LAMPIRAN

Lampiran 1. COA Minyak Biji Anggur

江西亿森源植物香料有限公司
JIANGXI YISENYUAN PLANT SPICES CO.,LTD

ADD:River East Large Road,New Industrial Park ,Qing-Yuan District, Ji' an City,Jiangxi Province,China. Zip Code:343000
Tel:0796-8185966 Fax:0796-8185958 Website:http://jxysy.en.alibaba.com

CERTIFICATE OF ANALYSIS

Product Name	Grape Seed Oil	Packing	1kg/25kg/50kg package
Batch #	20200509	CAS	85594-37-2
Analysis Date	9th May,2020	Report Date	9th May,2020

Test items	Specification	Results
Appearance	yellow or yellowish green oily liquid	Complies
Odor	Has a very light grape seed taste	Complies
Relative Density（25/25℃）	0.9160~0.9260	0.9221
Refractive Index（20℃）	1.4670~1.4770	1.4754
Saponification Value	188~194mg/g	Complies
Iodine Value	128~150g/100g	Complies
Content	Vitamin E, linoleic acid, oleic acid and other unsaturated fatty acids	99.68%
Conclusion	This product is tested according to Enterprises Standard, and complies with the regulations.	

Storage: Stored in cool and dry place.
Shelf life: 2 years when properly stored.

Tested by: Cheng Gong Approved by: Zhihuang Li

Lampiran 2. COA DPPH

Sigma-Aldrich

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigma-aldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name :	**2,2-Diphenyl-1-picrylhydrazyl**
Product Number :	**D9132-1G**
Batch Number :	**0000176113**
Source Batch :	0000163336
CAS Number :	1898-66-4
Storage Temperature :	Cooler/Refrigerated
Molecular Formula :	$C_{18}H_{12}N_5O_6$
Formula Weight :	394.32
Recommended Retest Date :	Apr 2025
Quality Release Date :	13 Apr 2022

Test	Specification	Result
Appearance (Color) Green to Very Dark Green and Black	Conforms to Requirements	Black
Appearance (Form)	Powder	Powder
Solubility (Color) 50MG/ML, CHCL3	Dark Purple	Dark Purple
Carbon Content	51,5 - 58,1 %	53,0 %
Nitrogen Content	15,8 - 18,8 %	16,9 %
Infrared Spectrum	Conforms to Structure	Conforms
Recommended Retest Period 3 YEARS	———	———

Pramod Kadam(PhD),Manager
Analytical
Bangalore
IN

Version Number: 01 Doc: 1082130

Lampiran 3. COA Cholesterol

Sigma-Aldrich.

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Cholesterol - from sheep wool, ≥92.5% (GC), powder

Product Number:	**C8503**
Batch Number:	**SLCP3471**
Brand:	SIGMA
CAS Number:	57-88-5
MDL Number:	MFCD00003646
Formula:	C27H46O
Formula Weight:	386.65 g/mol
Quality Release Date:	09 SEP 2022
Recommended Retest Date:	SEP 2025

Test	Specification	Result
Appearance (Color)	White to Off White	White
Appearance (Form)	Powder	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Solubility Solubility in Alcohol Current NF	Pass	Pass
Residue on ignition (Ash) Current NF	≤ 0.1 %	0.0 %
Acidity Current NF	Pass	Pass
Loss on Drying Current NF	≤ 0.3 %	0.0 %
Specific Rotation (c = 2, 1,4-Dioxane, 25 deg C) Current NF	-38 - -34 °	-35 °
Purity (GC)	≥ 92.5 %	94.2 %

Brian Dulle, Supervisor
Quality Assurance
St. Louis, Missouri US

Lampiran 4. COA Kloroform

Certificate of Analysis

1.02445.2500 Chloroform for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch K53709545

	Spec. Values		Batch Values	
Purity (GC)	99.0 - 99.4	%	99.2	%
Assay (according to ACS)	≥ 99.8	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	clear		clear	
Color	≤ 10	Hazen	< 5	Hazen
Free acid (as HCl)	≤ 0.0002	%	< 0.0001	%
Density (d 20 °C/20 °C)	1.475 - 1.481		1.481	
Boiling point	60 - 62	°C	61	°C
Acid and chloride	conforms		conforms	
Chloride (Cl)	≤ 0.00002	%	≤ 0.00002	%
Free chlorine	≤ 0.00003	%	≤ 0.00003	%
Carbonyl compounds (as CO)	≤ 0.005	%	≤ 0.005	%
Readily carbonizable substances	conforms		conforms	
Ethanol (GC)	0.6 - 1.0	%	0.8	%
Dichloromethane (GC)	≤ 0.01	%	< 0.01	%
Carbon tetrachloride (GC)	≤ 0.01	%	< 0.01	%
Tetrachloroethylene (GC)	≤ 0.01	%	< 0.01	%
Trichloroethylene (GC)	≤ 0.01	%	< 0.01	%
Related substances (GC)	≤ 0.7	%	< 0.7	%
Aldehydes and ketones (as C_3H_6O)	≤ 0.001	%	≤ 0.001	%
Suitability for determination with dithizone	conforms		conforms	
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
B (Boron)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%
Cd (Cadmium)	≤ 0.000005	%	≤ 0.000005	%
Co (Cobalt)	≤ 0.000002	%	≤ 0.000002	%
Cr (Chromium)	≤ 0.000002	%	≤ 0.000002	%
Cu (Copper)	≤ 0.000002	%	≤ 0.000002	%
Fe (Iron)	≤ 0.00001	%	≤ 0.00001	%
Mg (Magnesium)	≤ 0.00001	%	≤ 0.00001	%
Mn (Manganese)	≤ 0.000002	%	≤ 0.000002	%
Mo (Molybdenum)	≤ 0.000002	%	≤ 0.000002	%
Ni (Nickel)	≤ 0.000002	%	≤ 0.000002	%
Pb (Lead)	≤ 0.000005	%	≤ 0.000005	%
Sn (Tin)	≤ 0.00001	%	≤ 0.00001	%
Zn (Zinc)	≤ 0.00001	%	≤ 0.00001	%
Evaporation residue	≤ 0.001	%	< 0.001	%
Water	≤ 0.01	%	< 0.01	%

Stabilized with 0,6-1,0% Ethanol

Merck KGaA, Frankfurter Straße 250, 64293 Darmstadt (Germany): +49 6151 72-0
EMD Millipore Corporation - a subsidiary of Merck KGaA, Darmstadt, Germany
400 Summit Drive, Burlington, MA 01803, USA, Phone +1 (781) 533-6000

Lampiran 5. COA Etanol pa

PT. SMART LAB INDONESIA

MANUFACTURER OF ANALYTICAL REAGENTS

F/QCL/009 Rev.02

CERTIFICATE OF ANALYSIS

Product Name : Ethanol (Absolute) AR

Mol. Formula : C_2H_5OH

Mol. Weight : 46.07 g/mol

Catalog No. : A-1035

Cas No : 64-17-5

Batch No. : 300823013

Mfg. Date : August, 2023

Exp. Date : August, 2028

Recommended for a plastic container for 6 month from the date of pouring (Expiry date corresponding to label)

NO.	TESTS	UNITS	SPECIFICATIONS	RESULTS
1.	Appearance	–	Clear colorless liquid	Clear colorless liquid
2.	Assay (Alcoholmeter)	wt %	min 99.7	99.956
3.	Wt. Per ml at 20 °C	g/cm^3	0.789 – 0.792	0.790
4.	Colour	Hazen	max 10	< 10
5.	Refractive Index	$n^{20}D$	1.358 – 1.363	1.359
6.	Water (H_2O)	wt %	max 0.2	0.1457
7.	Non-volatile matter	wt %	max 0.001	0.00059
8.	Acidity (CH_3COOH)	wt %	max 0.0006	0.00032
9.	Alkalinity (NH_3)	wt %	max 0.0002	0.00010
10.	Acetone, isopropyl alcohol	–	passes test	passes test
11.	Methanol (CH_3OH)	wt %	max 0.1	NIL
12.	Iron (Fe)	wt %	max 0.00002	< 0.00002
13.	Lead (Pb)	wt %	max 0.00005	< 0.00005
14.	Solubility in water	–	passes test	passes test
15.	Substances darkened (by H_2SO_4)	–	passes test	passes test
16.	Substances Reducing $KMnO_4$	–	passes test	passes test

Result: The above product corresponds to AR Grade

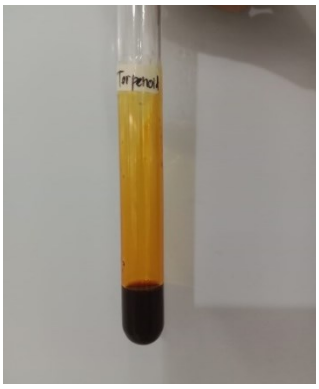
Reference or standard of product specification to Analar standard and ACS specification

PT. SMART LAB INDONESIA

Yuvraj Sagvekar
Manager QC

Ruko Boulevard Taman Tekno Blok E No. 9 - 11 BSD, Serpong, Tangerang Selatan Indonesia
Telp: (62-21) 7588 0205, F a x : (62-21) 7588 0198
Email: sales@smartlab.co.id, Website: www.smartlab.co.id

Lampiran 6. Hasil Skrining Fitokimia

 Minyak Biji Anggur	 Positif Senyawa Polifenol
 Positif Senyawa terpenoid	 Positif Senyawa Flavonoid

Lampiran 7. Pembuatan Nanoliposom

Proses Hidrasi Lapis Tipis

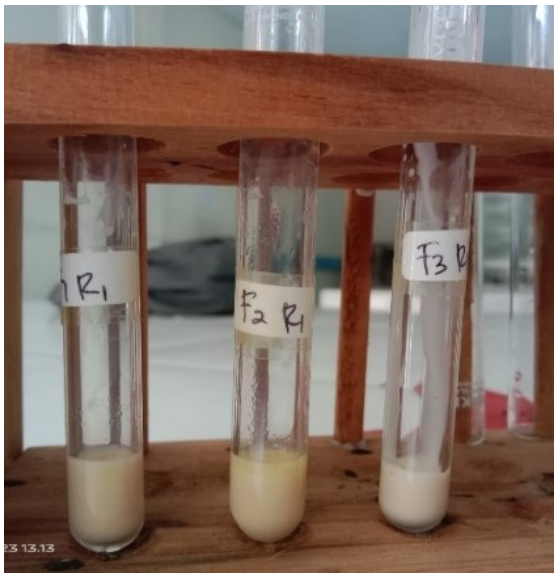
Ultraturax

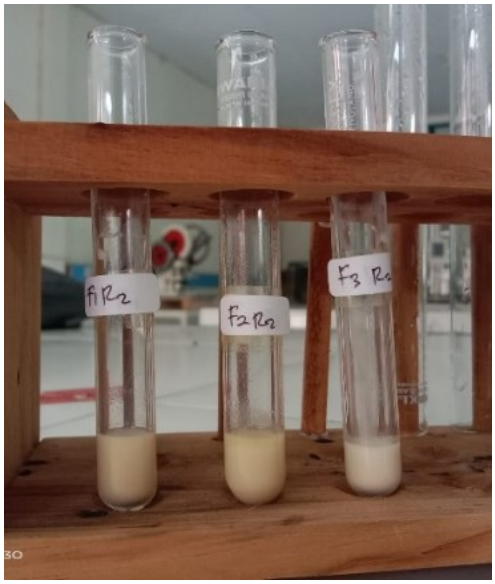
Nanoliposom F1

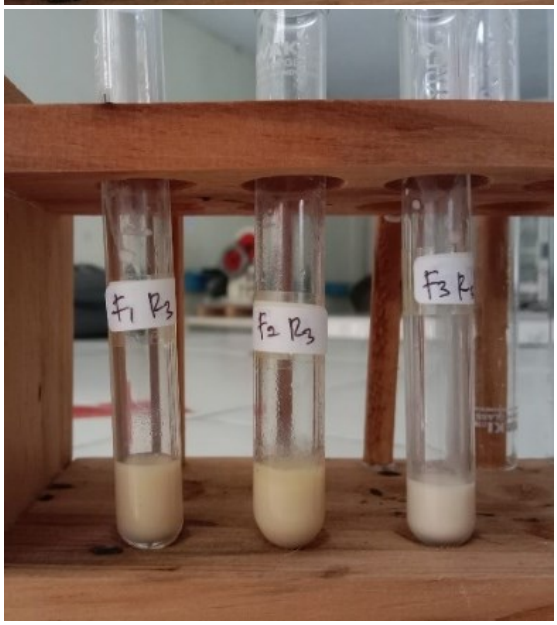
Nanoliposom F2

Nanoliposom F3

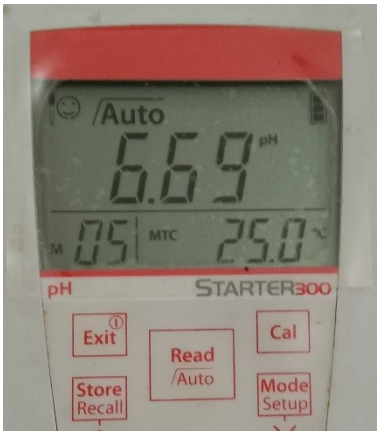
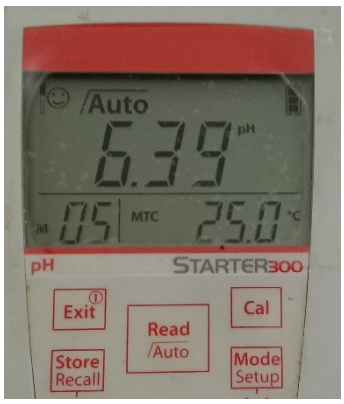
Lampiran 8. Uji Organoleptik







Lampiran 9. Uji pH Nanoliposom

 Nanoliposom F1 R1	 Nanoliposom F1R2
 Nanoliposom F1 R3	 Nanoliposom F2 R1
 Nanoliposom F2 R2	 Nanoliposom F2 R3

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Nanoliposom F3 R1</td>
<td> 

Nanoliposom F3 R2</td>
</tr>
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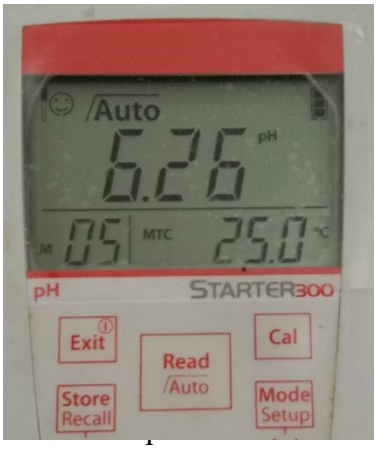
<td> 
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Lampiran 10. Uji Ukuran Partikel dan Indeks Polidispersitas

Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name:	nanoliposom MBAF1R1 1
SOP Name:	mansettings.nano
General Notes:	

File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	4	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Wednesday, November 22, 2...

