





## LAMPIRAN

### Lampiran 1 Skrining Fitokimia

Sebelum Uji Flavonoid	Sesudah uji flavonoid
	
Sebelum Uji Terpenoid	Sesudah uji Terpenoid
	

### Lampiran 2 Perhitungan Pembuatan Nanoemulsi

#### A. Perhitungan Pembuatan Smik

##### 1. Smik 4:1 (30 ml)

$$\begin{aligned} \text{Tween 80} &= \frac{4}{5} \times 30 \text{ ml} \\ &= 24 \text{ ml} \end{aligned}$$

$$\begin{aligned} \text{PEG 400} &= \frac{1}{5} \times 30 \text{ ml} \\ &= 6 \text{ ml} \end{aligned}$$

$$\begin{aligned} \text{Total} &= 24 \text{ ml} + 6 \text{ ml} \\ &= 30 \text{ ml} \end{aligned}$$

##### 2. Smik 5:1 (30ml)

$$\begin{aligned}
 \text{Tween 80} &= \frac{5}{6} \times 30 \text{ ml} \\
 &= 25 \text{ ml} \\
 \text{PEG 400} &= \frac{1}{6} \times 30 \text{ ml} \\
 &= 5 \text{ ml} \\
 \text{Total} &= 25 \text{ ml} + 5 \text{ ml} \\
 &= 30 \text{ ml}
 \end{aligned}$$

## B. Pembuatan Nanoemulsi

### 1. Nanoemulsi 4:1 8% (20ml)

$$\begin{aligned}
 \text{Minyak biji labu kuning 8\%} &= \frac{8}{100} \times 20 \text{ ml} \\
 &= 1,6 \text{ gram} \\
 \text{Smik 34\%} &= \frac{34}{100} \times 20 \text{ ml} \\
 &= 6,8 \text{ gram} \\
 \text{Aquades 58\%} &= \frac{58}{100} \times 20 \text{ ml} \\
 &= 11,6 \text{ ml} \\
 \text{Total} &= 1,6 + 6,8 + 11,6 \\
 &= 20 \text{ gram/ml}
 \end{aligned}$$

### 2. Nanoemulsi 4:1 16%

$$\begin{aligned}
 \text{Minyak biji labu kuning 16\%} &= \frac{16}{100} \times 20 \text{ ml} \\
 &= 3,2 \text{ gram} \\
 \text{Smik 4\%} &= \frac{4}{100} \times 20 \text{ ml} \\
 &= 0,8 \text{ gram} \\
 \text{Aquades 80\%} &= \frac{80}{100} \times 20 \text{ ml} \\
 &= 16 \text{ ml} \\
 \text{Total} &= 3,2 + 0,8 + 16 \\
 &= 20 \text{ gram/ml}
 \end{aligned}$$

### 3. Nanoemulsi 5:1 8%

$$\begin{aligned}
 \text{Minyak biji labu kuning 8\%} &= \frac{8}{100} \times 20 \text{ ml} \\
 &= 1,6 \text{ gram}
 \end{aligned}$$

$$\begin{aligned} \text{Smik 34\%} &= \frac{34}{100} \times 20 \text{ ml} \\ &= 6,8 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Aquades 58\%} &= \frac{16}{100} \times 20 \text{ ml} \\ &= 11,6 \text{ ml} \end{aligned}$$

$$\begin{aligned} \text{Total} &= 1,6 + 6,8 + 11,6 \\ &= 20 \text{ gram/ml} \end{aligned}$$

4. Nanoemulsi 5:1 16%


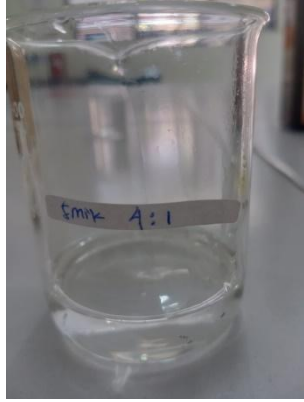
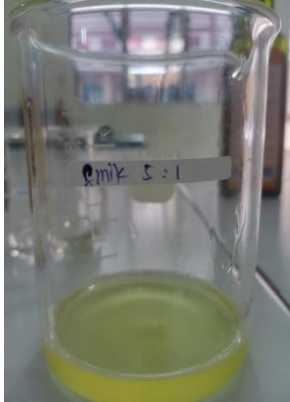


$$\begin{aligned} \text{Minyak biji labu kuning 16\%} &= \frac{16}{100} \times 20 \text{ ml} \\ &= 3,2 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Smik 4\%} &= \frac{4}{100} \times 20 \text{ ml} \\ &= 0,8 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Aquades 80\%} &= \frac{80}{100} \times 20 \text{ ml} \\ &= 16 \text{ ml} \end{aligned}$$

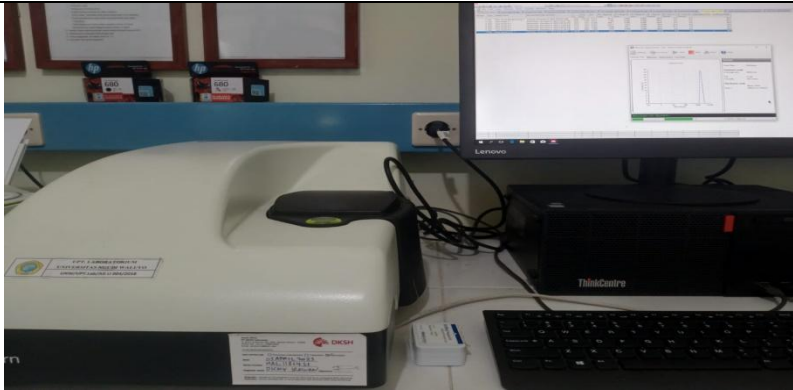
$$\begin{aligned} \text{Total} &= 3,2 + 0,8 + 16 \\ &= 20 \text{ ml} \end{aligned}$$

### Lampiran 3 Pembuatan Nanoemulsi

Pembuatan smik	Hasil smik		Proses ultraturak
			
Sediaan Nanoemulsi			
			

## Lampiran 4 Pengujian PSA Nanoemulsi

### Pengujian Dengan PSA







# PT. SARASWATI INDO GENETECH

## ONE STOP LABORATORY SERVICES

Main Office and Laboratory: Jl. Raya No. 20 Taman Yacht Bogor 16112 INDONESIA  
Jakarta Branch: Jl. Puncak Selatan No. 52 BRT Blok P10 Dki Rawasari, Kab. Tangerang, Banten 15142 INDONESIA  
Phone (Bogor) +62 21 7547627, (Jakarta) +62 21 2347627, (Surabaya) +62 31 8618555, (Semarang) +62 61 8177000, (Bandung) +62 22 2511511-15 Fax: +62 21 7547627, Email: [info@siglaboratory.com](mailto:info@siglaboratory.com), [www.siglaboratory.com](http://www.siglaboratory.com)

No. 25K-PM/MSM-SIG  
Revisi 3

### Result of Analysis

No : SIG.LHP.VII.2020.070503

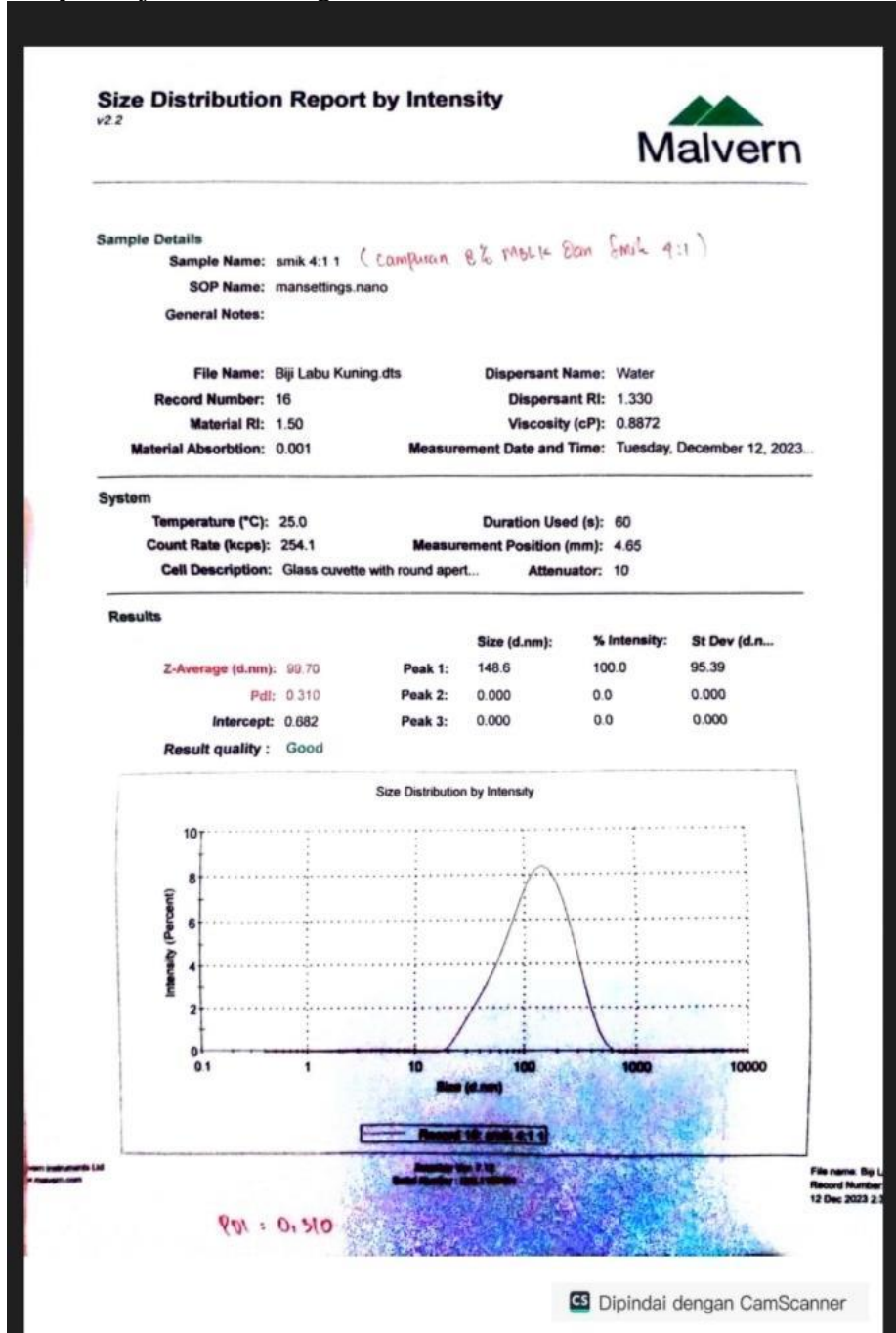
No.	Parameter	Unit	Result	Limit Of Detection	Method
11	Lemak Total	%	99.94	-	18-8-19/MU/SMM-SIG
12	Energi Total	Kcal/100 g	899.46	-	Calculation
13	Asam Lemak Bebas	%	0.40	-	18-11-17/MU/SMM-SIG (Titrimetry)
14	Gula	%	Not detected	0.28	18-8-8/MU/SMM-SIG (Luff-Schoorl)

