



## REFERENCES

1. Bisset, N.G. 1970. The African Species of *Strychnos* Part I. The Ethnobotany. Lloydia 33 : 210-243.
2. Leeuwenberg, A.J.M. 1969. The Loganiaceae of Africa VIII. *Strychnos* III. (Revision of the African Species with Notes on the Extra-African.) Mededel. Landbhogsch. Wageningen 69 : 1-316.
3. Krukoff, B.A. 1972. American Species of *Strychnos*. Lloydia 35 : 193-217.
4. Bisset, N.G., Leenhouts, P.W., Leeuwenberg, A.J.M., Philcox, D., Tirel-Roudet, C. and Vidal, J.E. 1973. The Asian Species of *Strychnos* Part II. Typification, Miscellaneous Notes, Synoptic key, and Sectional Classification. Lloydia 36 : 179-201.
5. \_\_\_\_\_. 1974. The Asian Species of *Strychnos* Part III. The Ethnobotany. Lloydia 37 : 62-100.
6. Smitinand, T. 1980. Thai Plant Names ( Botanical Names - Vernacular Names) Royal Forest Department. Bangkok.
7. Weeratunga, G., Goonetilleke, A., Rolfsen, W., Bohlin, L., Sandberg, F. 1984. Alkaloids in *Strychnos aculeata*. Acta Pharm.Suec. 21 2 : 135-140.
8. Mirand, C., Delaude, C., Levy, J., LeMen-Oliver, J., LeMen, J. 1979. Alkaloids of *Strychnos aculeata*. Plant Med.Phytother. 13 : 84-86.
9. Goonetilleke, A., Rolfsen, W., Rajapakse, L. 1980. Tertiary Indole Alkaloids of *Strychnos aculeata*. Planta Medica

39 : 208.

10. Verpoorte, R., Groenink, H., Baerheim -Svendsen, A. 1980. Minor Alkaloids and Sterols in *Strychnos afzeli*. Planta Medica 39 : 388-390.
11. Marini-Bettolo, G.B., Messana, I., Nicoletti, M., Patamia, M., aleffi, C. 1982. Alvimine and Alviminine from *Strychnos alvimiana*. An Asoc.Quim.Argent. 70 : 263-270.
12. Verpoorte, R., Bohlin, L., Dwuma-Badu, D., Rolfsen, W., Strombom, J. 1983. 11-Methoxymacusine A. A New Alkaloid from *Strychnos angolensis*. J.Nat.Prod. 46 4 : 572-575.
13. Nicoletti, M., Oguakwa, J.U., Messana, I. 1980. Alkaloids of *Strychnos nigritana* and *Strychnos barteri*. Fitoterapia 51 : 131-134.
14. Galeffi, C. et al. 1973. *Strychnos amazonica* and *Strychnos brachiata* Alkaloids. Ann.Chim.(Rome) 63 : 849.
15. Verpoorte, R., Baerheim-Svendsen, A., Sanberg, F. 1975. Alkaloids of *Strychnos camptoneura*. Acta Pharm.Suec. 12 : 445.
16. Galeffi, C., Nicoletti, M., Messana, I., Patamia, M., Marini - Bettolo, G.B. 1980. A New Alkaloid of *Strychnos castelneana*. Planta Medica 39 : 208.
17. Lu, R.R., Liu, L.D. 1985. Alkaloids of *Strychnos cathayansis*. Hua Hsueh Hsueh Pao 43 8 : 775-777.
18. Verpoorte, R., Aadewiel, J., Strombom, J., Baerheim-Svendsen, A. 1984. Alkaloids from *Strychnos chrysophylla*. J.Ethnopharmacol. 10 2 : 243-247.
19. Desai, P.D. et al. 1967. Chemical Study of Some Indian Plants Part III. Indian J. Chem. 5 : 523.

20. Hsiao, P.K., Feng, Y.S., Hsia, K.C., Feng, S.C., Ling, S.C., Chen, Y.H. 1973. Search for Biologically Active Substances in Chinese Medicinal plants New Sources of Five Medicinal Alkaloids. Chih Wu Hsueh Pao 15 : 64-70.
21. Rolfsen, W., Bohlin, L., Yeboah, S.K., Geevaratne, M., Verpoorte, R. 1978. New Indole Alkaloids of *Strychnos dale* and *Strychnos elaeocarpa*. Planta Medica 34 : 264-273.
22. \_\_\_\_\_, Rolfsen, W., Olaniyi, A.A., Verpoorte, R., Bohlin, L. 1981. Some New Decussine - Type Alkaloids from *Strychnos decussata*, *S. dale*, *S. elaeocarpa*. J.Nat.Prod. 44 : 415-421.
23. Verpoorte, R., Massiot, G., Jacquier, M.J., Thepenier, P., Le Men-Oliver, L. 1986. New Semidimeric Alkaloids from *Strychnos dale*. Tetrahedron Letter 27 2 : 239-242.
24. Rolfsen, W., Olaniyi, A.A., Hylands, P.J. 1980 . New Tertiary Alkaloids of *Strychnos decussata*. J.Nat.Prod. 43 : 97-102.
25. Olaniyi, A.A., Rolfsen, W. 1980. Two New Alkaloids of *Strychnos decussata*. J.Nat.Prod. 43 : 595-597.
26. Rolfsen, W., Olaniyi, A.A., Sandberg, F., Kvick, A.H. 1980. Muscle -Relaxant Activity of Decussine. Acta Pharm.Suec. 17 : 105-111.
27. \_\_\_\_\_, Olaniyi, A.A., Verpoorte, R. 1981. Malindine, A New Quaternary Indole Alkaloid from *Strychnos decussata*. Planta Medica 42 : 141-142.
28. Petitjean, A., Rasoanaivo, P., Razafintsalama, J.M. 1977. New Glycoalkaloids from *Strychnos decussata* Phytochemistry

- 16 : 154-155.
29. Michel, S., Tillequin, F., Koch, M. 1986. Brafoedine and Isobrafoedine : Novel Indole Alkaloids from *Strychnos dinklagei*. J.Nat.Prod. 49 3 : 452-455.
30. \_\_\_\_\_, Skaltsounis, A.L., Tillequin, F., Koch, M., Ake , Assi, L. 1985. Leaf Alkaloids of *Strychnos dinklagei*. J.Nat.Prod. 48 1 : 86-92.
31. \_\_\_\_\_, Tillequin, F., Koch, M. 1982. Alkaloids from the Stembark of *Strychnos dinklagei*. J.Nat.Prod. 45 4 : 489-494.
32. \_\_\_\_\_, Tillequin, F., Koch, M. 1980. 17-Oxo-Ellipticine ,A Novel Alkaloid from *Strychnos dinklagei*. Tetrahedron Letter 21 : 4027-4030.
33. \_\_\_\_\_, Tillequin, F., Koch, M. 1987. Strellidimine : The First Natural Bis-Ellipticine Alkaloid. Chem.Commun. 4 : 229-230.
34. Mukherjee, R., Da Silva , B.A., Das, B.C., Keifer, P.A., Shoolery, J.N. 1991. Structure and Stereochemistry of Divaricine, A New Bisindole Alkaloid From *Strychnos divaricans*. Heterocycles 32 5 : 985-990.
35. Verpoorte, R., Kodde, E.W., Baerheim - Svendsen, A. 1978. A Chromatographic Comparison of *Strychnos dolichothyrsa* and *Strychnos urceolata*. Planta Medica 34 : 62-65.
36. Siwon, J., Verpoorte, R., Baerheim - Svendsen, A. 1977. Sterols from *Strychnos dolichothyrsa*. Planta Medica 31 : 57-59.
37. Verpoorte, R., Baerheim-Svendsen, A. 1978. Alkaloids of *Strychnos dolichothyrsa*. J.Pharm.Sci. 67 : 171-174.
38. \_\_\_\_\_, Baerheim-Svendsen, A. 1976. The Alkaloids of *Strychnos*

- dolichothyrsa*. Lloydia **39** : 357-362.
39. \_\_\_\_\_. 1978. On the Occurrence of Filican-3-one in *Strychnos dolichothyrsa*. Phytochemistry **17** : 817-818.
40. Rolfsen, W. 1977. Pharmacological Active Alkaloids of *Strychnos elaeocarpa*. Planta Medica **32 A** : 35-36.
41. \_\_\_\_\_, Bresky, A.M., Anderson, M., Strombom, J., Anden, N.E., Grabowska - Anden, M. 1980. Isolation, Synthesis and Pharmacological activity of Strychnocarpine. Acta Pharm.Suec. **17** : 333-340.
42. Forgacs, P. et al. 1986. An Indole Alkaloid from *Strychnos erichsonii*. Phytochemistry **25 4** : 969-971.
43. Galeffi, C., Marini-Bettolo, G.B. 1980. The Alkaloids of *Strychnos fendleri*. Gazz.Chim.Ital. **110** : 81-85.
44. Verpoorte, R., Joosse, F.T., Groenink, H., Svendsen, A.B. 1981. Alkaloids from *Strychnos floribunda*. Planta Medica **42** : 32-36.
45. Marini-Bettolo, G.B., Messina, I., Nicoletti, M., Patamia, M., Galeffi, C. 1980. The Occurrence of Akagerine in South American *Strychnos*. J.Nat.Prod. **43** : 717-720.
46. Willaman, J.J., Li, H.L. 1970. Alkaloid-bearing Plants and Their Contained Alkaloids. Lloydia **33** : 1-286.
47. Coune, C. 1978. Novel Alkaloids from *Strychnos gossweileri*. Plant Med.Phytother. **12** : 106.
48. Quetin - Leclercq, J., Coucke, P., Delaude, C., Warin, R., Bassleer, R., Angenot, L. 1991. Matadine, A Cytotoxic alkaloid from *Strychnos gossweileri*. Phytochemistry **30 5** : 1697-1700.
49. \_\_\_\_\_, Coune, C., Delaude, C., Warin, R., Bassleer, R., Angenot, L.

