LAMPIRAN

Lampiran 1. Perhitungan Formula Emulgel Minyak Atsiri Kayu Manis

1. Formula 1

- Minyak atsiri $\frac{5}{100}$x100 g = 5 gram
- HMPC $\frac{1}{100}$x 100 g = 1 gram
- Parafin cair $\frac{6,5}{100}$x 100 g = 6,5 gram
- Span 80 $\frac{1,5}{100}$ x 100 g = 1,5 gram
- Tween 80 $\frac{1}{100}$x 100 g = 1 gram
- Metil paraben $\frac{0,01}{100}$x 100 g = 0,01 garam
- Propilen glikol $\frac{0,03}{100}$x 100 g = 0,03 gram
- Aquadet add 100

2. Formula 2

- Minyak atsiri $\frac{5}{100}$x100 g = 5 gram
- HMPC $\frac{2}{100}$x 100 g = 2 gram
- Parafin cair $\frac{6,5}{100}$x 100 g = 6,5 gram
- Span 80 $\frac{1,5}{100}$ x 100 g = 1,5 gram
- Tween 80 $\frac{1}{100}$x 100 g = 1 gram
- Metil paraben $\frac{0,01}{100}$x 100 g = 0,01 garam
- Propilen glikol $\frac{0,03}{100}$x 100 g = 0,03 gram
- Aquadet add 100

3. Formula 3

- Minyak atsiri $\frac{5}{100}$x100 g = 5 gram
- HMPC $\frac{1}{100}$x 100 g = 1 gram
- Parafin cair $\frac{6,5}{100}$x 100 g = 6,5 gram

- Span 80 $\frac{1,5}{100}$ x 100 g = 1,5 gram
- Tween 80 $\frac{1}{100}$x 100 g = 1 gram
- Metil paraben $\frac{0,01}{100}$x 100 g = 0,01 garam
- Propilen glikol $\frac{0,03}{100}$x 100 g = 0,03 gram
- Aquadet add 100

Lampiran 2. Sertifikat Minyak Atsiri Kayu Manis

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

Certificate of Analysis

Issued Date : 06 January 2022

Product Name	: **CINNAMON BARK OIL**
Botanical Name	: *Cinnamomum burmani*
Batch No	: 211214/177359
Appearance	: Clear Liquid
Color	: Yellow – Brown
Odor	: Characteristic of Cinnamon Odor
Density (@20ºC)	: 1.0001 – 1.0311
Refractive Index (@20ºC)	: 1.5700 – 1.5960
Solubility	: Insoluble in Water

General Information:

Storage Recommendation	: Store in tightly sealed original container with temperature between 10ºC – 25ºC. Avoid direct exposure to sunlight, heat and air.
Shelf Life	: Quality to be guaranteed for 24 months when goods well packed and stored in cool place

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Lampiran 3. Perhitungan Berat Jenis