Bogor, 20 Juli 2020  
PT. Saraswati Indo Genetech



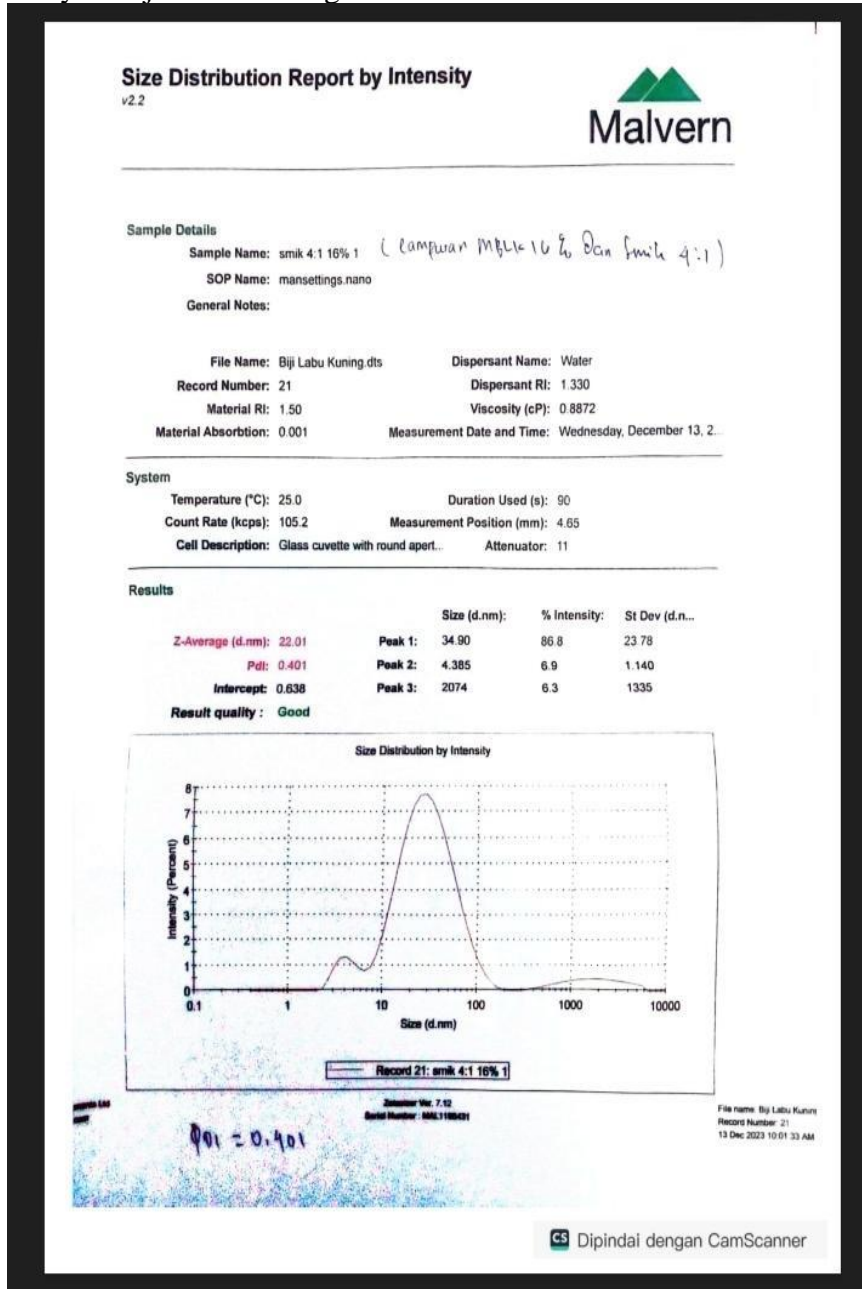
**Dwi Yulianto Laksano, S.Si**  
Manager Laboratorium

2. Ukuran Partikel dan Indeks Polidispersi
  - a. Minyak Biji Labu Kuning 4:1 8%





b. Minyak Biji Labu Kuning 4:1 16%



c. Minyak Biji Labu Kuning 5:1 8%

### Size Distribution Report by Intensity

v2.2



#### Sample Details

Sample Name: smik 5:1 8% 1 (campuran Biji mblk dan smk 5:1)  
SOP Name: mansettings.nano  
General Notes:

File Name: Biji Labu Kuning.dts      Dispersant Name: Water  
Record Number: 20      Dispersant RI: 1.330  
Material RI: 1.50      Viscosity (cP): 0.8872  
Material Absorbtion: 0.001      Measurement Date and Time: Tuesday, December 12, 2023...

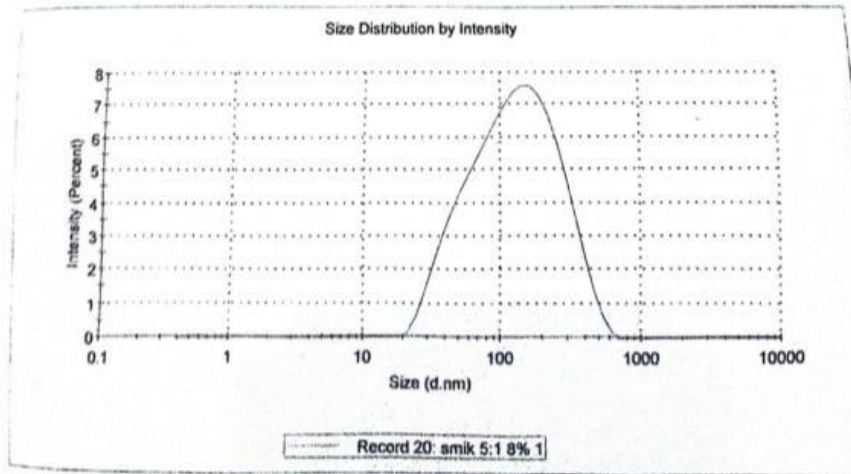
#### System

Temperature (°C): 25.0      Duration Used (s): 60  
Count Rate (kcps): 265.8      Measurement Position (mm): 4.65  
Cell Description: Glass cuvette with round apert...      Attenuator: 10

#### Results

	Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm): 100.3	Peak 1: 153.0	100.0	104.3
Pdl: 0.285	Peak 2: 0.000	0.0	0.000
Intercept: 0.683	Peak 3: 0.000	0.0	0.000

Result quality : Good



d. Minyak Biji Labu Kuning 5:1 16%

## Size Distribution Report by Intensity

v2.2



### Sample Details

Sample Name: smik 5:1 16% 1

(Campuran 16% MBLK Dan smik 5:1)

SOP Name: mansettings.nano

General Notes:

File Name: Biji Labu Kuning.dts

Dispersant Name: Water

Record Number: 19

Dispersant RI: 1.330

Material RI: 1.50

Viscosity (cP): 0.8872

Material Absorption: 0.001

Measurement Date and Time: Tuesday, December 12, 2023...

### System

Temperature (°C): 25.0

Duration Used (s): 70

Count Rate (kcps): 234.9

Measurement Position (mm): 4.65

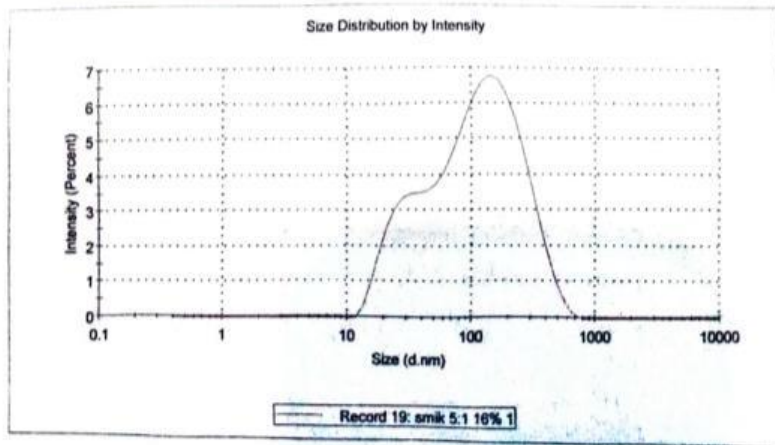
Cell Description: Glass cuvette with round apert...