1992 . Revision of the Structure of strychnofluorine,  
An alkaloid of *Strychnos gossweileri*.

Phytochemistry 31 12 : 4347-4349.

50. Massiot, G., Thepenier, P., Jacquier, M.J., Henin, J., Le Men-Oliver, L., Delaude, C. 1991. Alkaloids from *Strychnos henningsii*. Phytochemistry 30 10 : 3449-3456.
51. Angenot, L., Tits, M. 1981. Isolation of a New Alkaloid and a Triterpene from *Strychnos henningsii* . Planta Medica 41 : 240-243.
52. Koch, M., Fellion, E., Plat, M. 1976. Five New Alkaloids from *Strychnos henningsii*. Phytochemistry 15 : 321-324.
53. Chappa, W.A. 1983. Research on African Medicinal Plants VI. Gass.Chim.Ital. 113 : 773-775.
54. Galeffi, C., Marini-Bettolo, G.B. 1981. The Alkaloids of *Strychnos hirsuta*. Tetrahedron Letter 37 18 : 3167-3170.
55. Bisset, N.G., Khalil, A.A. 1976. New Alkaloids from *Strychnos icaia*. Phytochemistry 15 : 1973-1976.
56. Kambu, K., Coune, C., Angenot, L. 1979. New Alkaloids from the Roots of *Strychnos icaia*. Planta Medica 37 : 161-164.
57. Graf, E., Wittlinger, C. 1985. Assay of Alkaloids in Drugs and Preparations of *Strychnos nux-vomica* and *Strychnos ignatii*. Dtsch.Apoth.Ztg. 125 46 : 2417-2422.
58. Datta, B., Bisset, N.G. 1990. Alkaloids of *Strychnos ignatii*. Planta Medica 56 1 : 133.
59. Massiot, G., Thepenier, P., Jacquier, M.J., Le Men-Oliver, L., Verpoorte, R., Delaude, C. 1987. Alkaloids of *Strychnos johnsonii*. Phytochemistry 26 10 : 2839-2846.
60. Thepenier, P., Jacquier, M., Massiot, G., Le Men - Oliver, L.L.,

- Delaude, C. 1984. Dehydroisostrychnobiline, Matopensine and Other Alkaloids from *Strychnos kasengaensis*. Phytochemistry 23 11 : 2659-2663.
61. Massiot, G., Massoussa, B., Thepenier, P., Jacquier, M.J., Le Men Oliver, L., Delaude, C. 1983. Structure of Matopensine, A Novel Dimeric Indole alkaloid from *Strychnos species*. Heterocycles 20 12 : 2339-2342.
62. \_\_\_\_\_, et al. 1983. Further Alkaloids from *Strychnos longicaudata* and *Strychnos ngouniensis* Tetrahedron letter 39 22 : 3645-3656.
63. Thepenier, P., Jacquier, M., Massiot, G., Le Men - Oliver, L., Delaude, C. 1990. Alkaloids from Seeds of *Strychnos variabilis* and *S. longicaudata*. Phytochemistry 29 2 : 686-687.
64. Massiot, G., Thepenier, P., Jacquier, M.J., La Men-Oliver, L., Delaude, C. 1989. Normavacurine and Minfiensine, Two New Alkaloids with  $C_{19}H_{22}N_2O$  Formula from *Strychnos species*. Heterocycles 29 8 : 1435-1438.
65. Asai, F., Iinuma, M., Tanaka, T., Matsuura, S. 1982. Study on the Components of the Folk Medicine, Kaju Ular, in Timor Island. Shoyakugaku Zasshi 102 7 : 690-694.
66. Mitsunaga, K., Koike, K., Fukuda, H., Ishii, K., Ohmoto, T. 1991. Ligustrinoside, A New Bisiridoid Glucoside from *Strychnos ligustrina*. Chem. Pharm. Bull. 30 10 : 2737-2738.
67. Massiot, G. et al. 1988. Alkaloids from Roots of *Strychnos matopensis*. Phytochemistry 27 10 : 3293-3304.
68. Angenot, L., Belem - Pinheiro, M.L., Da Rocha, A.F.I.,

- Poukens-Renwart, P., Quetin-Leclercq, J., Warin, R. 1990. An Indolinic Cryptoalkaloid from *Strychnos mattogrossensis*. Phytochemistry **29** 8 : 2746-2749.
69. Borris, R.P., Guggisberg, A., Hesse, M. 1984. The Structure of Melinonine-E, A Quaternary Indole Alkaloid from *Strychnos melinoniana*. Helv.Chim.Acta **67** 2 : 455-460.
70. Rasonaivo, P., Galeffi, G., De Vicente, Y., Nicoletti, M. 1991. Malagashine and Malagashanine, Two Alkaloids of *Strychnos mostueoides*. Rev.Latinoamer.Quim. **22** 1 : 32-34.
71. Massiot, G. et al. 1983. Isolation and Structure Determination of (+)-16-Hydroxy-Allo-Ibogamine from *Strychnos ngouniensis*. Chem. Commun. **18** : 1018-1019.
72. Cai, B.C., Yang, X.W., Hattori, M., Namba, T. 1990. Four New Alkaloids from the Processed seeds of *Strychnos nux-vomica*. Shoyakugaku Zasshi **44** 1 : 42-46.
73. De, B., Bisset, N.G. 1991. Separation of *Strychnos nux-vomica* Alkaloids by HPLC. J.Chromatogr. **587** 2 : 318-320.
74. Bisset, N.G., Choudhury, A.K. 1974. Alkaloids and Iridoids from *Strychnos nux-vomica* Fruits. Phytochemistry **13** 1 : 265-269.
75. \_\_\_\_\_, Choudhury, A.K., Houghton, P.J. 1989. Phenolic Glycosides from the Fruit of *Strychnos nux-vomica*. Phytochemistry **28** 5 : 1553-1554.
76. Baser, K.H.C., Bisset, N.G. 1982. Alkaloids of Sri Lankan *Strychnos nux-vomica*. Phytochemistry **21** : 1423-1429.
77. Gao, H., Sun, W.J., Sha, Z.F. 1990. Quantitative Determination of Strychnine and Brucine in Semen *Strychnos* and Its



- Preparation by GC. Zhongguo zhongyao zazhi 15 11 : 670-671.
78. Baser, K., Bisset, N.G., Hylands, P. 1979. Protostrychnine , A New Alkaloid from *Strychnos nux-vomica*. Phytochemistry 18 : 512-514.
79. Li, H.S., Zhou, J.Y. 1982. HPLC Determination of Strychnine in *Strychnos pierriana* and Its Preparation. Yaowu Fenxi Zazhi 2 6 : 330-335.
80. Massiot, G., Thepenier, P., Jacquier, M.J., Le Men-Oliver, L., Delaude, C. 1992. Alkaloids from Roots of *Strychnos potatorum*. Phytochemistry 31 8 : 2873-2876.
81. Singh, H., Kapoor, V.K., Manhas, M.S. 1975. Study of Triterpenes and Sterols of *Strychnos potatorum* Seeds. Planta Medica 28 : 392-396.
82. \_\_\_\_\_, et al. 1975. Chemical Examination of the Fixed Oil from the Seeds of *Strychnos potatorum*. J. Indian Chem.Soc. 52 : 768.
83. \_\_\_\_\_, Kapoor, V.K., Piozzi, F., Passannanti, S., Paternostro, M. 1978. Isomotioliol , A New Triterpene from *Strychnos potatorum*. Phytochemistry 17 : 154-155.
84. Singh, A.K., Dhar, D.N. 1977. Studies on the Chemical Constituents of the Seeds of *Strychnos potatorum* . Part I . Planta Med.Suppl. 32 : 362-367.
85. Ram, M. et al. 1973. Preparation of Polysaccharide Gum from *Strychnos potatorum*. Res.Ind. 18 : 83.
86. Rao, E.V., Ramana, S.R., Rao, M.V. 1991. Revised Structure and Antihypercholesterolemic Activity of a Mannagalactan from *Strychnos potatorum*. Indian J.Pharm.Sci. 53 2 : 53-

57.

