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Dragendorff's spray reagent

Solution A : 0.85 g basic bismuth nitrate is dissolved in a mixture of 10 ml acetic acid and 40 ml water.

Solution B : A solution is made of 8 g potassium iodide in 20 ml water.

Stock solution : Equal volumes of A and B are mixed.

Spray reagent : 1 ml stock solution is mixed with 2 ml acetic acid and 10 ml water before use.



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Key to the Fig. XIX - LSolvent systems

- a = aluminium oxide G / chloroform
b = aluminium oxide G / diethyl ether
c = kieselgel G / chloroform
d = kieselgel G / chloroform : acetone, 5 : 4
e = kieselgel G / chloroform : ethyl alcohol, 97 : 3
f = kieselgel G / chloroform : ethyl alcohol, 95 : 5
g = kieselgel G / cyclohexane : ethyl acetate, 1 : 1
h = kieselgel G / diethyl ether
i = kieselgel G / ethyl acetate
j = kieselgel G / ethyl acetate : diethyl ether, 1 : 1
k = kieselgel G / ethyl acetate : isopropyl alcohol :
strong solution of ammonium hydroxide,
100 : 2 : 1

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Key to the Fig. XIX - L (continued)

- T_a = alkaloids crystallised from concentrated ethyl alcohol
solution of total crude alkaloids
- T_b = purified alkaloidal extract
- T_c = alkaloids fraction from aluminium oxide column
- T_d = alkaloids fraction from aluminium oxide column
- T_e = total alkaloids from isomerisation of TS₂
- T_f = total alkaloids from isomerisation of TS₁
- TS₁ = isolated tetrahydroalstonine
- TS₂ = isolated rauniticine
- TS₃ = isolated 14-hydroxy-3-isorauniticine
- TS₄ = isolated oxindole (M⁺ 368)
- TS₅ = isolated oxindole (M⁺ 368)
- TS₆ = 3-isorauniticine (isomerisation product of TS₂)
- TS₇ = akuammigine (isomerisation product of TS₁)

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Key to the Fig. XIX - L (continued)

Authentic alkaloids

- 1 = tetrahydroalstonine
- 2 = rauniticine
- 3 = akuammigine
- 4 = 3-isorauniticine
- 5 = isopteropodine
- 6 = pteropodine
- 7 = isorhynchophylline
- 8 = rhynchophylline
- 9 = rotundifoline

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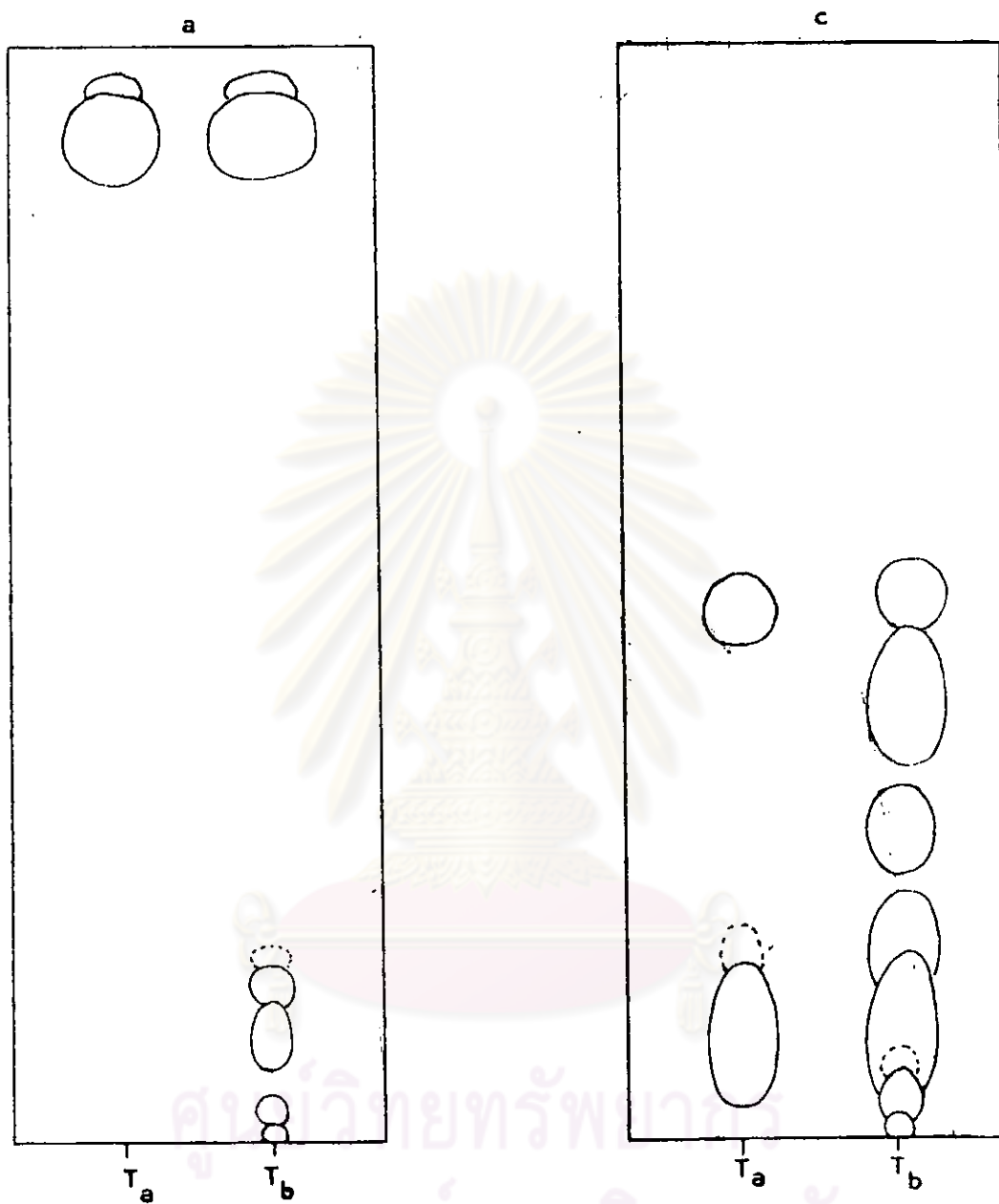


Fig. XIX Thin layer chromatograms of alkaloids.

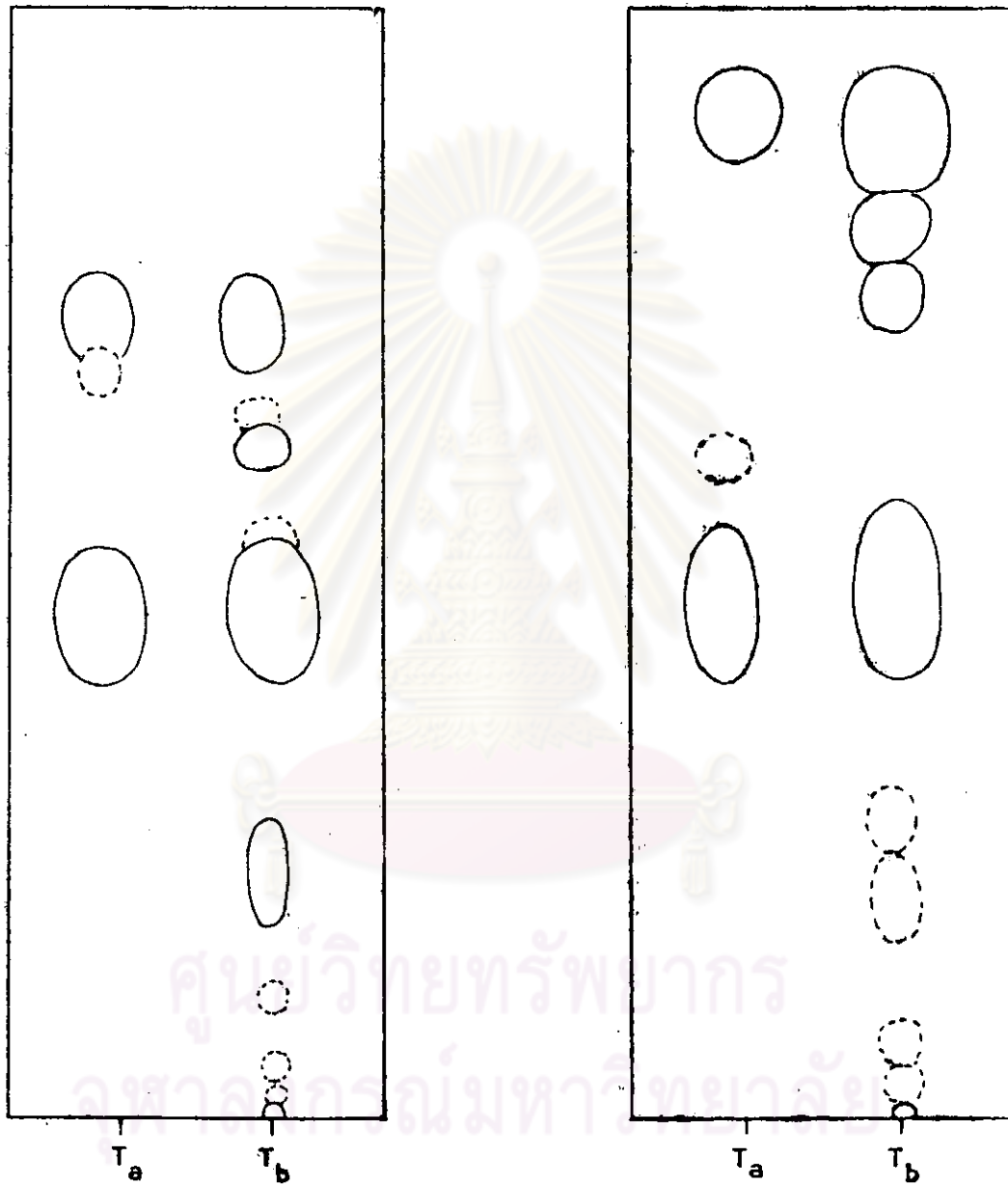


Fig. XX Thin layer chromatograms of alkaloids.

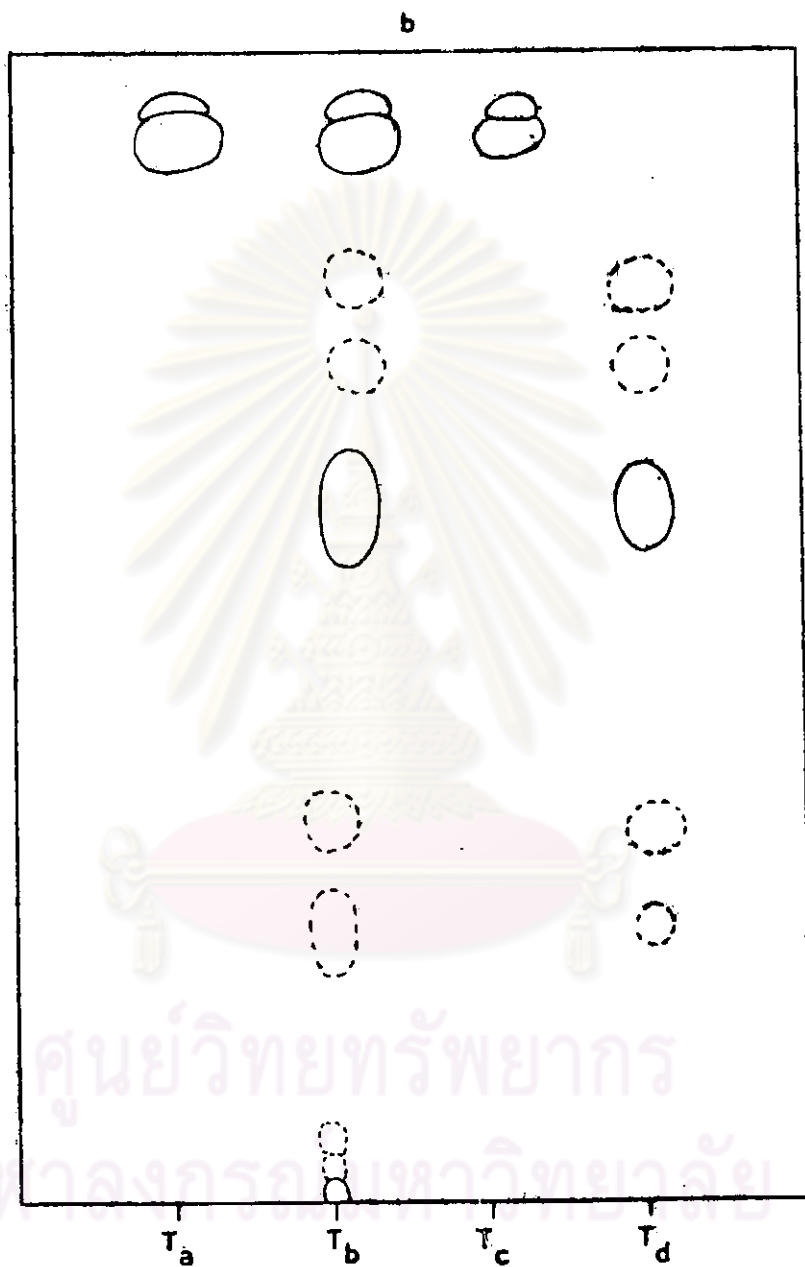


Fig. XXI Thin layer chromatogram of alkaloids.

