LAMPIRAN

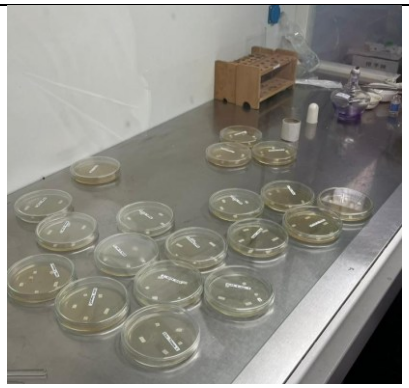
Lampiran 1 Proses Pengolahan Sampel

	Proses Ekstraksi (maserasi)
	Proses Pengentalan (rotary evavorator)
	Ekstrak Kental

Lampiran 2 Proses Sterilisasi Alat dan Media

	Sterilisasi Alat
	Sterilisasi Menggunakan Oven
	Sterilisasi Media Menggunakan Autoklaf

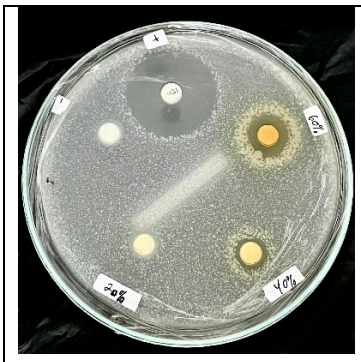
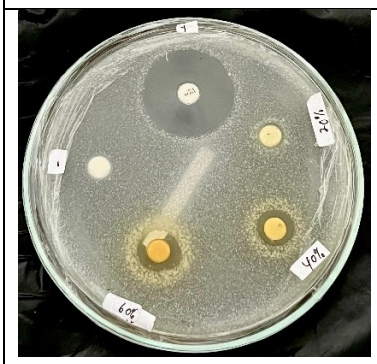
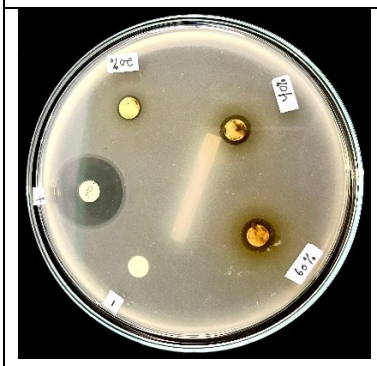
Lampiran 3 Proses Peremajaan dan Penanaman Bakteri

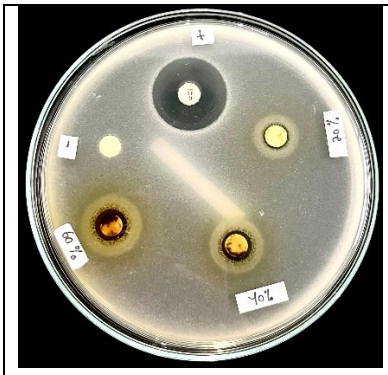
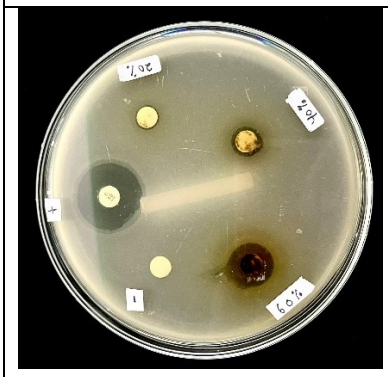
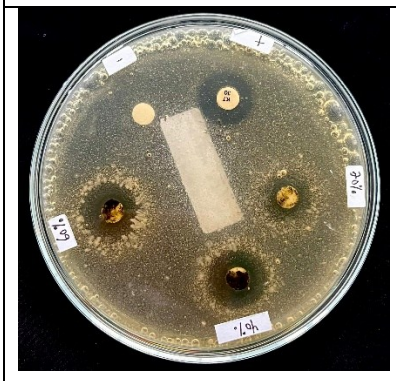
	Melarutkan Media Uji
	Peremajaan Bakteri
	Media Miring
	Penuangan Media dan Mikroba Uji

