



รายการอ้างอิง

ภาษาไทย

นิจศิริ เรืองรังษี. 2534. เครื่องเทศ. พิมพ์ครั้งที่ 2. กรุงเทพมหานคร: สำนักพิมพ์จุฬาลงกรณ์มหาวิทยาลัย. หน้า 103-107.

บัญญัติ สุขศรีงาม. 2527. เครื่องเทศที่ใช้เป็นสมุนไพร เล่ม 1. พิมพ์ครั้งที่ 1. กรุงเทพมหานคร: โรงพิมพ์อมรการพิมพ์. หน้า 50-56.

นุสันธิโภนลคีมทอง. 2527. สมุนไพรชาวบ้าน. พิมพ์ครั้งที่ 1. กรุงเทพมหานคร. หน้า 4-6.

ภาษาอังกฤษ

Altria, K.D. 2000. Background theory and applications of microemulsion electrokinetic chromatography. *Journal of Chromatography A*. 892: 171-186.

Altria, K.D., Clark, B.J. and Mahuzier, P.E. 2000. The effect of operating variables microemulsion electrokinetic capillary chromatography. *Chromatographia*. 52: 758-764.

Altria, K.D. and Fabre, H. 1995. Approaches to optimization of precision in capillary electrophoresis. *Chromatographia*. 40: 313-320.

Anastassiades, M., Lehotay, S.J., Stajnbaher, and D. Schenck, F.J. 2003. Fast and Easy Mutiresidue Method Employing Acetonitrile Extraction/Partitioning and “Dispersive solid-phase extraction” for the determination of pesticide residues in produce. *Journal of AOAC International*. 86: 412-431.

Attuquayefio, V.K. and Buckle, K.A. 1987. Rapid sample preparation method for HPLC analysis of capsaicinoids in Capsicum fruits and oleoresins. *Journal of Agricultural and Food Chemistry*. 35: 777-779.

Aurora-Prado, M. S., Silva, C. A., Tavares, M. F. M., and Altria, K. D. 2004. Determination of folic acid in tablets by microemulsion electrokinetic chromatography. *Journal of Chromatography A*. 1051: 291-296.

Barbero, G.F., Liazid, A., Palma, M. and Barroso, C.G. 2008. Fast determination of capsaicinoids from peppers by high performance liquid chromatography using a reversed phase monolithic column. *Food Chemistry*. 107: 1276-1282.

- Barbero, G.F., Liazid, A., Palma, M. and Barroso, C.G. 2008. Ultrasound-assisted extraction of capsaicinoids from peppers. *Talanta*. 75: 1332-1337.
- Barbero, G.F., Palma, M. and Barroso, C.G. 2006. Determination of capsaicinoids in peppers by microwave-assisted extraction-high performance liquid chromatography with fluorescence detection. *Analytica Chimica Acta*. 578: 227-233.
- Barbero, G.F., Palma, M. and Barroso, C.G. 2006. Pressurized liquid extraction of capsaicinoids from peppers. *Journal of Agricultural and Food Chemistry*. 54: 3231-3236.
- Batchelor, J.D. and Jones, B.T. 2000. Determination of the Scoville heat value for hot sauces and chilies: an HPLC experiment. *Journal of Chemical Education*. 77: 266-267.
- Chang, R. 1991. Chemistry. New York. McGraw-Hill. Inc. 692.
- Chankvetadze, B. 1997. Capillary Electrophoresis in Chiral Analysis. Chichester. John Wiley and Sons. 5-72.
- Cisneros-Pineda, O. Torres-Tapia L.W., Gutiérrez-Pacheco, L.C. Contreras-Martín, F. González-Estrada, T. and Peraza-Sánchez, S.R. 2007. Capsaicinoids quantification chili pepper cultivated in state of Yucatan, Mexico. *Food Chemistry*. 104: 1755-1760.
- Constant, H., Cordell, G., West, D. and Johnson, J. 1995. Separation and quantification of capsaicinoids using complexation chromatography. *Journal of Natural Products*. 58: 1925-1928.
- Cooper, T.H., Guzinski, J.A. and Fisher, C. 1991. Improved high performance liquid chromatography method for the determination of major capsaicinoids in capsicum oloresin. *Journal of Agricultural and Food Chemistry*. 39: 2253-2256.
- Davis, C.B., Markey, C.E., Busch, M.A. and Busch, K.W. 2007. Determination of capsaicinoids in habanero peppers by chemometric analysis of UV spectral data. *Journal of Agricultural and Food Chemistry*. 55: 5925-5933.
- Duarte, C., Moldão-Martins, M., Gouveia, A.F., Costa, S.B., Leitão, A.E. and Bernardo-Gil, M.G. 2004. Supercritical fluid extraction of red pepper (*Capsicum frutescens* L.). *The Journal of Supercritical Fluids*. 30: 155-161.
- Gonzalez, A.G., and Herrador, M.A. 2007. A practical guide to analytical method validation, including measurement uncertainty and accuracy profiles. *Trends in Analytical Chemistry*. 26: 227-238.

