

BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian yang telah dilakukan maka dapat disimpulkan sebagai berikut :

Pertama, minyak atsiri rimpang temu putih (*Curcuma zedoaria* (Berg.) Roscoe) konsentrasi 4% dapat diformulasikan ke dalam bentuk sediaan deodoran *roll on* yang mempunyai mutu fisik dan stabilitas yang baik.

Kedua, sediaan deodoran *roll on* minyak atsiri rimpang temu putih (*Curcuma zedoaria* (Berg.) Roscoe) memiliki aktivitas antibakteri terhadap *Staphylococcus aureus* yang ditunjukkan dengan adanya daerah jernih yang tidak ditumbuhi bakteri dengan diameter 8,5 mm pada formula I, 11,25 mm pada formula II, dan 15 mm pada formula III.

Ketiga, formula III merupakan formula sediaan deodoran *roll on* minyak atsiri rimpang temu putih yang memiliki aktivitas antibakteri yang paling baik.

B. Saran

Dari penelitian yang telah dilakukan, disarankan pada peneliti selanjutnya agar didapatkan hasil yang lebih maksimal sebagai berikut :

1. Perlu dilakukan uji aktivitas antibakteri minyak atsiri rimpang temu putih dengan metode dilusi.
2. Perlu dilakukan uji aktivitas antibakteri minyak atsiri rimpang temu putih dengan menggunakan spesies bakteri yang berbeda.
3. Perlu dilanjutkan uji iritasi pada kelinci untuk mengetahui sediaan deodoran yang dibuat aman diaplikasikan pada kulit.

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Lampiran 1. Identifikasi rimpang temu putih



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SURAT KETERANGAN

Nomor : 014863/S.Tb./VI/2020

Yang bertanda tangan dibawah ini, Kepala Laboratorium Sistematika Tumbuhan Fakultas Biologi UGM, menerangkan dengan sesungguhnya bahwa,

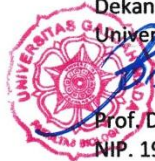
Nama : Lilis Suryani
NIM : 22164898A
Asal instansi : Fakultas Farmasi Universitas Setia Budi Surakarta

telah melakukan identifikasi tumbuhan dengan hasil sebagai berikut,

Divisi : Spermatophyta
Sub Divisi : Angiospermae
Kelas : Monocotyledoneae
Ordo : Zingiberales
Familia : Zingiberaceae
Genus : *Curcuma*
Spesies : *Curcuma zedoaria* (Berg.) Roscoe
Nama lokal : Temu putih
Catatan : Klasifikasi mengacu pada sistem Angiosperm Phylogeny Group.

identifikasi tersebut dibantu oleh Dr. Ratna Susandarini, M.Sc.
Demikian surat keterangan ini diberikan untuk dapat dipergunakan seperlunya.

Mengetahui,
Dekan Fakultas Biologi
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Lampiran 2. Destilasi minyak atsiri rimpang temu putih



Lampiran 3. Analisis minyak atsiri rimpang temu putih



Organoleptis



Identifikasi dengan kertas saring



Kelarutan dalam air



Refraktometer (indeks bias)

Lampiran 4. Sediaan deodoran minyak atsiri rimpang temu putih



Sediaan deodoran MA



Sediaan deodoran MA



Sediaan deodoran MA



Uji homogenitas



Uji Viskositas



Pembuatan sediaan deodoran



Uji daya sebar



Uji Daya lekat

Lampiran 5. Perhitungan kadar minyak atsiri rimpang temu putih

Sampel tanaman	Bobot sampel (gram)	Volume minyak atsiri (mL)	Rendemen (%)
Rimpang temu Putih	28000	43	0,15
Total	28000	43	0,15

$$\begin{aligned}
 \% \text{ Rendemen minyak atsiri rimpang temu putih} &= \frac{\text{volume minyak}}{\text{bobot sampel}} \times 100\% \\
 &= \frac{43 \text{ ml}}{28000 \text{ gram}} \times 100\% = 0,15\%
 \end{aligned}$$

Lampiran 6. Perhitungan bobot jenis minyak atsiri rimpang temu putih

Bobot pikno kosong (g)	Bobot pikno+air (g)	Bobot pikno+minyak (g)	Bobot minyak (g)
10,855	16,405	15,532	4,677
10,855	16,405	15,528	4,673
10,855	16,405	15,529	4,674
Rata-rata		15,529	4,674

Perhitungan bobot jenis :

$$\begin{aligned}
 1. \text{ Bobot jenis minyak atsiri} &= \frac{\text{berat minyak}}{\text{bobot air}} \\
 &= \frac{4,677}{5,55} = 0,842 \text{ g/ml}
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Bobot jenis minyak atsiri} &= \frac{\text{berat minyak}}{\text{bobot air}} \\
 &= \frac{4,673}{5,55} = 0,841 \text{ g/ml}
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Bobot jenis minyak atsiri} &= \frac{\text{berat minyak}}{\text{bobot air}} \\
 &= \frac{4,674}{5,55} = 0,842 \text{ g/ml}
 \end{aligned}$$

Rata-rata bobot jenis minyak atsiri rimpang temu putih

$$= \frac{0,842+0,841+0,842}{3} = 0,841 \text{ g/ml}$$

Jadi bobot jenis minyak atsiri rimpang temu putih adalah 0,841%

Jadi bobot jenis praktek sesuai dengan bobot jenis menurut pustaka yaitu antara 0,696-1,18 (Ketaren, 1985).

