

## DAFTAR PUSTAKA

- Basito. (2011). Efektivitas Penambahan Etanol 95% Dengan Variasi Asam Dalam Proses Ekstraksi Pigmen Antosianin Kulit Manggis (*Garcinia mangostana L.*). *Jurnal Teknologi Hasil Pertanian*, IV(2), 84–93.
- Belinda, P. (2011). Studi Reaksi Esterifikasi Antara Asam Galat Dan Gliserol Dengan Menggunakan Gelombang Mikro.
- Castañeda-Ovando, A., Pacheco-Hernández, M. de L., Páez-Hernández, M. E., Rodríguez, J. A., & Galán-Vidal, C. A. (2009). Chemical studies of anthocyanins: A review. *Food Chemistry*, 113(4), 859–871.  
<https://doi.org/10.1016/j.foodchem.2008.09.001>
- Dachriyanus, P. D. (2004). *Analisis Struktur Senyawa Organik Secara Spektroskopi*. LPTIK.
- Dangles, O., Brouillard, R., & Saito, N. (1993). Kinetic and Thermodynamic Control of Flavylium Hydration in the Pelargonidin-Cinnamic Acid Complexation. Origin of the Extraordinary Flower Color Diversity of Pharbitis nil. *Journal of the American Chemical Society*, 115(8), 3125–3132.  
<https://doi.org/10.1021/ja00061a011>
- Delgado-Vargas, F., Jiménez, A. R., Paredes-López, O., & Francis, F. J. (2000). Natural pigments: Carotenoids, anthocyanins, and betalains - Characteristics, biosynthesis, processing, and stability. In *Critical Reviews in Food Science and Nutrition* (Vol. 40, Issue 3).  
<https://doi.org/10.1080/10408690091189257>
- Dhanang Puspita, Yosephine Diana Tjahyono, Yunius Samalukang, Binard Anthon Im Toy, N. W. T. (2018). Produksi Antosianin Dari Daun Miana (*Plectranthus scutellarioides*) Sebagai Pewarna Alami. *Pro Food (Jurnal Ilmu Dan Teknologi Pangan)*, 4(1), 298–303.  
<https://doi.org/10.29303/profood.v4i1.78>
- Du, H., Wu, J., Ji, K. X., Zeng, Q. Y., Bhuiya, M. W., Su, S., Shu, Q. Y., Ren, H. X., Liu, Z. A., & Wang, L. S. (2015). Methylation mediated by an anthocyanin, O-methyltransferase, is involved in purple flower coloration in *Paeonia*. *Journal of Experimental Botany*, 66(21), 6563–6577.  
<https://doi.org/10.1093/jxb/erv365>
- Farida, R., & Choirun Nisa, F. (2015). Ekstraksi Antosianin Limbah Kulit Manggis Metode Microwave Assisted Extraction (Lama Ekstraksi dan Rasio Bahan : Pelarut). *Jurnal Pangan Dan Agroindustri*, 3(2), 362–373.  
<https://doi.org/10.1111/j.1540-6261.2008.01330.x>

