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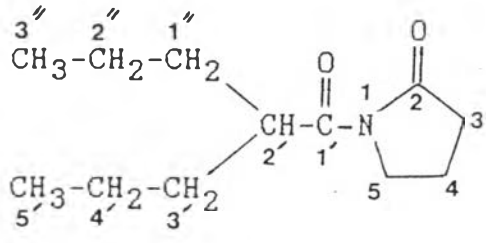
APPENDICES

Table I Physical Data of Valproic Acid Analogues.

Compound	Formula	Status	Melting point(^{o}C)	Elemental Analysis					
				C		H		N	
				Calcd.	found	Calcd.	found	Calcd.	found
(N,N-Dimethylamino-ethyl)-2-propylpentanoate	$C_{12}H_{25}NO_2$	liquid	-	66.94	-	11.70	-	6.50	-
(N,N-Diethylamino-methyl)-2-propylpentamide	$C_{13}H_{28}N_2O$	liquid	-	68.37	67.99	12.36	12.56	12.27	12.27
N (2'propylpentanoyl)-2-pyrrolidinone	$C_{12}H_{21}NO_2$	liquid	-	68.21	68.31	10.02	10.22	6.63	5.92
N(2-propylpentanoyl) urea	$C_9H_{18}N_2O_2$	solid	193-194	58.04	57.92	9.74	9.97	15.04	15.39
N(2-propylpentanoyl) thiourea	$C_9H_{18}N_2OS$	solid	81-82	53.43	53.17	8.97	8.68	13.85	13.57

Table II Assignment of ^{13}C-NMR and ^{1}H-NMR chemical shift of N(2′-propylpentanoyl)-2-pyrrolidinone



Position	^{13}C (PPM)	^{1}H (PPM)
1′	174.67*	-
2′	43.08	3.81 (t, 3H)
3′	34.04	1.55 (multiplet)
4′	20.17	1.40 (multiplet)
5′	13.83	0.92 (multiplet)
1	-	-
2	179.63*	-
3	33.77	2.61 (t, 2H)
4	16.70	2.01 (q, 2H)
5	45.52	3.81 (t, 3H)

* Interchangable

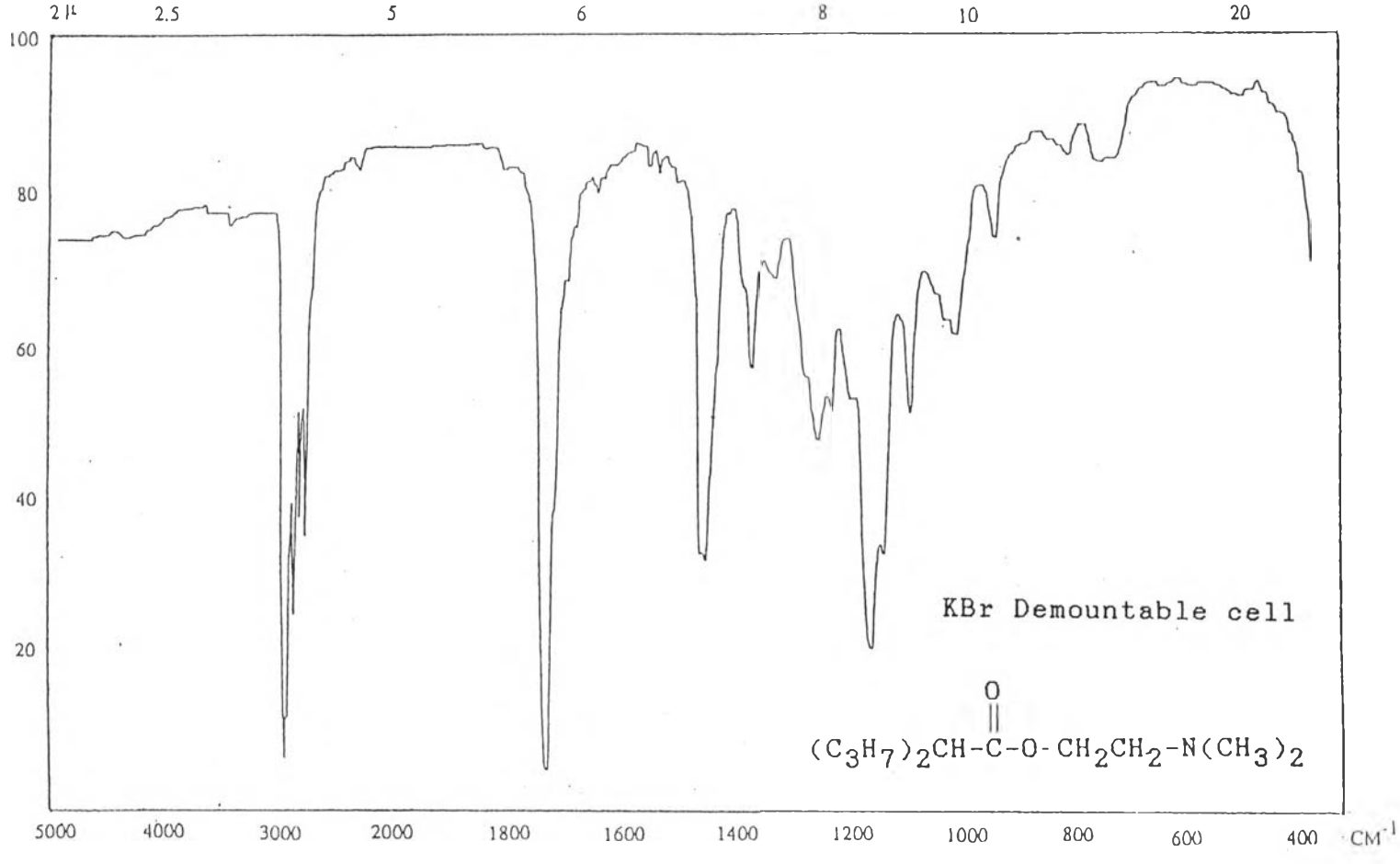


Figure 3 The IR spectrum of (N,N-Dimethylaminoethyl)-2-propylpentanoate.

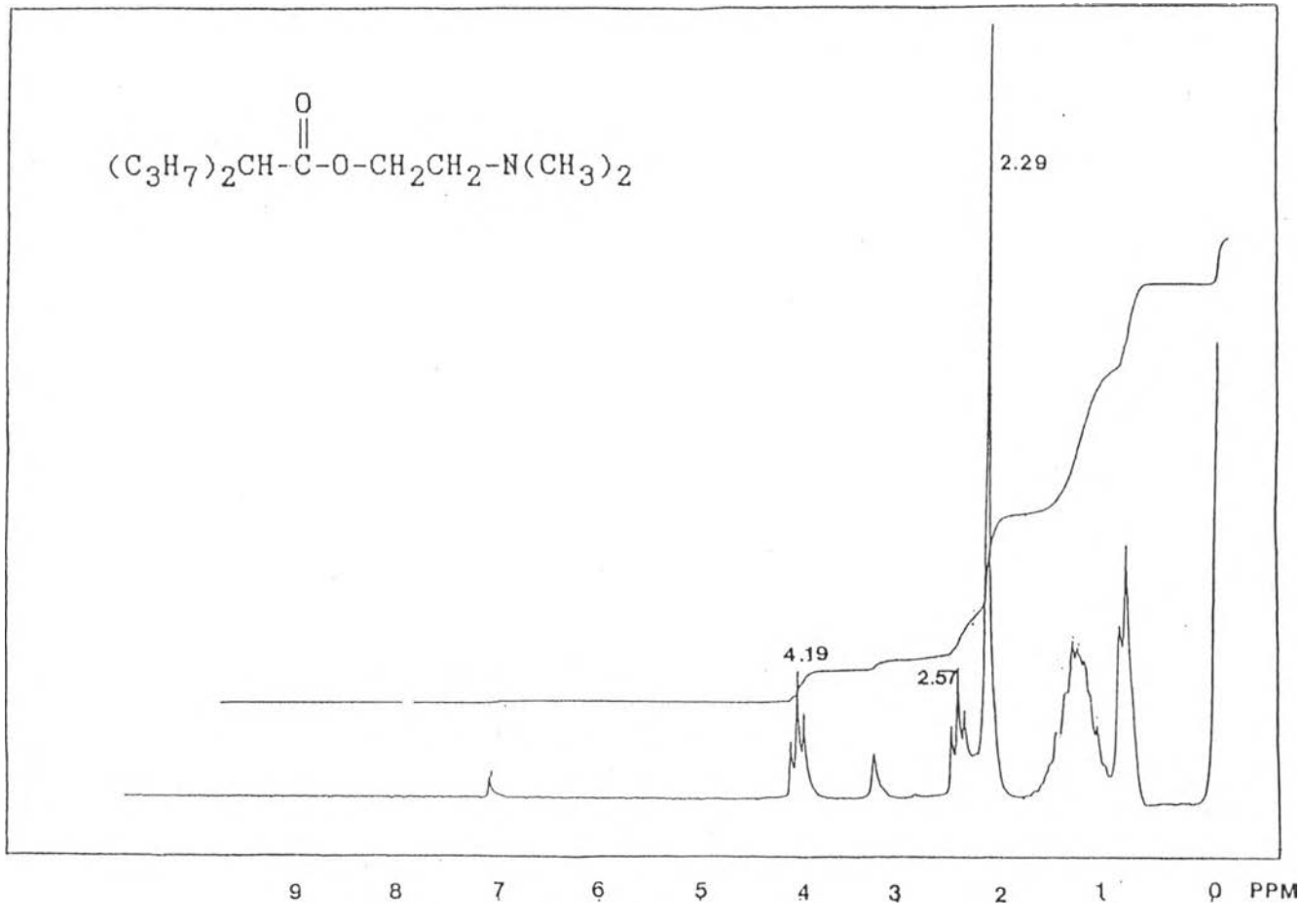


Figure 4 The ^{1}H-NMR spectrum of (N,N-Dimethylaminoethyl)-2-propylpentanoate.

