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APPENDIX

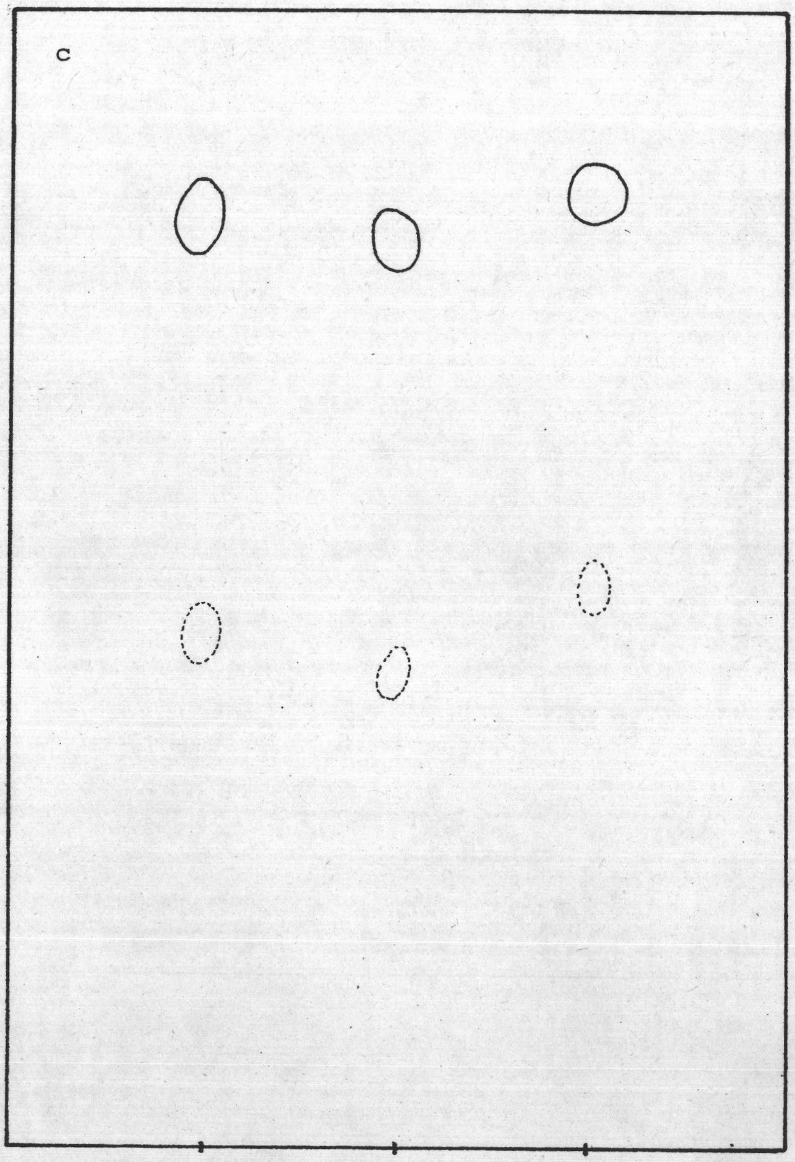

Figure 7 Thin layer chromatogram of crude alkaloid from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

——— major alkaloid (AT-1)

--------- minor alkaloid (AT-2)

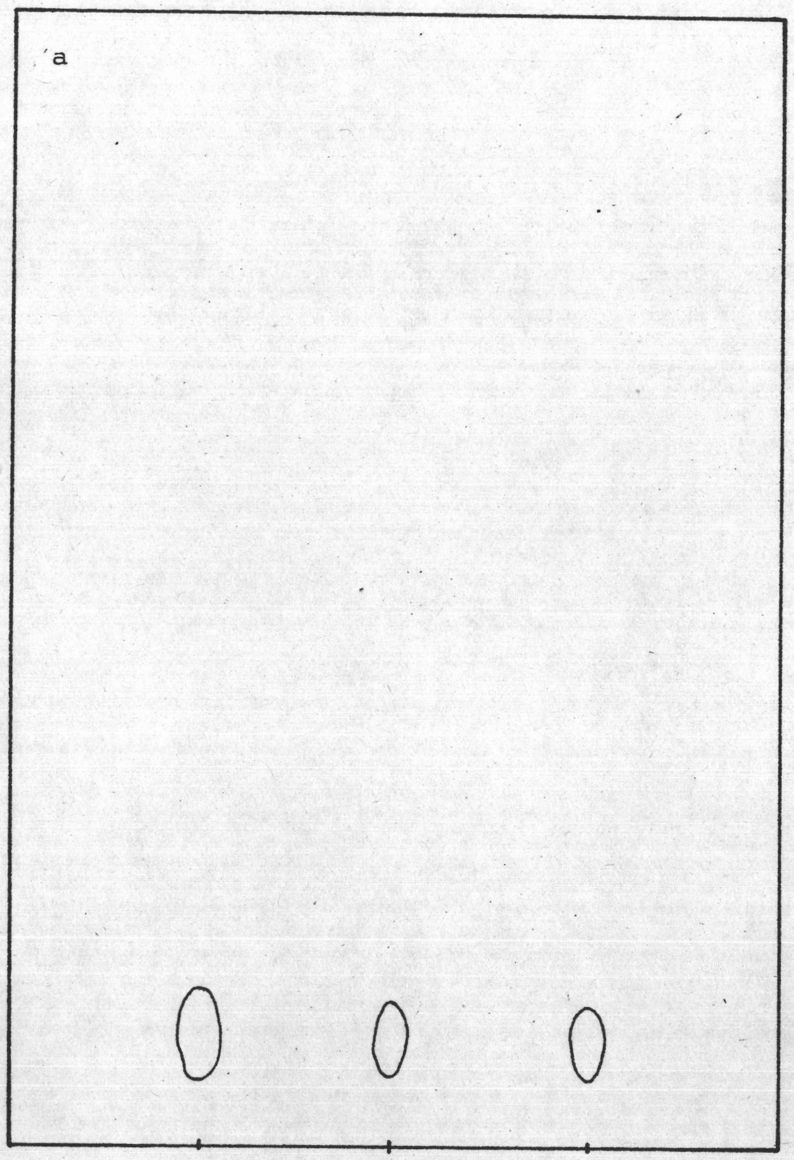

Figure 8 Thin layer chromatogram of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

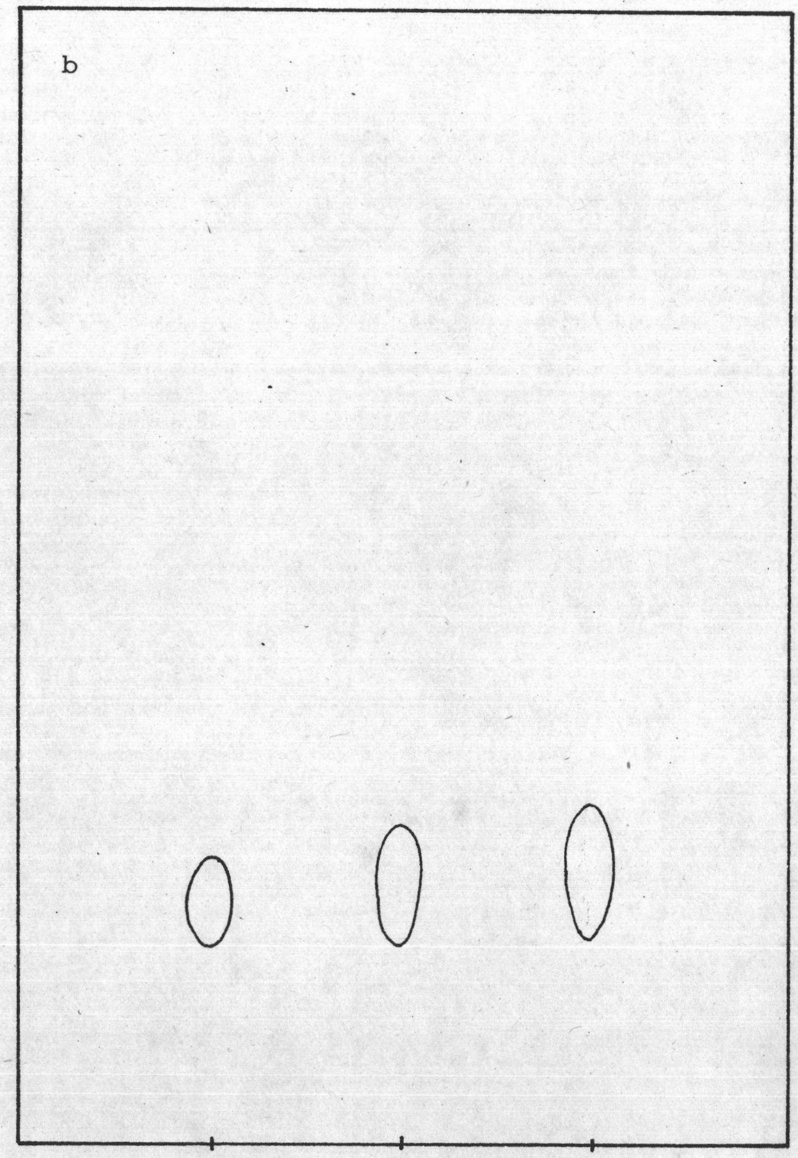

Figure 9 Thin layer chromatogram of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

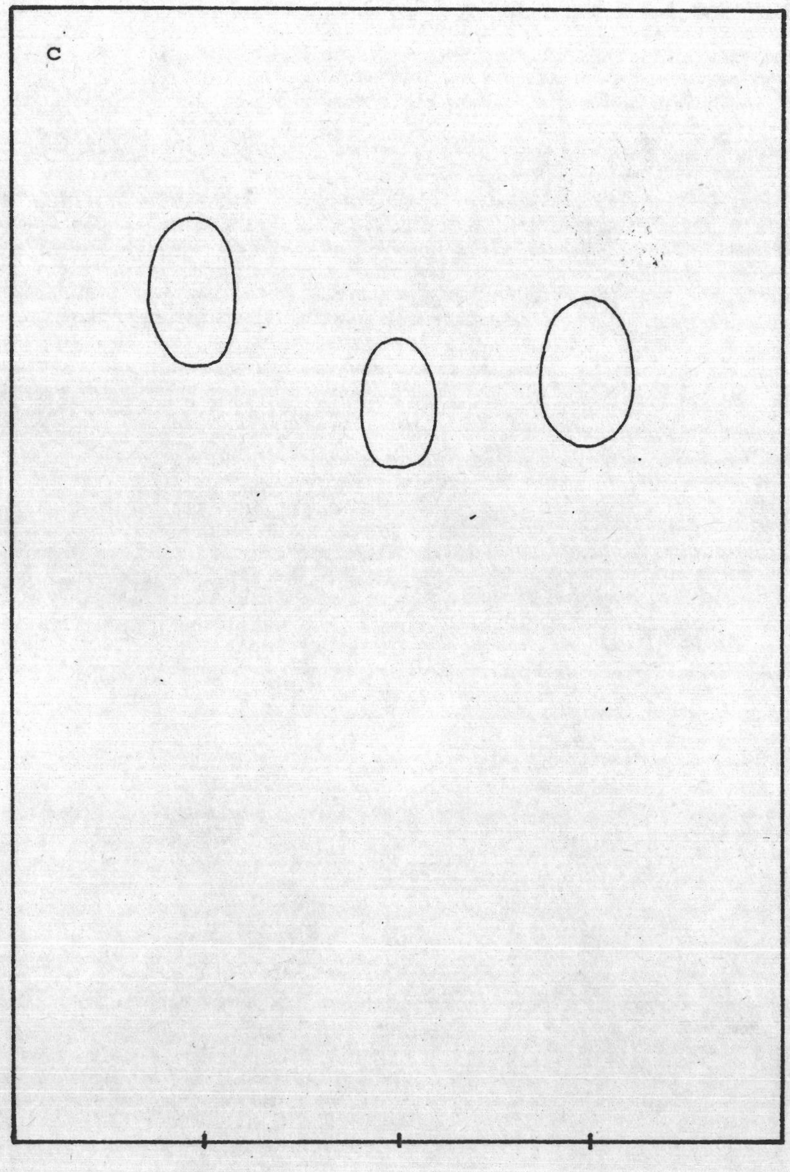

Figure 10 Thin layer chromatogram of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

