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# LAMPIRAN

## Lampiran 1. Setrifikat Analisis Minyak Biji Anggur



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

### Certificate of Analysis

Product Name : **GRAPE SEED OIL**  
 Botanical Name : *Vitis vinifera*  
 Material Code : 180012  
 Batch No : 200821/177050  
 Appearance : Clear Mobile Liquid  
 Color : Colorless - Pale Yellow  
 Odor : Nearly Odorless  
 Plant Part : Seeds  
 Country of Origin : Argentina  
 Production Date : August 21, 2020  
 Packaging : 1 Bottles @1 Kg  
 Shelf Life : 24 Months in Fully Sealed Containers

### Technical Analysis:

Test Item	Specification	Result
Density (@20°C)	0.9066 – 0.9370	0.9213
Specific Gravity (@20° C)	0.9083 – 0.9387	0.9230
Refractive Index (@20°C)	1.4609 – 1.4913	1.4757
Flash Point (°C)	264.00	Conform
Acid Value (Mg/g)	≤ 3.00	Conform
Peroxide Value (Mmol/Kg)	≤ 6.00	Conform
Solubility	Soluble in Ethanol. Insoluble in Water	Conform

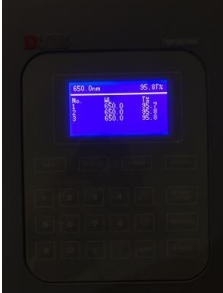

Storage Condition : Store unopened containers with temperature between 10°C to 25°C

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### **DISCLAIMER:**

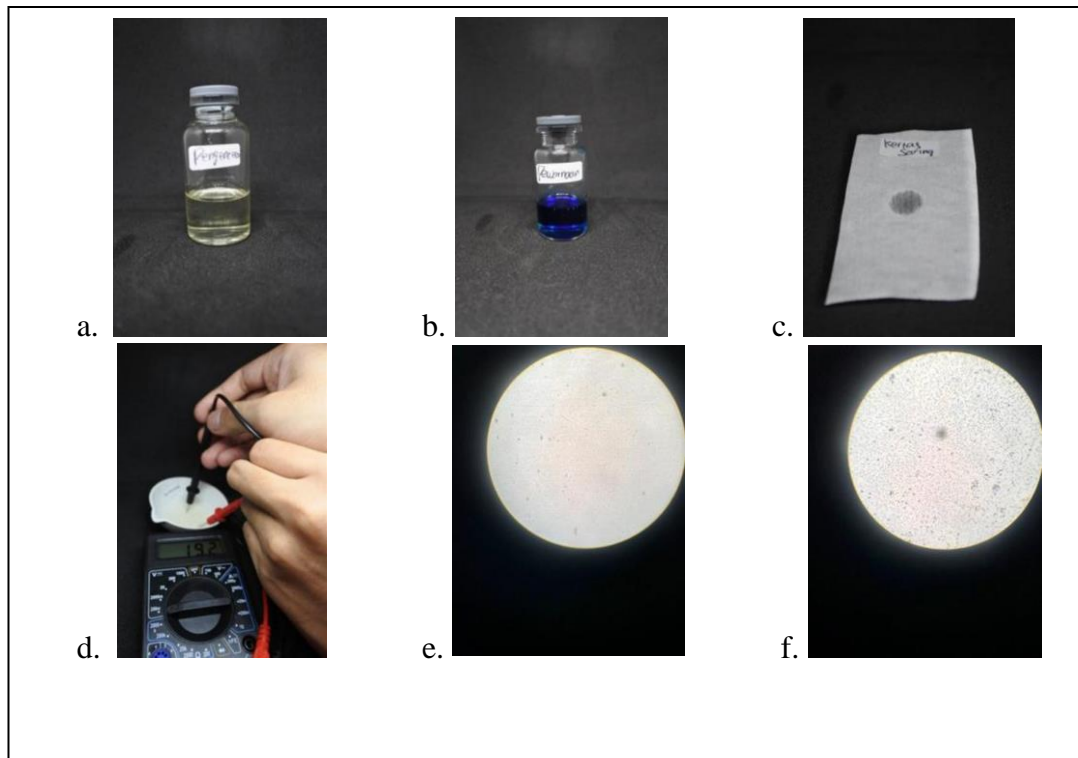
The information contained in this Certificate of Analysis is obtained from current and reliable sources. The information is correct at the time of testing, and the results may vary depending on batch and time of testing. Happy Green shall not be liable for any errors or delays in the content, or for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