Attenuator: 10

### Results

	Size (d.nm):	% Intensity:	St Dev (d.n...)
Z-Average (d.nm): 73.57	Peak 1: 136.1	100.0	107.8
Pdl: 0.408	Peak 2: 0.000	0.0	0.000
Intercept: 0.676	Peak 3: 0.000	0.0	0.000

Result quality: Good



e. % Transmittansi

**Photometric Sample Table**

[Summary]		Software Information		[Measurement Parameters]	
File Information		Software Name:	LabSolutions UV-Vis	[Wavelengths]	
Filename:	D:\Hesti\TRANSMITASI vphd	Version:	1.12	Type of Measuring Mode:	Trans OFF
Parameter File Name:	C:\UVVis-Data\Parameter\UJI TRASMITAN vphm	Instrument Information		Column Name:	WL65 Point
Analyst:		Instrument Name:	uv	Measuring Method:	
Date/Time:	01/15/2024 10:49:41 AM	Instrument Type:	UV-1900 Series	[Formula]	
Comments:		Model (S/N):	1900 (A12536082099)	[Unknown Sample]	
Report File Name:		Acquiring Method:		Repeat:	Max OFF
Instrument Information		Instrument Name:	uv	[Instrument]	
Instrument Type:	UV-1900 Series	Model (S/N):	1900 (A12536082099)	Slit Width:	1.0
				Accumulation Time (sec.):	0.1
				Light Source Switch Wavelength:	344

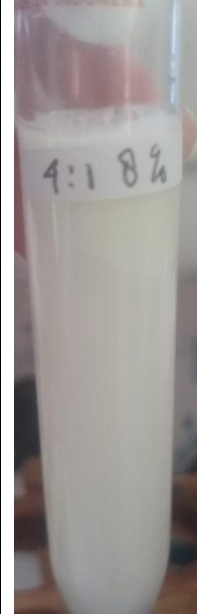
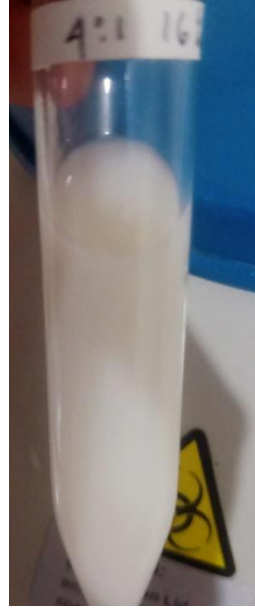


[Sample Table]						
	Sample Name	Sample I	Option	Type	Ex	WL650
1	nanoemulsi 4:1 8%			UNK		99.3
2	nanoemulsi 4:1 16%			UNK		79.5
3	nanoemulsi 5:1 16%			UNK		96.8
4	nanoemulsi 5:1 8%			UNK		96.8

Dipindai dengan CamScanner





f. pH

Nanoemulsi 4:1 8%	Nanoemulsi 4:1 16%	Nanoemulsi 5:1 8%	Nanoemulsi 5:1 16%

g. Sentrifugasi

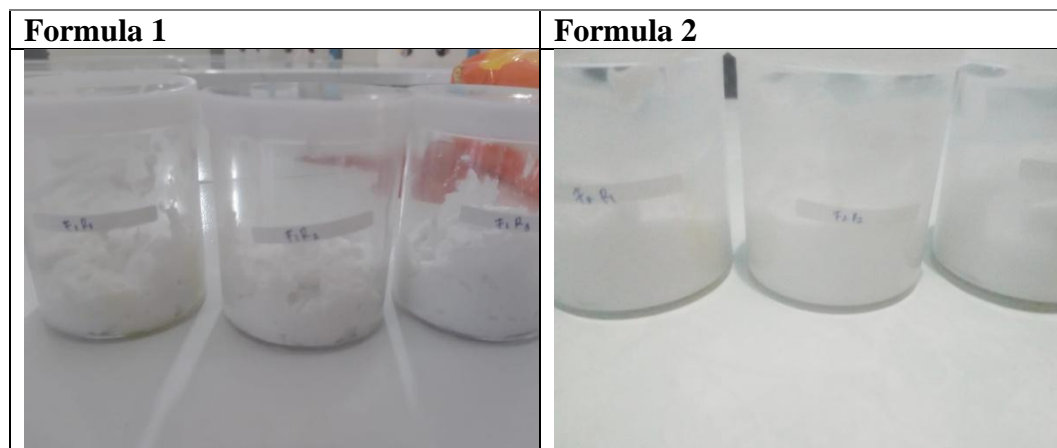
Nanoemulsi 4:1 8%	Nanoemulsi 4:1 16%	Nanoemulsi 5:1 8%	Nanoemulsi 5:1 16%
			

Lampiran 6 Pembuatan Krim Nanoemulsi

Bahan-bahan	Peleburan basis minyak	Fase air	Proses ultraturak menjadi sediaan krim
			

Lampiran 7 Pembuatan Krim Nanoemulsi

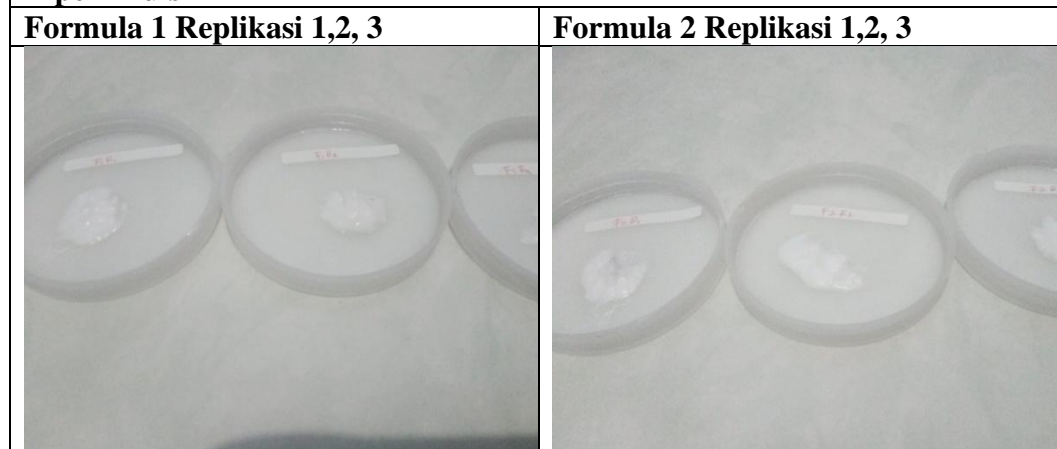




**Lampiran 8 Hasil Evaluasi Krim Nanoemulsi Minyak Biji Labu Kuning**

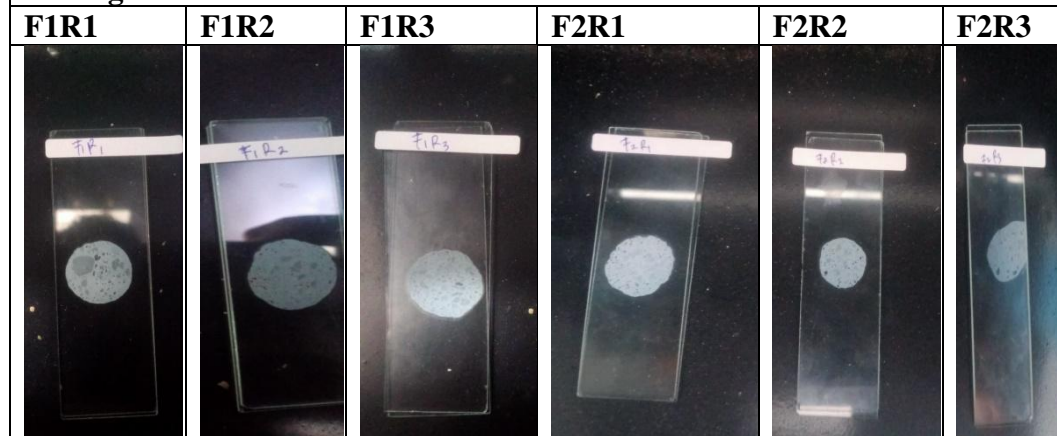
Organoleptis

**Tipe Emulsi**



1. Homogenistas



**Homogenitas**



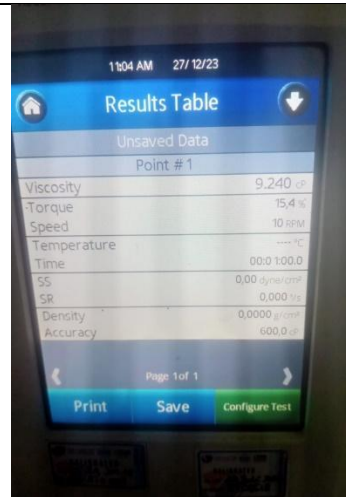
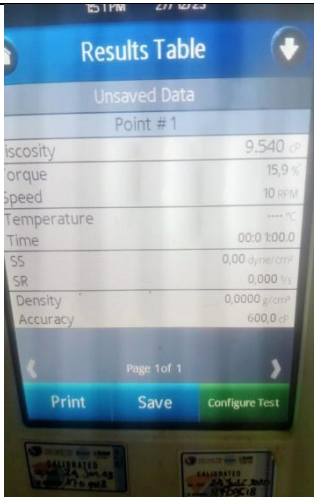
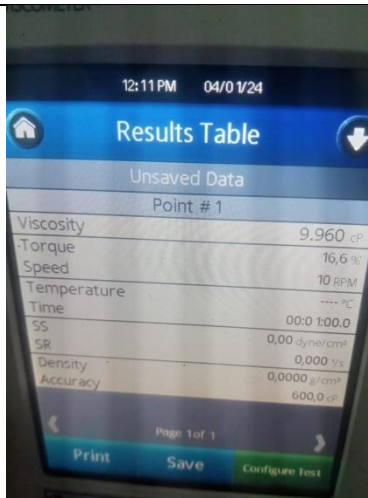
Data Uji Homogenitas