87. Altman, R.F.A. 1956. Chemical Studies of Amazonian Plants I. Microchemical Identification of Cinchona Alkaloids. Bol.Tec.Inst.Argon.Norte 31 : 9-66.
88. Nicoletti, M., Goulart, M.O.F., De Lima, R.A., Goulart, A. E., Monache, D.F., Marini-Bettolo, G.B. 1984. Flavonoids and Alkaloids from *Strychnos pseudoquina*. J.Nat.Prod. 47 6 : 953-957.
89. Thepenier, P., Jacquier, M., Henin, J., Massiot, G., Le Men-Oliver, L., Delaude, C. 1990. Alkaloids from *Strychnos pungens*. Phytochemistry 29 7 : 2384-2386.
90. Asai, F. et al. 1987. 7- Ketologanin , an Iridoid Glucoside from Fruits of *Strychnos roborans*. Shoyakugaku Zasshi 41 4 : 349-351.
91. Marini-Bettolo, G.B., Galeffi, C., Nicoletti, M., Messana, I. 1980. Alkaloids of *Strychnos rubiginosa*. Phytochemistry 19 : 992-994.
92. Caprasse, M., Angenot, L. 1981. Major Alkaloids of *Strychnos scheffleri* from Zaire. Planta Medica 42 : 364-370.
93. Guggisberg, A., Prewo, R., Bieri, J.H., Hesse, M. 1982 . The Structure of the Calabash Curare Alkaloid Calebassinine. Helv.Chim.Acta 65 : 2587-2597.
94. Ohiri, F.C., Verpoorte, R., Baerheim - Svendsen , A., Karlsen, J., Mostad , A. 1983. Alkaloids of *Strychnos soubrensis*. J.Nat.Prod. 46 3 : 369-373.
95. Oguakwa, J.U., Galeffi, C., Nicoletti, M., Messana, I., Patamia, M., Marini-Bettolo, G.B 1980. The Alkaloids of *Strychnos spinosa*. Gazz.Chim.Ital. 110 : 97-100.

96. Ohiri, F.C., Verpoorte, R., Baerheim -Svendsen, A. 1984. 12-Hydroxy-11-methoxy-diaboline : A New Alkaloid from *Strychnos spinosa*. Planta Medica 5 : 446-447.
97. Msonthi, J.D., Galeffi, C., Nicoletti, M., Messana, I., Marini-Bettolo, G.B.M. 1985. Kingiside Aglucone. A New Secoiridoid from Unripe Fruits of *Strychnos spinosa*. Phytochemistry 24 4 : 771-772.
98. Thepenier, P., Jacquire, M., Massiot, G., Le Men - Oliver, L., Delaude, C. 1988. Alkaloids from *Strychnos staudtii*. Phytochemistry 27 2 : 657-659.
99. Richard, C., Delaude, C., Le Men - Oliver, L., Le Men, J. 1978. Alkaloids from *Strychnos tchibangensis*. Phytochemistry 17 : 539-541.
100. Quetin-Leclercq, J., Angenot, L., Dupont, L., Bisset, N.G. 1988. Isolation and Purification of Panarine , An Alkaloid from a Venezuelan Curare. Phytochemistry 27 12 : 4002-4004.
101. \_\_\_\_\_, Angenot, L. 1984. Dolichantoside , Main Alkaloid from Stem Bark of *Strychnos tricalysioides*. Planta Medica 5 : 457-458.
102. Waterman, P.G., Zhong , S.M. 1982. Vallesiachotamine and Isovallesiachotamine from seeds of *Strychnos tricalysioides*. Planta Medica 45 : 28-30.
103. Mukherjee, R., De M Santos, C.A., Das, B.C., Guittet, E. 1990. Trinervine, A New Indole Alkaloid from *Strychnos trinervis*. Heterocycles 31 10 : 1819-1822.
104. Caprasse, M., Angenot, L., Tavernier, D., Anteunis, M.J.O. 1984. The Isolation and Structure Elucidation of

- Afrocurarine. Planta Medica 2 : 131-133.
105. Angenot, L. , Dideberg , O. , Dupont ,L. 1975. Isolation and Structure of Akagerine : A New Type of Indole alkaloid. Tetrahedron Letter pp. 1357-1358.
106. Caprasse,M.,Tavernier,D.,Anteunis,M.J.O.,Angenot, L. 1984. Isolation of N<sub>6</sub>-methyl - antirhine, Malindine and Isomalindine from *Strychnos usambarensis*. Planta Medica 1 : 27-30.
107. Dubois, M. et al. 1974. Chemical Characteristics and Pharmacological Properties of Alkaloids Extracted from *Strychnos usambarensis* . Arch.Int. Physiol. Biochem. 82 : 823.
108. Quetin-Leclercq,J.,Angenot.L. 1988. A New Alkaloid from the Stem Bark of *Strychnos usambarensis*. Phytochemistry 27 6 : 1923-1926.
109. \_\_\_\_\_, Tits,M., Angenot,L.,Bisset,N.G. 1991. Alkaloids of *Strychnos usambarensis* Stem Bark. Planta Medica 57 5 : 501.
110. Caprasse,M.,Coune,C.,Angenot,L. 1983.Isolation and Structure Elucidation of Three Anhydronium Bases from *Strychnos usambarensis*. J.Pharm.Belg. 38 3 : 135-139.
111. Angenot, L. , Dubois , M. , Ginion , C. , et al. 1975 . Chemical Structure and Pharmacological (Curarizing) Properties of Various Indole Alkaloids from an African *Strychnos*. Arch.Int.Pharmacodyn.Ther. 215 : 246.
112. Bassleer,R., Clermont,D., Marnette,J.M., Caprasse,M., Tits,M., Angenot,L. 1985. Effect of Dihydroflavopereirine and Sempervirine on cancer cells in culture.

Ann.Pharm.Fr. 43 : 83-88.

113. Angenot, L., Coune, C., Tits, M. 1978. Alkaloids from *Strychnos usambarensis* Fruits and Leaves. J.Parm.Belg. 33 : 284-286.
114. \_\_\_\_\_. 1975. New Quaternary Alkaloids from *Strychnos usambarensis*. Planta Medica 27 : 24-30.
115. Caprasse, M., Tavernier, D., Angenot, L. 1983. Two New Quaternary Alkaloids from *Strychnos usambarensis* Leaves. J.Pharm.Belg. 38 4 : 211-218.
116. Tavernier, D., Zhang, W., Angenot, L., Chierici-Tits, M., Leclercq, J. 1987. The Structure of Isostrychnopentamine, A Bisindole Monoterpene Alkaloid from *Strychnos usambarensis*. Phytochemistry 26 2 : 557-560.
117. Angenot, L. 1978. Novel oxindole alkaloids from *Strychnos usambarensis*. Plant Med.Phytother. 12 : 123.
118. \_\_\_\_\_, Denoel, A., 1973. Loganiaceae Alkaloids : on the Isolation of a New Alkaloid From *Strychnos usambarensis*. Planta Medica 23 : 226-232.
119. Bassleer, R. et al. 1982. Effects of Three Alkaloids from *Strychnos usambarensis* on Cancer Cells in Culture. Planta Medica 45 : 123-126.
120. Richard, C., Delaude, C., Le Men-Oliver, L., Levy, J., Le Men, J. 1976. Alkaloids of *Strychnos variabilis*. Phytochemistry 15 : 1805-1806.
121. Tits, M., Tavernier, D. 1978. Novel Alkaloids from *Strychnos variabilis*. Plant Med. Phytother. 12 : 92-95.
122. \_\_\_\_\_, Franz, M., Tavernier, D., Angenot, L. 1981. The Major Alkaloids of *Strychnos variabilis*. Planta Medica

42 : 371-374.

123. Brasseur, T., Angenot, L. 1986. Flavonol Glycosides from Leaves of *Strychnos variabilis*. Phytochemistry 25 2 : 563-564.
124. \_\_\_\_\_, Angenot, L. 1987. Four Acylated Flavonol Glycosides from Leaves of *Strychnos variabilis*. Phytochemistry 26 12 : 3331-3334.
125. \_\_\_\_\_, Angenot, L. 1988. Six Flavonol Glycosides from Leaves of *Strychnos variabilis*. Phytochemistry 27 5 : 1487-1490.
126. Tits, M., Angenot, L. 1980. New Indole Aldehydic Alkaloids of *Strychnos variabilis*. Tetrahedron Letter 21 : 2439-2442.
127. \_\_\_\_\_, Tavernier, D., Angenot, L. 1980. Indole Alkaloids of *Strychnos variabilis*. Phytochemistry 19 : 1531-1534.
128. \_\_\_\_\_, Angenot, L., Tavernier, D. 1983. 12'-Hydroxystrychnobiline, A New Bisindole Alkaloid from *Strychnos variabilis*. J.Nat.Prod. 46 5 : 638-645.
129. \_\_\_\_\_, Angenot, L., Tavernier, D. 1983. 16,17-Didehydroisostrychnobiline, New Alkaloid from *Strychnos variabilis*. J.Pharm.Belg. 38 5 : 241-245.
130. \_\_\_\_\_, Tavernier, D., Angenot, L. 1985. Strychnozairine, An Indole Alkaloid from *Strychnos variabilis*. Phytochemistry 24 1 : 205-207.
131. Yu, J.G., Lin, J.T., Liu, G.S. 1981. Isolation and Identification of Alkaloids from the Bark of *Strychnos wallichiana*. Chung Yao T'ung Pao 6 3 : 22-24.
132. Strombom, J., Huy, O., Bisset, N.G. 1982. Alkaloids of *Strychnos*

