

REFERENCES

Thai

- นันทวัน บุญยะประภัศร และ อรนุช โชคชัยเจริญพร. 2541. สมนไพรไม้พื้นบ้าน. เล่ม 2, กรุงเทพฯ: สำนักพิมพ์ประชาชน.
- นันทวัน บุญยะประภัศร และ อรนุช โชคชัยเจริญพร. 2543. สมนไพรไม้พื้นบ้าน. เล่ม 4, กรุงเทพฯ: สำนักพิมพ์ประชาชน.
- ปิยะ เฉลิมกลิ่น. 2544. พรรณไม้วงศ์กระดังงา. กรุงเทพฯ: อัมรินทร์พรินติ้งแอนด์พับลิชชิ่ง.
- มูลนิธิมหาวิทยาลัยมหิดล. 2544. สารานุกรมสมนไพร กายาฮีสาน. กรุงเทพฯ: อัมรินทร์พรินติ้งแอนด์พับลิชชิ่ง.

English

- Achari, B, Chakrabarty, S., Bandyopadhyay, S., and Pakrashi, S. C. 1982. A new 4,5-dioxoaporphine and other constituents of *Aristolochia indica*. Heterocycles 19: 1203-1206.
- Achenbach, H., Frey, D., and Waibel, R. 1991. 6a,7-Dehydro-2-hydroxy-4,5-dioxonoraporphine and other alkaloids from *Monocyclanthus vegnei*: ¹³C-NMR studies on 4,5-dioxoaporphines. J. Nat. Prod. 54: 1331-1336.
- Achenbach, H., Grob, J., Dominguez, X. A., Cano, G., Star, J. V., Brussolo, L. D. C., Munoz, G., Salgado, F., and Lopez, L. 1987. Lignans, neolignans and norneolignans from *Krameria cystisoides*. Phytochemistry 26: 1159-1166.
- Achenbach, H. and Hemrich, H. 1991. Alkaloids, flavonoids and phenylpropanoids of the west African plant *Oxymitra velutina*. Phytochemistry 39: 1265-1267.
- Achenbach, H., Utz, W., Lozano, B., Guajardo, E. M., Touche, G., and Moreno, S. 1996. Lignans and neolignans from *Krameria parvifolia*. Phytochemistry 43: 1093-1095.
- Achenbach, H., Utz, W., Sanchez, H. V., Touche, E. M. G., Verde, J. S., and Dominguez, X. A. 1995. Neolignans, nor-neolignans and other compounds from roots of *Krameria grayi*. Phytochemistry 39: 414-415.
- Achenbach, H., Utz, W., Usubillaga, A., and Rodriguez, H. A. 1991. Lignans from *Krameria ixina*. Phytochemistry 30: 3753-3757.
- Agrawal, P. K., Agrawal, S. K., and Pastogi, R. P. 1980. A new neolignan and other phenolic constituents from *Cedrus deodara*. Phytochemistry 19: 1260-1261.

- Ahmed, N. 2005. Advanced glycation endproducts - role in pathology of diabetic complications. Diabetes Res. Clin. Pract. 67: 3-21.
- Ahmed, R., Schreiber, F. G., Stevenson, R., Williams, J. R., and Yeo, H. M. 1976. Oxidative coupling of bromo- and iodo- ferrulic acid derivatives synthesis of (\pm)-veraguensin. Tetrahedron 32: 1339-1344.
- Ahmed, S. A., Gogal, R. M., Jr., and Walsh, J. E. 1994. A new rapid and simple non-radioactive assay to monitor and determine the proliferation of lymphocytes: an alternative to [3 H]-thymidine incorporation assay. J. Immunol. Meth. 170: 211-224.
- Aiba, C. J., Gottlieb, O. R., Pagliosa, F. M., Yoshida, M., and Magalhaes, M. T. 1977. Neolignans from *Nectandra miranda*. Phytochemistry 16: 745-748.
- Aiba, C. J., Correa, R. G. C., and Gottlieb, O. R. 1973. Natural occurrence of Erdtman's dehydrodiisoeugenol. Phytochemistry 12: 1163-1164.
- Alias, Y., Awang, K., Hadi, A. H. A., Thoison, O., Sevenet, T., and Pais, M. 1995. An antimitotic and cytotoxic chalcone from *Fissistigma lanuginosum*. J. Nat. Prod. 58: 1160-1166.
- Anh, N. H., Ripperger, H., Porzel, A., Sung, T. V., and Adam, G. 1997. Neolignans from *Caryodaphnopsis baviensis*. Phytochemistry 46: 569-571.
- Ayres, D. C. and Loike, J. D. 1990. Chemistry and pharmacology of natural products in lignans: chemical, biological and clinical properties. Cambridge UK: Cambridge University Press.
- Bajaj, R., Chang, C. J., McLaughlin, J. L., Powell, R. G., and Smith, C. R., Jr. 1986. Tiliroside from the seeds of *Eremocarpus setigerus*. J. Nat. Prod. 49: 1174-1175.
- Barata, L. E. S., Baker, P. M., Gottlieb, O. R., and Ruveda, E. A. 1978. Neolignans of *Virola surinamensis*. Phytochemistry 17: 783-786.
- Barbosa-Filho, J. M., Yoshida, M., and Gottlieb, O. R. 1989. Lignoids from *Nectandra amazonum* and *N. glabrescens*. Phytochemistry 28: 1991.
- Benevides, P. J. C., Sartorelli, P., and Kato, M. J. 1999. Phenylpropanoids and neolignans from *Piper regnellii*. Phytochemistry 52: 339-343.

- Benosman, A., Oger, J.-M., Richomme, P., Bruneton, J., Roussakis, C., Bosh, S., Sevenet, T., Ito, K., Ichino, K., and Hadi, A. H. A. 1997. New terpenylated dihydrochalcone derivatives isolated from *Mitrella kentii*. J. Nat. Prod. 60: 921-924.
- Bentley, K. W. 2003. β -Phenylethylamines and the isoquinoline alkaloids. Nat. Prod. Rep. 20: 342-365.
- Bhaumik, P. K., Mukherjee, B., Juneau, J. P., Bhacca, N. S., and Mukherjee, R. 1979. Alkaloids from leaves of *Annona squamosa*. Phytochemistry 18: 1584-1586.
- Blumenthal, E. E. D. A., Silva, M. S. D., and Yoshida, M. 1997. Lignoids, flavonoids and polyketides of *Virola surinamensis*. Phytochemistry 46: 745-749.
- Braz, R., Gabriel, S. J., Gomes, C. M. R., Gottlieb, O. R., Bichara, M. D. G. A., and Maia, J. G. S. 1976. Oxoaporphine alkaloids from *Fusea longifolia* and *Siparuna gualanensis*. Phytochemistry 15: 1187-1188.
- Biftu, T., Gamble, N. F., Doebber, T., Hwang, S.-B., Shen, T.-Y., Snyder, J., Springer, J. P., and Stevenson, R. 1986. Conformation and activity of tetrahydrofuran lignans and analogues as specific platelet activating factor antagonists. J. Med. Chem. 29: 1917-1921.
- Brochini, C. B. and Roque, N. F. 2000. Two new cneurubin related diterpenes from the leaves of *Guarea guidonia* (Meliaceae). J. Braz. Chem. Soc. 11: 361-364.
- Camacho, M. D. R., Kirby, G. C., Warhurst, D. C., Croft, S. L., and Phillipson, J. D. 2000. Oxoaporphine alkaloids and quinones from *Stephania dinklagei* and evaluation of their antiprotozoal activities. Planta Med. 66: 478-480.
- Cao, S.-G., Wu, X.-H., Sim, K.-Y., Tan, B. K. H., Pereira, J. T., and Goh, S.-H. 1998. Styryl-lactone derivatives and alkaloids from *Goniothalamus borneensis* (Annonaceae). Tetrahedron 54: 2143-2148.
- Cardozo, E. L., Jr., and de Oliveira, M. C. 2003. Caldensin, a new natural *N*-methylyaristolactam from *Piper caldense*. Pharm. Biol. 41: 216-218.
- Castedo, L., Granja, J. A., de Lera, A. R., and Villaverde, M. C. 1991. Alkaloids from *Guatteria goudotiana*. Phytochemistry 30: 2781-2783.
- Castedo, L., Suau, R., and Mourino, A. 1976. A revised structure for pontevedrine. Tetrahedron Lett. 6: 501-502.

- Cavalcante, S. H., Yoshida, M., and Gottlieb, O. R. 1985. Neolignans from *Virola carinata* fruit. Phytochemistry 24: 1051-1055.
- Chamkha, M., Cathala, B., Cheynier, V., and Douillard, R. 2003. Phenolic composition of champagnes from Cardonnary and Pinot Noir Vintages. J. Agric. Food Chem. 51: 3179-3184.
- Chan, K. C., and Toh, H. T. 1986. A 7-hydroxyaporphine alkaloid from *Desmos dasymachalus*. Phytochemistry 25: 1999-2000.
- Chang, F.-R., Chen, C.-Y., Hsieh, T.-J., Cho, C.-P., and Wu, Y.-C. 2000. Chemical constituents from *Annona glabra* III. Chin. Chem. Soc. 47: 913-920.
- Chang, F.-R., Wei, J.-L., Teng, C.-M., and Wu, Y.-C. 1998. Antiplatelet aggregation constituents from *Annona purpurea*. J. Nat. Prod. 61: 1457-1461.
- Chantrapromma, K., Rat-A-pa, Y., Karalai, C., Lojanapiwatana, V., and Seechamnaturakit, V. 2000. A chalcone and a dihydrochalcone from *Uvaria dulcis*. Phytochemistry 53: 511-513.
- Chen, B., Feng, C., Li, B.-G., and Zhang, G.-L. 2003. Two new alkaloids from *Milium cuneata*. Nat. Prod. Res. 17: 397-402.
- Chen, C.-C., Huang, Y.-H., Ou, J.-C., Lin, C.-F., and Pan, T.-M. 1993. Three new prenylflavones from *Artocarpus altilis*. J. Nat. Prod. 56: 1594-1597.
- Chen, Y.-C., Chen, J.-J., Chang, Y.-L., Teng, C.-M., Lin, W.-Y., Wu, C.-C., and Chen, I.-C. 2004. A new aristolactam alkaloid and anti-platelet aggregation constituents from *Piper taiwanense*. Planta Med. 70: 174-177.
- Chen, Y.-Y., Chang, F.-R., and Wu, Y.-C. 1996. Isoquinoline alkaloids and lignans from *Rollinia mucosa*. J. Nat. Prod. 59: 904-906.
- Chen, Z. N., Yu, P. Z., and Xu, P. J. 1993. Anti-platelet activating factor constituents, 2,5-diaryltetrahydrofuran type lignans, from *Piper futokadsura* Sied. et Zucc. Zhongguo Zhong Yao Za Zhi. 18: 292-294.
- Chia, Y.-C., Chang, F.-R., Teng, C.-M., and Wu, Y.-C. 2000. Aristolactams and dioxoaporphines from *Fissistigma balansae* and *Fissistigma oldhamii*. J. Nat. Prod. 63: 1160-1163.
- Cimanga, K., de Bruyne, T., Lasure, A., Li, Q., Pieters, L., Claeys, M., Berghe, D. V., Kambu, K., Tona, L., and Vlietnck, A. 1995. Flavonoid O-glycosides from the leaves of *Morinda morindoides*. Phytochemistry 38: 1301-1303.
- Cole, J. R., Torrance, S. J., and Wiedhopf, R. M. 1976. Uvaretin, a new antitumor agent from *Uvaria acuminata* (Annonaceae). J. Org. Chem. 41: 1852-1855.

- Colegate, S. M., Din, L. B., Ghisalberti, E. L., and Latiff, A. 1992. Tepanone, a retrochalcone from *Ellipeia cuneifolia*. Phytochemistry 31: 2123-2126.
- Collins, L. A., and Franzblau, S. G. 1997. Microplate Alamar Blue assay versus BACTEC 460 system for high-throughput screening of compounds against *Mycobacterium tuberculosis* and *Mycobacterium avium*. Antimicrob. Agents Chemother. 41: 1004-1009.
- Conserva, L. M., Silva, M. S. D., and Filho, R. B. 1990. Lignans from *Aristolochia birostris*. Phytochemistry 29: 257-260.
- Cortes, D., Hocquemiller, R., Leboeuf, M., Cave, A., and Moretti, C. 1986. Alcaloides des Annonacees, 68: alcaloides des feuilles de *Guatteria ouregou*. J. Nat. Prod. 49: 878-884.
- Crohare, R., Priestap, H. A., Farina, M., Cedola, M., and Ruveda, E. A. 1962. Aristolactams of *Aristolochia argentina*. Phytochemistry 13: 1957-1962.
- David, J. M., Yoshida, M., and Gottlieb, O. R. 1994. Neolignans from bark and leaves of *Ocotea porosa*. Phytochemistry 36: 491-499.
- De Britto, J., Manickam, V. S., Gopalakrishnan, S., Ushioda, T., and Tanaka, N. 1995. Determination of aglycone chirality in dihydroflavonol 3-O- α -L-rhamnosides by $^1\text{H-NMR}$ spectroscopy. Chem. Pharm. Bull. 43: 338-339.
- De O. Brochado, C., de Almeida, A. P., Barreto, B. P., Costa, L. P., Ribeiro, L. S., da C. Pereira, R. L., Koatz, V. L. G., and Costa, S. S. 2003. Flavonol robinobiosides and rutinosides from *Alternanthera brasiliiana* (Amaranthaceae) and their effects on lymphocyte proliferation *in vitro*. J. Braz. Chem. Soc. 14: 449-451.
- De Diaz, A. M. P. 1997. Neolignans from *Anaxagorea clavata*. Phytochemistry 44: 345-346.
- De Siqueira, J. M., Ziminiani, M. G., Resende, U. M., and Boaventura, M. A. D. 2001. Activity-guided isolation of the constituents from bark of stem of *Duguetia glabriuscula*-Annonaceae, using brine shrimp lethality test (BSL). Quim. Nova. 24: 185-187.
- Desai, S. J., Chaturvedi, R. N., Badheka, L. P., and Mulchandani, N. B. 1989. Aristolactams and 4,5-dioxoaporphines from Indian *Piper* species. Indian J. Chem. 28B: 775-777.

- Desai, S. J., Chaturvedi, R., and Mulchandani, N. B. 1990. Piperolactam D, a new aristolactam from Indian *Piper* species. J. Nat. Prod. 53: 496-497.
- Desai, S. J., Prabhu, B. R., and Mulchandani, N. B. 1988. Aristolactams and 4,5-dioxoaporphines from *Piper longum*. Phytochemistry 27: 1511-1515.
- Desjardins, R. E., Canfield, C. J., Haynes, J. D., and Chulay, J. D. 1979. Quantitative assessment of antimalarial activity *in vitro* by a semiautomated microdilution technique. Antimicrob. Agents Chemother. 16: 710-718.
- Dewick, P. M. 2002. Medicinal Natural Products, A biosynthetic approach. 2nd ed. U.K.: John Wiley & Sons.
- Dias, A. D. F., Giesbrecht, A. M., and Gottlieb, O. R. 1982. Neolignans from *Urbanodendron verrucosum*. Phytochemistry 21: 1137-1139.
- Dias, D. A., Yoshida, M., and Gottlieb, O. R. 1986. Further neolignans from *Ocotea porosa*. Phytochemistry 25: 2613-2616.
- Diaz, A. M. P. D. 1997. Neolignans from *Anaxagorea clavata*. Phytochemistry 44: 345-346.
- Dimas, K., Demetzos, C., Mitaku, S., Marselos, M., Tzavaras, T., and Kokkinopoulos, D. 2000. Cytotoxic activity of kaempferol glycosides against human leukaemic cell lines *in vitro*. Pharmacol. Res. 41: 85-88.
- Dimas, K., Demetzos, C., Vaos, B., Marselos, M., and Kokkinopoulos, D. 1999. Cytotoxic and antiproliferative effects of heptaacetyltiliroside on human leukemic cell lines. Leuk. Res. 23: 1021-1033.
- Doskotch, R. W. and Flom, M. S. 1972. Acuminatin, a new bis-phenylpropide from *Magnolia acuminata* L. Tetrahedron 28: 4711-4717.
- Du, J., Wang, M. L., Chen, R. Y., and Yu, D. Q. 2001. Chemical constituents from the leaves of *Magnolia denudata*. J. Asian Nat. Prod. Res. 3: 313-319.
- Dyke, S. F. and Gellert, E. 1978. The structure of alkaloid Y from *Schefferomitra subaequalis*. Phytochemistry 17: 599.
- Ee, G. C. L., Lee, H. L., and Goh, S. H. 1999. Larvicidal activity of Malaysian *Goniothalamus* species. Nat. Prod. Lett. 13: 137-142.
- El-Feraly, F. S., Cheatham, S. F., Hufford, C. D., and Li, W.-S. 1982. Optical resolution of (\pm)-dehydrodiisoeugenol: structure revision of acuminatin. Phytochemistry 21: 1133-1135.

- Fernandes, A. M. A. P., Barata, L. E. S., and Ferri, P. H. 1993. Lignans and a neolignan from *Virola oleifera* leaves. Phytochemistry 32: 1567-1572.
- Fernandes, J. B., Gottlieb, O. R., and Maia, J. G. S., 1976. Neolignans from an *Aniba* species. Phytochemistry 15: 1033-1036.
- Filho, A. A. da S., Silva, M. L. A., Carvalho, J. C. T., and Bastos, J. K. 2004. Evaluation of analgesic and anti-inflammatory activities of *Nectandra megapotamica* (Lauraceae) in mice and rats. J. Pharm. Pharmacol. 56: 1179-1184.
- Filleur, F., Pouget, C., Allais, D. P., Kaouadji, M., and Chulia, A. J. 2002. Lignans and neolignans from *Myristica argentea*. Nat. Prod. Lett. 16: 1-7.
- Fleischer, T. C., Waigh, R. D., and Waterman, P. G. 1998. A novel retrodihydrochalcone from the stem bark of *Uvaria mocoli*. Phytochemistry 47: 1387-1391.
- Fonseca, S. F., Barata, L. E. S., Ruveda, E. A., and Baker, P. M. 1979. ¹³C Nuclear magnetic resonance spectral and conformational analysis of naturally occurring tetrahydrofuran lignans. Can. J. Chem. 57: 441-443.
- Fournier, G., Hadjiakhoondi, A., Leboeuf, M., Cave, A., and Charles, B. 1999. Essential oils of Annonaceae: Part VII, Essential oils of *Monanthotaxis diclina* (Sprague) Verdcourt and *Unonopsis guatterioides* R. E. Fries. Flavour and Fragrance Journal 12: 95-98.
- Fournier, G., Hadjiakhoondi, A., Charles, B., Fourniat, J., Leboeuf, M., and Cave, A. 1994. Chemical and biological studies of *Xylopia aromatica* stem bark and leaf oil. Planta Med. 60: 283-284.
- Freixa, B. Vila, R., Ferro, E. A., Adzet, T., and Canigueral, S. 2001. Antifungal principles from *Piper fulvescens*. Planta Med. 67: 873-875.
- Gaffield, W., Waiss, A. C., Jr., and Tominaga, T. 1975. Structural relationships and interconversions of isomeric astilbins. J. Org. Chem. 40: 1057-1061.
- Gonzalez-Coloma, A., Escoubas, P., Mizutani, J., and Lajide, L. 1994. Insect growth inhibitors from *Machilus japonica*. Phytochemistry 35: 607-610.
- Gottlieb, O. R., Magalhaes, A. F., Magalhaes, E. G., Maia, J. G. S., and Marsaioli, A. J. 1978. Oxoaporphine alkaloids from *Duguetia eximia*. Phytochemistry 17: 837-838.
- Gottlieb, O. R., Silva, M. L. D., and Ferreira, S., 1975. Neolignans from *Aniba terminalis*. Phytochemistry 14: 1825-1827.

- Green, T. P., Galinis, D. L., and Wiemer, D. F. 1991. Three neolignans from the roots of *Piper capense*. Phytochemistry 30: 1649-1652.
- Hada, S., Hattori, M., Tezuku, Y., Kikuchi, T., and Namba, T. 1988. New neolignans and lignans from the aril of *Myristica fragrans*. Phytochemistry 27: 563-568.
- Hamzah, A. S., and Lajis, N. H. 1998. Chemical constituents of *Hedyotis herbacea*. ARBEC 1-6.
- Haraguchi, H., Mochida, Y., Sakai, S., Masuda, H., Tamura, Y., Mizutani, K., Tanaka, O., and Chou, W.-H. 1996a. Protection against oxidative damage by dihydroflavonols in *Engelhardtia chrysolepis*. Biosci. Biotech. Biochem. 60: 945-948.
- Haraguchi, H., Ohmi, I., Fukuda, A., Tamura, Y., Mizutani, K., Tanaka, O., and Chou, W.-H. 1997. Inhibition of aldose reductase and sorbitol accumulation by astilbin and taxifolin dihydroflavonols in *Engelhardtia chrysolepis*. Biosci. Biotech. Biochem. 61: 651-654.
- Haraguchi, H., Ohmi, I., Masuda, H., Tamura, Y., Mizutani, K., Tanaka, O., and Chou, W.-H. 1996b. Inhibition of aldose reductase by dihydroflavonols in *Engelhardtia chrysolepis* and effects on other enzymes. Experientia 52: 564-567.
- Harborne, J. B. 1994. The Flavonoids: Advances in research since 1986. UK: Chapman & Hall.
- Harrigan, G. G., Gunatilaka, A. A. L., Kingston, D. G. I., Chan, G. W., and Johnson, R. K. 1994. Isolation of bioactive and other oxoaporphine alkaloids from two annonaceous plants, *Xylopia aethiopica* and *Miliusa cf. banacea*. J. Nat. Prod. 57: 68-73.
- Hasan, C. M., Asha, K. N., and Rashid, M. A. 2001. Aristolactams from the stem bark of *Uvaria hamiltonii*. Biochem. Syst. Ecol. 29: 207-208.
- Hattori, M., Hada, S., Watahiki, A., Ihara, H., Shu, Y.-Z., Kakiuchi, N., Mizuno, T., and Namba, T. 1986. Studies on dental caries prevention by traditional medicines X, antibacterial action of phenolic components from mace against *Streptococcus mutans*. Chem. Pharm. Bull. 34: 3885-3893.
- Herath, H. M. T. B. and Priyadarshani, A. M. A. 1996. Two lignans and an aryl alkanone from *Myristica dactyloides*. Phytochemistry 42: 1439-1442.
- Herath, H. M. T. B. and Priyadarshani, A. M. A. 1997. Lignans from *Myristica dactyloides*. Phytochemistry 44: 699-703.

- Hsieh, T.-J., Chang, F.-R., Chia, Y.-C., Chen, C.-Y., Lin, H.-C., Chiu, H.-F., and Wu, Y.-C. 2001. The alkaloids of *Artabotrys uncinatus*. J. Nat. Prod. 64: 1157-1161.
- Ho, H. M., Chen, R. Y., Leung, L. K., Chan, F. L., Huang, Y., and Chen, Z.-Y. 2002. Difference in flavonoid and isoflavone profile between soybean and soy leaf. Biomed. Pharmacother. 56: 289-295.
- Holbert, G. W., Ganem, B., Engen, D. V., Clardy, J., Borsub, L., Chantrapromma, K., Sadavongvivad, C., and Thebtaranonth, Y. 1979. Shikimate-derived metabolites, revised structure and total synthesis of pipoxide. Tetrahedron Lett. 20: 715-718.
- Hollands, R., Becher, D., Gaudemer, A., Polonsky, J., and Ricroch, N. 1968. Etude des constituants des fruits d'*Uvaria catocarpa* (Annonaceae). Structure du senepoxyde et du seneol. Tetrahedron 24: 1633-1650.
- Holloway, D., and Scheinmann, F. 1974. Two lignans from *Litsea grandis* and *L. gracilepes*. Phytochemistry 13: 1233-1236.
- Hou, W.-C., Lin, R.-D., Lee, T.-H., Huang, Y.-H., Hsu, F.-L., and Lee, M.-H. 2005. The phenolic constituents and free radical scavenging activities of *Gynura formosana* Kimura. J. Sci. Food Agric. 85: 615-621.
- Hsieh, T.-J., Chang, F.-R., Chia, Y.-C., Chen, C.-Y., Lin, H.-C., Chiu, H.-F., and Wu, Y.-C. 2001. The alkaloids of *Artabotrys uncinatus*. J. Nat. Prod. 64: 1157-1161.
- Huang, R.-L., Chen, C.-F., Feng, H.-Y., Lin, L.-C., and Chou, C. J. 2001. Anti-hepatitis B virus of seven compounds isolated from *Piper kadsura* (choisy) Ohwi. J. Chin. Med. 12: 179-190.
- Hufford, C. D. and Lasswell, W., Jr. 1976. Uvaretin and isouvaretin. Two novel cytotoxic C-benzylflavanones from *Uvaria chamae* L. J. Org. Chem. 41: 1297-1298.
- Hufford, C. D. and Oguntimein, B. O. 1980. Dihydrochalcones from *Uvaria angolensis*. Phytochemistry 19: 2036-2038.
- Hufford, C. D. and Oguntimein, B. O. 1982. New dihydrochalcones and flavanones from *Uvaria angolensis*. J. Nat. Prod. 45: 337-342.
- Hufford, C. D. and Oguntimein, B. O. 1987. Angoluvarin, an antimicrobial dihydrochalcone from *Uvaria angolensis*. J. Org. Chem. 52: 5268-5288.

- Iida, T. and Ito, K. 1983. Four phenolic neolignans from *Magnolia liliflora*. Phytochemistry 22: 763-766.
- Ishige, M., Motodome, M., Yoshida, M., and Gottlieb, O. R. 1991. Neolignans from *Ocotea carharinensis*. Phytochemistry 30: 4121-4128.
- Ito, K., Ichino, K., Iida, T., and Lai, J. 1984. Neolignans from *Magnolia kachirachirai*. Phytochemistry 11: 2643-2645.
- Ivanovska, N., Philipov, S., and Georgieva, P. 1997. Immunopharmacological activity of aporphine alkaloid oxoglaucone. Pharm. Res. 35: 267-272.
- Iwabuchi, H., Yoshikura, M., and Kamisako, W. 1989. Studies on sesquiterpenoids of *Panax ginseng* C. A. Meyer III. Chem. Pharm. Bull. 37: 509-510.
- Jolad, S. D., Hoffmann, J. J., Schram, K. H., and Cole, J. R. 1981. Structures of zeylenol and zeylena, constituents of *Uvaria zeylanica* (Annonaceae). J. Org. Chem. 46: 4267-4272.
- Jolad, S. D., Hoffmann, J. J., Cole, J. R., Tempesta, M. S., and Bates, R. B. 1984. 1-Epizeylenol from *Uvaria zeylanica* roots. Phytochemistry 23: 935-936.
- Joshi, N., Garg, H. S., and Bhakuni, D. S. 1990. Chemical constituents of *Piper schmidtii*: structure of a new neolignan schmiditin. J. Nat. Prod. 53: 479-482.
- Jossang, A., Leboeuf, M., Cave, A., Sevenet, T., and Padmawinata, K. 1984. Alcaloides des Annonacees, L: alcaloides de *Polyalthia cauliflora*. J. Nat. Prod. 47: 504-513.
- Jumana, S., Hasan, C. M., and Rashid, M. A. 2000. Alkaloids from the stem bark of *Miliusa velutina*. Biochem. Syst. Ecol. 28: 483-485.
- Jung, J. H., Pummangura, S., Chaichantipayuth, C., Patarapanich, C., and McLaughlin, J. L. 1990. Bioactive constituents of *Melodorum fruticosum*. Phytochemistry 29: 1667-1670.
- Jung, K.Y., Oh, S. R., Park, S. H., Lee, I. S., Ahn, K. S., Lee, J. J., and Lee, H. K. 1998. Anti-complement activity of tiliroside from the flower buds of *Magnolia fargesii*. Biol. Pharm. Bull. 21: 1077-1078.
- Kamperdick, C., Van, N. H., and Sung, T. V. 2002. Constituents from *Miliusa balansae* (Annonaceae). Phytochemistry 61: 991-994.
- Kaouadji, M. 1990. Acylated and nono-acylated kaempferol monoglycosides from *Platanus acerifolia* buds. Phytochemistry 29: 2295-2297.

- Kasai, R. K., Hirono, S., Chou, W.-H., Tanaka, O., and Chen, F.-H. 1988. Sweet dihydroflavonol rhamnoside from leaves of *Engelhardtia chrysolepsis*, a Chinese folk medicine, hung-qi. Chem. Pharm. Bull. 36: 4167-4170.
- Kawanishi, K., Uhara, Y., and Hashimoto, Y. 1983. The neolignans, carinatidin, dihydrocarinatidin, carinatidiol and dehydrodieugenol B from *Virola carinata*. Phytochemistry 22: 2277-2280.
- Kijjoo, A., Bessa, J., Pinto, M. M. M., Anantachoke, C., Silva, A. M. S., Eaton, G., and Herz, W. 2002. Polyoxygenated cyclohexene derivatives from *Ellipeiopsis cherrevensis*. Phytochemistry 59: 543-549.
- Kim, S.-K., Ryu, S. Y., No, J., Choi, S. U., and Kim, Y. S. 2001. Cytotoxic alkaloids from *Houttuynia cordata*. Arch. Pharm. Res. 24: 518-521.
- Khan, M. R., Gray, A. I., and Waterman, P. G. 1987. Neolignans from stem bark of *Ocotea veraguensis*. Phytochemistry 26: 1155-1158.
- Kodpinid, M., Sadavongvivad, C., Thebtaranonth, C., and Thebtaranonth, Y. 1983. Structures of β -senepoxide, tingtanoxide, and their diene precursors constituents of *Uvaria ferruginea*. Tetrahedron Lett. 24: 2019-2022.
- Kodpinid, M., Thebtaranonth, C., and Thebtaranonth, Y. 1985. Benzyl benzoates and O-hydroxybenzyl flavanones from *Uvaria ferruginea*. Phytochemistry 24: 3071-3072.
- Kuo, Y.-C., Lin, L.-C., Yang, N.-S., Tsai, W.-J., Lin, A.-P., Lee, M.-J., and Chou, C.-J. 2002. Some immunomodulatory principles isolated from *Piper kadsura*. J. Chin. Med. 13: 159-170.
- Koul, J. L., Koul, S. K., Taneja, S. C., and Dhar, K. L. 1996. Oxygenated cyclohexanes from *Piper cubeb*. Phytochemistry 41: 1097-1099.
- Kumar, R., Bhan, S., Kalla, A. K., and Dhar, K. L. 1985. Flavonol glycosides of *Phlomis spectabilis*. Phytochemistry 24: 1124-1125.
- Kumar, V., Poonam, Prasad, A. K., and Parmar, V. S. 2003. Naturally occurring aristolactams, aristolochic acids and dioxoaporphines and their biological activities. Nat. Prod. Rep. 20: 565-583.
- Kupchan, S. M., Hemingway, R. J., and Smith, R. M. 1969a. Tumor inhibitors. XLV. Crotepoxide, a novel cyclohexane diepoxide tumor inhibitor from *Croton macrostachys*. J. Org. Chem. 34: 3898-3902.

- Kupchan, S. M., Suffness, M. I., and Gordon, E. M. 1969b. The isolation and structure elucidation of oxoxylophine, a new oxoaporphine alkaloid from *Stephania abyssinica*. J. Org. Chem. 35: 1682-1684.
- Lago, J. H. G., de Avila, P., Jr., Moreno, P. R. H., Limberger, R. P., Apel, M. A., and Henriques, A. T. 2003. Analysis, comparison and variation on the chemical composition from the leaf volatile oil of *Xylopia aromatica* (Annonaceae). Biochem. Syst. Ecol. 31: 669-672.
- Lan, Y.-H., Chia, Y.-C., Chang, F.-R., Hwang, T.-L., Liaw, C.-C., and Wu, Y.-C. 2005. Potential anti-inflammatory activities of bractelactone and other compounds isolated from *Fissistigma bracteolatum*. Helv. Chim. Acta 88: 905-909.
- Lasswell, W. L., Jr., and Hufford, C. D. 1977a. Cytotoxic C-benzylated flavonoids from *Uvaria chamae*. J. Org. Chem. 42: 1295-1302.
- Lasswell, W. L., Jr., and Hufford, C. D. 1977b. Aromatic constituents from *Uvaria chamae*. Phytochemistry 16: 1439-1441.
- Leboeuf, M. and Cave, A. 1972. Alcaloides des écorces de l' *Uvariopsis guineensis*. Phytochemistry 11: 2833-2840.
- Leboeuf, M., Cave, A., Bhaumik, P. K., Mukherjee, B., and Mukherjee, R. 1982. The phytochemistry of the Annonaceae. Phytochemistry 21: 2783-2813.
- Lee, K.-H., Chuah, C.-H., and Goh, S.-H. 1997. seco-Benzyltetrahydroisoquinolines from *Polyalthia insignis* (Annonaceae). Tetrahedron Lett. 38: 1253-1256.
- Lee, N. H. S., Xu, Y.-J., and Goh, S. H. 1999. 5-Oxonoraporphines from *Mitrephora* cf. *maingayi*. J. Nat. Prod. 62: 1158-1159.
- Lee, S.-Y., Min, B.-S., Kim, J.-H., Lee, J., Kim, T.-J., Kim, C.-S., Kim, Y.-H., and Lee, H.-K. 2005. Flavonoids from the leaves of *Litsea japonica* and their anti-complement activity. Phytother. Res. 19: 273-276.
- Leitao, G. G., Soares, S. S. V., Brito, T. de B. M., and Monache, F. D. 2000. Kaempferol glycosides from *Siparuna apioscyce*. Phytochemistry 55: 679-682.
- Li, G., Lee, C. S., Woo, M. H., Lee, S. H., Chang, H. W., and Son, J. K. 2004. Lignans from the bark of *Machilus thunbergii* and their DNA topoisomerases I and II inhibition and cytotoxicity. Biol. Pharm. Bull. 27: 1147-1150.

- Liang, G.-Y., Gray, A. I., Thomas, D. W., and Waterman, P. G. 1988. Polyoxygenated cyclohexane epoxide derivatives from the stem bark of *Monanthotaxis buchananii*. Phytochemistry 27: 3857-3860.
- Liao, Y.-H., Xu, L.-Z., Yang, S.-L., Dai, J., Zhen, Y.-S., Zhu, M., and Sun, N.-J. 1997. Three cyclohexene oxides from *Uvaria grandiflora*. Phytochemistry 45: 729-732.
- Lien, T. P., Porzel, A., Schmidt, J., Sung, T. V., and Adam, G. 2000. Chalconoids from *Fissistigma bracteolatum*. Phytochemistry 53: 991-995.
- Likhitwitayawuid, K., Jongboonprasert, V., Wirasathien, L., Krungkrai, J., Aimi, N., Takayama, H., and Kitajima, M.. 1997. Antimalarial alkaloids from *Goniothalamus tenuifolius*. Pharm. Pharmacol. Lett. 7: 99-102.
- Lin, J.-H., Lin, Y.-T., Huang, Y.-J., Wen, K.-C., Chen, R.-M., Ueng, T.-H., and Liao, C.-H. 2001. Isolation and cytotoxicity of flavonoids from *Daphnis genkwa* flos. J. Food Drug Anal. 9: 6-11.
- Liu, A., Zou, Z. M., Xu, L. Z., and Yang, S. L. 2003. A new cyclohexene oxide from *Uvaria tonkinensis* var. *subglabra*. Chin. Chem. Lett. 14: 1144-1145.
- Lo, W.-L., Chang, F.-R., and Wu, Y.-C. 2000. Alkaloids from the leaves of *Fissistigma glaucescens*. J. Chin. Chem. Soc. 47: 1251-1256.
- Lopes, M. N., Silva, M. S. D., Barbosa, J. M., Ferreira, Z. S., Yoshida, M., and Gottlieb, O. R. 1986. Unusual benzofuranoid neolignans from *Licaria chrysophylla*. Phytochemistry 25: 2609-2612.
- Lopes, N. P., Blumenthal, E. E. A., Cavlheiro, A. J., Kato, M. J., and Yoshida, M. 1996. Lignans, γ -lactones and propiophenones of *Virola surinamensis*. Phytochemistry 43: 1089-1092.
- Lopes, N. P., Silva, D. H. S., Kato, M. J., and Yoshida, M. 1998. Butanolides as a common feature of *Iryanthera lancifolia* and *Virola surinamensis*. Phytochemistry 49: 1405-1410.
- Lopez, J. A., Laurito, J. G., Brenes, A. M., Lin, F.-T., Sharaf, M., Wong, L. K., and Schiff, P. L. 1990. Aporphinoid alkaloids of *Guatteria oliviformis* and *G. tonduzii*. Phytochemistry 29: 1899-1901.
- Lu, S.-T., Wu, Y.-C., and Leou, S.-P. 1985. Alkaloids of Formosan *Fissistigma* and *Goniothalamus* species. Phytochemistry 24: 1829-1834.

- Lu, Y. and Foo, Y. 1999. The polyphenol constituents of grape pomace. Food Chem. 65: 1-8.
- Ma, C. J., Sung, S. H., and Kim, Y. C. 2004a. Neuroprotective lignans from the bark of *Machilus thunbergii*. Planta Med. 70: 79-80.
- Ma, J., Jones, S. H., Marshall, R., Johnson, R. K., and Hecht, S. M. 2004b. A DNA-damaging oxoaporphine alkaloid from *Piper canium*. J. Nat. Prod. 67: 1162-1164.
- Ma, Y., Han, G. Q., and Wang, Y. Y. 1993. PAF antagonistic benzofuran neolignans from *Piper kadsura*. Yao Xue Xue Bao. 28: 370-373.
- Maia, J. G. S., Andrade, E. H. A., Carreira, L. M. M., Oliveira, J., and Araujo, J. S. 2005. Essential oils of the Amazon *Gutteria* and *Guatterioopsis* species. Flavour and Fragrance Journal 20: 478-480.
- MacRae, W. D. and Towers, G. H. N. 1985. Biological activities of lignans. Phytochemistry 23: 1207-1220.
- Malterud, K. E., Undheim, J., and Erdal, J. E. 1985. Synthesis of uvaretin, an antitumour and antimicrobial flavonoid. Tetrahedron Lett. 26: 4807-4810.
- Manguro, L. O. A., Ugi, I., Lemmen, P., and Hermann, R. 2003. Flavonol glycosides of *Warburgia ugandensis* leaves. Phytochemistry 64: 891-896.
- Mahiou, V., Roblot, F., Hocquemiller, R., Cave, A., de Arias, A. R., Inchauste, A., Yuluff, G., Fournet, A., and Angelo, A. 1994. New aporphine alkaloids from *Guatteria foliosa*. J. Nat. Prod. 57: 890-895.
- Mahmood, K., Chan, K. C., Park, M. H., Han, Y. N., and Han, B. H. 1986a. An aporphinoid alkaloid from *Pseuduvaria macrophylla*. Phytochemistry 25: 1509-1510.
- Mahmood, K., Chan, K. C., Park, M. H., Han, Y. N., and Han, B. H. 1986b. Aristolactam of *Orophea enterocarpa*. Phytochemistry 25: 965-967.
- Makangara, J. J., Jonker, S. A., and Nkunya, M. H. H. 2002. A novel phenanthrenolide and C-benzyl dihydrochalcones from *Uvaria puguensis*. Nat. Prod. Lett. 16: 267-272.
- Manguro, L. O., Ugi, I., Lemmen, P., and Hermann, R. 2003. Flavonol glycosides of *Warburgia ugandensis* leaves. Phytochemistry 64: 891-896.
- Markham, K. R. 1982. Techniques of Flavonoids Identification. London: Academic Press.

- Marques, M. O. M., Yoshida, M., and Gottlieb, O. R. 1992. Neolignans from fruits of *Virola pavonis*. Phytochemistry 31: 4380-4381.
- Mata, R., Morales, I., Perez, O., Rivero-Cruz, I., Acevedo, L., Enriquez-Mendoza, I., Bye, R., Franzglau, S., and Timmermann, B. 2004. Antimycobacterial compounds from *Piper sanctum*. J. Nat. Prod. 67: 1961-1968.
- Matsuda, H., Ninomiya, K., Shimoda, H., and Yoshikawa, M. 2002. Hepatoprotective principles from the flowers of *Tilia argentea* (Linden): structure requirements of tiliroside and mechanism of action. Bioorg. Med. Chem. 10: 707-712.
- Matsuura, N., Aradate, T., Sasaki, C., Kojima, H., Ohara, M., Hasegawa, J., and Ubukata, M., 2002. Screening system for the Maillard reaction inhibitor from natural product extracts. J. Health Sci. 48: 520-526.
- Maxwell, A., Dabideen, D., Reynolds, W. F., and McLean, S. 1999. Neolignans from *Piper aequale*. Phytochemistry 50: 499-504.
- Mehrabani, M., Asadipour, A., and Amoli, S. S. 2004. Chemical constituents of the essential oil of *Nepentha depauperata*. Benth from Iran. DARU 12: 98-100.
- Mesquita, L. M. D., Roque, I. F., Quintana, L. M. B., Paulo, M. D. Q., and Filho, J. M. B. 1988. Lignans from *Rollinia* Species (Annonaceae). Biochem. Syst. Ecol. 16: 379-380.
- Montenegro, H., Gutierrez, M., Romero, L. I., Ortega-Barria, E., Capson, T. L., and Rios, L. C. 2003. Aporphine alkaloids from *Guatteria spp.* with leishmanicidal activity. Planta. Med. 69: 677-679.
- Moreira, I. C., Lago, J. H., Young, M. C. M. and Roque, N. F. 2003. Antifungal aromadendrane sesquiterpenoids from the leaves of *Xylopia brasiliensis*. J. Braz. Chem. Soc. 14: 828-831.
- Morimitsu, Y., Yoshida, K., Esaki, S. and Hirota, A. 1995. Protein glycation inhibitors from thyme (*Thymus vulgaris*). Biosci. Biotechnol. Biochem. 59: 2018-2021.
- Moro, J. C., Fernandes, J. B., Vieira, P. C., Yoshida, M., Gottlieb, O. R., and Gottlieb, H. E. 1987. Neolignans from *Nectandra puberula*. Phytochemistry 26: 269-272.
- Moshi, M. J., Jeseeph, C. C., Innocent, E., and Nkunya, M. H. H. 2004. *In vitro* antibacterial and antifungal activities of extracts and compounds from *Uvaria scheffleri*. Pharm. Biol. 42: 269-273.

- Muhammad, I., Dunbar, D. C., Takamatsu, S., Walker, L. A., and Clark, A. M. 2001. Antimalarial, cytotoxic, and antifungal alkaloids from *Duguetia hadrantha*. J. Nat. Prod. 64: 559-562.
- Muhammad, I. and Waterman, P. G. 1985. Chemistry of the Annonaceae, part 18. Benzylated indoles and dihydrochalcones in *Uvaria angolensis* from Tanzania. J. Nat. Prod. 48: 571-580.
- Nacar, S. and Ilcim, A. 2002. Composition of the essential oils of *Salvia vermifolia* from Turkey. Pharm. Biol. 40: 67-69.
- Nagasawa, T., Tabata, N., Ito, Y., Nishizawa, N., Aiba, Y. and Kitts, D. D. 2003. Inhibition of glycation reaction in tissue protein incubations by water soluble rutin derivative. Mol. Cell. Biochem. 249: 3-10.
- Nakayama, G. R., Caton, M. C., Nova, M. P., and Parandoosh, Z. 1997. Assessment of the Alamar Blue assay for cellular growth and viability *in vitro*. J. Immunol. Methods 204: 205-208.
- Nascimento, I. R. and Lopes, L. M. X. 1999. 2,3-Dihydrobenzofuran neolignans from *Aristolochia pubescens*. Phytochemistry 52: 345-350.
- Nieto, M., Cave, A., and Leboeuf, M. 1976. Alkaloids of the Annonaceae: composition of the bark of the trunk and root of *Enantia pilosa*. J. Nat. Prod. 39: 350-356.
- Nieto, M., Leboeuf, M., and Cave, A. 1975. Isolement de la lanuginosine partir d'une Annonaceae malgache, *Xylopiia lemurica*. Phytochemistry 14: 2508-2509.
- Nihei, K.-I., Konno, K., Barnardes, L. S. C., Lopes, N. P., Albuquerque, S., de Carvalho, I., Pupo, M. T., Martins, R. C. C., and Kato, M. J. 2004. Synthesis of trypanocidal tetrahydrofuran lignans. ARKIVOC vi: 112-126.
- Nikaido, T., Ohmoto, T., and Sankawa, U. 1987. Inhibitors of adenosine 3',5'-cyclic monophosphate phosphodiesterase in *Daphne genkwa* Sieb. et Zucc. Chem. Pharm. Bull. 35: 675-681.
- Nissanka, A. P., Karunaratne, V., Bandara, B. M., Kumar, V., Nakanishi, T., Nishi, M., Inada, A., Tillekeratne, L. M., Wijesundara, D. S., and Gunatilaka, A. A. 2001. Antimicrobial alkaloids from *Zanthoxylum tetraspermum* and *caudatum*. Phytochemistry 56: 857-861.

- Nishimura, C., Yamaoka, T., Mizutani, M., Yamashita, K., Akera, T., and Tanimoto, T. 1991. Purification and characterization of the recombinant human aldose reductase expressed in baculovirus system. Biochim. Biophys. Acta 1078: 171-178.
- Nkunya, M. H. H., Achenbach, H., Renner, C., Waibel, R., and Weenen, H. 1990. Schefflerin and isoschefflerin: prenylated chalcones and other constituents of *Uvaria scheffleri*. Phytochemistry 29: 1261-1264.
- Nkunya, M. H. H., Jonker, S. A., Makangaran, J. J., Waibel, R., and Achenbach, H. 2000. Aporphinoid alkaloids and other constituents from *Lettowianthus stellatus*. Phytochemistry 53: 1067-1073.
- Nkunya, M. H. H., Waibel, R., and Achenbach, H. 1993a. Three flavanoids from the stem bark of the antimalarial *Uvaria dependens*. Phytochemistry 34: 853-856.
- Nkunya, M. H. H., Weenen, H., Bray, D. H., Mgani, Q. A. and Mwasumbi, L. B. 1991. Antimalarial activity of Tanzanian plants and their active constituents: the genus *Uvaria*. Planta Med. 57: 341-343.
- Nkunya, M. H. H., Weenen, H., Koyi, N. J., Thijs, L., and Zwanenburg, B. 1987. Cyclohexene epoxides, (+)-pandoxide, (+)- β -senepoxide and (-)-pipoxide, from *Uvaria pandensis*. Phytochemistry 26: 2563-2565.
- Nkunya, M. H. H., Weenen, H., Renner, C., Waibel, R., and Achenbach, H. 1993b. Benzylated dihydrochalcones from *Uvaria leptocladon*. Phytochemistry 32: 1297-1300.
- Okorie, D. A. 1977. New benzyldihydrochalcones from *Uvaria chamae*. Phytochemistry 16: 1591-1594.
- Okuda, J., Miwa, I., Inagaki, K., Horie, T. and Nakayama, M. 1982. Inhibition of aldose reductases from rat and bovine lenses by flavonoids. Biochem. Pharmacol. 31: 3807-3822.
- Olsen, C. E., Tragi, O. D., Boll, P. M., Hussaini, F. A., Parmar, V. S., Sharma, N. K., Taneja, P., and Jain, S. C. 1993. An aristolactam from *Piper acutisleginum* and revision of the structure of piperolactam B and D. Phytochemistry 33: 518-520.
- Omar, S., Chee, C. L., Ahmad, F., Ni, J. X., Jaber, H., Huang, J., and Nakatsu, T. 1992. Phenanthrene lactams from *Goniothalamus velutinus*. Phytochemistry 31: 4395-4397.

- Pan, X.-P., Chen, R.-Y., and Yu, D.-Q. 1998. Polyoxygenated cyclohexenes from *Uvaria grandiflora*. Phytochemistry 47: 1063-1066.
- Pan, X.-P., and Yu, D.-Q. 1995. Two polyoxygenated cyclohexenes from *Uvaria grandiflora*. Phytochemistry 40: 1709-1711.
- Pancharoen, O., Tuntiwachwuttikul, P., and Taylor, W. C. 1989. Cyclohexane oxide derivatives from *Kaempferia angustifolia* and *Kaempferia* species. Phytochemistry 28: 1143-1148.
- Pancharoen, O., Tuntiwachwuttikul, P., and Taylor, W. C. 1996. Cyclohexane diepoxide from *Kaempferia rotunda*. Phytochemistry 43: 305-308.
- Panichpol, K. and Waterman, P. G. 1978. Novel flavonoids from the stem of *Popowia cauliflora*. Phytochemistry 17: 1363-1367.
- Perez-Amador, M.C., Gonzales-Esquinca, A., Morales, M. C., and Toriz, F. 2004. Oxoaporphine alkaloids in *Guatteria diospyroides* Baill. and *Annona squamosa* L. (Annonaceae). Int. J. Exp. Bot. 53: 53-55.
- Pinizzi, L., Caponi, C., Catalano, S., Cioni, P. L., and Morelli, I. 2002. *In vitro* antimicrobial activity of extract and isolated constituents of *Rubus ulmifolius*. J. Ethnopharmacol. 79: 165-158.
- Plumb, J. A., Milroy, A., and Kaye, S. B. 1989. Effect of the pH dependence of 3-(4,5-dimethylthiazol-2yl)-2,5-diphenyltetrazolium bromide-formazan absorption on chemosensitivity determined by a novel tetrazolium-based assay. Cancer Res. 49: 4435-4440.
- Prasad, A. K., Tyagi, O. D., Wengel, J., Boll, P. M., Olsen, C. E., Bisht, K. S., Singh, A., Sarangi, A., Kumar, R., Jain, S. C., and Parmar, V. S. 1995. Neolignans and a lignin from *Piper clarkii*. Phytochemistry 39: 655-658.
- Priestap, H. A. 1985. Seven aristolactams from *Aristolochia argentina*. Phytochemistry 24: 849-852.
- Probstle, A., and Bauer, R. 1992. Aristolactams and a 4,5-dioxoaporphine derivative from *Houttuynia cordata*. Planta Med. 58: 55-56.
- Purushothaman, K. K., Sarada, A., and Connolly, J. D. 1984. Structure of malabaricanol-a lignan from the aril of *Myristica malabarica* Lam. Indian J. Chem. 23B: 46-48.
- Pyo, M. K., Yun-Choi, H. S., and Hong, Y. J. 2003. Antiplatelet activities of aporphine alkaloids isolated from leaves of *Magnolia obovata*. Planta Med. 69: 267-269.

- Quesne, P. W. L., Larranhondo, J. E., and Raffauf, R. F. 1980. Antitumor plants. X. Constituents of *nectandra rigida*. J. Nat. Prod. 43: 353-359.
- Rahman, M. M., Lopa, S. S., Sadik, G., Harun-or-Rashid, Islam, R., Khondkar, P., Alam, A. H. M. K., and Rashid, M. A. 2005. Antibacterial and cytotoxic compounds from the bark of *Cananga odorata*. Fitoterapia 76: 758-761.
- Rahman, M. M., Qais, N., and Rashid, M. A. 2003. A new C-benzylated chalcone from *Desmos chinensis*. Fitoterapia 74: 511-514.
- Rasamizafy, S., Hocquemiller, R., Cassels, B. K., and Cave, A. 1987. Alcaloides de *Annona hayesii*. J. Nat. Prod. 50: 759-761.
- Reisch, J., Hussain, R. A., and Mester, I. 1984. Flavonoids from *Flindersia australis*. Phytochemistry 23: 2114-2115.
- Robards, K. and Antolovich, M. 1997. Analytical chemistry of fruit bioflavonoid. Analyst 122: 11R-34R.
- Rodriguez, M., Hasegawa, M., Mendez, J., Pereira, G., and Arvelo, F. 1999. Bioactive oxoaporphine alkaloids from *Gutteria calva*. Fitoterapia 70: 74-76.
- Rossi, M. H., Yoshida, M., and Maia, J. G. S. 1997. Neolignans, styrylpyrones and flavonoids from an *Aniba* species. Phytochemistry 45: 1263-1269.
- Ruangrunsi, N., Prathanturarug, S., Lange, G. L., and Organ, M. G. 1992. An-N-methyl aristolactam and an oxygenated cyclohexane derivative from *Piper ribesoides*. Phytochemistry 31: 2397-2400.
- Saito, M.L., and Alverenga, M. A. 1994. Alkaloids from *Annona cacans*. Fitoterapia LXV: 87.
- Sala, A., Recio, M. C., Schinella, G. R., Manez, S., Giner, R. M., Cera-Nicolas, M., and Rios, J.-L. 2003. Assessment of the anti-inflammatry activity and free radical scavenger activity of tiliroside. Eur. J. Pharmacol. 461: 53- 61.
- Saleem, M., Kim, H. J., Ali, M. S., and Lee, Y. S. 2005. An update on bioactive plant lignans. Nat. Prod. Rep. 22: 696-716.
- Schmidt, T. J. and Heilmann, J. 2000. Tetrahydrofuran lignans from *Illicium floridanum* and their activity in a luminol enhanced chemiluminescence assay. Planta Med. 66: 749-751.
- Schulte, G. R., Ganem, B. M., Chantrapromma, K., Kodpinid, M., and Sudsuansri, K. 1982. The structure of ferrudiol. A highly oxidized constituent of *Uvaria ferruginea*. Tetrahedron Lett. 23: 289-292.

- Seidel, V., Bailleul, F., and Waterman, P. G. 2000. (Rel)-1 β ,2 α -di-(2,4-dihydroxy-6-methoxybenzoyl)-3 β ,4 α -di-(4-methoxyphenyl)-cyclobutane and other flavonoids from the aerial parts of *Goniothalamus gardneri* and *Goniothalamus thwaitesii*. Phytochemistry 55: 439-446.
- Shibata, K., Tatsukawa, A., Umeoka, K., Lee, H. S., and Ochi, M. 2000. Crinatusins, bioactive Diels-Alder adducts from *Cyathocalyx crinatus*. Tetrahedron 56: 8821-8824.
- Shimomura, H., Sashida, Y., and Oohara. 1987. Lignans from *Machilus thunbergii*. Phytochemistry 26: 1513-1515.
- Shimomura, H., Sashida, Y., and Oohara, M. 1988. Lignans from *Machilus thunbergii*. Phytochemistry 27: 634-636.
- Zhong, S.-M., Zhao, S.-S. and Xie, N. 1988. Alkaloids from *Pseuduvaria indochinensis*. Phytochemistry 27: 4004-4005.
- Si, D. Y., Zhao, S. X., and Deng, J. Z. 1992. A 4,5-dioxoaporphine from the aerial parts of *Stephania tetrandra*. J. Nat. Prod. 55: 828-829.
- Silva, B. A., Ferreres, F., Malva, J. O., and Dias, A. C. P. 2005. Phytochemical and antioxidant characterization of *Hypericum perforatum* alcoholic extracts. Food Chem. 90: 157-167.
- Silva, D. H. S., Yoshida, M., and Kato, M. J. 1997. Flavonoids from *Iryanthera sagotiana*. Phytochemistry 46: 579-582.
- Singh, S. K., Prasad, A. K., Olsen, C. E., Jha, A., Jain, S. C., Parmar, V. S. and Wengel, J. 1996. Neolignans and alkaloids from *Piper argyrophyllum*. Phytochemistry 43: 1355-1360.
- Sinz, A., Matush, R., Elsacker, R. V., Suntisuk, T., Chichana, S., and Reutrakul, V. 1999. Phenolic compounds from *Anomianthus dulcis*. Phytochemistry 50: 1069-1072.
- Skehan, P., Storeng, R., Scudiero, D., Monks, A., McMahon, J., Vistica, D., Warren J. T., Bokesch, H., Kenny, S., and Boyd, M. R. 1990. New colorimetric cytotoxicity assay for anticancer-drug screening. J. Natl. Cancer. Inst. 82: 1107-1112.



- Su, B.-N., Cuendet, M., Hawthorne, M. E., Kardono, L. B. S., Riswan, S., Fong, H. H. S., Mehta, R. G., Pezzuto, J. M., and Kinghorn, A. D. 2002. Constituents of the bark and twigs of *Artocarpus dadah* with cyclooxygenase inhibitory activity. J. Nat. Prod. 65: 163-169.
- Sumathykutti, M. A. and Rao, J. M. 1991. 8-Hentriacontanol and other constituents from *Piper attenuatum*. Phytochemistry 30: 2075-2076.
- Sunardi, C., Padmawinata, K., Kardono, L., Sugeng, B., Muhammad, H., Usuki, Y., and Hideo, L. 2003. Identification of cytotoxic alkaloid phenanthrene lactams from *Stelechocarpus burhol*. ITE Letters on Batteries. New Technologies & Medicine. 4: 328-331.
- Takeuchi, Y., Cheng, Q., Shi, Q.-W., Sugiyama, T., and Oritani, T. 2001. Four polyoxygenated cyclohexenes from the Chinese tree, *Uvaria purpurea*. Biosci. Biotechnol. Biochem. 65: 1395-1398.
- Takeuchi, Y., Shi, Q.-W., Sugiyama, T., and Oritani, T. 2002. Polyoxygenated cyclohexenes from the Chinese tree, *Uvaria purpurea*. Biosci. Biotechnol. Biochem. 66: 537-542.
- Talapatra, S. K., Basu, D., Chattopadhyay, P., and Talapatra, B. 1988. Aristolactams of *Goniothalamus sesquipedalis* Wall, a revised structures of the 2-oxygenated aristolactams. Phytochemistry 27: 903-906.
- Talapatra, S. K., Patra, A., and Talapatra, B. 1975. Alkaloids of *Michelia lanuginosa* Wall. Tetrahedron 31: 1105-1107.
- Tammami, B., Torrance, S. J., Fabela, F. V., Wiedhopf, R. M., and Cole, J. R. 1977. Preliminary investigation of *Croton californicus* var. *tenuis* and *Uvaria kirkii*: a xanthone and a benzyldihydrochalcone. Phytochemistry 16: 2040.
- Taneja, S. C., Koul, S. K., Pushpangadan, P., Dhar, K. L., Daniewski, W. M., and Schilf, W. 1991. Oxygenated cyclohexanes from *Piper* species. Phytochemistry 30: 871-874.
- Trager, W. and Jensen, J.B. 1976. Human malaria parasites in continuous culture. Science 193: 673-675.
- Trousdale, E. K. and Singleton, V. L. 1983. Astilbin and engeletin in grapes and wine. Phytochemistry 22: 619-620.
- Tsai, I.-L., Chen, J.-H., Duh, C.-Y., and Chen, I.-S. 2001. Cytotoxic neolignans and butanolides from *Machilus obovatifolia*. Planta Med. 67: 559-561.

- Tsai, I.-L., Hsieh, C.-F., Duh, C.-Y., and Chen, I.-S. 1996. Cytotoxic neolignans from *Persea obovatifolia*. Phytochemistry 43: 1261-1263.
- Tsai, I.-L., Hsieh, C.-F., and Duh, C.-Y. 1998. Additional cytotoxic neolignans from *Persea obovatifolia*. Phytochemistry 48: 1371-1375.
- Tsai, I.-L., Lee, F. P., Wu, C. C., Duh, C. Y., Ishikawa, T., Chen, J. J., Chen, Y. C., Seki, H., and Chen, I. S. 2005. New cytotoxic cyclobutanoid amides, a new furanoid lignan and anti-platelet aggregation constituents from *Piper arborescens*. Planta Med. 71: 535-542.
- Tschesche, R., Delhvi, S., Sepulveda, S., and Breitmaier, E. 1979. Eucryphin, a new chromone rhamnoside from the bark of *Eucryphia cordifolia*. Phytochemistry 18: 867-869.
- Tyagi, O. D., Jensen, S., Boll, P. M., Sharma, N. K., Bisht, K. S., and Parmar, V. S. 1993. Lignans and neolignans from *Piper schmidtii*. Phytochemistry 32: 445-448.
- Urzua, A., Freyer, A. J., and Shamma, M. 1987. 2,5-Diaryl-3,4-dimethyltetrahydrofuranoid lignans. Phytochemistry 26: 1509-1511.
- Varma, S. D. and Kinoshita, J. H. 1976. Inhibition of lens aldose reductase by flavonoids—their possible role in the prevention of diabetic cataracts. Biochem. Pharmacol. 25: 2505-2513.
- Wahl, A., Roblot, F., and Cave, A. 1995. Isolation and structure elucidation of xylobuxin, a new neolignan from *Xylopiya buxifolia*. J. Nat. Prod. 58: 786-789.
- Wang, S., Chen, R.-Y., Yu, S.-S., and Yu, D.-Q. 2003. Uvamalols D-G: Novel polyoxygenated seco-cyclohexenes from the roots of *Uvaria macrophylla*. J. Asian. Nat. Prod. 5: 17-23.
- Wang, S., Zhang, P.-C., Chen, R.-Y., Dai, S.-J., Yu, S.-S., and Yu, D.-Q. 2005. Four new compounds from the roots of *Uvaria macrophylla*. J. Asian. Nat. Prod. 7: 687-694.
- Wahl, A., Roblot, F., and Cave, A. 1995. Isolation and structure elucidation of xylobuxin, a new neolignan from *Xylopiya buxifolia*. J. Nat. Prod. 58: 786-789.
- Watanabe, L. Y. and Lopes, L. M. X. 1995. Alkaloids from *Aristolochia arcuata*. Phytochemistry 40: 991-994.
- Watanabe, Y., Matsui, M., Iibuchi, M., and Hiroe, S. 1975. Two oxoaporphine alkaloids of *Stephania japonica*. Phytochemistry 14: 2522-2523.

- Weenen, H., Nkunya, M. H. H., and Mgani, Q. A. 1991. Tanzanene, a spiro benzopyranyl sesquiterpene from *Uvaria tanzaniae* Verdc. J. Org. Chem. 56: 5865-5867.
- Wijeratne, E. M. K., Gunatilaka, A. A. L., Kingston, D. G. I., Haltiwanger, R. C., and Eggleston, D. S. 1995. Artabotrine: a novel bioactive alkaloid from *Artabotrys zeylanicus*. Tetrahedron 51: 7877-7882.
- Wijeratne, E. M. K., Hatanaka, Y., Kikuchi, T., Tezuka, Y., and Gunatilaka, A. A. L. 1996. A dioxoaporphine and other alkaloids of two annonaceous plants of Sri Lanka. Phytochemistry 42: 1703-1706.
- Woo, S. H., Reynolds, M. C., Sun, N. J., Cassady, J. M., and Snapka, R. M. 1997. Inhibition of topoisomerase II by liriodenine. Biochem. Pharmacol. 54: 467-473.
- Woo, S. H., Sun, N.-J., Cassady, J. M., and Snapka, R. M. 1999. Topoisomerase II inhibition by aporphine alkaloids. Biochem. Pharmacol. 57: 1141-1145.
- Wu, Y.-C., Chang, G.-Y., Duh, C.-Y., and Wang, S.-K. 1993. Cytotoxic alkaloids of *Annona montana*. Phytochemistry 33: 497-500.
- Wu, Y.-C., Chen, C.-H., Yang, T.-H., Lu, S.-T., McPhail, D. R., McPhail, A. T., and Lee, K.-H. 1989. Cytotoxic aporphines from *Artabotrys uncinatus* and the structure and stereochemistry of artacinatine. Phytochemistry 28: 2191-2195.
- Wu, J.-H., McPhail, A. T., Bastow, K., Shiraki, H., Ito, J., and Lee, K.-H. 2002. Desmos dumotin C, a novel cytotoxic principle from *Desmos dumosus*. Tetrahedron Lett. 43: 1391-1393.
- Wu, J.-H., Wang, X.-H., Yi, Y.-H., and Lee, K.-H. 2003. Anti-AIDS agents 54. A potent anti-HIV chalcone and flavonoids from Genus *Desmos*. Biol. Med. Chem. Lett. 13: 1813-1815.
- Xu, Q.-M., Zou, Z.-M., Xu, L.-Z., and Yang, S.-L. 2005. New polyoxygenated cyclohexenes from *Uvaria kweichowensis* and their antitumour activities. Chem. Pharm. Bull. 53: 826-828.
- Yanez, X. R., Diaz, A. M. P. D., and Diaz, P. P. D. 1986. Neolignans from *Mezilaurus itauba*. Phytochemistry 25: 1953-1956.
- Zhai, H., Inoue, T., Moriyama, M., Esumi, T., Mitsumoto, Y., and Fukuyama, Y. 2005. Neuroprotective effects of 2,5-diaryl-3,4-dimethyltetrahydrofuran neolignans. Biol. Pharm. Bull. 28: 289-293.

- Zhai, H., Nakatsukasa, M., Mitsumoto, Y., and Fukuyama, Y. 2004. Neurotropic effects of talaumidin, a neolignan from *Aristolochia arcuata*, in primary cultured rat cortical neurons. Planta Med. 70: 598-602.
- Zhang, Y.-J., Kong, M., Chen, R.-Y., and Yu, D.-Q. 1999. Alkaloids from the roots of *Goniothalamus griffithii*. J. Nat. Prod. 62: 1050-1052.
- Zhang, Z., Elsohly, H. N., Jacob, M. R., Pasco, D. S., Walker, L. A., and Clark, A. K. 2002. New sesquiterpenoids from the roots of *Guatteria multivenia*. J. Nat. Prod. 65: 856-859.
- Zhao, W.-M., Qin, G.-W., Yang, R.-Z., Jiang, T.-Y., Li, W.-X., Scott, L., and Snyder, J. K. 1996. Tonkinenin A, a new polyoxygenated cyclohexane derivative from *Uvaria tonkinensis*. Tetrahedron 53: 12373-12380.
- Zhi-Jun, Y., Sriranganathan, N., Vaught, T., Arastu, S. K., and Ahmed, S. A. 1997. A dye-based lymphocyte proliferation assay that permits multiple immunological analyses: mRNA, cytogenetic, apoptosis, and immunophenotyping studies. J. Immunol. Meth. 210: 25-39.
- Zhou, G. X., Chen, R. Y., and Yu, D. Q. 1999. New polyoxygenated cyclohexenes from *Uvaria calamistrata*. J. Asian. Nat. Prod. 1: 227-238.

APPENDICES

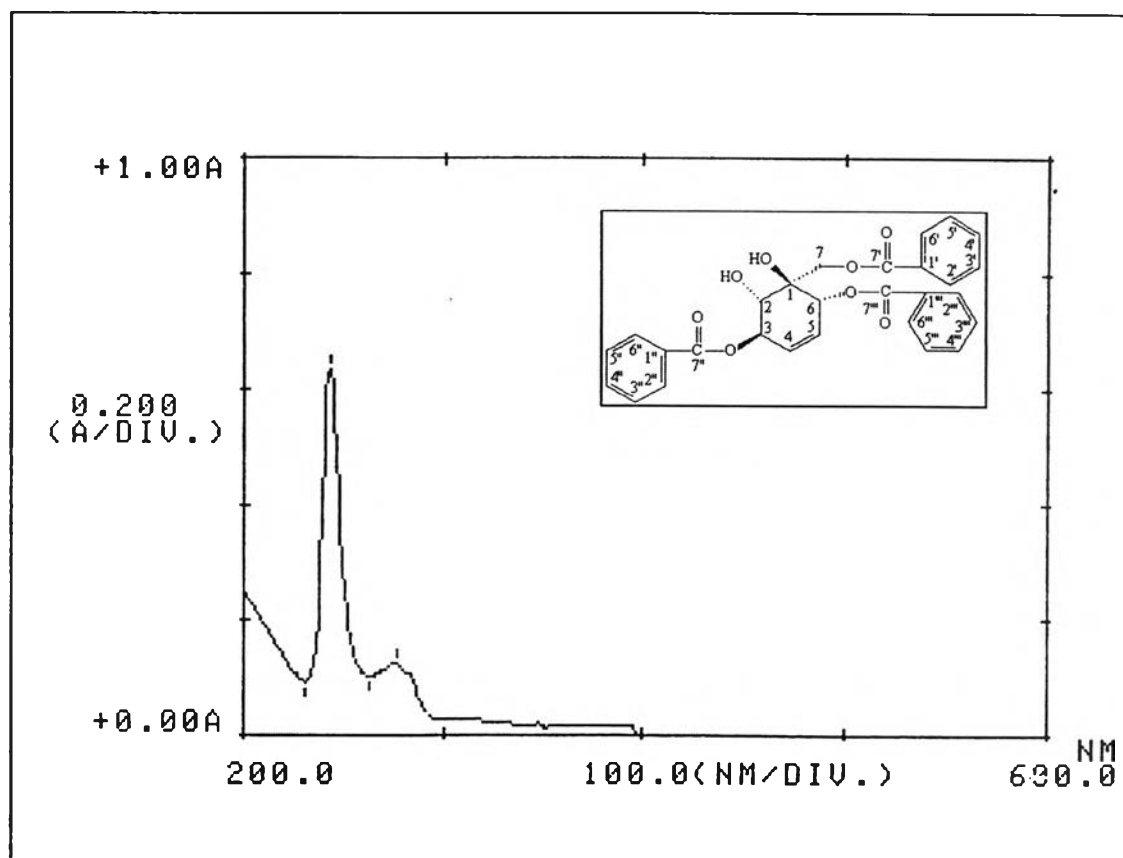


Figure 10. UV Spectrum of compound EC-1 (in CDCl_3)

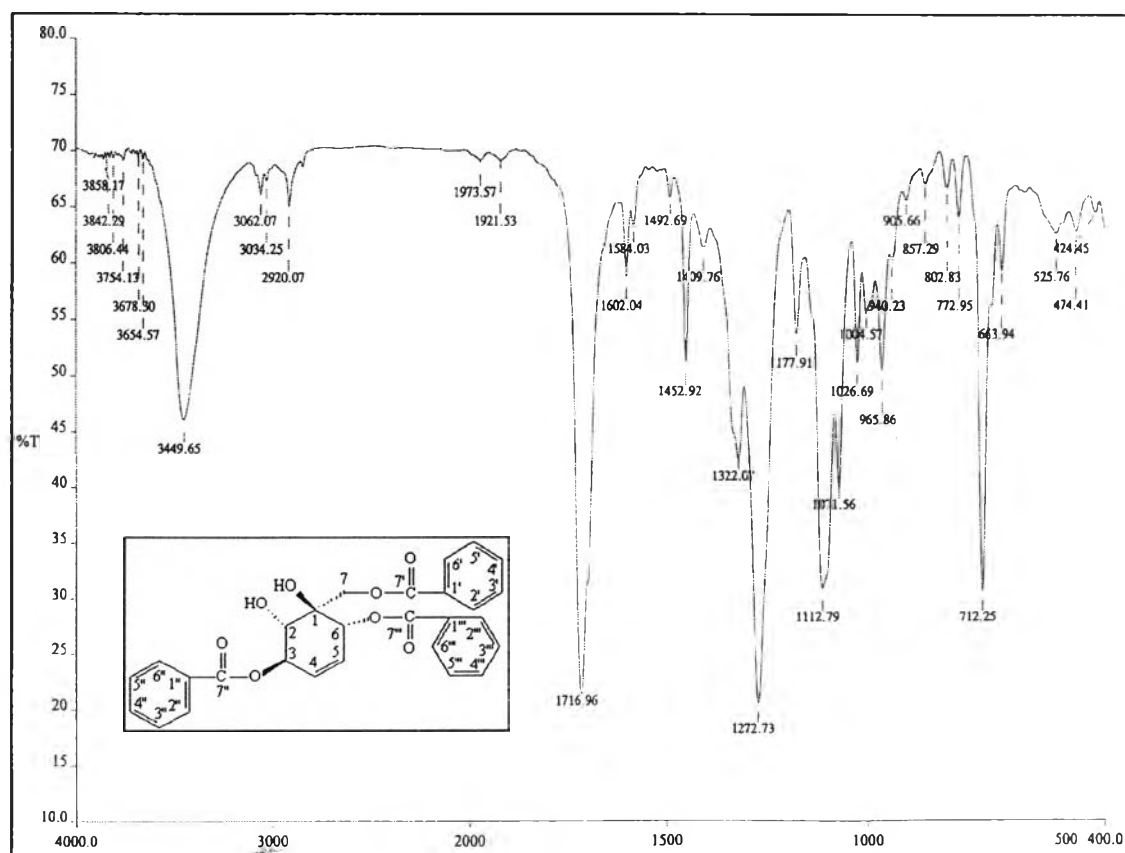


Figure 11. IR Spectrum of compound EC-1 (KBr disc)

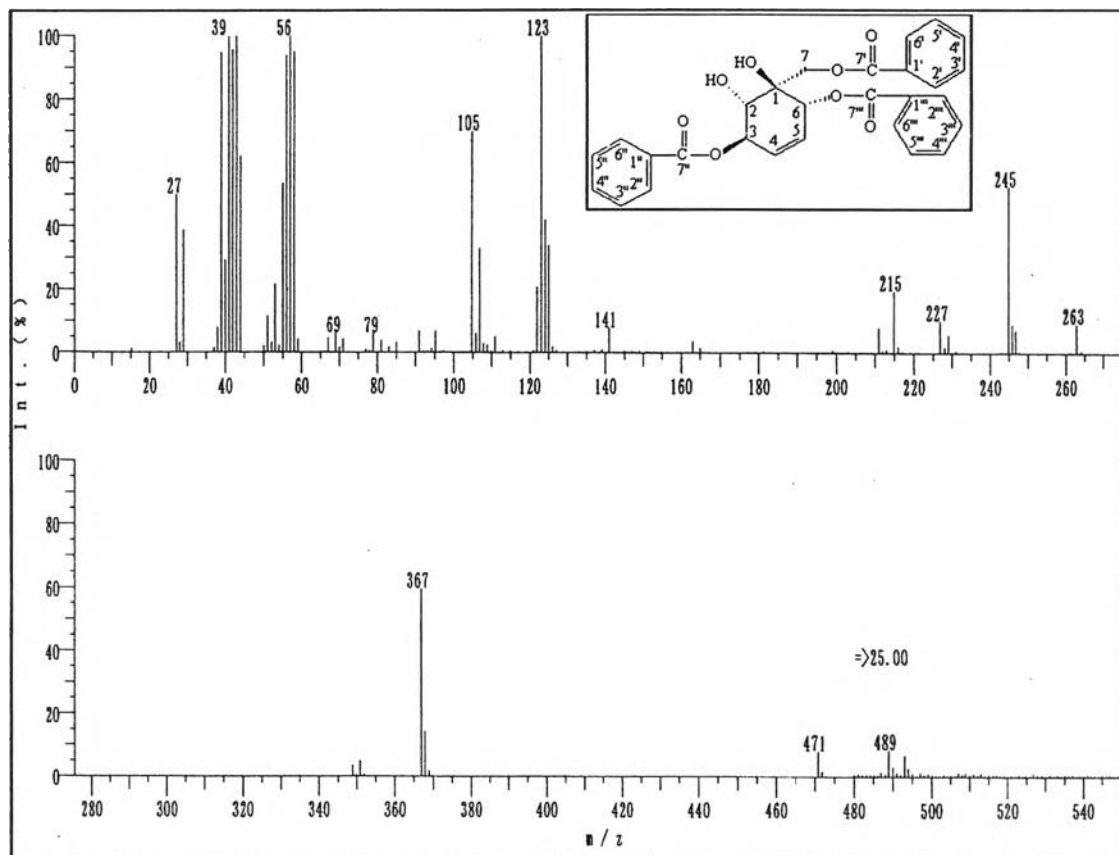


Figure 12. CI Mass spectrum of compound EC-1

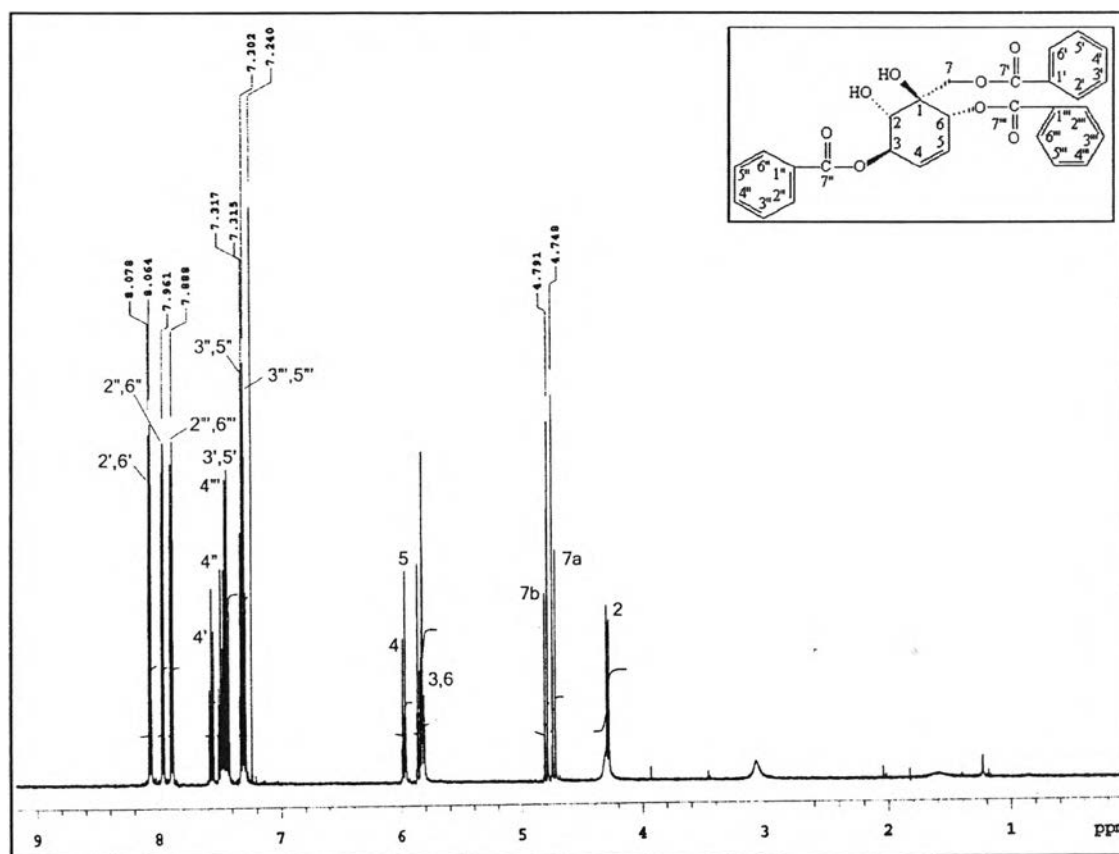


Figure 13a. ^1H NMR (500 MHz) Spectrum of compound EC-1 (in CDCl_3)