**Lampiran 2.** Hasil Uji %*Transmittan* dan Efek *Tyndall* Mikroemulsi Minyak Biji Anggur

Uji % <i>Transmittan</i>	Uji Efek <i>Tyndall</i>
	

**Lampiran 3.** Hasil Uji Viskositas dan Efek *Tyndall* Mikroemulsi Minyak Biji Anggur

Uji	Tampilan
Viskositas	



**Lampiran 4.** Hasil Uji Tipe Mikroemulsi Minyak Biji Anggur

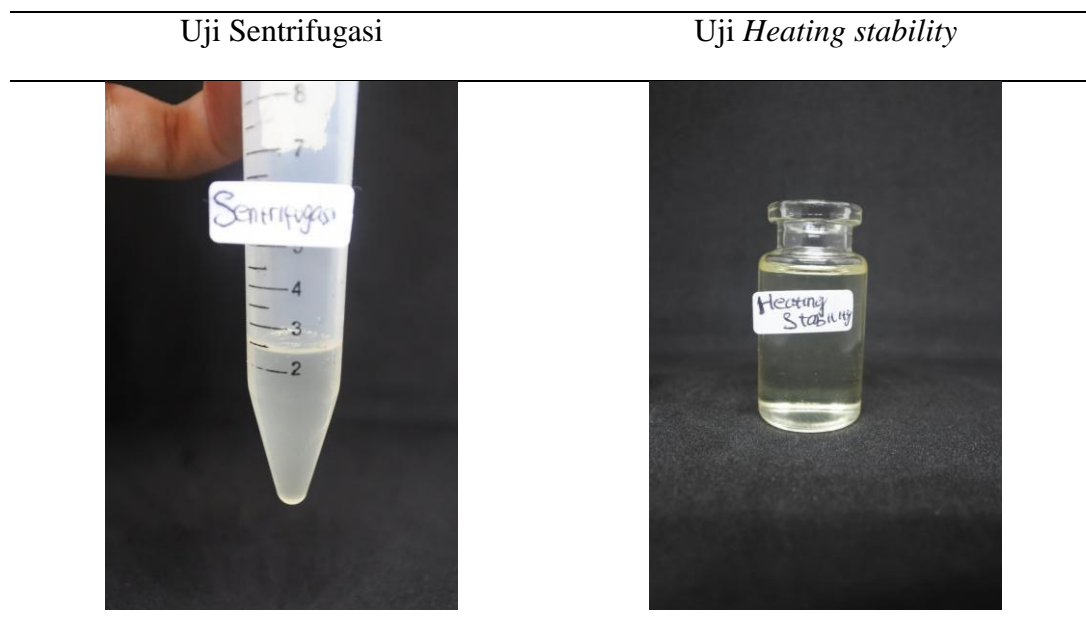
Keterangan :

- a) Metode Pengenceran
- b) Metode Pewarnaan
- c) Metode Kertas Saring
- d) Metode Konduktivitas
- e) Metode Mikroskopik perbesaran 4x
- f) Metode Mikroskopik perbesaran 10

**Lampiran 5.** Hasil Uji pH Mikroemulsi Minyak Biji Anggur

Uji	Tampilan
pH Mikroemulsi	

### Lampiran 6. Hasil Uji Sentrifugasi dan *Heating stability* Mikroemulsi Minyak Biji Anggur









### Lampiran 7. Hasil Uji Organoleptis Mikroemulsi Gel Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Kondisi	Formula	Parameter			
		Warna	Aroma	Pemisahan Fase	Bentuk
Sebelum Freeze-Thaw	A1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	A2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	A3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
Sesudah Freeze-Thaw	A1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	A2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	A3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	B3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C1	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C2	Putih Translucent	Khas	Tidak Terjadi	Semi Padat
	C3	Putih Translucent	Khas	Tidak Terjadi	Semi Padat



**Lampiran 8.** Hasil Uji Daya Sebar Mikroemulsi Gel Minyak Biji Anggur  
Sebelum dan Sesudah *Freeze-Thaw*

Beban	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
Tanpa Beban		
Beban 50g		
Beban 100g		
Beban 150g		

