

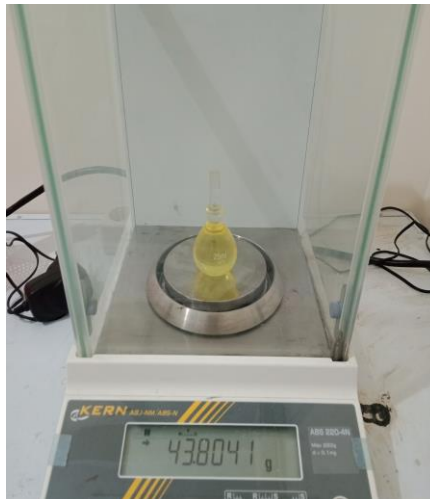
LAMPIRAN

Lampiran 1. Hasil Karakterisasi Minyak Atsiri Kayu Manis

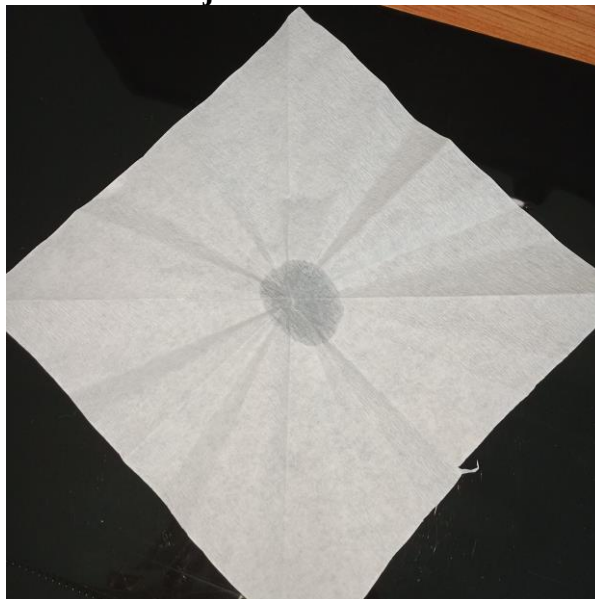
1.1 Uji Warna Jenis



1.2 Uji Berat



1.3 Uji Noda Lemak



Lampiran 2. Perhitungan Berat Jenis

No.	Berat Pikno Kosong (g)	Berat Pikno + air (g)	Pikno + Minyak (g)	BJ
1	17,4623	43,3268	43,8194	1,0190
2	17,4623	43,3268	43,8040	1,0184
3	17,4623	43,3268	43,8041	1,0185

Perhitungan berat jenis :

$$\begin{aligned}
 1. \text{ Berat jenis minyak atsiri} &= \frac{\text{Berat minyak}}{\text{Berat air}} \\
 &= \frac{(43,8194 - 17,4623)}{(43,3268 - 17,4623)} \\
 &= 1,0190
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Berat jenis minyak atsiri} &= \frac{\text{Berat minyak}}{\text{Berat air}} \\
 &= \frac{(43,8040 - 17,4623)}{(43,3268 - 17,4623)} \\
 &= 1,0184
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Berat jenis minyak atsiri} &= \frac{\text{Berat minyak}}{\text{Berat air}} \\
 &= \frac{(43,8041 - 17,4623)}{(43,3268 - 17,4623)} \\
 &= 1,0185
 \end{aligned}$$

Lampiran 3. Hasil Analisa Indeks Bias

Krisp PMS.

LEMBAR KERJA

1. Komoditas: MINYAK ATSIJI RAYU MANIS
 2. Penetapan: RE-REACTIV INDEX / INDEX BIAS
 3. Metode: SN
 4. Tanggal Analisa: Maret 2021
 5. Kondisi Analisa:
 a. Temperatur (t): °C
 b. Kelembaban (%): %
 6. Halaman: 1 dari 1

Nomor Urut	Nomor Contoh	t _i (°C)	nD _t	nD ₂₀	nD ₂₀ - nD _t × 0,0004
1.	Ri-22-03/2	20,0	1,5883	1,5883	
		20,0	1,5880	1,5880	} 1,5881 ✓
		20,0	1,5881	1,5881	

Ket. = t_i = Suhu acuan 20 °C
 t_i = Suhu pada saat pengujian
 nD_t = Pembacaan contoh pada saat t_i

Lampiran 4. Hasil Uji GC-MS Minyak Atsiri Kayu Manis

LEMBAR KERJA

- 1 Komoditas : Minyak Kayu Manis
- 2 Penetapan : *Cinnamaldehyde*
- 3 Metode : *Gas Chromatography-Mass Spectrometry*
- 4 Tgl. Analisa : 14 - 18 Maret 2022
- 5 Kondisi Analisa
 - Temperatur : 21,9 °C
 - Kelembaban : 51 %
- 6 Halaman : 1 dari 1
- 7 Hasil pengujian :