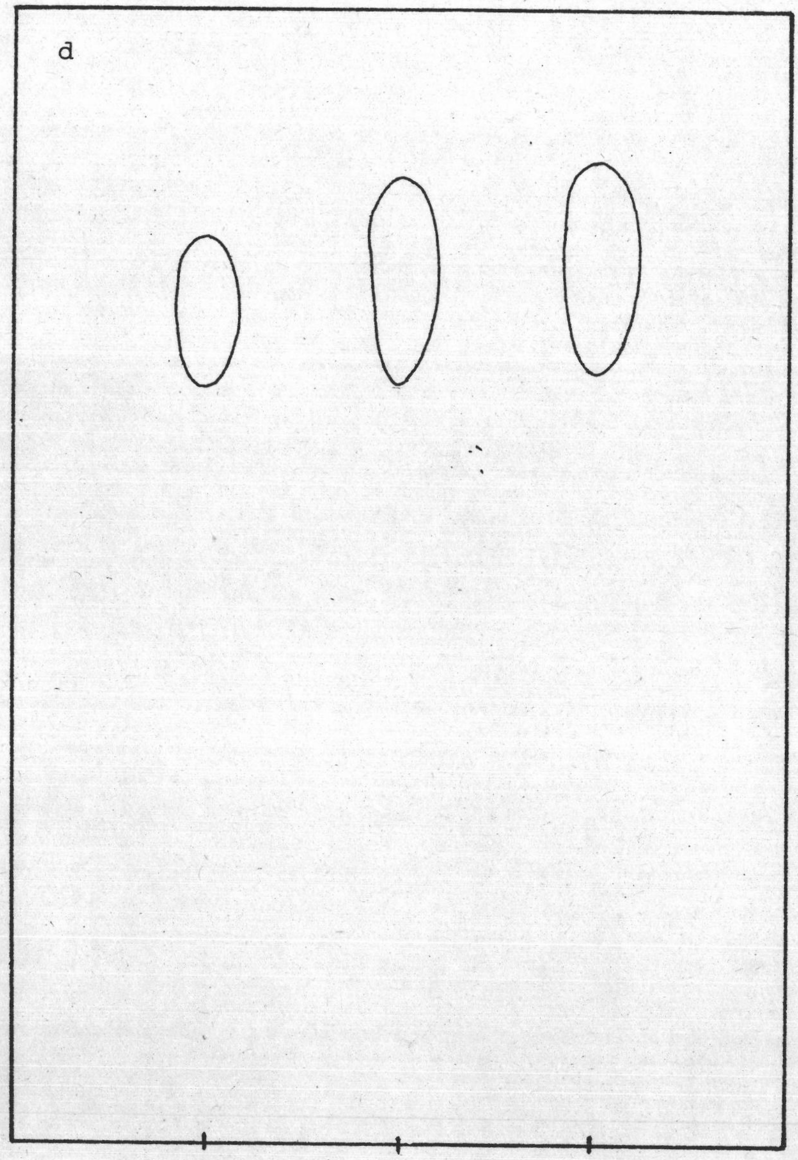

Figure 11 Thin layer chromatogram of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

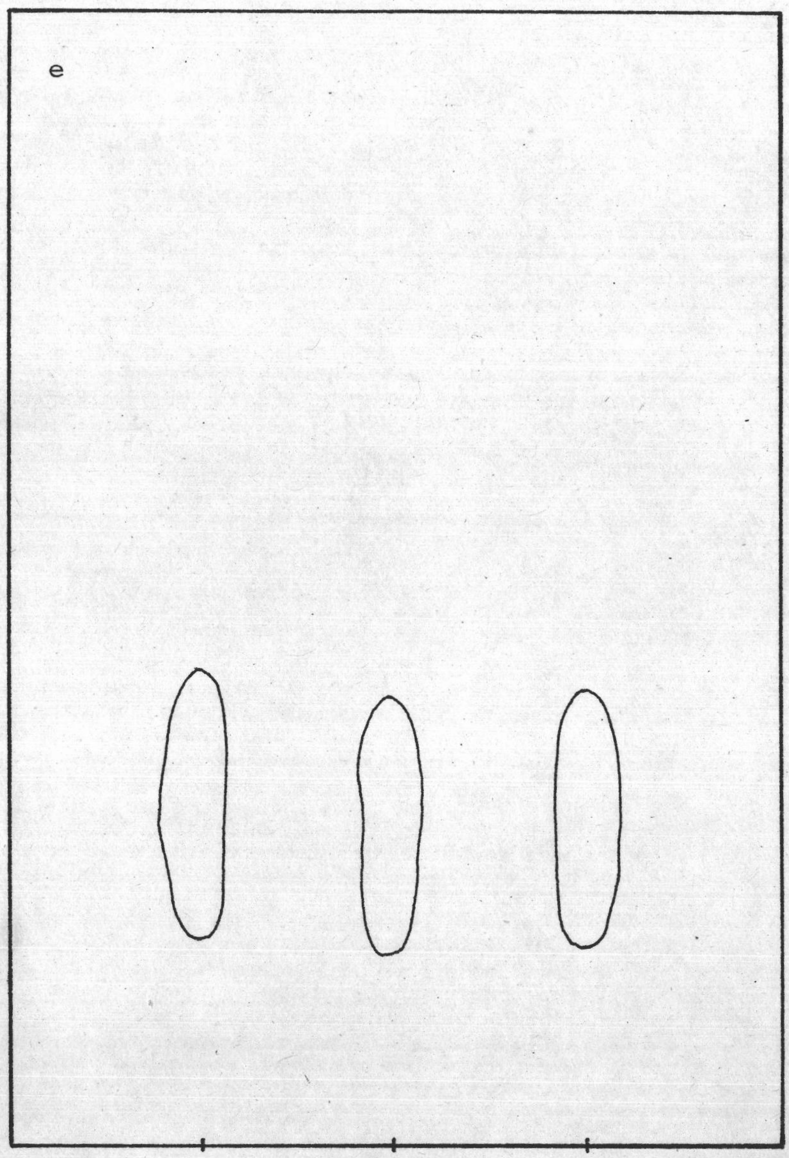

Figure 12 Thin layer chromatogram of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

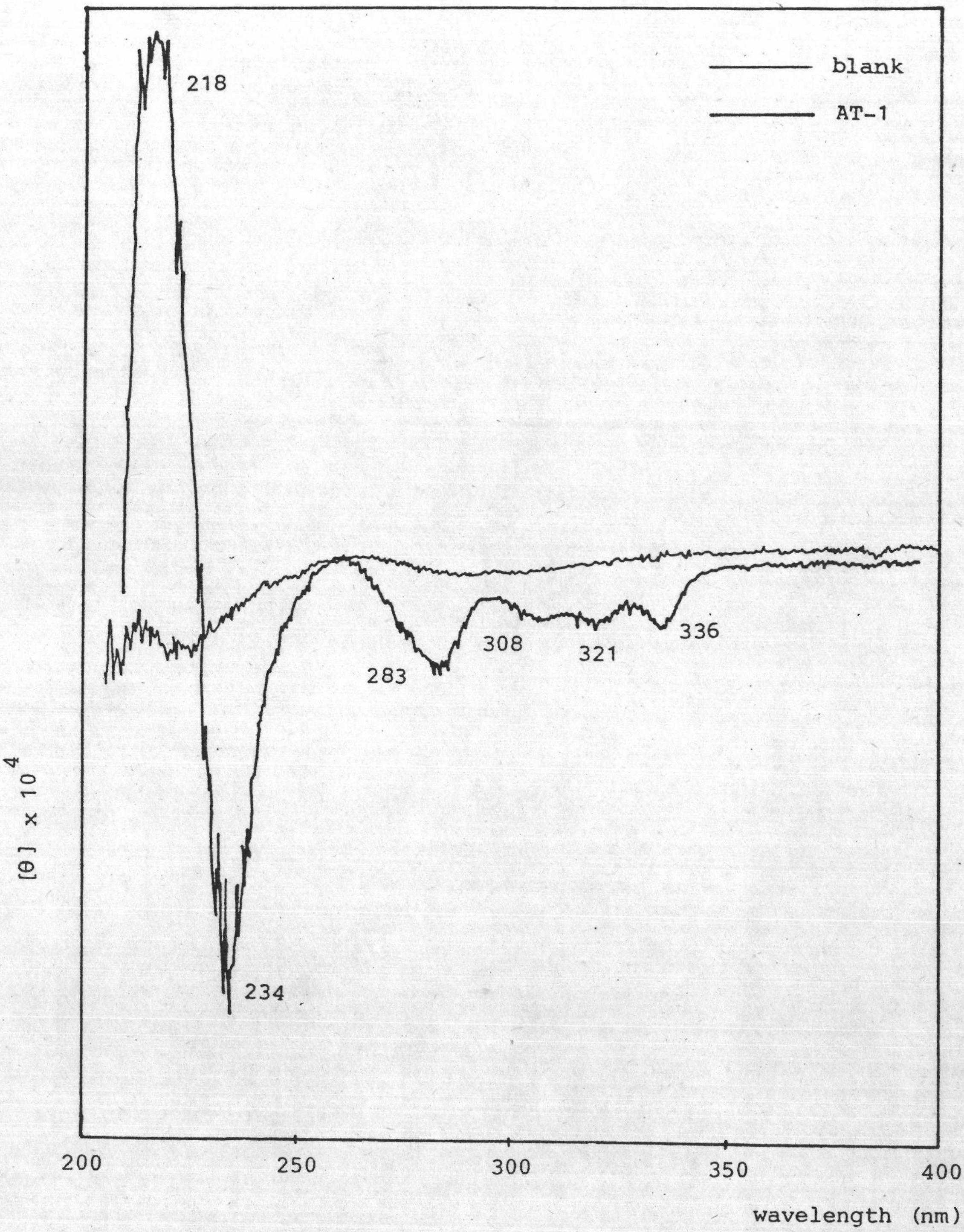

Figure 13 Circular dichroism spectrum of alkaloid AT-1 from the leaves of *Ancistrocladus tectorius* (Lour.) Merr. (in methanol)

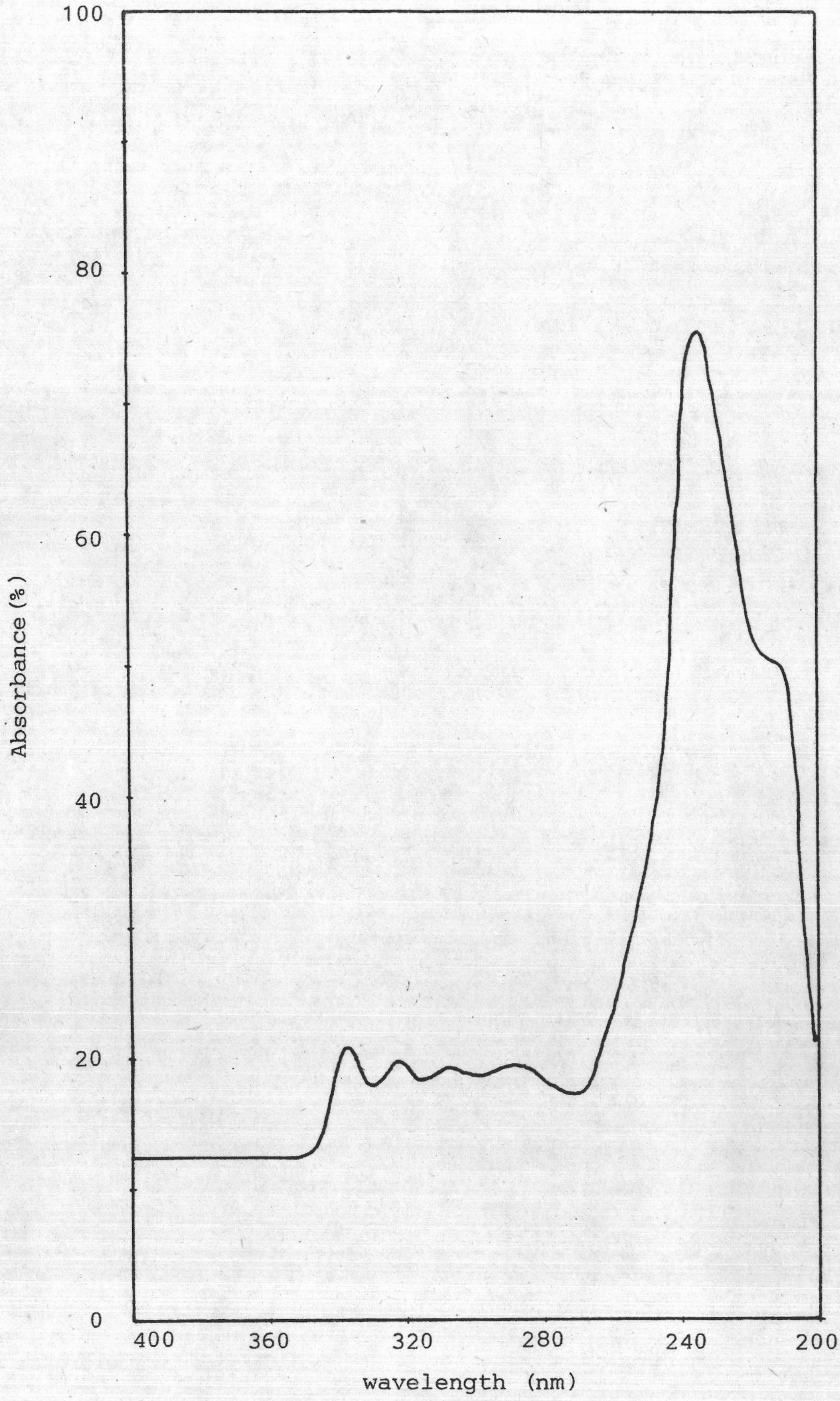

Figure 14 Ultraviolet absorption spectrum of alkaloid AT-1 from the leaves of *Ancistrocladus tectotius* (Lour.) Merr. in ethanol.

