

Reference

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กรมวิทยาศาสตร์การแพทย์. ข้อมูลพัฒนาฯฯ จ. หัวเรื่อง Andrographis paniculata (Burm.f.) Nees. กรุงเทพมหานคร : สำนักงานปลัดกระทรวงสาธารณสุข, 2529

กองวิจัยและพัฒนาสมุนไพร กรมวิทยาศาสตร์การแพทย์ คู่มือสมุนไพร สาธารณสุขมูลฐาน กระทรวงสาธารณสุข, 2533

ศ.นิติ สุวรรณปริรักษ์ และ ชัยโรย ชัยชาญทิพย์. น้ำลายพังพอน, พัฒนาฯฯ. วารสารสมาคมสมุนไพรแห่งประเทศไทย. 7 (มกราคม-มีนาคม 2534) : 3-9.

ศิคาวรดัน บลีมใจ และ นาดาฤทธิ์ สิทธิสมวงศ์ การบระชุมวิชาการ เรื่อง พัฒนาฯฯ จ. กรมวิทยาศาสตร์การแพทย์, 2533, นนทบุรี นันทกฤษณ์ มหาวิรรัตน์. การศึกษาปริมาณสารเเทอร์ปีโนiy จากใบ พัฒนาฯฯ ที่เก็บแต่ละเดือน : วิทยานิพนธ์ปริญญามหาบัณฑิต ภาควิชาเภสัชเคมี บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย, 2533.

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ผจงศิลป์ เพ็งมาก. ผลของ 14 ตัวอย่างชี-11-12-ไคดีไซด์ร้อนบีบ - กระหายชาลีค์ที่ออกฤทธิ์ต่อการทดสอบของกล้ามเนื้อลายเส้นเล็กน้อยร่างกาย วิทยานิพนธ์ปริญญามหาบัณฑิต ภาควิชาเภสัชวิทยา บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย, 2531.

ເພື່ອຮັບນິ້ນ ພະສົງຈະຣາກຸລ. ດັກທີ່ຂອງແອນໂຄຣກຣາພຣໄລຄ໌ຕ່ອກສ້າມເນື້ອເຮືອບຂອງ
ລາວໄສ ວິທານີ່ພົນບົມບົມຫຼັກ ການວິຊາເກສະວິທາ ບັນຫຼັກວິທາລະ
ຈຸ່າລາງການພົມຫາວິທາລະ, 2530.

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ປັບປຸງກັນແລະຮັກໝາແພລກຮະເພວະອາຫານຂອງສມູນໄພຣັ້າທະລາຍຈົກແລະ
ເບີລ້ານີ້ອຍ ໄທຍະເກສະສາຍ 14(2532) : 34-43.

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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



APPENDIX

ศูนย์วิทยทรัพยากร จุฬาลงกรณ์มหาวิทยาลัย

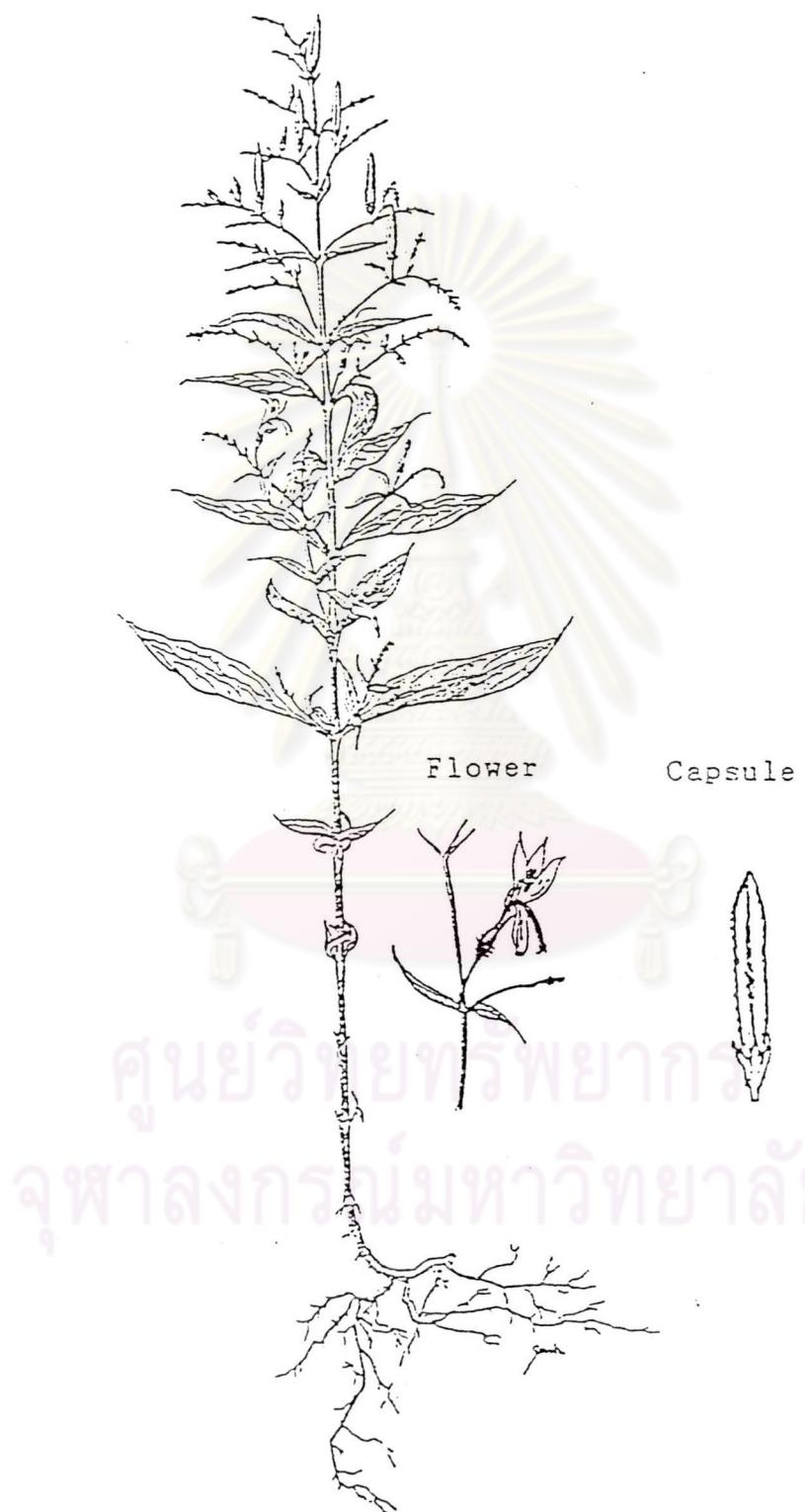


Figure 1 Andrographis paniculata Nees

Thai name : Nam Laai Pangphon, Fah Talai Joan.

