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APPENDICES

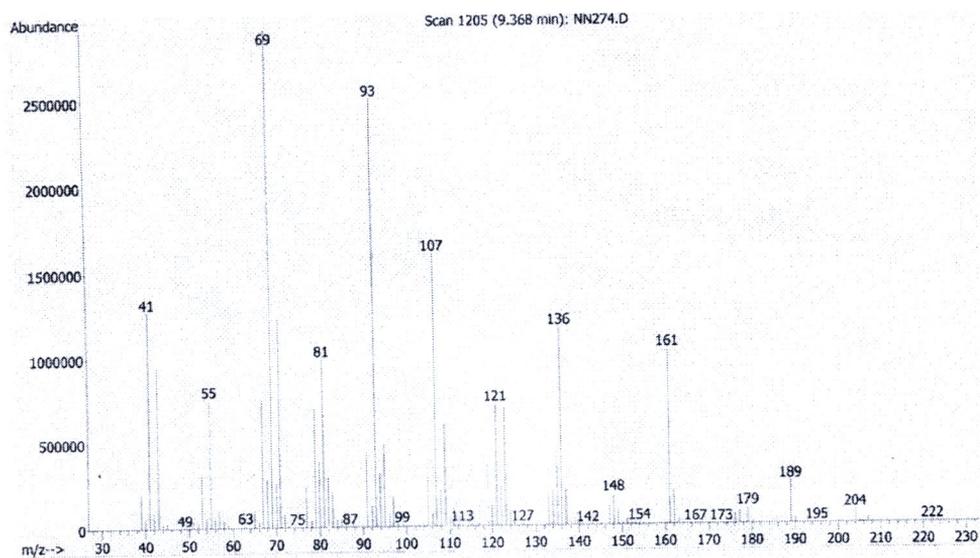


Figure 7 Mass spectra of (+)-nerolidol (21)

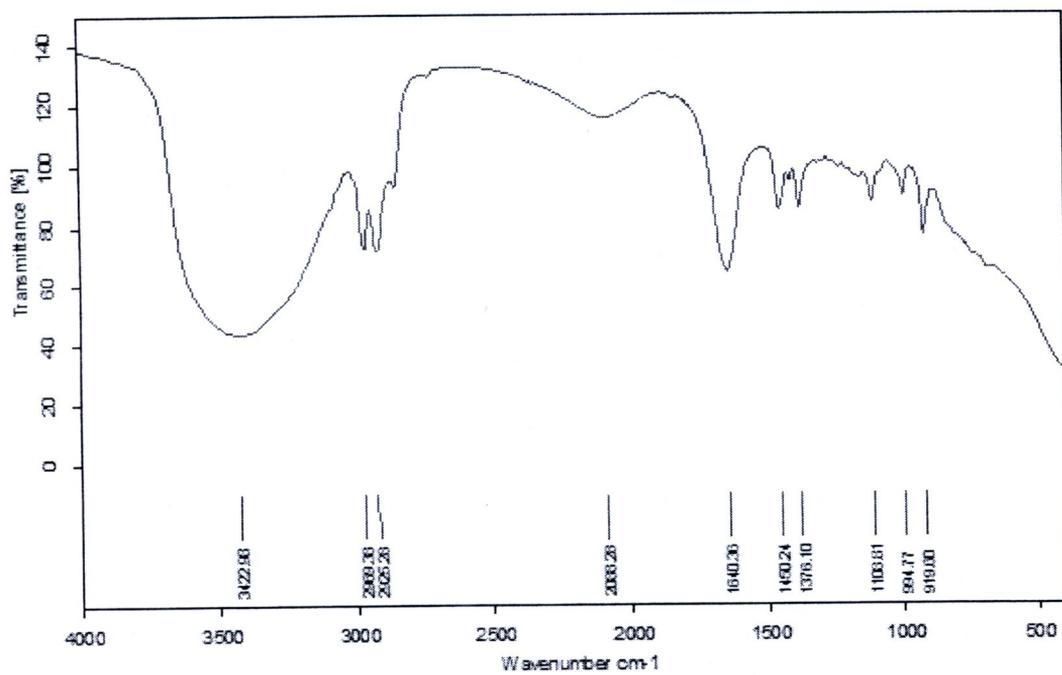


Figure 8 IR spectrum of (+)-nerolidol (21)

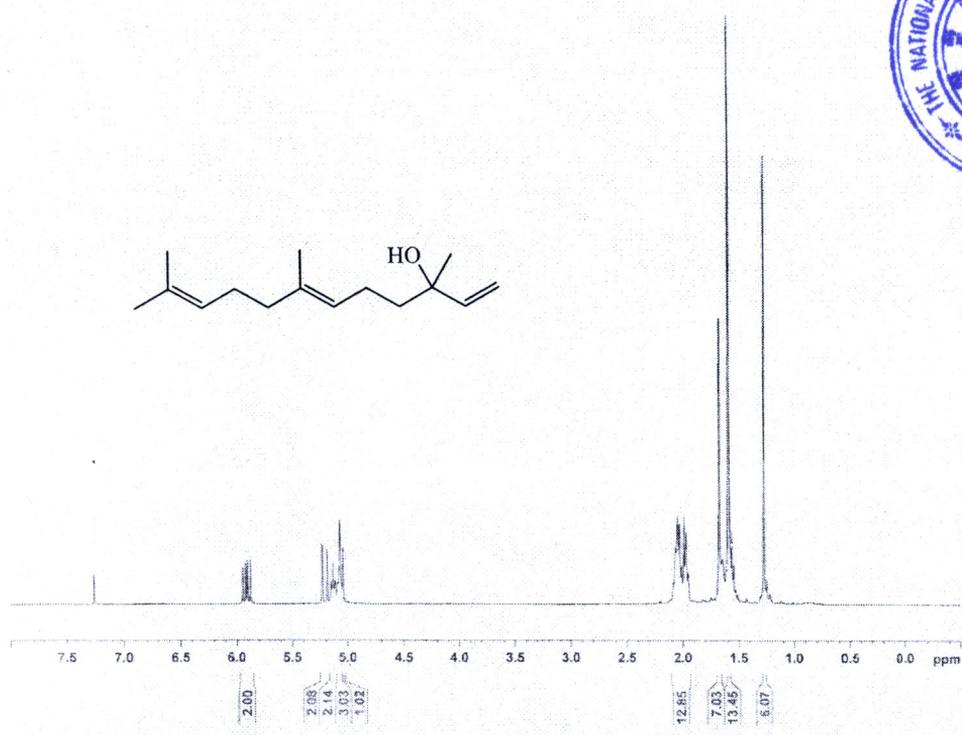


Figure 9 $^1\text{H-NMR}$ spectrum of (+)-nerolidol (21)

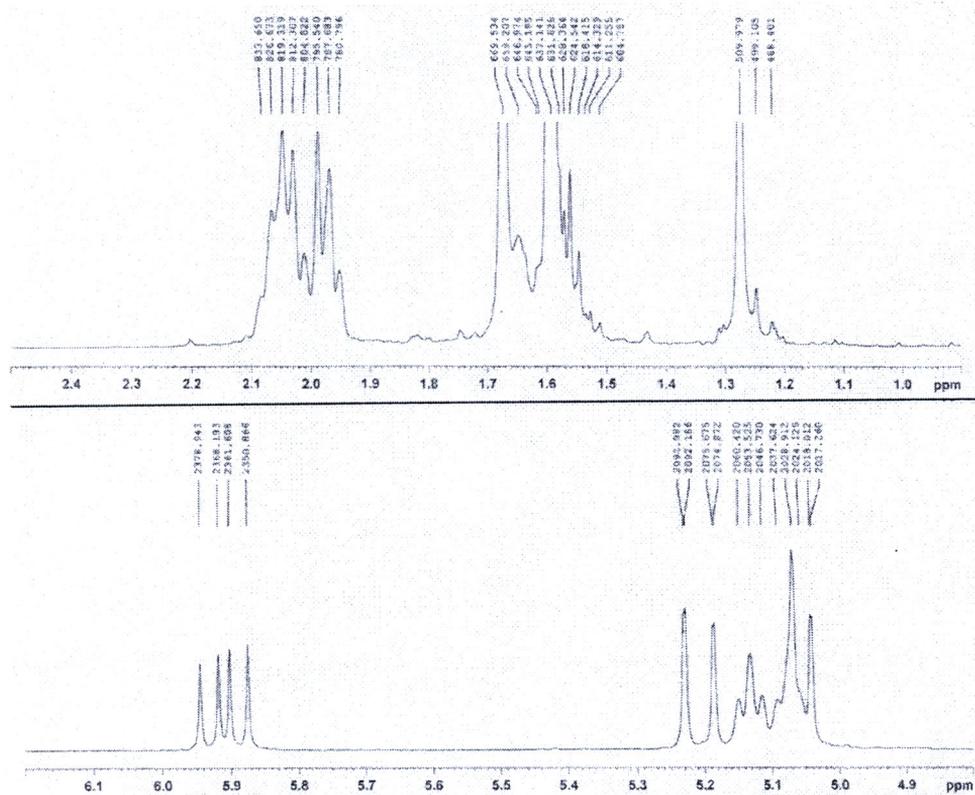


Figure 10 Expansion of $^1\text{H-NMR}$ spectrum of (+)-nerolidol (21)

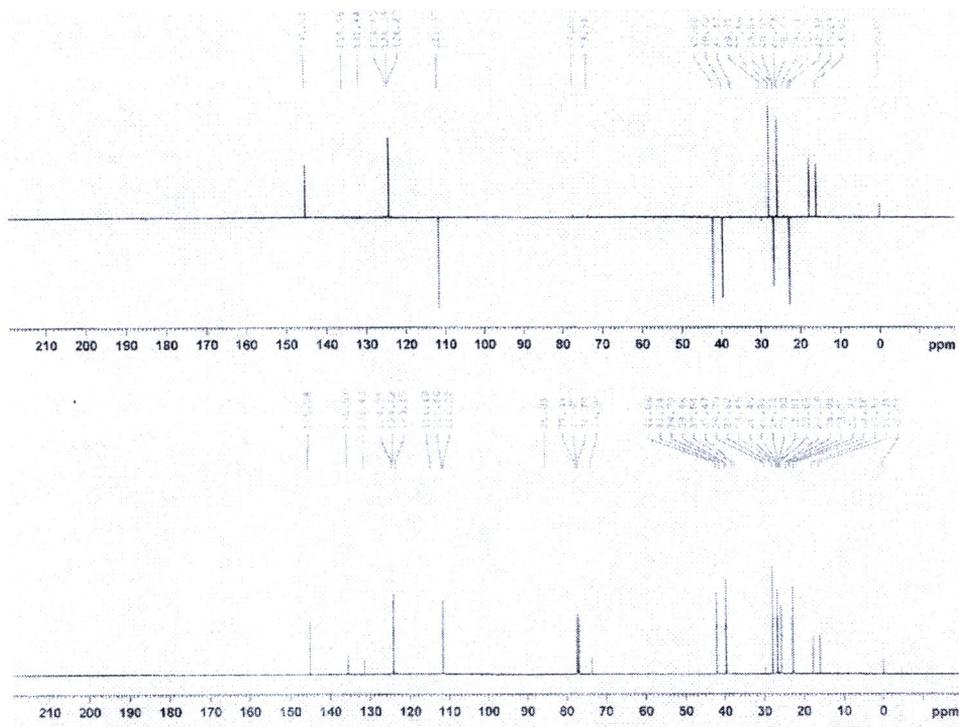


Figure 11 ^{13}C -NMR and DEPT 135 spectra of (+)-nerolidol (**21**)

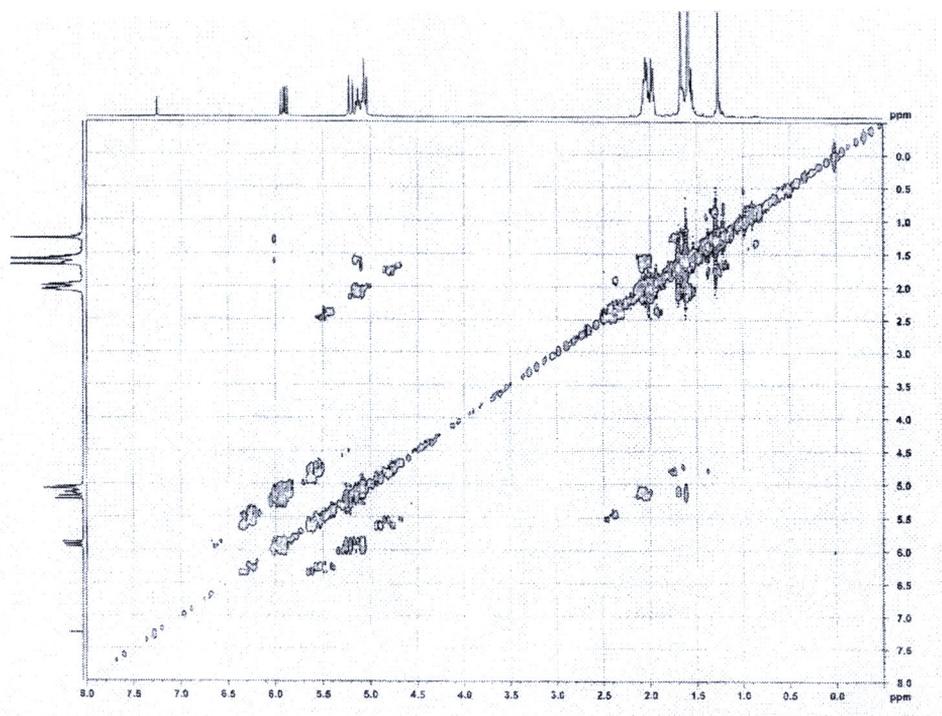


Figure 12 ^1H - ^1H COSY spectrum of (+)-nerolidol (**21**)

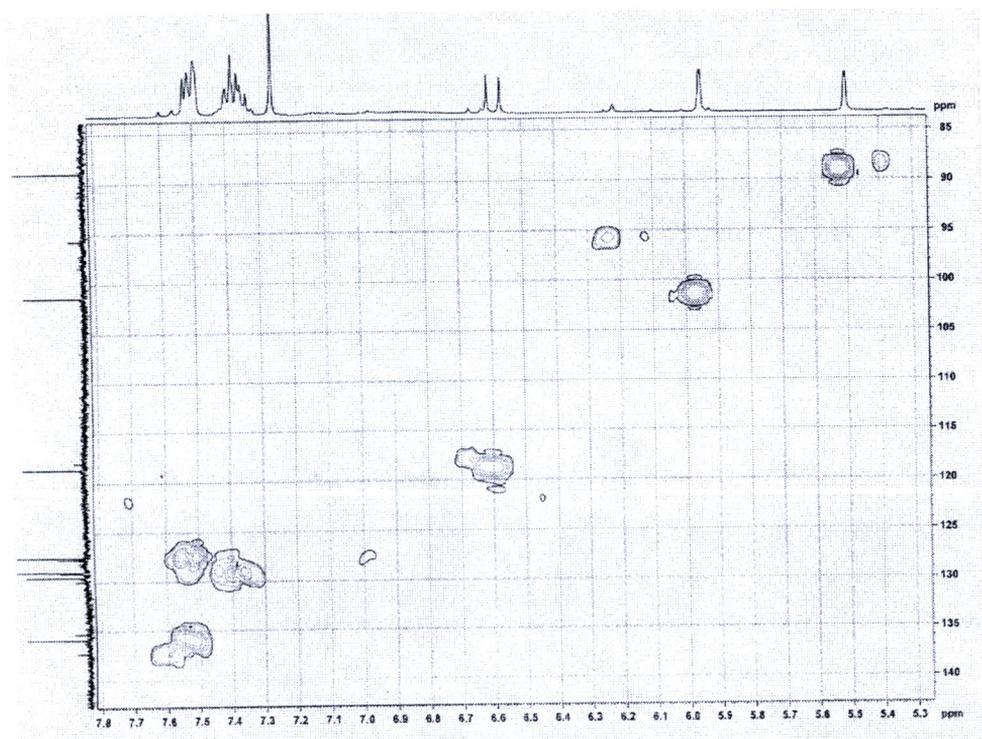


Figure 13 HMQC spectrum of (+)-nerolidol (21)

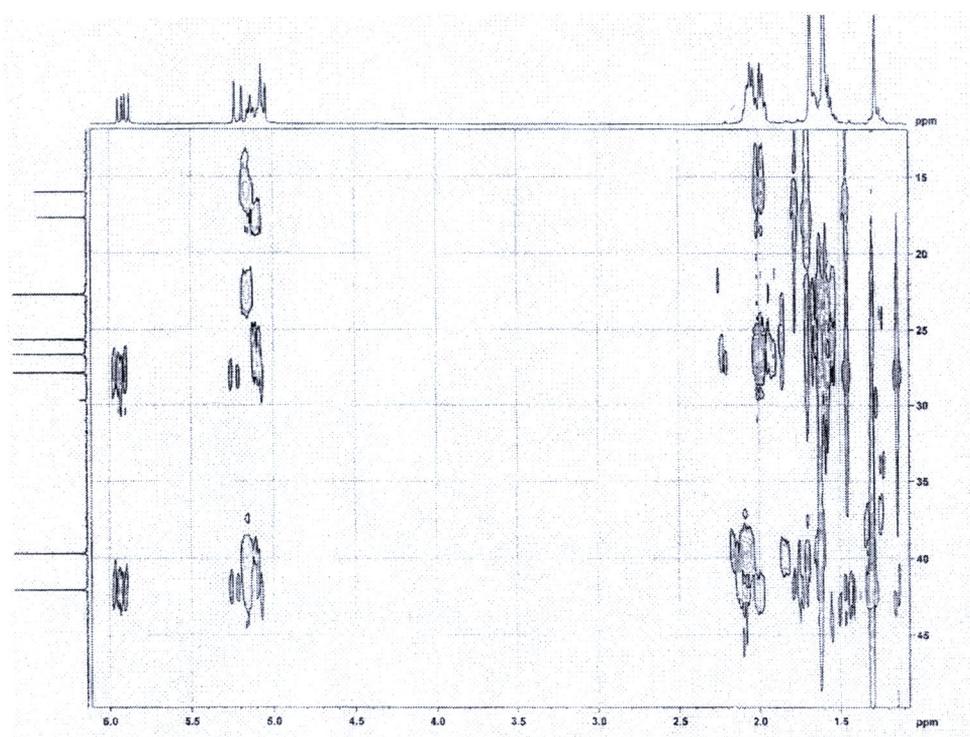


Figure 14 HMBC spectrum of (+)-nerolidol (21)