- Fischer, U. A., Carle, R., & Kammerer, D. R. (2013). Thermal stability of anthocyanins and colourless phenolics in pomegranate (*Punica granatum* L.) juices and model solutions. *Food Chemistry*, 138(2–3), 1800–1809. <https://doi.org/10.1016/j.foodchem.2012.10.072>
- Galland, S., Mora, N., Abert-Vian, M., Rakotomanomana, N., & Dangles, O. (2007). Chemical synthesis of hydroxycinnamic acid glucosides and evaluation of their ability to stabilize natural colors via anthocyanin copigmentation. In *Journal of Agricultural and Food Chemistry* (Vol. 55, Issue 18). <https://doi.org/10.1021/jf071205v>
- Gauche, C., Malagoli, E. da S., & Bordignon Luiz, M. T. (2010). Effect of pH on the copigmentation of anthocyanins from Cabernet Sauvignon grape extracts with organic acids. *Scientia Agricola*, 67(1), 41–46. <https://doi.org/10.1590/s0103-90162010000100006>
- Hanani, E. (2015). *Analisis Fitokimia*. EGC. Jakarta.
- Hambali, M., Mayasari, F., & Noermansyah, F. (2015). Ekstraksi Antosianin Dari Ubi Jalar Dengan Variasi Konsentrasi Solven, Dan Lama Waktu Ekstraksi. *Jurnal Teknik Kimia*, 20(2), 25–35.
- Ingrath, W., Nugroho, W. A., & Yulianingsih, R. (2015). Ekstraksi Pigmen Antosianin Dari Kulit Buah Naga Merah ( *Hylocereus Costaricensis* ) Sebagai Pewarna Alami Makanan Dengan Menggunakan Microwave ( Kajian Waktu Pemanasan Dengan Microwave Dan Penambahan Rasio Pelarut Aquades Dan Asam Sitrat ) Extraction Of A. *Jurnal Bioproses Komoditas Tropis*, 3(3), 1–8.
- Kenneth R. Markham. (2006). *Chemistry, Biochemistry and Applications*. Industrial Research Ltd.
- Kopjar, M., & Piližota, V. (2009). Copigmentation effect of phenolic compounds on red currant juice anthocyanins during storage. *Croatian Journal of Food Science and Technology*, 1(2), 16–20.
- Lestario, L. N., & Andini, S. (2016). Kopigmentasi Kuersetin Apel (*Pyrus malus*) terhadap Stabilitas Warna Ekstrak Buah Duwet (*Syzygium cumini*). *Prosiding Konser Karya Ilmiah*, 2, 37–42.
- Mastuti, E., Fristianingrum, G., & Andika, Y. (2013). Ekstraksi Dan Uji Kestabilan Warna Pigmen Antosianin Dari Bunga Telang (*Clitoria Ternatea* L.) Sebagai Bahan Pewarna Makanan. *Symposium Nasional RAPI XII*, 44–51.

- Moulana, R., Rohaya, S., Teknologi, J., Pertanian, H., Pertanian, F., & Kuala, U. S. (2012). Efektivitas Penggunaan Jenis Pelarut dan Asam dalam Proses Ekstraksi Pigmen Antosianin Kelopak Bunga Rosella (*Hibiscus sabdariffa L.*). *Jurnal Teknologi Dan Industri Pertanian Indonesia*, 4(3), 20–25. <https://doi.org/10.17969/jtipi.v4i3.739>
- Munawaroh, H., Fadillah, G., Saputri, L. N. M. Z., Hanif, Q. A., Hidayat, R., & Wahyuningsih, S. (2015). Kopigmentasi dan Uji Stabilitas Warna Antosianin dari Isolasi Kulit Manggis (*Garcinia mangostana L.*). *Seminar Nasional Matematika, Sains, Dan Informatika 2015, April*, 321–329.
- Nusantara, Y. P., Lestario, L. N., & Martono, Y. (2018). Pengaruh Penambahan Asam Galat Sebagai Kopigmen Antosianin Murbei Hitam (*Morus nigra L.*) terhadap Stabilitas Termal. *Agritech*, 37(4), 428. <https://doi.org/10.22146/agritech.22963>
- Pedro, A. C., Granato, D., & Rosso, N. D. (2016). Extraction of anthocyanins and polyphenols from black rice (*Oryza sativa L.*) by modeling and assessing their reversibility. *Food Chemistry*, 191, 12–20. <https://doi.org/10.1016/j.foodchem.2015.02.045>
- Priska, M., Peni, N., Carvallo, L., & Ngapa, Y. D. (2018). Antosianin dan Pemanfaatannya. *Cakra Kimia Indonesia*, 6(2), 79–97.
- Qian, B. J., Liu, J. H., Zhao, S. J., Cai, J. X., & Jing, P. (2017). The effects of gallic/ferulic/caffeic acids on colour intensification and anthocyanin stability. *Food Chemistry*, 228, 526–532. <https://doi.org/10.1016/j.foodchem.2017.01.120>
- Rein, M. J. (2005). Copigmentation reactions and color stability of berry anthocyanins. In *Dissertation Uni Helsinki*. <https://doi.org/10.1021/jf071205v>
- Santoni, A., Darwis, D., & Syahri, S. (2013). Isolasi Antosianin dari Buah Pucuk Merah (*syzygium campanulatum korth.*) Serta Pengujian Antioksidan dan Aplikasi sebagai Pewarna Alami. *Prosiding Semirata FMIPA Universitas Lampung*, 1(1), 1–10. <http://jurnal.fmipa.unila.ac.id/semirata/article/view/710/530>
- Santoso, W. E. A., & Estiasih, T. (2014). Kopigmentasi Ubi Jalar Ungu dengan Kopigmen Na-Kasienat dan Protein Whey serta Stabilitasnya Terhadap Pemanasan. *Jurnal Pangan Dan Agroindustri*, 2(4), 121–127.
- Saptarini, N. M., & Herawati, I. E. (2018). Extraction methods and varieties affect total anthocyanins content in acidified extract of papery skin of onion(*Allium cepa L.*). *Drug Invention Today*, 10(4), 471–474.

