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APPENDIX

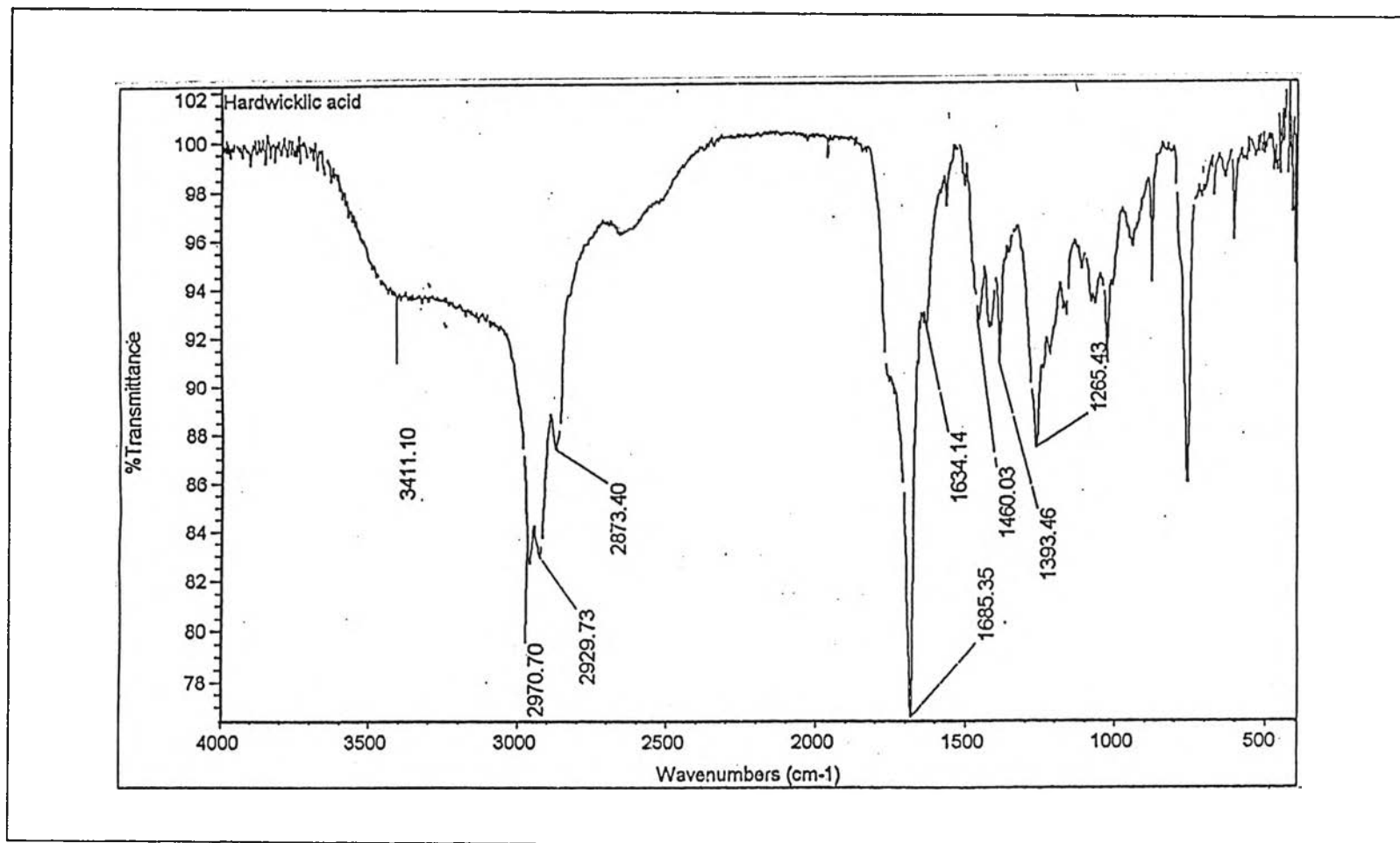


Fig. 10 The IR spectrum of compound 1

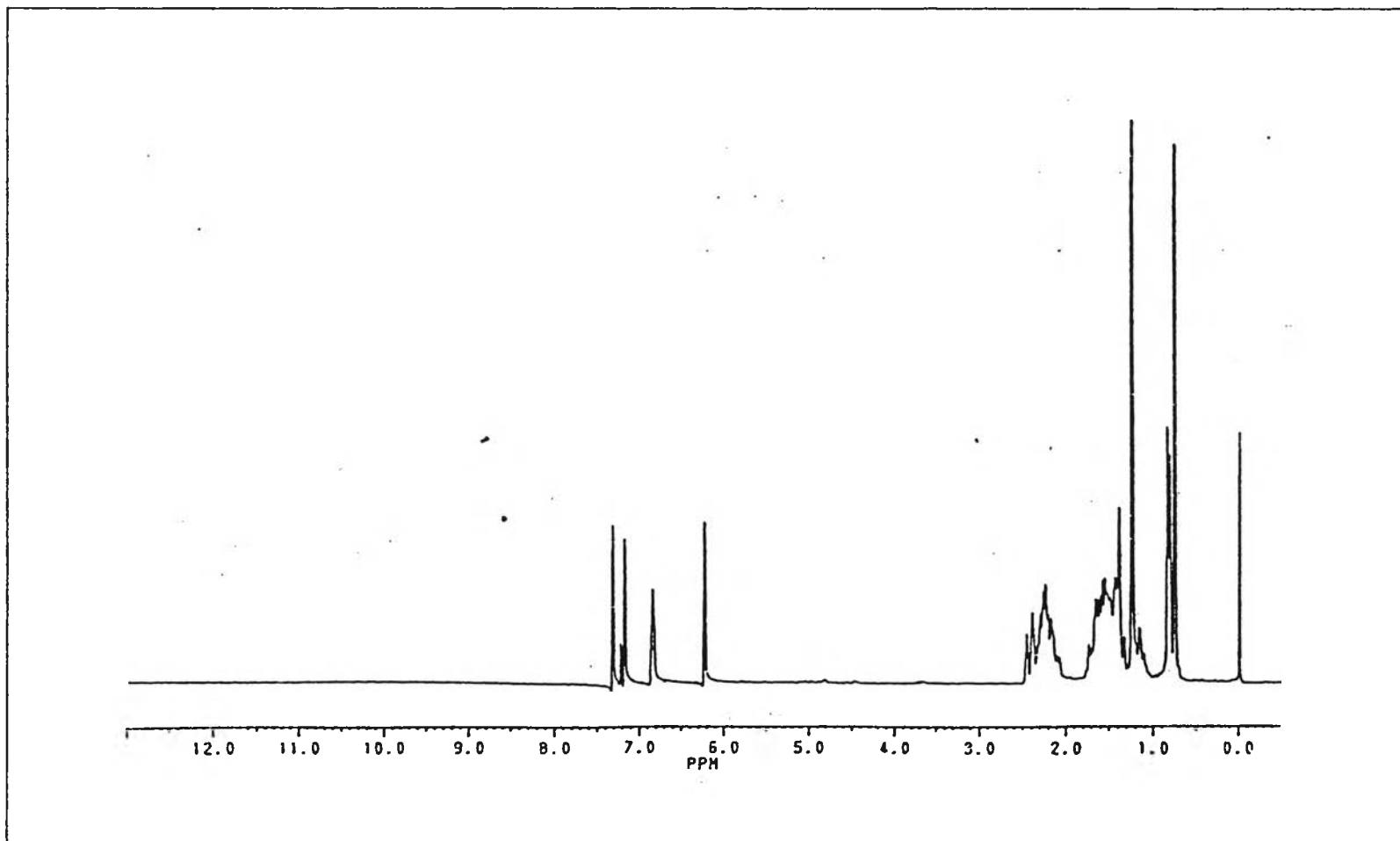


Fig. 11 The $^1\text{H-NMR}$ spectrum of compound 1

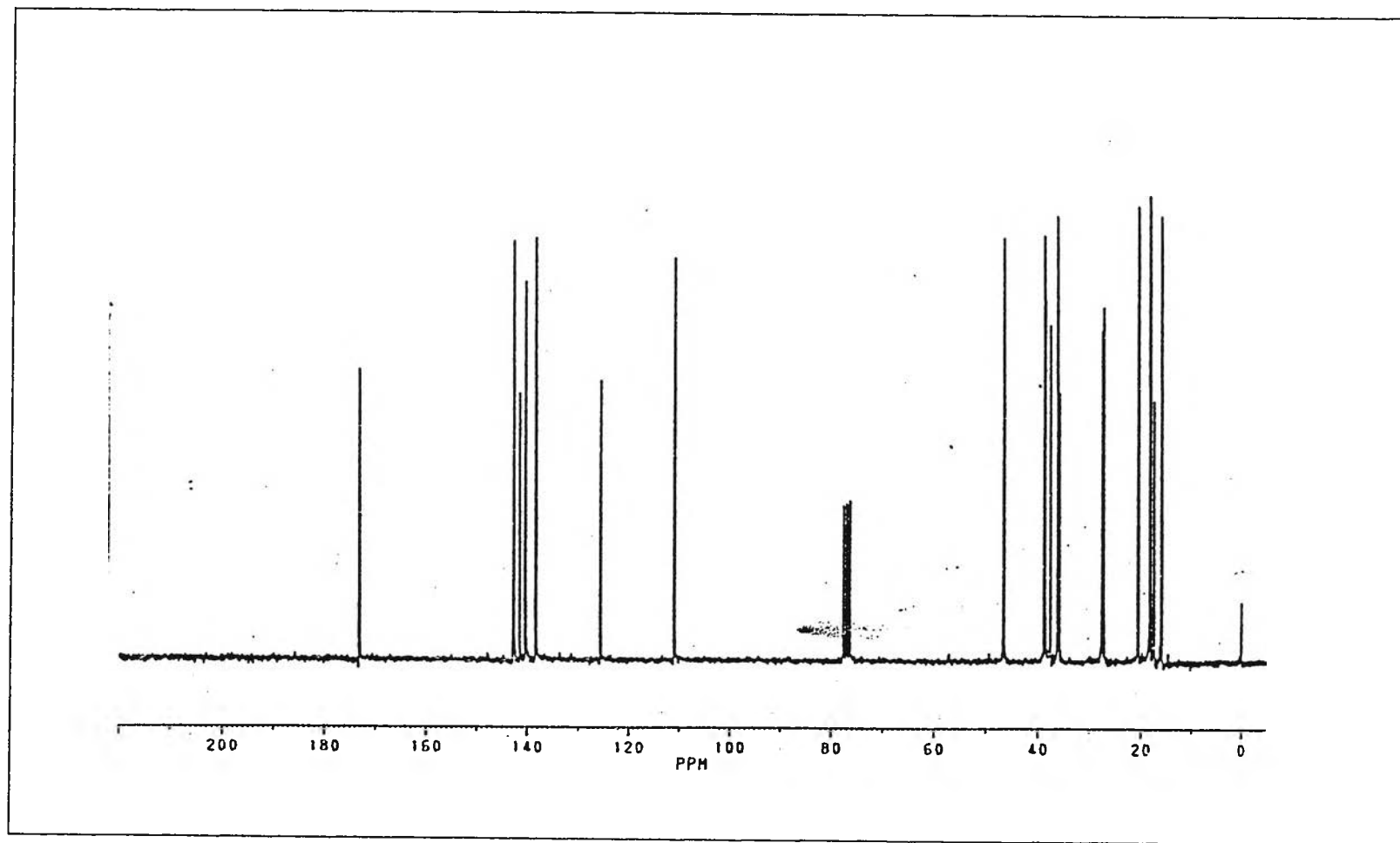


Fig. 12 The ^{13}C -NMR spectrum of compound 1

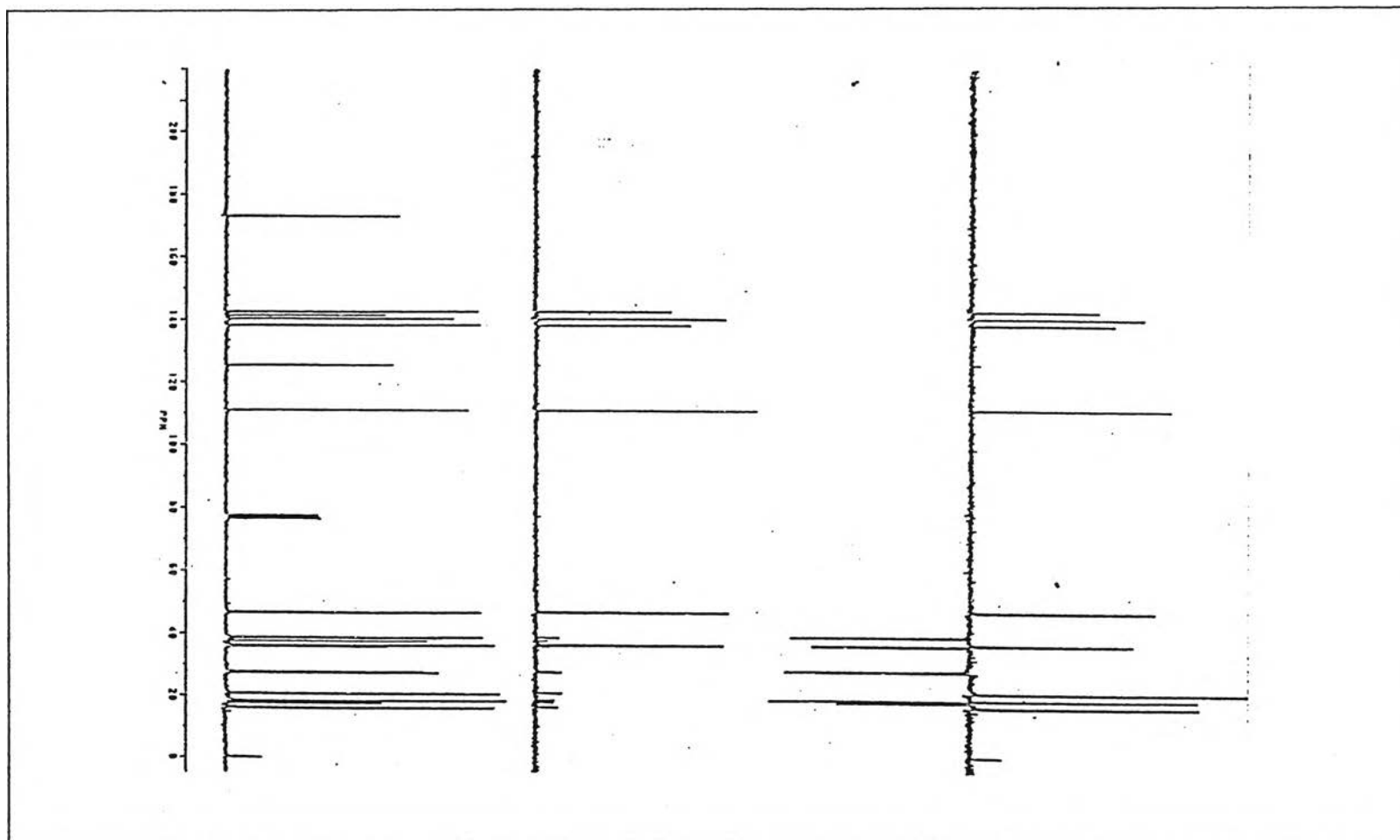