Lampiran 7. Perhitungan konversi suhu ruang dalam pemeriksaan indeks bias minyak atsiri rimpang temu putih

Suhu ruang saat praktikum : 28°C

Suhu ruang menurut pustaka : 20°C

0,0004 adalah faktor koreksi untuk indeks bias minyak atsiri setiap derajat.

$$\begin{aligned} \text{Indeks bias minyak rimpang temu putih} &= 1,5420 + 0,0004 (28- 20) \\ &= 1,5420 + 0,0004 (8) \\ &= 1,5452 \end{aligned}$$

Lampiran 8. Hasil uji pH sediaan deodoran

Formula	Waktu	Replikasi			Rata-rata	SD
		1	2	3		
Formula 1	Hari ke 2	6,47	6,46	6,47	6,47	0,01
	Hari ke 7	6,44	6,43	6,43	6,43	0,01
	Hari ke 14	6,39	6,38	6,36	6,38	0,02
	Hari ke 21	6,32	6,31	6,31	6,31	0,01
Formula 2	Hari ke 2	6,55	6,54	6,56	6,56	0,01
	Hari ke 7	6,49	6,46	6,49	6,48	0,02
	Hari ke 14	6,4	6,41	6,42	6,41	0,01
	Hari ke 21	6,37	6,35	6,37	6,36	0,01
Formula 3	Hari ke 2	6,82	6,82	6,81	6,82	0,01
	Hari ke 7	6,73	6,72	6,7	6,72	0,02
	Hari ke 14	6,55	6,54	6,56	6,55	0,01
	Hari ke 21	6,49	6,48	6,48	6,48	0,01
Kontrol Basis	Hari ke 2	6,16	6,18	6,17	6,17	0,01
	Hari ke 7	6,15	6,18	6,18	6,17	0,02
	Hari ke 14	6,15	6,17	6,16	6,16	0,01
	Hari ke 21	6,13	6,16	6,15	6,15	0,02

Lampiran 9. Hasil analisis uji pH sediaan deodoran

Npar Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pH	48	6,4129	,19134	6,13	6,82

One-Sample Kolmogorov-Smirnov Test

		pH
N		48
Normal Parameters ^{a,b}	Mean	6,4129
	Std. Deviation	,19134
	Absolute	,138
Most Extreme Differences	Positive	,138
	Negative	-,070
Kolmogorov-Smirnov Z		,958
Asymp. Sig. (2-tailed)		,318

a. Test distribution is Normal.

b. Calculated from data.

Uji Kolmogorov uji pH signifikansinya (Aaymp.sig) menunjukkan angka 0,318 > 0,05 sehingga data tersebut destristribusi normal.

Univariate Analysis of Variance

Levene's Test of Equality of Error Variances^a

Dependent Variable: pH

F	df1	df2	Sig.
1,230	15	32	,301

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

a. Design: Intercept + formula + waktu + formula * waktu

Tests of Between-Subjects Effects

Dependent Variable: pH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1,717 ^a	15	,114	871,920	,000
Intercept	1974,024	1	1974,024	15040182,921	,000
Formula	1,406	3	,469	3569,630	,000
Waktu	,217	3	,072	549,947	,000
formula * waktu	,095	9	,011	80,007	,000
Error	,004	32	,000		
Total	1975,745	48			
Corrected Total	1,721	47			

a. R Squared = ,998 (Adjusted R Squared = ,996)

Uji ANOVA uji pH signifikansinya (Sig.) menunjukkan angka 0,000 < 0,05 berarti perbedaan formula menunjukkan adanya perbedaan pada pH sediaan yang dibuat.

Post Hoc Test

Formula

pH

Tukey HSD^{a,b}

Formula	N	Subset			
		1	2	3	4
kontrol basis	12	6,1617			
formula 1	12		6,3975		
formula 2	12			6,4508	
formula 3	12				6,6417
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan formula menunjukkan adanya perbedaan pada pH sediaan yang dibuat.

Hari

pH

Tukey HSD^{a,b}

Waktu	N	Subset			
		1	2	3	4
Hari ke 21	12	6,3267			
Hari ke 14	12		6,3742		
Hari ke 7	12			6,4500	
Hari ke 2	12				6,5008
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 5 subsets yang berarti adanya perbedaan hari menunjukkan adanya perbedaan pada pH sediaan yang dibuat.

Lampiran 10. Hasil uji viskositas sediaan deodoran

Formula	Waktu	Replikasi			Rata-rata	SD
		1	2	3		
Formula 1	Hari ke 2	5,2	5,2	5	5,13	0,1
	Hari ke 7	5,4	5,5	5,2	5,37	0,2
	Hari ke 14	6	5,8	5,8	5,87	0,1
	Hari ke 21	6,5	6,5	6,4	6,47	0,1
Formula 2	Hari ke 2	5,2	5	5	5,07	0,1
	Hari ke 7	5,5	5,3	5,2	5,33	0,2
	Hari ke 14	6	6	5,8	5,93	0,1
	Hari ke 21	6,3	6,1	6,3	6,23	0,1
Formula 3	Hari ke 2	5	5	5	5,00	0,0
	Hari ke 7	5,4	5,2	5,2	5,27	0,1
	Hari ke 14	5,7	5,5	5,8	5,67	0,2
	Hari ke 21	6,2	6	6	6,07	0,1
Kontrol Basis	Hari ke 2	5,5	5,5	5,2	5,40	0,2
	Hari ke 7	5,8	5,8	5,8	5,80	0,0
	Hari ke 14	6	5,8	5,7	5,83	0,2
	Hari ke 21	6,4	6,5	6,3	6,40	0,1

Lampiran 11. Hasil analisis uji viskositas sediaan deodoran

Npar Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Viskositas	48	5,677	,4719	5,0	6,5

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		48
Normal Parameters ^{a,b}	Mean	5,677
	Std. Deviation	,4719
	Absolute	,136
Most Extreme Differences	Positive	,136
	Negative	-,103
Kolmogorov-Smirnov Z		,940
Asymp. Sig. (2-tailed)		,340

a. Test distribution is Normal.

b. Calculated from data.

Uji Kolmogorov uji viskositas signifikansinya (Aaymp.sig) menunjukkan angka $0,340 > 0,05$ sehingga data tersebut destristribusi normal.

Univariate Analysis of Variance

Levene's Test of Equality of Error Variances^a

Dependent Variable: Viskositas

F	df1	df2	Sig.
1,872	15	32	,067

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

a. Design: Intercept + formula + waktu + formula

* waktu

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10,005 ^a	15	,667	46,399	,000
Intercept	1547,005	1	1547,005	107617,754	,000
Formula	,797	3	,266	18,488	,000
Waktu	8,794	3	2,931	203,918	,000
formula * waktu	,414	9	,046	3,196	,007
Error	,460	32	,014		
Total	1557,470	48			
Corrected Total	10,465	47			

a. R Squared = ,956 (Adjusted R Squared = ,935)

Uji ANOVA uji viskositas signifikansinya (Sig.) menunjukkan angka $0,000 < 0,05$ berarti perbedaan formula menunjukkan adanya perbedaan pada viskositas sediaan yang dibuat.

