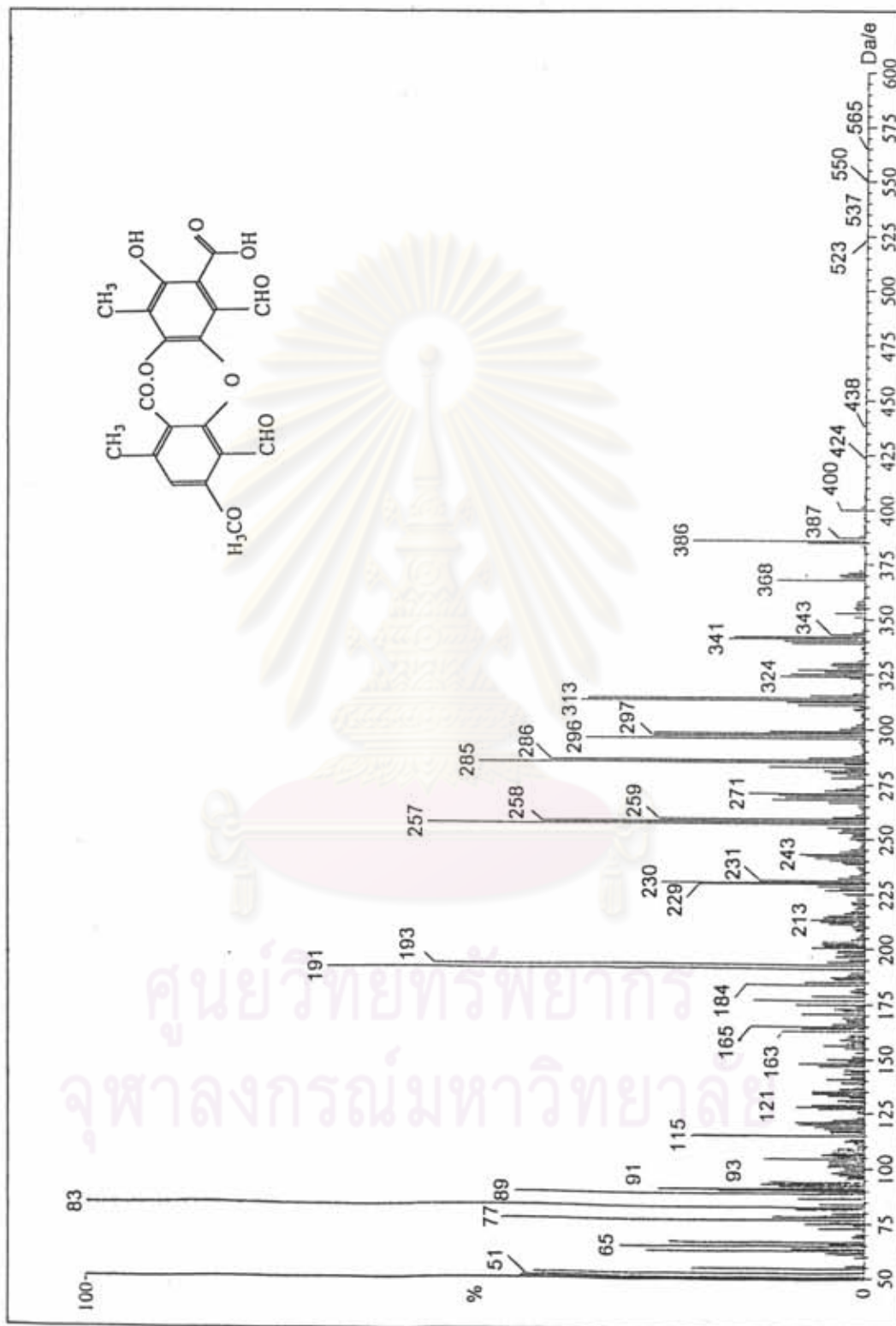


Figure 28 Mass spectrum of US-3

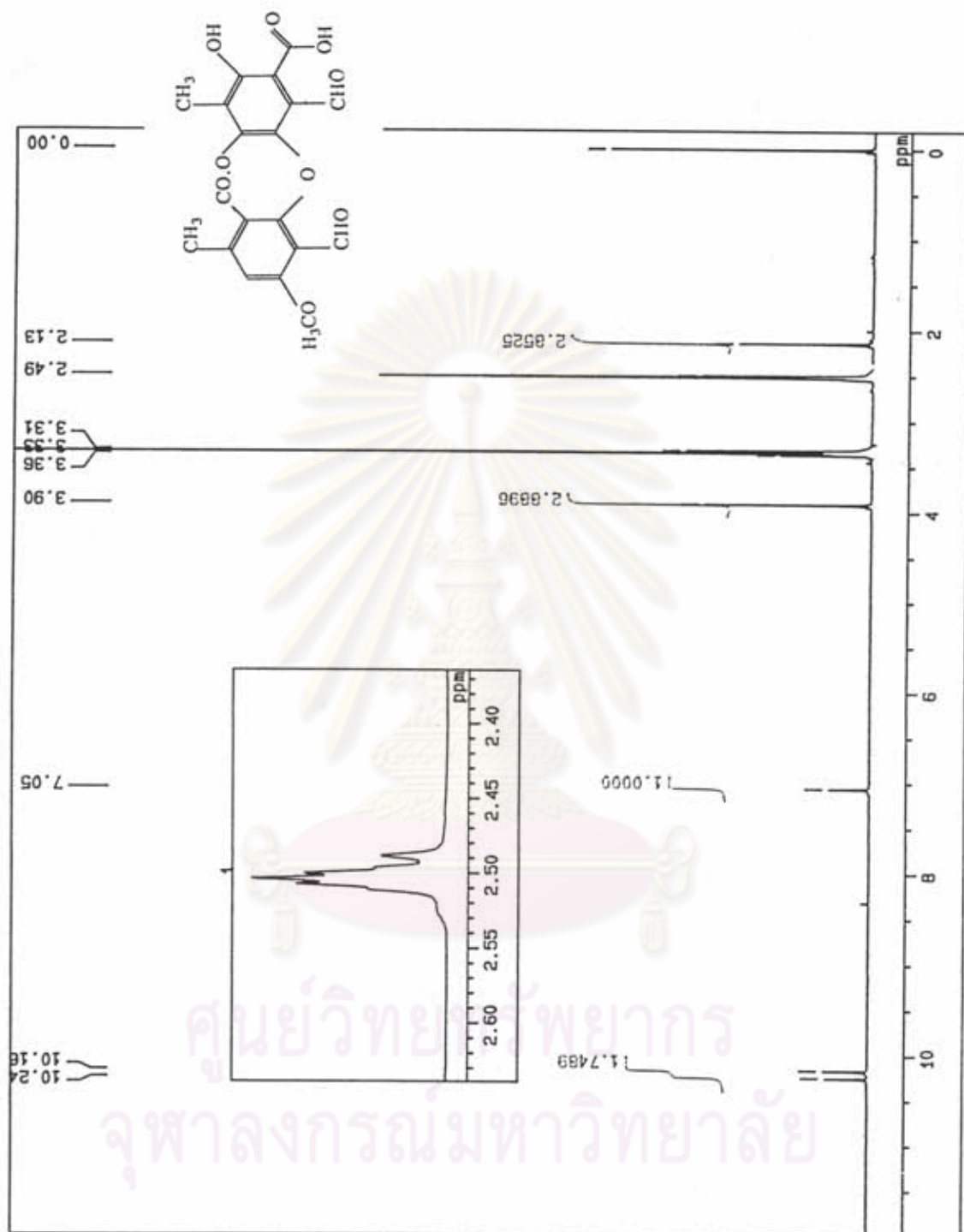