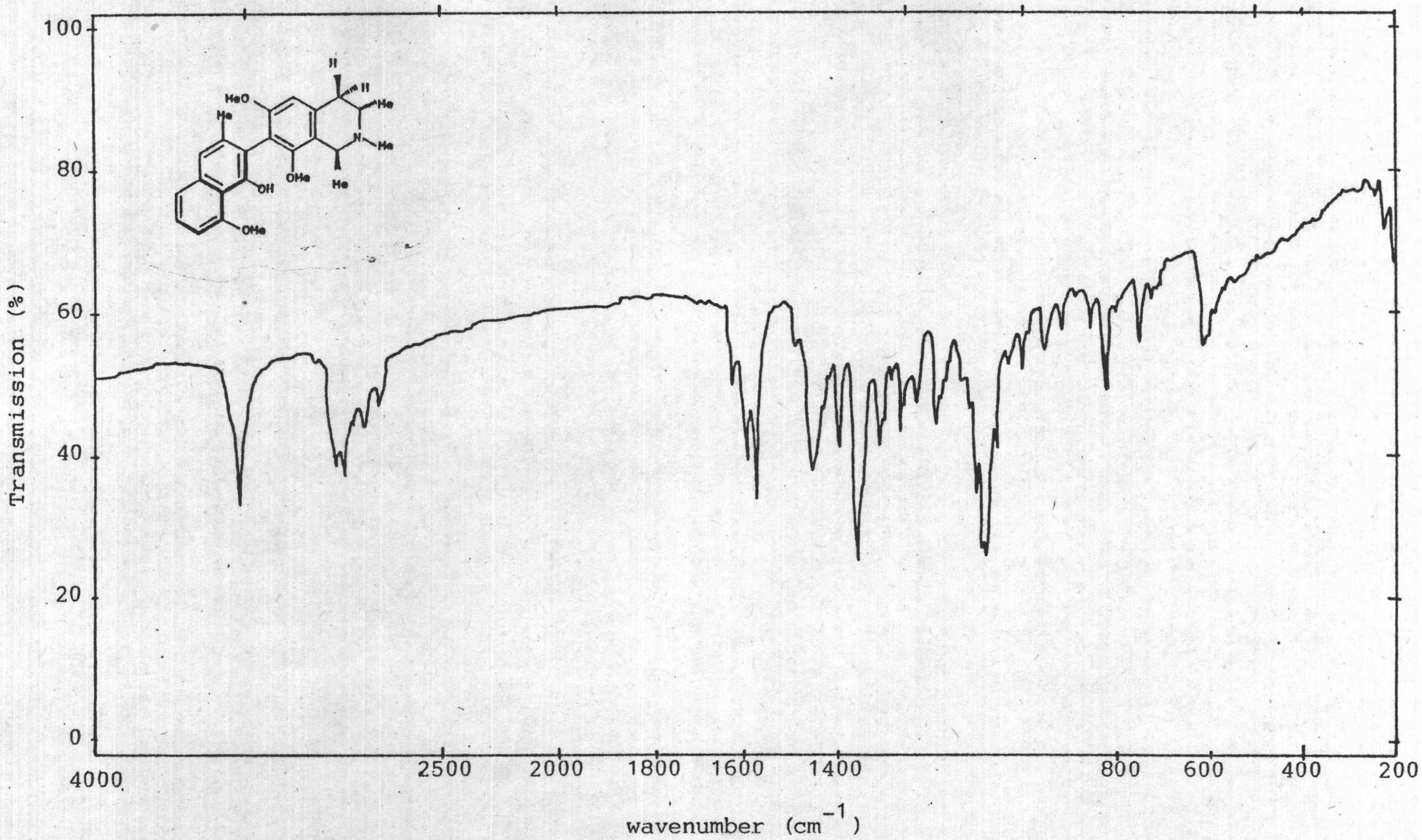

Figure 15 Infrared absorption spectrum of alkaloid AT-1 from the leaves of *Ancistrocladus tectorius* (Lour.) Merr. in KBr disc.

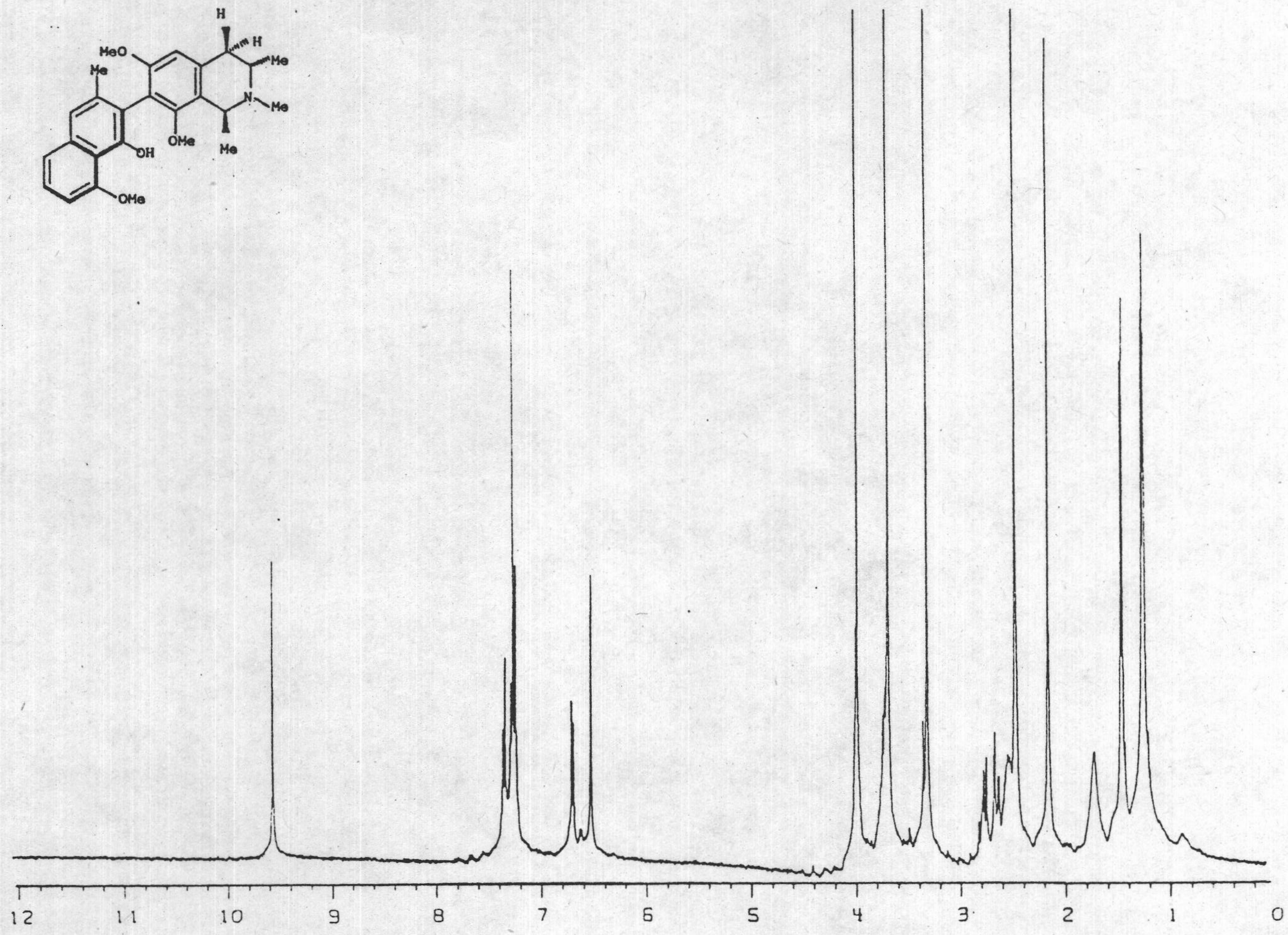

Figure 16 360 MHz nuclear magnetic resonance spectrum of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves in $CDCl_3$.

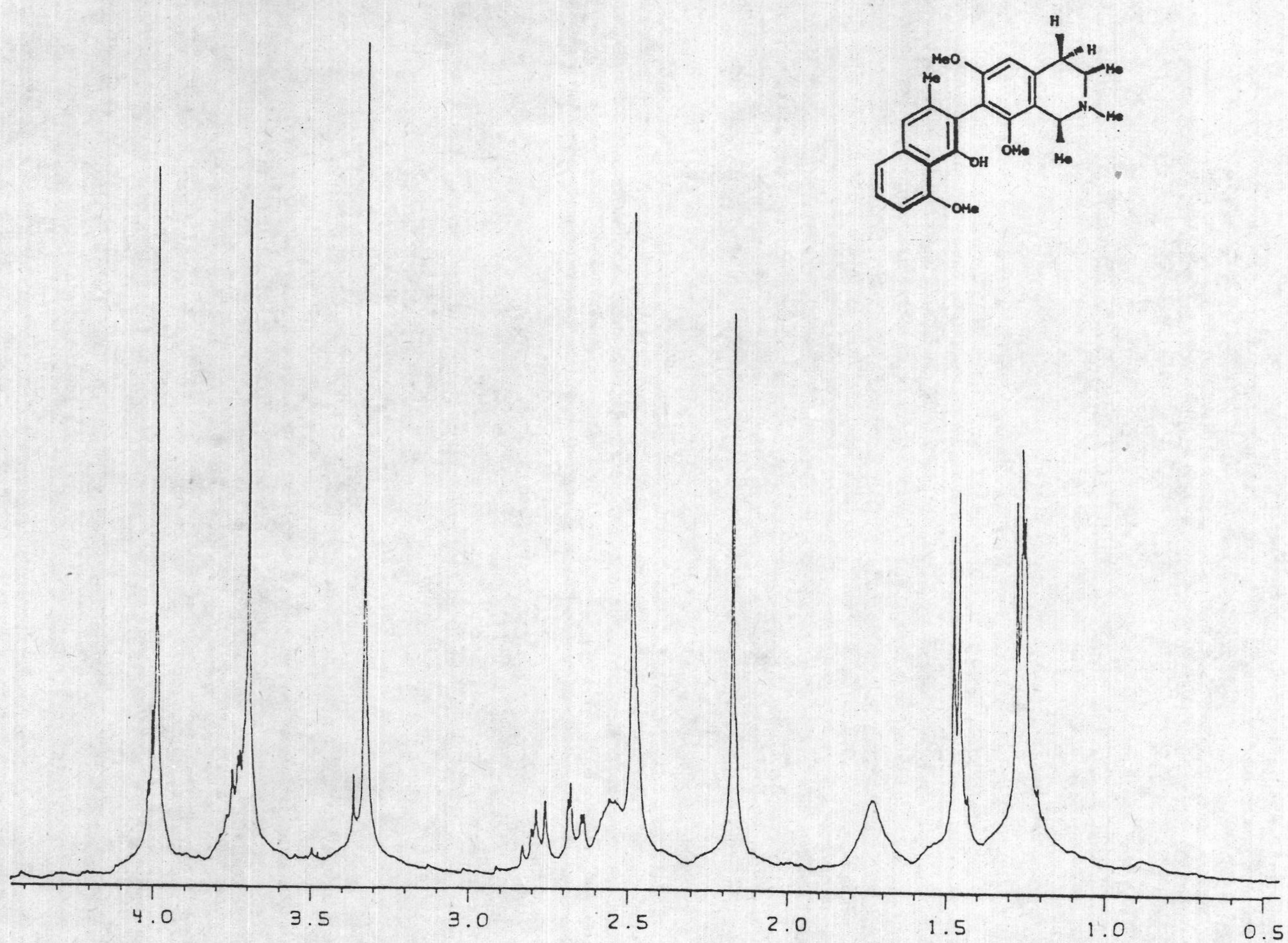

Figure 17 Expanded 360 MHz nuclear magnetic resonance spectrum of AT-1 in $CDCl_3$ at 0.5-4.0 ppm

