

DAFTAR PUSTAKA

- Arajou, P., 2009, Key aspects of analytical method validation and linearity evaluation. *J.Chromatography B*, 877, 2224-2234.
- Amargianitaki, M. and Spyros, A., 2017, NMR-based metabolomics in wine quality control and authentication. *Chem. Biol. Technol. Agric.*, 4, 1–12.
- Badan Pengawas Obat dan Makanan Republik Indonesia., 2004, Kepala Badan Pengawas Obat dan Makanan Republik Indonesia No. HK.00.05.41.1384 tentang Kriteria dan Tata Laksana Pendaftaran Obat Tradisional, Jamu Terstandar dan Fitofarmaka, BPOM, Indonesia.
- Badan Pengawas Obat dan Makanan Republik Indonesia., 2009, Public warning: Obat Tradisional Mengandung Bahan Kimia Obat, Jakarta.
- Badan Pengawas Obat dan Makanan Republik Indonesia., 2011, Bahaya obat bahan alam dan jamu mengandung bahan kimia obat, Jakarta.
- Badan Pengawas Obat dan Makanan Republik Indonesia., 2014, Bahaya bahan obat (BKO) yang dibubuhkan kedalam obat tradisional (jamu), Jakarta.
- Bharti, S.K. and Roy, R., 2012, Quantitative $^1\text{H-NMR}$ spectroscopy. *TrAC - Trends Anal. Chem.*, 35, 5–26.
- Brereton, R.G., 2003, *Chemometrics: data analysis for the laboratory and chemical plant*. Wiley, Hoboken.
- Chen, Q., Zielinski, D., Chen, J., Koski, A., Werst, D., and Nowak, S., 2008, A validated, stability-indicating HPLC method for the determination of dexamethasone related substances on dexamethasone-coated drug-eluting stents. *J. Pharm. and Biomed. Anal.*, 48, 732–738.
- Choi, Y.H., Kim, H.K., Linthorst, H.J.M., Hollander, J.G., Lefeber, A.W.M., Erkelens, C., dkk., 2006, NMR Metabolomics to Revisit the Tobacco Mosaic Virus Infection in *Nicotiana t abacum* Leaves. *J. Nat. Prod.*, 69, 742–748.
- Cox, D.G., Oh, J., Keasling, A., Colson, K.L., and Hamann, M.T., 2014, The utility of metabolomics in natural product and biomarker characterization. *Biochim. Biophys. Acta - Gen. Subj.*, 1840, 3460–3474.
- Daviss, B., 2005, Growing pains for metabolomics. *Scientist.*, 19, 25-28.

- Depkes RI, 2013., Permenkes No.33, tahun 2013 tentang rencana induk pengembangan bahan baku obat tradisional, Depkes RI, Jakarta.
- Del Coco, L., De Pascali, S.A., dan Fanizzi, F.P., 2014, $^1\text{H-NMR}$ metabolic profiling of apulian EVOOs: fine pedoclimatic influences in Salento cultivars, *Foods.*, 3, 238-249.
- Dewoto, H.R., 2007, Pengembangan obat tradisional Indonesia menjadi fitofarmaka. *Majalah Kedokteran Indonesia.*, 57(7), 205-211.
- Dixon, R.A., Gang, D.R., Charlton, A.J., Fiehn, O., Kuiper, H.A., Reynolds, T.L., et al., 2006, Applications of metabolomics in agriculture. *J. Agric. Food Chem.*, 54, 8984–8994.
- Elfahmi, Woerdenbag, H.J., and Kayser, O., 2014, Jamu: Indonesian traditional herbal medicine towards rational phytopharmacological use. *J. Herb. Med.*, 4, 51–73.
- Eurolabs, T.R., 2014, EUROLAB Technical report No.01/2014 may 2014, *Erolabs.*, 1-20.
- Gandjar dan Rohman., 2011, *Kimia farmasi analisis*, Pustaka pelajar, Yogyakarta.
- Ganzer, M., 2009, Plant analysis: state of the art and future developments. *Planta Med.*, 75, 671-682.
- Gemperline, P., 2006, *Practical guide to chemometrics*. CRC/Taylor & Francis: Boca Raton.
- González, A.G. and Herrador, M.A., 2007, A practical guide to analytical method validation, including measurement uncertainty and accuracy profiles. *TrAC Trends Anal. Chem.*, 26, 227–238.
- Gogna, N., Hamid, N., Dorai, K., 2015, Metabolomic profiling of the phytomedicinal constituents of *Carica papaya* L. leaves and seeds by $^1\text{H-Nmr}$ spectroscopy and multivariate statistical analysis. *J. Pharm. Biomed. Anal.*, 115, 74-85.
- Harmita., 2014, Petunjuk pelaksanaan validasi dan cara perhitungannya. *Majalah ilmu kefarmasian.*, Vol.1, No.3, 117-135, ISSN: 1693-9883.
- Harris, D.C., 2010, *Quantitative chemical analysis*, W.H Freeman and company: United state of America.