Fig. 13 The DEPT-90, DEPT-135 and ^{13}C -NMR spectrum of compound 1

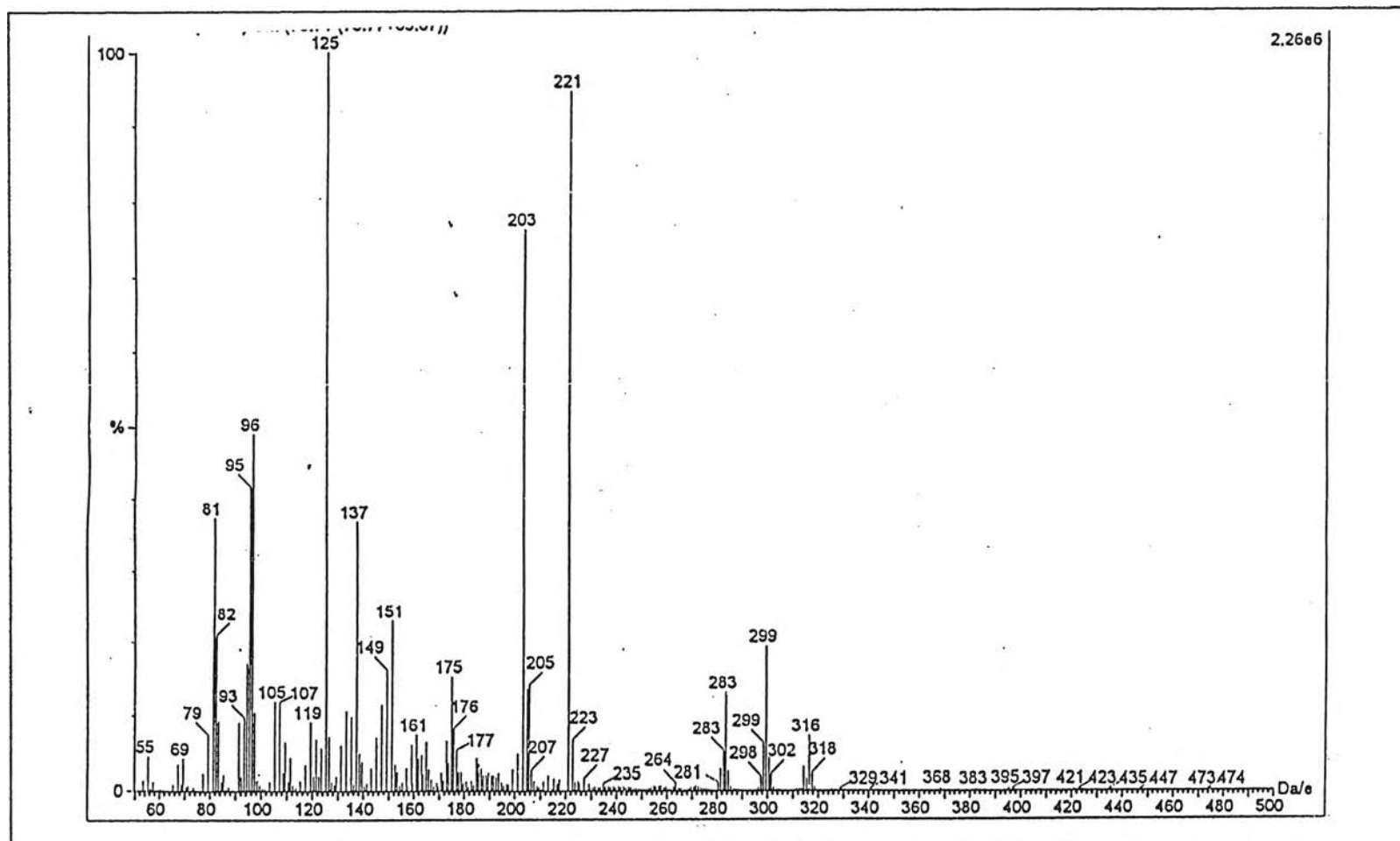


Fig. 14 The EI-MS spectrum of compound 1

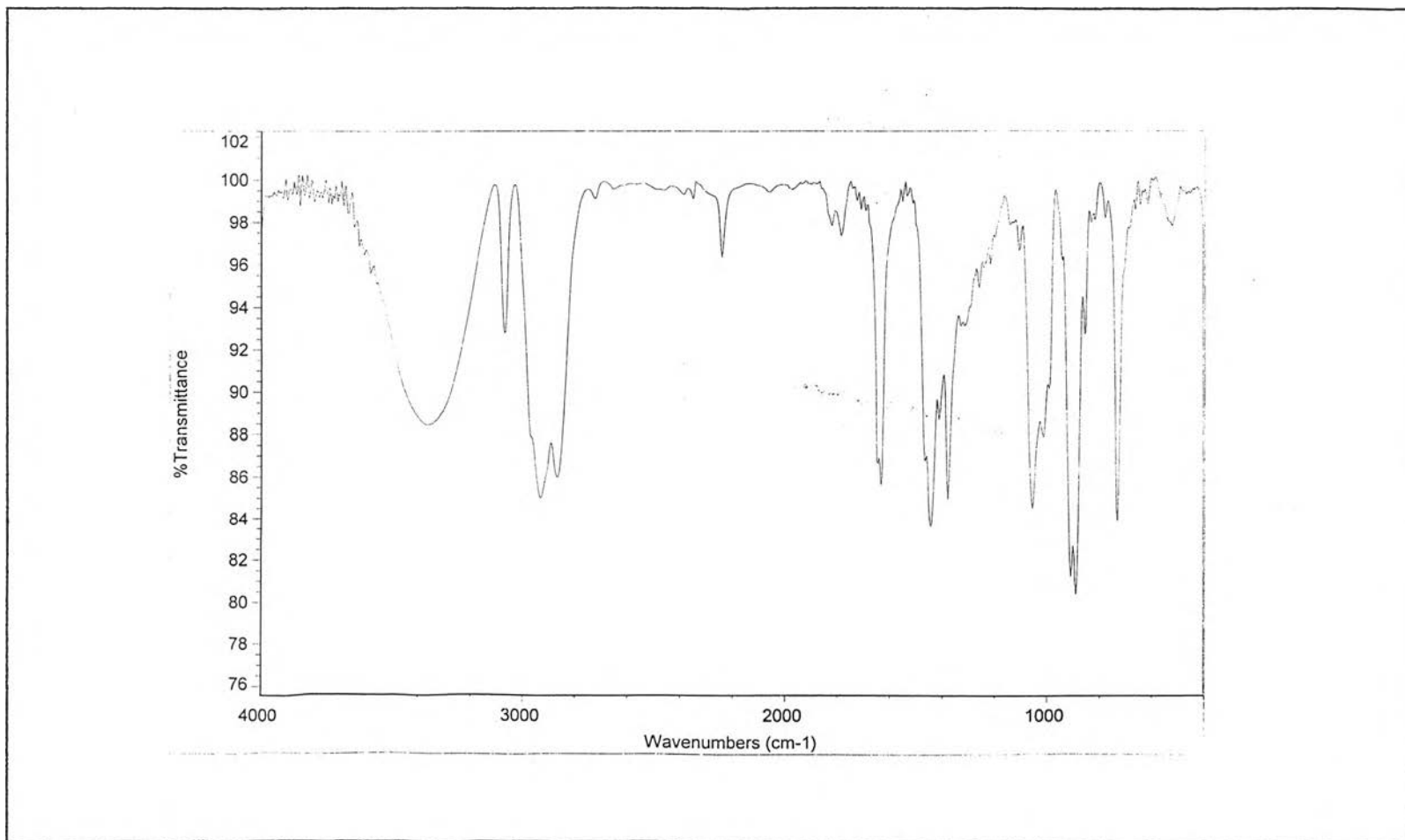


Fig. 15 The IR spectrum of compound 2

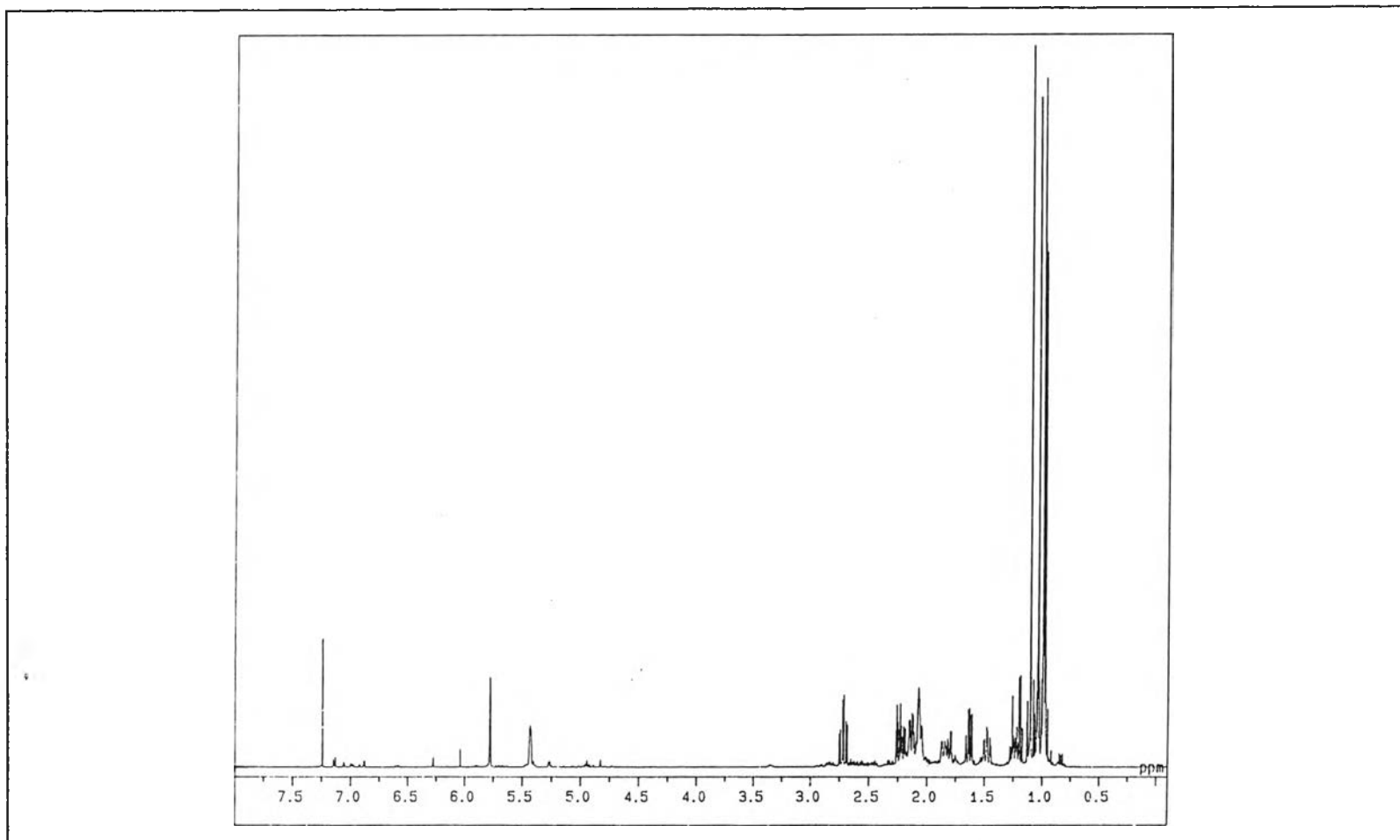


Fig. 16 The $^1\text{H-NMR}$ spectrum of compound 2

