

**L**

**A**

**M**

**P**

**I**

**R**

**A**

**N**

## Lampiran 1. Alat dan Bahan



Neraca analitik



Magnetic stirrer



Sentrifugator



Waterbath



Spektrofotometer UV-Vis



Sonikator



Evaporator



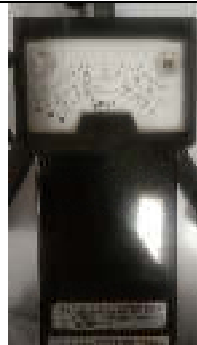
Alat Daya Lekat



*Particle size analyzer*



Alat Daya Sebar



Viskositas



Serbuk Myricetin



Kolesterol



Fosfatidilkolin



Etanol p.a



Diklormethan



Propilen Glikol



DMDM Hydantoin



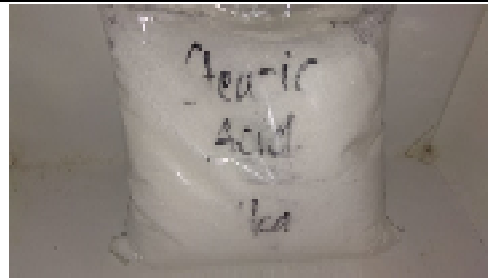
Hyaluronic Acid



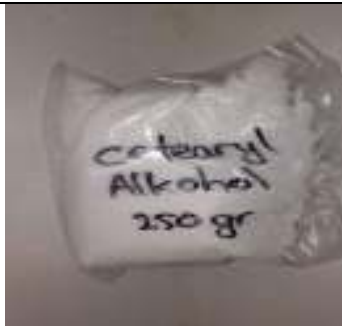
Span 80



Tween 80



Asam Stearat



Stearyl Alkohol



Setil Alkohol

## Lampiran 2. Nanofitosom



**Lampiran 3. Freeze Dry**



**Lampiran 4. Sediaan Krim Nanofitosom Myricetin**



Formula 1



Formula 2



Formula 3



Kontrol Negatif



## Lampiran 5. Ukuran Partikel Nanofitosom Myricetin

### Size Distribution Report by Number

v2.2



#### Sample Details

Sample Name: Cindy 1

SOP Name: mansettings.nano

General Notes:

File Name: Yuli Edi 2020.dts

Dispersant Name: Water

Record Number: 74

Dispersant RI: 1,330

Material RI: 1,30

Viscosity (cP): 0,8872

Material Absorption: 0,100

Measurement Date and Time: 12 Nopember 2020 15:18:57

#### System

Temperature (°C): 25,0

Duration Used (s): 60

Count Rate (kcps): 282,0

Measurement Position (mm): 0,85

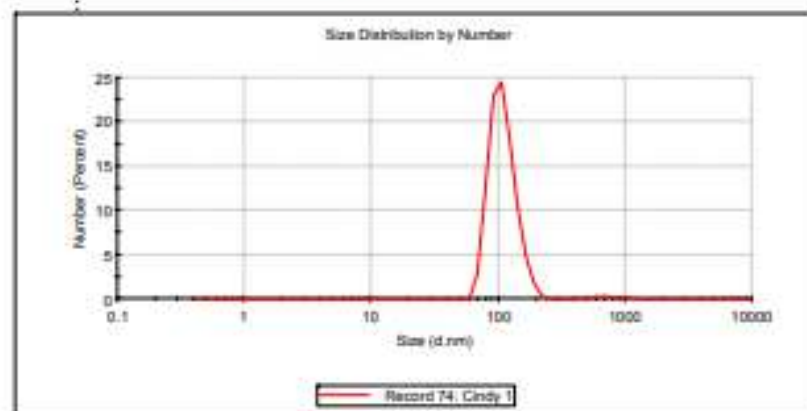
Cell Description: Disposable sizing cuvette

Attenuator: 4

#### Results

	Size (d.n...	% Number:	St Dev (d.n...
<b>Z-Average (d.nm):</b> 752,9	<b>Peak 1:</b> 109,7	98,6	26,88
<b>PdI:</b> 1,000	<b>Peak 2:</b> 716,8	1,4	165,0
<b>Intercept:</b> 0,873	<b>Peak 3:</b> 5225	0,0	721,1

Result quality **Refer to quality report**



# Size Distribution Report by Number

v2.2



## Sample Details

Sample Name: Cindy 2

SOP Name: mansettings.nano

General Notes:

File Name: Yuli Edt 2020.dts

Dispersant Name: Water

Record Number: 75

Dispersant Rt: 1,330

Material Rt: 1,30

Viscosity (cP): 0,8872

Material Absorption: 0,100

Measurement Date and Time: 12 November 2020 15:21:01

## System

Temperature (°C): 25,0

Duration Used (s): 60

Count Rate (kcps): 313,9

Measurement Position (mm): 0,85

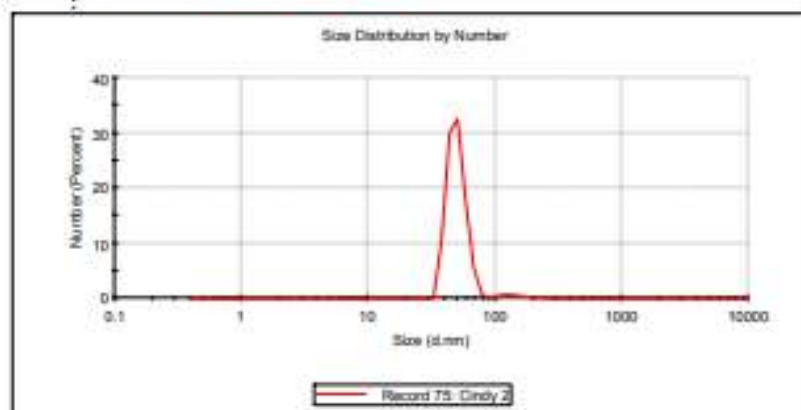
Cell Description: Disposable sizing cuvette