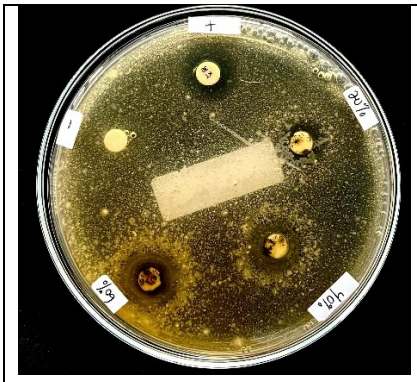
Lampiran 4 Proses Inkubasi

	Inkubasi mikroba di inkubator
	Media NB
	Media miring

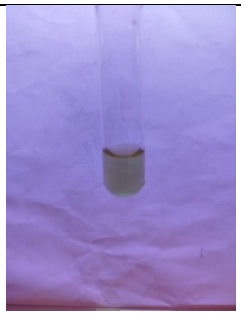
Lampiran 5: Dokumentasi Hasil Uji Aktivitas Antimikroba

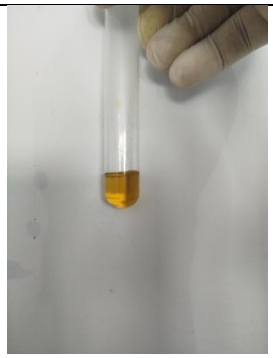
	Bakteri *Staphylococcus aureus* (Replikasi 1)
	Bakteri *Staphylococcus aureus* (Replikasi 2)
	Bakteri *Staphylococcus aureus* (Replikasi 3)
	Bakteri *Escherichia coli* (Replikasi 1)

	Bakteri *Escherichia coli* (Replikasi 2)
	Bakteri *Escherichia coli* (Replikasi 3)
	Jamur *Trichophyton rubrum* (Replikasi 1)
	Jamur *Trichophyton rubrum* (Replikasi 2)

	Jamur *Trichophyton rubrum* (Replikasi 3)

Lampiran 6: Skrining Fitokimia

	Sebelum perlakuan
	Uji flavonoid
	Uji tanin

	Uji alkaloid (mayer)
	Uji alkaloid (dragendroff)
	Uji terpenoid
	Uji saponin

Lampiran 7: Perhitungan Rendemen Ekstrak

Rendemen ekstrak (%) = $\frac{\text{bobot ekstrak dihasilkan}}{\text{bobot awal simplisia yang digunakan}} \times 100\%$

- Diketahui: bobot ekstrak dihasilkan = 16,46gr

  bobot awal simplisia yang digunakan = 200gr
- Ditanyakan: Rendemen ekstrak (%) =
- Penyelesaian: Rendemen ekstrak (%) = $\frac{16{,}46\text{gr}}{200\text{gr}} \times 100\% = 8{,}23\%$
- Referensi: Syarat rendemen ekstrak ≥ 10% (Rusman et al., 2023).

Lampiran 8: Perhitungan Pembuatan Larutan Uji

Rumus: Konsentrasi(%) = (Jumlah Ekstrak/Total Volume) × 100

Jumlah Ekstrak = (Konsentrasi/100) × Total Volume

- Diketahui: Konsentrasi = 20%

  Total volume larutan = 5 ml

  Ditanyakan: Jumlah Ekstrak?

  Jumlah Pelarut?

  Penyelesaian:

  1. Jumlah Ekstrak

     = (20/100) × 5 ml

     = 1 ml
  2. Jumlah Pelarut

     = 5 ml – 1 ml

     = 4 ml
- Diketahui: Konsentrasi = 40%

  Total volume larutan = 5 ml

Ditanyakan: Jumlah Ekstrak?

Jumlah Pelarut?

Penyelesaian:

1. Jumlah Ekstrak
   = (40/100) × 5 ml
   = 2 ml
2. Jumlah Pelarut
   = 5 ml – 2 ml
   = 3 ml

- Diketahui: Konsentrasi = 60%
  Total volume larutan = 5 ml

Ditanyakan: Jumlah Ekstrak?

Jumlah Pelarut?