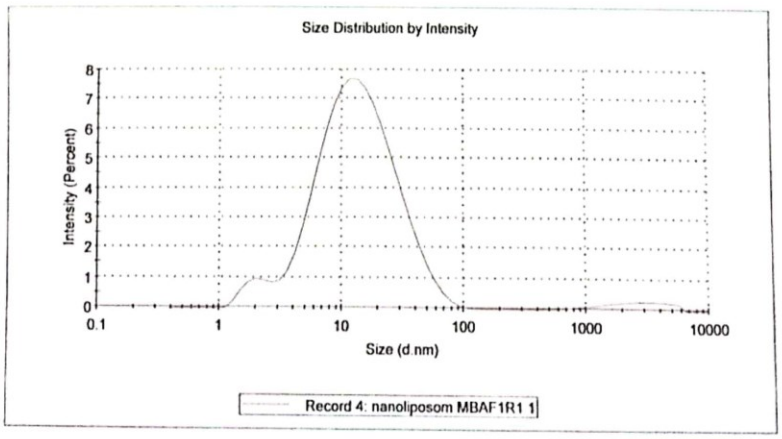
System

Temperature (°C):	25.0	**Duration Used (s):**	80
Count Rate (kcps):	156.9	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	10.49	**Peak 1:**	16.96	92.8	12.56
PdI:	0.393	**Peak 2:**	2.053	4.4	0.4294
Intercept:	0.658	**Peak 3:**	2790	2.8	1375

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name: nanoliposom MBAF1R2 1
SOP Name: mansettings.nano
General Notes:

File Name:	NANOLIPOSOM MBA.dls	**Dispersant Name:**	PBS
Record Number:	5	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Wednesday, November 22, 2...

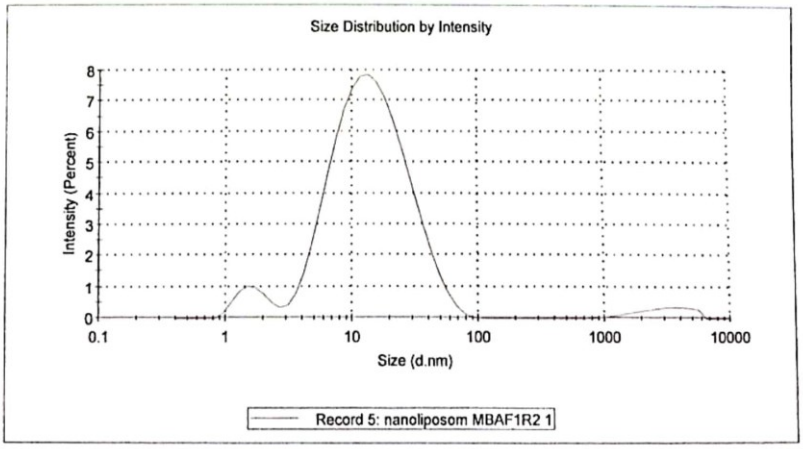
System

Temperature (°C):	25.0	**Duration Used (s):**	80
Count Rate (kcps):	141.4	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	10.74	**Peak 1:**	17.03	91.7	11.73
PdI:	0.378	**Peak 2:**	1.689	5.2	0.4543
Intercept:	0.642	**Peak 3:**	3174	3.1	1313

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name:	NANOLIPOSOM MINYAK BIJI ANGGUR 1		
SOP Name:	mansettings.nano		
General Notes:			
File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	1	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Wednesday, November 8, 20...

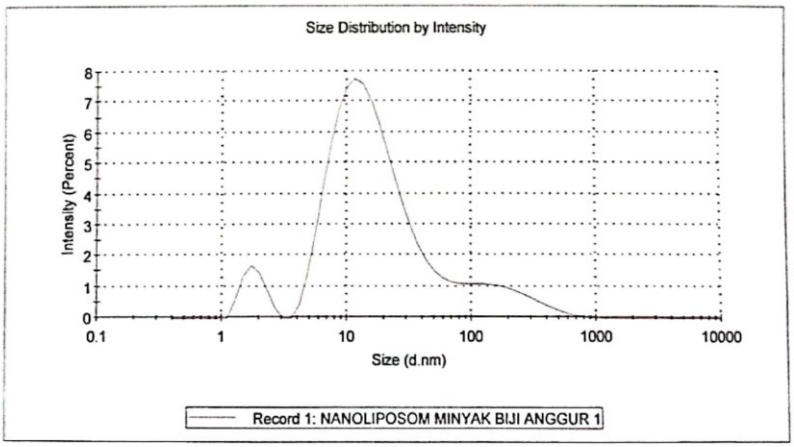
System

Temperature (°C):	25.0	**Duration Used (s):**	90
Count Rate (kcps):	102.7	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	12.35	**Peak 1:**	40.28	93.7	75.25
PdI:	0.415	**Peak 2:**	1.833	6.3	0.3645
Intercept:	0.629	**Peak 3:**	0.000	0.0	0.000

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

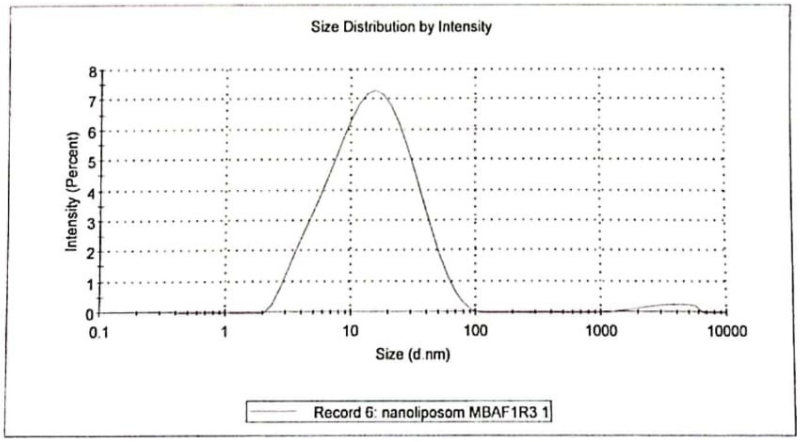
Sample Name:	nanoliposom MBAF1R3 1		
SOP Name:	mansettings.nano		
General Notes:			
File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	6	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Wednesday, November 22, 2...

System

Temperature (°C):	25.0	**Duration Used (s):**	80
Count Rate (kcps):	163.2	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	11.49	**Peak 1:**	18.23	97.9	13.65
PdI:	0.370	**Peak 2:**	3380	2.1	1266
Intercept:	0.649	**Peak 3:**	0.000	0.0	0.000
Result quality :	Good				



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name: nanoliposom minyak biji anggur 1
SOP Name: mansettings.nano
General Notes:

File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	Water
Record Number:	2	**Dispersant RI:**	1.330
Material RI:	1.50	**Viscosity (cP):**	0.8872
Material Absorbtion:	0.001	**Measurement Date and Time:**	Tuesday, November 14, 2023 ...

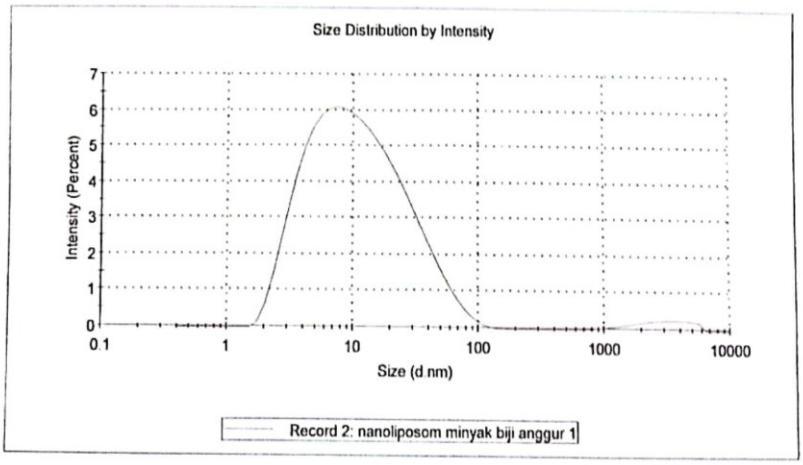
System

Temperature (°C):	25.0	**Duration Used (s):**	90
Count Rate (kcps):	102.6	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round aperl...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	8.236	**Peak 1:**	15.17	97.6	14.88
PdI:	0.380	**Peak 2:**	3062	2.4	1334
Intercept:	0.643	**Peak 3:**	0.000	0.0	0.000

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name:	nanoliposom minyak biji anggur 1
SOP Name:	mansettings.nano
General Notes:	

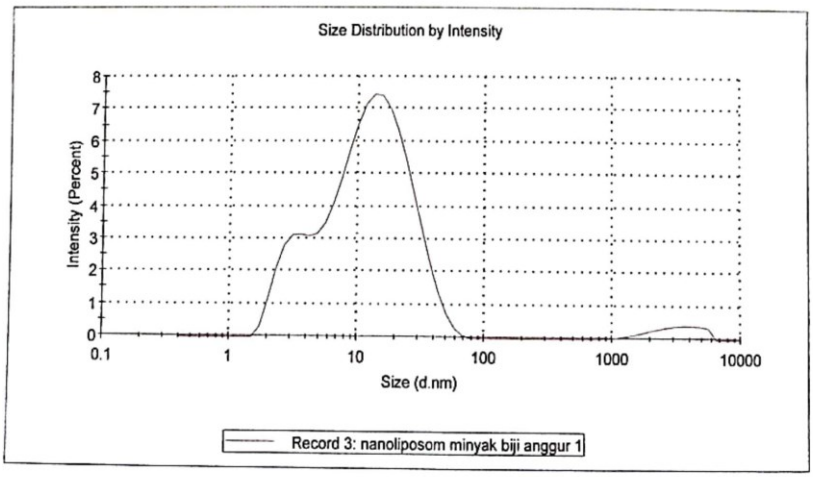
File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	3	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Tuesday, November 14, 2023...

System

Temperature (°C):	25.0	**Duration Used (s):**	90
Count Rate (kcps):	103.5	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	9.188	**Peak 1:**	16.10	81.4	10.05
PdI:	0.399	**Peak 2:**	3.136	15.3	0.7197
Intercept:	0.646	**Peak 3:**	3313	3.3	1282
Result quality :	Good				



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name:	NANOLIPOSOM MINYAK BIJI ANGGUR 1		
SOP Name:	mansettings.nano		
General Notes:			
File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	1	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Wednesday, November 8, 20...

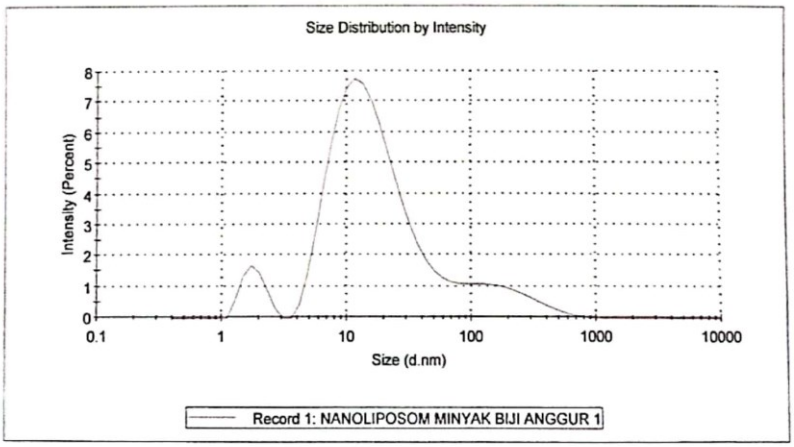
System

Temperature (°C):	25.0	**Duration Used (s):**	90
Count Rate (kcps):	102.7	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	12.35	**Peak 1:**	40.28	93.7	75.25
PdI:	0.415	**Peak 2:**	1.833	6.3	0.3645
Intercept:	0.629	**Peak 3:**	0.000	0.0	0.000

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name:	nanoliposom MBAF3R1 1
SOP Name:	mansettings.nano
General Notes:	

File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	7	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Tuesday, November 28, 2023...