Post Hoc Test

Formula

Viskositas

Tukey HSD^{a,b}

Formula	N	Subset		
		1	2	3
formula 3	12	5,500		
formula 2	12		5,642	
Formula 1	12		5,708	
kontrol basis	12			5,858
Sig.		1,000	,532	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,014.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 3 subsets yang berarti adanya perbedaan formula menunjukkan adanya perbedaan pada viskositas sediaan yang dibuat.

Hari

Viskositas

Tukey HSD^{a,b}

Waktu	N	Subset			
		1	2	3	4
hari ke 2	12	5,150			
hari ke 7	12		5,442		
hari ke 14	12			5,825	
hari ke 21	12				6,292
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,014.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan hari menunjukkan adanya perbedaan pada viskositas sediaan yang dibuat.

Lampiran 12. Hasil uji daya sebar sediaan deodoran

Formula	Waktu	Beban (g)	Daya Sebar (cm)			Rata-Rata	SD
			Replikasi 1	Replikasi 2	Replikasi 3		
Formula 1	Hari ke-2	49,29	6,2	6,3	6,5	6,3	0,2
		99,29	7,5	7,4	7,8	7,6	0,2
		149,29	8,4	8,1	8,4	8,3	0,2
		199,29	8,9	8,6	8,7	8,7	0,2
			Rata-Rata			7,7	0,2
	Hari ke 7	49,29	6	6,1	6,4	6,2	0,2
		99,29	7,1	7,3	7,7	7,4	0,3
		149,29	7,5	7,6	8,1	7,7	0,3
		199,29	8,4	8,2	8,5	8,4	0,2
			Rata-Rata			7,4	0,2
	Hari ke 14	49,29	5,9	5,8	6,1	5,9	0,2
		99,29	6,5	6,7	6,8	6,7	0,2
		149,29	7,2	7,5	7,7	7,5	0,3
		199,29	7,7	8,2	8,5	8,1	0,4
			Rata-Rata			7,1	0,2
	Hari ke 21	49,29	5,7	5,6	5,7	5,7	0,1
		99,29	6,5	6,4	6,3	6,4	0,1
		149,29	7,1	6,9	6,8	6,9	0,2
		199,29	7,4	7	7,5	7,3	0,3
			Rata-Rata			6,6	0,1
Formula 2	Hari ke 2	49,29	6,7	6,9	6,5	6,7	0,2
		99,29	7,3	7,6	7,2	7,4	0,2
		149,29	7,9	8,1	7,6	7,9	0,3
		199,29	8,6	8,8	8,5	8,6	0,2
			Rata-Rata			7,6	0,2
	Hari ke 7	49,29	6,4	6,6	6,1	6,4	0,3
		99,29	7,2	7,6	6,9	7,2	0,4
		149,29	7,9	8,3	8,5	8,2	0,3
		199,29	8,5	8,8	8,7	8,7	0,2
			Rata-Rata			7,6	0,3
	Hari ke 14	49,29	6,1	6,3	5,8	6,1	0,3
		99,29	6,7	6,9	6,5	6,7	0,2
		149,29	7,3	7,5	7,2	7,3	0,2
		199,29	8,1	8,1	7,9	8,0	0,1
			Rata-Rata			7,0	0,2
	Hari ke 21	49,29	5,8	6	5,6	5,8	0,2
		99,29	6,5	6,8	6,4	6,6	0,2
		149,29	7,3	7,8	7,4	7,5	0,3
		199,29	7,8	8,4	7,9	8,0	0,3
			Rata-Rata			7,0	0,2
Formula 3	Hari ke 2	49,29	7,6	7,5	7,3	7,5	0,2
		99,29	8,5	8,2	8,1	8,3	0,2
		149,29	9,8	9,5	9,6	9,6	0,2
		199,29	10,8	10,6	10,4	10,6	0,2
			Rata-Rata			9,0	0,2
	Hari ke 7	49,29	7,4	7,2	7,1	7,2	0,2
		99,29	8,2	8,1	7,7	8,0	0,3
		149,29	9,4	9	9,1	9,2	0,2

Formula	Waktu	Beban (g)	Daya Sebar (cm)			Rata-Rata	SD
			Replikasi 1	Replikasi 2	Replikasi 3		
		199,29	10,3	10,1	10,2	10,2	0,1
		Rata-Rata				8,7	0,2
	Hari ke 14	49,29	7,3	7,2	7,1	7,2	0,1
		99,29	8,1	7,9	7,8	7,9	0,2
		149,29	9,3	8,7	8,9	9,0	0,3
		199,29	10,2	9,6	9,8	9,9	0,3
		Rata-Rata				8,5	0,2
	Hari ke 21	49,29	7,1	6,8	6,9	6,9	0,2
		99,29	7,8	7,4	7,5	7,7	0,2
		149,29	8,5	8,3	8,1	8,3	0,2
		199,29	9,9	9,7	9,4	9,7	0,3
		Rata-Rata				8,1	0,2
Kontrol basis	Hari ke 2	49,29	4,4	4,5	4,8	4,6	0,2
		99,29	5,3	5,3	5,5	5,4	0,1
		149,29	5,9	5,9	6,1	6,0	0,1
		199,29	6,5	6,4	6,9	6,6	0,3
		Rata-Rata				5,6	0,3
	Hari ke 7	49,29	4	4,1	4,2	4,1	0,1
		99,29	4,9	5	4,8	4,9	0,1
		149,29	5,5	5,6	5,3	5,5	0,2
		199,29	6,1	6	5,9	6,0	0,1
		Rata-Rata				6,0	0,1
	Hari ke 14	49,29	3,9	4	3,9	3,9	0,1
		99,29	4,5	4,7	4,6	4,6	0,1
		149,29	5,1	5,3	5,6	5,3	0,3
		199,29	5,9	6,2	6,3	6,1	0,2
		Rata-Rata				5,0	0,2
	Hari ke 21	49,29	3,9	3,8	3,8	3,8	0,1
		99,29	4,5	4,6	4,3	4,5	0,2
		149,29	5,1	5	4,9	5,0	0,1
		199,29	5,5	5,6	5,4	5,5	0,1
		Rata-Rata				4,7	0,1

Lampiran 13. Hasil analisis uji daya sebar sediaan deodoran

NPar Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Daya sebar	192	7,046	1,5654	3,8	10,8

One-Sample Kolmogorov-Smirnov Test

		Daya sebar
N		192
Normal Parameters ^{a,b}	Mean	7,046
	Std. Deviation	1,5654
	Absolute	,045
Most Extreme Differences	Positive	,031
	Negative	-,045
Kolmogorov-Smirnov Z		,624
Asymp. Sig. (2-tailed)		,831

a. Test distribution is Normal.

b. Calculated from data.

