APPENDIX

APPENDIX A

Sample for calculation antioxidant activity

ABTS assay:

From Sample = 5.0 mg/ml

Abs sample = 0.681

Abs control = 0.952

$$\% \text{ inhibition} = [(A_{control} - A_{sample})/A_{control}] \times 100$$

$$= (0.952 - 0.681)/ 0.952 \times 100$$

$$= 28.50 \%$$

Find % inhibition/mg of sample

$$\% \text{ inhibition/mg} = \frac{\% \text{ Inhibition}}{(20 \times 5.0 /1000)}$$

$$= \frac{28.50 \%}{(20 \times 5.0 /1000)}$$

$$= 285.01 \%$$

From y = 37.565x + 0.2346 of standard Trolox

replace y = % inhibition/mg = 280.5 %

Thus, 285.01 = 37.565x + 0.2346

x = 7.58

TEAC = 7.58 mM/ mg of sample

APPENDIX B

NMR spectrum

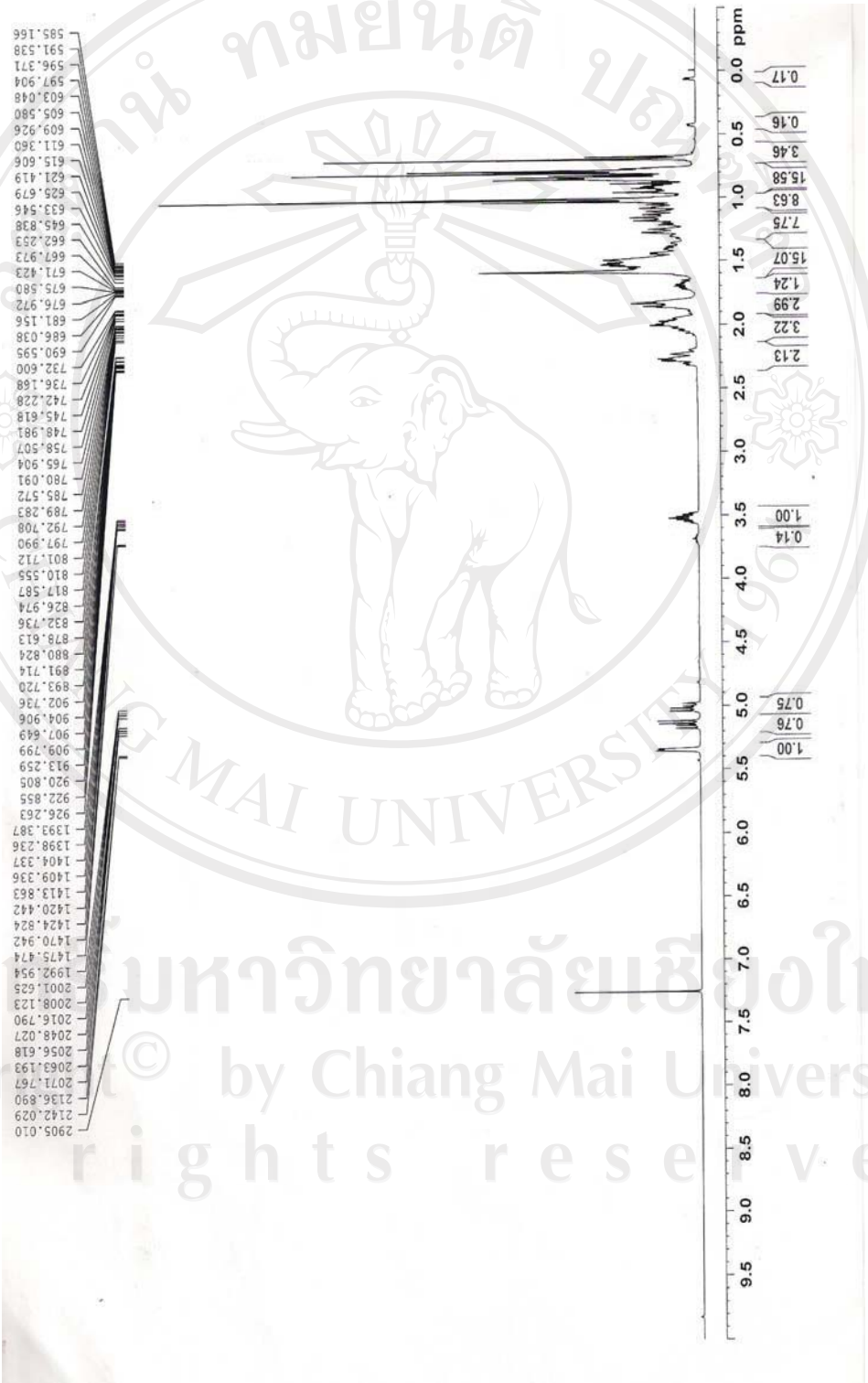

Figure 4.25 ^{1}H NMR spectrum of FALP

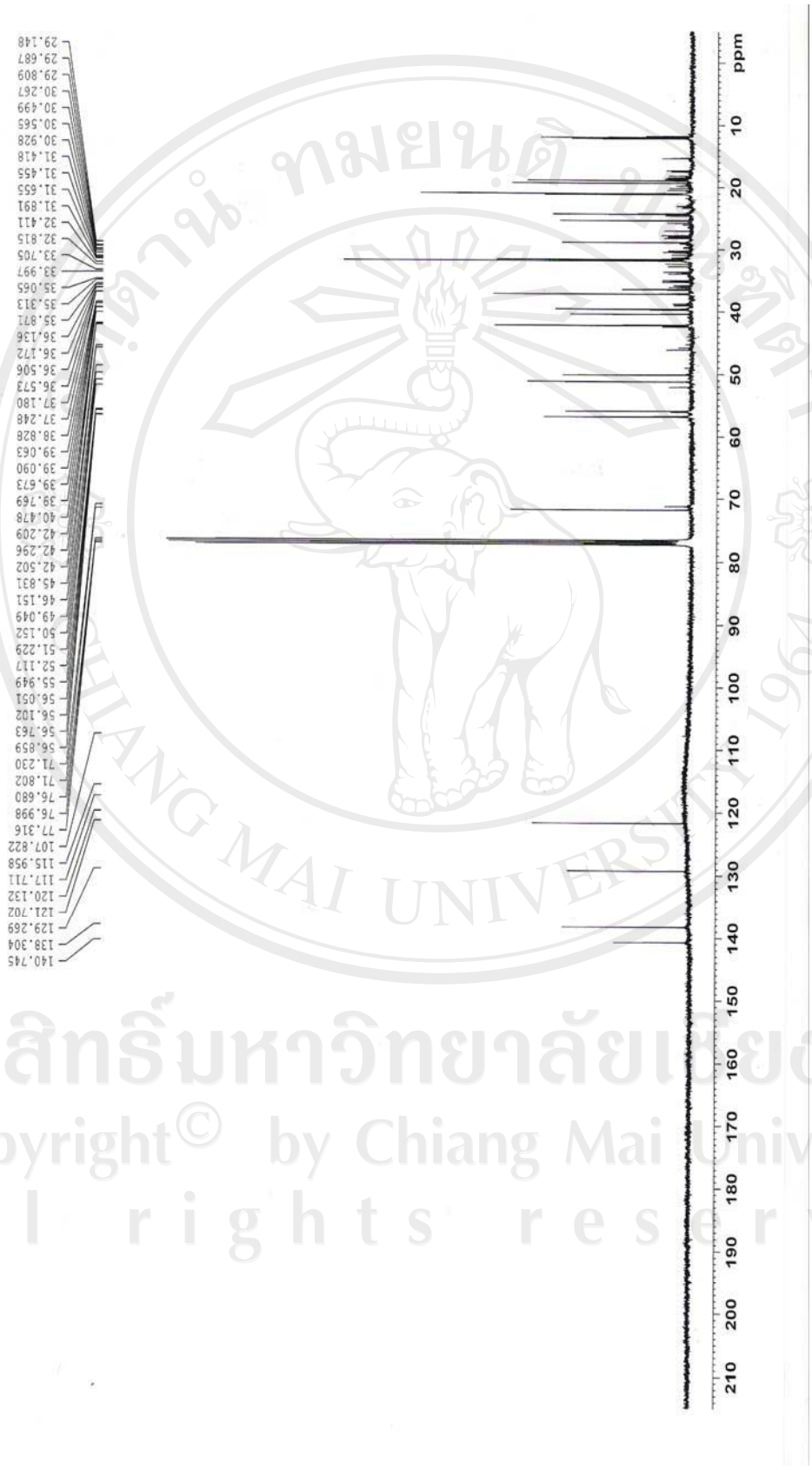

Figure 4.26 ^{13}C NMR spectrum of FALP

APPENDIX C

Mass-spectrum

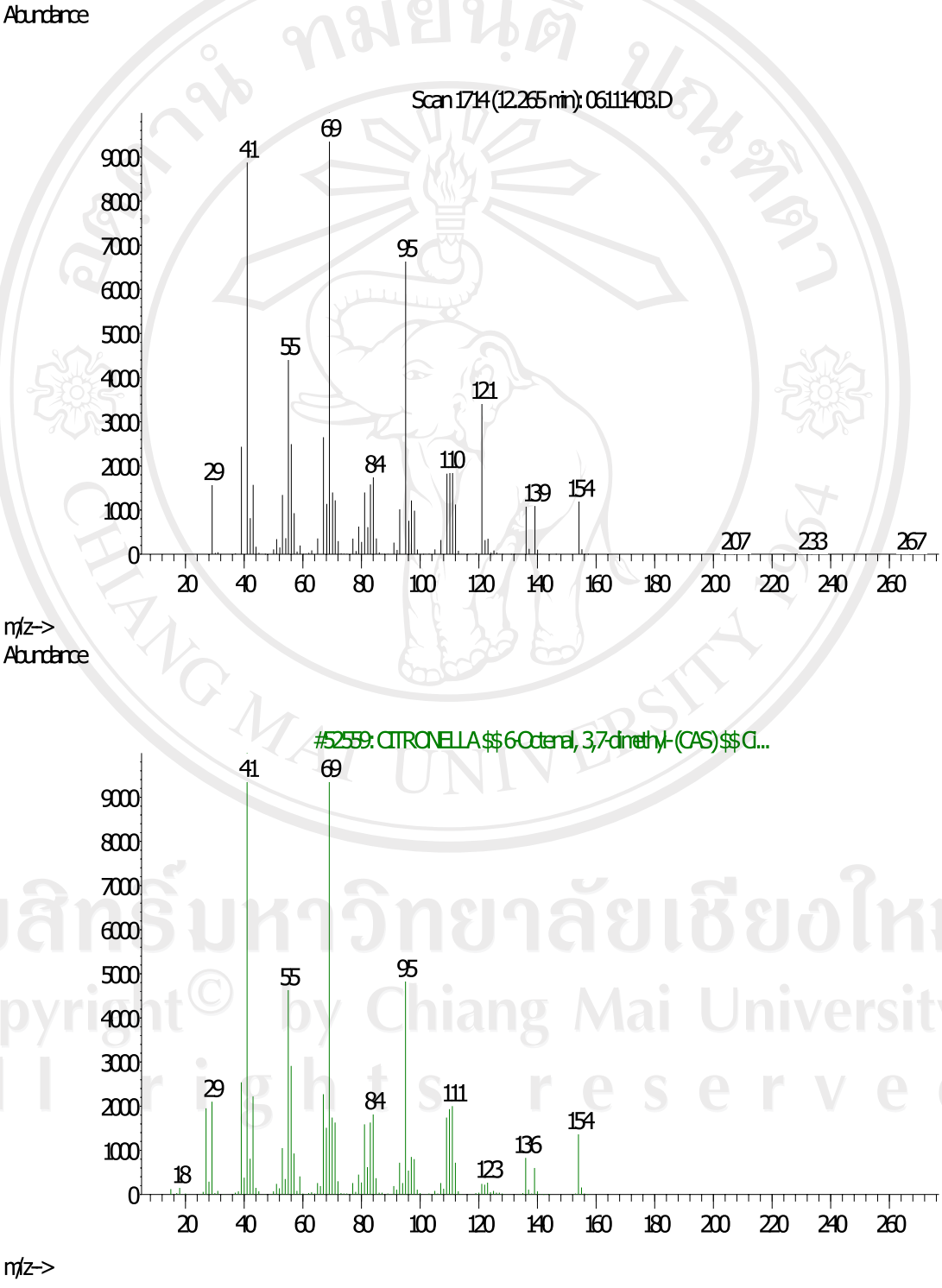

Figure 4.27 mass-spectrum of citronellol

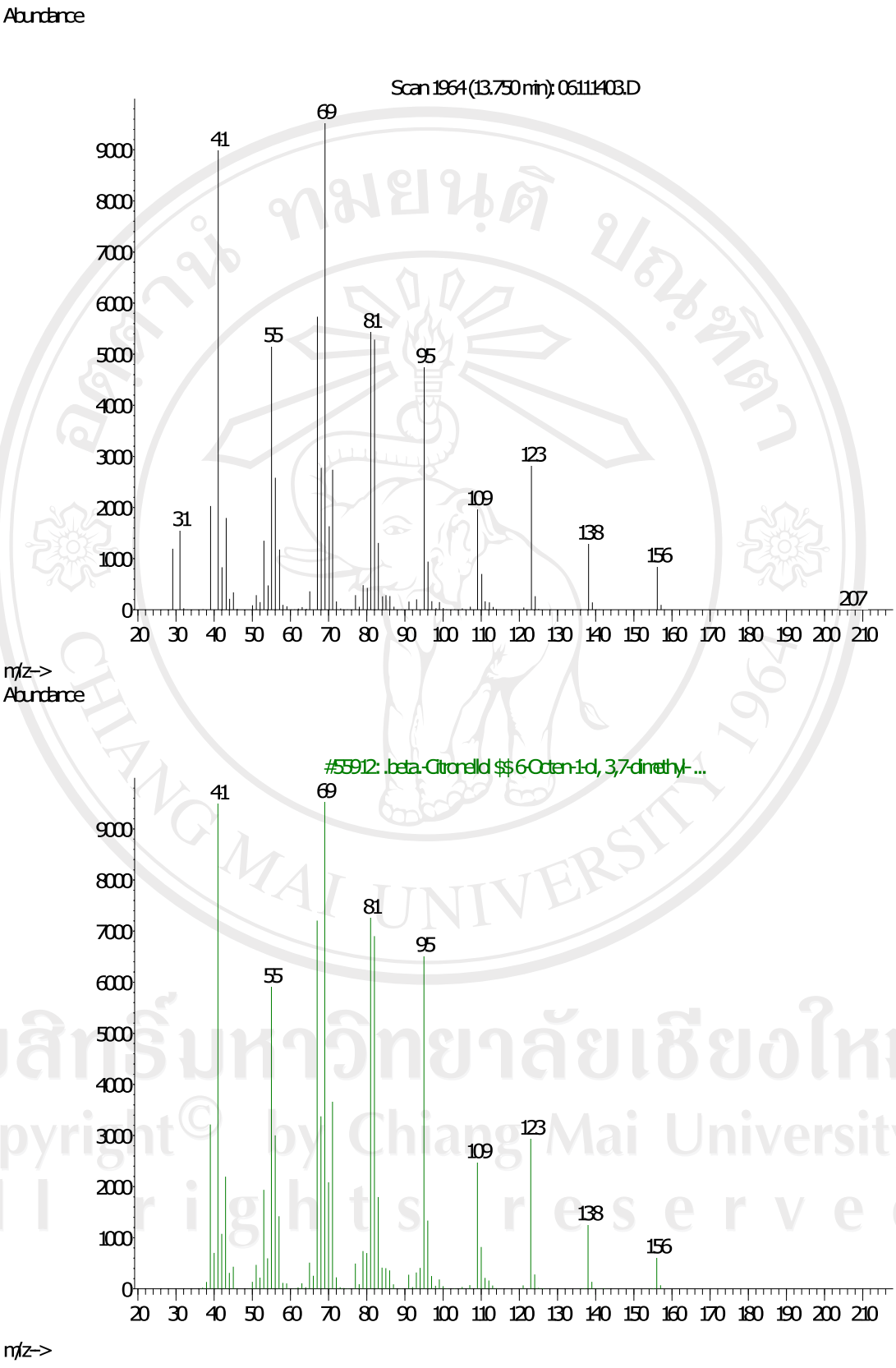

Figure 4.28 mass-spectrum of beta citronellal

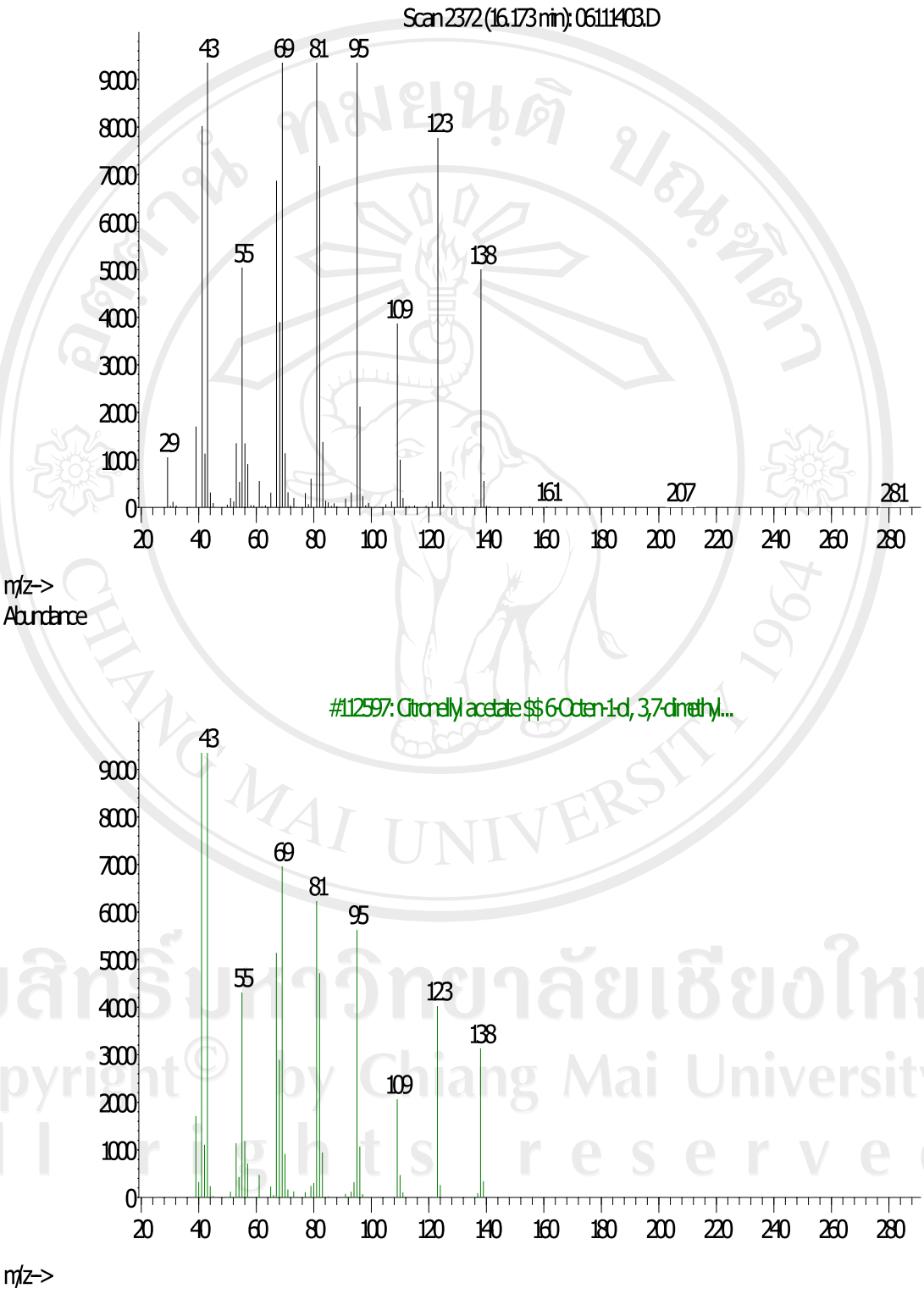

Figure 4.29 mass-spectrum of citronellyl acetate

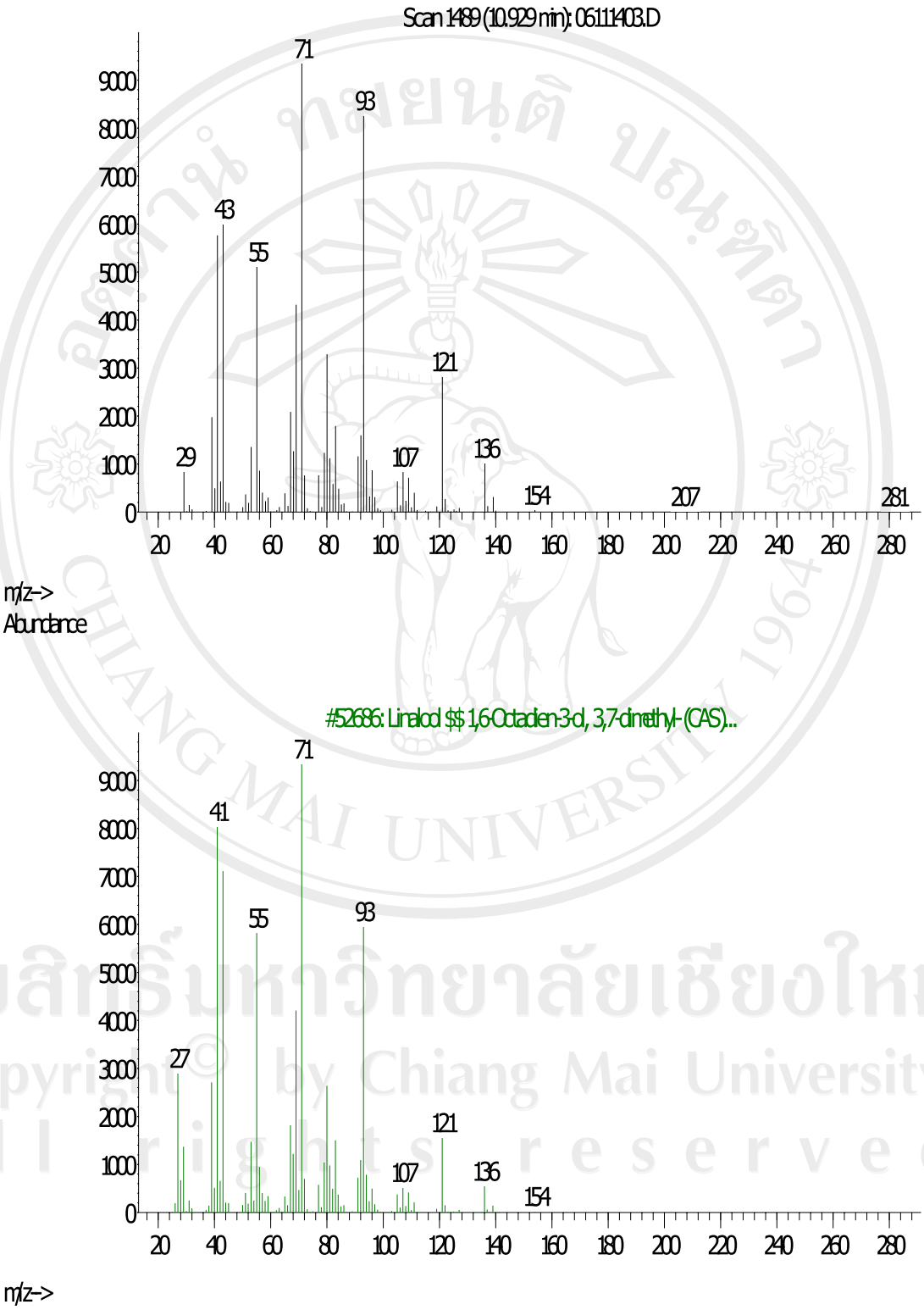