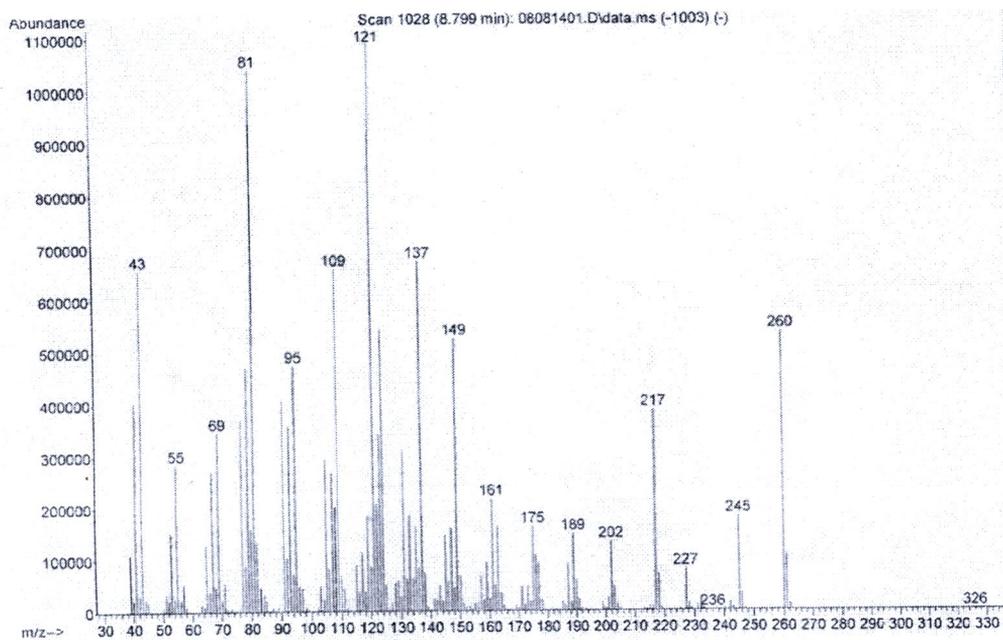


Figure 15 Mass spectra of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (**27**)

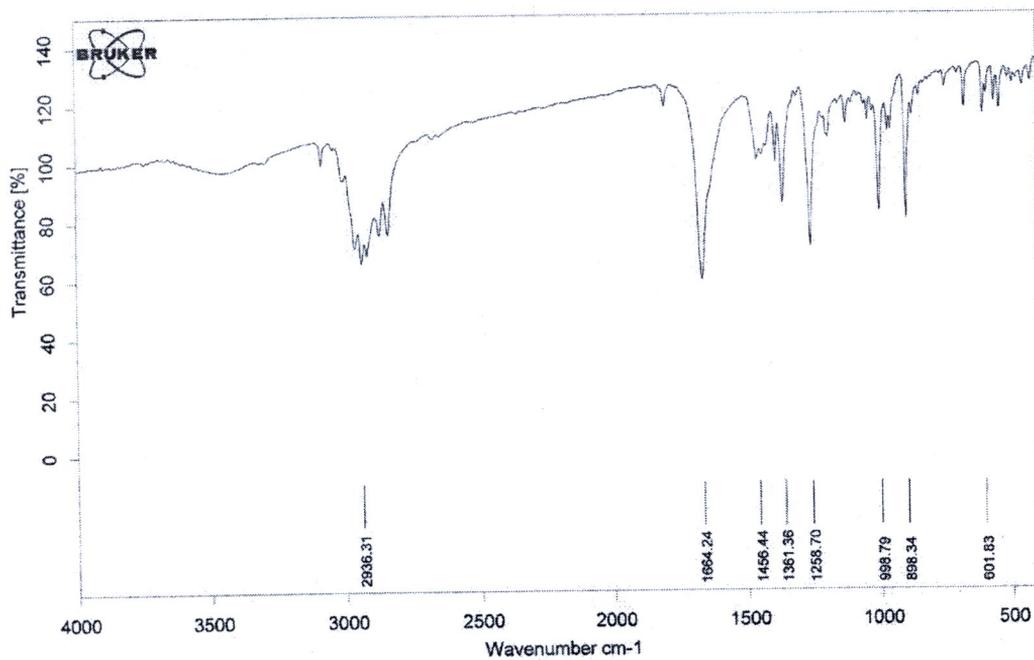


Figure 16 IR spectrum of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (**27**)

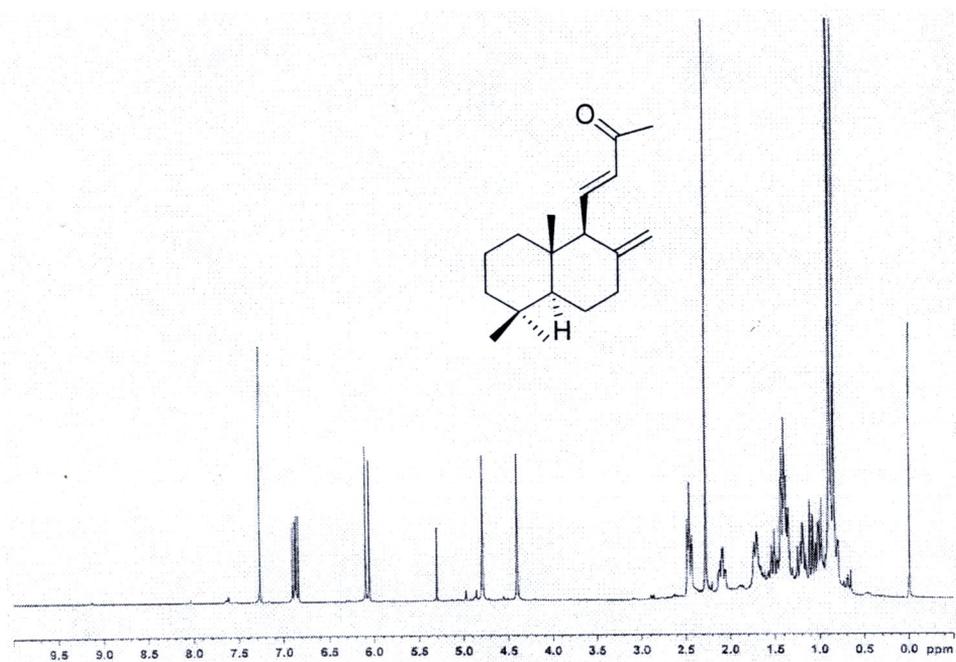


Figure 17 $^1\text{H-NMR}$ spectrum of (E) -15,16-bisnorlabda-8(17),11-dien-13-one (27)

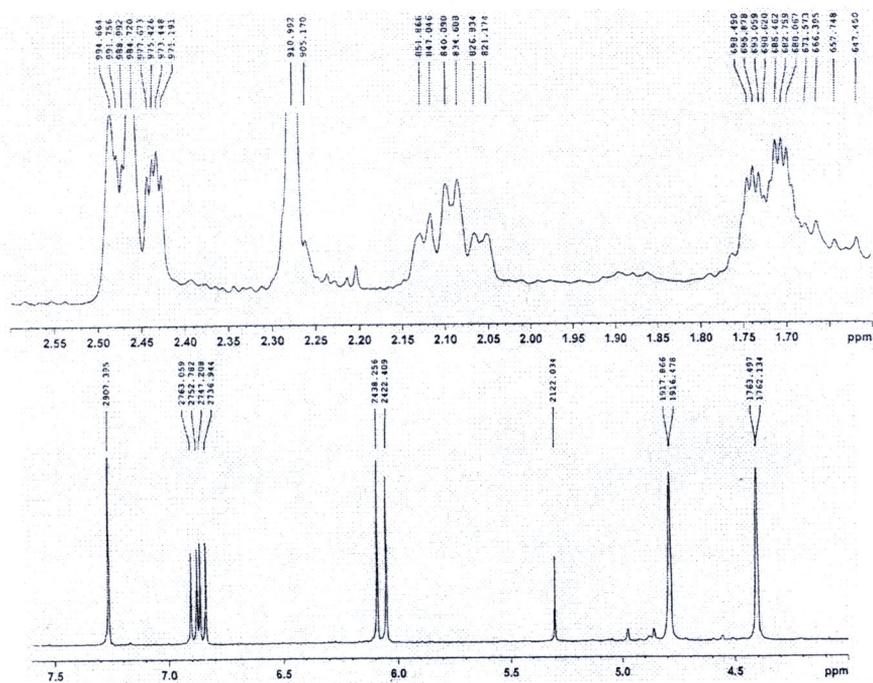


Figure 18 Expansion of $^1\text{H-NMR}$ spectrum of (E) -15,16-bisnorlabda-8(17),11-dien-13-one (27)

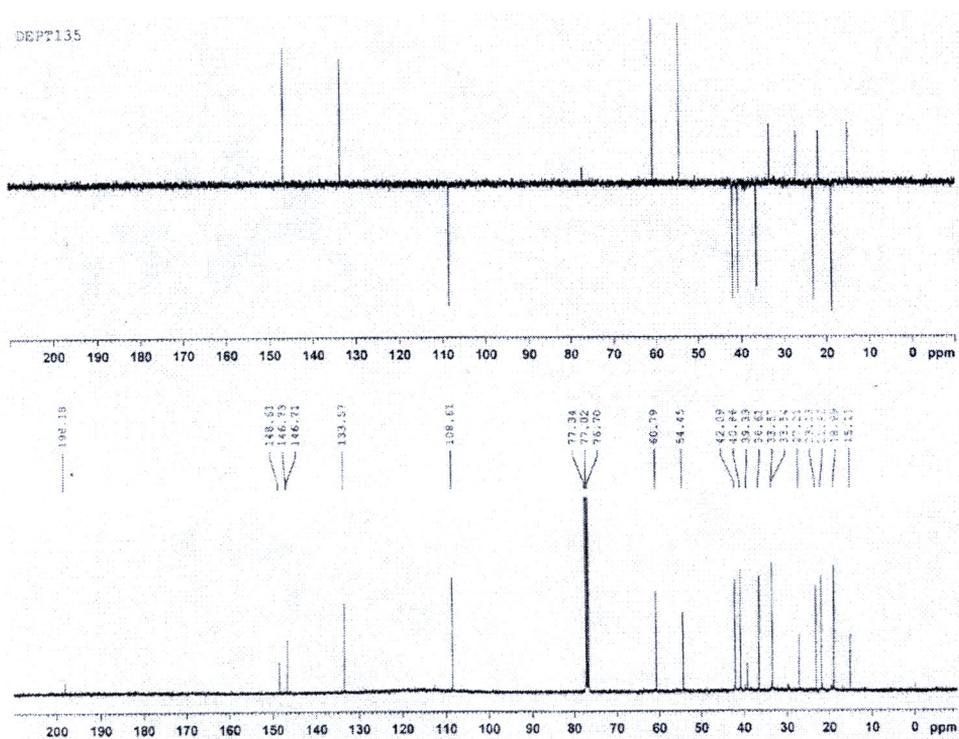


Figure 19 ^{13}C -NMR and DEPT 135 spectra of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (27)

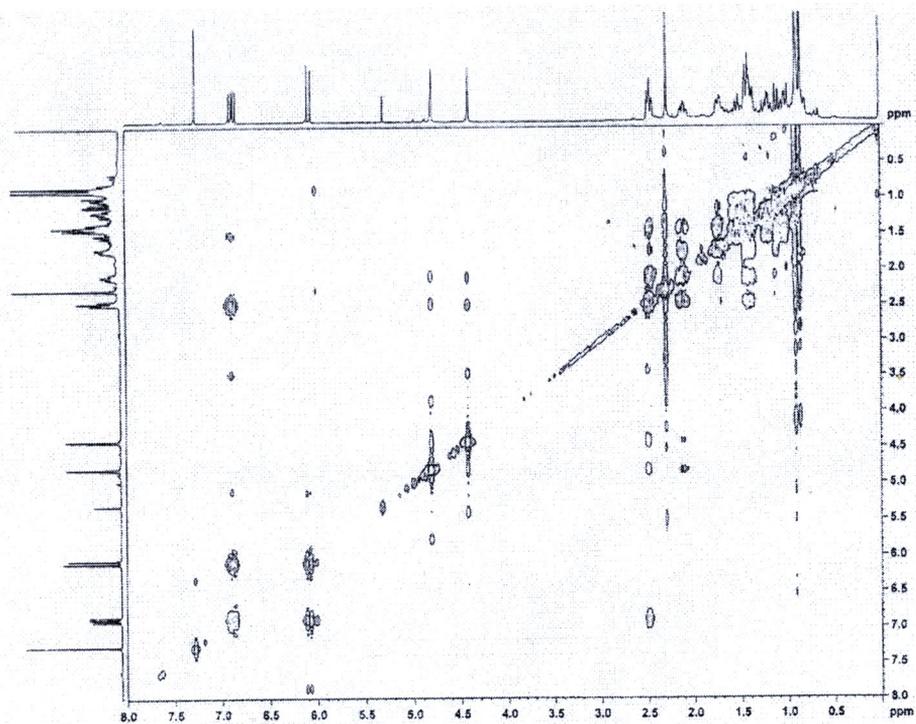


Figure 20 ^1H - ^1H COSY spectrum of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (27)

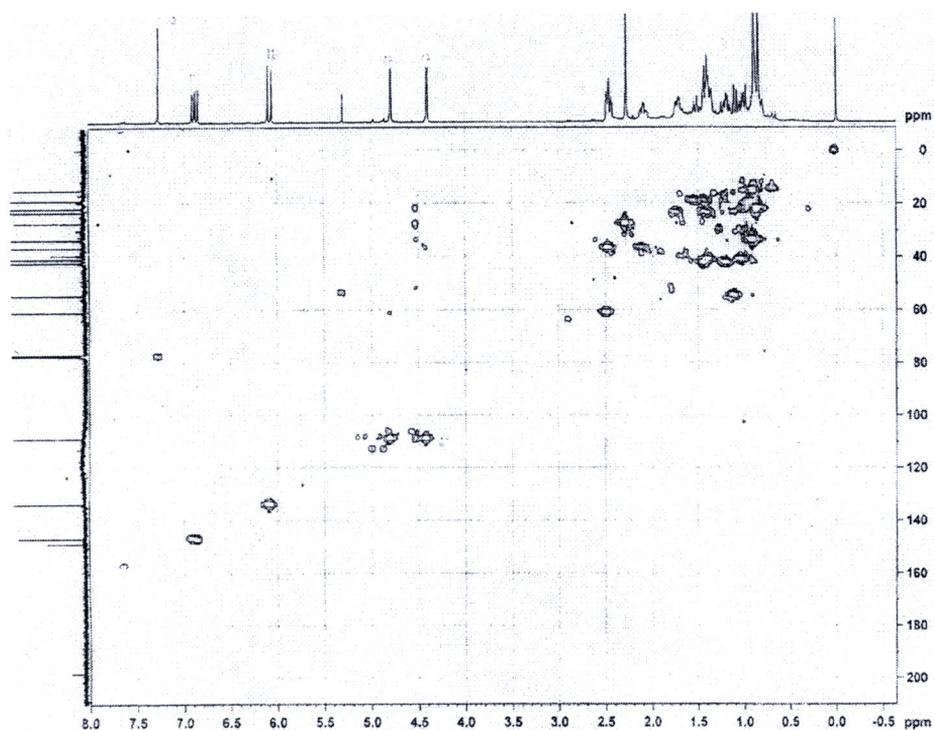


Figure 21 HMQC spectrum of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (**27**)

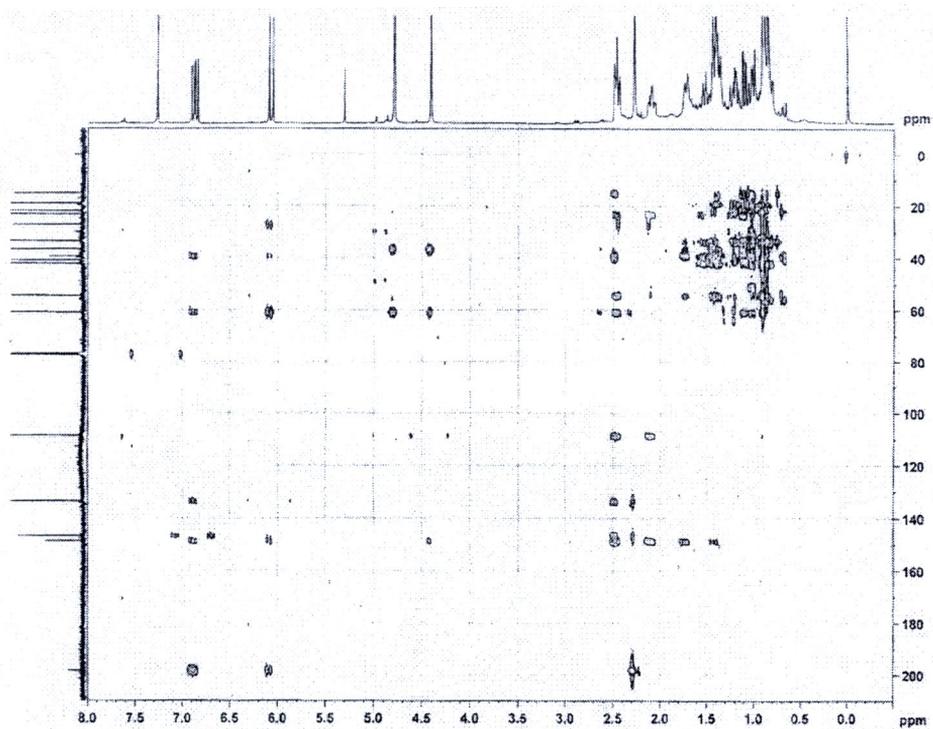


Figure 22 HMBC spectrum of (*E*)-15,16-bisnorlabda-8(17),11-dien-13-one (**27**)