- wallichiana*. Acta Pharm. Suec. **19** : 321-326.
133. Pingsuthiwong, C. 1986. Alkaloids from the Stem Bark of *Strychnos ignatii* Berg. Master's Thesis. Chulalongkorn University. Bangkok.
134. MacRae, W.D., Towers, G.H.N. 1984. Biological Activities of Lignans. Phytochemistry **23** 6 : 1207-1220.
135. Ayres, D.C. and Loike, J.D. 1990. Lignans : Chemical, biological and clinical properties, Cambridge University Press.
136. Devon, T.K., Scott, A.I. 1975. Handbook of Naturally Occurring Compounds Volume I, Academic Press Inc., New York.
137. Davis, B.D. 1958. On the Importance of Being Ionised. Arch. Biochem. Biophys. **78** : 497-509.
138. Setchell, K.D., Lawson, A.M., Mitchell, F.L., Adlercreutz, H., Kirk, D.N., and Axelson, M. 1980. Lignans in Man and in Animal Species. Nature **287** : 740-742.
139. Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants. Columbia University Press, New York.
140. Leenhouts, P.W. 1960-1972. Flora Malesiana, Loganiaceae. Series I Volume 6, Wolters - Noordhoff Publishing, Groningen, The Netherlands. pp. 293-361.
141. Hostettler, F.D., Seikel, M.K. 1969. Lignans of *Ulmus thomasii* Heartwood-II. Tetrahedron **25** : 2325-2337.



APPENDIX

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a) Chloroform : Methanol (8:2)

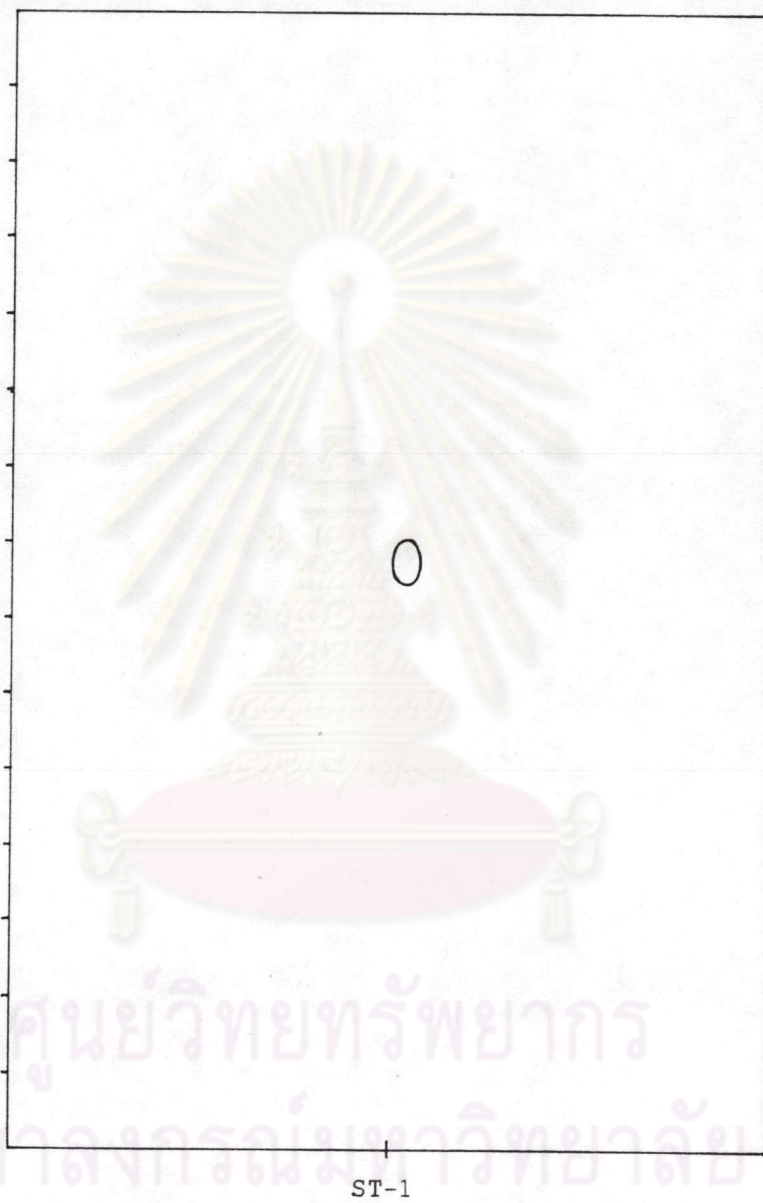


Figure 8 Thin-layer chromatogram of ST-1

b) Methanol : Benzene (1:2)