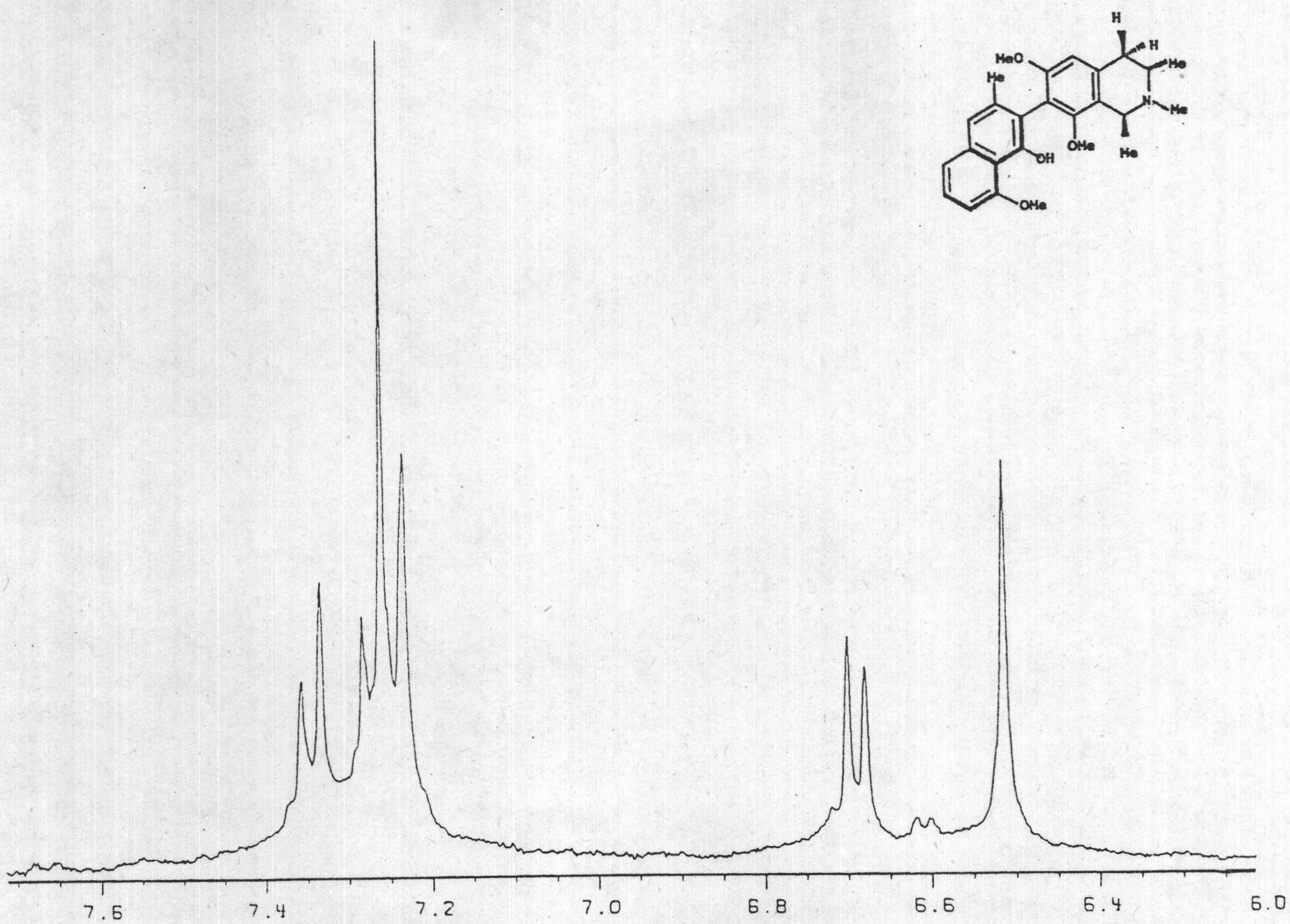

Figure 18 Expanded 360 MHz nuclear magnetic resonance spectrum of AT-1 in $CDCl_3$ at 6.0-7.6 ppm

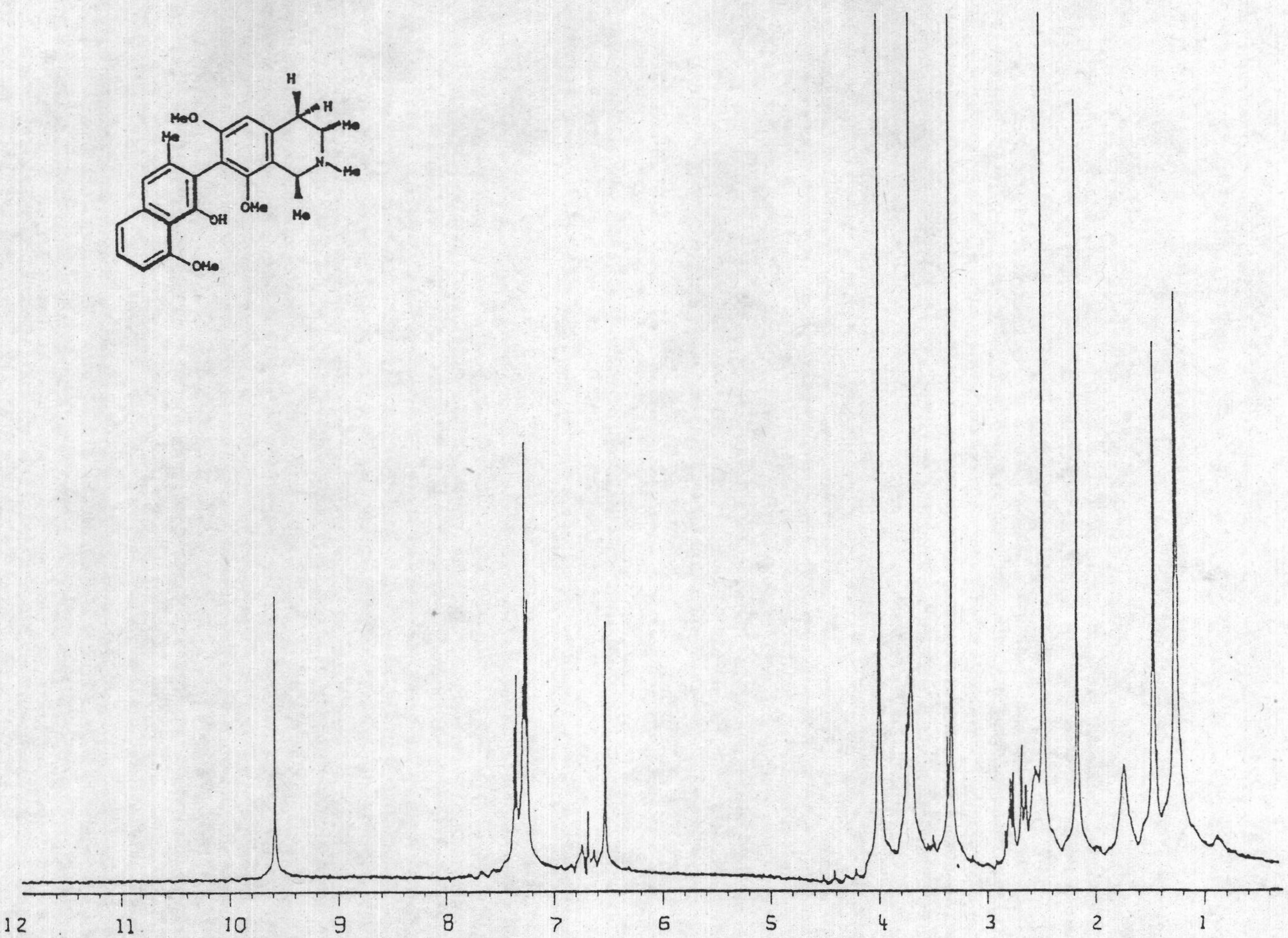

Figure 19 Irradiated 360 MHz nuclear magnetic resonance spectrum of AT-1 in $CDCl_3$ at 6.69 ppm.

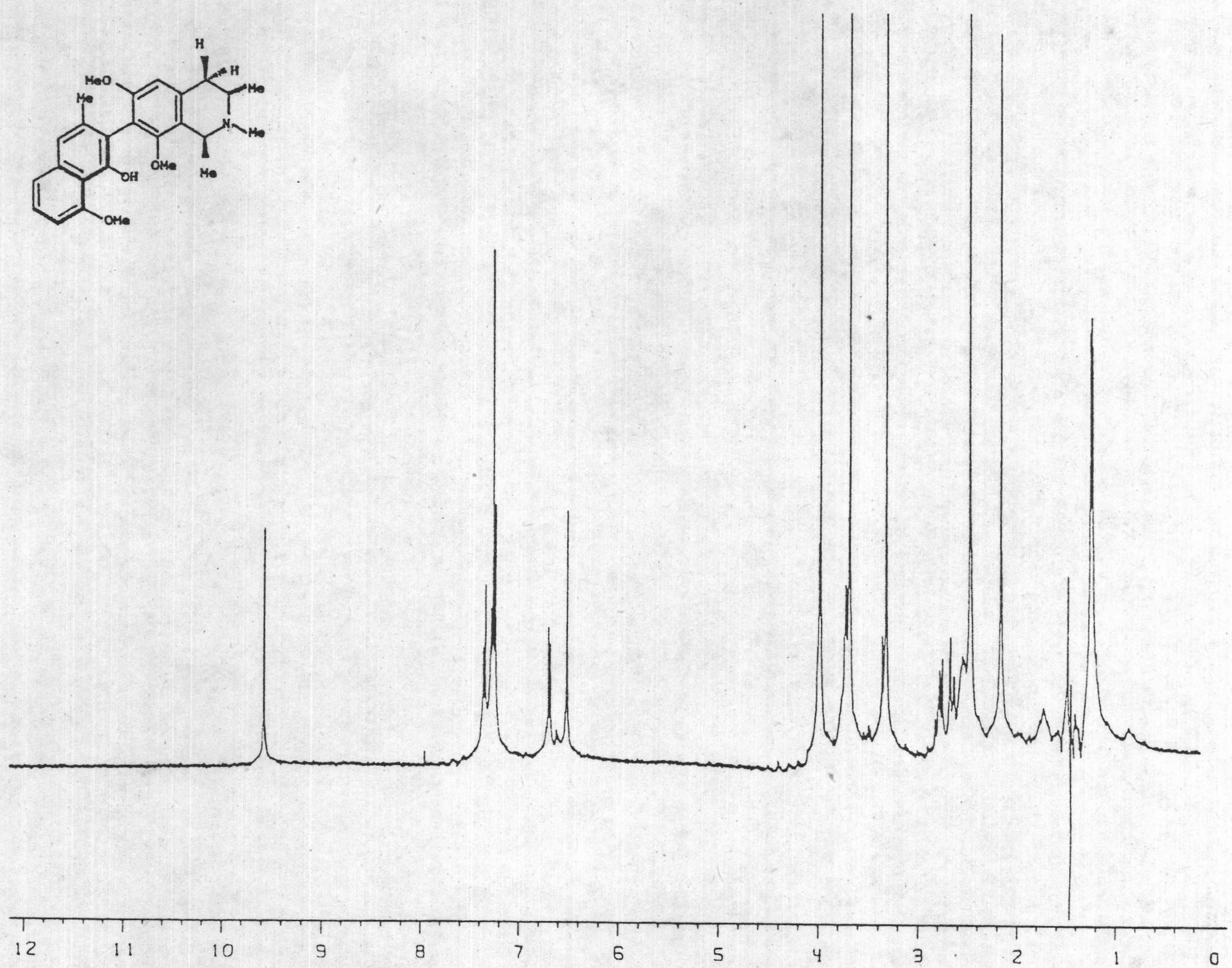

Figure 20 Irradiated 360 MHz nuclear magnetic resonance spectrum of AT-1 in $CDCl_3$ at 1.47 ppm.