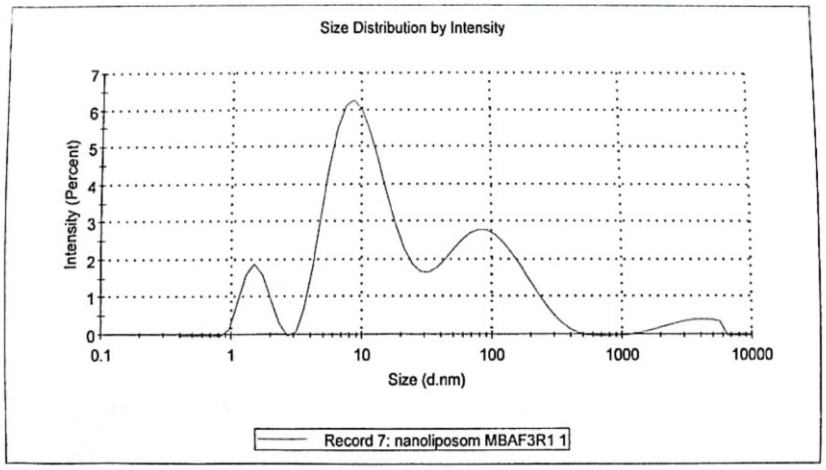
System

Temperature (°C):	25.0	**Duration Used (s):**	130
Count Rate (kcps):	60.7	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	11.18	**Peak 1:**	11.70	57.4	6.804
PdI:	0.615	**Peak 2:**	107.4	32.0	71.20
Intercept:	0.611	**Peak 3:**	1.551	7.4	0.3257

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name: nanoliposom MBAF3R2 1
SOP Name: mansettings.nano
General Notes:

File Name:	NANOLIPOSOM MBA.dts	**Dispersant Name:**	PBS
Record Number:	8	**Dispersant RI:**	1.500
Material RI:	1.50	**Viscosity (cP):**	1.0000
Material Absorbtion:	0.001	**Measurement Date and Time:**	Tuesday, November 28, 2023...

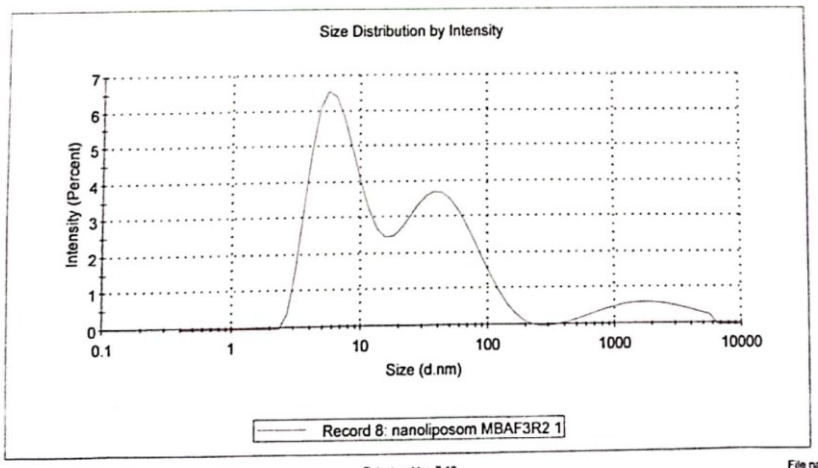
System

Temperature (°C):	25.0	**Duration Used (s):**	130
Count Rate (kcps):	61.2	**Measurement Position (mm):**	4.65
Cell Description:	Glass cuvette with round apert...	**Attenuator:**	11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	10.56	**Peak 1:**	7.377	51.0	3.304
PdI:	0.569	**Peak 2:**	49.25	41.2	31.62
Intercept:	0.610	**Peak 3:**	2084	7.8	1316

Result quality : Good



Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name: nanoliposom MBAF3R3 1
SOP Name: mansettings.nano
General Notes:

File Name: NANOLIPOSOM MBA.dls
Record Number: 9
Material RI: 1.50
Material Absorbtion: 0.001
Dispersant Name: PBS
Dispersant RI: 1.500
Viscosity (cP): 1.0000
Measurement Date and Time: Tuesday, November 28, 2023...

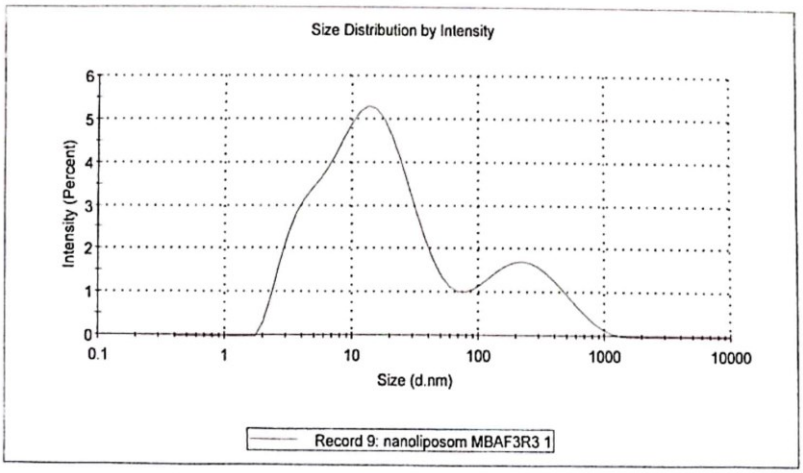
System

Temperature (°C): 25.0
Count Rate (kcps): 54.6
Cell Description: Glass cuvette with round apert...
Duration Used (s): 140
Measurement Position (mm): 4.65
Attenuator: 11

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	11.36	Peak 1:	17.02	79.2	15.21
PdI:	0.590	Peak 2:	278.4	20.8	190.6
Intercept:	0.622	Peak 3:	0.000	0.0	0.000

Result quality : Good



Lampiran 11. Perhitungan konsentrasi

A. DPPH

Pembuatan larutan DPPH 20 ppm sebanyak 100 mL

$$konsentrasi\ larutan\ = \frac{bahan\ yang\ ditimbang\ "X"}{volume\ larutan}$$

$$\frac{20\ mg}{100\ mL} = \frac{X}{100}$$

$$X\ = 2\ mg$$

DPPH ditimbang sebanyak 2 mg encerkan dengan etanol pa hingga volume 100 mL.

B. Vitamin C

Pembuatan larutan induk vitamin C 100 ppm sebanyak 100 mL

$$konsentrasi\ larutan\ = \frac{bahan\ yang\ ditimbang\ "X"}{volume\ larutan}$$

$$\frac{100\ mg}{100\ mL} = \frac{X}{100}$$

$$X\ = 10\ mg$$

Vitamin C ditimbang sebanyak 10 mg encerkan dengan etanol pa hingga volume 100 mL.

C. Minyak Biji Anggur

Pembuatan larutan induk minyak biji anggur 100 ppm sebanyak 100 mL

$$konsentrasi\ larutan\ = \frac{bahan\ yang\ ditimbang\ "X"}{volume\ larutan}$$

$$\frac{100\ mg}{1000\ mL} = \frac{X}{100}$$

$$X\ = 10\ mg$$

Minyak biji anggur ditimbang sebanyak 10 mg encerkan dengan etanol pa hingga volume 100 mL.

D. Nanoliposom Minyak Biji Anggur

Pembuatan larutan induk nanoliposom minyak biji anggur 1000 ppm sebanyak 100 mL.

$$konsentrasi\ larutan\ = \frac{bahan\ yang\ ditimbang\ "X"}{volume\ larutan}$$

$$\frac{1000\ mg}{1000\ mL} = \frac{X}{100}$$

$$X\ = 100\ mg$$

Nanoliposom minyak biji anggur ditimbang sebanyak 100 mg encerkan dengan etanol pa hingga volume 100 mL.

Lampiran 12. Perhitunga Larutan Seri Konsentrasi

A. Larutan Stok Baku Vitamin C

1. Konsentrasi 2 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 2\ ppm\ X\ 10\ mL$$

$$V1 = \frac{2\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}2\ mL$$

Larutan induk vitamin C 100 ppm diambil 0,2 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

2. Konsentrasi 4 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 4\ ppm\ X\ 10\ mL$$

$$V1 = \frac{4\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}4\ mL$$

Larutan induk vitamin C 100 ppm diambil 0,4 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

3. Konsentrasi 6 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 6\ ppm\ X\ 10\ mL$$

$$V1 = \frac{6\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}6\ mL$$

Larutan induk vitamin C 100 ppm diambil 0,6 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

4. Konsentrasi 8 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 8\ ppm\ X\ 10\ mL$$

$$V1 = \frac{8\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}8\ mL$$

Larutan induk vitamin C 100 ppm diambil 0,8 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

5. Konsentrasi 10 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 10\ ppm\ X\ 10\ mL$$

$$V1 = \frac{10\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 1\ mL$$

Larutan induk vitamin C 100 ppm diambil 1 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

B. Larutan Stok Minyak Biji Anggur

1. Konsentrasi 2 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = \ 2\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{2\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}2\ mL$$

Larutan induk minyak biji anggur 100 ppm diambil 0,2 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

2. Konsentrasi 4 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = 4\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{4\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}4\ mL$$

Larutan induk minyak biji anggur 100 ppm diambil 0,4 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

3. Konsentrasi 6 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = \ 6\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{6\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}6\ mL$$

Larutan induk minyak biji anggur 100 ppm diambil 0,6 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

4. Konsentrasi 8 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = \ 8\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{8\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 0{,}8\ mL$$

Larutan induk minyak biji anggur 100 ppm diambil 0,8 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

5. Konsentrasi 10 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$100\ ppm\ X\ V1 = \ 10\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{10\ ppm\ X\ 10\ mL}{100}$$

$$V1 = 1\ mL$$

Larutan induk minyak biji anggur 100 ppm diambil 1 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

C. Larutan Stok Nanoliposom Minyak Biji Anggur

1. Konsentrasi 20 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$1000\ ppm\ X\ V1 = \ 20\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{20\ ppm\ X\ 10\ mL}{1000}$$

$$V1 = 0{,}2\ mL$$

Larutan induk nanoliposom 1000 ppm diambil 0,2 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

2. Konsentrasi 40 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$1000\ ppm\ X\ V1 = \ 40\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{40\ ppm\ X\ 10\ mL}{1000}$$

$$V1 = 0{,}4\ mL$$

Larutan induk nanoliposom 1000 ppm diambil 0,4 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

3. Konsentrasi 60 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$1000\ ppm\ X\ V1 = \ 60\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{60\ ppm\ X\ 10\ mL}{1000}$$

$$V1 = 0{,}6\ mL$$

Larutan induk nanoliposom 1000 ppm diambil 0,6 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

4. Konsentrasi 80 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$1000\ ppm\ X\ V1 = \ 80\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{80\ ppm\ X\ 10\ mL}{1000}$$

$$V1 = 0{,}8\ mL$$

Larutan induk nanoliposom 1000 ppm diambil 0,8 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

5. Konsentrasi 100 ppm

$$M1\ X\ V1 = M2\ X\ V2$$

$$1000\ ppm\ X\ V1 =\ 100\ ppm\ X\ 10\ mL$$

$$V1\ = \frac{100\ ppm\ X\ 10\ mL}{1000}$$

$$V1 = 1\ mL$$

Larutan induk vitamin C 100 ppm diambil 1 mL kemudian diencerkan dengan etanol pa hingga volume 10 mL.