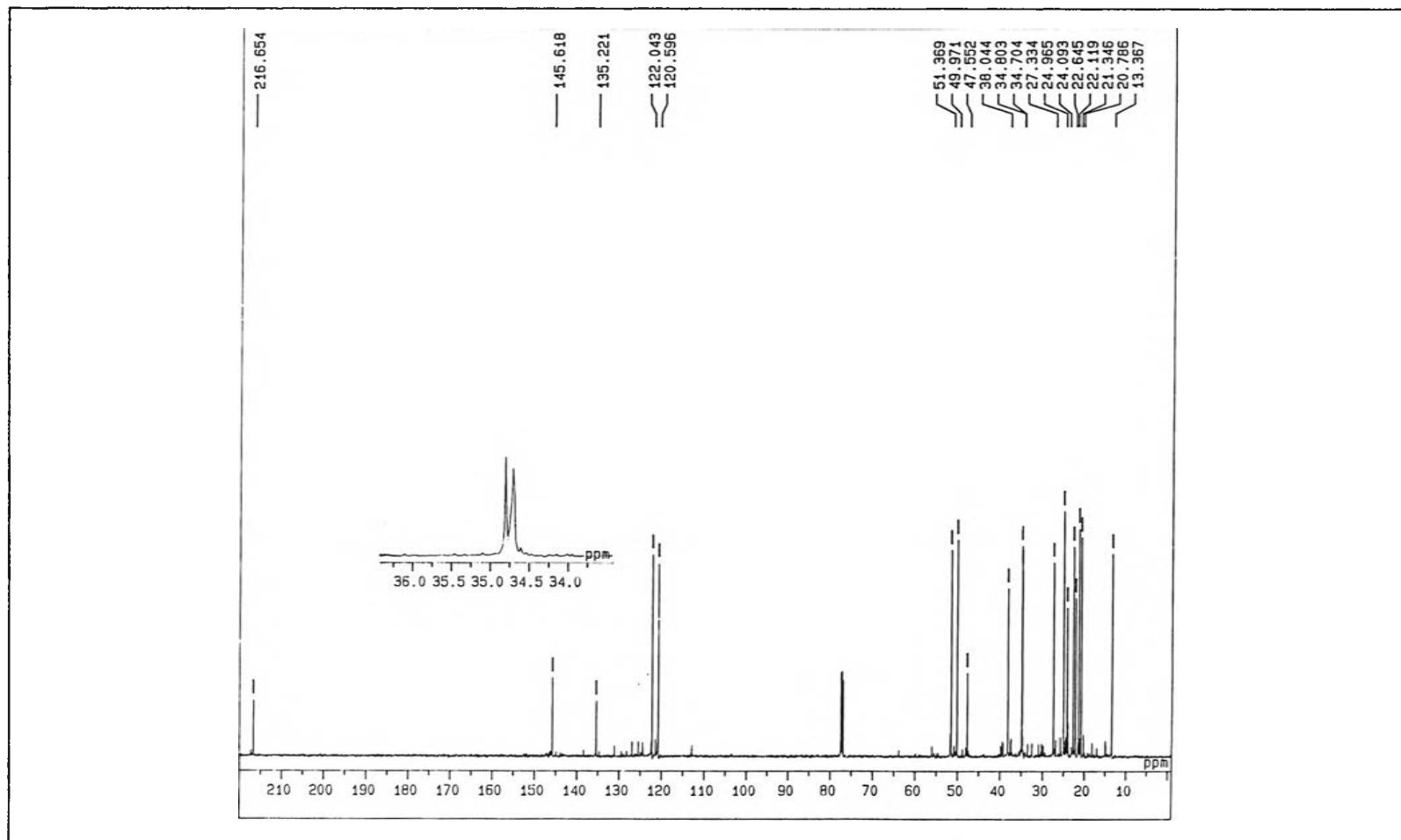


Fig. 17 The ^{13}C -NMR spectrum of compound 2

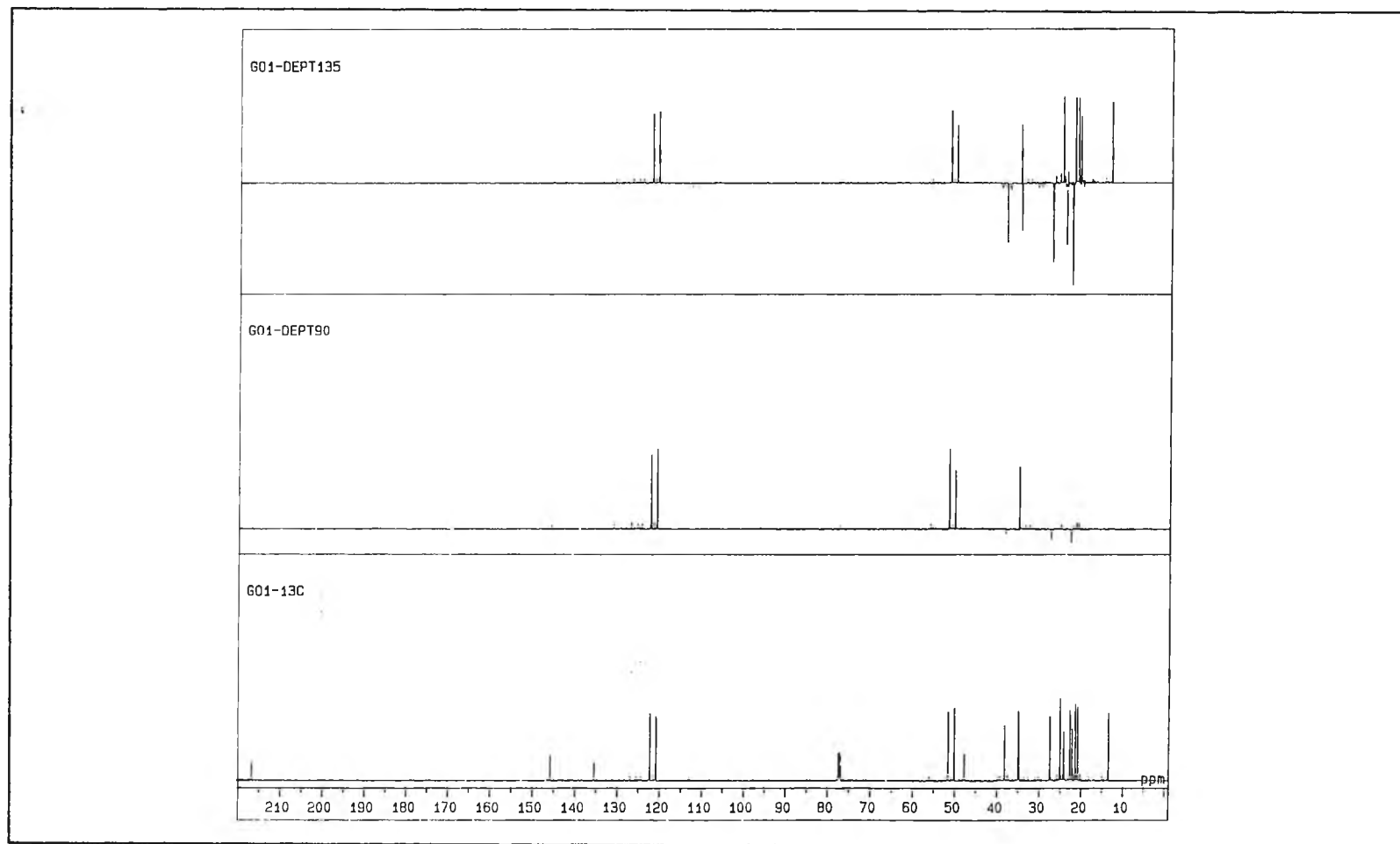


Fig. 18 The DEPT-90, DEPT-135 and ^{13}C -NMR spectrum of compound 2

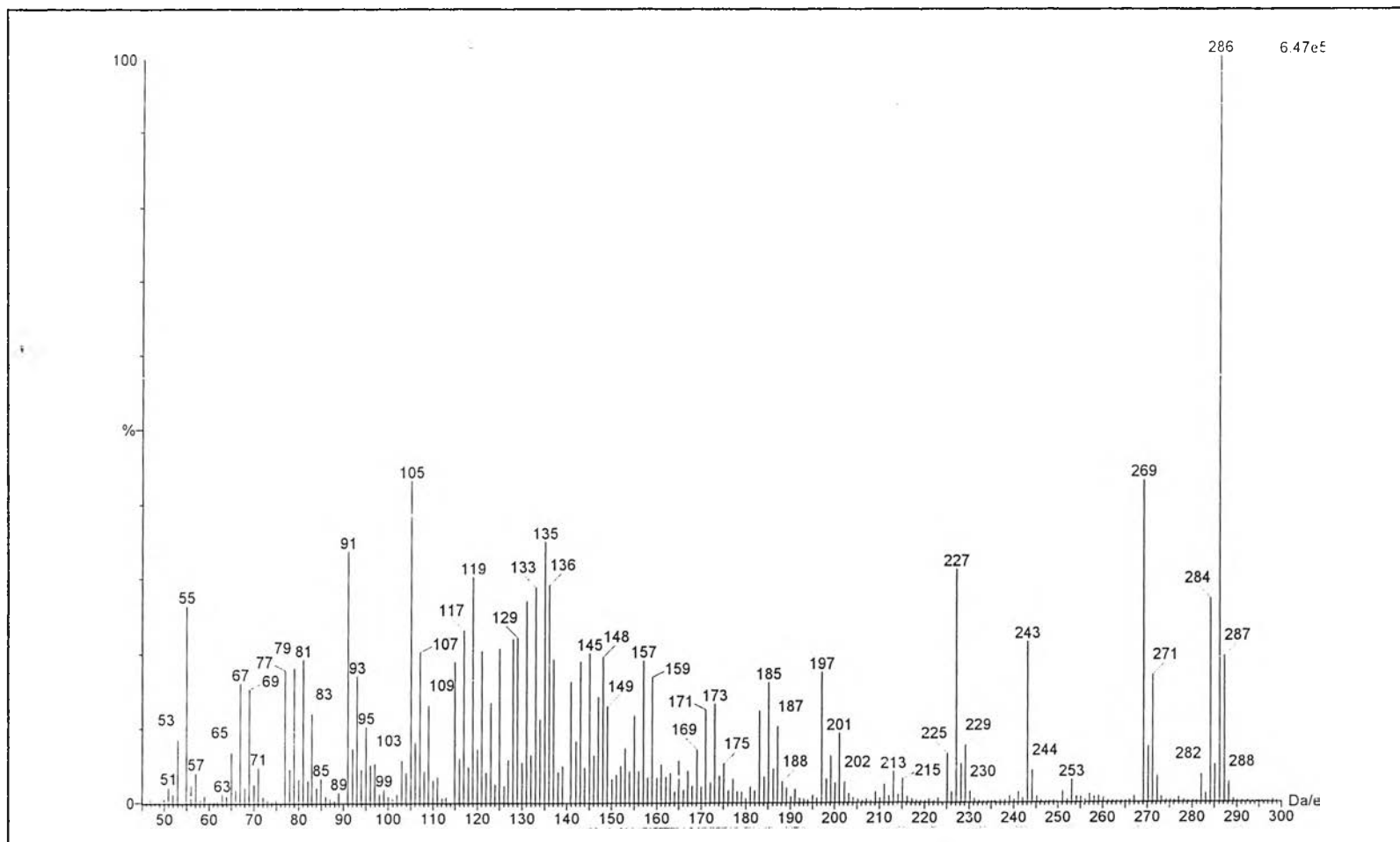


Fig. 19 The EI-MS spectrum of compound 2

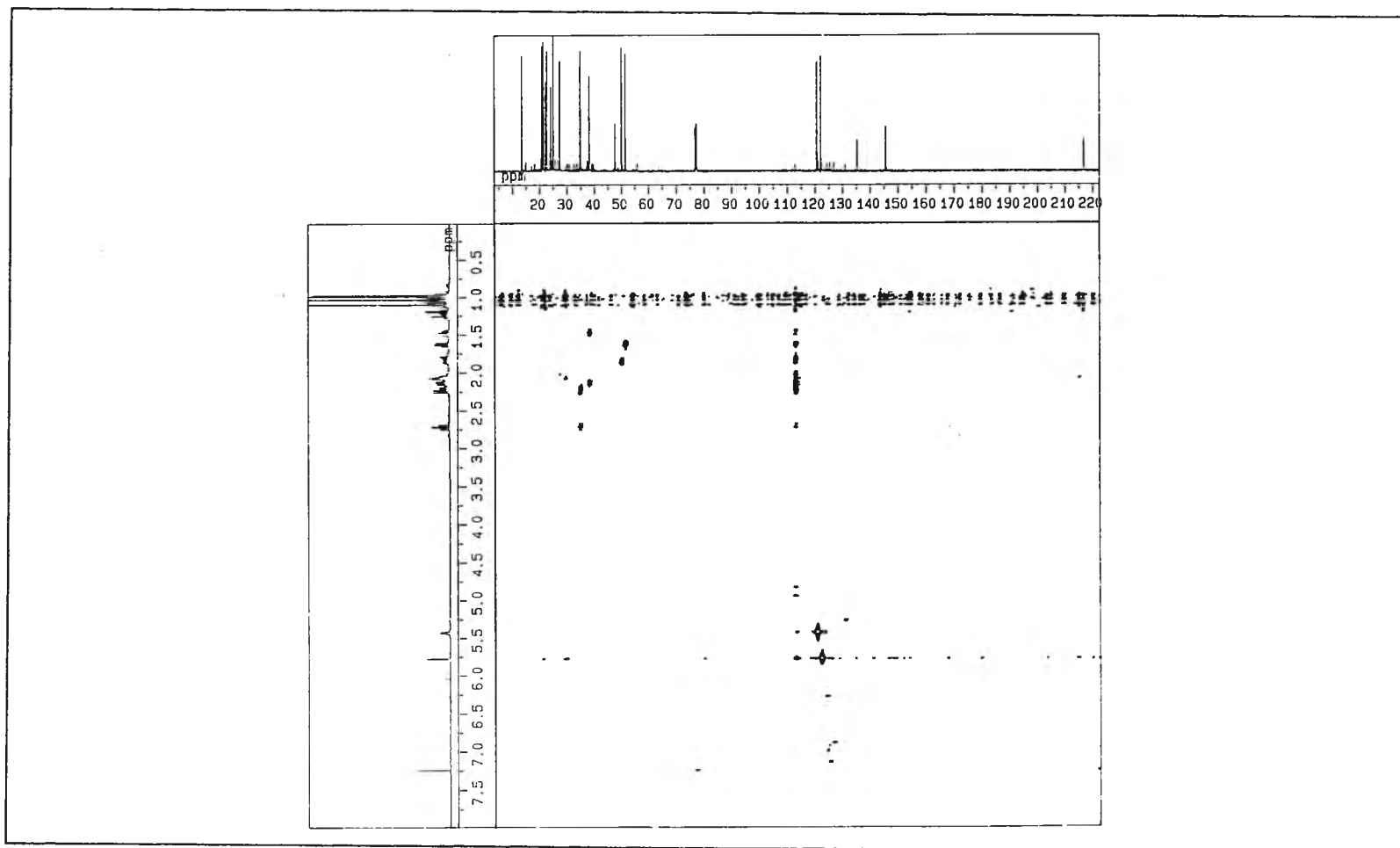


Fig. 20 The HMQC-NMR spectrum of compound 2

