

REFERENCES

- Aggarwal P and Sandhu KS, Effect of harvesting time on physico-chemical properties of juice components of Kinnow, *Journal of Food Science and Technology*, **40**(2003)666-68.
- Aharoni C, Sideman S, and Hoffer E, Adsorption of phosphate ions by colloid ion-coated alumina, *Journal of Chemical Technology and Biotechnology*, **29**(1979) 404–412.
- Anand N, Kinetics of adsorption on biporus solids for a system with rectangular equilibrium re-analyzed, Ph.D. Thesis, I.I.T. Delhi, 1990.
- Anand N, Manoja BGR, and Gupta AK, Kinetics of adsorption on biporus solids for a system with rectangular equilibrium re-analyzed, *Chemical Engineering Science*, **49** (1994) 3277-90.
- Attri BL and Maini SB, Pectin from Galgal (*Citrus pseudolimonTan.*) Peel, *Bioresource Technology*, **55**(1996)89-91.
- Barkakati P, Begum A, Das ML, and Rao PG, Adsorptive separation of Ginsenoside from aqueous solution by polymeric resins: Equilibrium, kinetic and thermodynamic studies, *Chemical Engineering Journal*, **161**(2010)34-45.
- Bhatlu MLD, Katiyar P, Singh SV, and Verma AK, Pre-Harvest Dropped Kinnow (*Citrus reticulata Blanco*) Waste Management through the Extraction of Naringin and Pectin from their Peels using Indigenous Resin, *Journal of The Institution of Engineers (India): Series A*, **97**(2016)285-290.
- Boyd GE, Adamson AW, and Mayers Jr. LS, The exchange adsorption of ions from aqueous solutions on organic zeolites: II Kinetics, *Journal of the American Chemical Society*, **69**(1947)2836–2848.
- Braddock RJ, Handbook of citrus by-products processing technology, John Wiley & Sons Inc, 1999.
- Calvarano M, Postorino E, Gionfriddo F, Calvarano I, Bovalo F, and Calabro G, Naringin extraction from exhausted bergamot peels, *Perfumer Flavorist*, **21**(1996)1-4.
- Casas-Orozco D, Villa AL, Bustamante F, and Gonzalez LM, Process development and simulation of pectin extraction from orange peels, *Food and Bioprocess Processing*, **96**(2015)86-98.
- Crandall PG and Kesterson JW, Recovery of naringin and pectin from grapefruit albedo, *Proceedings of the Florida State Horticultural Society*, **89**(1976)189-191.
- Davis WB, Determination of flavanones in citrus fruits, *Analytical Chemistry*, **19**(1947)476-478.
- Deka H and Saikia MD, Structural and thermodynamic factors on adsorptive interaction of certain flavonoids onto polymeric resins and activated carbon, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **469**(2015)51-59.
- Dong Y, Zhao M, Sun-Waterhouse D, Zhuang M, Chen H, Feng M, and Lin L, Absorption and desorption behaviour of the flavonoids from *Glycyrrhiza glabra L. leaf* on macroporous adsorption resins, *Food chemistry*, **168**(2015)538-545.

Dubinin MM and Radushkevich LV, Equation of the characteristic curve of activated charcoal, *Chemisches Zentralblatt*, **1**(1947)875–889.

Dutta BK, Principles of mass transfer and separation processes, PHE Learning Pvt. Limited, New Delhi, India (2009)630-637.

El-Nawawi SA, Extraction of citrus glucosides, *Carbohydrate polymers*, **27**(1995)1-4.

Freundlich H, Uber die adsorption in Losungen, *The Journal of Physical Chemistry*, **57**(1907)385–470.

Fu Y, Zu Y, Liu W, Efferth T, Zhang N, Liu X and Kong Y, Optimization of luteolin separation from pigeonpea (*Cajanus cajan* (L.) Millsp.) leaves by macroporous resins, *Journal of Chromatography A*, **1137**(2006)145-152.

Geng X, Ren P, Pi G, Shi R, Yuan Z, and Wang C, High selective purification of flavonoids from natural plants based on polymeric adsorbent with hydrogen-bonding interaction, *Journal of Chromatography A*, **1216**(2009)8331-8338.

