

## DAFTAR PUSTAKA

- Adabiardakani, A., Hakimi, M., dan Kargar, H. 2012. Cinnamaldehyde Schiff Base Derivatives: A Short Review. *World Applied Programming* 2 (11): 472-476.
- Adawiah, Sukandar, D., dan Muawanah, A. 2015. Aktivitas Antioksidan dan Kandungan Komponen Bioaktif Sari Buah Namnam. *Jurnal Penelitian dan Pengembangan Ilmu Kimia* 1 (2): 130-136.
- Adawiyah, R. 2017. Sintesis Senyawa Basa Schiff dari Vanilin dan p-Anisidin menggunakan Metode Penggerusan. Skripsi. Universitas Islam Negeri Maulana Malik Ibrahim, Malang.
- Al Hakimi, N. S. 2016. Sintesis Senyawa Imina dari Vanilin dan Anilina dengan Variasi Jumlah Katalis Air Jeruk Nipis. Skripsi. Universitas Islam Negeri Maulana Malik Ibrahim, Malang.
- Al-Jeboori, F. H. A., Al-Shimiesawi, T. A. M., Abd Oun, M. A., Abd-ul-Ridha, A., dan Abdulla, A. Y. 2014. Synthesis and Characterization of Amino Acid (Phenylalanine) Schiff Bases and Their Metal Complexes. *Journal of Chemical and Pharmaceutical Research* 6 (8): 44-53.
- Alomari, A. A. 2012. Synthesis, Characterization, and Antioxidant Activities of Ni (II), Cu (II), and Zn (II) Complexes of Substituted 4-phenyl-1,3,5-triazine-2,6-salicylaldimine. Skripsi. University of Malaya, Kuala Lumpur.
- Anthi, N. J., dan Clore, G. M. 2013. Sequence-specific Determination of Protein and Peptide Concentrations by Absorbance at 205 nm. *Protein Sci.* 22 (6): 851-858.
- Antony, A., Fasna, F., Ajil, P. A., dan Varkey, J. T. 2016. Amino Acid Based Schiff Bases and Its Zn (II) Complexes. *Research and Reviews: Journal of Chemistry* 5 (2): 37-44.
- Ardianingsih, R. 2009. Penggunaan *High Performace Liquid Chromatography* (HPLC) dalam Proses Analisa Deteksi Ion. *Berita Dirgantara* 1 (4): 101-104.
- Ardyanto, T. D. 2004. MSG dan Kesehatan: Sejarah, Efek, dan Kontroversinya. *INOVASI* 1 (16): 52-56.
- Arora, M., Saravanan, J., Shivaji, M., dan Bhattacharjee, S. 2013. Synthesis, Characterization, and Antimicrobial Activity of Some Schiff Bases of 2-amino-n-(p-acetamidophenyl carboxam). *International Journal Pharmacology Science* 5: 1-12.

- Arulpriya, P., Lalitha, P., dan Hemalatha, S. 2010. In Vitro Antioxidant Testing of the Extracts of Samaneasaman. *Der Chemica Sinica* 1: 73-79.
- Ashakirin, S. N., Tripathy, M., Patil, U. K., dan Majeed, A. B. A. 2017. Chemistry and Bioactivity of Cinnamaldehyde: A Natural Molecule of Medicinal Importance. *International Journal of Pharmaceutical Sciences and Research*: 2333-2340.
- Ashraf, M. A., Mahmood, K., dan Wajid, A. 2011. Synthesis, Characterization, and Biological Activity of Schiff Bases. *International Conference on Chemistry and Chemical Process* 10: 1-7.
- Asiri, A. M., dan Khan, S. A. 2010. Synthesis and Anti-bacterial Activities of Some Novel Schiff Bases Derived from Aminophenazone. *MOLECULES* 15: 6850-6858.
- Azzouz, A. S. P. dan Ali, R. T. 2010. Syntesis of Schiff Bases Derived From Benzaldehyde and Salicylaldehyde with Some Amino Acids by a New Develop Method. *National Journal of Chemistry* 37: 158-168.
