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Appendix

A.1 Atomic coordinates and displacement parameters of hydrogen atoms (in Å²)

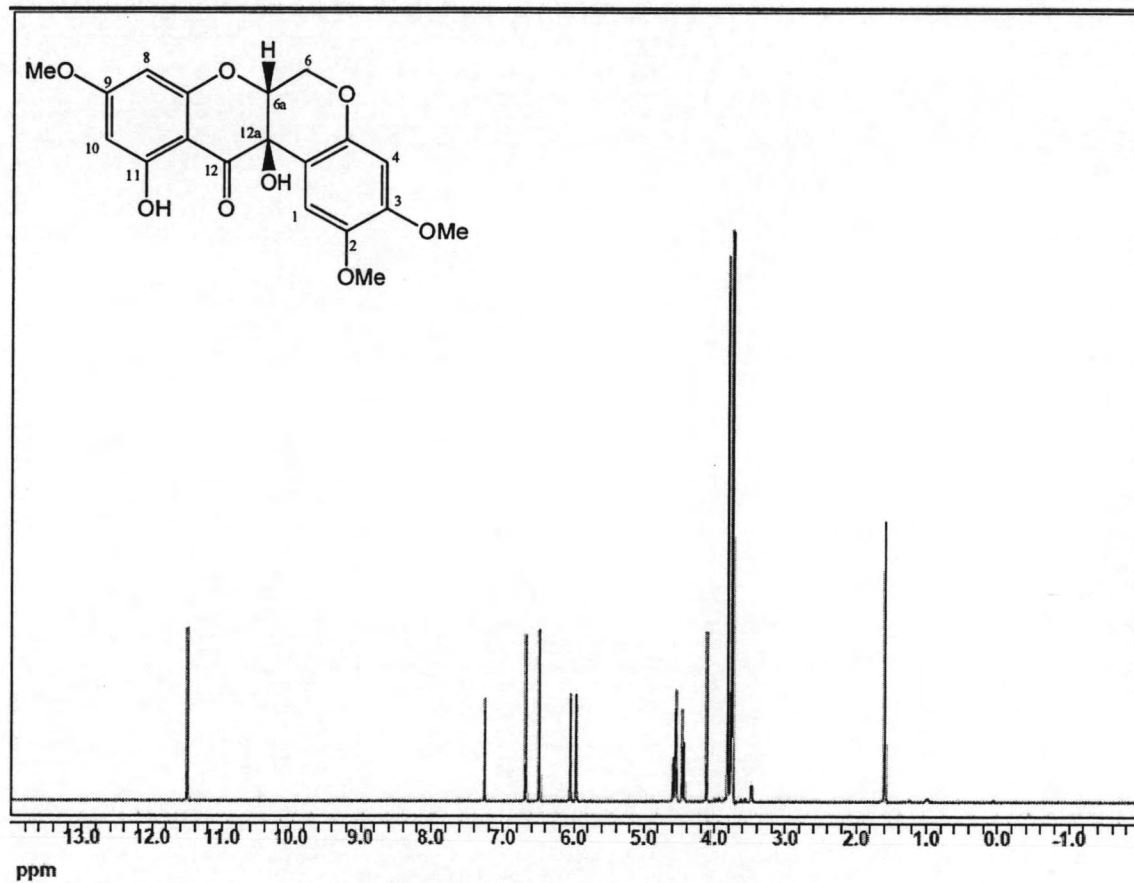
	<i>x</i>	<i>y</i>	<i>z</i>	<i>U</i> _(eq)
H(3)	0.1877	0.6579	0.7416	0.064
H(15)	0.1365	0.2106	0.2764	0.077
H(18)	-0.0042	0.7754	0.4334	0.046
H(20)	0.4163	0.2337	0.2709	0.050
H(22)	0.0931	0.6079	0.0422	0.048
H(23)	0.5760	0.1278	0.6568	0.049
H(24)	0.4120	0.4068	0.9372	0.050
H(25A)	0.4658	0.1700	1.0593	0.065
H(25B)	0.6336	0.2483	1.0192	0.065
H(25C)	0.6627	0.0817	1.0528	0.065
H(26A)	0.0274	0.8237	-0.1154	0.068
H(26B)	-0.1230	0.7285	-0.0769	0.068
H(26C)	-0.1696	0.8969	-0.1267	0.068
H(27A)	-0.1054	1.0219	0.3973	0.074
H(27B)	-0.2436	0.9519	0.4466	0.074
H(27C)	-0.2978	1.0970	0.3665	0.074

A.2 Atomic coordinates and displacement parameters of non-hydrogen atoms (in Å²)

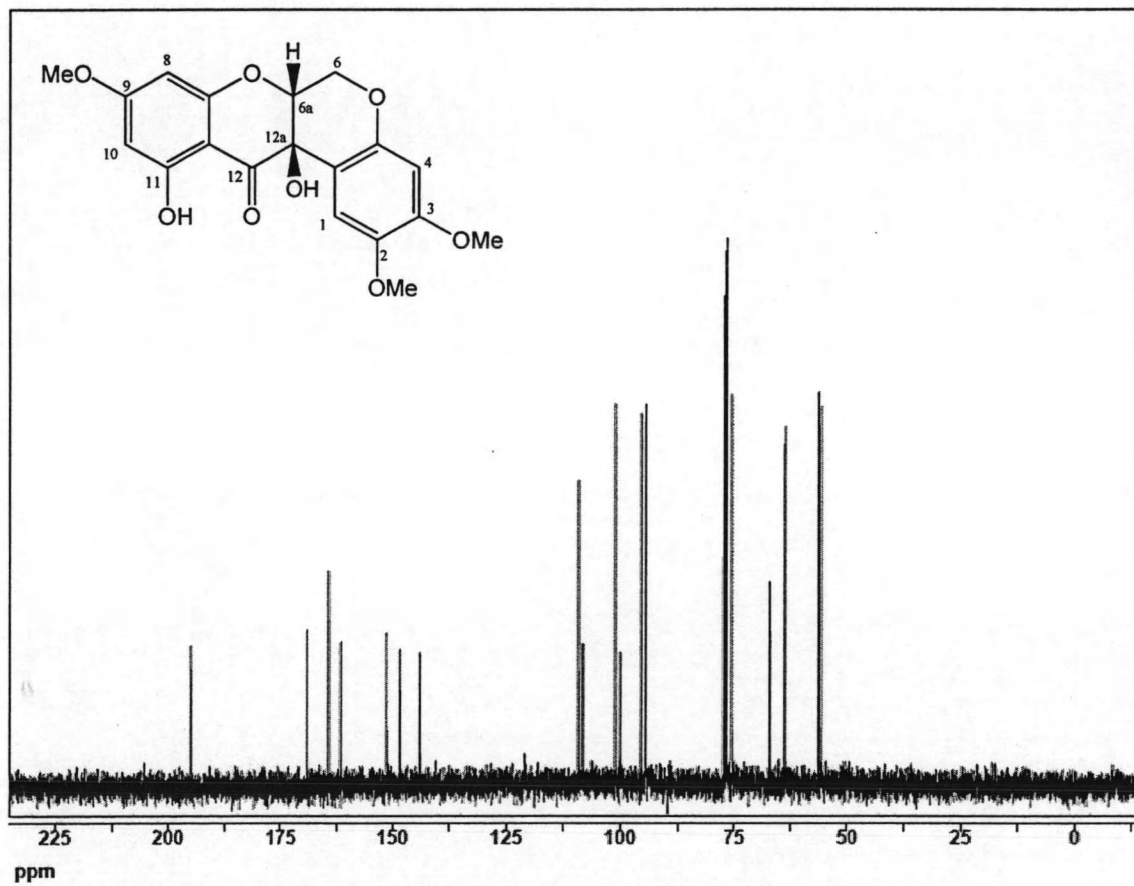
	<i>x</i>	<i>y</i>	<i>z</i>	<i>U</i> _(eq)
O(1)	0.4098(2)	0.2985(2)	0.4885(2)	0.040(1)
O(2)	0.1300(3)	0.6751(2)	0.5931(2)	0.045(1)
O(3)	0.2483(3)	0.6059(2)	0.8020(2)	0.053(1)
O(4)	0.2680(3)	0.4461(2)	0.1915(2)	0.049(1)
O(5)	-0.1306(3)	0.8621(2)	0.0478(2)	0.051(1)
C(6)	0.3208(3)	0.4584(3)	0.6408(3)	0.035(1)
C(7)	0.2175(3)	0.5605(3)	0.5580(3)	0.035(1)
O(8)	0.5988(3)	0.1444(2)	0.8791(2)	0.053(1)
C(9)	0.3137(3)	0.3950(3)	0.4104(3)	0.037(1)
C(10)	0.4129(3)	0.3277(3)	0.6060(3)	0.036(1)
O(11)	-0.1829(3)	0.9524(2)	0.2615(2)	0.050(1)
C(12)	0.1236(3)	0.6124(3)	0.3371(3)	0.035(1)

A.2 Atomic coordinates and displacement parameters of non-hydrogen atoms (in Å²)
(continued)

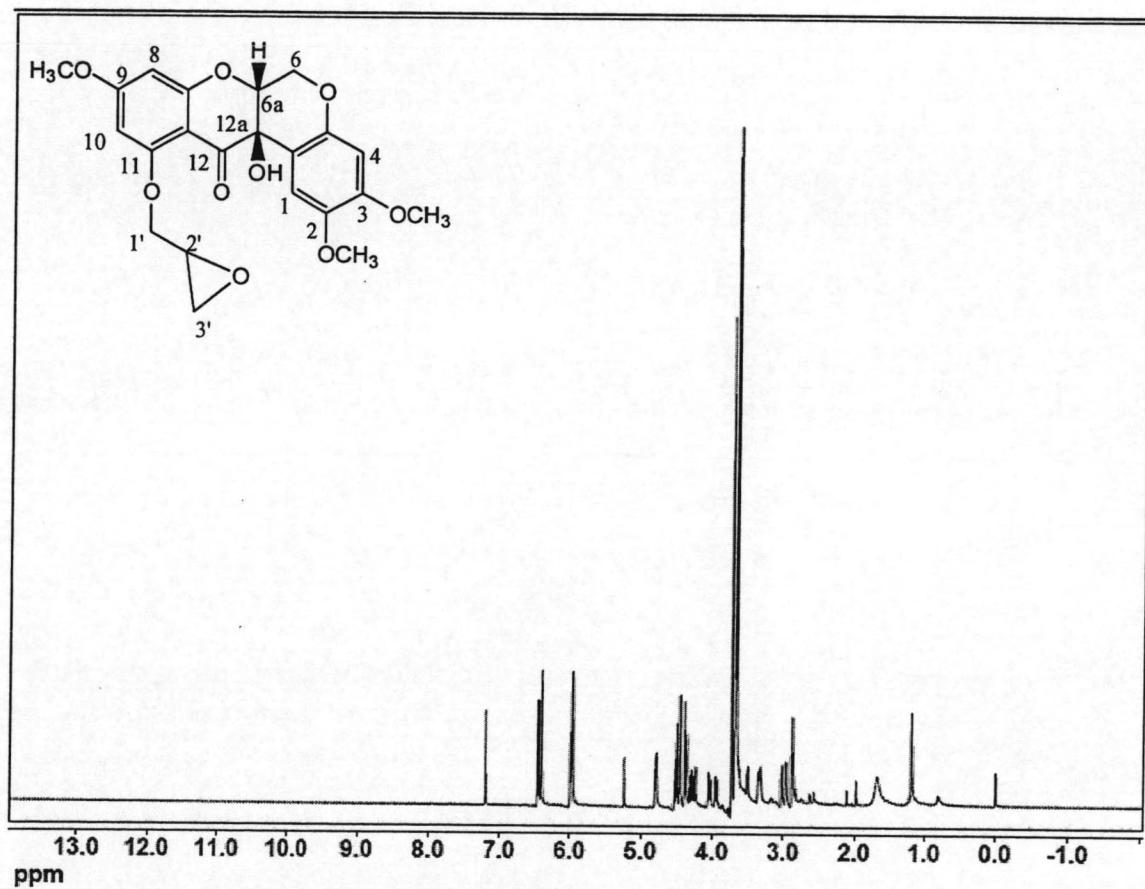
	<i>x</i>	<i>y</i>	<i>z</i>	<i>U</i> _(eq)
C(13)	-0.0714(4)	0.8241(3)	0.2546(3)	0.039(1)
C(14)	0.1495(3)	0.5680(3)	0.2199(3)	0.038(1)
O(15)	0.2209(3)	0.2320(3)	0.3195(2)	0.064(1)
C(16)	-0.0430(4)	0.7760(3)	0.1372(3)	0.040(1)
C(17)	0.2188(3)	0.5233(3)	0.4356(3)	0.035(1)
C(18)	0.0113(4)	0.7445(3)	0.3518(3)	0.038(1)
C(19)	0.3288(4)	0.4816(3)	0.7634(3)	0.039(1)
C(20)	0.3180(4)	0.3369(3)	0.2922(3)	0.042(1)
C(21)	0.5091(4)	0.2504(3)	0.8049(3)	0.041(1)
C(22)	0.0679(4)	0.6470(3)	0.1209(3)	0.040(1)
C(23)	0.5077(4)	0.2246(3)	0.6837(3)	0.041(1)
C(24)	0.4210(4)	0.3789(3)	0.8445(3)	0.042(1)
C(25)	0.5909(5)	0.1591(4)	1.0095(3)	0.054(1)
C(26)	-0.0928(5)	0.8266(4)	-0.0772(3)	0.056(1)
C(27)	-0.2116(5)	1.0086(4)	0.3746(3)	0.062(1)