Attenuator: 4

## Results

	Size (d.n...	% Number:	St Dev (d.n...
<b>Z-Average (d.nm):</b> 986,0	<b>Peak 1:</b> 49,96	96,9	8,378
<b>Pd:</b> 1,000	<b>Peak 2:</b> 140,1	3,0	33,79
<b>Intercept:</b> 0,867	<b>Peak 3:</b> 817,2	0,1	176,1

Result quality **Refer to quality report**



# Size Distribution Report by Number

v2.2



## Sample Details

Sample Name: Cindy 3  
SOP Name: mansettings.nano  
General Notes:

File Name: Yuli Edi 2020.dts      Dispersant Name: Water  
Record Number: 76      Dispersant RI: 1,330  
Material RI: 1,30      Viscosity (cP): 0,8872  
Material Absorption: 0,100      Measurement Date and Time: 12 November 2020 15:23:04

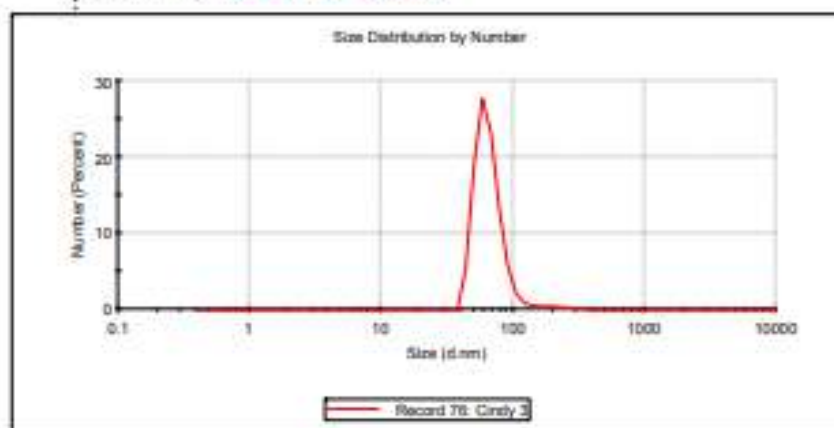
## System

Temperature (°C): 25,0      Duration Used (s): 60  
Count Rate (kcps): 295,5      Measurement Position (mm): 0,85  
Cell Description: Disposable sizing cuvette      Attenuator: 4

## Results

	Size (d.n...	% Number:	St Dev (d.n...
<b>Z-Average (d.nm):</b> 749,3	<b>Peak 1:</b> 68,72	100,0	28,77
<b>PdI:</b> 1,000	<b>Peak 2:</b> 1691	0,0	442,6
<b>Intercept:</b> 0,875	<b>Peak 3:</b> 0,000	0,0	0,000

Result quality **Refer to quality report**



## Lampiran 6. Zeta Potensial Nanofitosom Myricetin

### Zeta Potential Report v2.3



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#### Sample Details

Sample Name: Cindy 1  
SOP Name: mansettings.nano  
General Notes:

File Name: Yuli Edi 2020.dts      Dispersant Name: Water  
Record Number: 82      Dispersant RI: 1,330  
Date and Time: 12 November 2020 15:23:54      Viscosity (cP): 0,8872  
Dispersant Dielectric Constant: 78,5

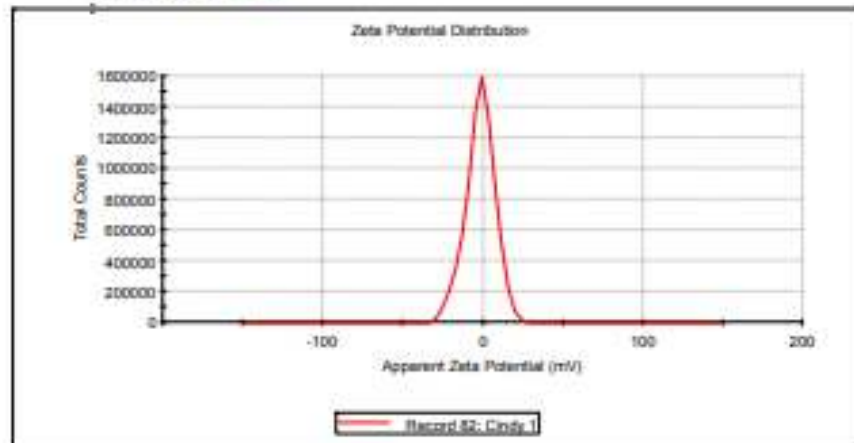
#### System

Temperature (°C): 25,0      Zeta Runs: 56  
Count Rate (kcps): 121,1      Measurement Position (mm): 4,50  
Cell Description: Zeta dip cell      Attenuator: 10

#### Results

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -1,71	Peak 1: -1,71	100,0	9,23
Zeta Deviation (mV): 9,23	Peak 2: 0,00	0,0	0,00
Conductivity (mS/cm): 0,0740	Peak 3: 0,00	0,0	0,00

Result quality **Good**



# Zeta Potential Report

v2.3



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## Sample Details

Sample Name: Cindy 2

SOP Name: mansettings.nano

General Notes:

File Name: Yull Ed1 2020.dts

Dispersant Name: Water

Record Number: 83

Dispersant RI: 1.330

Date and Time: 12 November 2020 15:29:08

Viscosity (cP): 0.8872

Dispersant Dielectric Constant: 78.5

## System

Temperature (°C): 25.0

Zeta Runs: 50

Count Rate (kcps): 245.2

Measurement Position (mm): 4.50

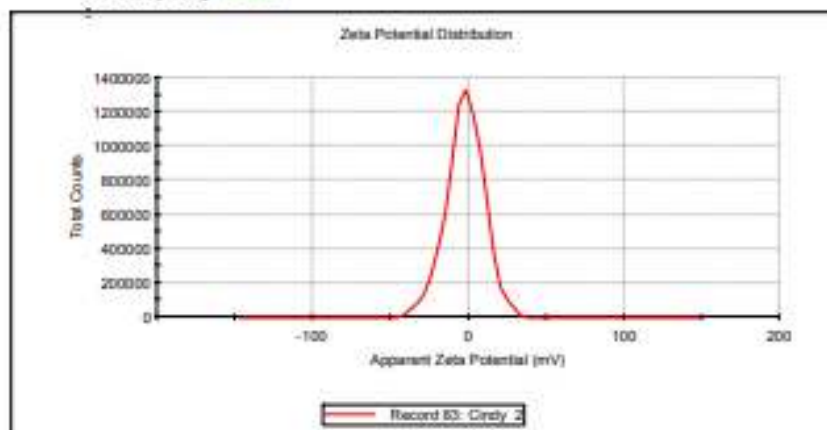
Cell Description: Zeta dip cell

Attenuator: 10

## Results

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -2.07	Peak 1: -2.07	100.0	12.2
Zeta Deviation (mV): 12.2	Peak 2: 0.00	0.0	0.00
Conductivity (mS/cm): 0.0610	Peak 3: 0.00	0.0	0.00

