



## References

1. Pharmacology (Botany) and Pharmacognosy department. *The Identification of Botany*. Bangkok: Chulalongkorn University, 1980, 2, 138-139.
2. Appendino, G., Jakupovic, S., Tron, G.C., Jakupovic, J., Milon, V., Ballero, M. Macrocyclic Diterpenoids from *Euphorbia semiperfoliata* *J. Nat. Prod.*, 1998, 61, 749-756.
3. Jaupovic, J., Jeske, F., Morgenstern, T., Tschritzis, F., Macro, J. A., Berendsohn, W. Diterpenes from *Euphorbia segetalis* *Photochemistry*, 1998, 47(8), 1583-1600.
4. Sastri, B. N. (ed.). *The Wealth of India: Raw Materials*, CSIR, New Delhi, 1956, 4, 122.
5. Pongboonrod, S. *Mai Tet Muang Thai*, Kasembunnakich Press, Bangkok, 1976, 110.
6. Wasuwat, S. A list of Thai medicinal plants, *Research Report*, A.S.R.C, Bangkok, Thailand, No.1 on research project 17, 1967, 22.
7. Concanavalin, A., Stirpe, F., Olsnes, S., Pihl, A. Gelonin, A new inhibitor of protein synthesis, nontoxic to intact cells *J. Biol. Chem.*, 1980, 255, 6947-6953.
8. Rosemblum, M. G., Immunotoxins directed against CD 33 related surface antigens *Research Development Foundation*, 1992, 39.
9. Nolan, P. A., Garrison, D.A., Better, M. Cloning and expression of a gene encoding gelonin, a ribosome-inactivating protein from *G. multiflorum* *Gene*, 1993, 134(2), 223.
10. Singh, V., Kar, S. K. Properties of a ribosome-inactivating protein, Gelonin, purified using three different methods *Indian J. Biochem Biophys*, 1992, 29(1), 31-41.
11. Marcil, J., Ravindranath, N., Sairam, M.R. Cytotoxic Activity of Lutropin-Gelonin conjugate in mouse leydig tumor-cells-potentiation of the hormonotoxin activity by different drugs *Molecular and Cellular endocrinology*, 1993, 92(1), 83.

12. Brigotti, M., Sperti, S., Carnicelli, D., Montanaro, L. Partial-Purification of 2 proteins which sensitize ribosomes to gelonin-sensitization is not linked to phosphorylation of Ribosomal- Proteins *Toxicon*, **1993**, *31(8)*, 989.
13. Roseblum, M.G., Kohr, W.A., Beattle, W.G., Marks, W., Toman, P.D., Cheung, L. Amino-acid-sequence analysis, gene construction, Cloning and Expression of Gelonin, A toxin derived from *G.multiflorum* *J.Interferon and Cytokine Research*, **1995**, *15(6)*, 547.
14. Brigotti, M., Petromni, P.G., Borghetti, A.F., Guidotti, G.G., Sperti, S., Montanaro, L. Primer t RNA (Trp) of RSV- transformed or RAV-1-infected cells upregulates the antiribosomal activity of gelonin *Biochimie*, **1998**, *80(7)*, 575.
15. Leehuang, S., Kung, H.F., Huang, P.A.L., Huang, P.H.L., Li, B.Q., Huang, P., Huang, H.I., Chen, H.C. A new class of Anti HIV agents GAP 31, DAPS 30 and 32 *Febs. Lett.*, **1991**, *291(1)*, 139-144.
16. Leehuang, S., Chen, H.C., Kung, H.F., Huang, P.L., Li, L.B., Qun, H.P., Huang, H.I., Huang, P.L. Plant proteins with antiviral activity Against Human Immunode- ficiency virus *Nar. Prod. Antiviral Agents*, **1991**, *1991*, 153-170.
17. Leehuang, S., Huang, P.L., Huang, P.L., Bourinbaiar, A.S., Chen, H.C., Kung, H.F. Inhibition of the integrase of human immunodeficiency virus (HIV) Type-1 by Anti-HIV plant-proteins MAP 30 and GAP 31 *Proceedings of The national academy of sciences of the united state of America*, **1995**, *92(19)*, 8818.
18. Rybak, S.M., Lin, J.J., Newton, D.L., Kung, H.F., Monks, A., Chen, H.C., Huang, P.L., Leehuang, S. In-vitro Antitumor-activity of the plant ribosome-inactivating proteins MAP 30 and GAP 31 *International Journal of Oncology*, **1994**, *5(5)*, 1171.
19. Leehuang, S., Kung, H.F., Huang, P.L., Bourinbaiar, A.S., Morell, J.L., Brown, J.H., Huang, P.L., Tsai, W.P., Chen, A.Y., Huang, H.I., Chen, H.C. Human-Immunodeficiency-Virus Type-1 (HIV-1) Inhibition, DNA-binding, RNA-binding, and Ribosome inactivation activities in the N-terminal segments of the plant Anti-HIV protein GAP31 *Proceedings of the National Academy of Sciences of USA*, **1994**, *91(25)*, 12208.