Penyelesaian:

1. Jumlah Ekstrak
   = (60/100) × 5 ml
   = 3 ml
2. Jumlah Pelarut
   = 5 ml – 3 ml
   = 2 ml

Lampiran 9: Perhitungan Media

a. Media *Nutrient Agar* (NA)

   Rumus $= \frac{M1}{M2} = \frac{V1}{V2}$

   Keterangan:

   M1 = Berat standar pengenceran media

   M2 = Berat standar pengenceran yang dibutuhkan

   V1 = Volume standar penegnceran media

V2 = Volume yang ingin dibuat

NA = $\frac{28\ \text{gr}}{x} = \frac{1000\ \text{ml}}{60\ ml}$

$x = \frac{1680\ \text{ml}}{1000\ ml}$

x = 1,68 gram

b. Media *Nutrient Broth* (NB)

Rumus = $\frac{\text{M1}}{M2} = \frac{\text{V1}}{V2}$

Keterangan:

M1 = Berat standar pengenceran media

M2 = Berat standar pengenceran yang dibutuhkan

V1 = Volume standar penegnceran media

V2 = Volume yang ingin dibuat

NA = $\frac{8\ \text{gr}}{x} = \frac{1000\ \text{ml}}{20\ ml}$

$x = \frac{160\ \text{ml}}{1000\ ml}$

x = 0,16 gram

c. Media *Potato Dextrose Agar* (PDA)

Rumus = $\frac{\text{M1}}{M2} = \frac{\text{V1}}{V2}$

Keterangan:

M1 = Berat standar pengenceran media

M2 = Berat standar pengenceran yang dibutuhkan

V1 = Volume standar penegnceran media

V2 = Volume yang ingin dibuat

NA = $\frac{39\ \text{gr}}{x} = \frac{1000\ \text{ml}}{30\ ml}$

$x = \frac{1170\ \text{ml}}{1000\ ml}$

x = 1,17 gram

Lampiran 10: Perhitungan Zona Hambat Mikroba

Rumus mengukur diameter zona hambat

$$d = \frac{d1+d2+d3+d4}{n}$$

keterangan =

d = Diamater zona hambat

d1 = Diamater zona hambat 1

d2 = Diamater zona hambat 2

d3 = Diamater zona hambat 3

d4 = Diamater zona hambat 4

6. Bakteri *Staphylococcus aureus*
   a. Konsentrasi 20%

Cawan 1 = $\frac{6+6}{2}$

$= \frac{12}{2}$

= 6 mm

Cawan 2 = $\frac{7,5+7,5}{2}$

$= \frac{15}{2}$

= 7,5 mm

Cawan 3 = $\frac{7+7}{2}$

$= \frac{14}{2}$

= 7 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{6+7,5+7}{3}$

= 6,8 mm

b. Konsentrasi 40%

Cawan 1 = $\frac{9,5 + 9,5}{2}$

= $\frac{19}{2}$

= 9,5 mm

Cawan 2 = $\frac{10,5 + 10,5}{2}$

= $\frac{21}{2}$

= 10,5 mm

Cawan 3 = $\frac{10 + 10}{2}$

= $\frac{20}{2}$

= 10 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

= $\frac{9,5 + 10,5 + 10}{3}$

= 10 mm

c. Konsentrasi 60%

Cawan 1 = $\frac{14 + 12 + 12,5 + 15}{4}$

= $\frac{50}{4}$

= 12,5 mm

Cawan 2 = $\frac{13,2 + 13,2}{2}$

= $\frac{26,4}{2}$

= 13,2 mm

Cawan 3 = $\frac{13 + 13}{2}$

$= \frac{26}{2}$

= 13 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{12{,}5 + 13{,}2 + 13}{3}$

= 12,9 mm

7. Bakteri *Escherichia coli*
   a. Konsentrasi 20%

Cawan 1 = $\frac{8 + 8}{2}$

$= \frac{16}{2}$

= 8 mm

Cawan 2 = $\frac{8{,}2 + 8{,}2}{2}$

$= \frac{16{,}4}{2}$

= 8,2 mm

Cawan 3 = $\frac{9 + 9}{2}$

$= \frac{18}{2}$

= 9 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{8 + 8{,}2 + 9}{3}$

= 8,4 mm

b. Konsentrasi 40%

Cawan 1 = $\frac{10,5 + 10,5}{2}$

$= \frac{21}{2}$

= 10,5 mm

Cawan 2 = $\frac{10 + 10}{2}$

$= \frac{20}{2}$

= 10 mm

Cawan 3 = $\frac{10,2 + 10,2}{2}$

$= \frac{20,4}{2}$

= 10,2 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{10,5 + 10 + 10,2}{3}$