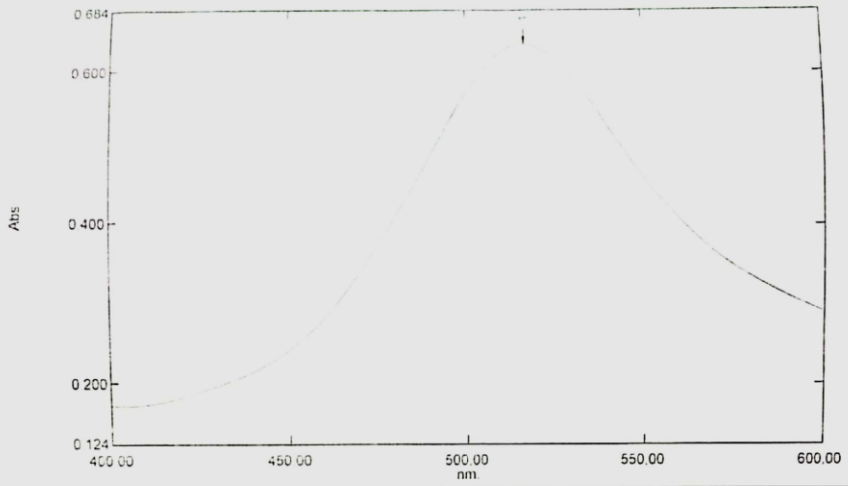
Lampiran 13. Panjang Gelombang DPPH

20 ppm

Spectrum Peak Pick Report

14/11/2023 08:05:05

Data Set: Panjang Gelombang DPPH_20 - RawData



No.	P/V	Wavelength	Abs.	Description
1	P	516.60	0.637	

[Measurement Properties]
Wavelength Range (nm) 400.00 to 600.00
Scan Speed Fast
Sampling Interval 0.2
Auto Sampling Interval Enabled
Scan Mode Auto

[Instrument Properties]
Instrument Type UV-1800 Series
Measuring Mode Absorbance
Slit Width 1.0 nm
Light Source Change Wavelength 340.0 nm
S/R Exchange Normal

[Attachment Properties]
Attachment None

[Operation]
Threshold 0.0010000
Points 1
InterPolate Disabled
Average Disabled

[Sample Preparation Properties]
Weight
Volume
Dilution
Path Length
Additional information

Page 1 / 1

Lampiran 14. OT DPPH

DPPH 20 ppm

Kinetics Data Print Report

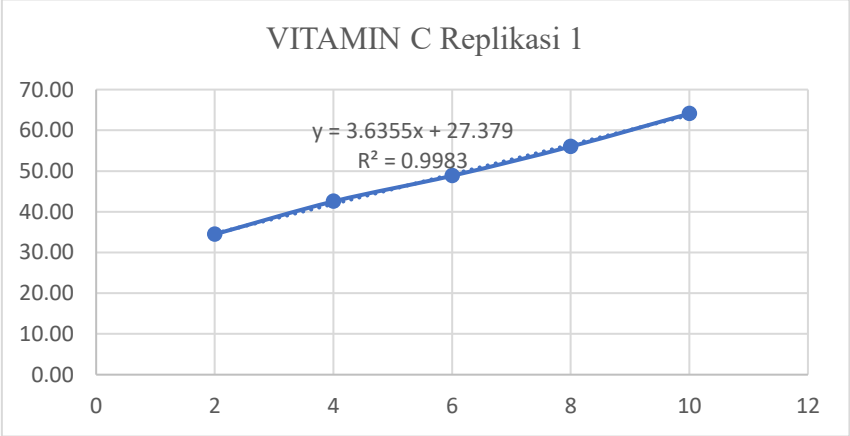
14/11/2023 08:03:18

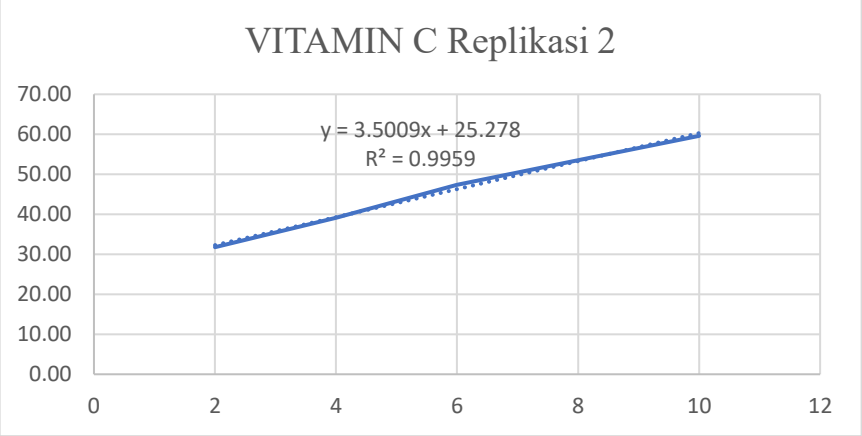
Time (Minute)	RawData ...
1 000	0 623
2 000	0 623
3 000	0 623
4 000	0 623
5 000	0 624
6 000	0 625
7 000	0 625
8 000	0 625
9 000	0 625
10 000	0 625
11 000	0 625
12 000	0 625
13 000	0 625
14 000	0 625
15 000	0 625
16 000	0 625
17 000	0 625
18 000	0 625
19 000	0 625
20 000	0 625
21 000	0 625
22 000	0 625
23 000	0 625
24 000	0 625
25 000	0 625
26 000	0 625
27 000	0 625
28 000	0 625
29 000	0 625
30 000	0 625

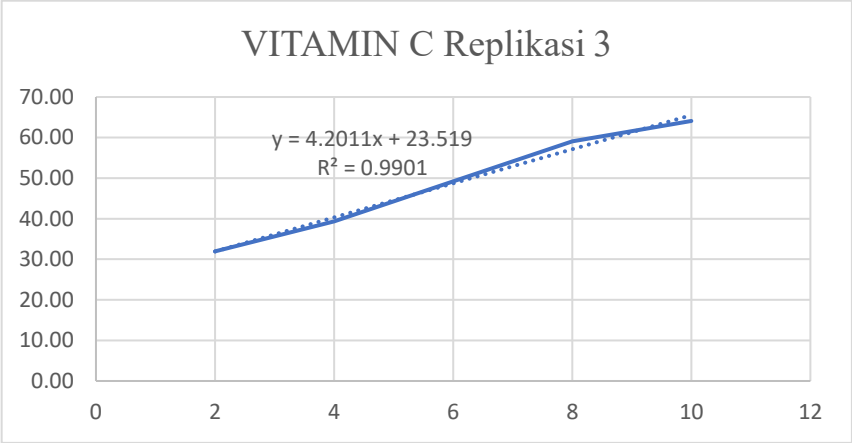
Lampiran 15. Perhitungan Persen Inhibisi Dan IC_{50}

A. Vitamin C

	Replikasi	**Konsentrasi**	**Absorbansi**	**%inhibisi**	**IC_{50}**	**Rata-rata IC_{50}**	**Keterangan**
Vit C	R1	2	0.365	34.47	6.2	6.52	Sanga Kuat
		4	0.320	42.55			
		6	0.285	48.83			
		8	0.245	56.01			
		10	0.200	64.09			
	R2	2	0.380	31.78	7.06		
		4	0.339	39.14			
		6	0.293	47.40			
		8	0.259	53.50			
		10	0.225	59.61			
	R3	2	0.379	31.96	6.30		
		4	0.338	39.32			
		6	0.283	49.19			
		8	0.228	59.07			
		10	0.200	64.09			

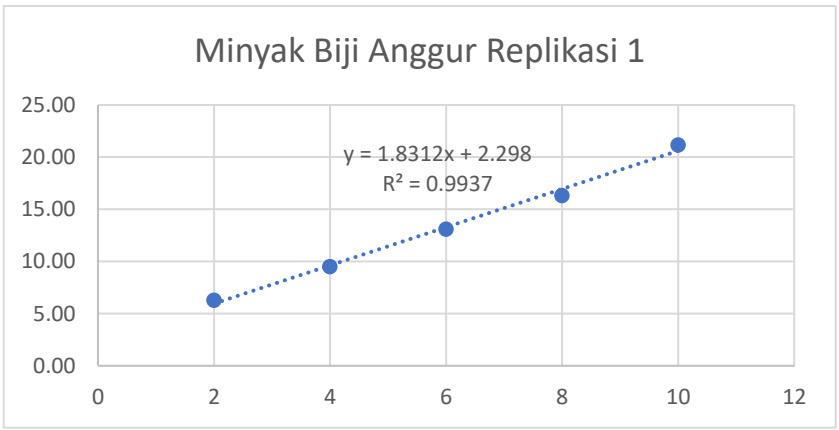


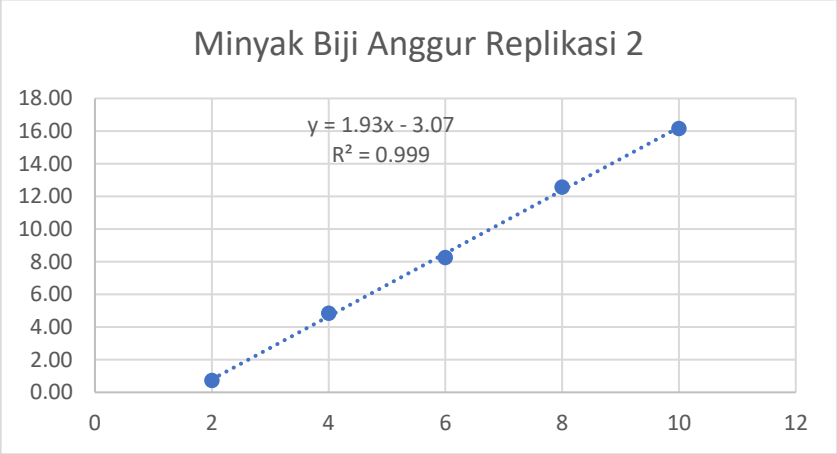


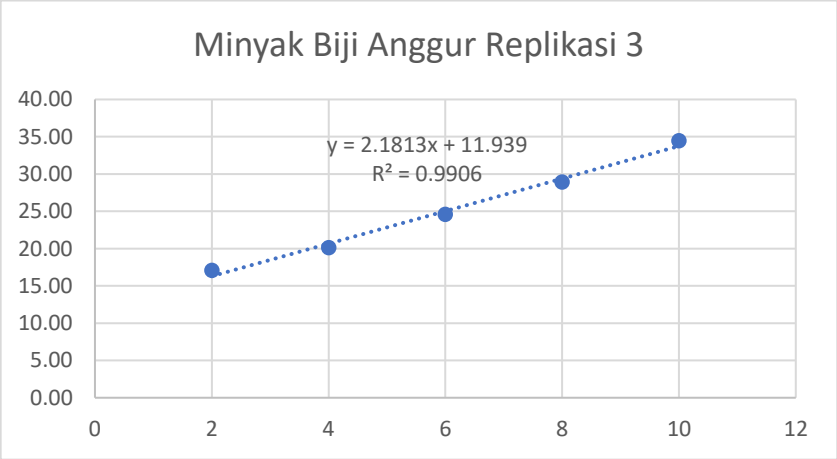


B. Minyak Biji Anggur

	Replikasi	**Konsentrasi**	**Absorbansi**	**%inhibisi**	**IC_{50}**	**Rata-rata IC_{50}**	**Keterangan**
MBA	R1	2	0.522	6.28	26.05	23,70	Sangat Kuat
		4	0.504	9.52			
		6	0.484	13.11			
		8	0.466	16.34			
		10	0.439	21.18			
	R2	2	0.553	0.72	27.50		
		4	0.53	4.85			
		6	0.511	8.26			
		8	0.487	12.57			
		10	0.467	16.16			
	R3	2	0.462	17.06	17.56		
		4	0.445	20.11			
		6	0.42	24.60			
		8	0.396	28.90			
		10	0.365	34.47			

