

REFERENCES

- Abas, F., Lajis, N.H., Israf, D.A., Khozirah, S. and Kalsom, Y.U. (2006). Antioxidant and nitric oxide inhibition activities of selected Malay traditional vegetables. *Food Chem.* 95: 566-573.
- Aehle, E. and Dräger, B. (2010). Tropane alkaloid analysis by chromatographic and electrophoretic techniques: An update. *J. Chromatogr. B* 878: 1391-1406.
- Akhilesh, K.Y., Tiwari, N., Srivastava, P., Singh, S.C., Shanker, K., Verma, R.K. and Gupta, M.M. (2008). Iridoid glycoside-based quantitative chromatographic fingerprint analysis: A rational approach for quality assessment of Indian medicinal plant Gambhari (*Gmelina arborea*). *J. Pharmaceut. Biomed. Anal.* 47: 841-846.
- Ali, S.S., Kasoju, N., Luthra, A., Singh, A., Sharanabasava, H., Sahu., A. and Bora, U. (2008). Indian medicinal herbs as sources of antioxidants. *Food Res. Int.* 41: 1-15.
- Alothman, M., Bhat R. and Karim, A.A. (2009). Effects of radiation processing on phytochemicals and antioxidants in plant produce. *Trends Food Sci. Tech.* 20: 201-212.
- Ang, H.H. (2004). An insight into Malaysians herbal medicines. *Trends Pharmacol. Sci.* 25: 297-298.
- Ang, H.H. and Lee, K.L. (2006). Contamination of mercury in tongkat ali hitam herbal preparations. *Food Chem. Toxicol.* 44: 1245-1250.
- Aravind S.G., Arimboor, R., Rangan, M., Madhavan, S.N. and Arumughan, C. (2008). Semi-preparative HPLC preparation and HPTLC quantification of tetrahydroamentoflavone as marker in and its formulations. *J. Pharmaceut. Biomed.* 48: 808-813.

- Arts, M.J.T.J., Haenen, G.R.M.M., Voss, H.P. and Bast, A. (2001). Masking of antioxidant capacity by the interaction of flavonoids with protein. *Food Chem. Toxicol.* 39: 787-791.
- Aruoma, O.I. (1994). Nutrition and health aspects of free radicals and antioxidants. *Food Chem. Toxicol.* 32: 671-683.
- Assemi, M. (2001). Herbs affecting the central nervous system: Ginkgo, kava, St. John's wort and valerian. *Clin. Obstet. Gynecol.* 44: 824-835.
- Avula, B., Wang, Y.H., Pawar, R.S., Shukla, Y.J., Smillie, T.J. and Khan, I.A. (2008). A method for chemical fingerprint analysis of *Hoodia* species, related genera, and dietary supplements using UPLC–UV–MS. *J. Pharmaceut. Biomed.* 48: 722-731.
- Azmi, A.S., Bhat, S.H., Hanif, S. and Hadi, S.M. (2006). Plant polyphenols mobilize endogenous copper in human peripheral lymphocytes leading to oxidative DNA breakage: A putative mechanism for anticancer properties. *FEBS Lett.* 580: 533-538.
- Balandrin, M.F., Kinghorn, A.D. and Farnsworth, N.R. (1993). Plant-derived natural products in drug discovery and development. An overview: Kinghorn, A.D., Balandrin, M.F., editors. In human medicinal agents from plants. American Chemical Society symposium series 534, Washington, DC: American Chemical Society, pp 2-12.
- Balunas, M.J. and Kinghorn, A.D. (2005). Drug discovery from medicinal plants. *Life Sci.* 78: 431-441.
- Barbouti, A., Doulias, P.T., Nousis, L., Tenopoulou, M. and Galaris, D. (2002). DNA damage and apoptosis in hydrogen peroxide-exposed Jurkat cells: Bolus addition versus continuous generation of H₂O₂. *Free Radic. Biol. Med.* 33: 691-702.
- Başkan, S., Öztekin, N. and Erim, F.B. (2007). Determination of carnosic acid and rosmarinic acid in sage by capillary electrophoresis. *Food Chem.* 101: 1748-1752.

- Bastianetto, S. and Quirion, R. (2002). Natural extracts as possible protective agents of brain aging. *Neurobiol. Aging* 23: 891-897.
- Bate-Smith, E.C. (1973). Haemanalysis of tannins: The concept of relative astringency. *Phytochemistry* 12: 907-912.
- Baudot, C., Tan, C.M. and Kong, J.C. (2010). FTIR spectroscopy as a tool for nano-material characterization. *Infrared Phys. Techn.* 53: 434-438.
- Bélanger, J.M.R., Bissonnette, M.C. and Paré, J.R.J. (1997). Chromatography: Principles and Applications. In *Instrumental Methods in Food Analysis*. Paré, J.R.J & Bélanger, J.M.R. (Eds.). Elsevier: Amsterdam; 1-35.
- Binkley, R., Ziepfel, J.C. and Himmeldirk, K.B. (2009). Anomeric selectivity in the synthesis of galloyl esters of D-glucose. *Carbohydr. Res.* 344: 237-239.
- Brereton, R.G. (2003). *Chemometrics: Data Analysis for the Laboratory and Chemical Plant*. John Wiley & Son Ltd, Chichester, England, 2003, pp 183-224.
- Brereton, R.G. (2007). *Applied Chemometrics for Scientists*. John Wiley & Son Ltd, Chichester, England, pp 145-159.
- Bringmann, G., Rückert, M., Messer, K., Schupp, O. and Louis, A.M. (1999). Acetogenic isoquinoline alkaloids: CXXI. Use of on-line high-performance liquid chromatography-nuclear magnetic resonance spectrometry coupling in phytochemical screening studies: Rapid identification of metabolites in *Dioncophyllum thollonii*. *J. Chromatogr. A* 837: 267-272.
- Brown, D.A. and Higashida, H. (1988). Inositol 1,4,5-trisphosphate and diacylglycerol mimic bradykinin effects on mouse neuroblastoma × rat glioma hybrid cells. *J. Physiol.* 397: 185-207.
- Burkill, I.H. (1966). *A Dictionary of the Economic Products of the Malay Peninsular*. Ministry of Agricultural and Cooperatives, Kuala Lumpur, Malaysia. pp 1746-1747.

- Calderon, A.I., Terreaux, C., Gupta, M.P. and Hostettmann, K. (2003). Occurrence of taxiphyllin and 3,3'-di-O-methylellagic acid 4'- β -D-glucoside in *Henriettella fascicularis*. *Biochem. Syst. Ecol.* 31: 789-791.
- Cao, G., Sofic, E. and Prior, R.L. (1997). Antioxidant and prooxidant behavior of flavonoids: structure-activity relationships. *Free Radic Biol Med.* 22: 749-760.
- Cervantes-Uc, J.M., Cauich-Rodríguez, J.V., Vázquez-Torres, H. and Licea-Claveríe, A. (2006). TGA/FTIR study on thermal degradation of polymethacrylates containing carboxylic group. *Polym. Degrad. Stabil.* 91: 3312-3321.
- Chandra, J., Samali, A. and Orrenius, S. (2000). Triggering and modulation of apoptosis by oxidative stress. *Free Radic. Biol. Med.* 29: 323-333.
- Chanwitheesuk, A., Teerawutgulrag, A., Kilburn, J.D. and Rakariyatham, N. (2007). Antimicrobial gallic acid from *Caesalpinia mimosoides* Lamk. *Food Chem.* 100: 1044-1048.
- Chen, H.M., Wu, Y.C., Chia, Y.C., Chang, F.R., Hsu, H.K., Hsieh, Y.C., Chen, C.C. and Yuan, S.S. (2009). Gallic acid, a major component of *Toona sinensis* leaf extracts, contains a ROS-mediated anti-cancer activity in human prostate cancer cells. *Cancer Lett.* 286, 161-171.
- Chen, P.C.Y. (1981). Traditional and modern medicine in Malaysia. *Soc. Sci. Med.* 15A: 127-136.
- Chen, Q., Zhao, J. and Lin, H. (2009). Study on discrimination of roast green tea (*Camellia sinensis* L.) according to geographical origin by FT-NIR spectroscopy and supervised pattern recognition. *Spectrochim. Acta A* 72: 845-850.
- Chen, Q., Zhao, J., Zhang, H. and Wang, X. (2006). Feasibility study on qualitative and quantitative analysis in tea by near infrared spectroscopy with multivariate calibration. *Anal. Chim. Acta* 572: 77-84.

- Chen, X., Yi, C., Yang, X. and Wang, X. (2004). Liquid chromatography of active principles in *Sophora flavescens* root. *J. Chromatogr. B* 812: 149-163.
- Choi B.M., Kim, H.J., Oh, G.S., Pae, H.O., Oh, H., Jeong, S., Kwon, T.O., Kim, Y.M. and Chung, H.T. (2002). 1,2,3,4,6-penta-*O*-galloyl-beta-D-glucose protects rat neuronal cells (Neuro 2A) from hydrogen peroxide-mediated cell death *via* the induction of heme oxygenase-1. *Neurosci Lett.* 328: 185-189.
- Chung, K.T., Wei, C.I. and Johnson, M.G. (1998). Are tannins a double-edged sword in biology and health? *Trends Food Sci. Tech.* 9: 168-175.
- Chyau, C.C., Tsai, S.Y., Ko, P.T. and Mau, J.L. (2002). Antioxidant properties of solvent extracts from *Terminalia catappa* leaves. *Food Chem.* 78: 483-488.
- Clark, J.Y. (2003). Artificial neural networks for species identification by taxonomists. *Biosystems* 72: 131-147.
- Colvard, M.D., Cordell, G.A., Villalobos, R., Sancho, G., Soejarto, D.D., Pestle, W., Echeverri, T.L., Perkowitz, K.M. and Michel, J. (2006). Survey of medical ethnobotanicals for dental and oral medicine conditions and pathologies. *J. Ethnopharmacol.* 107: 134-142.
- Conn, E.E. (1980). Cyanogenic compounds. *Ann. Rev. Plant Physiol.* 31: 433-451.
- Cooke, D., Steward, W.P., Gescher, A.J. and Marczyklo, T. (2005). Anthocyanins from fruits and vegetables-does bright color signal cancer chemopreventive activity? *Eur. J. Cancer* 41: 1931-1940.
- Cordell, G.A. (1995). Changing strategies in natural products chemistry. *Phytochemistry* 40: 1585-1612.
- Cordell, G.A. (2003). Discovering our gifts from nature, now and in the future. Part II. *Revista de Quimica* 17: 3-15.