- Bhagat, S., Sharma, N., dan Chundawat, T. S. 2013. Synthesis of Some Salicylaldehyde-Based Schiff Bases in Aqueous Media. *Hindawi Publishing Corporation Journal of Chemistry*: 1-4.
- Bhomia, R., Trivedi, V., Coleman, N. J., dan Mitchell, J. C. 2016. The Thermal and Storage Stability of Bovine Haemoglobin by Ultraviolet-Visible and Circular Dichroism Spectroscopies. *Journal of Pharmaceutical Analysis* 6 (4): 242-248.
- Brown, W. H. 2018. Benzaldehyde. Available from <https://www.britannica.com/science/benzaldehyde>. Accessed 2018 December 6.
- Chasanah, U. W., Widodo, D. S., dan Mulyani, N. S. 2015. Sintesis Elektrokimia Kompleks Cu(II)-Basa Schiff N-Benziliden Anilin dan Uji Aktivitas sebagai Antibakteri terhadap *Escherichia coli* dan *Staphylococcus aureus*. *Jurnal Kimia Sains dan Aplikasi* 18 (1): 34-38.
- Chieh, C. P. 2017. Theoretical and Actual Yields. Available from: [https://chem.libretexts.org/Textbook\\_Maps/Inorganic\\_Chemistry/Supplemental\\_Modules\\_\(Inorganic\\_Chemistry\)/Chemical\\_Reactions/Stoichiometry/Theoretical\\_and\\_Actual\\_Yields](https://chem.libretexts.org/Textbook_Maps/Inorganic_Chemistry/Supplemental_Modules_(Inorganic_Chemistry)/Chemical_Reactions/Stoichiometry/Theoretical_and_Actual_Yields). Accessed 2018 July 29.
- Choudary, A., Sharma, R., Nagar, M., Mohsin, M., dan Meena, H. S. 2011. Synthesis, Characterization, and Antioxidant Activity of Some Transition Metal Complexes with Terpenoid Derivatives. *Journal of the Chilean Chemical Society* 56 (4): 911-917.
- Cinarli, A., Gurbuz, D., Tavman, A., dan Birteksoz, A. S. 2011. Synthesis, Spectral Characterizations and Antimicrobial Activity of Some Schiff Bases of 4-Chloro-2-Aminophenol. *Bulletin of the Chemical Society of Ethiopia* 25 (3): 407-417.

- Dachriyanus. 2004. "Analisis Struktur Senyawa Organik secara Spektroskopi." Lembaga Pengembangan Teknologi Informasi dan Komunikasi Universitas Andalas, Padang.
- Darmapatni, K. A. G., Basori, A., dan Suaniti, N. M. 2016. Pengembangan Metode GC-MS untuk Penetapan Kadar Acetaminophen pada Spesimen Rambut Manusia. *Jurnal Biosains Pascasarjana* 18 (3): 1-14.
- Emilda. 2018. Efek Senyawa Bioaktif Kayu Manis *Cinnamon burmanii* Nees Ex.Bl. terhadap Diabetes Melitus: Kajian Pustaka. *Jurnal Fitofarmaka Indonesia* 5 (1): 246-252.
- Ejidike, I. P., dan Ajibade, P. A. 2015. Synthesis, Characterization, Antioxidant, and Antibacterial Studies of Some Metal (II) Complexes of Tetradentate Schiff Base Ligand: 4(E)-4-[(2-[(E)-[1-(2,4-Dihydroxyphenyl)ethylidene]amino)ethyl]imino]pentan-2-one. *Bioinorganic Chemistry and Applications*: 1-9.
- FAO. 2001. L-Glutamic Acid. Available from: [http://www.fao.org/fileadmin/user\\_upload/jecfa\\_additives/docs/Monograph1/Additive-210.pdf](http://www.fao.org/fileadmin/user_upload/jecfa_additives/docs/Monograph1/Additive-210.pdf). Accessed 2018 July 15.