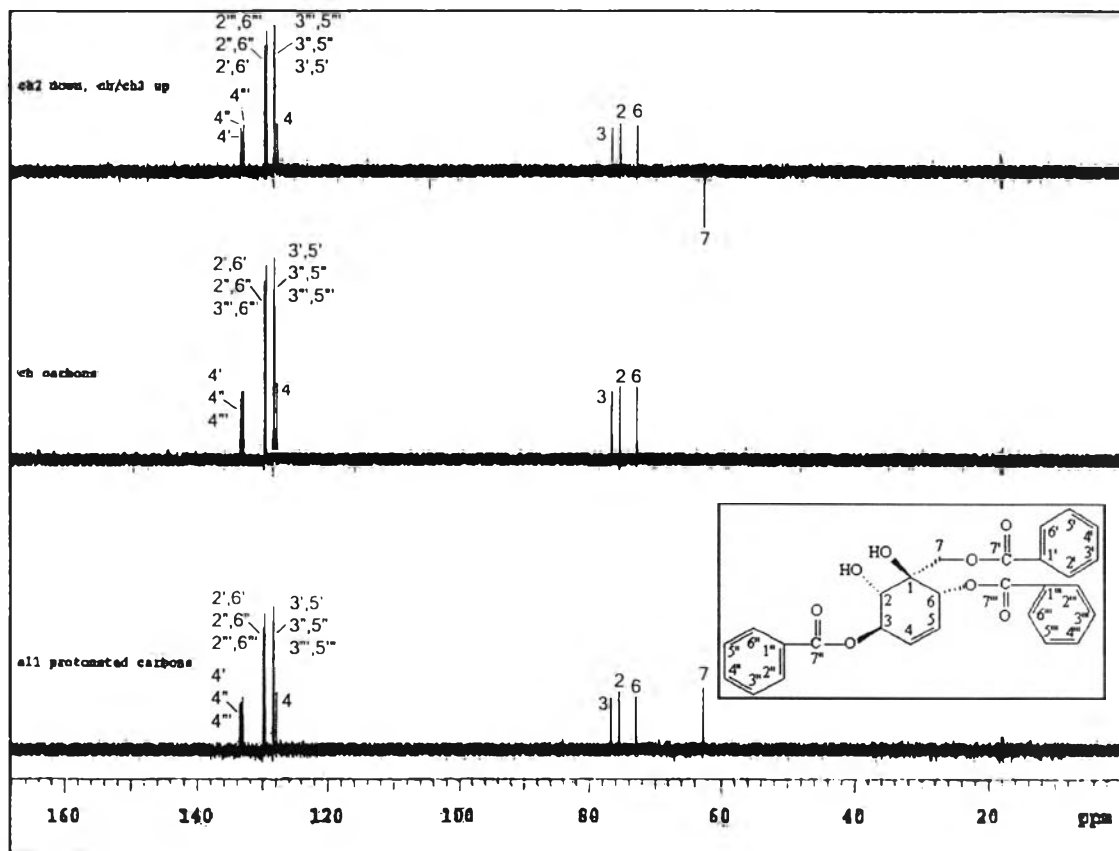


Figure 15. DEPT 135 Spectrum of compound EC-1

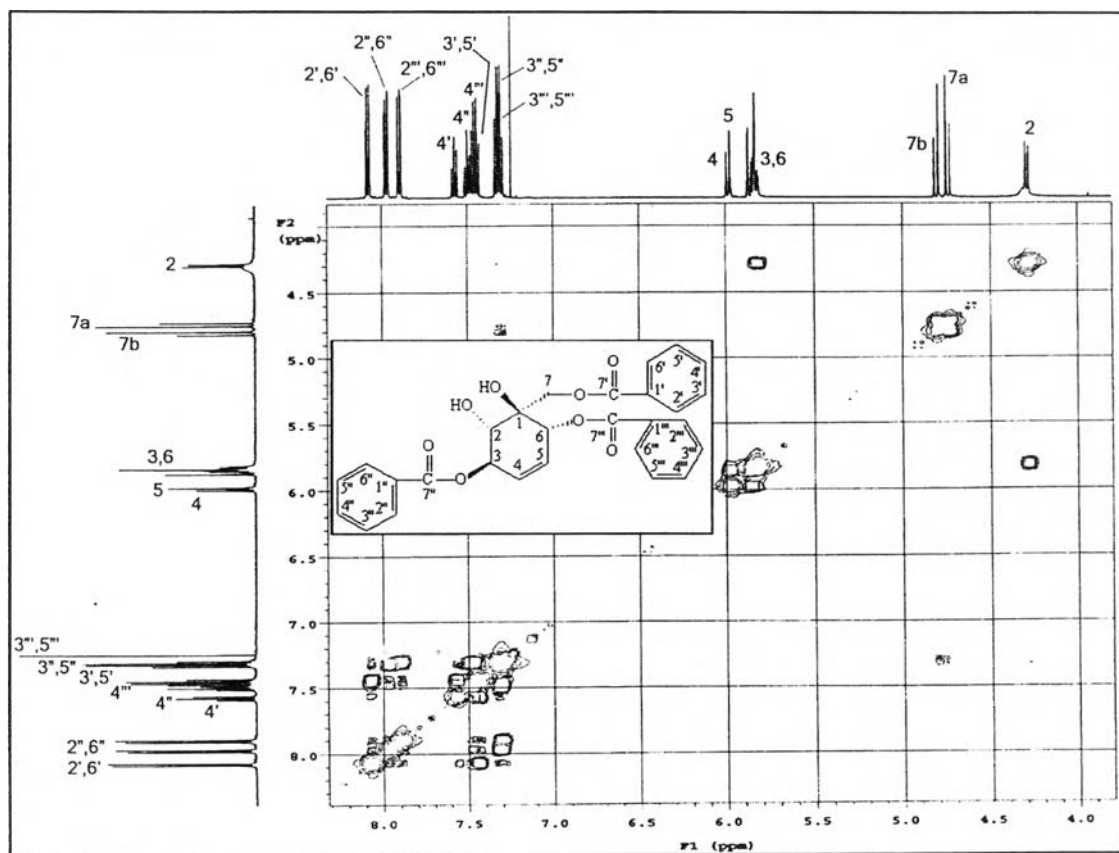


Figure 16a. ^1H - ^1H COSY Spectrum of compound EC-1

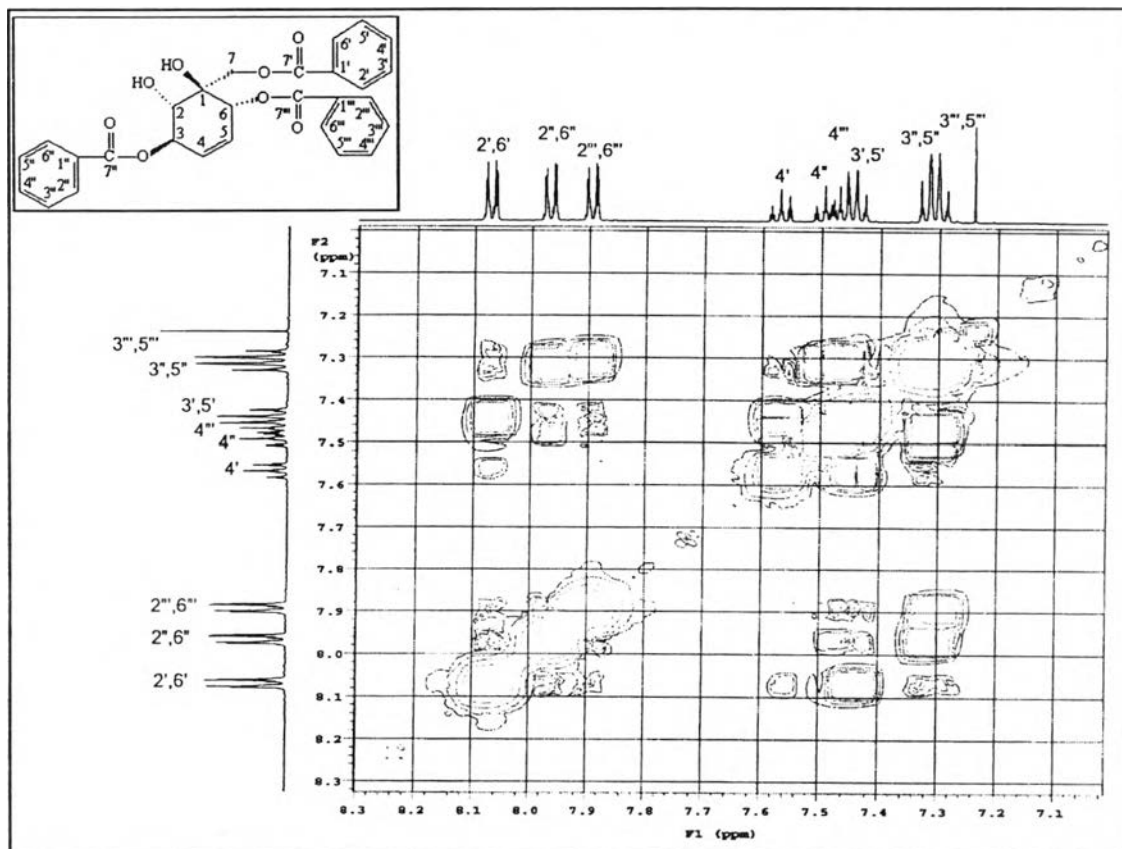


Figure 16b. ^1H - ^1H COSY Spectrum of compound EC-1 (expansion δ_{H} 7.1-8.3 ppm)

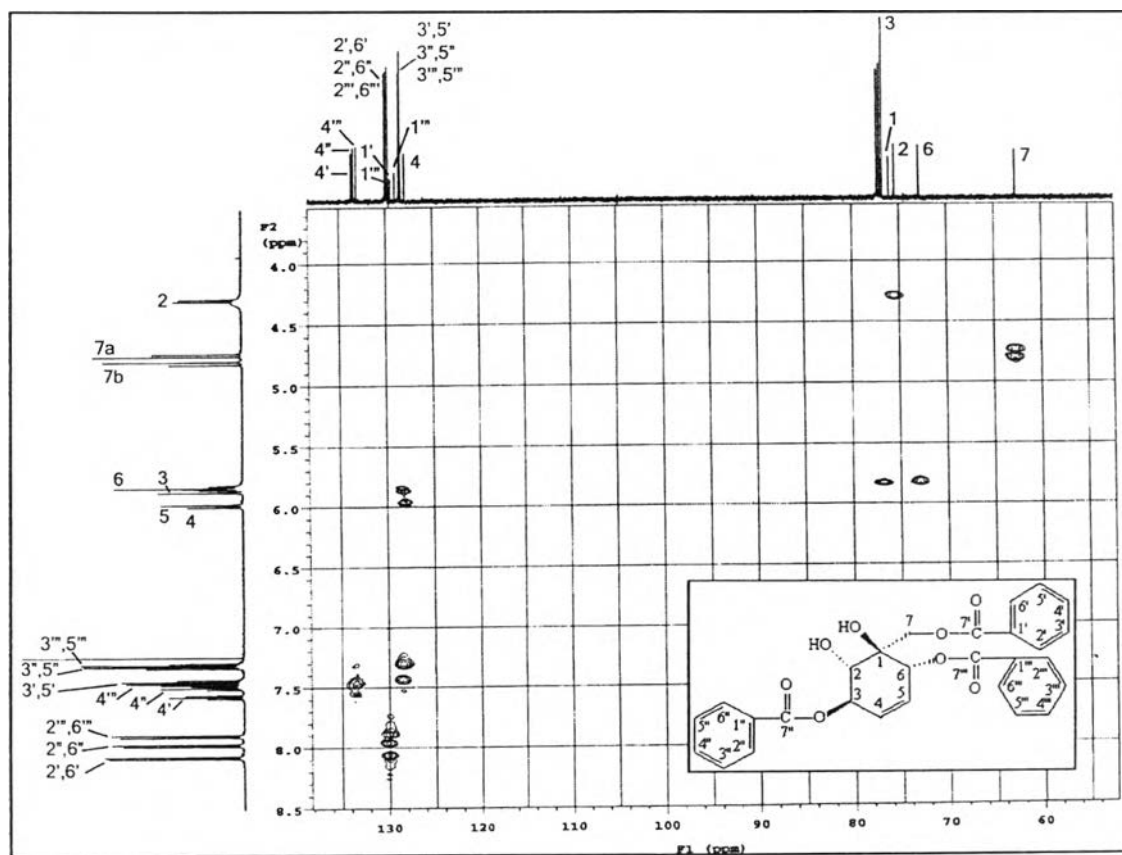


Figure 17. HMQC Spectrum of compound EC-1

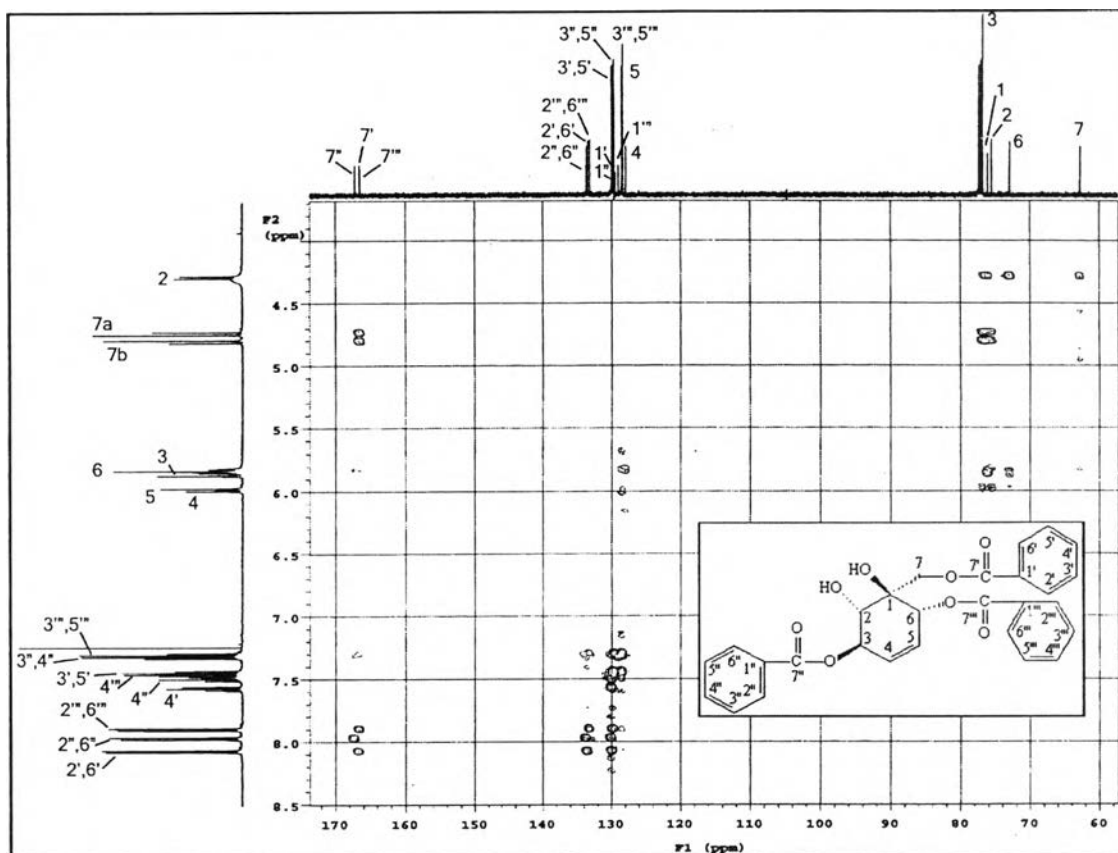


Figure 18a. HMBC Spectrum of compound EC-1

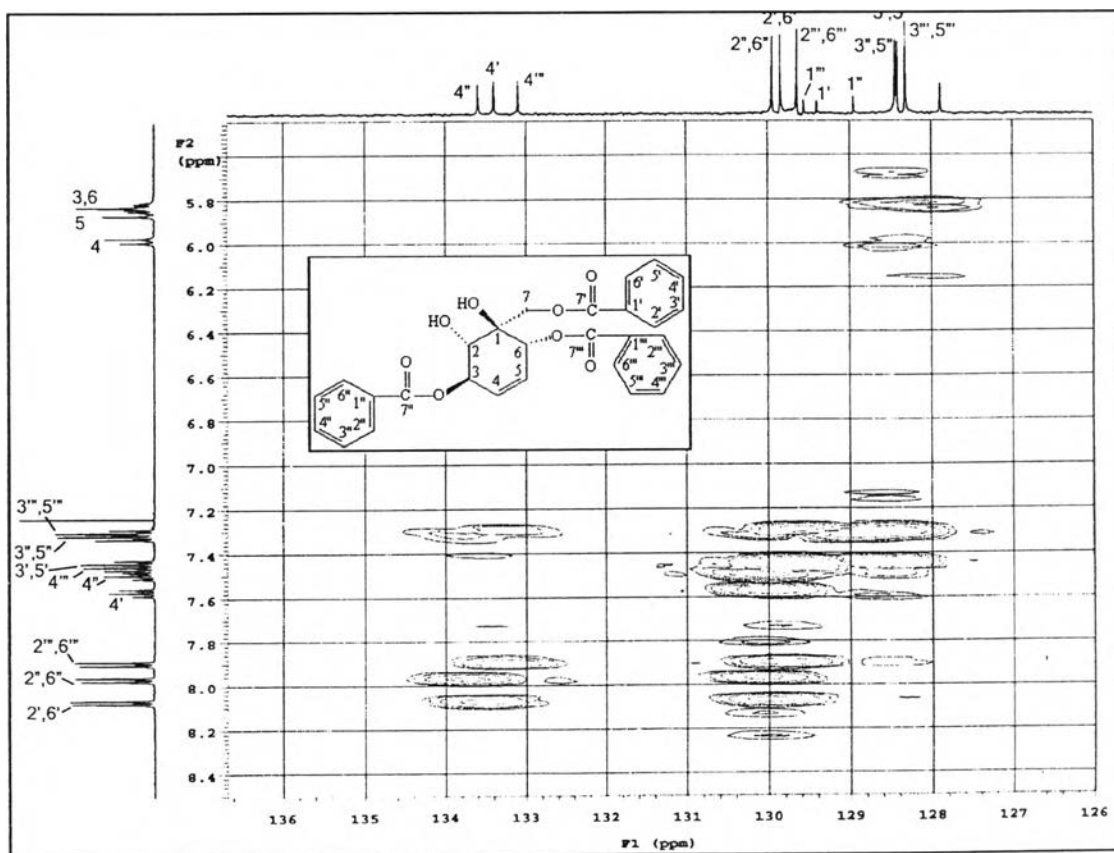


Figure 18b. HMBC Spectrum of compound EC-1 (δ_{H} 5.6-8.4 ppm, δ_{C} 126-136 ppm)

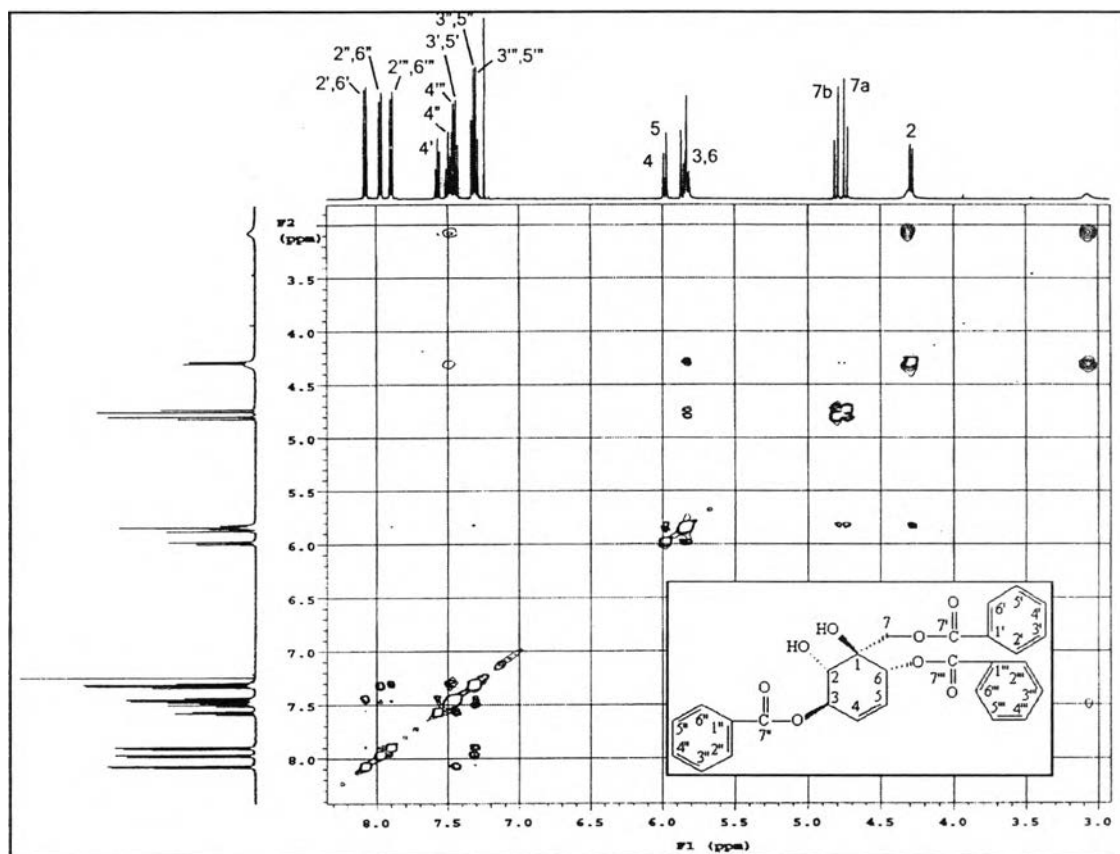


Figure 19. NOESY Spectrum of compound EC-1

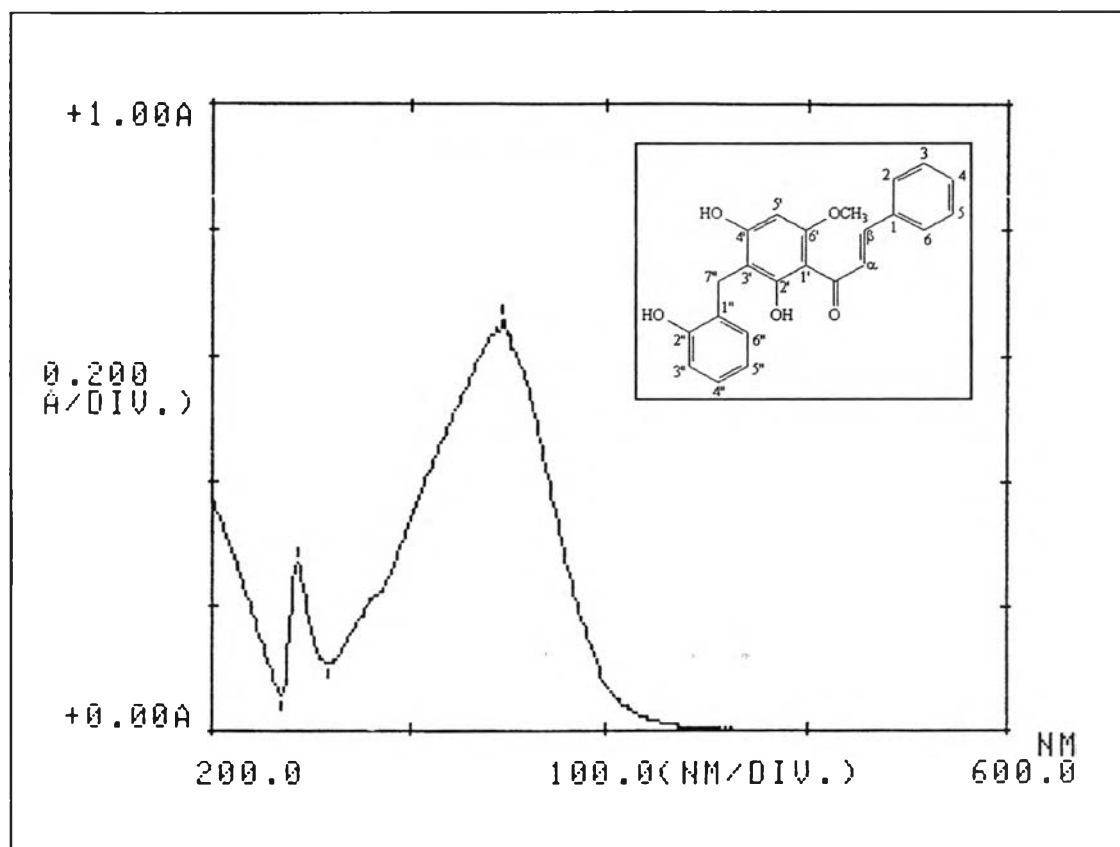


Figure 20. UV Spectrum of compound EC-2 (in MeOH)

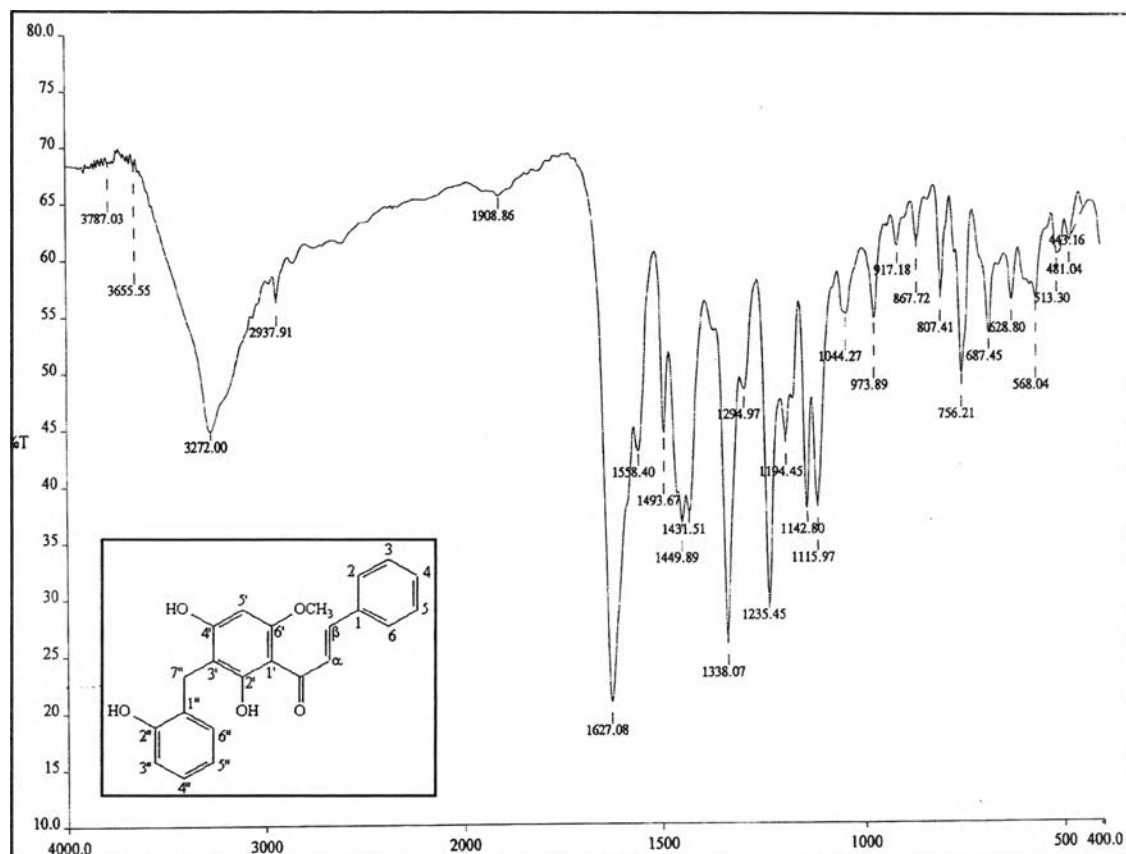


Figure 21. IR Spectrum of compound EC-2 (KBr disc)

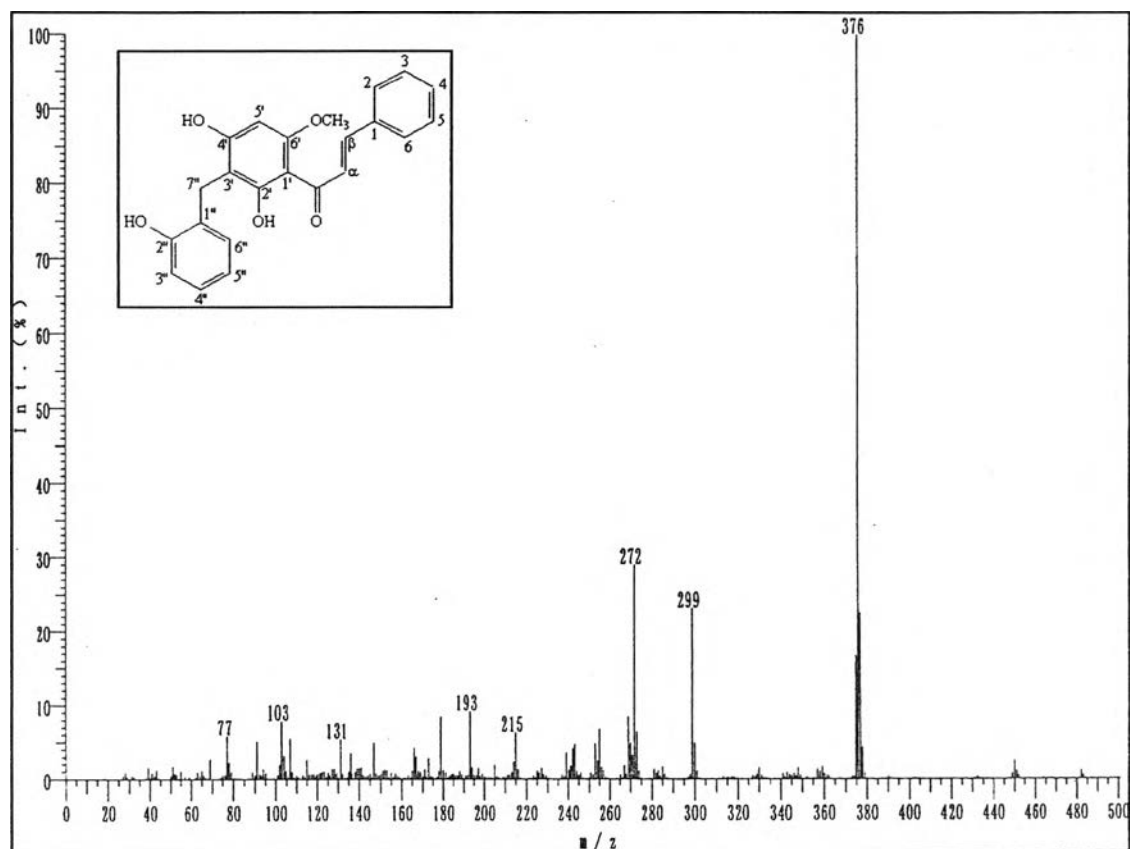


Figure 22. ESI Mass spectrum of compound EC-2

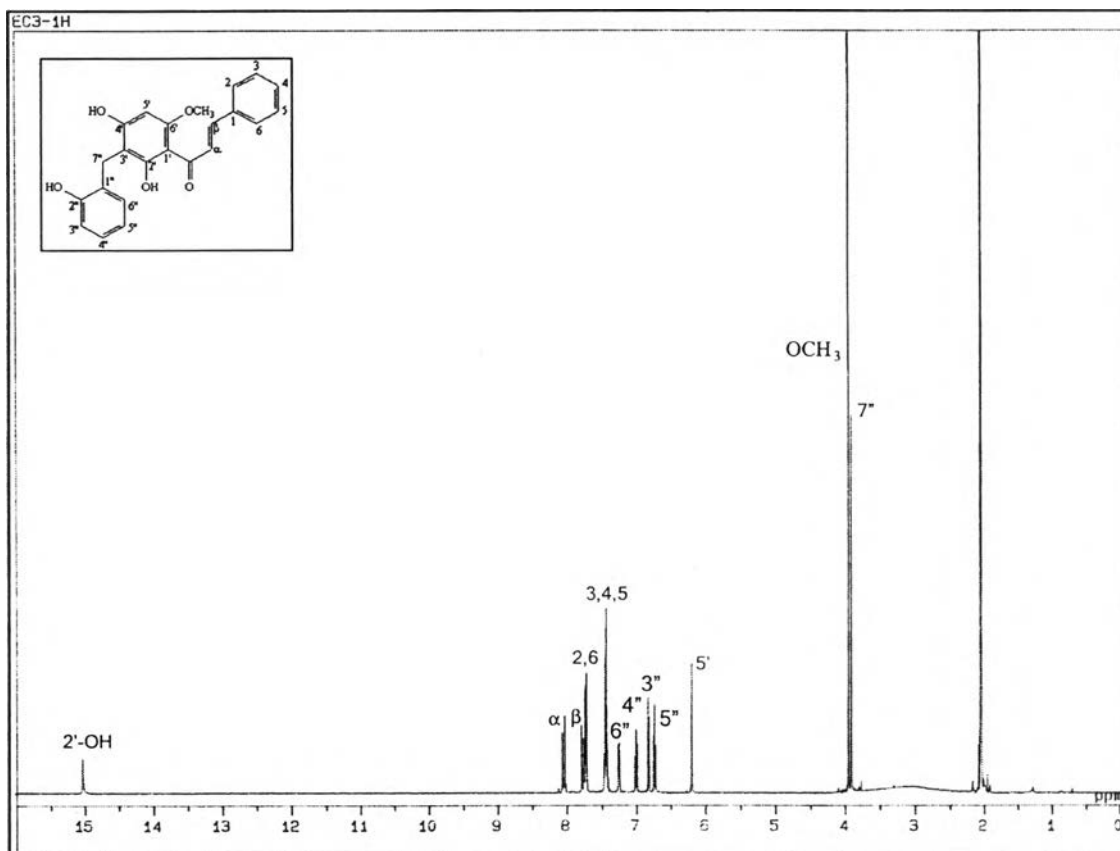


Figure 23a. ¹H NMR (500 MHz) Spectrum of compound EC-2 (in acetone-*d*₆)

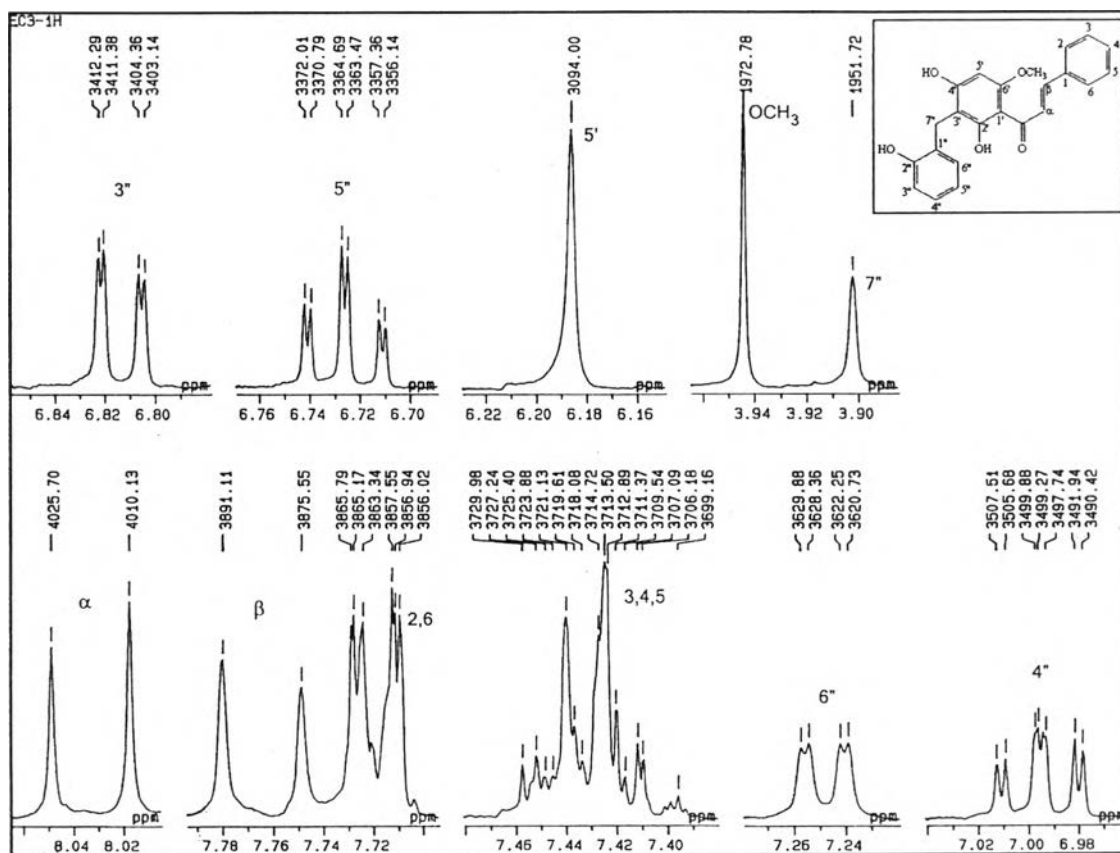


Figure 23b. ¹H NMR (500 MHz) Spectrum of compound EC-2 (expansion δ 3.9-8.1 ppm)

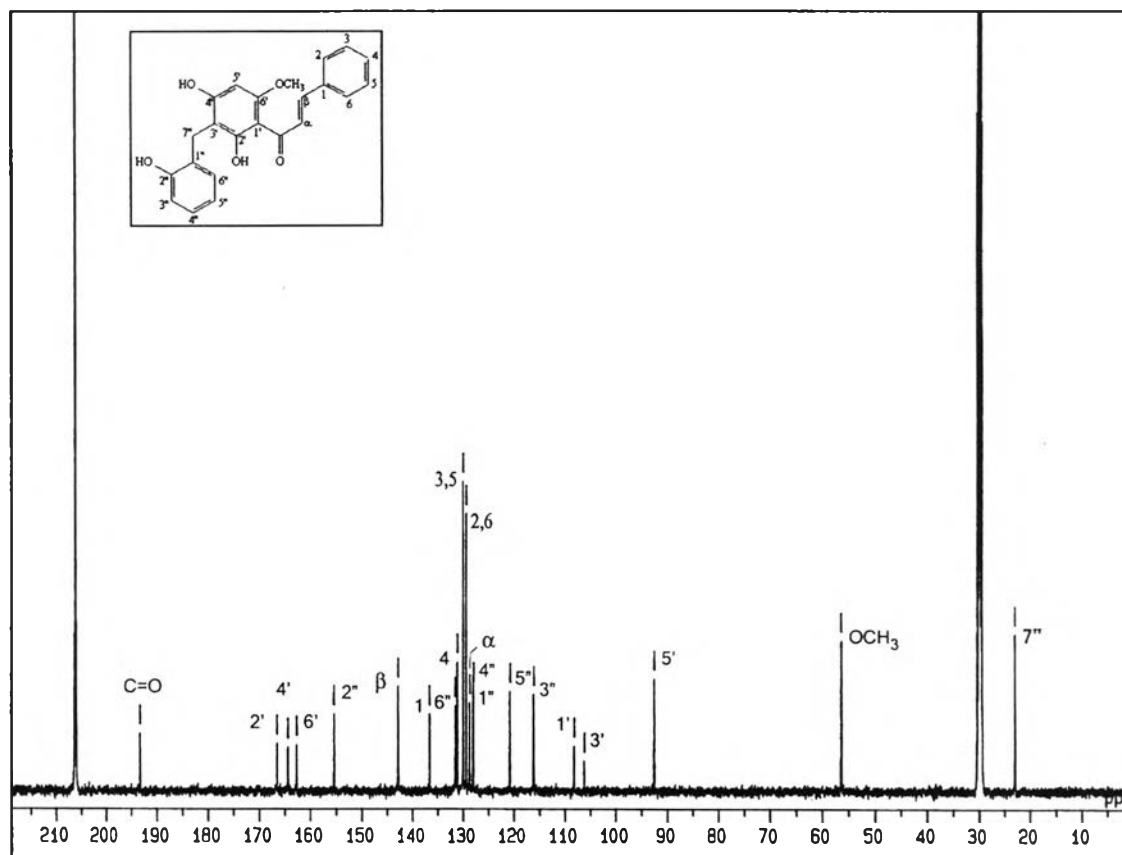


Figure 24. ^{13}C NMR (125 MHz) Spectrum of compound EC-2 (in acetone- d_6)

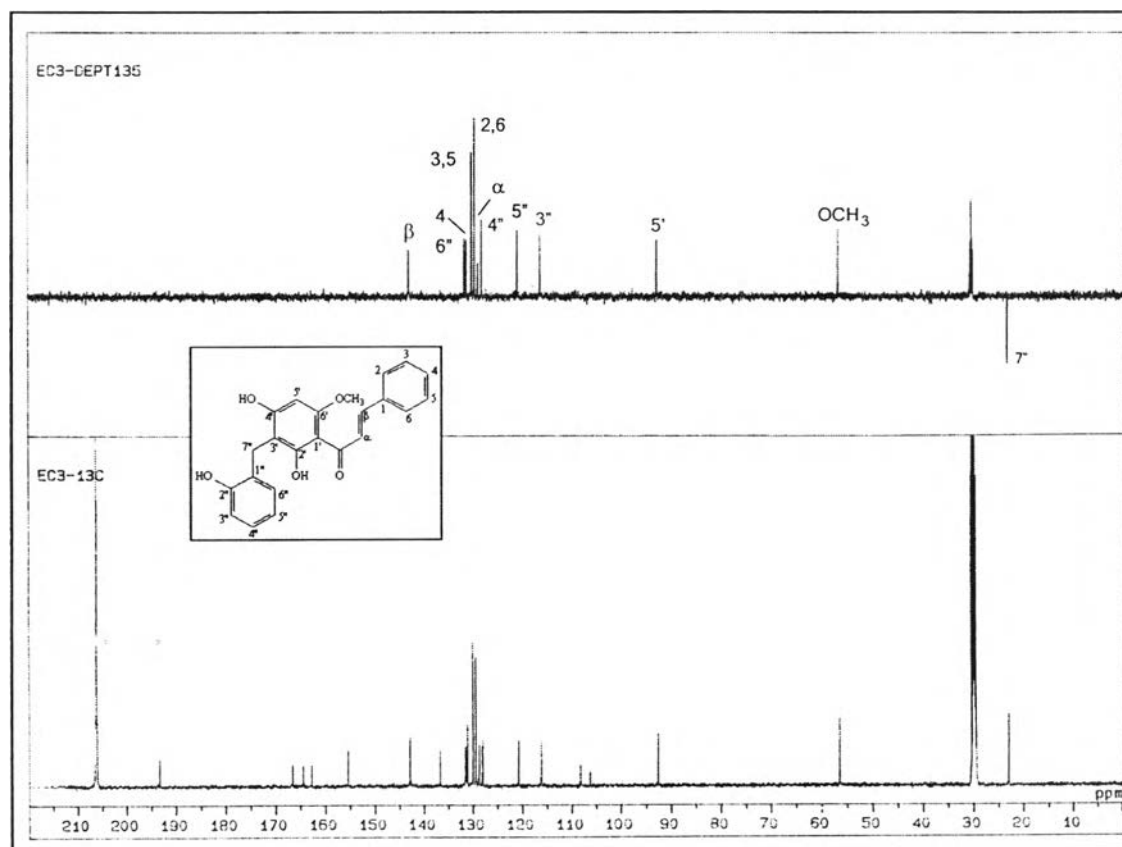


Figure 25. DEPT 135 Spectrum of compound EC-2

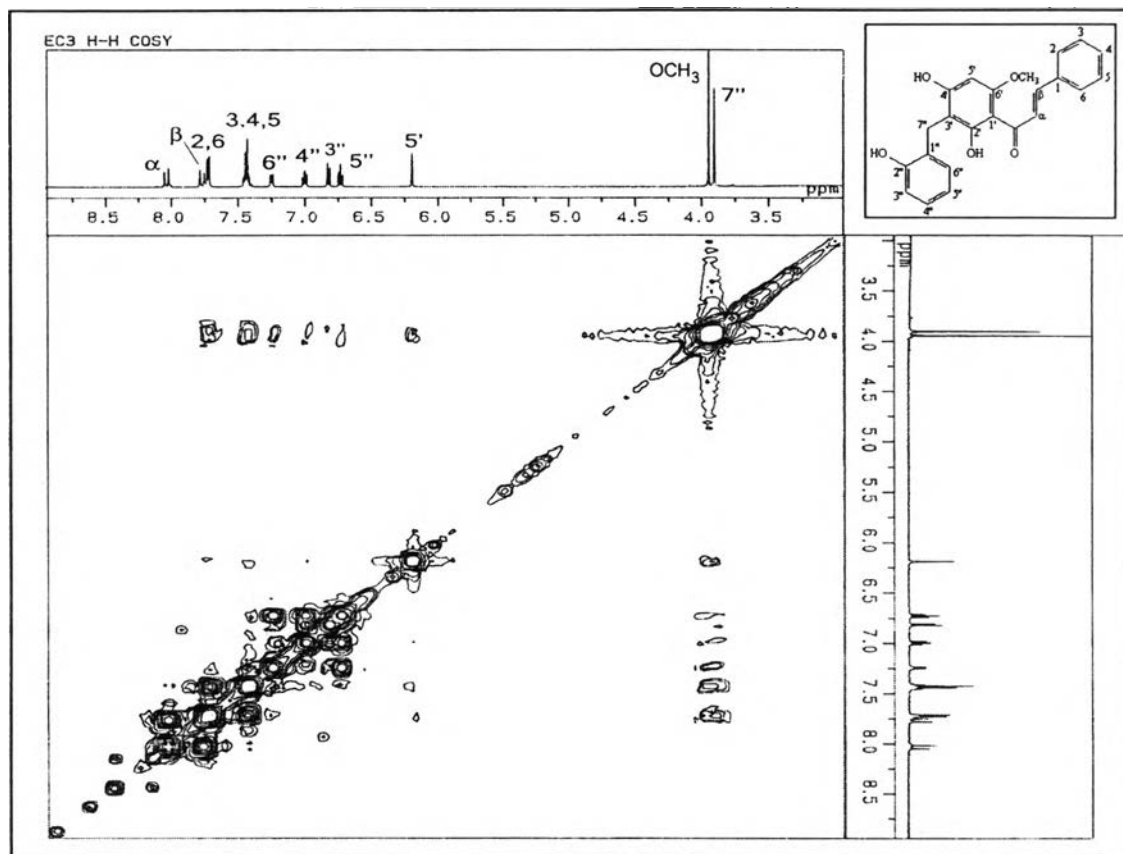


Figure 26. ^1H - ^1H COSY Spectrum of compound EC-2

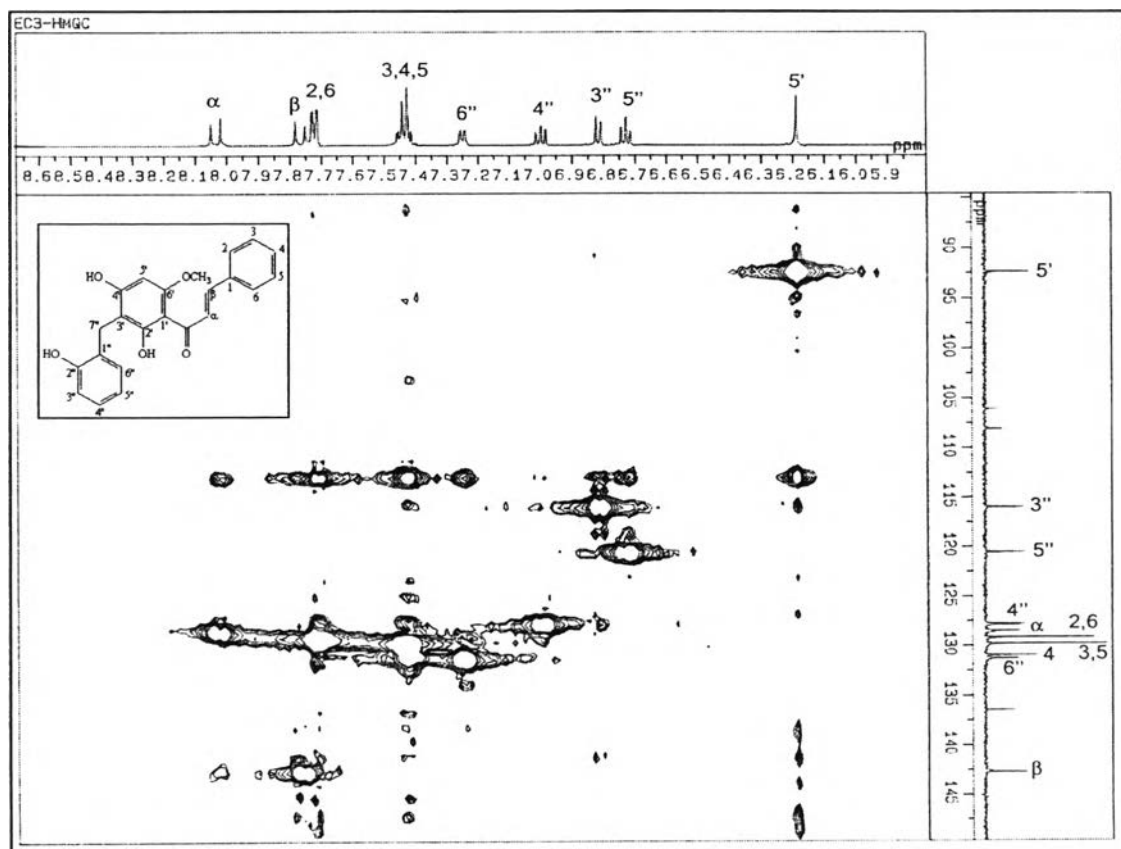


Figure 27. HMQC Spectrum of compound EC-2

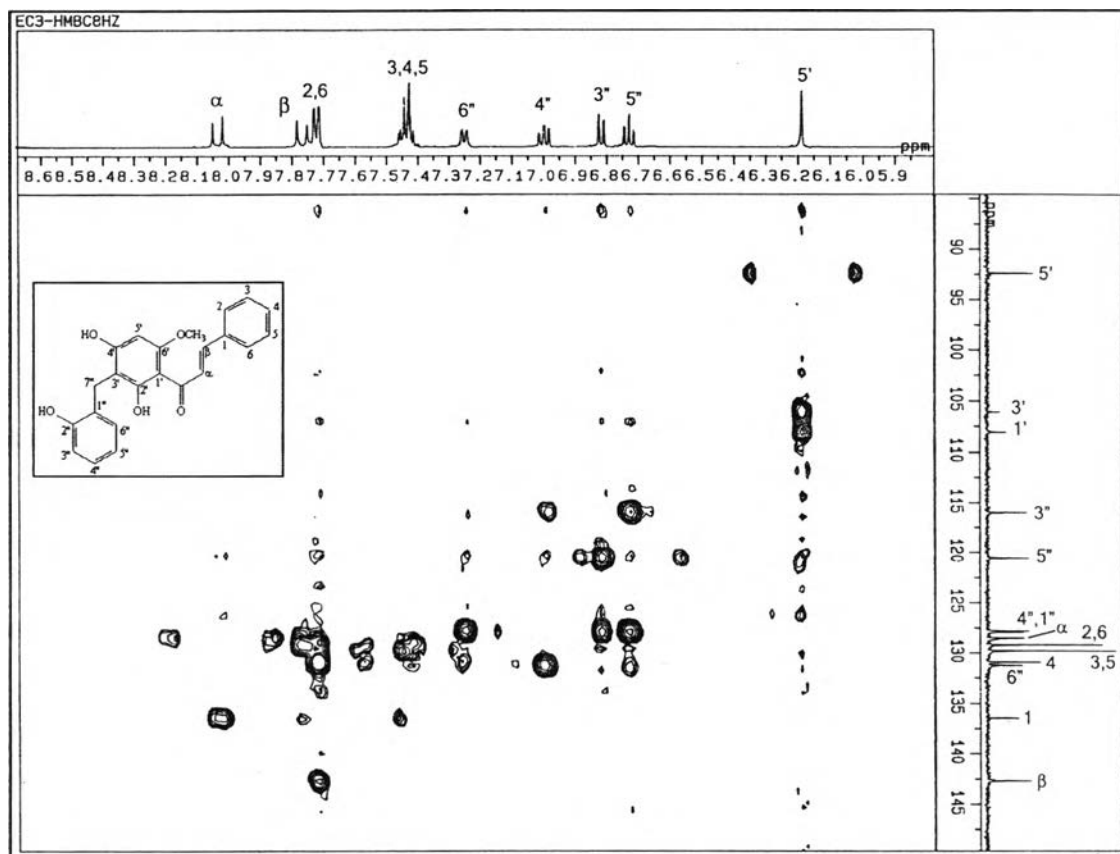


Figure 28a. HMBC Spectrum of compound EC-2 (δ_H 6.0-8.5 ppm, δ_c 90-145 ppm)

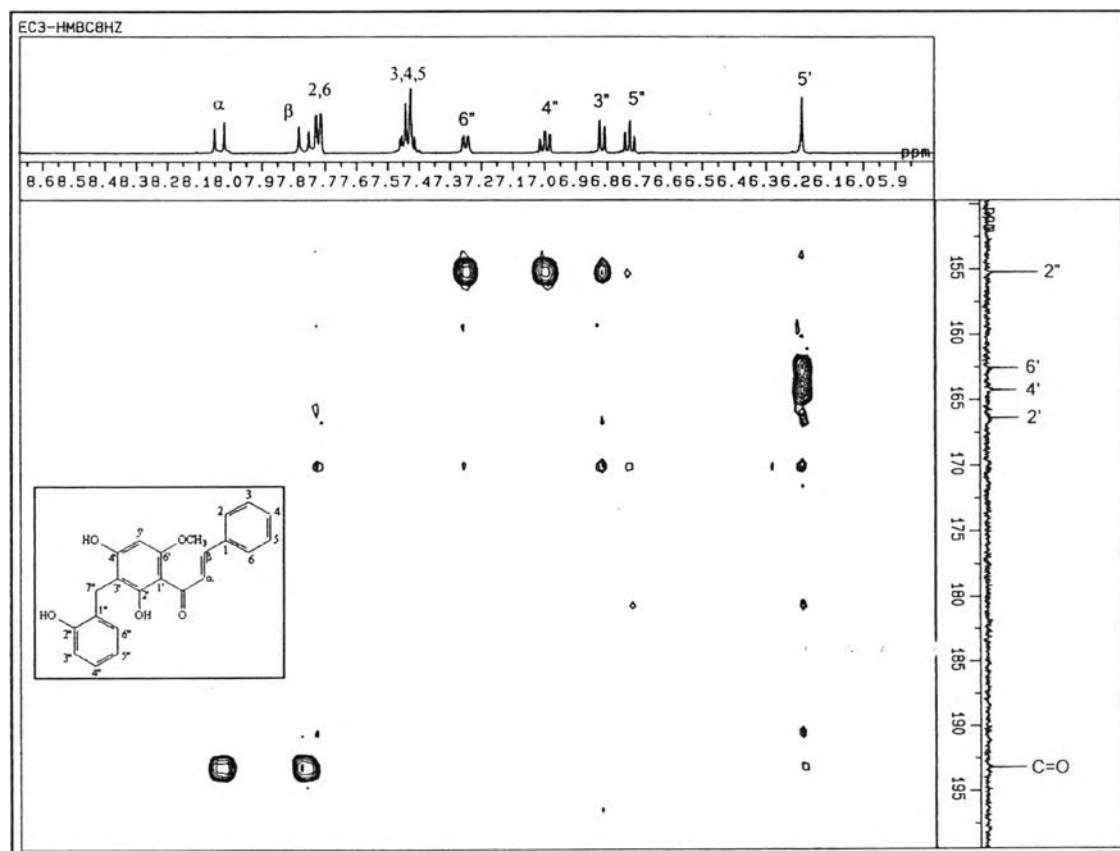


Figure 28b. HMBC Spectrum of compound EC-2 (δ_H 6.0-8.5 ppm, δ_c 150-195 ppm)

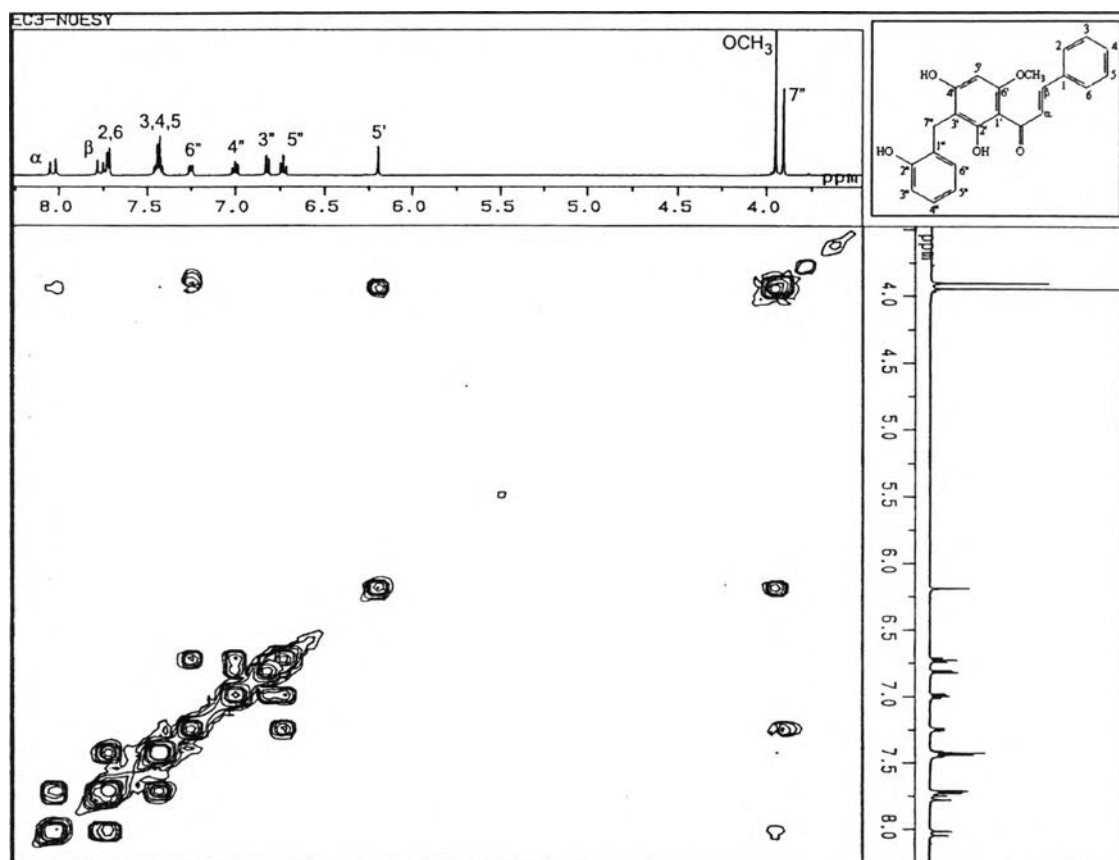


Figure 29. NOESY Spectrum of compound EC-2

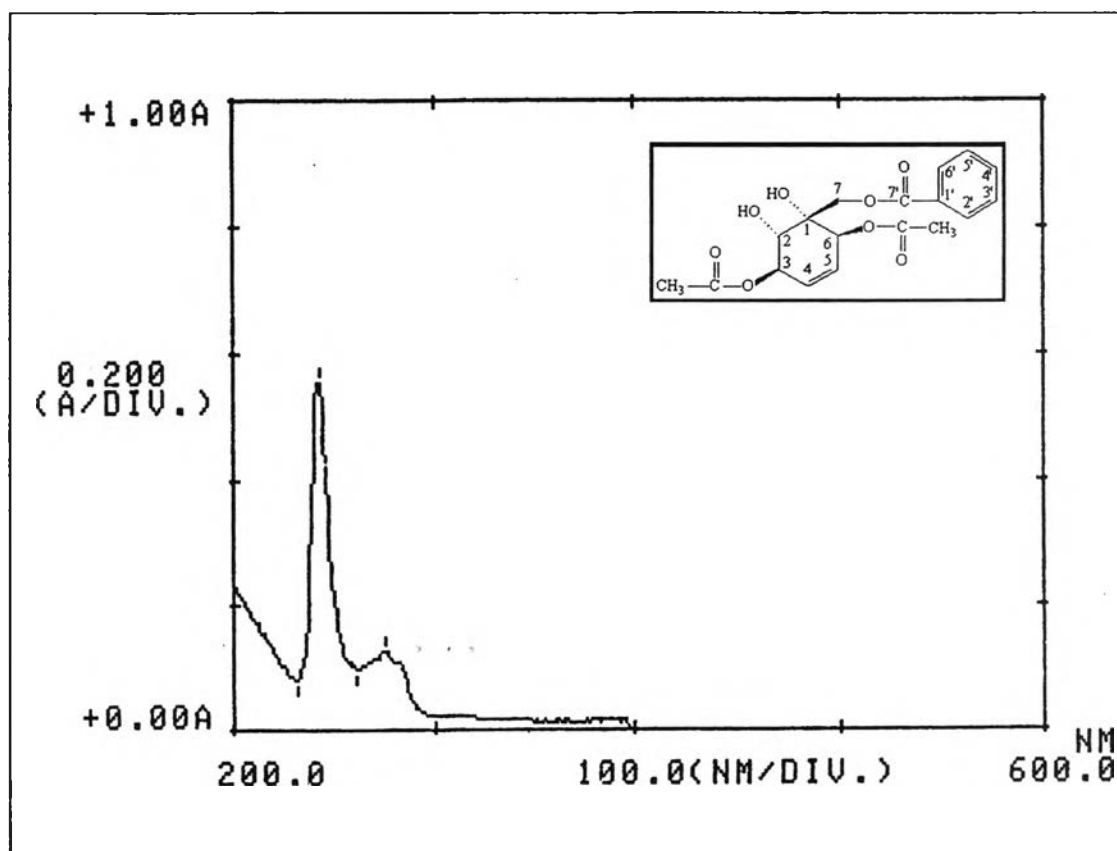


Figure 30. UV Spectrum of compound EC-3 (in CDCl₃)

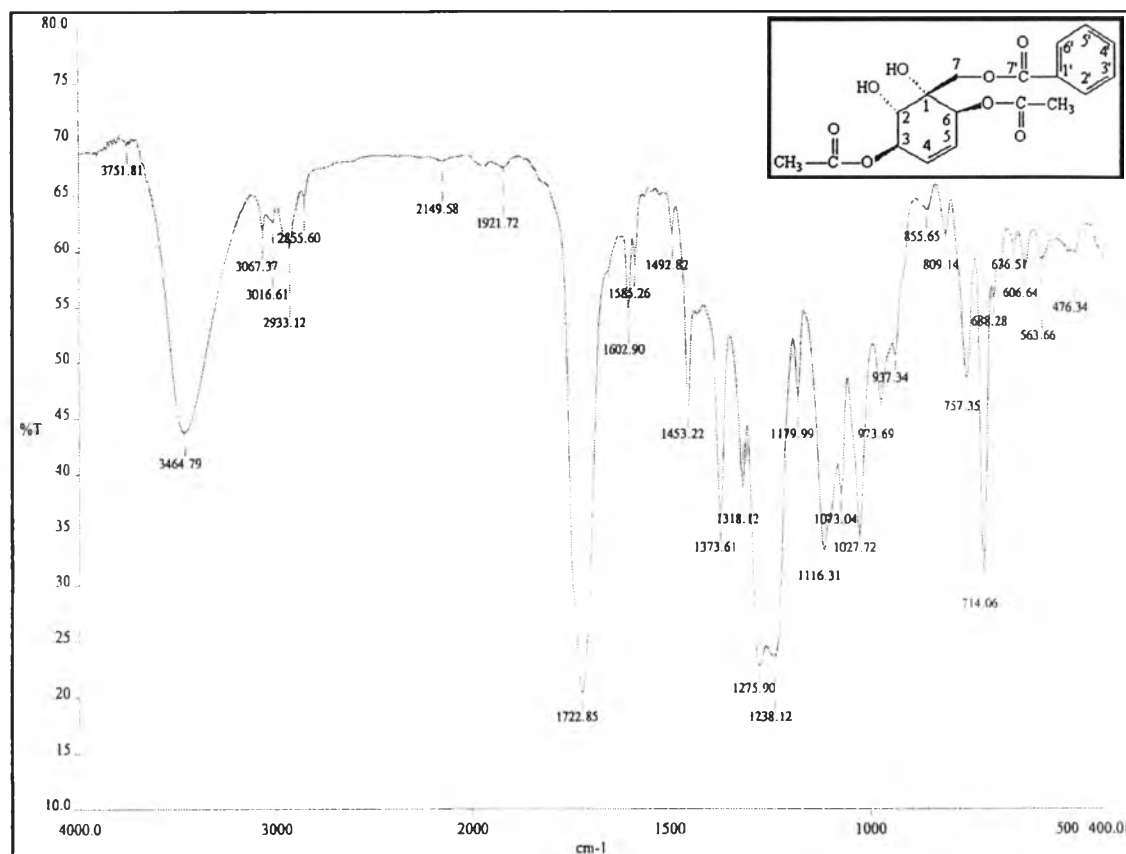


Figure 31. IR Spectrum of compound EC-3 (KBr disc)

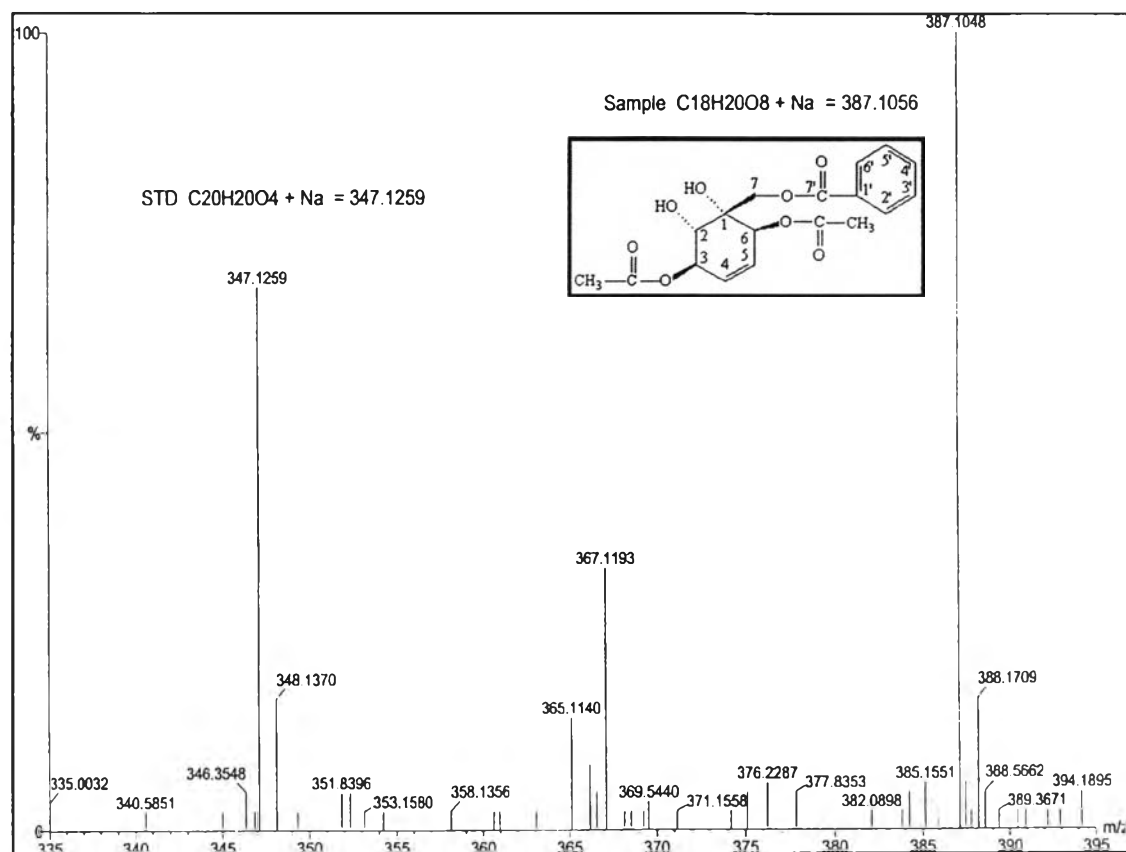
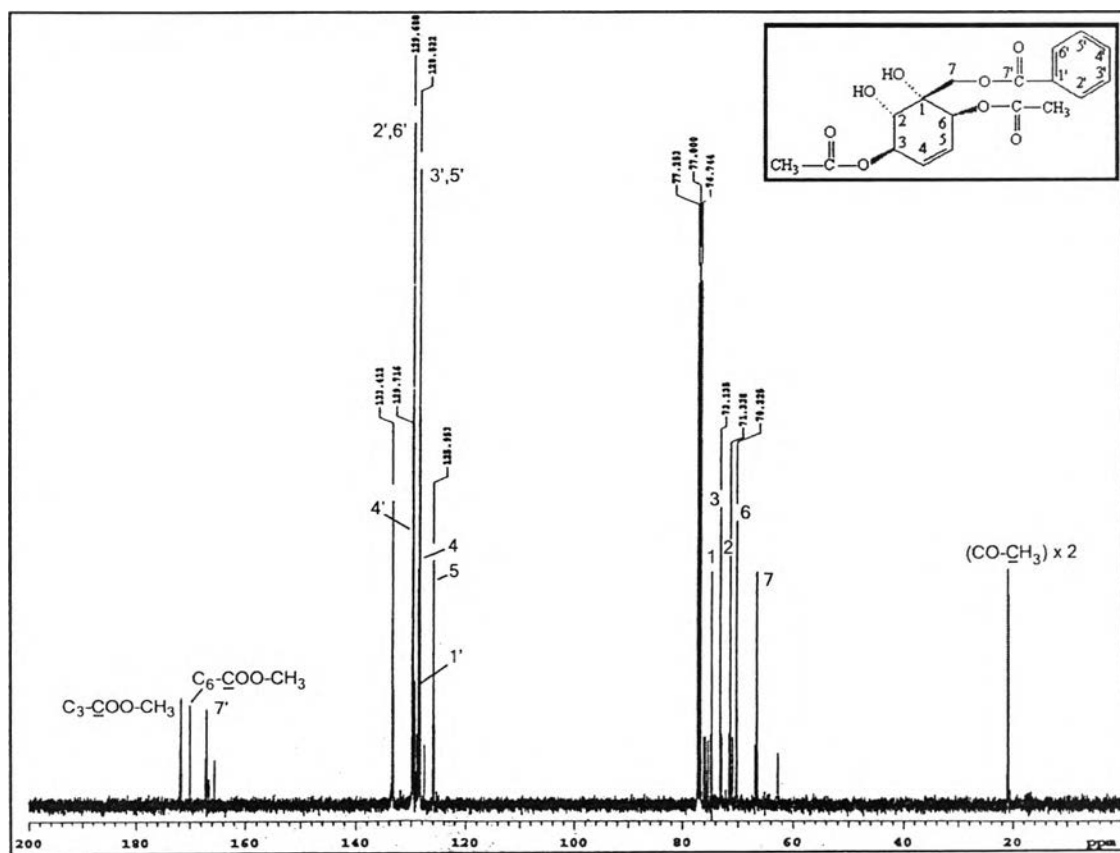
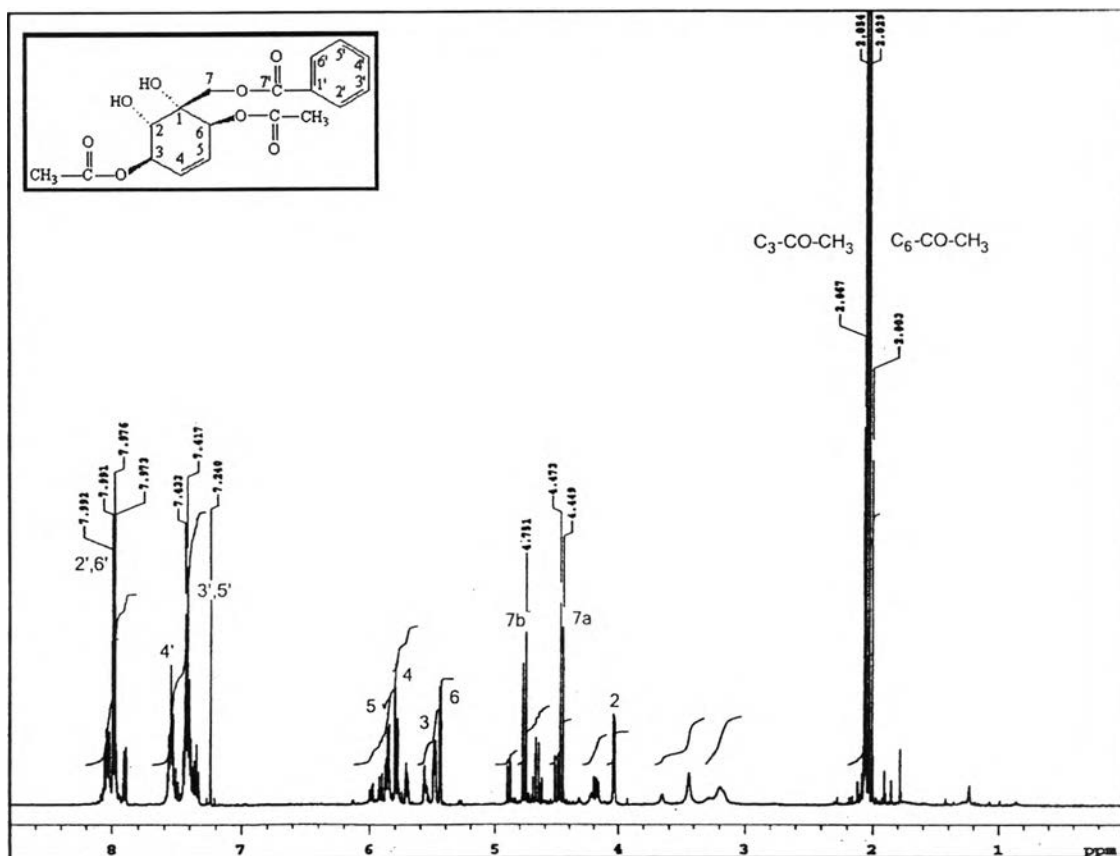


Figure 32. ESI Mass spectrum of compound EC-3



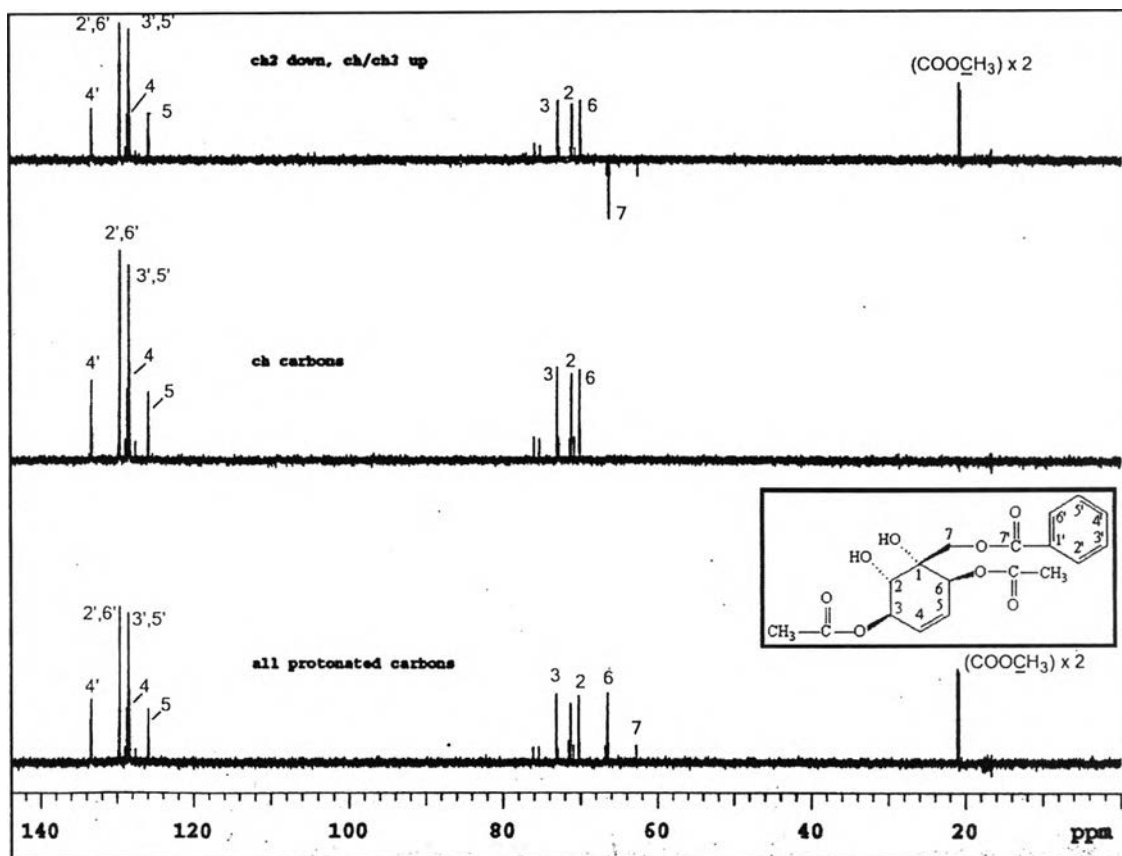
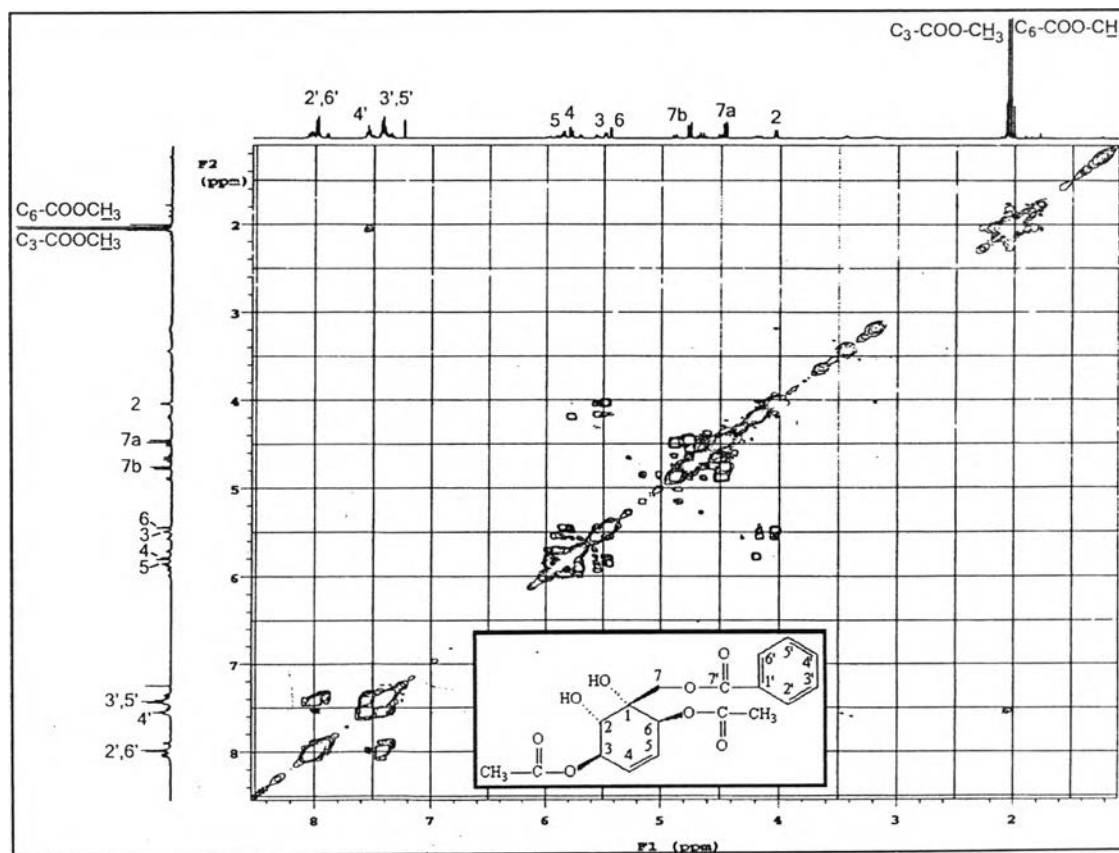