NO	Kode Contoh	Waktu retensi	Area	% (area)	Nama senyawa
1	PJ.22-0312	7,0200	179244	4,22	
2		9,9200	112746	2,65	
3		18,2120	3694719	86,91	<i>Cinnamaldehyde</i>
4		23,4520	150273	3,53	
5		29,8630	114220	2,69	
JUMLAH			4251202	100	

Mengetahui :

Sub Koordinator Pelayanan Teknis
Pengujian dan Kalibrasi :



Hartini Utami, S.P

NIP. 19690823 199503 2 004

Sukoharjo, 18 Maret 2022

Penguji Mutu Barang :



Farida Fatmawati

NIP. 19670818 199503 2 002

Lampiran 5. Lampiran 5. CoA (Certifikat of Analysis)



Importer of Essential Oils, Absolutes, and Carrier Oils
 Jakarta, Indonesia Customessentialoil@gmail.com Phone 081295037988

Certificate of Analysis

Product Name : CINNAMON BARK OIL
 Reference Code : 3/20200002
 Botanical Name : *Cinnamomum burmani*
 Product Code : 150004
 Batch No. : 200925/177090
 Appearance : Clear Liquid
 Color : Yellow – Brown
 Odor : Characteristic of Cinnamon Odor
 Country of Origin : Indonesia
 Plant Part : Bark
 Production Date : September 25, 2020
 Shelf Life : 24 Months in Fully Sealed Containers
 Quantity of Purchased : 1 Kg
 Packaging : 1 Bottle @ 1 Kg

Technical Analysis:

Test Item	Specification	Result
Density (@20°C)	1.0300 – 1.0500	1.0471
Specific Gravity (@20°C)	1.0300 – 1.0500	1.0490
Refractive Index (@20°C)	1.5488 – 1.5648	1.5568
Solubility	Soluble in Alcohol and Oils, Not Soluble in Water	Conforms
Fatty Oil	Negative	Negative

Storage Condition : Store unopened containers with temperature between 10°C to 25°C

This document has been electronically produced and does not require any signature

DISCLAIMER:

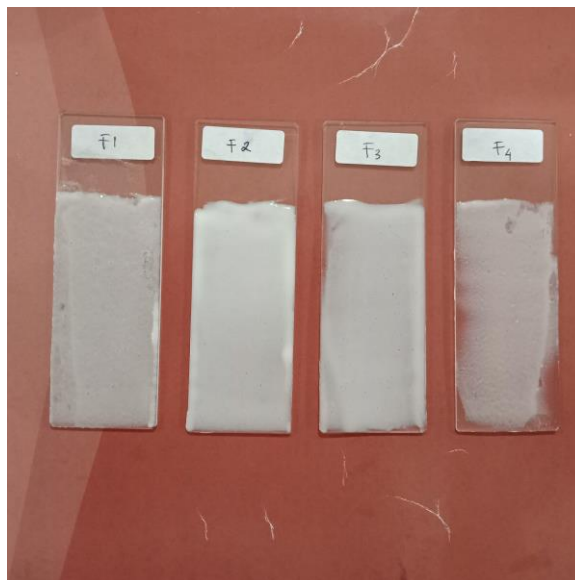
The information contained in this Certificate of Analysis is obtained from current and reliable sources. The information is correct at the time of testing, and the results may vary depending on batch and time of testing. Happy Green shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. The information remains property of Happy Green and should not be propagate or used for any other purpose.

Lampiran 6. Uji Organoleptis Sediaan Emulgel

5.1 Sediaan Emulgel Minyak Atsiri Kayu Manis



5.2 Uji Homogenitas Sediaan



5.3 Uji Daya Lekat



5.4 Uji pH



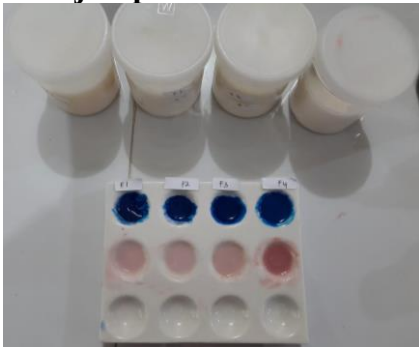
5.5 Uji Viskositas



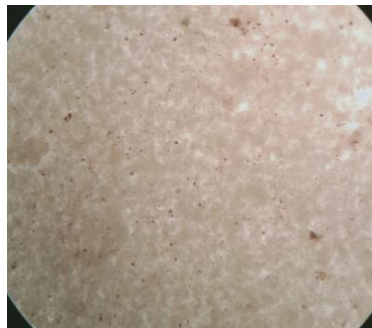
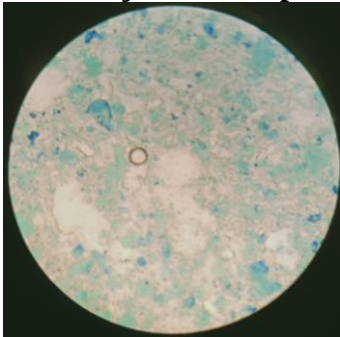
5.6 Uji Tipe emulsi