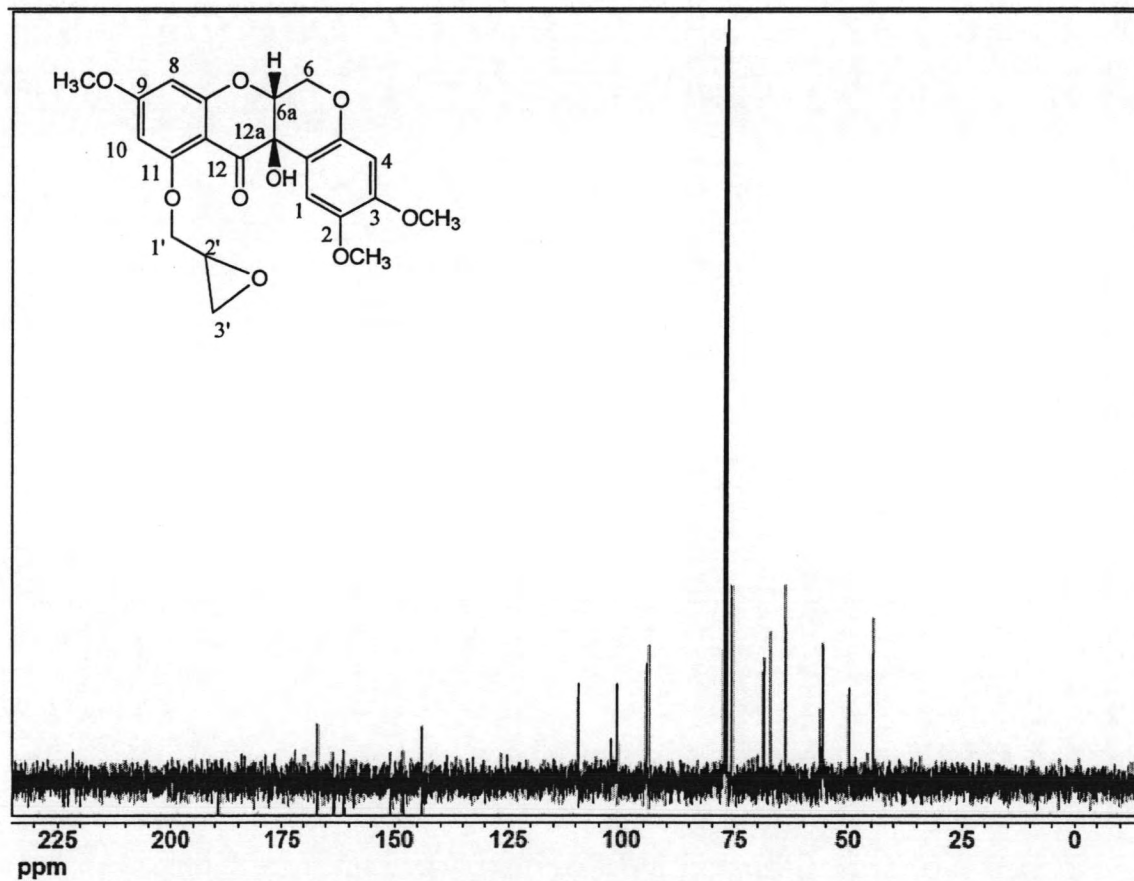
B.1 ¹H NMR spectra of compound 1



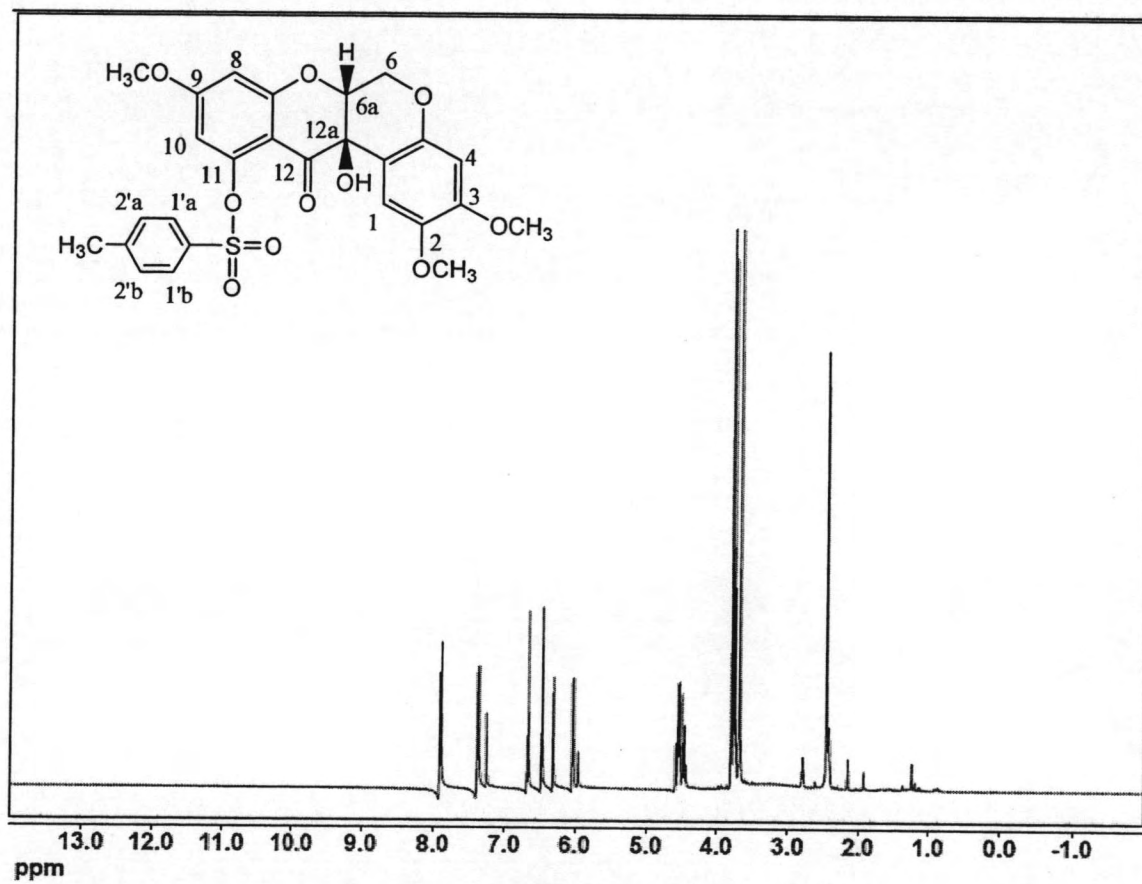
B.2 ^{13}C NMR spectra of compound 1



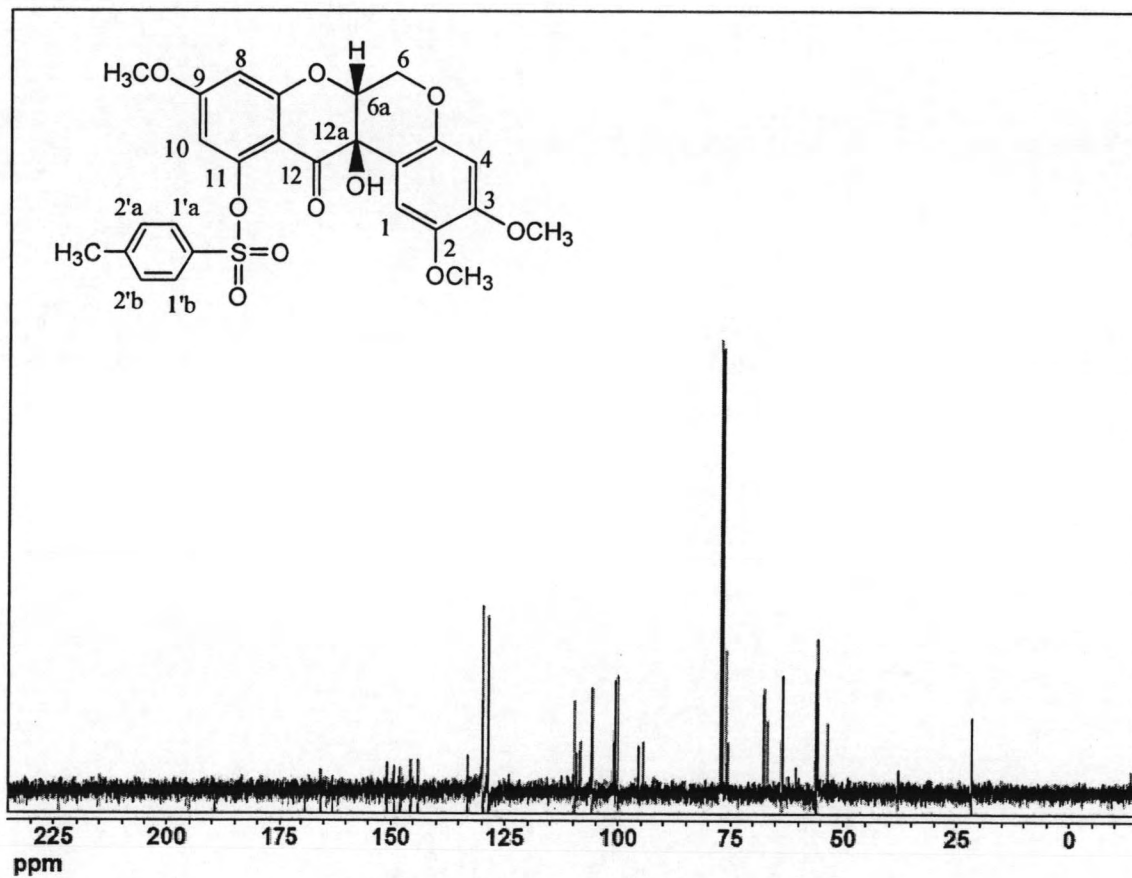
B.3 ^1H NMR spectra of compound A



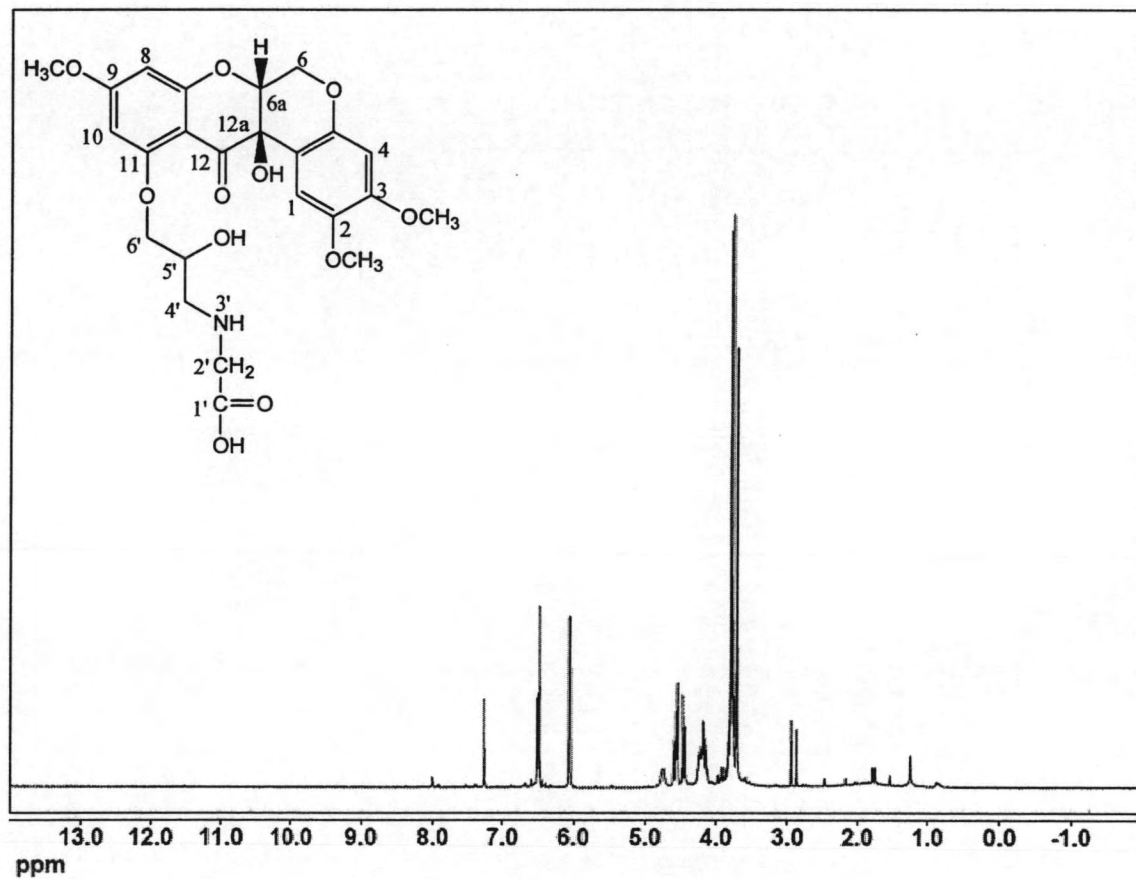
B.4 ^{13}C NMR spectra of compound A



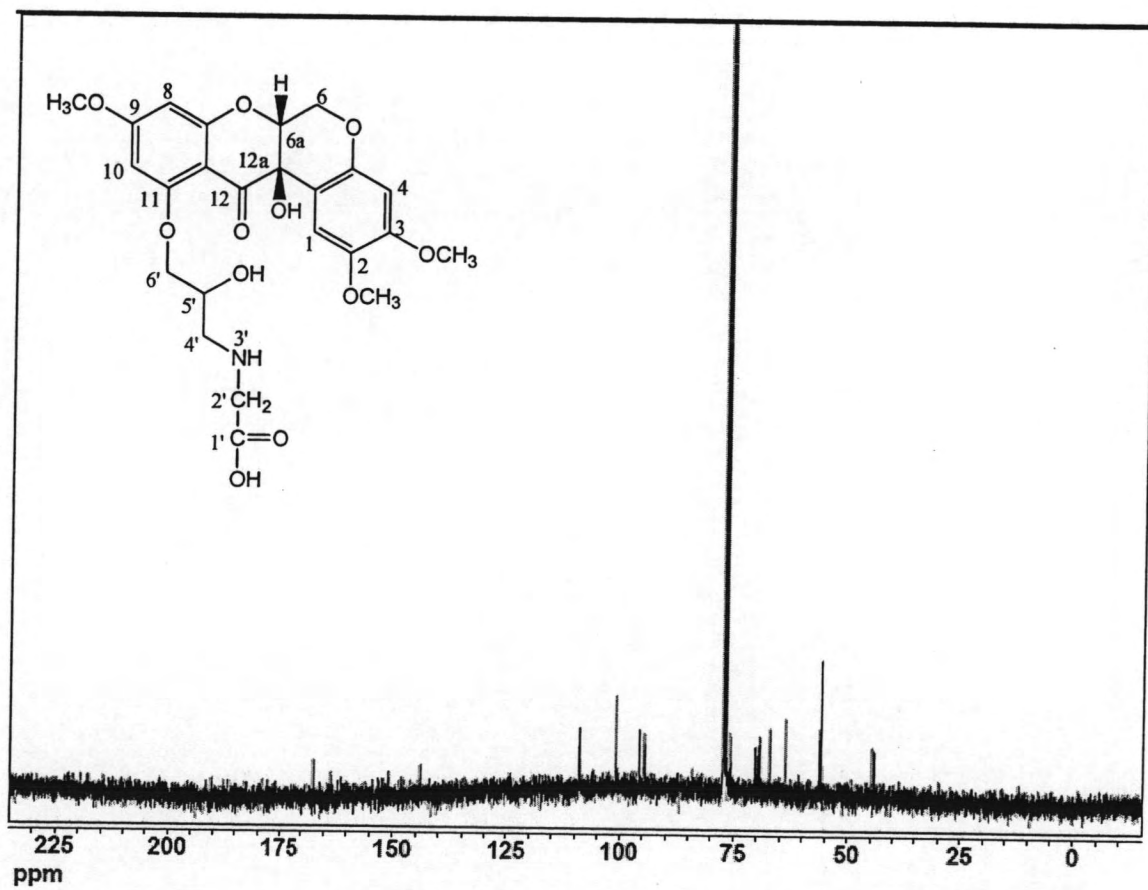
B.5 ^1H NMR spectra of compound B



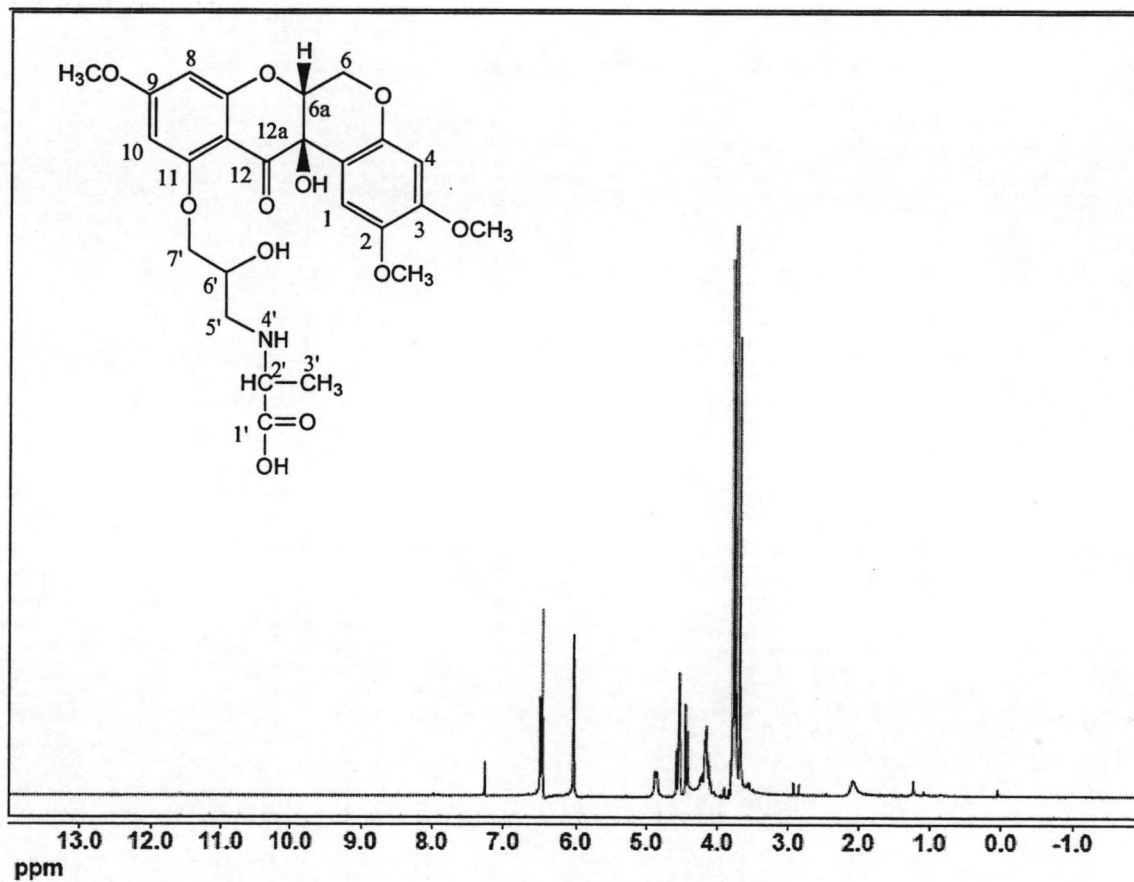
B. 6 ^{13}C NMR spectra of compound B



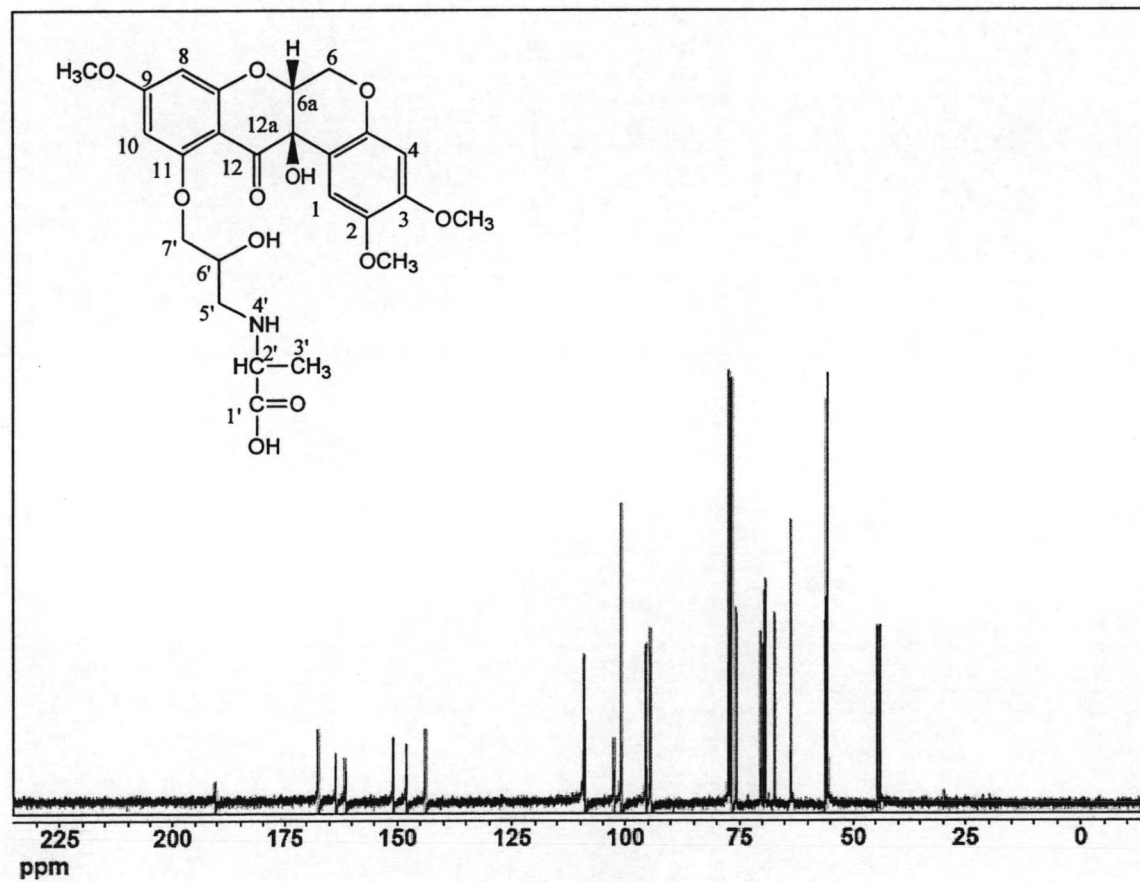