Figure 4.30 mass-spectrum of linalool

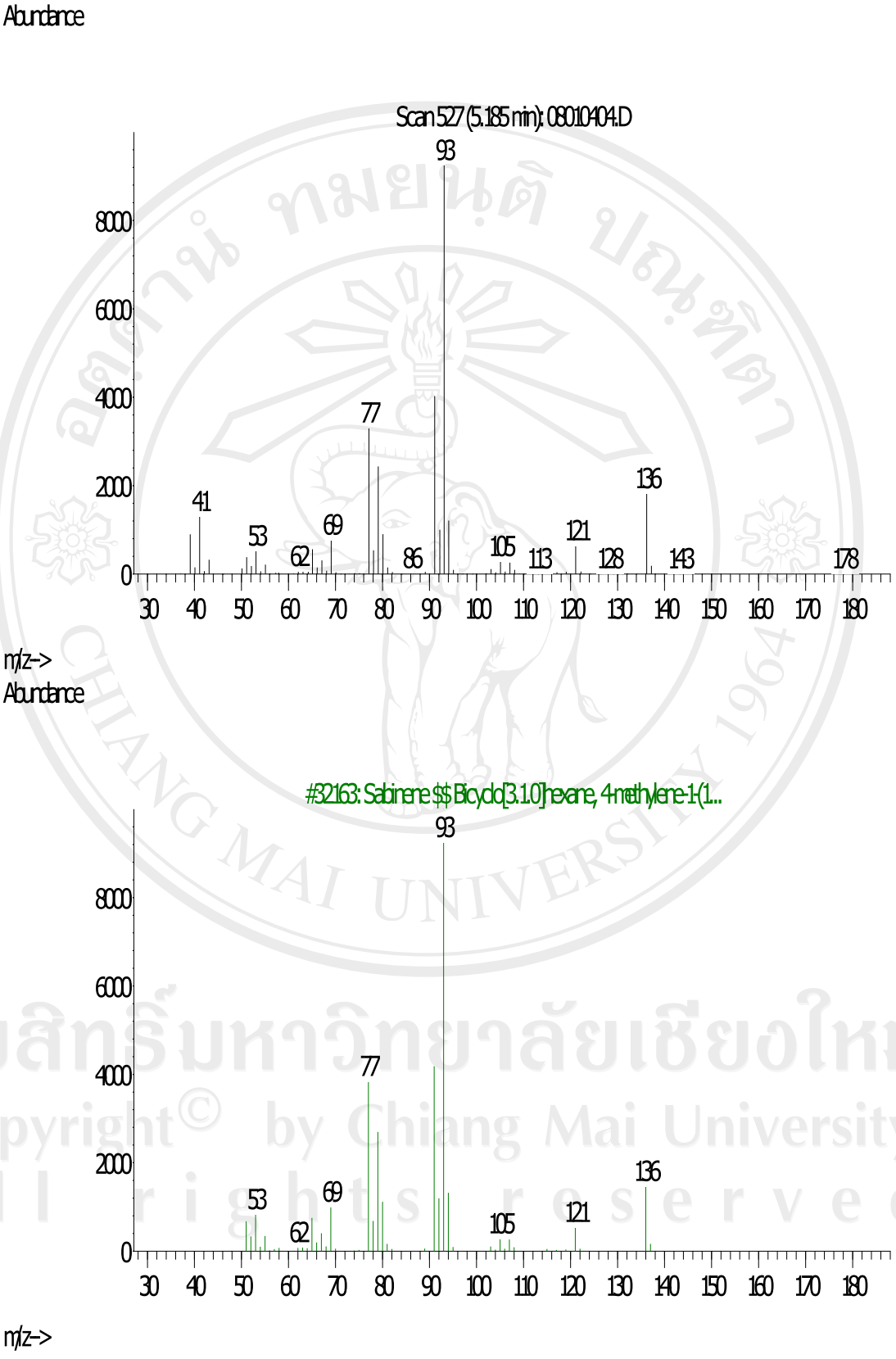

Figure 4.31 mass-spectrum of sabinene

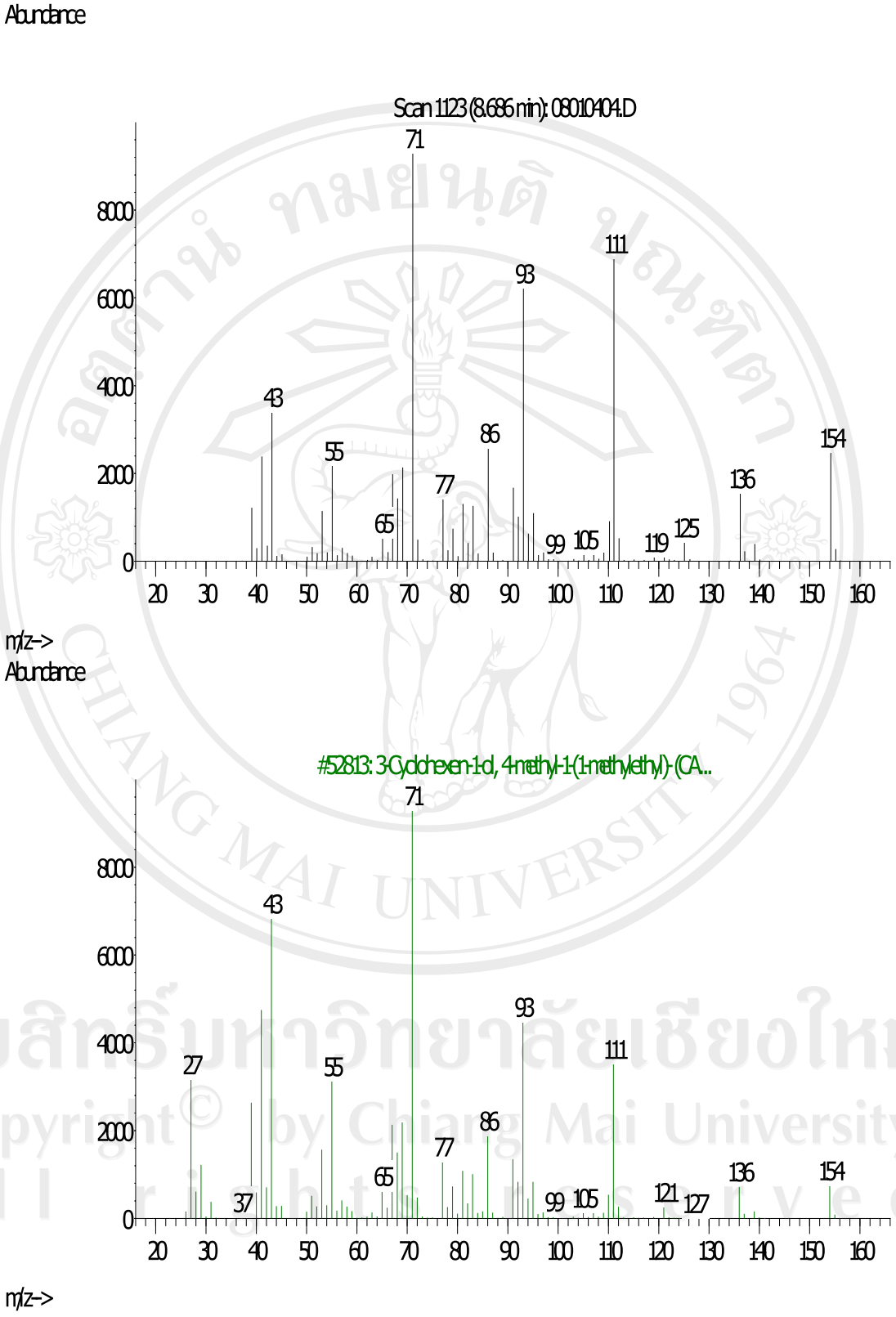

Figure 4.32 mass-spectrum of 4-terpineol

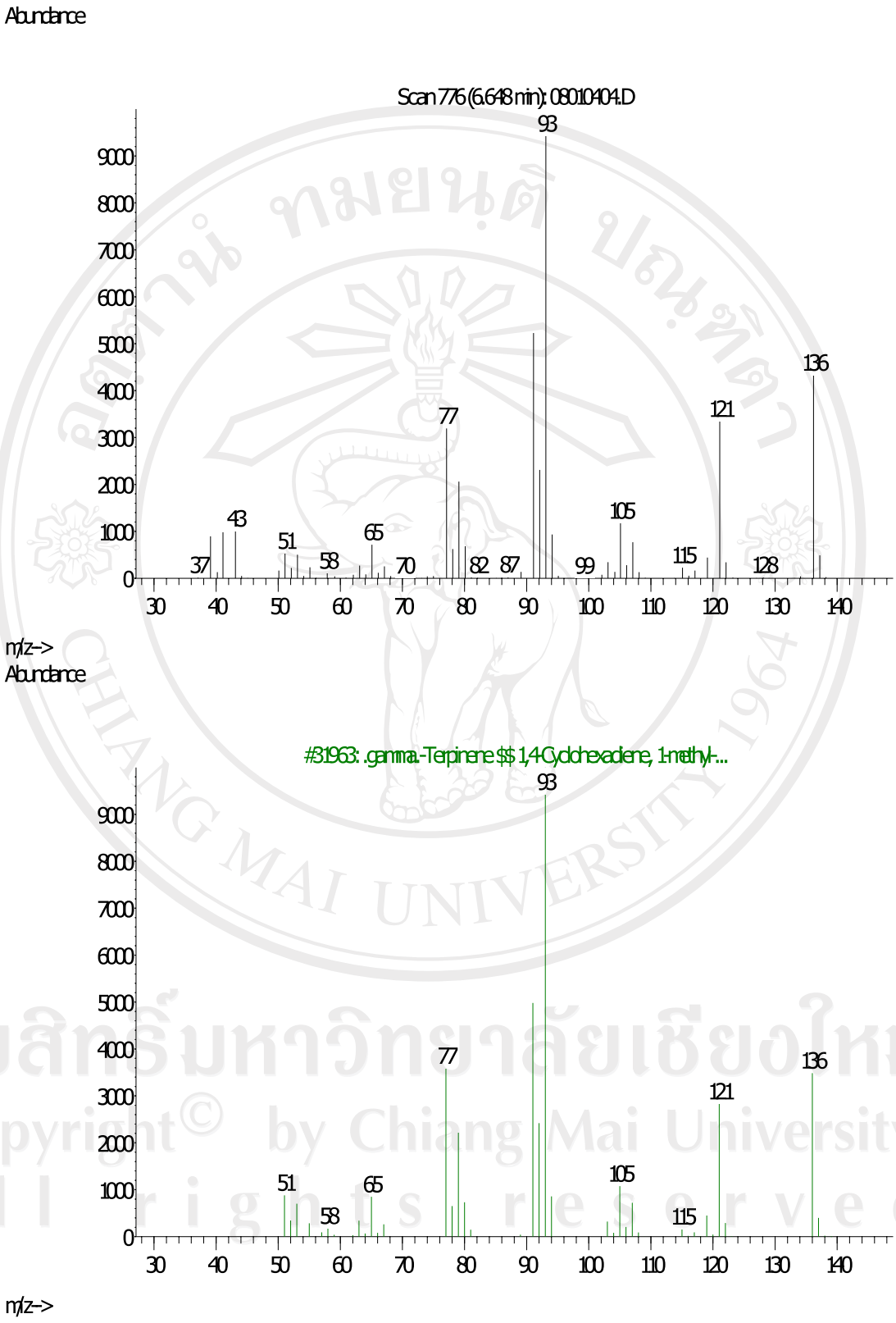

Figure 4.33 mass-spectrum of gamma-terpinene

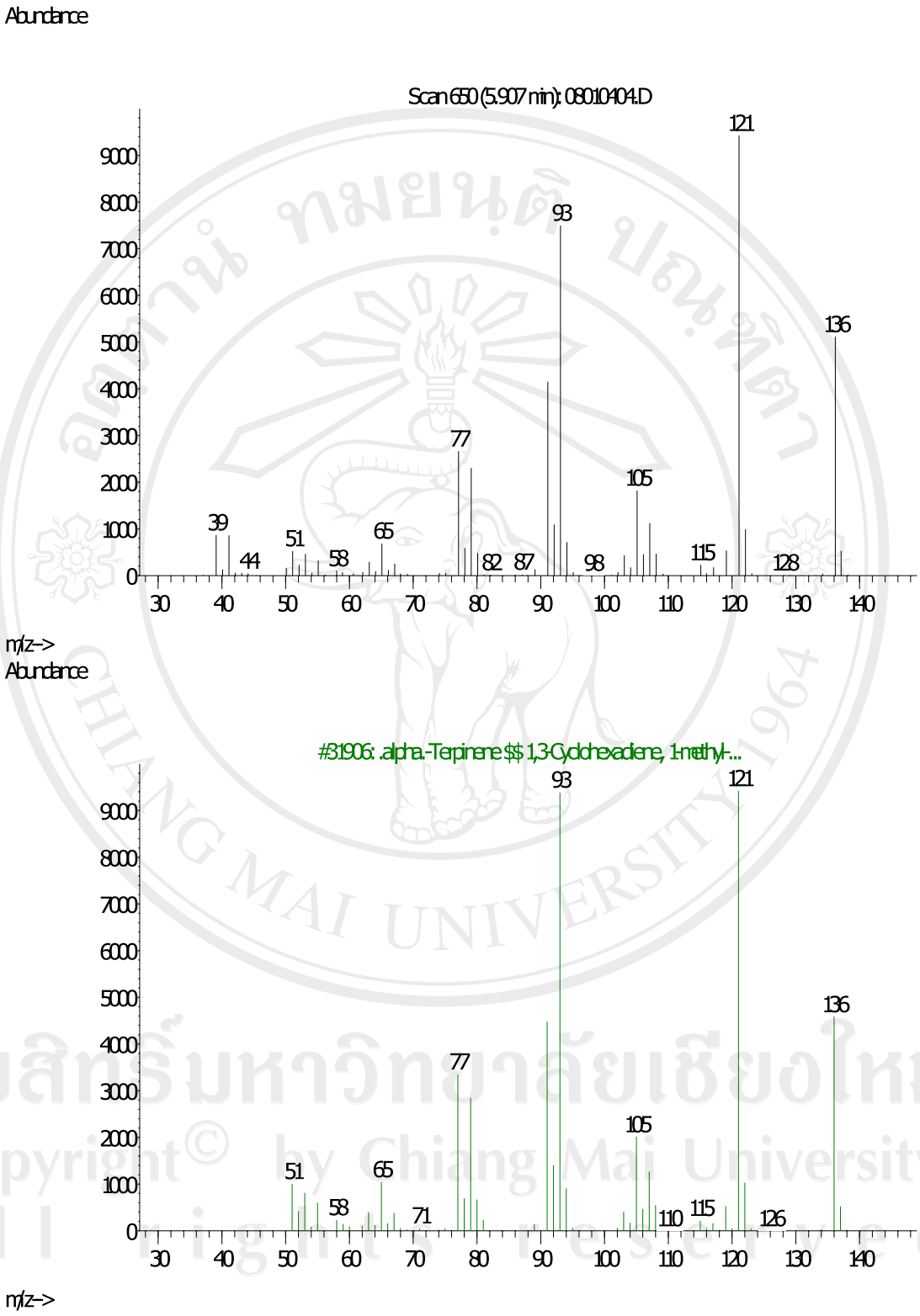

Figure 4.34 mass-spectrum of alpha-terpinene

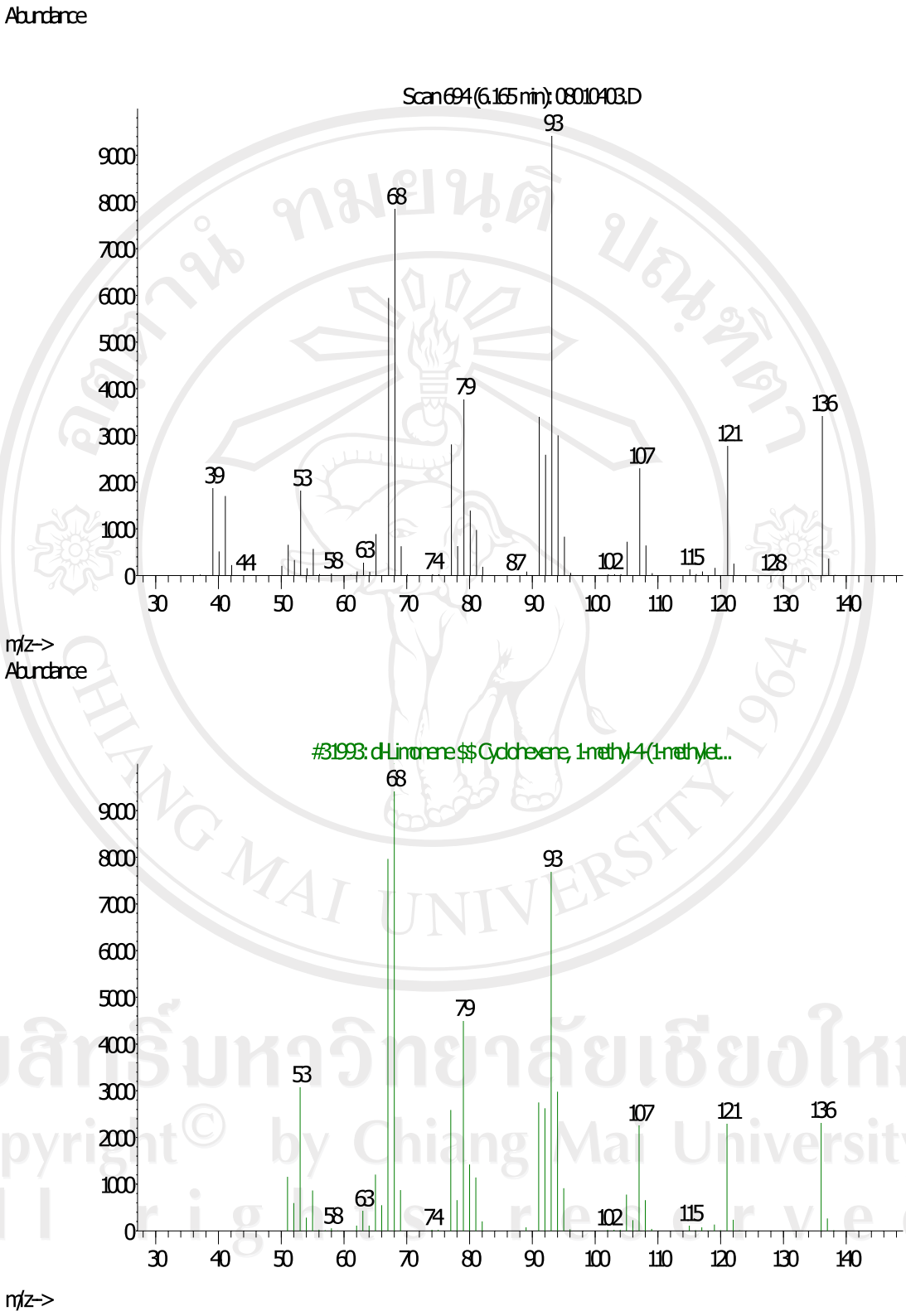

Figure 4.35 mass-spectrum of limonene

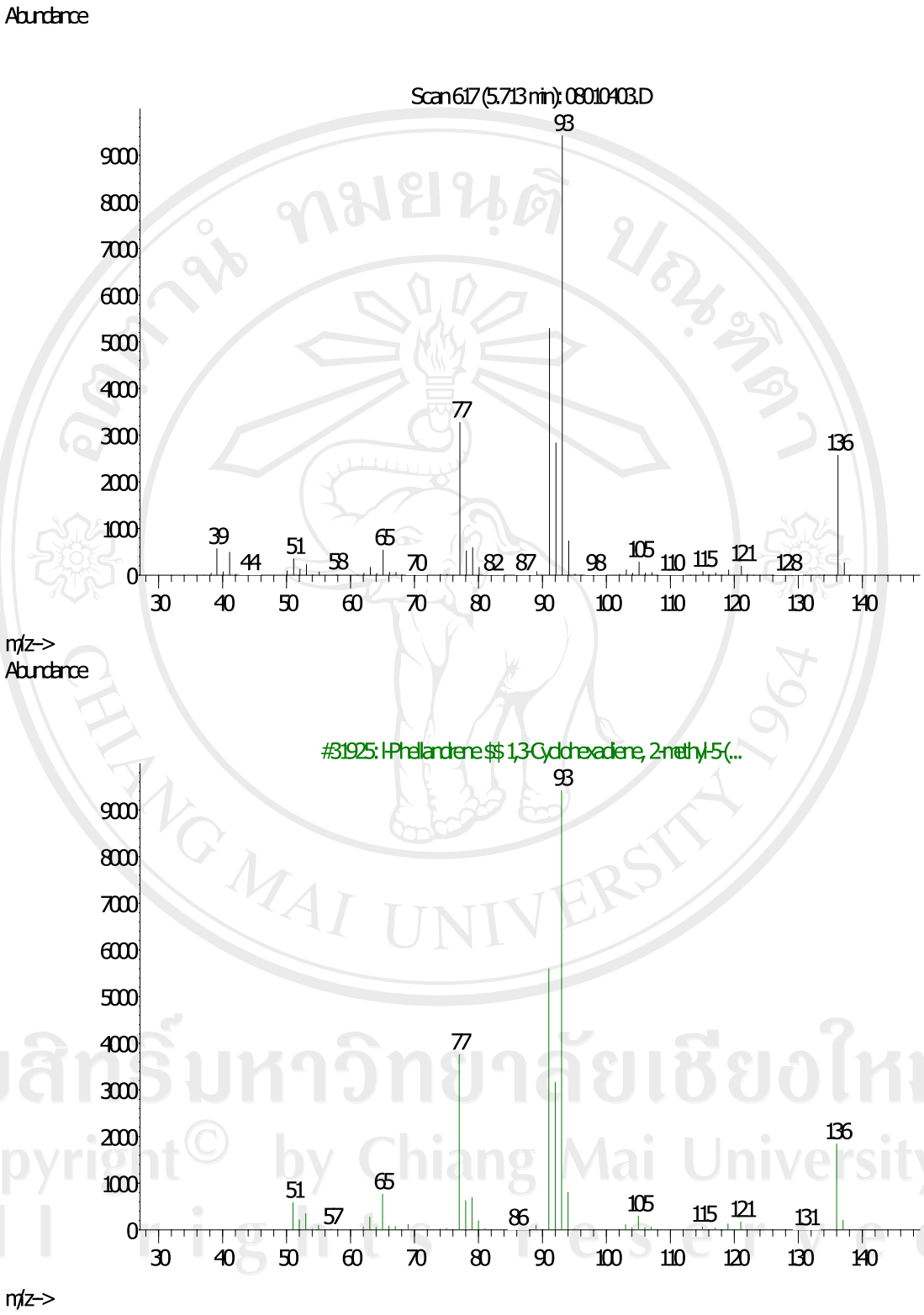

Figure 4.36 mass-spectrum of alpha-phellandrene

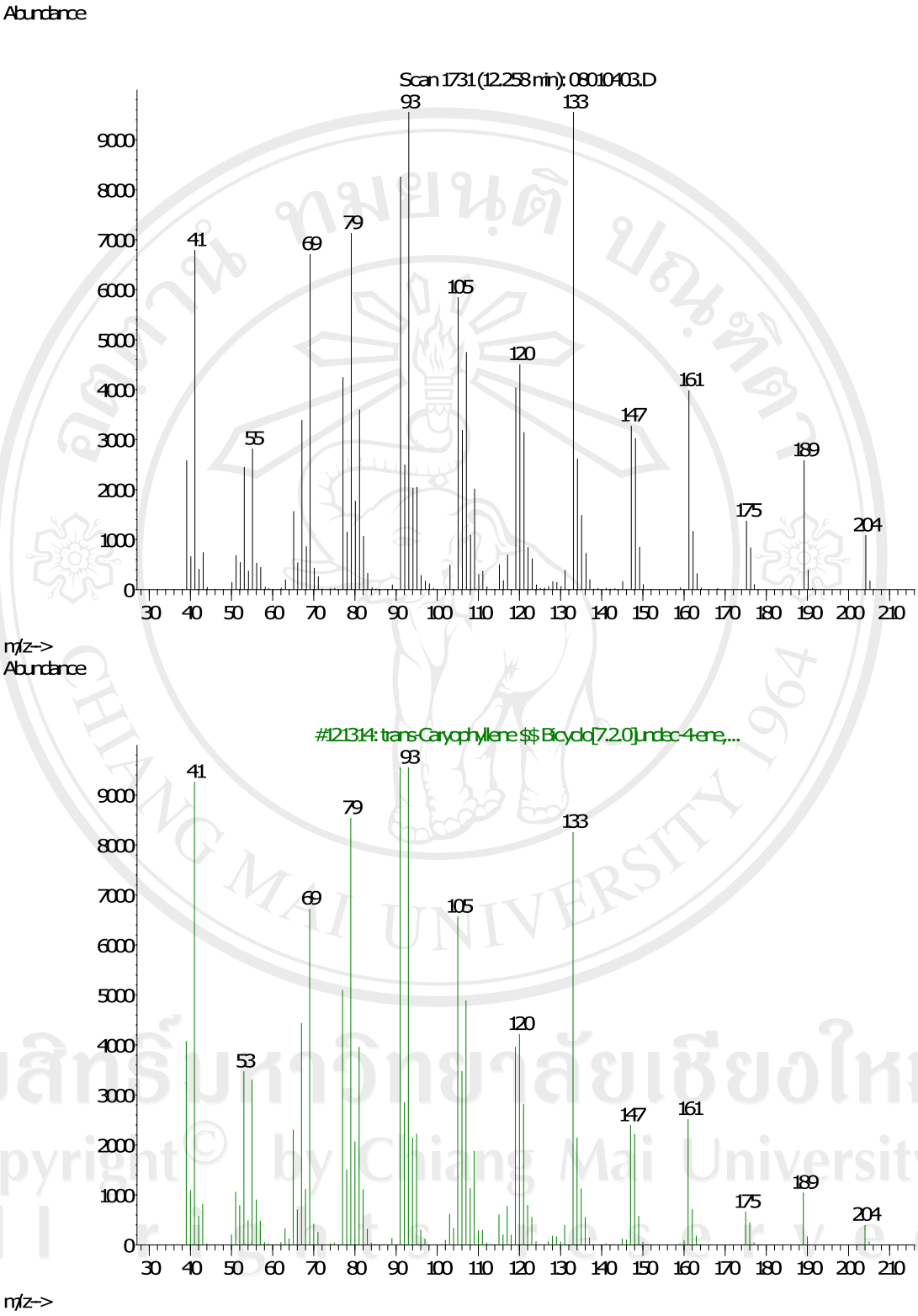