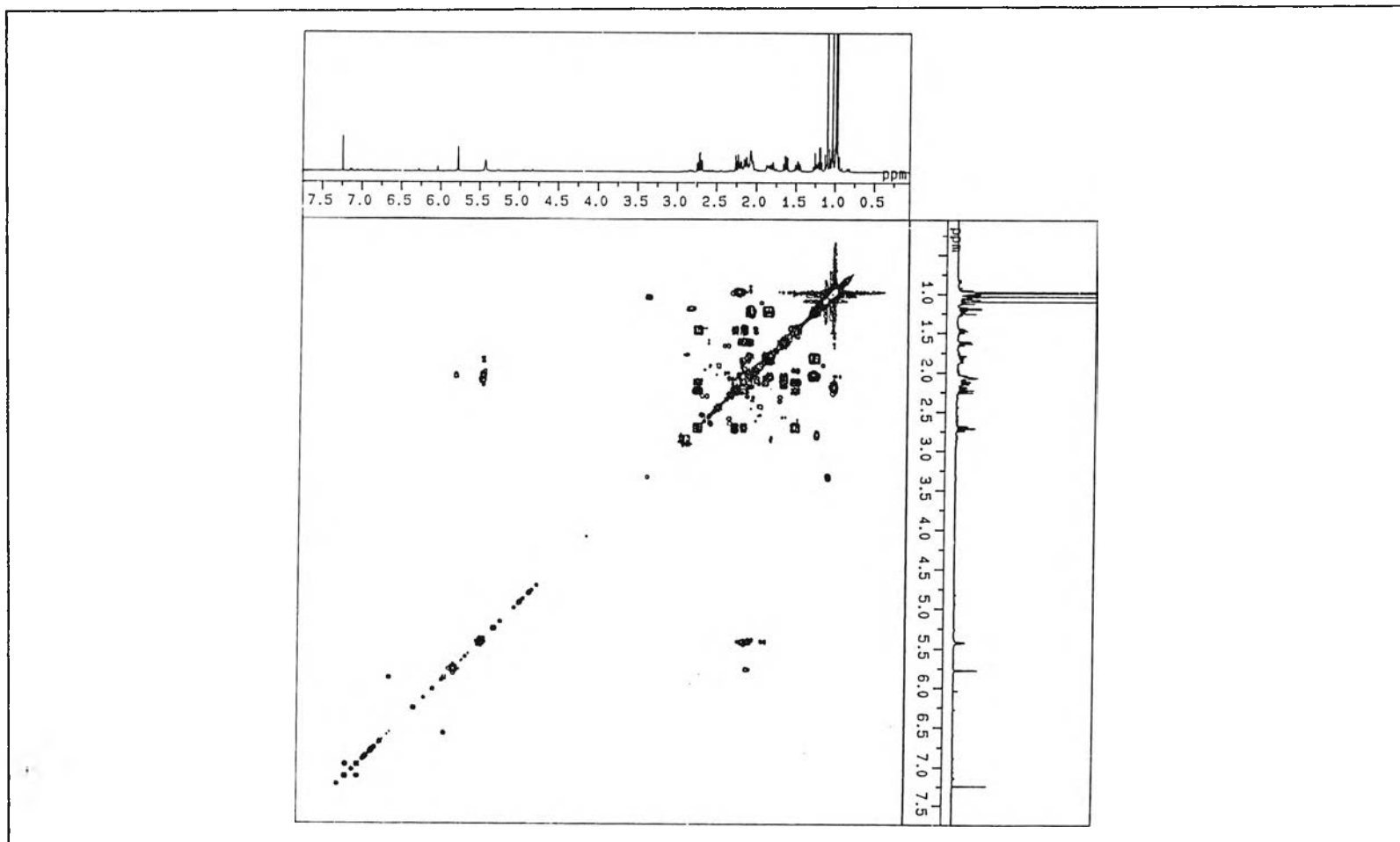


Fig. 21 The COSY-NMR spectrum of compound 2

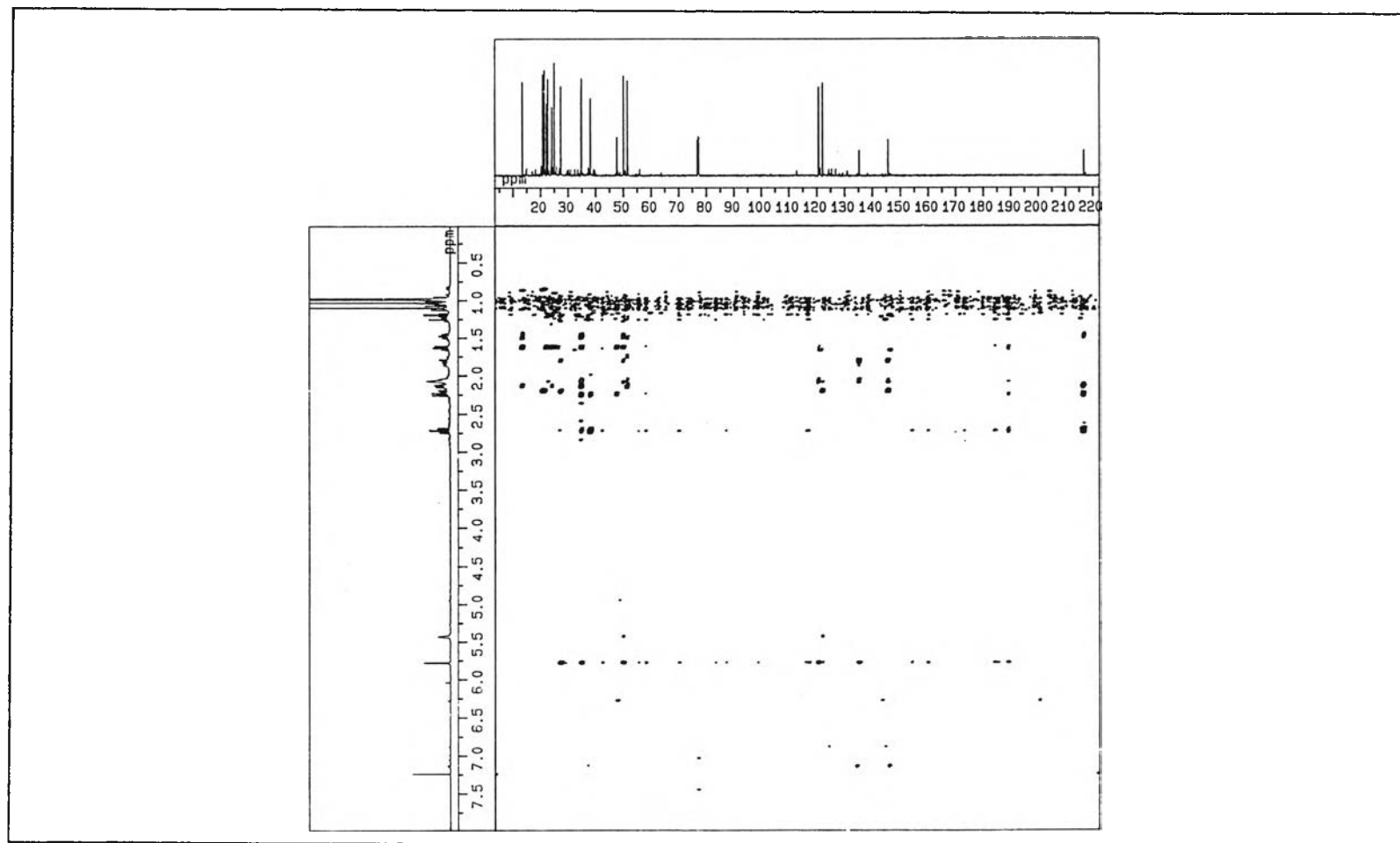


Fig. 22 The HMBC-NMR spectrum of compound 2

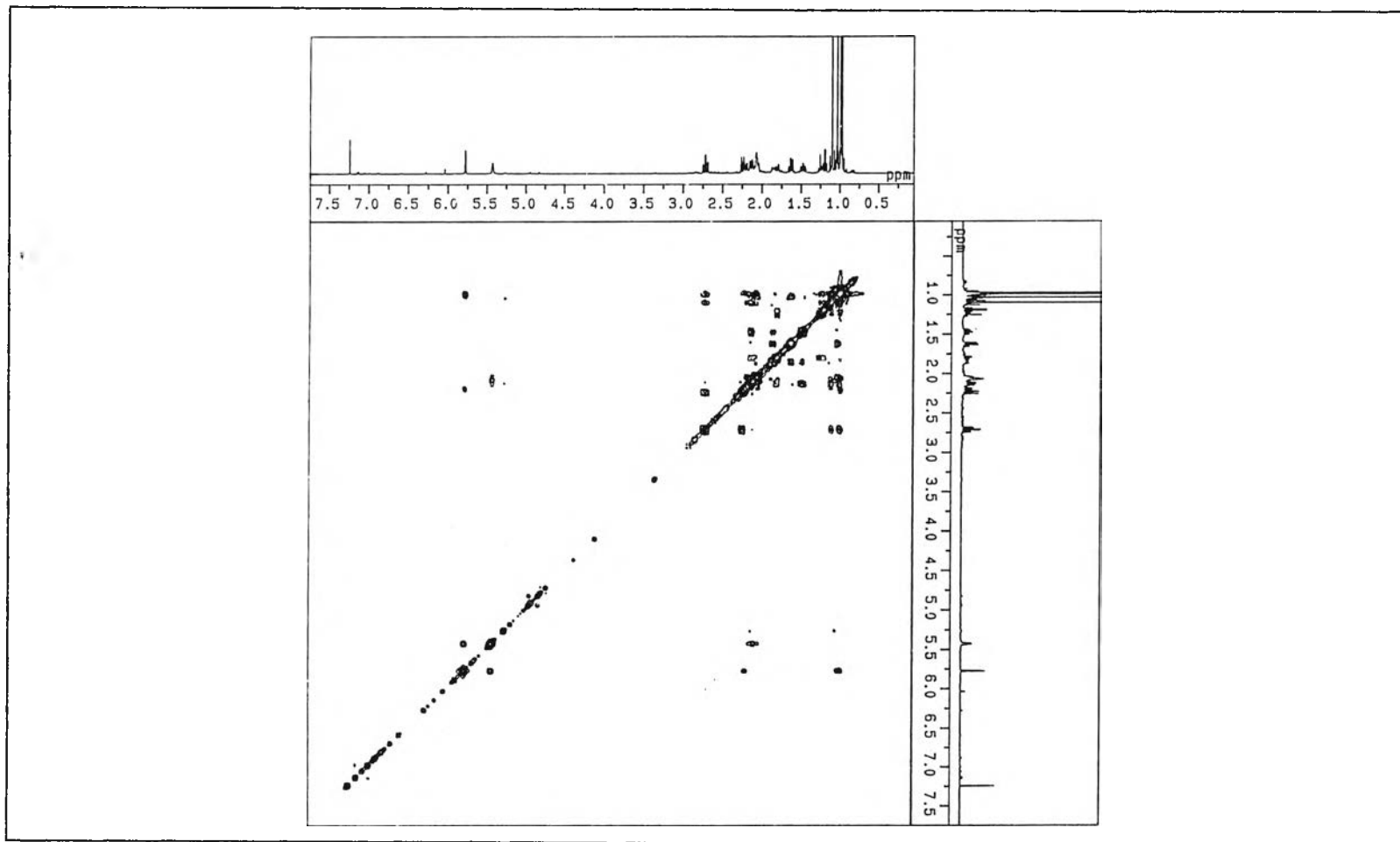


Fig. 23 The NOESY-NMR spectrum of compound 2

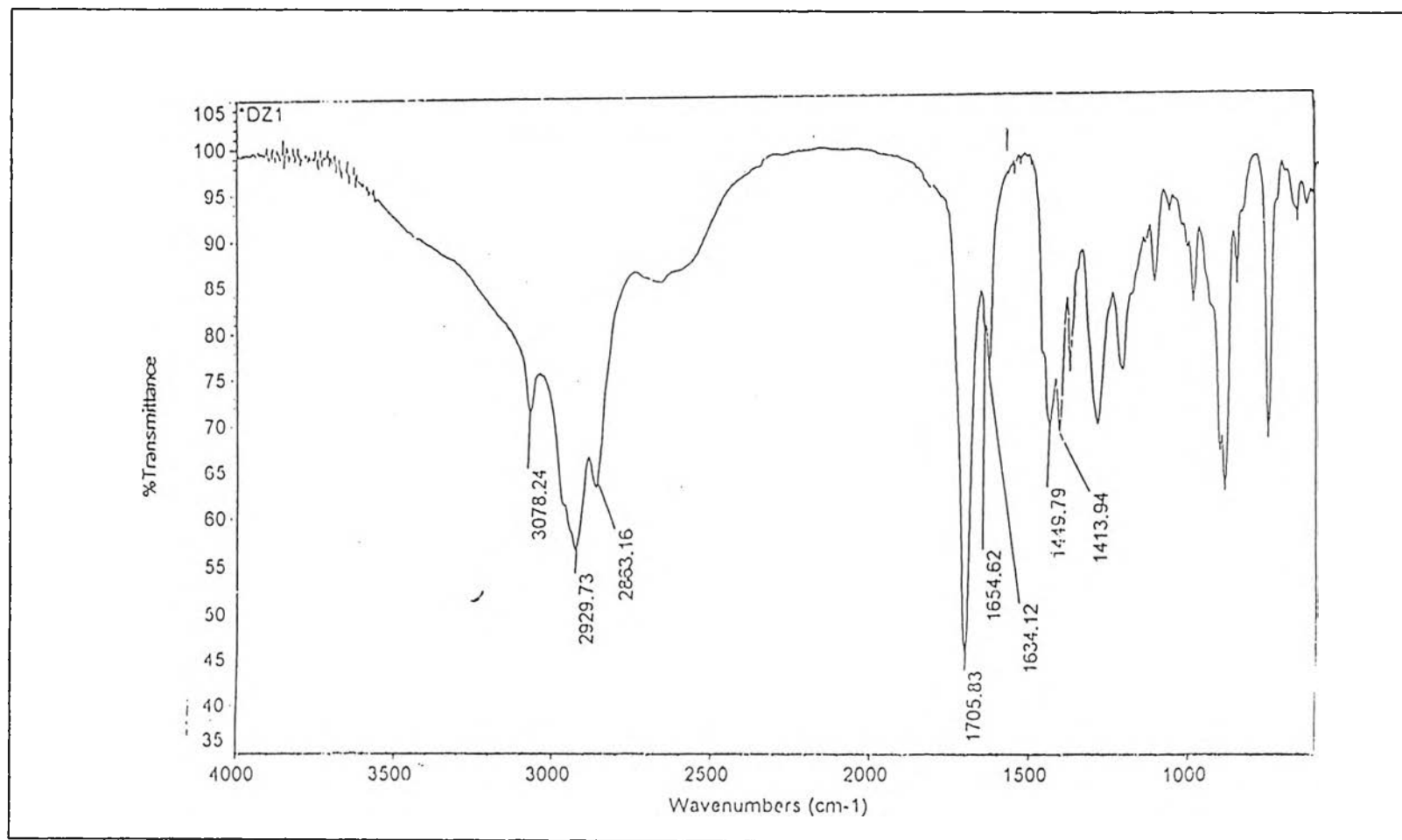


Fig. 24 The IR spectrum of compound 3

