

BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian ini, dapat disimpulkan bahwa :

Pertama, Ekstrak, fraksi n-heksan, fraksi etil asetat dan fraksi air dari kulit jeruk kalamansi (*Citrus microcarpa*) mempunyai aktivitas antibakteri terhadap pertumbuhan bakteri *Staphylococcus aureus* ATCC 25923 dan *Escherichia coli* ATCC 25922.

Kedua, Ekstrak 100% kulit jeruk kalamansi (*Citrus microcarpa*) merupakan yang paling aktif sebagai antibakteri terhadap bakteri *Escherichia coli* ATCC 25922 dengan diameter daya hambat sebesar 31 mm.

Ketiga, Nilai konsentrasi hambat minimum (KHM) tidak dapat ditentukan dan konsentrasi bunuh minimum (KBM) adalah 6,25%

B. Saran

Pertama, perlu dilakukan penelitian lebih lanjut tentang isolasi senyawa aktif yang terkandung dalam kulit jeruk kalamansi (*Citrus microcarpa*) yang lebih berpotensi sebagai antibakteri.

Kedua, perlu dilakukan penelitian lebih lanjut terhadap aktivitas antibakteri kulit jeruk kalamansi (*Citrus microcarpa*) terhadap bakteri patogen lain.

DAFTAR PUSTAKA

- Agusta, A. 2000. *Minyak Atsiri Tumbuhan Tropika Indonesia*. Bandung: ITB.
- Ajizah, A., 2004. Sensitivitas Salmonella Typhimurium terhadap Ekstrak Daun Psidium Guajava L. *Bioscientiae* Vol.1 No.1. pp: 8-31
- Akiyama, H., Fujii K., Yamasaki O., Oono T., Iwatsuki T., 2001. Antibacterial Action of Several Tannins Against Staphylococcus aureus. *Journal of Antimicrobial Chemotherapy* Vol. 48. pp : 91-487
- Alchemy, Vol. 3 No. 1 Maret 2014, hal 1-7
- Ali, A., Natsuaki, T. and Okuda, S. (2004) Identification and Molecular Characterization of Viruses Infecting Cucurbits in Pak. *Journal of Phytopathology*, 152, 677-682
- Anonimous. 1982. *The Oxoid Manual Fifth Edition of Culture Media. Ingredients and Other Laboratory Service*. England: Oxoid Limited, wade road,Beastoke Hamsmpire; RG24OW
- Archana, N. S., V. Juyal, A.B. Melkani, 2011. Antimicrobial activity of six different parts of the plant Citrus media Linn, *Pharmacognosy Journal*, 3(21): 80–83.
- Angi, Andrijanto Hauferson. 2009. *Mengenal Bakteri Escherichia Coli*.
- Akiyama, H., Fujii K., Yamasaki O., Oono T., Iwatsuki T., 2001. Antibacterial Action of Several Tannins Against Staphylococcus aureus. *Journal of Antimicrobial Chemotherapy* Vol. 48. pp : 91-487
- Bonang, G. dan Enggar S. Koeswardono. 1982. *Mikrobiologi Kedokteran: Untuk Laboratorium dan Klinik*. Jakarta : PT Gramedia.
- Brooks, G.F., Butel, J.S., Ornston, L.N., 2008, Jawetz, Melnick & Adelberg *Mikrobiologi Kedokteran* (terj.), Penerbit Buku Kedokteran EGC, Jakarta : 627-9.
- Cahyono, B. 2005. *Budidaya Jeruk Mandarin*. Yogyakarta: Yayasan Pustaka Nusantara.
- Febrika, L. 2012. Aktivitas Antimikroba Pada Ekstrak Jintan Hitam (Nigella sativa) Terhadap Pertumbuhan Bakteri Gram Positif (Staphylococcus aureus, Streptococcus sp.) dan Bakteri Gram Negatif (Escherichia coli, Klebsiella pneumoniae) Secara In Vitro. [Skripsi]. Bandar Lampung : Fakultas Kedokteran, Universitas Lampung.

- Dalimunthe, A., 2009, Interaksi Obat pada Anti Mikroba, Departemen Farmakologi, Fakultas Farmasi, Universitas Sumatra Utara, Medan
- Departemen Kesehatan Republik Indonesia, 1985. *Cara Pembuatan Simplisia*. Departemen Kesehatan Republik Indonesia, Jakarta.
- Departemen Kesehatan Republik Indonesia. 1989. *Materia Medika Indonesia Jilid V*. Jakarta: Direktorat Pengawasan Obat dan Makanan. p.116
- Departemen Kesehatan Republik Indonesia. 2000. *Parameter Standar Umum Ekstrak Tumbuhan Obat*. Jakarta : Departemen Kesehatan Republik Indonesia. hlm 3-11
- Departemen Kesehatan RI. 2005. *Farmakope Indonesia. Jilid III*. Jakarta: Departemen Kesehatan Republik Indonesia.
- Dewanti S dan Wahyudi MT. 2011. Antibacterial activity of bay leaf infuse (*Folia Syzygium polyanthum* Wight) to *Escherichia coli* in-vitro. Faculty of medicine. Airlangga University. *Jurnal Medika Platana* 1;78-81
- Dewi, A.K. 2013, Isolasi, Identifikasi dan Uji Sensitivitas *Staphylococcus aureus* terhadap *Amoxicillin* dari Sampel Susu Kambing Peternakan Ettawa (PE) Penderita Mastitis di Wilayah Girimulyo Kulonprogo, Yogyakarta, *Journal of Sain Veterinary*, 138-150.
- Djide, M. N., Sartini dan Syahrudin, K., 2005. Mikrobiologi Farmasi Terapan, Laboratorium Mikrobiologi dan Bioteknologi Farmasi, Fakultas MIPA, Universitas Hasanuddin, Makassar.
- Djumidi H. 1998. *Simplisia Nabati. Jilid 1*. Depkes RI. Jakarta
- Fuziah Muhlisah. 2005. *Tanaman obat keluarga*. Jakarta : Penebar Swadaya
- Ganiswara, S.G. (1995). *Farmakologi dan terapi edisi 4*. Jakarta :FKUI.
- Greenwood R, Mills GA, Roig B (2007) Introduction to emerging tools and their use in water monitoring. *TrAC Trend Anal Chem* 26(4):263–267
- Garrity GM, Bell JA, Lilburn TG., (2004). *Bergey's Manual Of Determinative Bacteriology*, Eight Edition The Williams.
- Hashem, F.M., M.A. El-Kiey. 2002. *Nigella Sativa* seeds of Egypt. *Journal of Pharmaceutical Sciences* 3(1): 121-33
- Hendrayati, T. I. 2012. Perubahan Morfologi *Escherichia coli* Akibat Paparan Ekstrak Etanol Biji Kakao (*Theobroma cacao*) Secara In Vitro. [Skripsi]. Jember : Fakultas Kedokteran, Universitas Jember.

Information on <http://www.drugs.com/ciprofloxacin.html>

Jacob R, Hasegawa S, Manners G. 2000. *The Potensia Of Citrus limonoids as anticancer agents*. Perishables Handing Quartely Issue 102.

Jawetz, E., J. Melnick, dan E. Adelberg. 1996. Medical Microbiology. Di dalam Parhusip, A. J. N. 2006. Kajian Mekanisme Antibakteri Ekstrak Andaliman (*Zanthoxylum acanthopodium* DC) Terhadap Bakteri Patogen Pangan. Disertasi. Sekolah Pascasarjana, Institut Pertanian Bogor, Bogor

Jayadi, 2015. *Budidaya Jeruk Kalamansi*. 03 April 2015

Johnson, I. T. 2001. Antioxidative and Antitumors Properties. In : Pokorny, J., M. Yanishileva, M. Gordon. CRC Press, Cambridge England.

Katno, Pramono S. 2008. Tingkat Manfaat dan Keamanan Tanaman Obat dan Obat Tradisional. Balai Penelitian Obat Tawangmangu, Fakultas Farmasi Universitas Gajah Mada [press release]. Yogyakarta: Fakultas Farmasi UGM

Kusuma, S. A. F. 2010. *Escherichia coli*. Bandung : Fakultas Farmasi, Universitas Padjajaran.

Magdalena, N. S., & Kusnadi, J. 2015. Antibakteri Dari Ekstrak Kasar Daun Gambir (*Uncaria gambir* var *Cubadak*) Metode Microwave-Assisted Extraction Terhadap Bakteri Patogen. *Jurnal Pangan dan Agroindustri*. 3(1): 124-135.

Maier, M.S., Centurion, R., Muniain, C., Haddad, R., & Eberlin, M.N. 2007. Identifikation of Sulfated Steroidal Glycoside from Starfish *Heliaster helianthus* by Electrospray Ionization Mass Spectrometry. *Arkivoc*. 7:301-309.

Masduki I, 1996, Efek Antibakteri Ekstrak Biji Pinang (*Areca catechu*) terhadap *S. Aureus* dan *E. Coli*, *Cermin Dunia Kedokteran* 109 : 21-4

Meskin, M. S., Bidlack, W. R., Davies, A. J., & Omaye, S. T.. 2002. *Phytochemical in Nutrition and Health*. London : CRC Press. Naidu, A. S. 2000. *Natural Food Antimicrobial Systems*. USA : CRC Press. Nuraini, A. D. 2007. Ekstraksi Komponen Antibakteri dan Antioksidan Dari Biji Teratai. [Skripsi]. Bogor : Fakultas Teknologi Pertanian, Institut Pertanian Bogor.

Mycek, M.J., Harvey, R.A., Champe, P.C., Fisher, B.D. 2001. *Farmakologi Ulasan Bergambar: Obat-obat Antijamur*. Edisi 2. Jakarta: Widya Medika. pp. 341-7.

Nuraini, Dini Nuris. 2011. *Aneka Manfaat Kulit Buah dan Sayuran*. Yogyakarta:

CV.Andi Offset

- Pelczar, M. J. dan R. D. Reid, 1972. *Microbiology*. McGraw-Hill Book Co. Inc., New York.
- Pelczar, J.M. 1998. *Dasar-Dasar Mikrobiologi Jilid 2*. Alih Bahasa: Ratna Ratna Siri Hadiotomo. Jakarta: UI Press.
- Pelczar, Michael J dan Chan, E. C. S. 2007. *Dasar-Dasar Mikrobiologi Jilid I*. Jakarta: UI Press.
- Radji, M. 2011. *Buku Ajar Mikrobiologi Panduan Mahasiswa Farmasi dan Kedokteran*, 107, 188, 201-207, 295. Jakarta. Buku kedokteran EOC.
- Roller, S. 2003. *Natural Antimicrobials for the Minimal Processing of Foods*. Washington DC: CRC Press. pp. 211.
- Rubiatul, A.S.,Nor Helya I.K. 2015. *Antibacterial Properties of Limau Kasturi (C. microcarpa) Peels Extract*.AENSI. Pages: 5-9
- Setiadi dan Parimin, 2004. *Budidaya Jeruk Asam di Kebun dan di Pot*. Jakarta : Penebar Swadaya.
- Sirait, M. 2007. *Penuntun Fitokimia dalam Farmasi*. Bandung: Institut Teknologi Bandung. Siswandono
- Siswandono dan Soekardjo, B., 1995,*Kimia Medisinal*, 28-29, 157, AirlanggaUniversity Press, Surabaya.
- Siswandono dan Soekardjo, B., 2000,*Kimia Medisinal*, Edisi 2, 228-232, 234,239, Airlangga University Press, SurabayaVolk, W.A dan Wheeler, M.F. 1993. *Mikrobiologi Dasar*, Alih Bahasa : Markham. Jakarta: PT. Glora Aksara Pratama.
- Tripoli E, Guardia M, Giammanco S, Majo D, Giamanco M. 2007. *Citrus flavonoids: molecular structure, biological activity and nutritional properties: a review*. Food chem 104(2):466-479.
- Volk dan Wheeler. 1993. *Mikrobiologi Dasar Jasad V*. Jakarta : Erlangga.
- Wang YC, Chuang Y, Hsu HW. 2008. The flavonoid, carotenoid and pectin in content in peels of citrus cultivated in Taiwan.Food chem 106(1):277-284
- Yuliani, R., Indrayuda, I., Rahmi, S.S. (2011) Aktivitas antibakteri minyak atsiri daun jeruk purut (*Citrus hystrix*) terhadap *Staphylococcus aureus* dan *Escherichia coli*. Pharmacom. 12(2): 50-54.

