

REFERENCES

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APPENDIX

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

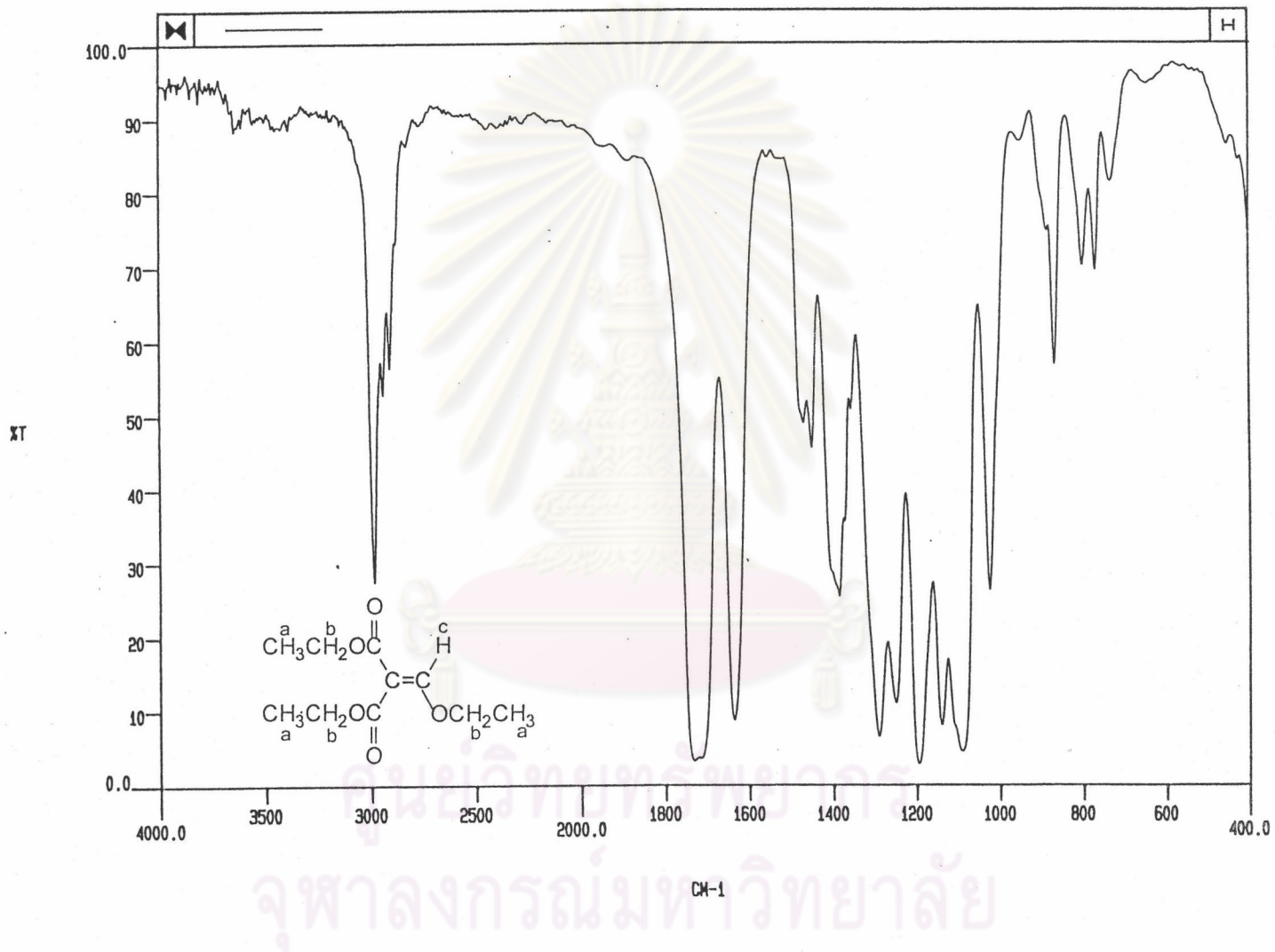


Figure 1. IR spectrum (KBr demountable cell) of diethyl ethoxymethylenemalonate.

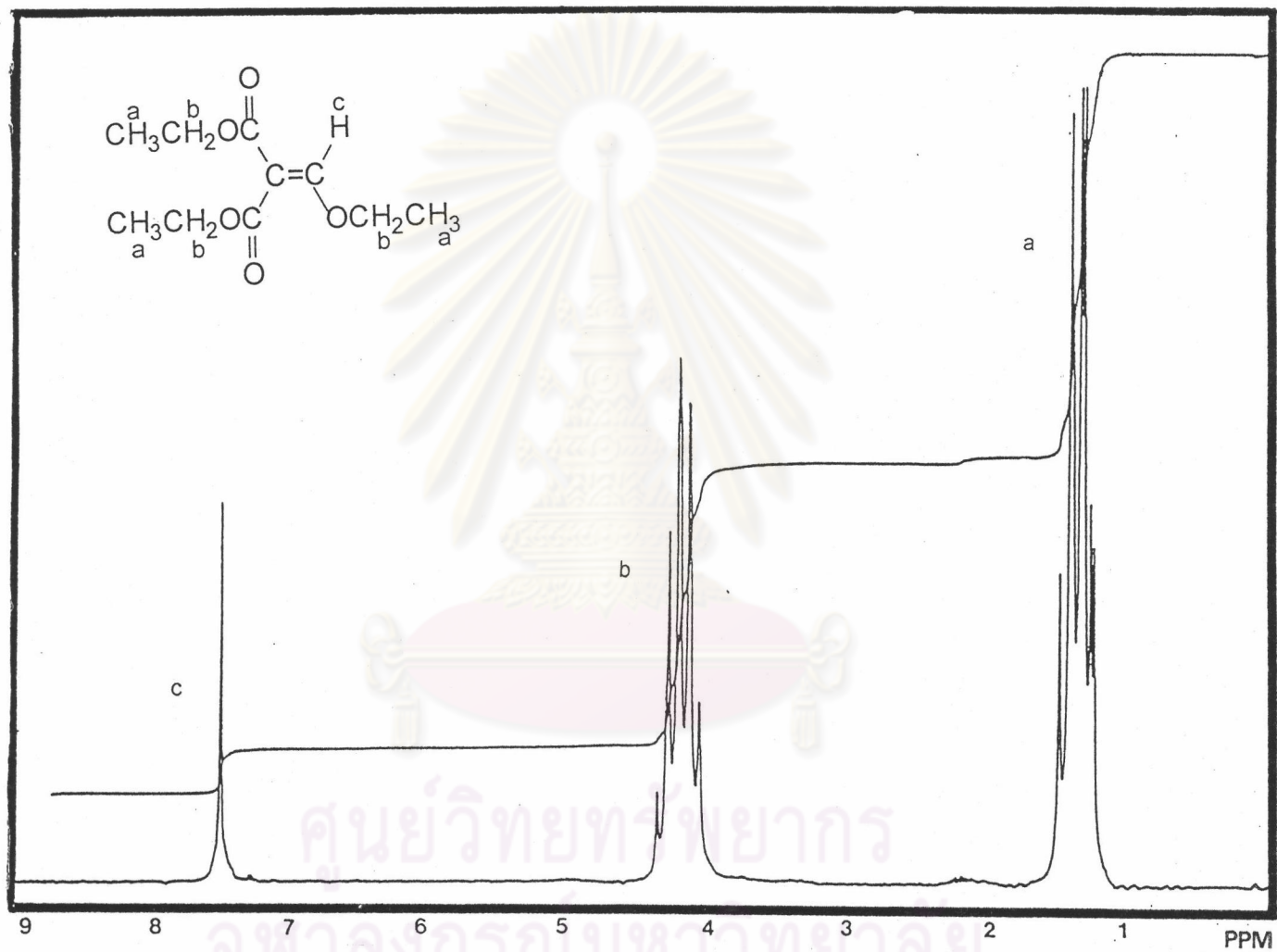


Figure 2. The 80 MHz ¹H-NMR spectrum of diethyl ethoxymethylenemalonate in CDCl₃.

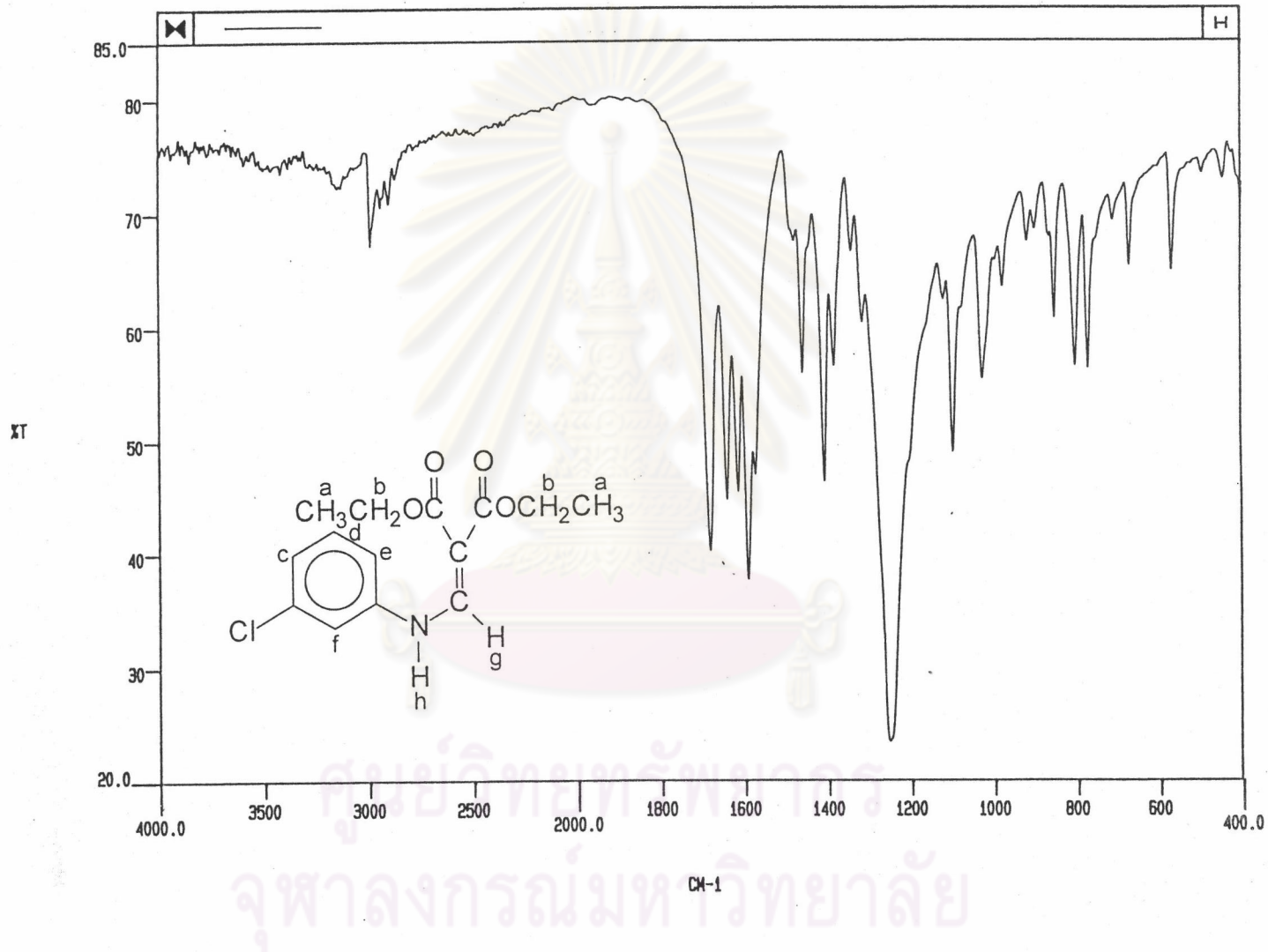


Figure 3. IR spectrum (KBr demountable cell) of ethyl anilino-3-chloro-methylenemalonate.

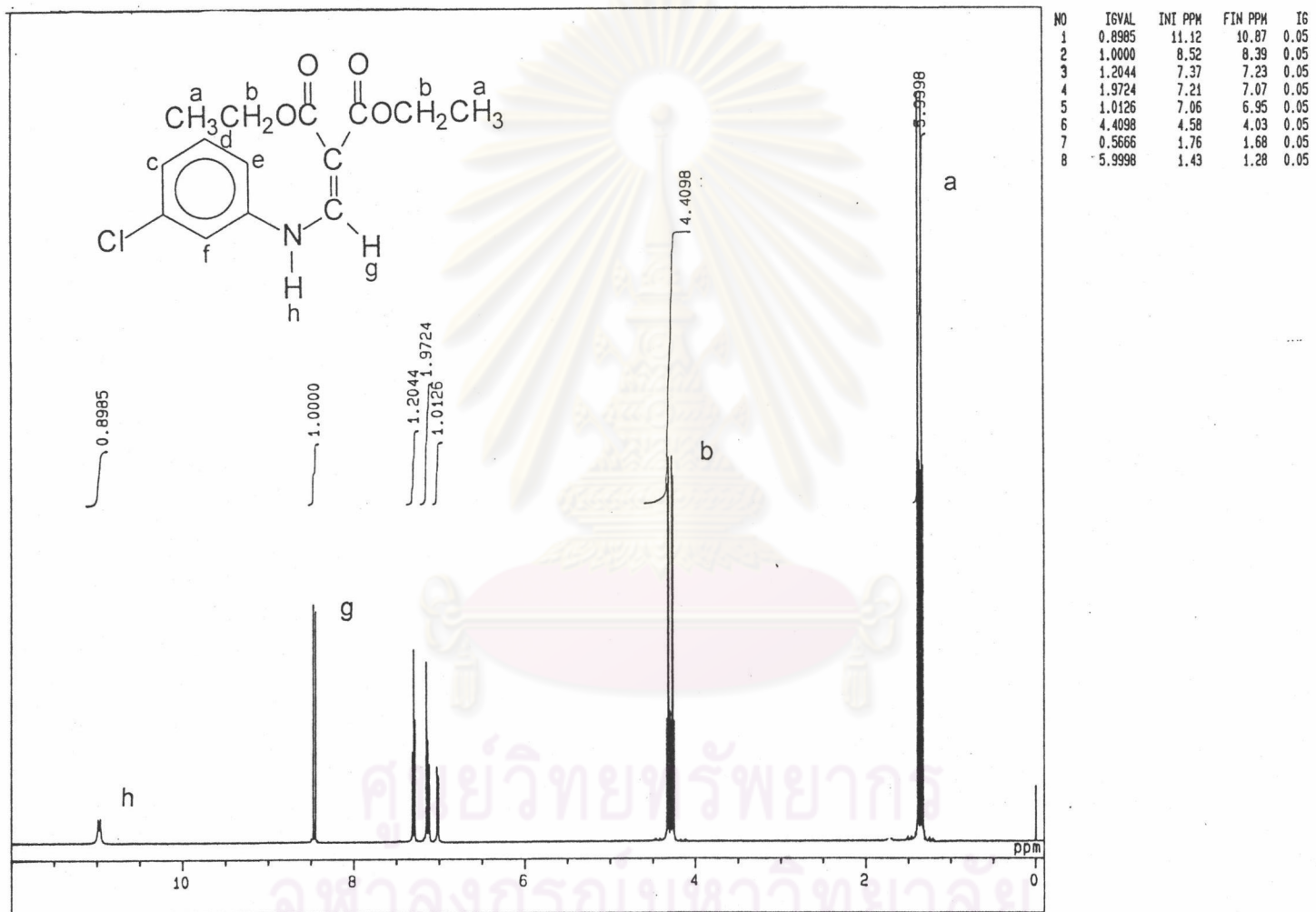


Figure 4. The 500 MHz ^1H -NMR spectrum of ethyl anilino-3-chloro-methylenemalonate in CDCl_3 .

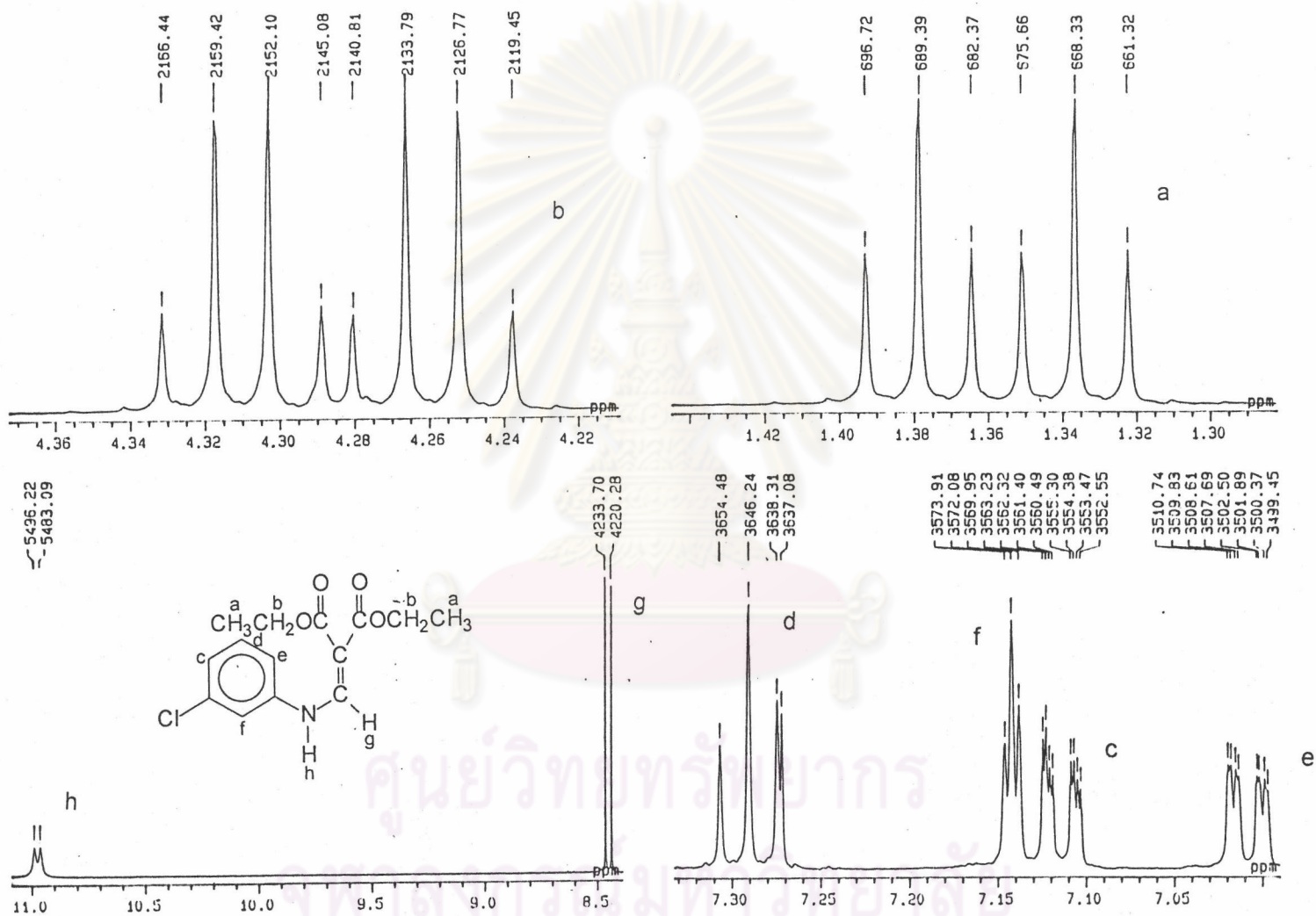


Figure 5. The 500 MHz ¹H-NMR spectrum of ethyl anilino-3-chloro-methylenemalonate in CDCl₃ (expansions from : 1.3-11.0 ppm).