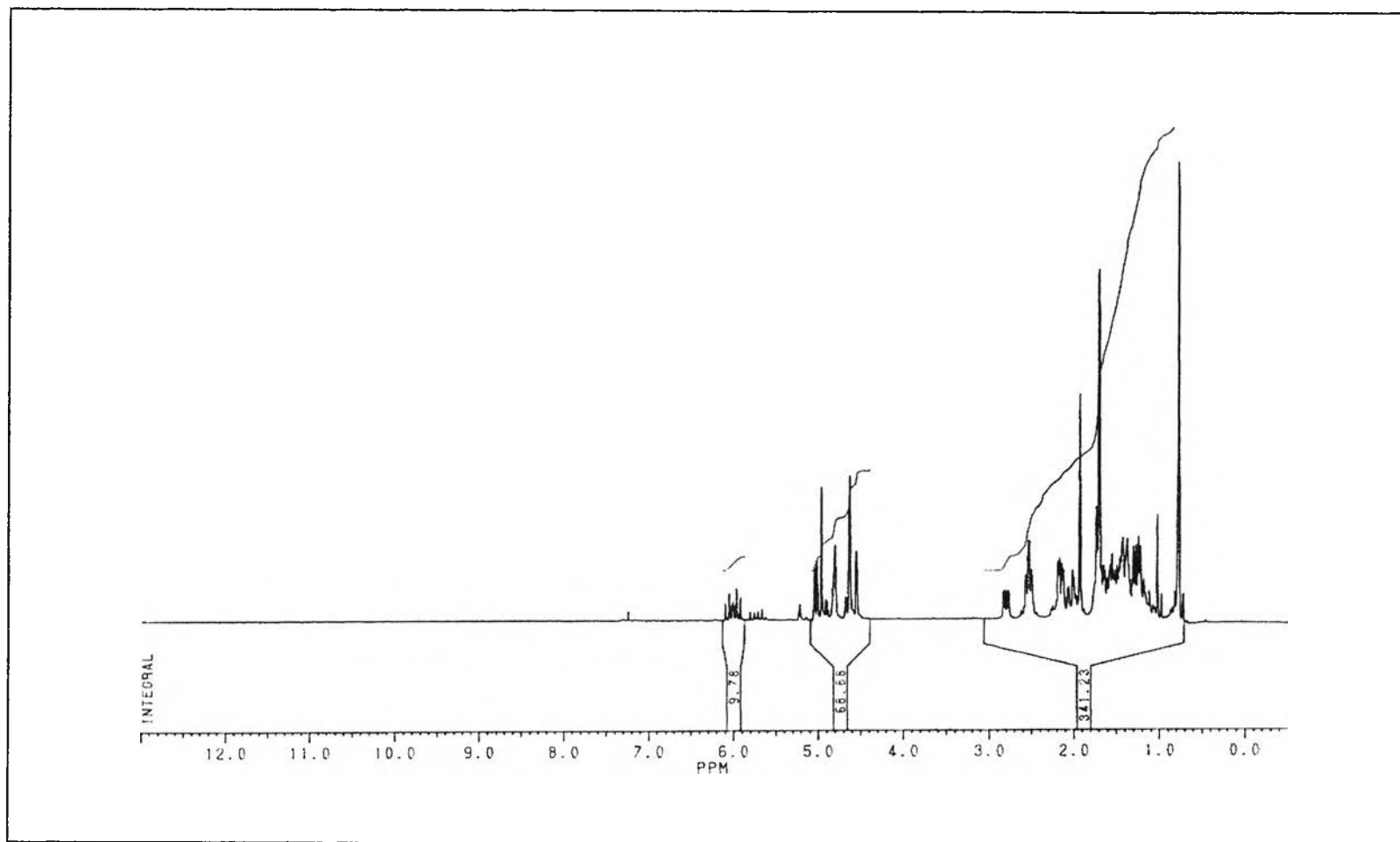


Fig. 25 The ^1H -NMR spectrum of compound 3

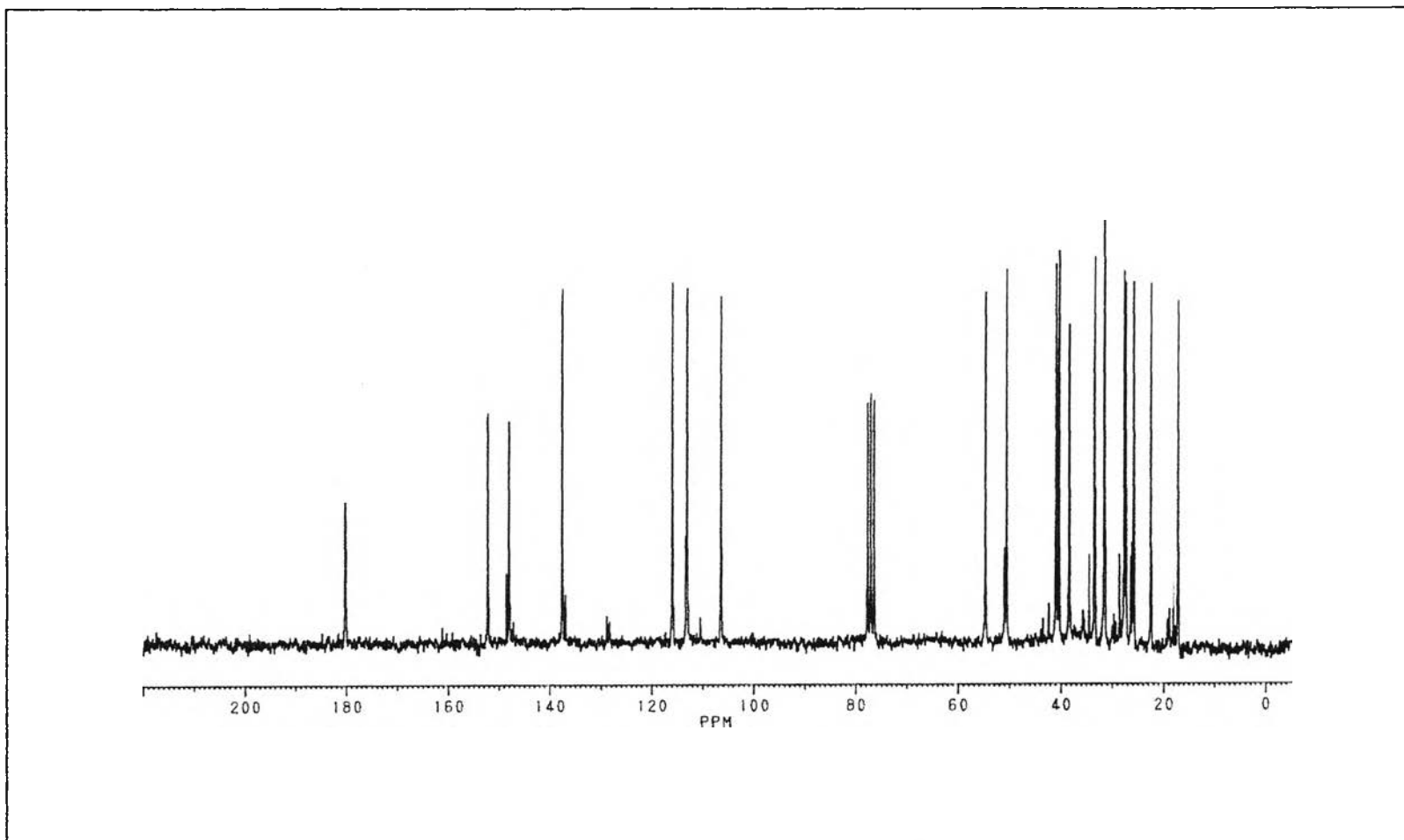


Fig. 26 The ^{13}C -NMR spectrum of compound 3

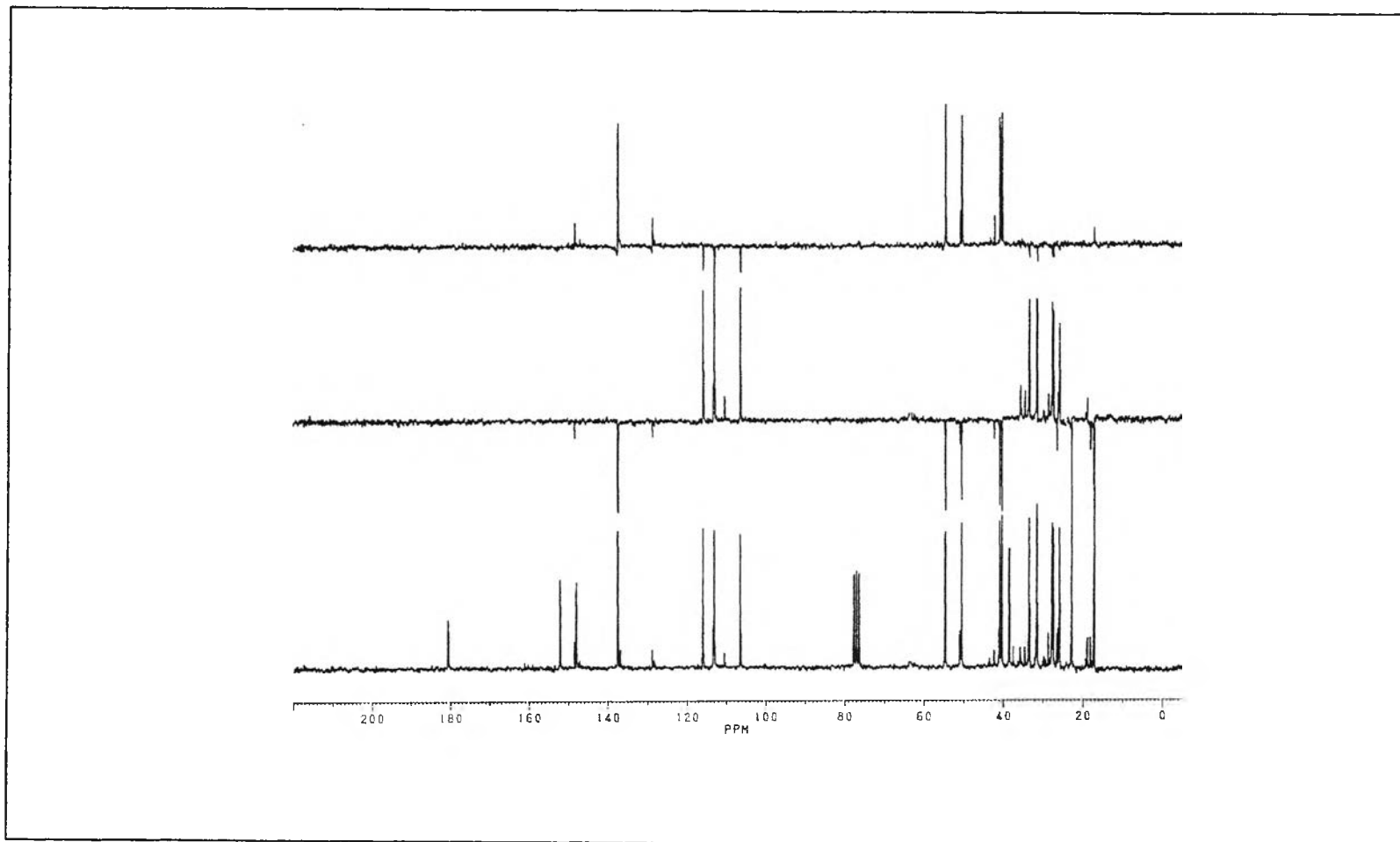


Fig. 27 The DEPT-90, DEPT-135 and ^{13}C -NMR spectrum of compound 3

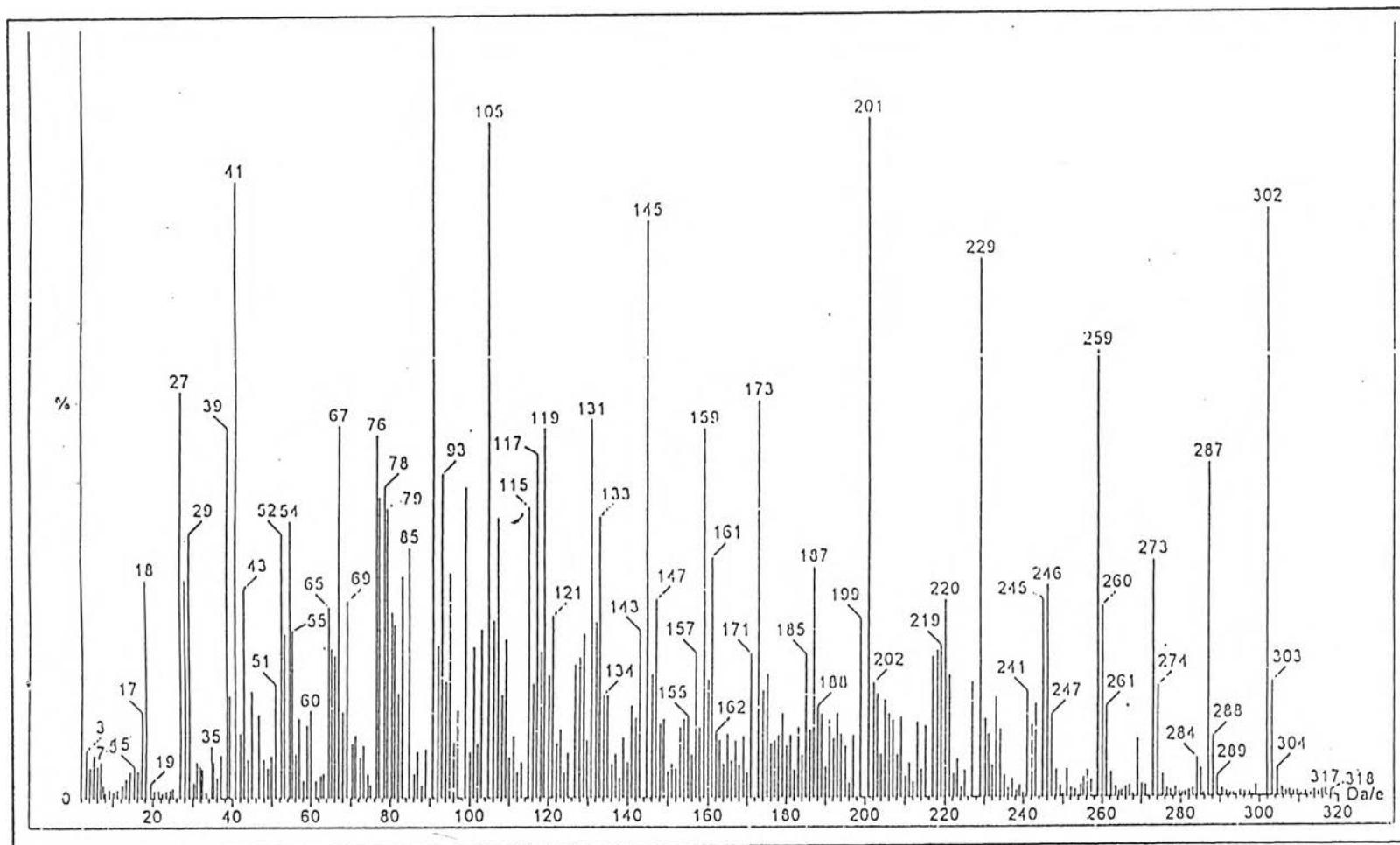


