

DAFTAR PUSTAKA

- Agoes, G. (2007). *Teknologi Bahan Alam*. Bandung: Penerbit ITB.
- Agustina, R., Andayani, R. & Dachriyanus. (2014). Development and validation of thin-layer chromatographic method for determination α -mangostin in young pericarp, ripe pericarp and bark extract of *Garcinia mangostana* L. using TLC-densitometry. *International Journal of Research in Pharmaceutical Sciences*, 5 (4), 294-298.
- Aisha, A., Salah, A. K., Ismail, Z. & Majid, A. M. S. A. (2013). Determination xanthones in *Garcinia mangostana* fruit rind extracts by ultraviolet (UV) spectrophotometry. *Journal of Medicinal Plants Research*, 7 (1), 29-35.
- Andayani, R., Wahyuni, F. S., Wirasti, Y. & Dachriyanus. (2015). Development and validation of RP-HPLC method for quantitative estimation of determination α -mangostin in the rind extract and fractions of *Garcinia mangostan* L. and their cytotoxic on T47D breast cancer cell line. *Journal of Pharmacy and Pharmaceutical Science*, 7 (2), 174-178.
- Becker, E. M., Nissen, L. R., & Skibsted, L. H. (2004). Antioxidant evaluation protocols: food quality or health effects. *European Food Research and Technology*, 219, 561-571.
- Benzie, I. F. F & Strain, J. J. (1999). Ferric reducing/antioxidant power assay: direct measure of total antioxidant activity of biological fluids and modified version for stimulaneous measurement of total antioxidant power and ascorbic acid concentration. *Method in Enzymology*, 299, 15-27.
- Bennett, G.J. & Lee, H.H. (1989). Xanthones from guttiferae. *Phytochemistry*, 28 (4), 967-998.
- Biskup, I., Golonka, I., Gamian, A. & Sroka, Z. (2013). Antioxidant activity of selected phenols estimated by ABTS and FRAP methods. *Postępy Higieny i Medycyny Doświadczalnej (Online)*, 67, 958-963.
- Bundeesomchok, K., Filly, A., Rakotomanomana, N., Panichayupakaranant, P. & Chemat, F. (2016). Extraction of α -mangostin from *Garcinia mangostana* L. using alternative solvents: Computational predictive and experimental studies. *LWT - Food Science and Technology*, 65, 297-303.
- Büyüktuncel, E., Porgah, E. & Çolak, C. (2014). Comparison of total phenolic content and total antioxidant activity in local red wines determined by spectrophotometric methods. *Food and Nutrition Sciences*, 5, 1660-1667.

- Chanda, S. & Dave, R. (2009). In vitro models for antioxidant activity evaluation and some medical plants possessing antioxidant properties: an overview. *African Jurnal Microbioogy Research*, 3 (13), 981-996.
- Chin, Y. W. & Kinghorn, A. D. (2008). Structural characterization, biological effects and synthetic studies on xanthones from mangosteen (*Garcinia mangostana*), a popular botanical dietary supplement. *Mini Review in Organic Chemistry*, 5, 355–364.
- Cools, K., Vicente, A. & Terry., L. A. (2011). Methodologies for extraction, isolation, characterization and quantification of bioactive compounds. In L. A. Terry (Ed.). *Health-Promoting Properties of Fruits and Vegetables*. London, UK : CABI.
- Dachriyanus, M.I. & Rizal, F. (2003). Antimicrobial and antioxidant activity test compound results isolation of skin stem plants *Garcinia cowa* Roxb. *Journal of Mathematics and Natural Sciences.*, 12, 67-72
- Departemen Kesehatan RI. (2000). *Parameter Standar Umum Ekstrak Tumbuhan Obat*. Jakarta: Departemen Kesehatan RI.
- Departemen Kesehatan RI. (2008). *Farmakope Herbal Indonesia*. Edisi I. Jakarta: Departemen Kesehatan RI.
- Ee, G. C. L., Daud, S., Taufiq-Yap, Y. H., Ismail, N. H. & Rahmani, M. (2006). Xanthones from *Garcinia mangostana* (Guttiferae). *Natural Product Research*, 20(12), 1067-1073.
- Elya, B., Katrin, Mun'im, A., Hasiholan, A., Marlin, I. & Mailandari. (2012). Antioxidant activities of leaves extracts of three species of *Garcinia*. *International Journal of Medicinal Aromatic Plants*, 2 (4), 691-693.
- Ermer, J. & Miller, J. H. (2005). *Method Validation in Pharmaceutical Analysis*. Weinheim : John WCH Verlag GmbH & Co. KgaA.
- Gandjar, I. G. & Rohman, A. (2007). *Kimia Farmasi Analisis*. Yogyakarta: Pustaka Pelajar.
- Ghazali, S.A.I.S.M, Lian, G.E.C & Ghani, K.D.A. (2010). Chemical constituent from roots of *Garcinia mangostana* Linn. *Journal of Chemistry*, 2, 134-142.
- Goldberg, G. (2003). *Plants: Diet and Health*. USA: Iowa State Press, Blackwell Publishing Company.