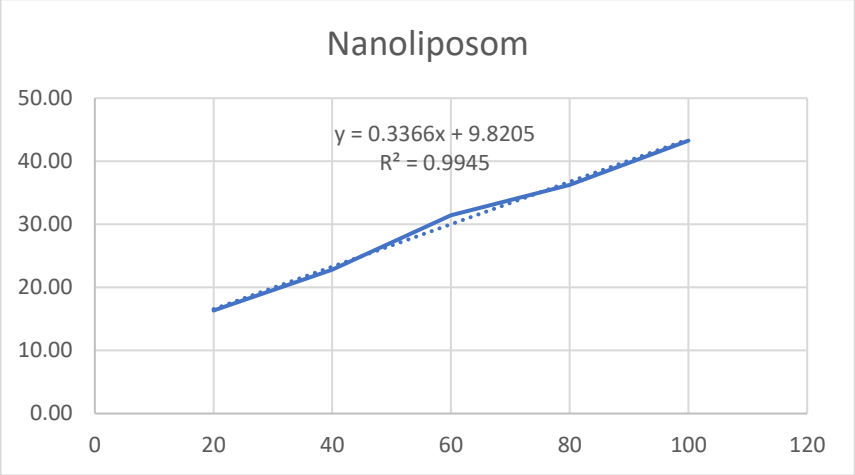


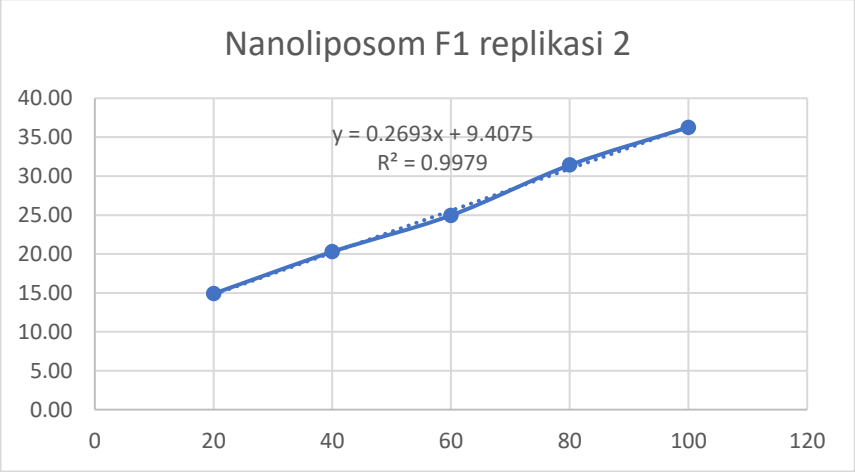


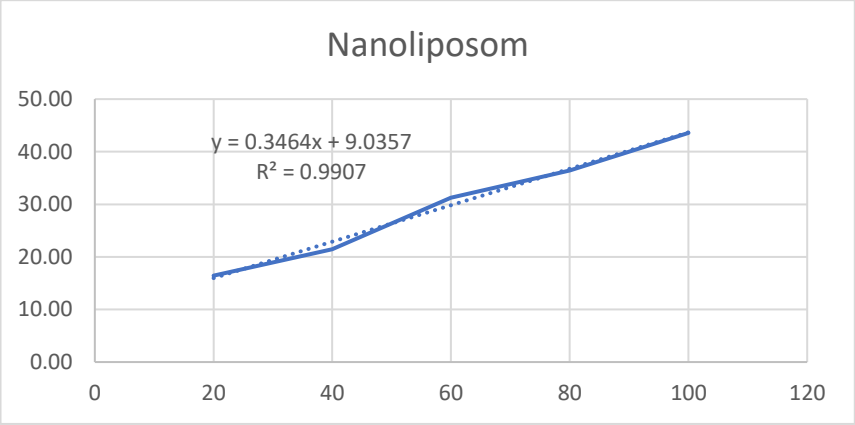


C. Nanoliposom Formula 1

	Replikasi	**Konsentrasi**	**Absorbansi**	**%inhibisi**	**IC_{50}**	**Rata-rata IC_{50}**	**Keterangan**
F1	R1	20	0.474	14.90	153.18	130.27	Sedang
		40	0.444	20.29			
		60	0.418	24.96			
		80	0.382	31.42			
		100	0.355	36.27			
	R2	20	0.466	16.34	119.37		
		40	0.430	22.80			
		60	0.382	31.42			
		80	0.355	36.27			
		100	0.316	43.27			
	R3	20	0.460	16.43	118.26		
		40	0.440	21.43			
		60	0.385	31.25			
		80	0.356	36.43			
		100	0.316	43.57			

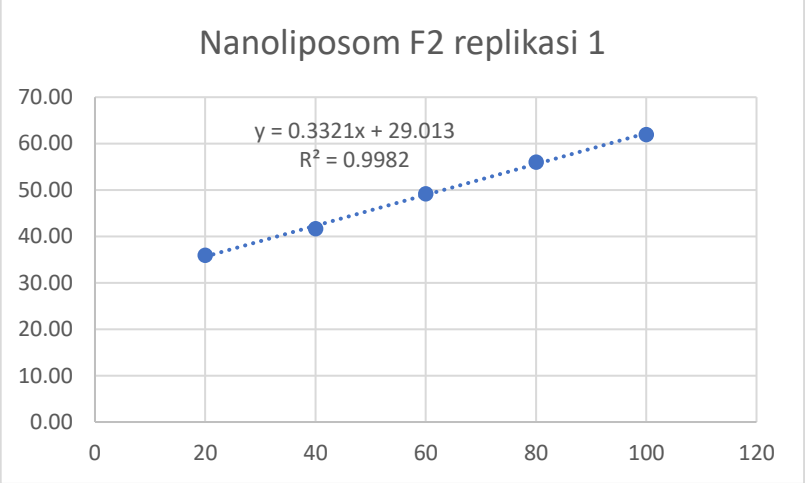

Nanoliposom
y = 0.3366x + 9.8205
R² = 0.9945
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

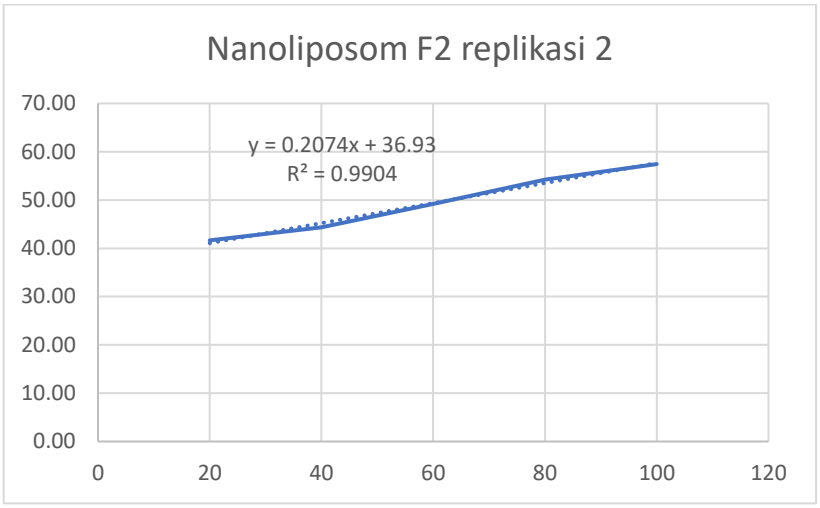

Nanoliposom F1 replikasi 2
y = 0.2693x + 9.4075
R² = 0.9979
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
0
20
40
60
80
100
120

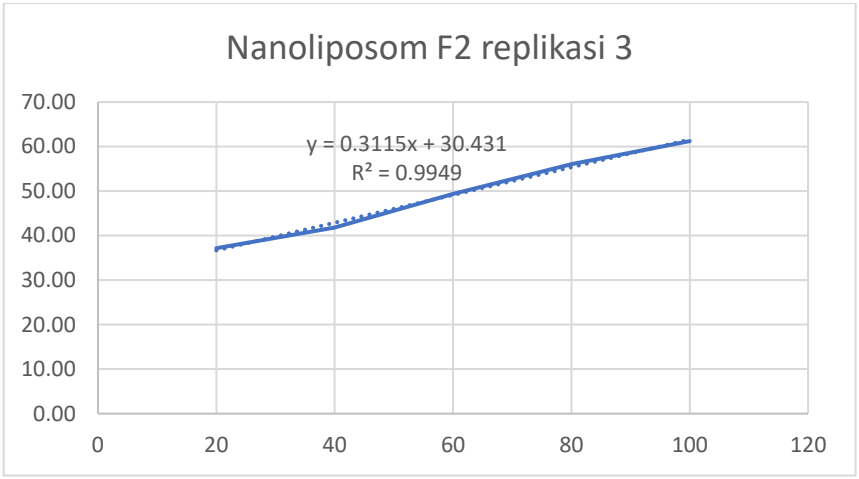

Nanoliposom
y = 0.3464x + 9.0357
R² = 0.9907
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

D. Nanoliposom Formula 2

	Replikasi	**Konsentrasi**	**Absorbansi**	**%inhibisi**	**IC_{50}**	**Rata-rata IC_{50}**	**Keterangan**
F2	R1	20	0.357	35.91	63.19	63.01	Kuat
		40	0.325	41.65			
		60	0.283	49.19			
		80	0.245	56.01			
		100	0.212	61.94			
	R2	20	0.325	41.65	63.01		
		40	0.310	44.34			
		60	0.283	49.19			
		80	0.255	54.22			
		100	0.237	57.45			
	R3	20	0.350	37.16	62.82		
		40	0.324	41.83			
		60	0.282	49.37			
		80	0.245	56.01			
		100	0.216	61.22			

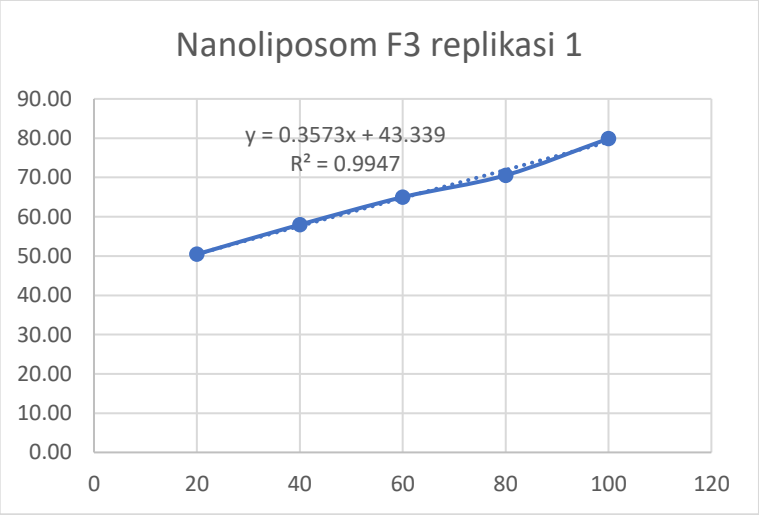


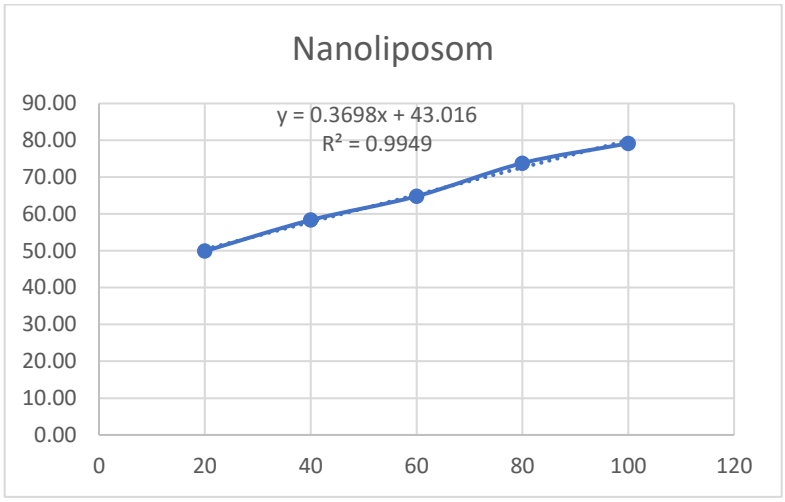

Nanoliposom F2 replikasi 2
y = 0.2074x + 36.93
R² = 0.9904
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

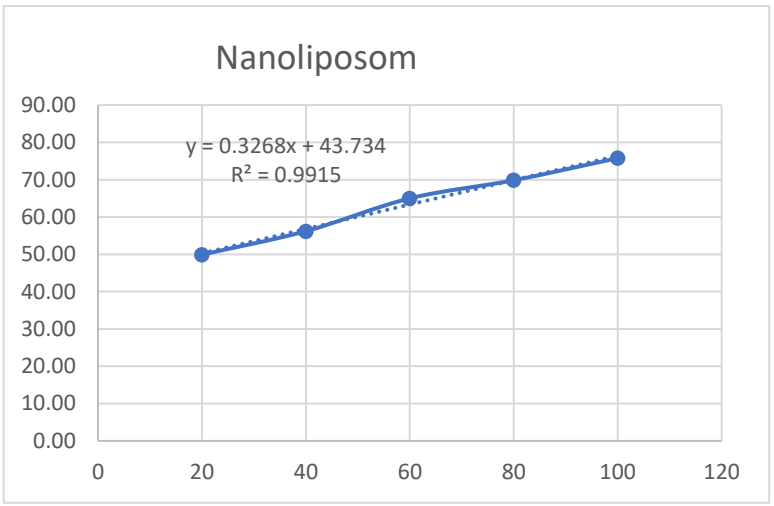

Nanoliposom F2 replikasi 3
y = 0.3115x + 30.431
R² = 0.9949
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

E. Nanoliposom Formula 3

	Replikasi	**Konsentrasi**	**Absorbansi**	**%inhibisi**	**IC_{50}**	**Rata-rata IC_{50}**	**Keterangan**
F3	R1	20	0.276	50.45	18.64	18.90	Sangat Kuat
		40	0.234	57.99			
		60	0.195	64.99			
		80	0.164	70.56			
		100	0.112	79.89			
	R2	20	0.279	49.91	18.89		
		40	0.232	58.35			
		60	0.196	64.81			
		80	0.146	73.79			
		100	0.116	79.17			
	R3	20	0.279	49.91	19.17		
		40	0.244	56.19			
		60	0.195	64.99			
		80	0.168	69.84			
		100	0.135	75.76			




Nanoliposom
y = 0.3698x + 43.016
R² = 0.9949
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

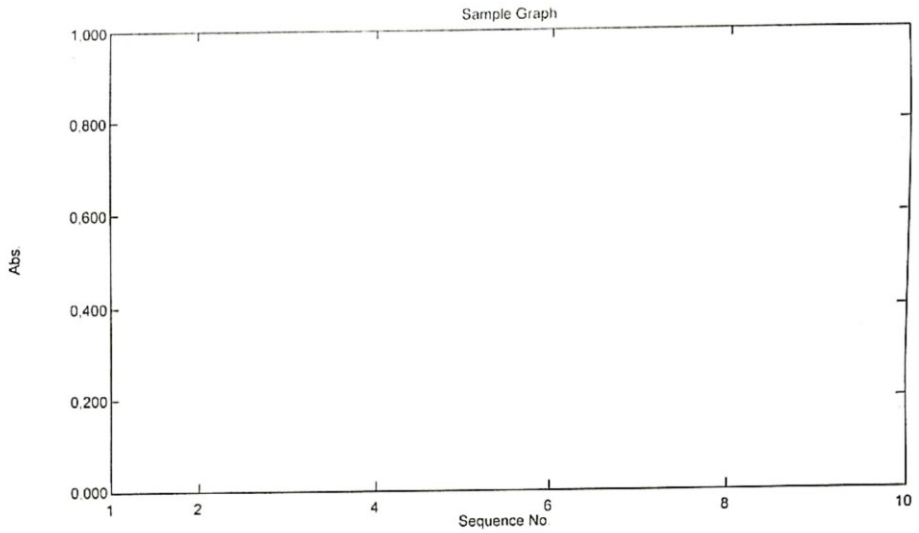

Nanoliposom
y = 0.3268x + 43.734
R² = 0.9915
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
0
20
40
60
80
100
120