Result quality **Good**



# Zeta Potential Report

v2.3



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## Sample Details

Sample Name: Cindy 3  
SOP Name: mansettings.nano  
General Notes:

File Name: Yuli Edl 2020.dts      Dispersant Name: Water  
Record Number: 84      Dispersant RI: 1,330  
Date and Time: 12 November 2020 15:31:41      Viscosity (cP): 0,8872  
Dispersant Dielectric Constant: 78,5

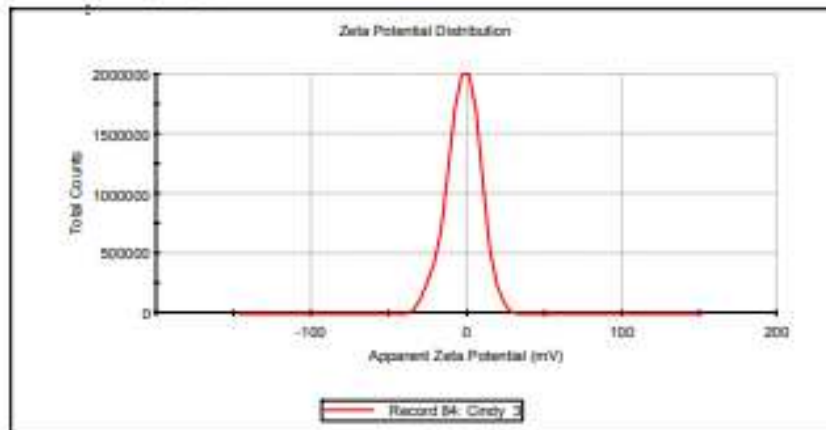
## System

Temperature (°C): 25,0      Zeta Runs: 70  
Count Rate (kcps): 177,5      Measurement Position (mm): 4,50  
Cell Description: Zeta dip cell      Attenuator: 10

## Results

	Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -2,14	Peak 1: -2,14	100,0	10,7
Zeta Deviation (mV): 10,7	Peak 2: 0,00	0,0	0,00
Conductivity (mS/cm): 0,0793	Peak 3: 0,00	0,0	0,00

Result quality **Good**



## Lampiran 7. Perhitungan Efisiensi Penjerapan.

### Kurva Baku

Konsentrasi	Absorbansi
4	0,243
6	0,329
8	0,455
10	0,639
12	0,756

a : -0,05                      b : 0,0668                      r : 0,993

Efisiensi Penjerapan	Formula
Replikasi 1	0,078
Replikasi 2	0,053
Replikasi 3	0,099
Rata-rata	0,076666667
%EE	99,621%

### A. Perhitungan Myricetin tidak terjerap

$$\begin{aligned}y &= -0,05 + 0,0668x \\0,07667 &= -0,05 + 0,0668x \\0,0668x &= 0,12667 \\x &= 1,896 \text{ ppm}\end{aligned}$$

$$\begin{aligned}\text{B. Myricetin yang tidak terjerap} &= \frac{1,896 \text{ ppm}}{500 \text{ ppm}} \times 10 \text{ mg} \\&= 0,0379 \text{ mg}\end{aligned}$$

$$\begin{aligned}\text{C. \% Efisiensi Penjerapan} &= \frac{TD - FD}{TD} \times 100\% \\&= \frac{10 \text{ mg} - 0,0379 \text{ mg}}{10 \text{ mg}} \times 100\% \\&= 99,621\%\end{aligned}$$

### Lampiran 8. Perhitungan HLB

	Formula (%)	HLB
Asam Stearat	2	15
Lanolin Anhidrat	2	10
Setil Alkohol	3	15
Stearil Alkohol	1,5	14
Total	8,5	
HLB butuh		13,63
Tween 80		15
Span 80		4,3

Perhitungan HLB butuh:

$$\begin{aligned}
 \text{As. Stearat} & : \frac{2}{8,5} \times 15 = 3,53 \\
 \text{Lanolin} & : \frac{2}{8,5} \times 10 = 2,35 \\
 \text{Setil Alkohol} & : \frac{3}{8,5} \times 15 = 5,29 \\
 \text{Stearil Alkohol} & : \frac{1,5}{8,5} \times 14 = \underline{2,47} \quad + \\
 & \qquad \qquad \qquad 13,63
 \end{aligned}$$

Perhitungan HLB:

$$\begin{aligned}
 \% \text{Tween 80} & : \frac{(13,63-4,3)}{(15-4,3)} \times 100\% \\
 & \qquad \qquad \qquad \frac{9,33}{10,7} \times 100\% = 87,19\% \\
 \% \text{Span 80} & : 100\% - 87,19\% = 12,8\% \\
 \text{FI (3\%)} \quad \text{Tween 80} & : \frac{87,19}{100} \times 3 = 2,6157 \\
 & \qquad \qquad \qquad \text{Span 80} : \frac{12,8}{100} \times 3 = 0,384 \\
 \text{FII (5\%)} \quad \text{Tween 80} & : \frac{87,19}{100} \times 5 = 4,359 \\
 & \qquad \qquad \qquad \text{Span 80} : \frac{12,8}{100} \times 5 = 0,64 \\
 \text{FIII (7\%)} \quad \text{Tween 80} & : \frac{87,19}{100} \times 7 = 6,103 \\
 & \qquad \qquad \qquad \text{Span 80} : \frac{12,8}{100} \times 7 = 0,896
 \end{aligned}$$