- Farres, M., Pina, B., dan Tauler, R. 2016. LC-MS based Metabolomics and Chemometrics Study of the Toxic Effects of Copper on *Saccharomyces cerevisiae*. *Metallomics* 8 (8): 790-798.
- Ferrer, A., Rivera, J., Zapata, C., Norambuena, J., Sandoval, A., Chavez, R., Orellana, O., dan Levican, G. 2016. Cobalamin Protection Against Oxidative Stress in the Acidophilic Iron-oxidizing Bacterium *Leptospirillum Group II CF-1*. *Front Microbiol.* 7 (748): 1-11.
- Fossum, C. 2011. Preparation of Glutamic Acid. Available from: <http://laney.edu/cheli-fossum/wp-content/uploads/sites/210/2011/08/14-Preparation-of-Glutamic-Acid.pdf>. Accessed 2018 July 11.
- Friedman, M. 2004. Applications of the Ninhydrin Reaction for Analysis of Amino Acids, Peptides, and Proteins to Agricultural and Biomedical Sciences. *Journal of Agricultural and Food Chemistry* 52 (3): 385-406.
- Gaikwad, V. K., dan Yadav, U. M. 2016. Metal Complexes of Schiff Bases. *Scholarly Research Journal for Interdisciplinary Studies* 3 (24): 2225-2234.
- Halliwel, B. 2007. Biochemistry of Oxidative Stress. *Biochemical Society Transactions* 35 (5): 1147-1150.
- Hanani, E., Abdul, A. M. dan Ryany, S. 2005. Identifikasi Senyawa Antioksidan dalam Spons *Callyspongia* sp. dari Kepulauan Seribu. *Majalah Ilmu Kefarmasian* 2 (3): 127-133.
- Hanson, J. 2004. IR Frequencies. Available from: <http://www2.ups.edu/faculty/hanson/Spectroscopy/IR/IRfrequencies.html>. Accessed 2018 December 13.

- Hasi, Q. M., Fan, Y., Feng, X. X., Yao, X. Q., dan Liu, J. C. 2016. Antioxidant and Antimicrobial Properties of Nickel (II), Cobalt (III), and Zinc (II) Complexes of a Schiff Base Ligand. *Transition Metal Chemistry* 41 (6): 685-692.
- Ibrahim, M., Khan, A., Ikram, M., Rehman, S., Shah, M., Un Nabi, H., dan Ahuchaogu, A. A. 2017. In Vitro Antioxidant Properties of Novel Schiff Base Complexes. *Asian Journal of Chemical Sciences* 2 (2): 1-12.
- Ifada, Puspaningtyas, A. R., Oktavianawati, I., Retnaningtyas, Y., dan Kristiningrum, N. 2013. Sintesis 1-(4-metoksibenzoiloksimetil)-5-fluorourasil sebagai Agen Antikanker. *Jurnal Pustaka Kesehatan* 1 (1): 35-39.
- Iqbal, M. 2010. Aldehid dan Keton. *Jurnal Rekayasa Proses* 4 (2): 30-33.
- Irawan, C., Juhana, S., Hanafi, Rochaeni, H., Fajri, M. Y., dan Putri, R. P. 2017. Synthesis and Spectral Characterization Schiff Base Cyclantine with GC-MS. *International Journal of Chemical Studies* 5 (5): 475-479.
- Jakhetia, V., Patel, R., Khatri, P., Pahuja, N., Garg, S., Pandey, A., dan Sharma, S. 2010. Cinnamon: A Pharmacological Review. *Journal of Advanced Scientific Research* 1 (2): 19-23.
- Jisha, M. J., dan Sobana-raj, C. I. 2017. Synthesis and Characterization of Schiff Base Complexes of Cu(II), Ni(II), Co(II) Complexes of Schiff Base Derived from Furan 3-Carboxaldehyde and 3-Amino Pyridine. *International Journal of Scientific and Research Publications* 7 (10): 10-19.