**Lampiran 9.** Data Hasil Uji Daya Sebar Mikroemulsi Gel Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Bedan (gram)	Diameter Penyebaran		Daya Sebar	
		(cm)		(g.cm/sec)	
		Sesudah	Sebelum	Sesudah	Sebelum
A1	Tanpa beban	5,1	5,3	0	0
	50	5,1	5,3	4,25	4,41
	100	5,2	5,4	8,67	9
	150	5,5	5,5	13,75	13,75
A2	Tanpa beban	4,2	4,4	0	0
	50	4,5	4,5	3,75	13,75
	100	4,8	5,0	8	8,33
	150	4,9	5,2	12,22	13
A3	Tanpa beban	4,1	4,3	0	0
	50	4,3	4,4	3,58	3,66
	100	4,6	4,8	7,66	8
	150	4,7	4,8	11,75	12
B1	Tanpa beban	8,4	9,3	0	0
	50	8,5	9,4	7,88	8,33
	100	8,7	9,5	14,5	15,83
	150	8,7	9,6	21,75	24
B2	Tanpa beban	6,2	6,4	0	0
	50	6,8	6,9	5,67	5,75
	100	7,0	7,1	11,66	11,84
	150	7,6	7,9	19	19,75
B3	Tanpa beban	5,3	5,5	0	0
	50	5,5	5,6	4,66	4,66
	100	5,8	5,9	9,66	9,83
	150	6,3	6,5	15,8	16,25
C1	Tanpa beban	10,0	10,4	0	0

	50	11,4	11,6	9,5	9,66
	100	12,7	12,9	21,16	20,83
	150	13,5	13,7	33,75	31,75
C2	Tanpa beban	8,2	8,4	0	0
	50	9,2	9,4	7,66	7,83
	100	9,5	10,5	15,83	17,5
	150	10,4	10,5	26	26,25
C3	Tanpa beban	8,0	8,2	0	0
	50	8,9	8,9	7,41	7,41
	100	9,1	9,2	15,16	15,33
	150	9,5	9,7	23	24,25

Perhitungan Uji Daya Sebar Mikroemulsi Gel Minyak Biji Anggur

$$\text{Daya sebar } S = \frac{M \times L}{T}$$

Diketahui :

- S = Daya sebar (g.cm/detik)  
M = Beban tambahan yang digunakan (g)  
L = Diameter sebar (cm)  
T = Waktu (detik)

SEBELUM	A1	A2	A3	B1	B2	B3	C1	C2	C3
Tanpa Beban	0	0	0	0	0	0	0	0	0
Beban 50	4.41	3.75	3.66	8.33	5.75	4.66	9.66	7.83	7.41
Beban 100	9	8.33	8	15.83	11.84	9.83	20.83	17.5	15.33
Beban 150	13.75	13	12	24	19.75	16.25	31.75	26.25	24.25
Rata-rata	6.79	6.27	5.915	12.04	9.335	7.685	15.56	12.895	11.7475







SESUDAH	A1	A2	A3	B1	B2	B3	C1	C2	C3
Tanpa Beban	0	0	0	0	0	0	0	0	0
Beban 50	4.25	3.75	3.58	7.88	5.67	4.66	9.5	7.66	7.41
Beban 100	8.67	8	7.66	14.5	11.66	9.66	21.16	15.83	15.16
Beban 150	13.75	12.22	11.75	21.75	19	15.8	33.75	26	23
Rata-rata	6.6675	5.9925	5.7475	11.0325	9.0825	7.53	16.1025	12.3725	11.3925











**Lampiran 10.**Data Analisis Menggunakan Anova *Single Factor* Uji Daya Sebar Mikroemulsi Gel Minyak Biji Anggur

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.298378	1	0.298378	0.025248	0.875739	4.493998
Within Groups	189.0874	16	11.81796			
Total	189.3857	17				

**Lampiran 11.**Hasil Uji Viskositas Mikroemulsi Gel Mikroemulsi Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
A1		
A2		
A3		

B1		
B2		
B3		
C1		
C2		



**Lampiran 12.**Data Hasil Uji Viskositas Sebar Mikroemulsi Gel Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum <i>Freeze-Thaw</i>	Sesudah <i>Freeze-Thaw</i>
A1	3924	3980
A2	3972	3980
A3	3976	3980
B1	1728	1736
B2	3980	3956
B3	3980	3980
C1	300	320
C2	352	376
C3	828	908

Perhitungan Uji Viskositas Mikroemulsi Gel Minyak Biji Anggur  
Konversi viskositas dari mPa.s ke Cp (sentipoise)

$$1 \text{ Poise} = 100 \text{ cP}$$

$$1 \text{ mPa.s} = \frac{1}{1000} \text{ PaS}$$

$$\text{Pascal Second} = \frac{\text{N.S}}{\text{m}^2} \text{ (satuan)}$$

$$\text{Poise} = \frac{\text{dyne second}}{\text{cm}^2}$$

$$1 \text{ Poise} = 10^{-1} \text{ Ns/m}^2 = 1 \text{ dyne second/cm}^2$$

$$1 \text{ mPa.s} = \frac{1}{1000} \text{ PaS}$$

$$3924 \text{ mPa.s} = \frac{3924}{1000} \text{ PaS}$$

$$3924 \text{ mPa.s} = \frac{3924}{1000} \text{ PaS} \times 1000 \text{ cP} = 3924 \text{ cP}$$