Uji Kolmogorov uji daya sebar signifikansinya (Aaymp.sig) menunjukkan angka $0,831 > 0,05$ sehingga data tersebut terdistribusi normal.

Univariate Analysis of Variance

Levene's Test of Equality of Error Variances^a

Dependent Variable: Daya sebar

F	df1	df2	Sig.
1,113	63	128	,302

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

a. Design: Intercept + Formula + waktu + Berat +
Formula * waktu + Formula * Berat + waktu *
Berat + Formula * waktu * Berat

Tests of Between-Subjects Effects

Dependent Variable: Daya sebar

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	462,697 ^a	63	7,344	176,707	,000
Intercept	9531,603	1	9531,603	229331,810	,000
Formula	294,810	3	98,270	2364,388	,000
Waktu	21,962	3	7,321	176,137	,000
Berat	136,750	3	45,583	1096,739	,000
Formula * waktu	1,792	9	,199	4,790	,000
Formula * Berat	4,924	9	,547	13,164	,000
waktu * Berat	,603	9	,067	1,613	,118
Formula * waktu * Berat	1,856	27	,069	1,654	,034
Error	5,320	128	,042		
Total	9999,620	192			
Corrected Total	468,017	191			

a. R Squared = ,989 (Adjusted R Squared = ,983)

Uji ANOVA uji daya sebar signifikansinya (Sig.) menunjukkan angka $0,000 < 0,05$ berarti perbedaan formula menunjukkan adanya perbedaan pada daya sebar sediaan yang dibuat.

Post Hoc Test

Formula

Daya sebar

Tukey HSD^{a,b}

Formula	N	Subset			
		1	2	3	4
kontrol basis	48	5,110			
formula 1	48		7,192		
formula 2	48			7,319	
formula 3	48				8,563
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,042.

a. Uses Harmonic Mean Sample Size = 48,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan formula menunjukkan adanya perbedaan pada daya sebar sediaan yang dibuat.

Hari

Daya sebar

Tukey HSD^{a,b}

Waktu	N	Subset			
		1	2	3	4
hari ke 21	48	6,592			
hari ke 14	48		6,894		
hari ke 7	48			7,200	
hari ke 2	48				7,498
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,042.

a. Uses Harmonic Mean Sample Size = 48,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets hari menunjukkan 4 subsets yang berarti adanya perbedaan hari menunjukkan adanya perbedaan pada daya sebar sediaan yang dibuat.

Berat

Daya sebar

Tukey HSD^{a,b}

Berat (g)	N	Subset			
		1	2	3	4
49,29	48	5,894			
99,29	48		6,685		
149,29	48			7,450	
199,29	48				8,154
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,042.

a. Uses Harmonic Mean Sample Size = 48,000.

b. Alpha = ,05.

Uji ANOVA uji homogenitas subsets berat menunjukkan 4 subsets yang berarti adanya perbedaan berat menunjukkan adanya perbedaan pada daya sebar sediaan yang dibuat.

Lampiran 14. Hasil uji daya lekat sediaan deodoran

Formula	Waktu	Replikasi			Rata-rata	SD
		1	2	3		
Formula 1	Hari ke 2	1,14	1,16	1,14	1,15	0,01
	Hari ke 7	1,2	1,19	1,17	1,19	0,02
	Hari ke 14	1,22	1,25	1,21	1,23	0,02
	Hari ke 21	1,24	1,27	1,25	1,25	0,02
Formula 2	Hari ke 2	1,11	1,15	1,1	1,12	0,03
	Hari ke 7	1,12	1,14	1,15	1,14	0,02
	Hari ke 14	1,17	1,19	1,19	1,18	0,01
	Hari ke 21	1,21	1,23	1,21	1,22	0,01
Formula 3	Hari ke 2	1,1	1,11	1,11	1,11	0,01
	Hari ke 7	1,12	1,11	1,12	1,12	0,01
	Hari ke 14	1,15	1,14	1,13	1,14	0,01
	Hari ke 21	1,17	1,15	1,15	1,16	0,01
Kontrol Basis	Hari ke 2	1,16	1,15	1,18	1,16	0,02
	Hari ke 7	1,21	1,2	1,22	1,21	0,01
	Hari ke 14	1,25	1,27	1,28	1,27	0,02
	Hari ke 21	1,31	1,3	1,31	1,31	0,01

Lampiran 15. Hasil analisis uji daya lekat sediaan deodoran

Npar Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Daya lekat	48	1,1835	,05855	1,10	1,31

One-Sample Kolmogorov-Smirnov Test

		Daya lekat
N		48
Normal Parameters ^{a,b}	Mean	1,1835
	Std. Deviation	,05855
	Absolute	,133
Most Extreme Differences	Positive	,133
	Negative	-,077
Kolmogorov-Smirnov Z		,924
Asymp. Sig. (2-tailed)		,361

a. Test distribution is Normal.

b. Calculated from data.

Uji Kolmogorov uji daya lekat signifikansinya (Aaymp.sig) menunjukkan angka $0,361 > 0,05$ sehingga data tersebut terdistribusi normal.