- Julianus, J. dan Luckyvano, E. 2014. Sintesis Asam Sinamat dari Benzaldehida dan Asam Malonat dengan Katalis Dietilamina. *Jurnal Farmasi Sains dan Komunitas* 11 (1): 1-6.
- Kafi-Ahmadi, L., dan Shirmohammadzadeh, L. 2017. Synthesis of Co(II) dan Cr(III) Salicylidenic Schiff Base Complexes Derived from Thiourea as Precursors for Nano-Sized  $\text{Co}_3\text{O}_4$  and  $\text{Cr}_2\text{O}_3$  and Their Catalytic, Antibacterial Properties. 2017. *Journal of Nanostructure in Chemistry* 7: 179-190.
- Khalaf, H. A., dan Arafat, E. A. 2015. Effect of Different Doses of Monosodium Glutamate on the Thyroid Follicular Cells of Adult Male Albino Rats: A Histological Study. *International Journal of Clinical and Experimental Pathology* 8 (12): 15498-15510.
- Kostova, I., dan Balkansky, S. 2013. Metal Complexes of Biologically Active Ligands as Potential Antioxidants. *Current Medicinal Chemistry* 20 (36): 4508-4539.
- Kovala-Demertzi, D., Hadjipavlou-Litina, D., Staninska, M., Primikiri, A., Kotoglou, C., dan Demertzis, M. A. 2008. Anti-oxidant, In Vitro, In Vivo, Anti-inflammatory Activity, and Antiproliferative Activity of Mefenamic Acid and Its Metal Complexes with Manganese(II), Cobalt(II), Nickel(II),

- Copper(II) and Zinc(II). *Journal of Enzyme Inhibition and Medicinal Chemistry* 24(3): 742-752.
- Kulkarni, C., Kulkarni, K. S., dan Hamsa, B. R. 2005. Glutamic Acid and Glutamine: Exciting Molecules of Clinical Interest. *Indian Journal of Pharmacology* 37 (3): 148-154.
- Kumar, M., Padmini, T., dan Ponnuvel, K. 2017. Synthesis, Characterization, and Antioxidant Activities of Schiff Bases are of Cholesterol. *Journal of Saudi Chemical Society* 21 (1): 322-328.
- Kumar, S. 2006. *Organic Chemistry: Spectroscopy of Organic Compounds*. Available from [http://www.uobabylon.edu.iq/eprints/publication\\_11\\_8282\\_250.pdf](http://www.uobabylon.edu.iq/eprints/publication_11_8282_250.pdf). Accessed 2018 December 4.
- Kusumo, M. S. G. 2014. Pengaruh Pemberian Vitamin C dan Zinc terhadap Jumlah Sperma Mencit Balb/C yang Terpapar Asap Rokok. Skripsi. Universitas Muhammadiyah Surakarta, Surakarta.
- Lemiere, F. 2001. Interfaces for LC-MS. Available from [http://alfresco.ubm-us.net/alfresco\\_images/pharma/2014/08/22/05784904-8000-414c-9f36-2b2a0ebcf7c2/article-8134.pdf](http://alfresco.ubm-us.net/alfresco_images/pharma/2014/08/22/05784904-8000-414c-9f36-2b2a0ebcf7c2/article-8134.pdf). Accessed 2018 December 4.
- Mahrath, A. J. 2016. Qualitative Analysis of Amino Acids and Proteins. Available from: [http://www.uobabylon.edu.iq/eprints/publication\\_4\\_15325\\_904.pdf](http://www.uobabylon.edu.iq/eprints/publication_4_15325_904.pdf). Accessed 2018 July 27.
- Makwana, B. A., Dave, P. N., dan Timbadiya, P. B. 2015. Synthesis of Schiff Bases and Their Transition Metal Complexes Characterization and Application. *International Journal of Science, Technology and Management* 4 (1): 642-652.
- Maluly, H. D. B., Ariseto-Bragotto, A. P., dan Reyes, F. G. R. 2017. Monosodium Glutamate as a Tool to Reduce Sodium in Foodstuffs: Technological and Safety Aspects. *Food Science & Nutrition* 5 (6): 1039-1048.