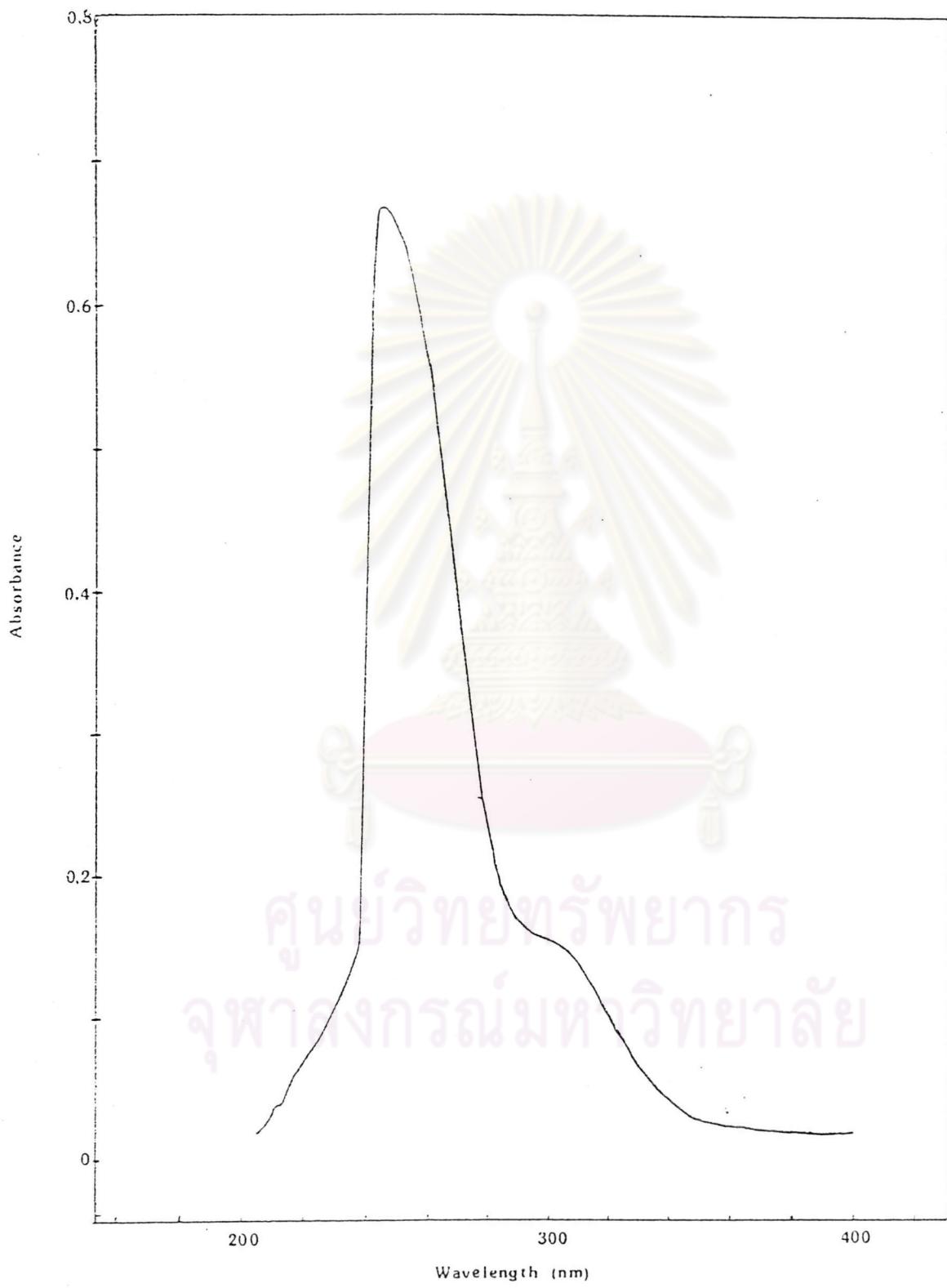


Figure 18 UV spectrum of compound C-2 in Chloroform

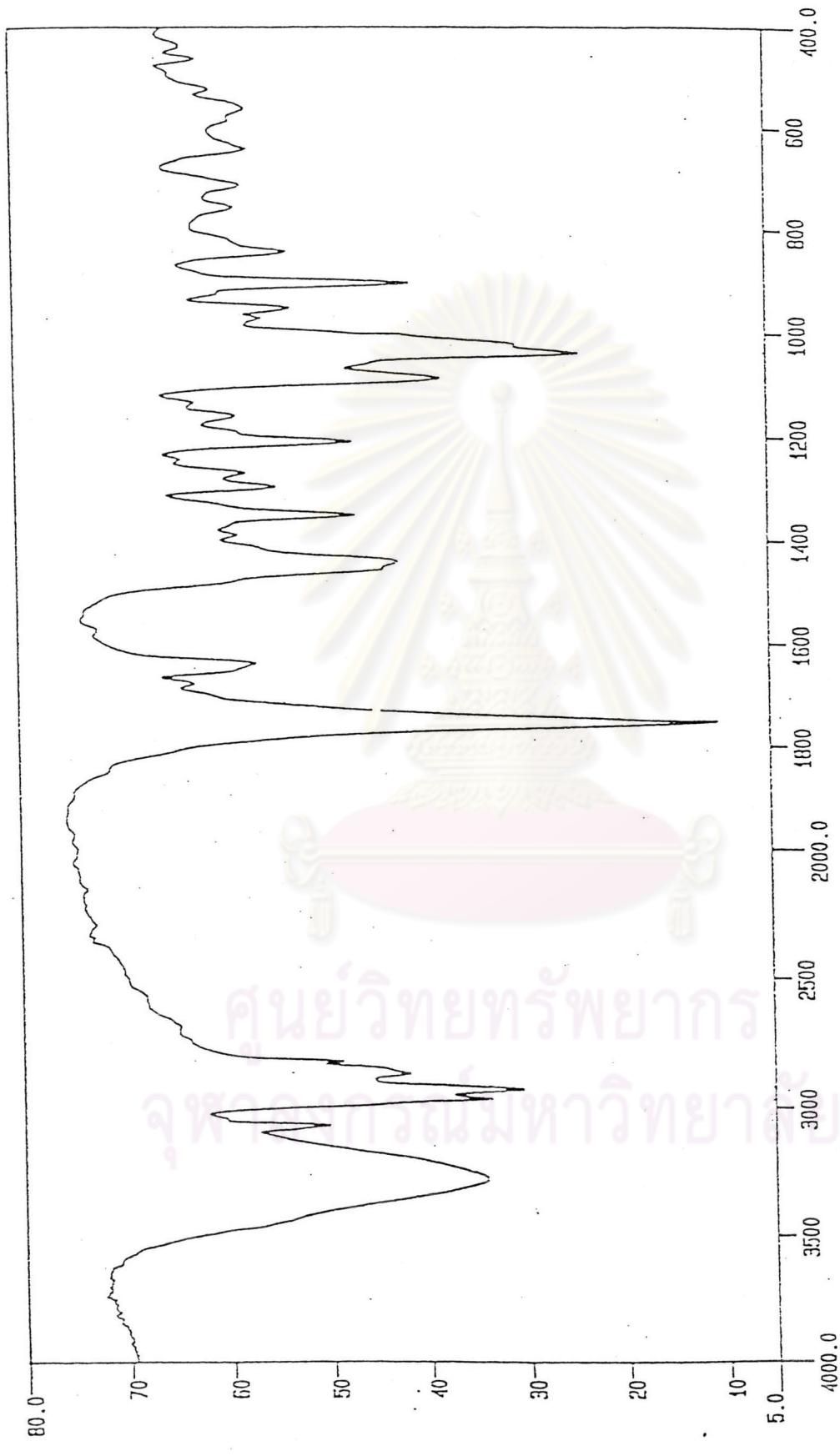


Figure 19 IR spectrum of compound C-2

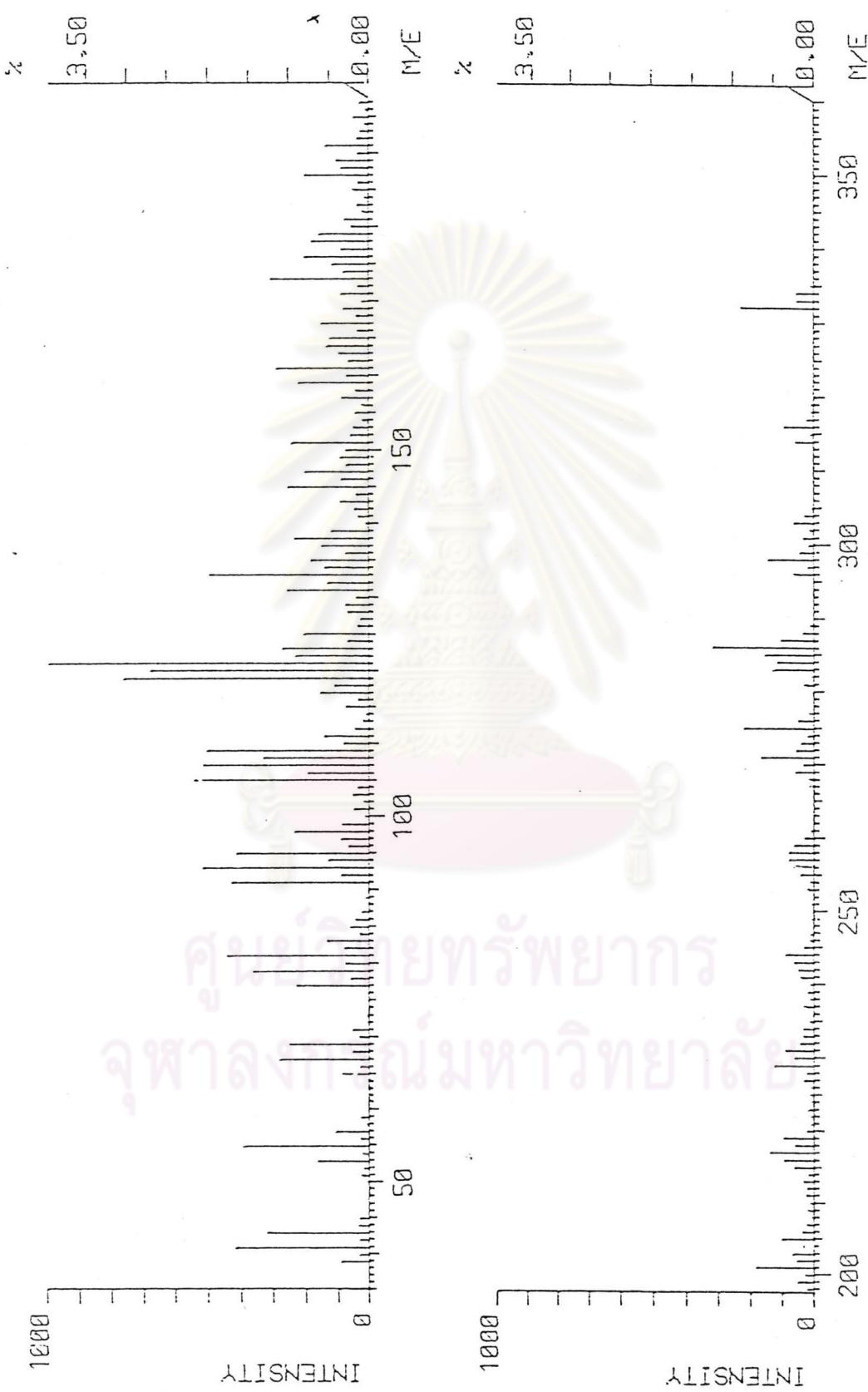


Figure 20 Mass spectrum of compound C-2

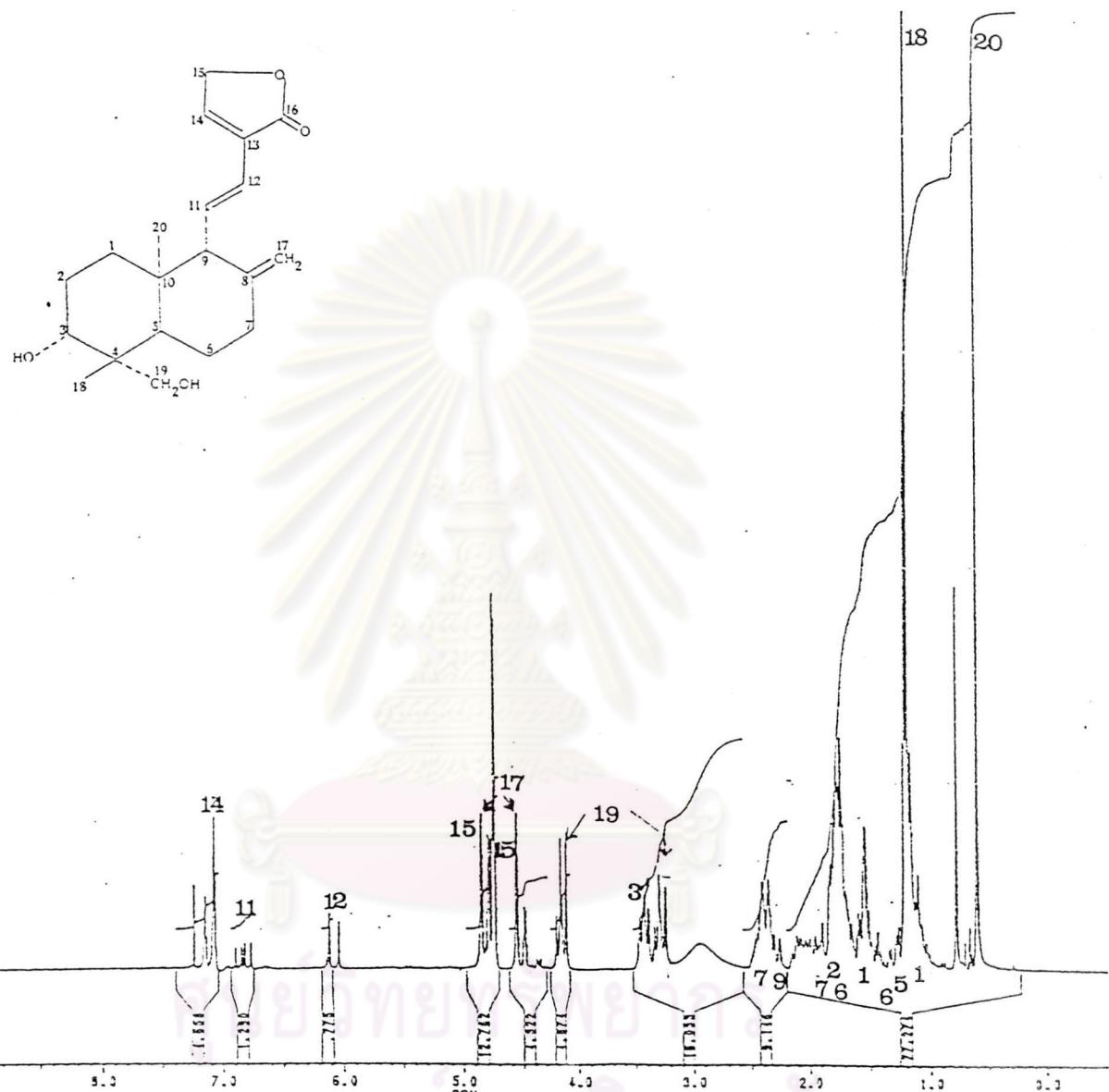


Figure 21 Proton spectrum of compound C-2 in CDCl_3

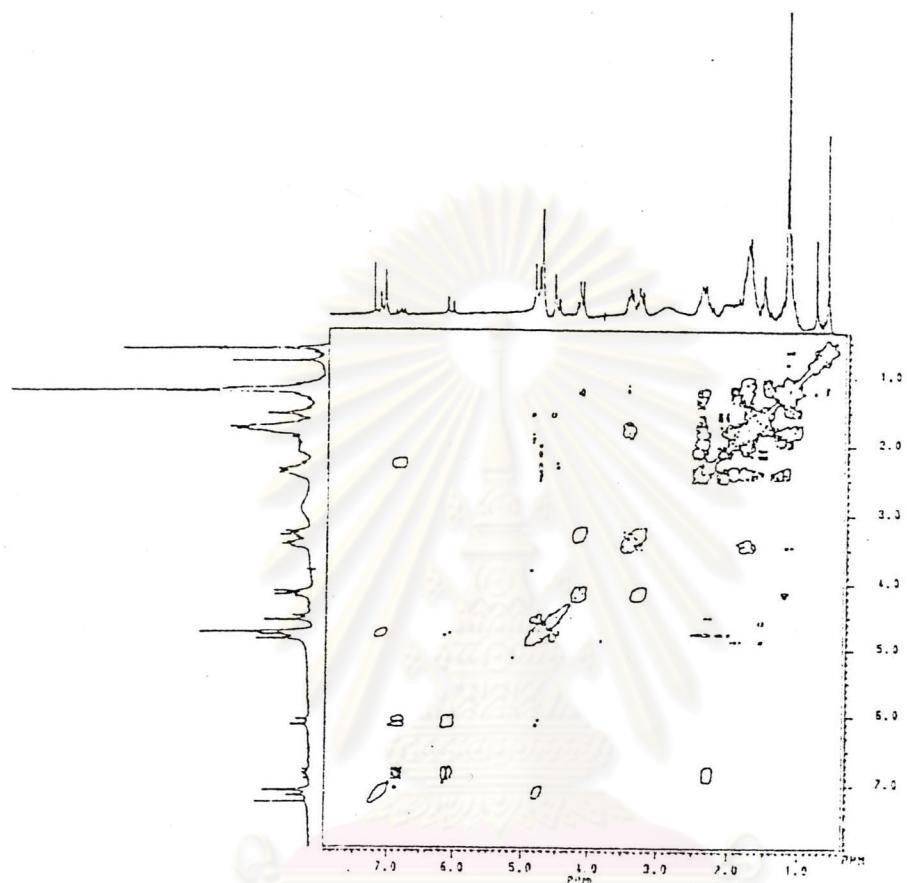


Figure 22 H,H COSY spectrum of compound C-2 in CDCl_3

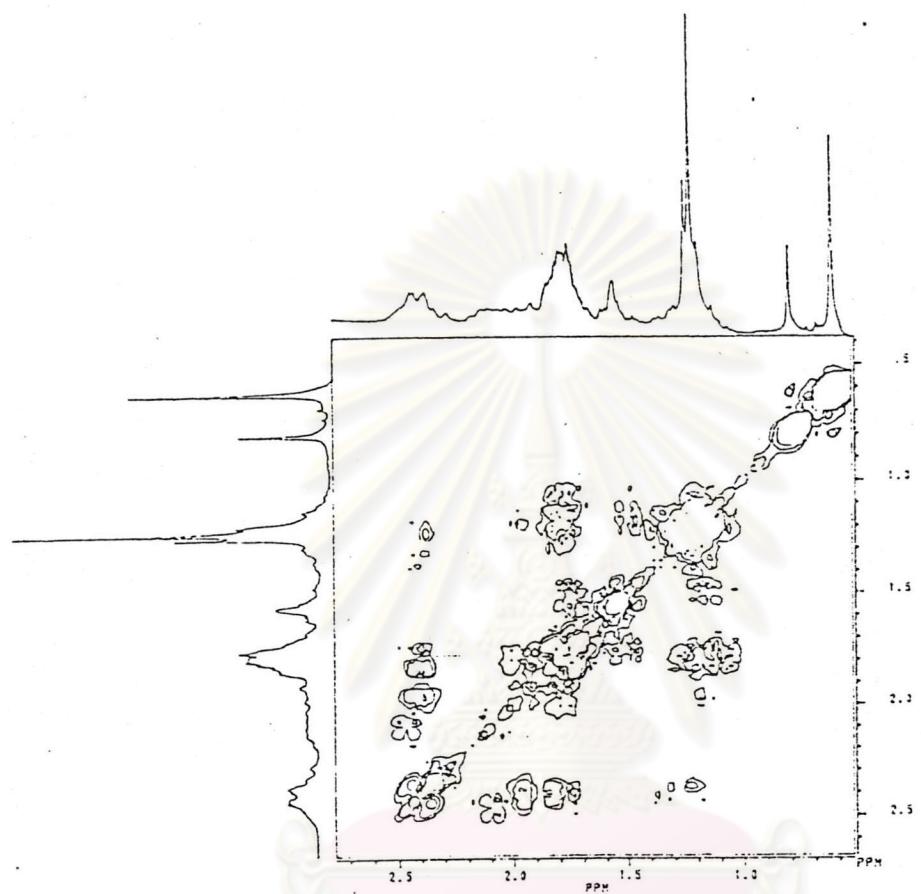


Figure 23 H,H COSY Expanded scale of compound C-2 in CDCl_3

3

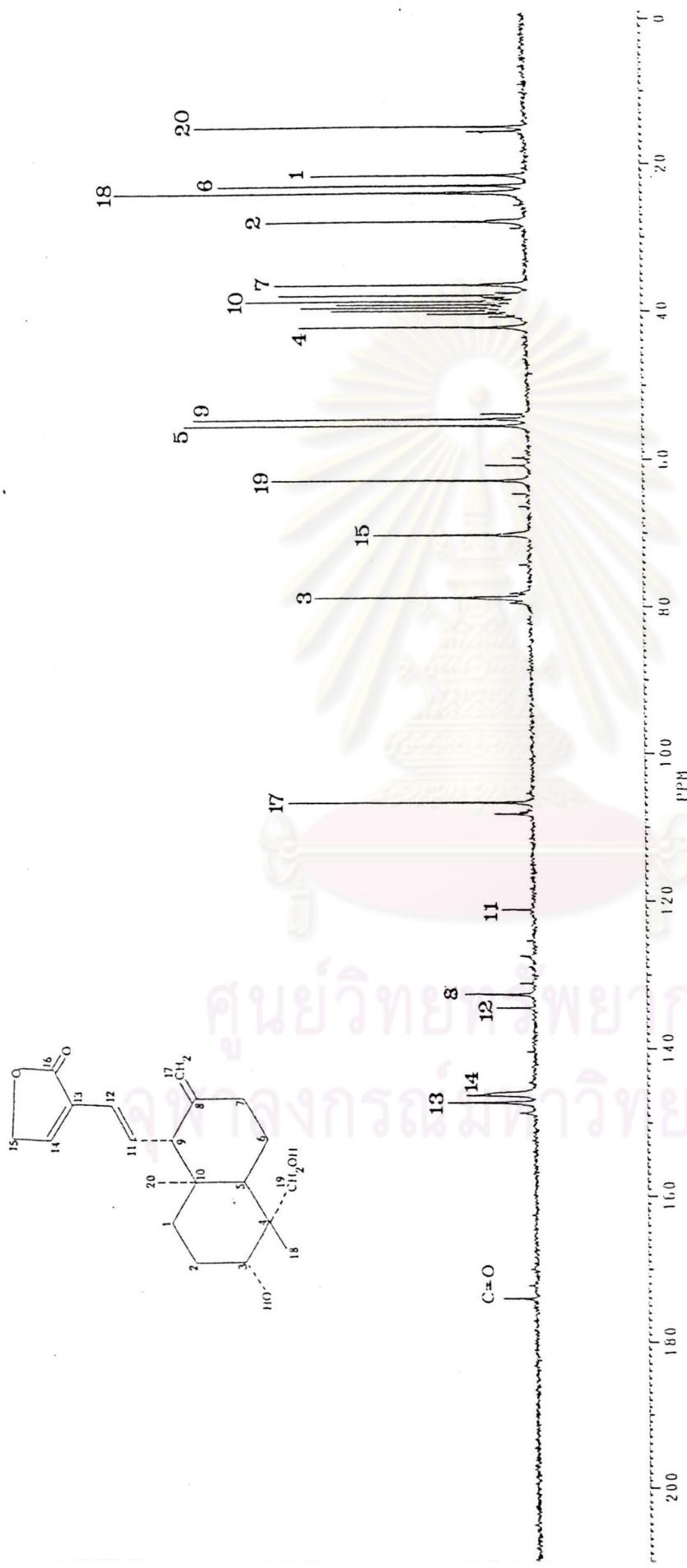


Figure 24 Carbon-13 decoupling spectrum of compound C-2 in CDCl_3

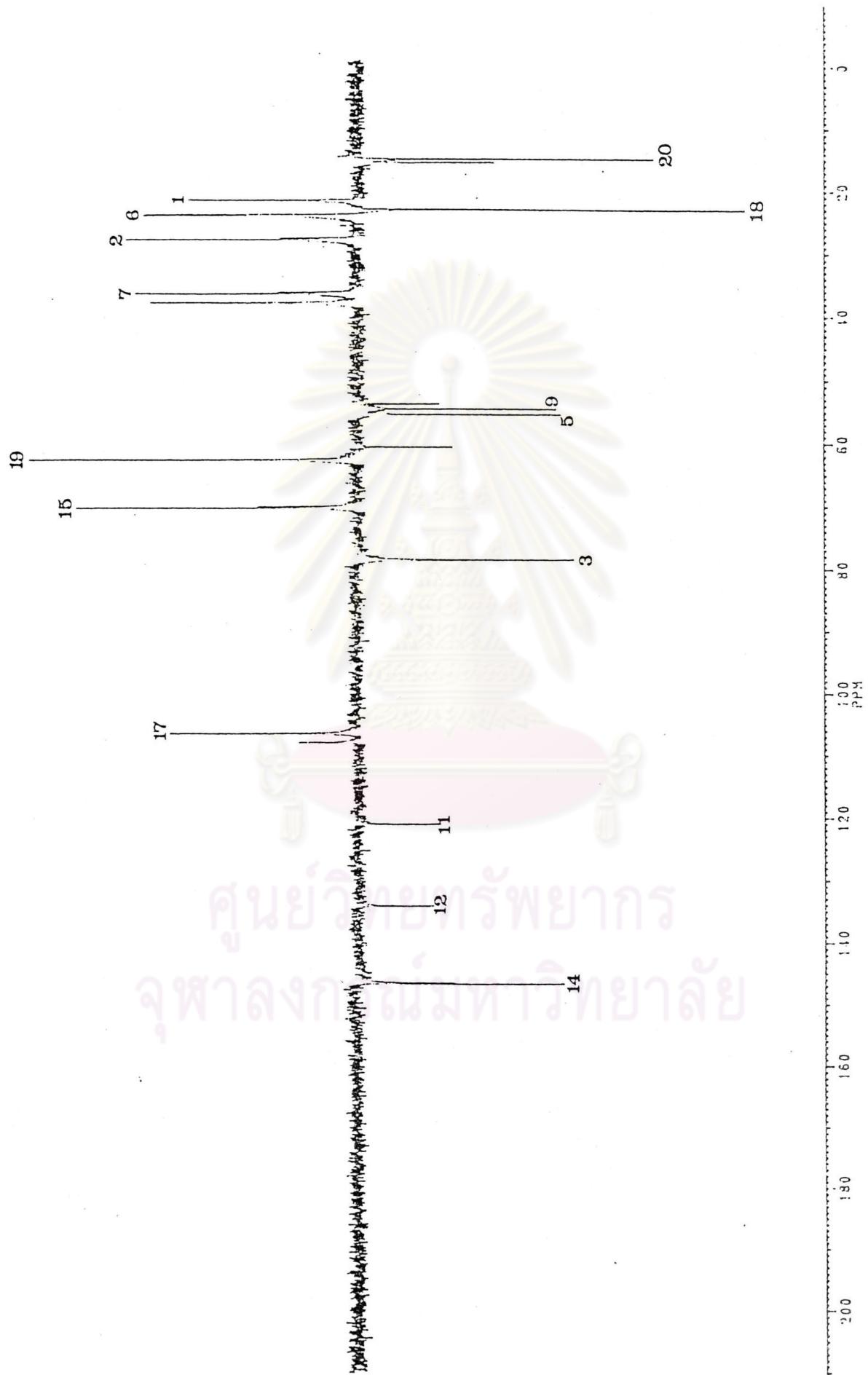