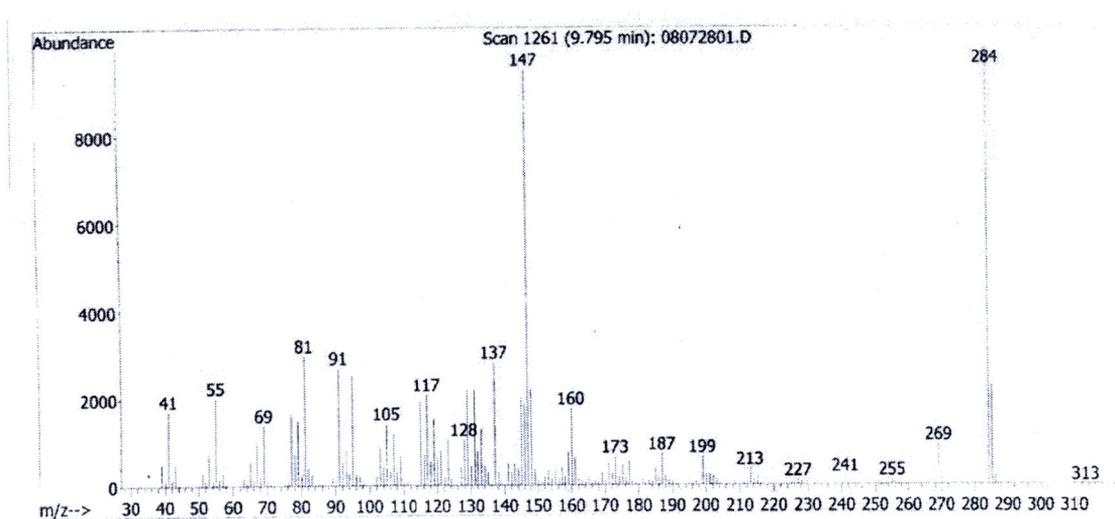


Figure 23 Mass spectra of coronarin E (61)

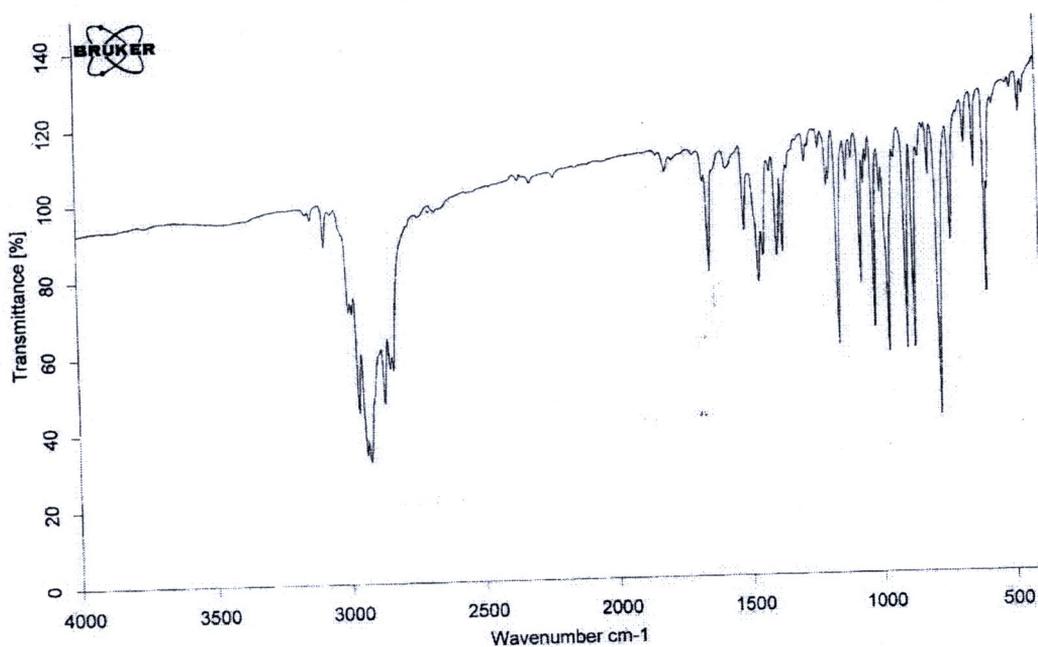


Figure 24 IR spectrum of coronarin E (61)

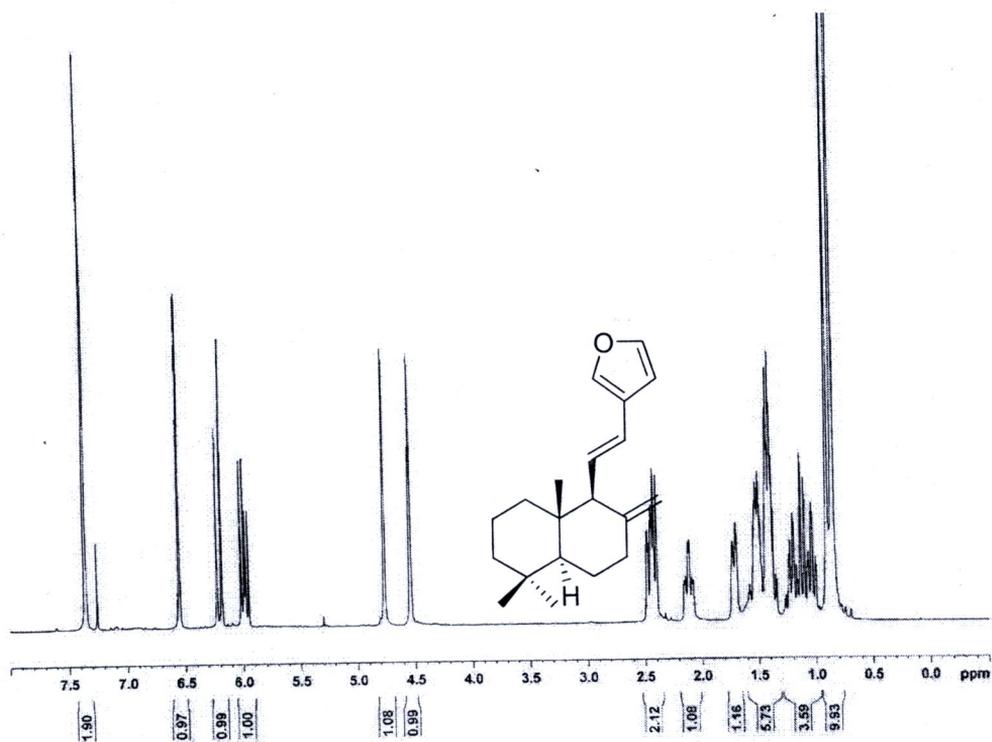


Figure 25 $^1\text{H-NMR}$ spectrum of coronarin E (61)

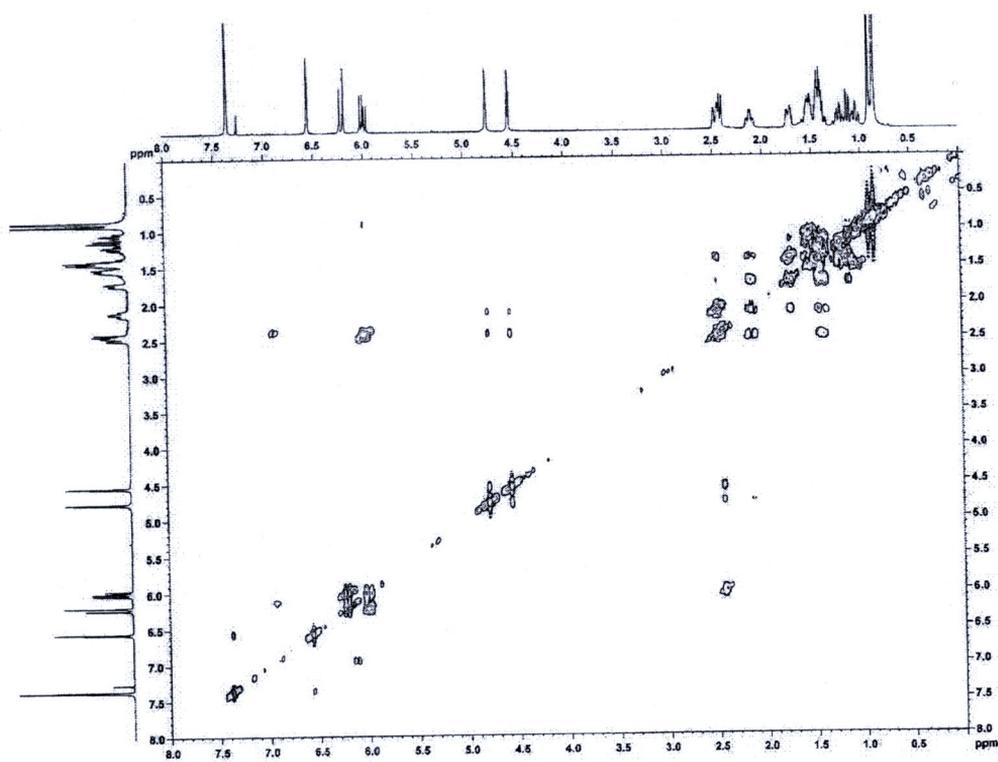


Figure 26 Expansion of $^1\text{H-NMR}$ spectrum of coronarin E (61)

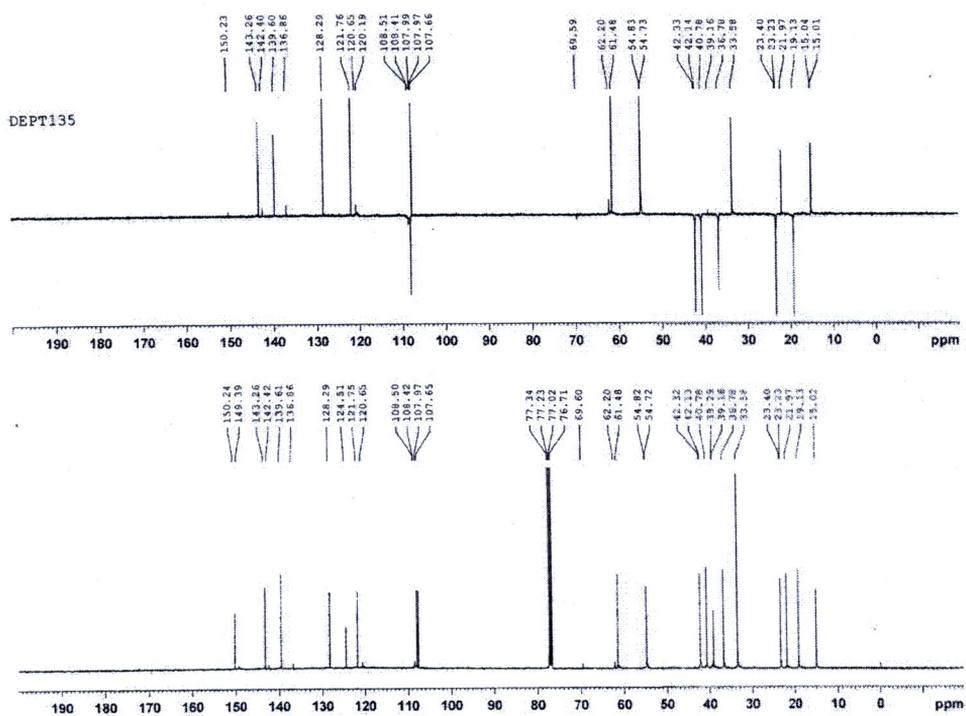


Figure 27 ^{13}C -NMR and DEPT 135 spectra of coronarin E (61)

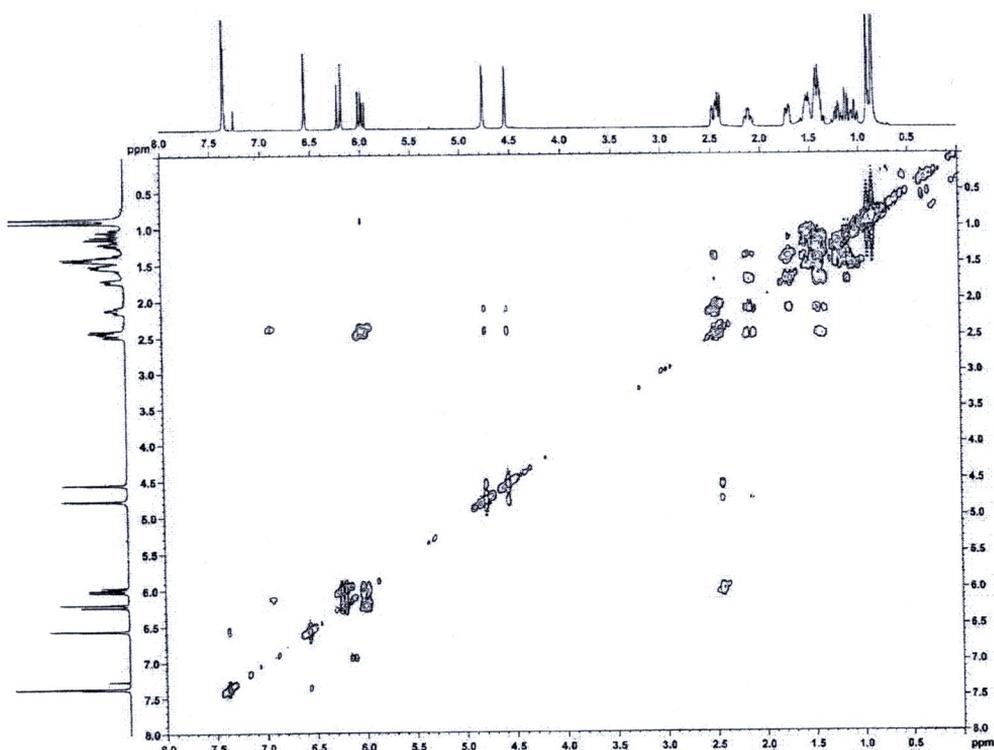


Figure 28 HMQC spectrum of coronarin E (61)

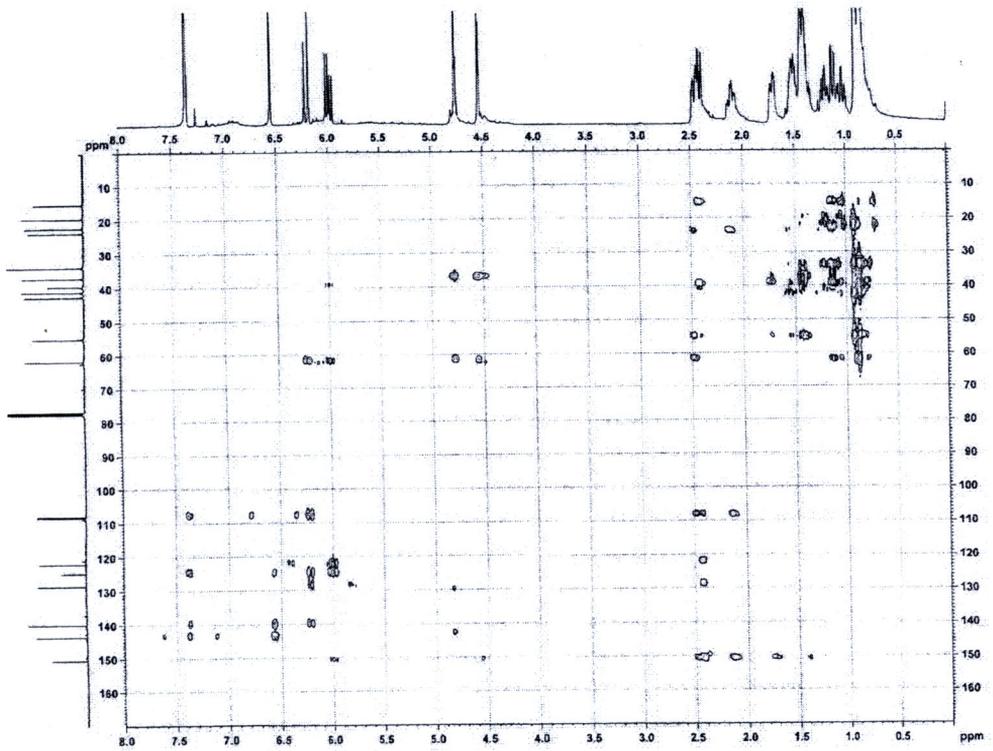


Figure 29 HMBC spectrum of coronarin E (61)

