

REFERENCES

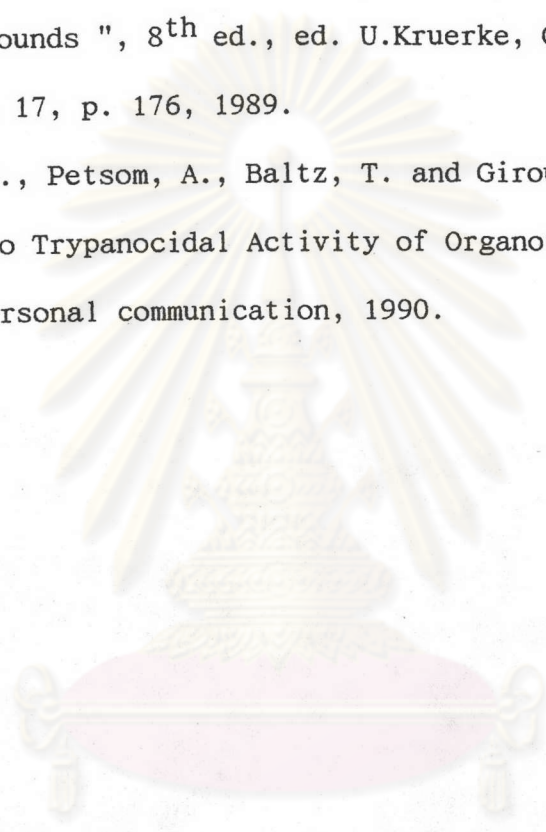
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APPENDIX

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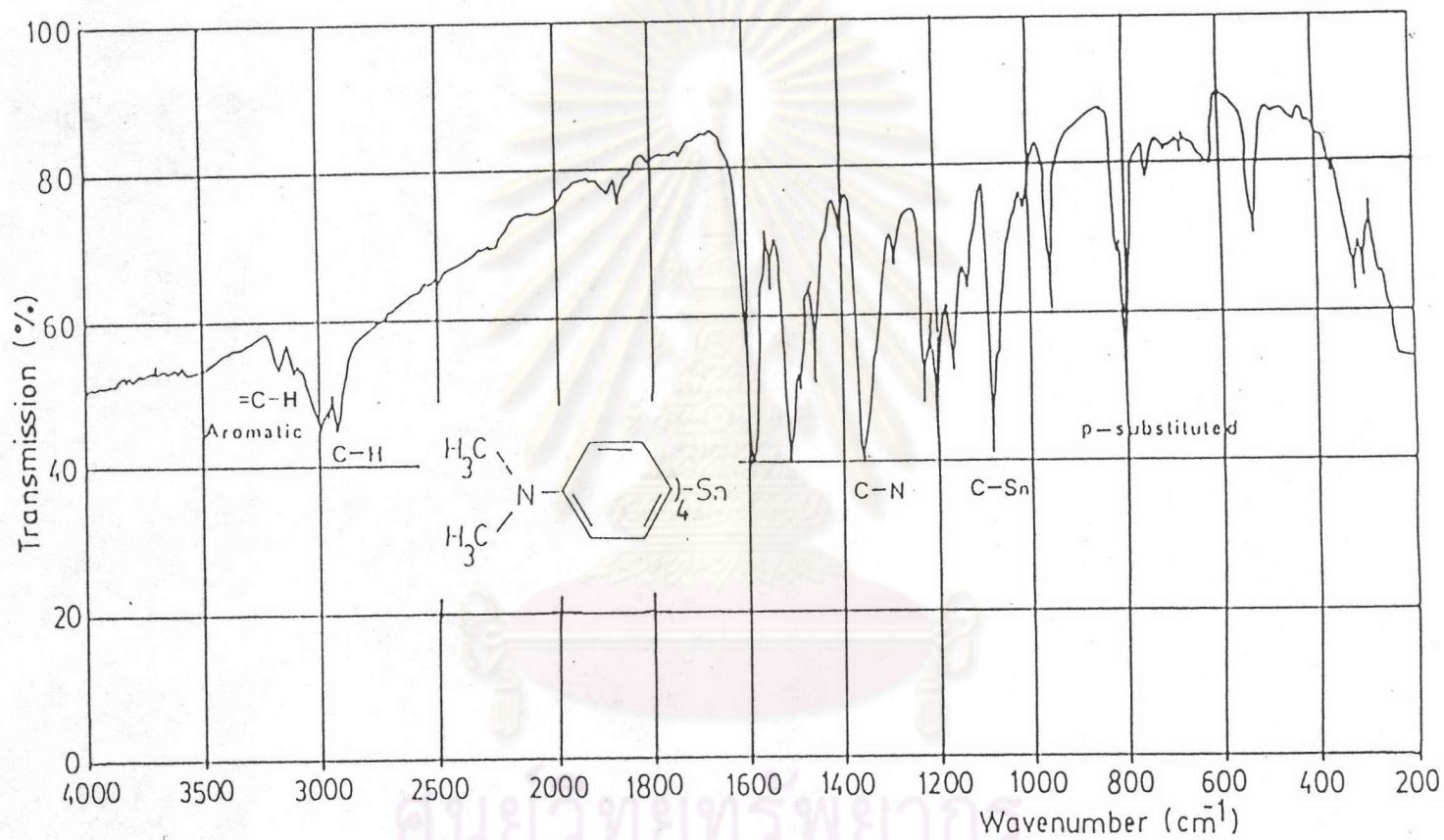


Figure 5 The IR spectrum of tetrakis-(4-dimethylaminophenyl)
stannane (1) : KBr

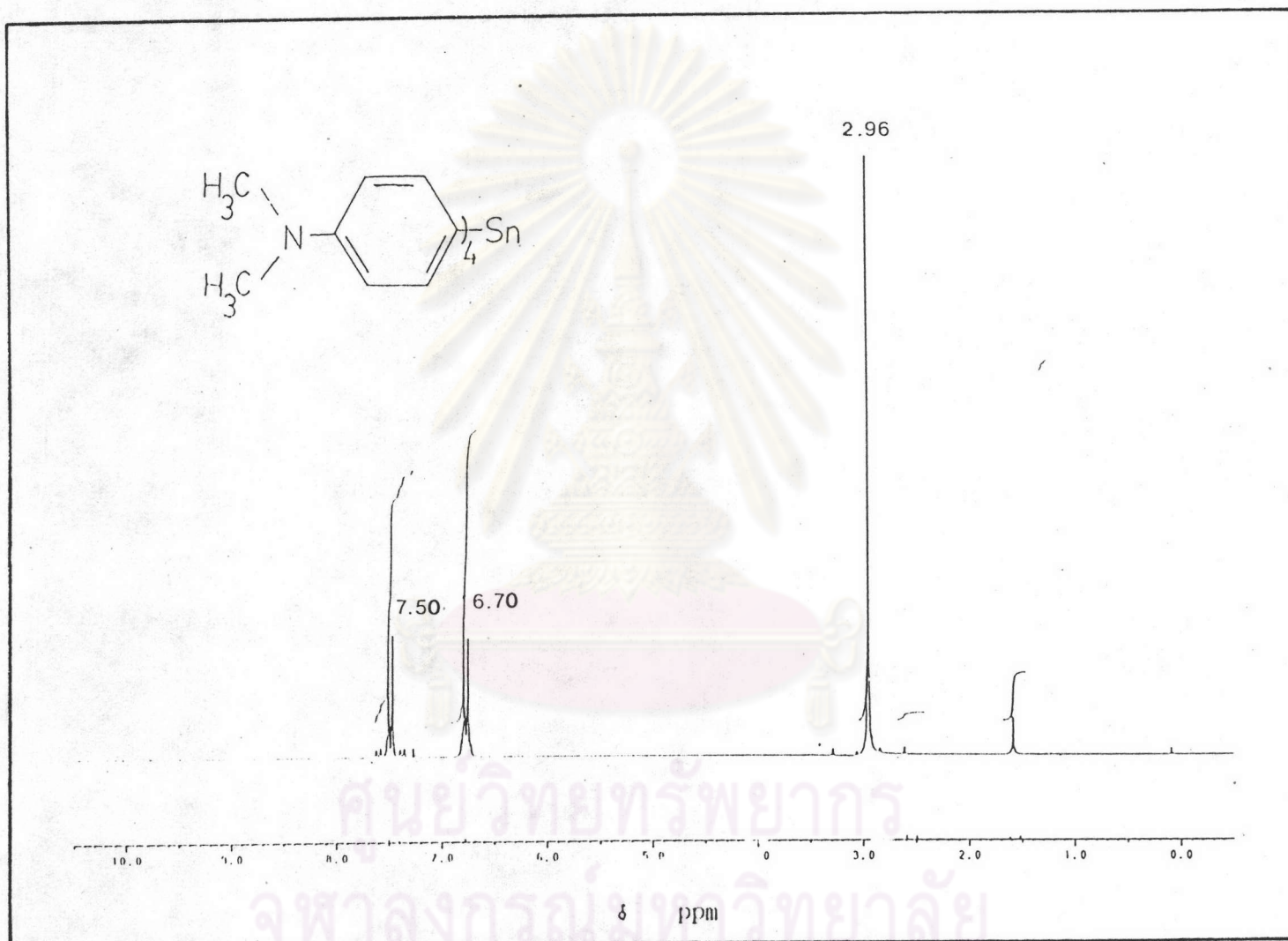


Figure 6 The PMR spectrum of tetrakis-(4-dimethylaminophenyl) stannane (1) : CDCl_3

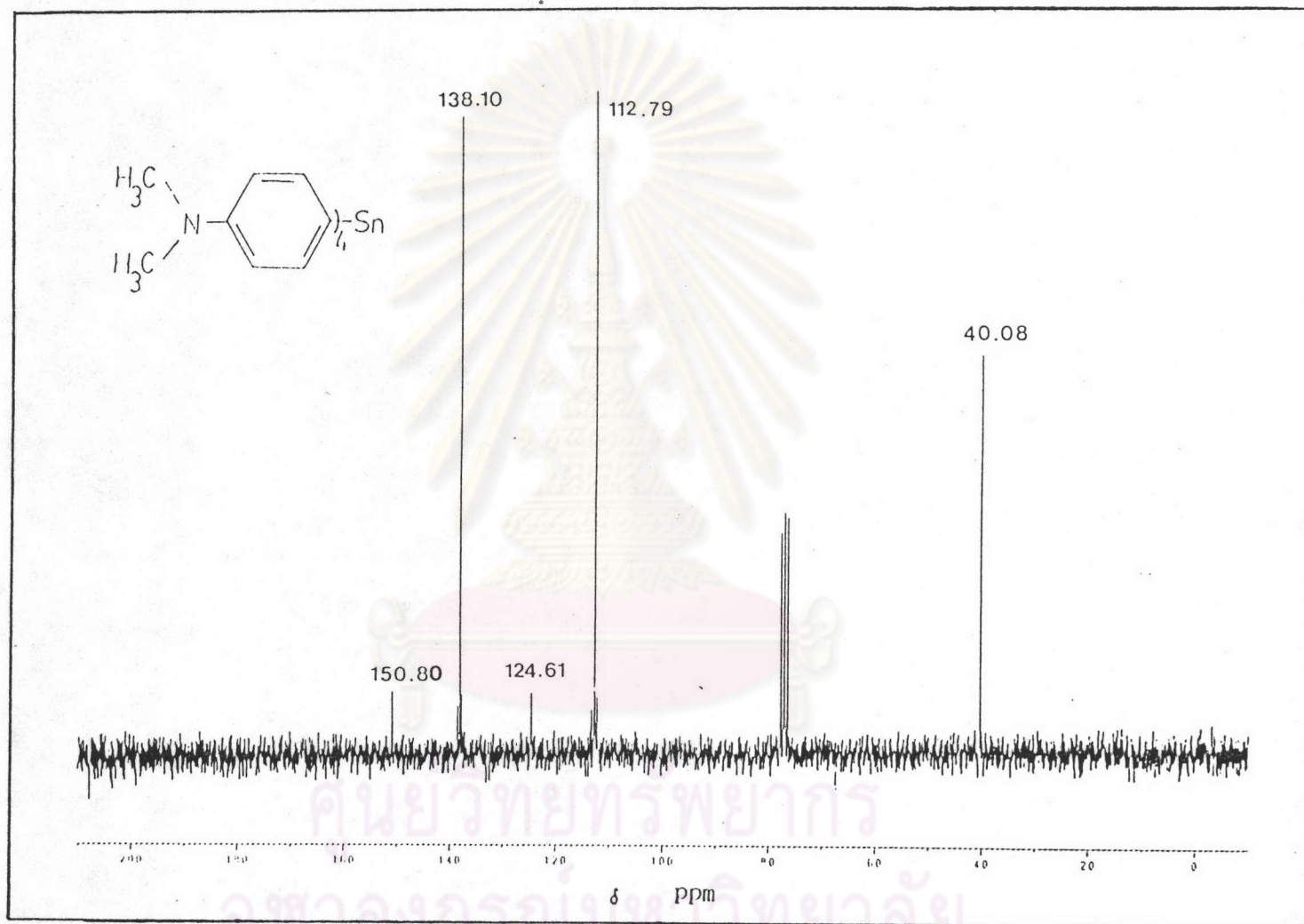


Figure 7 The CMR spectrum of tetrakis-(4-dimethylaminophenyl) stannane (1) : CDCl_3