- Yulliasri jamal., Praptiwi., Andria Agusta. 2000, *Komponen Kimia dan Efek Antibakteri Minyak Atsiri Kulit Buah dan Daun Jeruk Kasturi (Citrus Microcarpa Bunge)*. Majalah Farmasi Indonesia.11(2): 77-85
- Zablotowicz, R. M., R. E. Hoagland, S. C. Wagner. 1996. Effect of Saponin on The Growth and Activity of Rizosphere Bacteria. Di dalam Naidu, A. S. (ed). 2000. Natural Food Microbial Systems. CRC Press. USA.
- Zeuthen, P. and L. B. Surenson. 2003. Food Preservation Techniques. CRC Press, Cambridge England.

L

A

M

P

I

R

A

N

Lampiran 1. Determinasi buah jeruk kalamansi (*Citrus microcarpa*)



No : 389/DET/UPT-LAB/15/VI/2019
Hal : Surat Keterangan Determinasi Tumbuhan

Menerangkan bahwa :

Nama : Ayu Cahyani Sumarno
NIM : 20144164 A
Fakultas : Farmasi Universitas Setia Budi

Telah mendeterminasikan tumbuhan : **Jeruk Kalamansi / *Citrus microcarpa* Bunge.**

Determinasi berdasarkan **Backer : Flora of Java**

1b – 2b – 3b – 4b – 12b – 13b – 14b – 17b – 18b – 19b – 20b – 21b – 22b – 23b – 24b – 25b
– 26b – 27a – 28b – 29b – 30b – 31a – 32b – 74a – 75b – 76a – 77b – 104b – 106b – 107b –
186b – 287b – 288b – 289b – 298b – 302a – 303a. familia 133. Rutaceae. 1b – 2a – 3a. 23.
Citrus. 1b – 4b – 5a. ***Citrus microcarpa* Bunge.**

Deskripsi :

Habitus : Perdu.
Akar : Sistem akar tunggang.
Batang : Percabangan monopodial, berkayu.
Daun : Majemuk beranak daun satu, oval sampai lanset, ujung tumpul, panjang 4,2 –
7,8cm, lebar 1,6 – 3,7cm, tangkai daun 1- 2,5 mm, seperti kulit, permukaan
licin.
Bunga : Bunga 1 – 3, di ujung atau di aksilar; daun kelopak 5, lk 1,5 mm, triangular,
runcing; daun mahkota membulat, putih, benangsari 18 – 25.
Buah : Bulat, kulit tebal, bila masak berwarna oranye kuning, sangat masam.
Pustaka : Backer C.A. & Brink R.C.B. (1965): *Flora of Java* (Spermatophytes only).
N.V.P. Noordhoff – Groningen – The Netherlands.



Surakarta, 23 Juni 2019

Tim determinasi

Dra. Kartinah Wirjosoendjojo, SU.

Lampiran 2. Tanaman Jeruk Kalamansi (*Citrus microcarpa*)



Tanaman Jeruk Kalamansi



Buah jeruk kalamansi



Kulit jeruk kalamansi kering

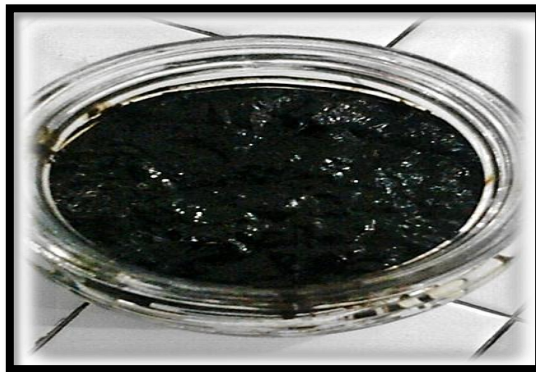


Serbuk kulit buah jeruk kalamansu di ayak dengan ayakan mesh no. 40

Lampiran 3. Foto botol maserasi, ekstrak dan fraksi daun jambu air



Botol maserasi







Ekstrak kental kulit jeruk kalamansi






Fraksinasi ekstrak kulit jeruk kalamansi

Lampiran 4. Alat penelitian**Oven****Alat moisture balance****Inkubator****Corongbuchher****Rotary evaporator****Autovortex**

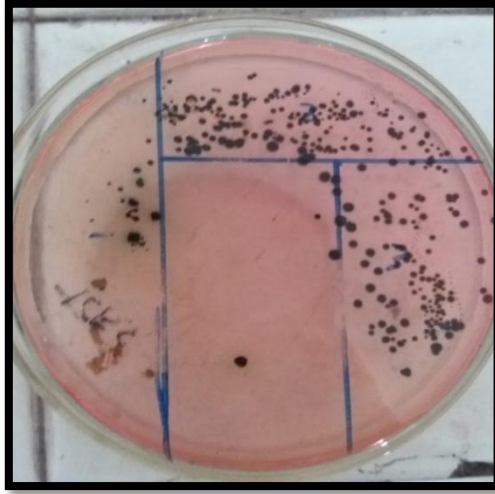
Lampiran 5. Hasil identifikasi kandungan kimia ekstrak kulit jeruk kalamansi

| Identifikasi | Ekstrak |
|--------------|--|
| Tanin |  |
| Alkaloid |  |
| Flavonoid |  |
| Saponin |  |

Hasil identifikasi kandungan kimiafraksi n heksan, etil asetat dan fraksi air kulit jeruk kalamansi

| identifikasi | Fraksi n heksan | Fraksi etil asetat | Fraksi air |
|--------------|---|--|---|
| Tanin |  |  |  |
| Alkaloid |  |  |  |
| Flavonoid |  |  |  |
| Saponin |  |  |  |

Lampiran 6. Foto hasil identifikasi bakteri *Staphylococcus aureus* ATCC 25923 dan *Escherichia coli* ATCC 25922 pada media selektif

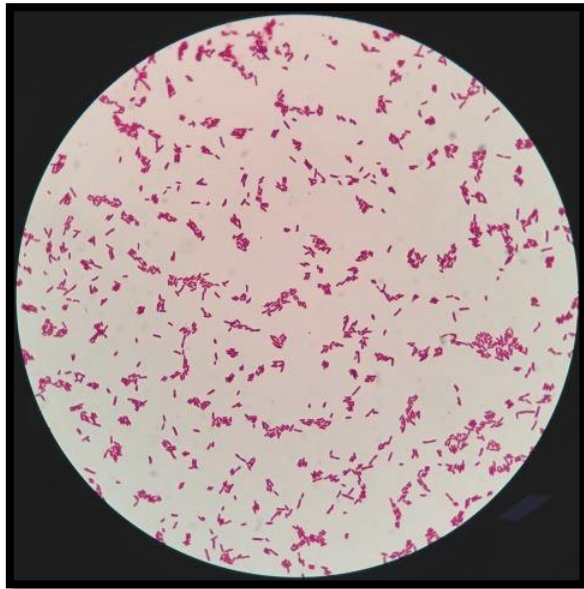


Identifikasi *Staphylococcus aureus* ATCC 25923 pada media VJA

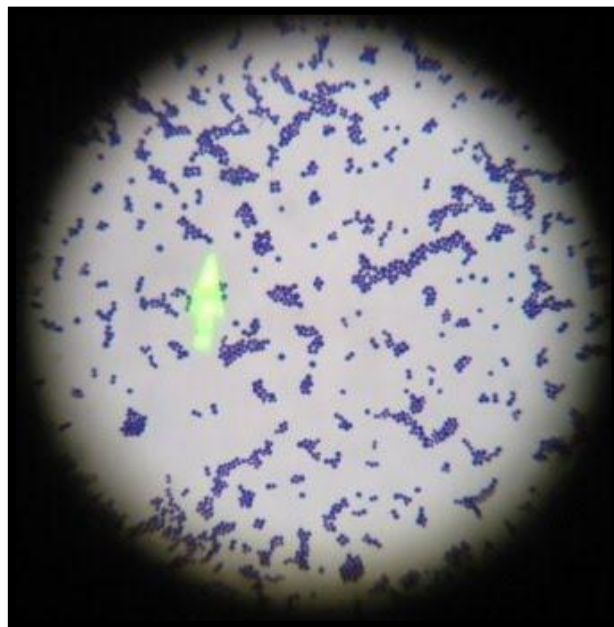


Identifikasi *Escherichia coli* ATCC 25922 pada media Endo Agar

Lampiran 7. Foto hasil identifikasi bakteri *Staphylococcus aureus* ATCC 25923 dan *Escherichia coli* ATCC 25922 dengan pewarnaan gram



Escherichia coli ATCC 25922



Staphylococcus aureus ATCC 25923

Lampiran 8. Foto hasil identifikasi bakteri *Staphylococcus aureus* ATCC 25923 dan *Escherichia coli* ATCC 25922 dengan Uji Biokimia



***Escherichia coli* dengan Uji SIM,KIA,LIA,Citrat**

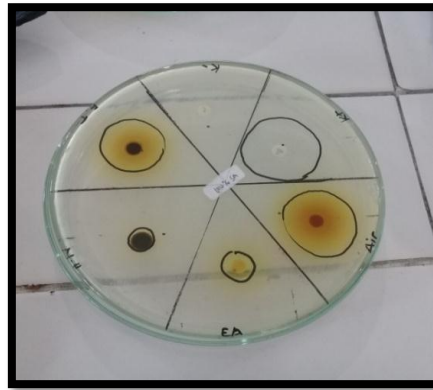


**Uji katalase dari
*Staphylococcus aureus***

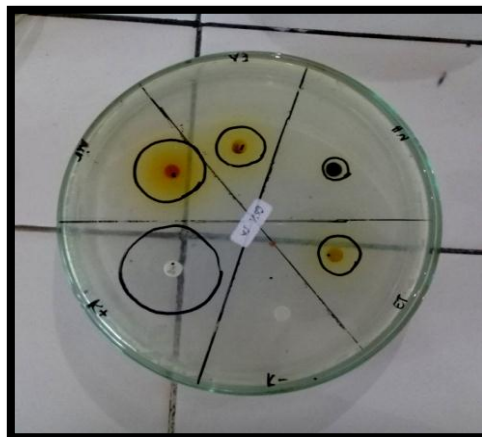


**Uji koagulase dari
*Staphylococcus aureus***

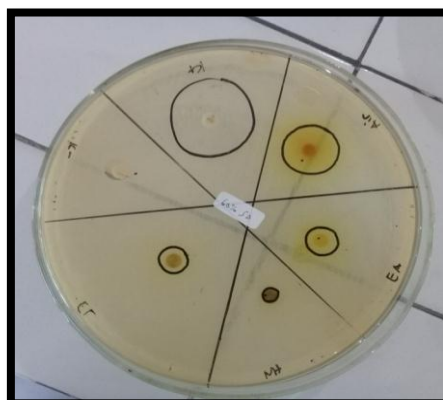
Lampiran 9. Hasil Uji antibakteri fraksi n-heksan, etil asetat, air dan ekstrak kulit jeruk kalamansi terhadap *Staphylococcus aureus* ATCC 25923 secara difusi