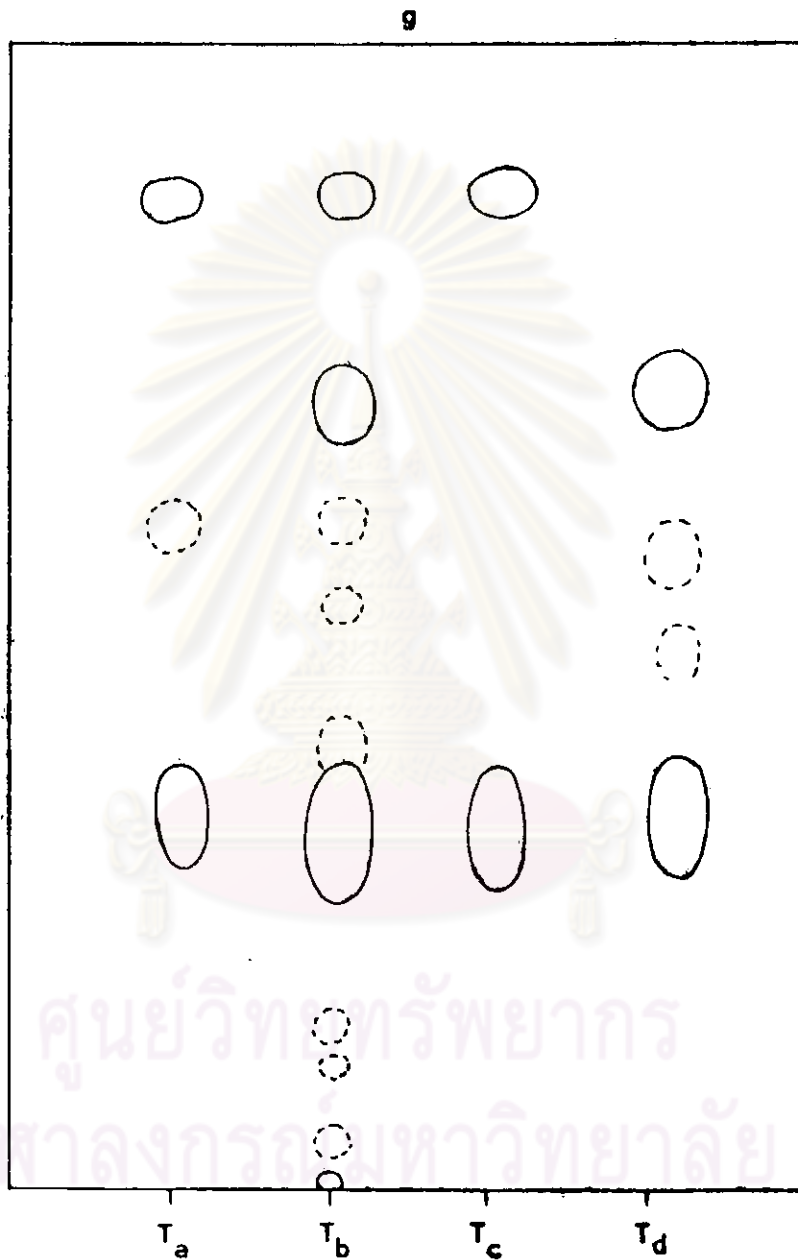


Fig. XXII Thin layer chromatogram of alkaloids.



Fig. XXIII Thin layer chromatogram of alkaloids.

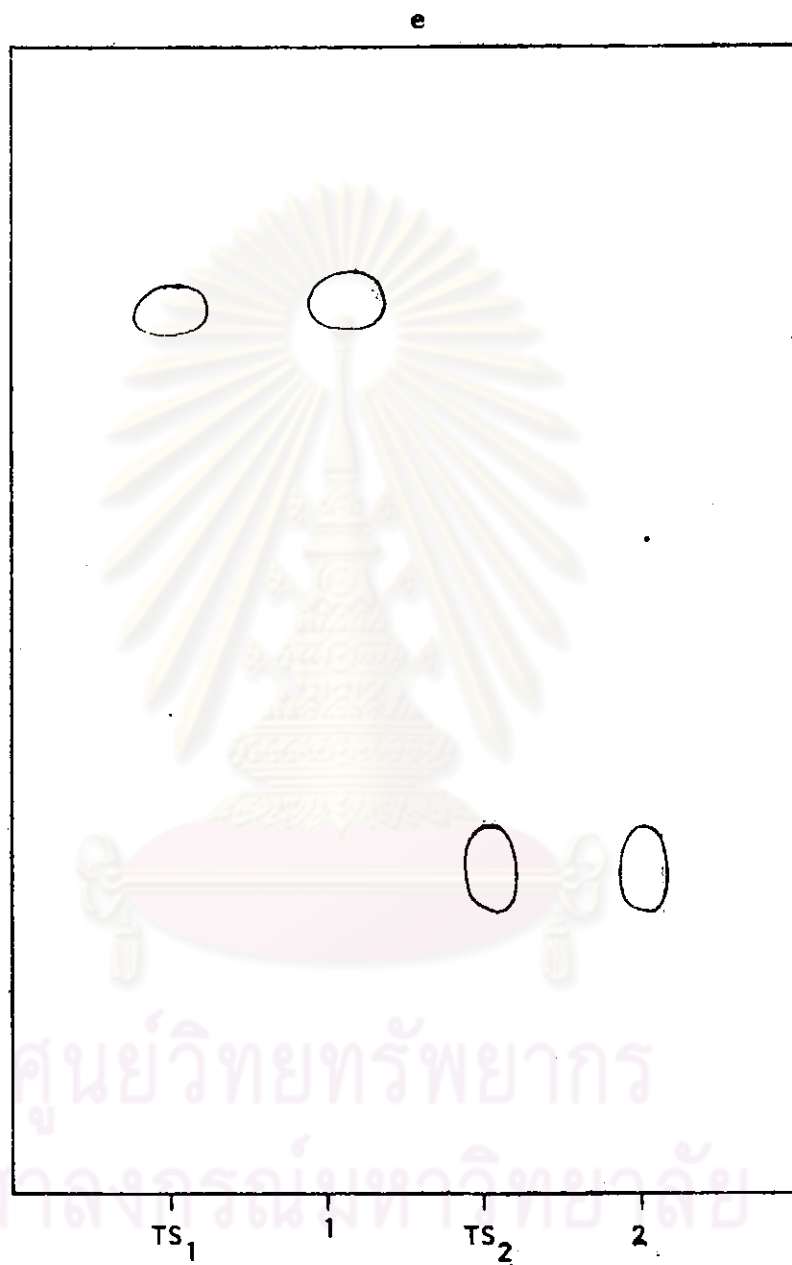


Fig. XXIV Thin layer chromatogram of alkaloids.

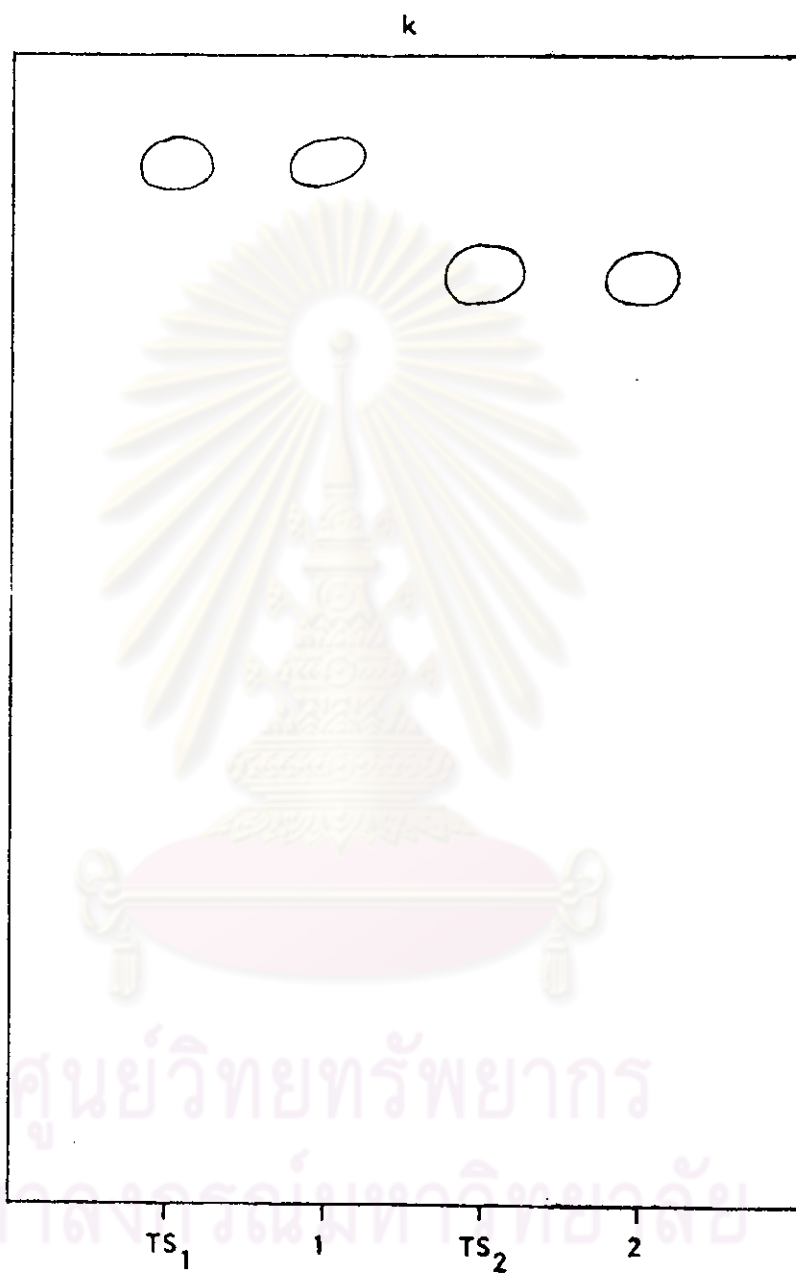


Fig. XXV Thin layer chromatogram of alkaloids.

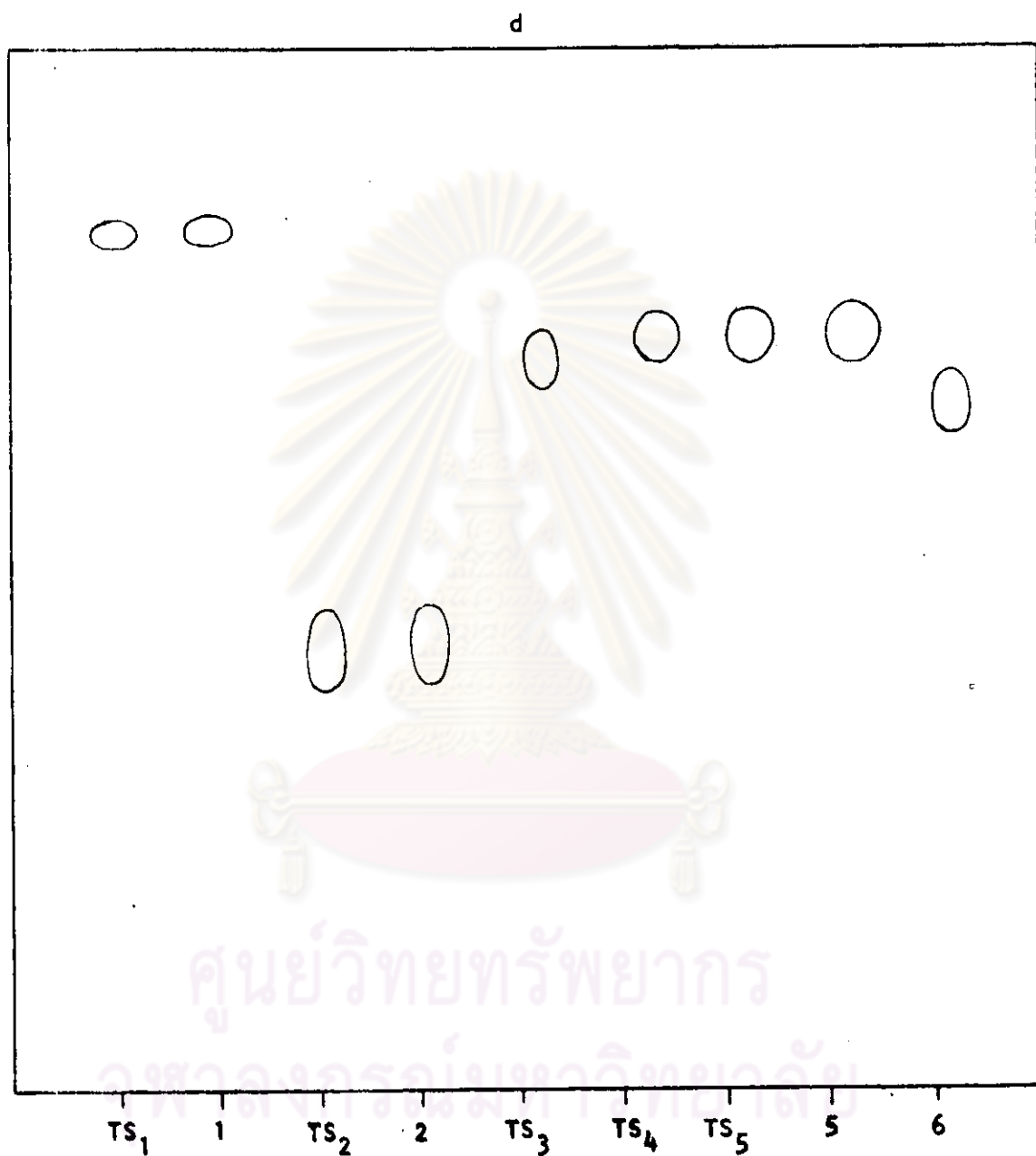


Fig. XXVI Thin layer chromatogram of alkaloids.