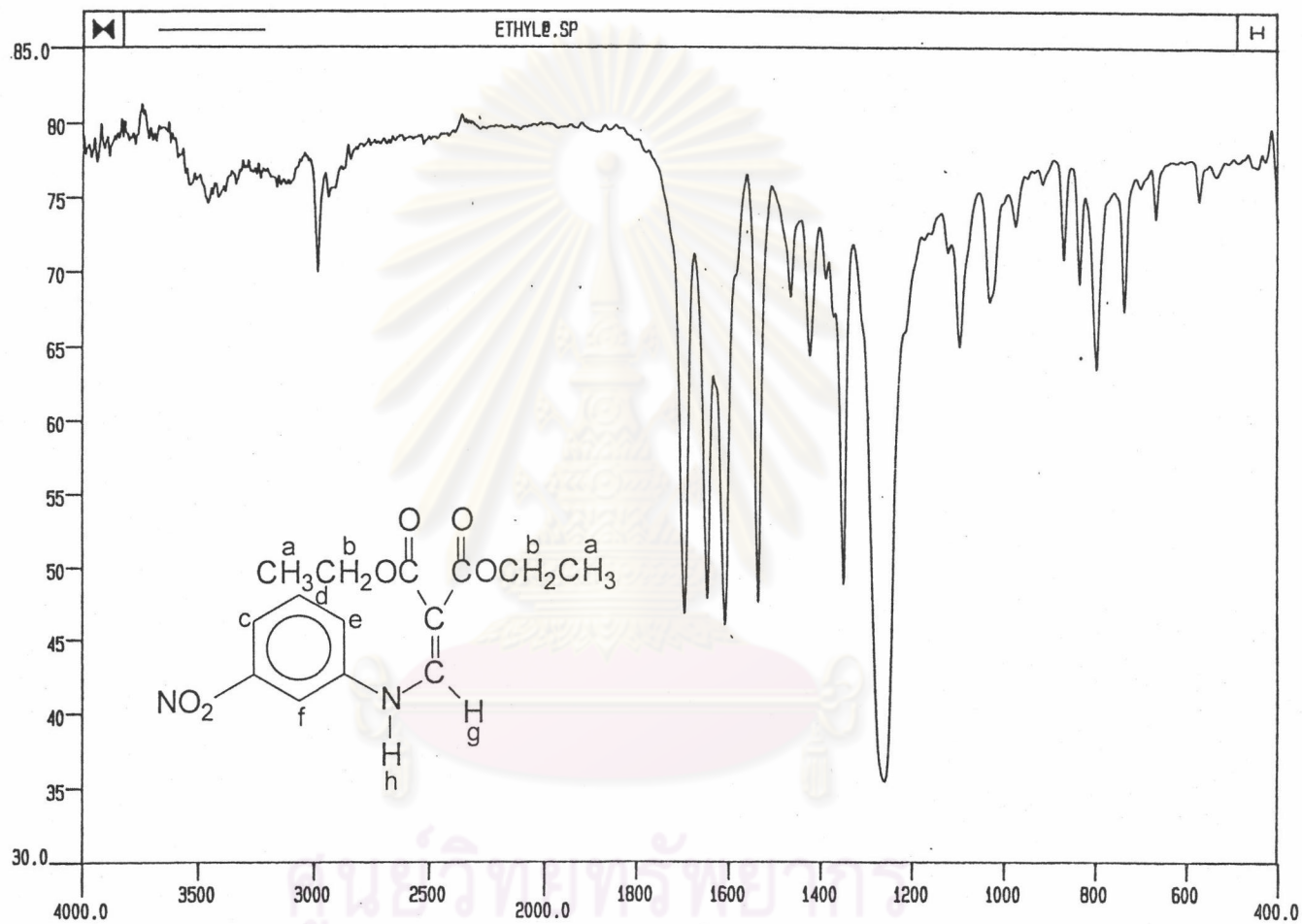


Figure 6. IR spectrum (KBr pellet) of ethyl anilino-3-nitro-methylenemalonate.

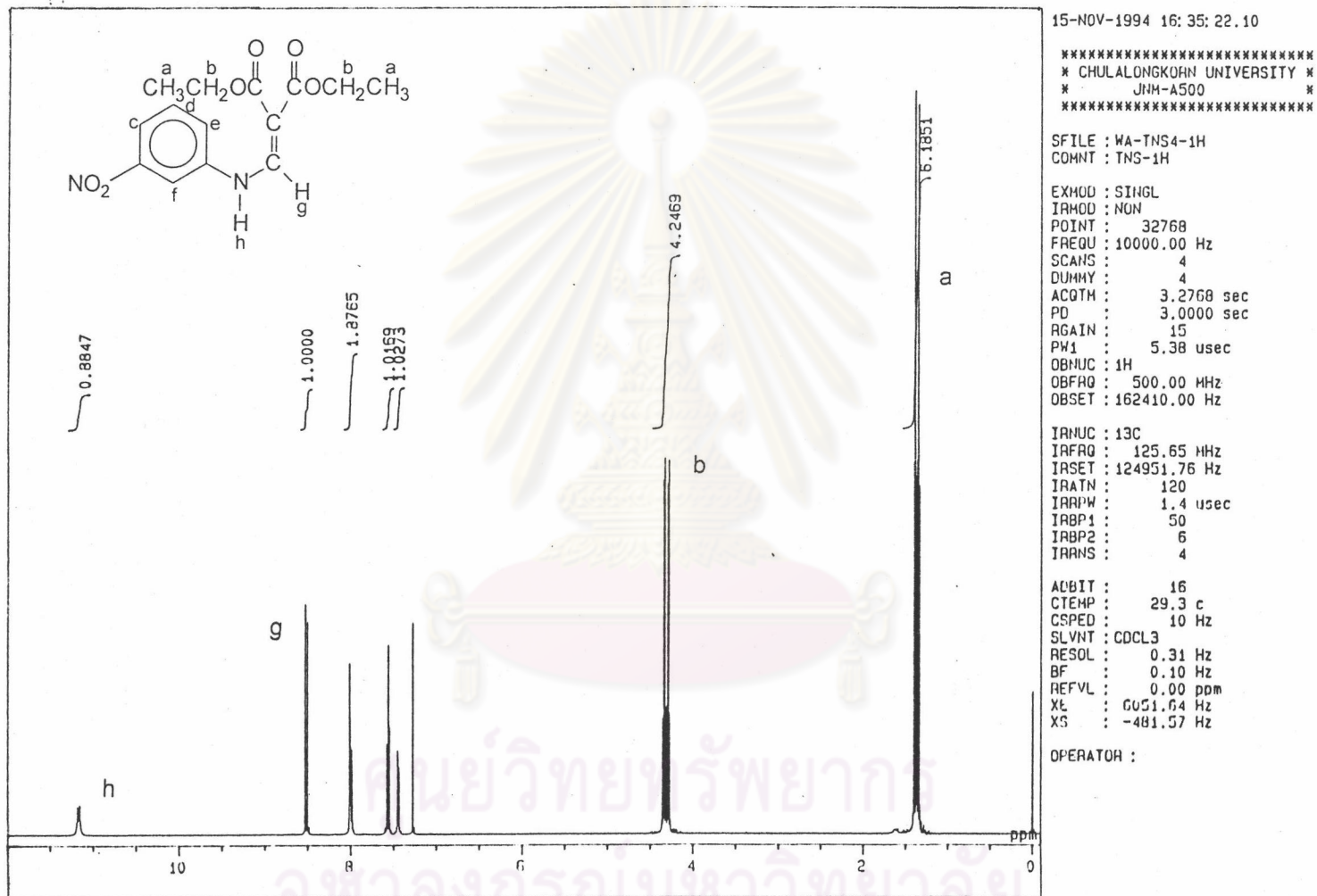


Figure 7. The 500 MHz ^1H -NMR spectrum of ethyl anilino-3-nitro-methylenemalonate in CDCl_3 .

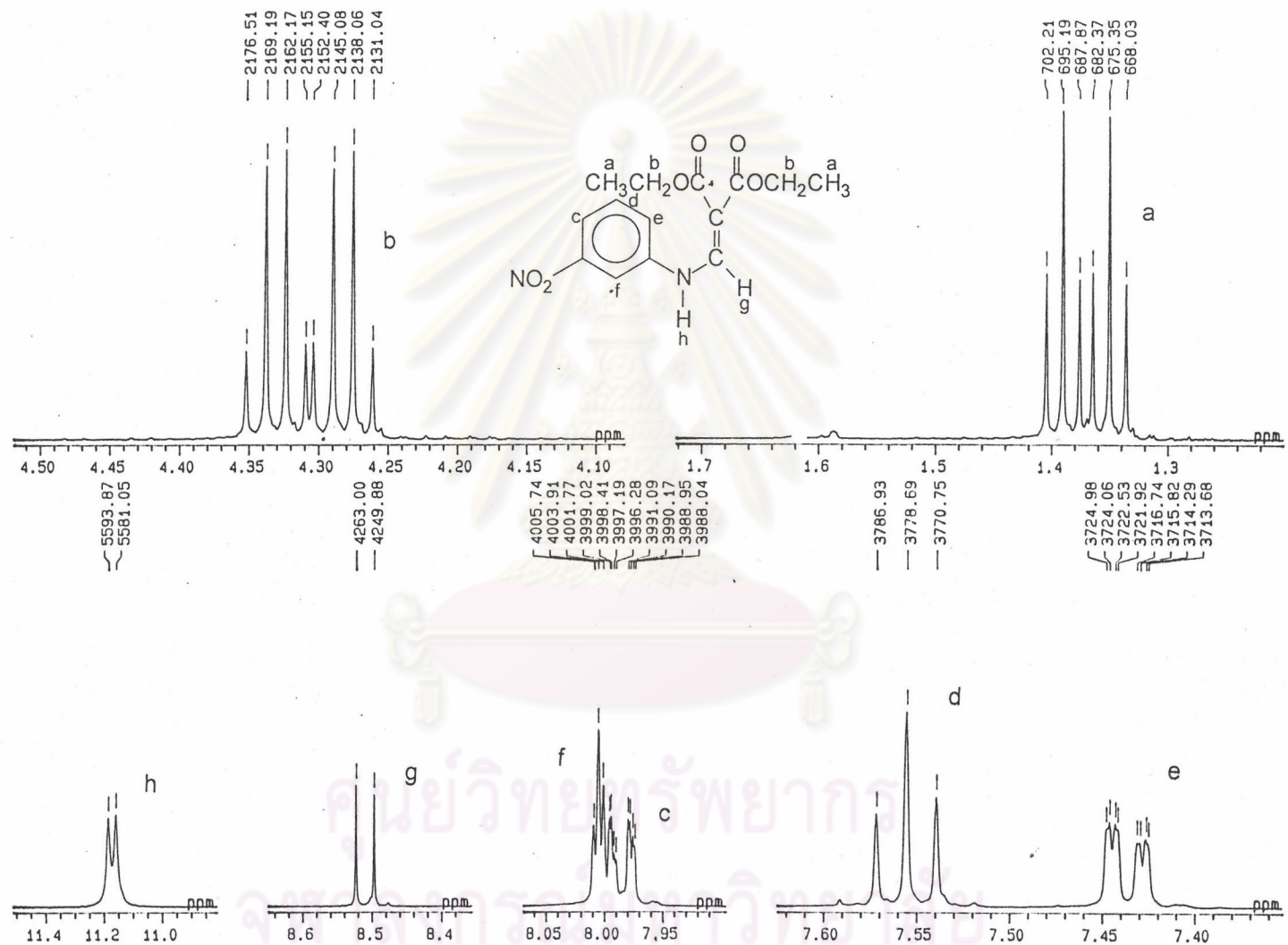


Figure 8. The 500 MHz ^1H -NMR spectrum of ethyl anilino-3-nitro-methylenemalonate in CDCl_3 (expansions from : 1.3-11.4 ppm).

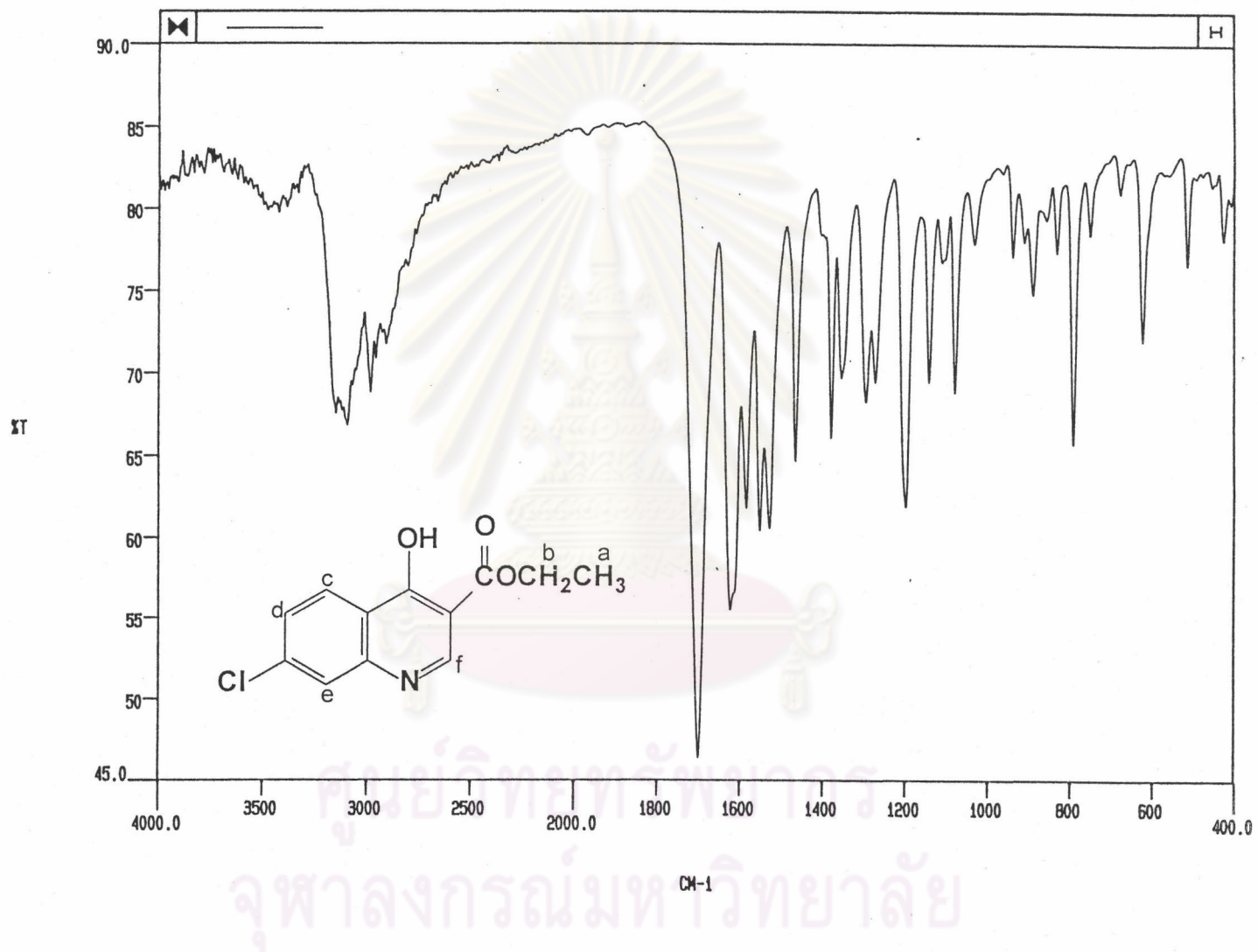


Figure 9. IR spectrum (KBr pellet) of 3-carboethoxy-7-chloro-4-hydroxyquinoline.