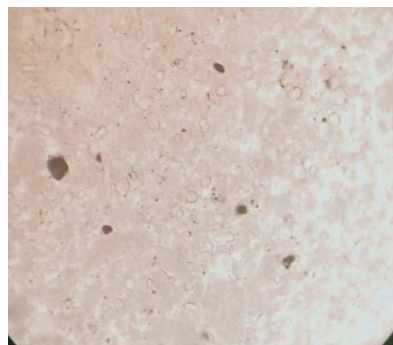
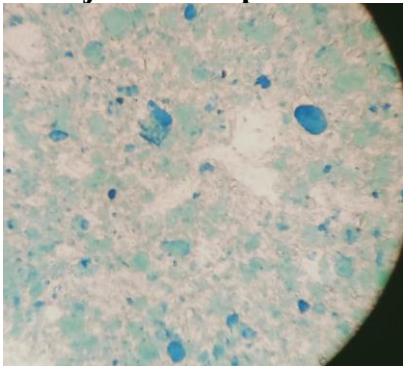
5.7 Uji Tipe Emulsi

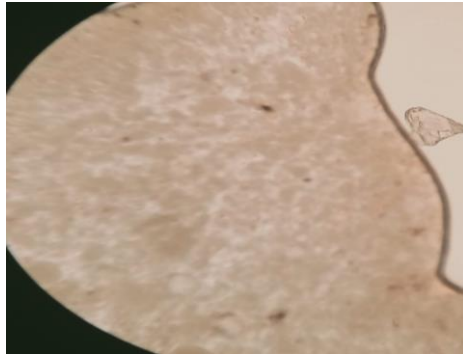
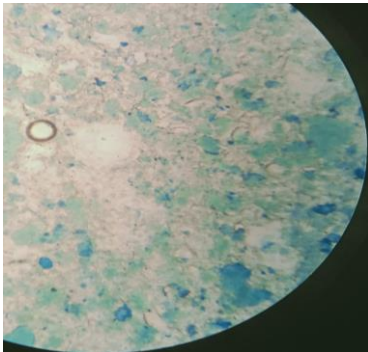
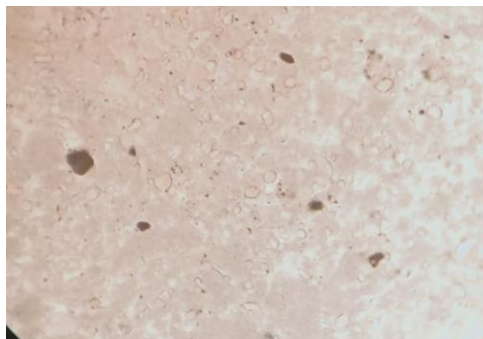
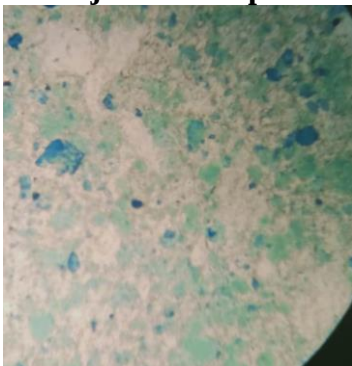


5.8 Uji mikroskopis F1



5.9 Uji mikroskopis F2



5.10 Uji mikroskopis F3**5.11 Uji mikroskopis F4****5.12 Uji Daya Sebar**

Lampiran 7. Pembuatan NA (Nutrient Agar)

- Menimbang sebanyak 23 gram media NA dan dilarutkan dalam 1L akuades
- Memanaskan sampai semua larut dan disterilkan pada suhu 121°C selama 15 menit

Lampiran 1. Pembuatan BHI (Brain Heart Infusion)