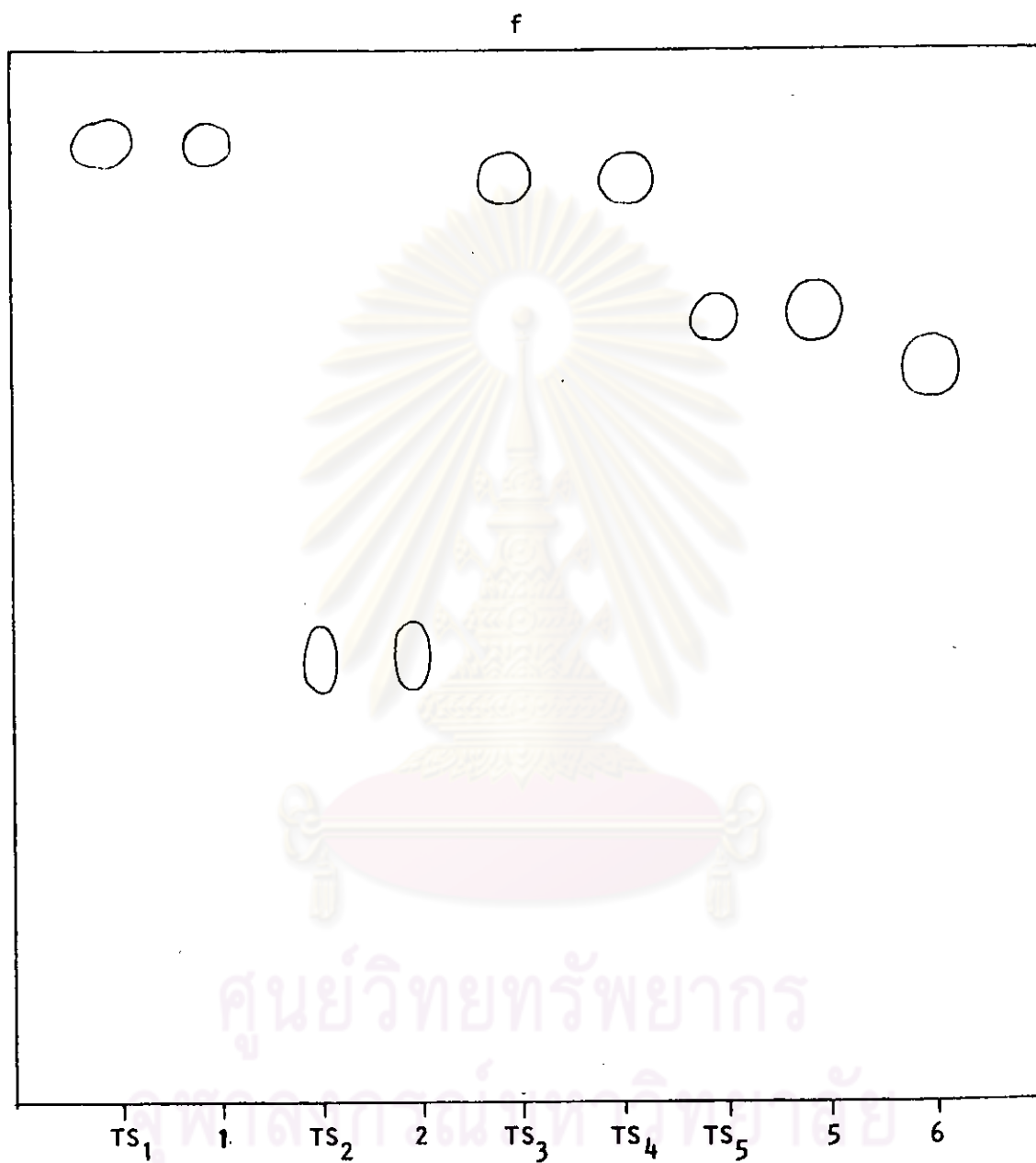


Fig. XXVII Thin layer chromatogram of alkaloids.

9

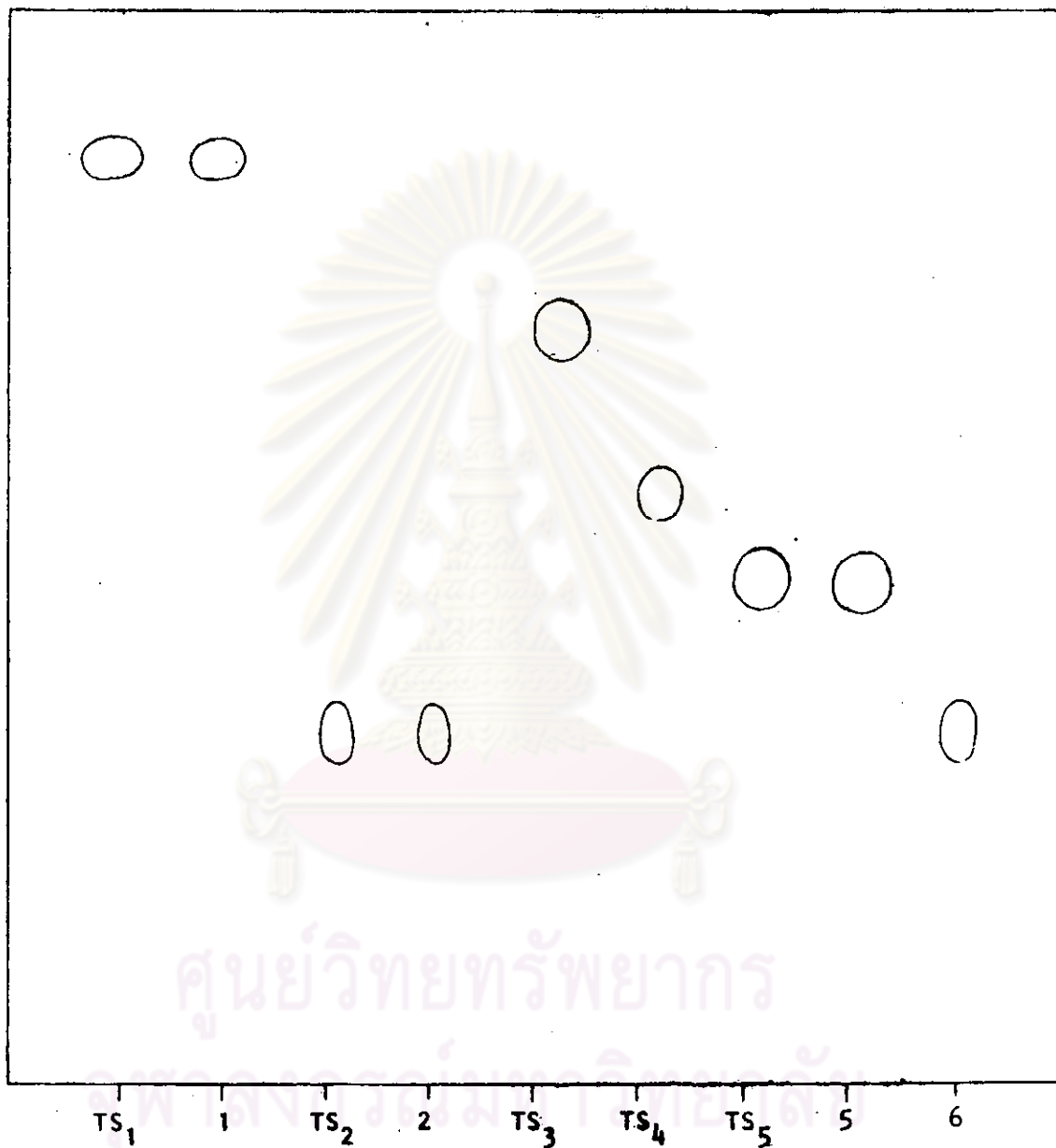


Fig. XXVIII Thin layer chromatogram of alkaloids.

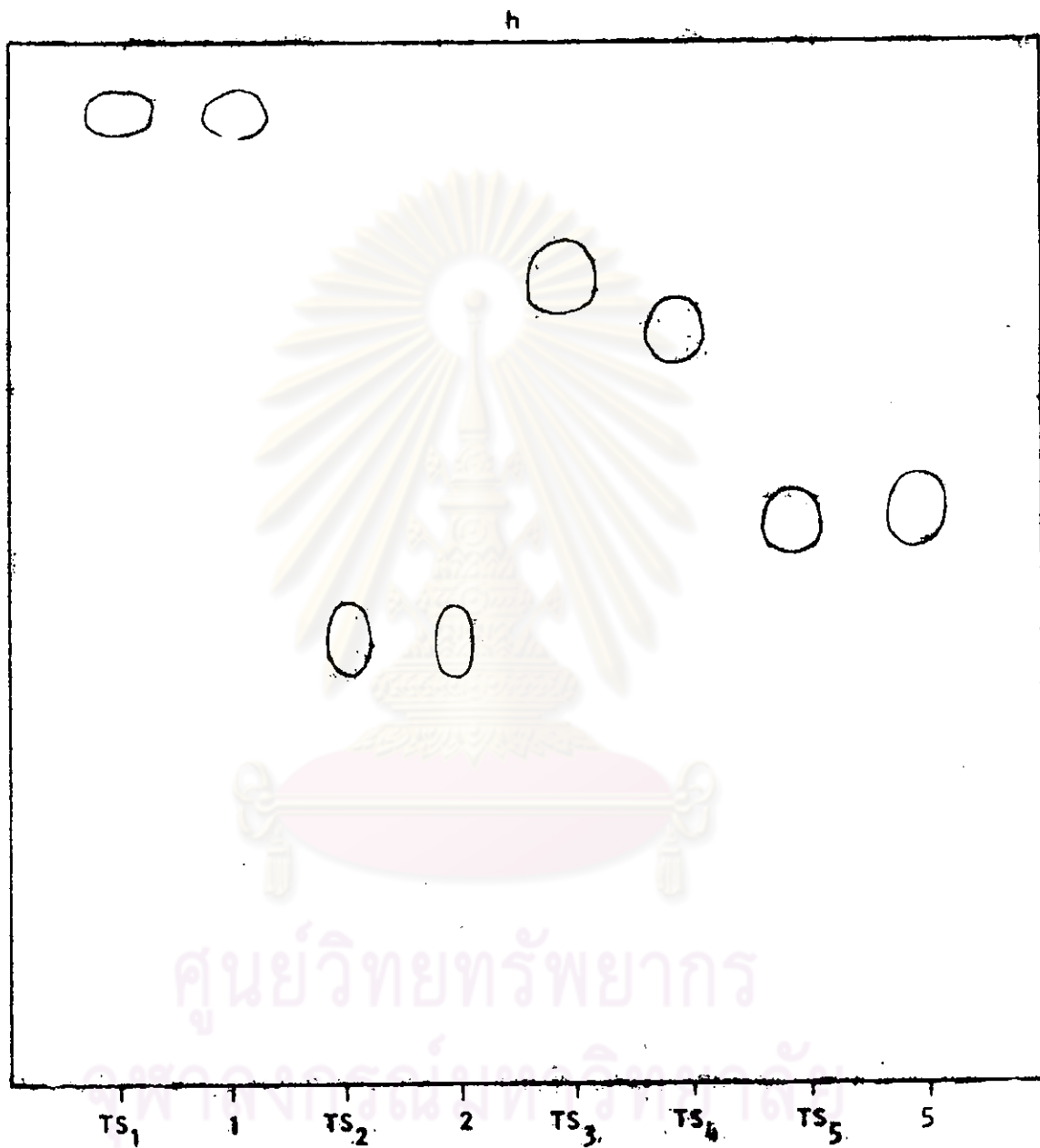


Fig. XXIX Thin layer chromatogram of alkaloids.

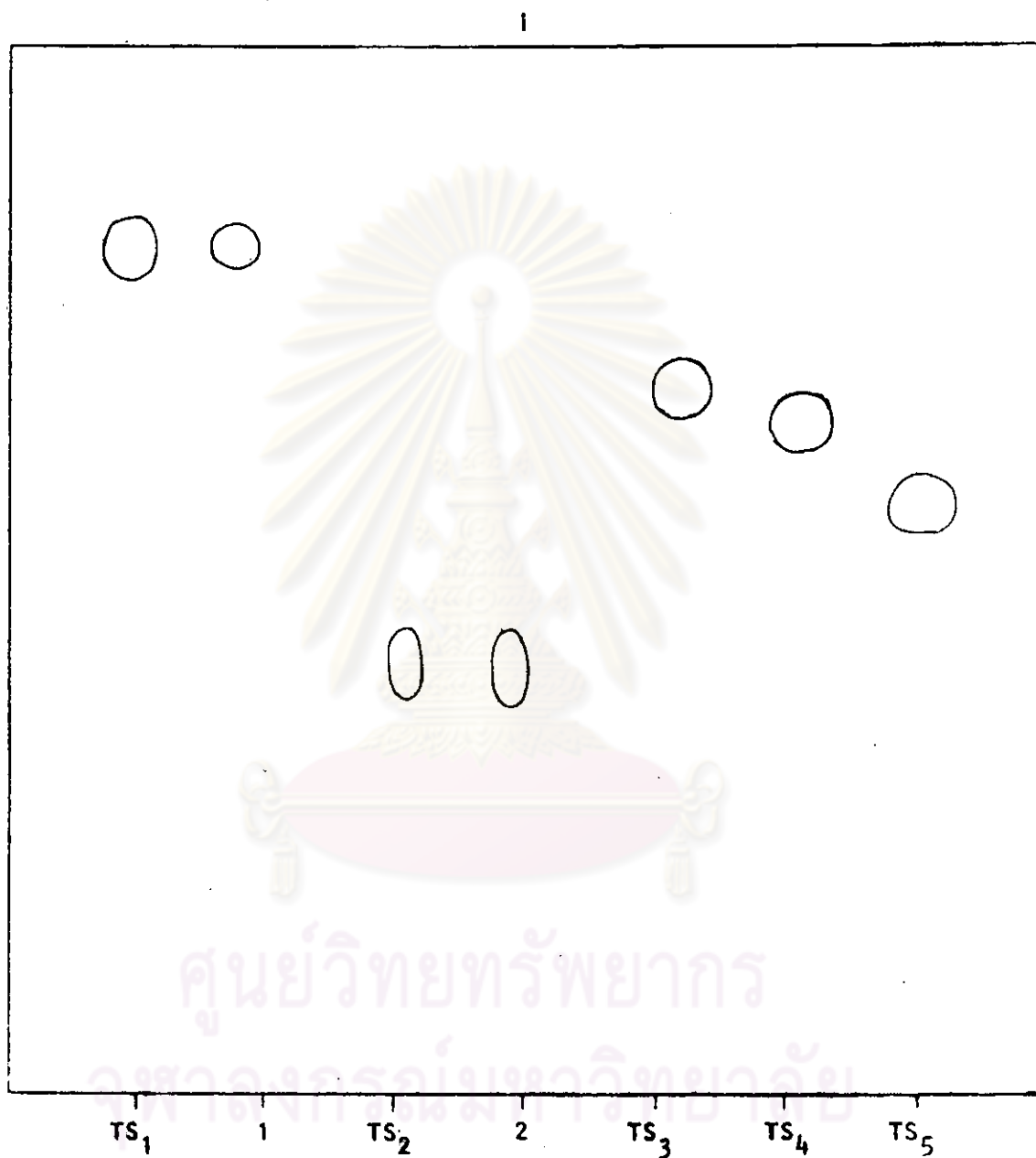


Fig. XXX Thin layer chromatogram of alkaloids.