= 10,16 mm

c. Konsentrasi 60%

Cawan 1 = $\frac{12,5 + 12,5}{2}$

$= \frac{25}{2}$

= 12,5 mm

Cawan 2 = $\frac{12 + 12}{2}$

$= \frac{24}{2}$

= 12 mm

$$\text{Cawan 3} = \frac{16 + 12{,}4 + 13 + 12{,}2}{4}$$

$$= \frac{53{,}6}{4}$$

$$= 13{,}4 \text{ mm}$$

Rata-rata diameter zona hambat:

$$= C1 + C2 + C3$$

$$= \frac{12{,}5 + 12 + 13{,}4}{3}$$

$$= 12{,}6 \text{ mm}$$

8. Jamur *Trichophyton rubrum*
   a. Konsentrasi 20%

$$\text{Cawan 1} = \frac{14 + 16 + 12 + 15}{4}$$

$$= \frac{57}{4}$$

$$= 14{,}25 \text{ mm}$$

$$\text{Cawan 2} = \frac{14{,}5 + 14{,}5}{2}$$

$$= \frac{29}{2}$$

$$= 14{,}5 \text{ mm}$$

$$\text{Cawan 3} = \frac{14 + 14}{2}$$

$$= \frac{28}{2}$$

$$= 14 \text{ mm}$$

Rata-rata diameter zona hambat:

$$= C1 + C2 + C3$$

$$= \frac{14{,}25 + 14{,}5 + 14}{3}$$

$$= 14{,}25 \text{ mm}$$

b. Konsentrasi 40%

Cawan 1 = $\frac{16,5 + 16,5}{2}$

$= \frac{33}{2}$

= 16,5 mm

Cawan 2 = $\frac{17 + 17}{2}$

$= \frac{34}{2}$

= 17 mm

Cawan 3 = $\frac{17,5 + 17,5}{2}$

$= \frac{35}{2}$

= 17,5 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{16,5 + 17 + 17,5}{3}$

= 17 mm

c. Konsentrasi 60%

Cawan 1 = $\frac{18 + 18}{2}$

$= \frac{36}{2}$

= 18 mm

Cawan 2 = $\frac{19 + 17,5 + 18 + 18}{4}$

$= \frac{72,5}{4}$

= 18,12 mm

Cawan 3 = $\frac{19,5 + 17 + 19,5 + 18}{4}$

$= \frac{74,4}{4}$

= 18,5 mm

Rata-rata diameter zona hambat:

= C1 + C2 + C3

$= \frac{18 + 18,12 + 18,5}{3}$

= 18,2 mm

Lampiran 11: Hasil Uji Statistika Antibakteri Terhadap Bakteri *Staphylococcus aureus*

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	konsentrasi	Statistic	df	Sig.	Statistic	df	Sig.
zona hambat	kotrol positif	,219	3	.	,987	3	,780
	kontrol negatif	.	3	.	.	3	.
	20%	,253	3	.	,964	3	,637
	40%	,175	3	.	1,000	3	1,000
	60%	,276	3	.	,942	3	,537

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
zona hambat	Based on Mean	2,576	4	10	,102
	Based on Median	1,242	4	10	,354
	Based on Median and with adjusted df	1,242	4	4,768	,404
	Based on trimmed mean	2,478	4	10	,111

ANOVA

zona hambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1416,836	4	354,209	1725,044	,000
Within Groups	2,053	10	,205		
Total	1418,889	14			

zona hambat

Tukey HSD[a]

		Subset for alpha = 0.05				
konsentrasi	N	1	2	3	4	5
kontrol negatif	3	,0000				
20%	3		6,8333			
40%	3			10,0000		
60%	3				12,9000	
kotrol positif	3					29,2333
Sig.		1,000	1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Multiple Comparisons

Dependent Variable: zona hambat

Tukey HSD

		Mean Difference (I-J)			95% Confidence Interval	
(I) konsentrasi	(J) konsentrasi		Std. Error	Sig.	Lower Bound	Upper Bound
kotrol positif	kontrol negatif	29,23333*	,36998	,000	28,0157	30,4510
	20%	22,40000*	,36998	,000	21,1823	23,6177