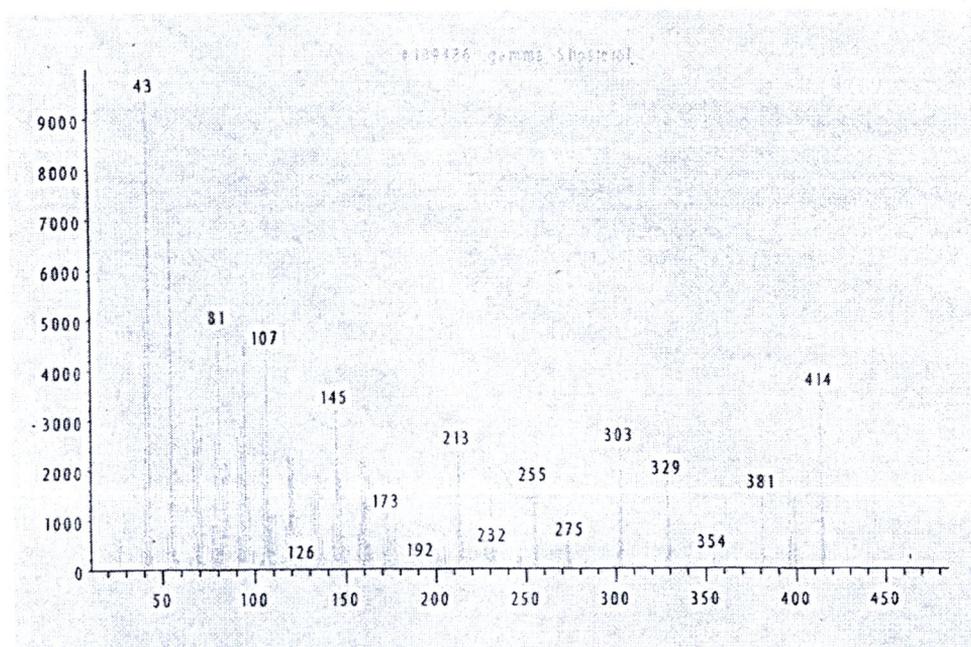


Figure 30 Mass spectra of β -sitosterol (62)

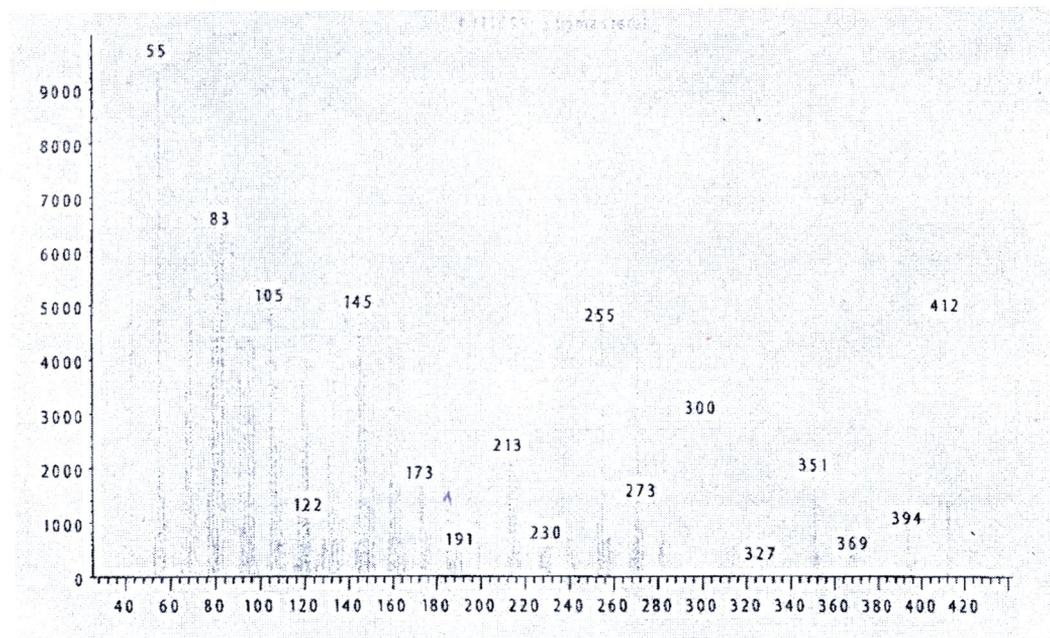


Figure 31 Mass spectra of stigmasterol (63)

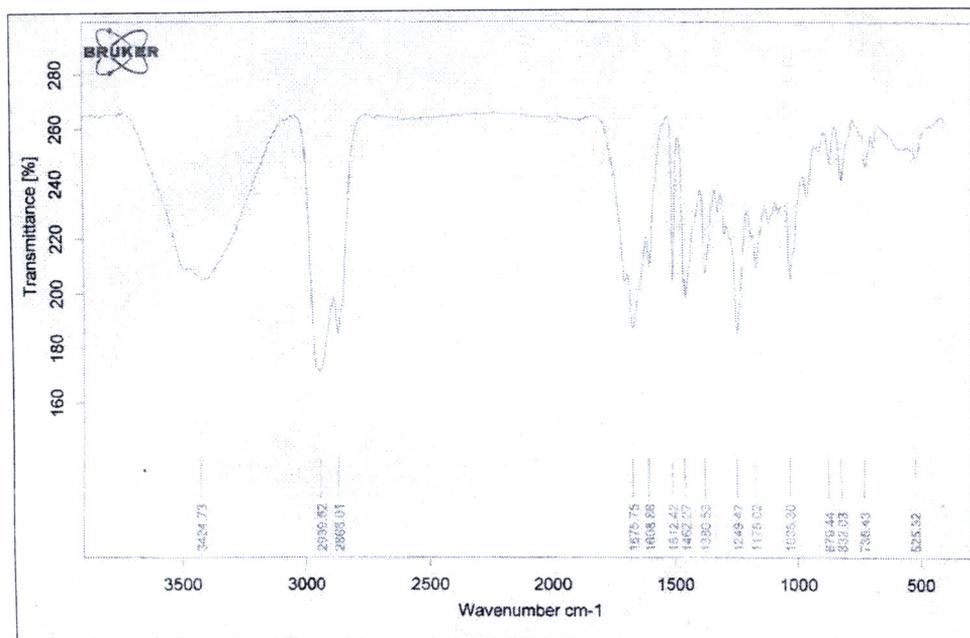


Figure 32 IR spectrum of β -sitosterol (62) and stigmasterol (63)

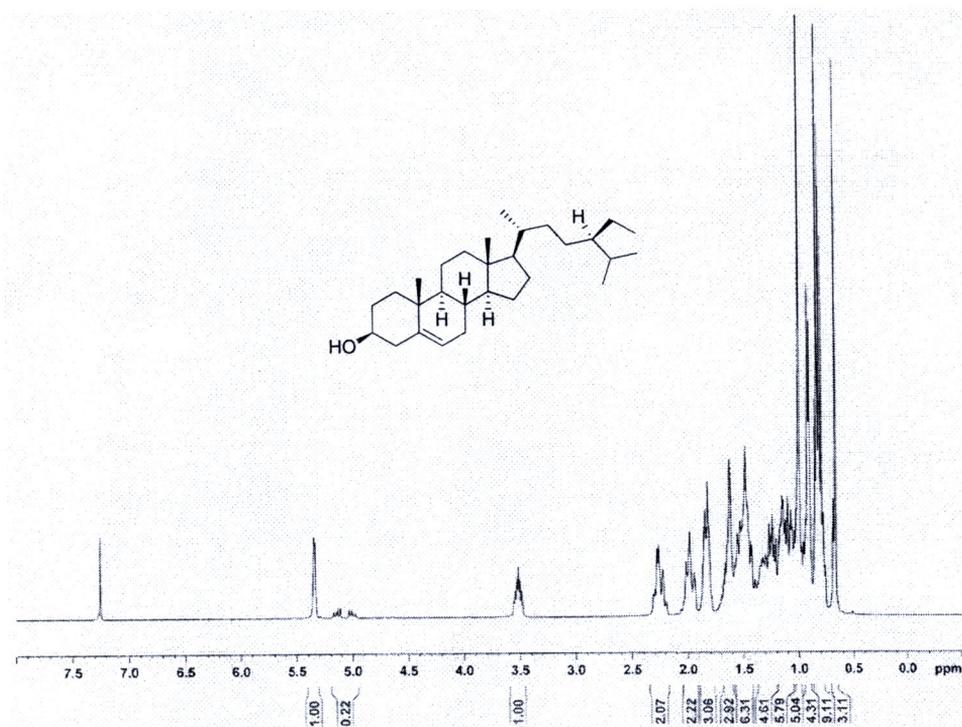


Figure 33 $^1\text{H-NMR}$ spectrum of β -sitosterol (62) and stigmasterol (63)

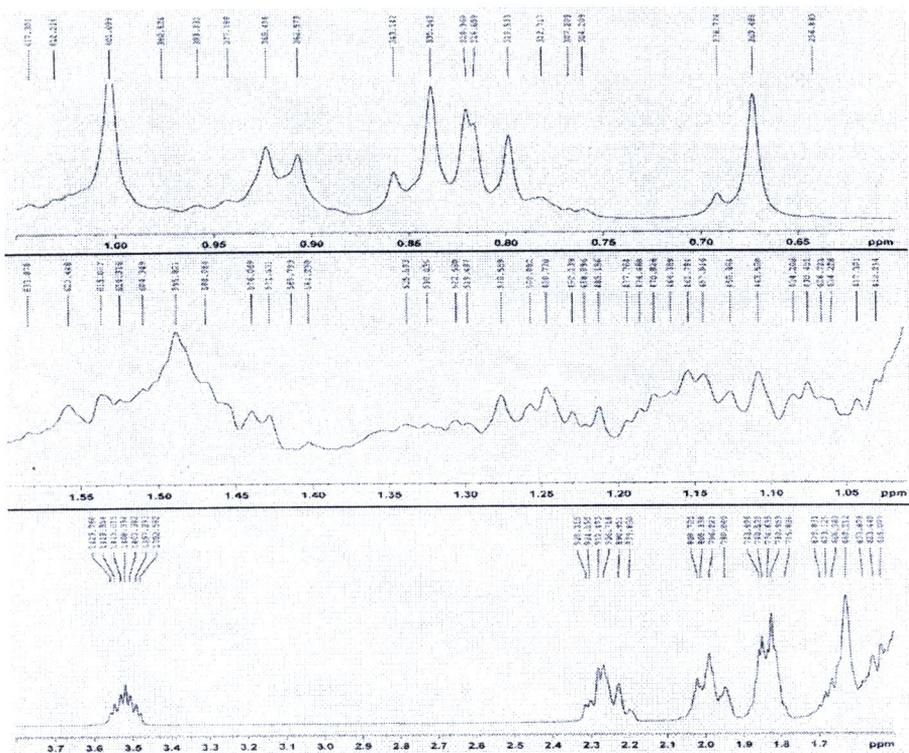


Figure 34 Expansion of ^1H -NMR spectrum of β -sitosterol (**62**) and stigmasterol (**63**)

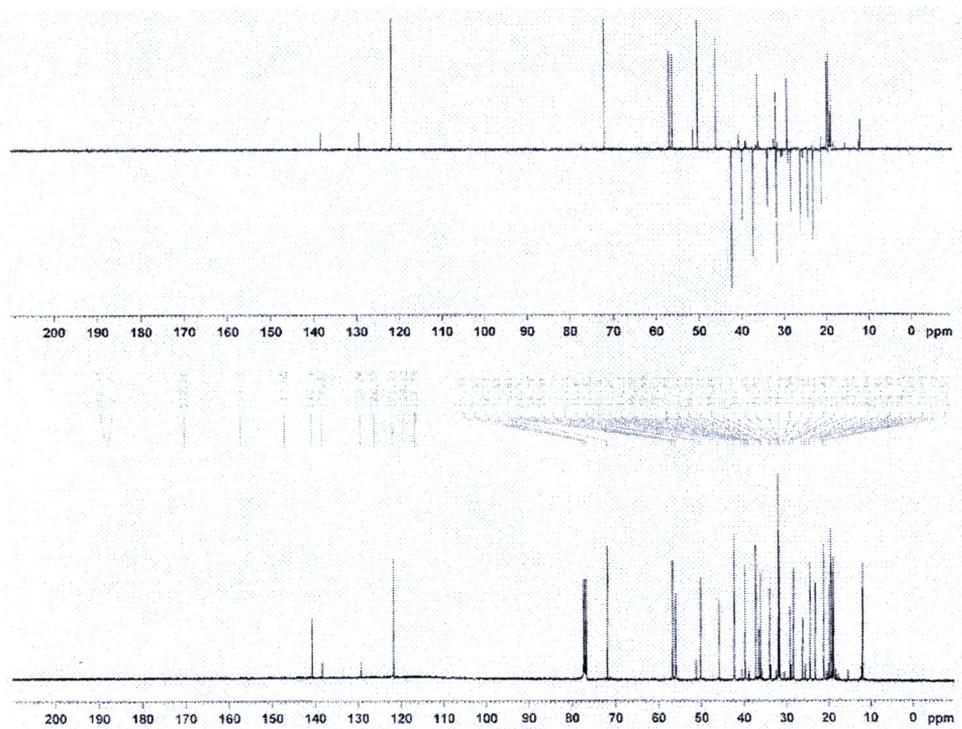


Figure 35 ^{13}C -NMR and DEPT 135 spectra of β -sitosterol (**62**) and stigmasterol (**63**)

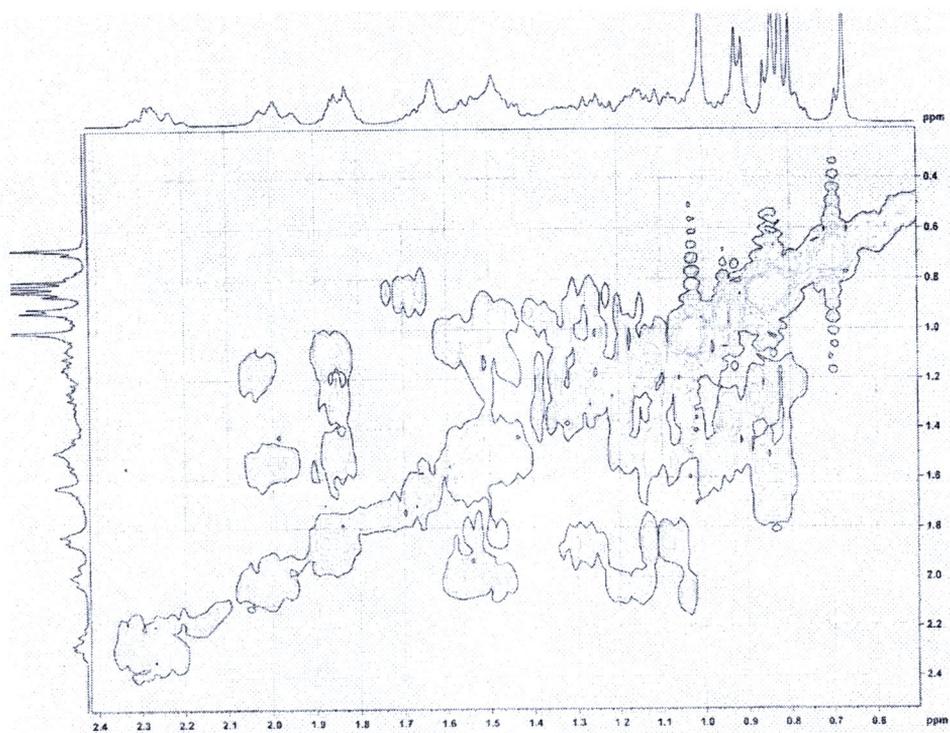


Figure 36 ^1H - ^1H COSY spectrum of β -sitosterol (**62**) and stigmasterol (**63**)

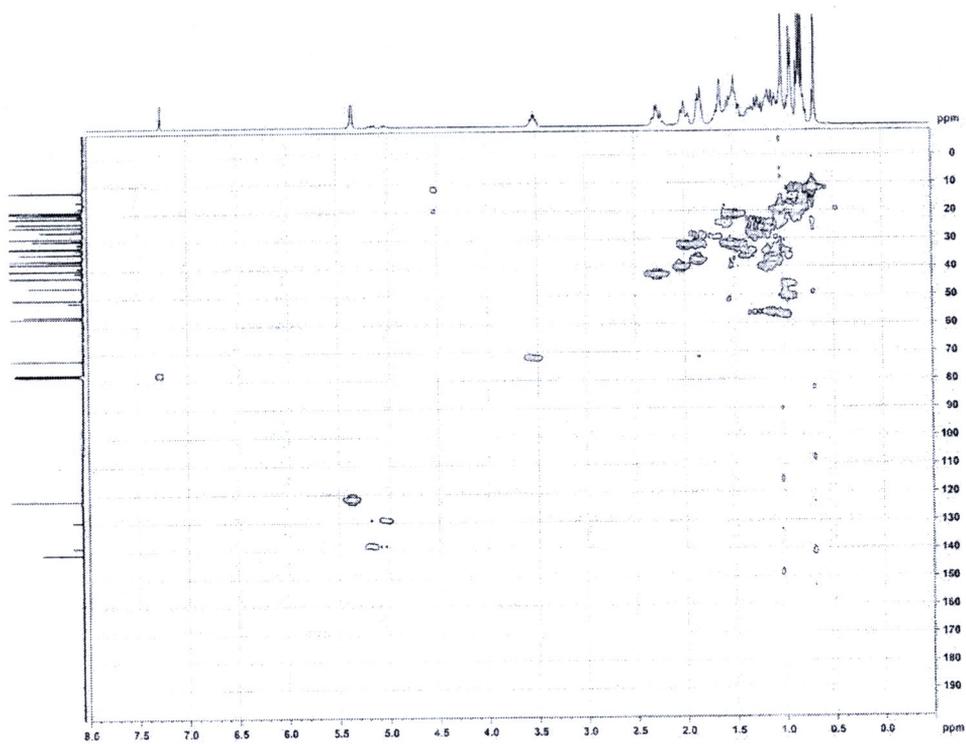


Figure 37 HMQC spectrum of β -sitosterol (**62**) and stigmasterol (**63**)