### Lampiran 9. Hasil Uji Viskositas Sediaan Krim

Data Uji Viskositas (d.Pas)								
	F1		F2		F3		K-	
	1	21	1	21	1	21	1	21
Replikasi 1	130	115	90	80	85	70	100	80
Replikasi 2	125	110	110	100	90	75	90	75
Replikasi 3	130	120	100	95	100	85	100	80
Rata2	128,33	115	100,00	91,67	91,67	76,67	96,67	78,33
SD	2,89	5,00	10,00	10,41	7,64	7,64	5,77	2,89

**Lampiran 10. Hasil Uji pH Sediaan Krim**

Formula	Hari	pH
1	1	5
	21	5
2	1	5
	21	5
3	1	5
	21	5
K-	1	5
	21	5

**Lampiran 11. Hasil Uji Daya Sebar Sediaan Krim**

Formula	Waktu	Beban (g)	Replikasi			Rata2	±SD
			1	2	3		
1	Hari ke-1	0	4,5	4,7	4,3	4,50	0,20
		50	5	5,2	4,7	4,97	0,25
		100	5,5	5,7	5,3	5,50	0,20
		150	6	6,5	6,3	6,27	0,25
		200	7,3	7,5	7,7	7,50	0,20
	Hari ke-21	0	5	5,2	4,7	4,97	0,25
		50	6,2	6,3	6	6,17	0,15
		100	6,5	7,2	7	6,90	0,36
		150	7,2	7,5	7,3	7,33	0,15
		200	7,5	8,2	8,3	8,00	0,44
2	Hari ke-1	0	5	5,2	5,3	5,17	0,15
		50	6,4	6,4	6,5	6,43	0,06
		100	7	7,1	7,1	7,07	0,06
		150	7,8	7,9	8,1	8,10	0,00
		200	8,3	8,2	8,5	8,33	0,15
	Hari ke-21	0	5,2	5,3	5,5	5,33	0,15
		50	6,6	6,7	7	6,77	0,21
		100	7,2	7,5	7,3	7,33	0,15
		150	8	8,2	8,5	8,23	0,25
		200	8,5	8,4	8,7	8,53	0,15
3	Hari ke-1	0	5,1	5,5	5,5	5,37	0,23
		50	6,5	6,6	6,7	6,60	0,10
		100	7,4	7,3	7,7	7,47	0,21
		150	8,3	8	8,6	8,30	0,30
		200	8,5	8,5	8,8	8,60	0,17
	Hari ke-21	0	5,3	5,7	5,5	5,50	0,20
		50	6,6	7,1	6,9	6,87	0,25

		100	7,6	7,5	8,1	7,73	0,32
		150	8,6	8,4	8,9	8,63	0,25
		200	8,7	8,8	9,1	8,87	0,21
k-	Hari ke-1	0	5	5,4	5,4	5,27	0,23
		50	6,4	6,5	6,6	6,50	0,10
		100	7,3	7,2	7,6	7,37	0,21
		150	8,2	7,9	8,5	8,20	0,30
		200	8,4	8,4	8,7	8,50	0,17
	Hari ke-21	0	5,2	5,6	5,4	5,40	0,20
		50	6,5	7	6,8	6,77	0,25
		100	7,5	7,4	8	7,63	0,32
		150	8,5	8,3	8,8	8,53	0,25
		200	8,6	8,7	9	8,77	0,21

**Lampiran 12. Hasil Uji Daya Lekat Sediaan Krim**

Data Uji Daya Lekat (s)								
	F1		F2		F3		K-	
	1	21	1	21	1	21	1	21
Replikasi 1	1,96	1,64	1,74	1,46	1,49	1,13	1,69	1,38
Replikasi 2	1,89	1,57	1,79	1,42	1,51	1,25	1,71	1,45
Replikasi 3	1,93	1,61	1,67	1,39	1,39	0,94	1,67	1,3
Rata2	1,927	1,607	1,733	1,423	1,463	1,107	1,69	1,377
SD	0,035	0,035	0,06	0,035	0,064	0,156	0,02	0,075

## Lampiran 13. Hasil Analisa Uji Viskositas Sediaan Krim

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		24
Normal Parameters <sup>a,b</sup>	Mean	97.292
	Std. Deviation	17.6918
Most Extreme Differences	Absolute	.147
	Positive	.147
	Negatif	-.067
Test Statistic		.147
Asymp. Sig. (2-tailed)		.191 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

### Oneway

#### Test of Homogeneity of Variances

Viskositas

Levene Statistic	df1	df2	Sig.
.240	3	20	.868

#### ANOVA

Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5186.458	3	1728.819	17.181	.000
Within Groups	2012.500	20	100.625		
Total	7198.958	23			

### Post Hoc Tests

#### Multiple Comparisons

Dependent Variable: Viskositas

	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Bonferroni	Formula 1	Formula 2	25.8333 <sup>*</sup>	5.7915	.001	8.881	42.786
		Formula 3	37.5000 <sup>*</sup>	5.7915	.000	20.548	54.452
		Kontrol Negatif	34.1667 <sup>*</sup>	5.7915	.000	17.214	51.119
	Formula 2	Formula 1	-25.8333 <sup>*</sup>	5.7915	.001	-42.786	-8.881