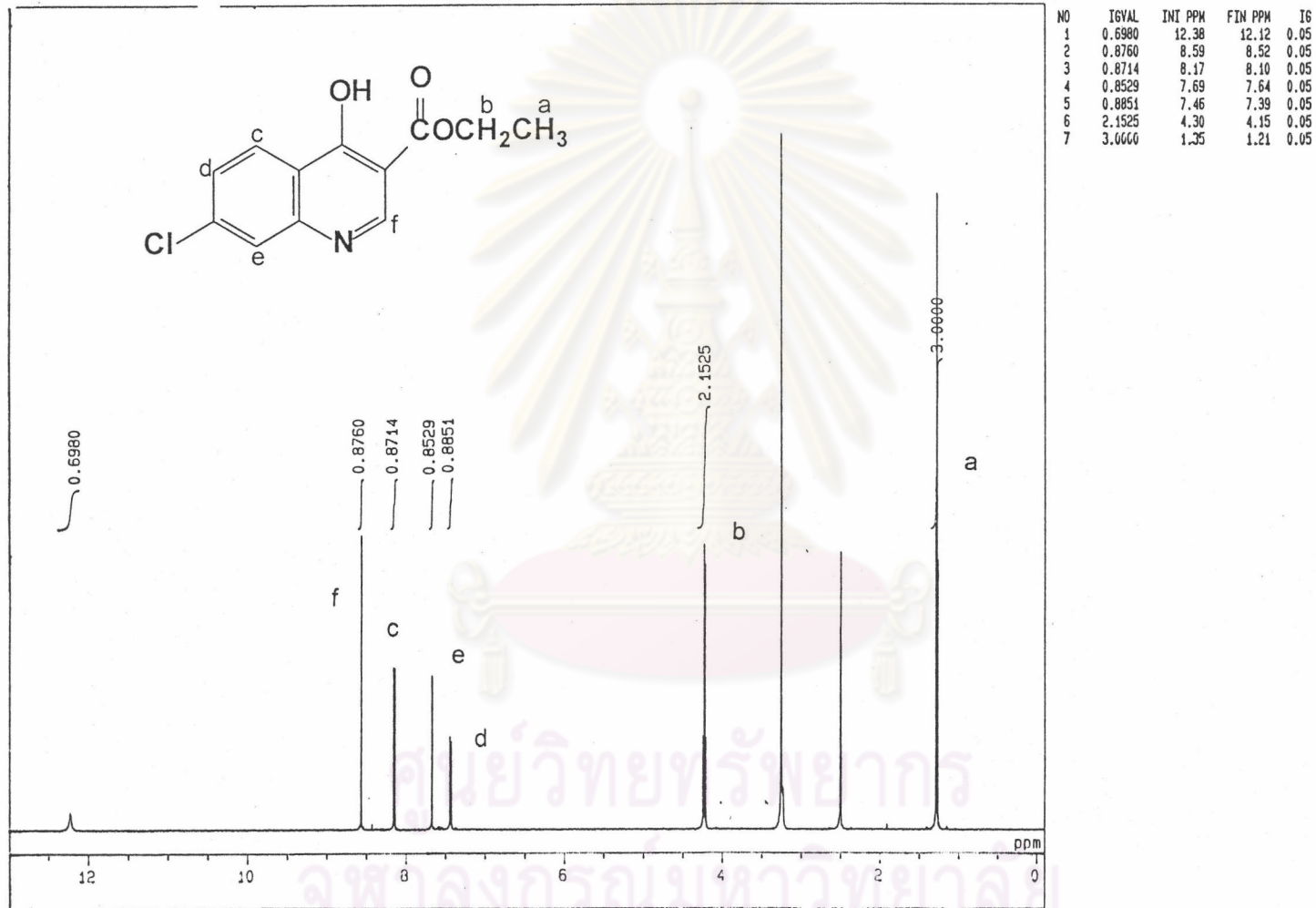


Figure 10. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-7-chloro-4-hydroxyquinoline in DMSO-d₆.

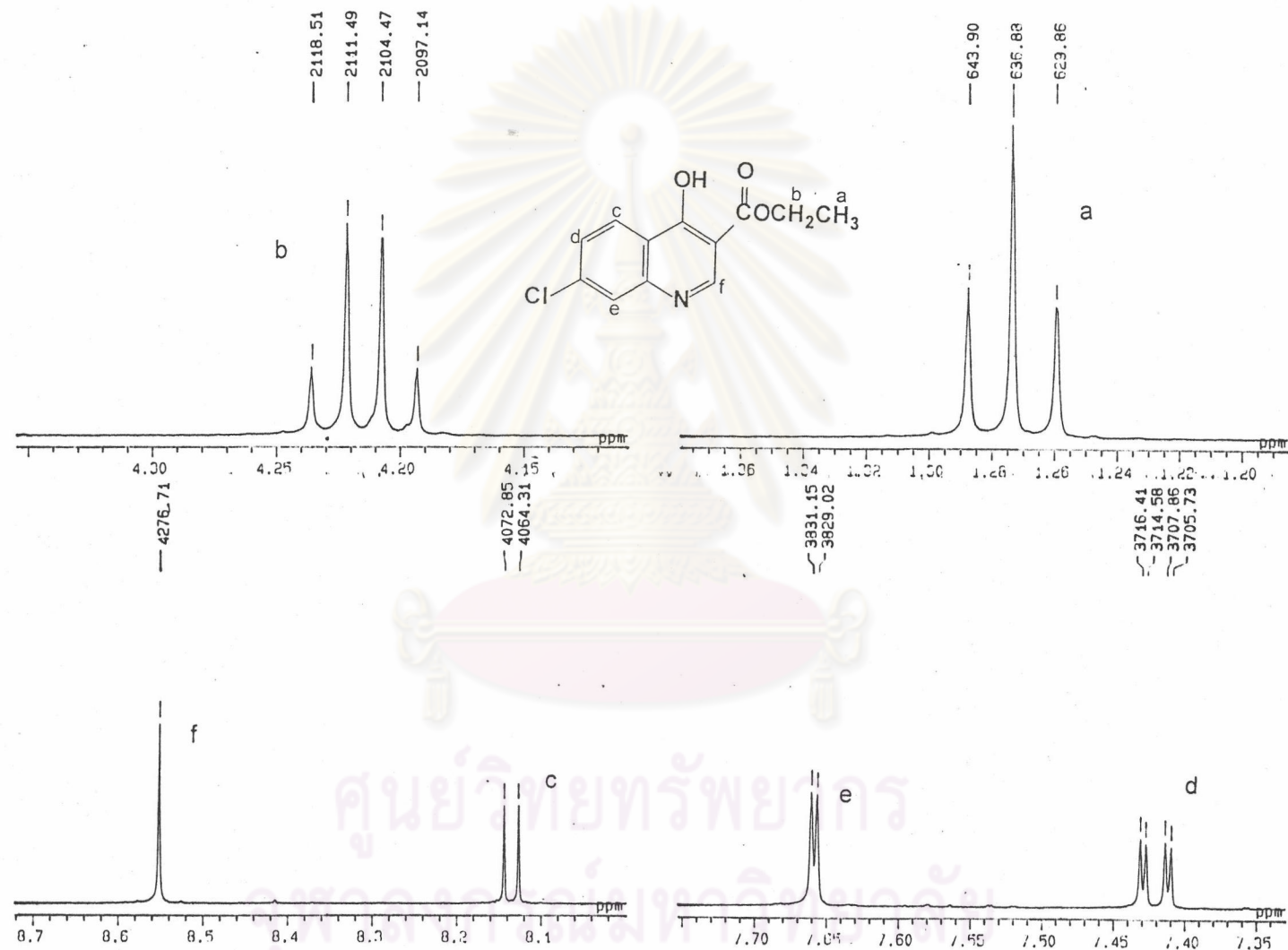


Figure 11. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-7-chloro-4-hydroxyquinoline in DMSO-d₆ (expansions from : 1.2-8.7 ppm).

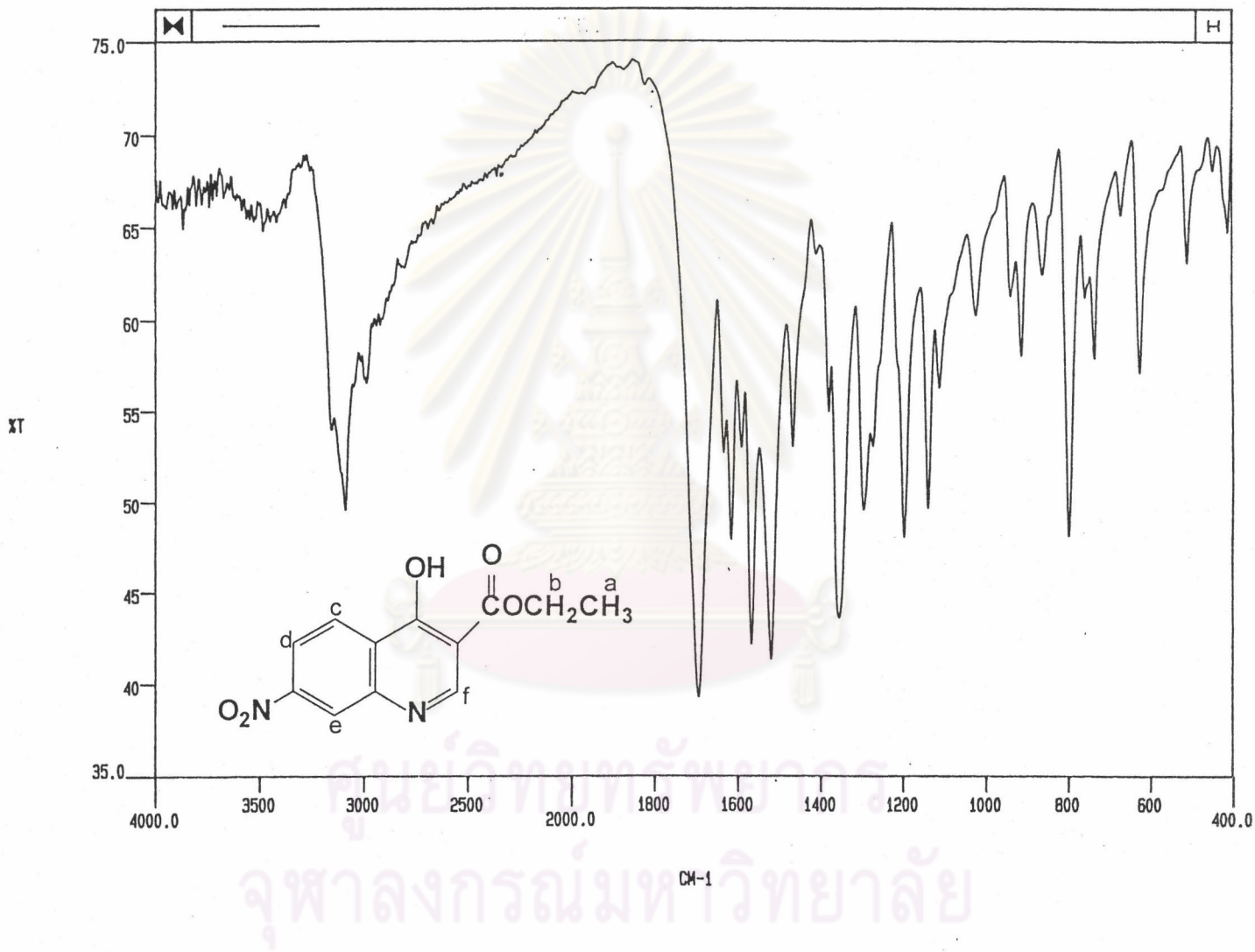


Figure 12. IR spectrum (KBr pellet) s of 3-carboethoxy-7-nitro-4-hydroxyquinoline.

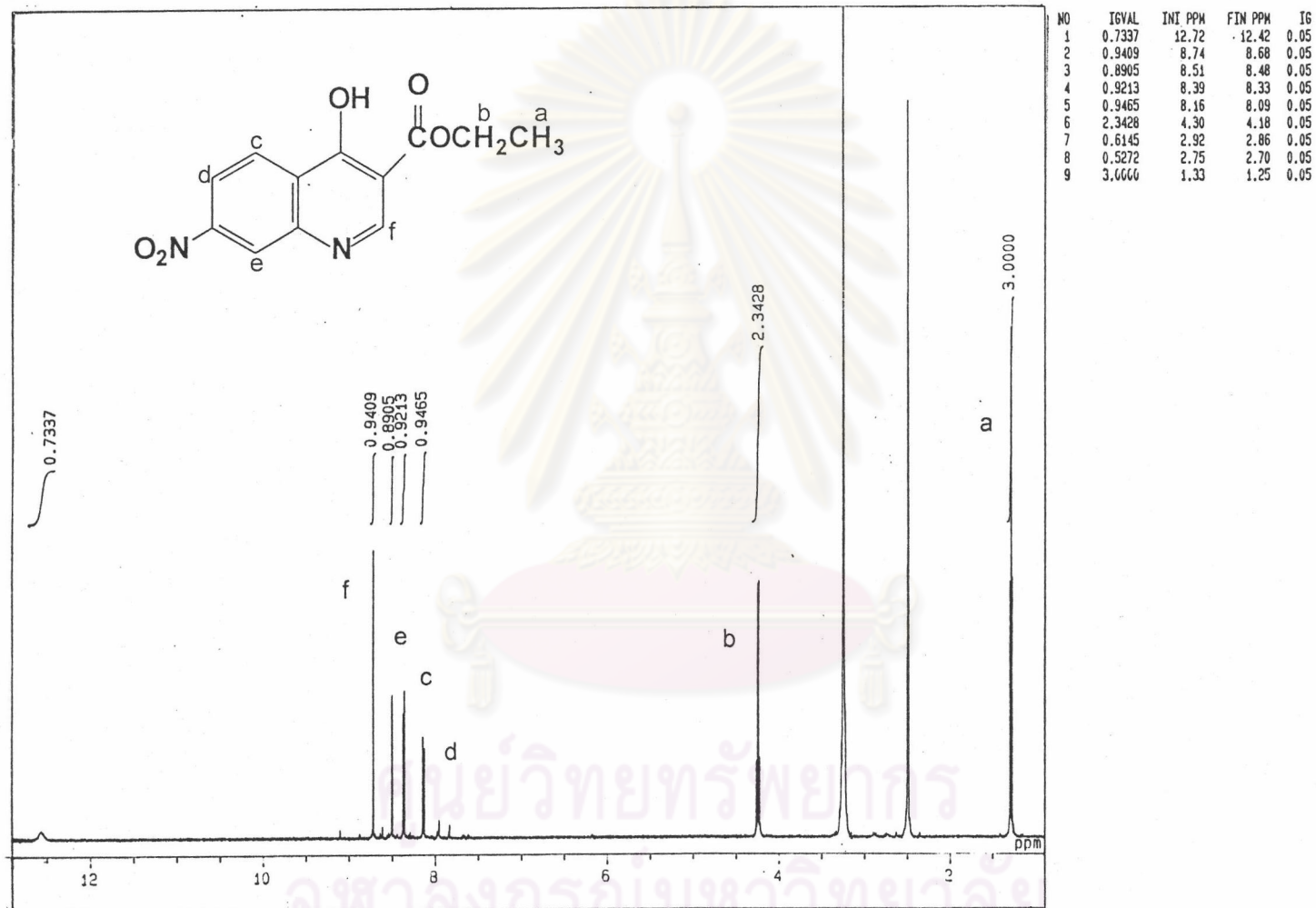


Figure 13. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-7-nitro-4-hydroxyquinoline in DMSO-d₆.

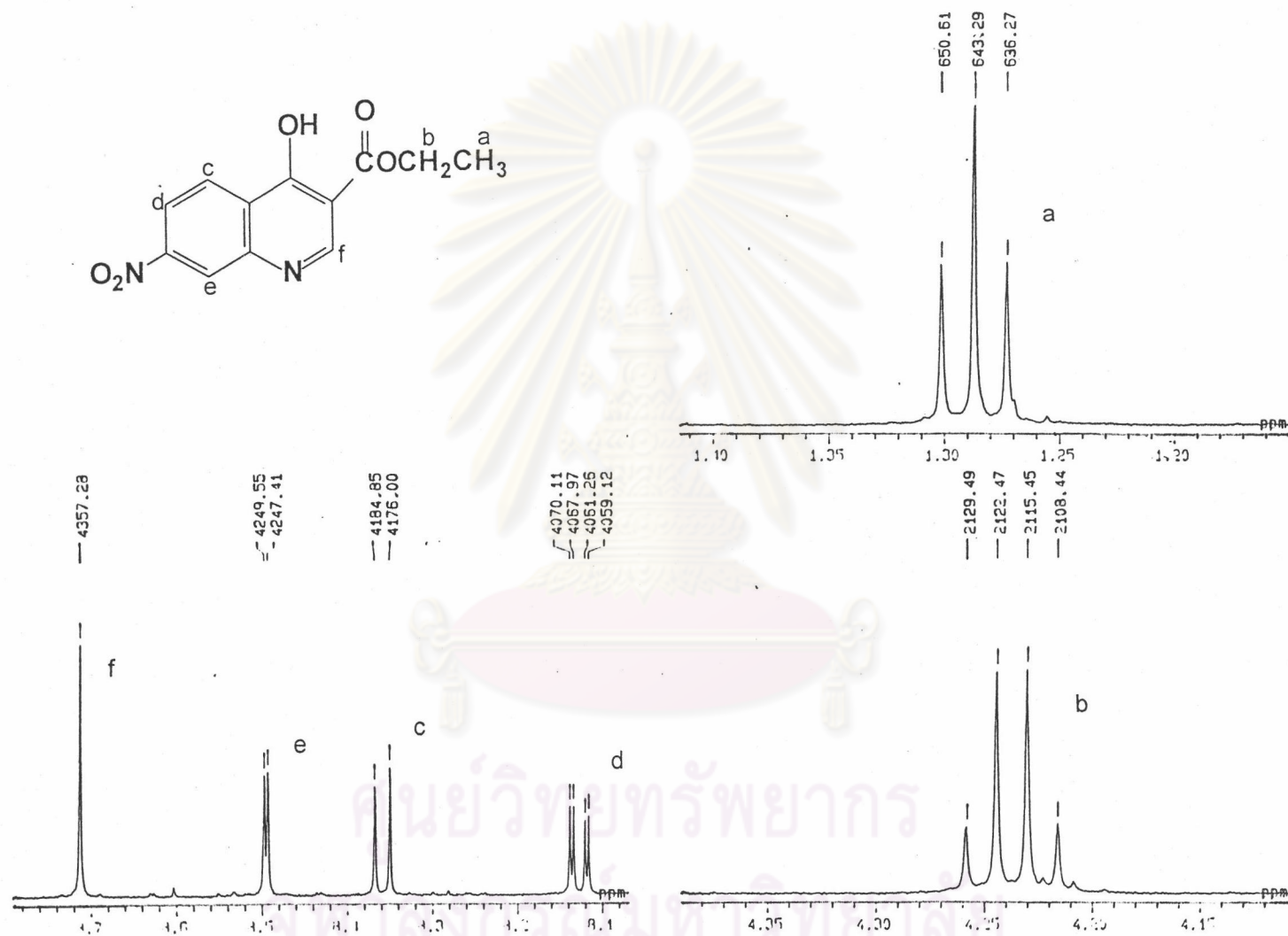


Figure 14. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-7-nitro-4-hydroxyquinoline in DMSO-d₆ (expansions from : 1.2-8.7 ppm).