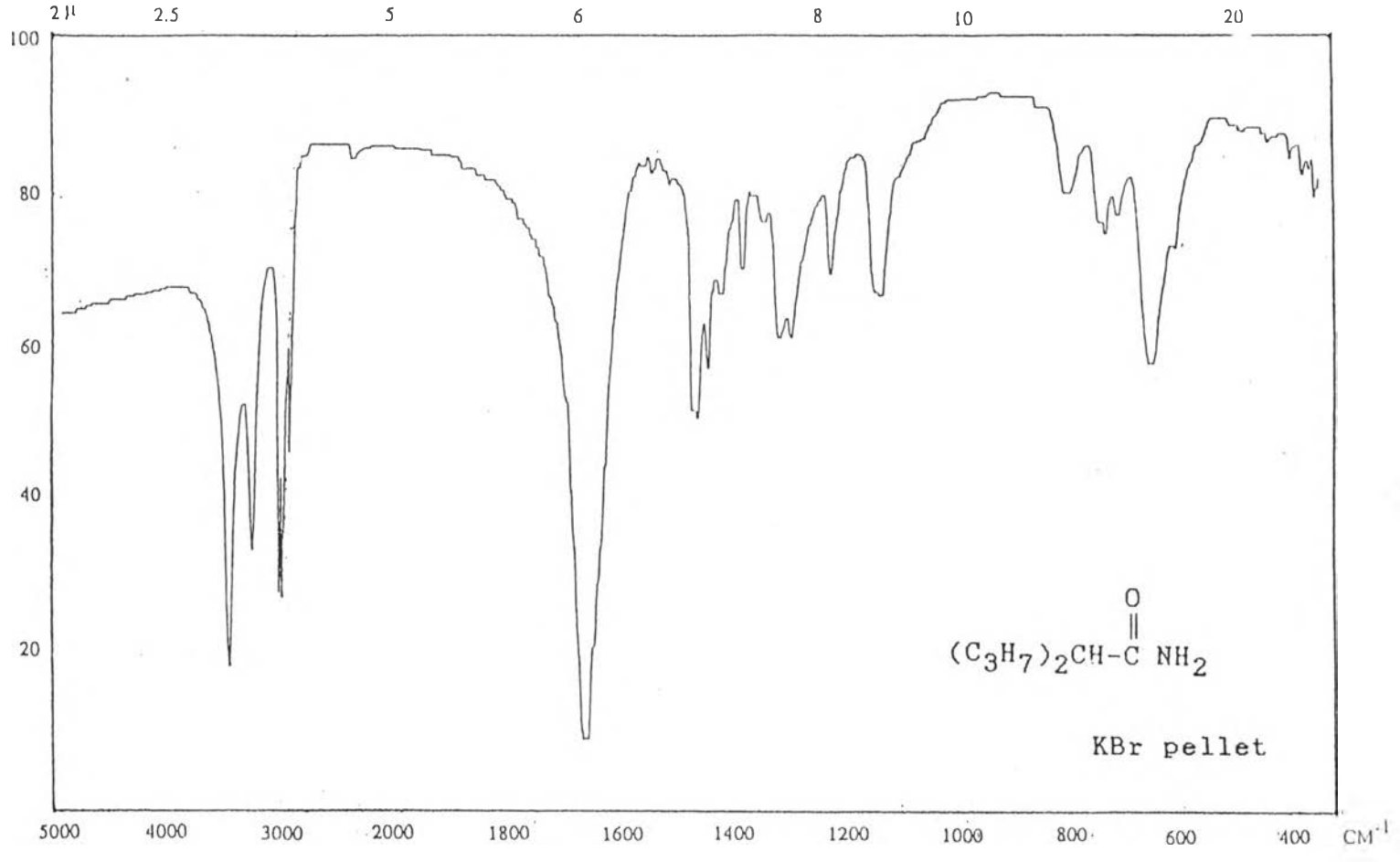


Figure 5 The IR spectrum of 2-propylpentamide.

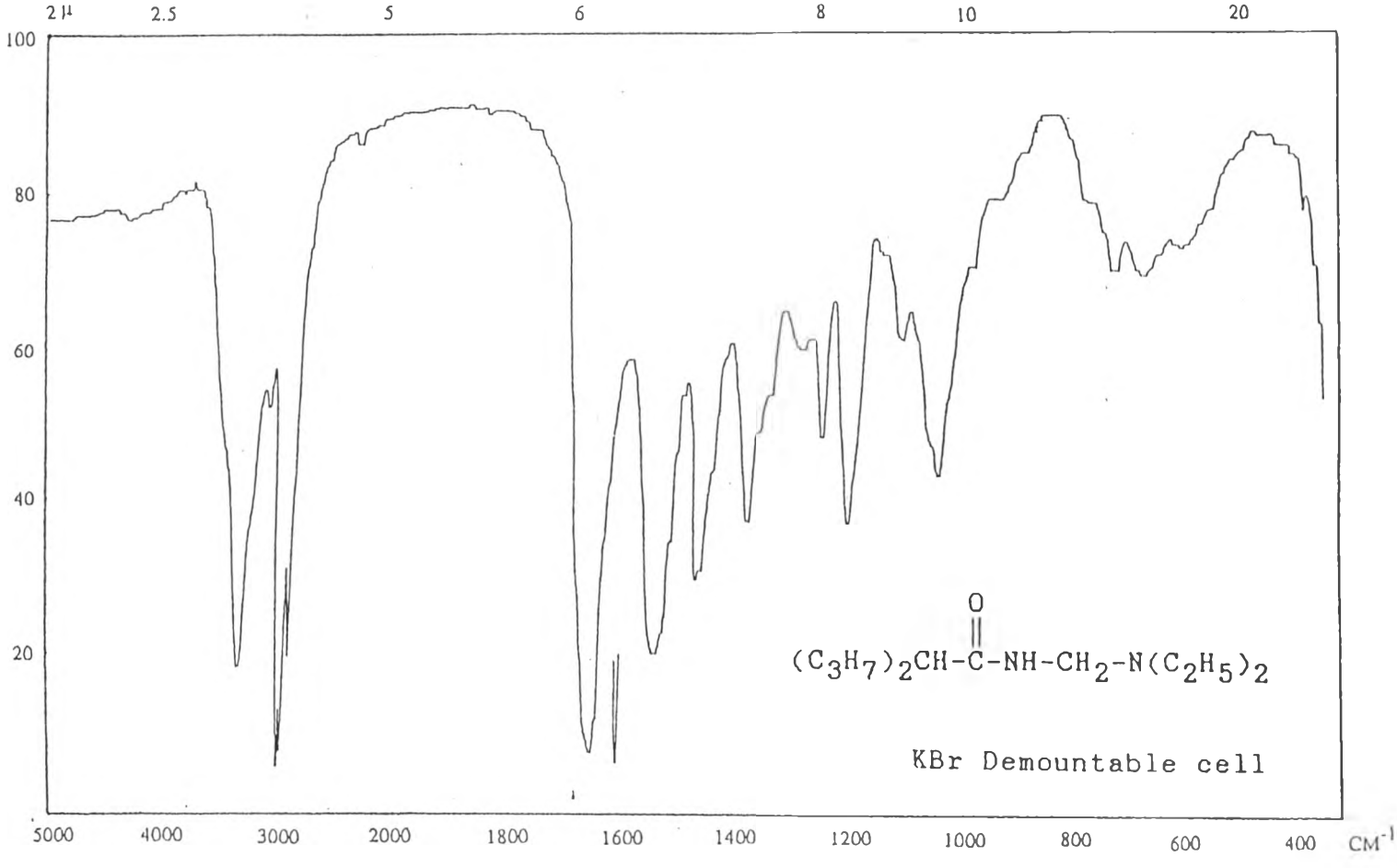


Figure 6 The IR spectrum of (N,N-Diethylaminomethyl)-2-propylpentamide.