Figure 35. DEPT 135 Spectrum of compound EC-3

Figure 36. ¹H-¹H COSY Spectrum of compound EC-3

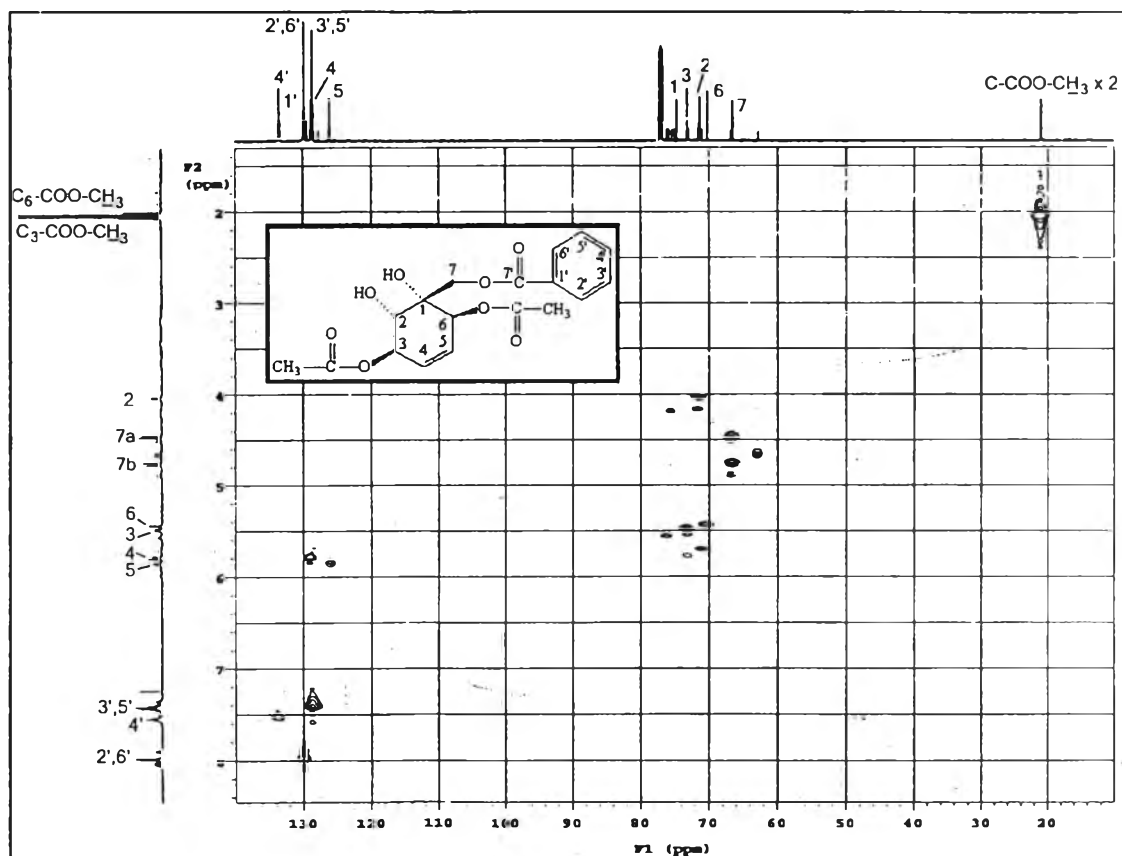


Figure 37. HMQC Spectrum of compound EC-3

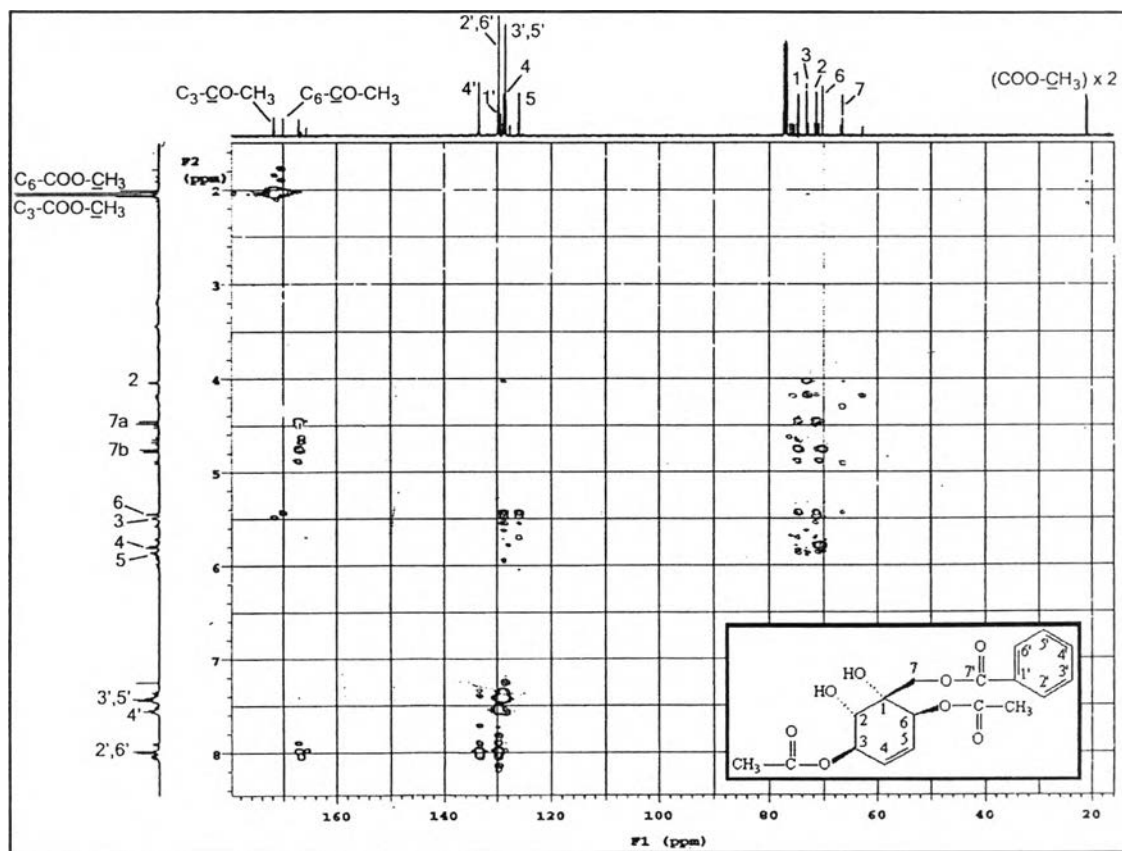


Figure 38. HMBC Spectrum of compound EC-3

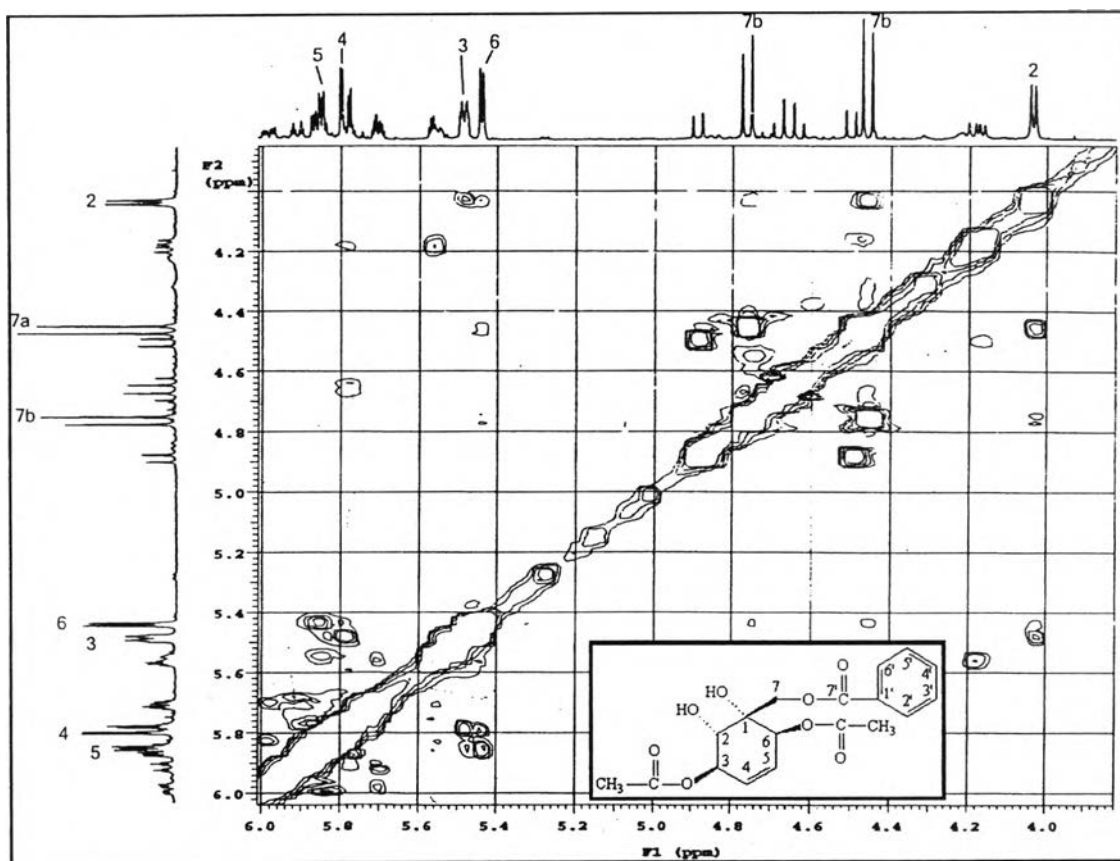


Figure 39. NOESY Spectrum of compound EC-3

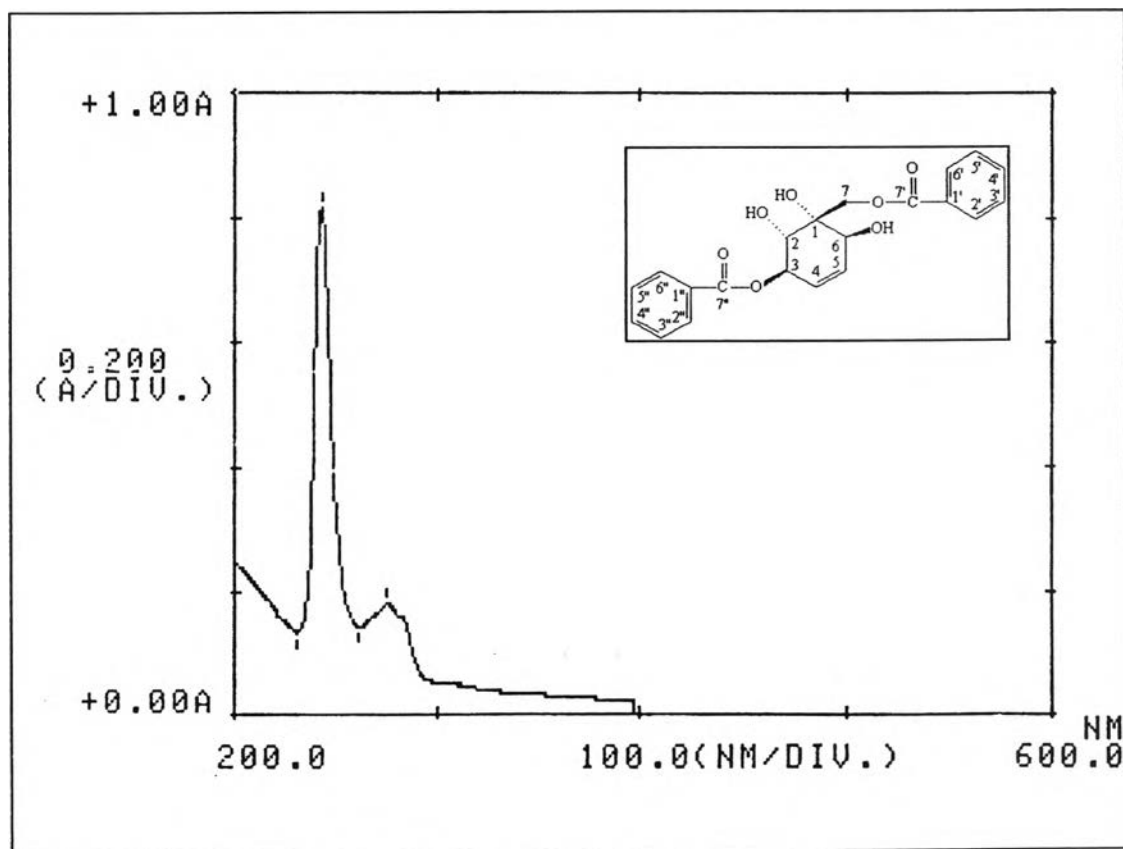


Figure 40. UV Spectrum of compound EC-4 (in CDCl_3)

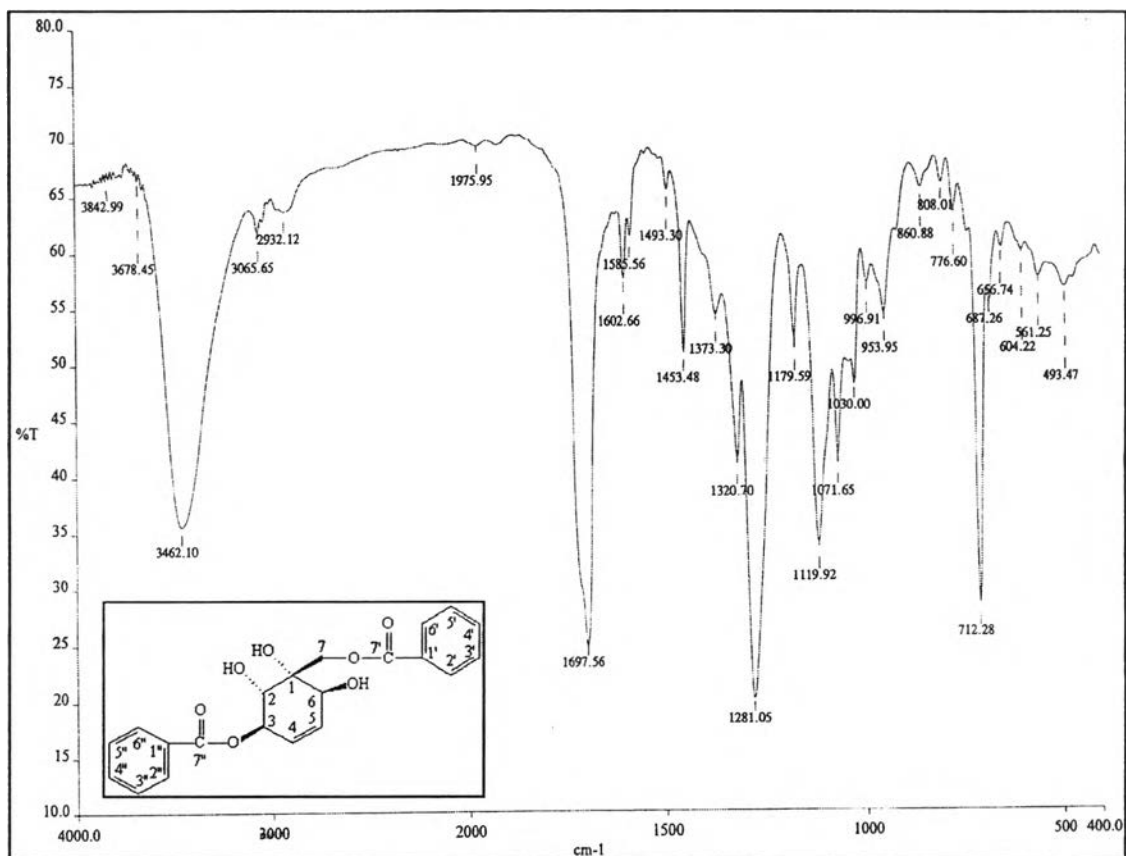


Figure 41. IR Spectrum of compound EC-4 (KBr disc)

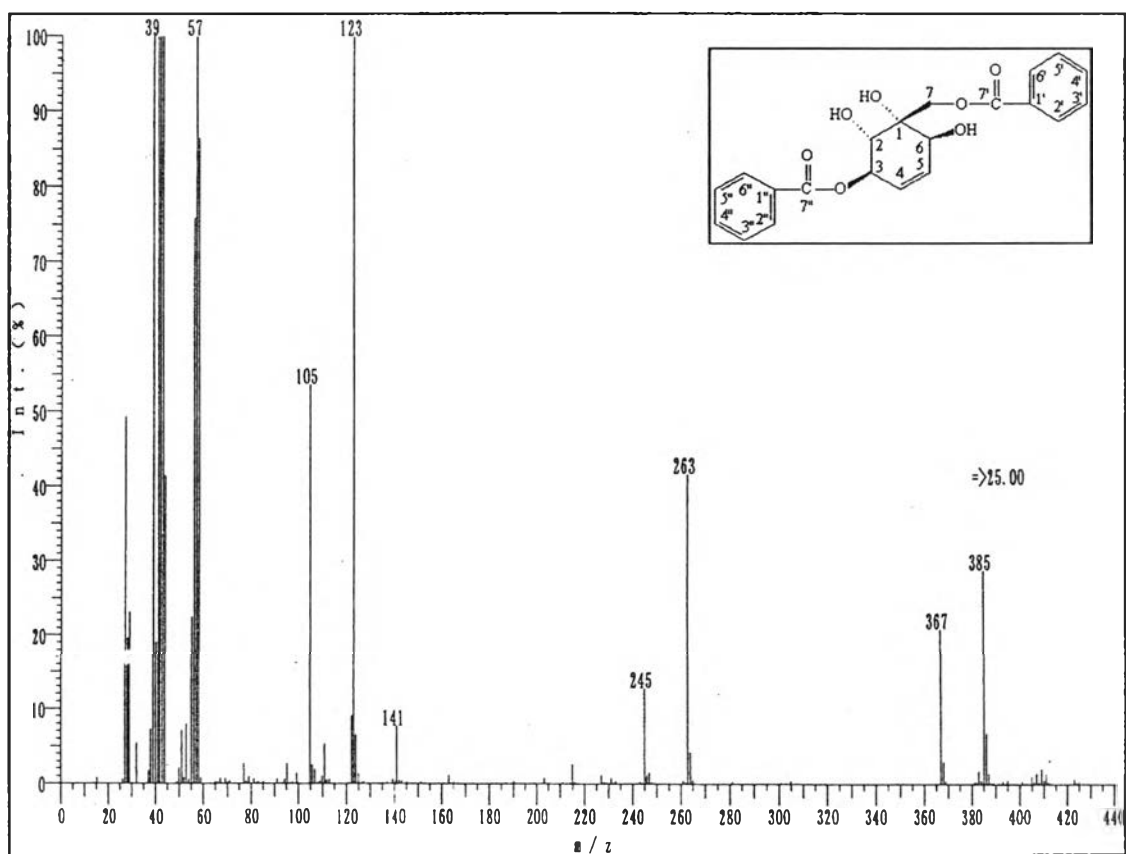


Figure 42. CI Mass spectrum of compound EC-4

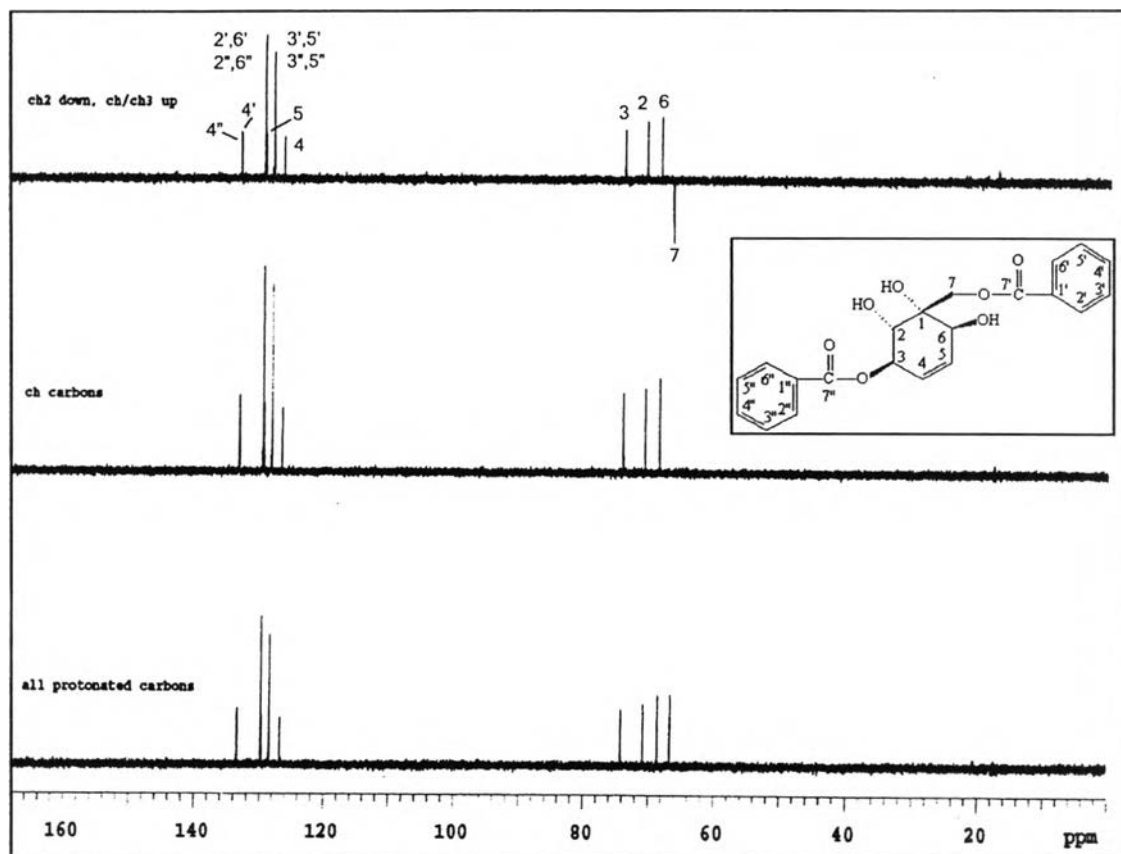


Figure 45. DEPT 135 Spectrum of compound EC-4

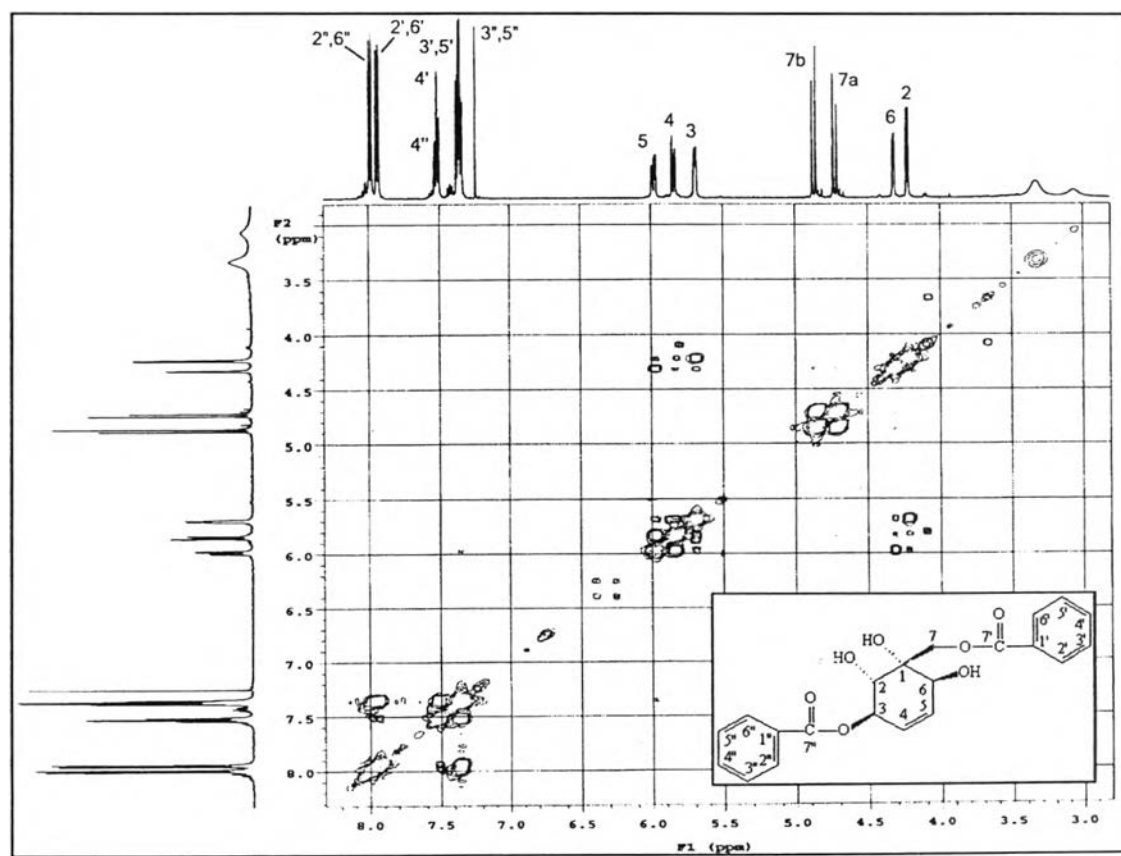


Figure 46. ^1H - ^1H COSY Spectrum of compound EC-4

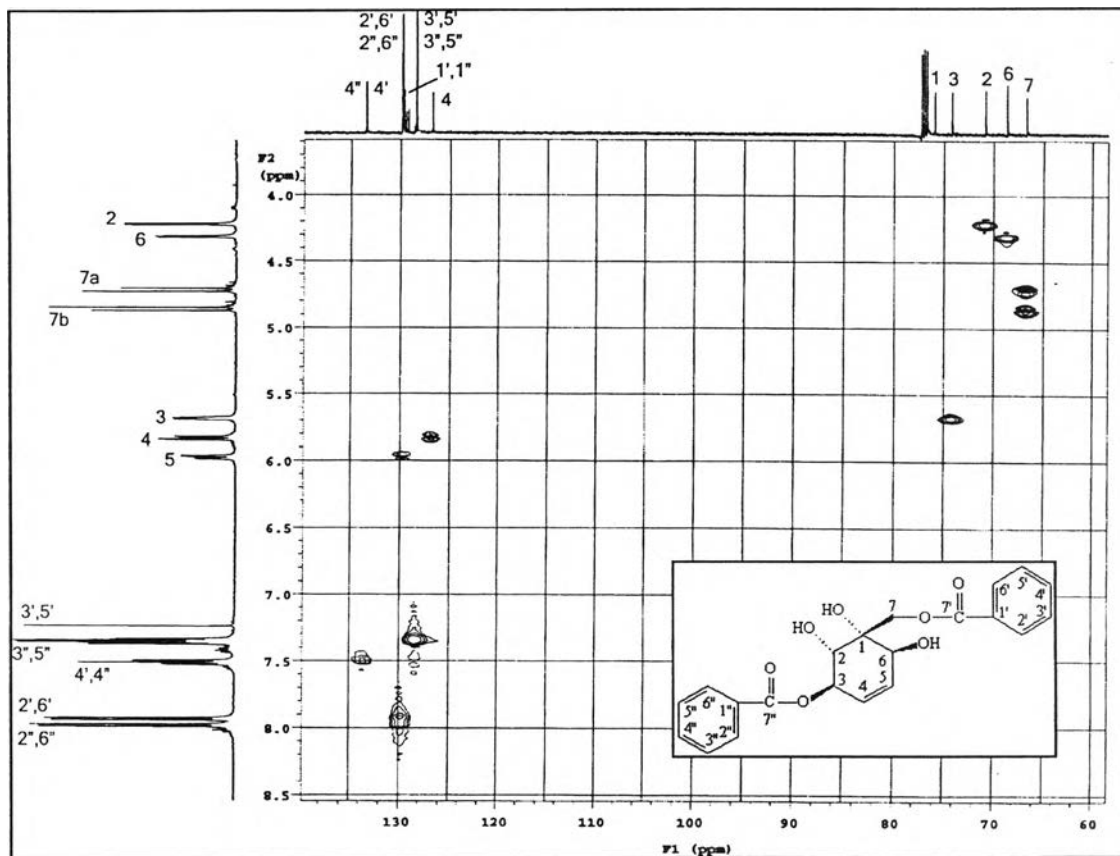


Figure 47. HMBC Spectrum of compound EC-4

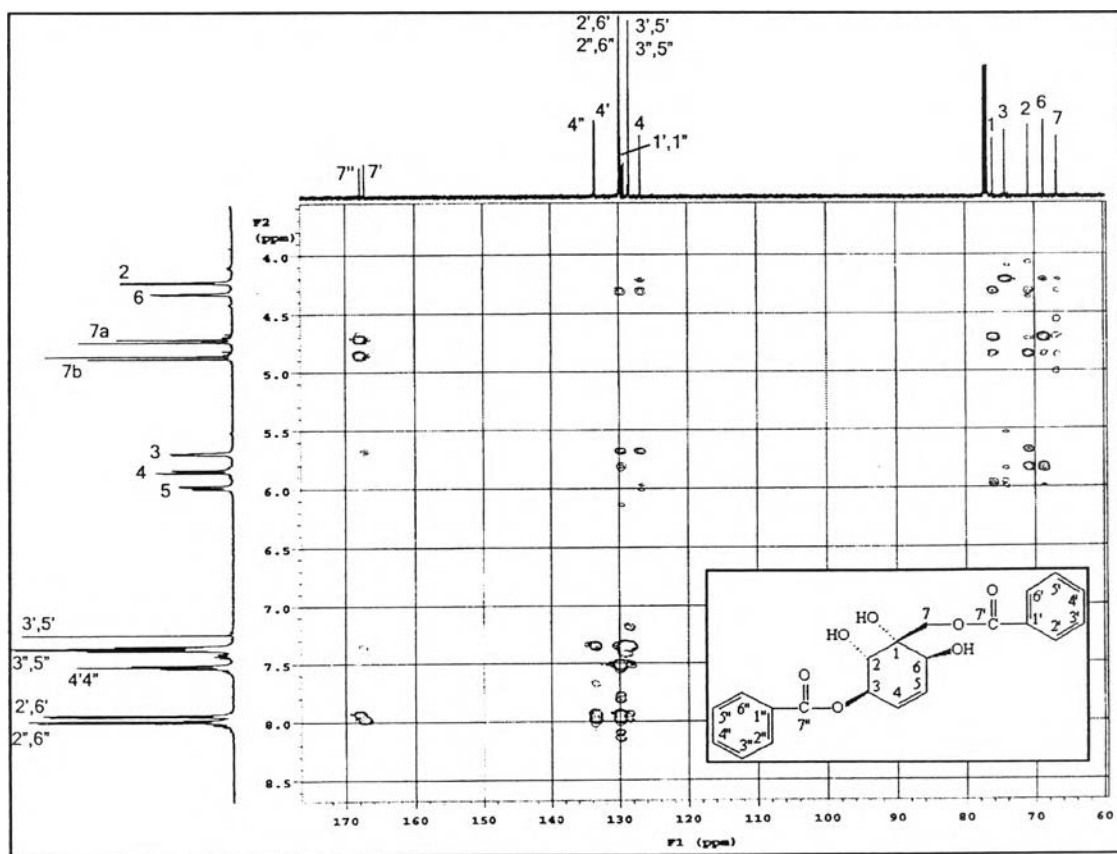


Figure 48. HMBC Spectrum of compound EC-4

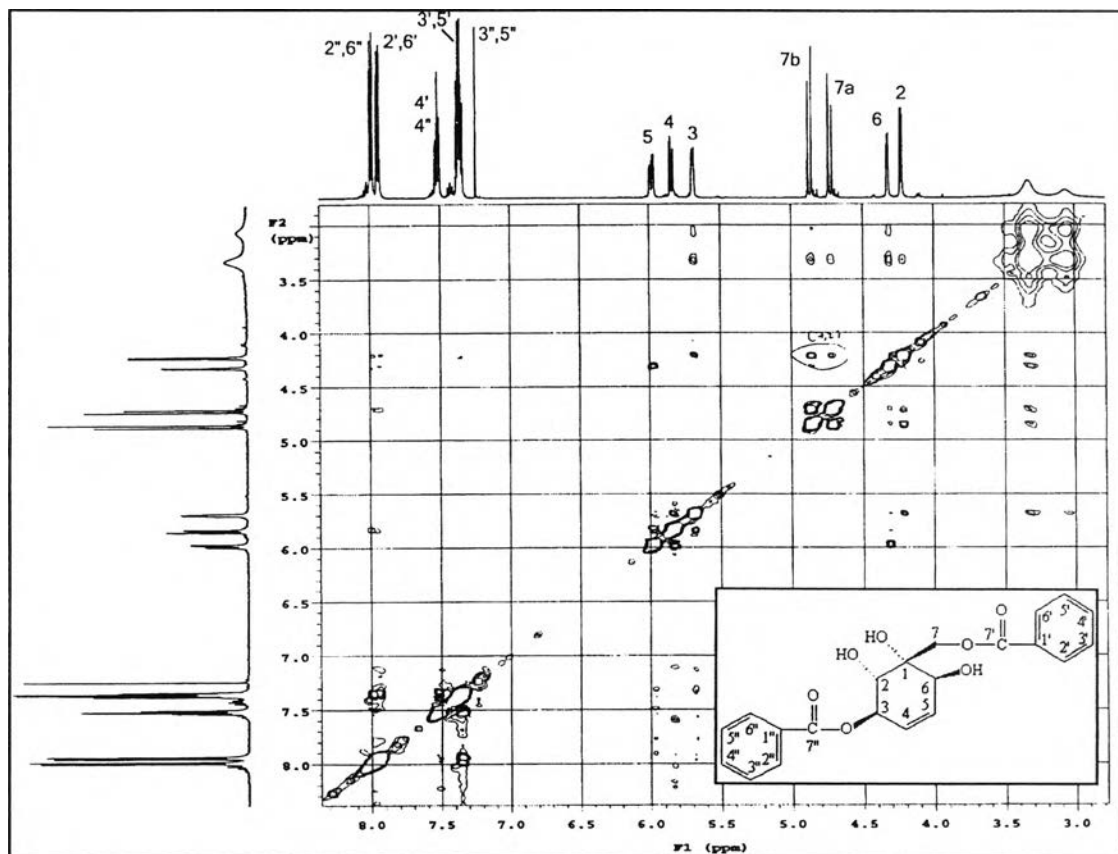


Figure 49. NOESY Spectrum of compound EC-4

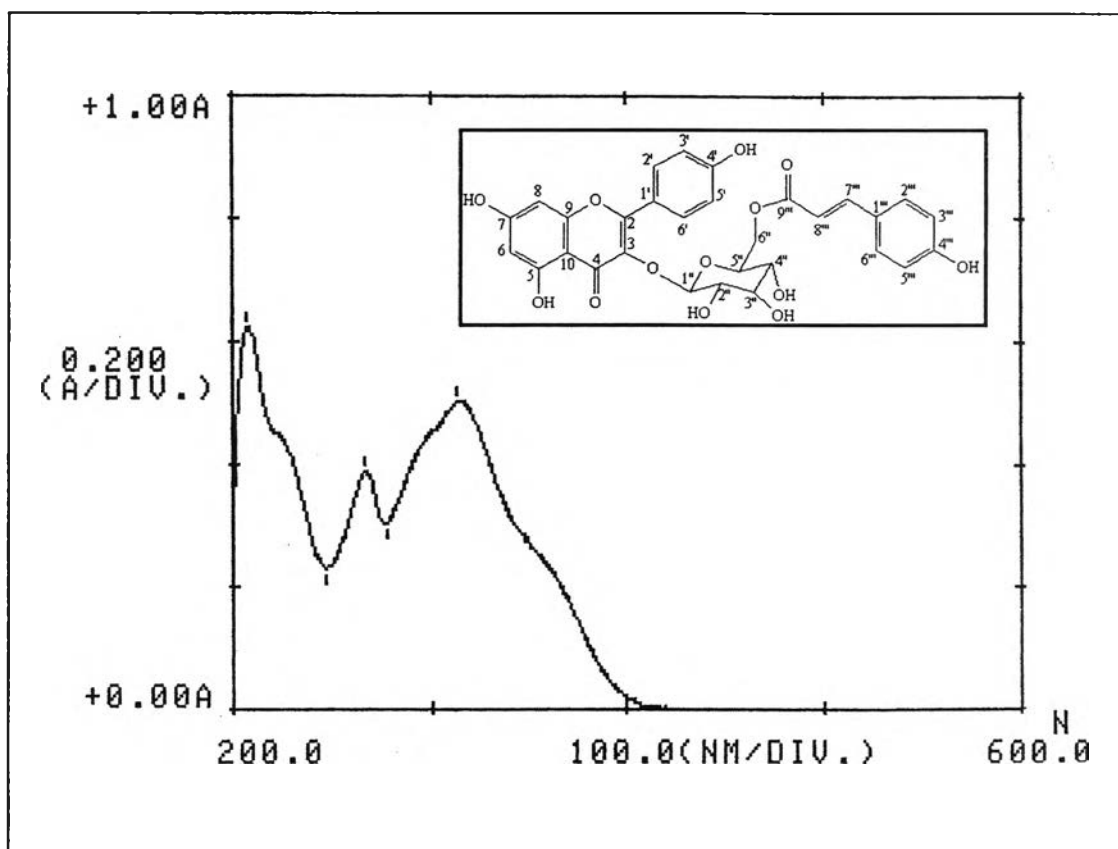


Figure 50. UV Spectrum of compound EC-5 (in MeOH)

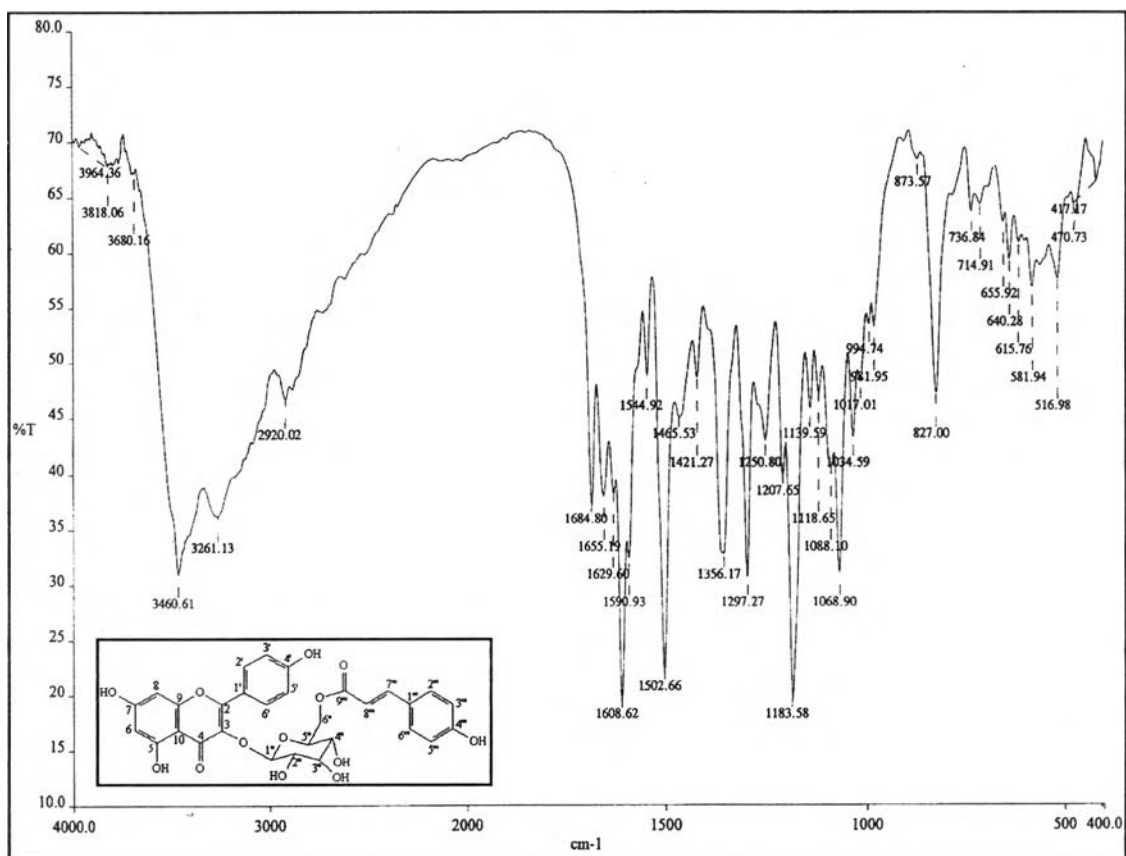


Figure 51. IR Spectrum of compound EC-5 (KBr disc)

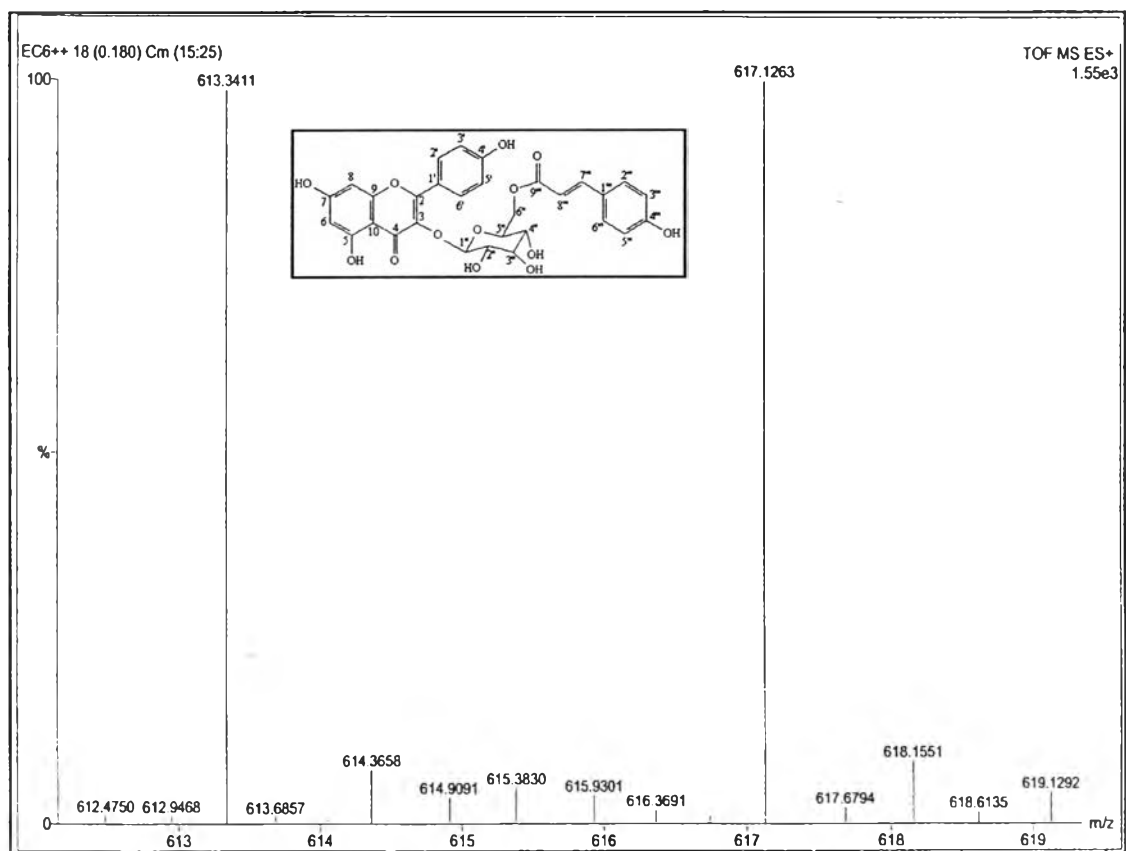


Figure 52. ESI Mass spectrum of compound EC-5

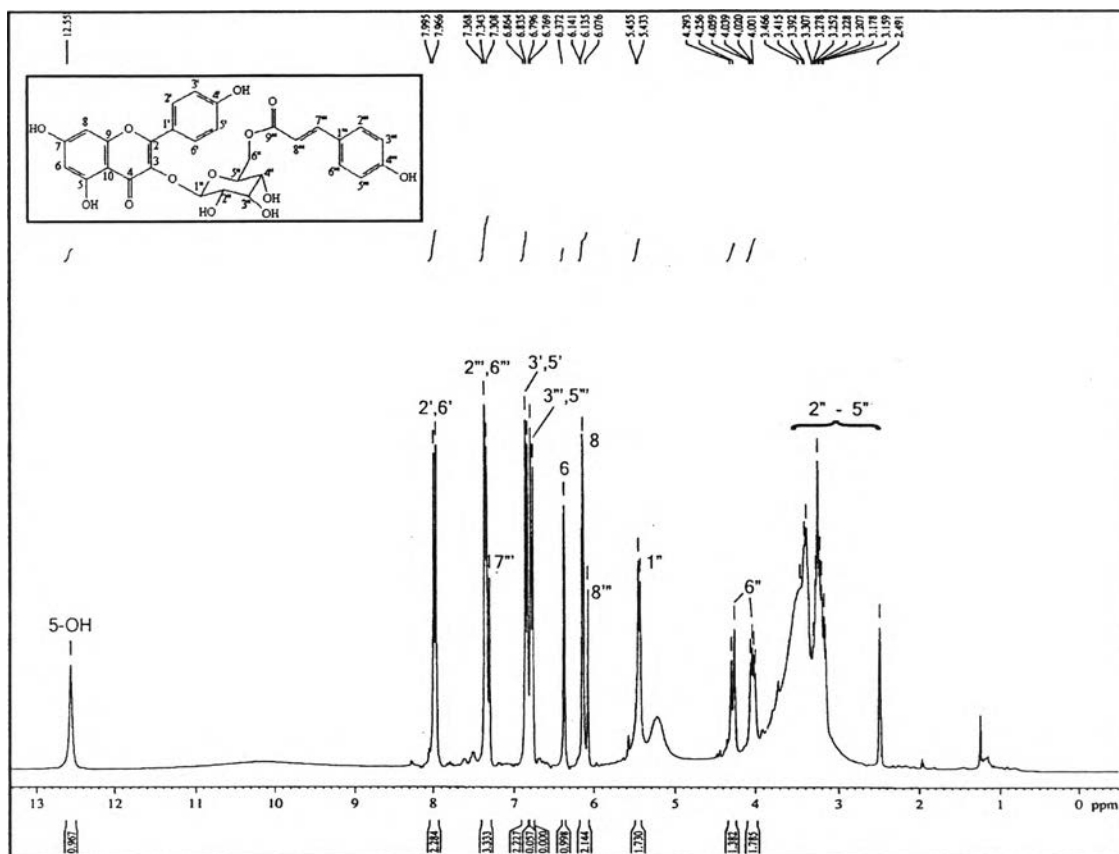


Figure 53a. ^1H NMR (300 MHz) Spectrum of compound EC-5 (in $\text{DMSO}-d_6$)

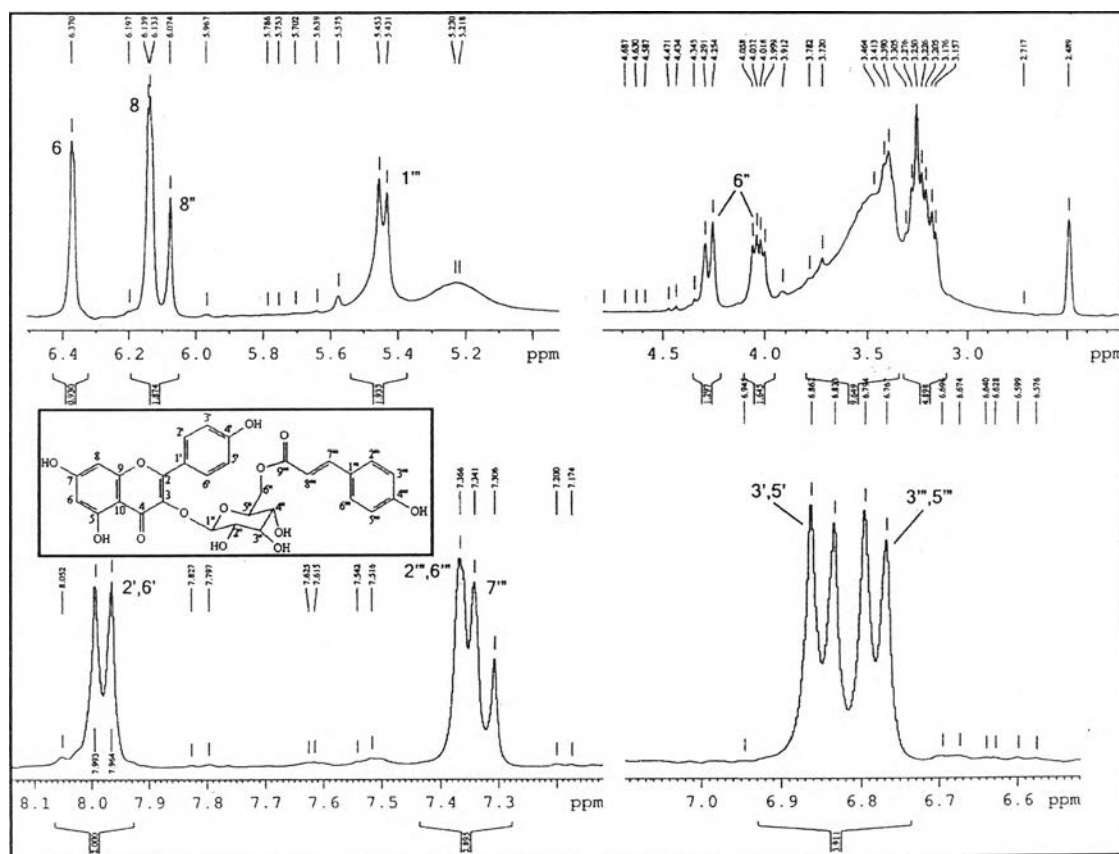


Figure 53b. ^1H NMR (300 MHz) Spectrum of compound EC-5 (expansion δ 2-8 ppm)

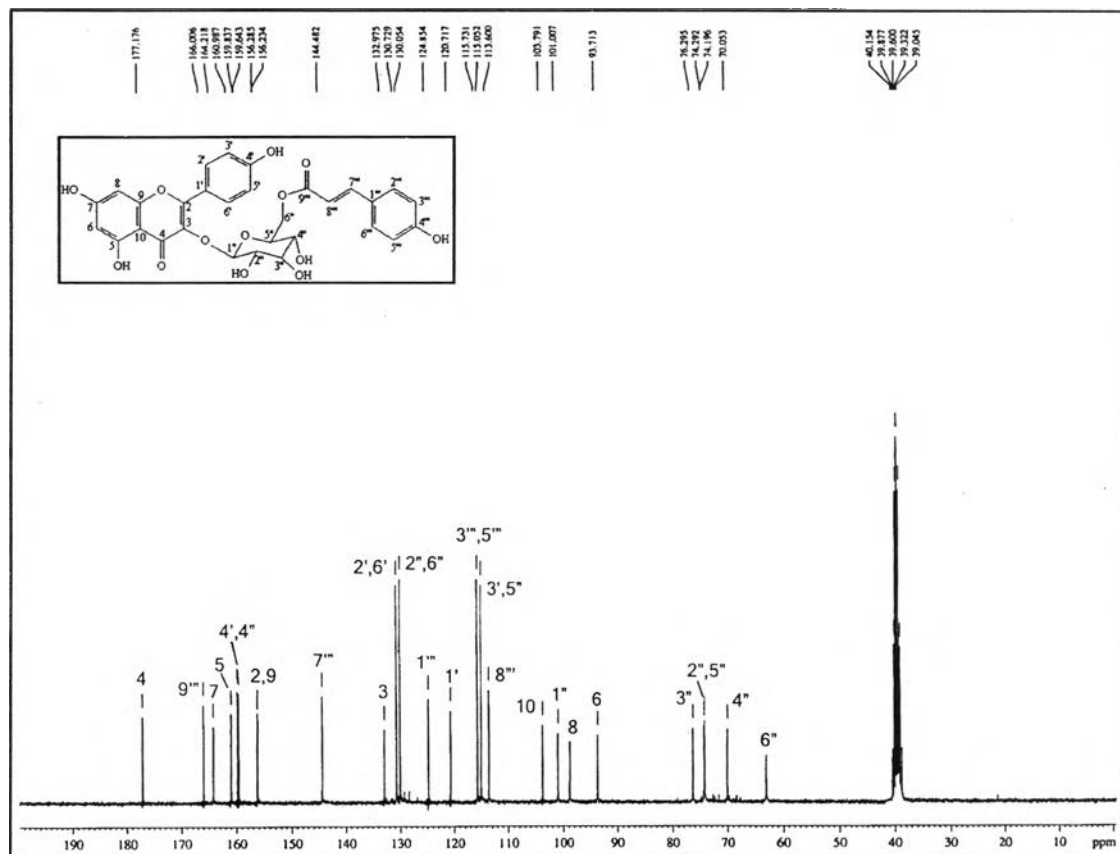


Figure 54. ^{13}C NMR (75 MHz) Spectrum of compound EC-5 (in $\text{DMSO}-d_6$)

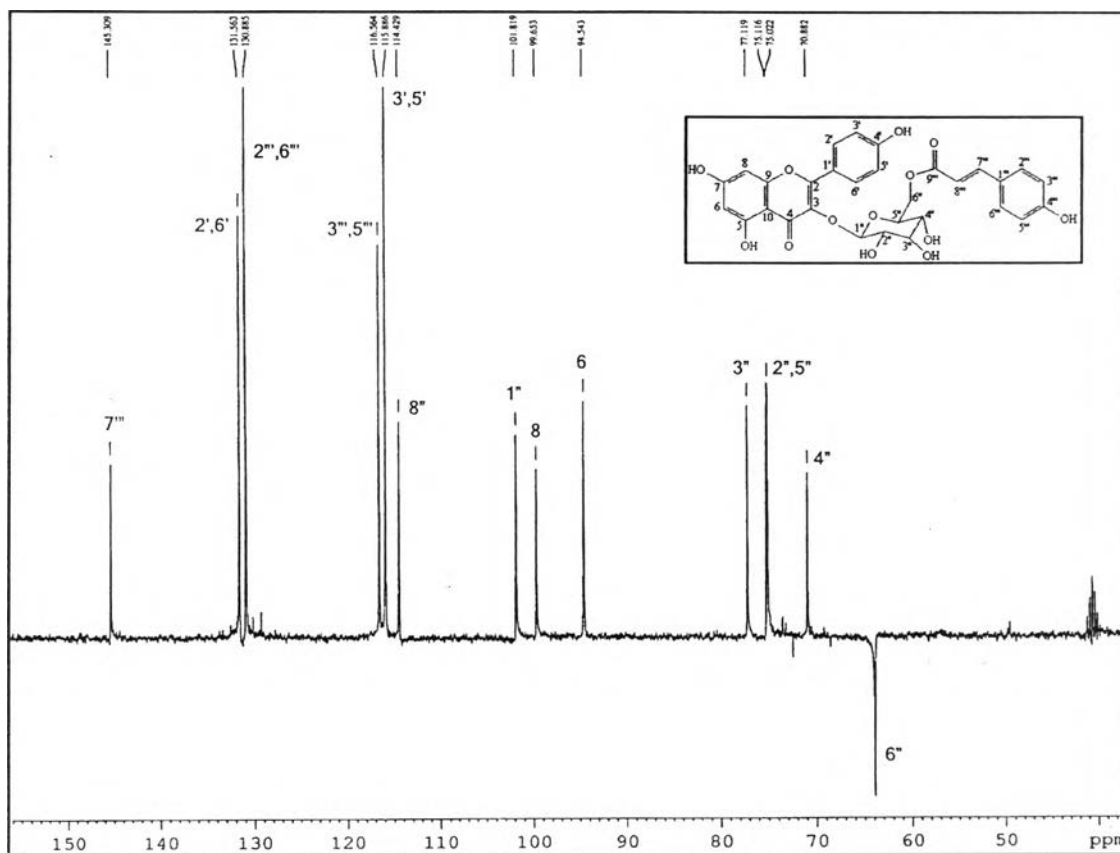


Figure 55. DEPT 135 Spectrum of compound EC-5

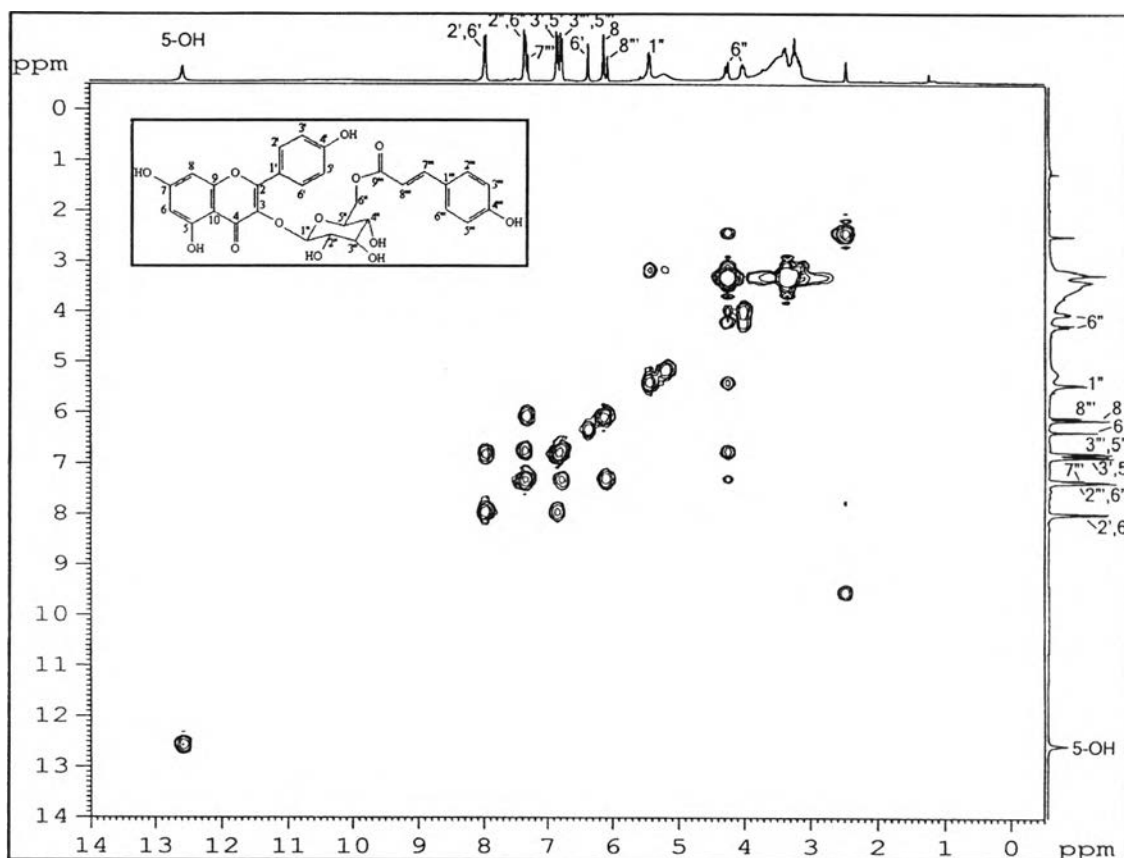


Figure 56. ^1H - ^1H COSY Spectrum of compound EC-5

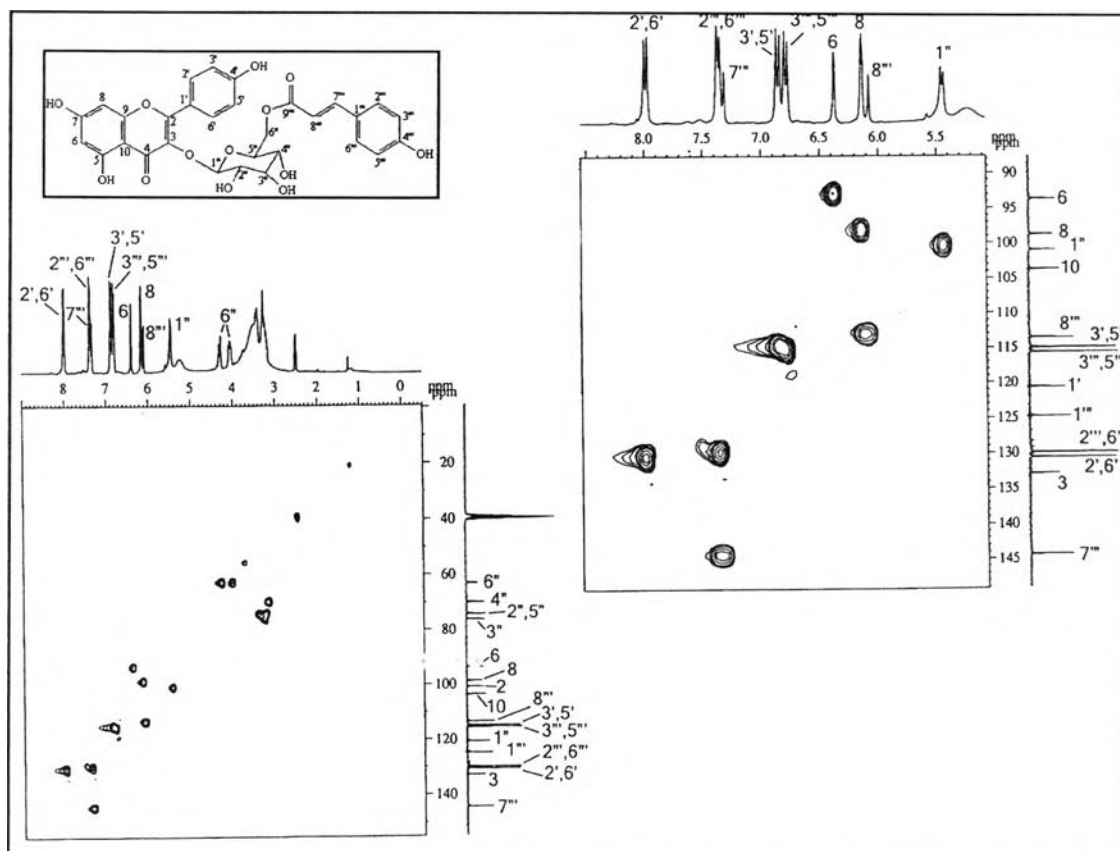


Figure 57. HMQC Spectrum of compound EC-5

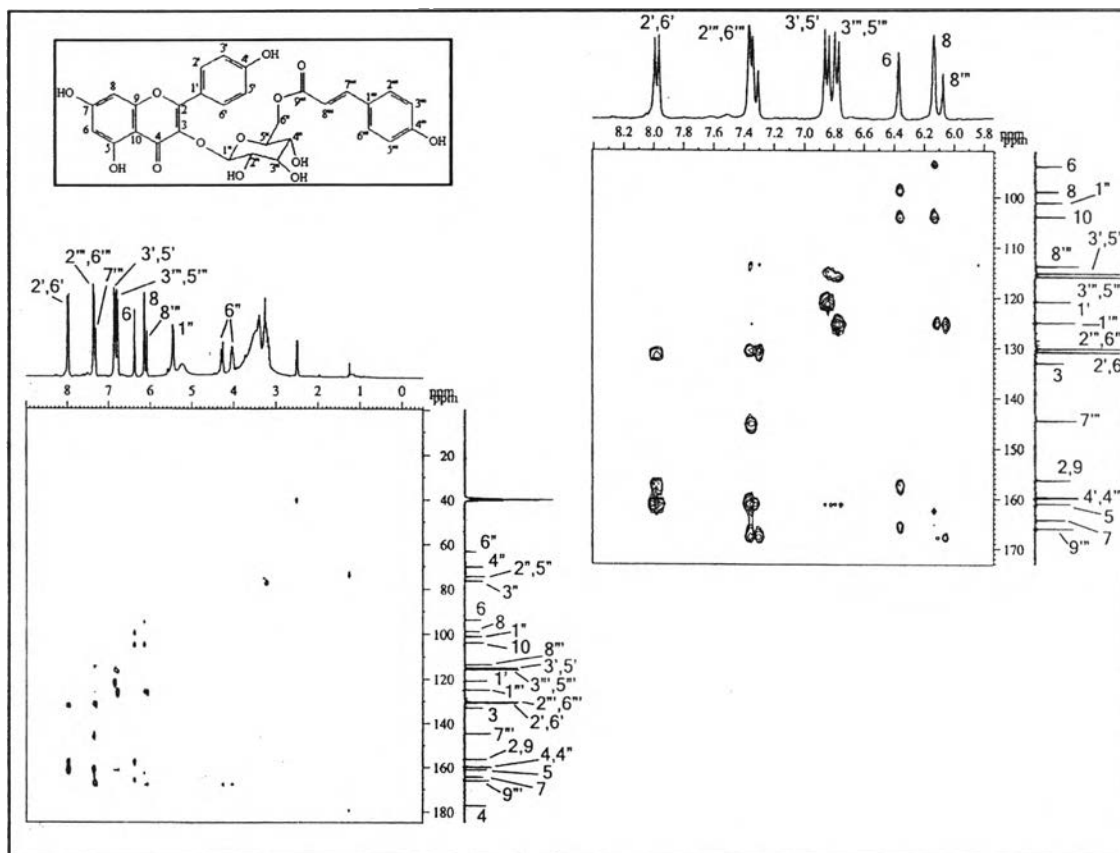


Figure 58. HMBC Spectrum of compound EC-5

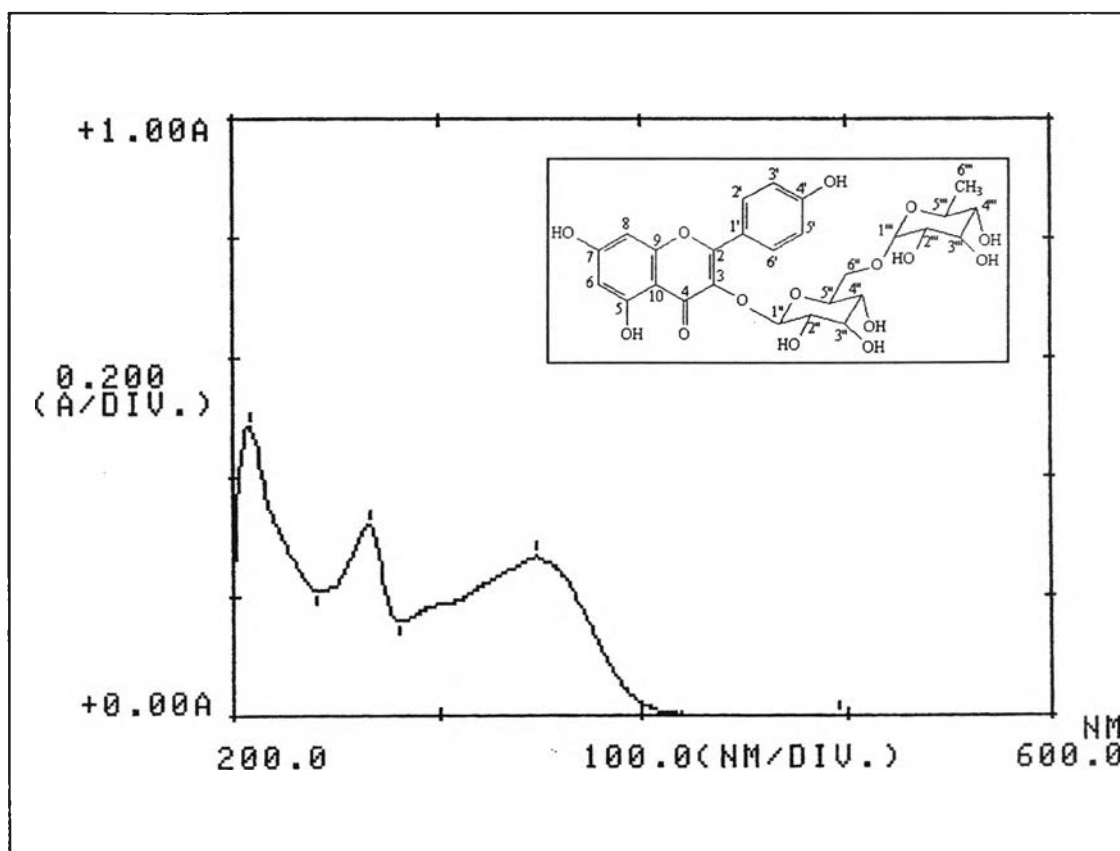


Figure 59. UV Spectrum of compound EC-6 (in MeOH)

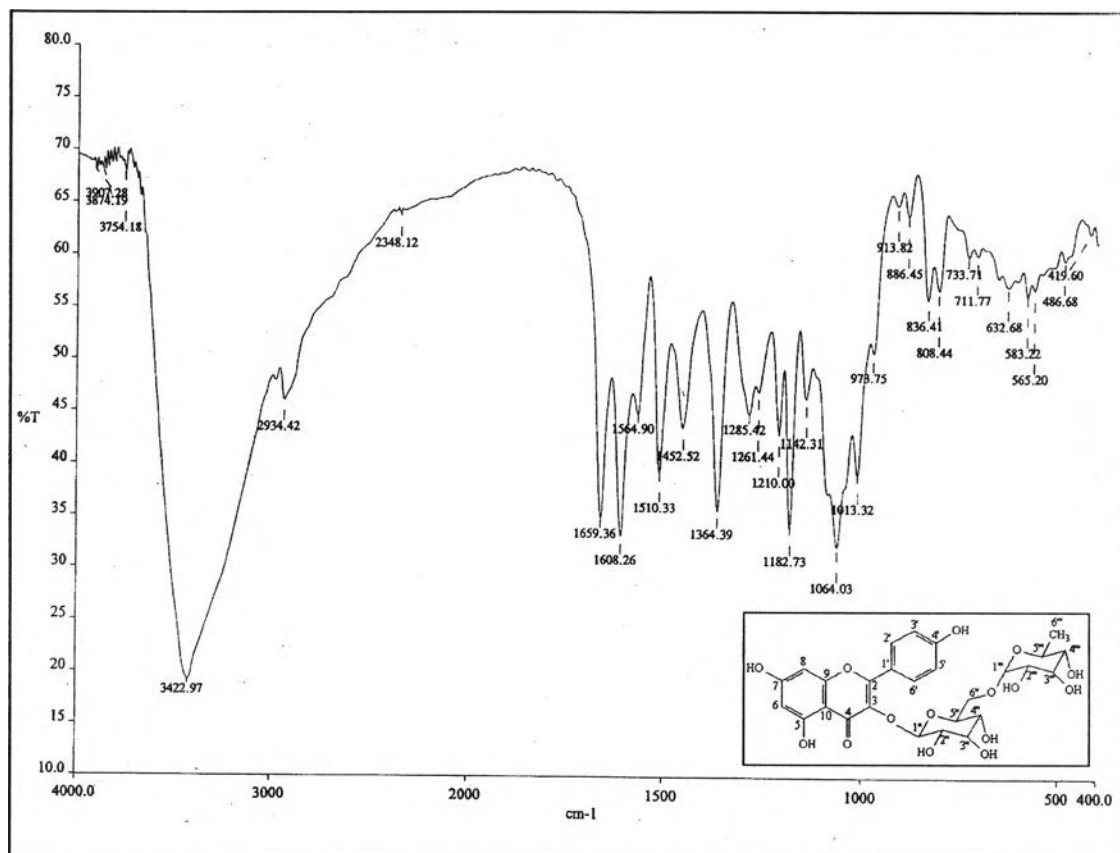


Figure 60. IR Spectrum of compound EC-6 (KBr disc)

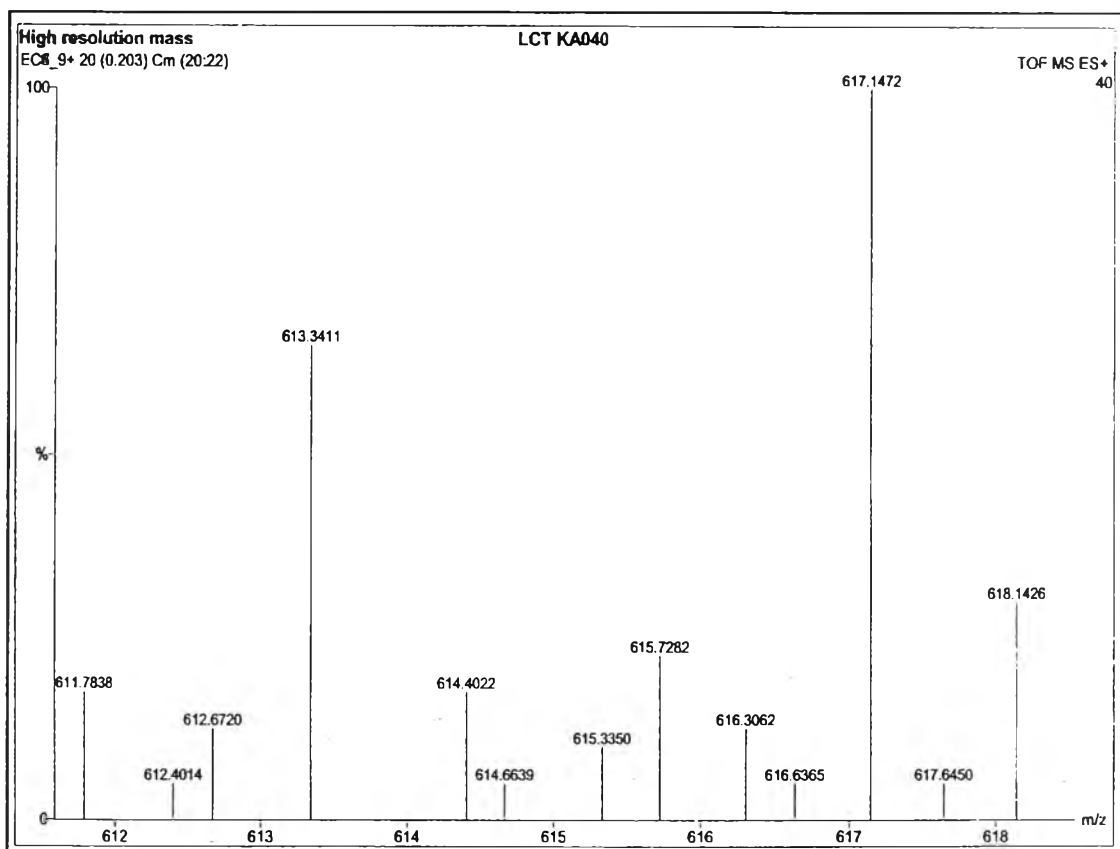


Figure 61. ESI Mass spectrum of compound EC-6

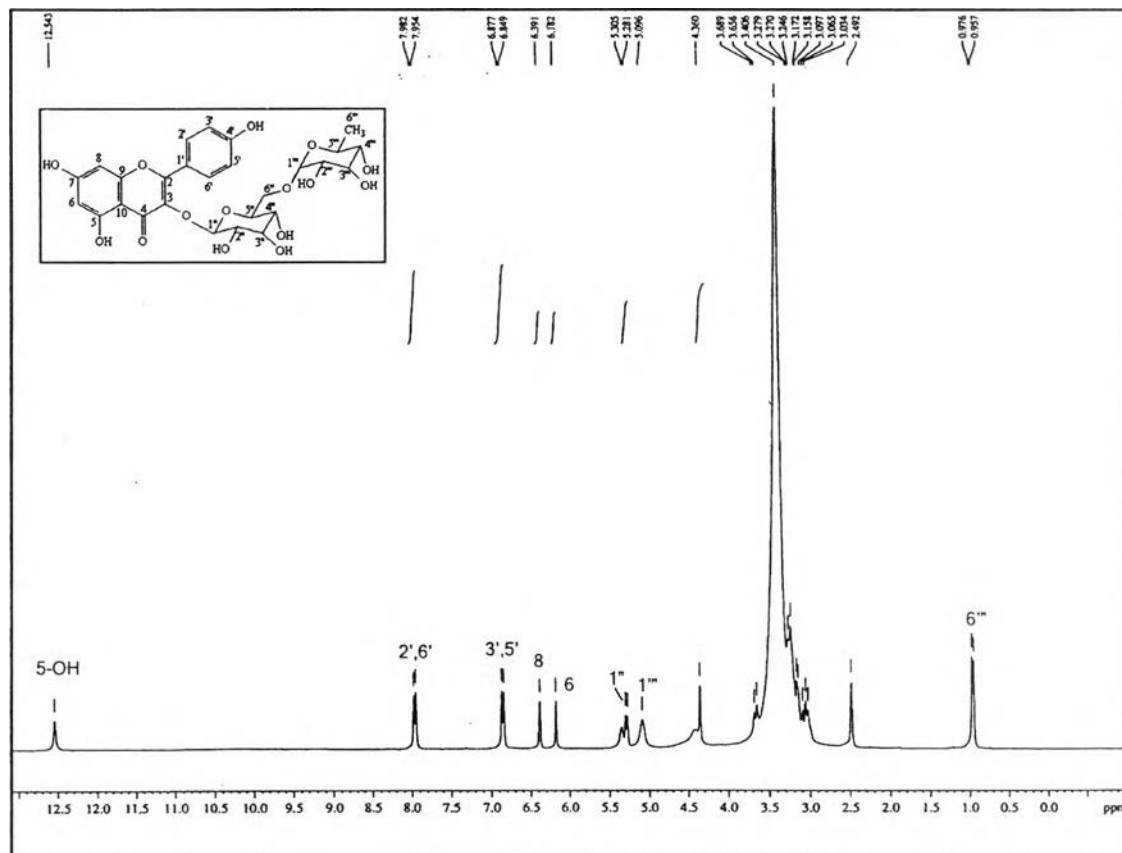


Figure 62. ^1H NMR (300 MHz) Spectrum of compound EC-6 (in $\text{DMSO}-d_6$)

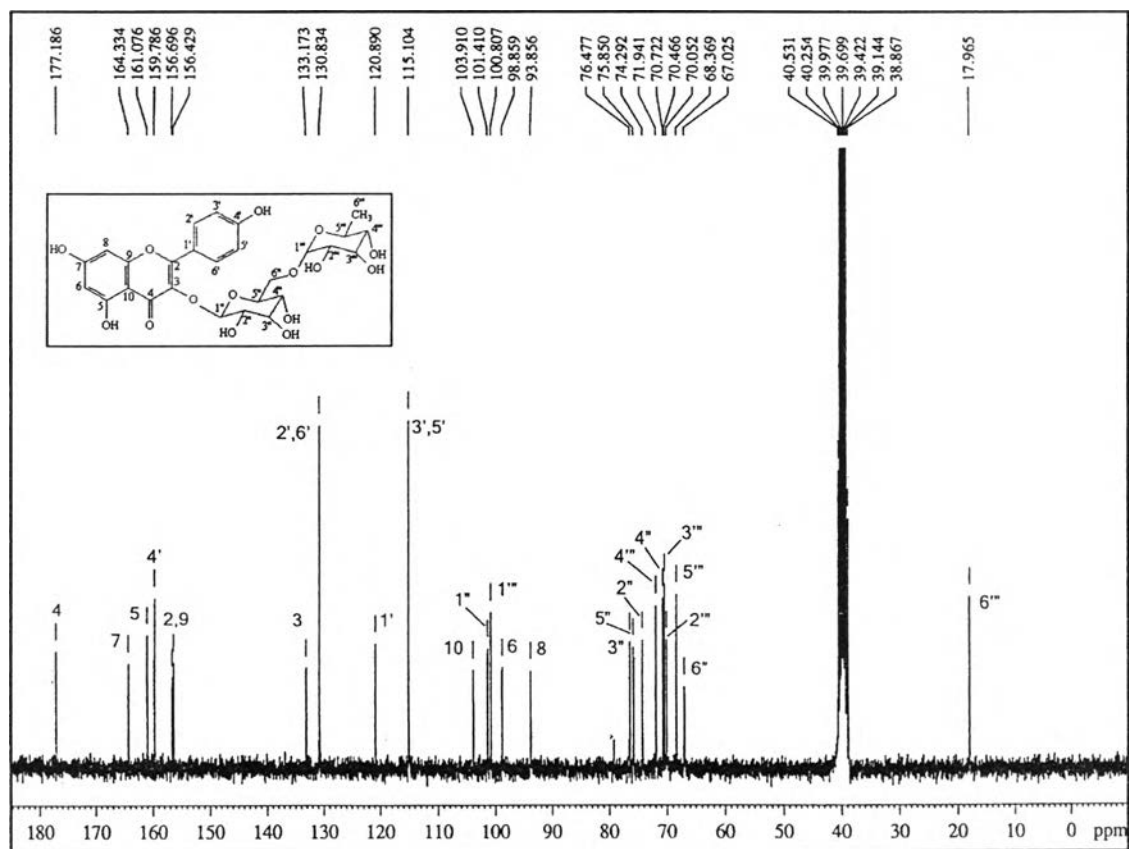


Figure 63. ^{13}C NMR (75 MHz) Spectrum of compound EC-6 (in $\text{DMSO}-d_6$)