Konsentrasi 100%

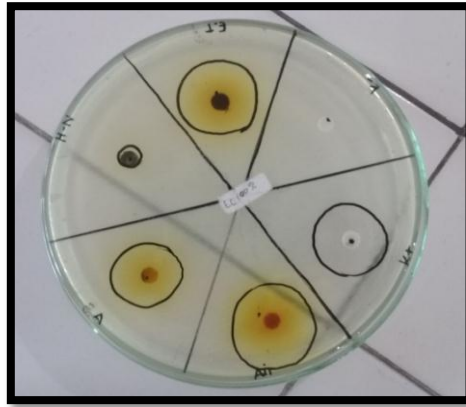


Konsentrasi 80%

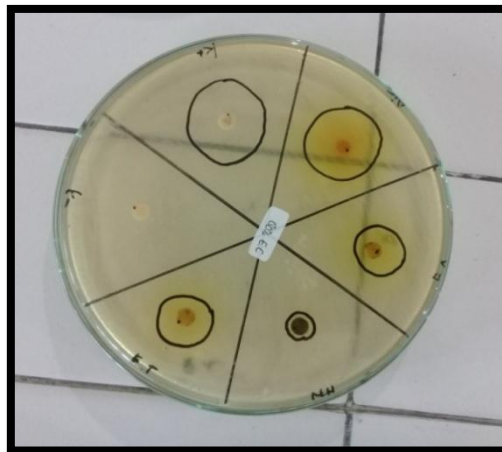


Konsentrasi 60%

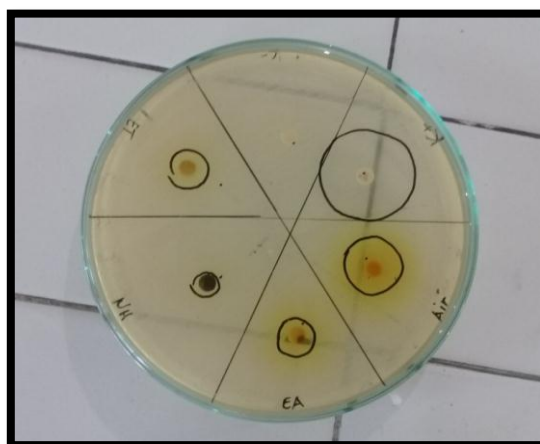
Lampiran 10. Hasil Uji antibakteri fraksi n-heksan, etil asetat, air dan ekstrak kulit jeruk kalamansi terhadap *Escherichia coli* ATCC 25923 secara difusi



Konsetrasi 100%



Konsentrasi 80%



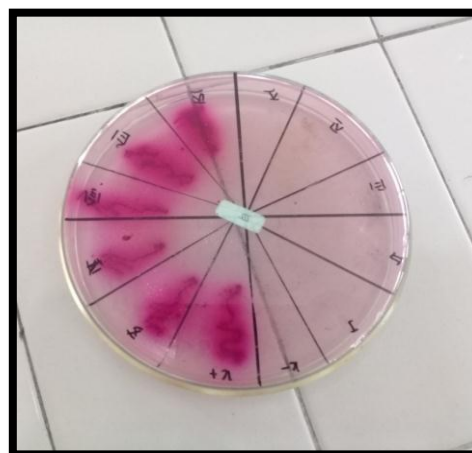
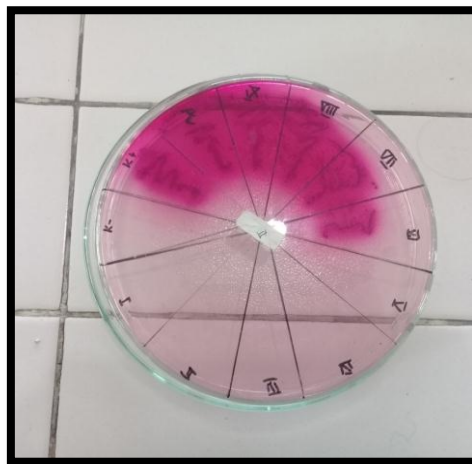
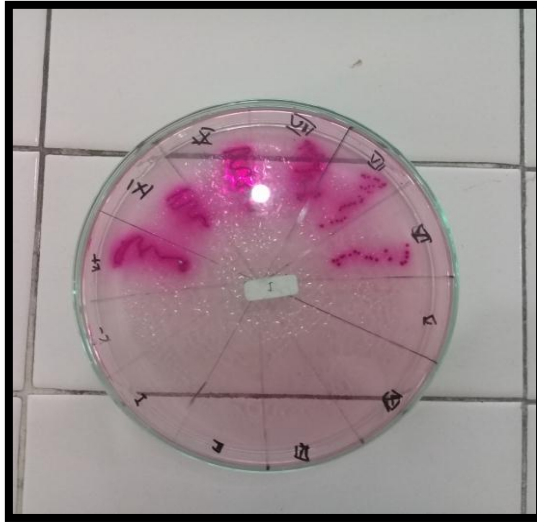
Konsentrasi 60%

Lampiran 11. Hasil uji aktivitas antibakteri ekstrak kulit jeruk kalamansi dengan metode dilusi



Hasil metode dilusi dari fraksi air konsentrasi 100% terhadap bakteri *Escherichia coli* ATCC 25922

Lampiran 12. Hasil inokulasi ekstrak terhadap bakteri *Escherichia coli* ATCC 29522 pada media selektif Endo Agar



Lampiran 13. Hasil Presentase bobot kering terhadap bobot basah

| Bobot Basah | Bobot kering | Randemen |
|--------------------|---------------------|-----------------|
| 5000 gram | 1200 gram | 24% |

Perhitungan bobot kering terhadap bobot basah sebagai berikut

$$\text{Randemen (\%)} = \frac{\text{bobot kering}}{\text{bobot basah}} \times 100\%$$

$$\text{Randemen (\%)} = \frac{1200}{5000} \times 100\%$$

$$\text{Randemen (\%)} = 24\%$$

Hasil perhitungan bobot kering terhadap bobot basah diperoleh randemen sebesar 24%

Lampiran 14. Perhitungan penetapan susut pengeringan serbuk kulit buah jeruk kalamansi (*Citrus microcarpa*)

| No | Bobot Awal (g) | Kadar Air (g) | Randemen (%) |
|------------------|-----------------------|----------------------|---------------------|
| 1 | 2,000 | 5,5 | 0,275 |
| 2 | 2,000 | 5,5 | 0,275 |
| 3 | 2,000 | 5,5 | 0,275 |
| Rata-rata | | | 0,275 |

Penetapan susut pengeringan didapat dengan perhitungan sebagai berikut

$$\text{Randemen (\%)} = \frac{5,5}{2000} \times 100\%$$

$$\text{Randemen (\%)} = \frac{5,5}{2000} \times 100\%$$

$$\text{Randemen (\%)} = \frac{5,5}{2000} \times 100\%$$

Dari hasil penetapan susut pengeringan dengan menggunakan *moisture balance* menunjukkan bahwa nilai dari rata-rata kadar air serbuk kulit buah jeruk kalamansi adalah sebesar 0,275%. Nilai tersebut memenuhi syarat dimana kadar air suatu serbuk tidak boleh lebih dari 10%.

Lampiran 15. Perhitungan randemen ekstrak maserasi kulit jeruk kalamansi

| Bobot serbuk (gram) | Bobot ekstrak (gram) | Randemen (% b/b) |
|----------------------------|-----------------------------|-------------------------|
| 340 | 126,27 | 37,130 |

$$\text{Randemen (\%)} = \frac{\text{bobot ekstrak}}{\text{bobot serbuk}} \times 100\%$$

$$\text{Randemen (\%)} = \frac{126,27}{340} \times 100\%$$

$$\text{Randemen (\%)} = 37,130 \%$$

Hasil randemen ekstrak maserasi kulit jeruk kalamansi adalah 37,13%

Lampiran 16. Perhitungan randemen fraksi n-Heksan, Etil Asetat, dan Air kulit buah jeruk kalamansi

| No | Bobot Ekstrak (g) | Bobot Fraksi (g) | Randemen (%) |
|-----------|-------------------|------------------|--------------|
| 1 | 10,411,43 | | 13,74 |
| 2 | 10,141,39 | 13,71 | |
| 3 | 10,281,4414,01 | | |
| Rata-rata | | | 13,82 |

- Randemen (%) = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$
 Randemen (%) = $\frac{1,43}{10,41} \times 100\%$
 Randemen (%) = 13,74%
- Randemen (%) = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$
 Randemen (%) = $\frac{1,44}{10,28} \times 100\%$
 Randemen (%) = 14,01%
- Randemen (%) = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$
 Randemen (%) = $\frac{1,39}{10,14} \times 100\%$
 Randemen (%) = 13,71%

Analisis menggunakan rumus sebagai berikut:

$$\text{Rumus SD} = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

Keterangan:

- x = persentase
- \bar{x} = rata-rata persentase
- n = banyaknya perlakuan
- SD = Standar Deviasi

Kriteria penolakan Standar Deviasi adalah $|x - \bar{x}| > 2 \text{ SD}$, \bar{x} adalah data yang dicurigai.

| x | \bar{x} | $d= x - \bar{x} $ | d^2 |
|-------|-----------|-------------------|-----------------|
| 13,71 | | 0,1 | 0,01 |
| 13,74 | 13,82 | 0,1 | 0,04 |
| 14,01 | | 0,2 | 0,09 |
| | | | $\Sigma = 0,28$ |

$$SD = \sqrt{\frac{0,16}{3-1}}$$

$$SD = 0,28$$

$$2SD = 0,56$$

$$\text{Rata-rata} = \frac{13,72 + 14,05}{2} = 13,9$$

Data ditolak apabila $|x - \bar{x}| > 2SD$, yang dicurigai $|13,72 - 14,05| = 0,3 < 2SD$ maka data diterima.

Persentase rata-rata rendemen fraksi n-heksan dari kulit jeruk kalamansi adalah

$$\frac{13,72 + 13,68 + 14,05}{3} = 13,82\% \text{ b/b}$$

| No | Bobot Ekstrak (g) | Bobot Fraksi (g) | Rendemen (%) |
|-----------|-------------------|------------------|--------------|
| 1 | 10,41 | 2,72 | 26,1 |
| 2 | 10,14 | 2,68 | 25,6 |
| 3 | 10,28 | 2,76 | 26,9 |
| Rata-rata | | | 26,2 |

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{2,72\text{g}}{10,41\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 26,1\%$$

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{2,68\text{g}}{10,14\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 25,6\%$$

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{2,76\text{g}}{10,28\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 26,9\%$$

Analisis menggunakan rumus sebagai berikut:

$$\text{Rumus SD} = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

Keterangan:

x = persentase

\bar{x} = rata-rata persentase

n = banyaknya perlakuan

SD = Standar Deviasi

Kriteria penolakan Standar Deviasi adalah $|x - \bar{x}| > 2 \text{ SD}$, \bar{x} adalah data yang dicurigai.

| x | \bar{x} | $d = x - \bar{x} $ | d^2 |
|------|-----------|---------------------|-----------------|
| 26,1 | | 0,1 | 0,01 |
| 25,6 | 26,2 | 0,6 | 0,36 |
| 26,9 | | 0,7 | 0,49 |
| | | | $\Sigma = 1,96$ |

$$\text{SD} = \sqrt{\frac{1,96}{3 - 1}}$$

$$\text{SD} = 0,99$$

$$2\text{SD} = 1,98$$

$$\text{Rata-rata} = \frac{26,9 + 26,1}{2} = 26,5$$

Data ditolak apabila $|x - \bar{x}| > 2 \text{ SD}$, yang dicurigai $|26,9 - 26,1| = 0,8 < 2\text{SD}$ maka data diterima.

