

BAB V

KESIMPULAN DAN SARAN

5.1. Kesimpulan

Data penelitian telah diinterpretasikan dan dapat ditarik kesimpulan :

1. Senyawa yang mengandung cincin tiazol yaitu 3-benzoil-2-iminotiazolidin-4-on dapat dihasilkan dari penambahan natrium asetat dan asam kloroasetat terhadap benzoiltiourea.
2. Waktu pemanasan selama 4 jam adalah waktu pemanasan yang optimum untuk pembentukan senyawa yang mengandung cincin tiazol yaitu 3-benzoil-2-iminotiazolidin-4-on.
3. Persentase hasil senyawa sintesis 3-benzoil-2-iminotiazolidin-4-on sebesar 41,39%.

5.2. Saran

Reaksi pembentukan cincin tiazol antara benzoiltiourea dan asam kloroasetat dalam kondisi basa (natrium asetat) disarankan dengan pemanasan pada saat penambahan natrium asetat agar reaksi tautomeri dapat berjalan optimum sehingga menghasilkan rendemen hasil lebih banyak.

DAFTAR PUSTAKA

- Adnan, M., 1997. *Teknik Kromatografi untuk Analisis Bahan Makanan*. Penerbit ADI, Yogyakarta, hal 4-5, 8.
- Alagarsamy, V., Rajesh, R., Ramaseshu, M., Vijaykumar, S., Ramseshu, K. V., Duraianandakumar, T., 2004. Synthesis, Analgesic, Anti-inflammatory and Antibacterial Activities of some Novel 2-Methylthio-3-Substituted Quinazolin-4-(3H)-ones. *Bio. Pharm. Bull.*, 27(5), 652-656.
- Carey, F. A., *Organic Chemistry*, 2nd ed, Mc. Graw-Hill, Inc: New York, pp. 530, 907, 908.
- Doyle, M. P., Mungall, W. S., 1980. *Experimental of Organic Chemistry*, John Wiley & Sons, New York, pp. 24, 30, 91.
- Dyah, N. W. & Sondakh, R., 2000. Hubungan struktur dan proses metabolisme obat. Dalam: Siswandono & Soekardjo. B. (Ed.). *Kimia Medisinal 1*, edisi 2. Airlangga University Press, Surabaya, hal 111.
- Fessenden, R. J., Fessenden, J. S., 1994. *Organic Chemistry*, 5th ed (Pudjaatmaka, A.H., penerjemah), A Division of Wadsworth, Inc California, pp. 185-188, 223, 225, 242, 350, 355-357, 366-370.
- Geronikaki, A., Litina, D. H., Zablotskaya, A., Segal, A. L., 2007. Organosilicon-Containing Thiazol Derivates as Potential Lipoxygenase Inhibitors and anti-Inflammatory Agent. *Bio. Chem. And App.*, 2007, 1-7.
- Gunawan, S. G., 2007. *Farmakologi dan Terapi*, edisi 5. Bagian Farmakologi Fakultas Kedokteran Universitas Indonesia, Jakarta, hal 230 – 235
- Hart, H., Craine. L. E., Hart, D. J., 2003. *Kimia Organik Suatu Kuliah Singkat*, edisi XI (Achmadi, S. S., penerjemah), Erlangga, Jakarta, hal 377-379, 393, 399.
- Kachhadia, V. V., Patel, M. R., Joshi, H. S., 2004. Heterocyclic System Containing S/N Regioselective Nucleophilic Competition: Facile Synthesis, Antitubercular and Antimicrobial Activity of Thiohydantoins and Iminothiazolidinones Containing The Benzo[b]thiophene moiety. *J. Serb. Chem. Soc.*, 70(2), 153-161.
- Khopkar, S. M., 1990. *Konsep Dasar Kimia Analitik*, (Sastroraharjo, A., penerjemah). UI Press, Jakarta, hal 305.
- Kossakowski, J., Struga, M., 2006. Synthesis of Thiurea Derivates of 1H-Isoindole-1,3 (2H)-dione as Potential Antiviral Agents. *Ann. Univ. mariae Curie-Sklodowska Lublin-Polonia*, 111, 186-191.