Pikno kosong : 12,110 gram

Pikno +aquades :22,280 gram

Pikno+minyak :22,252 gram

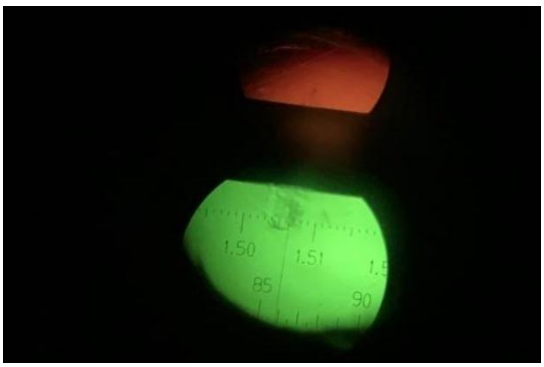
Bj= $\frac{M2-M}{M1-M}$

=$\frac{22,252-12,110}{22,280-12,110}$

=$\frac{10,142}{10,17}$

=0,99724

Lampiran 4. Perhitungan Indeks Bias



Indeks bias = 1,5685

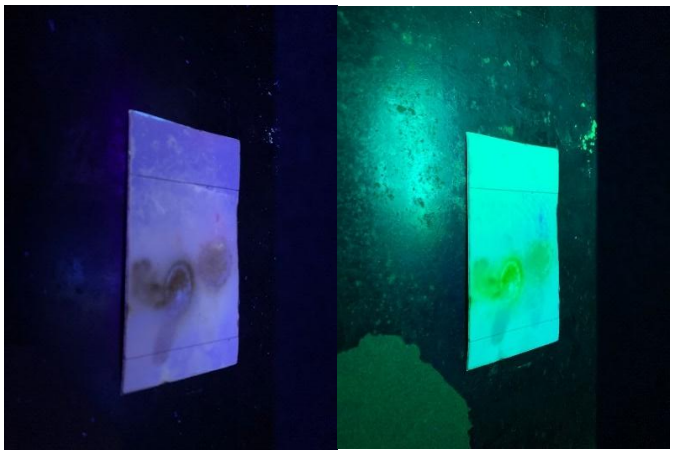
Indeks bias = 1 - $\left(\frac{IB\ teori-IB\ praktek}{IB\ Teori}\right)$x 100%

= 1 - $\left(\frac{1,6005-1,5685}{1,6005}\right)$x 100%

= 1 - $\left(\frac{0,032}{1,6005}\right)$x 100%

= 98,01%

Lampiran 5. Hasil Uji Kromotografi Lapis Tipis



Hasil dari Uv254 dan Uv366

Dengan nilai Rf = 5,6

Rf baku = $\frac{jarak\ yang\ ditempuh\ zat}{jarak\ yang\ ditempuh\ pelarut}$

$= \frac{2,3}{5,6}$

=0,4107

Rf sampel= $\frac{jarak\ yang\ ditempuh\ zat}{jarak\ yang\ ditempuh\ pelarut}$

$= \frac{2,6}{5,6}$

=0,464

Lampiran 6. Data Hasil Pengujian Organoleptis

Pemeriksaan	Formula 1	Formula 2	Formula 3
Warna	Putih	Putih	Putih
Bau	Kayu manis	Kayu manis	Kayu manis
Konsentrasi	Agak kental	Kental	Sangat kental

Lampiran 7. Data Hasil Pengujian Homogenitas

Pemeriksaan	Formula 1	Formula 2	Formula 3
Homogenitas	Homogen	Homogen	Homegen

Lampiran 8. Data Hasil Pengujian Viskositas

Pemeriksaan	Formula 1	Formula 2	Formula 3
Homogenitas	Homogen	Homogen	Homegen

Lampiran 9. Data Hasil Pengujian Daya Lekat

Pemeriksaan	Formula 1	Formula 2	Formula 3
Uji daya lekat	00:54 detik	00:66 detik	00:86

Lampiran 10. Data Hasil Pengujian Daya Sebar

Hasil pemeriksaan	Beban yang digunakan	Formula 1	Formula 2	Formula 3
Daya sebar	Tanpa beban	4,5 cm	3,8 cm	3,2 cm
	50 gram	4,9 cm	4,2 cm	3,6 cm
	100 gram	5,4 cm	4,7 cm	4,0 cm
	150 gram	6,0 cm	5,1 cm	4,5 cm

Lampiran 11. Data Hasil Pengujian pH

Pemeriksaan	Formula 1	Formula 2	Formula 3
Uji Ph	5,33	5,79	5,80

Lampiran 12. Data Hasil Pengujian Tipe Emulsi

Pengujian	Formula 1	Formula 2	Formula 3
Tipe emulsi	Minyak dalam air (M/A)	Minyak dalam air (M/A)	Minyak dalam air (M/A)

Lampiran 13. Data Hasil Pengujian Stabilitas

Pengujian	Formula 1	Formula 2	Formula 3
Hari ke-1	Tidak terjadi pemisahan	Tidak terjadi pemisahan	Tidak terjadi pemisahan
Hari ke-6	Tidak terjadi pemisahan	Tidak terjadi pemisahan	Tidak terjadi pemisahan

Lampiran 14. Pengujian Emulgel Minyak Kayu Manis

1. Uji Viskositas

Formula 1

formula 2

Formula 3

2. Uji pH


Auto
5.33
pH
M 20 ATC 25.4 °C
STARTER3100
OHAUS
Exit
Store Recall
Read/Enter Auto
pH/mV Setup
Cal Slope