Univariate Analysis of Variance

Levene's Test of Equality of Error Variances^a

Dependent Variable: Daya lekat

F	df1	df2	Sig.
1,483	15	32	,170

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

a. Design: Intercept + Formula + Waktu +
Formula * Waktu

Tests of Between-Subjects Effects

Dependent Variable: Daya lekat

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,155 ^a	15	,010	52,709	,000
Intercept	67,237	1	67,237	343337,883	,000
Formula	,077	3	,026	131,869	,000
Waktu	,069	3	,023	118,167	,000
Formula * Waktu	,008	9	,001	4,502	,001
Error	,006	32	,000		
Total	67,398	48			
Corrected Total	,161	47			

a. R Squared = ,961 (Adjusted R Squared = ,943)

Uji ANOVA uji daya lekat signifikansinya (Sig.) menunjukkan angka $0,000 < 0,05$ berarti perbedaan formula menunjukkan adanya perbedaan pada daya lekat sediaan yang dibuat.

Post Hoc Test

Formula

Daya lekat

Tukey HSD^{a,b}

Formula	N	Subset			
		1	2	3	4
Formula 3	12	1,1300			
Formula 2	12		1,1642		
Formula 1	12			1,2033	
Kontrol basis	12				1,2367
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = 0,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan formula menunjukkan adanya perbedaan pada daya lekat sediaan yang dibuat.

Hari

Daya lekat

Tukey HSD^{a,b}

Waktu	N	Subset			
		1	2	3	4
Hari ke 2	12	1,1342			
Hari ke 7	12		1,1625		
Hari ke 14	12			1,2042	
Hari ke 21	12				1,2333
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = 0,05.

Uji ANOVA uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan hari menunjukkan adanya perbedaan pada daya lekat sediaan yang dibuat.

Lampiran 16. Hasil uji statistik stabilitas sediaan deodoran

1. Stabilitas pH Formula 1 (Konsentrasi minyak atsiri rimpang temu putih 2%)

Measure: pH

Waktu	Dependent Variable
1	pH_hari_ke_2
2	pH_hari_ke_7
3	pH_hari_ke_14
4	pH_hari_ke_21

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for pH_hari_ke_2	,385	3	.	,750	3	,547
Standardized Residual for pH_hari_ke_7	,385	3	.	,750	3	,523
Standardized Residual for pH_hari_ke_14	,253	3	.	,964	3	,637
Standardized Residual for pH_hari_ke_21	,385	3	.	,750	3	,631

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,033	,003	,059	-,003	,070
	3	,090	,010	,073	-,019	,199
	4	,153*	,003	,003	,117	,190
2	1	-,033	,003	,059	-,070	,003
	3	,057	,007	,081	-,016	,129
	4	,120	,000	.	,120	,120
3	1	-,090	,010	,073	-,199	,019
	2	-,057	,007	,081	-,129	,016
	4	,063	,007	,065	-,009	,136
4	1	-,153*	,003	,003	-,190	-,117
	2	-,120	,000	.	-,120	-,120
	3	-,063	,007	,065	-,136	,009

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

2. Stabilitas pH Formula 2 (Konsentrasi minyak atsiri rimpang temu putih 4%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for pH_hari_ke_2	,175	3	.	1,000	3	1,000
Standardized Residual for pH_hari_ke_7	,385	3	.	,750	3	,980
Standardized Residual for pH_hari_ke_14	,175	3	.	1,000	3	1,000
Standardized Residual for pH_hari_ke_21	,385	3	.	,750	3	,998

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,070	,006	,050	,007	,133
	3	,140	,006	,075	,077	,203
	4	,187	,003	,062	,150	,223
2	1	-,070*	,006	,040	-,133	-,007
	3	,070	,012	,157	-,056	,196
	4	,117*	,003	,005	,080	,153
3	1	-,140*	,006	,010	-,203	-,077
	2	-,070	,012	,157	-,196	,056
	4	,047	,009	,203	-,049	,143
4	1	-,187*	,003	,002	-,223	-,150
	2	-,117*	,003	,005	-,153	-,080
	3	-,047	,009	,203	-,143	,049

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

3. Stabilitas pH Formula 3 (Konsentrasi minyak atsiri 8%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for pH_hari_ke_2	,385	3	.	,750	3	,671
Standardized Residual for pH_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for pH_hari_ke_14	,175	3	.	1,000	3	1,000
Standardized Residual for pH_hari_ke_21	,385	3	.	,750	3	,770

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,100*	,006	,020	,037	,163
	3	,267*	,009	,007	,171	,363
	4	,333*	,003	,001	,297	,370
2	1	-,100*	,006	,020	-,163	-,037
	3	,167*	,013	,038	,022	,312
	4	,233*	,007	,005	,161	,306
3	1	-,267*	,009	,007	-,363	-,171
	2	-,167*	,013	,038	-,312	-,022
	4	,067	,007	,059	-,006	,139
4	1	-,333*	,003	,001	-,370	-,297
	2	-,233*	,007	,005	-,306	-,161
	3	-,067	,007	,059	-,139	,006

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

4. Stabilitas pH Formula 4 (kontrol basis tanpa minyak atsiri)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for pH_hari_ke_2	,175	3	.	1,000	3	1,000
Standardized Residual for pH_hari_ke_7	,385	3	.	,750	3	,532
Standardized Residual for pH_hari_ke_14	,175	3	.	1,000	3	1,000
Standardized Residual for pH_hari_ke_21	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: pH

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	,000	,006	1,000	-,063	,063
	3	,010	,000	.	,010	,010
	4	,023	,003	,119	-,013	,060
2	1	,000	,006	1,000	-,063	,063
	3	,010	,006	1,000	-,053	,073
	4	,023	,003	,119	-,013	,060
3	1	-,010	,000	.	-,010	-,010
	2	-,010	,006	1,000	-,073	,053
	4	,013	,003	,343	-,023	,050
4	1	-,023	,003	,119	-,060	,013
	2	-,023	,003	,119	-,060	,013
	3	-,013	,003	,343	-,050	,023

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

5. Stabilitas viskositas formula 1 (Konsentrasi minyak atsiri rimpang temu putih 2%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for viskositas_hari_ke_2	,385	3	.	,750	3	,000
Standardized Residual for viskositas_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for viskositas_hari_ke_14	,385	3	.	,750	3	,000
Standardized Residual for viskositas_hari_ke_21	,385	3	.	,750	3	,000