- Hawer, W. S., Ha, J., Hwang, J., and Nam, Y. 1994. Effective separation and quantitative analysis of major heat principles in red pepper by capillary gas chromatography. *Food Chemistry*. 49: 99-103.
- Horwitz, W. 1982. Evaluations analytical methods used for regulation of foods and drugs. *Analytical Chemistry*. 54: 67A-76A.
- James, D. and Bradley, T. (2000). Determination of the Scoville heat value for hot sauces and chilies. *Journal of Chemical Education*. 77: 266-267.
- Jurenitsch, J., and Kampelmuhler, I. 1980. Rapid determination of nonylic acid vanillylamide and other capsaicinoids in capsicum fruits and extracts by means of Ag^+ -complexation high-performance liquid chromatography. *Journal of Chromatography*. 193: 101-110.
- Jurenitsch, J., and Leinmuller, R. 1980. Quantification of nonylic acid vanillylamide and other capsaicinoids in the pungent principle of capsicum fruits and preparations by gas-liquid chromatography on glass capillary columns. *Journal of Chromatography*. 189: 389-397.
- Kaale, E., Van Schepdael, A., Roets, E., and Hoogmartens, J. 2002. Determination of capsaicinoids in topical cream by liquid-liquid extraction and liquid chromatography. *Journal of Pharmaceutical and Biomedical Analysis*. 30: 1331-1337.
- Kachoosangi, R.T., Wildgoose, G.G. and Compton, R.G. 2008. Carbon nanotube-based electrochemical sensors for quantifying the heat of chilli peppers: the adsorptive stripping voltammetric determination of capsaicin. *The Analyst*. 133: 888-895.
- Kenndler, E. 1998. Dependence of analyte separation on electroosmotic flow in capillary zone electrophoresis: Quantitative description by the reduced mobility. *Journal of Microcolumn Separation*. 10: 273-279.
- Khaledi, M.G. (Ed.). 1998. High Performance Capillary Electrophoresis: Theory Technique and Applications. New York. John Wiley and Sons. Inc., 35-38, 77-78, 330-401, 449-464.
- Klampfl, C.W. 2003. Solvent effects in microemulsion electrokinetic chromatography. *Electrophoresis*. 24: 1537-1543.
- Kozukue, N., Han, J.S., Kozukue, E., Lee, S.J., Kim, J.A., Lee, K.R., Levin, C.E. and Friedman, M. 2005. Analysis of eight capsaicinoids in pepes and pepper-containing foods by high performance liquid chromatography and liquid chromatography mass spectrometry. *Journal of Agricultural and Food Chemistry*. 53: 9172-9181.
- Kuhr, W.G. 1993. Capillary Electrophoresis. Camilleri. P. (Editor). CRC Press. Boca Raton. p.66.