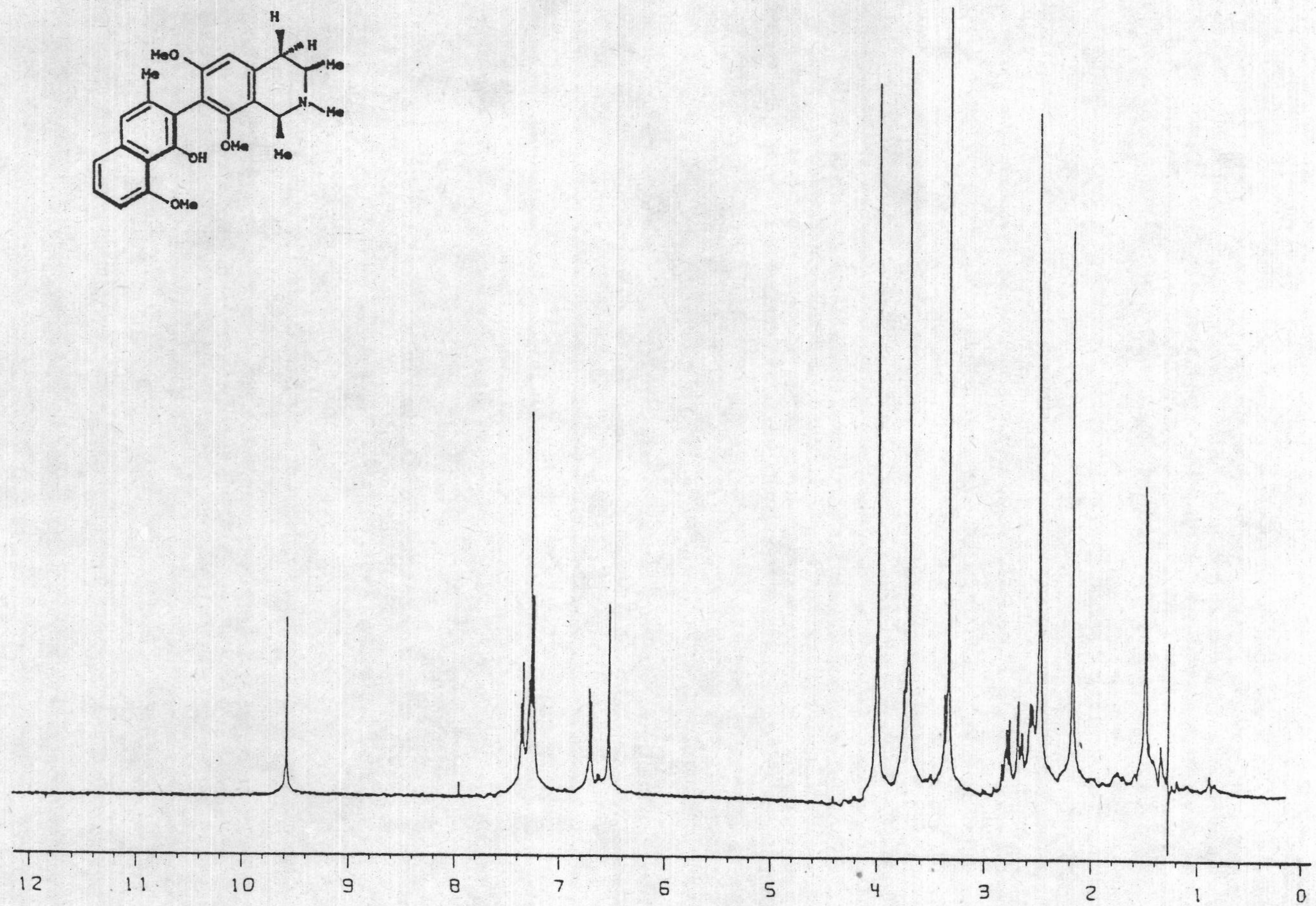

Figure 21 Irradiated 360 MHz nuclear magnetic resonance spectrum of AT-1 in $CDCl_3$ at 1.27 ppm.

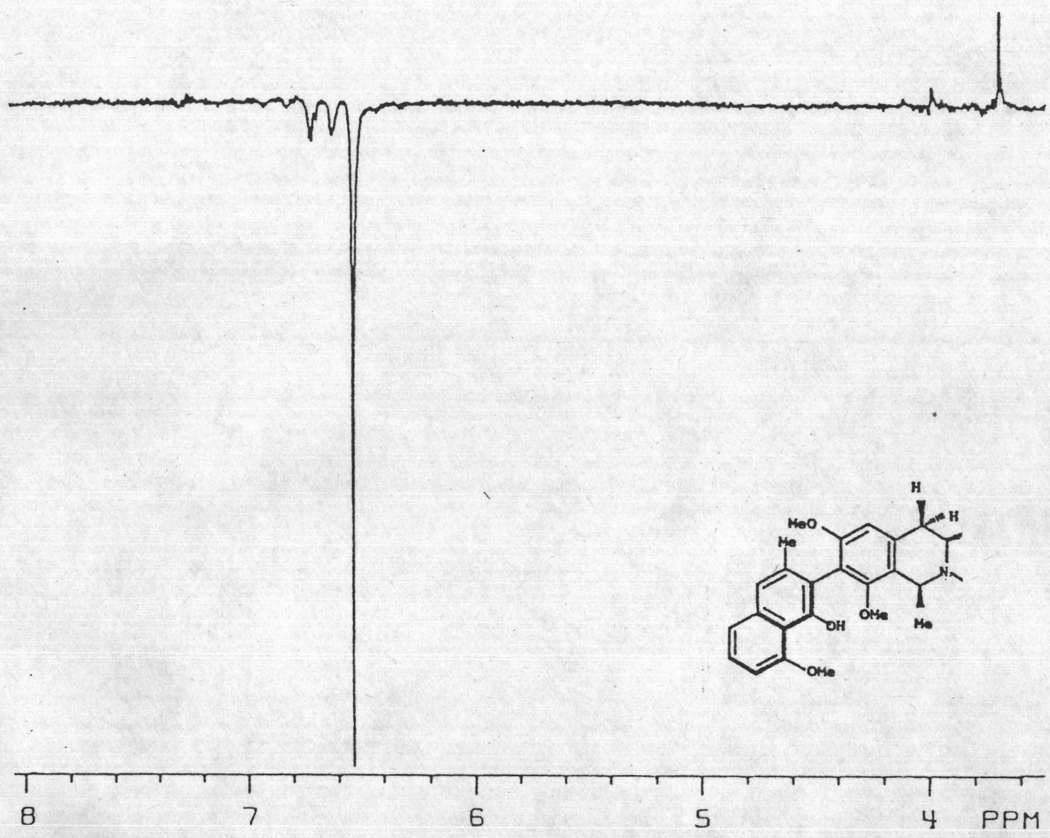

Figure 22 NOE experiment of alkaloid AT-1.

Irradiated at 6.5 ppm : 3.692 ppm 4% nOe

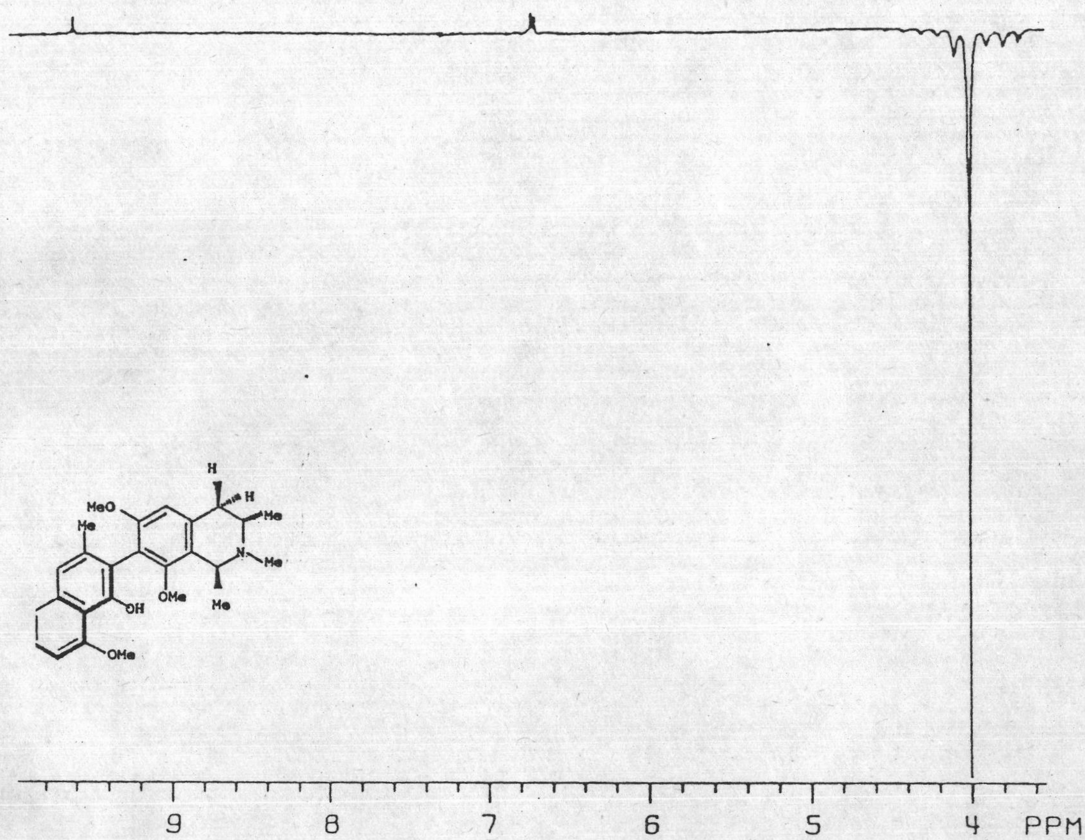

Figure 23 NOE experiment of alkaloid AT-1.

Irradiated at 3.98 ppm : 6.679 ppm 3.1% nOe

6.699 ppm 6.3% nOe *

9.569 ppm 1.7% nOe

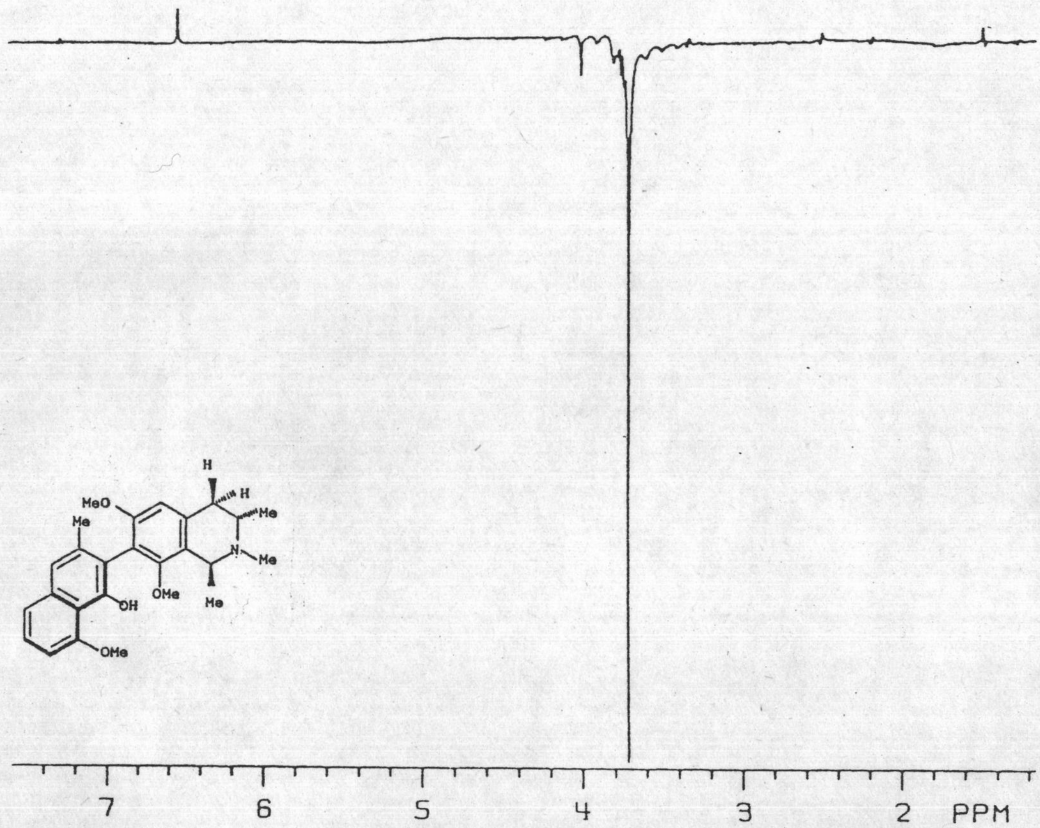

Figure 24 NOE experiment of alkaloid AT-1

Irradiated at 3.69 ppm : 6.514 ppm 8.1% nOe *

3.987 ppm -10.9% nOe

1.474 ppm -0.8% nOe

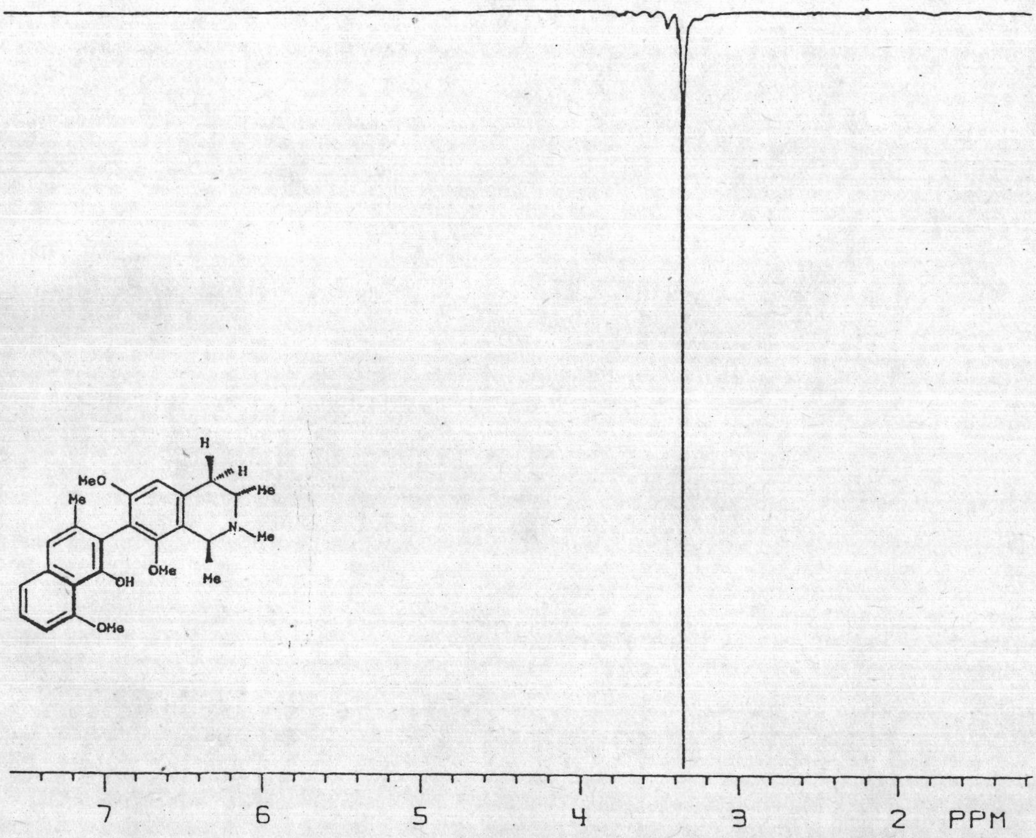

Figure 25 NOE experiment of alkaloid AT-1.