	40%	19,23333*	,36998	,000	18,0157	20,4510
	60%	16,33333*	,36998	,000	15,1157	17,5510
kontrol negatif	kotrol positif	-29,23333*	,36998	,000	-30,4510	-28,0157
	20%	-6,83333*	,36998	,000	-8,0510	-5,6157
	40%	-10,00000*	,36998	,000	-11,2177	-8,7823
	60%	-12,90000*	,36998	,000	-14,1177	-11,6823
20%	kotrol positif	-22,40000*	,36998	,000	-23,6177	-21,1823
	kontrol negatif	6,83333*	,36998	,000	5,6157	8,0510
	40%	-3,16667*	,36998	,000	-4,3843	-1,9490
	60%	-6,06667*	,36998	,000	-7,2843	-4,8490
40%	kotrol positif	-19,23333*	,36998	,000	-20,4510	-18,0157
	kontrol negatif	10,00000*	,36998	,000	8,7823	11,2177
	20%	3,16667*	,36998	,000	1,9490	4,3843
	60%	-2,90000*	,36998	,000	-4,1177	-1,6823
60%	kotrol positif	-16,33333*	,36998	,000	-17,5510	-15,1157
	kontrol negatif	12,90000*	,36998	,000	11,6823	14,1177
	20%	6,06667*	,36998	,000	4,8490	7,2843
	40%	2,90000*	,36998	,000	1,6823	4,1177

*. The mean difference is significant at the 0.05 level.

Descriptives

	konsentrasi			Statistic	Std. Error
zona hambat	kotrol positif	Mean		29,2333	,14530
		95% Confidence Interval for Mean	Lower Bound	28,6082	
			Upper Bound	29,8585	
		5% Trimmed Mean		.	

		Median	29,2000	
		Variance	,063	
		Std. Deviation	,25166	
		Minimum	29,00	
		Maximum	29,50	
		Range	,50	
		Interquartile Range	.	
		Skewness	,586	1,225
		Kurtosis	.	.
	kontrol negatif	Mean	,0000	,00000
		95% Confidence Interval for Mean — Lower Bound	,0000	
		95% Confidence Interval for Mean — Upper Bound	,0000	
		5% Trimmed Mean	,0000	
		Median	,0000	
		Variance	,000	
		Std. Deviation	,00000	
		Minimum	,00	
		Maximum	,00	
		Range	,00	
		Interquartile Range	,00	
		Skewness	.	.
		Kurtosis	.	.
	20%	Mean	6,8333	,44096
		95% Confidence Interval for Mean — Lower Bound	4,9360	
		95% Confidence Interval for Mean — Upper Bound	8,7306	

		5% Trimmed Mean	.	
		Median	7,0000	
		Variance	,583	
		Std. Deviation	,76376	
		Minimum	6,00	
		Maximum	7,50	
		Range	1,50	
		Interquartile Range	.	
		Skewness	-,935	1,225
		Kurtosis	.	.
	40%	Mean	10,0000	,28868
		95% Confidence Interval for Mean — Lower Bound	8,7579	
		95% Confidence Interval for Mean — Upper Bound	11,2421	
		5% Trimmed Mean	.	
		Median	10,0000	
		Variance	,250	
		Std. Deviation	,50000	
		Minimum	9,50	
		Maximum	10,50	
		Range	1,00	
		Interquartile Range	.	
		Skewness	,000	1,225
		Kurtosis	.	.
	60%	Mean	12,9000	,20817
		95% Confidence Interval for Mean — Lower Bound	12,0043	

	95% ConfidenceUpper Bound Interval for Mean	13,7957	
	5% Trimmed Mean	.	
	Median	13,0000	
	Variance	,130	
	Std. Deviation	,36056	
	Minimum	12,50	
	Maximum	13,20	
	Range	,70	
	Interquartile Range	.	
	Skewness	-1,152	1,225
	Kurtosis	.	.