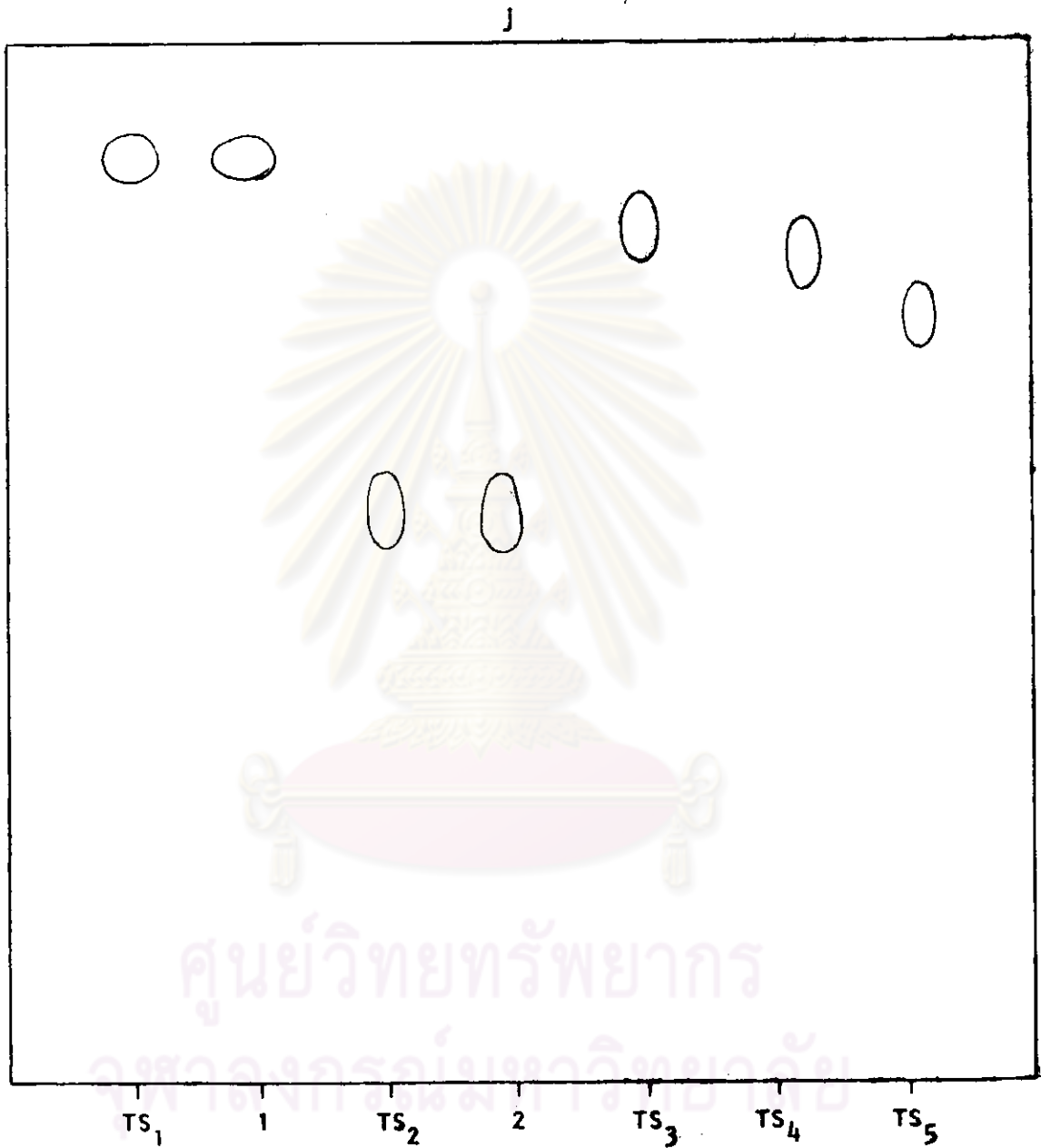


Fig. XXXI Thin layer chromatogram of alkaloids.



Fig. XXXII Thin layer chromatogram of alkaloids.



Fig. XXXIII Thin layer chromatogram of alkaloids.

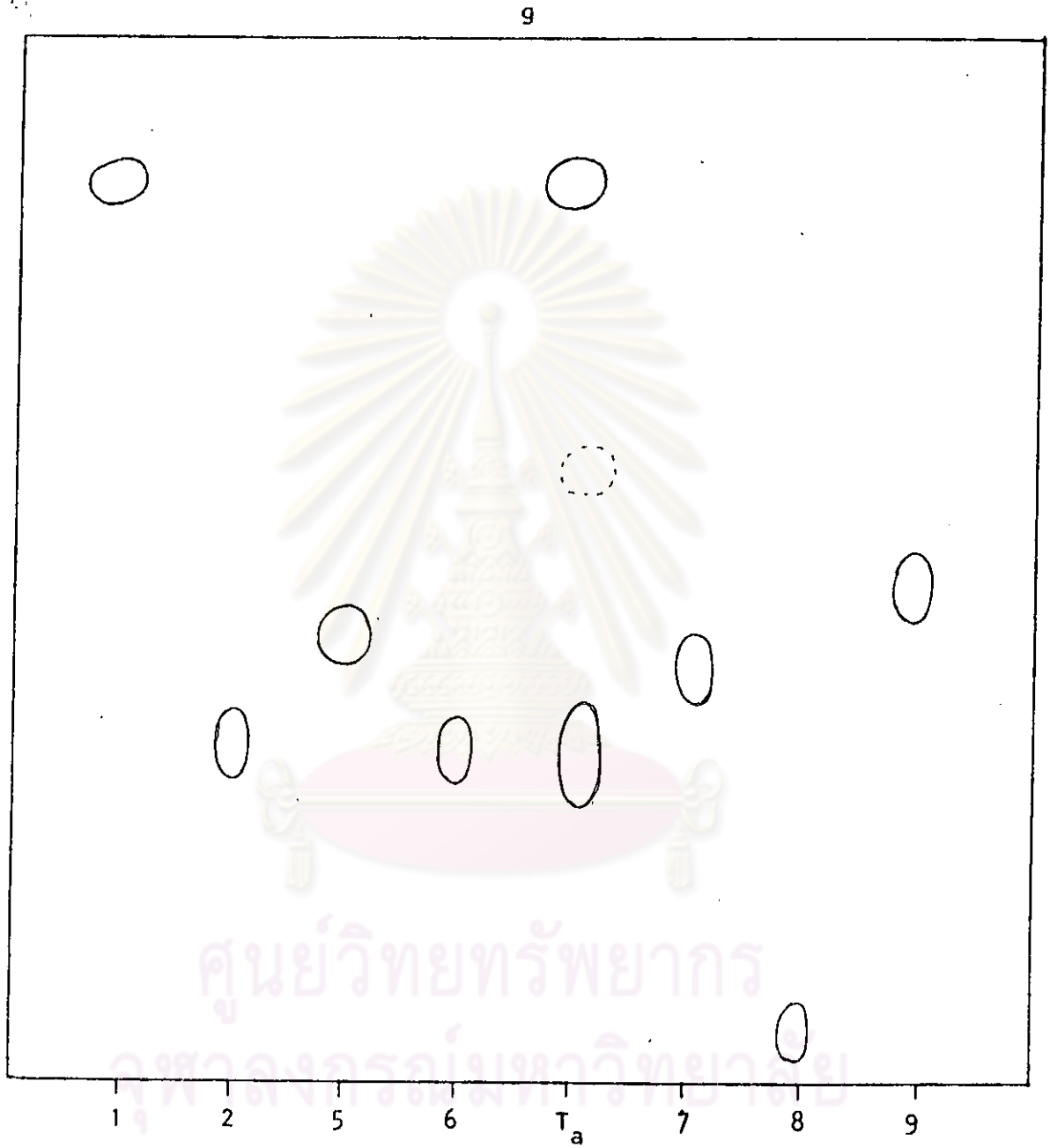


Fig. XXXIV Thin layer chromatogram of alkaloids.

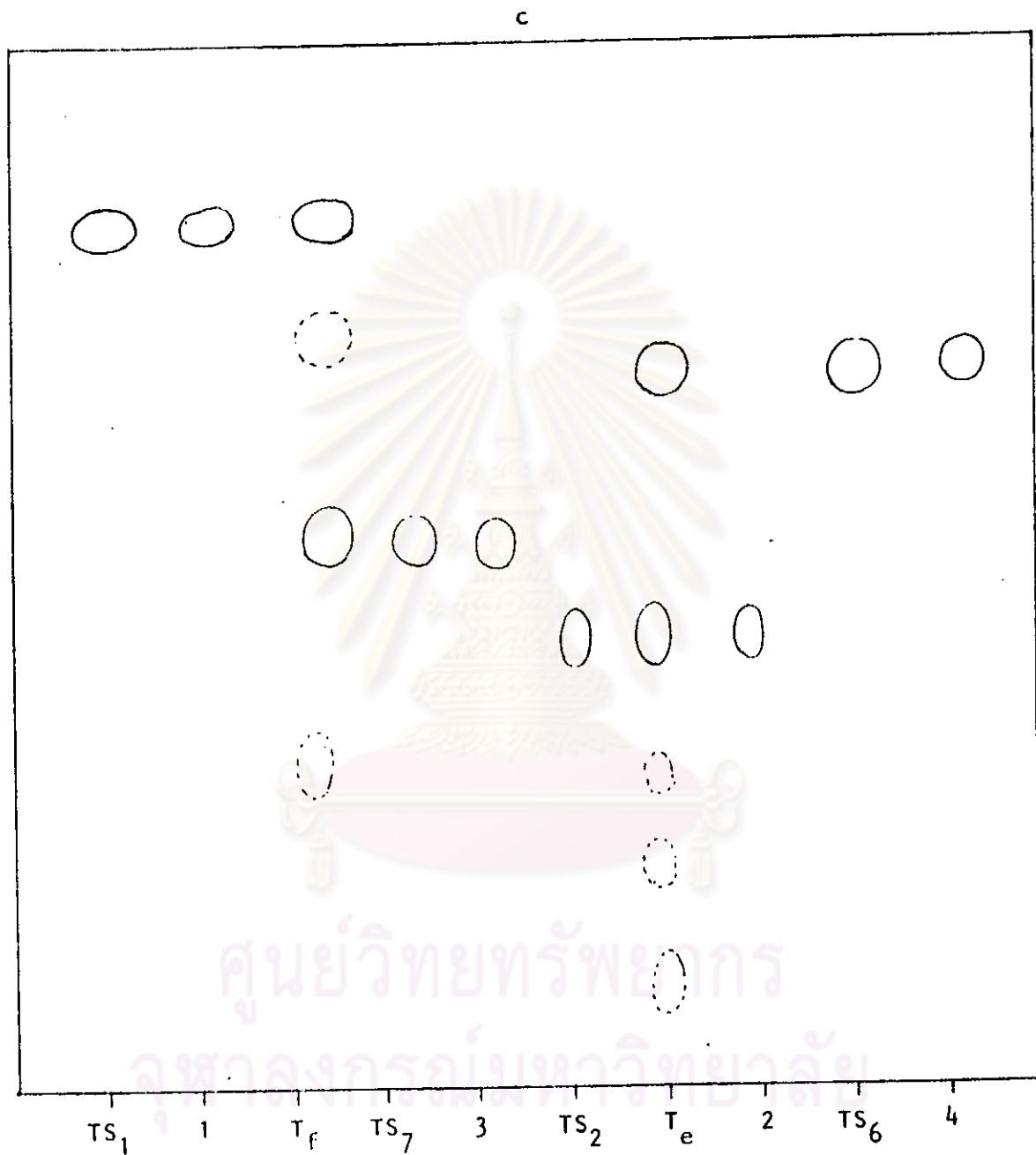


Fig. XXXV Thin layer chromatogram of alkaloids.

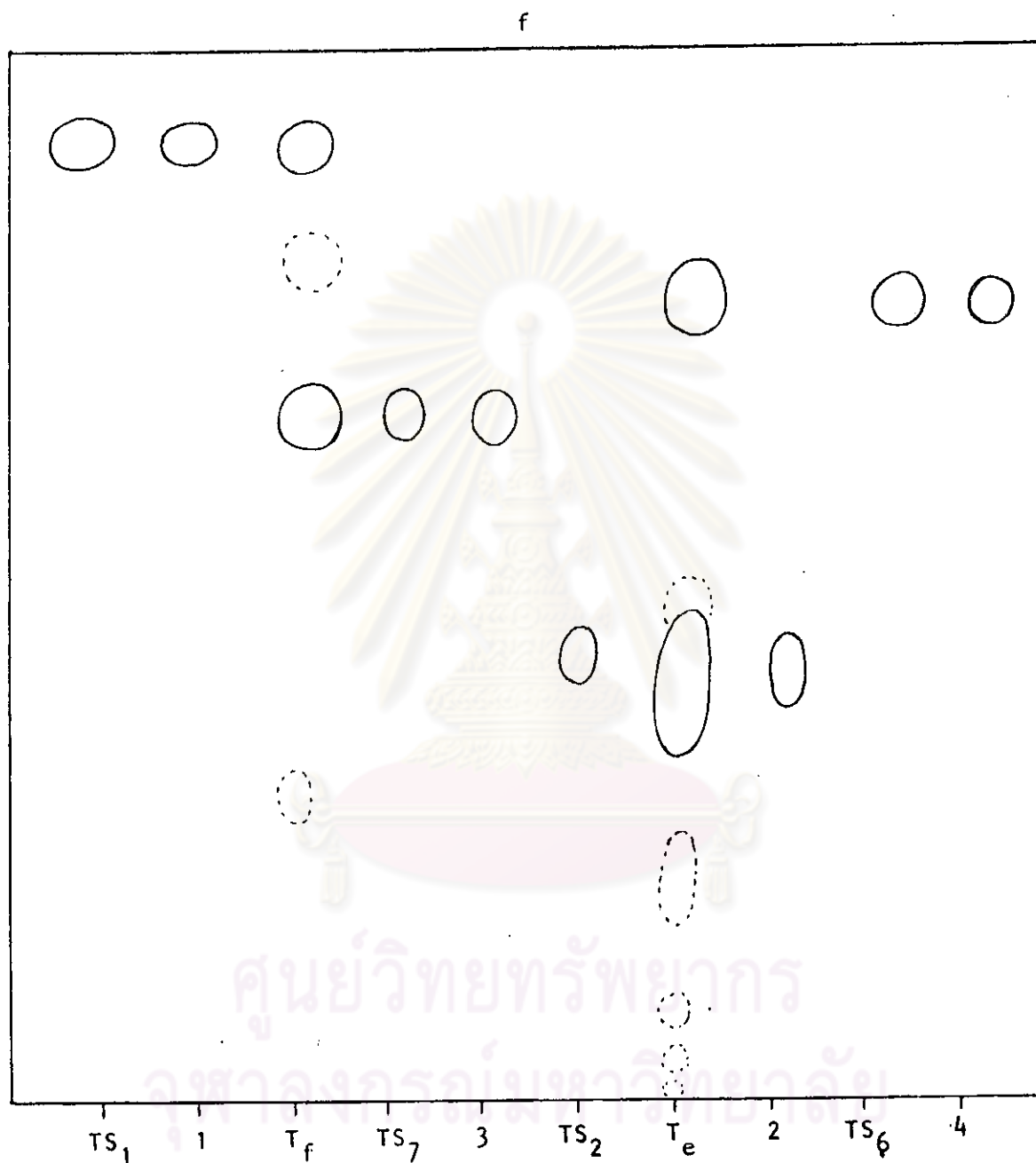


Fig. XXXVI Thin layer chromatogram of alkaloids.