Irradiated at 3.33 ppm : 2.171 ppm 0.7% nOe

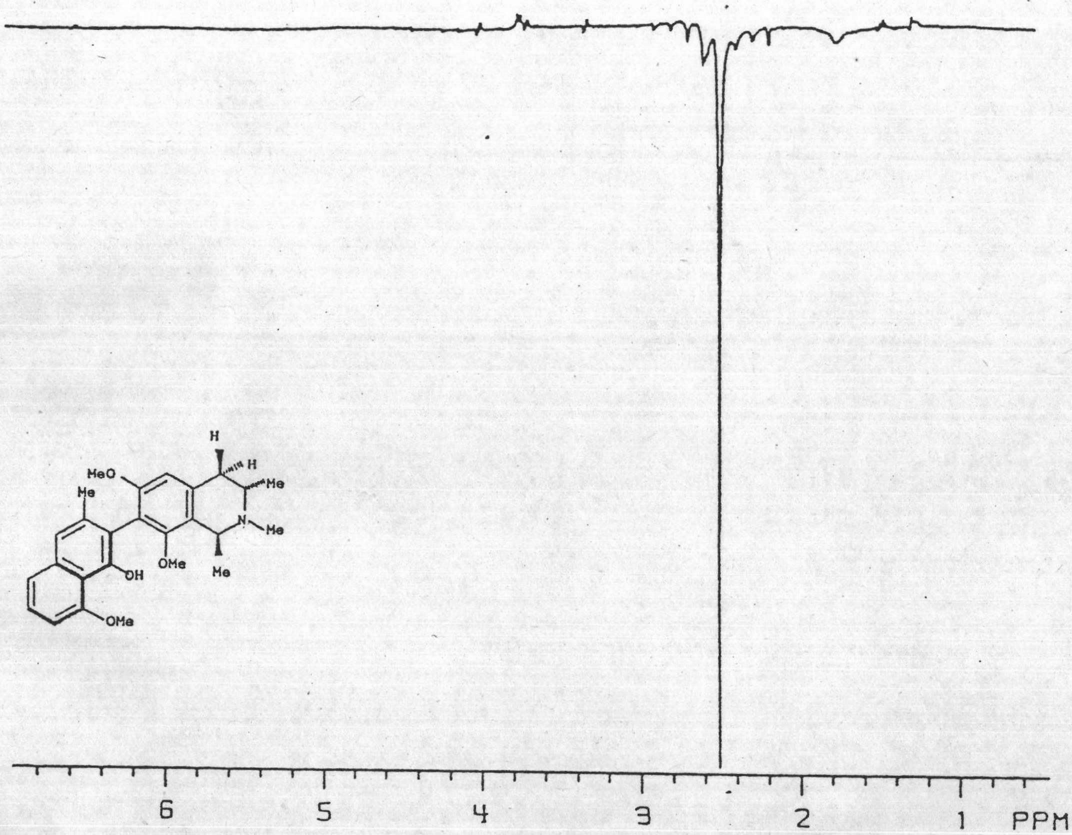

Figure 26 NOE experiment of alkaloid AT-1.

Irradiated at 2.49 ppm : 3.743 ppm 4.9% nOe

3.723 ppm 1.4% nOe

1.756 ppm - 3.5% nOe

1.458 ppm 0.4% nOe

1.276 ppm 1.3% nOe

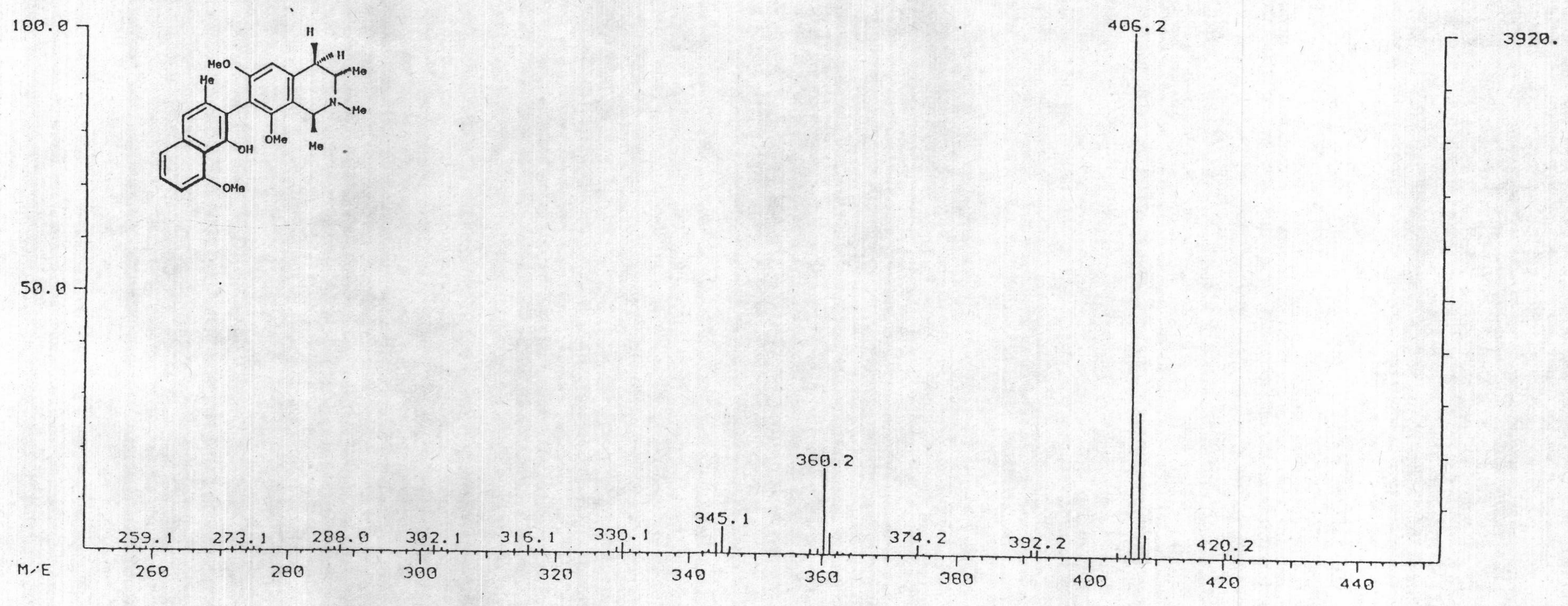

Figure 27 Electron impact mass spectrum of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves.

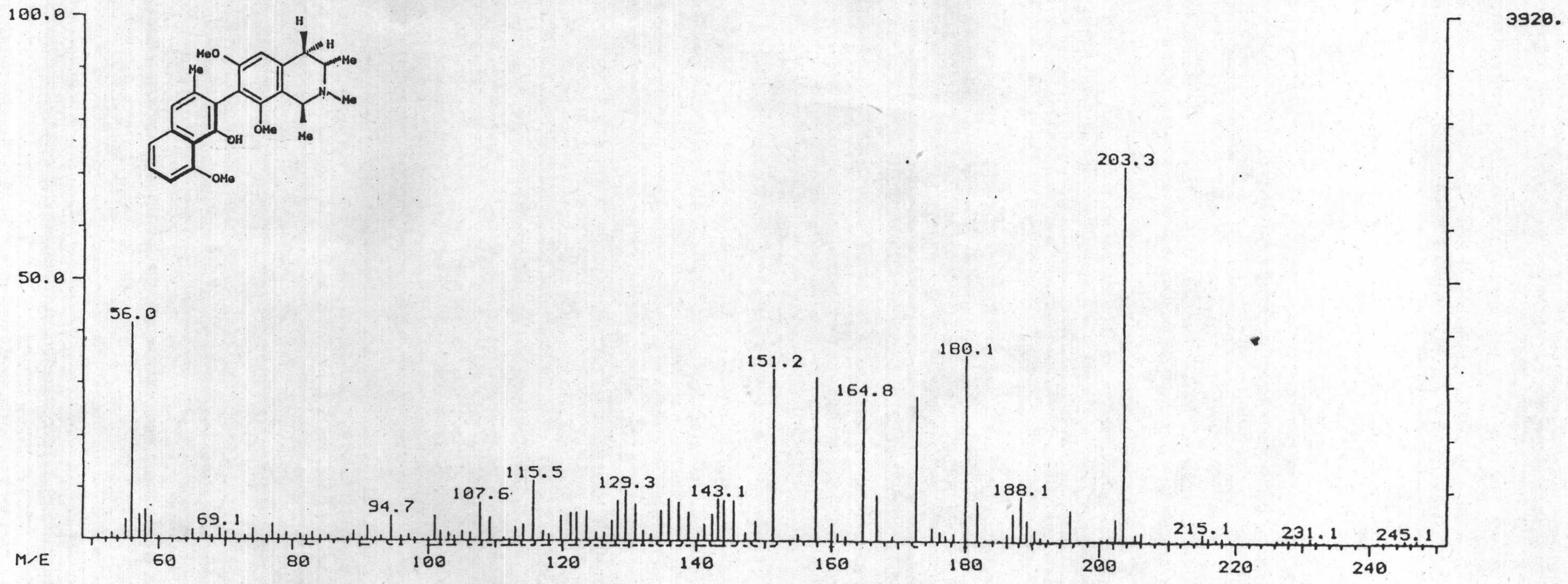

Figure 28 Electron impact mass spectrum of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.)Merr. leaves.

(continued)

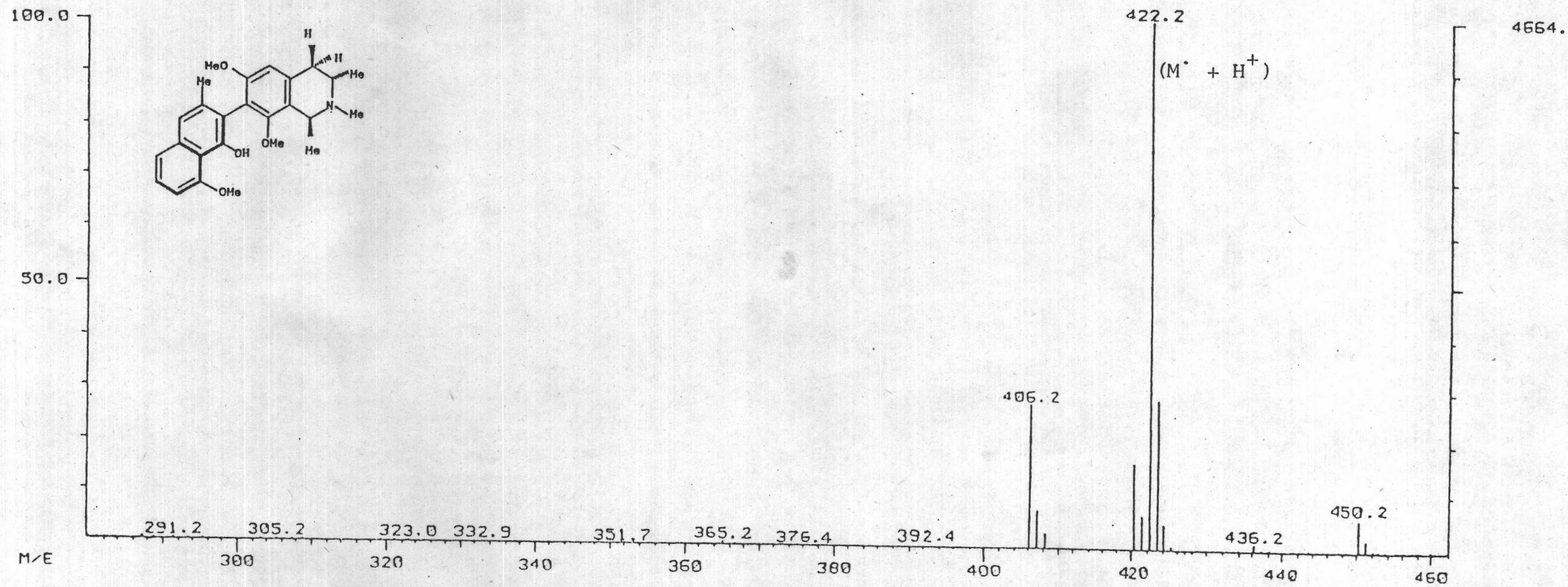

Figure 29 Chemical ionization mass spectrum of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr.leaves.