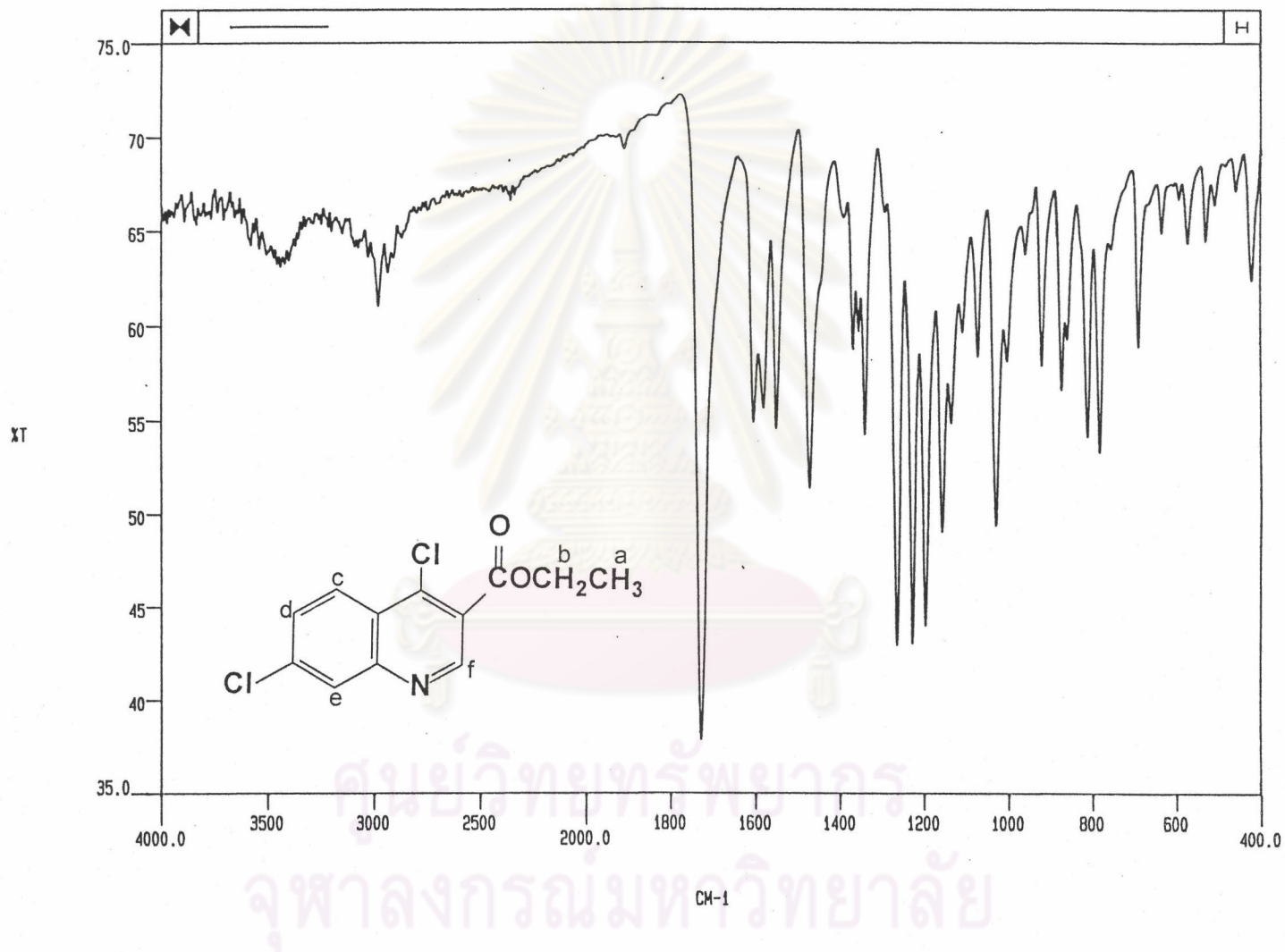


Figure 15. IR spectrum (KBr pellet) of 3-carboethoxy-4,7-dichloroquinoline.

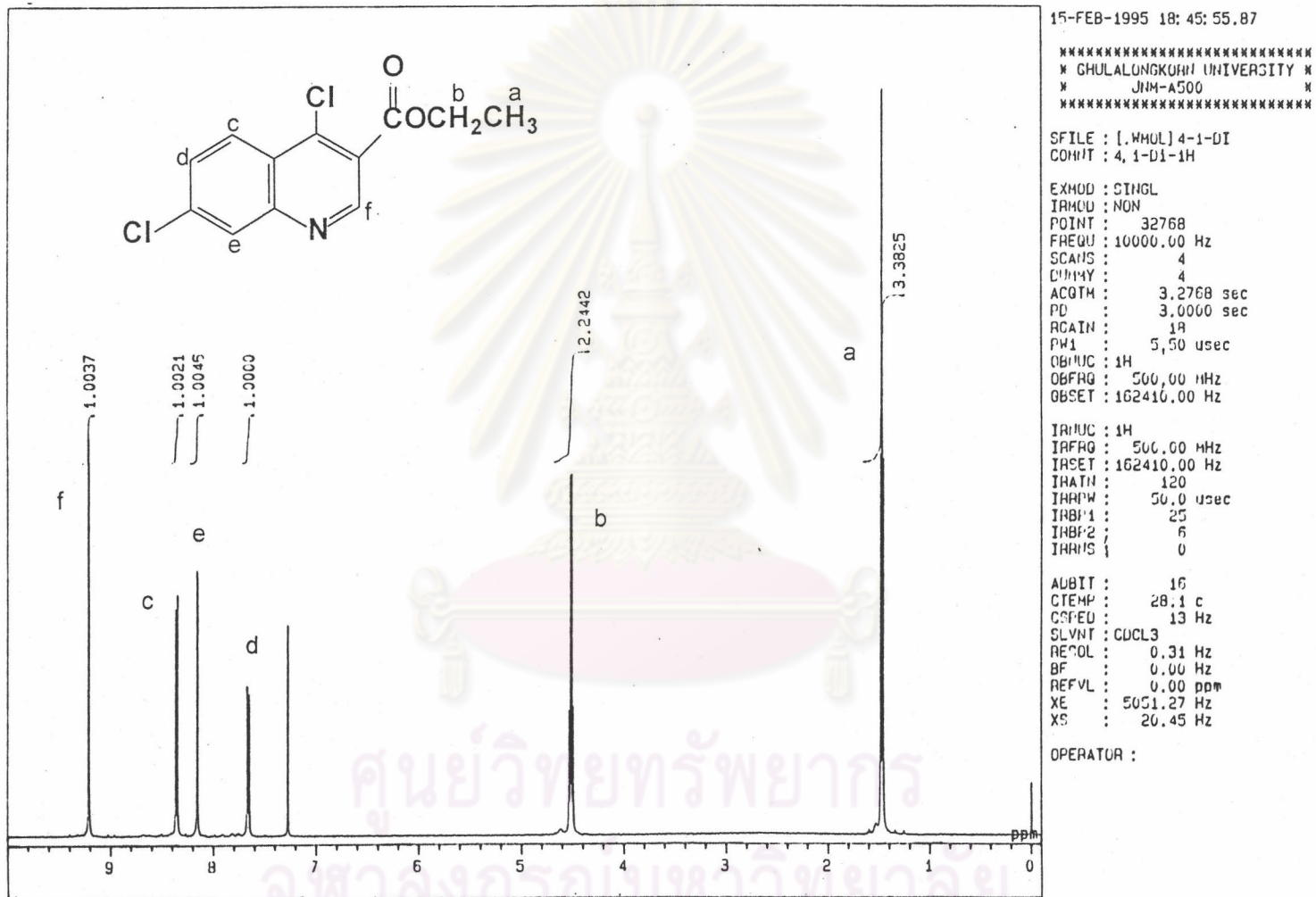


Figure 16. The 500 MHz $^1\text{H-NMR}$ spectrum of 3-carboethoxy-4,-7-dichloroquinoline in CDCl_3 .

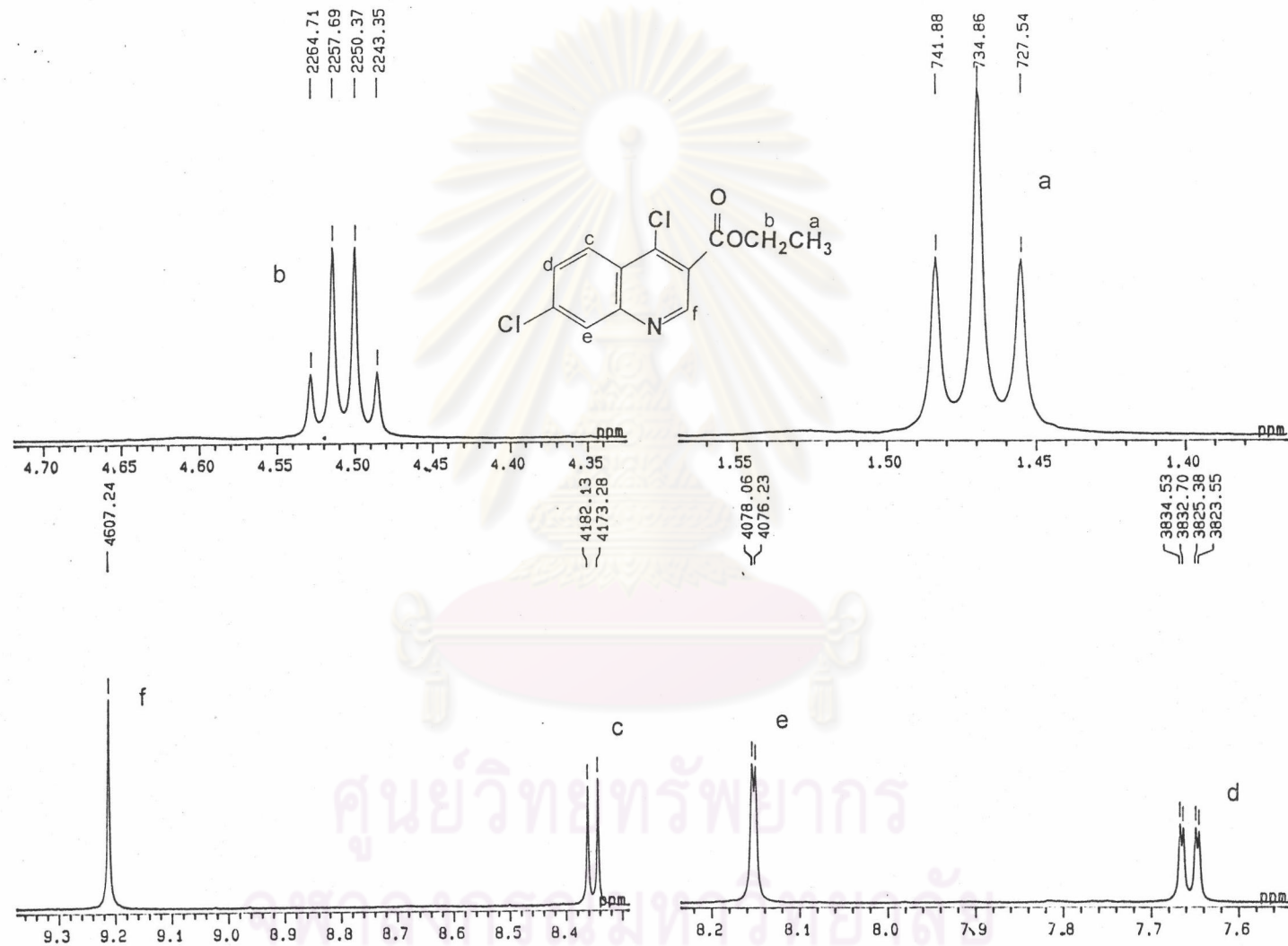


Figure 17. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-4,-7-dichloroquinoline in CDCl₃ (expansions from : 1.4-9.3 ppm).

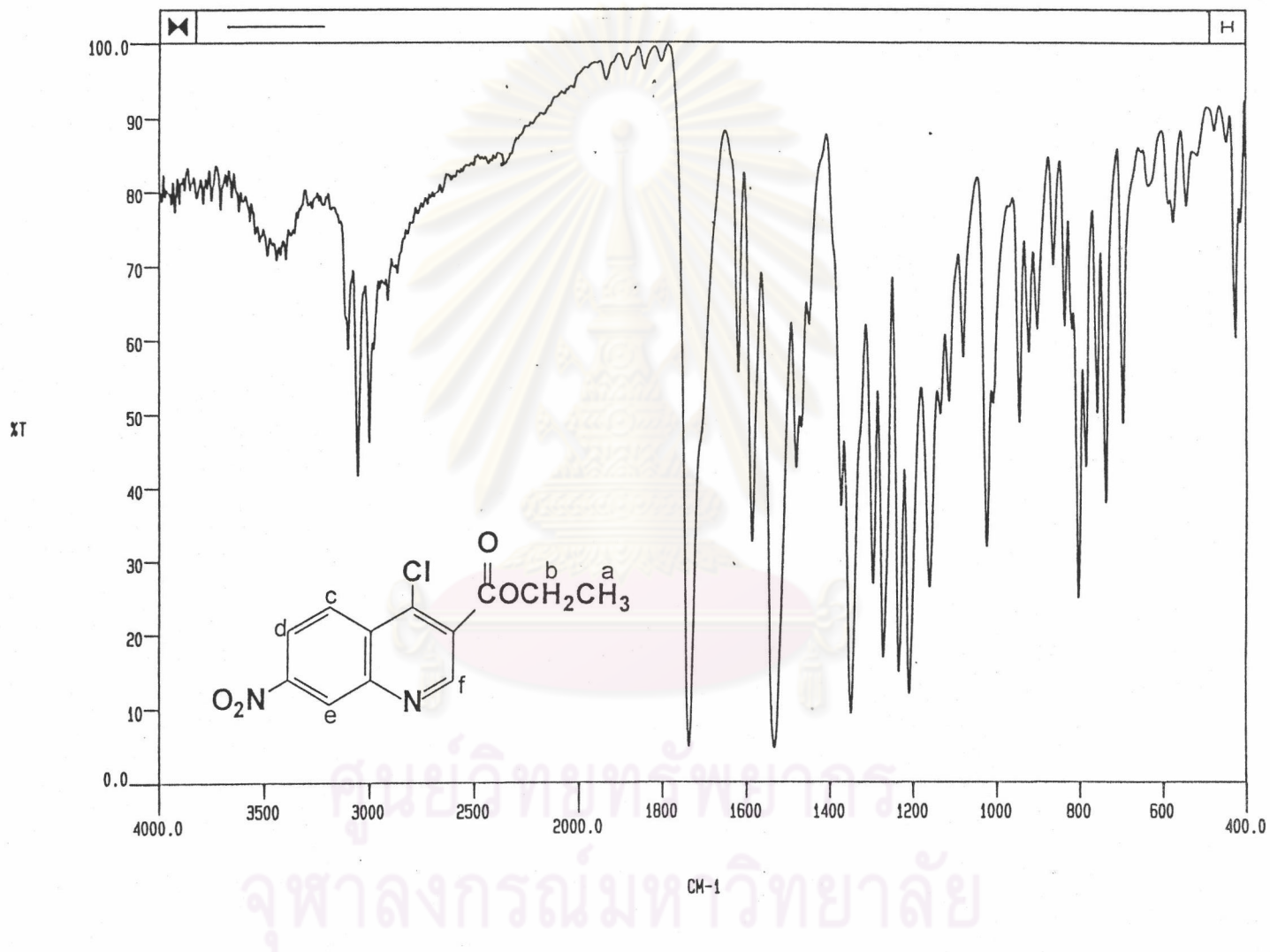


Figure 18. IR spectrum (KBr pellet) of 3-carboethoxy-4-chloro-7-nitroquinoline.

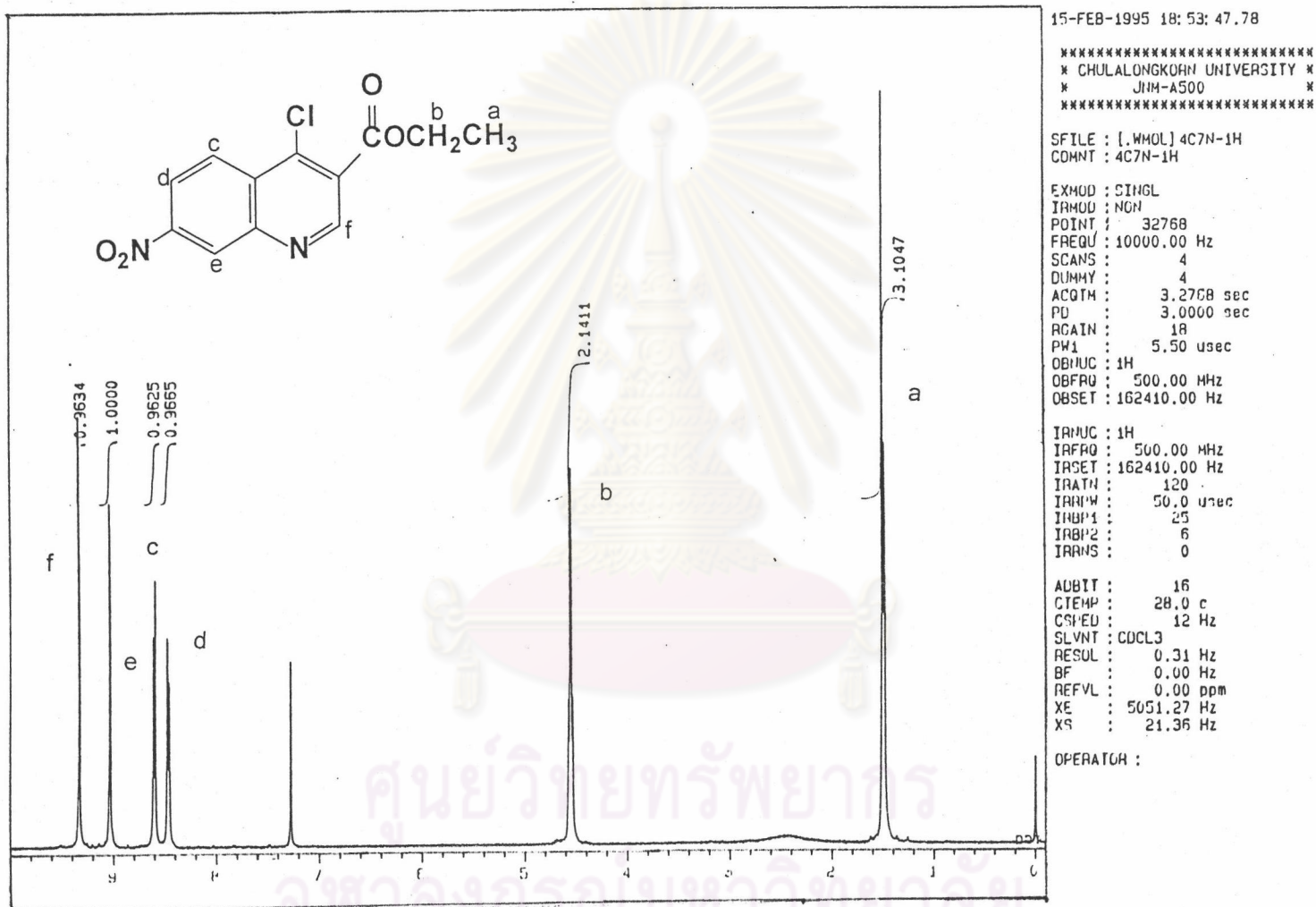


Figure 19. The 500 MHz ^1H -NMR spectrum of 3-carboethoxy-4-chloro-7-nitroquinoline in CDCl_3 .