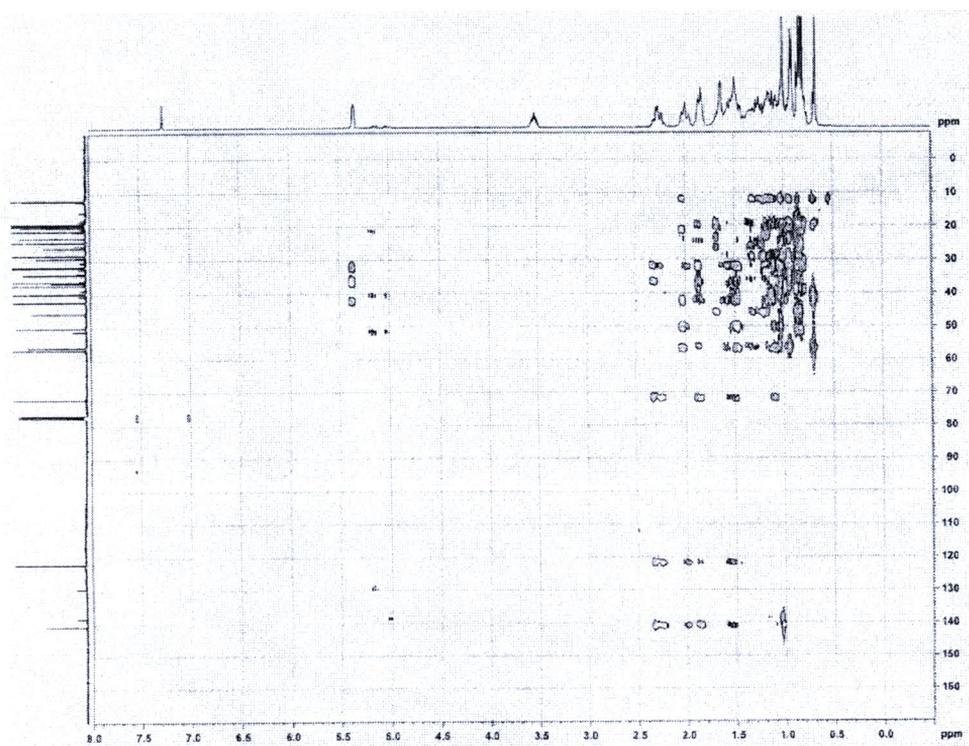


Figure 38 HMBC spectrum of β -sitosterol (**62**) and stigmasterol (**63**)

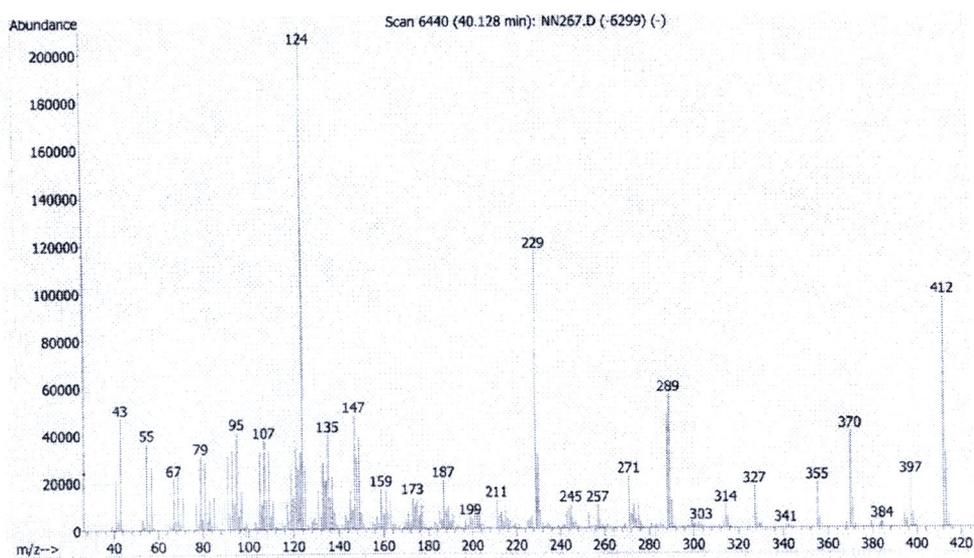


Figure 39 Mass spectra of stigmast-4-en-3-one (64)

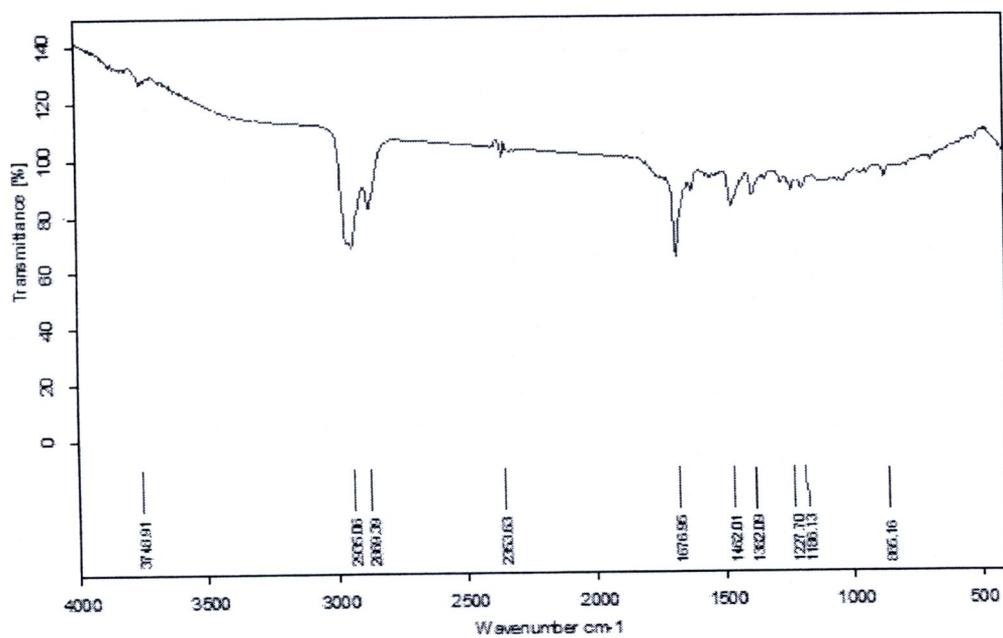


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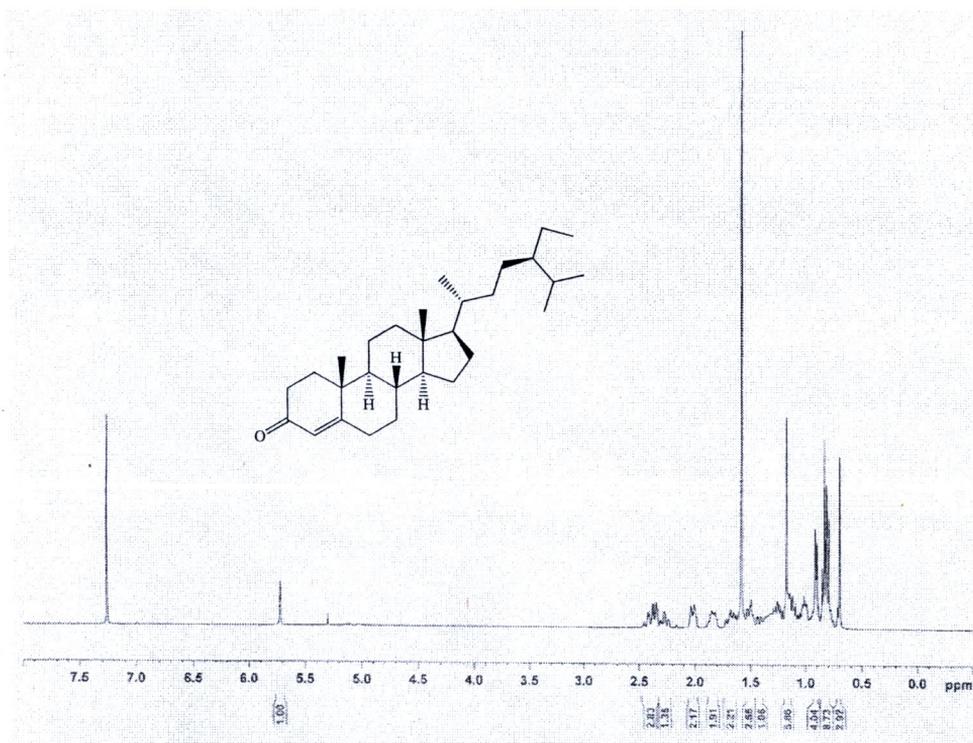


Figure 41 $^1\text{H-NMR}$ spectrum of stigmast-4-en-3-one (64)

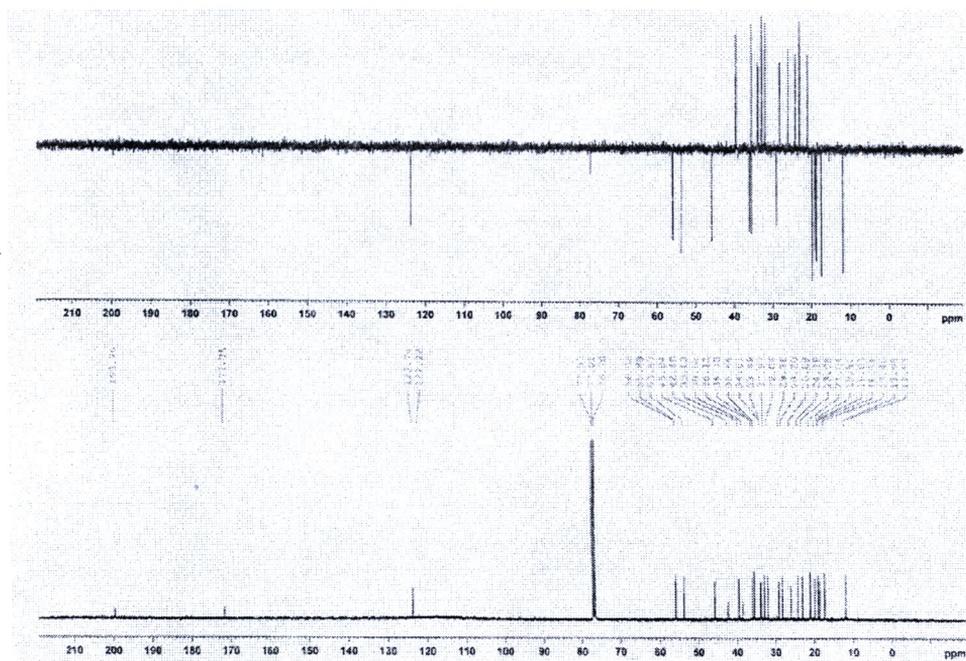


Figure 42 $^{13}\text{C-NMR}$ and DEPT 135 spectra of stigmast-4-en-3-one (64)

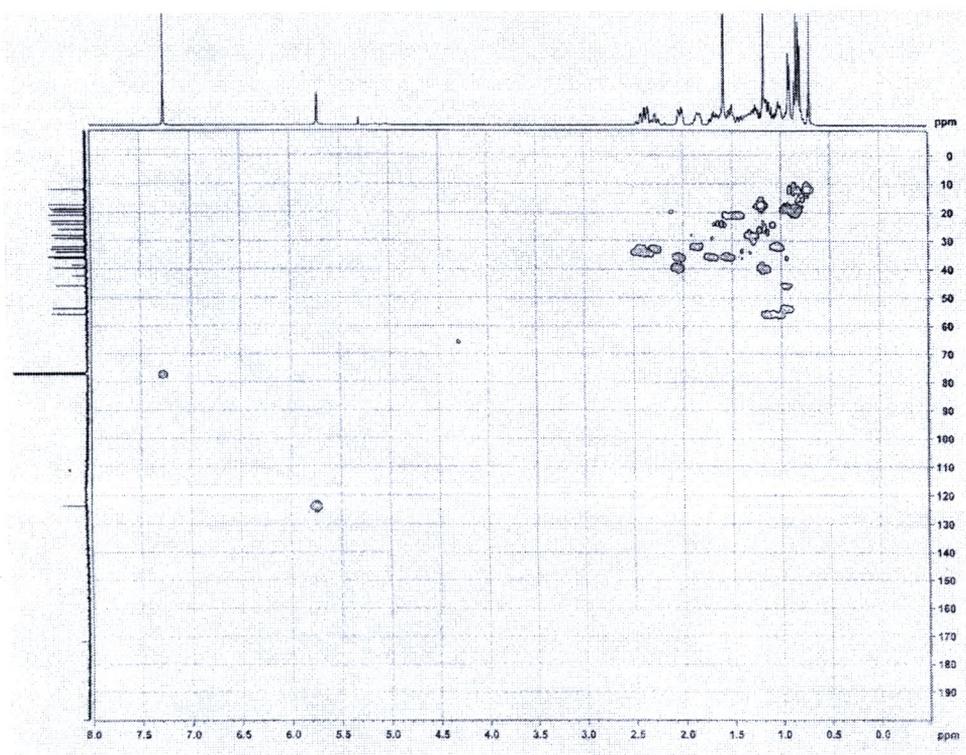


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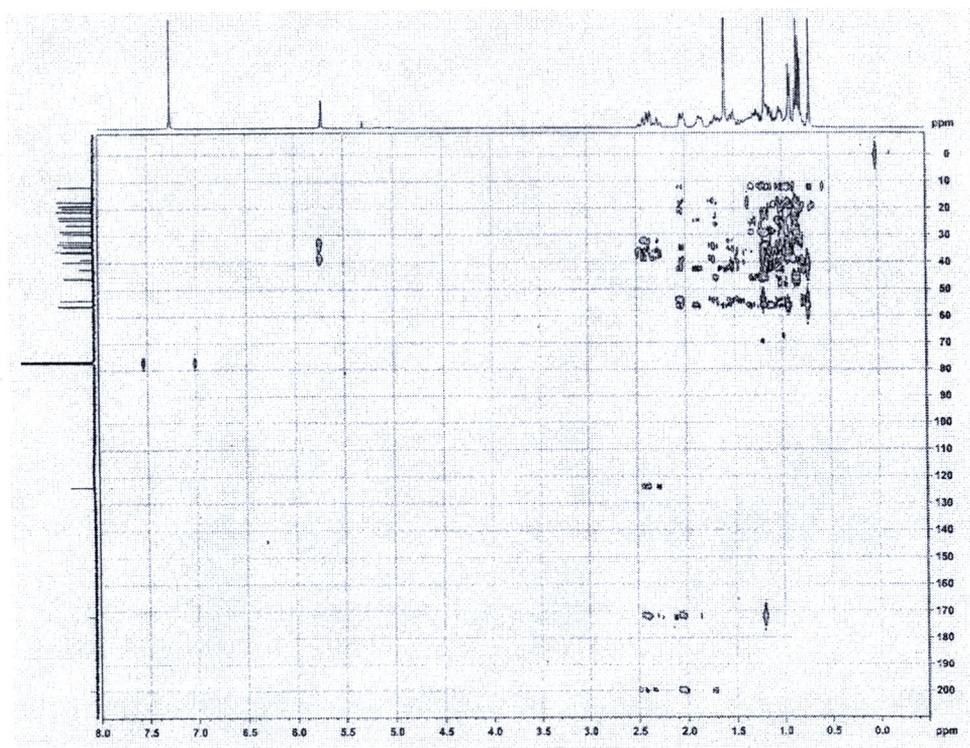


Figure 44 HMBC spectrum of stigmast-4-en-3-one (64)

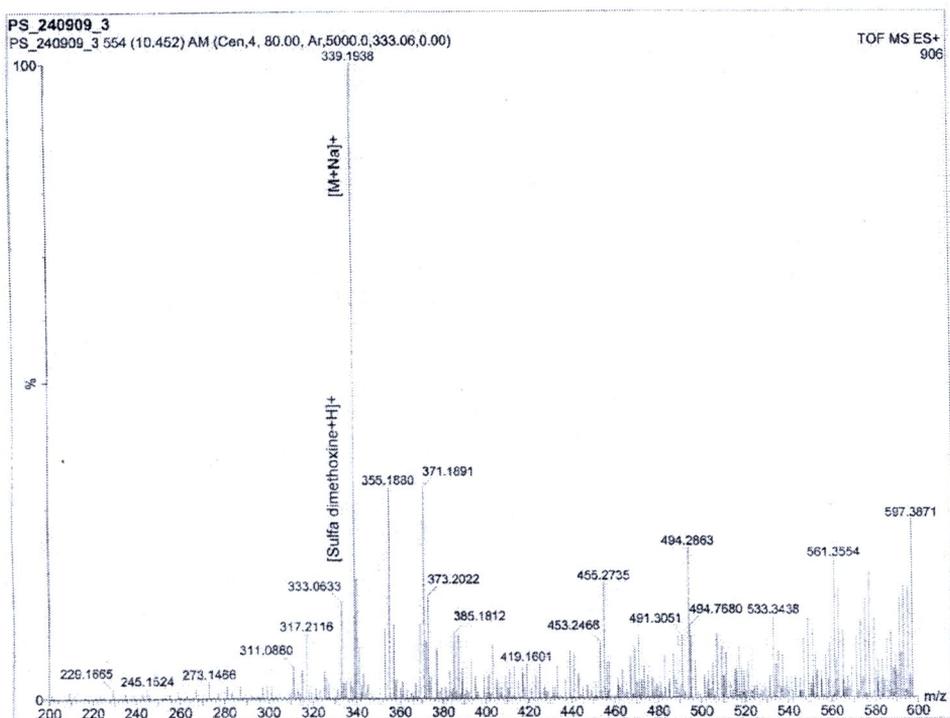


Figure 45 Mass spectra of 16-hydroxylabda-8(17),11,13-trien-15,16-olide (**65**)