Sebelum *Freeze-thaw*

Visko	A1	A2	A3	B1	B2	B3	C1	C2	C3
R1	3924	3927	3975	1727	3980	3980	300	351	828
R2	3923	3928	3976	1729	3979	3981	301	353	829
R3	3925	3926	3978	1728	3981	3979	299	352	827
Rata-rata	3924	3927	3976	1728	3980	3980	300	352	828
SD	0.8164	0.8164	1.2472	0.8164	0.8164	0.8164	0.8164	0.8164	0.8164
CV%	0.0002	0.0002	0.0003	0.0004	0.0002	0.0002	0.0027	0.0023	0.0009

Sesudah *Freeze-thaw*

Visko	A1	A2	A3	B1	B2	B3	C1	C2	C3
R1	3980	3979	3981	1738	3956	3999	3979	320	909
R2	3981	3981	3979	1735	3957	3981	3981	321	908
R3	3979	3980	3980	1736	3955	3980	3980	319	907
Rata-rata	3980	3980	3980	1736	3956	3986	3980	320	908
SD	0.8164	0.8164	0.8164	1.2472	0.8164	8.7305	0.8164	0.8164	0.8164
CV%	0.0002	0.0002	0.0003	0.0004	0.0002	0.0002	0.0027	0.0023	0.0009

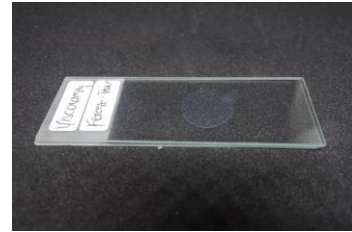
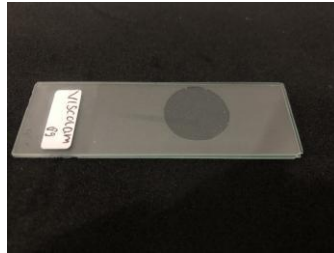
**Lampiran 13.** Data Analisis Menggunakan Anova *Single Factor* Uji Viskositas Mikroemulsi Gel Minyak Biji Anggur

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2705.2916	06	2705.2916	0.0009278	0.9760760	4.4939984
Within Groups	46649176.	18	2915573.5	76	82	78
Total	46651881.	47	17			

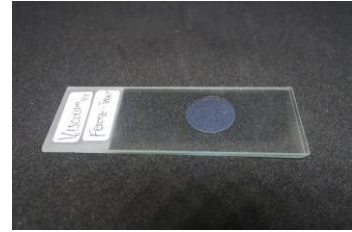
**Lampiran 14.** Hasil Uji Homogenitas Mikroemulsi Gel Mikroemulsi Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
A1		

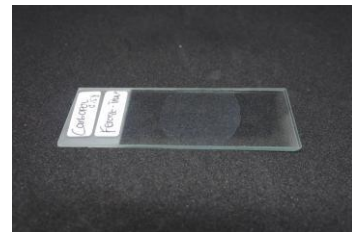
A2



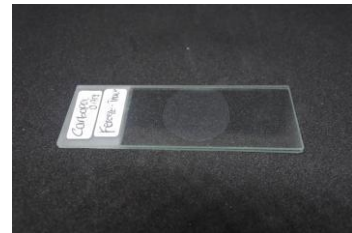
A3



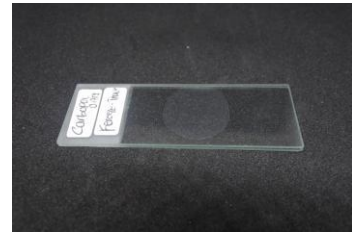
B1



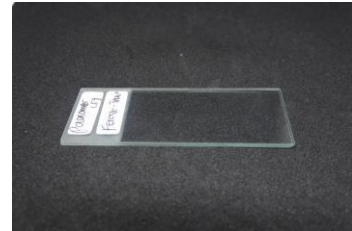
B2



B3

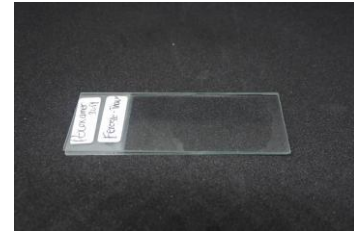
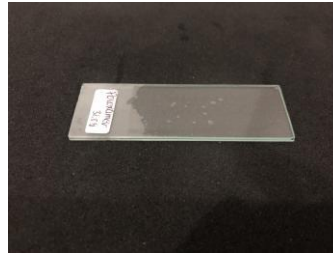