- Manalu, Roympus. 2015. Sintesis Basa Schiff dari Hasil Kondensasi Sinamaldehida dengan Etilendiamin dan Fenilhidrazin serta Pemanfaatannya sebagai Inhibitor Korosi pada Logam Seng. Skripsi. Universitas Sumatera Utara, Medan.
- McKenna, A. 2015. Tandem Mass Spectrometry (MS/MS). Available from <https://nationalmaglab.org/user-facilities/icr/techniques/tandem-ms>. Accessed 2019 January 16.
- Medeiros, A. S., Oliveira, V. H., dan Faria, L. O. 2009. Linear Optical Absorption Response of Poly(Vinylidene Fluoride-Trifluorethylene) Copolymer to High Gamma Dose. *International Nuclear Atlantic Conference*: 1-7.

- Merck. 2018. L-Glutamic Acid. Available from: <https://www.sigmaaldrich.com/catalog/product/aldrich/128430?lang=en&region=ID>. Accessed 2018 July 23.
- Mishra, H. N., Kumar, S. R., Vijay, N., Satish, C., Kumar, S. A., Kumar, S. V., Onkar, P., dan Leena, S. 2013. Electronic Structure, Non-Linear Properties and Vibrational Analysis of Ortho, Meta, and Para-Hydroxybenzaldehyde by Density Functional Theory. *Research Journal of Recent Sciences* 2: 150-157.
- Moon, J. K. dan Shibamoto, T. 2009. Antioxidant Assays for Plant and Food Components. *Journal of Agricultural and Food Chemistry* 57 (5): 1655-1666.
- Mutiara, R., Priani, S. E., dan Mulyanti, D. 2015. Uji Aktivitas Antioksidan Ekstrak Kulit Batang Kayu Manis (*Cinnamomum burmanni* Nees ex BL) dan Formulasinya dalam Bentuk Sediaan Masker Gel *Peel Off*. *Prosiding Penelitian SPESIA Unisba*: 602-606.
- Nahak, G. dan Sahu, R. K. 2011. Evaluation of Antioxidant Activity in Ethanolic Extracts of Five Curcuma Species. *International Research Journal of Pharmacy* 2 (12): 243-248.
- Nassar, M. Y., Ahmed, I. S., Dessouki, H. A., dan Ali, S. S. 2018. Synthesis and Characterization of Some Schiff Base Complexes Derived from 2,5-dihydroxyacetophenone with Transition Metal Ions and Their Biological Activity. *Journal of Basic and Environmental Sciences* 5: 60-71.
- Nehete, J., Bhatia, M., dan Narkhede, M. 2010. In-vitro Evaluation of Antioxidant Activity and Phenolic Content of *Costus speciosus* (Koen) J.E. Sm. *Iranian Journal of Pharmaceutical Research* 9 (3): 271-277.
- Neldawati, Ratnawulan, dan Gusnedi. 2013. Analisis Nilai Absorbansi dalam Penentuan Kadar Flavonoid untuk Berbagai Jenis Daun Tanaman Obat. *Pillar of Physics* 2: 76-83.
- Omar, T. O. 2007. Synthesis of Schiff Bases of Benzaldehyde and Salicylaldehyde as Anti-inflammatory Agents. *Iraqi J. Pharm. Sci* 16 (2): 5-11.
- Orabi, A. S., Abbas, A. M., dan Sallam, S. A. 2013. Spectral, Magnetic, Thermal, and DNA Interaction of Ni(II) Complexes of Glutamic Acid Schiff Bases. *Journal Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry* 43 (1): 63-75.
- Paul, P. 2002. Ruthenium, Osmium, and Rhodium Complexes of Polypyridyl Ligands: Metal-Promoted Reactivities, Electrochemical and Photophysical Studies. *Proceedings of the Indian Academy of Sciences (Chemical Sciences)* 114 (4): 269-276.