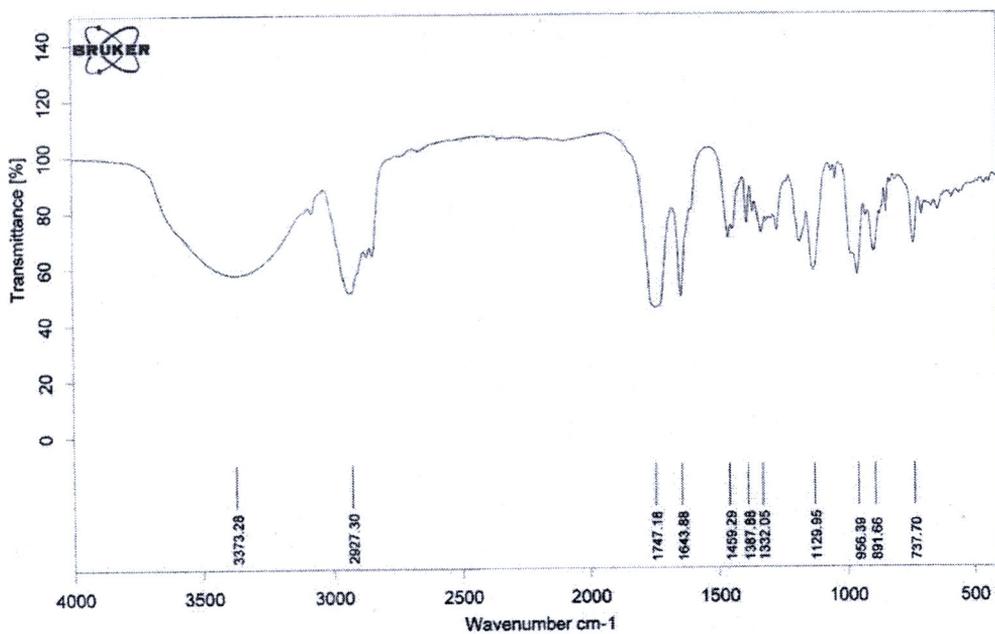


Figure 46 IR spectrum of 16-hydroxylabda-8(17),11,13-trien-15,16-olide (**65**)

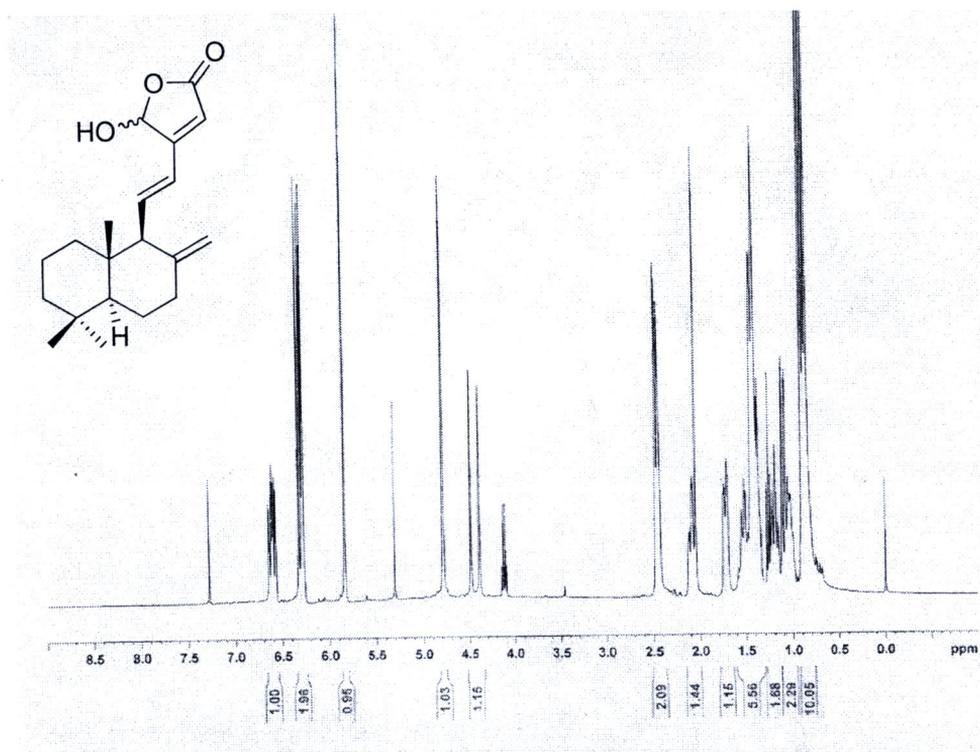


Figure 47 ¹H-NMR spectrum of 16-hydroxyabda-8(17),11,13-trien-15,16-olide (65)

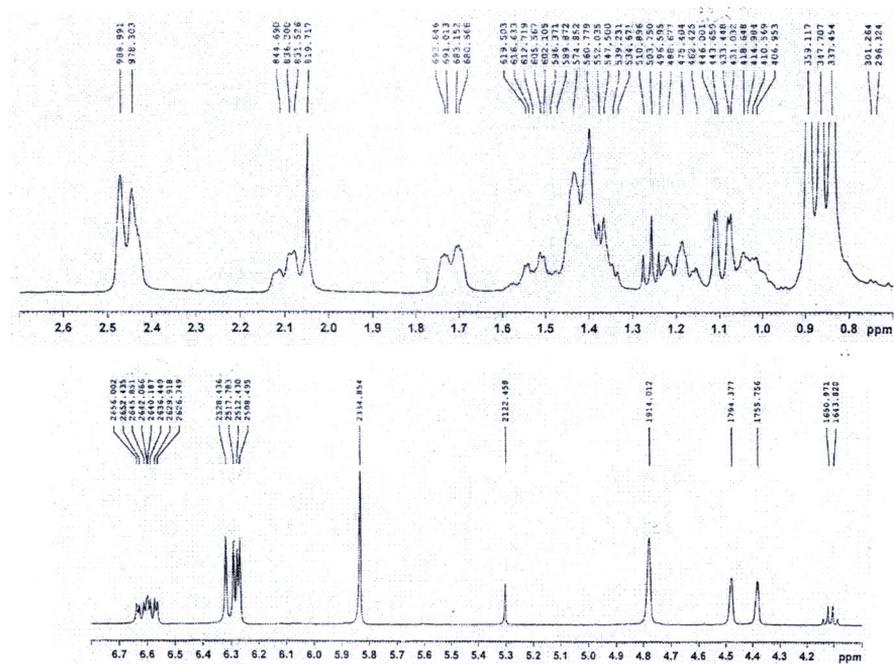


Figure 48 Expansion of ¹H-NMR spectrum of 16-hydroxyabda-8(17),11,13-trien-15,16-olide (65)

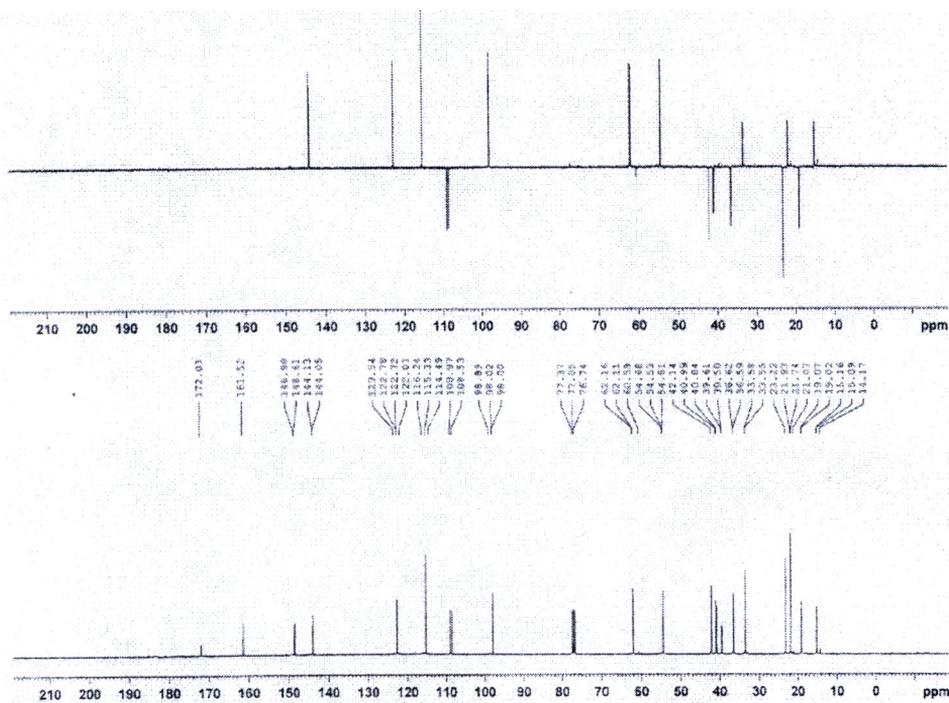


Figure 49 ^{13}C -NMR and DEPT 135 spectra of 16-hydroxyabda-8(17),11,13-trien-15,16-olide (**65**)

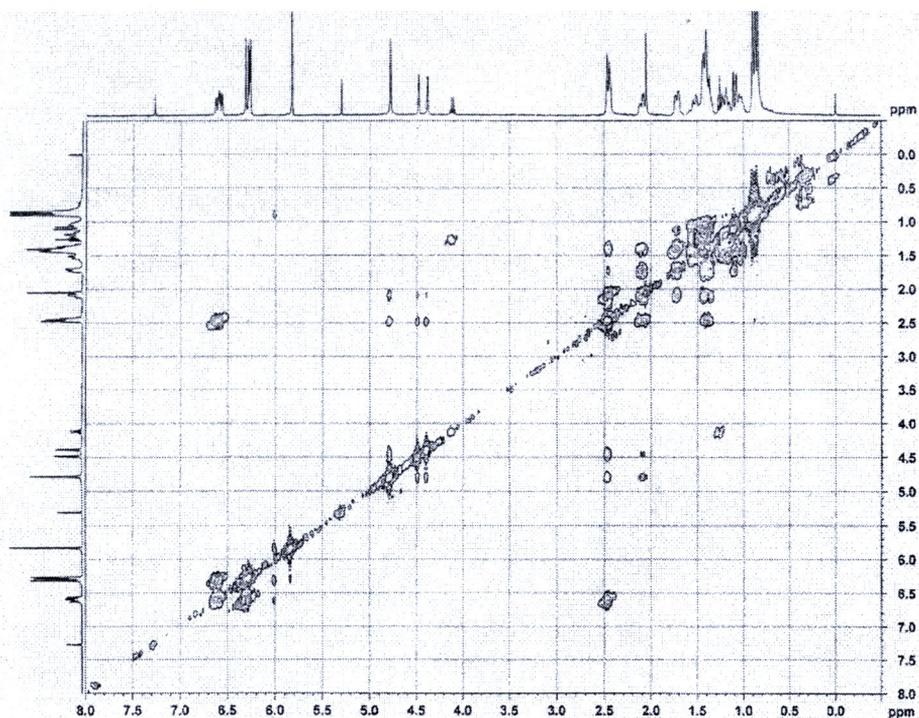


Figure 50 ^1H - ^1H COSY spectrum of 16-hydroxyabda-8(17),11,13-trien-15,16-olide (**65**)

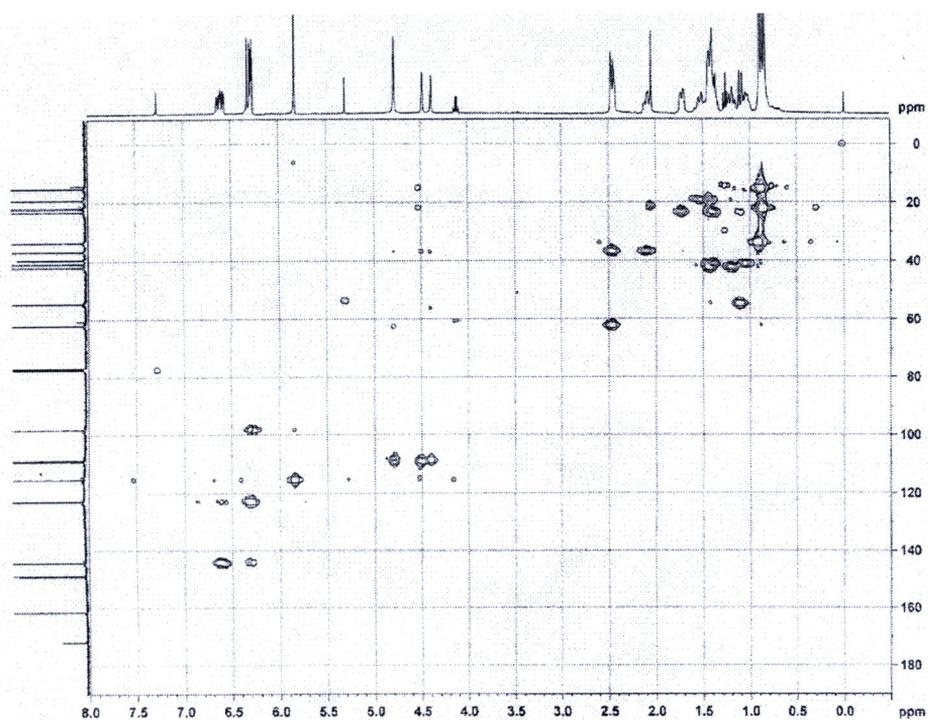


Figure 51 HMBC spectrum of 16-hydroxylabda-8(17),11,13-trien-15,16-olide (**65**)

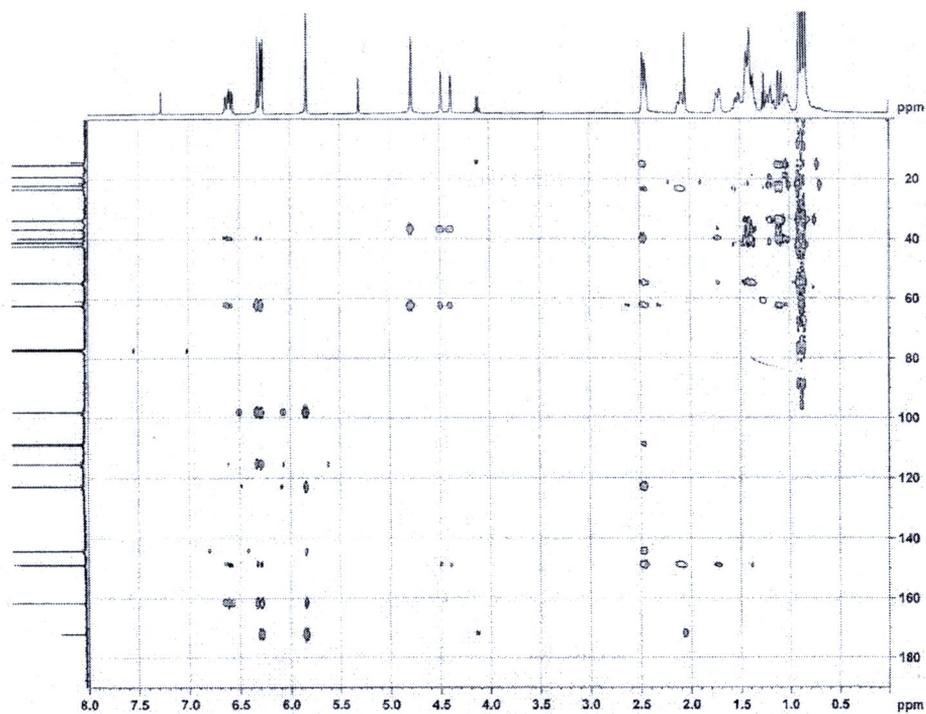


Figure 52 HMBC spectrum of 16-hydroxylabda-8(17),11,13-trien-15,16-olide (**65**)

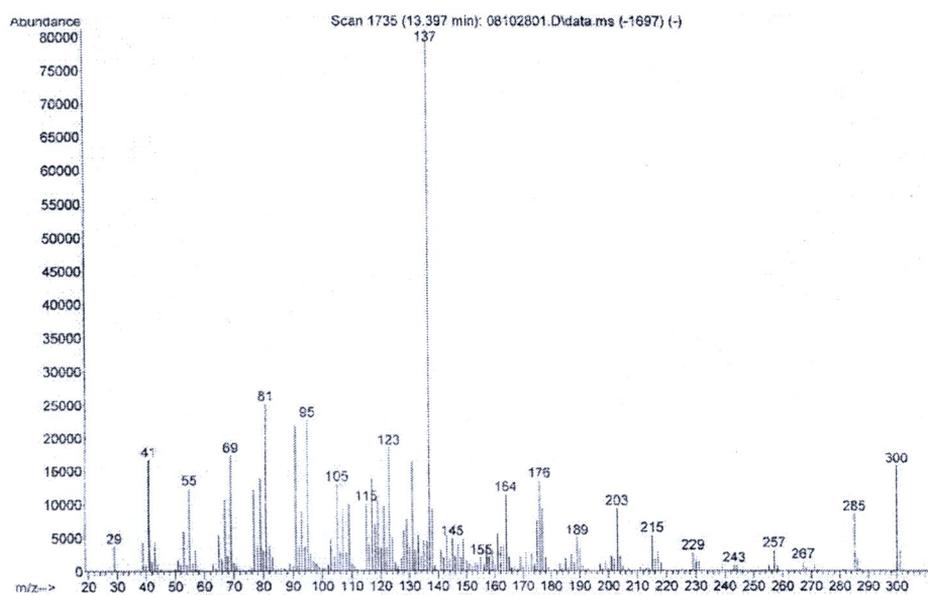


Figure 53 Mass spectrum of villosin (**66**)