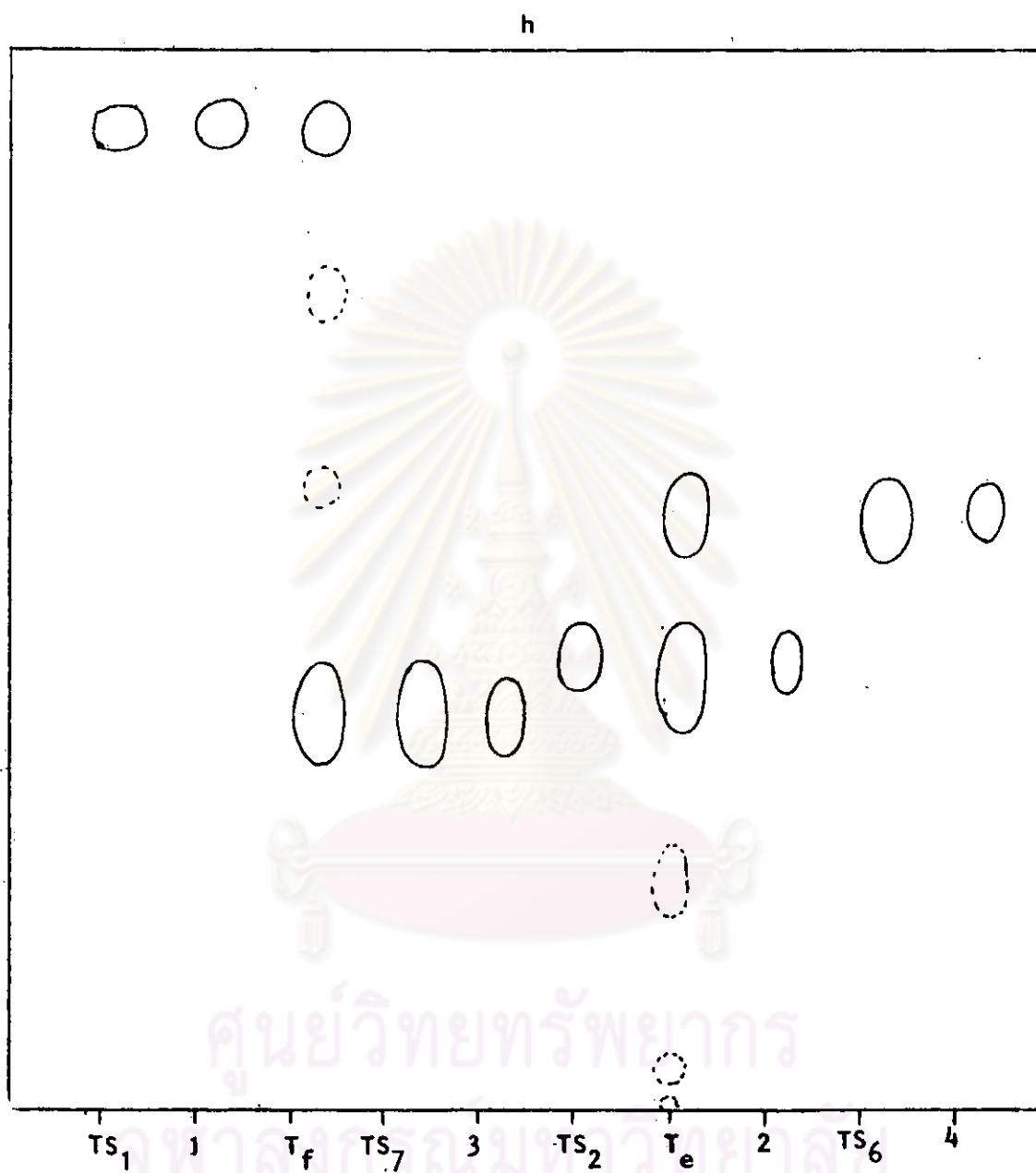


Fig. XXXVII Thin-layer chromatogram of alkaloids.

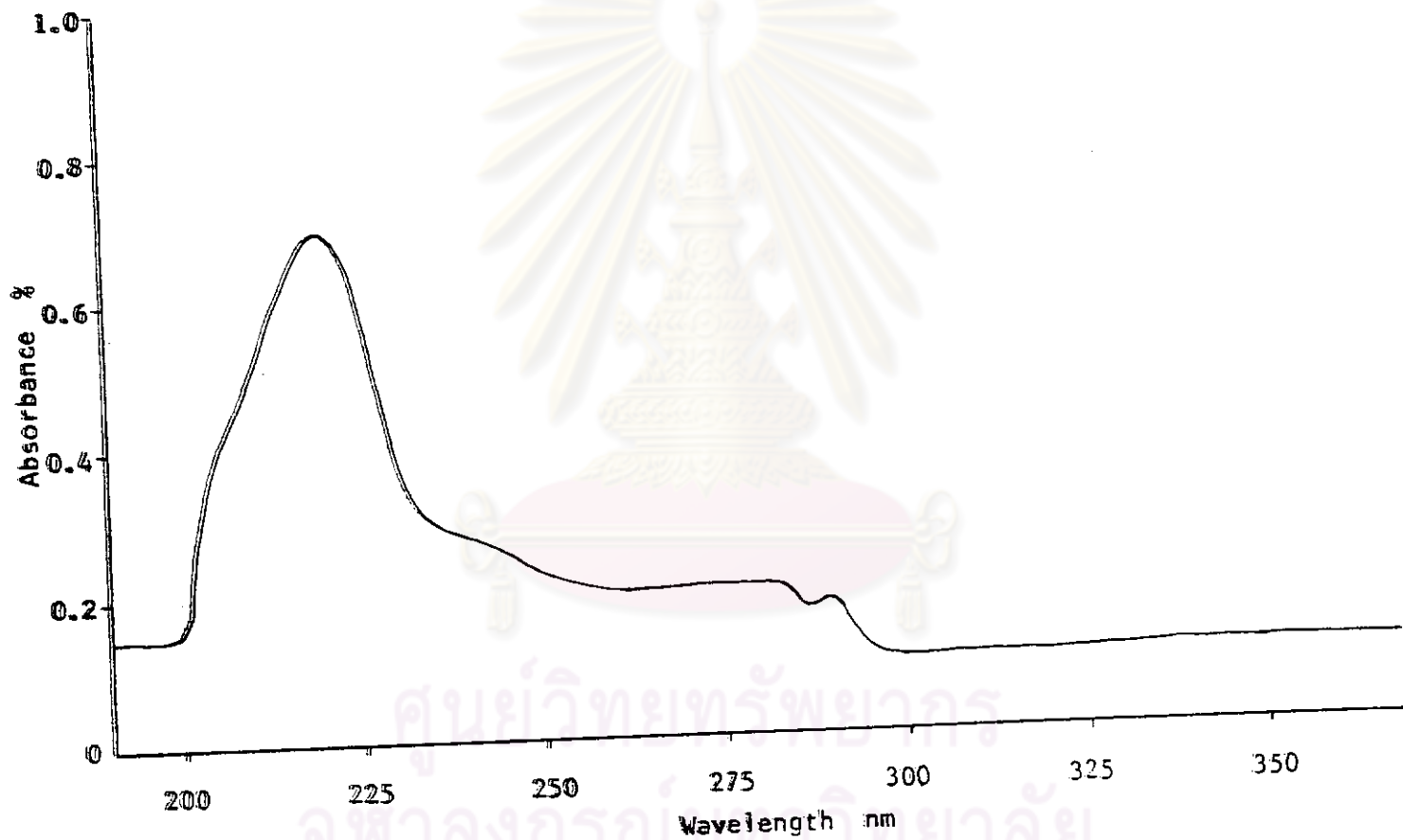


Fig. XXXVIII Ultraviolet absorption spectrum of alkaloid TS₁ in methyl alcohol.

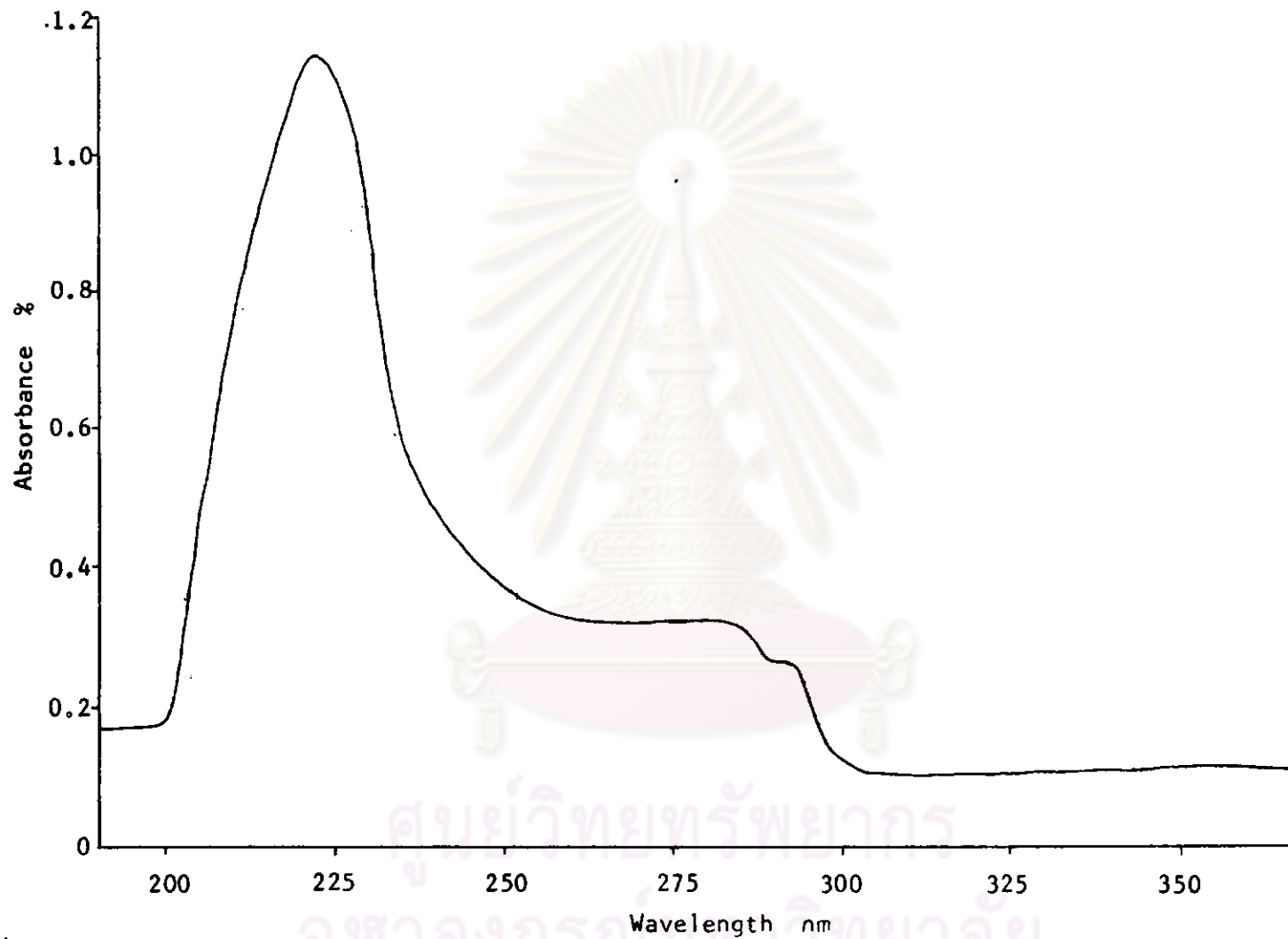


Fig. XXXIX Ultraviolet absorption spectrum of alkaloid TS_2 in methyl alcohol.

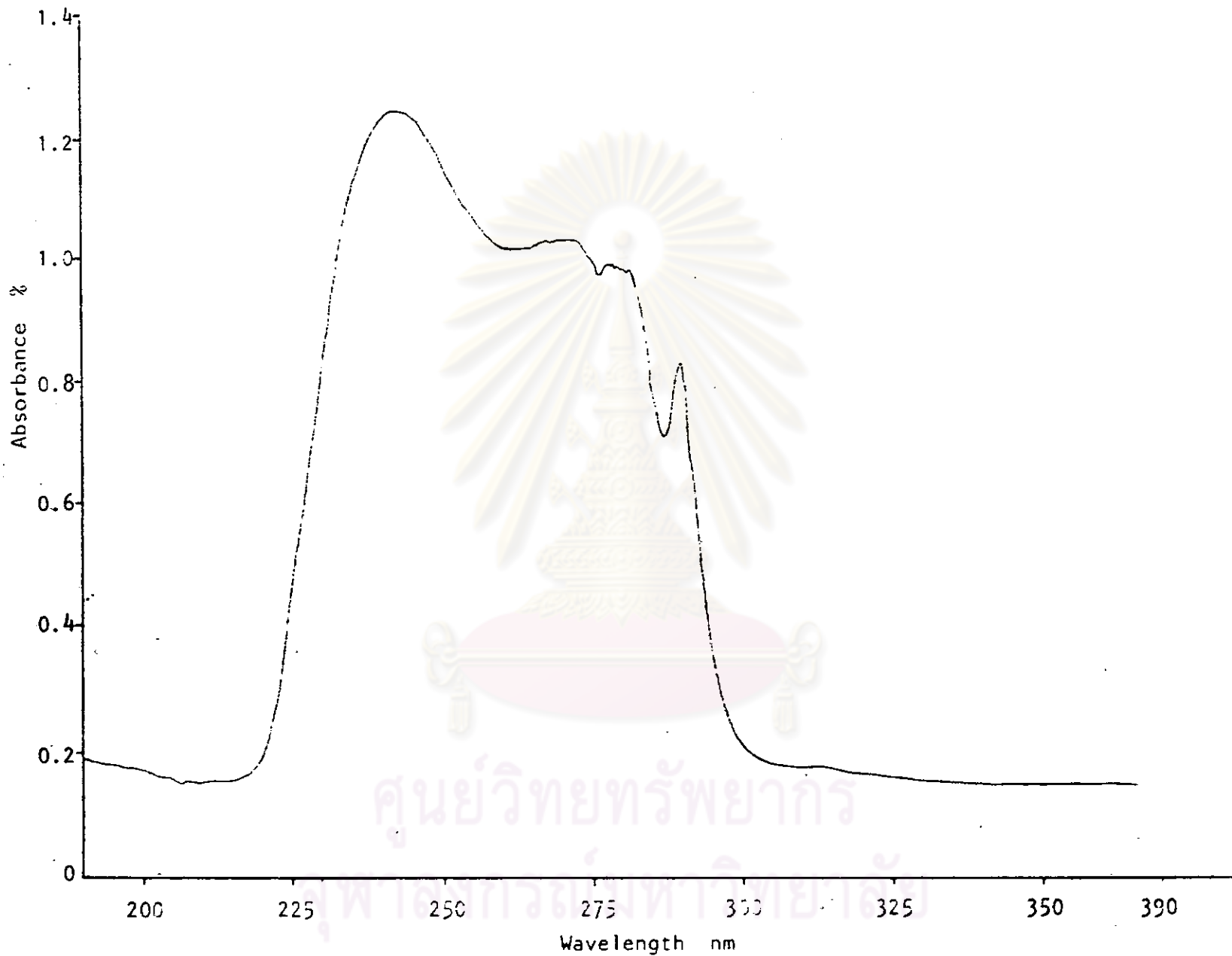


Fig. XL Ultraviolet absorption spectrum of alkaloid TS_3 in methyl alcohol.