Figure 4.37 mass-spectrum of trans-caryophyllene

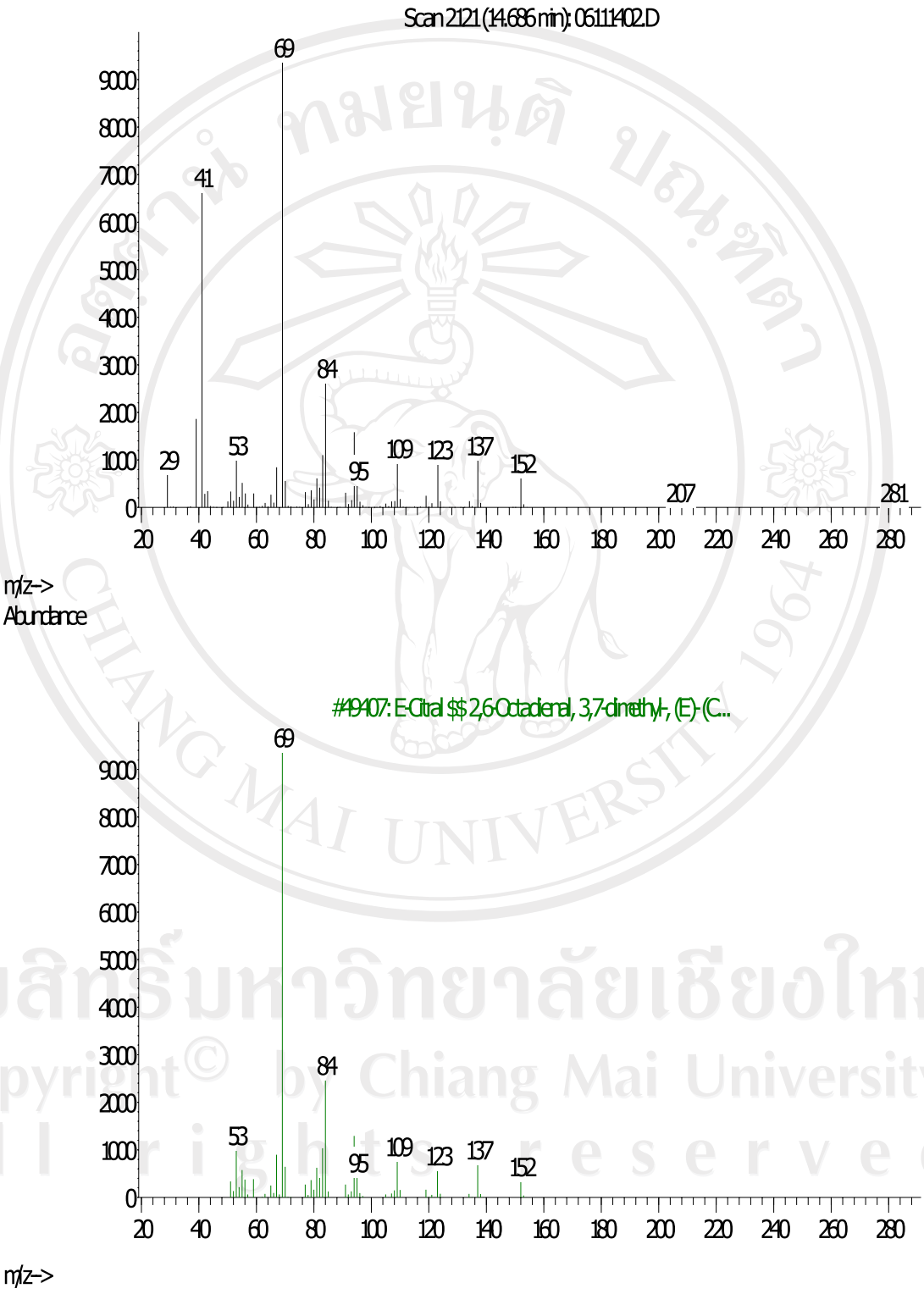

Figure 4.38 mass-spectrum of geranial

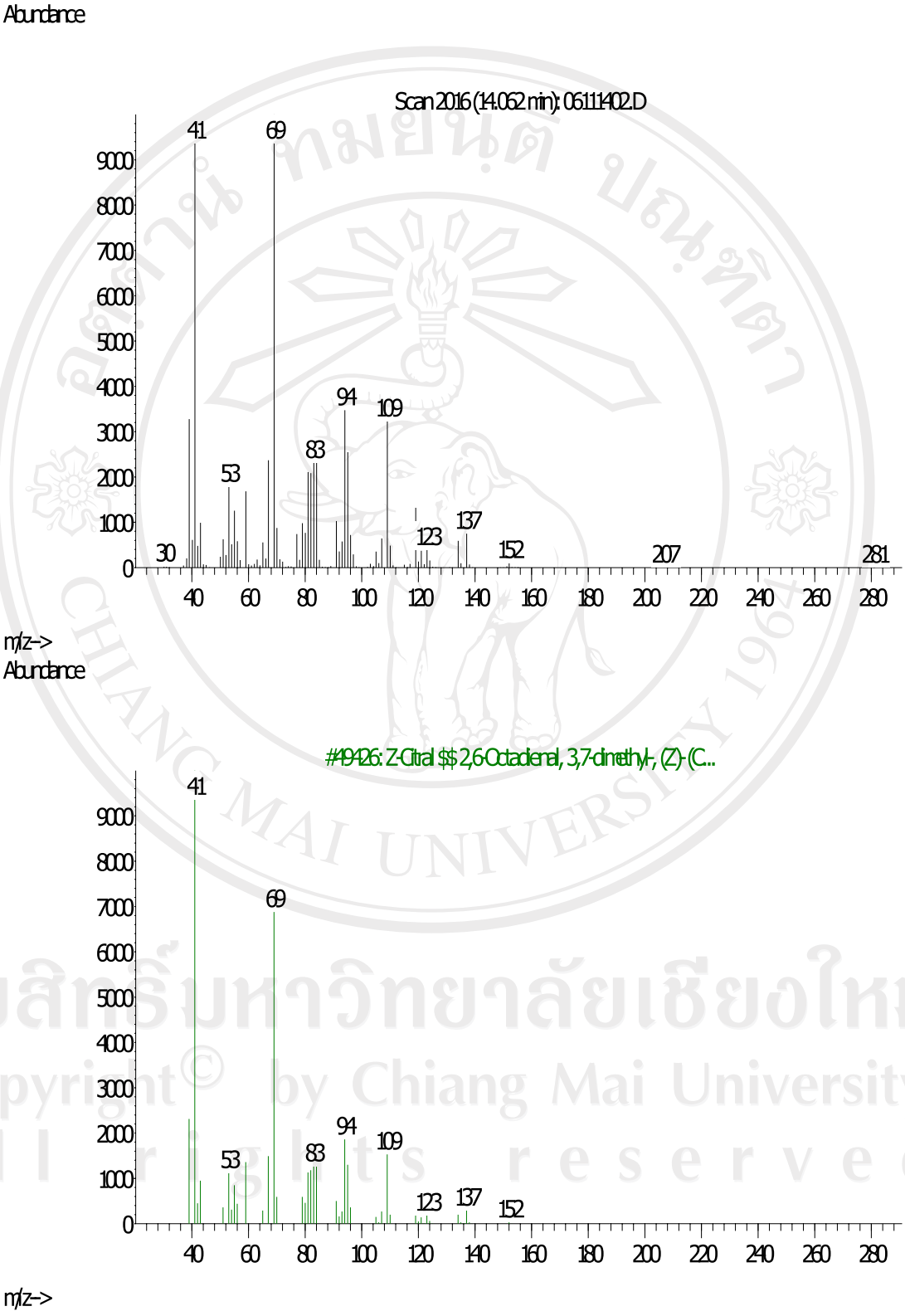

Figure 4.39 mass-spectrum of neral

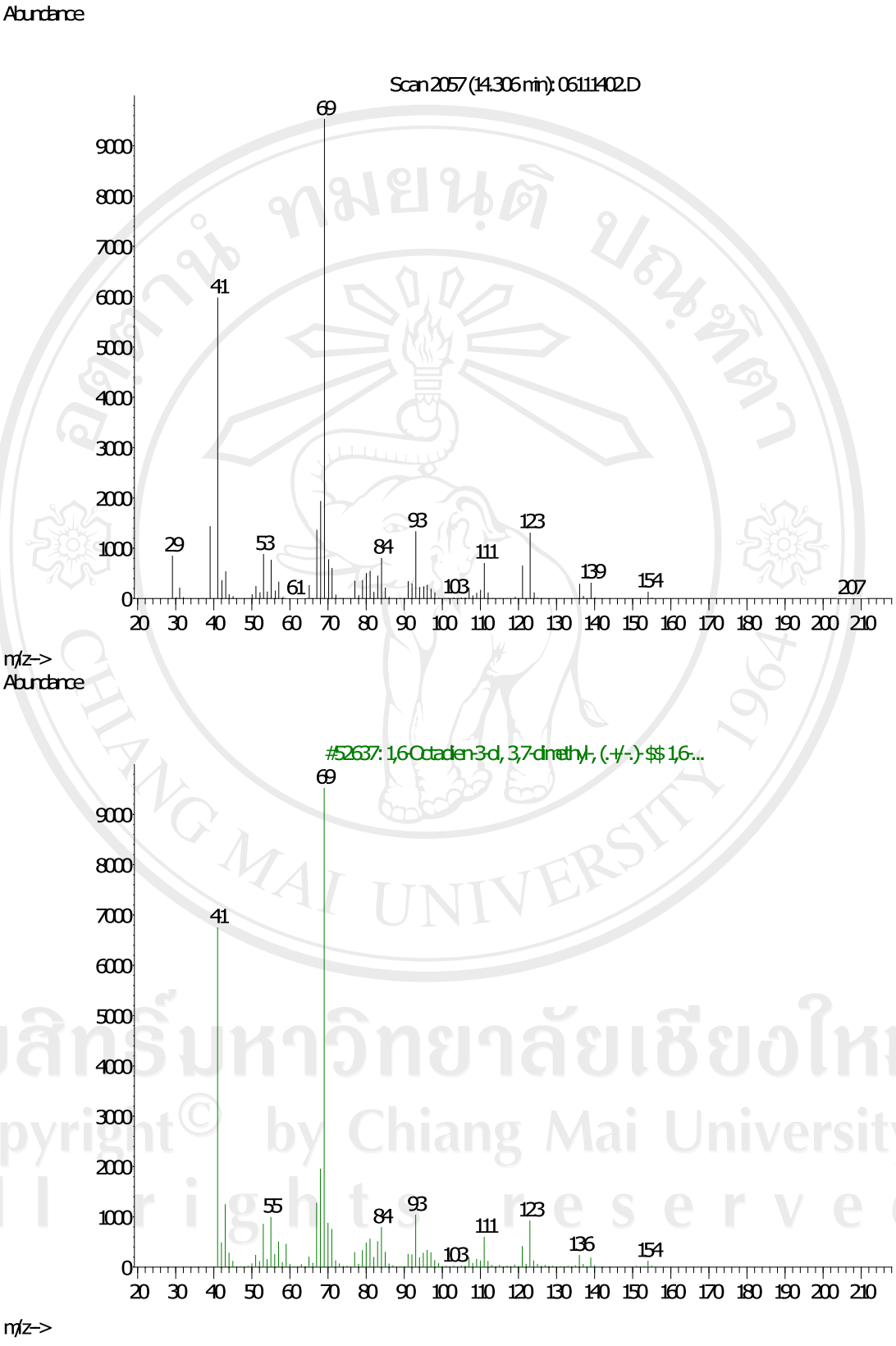

Figure 4.40 mass-spectrum of geraniol

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Y76PRESENTATIONS

International Conference

1. Jureeporn jeamjai, Boonsom Liawruangrath, Saisunee Liawruangrath, Suwanna Vejabhikul, Apiwat Baramee. Antioxidant and antimicrobial activities together with chemical constituents