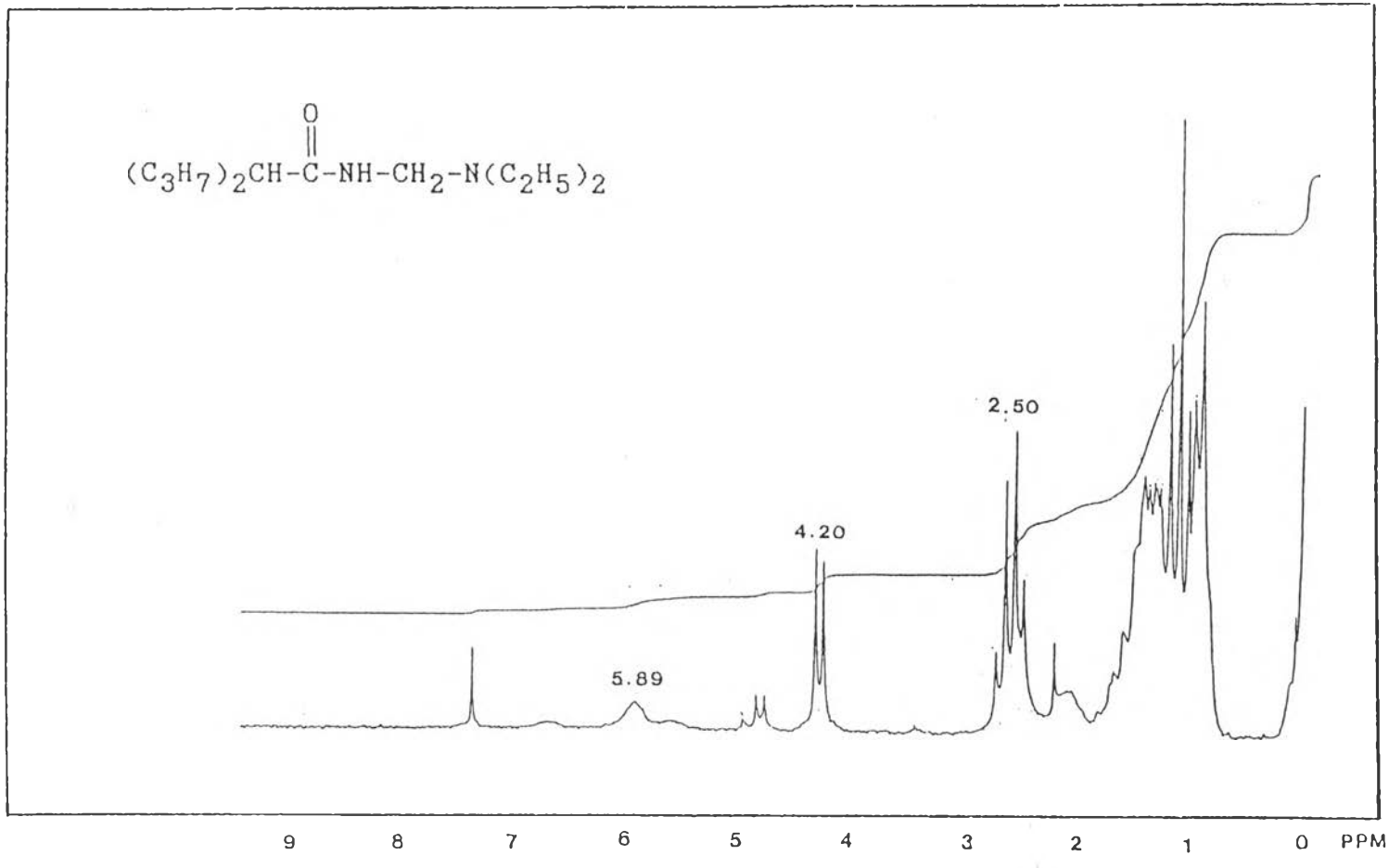


Figure 7 The ^{1}H-NMR spectrum of (N,N-Diethylaminomethyl)-2-propylpentamide.

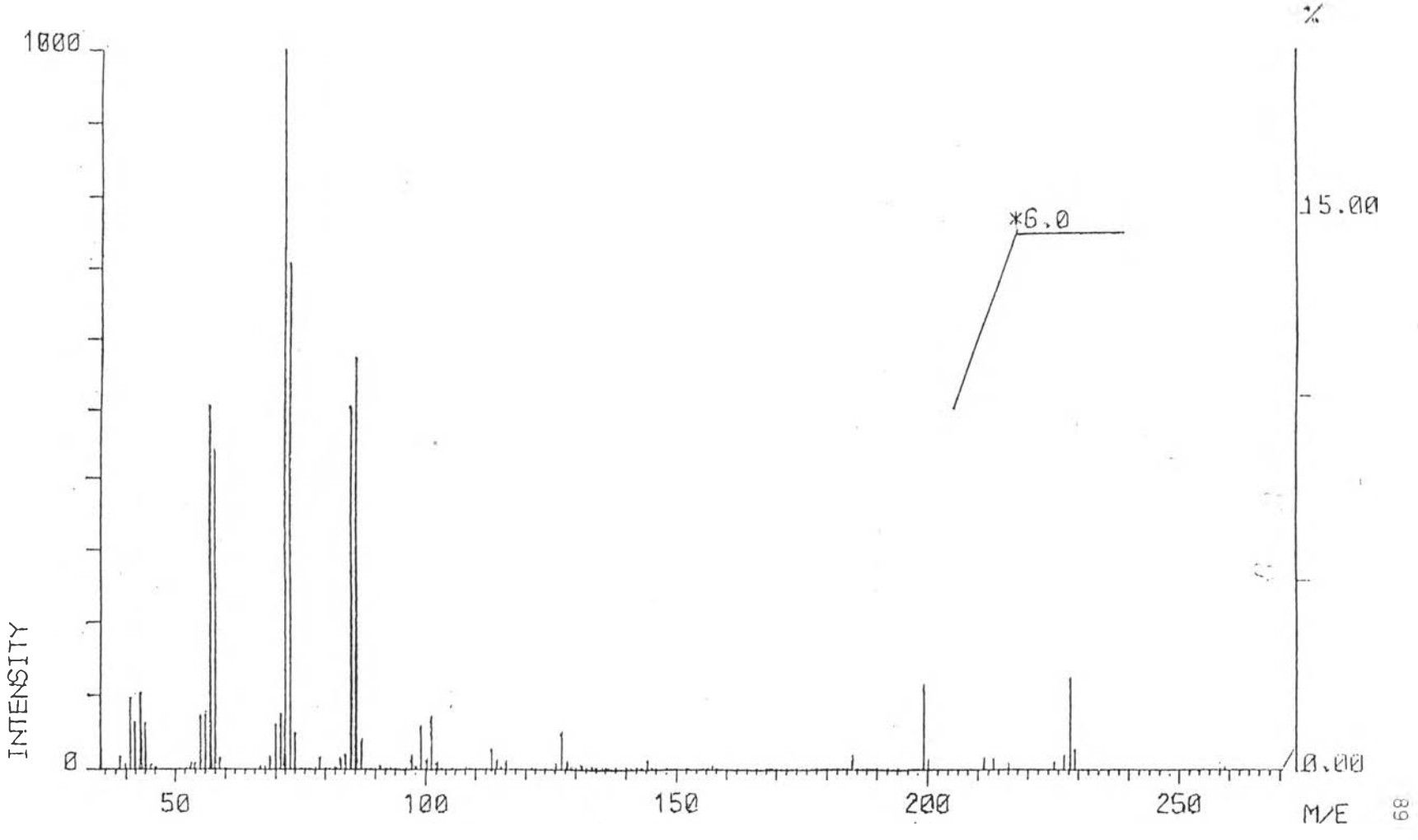


Figure 8 The Mass spectrum of (N,N-Diethylaminomethyl)-2-propylpentamide.

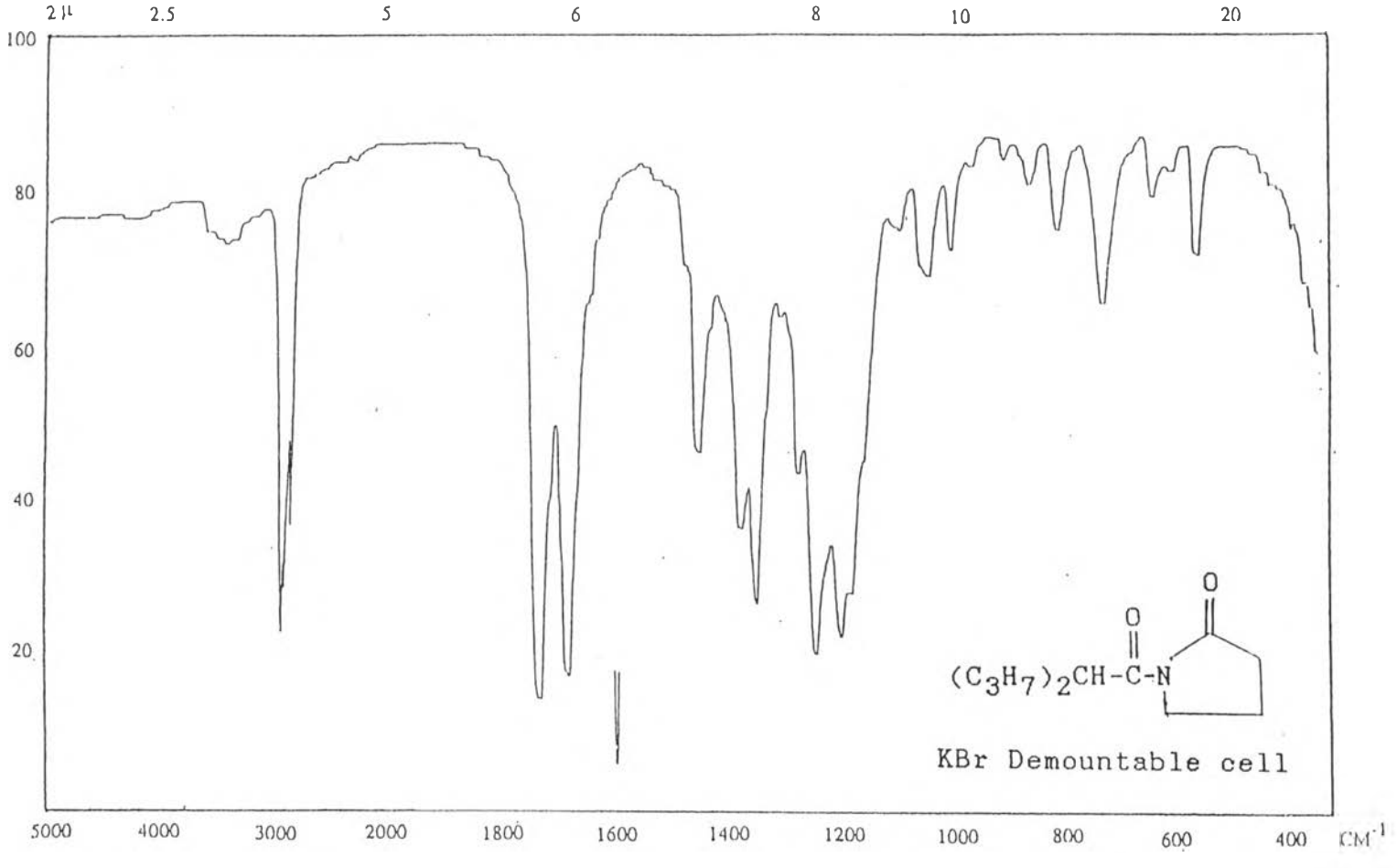


Figure 9 The IR spectrum of N(2′-propylpentanoyl)-2-pyrrolidinone.