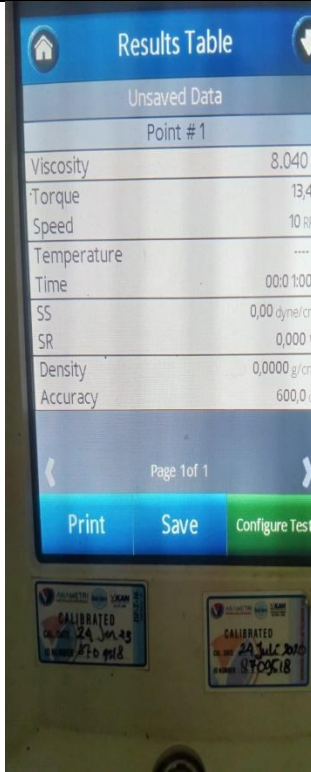
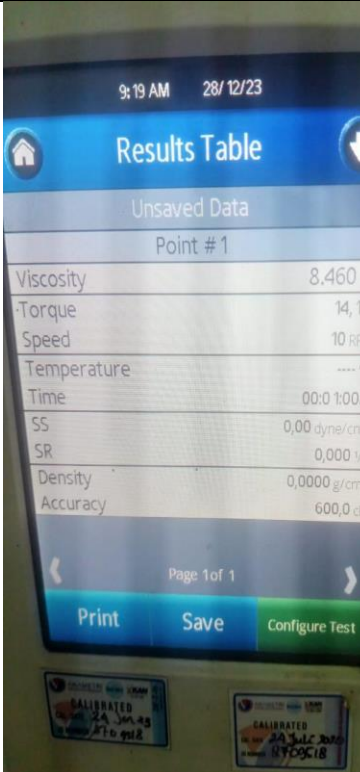

Sampel	Hasil Uji Homogenitas
Formula 1 replikasi 1	Homogen
Formula 1 replikasi 2	Homogen
Formula 1 replikasi 3	Homogen
Formula 2 replikasi 1	Homogen
Formula 2 replikasi 2	Homogen
Formula 2 replikasi 3	Homogen

## 2. Tipe Emulsi

Tipe Emulsi	
Formula 1	Formula 2
	

## 3. Viskositas

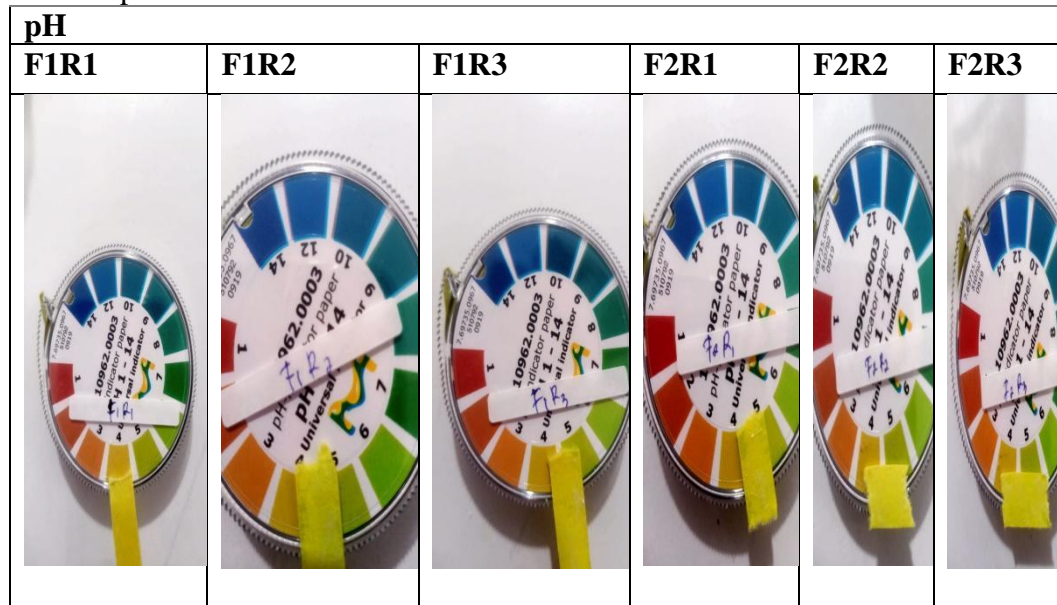
Viskositas		
F1R1	F1R2	F1R3
		

Viskositas																																																								
F2R1	F2R2	F2R3																																																						
 <p>Results Table Unsaved Data Point # 1</p> <table border="1"> <tr><td>Viscosity</td><td>8.040</td></tr> <tr><td>Torque</td><td>13,4</td></tr> <tr><td>Speed</td><td>10 rpm</td></tr> <tr><td>Temperature</td><td>.....</td></tr> <tr><td>Time</td><td>00:01:00</td></tr> <tr><td>SS</td><td>0,00 dyne/cm</td></tr> <tr><td>SR</td><td>0,000</td></tr> <tr><td>Density</td><td>0,0000 g/cm</td></tr> <tr><td>Accuracy</td><td>600,0</td></tr> </table> <p>Page 1 of 1 Print Save Configure Test</p>	Viscosity	8.040	Torque	13,4	Speed	10 rpm	Temperature	.....	Time	00:01:00	SS	0,00 dyne/cm	SR	0,000	Density	0,0000 g/cm	Accuracy	600,0	 <p>Results Table Unsaved Data Point # 1</p> <table border="1"> <tr><td>Viscosity</td><td>8.460</td></tr> <tr><td>Torque</td><td>14,1</td></tr> <tr><td>Speed</td><td>10 rpm</td></tr> <tr><td>Temperature</td><td>.....</td></tr> <tr><td>Time</td><td>00:01:00</td></tr> <tr><td>SS</td><td>0,00 dyne/cm</td></tr> <tr><td>SR</td><td>0,000</td></tr> <tr><td>Density</td><td>0,0000 g/cm</td></tr> <tr><td>Accuracy</td><td>600,0</td></tr> </table> <p>Page 1 of 1 Print Save Configure Test</p>	Viscosity	8.460	Torque	14,1	Speed	10 rpm	Temperature	.....	Time	00:01:00	SS	0,00 dyne/cm	SR	0,000	Density	0,0000 g/cm	Accuracy	600,0	 <p>Results Table Unsaved Data Point # 1</p> <table border="1"> <tr><td>Viscosity</td><td>9.42</td></tr> <tr><td>Torque</td><td>14,1</td></tr> <tr><td>Speed</td><td>10 rpm</td></tr> <tr><td>Temperature</td><td>.....</td></tr> <tr><td>Time</td><td>00:01:00</td></tr> <tr><td>SS</td><td>0,00 dyne/cm</td></tr> <tr><td>SR</td><td>0,000</td></tr> <tr><td>Density</td><td>0,0000 g/cm</td></tr> <tr><td>Accuracy</td><td>600,0</td></tr> </table> <p>Page 1 of 1 Print Save Configure Test</p>	Viscosity	9.42	Torque	14,1	Speed	10 rpm	Temperature	.....	Time	00:01:00	SS	0,00 dyne/cm	SR	0,000	Density	0,0000 g/cm	Accuracy	600,0
Viscosity	8.040																																																							
Torque	13,4																																																							
Speed	10 rpm																																																							
Temperature	.....																																																							
Time	00:01:00																																																							
SS	0,00 dyne/cm																																																							
SR	0,000																																																							
Density	0,0000 g/cm																																																							
Accuracy	600,0																																																							
Viscosity	8.460																																																							
Torque	14,1																																																							
Speed	10 rpm																																																							
Temperature	.....																																																							
Time	00:01:00																																																							
SS	0,00 dyne/cm																																																							
SR	0,000																																																							
Density	0,0000 g/cm																																																							
Accuracy	600,0																																																							
Viscosity	9.42																																																							
Torque	14,1																																																							
Speed	10 rpm																																																							
Temperature	.....																																																							
Time	00:01:00																																																							
SS	0,00 dyne/cm																																																							
SR	0,000																																																							
Density	0,0000 g/cm																																																							
Accuracy	600,0																																																							

Sampel	Hasil Uji Homogenitas
Formula 1 replikasi 1	9.24
Formula 1 replikasi 2	9.54
Formula 1 replikasi 3	9.96
Formula 2 replikasi 1	8.04
Formula 2 replikasi 2	8.46
Formula 2 replikasi 3	9.42