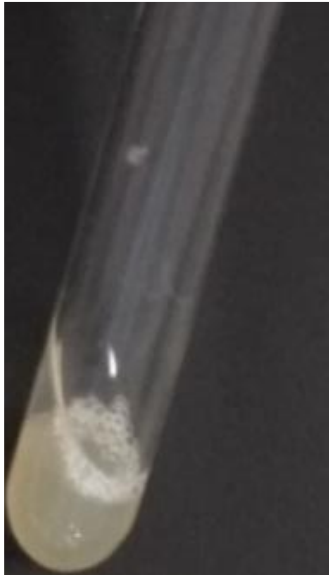
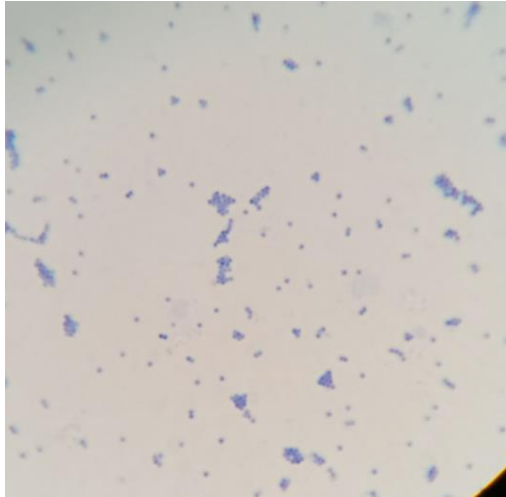
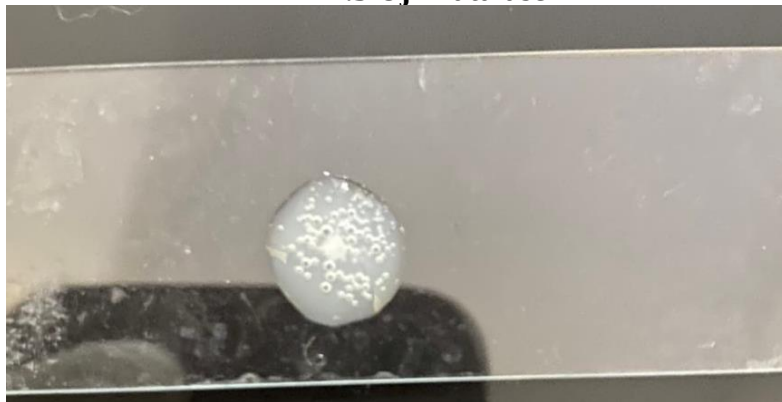
- Menimbang sebanyak 37 g sesuai komposisi dan larutkan dalam 1L akuades diaduk sampai homogen.
- Sterilkan dengan autoklaf 121 °C selama 15 menit.

Lampiran 2. Pembuatan Vogel Johnson Agar (VJA)

- Menimbang semua bahan kemudian disuspensikan 58 gram dalam 1000 ml dengan akuades.
- Panaskan pada panangas air dan sterilkan dengan suhu 121°C selama 15 menit.
- Dinginkan pada suhu 50°C kemudian tambahkan 0,24 g/L kalium telurit P

Lampiran 3. Pembuatan Muller Hinton Agar (MHA)

- Menimbang sebanyak 38 gram sesuai dengan komposisi pada kemasan (2 gram beef extract, 17,5 gram casein hydrolysate, 1,5 gram starch, 17 gram agar).
- Larutkan dalam 1L akuades bila perlu dengan bantuan pemanasan.
- Media disterilkan dengan autoklaf pada suhu 121°C selama 20 menit.
- Media MHA dituangkan pada cawan petri steril, didiamkan pada suhu kamar hingga memadat. Kemudian disimpan pada suhu 40C.

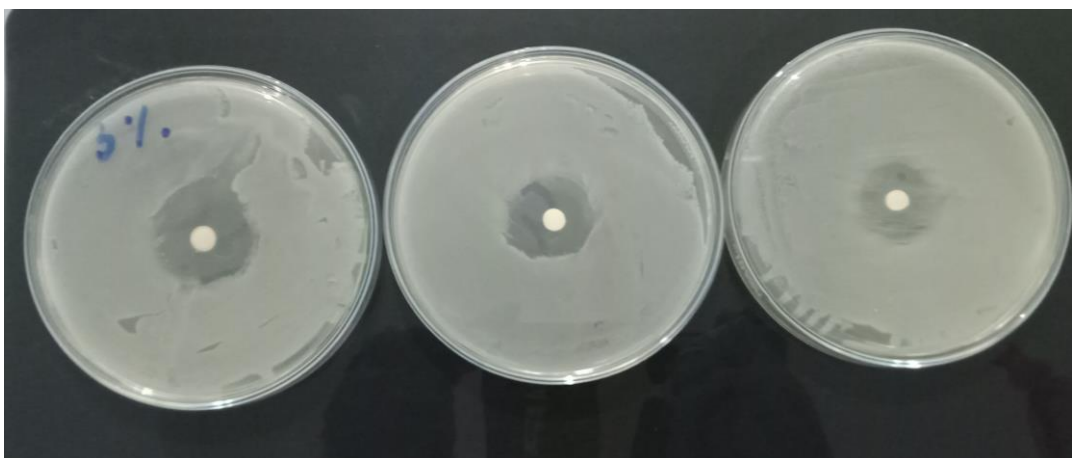
Lampiran 8. Identifikasi Bakteri**11.1 Uji Koagulase****11.2 Pewarnaan Gram****11.3 Uji Katalase**