- Cordell, G.A. and Colvard, M.D. (2005). Some thoughts on the future of ethnopharmacology. *J. Ethnopharmacol.* 100: 5-14.
- Cragg, G.M. and Newman, D.J. (2002). Chapter 1 drug from nature: Past achievements, future prospects. *Adv in Phytomedicine* 1: 23-37.
- Crews, P., Rodríguez, J. and Jaspars, M. (1998). Organic Structure Analysis. Oxford University Press, New York, USA. pp 281-308.
- Cronquist, A. (1968). The Evolution and Classification of Flowering Plants. Hazel Watson & Viney Ltd, Aylesbury, Bucks, Great Britain, USA. pp 224-242.
- Cronquist, A. (1981). An Integrated System of Classification of Flowering Plants. Columbia University Press, New York, USA. pp 521-651.
- Cronquist, A. (1988). The Evolution and Classification of Flowering Plants, 2nd ed. New York Botanical Garden, Bronx, New York, USA. pp 376-379.
- Cui, S.F., Fu, B.Q., Lee, F.S.C. and Wang, X.R. (2005). Application of microemulsion thin layer chromatography for the fingerprinting of licorice (*Glycyrrhiza* spp.). *J. Chromatogr. B* 828: 33-40.
- Dajas, F., Rivera-Megret, F., Blasina, F., Arredondo, F., Abin-Carriquiry, J.A., Costa, G., Echeverry, C., Lafon, L., Heizen, H., Ferreira, M. and Morquio, A. (2003). Neuroprotection by flavonoids. *Braz. J. Med. Biol. Res.* 36: 1613-1620.
- Dallenbach-Toelke, K., Nyiredy, Sz. and Sticher, O. (1987). Application of various planar chromatographic techniques for the separation of iridoid glycosides from *Veronica officinalis*. *J. Chromatogr.* 404: 365-371.
- Dan, M., Su, M., Gao, X., Zhao, T., Zhao, A., Xie, G., Qiu, Y., Zhou, M., Liu, Z. and Jia, W. (2008). Metabolite profiling of *Panax notoginseng* using UPLC–ESI-MS. *Phytochemistry* 69: 2237-2244.

- Da Rocha, A.B., Lopes, R.M. and Schwartzmann, G. (2001). Natural products in anticancer therapy. *Curr. Opin. Pharmacol.* 1: 364-369.
- Das, D., Bandyopadhyay, D., Bhattacharjee, M. and Banerjee, R.K. (1997). Hydroxyl radical is the major causative factor in stress-induced gastric ulceration. *Free radical Bio. Med.* 23: 8-18.
- Debusschere, L., Demesmay, C., Rocca, J.L., Lachatre, G. and Lofti, H. (1997). Separation of cardiac glycosides by micellar electrokinetic chromatography and microemulsion electrokinetic chromatography. *J. Chromatogr. A* 779: 227-233.
- Deng, J., Fan, C. and Yang, Y. (2011). Identification and determination of the major constituents in Deng's herbal tea granules by rapid resolution liquid chromatography coupled with mass spectrometry. *J. Pharmaceut. Biomed.* 56: 928-936.
- Dharmaraj, S., Jamaludin, A.S., Razak, H.M., Valliappan, R., Ahmad, N.A., Harn, G.L. and Ismail, Z. (2006). The classification of *Phyllanthus niruri* Linn according to location by infrared spectroscopy. *Vib. Spectrosc.* 41: 68-72.
- Ding, Y., Wu, E.Q., Liang, C., Chen, J.B., Tran, M.N., Hong, C.H., Jang, Y.S., Park, K.L., Bae, K.H., Kim, Y.H. and Kang, J.S. (2011). Discrimination of cinnamon bark and cinnamon twig samples sourced from various countries using HPLC-based fingerprint analysis. *Food Chem.* 127: 755-760.
- Djozan, D., Baheri, T., Karimian, G. and Shahidi, M. (2008). Forensic discrimination of blue ballpoint pen inks based on thin layer chromatography and image analysis. *Forensic Sci. Int.* 179: 199-205.
- Duan, D., Li, Z., Luo, H., Zhang, W., Chen, L. and Xu, X. (2004). Antiviral compounds from traditional Chinese medicines *Galla chinese* as inhibitors of HCV NS3 protease. *Bioorg. Chem. Lett.* 14: 6041-6044.

- Dueñas, M., González-Manzano, S., González-Paramás, A. and Santos-Buelga, C. (2010). Antioxidant evaluation of O-methylated metabolites of catechin, epicatecin and quercetin. *J Pharmaceut Biomed.* 51: 443-449.
- Dwivedi, S. (2007). *Terminalia arjuna* Wight & Arn.- a useful drug for cardiovascular disorders. *J. Ethnopharmacol.* 114: 114-129.
- El-Deeb, K.S., Al-Haidari, R.A., Mossa, J.S. and Ateya, A.M. (2003). Phytochemical and pharmacological studies of *Maytenus forsskaolina*. *Saudi Pharm J.* 11: 184-191.
- Espín, J.C., García-Conesa, M.T. and Tomás-Barberán, F.A. (2007). Nutraceuticals: Facts and fiction. *Phytochemistry* 68: 2986-3008.
- Falsig, J., Christiansen, S.H., Feuerhahn, S., Bürkle, A., Oei, S.L., Keil, C. and Leist, M. (2004). Poly(ADP-ribose) glycohydrolase as a target for neuroprotective intervention: assessment of currently available pharmacological tools. *Eur J Pharmacol.* 497: 7-16.
- Farnsworth, N.R., Akerele, O., Bingel, A.S., Soerjarto, D.D. and Guo, Z. (1985). Medicinal plants in therapy. *Bulletin of the World Health Organization* 63: 965-981.
- Feng, H.T., Yuan, L.L. and Li, S.F.Y. (2003). Analysis of Chinese medicine preparation by capillary electrophoresis-mass spectrometry. *J. Chromatogr. A* 1014: 83-91.
- Finch, R. G. (1998). Antibiotic resistance. *J. Antimicrob. Chemother.* 42: 125-128.
- Fjaeraa, C. and Nånberg, E. (2009). Effect of ellagic acid on proliferation, cell adhesion and apoptosis in SH-SY5Y human neuroblastoma cells. *Biomed. Pharmacother.* 63: 254-261.
- Franks, T.K., Hayasaka, Y., Choimes, S. and Heeswijck, R.V. (2005). Cyanogenic glucosides in grapevine: Polymorphism, identification and developmental patterns. *Phytochemistry* 66: 165-173.
- Fügel, R., Carle, R. and Schieber, A. (2005). Quality and authenticity control of fruit purées, fruit preparation and jams-a review. *Trends Food Sci. Tech.* 16: 433-441.

- Gali, H.U., Perchellet, E.M., Klish, D.S., Johnson, J.M. and Perchellet, J.P. (1992). Hydrolysable tannins: Potent inhibitors of hydroperoxide production and tumor promotion in mouse skin treated with 12-*O*-tetradecanoyl phorbol-13-acetate. *Int. J. Cancer* 51: 425-432.
- Gao, H., Huang, Y.N., Xu, P.Y. and Kawabata, J. (2007). Inhibitory effect on α -glucosidase by the fruits of *Terminalia chebula* Retz. *Food Chem.* 105: 628-634.
- Gleadow, R.M., Haburjak, J., Dunn, J.E., Conn, M.E. and Conn, E.E. (2008). Frequency and distribution of cyanogenic glycosides in *Eucalyptus* L'Hérit. *Phytochemistry* 69: 1870-1874.
- Gómez-Ordóñez, E. and Rupérez, P. (2011). FTIR-ATR spectroscopy as a tool for polysaccharide identification in edible brown and red seaweeds. *Food Hydrocolloids* 25: 1514-1520.
- Goodger, J.Q.D., Capon, R.J. and Woodrow, I.E. (2002). Cyanogenic polymorphism in *Eucalyptus polyanthemos* Schauer subsp. *vestita* L. Johnson and K. Hill (Myrtaceae). *Biochem. Syst. Ecol.* 30: 617-630.
- Goodger, J.Q.D., Gleadow, R.M. and Woodrow, I.E. (2006). Growth cost and ontogenetic expression patterns of defence in cyanogenic *Eucalyptus* spp. *Trees* 20: 757-765.
- Gotti, R. (2011). Capillary electrophoresis of phytochemical substances in herbal drugs and medicinal plants. *J. Pharmaceut. Biomed.* 55: 775-801.
- Grosvenorn, P.W., Gothard, P.K., McWilliam, N.C., Supriono, A. and Gray, D.O. (1995). Medicinal plants from Riau province, Sumatra, Indonesia. Part 1: uses, *J. Ethnopharmacol.* 45: 75-95.
- Gua, M., Zhang, S.F., Sua, Z.G., Chen, Y. and Ouyanga, F. (2004). Fingerprinting of *Salvia miltiorrhiza* Bunge by non-aqueous capillary electrophoresis compared with high-speed counter-current chromatography. *J. Chromatogr. A* 1057: 133-140.