Persentase rata-rata rendemen fraksi etil asetat dari kulit buah jeruk kalamansi adalah $\frac{26,1 + 25,6 + 26,9}{3} = 26,2 \%$ b/b

| No | BobotEkstrak (g) | BobotFraksi (g) | Rendemen (%) |
|-----------|------------------|-----------------|--------------|
| 1 | 10,41 | 5,32 | 51,1 |
| 2 | 10,14 | 5,10 | 50,3 |
| 3 | 10,28 | 5,28 | 51,2 |
| Rata-rata | | | 50,9 |

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{5,32\text{g}}{10,41\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 51,1\%$$

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{5,10\text{g}}{10,14\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 50,3\%$$

- Rendemen % = $\frac{\text{bobot fraksi}}{\text{bobot ekstrak}} \times 100\%$

$$\text{Rendemen \%} = \frac{5,28\text{g}}{10,28\text{g}} \times 100\%$$

$$\text{Rendemen \%} = 51,2\%$$

Analisis menggunakan rumus sebagai berikut:

$$\text{Rumus SD} = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

Keterangan:

x = persentase

\bar{x} = rata-rata persentase

n = banyaknya perlakuan

SD = Standar Deviasi

Kriteria penolakan Standar Deviasi adalah $|x - \bar{x}| > 2 \text{ SD}$, \bar{x} adalah data yang dicurigai.

| x | \bar{x} | $d = x - \bar{x} $ | d^2 |
|------|-----------|---------------------|-----------------|
| 51,1 | 50,9 | 0,2 | 0,04 |
| 50,3 | | 0,6 | 0,36 |
| 51,4 | | 0,5 | 0,25 |
| | | | $\Sigma = 1,69$ |

$$\text{SD} = \sqrt{\frac{1,69}{3-1}}$$

$$\text{SD} = 0,92$$

$$2\text{SD} = 1,84$$

$$\text{Rata-rata} = \frac{51,1+51,4}{2} = 51,25$$

Data ditolak apabila $|x - \bar{x}| > 2 \text{ SD}$, yang dicurigai $|51,4 - 51,1| = 0,3 < 2\text{SD}$ maka data diterima.

Persentase rata-rata rendemen fraksi etil asetat dari daun jambu air adalah $\frac{51,1+50,3+51,4}{3} = 50,9\% \text{ b/b}$

Lampiran 17. Perhitungankonsentrasiekstrak fraksi n-heksan, etilasetatdan airsecaradifusi

1. Pembuatan larutan uji hasil fraksinasi konsentrasi 100% sebanyak 1 ml

$$100\% = \frac{100 \text{ g}}{100\text{ml}}$$

$$\frac{1\text{ml}}{100\text{ml}} \times 100 \text{ g} = 1 \text{ g}$$

Ditimbang 1 g fraksi, dilarutkandengan dimethyl sulfoxide (DMSO) 1% sampai 1 ml.

2. Pembuatan larutan uji hasil fraksinasi konsentrasi 80% sebanyak 1 ml.

$$80\% = \frac{80 \text{ g}}{100\text{ml}}$$

$$\frac{1\text{ml}}{100\text{ml}} \times 80\text{g} = 0,8\text{g}$$

Ditimbang 800 mg fraksi, dilarutkandengan dimethyl sulfoxide (DMSO) 1% sampai 1 ml.

3. Pembuatan larutan uji hasil fraksinasi konsentrasi 60% sebanyak 1 ml.

$$60\% = \frac{60\text{g}}{100\text{ml}}$$

$$\frac{1\text{ml}}{100\text{ml}} \times 60\text{g} = 0,6\text{g}$$

Ditimbang 600 mg fraksi, dilarutkandengan dimethyl sulfoxide (DMSO) 1% sampai 1 ml.

Keterangan :

Untuk fraksi air dilarutkan dalam aquadeststeril.

Lampiran 18. Pembuatankonsentrasiekstrak atau fraksiteraktifsecaradilusi

Kadar fraksi yang digunakan adalah sebagai berikut :

1. Menimbang 1 g fraksi etil asetat kemudian dimasukkan ke dalam vial sampai 1 mL dengan dimethyl sulfoxide (DMSO) 1%.
2. Perhitungan larutan stok = $\frac{2g}{100ml} = 1g/ml$
3. Tabung 1 (kontrol negatif)
4. Dipipet 1 ml ekstrak (konsentrasi 100%) + BHI sampai 2 mL.

Tabung2 :Pembuatankonsentrasi 50%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 100\% = 2 \cdot 50\%$$

$$V_1 = \frac{100\%}{100\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung3:Pembuatankonsentrasi 25%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 50\% = 2 \cdot 25\%$$

$$V_1 = \frac{50\%}{50\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung4:Pembuatankonsentrasi 12,5%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 25\% = 2 \cdot 12,5\%$$

$$V_1 = \frac{25\%}{25\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung5:Pembuatankonsentrasi 6,25%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 12,5\% = 2 \cdot 6,25\%$$

$$V_1 = \frac{12,5\%}{12,5\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung6:Pembuatankonsentrasi 3,125%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 6,25\% = 2 \cdot 3,125\%$$

$$V_1 = \frac{6,25\%}{6,25\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung7:Pembuatankonsentrasi 1,65%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 3,12\% = 2 \cdot 1,56\%$$

$$V_1 = \frac{3,12\%}{3,12\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung8:Pembuatankonsentrasi 0,78%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 1,56\% = 2 \cdot 0,78\%$$

$$V_1 = \frac{1,56\%}{1,56\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung9:Pembuatankonsentrasi 0,39%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 0,78\% = 2 \cdot 0,39\%$$

$$V_1 = \frac{0,78\%}{0,78\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung10:Pembuatankonsentrasi 0,195%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 0,39\% = 2 \cdot 0,195\%$$

$$V_1 = \frac{0,39\%}{0,39\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung11:Pembuatankonsentrasi 0,095%

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$V_1 \cdot 0,19\% = 2 \cdot 0,095\%$$

$$V_1 = \frac{0,19\%}{0,19\%} = 1 \text{ mL}$$

Dipipet 1 ml darisediaanawal (100%) kemudianditambah BHI sampai 2 ml.

Tabung 11 (kontrolpositif = positifditumbuhibakteri)

Dipipet 1 ml suspensibakterikemudianditambahkan BHI sampai 1 ml.

Keterangan :tambahkan 1 ml suspensibakterikedalamtabung 2 sampaitabung10.

Lampiran 19. Hasil analisis dengan ANOVA two way

Case Processing Summary

| | | Cases | | | | | |
|-------------------------------|-----------------------|-------|---------|---------|---------|-------|---------|
| | | Valid | | Missing | | Total | |
| | | N | Percent | N | Percent | N | Percent |
| Diameter daya hambat dalam mm | Staphylococcus aureus | 39 | 100.0% | 0 | .0% | 39 | 100.0% |
| | Escherichia coli | 39 | 100.0% | 0 | .0% | 39 | 100.0% |

Tests of Normality

| | | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------------------------------|-----------------------|---------------------------------|----|-------|--------------|----|------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Diameter daya hambat dalam mm | Staphylococcus aureus | .077 | 39 | .200* | .952 | 39 | .095 |
| | Escherichia coli | .081 | 39 | .200* | .963 | 39 | .224 |

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Descriptive Statistics

Dependent Variable: Diameter daya hambat dalam mm

| Bakteri | Konsentrasi | Mean | Std. Deviation | N | |
|-----------------------|------------------------------------|-------|----------------|-------|----|
| Staphylococcus aureus | Ekstrak 100% | 28.00 | 1.000 | 3 | |
| | Ekstrak 80% | 25.00 | 1.000 | 3 | |
| | Ekstrak 60% | 22.00 | 1.000 | 3 | |
| | Fraksi n-Heksan 100% | 9.00 | 1.000 | 3 | |
| | Fraksi n-Heksan 80% | 8.00 | 1.000 | 3 | |
| | Fraksi n-Heksan 60% | 7.33 | 1.528 | 3 | |
| | Fraksi Etil Asetat 100% | 17.00 | 1.000 | 3 | |
| | Fraksi Etil Asetat 80% | 14.00 | 1.000 | 3 | |
| | Fraksi Etil Asetat 60% | 12.00 | 1.000 | 3 | |
| | Fraksi Air 100% | 26.00 | 1.000 | 3 | |
| | Fraksi Air 80% | 19.00 | 1.000 | 3 | |
| | Fraksi Air 60% | 18.00 | 1.000 | 3 | |
| | Kontrol positif (+) Siproflosaksim | | 37.00 | 1.000 | 3 |
| | Total | | 18.64 | 8.628 | 39 |
| Escherichia coli | Ekstrak 100% | 31.00 | 1.000 | 3 | |
| | Ekstrak 80% | 28.67 | .577 | 3 | |
| | Ekstrak 60% | 22.00 | 1.000 | 3 | |
| | Fraksi n-Heksan 100% | 12.33 | 1.528 | 3 | |
| | Fraksi n-Heksan 80% | 10.00 | 1.000 | 3 | |
| | Fraksi n-Heksan 60% | 8.33 | .577 | 3 | |
| | Fraksi Etil Asetat 100% | 24.67 | 2.082 | 3 | |
| | Fraksi Etil Asetat 80% | 22.00 | 1.000 | 3 | |
| | Fraksi Etil Asetat 60% | 17.67 | 1.528 | 3 | |
| | Fraksi Air 100% | 28.00 | 1.000 | 3 | |
| | Fraksi Air 80% | 23.00 | 2.000 | 3 | |
| | Fraksi Air 60% | 17.67 | 1.528 | 3 | |
| | Kontrol positif (+) Siproflosaksim | | 38.67 | .577 | 3 |
| | Total | | 21.85 | 8.536 | 39 |
| Total | Ekstrak 100% | 29.50 | 1.871 | 6 | |
| | Ekstrak 80% | 26.83 | 2.137 | 6 | |
| | Ekstrak 60% | 22.00 | .894 | 6 | |
| | Fraksi n-Heksan 100% | 10.67 | 2.160 | 6 | |
| | Fraksi n-Heksan 80% | 9.00 | 1.414 | 6 | |
| | Fraksi n-Heksan 60% | 7.83 | 1.169 | 6 | |

| | | | |
|------------------------------------|-------|-------|----|
| Fraksi Etil Asetat 100% | 20.83 | 4.446 | 6 |
| Fraksi Etil Asetat 80% | 18.00 | 4.472 | 6 |
| Fraksi Etil Asetat 60% | 14.83 | 3.312 | 6 |
| Fraksi Air 100% | 27.00 | 1.414 | 6 |
| Fraksi Air 80% | 21.00 | 2.608 | 6 |
| Fraksi Air 60% | 17.83 | 1.169 | 6 |
| Kontrol positif (+) Siproflosaksim | 37.83 | 1.169 | 6 |
| Total | 20.24 | 8.678 | 78 |

Levene's Test of Equality of Error Variances^a

Dependent Variable:Diameter daya hambat dalam mm

| F | df1 | df2 | Sig. |
|------|-----|-----|------|
| .608 | 25 | 52 | .911 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Tests of Between-Subjects Effects