Fig. 28 The EI-MS spectrum of compound 3

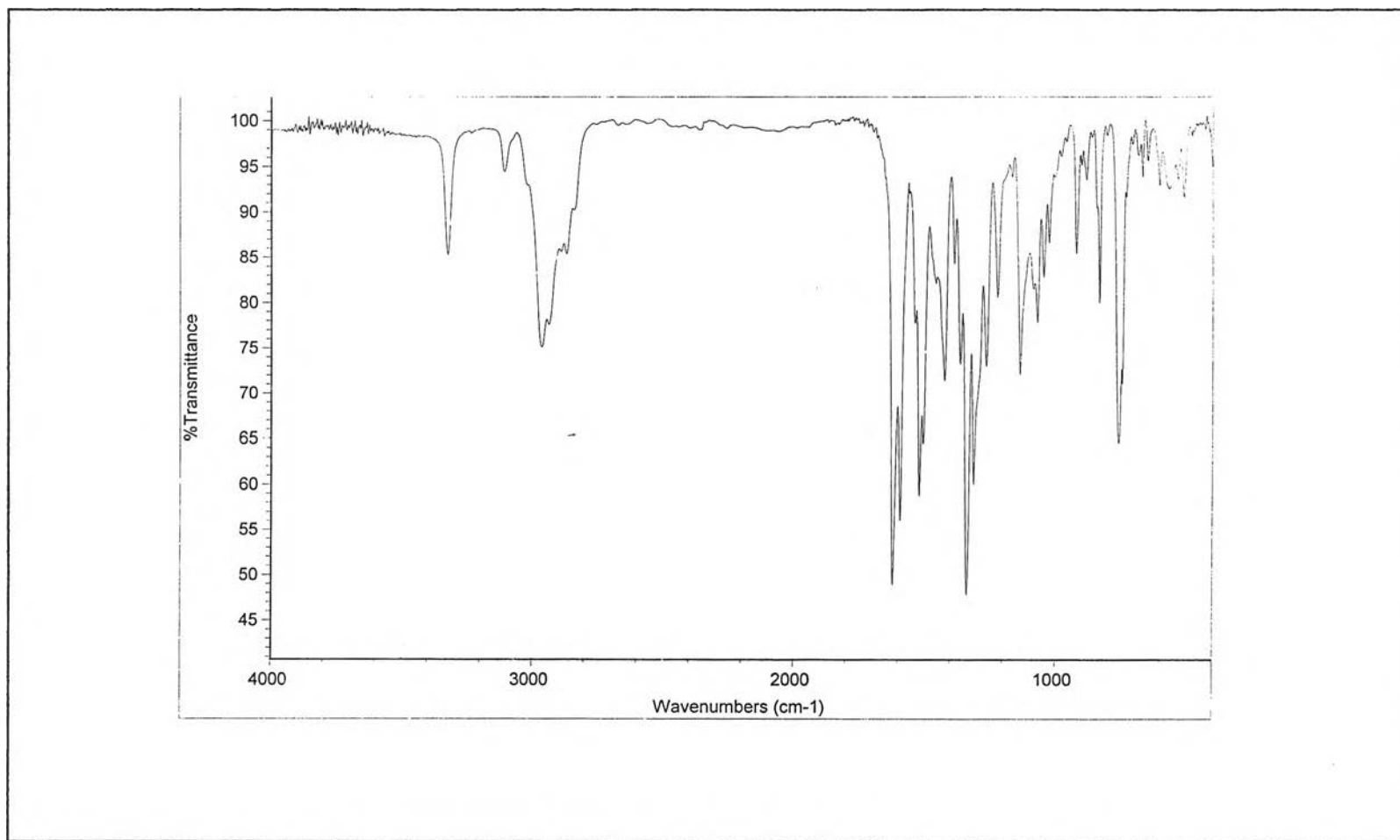


Fig. 29 The IR spectrum of compound 2a

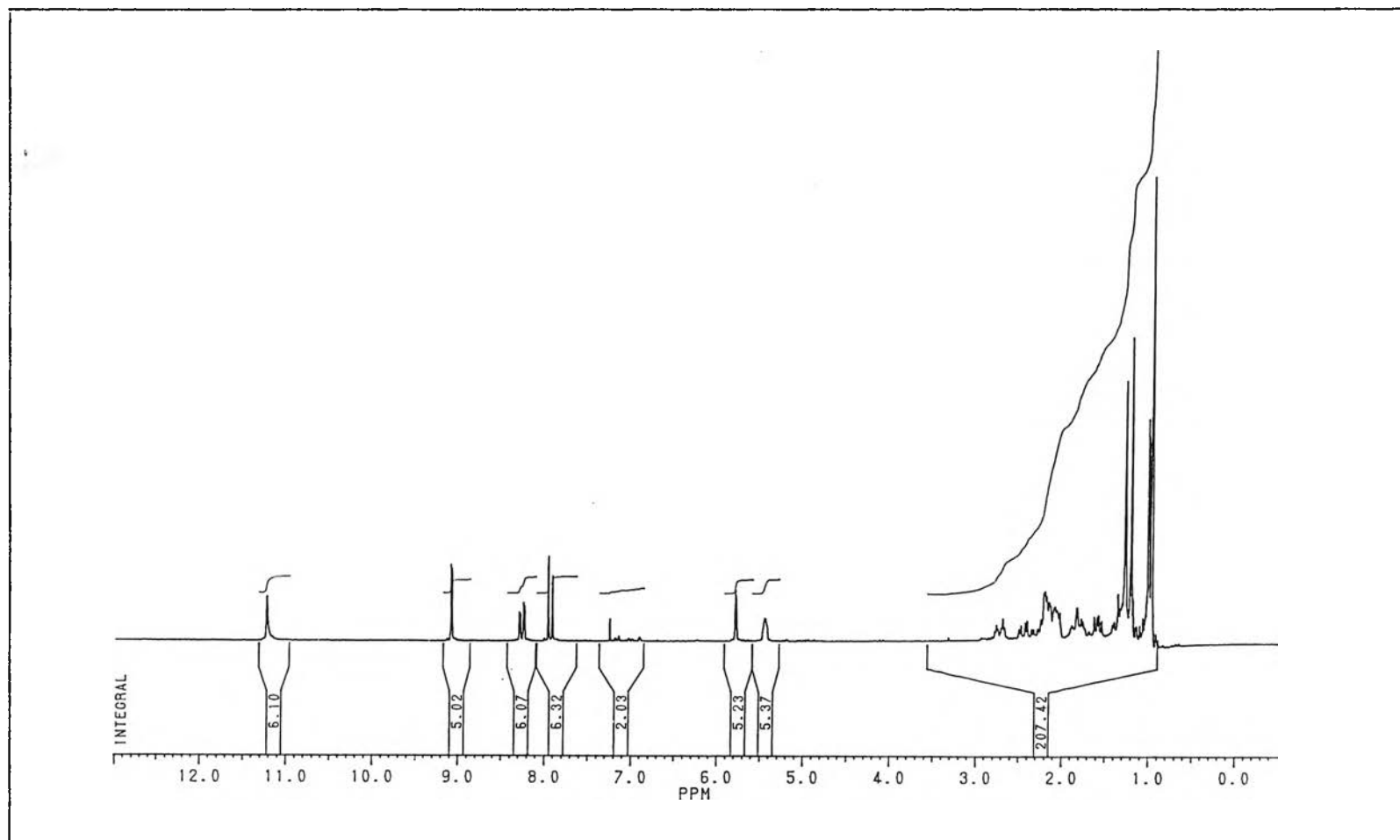


Fig. 30 The $^1\text{H-NMR}$ spectrum of compound **2a**

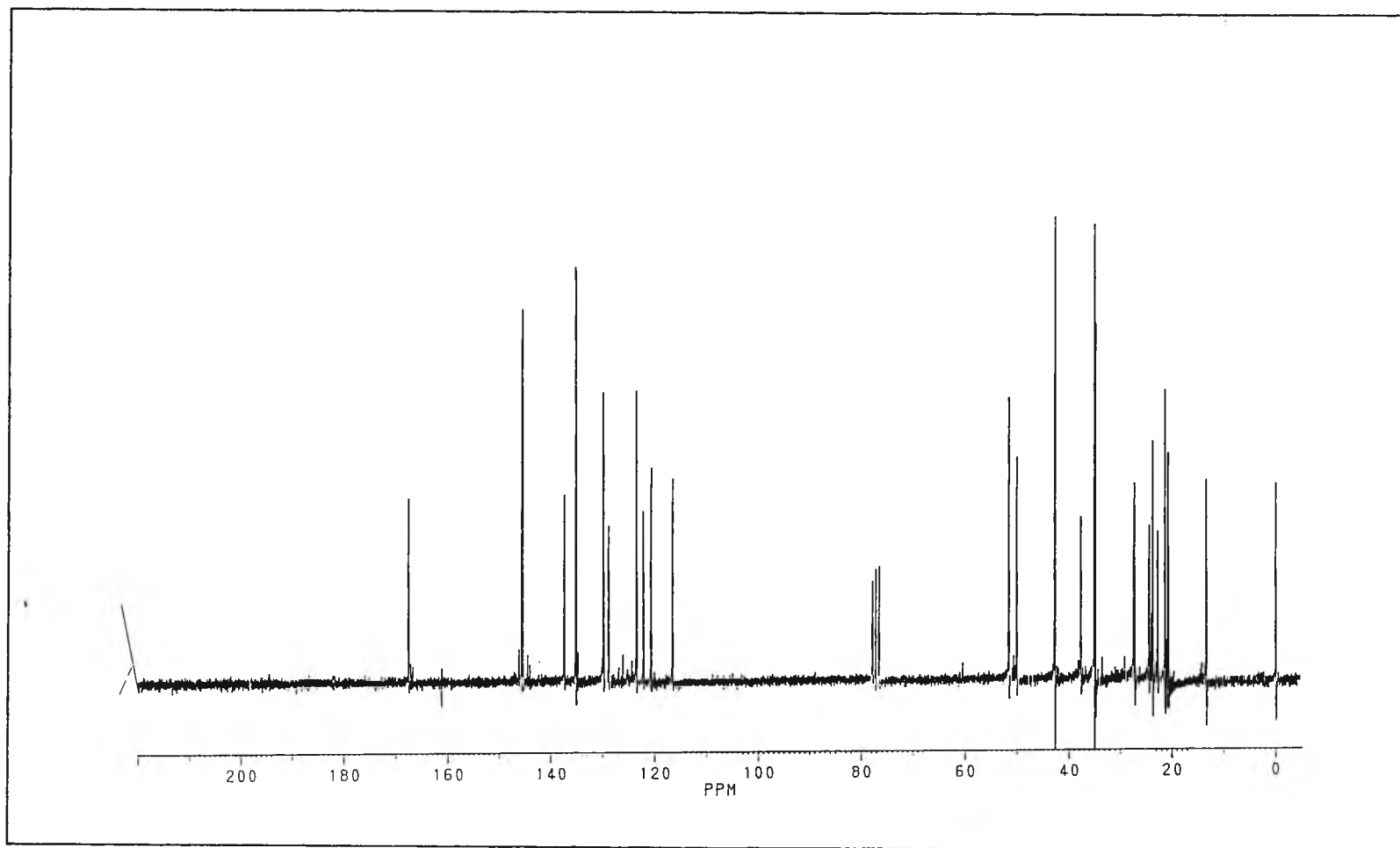


Fig. 31 The ^{13}C -NMR spectrum of compound 2a

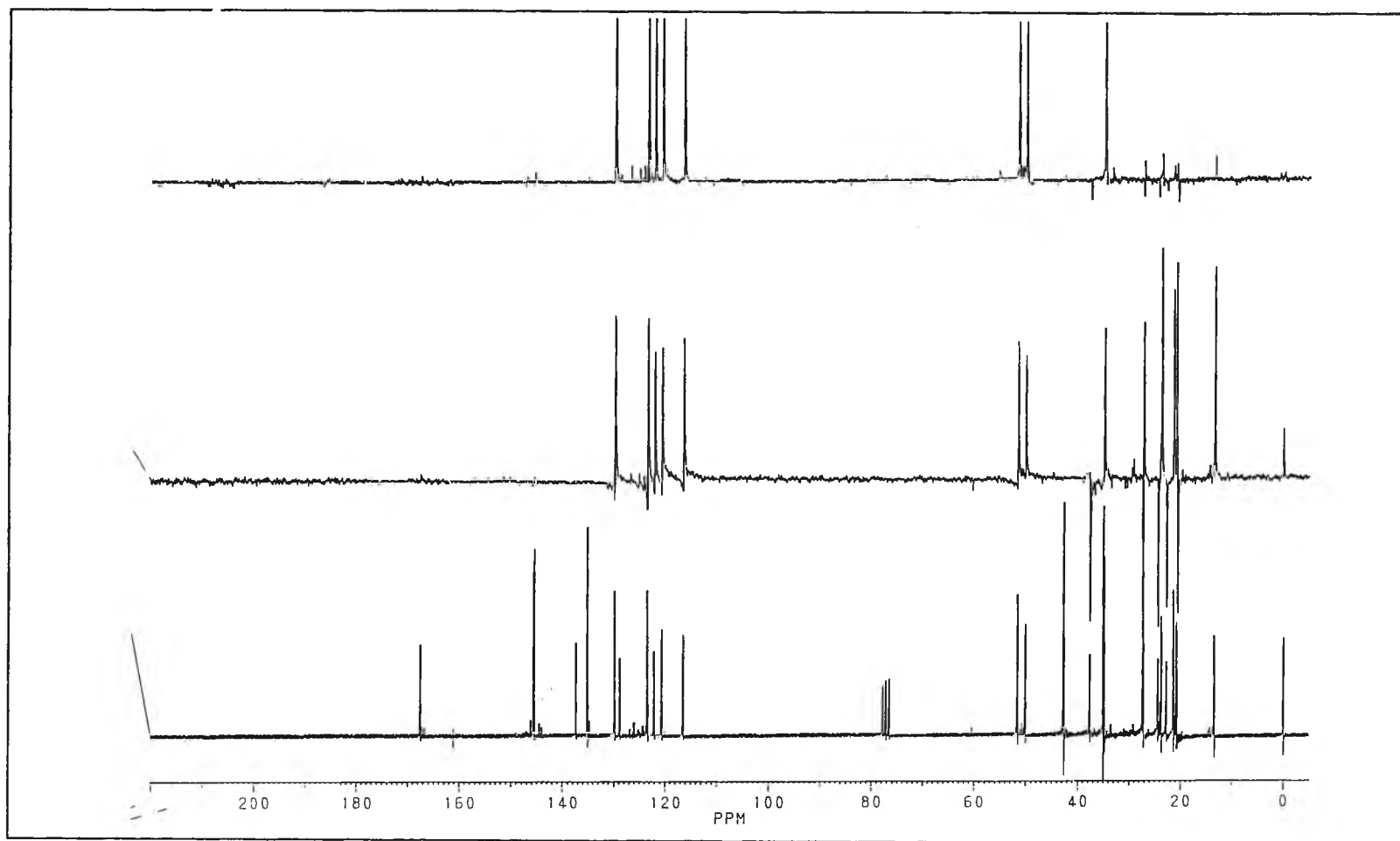