Figure 25 DEPT-135 spectrum of compound C-2 in CDCl_3

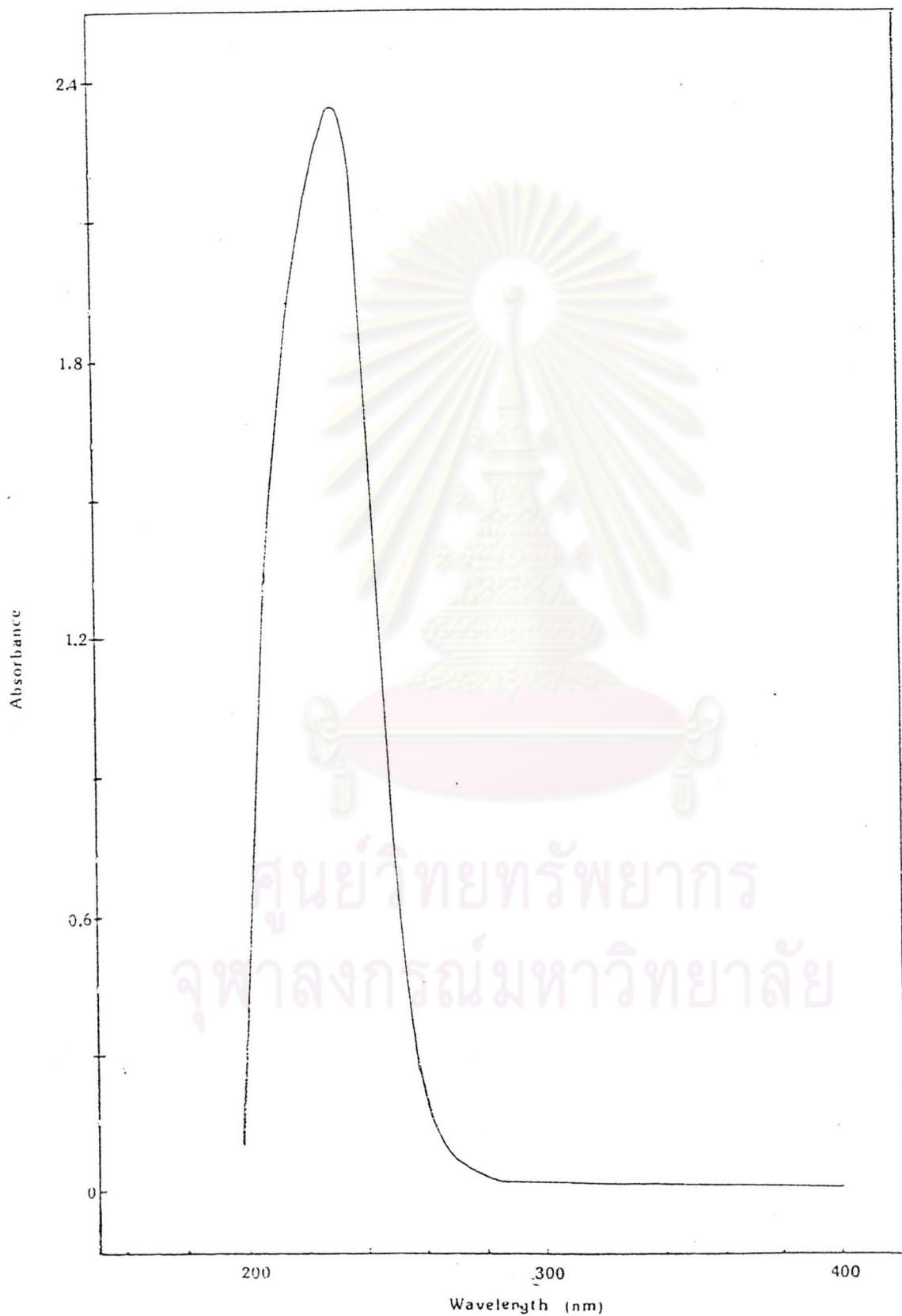


Figure 27 UV spectrum of compound C-3 in Methanol

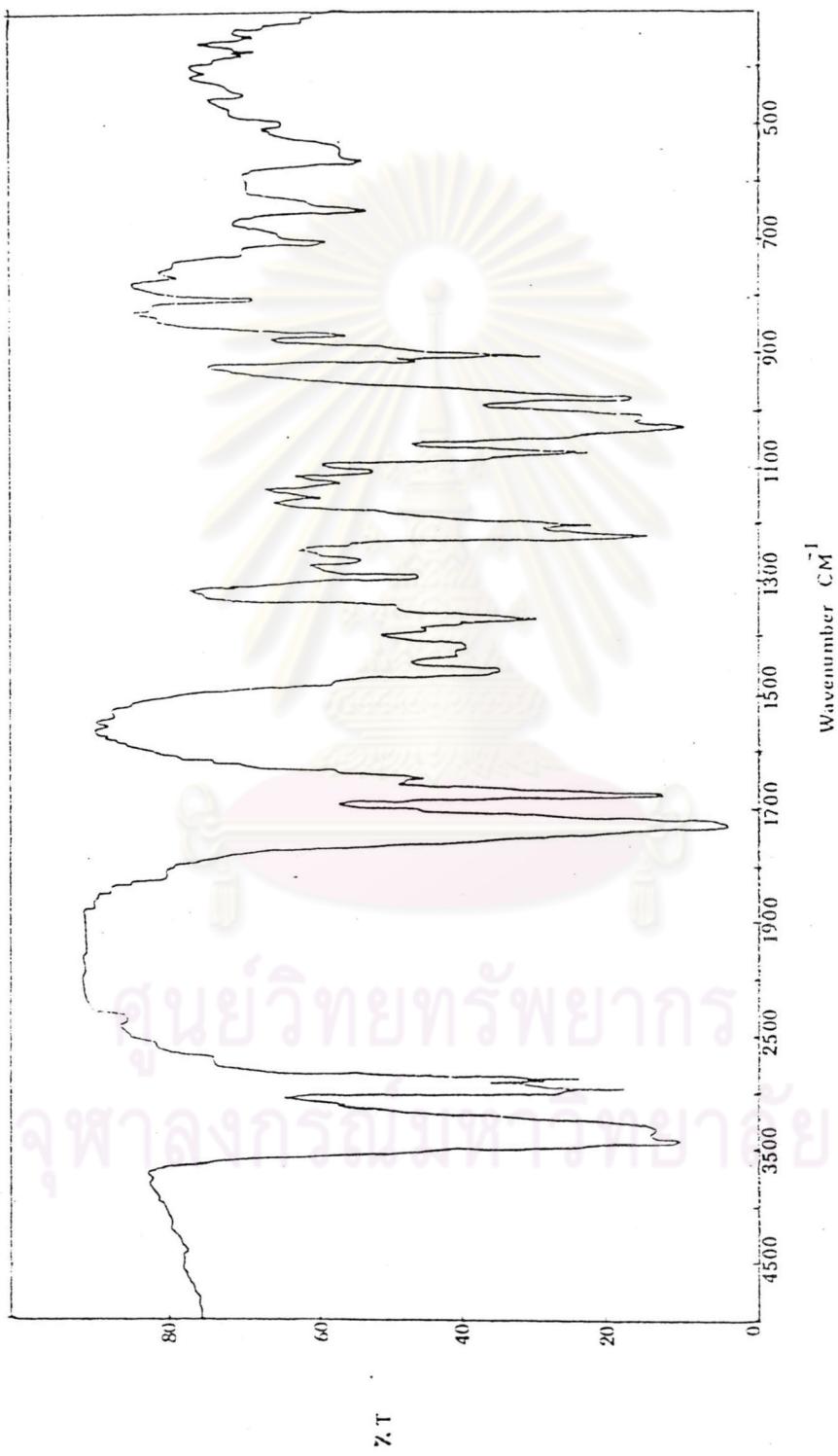


Figure 28 IR spectrum of compound C-3

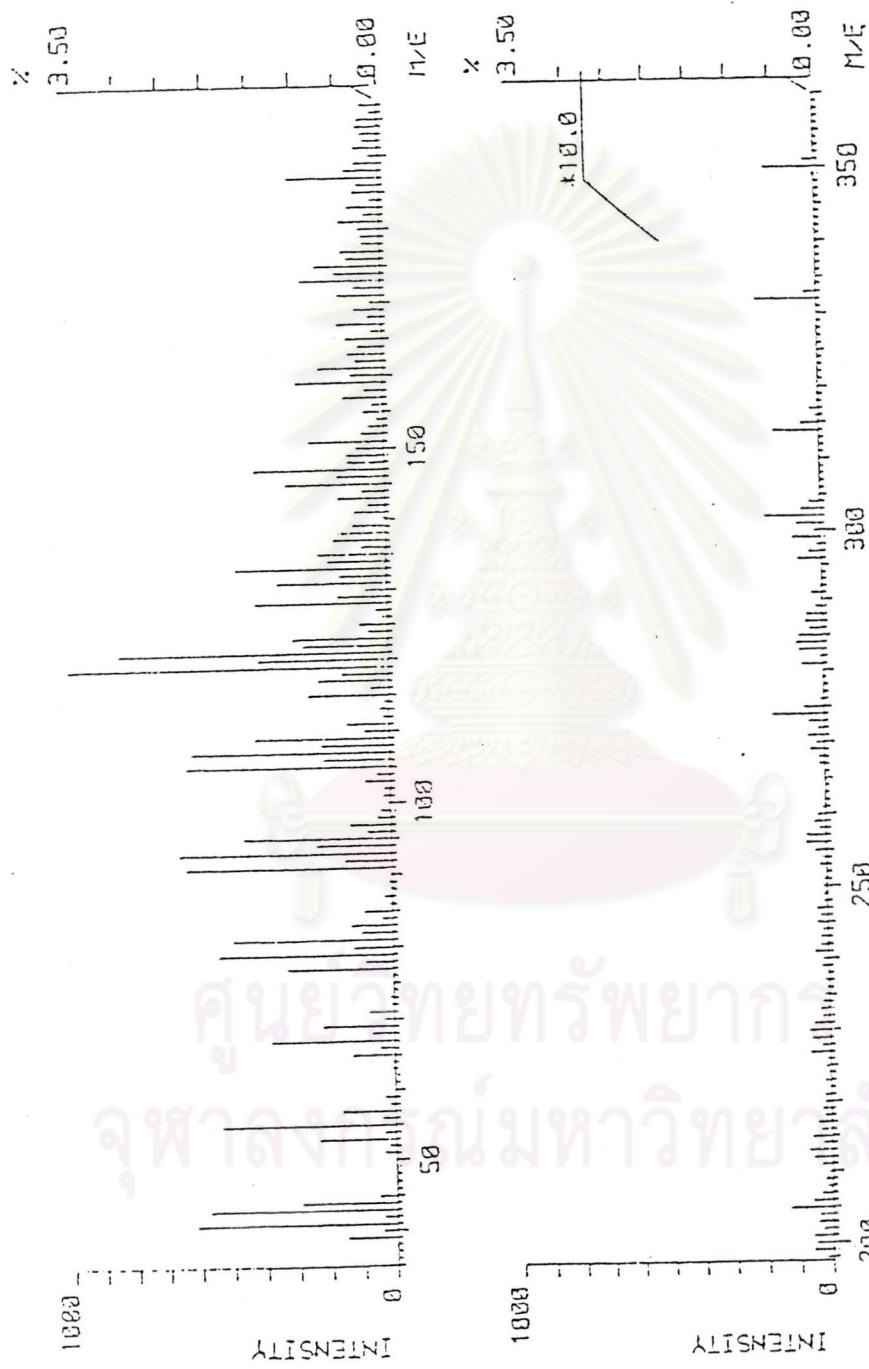


Figure 29 Mass spectrum of compound C-3

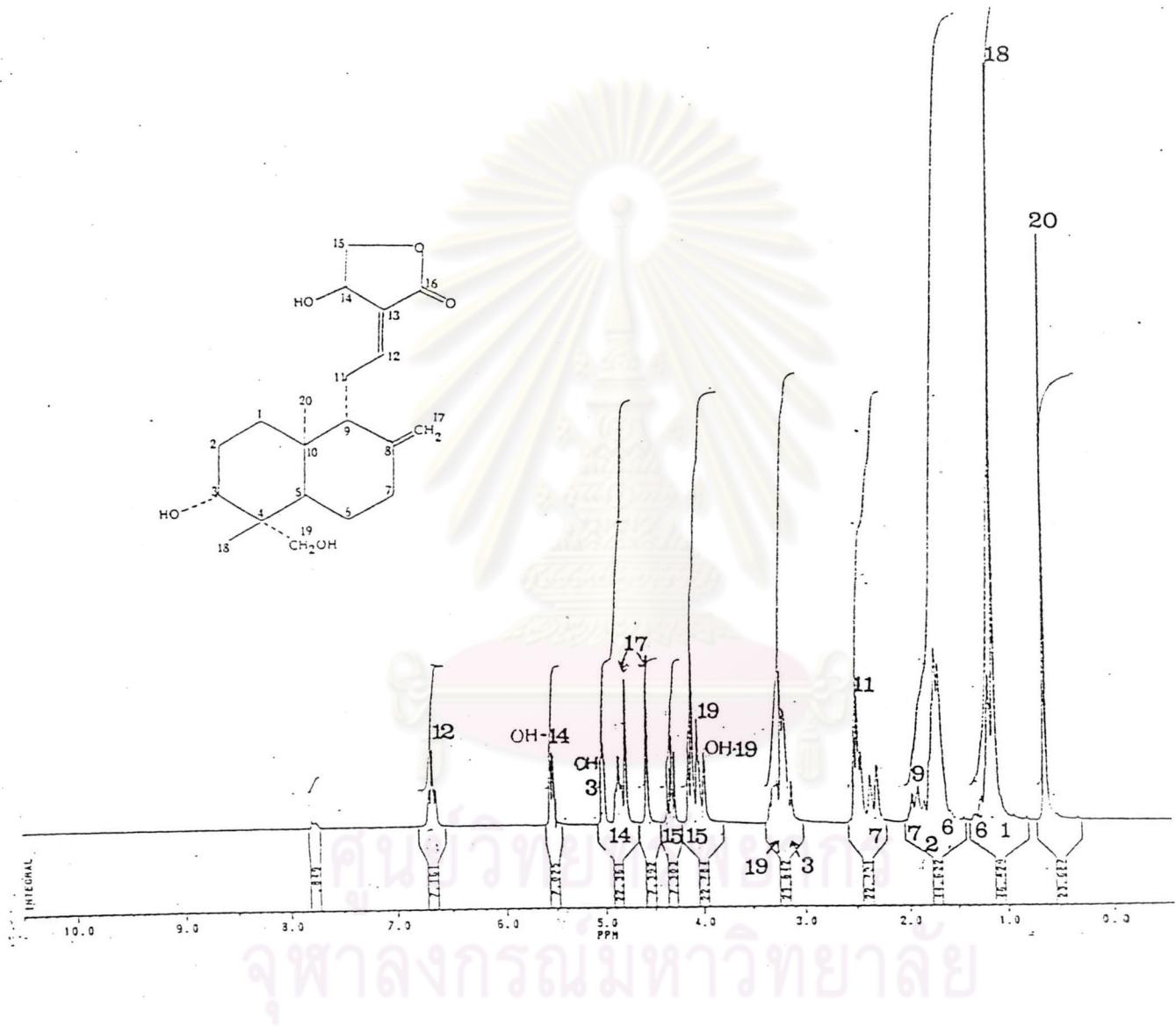


Figure 30 Proton spectrum of compound C-3 in DMSO-d₆

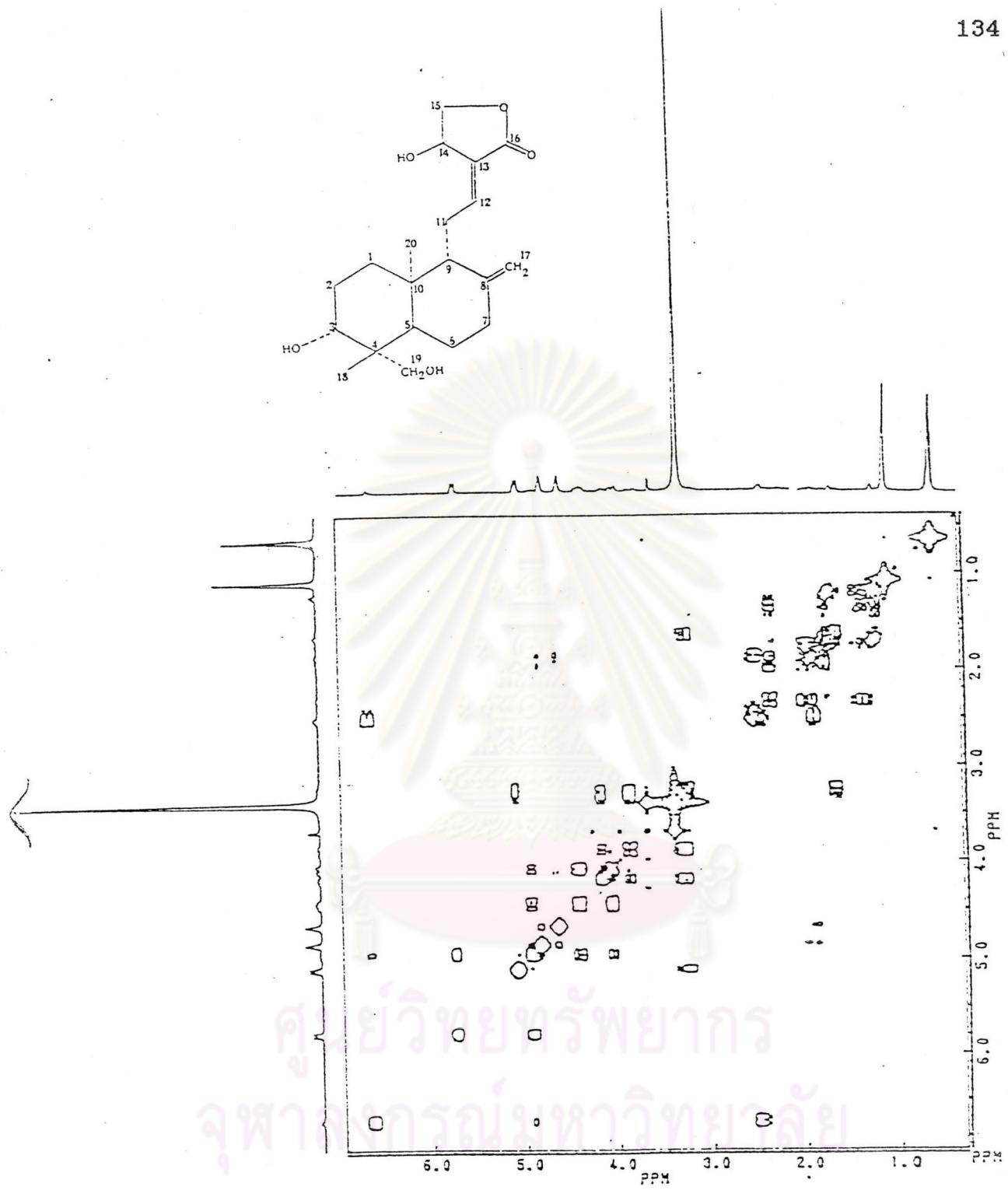


Figure 31 ^1H , ^1H COSY spectrum of compound C-3 in DMSO-d_6

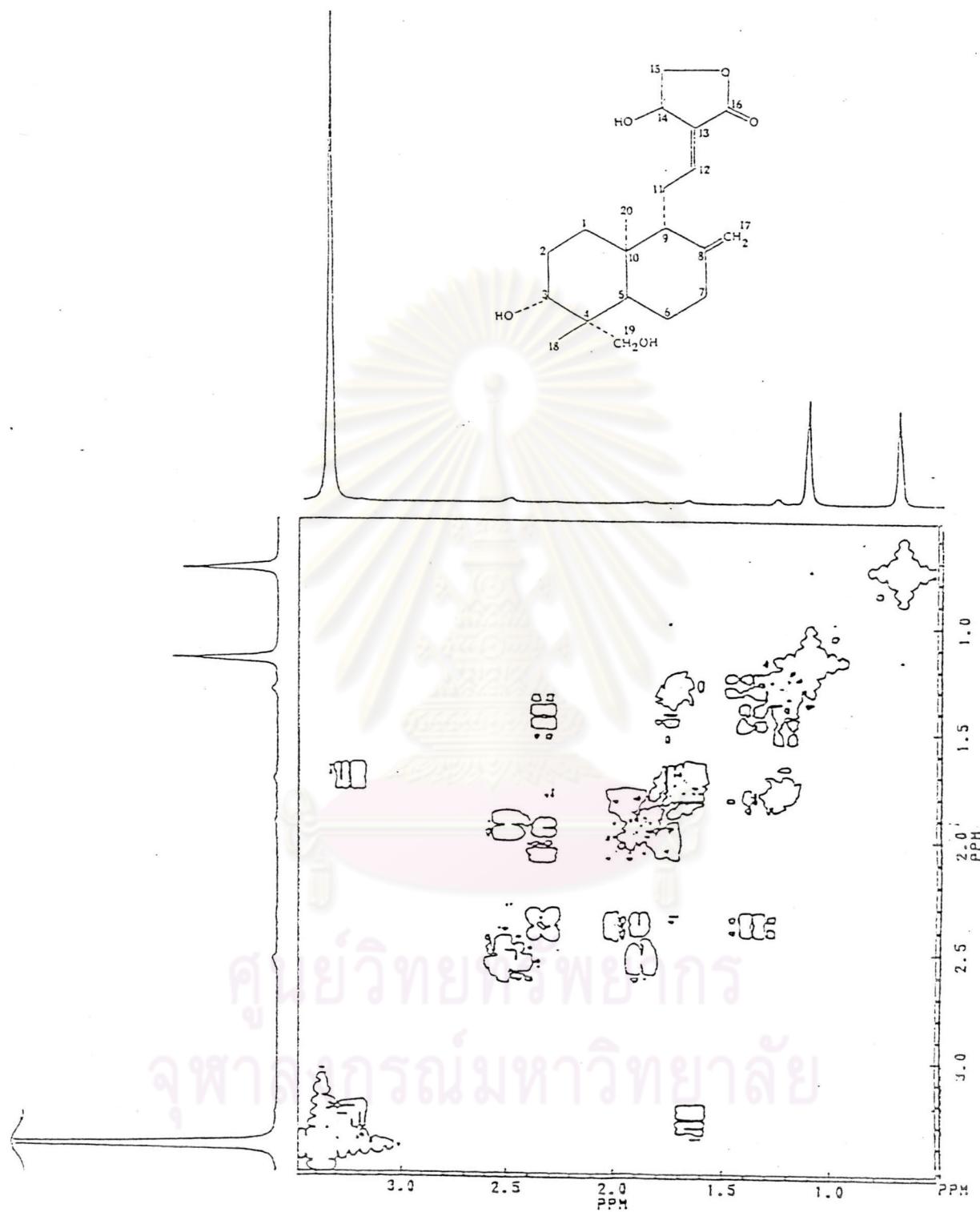


Figure 32 ^1H , ^1H COSY expanded scale of compound C-3 in DMSO-d_6

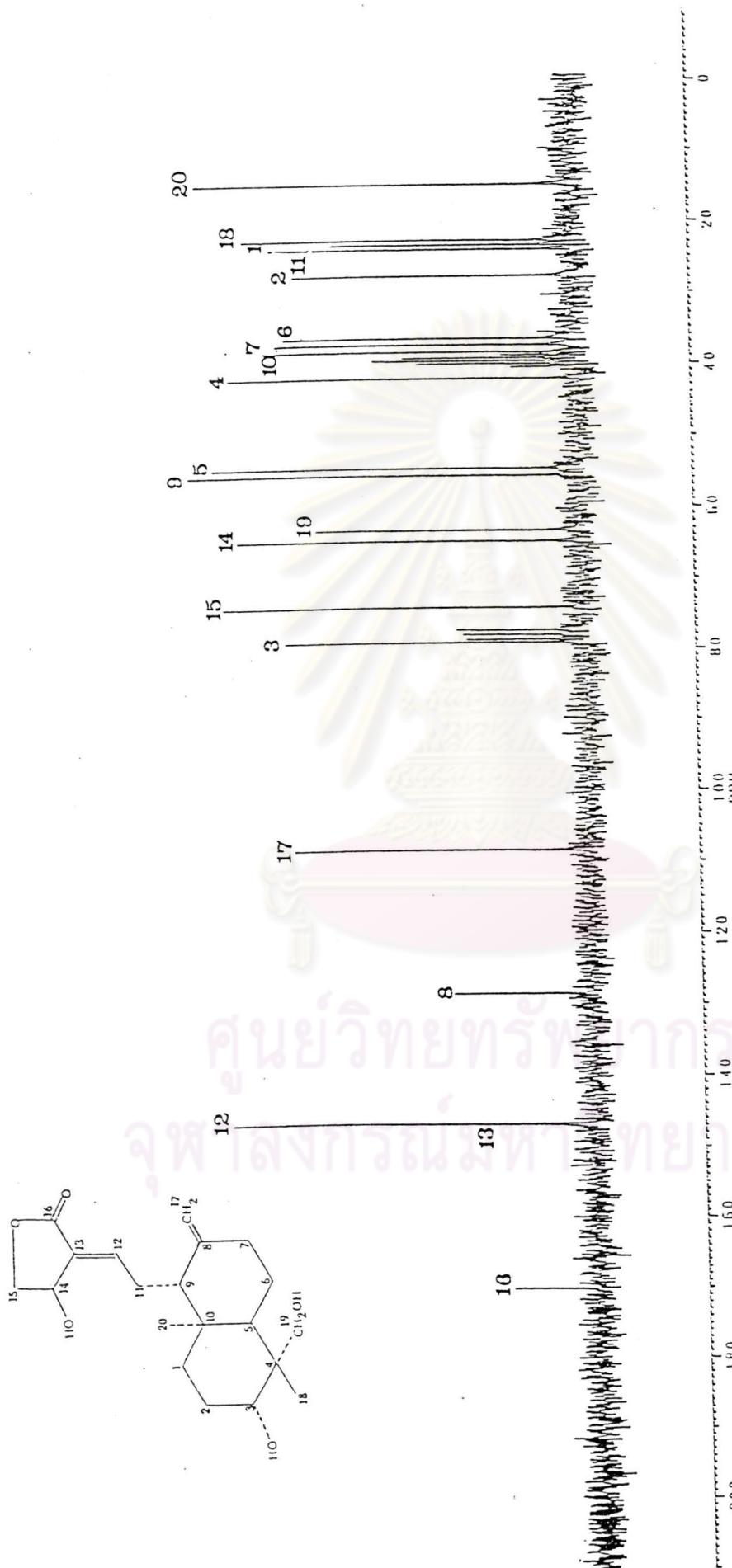


Figure 33 Carbon-13 decoupling spectrum of compound C-3 in DMSO-d6