Dependent Variable:Diameter daya hambat dalam mm

| Source | Type III Sum of Squares | df | Mean Square |
|-----------------------|-------------------------|----|-------------|
| Corrected Model | 5727.038 ^a | 25 | 229.082 |
| Intercept | 31964.628 | 1 | 31964.628 |
| Bakteri | 200.321 | 1 | 200.321 |
| Konsentrasi | 5402.538 | 12 | 450.212 |
| Bakteri * Konsentrasi | 124.179 | 12 | 10.348 |
| Error | 71.333 | 52 | 1.372 |
| Total | 37763.000 | 78 | |
| Corrected Total | 5798.372 | 77 | |

a. R Squared = ,988 (Adjusted R Squared = ,982)

- a. Design: Intercept + Bakteri + Konsentrasi + Bakteri * Konsentras

| F | Sig. |
|-----------|------|
| 166.994 | .000 |
| 23301.318 | .000 |
| 146.028 | .000 |
| 328.192 | .000 |
| 7.544 | .000 |

1. Bakteri

Dependent Variable:Diameter daya hambat dalam mm

| Bakteri | Mean | Std. Error | 95% Confidence Interval | |
|-----------------------|--------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Staphylococcus aureus | 18.641 | .188 | 18.265 | 19.017 |
| Escherichia coli | 21.846 | .188 | 21.470 | 22.222 |

2. Konsentrasi

Dependent Variable:Diameter daya hambat dalam mm

| Konsentrasi | Mean | Std. Error | 95% Confidence Interval | |
|-------------------------------------|--------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Ekstrak 100% | 29.500 | .478 | 28.541 | 30.459 |
| Ekstrak 80% | 26.833 | .478 | 25.874 | 27.793 |
| Ekstrak 60% | 22.000 | .478 | 21.041 | 22.959 |
| Fraksi n-Heksan 100% | 10.667 | .478 | 9.707 | 11.626 |
| Fraksi n-Heksan 80% | 9.000 | .478 | 8.041 | 9.959 |
| Fraksi n-Heksan 60% | 7.833 | .478 | 6.874 | 8.793 |
| Fraksi Etil Asetat 100% | 20.833 | .478 | 19.874 | 21.793 |
| Fraksi Etil Asetat 80% | 18.000 | .478 | 17.041 | 18.959 |
| Fraksi Etil Asetat 60% | 14.833 | .478 | 13.874 | 15.793 |
| Fraksi Air 100% | 27.000 | .478 | 26.041 | 27.959 |
| Fraksi Air 80% | 21.000 | .478 | 20.041 | 21.959 |
| Fraksi Air 60% | 17.833 | .478 | 16.874 | 18.793 |
| Kontrol positif (+) Siprofloksim | 37.833 | .478 | 36.874 | 38.793 |

3. Bakteri * Konsentrasi

Dependent Variable:Diameter daya hambat dalam mm

| Bakteri | Konsentrasi | Mean | Std. Error | 95% Confidence Interval | |
|-----------------------|-------------------------|--------|------------|-------------------------|-------------|
| | | | | Lower Bound | Upper Bound |
| Staphylococcus aureus | Ekstrak 100% | 28.000 | .676 | 26.643 | 29.357 |
| | Ekstrak 80% | 25.000 | .676 | 23.643 | 26.357 |
| | Ekstrak 60% | 22.000 | .676 | 20.643 | 23.357 |
| | Fraksi n-Heksan 100% | 9.000 | .676 | 7.643 | 10.357 |
| | Fraksi n-Heksan 80% | 8.000 | .676 | 6.643 | 9.357 |
| | Fraksi n-Heksan 60% | 7.333 | .676 | 5.976 | 8.690 |
| | Fraksi Etil Asetat 100% | 17.000 | .676 | 15.643 | 18.357 |
| | Fraksi Etil Asetat 80% | 14.000 | .676 | 12.643 | 15.357 |
| | Fraksi Etil Asetat 60% | 12.000 | .676 | 10.643 | 13.357 |
| | Fraksi Air 100% | 26.000 | .676 | 24.643 | 27.357 |
| | Fraksi Air 80% | 19.000 | .676 | 17.643 | 20.357 |

| | | | | | |
|------------------|---------------------------------------|--------|------|--------|--------|
| | Fraksi Air 60% | 18.000 | .676 | 16.643 | 19.357 |
| | Kontrol positif (+) Siproflosaksim | 37.000 | .676 | 35.643 | 38.357 |
| Escherichia coli | Ekstrak 100% | 31.000 | .676 | 29.643 | 32.357 |
| | Ekstrak 80% | 28.667 | .676 | 27.310 | 30.024 |
| | Ekstrak 60% | 22.000 | .676 | 20.643 | 23.357 |
| | Fraksi n-Heksan 100% | 12.333 | .676 | 10.976 | 13.690 |
| | Fraksi n-Heksan 80% | 10.000 | .676 | 8.643 | 11.357 |
| | Fraksi n-Heksan 60% | 8.333 | .676 | 6.976 | 9.690 |
| | Fraksi Etil Asetat 100% | 24.667 | .676 | 23.310 | 26.024 |
| | Fraksi Etil Asetat 80% | 22.000 | .676 | 20.643 | 23.357 |
| | Fraksi Etil Asetat 60% | 17.667 | .676 | 16.310 | 19.024 |
| | Fraksi Air 100% | 28.000 | .676 | 26.643 | 29.357 |
| | Fraksi Air 80% | 23.000 | .676 | 21.643 | 24.357 |
| | Fraksi Air 60% | 17.667 | .676 | 16.310 | 19.024 |
| | Kontrol positif (+) Siproflosaksim | 38.667 | .676 | 37.310 | 40.024 |

POST HOCT

Multiple Comparisons

Dependent Variable:Diameter daya hambat dalam mm

| | (I) Konsentrasi | (J) Konsentrasi | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | | | |
|---------------------|---------------------|---------------------------------------|--------------------------|----------------------|---------------------|-------------------------|-------------|-------|------|
| | | | | | | Lower Bound | Upper Bound | | |
| Tukey HSD | Ekstrak 100% | Ekstrak 80% | 2.67 ^{ns} | .676 | .013 | .32 | 5.01 | | |
| | | Ekstrak 60% | 7.50 ^{ns} | .676 | .000 | 5.15 | 9.85 | | |
| | | Fraksi n-Heksan 100% | 18.83 ^{ns} | .676 | .000 | 16.49 | 21.18 | | |
| | | Fraksi n-Heksan 80% | 20.50 ^{ns} | .676 | .000 | 18.15 | 22.85 | | |
| | | Fraksi n-Heksan 60% | 21.67 ^{ns} | .676 | .000 | 19.32 | 24.01 | | |
| | | Fraksi Etil Asetat 100% | 8.67 ^{ns} | .676 | .000 | 6.32 | 11.01 | | |
| | | Fraksi Etil Asetat 80% | 11.50 ^{ns} | .676 | .000 | 9.15 | 13.85 | | |
| | | Fraksi Etil Asetat 60% | 14.67 ^{ns} | .676 | .000 | 12.32 | 17.01 | | |
| | | Fraksi Air 100% | 2.50 ^{ns} | .676 | .027 | .15 | 4.85 | | |
| | | Fraksi Air 80% | 8.50 ^{ns} | .676 | .000 | 6.15 | 10.85 | | |
| | | Fraksi Air 60% | 11.67 ^{ns} | .676 | .000 | 9.32 | 14.01 | | |
| | | Kontrol positif (+) Siproflosaksim | -8.33 ^{ns} | .676 | .000 | -10.68 | -5.99 | | |
| | | Ekstrak 80% | Ekstrak 100% | Ekstrak 60% | -2.67 ^{ns} | .676 | .013 | -5.01 | -.32 |
| | | | | Fraksi n-Heksan 100% | 4.83 ^{ns} | .676 | .000 | 2.49 | 7.18 |
| Fraksi n-Heksan 80% | 16.17 ^{ns} | | | .676 | .000 | 13.82 | 18.51 | | |
| Fraksi n-Heksan 60% | 17.83 ^{ns} | | | .676 | .000 | 15.49 | 20.18 | | |
| Fraksi n-Heksan 60% | 19.00 ^{ns} | | | .676 | .000 | 16.65 | 21.35 | | |

| | | | | | | |
|-------------------------|---------------------------------------|----------------------|------|-------|--------|--------|
| | Fraksi Etil Asetat 100% | 6.00 st | .676 | .000 | 3.65 | 8.35 |
| | Fraksi Etil Asetat 80% | 8.83 st | .676 | .000 | 6.49 | 11.18 |
| | Fraksi Etil Asetat 60% | 12.00 st | .676 | .000 | 9.65 | 14.35 |
| | Fraksi Air 100% | -.17 | .676 | 1.000 | -2.51 | 2.18 |
| | Fraksi Air 80% | 5.83 st | .676 | .000 | 3.49 | 8.18 |
| | Fraksi Air 60% | 9.00 st | .676 | .000 | 6.65 | 11.35 |
| | Kontrol positif (+) Siproflosaksim | -11.00 st | .676 | .000 | -13.35 | -8.65 |
| Ekstrak 60% | Ekstrak 100% | -7.50 st | .676 | .000 | -9.85 | -5.15 |
| | Ekstrak 80% | -4.83 st | .676 | .000 | -7.18 | -2.49 |
| | Fraksi n-Heksan 100% | 11.33 st | .676 | .000 | 8.99 | 13.68 |
| | Fraksi n-Heksan 80% | 13.00 st | .676 | .000 | 10.65 | 15.35 |
| | Fraksi n-Heksan 60% | 14.17 st | .676 | .000 | 11.82 | 16.51 |
| | Fraksi Etil Asetat 100% | 1.17 | .676 | .875 | -1.18 | 3.51 |
| | Fraksi Etil Asetat 80% | 4.00 st | .676 | .000 | 1.65 | 6.35 |
| | Fraksi Etil Asetat 60% | 7.17 st | .676 | .000 | 4.82 | 9.51 |
| | Fraksi Air 100% | -5.00 st | .676 | .000 | -7.35 | -2.65 |
| | Fraksi Air 80% | 1.00 | .676 | .955 | -1.35 | 3.35 |
| | Fraksi Air 60% | 4.17 st | .676 | .000 | 1.82 | 6.51 |
| | Kontrol positif (+) Siproflosaksim | -15.83 st | .676 | .000 | -18.18 | -13.49 |
| Fraksi n-Heksan 100% | Ekstrak 100% | -18.83 st | .676 | .000 | -21.18 | -16.49 |
| | Ekstrak 80% | -16.17 st | .676 | .000 | -18.51 | -13.82 |
| | Ekstrak 60% | -11.33 st | .676 | .000 | -13.68 | -8.99 |
| | Fraksi n-Heksan 80% | 1.67 | .676 | .418 | -.68 | 4.01 |
| | Fraksi n-Heksan 60% | 2.83 st | .676 | .006 | .49 | 5.18 |
| | Fraksi Etil Asetat 100% | -10.17 st | .676 | .000 | -12.51 | -7.82 |
| | Fraksi Etil Asetat 80% | -7.33 st | .676 | .000 | -9.68 | -4.99 |
| | Fraksi Etil Asetat 60% | -4.17 st | .676 | .000 | -6.51 | -1.82 |
| | Fraksi Air 100% | -16.33 st | .676 | .000 | -18.68 | -13.99 |
| | Fraksi Air 80% | -10.33 st | .676 | .000 | -12.68 | -7.99 |
| | Fraksi Air 60% | -7.17 st | .676 | .000 | -9.51 | -4.82 |
| | Kontrol positif (+) Siproflosaksim | -27.17 st | .676 | .000 | -29.51 | -24.82 |
| Fraksi n-Heksan 80% | Ekstrak 100% | -20.50 st | .676 | .000 | -22.85 | -18.15 |
| | Ekstrak 80% | -17.83 st | .676 | .000 | -20.18 | -15.49 |
| | Ekstrak 60% | -13.00 st | .676 | .000 | -15.35 | -10.65 |
| | Fraksi n-Heksan 100% | -1.67 | .676 | .418 | -4.01 | .68 |
| | Fraksi n-Heksan 60% | 1.17 | .676 | .875 | -1.18 | 3.51 |
| | Fraksi Etil Asetat 100% | -11.83 st | .676 | .000 | -14.18 | -9.49 |
| | Fraksi Etil Asetat 80% | -9.00 st | .676 | .000 | -11.35 | -6.65 |
| | Fraksi Etil Asetat 60% | -5.83 st | .676 | .000 | -8.18 | -3.49 |