Lampiran 12: Hasil Uji Statistika Antibakteri Terhadap Bakteri *Escherichia coli*

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Konsentrasi	Statistic	df	Sig.	Statistic	df	Sig.
Zona hambat	Kontrol positif	,175	3	.	1,000	3	1,000
	Kontrol negatif	.	3	.	.	3	.
	konsentrasi 20%	,314	3	.	,893	3	,363
	konsentrasi 40%	,219	3	.	,987	3	,780
	konsentrasi 60%	,241	3	.	,974	3	,688

a. Lilliefors Significance Correction

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Zona hambat	Based on Mean	2,384	4	10	,121
	Based on Median	1,007	4	10	,448
	Based on Median and with adjusted df	1,007	4	5,923	,473
	Based on trimmed mean	2,277	4	10	,133

ANOVA

Zona hambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	861,764	4	215,441	982,254	,000
Within Groups	2,193	10	,219		
Total	863,957	14			

Zona hambat

Tukey HSD[a]

Konsentrasi	N	Subset for alpha = 0.05				
		1	2	3	4	5
Kontrol negatif	3	,0000				
konsentrasi 20%	3		8,4000			
konsentrasi 40%	3			10,2333		
konsentrasi 60%	3				12,6333	
Kontrol positif	3					23,5000
Sig.		1,000	1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Multiple Comparisons

Dependent Variable: Zona hambat

Tukey HSD

(I) Konsentrasi	(J) Konsentrasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol positif	Kontrol negatif	23,50000*	,38239	,000	22,2415	24,7585
	konsentrasi 20%	15,10000*	,38239	,000	13,8415	16,3585
	konsentrasi 40%	13,26667*	,38239	,000	12,0082	14,5251
	konsentrasi 60%	10,86667*	,38239	,000	9,6082	12,1251
Kontrol negatif	Kontrol positif	-23,50000*	,38239	,000	-24,7585	-22,2415
	konsentrasi 20%	-8,40000*	,38239	,000	-9,6585	-7,1415
	konsentrasi 40%	-10,23333*	,38239	,000	-11,4918	-8,9749
	konsentrasi 60%	-12,63333*	,38239	,000	-13,8918	-11,3749
konsentrasi 20%	Kontrol positif	-15,10000*	,38239	,000	-16,3585	-13,8415
	Kontrol negatif	8,40000*	,38239	,000	7,1415	9,6585
	konsentrasi 40%	-1,83333*	,38239	,005	-3,0918	-,5749
	konsentrasi 60%	-4,23333*	,38239	,000	-5,4918	-2,9749
konsentrasi 40%	Kontrol positif	-13,26667*	,38239	,000	-14,5251	-12,0082
	Kontrol negatif	10,23333*	,38239	,000	8,9749	11,4918
	konsentrasi 20%	1,83333*	,38239	,005	,5749	3,0918

	konsentrasi 60%	-2,40000*	,38239	,001	-3,6585	-1,1415
konsentrasi 60%	Kontrol positif	-10,86667*	,38239	,000	-12,1251	-9,6082
	Kontrol negatif	12,63333*	,38239	,000	11,3749	13,8918
	konsentrasi 20%	4,23333*	,38239	,000	2,9749	5,4918
	konsentrasi 40%	2,40000*	,38239	,001	1,1415	3,6585

*. The mean difference is significant at the 0.05 level.

Descriptives

	Konsentrasi			Statistic	Std. Error
Zona hambat	Kontrol positif	Mean		23,5000	,28868
		95% Confidence Interval for Mean	Lower Bound	22,2579	
			Upper Bound	24,7421	
		5% Trimmed Mean		.	
		Median		23,5000	
		Variance		,250	
		Std. Deviation		,50000	
		Minimum		23,00	
		Maximum		24,00	
		Range		1,00	
		Interquartile Range		.	
		Skewness		,000	1,225
		Kurtosis		.	.
	Kontrol negatif	Mean		,0000	,00000

		95% Confidence Interval for Mean	Lower Bound	,0000
			Upper Bound	,0000
		5% Trimmed Mean		,0000
		Median		,0000
		Variance		,000
		Std. Deviation		,00000
		Minimum		,00
		Maximum		,00
		Range		,00
		Interquartile Range		,00
		Skewness		.
		Kurtosis		.
	konsentrasi 20%	Mean		8,4000 ,30551
		95% Confidence Interval for Mean	Lower Bound	7,0855
			Upper Bound	9,7145
		5% Trimmed Mean		.
		Median		8,2000
		Variance		,280
		Std. Deviation		,52915
		Minimum		8,00
		Maximum		9,00