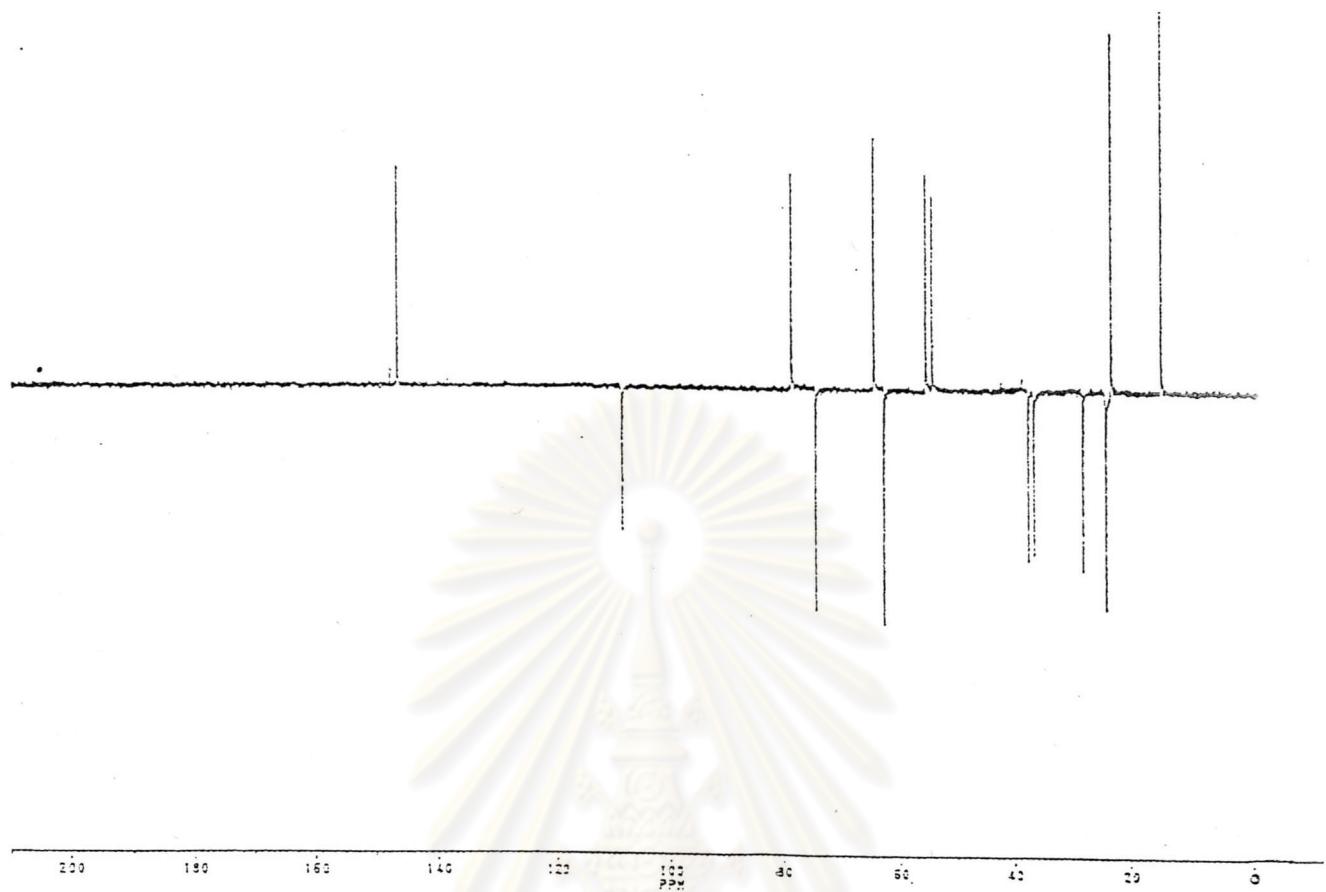


Figure 34 DEPT-135 spectrum of compound C-3 in DMSO-d₆

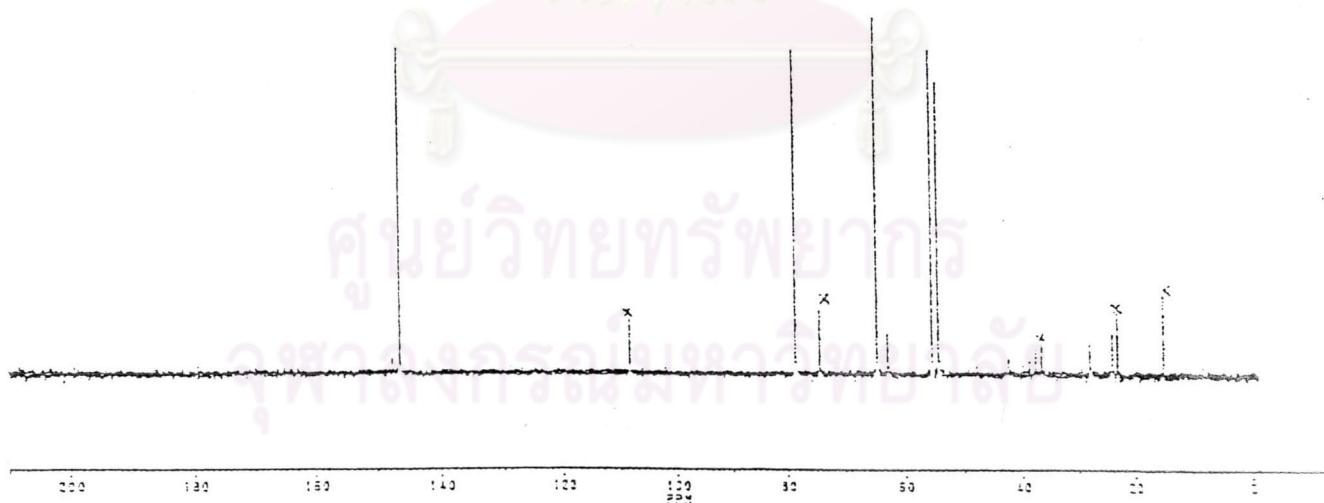


Figure 35 DEPT-90 spectrum of compound C-3 in DMSO-d₆

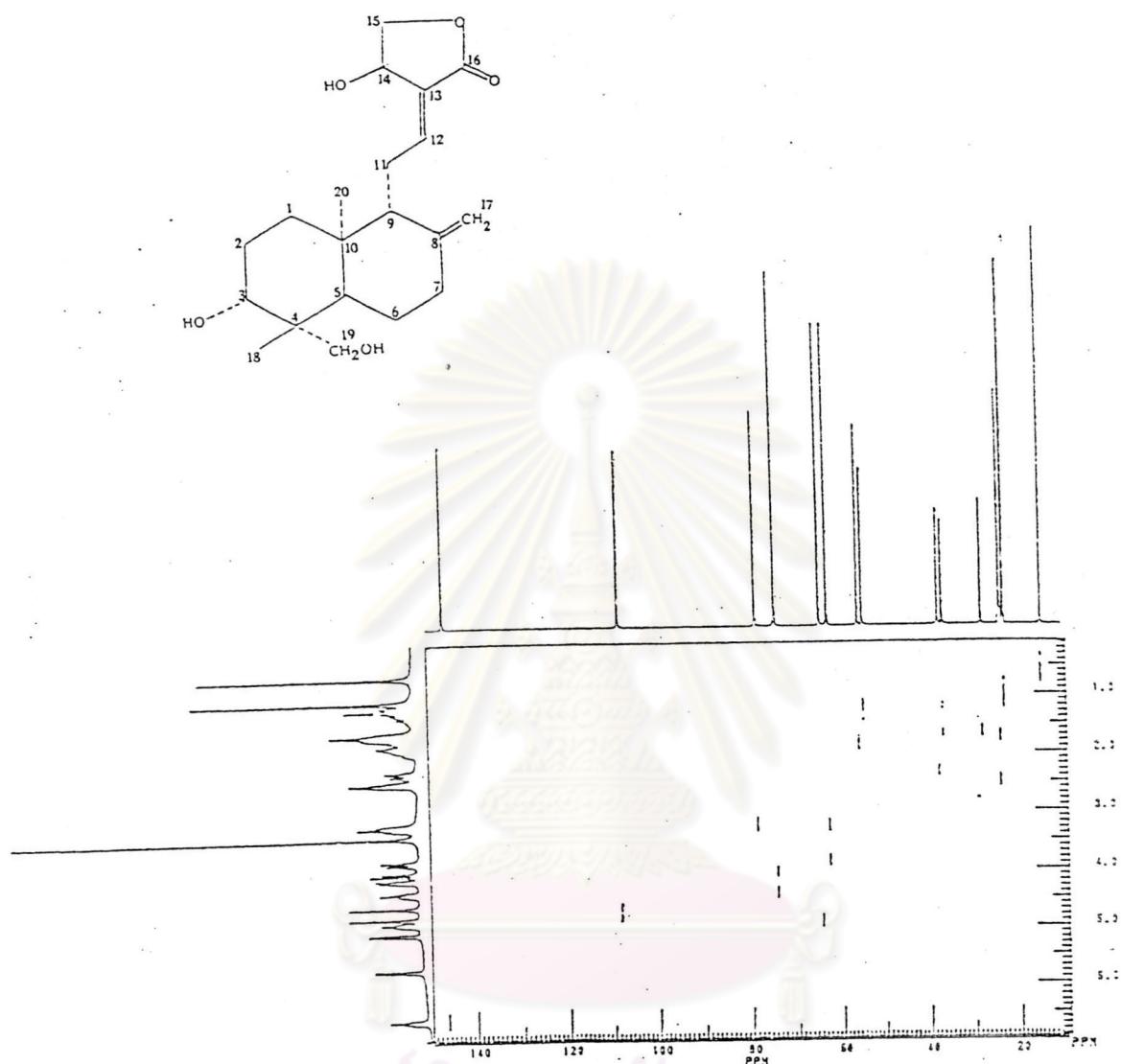


Figure 36 ¹³C, ¹H COSY spectrum of compound C-3 in DMSO-d₆

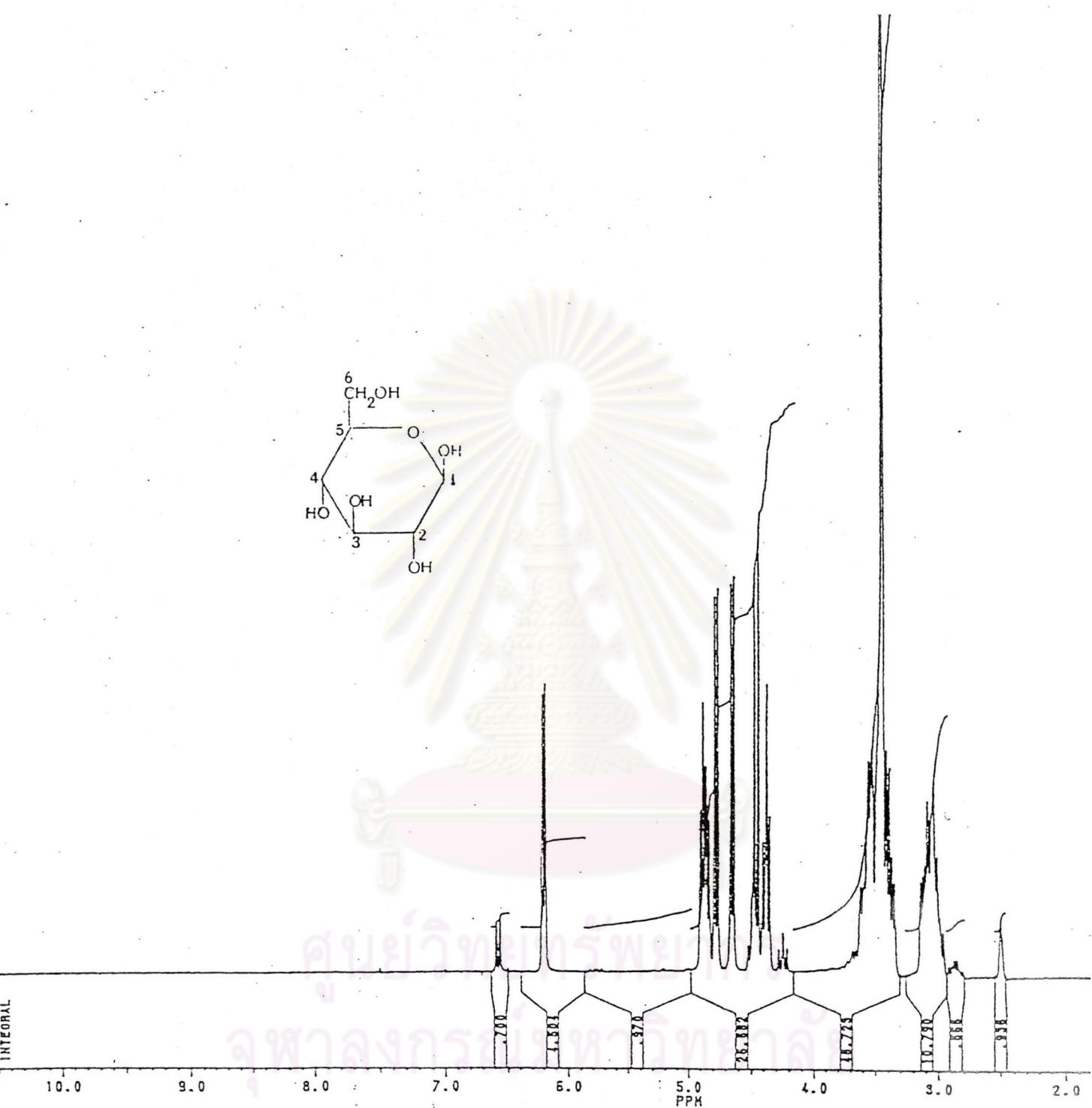


Figure 37 Proton spectrum of glucose in DMSO-d_6

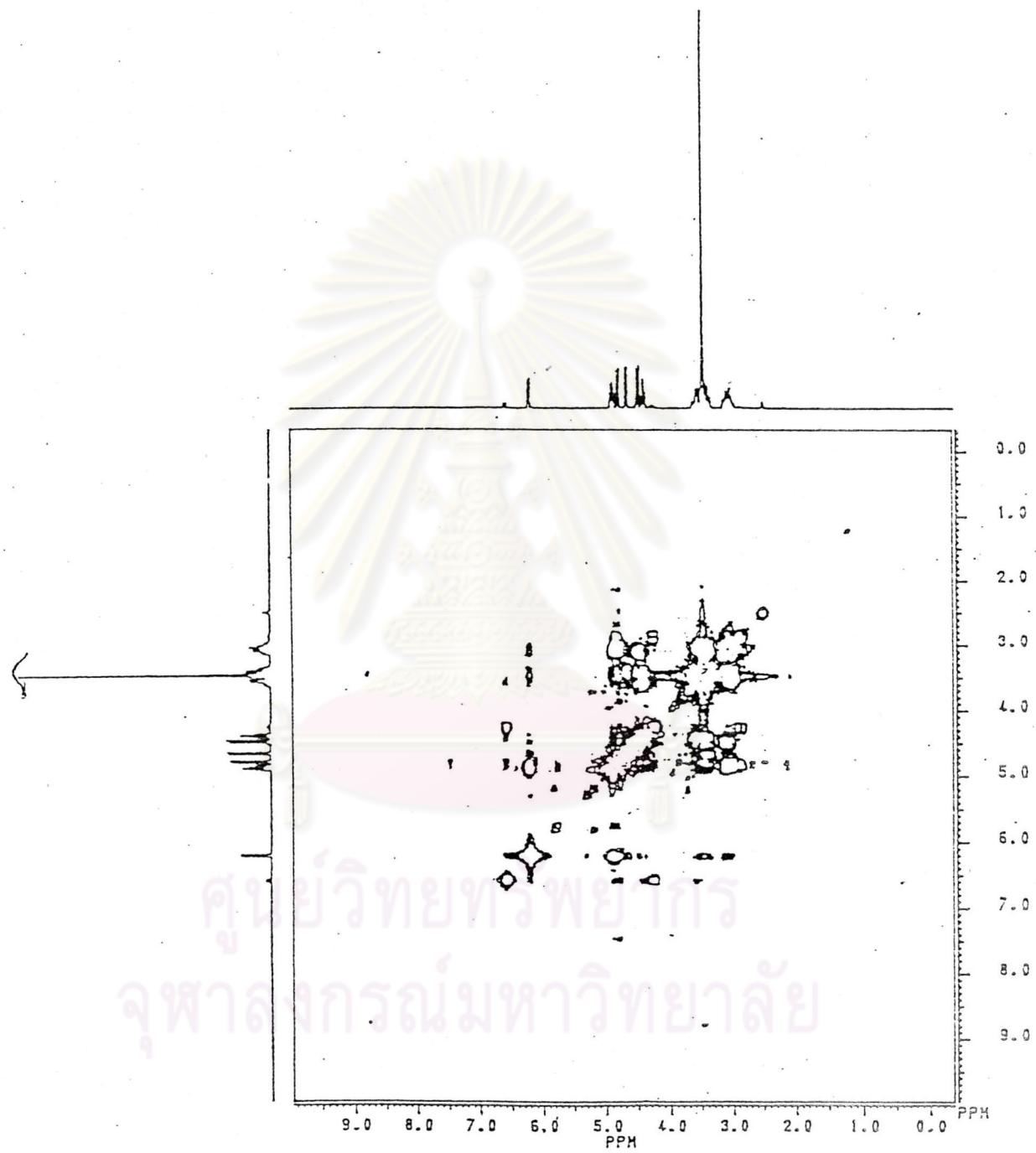


Figure 38 $^1\text{H}, ^1\text{H}$ COSY spectrum of glucose in DMSO-d_6

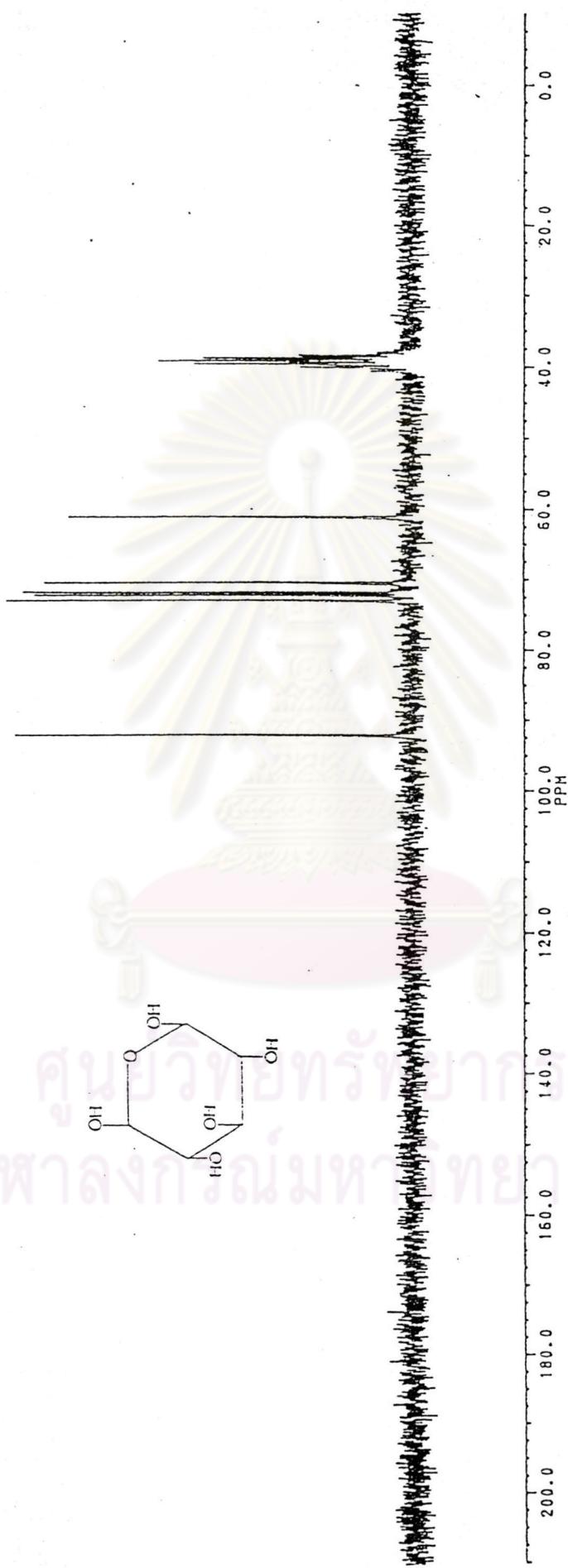


Figure 39 Carbon-13 decoupling spectrum of glucose in $\text{DMSO}-\text{d}_6$

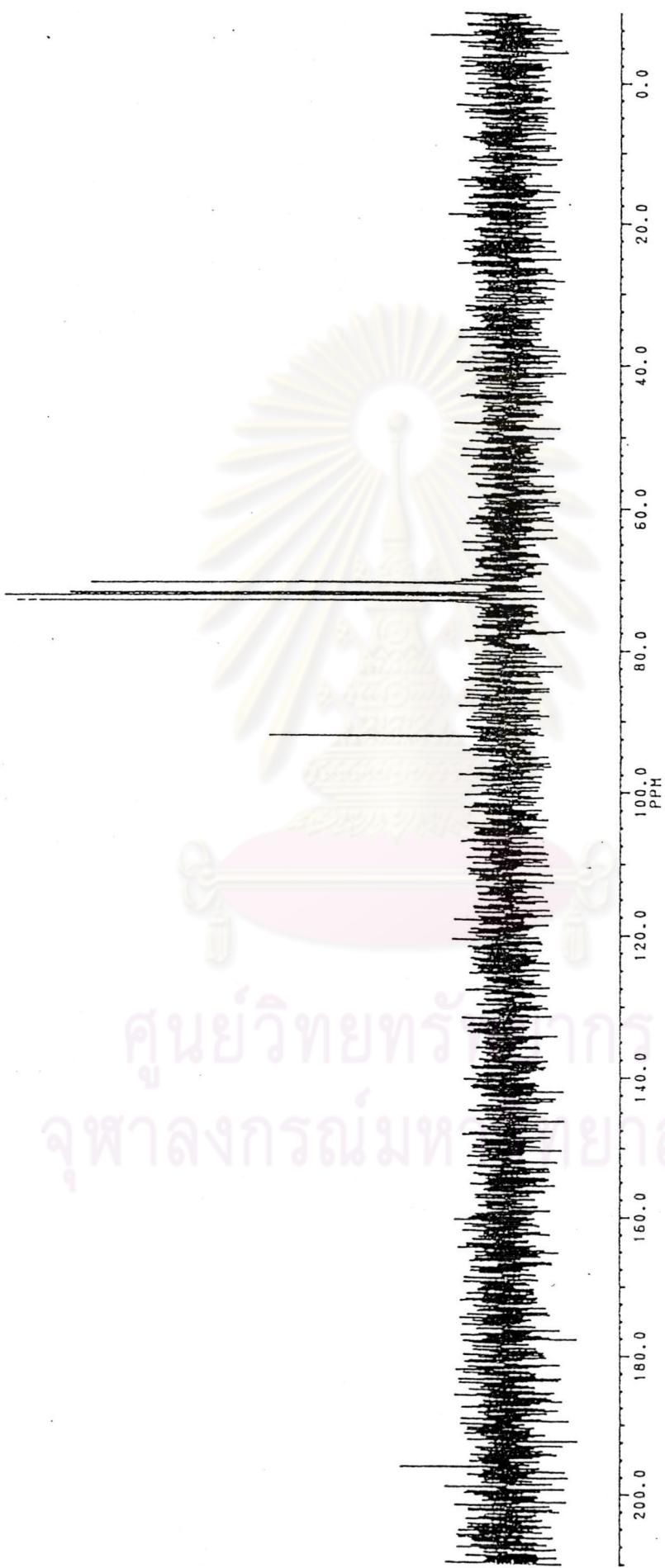