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	-,233	,033	,119	-,596	,130
	3	-,733*	,067	,049	-1,459	-,008
	4	-1,333*	,033	,004	-1,696	-,970
2	1	,233	,033	,119	-,130	,596
	3	-,500	,100	,226	-1,589	,589
	4	-1,100*	,058	,016	-1,728	-,472
3	1	,733*	,067	,049	,008	1,459
	2	,500	,100	,226	-,589	1,589
	4	-,600	,058	,055	-1,228	,028
4	1	1,333*	,033	,004	,970	1,696
	2	1,100*	,058	,016	,472	1,728
	3	,600	,058	,055	-,028	1,228

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

6. Stabilitas viskositas formula 2 (konsentrasi minyak atsiri rimpang temu putih 4%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Standardized Residual for viskositas_hari_ke_2	,385	3	.	,750	3	,640
Standardized Residual for viskositas_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for viskositas_hari_ke_14	,385	3	.	,750	3	,632
Standardized Residual for viskositas_hari_ke_21	,385	3	.	,750	3	,720

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,267	,033	,092	-,630	,096
	3	,867	,067	,055	-1,592	-,141
	4	1,167	,067	,059	-1,892	-,441
2	1	,267	,033	,092	-,096	,630
	3	-,600	,058	,055	-1,228	,028
	4	-,900	,100	,073	-1,989	,189
3	1	,867	,067	,035	,141	1,592
	2	,600	,058	,055	-,028	1,228
	4	-,300	,115	,730	-1,557	,957
4	1	1,167	,067	,019	,441	1,892
	2	,900	,100	,073	-,189	1,989
	3	,300	,115	,730	-,957	1,557

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

7. Stabilitas viskositas formula 3 (konsentrasi minyak atsiri rimpang temu putih 8%)

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,267	,067	,343	-,992	,459
	3	,667	,088	,102	-1,627	,293
	4	1,067	,067	,023	-1,792	-,341
2	1	,267	,067	,343	-,459	,992
	3	-,400	,100	,343	-1,489	,689
	4	-,800	,000	.	-,800	-,800
3	1	,667	,088	,102	-,293	1,627
	2	,400	,100	,343	-,689	1,489
	4	-,400	,100	,343	-1,489	,689
4	1	1,067	,067	,023	,341	1,792
	2	,800	,000	.	,800	,800
	3	,400	,100	,343	-,689	1,489

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

8. Stabilitas viskositas formula 4 (kontrol basis tanpa minyak atsiri)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for viskositas_hari_ke_2	,385	3	.	,750	3	,640
Standardized Residual for viskositas_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for viskositas_hari_ke_14	,253	3	.	,964	3	,542
Standardized Residual for viskositas_hari_ke_21	,175	3	.	1,000	3	,520

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: viskositas

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,400	,100	,343	-1,489	,689
	3	,433	,067	,137	-1,159	,292
	4	1,000*	,058	,020	-1,628	-,372
2	1	,400	,100	,343	-,689	1,489
	3	-,033	,088	1,000	-,993	,927
	4	-,600	,058	,055	-1,228	,028
3	1	,433	,067	,137	-,292	1,159
	2	,033	,088	1,000	-,927	,993
	4	-,567	,088	,140	-1,527	,393
4	1	1,000*	,058	,020	,372	1,628
	2	,600	,058	,055	-,028	1,228
	3	,567	,088	,140	-,393	1,527

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

9. Stabilitas daya sebar formula 1 (konsentrasi minyak atsiri 2%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayasebar_hari_ke_2	,219	3	.	,987	3	,780
Standardized Residual for dayasebar_hari_ke_7	,346	3	.	,838	3	,209
Standardized Residual for dayasebar_hari_ke_14	,176	3	.	1,000	3	,975
Standardized Residual for dayasebar_hari_ke_21	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,327	,093	,437	-,689	1,343
	3	,687	,122	,181	-,641	2,014
	4	1,163*	,060	,016	,509	1,817
2	1	-,327	,093	,437	-1,343	,689
	3	,360	,056	,139	-,246	,966
	4	,837	,150	,184	-,798	2,471
3	1	-,687	,122	,181	-2,014	,641
	2	-,360	,056	,139	-,966	,246
	4	,477	,167	,624	-1,341	2,294
4	1	-1,163*	,060	,016	-1,817	-,509
	2	-,837	,150	,184	-2,471	,798
	3	-,477	,167	,624	-2,294	1,341

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

10. Stabilitas daya sebar formula 2 (konsentrasi minyak atsiri 4%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayasebar_hari_ke_2	,206	3	.	,993	3	,835
Standardized Residual for dayasebar_hari_ke_7	,332	3	.	,864	3	,278
Standardized Residual for dayasebar_hari_ke_14	,204	3	.	,993	3	,843
Standardized Residual for dayasebar_hari_ke_21	,363	3	.	,802	3	,119

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,017	,064	1,000	-,678	,712
	3	,607	,023	,069	,353	,861
	4	,667	,052	,067	,096	1,237
2	1	,017	,064	1,000	-,712	,678
	3	,590	,074	,092	-,212	1,392
	4	,650*	,046	,030	,147	1,153
3	1	-,607	,023	,009	-,861	-,353
	2	-,590	,074	,092	-1,392	,212
	4	,060	,074	1,000	-,742	,862
4	1	-,667*	,052	,037	-1,237	-,096
	2	-,650*	,046	,030	-1,153	-,147
	3	-,060	,074	1,000	-,862	,742

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

11. Stabilitas daya sebar formula 3 (konsentrasi minyak atsiri 8%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayasebar_hari_ke_2	,263	3	.	,955	3	,593
Standardized Residual for dayasebar_hari_ke_7	,285	3	.	,932	3	,497
Standardized Residual for dayasebar_hari_ke_14	,340	3	.	,849	3	,238
Standardized Residual for dayasebar_hari_ke_21	,362	3	.	,803	3	,122