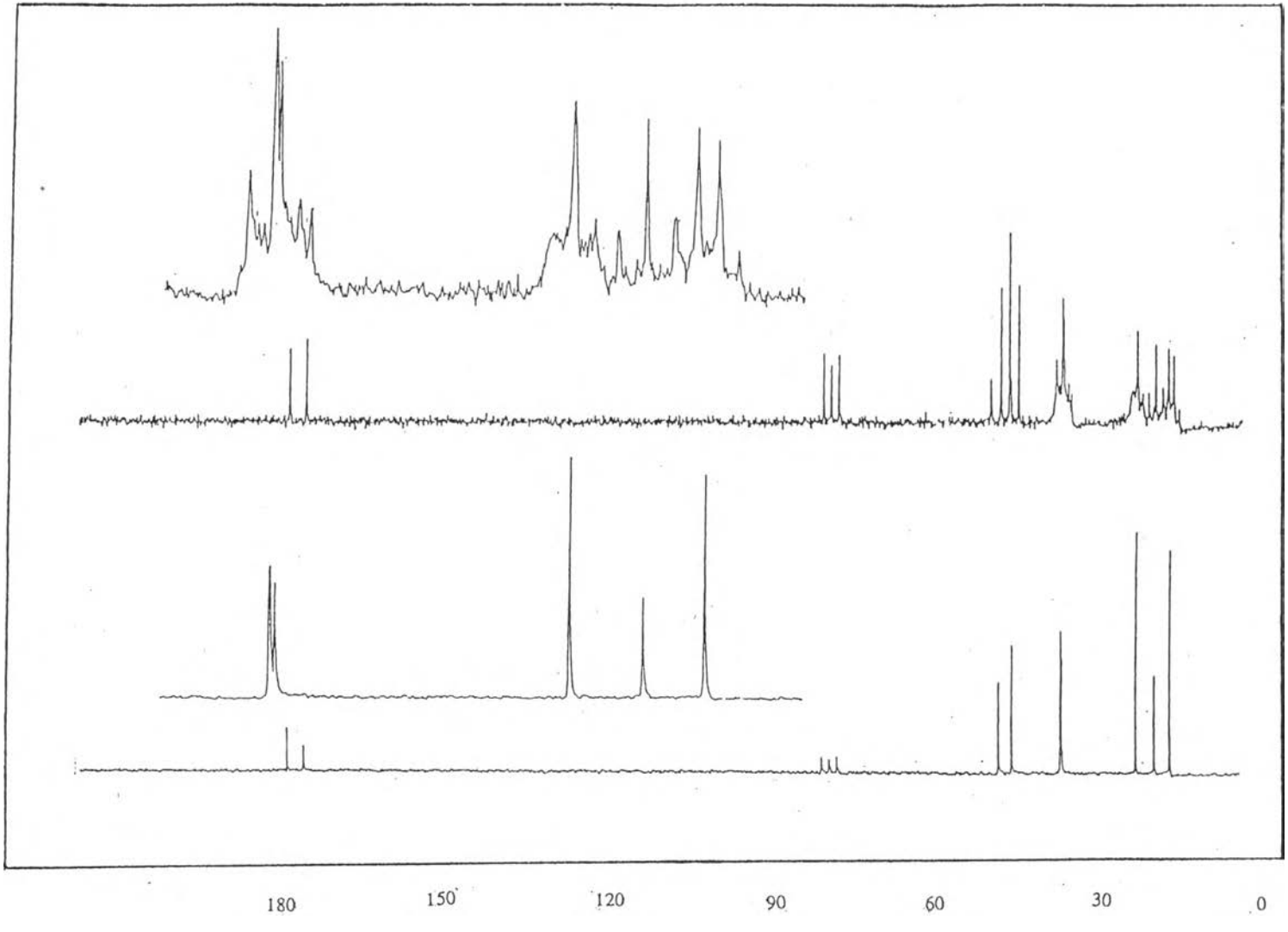


Figure 10 The ^{13}C-NMR spectrum of N(2′-propylpentanoyl)-2-pyrrolidinone.

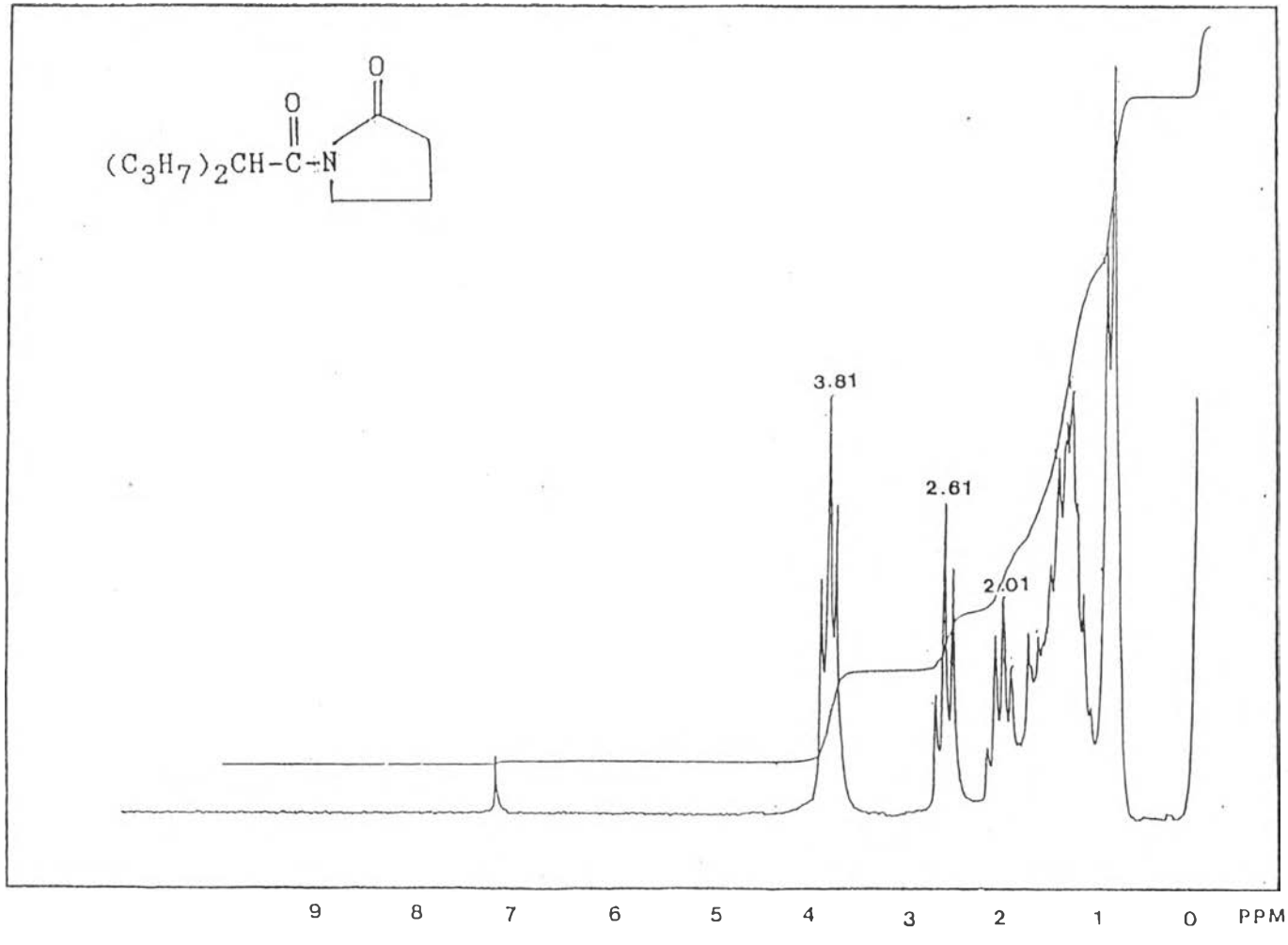


Figure 11 The ^{1}H-NMR spectrum of N(2′-propylpentanoyl)-2-pyrrolidinone.