20. Bourinbaiar, A.S., Lehuang, S. The activity of plant-derived antiretroviral proteins MAP30 and GAP31 against herpes simplex virus infection in vitro *Biochemical and Biophysical research communications*, **1996**, *219*(3), 923-929.
21. Bhakuni, O.S., Dhar, M.L., Dhar, M.M., Dhawan, B.N., Mehrotra, B.N. Screening of indian plants for biological activity *Indian J. Exp. Biol.*, **1969**, *7*, 250-262.
22. Murakami, A., Kondo, A., Nakamura, Y., Ohigashi, H., Koshmizu, K. Possible antitumor promoting properties of edible plants from Thailand, and identification of an active constituent, Cardamonin, of *Boesenhergia pandurata* *Biosci. Biotech. Biochem.*, **1993**, *57*, 1971-1973.
23. Sengupta, P., Khastgir, H.N. Bauerenol and multiflorenol from *G. multiflorum* A.Juss. The structure of Multiflorenol *Tetrahedron*, **1963**, *19*, 123-132.
24. Ramachandra, R.L., Sankara, R.C. Crystalline constituents of Euphorbiaceae: Part X-the triterpenes of *G. multiflorum* : bark *Indian J. Chem*, **1969**, *7*, 207-209.
25. Kundu, A.K., Mukher, J.D., Das, K.R., Das, G.A.K. Enzymic hydrolysis of Hemicelluloses of *G. multiflorum* A.Juss. by *Aspergillus oryzae* hemicellulase *Indian J. Exp. Biol.*, **1968**, *6*, 129-130.
26. Ghosh, S. Chemical investigations on the seed of *G. multiflorum* A. Juss. *East Pharm*, **1979**, *22*, 185-188.
27. Das, B., Chakravarty, A.K. Three flavone glycosides from *G. multiflorum* A.Juss *Phytochemistry*, **1993**, *33*, 493-496.
28. Das, B., Chakravarty, A.K., Masuda, K., Suzuki, H., Ageta, H. A diterpenoid from roots of *G. multiflorum* *Phytochemistry*, **1994**, *37*, 1363-1366.
29. Parveen, N., Khan, H.N. Luteolin 7, 4'-dimethyl ether 3'-glucoside from *G. multiflorum* *Phytochemistry*, **1987**, *26*(7), 2130-2131.
30. Talapatra, S.K., Das, G., Tarapatra, B. Stereostructure and molecular conformations of six diterpene lactones from *G. multiflorum* *Phytochemistry*, **1989**, *28*(4), 1181-1185.
31. Tarapatra, S.K., Pal, P., Das, G., Biswas, K., Porel, A., Talapatra, B. Some interesting reactions of reactions of gelomulides, the natural diterpene lactones *J. Indian. Chem. Soc.*, **1997**, *74*(11), 848.

32. Talapatra, B., Das, G., Das, A.K., Biswas, K., Talapatra, S.K. Stereostructures and conformations of four diterpene lactones from *G. multiflorum* *Phytochemistry*, **1998**, *49(5)*, 1353.
33. Smitinand, T. Thai plant Name ( Botanical names- Vernacular names), 2<sup>nd</sup> ed. Bangkok: Royal Forest Department, **1980**, 320.
34. Celegate, S.M., Molyneux, R.J. Toxicity testing using the Brine Shrimp: *Artemia salina* *Bioactive Natural Products*, CRS.Press, **1993**, 441.
35. Soillis, P.N., Wright, C.W., Anderson, M.M., Gunta, M.P., Philipson, J.D. A microwell cytotoxicity assay using *Artemia salina* : (Brine Shrimp.) *Planta Medica*, **1993**, *59*, 250-253.
36. Wiboonphan, N. Bioactive compounds of *Sphaeranthus africanus* Linn. Ms.Thesis (Chemistry), Graduate School, Chulalongkorn University, **1996**, 25.
37. Sriwatcharakul, S. Searching for Bioactive Substances from some compositae Weeds Ms.Thesis (Biotechnology), Graduate School, Chulalongkorn University, **1998**, 28.
38. Nakamura, Y., Ohto, Y., Murakami, A., Ohigashi, H. Superoxide Scavenging Activity of Rosmarinic acid from *Perilla frutescens* Britton Var.*acuta* f. *viridis* *American Chemical Society*, **1998**.
39. Yamaguchi, K. Spectral Data of Natural Products Volumn I. Torii & Co.Ltd, Nihonbashi, Tokyo, Japan, Amsterdam (Publishers), London New York, **1970**, 137-162.
40. Khastgir, H.N., Sengupta, P. Structure of Multiflorenol *Chem. & Ind.*, **1961**, 1077-8.
41. Ageta, H., Arai, Y. Fern constituents: Pentacyclic triterpenoids isolated from *Polypodium niponicum* and *P. formosanum* *Phytochemistry*, **1983**, *22(8)* , 1801 –1808.
42. Yanping, S.Y.L., Li, Y. New sesquiterpene from *Artemisia subdigitata* *Indian Journal of Chemistry*, **1995**, *34B*, 664-665.
43. Koizumi, N., Fujimoto, T., Takeshita, N.I. Carbon-13 Nuclear Magnetic Resonance of 24-Substituted Steroid *Chem. Pharm. Bull.*, **1979**, *27(1)*, 38-42.