B.7 ^1H NMR spectra of A1



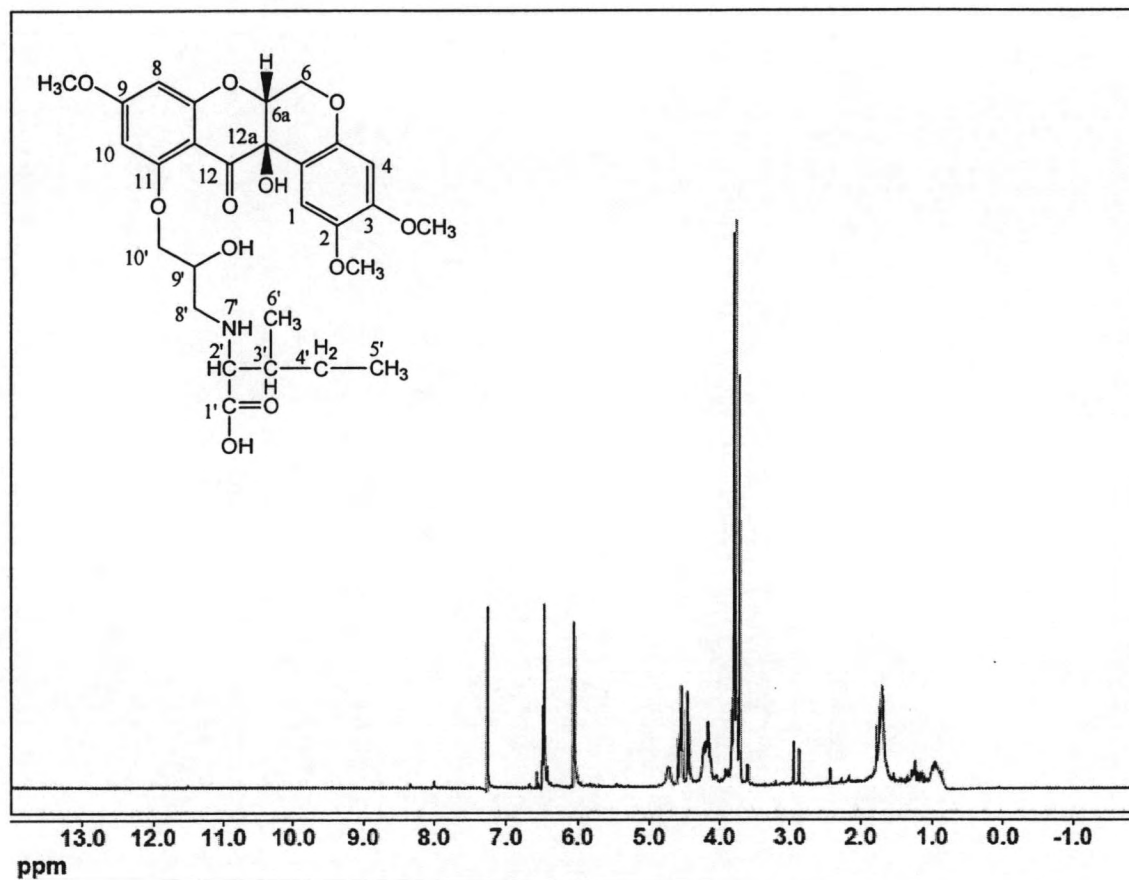
B.8 ^{13}C NMR spectra of A1



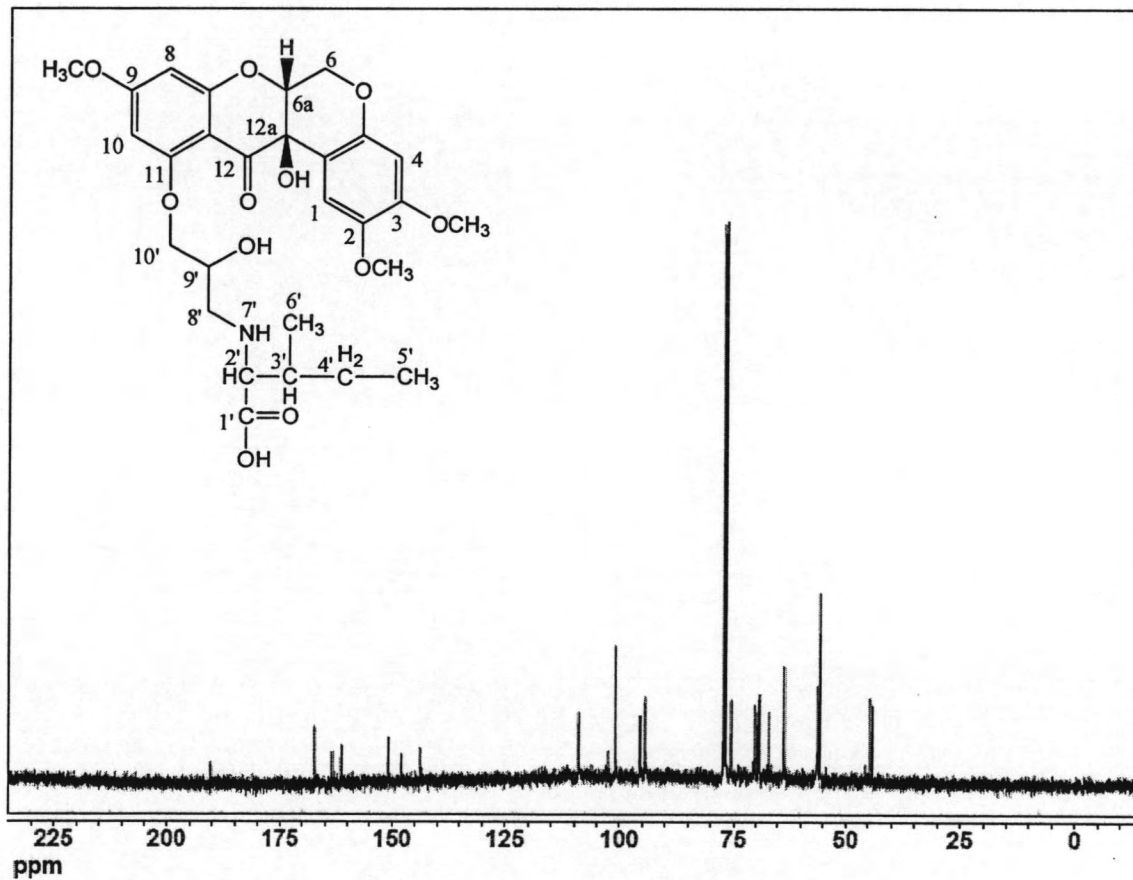
B.9 ¹H NMR spectrum of A2



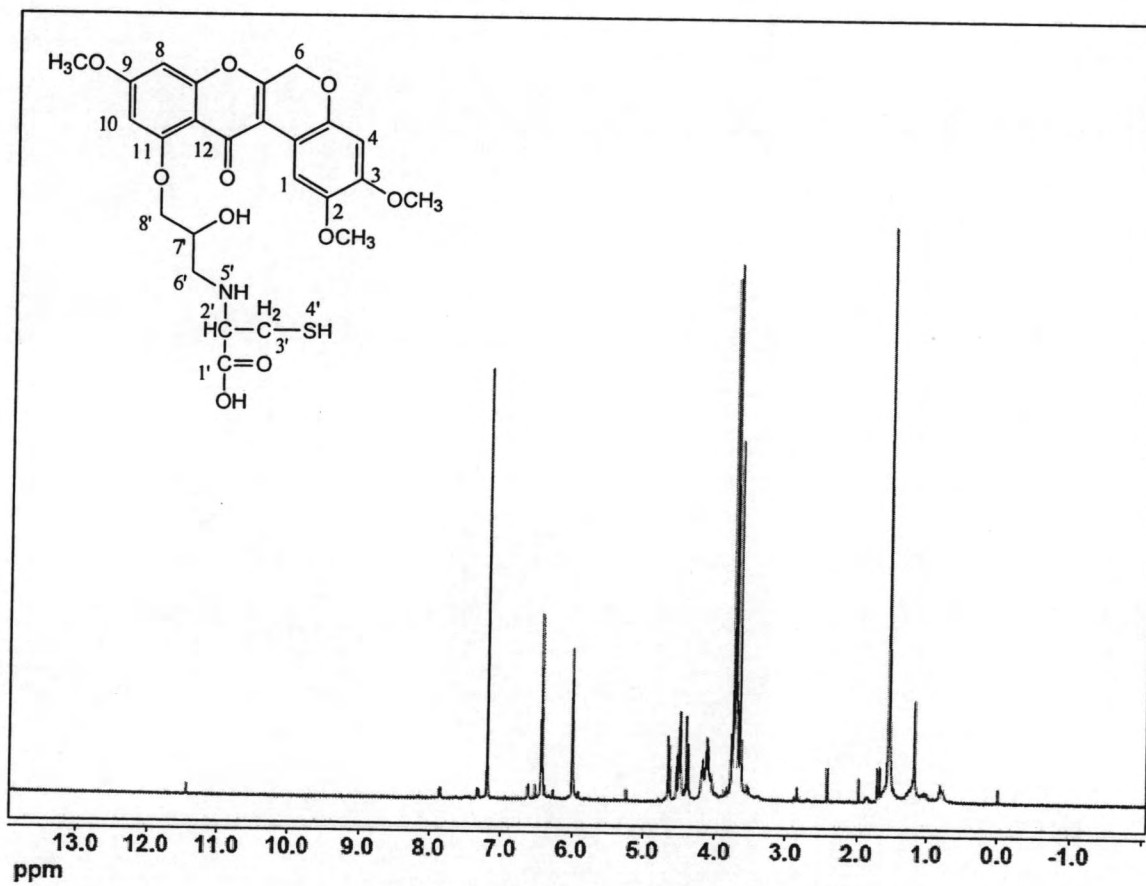
B.10 ^{13}C NMR of A2



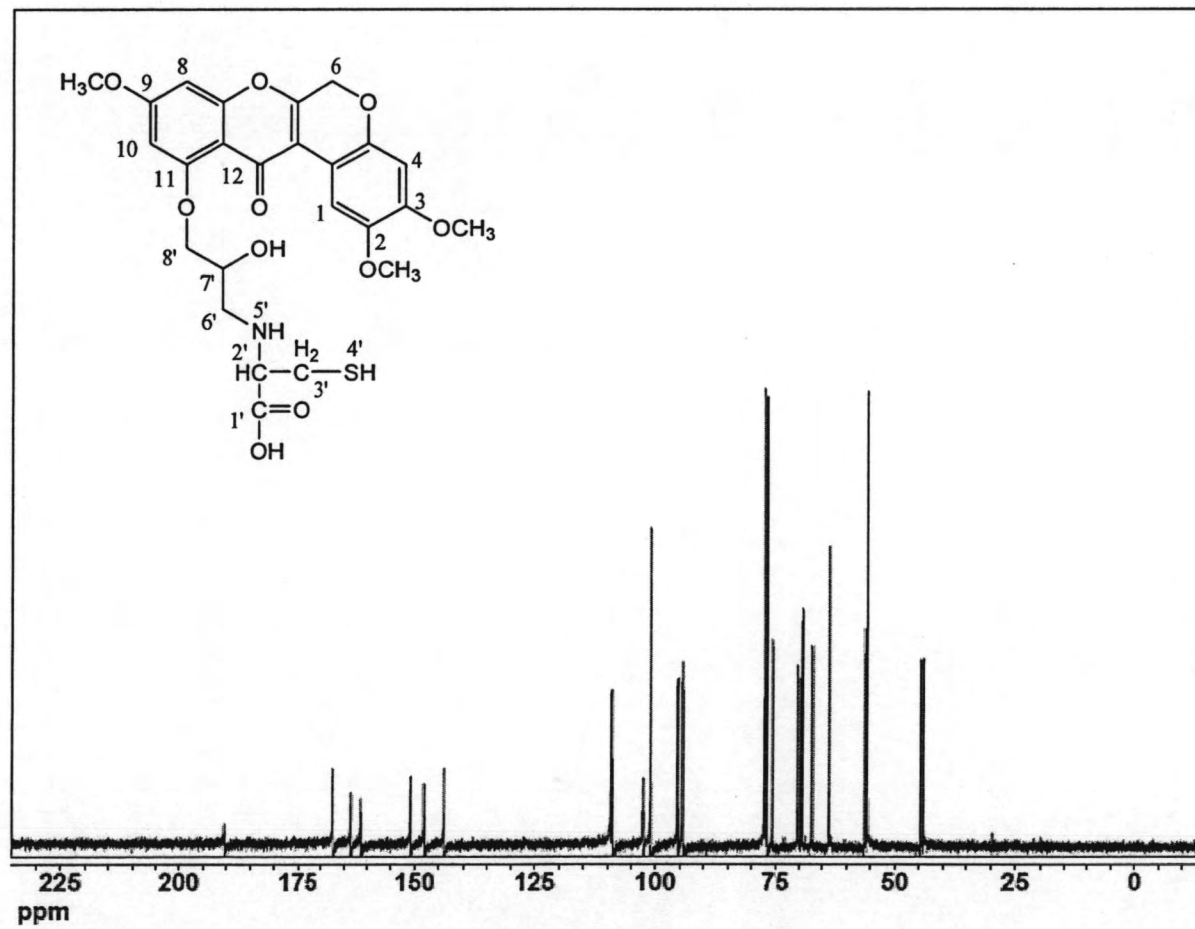
B.11 ^1H NMR spectra of A3



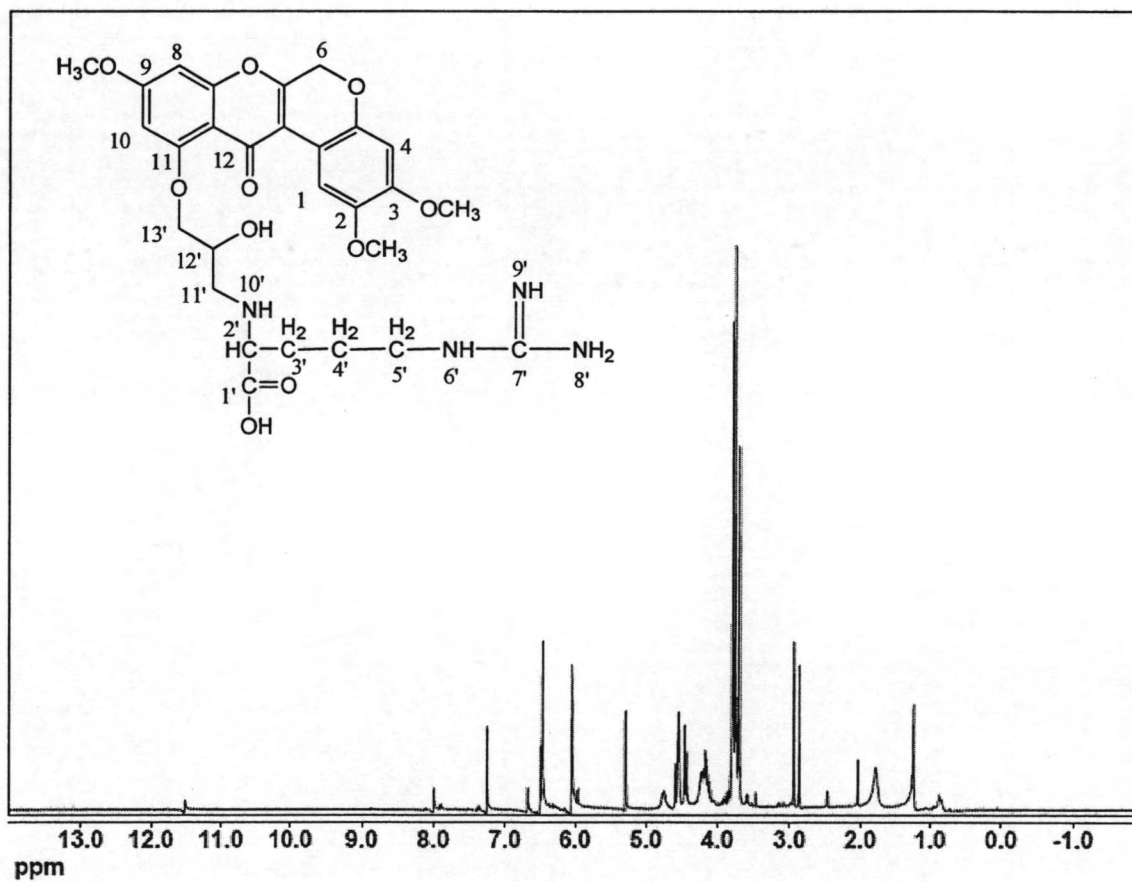
B.12 ^{13}C NMR spectra of A3



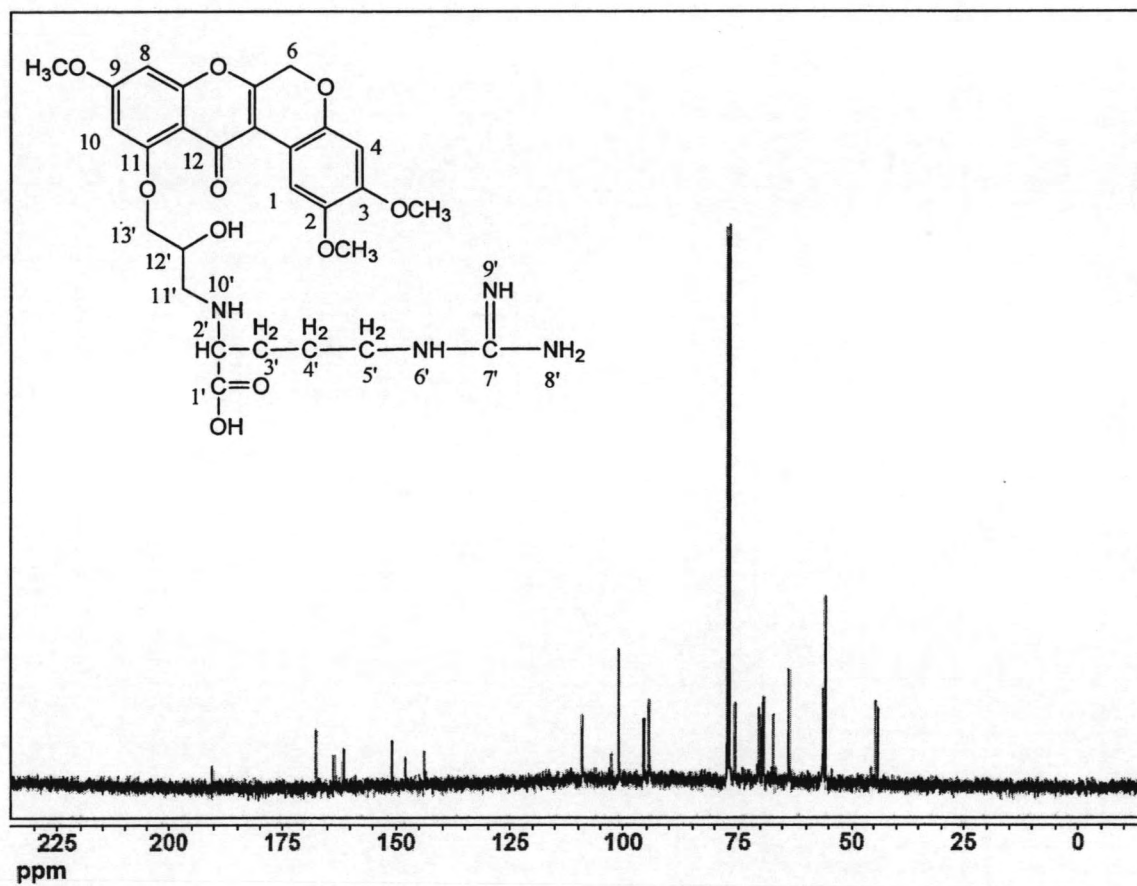
B.13 ^1H NMR spectra of A4



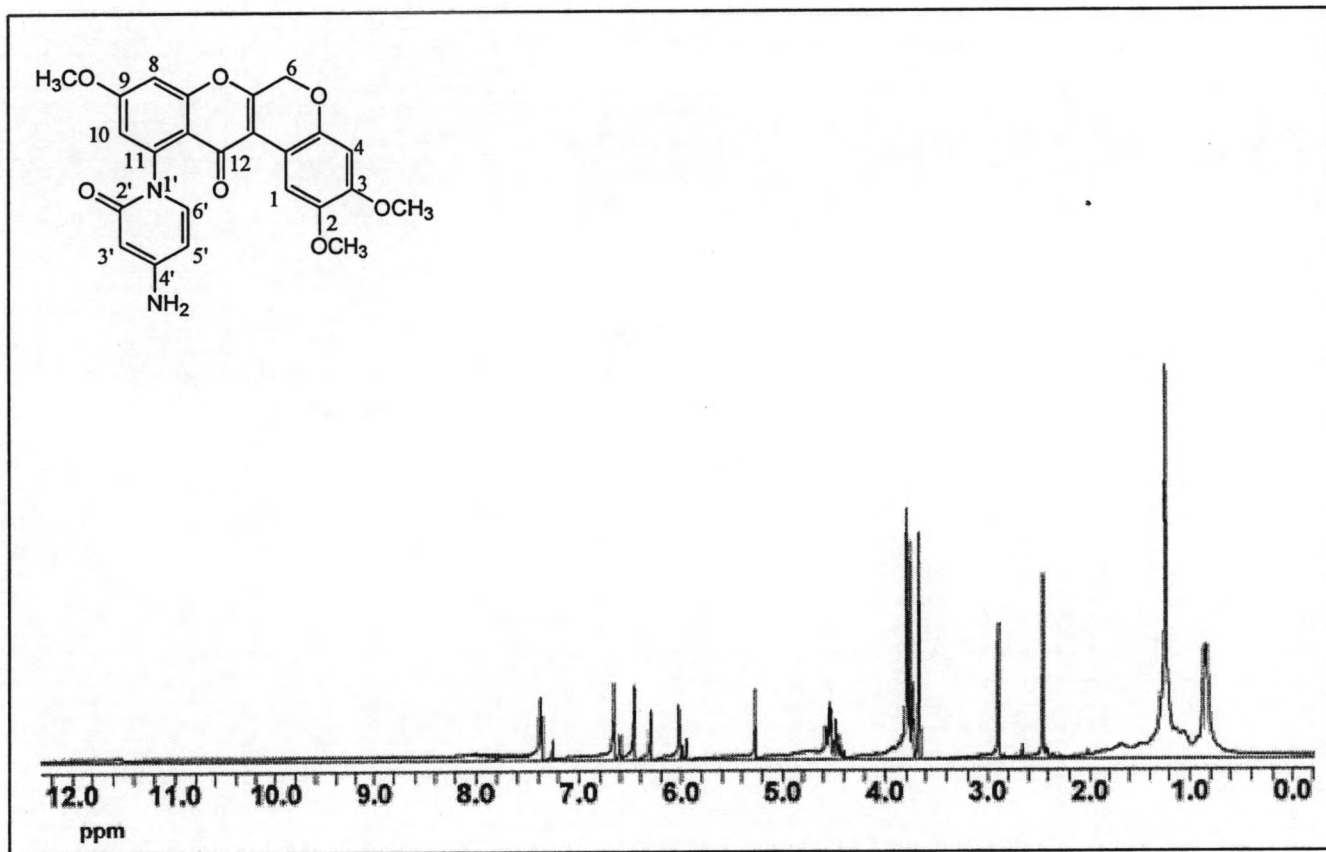
B.14 ¹³C NMR spectra of A4