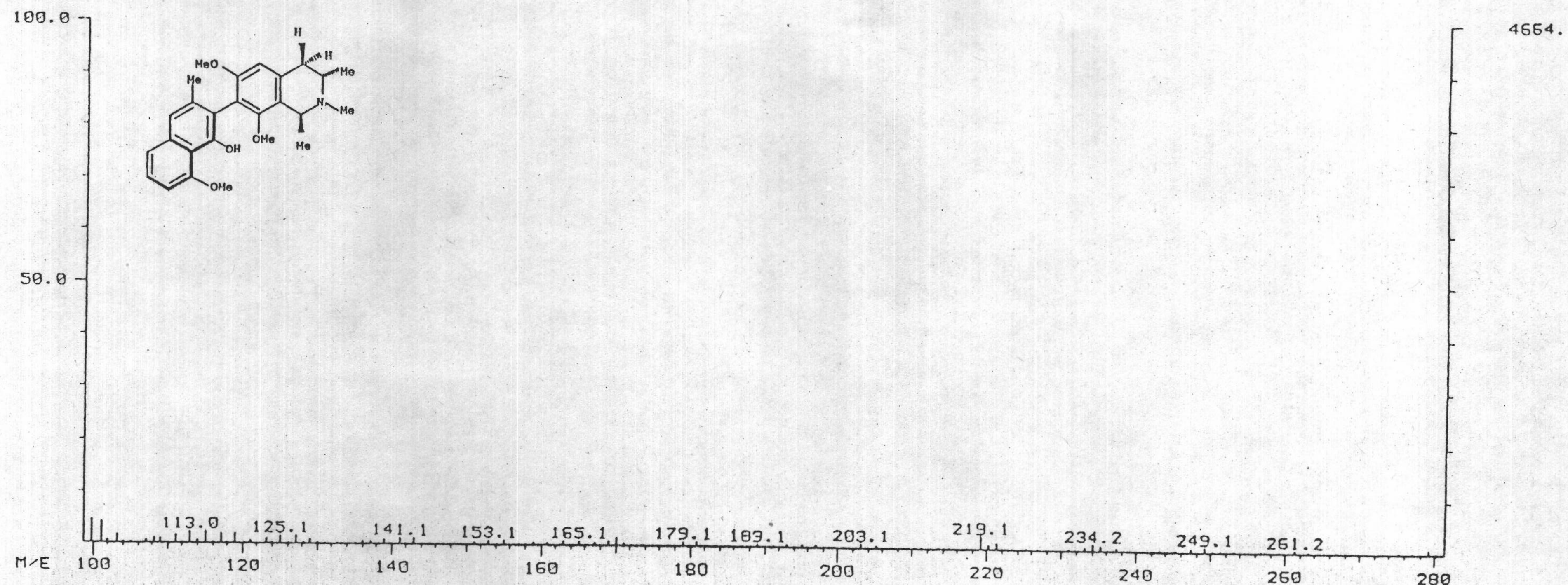

Figure 30 Chemical ionization mass spectrum of alkaloid AT-1 from *Ancistrocladus tectorius* (Lour.) Merr. leaves (continued).

Table 2 Fractional Atomic Co-ordinates ($x10^4$) with e.s.d's (in parenthesis)

O(1)	1240(8)	9594(20)	0433(6)
O(2)	4670(7)	6549(22)	2800(6)
O(3)	3753(9)	11387(23)	2826(7)
O(4)	3645(10)	13613(23)	4207(6)
C(1)	1943(12)	8794(27)	-1116(9)
N(2)	2331(11)	7931(24)	-1864(8)
C(3)	2868(13)	6042(27)	-1609(10)
C(4)	3963(11)	6199(29)	-0718(10)
C(4A)	3682(12)	7021(28)	0111(9)
C(5)	4374(11)	6427(28)	1072(10)
C(6)	4056(11)	7043(25)	1837(9)
C(7)	3025(12)	8244(29)	1655(9)
C(8)	2347(12)	8766(27)	0679(9)
C(8A)	2689(11)	8158(25)	-0056(9)
C(1')	1312(11)	7786(30)	3363(11)
C(2')	1769(11)	7380(27)	2658(10)
C(3')	2589(10)	8651(25)	2481(9)
C(4')	2962(11)	10278(23)	3052(9)
C(4A')	2490(13)	10752(27)	3776(9)
C(5')	2789(12)	12383(27)	4364(10)
C(6')	2339(18)	12833(30)	5069(13)
C(7')	1546(16)	11543(32)	5221(11)
C(8')	1207(11)	9955(35)	4686(10)
C(8A')	1656(13)	9490(26)	3945(9)
C(9)	2074(14)	10965(24)	-1185(11)
C(10)	1288(16)	7917(32)	-2780(12)
C(11)	3135(14)	5103(30)	-2472(10)
C(12)	5591(12)	5143(29)	2970(9)
C(13)	1163(16)	11377(31)	0861(11)
C(14)	1417(14)	5579(28)	2077(12)
C(15)	4089(14)	15272(29)	4814(11)

Table 2 (Continued)

HO(3)	3799(102)	12787(37)	2937(80)
H(1)	1102(41)	8521(175)	-1144(71)
H(3)	2306(81)	5109(127)	-1480(79)
H(4A)	4436(81)	5016(86)	-0463(68)
H(4B)	4559(77)	7121(122)	-0795(77)
H(5)	5014(69)	5531(121)	1053(74)
H(1')	0662(71)	6984(134)	3440(73)
H(6')	2342(100)	14212(56)	5234(79)
H(7')	1116(75)	11783(176)	5685(55)
H(8')	0583(72)	9069(124)	4760(74)
H(9A)	1546(77)	11586(160)	-0873(64)
H(9B)	2922(39)	10879(185)	-0680(52)
H(9C)	2105(94)	11794(152)	-1731(60)
H(10A)	0896(106)	9195(78)	-2902(88)
H(10B)	0712(97)	6960(116)	-2689(90)
H(10C)	1516(101)	7534(144)	-3343(62)
H(11A)	3642(84)	3971(104)	-2491(95)
H(11B)	2300(38)	4926(158)	-2963(65)
H(11C)	3510(89)	6260(106)	-2646(91)
H(12A)	5926(88)	4500(150)	3619(40)
H(12B)	5199(96)	4183(126)	2448(56)
H(12C)	6272(70)	5770(154)	2829(70)
H(13A)	0396(52)	12051(147)	0480(69)
H(13B)	1102(88)	10847(161)	1476(52)
H(13C)	1854(67)	12306(135)	1050(79)
H(14A)	2230(49)	5140(165)	2110(79)
H(14B)	0997(82)	4533(126)	2288(81)
H(14C)	0919(74)	5983(177)	1399(43)
H(15A)	4807(59)	15680(158)	4660(75)
H(15B)	3619(94)	16424(107)	4869(83)
H(15C)	4383(87)	14600(147)	5464(49)

Table 3 Bond Lengths (Å) with e.s.d's (in parenthesis)

O(1) - C(8)	1.359(18)	C(5) - C(6)	1.380(22)
O(1) - C(13)	1.422(25)	C(6) - C(7)	1.429(22)
O(2) - C(6)	1.379(14)	C(7) - C(8)	1.413(17)
O(2) - C(12)	1.427(21)	C(7) - C(3')	1.510(21)
O(3) - C(4')	1.352(18)	C(8) - C(8A)	1.354(22)
O(4) - C(5')	1.416(22)	C(1') - C(2')	1.363(24)
O(4) - C(15)	1.447(23)	C(1') - C(8A')	1.443(25)
C(1) - N(2)	1.469(22)	C(2') - C(3')	1.414(23)
C(1) - C(8A)	1.550(17)	C(2') - C(14)	1.501(25)
C(1) - C(9)	1.544(25)	C(3') - C(4')	1.393(21)
N(2) - C(3)	1.463(24)	C(4') - C(4A')	1.411(22)
N(2) - C(10)	1.458(17)	C(4A') - C(5')	1.403(25)
C(3) - C(4)	1.473(16)	C(4A') - C(8A')	1.417(25)
C(3) - C(11)	1.562(25)	C(5') - C(6')	1.365(28)
C(4) - C(4A)	1.492(23)	C(6') - C(7')	1.383(31)
C(4A) - C(5)	1.413(18)	C(7') - C(8')	1.341(30)
C(4A) - C(8A)	1.370(21)	C(8') - C(8A')	1.414(23)

Table 4 Valency Angles (°) with e.s.d's (in parenthesis)

C(13)	- O(1)	- C(8)	118.2(13)	C(7)	- C(8)	- O(1)	121.2(12)
C(8A)	- C(8)	- O(1)	117.7(12)	C(12)	- O(2)	- C(6)	116.0(11)
C(5)	- C(6)	- O(2)	123.9(14)	C(7)	- C(6)	- O(2)	115.9(11)
C(3')	- C(4')	- O(3)	115.0(11)	C(4A')	- C(4')	- O(3)	123.4(14)
C(15)	- O(4)	- C(5')	120.9(12)	C(4A')	- C(5')	- O(4)	115.8(13)
C(6')	- C(5')	- O(4)	118.9(16)	C(8A)	- C(1)	- N(2)	114.4(13)
C(9)	- C(1)	- N(2)	107.1(13)	C(3)	- N(2)	- C(1)	114.2(12)
C(10)	- N(2)	- C(1)	107.5(13)	C(9)	- C(1)	- C(8A)	108.5(12)
C(4A)	- C(8A)	- C(1)	119.1(12)	C(8)	- C(8A)	- C(1)	118.9(13)
C(10)	- N(2)	- C(3)	111.9(14)	C(4)	- C(3)	- N(2)	108.6(15)
C(11)	- C(3)	- N(2)	112.1(12)	C(11)	- C(3)	- C(4)	112.3(14)
C(4A)	- C(4)	- C(3)	111.6(13)	C(5)	- C(4A)	- C(4)	118.7(15)
C(8A)	- C(4A)	- C(4)	120.9(12)	C(8A)	- C(4A)	- C(5)	120.0(13)
C(6)	- C(5)	- C(4A)	119.3(14)	C(8)	- C(8A)	- C(4A)	122.0(13)
C(7)	- C(6)	- C(5)	120(2(12)	C(8)	- C(7)	- C(6)	118.3(13)
C(3')	- C(7)	- C(6)	118.9(12)	C(3')	- C(7)	- C(8)	122.1(14)
C(8A)	- C(8)	- C(7)	120.1(15)	C(2')	- C(3')	- C(7)	119.2(14)
C(4')	- C(3')	- C(7)	120.9(14)	C(8A')	- C(1')	- C(2')	121.3(16)
C(3')	- C(2')	- C(1')	119.9(16)	C(14)	- C(2')	- C(1')	120.3(16)
C(4A')	- C(8A')	- C(1')	118.8(13)	C(8')	- C(8A')	- C(1')	123.0(16)
C(14)	- C(2')	- C(3')	119.8(13)	C(4')	- C(3')	- C(2')	119.9(12)
C(4A')	- C(4')	- C(3')	121.5(14)	C(5')	- C(4A')	- C(4')	125.3(15)
C(8A')	- C(4A')	- C(4')	118.6(15)	C(8A')	- C(4A')	- C(5')	116.2(13)
C(6')	- C(5')	- C(4A')	125.2(16)	C(8')	- C(8A')	- C(4A')	118.2(16)
C(7')	- C(6')	- C(5')	116.6(18)	C(8')	- C(7')	- C(6')	121.9(16)
C(8A')	- C(8')	- C(7')	121.9(17)				

Table 5 Torsion Angles (°) with e.s.d's (in parenthesis)