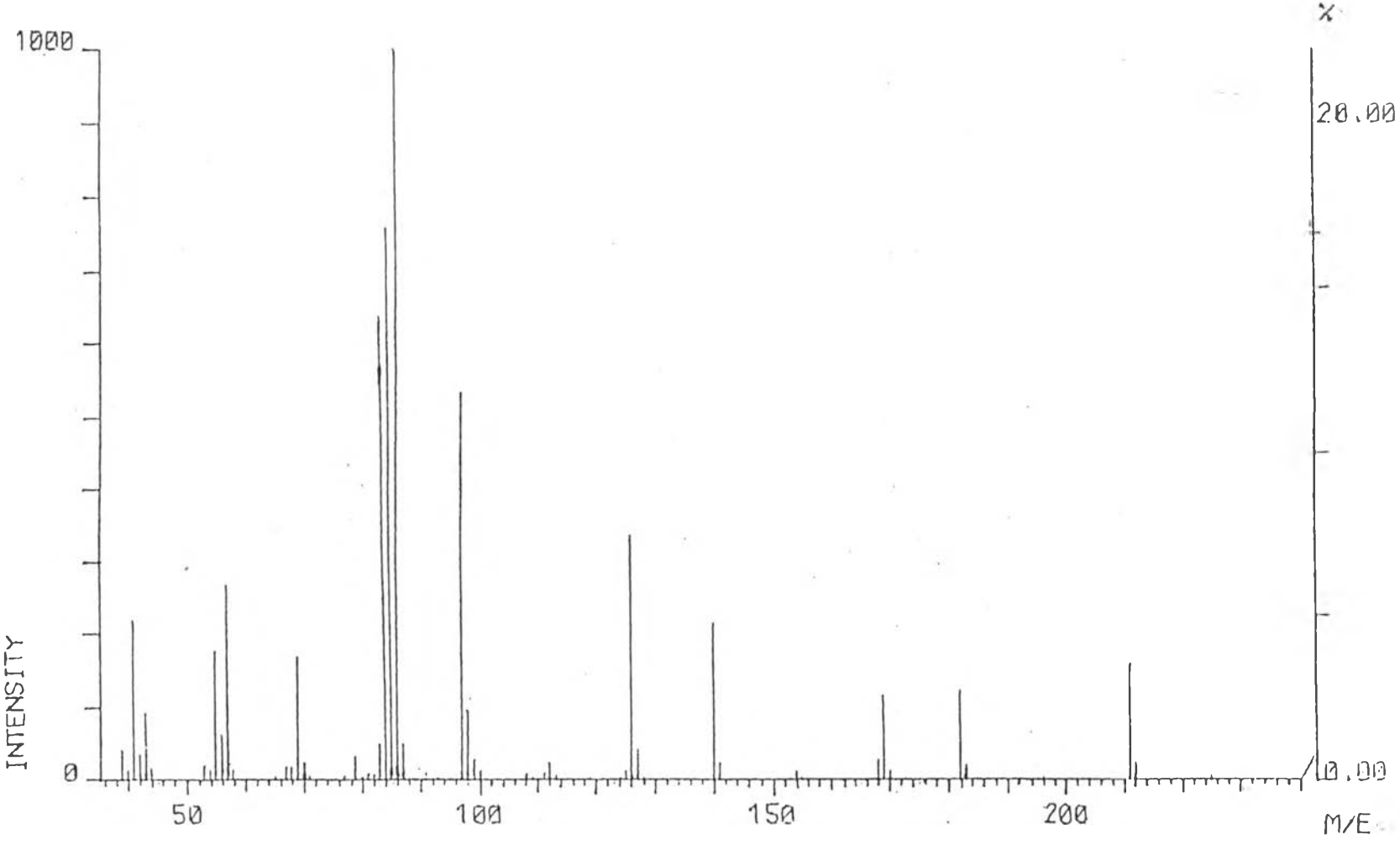


Figure 13 The Mass spectrum of N(2'-propylpentanoyl)-2-pyrrolidinone.

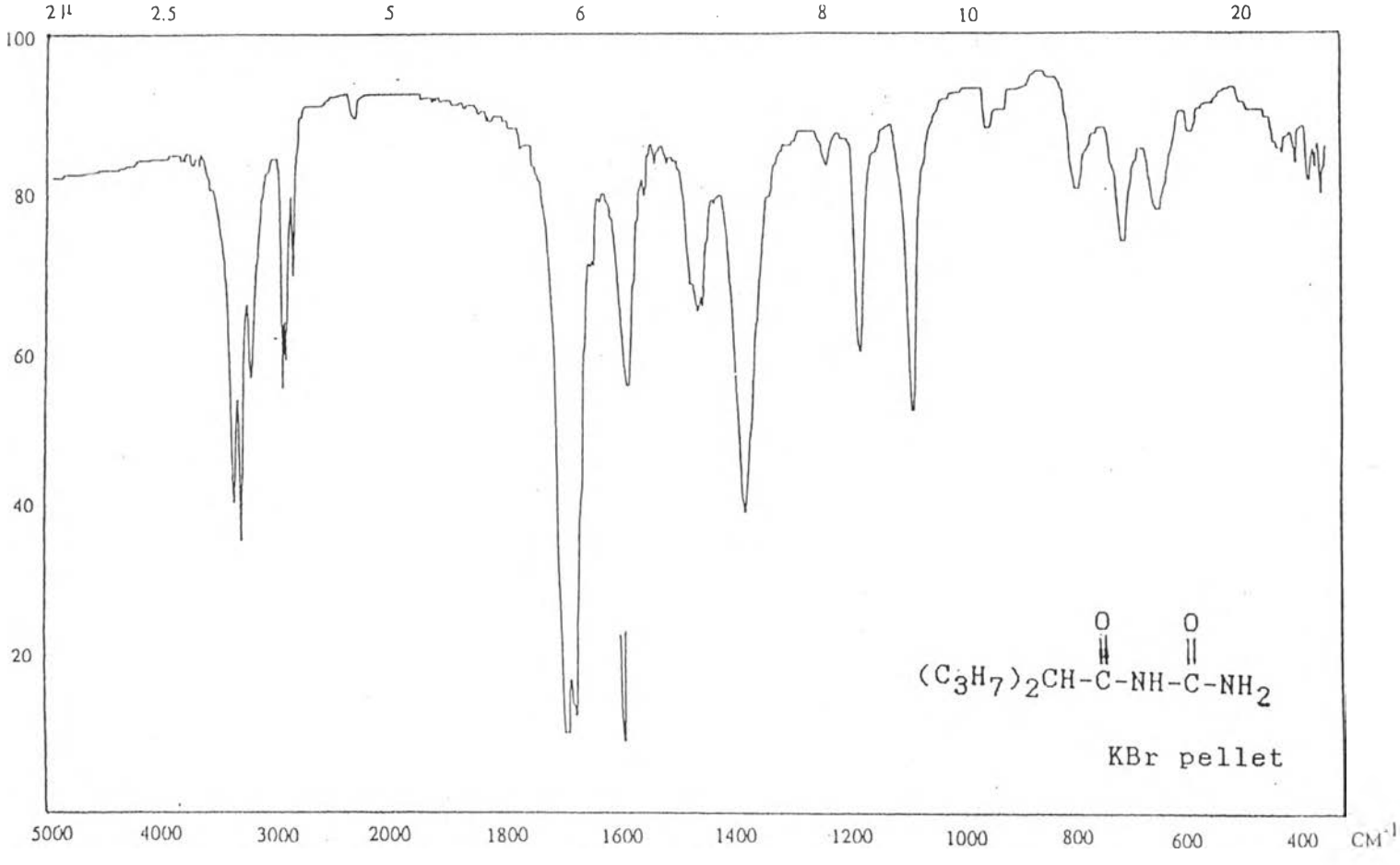


Figure 15 The IR spectrum of N(2-propylpentanoyl) urea.

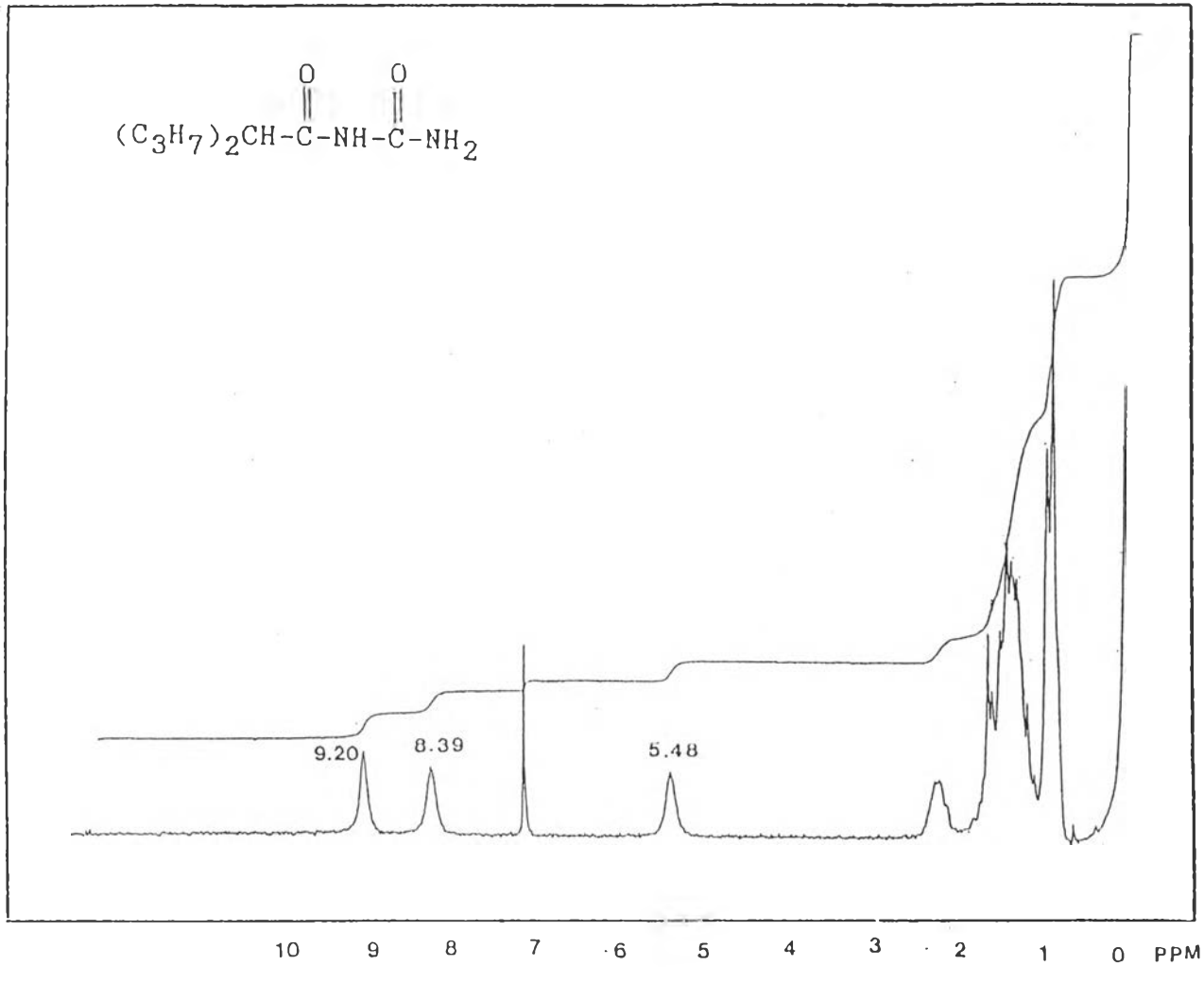


Figure 16 The ^{1}H-NMR ($CDCl_3$) spectrum of N(2-propylpentanoyl) urea.