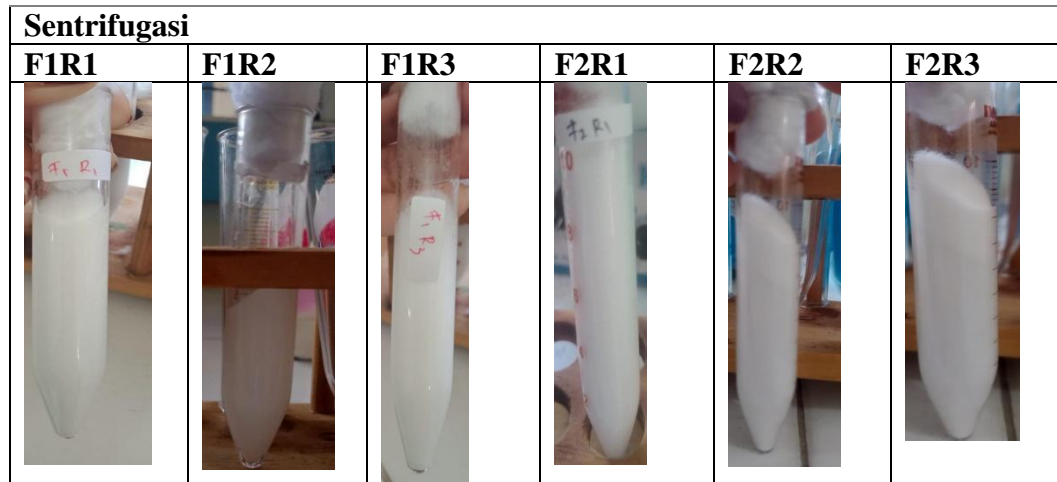
#### 4. pH



#### Data hasil pH

Sampel	Hasil Pengujian pH
Formula 1 replikasi 1	4
Formula 1 replikasi 2	5
Formula 1 replikasi 3	4
Formula 2 replikasi 1	5
Formula 2 replikasi 2	4
Formula 2 replikasi 3	5







## 5. Sentrifugasi



### Data hasil Sentrifugasi

Sampel	Hasil Uji Sentrifugasi
Formula 1 replikasi 1	Tidak terjadi pemisahan fase
Formula 1 replikasi 2	Tidak terjadi pemisahan fase
Formula 1 replikasi 3	Tidak terjadi pemisahan fase
Formula 2 replikasi 1	Tidak terjadi pemisahan fase
Formula 2 replikasi 2	Tidak terjadi pemisahan fase
Formula 2 replikasi 3	Tidak terjadi pemisahan fase

## 6. Daya Sebar

Daya Sebar Formula 1 dan 2 dengan ke 3 replikasinya						
Hanya kaca	50 gram	100 gram	150 gram	200 gram	250 gram	300 gram
						

**Data hasil daya sebar**




<b>Beban</b>	<b>Formula 1 replikasi 1</b>	<b>Formula 1 replikasi 2</b>	<b>Formula 1 replikasi 3</b>
Hanya kaca	2.95	2.78	2.7
50 gram	3.19	3.46	2.74
100 gram	3.33	3.7	3.08
150 gram	3.43	3.9	3.24
200 gram	3.75	4.14	3.38
250 gram	4.11	4.46	3.55
300 gram	4.66	4.6	3.61
Nilai rata-rata	3,63	3,86	3,18

<b>Beban</b>	<b>Formula 2 replikasi 1</b>	<b>Formula 2 replikasi 2</b>	<b>Formula 2 replikasi 3</b>
Hanya kaca	3.95	3.92	3.95
50 gram	4.15	4.57	4.34
100 gram	4.3	4.94	4.55
150 gram	4.48	5.18	4.72
200 gram	4.53	5.62	5.36
250 gram	4.58	5.59	5.16
300 gram	5.06	5.79	5.34
Nilai rata-rata	4,43	5,08	5,08

7. Daya Lekat

<b>Sampel</b>		
<b>Formula 1 Replikasi 1</b>	<b>Formula 1 Replikasi 2</b>	<b>Formula 1 Replikasi 3</b>
		



Sampel		
Formula 2 Replikasi 1	Formula 2 Replikasi 2	Formula 2 Replikasi 3
		



Data daya lekat

<b>Sampel</b>	<b>Waktu (detik)</b>
Formula 1 replikasi 1	1.3
Formula 1 replikasi 2	1.5
Formula 1 replikasi 3	1.5
Formula 2 replikasi 1	1.3
Formula 2 replikasi 2	1.4
Formula 2 replikasi 3	1.5

## Lampiran 9 Perhitungan Pembuatan Larutan Uji SPF

- a. Minyak Biji Labu Kuning Replikasi 1, 2 dan 3

$$V1. N1 = V1.N2$$

$$V1. 4 \text{ ml} = 1000. 40 \text{ mg}$$

$$V1.4 \text{ ml} = \frac{40.000}{4}$$

$$= 10.000$$

- b. Nanoemulsi Minyak Biji labu kuning Replikasi 1, 2 dan 3

$$V1. N1 = V1.N2$$

$$V1. 4 \text{ ml} = 1000. 40 \text{ mg}$$

$$V1.4 \text{ ml} = \frac{40.000}{4}$$

$$= 10.000$$

- c. Krim Formula 1 Replikasi 1

$$V1. N1 = V1.N2$$

$$V1. 4 \text{ ml} = 1000. 40 \text{ mg}$$

$$V1.4 \text{ ml} = \frac{40.000}{4}$$

$$= 10.000$$

- d. Krim Formula 2 Replikasi 1, 2 dan 3

$$V1. N1 = V1.N2$$

$$V1. 4 \text{ ml} = 1000. 40 \text{ mg}$$

$$V1.4 \text{ ml} = \frac{40.000}{4}$$

$$= 10.000$$

## Lampiran 10 Preparasi Sampel



## Lampiran 11 Hasil Uji SPF

File Information		Software Information		Type of Measuring Mode	
Filename:	D:\Hesti\UJI TB vphd	Software Name:	LabSolutions UV-Vis	rounded	OFF
Parameter File Name:	D:\Hesti\SPF vphm	Version:	1.12	Column Name:	WL290
Analyst:		Instrument Information		Measuring Method:	Point (320)
Date/Time:	01/15/2024 02:52:24 PM	Instrument Name:	uv	Column Name:	WL295
Comments:		Instrument Type:	UV-1900 Series	Measuring Method:	Point (320)
Report File Name:		Model (S/N):	1900 (A12536082099)	Column Name:	WL300
Instrument Information				Measuring Method:	Point (320)
Instrument Name:	uv			Column Name:	WL305
Instrument Type:	UV-1900 Series			Measuring Method:	Point (320)
Model (S/N):	1900 (A12536082099)			Column Name:	WL310
				Measuring Method:	Point (320)
				Column Name:	WL315
				Measuring Method:	Point (320)
				Column Name:	WL320

Sample Table]

Sample Name	Sample I	Option	Type	Ex	WL290	WL295	WL300	WL305	WL310	WL315	WL320	Comm
F2 R1 TB			UNK		0.617	0.616	0.624	0.622	0.629	0.616	0.616	
F2 R1 TB			UNK		0.608	0.619	0.622	0.620	0.624	0.615	0.622	
F2 R2 TB			UNK		0.630	0.615	0.616	0.630	0.629	0.633	0.632	
F1 R1TB			UNK		0.566	0.569	0.567	0.568	0.565	0.570	0.573	
F1 R1 TB			UNK		0.566	0.563	0.569	0.567	0.566	0.567	0.564	
F1 R2 TB			UNK		0.567	0.559	0.563	0.566	0.567	0.571	0.564	
MBLK R1			UNK		1.191	1.202	1.195	1.195	1.196	1.232	1.194	
MBLK R2			UNK		1.228	1.214	1.208	1.209	1.207	1.195	1.214	
MBLK R3			UNK		1.213	1.193	1.195	1.202	1.183	1.197	1.201	
Nanoemulsi R1			UNK		1.015	0.992	1.005	0.996	1.012	0.999	1.007	
Nanoemulsi R2			UNK		1.013	1.016	1.022	1.011	0.999	1.024	1.008	
Nanoemulsi R3			UNK		0.999	1.008	1.016	0.995	1.019	0.985	1.019	
*			UNK									