C(13)	- O(1)	- C(8)	- C(7)	61.5(20)	C(13)	- O(1)	- C(8)	- C(8A)	-129.7(16)
C(12)	- O(2)	- C(6)	- C(5)	-7.6(21)	C(12)	- O(2)	- C(6)	- C(7)	171.5(13)
C(15)	- O(4)	- C(5')	- C(4A')	-175.7(14)	C(15)	- O(4)	- C(5')	- C(6')	3.1(23)
C(8A)	- C(1)	- N(2)	- C(3)	29.3(18)	C(8A)	- C(1)	- N(2)	- C(10)	154.2(14)
C(9)	- C(1)	- N(2)	- C(3)	149.6(13)	C(9)	- C(1)	- N(2)	- C(10)	-85.5(15)
N(2)	- C(1)	- C(8A)	- C(4A)	5.6(20)	N(2)	- C(1)	- C(8A)	- C(8)	-175.3(14)
C(9)	- C(1)	- C(8A)	- C(4A)	-113.9(16)	C(9)	- C(1)	- C(8A)	- C(8)	65.2(18)
C(1)	- N(2)	- C(3)	- C(4)	-61.6(17)	C(1)	- N(2)	- C(3)	- C(11)	173.8(13)
C(10)	- N(2)	- C(3)	- C(4)	175.9(14)	C(10)	- N(2)	- C(3)	- C(11)	51.3(18)
N(2)	- C(3)	- C(4)	- C(4A)	58.0(17)	C(11)	- C(3)	- C(4)	- C(4A)	-177.5(13)
C(3)	- C(4)	- C(4A)	- C(5)	147.9(15)	C(3)	- C(4)	- C(4A)	- C(8A)	-24.6(21)
C(4)	- C(4A)	- C(5)	- C(6)	-174.2(14)	C(8A)	- C(4A)	- C(5)	- C(6)	-1.6(23)
C(4)	- C(4A)	- C(8A)	- C(1)	-7.6(22)	C(4)	- C(4A)	- C(8A)	- C(8)	-173.3(15)
C(5)	- C(4A)	- C(8A)	- C(1)	180.0(14)	C(5)	- C(4A)	- C(8A)	- C(8)	0.9(24)
C(4A)	- C(5)	- C(6)	- O(2)	-180.0(14)	C(4A)	- C(5)	- C(6)	- C(7)	1.0(23)
O(2)	- C(6)	- C(7)	- C(8)	-178.8(14)	O(2)	- C(6)	- C(7)	- C(3')	-8.3(20)
C(5)	- C(6)	- C(7)	- C(8)	0.3(23)	C(5)	- C(6)	- C(7)	- C(3')	-170.8(14)
C(6)	- C(7)	- C(8)	- O(1)	167.4(14)	C(6)	- C(7)	- C(8)	- C(8A)	-1.1(23)
C(3')	- C(7)	- C(8)	- O(1)	-2.8(24)	C(3')	- C(7)	- C(8)	- C(8A)	-171.3(14)
C(6)	- C(7)	- C(3')	- C(2')	-86.6(18)	C(6)	- C(7)	- C(3')	- C(4')	94.9(18)
C(8)	- C(7)	- C(3')	- C(2')	83.6(20)	C(8)	- C(7)	- C(3')	- C(4')	-94.9(19)
O(1)	- C(8)	- C(8A)	- C(1)	12.5(21)	O(1)	- C(8)	- C(8A)	- C(4A)	-168.4(14)
C(7)	- C(8)	- C(8A)	- C(1)	-178.6(14)	C(7)	- C(8)	- C(8A)	- C(4A)	0.5(24)
C(8A')	- C(1')	- C(2')	- C(3')	-0.6(24)	C(8A')	- C(1')	- C(2')	- C(14)	178.7(15)
C(2')	- C(1')	- C(8A')	- C(4A')	-0.2(24)	C(2')	- C(1')	- C(8A')	- C(8')	179.6(16)
C(1')	- C(2')	- C(3')	- C(7)	-176.1(15)	C(1')	- C(2')	- C(3')	- C(4')	2.4(23)
C(14)	- C(2')	- C(3')	- C(7)	4.6(22)	C(14)	- C(2')	- C(3')	- C(4')	-176.9(14)
C(7)	- C(3')	- C(4')	- O(3)	-2.0(20)	C(7)	- C(3')	- C(4')	- C(4A')	175.0(14)
C(2')	- C(3')	- C(4')	- O(3)	179.5(13)	C(2')	- C(3')	- C(4')	- C(4A')	-3.5(22)
O(3)	- C(4')	- C(4A')	- C(5')	-1.4(24)	O(3)	- C(4')	- C(4A')	- C(8A')	179.4(13)
C(3')	- C(4')	- C(4A')	- C(5')	-178.2(15)	C(3')	- C(4')	- C(4A')	- C(8A')	2.6(22)
C(4')	- C(4A')	- C(5')	- O(4)	-0.7(23)	C(4')	- C(4A')	- C(5')	- C(6')	-179.5(17)
C(8A')	- C(4A')	- C(5')	- O(4)	178.5(14)	C(8A')	- C(4A')	- C(5')	- C(6')	-0.3(25)
C(4')	- C(4A')	- C(8A')	- C(1')	-0.8(23)	C(4')	- C(4A')	- C(8A')	- C(8')	178.7(15)
C(5')	- C(4A')	- C(8A')	- C(1')	180.0(15)	C(5')	- C(4A')	- C(8A')	- C(8')	-0.6(22)
O(4)	- C(5')	- C(6')	- C(7')	-177.3(16)	C(4A')	- C(5')	- C(6')	- C(7')	1.5(28)
C(5')	- C(6')	- C(7')	- C(8')	-1.8(29)	C(6')	- C(7')	- C(8')	- C(8A')	1.1(30)
C(7')	- C(8')	- C(8A')	- C(1')	179.6(17)	C(7')	- C(8')	- C(8A')	- C(4A')	0.2(26)

Thermal Parameters

The anisotropic temperature factors are expressed as

$$\underline{T} = \exp\left[-2^2 (\underline{U}_{11}\underline{h}^2\underline{a}^{*2} + \underline{U}_{22}\underline{k}^2\underline{b}^{*2} + \underline{U}_{33}\underline{l}^2\underline{c}^{*2}\right.$$

$$\left. + 2\underline{U}_{12}\underline{hka}^{*}\underline{b}^{*} + 2\underline{U}_{13}\underline{hla}^{*}\underline{c}^{*} + 2\underline{U}_{23}\underline{klb}^{*}\underline{c}^{*})\right]$$

with final parameters $\underline{U}_{\underline{ij}}$ x 10^3

Table 6. Thermal Parameters

O(1)	42(6)	45(6)	47(5)	16(5)	5(4)	-16(5)
O(2)	42(5)	86(9)	31(5)	5(6)	5(4)	-2(6)
O(3)	68(6)	42(6)	51(6)	-26(6)	32(5)	-2(5)
O(4)	88(8)	74(9)	41(6)	-4(8)	13(6)	-25(7)
C(1)	48(9)	48(10)	37(8)	-6(8)	25(7)	-6(8)
N(2)	66(8)	54(9)	38(7)	4(8)	9(7)	-2(7)
C(3)	61(10)	50(12)	38(8)	-5(9)	15(8)	0(8)
C(4)	45(9)	55(11)	45(9)	22(8)	13(8)	6(8)
C(4A)	48(9)	66(11)	37(8)	-17(10)	25(7)	-31(9)
C(5)	41(8)	54(10)	47(9)	-4(8)	25(7)	-26(8)
C(6)	35(8)	27(8)	40(9)	-8(8)	-2(6)	-9(8)
C(7)	49(9)	66(11)	33(8)	-3(10)	20(7)	-11(8)
C(8)	50(9)	52(10)	50(10)	-6(9)	27(8)	-20(9)
C(8A)	23(7)	25(8)	64(10)	-7(7)	14(7)	-15(8)
C(1')	27(8)	89(15)	60(10)	-25(9)	17(8)	3(10)
C(2')	23(7)	67(12)	58(9)	4(9)	13(7)	14(9)
C(3')	23(7)	37(9)	44(8)	7(7)	1(6)	-13(8)
C(4')	45(8)	10(8)	46(8)	7(7)	24(7)	-4(7)
C(4A')	55(9)	51(11)	28(8)	-2(8)	20(7)	-9(8)
C(5')	35(8)	56(12)	41(9)	4(9)	10(7)	-16(9)
C(6')	100(13)	42(11)	87(13)	9(11)	69(11)	5(11)
C(7')	91(13)	80(14)	48(10)	7(12)	37(9)	-34(11)
C(8')	22(7)	118(17)	46(9)	2(11)	11(7)	14(12)
C(8A')	51(9)	55(11)	27(8)	17(9)	9(7)	0(8)
C(9)	68(10)	27(9)	71(10)	18(8)	33(9)	19(8)
C(10)	121(16)	81(14)	63(11)	-2(13)	32(11)	-30(12)
C(11)	88(11)	59(12)	73(11)	12(11)	53(9)	-28(10)
C(12)	38(8)	63(11)	47(8)	20(9)	6(7)	6(9)
C(13)	102(13)	63(13)	59(10)	51(12)	12(9)	-11(10)
C(14)	64(10)	44(11)	80(11)	-17(9)	26(9)	-17(10)
C(15)	79(11)	62(12)	58(10)	4(11)	24(9)	-22(10)

Table 6. Thermal Parameters (Cont.)

HO(3)	38(11)
H(1)	38(11)
H(3)	38(11)
H(4A)	38(11)
H(4B)	38(11)
H(5)	38(11)
H(1')	38(11)
H(6')	38(11)
H(7')	38(11)
H(8')	38(11)
H(9A)	88(11)
H(9B)	88(11)
H(9C)	88(11)
H(10A)	88(11)
H(10B)	88(11)
H(10C)	88(11)
H(11A)	88(11)
H(11B)	88(11)
H(11C)	88(11)
H(12A)	88(11)
H(12B)	88(11)
H(12C)	88(11)
H(13A)	88(11)
H(13B)	88(11)
H(13C)	88(11)
H(14A)	88(11)
H(14B)	88(11)
H(14C)	88(11)
H(15A)	88(11)
H(15B)	88(11)
H(15C)	88(11)

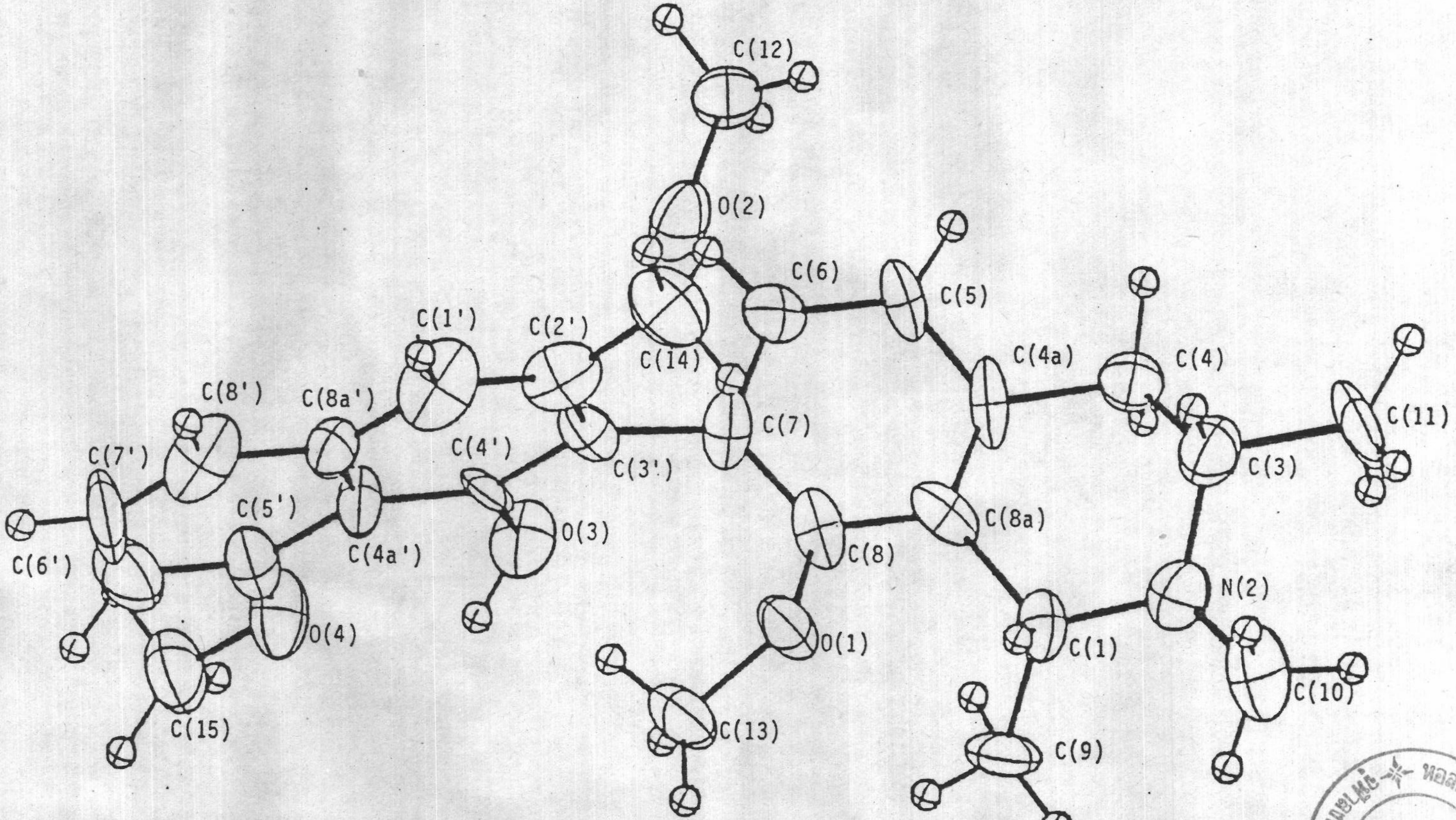

Figure 31 The ORTEP stereo drawing of ancistrotectorine (AT-1)

VITA

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