- Guliyev, V.B., Gul, M. and Yildirim, A. (2004). *Hippophae rhamnoides* L.: Chromatographic methods to determine chemical composition, use in traditional medicine and pharmacological effects. *J. Chromatogr. B* 812: 291-307.
- Haddock, E.A., Gupta, R.K., Al-Shafi, S.M.K., Layden, K., Haslam, E. and Magnolato, D. (1982). The metabolism of gallic acid and hexahydroxydiphenic acid in plants: Biogenetic and molecular taxonomic considerations. *Phytochemistry* 21: 1049-1062.
- Halliwell, B. and Grootveld, M. (1987). The measurement of free radical reaction in humans. *FEBS Lett.* 213: 9-14.
- Hamburger, M. and Hostettmann, K. (1991). Bioactivity in plants: The link between phytochemistry and medicine. *Phytochemistry* 30: 3864-3874.
- Han, T., Zhang, Q.Y., Zhang, H., Wen, J., Wang, Y., Huang, B.K., Rahman, K., Zheng, H.C. and Qin, L.P. (2009). Authentication and quantitative analysis on the chemical profile of *Xanthium* fruit (Cang-Er-Zi) by high-performance liquid chromatography-diode array detection tandem mass spectrometry method. *Anal. Chim. Acta* 634: 272-278.
- Handique, J.G. and Baruah, J.B. (2002). Polyphenolic compounds: An overview. *React. Funct. Polym.* 52: 163-188.
- Harrington, P.D.B., Urbas, A. and Tandler, P.J. (2000). Two-dimensional correlation analysis. *Chemometr Intell Lab.* 50: 149-174.
- Hatano, T., Yazaki, K., Okonogi, A. and Okuda, T. (1991). Tannins of *Stachyurus* species II. Praecoxin A, B, C and D, four new hydrolysable tannins from *Stachyurus praecox* leaves. *Chem. Pharm. Bull.* 39: 1689-1693.
- Hatano, T., Yoshida, T., Shingu, T. and Okuda, T. (1988). ¹³C nuclear magnetic resonance spectra of hydrolysable tannins. III. 1) tannins having 1C4 glucose and C-glucosidic linkage. *Chem. Pharm. Bull.* 36: 3849-3856.

- Haukioja, E., Ossipov, V., Koricheva, J., Honkanen, T., Larsson, S. and Lempa, K. (1998). Biosynthetic origin of carbon-based secondary compounds: Cause of variable responses of woody plants to fertilization? *Chemoecology* 8: 133-139.
- He, Q., Shi, B., Yao, K. and Ma, Z. (2001). Synthesis of gallotannins. *Carbohydr. Res.* 335: 245-250.
- He, Z. and Xia, W. (2007). Analysis of phenolic compounds in Chinese olive (*Canarium album* L.) fruit by RPHPLC-DAD-ESI-MS. *Food Chem.* 105: 1307-1311.
- Heber, D. (2008). Multitargeted therapy of cancer by ellagitannins. *Cancer Lett.* 269: 262-268.
- Heim, K.E., Tagliaferro, A.R. and Bobilya, D.J. (2002). Flavonoid antioxidants: Chemistry, metabolism and structure-activity relationship. *J. Nutr. Biochem.* 13: 572-584.
- Hemvichian, K., Laobuthee, A., Chirachanchai, S. and Ishida, H. (2002). Thermal decomposition processes in polybenzoxazine model dimers investigated by TGA-FTIR and GC-MS. *Polym. Degrad. Stabil.* 76: 1-15.
- Henderson, M.R. (1954). Malayan Wild Flowers Dicotyledons. The Malayan Nature Society, Kuala Lumpur, Malaysia. p127.
- Hernes, P.J. and Hedges, J.I. (2003). Tannin signatures of barks, needles, leaves, cones, and wood at the molecule level. *Geochim. Cosmochim. Acta* 68: 1293-1307.
- Hillis, W.E. and Yazaki, Y. (1973). Properties of some methylellagic acid and their glycosides. *Phytochemistry* 12: 2963-2968.
- Hiramatsu, K. (2001). Vancomycin-resistance *Staphylococcus aureus*: A new model of antibiotic resistance. *Lancet Infect. Dis.* 1: 147-155.
- Hollman, P.C.H. and Katan, M.B. (1999). Dietary flavonoids: intake, health effects and bioavailability. *Food Chem Toxicol.* 37: 937-942.

- Horner, J.D. (1990). Nonlinear effects of water deficits on foliar tannin concentration. *Biochem. Syst. Ecol.* 18: 211-213.
- Huang, A.M., Zhou, Q., Liu, J.L., Fei, B.H. and Sun, S.Q. (2008). Distinction of three wood species by fourier transform infrared spectroscopy and two-dimensional correlation IR spectroscopy. *J. Mol. Struct.* 883-884: 160-166.
- Hyslop, P.A., Hinshaw, D.B., Halsey, W.A. Jr., Schraufstatter, I.U., Saucrheber, R.D., Spragg, R.G., Jackson, J.H. and Cochrane, C.G. (1988). Mechanisms of oxidant-mediated cell injury: The glycolytic and mitochondrial pathways of ADP phosphorylation are major intracellular targets inactivated by hydrogen peroxide. *J. Biol. Chem.* 263: 1665-1675.
- Hyslop, P.A., Hinshaw, D.B., Schraufstatter, I.U., Sklar, L.A., Spragg, R.G. and Cochrane, C.G. (1986). Intracellular calcium homeostasis during hydrogen peroxide injury to cultured P388D1 cells. *J. Cell. Physiol.* 129: 356-366.
- Immel, S. and Khanbabaee, K. (2000). Atropidiastereoisomers of ellagitannin model compounds: Configuration, conformation, and relative stability of D-glucose diphenoyl derivatives¹. *Tetrahedron: Asymmetry* 11: 2494-2507.
- Isaza, J.H., Ito, H. and Yoshida, T. (2001). A flavonol glycoside-lignan ester and accompanying acylated glucosides from *Monochaetum multiflorum*. *Phytochemistry* 58: 321-327.
- Isaza, J.H., Ito, H. and Yoshida, T. (2003). Oligomeric hydrolyzable tannins from *Monochaetum multiflorum*. *Phytochemistry* 65: 359-367.
- Ito, A., Chai, H.B., Lee, D., Kardono, L.B.S., Riswan, S., Farnsworth, N.R., Cordell, G.A., Pezzuto, J.M. and Kinghorn, D. (2002). Ellagic acid derivatives and cytotoxic cucurbitacins from *Elaeocarpus mastersii*. *Phytochemistry* 61: 171-174.

- Jacobson, N.E. (2007). *NMR Spectroscopy Explained: Simplified Theory, Applications and Examples for Organic Chemistry and Structural Biology*. John Wiley & Sons, New Jersey, USA. pp 1-39.
- James, N.M. and Jane, C.M. (2005). *Statistics and Chemometrics for Analytical Chemistry*, Pearson Education Limited, England, pp.213-223.
- Jemal, A., Siegal, R., Ward, E., Murray, T., Xu, J. and Thun, M. (2007). Cancer statistics. *CA Cancer J. Clin.* 57: 43-66.
- Jeong, S-II, Kim, S.Y., Kim, S.J., Hwang, B.S., Kwon, T.H., Yu, K.Y., Hang, S.H., Suzuki, K. and Kim, K.J. (2010). Antibacterial activity of phytochemicals isolated from *Atractylodes japonica* against methicillin-resistant *Staphylococcus aureus*. *Molecules* 15: 7395-7402.
- Jiang, T.F., Wang, Y.H., Lv, Z.H. and Yue, M.E. (2007). Determination of kava lactones and flavonoids glycosides in *Scorzonera austriaca* by capillary zone electrophoresis. *J. Pharmaceut. Biomed.* 43: 854-858.
- Jiang, Y., David, B., Tu, P. and Barbin, Y. (2010). Recent analytical approaches in quality control of traditional Chinese medicines-a review. *Anal. Chim. Acta.* 657: 9-18.
- Jin, C., Kong, W., Luo, Y., Wang, J., Wang, H., Li, Q. and Xiao, X. (2010). Development and validation of UPLC method for quality control of *Curcuma longa* Linn.: Fast simultaneous quantitation of three curcuminoids. *J. Pharmaceut. Biomed.* 53: 43-49.
- Jones, D.A. (1998). Why are so many food plants cyanogenic? *Phytochemistry* 47: 155-162.
- Kang, T.H., Hur, J.Y., Kim, H.B., Ryu, J.H. and Kim, S.Y. (2006). Neuroprotective effects of the cyanidin-3-*O*-beta-D-glucopyranoside isolated from mulberry fruit against cerebral ischemia. *Neurosci. Lett.* 391: 122-126.