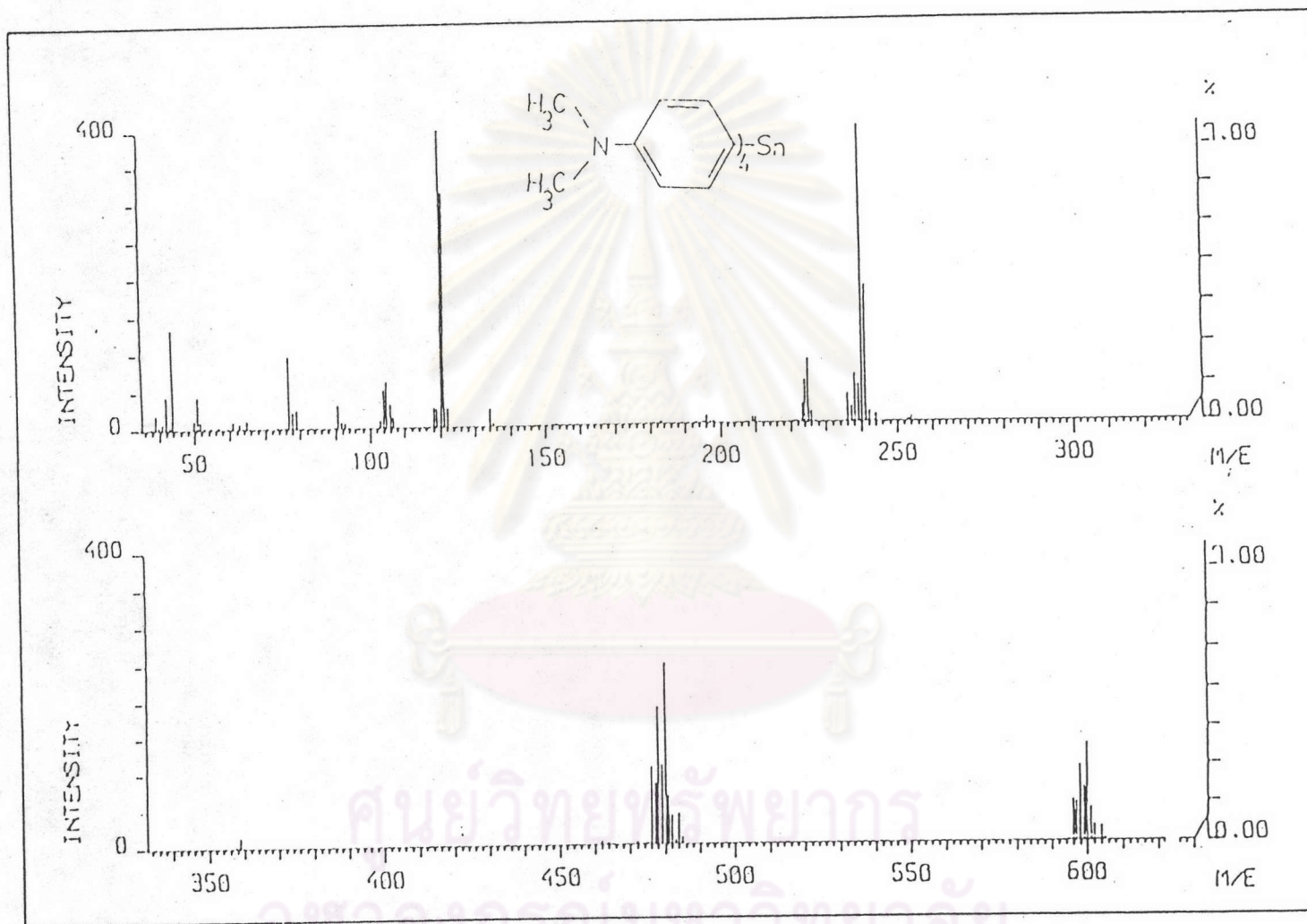


Figure 8 The mass spectrum of tetrakis-(4-dimethylaminophenyl)
stannane (1) : CDCl_3

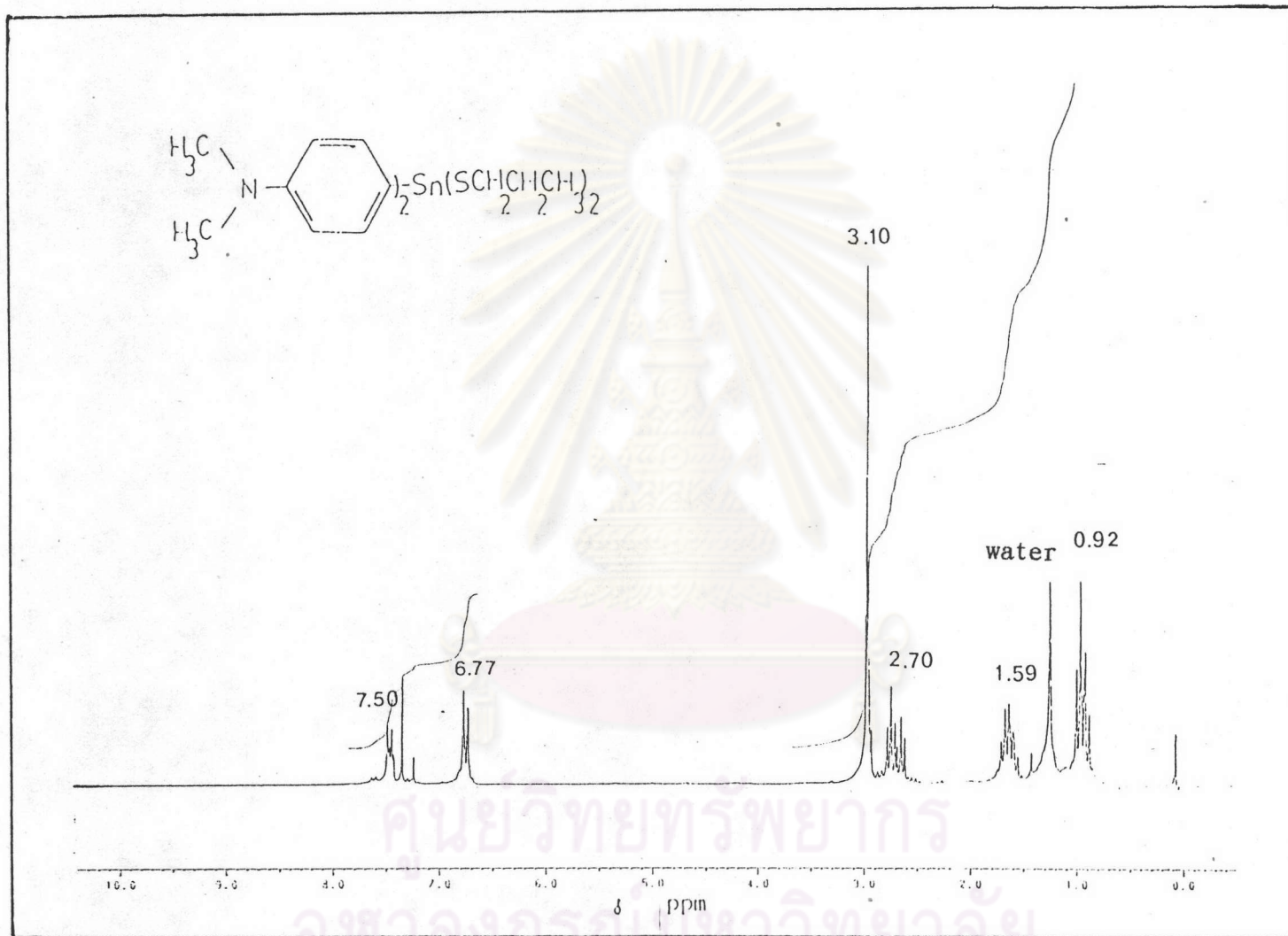


Figure 9 The PMR spectrum of bis-(4-dimethylaminophenyl)stannane dipropylsulfide (2) : CDCl_3

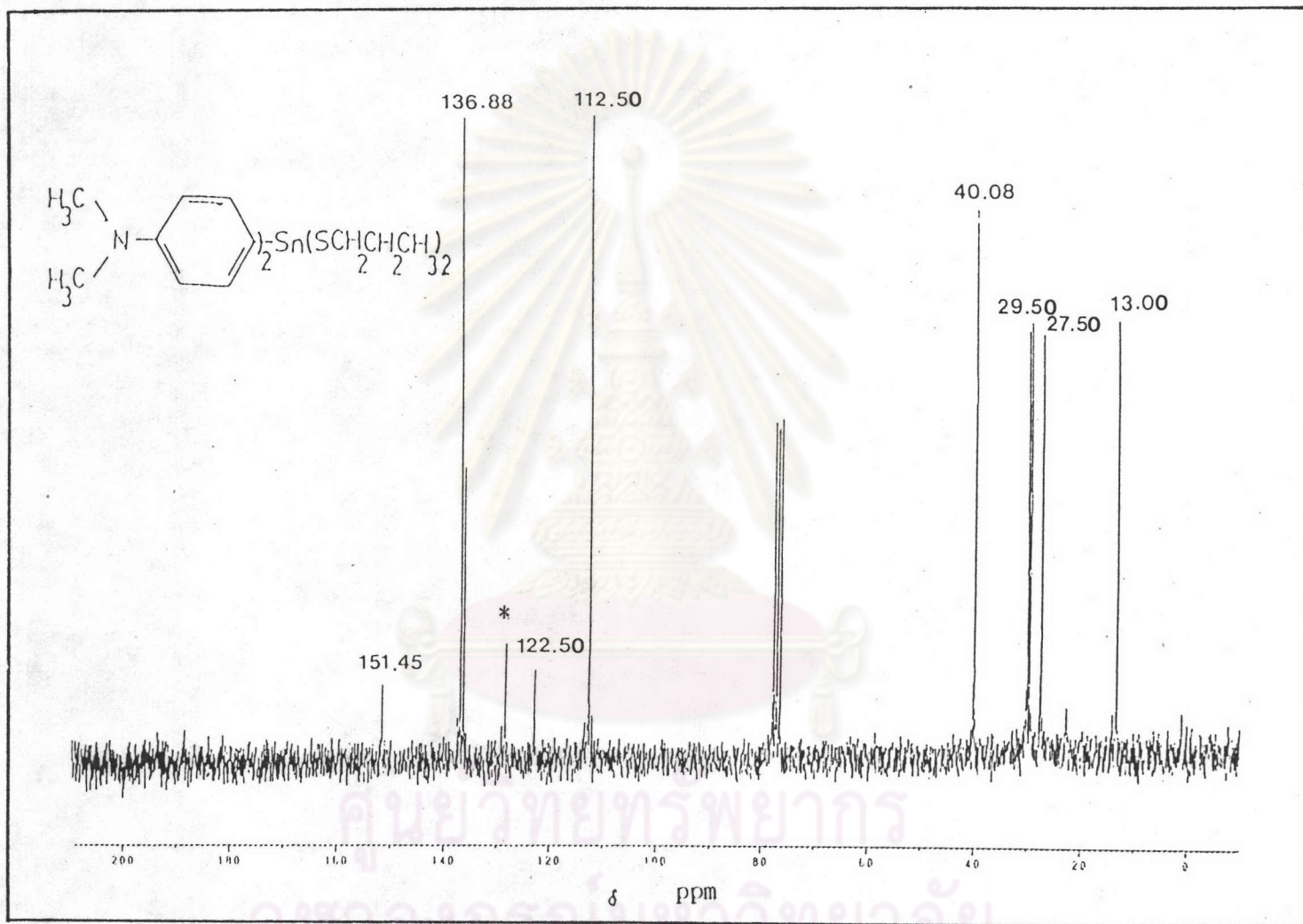


Figure 10 The CMR spectrum of bis-(4-dimethylaminophenyl)stannane
dipropylsulfide (2) : CDCl_3
* impurity : starting material

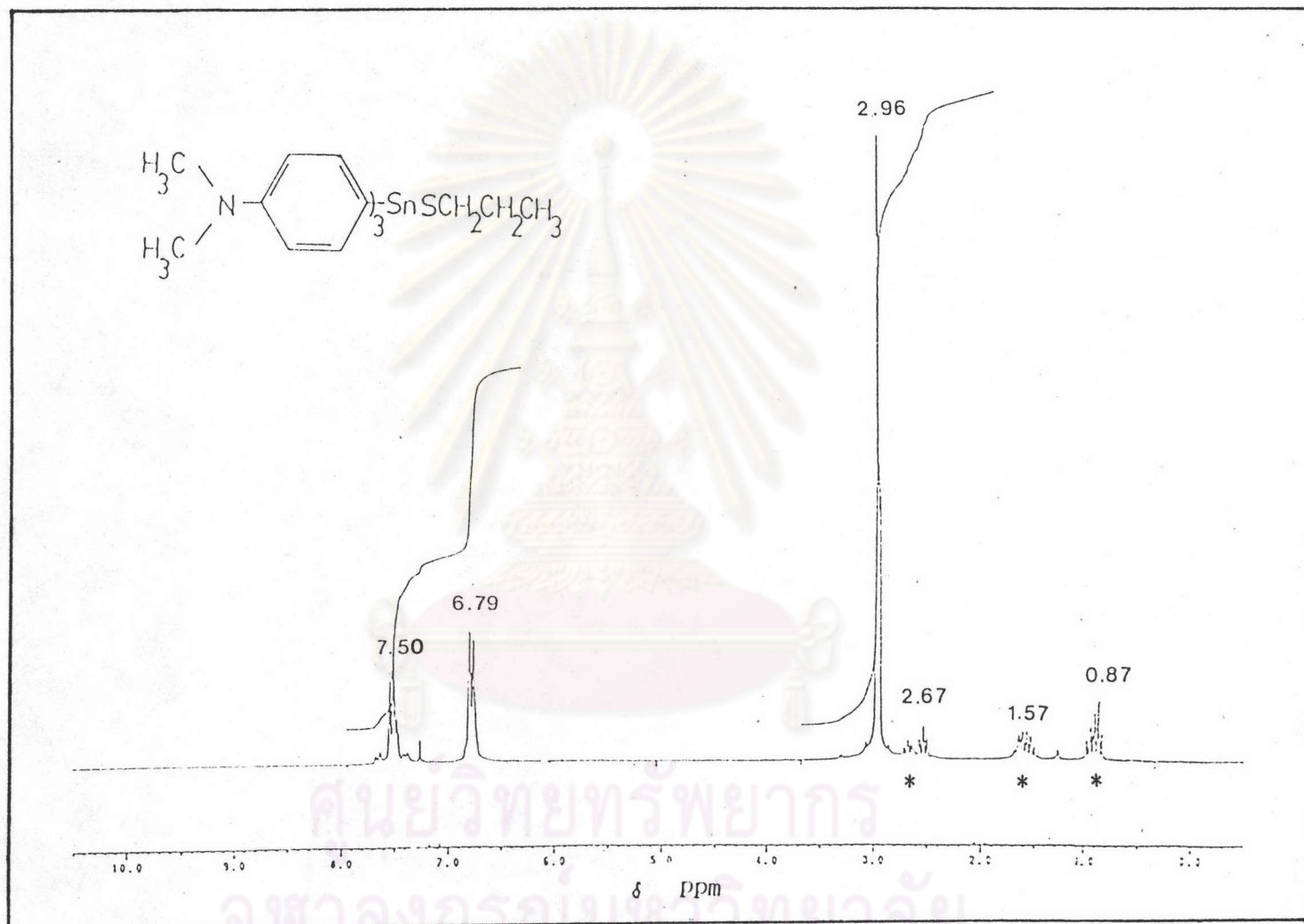


Figure 11 The PMR spectrum of tris-(4-dimethylaminophenyl) stannane propylsulfide (3) : CDCl₃