- Siregar, A., H. (2016). Pembuatan Zat Warna Alam Dari Tumbuhan Berasal Dari Daun. *Bina Teknika*, 12(1), 103–110.
- Sohi, K. K., Mittal, N., Hundal, M. K., & Khanduja, K. L. (2003). *Normal Lymphocytes: Exhibits A Bcl-2 Antiapoptotic Independent Potential Mechanism in Human*, Postgraduate Institute of Medical Education and Research , Chandigarh , 2Department of Pharmaceutical Sciences , Texas Technological University and Health Scien. 221–227.
- Suhartati, T. (2017). *Dasar- Dasar Spektrofotometri UV-Vis dan Spektrofotometri Massa Untuk Penentuan Struktur Senyawa Organik*. CV. Anugrah Utama Raharja.
- Sun, J., Cao, X., Bai, weibin, Liao, X., & Hu, X. (2010). Comparative analyses of copigmentation of cyanidin 3-glucoside and cyanidin 3-sophoroside from red raspberry fruits. *Food Chemistry*, 120(4), 1131–1137.  
<https://doi.org/10.1016/j.foodchem.2009.11.031>
- Talavéra, S., Felgines, C., Texier, O., Besson, C., Mazur, A., Lamaison, J. L., & Rémesy, C. (2006). Bioavailability of a bilberry anthocyanin extract and its impact on plasma antioxidant capacity in rats. *Journal of the Science of Food and Agriculture*, 86(1), 90–97. <https://doi.org/10.1002/jsfa.2327>
- Tensiska, Betty Dewi Sofiah, K. A. P. W. (2007). Aplikasi Ekstrak Pigmen Dari Buah Arben (*Rubus idaeus (Linn.)*) Pada Minuman Ringan Dan Kestabilannya Selama Penyimpanan. 978–979.
- Tierno, R., & Ruiz de Galarreta, J. I. (2016). Influence of Selected Factors on Anthocyanin Stability in Colored Potato Extracts. *Journal of Food Processing and Preservation*, 40(5), 1020–1026.  
<https://doi.org/10.1111/jfpp.12682>
- Trouillas, P., Sancho-García, J. C., De Freitas, V., Gierschner, J., Otyepka, M., & Dangles, O. (2016). Stabilizing and Modulating Color by Copigmentation: Insights from Theory and Experiment. *Chemical Reviews*, 116(9), 4937–4982. <https://doi.org/10.1021/acs.chemrev.5b00507>
- Wahyuni, H., Hanum, T., & Murhadi. (2017). Pengaruh Kopigmentasi Terhadap Stabilitas Warna Antosianin Ekstrak Kulit Terung Belanda (*Cyphomandra betacea* Sendtn) [Copigmentation Effect on Color Stability of Anthocyanin from Epicarp Extract of Terung Belanda (*Cyphomandra betacea* Sendtn)]. *Jur Teknologi & Industri Hasil Pertanian*, 22(1), 40–51.  
<https://doi.org/10.23960/jtihp.v22i1.%p>
- Wrolstad, R. E., Durst, R. W., & Lee, J. (2005). Tracking color and pigment changes in anthocyanin products. *Trends in Food Science and Technology*, 16(9), 423–428. <https://doi.org/10.1016/j.tifs.2005.03.019>

Yudiono, K. (2011). Ekstraksi Antosianin Dari Ubijalar Ungu (*Ipomoea Batatas* Cv. Ayamurasaki) Dengan Teknik Ekstraksi Subcriticalwater. *Jurnal Teknologi Pangan*, 2(1).

Zussiva, A., Bertha, K. L., & Budiyati, C. S. (2012). Ekstraksi dan Analisis Zat Warna Biru (Anthosianin Anthosianin) dari Bunga Telang (*Clitoria Ternatea*) Sebagai Pewarna Alami. *Jurnal Teknologi Kimia Dan Industri*, 1(1), 356–365.