Lampiran 16. Absorbansi Blangko

Sample Table Report

24/11/2023 12:46:50

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\blangko dpph 20.pho



Sample Table

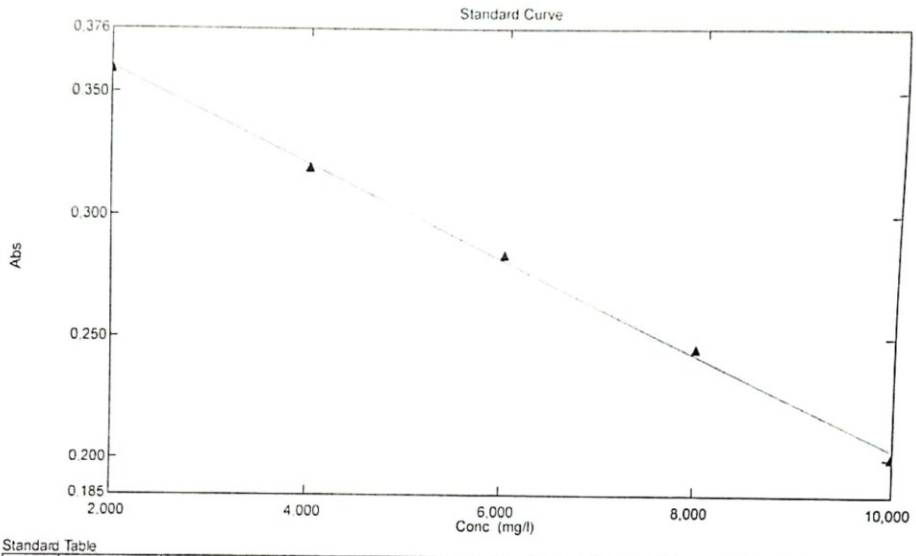
	Sample ID	Type	Ex	Conc	WL:516,6	Comments
1	BLANGKO	Unknown		*****	0.557	
2						

Lampiran 17. Absorbansi Baku Vitamin C

Standard Table Report

24/11/2023 11:28:19

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\vitCR1.pho



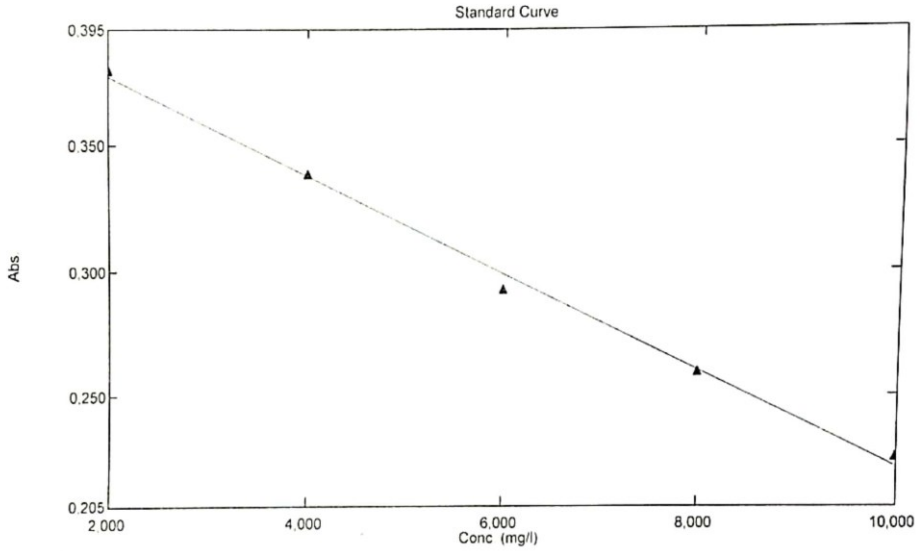
Standard Table

	Sample ID	Type	Ex	Conc	WL516,6	Wgt.Factor	Comments
1	vitaminC2	Standard		2.000	0.360	1.000	
2	vitaminC4	Standard		4.000	0.320	1.000	
3	vitaminC6	Standard		6.000	0.285	1.000	
4	vitaminC8	Standard		8.000	0.245	1.000	
5	vitaminC10	Standard		10.000	0.201	1.000	
6							

Standard Table Report

24/11/2023 11:30:07

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\Vit C R2.pho



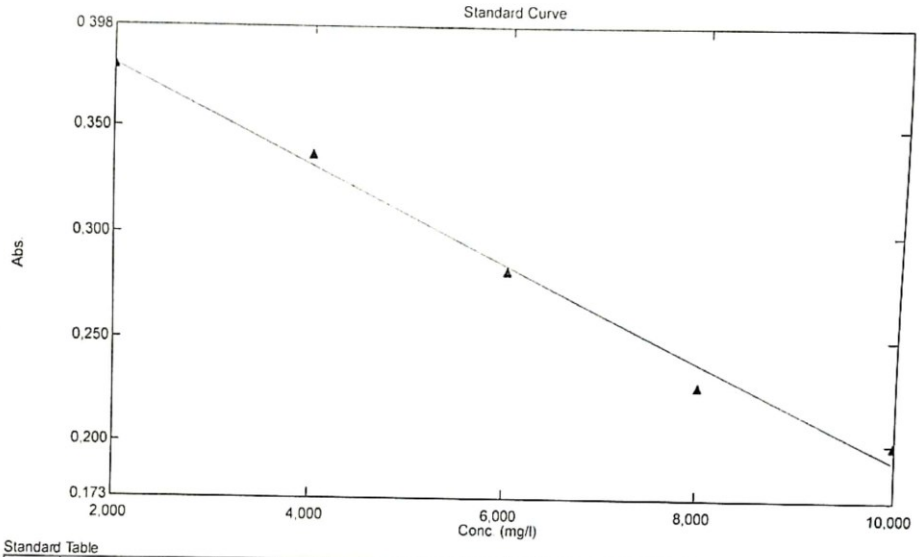
Standard Table

	Sample ID	Type	Ex	Conc	WL516,6	Wgt.Factor	Comments
1	vitaminc2	Standard		2 000	0 380	1 000	
2	vitaminC4	Standard		4 000	0 339	1 000	
3	vitaminC6	Standard		6 000	0 293	1 000	
4	vitaminC8	Standard		8 000	0 259	1 000	
5	vitaminC10	Standard		10 000	0 225	1 000	
6							

Standard Table Report

24/11/2023 11:27:45

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\Vit CR3.pho



Standard Table

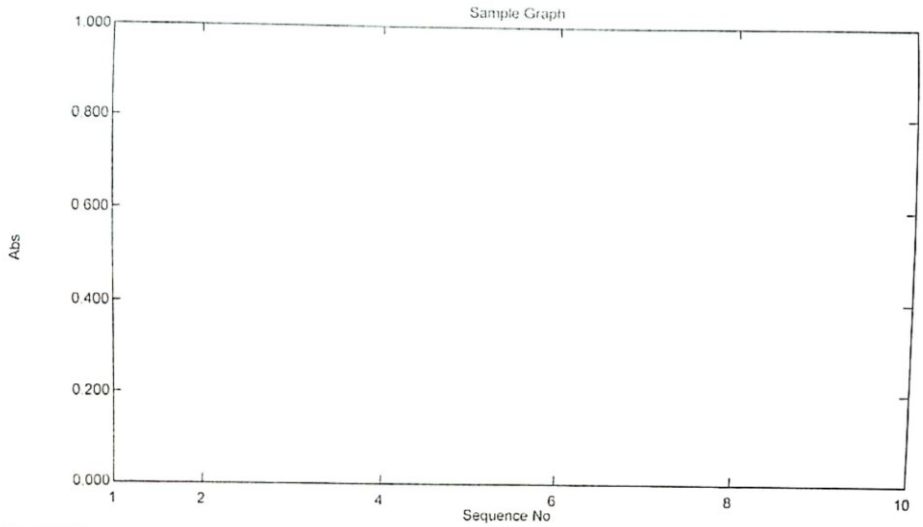
	Sample ID	Type	Ex	Conc	WL516,6	Wgt.Factor	Comments
1	vitaminc2	Standard		2.000	0.379	1.000	
2	vitaminC4	Standard		4.000	0.338	1.000	
3	vitaminC6	Standard		6.000	0.283	1.000	
4	vitaminC8	Standard		8.000	0.228	1.000	
5	vitaminc10	Standard		10.000	0.200	1.000	
6							

Lampiran 18. Absorbansi Minyak Biji Anggur

Sample Table Report

27/11/2023 09:09:19

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\minyak1.pho



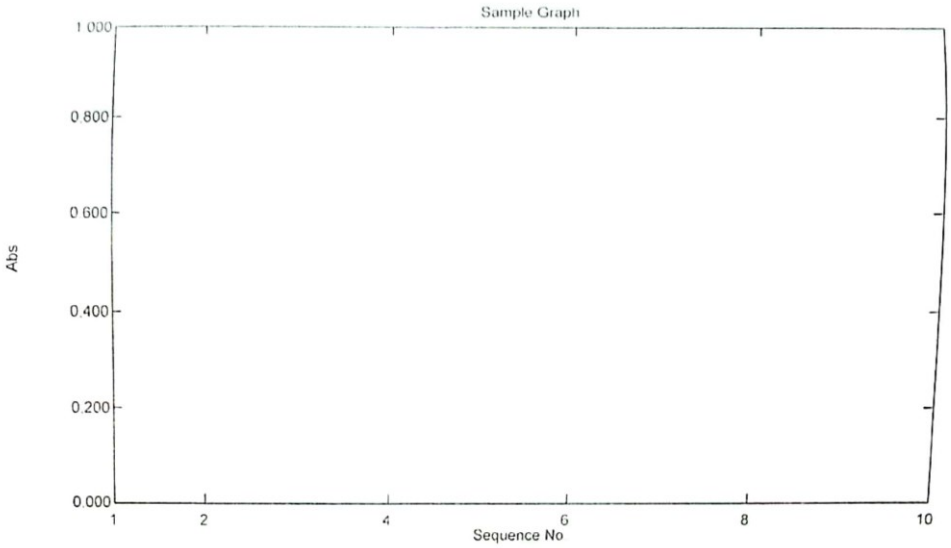
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	minyak1	Unknown		*****	0.553	
2	minyak2	Unknown		*****	0.530	
3	minyak3	Unknown		*****	0.511	
4	minyak4	Unknown		*****	0.487	
5	minyak5	Unknown		*****	0.466	
6						

Sample Table Report

27/11/2023 09:09:00

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\minyak2.pho



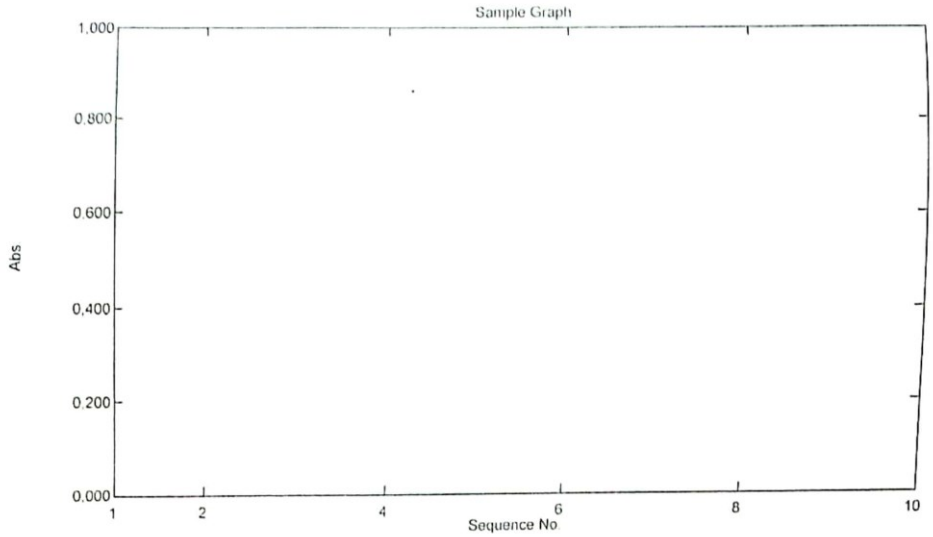
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	minyak1	Unknown		*****	0.522	
2	minyak2	Unknown		*****	0.504	
3	minyak3	Unknown		*****	0.484	
4	minyak4	Unknown		*****	0.466	
5	minyak5	Unknown		*****	0.439	
6						