| | | | | | | | |
|---------------------------------------|---------------------------------------|----------------------|----------------------|-------|--------|--------|-------|
| | Fraksi Air 100% | -18.00 st | .676 | .000 | -20.35 | -15.65 | |
| | Fraksi Air 80% | -12.00 st | .676 | .000 | -14.35 | -9.65 | |
| | Fraksi Air 60% | -8.83 st | .676 | .000 | -11.18 | -6.49 | |
| | Kontrol positif (+) Siproflosaksim | -28.83 st | .676 | .000 | -31.18 | -26.49 | |
| Fraksi n-Heksan 60% | Ekstrak 100% | -21.67 st | .676 | .000 | -24.01 | -19.32 | |
| | Ekstrak 80% | -19.00 st | .676 | .000 | -21.35 | -16.65 | |
| | Ekstrak 60% | -14.17 st | .676 | .000 | -16.51 | -11.82 | |
| | Fraksi n-Heksan 100% | -2.83 st | .676 | .006 | -5.18 | -.49 | |
| | Fraksi n-Heksan 80% | -1.17 | .676 | .875 | -3.51 | 1.18 | |
| | Fraksi Etil Asetat 100% | -13.00 st | .676 | .000 | -15.35 | -10.65 | |
| | Fraksi Etil Asetat 80% | -10.17 st | .676 | .000 | -12.51 | -7.82 | |
| | Fraksi Etil Asetat 60% | -7.00 st | .676 | .000 | -9.35 | -4.65 | |
| | Fraksi Air 100% | -19.17 st | .676 | .000 | -21.51 | -16.82 | |
| | Fraksi Air 80% | -13.17 st | .676 | .000 | -15.51 | -10.82 | |
| | Fraksi Air 60% | -10.00 st | .676 | .000 | -12.35 | -7.65 | |
| | Kontrol positif (+) Siproflosaksim | -30.00 st | .676 | .000 | -32.35 | -27.65 | |
| | Fraksi Etil Asetat 100% | Ekstrak 100% | -8.67 st | .676 | .000 | -11.01 | -6.32 |
| | | Ekstrak 80% | -6.00 st | .676 | .000 | -8.35 | -3.65 |
| Ekstrak 60% | | -1.17 | .676 | .875 | -3.51 | 1.18 | |
| Fraksi n-Heksan 100% | | 10.17 st | .676 | .000 | 7.82 | 12.51 | |
| Fraksi n-Heksan 80% | | 11.83 st | .676 | .000 | 9.49 | 14.18 | |
| Fraksi n-Heksan 60% | | 13.00 st | .676 | .000 | 10.65 | 15.35 | |
| Fraksi Etil Asetat 80% | | 2.83 st | .676 | .006 | .49 | 5.18 | |
| Fraksi Etil Asetat 60% | | 6.00 st | .676 | .000 | 3.65 | 8.35 | |
| Fraksi Air 100% | | -6.17 st | .676 | .000 | -8.51 | -3.82 | |
| Fraksi Air 80% | | -.17 | .676 | 1.000 | -2.51 | 2.18 | |
| Fraksi Air 60% | | 3.00 st | .676 | .003 | .65 | 5.35 | |
| Kontrol positif (+) Siproflosaksim | | -17.00 st | .676 | .000 | -19.35 | -14.65 | |
| Fraksi Etil Asetat 80% | | Ekstrak 100% | -11.50 st | .676 | .000 | -13.85 | -9.15 |
| | | Ekstrak 80% | -8.83 st | .676 | .000 | -11.18 | -6.49 |
| | Ekstrak 60% | -4.00 st | .676 | .000 | -6.35 | -1.65 | |
| | Fraksi n-Heksan 100% | 7.33 st | .676 | .000 | 4.99 | 9.68 | |
| | Fraksi n-Heksan 80% | 9.00 st | .676 | .000 | 6.65 | 11.35 | |
| | Fraksi n-Heksan 60% | 10.17 st | .676 | .000 | 7.82 | 12.51 | |
| | Fraksi Etil Asetat 100% | -2.83 st | .676 | .006 | -5.18 | -.49 | |
| | Fraksi Etil Asetat 60% | 3.17 st | .676 | .001 | .82 | 5.51 | |
| | Fraksi Air 100% | -9.00 st | .676 | .000 | -11.35 | -6.65 | |
| | Fraksi Air 80% | -3.00 st | .676 | .003 | -5.35 | -.65 | |
| | Fraksi Air 60% | .17 | .676 | 1.000 | -2.18 | 2.51 | |

| | | | | | | |
|---------------------------------------|---------------------------------------|----------------------|----------------------|-------|--------|--------|
| | Kontrol positif (+) Siproflosaksim | -19.83 st | .676 | .000 | -22.18 | -17.49 |
| Fraksi Etil Asetat 60% | Ekstrak 100% | -14.67 st | .676 | .000 | -17.01 | -12.32 |
| | Ekstrak 80% | -12.00 st | .676 | .000 | -14.35 | -9.65 |
| | Ekstrak 60% | -7.17 st | .676 | .000 | -9.51 | -4.82 |
| | Fraksi n-Heksan 100% | 4.17 st | .676 | .000 | 1.82 | 6.51 |
| | Fraksi n-Heksan 80% | 5.83 st | .676 | .000 | 3.49 | 8.18 |
| | Fraksi n-Heksan 60% | 7.00 st | .676 | .000 | 4.65 | 9.35 |
| | Fraksi Etil Asetat 100% | -6.00 st | .676 | .000 | -8.35 | -3.65 |
| | Fraksi Etil Asetat 80% | -3.17 st | .676 | .001 | -5.51 | -.82 |
| | Fraksi Air 100% | -12.17 st | .676 | .000 | -14.51 | -9.82 |
| | Fraksi Air 80% | -6.17 st | .676 | .000 | -8.51 | -3.82 |
| | Fraksi Air 60% | -3.00 st | .676 | .003 | -5.35 | -.65 |
| | Kontrol positif (+) Siproflosaksim | -23.00 st | .676 | .000 | -25.35 | -20.65 |
| | Fraksi Air 100% | Ekstrak 100% | -2.50 st | .676 | .027 | -4.85 |
| Ekstrak 80% | | .17 | .676 | 1.000 | -2.18 | 2.51 |
| Ekstrak 60% | | 5.00 st | .676 | .000 | 2.65 | 7.35 |
| Fraksi n-Heksan 100% | | 16.33 st | .676 | .000 | 13.99 | 18.68 |
| Fraksi n-Heksan 80% | | 18.00 st | .676 | .000 | 15.65 | 20.35 |
| Fraksi n-Heksan 60% | | 19.17 st | .676 | .000 | 16.82 | 21.51 |
| Fraksi Etil Asetat 100% | | 6.17 st | .676 | .000 | 3.82 | 8.51 |
| Fraksi Etil Asetat 80% | | 9.00 st | .676 | .000 | 6.65 | 11.35 |
| Fraksi Etil Asetat 60% | | 12.17 st | .676 | .000 | 9.82 | 14.51 |
| Fraksi Air 80% | | 6.00 st | .676 | .000 | 3.65 | 8.35 |
| Fraksi Air 60% | | 9.17 st | .676 | .000 | 6.82 | 11.51 |
| Kontrol positif (+) Siproflosaksim | | -10.83 st | .676 | .000 | -13.18 | -8.49 |
| Fraksi Air 80% | | Ekstrak 100% | -8.50 st | .676 | .000 | -10.85 |
| | Ekstrak 80% | -5.83 st | .676 | .000 | -8.18 | -3.49 |
| | Ekstrak 60% | -1.00 | .676 | .955 | -3.35 | 1.35 |
| | Fraksi n-Heksan 100% | 10.33 st | .676 | .000 | 7.99 | 12.68 |
| | Fraksi n-Heksan 80% | 12.00 st | .676 | .000 | 9.65 | 14.35 |
| | Fraksi n-Heksan 60% | 13.17 st | .676 | .000 | 10.82 | 15.51 |
| | Fraksi Etil Asetat 100% | .17 | .676 | 1.000 | -2.18 | 2.51 |
| | Fraksi Etil Asetat 80% | 3.00 st | .676 | .003 | .65 | 5.35 |
| | Fraksi Etil Asetat 60% | 6.17 st | .676 | .000 | 3.82 | 8.51 |
| | Fraksi Air 100% | -6.00 st | .676 | .000 | -8.35 | -3.65 |
| | Fraksi Air 60% | 3.17 st | .676 | .001 | .82 | 5.51 |
| | Kontrol positif (+) Siproflosaksim | -16.83 st | .676 | .000 | -19.18 | -14.49 |
| | Fraksi Air 60% | Ekstrak 100% | -11.67 st | .676 | .000 | -14.01 |
| Ekstrak 80% | | -9.00 st | .676 | .000 | -11.35 | -6.65 |