44. Wright, J.L.C., McInnes, S., Shimizu, D.G. Smith, J.A., Walter, D. Idler and Khalil, W. Identification of C-24 Alkyl Epimers of Marine Sterols by  $^{13}\text{C}$  NMR Spectroscopy *Can.J.Chem.*, **1978**, *56*, 1898-1903.
45. Allick, R.L., Richard, C.C., Peter, S.R. and Paul, D.W. ent-Pimarane and ent-Abietane diterpenes from *Euphorbia fidjiana* *Phytochemistry*, **1990**, *29(7)*, 2239-2246.
46. Borghi, D., Baumer, L., Ballabio, M., and Arlandini, E. Structure Elucidation of Helioscopinolide D and E from *Euphorbia calyptрата* cell cultures. *J.Nat.Prod.*, **1991**, *54(6)*, 1503-1508.
47. Minghetti, A., Perellino, N.C., Garafano, L., Speroni, E., and Vincieri, F.F. Production of Diterpenoids by *Euphorbia calyptрата* cell cultures *Phytochemistry*, **1996**, *42(6)*, 1587-1589.
48. Speroni, E., Coletti, B., Minghetti, A., Perellino, N.C. and Guicciardi, A., Vincieri, F.F. Activity on the CNS of Crude Extracts and of Some Diterpenoids Isolated from *Euphorbia calyptрата* suspended Cultures. *Planta Med.*, **1991**, *57*, 531.
49. Milton, T.W.H. Carbon-13 Chemical shifts in some Substituted Furan and Thiophens *Aust. J. Chem.*, **1976**, *29*, 107.
50. Nshibe, S., Hisada, S. and Inagaki, I. Isolation of 5-hydroxymethylfurfural from *Trachelospermum asiaticum* var. *intermedium*, *Chem. Pharm. Bull.*, **1973**, *21(5)*, 1155.
51. Phuwapraisirisan, P. Chemical Constituents from the stems of *Arfeuillea arborescens* Pierre. and their Biological Activity. Ms. Thesis (Chemistry), Graduate School, Chulalongkorn University, **1998**, 69-72.
52. Murry, R.D.H., Mendez, J. and Brown, S.A. *The Natural Coumarin: Occurrence. Chemistry and Biochemistry*, Page Bros. (Norwich) Ltd., Brisbane, **1982**.
53. Chavasiri, W. Chemical Constituents and Biological Activities of *Rhizophora apiculata* BL. Ms. Thesis (Chemistry), Graduate School, Chulalongkorn University, **1988**, 220.

54. Yang, L., Yaping, S., Zhong-Jian, J., Sadig, S., Jamil, L. Four esters of a new pentacyclic diterpenoid of the myrsinol type from *Euphorbia aleppica* *J.Nat.Prod.*, **1995**, *58*, 1883-1888.
55. Rustaiyan, A., Mosslemin-Kupaii, M.H., Papastergiou, F., Jakupovic, J. Persianone, a diameric diterpene from *Ballota aucheri* *Phytochemistry*, **1995**, *40*, 875-879.



## VITA

Miss Vacharaporn Thongthai was born on October 2, 1975 in Ayutthaya , Thailand. She graduated with Bachelor Degree of Science ( second class honors ) in Chemistry from Chulalongkorn University in 1997. During she was studying in master degree program, she was awarded as a teaching assistance fellowship from Faculty of Science, Chulalongkorn University and received a research fund for her thesis from Graduate School, Chulalongkorn University.