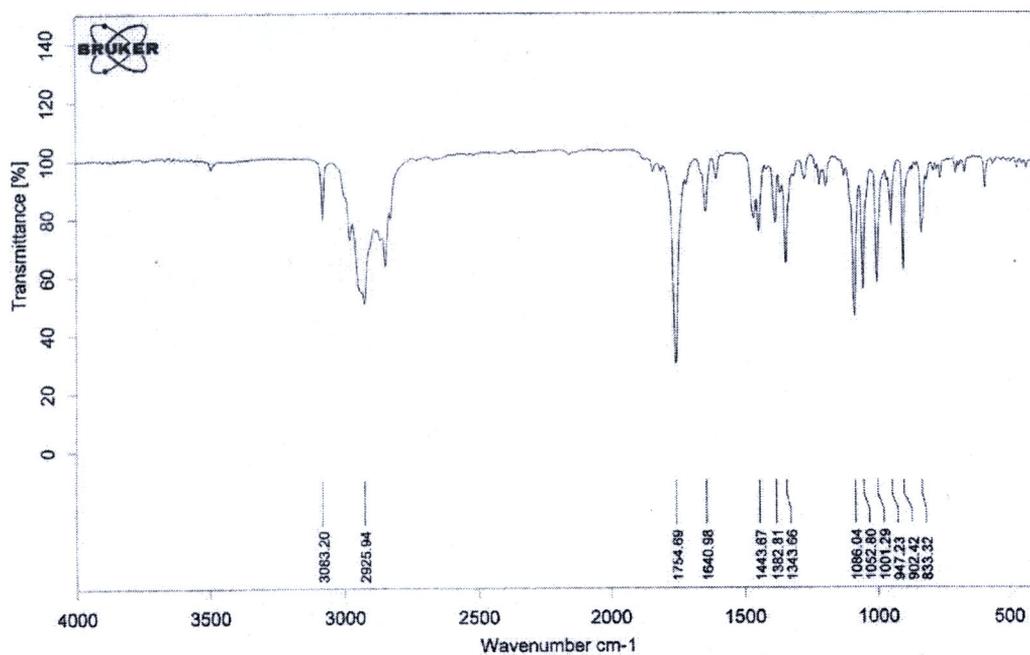


Figure 54 IR spectrum of villosin (**66**)

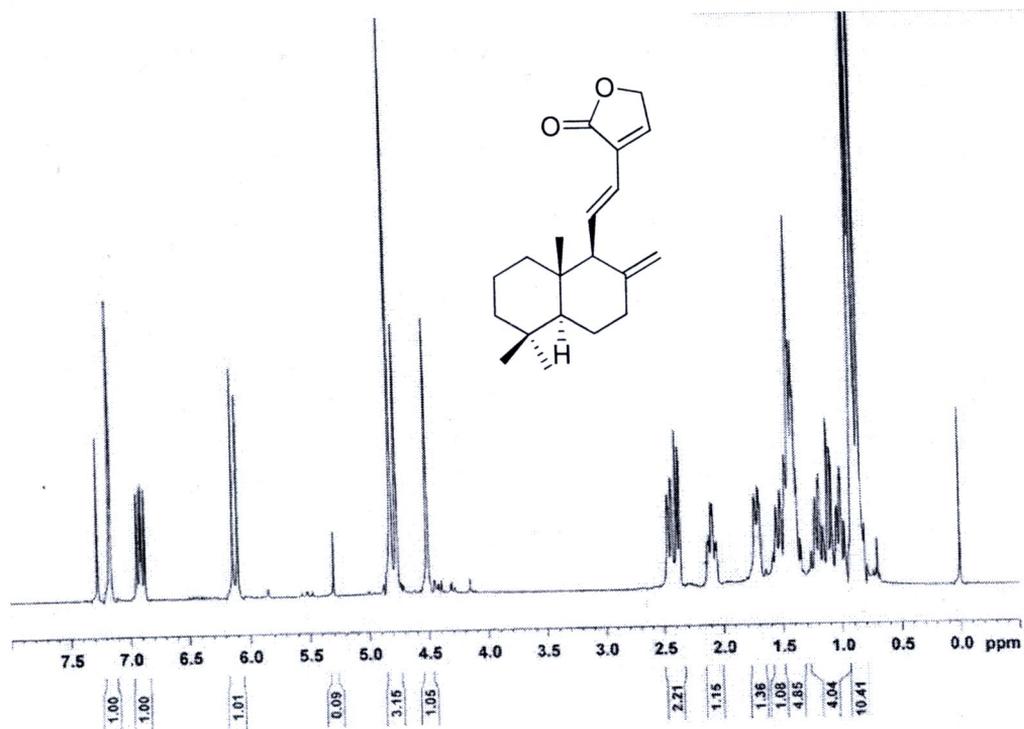


Figure 55 $^1\text{H-NMR}$ spectrum of villosin (66)

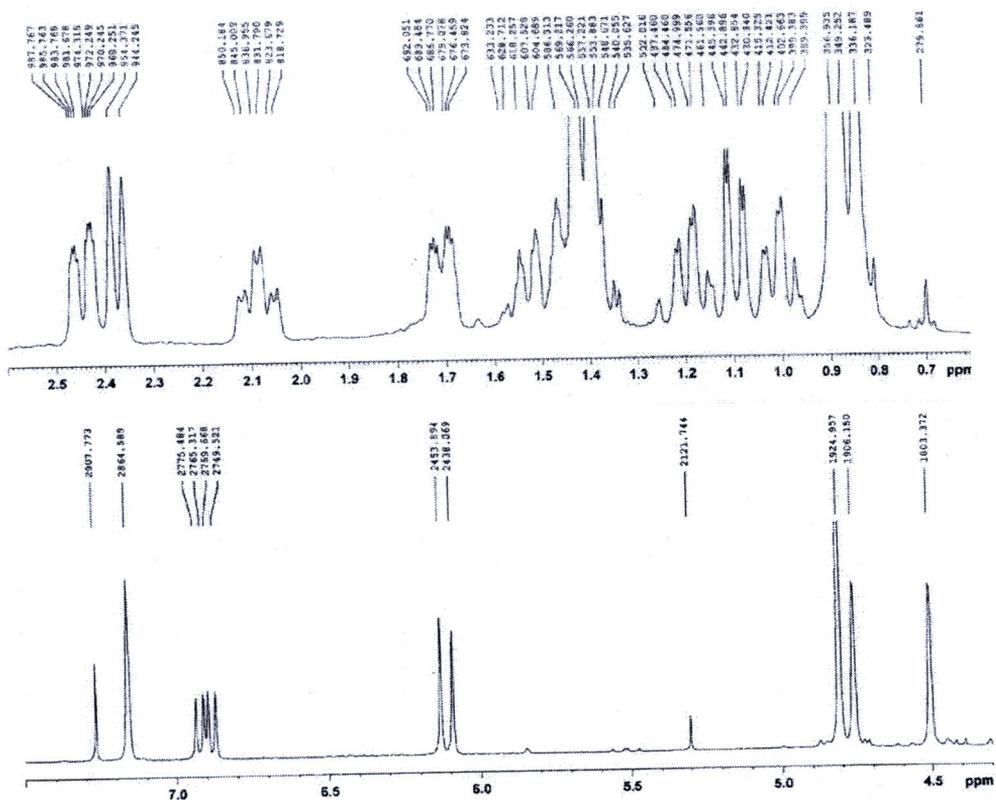


Figure 56 Expansion of $^1\text{H-NMR}$ spectrum of villosin (66)

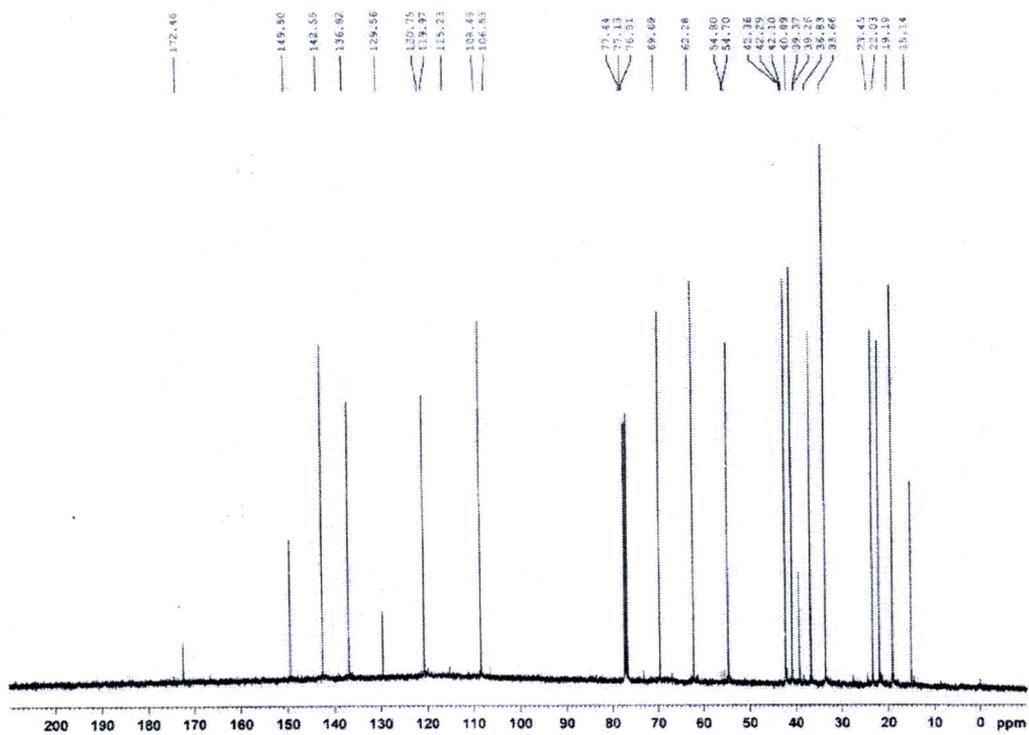


Figure 57 ^{13}C -NMR spectrum of villosin (66)

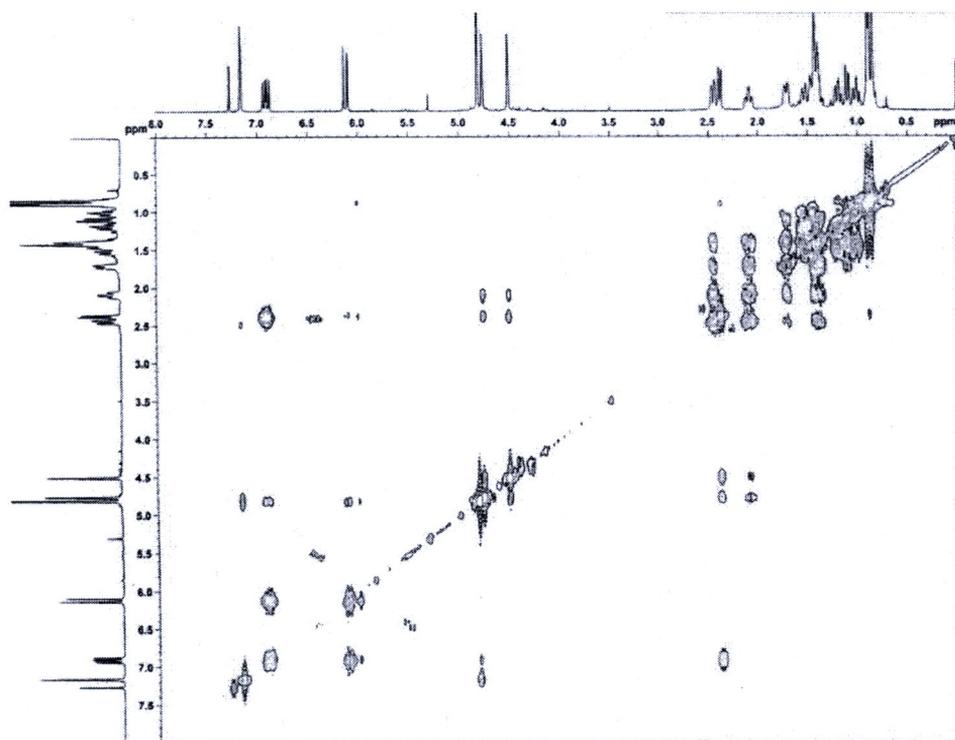


Figure 58 ^1H - ^1H COSY spectrum of villosin (66)

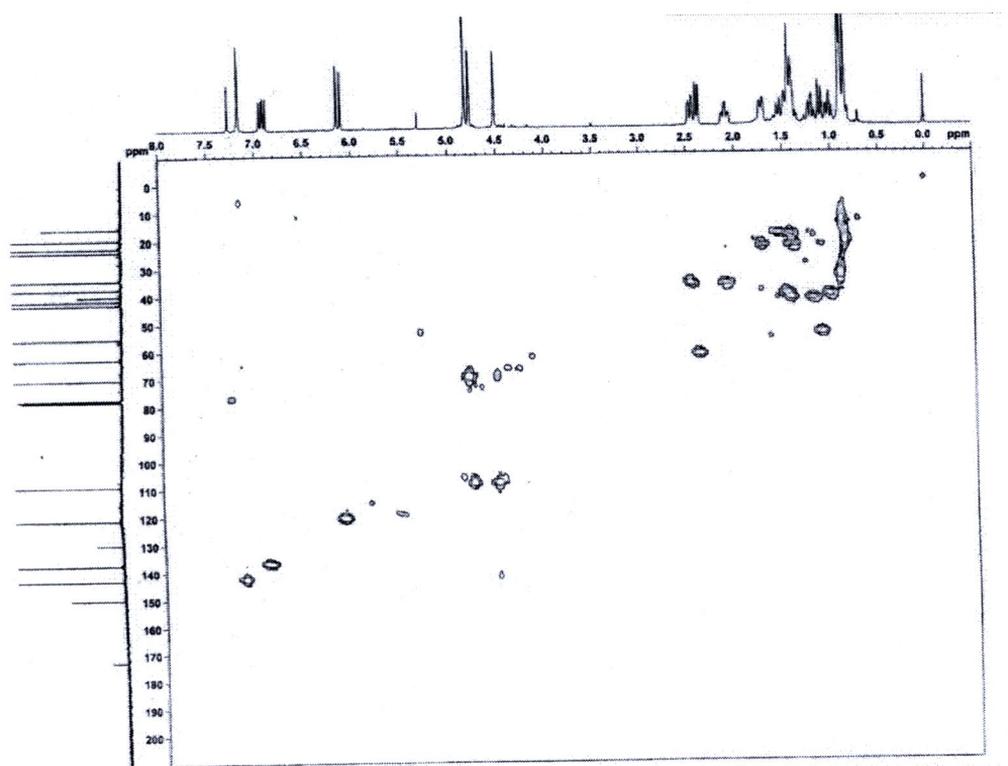


Figure 59 HMQC spectrum of villosin (59)

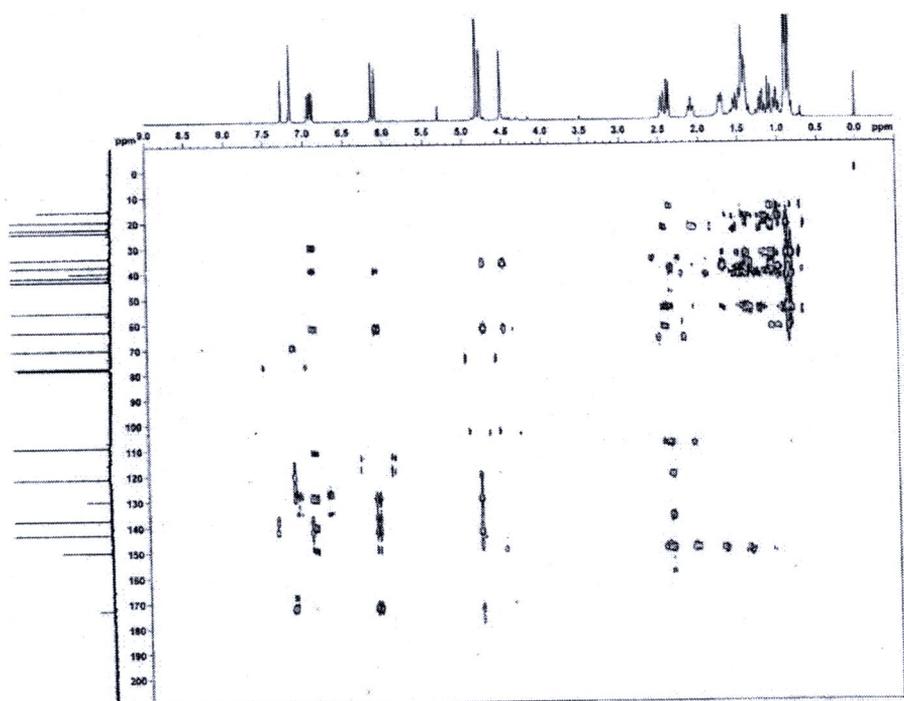


Figure 60 HMBC spectrum of villosin (60)