- Pratiwi, W. 2015. Pesona 'Kristal Putih' Kembali Memikat Pasar Indonesia. Available from: <https://www.marsindonesia.com/newsletter/pesona-kristal-putih-kembali-memikat-pasar-indonesia>. Accessed 2018 July 27.
- Prayoga, G. 2013. Fraksinasi, Uji Aktivitas Antioksidan dengan Metode DPPH dan Identifikasi Golongan Senyawa Kimia dari Ekstrak Teraktif Daun Sambang Darah (*Excoecaria cochinchinensis* Lour). *Pharmacon* 5: 41-48.
- Radfard, R., dan Abedi, A. 2015. Synthesis and Characterization of New Schiff Bases of Ethylenediamine and Benzaldehyde Derivatives, Along with Their Iron Complexes. *Journal of Applied Chemical Research* 9 (2): 59-65.
- Rangkuti, R. H., Suwarson, E., dan Anjelisa, P. 2012. Pengaruh Pemberian Monosodium Glutamat (MSG) pada Pembentukan Mikronukleus Sel Darah Merah Mencit. *Journal of Pharmaceutics and Pharmacology* 1 (1): 29-36.
- Rao, V. K., Reddy, S. S., Krishna, B. S., Naidu, K. R. M., Raju, C. N., dan Ghosh, S. K. 2010. Synthesis of Schiff's Bases in Aqueous Medium: A Green Alternative Approach with Effective Mass Yield and High Reaction Rates. *Green Chemistry Letters and Reviews* 3 (3): 217-223.
- Sankar, M., Nowicka, E., Carter, E., Murphy, D. M., Knight, D. W., Bethell, D., dan Hutchings, G. J. 2014. The benzaldehyde oxidation paradox explained by the interception of peroxy radical by benzyl alcohol. *Nature Communications*: 1-6, 2.
- Satya, N. S., Prakash, S., dan Meena, V. 2012. Purification of Cinnamaldehyde from Cinnamon Species by Column Chromatography. *International Research Journal of Biological Sciences* 1 (7): 49-51.
- Saxena, A. 2013. Synthesis and Characterization of Schiff Base Salicylaldehyde and Thiohydrazones and Its Metal Complexes. *Advances in Applied Science Research* 4 (4): 152-154.
- Saxena, J., Baunthiyal, M., dan Ravi, I. 2012. "Laboratory Manual of Microbiology, Biochemistry, and Molecular Biology." Scientific Publishers India, Jodhpur.
- Sayuti, K. dan Yenrina, R. 2015. "Antioksidan Alami dan Sintetik." Andalas University Press, Padang.
- Septaningsih, D. A., Darusman, L. K., Afendi, F. M., dan Heryanto, R. 2018. Liquid Chromatography Mass Spectrometry (LC-MS) Fingerprint Combined with Chemometrics for Identification of Metabolites Content and Biological Activities of *Curcuma aeruginosa*. *Indones. J. Chem.* 18 (1): 43-52.
- Setiadi, M. I. 2008. Sintesis Maltovanilat melalui Mekanisme Steglich menggunakan Pelarut Aseton. Skripsi, Universitas Indonesia, Jakarta.

- Shahabadi, N., Ghasemian, Z., dan Hadidi, S. 2012. Binding Studies of a New Water-Soluble Iron(III) Schiff Base Complex to DNA Using Multispectroscopic Methods. *Bioinorg Chem Appl*: 1-9.
- Shntaif, A. H., dan Rashid, Z. M. 2016. The Synthesis of Schiff Bases Under Microwave Irradiation: Review. *Journal of Chemical and Pharmaceutical Science* 9 (3): 1066-1068.
- Shokohi-pour, Z., Chiniforoshan, H., Momtazi-borojeni, A. A., dan Notash, B. 2016. A Novel Schiff Base Derived From the Gabapentin Drug and Copper (II) Complex: Synthesis, Characterization, Interaction with DNA/Protein and Cytotoxic Activity. *Journal of Photochemistry and Photobiology B: Biology* 162: 34-44.