- Halouska, S., Zhang, B., Gaupp, R., Lei, S., Snell, E., Fenton, R.J., et al., 2013, Revisiting Protocols for the NMR Analysis of Bacterial Metabolomes. *J. Integr. OMICS.*, 3, 120–137.
- Henkel, T., R. M. Brunne, H. Muller, F. Reichel., 1999, Statistical investigation into the structural and complementarity of natural products and synthetic compounds. *Angew. Chem. Int. Ed.*, 38, 643.
- Heyman, H.M. and Meyer, J.J.M., 2012, NMR-based metabolomics as a quality control tool for herbal products. *South African J. Bot.*, 82, 21–32.
- ICH., 2005, Validation of analytical procedures: text and methodology Q2(R1), Int conf harmon tech requir regist pharm for human use.
- Jayanti, R., Aprilia, H., and Lukmayani, Y., 2015, Analisis kualitatif bahan kimia obat (BKO) glibenklamid dalam sediaan jamu diabetes yang beredar di pasaran. 649–653.
- Jeannerat, D. and Furrer, J., 2011, NMR Experiments for the Analysis of Mixtures : Beyond 1D ^1H Spectra
- Jedziniak, P. and Szprengier-juszkiewicz, T., 2005, Determination of phenylbutazone and oxyphenbutazone in bovine plasma using high performance liquid chromatography with uv detection. 223–226.
- Kang, J., Choi, M.Y., Kang, S., Hyuk, N.K., Wen, H., Chang, H.L., et al., 2008, Application of a ^1H Nuclear magnetic resonance (NMR) metabolomics approach combined with orthogonal projections to latent structure-discriminant analysis as an efficient tool for discriminating between Korean and Chinese herbal medicines. *J. Agric. Food Chem.*, 56, 11589–11595.
- Katzung, B.G., Masters, S.B., Trevor, A.J., 2012, *Basic and clinical pharmacology*. the McGraw-Hill companies, Inc., 74, 1-1245.
- Kim, H.K., Choi, Y.H., and Verpoorte, R., 2010, NMR-based metabolomic analysis of plants. *Nat. Protoc.*, 5, 536–549.
- Krastanov, A., 2010, Metabolomics – the state of art. *Biotechnol & Biotechnol.*, 1532-1543.
- Lau, A.J., Koh, H.L., 2006, Quality control of herbs: principles and procedures, using panax as an example in current review of chinese medicine – quality control of herbs and herbal material. *World Scientific Publishing Co. Pte. Ltd.*, Singapore., 87-115.

- Liang, A., Wang, S., and Qu, Y., 2017, Determination and Correlation of Solubility of Phenylbutazone in Monosolvents and Binary Solvent Mixtures.
- Liu, N.Q., Cao, M., Fr  d  rich, M., Choi, Y.H., Verpoorte, R., and van der Kooy, F., 2010, Metabolomic investigation of the ethnopharmacological use of *Artemisia afra* with NMR spectroscopy and multivariate data analysis. *J. Ethnopharmacol.* , 128, 230–235.
- Menkes RI, 2013b., Peraturan Menteri Republik Indonesia No. 88 tahun 2013 tentang rencana induk pengembangan bahan baku obat tradisional. Indonesia.
- Miller, J.N., Miller, J.C., 2010, *Statistics and chemometrics for analytical chemistry*. 6th ed, Pretince hall, Harlow.
- Nurhasnawati, H., Azmi, D.A., and Samarinda, A.F., 2014, Identifikasi kandungan bahan kimia obat parasetamol pada jamu asam urat yang beredar di kecamatan sungai kunjang Samarinda. *Seminar nasional kimia*, ISBN: 978-602-19421-0-9
- Pauli, G.F., Jaki, B.U., and Lankin, D.C., 2005, Quantitative ¹H NMR: Development and potential of a method for natural products analysis. *J. Nat. Prod.*, 68, 133–149.
- Presiden RI., 2009, Undang-undang Republik Indonesia Nomor 36 tahun 2009 tetang kesehatan, Indonesia.
- Peraturan Menteri Kesehatan Republik Indonesia Nomor 006 Pasal 37a tahun 2012 tentang industri dan usaha obat tradisional, Indonesia
- Saefudin, A., 2002, Senyawa alam metabolit sekunder: teori konsep dan teknik pemurnian, Deepublish, Yogyakarta.
- Shi, T., Zhu, M.T., Chen, Y., Yan, X.L., Chen, Q., Wu, X.L., et al., 2018, ¹H-NMR combined with chemometrics for the rapid detection of adulteration in camellia oils. *Food Chem.*, 242, 308–315.
- Siddiqui, A.J., Musharraf, S.G., Choudhary, M.I., and Rahman, A., 2017, Application of analytical methods in authentication and adulteration of honey. *Food Chem.*, 217, 687–698.
- Simmler, C., Napolitano, J.G., McAlpine, J.B., Chen, S.N., and Pauli, G.F., 2014, Universal quantitative NMR analysis of complex natural samples. *Curr. Opin. Biotechnol.*, 25, 51–59.