Giannuzzo AN, Boggetti HJ, Nazareno MA, and Mishima HT, Supercritical fluid extraction of naringin from the peel of *Citrus paradisi*, *Phytochemical Analysis*, **14**(2003)221-223.

Geerkens CH, Matejka AE, Schweiggert RM, Kammerer DR, and Carle R, Optimization of polyphenol recovery from mango peel extracts by assessing food-grade adsorbent and ion exchange resins and adsorption parameters using a D-optimal design, *European Food Research and Technology*, **241**(2015)627-636.

Helfferich F, Ion Exchange. McGraw Hill Book Company Inc., New York (1962).

Ho YS and McKay G, Kinetic model for lead (II) sorption onto peat, *Adsorption: Science and Technology*, **16**(1998)243–255.

Hosseini SS, Khodaiyan F, and Yarmand MS, Aqueous extraction of pectin from sour orange peel and its preliminary physicochemical properties, *International journal of biological macromolecules*, **82**(2016)920-926.

http://www.business-standard.com/article/markets/north-increases-area-under-kinnow-as-south-set-to-peel-it-114042901096_1.html

<http://www.lookchem.com/Naringin>

Indian Horticulture Database, National Horticulture Board, Ministry of Agriculture, Government of India, (2014) 289.

Jaycock MJ and Parfitt GD, Chemistry of Interfaces, Ellis Horwood Limited Publishers, Chichester ,1981.

Jiang X, Zhou J, and Zhou C, Study on adsorption and separation of naringin with macroporous resin, *Frontiers of Chemistry in China*, **1**(2006)77-81.

Kalra KL, Grewal HS, and Kahlon SS, Bioconversion of kinnow-mandarin waste into single-cell protein, *MIRCEN journal of applied microbiology and biotechnology*, **5**(1989)321-326.

- Khan MK, Abert-Vian M, Fabiano-Tixier AS, Dangles O and Chemat F, Ultrasound-assisted extraction of polyphenols (flavanone glycosides) from orange (*Citrus sinensis L.*) peel, *Food Chemistry*, **119**(2010)851-858.
- Kim MR, Kim WC, Lee DY and Kim CW, Recovery of narirutin by adsorption on a non-ionic polar resin from a water-extract of Citrus unshiu peels, *Journal of food engineering*, **78**(2007)27-32.
- Kimball DA, Citrus Processing quality control and Technology, Chapman & Hall, International Thomson publishing, 1991, pp. 305.
- Kong F, Bi Y, Yan C, and Zeng Z, Orthogonal test design for optimization of the ultrasonic extraction of naringin from Citrus grandistomentosa, *Journal of Medicinal Plants Research*, **7**(2013)720-726.
- Koubala BB, Kansci G, Mbome LI, Crépeau MJ, Thibault JF and Ralet MC, Effect of extraction conditions on some physicochemical characteristics of pectins from “Ameliorée” and “Mango” mango peels, *Food Hydrocolloids*, **22**(2008)1345-1351.
- Kulkarni SG and Vijayanand P, Effect of extraction conditions on the quality characteristics of pectin from passion fruit peel (*Passiflora edulis f. flavicarpa L.*), *LWT-Food Science and Technology*, **43**(2010)1026-1031.
- Kurita O, Fujiwara T, and Yamazaki E, Characterization of the pectin extracted from citrus peel in the presence of citric acid, *Carbohydrate Polymers*, **74**(2008)725-730.
- Lagergren S, Zurtheorie der sogenannten adsorption gelösterstoffe, *Kungl. Svenska vetenskapsak ademiens. Hhandlingar.*, **24**(1898)1–39.
- Langmuir I, The constitution and fundamental properties of solids and liquids, *Journal of the American Chemical Society*, **38**(1916)2221.
- Lerotholi L, Carsky M, and Omoregbe DIOI, A study of the extraction of pectin from dried lemon peels, *Advanced Material Research*, **367**(2012)311-318.
- Li Y, Liu J, Cao R, Deng S, and Lu X, Adsorption of myricetrin, puerarin, naringin, rutin, and neohesperidin dihydrochalcone flavonoids on macroporous resins, *Journal of Chemical and Engineering Data*, **58**(2013)2527-2537.
- Long JP, Chen ZB, Liu XJ, Kang L, Du XY, and Di DL, Preparation and Adsorption Research of the Modification Macroporous Adsorption Resin (LX1180), *Polymer-Plastics Technology and Engineering*, **53**(2014)1082-1093.
- Ma E, Cervera Q, and Sanchez GMM, Integrated utilization of orange peel, *Bioresource Technology*, **44**(1993) 61-63.
- Mai HD and Luyen D, Optimization of pectin extraction from dried peel of citrus grandis, *Polymer Bulletin*, **22**(1989)599-602.
- Manlan M, Matthews RF, Rouseff RL, Littell RC, Marshall MR, Moye HA, and Teixeira AA, Evaluation of the properties of polystyrene divinylbenzene adsorbents for debittering grapefruit juice, *Journal of Food Science*, **55**(1990)440-445.