		Formula 3	11.6667	5.7915	.346	-5.286	28.619
		Kontrol Negatif	8.3333	5.7915	.994	-8.619	25.286
	Formula 3	Formula 1	-37.5000*	5.7915	.000	-54.452	-20.548
		Formula 2	-11.6667	5.7915	.346	-28.619	5.286
		Kontrol Negatif	-3.3333	5.7915	1.000	-20.286	13.619
	Kontrol Negatif	Formula 1	-34.1667*	5.7915	.000	-51.119	-17.214
		Formula 2	-8.3333	5.7915	.994	-25.286	8.619
		Formula 3	3.3333	5.7915	1.000	-13.619	20.286
Games-Howell	Formula 1	Formula 2	25.8333*	5.3359	.004	9.365	42.301
		Formula 3	37.5000*	5.4899	.000	20.493	54.507
		Kontrol Negatif	34.1667*	5.5403	.001	16.981	51.352
	Formula 2	Formula 1	-25.8333*	5.3359	.004	-42.301	-9.365
		Formula 3	11.6667	6.0323	.274	-6.795	30.129
		Kontrol Negatif	8.3333	6.0782	.543	-10.274	26.941
	Formula 3	Formula 1	-37.5000*	5.4899	.000	-54.507	-20.493
		Formula 2	-11.6667	6.0323	.274	-30.129	6.795
		Kontrol Negatif	-3.3333	6.2138	.948	-22.344	15.678
	Kontrol Negatif	Formula 1	-34.1667*	5.5403	.001	-51.352	-16.981
		Formula 2	-8.3333	6.0782	.543	-26.941	10.274
		Formula 3	3.3333	6.2138	.948	-15.678	22.344

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

## T-Test

### Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Viskositas	.233	.634	2.029	22	.055	13.7500	6.7782	-3.071	27.8071
			2.029	21.913	.055	13.7500	6.7782	-3.103	27.8103

## Lampiran 14. Hasil Analisa Uji Daya Sebar Sediaan Krim

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		Daya Sebar
N		120
Normal Parameters <sup>a,b</sup>	Mean	3.431
	Std. Deviation	.5495
Most Extreme Differences	Absolute	.068
	Positive	.068
	Negatif	-.067
Test Statistic		.068
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

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

### Oneway

#### Test of Homogeneity of Variances

Daya Sebar

Levene Statistic	df1	df2	Sig.
.622	3	116	.602

#### ANOVA

Daya Sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.230	3	3.410	15.387	.000
Within Groups	25.706	116	.222		
Total	35.936	119			

### Post Hoc Tests

#### Multiple Comparisons

Dependent Variable: Daya Sebar

	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Bonferroni	Formula 1	Formula 2	-.9033*	.2931	.015	-1.690	-.117



		Formula 3	.5600	.2931	.351	-.227	1.347
		Kontrol negatif	-1.0833*	.2931	.002	-1.870	-.297
Formula 2	Formula 1		.9033*	.2931	.015	.117	1.690
		Formula 3	1.4633*	.2931	.000	.677	2.250
		Kontrol negatif	-.1800	.2931	1.000	-.967	.607
Formula 3	Formula 1		-.5600	.2931	.351	-1.347	.227
		Formula 2	-1.4633*	.2931	.000	-2.250	-.677
		Kontrol negatif	-1.6433*	.2931	.000	-2.430	-.857
Kontrol negatif	Formula 1		1.0833*	.2931	.002	.297	1.870
		Formula 2	.1800	.2931	1.000	-.607	.967
		Formula 3	1.6433*	.2931	.000	.857	2.430
Games-Howell	Formula 1	Formula 2	-.9033*	.3038	.022	-1.707	-.100
		Formula 3	.5600	.2727	.182	-.163	1.283
		Kontrol negatif	-1.0833*	.3143	.006	-1.915	-.252
Formula 2	Formula 1		.9033*	.3038	.022	.100	1.707
		Formula 3	1.4633*	.2702	.000	.747	2.179
		Kontrol negatif	-.1800	.3122	.939	-1.006	.646
Formula 3	Formula 1		-.5600	.2727	.182	-1.283	.163
		Formula 2	-1.4633*	.2702	.000	-2.179	-.747
		Kontrol negatif	-1.6433*	.2819	.000	-2.391	-.896
Kontrol negatif	Formula 1		1.0833*	.3143	.006	.252	1.915
		Formula 2	.1800	.3122	.939	-.646	1.006
		Formula 3	1.6433*	.2819	.000	.896	2.391

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

## T-Test

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Daya Sebar	Equal variances assumed	.788	.377	2.856	118	.507	.2783	.0974	.0854	.4713
	Equal variances not assumed			2.856	115.074	.509	.2783	.0974	.0853	.4713

## Lampiran 15. Hasil Analisa Uji Daya Lekat Sediaan Krim

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		Lekat
N		24
Normal Parameters <sup>a,b</sup>	Mean	1.5408
	Std. Deviation	.24910
Most Extreme Differences	Absolute	.093
	Positive	.049
	Negatif	-.093
Test Statistic		.093
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

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

### Oneway

#### Test of Homogeneity of Variances

Lekat

Levene Statistic	df1	df2	Sig.
.166	3	20	.918

#### ANOVA

Lekat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.707	3	.236	6.554	.003
Within Groups	.720	20	.036		
Total	1.427	23			

## Post Hoc Tests

### Multiple Comparisons

Dependent Variable: Lekat

	(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Bonferroni	Formula 1	Formula 2	.18833	.10952	.606	-.1322	.5089
		Formula 3	.48167*	.10952	.002	.1611	.8022
		Kontrol Negatif	.23333	.10952	.274	-.0872	.5539
	Formula 2	Formula 1	-.18833	.10952	.606	-.5089	.1322
		Formula 3	.29333	.10952	.087	-.0272	.6139
		Kontrol Negatif	.04500	.10952	1.000	-.2756	.3656
	Formula 3	Formula 1	-.48167*	.10952	.002	-.8022	-.1611
		Formula 2	-.29333	.10952	.087	-.6139	.0272
		Kontrol Negatif	-.24833	.10952	.208	-.5689	.0722
	Kontrol Negatif	Formula 1	-.23333	.10952	.274	-.5539	.0872
		Formula 2	-.04500	.10952	1.000	-.3656	.2756
		Formula 3	.24833	.10952	.208	-.0722	.5689
Games-Howell	Formula 1	Formula 2	.18833	.10205	.309	-.1239	.5005
		Formula 3	.48167*	.11640	.010	.1224	.8409
		Kontrol Negatif	.23333	.10293	.171	-.0816	.5482
	Formula 2	Formula 1	-.18833	.10205	.309	-.5005	.1239
		Formula 3	.29333	.11573	.117	-.0643	.6509
		Kontrol Negatif	.04500	.10218	.970	-.2676	.3576
	Formula 3	Formula 1	-.48167*	.11640	.010	-.8409	-.1224
		Formula 2	-.29333	.11573	.117	-.6509	.0643
		Kontrol Negatif	-.24833	.11652	.211	-.6079	.1112
	Kontrol Negatif	Formula 1	-.23333	.10293	.171	-.5482	.0816
		Formula 2	-.04500	.10218	.970	-.3576	.2676
		Formula 3	.24833	.11652	.211	-.1112	.6079