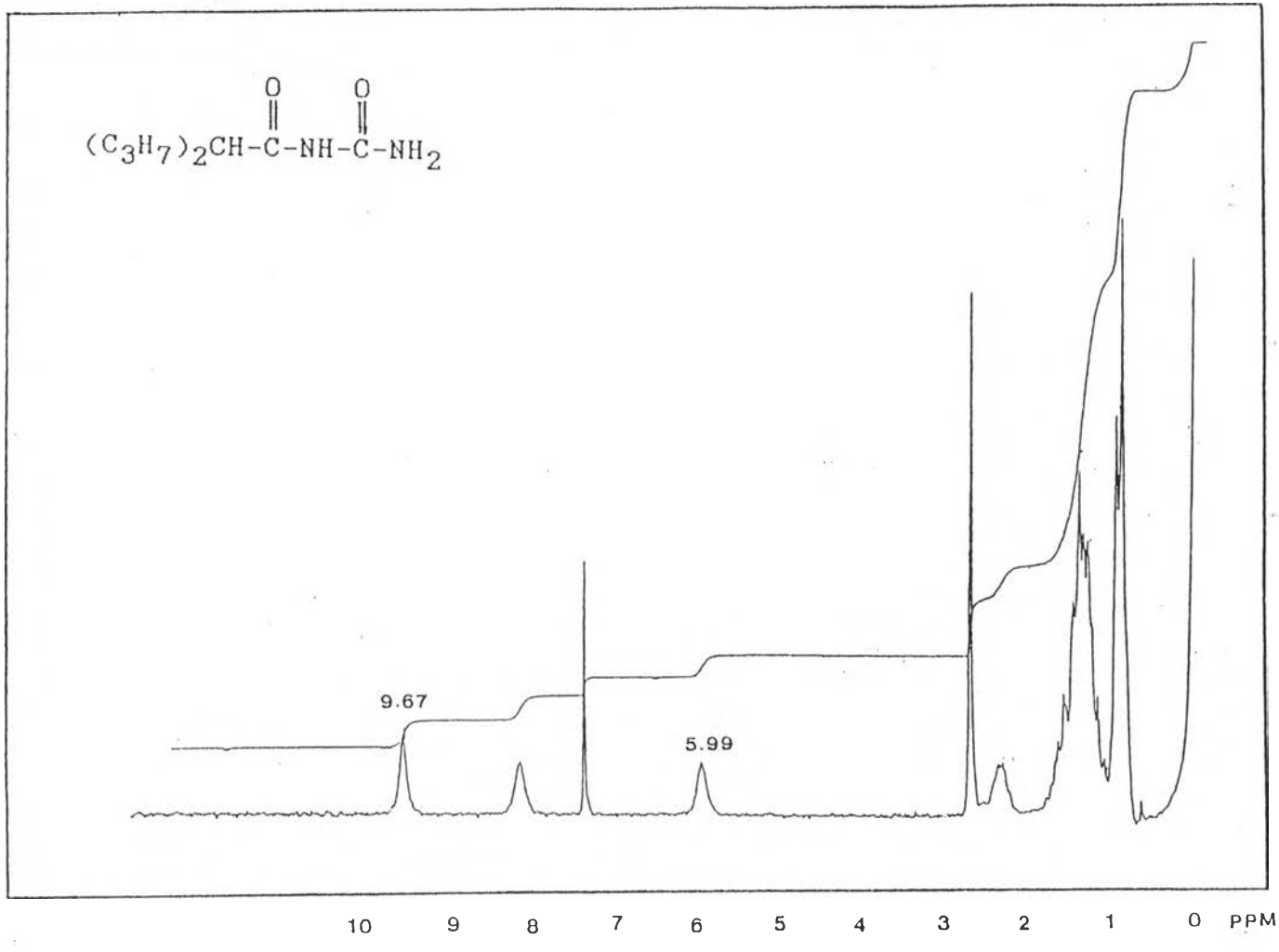


Figure 18 The ^{1}H-NMR (DMSO-d_6) spectrum of N(2-propylpentanoyl) urea.

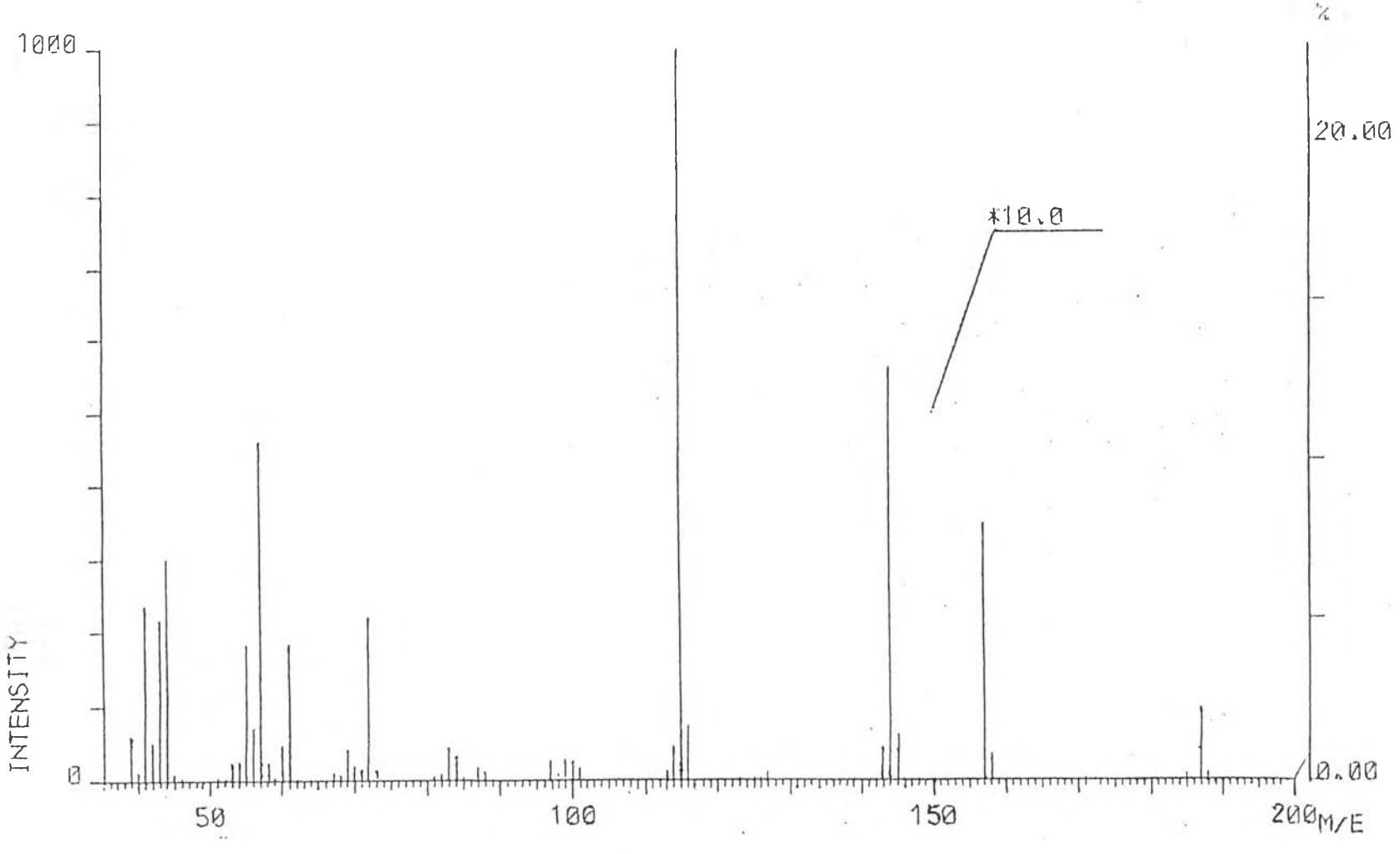


Figure 19 The mass spectrum of N(2-propylpentanoyl) urea.

