

BAB 5

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan dari penelitian yang telah dilakukan, dapat disimpulkan:

1. Reaksi antara asetofenon dan benzaldehid menjadi khalkon dapat disintesis dengan bantuan iradiasi gelombang mikro pada daya 160 W selama 1 menit dan rendemen yang dihasilkan sebesar $67,99 \pm 1,2 \%$.
2. Reaksi antara asetofenon dan 4-metoksibenzaldehid menjadi 4'-metoksikhalkon dapat disintesis dengan kondisi yang sama dengan senyawa khalkon.
3. Adanya substituen metoksi pada 4-metoksibenzaldehid dapat mempermudah reaksi ditinjau dari rendemen yang dihasilkan yaitu sebesar $76,4 \pm 2,27 \%$.

5.2 Saran

1. Penelitian ini dapat dikembangkan lebih lanjut untuk mengetahui efek farmakologis dari senyawa khalkon dan 4'-metoksikhalkon.

DAFTAR PUSTAKA

- Ahmad, M. R., Sastry, V. G., Bano, N., Anwar, S., 2011, Synthesis of novel chalcone derivates by conventional and microwave irradiation methods and their pharmacological activities, *Arabian journal of chemistry*, **9(1)**:931-935.
- Das, B. C., Bhowmik, D., Chaudhuri, S., 2012, *Microwaved System*, The Pharma Innovation, Coimbatore, **1(6)**:1-17.
- Departemen Kesehatan Republik Indonesia, 2014, *Farmakope Indonesia Edisi Kelima.*, Jakarta:Departemen Kesehatan Republik Indonesia.
- Fessenden, R. J., dan Fessenden, J. S., 1986, *Kimia Organik*, Diterjemahkan dari Bahasa Inggris oleh Aloysius Handyana Pudjaatmaka, Ph. D., Erlangga, Jakarta..
- Gaikwad, K.V., Gaikwad, S.V., Jadhav, S.B. and Rathod, S.D., 2009, Synthesis of Some Novels Chalcones of Phthalimidoester Possessing Good Anti-inflammatory and Antimicrobial Activity, *Indian Journal of Chemistry*, **49B**:131-136.
- Go, M.L., Wu, X., Liu, X.L., 2005, Chalcones: An update on cytotoxic and chemoprotective properties. *Curr. Med. Chem*, **12**:483-499.
- Kappe, C.O., Stadler, A., 2005, *Microwaves in Organic and Medicinal Chemistry*, WILEY-VCH Verlag GmbH & Co. KgaA, Weinheim, pp. 9-10.
- Lehman, J. W., 2004, *Microscale Operation Organic Chemistry*, Prentice Hall Upper Saddle River, New Jersey, 493, 643.
- Mavandadi, F. and Linstrom, P., 2004, Microwave-Assisted Chemistry in Drug Discovery, *Current Topics in Medical Chemistry*, **4**:773-792.
- McMurry, J., 2008, *Organic Chemistry 7th*, Ed. Thomson Learning Inc., Belmont p. 877-884.

National Center for Biotechnology Information. PubChem Compound Database; CID=641819. Diakses 17 Juli 2017, <https://pubchem.ncbi.nlm.nih.gov/compound/641819>.

National Center for Biotechnology Information. PubChem Compound Database; CID=240. Diakses 17 Juli 2017, <https://pubchem.ncbi.nlm.nih.gov/compound/240>.

National Center for Biotechnology Information. PubChem Compound Database; CID=7410. Diakses 17 Juli 2017, <https://pubchem.ncbi.nlm.nih.gov/compound/7410>.

National Center for Biotechnology Information. PubChem Compound Database; CID=31244. Diakses 17 Juli 2017, <https://pubchem.ncbi.nlm.nih.gov/compound/31244>.

Oyedapo, O.A., Adewunmi, C.O., Iwalewa, E.O., dan Makanju, V.O., 2008, Analgesic, Antioxidant and Anti-inflammatory Related Activities of 2'-hydroxy-2,4'-dimethoxychalcone and 4'-hydroxychalcone in Mice, *Journal Biology Science*, **8(1)**:51-60.

Parashar, B., Sharma, V.K., Bapna, M. and Chouhan, L.S., 2012, Microwave-Assisted Synthesis of Some Novel and Potent Antibacterial and Antifungal Compound with Biological Screening, *Medical Chemistry Research*, **21**:1098-1106.

Patil, C. B., Mahajan, S. K. and Katti, S. A., 2009, Chalcone: A Versatile Molecule, *Journal of Sciences and Research*, **1(3)**:11-22.

Pavia, D. L., Lampman, G. M. and Kriz, G. S., 2001, *Introduction to Spectroscopy*, 3rd Edition, Thomson Learning Inc., Bellingham.

Ravichandran, S., dan Karthikeyan, E., 2011, Microwave Synthesis a Potential Tool for Green Chemistry, *International Journal of ChemTech Research*, **3(1)**:466-470.

Sari, N. K., 2010, *Analisa Instrumentasi*, Yayasan Humaniora, Klaten, Surakarta.

Suzana, S., M. Ika, N., K. Amalia, E., Juni, Rudiyanto, M., Poerwono, H., Budiati, T., 2013, Pengaruh Gugus Metoksi Posisi Orto (*o*) dan Para

(p) pada Benzaldehid Terhadap Sintesis Turunan Khakon dengan Metode Kondensasi Aldol, *Berkala Ilmiah Fakultas Farmasi Universitas Airlangga Surabaya*, **2**:22-27.

Shechter, G., 1997, "Analysis of The Orientational Effects on Infrared Absorption Spectra In P-Type Semiconductor Quantum Wells". *Superlattices and Microstructures*, **19**:383–392.

Silverstein, R. M., Webster, F. X., Kiemle, D. J., 2005, *Spectrometric Identification of Organic Compounds 7th ed*, John Wiley & Sons, Inc, New York, **7**:127-200.

Sivakumar, P.M., Ganesan, S., Veluchamy, P., Doble, M., 2010, Novel chalcones and 1, 3, 5-triphenyl-2-pyrazoline derivatives as antibacterial agents, *Chem. Biol. Drug. Des.* **76(5)**:407–411.

Wulandari, L., 2011, *Kromatografi Lapis Tipis*, PT. Taman Kampus Presindo, Jember.

Zhu Y. J. dan Chen F., 2014, *Microwave-Assisted Preparation of Inorganic Nanostructures in Liquid Phase*, American Chemical Society, Shanghai, pp.6464.