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

## T-Test

### Independent Samples Test

		Levene's Test for		t-test for Equality of Means						
		Equality of Variances		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.						Lower	Upper
Daya Lekat	Equal variances assumed	.102	.753	4.192	22	.378	.32500	.07753	.16421	.48579
	Equal variances not assumed			4.192	21.625	.389	.32500	.07753	.16405	.48595

## Lampiran 16. Hasil Uji Aktivitas Antioksidan Sediaan Krim

### a. Panjang Gelombang

**Spectrum Data Print Report** 12/11/2020 11:33:03 AM

Wavelength nm	RawData ...
500.00	0.8829
501.00	0.8865
502.00	0.8947
503.00	0.7002
504.00	0.7056
505.00	0.7107
506.00	0.7155
507.00	0.7198
508.00	0.7236
509.00	0.7271
510.00	0.7298
511.00	0.7321
512.00	0.7340
513.00	0.7355
514.00	0.7364
515.00	0.7368
516.00	0.7367
517.00	0.7360
518.00	0.7349
519.00	0.7333
520.00	0.7310
521.00	0.7282
522.00	0.7248
523.00	0.7213
524.00	0.7171
525.00	0.7125
526.00	0.7078
527.00	0.7021
528.00	0.6963
529.00	0.6903
530.00	0.6841
531.00	0.6775
532.00	0.6710
533.00	0.6644
534.00	0.6577
535.00	0.6510
536.00	0.6440
537.00	0.6369
538.00	0.6287
539.00	0.6216
540.00	0.6143
541.00	0.6072
542.00	0.6000
543.00	0.5928
544.00	0.5855
545.00	0.5783
546.00	0.5711
547.00	0.5641
548.00	0.5573
549.00	0.5506
550.00	0.5441

Page 1 / 2

- b. *Operating time*  
*Operating time Myricetin*

### Kinetics Data Print Report

02/05/2021 08:00:35 PM

Time (Minute)	RawData
0.000	0.581
1.000	0.571
2.000	0.567
3.000	0.560
4.000	0.556
5.000	0.550
6.000	0.524
7.000	0.519
8.000	0.508
9.000	0.488
10.000	0.488
11.000	0.481
12.000	0.483
13.000	0.491
14.000	0.478
15.000	0.463
16.000	0.466
17.000	0.441
18.000	0.432
19.000	0.434
20.000	0.416
21.000	0.428
22.000	0.415
23.000	0.431
24.000	0.420
25.000	0.425
26.000	0.451
27.000	0.444
28.000	0.437
29.000	0.426
30.000	0.426
31.000	0.426
32.000	0.420
33.000	0.458
34.000	0.462
35.000	0.452
36.000	0.428
37.000	0.422
38.000	0.422
39.000	0.442
40.000	0.442
41.000	0.421
42.000	0.428
43.000	0.437
44.000	0.437
45.000	0.434
46.000	0.434
47.000	0.422
48.000	0.420
49.000	0.425
50.000	0.417

## Kinetics Data Print Report

02/03/2021 09:00:08 PM

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Time (Minutes)	Residue ...
31.990	0.435
32.234	0.435
32.730	0.434
37.531	0.436
39.233	0.437
39.733	0.436
39.733	0.436
39.733	0.436
39.733	0.436
39.733	0.436



# Operating time Nanofitosom Myricetin

## Kinetics Data Print Report

06/05/2021 10:41:32AM

Time (Minute)	FlowData ...
0.000	0.000
1.000	0.456
2.000	0.475
3.000	0.492
4.000	0.502
5.000	0.511
6.000	0.520
7.000	0.529
8.000	0.537
9.000	0.545
10.000	0.553
11.000	0.560
12.000	0.567
13.000	0.574
14.000	0.581
15.000	0.588
16.000	0.595
17.000	0.602
18.000	0.609
19.000	0.616
20.000	0.623
21.000	0.630
22.000	0.637
23.000	0.644
24.000	0.651
25.000	0.658
26.000	0.665
27.000	0.672
28.000	0.679
29.000	0.686
30.000	0.693
31.000	0.700
32.000	0.707
33.000	0.714
34.000	0.721
35.000	0.728
36.000	0.735
37.000	0.742
38.000	0.749
39.000	0.756
40.000	0.763
41.000	0.770
42.000	0.777
43.000	0.784
44.000	0.791
45.000	0.798
46.000	0.805
47.000	0.812
48.000	0.819
49.000	0.826
50.000	0.833
51.000	0.840
52.000	0.847
53.000	0.854
54.000	0.861
55.000	0.868
56.000	0.875
57.000	0.882
58.000	0.889
59.000	0.896
60.000	0.903

Figure 1: 2

# Kinetics Data Print Report

02/09/2021 10:44:52 AM

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Time (Minutes)	FlowRate (L)
01.00	0.437
02.00	0.444
03.00	0.447
04.00	0.451
05.00	0.448
06.00	0.447
07.00	0.447
08.00	0.447
09.00	0.448
10.00	0.447