- Kassuya, C.A.L., Silvestre, A., Menezes-de-Lima, Jr.O., Marotta, D.M., Rehder, V.L.G. and Calixto, J.B. (2006). Antiinflammatory and antiallodynic actions of the lignan niranthin isolated from *Phyllanthus amarus* evidence for the interaction with platelet activating factor receptor. *Eur. J. Pharmacol.* 546: 182-188.
- Kaur, A.D., Ravichandran, V., Jain, P.K. and Agrawal, R.K. (2008). High-performance thin layer chromatography method for estimation of conessine in herbal extract and pharmaceutical dosage formulations. *J. Pharmaceut. Biomed.* 46: 391-394.
- Khac, D.D., Tran-Van, S., Campos, A.M., Lallemand, J. and Fetizon, M. (1990). Ellagic compounds from *Diplopanax stachyanthus*. *Phytochemistry* 29: 251-256.
- Khallouki, F., Haubner, R., Hull, W.E., Erben, G., Spiegelhalder, B., Bartsch, H. and Owen, R.W. (2007). Isolation, purification and identification of ellagic acid derivatives, catechins, and procyanidins from the root bark of *Anisophyllea dichostyla* R. Br. *Food Chem. Toxicol.* 45: 472-485.
- Khallouki, F., Hull, W.E. and Owen, R.W. (2009). Characterization of a rare triterpenoid and minor phenolic compounds in the root bark of *Anisophyllea dichostyla* R. Br. *Food Chem. Toxicol.* 47: 2007-2012.
- Klinsunthorn, N., Petsom, A. and Nhujak, T. (2011). Determination of steroids adulterated in liquid herbal medicines using QuEChERS sample preparation and high-performance liquid chromatography. *J. Pharmaceut. Biomed.* 55: 1175-1178.
- Klvçak, B. and Akay, S. (2005). Quantitative determination of α -tocopherol in *Pistacia lentiscus*, *Pistacia lentiscus* var. *chia*, and *Pistacia terebinthus* by TLC-densitometry and colorimetry. *Fitoterapia* 76: 62-66.
- Kolodziej, H. and Kiderlen, A.F. (2005). Antileishmanial activity and immune modulatory effects of tannins and related compounds on Leishmania parasitised RAW 264.7 cells. *Phytochemistry* 66: 2056-2071.

- Kong, W., Jin, C., Liu, W., Xiao, X., Zhao, Y., Li, Z., Zhang, P. and Li, X. (2010). Development and validation of a UPLC–ELSD method for fast simultaneous determination of five bile acid derivatives in *Calculus bovis* and its medicinal preparations. *Food Chem.* 120: 1193-1200.
- Kong, W.J., Zhao, Y.L., Xiao, X.H., Jin, C. and Li, Z.L. (2009). Quantitative and chemical fingerprint analysis for quality control of *Rhizoma coptidis chinensis* based on UPLC-PAD combined with chemometrics methods. *Phytomedicine* 16: 950-959.
- Kool, M.M., Comeskey, D.J., Cooney, J.M. and McGhie, T.K. (2010). Structural identification of the main ellagitannins of a boysenberry (*Rubus loganbaccus* × *baileyanus* Britt.) extract by LC-ESI-MS/MS, MALDI-TOF-MS and NMR Spectroscopy. *Food Chem* 119: 1535-1543.
- Kouki, M. and Manetas, Y. (2002). Resource availability affects differentially the levels of gallotannins and condensed tannins in *Ceratonia siliqua*. *Biochem. Syst. Ecol.* 30: 631-639.
- Kumar, N.S., Wijekoona, W.M.A.M., Kumar, V., Punyasiri, P.A.N. and Abeysinghe, I.S. (2009). Separation of proanthocyanidins isolated from tea leaves using high-speed counter-current chromatography. *J. Chromatogr. A* 1216: 4295-4302.
- Kumar, R. and Vaithyanathan, S. (1990). Occurrence, nutritional significance and effect on animal productivity of tannins in tree leaves. *Anim. Feed. Sci. Technol.* 30: 21-38.
- Kumaran, A. and Karunakaran, R.J. (2007). Activity-guided isolation and identification of free radical-scavenging components from an aqueous extract of *Coleus aromaticus*. *Food Chem.* 100: 356-361.
- Kuo, G.M., Hawley, S.T., Weiss, L.T., Balkrishnan, R. and Volk, R.J. (2004). Factor associated with herbal use among urban multiethnic primary care patients: A cross-sectional survey. *BMC Complement Altern. Med.* 4: 18-26.

- Kusari, S., Zühlke, S., Borsch, T. and Spiteller, M. (2009). Positive correlation between hypericin and putative and putative precursors detected in the quantitative secondary metabolite spectrum of *Hypericum*. *Phytochemistry* 70: 1222-1232.
- Lai, Y., Ni, Y. and Kokot, S. (2011). Discrimination of *Rhizoma Corydalis* from two sources by near-infrared spectroscopy supported by the wavelet transform and least-square support vector machine methods. *Vib. Spectrosc.* 56: 154-160.
- Lai, Z.L., Xu, P. and Wu, P.Y. (2009). Multi-steps infrared spectroscopic characterization of the effect of flowering on medicinal value of *Cistanche tubulosa*. *J. Mol. Struct.* 917: 84-92.
- Landete, J.M. (2011). Ellagitannins, ellagic acid and their derived metabolites: A review about source, metabolism, function and health. *Food Res. Int.* 44: 1150-1160.
- Larrosa, M., Tomás-Barberán, F.A. and Espín J.C. (2006). The dietary hydrolysable tannin punicalagin releases ellagic acid that induces apoptosis in human colon adenocarcinoma caco-2 cells by using the mitochondrial pathway. *J. Nutr. Biochem.* 17: 611-625.
- Larson, R.A. (1988). The antioxidants of higher plants. *Phytochemistry* 27: 969-978.
- Lee, E.J., Chen, H.Y., Wu, T.W., Chen, T.Y., Ayoub, I.A. and Maynard, K.I. (2002). Acute administration of *Ginkgo biloba* extract (Egb 761) affords neuroprotection against permanent and transient focal cerebral ischemia in Sprague-Dawley rats. *J. Neurosci. Res.* 68: 636-645.
- Lee, M., Tanaka, T., Nonaka, G. and Nishioka, I. (1992). Hirsunin, an ellagitannin with a diarylheptanoid moiety, from *Alnus hirsuta* var. *microphylla*. *Phytochemistry* 31: 967-970.
- Lee, S.H., Tanaka, T., Nonaka, G. and Nishioka, I. (1989). Sedoheptulose digallate from *Cornus officinalis*. *Phytochemistry* 28: 3469-3472.

- Lee, S.H., Tanaka, T., Nonaka, G. and Nishioka, I. (1990). Hydrolysable tannins from *Euphorbia thymifolia*. *Phytochemistry* 29: 3621-3625.
- Lee, S.H., Tanaka, T., Nonaka, G., Nishioka, I. and Zhang, B. (1991). Aloose gallate from *Euphorbia fischeriana*. *Phytochemistry* 30: 1251-1253.
- Lemmens, R.H.M.J. and Bunyapraphatsara, N. (Ed.) (1999). Plant Resources of South-East Asia No 12(3). Medicinal and poisonous plants 3. Prosea Foundation, Indonesia. pp328-329.
- Lewis, N.G. (1999). A 20th century roller coaster ride: a short account of lignifications. *Curr. Opin. Plant Biol.* 2: 153-162.
- Li, C., Liu, J.X., Zhao, L., Di, D.L., Meng, M. and Jiang, S.X. (2008a). Capillary zone electrophoresis for separation and analysis of four diarylheptanoids and an α -tetralone derivative in the green walnut husks (*Juglans regia* L.). *J. Pharmaceut. Biomed.* 48: 749-753.
- Li, X. and He, Y. (2008). Discrimination varieties of tea plant based on Vis/NIR spectral characteristics and using artificial neural network. *Biosystems Eng.* 99: 313-321.
- Li, X.C., Elsohly, H.N. and Hufford, C.D. and Clark, A.M. (1999). NMR assignment of ellagic acid derivatives. *Magn. Reson. Chem.* 37: 856-859.
- Li, X.C., Elsohly, H.N. and Clark, A.M. (2000). 7-caffeoylsedoheptulose from *Nyssa sylvatica*. *Phytochemistry* 53: 1033-1037.
- Li, Y.M., Sun, S.Q., Zhou, Q., Qin, Z., Tao, J.X., Wang, J. and Fang, X. (2004). Identification of American ginseng from different regions using FT-IR and two-dimensional correlation IR spectroscopy. *Vib. Spectrosc.* 36: 227-232.
- Liang, Y.Z., Xie, P. and Chan, K. (2004). Quality control of herbal medicines. *J. Chromatogr B.* 812: 53-70.