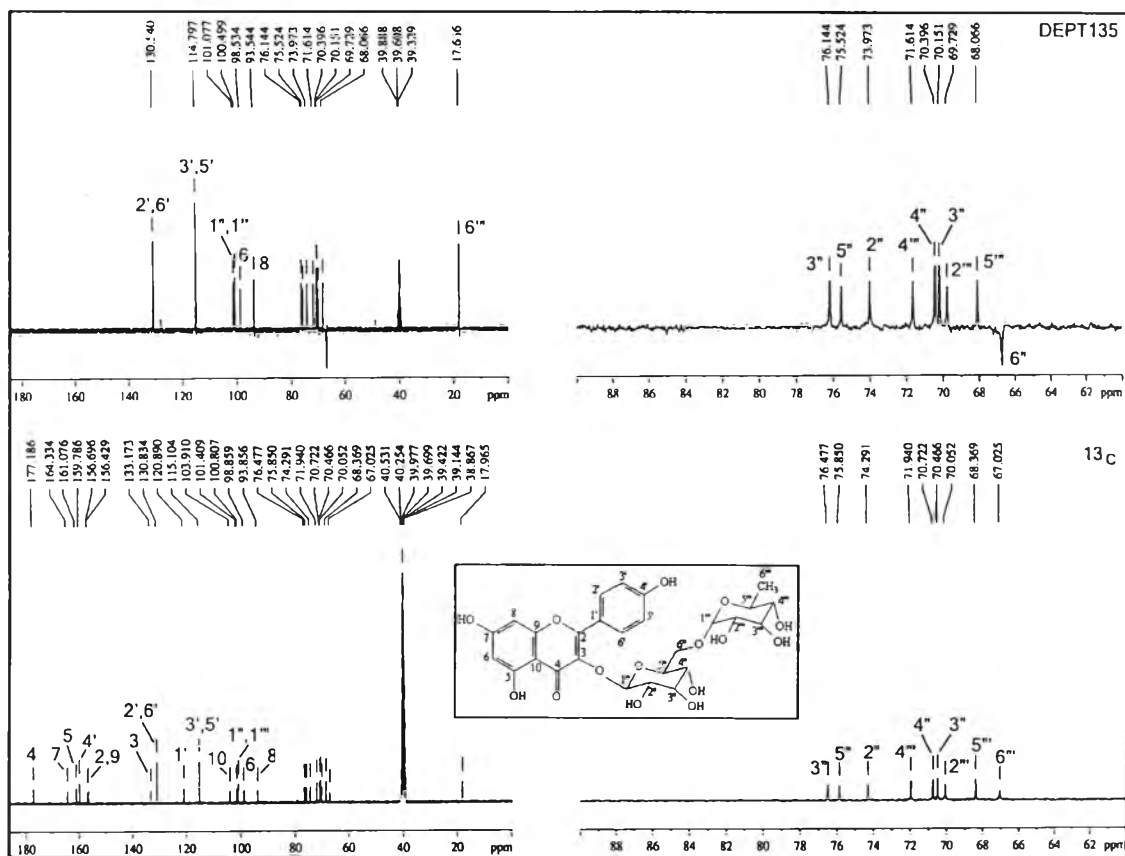


Figure 64. DEPT 135 Spectrum of compound EC-6

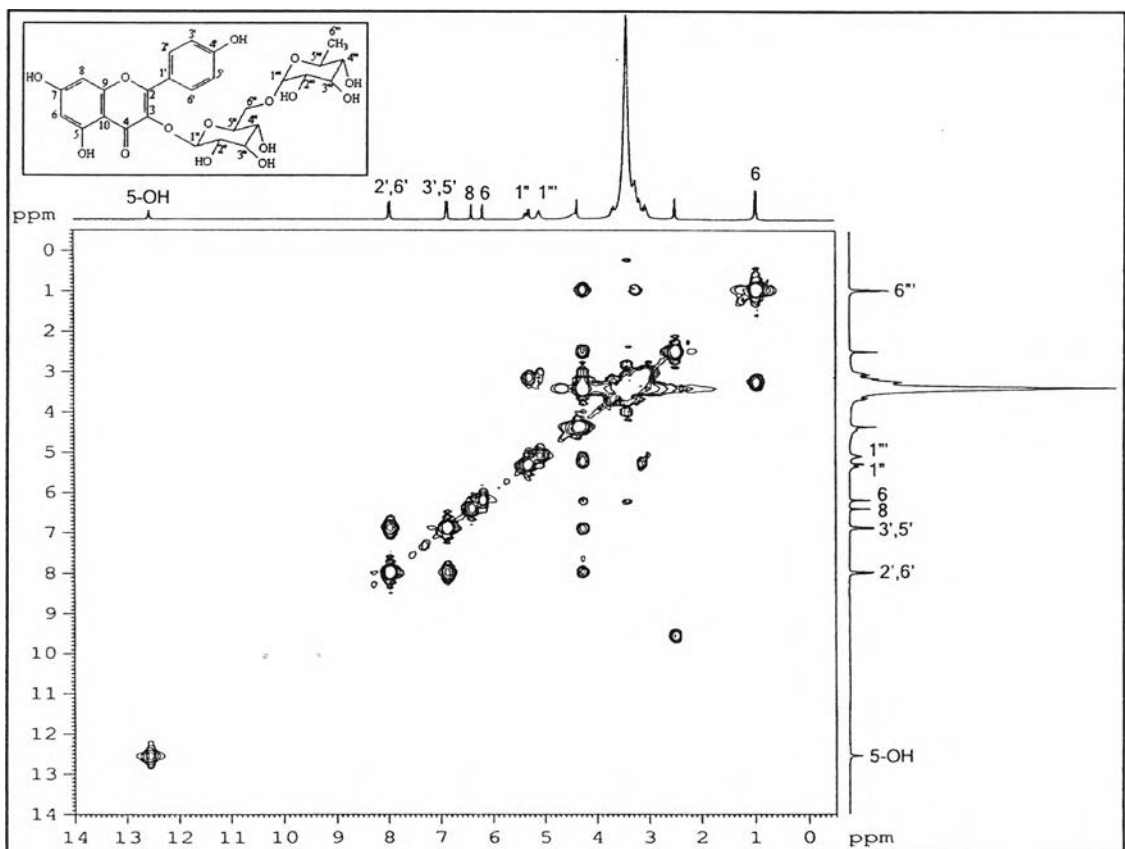


Figure 65. ^1H - ^1H COSY Spectrum of compound EC-6

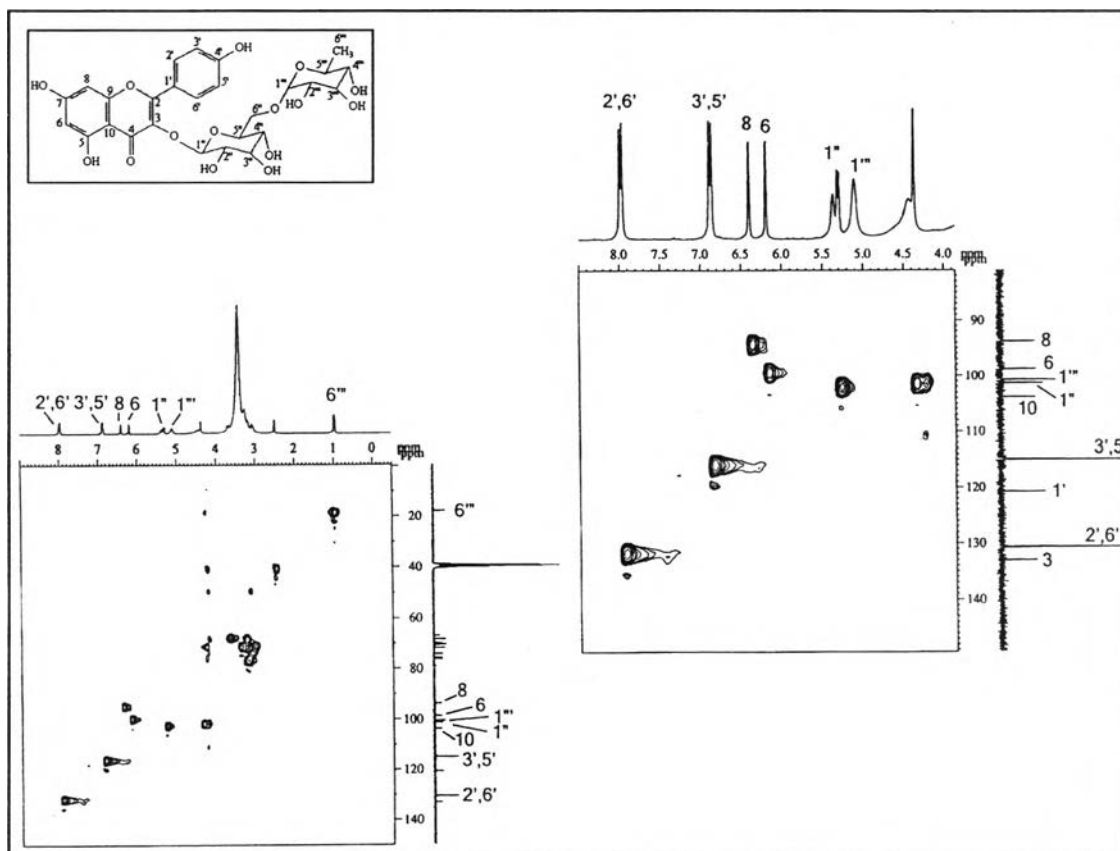


Figure 66. HMQC Spectrum of compound EC-6

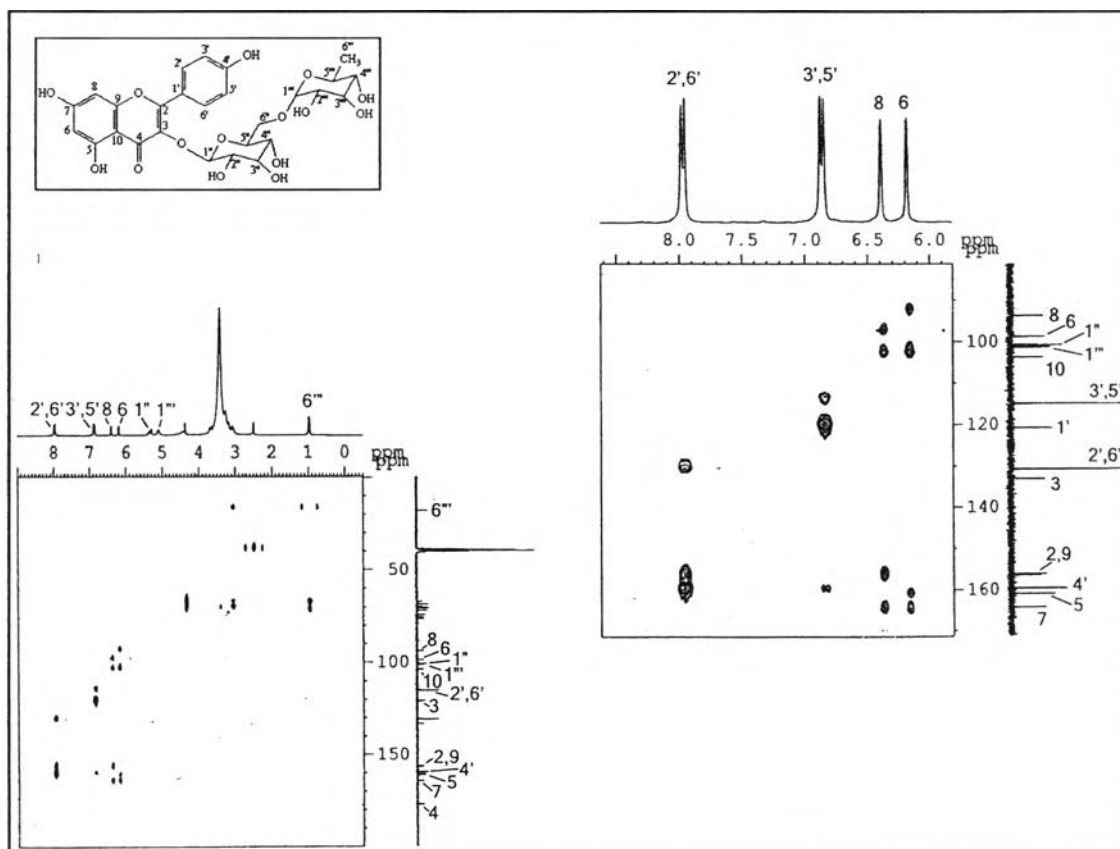


Figure 67. HMBC Spectrum of compound EC-6

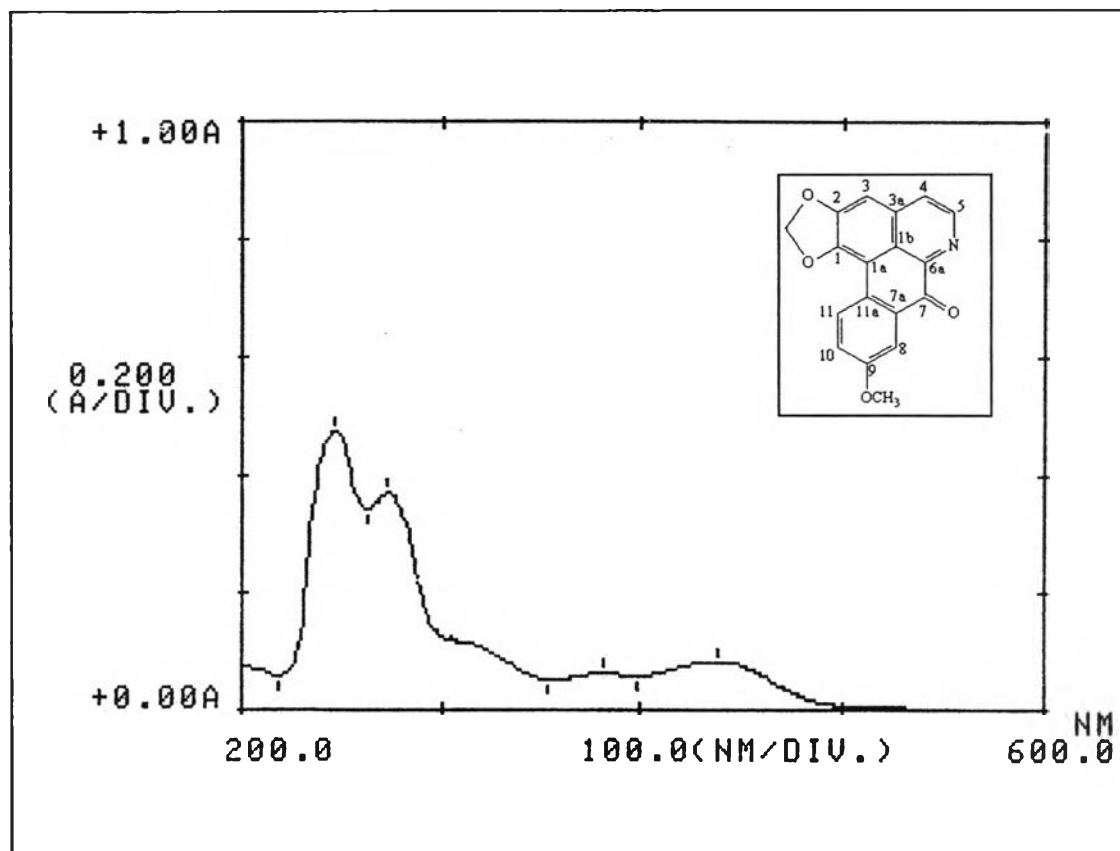


Figure 68. UV Spectrum of compound EC-7 (in MeOH)

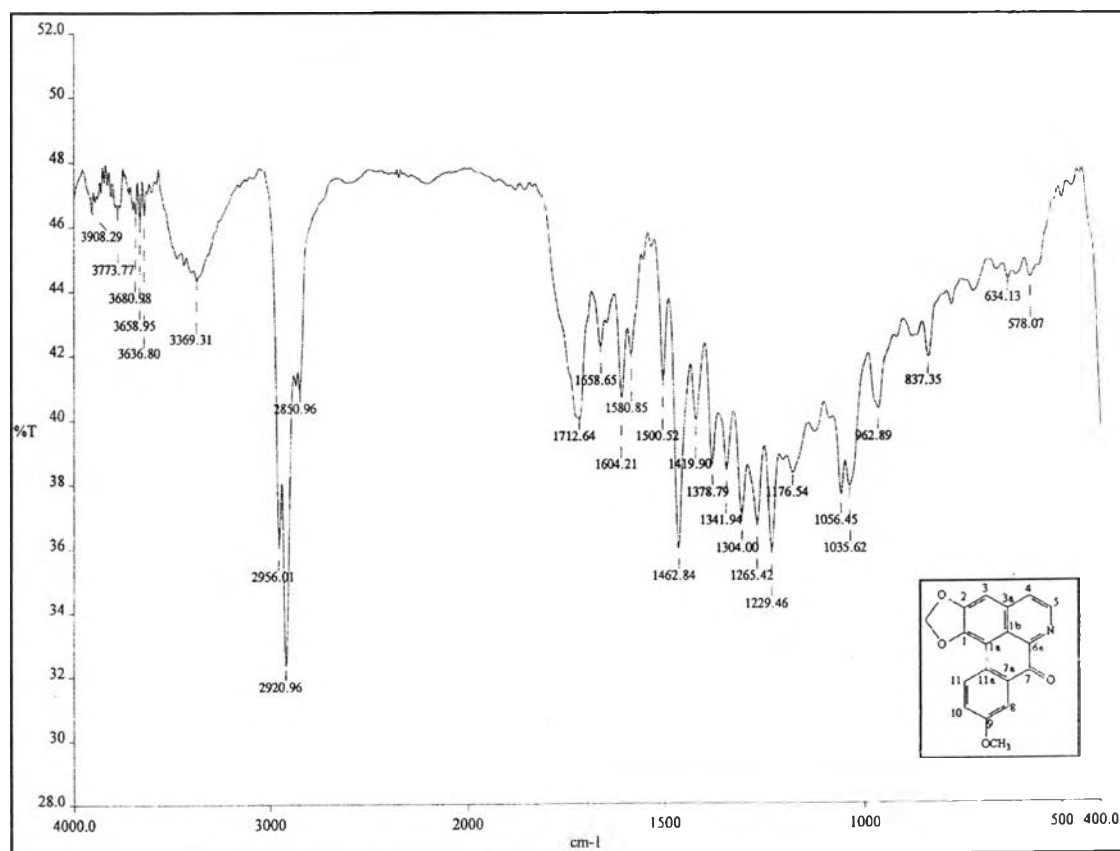


Figure 69. IR Spectrum of compound EC-7 (KBr disc)

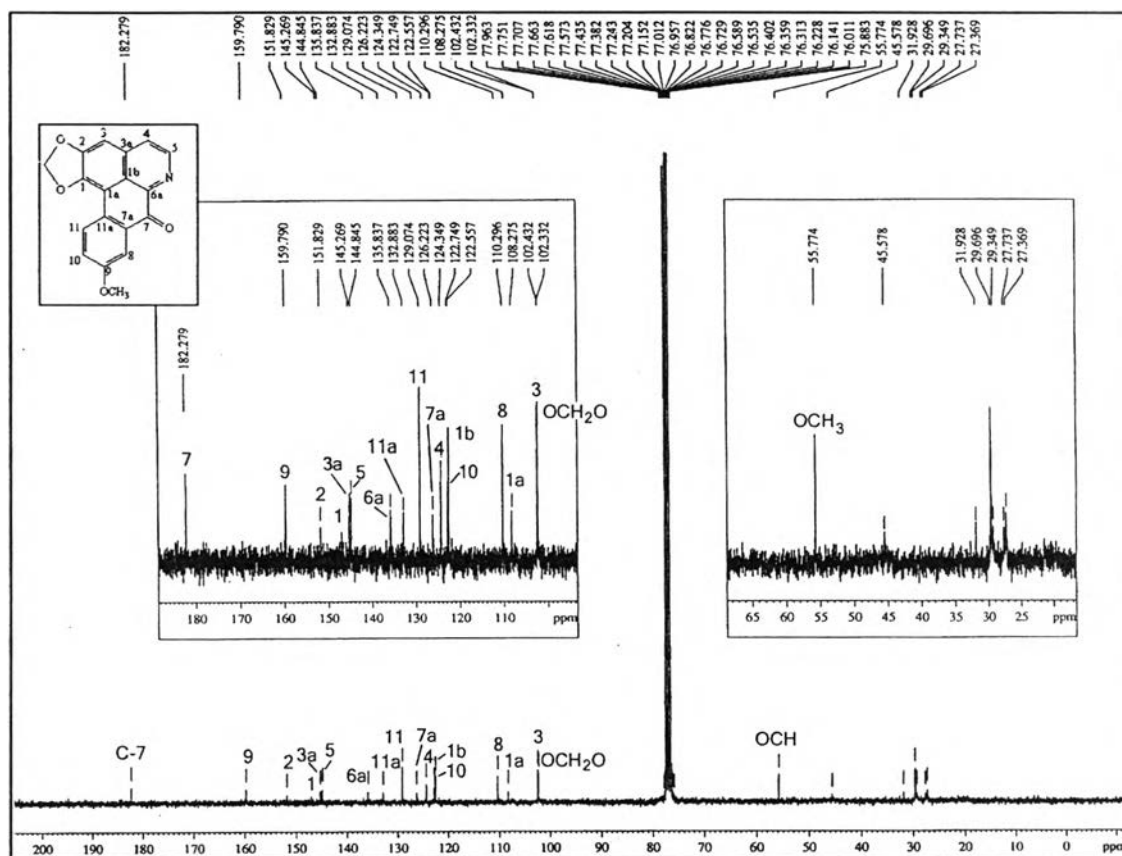


Figure 72. ^{13}C NMR (75 MHz) Spectrum of compound EC-7 (in CDCl_3)

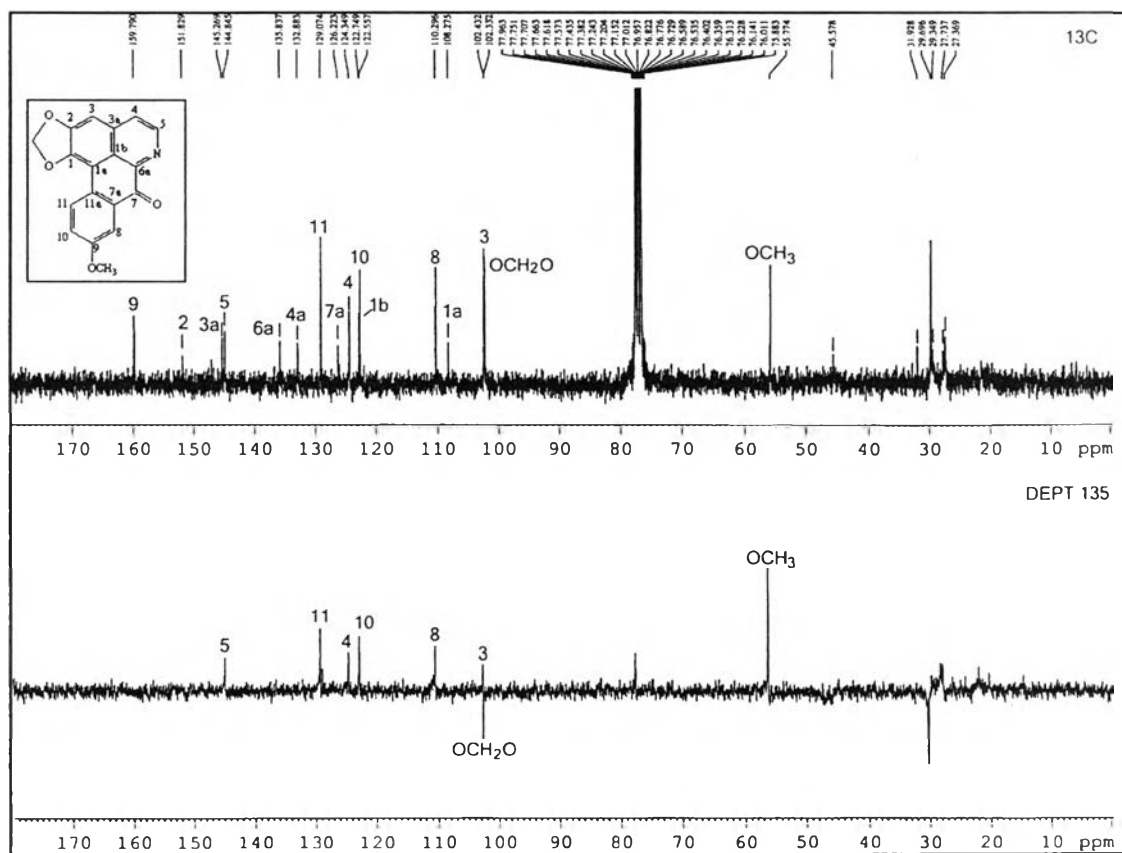


Figure 73. DEPT 135 Spectrum of compound EC-7

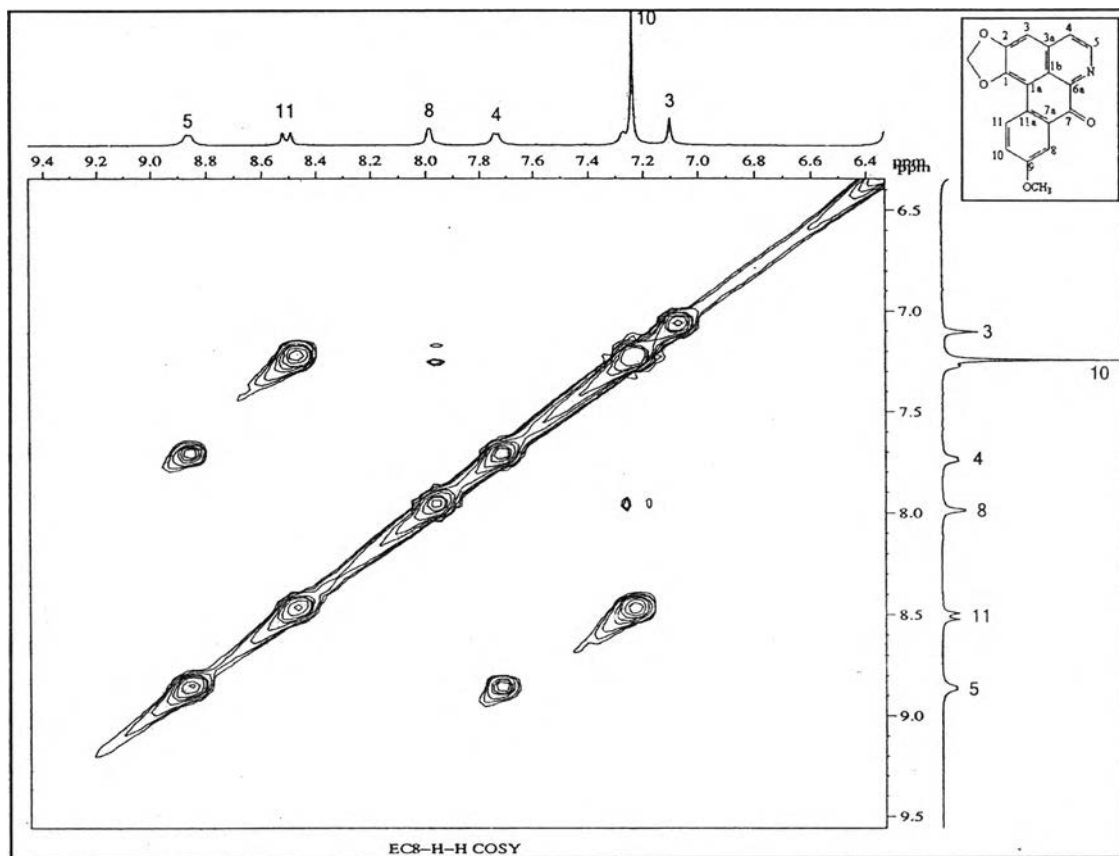


Figure 74. ^1H - ^1H COSY Spectrum of compound EC-7

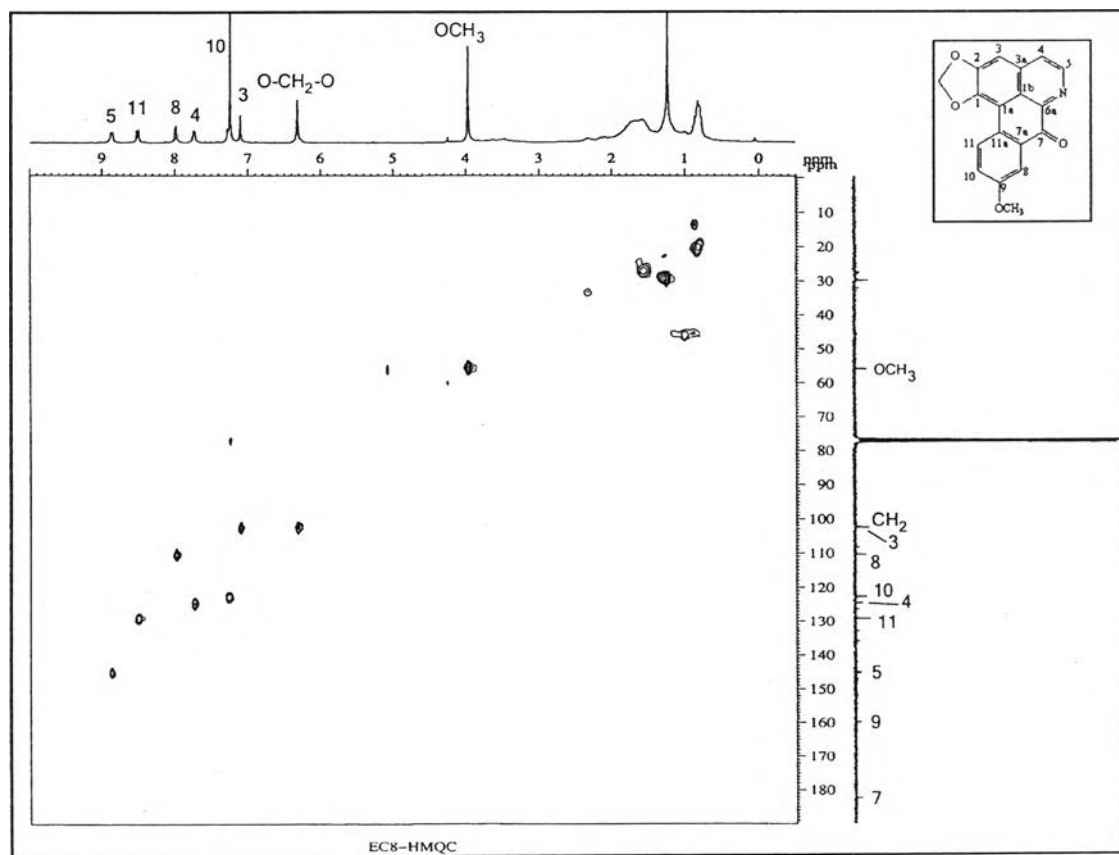


Figure 75. HMQC Spectrum of compound EC-7

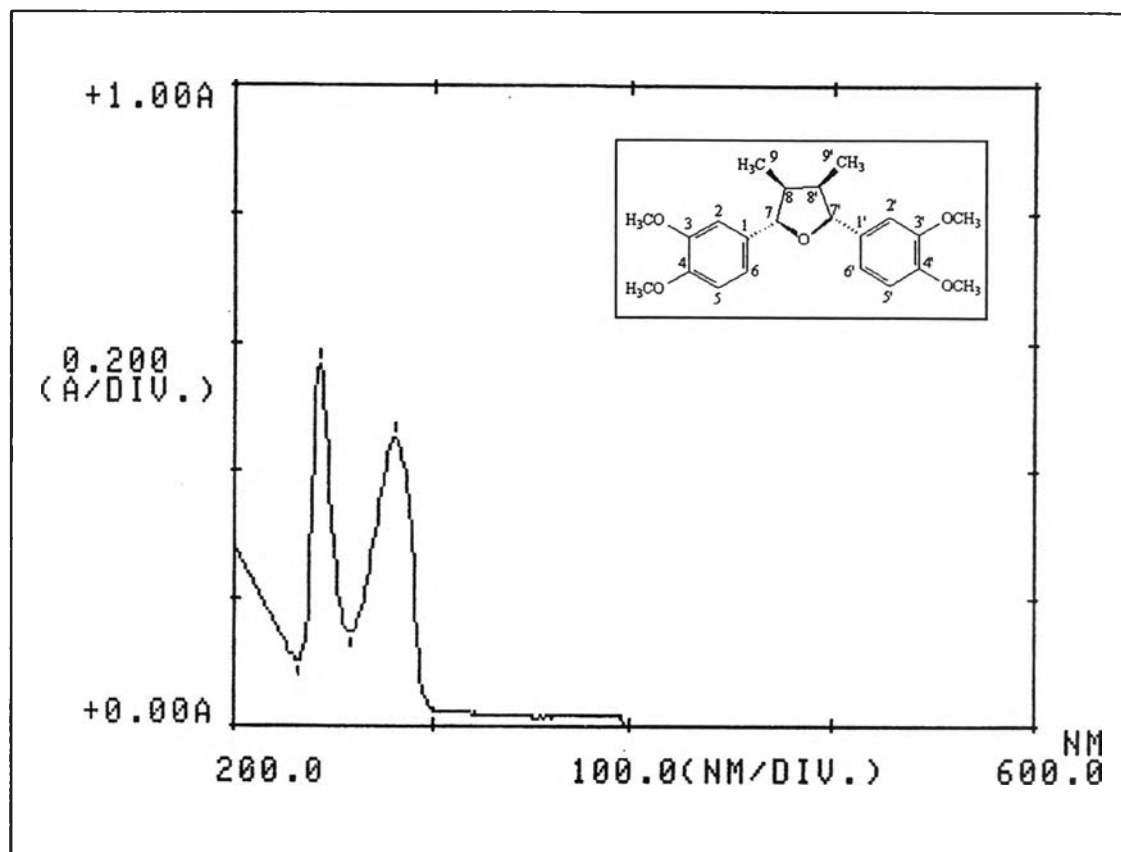


Figure 76. UV Spectrum of compound SC-1 (in CDCl_3)

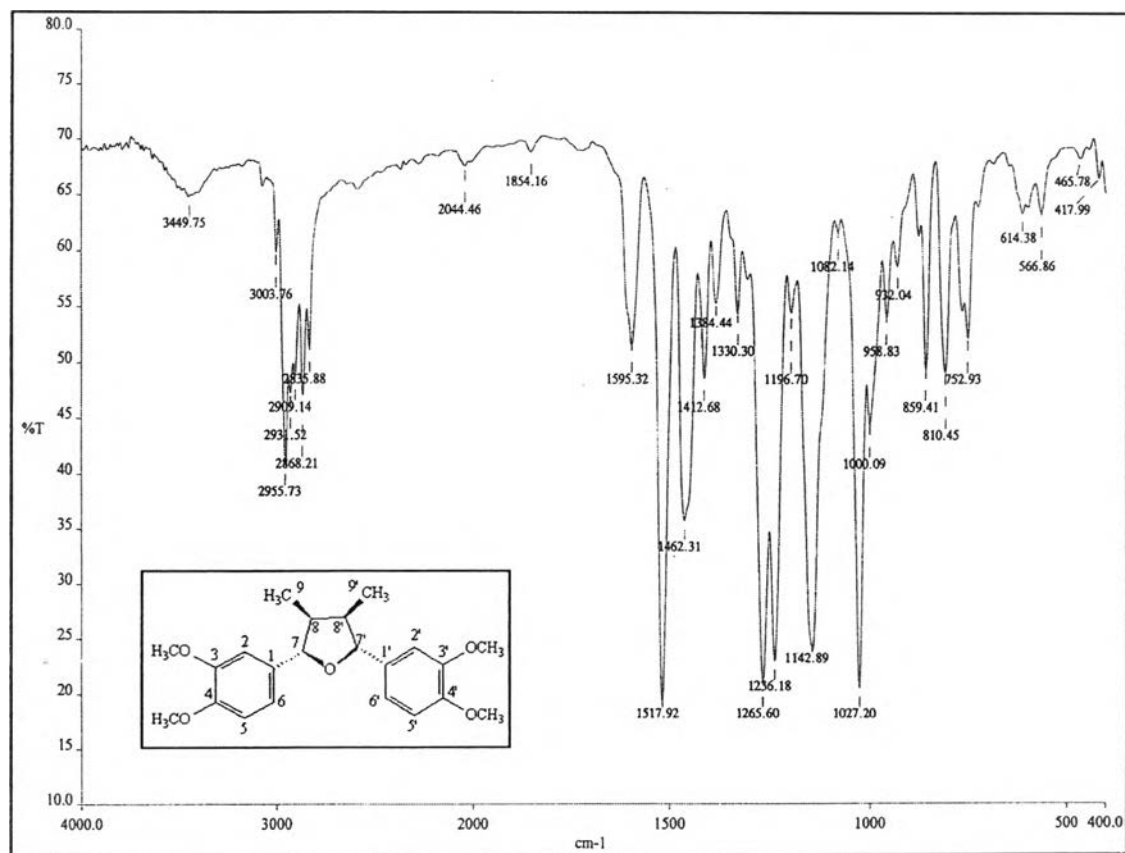


Figure 77. IR Spectrum of compound SC-1 (KBr disc)

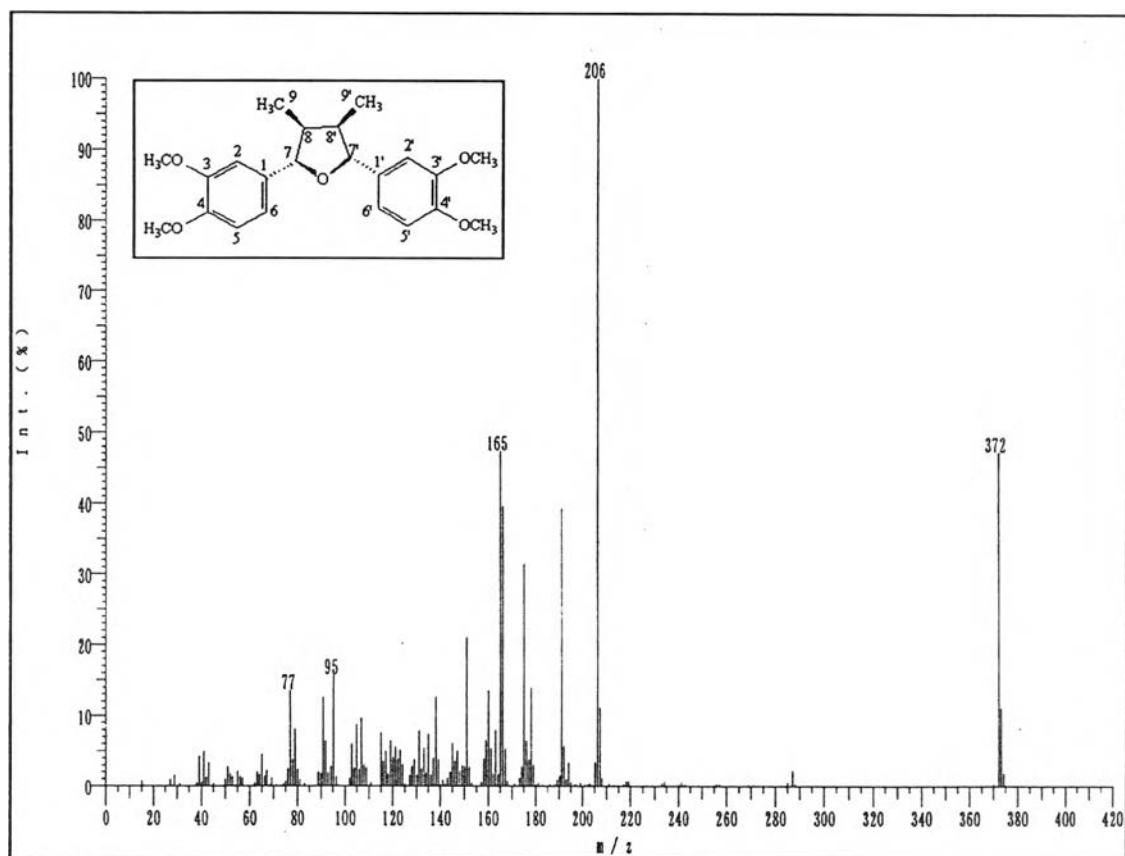


Figure 78. EI Mass spectrum of compound SC-1

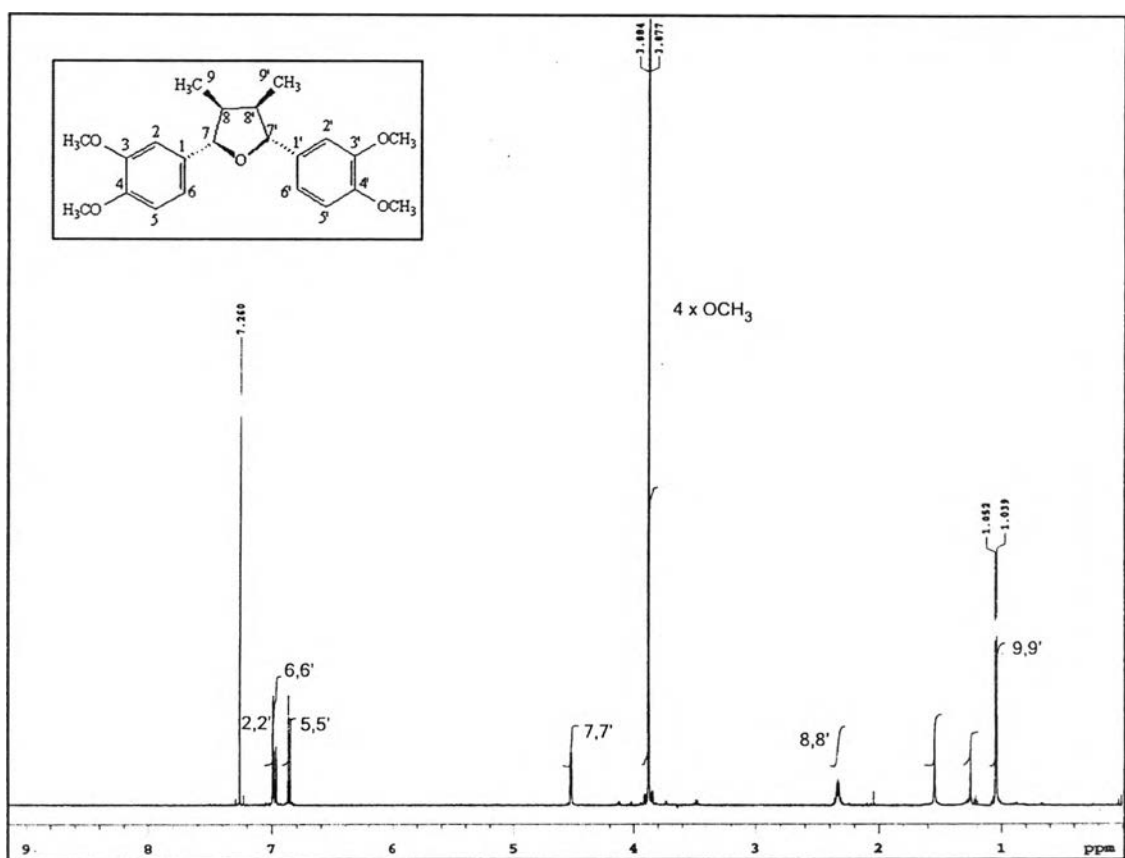


Figure 79. ^1H NMR (500 MHz) Spectrum of compound SC-1 (in CDCl_3)

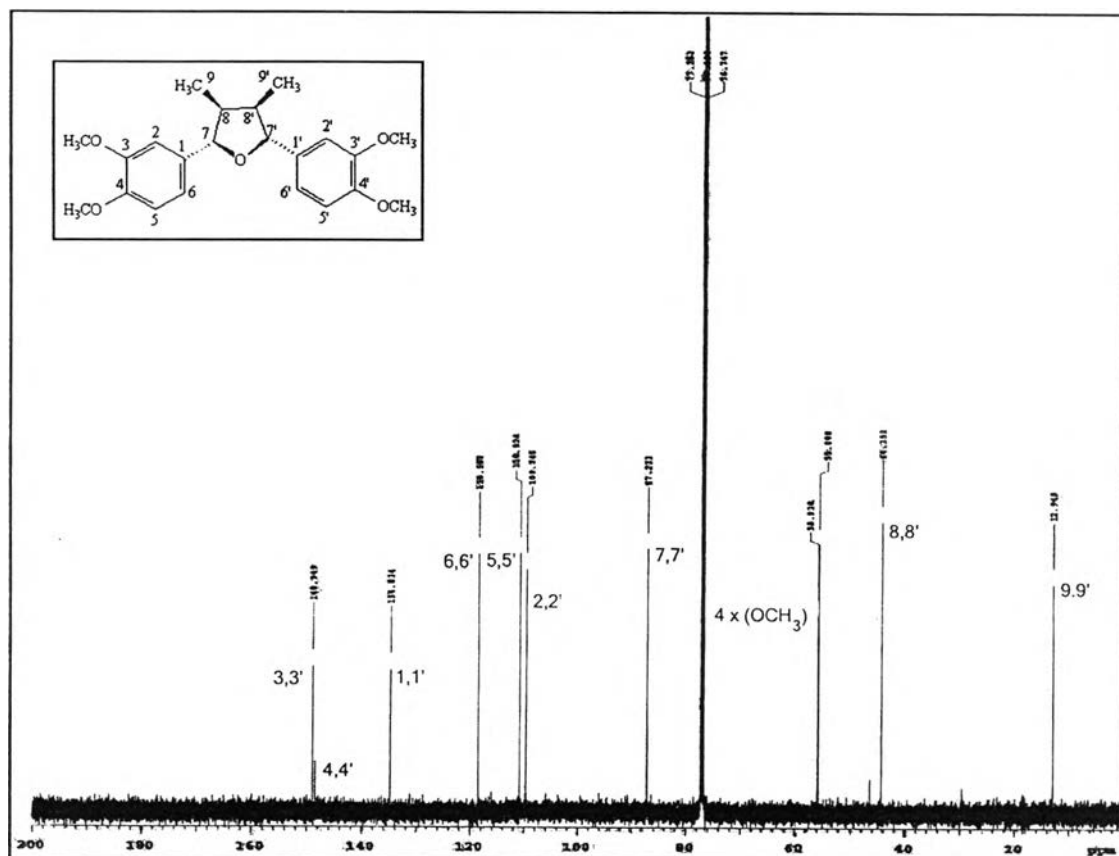


Figure 80. ^{13}C NMR (125 MHz) Spectrum of compound SC-1 (in CDCl_3)

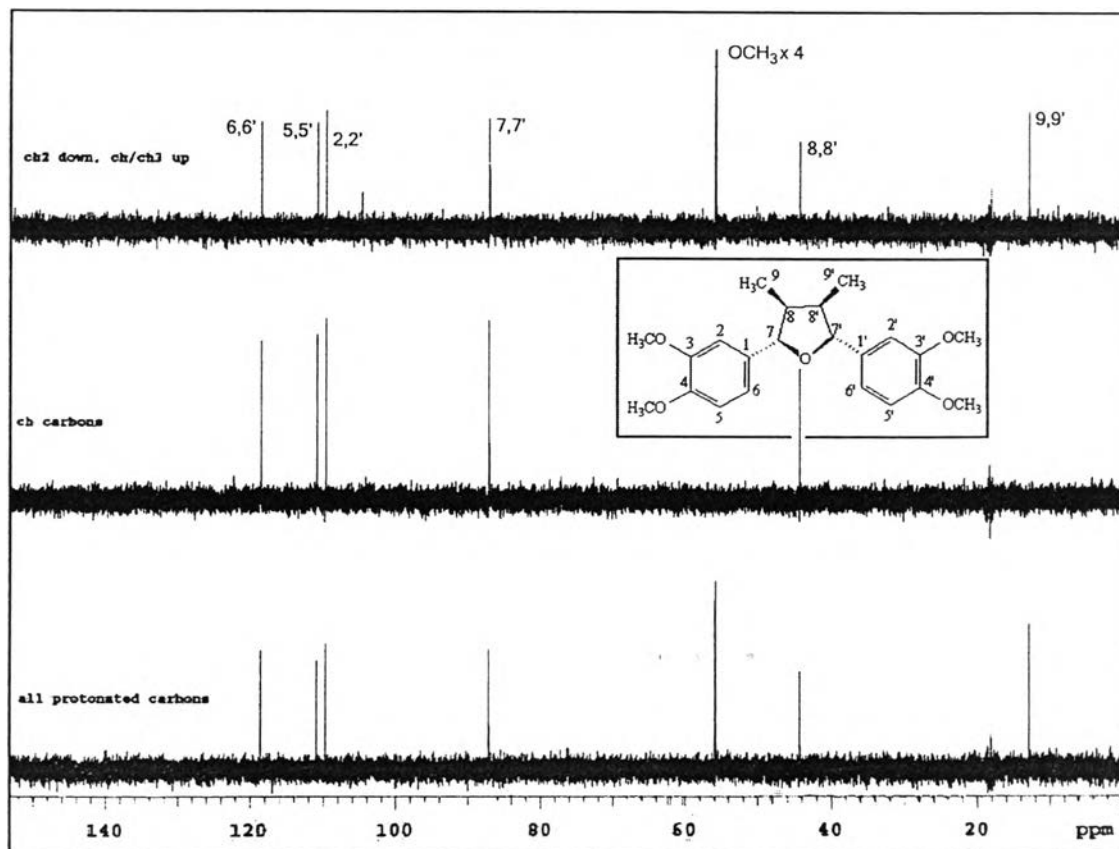


Figure 81. DEPT 135 Spectrum of compound SC-1

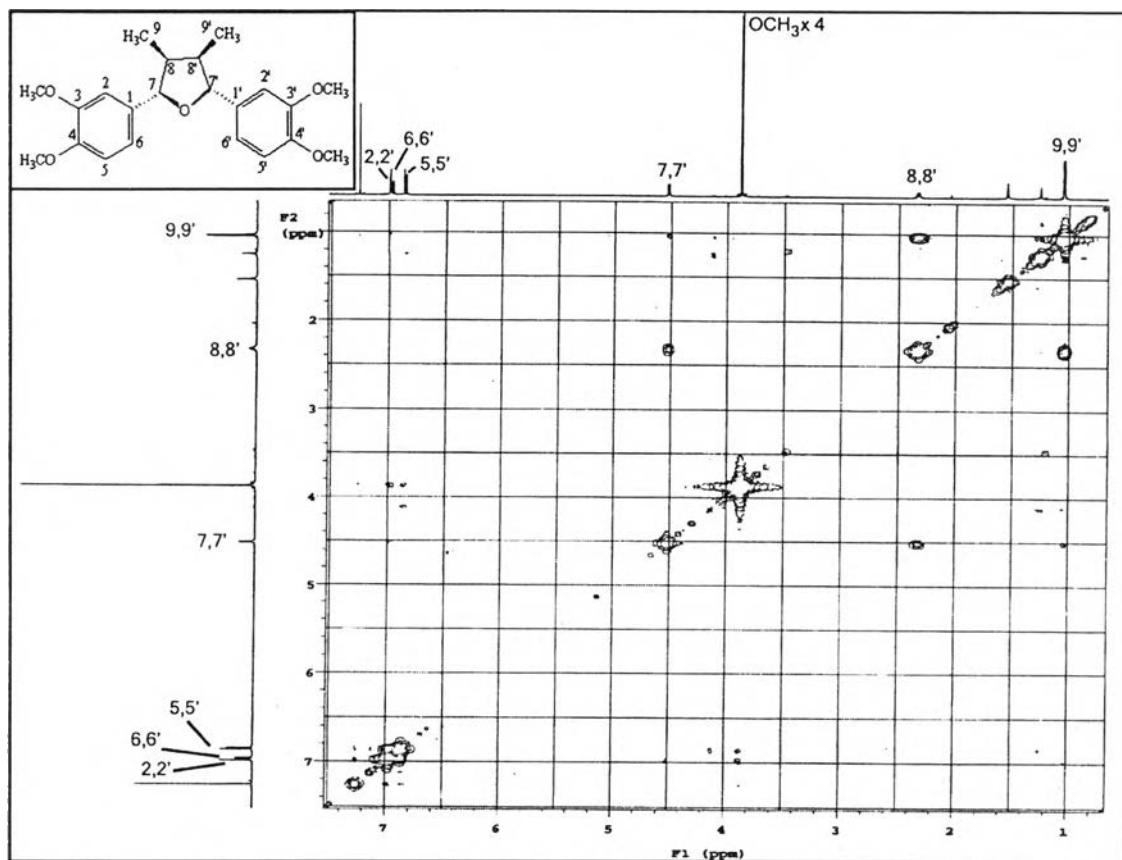


Figure 82. ^1H - ^1H COSY Spectrum of compound SC-1

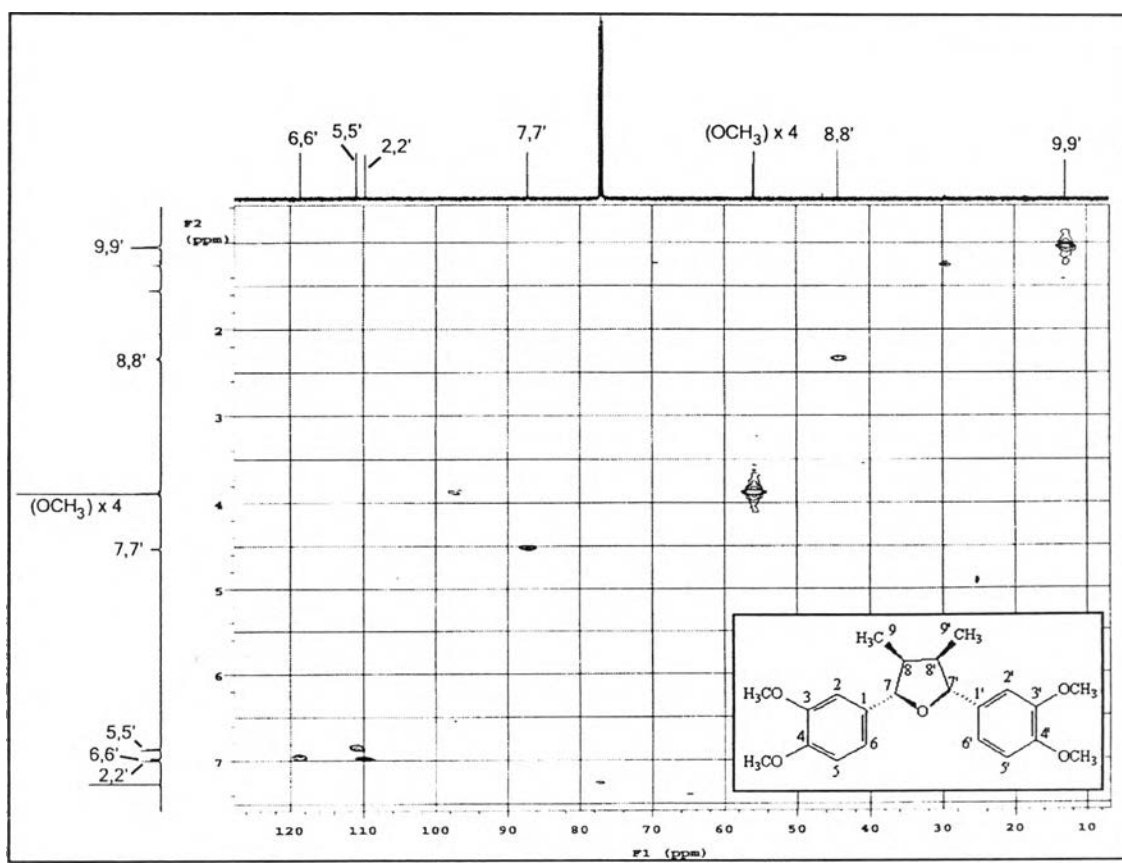
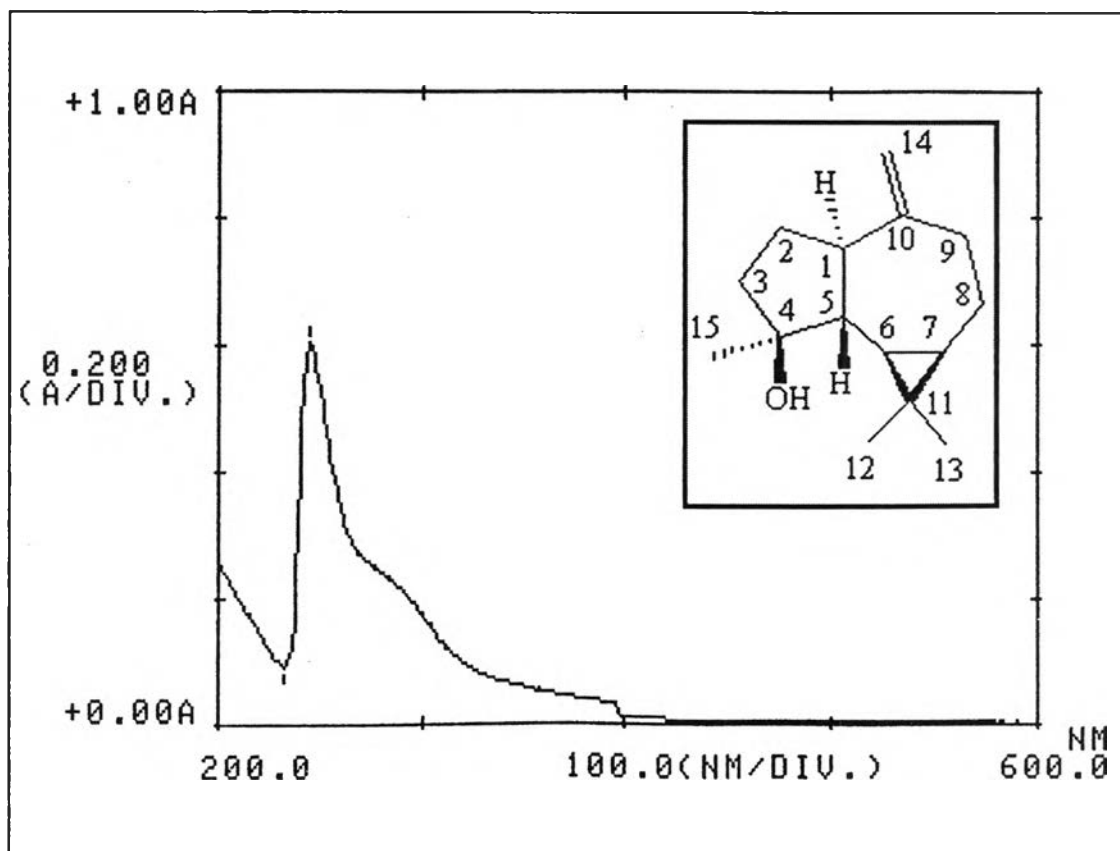
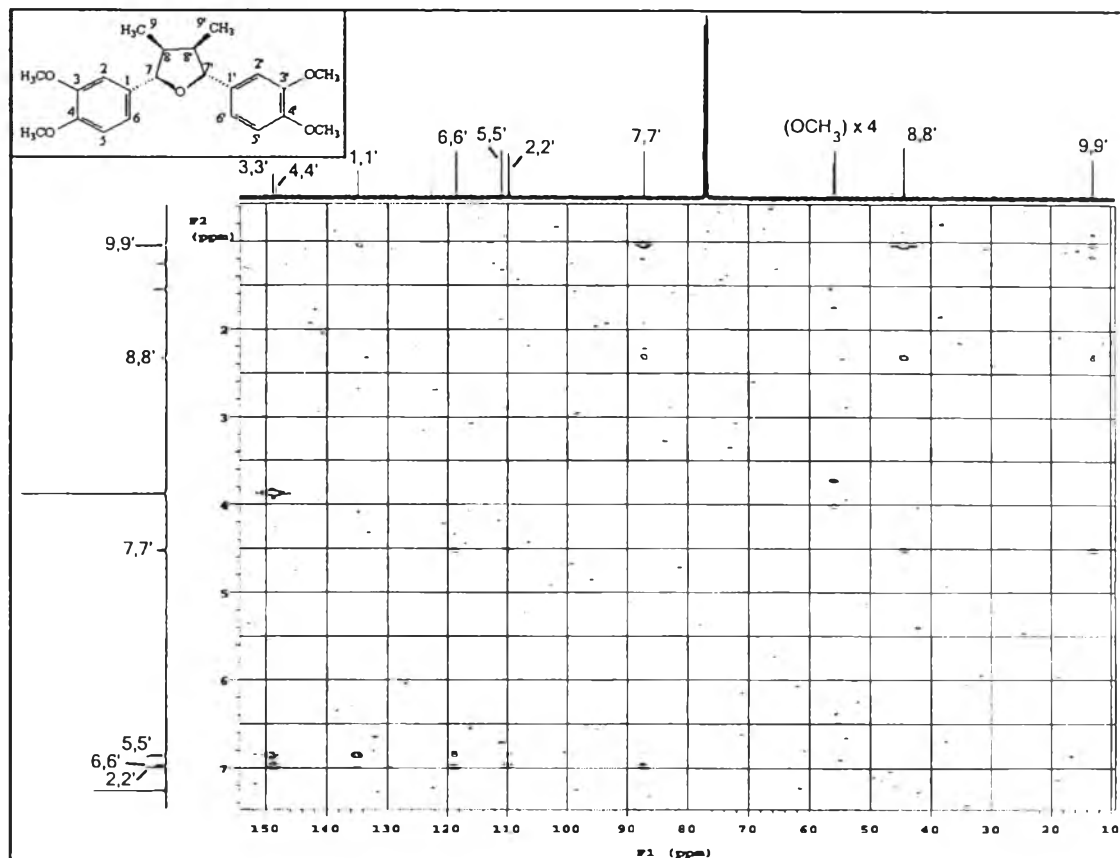


Figure 83. HMQC Spectrum of compound SC-1



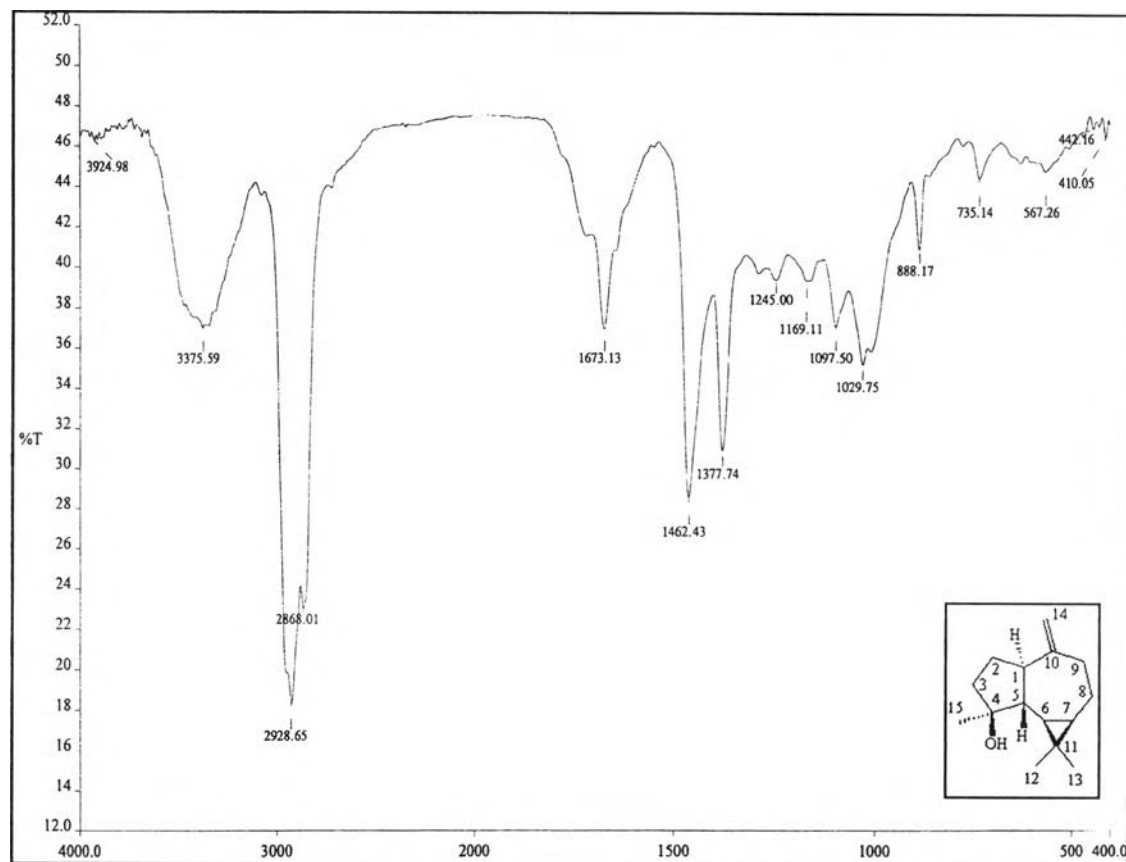


Figure 86. IR Spectrum of compound SC-2 (KBr disc)

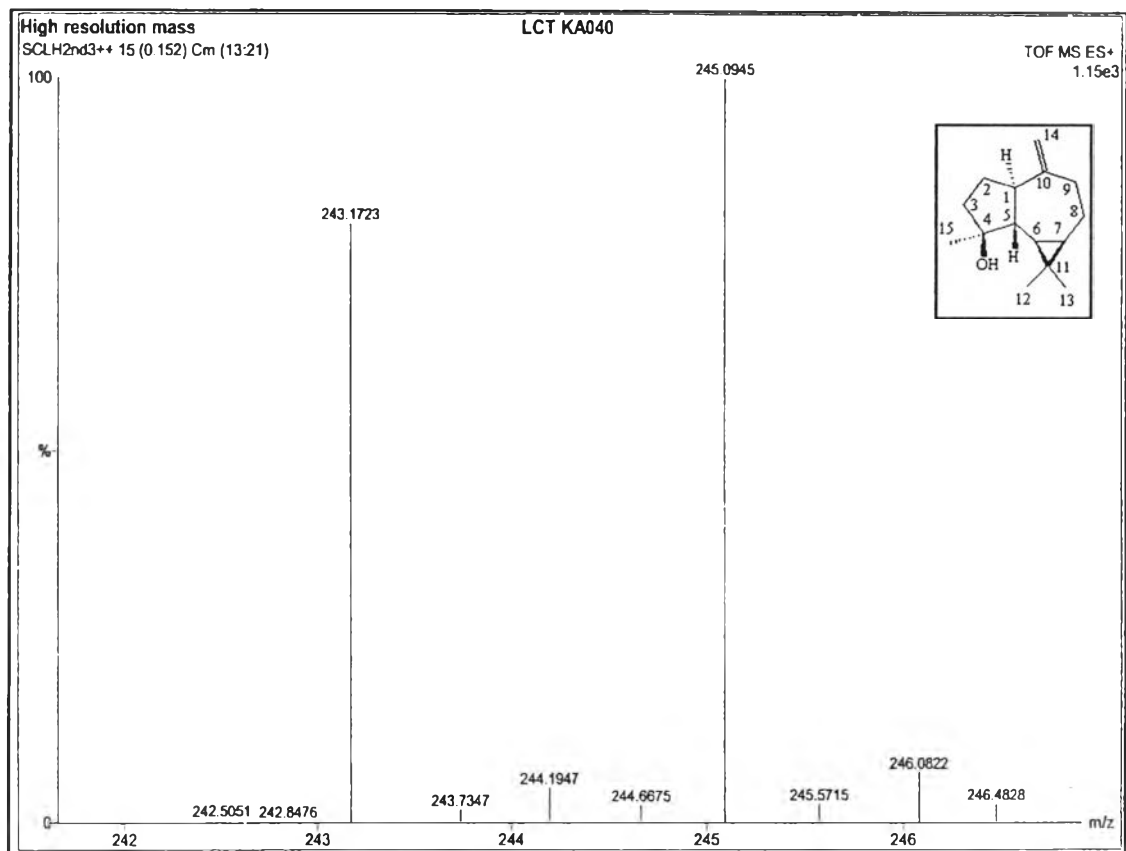


Figure 87. ESI Mass spectrum of compound SC-2

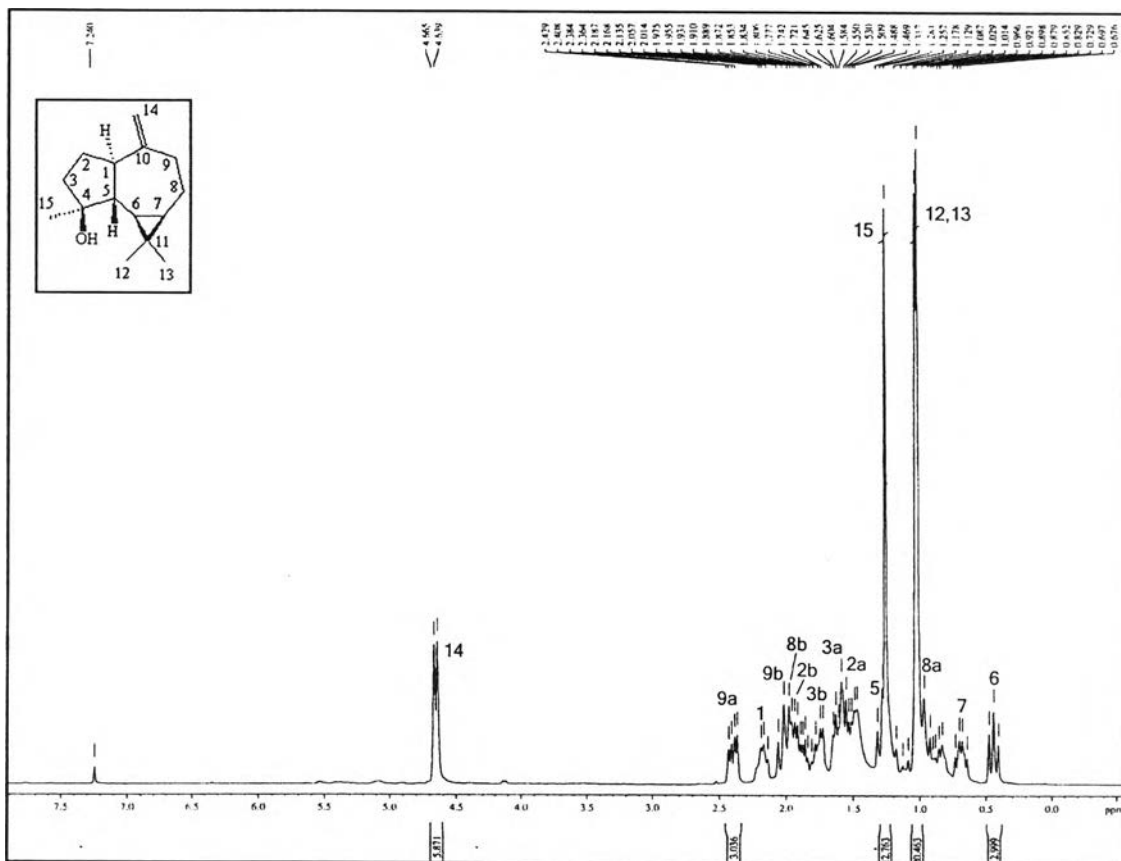


Figure 88. ^1H NMR (300 MHz) Spectrum of compound SC-2 (in CDCl_3)

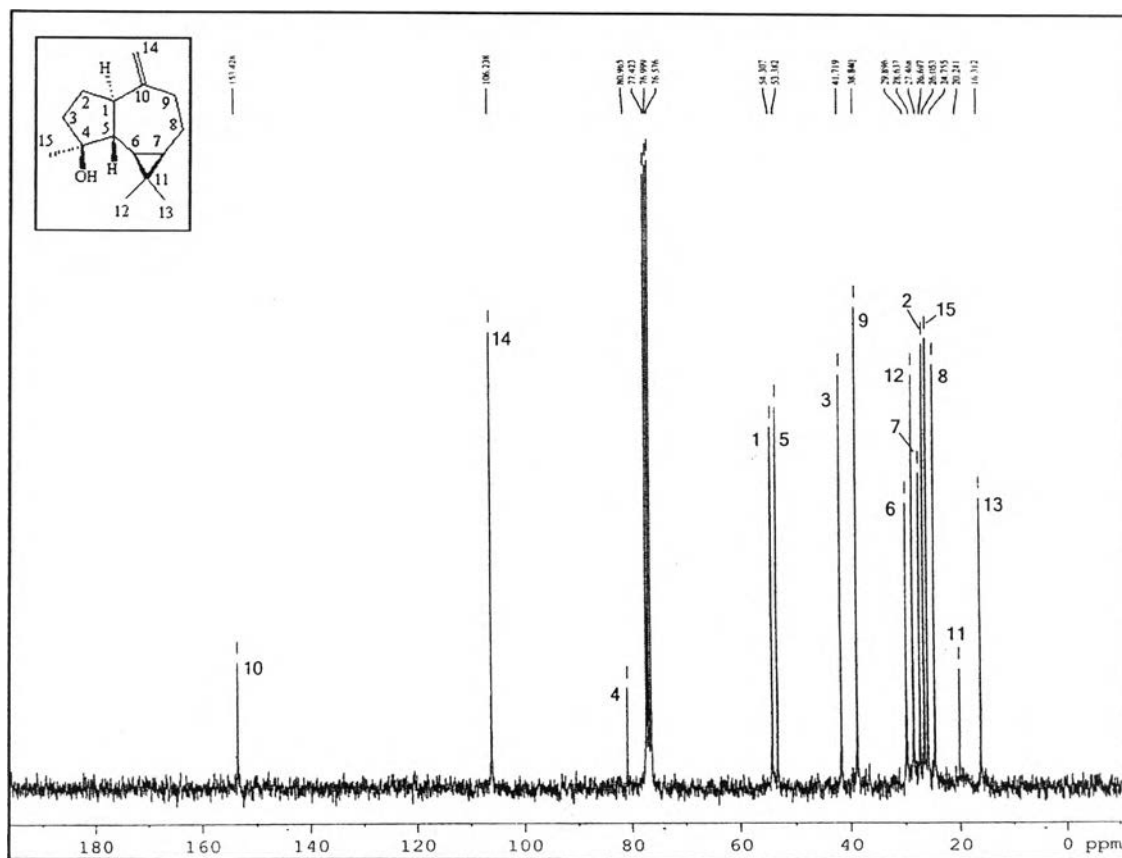


Figure 89. ^{13}C NMR (75 MHz) Spectrum of compound SC-2 (in CDCl_3)

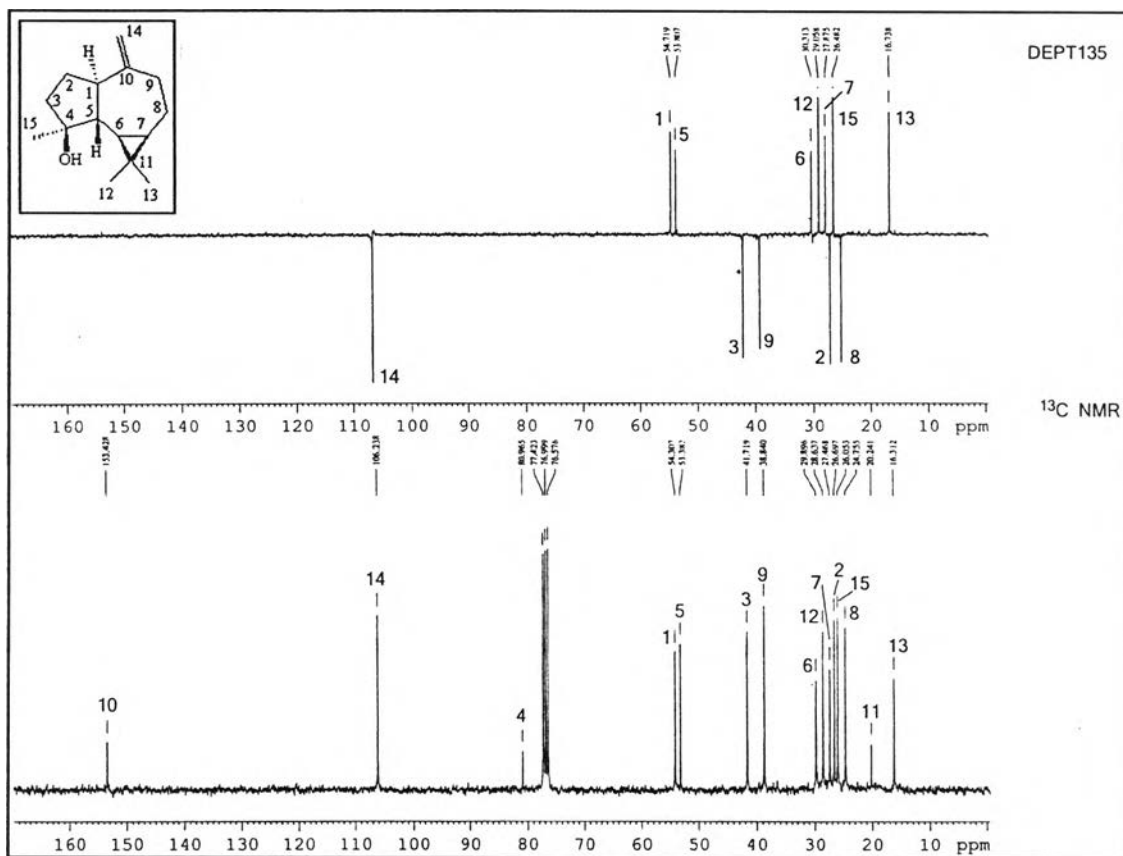


Figure 90. DEPT 135 Spectrum of compound SC-2

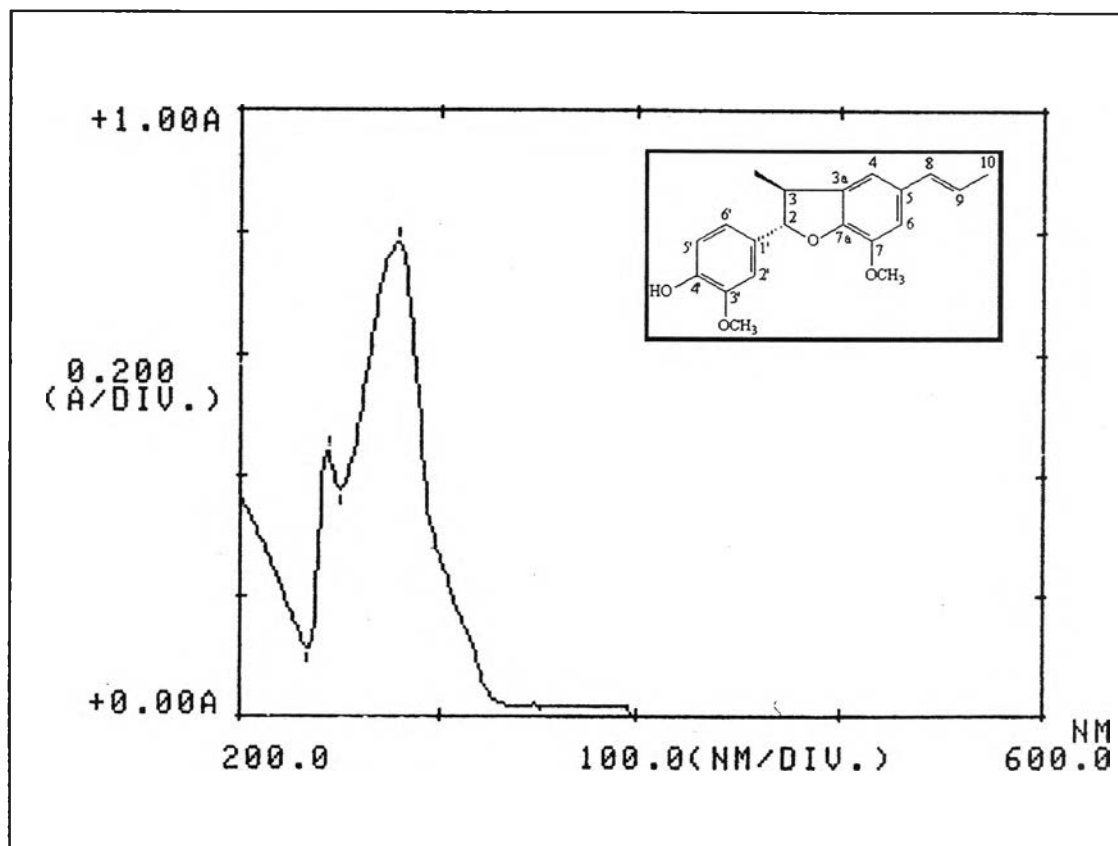


Figure 91. UV Spectrum of compound SC-3 (in CDCl_3)

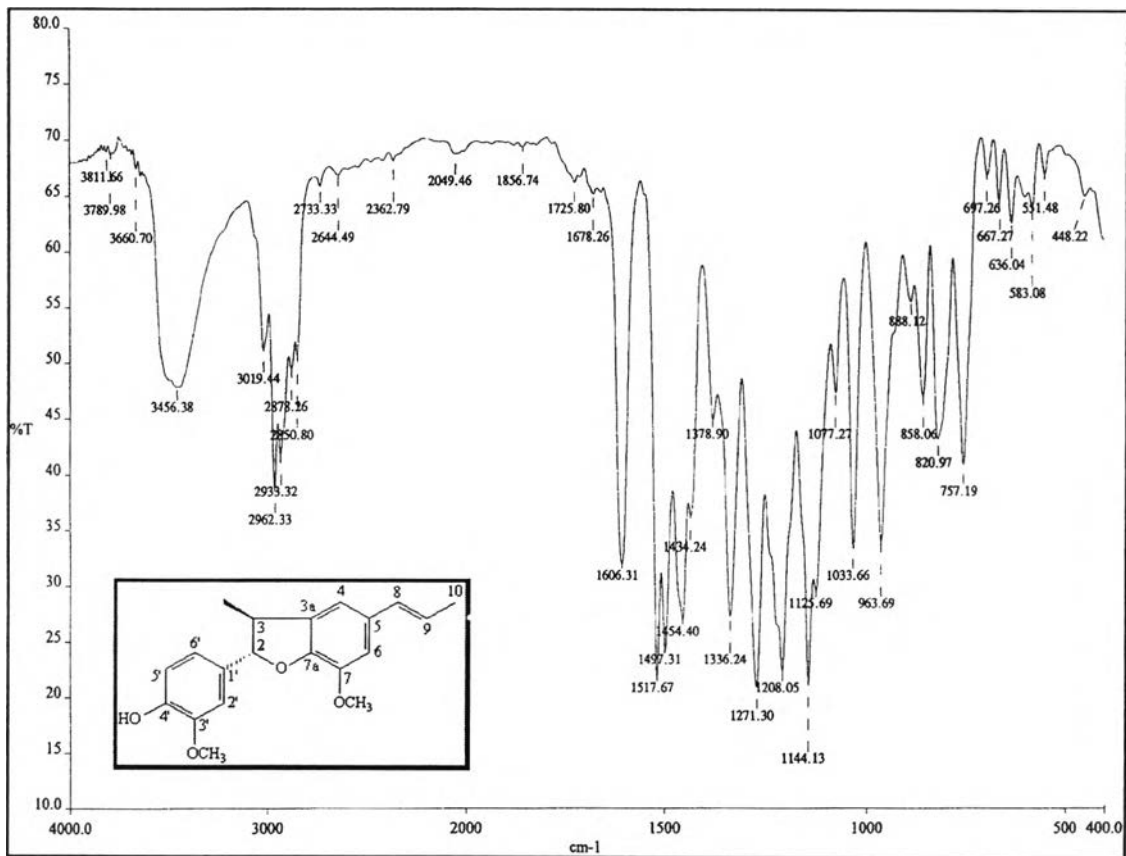


Figure 92. IR Spectrum of compound SC-3 (film)