Manoja, BGR, Adsorption of diethylamine on strongly acidic macroreticular ion exchange resin: Equilibrium and kinetic studies, Ph.D. Thesis, I.I.T. Delhi, 1994

May CD, Industrial Pectins: Sources, Production and Applications, *Carbohydrate Polymers*, **12**(1990)79-99.

McCleary BV and Prosky L, (Eds.) Advanced dietary fibre technology, Blackwell Science, 2001.

Padival RA, Ranganna S, and Manjrekar SP, Low methoxylpectins from lime peel, *International Journal of Food Science and Technology*, **14**(1979)333-342.

Perry RH, and Green DW, Perry's chemical engineers handbook. McGraw-Hill Professional; 1999.

Pompeu DR, Moura FG, Silva EM, and Rogez H, Equilibria, kinetics, and mechanisms for the adsorption of four classes of phenolic compounds onto synthetic resins, *Separation Science and Technology*, **45**(2010)700-709.

Premi BR, Lal BB, and Joshi VK, Distribution pattern of bittering principles in Kinnow fruit, *Journal of Food Science and Technology-Mysore*, **31**(1994)140-141.

Puri M, Kaur A, Schwarz WH, Singh S, and Kennedy JF, Molecular characterization and enzymatic hydrolysis of naringin extracted from kinnow peel waste, *International Journal of Biological Macromolecules*, **48**(2011)58–62.

Ranganna S, Handbook of analysis and quality control for fruit and vegetable products (2nd edition, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2005, pp. 42-43.

Redlich O and Peterson DL, A useful adsorption isotherm, *The Journal of Physical Chemistry*, **63**(1959)1024-1026.

Ribeiro MHL, Silveira D, and Ferreira-Dias S, Selective adsorption of limonin and naringin from orange juice to natural and synthetic adsorbents, *European Food Research and Technology*, **215**(2002) 462–471.

Roginsky SZ and Zeldovich Y, *Acta Physicochimica*. USSR.1934; 1: 554.

Seymour GB and Knox JP, Pectins and their Manipulation, Blackwell Publishing, 2002, pp.1-19.

Sharma BR, Naresh L, Dhuldhoya NC, Merchant SU, and Merchant UC, An overview on pectins, *Times Food Processing Journal*, **23**(2006)44-51.

Shaw PE, Baines L, Milnes BA, and Agmon G, Commercial debittering processes to upgrade quality of citrus juice products, *Citrus Limonoids - ACS Symposium Series*, **758**(2000)120-131.

Shaw PE, Citrus juice debittering-current status worldwide, *The Citrus Industry*, **71**(1990)54-55.

Singh M and Dhillon SS, Extraction of pectin from kinnow peels, *International Journal of Environmental Studies*, **64**(2007)287.