- Lim, Y.Y. and Murtijaya, J. (2007). Antioxidant properties of *Phyllanthus amarus* extracts as affected by different drying methods. *LWT*. 40: 1664-1669.
- Lin, H., Chen, Q., Zhao, J. and Zhou, P. (2009). Determination of free amino acid content in *Radix Pseudostellariae* using near infrared (NIR) spectroscopy and different multivariate calibrations. *J. Pharmaceut. Biomed.* 50: 803-808.
- Lin, Z., Sun, S.Q., Zhou, Q., Tao, J.X. and Noda, I. (2003). 2D-IR correlation analysis of deteriorative process of traditional Chinese medicine 'Qing Kai Ling' injection. *J. Pharm. Biomed. Anal.* 30: 1491-1498.
- Ling, S.K., Tanaka, T. and Kouno, I. (2002). New cyanogenic and alkyl glycoside constituents from *Phyllagathis rotundifolia*. *J. Nat. Prod.* 65: 131-135.
- Liu, H., Du, Z. and Yuan, Q. (2009). A novel rapid method for simultaneous determination of eight active compounds in silymarin using a reversed-phase UPLC-UV detector. *J. Chromatogr. B* 877: 4159-4163.
- Liu, H.X., Sun, S.Q., Lv, G.H. and Chan, K.K.C. (2006a). Study on *Angelica* and its different extracts by fourier transform infrared spectroscopy and two dimensional correlation IR spectroscopy. *Spectrochim. Acta Part A*. 64: 321-326.
- Liu, H.X., Sun, S.Q., Lv, G.H. and Liang, X.Y. (2006b). Discrimination of extracted lipophilic constituents of *Angelica* with multi-steps infrared macro-fingerprint method. *Vib. Spectrosc.* 40: 202-208.
- Liu, H.X., Zhou, Q., Sun, S.Q. and Bao, H.J. (2008). Discrimination of different *Chrysanthemums* with fourier transform infrared spectroscopy. *J. Mol. Struct.* 883-884, 38-47.
- Losso, J.N., Bansode, R.R., Trappey, A., Bawadi, H.A. and Truax, R. (2004). In vitro anti-proliferative activities of ellagic acid. *J. Nutr. Biochem.* 15: 672-678.

- Lowry, J.B. (1968). The distribution and potential taxonomic value of alkylated ellagic acids. *Phytochemistry* 7: 1803-1813.
- Lu, G.H., Zhou, Q., Sun, S.Q., Leung, K.S.Y., Zhang, H. and Zhao, Z.Z. (2008). Differentiation of Asian ginseng, American ginseng and notoginseng by fourier transform infrared spectroscopy combined with two dimensional correlation infrared spectroscopy. *J. Mol. Struct.* 883-884: 91-98.
- Lu, Z., Nie, G., Belton, P.S., Tang, H. and Zhao, B. (2006). Structure-activity relationship analysis of antioxidant ability and neuroprotective effect of gallic acid derivatives. *Neurochem. Int.* 48: 263-274.
- Mämmelä, P., Savolainen, H., Lindroos, L., Kanges, J. and Vartiainen, T. (2000). Analysis of oak tannins by liquid chromatography-electrospray ionisation mass spectrometry. *J. Chromatogr. A* 891: 75-83.
- Manach, C., Texier, O., Morand, C., Crespy, V., Régéat, F., Demigné, C. and Rémésy, C. (1999). Comparison of the bioavailability of quercetin and catechin in rats. *Free Radic. Biol. Med.* 27: 1259-1266.
- Maree, J.E. and Viljoen, A.M. (2011). Fourier transform near- and mid-infrared spectroscopy can distinguish between the commercially important *Pelargonium sidoides* and its close taxonomic ally *P. reniforme*. *Vib. Spectrosc.* 55: 146-152.
- Martelanc, M., Vovk, I. and Simonovska, B. (2009). Separation and identification of some common isomeric plant triterpenoids by thin-layer chromatography and high-performance liquid chromatography. *J. Chromatogr. A* 1216: 6662-6670.
- Matsumoto, M., Hara, H., Chiji, H. and Kasai, T. (2004). Gastroprotective effect of red pigments in black chokeberry fruit (*Aronia melanocarpa* Elliot) on acute gastric hemorrhagic lesions in rats. *J. Agric. Food Chem.* 52: 2226-2229.

- Mazza, G. and Oomah, B.D. (2000). Herbs, Botanicals & Teas. Technomic Publishing Company Inc, Pennsylvania, USA. pp 131-176.
- Mecozzi, M., Pietroletti, M. and Mento, R.D. (2007). Application of FTIR spectroscopy in ecotoxicological studies supported by multivariate analysis and 2D correlation spectroscopy. *Vib. Spec.* 44: 228-235.
- Meyers, K.J., Swiecki, T.J. and Mitchell, A.E. (2006). Understanding the native California diet: Identification of condensed and hydrolyzable tannins in tanoaks acorns (*Lithocarpus densiflorus*). *J. Agric. Food Chem.* 54: 7686-7691.
- Miller, R.E., Stewart, M., Capon, R.J. and Woodrow, I.E. (2006). A galloylated cyanogenic glycoside from the Australian endemic rainforest tree *Elaeocarpus sericopetalus* (Elaeocarpaceae). *Phytochemistry* 67: 1365-1371.
- Mohd, N.I., Siti, A.S., Marina, Y.K. and Syed, M.S.J (2007). *Malays. J. Med. Sci.* 14: 23-27.
- Mohtar, M., Johari, S.A., Li, A.R., Isa, M.M., Mustafa, S., Ali, A.M. and Basri, D.F. (2009). Inhibitory and resistance-modifying potential of plant-based alkaloids against methicillin-resistant *Staphylococcus aureus* (MRSA). *Curr. Microbiol.* 59: 181-186.
- Mok, D.K.W. and Chau, F.T. (2006). Chemical information of chinese medicines: A challenge to chemist. *Chemometr. Intell. Lab.* 82: 210-217.
- Møller, B.L. (2010). Functional diversifications of cyanogenic glucosides. *Curr. Opin. Plant Biol.* 13: 1-10.
- Mroczek, T., Ndjoko-Ioset, K., Głowniak, K., Mietkiewicz-Capała, A. and Hostettmann, K. (2006). Investigation of *Symphytum cordatum* alkaloids by liquid-liquid partitioning, thin-layer chromatography and liquid chromatography-ion-trap mass spectrometry. *Anal. Chim. Acta* 566: 157-166.

- Mueller-Harvey, I. (2001). Analysis of hydrolysable tannins. *Anim. Feed Sci. Technol.* 91: 3-20.
- Mullen, W., Yokota, T., Lean, M.E.J. and Crozier, A. (2003). Analysis of ellagitannins and conjugates of ellagic acid and quercetin in raspberry fruits by LC-MS. *Phytochemistry* 64: 617-624.
- Narayana, K.R., Sripal Reddy, M., Chaluvadi, M.R. and Krishna, D.R. (2001). Bioflavonoids classification, pharmacological, biochemical effects and therapeutic potential. *Indian J. Pharmacol.* 33: 2-16.
- Nawwar, M.A.M., Buddrus, J. and Bauer, H. (1982). Dimeric phenolic constituents from the roots of *Tamarix nilotica*. *Phytochemistry* 21: 1755-1758.
- Nawwar, M.A.M., Hussein, S.A.M. and Merfort, I. (1994). NMR spectral analysis of polyphenols from *Punica granatum*. *Phytochemistry* 36: 793-798.
- Nielson, N.P.V., Carstensen, J.M. and Smedsgaard, J. (1998). Alligning of single and multiple wavelength chromatographic profiles for chemometric data analysis using correlation optimised warping. *J. Chromatogr. A.* 805: 17-35.
- Nishizawa, M., Yamagishi, T., Nonaka, G. and Nishioka, I. (1983). Tannins and related compounds. Part 9. Isolation and characterization of Polygalloyglucoses from Turkish Galls (*Quercus infectoria*). *J. Chem. Soc. Perkin Trans. 1*: 961-965.
- Noda, I. (1986). Two-dimensional infrared (2D IR) spectroscopy of synthetic and biopolymers. *Bull. Am. Phys. Soc.* 31: 520-523.
- Noda, I. (2004). Advances in two-dimensional correlation spectroscopy. *Vib. Spectrosc.* 36: 143-165.
- Noda, I. (2010). Two-dimensional correlation spectroscopy-biannual survey 2007-2009. *J. Mol. Struct.* 974: 3-24.

- Nonaka, G. and Nishioka, I. (1983). Tannins and related compounds. X rhubarb: Isolation and structures of a glycerol gallate, gallic acid glucosides gallates, galloygallates and isolindleyin. *Chem. Pharm. Bull.* 31: 1652-1658.
- Nonaka, G., Sakai, R. and Nishioka, I. (1984). Hydrolysable tannins and proanthocyanidins from green tea. *Phytochemistry* 23: 1753-1755.
- Nonaka, G.I., Nishimura, H. and Nishioka, I. (1985). Tannins and related compounds. Part 26. Isolation and structures of Stenophyllanins A, B, and C, novel tannins from *Quercus stenophylla*. *J. Chem. Soc. Perkin Trans. I*, 163-172.
- Nuengchamnonng, N. and Ingkaninan, K. (2009). On-line characterization of phenolic antioxidant in fruits wines from family Myrtaceae by liquid chromatography combined with electrospray ionization tandem mass spectrometry and radical scavenging detection. *Food Sci. Technol.* 42: 297-302.
- Oh, T.J., Nam, J.H. and Jung, Y.M. (2009). Molecular miscible blend of poly(2-cyano-1,4-phenyleneterephthalamide) and polyvinylpyrrolidone characterized by two-dimensional correlation FTIR and solid state ¹³C NMR spectroscopy. *Vib. Spectrosc.* 51: 15-21.
- Okuda, T. and Ito, H. (2011). Tannins of constant structure in medicinal and food plants- hydrolysable tannins and polyphenols related to tannins. *Molecules* 16: 2191-2217.
- Okuda, T., Yoshida, T., Ashida, M. and Yazaki, K. (1983). Tannins of Casuarina and *Stachyurus* species. Part 1. structures of pendunculagin, casuarictin, strictinin, casuarinin, casuariin and stachyurin. *J. Chem. Soc. Perkin Trans. I*, 1765-1772.
- Okuda, T., Yoshida, T. and Hatano, T. (1993). Classification of oligomeric hydrolysable tannins and specificity of their occurrence in plants. *Phytochemistry* 32: 507-521.
- Okuda, T., Yoshida, T. and Hatano, T. (2000). Correlation of oxidative transformation of hydrolysable tannins and plant evolution. *Phytochemistry* 55: 513-529.