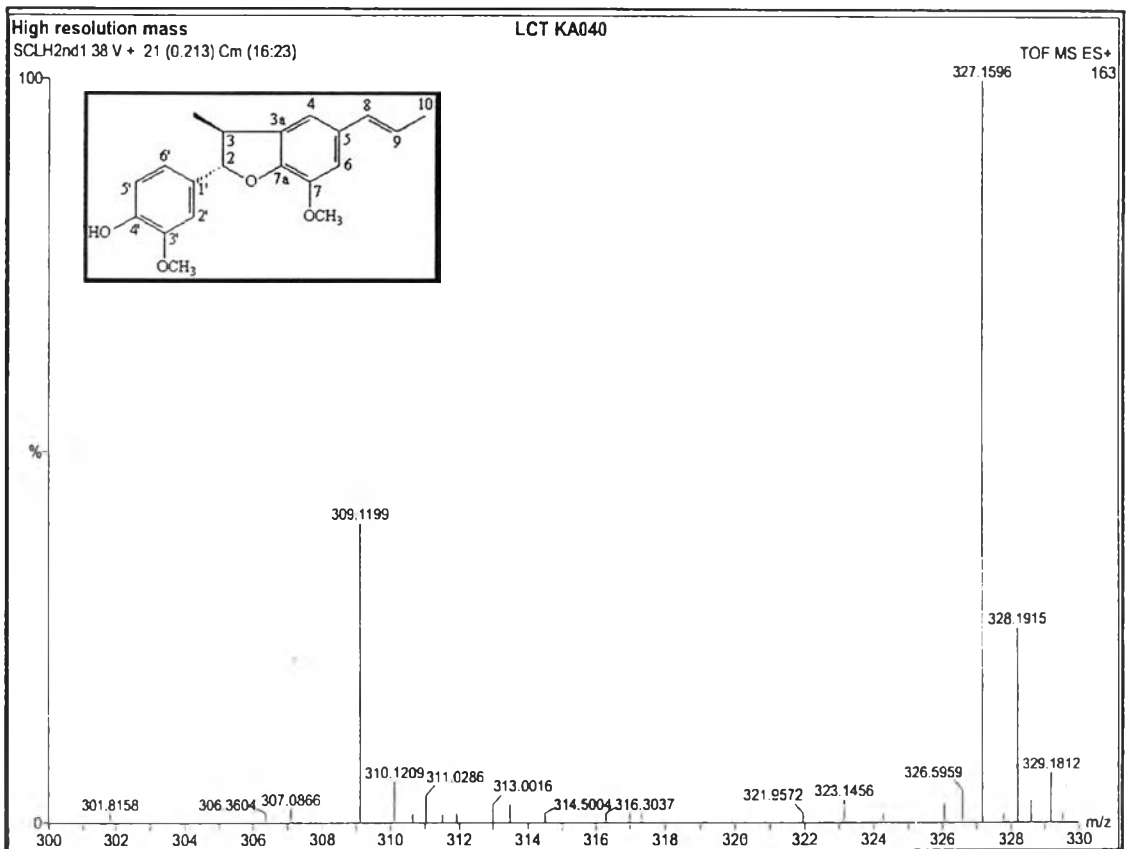
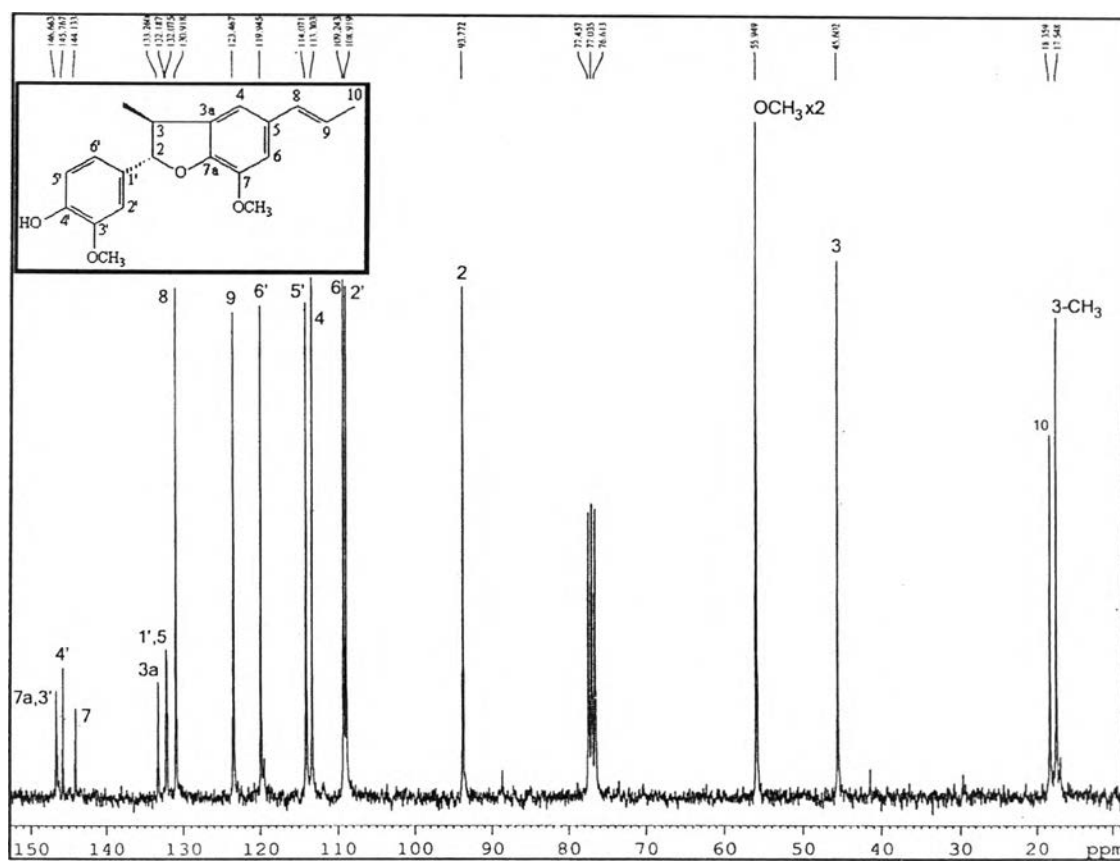
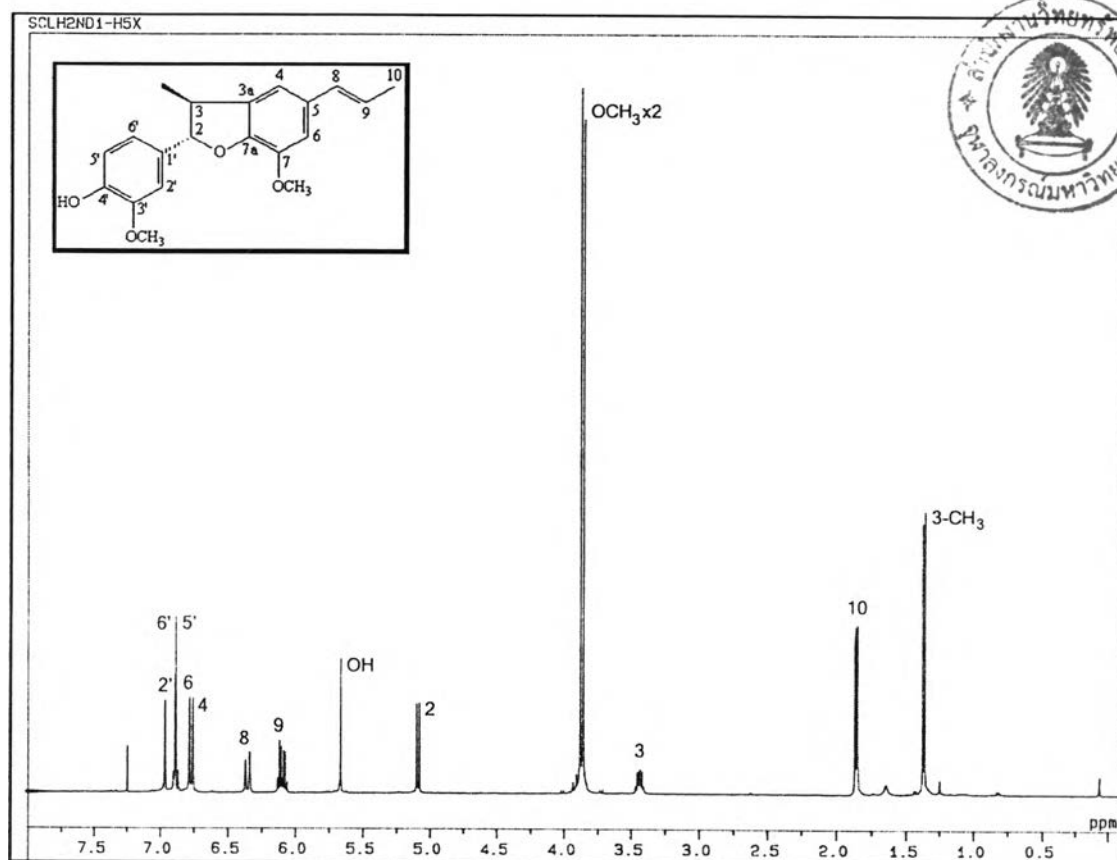


Figure 93. ESI Mass spectrum of compound SC-3



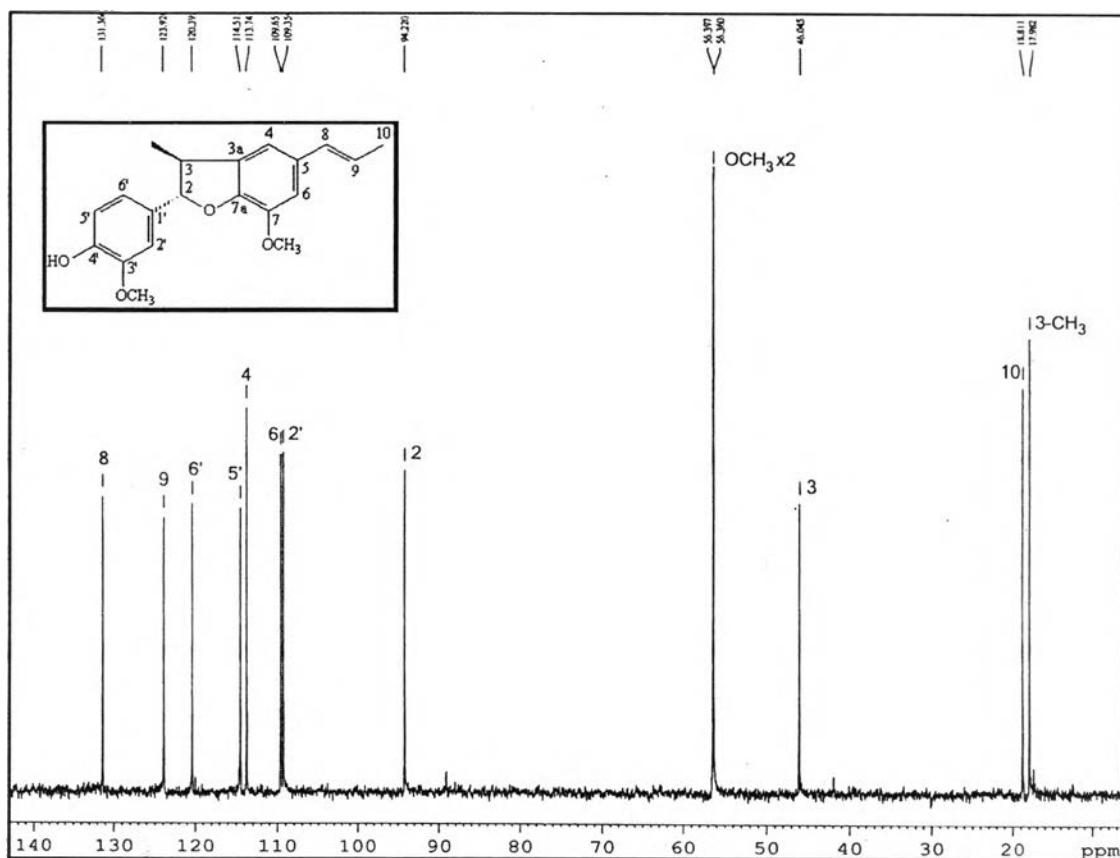
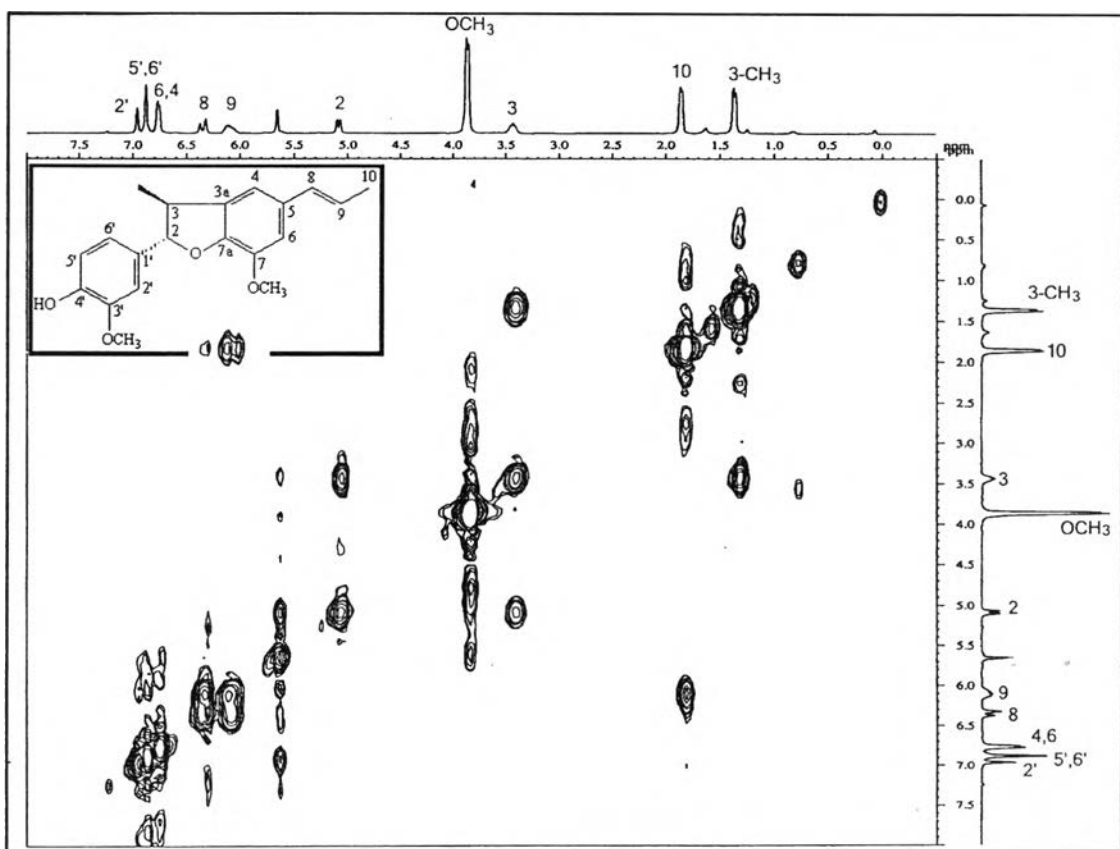


Figure 96. DEPT 135 Spectrum of compound SC-3

Figure 97. ¹H-¹H COSY Spectrum of compound SC-3

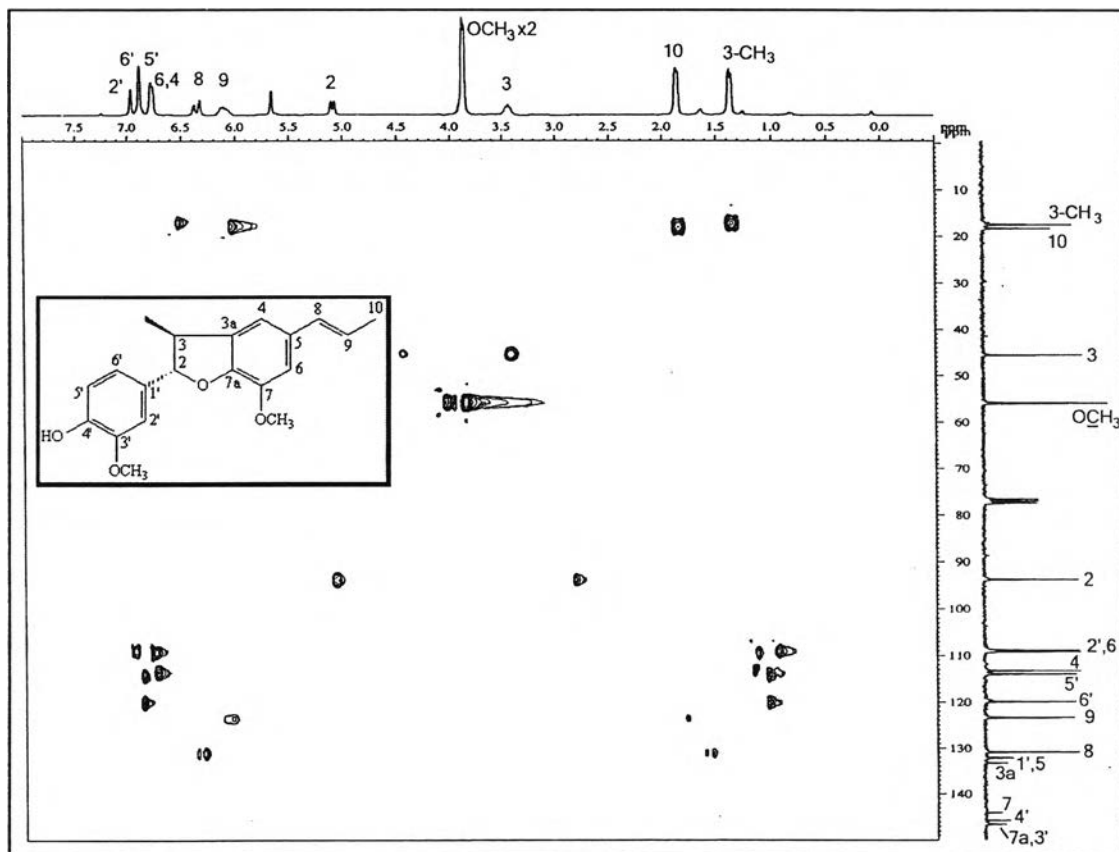


Figure 98. HMBC Spectrum of compound SC-3

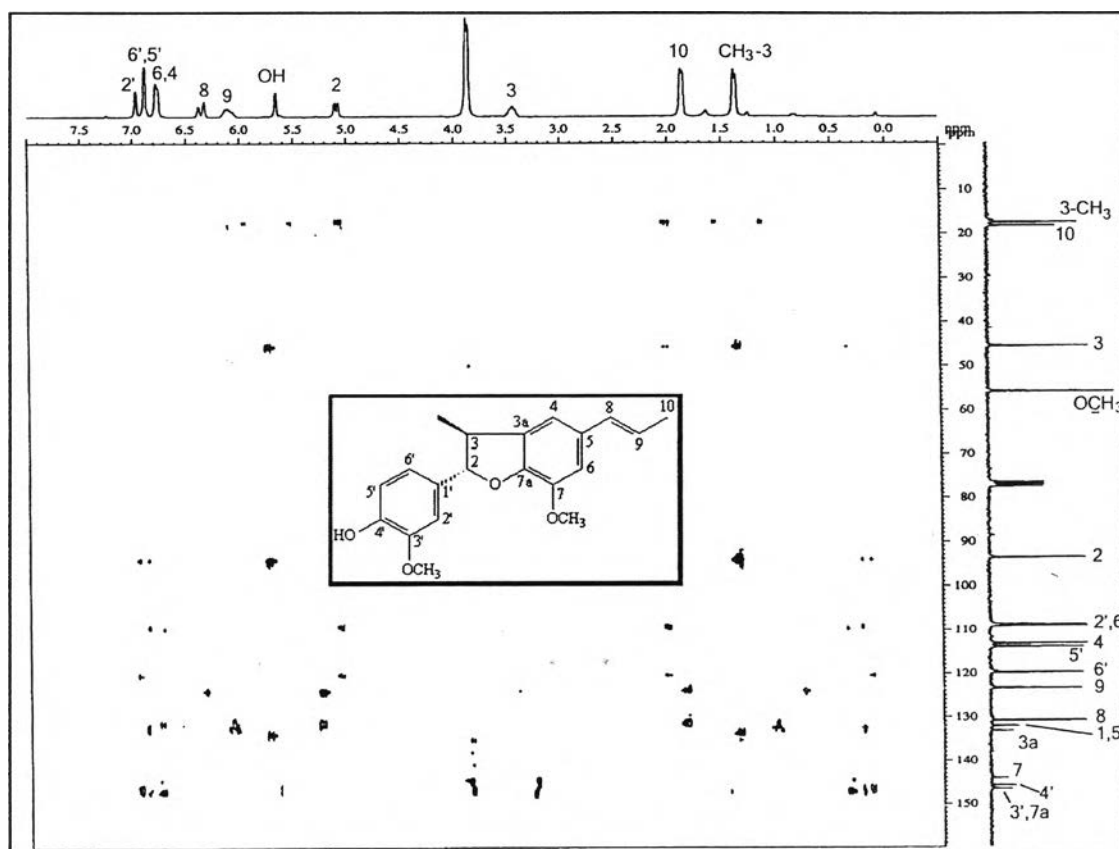


Figure 99a. HMBC Spectrum of compound SC-3

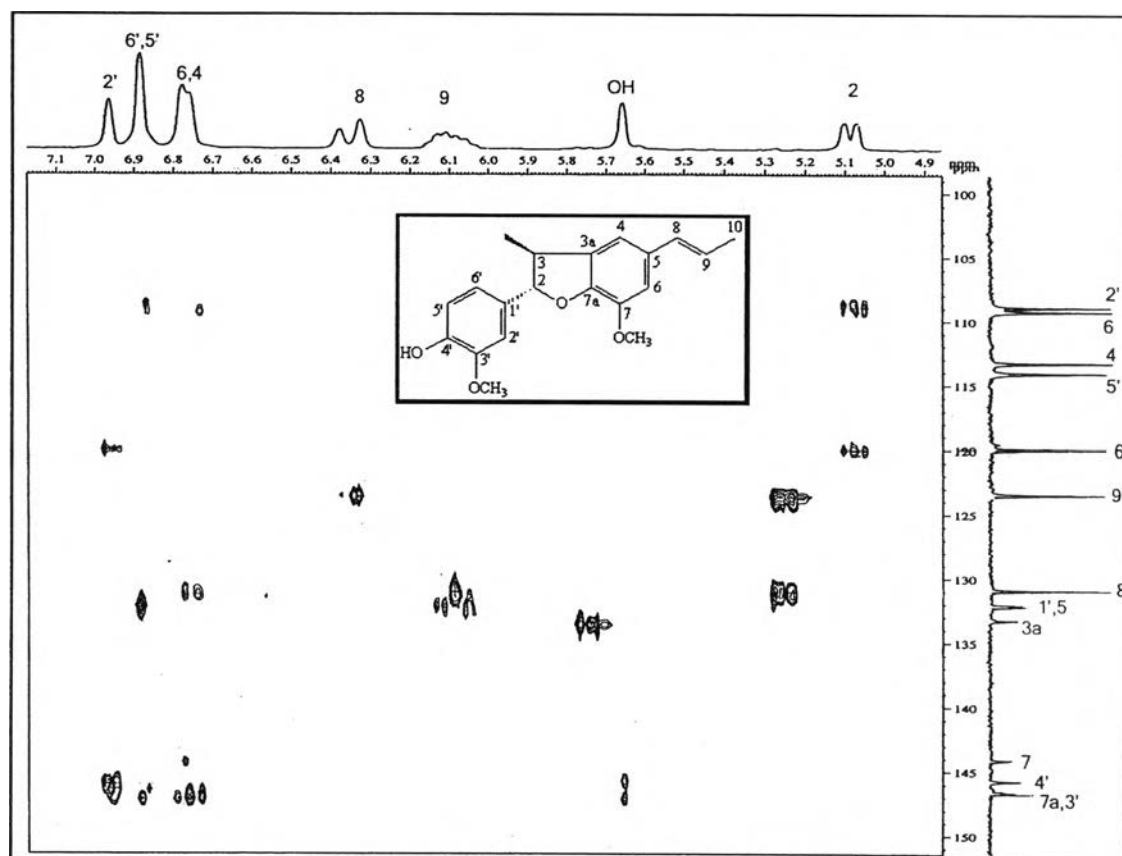


Figure 99b. HMBC Spectrum of compound SC-3 (δ_H 4.9-7.1 ppm, δ_C 100-150 ppm)

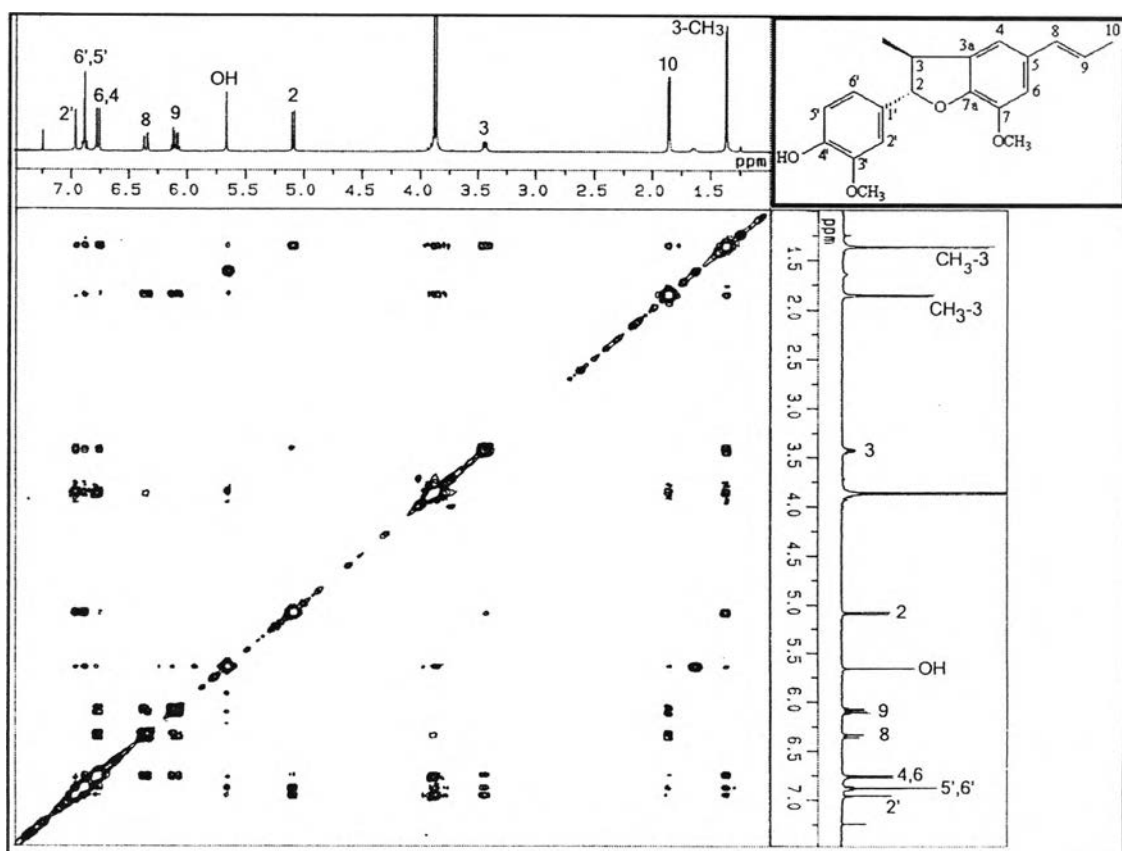


Figure 100. NOESY Spectrum of compound SC-3

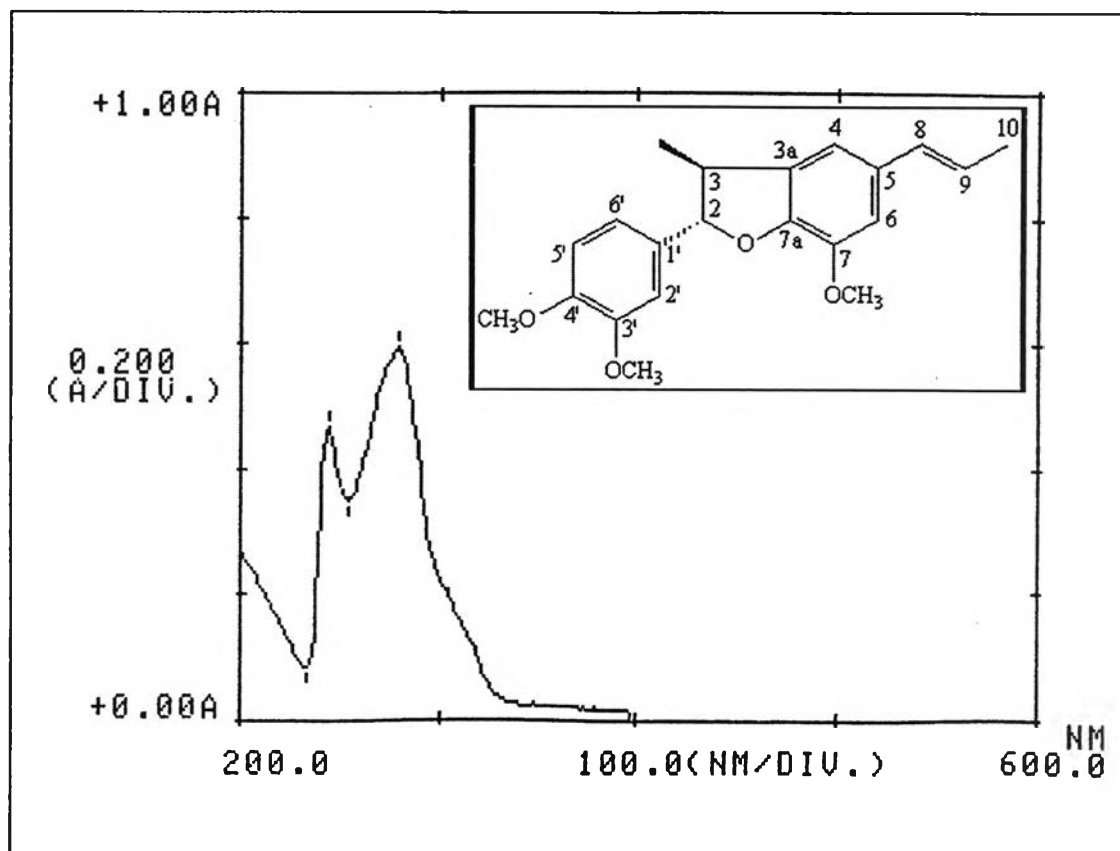


Figure 101. UV Spectrum of compound SC-4 (in CDCl₃)

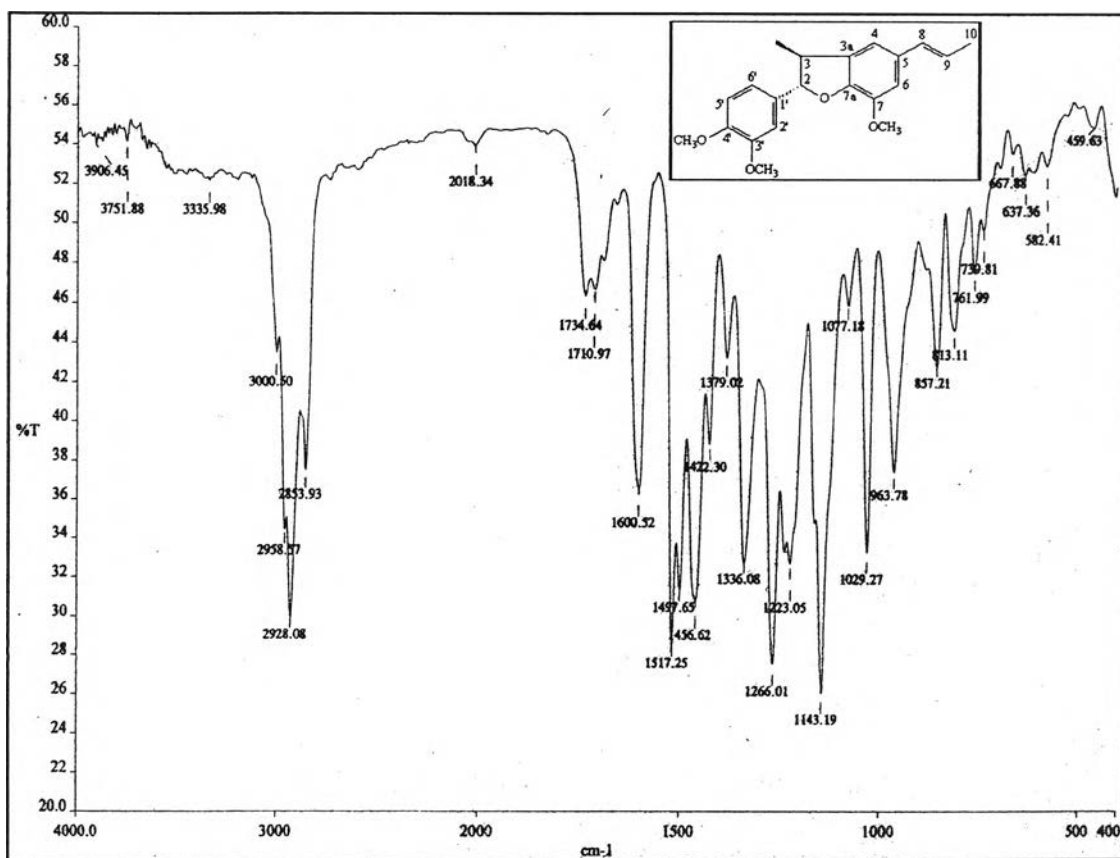


Figure 102. IR Spectrum of compound SC-4 (KBr disc)

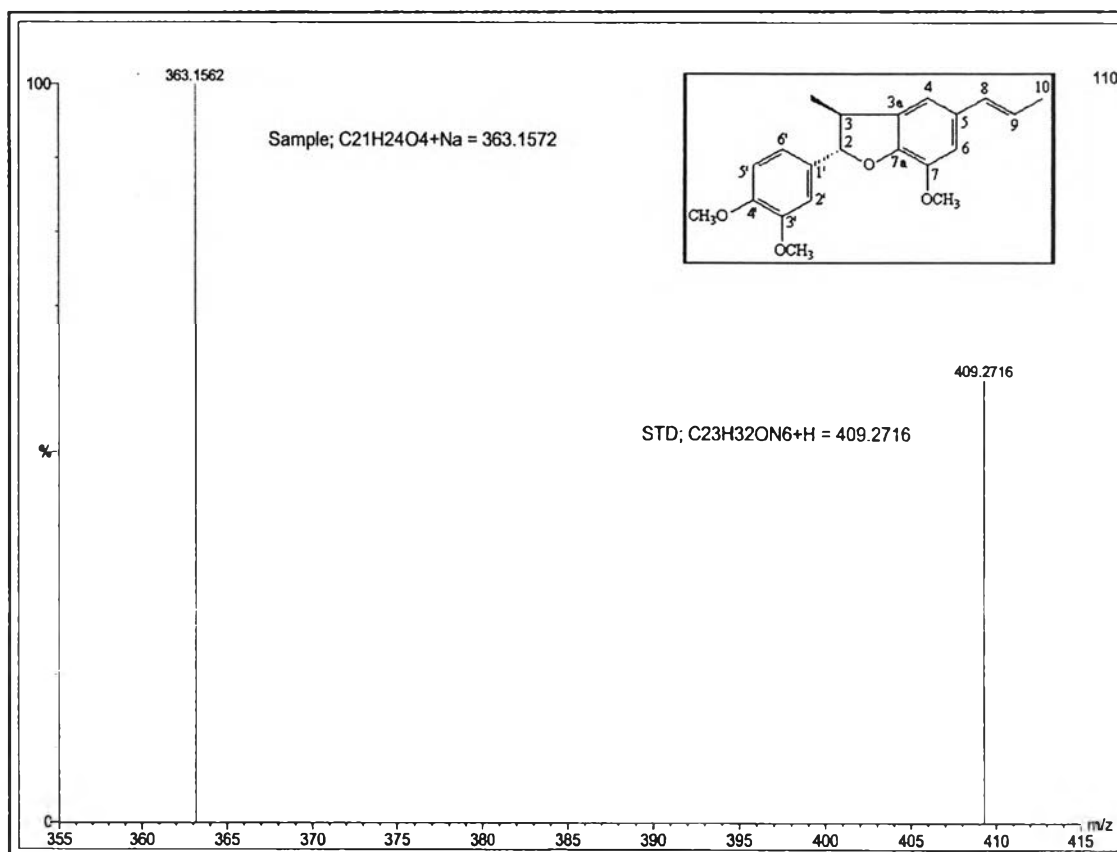


Figure 103. ESI Mass spectrum of compound SC-4

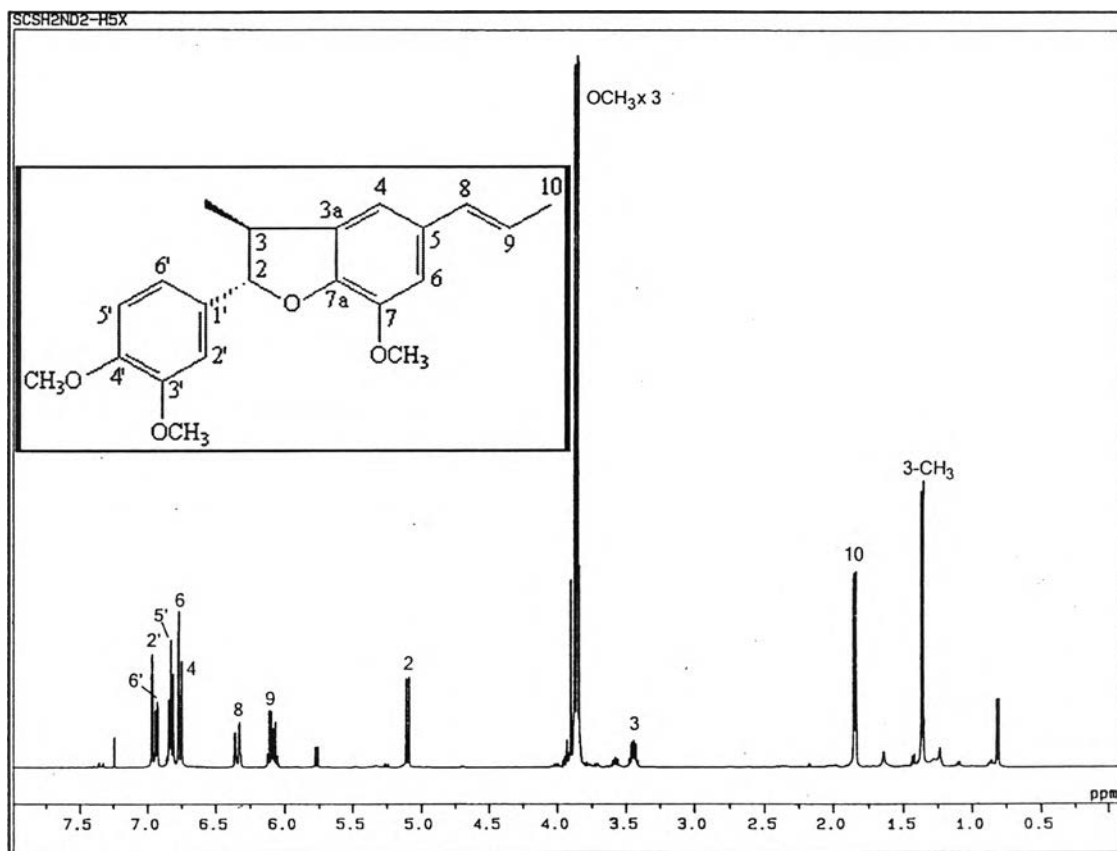


Figure 104. ¹H NMR (500 MHz) Spectrum of compound SC-4 (in CDCl₃)

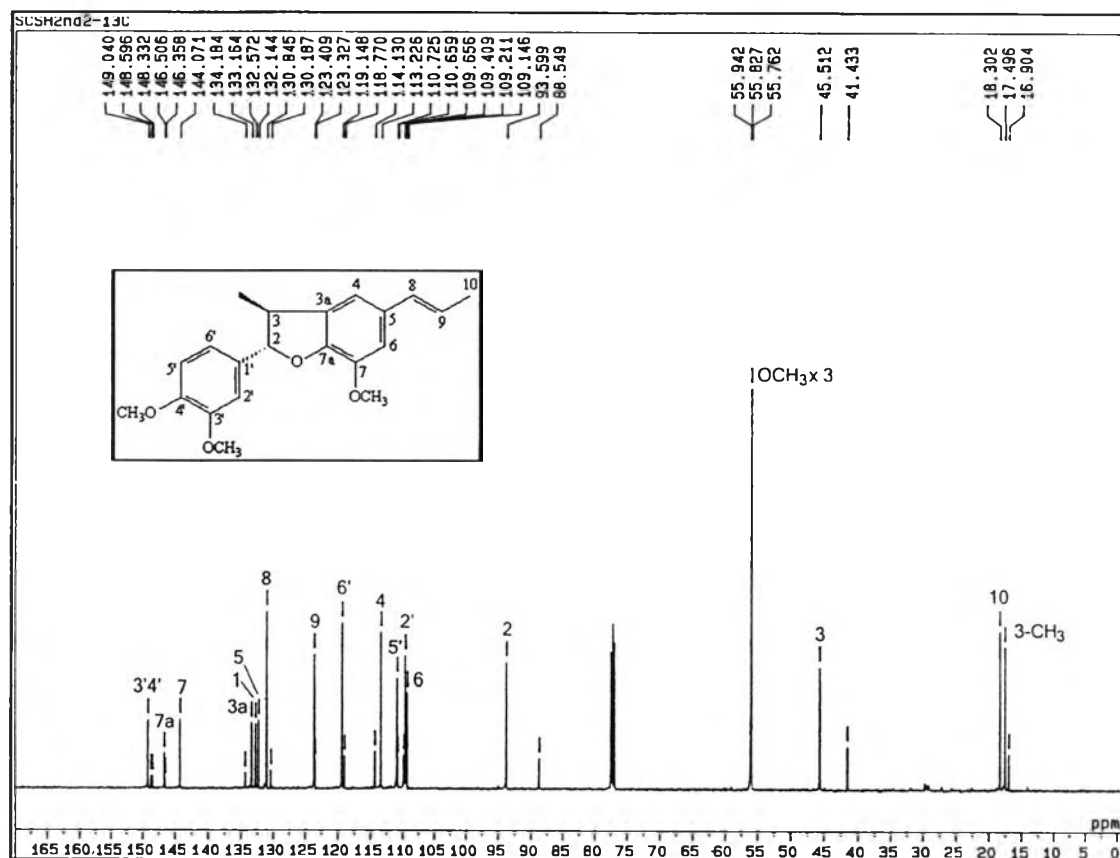


Figure 105. ¹³C NMR (125 MHz) Spectrum of compound SC-4 (in CDCl₃)

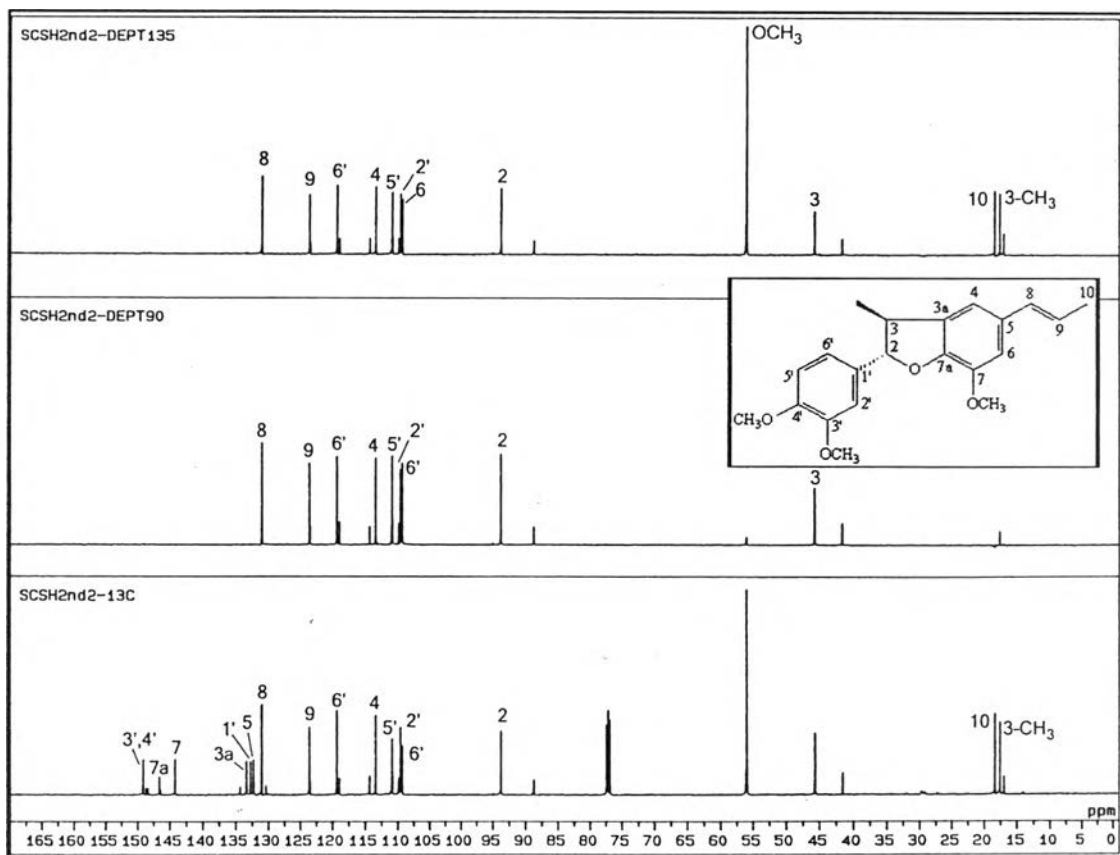


Figure 106. DEPT 135 Spectrum of compound SC-4

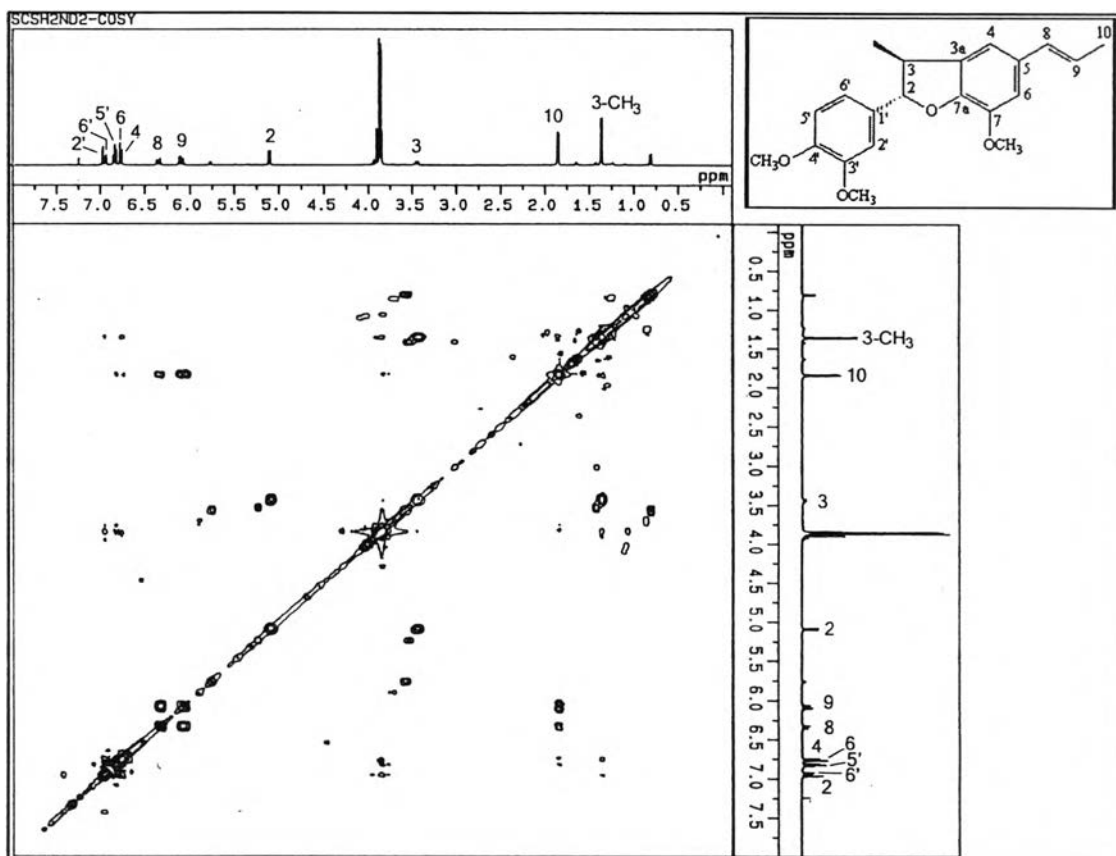


Figure 107. ^1H - ^1H COSY Spectrum of compound SC-4

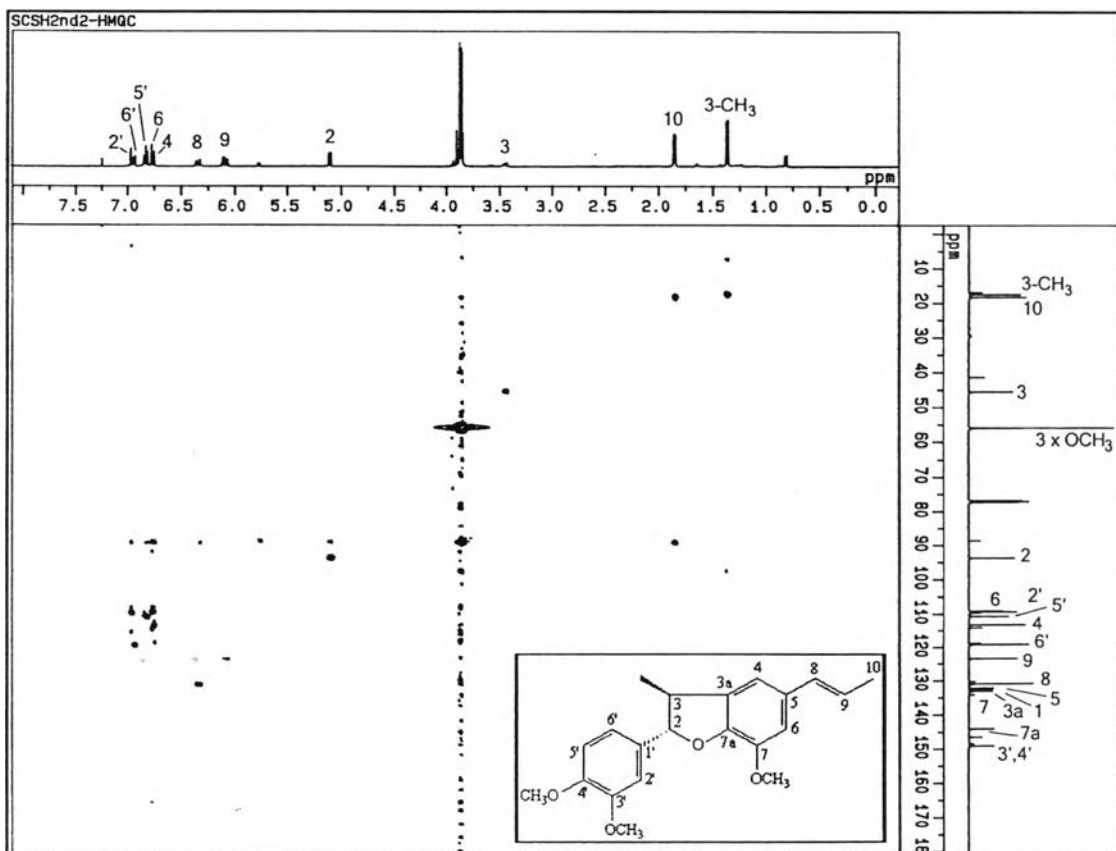


Figure 108a. HMQC Spectrum of compound SC-4

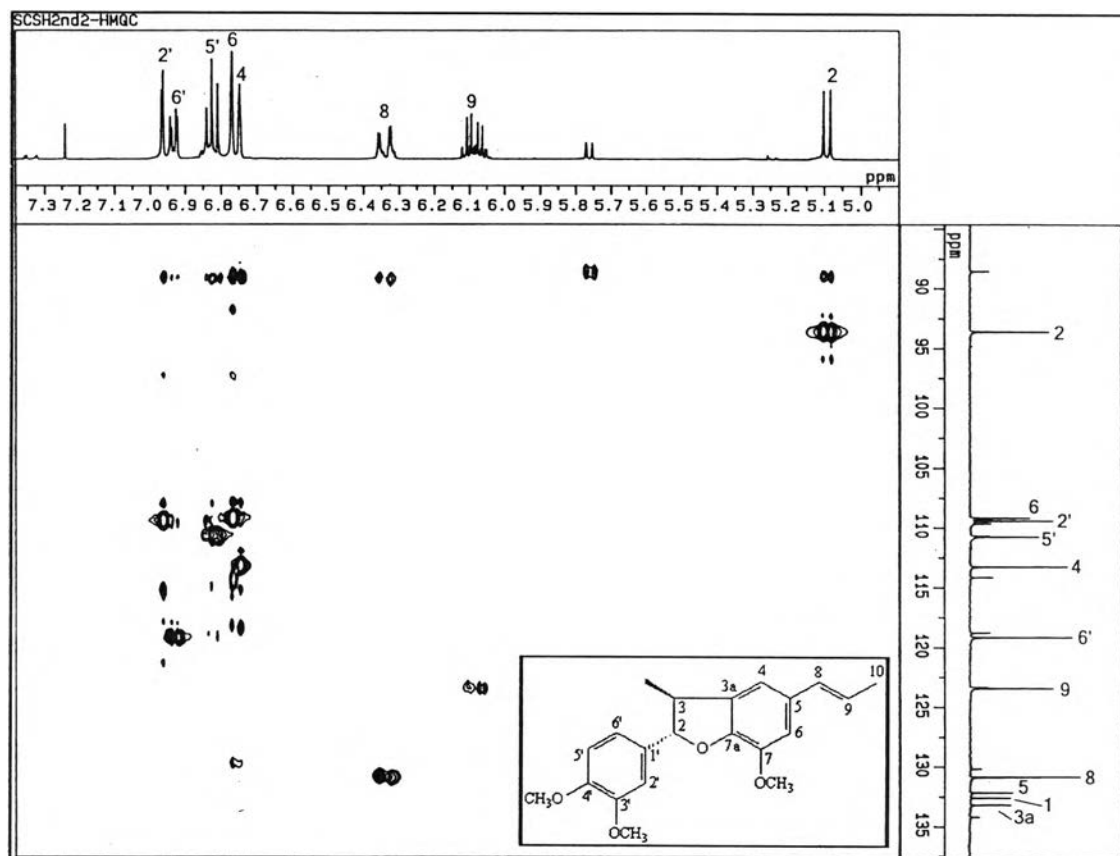


Figure 108b. HMQC Spectrum of compound SC-4 (δ_H 5.0-7.3 ppm, δ_C 90-135 ppm)

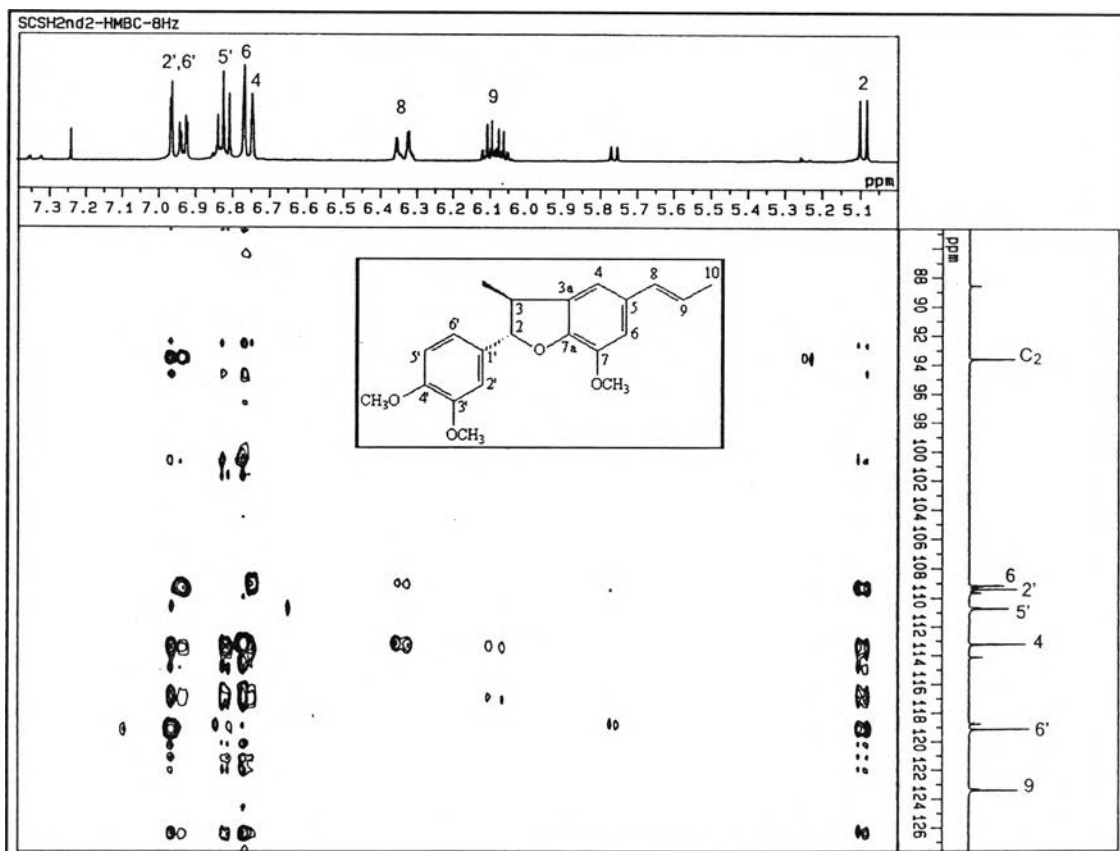
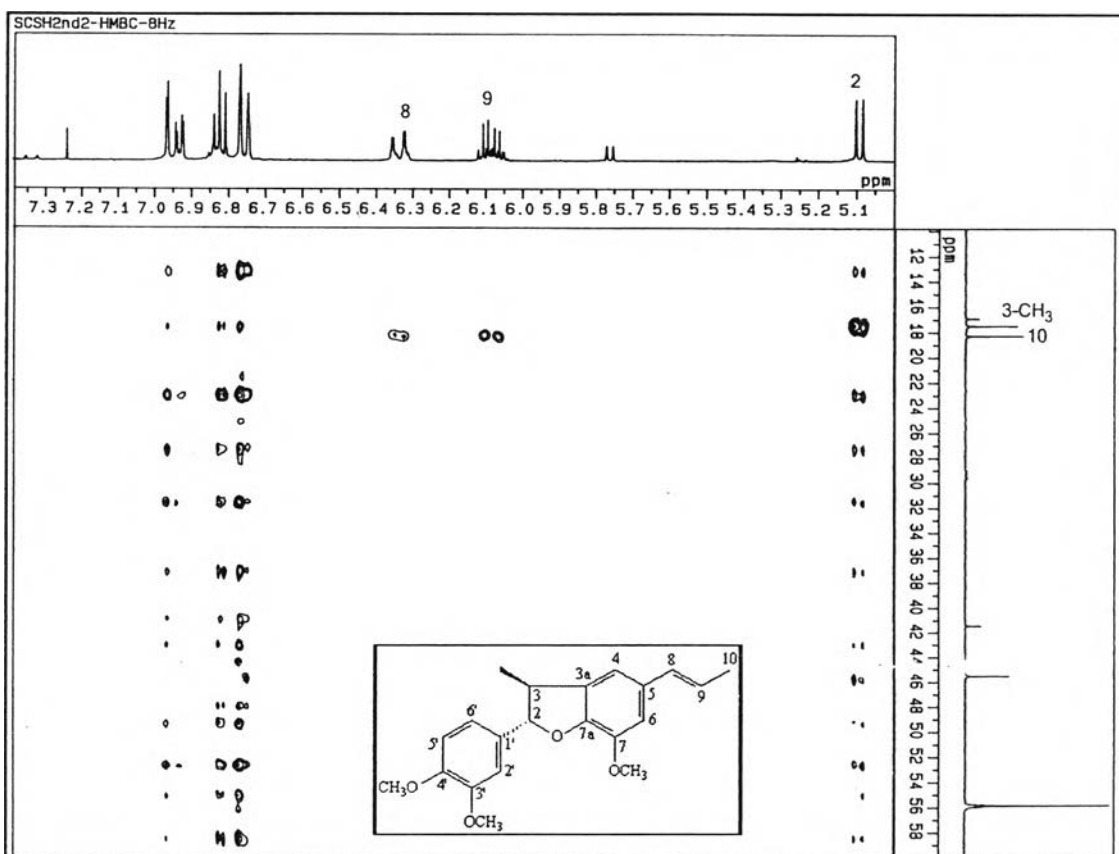
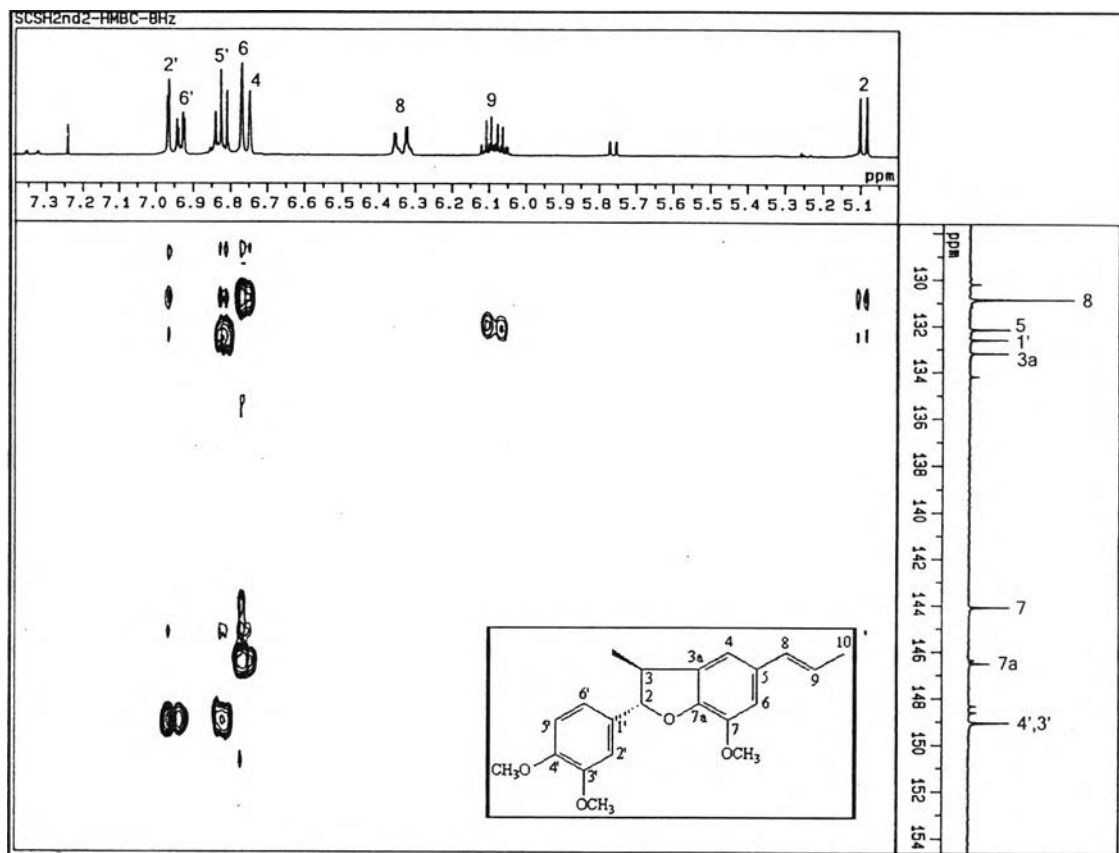


Figure 109a. HMBC Spectrum of compound SC-4 (δ_H 5.0-7.3 ppm, δ_C 88-126 ppm)



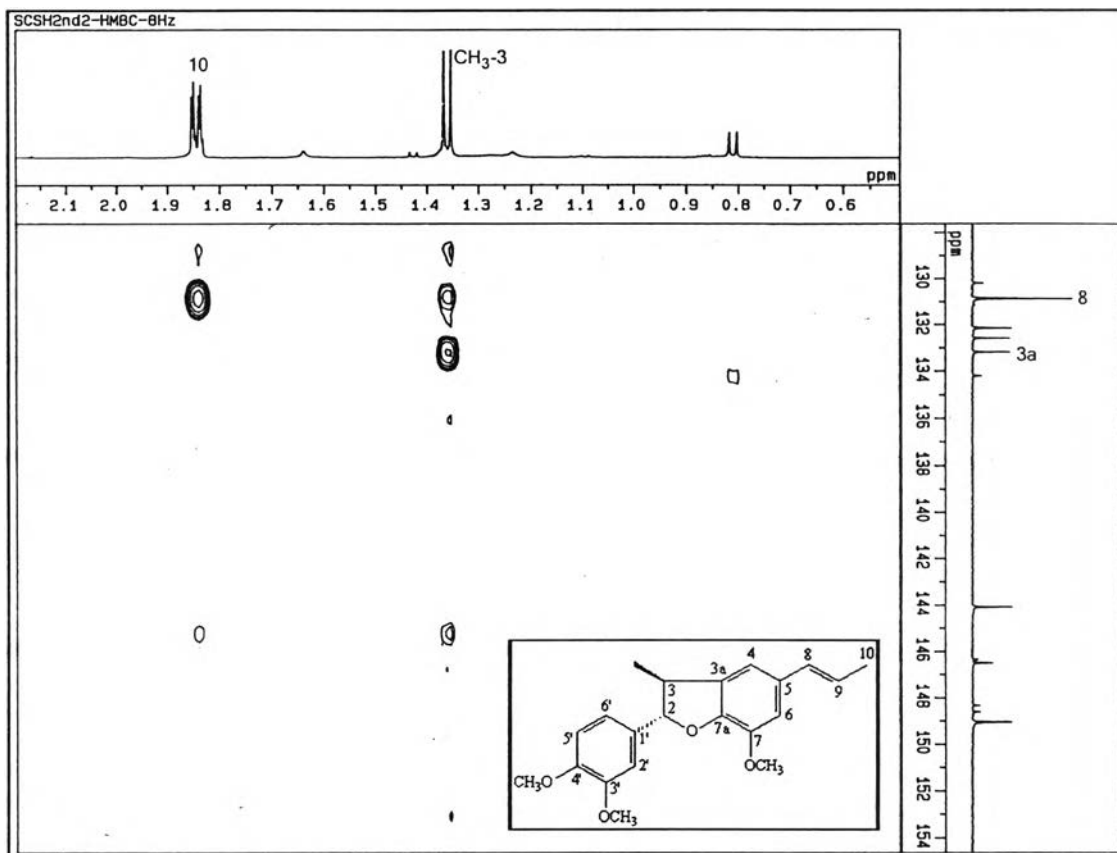


Figure 109d. HMBC Spectrum of compound SC-4 (δ_{H} 0.5-2.0 ppm, δ_{C} 130-154 ppm)

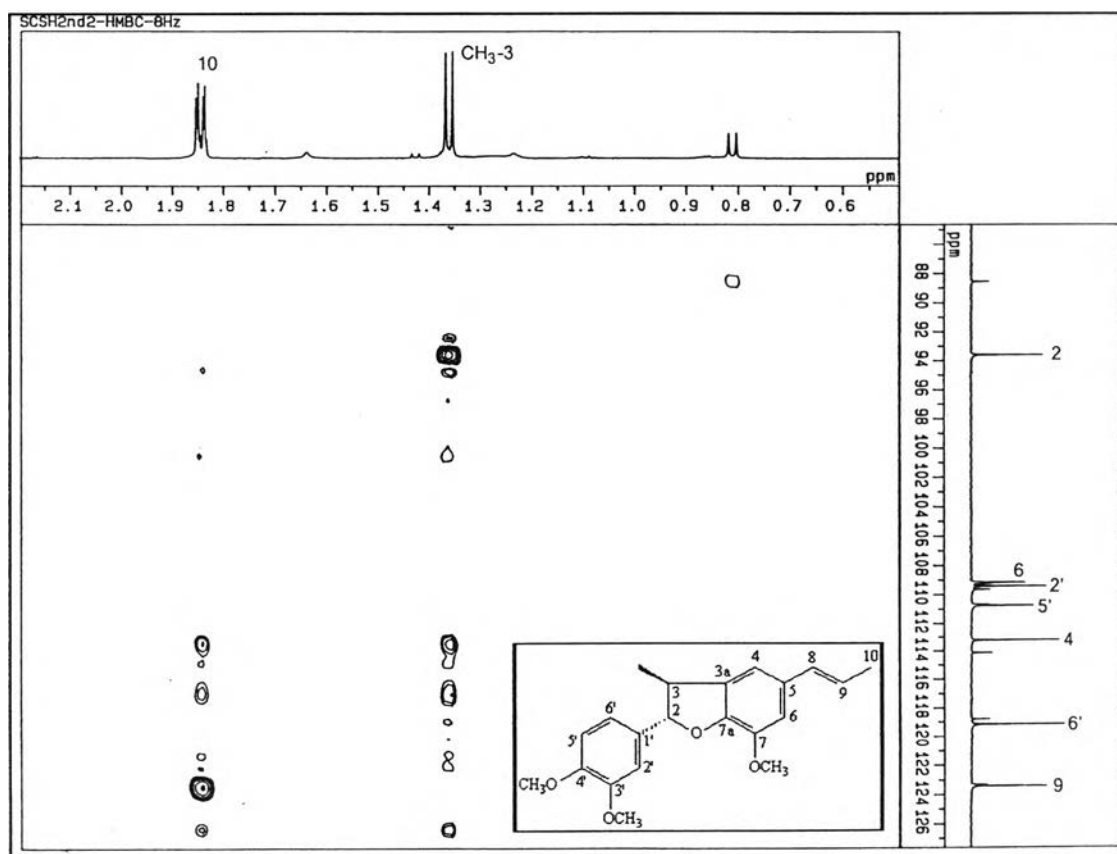


Figure 109e. HMBC Spectrum of compound SC-4 (δ_{H} 0.5-2.0 ppm, δ_{C} 88-126 ppm)

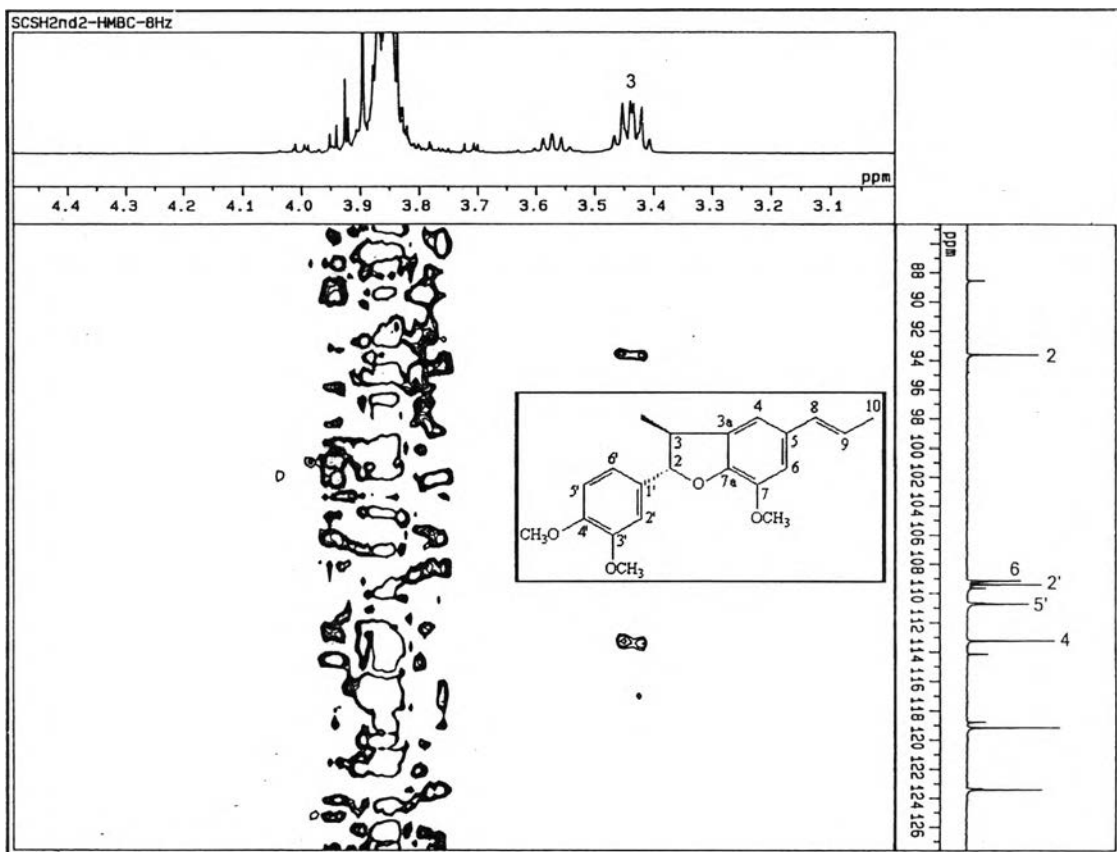


Figure 109f. HMBC Spectrum of compound SC-4 (δ_H 3.1-4.4 ppm, δ_C 88-126 ppm)

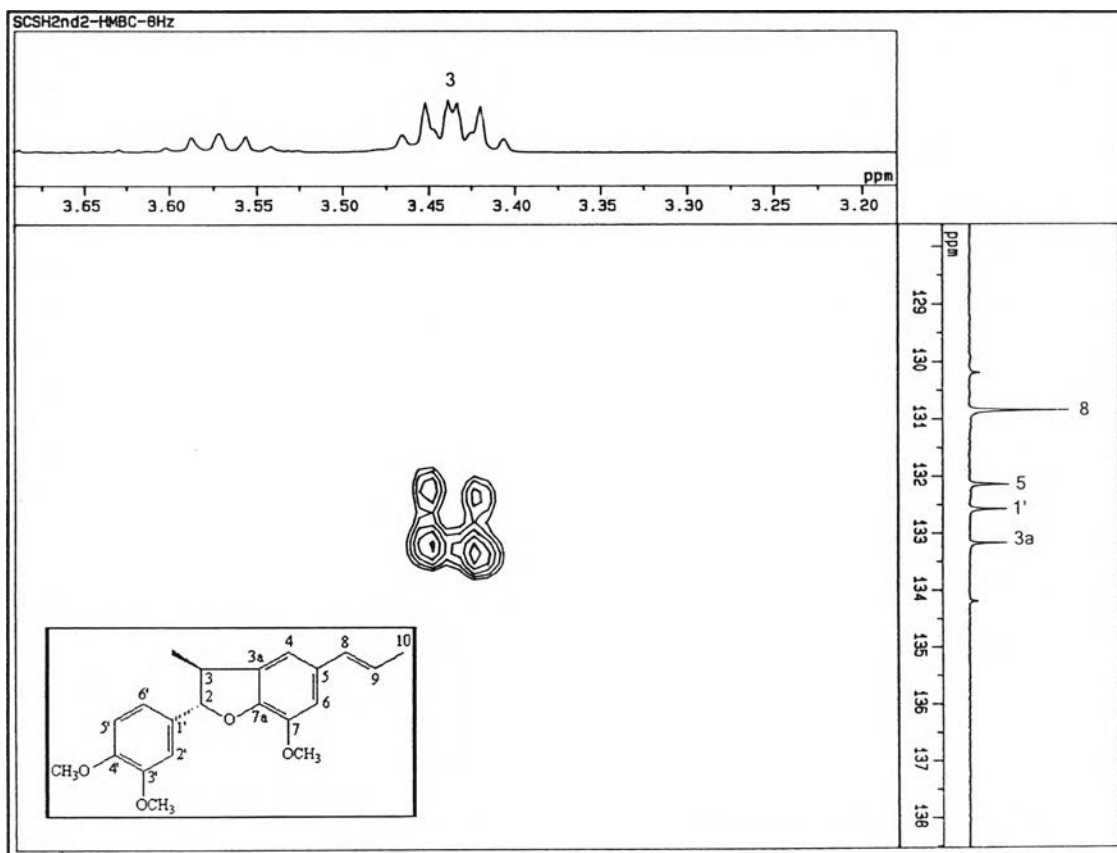


Figure 109g. HMBC Spectrum of compound SC-4 (δ_H 3.2-3.7 ppm, δ_C 129-138 ppm)

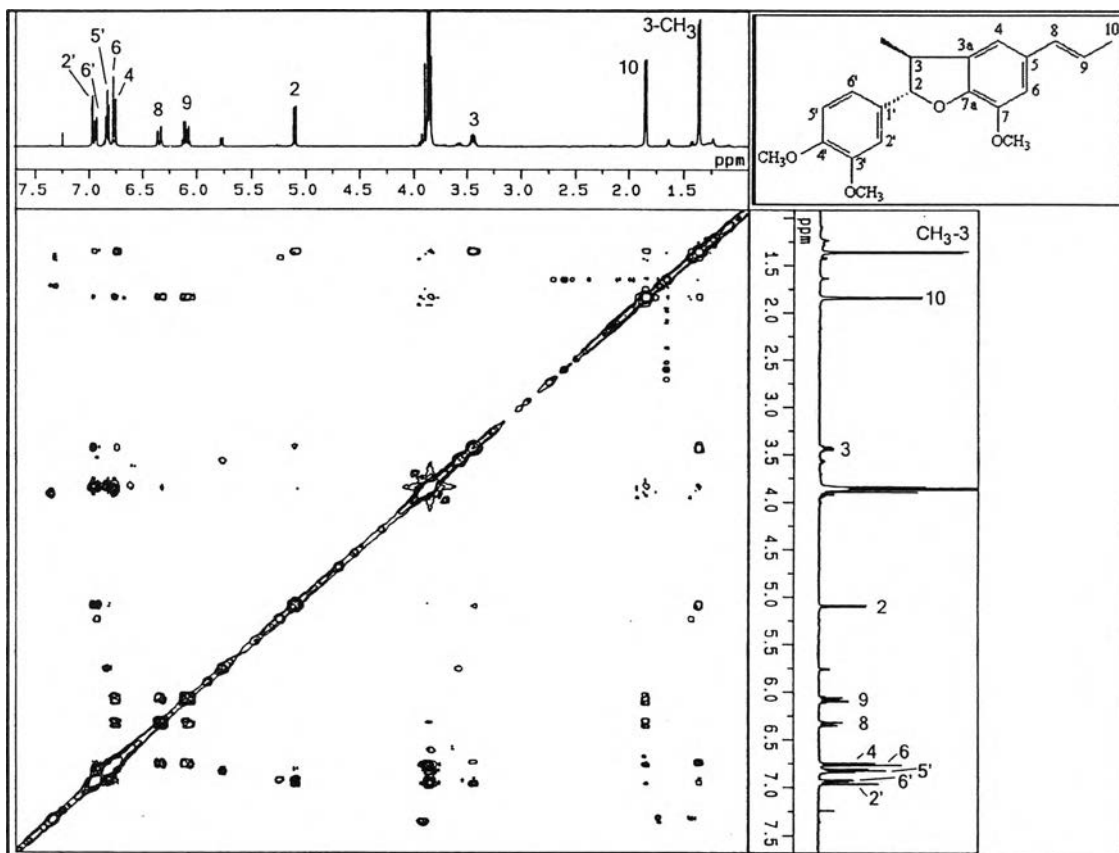


Figure 110. NOESY Spectrum of compound SC-4

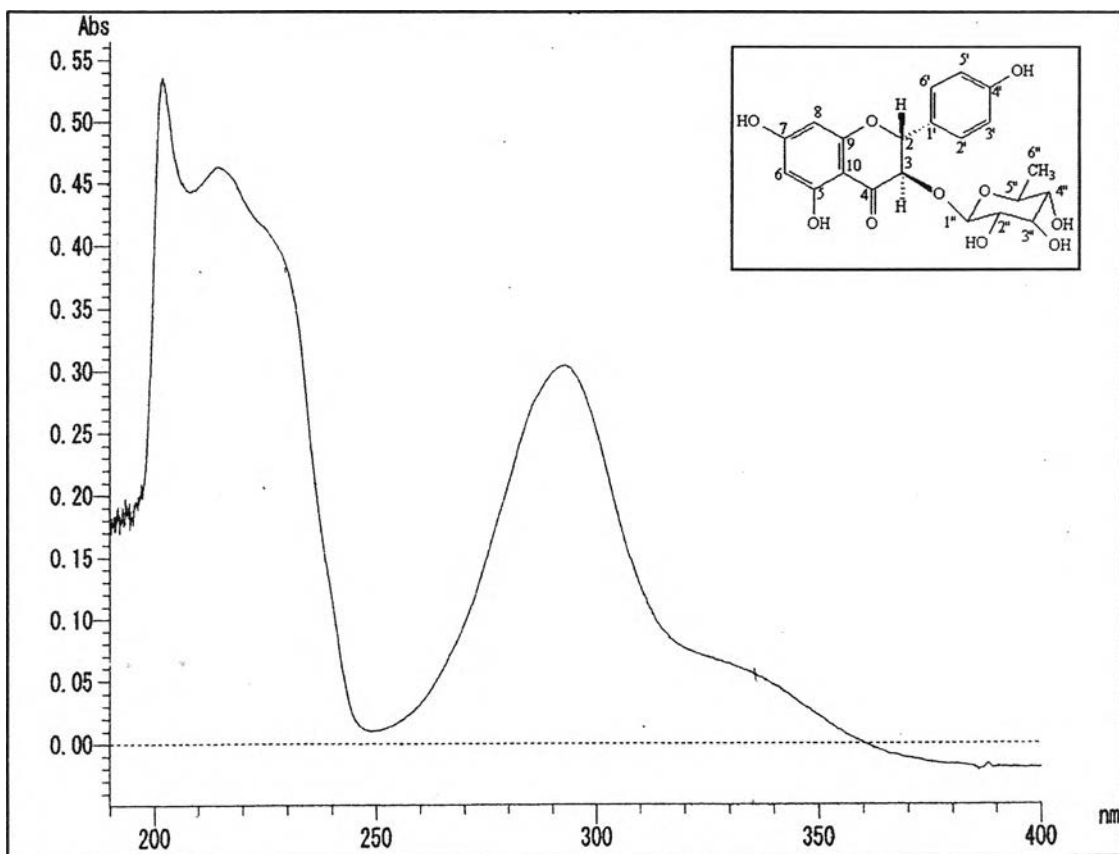


Figure 111. UV Spectrum of compound SC-5 (in MeOH)