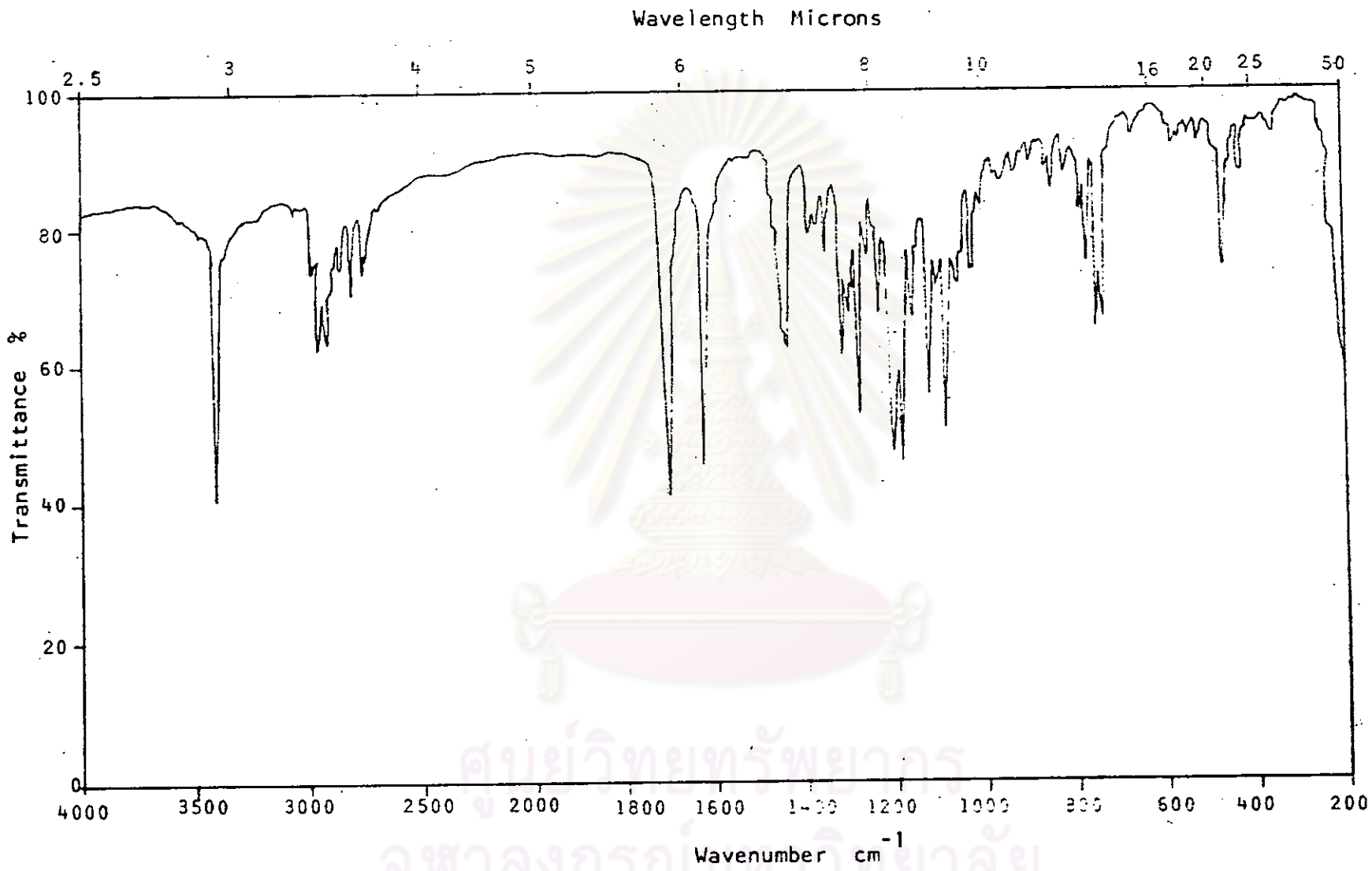


Fig. XLI Infrared absorption spectrum of alkaloid TS_1 in potassium bromide disc.

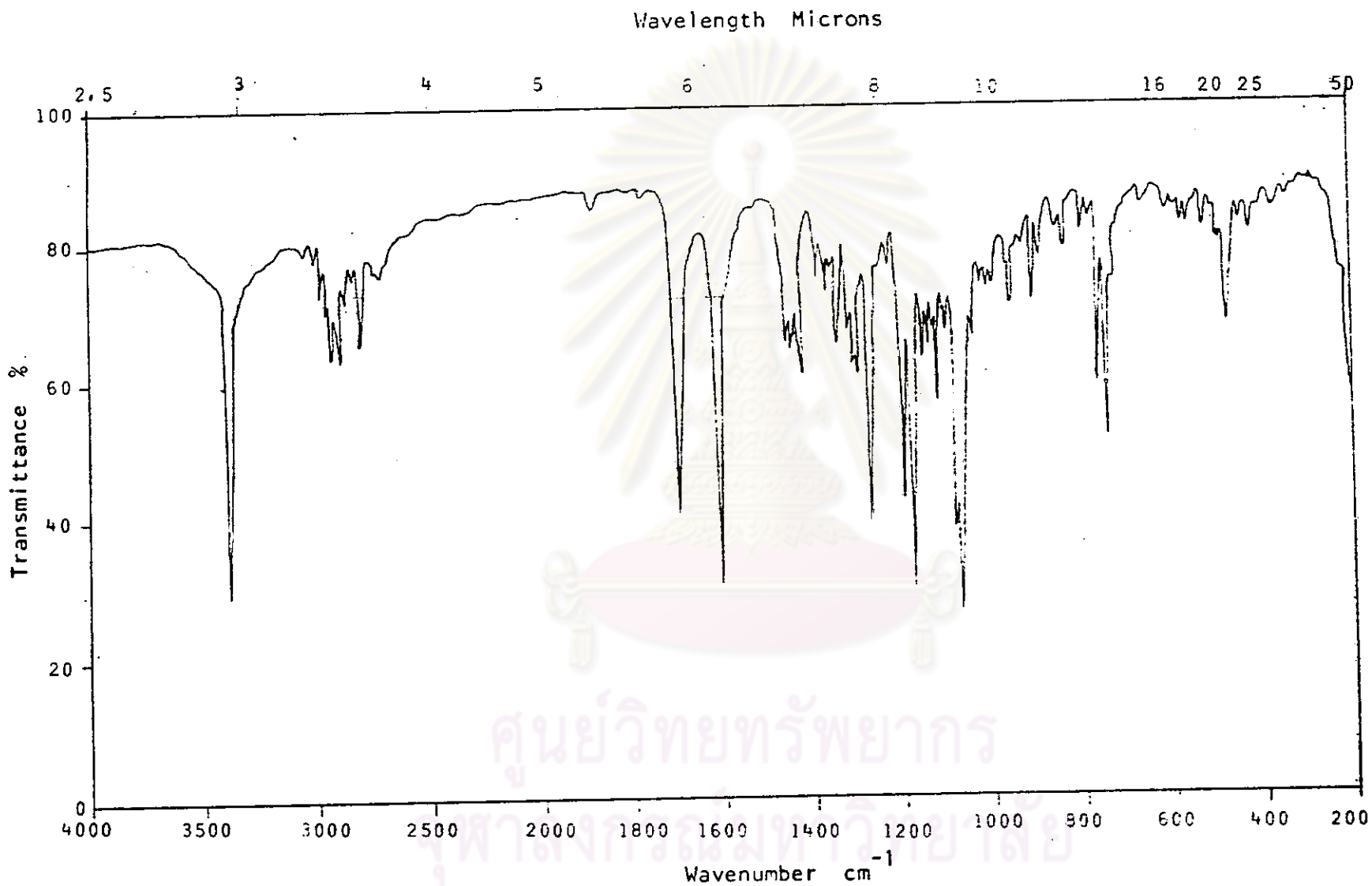


Fig. XLIII Infrared absorption spectrum of alkaloid TS₂ in potassium bromide disc.

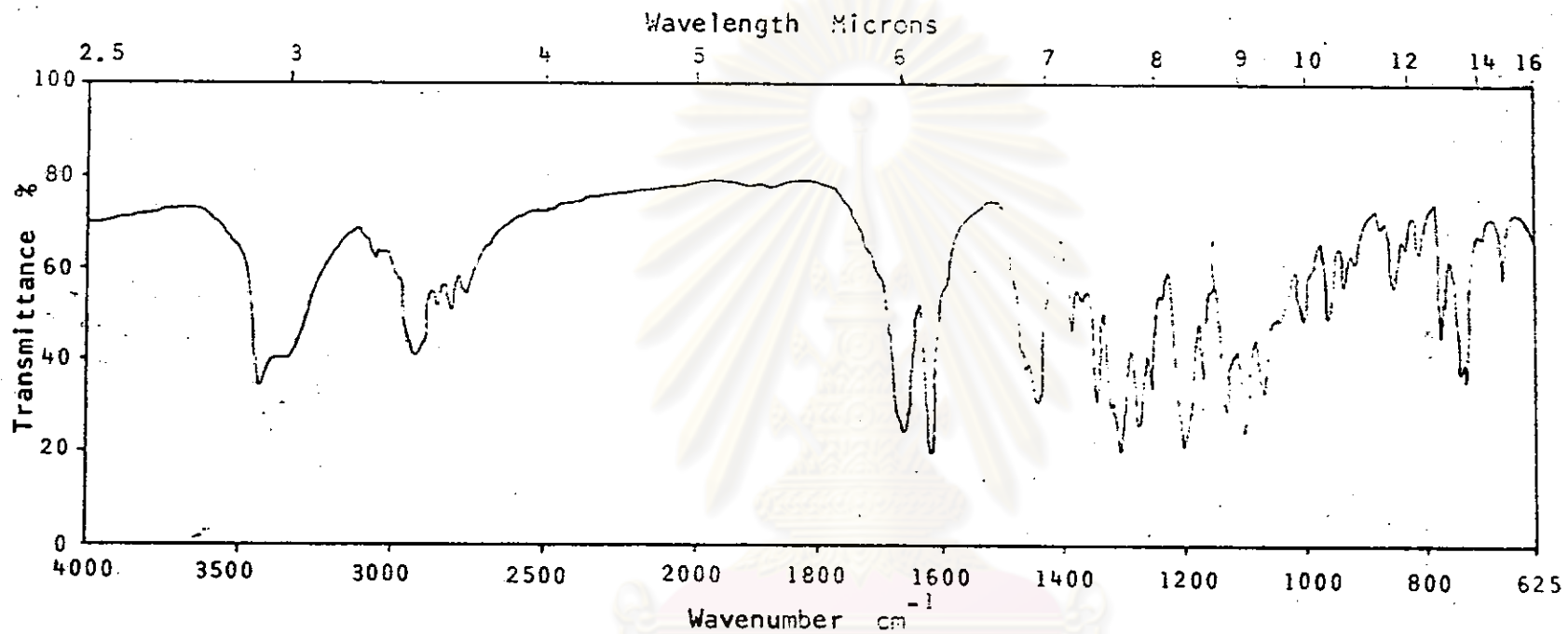


Fig. XLIII Infrared absorption spectrum of alkaloid TS₃ in potassium bromide disc.

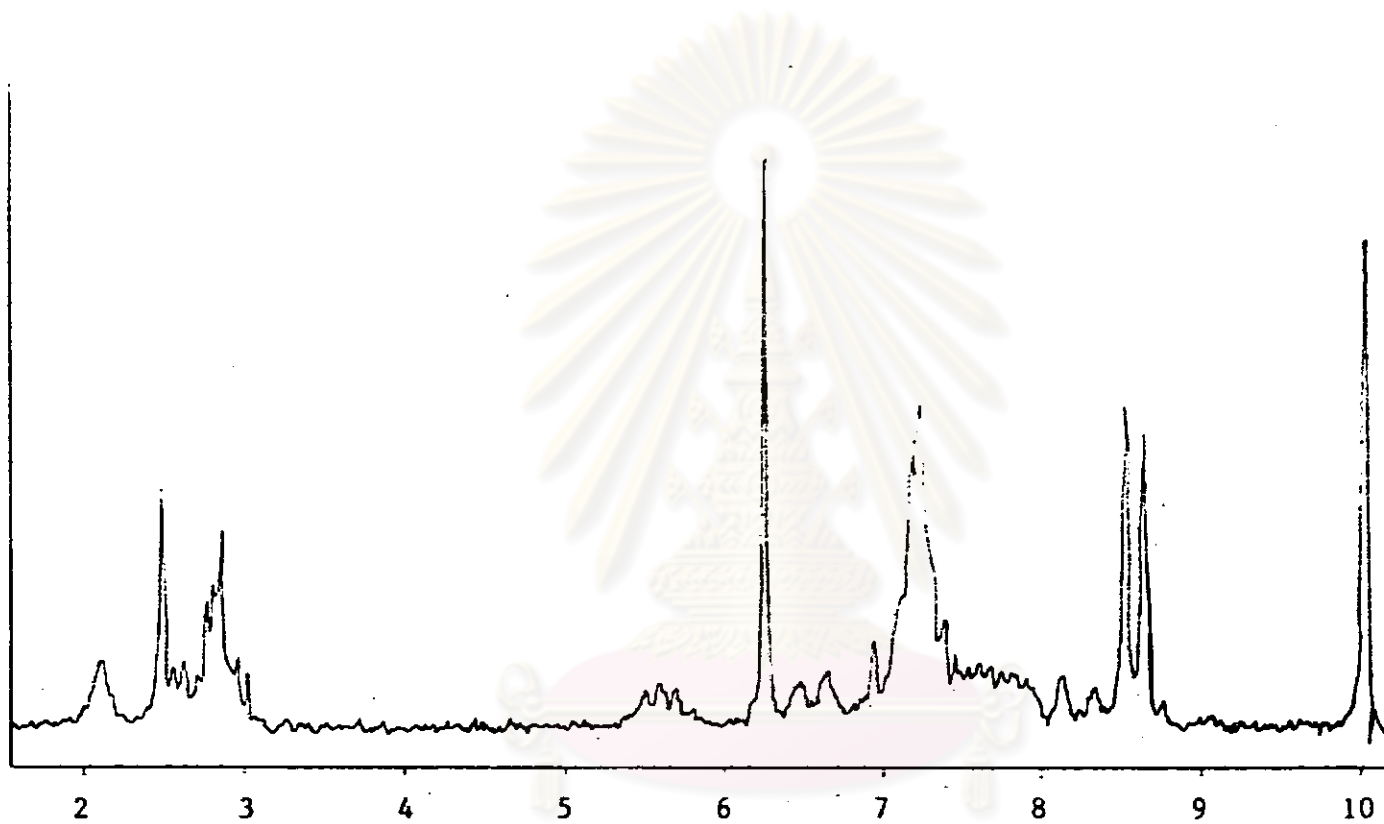


Fig. XLIV Nuclear magnetic resonance spectrum (CDCl_3) of alkaloid TS_2 .