- Smajdor, J., Piech, R., and Paczosa-Bator, B., 2018, Highly sensitive voltammetric determination of dexamethasone on amalgam film electrode. *J. Electroanal. Chem.*, 809, 147–152.
- Sugiarti, L., Hutagaol, R.P., Achyadi, Tb., 2012, Analisis Senyawa Golongan Kortikosteroid Sintesis (Deksametason dan Prednison) dalam Jamu Secara Kromatografi Cair Kinerja Tinggi (KCKT). *Jurnal Sains Natural.*, 1-11.
- Van der Kooy, F., Verpoorte, R., and Marion Meyer, J.J., 2008, Metabolomic quality control of claimed anti-malarial *Artemisia afra* herbal remedy and *A. afra* and *A. annua* plant extracts. *South African J. Bot.*, 74, 186–189.
- Vardy, J., Chiew, K.S., Galica, J., Pond, G.R., and Tannock, I.F., 2006, Side effects associated with the use of dexamethasone for prophylaxis of delayed emesis after moderately emetogenic chemotherapy. 1011–1015.
- Verpoorte, R., Choi, Y.H., and Kim, H.K., 2007, NMR-based metabolomics at work in phytochemistry. *Phytochem. Rev.*, 6, 3–14.
- Villas-Bôas, S.G., Roessner, U., Hansen, M.A.E., Smedsgaard, J., and Nielsen, J., 2007, Sampling and sample preparation. *Metabolome Anal.*, 39–83.
- Vincenti, M., Girolami, F., Capra, P., Pazzi, M., Carletti, M., Gardini, G., and Nebbia, C., 2009, Study of dexamethasone urinary excretion profile in cattle by LC-MS/MS: Comparison between therapeutic and growth-promoting administration. *J. Agric. Food Chem.*, 57, 1299–1306.
- Wu, Y., Q. Zhao, X.-y. Zhang, Y. Ma., 2008, Advances in characterization of traditional medicine by DNA fingerprinting technology. *Zhongshouyi Yiyao Zazhi.*, 27(1): 24-26.
- Widyawati, E., Rusdi, B., Maulana, I.T., 2015, Identifikasi kandungan kortikosteroid (deksametason, fenilbutazon, dan prednison) dalam kandungan jamu pegal linu yang beredar di kota Bandung. *Prosiding penelitian SPeSIA Unisba.*, ISSN: 2460-6472.
- World Health Organization., 2000, General guidelines for methodologies on research and evaluation traditional herbal medicine. Geneva Swiss, WHO.
- World Health Organization., 2002, Reducing risks, promoting healthy life. world health report press kit.
- World Health Organization., 2005, Development of traditional medicine in the South-East Asia region, Pyongyang Korea.

- World Health Organization., 2010, WHO monographs on medical plants commonly used in the Newly Independent States (NIS. Geneva. Switzerland.
- World Health Organization., 2013, WHO tradisional medicine strategy 2014-2013, Hongkong China, WHO.
- Worley, B. and Powers, R., 2015, Analysis of bacterial biofilms using NMR-based metabolomics. *HHS Public Access.*, 1, 92–107.
- Xie, P. S., A. Y. Leung., 2009, Understanding the traditional aspect of chinese medicine in order to achieve meaningful quality control of chinese materia medica *J. Chromatogr.A.*, 1216 (11): 1933-1940.
- Xue, T.H., Roy, 2003, Studying traditional chinese medecine. *Science.*, 300(5620) : 740-741.
- Yulianto, W., Andarwulan, N., Edi, P., and Pamungkas, J., 2016, HPLC-based metabolomics to identify cytotoxic compounds from *Plectranthus amboinicus* (Lour .) Spreng against human breast cancer. *J. Chromatogr. B* , 1039, 28–34.
- Zeng, Z. D., Foo-tim Chau, Hoi-yan Chan, Chui-yee Cheung, Tsui-yan Lau, Wei S. Y., Daniel Kam-wah Mok, Chi-on Chan, Liang Y. Z., 2008, Recent advances in the compound-oriented and pattern-oriented approaches to the quality control of herbal medicines. *Chinese Medicine.*, 3-9.
- Zhang, B., dan Powers, R., 2012, Analysis of biofilm using NMR-based metabolomics. *Future Med Chem.*, 4(10),1273-1306.
- Zuhud EAM., Aziz, S, Ghulamahdi M andarwulan N, Darusman LK., 2001, Dukung Teknologi Pengemangan Obat Asli Indonesia dari Segi Budaya Pelestarian dan Pasca Panen dalam Workshop perkembangan agribisnis berdasarkan pada biofarmaka.