- Gordon, M. H. (1990). The mechanism of antioxidants actions in vitro. In Hudson, B. J. F. (Ed.). *Food Antioxidant*. London: Elsevier Applied Science.
- Green, R. J. (2004). Antioxidant Activity of Peanut Plant Tissue. Thesis. North Caroline State University: Department of Food Science, Raleigh
- Gurav, S., Deshkar, N., Gulkari, V., Duragkar, N. & Patil., S. (2007). Free Radical Scavenging Activity of *Polygala Chinesis Linn.* *Pharmacologyline*, 2, 245-253.
- Halliwell, B. & Gutteridge, J. M. (1985). The importance of free radicals and catalytic metal ions in human diseases. *Molecular Aspects Medicines*, 8 (2), 89–193.
- Han, A. R., Kim, J. A, Lantvit, D. D., Kardono, L. B., Riswan, S. & Chai, H., et al. (2009). Cytotoxic xanthone constituents of stem bark of *Garcinia mangostana* (mangosteen). *Journal Natural Product*, 72 (11), 2028-2031.
- Halvorsen, B. L., Holte, K., Myhrstad, M. C. W., Barikmo, I., Hvattum, E. et al. (2002). A systematic screening of total antioxidants in dietary plants. *Journal of Nutrions*, 132, 461–471.
- Harmita. (2004). Petunjuk pelaksanaan validasi dan perhitungannya. *Majalah Ilmu Kefarmasian*, 1 (3), 117-135.
- Harris, D.C. (2007). *Quantitative Chemical Analysis*. 7th ed. New York: W. H. Freeman and Company.
- Harborne, J. B. (1987). *Metode Fitokimia*. Bandung: Penerbit ITB.
- Hassan, W. N. A. W., Zulkifli, R. M., Ahmad, F. & Yunus, M. A. C. (2015) Antioxidant and tyrosinase activities of α -mangostin and *Garcina mangostana* Linn. pericarp extracts. *Journal of Applied Pharmaceutical*, 5 (9), 37-40.
- Huang, D., Ou, B. & Prior, R. L. (2005). The chemistry behind antioxidant capacity assays. *Journal Agricultural and Food Chemistry*, 53, 1841-1856.
- Huber, L. (2007). *Validation of Analytical Methods*. New York: Informa Healthcare.
- Jeffery, G. H., Bassett, J., Mendham, J. & Denney, R. C. (1989). *Vogel's Textbook of Quantitative Chemical Analysis* (5th ed.). New York: John Wiley Sons Inc.