- Landers, J.P. 1997. Handbook of Capillary Electrophoresis. Edn 2nd. CRC Press. Boca Raton.
- Laskaridou-Monnerville, A. 1999. Determination of capsaicin and dihydrocapsaicin by micellar electrokinetic capillary chromatography and its application to various species of Capsicum, Solanaceae. *Journal of Chromatography A*. 838: 293-302.
- Li, S.F.Y. 1992. Capillary Electrophoresis. Elsevier. Amsterdam. pp. 15-16, 249.
- LopezHernandez, J., OrunaConcha , M., SimalLozano, J., GonzalezCastro, M. and VazquezBlanco, M. 1996. Determination of capsaicin and dihydrocapsaicin in cayenne pepper and padron peppers by HPLC. *Deutsche Lebensmittel-Rundschau*. 92: 393-395.
- Majors, R.E. 2008. QuEChERS—A new technique for multiresidue analysis of pesticides in foods and agricultural samples. *LGC Asia Pacific*. 11: 1-7.
- Mayer, B.X. 2001. How to increase precision in capillary electrophoresis. *Journal of Chromatography A*. 907: 21-37.
- Morrison, G.H. and Freiser, H. 1962. Solvent Extraction in Analytical Chemistry. John Wiley & Sons, Inc. United States of America. pp 7-8.
- Opinion of the scientific committee on food on capsaicin. 26 February 2002. available on the website at http://europa.eu.int/comm/food/fs/sc/scf/index_en.html. 29 November 2005.
- Patrick, C. 1993. Capillary Electrophoresis: Theory and Practice. Boca Raton. CRC press. pp. 133-161.
- Perucka, I. and Oleszek, W. 2000. Extraction and determination of capsaicinoids in fruit of hot pepper *Capsicum annuum* L. by spectrophotometry and high-performance liquid chromatography. *Food Chemistry*. 71: 287-291.
- Pino, J., González, M., Ceballos, L., Centurión-Yah, A.R., Trujillo-Aguirre, J., Latournerie-Moreno, L. and Sauri-Duch, E. 2007. Characterization of total capsaicinoids, colour and volatile compounds of Habanero chilli pepper (*Capsicum chinense* Jack.) cultivars grown in Yucatan. *Food Chemistry*. 104: 1682-1686.
- Poouthree, K., Soonthorntantikul, W., Leepipatpiboon, N., Petsom, A. and Nhujak, T. 2007. Comparison of resolution in microemulsion EKC and MEKC employing suppressed electroosmosis: application to bisphenol-A-diglycidyl ether and its derivatives. *Electrophoresis*. 20: 3705-3711.
- Reilly, C.A., Crouch, D.J., Yost, G.S. and Fatah, A.A. 2001. Determination of capsaicin, dihydrocapsaicin and nonivamide in self-defense weapons by liquid chromatography-mass

- spectrometry and liquid chromatography-tandem mass spectrometry. *Journal of Chromatography A.* 912: 259-267.
- Sato, K., Sasaki, S., Goda, Y., Yamada, T., Nunomura, O., Ishikawa, K. and Maitani, T. 1999. Direct connection of supercritical fluid extraction and supercritical fluid chromatography as a rapid quantitative method for capsaicinoids in placentas of capsicum. *Journal of Agricultural and Food Chemistry.* 47: 4665-4668.
- Schweiggert, U., Schieber, A. and Carle, R. 2006. Effect of blanching and storage on capsaicinoids stability and peroxidase activity of hot chili peppers (*Capsicum frutescens* L.). *Innovative Food Science and Emerging Technology.* 7: 217-224.
- Schweiggert, U., Carle, R. and Schieber, A. 2006. Characterization of major and minor capsaicinoids and related compounds in chili pods (*Capsicum frutescens* L.) by high performance liquid chromatography/atmospheric pressure chemical ionization mass spectrometry. *Analytica Chimica Acta.* 557: 236-244.
- Spicer, J.O. and Almirall, J.R. 2005. Extraction of capsaicins in aerosol defense sprays from fabrics. *Talanta.* 67: 377-382.
- Sticher, O., Soldat, F. and Joshi, R. 1978. High-performance liquid chromatographic separation and quantitative determination of capsaicin, dihydrocapsaicin, nordihydrocapsaicin and homodihydrocapsaicin in natural capsaicinoid mixtures and fructus capsici. *Journal of Chromatography.* 166: 211-231.
- Suzuki, T., Kawada, T., and Iwai, K. 1980. Effective separation of capsaicin and its analogues by reversed-phase high-performance thin-layer chromatography. *Journal of Chromatography.* 198: 217-223.
- Swartz, M.E. and Krull, I.S. 1997. Analytical Method Development and Validation. Marcel Dekker, Inc., New York, pp. 61-63.
- Teruo, K., Tatsuo, W., Keiko, K., Hisayo, T. and Kazuo, I. 1985. Microdetermination of capsaicin by high-performance liquid chromatography with electrochemical detection. *Journal of Chromatography.* 329: 99-105.
- Thomas, B.V., Schreiber, A.A. and Weisskopf, C.P. 1998. Simple method for quantitation of Capsaicinoids in peppers using capillary gas chromatography. *Journal of Agricultural and Food Chemistry.* 46: 2655-2663.