| | | | | | | | |
|-----|---------------------------------------|---------------------------------------|----------------------|------|-------|--------|--------|
| | | Ekstrak 60% | -4.17 st | .676 | .000 | -6.51 | -1.82 |
| | | Fraksi n-Heksan 100% | 7.17 st | .676 | .000 | 4.82 | 9.51 |
| | | Fraksi n-Heksan 80% | 8.83 st | .676 | .000 | 6.49 | 11.18 |
| | | Fraksi n-Heksan 60% | 10.00 st | .676 | .000 | 7.65 | 12.35 |
| | | Fraksi Etil Asetat 100% | -3.00 st | .676 | .003 | -5.35 | -.65 |
| | | Fraksi Etil Asetat 80% | -.17 | .676 | 1.000 | -2.51 | 2.18 |
| | | Fraksi Etil Asetat 60% | 3.00 st | .676 | .003 | .65 | 5.35 |
| | | Fraksi Air 100% | -9.17 st | .676 | .000 | -11.51 | -6.82 |
| | | Fraksi Air 80% | -3.17 st | .676 | .001 | -5.51 | -.82 |
| | | Kontrol positif (+) Siproflosaksim | -20.00 st | .676 | .000 | -22.35 | -17.65 |
| | Kontrol positif (+) Siproflosaksim | Ekstrak 100% | 8.33 st | .676 | .000 | 5.99 | 10.68 |
| | | Ekstrak 80% | 11.00 st | .676 | .000 | 8.65 | 13.35 |
| | | Ekstrak 60% | 15.83 st | .676 | .000 | 13.49 | 18.18 |
| | | Fraksi n-Heksan 100% | 27.17 st | .676 | .000 | 24.82 | 29.51 |
| | | Fraksi n-Heksan 80% | 28.83 st | .676 | .000 | 26.49 | 31.18 |
| | | Fraksi n-Heksan 60% | 30.00 st | .676 | .000 | 27.65 | 32.35 |
| | | Fraksi Etil Asetat 100% | 17.00 st | .676 | .000 | 14.65 | 19.35 |
| | | Fraksi Etil Asetat 80% | 19.83 st | .676 | .000 | 17.49 | 22.18 |
| | | Fraksi Etil Asetat 60% | 23.00 st | .676 | .000 | 20.65 | 25.35 |
| | | Fraksi Air 100% | 10.83 st | .676 | .000 | 8.49 | 13.18 |
| | | Fraksi Air 80% | 16.83 st | .676 | .000 | 14.49 | 19.18 |
| | | Fraksi Air 60% | 20.00 st | .676 | .000 | 17.65 | 22.35 |
| LSD | Ekstrak 100% | Ekstrak 80% | 2.67 st | .676 | .000 | 1.31 | 4.02 |
| | | Ekstrak 60% | 7.50 st | .676 | .000 | 6.14 | 8.86 |
| | | Fraksi n-Heksan 100% | 18.83 st | .676 | .000 | 17.48 | 20.19 |
| | | Fraksi n-Heksan 80% | 20.50 st | .676 | .000 | 19.14 | 21.86 |
| | | Fraksi n-Heksan 60% | 21.67 st | .676 | .000 | 20.31 | 23.02 |
| | | Fraksi Etil Asetat 100% | 8.67 st | .676 | .000 | 7.31 | 10.02 |
| | | Fraksi Etil Asetat 80% | 11.50 st | .676 | .000 | 10.14 | 12.86 |
| | | Fraksi Etil Asetat 60% | 14.67 st | .676 | .000 | 13.31 | 16.02 |
| | | Fraksi Air 100% | 2.50 st | .676 | .001 | 1.14 | 3.86 |
| | | Fraksi Air 80% | 8.50 st | .676 | .000 | 7.14 | 9.86 |
| | | Fraksi Air 60% | 11.67 st | .676 | .000 | 10.31 | 13.02 |
| | | Kontrol positif (+) Siproflosaksim | -8.33 st | .676 | .000 | -9.69 | -6.98 |
| | Ekstrak 80% | Ekstrak 100% | -2.67 st | .676 | .000 | -4.02 | -1.31 |
| | | Ekstrak 60% | 4.83 st | .676 | .000 | 3.48 | 6.19 |
| | | Fraksi n-Heksan 100% | 16.17 st | .676 | .000 | 14.81 | 17.52 |
| | | Fraksi n-Heksan 80% | 17.83 st | .676 | .000 | 16.48 | 19.19 |
| | | Fraksi n-Heksan 60% | 19.00 st | .676 | .000 | 17.64 | 20.36 |
| | | Fraksi Etil Asetat 100% | 6.00 st | .676 | .000 | 4.64 | 7.36 |
| | | Fraksi Etil Asetat 80% | 8.83 st | .676 | .000 | 7.48 | 10.19 |

| | | | | | | |
|-------------------------|---------------------------------------|----------------------|------|------|--------|--------|
| | Fraksi Etil Asetat 60% | 12.00 st | .676 | .000 | 10.64 | 13.36 |
| | Fraksi Air 100% | -1.17 | .676 | .806 | -1.52 | 1.19 |
| | Fraksi Air 80% | 5.83 st | .676 | .000 | 4.48 | 7.19 |
| | Fraksi Air 60% | 9.00 st | .676 | .000 | 7.64 | 10.36 |
| | Kontrol positif (+) Siproflosaksim | -11.00 st | .676 | .000 | -12.36 | -9.64 |
| Ekstrak 60% | Ekstrak 100% | -7.50 st | .676 | .000 | -8.86 | -6.14 |
| | Ekstrak 80% | -4.83 st | .676 | .000 | -6.19 | -3.48 |
| | Fraksi n-Heksan 100% | 11.33 st | .676 | .000 | 9.98 | 12.69 |
| | Fraksi n-Heksan 80% | 13.00 st | .676 | .000 | 11.64 | 14.36 |
| | Fraksi n-Heksan 60% | 14.17 st | .676 | .000 | 12.81 | 15.52 |
| | Fraksi Etil Asetat 100% | 1.17 | .676 | .090 | -.19 | 2.52 |
| | Fraksi Etil Asetat 80% | 4.00 st | .676 | .000 | 2.64 | 5.36 |
| | Fraksi Etil Asetat 60% | 7.17 st | .676 | .000 | 5.81 | 8.52 |
| | Fraksi Air 100% | -5.00 st | .676 | .000 | -6.36 | -3.64 |
| | Fraksi Air 80% | 1.00 | .676 | .145 | -.36 | 2.36 |
| | Fraksi Air 60% | 4.17 st | .676 | .000 | 2.81 | 5.52 |
| | Kontrol positif (+) Siproflosaksim | -15.83 st | .676 | .000 | -17.19 | -14.48 |
| Fraksi n-Heksan 100% | Ekstrak 100% | -18.83 st | .676 | .000 | -20.19 | -17.48 |
| | Ekstrak 80% | -16.17 st | .676 | .000 | -17.52 | -14.81 |
| | Ekstrak 60% | -11.33 st | .676 | .000 | -12.69 | -9.98 |
| | Fraksi n-Heksan 80% | 1.67 st | .676 | .017 | .31 | 3.02 |
| | Fraksi n-Heksan 60% | 2.83 st | .676 | .000 | 1.48 | 4.19 |
| | Fraksi Etil Asetat 100% | -10.17 st | .676 | .000 | -11.52 | -8.81 |
| | Fraksi Etil Asetat 80% | -7.33 st | .676 | .000 | -8.69 | -5.98 |
| | Fraksi Etil Asetat 60% | -4.17 st | .676 | .000 | -5.52 | -2.81 |
| | Fraksi Air 100% | -16.33 st | .676 | .000 | -17.69 | -14.98 |
| | Fraksi Air 80% | -10.33 st | .676 | .000 | -11.69 | -8.98 |
| | Fraksi Air 60% | -7.17 st | .676 | .000 | -8.52 | -5.81 |
| | Kontrol positif (+) Siproflosaksim | -27.17 st | .676 | .000 | -28.52 | -25.81 |
| Fraksi n-Heksan 80% | Ekstrak 100% | -20.50 st | .676 | .000 | -21.86 | -19.14 |
| | Ekstrak 80% | -17.83 st | .676 | .000 | -19.19 | -16.48 |
| | Ekstrak 60% | -13.00 st | .676 | .000 | -14.36 | -11.64 |
| | Fraksi n-Heksan 100% | -1.67 st | .676 | .017 | -3.02 | -.31 |
| | Fraksi n-Heksan 60% | 1.17 | .676 | .090 | -.19 | 2.52 |
| | Fraksi Etil Asetat 100% | -11.83 st | .676 | .000 | -13.19 | -10.48 |
| | Fraksi Etil Asetat 80% | -9.00 st | .676 | .000 | -10.36 | -7.64 |
| | Fraksi Etil Asetat 60% | -5.83 st | .676 | .000 | -7.19 | -4.48 |
| | Fraksi Air 100% | -18.00 st | .676 | .000 | -19.36 | -16.64 |
| | Fraksi Air 80% | -12.00 st | .676 | .000 | -13.36 | -10.64 |
| | Fraksi Air 60% | -8.83 st | .676 | .000 | -10.19 | -7.48 |
| | Kontrol positif (+) Siproflosaksim | -28.83 st | .676 | .000 | -30.19 | -27.48 |

| | | | | | | |
|---------------------------------------|---------------------------------------|----------------------|----------------------|------|--------|--------|
| Fraksi n-Heksan 60% | Ekstrak 100% | -21.67 st | .676 | .000 | -23.02 | -20.31 |
| | Ekstrak 80% | -19.00 st | .676 | .000 | -20.36 | -17.64 |
| | Ekstrak 60% | -14.17 st | .676 | .000 | -15.52 | -12.81 |
| | Fraksi n-Heksan 100% | -2.83 st | .676 | .000 | -4.19 | -1.48 |
| | Fraksi n-Heksan 80% | -1.17 | .676 | .090 | -2.52 | .19 |
| | Fraksi Etil Asetat 100% | -13.00 st | .676 | .000 | -14.36 | -11.64 |
| | Fraksi Etil Asetat 80% | -10.17 st | .676 | .000 | -11.52 | -8.81 |
| | Fraksi Etil Asetat 60% | -7.00 st | .676 | .000 | -8.36 | -5.64 |
| | Fraksi Air 100% | -19.17 st | .676 | .000 | -20.52 | -17.81 |
| | Fraksi Air 80% | -13.17 st | .676 | .000 | -14.52 | -11.81 |
| | Fraksi Air 60% | -10.00 st | .676 | .000 | -11.36 | -8.64 |
| | Kontrol positif (+) Siproflosaksim | -30.00 st | .676 | .000 | -31.36 | -28.64 |
| | Fraksi Etil Asetat 100% | Ekstrak 100% | -8.67 st | .676 | .000 | -10.02 |
| Ekstrak 80% | | -6.00 st | .676 | .000 | -7.36 | -4.64 |
| Ekstrak 60% | | -1.17 | .676 | .090 | -2.52 | .19 |
| Fraksi n-Heksan 100% | | 10.17 st | .676 | .000 | 8.81 | 11.52 |
| Fraksi n-Heksan 80% | | 11.83 st | .676 | .000 | 10.48 | 13.19 |
| Fraksi n-Heksan 60% | | 13.00 st | .676 | .000 | 11.64 | 14.36 |
| Fraksi Etil Asetat 80% | | 2.83 st | .676 | .000 | 1.48 | 4.19 |
| Fraksi Etil Asetat 60% | | 6.00 st | .676 | .000 | 4.64 | 7.36 |
| Fraksi Air 100% | | -6.17 st | .676 | .000 | -7.52 | -4.81 |
| Fraksi Air 80% | | -.17 | .676 | .806 | -1.52 | 1.19 |
| Fraksi Air 60% | | 3.00 st | .676 | .000 | 1.64 | 4.36 |
| Kontrol positif (+) Siproflosaksim | | -17.00 st | .676 | .000 | -18.36 | -15.64 |
| Fraksi Etil Asetat 80% | | Ekstrak 100% | -11.50 st | .676 | .000 | -12.86 |
| | Ekstrak 80% | -8.83 st | .676 | .000 | -10.19 | -7.48 |
| | Ekstrak 60% | -4.00 st | .676 | .000 | -5.36 | -2.64 |
| | Fraksi n-Heksan 100% | 7.33 st | .676 | .000 | 5.98 | 8.69 |
| | Fraksi n-Heksan 80% | 9.00 st | .676 | .000 | 7.64 | 10.36 |
| | Fraksi n-Heksan 60% | 10.17 st | .676 | .000 | 8.81 | 11.52 |
| | Fraksi Etil Asetat 100% | -2.83 st | .676 | .000 | -4.19 | -1.48 |
| | Fraksi Etil Asetat 60% | 3.17 st | .676 | .000 | 1.81 | 4.52 |
| | Fraksi Air 100% | -9.00 st | .676 | .000 | -10.36 | -7.64 |
| | Fraksi Air 80% | -3.00 st | .676 | .000 | -4.36 | -1.64 |
| | Fraksi Air 60% | .17 | .676 | .806 | -1.19 | 1.52 |
| | Kontrol positif (+) Siproflosaksim | -19.83 st | .676 | .000 | -21.19 | -18.48 |
| | Fraksi Etil Asetat 60% | Ekstrak 100% | -14.67 st | .676 | .000 | -16.02 |
| Ekstrak 80% | | -12.00 st | .676 | .000 | -13.36 | -10.64 |
| Ekstrak 60% | | -7.17 st | .676 | .000 | -8.52 | -5.81 |
| Fraksi n-Heksan 100% | | 4.17 st | .676 | .000 | 2.81 | 5.52 |
| Fraksi n-Heksan 80% | | 5.83 st | .676 | .000 | 4.48 | 7.19 |
| Fraksi n-Heksan 60% | | 7.00 st | .676 | .000 | 5.64 | 8.36 |