		Range	1,00	
		Interquartile Range	.	
		Skewness	1,458	1,225
		Kurtosis	.	.
	konsentrasi 40%	Mean	10,2333	,14530
		95% Confidence Interval for Mean — Lower Bound	9,6082	
		95% Confidence Interval for Mean — Upper Bound	10,8585	
		5% Trimmed Mean	.	
		Median	10,2000	
		Variance	,063	
		Std. Deviation	,25166	
		Minimum	10,00	
		Maximum	10,50	
		Range	,50	
		Interquartile Range	.	
		Skewness	,586	1,225
		Kurtosis	.	.
	konsentrasi 60%	Mean	12,6333	,40961
		95% Confidence Interval for Mean — Lower Bound	10,8709	
		95% Confidence Interval for Mean — Upper Bound	14,3957	
		5% Trimmed Mean	.	

	Median	12,5000	
	Variance	,503	
	Std. Deviation	,70946	
	Minimum	12,00	
	Maximum	13,40	
	Range	1,40	
	Interquartile Range	.	
	Skewness	,816	1,225
	Kurtosis	.	.

Lampiran 13: Hasil Uji Statistika Antijamur Terhadap Jamur *Trichophyton rubrum*

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kosentrasi	Statistic	df	Sig.	Statistic	df	Sig.
Zona hambat	Kontrol positif	,276	3	.	,942	3	,537
	Kontrol negatif	.	3	.	.	3	.
	konsentrasi 20%	,175	3	.	1,000	3	1,000
	konsentrasi 40%	,175	3	.	1,000	3	1,000
	konsentrasi 60%	,297	3	.	,917	3	,443

a. Lilliefors Significance Correction

Tests of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.

Zona hambat	Based on Mean	1,710	4	10	,224
	Based on Median	1,080	4	10	,417
	Based on Median and with adjusted df	1,080	4	6,574	,438
	Based on trimmed mean	1,673	4	10	,232

ANOVA

Zona hambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	685,541	4	171,385	1678,164	,000
Within Groups	1,021	10	,102		
Total	686,563	14			

Zona hambat

Tukey HSD[a]

		Subset for alpha = 0.05			
Kosentrasi	N	1	2	3	4
Kontrol negatif	3	,0000			
konsentrasi 20%	3		14,2500		
Kontrol positif	3			16,9000	
konsentrasi 40%	3			17,0000	
konsentrasi 60%	3				18,2067
Sig.		1,000	1,000	,995	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

Multiple Comparisons

Dependent Variable: Zona hambat
Tukey HSD

		Mean Difference			95% Confidence Interval	
(I) Kosentrasi	(J) Kosentrasi	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Kontrol positif	Kontrol negatif	16,90000*	,26093	,000	16,0413	17,7587
	konsentrasi 20%	2,65000*	,26093	,000	1,7913	3,5087

	konsentrasi 40%	-,10000	,26093	,995	-,9587	,7587
	konsentrasi 60%	-1,30667*	,26093	,004	-2,1654	-,4479
Kontrol negatif	Kontrol positif	-16,90000*	,26093	,000	-17,7587	-16,0413
	konsentrasi 20%	-14,25000*	,26093	,000	-15,1087	-13,3913
	konsentrasi 40%	-17,00000*	,26093	,000	-17,8587	-16,1413
	konsentrasi 60%	-18,20667*	,26093	,000	-19,0654	-17,3479
konsentrasi 20%	Kontrol positif	-2,65000*	,26093	,000	-3,5087	-1,7913
	Kontrol negatif	14,25000*	,26093	,000	13,3913	15,1087
	konsentrasi 40%	-2,75000*	,26093	,000	-3,6087	-1,8913
	konsentrasi 60%	-3,95667*	,26093	,000	-4,8154	-3,0979
konsentrasi 40%	Kontrol positif	,10000	,26093	,995	-,7587	,9587
	Kontrol negatif	17,00000*	,26093	,000	16,1413	17,8587
	konsentrasi 20%	2,75000*	,26093	,000	1,8913	3,6087
	konsentrasi 60%	-1,20667*	,26093	,007	-2,0654	-,3479
konsentrasi 60%	Kontrol positif	1,30667*	,26093	,004	,4479	2,1654
	Kontrol negatif	18,20667*	,26093	,000	17,3479	19,0654
	konsentrasi 20%	3,95667*	,26093	,000	3,0979	4,8154
	konsentrasi 40%	1,20667*	,26093	,007	,3479	2,0654

*. The mean difference is significant at the 0.05 level.