of essential oil of Feronia limonia swing. leaves. The Second International Conference on Natural Products for Health and Beauty (NATPRO), 17-19 December 2008, Payao, Thailand.
2. J. Jeamjai, B. Liawruangrath, S. Liawruangrath, S. Vejabhikul, A. Baramee, S. Satienperakul. Determination of Some Nutrient Metals and Bioactivity of Some Medicinal Plants Pure and Applied Chemistry International Conference (PACCON2010), 21-23 January 2010, Ubonratchathani, Thailand.

National Conference

1. Jureeporn jeamjai, Boonsom Liawruangrath, Saisunee Liawruangrath, Suwanna Vejabhikul, Apiwat Baramee. Antioxidant and antibacterial activities of some plants in the family Rutaceae. 34th Congress on Science and Technology of Thailand (STT34), 31 October - 2 November 2008, Bangkok, Thailand.
2. Boonsom Liawruangrath, Saisunee Liawruangrath, Jiraporn Chuangbunyat, Jureeporn Jeamjai, Pisan Kitsawatpaiboon. Bioactivity and chemical constituents of *Ocimum Basilicum* Linn. oil. 34th Congress on Science and Technology of Thailand (STT34), 31 October - 2 November 2008, Bangkok, Thailand.
3. Jureeporn jeamjai, Boonsom Liawruangrath, Saisunee Liawruangrath, Suwanna Vejabhikul, Apiwat Baramee, Pisan Kitsawatpaiboon. Antioxidant and antimicrobial activities together with chemical constituents of Citrus aurantifolia Swing. leaves. 35th Congress on Science and Technology of Thailand (STT35), 14-17 October 2009, Chonburi, Thailand.

PUBLICATIONS

1. Jureeporn jeamjai, Boonsom Liawruangrath, Saisunee Liawruangrath, Suwanna Vajabhikul, Apiwat Baramee. Antioxidant and antimicrobial activities together with chemical constituents of essential oil of Feronia limonia swing. leaves. Naresuan Phayao Journal, 2 (2), 129-133, 2009.
2. Jureeporn jeamjai, Boonsom Liawruangrath, Saisunee Liawruangrath, Suwanna Vejabhikul, Apiwat Baramee, Pisan Kitsawatpaiboon. Antioxidant and antimicrobial activities together with chemical constituents of Citrus aurantifolia Swing. leaves. 35th Congress on Science and Technology of Thailand (STT35) proceedings, 2009.
3. J. Jeamjai, B. Liawruangrath, S. Liawruangrath, S. Vejabhikul, A. Baramee, S. Satienperakul. Determination of Some Nutrient Metals and Bioactivity of Some Medicinal Plants. Pure and Applied Chemistry International Conference 2010 proceedings, 719-722, 2010.