---

Operating time *krum* nanofitosom myricetin

Kinetics Data Print Report

02/05/2024 12:50:36 PM

Time (Minute)	ParaData ..
0.000	0.426
1.000	0.431
2.000	0.431
3.000	0.431
4.000	0.432
5.000	0.442
6.000	0.433
7.000	0.435
8.000	0.435
9.000	0.436
10.000	0.435
11.000	0.439
12.000	0.433
13.000	0.448
14.000	0.438
15.000	0.440
16.000	0.438
17.000	0.441
18.000	0.432
19.000	0.436
20.000	0.438
21.000	0.439
22.000	0.438
23.000	0.437
24.000	0.433
25.000	0.438
26.000	0.437
27.000	0.432
28.000	0.434
29.000	0.437
30.000	0.437
30.000	0.442
31.000	0.442
32.000	0.442
33.000	0.442
34.000	0.442
35.000	0.442
36.000	0.442
37.000	0.442
38.000	0.442
39.000	0.442
40.000	0.442
41.000	0.442
42.000	0.442
43.000	0.442
44.000	0.442
45.000	0.442
46.000	0.442
47.000	0.442
48.000	0.442
49.000	0.442
50.000	0.442

# Kinetics Data Print Report

03/02/2021 12:00:08 PM

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Time (Minutes)	Residue ...
31.990	0.155
32.233	0.455
33.733	0.456
37.233	0.156
39.233	0.157
39.733	0.456
39.733	0.456
39.733	0.456
39.733	0.456
39.733	0.456

c. Uji DPPH  
 Uji DPPH Myricetin

Absorpsi DPPH = 0,746  
 Lamda maksimal = 515 nm  
 Operating Time = 36-39 menit

Pembuatan larutan stok myricetin → Pembuatan larutan stok dilakukan dengan cara menimbang myricetin sebanyak 10 mg dan dimasukkan kedalam labu takar 100 ml kemudian dilarutkan dengan etanol *p.a* sampai tanda batas, sehingga diperoleh konsentrasi 100 ppm. Larutan stok 100 ppm diencerkan terlebih dahulu menjadi 50 ppm. Setelah itu, dibuat 5 seri konsentrasi yaitu 5 ppm, 10 ppm, 15 ppm, 20 ppm, 25 ppm.

- Pengenceran konsentrasi 100 ppm ke 50 ppm.

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{50 \text{ ml} \times 50 \text{ ppm}}{100 \text{ ppm}}$$

$$V_1 = 25 \text{ ml}$$

Memipet 25 ml larutan myricetin 100 ppm, kemudian sebanyak 25 ml dimasukkan kedalam 50 ml labu takar lalu ditambahkan etanol *p.a* sampai tanda batas.

- Seri konsentrasi 5 ppm

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{10 \text{ ml} \times 5 \text{ ppm}}{50 \text{ ppm}}$$

$$V_1 = 1 \text{ ml}$$

Memipet 1 ml larutan larutan stok myricetin 50 ppm, kemudian sebanyak 1 ml dimasukkan kedalam 10 ml labu takar lalu ditambahkan etanol *p.a* sampai tanda batas. variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

Konsentrasi (ppm)	Serapan 1	Serapan 2	Serapan 3	Rata-rata
5	0,553	0,555	0,554	0,554
10	0,473	0,473	0,472	0,473
15	0,386	0,385	0,388	0,386
20	0,321	0,32	0,321	0,321
25	0,277	0,276	0,275	0,276

### Nilai IC<sub>50</sub>

Konsentrasi (ppm) x	Absorbansi	% Peredaman y
5	0,554	25,74 %
10	0,473	36,64 %
15	0,386	48,21 %
20	0,321	57,02 %
25	0,276	63,00 %

$$a = 17,6497$$

$$b = 1,898$$

$$r = 0,99$$

- Peredaman =  $\frac{\text{Absorbansi blanko} - \text{Absorbansi sampel}}{\text{Absorbansi blanko}} \times 100\%$

- 5 ppm

$$\% \text{ peredaman} = \frac{0,746 - 0,554}{0,746} \times 100\%$$

$$= 25,74\%$$

variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

- IC<sub>50</sub>

$$y = a + b \cdot x$$

$$50 = 17,6497 + 1,898x$$

$$X = \frac{50 - 17,6497}{1,898}$$

$$\text{IC}_{50} = 17,04 \text{ ppm}$$

Nilai IC<sub>50</sub> myricetin sebesar 17,04 ppm, memiliki aktivitas antioksidan sangat kuat karena senyawa dinyatakan memiliki aktivitas antioksidan yang sangat kuat jika nilai IC<sub>50</sub> kurang dari 50 ppm (IC<sub>50</sub> < 50 ppm)

### Uji DPPH nanofitosom

Absorpsi DPPH = 0,746

Lamda maksimal = 515 nm

Operating Time = 29-39 menit

Konsentrasi myricetin = 10 mg/20 ml = 500 mg/1000 ml = 500 ppm

Pembuatan larutan stok nanofitosom → Pembuatan larutan stok dilakukan dengan cara 5 ml nanofitosom dimasukkan kedalam labu takar 50 ml kemudian ditambahkan etanol *p.a* sampai tanda batas, sehingga diperoleh konsentrasi 50 ppm. Kemudian dibuat 5 seri pengenceran konsentrasi yaitu 5 ppm, 10 ppm, 15 ppm, 20 ppm, 25 ppm.

- Perhitungan pembuatan larutan stok nanofitosom myricetin

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{50 \text{ ml} \times 50 \text{ ppm}}{500 \text{ ppm}}$$

$$V_1 = 5 \text{ ml}$$

- Seri konsentrasi 5 ppm

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{10 \text{ ml} \times 5 \text{ ppm}}{50 \text{ ppm}}$$

$$V_1 = 1 \text{ ml}$$

Memipet 1 ml larutan stok myricetin 50 ppm, kemudian sebanyak 1 ml dimasukkan kedalam 10 ml labu takar lalu ditambahkan etanol *p.a* sampai tanda batas. variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

Konsentrasi (ppm)	Serapan 1	Serapan 2	Serapan 3	Rata-rata
5	0,601	0,6	0,599	0,600
10	0,551	0,55	0,552	0,551
15	0,462	0,463	0,462	0,462
20	0,379	0,381	0,38	0,380
25	0,271	0,273	0,27	0,271