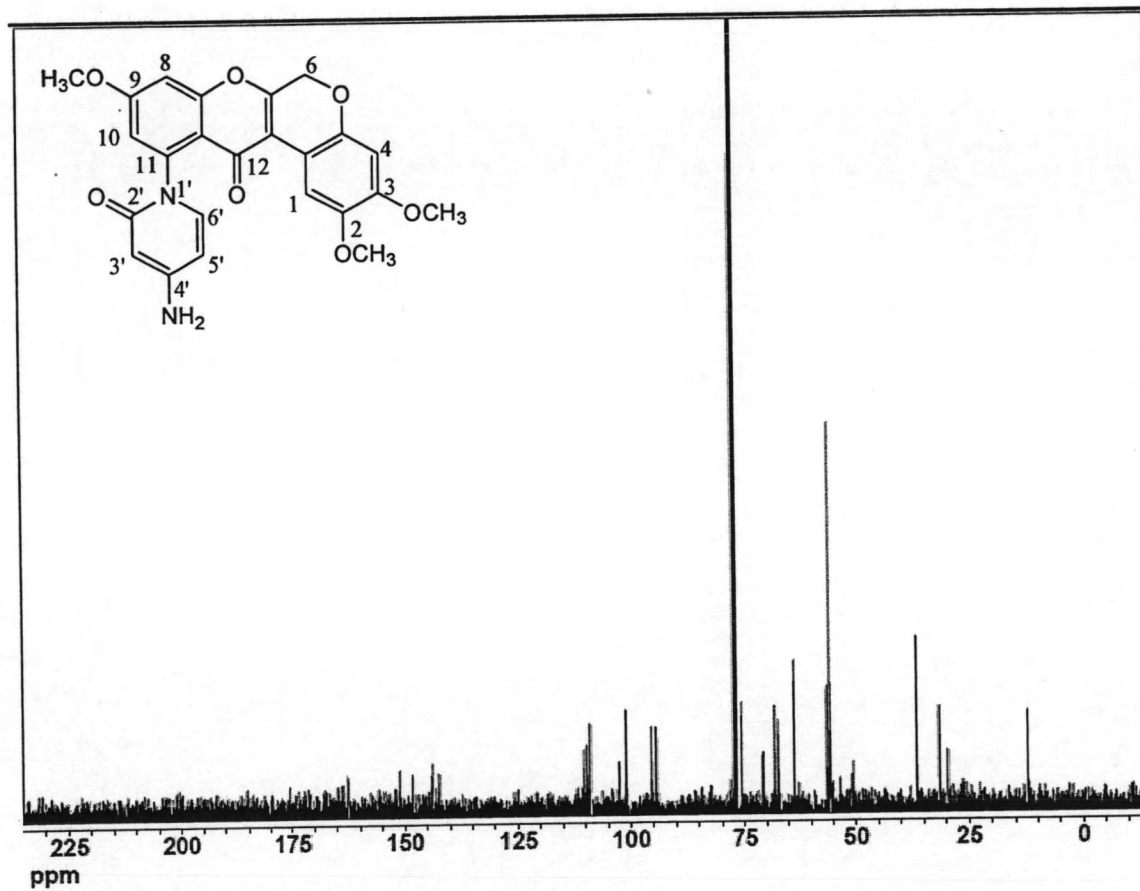
B.15 ¹H NMR spectra of A5



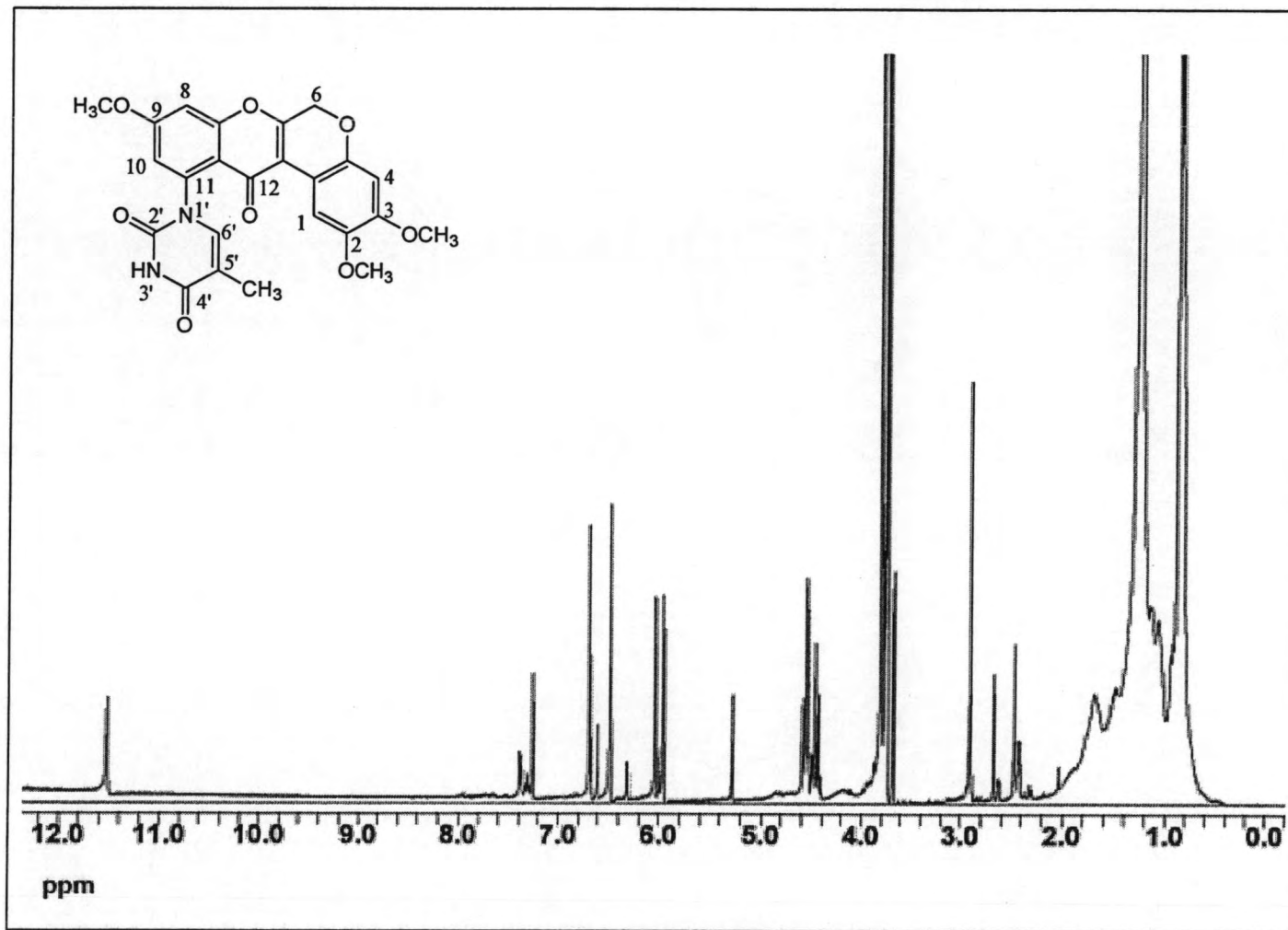
B.16 ^{13}C NMR spectra of A5



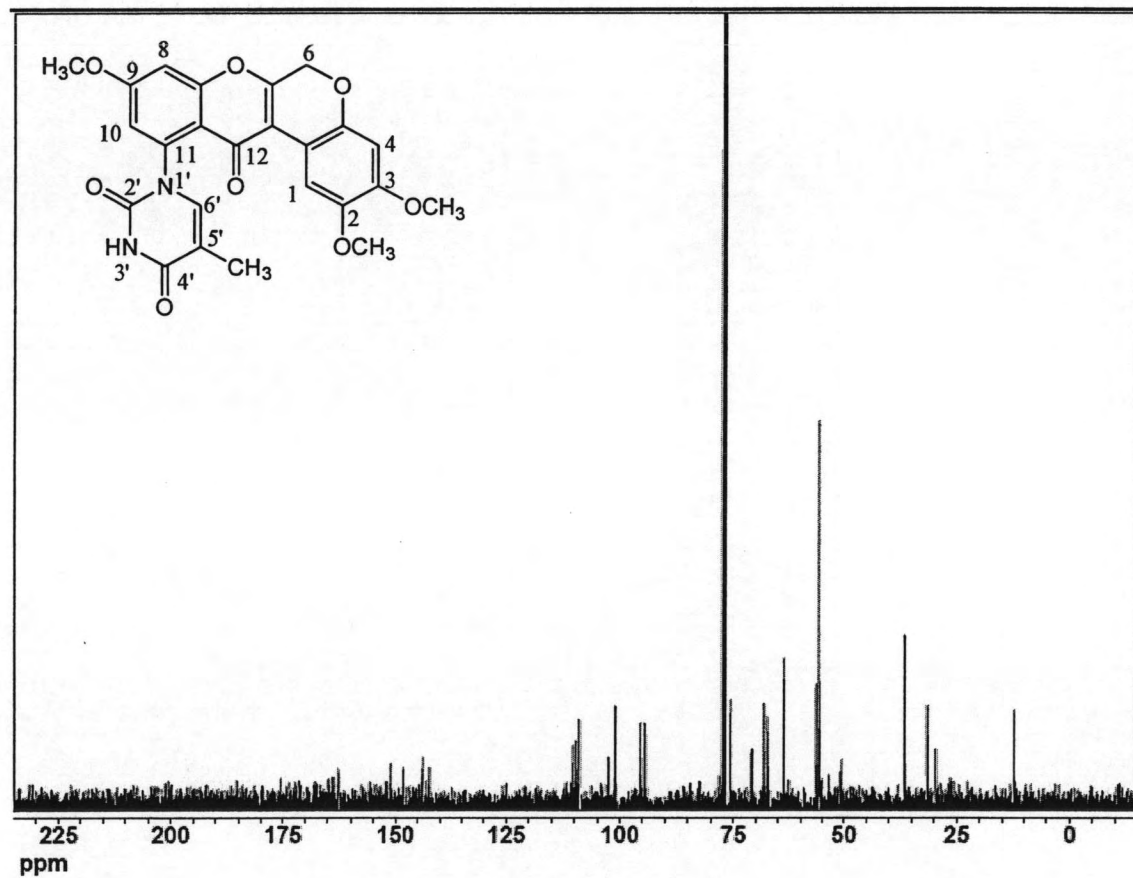
B.17 ^1H NMR of B1



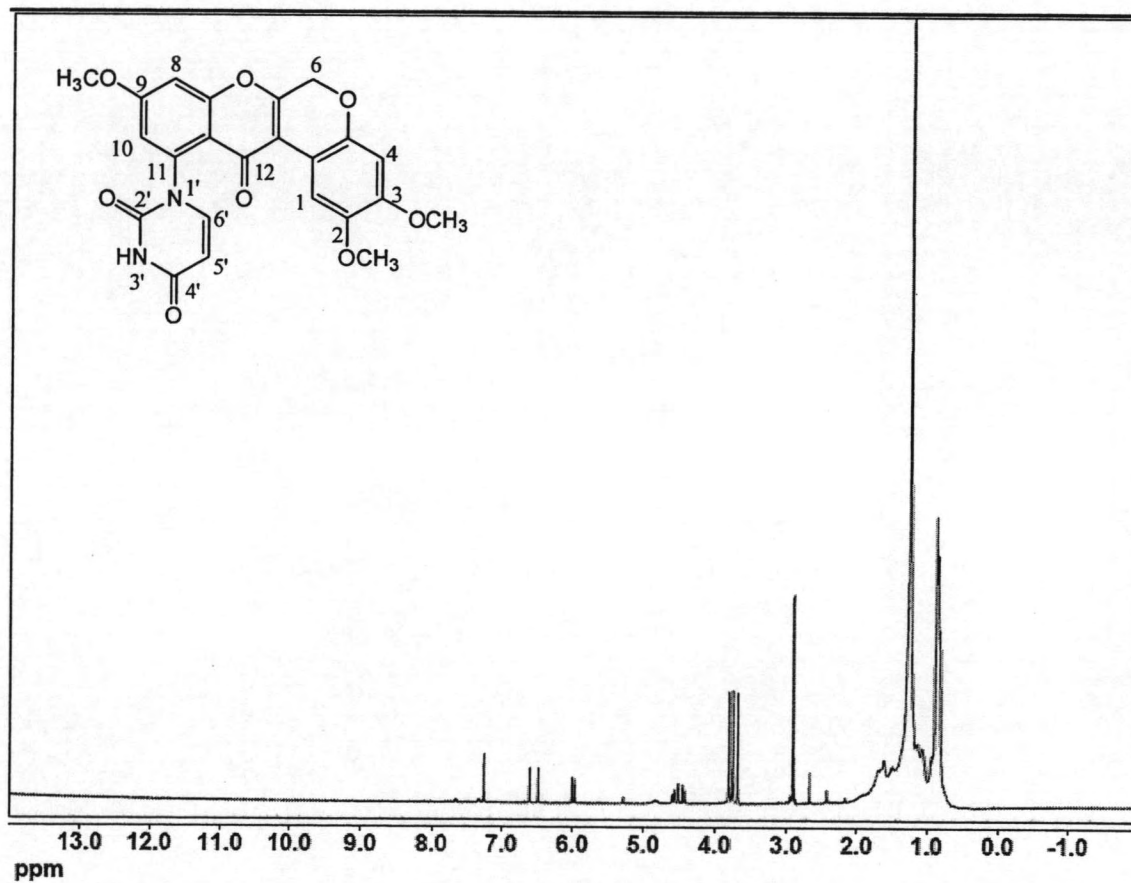
B.18 ^{13}C NMR of B1



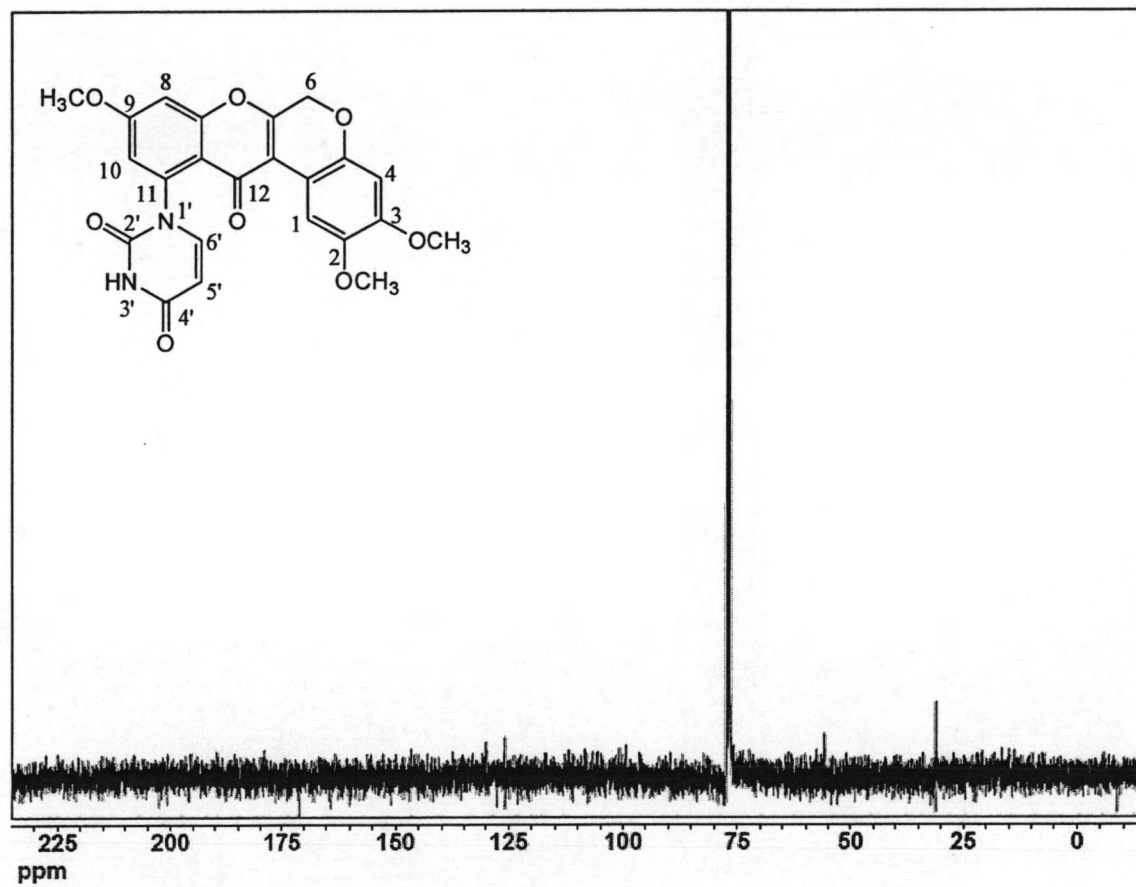
B.19 ¹H NMR of B2



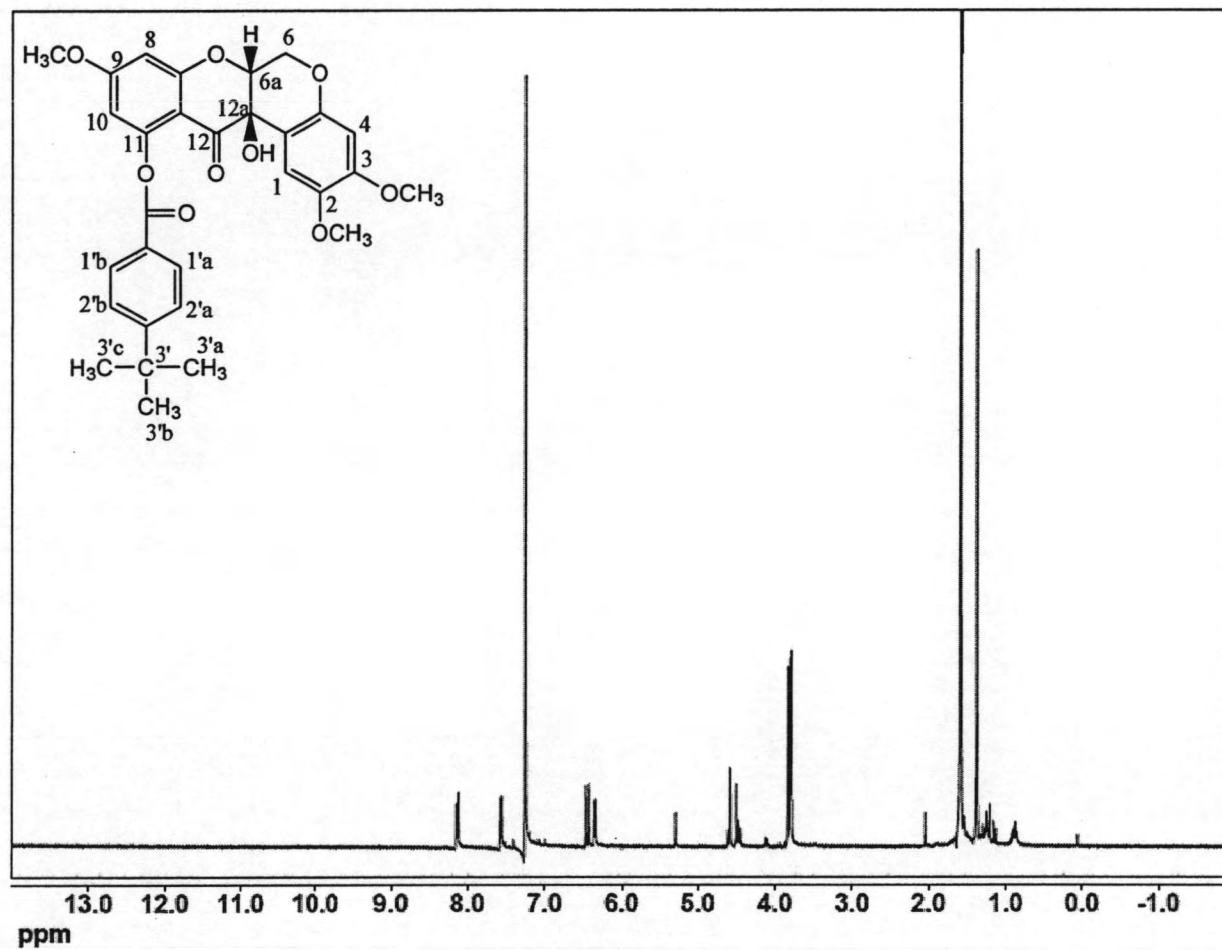
B.20 ^{13}C NMR of B2



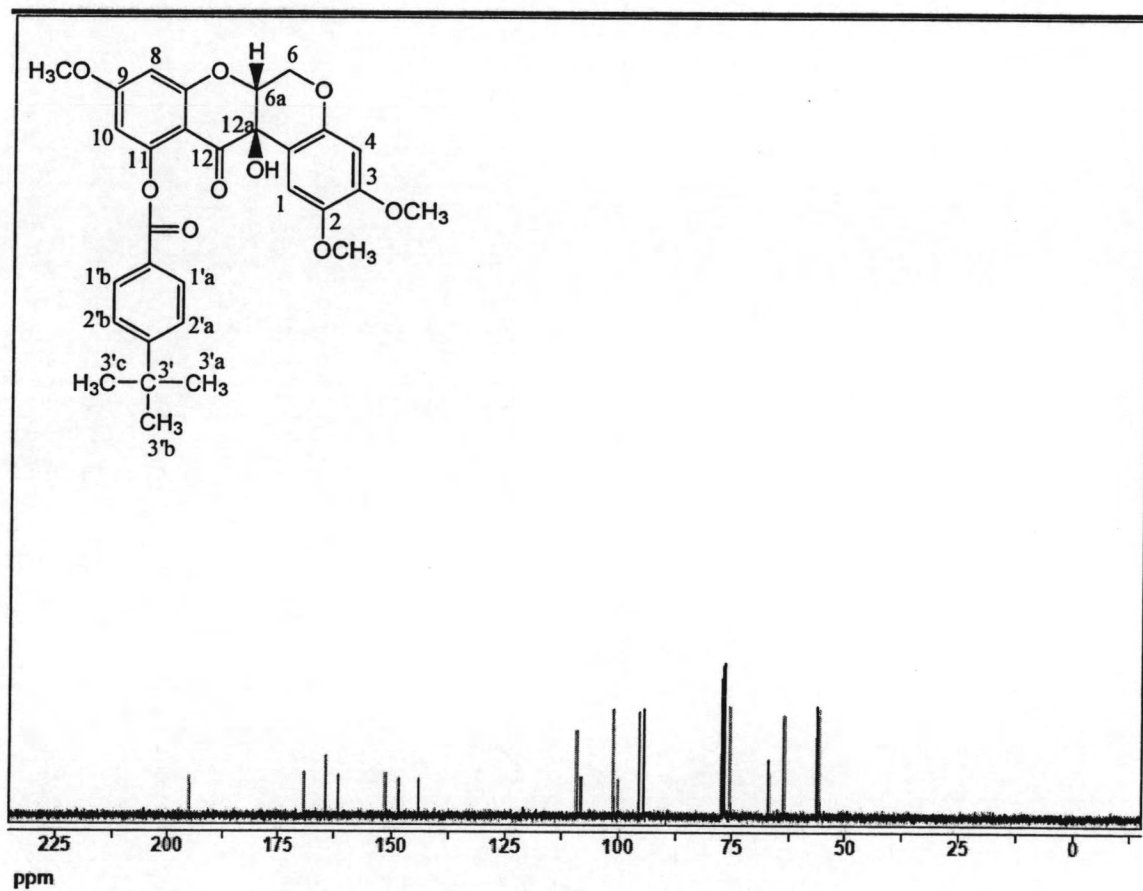
B.21 ¹H NMR of B3



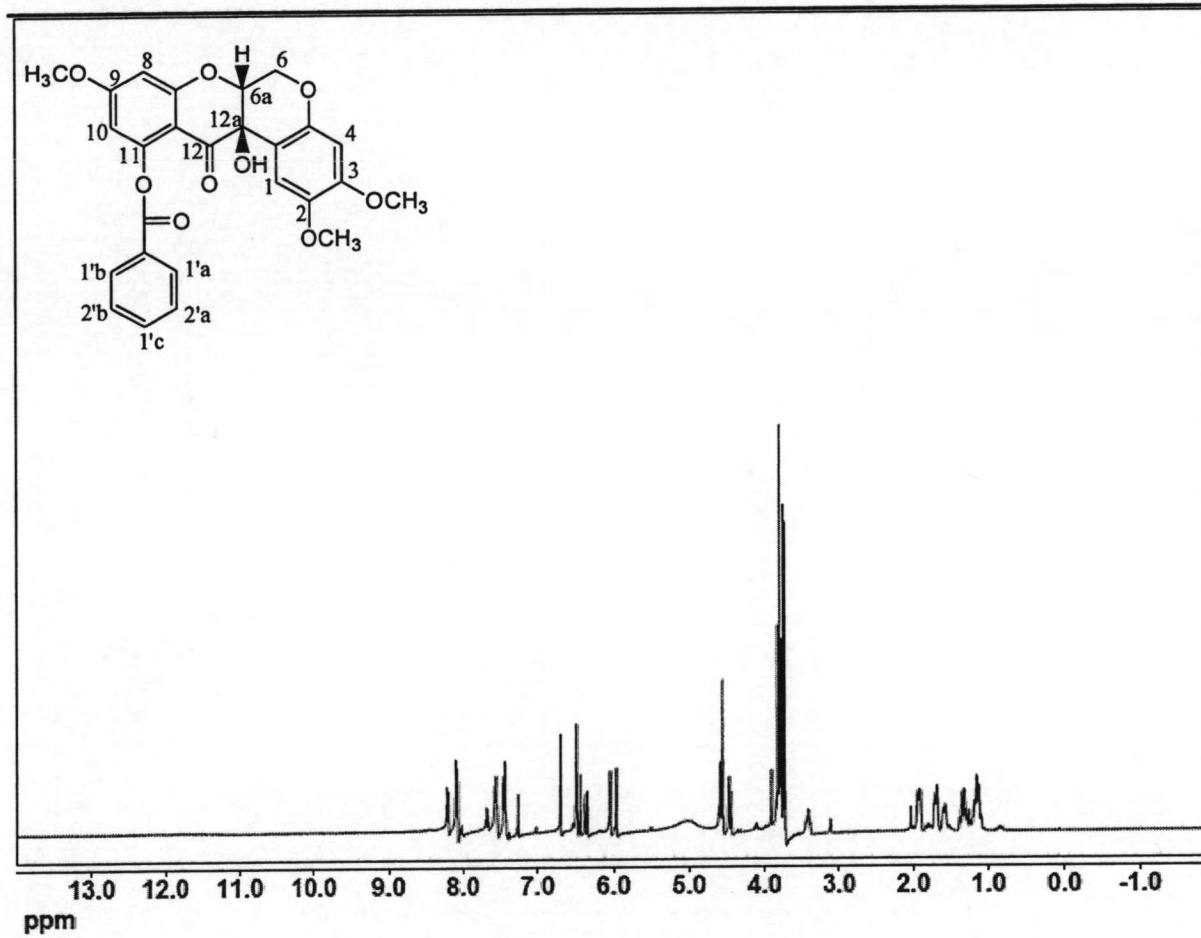