* impurity : CH₃CH₂CH₂-S-S-CH₂CH₂CH₃

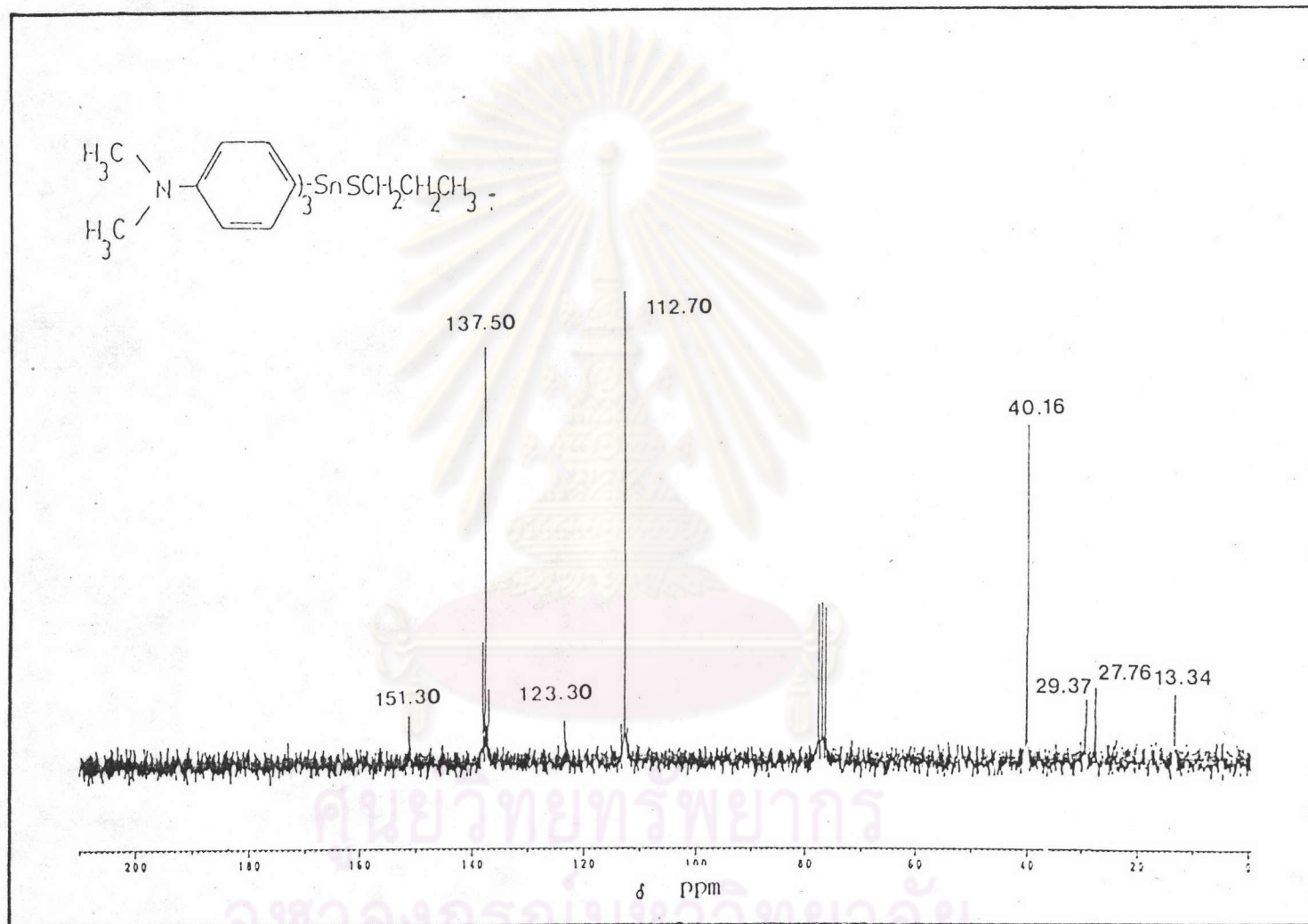


Figure 12 The ^{13}C NMR spectrum of tris-(4-dimethylaminophenyl) stannane propylsulfide (3) : CDCl_3

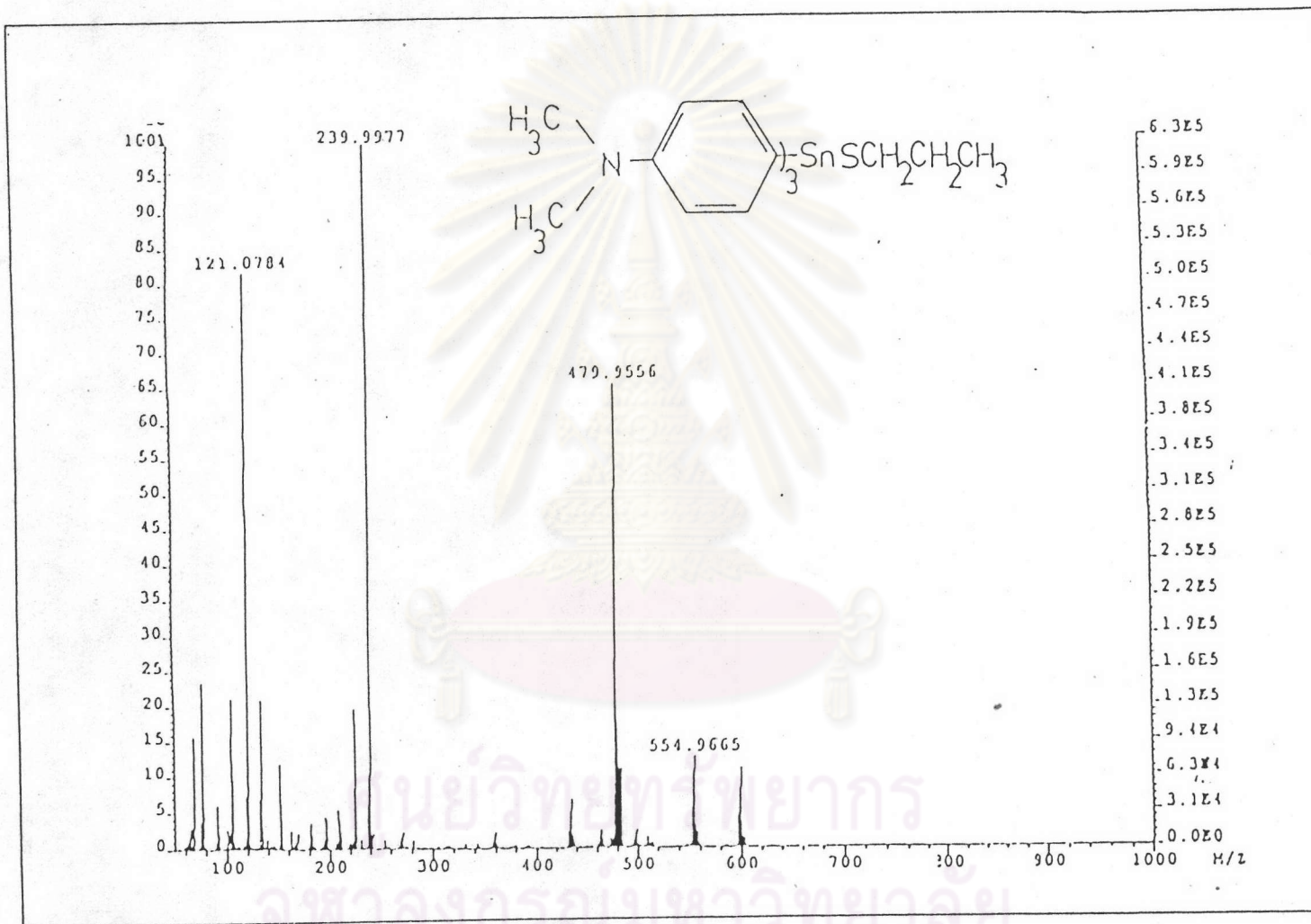


Figure 13 The mass spectrum of tris-(4-dimethylaminophenyl) stannane propylsulfide (3)

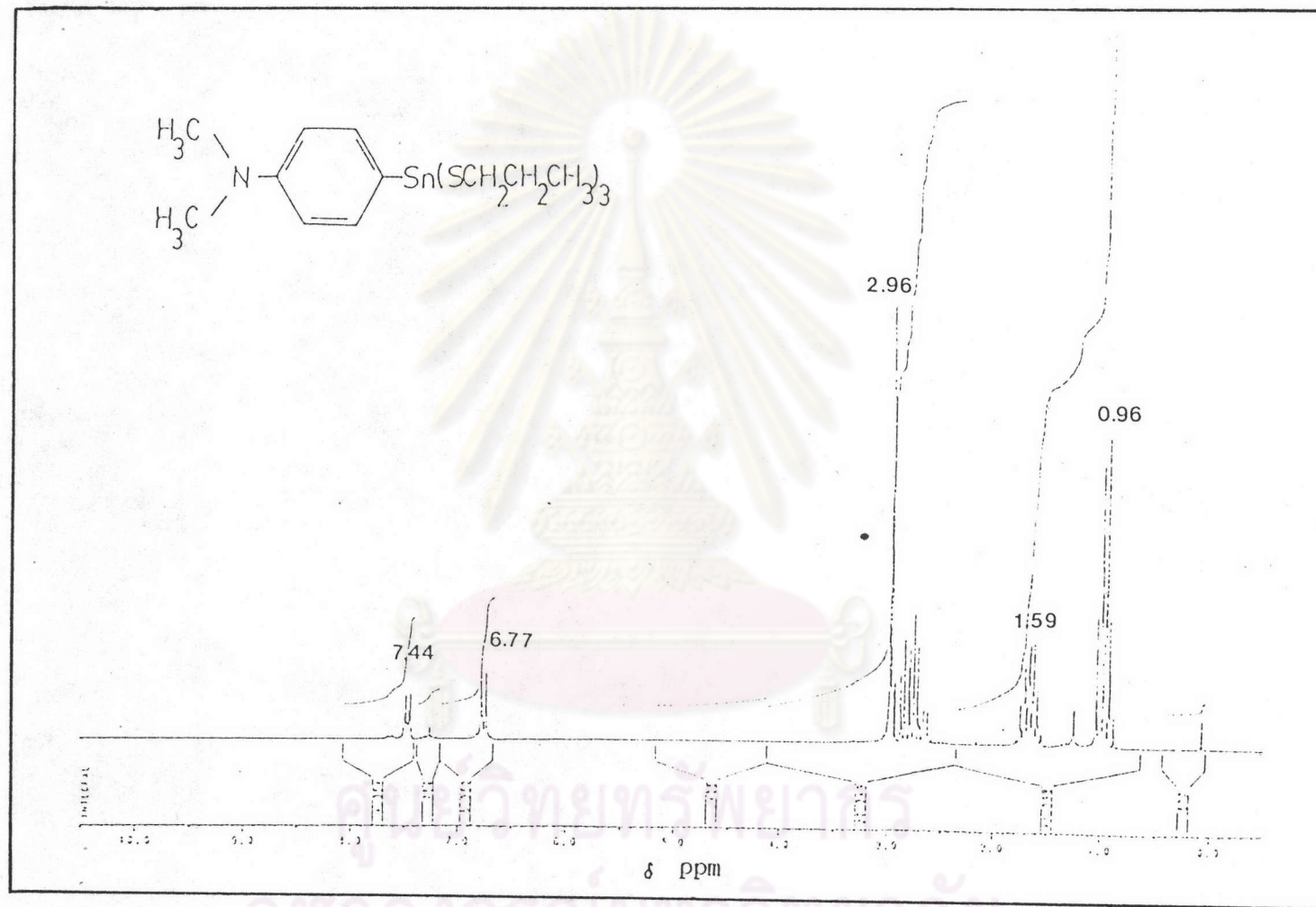


Figure 14 The PMR spectrum of 4-dimethylaminophenylstannane tripropylsulfide (4) : CDCl_3

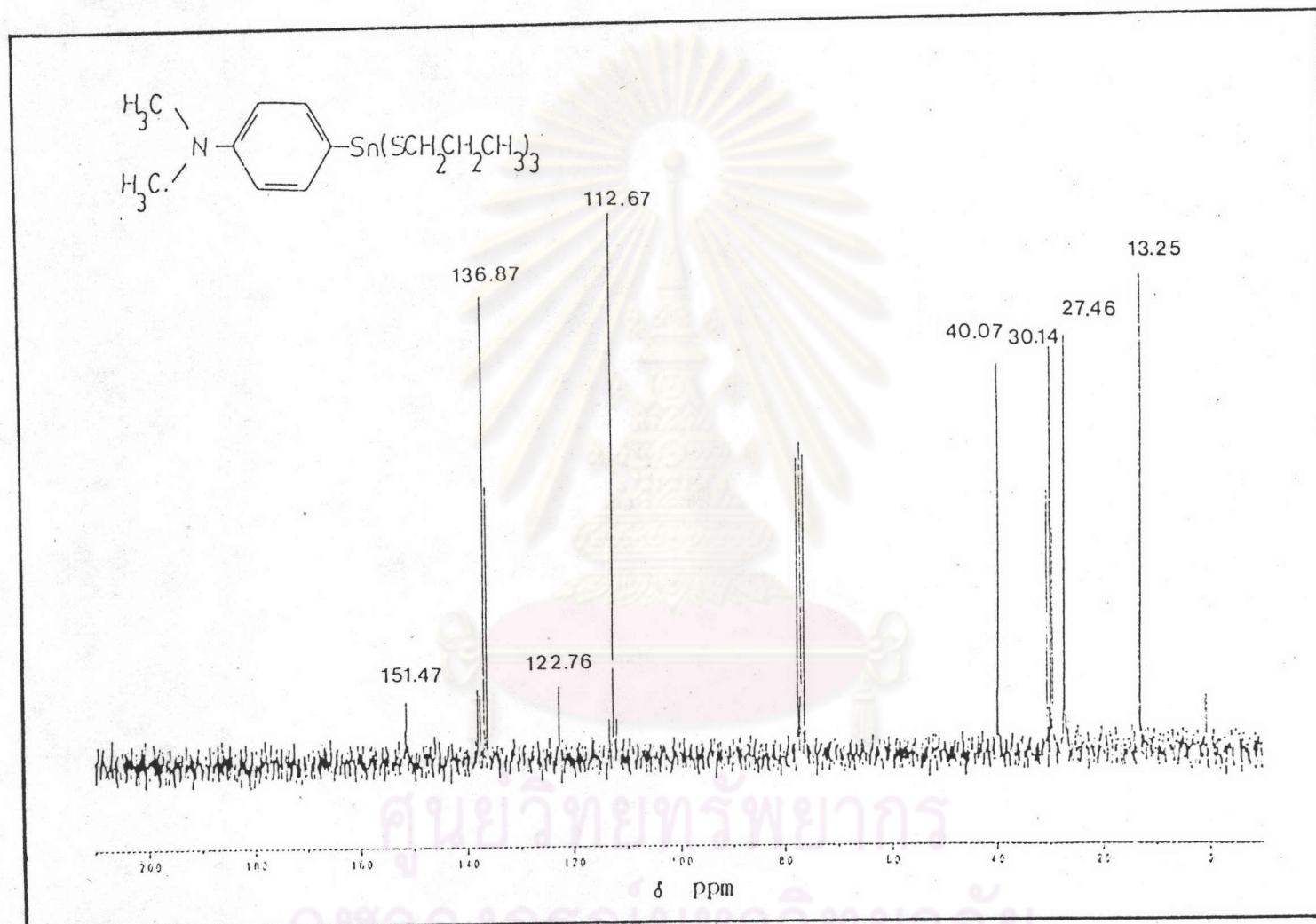


Figure 15 The ¹³C NMR spectrum of 4-dimethylaminophenylstannane tripropylsulfide (4) : CDCl₃