Figure 40 DEPT 90 spectrum of α -glucose in DMSO-d_6

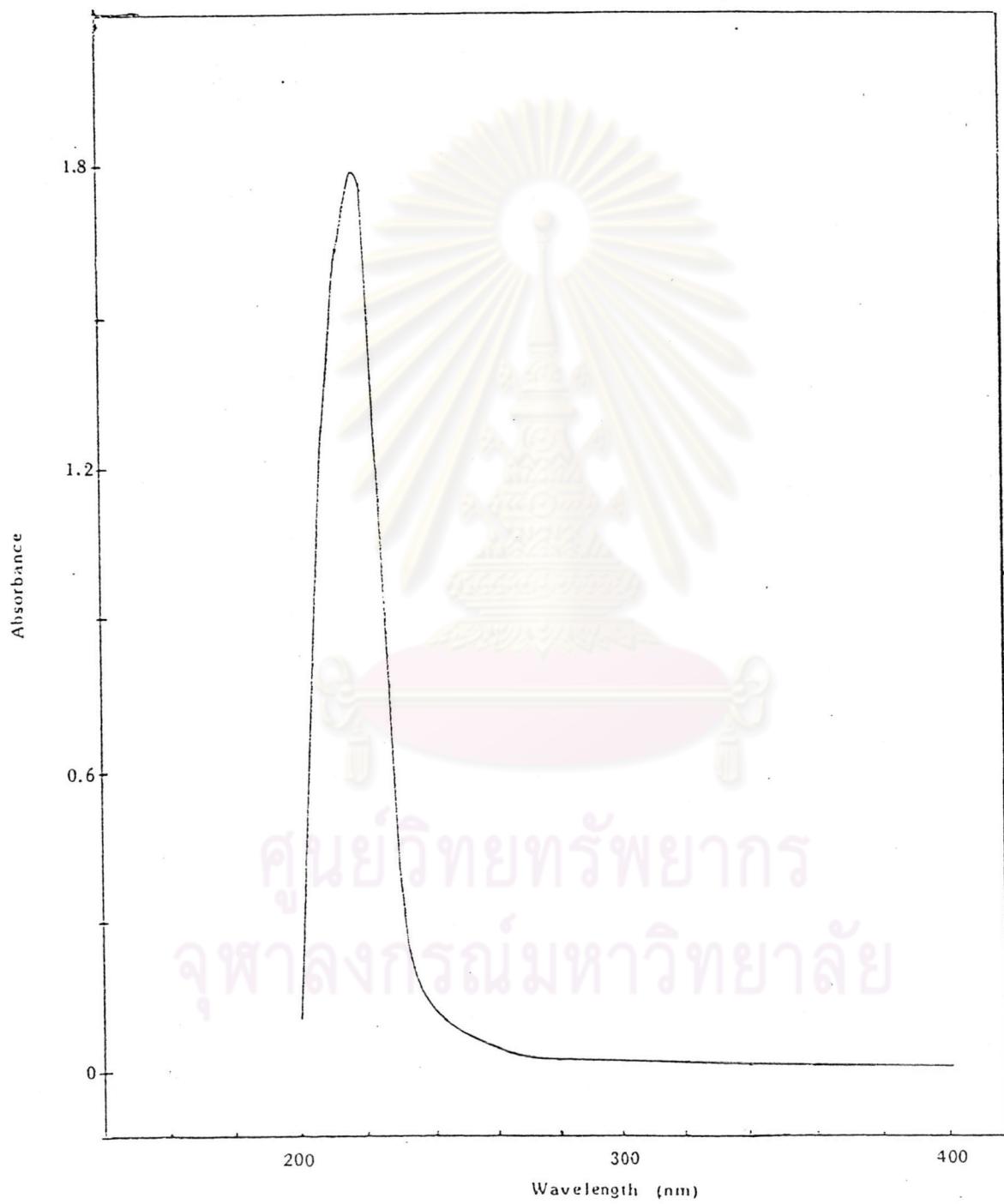


Figure 42 UV spectrum of compound C-4 in Methanol

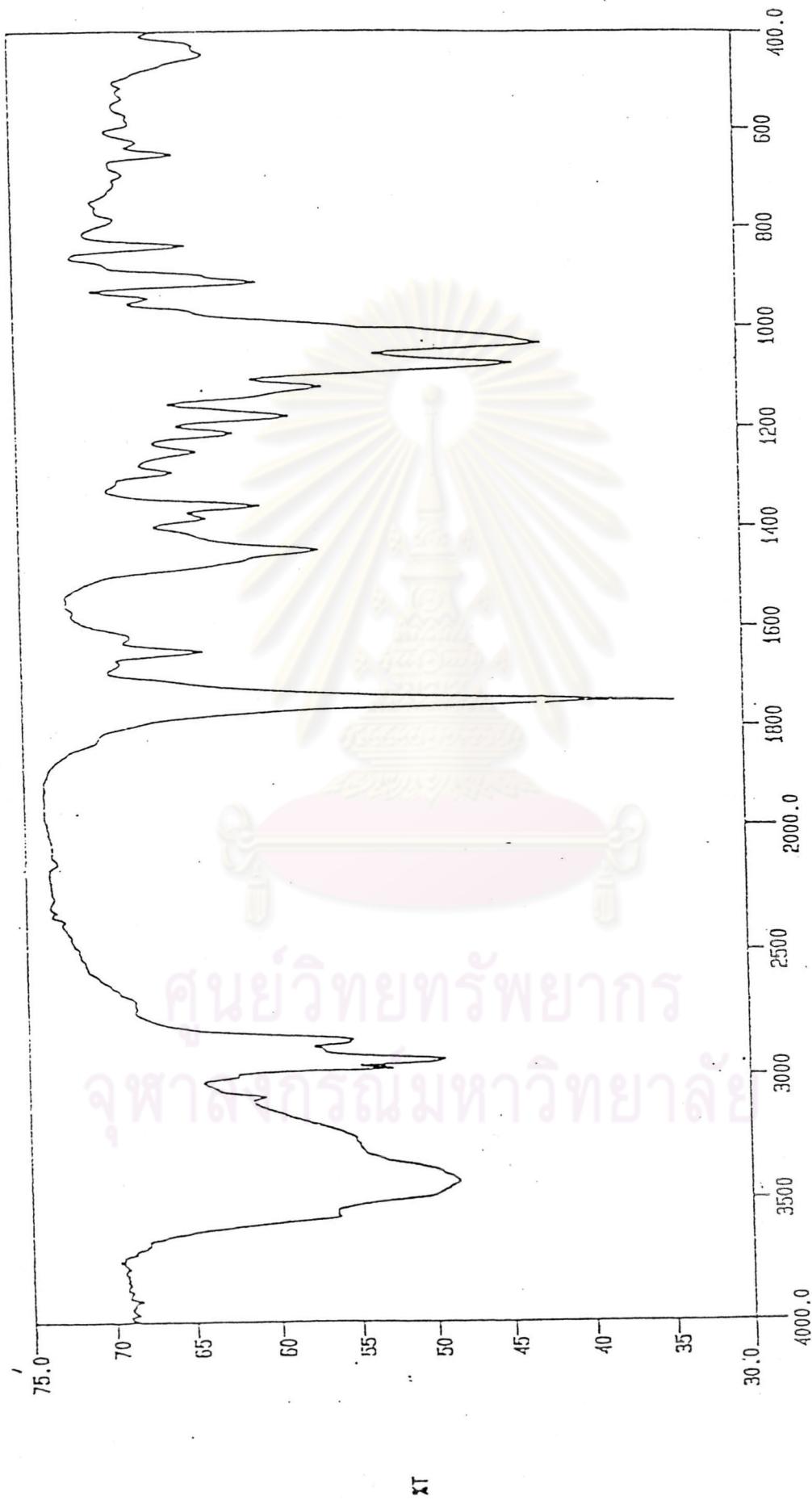


Figure 43 IR spectrum of compound C-4

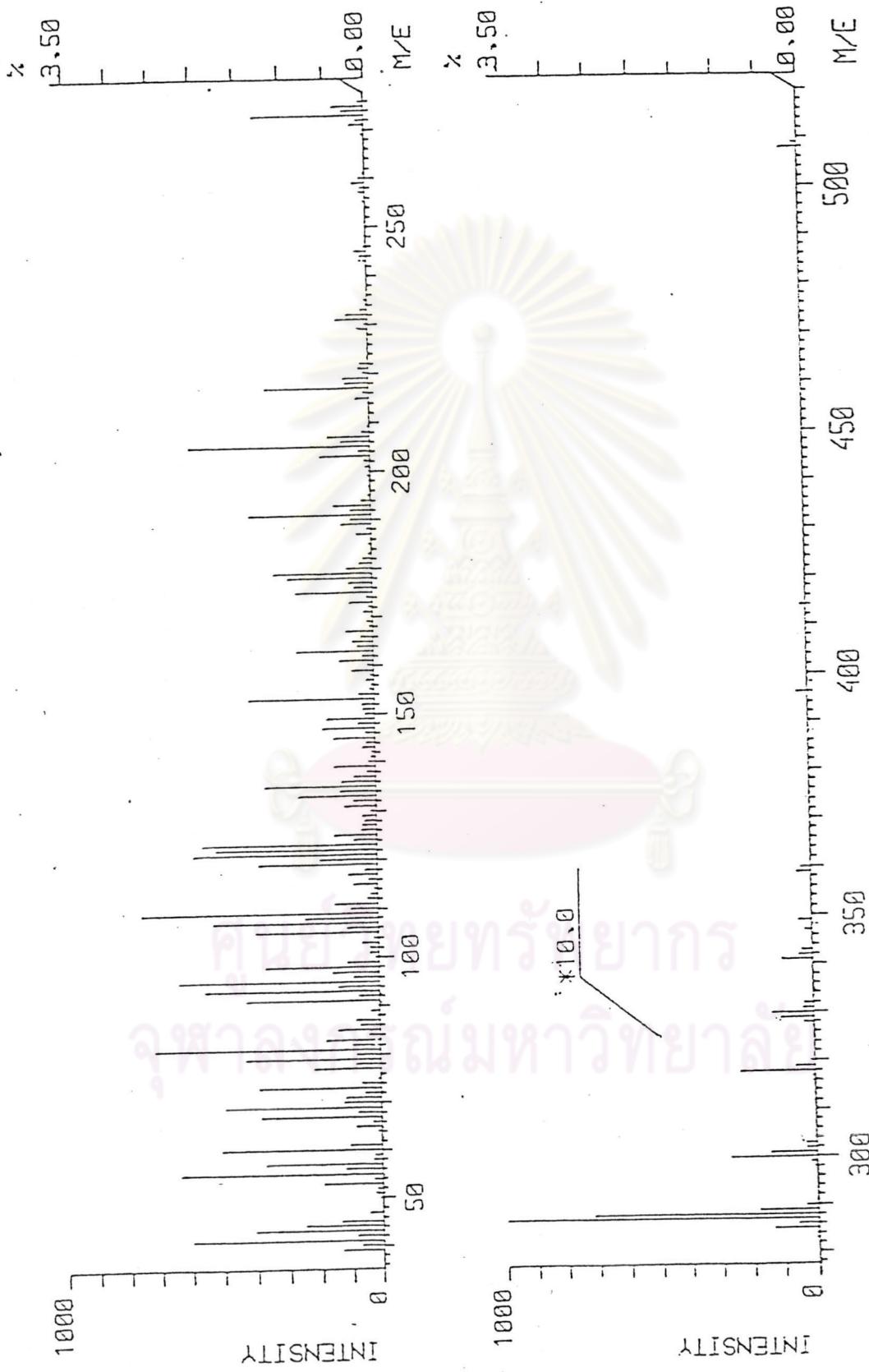


Figure 44 Mass spectrum of compound C-4

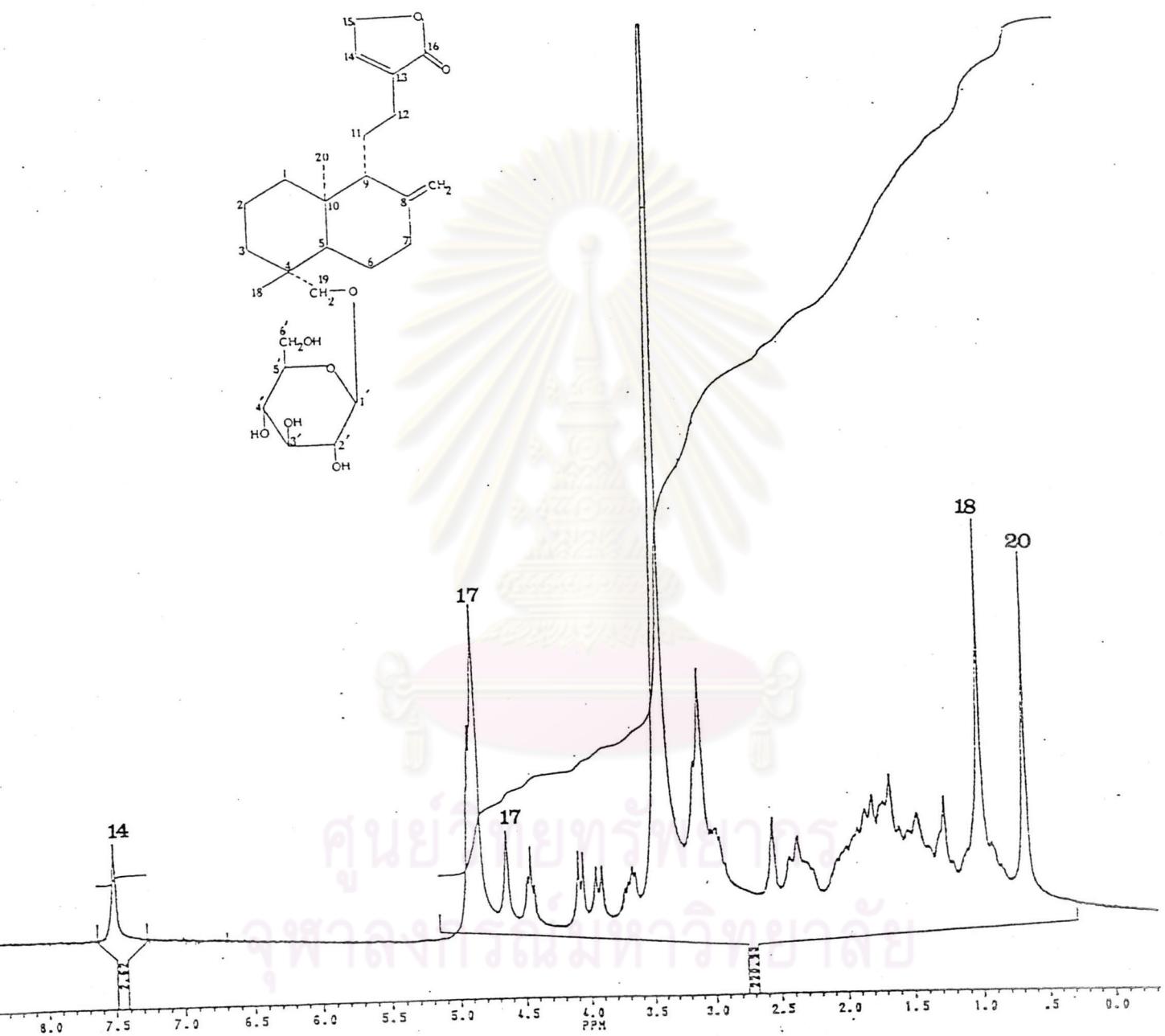


Figure 45 Proton spectrum of compound C-4 in DMSO-d₆

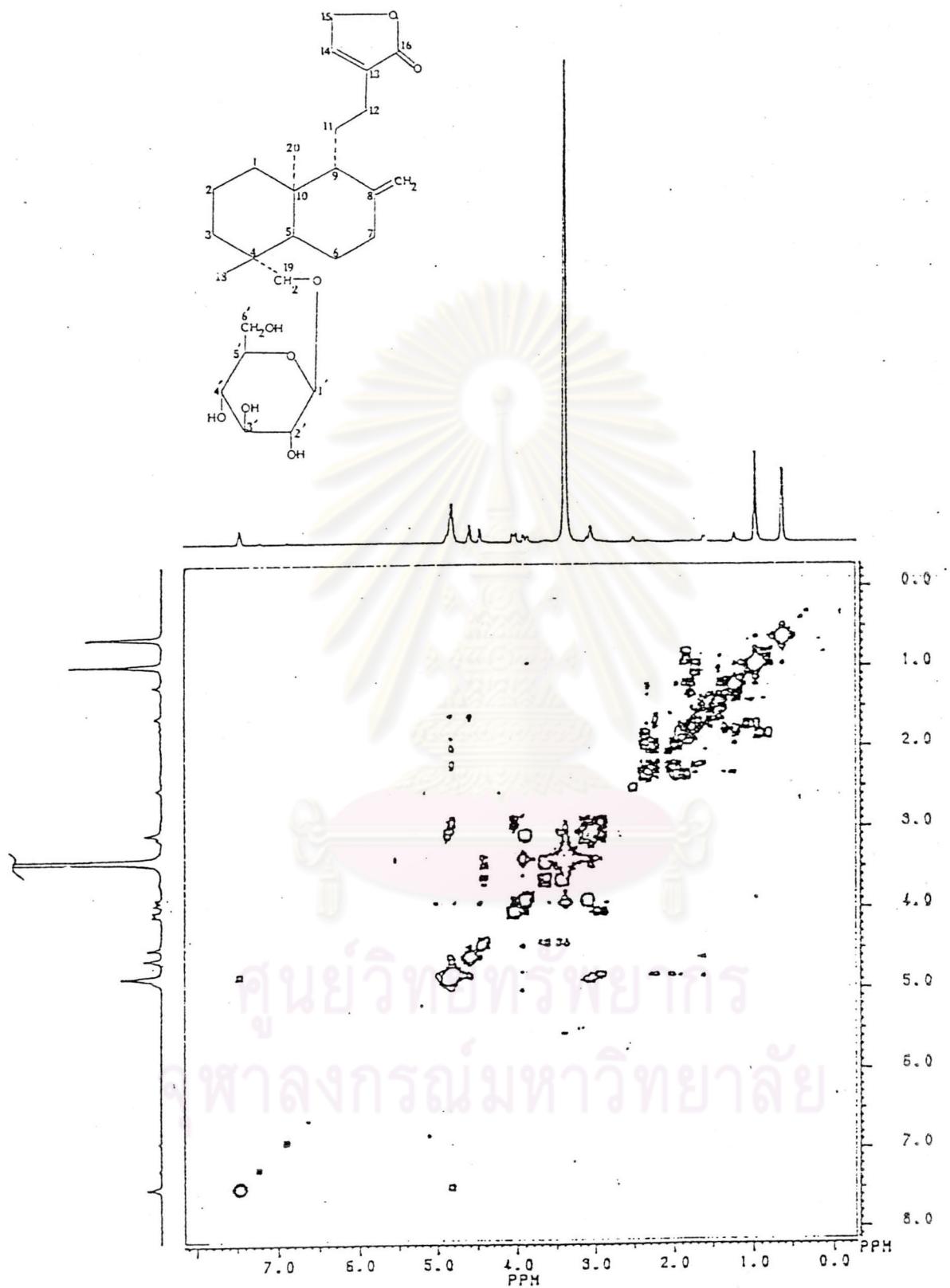


Figure 46 H, H COSY spectrum of compound C-4 in DMSO-d_6

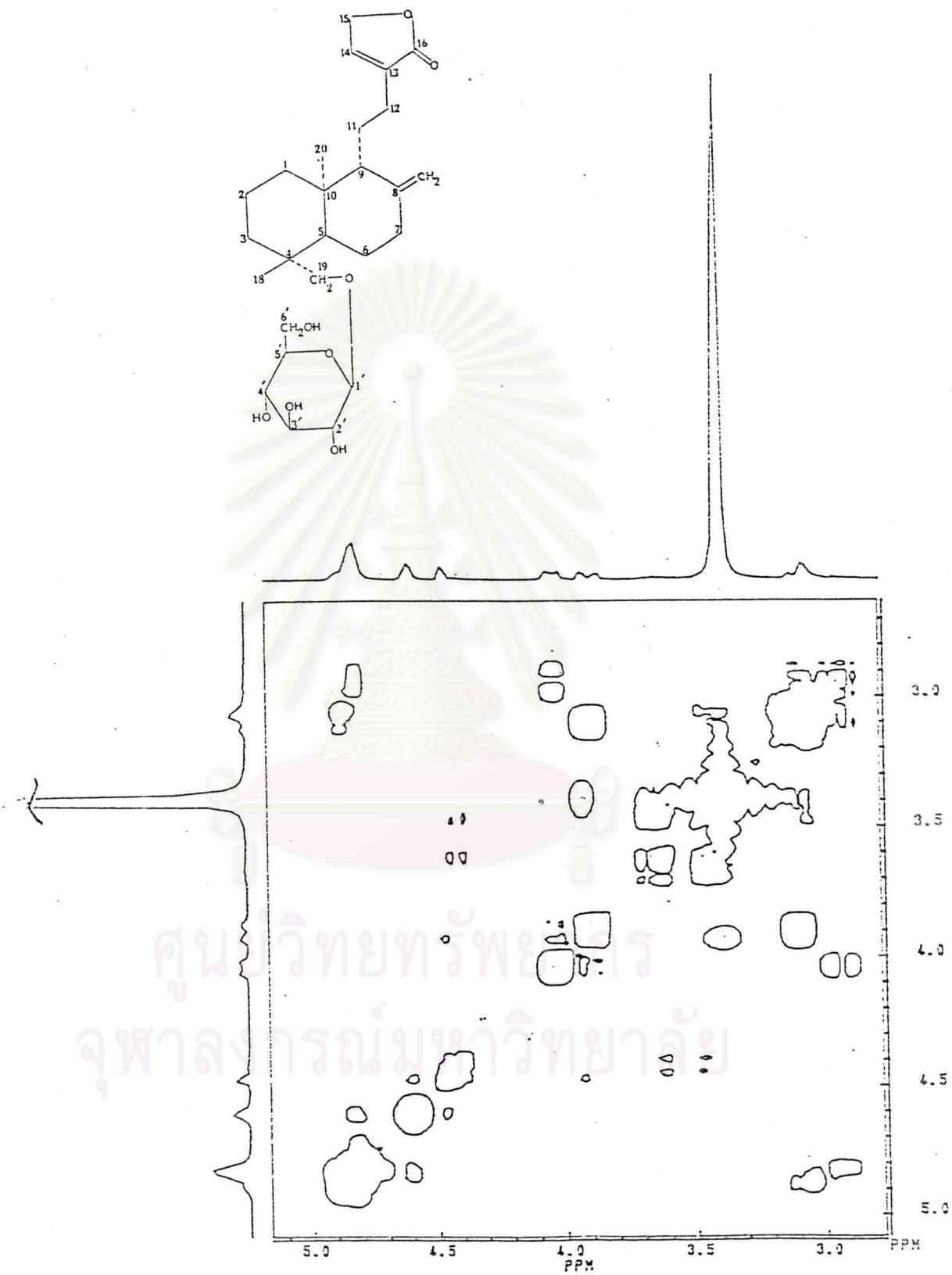


Figure 47 H,H COSY expanded scale spectrum at 2.8-5.2 ppm of compound C-4

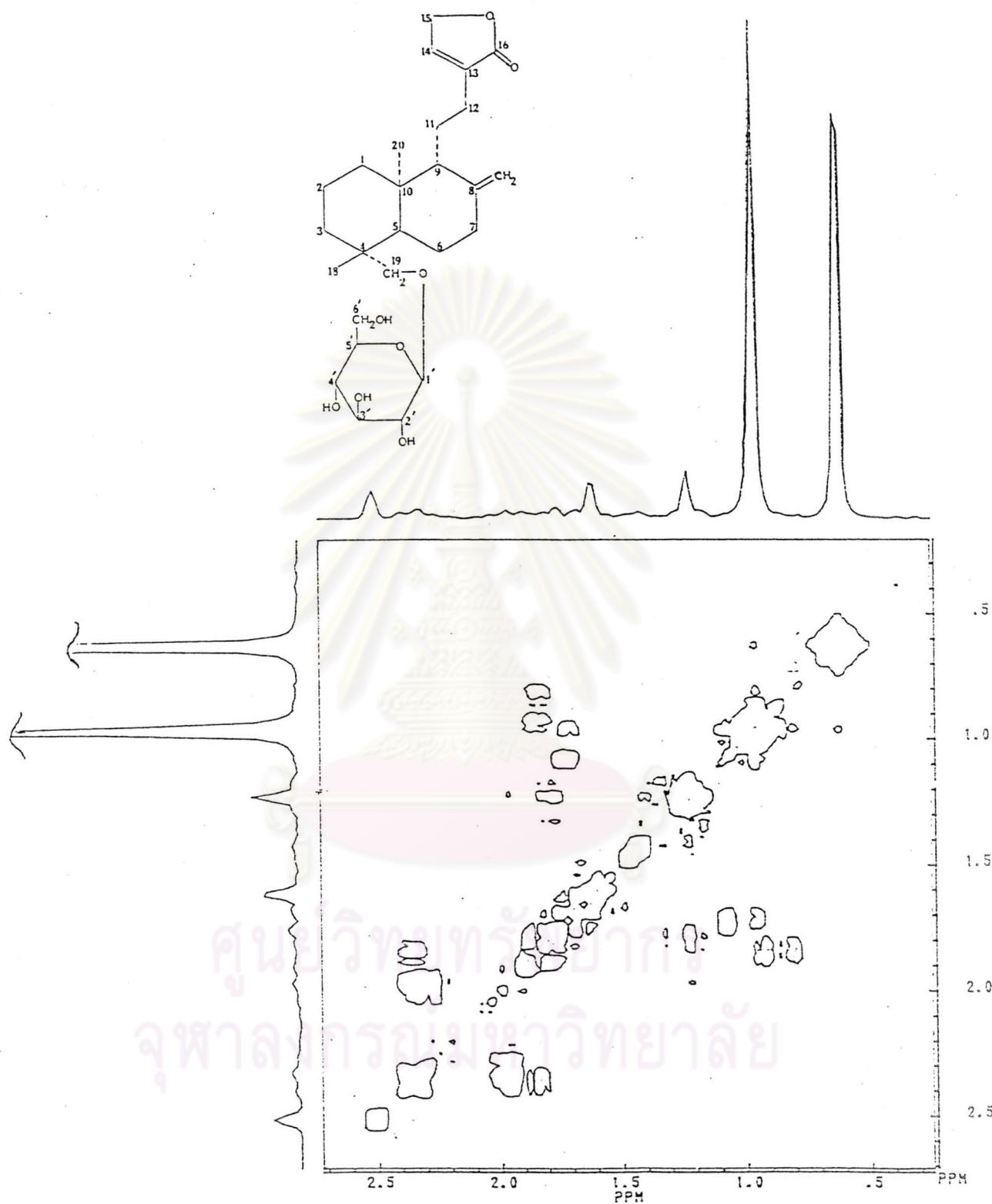


Figure 48 H,H COSY expanded scale spectrum at 0.4-2.7 ppm
of compound C-4