- Jung, H. A., Su, B. N., Keller, W. J., Mehta, R. G. & Kinghorn, A. D. (2006). Antioxidant xanthones from the pericarp of *Garcinia mangostana* (mangosteen). *Journal of Agricultural and Food Chemistry*, 54 (6), 2077-2082.
- Kementerian Kesehatan RI. (2014). *Farmakope Indonesia*. Edisi V. Jakarta: Kementerian Kesehatan RI.
- Kikuzaki, H., Hisamoto, M., Hirose, K., Akiyama, K. & Taniguchi, H. (2002). Antioxidant properties of ferulic acid and its related compounds. *Journal of Agricultural and Food Chemistry*, 50, 2161-2168.
- Lee, K. W., Kim, Y. J., Lee, H. J. & Lee, C. Y. (2003). Cocoa has more phenolic phytochemicals and a higher antioxidant capacity than teas and red wine. *Journal of Agricultural and Food Chemistry*, 51, 7292-7295.
- Magadula, J. J. & Mbwambo, Z. H. (2014). *Garcinia Plant Species of Africa Origin: Ethnobotanical, Pharmacological and Phytochemical Studies*. New York: Open Science Publishers.
- Mahabusarakam, W., Iriyachitra, P. & Taylor, W. C. (1987). Chemical constituents of *Garcinia mangostana*. *Journal of Natural Products*, 50, 474-478.
- Marinova, G. & Batchvarov, V. (2011). Evaluation of the methods for determination of the free radical scavenging activity by DPPH. *Bulgarian Journal of Agricultural Science*, 17 (1), 11-24.
- Mukminah, A. (2014). Analisis α -Mangostin pada Jamu dan Herbal Terstandar Kulit Buah Manggis dengan Metode Kromatografi Lapis Tipis Densitometri. *Skripsi*. Padang: Fakultas Farmasi Universitas Andalas.
- Nilar & Harrison, L. J. (2002). Xanthones from the heartwood of *Garcinia mangostana*. *Phytochemistry*, 60, 541-548.
- Nualkaew, N., Morita., H., Shimokawa, Y., Kinjo, K., Kushiro, T., De-Eknamkul, W. et al.(2012). Benzophenone synthase from *garcinia mangostana*L., pericarps. *Phytochemistry*, 77, 60-69.
- Obolskiy, D., Pischel, I., Siriwananmetanon, N. & Heinrich, M. (2009). *Garcinia mangostana* L.: a phytochemical and pharmacological review. *Phytotherapy Research*, 23, 1047-1065.
- Pedraza-Chaverri, J., Cardenas-Rodringuez, N., Orozco-Ibarra, M. & Perez-Rojas, J. M. (2008). Medicinal properties of mangosteen (*Garcinia mangostana* L.). *Food and Chemical Toxicology*, 46, 3227-3239.

- Peres, V., Nagem, T. J. & Oliveira, F. F. (2000). Tetraoxxygenated naturally occurring xanthones. *Phytochemistry*, 55, 683-710.
- Pham-Huy, L. A., He, H. & Pham-Huy, C. (2008). Free Radicals, Antioxidants in Disease and Health. *International Journal of Biomedical Science*, 4 (2), 89- 96.
- Pourmurad, F., Hosseiniemehr, S.H. & Shahabimajd, N. (2006). Antioxidant activity, phenol and flavonoid contents of some selected Iranian medicinal plants. *African Journal of Biotechnology*, 5 (11), 1142-1145.
- Prakash, A. (2001). Antioxidant activity. *Medallion Laboratories Analytical Progress*, 19 (2).
- Priyambodo, B. (2007). *Manajemen Farmasi Industri*. Yogyakarta: Global Pustaka Utama.
- Proteggente, A. R., Saija, A., De Pasquale, A. & Rice-Evans, C. A. (2003). The compositional characterisation and antioxidant activity of fresh juices from sicilian sweet orange (*Citrus sinensis* L. Osbeck) varietas. *Free Radical Research*, 37, 681–687.
- Pothitirat, W. & Gritsanapan, W. (2009). HPLC quantitative analysis methode for determination α -mangostin in mangosteen fruit rind extract. *Thai Journal of Agricultural Science*, 42 (1), 7-12.
- Re, R., Pellegrini, N., Proteggente, A., Panal, A., Yang, M. & Rice-Evans, C. (1999). Antioxidant activity applying an improved ABTS radical cation decolorization assay. *Free Radical of Biologi Medicine*, 26, 1231-1237.
- Rebeta, M. S. & Nur-Faraniza, R. (2013). Total phenolic content and ferric reducing antioxidant of the leaves and fruits of *Garcinia atroviridis* and *Cynometra cauliflora*. *International Food Research Journal*, 20 (4), 1691-1696.
- Rohman, A. (2009). *Kromatografi untuk Analisis Obat*. Edisi Pertama. Yogyakarta: Graha Ilmu.
- Ryu, H. W., Curtis-Long, M. J., Jung, S., Jin, Y. M., Cho, J. K., Ryu, Y. B., Lee, W. S. & Park, K. H. (2010). Xanthones with neuraminidase inhibitory activity from the seedcases of *Garcinia mangostana*. *Bioorganic & Medicinal Chemistry*, 18, 6258–6264.
- Sarker, D., Latif, Z., Gray, I. & Alexander. Ed. (2006). *Natural Product Isolation*. New Jersey: Humana Press.