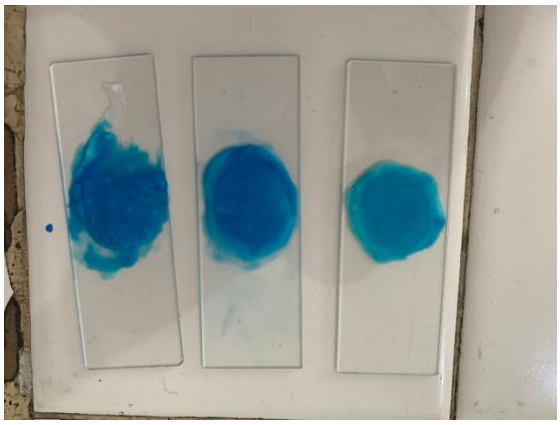

Auto
5.79
pH
M 20 ATC 25.2 °C
STARTER3100
OHAUS
Exit
Store Recall
Read/Enter Auto
pH/mV Setup
Cal Slope


Auto
5.80
pH
M 20 ATC 25.3 °C
STARTER3100
OHAUS
Exit
Store Recall
Read/Enter Auto
pH/mV Setup
Cal Slope

3. Alat Uji Daya Sebar

4. Alat Uji Daya Lekat

5. Uji Tipe Emulsi



Lampiran 15. Uji Statistik pH Emulgel Mengunakan *One Way Anova*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Uji ph	.167	9	.200*	.941	9	.592

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

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji ph	Based on Mean	6.466	2	6	.032
	Based on Median	.614	2	6	.572
	Based on Median and with adjusted df	.614	2	2.553	.606
	Based on trimmed mean	5.452	2	6	.045

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6080.667	2	3040.333	46.143	.000
Within Groups	395.333	6	65.889		
Total	6476.000	8			

Multiple Comparisons

Dependent Variable: Uji ph

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula 1	Formula 2	-32.33333*	6.62766	.007	-52.6688	-11.9978
	Formula 3	-63.66667*	6.62766	<,001	-84.0022	-43.3312
Formula 2	Formula 1	32.33333*	6.62766	.007	11.9978	52.6688
	Formula 3	-31.33333*	6.62766	.008	-51.6688	-10.9978
Formula 3	Formula 1	63.66667*	6.62766	<,001	43.3312	84.0022
	Formula 2	31.33333*	6.62766	.008	10.9978	51.6688

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

Lampiran16. Uji Statistik Viskositas Emulgel Mengunakan *One Way Anova*

VISCOSITAS

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
viscositas	.208	9	.200*	.836	9	.052

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

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
viscositas	Based on Mean	.052	2	6	.950
	Based on Median	.000	2	6	1.000
	Based on Median and with adjusted df	.000	2	5.594	1.000
	Based on trimmed mean	.039	2	6	.962

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	125030.222	2	62515.111	7924.451	.000
Within Groups	47.333	6	7.889		
Total	125077.556	8			

Multiple Comparisons

Dependent Variable: viskositas
Tukey HSD

(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
formula 1	formula 2	-178.333*	14.466	<,001	-222.72	-133.95
	formula 3	-296.667*	14.466	<,001	-341.05	-252.28
formula 2	formula 1	178.333*	14.466	<,001	133.95	222.72
	formula 3	-118.333*	14.466	<,001	-162.72	-73.95
formula 3	formula 1	296.667*	14.466	<,001	252.28	341.05
	formula 2	118.333*	14.466	<,001	73.95	162.72

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

Lampiran 17. Uji Statistik Daya Lekat Emulgel Mengunakan *One Way Anova*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Lekat	.167	9	.200*	.939	9	.572

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

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Lekat	Based on Mean	.187	2	6	.834
	Based on Median	.104	2	6	.902
	Based on Median and with adjusted df	.104	2	5.864	.902
	Based on trimmed mean	.180	2	6	.839

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1528.667	2	764.333	48.105	.000
Within Groups	95.333	6	15.889		
Total	1624.000	8			