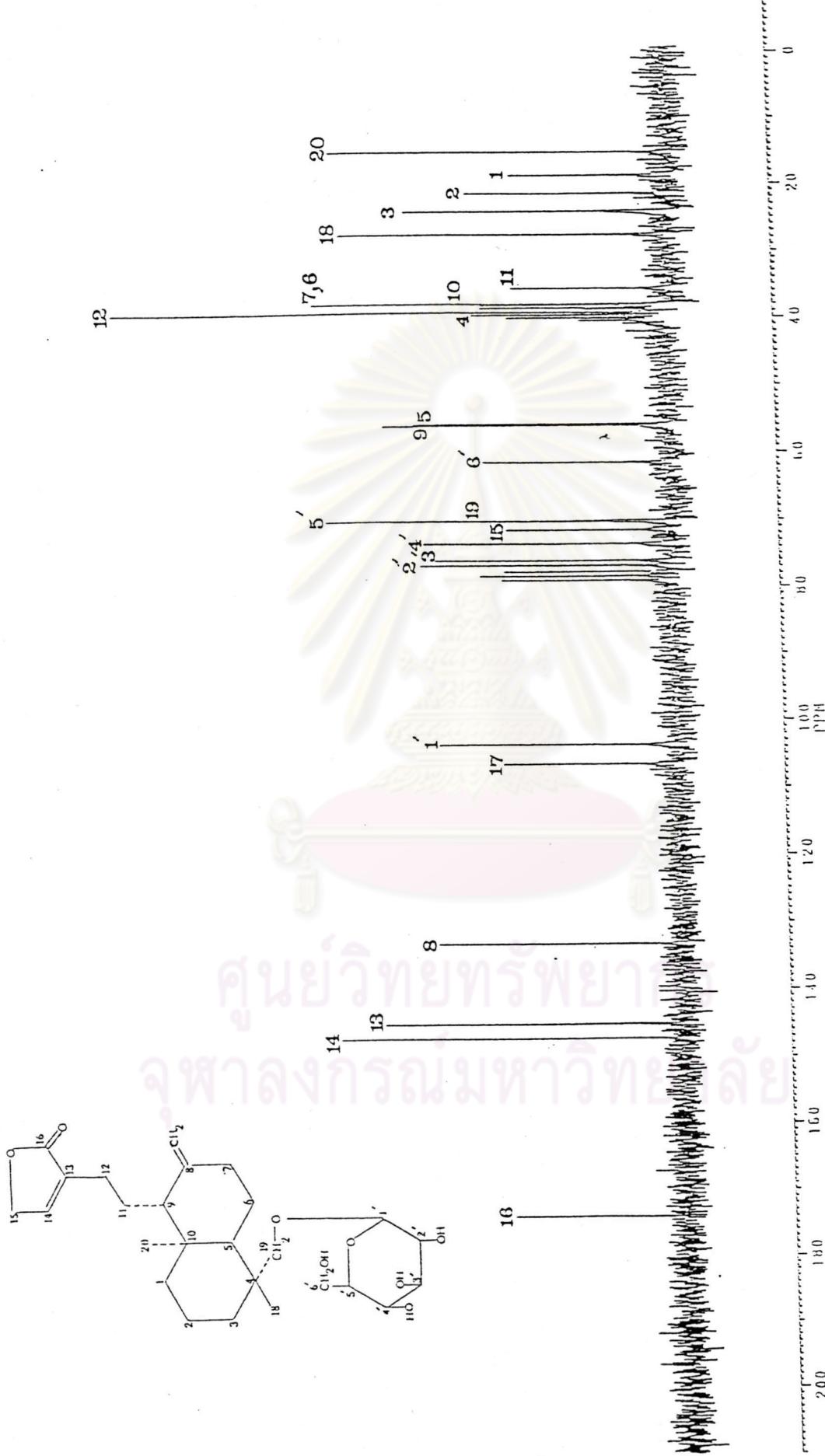


Figure 49 Carbon-13 decoupling spectrum of compound C-4 in DMSO-d_6

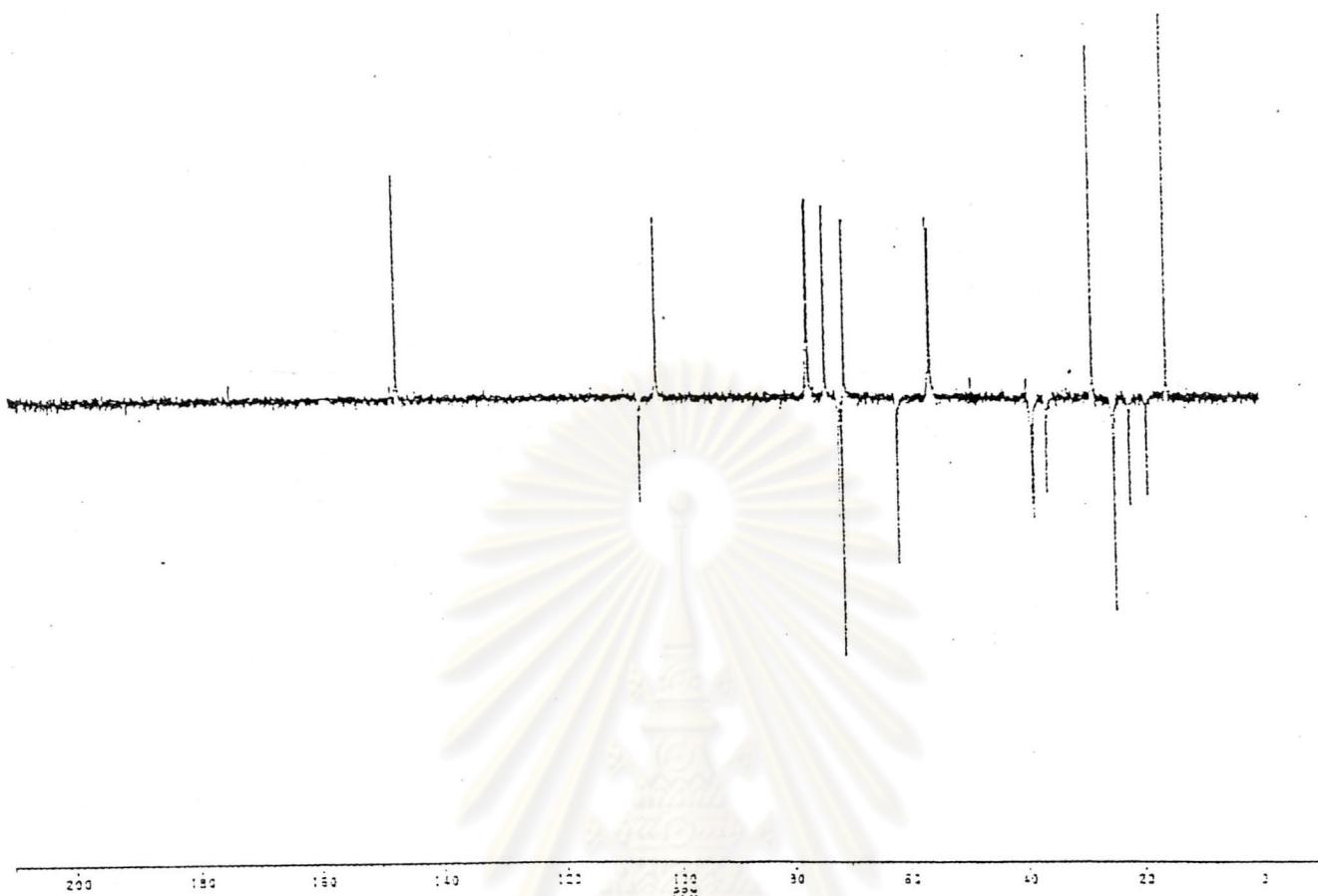


Figure 50 DEPT 135 spectrum of compound C-4 in DMSO-d₆

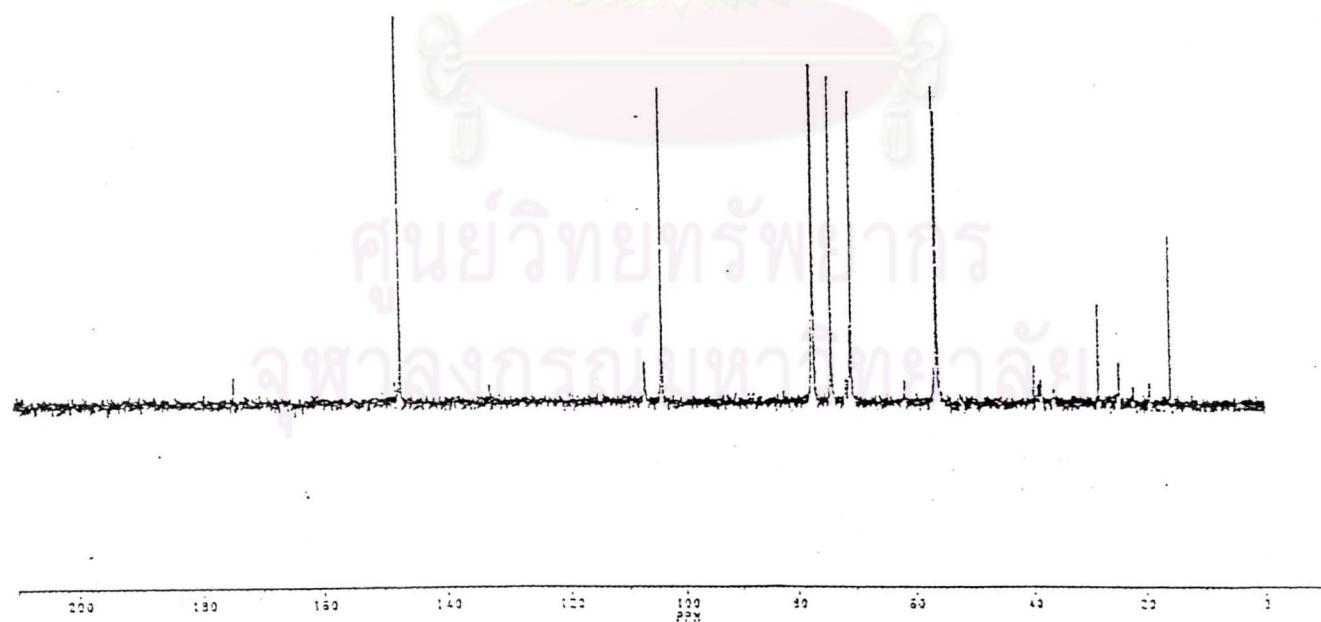


Figure 51 DEPT 90 spectrum of compound C-4 in DMSO-d₆

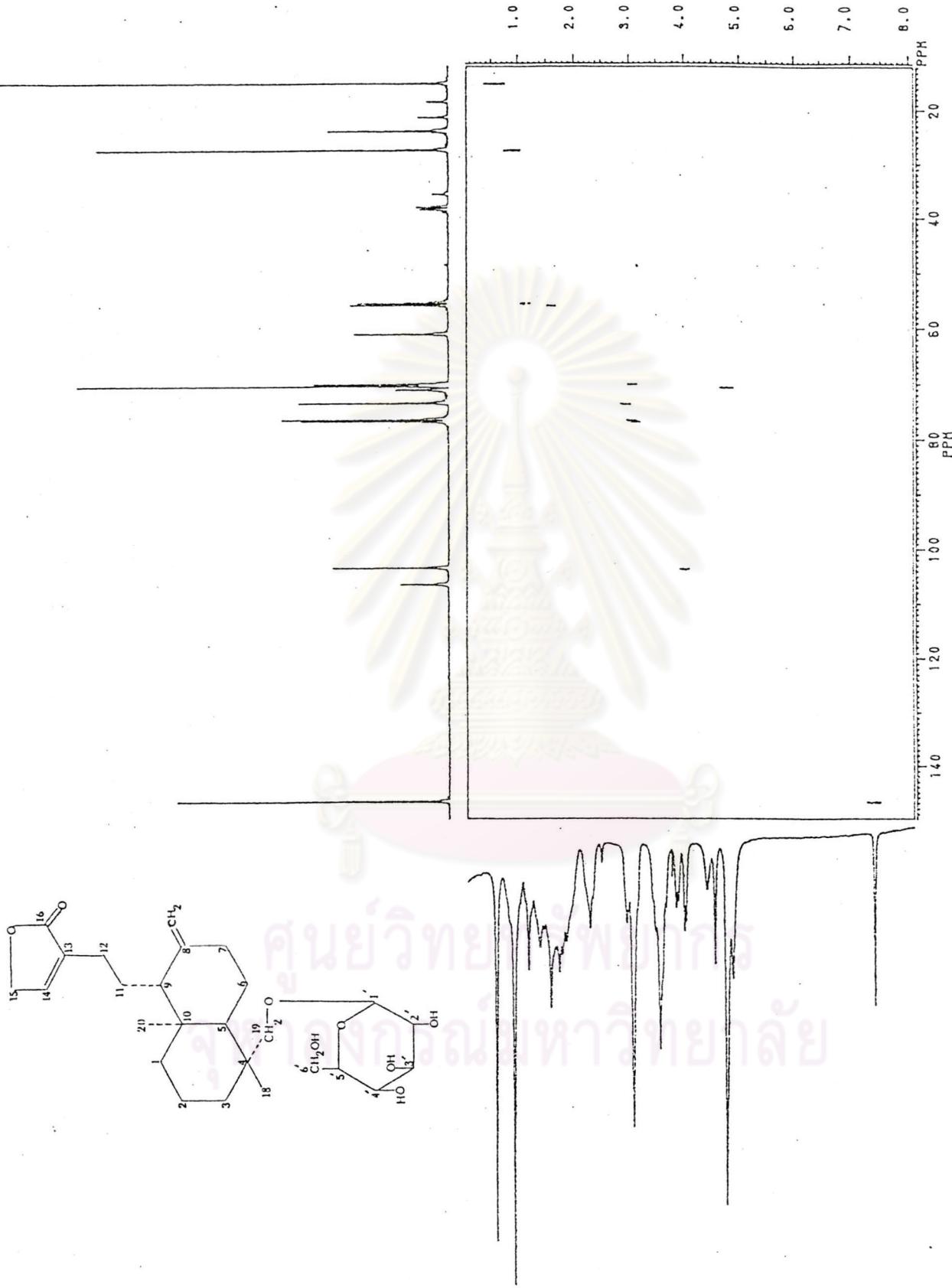


Figure 52 C,H COSY spectrum of compound C-4 in $DMSO-d_6$

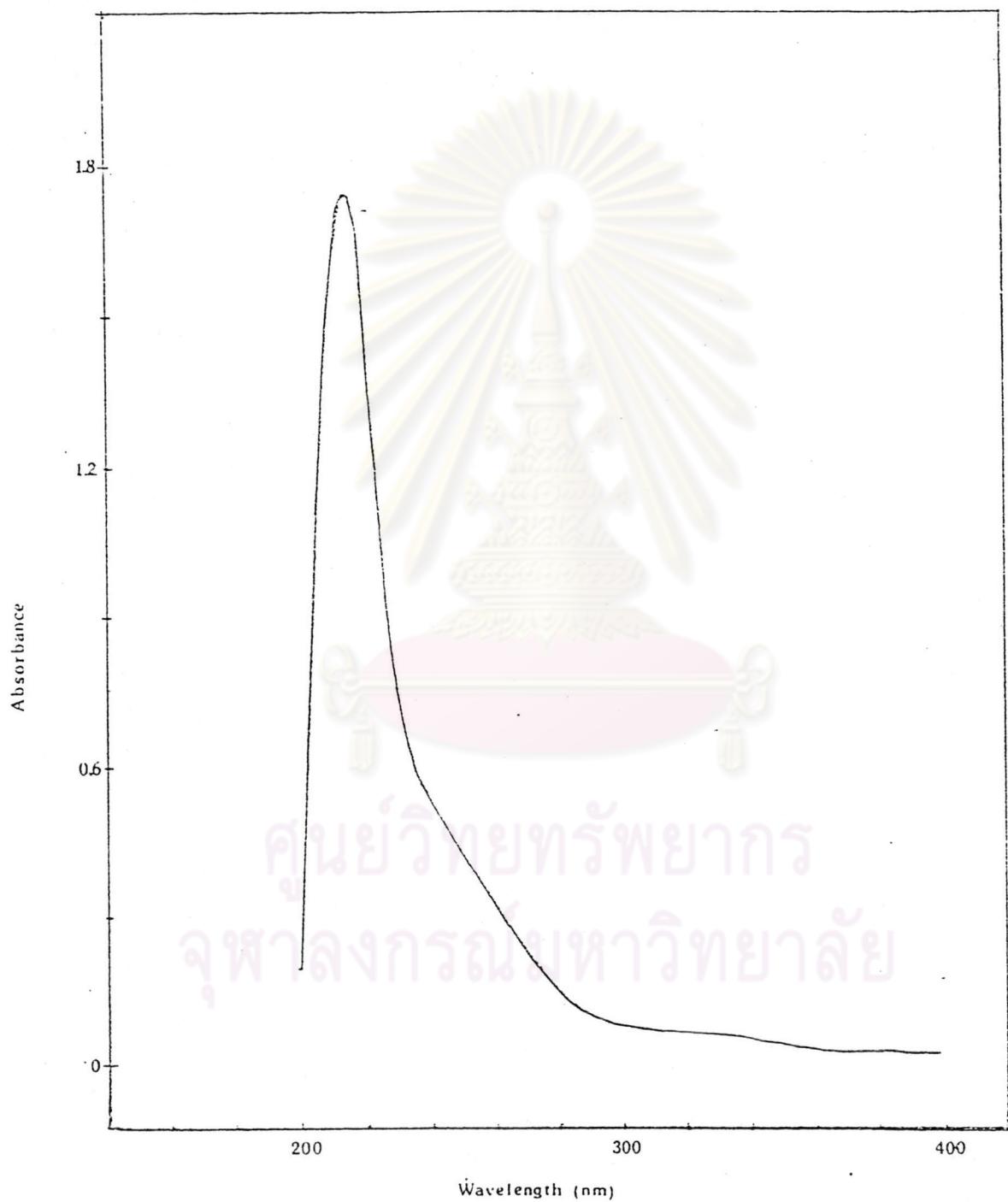


Figure 54 UV spectrum of compound C-5 in Methanol

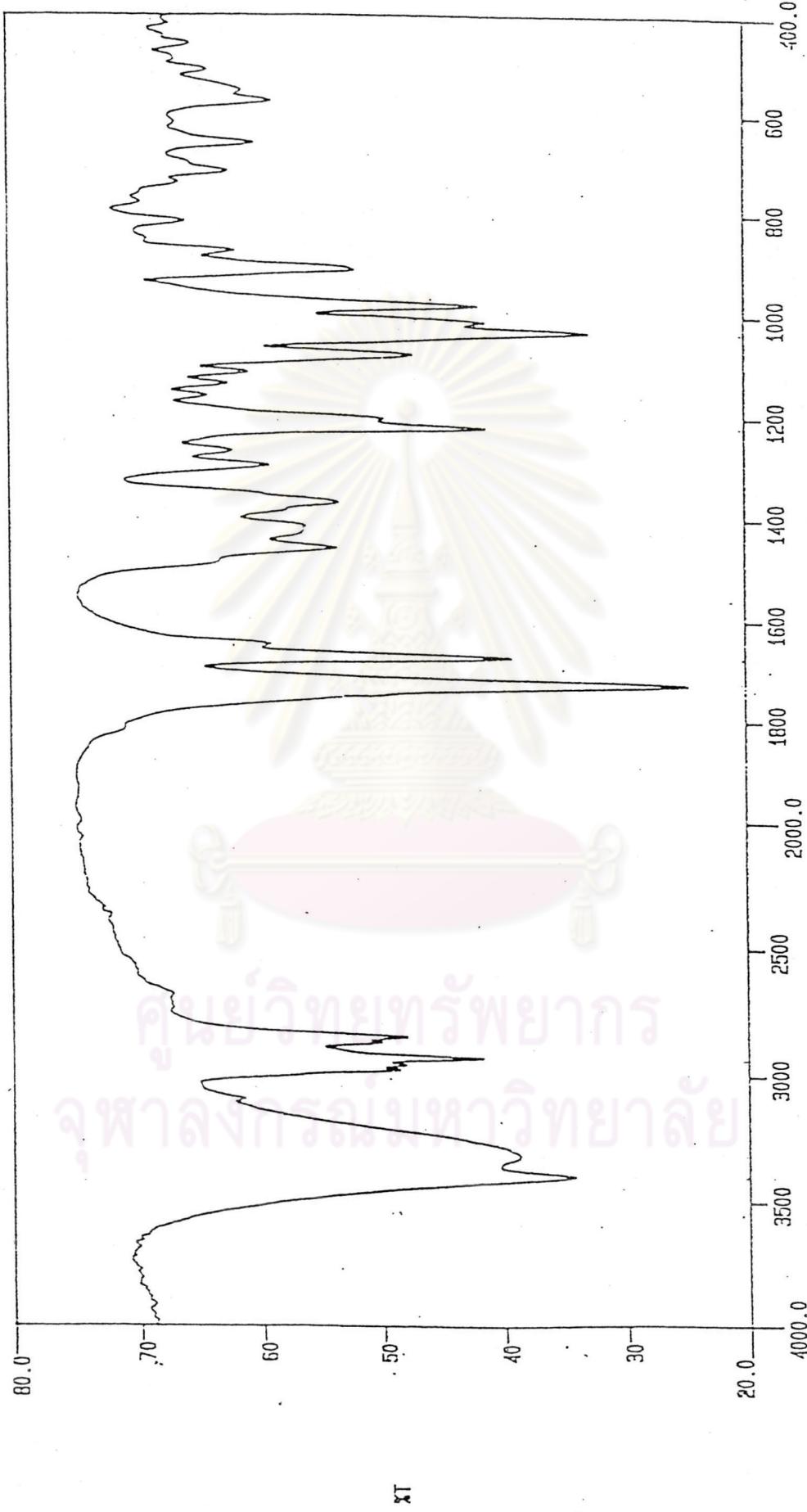


Figure 55 IR spectrum of compound C-5

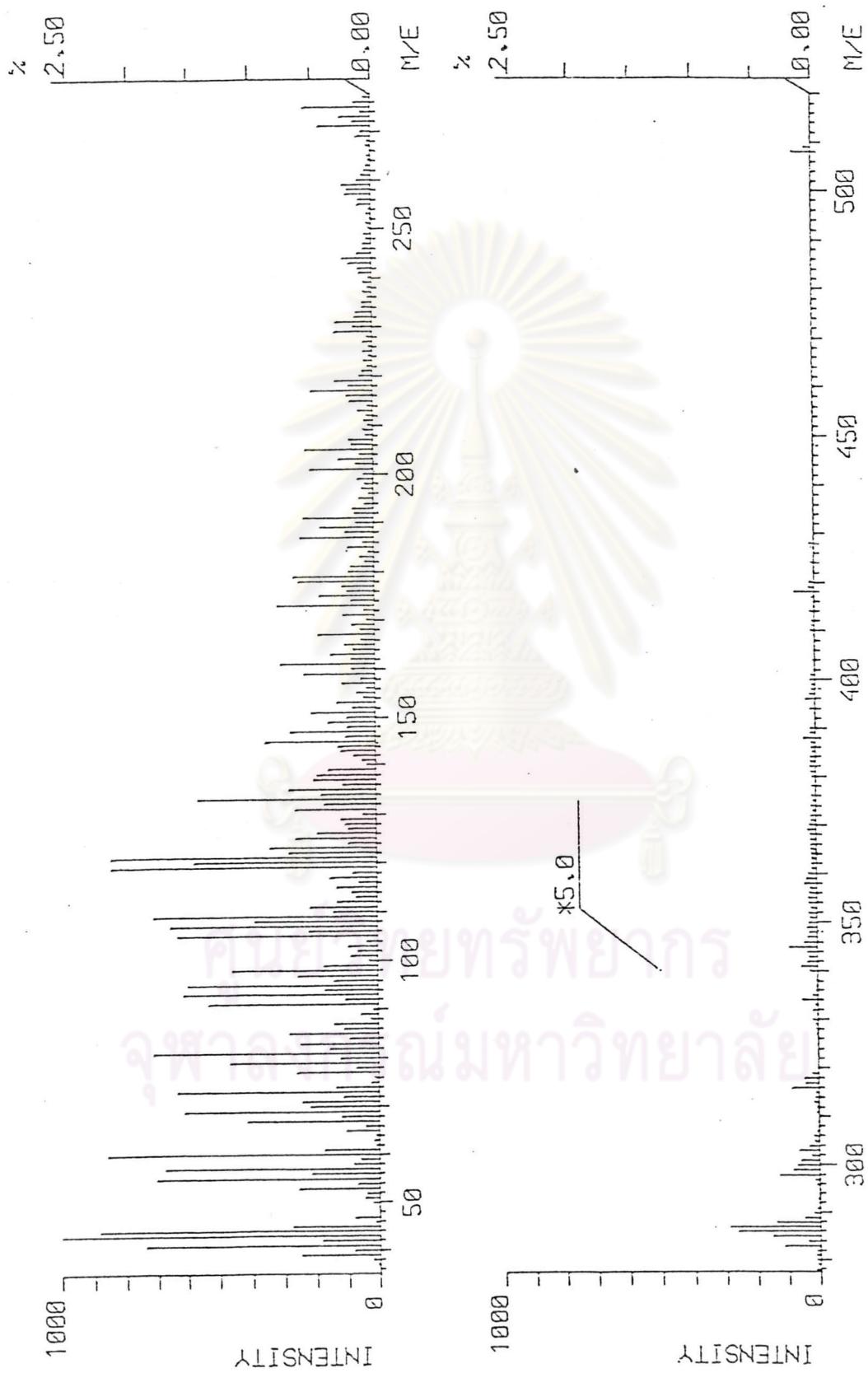


Figure 56 Mass spectrum of compound C-5

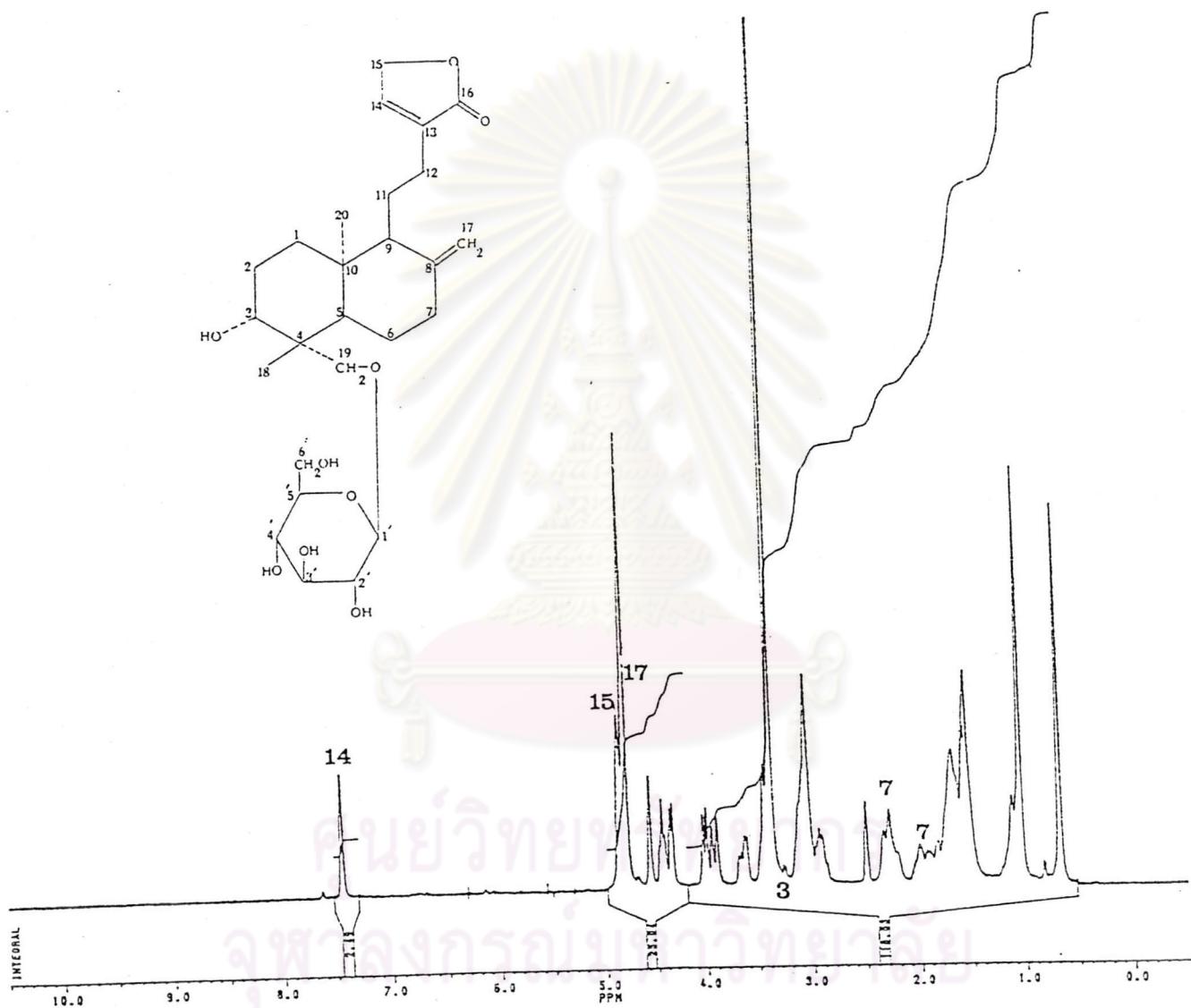