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,343	,007	,002	,271	,416
	3	,500	,050	,059	-,044	1,044
	4	,470	,299	1,000	-2,785	3,725
2	1	-,343	,007	,002	-,416	-,271
	3	,157	,047	,477	-,355	,669
	4	,127	,292	1,000	-3,057	3,311
3	1	-,500	,050	,059	-1,044	,044
	2	-,157	,047	,477	-,669	,355
	4	-,030	,285	1,000	-3,136	3,076
4	1	-,470	,299	1,000	-3,725	2,785
	2	-,127	,292	1,000	-3,311	3,057
	3	,030	,285	1,000	-3,076	3,136

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

12. Stabilitas daya sebar formula 4 (kontrol basis tanpa minyak atsiri)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayasebar_hari_ke_2	,385	3	.	,750	3	,542
Standardized Residual for dayasebar_hari_ke_7	,211	3	.	,991	3	,817
Standardized Residual for dayasebar_hari_ke_14	,314	3	.	,893	3	,363
Standardized Residual for dayasebar_hari_ke_21	,385	3	.	,750	3	,376

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayasebar

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,507	,132	,372	-,935	1,949
	3	,620	,076	,089	-,211	1,451
	4	,920	,150	,153	-,713	2,553
2	1	-,507	,132	,372	-1,949	,935
	3	,113	,092	1,000	-,893	1,120
	4	,413*	,023	,019	,159	,667
3	1	-,620	,076	,089	-1,451	,211
	2	-,113	,092	1,000	-1,120	,893
	4	,300	,115	,730	-,957	1,557
4	1	-,920	,150	,153	-2,553	,713
	2	-,413*	,023	,019	-,667	-,159
	3	-,300	,115	,730	-1,557	,957

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

13. Stabilitas daya lekat formula 1 (konsentrasi minyak atsiri 2%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Standardized Residual for dayalekat_hari_ke_2	,385	3	.	,750	3	,650
Standardized Residual for dayalekat_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for dayalekat_hari_ke_14	,292	3	.	,923	3	,463
Standardized Residual for dayalekat_hari_ke_21	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayalekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,040	,010	,343	-,149	,069
	3	,080*	,006	,031	-,143	-,017
	4	,107*	,003	,006	-,143	-,070
2	1	-,040	,010	,343	-,069	,149
	3	-,040	,012	,445	-,166	,086
	4	-,067	,013	,226	-,212	,078
3	1	,080*	,006	,031	,017	,143
	2	,040	,012	,445	-,086	,166
	4	-,027	,007	,343	-,099	,046
4	1	,107*	,003	,006	,070	,143
	2	,067	,013	,226	-,078	,212
	3	,027	,007	,343	-,046	,099

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

14. Stabilitas daya lekat formula 2 (konsentrasi minyak atsiri 4%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Standardized Residual for dayalekat_hari_ke_2	,314	3	.	,893	3	,363
Standardized Residual for dayalekat_hari_ke_7	,253	3	.	,964	3	,637
Standardized Residual for dayalekat_hari_ke_14	,385	3	.	,750	3	,760
Standardized Residual for dayalekat_hari_ke_21	,385	3	.	,750	3	,342

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayalekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,017	,018	1,000	-,209	,175
	3	,063	,015	,293	-,222	,095
	4	,097	,009	,059	-,193	-,001
2	1	,017	,018	1,000	-,175	,209
	3	-,047*	,003	,030	-,083	-,010
	4	-,080	,010	,092	-,189	,029
3	1	,063	,015	,293	-,095	,222
	2	,047*	,003	,030	,010	,083
	4	-,033	,007	,226	-,106	,039
4	1	,097*	,009	,049	,001	,193
	2	,080	,010	,092	-,029	,189
	3	,033	,007	,226	-,039	,106

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

15. Stabilitas daya lekat formula 3 (konsentrasi minyak atsiri 8%)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayalekat_hari_ke_2	,385	3	.	,750	3	,065
Standardized Residual for dayalekat_hari_ke_7	,385	3	.	,750	3	,700
Standardized Residual for dayalekat_hari_ke_14	,175	3	.	1,000	3	1,000
Standardized Residual for dayalekat_hari_ke_21	,385	3	.	,750	3	,980

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayalekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	,010	,006	1,000	,073	,053
	3	,033	,009	,380	,129	,063
	4	,050	,010	,226	,159	,059
2	1	,010	,006	1,000	,053	,073
	3	-,023	,007	,437	-,096	,049
	4	-,040	,006	,121	-,103	,023
3	1	,033	,009	,380	-,063	,129
	2	,023	,007	,437	-,049	,096
	4	-,017	,003	,226	-,053	,020
4	1	,050	,010	,226	-,059	,159
	2	,040	,006	,121	-,023	,103
	3	,017	,003	,226	-,020	,053

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

16. Stabilitas daya lekat formula 4 (kontrol basis tanpa minyak atsiri)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for dayalekat_hari_ke_2	,253	3	.	,964	3	,637
Standardized Residual for dayalekat_hari_ke_7	,175	3	.	1,000	3	1,000
Standardized Residual for dayalekat_hari_ke_14	,253	3	.	,964	3	,637
Standardized Residual for dayalekat_hari_ke_21	,385	3	.	,750	3	,746

a. Lilliefors Significance Correction

Pairwise Comparisons

Measure: dayalekat

(I) waktu	(J) waktu	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	,047*	,003	,030	,083	-,010
	3	,103*	,009	,043	,199	-,007
	4	,143*	,007	,013	,216	-,071
2	1	,047*	,003	,030	,010	,083
	3	-,057*	,009	,140	-,153	,039
	4	-,097*	,003	,007	-,133	-,060
3	1	,103*	,009	,043	,007	,199
	2	,057*	,009	,140	-,039	,153
	4	-,040*	,010	,343	-,149	,069
4	1	,143*	,007	,013	,071	,216
	2	,097*	,003	,007	,060	,133
	3	,040*	,010	,343	-,069	,149