C1

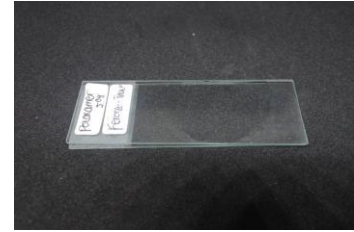
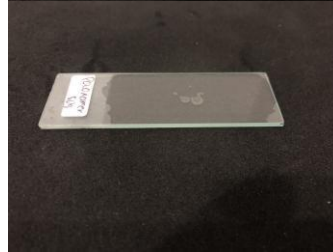




C2



C3



**Lampiran 15.** Hasil Uji pH Mikroemulsi Gel Mikroemulsi Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
A1	A yellow digital pH meter is shown in a glass beaker. The LCD screen displays the number 6.38. The meter is labeled 'pH' at the top and 'ATC' at the bottom.	A yellow digital pH meter is shown in a glass beaker. The LCD screen displays the number 6.38. The meter is labeled 'pH' at the top and 'ATC' at the bottom.
A2	A yellow digital pH meter is shown in a glass beaker. The LCD screen displays the number 6.38. The meter is labeled 'pH' at the top and 'ATC' at the bottom.	A yellow digital pH meter is shown in a glass beaker. The LCD screen displays the number 6.38. The meter is labeled 'pH' at the top and 'ATC' at the bottom.

A3



B1



B2



B3



C1



C2



C3



## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0410888	1	0.0410888	0.2071346	0.6551374	4.4939984
Within Groups	3.1738888	16	0.1983680	05	67	78
Total	3.2149777	17				



**Lampiran 17.** Data Analisis Menggunakan Anova *Single Factor* Uji pH Mikroemulsi Gel Minyak Biji Anggur

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0410888	1	0.0410888	0.2071346	0.6551374	4.4939984
Within Groups	3.1738888	16	0.1983680			
Total	3.2149777	17				



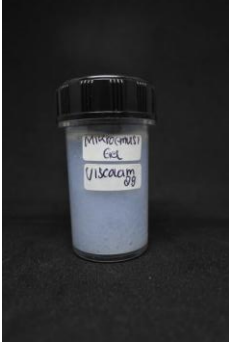

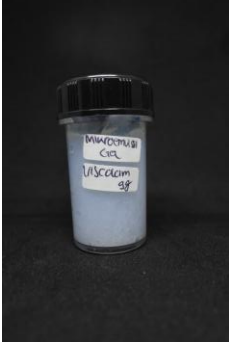

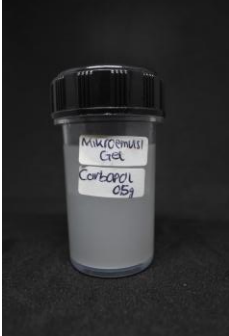

**Lampiran 18.** Data Hasil Uji Daya Lekat Mikroemulsi Gel Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Daya lekat (Detik)	
	Sebelum	Sesudah
A1	00:03.90	00:04.06
A2	00:04.06	00:04.10
A3	00:04.01	00:04.13
B1	00:02.33	00:02.70
B2	00:04.13	00:04.06
B3	00:04.06	00:04.36
C1	00:00.75	00:00.77
C2	00:00.82	00:00.88
C3	00:01.15	00:01.27

**Lampiran 19.** Data Analisis Menggunakan Anova *Single Factor* Uji Daya Lekat Mikroemulsi Gel Minyak Biji Anggur

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0696888	1	0.0696888	0.0295225	0.8657324	4.4939984
Within Groups	37.768511	16	2.3605319	36	83	78
Total	37.8382	17				

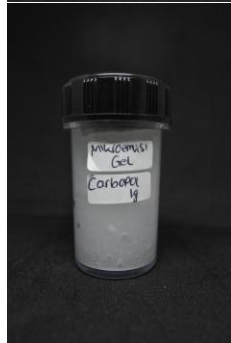
**Lampiran 20.** Hasil Uji *Heating Stability* Mikroemulsi Gel Mikroemulsi Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
A1		
A2		
A3		
B1		