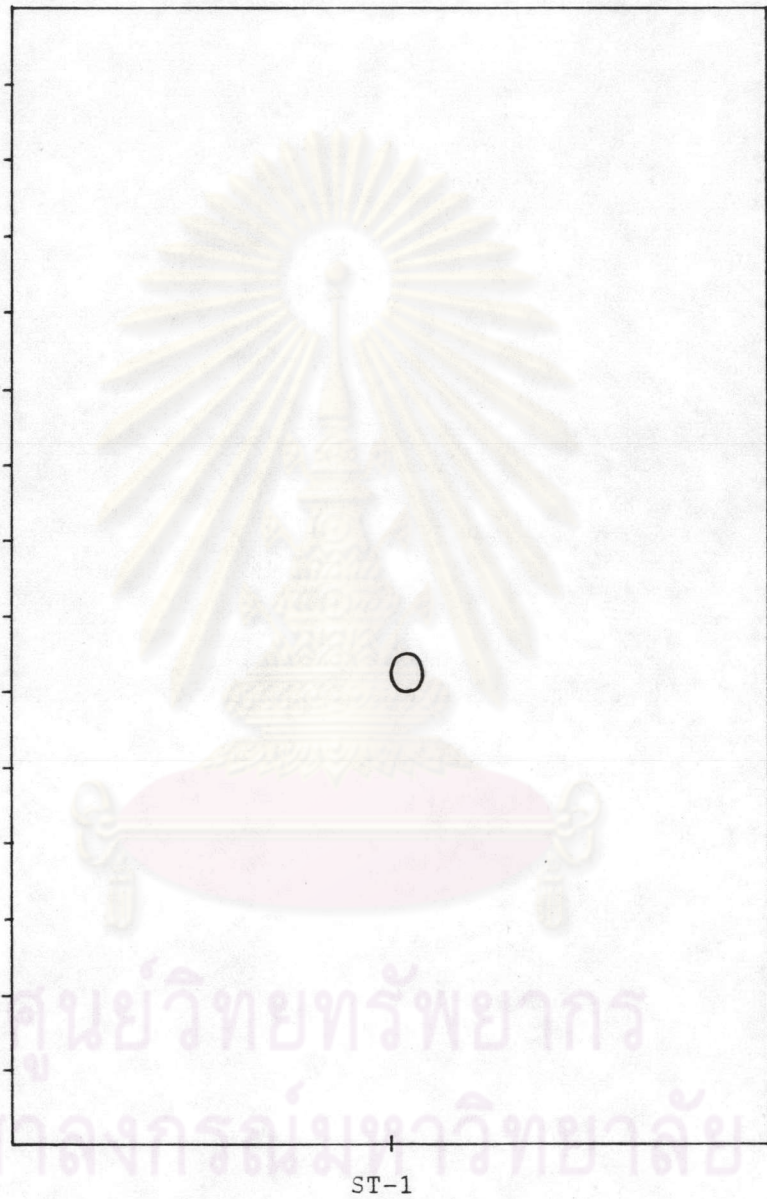


Figure 9 Thin-layer chromatogram of ST-1

c) Methanol



Figure 10 Thin-layer chromatogram of ST-1

d) Acetone



Figure 44 Thin-layer chromatogram of ST-1

e) Ethyl acetate

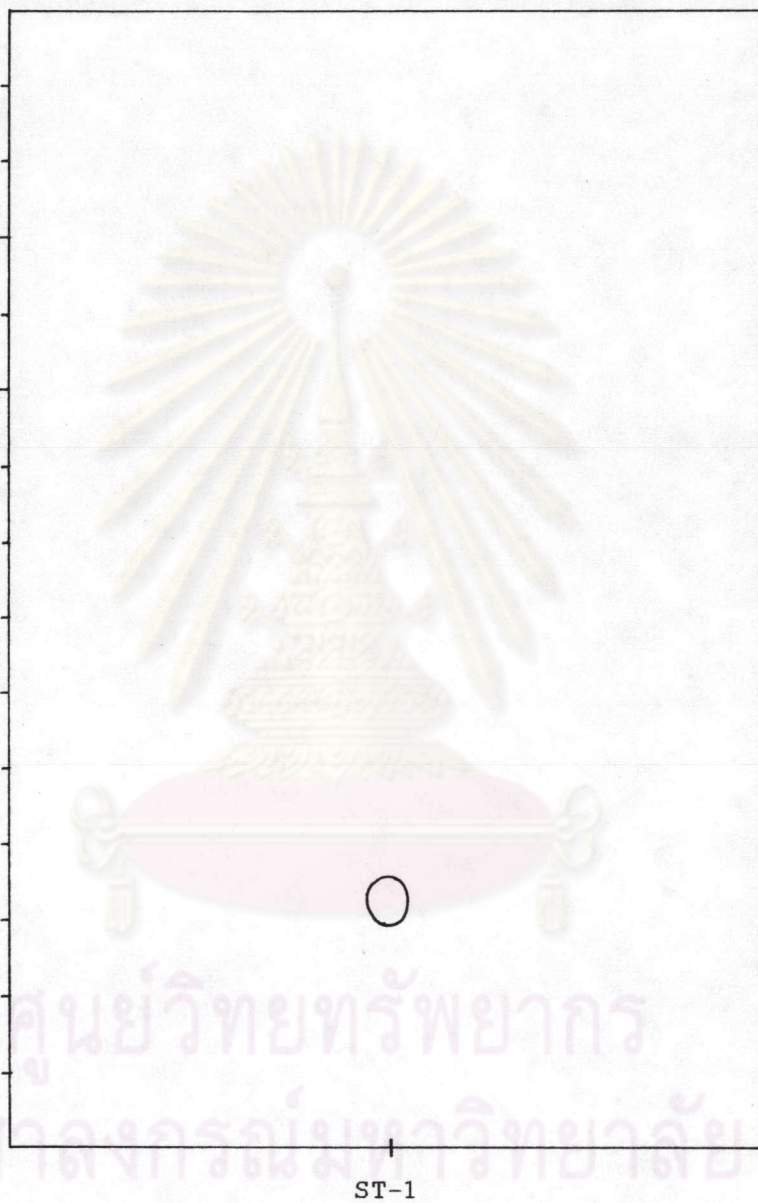


Figure 12 Thin-layer chromatogram of ST-1

a) Petroleum ether : Acetone (7:3)



ST-2

Figure 13 Thin-layer chromatogram of ST-2

b) Chloroform : Acetone (9:1)



Figure 14 Thin-layer chromatogram of ST-2

c) Hexane : Ethyl acetate (2:1)



Figure 15 Thin-layer chromatogram of ST-2



d) Chloroform : Methanol (15:1)



Figure 16. Thin-layer chromatogram of ST-2

e) Hexane : Acetone (1:1)