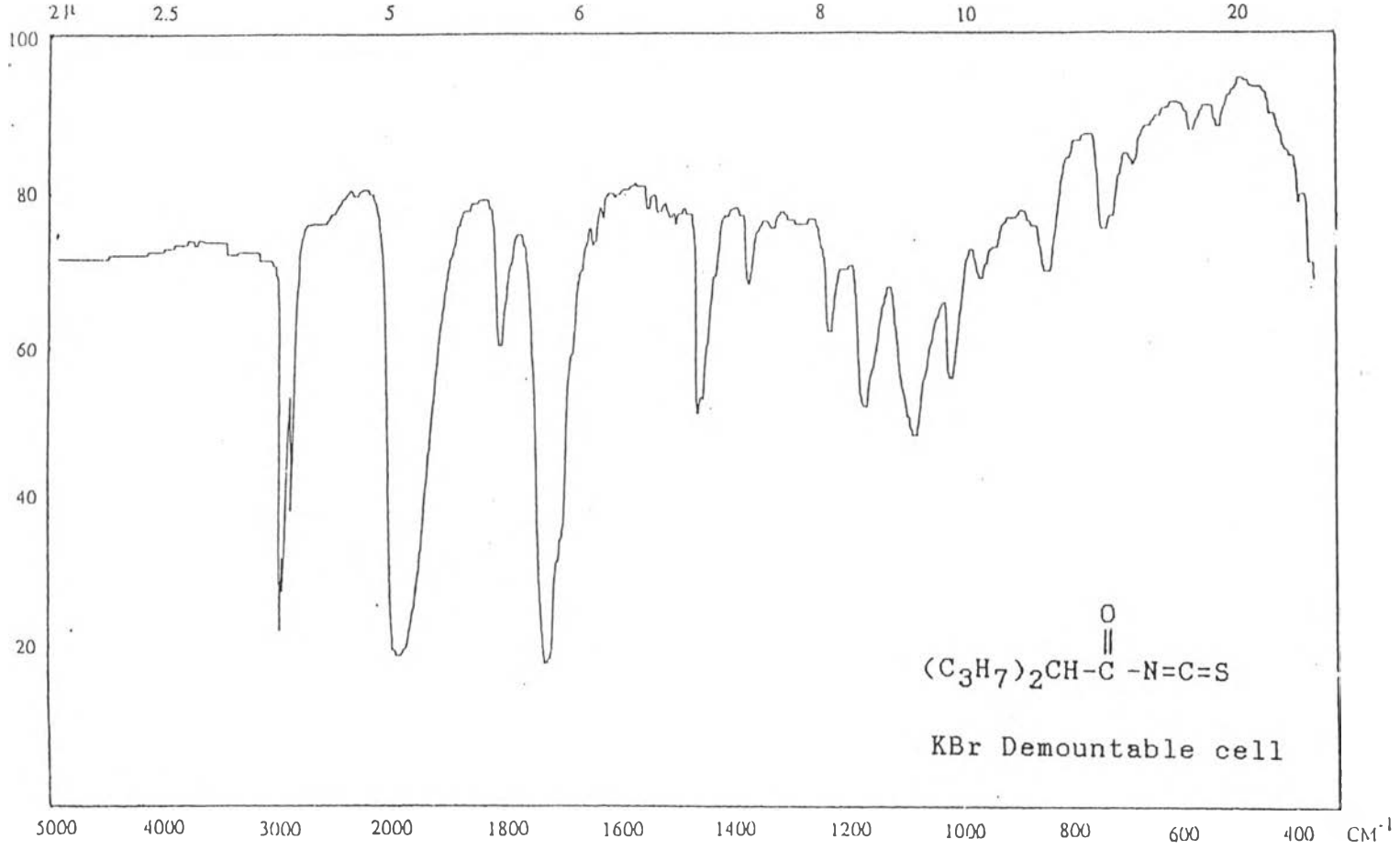


Figure 20 The IR spectrum of acylisothiocyanate.

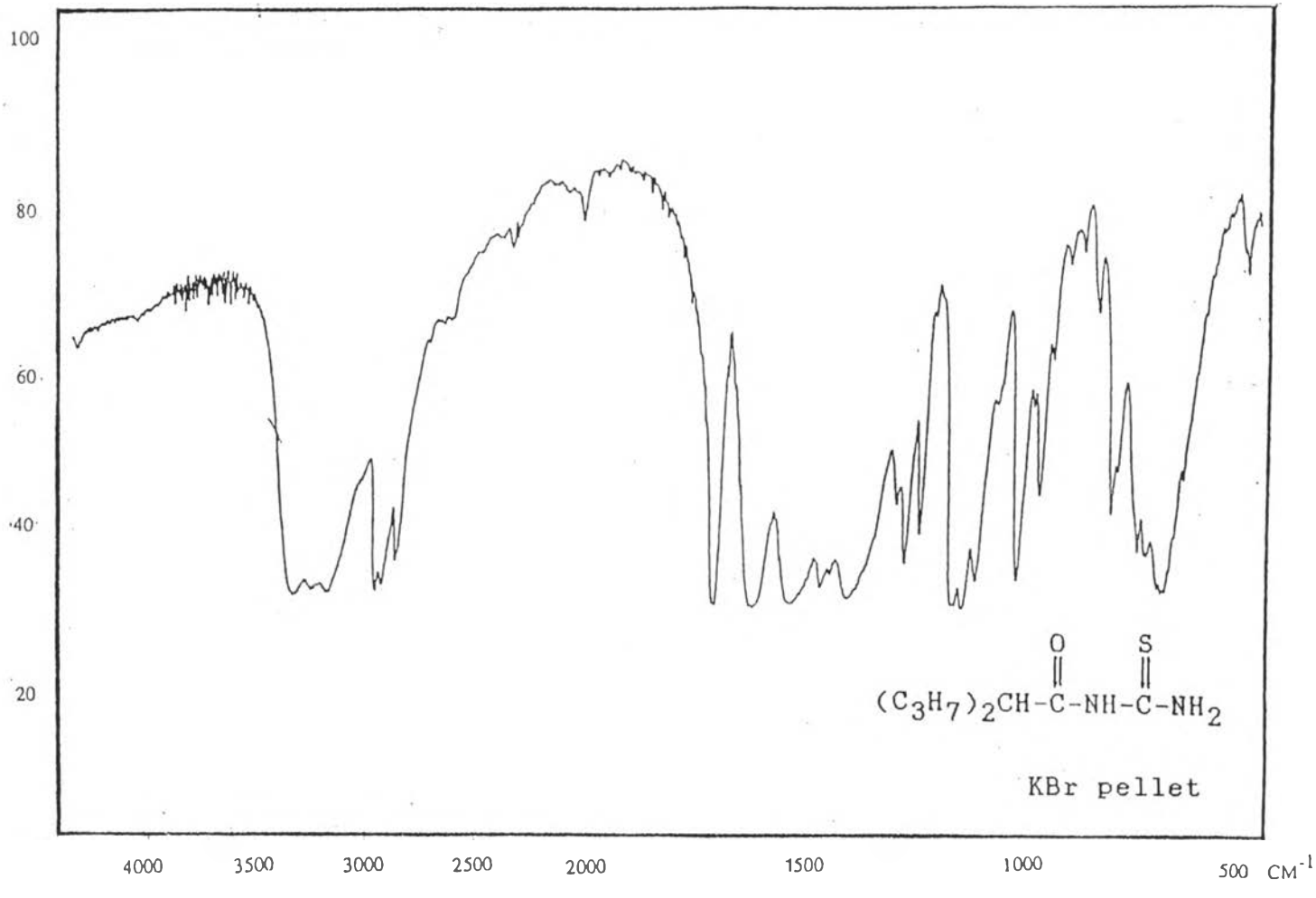


Figure 21 The IR spectrum of N(2-propylpentanoyl) thiourea.

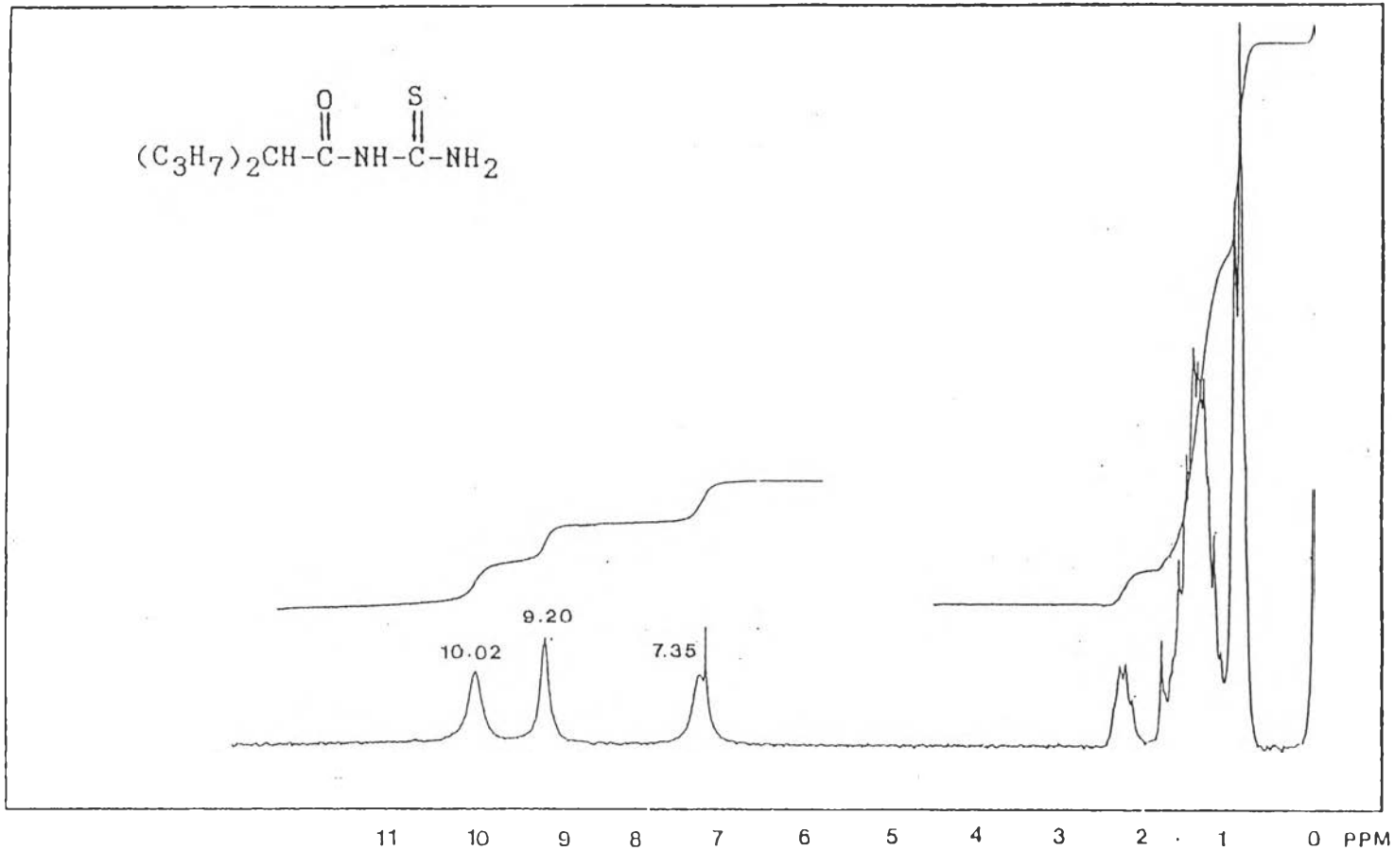


Figure 22 The ^{1}H-NMR spectrum of N(2-propylpentanoyl) thiourea.

