

BAB 5

KESIMPULAN DAN SARAN

5.1. Kesimpulan

1. Kondisi optimum sintesis senyawa 2,5-dibenzilidensiklopantan-on dengan bantuan iradiasi gelombang mikro pada daya 160 watt dengan lama waktu reaksi 60 detik menghasilkan rendemen sebesar 88,31%.
2. Kondisi optimum sintesis senyawa 2,5-bis(2-klorobenziliden)siklopentanon dengan bantuan iradiasi gelombang mikro pada daya 160 watt dengan lama waktu reaksi 40 detik menghasilkan rendemen sebesar 79,21%.
3. Pengaruh penambahan gugus kloro (-Cl) pada 2-klorobenzal dehida terhadap sintesis 2,5-bis(2-klorobenziliden)siklopentan-on mempercepat jalannya reaksi yang ditinjau dari lama waktu reaksi.

5.2. Saran

Penelitian mengenai sintesis senyawa analog kurkumin yaitu 2,5-bis(2-klorobenziliden)siklopentanon dapat dilakukan penelitian lebih lanjut untuk uji aktivitasnya.

DAFTAR PUSTAKA

- Aggarawal, B.B., Kumar, A., Aggarawal, M.S., and Shishodia, S. 2003, Curcumin derived from Turmeric (*Curcuma longa*): A Spice for All Seasons, *Phytochemical in cancer chemoprevention*, **8(28)**: 1-9.
- Aggarwal, B.B., Bhatt, I.D., Ichikawa, H., Ahn, K.S., Sethi, G., Sandur, S.K., Natarajan, C., Seeram, N., Shishodia, S. 2006, *Turmeric: the Genus Curcuma*, Taylor and Francis:New York.
- Anand, P., Kunnumakkara, A.B., Newman, R.A., and Aggarwal, B.B., 2007, Bioavailability of Curcumin: Problems and Promises, *Molecular Pharmaceutics*, **4**: 807–818.
- Ameta, C., Dashora, P. and Vyas, R., 2015, ‘Instrumentation’, in Ameta, S.C., Punjabi, P.B., Ameta, R. and Ameta, C., *Microwave-Assisted Organic Synthesis: A Green Chemical Approach*, Apple Academic Press, Toronto, pp 15-29.
- Ameta, S.C. 2015, ‘Introduction’, in Ameta, S.C., Punjabi, P.B., Ameta, R. and Ameta, C., *Microwave-Assisted Organic Synthesis: A Green Chemical Approach*, Apple Academic Press, Toronto, pp 1-13.
- Badreldin, H.A., Marrif, H., Salwa, A.N., and Amel, O.B. 2006, Some Biological Properties of Curcumin. *Natural Product Communication*, **1(6)**: 509-521.
- Bruice, P. Y., 2007, *Organic Chemistry*. Fifth edition, New York, pp 326-334.
- Bukhari, S. N. A., Jantan, I. B., Jasamai, M., Ahmad, W., and Amjad, M. W.B., 2013, Synthesis and Biological Evaluation of Curcumin Analogues, *Journal of Medical Scienes*, **13(7)**: 501-513.
- Fuhrhop, J. H., and Li, G., 2003, *Organic Synthesis Concepts and Methods*, 3rd Edition, Wiley-VCH, Germany.
- Gupta, A. P., Khan, S., Manzoor, M. M., Yadav, A., Sharma, G., Anand, R., and Gupta, S. C. 2017, Anticancer Curcumin: Natural Analogues and Structure-Activity Relationshi. *Studies in Natural Products Chemistry*, **52**: 355-401.
- Grundas, S. 2011, *Advances in Induction and Microwave Heating of Mineral and Organic Materials*, 1st ed., InTech, Rijeka.

Handayani, S. 2009, Mempelajari Sintesis Senyawa Tabir Surya Melalui Modifikasi Reaksi Kondensasi Aldol Silang, *Indonesian Journal of Chemistry*, 31-34.

https://www.chemicalbook.com/ChemicalProductProperty_EN_CB1209684.htm. Diakses pada tanggal 19 Desember 2023, pukul 02.06 WIB.

Kuhnert, N. 2002, Microwave-assisted reactions in organic synthesis—are there any nonthermal microwave effects?. *Angewandte Chemie International Edition*, **41(11)**: 1863–1866.

McMurry, J., 2016, *Organic Chemistry*, 9th ed, Physical Science, Canada, pp 536-539.

Prabowo, H., Cahya, I.A.P.D., Arisanti, C.I.S., & Samirana, P.O., 2019, Standardisasi Spesifik dan Non-Spesifik Simplicia dan Ekstrak Etanol 96% Rimpang Kunyit (*Curcuma domestica Val.*). *Jimbaran*, **8(1)**: 29-35.

Robinson, T.P., Ehlers, T., Hubbard Iv, R.B., Bai, X., Arbiser, J.L., Goldsmith, D. J., and Bowen, J.P. 2003, Design, synthesis, and biological evaluation of angiogenesis inhibitors: aromatic enone and dienone analogues of curcumin, *Bioorganic & Medical Chemistry letters*, **13(1)**: 115-117.

Wade, L.G. 2006, *Organic Chemistry*. Sixth edition. Pearson Education International: New Jersey.

Wang, Z., 2010, *Comprehensive Organic Name Reaction and Reagents*, John Wiley & Sons, Hoboken.

Zhang, Y., Zhao, L., Wu, J., Jiang, X., Dong, L., Xu, F., Zou, P., Dai, Y., Shan, X., Yang, S., and Liang, G. 2014, Synthesis and evaluation of a series of novel asymmetrical curcumin analogs for the treatment of inflammation, *Molecules*, **19(6)**: 7287-7307.