11.4 Uji Media Selektif (VJA)

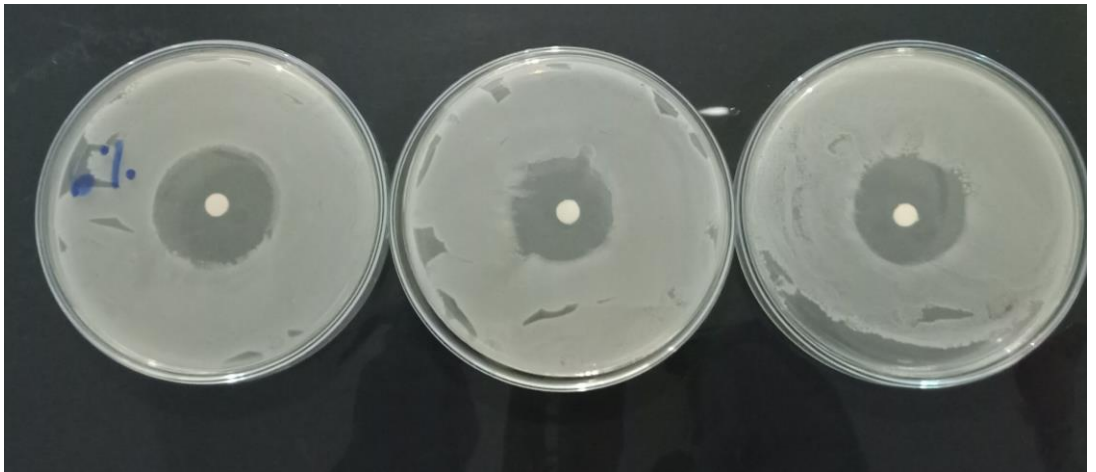


Lampiran 9. Uji Pendahuluan Antibakteri

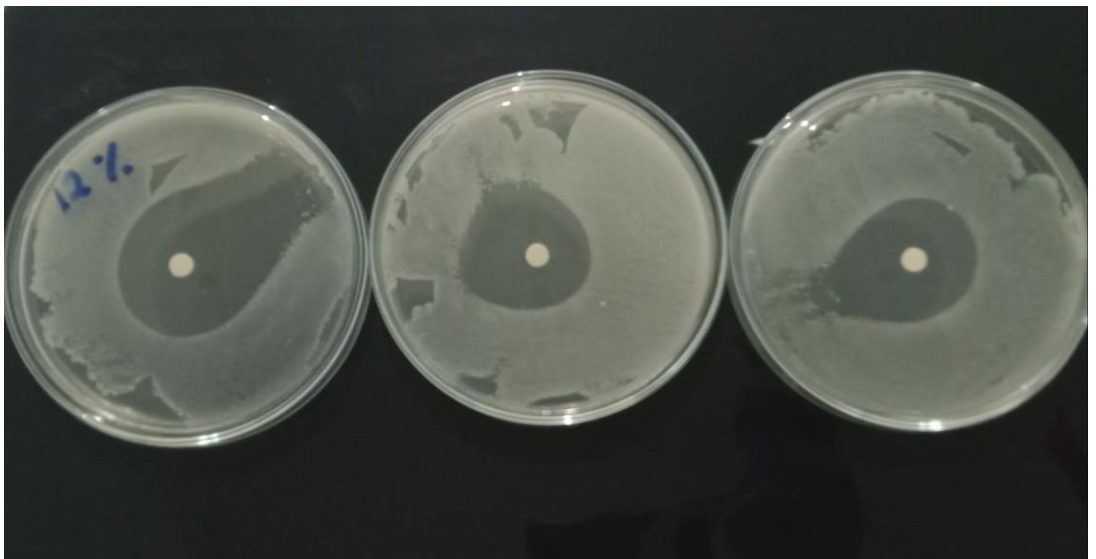
12.1 Aktivitas pada Konsentrasi Minyak Atsiri Kayu MANis 3%