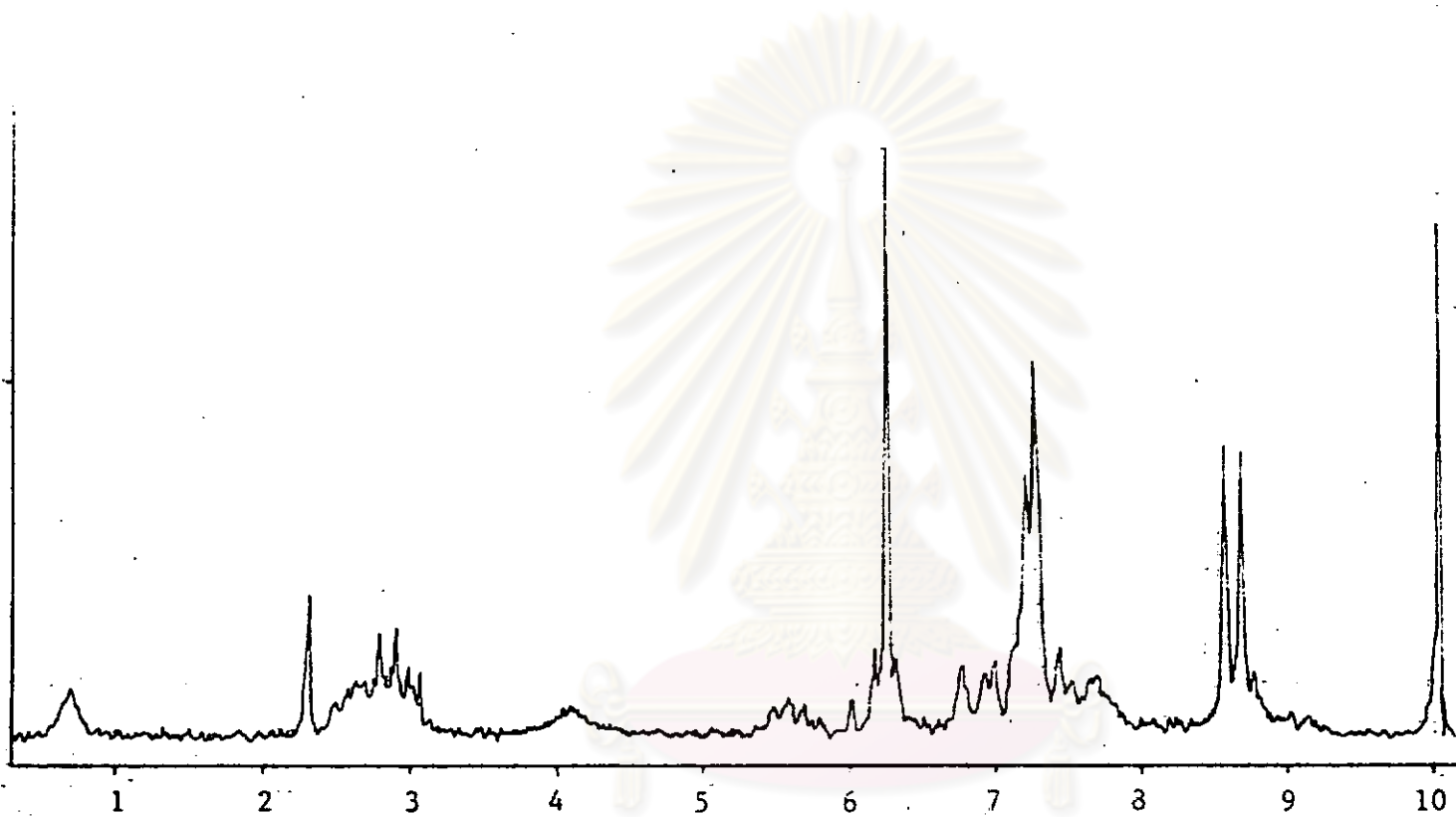


Fig. XLV Nuclear magnetic resonance spectrum (CDCl_3) of alkaloid TS_3 .

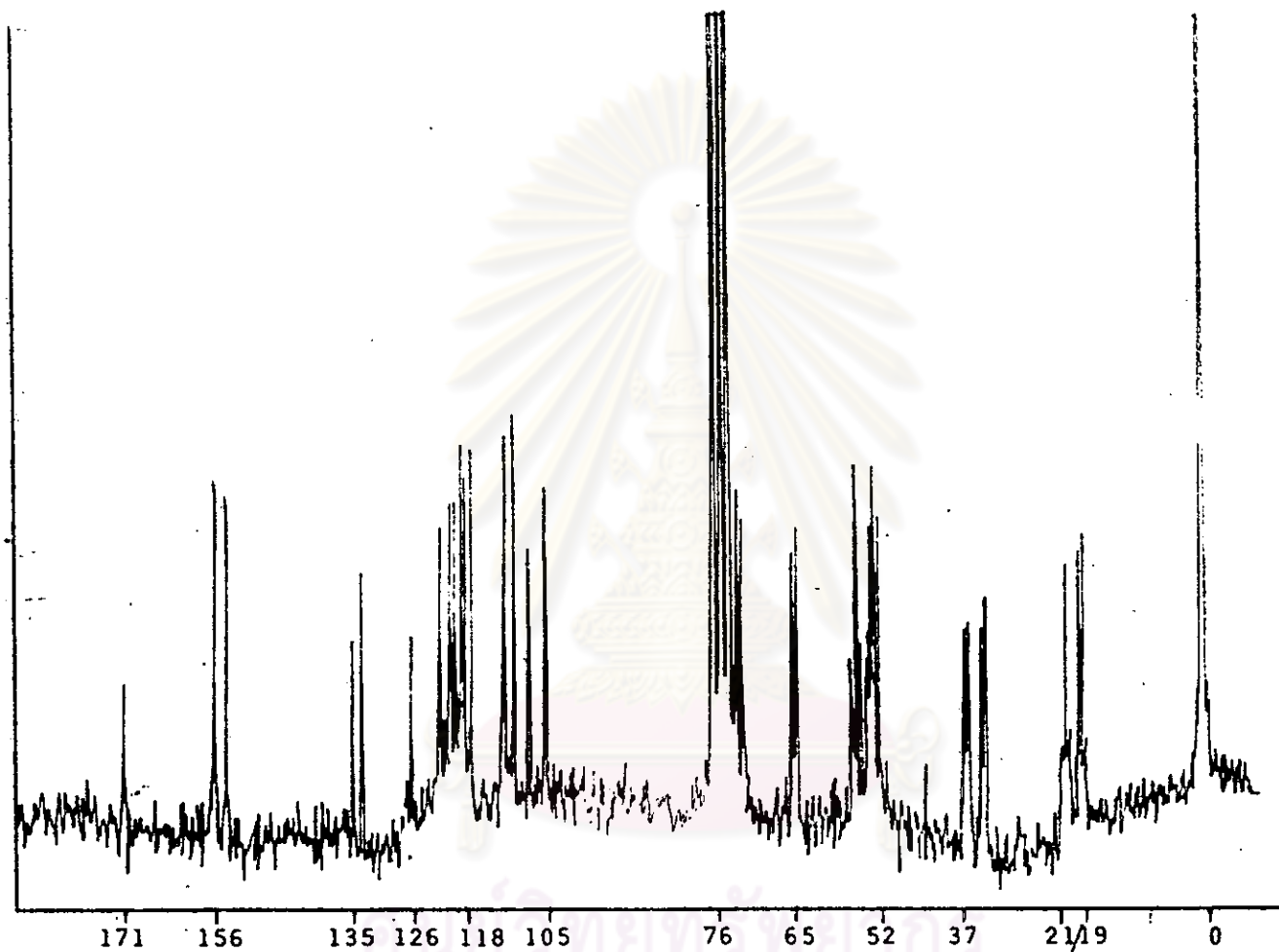


Fig. XLVI ^{13}C Nuclear magnetic resonance spectrum (CDCl_3) of alkaloid TS_3 .

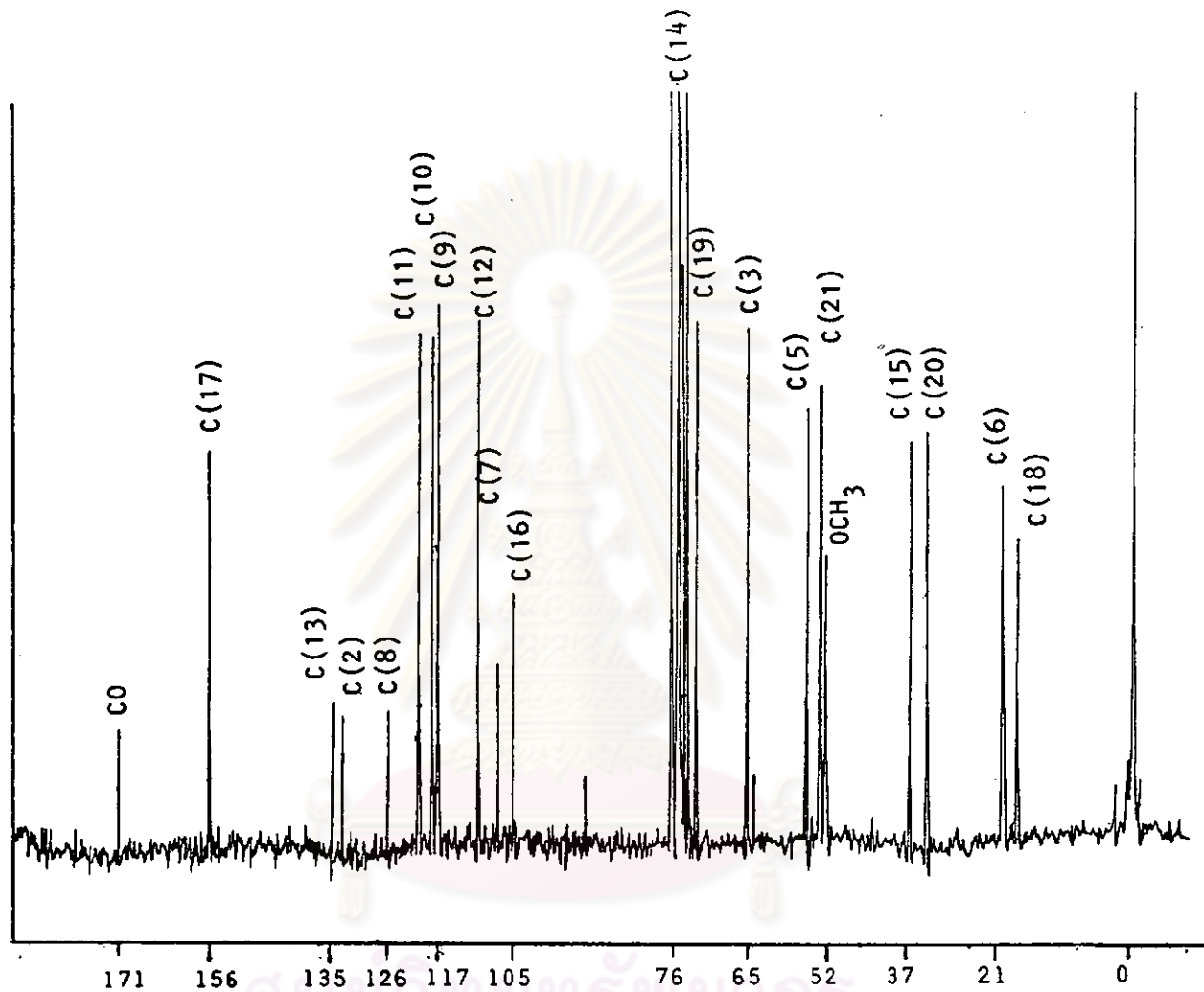


Fig. XLVII ^{13}C Nuclear magnetic resonance spectrum (CDCl_3) of alkaloid TS_3 , decoupled for clear single peaks.