B.22 ^{13}C NMR of B3



B.23 ^1H NMR spectrum of C

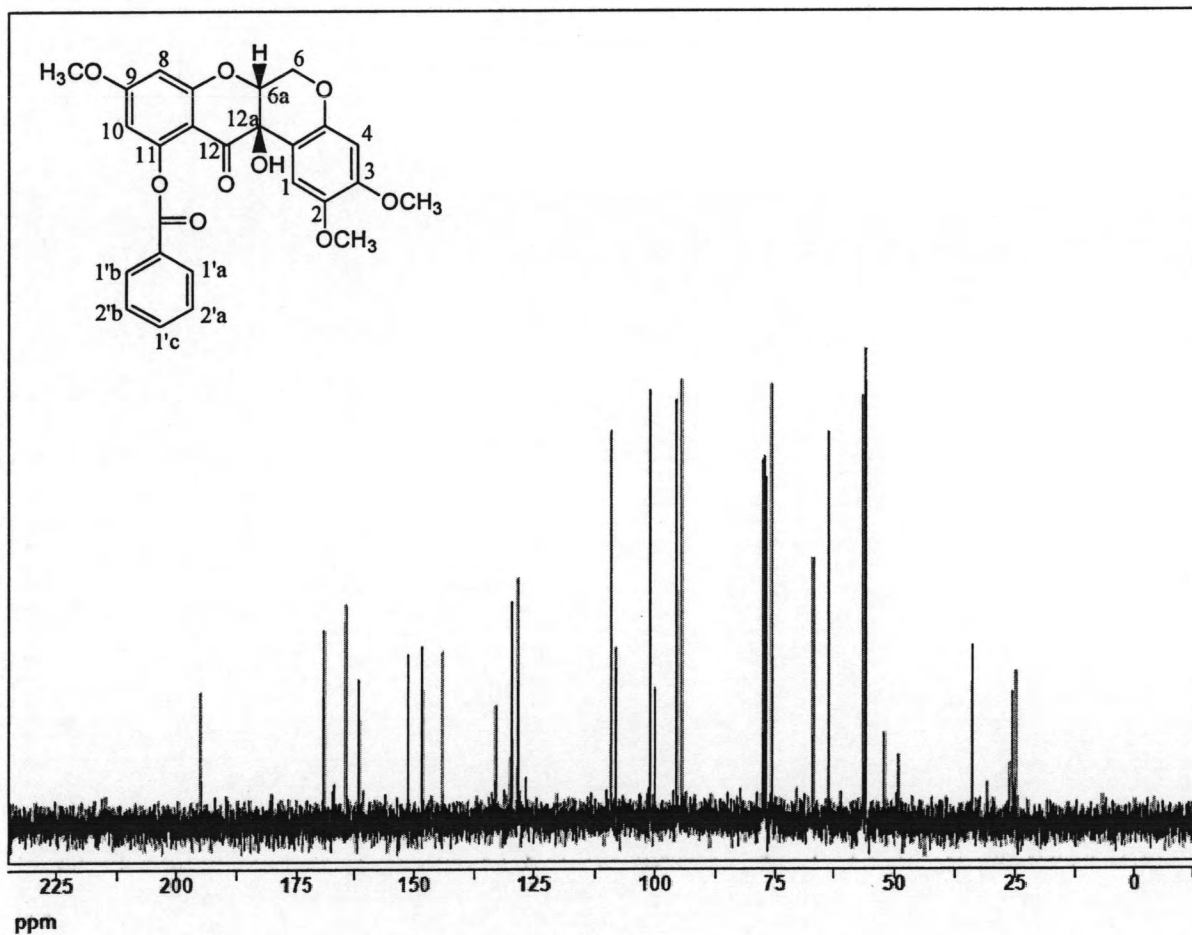


B.24 ^{13}C NMR spectrum of C

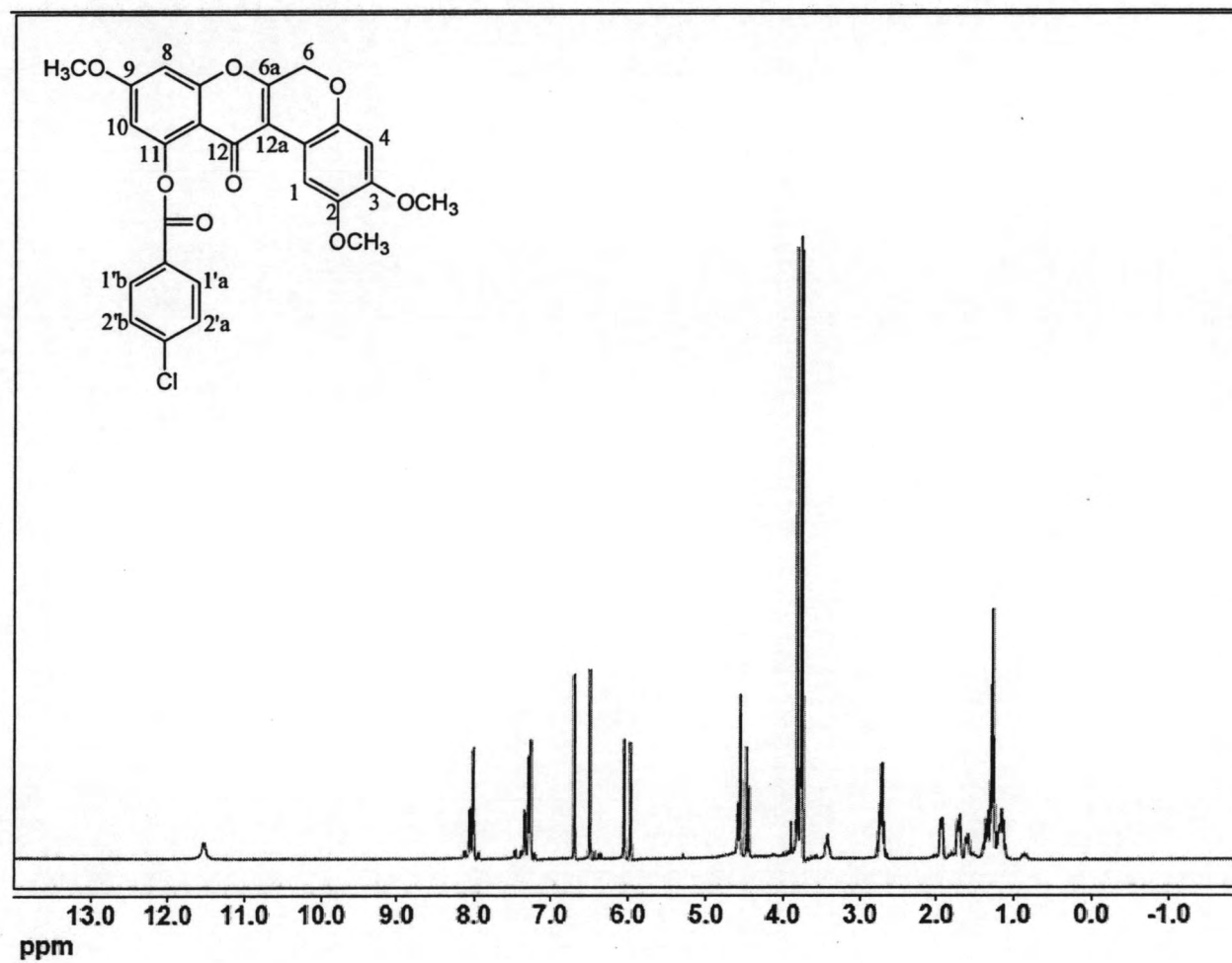


B.25 ^1H NMR spectrum of **D**

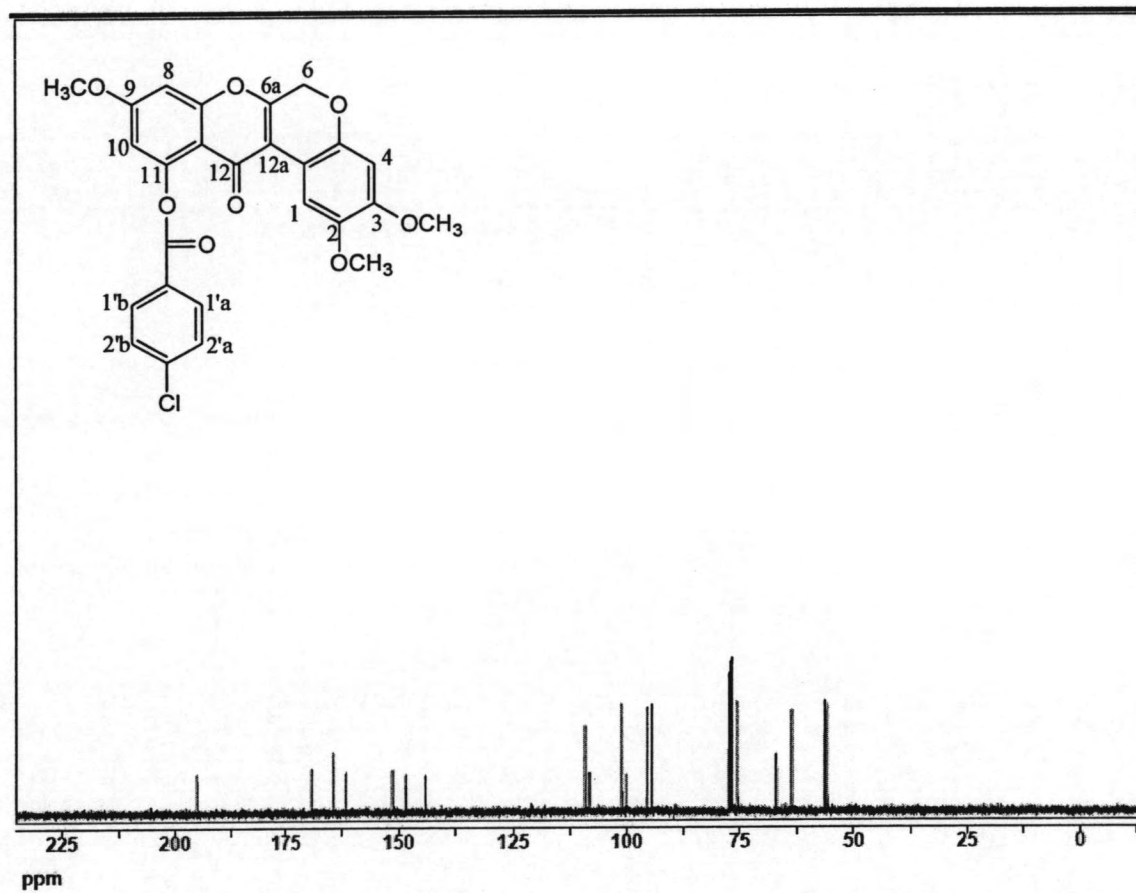
0117196120



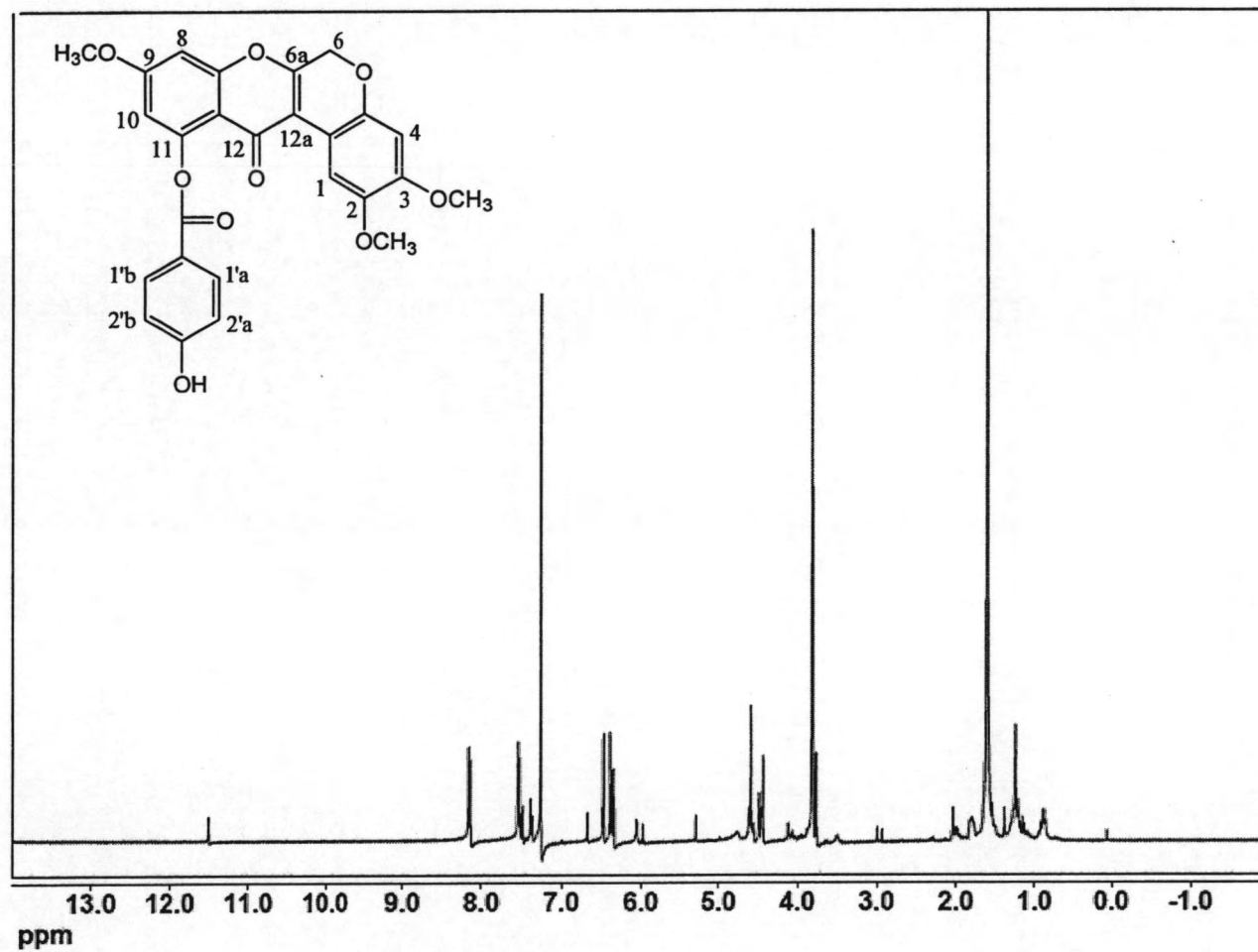
B.26 ^{13}C NMR spectrum of D



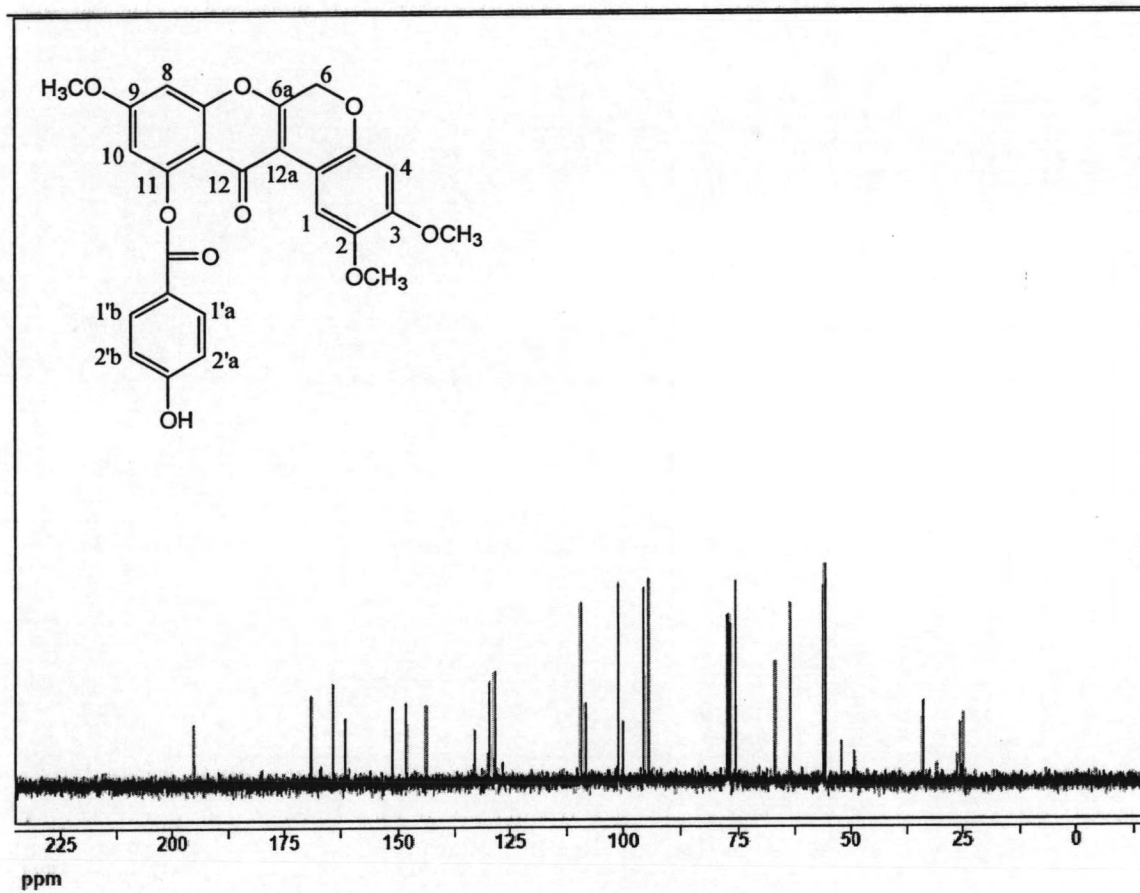
B.27 ¹H NMR spectrum of E



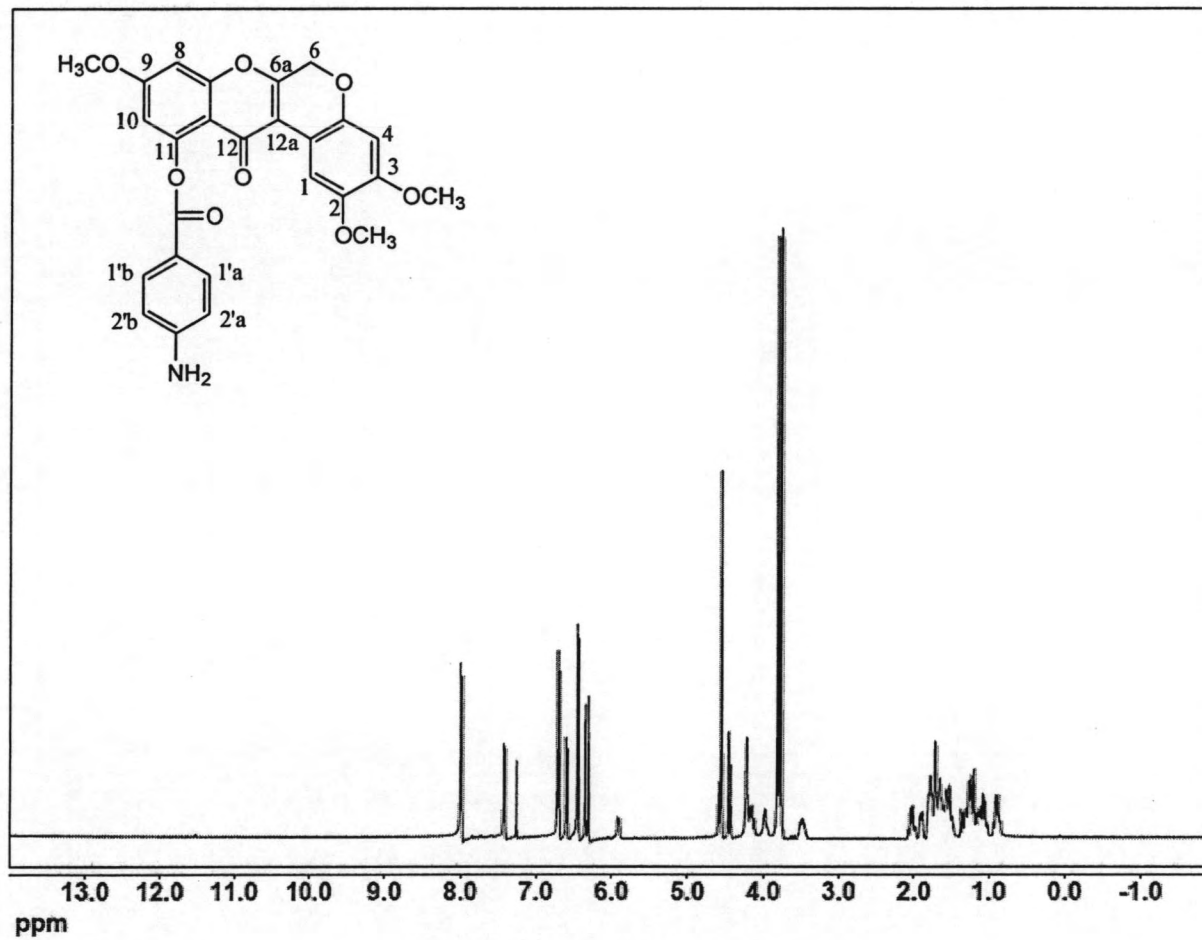
B.28 ^{13}C NMR spectrum of E



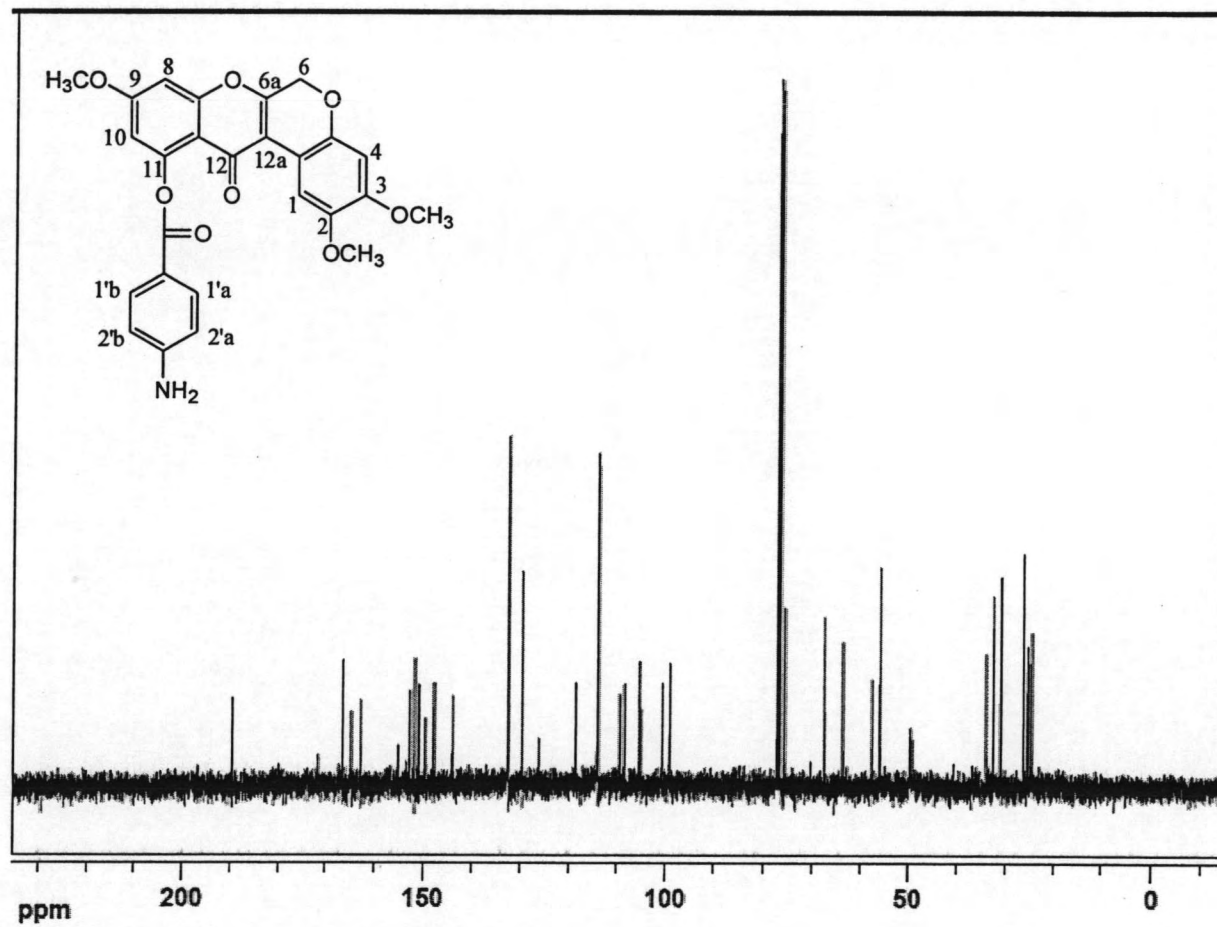