Page 1 / 2

Dipindai dengan CamScanner

## Lampiran 12 Perhitungan Nilai SPF

### 1. Perhitungan nilai SPF

Formulasi 1 Replikasi 1					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.566	0.015	0.00849	10	0.0849
295	0.569	0.0817	0.0464873	10	0.464873
300	0.567	0.2874	0.1629558	10	1.629558
305	0.568	0.3278	0.1861904	10	1.861904
310	0.565	0.1864	0.105316	10	1.05316
315	0.57	0.0839	0.047823	10	0.47823
320	0.573	0.018	0.010314	10	0.10314
Total					5.675765

a. Panjang gelombang 290 nm

Abs x (EEX I)

$$= 0.566 \times 0.015$$

$$= 0.00849$$

CF X (Abs x EEX I)

$$= 10 \times 0.00849$$

$$= 0.0849$$

b. Panjang gelombang 295 nm

Abs x (EEX I)

$$= 0.569 \times 0.0817$$

$$= 0.0464873$$

CF X (Abs x EEX I)

$$= 10 \times 0.0464873$$

$$= 0.464873$$

c. Panjang gelombang 300 nm

Abs x (EEX I)



$$= 0.567 \times 0.2874$$

$$= 0.1629558$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.1629558$$

$$= 1.629558$$

d. Panjang gelombang 305 nm

$$\text{Abs X (EEX I)}$$

$$= 0.568 \times 0.3278$$

$$= 0.1861904$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.1861904$$

$$= 1.861904$$

e. Panjang gelombang 310 nm

$$\text{Abs X (EEX I)}$$

$$= 0.565 \times 0.1864$$

$$= 0.105316$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.105316$$

$$= 1.05316$$

f. Panjang gelombang 315 nm

$$\text{Abs X (EEX I)}$$

$$= 0.57 \times 0.0839$$

$$= 0.047823$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.047823$$

$$= 0.47823$$

g. Panjang gelombang 320 nm

$$Abs \times (EEX I)$$

$$= 0.573 \times 0.018$$

$$= 0.010314$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.010314$$

$$= 0.10314$$

Formulasi 1 Replikasi 2					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.566	0.015	0.00849	10	0.0849
295	0.563	0.0817	0.045997 1	10	0.459971
300	0.569	0.2874	0.163530 6	10	1.635306
305	0.567	0.3278	0.185862 6	10	1.858626
310	0.566	0.1864	0.105502 4	10	1.055024
315	0.567	0.0839	0.047571 3	10	0.475713
320	0.564	0.018	0.010152	10	0.10152
Total					5.67106

a. Panjang gelombang 290 nm

$$Abs \times (EEX I)$$

$$= 0.566 \times 0.015$$

$$= 0.00849$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.00849$$

$$= 0.0849$$

b. Panjang gelombang 295 nm

$$Abs \times (EEX I)$$

$$= 0.563 \times 0.0817$$

$$= 0.0459971$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.0459971$$

$$= 0.459971$$

c. Panjang gelombang 300 nm

$$Abs \times (EEX I)$$

$$= 0.569 \times 0.2874$$

$$= 0.1635306$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.1635306$$

$$= 1.635306$$

d. Panjang gelombang 305 nm

$$Abs \times (EEX I)$$

$$= 0.567 \times 0.3278$$

$$= 0.1858626$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.1858626$$

$$= 1.858626$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.566 \times 0.1864$$

$$= 0.1055024$$

$$\text{CF} \times (\text{Abs} \times \text{EE}x \text{ I})$$

$$= 10 \times 0.1055024$$

$$= 1.055024$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.567 \times 0.0839$$

$$= 0.0475713$$

$$\text{CF} \times (\text{Abs} \times \text{EE}x \text{ I})$$

$$= 10 \times 0.0475713$$

$$= 0.475713$$

g. Panjang gelombang 320 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.564 \times 0.018$$

$$= 0.010152$$

$$\text{CF} \times (\text{Abs} \times \text{EE}x \text{ I})$$

$$= 10 \times 0.010152$$

$$= 0.10152$$

Formulasi 1 Replikasi 3					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.567	0.015	0.008505	10	0.08505
295	0.559	0.0817	0.0456703	10	0.456703
300	0.563	0.2874	0.1618062	10	1.618062
305	0.566	0.3278	0.1855348	10	1.855348
310	0.567	0.1864	0.1056888	10	1.056888
315	0.571	0.0839	0.0479069	10	0.479069
320	0.564	0.018	0.010152	10	0.10152
Total					5.65264

a. Panjang gelombang 290 nm

Abs x (EEX I)

$$= 0.567 \times 0.015$$

$$= 0.08505$$

CF X (Abs x EEx I)

$$= 10 \times 0.08505$$

$$= 0.08505$$

b. Panjang gelombang 295 nm

Abs x (EEX I)

$$= 0.559 \times 0.0817$$

$$= 0.0456703$$

CF X (Abs x EEx I)

$$= 10 \times 0.0456703$$

$$= 0.456703$$

c. Panjang gelombang 300 nm

$$\begin{aligned} & \text{Abs} \times (\text{EEX I}) \\ & = 0.563 \times 0.2874 \end{aligned}$$

$$= 0.1618062$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.1618062$$

$$= 1.618062$$

d. Panjang gelombang 305 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.566 \times 0.3278$$

$$= 0.1855348$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.1855348$$

$$= 1.855348$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.567 \times 0.1864$$

$$= 0.1056888$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.1056888$$

$$= 1.056888$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.571 \times 0.0839$$

$$= 0.0479069$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.0479069$$

$$= 0.479069$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 0.564 \times 0.018$$

$$= 0.010152$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.010152$$

$$= 0.10152$$

Formulasi 2 Replikasi 1					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.617	0.015	0.009255	10	0.09255
295	0.616	0.0817	0.050327 2	10	0.503272
300	0.624	0.2874	0.179337 6	10	1.793376
305	0.622	0.3278	0.203891 6	10	2.038916
310	0.629	0.1864	0.117245 6	10	1.172456
315	0.616	0.0839	0.051682 4	10	0.516824
320	0.616	0.018	0.011088	10	0.11088
Total					6.228274

a. Panjang gelombang 290 nm

$$\text{Abs x (EEX I)}$$

$$= 0.617 \times 0.015$$

$$= 0.009255$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.0092559$$

$$= 0.09255$$

b. Panjang gelombang 295 nm

$$\text{Abs x (EEX I)}$$

$$= 0.617 \text{ X } 0.0817$$

$$= 0.0503272$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.0503272$$

$$= 0.503272$$

c. Panjang gelombang 300 nm

$$\text{Abs x (EEX I)}$$

$$= 0.624 \text{ X } 0.2874$$

$$= 0.1793376$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.1793376$$

$$= 1.793376$$

d. Panjang gelombang 305 nm

$$\text{Abs x (EEX I)}$$

$$= 0.622 \text{ X } 0.3278$$

$$= 0.2038916$$

$$\text{CF X (Abs x EEx I)}$$



$$= 10 \times 0.2038916$$

$$= 2.038916$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.629 \times 0.1864$$

$$= 0.1172456$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.1172456$$

$$= 1.172456$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.616 \times 0.0839$$

$$= 0.0516824$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.0516824$$

$$= 0.516824$$

g. Panjang gelombang 320 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.616 \times 0.018$$

$$= 0.011088$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.011088$$

$$= 0.11088$$

Formulasi 2 Replikasi 2					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.608	0.015	0.00912	10	0.0912
295	0.619	0.0817	0.0505723	10	0.505723
300	0.622	0.2874	0.1787628	10	1.787628
305	0.62	0.3278	0.203236	10	2.03236
310	0.624	0.1864	0.1163136	10	1.163136
315	0.615	0.0839	0.0515985	10	0.515985
320	0.622	0.018	0.011196	10	0.11196
Total					6.207992

a. Panjang gelombang 290 nm

Abs x (EEX I)

$$= 0.608 \times 0.015$$

$$= 0.00912$$

CF X (Abs x EEx I)

$$= 10 \times 0.00912$$

$$= 0.0912$$

b. Panjang gelombang 295 nm

Abs x (EEX I)

$$= 0.619 \times 0.0817$$

$$= 0.0505723$$

CF X (Abs x EEx I)

$$= 10 \times 0.0505723$$

$$= 0.505723$$

c. Panjang gelombang 300 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.622 \times 0.2874$$

$$= 0.1787628$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.1787628$$

$$= 1.787628$$

d. Panjang gelombang 305 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.62 \times 0.3278$$

$$= 0.203236$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.203236$$

$$= 2.03236$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.624 \times 0.1864$$

$$= 0.1163136$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.1163136$$

$$= 1.163136$$

f. Panjang gelombang 315 nm

$$\text{Abs x (EEX I)}$$

$$= 0.615 \times 0.0839$$

$$= 0.0515985$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.0515985$$

$$= 0.515985$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 0.622 \times 0.018$$

$$= 0.011196$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.011196$$

$$= 0.11196$$

Formulasi 2 Replikasi 3					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	0.63	0.015	0.00945	10	0.0945
295	0.615	0.0817	0.050245 5	10	0.502455
300	0.616	0.2874	0.177038 4	10	1.770384
305	0.63	0.3278	0.206514	10	2.06514
310	0.629	0.1864	0.117245 6	10	1.172456
315	0.633	0.0839	0.053108 7	10	0.531087
320	0.632	0.018	0.011376	10	0.11376
Total					6.249782

a. Panjang gelombang 290 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.63 \times 0.015$$

$$= 0.0945$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.00945$$

$$= 0.11196$$

b. Panjang gelombang 295 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.615 \times 0.0817$$

$$= 0.0502455$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.0502455$$

$$= 0.502455$$

c. Panjang gelombang 300 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.616 \times 0.2874$$

$$= 0.1770384$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.1770384$$

$$= 1.770384$$

d. Panjang gelombang 305 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.63 \times 0.3278$$

$$= 0.206514$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.206514$$

$$= 2.06514$$

e. Panjang gelombang 310 nm

$$\text{Abs x (EEX I)}$$

$$= 0.629 \text{ X } 0.1864$$

$$= 0.1172456$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.1172456$$

$$= 1.172456$$

f. Panjang gelombang 315 nm

$$\text{Abs x (EEX I)}$$

$$= 0.633 \text{ X } 0.0839$$

$$= 0.0531087$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.0531087$$

$$= 0.531087$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 0.632 \text{ X } 0.018$$

$$= 0.011376$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.011376$$

$$= 0.11376$$

Nanoemulsi Replikasi 1					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	1.015	0.015	0.015225	10	0.15225
295	0.992	0.0817	0.081046	10	0.810464
300	1.005	0.2874	0.288837	10	2.88837
305	0.996	0.3278	0.326489	10	3.264888
310	1.012	0.1864	0.188637	10	1.886368
315	0.999	0.0839	0.083816	10	0.838161
320	1.007	0.018	0.018126	10	0.18126
Total					10.02176