12.2 Aktivitas pada Konsentrasi Minyak Atsiri Kayu MANis 6%

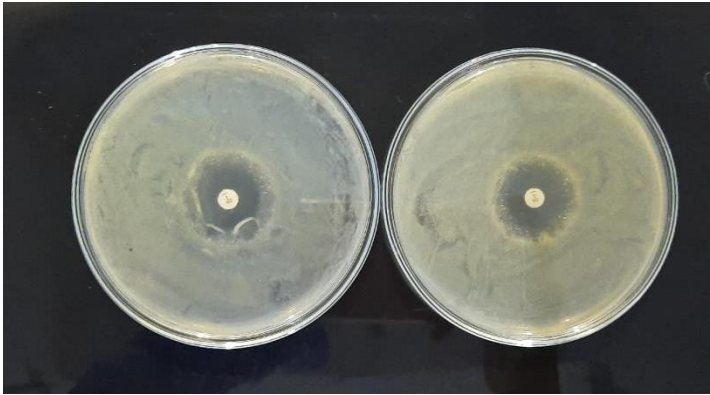


12.3 Aktivitas pada Konsentrasi Minyak Atsiri Kayu MANis 12%



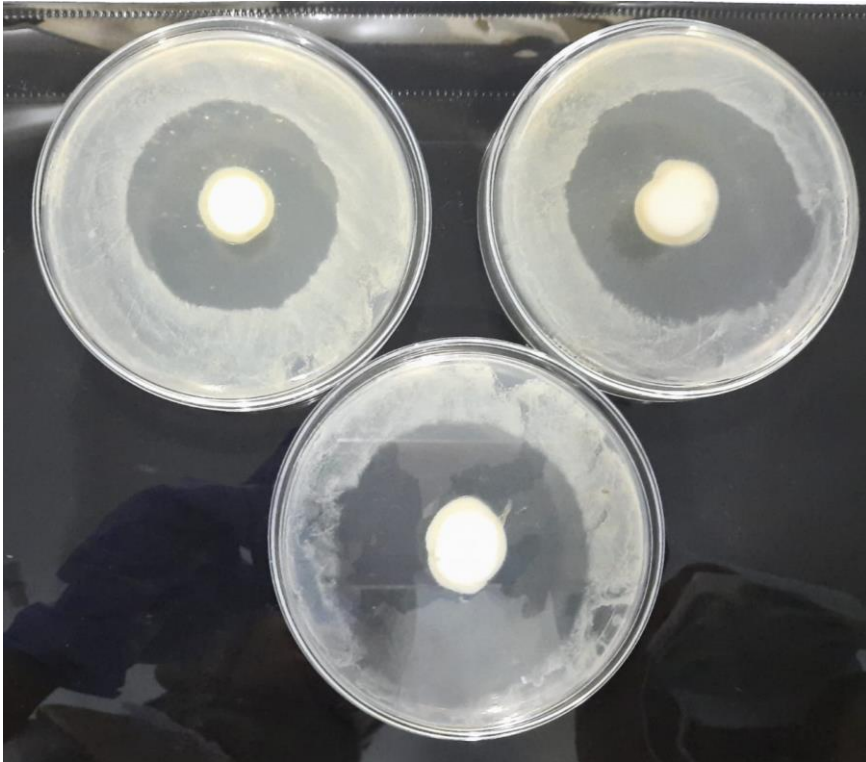
**12.4 Kontrol +
Kontrol -**

12.5



Lampiran 10. Uji Aktifitas Antibakteri

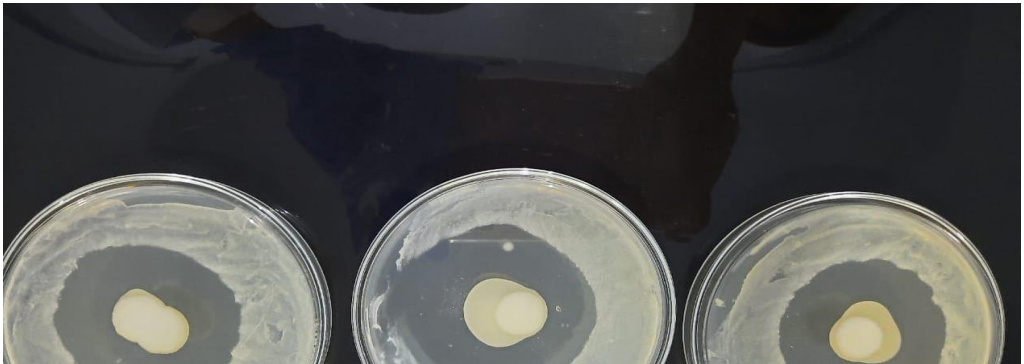
13.1 Aktivitas Antibakteri Formula 1



13.2 Aktivitas Antibakteri Formula 2



13.3 Aktivitas Antibakteri Formula 3



13.4 Aktivitas Antibakteri Formula 4



13.5 Aktivitas Antibakteri Kontrol positif



Lampiran 11. Hasil Statistik Uji pH

14.1 Uji Normalitas pH

Tests of Normality

Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pH Formula 1	.385	3	.	.750	3	.000
Formula 2	.385	3	.	.750	3	.000
Formula 3	.175	3	.	1.000	3	1.000
Formula 5	.292	3	.	.923	3	.463

a. Lilliefors Significance Correction

14.2 Uji Non Parametrik

Kruskal-Wallis Test

Ranks

Formula	N	Mean Rank
pH Formula 1	3	2.00
Formula 2	3	8.00
Formula 3	3	11.00
Formula 5	3	5.00
Total	12	

Test Statistics^{a,b}

	pH
Chi-Square	10.458
df	3
Asymp. Sig.	.015

a. Kruskal Wallis Test

b. Grouping Variable: Formula

14.3 Uji Signifikasi formula

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 1	3	2.00	6.00
	Formula 2	3	5.00	15.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 1	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 1	3	2.00	6.00
	Formula 5	3	5.00	15.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 2	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 2	3	5.00	15.00
	Formula 5	3	2.00	6.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
pH	Formula 3	3	5.00	15.00
	Formula 5	3	2.00	6.00
	Total	6		

Test Statistics^a

	pH
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Lampiran 12. Hasil Uji Statistik Viskositas

15.1 Uji Normalitas Viskositas

Tests of Normality^{a,b,d}

Formula	Kolmogorov-Smirnov ^c			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Viskositas Formula 3	.385	3	.	.750	3	.000

a. Viskositas is constant when Formula = Formula 1. It has been omitted.

b. Viskositas is constant when Formula = Formula 2. It has been omitted.

c. Lilliefors Significance Correction

d. Viskositas is constant when Formula = Formula 4. It has been omitted.