Figure 29 ¹H-NMR spectrum of US-3 in DMSO-d₆

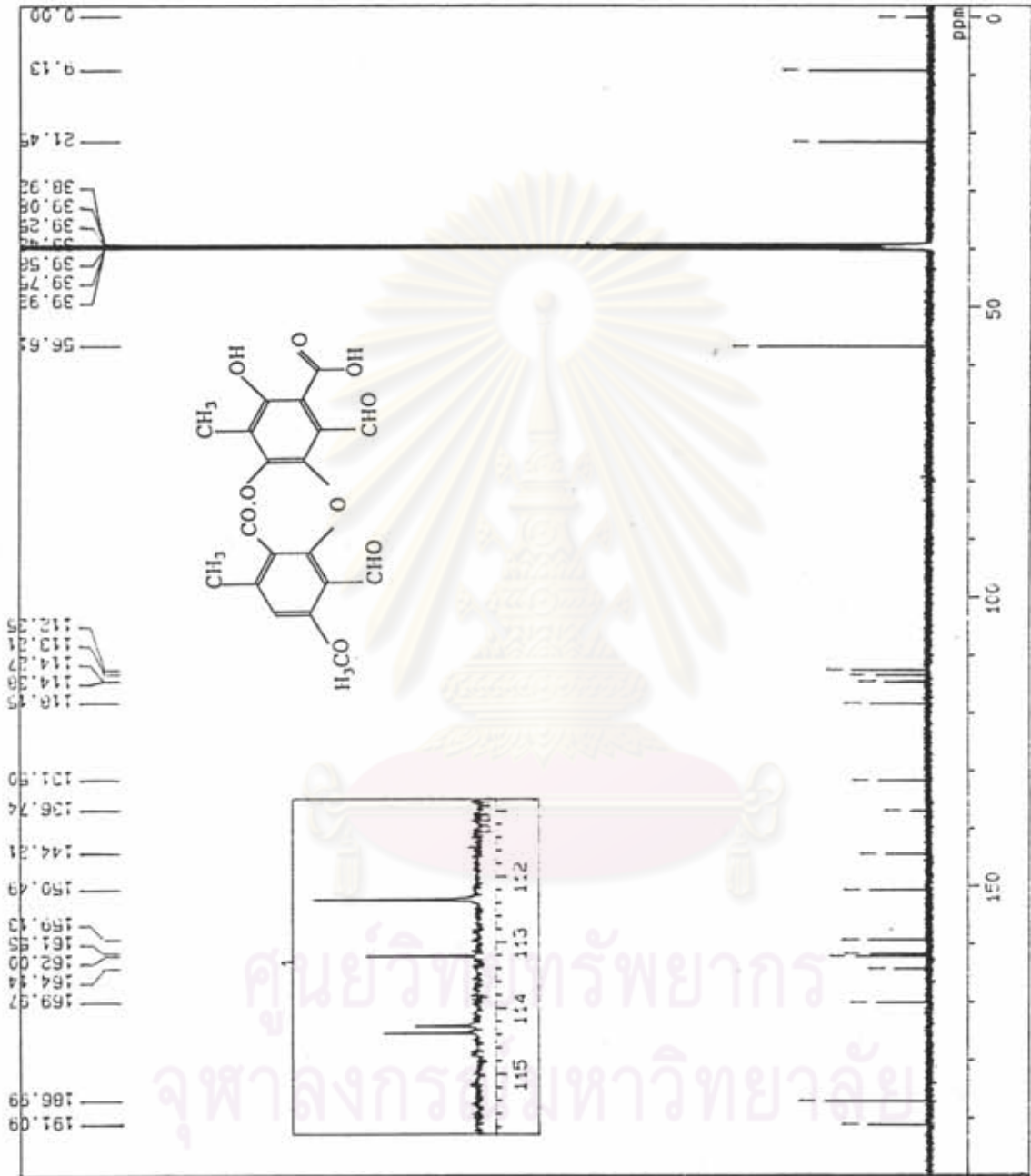


Figure 30 ¹³C-NMR spectrum of US-3 in DMSO-d₆

VITA



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