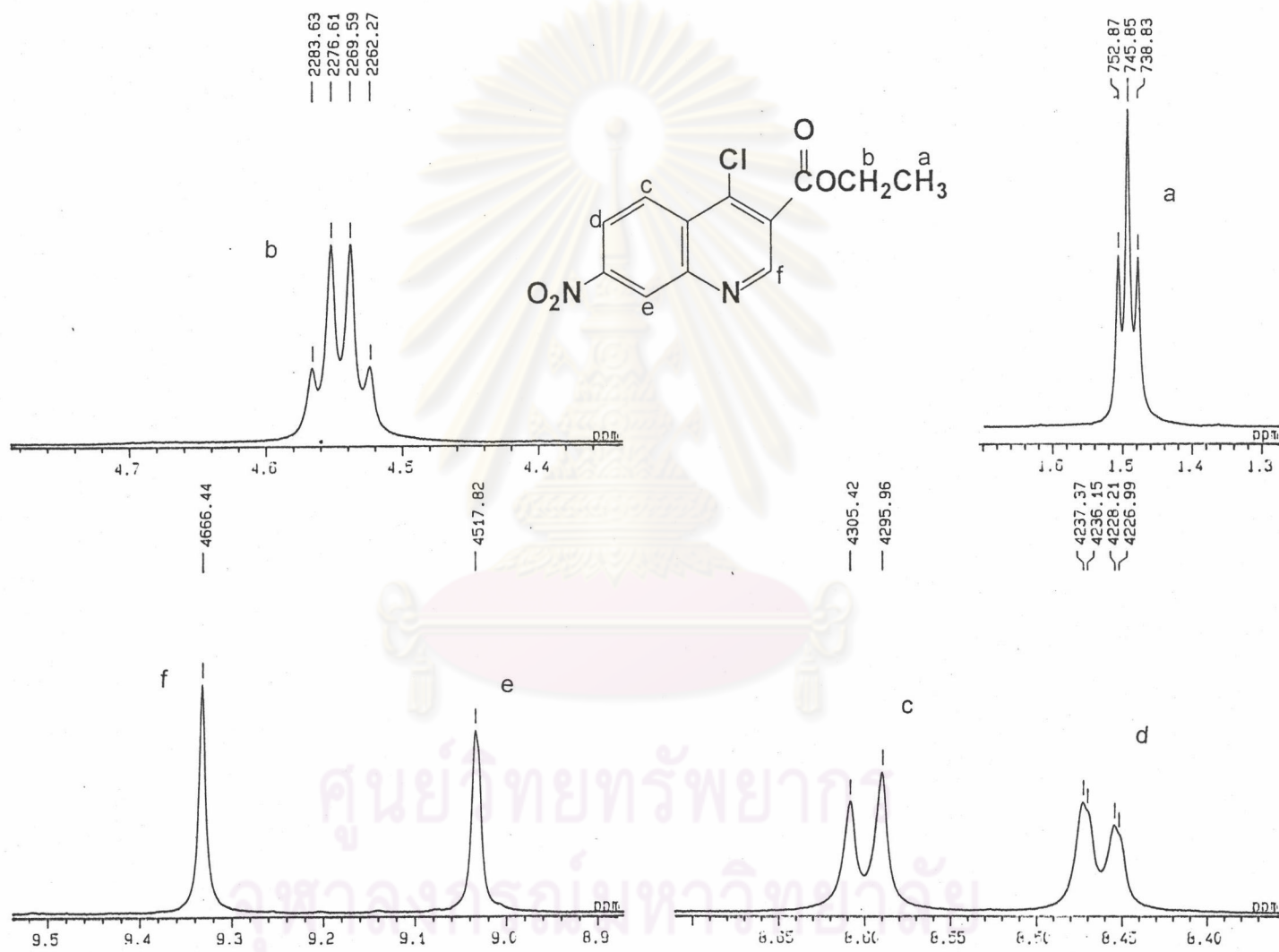


Figure 20. The 500 MHz ¹H-NMR spectrum of 3-carboethoxy-4-chloro-7-nitroquinoline in CDCl₃ (expansions from : 1.3-9.5 ppm).

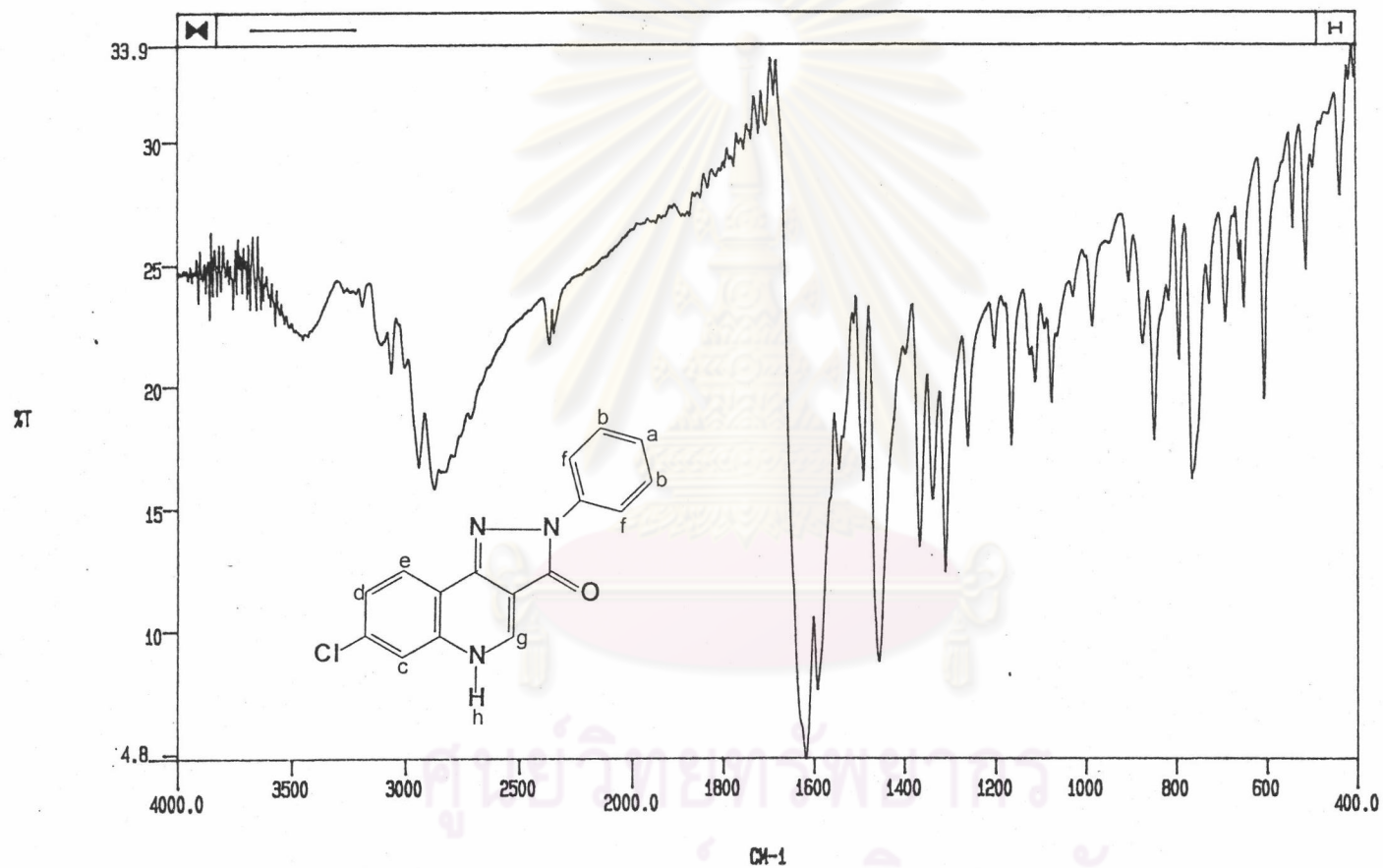


Figure 21. IR spectrum (KBr pellet) of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one.

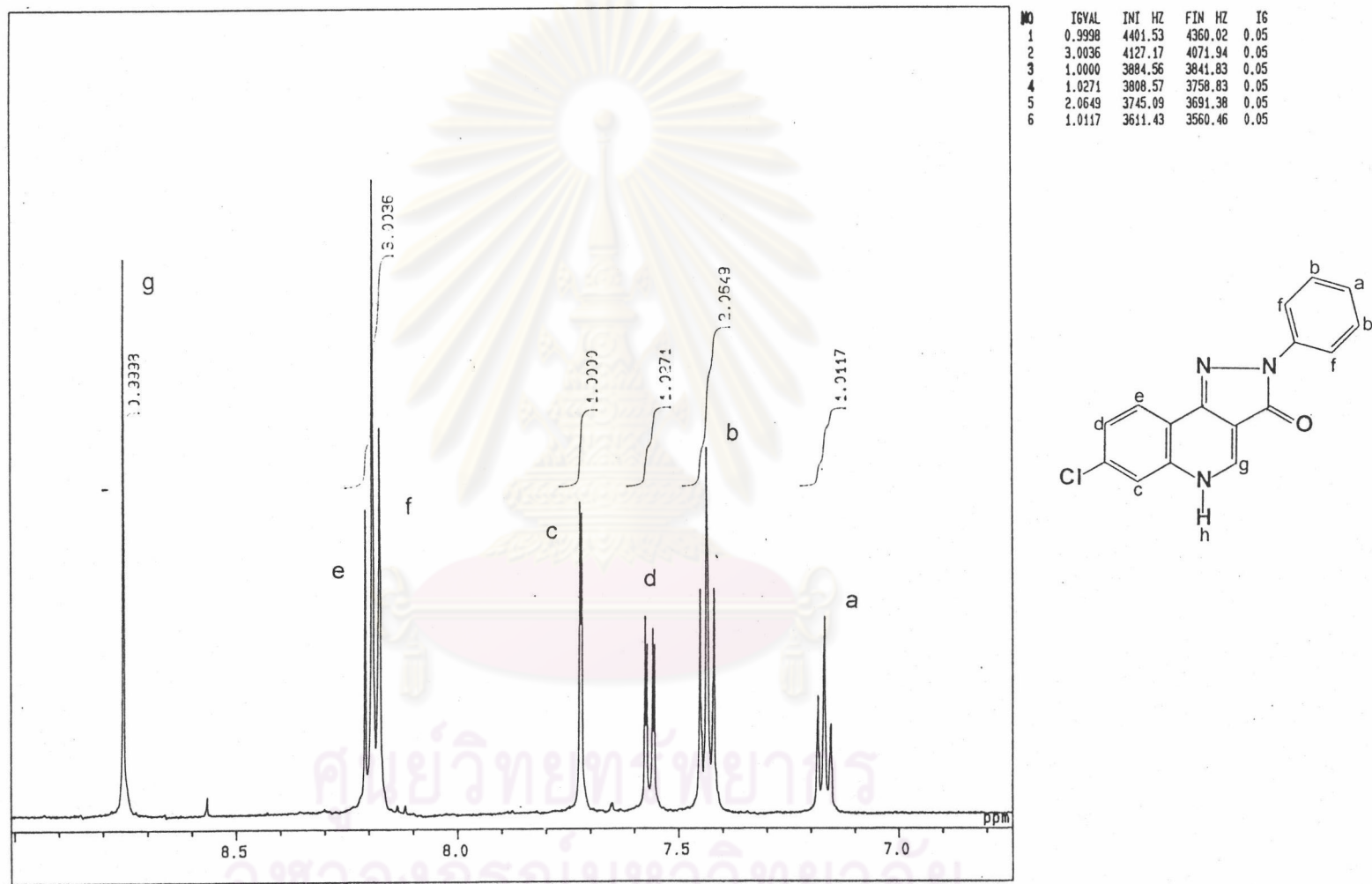


Figure 22. The 500 MHz ¹H-NMR spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin -3-one in DMSO-d₆.

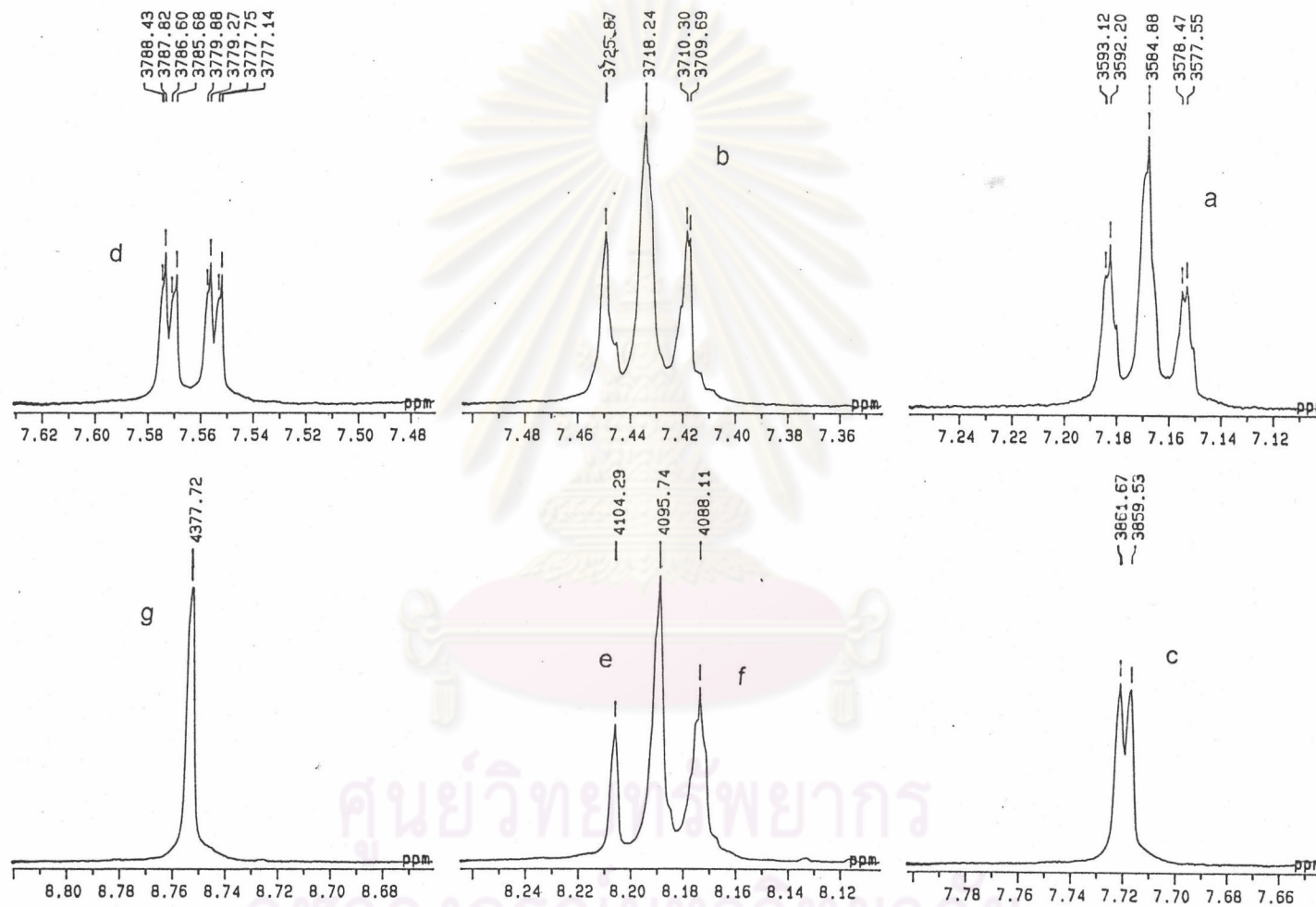


Figure 23. The 500 MHz $^1\text{H-NMR}$ spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d_6 (expansions from : 7.1-8.8 ppm).

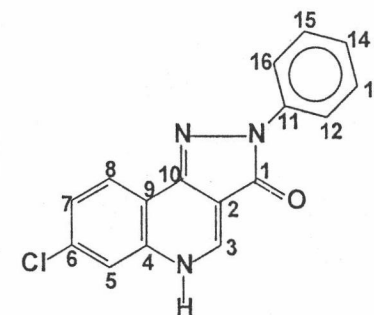
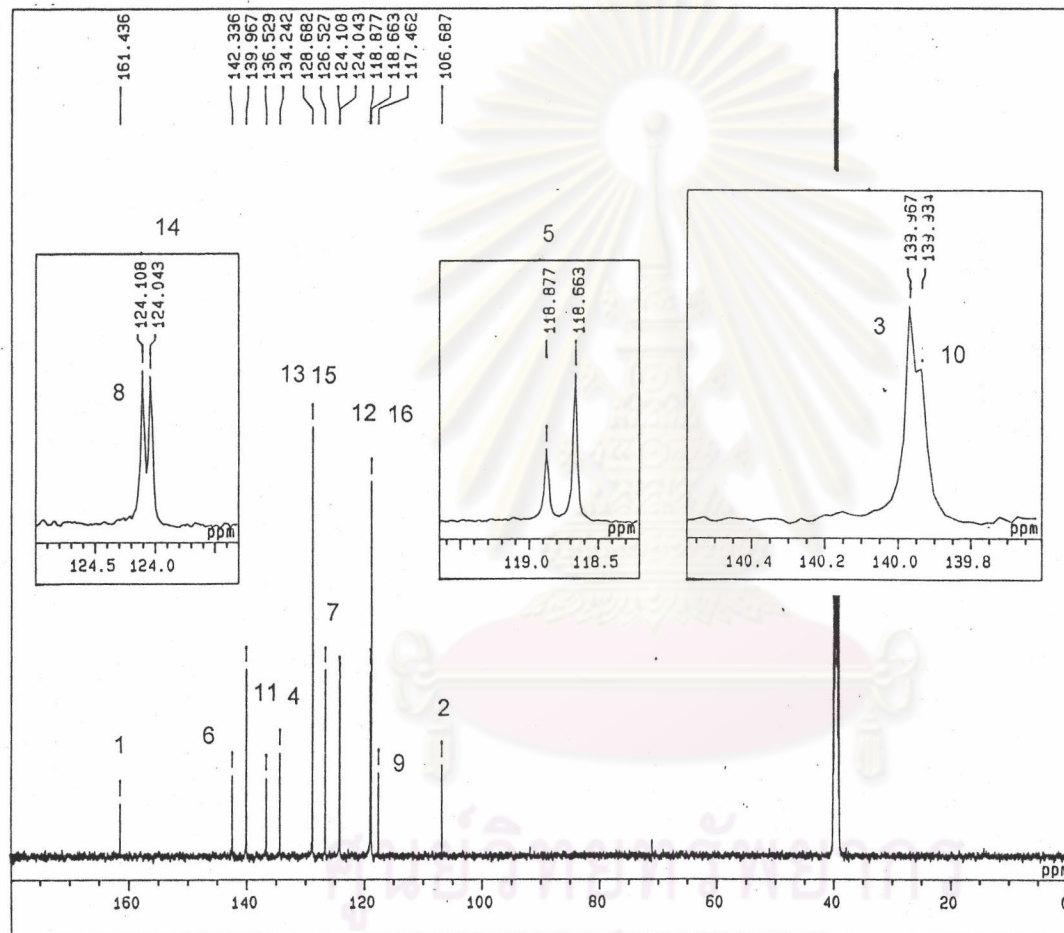


Figure 24. The 125 MHz ^{13}C -NMR spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d_6 .