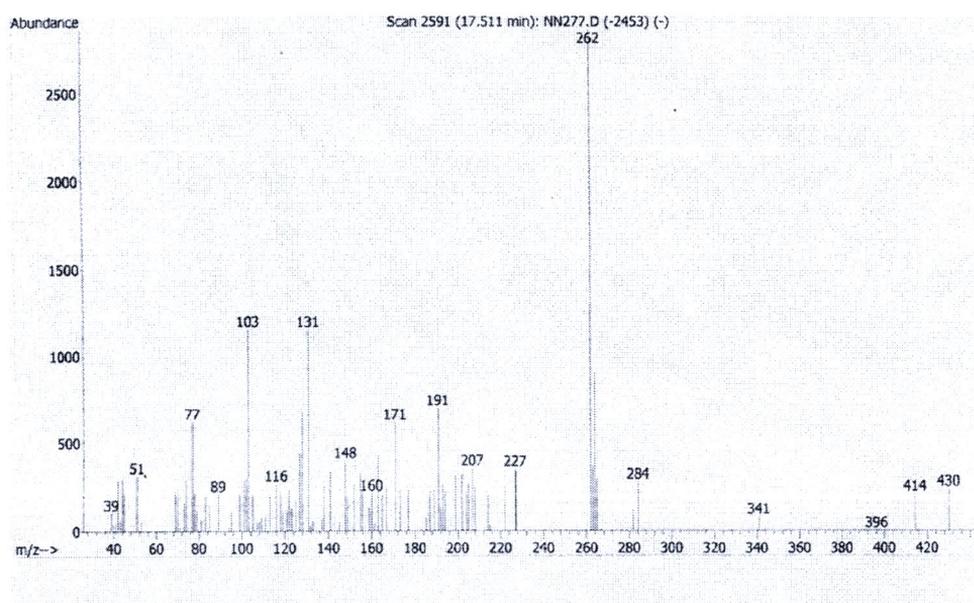


Figure 61 Mass spectra of 5,6-dehydrokawain (**67**)

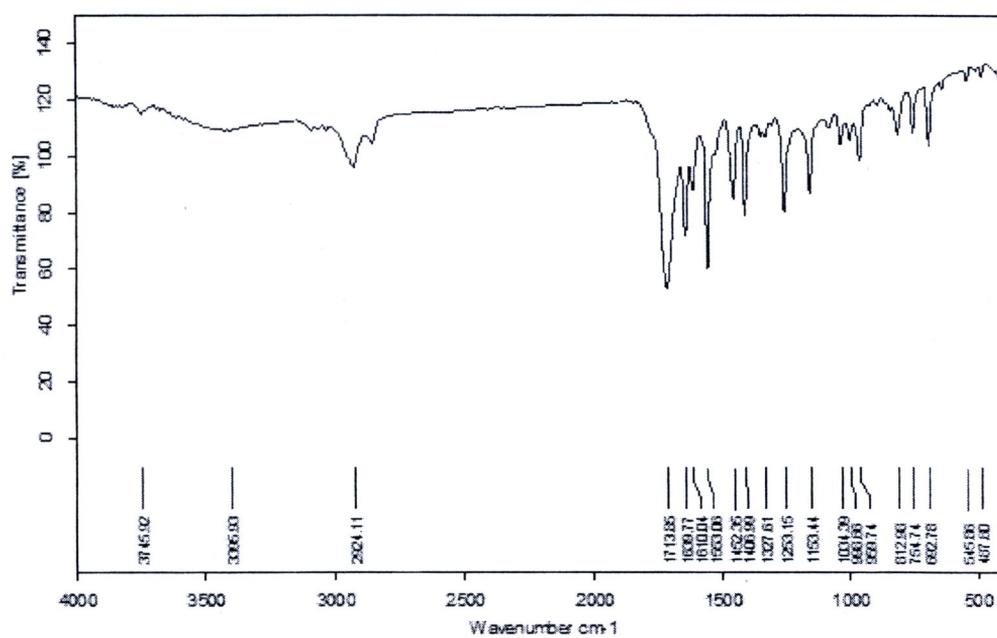


Figure 62 IR spectrum of 5,6-dehydrokawain (**67**)

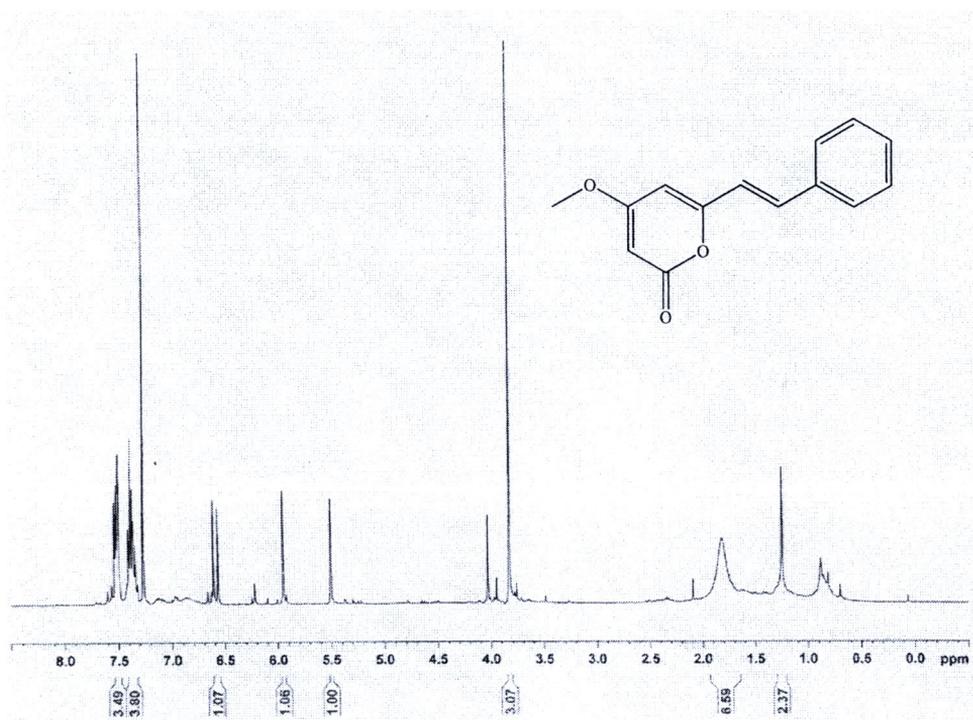


Figure 63 $^1\text{H-NMR}$ spectrum of 5,6-dehydrokawain (67)

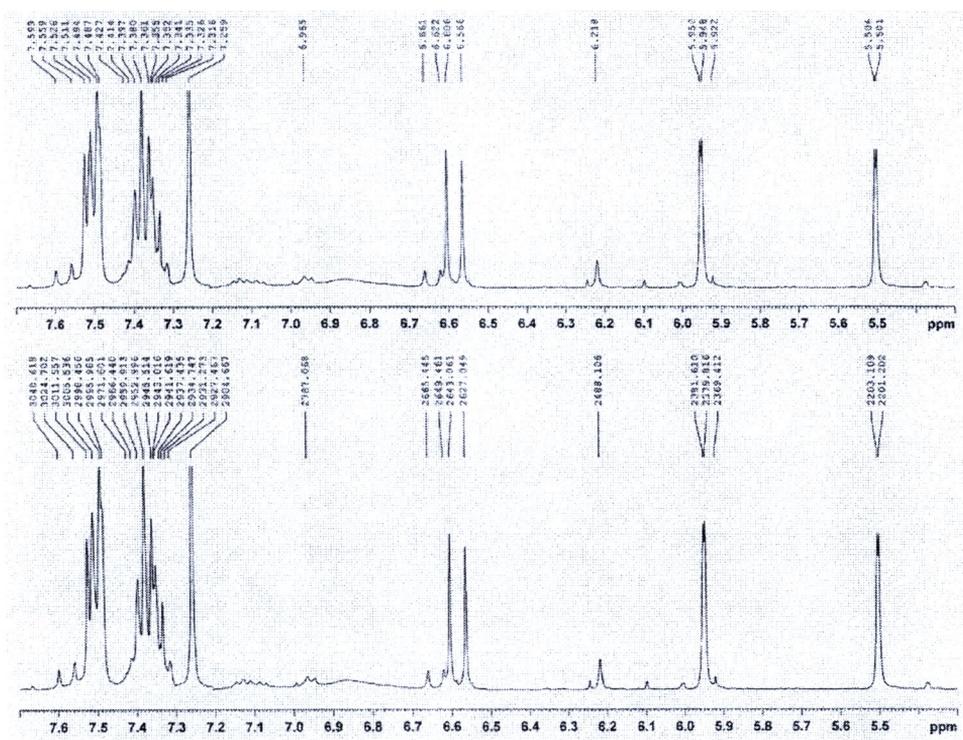


Figure 64 Expansion of $^1\text{H-NMR}$ spectrum of 5,6-dehydrokawain (67)

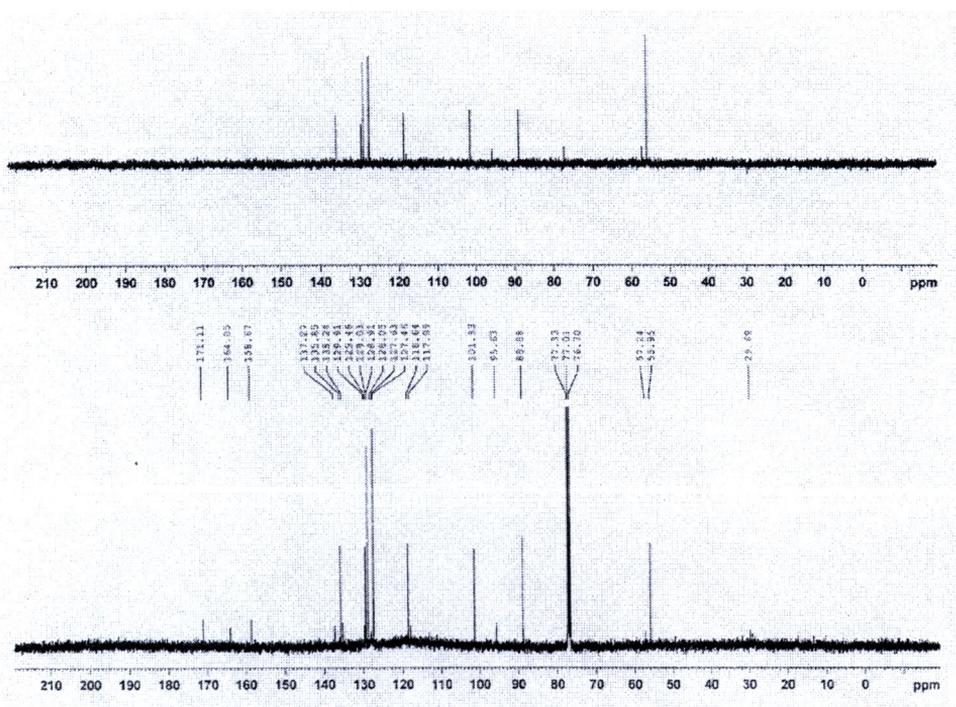


Figure 65 ^{13}C -NMR and DEPT 135 spectra of 5,6-dehydrokawain (67)

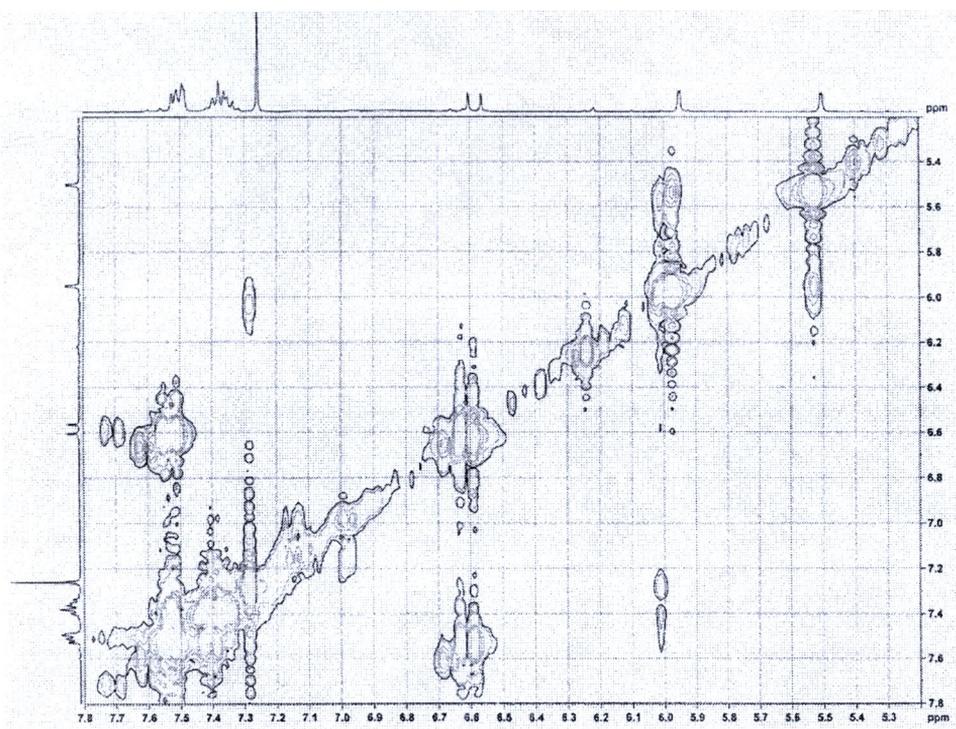


Figure 66 ^1H - ^1H COSY spectrum of 5,6-dehydrokawain (67)

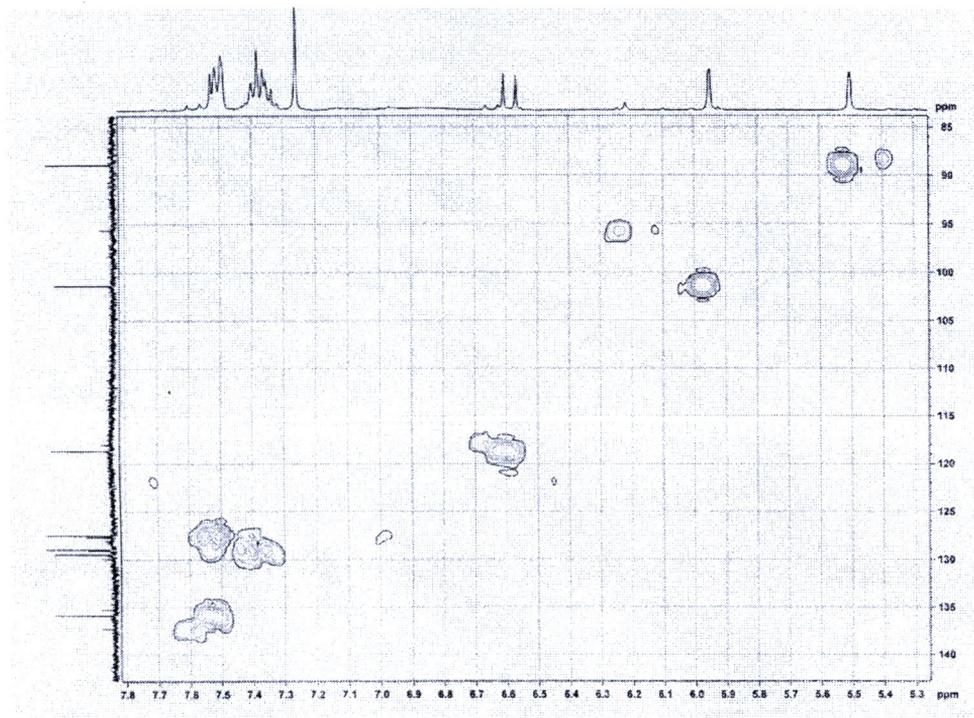


Figure 67 HMBC spectrum of 5,6-dehydrokawain (**67**)

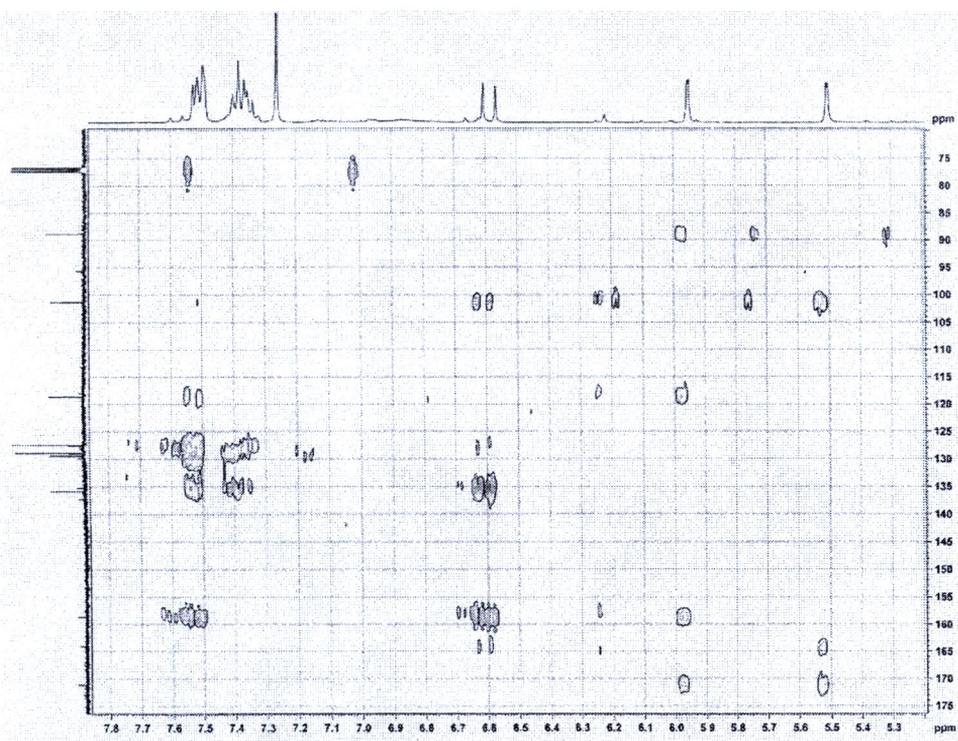


Figure 68 HMBC spectrum of 5,6-dehydrokawain (**67**)

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