Figure 17 Thin-layer chromatogram of ST-2

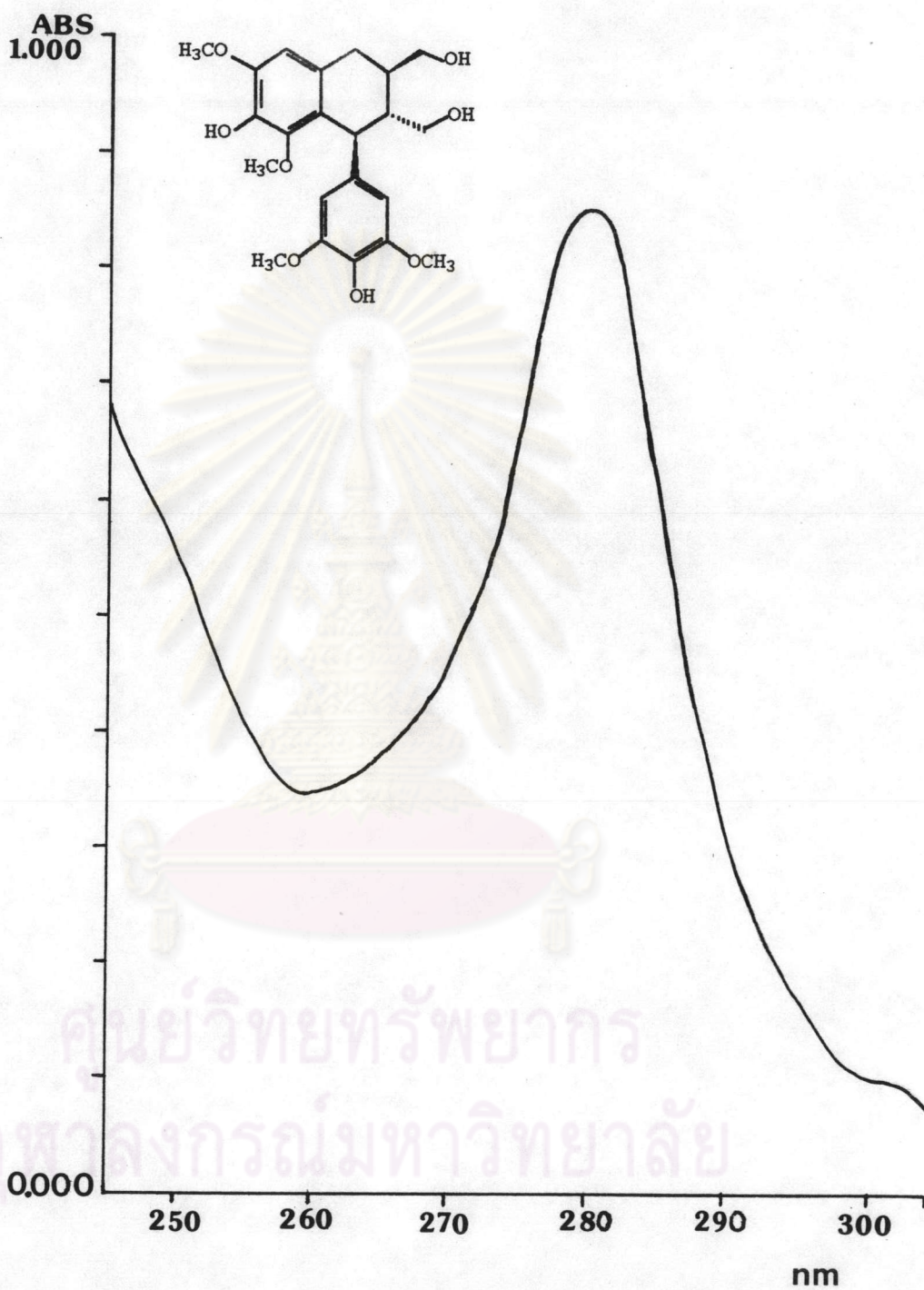


Figure 18 Ultraviolet Absorption Spectrum of ST-1

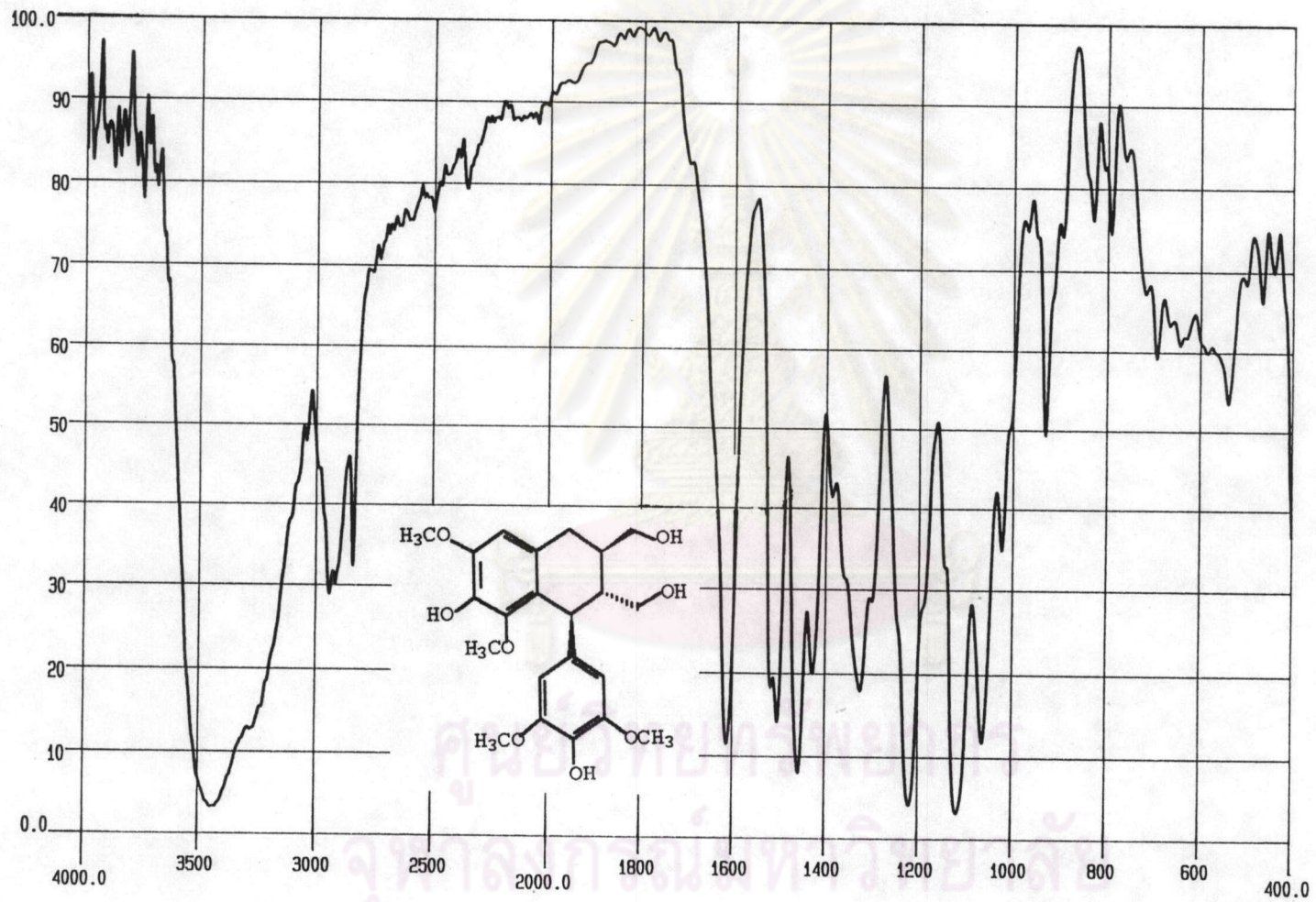


Figure 19 Infrared Absorption Spectrum of ST-1

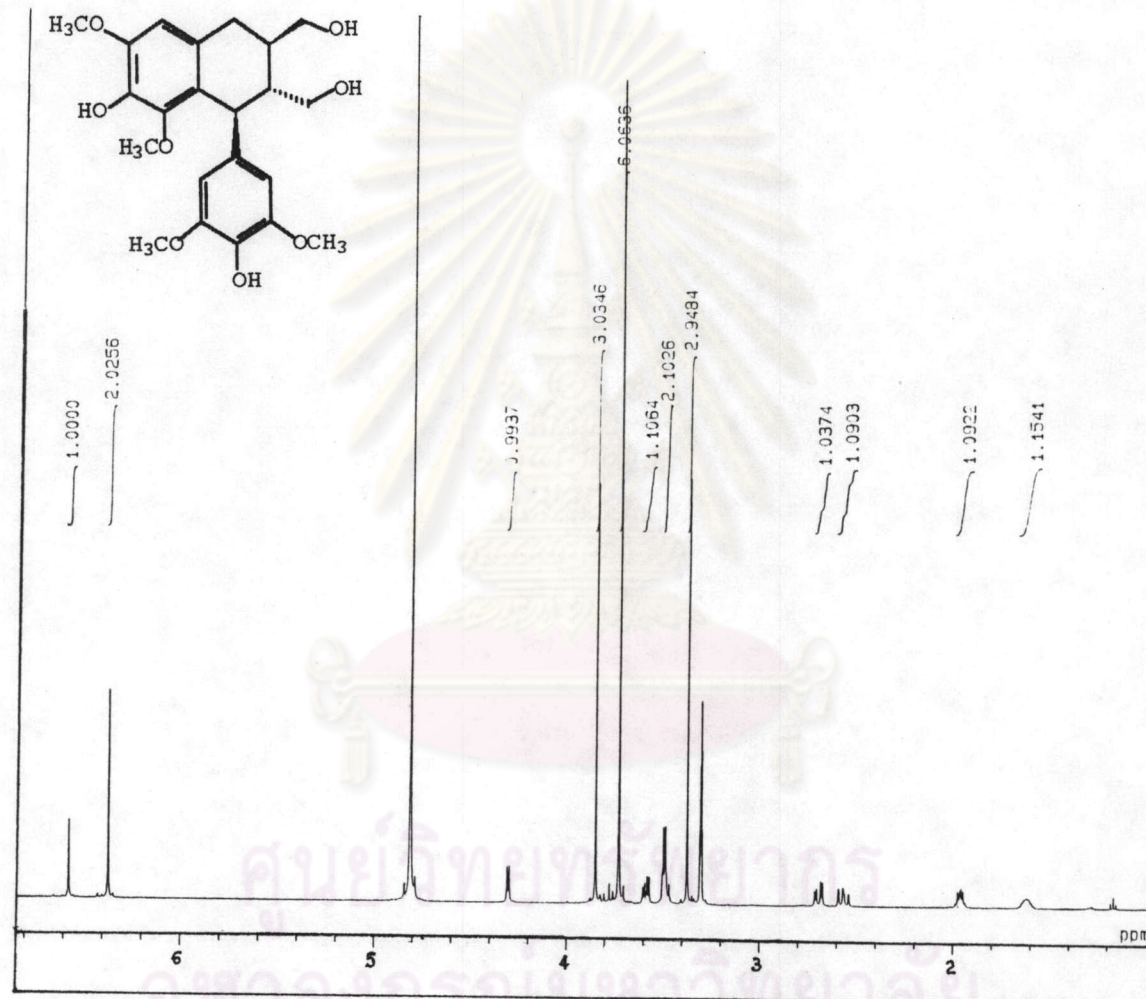


Figure 20 <sup>1</sup>H-NMR Spectrum of ST-1