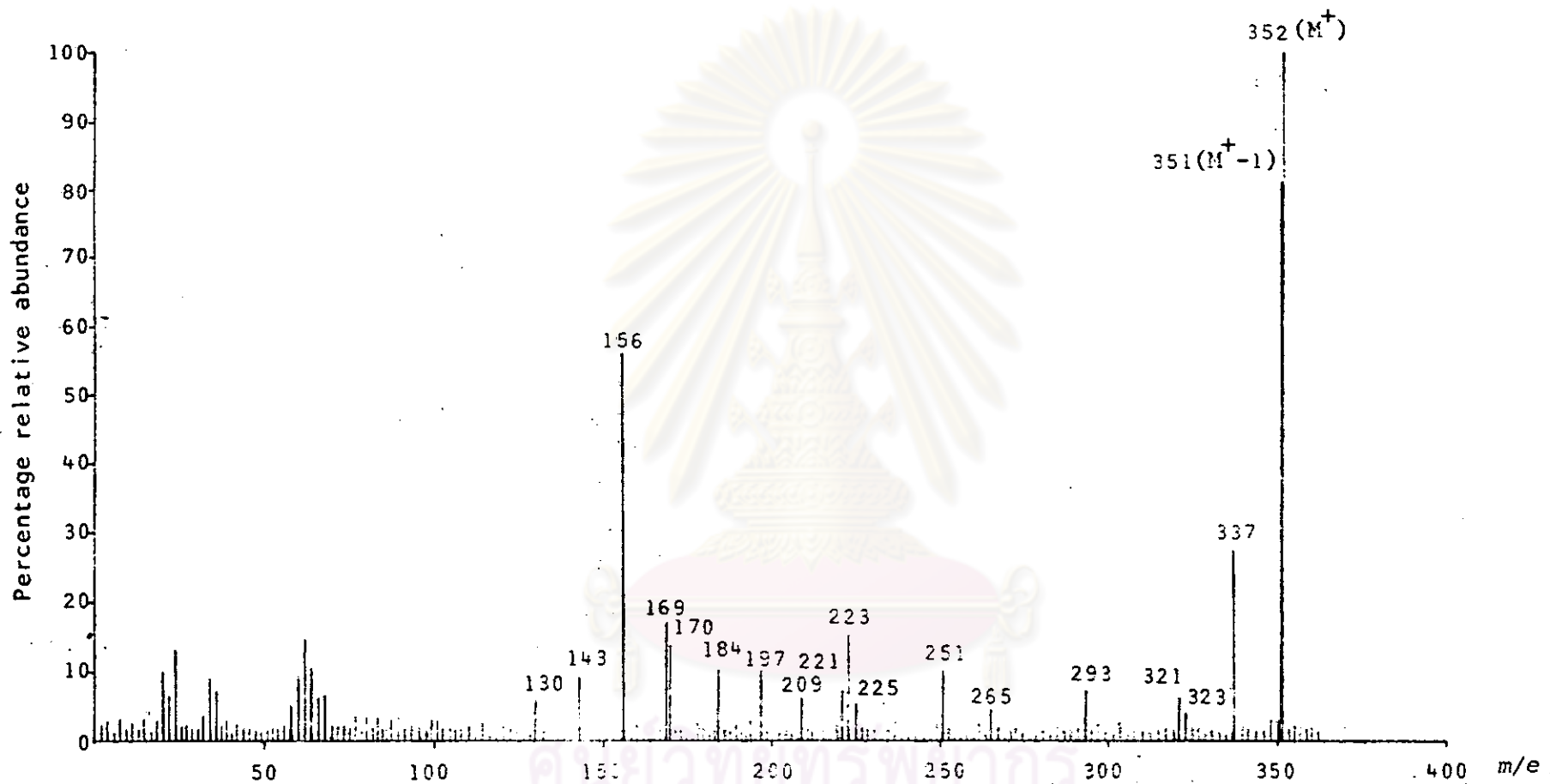


Fig. XLVIII Mass spectrum of alkaloid TS₁.

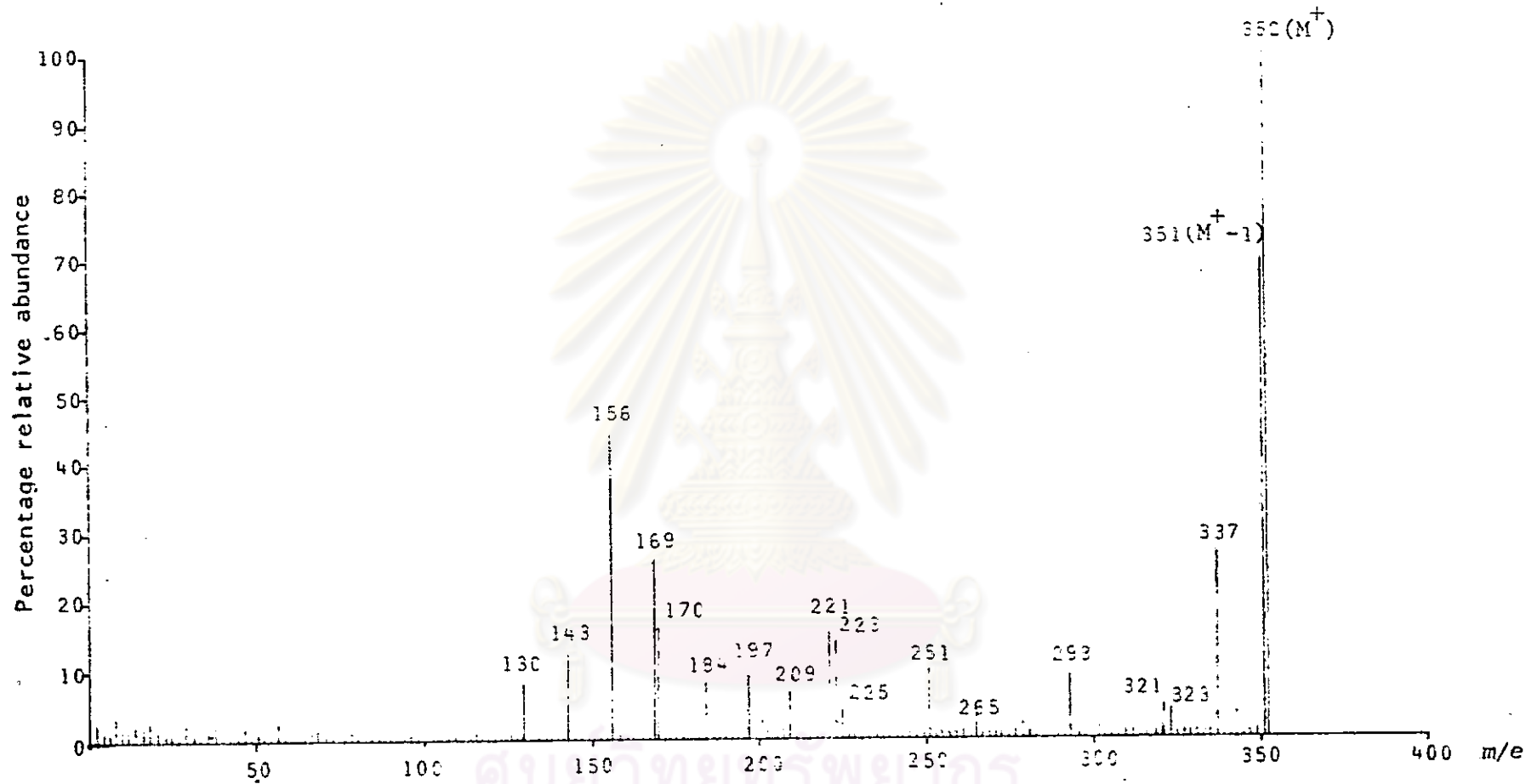


Fig. XLIX Mass spectrum of alkaloid TS₂.

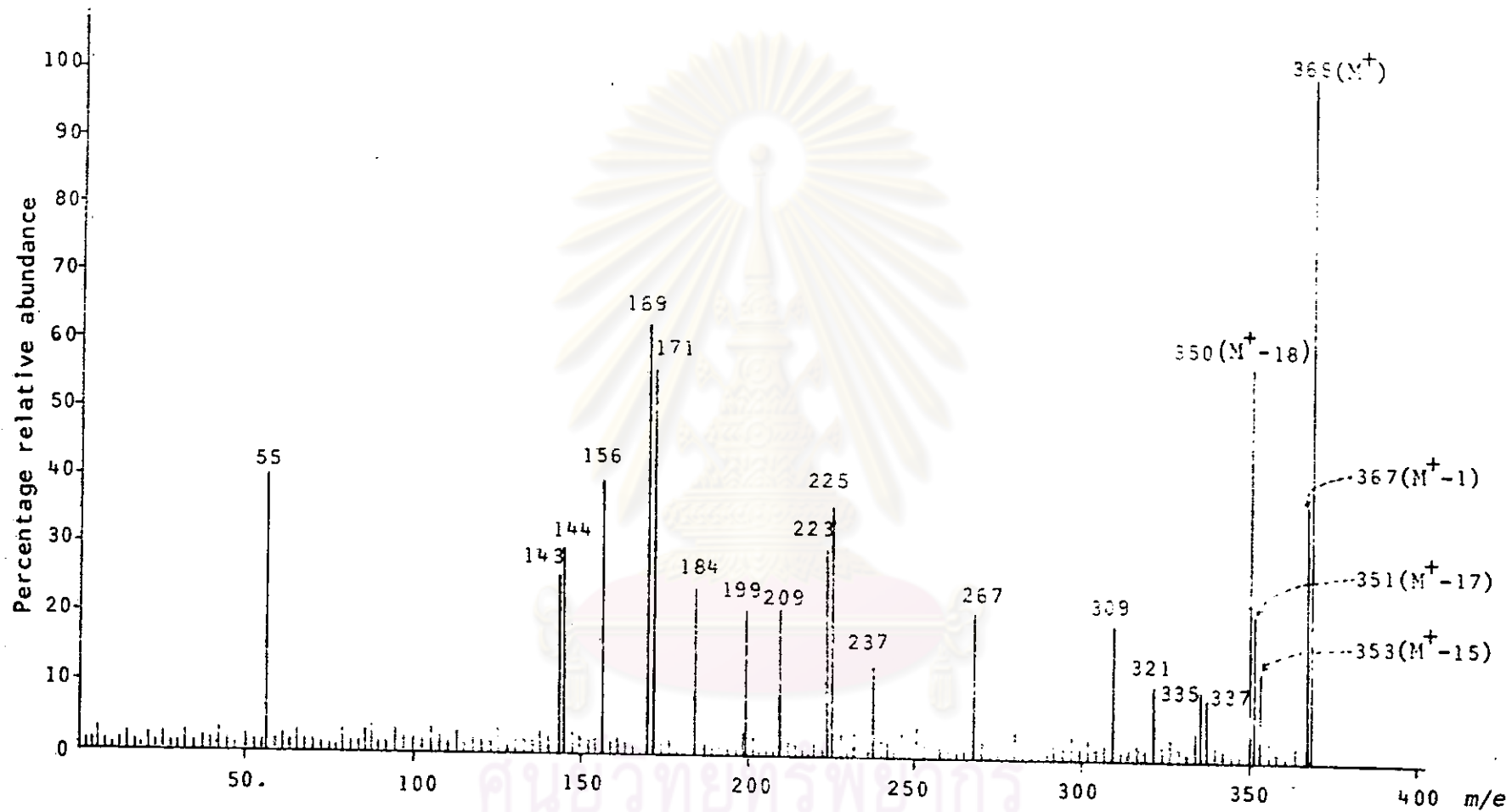
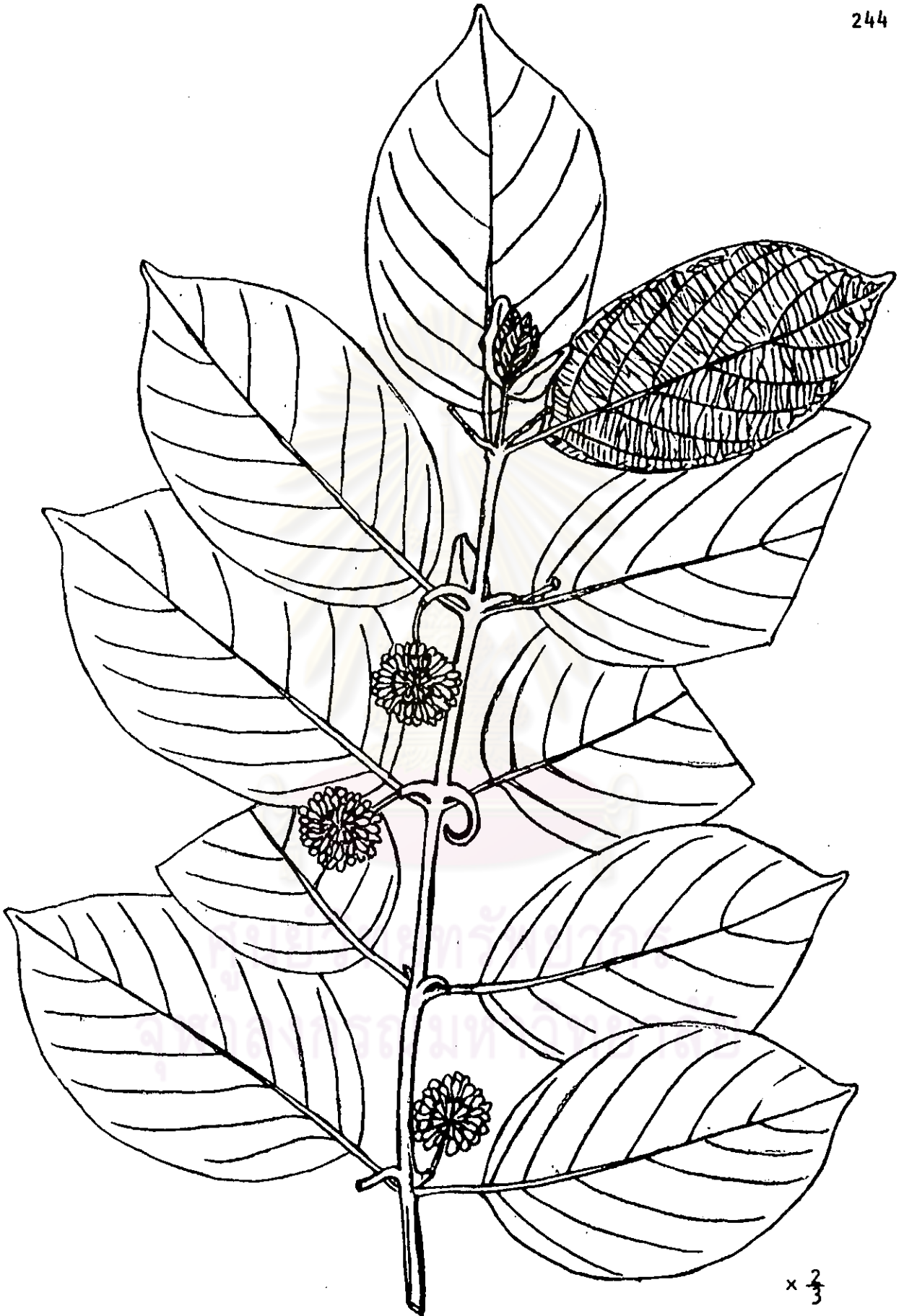


Fig. L Mass spectrum of alkaloid TS_3 .



Ngōb (ໄຈຸ) *Uncaria attenuata* Korth. (RUBIACEAE)

VITA

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Since graduation, she has been employed as a staff in the Department of Pharmaceutical Botany, Chulalongkorn University Faculty of Pharmaceutical Sciences.



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