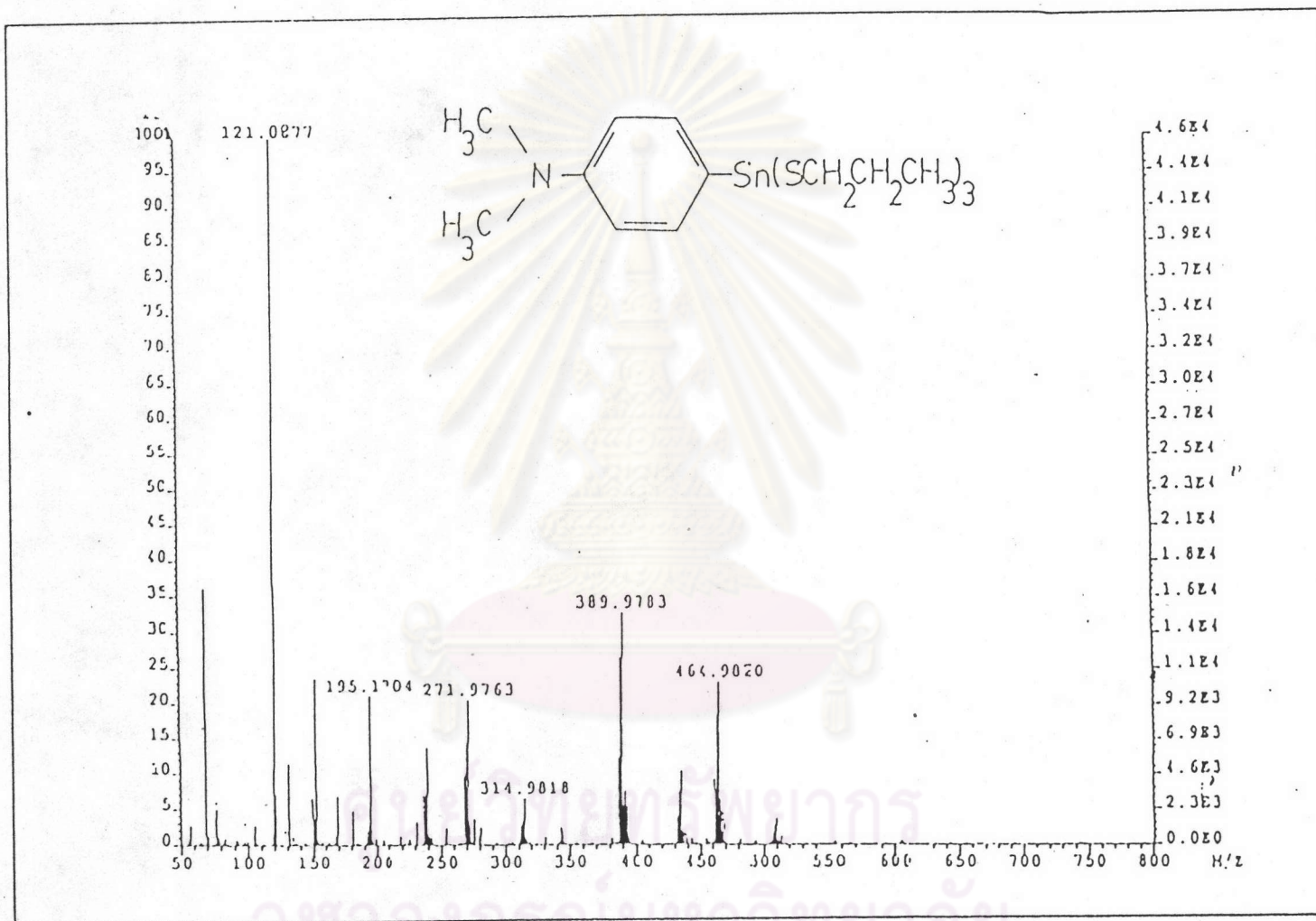


Figure 16 The mass spectrum of 4-dimethylaminophenylstannane tripropylsulfide (4)

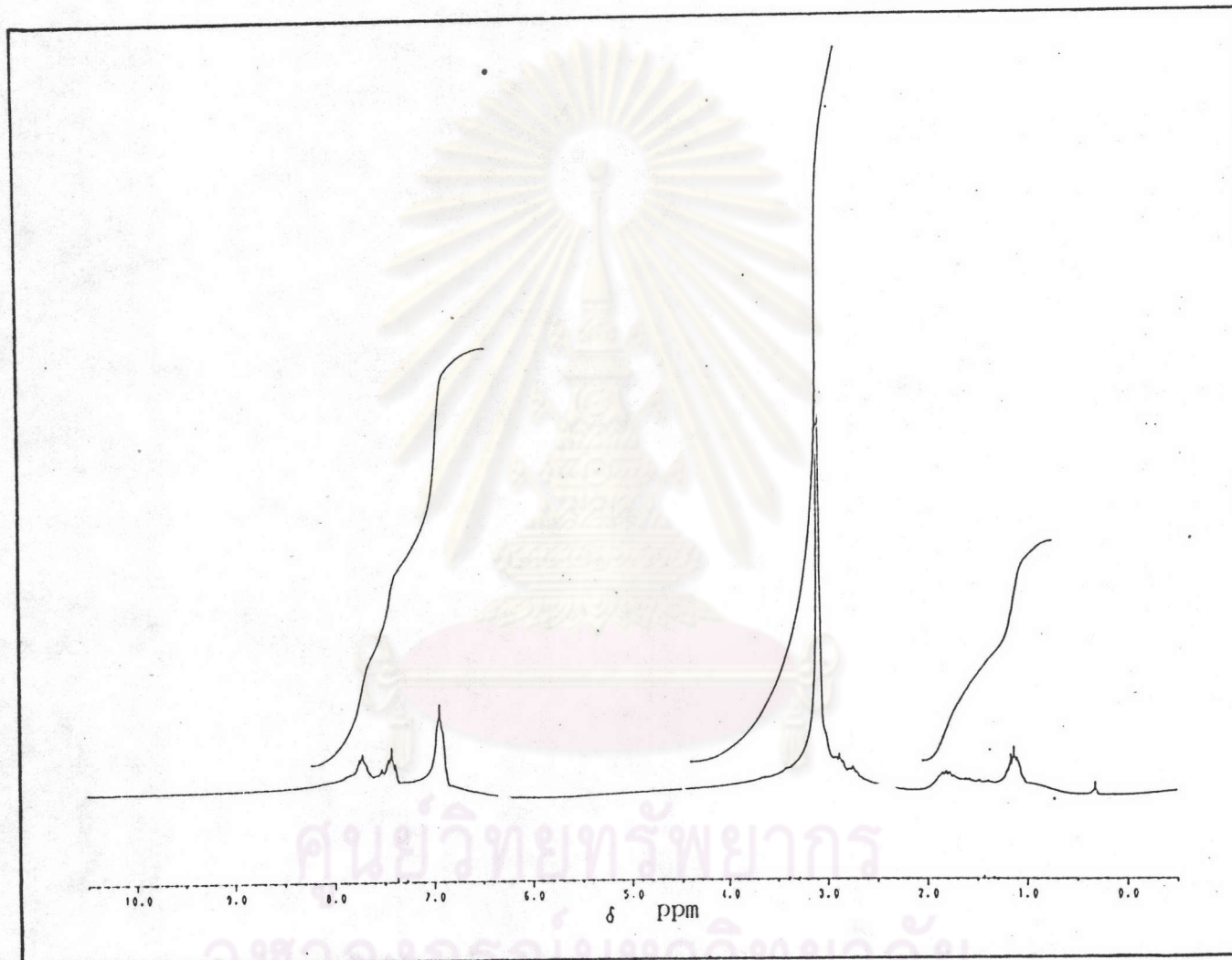


Figure 17 The PMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 1:1 mole ratio (8) : CDCl_3

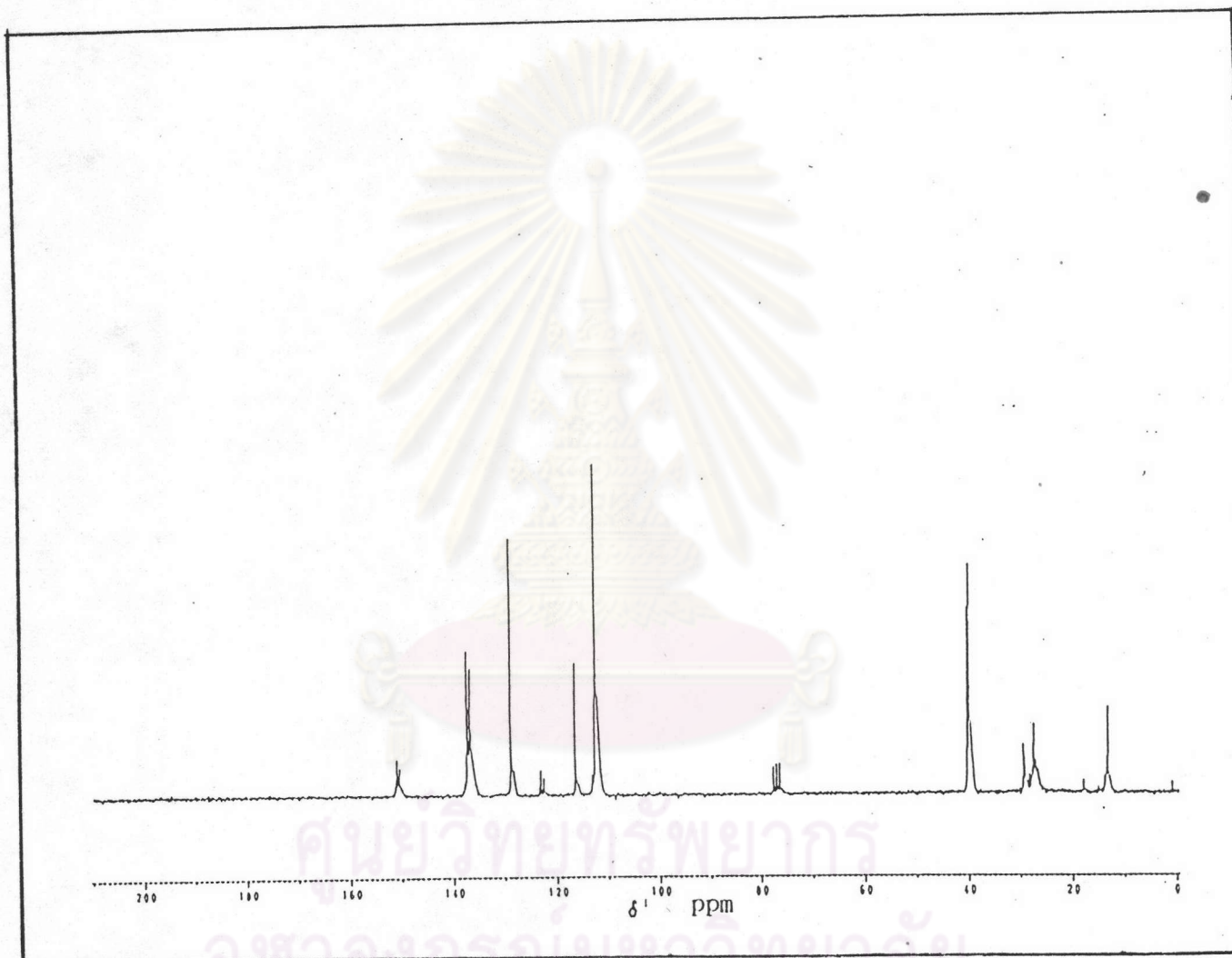


Figure 18 The CMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 1:1 mole ratio (8) : CDCl_3