a. Panjang gelombang 290 nm

Abs x (EEX I)

$$= 1.015 \times 0.015$$

$$= 0.015225$$

CF X (Abs x EEx I)

$$= 10 \times 0.015225$$

$$= 0.15225$$

b. Panjang gelombang 295 nm

Abs x (EEX I)

$$= 0.992 \times 0.0817$$

$$= 0.081046$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.081046$$

$$= 0.810464$$

c. Panjang gelombang 300 nm

$$Abs \times (EEX \ I)$$

$$= 1.005 \times 0.2874$$

$$= 0.288837$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.288837$$

$$= 2.88837$$

d. Panjang gelombang 305 nm

$$Abs \times (EEX \ I)$$

$$= 0.996 \times 0.3278$$

$$= 0.326489$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.326489$$

$$= 3.264888$$

e. Panjang gelombang 310 nm

$$Abs \times (EEX \ I)$$

$$= 1.012 \times 0.1864$$

$$= 0.188637$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.188637$$



$$= 1.886368$$

f. Panjang gelombang 315 nm

$$\text{Abs x (EEX I)}$$

$$= 0.999 \times 0.0839$$

$$= 0.083816$$

$$\text{CF X (Abs x EEX I)}$$

$$= 10 \times 0.083816$$

$$= 0.838161$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 1.007 \times 0.018$$

$$= 0.018126$$

$$\text{CF X (Abs x EEX I)}$$

$$= 10 \times 0.018126$$

$$= 0.18126$$

Nanoemulsi Replikasi 2					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	1.013	0.015	0.015195	10	0.15195
295	1.018	0.0817	0.083171	10	0.831706
300	1.022	0.2874	0.293723	10	2.937228
305	1.011	0.3278	0.331406	10	3.314058
310	0.999	0.1864	0.186214	10	1.862136
315	1.024	0.0839	0.085914	10	0.859136
320	1.008	0.018	0.018144	10	0.18144
Total					10.13765

a. Panjang gelombang 290 nm

$$\text{Abs x (EEX I)}$$

$$= 1.013 \times 0.015$$

$$= 0.015195$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.015195$$

$$= 0.15195$$

b. Panjang gelombang 295 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.018 \times 0.0817$$

$$= 0.083171$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.083171$$

$$= 0.831706$$

c. Panjang gelombang 300 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.022 \times 0.2874$$

$$= 0.293723$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.293723$$

$$= 2.937228$$

d. Panjang gelombang 305 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.011 \times 0.3278$$

$$= 0.331406$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.331406$$

$$= 3.314058$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.999 \times 0.1864$$

$$= 0.186214$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.186214$$

$$= 1.862136$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.024 \times 0.0839$$

$$= 0.085914$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.085914$$

$$= 0.859136$$

g. Panjang gelombang 320 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.008 \times 0.018$$

$$= 0.018144$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.018144$$

$$= 0.18144$$

Nanoemulsi Replikasi 3					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL

290	0.999	0.015	0.014985	10	0.14985
295	1.008	0.0817	0.082354	10	0.823536
300	1.016	0.2874	0.291998	10	2.919984
305	0.995	0.3278	0.326161	10	3.26161
310	1.019	0.1864	0.189942	10	1.899416
315	0.985	0.0839	0.082642	10	0.826415
320	1.019	0.018	0.018342	10	0.18342
Total					10.06423

a. Panjang gelombang 290 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 0.999 \times 0.015$$

$$= 0.014985$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.014985$$

$$= 0.14985$$

b. Panjang gelombang 295 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.008 \times 0.0817$$

$$= 0.082354$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.082354$$

$$= 0.823536$$

c. Panjang gelombang 300 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.016 \times 0.2874$$

$$= 0.291998$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.291998$$

$$= 2.919984$$

d. Panjang gelombang 305 nm

$$Abs \times (EEX \ I)$$

$$= 0.995 \times 0.3278$$

$$= 3.26161$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 3.26161$$

$$= 3.26161$$

e. Panjang gelombang 310 nm

$$Abs \times (EEX \ I)$$

$$= 1.019 \times 0.1864$$

$$= 0.189942$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.189942$$

$$= 1.899416$$

f. Panjang gelombang 315 nm

$$Abs \times (EEX \ I)$$

$$= 0.985 \times 0.0839$$

$$= 0.082642$$

$$CF \times (Abs \times EEx \ I)$$

$$= 10 \times 0.082642$$

$$= 0.826415$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 1.019 \times 0.018$$

$$= 0.018342$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.018342$$

$$= 0.18342$$

Minyak Biji Labu Kuning Replikasi 1					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	1.191	0.015	0.017865	10	0.17865
295	1.202	0.0817	0.098203	10	0.982034
300	1.195	0.2874	0.343443	10	3.43443
305	1.195	0.3278	0.391721	10	3.91721
310	1.196	0.1864	0.222934	10	2.229344
315	1.232	0.0839	0.103365	10	1.033648
320	1.194	0.018	0.021492	10	0.21492
Total					11.99024

a. Panjang gelombang 290 nm

$$\text{Abs x (EEX I)}$$

$$= 1.191 \times 0.015$$

$$= 0.017865$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.017865$$

$$= 0.17865$$

b. Panjang gelombang 295 nm

$$\text{Abs x (EEX I)}$$

$$= 1.202 \times 0.0817$$

$$= 0.098203$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.098203$$

$$= 0.982034$$

c. Panjang gelombang 300 nm

$$\text{Abs x (EEX I)}$$

$$= 1.195 \times 0.2874$$

$$= 0.343443$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.343443$$

$$= 3.43443$$

d. Panjang gelombang 305 nm

$$\text{Abs x (EEX I)}$$

$$= 1.195 \times 0.3278$$

$$= 0.391721$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \times 0.391721$$

$$= 3.91721$$

e. Panjang gelombang 310 nm

$$\text{Abs x (EEX I)}$$

$$= 1.196 \times 0.1864$$

$$= 0.222934$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.222934$$

$$= 2.229344$$

f. Panjang gelombang 315 nm

$$\text{Abs x (EEX I)}$$

$$= 1.232 \text{ X } 0.0839$$

$$= 0.103365$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.103365$$

$$= 1.033648$$

g. Panjang gelombang 320 nm

$$\text{Abs x (EEX I)}$$

$$= 1.194 \text{ X } 0.018$$

$$= 0.021492$$

$$\text{CF X (Abs x EEx I)}$$

$$= 10 \text{ X } 0.021492$$

$$= 0.21492$$

Minyak Biji Labu Kuning Replikasi 2					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	1.228	0.015	0.01842	10	0.1842
295	1.214	0.0817	0.099184	10	0.991838
300	1.208	0.2874	0.347179	10	3.471792
305	1.209	0.3278	0.39631	10	3.963102



310	1.207	0.1864	0.224985	10	2.249848
315	1.195	0.0839	0.100261	10	1.002605
320	1.214	0.018	0.021852	10	0.21852
Total					12.08191

a. Panjang gelombang 290 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.228 \times 0.015$$

$$= 0.01842$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.01842$$

$$= 0.1842$$

b. Panjang gelombang 295 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.214 \times 0.0817$$

$$= 0.099184$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.099184$$

$$= 0.991838$$

c. Panjang gelombang 300 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.208 \times 0.2874$$

$$= 0.347179$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.347179$$

$$= 3.471792$$

d. Panjang gelombang 305 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.209 \times 0.3278$$

$$= 0.39631$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.39631$$

$$= 3.963102$$

e. Panjang gelombang 310 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.207 \times 0.1864$$

$$= 0.224985$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.224985$$

$$= 2.249848$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.195 \times 0.0839$$

$$= 0.100261$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.100261$$

$$= 1.002605$$

g. Panjang gelombang 320 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.214 \times 0.018$$

$$= 0.021852$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.021852$$

$$= 0.21852$$

Minyak Biji Labu Kuning Replikasi 3					
Panjang gelombang	absorbansi	EE X I	abs x (EEX I)	CF	HASIL
290	1.213	0.015	0.0182	10	0.18195
295	1.193	0.0817	0.09747	10	0.97468
300	1.195	0.2874	0.34344	10	3.43443
305	1.202	0.3278	0.39402	10	3.94016
310	1.183	0.1864	0.22051	10	2.20511
315	1.197	0.0839	0.10043	10	1.00428
320	1.201	0.018	0.02162	10	0.21618
Total					11.95679

a. Panjang gelombang 290 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.213 \times 0.015$$

$$= 0.0182$$

$$\text{CF} \times (\text{Abs} \times \text{EEx I})$$

$$= 10 \times 0.0182$$

$$= 0.18195$$

b. Panjang gelombang 295 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.193 \times 0.0817$$

$$= 0.09747$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.09747$$

$$= 0.97468$$

c. Panjang gelombang 300nm

$$Abs \times (EEX I)$$

$$= 1.195 \times 0.2874$$

$$= 0.34344$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.34344$$

$$= 3.43443$$

d. Panjang gelombang 305 nm

$$Abs \times (EEX I)$$

$$= 1.202 \times 0.3278$$

$$= 0.39402$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.39402$$

$$= 3.94016$$

e. Panjang gelombang 310 nm

$$Abs \times (EEX I)$$

$$= 1.183 \times 0.1864$$

$$= 0.22051$$

$$CF \times (Abs \times EEx I)$$

$$= 10 \times 0.22051$$

$$= 2.20511$$

f. Panjang gelombang 315 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.197 \times 0.0839$$

$$= 0.10043$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.10043$$

$$= 1.00428$$

g. Panjang gelombang 320 nm

$$\text{Abs} \times (\text{EEX I})$$

$$= 1.201 \times 0.018$$

$$= 0.02162$$

$$\text{CF} \times (\text{Abs} \times \text{EEX I})$$

$$= 10 \times 0.02162$$

$$= 0.2161$$

## Lampiran 13 SPSS

### 1. Karakteristik Fisik Sediaan

#### a. Daya lekat

#### Tests of Normality

	Kelompok_ daya lekat	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Daya lekat	Formula 1	.385	3	.	.750	3	.000
	formula 2	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Daya lekat	Based on Mean	.308	1	4	.609
	Based on Median	.000	1	4	1.000
	Based on Median and with adjusted df	.000	1	2.941	1.000
	Based on trimmed mean	.256	1	4	.640

### Test Statistics<sup>a</sup>

	Daya lekat
Mann-Whitney U	3.500
Wilcoxon W	9.500
Z	-.471
Asymp. Sig. (2-tailed)	.637
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>

a. Grouping Variable: Kelompok\_daya lekat

b. Not corrected for ties.