| | | | | | | |
|---------------------------------------|---------------------------------------|----------------------|----------------------|------|--------|--------|
| | Fraksi Etil Asetat 100% | -6.00 st | .676 | .000 | -7.36 | -4.64 |
| | Fraksi Etil Asetat 80% | -3.17 st | .676 | .000 | -4.52 | -1.81 |
| | Fraksi Air 100% | -12.17 st | .676 | .000 | -13.52 | -10.81 |
| | Fraksi Air 80% | -6.17 st | .676 | .000 | -7.52 | -4.81 |
| | Fraksi Air 60% | -3.00 st | .676 | .000 | -4.36 | -1.64 |
| | Kontrol positif (+) Siproflosaksim | -23.00 st | .676 | .000 | -24.36 | -21.64 |
| Fraksi Air 100% | Ekstrak 100% | -2.50 st | .676 | .001 | -3.86 | -1.14 |
| | Ekstrak 80% | .17 | .676 | .806 | -1.19 | 1.52 |
| | Ekstrak 60% | 5.00 st | .676 | .000 | 3.64 | 6.36 |
| | Fraksi n-Heksan 100% | 16.33 st | .676 | .000 | 14.98 | 17.69 |
| | Fraksi n-Heksan 80% | 18.00 st | .676 | .000 | 16.64 | 19.36 |
| | Fraksi n-Heksan 60% | 19.17 st | .676 | .000 | 17.81 | 20.52 |
| | Fraksi Etil Asetat 100% | 6.17 st | .676 | .000 | 4.81 | 7.52 |
| | Fraksi Etil Asetat 80% | 9.00 st | .676 | .000 | 7.64 | 10.36 |
| | Fraksi Etil Asetat 60% | 12.17 st | .676 | .000 | 10.81 | 13.52 |
| | Fraksi Air 80% | 6.00 st | .676 | .000 | 4.64 | 7.36 |
| | Fraksi Air 60% | 9.17 st | .676 | .000 | 7.81 | 10.52 |
| | Kontrol positif (+) Siproflosaksim | -10.83 st | .676 | .000 | -12.19 | -9.48 |
| | Fraksi Air 80% | Ekstrak 100% | -8.50 st | .676 | .000 | -9.86 |
| Ekstrak 80% | | -5.83 st | .676 | .000 | -7.19 | -4.48 |
| Ekstrak 60% | | -1.00 | .676 | .145 | -2.36 | .36 |
| Fraksi n-Heksan 100% | | 10.33 st | .676 | .000 | 8.98 | 11.69 |
| Fraksi n-Heksan 80% | | 12.00 st | .676 | .000 | 10.64 | 13.36 |
| Fraksi n-Heksan 60% | | 13.17 st | .676 | .000 | 11.81 | 14.52 |
| Fraksi Etil Asetat 100% | | .17 | .676 | .806 | -1.19 | 1.52 |
| Fraksi Etil Asetat 80% | | 3.00 st | .676 | .000 | 1.64 | 4.36 |
| Fraksi Etil Asetat 60% | | 6.17 st | .676 | .000 | 4.81 | 7.52 |
| Fraksi Air 100% | | -6.00 st | .676 | .000 | -7.36 | -4.64 |
| Fraksi Air 60% | | 3.17 st | .676 | .000 | 1.81 | 4.52 |
| Kontrol positif (+) Siproflosaksim | | -16.83 st | .676 | .000 | -18.19 | -15.48 |
| Fraksi Air 60% | | Ekstrak 100% | -11.67 st | .676 | .000 | -13.02 |
| | Ekstrak 80% | -9.00 st | .676 | .000 | -10.36 | -7.64 |
| | Ekstrak 60% | -4.17 st | .676 | .000 | -5.52 | -2.81 |
| | Fraksi n-Heksan 100% | 7.17 st | .676 | .000 | 5.81 | 8.52 |
| | Fraksi n-Heksan 80% | 8.83 st | .676 | .000 | 7.48 | 10.19 |
| | Fraksi n-Heksan 60% | 10.00 st | .676 | .000 | 8.64 | 11.36 |
| | Fraksi Etil Asetat 100% | -3.00 st | .676 | .000 | -4.36 | -1.64 |
| | Fraksi Etil Asetat 80% | -.17 | .676 | .806 | -1.52 | 1.19 |
| | Fraksi Etil Asetat 60% | 3.00 st | .676 | .000 | 1.64 | 4.36 |
| | Fraksi Air 100% | -9.17 st | .676 | .000 | -10.52 | -7.81 |
| | Fraksi Air 80% | -3.17 st | .676 | .000 | -4.52 | -1.81 |

| | | | | | | |
|---------------------------------------|---------------------------------------|---------------------|------|------|--------|--------|
| | Kontrol positif (+) Siproflosaksim | -20.00 [*] | .676 | .000 | -21.36 | -18.64 |
| Kontrol positif (+) Siproflosaksim | Ekstrak 100% | 8.33 [*] | .676 | .000 | 6.98 | 9.69 |
| | Ekstrak 80% | 11.00 [*] | .676 | .000 | 9.64 | 12.36 |
| | Ekstrak 60% | 15.83 [*] | .676 | .000 | 14.48 | 17.19 |
| | Fraksi n-Heksan 100% | 27.17 [*] | .676 | .000 | 25.81 | 28.52 |
| | Fraksi n-Heksan 80% | 28.83 [*] | .676 | .000 | 27.48 | 30.19 |
| | Fraksi n-Heksan 60% | 30.00 [*] | .676 | .000 | 28.64 | 31.36 |
| | Fraksi Etil Asetat 100% | 17.00 [*] | .676 | .000 | 15.64 | 18.36 |
| | Fraksi Etil Asetat 80% | 19.83 [*] | .676 | .000 | 18.48 | 21.19 |
| | Fraksi Etil Asetat 60% | 23.00 [*] | .676 | .000 | 21.64 | 24.36 |
| | Fraksi Air 100% | 10.83 [*] | .676 | .000 | 9.48 | 12.19 |
| | Fraksi Air 80% | 16.83 [*] | .676 | .000 | 15.48 | 18.19 |
| | Fraksi Air 60% | 20.00 [*] | .676 | .000 | 18.64 | 21.36 |

Based on observed means.

The error term is Mean Square(Error) = 1,372.

*. The mean difference is significant at the 0,05 level.

Diameter daya hambat dalam mm

| Konsentrasi | N | Subset | | | | | | | | |
|-----------------------------|---------------------------------------|--------|------|-------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Tukey HSD ^{a,b} | Fraksi n-Heksan 60% | 6 | 7.83 | | | | | | | |
| | Fraksi n-Heksan 80% | 6 | 9.00 | 9.00 | | | | | | |
| | Fraksi n-Heksan 100% | 6 | | 10.67 | | | | | | |
| | Fraksi Etil Asetat 60% | 6 | | | 14.83 | | | | | |
| | Fraksi Air 60% | 6 | | | | 17.83 | | | | |
| | Fraksi Etil Asetat 80% | 6 | | | | 18.00 | | | | |
| | Fraksi Etil Asetat 100% | 6 | | | | | 20.83 | | | |
| | Fraksi Air 80% | 6 | | | | | 21.00 | | | |
| | Ekstrak 60% | 6 | | | | | 22.00 | | | |
| | Ekstrak 80% | 6 | | | | | | 26.83 | | |
| | Fraksi Air 100% | 6 | | | | | | 27.00 | | |
| | Ekstrak 100% | 6 | | | | | | | 29.50 | |
| | Kontrol positif (+) Siproflosaksim | 6 | | | | | | | | 37.83 |
| | Sig. | | .875 | .418 | 1.000 | 1.000 | .875 | 1.000 | 1.000 | 1.000 |
| Tukey B ^{a,b} | Fraksi n-Heksan 60% | 6 | 7.83 | | | | | | | |
| | Fraksi n-Heksan 80% | 6 | 9.00 | 9.00 | | | | | | |
| | Fraksi n-Heksan 100% | 6 | | 10.67 | | | | | | |
| | Fraksi Etil Asetat 60% | 6 | | | 14.83 | | | | | |
| | Fraksi Air 60% | 6 | | | | 17.83 | | | | |
| | Fraksi Etil Asetat 80% | 6 | | | | 18.00 | | | | |
| | Fraksi Etil Asetat 100% | 6 | | | | | 20.83 | | | |
| | Fraksi Air 80% | 6 | | | | | 21.00 | | | |

| | | | | | | | | |
|---------------------------------------|---|--|--|--|-------|-------|-------|-------|
| Ekstrak 60% | 6 | | | | 22.00 | | | |
| Ekstrak 80% | 6 | | | | | 26.83 | | |
| Fraksi Air 100% | 6 | | | | | 27.00 | | |
| Ekstrak 100% | 6 | | | | | | 29.50 | |
| Kontrol positif (+) Siproflosaksim | 6 | | | | | | | 37.83 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1,372.

a. Uses Harmonic Mean Sample Size = 6,000.

b. Alpha = 0,05.

Lampiran 20. Formulasi dan pembuatan media

1. BHI (Brain Heart Infusion)

| | |
|------------------------|--------------|
| • Infus dari otak sapi | 200,0 g |
| • Infus dari hati sapi | 250,0 g |
| • Protease peptone | 10,0 g |
| • Dektrosa | 2,0 g |
| • NaCl | 5,0 g |
| • Dinatrium fosfat | 5,0 g |
| • Aquadest | ad 1000,0 ml |
| • pH | 7,4 |

Reagen-reagen dilarutkan dalam aquadest sebanyak 1000 ml

dandipanaskan sampai larutan sempurna. Disterilkan dengan autoklaf pada suhu 121°C selama 15 menit dan dituangkan dalam cawan petri (Depkes, 1994).

2. VJA (Vogel Johnson Agar)

| | |
|---------------------|---------|
| • Tryptone | 10,0 g |
| • Ekstrak ragi | 5,0 g |
| • Dipotasium pospat | 5,0 g |
| • Manitol | 10,0 g |
| • Lithium chlorida | 5,0 g |
| • Glisine | 10,0 g |
| • Fenol merah | 0,025 g |

Reagen-reagen dilarutkan dalam aquadest sebanyak 1000 ml

dandipanaskan sampai larutan sempurna. Disterilkan dengan autoklaf pada suhu 121°C selama 15 menit. Didinginkan pada suhu 50°C

danditambahkankaliumtelluritikemudiandituangkandalamcawan petri (Depkes, 1994).

3. MHA (Mueller Hintlon Agar)

- Beef, dehidrated infusion 300,0 g
- Casein hydrolysate 17,5 g
- Strach 1,5 g
- Agar-agar 17 g

Suspensikan 38 gram bahan di atasdalam 1 liter aquadest. Panaskansampailarutsempurnadansterilisasipadaautoklaf suhu 121°C selama 15 menit (Depkes, 1994).

4. Nutrient Agar

- Lab lemco powder 1 g
- Yeast extract 2 g
- Pepton 5 g
- Sodium klorida 5 g
- Agar 15 g

Sebanyak 28 g media NA dimasukan dalam erlenmeyer tambah air suling sampai 1000 ml lalu dipanaskan sampai larut sempurna. Disterilkan dalam autoklaf pada suhu 121°C selama 15 menit (Oxoid, 1982).