15.2 Uji Non Parametric

Kruskal-Wallis Test

Ranks

Formula	N	Mean Rank
Viskositas Formula 1	3	11.00
Formula 2	3	5.00
Formula 3	3	2.00
Formula 4	3	8.00
Total	12	

Test Statistics^{a,b}

	Viskositas
Chi-Square	10.879
df	3
Asymp. Sig.	.012

a. Kruskal Wallis Test

b. Grouping Variable: Formula

15.3 Uji Significant

Mann-Whitney Test

Ranks				
	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 1	3	5.00	15.00
	Formula 2	3	2.00	6.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks				
	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 1	3	5.00	15.00
	Formula 3	3	2.00	6.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 1	3	5.00	15.00
	Formula 4	3	2.00	6.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 2	3	5.00	15.00
	Formula 3	3	2.00	6.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 2	3	5.00	15.00
	Formula 3	3	2.00	6.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 3	3	2.00	6.00
	Formula 4	3	5.00	15.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Viskositas	Formula 2	3	2.00	6.00
	Formula 4	3	5.00	15.00
	Total	6		

Test Statistics^a

	Viskositas
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Lampiran 13. Hasil Statistik Uji Daya Sebar

16.1 Uji Normalitas

Tests of Normality

Formula		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Uji_Daya_Sebar	Formula 1	.175	3	.	1.000	3	1.000
	Formula 2	.385	3	.	.750	3	.000
	Formula 3	.385	3	.	.750	3	.000
	Formula 4	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

16.2 Uji Non Parametric

Kruskal-Wallis Test

Ranks

	Formula	N	Mean Rank
Uji_Daya_Sebar	Formula 1	3	6.17
	Formula 2	3	6.83
	Formula 3	3	11.00
	Formula 4	3	2.00
	Total	12	

Test Statistics^{a,b}

	Uji_Daya_Sebar
Chi-Square	9.633
df	3
Asymp. Sig.	.022

a. Kruskal Wallis Test

b. Grouping Variable: Formula

16.3 Uji Significasi Formula

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 1	3	3.17	9.50
	Formula 2	3	3.83	11.50
	Total	6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	3.500
Wilcoxon W	9.500
Z	-.471
Asymp. Sig. (2-tailed)	.637
Exact Sig. [2*(1-tailed Sig.)]	.700 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 1	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.048
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 1	3	5.00	15.00
	Formula 4	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 2	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 2	3	5.00	15.00
	Formula 4	3	2.00	6.00
Total		6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Sebar	Formula 3	3	5.00	15.00
	Formula 4	3	2.00	6.00
Total		6		

Test Statistics^a

	Uji_Daya_Sebar
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Lampiran 14. Hasil Statistik Uji Daya Lekat

17.1 Uji Normalitas

Tests of Normality							
Formula		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Uji_Daya_Lekat	Formula 1	.292	3	.	.923	3	.463
	Formula 2	.385	3	.	.750	3	.000
	Formula 3	.385	3	.	.750	3	.000
	Formula 4	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

17.2 Uji Non Parametric

Kruskal-Wallis Test

Ranks			
Formula		N	Mean Rank
Uji_Daya_Lekat	Formula 1	3	11.00
	Formula 2	3	8.00
	Formula 3	3	2.00
	Formula 4	3	5.00
Total		12	

Test Statistics ^{a,b}	
	Uji_Daya_Lekat
Chi-Square	10.495
df	3
Asymp. Sig.	.015

a. Kruskal Wallis Test

b. Grouping Variable: Formula

17.3 Uji Signifikasi

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 1	3	5.00	15.00
	Formula 2	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 1	3	5.00	15.00
	Formula 3	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 1	3	5.00	15.00
	Formula 4	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.993
Asymp. Sig. (2-tailed)	.046
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 2	3	5.00	15.00
	Formula 3	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 2	3	5.00	15.00
	Formula 4	3	2.00	6.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Uji_Daya_Lekat	Formula 3	3	2.00	6.00
	Formula 4	3	5.00	15.00
	Total	6		

Test Statistics^a

	Uji_Daya_Lekat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.023
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Lampiran 15. Hasil Statistik Cycling

18.1 Uji *Paired T-Test* pH

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 sebelum	4.0800	4	.10231	.05115
sesudah	3.9800	4	.17146	.08573

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 sebelum & sesudah	4	-.293	.707

Paired Samples Test

	Paired Differences			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence ...
				Lower
Pair 1 sebelum - sesudah	.12000	.22390	.11195	-.23628