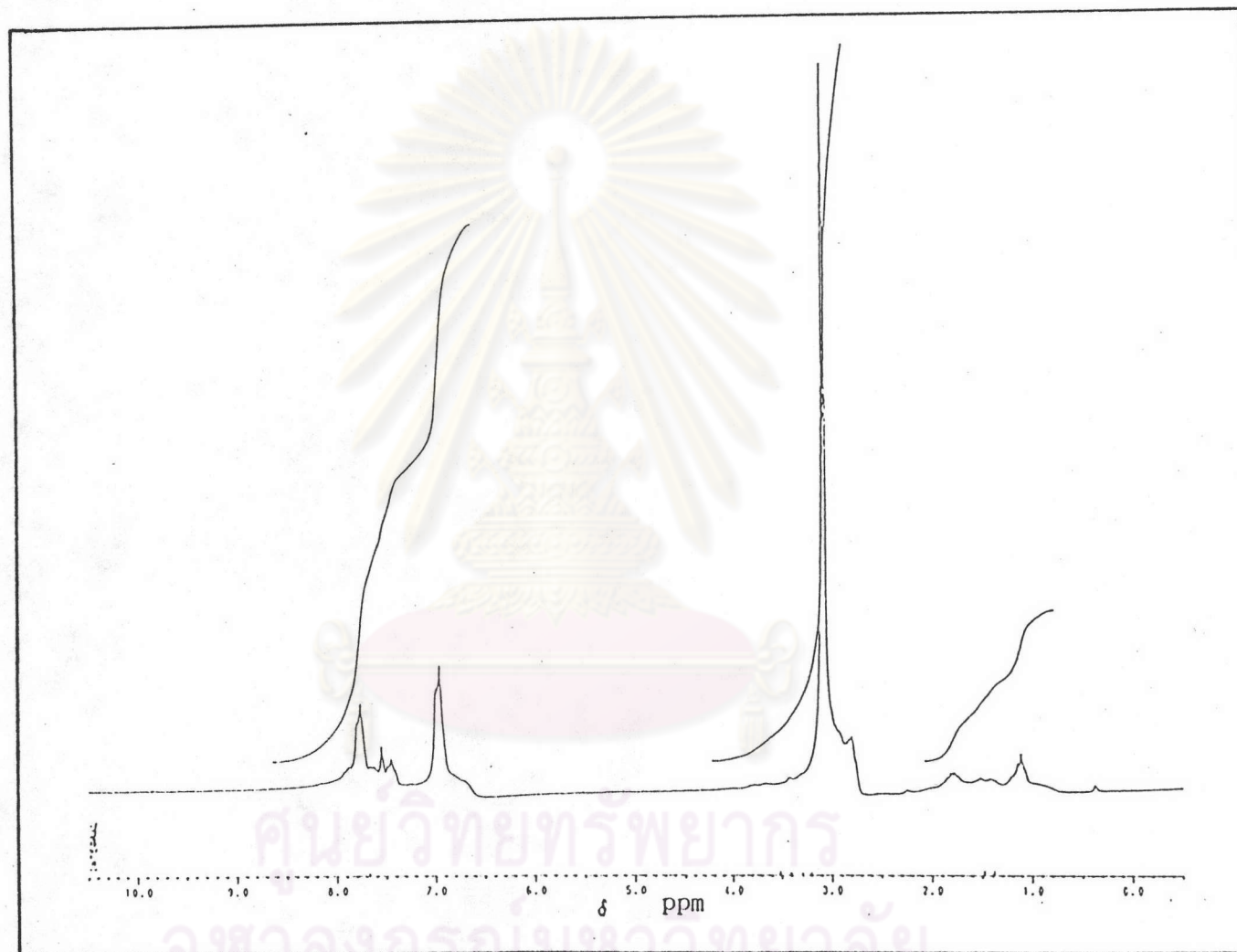


Figure 19 The PMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 2:1 mole ratio (9) : CDCl_3

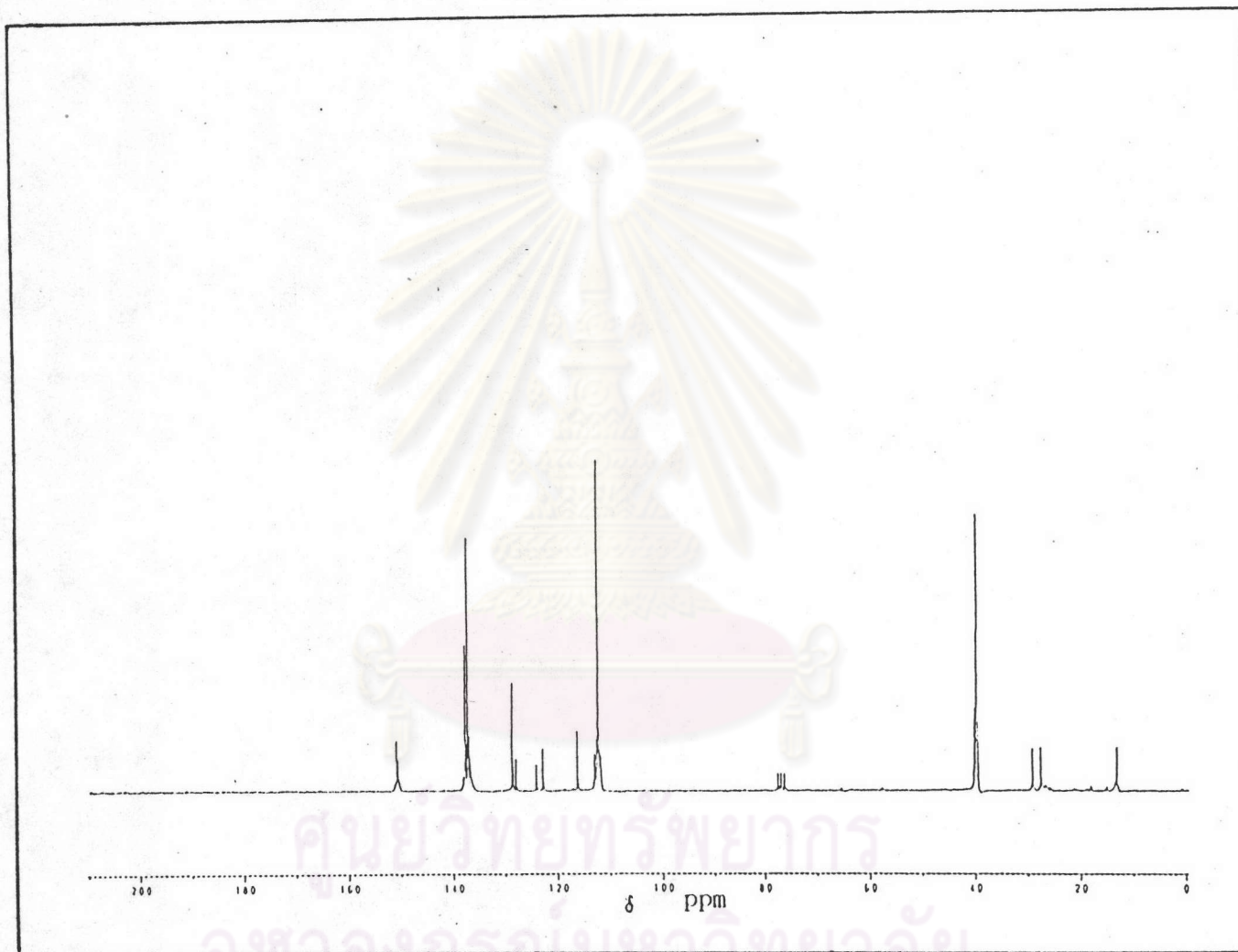


Figure 20 The CMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 2:1 mole ratio (9) : CDCl_3

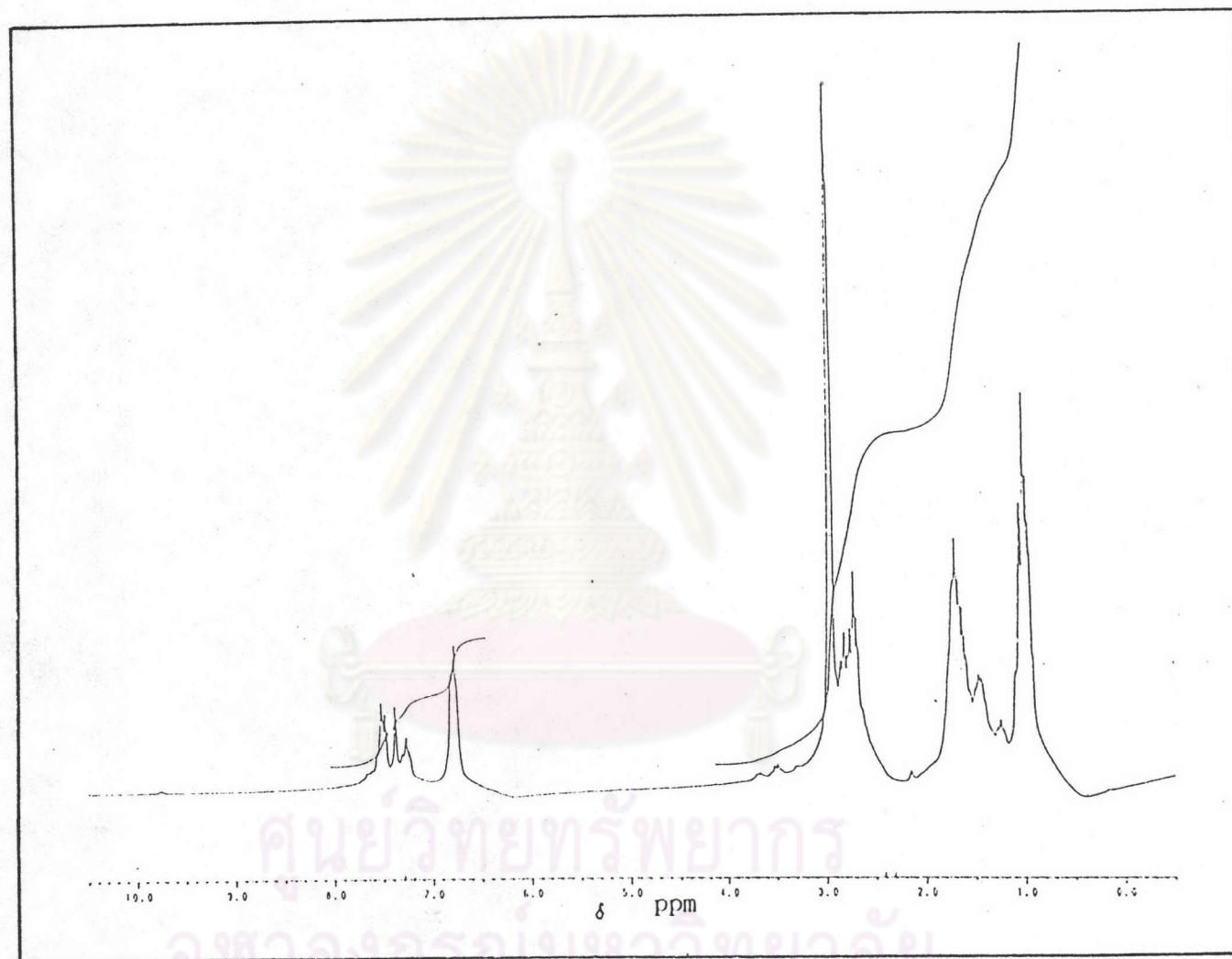


Figure 21 The PMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 1:2 mole ratio (10) : CDCl_3

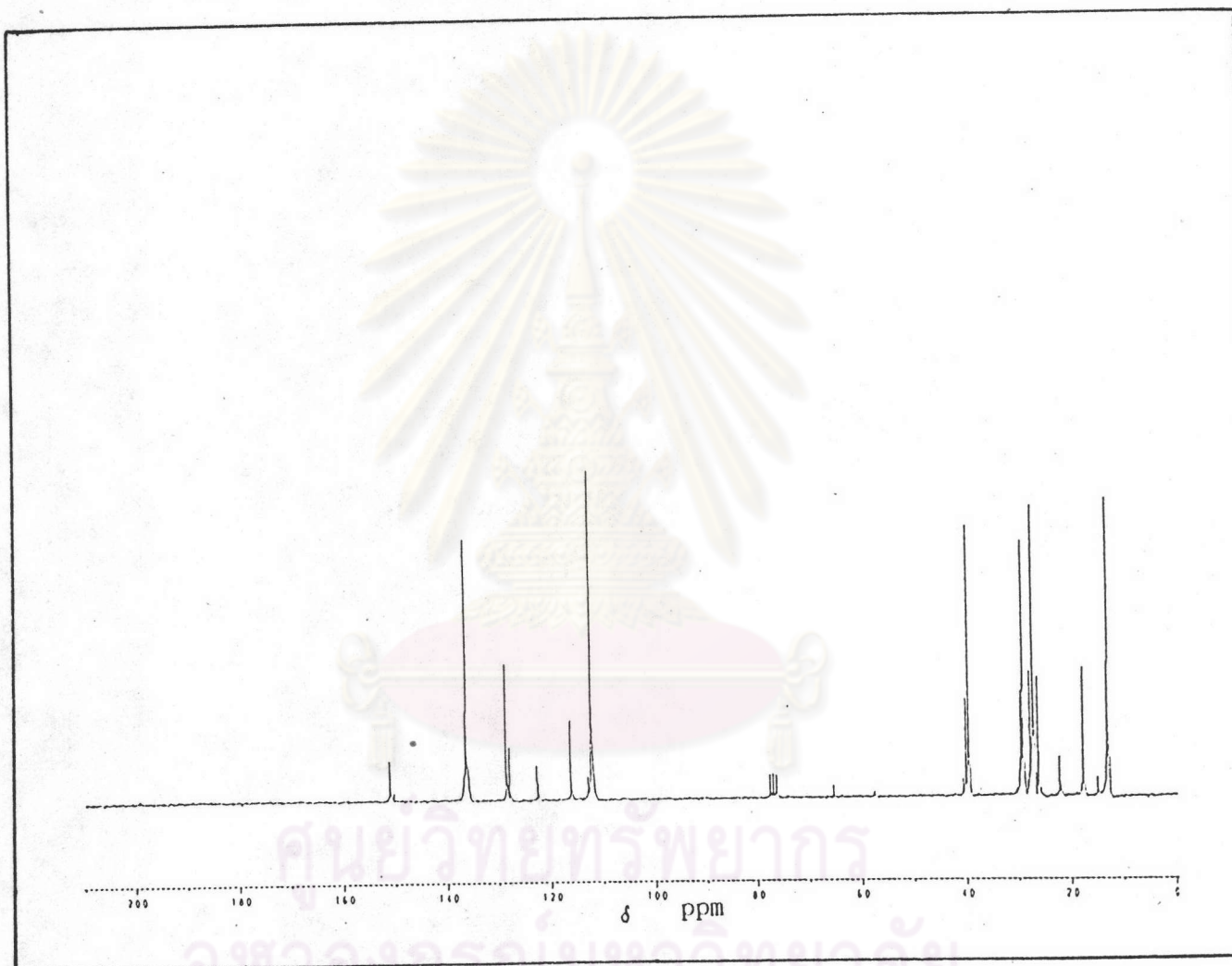
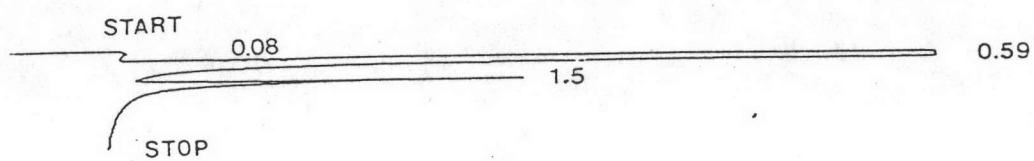
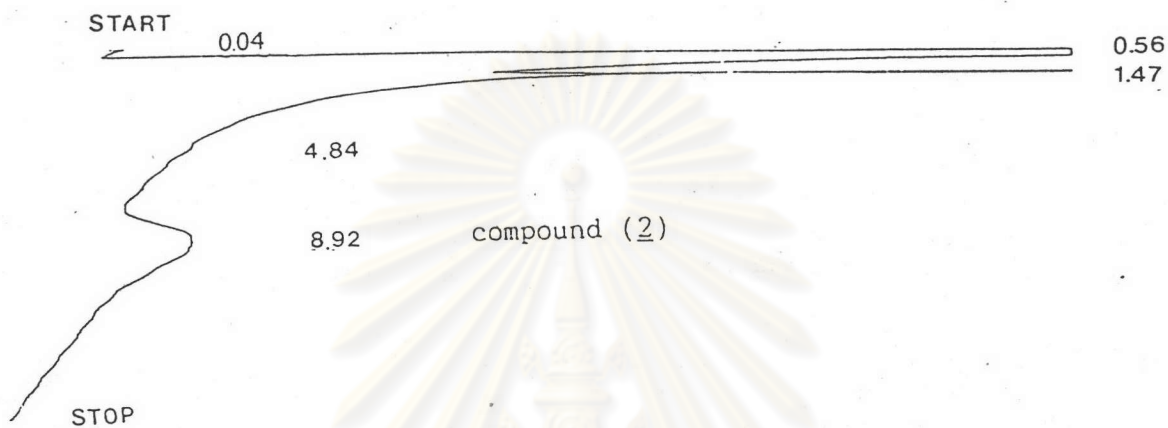