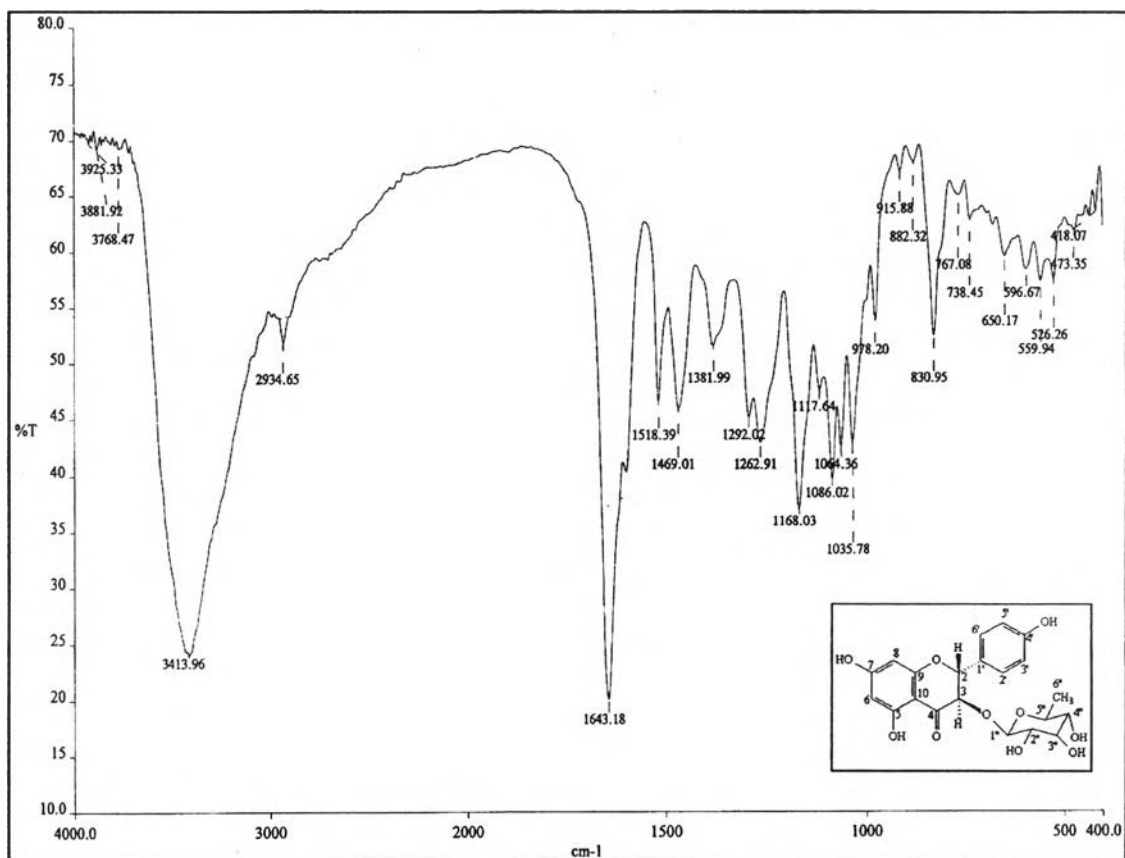


Figure 112. IR Spectrum of compound SC-5 (KBr disc)

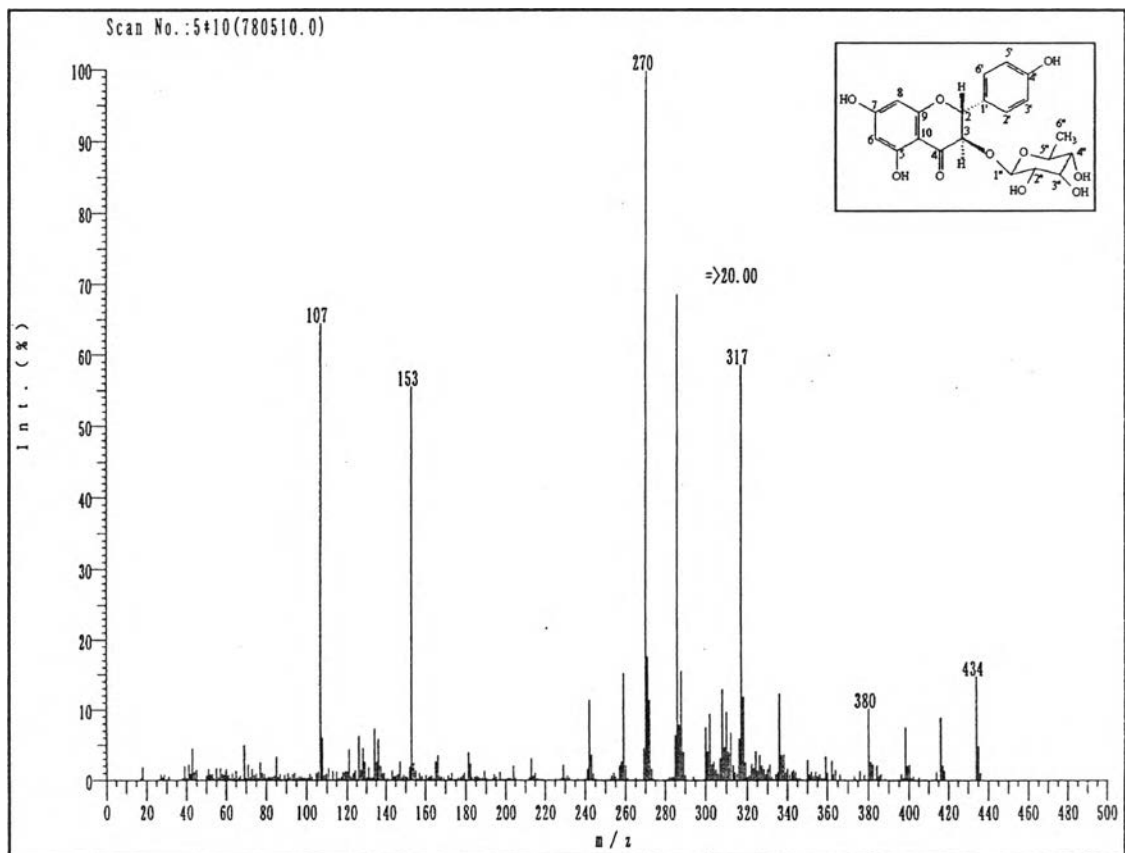


Figure 113. EI Mass spectrum of compound SC-5

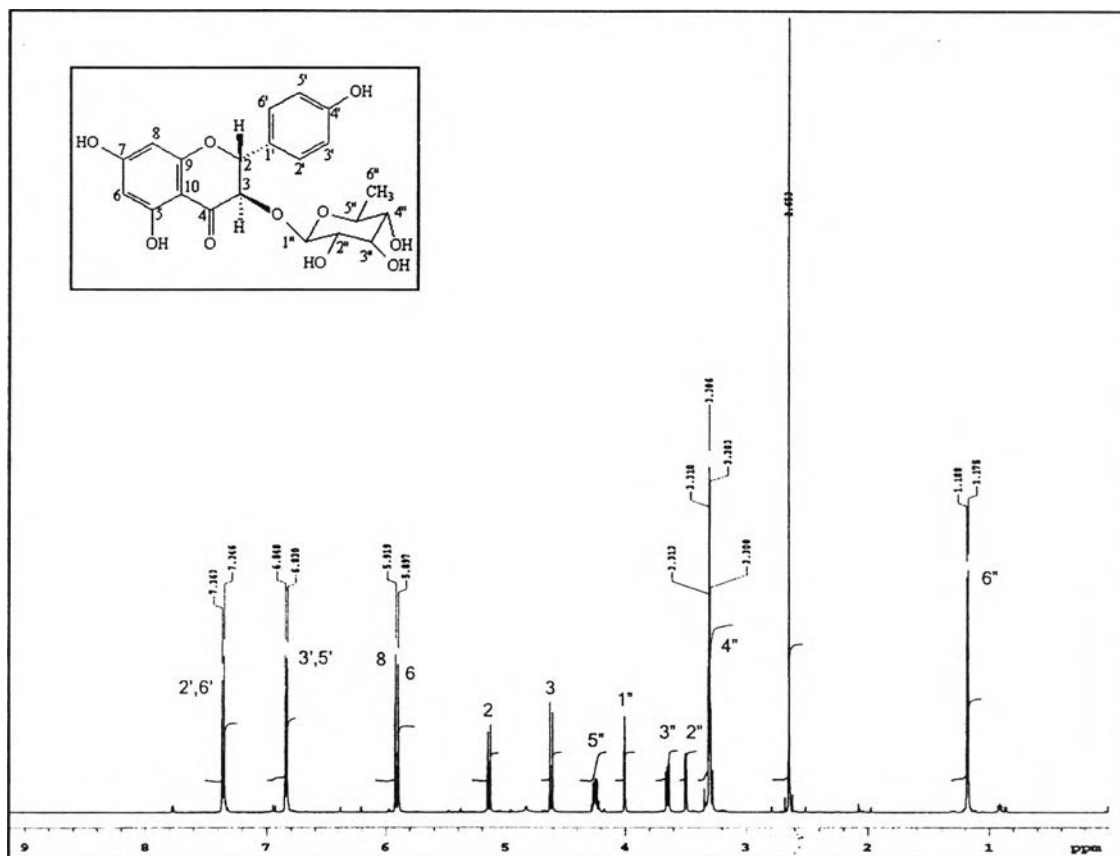


Figure 114. ^1H NMR (500 MHz) Spectrum of compound SC-5 (in CD_3OD)

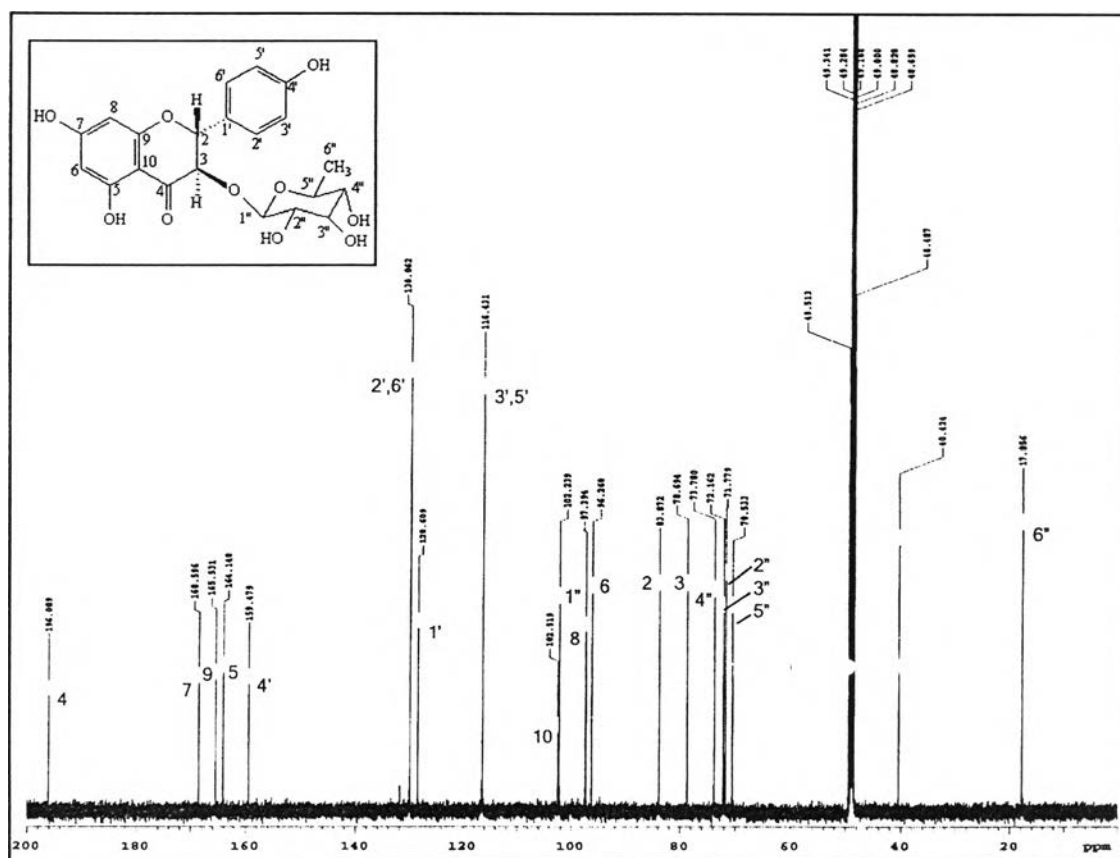


Figure 115. ^{13}C NMR (75 MHz) Spectrum of compound SC-5 (in CD_3OD)

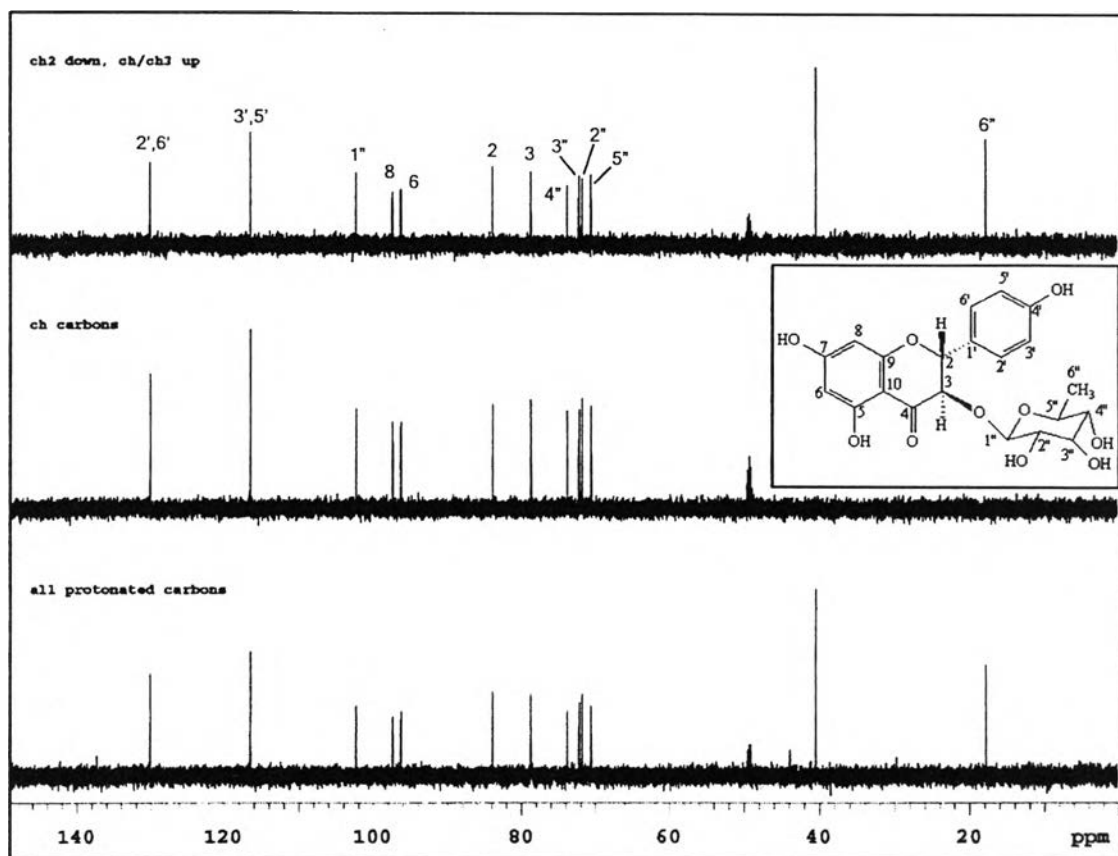


Figure 116. DEPT 135 Spectrum of compound SC-5

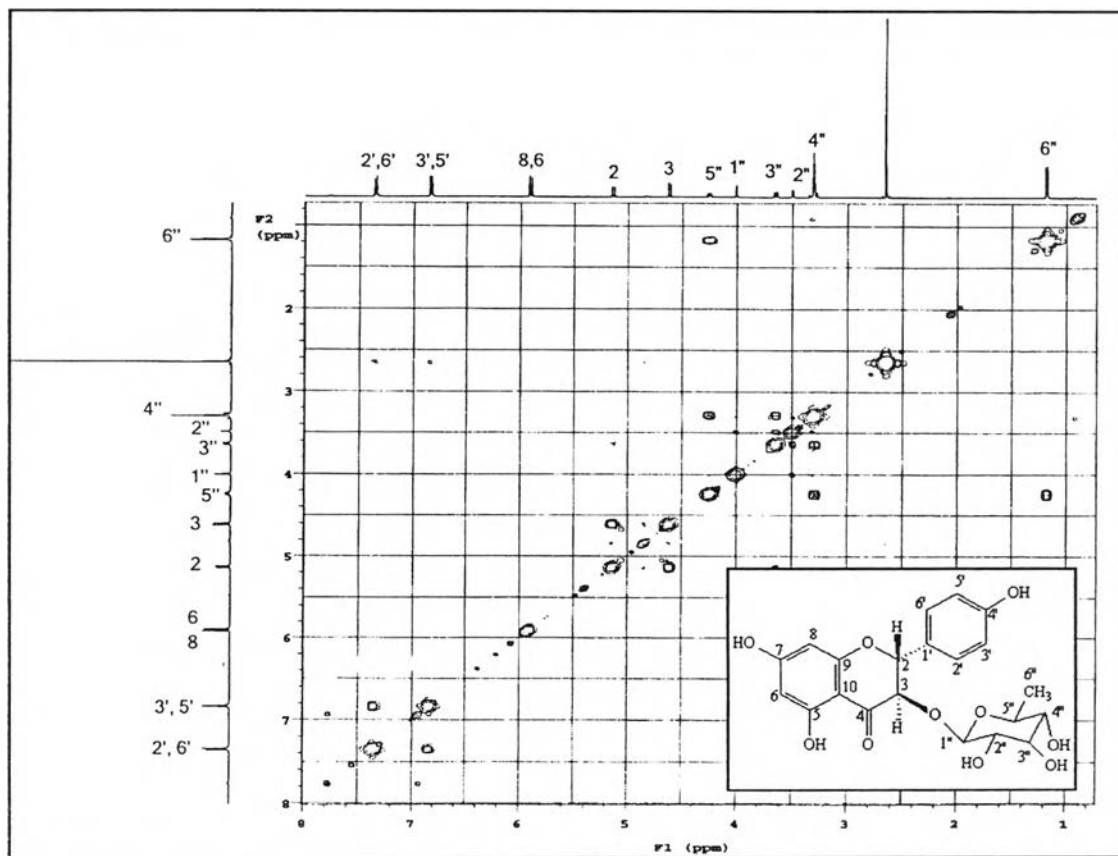


Figure 117. ¹H-¹H COSY Spectrum of compound SC-5

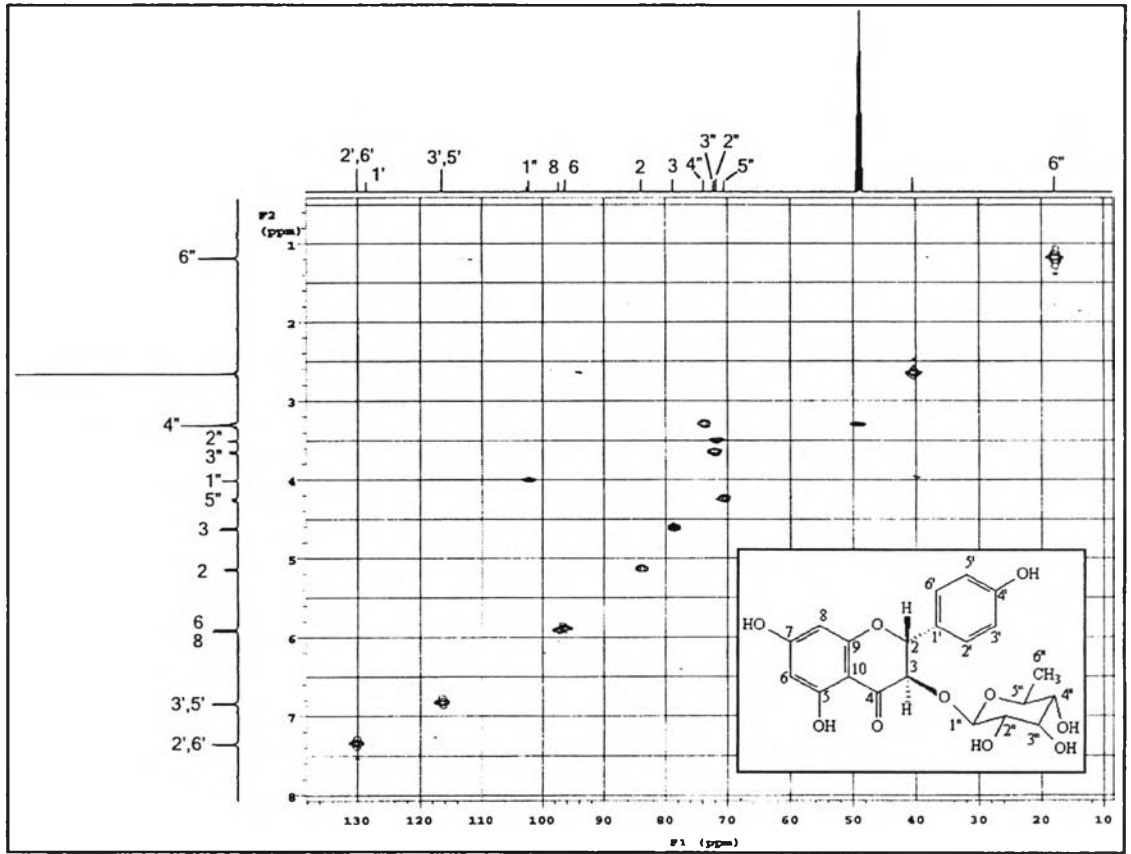


Figure 118. HMBC Spectrum of compound SC-5

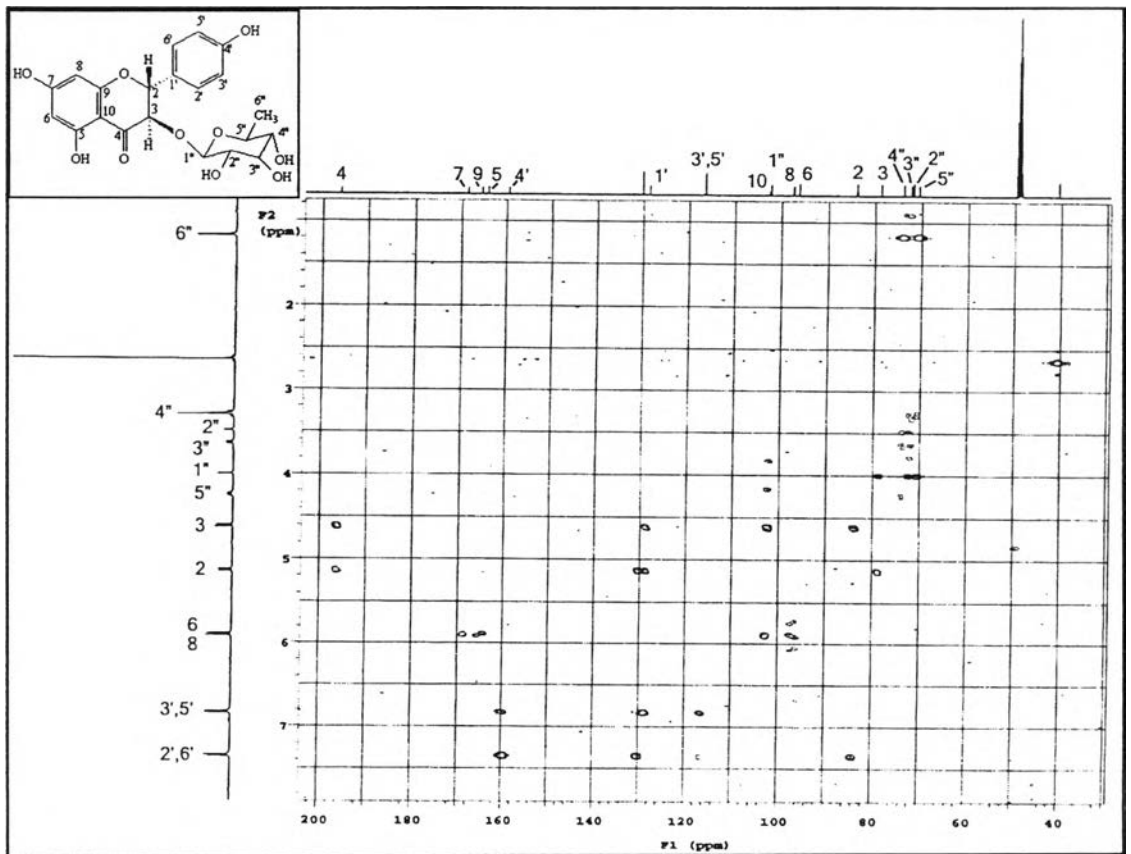


Figure 119. HMBC Spectrum of compound SC-5

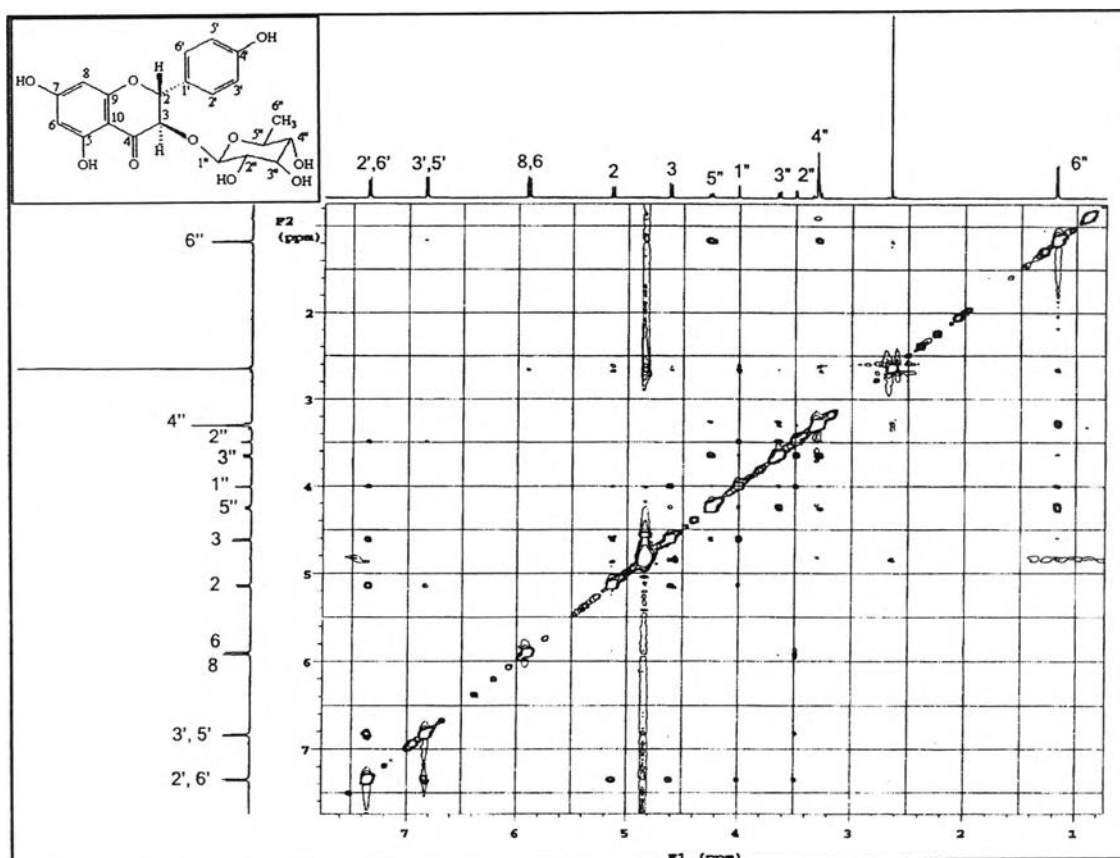


Figure 120. NOESY Spectrum of compound SC-5

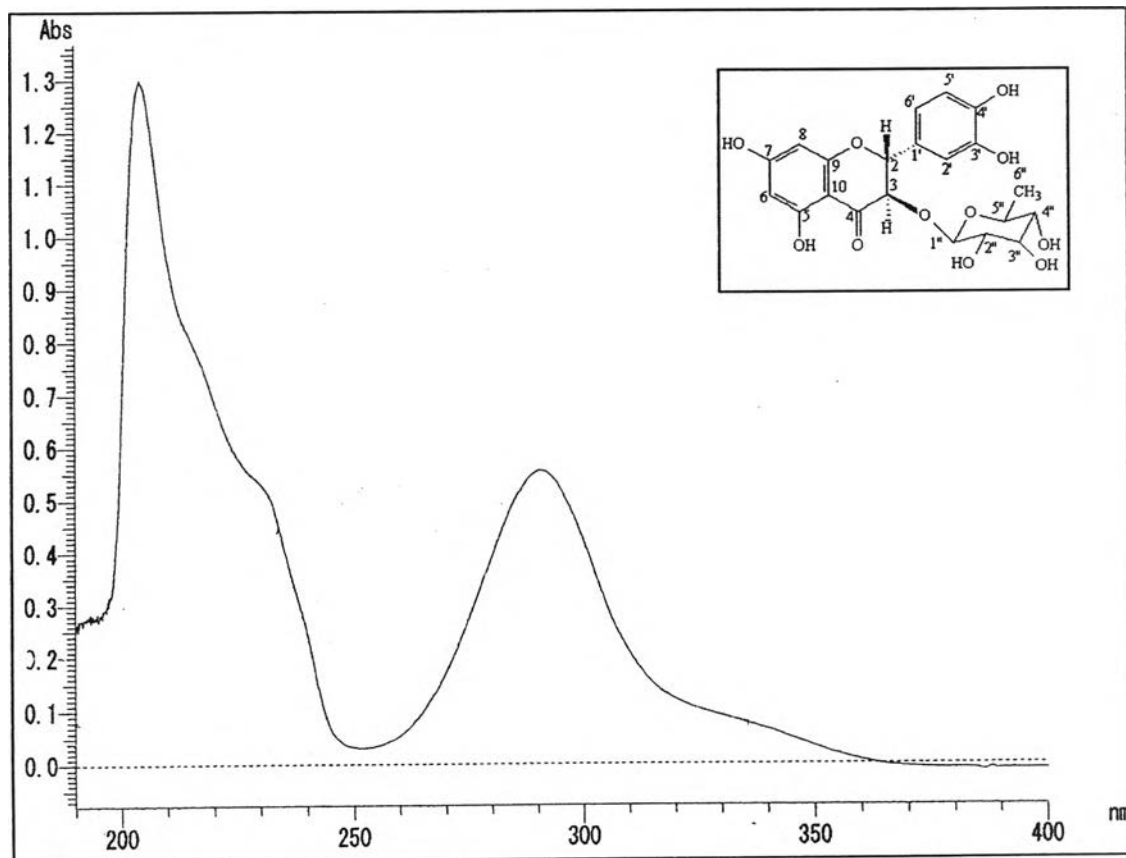


Figure 121. UV Spectrum of compound SC-6 (in MeOH)

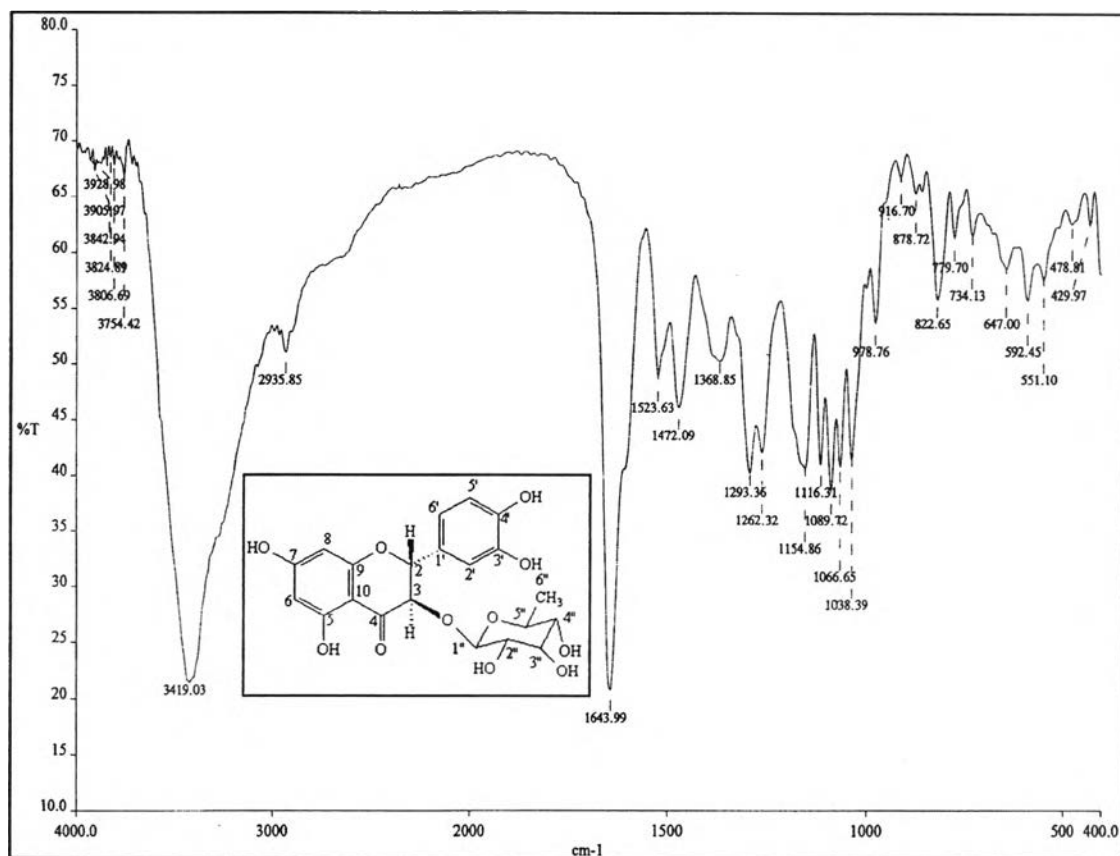


Figure 122. IR Spectrum of compound SC-6 (KBr disc)

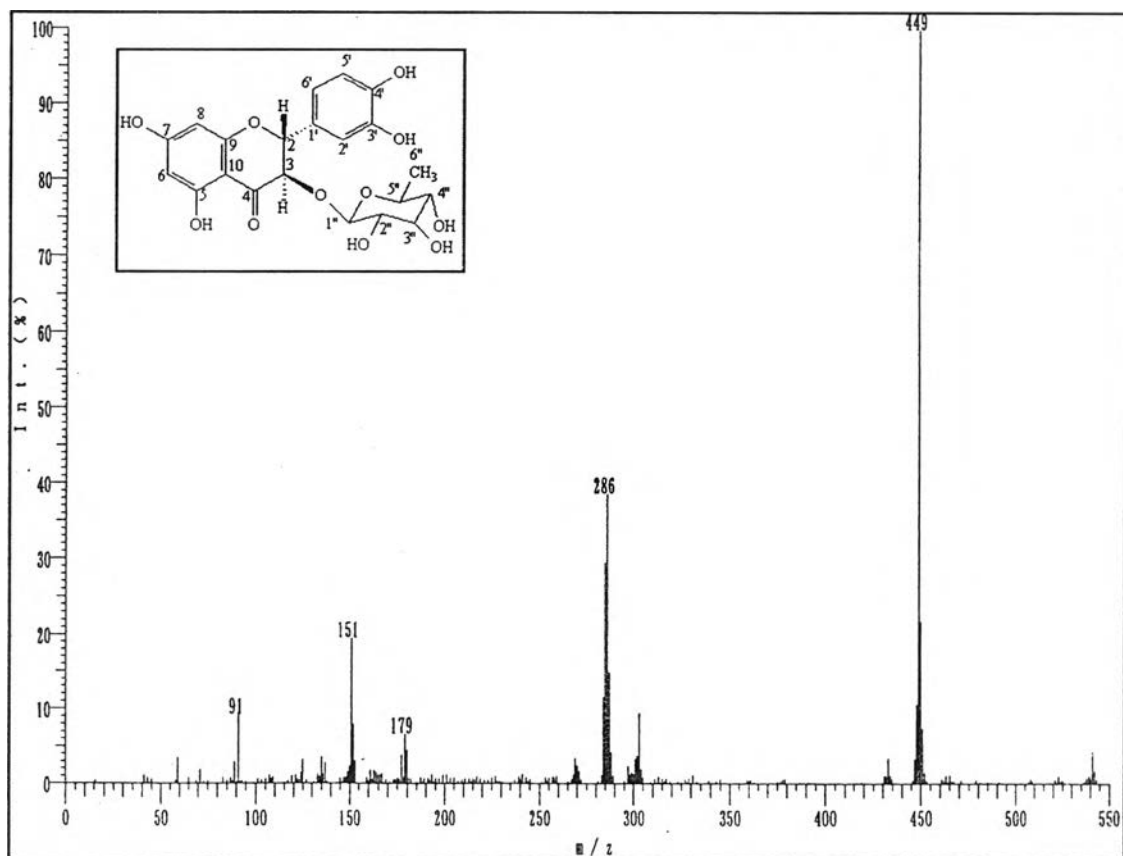


Figure 123. SI Mass spectrum of compound SC-6

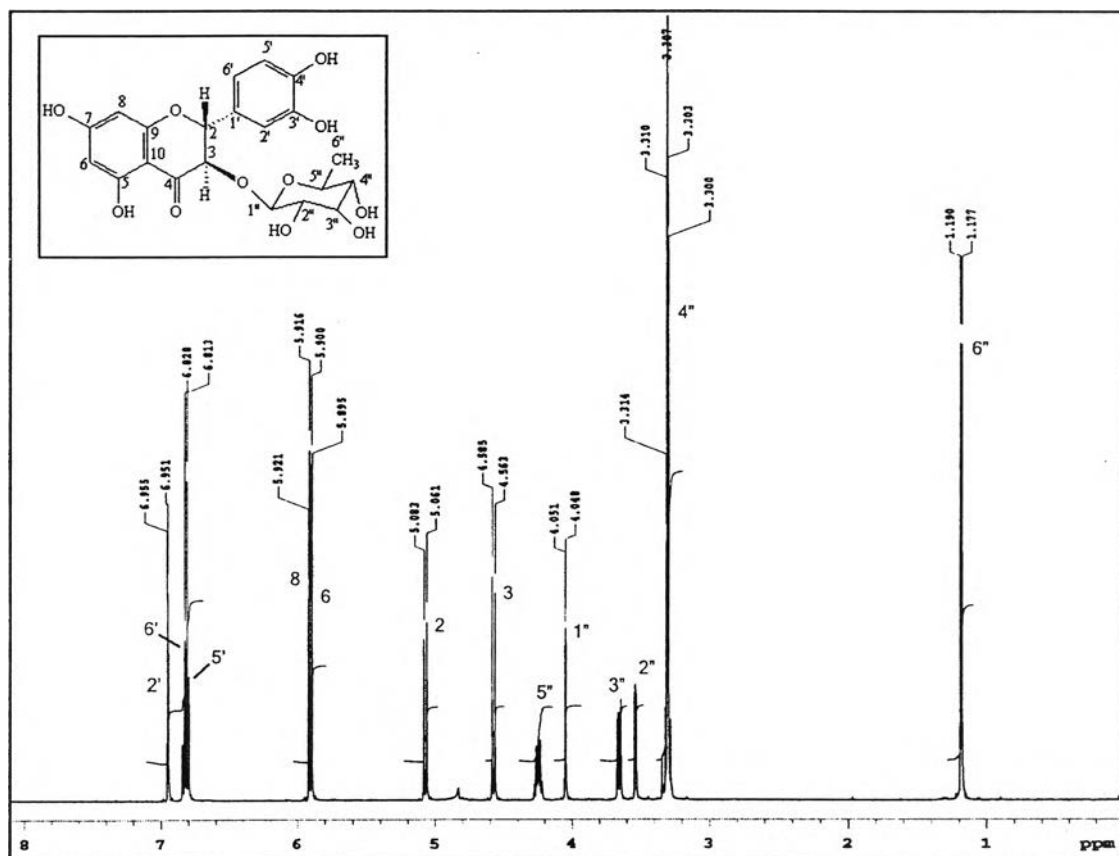


Figure 124. ^1H NMR (500 MHz) Spectrum of compound SC-6 (in CD_3OD)

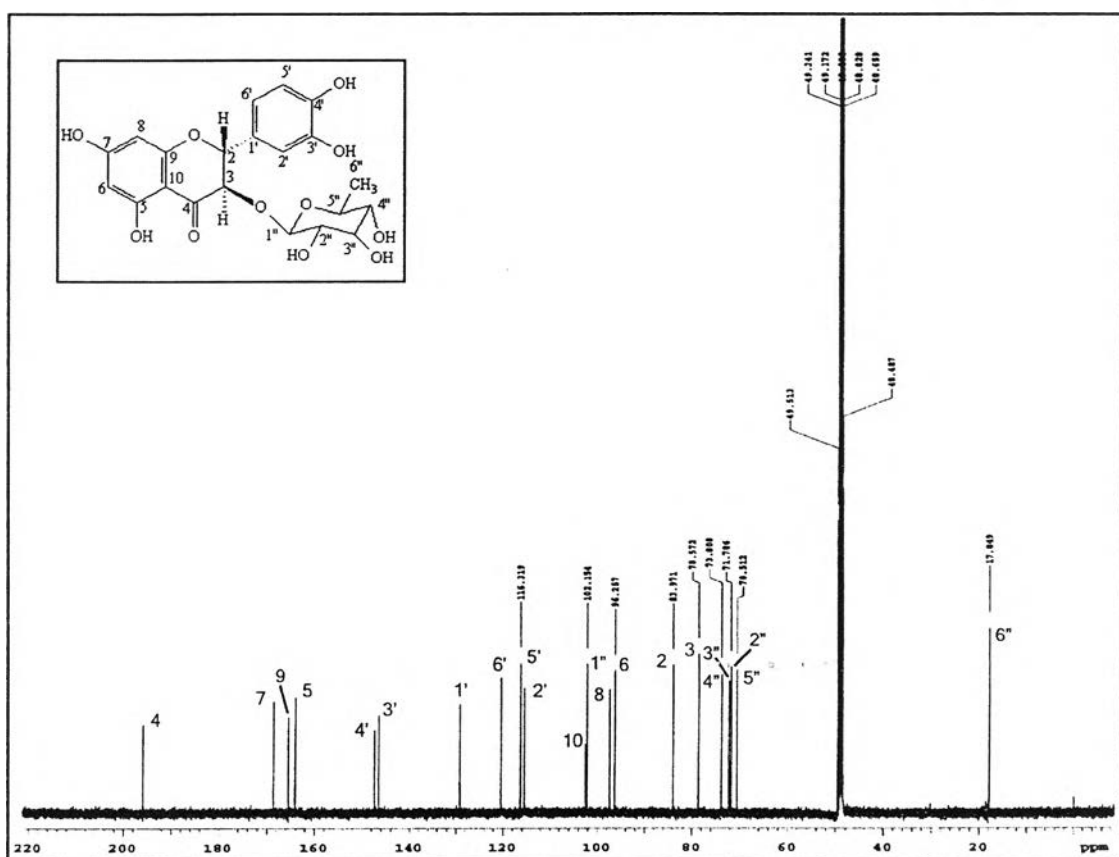


Figure 125. ^{13}C NMR (125 MHz) Spectrum of compound SC-6 (in CD_3OD)

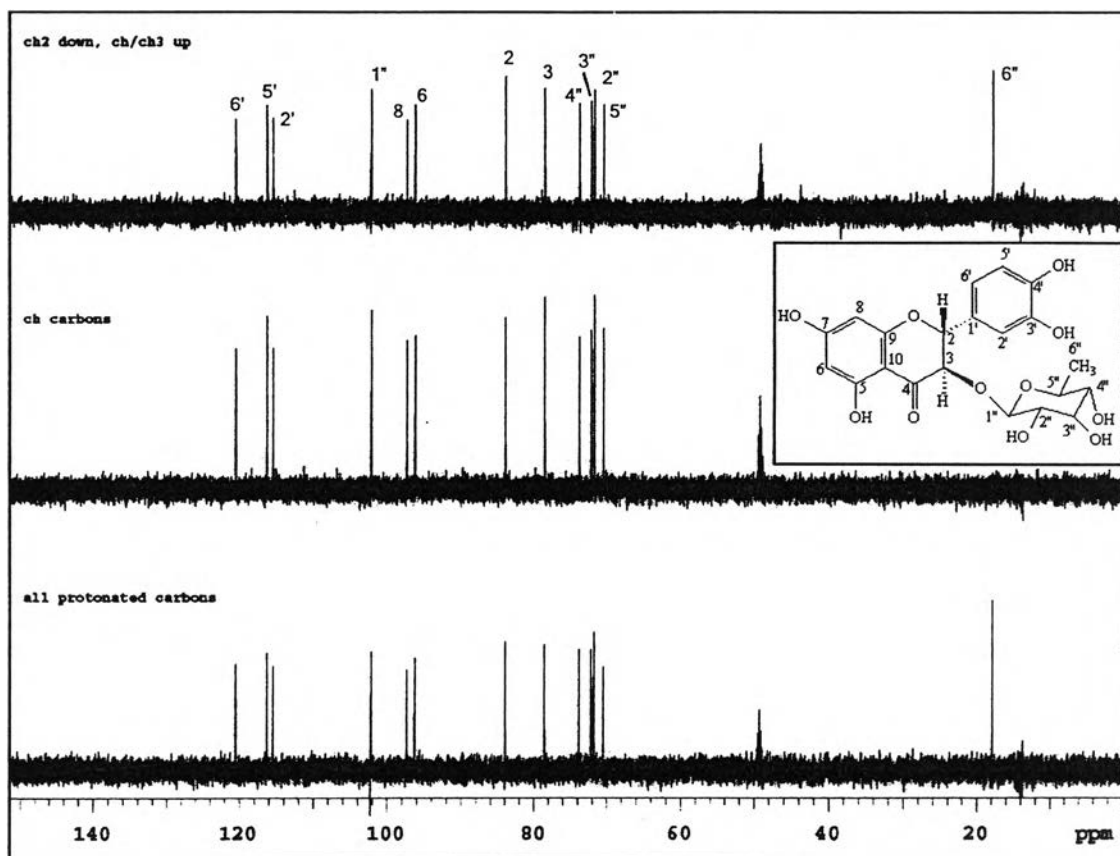


Figure 126. DEPT 135 Spectrum of compound SC-6

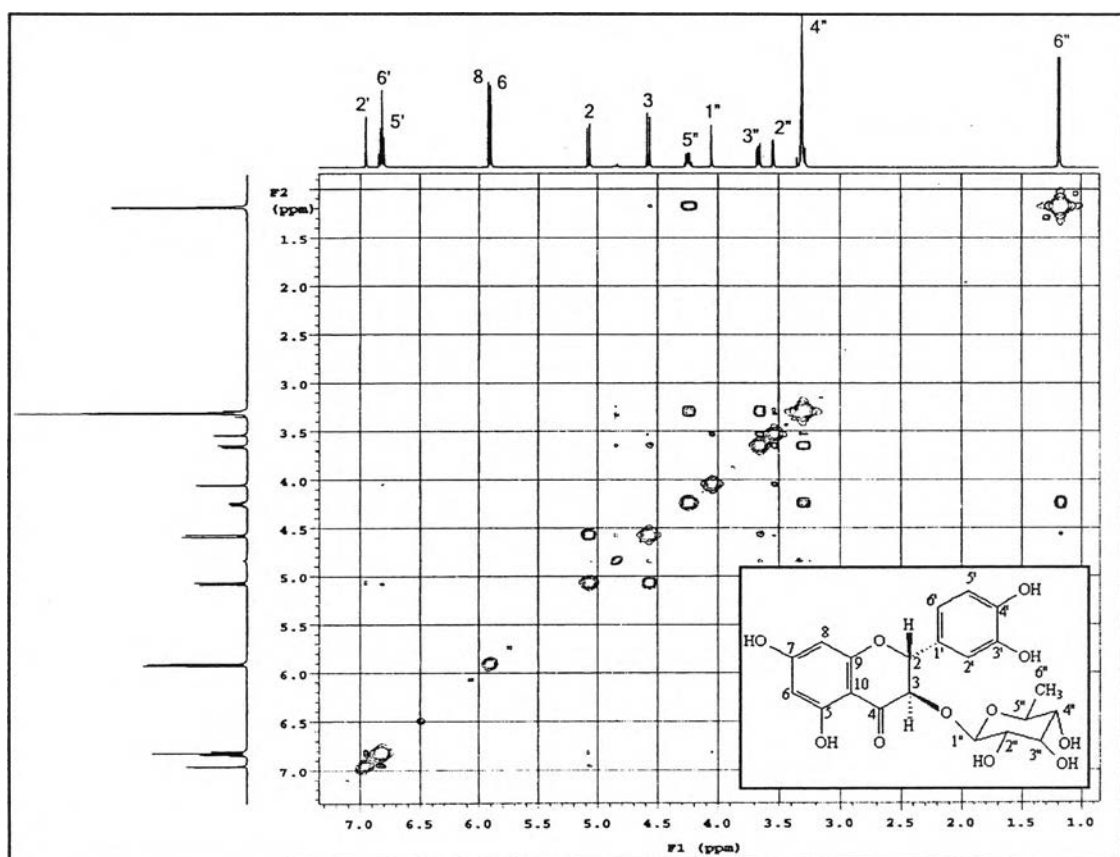


Figure 127. ^1H - ^1H COSY Spectrum of compound SC-6

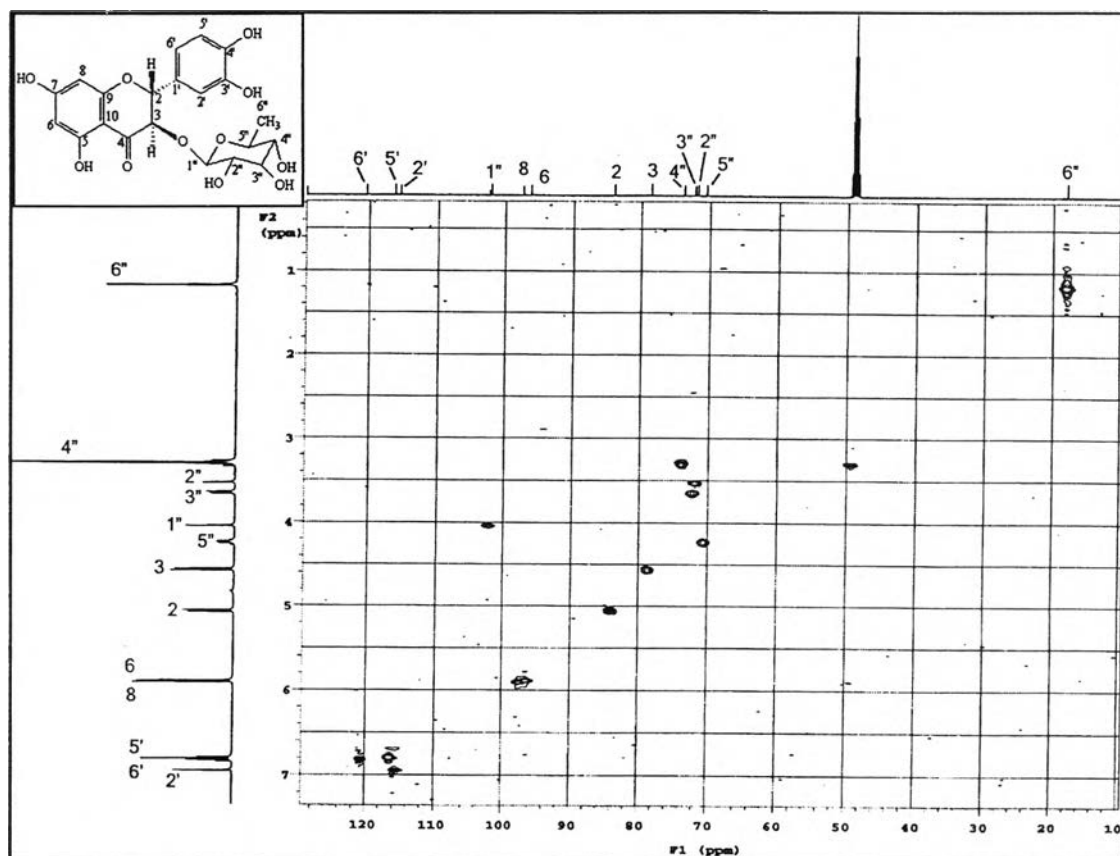


Figure 128. HMBC Spectrum of compound SC-6

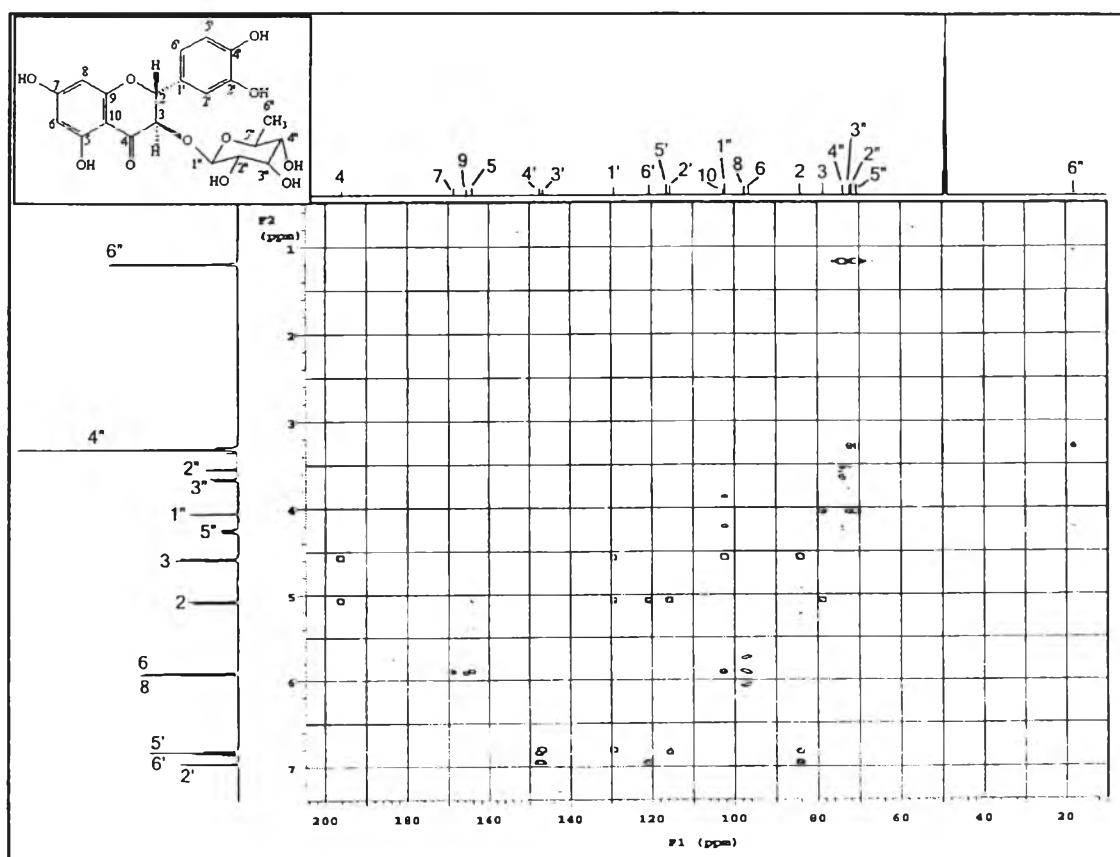


Figure 129. HMBC Spectrum of compound SC-6

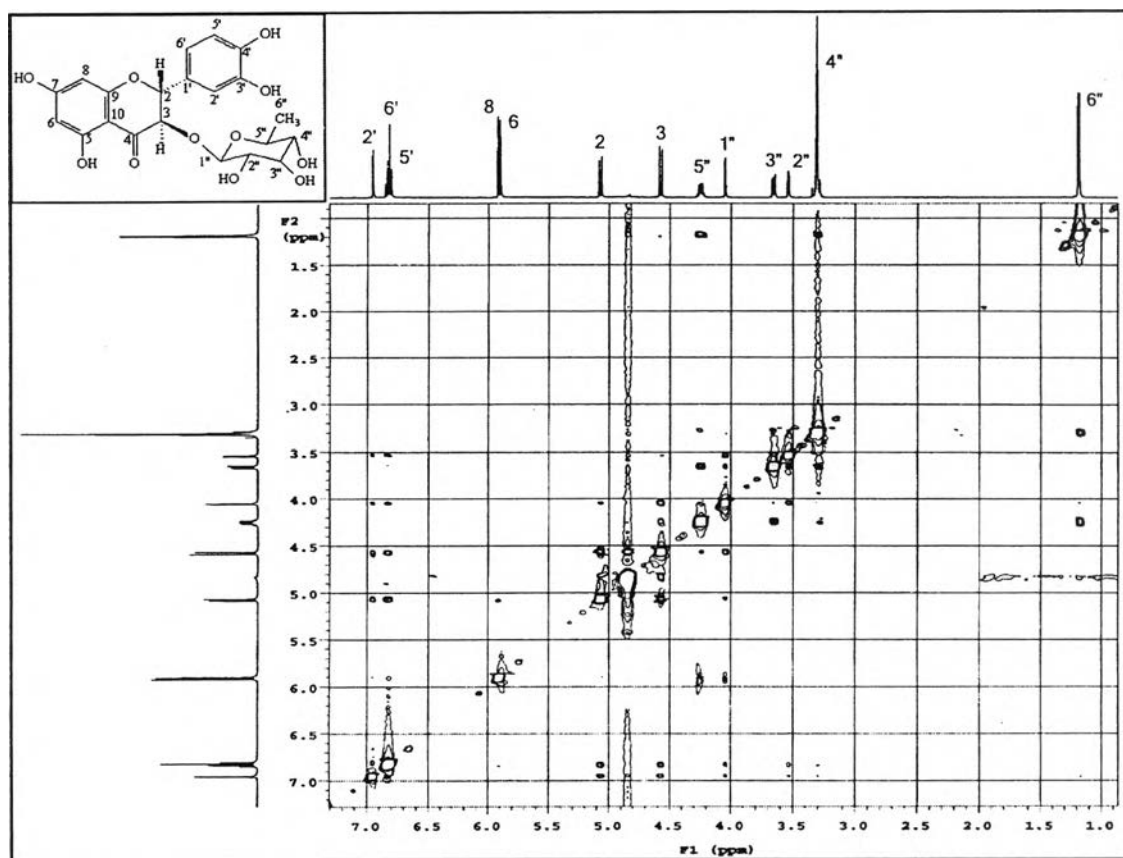


Figure 130. NOESY Spectrum of compound SC-6

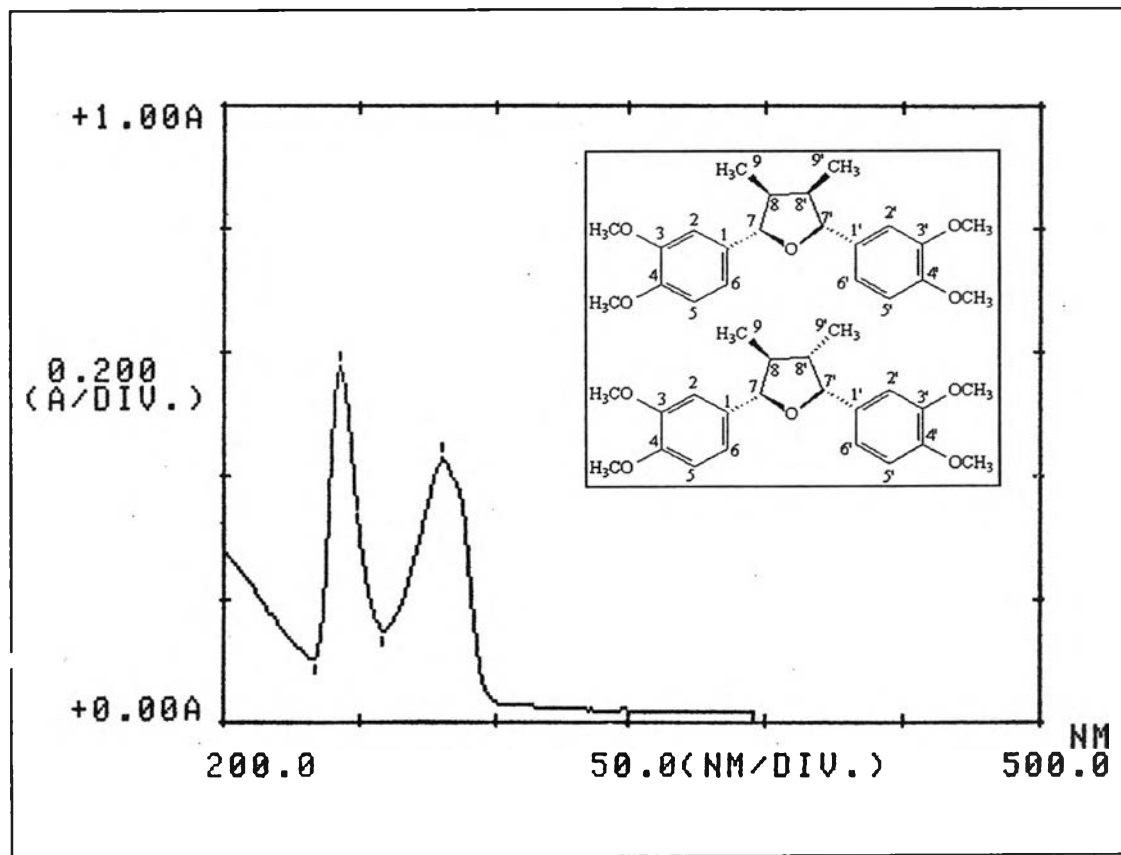


Figure 131. UV Spectrum of compound SC-7 (in CDCl_3)

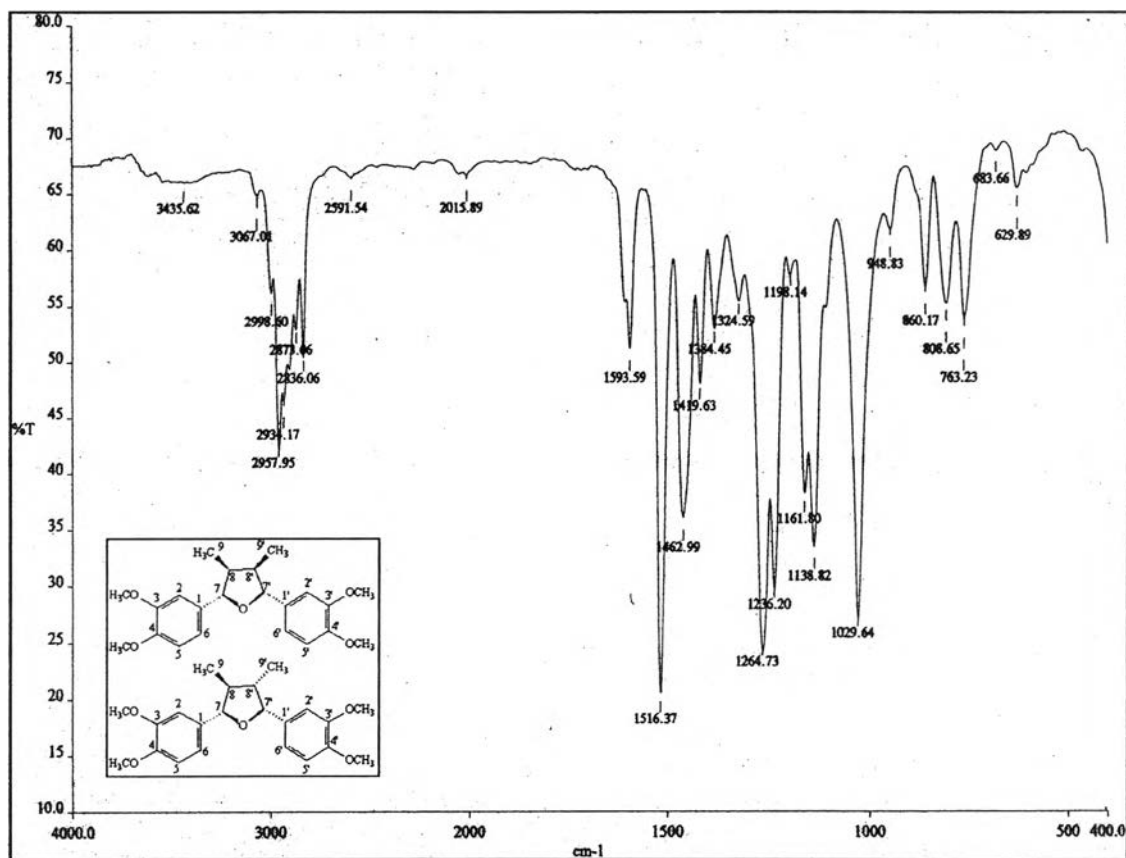


Figure 132. IR Spectrum of compound SC-7 (film)

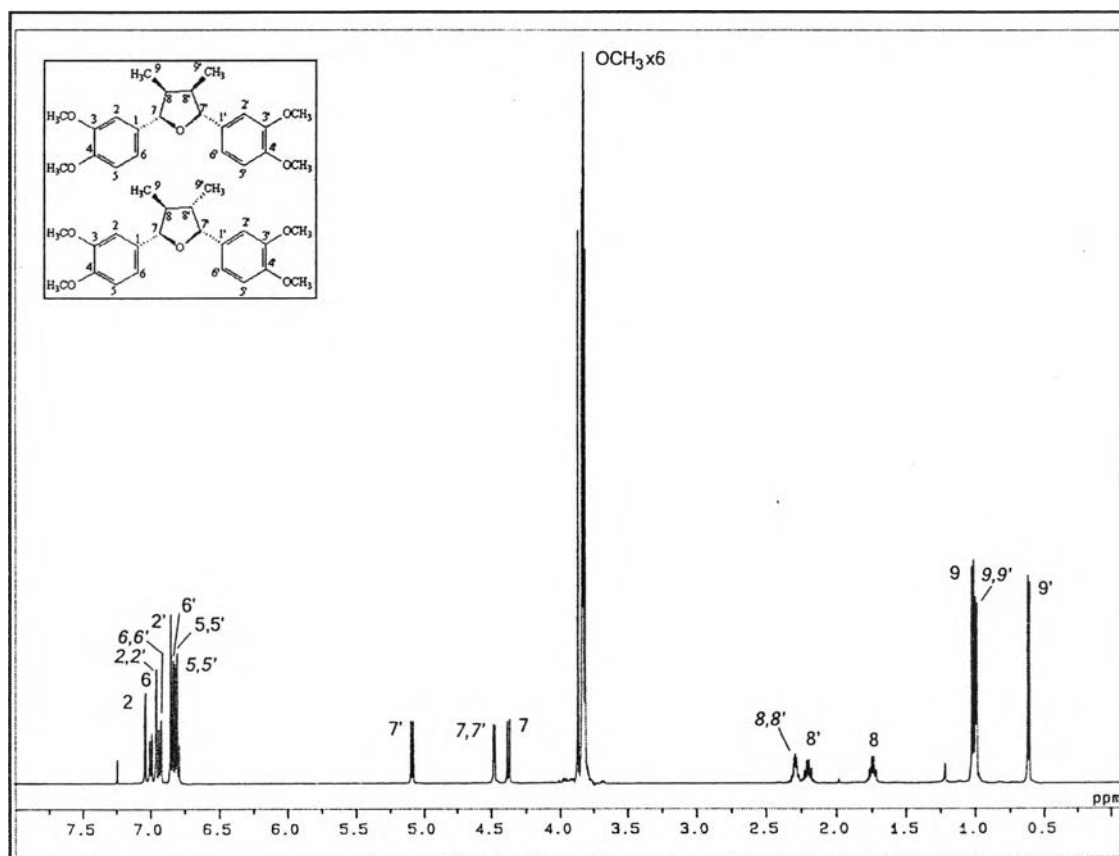
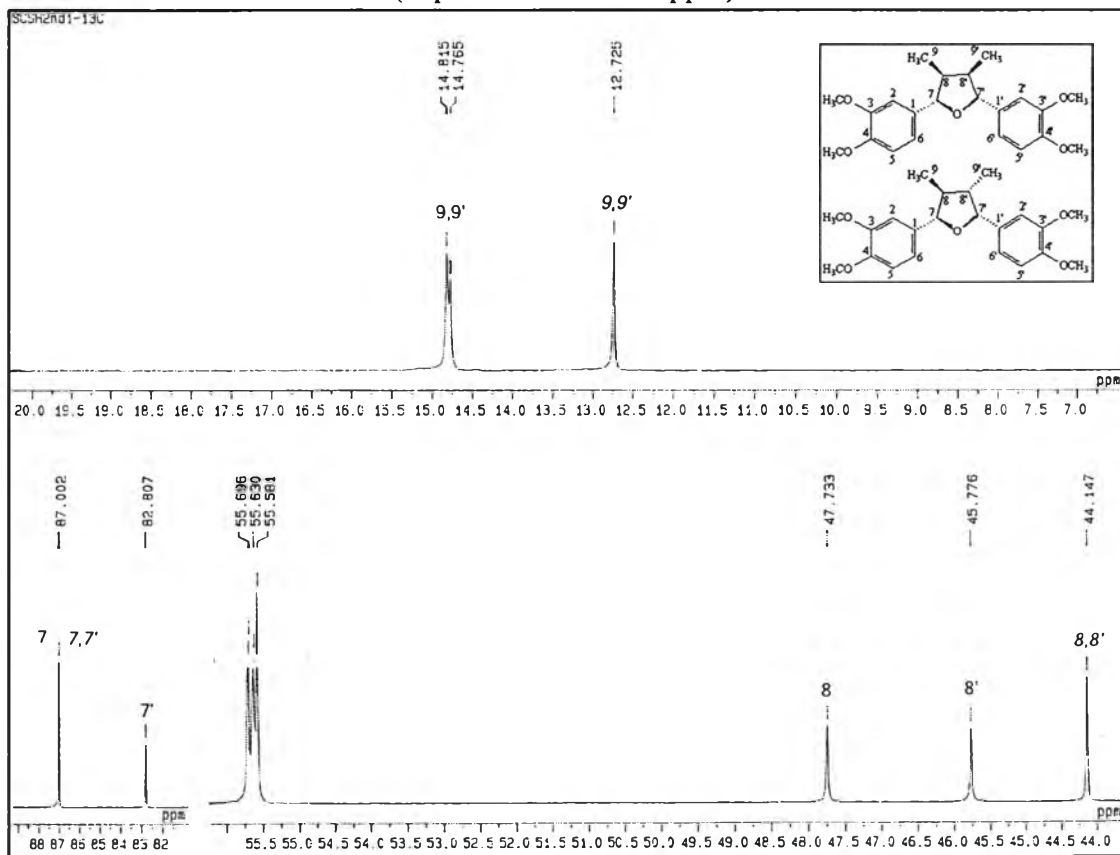
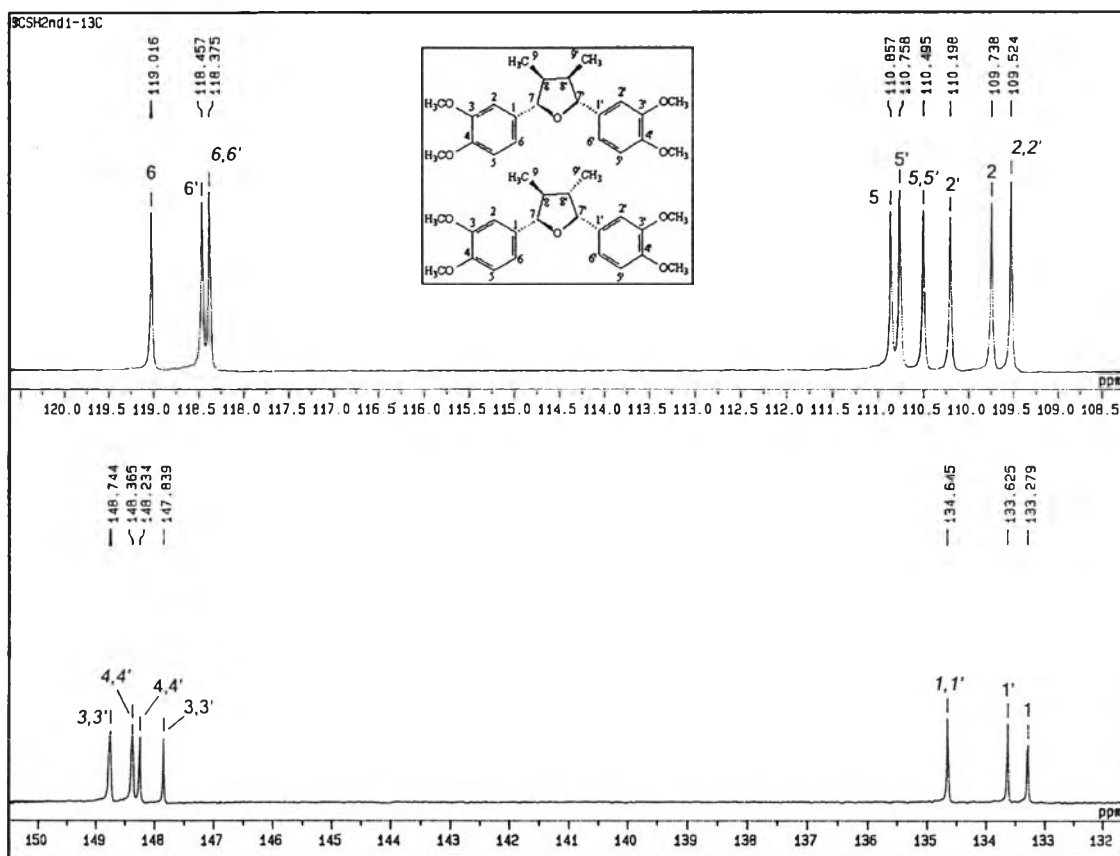


Figure 133a. ¹H NMR (500 MHz) Spectrum of compound SC-7 (in CDCl₃)



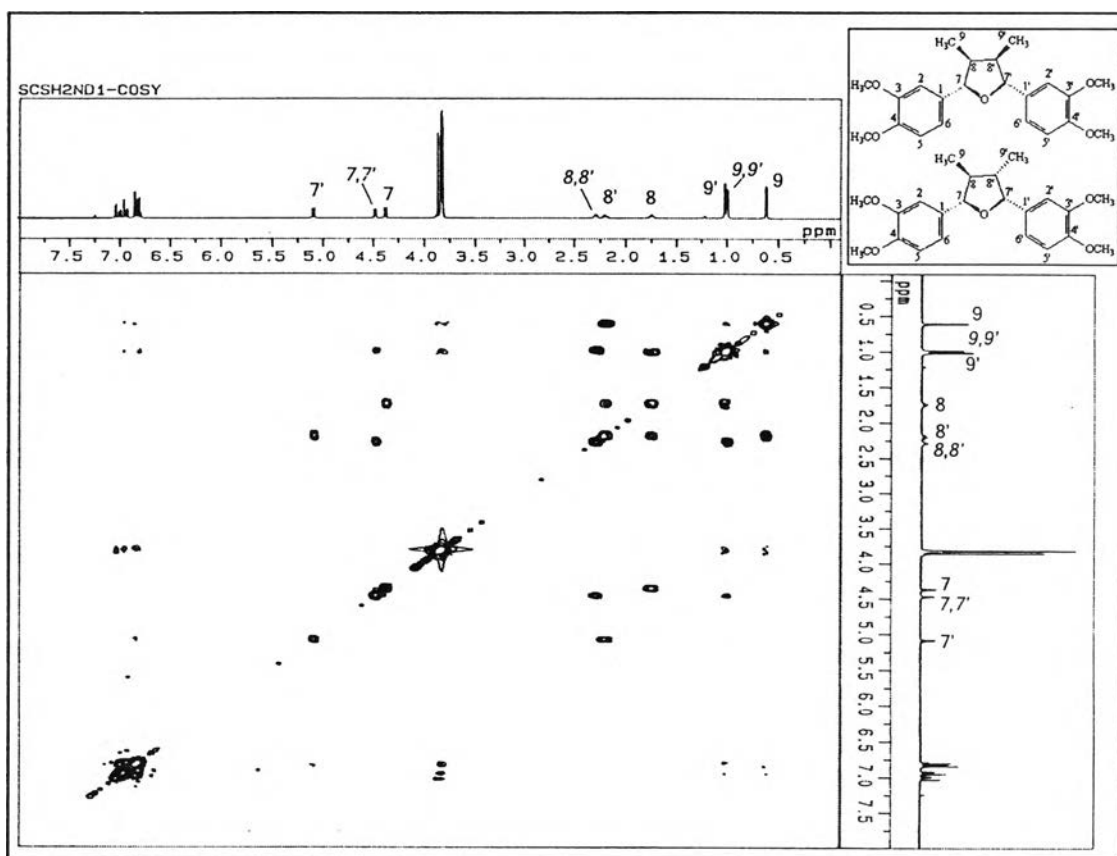


Figure 135. ^1H - ^1H COSY Spectrum of compound SC-7

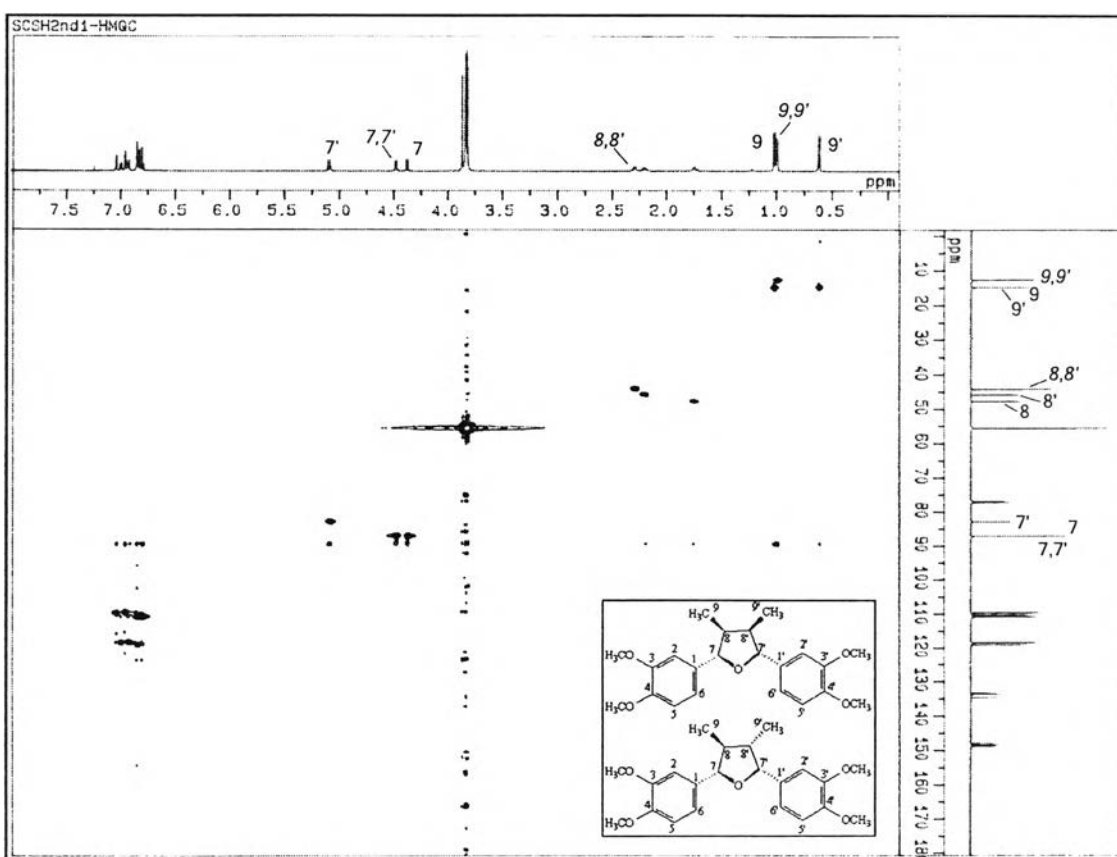


Figure 136a. HMGC Spectrum of compound SC-7

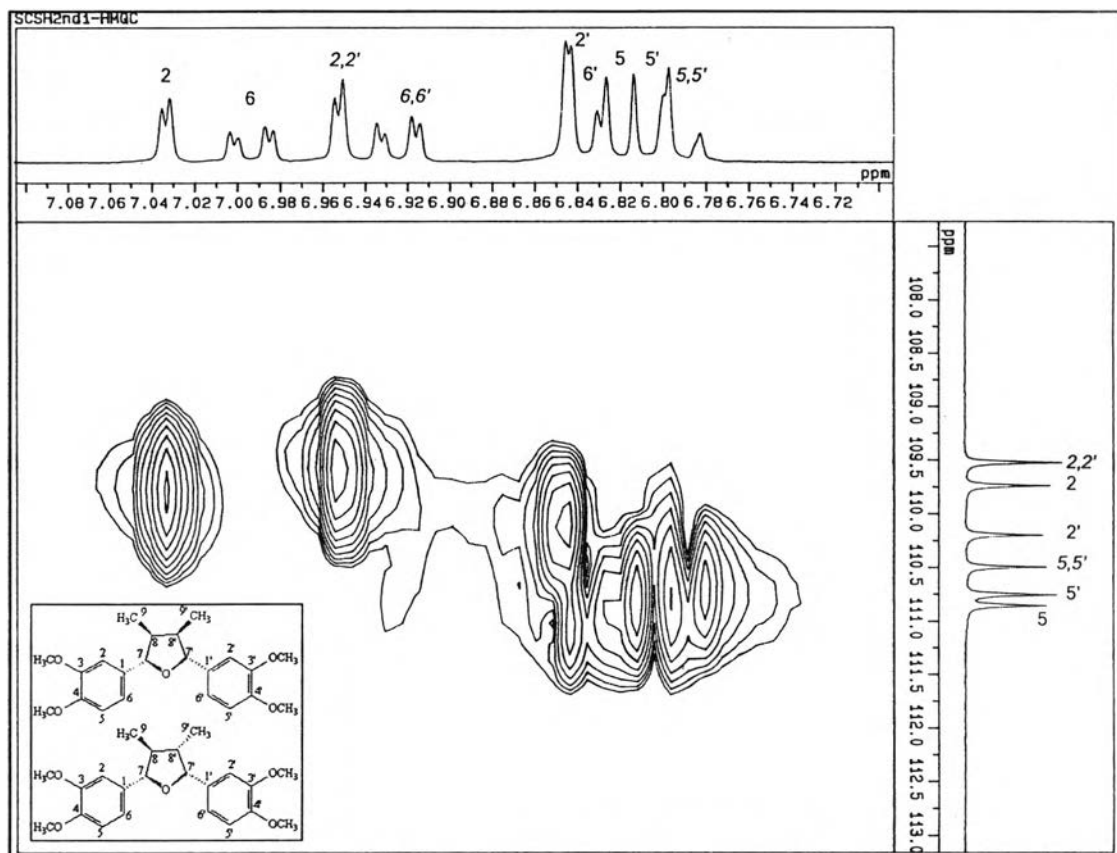


Figure 136b. HMQC Spectrum of compound SC-7 (δ_{H} 6.7-7.1 ppm, δ_{C} 108-113 ppm)