Paired Samples Test

	Paired ...	t	df	Sig. (2-tailed)
	95% Confidence ...			
	Upper			
Pair 1 sebelum - sesudah	.47628	1.072	3	.362

18.2 Uji *Paired T-Test* Viskositas

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 sebelum	72.33	4	50.856	25.428
setelah	72.75	4	52.760	26.380

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 sebelum & setelah	4	.988	.012

Paired Samples Test

	Paired Differences				
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
				Lower	Upper
Pair 1 sebelum - setelah	-.418	8.208	4.104	-13.478	12.643

Paired Samples Test

	t	df	Sig. (2-tailed)
Pair 1 sebelum - setelah	-.102	3	.925

Lampiran 16. Uji Pendahuluan Daya Hambat Bakteri

19.1 Uji Normalitas

Case Processing Summary

		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
diameter_daya_hambat	3%	3	100.0%	0	0.0%	3	100.0%
	6%	3	100.0%	0	0.0%	3	100.0%
	12%	3	100.0%	0	0.0%	3	100.0%
	K+	3	100.0%	0	0.0%	3	100.0%
	K-	3	100.0%	0	0.0%	3	100.0%

19.2 Uji Non Parametric

Ranks

konsentrasi		N	Mean Rank
diameter_daya_hambat	3%	3	8.00
	6%	3	11.00
	12%	3	14.00
	K+	3	5.00
	K-	3	2.00
Total		15	

Test Statistics^{a,b}

	diameter_day a_hambat
Chi-Square	14.000
df	4
Asymp. Sig.	.007

a. Kruskal Wallis Test

b. Grouping Variable: konsentrasi

19.3 Uji *Man-Whitney*

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	6%	3	2.00	6.00
	12%	3	5.00	15.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	3%	3	2.00	6.00
	6%	3	5.00	15.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks				
	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	12%	3	5.00	15.00
	K+	3	2.00	6.00
	Total	6		

Test Statistics ^a	
	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks				
	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	3%	3	2.00	6.00
	12%	3	5.00	15.00
	Total	6		

Test Statistics ^a	
	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	3%	3	5.00	15.00
	K+	3	2.00	6.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	6%	3	5.00	15.00
	K-	3	2.00	6.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	12%	3	5.00	15.00
	K-	3	2.00	6.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	konsentrasi	N	Mean Rank	Sum of Ranks
diameter_daya_hambat	K+	3	5.00	15.00
	K-	3	2.00	6.00
	Total	6		

Test Statistics^a

	diameter_day a_hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: konsentrasi

b. Not corrected for ties.

Lampiran 17. Diameter Daya Hambat Sediaan Emulgel

20.1 Uji Normalitas

Tests of Normality^{a,c,d}

Formula	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Diameter_Daya_Hambat Formula 2	.385	3	.	.750	3	.000
Kontrol +	.385	3	.	.750	3	.000

a. Diameter_Daya_Hambat is constant when Formula = Formula 1. It has been omitted.

b. Lilliefors Significance Correction

c. Diameter_Daya_Hambat is constant when Formula = Formula 3. It has been omitted.

d. Diameter_Daya_Hambat is constant when Formula = Kontrol -. It has been omitted.

20.2 Uji Non Parametrik

Ranks

Formula	N	Mean Rank
Diameter_Daya_Hambat Formula 1	3	8.00
Fotmula 2	3	11.00
Formula 3	3	14.00
Kontrol +	3	5.00
Kontrol -	3	2.00
Total	15	

Test Statistics^{a,b}

	Diameter_Daya_Hambat
Chi-Square	13.846
df	4
Asymp. Sig.	.008

a. Kruskal Wallis Test

b. Grouping Variable: Formula

20.3 Uji Mann Wheatney

Mann-Whitney Test

Ranks

Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat Formula 1	3	2.00	6.00
Fotmula 2	3	5.00	15.00
Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Day_Hambat	Formula 1	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat	Formula 1	3	5.00	15.00
	Kontrol +	3	2.00	6.00
	Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat	Formula 1	3	5.00	15.00
	Kontrol -	3	2.00	6.00
	Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.236
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat	Formula 2	3	2.00	6.00
	Formula 3	3	5.00	15.00
	Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat	Formula 3	3	5.00	15.00
	Kontrol +	3	2.00	6.00
	Total	6		

Test Statistics^a

	Diameter_Day a_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.

Mann-Whitney Test

Ranks

	Formula	N	Mean Rank	Sum of Ranks
Diameter_Daya_Hambat	Kontrol +	3	5.00	15.00
	Kontrol -	3	2.00	6.00
	Total	6		

Test Statistics^a

	Diameter_Daya_Hambat
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-2.121
Asymp. Sig. (2-tailed)	.034
Exact Sig. [2*(1-tailed Sig.)]	.100 ^b

a. Grouping Variable: Formula

b. Not corrected for ties.