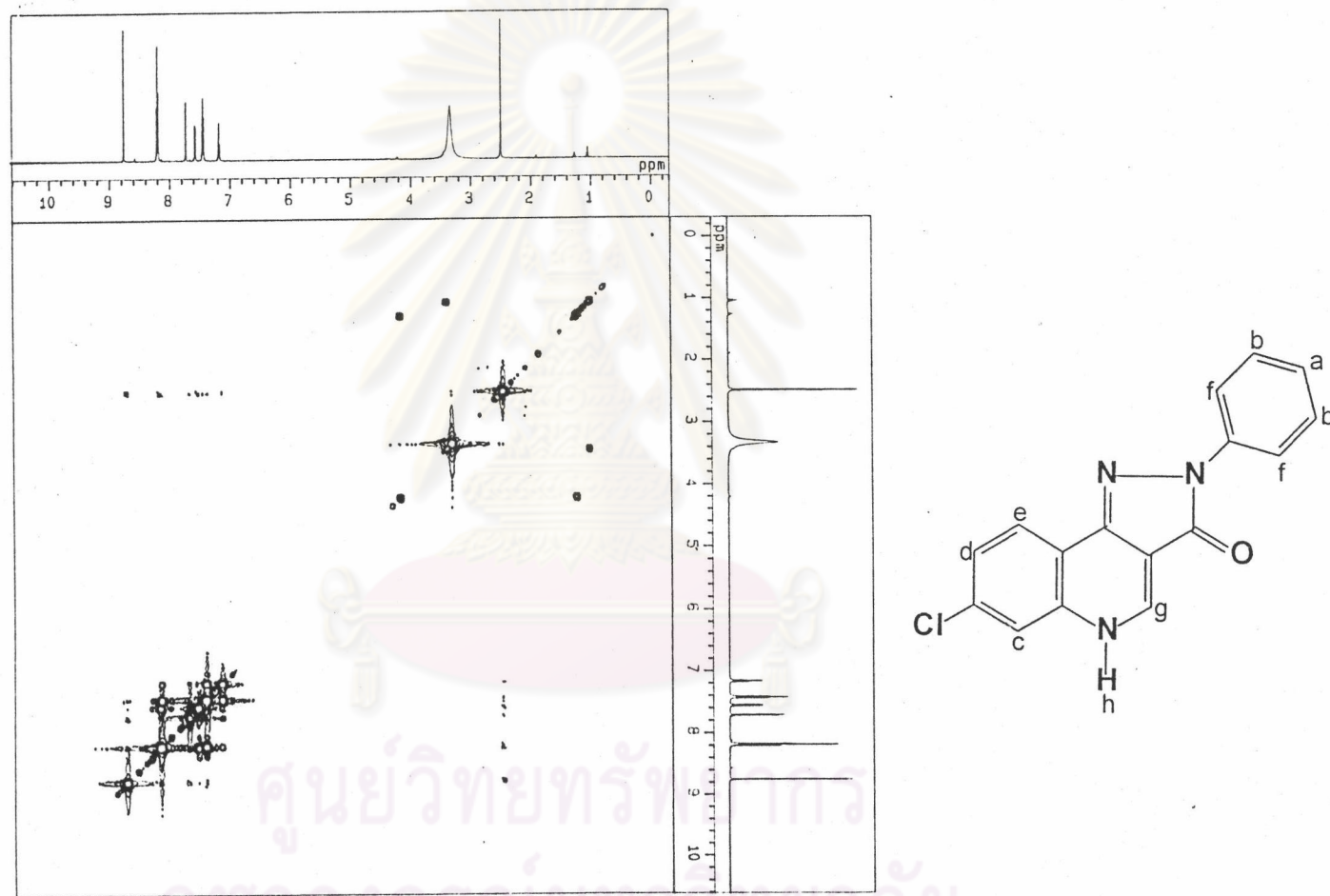


Figure 25. The 500 MHz ^1H - ^1H COSY spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin -3-one in DMSO-d_6 .

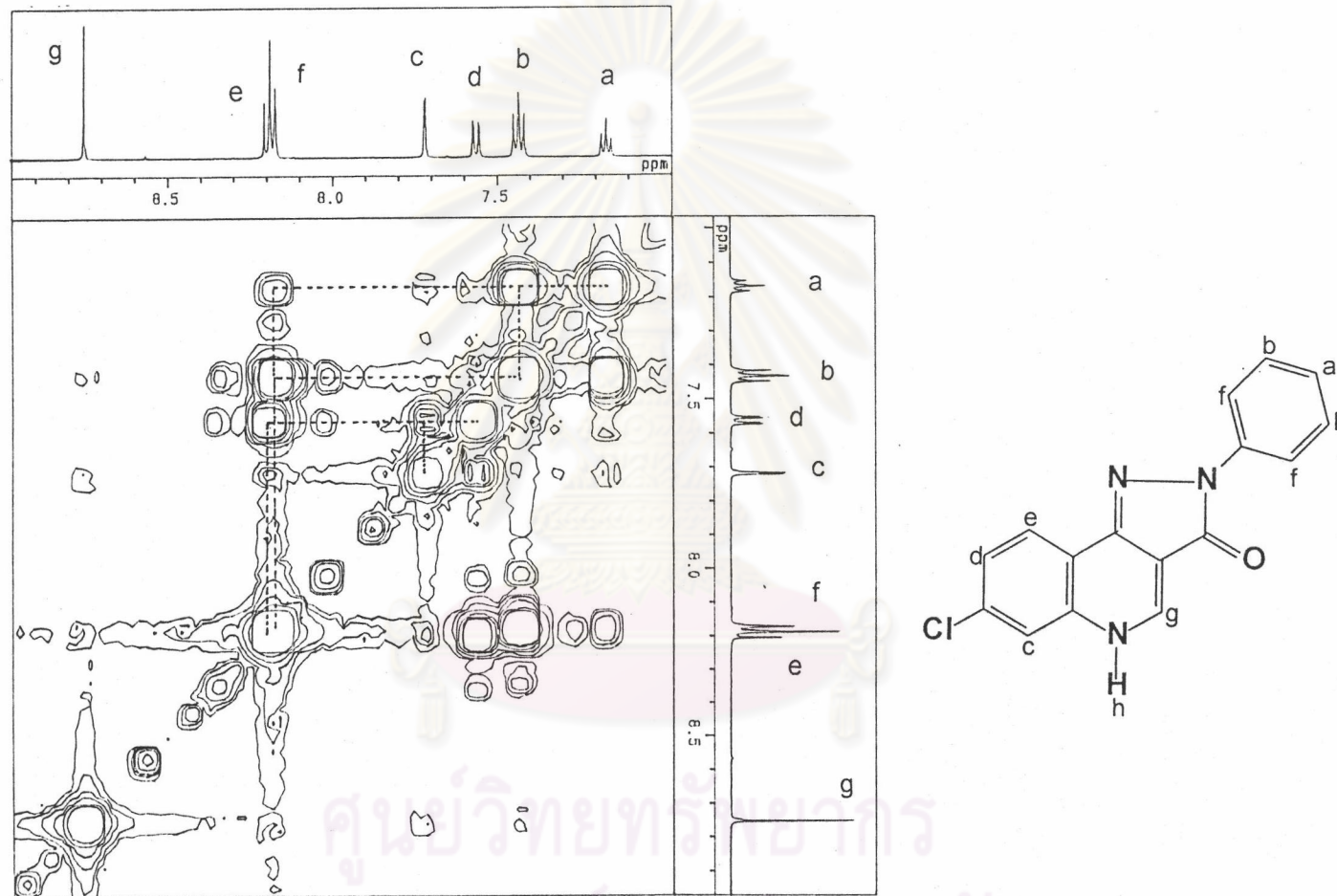


Figure 26. The 500 MHz HH-COSY spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d₆ (expansion between 7.0-9.0 ppm).

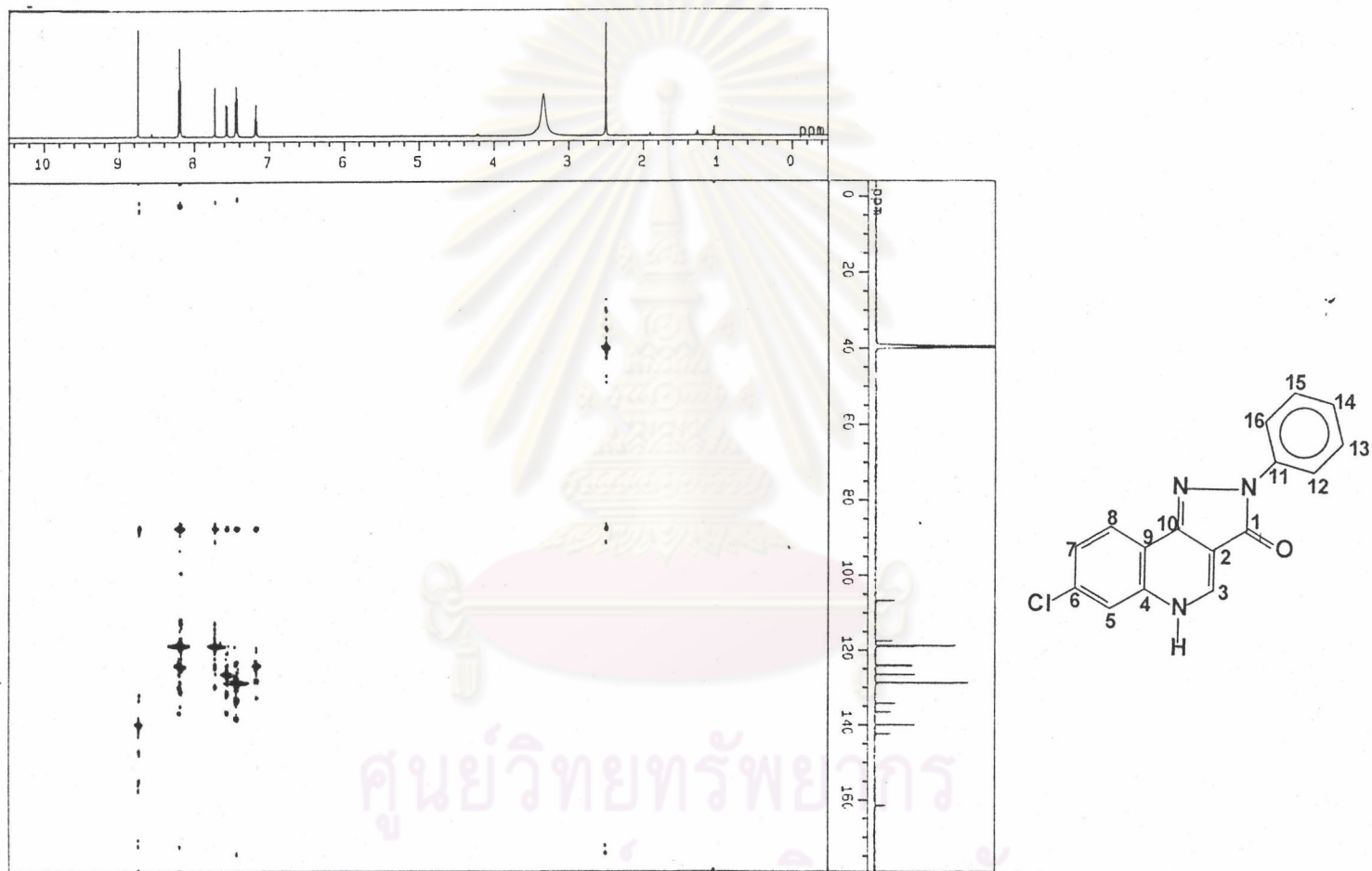


Figure 27. The 125 MHz CH-COSY spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin -3-one in DMSO-d₆.

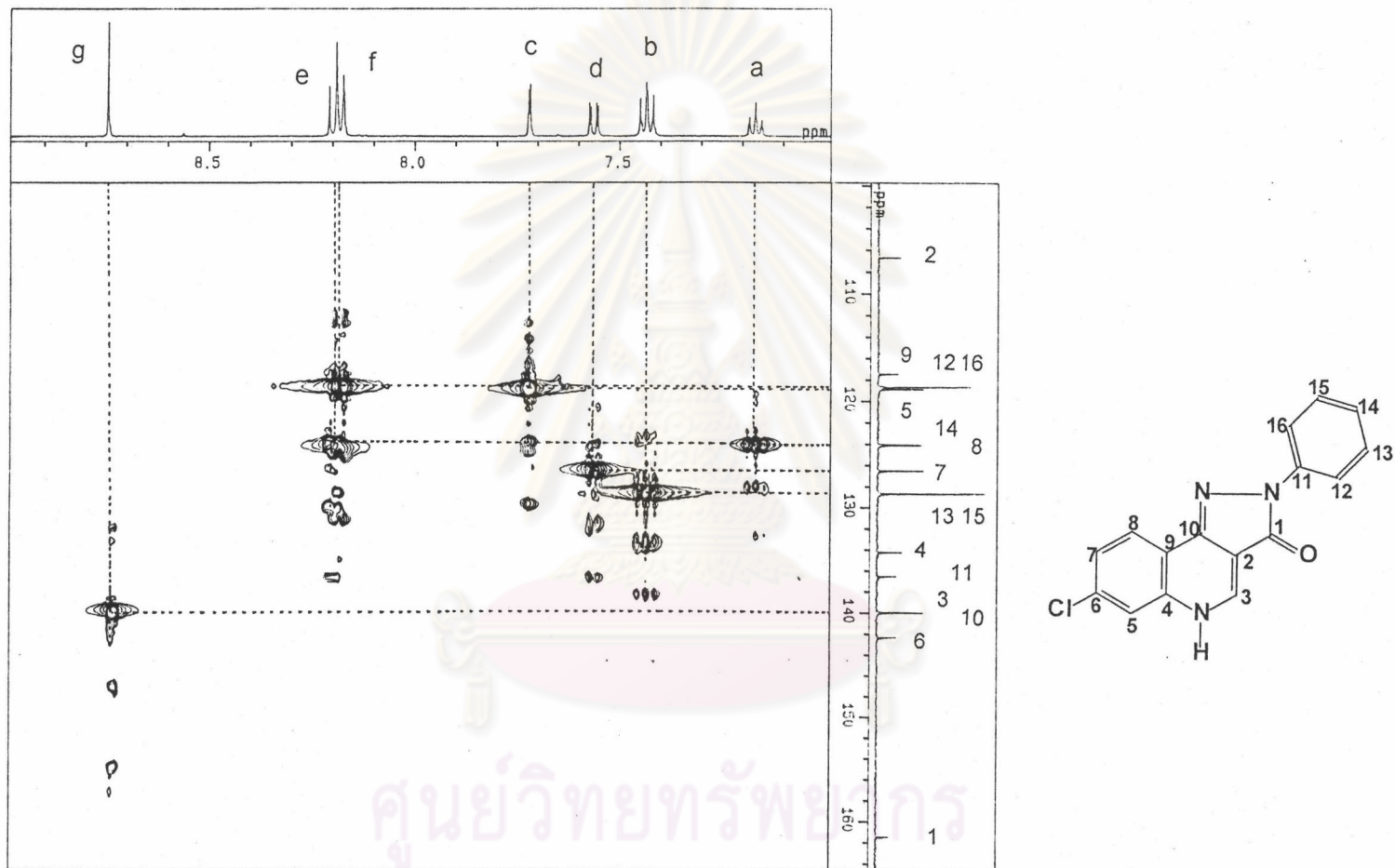


Figure 28. The 125 MHz CH-COSY spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin -3-one in DMSO- d_6 (expansion : X scale between 7.0-9.0 ppm and Y scale between 100-164 ppm).

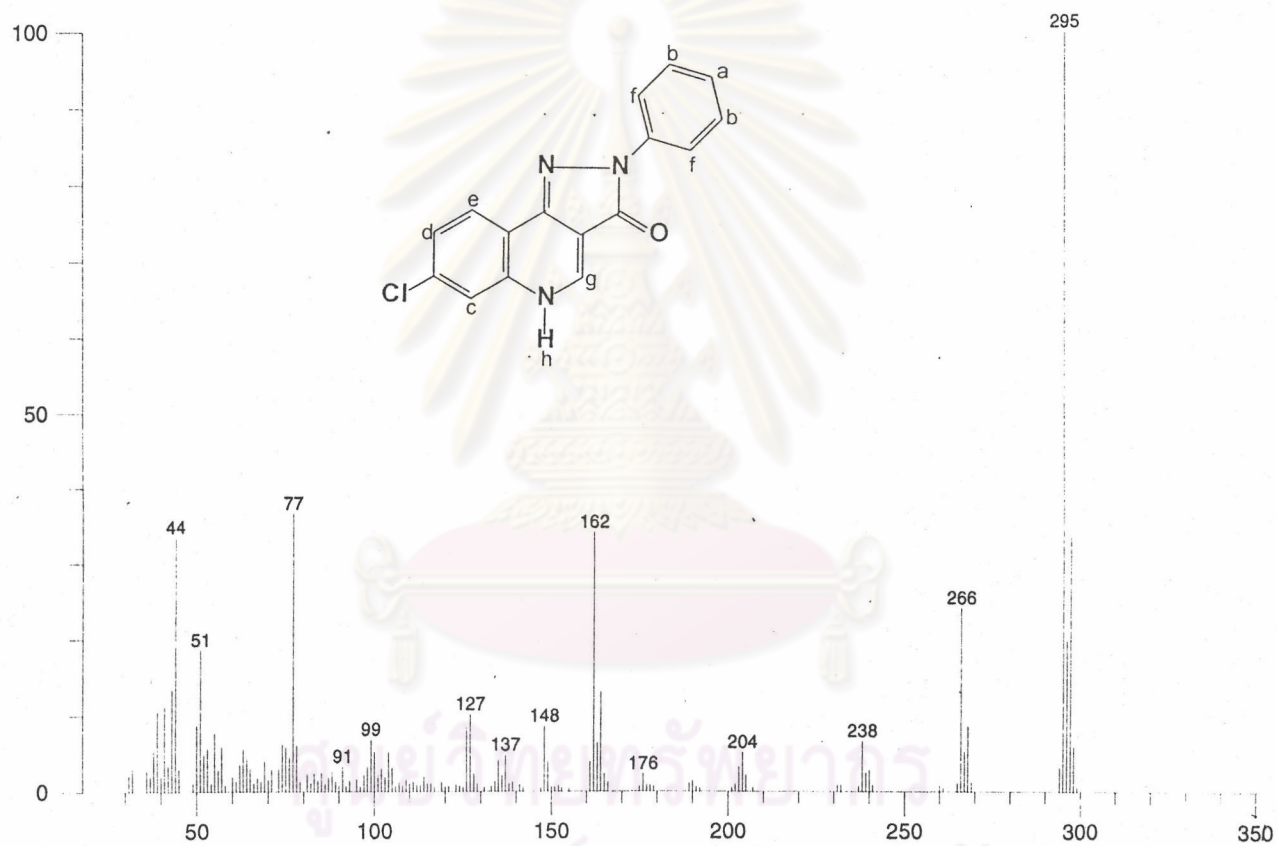


Figure 29. EIMS spectrum of 7-chloro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one.