Descriptives

	Kosentrasi			Statistic	Std. Error
Zona hambat	Kontrol positif	Mean		16,9000	,20817
		95% Confidence Interval for Mean	Lower Bound	16,0043	
			Upper Bound	17,7957	
		5% Trimmed Mean		.	
		Median		17,0000	
		Variance		,130	
		Std. Deviation		,36056	
		Minimum		16,50	
		Maximum		17,20	

	Range		,70	
	Interquartile Range		.	
	Skewness		-1,152	1,225
	Kurtosis		.	.
Kontrol negatif	Mean		,0000	,00000
	95% Confidence Interval for Mean	Lower Bound	,0000	
		Upper Bound	,0000	
	5% Trimmed Mean		,0000	
	Median		,0000	
	Variance		,000	
	Std. Deviation		,00000	
	Minimum		,00	
	Maximum		,00	
	Range		,00	
	Interquartile Range		,00	
	Skewness		.	.
	Kurtosis		.	.
konsentrasi 20%	Mean		14,2500	,14434
	95% Confidence Interval for Mean	Lower Bound	13,6290	
		Upper Bound	14,8710	
	5% Trimmed Mean		.	
	Median		14,2500	
	Variance		,063	
	Std. Deviation		,25000	
	Minimum		14,00	
	Maximum		14,50	
	Range		,50	
	Interquartile Range		.	
	Skewness		,000	1,225
	Kurtosis		.	.
konsentrasi 40%	Mean		17,0000	,28868
	95% Confidence Interval for Mean	Lower Bound	15,7579	
		Upper Bound	18,2421	
	5% Trimmed Mean		.	
	Median		17,0000	
	Variance		,250	
	Std. Deviation		,50000	

		Minimum		16,50	
		Maximum		17,50	
		Range		1,00	
		Interquartile Range		.	
		Skewness		,000	1,225
		Kurtosis		.	.
	konsentrasi 60%	Mean		18,2067	,15070
		95% Confidence Interval for Mean	Lower Bound	17,5582	
			Upper Bound	18,8551	
		5% Trimmed Mean		.	
		Median		18,1200	
		Variance		,068	
		Std. Deviation		,26102	
		Minimum		18,00	
		Maximum		18,50	
		Range		,50	
		Interquartile Range		.	
		Skewness		1,329	1,225
		Kurtosis		.	.

PIMPINAN PUSAT MUHAMMADIYAH
MAJELIS PENDIDIKAN TINGGI, PENELITIAN, DAN PENGEMBANGAN
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SURAT KETERANGAN
NOMOR: 019KET/III.3.AU/LAB-FARM/F/2024

Yang bertanda tangan dibawah ini :

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Menerangkan dengan sesungghuhnya bahwa :

Nama : Mira yulian
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Judul :UJI AKTIVITAS ANTIMIKROBA EKSTRAK ETANOL 96% DAUN ETLINGERA FLEXUOSA DARI PEGUNUNGAN LATIMOJONG SULAWESI SELATAN
Jurusan/Prodi : Farmasi (S1)
Perguruan Tinggi : Universitas Muhammadiyah Palopo

Telah menyelesaikan segala kewajiban terkait dengan peminjaman/penggunaan fasilitas Laboratorium selama yang bersangkutan melaksanakan kegiatan penelitian di lingkup laboratorium Farmasi Universitas Muhammadiyah Palopo, sehingga diberikan Surat Keterangan bebas Laboratorium ini.

Demikian Surat Keterangan ini diberikan untuk dipergunakan sebagaimana mestinya.

Palopo, 08 Juni 2026
Ketua Program Studi Farmasi

apt. Waode Suiyarti., S.Si., M.Si
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