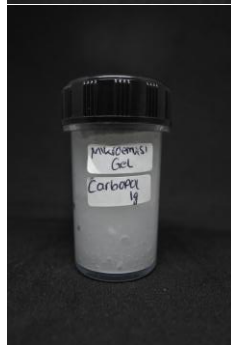
B2



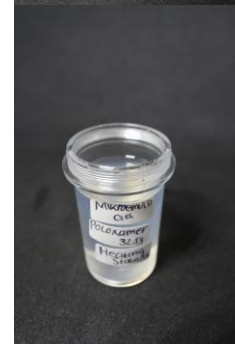
B3



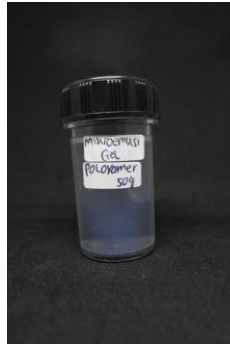
C1



C2



C3

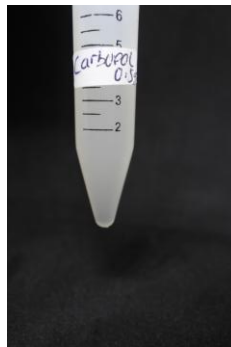


**Lampiran 21.** Hasil Uji *Sentrifugasi* Mikroemulsi Gel Mikroemulsi Minyak Biji Anggur Sebelum dan Sesudah *Freeze-Thaw*

Formula	Sebelum Uji Stabilitas <i>Freeze-Thaw</i>	Sesudah Uji Stabilitas <i>Freeze-Thaw</i>
A1	A clear plastic vial with a white label that reads "VISCOLAM 77". The vial contains a clear, colorless liquid.	A clear plastic vial with a white label that reads "VISCOLAM 77". The vial contains a clear, colorless liquid.
A2	A clear plastic vial with a white label that reads "VISCOLAM 89". The vial contains a clear, colorless liquid.	A clear plastic vial with a white label that reads "VISCOLAM 89". The vial contains a clear, colorless liquid.
A3	A clear plastic vial with a white label that reads "VISCOLAM 99". The vial contains a clear, colorless liquid.	A clear plastic vial with a white label that reads "VISCOLAM 99". The vial contains a clear, colorless liquid.



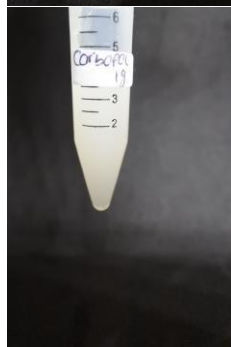
B1



B2



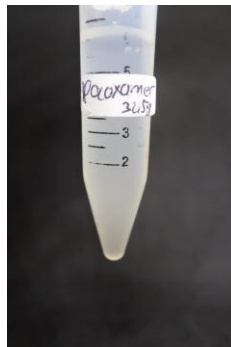
B3



C1



C2



C3



Lampiran 22. Hasil Uji PSA (Particle Size Analyzer) Replikasi 1

**Intensity Peak Statistics**

v2.1



**Sample Details**

Name: 0726 M Guesvidha\_Mikroemulsi 1  
 Filename: Juli 2022.dts  
 Operator: Lambda 365

Date and Time: Tuesday, July 26, 2022 3:28:25 PM  
 SOP: mansettings.nano

**Cumulant Results**

Z-Avg (nm): 15.44  
 Pd Index: 0.105  
 Pd (nm): 5.0  
 %Pd: 32.5

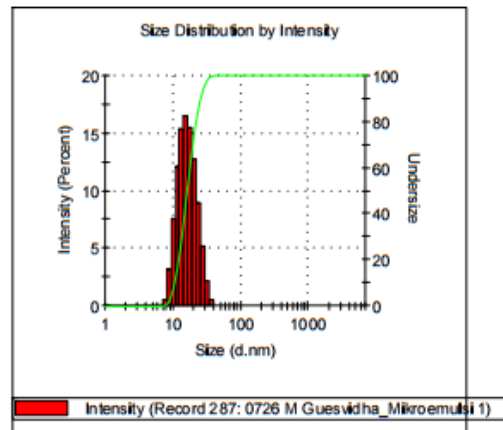
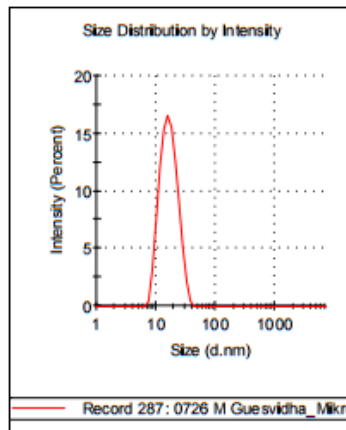
Derived kcps: 15156.2

**Distribution Results**

Size (d.nm):	% Int	$\sigma$	%Pd
Peak 1: 17.15	100.0	2.751	33.3
Peak 2: 0.000	0.0	0.000	0
Peak 3: 0.000	0.0	0.000	0