- Paul, M.D. (2002). *Medicinal Natural Products: A Biosynthetic Approach*. John Wiley & Sons Ltd, Chichester, England. pp71-455-457.
- Pellati, F., Benvenuti, S., Magro, L., Melegari, M. and Soragni, F. (2004). Analysis of phenolic compounds and radical scavenging activity of *Echinacea* spp. *J. Pharmaceut. Biomed.* 35: 289-301.
- Piao, M.J., Kang, K.A., Zhang, R., Ko, D.O., Wang, Z.H., Lee, K.H., Chang, W.Y., Chae, S., Jee Y., Shin, T., Park, J.W., Lee, N.H. and Hyun, J.W. (2009). Antioxidant properties of 1,2,3,4,6-penta-*O*-galloyl- β -D-glucose from *Elaeocarpus sylvestris* var. *ellipticus*. *Food Chem.* 115: 412-418.
- Pietta, P., Minoggio, M. and Bramati, L. (2003). Plant polyphenols: Structure, occurrence and bioactivity. *Studies in Natural Products Chemistry* 28: 257-312.
- Poole, K. (2005). Efflux-mediated antimicrobial resistance. *J. Antimicrob. Chemother.* 56: 20-51.
- Qi, S., Ding, L., Tian, K., Chen, X. and Hu, Z. (2006). Novel and simple non aqueous capillary electrophoresis separation and determination bioactive triterpenes in Chinese herbs. *J. Pharmaceut. Biomed.* 40: 35-41.
- Raju, J. and Bird, R.P. (2007). Diosgenin, a naturally occurring furostanol saponin suppresses 3-hydroxy-3-methylglutaryl CoA reductase expression and induces apoptosis in HCT-116 human colon carcinoma cells. *Cancer Lett.* 255: 194-204.
- Rastija, V. and Medić-Šarić, M. (2009). QSAR study of antioxidant activity of wine polyphenols. *Eur. J Med. Chem.* 44: 400-408.
- Rebecca, E.M., McConville, M.J. and Woodrow, I.E. (2006). Cyanogenic glycosides from the rare Australian endemic rainforest tree *Clerodendrum grayi* (Lamiaceae). *Phytochemistry* 67: 43-51.

- Reiter, R.J., Acuna-Castroviejo, D., Tan D.X. and Burkhardt, S. (2001). Free radical-mediated molecular damage: mechanisms for the protective actions of melatonin in the central nervous system. *Ann. NY. Acad. Sci.* 939: 200-215.
- Rezić, I., Horvat, A.J.M., Babić, S. and Kaštelan-Macan, M. (2005). Determination of pesticides in honey by ultrasonic solvent extraction and thin-layer chromatography. *Ultrason. Sonochem.* 12: 477-481.
- Richard, T., Lefeuvre, D., Descendit, A., Quideau, S. and Monti, J.P. (2006). Recognition characters in peptide-polyphenol complex formation. *Biochem. Biophys. Acta.* 1760: 951-958.
- Ridley, H.N. (1922). The Flora of the Malay Peninsular. L. Reeve & Co., Ltd, London. pp 792-794.
- Ross, H.A., McDougall, G.J. and Stewart, D. (2007). Antiproliferative activity is predominantly associated with ellagitannins in raspberry extracts. *Phytochemistry* 68: 218-228.
- Şahin, S., Demir, C. and Malyer, H. (2011). Determination of phenolic compounds in *Prunella* L. by liquid chromatography-diode array detection. *J. Pharmaceut. Biomed.* 55: 1227-1230.
- Saiful, A.J., Mastura, M., Zarizal, S., Mazurah, M.I., Shuhaimi, M. and Ali, A.M. (2006). Detection of methicillin-resistant *Staphylococcus aureus* using *mecA/nuc* genes and antibiotic susceptibility profile of Malaysian clinical isolates. *World J. Microbiol. Biotechnol.* 22: 1289-1294.
- Saijo, R., Nonaka, G. and Nishioka, I. (1990). Gallic acid esters of bergenin and norbergenin from *Mallotus japonicus*. *Phytochemistry* 29: 267-270.

- Sakagami, H., Kushida, T., Oizumi, T., Nakashima, H. and Makino, T. (2010). Distribution of lignin-carbohydrate complex in plant kingdom and its functionality as alternative medicine. *Pharmacol & Ther.* 128: 91-105.
- Salminen, J.P., Ossipov, J., Lojonen, Haukioja, E. and Pihlaja, K. (1999). Characterisation of hydrolysable tannins from the leaves of *Betula pubescens* by high-performance liquid chromatography-mass spectrometry. *J. Chromatogr. A* 864: 283-291.
- Saunders, F.R. and Wallace, H.M. (2010). On the natural chemoprevention of cancer. *Plant Physiol. Bioch.* 48: 621-626.
- Saw, J.T., Bahari, M.B., Ang, H.H. and Lim, Y.H. (2006). Potential drug-herb interaction with antiplatelet/anticoagulant drugs. *Complement. Ther. Clin. Pract.* 12: 236-241.
- Scharnhop, H. and Winterhalter, P. (2009). Isolation of coffee diterpenes by means of high-speed counter-current chromatography. *J. Food Comp. Anal.* 22: 233-237.
- Schmitt, H. and Meves, H. (1995). Model experiments on squid axons and NG108-15 mouse neuroblastoma × rat glioma rat hybrid cells. *J. Physiol. Paris*, 89: 181-193.
- Schoental, R. (1982). Health hazards of pyrrolizidine alkaloids: A short review. *Toxicol. Lett.* 10: 323-326.
- Seeram, N.P., Adams, L.S., Henning, S.M., Niu, Y., Zhang, Y., Nair, M.G. and Heber, D. (2005). In vitro antiproliferative, apoptotic and antioxidant activities of punicalagin, ellagic acid and a total pomegranate tannin extract are enhanced in combination with other polyphenols as found in pomegranate juice. *J. Nutr. Biochem.* 16: 360-367.
- Seeram, N.P., Lee, R., Scheuller, S. and Heber, D. (2006). Identification of phenolic compounds in strawberries by liquid chromatography electrospray ionization mass spectroscopy. *Food Chem.* 97: 1-11.

- Severino, V.G.P., Cazal, C.D.M., Forim, M.R., Silva, M.F.D.G.F.D., Rodrigues-Filho, E., Fernandes, J.B. and Vieira, P.C. (2009). Isolation of secondary metabolites from *Hortia oreadica* (Rutaceae) leaves through high-speed counter-current chromatography. *J. Chromatogr. A* 1216: 4275-4281.
- Seyoum, A., Asres, K. and El-Fiky, F.K. (2006). Structure-radical scavenging activity relationship of flavonoids. *Phytochemistry* 67: 2058-2070.
- Shi, J., Arunasalam, K., Yeung, D., Kakuda, Y., Mittal, G. and Jiang, Y. (2004). Saponins from edible legumes: Chemistry, processing, and health benefits. *J. Med. Food* 7: 67-78.
- Shi, Y., Sun, C., Zheng, B., Li, Y. and Wang, Y. (2010). Simultaneous determination of nine ginsenosides in functional foods by high performance liquid chromatography with diode array detector detection. *Food Chem.* 123: 1322-1327.
- Shikanga, E.A., Viljoen, A., Combrinck, S. and Marston, A. (2011). Isolation of sceletium alkaloids by high-speed countercurrent chromatography. *Phytochemistry Lett.* 4: 190-193.
- Shin, W.H., Park, S.J. and Kim, E.J. (2006). Protective effect of anthocyanins in middle cerebral artery occlusion and reperfusion model of cerebral ischemia in rats. *Life Sci.* 79: 130-137.
- Shridhar, D.M.P., Mahajan, G.B., Kamat, V.P., Naik, C.G., Parab, R.R., Thakur, N.R. and Mishra, P.D. (2009). Antibacterial activity of 2-(2',4'-Dibromophenoxy)-4,6-dibromophenol from *Dysidea granulosa*. *Mar. Drugs* 7: 464-471.
- Silberberg, M., Morand, C., Manach, C., Scalbert, A. and Remesy, C. (2005). Co-administration of quercetin and catechin in rats alters their absorption but not their metabolism. *Life Sci.* 77: 3156-3167.

- Simic, M.G. (1988). Mechanisms of inhibition of free-radical processes in mutagenesis and carcinogenesis. *Mutat. Res.* 202: 377-386.
- Simirgiotis, M.J. and Schmeda-Hirschmann, G. (2010). Determination of phenolic composition and antioxidant activity in fruits, rhizomes and leaves of the white strawberry (*Fragaria chiloensis* spp *chiloensis* form *chiloensis*) using HPLC-DAD-ESI-MS and free radical quenching technique. *J. Food Compos. Anal.* 23: 545-553.
- Sipahi, O.R., Arda, B., Yurtseven, T., Sipahi, H., Ozgiray, E., Suntur, B.M. and Ulusoy, S., (2005). Vancomycin versus teicoplanin in the therapy of experimental methicillin-resistant *Staphylococcus aureus* (MRSA) meningitis. *Int. J. Antimicrob. Agents* 26: 412-415.
- Siti, Z.M., Tahir, A., Ida Farah, A., Ami Fazlin, S.M., Sondi, S., Azman, A.H., Maimunah, A.H., Haniza, M.A., Siti Haslinda, M.D., Zulkarnain, A.K., Zakiah, I. and Wan Zaleha, W.C. (2009). Use of traditional and complementary medicine in Malaysia: A baseline study. *Complement. Ther. Med.* 17: 292-299.
- Smith, B.C. (1998). *Infrared Spectral Interpretation: A Systematic Approach*, CRC Press, United States, pp 208-249.
- Soong, Y.Y. and Barlow, P.J. (2005). Isolation and structure elucidation of phenolic compounds from longan (*Dimocarpus longan* Lour.) seed by high-performance liquid chromatography-electrospray ionization mass spectrometry. *J. Chromatogr. A* 1085: 270-277.
- Soule, H.D., Vazquez, J., Long, A., Albert, S. and Brennan, M. (1973). A human cell line from a pleural effusion derived from a breast carcinoma. *J. Natl. Cancer Inst.* 51: 1409-1416.
- Sparg, S.G., Light, M.E. and Staden, J.V. (2004). Biological activities and distribution of plant saponins. *J. Ethnopharmacol.* 94: 219-243.