Sample Table Report

24/11/2023 09:01:07

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\R3MBA.pho



Sample Table

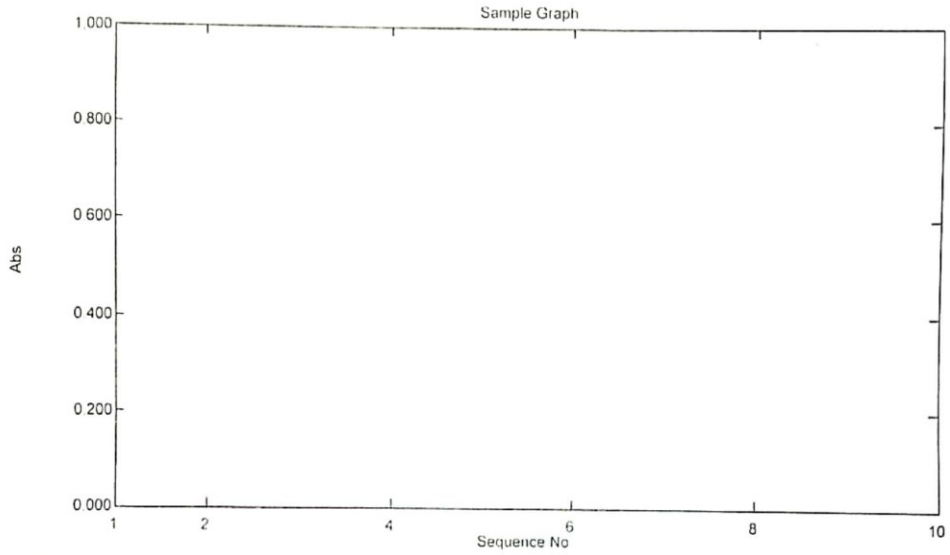
	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	minyakbijiang	Unknown		*****	0.462	
2	minyakbijiang	Unknown		*****	0.445	
3	minyakbijiang	Unknown		*****	0.420	
4	minakbijiangg	Unknown		*****	0.396	
5	minyakbijiang	Unknown		*****	0.364	
6						

Lampiran 19. Absorbansi Nanoliposom Formula 1

Sample Table Report

24/11/2023 10:23:15

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\nanoliposomR1F1.pho



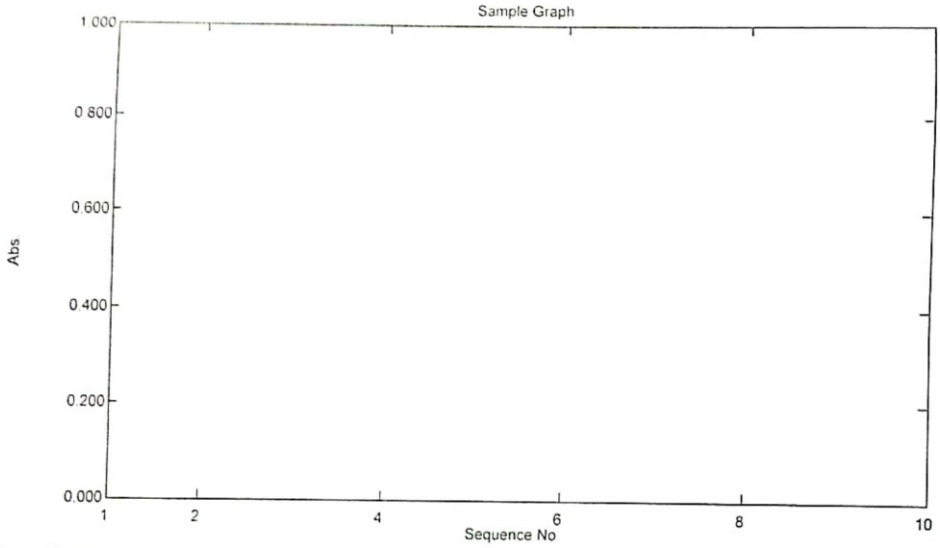
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom2	Unknown		*****	0.474	
2	nanoliposom4	Unknown		*****	0.444	
3	nanoliposom6	Unknown		*****	0.418	
4	nanoliposom8	Unknown		*****	0.382	
5	nanoliposom1	Unknown		*****	0.355	
6						

Sample Table Report

24/11/2023 10 22 29

File Name: C \Users\HP\Documents\INDAH\SKRIPSI\indah\nanoliposomR2F1.pho



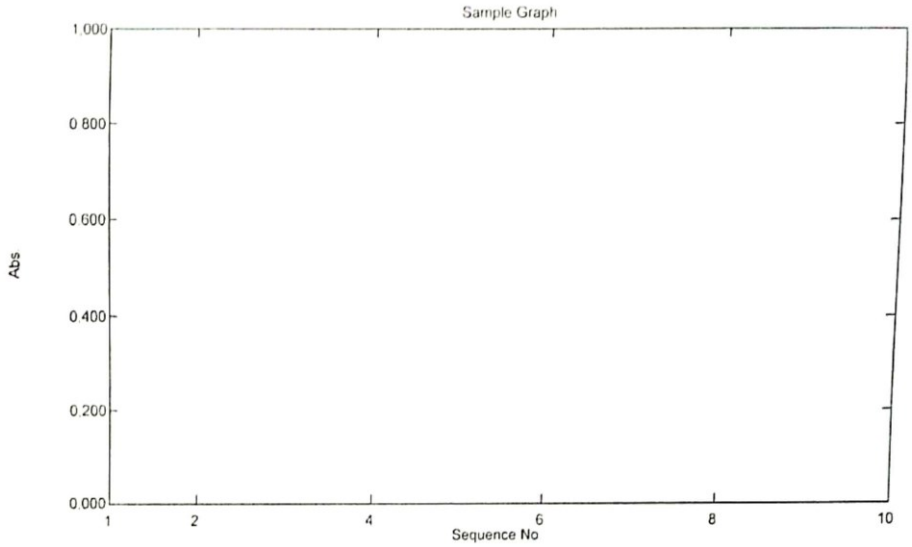
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom2	Unknown		*****	0 466	
2	nanoliposom4	Unknown		*****	0 430	
3	nanoliposom6	Unknown		*****	0 382	
4	nanoliposom8	Unknown		*****	0 356	
5	nanoliposom1	Unknown		*****	0 316	
6						

Sample Table Report

24/11/2023 10:21:47

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\F1R3 nano.pho



Sample Table

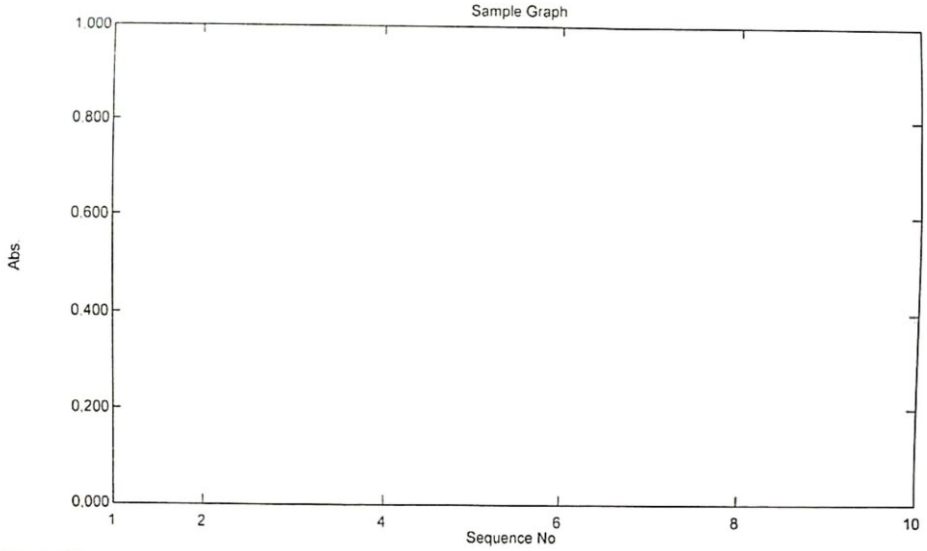
	Sample ID	Type	Ex	Conc	WL:516,6	Comments
1	nanoliposom2	Unknown		*****	0.468	
2	nanoliposom4	Unknown		*****	0.444	
3	nanoliposom6	Unknown		*****	0.385	
4	nanoliposom8	Unknown		*****	0.356	
5	nanoliposom1	Unknown		*****	0.316	
6						

Lampiran 20. Absorbansi Nanoliposom Formula 2

Sample Table Report

24/11/2023 10:54:44

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\f2R1nano.pho



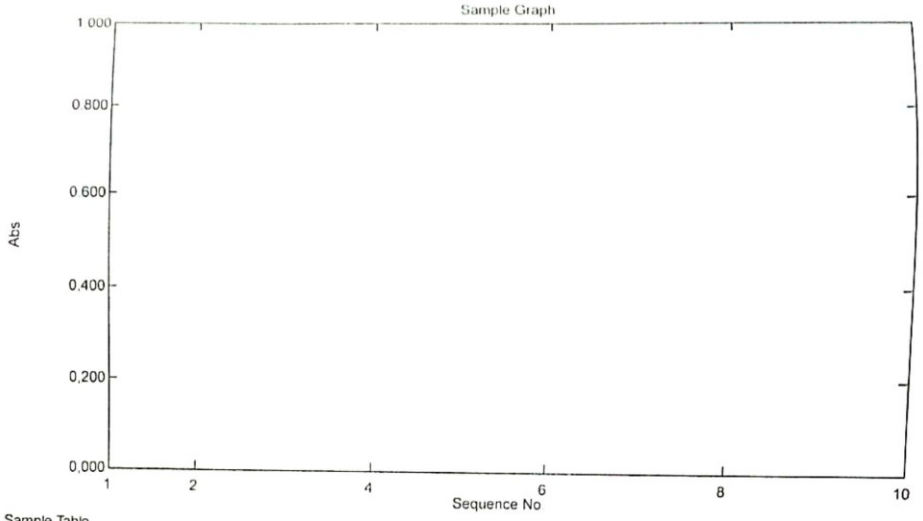
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom2	Unknown		*****	0.357	
2	nanoliposom4	Unknown		*****	0.325	
3	nanoliposom6	Unknown		*****	0.283	
4	nanoliposom8	Unknown		*****	0.245	
5	nanoliposom1	Unknown		*****	0.212	
6						

Sample Table Report

24/11/2023 10:55:10

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\F2R2nano.pho



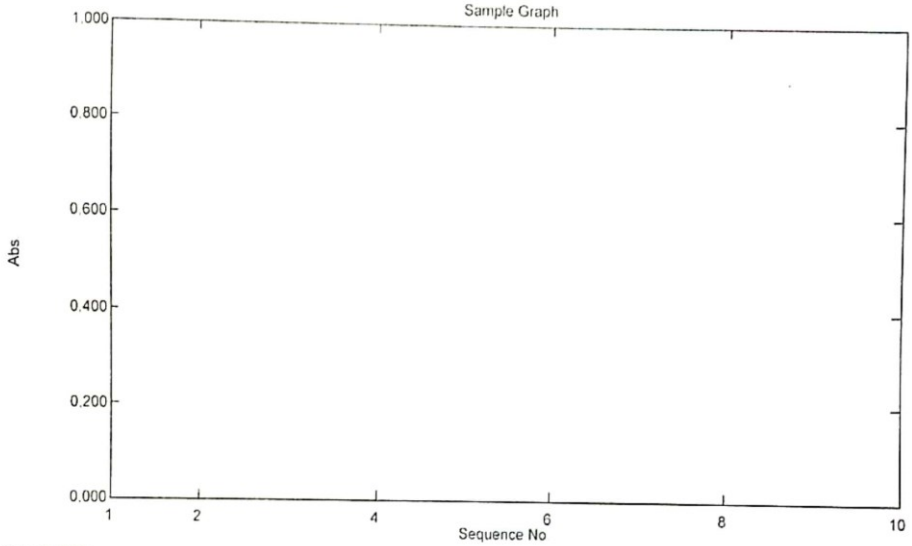
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom2	Unknown		*****	0.325	
2	nanoliposom4	Unknown		*****	0.310	
3	nanoliposom6	Unknown		*****	0.283	
4	nanoliposom8	Unknown		*****	0.255	
5	nanoliposom1	Unknown		*****	0.237	
6						