- Thompson, R.Q., Pennino, M.J., Brenner, M.J. and Mehta, M.A. 2006. Isolation of individual capsaicinoids from a mixture and their characterization by ^{13}C NMR spectrometry. *Talanta*. 20: 315-322.
- Todd, P., Bensinger, M. and Biftu, T. 1975. TLC screening techniques for the qualitative determination of natural and synthetic capsaicinoids. *Journal Chromatographic Science*. 13: 577-579.
- Topuz, A. and Ozdemir, F. 2007. Assessment of carotenoids, capsaicinoids and ascorbic acid composition of some selected pepper cultivars (*Capsicum frutescens* L.) grown in Turkey. *Journal of Food Composition and Analysis*. 20: 596-602.
- Tucker, S. 2001. Determination of capsaicin and dihydrocapsaicin in air in a pickle and pepper processing plant. *American Industrial Hygiene Association Journal*. 62: 45-48.
- Uquiche, E., Valle, J.M. and Ortiz, J. 2004. Supercritical carbon dioxide extraction of red pepper (*Capsicum frutescens* L.) oleoresin. *Journal of Food Engineering*. 65: 55-66.
- Weaver, K.M. and Awde, D.B. 1986. Rapid high performance liquid chromatography method for the determination of very low capsaicin levels. *Journal of Chromatography*. 367: 438-442.
- Weaver, K.M., Luker, R.G. and Neale, M.E. 1984. Rapid quality control procedure for the determination of Scoville heat units and the detection of chillies in black pepper, via high performance liquid chromatography. *Journal of Chromatography*. 301: 288-291.
- Wei, F. and Zhao, Y. 2008. Separation of capsaicin from capsaicinoids by simulated moving bed chromatography. *Journal of Chromatography A*. 1187: 281-284.
- Weinberger, R. 2000. Practical Capillary Electrophoresis. Academic Press. San Diego. p.17.
www.ops.moc.go.th. 23 November 2008.
- Yao, J., Nair, M. and Chandra, A. 1994. Supercritical carbon-dioxide extraction of scotch bonnet (*Capsicum Annum*) and quantification of capsaicin and dihydrocapsaicin. *Journal of Agricultural and Food Chemistry*. 42: 1303-1305.

ประวัติผู้เขียนวิทยานิพนธ์

นางสาวกนกวรรณ วรดง เกิดเมื่อวันจันทร์ ที่ 16 สิงหาคม พ.ศ. 2525 ที่จังหวัดสกลนคร ได้รับปริญญาศาสตรบัณฑิต สาขาชีววิทยา จากคณะวิทยาศาสตร์ มหาวิทยาลัยทักษิณ ในปี การศึกษา 2547 และได้เข้าศึกษาต่อในระดับปริญญาโทบัณฑิตในหลักสูตรเทคโนโลยีชีวภาพ คณะวิทยาศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ในปีการศึกษา 2548

การเสนอผลงานวิจัย

Kanokwan Woradong, Amorn Petsom and Thumnoon Nhujak. Determination of capsaicin and dihydrocapsaicin by micellar electrokinetic chromatography and microemulsion electrokinetic chromatography. Poster presentation. Pure and Applied Chemistry International Conference (PACCON 2008). January 30 - February 1 2008. Department of Chemistry, Faculty of Science, Kasetsart University and Chemical Society of Thailand.