- Stavri, M., Piddock, L.J. and Gibbons, S. (2007). Bacterial efflux pump inhibitors from natural sources. *J. Antimicrob Chemother* 59: 1247-1260.
- Strati, A., Papoutsis, Z., Lianidou, E. and Moutsatsou, P. (2009). Effect of ellagic acid on the expression of human telomerase reverse transcriptase (*hTERT*) $\alpha+\beta+$ transcript in estrogen receptor-positive MCF-7 breast cancer cells. *Clin. Biochem.* 42: 1358-1362.
- Sturm, S., Strasser, E.M. and Stuppner, H. (2006). Quantification of *Fumaria officinalis* isoquinoline alkaloids by nonaqueous capillary electrophoresis-electrospray ion trap mass spectrometry. *J. Chromatogr. A* 1112: 331-338.
- Tabanca, N., Demirci, B., Baser, K.H.C., Mincsovcics, E., Khan, S.I., Jacob, M.R. and Wedge, D.E. (2007). Characterization of volatile constituents of *Scaligeria tripartita* and studies on the antifungal activity against phytopathogenic fungi. *J. Chromatogr. B* 850: 221-229.
- Tanaka, T., Nonaka, G. and Nishioka, I. (1985). Punicafolin, an ellagitannin from the leaves of *Punica granatum*. *Phytochemistry* 24: 2075-2078.
- Tanimura, S., Kadomoto, R., Tanaka, T., Zhang, Y.J., Kouno, I. and Kohno, M. (2005). Suppression of tumor cell invasiveness by hydrolysable tannins (plant polyphenols) via the inhibition of matrix metalloproteinase-2/-9 activity. *Biochem. Bioph. Res. Co.* 330: 1306-1313.
- Tarachiwin, L., Katoh, A., Ute, K. and Fukusaki, E. (2008). Quality evaluation of *Angelica acutiloba* Kitagawa roots by ^1H NMR-based metabolic fingerprinting. *J. Pharmaceut. Biomed.* 48: 42-48.
- Taylor, V.F., March, R.E., Longerich, H.P. and Stadey, C.J. (2005), A mass spectrometric of glucose, sucrose, and fructose using and inductively coupled plasma and electrospray ionization. *Int. J. Mass Spectrom.* 243: 71-84.

- Teixeira, S., Siquet, C., Alves, C., Boal, I., Marques, M.P., Borges, F., Lima, J.L.F.C. and Reis, S. (2005). Structure-property studies on the antioxidant activity of flavonoids present in diet. *Free Radic. Biol. Med.* 39: 1099-1108.
- Tian, F., Li, B., Ji, B.P., Zhang, G.Z. and Luo, Y.C. (2009). Identification and structure-activity relationship of gallotannins separated from *Galla chinensis*. *LWT.* 42: 1289-1295.
- Tistaert, C., Dejaegher, B. and Heyden, Y.V. (2011a). Chromatographic separation techniques and data handling methods for herbal fingerprints: A review. *Anal. Chim. Acta* 690: 148-161.
- Tistaert, C., Thierry, L., Szandrach, A., Dejaegher, B., Fan, G., Frédérick, M. and Heyden, Y.V. (2011b). Quality control of *Citri reticulatae* pericarpium: Exploratory analysis and discrimination. *Anal. Chim. Acta* 705: 111-122.
- Tsao, R. and Deng, Z. (2004). Separation procedures for naturally occurring antioxidant phytochemicals. *J. Chromatogr. B* 812: 85-99.
- Tsuda, T., Horio, F., Uchida, K., Aoki, H. and Osawa, T. (2003). Dietary cyanidin 3-O-beta-D-glucoside-rich purple corn color prevents obesity and ameliorates hyperglycemia in mice. *J. Nutr.* 133: 2125-2130.
- Tuckmantel, W., Kozikowski, A.P. and Romanczyk, Jr.L.J. (1999). Studies in polyphenol chemistry and bioactivity. 1. Preparation of building blocks from (+)-catechin. Procyanidin formation. Synthesis of the cancer cell growth inhibitor, 3-O-galloyl-(2R,3R)-epicatechin-4 β ,8-[3-O-galloyl-(2R,3R)-epicatechin]. *J. Am. Chem. Soc.* 121: 12073-12081.
- Unno, K. and Hoshino, M. (2007). Brain senescence and neuroprotective dietary components. *Curr. Med. Chem.: Cent. Nerv. Syst. Agents* 7: 109-114.

- Vajragupta, O., Boonchoong, P., Watanabe, H., Tohda, M., Kummasud, N. and Sumanont, Y. (2003). Manganese complexes of curcumin and its derivatives: Evaluation for the radical scavenging ability and neuroprotective activity. *Free Radic. Biol. Med.* 35: 1632-1644.
- Van Acker, S.A.B.E., Koymans, L.M.H. and Bast, A. (1993). Molecular pharmacology of vitamin E: Structural aspects of antioxidant activity. *Free Radic. Biol. Med.* 15: 311-328.
- Vanhaelen, M. and Vanhaelen-Fastre, R. (1983). Quantitative determination of biological active constituents in medicinal plant crude extracts by thin-layer chromatography-densitometry: I *Aesculus hippocastaneum* L., *Arctostaphylos Uva-Ursi Spreng*, *Fraxinus excelsior* L., *Gentiana lutea* L., *Glycyrrhiza glabra* L., *Hamamelis virginiana* L., *Hypericum perforatum* L., *Olea europea* L., *Salix alba* L., *Silybum marianum gaertn.* *J. Chromatogr.* 281: 263-271.
- Vincken, J.P., Heng, L., Groot, A.D and Gruppen, H. (2007). Saponins, classification and occurrence in the plant kingdom. *Phytochemistry* 68: 275-297.
- Vovka, I., Simonovskaa, B., Andrenšeka, S., Vuorelab, H. and Vuorelac, P. (2003). Rotation planar extraction and rotation planar chromatography of oak (*Quercus robur* L.) bark. *J. Chromatogr. A* 991: 267-274.
- Wang, L.S. and Stoner, G.D. (2008). Anthocyanins and their role in cancer prevention. *Cancer Lett.* 269: 281-290.
- Wang, K., Liu, Z., Huang, J.A., Dong, X., Song, L., Pan, Y. and Liu, F. (2008). Preparative isolation and purification of theaflavins and catechins by high-speed counter current chromatography. *J. Chromatogr. B* 282-286.
- Wang, S.C., Tseng, T.Y., Huang, C.M. and Tsai, T.H. (2004). Gardenia herbal active constituents: Applicable separation procedures. *J. Chromatogr. B* 812, 193-202.

- Wangwasit, K., Cellinese, N. and Norsaengsri, M. (2010). *Phyllagathis nanakorniana* (Melastomataceae), a new species from Thailand. *Blumea* 55: 246-248.
- Weber, A. (1987). Two new species of *Phyllagathis* related to *P. tuberculata* (Melastomataceae) from Peninsular Malaysia. *Pl. Syst. Evol.* 157: 187-199.
- Weber, A. (1990). *Phyllagathis praetermissa* (Melastomataceae), a new species from Peninsular Malaysia. *Malayan Nat. J.* 44: 21-28.
- Weecharangsan, W., Opanasopit, P., Sukma, M., Ngawhirunpat, T., Sotanaphun, U. and Siripong, P. (2006). Antioxidant and neuroprotective activities of extracts from the fruit hull of mangosteen (*Garcinia mangostana* Linn.). *Med. Prin. Pract.* 15: 281-287.
- Wei, F. and Feng, Y.Q. (2008). Rapid determination of aristolochic acid I and II in medicinal plants with high sensitivity by cucurbit[7]uril-modifier capillary zone electrophoresis. *Talanta* 74: 619-624.
- Wilkins, C. (1988). Galloyl glucose derivatives from *Heuchera cylindrical*. *Phytochemistry* 27: 2317-2318.
- Wong, S.K., Lim, Y.Y., Noor Rain, A. and Fariza Juliana, N. (2011). Assessment of antiproliferative and antiplasmodial activities of five selected Apocynaceae species. *BMC Complement Altern Med.* 11: 3.
- Wu, Q.K., Koponen, J.M., Mykkanen, H.M. and Torronen, A.R. (2007). Berry phenolic extracts modulate the expression of p21(WAF1) and Bax but not Bcl-2 in HT-29 colon cancer cells. *J. Agric. Food Chem.* 55: 1156-1163.
- Wu, X., Gong, S., Bo, T., Liao, Y. and Liu, H. (2004). Determination of dissociation constant of pharmacologically active xanthenes by capillary zone electrophoresis with diode array detection. *J. Chromatogr. A* 1061: 217-223.