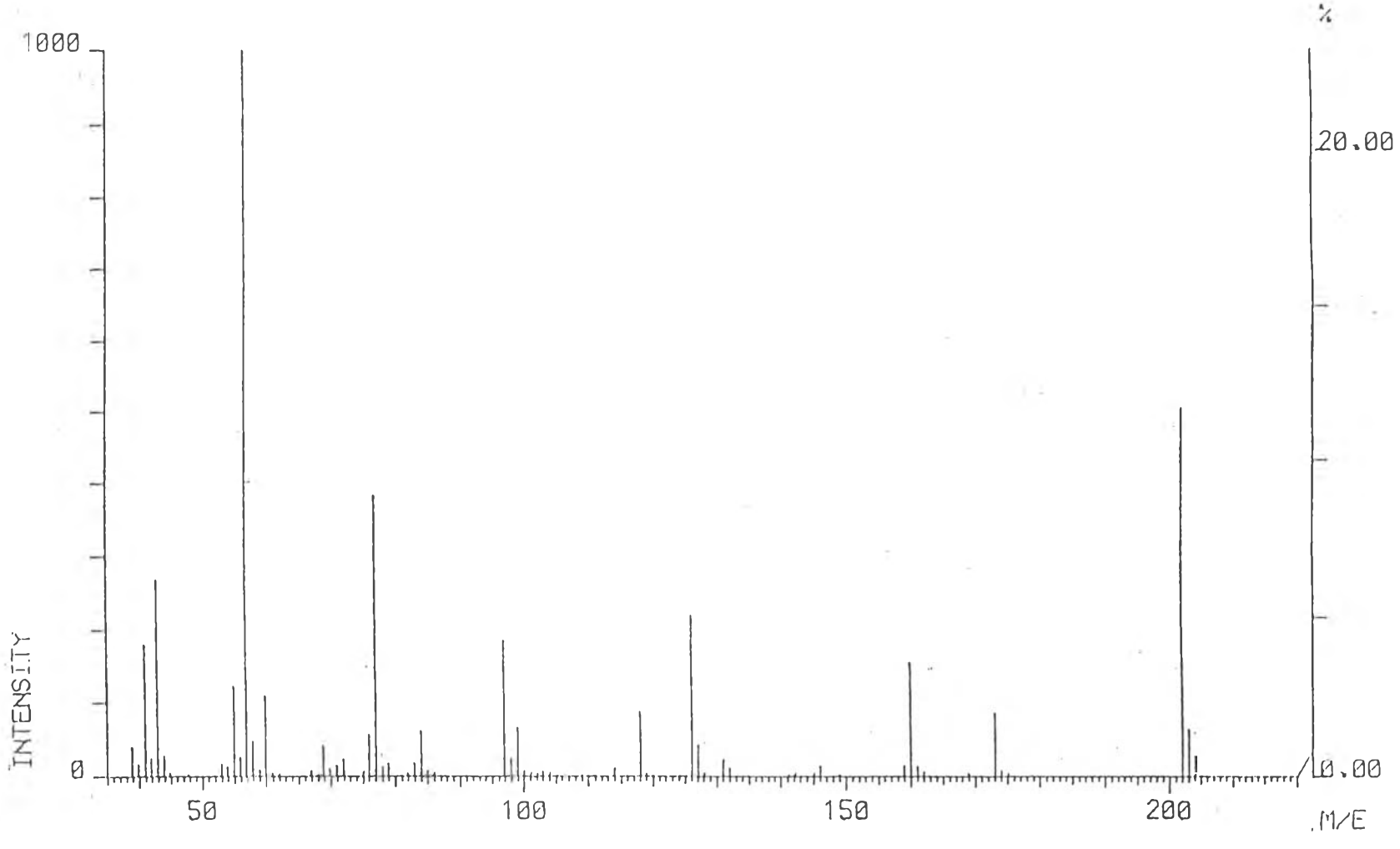


Figure 24 The mass spectrum of N(2-propylpentanoyl) thiourea.

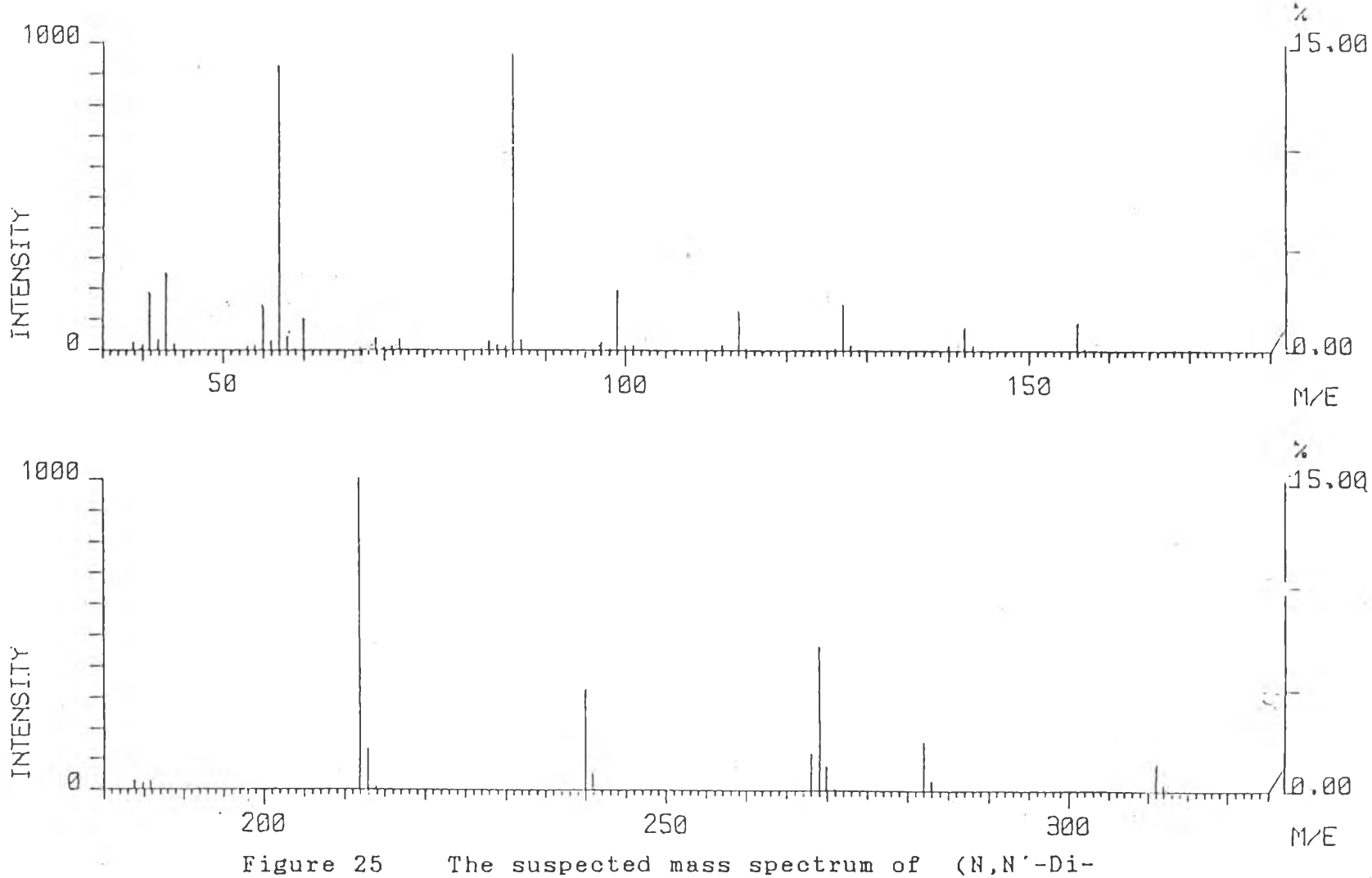


Figure 25 The suspected mass spectrum of (N,N'-Di-(2-propylpentanoyl) guanidine.

VITA

Mr. Wicharn Janwitayanuchit was born in Bangkok, Thailand, on October, 1964. He graduated from Faculty of Pharmaceutical Science, Chulalongkorn University, Bangkok, in 1989 and received the Bachelor of Science in Pharmacy with second class honors. And he was admitted to the Graduate School at Chulalongkorn University in Department of Pharmaceutical Chemistry in the same year. Upon completion of his graduate study, he started his career as a lecturer in Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Prince of Songkla University, Songkla, Thailand.