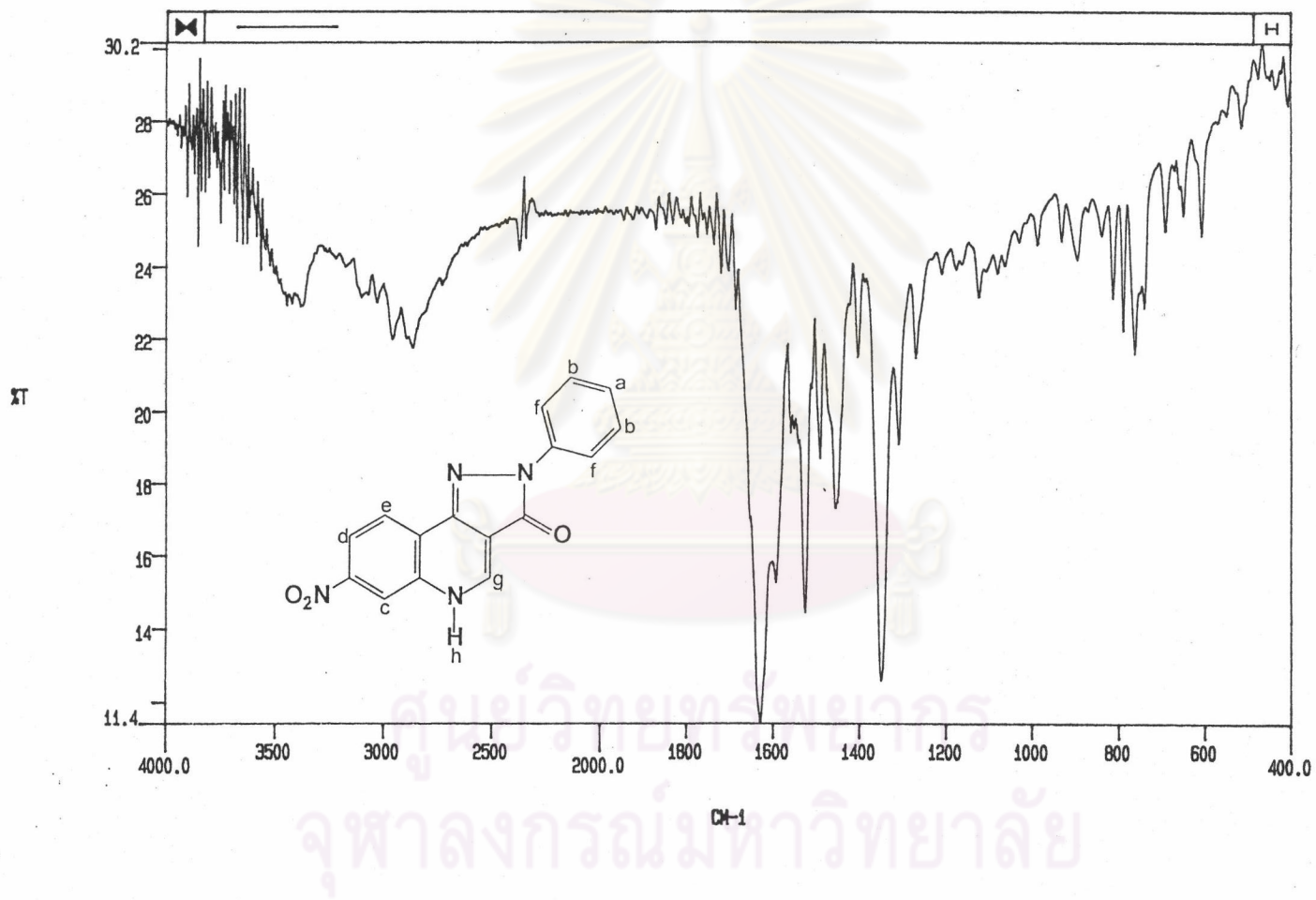
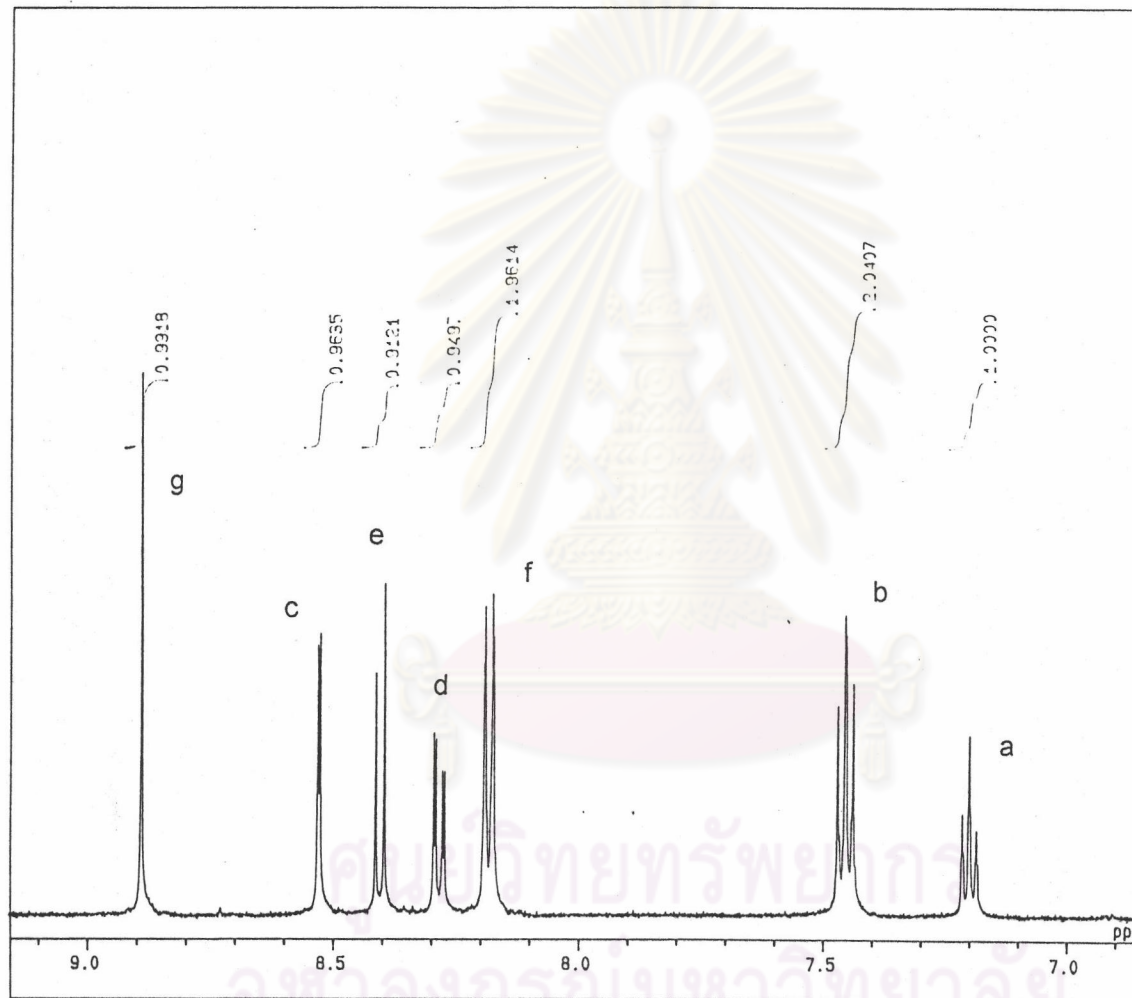


Figure 30. IR spectrum (KBr pellet) of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one.



NO	IGVAL	INI HZ	FIN HZ	IG
1	0.9918	4464.70	4422.58	0.05
2	0.9635	4282.20	4244.67	0.05
3	0.9121	4223.00	4186.99	0.05
4	0.9497	4163.49	4124.43	0.05
5	1.9614	4111.91	4065.22	0.05
6	2.0407	3749.98	3699.93	0.05
7	1.0000	3623.33	3576.64	0.05

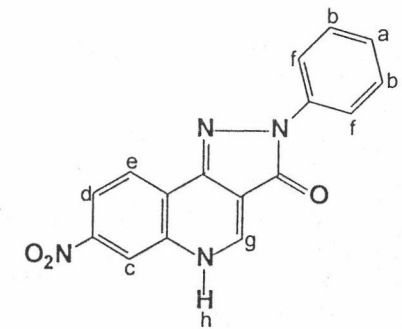


Figure 31. The 500 ¹H-NMR spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin -3-one in DMSO-d₆.

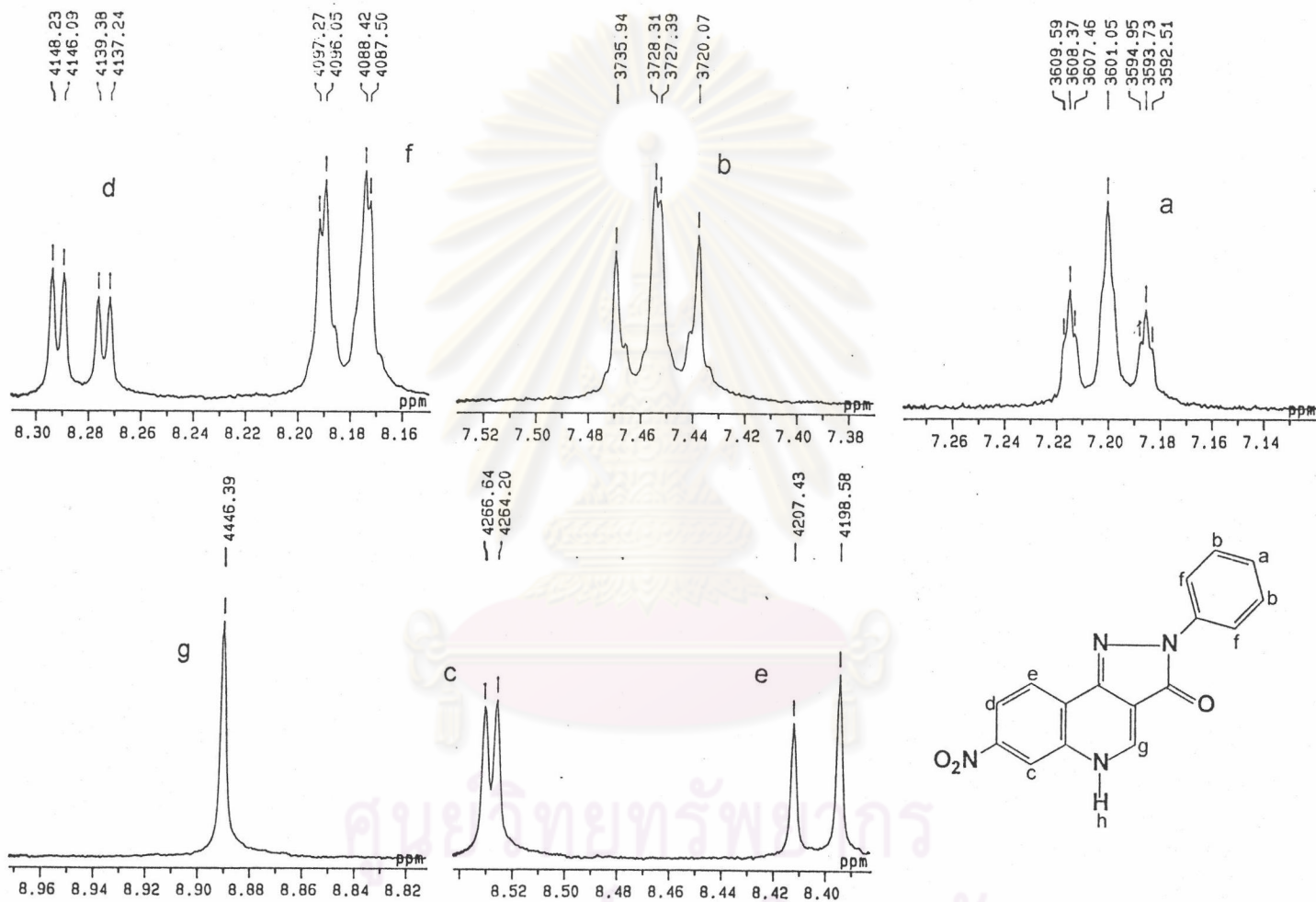


Figure 32. The 500 ^1H -NMR spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d_6 (expansions from : 7.1-9.0 ppm).

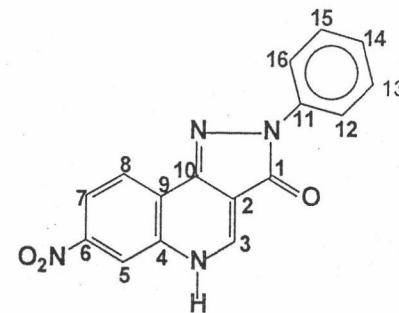
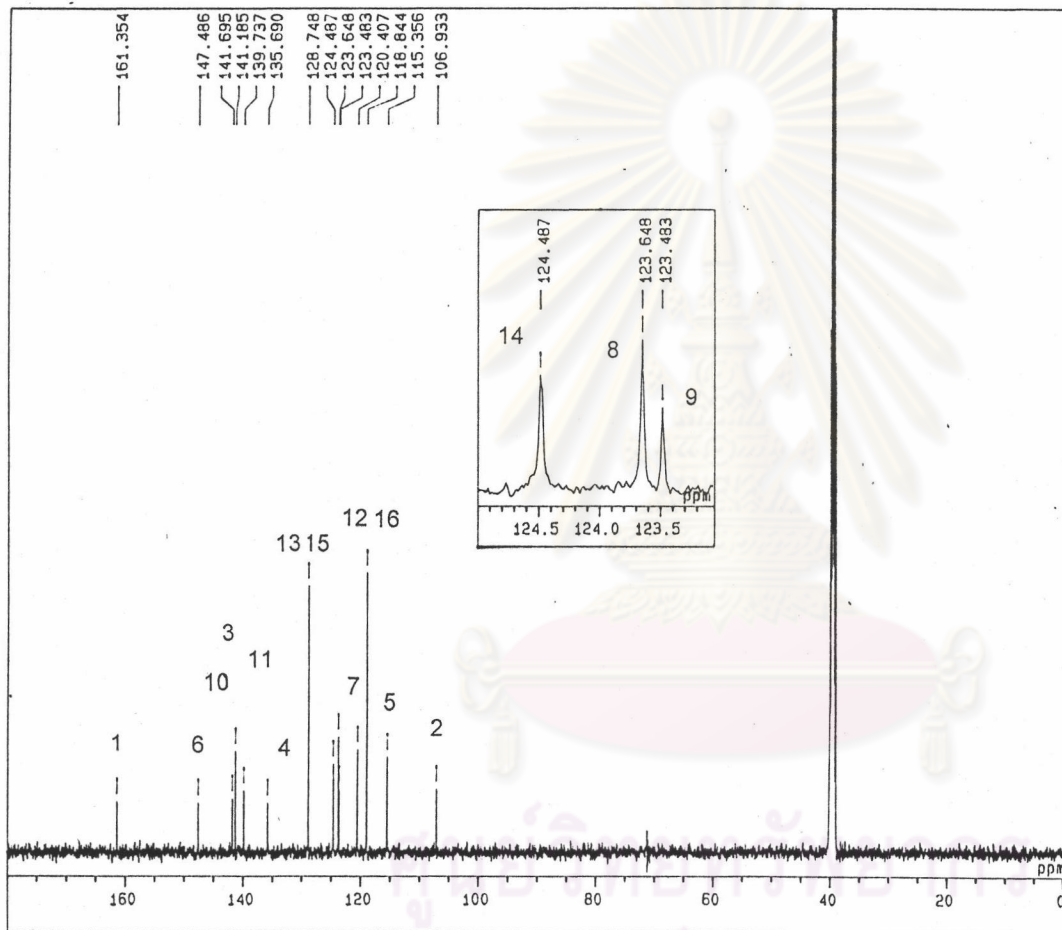


Figure 33. The 125 MHz ^{13}C -NMR spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d_6 .