- Wu, Y.W., Sun, S.Q., Zhao, J., Li, Y. and Zhou, Q. (2008a). Rapid discrimination of extracts of Chinese propolis and poplar buds by FT-IR and 2D IR correlation spectroscopy. *J. Mol. Struct.* 883-884: 48-54.
- Wu, Y.W., Sun, S.Q., Zhou, Q., Tao, J. and Noda, I. (2008b). Volatility-dependent 2D IR correlation analysis of traditional chinese medicine 'red flower oil' preparation from different manufactures. *J. Mol. Struct.* 882: 107-115.
- Xia, X., Ling, W., Ma, J., Xia, M., Hou, M., Wang, Q., Zhu, H. and Tang, Z. (2006). An anthocyanin-rich extract from black rice enhances atherosclerotic plaque stabilization in apolipoprotein in E-deficient mice. *J. Nutr.* 136: 2220-2225.
- Xiao, G.D., Li, G.W., Chen, L., Zhang, Z.J., Yin, J.J., Wu, T., Cheng, Z.H., Wei, X.H. and Wang, Z.T. (2010). Isolation of antioxidants from *Psoralea corylifolia* fruits using high-speed counter-current chromatography guided by thin layer chromatography-antioxidant autographic assay. *J. Chromatogr. A* 1217: 5470-5476.
- Xiao, H.B., Krucker, M., Putzbach, K. and Albert, K. (2005). Capillary liquid chromatography-microcoil ¹H nuclear magnetic resonance spectroscopy and liquid chromatography-ion trap mass spectrometry for on-line structure elucidation of isoflavones in *Radix astragali*. *J. Chromatogr. A* 1067: 135-143.
- Xu, Y.M., Deng, J.Z., Ma, J., Chen, S.N., Marshall, R., Jones, S.H., Johnson, R.K. and Hecht, S.M. (2003). DNA damaging activity of ellagic acid derivatives. *Bioorgan. Med. Chem.* 11: 1593-1596.
- Xue, C.X., Zhang, X.Y., Liu, M.C., Hu, Z.D. and Fan, B.T. (2005). Study of probabilistic neural networks to classify the active compounds in medicinal plants. *J. Pharmaceut. Biomed.* 38: 497-507.

- Yang, D.Z., An, Y.Q., Jiang, X.L., Tang, D.Q., Gao, Y.Y., Zhao, H.T. and Wu, X.W., (2011). Development of a novel method combining HPLC fingerprint and multi-ingredients qualitative analysis for quality evaluation of traditional Chinese medicine preparation. *Talanta* 85: 885-890.
- Yang, L.L., Lee, C.Y. and Yen, K.Y. (2000). Induction of apoptosis by hydrolysable tannins from *Eugenia jambos* L. on human leukemia cells. *Cancer Lett.* 157: 65-75.
- Yang, P., Song, P., Sun, S.Q., Zhou, Q., Feng, S. and Tao, J.X. (2009). Differentiation and quality estimation of cordyceps with infrared spectroscopy. *Spectrochim. Acta A* 74: 983-990.
- Yap, K.Y.L., Chan, S.Y. and Lim, C.S. (2008). The reliability of traditional authentication – a case of ginseng misfit. *Food Chem.* 107: 570-575.
- Yen, G.C., Hung, Y.L. and Hsieh, C.L. (2000). Protective effect of extracts of *Mesona procumbens* Hemsl on DNA damage in human lymphocytes exposed to hydrogen peroxide and uv irradiation. *Food Chem. Toxicol.* 38: 747-754.
- Yokozawa, T., Chen, C.P., Dong, E., Tanaka, T., Nonaka, G.I. and Nishioka, I. (1998). Study on the inhibitory effect of tannins and flavonoids against the 1,1-diphenyl-2-picrylhydrazyl radical. *Biochem. Pharmacol.* 56: 213-222.
- Yoshida, T., Amakura, Y. and Yoshimura, M. (2010). Structural features and biological properties of ellagitannins in some plant families of the order Myrtales. *Int. J. Mol. Sci.* 11: 79-106.
- Yoshida, T., Arioka, H., Fujita, T. and Chen, X.M. (1994). Monomeric and dimeric hydrolysable tannins from two Melastomataceous species. *Phytochemistry.* 37: 863-866.

- Yoshida, T., Haba, K., Arata, R., Nakata, F., Shingu, T. and Okuda, T. (1995). Tannins and related polyphenols of melastomataceous plants VII. Nobotanins J and K, trimeric and tetrameric hydrolysable tannins from *Heterocentron roseum*. *Chem. Pharm. Bull.* 43: 1101-1106.
- Yoshida, T., Hatano, T., Ito, H. and Okuda, T. (2000). Chemical and biological perspectives of ellagitannin oligomers from medicinal plants. In *Studies in Natural Products Chemistry*, Vol 23. Rahman A-U (Ed.). Elsevier: Amsterdam; 395-453.
- Yoshida, T., Hatano, T. and Ito, H. (2005). Chapter seven high molecular weight plant polyphenols (Tannins): Prospective functions. *Recent Adv. Phytochem.* 39: 163-190.
- Yoshida, T., Nakata, F., Hosotani, K., Nitta, A. and Okuda, T. (1992). Tannins and related polyphenols of Melastomataceous plants V. Three new complex tannins from *Melastoma malabathricum*. *Chem. Pharm. Bull.* 40: 1727-1732.
- Yoshida, T., Nakata, F. and Okuda, T. (1999). Tannins and related polyphenols of Melastomataceous plants VIII. Nobotanins L, M and N, trimeric hydrolyzable tannins from *Tibouchina semidecandra*. *Chem. Pharm. Bull.* 47: 824-827.
- Yoshida, T., Ohbayashi, H., Ishihara, K., Ohwashi, W., Haba, K., Okano, Y., Shingu, T. and Okuda, T. (1991a). Tannins and related polyphenols of Melastomataceous plants I. hydrolyzable tannins from *Tibouchina semidecandra* Cogn. *Chem. Pharm. Bull.* 39: 2233-2240.
- Yoshida, T., Ohwashi, W., Haba, K., Nakata, F, Okano, Y., Shingu, T. and Okuda, T. (1991b). Tannins and related polyphenols of Melastomataceous plants III. Nobotanins G, H and I, dimeric hydrolyzable tannin from *Heterocentron roseum*. *Chem. Pharm. Bull.* 40: 66-71.

- Yoshida, T., Ohwashi, W., Haba, K., Ohbayashi, H., Ishihara, K., Okano, Y., Shingu, T. and Okuda, T. (1991c). Tannins and related polyphenols of Melastomataceous plants II. Nobotanins B, C and E, hydrolyzable tannin dimer and trimer from *Tibouchina semidecandra* Cogn. *Chem. Pharm. Bull.* 39: 2264-2270.
- Yoshimura, M., Ito, H., Miyashita, K., Hatano, T., Taniguchi, S., Amakura, Y. and Yoshida, T. (2008). Flavonol glucuronides and C-glucosidic ellagitannins from *Melaleuca squarrosa*. *Phytochemistry* 69: 3062-3069.
- Yuan, R. and Lin, Y. (2000). Traditional Chinese medicine: An approach to scientific proof and clinical validation. *Pharmacol. Ther.* 86: 191-198.
- Zagrobelny, M., Bak, S. and Møller, B.L. (2010). Cyanogenesis in plants and arthropods. *Phytochemistry* 69: 1457-1468.
- Zarzycki, P.K., Ślaczka, M.M., Zarzycka, M.B., Włodarczyk, E. and Baran, M.J. (2011). Application of micro-thin-layer chromatography as a simple fractionation tool for fast screening of raw extracts derived from complex biological, pharmaceutical and environmental samples. *Anal. Chim. Acta* 688: 168-174.
- Zarzycki, P.K., Zarzycka, M.B., Clifton, V.L., Adamskic, J. and Głodd, B.K. (2011). Low-parachor solvents extraction and thermostated micro-thin-layer chromatography separation for fast screening and classification of spirulina from pharmaceutical formulations and food samples. *J. Chromatogr. A* 1218: 5694-5704.
- Zhai, Z.D., Luo, X.P. and Shi, Y.P. (2006). Separation and determination of aristolochic acids in herbal medicines by microemulsion electrokinetic chromatography. *Anal. Chim. Acta* 561: 119-125.

- Zhang, Y., Xu, H., Chen, X., Chen, C., Wang, H., Meng, F., Yang, H. and Huang, L. (2011). Simultaneous quantification of 17 constituents from Yuanhu Zhitong tablet using rapid resolution liquid chromatography coupled with a triple quadrupole electrospray tandem mass spectrometry. *J. Pharmaceut. Biomed.* 56: 497-504.
- Zhao, Y., Chen, P., Lin, L., Harnly, J.M., Yu, L. (Lucy) and Li, Z. (2011). Tentative identification, quantitation, and principal component analysis of green pu-erh, green, and white teas using UPLC/DAD/MS. *Food Chem.* 126: 1269-1277.
- Zuo, L., Sun, S.Q, Zhou, Q., Tao, J.X. and Noda, I. (2003). 2D-IR correlation analysis of deteriorative process of traditional Chinese medicine 'qing kai ling' injection. *J. Pharm. Biomed. Anal.* 30: 1491-1498.
- Zywicki, B., Reemtsma, T. and Jekel, M. (2002). Analysis of commercial vegetable tanning agents by reversed-phase liquid chromatography-electrospray ionization-tandem mass spectrometry and its application to waste water. *J. Chromatogr. A* 970: 191-200.