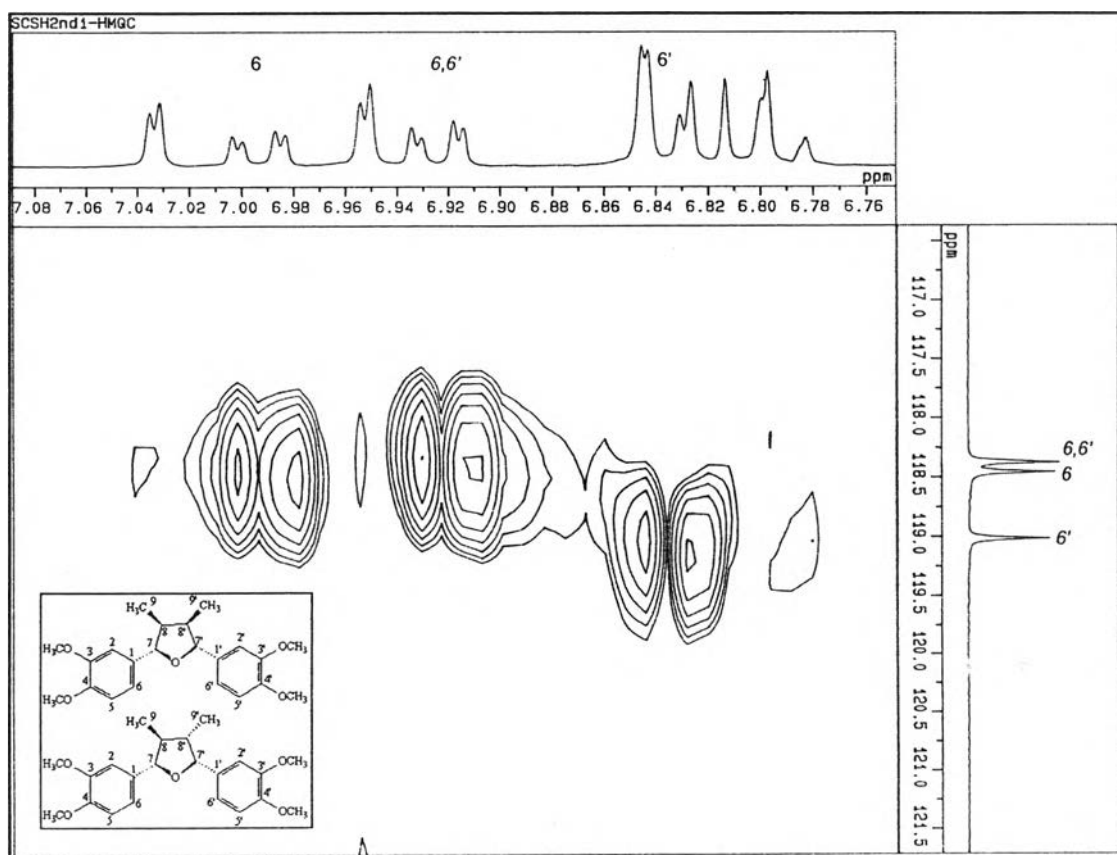


Figure 136c. HMQC Spectrum of compound SC-7 (δ_{H} 6.7-7.1 ppm, δ_{C} 117-121 ppm)

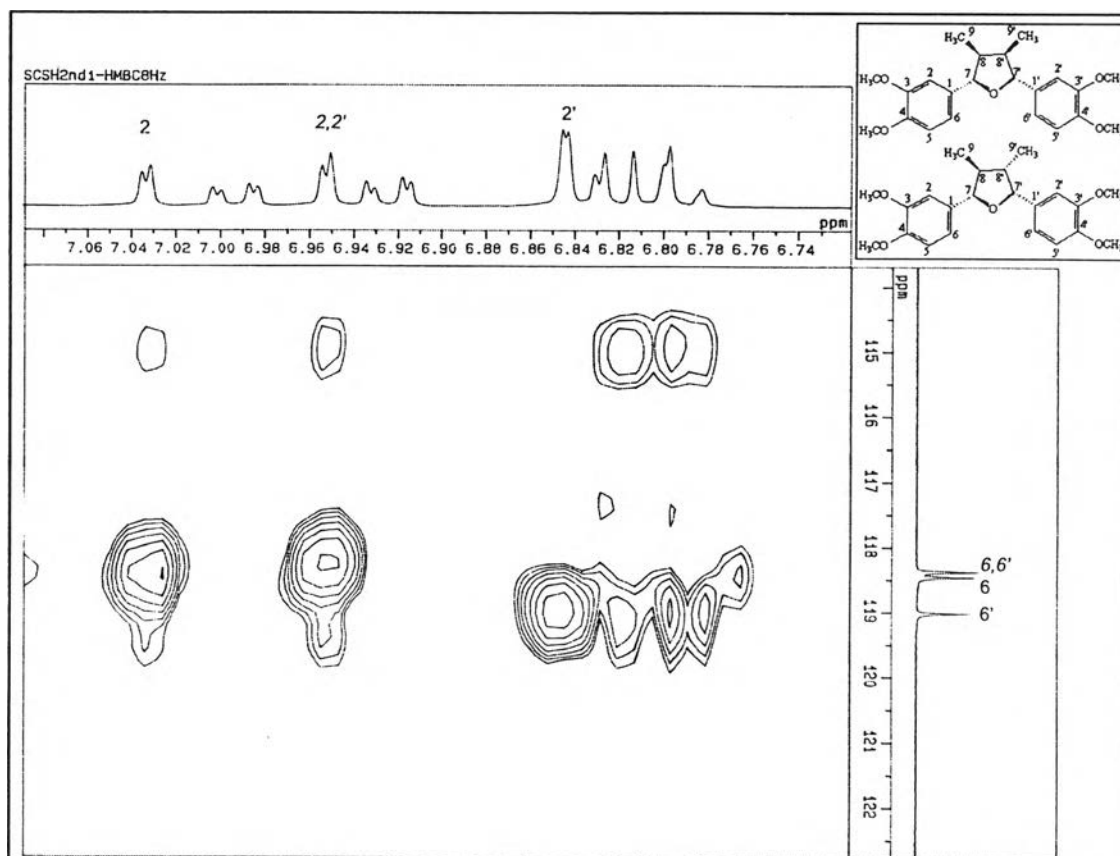


Figure 137a. HMBC Spectrum of compound SC-7 (δ_H 6.7-7.1 ppm, δ_C 115-122 ppm)

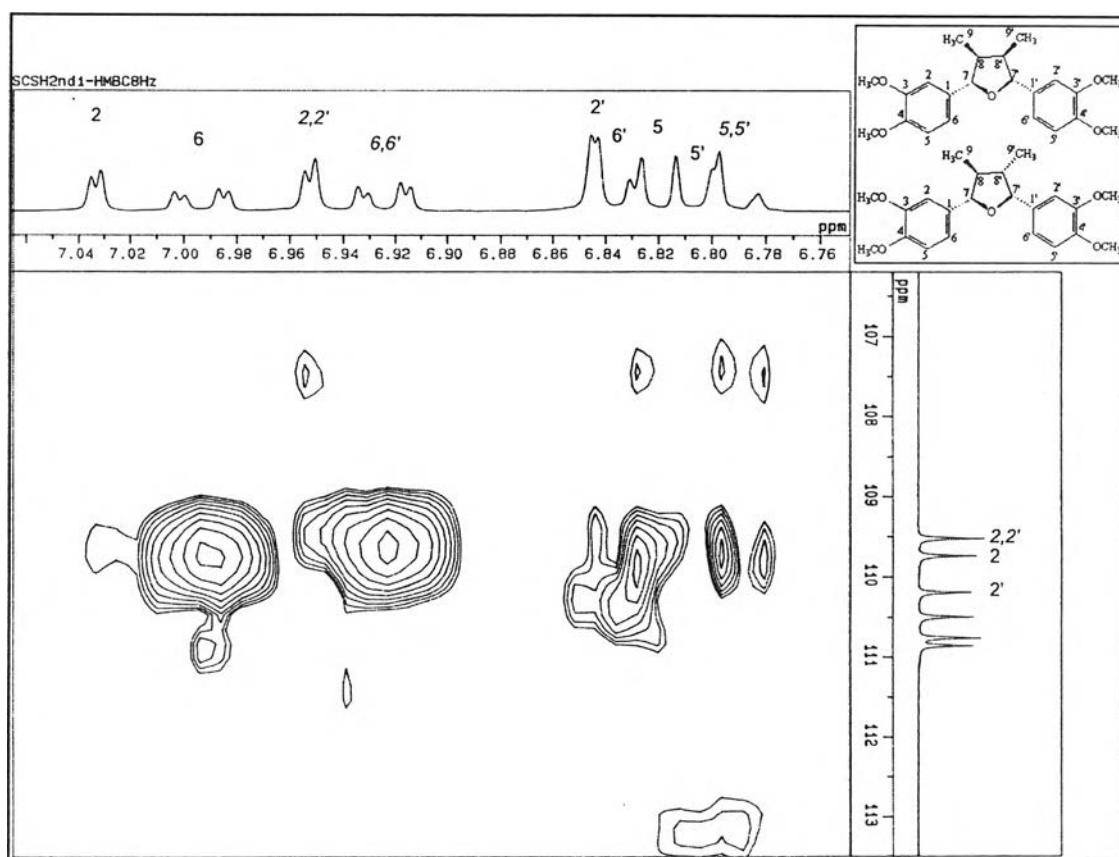


Figure 137b. HMBC Spectrum of compound SC-7 (δ_H 6.7-7.1 ppm, δ_C 107-113 ppm)

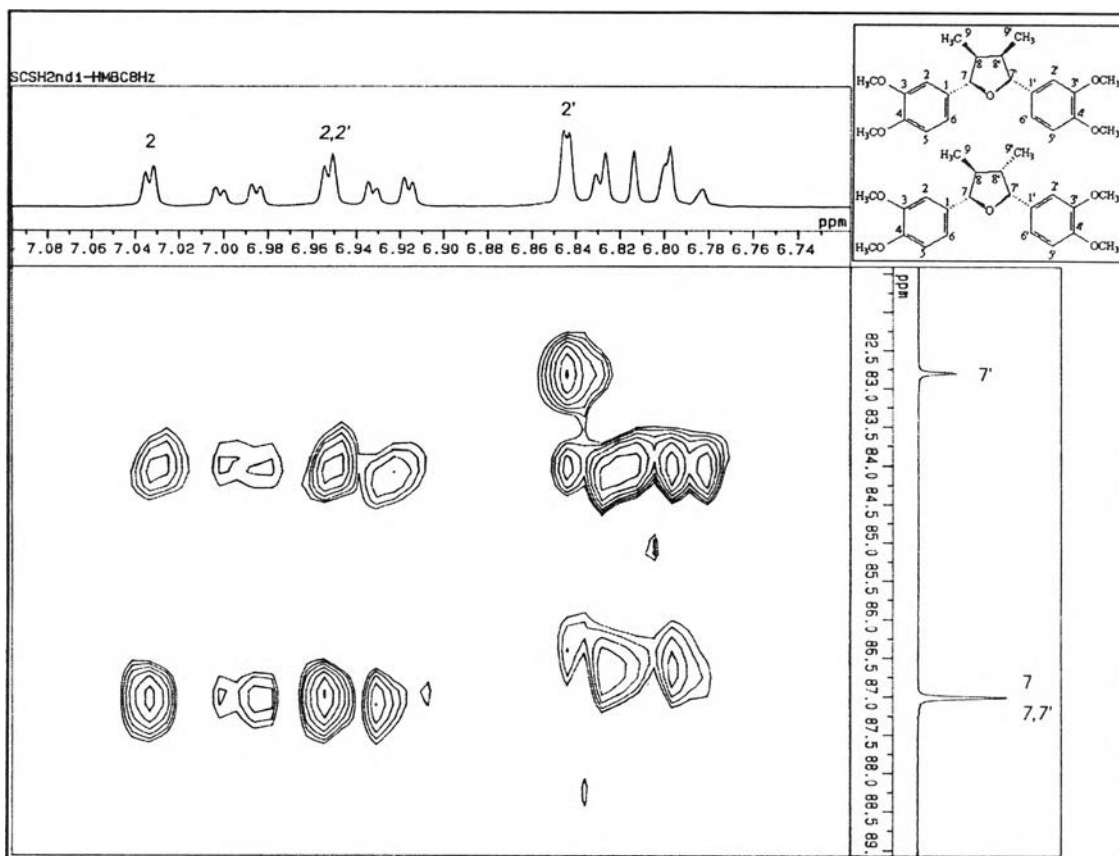


Figure 137c. HMBC Spectrum of compound SC-7 (δ_{H} 6.7-7.1 ppm, δ_{C} 82-88 ppm)

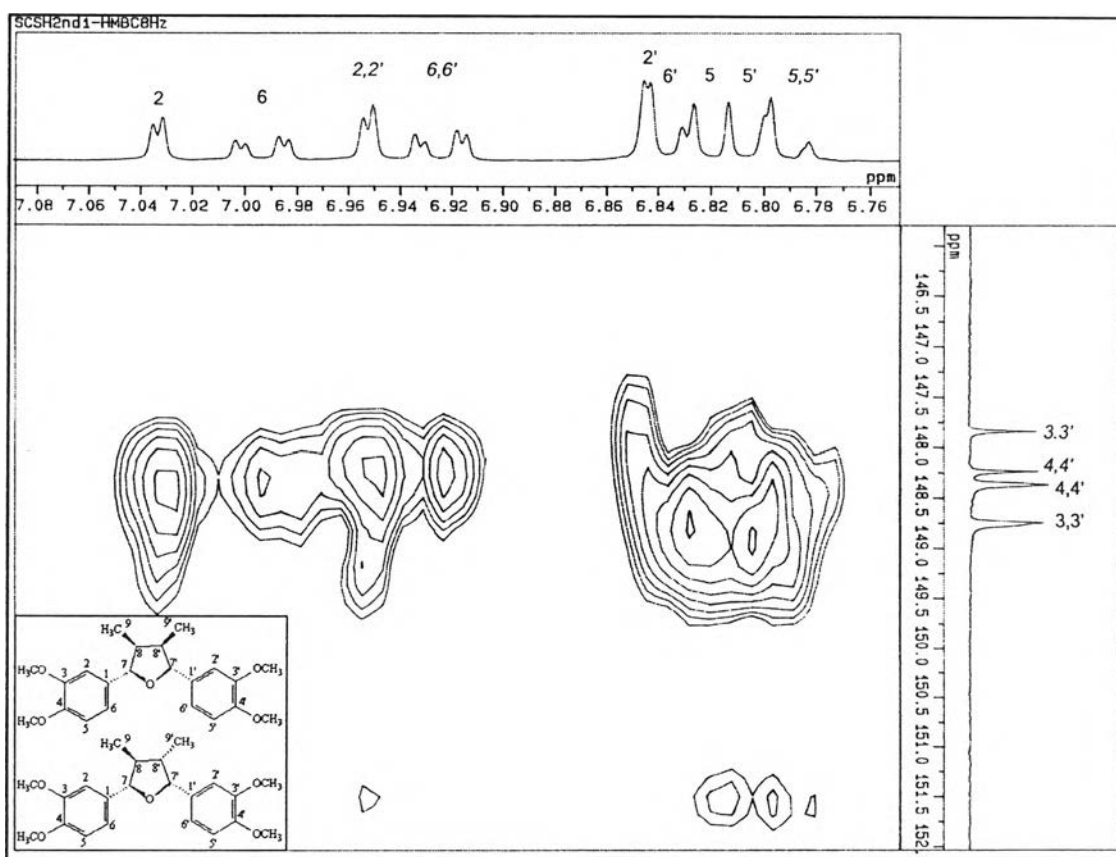


Figure 137d. HMBC Spectrum of compound SC-7 (δ_{H} 6.7-7.1 ppm, δ_{C} 146-152 ppm)

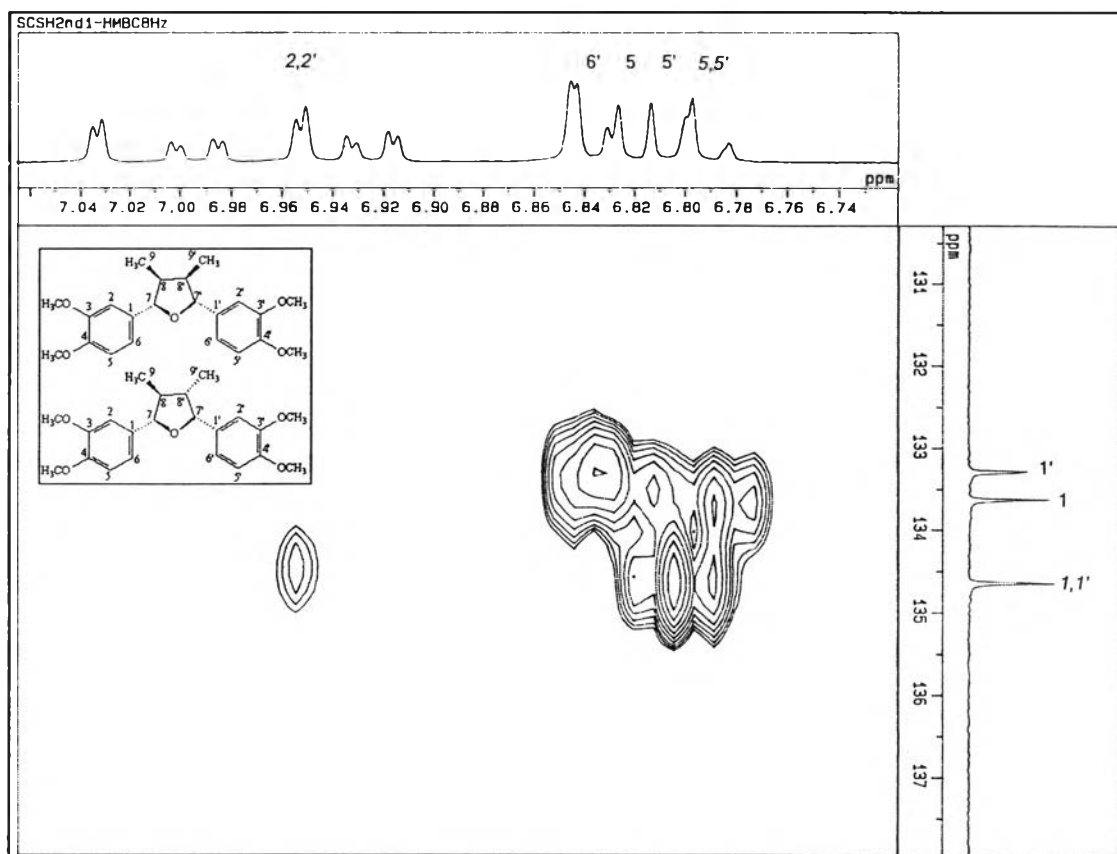


Figure 137e. HMBC Spectrum of compound SC-7 (δ_{H} 6.7-7.1 ppm, δ_{C} 131-137 ppm)

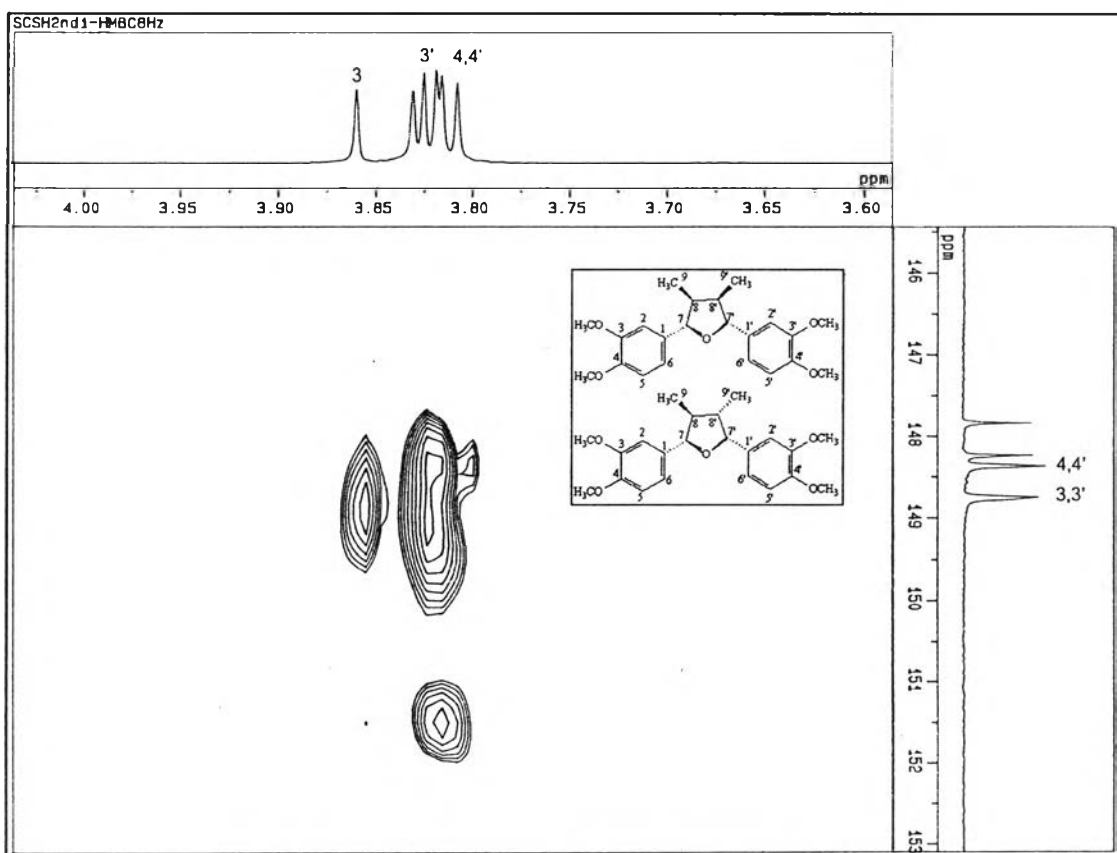


Figure 137f. HMBC Spectrum of compound SC-7 (δ_{H} 3.7-4.0 ppm, δ_{C} 146-153 ppm)

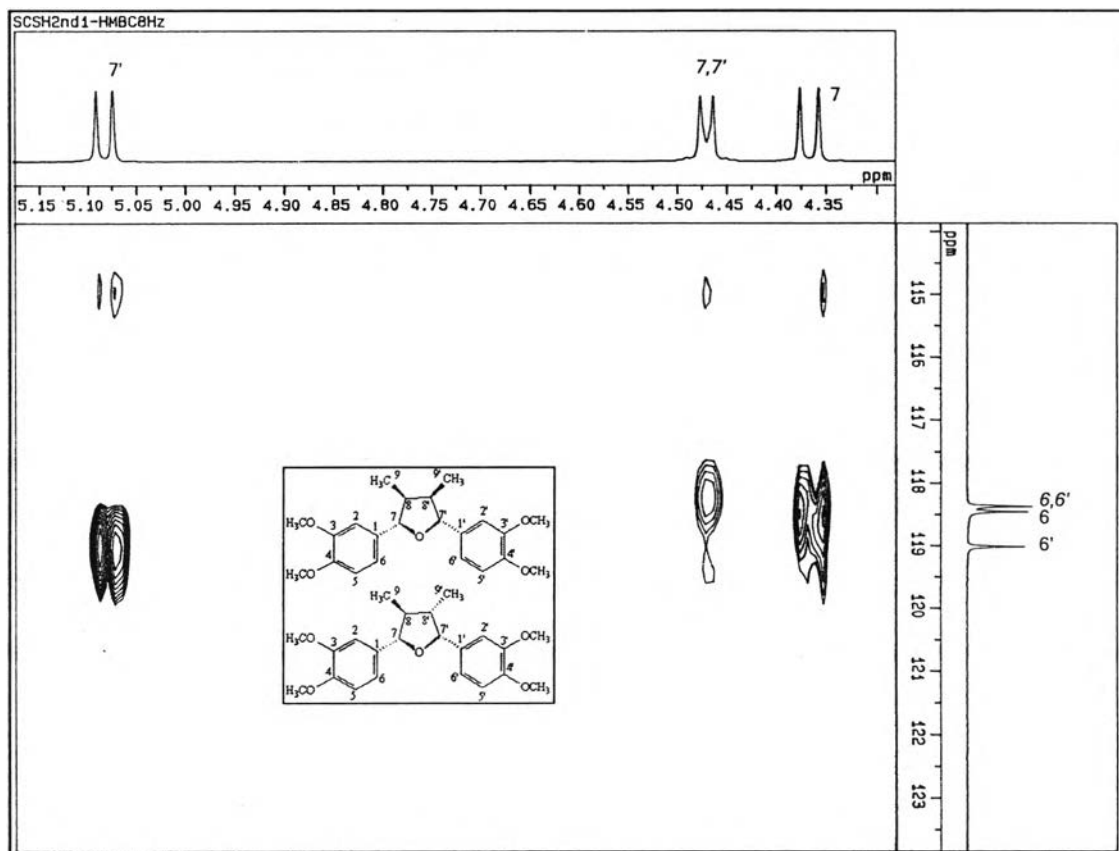


Figure 137g. HMBC Spectrum of compound SC-7 (δ_{H} 4.3-5.2 ppm, δ_{C} 115-123 ppm)

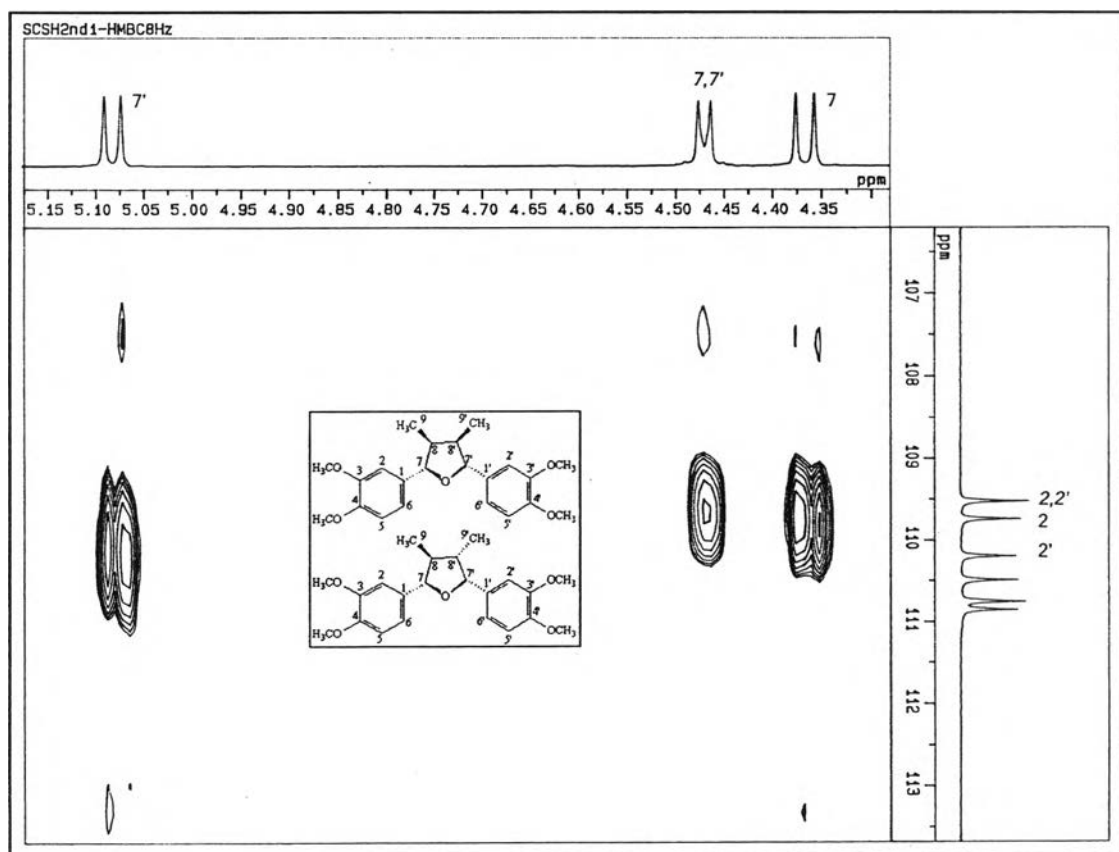


Figure 137h. HMBC Spectrum of compound SC-7 (δ_{H} 4.3-5.2, δ_{C} 107-113 ppm)

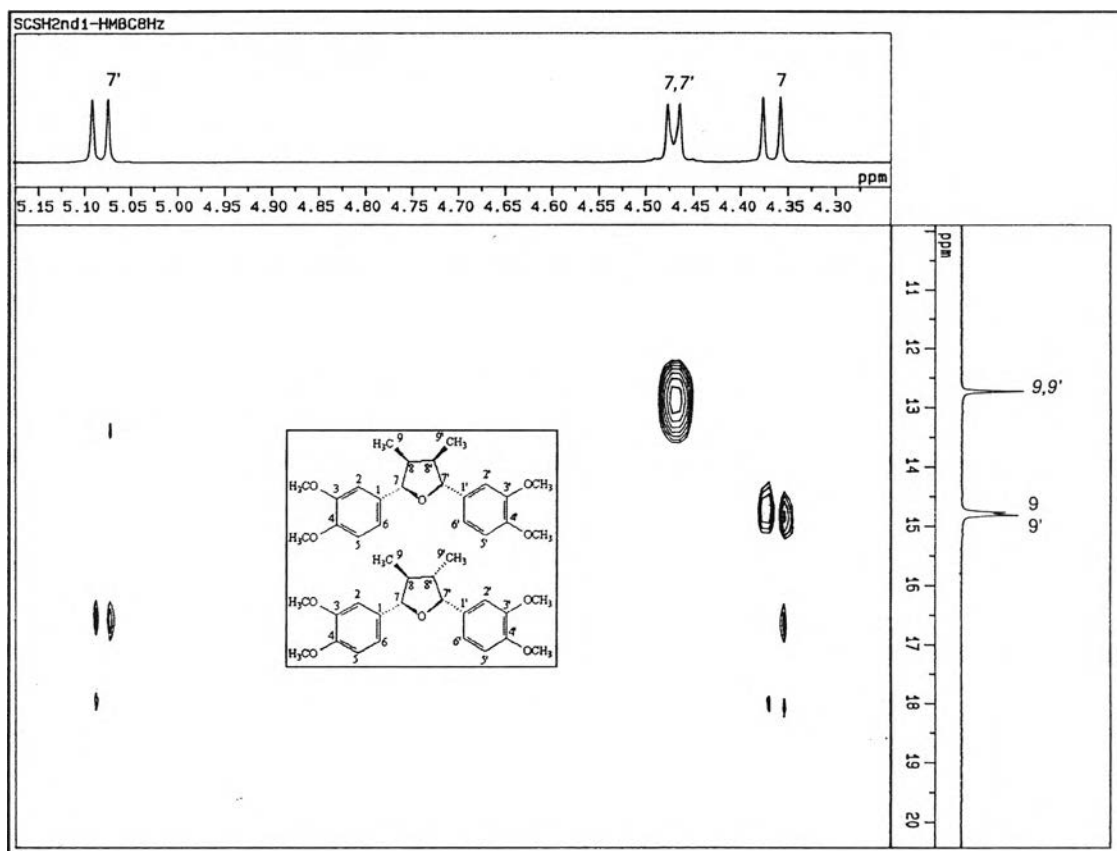


Figure 137i. HMBC Spectrum of compound SC-7 (δ_{H} 4.3-5.2 ppm, δ_{C} 11-19 ppm)

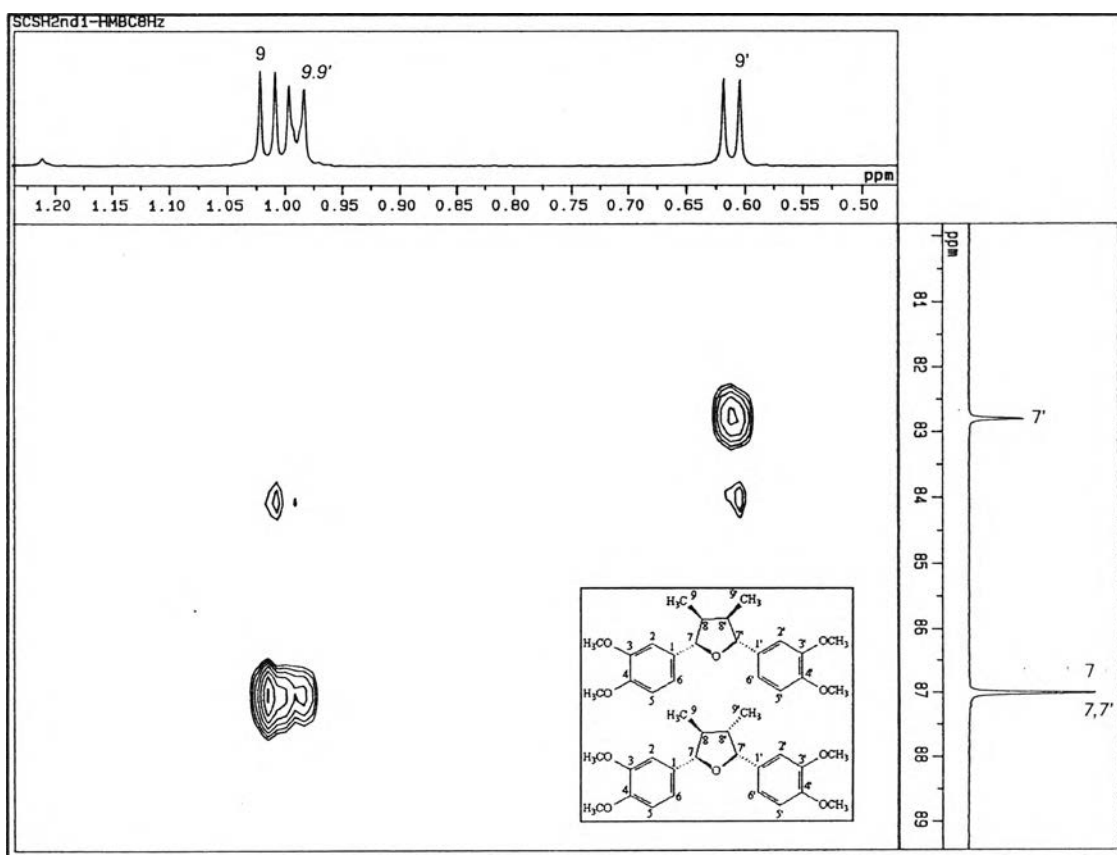


Figure 137j. HMBC Spectrum of compound SC-7 (δ_{H} 0.5-1.2 ppm, δ_{C} 81-89 ppm)

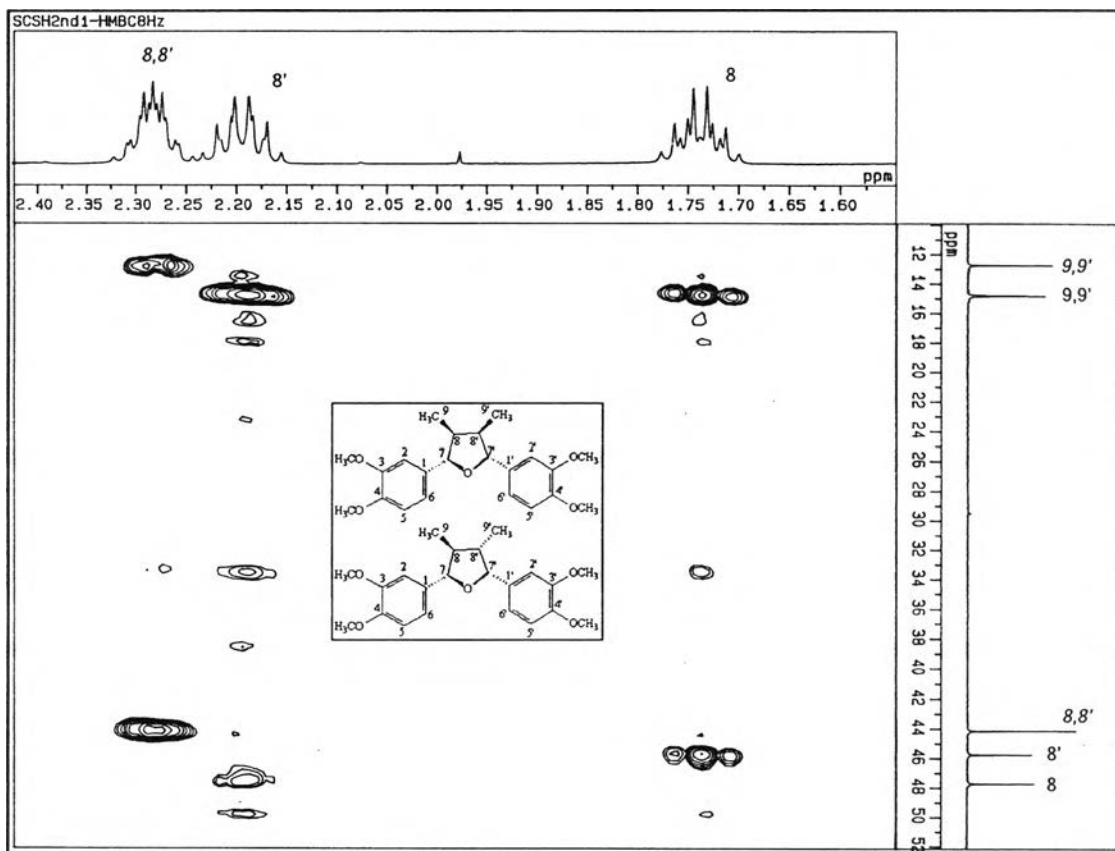


Figure 137k. HMBC Spectrum of compound SC-7 (δ_{H} 1.6-2.4 ppm, δ_{C} 12-52 ppm)

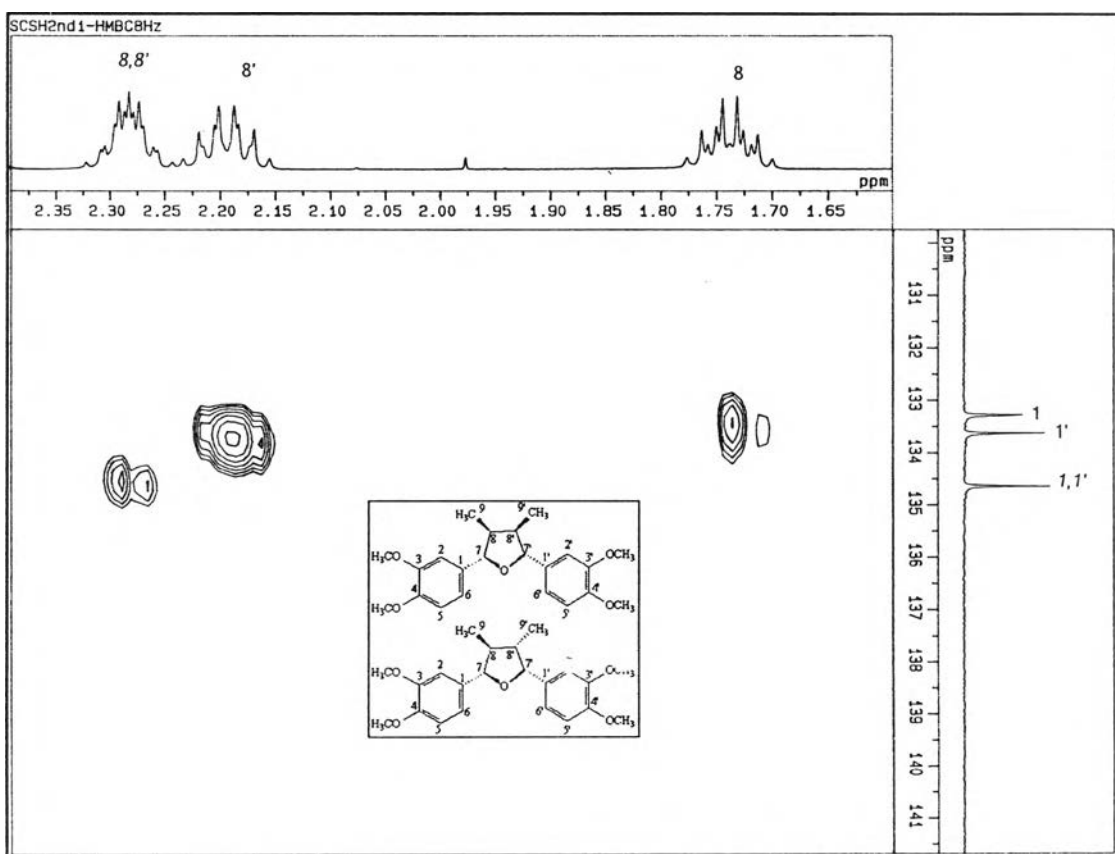


Figure 137l. HMBC Spectrum of compound SC-7 (δ_{H} 1.6-2.4 ppm, δ_{C} 131-141 ppm)

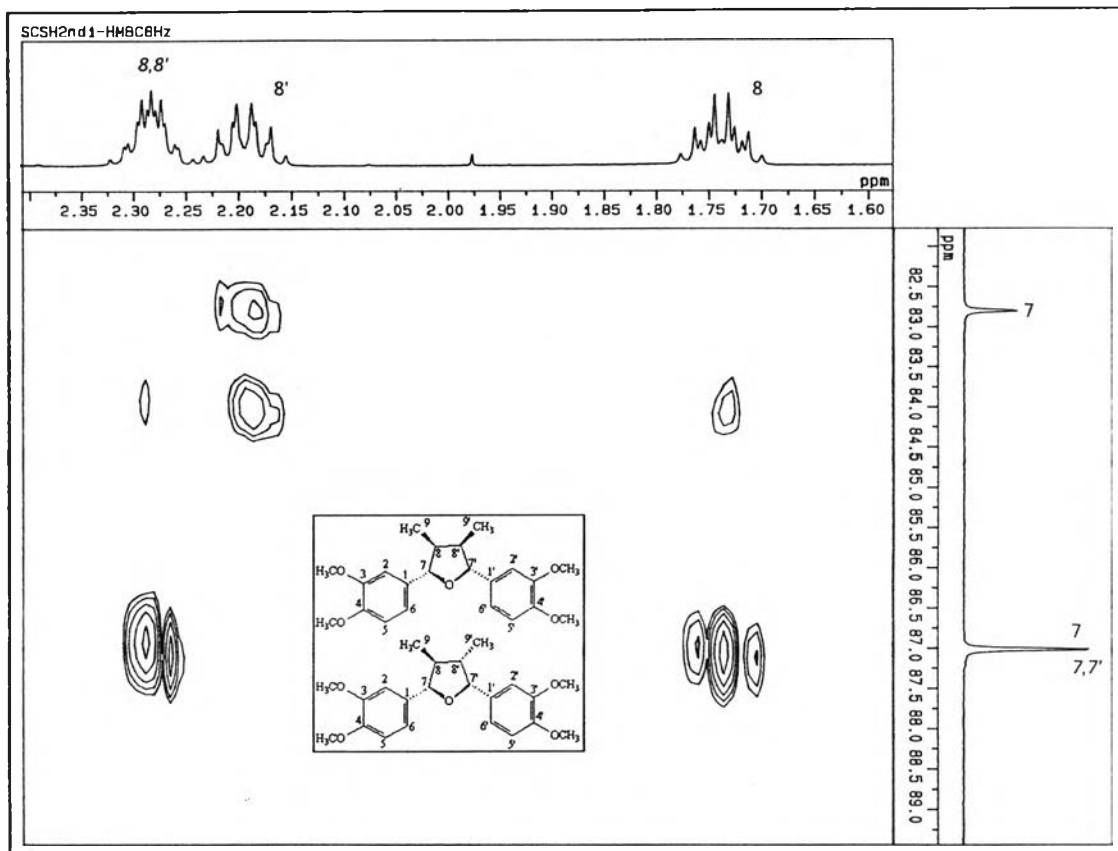


Figure 137m. HMBC Spectrum of compound SC-7 (δ_{H} 1.6-2.4, δ_{C} 82-89 ppm)

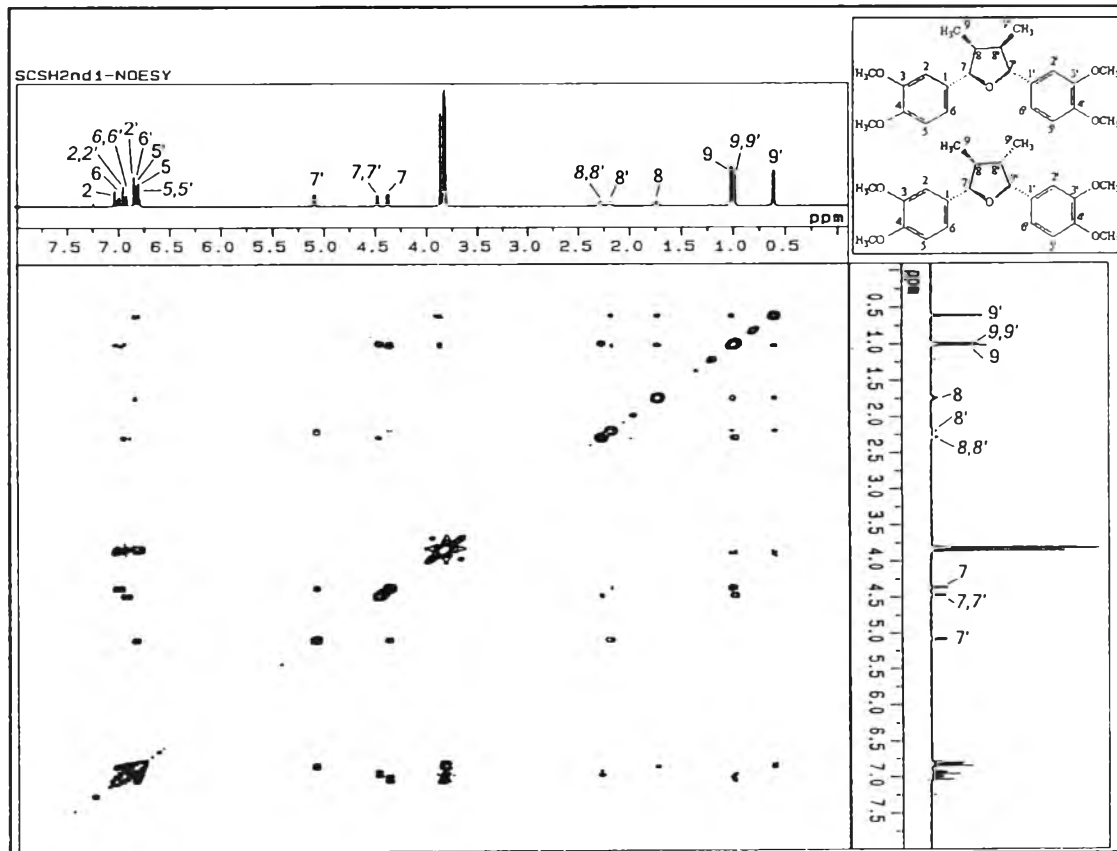


Figure 138a. NOESY Spectrum of compound SC-7

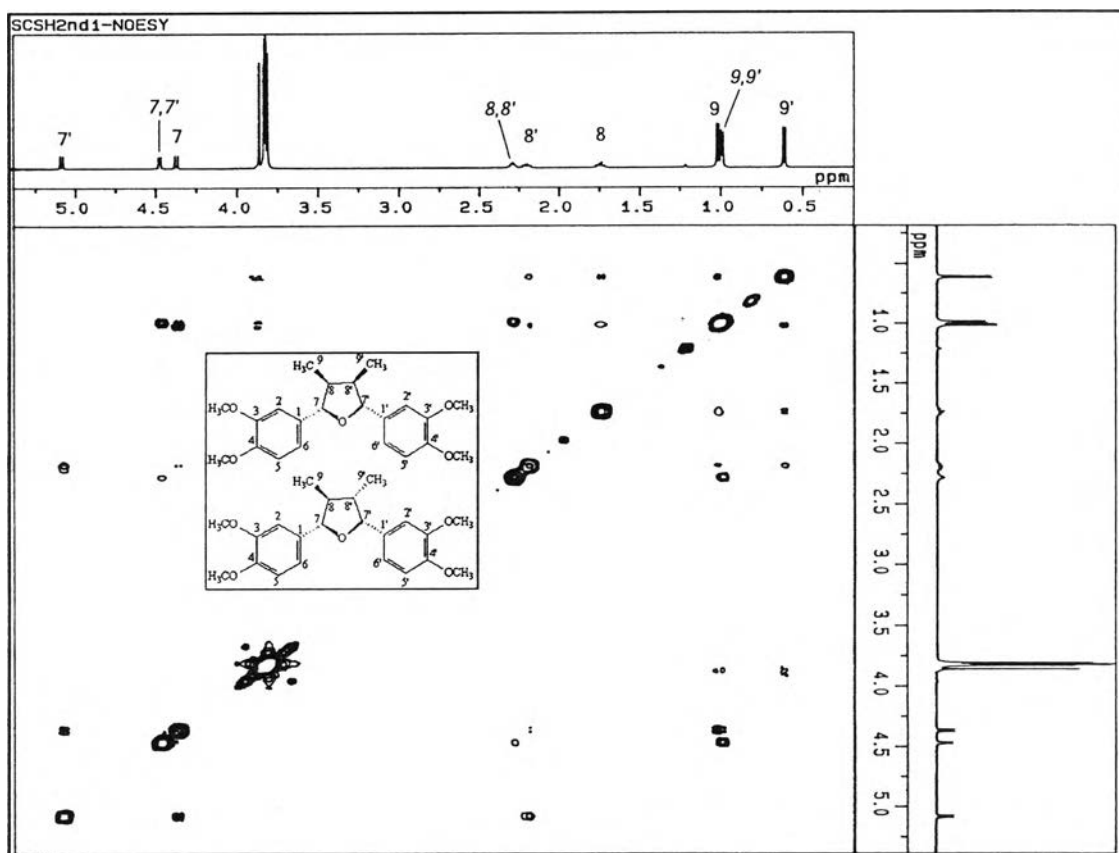


Figure 138b. NOESY Spectrum of compound SC-7 (δ 0.5-5.5 ppm)

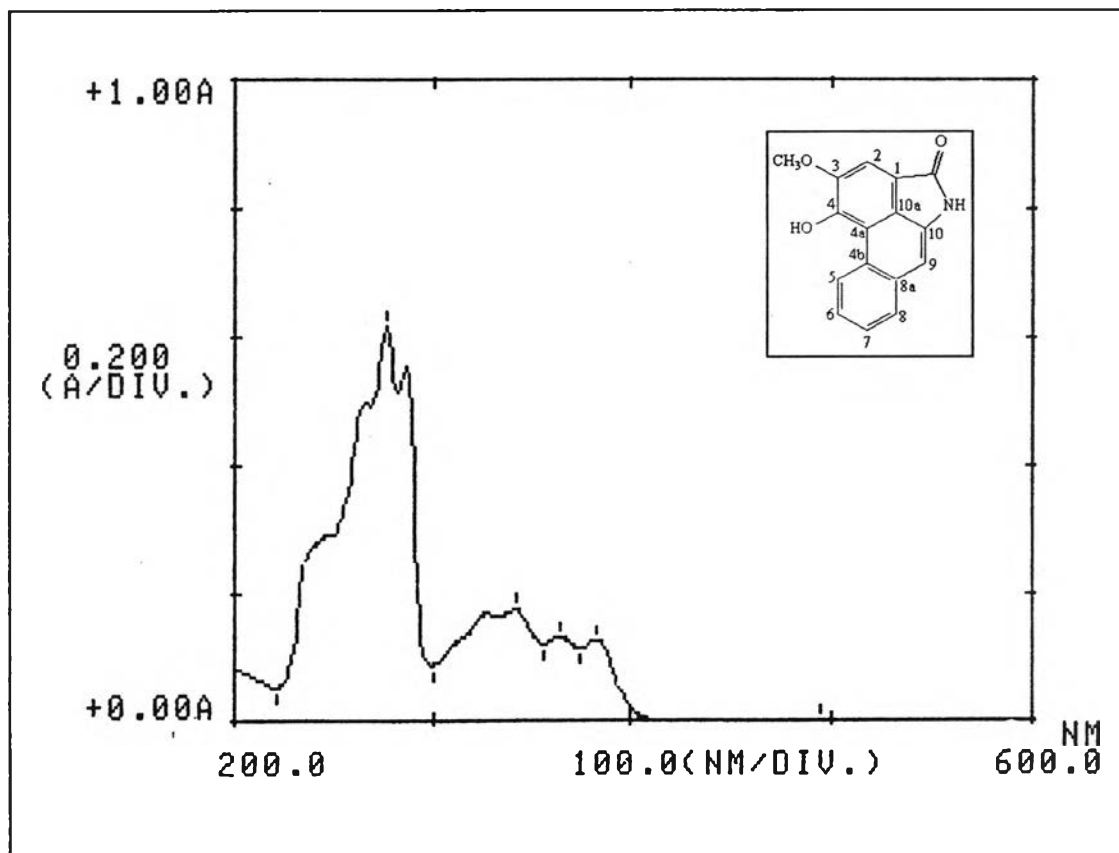


Figure 139. UV Spectrum of compound SC-8 (in MeOH)

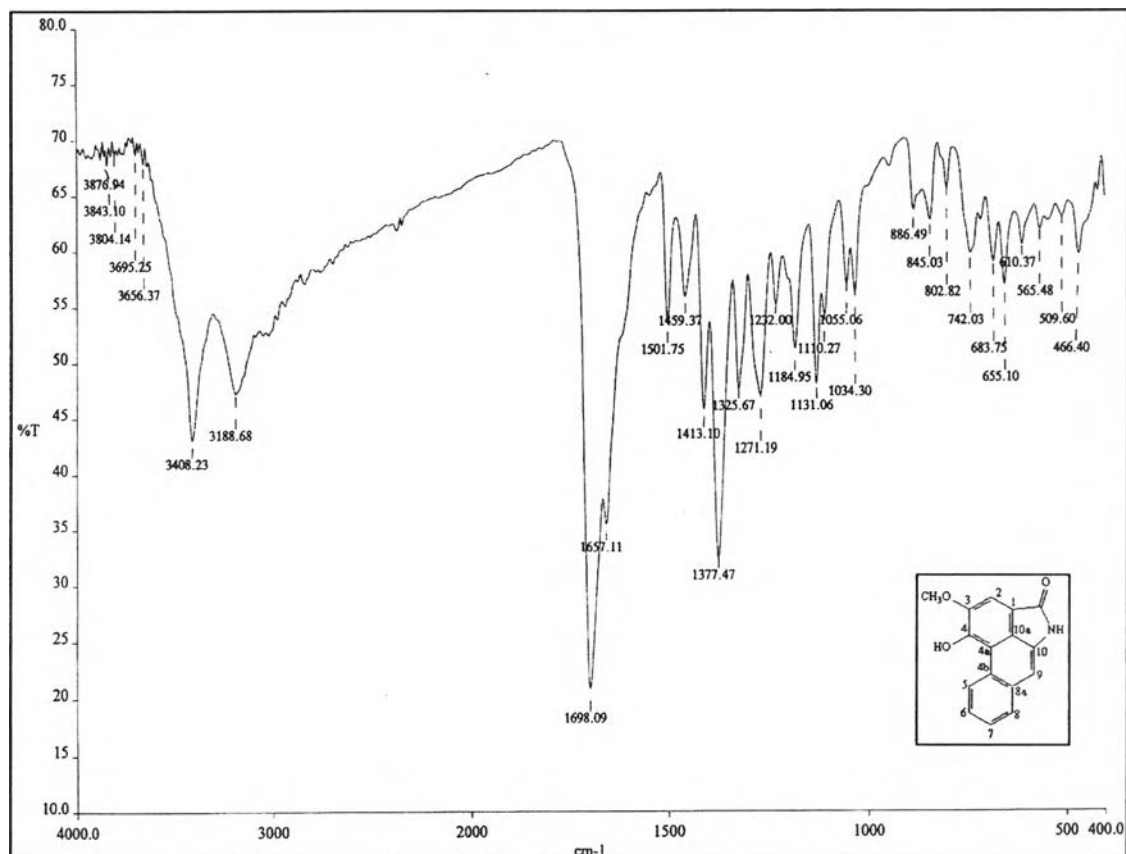


Figure 140. IR Spectrum of compound SC-8 (KBr disc)

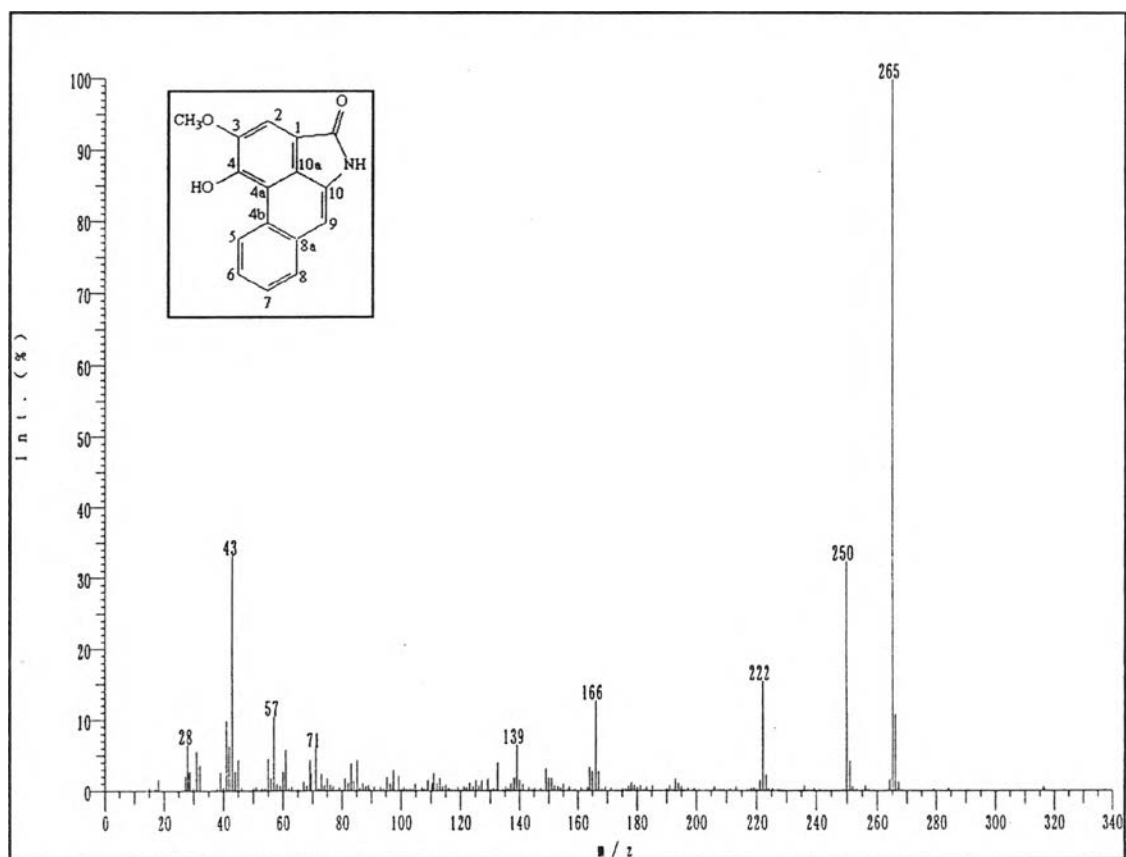


Figure 141. EI Mass spectrum of compound SC-8

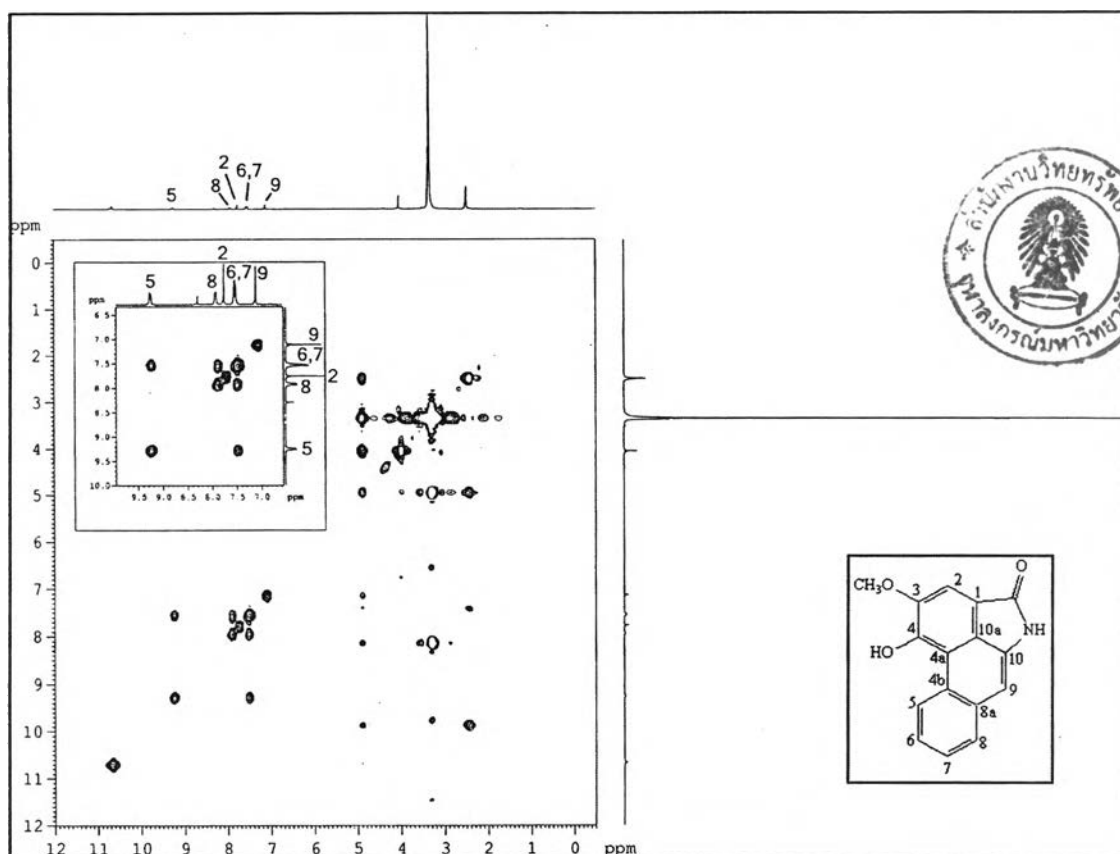


Figure 144. ^1H - ^1H COSY Spectrum of compound SC-8

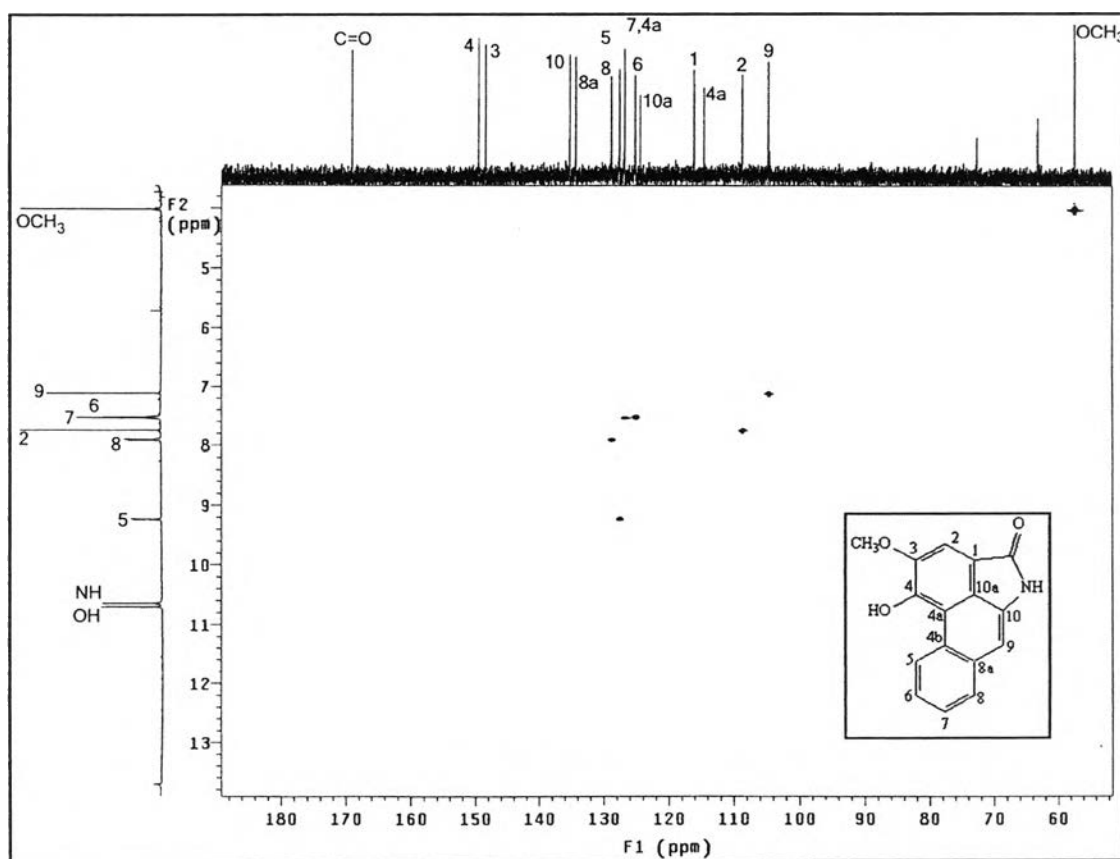


Figure 145. HSQC Spectrum of compound SC-8

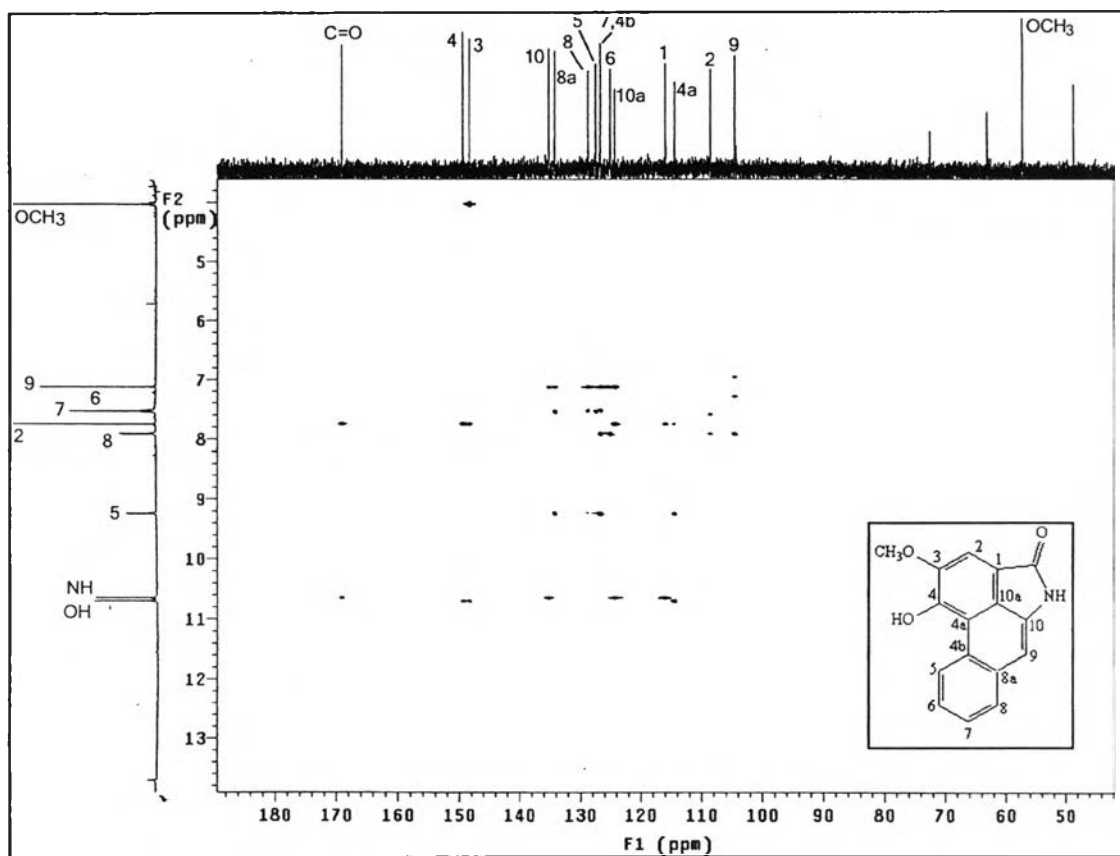


Figure 146a. HMBC Spectrum of compound SC-8

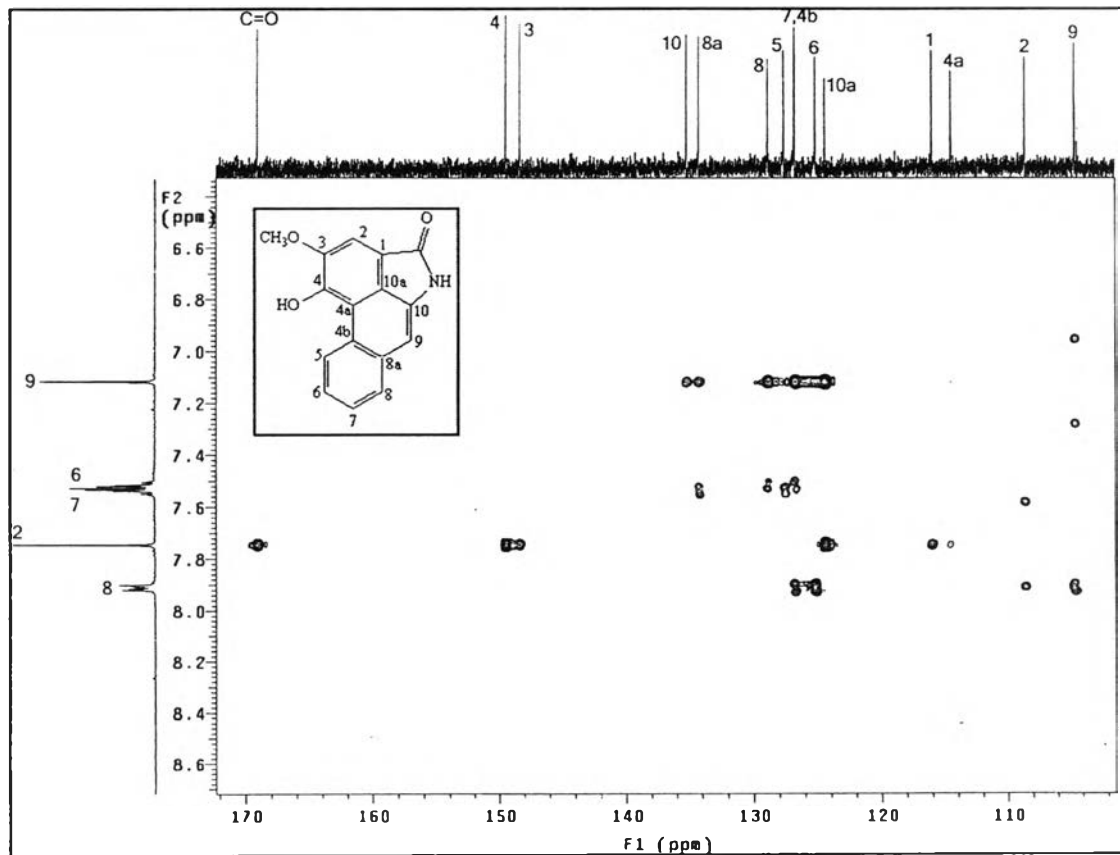


Figure 146b. HMBC Spectrum of compound SC-8 (δ_H 6.4-8.6 ppm, δ_C 100-170 ppm)

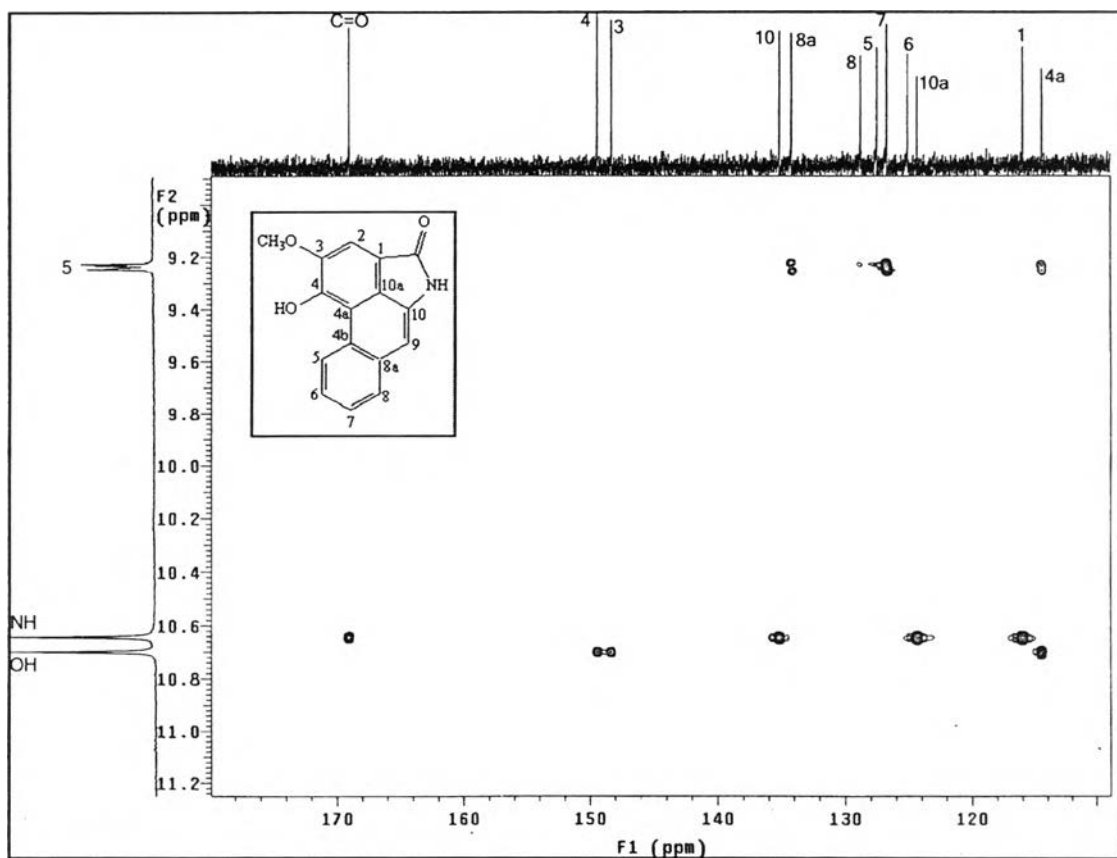


Figure 146c. HMBC Spectrum of compound SC-8 (δ_{H} 9-11 ppm, δ_{C} 100-170 ppm)

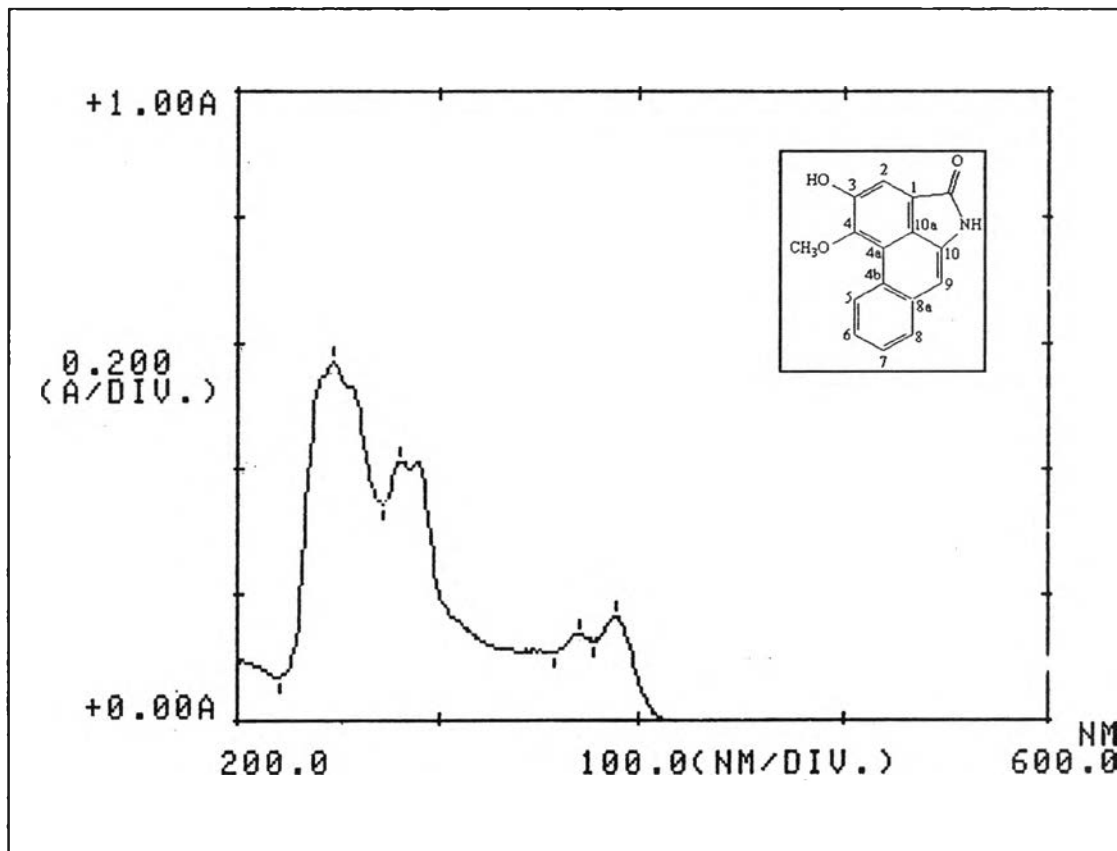


Figure 147. UV Spectrum of compound SC-9 (in MeOH)

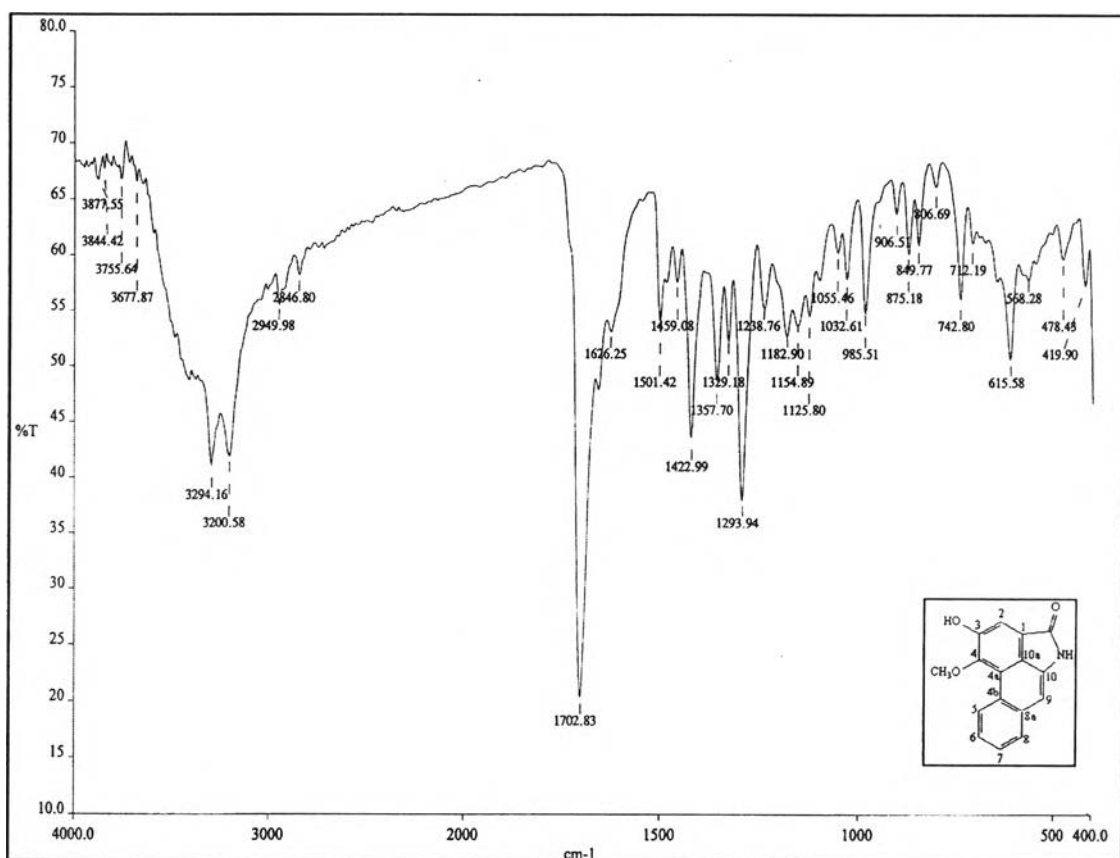


Figure 148. IR Spectrum of compound SC-9 (KBr disc)