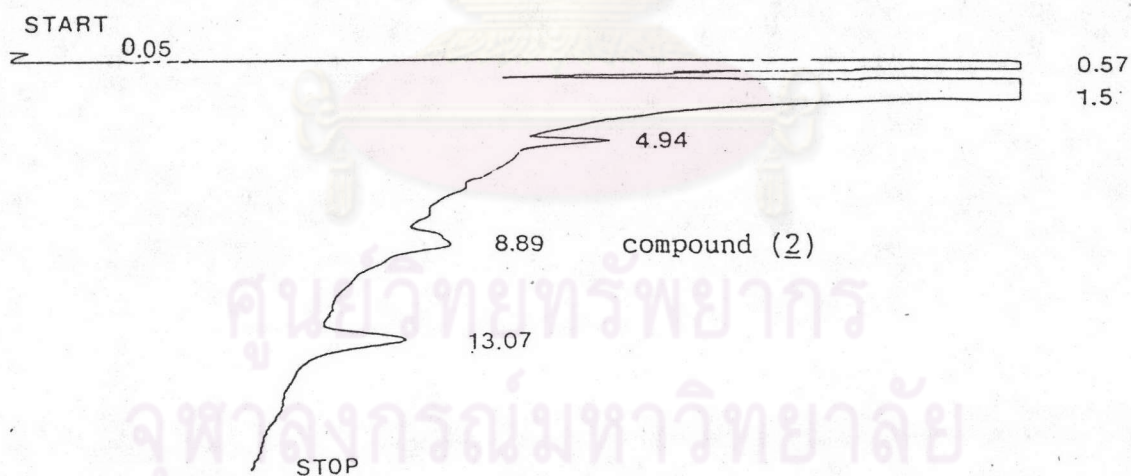
Figure 22 The CMR spectrum of the reaction mixture from redistribution reaction of tetrakis-(4-dimethylamino phenyl)stannane and butyltin trichloride in 1:2 mole ratio (10) : CDCl_3



(a)

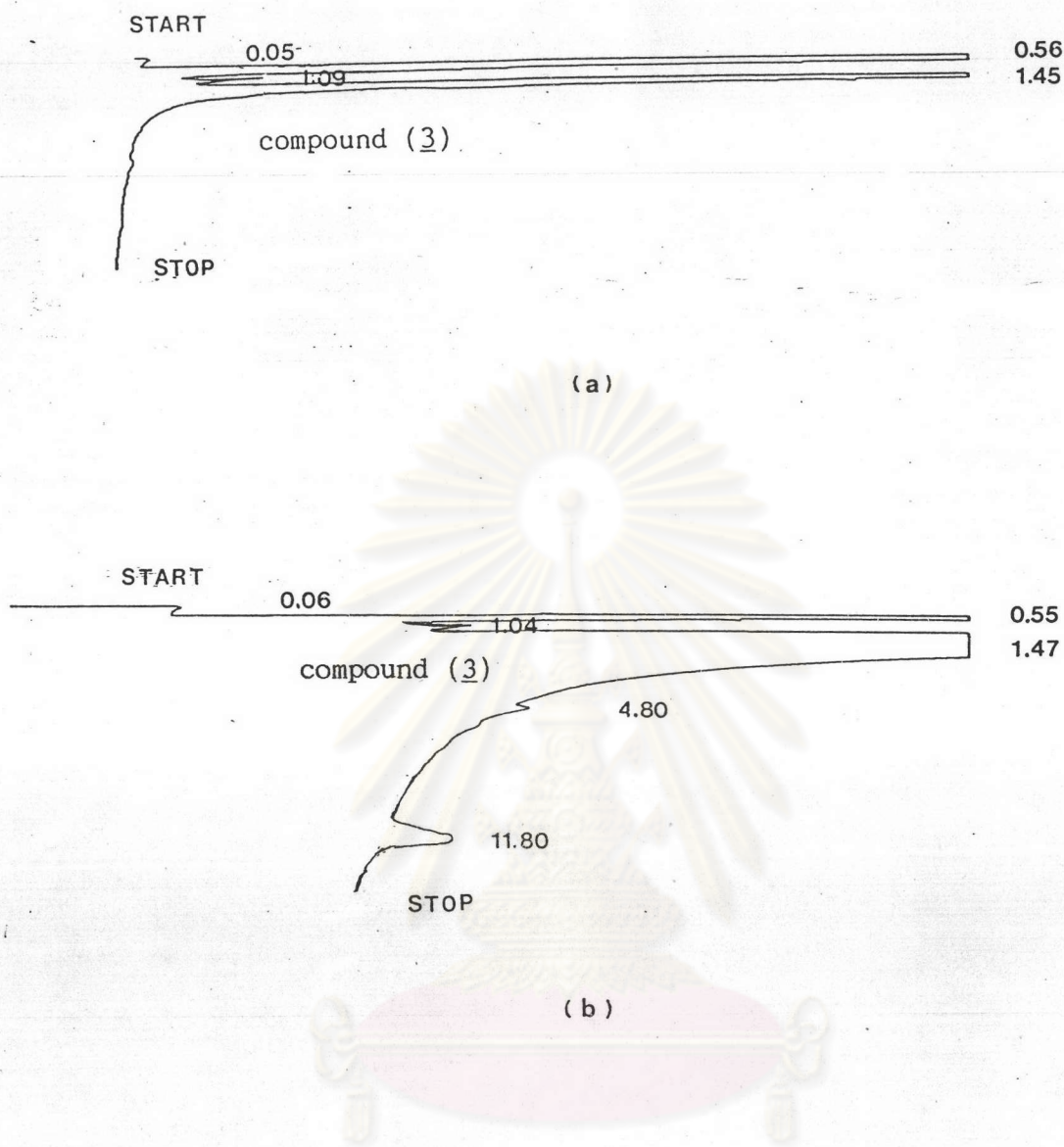


(b)



(c)

Figure 23 Gas chromatograms of chloroform (a), compound (2) (b)
and the reaction mixture (8) (c)



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Figure 24 Gas chromatograms of compound (3) (a) and the reaction mixture (9) (b)

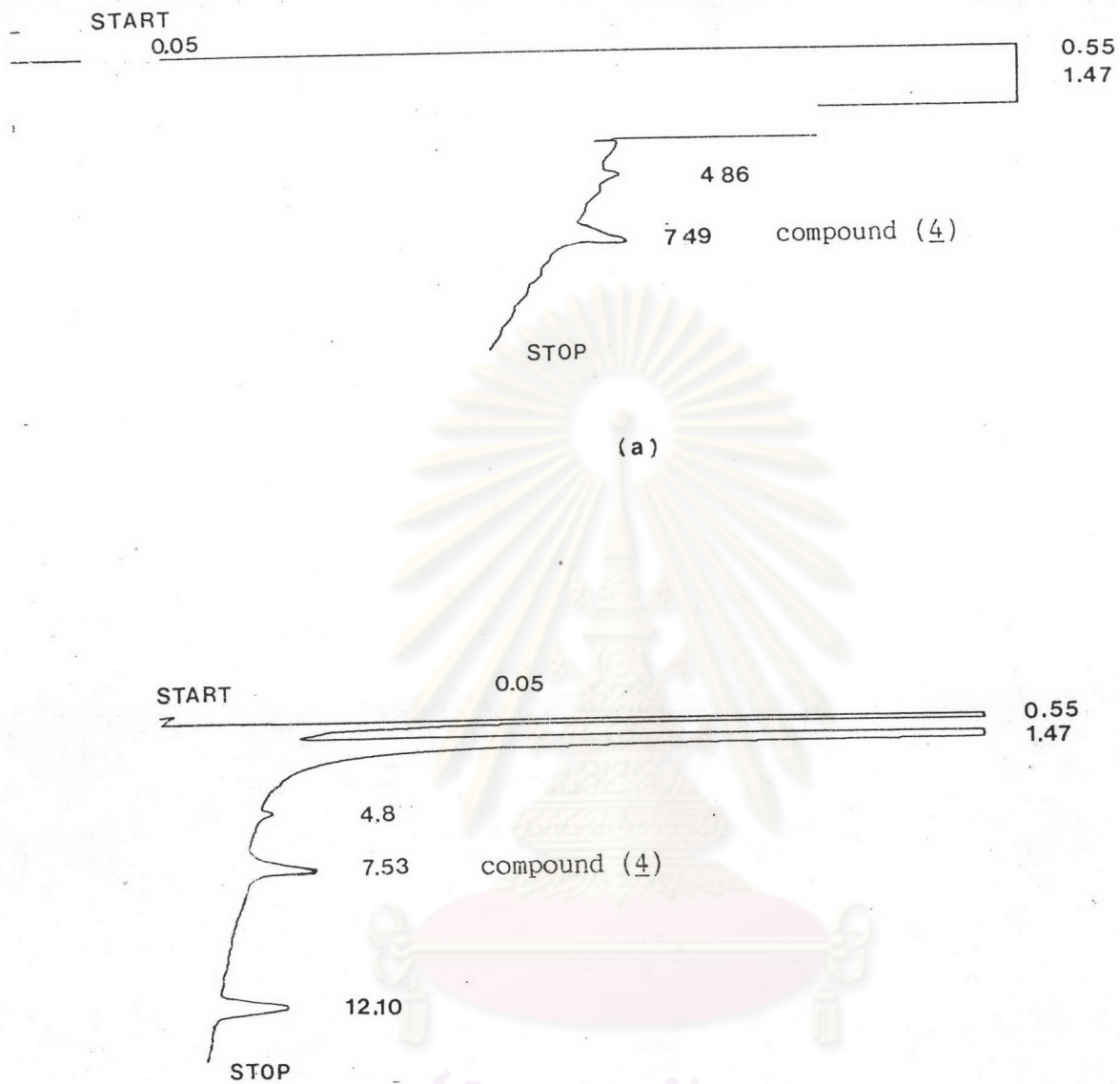


Figure 25 Gas chromatograms of compound (4) (a) and the reaction mixture (10) (b)