B.29 ^1H NMR spectrum of F



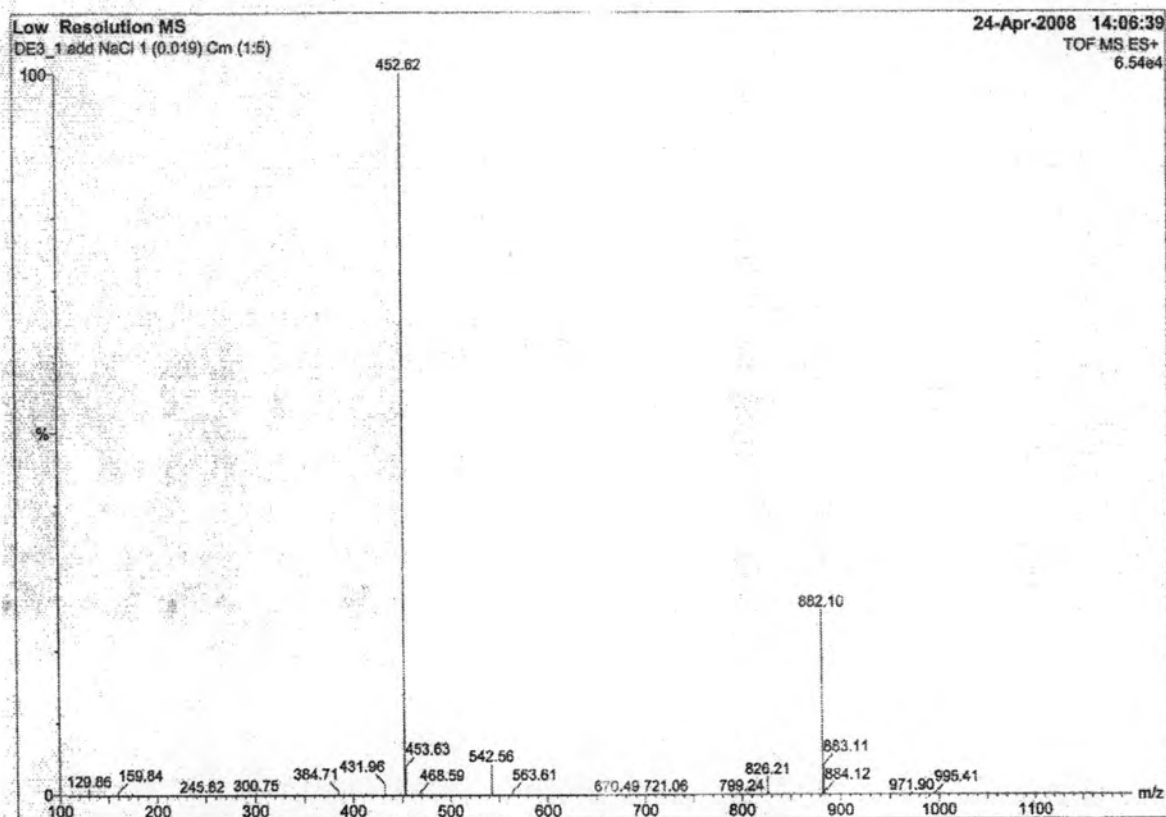
B.30 ^{13}C NMR spectrum of F



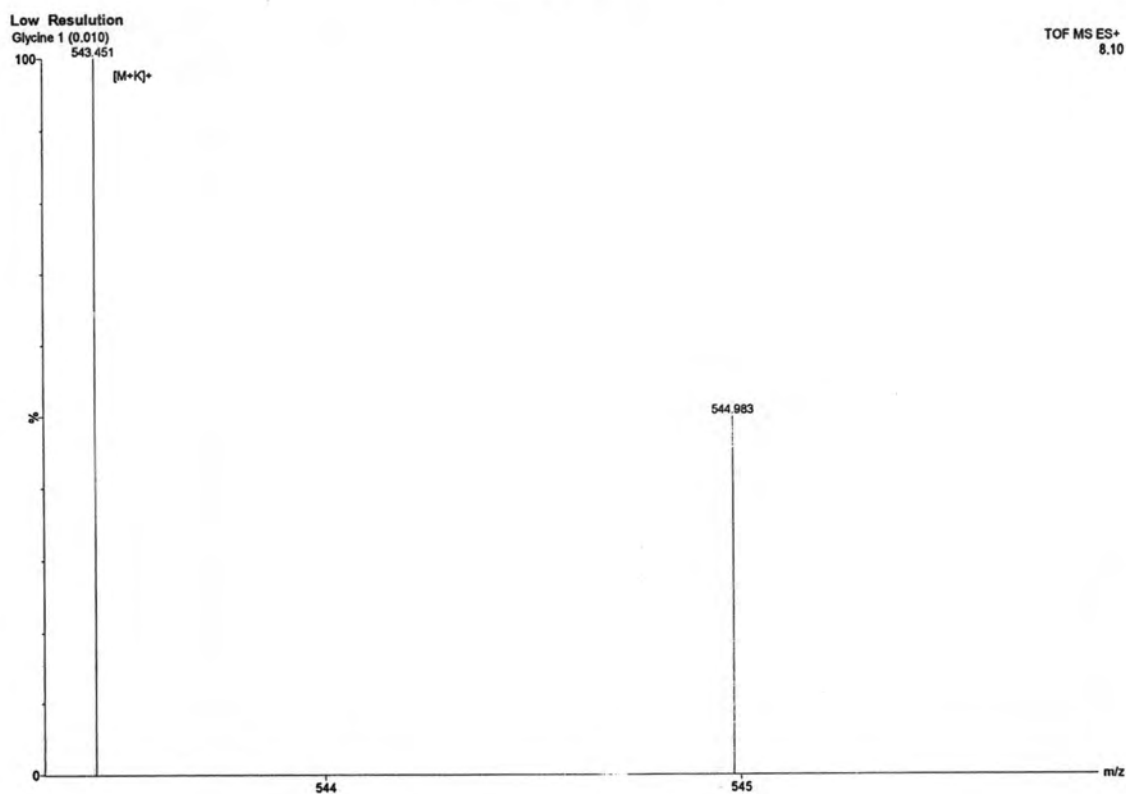
B.31 ^1H NMR spectrum of G



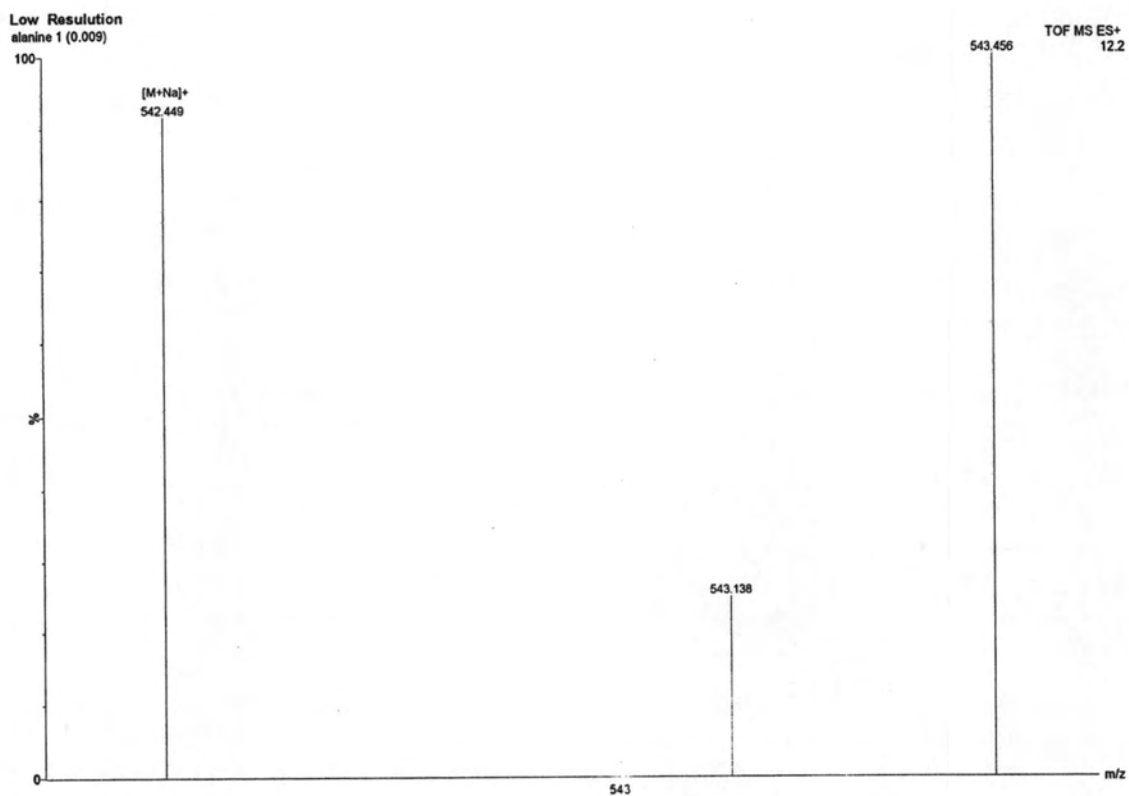
B.32 ^{13}C NMR spectrum of G



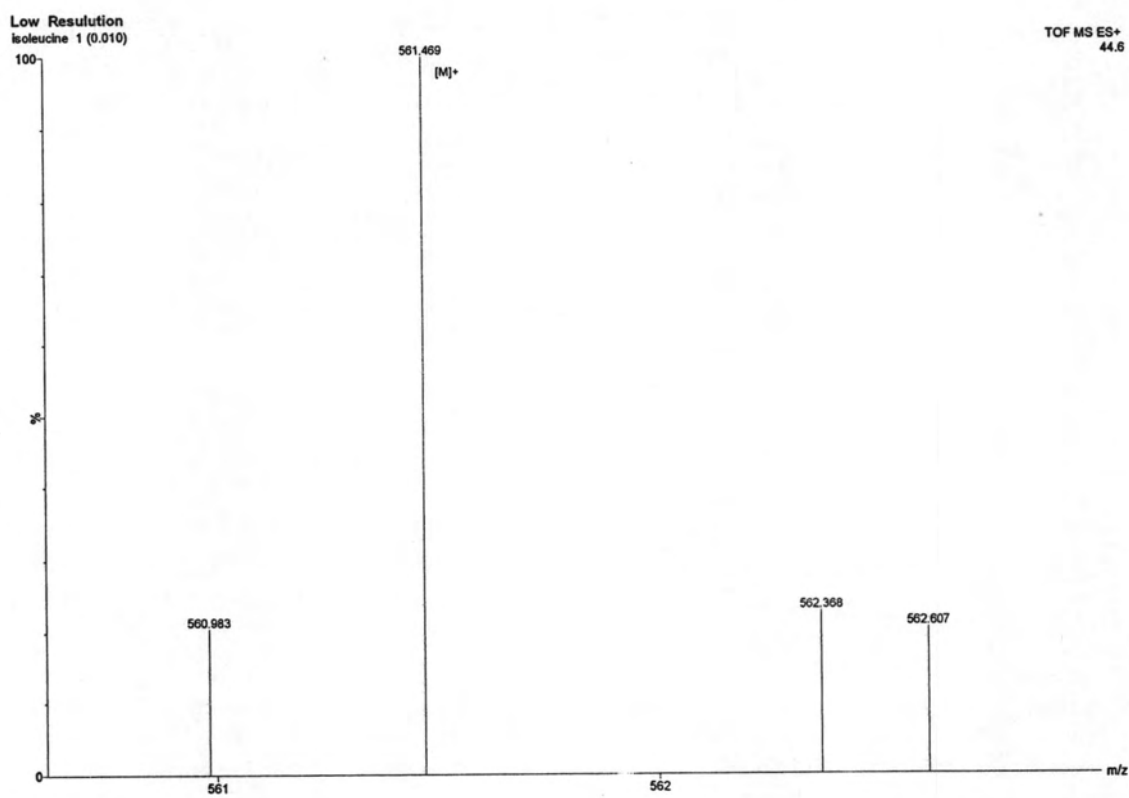
C.1 Mass spectrum of A



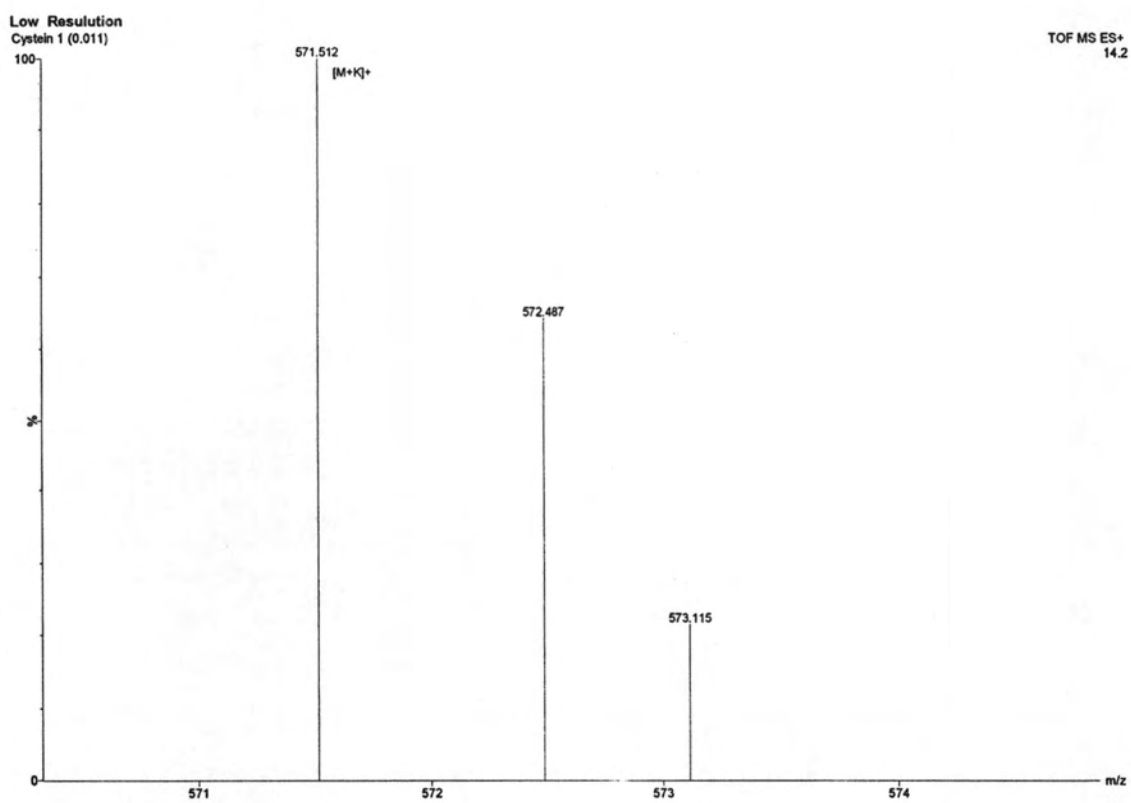
C.2 Mass spectrum of A1



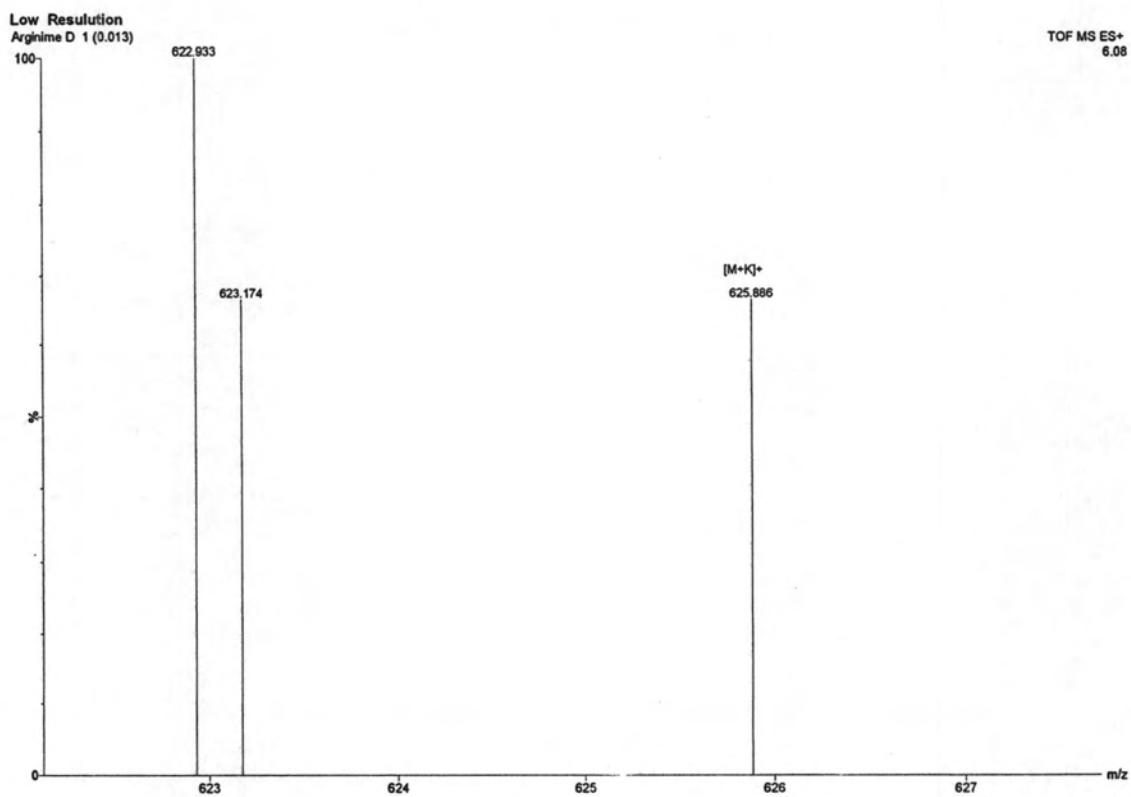
C.3 Mass spectrum of A2



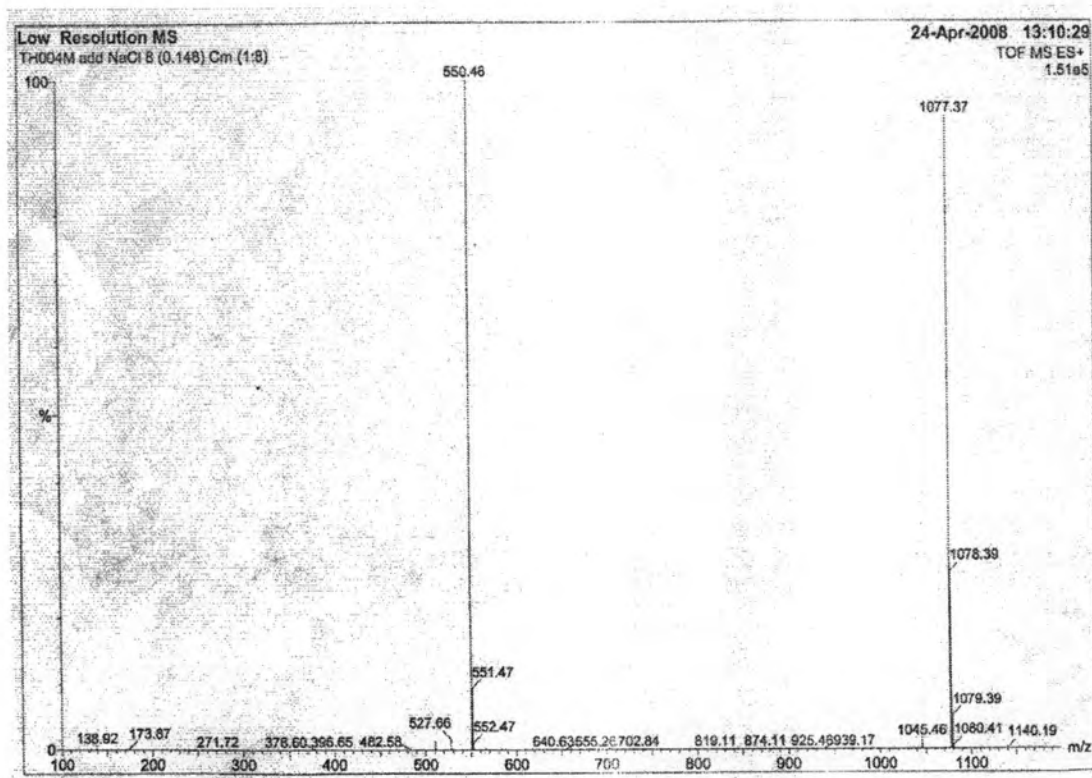
C.4 Mass spectrum of A3