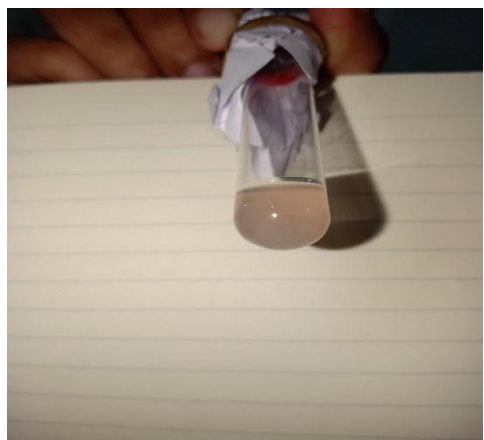
Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Lampiran 17. Identifikasi bakteri *Staphylococcus aureus*

Uji makroskopis



Uji koagulase

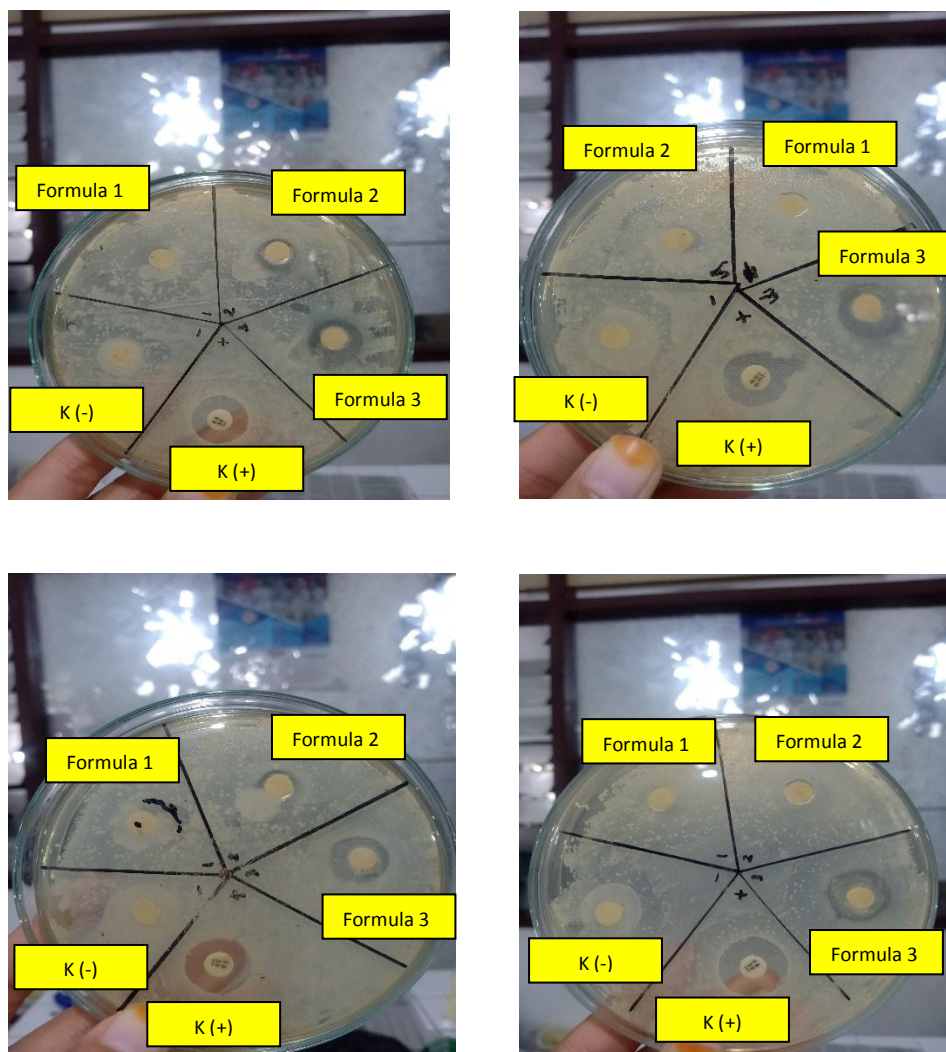


Uji katalase



Pewarnaan Gram

Lampiran 18. Uji aktivitas antibakteri minyak atsiri rimpang temu putih



Lampiran 19. Hasil uji daya hambat sediaan deodoran

Formula	Konsentrasi	Diameter Daya Hambat (mm)				Rata-rata± SD
		Replikasi				
		1	2	3	4	
F1 (deodoran <i>roll on</i> MA rimpang temu putih)	2%	10	8	9	7	8,5±1,29
F2 (deodoran <i>roll on</i> MA rimpang temu putih)	4%	12	10	11	12	11,25±0,96
F3 (deodoran <i>roll on</i> MA rimpang temu putih)	8%	14	15	16	15	15±0,82
Kontrol positif (vankomisin disk)		15	18	14	16	15,75±1,71
kontrol negatif (basis deodoran)		0	0	0	0	0± 0,00

Lampiran 20. Hasil analisis daya hambat sediaan deodoran Npair Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
zona hambat	20	9,9000	5,70226	,00	16,00

One-Sample Kolmogorov-Smirnov Test

		zona hambat
N		20
Normal Parameters ^{a,b}	Mean	9,9000
	Std. Deviation	5,70226
	Absolute	,164
Most Extreme Differences	Positive	,159
	Negative	-,164
Kolmogorov-Smirnov Z		,733
Asymp. Sig. (2-tailed)		,656

a. Test distribution is Normal.

b. Calculated from data.

Uji *Kolmogorov* uji diameter daya hambat signifikansinya (*Aaymp.sig*) menunjukkan angka $0,656 > 0,05$ sehingga data tersebut terdistribuai normal.

Test of Homogeneity of Variances

zona hambat

Levene Statistic	df1	df2	Sig.
2,875	4	15	,060

ANOVA

zona hambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	605,300	4	151,325	181,590	,000
Within Groups	12,500	15	,833		
Total	617,800	19			

Homogeneous Subsets

zona hambat

Tukey HSD^a

Formula	N	Subset for alpha = 0.05			
		1	2	3	4
kontrol negatif	4	,0000			
formula 1	4		8,5000		
formula 2	4			11,2500	
kontrol positif	4				14,7500
formula 3	4				15,0000
Sig.		1,000	1,000	1,000	,995

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

Uji homogenitas subsets formula menunjukkan 4 subsets yang berarti adanya perbedaan formula menunjukkan adanya perbedaan pada diameter daya hambat.