Figure 57 Proton spectrum of compound C-5 in DMSO-d₆

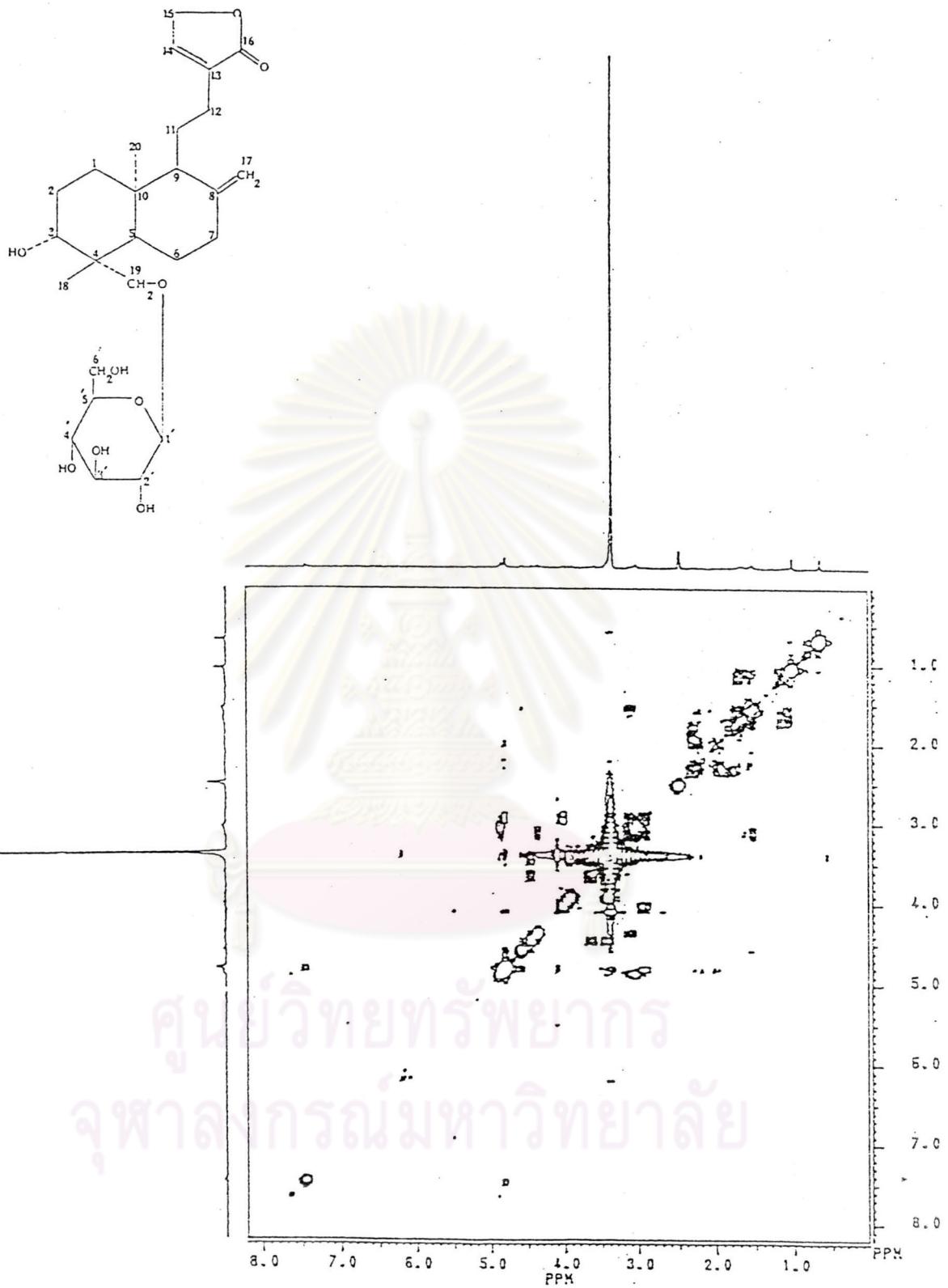


Figure 58 ^1H , ^1H COSY spectrum of compound C-5 in DMSO-d_6

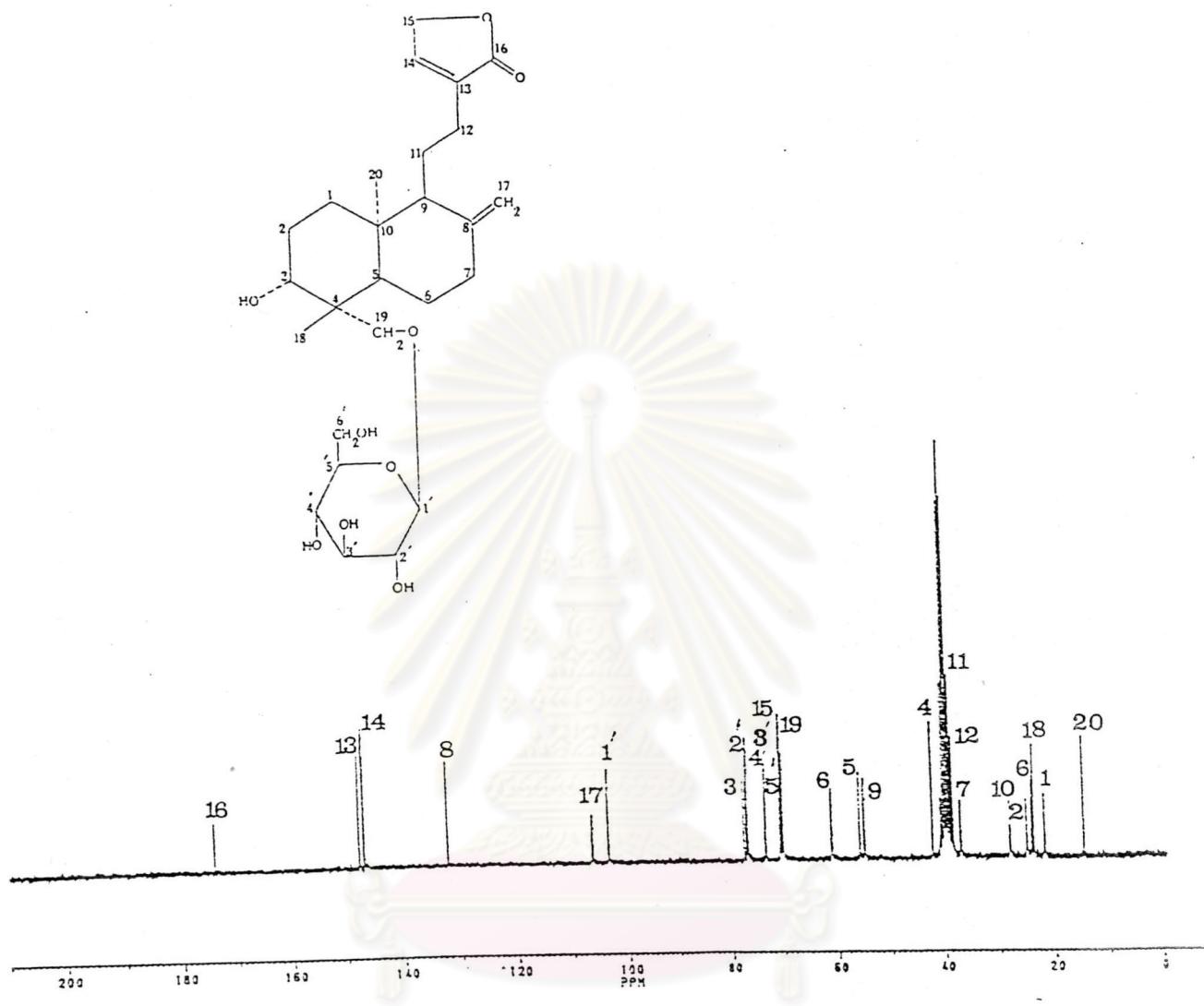


Figure 59 Carbon-13 decoupling spectrum of compound C-5 in DMSO-d_6

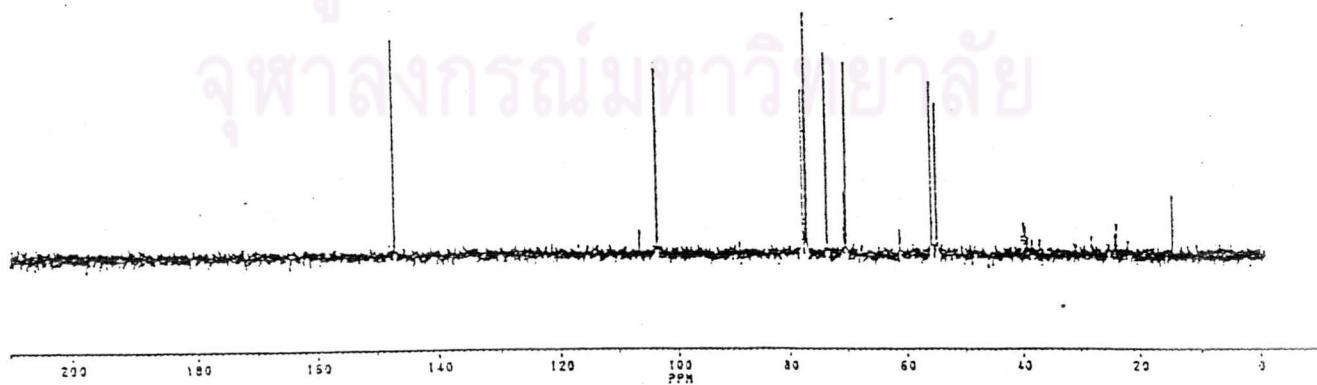


Figure 60 DEPT 90 spectrum of compound C-5 in DMSO-d_6

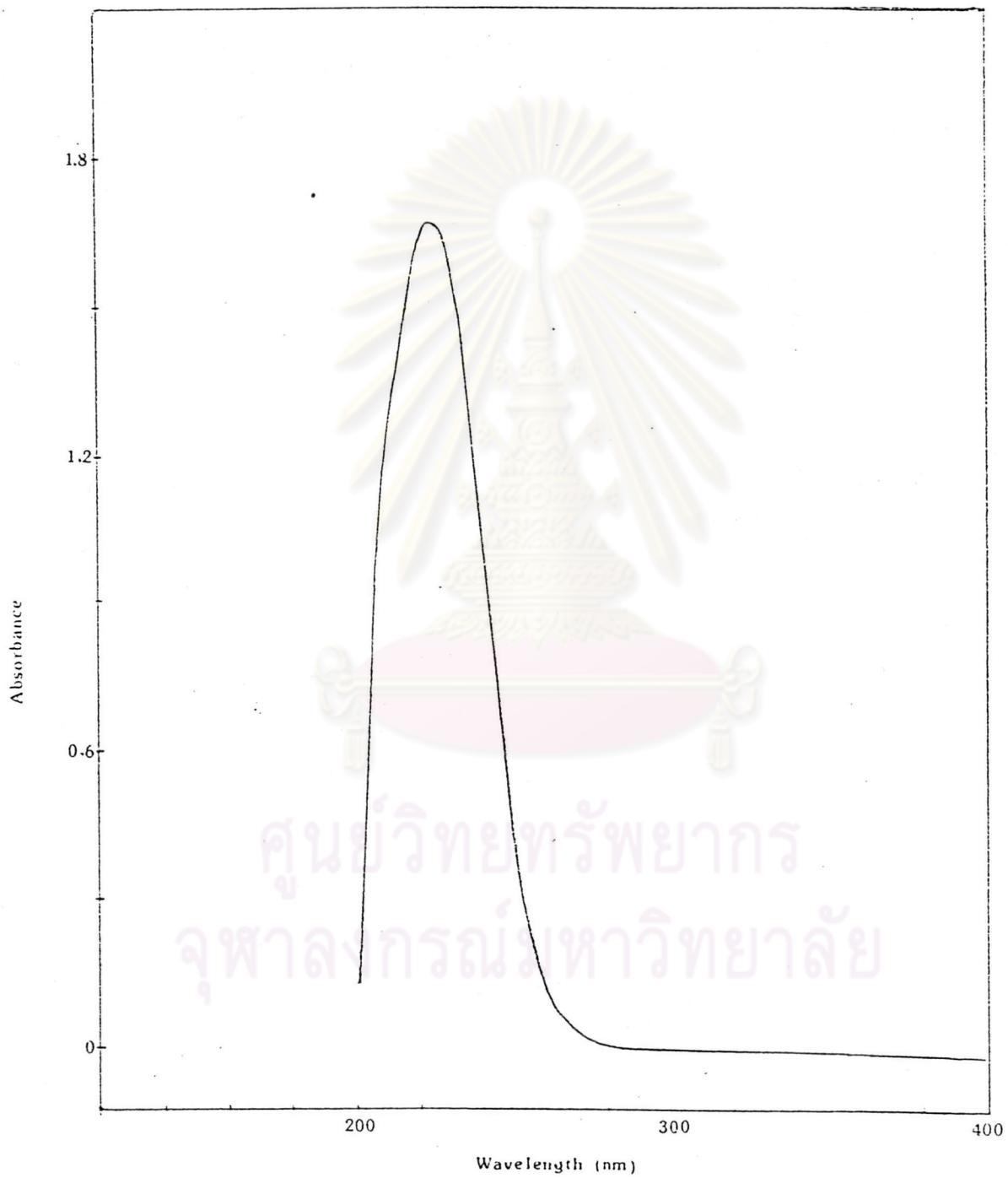


Figure 62 UV spectrum of compound C-6 in Methanol

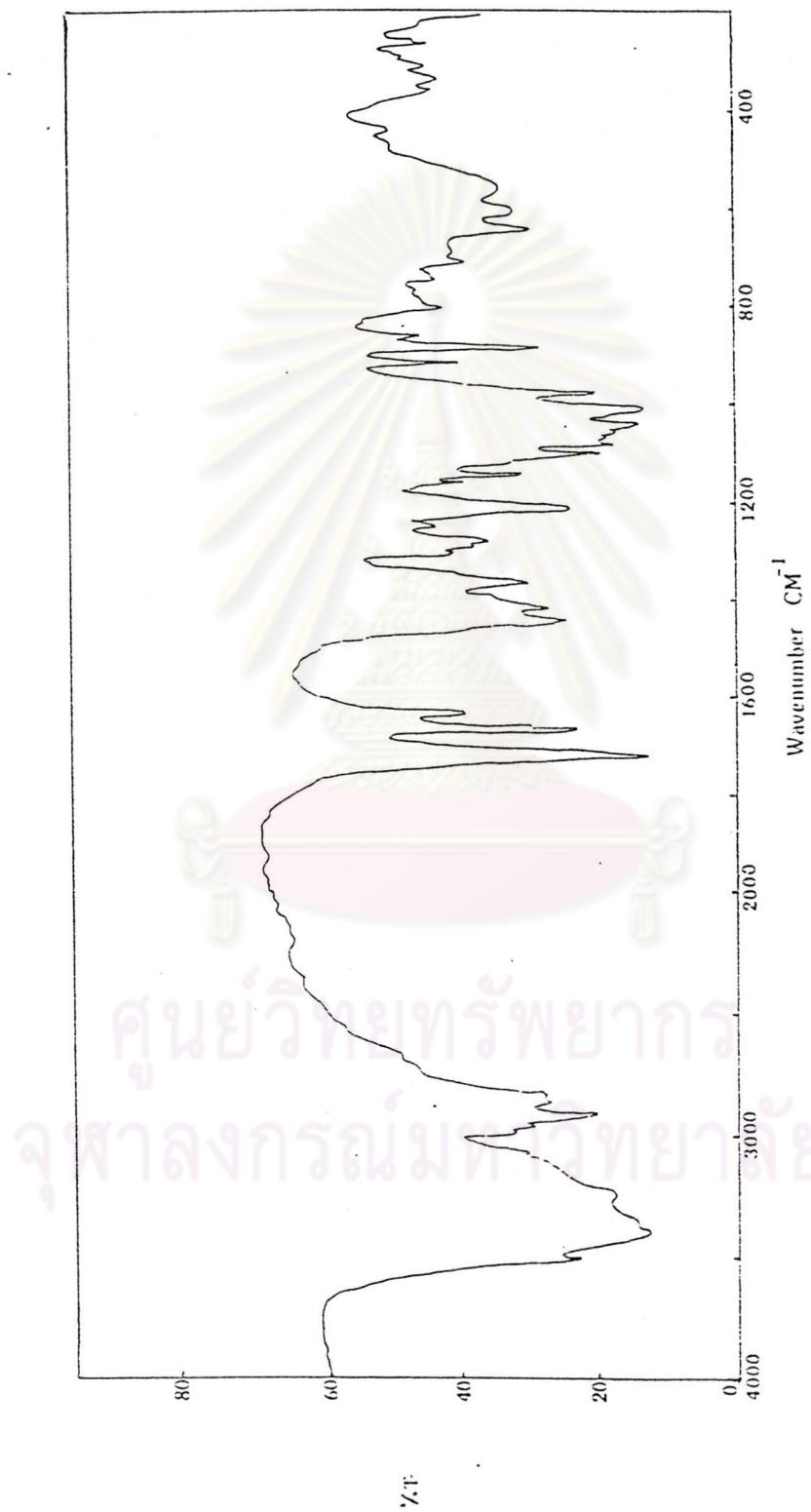


Figure 63 IR spectrum of compound C-6

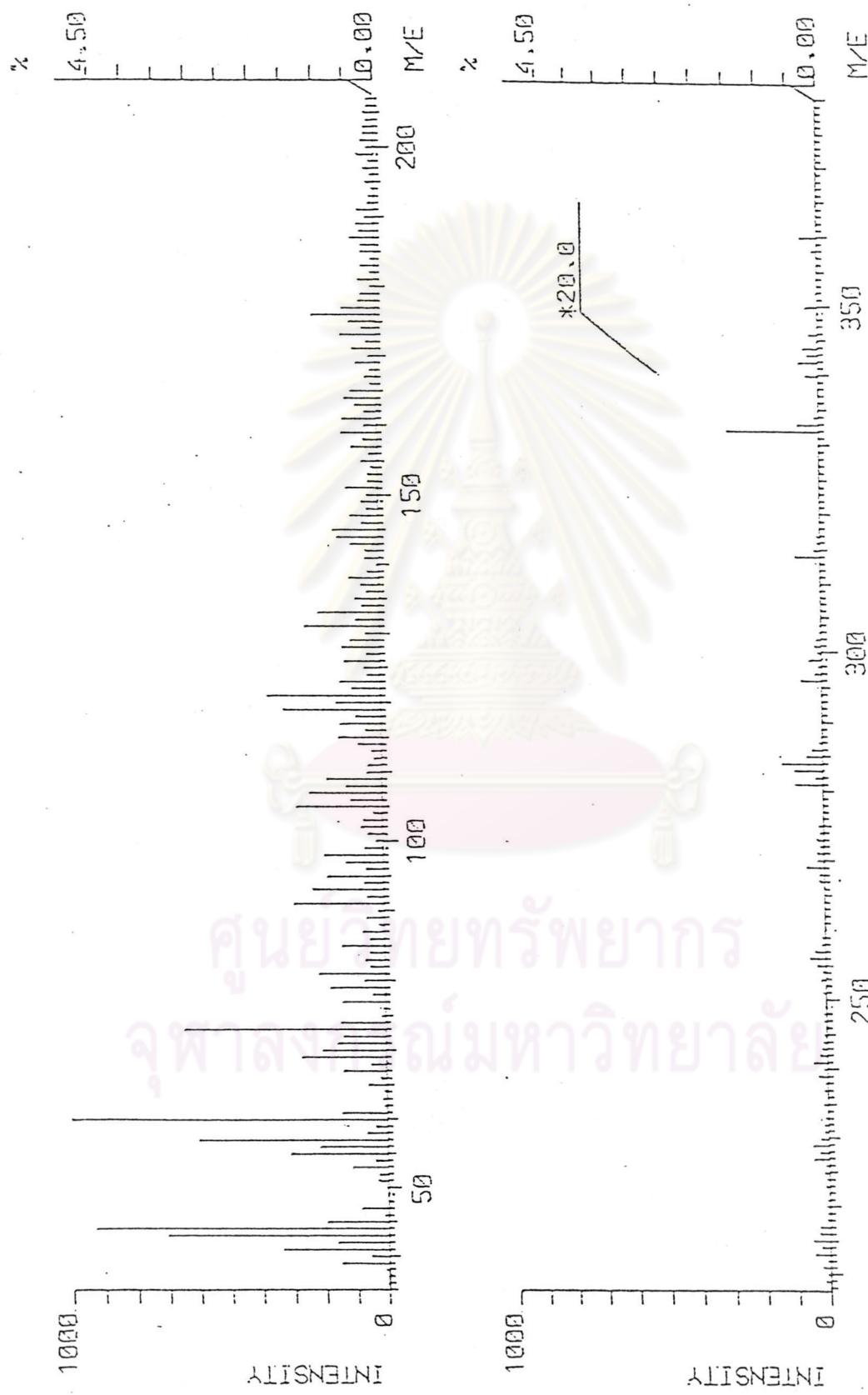


Figure 64 Mass spectrum of compound C-6

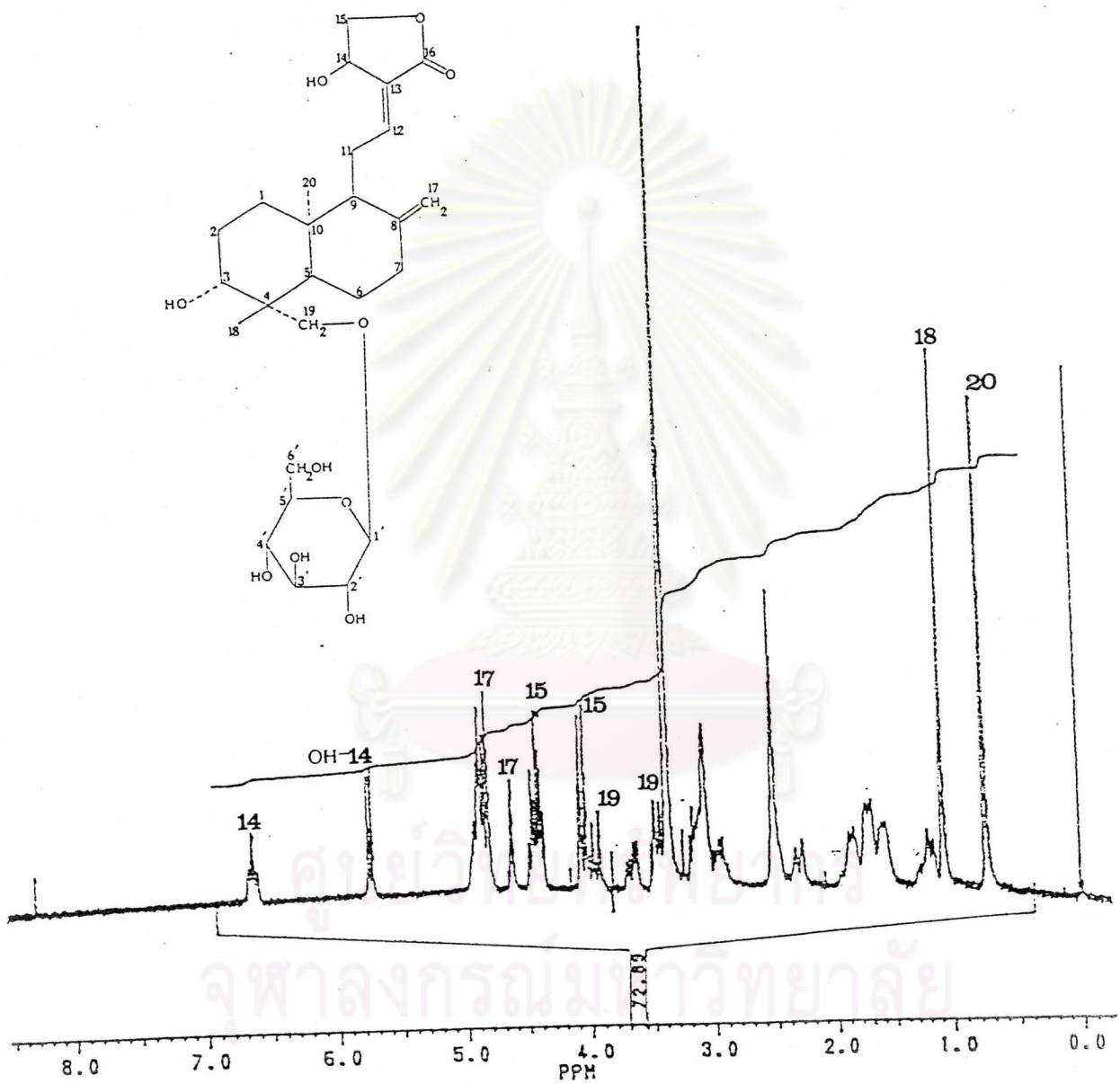


Figure 65 Proton spectrum of compound C-6 in DMSO-d₆