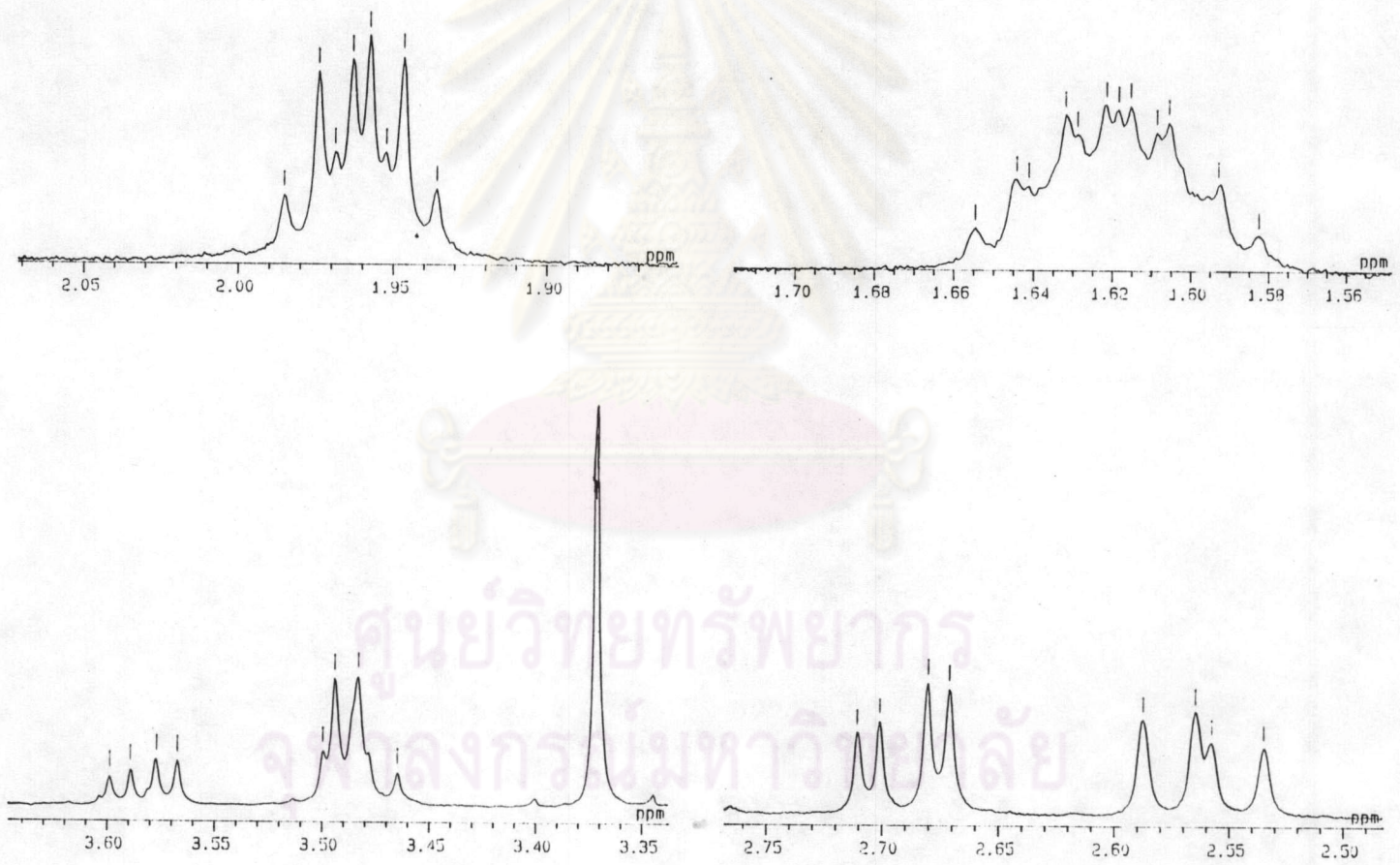


Figure 21  $^1\text{H}$  NMR Spectrum (expansion) of ST-1

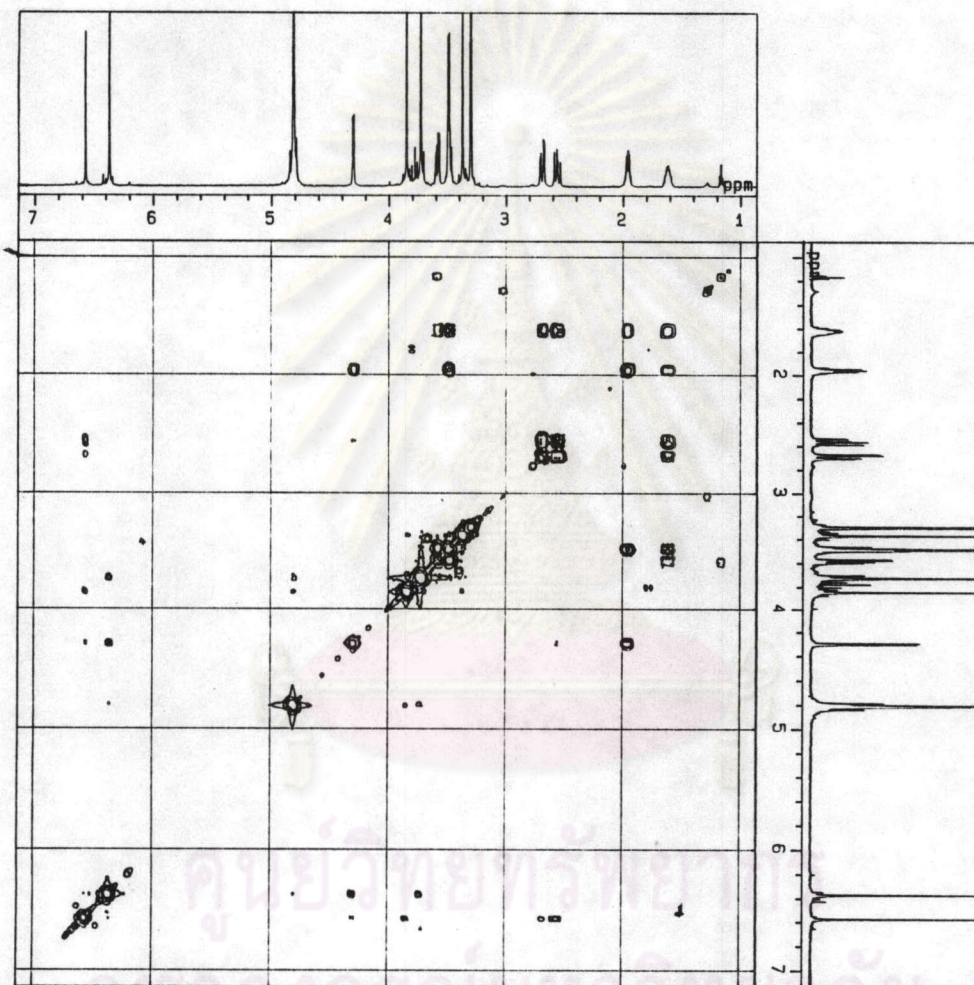


Figure 22 Two Dimension  $^1\text{H}$ -NMR Spectrum (COSY) of ST-1

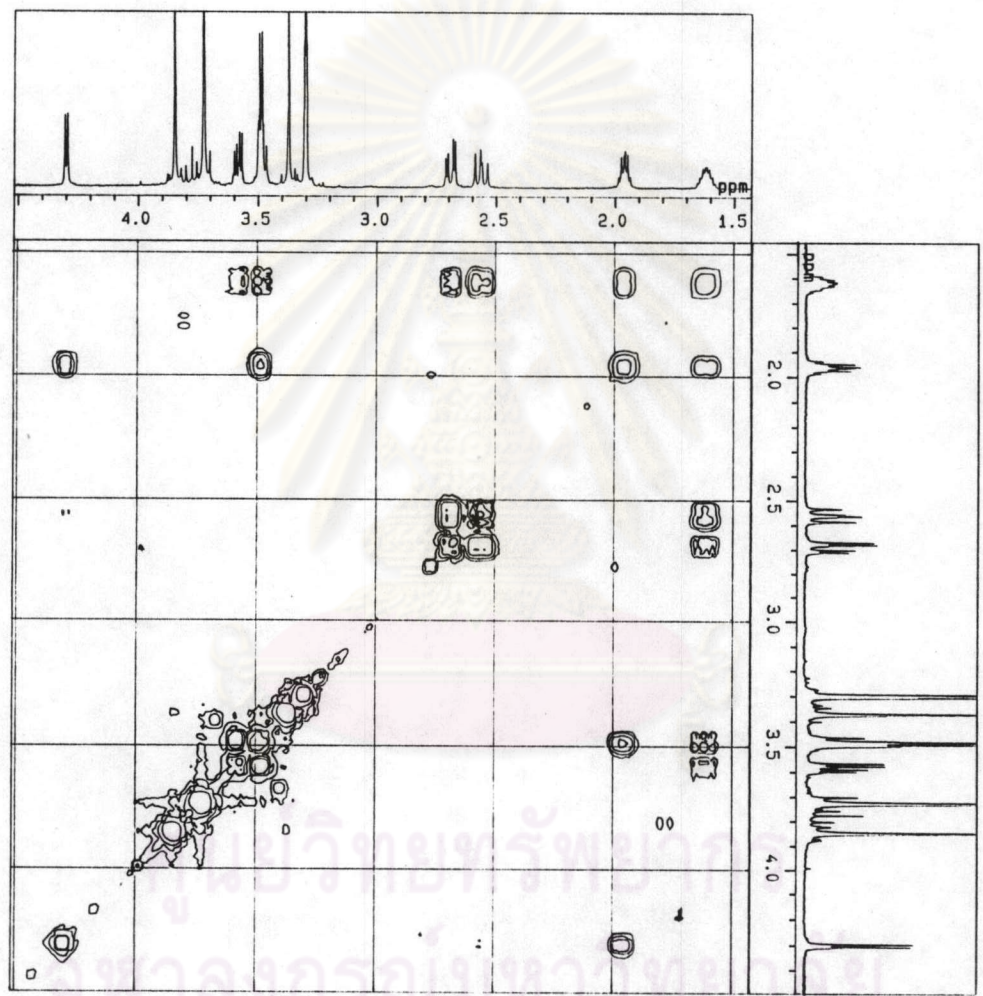


Figure 23 Two Dimension  $^1\text{H}$ - $^1\text{H}$  NMR Spectrum (COSY) (expansion) of ST-1