Nilai IC<sub>50</sub>

Konsentrasi (ppm) x	Absorbansi	% Peredaman y
5	0,600	19,57 %
10	0,551	26,14 %
15	0,462	38,03 %
20	0,380	49,06 %
25	0,271	63,63 %

$$a = 5,974$$

$$b = 2,221$$

$$r = 0,99$$

- Peredaman =  $\frac{\text{Absorbansi blanko} - \text{Absorbansi sampel}}{\text{Absorbansi blanko}} \times 100\%$

- 2 ppm

$$\% \text{ peredaman} = \frac{0,746 - 0,600}{0,746} \times 100\%$$

$$= 19,57\%$$

variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

- IC<sub>50</sub>

$$y = a + b \cdot x$$

$$50 = 5,974 + 2,221x$$

$$X = \frac{50 - 5,974}{2,221}$$

$$\text{IC}_{50} = 19,82 \text{ ppm}$$

Nilai IC<sub>50</sub> myricetin sebesar 19,82 ppm, memiliki aktivitas antioksidan sangat kuat karena senyawa dinyatakan memiliki aktivitas antioksidan yang sangat kuat jika nilai IC<sub>50</sub> kurang dari 50 ppm (IC<sub>50</sub> < 50 ppm)



Uji DPPH sediaan krim nanofitosom myricetin (Formula 2)

Absorpsi DPPH = 0,746

Lamda maksimal = 515 nm

Operating Time = 30-39 menit

Pembuatan larutan stok krim → Melarutkan sebanyak 10 mg krim nanofitosom myricetin dengan etanol *p.a.* dalam labu takar 100 ml, sehingga diperoleh konsentrasi 100 ppm. Larutan stok 100 ppm diencerkan terlebih dahulu menjadi 50 ppm. Setelah itu dibuat 5 seri konsentrasi yaitu 5 ppm, 10 ppm, 15 ppm, 20 ppm, dan 25 ppm menggunakan pelarut etanol *p.a.* dalam labu takar 10 ml.

- Pengenceran konsentrasi 100 ppm ke 50 ppm.

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{50 \text{ ml} \times 50 \text{ ppm}}{100 \text{ ppm}}$$

$$V_1 = 25 \text{ ml}$$

- Seri konsentrasi 5 ppm

$$V_1 = \frac{V_2 \times C_2}{C_1} = \frac{10 \text{ ml} \times 5 \text{ ppm}}{50 \text{ ppm}}$$

$$V_1 = 1 \text{ ml}$$

Memipet 1 ml larutan larutan stok myricetin 50 ppm, kemudian sebanyak 1 ml dimasukkan kedalam 10 ml labu takar lalu ditambahkan etanol *p.a.* sampai tanda batas. variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

Konsentrasi (ppm)	Serapan 1	Serapan 2	Serapan 3	Rata-rata
5	0,64	0,639	0,622	0,634
10	0,602	0,598	0,599	0,600
15	0,532	0,531	0,535	0,533
20	0,439	0,44	0,438	0,439
25	0,301	0,3	0,299	0,300

### Nilai IC<sub>50</sub>

Konsentrasi (ppm) x	Absorbansi	% Peredaman y
5	0,634	15,06
10	0,600	19,62
15	0,533	28,60
20	0,439	41,15
25	0,300	59,79

$$a = -0,46$$

$$b = 2,22$$

$$r = 0,97$$

- Peredaman =  $\frac{\text{Absorbansi blanko} - \text{Absorbansi sampel}}{\text{Absorbansi blanko}} \times 100\%$

- 2 ppm

$$\begin{aligned} \% \text{ peredaman} &= \frac{0,746 - 0,34}{0,746} \times 100\% \\ &= 15,06\% \end{aligned}$$

variasi konsentrasi yang lain dihitung dengan perhitungan yang sama.

- IC<sub>50</sub>

$$y = a + b \cdot x$$

$$50 = -0,46 + 2,22x$$

$$X = \frac{50 + 0,46}{2,22}$$

$$IC_{50} = 22,73 \text{ ppm}$$

Nilai IC<sub>50</sub> myricetin sebesar 22,73 ppm, memiliki aktivitas antioksidan sangat kuat karena senyawa dinyatakan memiliki aktivitas antioksidan yang sangat kuat jika nilai IC<sub>50</sub> kurang dari 50 ppm (IC<sub>50</sub> < 50 ppm)

## Lampiran 17. Hasil Analisa Uji Aktivitas Antioksidan Sediaan Krim

### NPar Tests

#### One-Sample Kolmogorov-Smirnov Test

		IC50
N		5
Normal Parameters <sup>a,b</sup>	Mean	21.4520
	Std. Deviation	2.97094
Most Extreme Differences	Absolute	.266
	Positive	.183
	Negative	-.266
Test Statistic		.266
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

### T-Test

#### One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
IC50	16.146	4	.000	21.45200	17.7631	25.1409

#### One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IC50	5	21.4520	2.97094	1.32864

## Lampiran 18. Kuisoner Uji Iritasi Krim Nanofitosom Myricetin

Nama Sukarelawan :

Umur :

Jenis Kelamin :

Lingkarilah Jawaban Dibawah ini sesuai hasil!

Formula	Tanda-Tanda Iritasi		
	Apakah terjadi kemerahan pada area kulit yang dioles ?	Apakah timbul rasa gatal pada area kulit yang dioles ?	Apakah terjadi bengkak pada area kulit yang dioles ?
1	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak
2	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak
3	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak
4	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak
5	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak
6	1. Ya      2. Tidak	1. Ya      2. Tidak	1. Ya      2. Tidak

Cara Pemakaian krim:

1. Oleskan krim masing-masing formula pada lengan bagian bawah. Oleskan secukupnya sebanyak 3 kali sehari berturut-turut. Biarkan
2. Jangan langsung mencuci krim yang dioleskan. Jika timbul reaksi segera tandai formula yang menimbulkan reaksi pada lembar kuisoner ini.

**Lampiran 19. Hasil Uji Iritasi Krim Terhadap Responden**

Respon	Uji Iritasi Formula																	
	Kemerahan						Gatal						Bengkak					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Keterangan: 1 = Ya

2 = Tidak