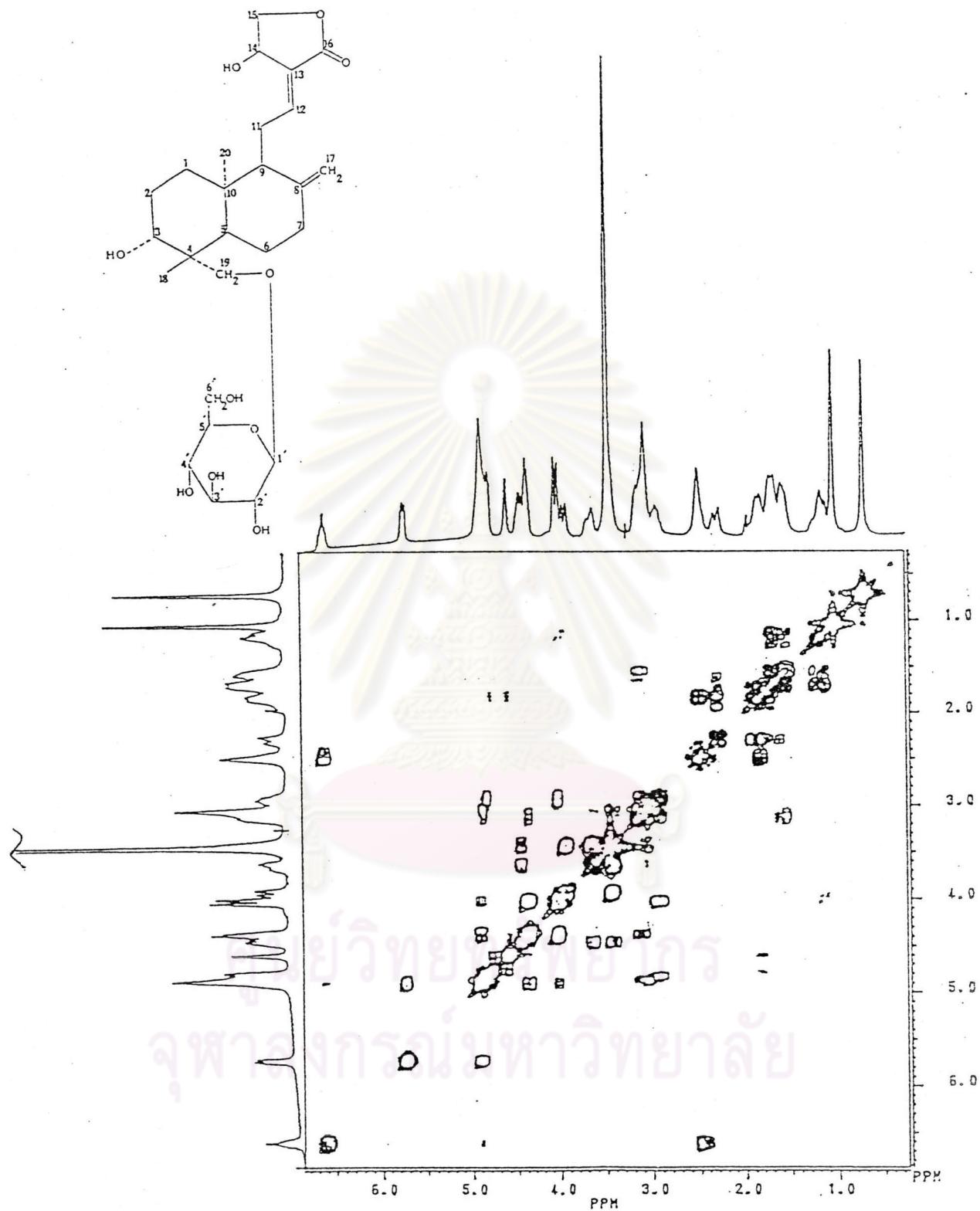
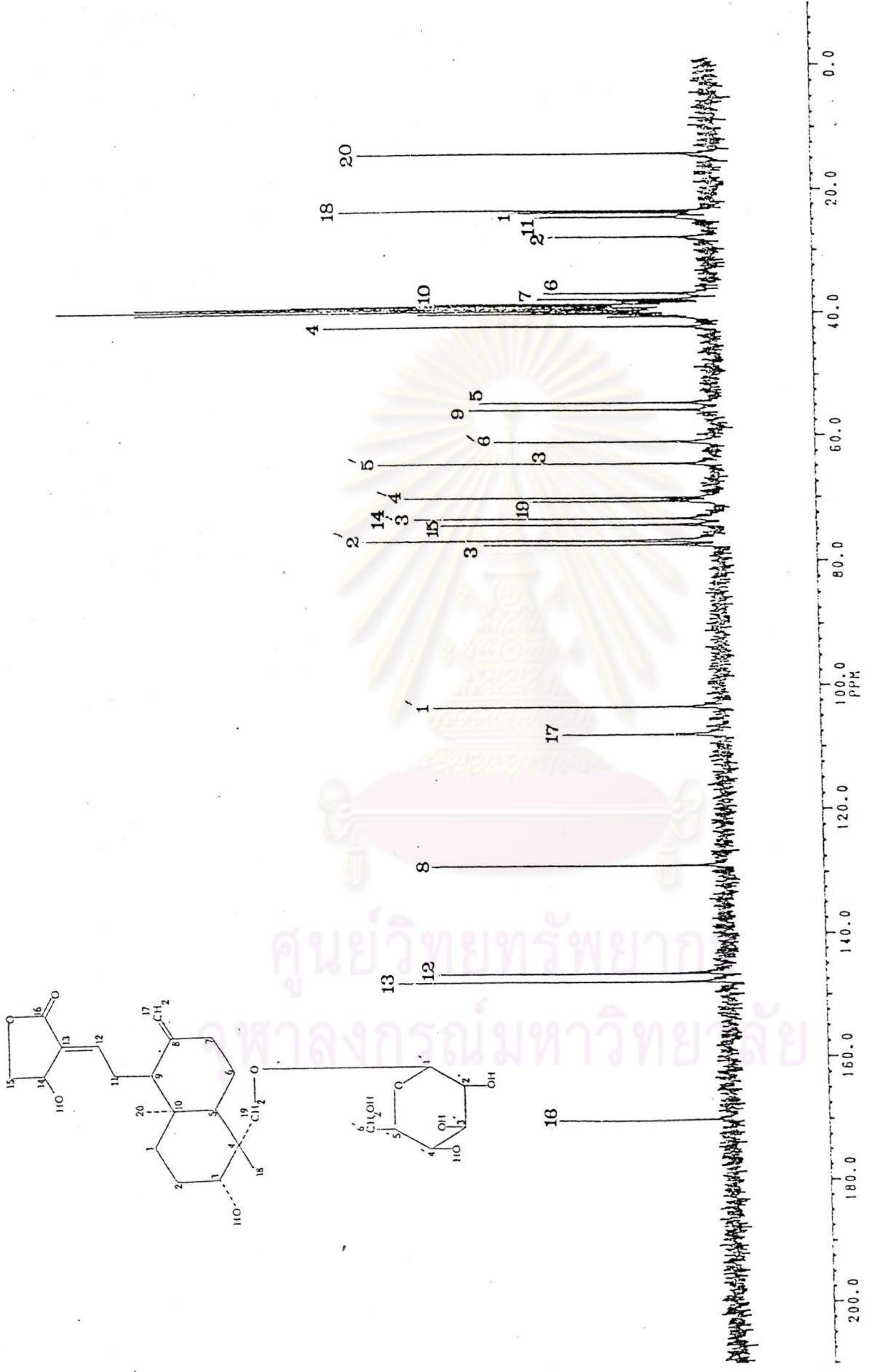


Figure 66 ^1H , ^1H COSY spectrum of compound C-6 in DMSO-d_6

Figure 67 Carbon-13 decoupling spectrum of compound C-6 in $\text{DMSO}-\text{d}_6$

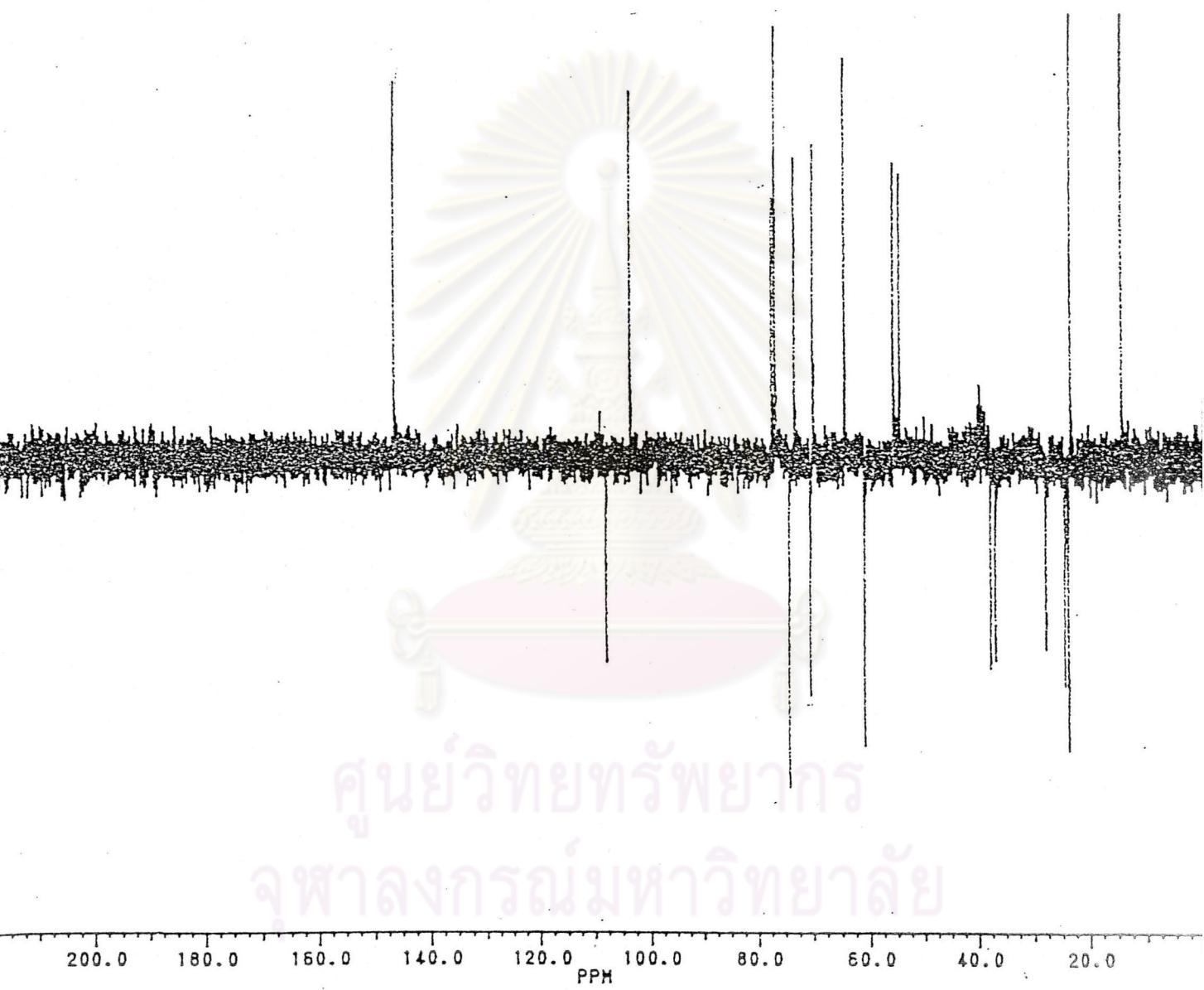


Figure 68 DEPT 135 spectrum of compound C-6 in DMSO-d₆

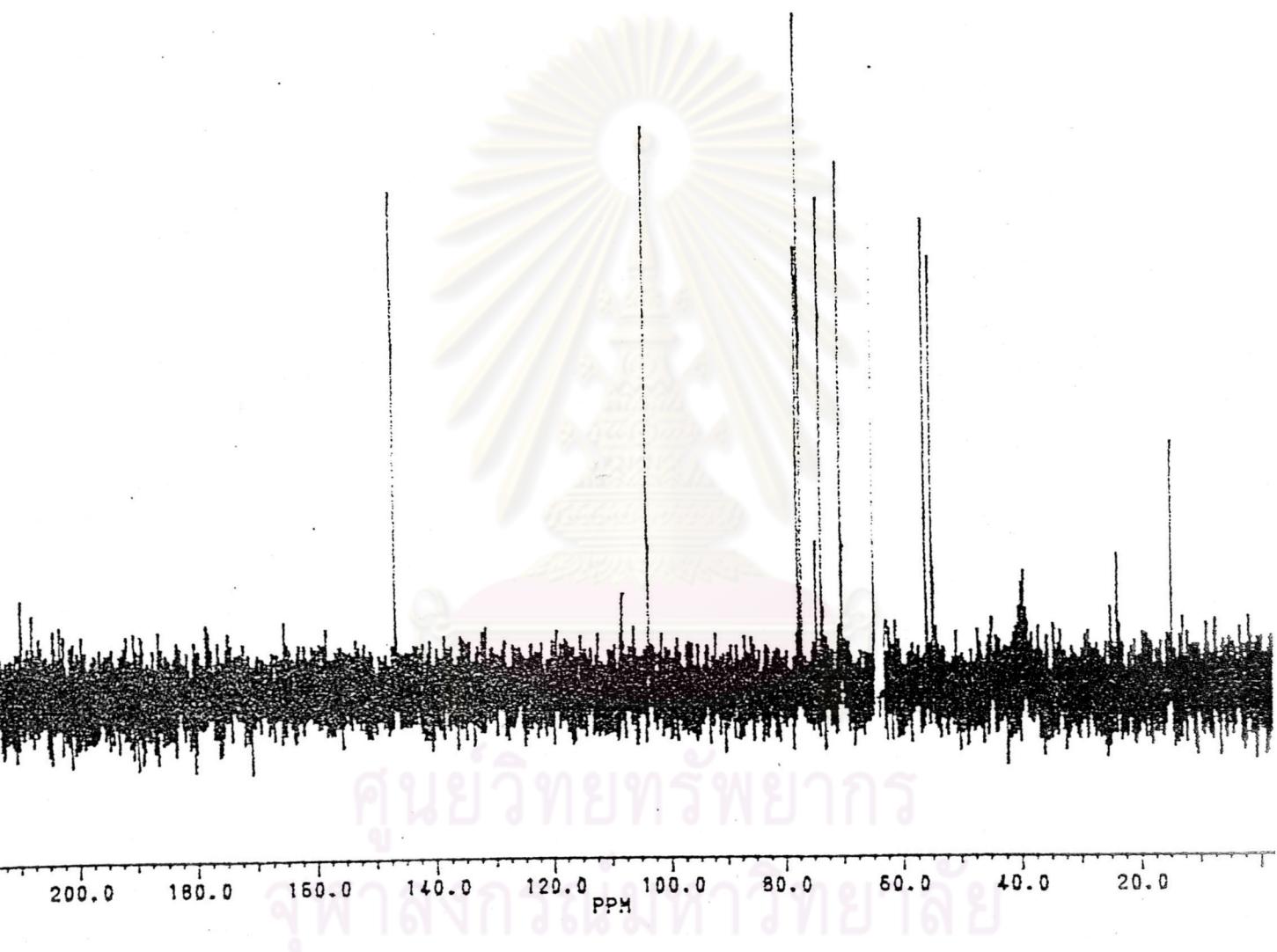


Figure 69 DEPT 90 spectrum of compound C-6 in DMSO-d₆



VITA

Miss Srisomporn Preeprame was born on April 21, 1966 in Ubonrajchathani. She graduated with Bachelor Degree of Science in Pharmacy with the second class honors in 1989 from Faculty of Pharmacy, Khon Khaen University.

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