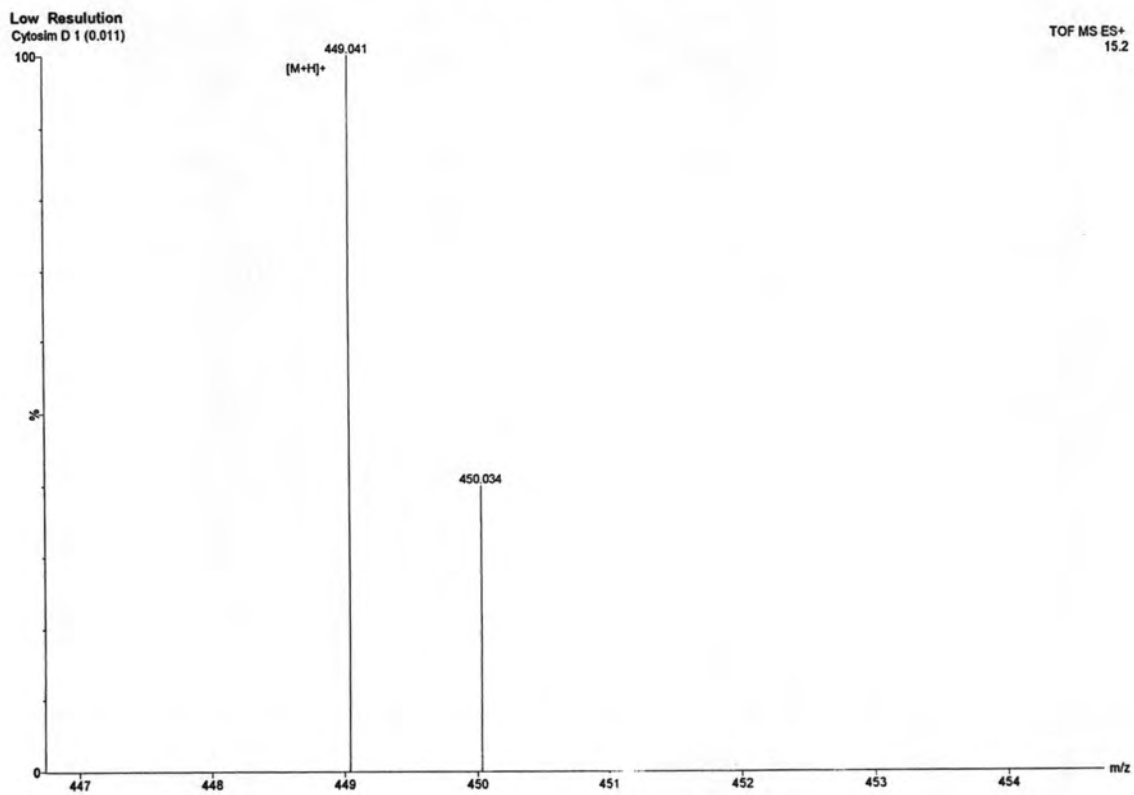
C.5 Mass spectrum of A4



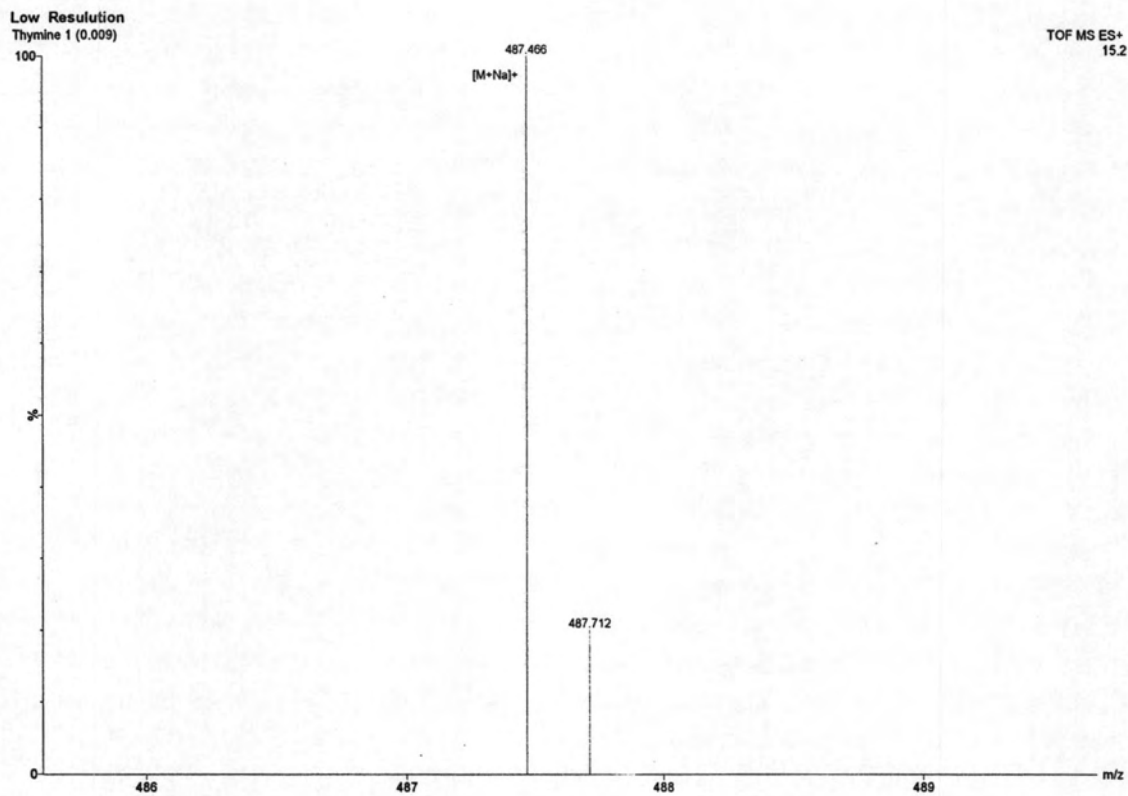
C.6 Mass spectrum of A5



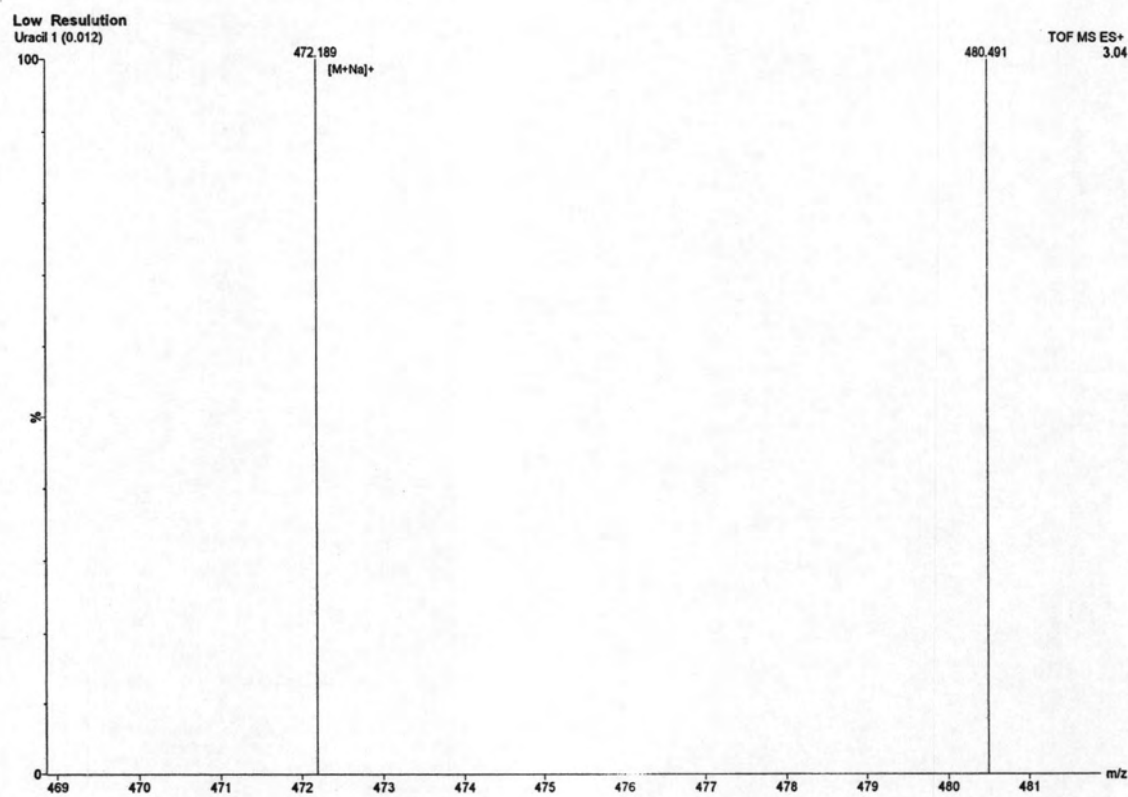
C.7 Mass spectrum of B



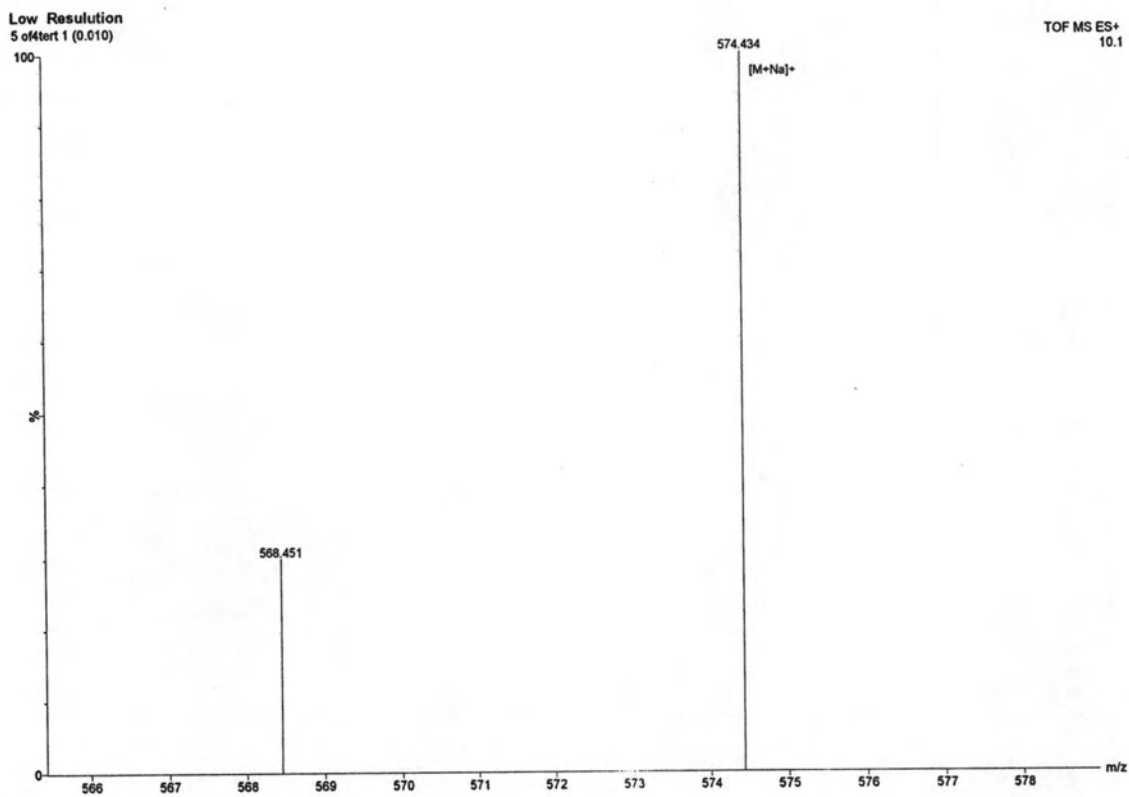
C.8 Mass spectrum of B1



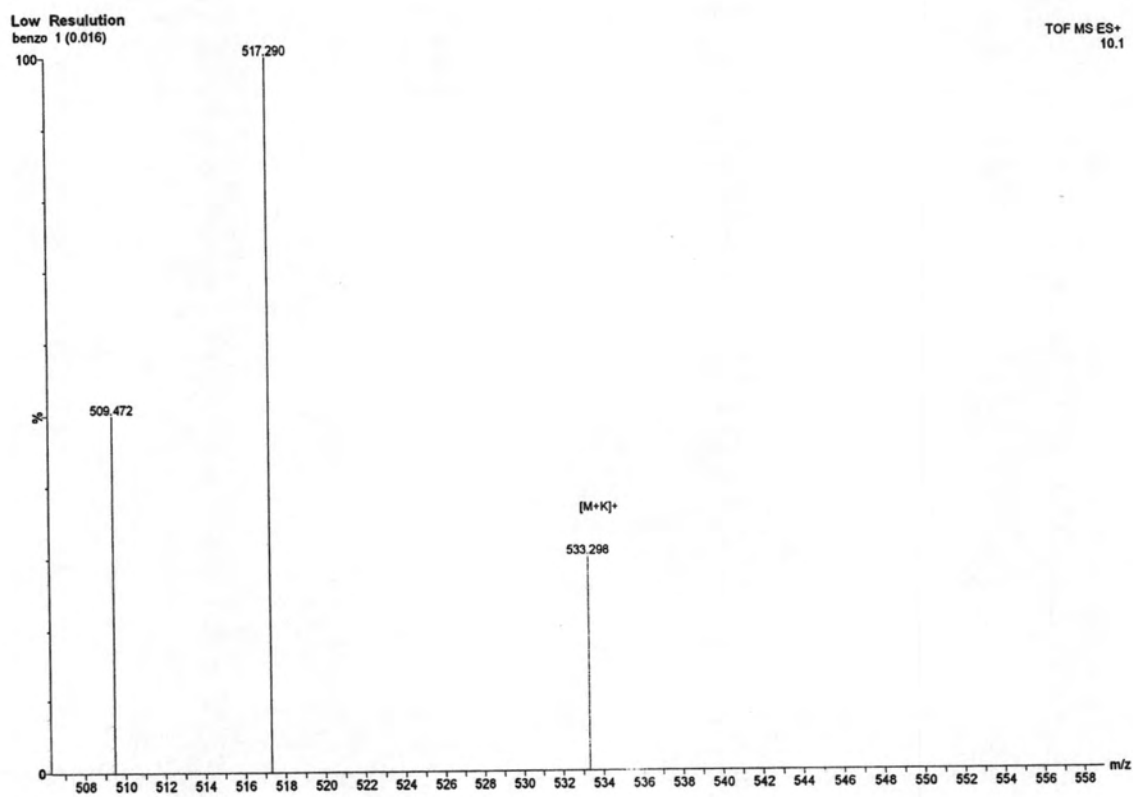
C.9 Mass spectrum of B2



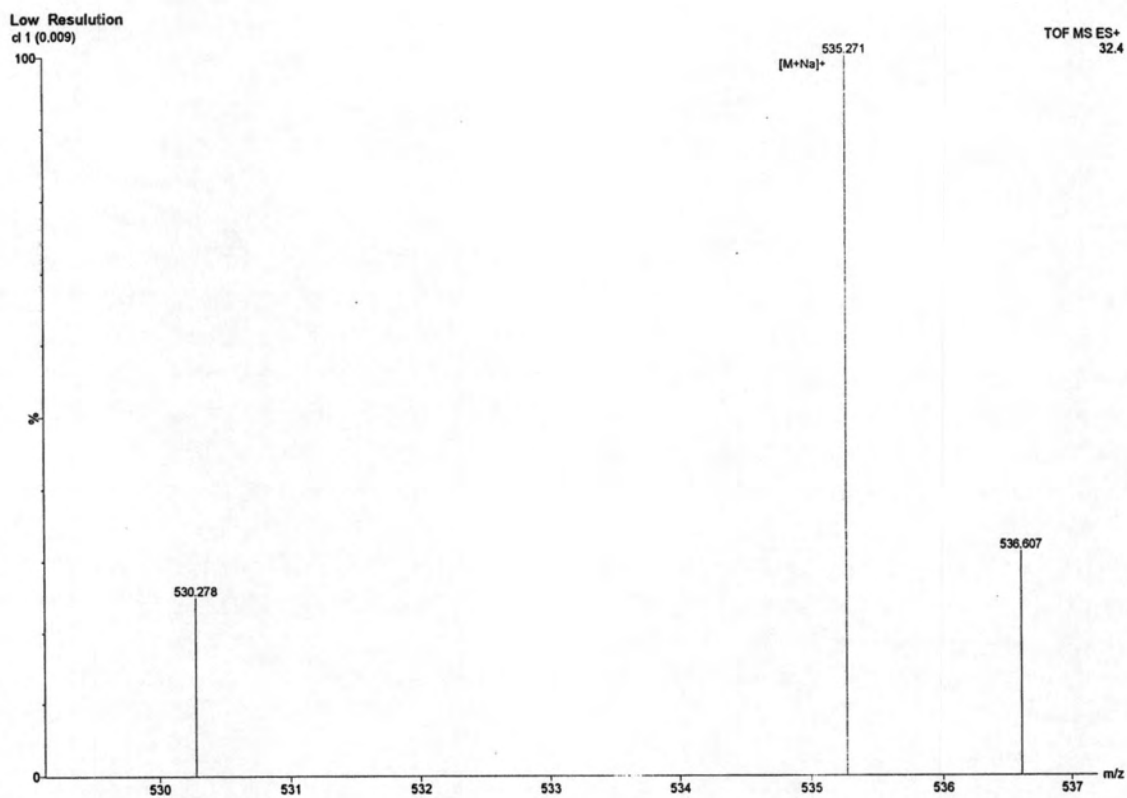
C.10 Mass spectrum of B3



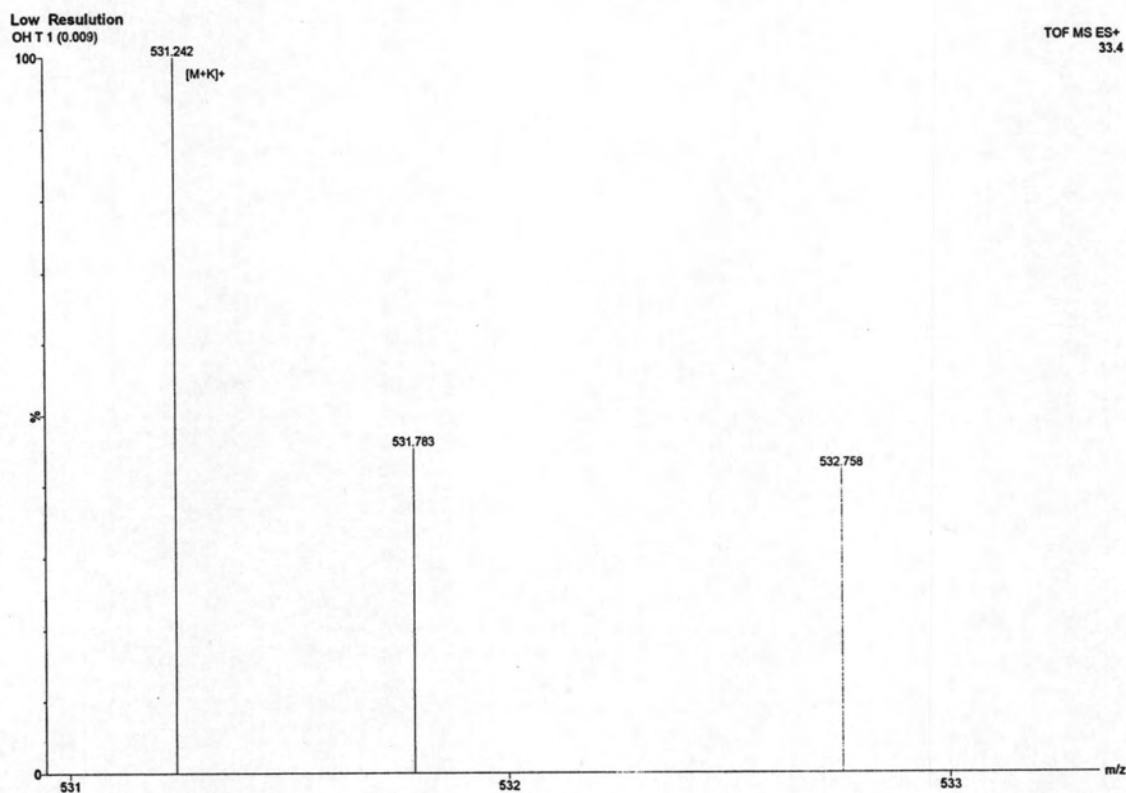
C.11 Mass spectrum of C



C.12 Mass spectrum of D

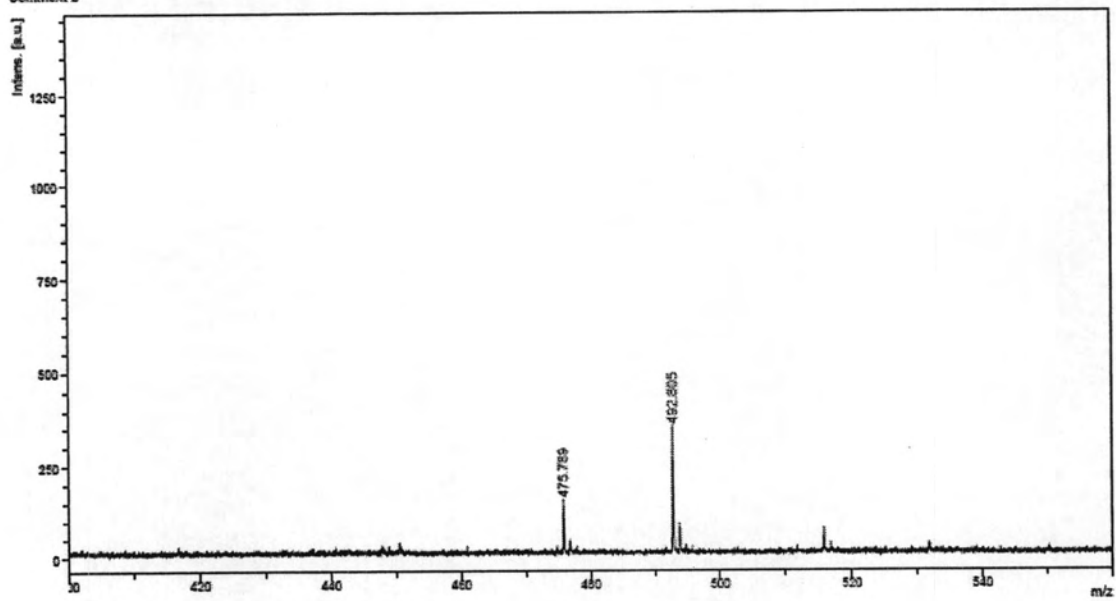


C.13 Mass spectrum of E



C.14 Mass spectrum of F

Comment 1 4-amino-ald-2
Comment 2



C.15 Mass spectrum of G

VITA

Pitiporn Chimsook was born on March 18, 1979 in Nakornsawan, Thailand. She received Bachelor Degree of Science in Chemistry from Chiangmai University in 2001 and graduated with the Master Degree of Science in 2003. Since 2003 she has become a student in Doctor of Philosophy of Chulalongkorn University studying in Program of Biotechnology, Faculty of Science, Chulalongkorn University.