### b. Viskositas

#### Tests of Normality

	Kelompok	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Hasil Viskositas	Formula 1	.211	3	.	.991	3	.817
	formula 2	.267	3	.	.951	3	.576

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil Viskositas	Based on Mean	1.649	1	4	.268
	Based on Median	.522	1	4	.510
	Based on Median and with adjusted df	.522	1	2.777	.526
	Based on trimmed mean	1.547	1	4	.281

#### ANOVA

Hasil Viskositas					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1325400.000	1	1325400.000	4.200	.110
Within Groups	1262400.000	4	315600.000		
Total	2587800.000	5			

### c. pH

#### Tests of Normality

	Kelompok	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil pH	Formula 1	.385	3	.	.750	3	.000
	formula 2	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil pH	Based on Mean	.000	1	4	1.000
	Based on Median	.000	1	4	1.000
	Based on Median and with adjusted df	.000	1	4.000	1.000
	Based on trimmed mean	.000	1	4	1.000

### Test Statistics<sup>a</sup>

Hasil pH	
Mann-Whitney U	3.000
Wilcoxon W	9.000
Z	-.745
Asymp. Sig. (2-tailed)	.456
Exact Sig. [2*(1-tailed Sig.)]	.700 <sup>b</sup>

a. Grouping Variable: Kelompok

b. Not corrected for ties.

### d. Daya sebar

#### Tests of Normality

	Kelompok	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
hasil daya sebar	Formula 1	.248	3	.	.968	3	.658
	formula 2	.176	3	.	1.000	3	.983

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
hasil daya sebar	Based on Mean	.042	1	4	.847
	Based on Median	.002	1	4	.970
	Based on Median and with adjusted df	.002	1	3.903	.970
	Based on trimmed mean	.038	1	4	.855

#### ANOVA

hasil daya sebar	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.184	1	2.184	19.718	.011
Within Groups	.443	4	.111		
Total	2.627	5			

### e. SPF

#### Tests of Normality

	Kelompok TABIR SURYA	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
hasil SPF	minyak biji labu kuning	.284	3	.	.933	3	.499
	nanoemulsi minyak biji labu kuning	.237	3	.	.977	3	.708
	formula 1	.385	3	.	.750	3	.000
	formula 2	.177	3	.	1.000	3	.968

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
hasil SPF	Based on Mean	2.889	3	8	.102
	Based on Median	1.001	3	8	.441
	Based on Median and with adjusted df	1.001	3	4.365	.473
	Based on trimmed mean	2.718	3	8	.115

## Post Hoc Tests

### Multiple Comparisons

Dependent Variable: hasil SPF

LSD

(I) Kelompok TABIR SURYA	(J) Kelompok TABIR SURYA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	Lower Bound	Upper Bound
minyak biji labu kuning	nanoemulsi minyak biji labu kuning	1.93510*	.03693	.000	1.8499		
	formula 1	6.34473*	.03693	.000	6.2596		
	formula 2	5.78096*	.03693	.000	5.6958		
nanoemulsi minyak biji labu kuning	minyak biji labu kuning	-1.93510*	.03693	.000	-2.0203		
	formula 1	4.40963*	.03693	.000	4.3245		
	formula 2	3.84586*	.03693	.000	3.7607		
formula 1	minyak biji labu kuning	-6.34473*	.03693	.000	-6.4299		
	nanoemulsi minyak biji labu kuning	-4.40963*	.03693	.000	-4.4948		
	formula 2	-.56376*	.03693	.000	-.6489		
formula 2	minyak biji labu kuning	-5.78096*	.03693	.000	-5.8661		
	nanoemulsi minyak biji labu kuning	-3.84586*	.03693	.000	-3.9310		
	formula 1	.56376*	.03693	.000	.4786		

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

## Kruskal-Wallis Test

### Test Statistics<sup>a,b</sup>

hasil SPF	
Kruskal-Wallis H	10.421
df	3
Asymp. Sig.	.015

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok

TABIR SURYA



f. SPF krim Formula 1 dan 2

**Tests of Normality**

	kelompok_spf	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
hasil_spf	formula 1	.312	3	.	.895	3	.370
	formula 2	.177	3	.	1.000	3	.968

a. Lilliefors Significance Correction

**Test of Homogeneity of Variances**

		Levene	df1	df2	Sig.
		Statistic			
hasil_spf	Based on Mean	.434	1	4	.546
	Based on Median	.489	1	4	.523
	Based on Median and with adjusted df	.489	1	3.801	.525
	Based on trimmed mean	.441	1	4	.543

**ANOVA**

hasil_spf	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.474	1	.474	1617.811	.000
Within Groups	.001	4	.000		
Total	.475	5			

**Lampiran 14 Logbook penelitian**

**Tanggal Pengajuan : 05/10/2023**  
**Tanggal Acc judul : 09/10/2023**  
**Tanggal Selesai Proposal : 08/12/2023**  
**Tanggal Selesai Skripsi :**

No	Hari/Tgl	Keterangan	Dosen/MhS
1	Sabtu,14/10/2023 04:14:5	Bimbingan awal pra skripsi 17 September 2023 prosedur penyusunan proposal persyaratan proposal pencarian tema dan pustaka	Istianatus Sunnah, S.Farm., Apt., M.Sc
2	Sabtu,14/10/2023 04:16:18	Bimbingan judul dan tema penentuan tema penentuan pustaka metode yang digunakan 24 September 2023	Istianatus Sunnah, S.Farm., Apt., M.Sc
3	Sabtu,14/10/2023 04:17:39	Bimbingan proposal 1 menyusun latar belakang penentuan rumusan masalah	Istianatus Sunnah, S.Farm., Apt., M.Sc

		penentuan metode silakan revisi sesuai koreksi yang diberikan 14 Oktober 2023	
<b>4</b>	Jumat,08/12/2023 08:16:27	29 Oktober 2023 Bimbingan Revisi proposal Bab 1-3	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>5</b>	Jumat,08/12/2023 08:17:44	7 November 2023 Revisi Bab 1-3 Perbaiki naskah banyak yang typo narasi perbaiki bab 3 silakan perbaiki prosedur pengujian antioksidan DPPH	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>6</b>	Jumat,08/12/2023 08:18:47	18 November 2023 Bimbingan revisi bab 1-3 acc masuk lab perbaiki narasi dan pengujian yang saya catatkan	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>BIMBINGAN TA/SKRIPSI</b>			
<b>7</b>	Jumat,08/12/2023 09:03:15	Desember 2023 konsul hasil nano emulgel ukuran partikel 1097 nm. catatan merubah formulasi	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>8</b>	Senin,11/12/2023 03:03:03	10 Desember 2023 Perubahan Formulasi Nano emulsi Buat SMIX ( Surfaktan dan Ko surfaktan ) Pakai TWEEN 80 dan PEG 400 dengan perbandingan 5:1 dan 4:1 sebanyak 30 ml Formula Nano emulsi MBLK 8%, SMIX 34% Air 58% MBLK 16% SMIX 4% air 80% cek ukuran partikel, PDI dan bentuk pH	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>9</b>	Rabu,20/12/2023 10:23:22	Konsul hasil formulasi daya sebar dengan beban 250 gram dan massa 500 mg lebih dari 7 cm konsistensi agak cair viskositas 5000 (10 rpm, 1 menit) pH --- 6 acc ubah formula asam stearat jadi 18 gram glycerin ubah jadi 12 gram cek sifat fisik	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>10</b>	Sabtu,06/01/2024 12:51:38	Bimbingan ubah uji hasil antioksidan jelek ubah tabir surya <a href="https://drive.google.com/drive/folders/13ydAJeLxDtKmm4me3CXgMbkrY58gtECW?">https://drive.google.com/drive/folders/13ydAJeLxDtKmm4me3CXgMbkrY58gtECW?</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc

		usp=drive_link	
<b>11</b>	Selasa,23/ 01/2024 06:18:55	Konsul bab 1-5 abstrak masih belum sesuai pembahasan perbaiki. masih salah menghitung rata2 masih salah menginterpretasi data keterbatasan penelitian belum ada kesimpulan tidak sesuai	Istianatus Sunnah, S.Farm., Apt., M.Sc