- Siriwardane, U. 2003. Spectroscopy. Available from <http://www.chem.latech.edu/~upali/chem466/NMR/Uv-vis1ans.pdf>. Accessed 2018 December 7.
- Sitanggang, B. C., Wirjosentono, B., dan Ginting, M. 2016. Preparation of Fe-Chitosan Schiff Base Complex. *Jurnal Pendidikan Kimia* 8 (3): 203-206.
- Tadele, K. T. 2017. Antioxidant Activity of Schiff Bases and Their Metal Complexes: A Recent Review. *Journal of Pharmaceutical and Medicinal Research* 3 (1): 73-77.
- Taher, N. H., dan Mohammed, A. A. 2008. Synthesis and Characterization of Some Cinnamaldehyde Schiff Base Complexes. *Raf. Jour. Sci* 19 (1): 45-51.
- Tristantini, D., Ismawati, A., Pradana, B. T., Jonathan, J. G. 2016. Pengujian Aktivitas Menggunakan Metode DPPH pada Daun Tanjung (*Mimusops elengi* L). *Prosiding Seminar Nasional Teknik Kimia "Kejuangan"*: 1-7.
- Wade, L. G. 2010. "Organic Chemistry" 7<sup>th</sup> ed. Pearson Education Inc., London.
- Wahdaningsih, S., Setyowati, E. P., dan Wahyuono, S. 2011. Aktivitas Penangkap Radikal Bebas dari Batang Pakis (*Alsophila glauca* J. Sm). *Majalah Obat Tradisional* 16 (3): 156-160.
- Wakidi, R. F. 2012. Efek Protektif Vitamin C dan Vitamin E terhadap Mutu Sperma Mencit Jantan Dewasa yang di Pajan dengan Monosodium Glutamat. Tesis, Universitas Sumatera Utara, Medan.
- Wang, M. F., Yang, Z. Y., Liu, Z. C., Li, Y., Li, T. R., Yan, M. H., dan Cheng, X. Y. 2012. Synthesis and Crystal Structure of a Schiff Base Derived from Two Similar Pyrazolone Rings and Its Rare Earth Complexes: DNA-binding and Antioxidant Activity. *Journal of Coordination Chemistry* 65 (21): 3805-3820.
- Werdhasari, A. 2014. Peran Antioksidan Bagi Kesehatan. *Jurnal Biotek Medisiana Indonesia* 3 (2): 59-68.



- Wijayasekara, K., dan Wansapala, J. 2017. Uses, Effects, and Properties of Monosodium Glutamate (MSG). *International Journal of Food Science and Nutrition* 2 (3): 132-143.
- Wu, M., Xiao, H., Ren, W., Yin, J., Tan, B., Liu, G., Li, L., Nyachoti, C. M., Xiong, X., dan Wu, G. 2014. Therapeutic Effects of Glutamic Acid in Piglets Challenged with Deoxynivalenol. *PLOS ONE* 9 (7): 1-12.
- Xavier, A. dan Srividhya, N. 2014. Synthesis and Study of Schiff Base Ligands. *Journal of Applied Chemistry* 7: 6-15.
- Yang, D., Wang, H., Yuan, H., dan Li, S. 2016. Quantitative Structure Activity Relationship of Cinnamaldehyde Compounds Against Wood-Decaying Fungi. *MOLECULES* 21: 1562-1563.
- Yang, Z., dan Sun, P. 2006. Compare of Three Ways of Synthesis of Simple Schiff Base. *Molbank*: 1-3.
- Yonata, A. dan Iswara, I. 2016. Efek Toksik Konsumsi Monosodium Glutamate. *Majority* 5 (3): 100-104.
- Young, J. C. 2013. True Melting Point Determination. *Chem. Educator* (18): 203-208.
- Zgola-Grzeskowiak, A. dan Grzeskowiak, T. 2012. Determination of Glutamic Acid and Aspartic Acid in Tomato Juice by Capillary Isotachophoresis. *International Journal of Food Properties* 15 (3): 628-637.