Multiple Comparisons

Dependent Variable: Lekat

Tukey HSD

(I) Foramiltas	(J) Foramiltas	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Formula 1	Formula 2	-12.333*	3.255	.021	-22.32	-2.35
	Formula 3	-31.667*	3.255	.000	-41.65	-21.68
Formula 2	Formula 1	12.333*	3.255	.021	2.35	22.32
	Formula 3	-19.333*	3.255	.002	-29.32	-9.35
Formula 3	Formula 1	31.667*	3.255	.000	21.68	41.65
	Formula 2	19.333*	3.255	.002	9.35	29.32

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

Lampiran 18. Uji Statistik Daya Sebar Emulgel Mengunakan *One Way Anova*

Tests of Normality

	formula	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
tanpa beban	replika 1	.175	3	.	1.000	3	1.000
	replika 2	.175	3	.	1.000	3	1.000
	replika 3	.219	3	.	.987	3	.780
50	replika 1	.253	3	.	.964	3	.637
	replika 2	.292	3	.	.923	3	.463
	replika 3	.253	3	.	.964	3	.637
100	replika 1	.292	3	.	.923	3	.463
	replika 2	.292	3	.	.923	3	.463
	replika 3	.219	3	.	.987	3	.780
150	replika 1	.292	3	.	.923	3	.463
	replika 2	.385	3	.	.750	3	.000
	replika 3	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
tanpa beban	Based on Mean	.139	2	6	.873
	Based on Median	.067	2	6	.936
	Based on Median and with adjusted df	.067	2	5.556	.936
	Based on trimmed mean	.134	2	6	.877
50	Based on Mean	.356	2	6	.715
	Based on Median	.077	2	6	.927
	Based on Median and with adjusted df	.077	2	5.045	.927

	Based on trimmed mean	.326	2	6	.734
100	Based on Mean	.049	2	6	.952
	Based on Median	.048	2	6	.954
	Based on Median and with adjusted df	.048	2	6.000	.954
	Based on trimmed mean	.050	2	6	.952
150	Based on Mean	.062	2	6	.940
	Based on Median	.050	2	6	.952
	Based on Median and with adjusted df	.050	2	5.479	.952
	Based on trimmed mean	.058	2	6	.944

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
tanpa beban	Between Groups	2.296	2	1.148	24.023	.001
	Within Groups	.287	6	.048		
	Total	2.582	8			
50	Between Groups	2.540	2	1.270	42.333	<,001
	Within Groups	.180	6	.030		
	Total	2.720	8			
100	Between Groups	2.940	2	1.470	29.400	<,001
	Within Groups	.300	6	.050		
	Total	3.240	8			
150	Between Groups	3.749	2	1.874	49.618	<,001
	Within Groups	.227	6	.038		
	Total	3.976	8			

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confide Lower Bound
tanpa beban	replika 1	replika 2	.70000*	.17847	.018	.1524
		replika 3	1.23333*	.17847	.001	.6857
	replika 2	replika 1	-.70000*	.17847	.018	-1.2476
		replika 3	.53333	.17847	.055	-.0143
	replika 3	replika 1	-1.23333*	.17847	.001	-1.7809
		replika 2	-.53333	.17847	.055	-1.0809
50	replika 1	replika 2	.7000*	.1414	.006	.266
		replika 3	1.3000*	.1414	<,001	.866
	replika 2	replika 1	-.7000*	.1414	.006	-1.134
		replika 3	.6000*	.1414	.013	.166
	replika 3	replika 1	-1.3000*	.1414	<,001	-1.734
		replika 2	-.6000*	.1414	.013	-1.034
100	replika 1	replika 2	.7000*	.1826	.020	.140
		replika 3	1.4000*	.1826	<,001	.840
	replika 2	replika 1	-.7000*	.1826	.020	-1.260
		replika 3	.7000*	.1826	.020	.140
	replika 3	replika 1	-1.4000*	.1826	<,001	-1.960
		replika 2	-.7000*	.1826	.020	-1.260
150	replika 1	replika 2	.9667*	.1587	.002	.480
		replika 3	1.5667*	.1587	<,001	1.080
	replika 2	replika 1	-.9667*	.1587	.002	-1.454
		replika 3	.6000*	.1587	.021	.113
	replika 3	replika 1	-1.5667*	.1587	<,001	-2.054
		replika 2	-.6000*	.1587	.021	-1.087

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