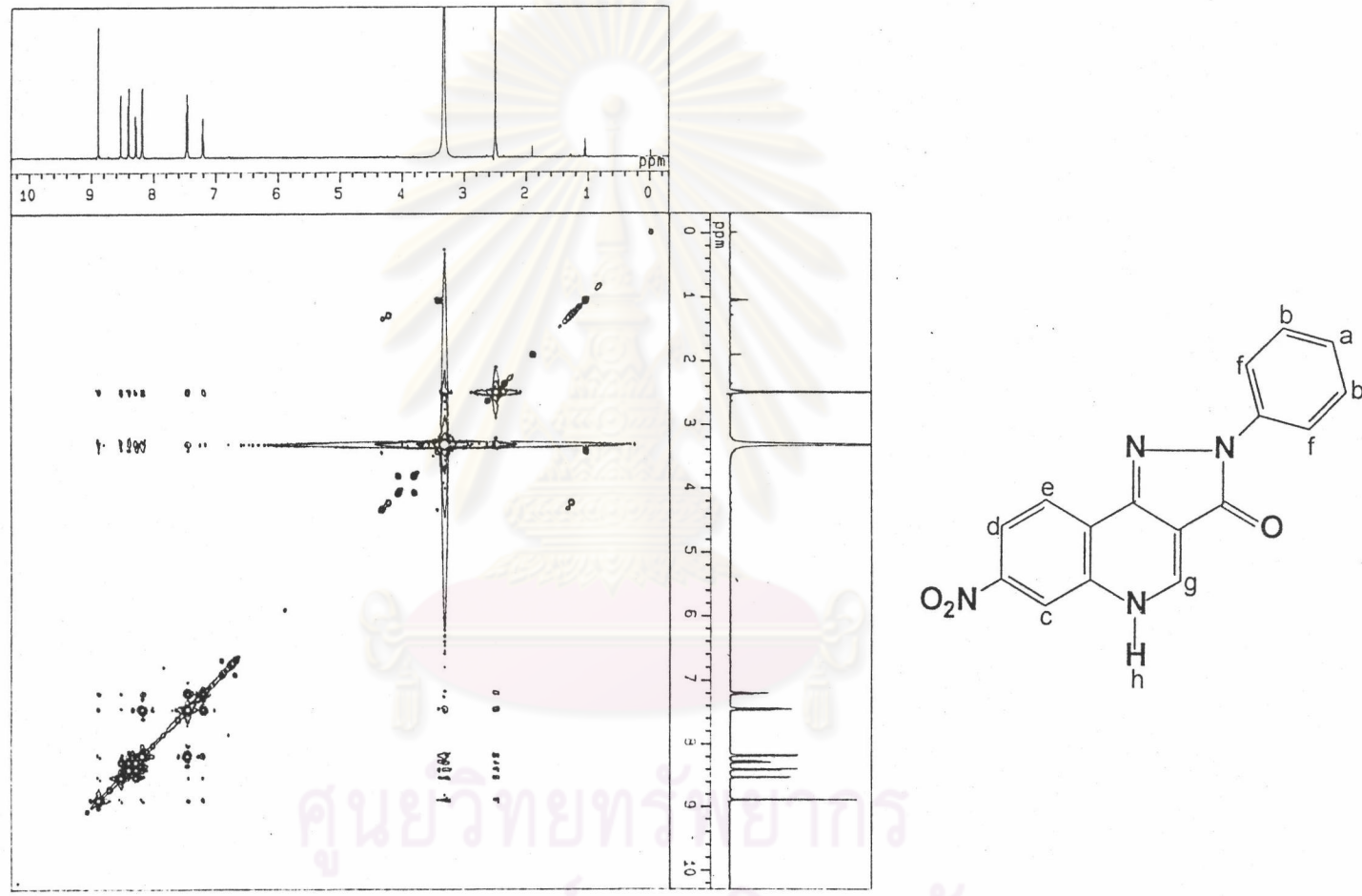


Figure 34. The 500 MHz ^1H - ^1H COSY spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d_6 .

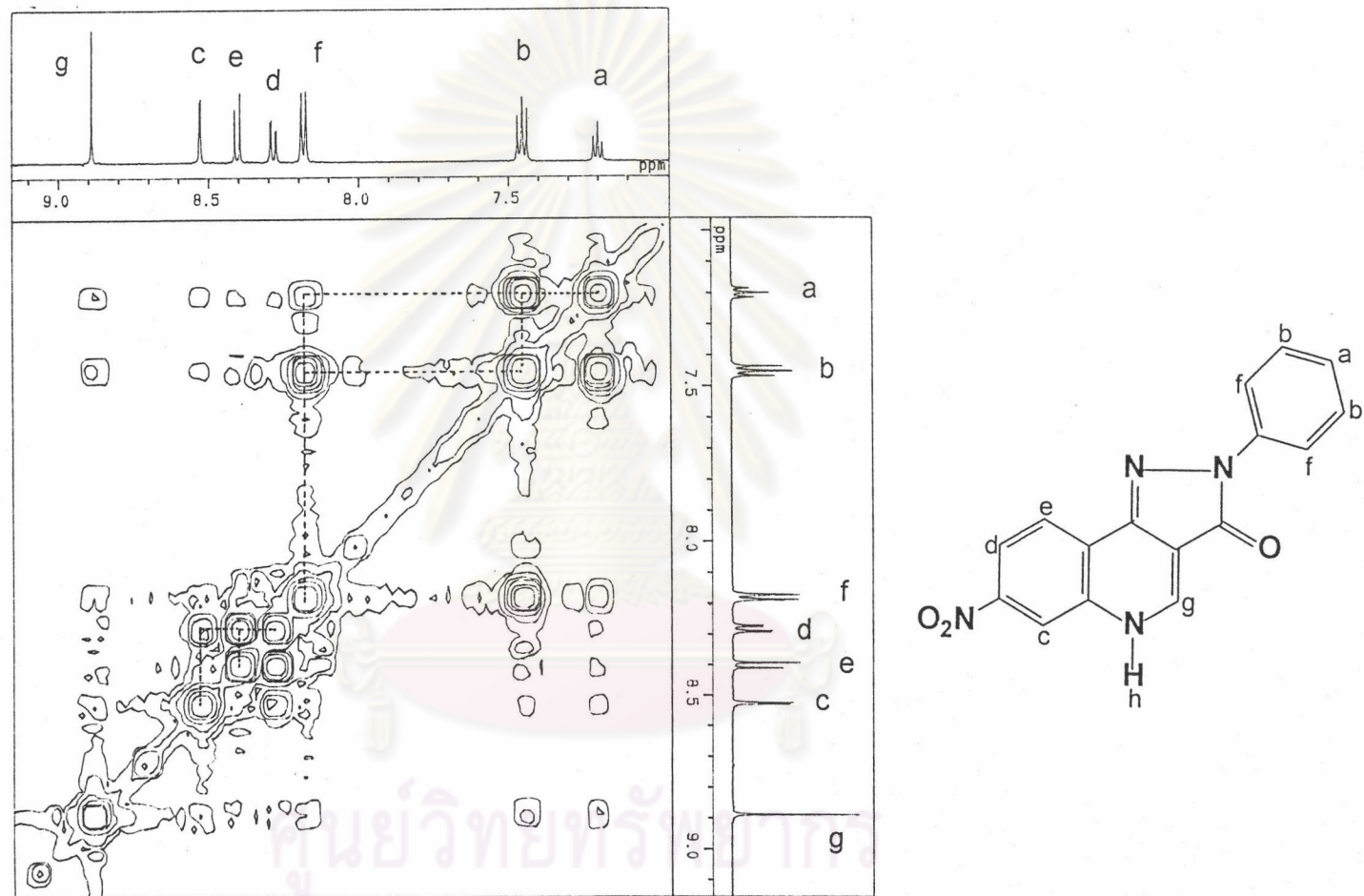


Figure 35. The 500 MHz HH COSY spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d₆ (expansion between 7.0-9.2 ppm).

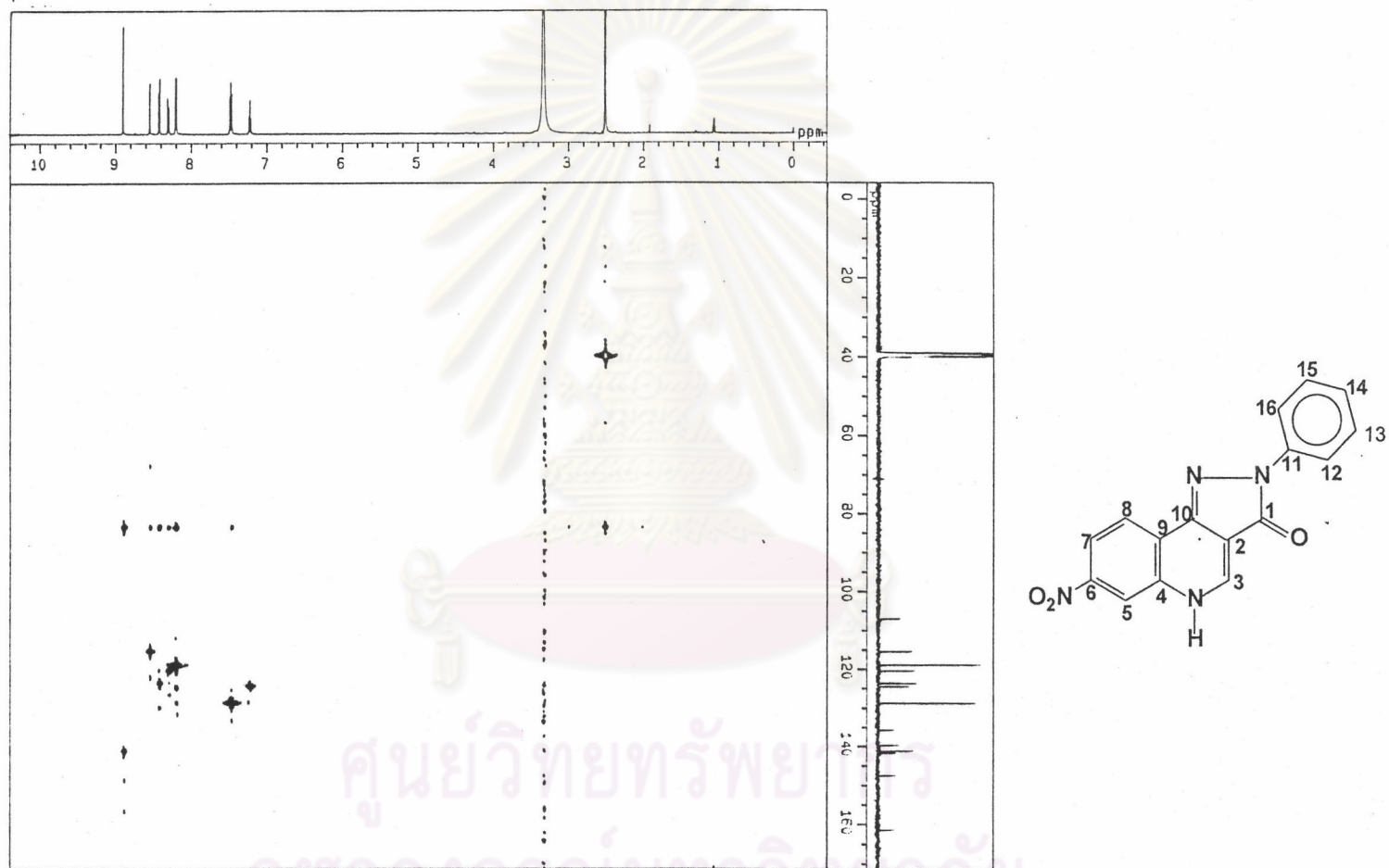


Figure 36. The 125 MHz CH COSY spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d₆.

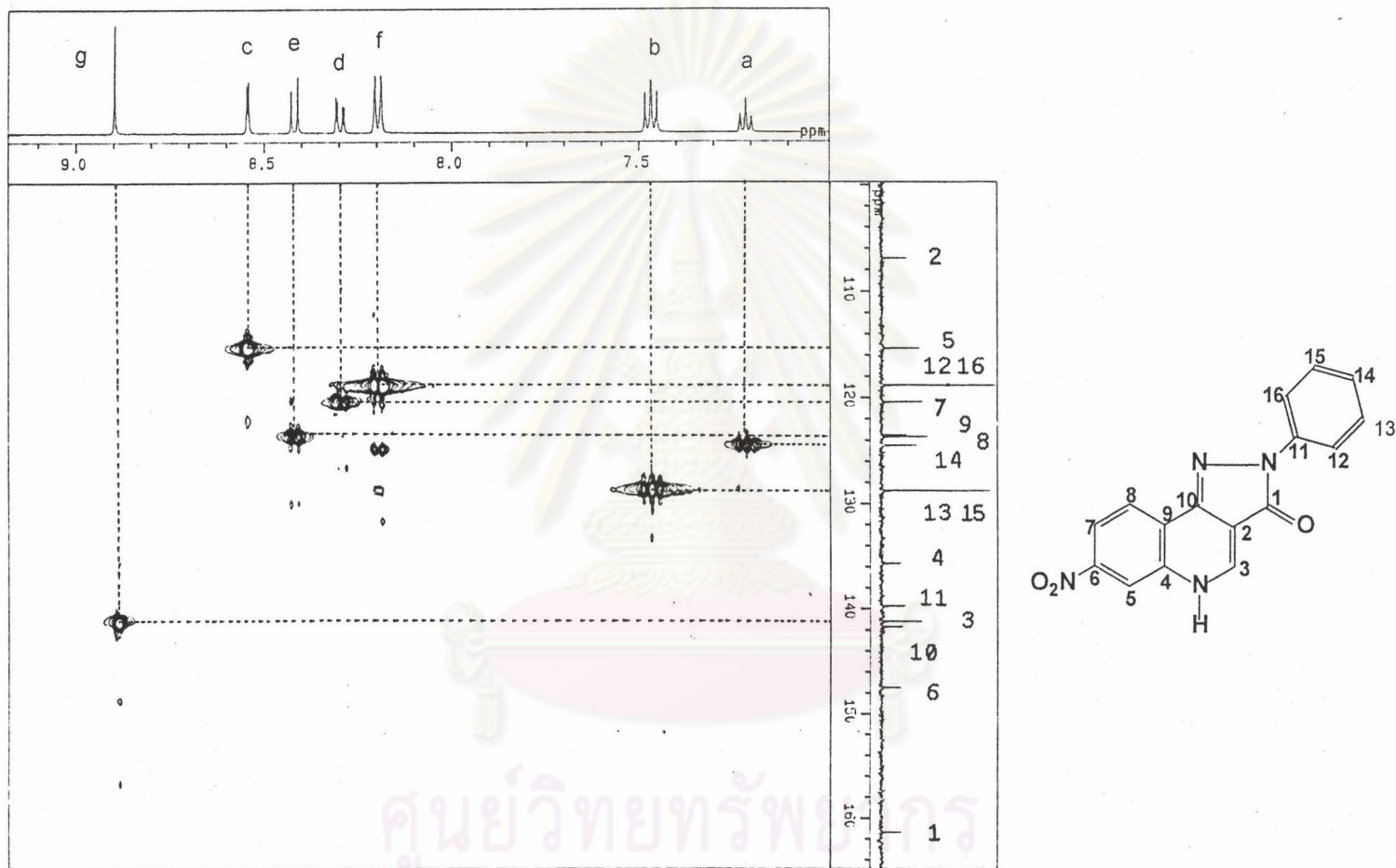


Figure 37. The 125 MHz CH COSY spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one in DMSO-d₆ (expansion : X scale between 7.0-9.2 ppm and Y scale between 100-164 ppm).

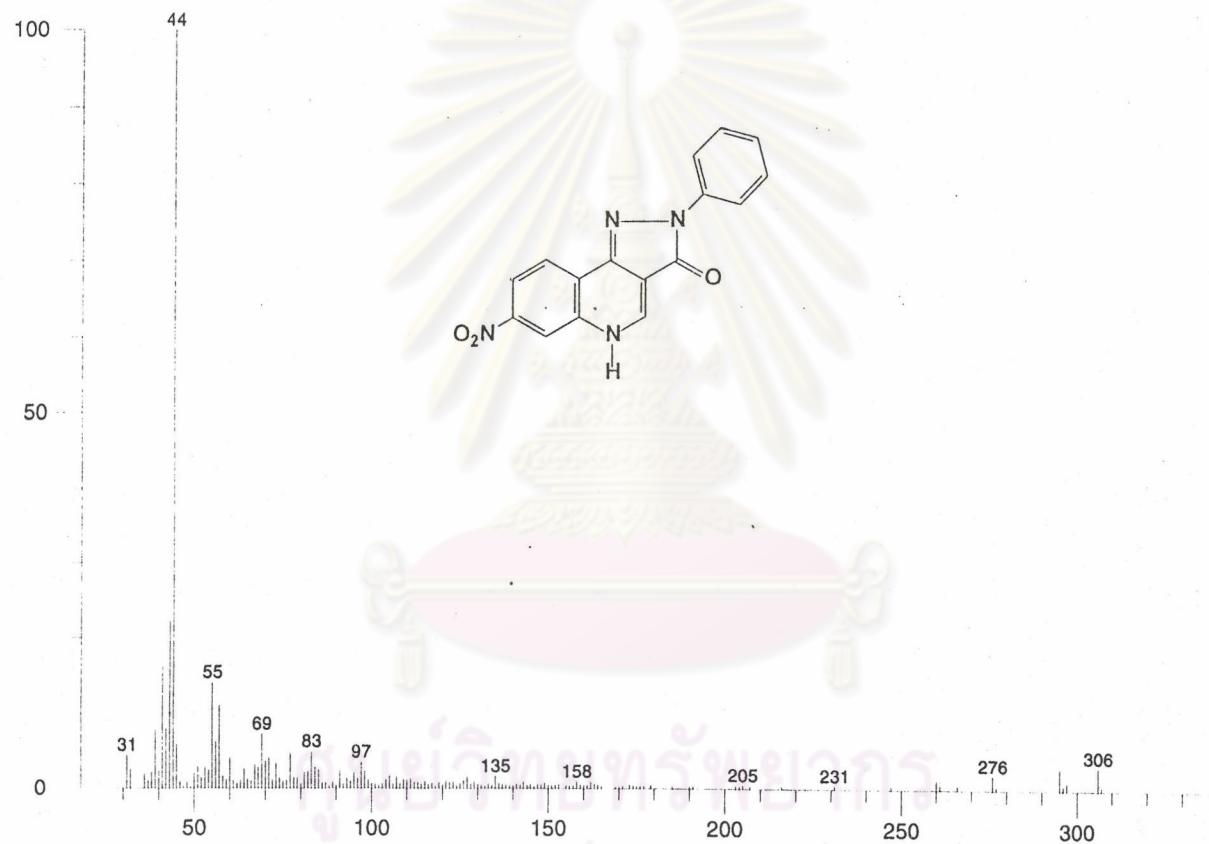


Figure 38. EIMS spectrum of 7-nitro-2-phenylpyrazolo-[4,3-c]-quinolin-3-one.

VITA

Mr. Thanormsak Chiravuth was born in July 1968 in Chiangmai, Thailand. He graduated with a Bachelor of Science degree in Pharmacy from the Faculty of Pharmacy, Chiangmai University, Chiangmai in 1992.



ศูนย์วิทยทรัพยากร
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