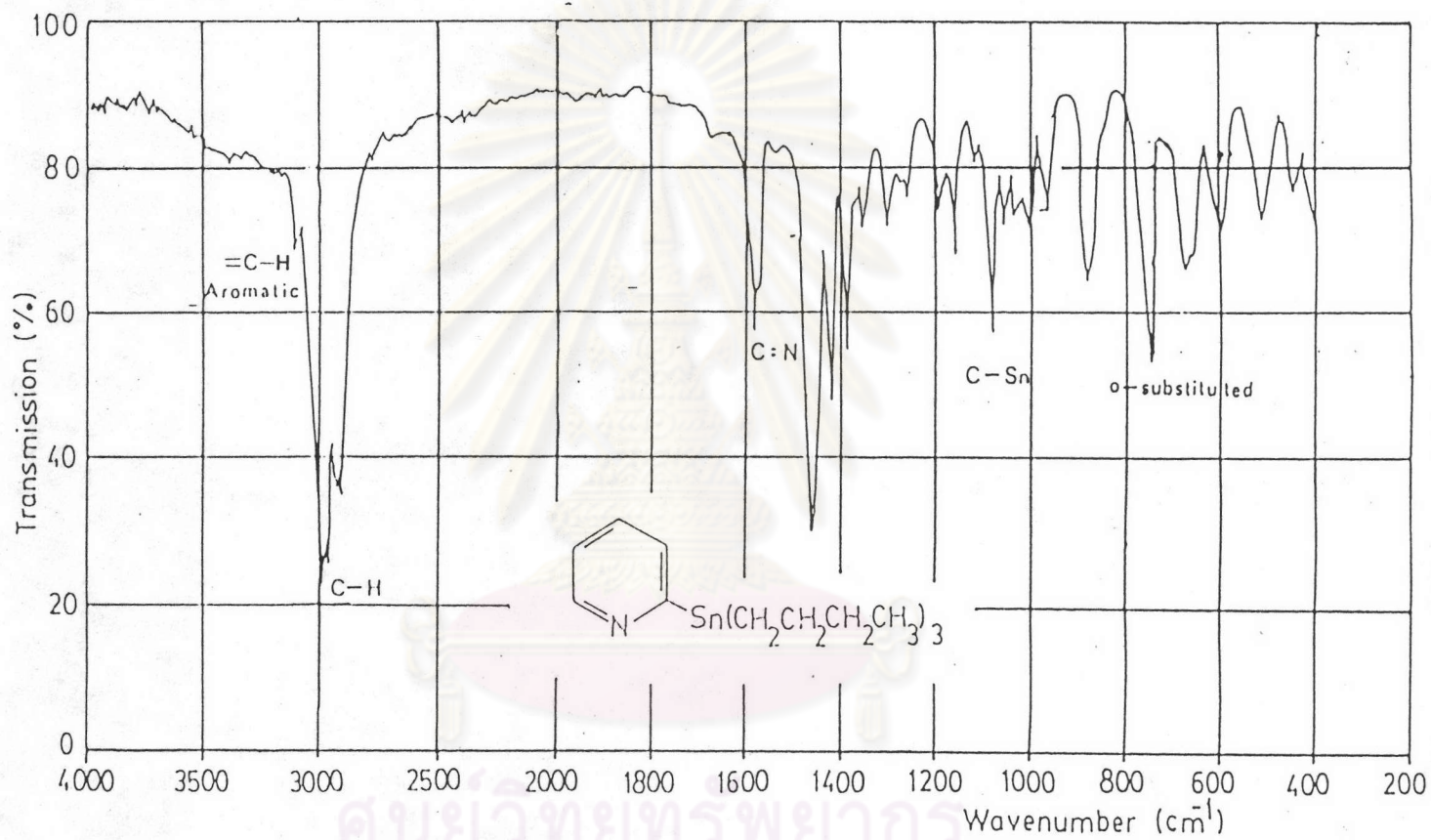


Figure 26 The IR spectrum of tributyl-2-pyridylstannane (11) : NaCl

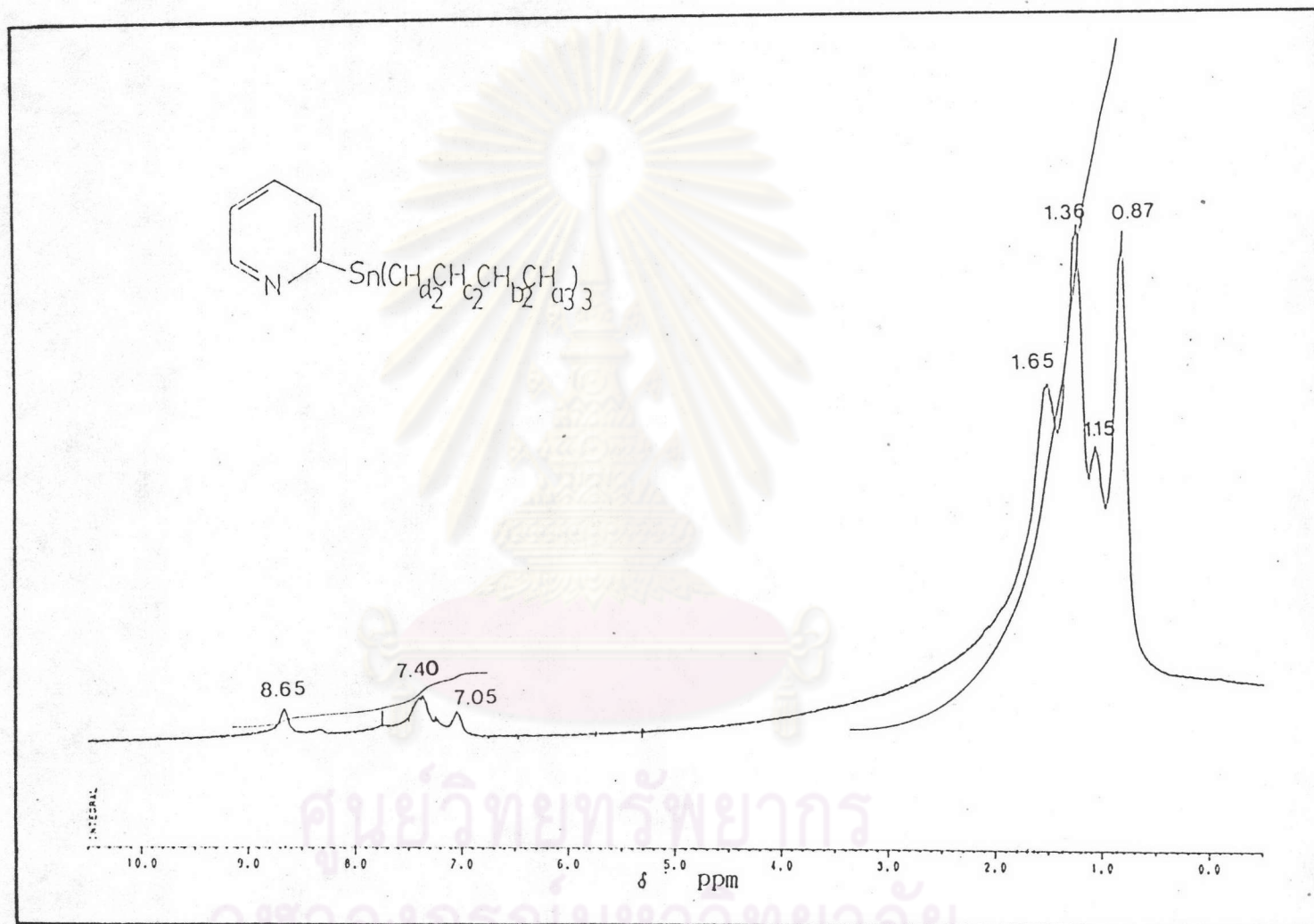


Figure 27 The PMR spectrum of tributyl-2-pyridylstannane (11) : CDCl_3

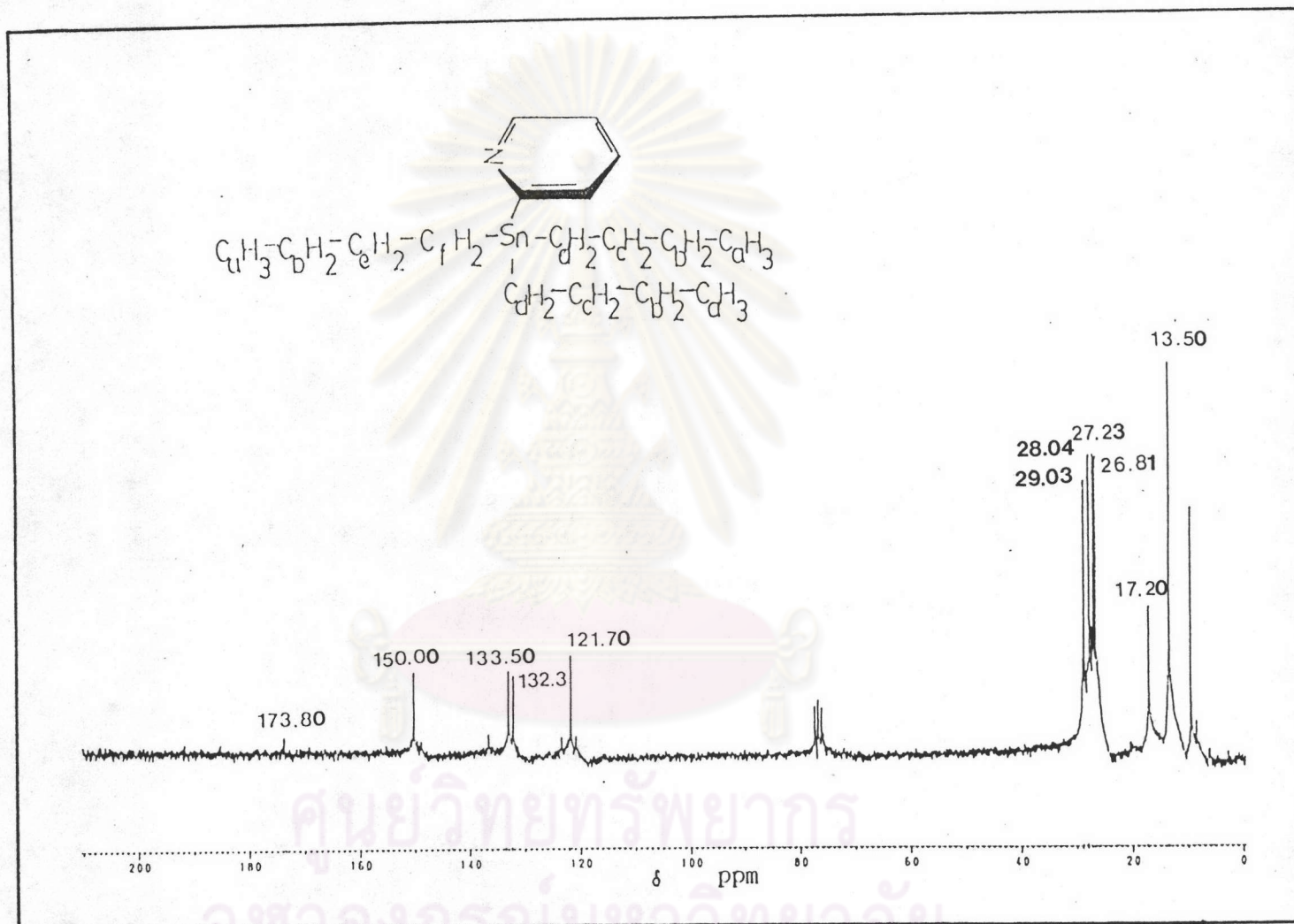


Figure 28 The CMR spectrum of tributyl-2-pyridylstannane (11) : CDCl₃

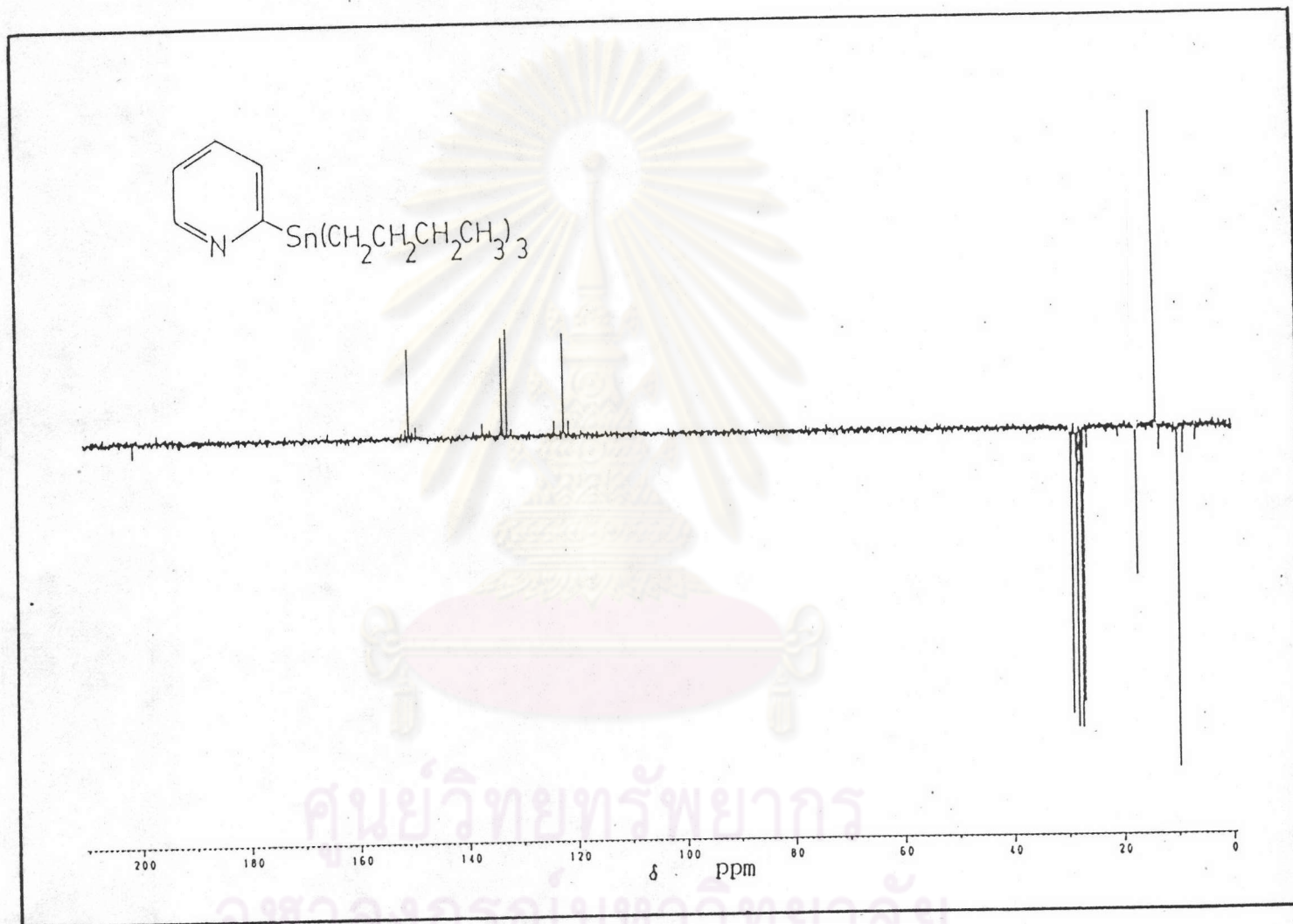


Figure 29 The CMR spectrum of tributyl-2-pyridylstannane shows

DEPT-135 : CDCl_3

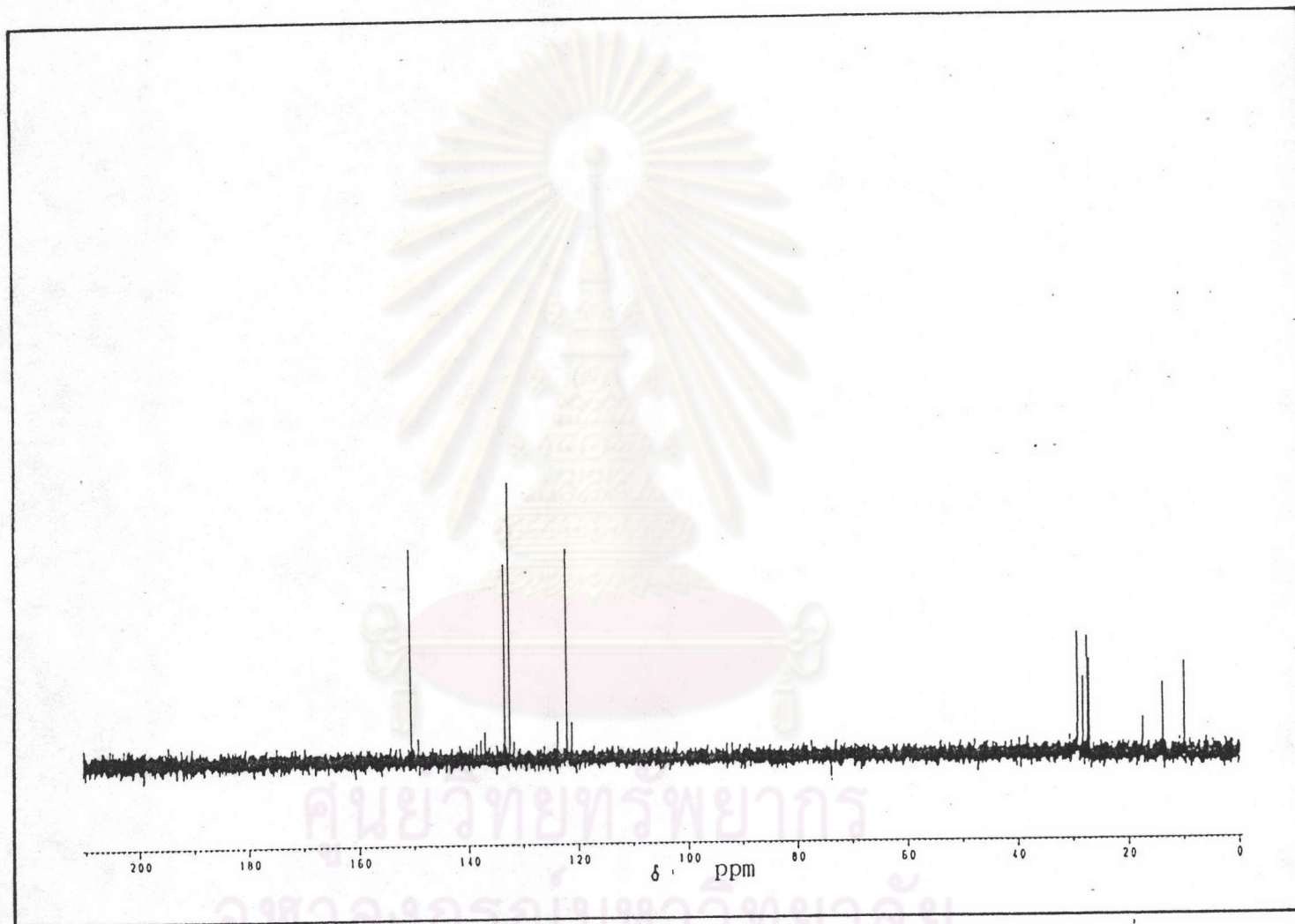


Figure 30 The CMR spectrum of tributyl-2-pyridylstannane shows
DEPT-90 : CDCl_3

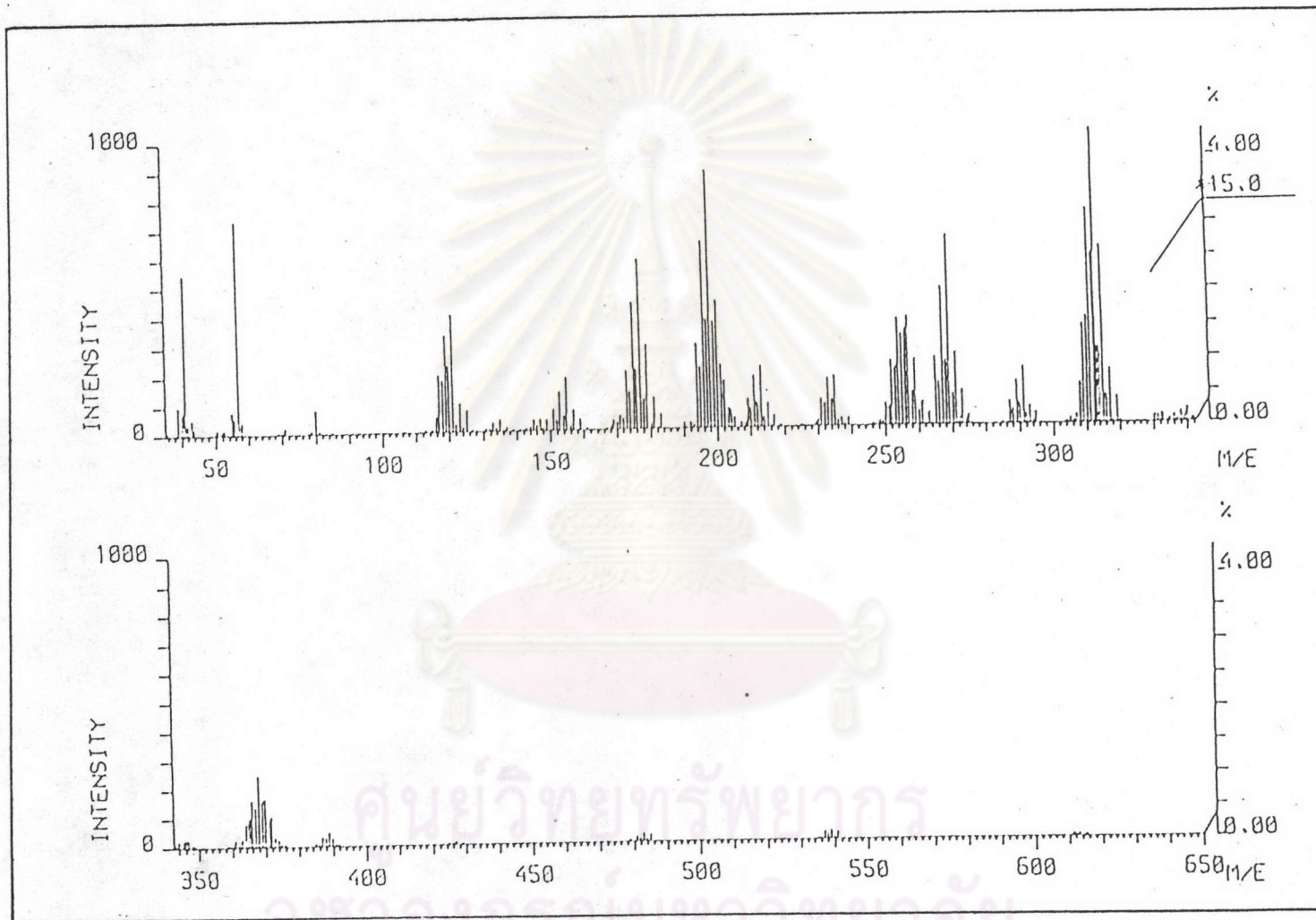


Figure 31 The mass spectrum of tributyl-2-pyridylstannane (11)

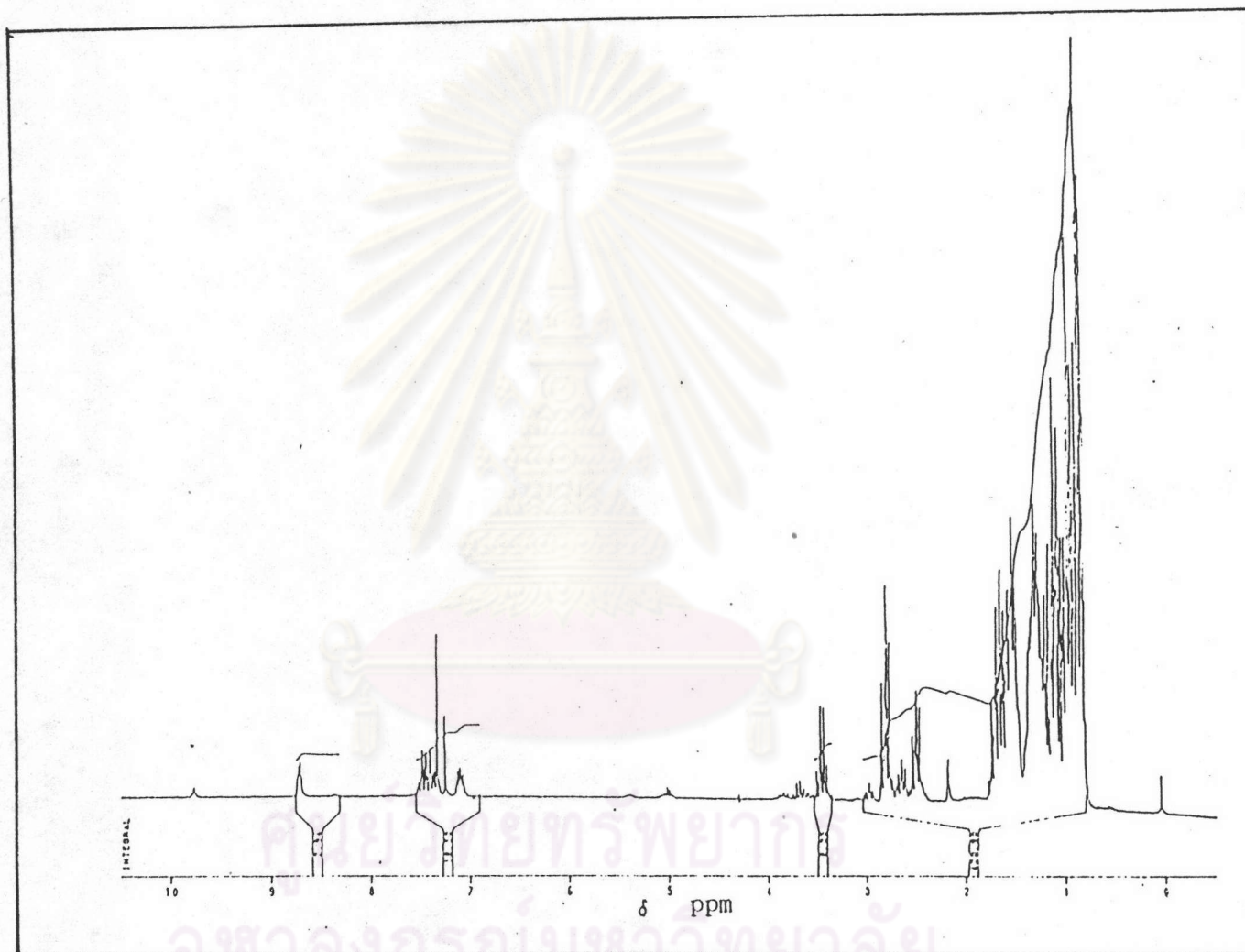