**Undersize Results**

DI (%)	Size (d.nm):
10	10.5
50	16.2
90	25.6
100	43.8



Size d.nm	Mean Intensity Percent	Std Dev Intensity Percent	Size d.nm	Mean Intensity Percent	Std Dev Intensity Percent	Size d.nm	Mean Intensity Percent	Std Dev Intensity Percent
0.4000	0.0		13.54	15.3		458.7	0.0	
0.4632	0.0		15.69	16.5		531.2	0.0	
0.5365	0.0		18.17	15.5		615.1	0.0	
0.6213	0.0		21.04	12.7		712.4	0.0	
0.7195	0.0		24.36	8.9		825.0	0.0	
0.8332	0.0		28.21	5.1		955.4	0.0	
0.9649	0.0		32.67	2.2		110.6	0.0	
1.1117	0.0		37.84	0.5		1281	0.0	
1.294	0.0		43.82	0.0		1484	0.0	
1.499	0.0		50.75	0.0		1718	0.0	
1.736	0.0		58.77	0.0		1990	0.0	
2.010	0.0		68.06	0.0		2305	0.0	
2.328	0.0		78.82	0.0		2669	0.0	
2.696	0.0		91.28	0.0		3091	0.0	
3.122	0.0		105.7	0.0		3580	0.0	
3.615	0.0		122.4	0.0		4145	0.0	
4.187	0.0		141.8	0.0		4801	0.0	
4.849	0.0		164.2	0.0		5560	0.0	
5.615	0.0		190.1	0.0		6439	0.0	
6.503	0.0		220.2	0.0		7456	0.0	
7.531	0.5		255.0	0.0		8635	0.0	
8.721	3.2		295.3	0.0		1.000e+4	0.0	
10.10	7.5		342.0	0.0				
11.70	12.0		396.1	0.0				

Lampiran 23. Hasil Uji PSA (Particle Size Analyzer) Replikasi 2

**Intensity Peak Statistics**  
v2.1

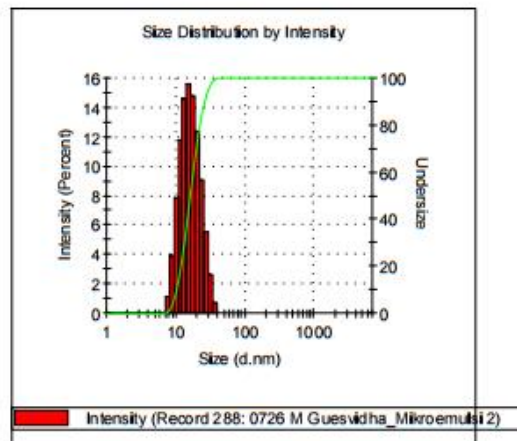
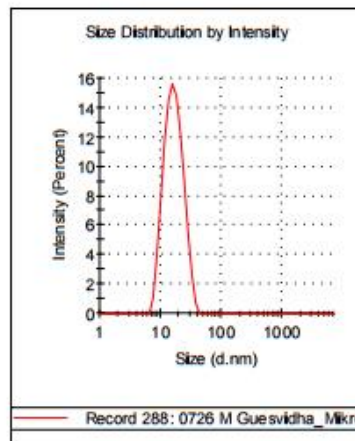


**Sample Details**

Name: 0726 M Guesvidha\_Mikroemulsi 2  
 Filename: Juli 2022.dts  
 Operator: Lambda 365

Date and Time: Tuesday, July 26, 2022 3:30:58 PM  
 SOP: mansettings.nano

Cumulant Results	Distribution Results	Undersize Results
Z-Avg (nm): 15.30	Size (d.nm):	DI (%) Size (d.nm):
Pd Index: 0.113	Peak 1: 17.21 100.0 2.695 35.1	10 10.3
Pd (nm): 5.1	Peak 2: 0.000 0.0 0.000 0	50 16.2
%Pd: 33.6	Peak 3: 0.000 0.0 0.000 0	90 26.2
Derived kcps: 15632.7		100 43.8



Size (um)	Mean Intensity Percent	Std Dev Intensity Percent	Size (um)	Mean Intensity Percent	Std Dev Intensity Percent	Size (um)	Mean Intensity Percent	Std Dev Intensity Percent
0.4000	0.0		13.54	14.5		458.7	0.0	
0.4632	0.0		15.69	15.6		531.2	0.0	
0.5366	0.0		18.17	14.8		615.1	0.0	
0.6213	0.0		21.04	12.4		712.4	0.0	
0.7196	0.0		24.36	9.1		825.0	0.0	
0.8332	0.0		28.21	5.6		955.4	0.0	
0.9649	0.0		32.67	2.6		1106	0.0	
1.117	0.0		37.84	0.7		1281	0.0	
1.294	0.0		43.82	0.0		1484	0.0	
1.499	0.0		50.75	0.0		1718	0.0	
1.736	0.0		58.77	0.0		1990	0.0	
2.010	0.0		68.06	0.0		2305	0.0	
2.328	0.0		78.62	0.0		2669	0.0	
2.696	0.0		91.23	0.0		3091	0.0	
3.122	0.0		105.7	0.0		3580	0.0	
3.615	0.0		122.4	0.0		4145	0.0	
4.187	0.0		141.8	0.0		4801	0.0	
4.849	0.0		164.2	0.0		5560	0.0	
5.615	0.0		190.1	0.0		6439	0.0	
6.503	0.0		220.2	0.0		7456	0.0	
7.531	1.1		255.0	0.0		8635	0.0	
8.721	4.0		295.3	0.0		1.000e4	0.0	
10.10	7.9		342.0	0.0				
11.70	11.8		396.1	0.0				