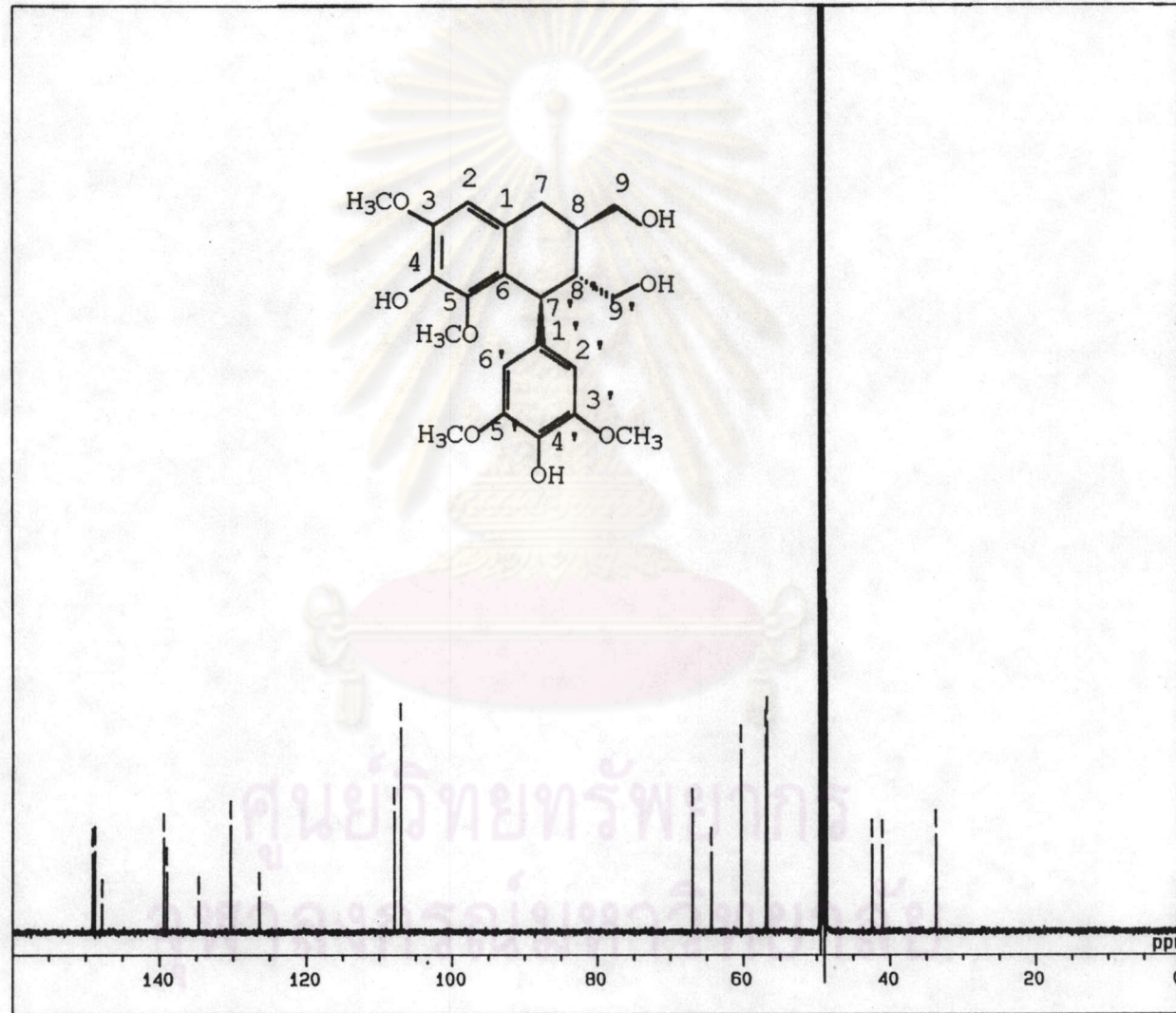
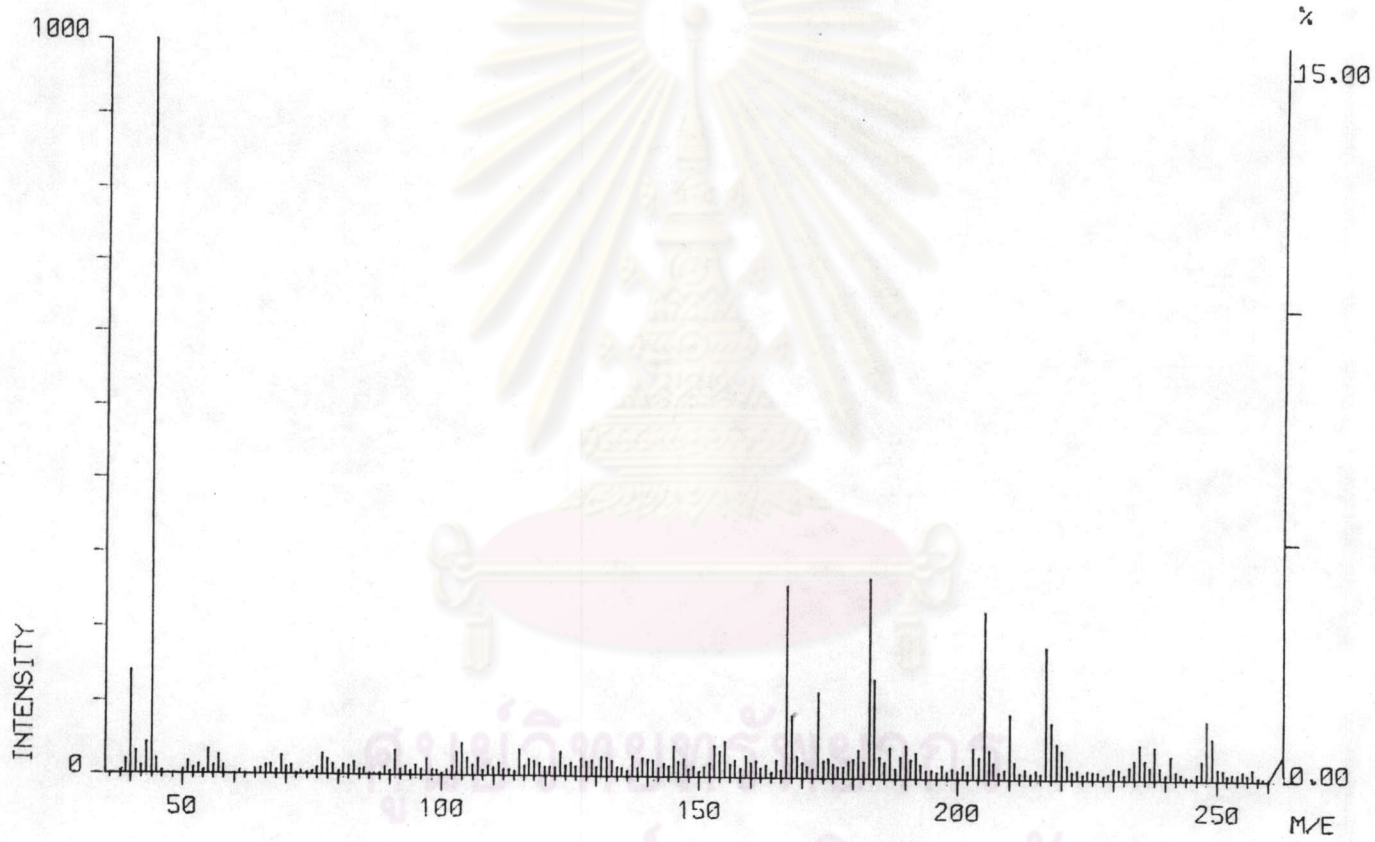


Figure 24  $^{13}\text{C}$ -NMR Spectrum of ST-1



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Figure 25 Mass Spectrum of ST-1

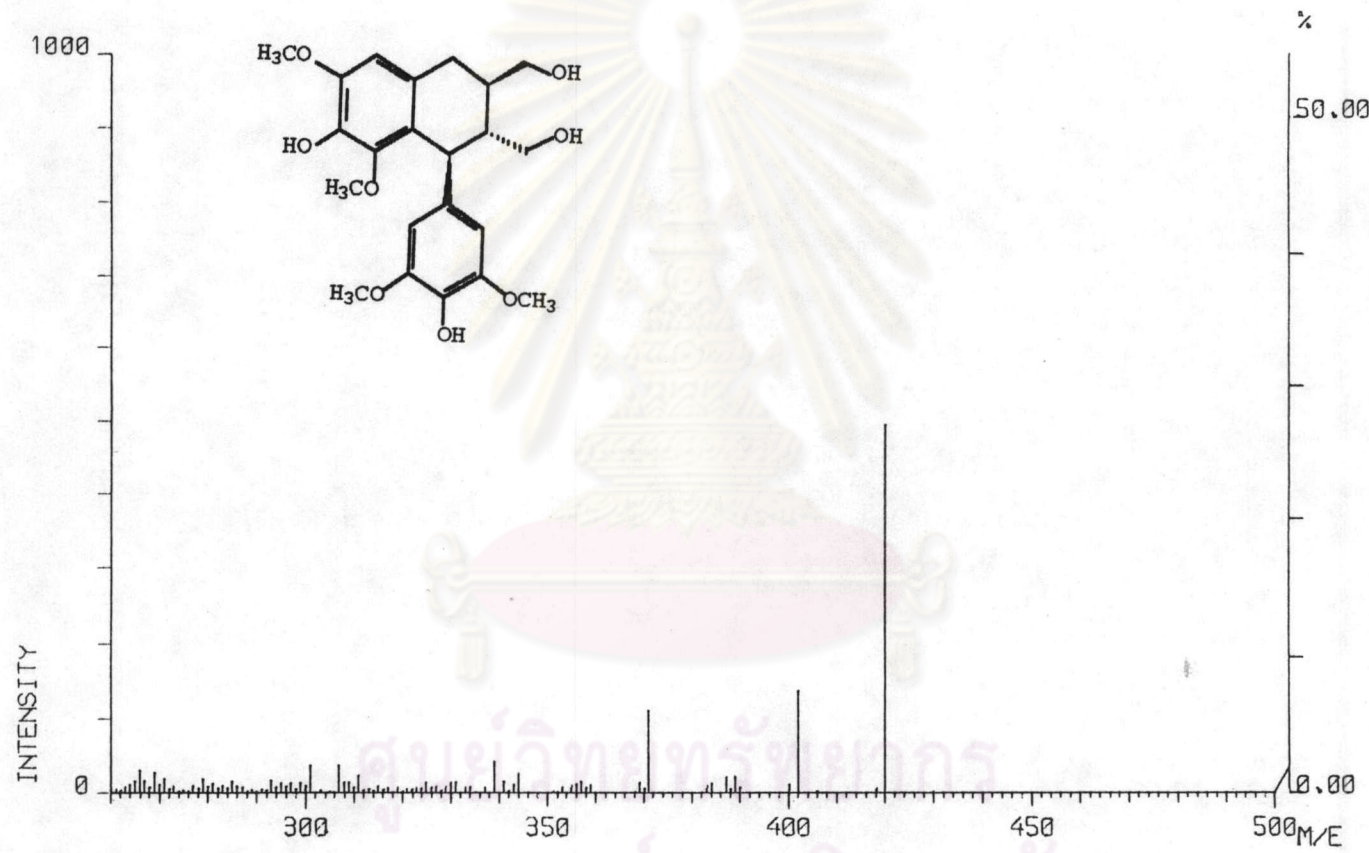


Figure 26 Mass Spectrum of ST-1



## VITA

Miss Thanyarat Sukhakul was born on September 12 , 1966 in Bangkok , Thailand. She obtained a Bachelor of Science in Pharmacy in 1990 from the Faculty of Pharmaceutical Science , Chulalongkorn University , Bangkok , Thailand.



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