Figure 32 The PMR spectrum of the reaction mixture from redistribution reaction of tributyl-2-pyridylstannane and stannic chloride in 1:1 mole ratio : CDCl_3

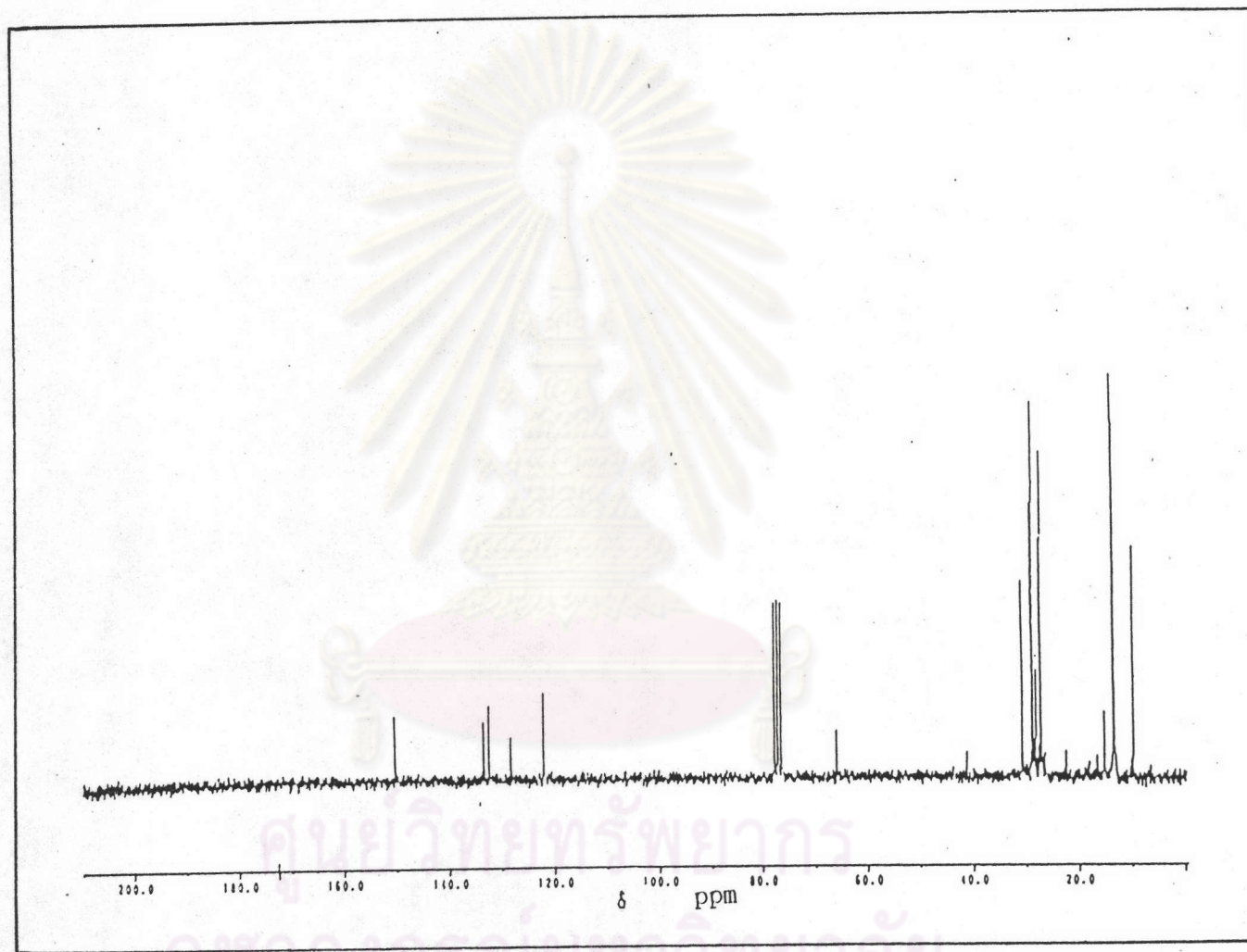


Figure 33 The CMR spectrum of the reaction mixture from redistribution reaction of tributyl-2-pyridylstannane and stannic chloride in 1:1 mole ratio : CDCl_3

VITA

Miss Oranuch Apaiwiwat was born on February 5, 1966 in Bangkok, Thailand. She graduated with a Bachelor Degree of Science majoring in Chemistry from Chulalongkorn University in 1990. She has been a graduate student in graduate school at Chulalongkorn University majoring in Organic Chemistry. She graduated with a Master Degree of Science (Organic Chemistry) in 1993.



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