- See, I., Ee, G. C. L., Teh, S. S., Kadir, A. A. & Daud, S. (2014). Two new chemical constituents from the stem bark of *Garcinia mangostana*. *Molecules*, 19, 7308-7316.
- Shivaprasad, H. N., Mohan, S., Kharya, M. D., Shiradkar, M. R. & Laksman, K. (2005). In-vitro models for antioxidant activity evaluation: A review. *Pharmainfo*,
- Suksamrarn, S., Suwannapoch, N., Ratanukul, P., Aroonlerk, N. & Suksamrarn, A. (2002). Xanthones from the green fruit hulls of *Garcinia mangostana*. *Journal of Natural Products*, 65, 761-763.
- Susanti, M., Lena, D. I. & Dachriyanus. (2014). Development and validation of a HPLC method for determination and quantification of rubraxanthone in stem bark extract of mangosteen. *Indonesian Journal of Pharmacy*, 25 (4), 237-244.
- Thaipong, K., Boonprakob, U., Crosby, K., Cisneros-Zevallos, L. & Byrne, D.H. (2006). Comparison of ABTS, DPPH, FRAP and ORAC assays for estimating antioxidant activity from guava fruit extracts. *Journal of Food Compositions and Analysis*, 19, 669-675.
- Vitchipan, S., Vitchipan, K. & Sirikkhansaeng, P. (2007). Flavonoid content and antioxidant activity of krachai-dum (*Kaempferia parviflora*) wine. *King Mongkut's Institute of Technology Ladkrabang Science and Technology Journal*, 7 (S2), 97-105.
- Wang, J. J., Sanderson, B. J. & Zhang, W. (2012). Significant anti-invasive activities of alpha-mangostin from the mangosteen pericarp on two human skin cancer cell lines. *Anticancer Research*, 32, 3805-3816.
- Waterhouse, A. L. (2002). Determination of Total Phenolic. In R. E. Wrolstad (Ed.). *Current Protocols in Food Analytical Chemistry*. Supplement 6. New York: John Wiley & Sons, Inc.
- Watson, D. G. (2009). *Analisis Farmasi : Buku Ajar untuk Mahasiswa Farmasi dan Praktisi Kimia Farmasi* Edisi 2. Diterjemahkan oleh Winny R. Syarif. Jakarta : EGC
- Yoshikawa, M., Harada, E., Miki, A., Tsukamoto, K., Liang, S. Q., Yamahara, J. & Murakami, N. (1994). Antioxidant constituents from the fruit hulls of mangosteen (*Garcinia mangostana* L.) originating in Vietnam. *Yakugaku Zasshi*, 114, 129–133
- Yoshimura, M., Ninomiya, N., Maejima, K., Yoshida, T. & Amakura, Y. (2015). Polyphenolic constituents of the pericarp of mangosteen (*Garcinia*

- mangostana* L.). *Journal of Agricultural and Food Chemistry*, 63 (35), 7670–7674.
- Yu, L., Zhao, M., Yang, B., Zhao, Q. & Jiang, Y. (2007). Phenolics from hull of *Garcinia mangostana* fruit and their antioxidant activities. *Food Chemistry*, 104, 176–181.
- Yuangsoi, B., Jintasataporn, O., Areechon, N. & Tabthipwon, P. (2008). Validated TLC-densitometric analysis for determination of carotenoids in fancy carp (*Cyprinus carpio*) serum and the application for pharmacokinetic parameter assessment. *Songklanakarin Journal of Science and Technology*, 30 (6), 693-700.
- Zarena, A. S. & Sankar, U., K. (2009). Supercritical carbon dioxide extraction of xanthones with antioxidant activity from *Garcinia mangostana*: characterization by HPLC/LC-ESI-MS. *Journal Supercritical Fluids*, 49, 330–337.
- Zhang ,Y., Song, Z., Hao, J., Qiu, S. & Xu, Z. (2010). Two new prenylated xanthones and a new prenylated tetrahydroxanthone from the pericarp of *Garcinia mangostana*. *Fitoterapia*, 81, 595–599.
- Zulharmita, Prajuwita, M & Boestari, A. (2010). Penentapan kadar fenolat total dan uji aktivitas antioksidan ekstrak kulit segar maggis (*Garcinia mangostana* Linn.). *Jurnal Sains dan Teknologi Farmasi*, 15 (1), 42-51.