Fig. 32 The DEPT-90, DEPT-135 and ^{13}C -NMR spectrum of compound **2a**

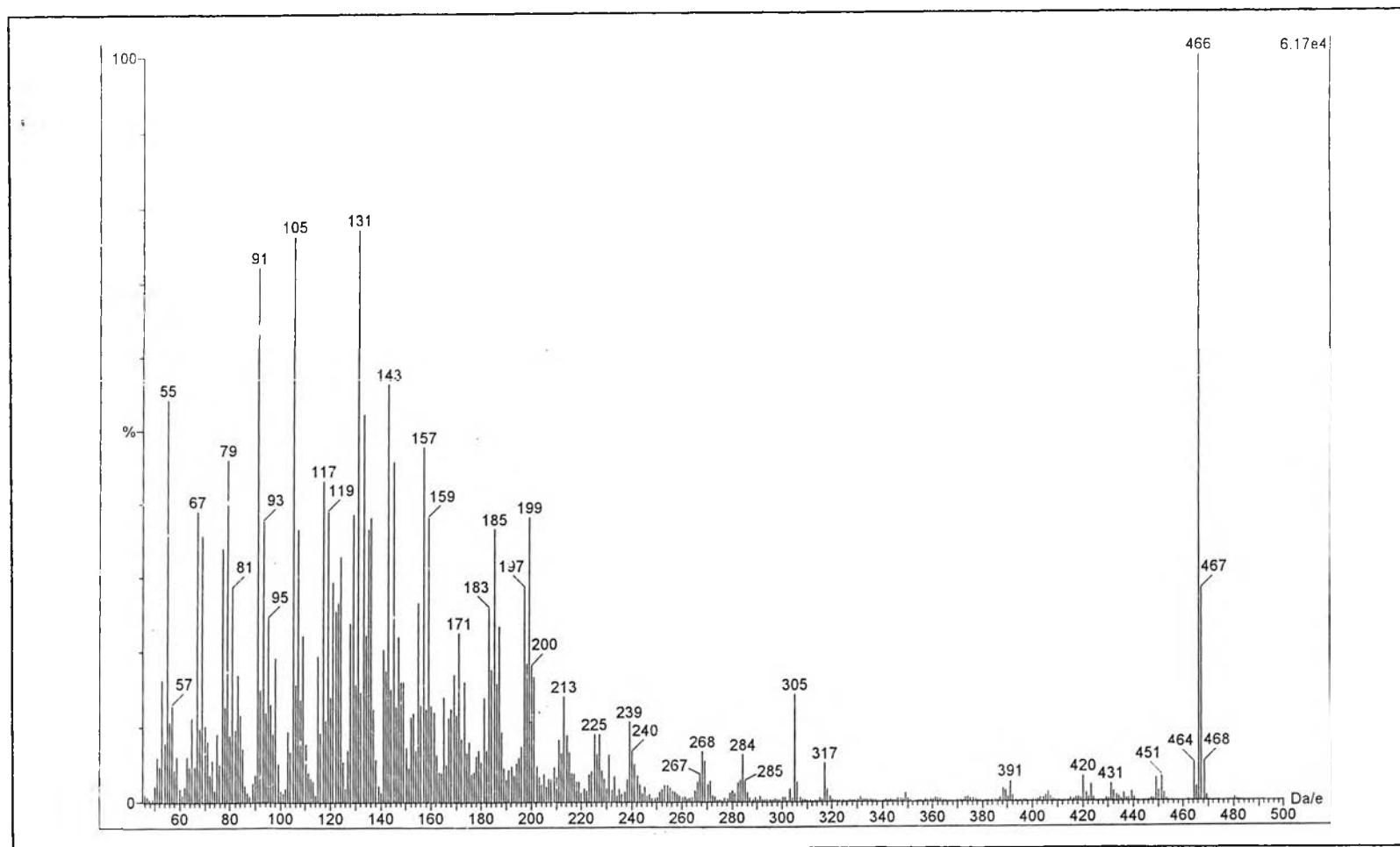


Fig. 33 The EI-MS spectrum of compound 2a

VITA

Mr. Smithichai Sriyagnok was born on September 18, 1971 in Petchaburi, Thailand. He received a diploma in analytical chemistry training from the Institute of Analytical Chemistry in 1995. He then furthered his studies at Chulalongkorn University, majoring in Photographic science and Printing technology. He graduated with a Bachelor's Degree of Science in 1998. During the same year, he was admitted into the Master's Degree Program in organic chemistry at Chulalongkorn University. Currently, he is finishing his master's degree in organic chemistry.