Lampiran 24. Hasil Uji PSA (Particle Size Analyzer) Replikasi 3

**Intensity Peak Statistics**

v2.1



**Sample Details**

Name: 0726 M Guesvidha\_Mikroemulsi 3  
 Filename: Juli2022.dts  
 Operator: Lambda 365

Date and Time: Tuesday, July 26, 2022 3:33:31 PM  
 SOP: mansettings.nano

**Cumulant Results**

Z-Avg (nm): 15.37  
 Pd Index: 0.121  
 Pd (nm): 5.3  
 %Pd: 34.8

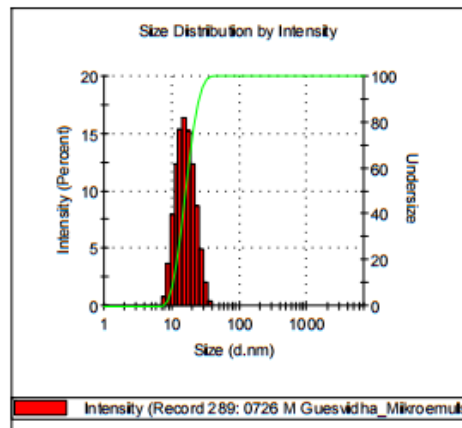
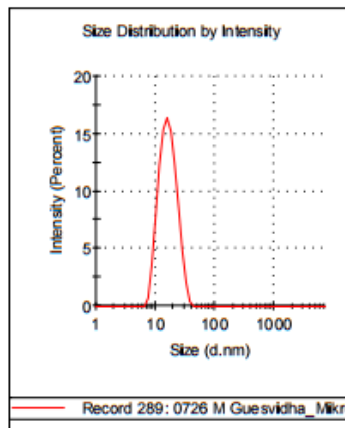
Derived kcps: 14944.4

**Distribution Results**

Size (d.nm):	% Int	$\sigma$	%Pd
Peak 1: 16.96	100.0	2.712	33.6
Peak 2: 0.000	0.0	0.000	0
Peak 3: 0.000	0.0	0.000	0

**Undersize Results**

DI (%)	Size (d.nm):
10	10.4
50	16.0
90	25.3
100	43.8



Size (d.nm)	Mean Intensity Percent	Std Dev Intensity Percent	Size (d.nm)	Mean Intensity Percent	Std Dev Intensity Percent	Size (d.nm)	Mean Intensity Percent	Std Dev Intensity Percent
0.4000	0.0		13.54	15.4		458.7	0.0	
0.4632	0.0		15.69	16.4		531.2	0.0	
0.5305	0.0		18.17	15.2		615.1	0.0	
0.6213	0.0		21.04	12.4		712.4	0.0	
0.7195	0.0		24.36	8.6		825.0	0.0	
0.8332	0.0		28.21	4.9		955.4	0.0	
0.9649	0.0		32.67	2.0		110.6	0.0	
1.117	0.0		37.84	0.4		128.1	0.0	
1.294	0.0		43.82	0.0		148.4	0.0	
1.499	0.0		50.75	0.0		171.8	0.0	
1.736	0.0		58.77	0.0		199.0	0.0	
2.010	0.0		68.06	0.0		230.5	0.0	
2.328	0.0		78.82	0.0		266.9	0.0	
2.696	0.0		91.28	0.0		309.1	0.0	
3.122	0.0		105.7	0.0		358.0	0.0	
3.615	0.0		122.4	0.0		414.5	0.0	
4.187	0.0		141.8	0.0		480.1	0.0	
4.849	0.0		164.2	0.0		556.0	0.0	
5.615	0.0		190.1	0.0		643.9	0.0	
6.503	0.0		220.2	0.0		745.6	0.0	
7.531	0.7		255.0	0.0		863.5	0.0	
8.721	3.6		295.3	0.0		1,000e+4	0.0	
10.10	8.0		342.0	0.0				
11.70	12.3		396.1	0.0				