- Singh SV, Gupta AK, and Jain RK, Adsorption of naringin on nonionic (neutral) macroporous adsorbent resin from its aqueous solutions, *Journal of Food Engineering*, **86**(2008)259–271.
- Singh SV, Jain RK, and Gupta AK, Adsorptive Reduction of Naringin from Kinnow Mandarin Juice with Non-Ionic Macroporous Adsorbent Resin, *Indian Chemical Engineer*, **58**(2015)136-156.
- Sotanaphun U, Chaidedgumjorn A, Kitcharoen N, Satiraphan M, Asavapichayont P, and Sriamornsak P, Preparation of Pectin from Fruit Peel of *Citrus maxima*, *Silpakorn University Science and Technology Journal*, **6**(2012)42-48.
- Sudto K, Pornpakakul S, and Wanichwecharungruang S, An efficient method for the large scale isolation of naringin from pomelo (*Citrus grandis*) peel, *International Journal of Food Science and Technology*, **44**(2009)1737-1742.
- Suetsugu T, Iwai H, Tanaka M, Hoshino M, Quitain A, Sasaki M and Goto M, Extraction of citrus flavonoids from peel of citrus junos using supercritical carbon dioxide with polar solvent, *Chemical Engineering and Science*, **1**(2013)87-90.
- Tamaki Y, Konishi T, Fukuta M, and Tako M, Isolation and structural characterization of pectin from endocarp of *Citrus depressa*, *Food Chemistry*, **107**(2008)352-361.
- Tang DM, Zhu CF, Zhong SA, and Zhou MD, Extraction of naringin from pomelo peels as dihydrochalcone's precursor, *Journal of Separation Science*, **34**(2011)113-117.
- Thakur BR, Singh RK, Handa AK, and Rao MA, Chemistry and uses of pectin -A review, *Critical Reviews in Food Science and Nutrition*, **37**(1997)47-73.
- Toth J, State equations of the solid gas interface layer, *Acta Chimica Academiae Scientiarum Hungaricae*, **69**(1971)311–317.
- Tripodo MM, Lanuzza F, and Mondello F, Utilization of a citrus industry waste: Bergamot Peels, *Forum Ware international*, **2**(2007)20-26.
- Wang, Li H, Xie H, Fu G, and Shujia, Study on pectin extraction from orange peel, *Transactions of the Chinese Society of Agricultural Machinery*, **36**(2005)82-85.
- Weber Jr. WJ, and Morris JC, Kinetics of adsorption on carbon from solutions, *Journal of the Sanitary Engineering Division ASCE*, **89**(1963)31–60.
- Wen Y, Du H, Tu Y, Luo W, Li Q, Zhu C, Li Y and Liang B, Preparative enrichment and purification of nevadensin from *Lysionotus pauciflorus* using macroporous resins, *Separation Science and Technology*, **51**(2016)339-347.
- Wu S, Wang Y, Gong G, Li F, Ren H and Liu Y, Adsorption and desorption properties of macroporous resins for flavonoids from the extract of Chinese wolfberry (*Lycium barbarum L.*), *Food and Bioproducts Processing*, **93**(2015)148-155.
- Xiao-feng L, Chen X, Jian-zhong X, and Jin-mei X, Effects of Acid Extraction Parameters on Properties of Pectin from Pomelo Peel, *China Food Science*, **32**(2011)78.
- Yao L, Zhang N, Wang C, and Wang C, Highly selective separation and purification of anthocyanins from bilberry based on a macroporous polymeric adsorbent, *Journal of agricultural and food chemistry*, **63**(2015)3543-3550.

Ye H, Chen Z, Liu Y, Lou S, and Di D, Comparison of the adsorption behavior of flavonoids on three macroporous adsorption resins modified with hydrogen-bond groups, *Journal of Applied Polymer Science*, **131**(2014)40188.

Yu J, Dandekar DV, Toledo RT, Singh RK, and Patil BS, Supercritical fluid extraction of limonoids and naringin from grapefruit (*Citrus paradisi Macf.*) seeds, *Food Chemistry*,**105**(2007)1026-1031.

Zhe J, Jian-ping H, He-meng W, Han-xun J, Si-rui R and Ying C, Separation and Purification of Total Phloroglucinols in *Dryopteris crassirhizoma* with DM-130 Macroporous Adsorption Resin. *Journal of Northeast Agricultural University (English Edition)*, **22**(2015)8-14.

Zhou X, Su Y, and Zhao S, Preparation of chitosan-quercetin resin microspheres and its adsorption properties for Flavonoids, *Separation Science and Technology*, **48**(2013)941-946.