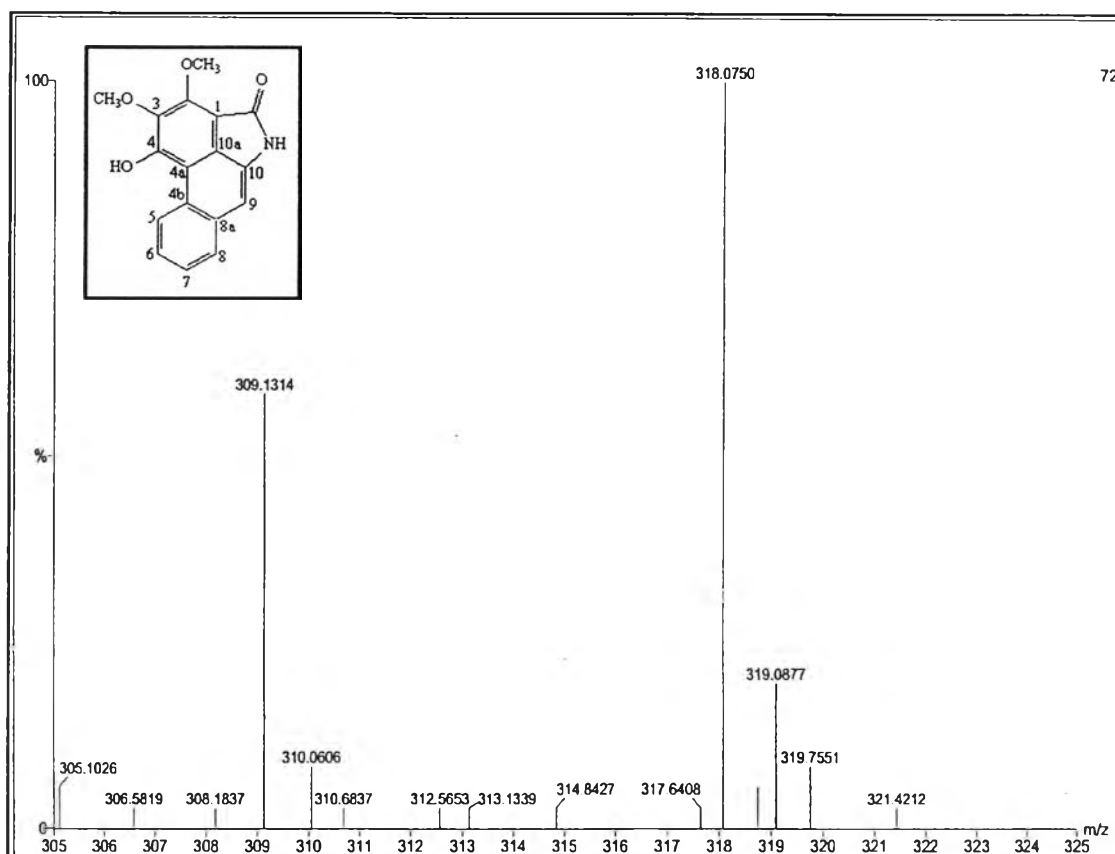


Figure 149. EI Mass spectrum of compound SC-9

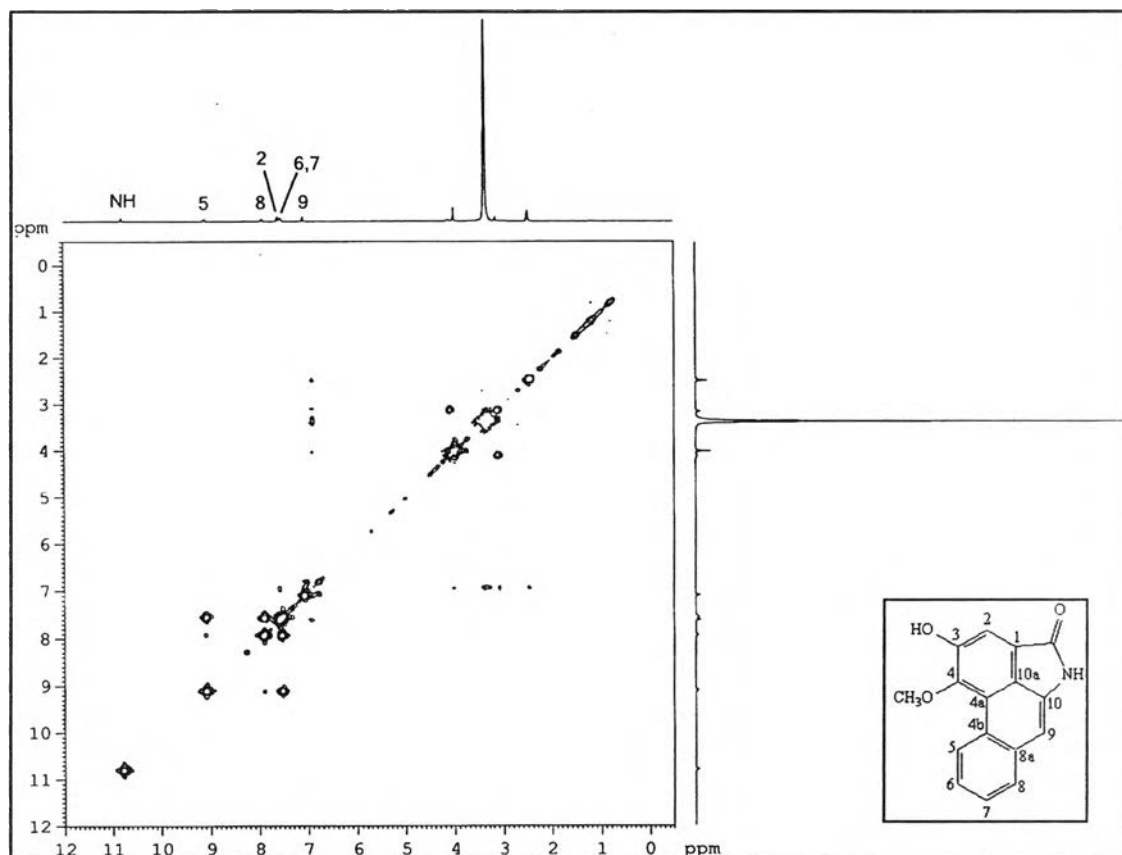


Figure 152. ^1H - ^1H COSY Spectrum of compound SC-9

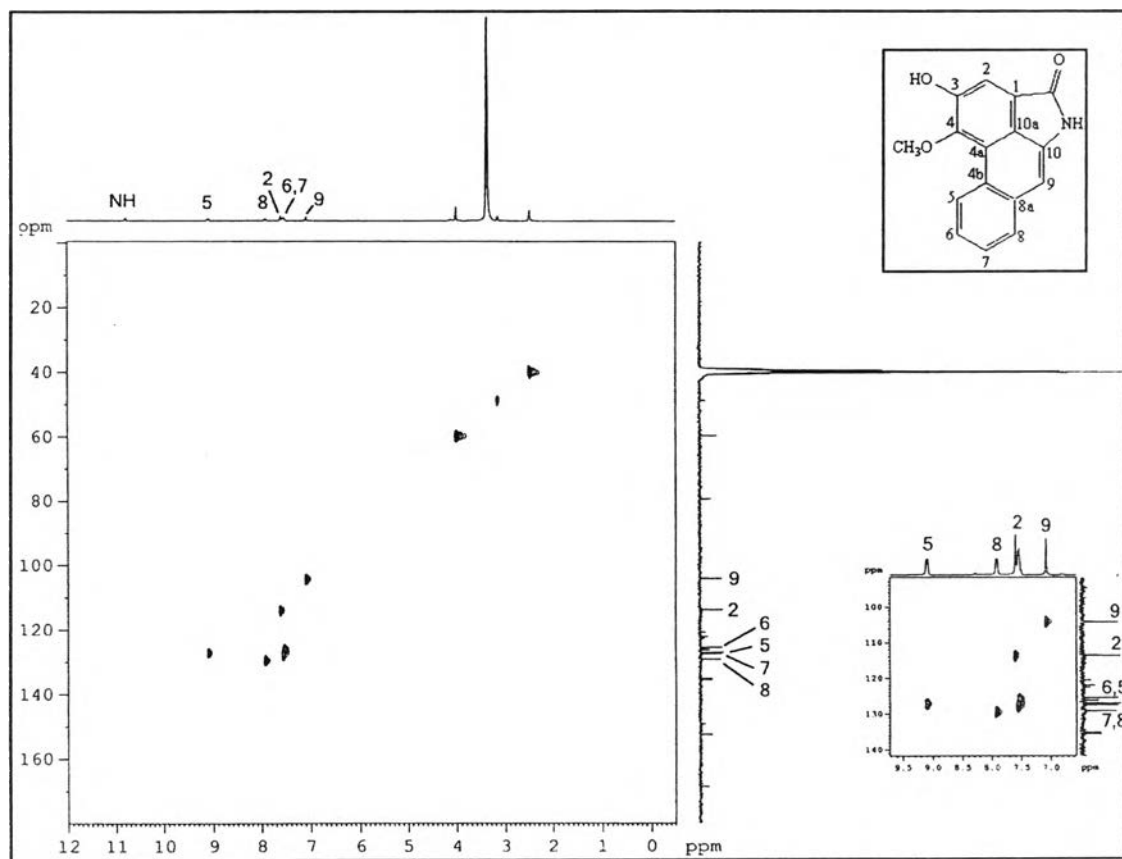


Figure 153. HMQC Spectrum of compound SC-9

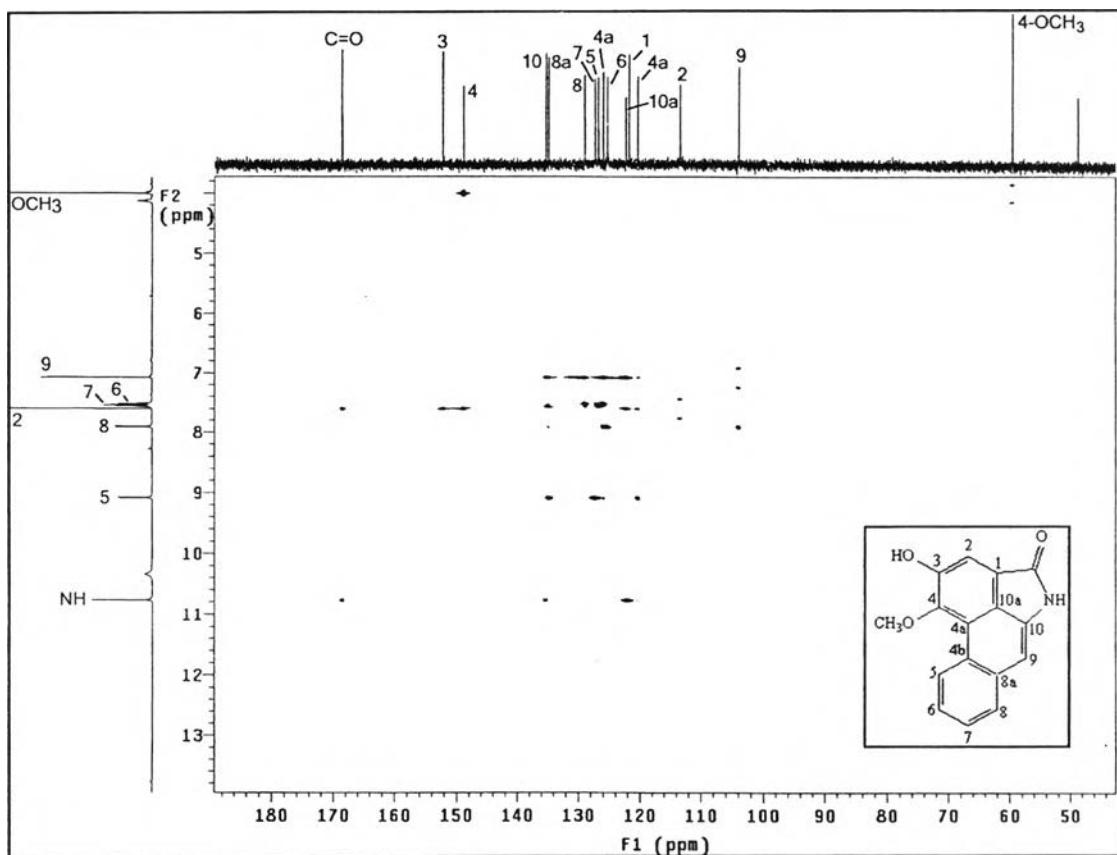


Figure 154a. HMBC Spectrum of compound SC-9

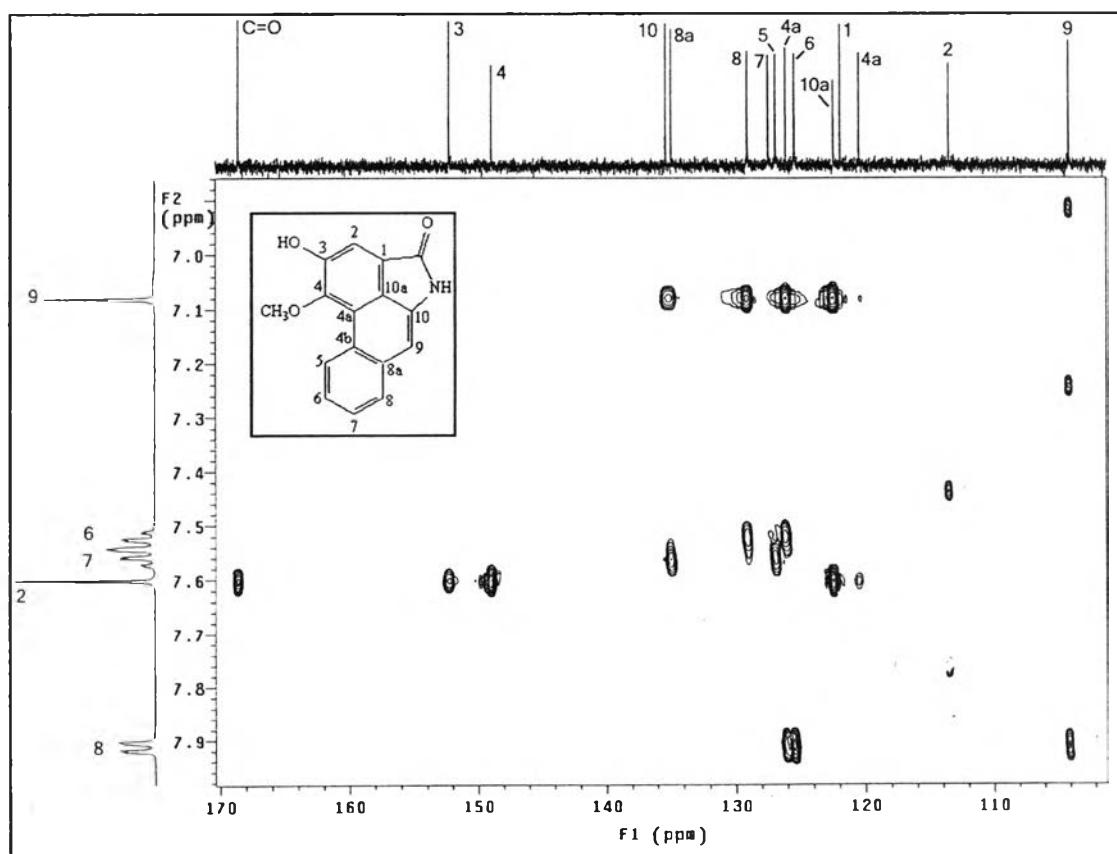


Figure 154b. HMBC Spectrum of compound SC-9 (δ_H 7.0-7.9 ppm, δ_C 110-170 ppm)

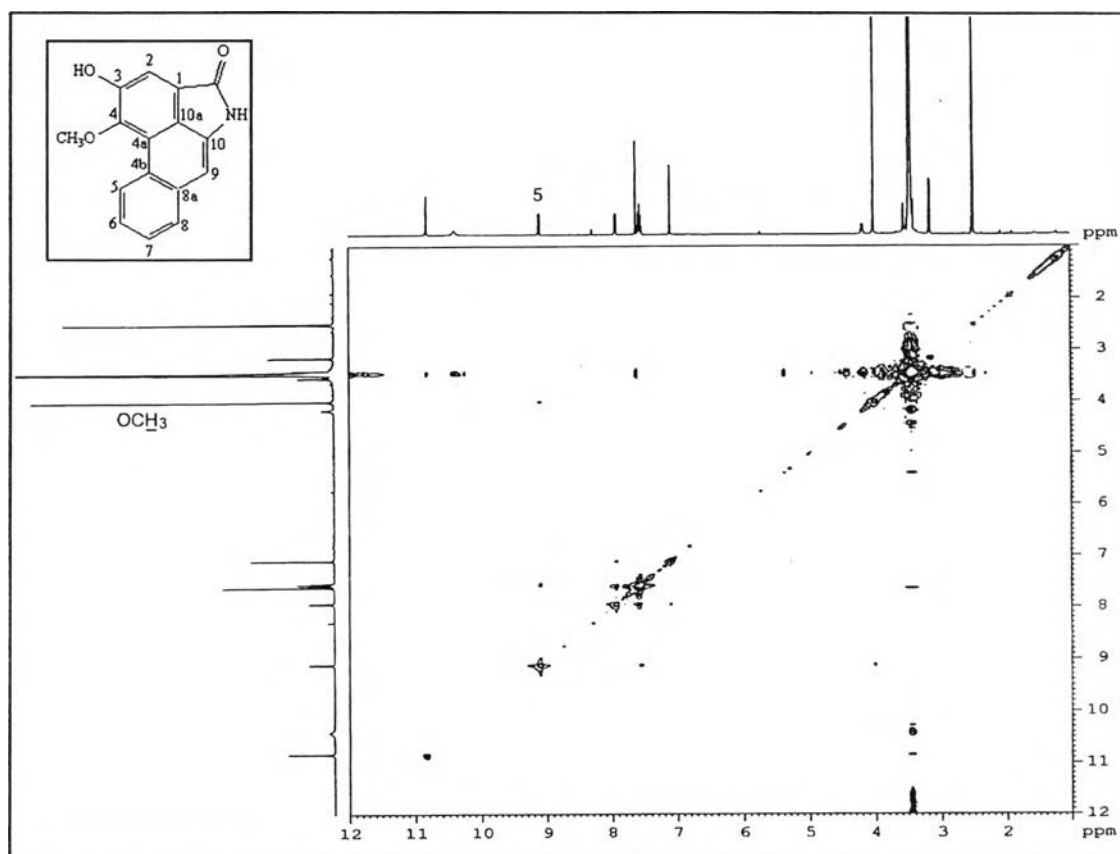


Figure 155. NOESY Spectrum of compound SC-9

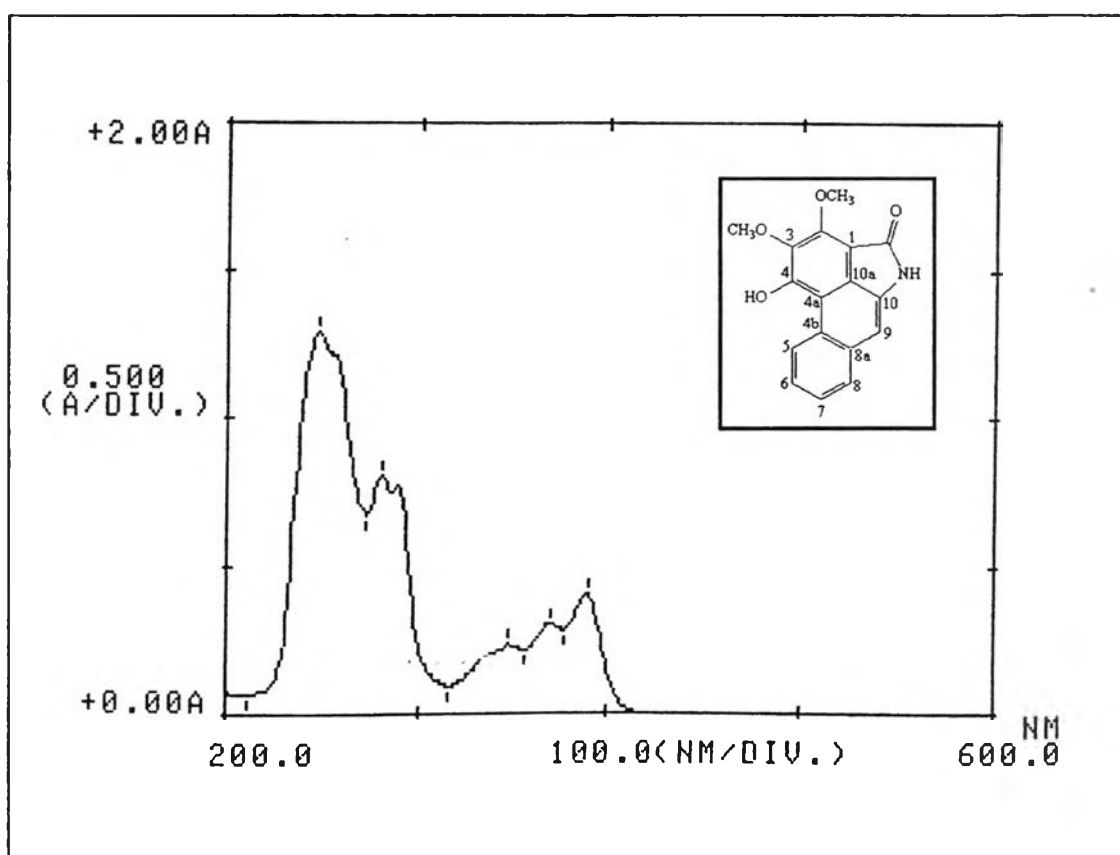


Figure 156. UV Spectrum of compound SC-10 (in MeOH)

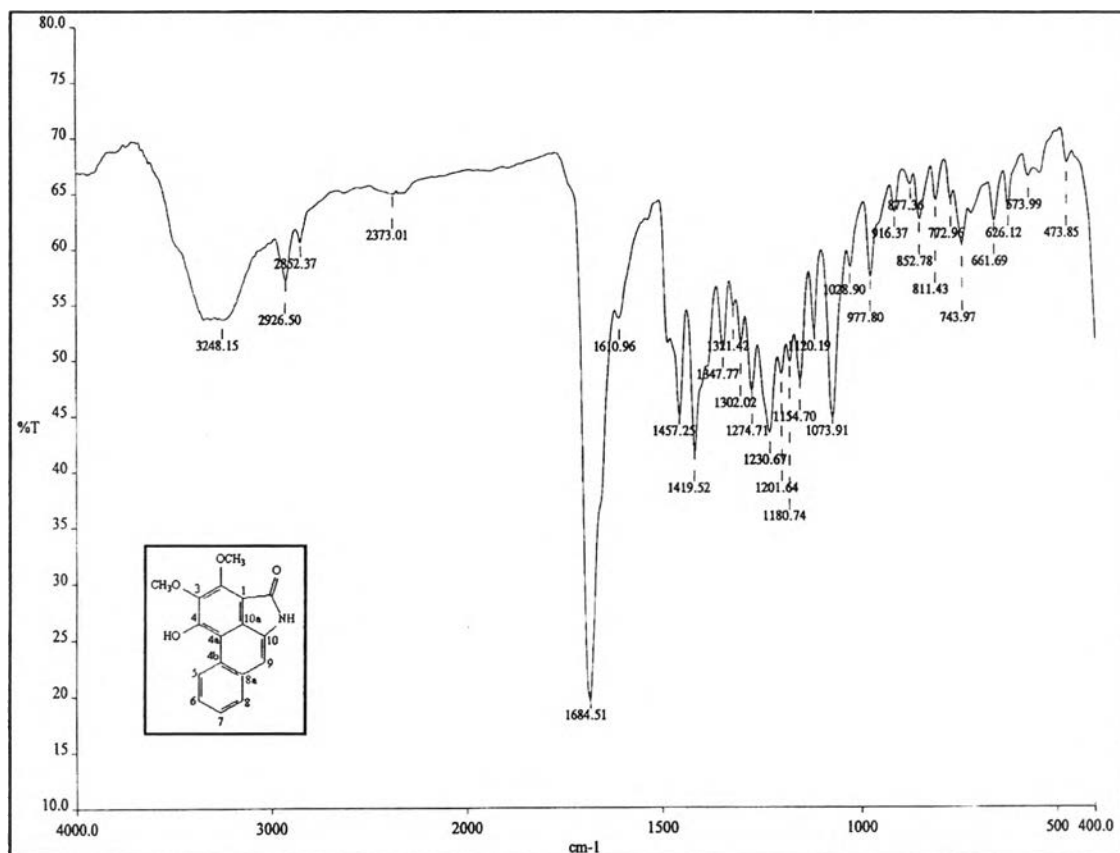


Figure 157. IR Spectrum of compound SC-10 (film)

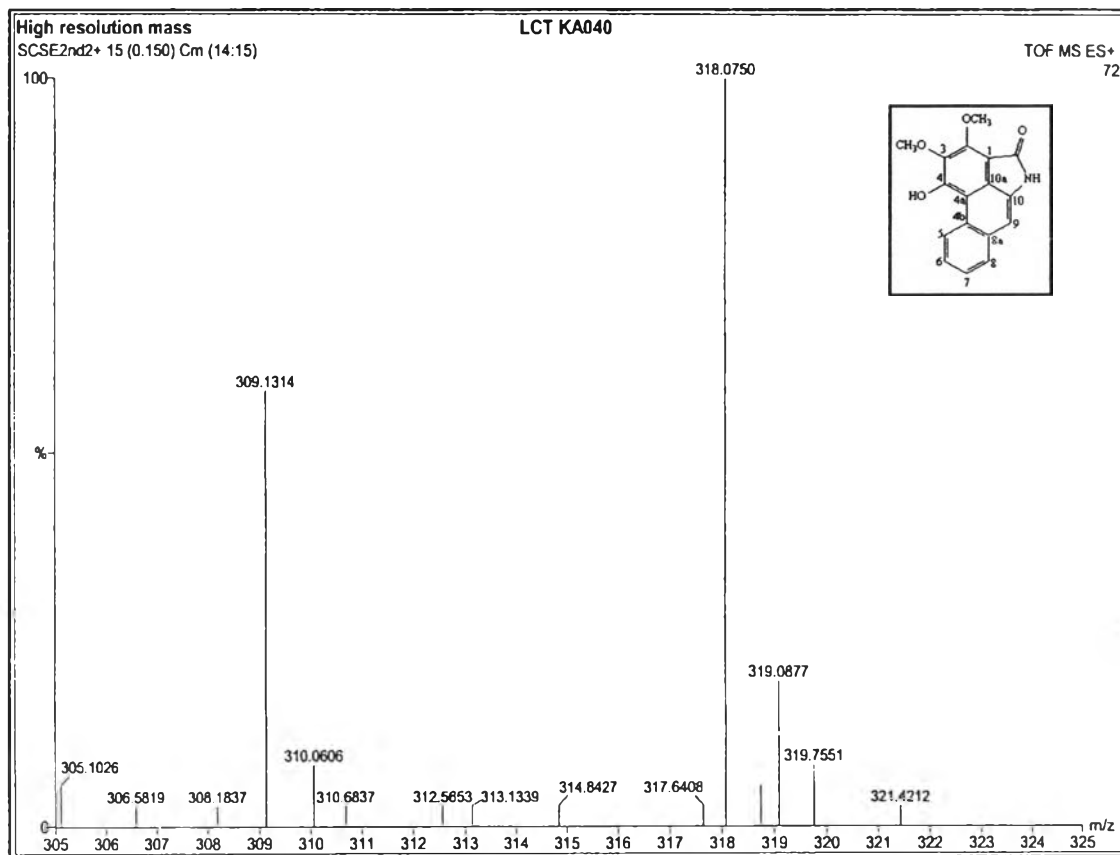


Figure 158. ESI Mass spectrum of compound SC-10

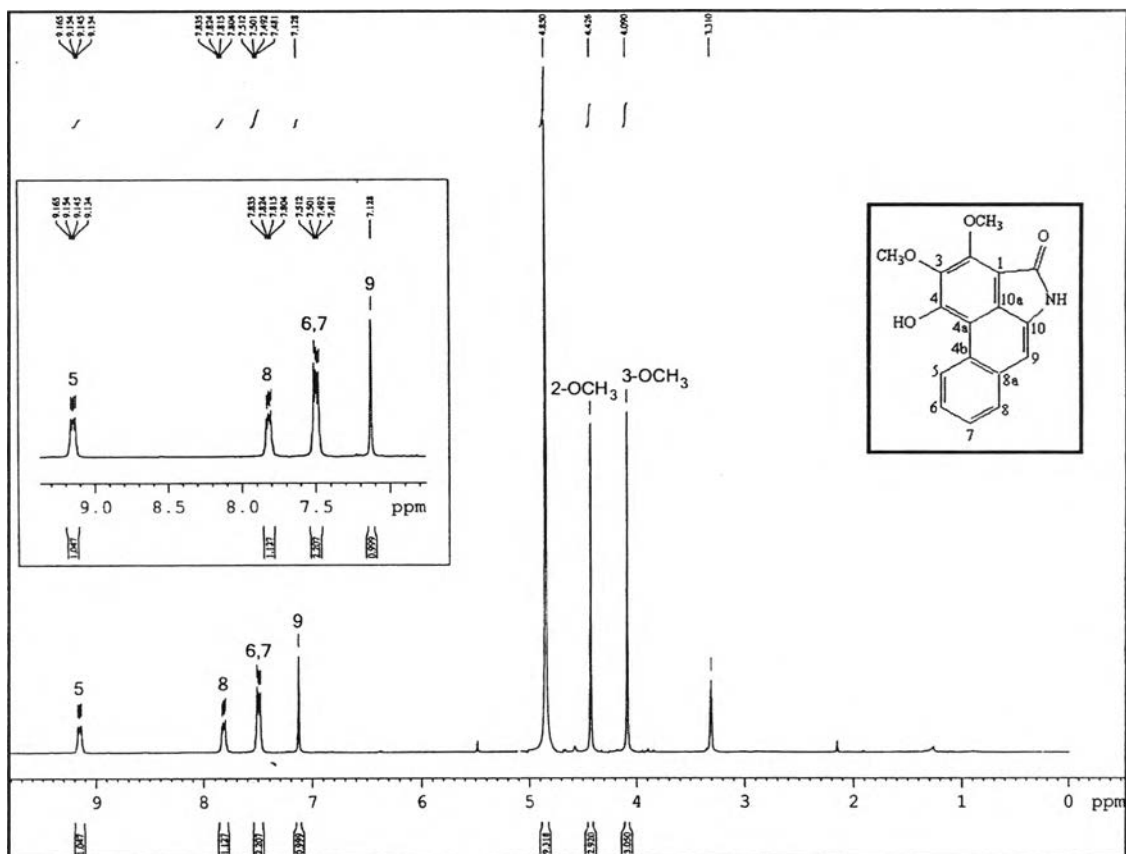


Figure 159. ^1H NMR (300 MHz) Spectrum of compound SC-10 (in CD_3OD)

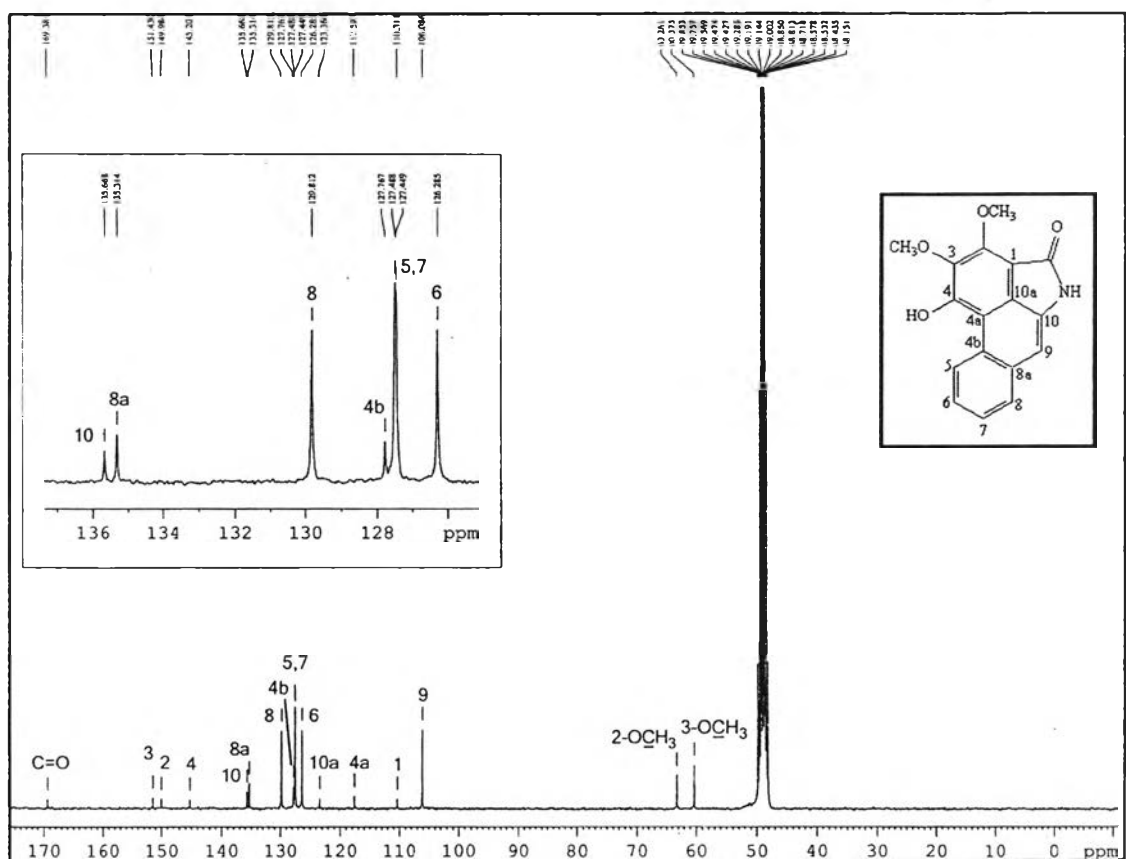


Figure 160. ^{13}C NMR (75 MHz) Spectrum of compound SC-10 (in CD_3OD)

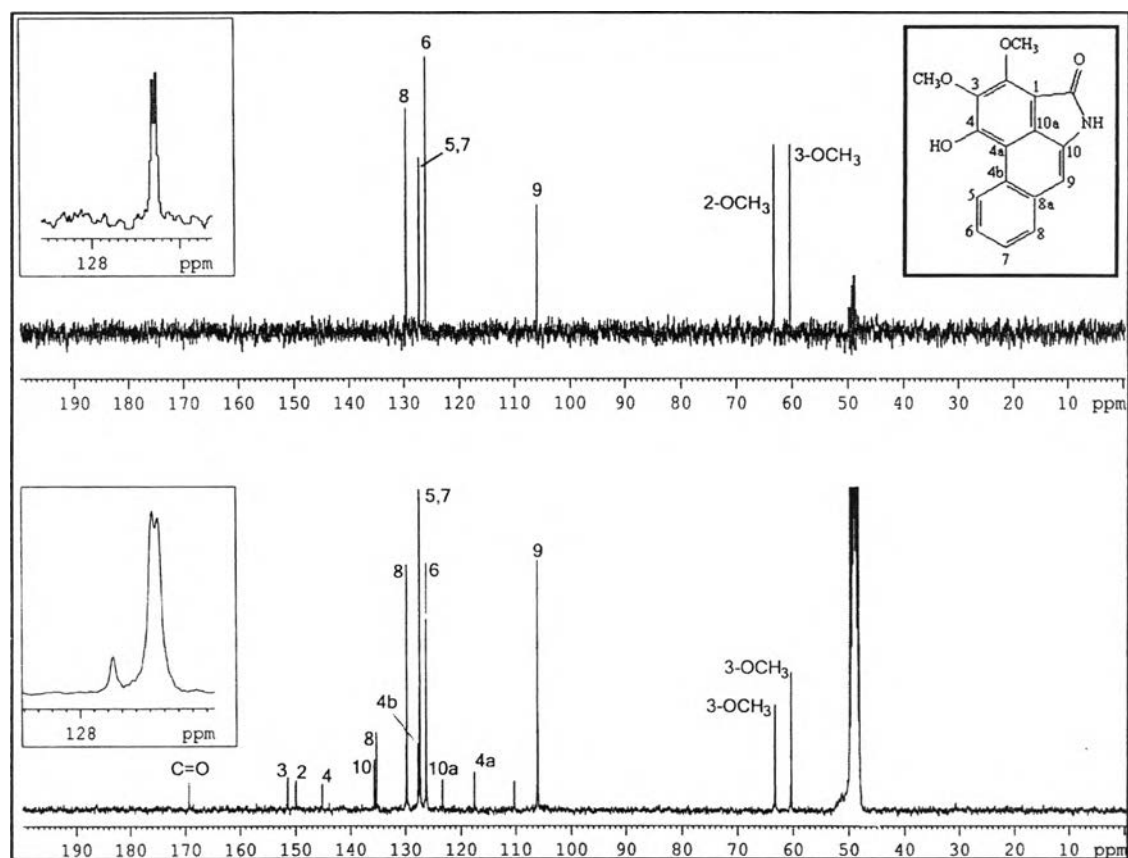


Figure 161. DEPT 135 Spectrum of compound SC-10

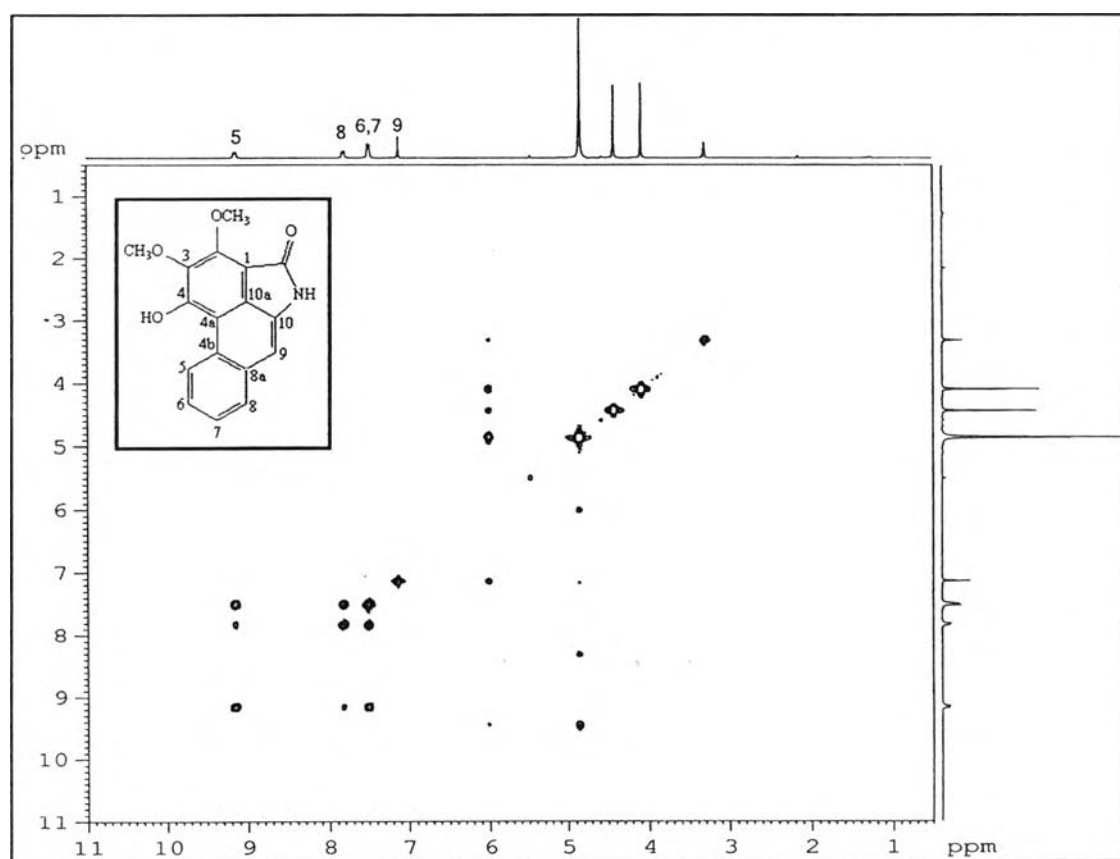


Figure 162. ¹H-¹H COSY Spectrum of compound SC-10

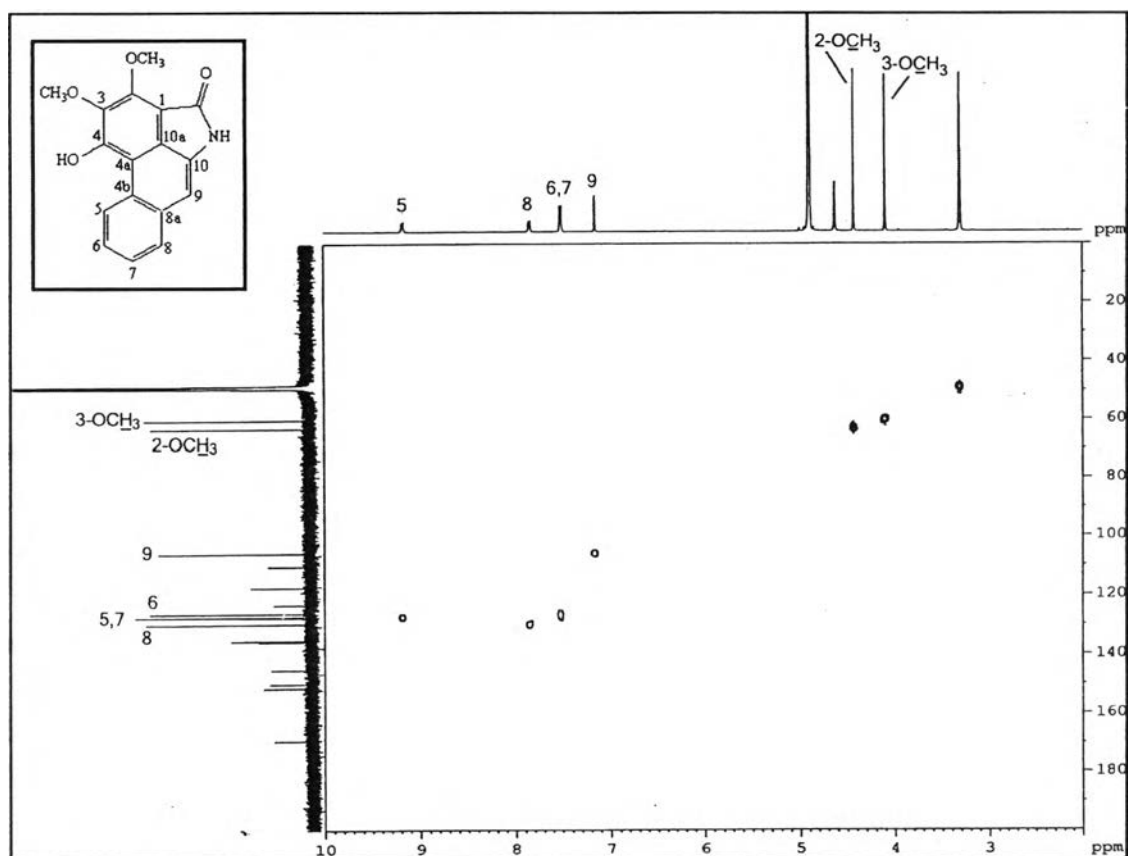


Figure 163. HMQC Spectrum of compound SC-10

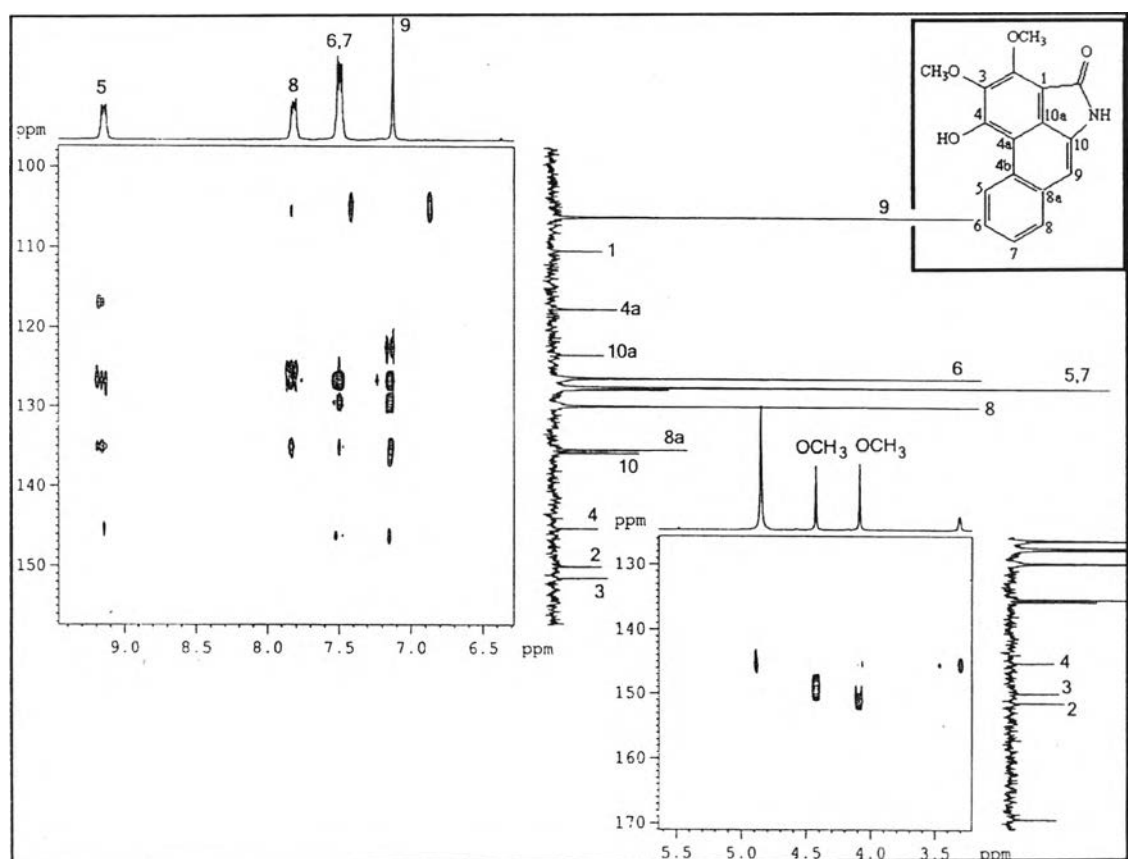


Figure 164. HMBC Spectrum of compound SC-10

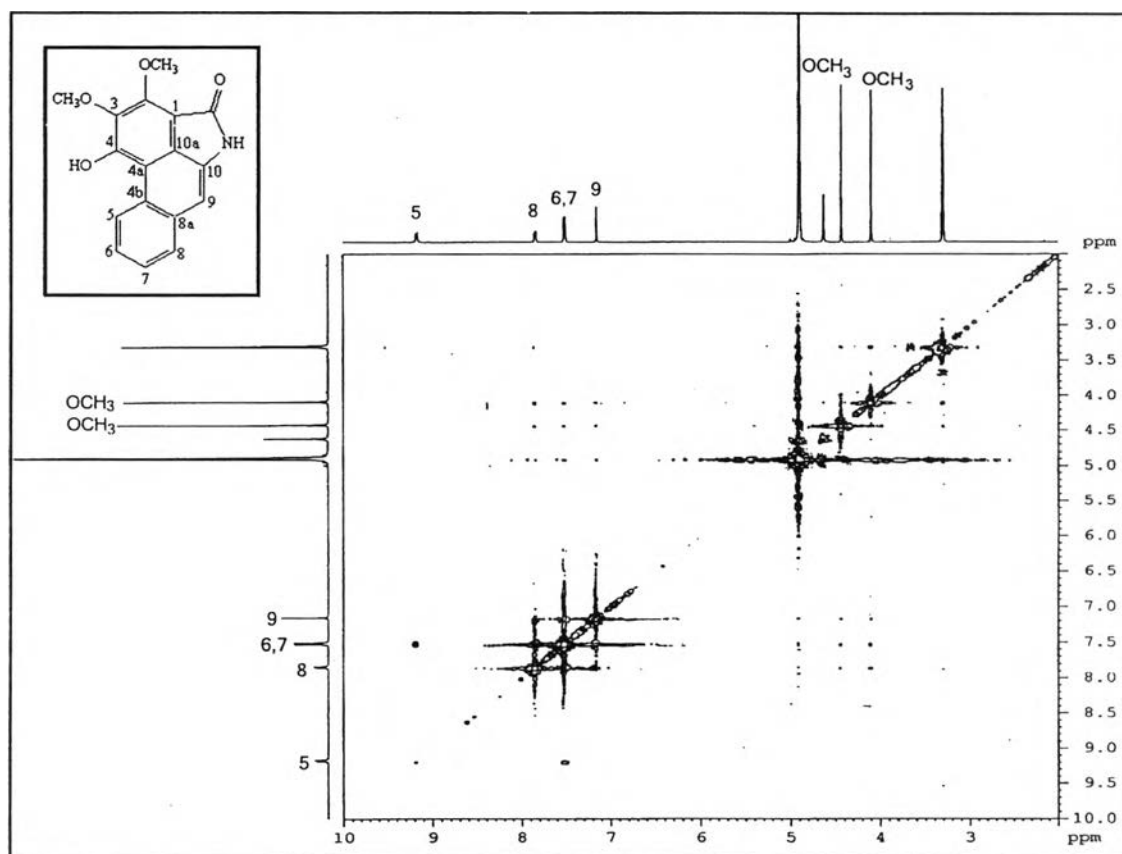


Figure 165. NOESY Spectrum of compound SC-10

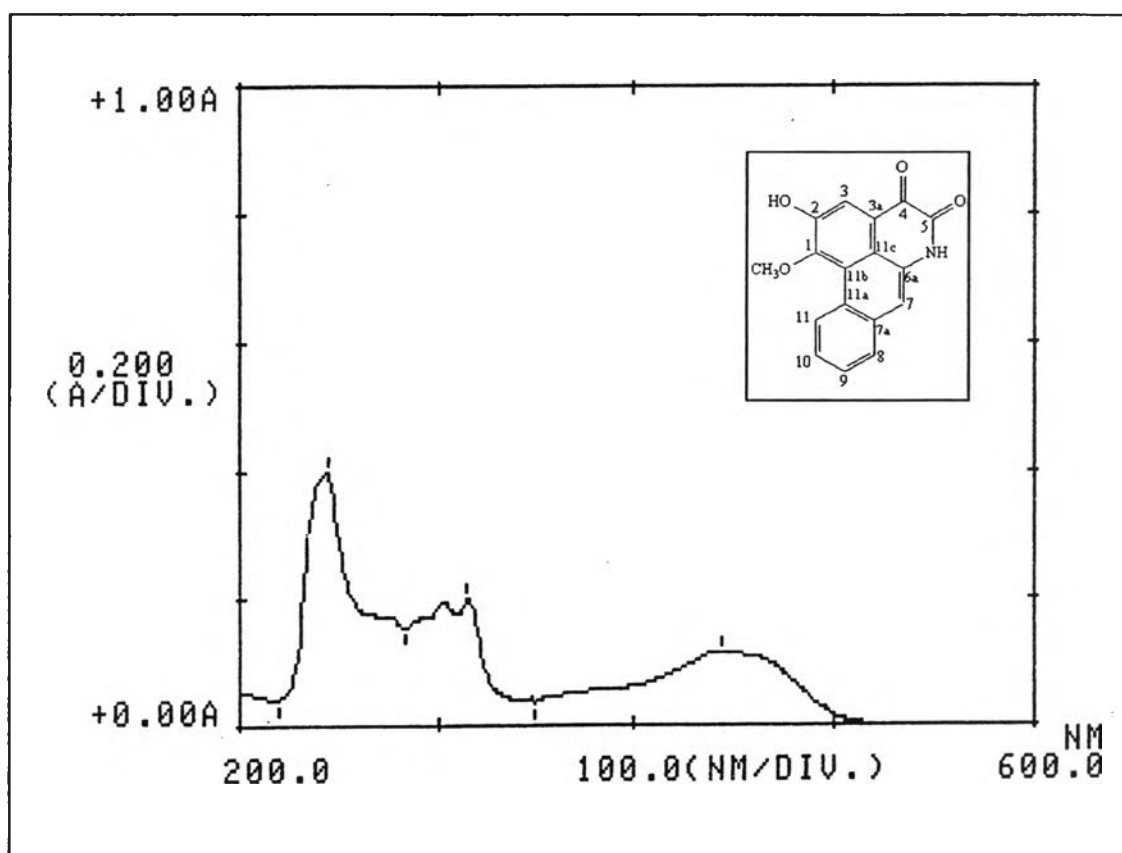


Figure 166. UV Spectrum of compound SC-11 (in MeOH)

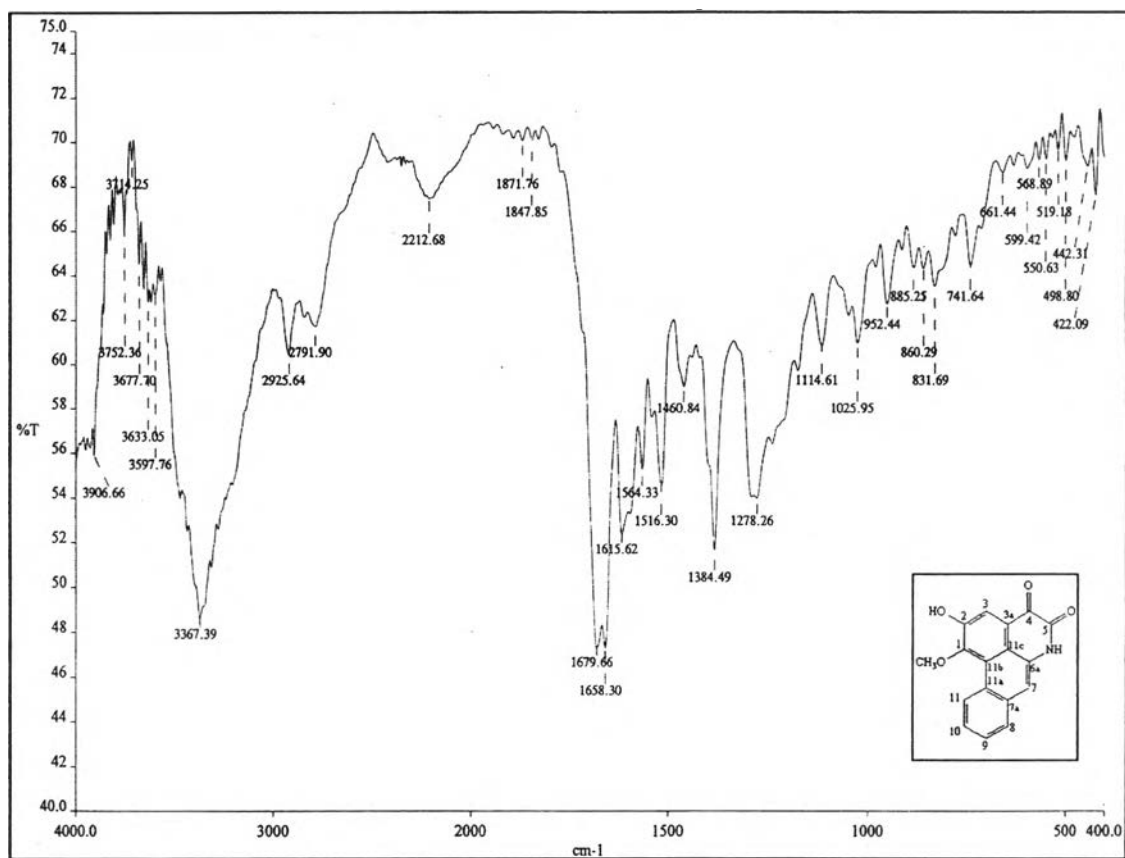


Figure 167. IR Spectrum of compound SC-11 (KBr disc)

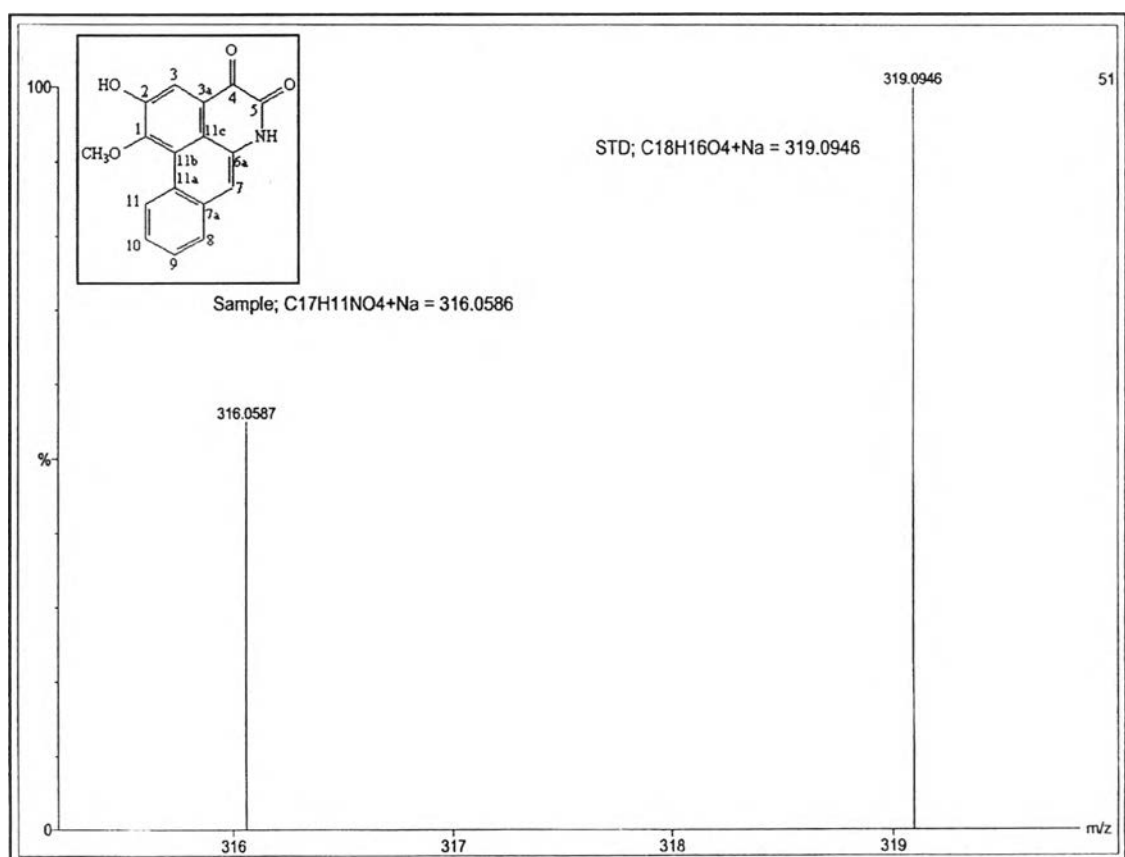
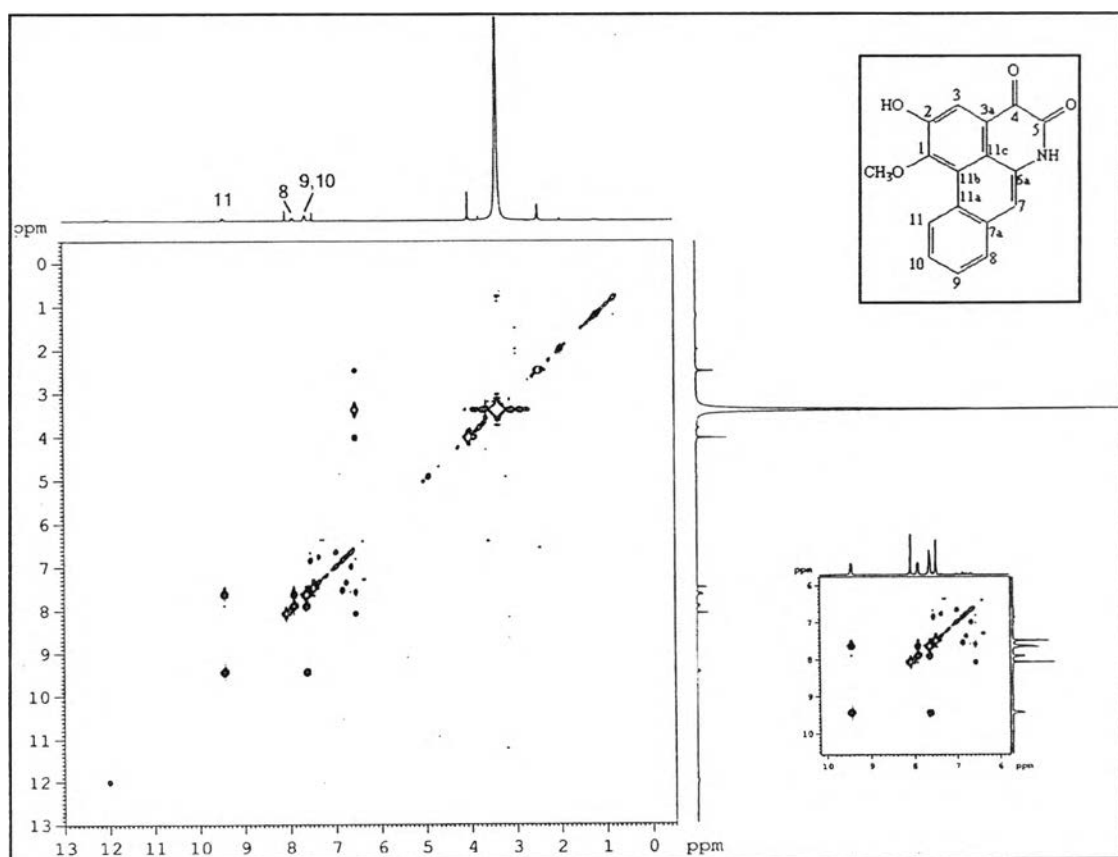
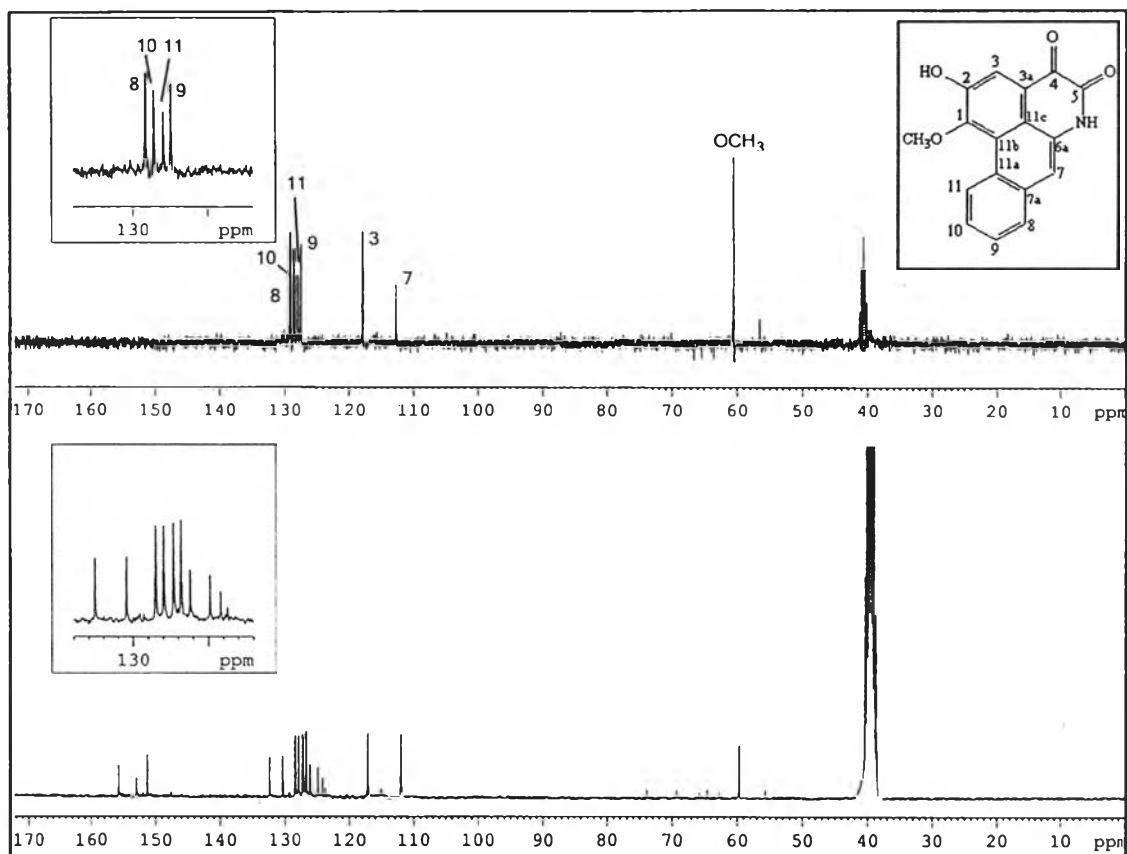


Figure 168. ESI Mass spectrum of compound SC-11



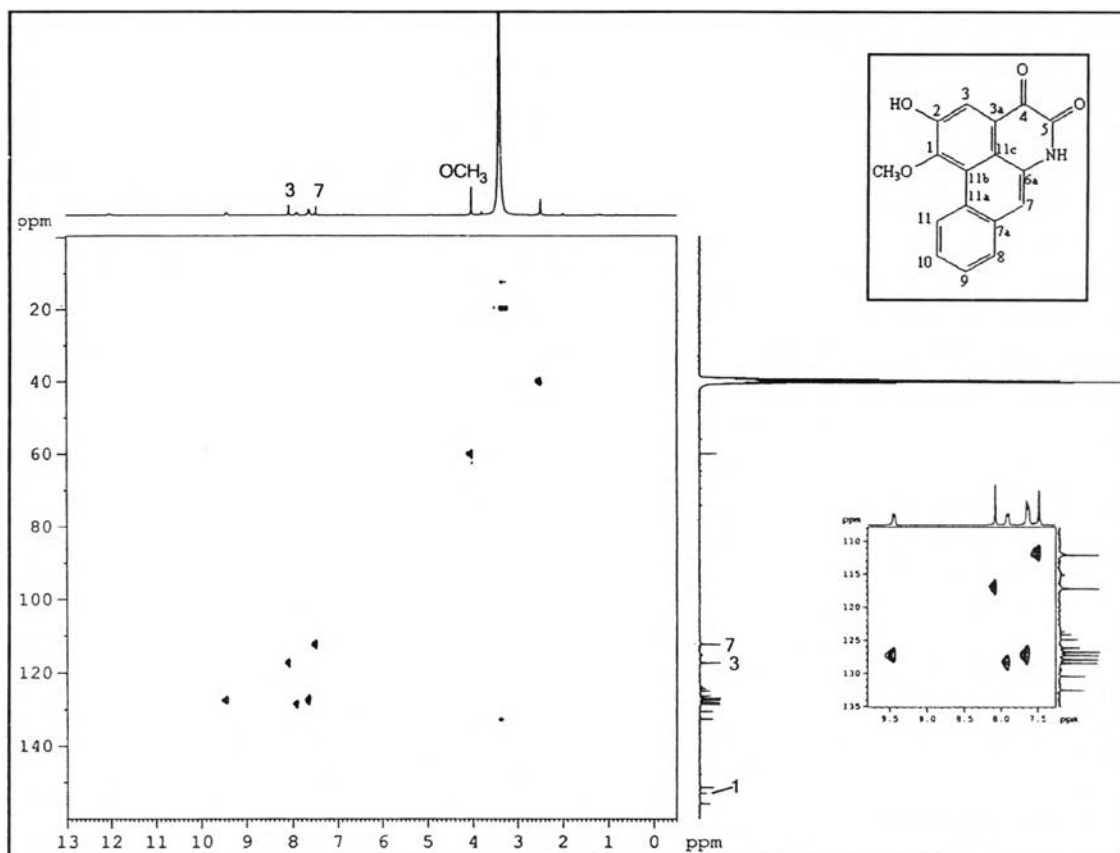


Figure 173. HMBC Spectrum of compound SC-11

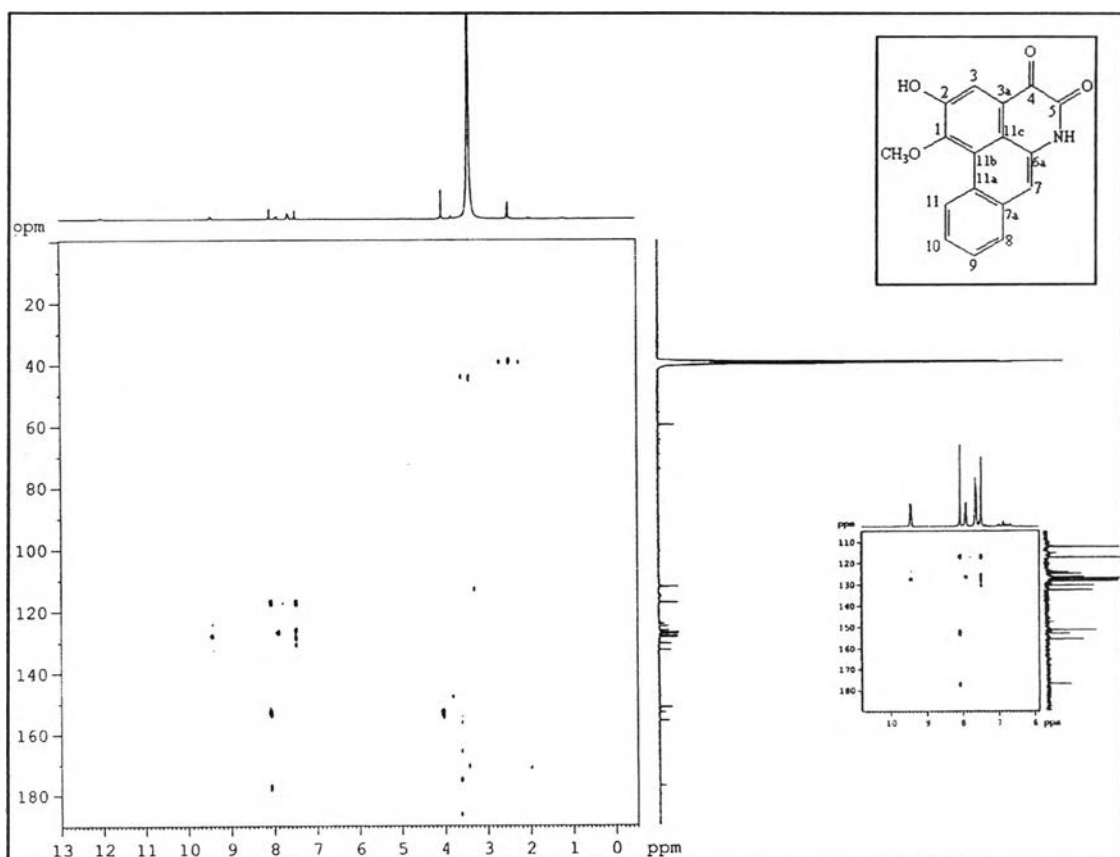


Figure 174a. HMBC Spectrum of compound SC-11

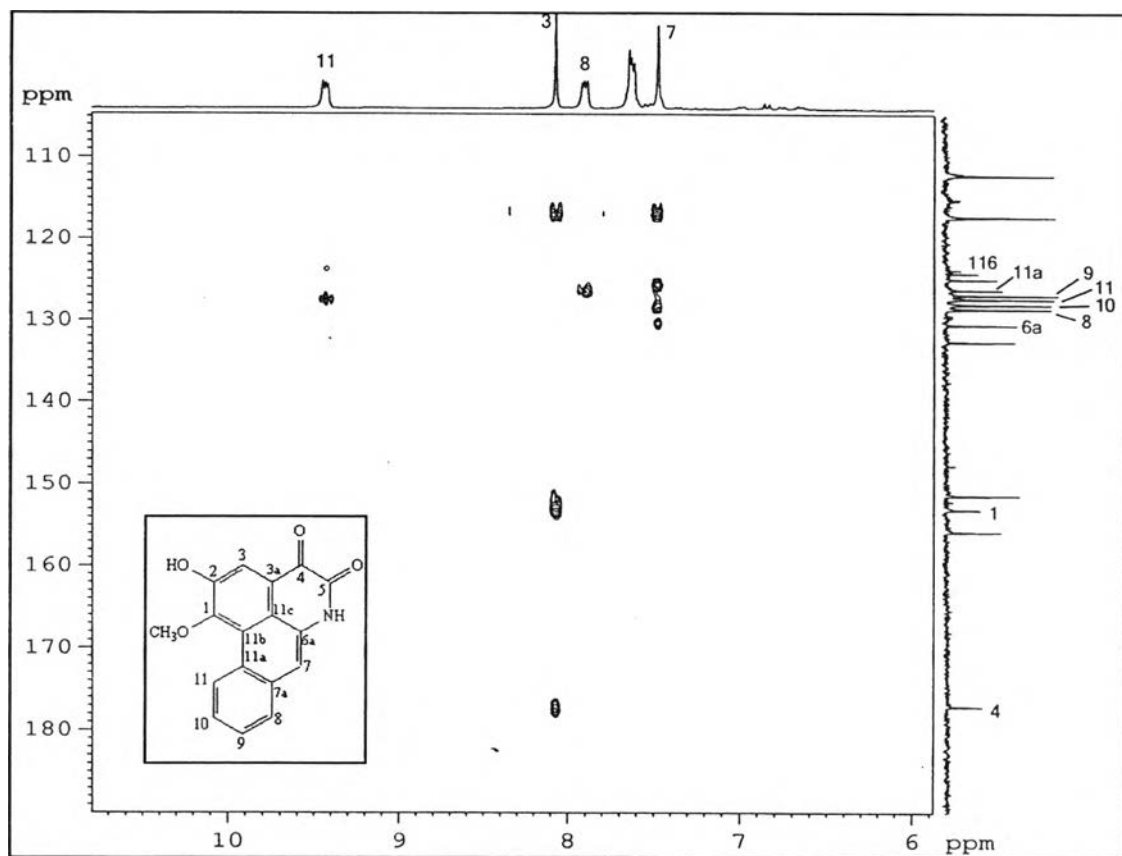


Figure 174b. HMBC Spectrum of compound SC-11 (δ_H 6.0-10.0 ppm, δ_C 110-180 ppm)

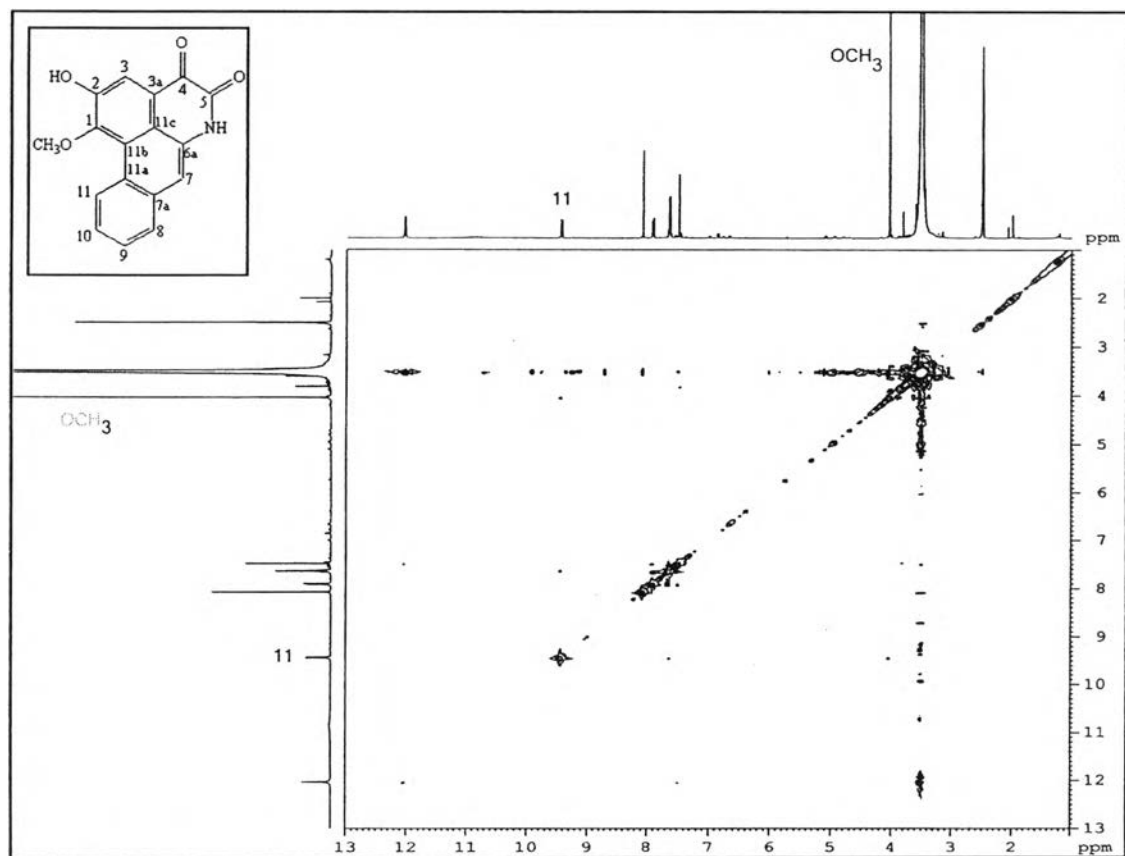


Figure 175. NOESY Spectrum of compound SC-11



VITA

Miss Lalita Wirasathien was born on July 26, 1971 in Bangkok, Thailand. She received her Bachelor's Degree of Science in Pharmacy from the Faculty of Pharmaceutical Sciences, Prince of Songkhla University in 1995. She was awarded a University Development Commission (UDC) grant to pursue her Master Degree of Science in Pharmacy from the Department of Pharmacognosy, Faculty of Pharmaceutical Sciences, Chulalongkorn University in 1997. After graduation, she has been working as a lecturer at the Department of Pharmacognosy, Faculty of Pharmacy, Srinakharinwirot University. She was granted a Royal Golden Jubilee Ph.D. Scholarship from the Thailand Research Fund (TRF) in the year 2001.

Publications

1. Likhitwitayawuid, K., Wirasathien, L., Joongboonprasert, V., Krungkrai, J., Aimi, N., Takayama, H. and Kitajima, M. 1997. Antimalarial alkaloids from *Goniothalamus tenuifolius*. **Pharm. Pharmacol. Lett.** 7: 99-102.
2. Wirasathien, L., Pengsuparp, T., Suttisri, R., Ueda, H., Moriyasu, M. and Kawanishi, K. 2006. Inhibitors of aldose reductase and advanced glycation end-products formation from the leaves of *Stelechocarpus cauliflorus* R. E. Fr. **Phytomedicine** Submitted for publication.
3. Wirasathien, L., Pengsuparp, T., Moriyasu, M., Kawanishi, K. and Suttisri, R. 2006. Cytotoxic C-benzylated chalcone and other constituents of *Ellipeiopsis cherrevensis*. **Arch. Pharm. Res.** Submitted for publication.

Poster presentations

1. Wirasathien, L., Deepralard, K., Boonarkard, C., Lipipan, V., Pengsuparp, T. and Suttisri, R. Lymphocyte proliferation stimulating compounds from two annonaceous plants. NRCT-JSPS CORE UNIVERSITY SYSTEM: The Sixth NRCT-JSPS Joint Seminar in Pharmaceutical Sciences; Drug Development Through Biopharmaceutical Sciences. December 2-4, 2003, Bangkok, Thailand.
2. Wirasathien, L., Suttisri, R., Pengsuparp, T. Bioactive Compounds from *Ellipeiopsis cherrevensis* and *Pseuduvaria setosa*. Pharmaceutical Sciences World Congress (PSWC 2004), 2nd World Congress of the Board of Pharmaceutical Sciences of FIP. The Global Translation of Science into Drug Development in Advancing Therapy. May 30 – June 3, 2004, Kyoto International Conference Hall, Japan.
3. Wirasathien, L., Suttisri, R., Pengsuparp, T., Kawanishi, K. and Ueda, H. Aldose reductase and AGE inhibitors from *Stelechocarpus cauliflorus*. RGJ-Ph.D. Congress VI. April 28-30, 2005. Jomtien Palm Beach Resort, Pattaya, Thailand.