- Lehman, J. W., 2004, *Microscale Operation Organic Chemistry*, Prentice hall upper Saddle River, New Jersey, pp., 493, 634.
- Morrison, R. T., Boyd, R. N., 1990. *Organic Chemistry*, 5th Edition, Boston: Allyn and Bacon Inc., p. 578-606, 864, 866, 964-967.
- Mulya, M. & Suharman, 1995. *Analisis Instrumental*. Airlangga University Press, Surabaya, hal 61, 224, 374, 375, 404.
- Neil, M. J., 2006. *The Merk Index: An Encyclopedia of Chemicals, Drugs, and Biologicals*. 14th ed. Merck & Co, Inc., New Jersey, p.83-84, 184, 350, 1477, 1585.
- Ping Li, J., Fulvo, Q., Luwang, Y., Wang, H., 2001. Solvent-Free Synthesis of Heterocyclic Thioureas Using Microwave Technology, *J. Of The Chinese Chem. Soc.*, 48, 73-75.
- Purwanto & Susilowati, R., 2000. Hubungan struktur-aktivitas obat analgetika. Dalam: Siswandono & Soekardjo. B. (Ed.). *Kimia Medisinal 2*, edisi 2. Airlangga University Press, Surabaya, hal 305-306.
- Siddiqui, H.L., Zia-Ur-Rehman, M., Ahmad, N., Weaver, G. W., Lucas, P. D., 2007. Synthesis and Antibacterial Activity of Bis[2-amino-4-phenyl-5-thiazolyl]Disulfides. *Chem. Pharm. Bull.*, 55(7), 1014-1017.
- Silva, A. A. R., Goes, A. J. S., Lima, W. T., Maia, V. B. S., 2003. Antiedematogenic Activity of Two Thiazolidine Derivates: N-Tryptophyl-5-(3,5-di-*tert*-butyl-4-hydroxybenzylidene) Rhodanine (GS26) ang N-Tryptophyl-5-(3,5-di-*tert*-butyl-4-hydroxybenzylidene)-2,4-thiazolidinedione(GS28). *Chem. Pharm. Bull.*, 51(12), 1351-1355.
- Silverstein, R. N., Bassler, G. C., Morill, T. C., 1991. *Spectrometric Identification of Organic Compounds*, 5th ed. John Wiley & Sons, USA, pp. 289, 292.
- Siswandono. 2000. Metode modifikasi struktur molekul obat. Dalam: Siswandono & Soekardjo. B. (Ed.). *Kimia Medisinal 1*, edisi 2. Airlangga University Press, Surabaya, hal 326, 336.
- Skoog, D. A., West, D. M., Holter. F. J., 1992. *Fundamental of Analytical Chemistry*, 6th ed, Saunders College Publishing, Philadelphia, p.254.
- Soekardjo, B., Hardjono, S., Sondakh, R., 2000. Hubungan struktur-aktivitas obat antibiotika. Dalam: Siswandono & Soekardjo. B. (Ed.). *Kimia Medisinal 2*, edisi 2. Airlangga University Press, Surabaya, hal 116, 125, 140.

Soekardjo. B. & Sondakh. R., 2000. Hubungan struktur-aktivitas obat antiinfeksi. Dalam: Siswandono & Soekardjo. B. (Ed.). *Kimia Medisinal* 2, edisi 2. Airlangga University Press, Surabaya, hal 31, 35.

Sudjadi, 1988. *Metode Pemisahan*, Edisi 1. Kanisius, Yogyakarta, hal 167, 169-171.

Thakar, K. M., Paghdar, D. J., Chovatia, P. T., Joshi, H. S., 2004. Synthesis of Thiourea Derivates Bearing the Benzo[b]thiophene Nucleus as Potential Antimicrobial Agents. *J. Serb Chem. Soc.*, 70(6), 807-815.

Vogel, 1989, *Text Book of Practical Organic Chemistry*, 5th ed. John Wiley & Sons, Inc., New York, pp. 135, 138, 236.

Xu, X., Qian, X., Li, Z., Huang, Q., Chen, G., 2003. Synthesis and Insecticidal Activity Of New Substituted N-aryl-N'-benzoylthiourea Compounds. *J. of fluor. Chem.*, 121, 51-54.