Sample Table Report

24/11/2023 10:55:37

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\F2R3.pho



Sample Table

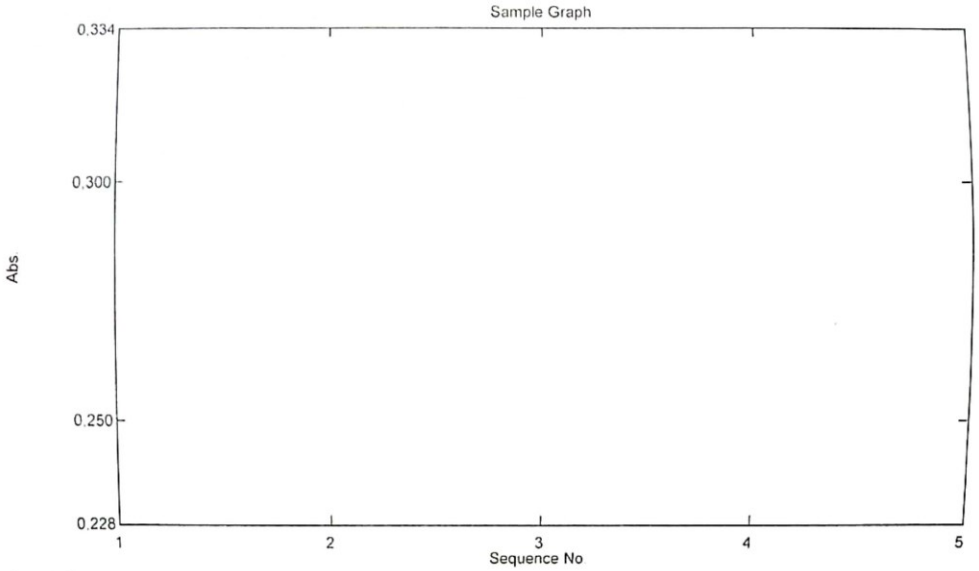
	Sample ID	Type	Ex	Conc	WL:516.6	Comments
1	nanoliposom2	Unknown		*****	0.350	
2	nanoliposom4	Unknown		*****	0.324	
3	nanoliposom6	Unknown		*****	0.283	
4	nanoliposom8	Unknown		*****	0.245	
5	nanoliposom1	Unknown		*****	0.216	
6						

Lampiran 21. Absorbansi Nanoliposom Formula 3

Sample Table Report

27/12/2023 09:58:24

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\nano f3r1.pho



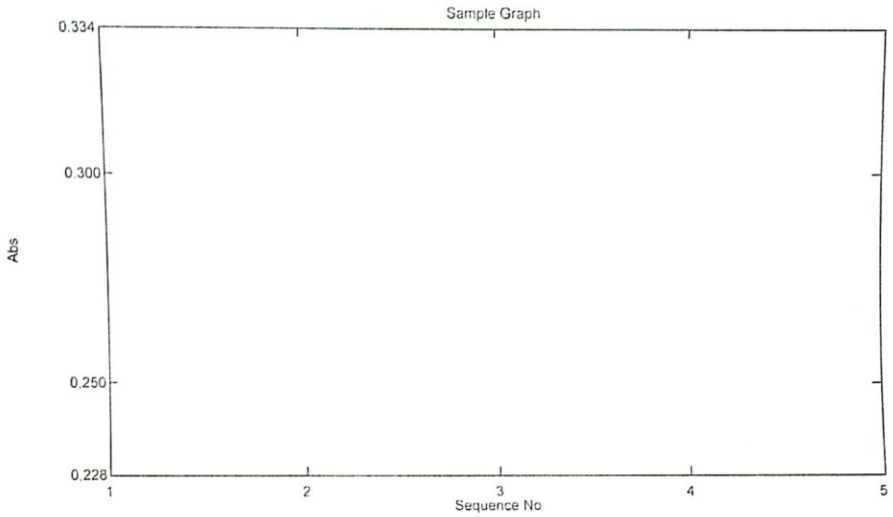
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom1	Unknown		*****	0.276	
2	nanoliposom2	Unknown		*****	0.234	
3	nanoliposom3	Unknown		*****	0.195	
4	nanoliposom4	Unknown		*****	0.164	
5	nanoliposom	Unknown		*****	0.112	
6						

Sample Table Report

27/12/2023 09:59:19

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\f3r2 nano.pho



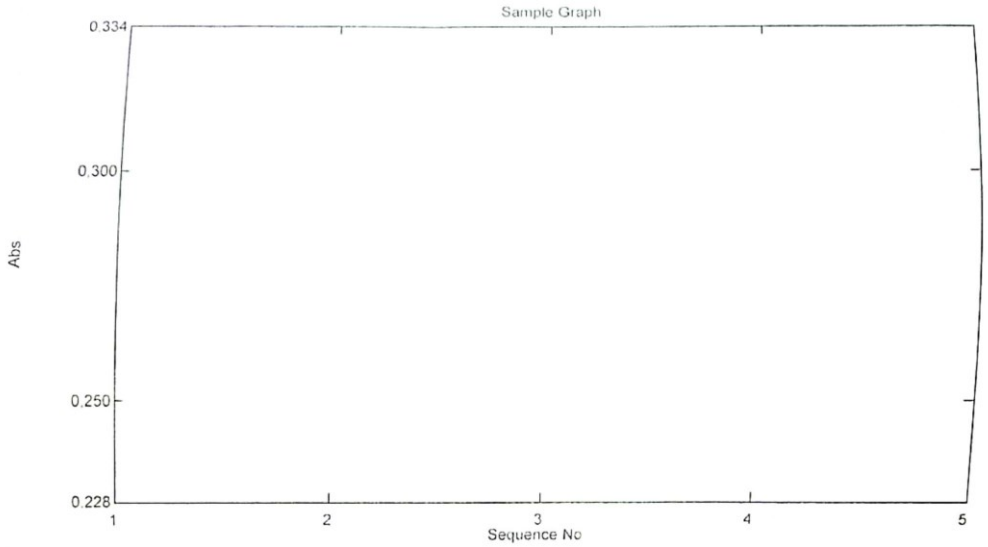
Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom1	Unknown		*****	0.279	
2	nanoliposom2	Unknown		*****	0.232	
3	nanoliposom3	Unknown		*****	0.196	
4	nanoliposom4	Unknown		*****	0.146	
5	nanoliposom5	Unknown		*****	0.116	
6						

Sample Table Report

27/12/2023 09:59:57

File Name: C:\Users\HP\Documents\INDAH\SKRIPSI\indah\f3r3 nano.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL516,6	Comments
1	nanoliposom1	Unknown		*****	0.279	
2	nanoliposom2	Unknown		*****	0.244	
3	nanoliposom3	Unknown		*****	0.195	
4	nanoliposom4	Unknown		*****	0.168	
5	nanoliposom5	Unknown		*****	0.135	
6						

Lampiran 22. Analisis Data Indeks polidispersitas dengan SPSS ver 25

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok uji	Statistic	df	Sig.	Statistic	df	Sig.
PDI	NANOLIPOSOM F1	.246	3	.	.970	3	.668
	NANOLIPOSOM F2	.189	3	.	.998	3	.906
	NANOLIPOSOM 3	.190	3	.	.997	3	.904

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PDI	Based on Mean	.436	2	6	.665
	Based on Median	.388	2	6	.694
	Based on Median and with adjusted df	.388	2	4.993	.697
	Based on trimmed mean	.434	2	6	.667

ANOVA

PDI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.082	2	.041	126.651	.000
Within Groups	.002	6	.000		
Total	.084	8			

Descriptives

	Kelompok uji			Statistic	Std. Error
PDI	NANOLIPOSOM F1	Mean		.3803	.00674
		95% Confidence Interval for Mean	Lower Bound	.3513	
			Upper Bound	.4093	
		5% Trimmed Mean		.	
		Median		.3780	
		Variance		.000	
		Std. Deviation		.01168	
		Minimum		.37	
		Maximum		.39	
		Range		.02	
		Interquartile Range		.	
		Skewness		.863	1.225
		Kurtosis		.	.
	NANOLIPOSOM F2	Mean		.3980	.01012
		95% Confidence Interval for Mean	Lower Bound	.3545	
			Upper Bound	.4415	
		5% Trimmed Mean		.	
		Median		.3990	
		Variance		.000	
		Std. Deviation		.01752	
		Minimum		.38	
		Maximum		.42	
		Range		.03	
		Interquartile Range		.	
		Skewness		-.256	1.225
		Kurtosis		.	.
	NANOLIPOSOM 3	Mean		.5913	.01330
		95% Confidence Interval for Mean	Lower Bound	.5341	
			Upper Bound	.6485	
		5% Trimmed Mean		.	
		Median		.5900	
		Variance		.001	
		Std. Deviation		.02303	
		Minimum		.57	
		Maximum		.62	
		Range		.05	
		Interquartile Range		.	
		Skewness		.260	1.225
		Kurtosis		.	.

Lampiran 23. Analisis Data Ukuran Partikel dengan SPSS ver25

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok uji	Statistic	df	Sig.	Statistic	df	Sig.
ukuran Partikel	NANOLIPOSOM F1	.292	3	.	.923	3	.463
	NANOLIPOSOM F2	.301	3	.	.912	3	.426
	NANOLIPOSOM 3	.303	3	.	.908	3	.413

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
ukuran Partikel	Based on Mean	3.392	2	6	.103
	Based on Median	1.251	2	6	.351
	Based on Median and with adjusted df	1.251	2	2.906	.406
	Based on trimmed mean	3.199	2	6	.113

ANOVA

ukuran Partikel

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.210	2	1.105	.652	.554
Within Groups	10.170	6	1.695		
Total	12.380	8			

Descriptives

	Kelompok uji			Statistic	Std. Error
ukuran Partikel	NANOLIPOSOM F1	Mean		10.9067	.30046
		95% Confidence Interval for Mean	Lower Bound	9.6139	
			Upper Bound	12.1995	
		5% Trimmed Mean		.	
		Median		10.7400	
		Variance		.271	
		Std. Deviation		.52042	
		Minimum		10.49	
		Maximum		11.49	
		Range		1.00	
		Interquartile Range		.	
		Skewness		1.293	1.225
		Kurtosis		.	.
	NANOLIPOSOM F2	Mean		9.9247	1.24342
		95% Confidence Interval for Mean	Lower Bound	4.5747	
			Upper Bound	15.2747	
		5% Trimmed Mean		.	
		Median		9.1880	
		Variance		4.638	
		Std. Deviation		2.15366	
		Minimum		8.24	
		Maximum		12.35	
		Range		4.11	
		Interquartile Range		.	
		Skewness		1.359	1.225
		Kurtosis		.	.
	NANOLIPOSOM 3	Mean		11.0333	.24230
		95% Confidence Interval for Mean	Lower Bound	9.9908	
			Upper Bound	12.0759	
		5% Trimmed Mean		.	
		Median		11.1800	
		Variance		.176	
		Std. Deviation		.41968	
		Minimum		10.56	
		Maximum		11.36	
		Range		.80	
		Interquartile Range		.	
		Skewness		-1.381	1.225
		Kurtosis		.	.

Lampiran 24. Analisis Data pH dengan SPSS ver 25

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompok uji	Statistic	df	Sig.	Statistic	df	Sig.
nilai pH	NANOLIPOSOM F1	.175	3	.	1.000	3	1.000
	NANOLIPOSOM F2	.356	3	.	.818	3	.157
	NANOLIPOSOM 3	.301	3	.	.912	3	.424

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
nilai pH	Based on Mean	.221	2	6	.808
	Based on Median	.248	2	6	.788
	Based on Median and with adjusted df	.248	2	5.946	.788
	Based on trimmed mean	.226	2	6	.804

ANOVA

nilai pH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.285	2	.143	2332.267	.000
Within Groups	.000	6	.000		
Total	.285	8			

Descriptives

	Kelompok uji			Statistic	Std. Error
nilai pH	NANOLIPOSOM F1	Mean		7.6733	.05812
		95% Confidence Interval for Mean	Lower Bound	7.4233	
			Upper Bound	7.9234	
		5% Trimmed Mean		.	
		Median		7.6600	
		Variance		.010	
		Std. Deviation		.10066	
		Minimum		7.58	
		Maximum		7.78	
		Range		.20	
		Interquartile Range		.	
		Skewness		.586	1.225
		Kurtosis		.	.
	NANOLIPOSOM F2	Mean		7.4100	.12423
		95% Confidence Interval for Mean	Lower Bound	6.8755	
			Upper Bound	7.9445	
		5% Trimmed Mean		.	
		Median		7.4000	
		Variance		.046	
		Std. Deviation		.21517	
		Minimum		7.20	
		Maximum		7.63	
		Range		.43	
		Interquartile Range		.	
		Skewness		.209	1.225
		Kurtosis		.	.
	NANOLIPOSOM 3	Mean		7.5767	.00882
		95% Confidence Interval for Mean	Lower Bound	7.5387	
			Upper Bound	7.6146	
		5% Trimmed Mean		.	
		Median		7.5800	
		Variance		.000	
		Std. Deviation		.01528	
		Minimum		7.56	
		Maximum		7.59	
		Range		.03	
		Interquartile Range		.	
		Skewness		-.935	1.225
		Kurtosis		.	.

Lampiran 25. Analisis Data Nilai IC_{50} dengan SPSS ver25

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	KELOMPOK	Statistic	df	Sig.	Statistic	df	Sig.
NILAI IC50	Formulasi 1	.375	3	.	.774	3	.053
	Formulasi 2	.188	3	.	.998	3	.911
	Formulasi 3	.182	3	.	.999	3	.938

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
NILAI IC50	Based on Mean	15.559	2	6	.004
	Based on Median	1.073	2	6	.399
	Based on Median and with adjusted df	1.073	2	2.000	.482
	Based on trimmed mean	12.406	2	6	.007

ANOVA

NILAI IC50

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18871.686	2	9435.843	71.877	.000
Within Groups	787.669	6	131.278		
Total	19659.355	8			

Test Statistics[a,b]

	NILAI IC50
Kruskal-Wallis H	7.200
df	2
Asymp. Sig.	.027

a. Kruskal Wallis Test

b. Grouping Variable: KELOMPOK

Descriptives

	KELOMPOK			Statistic	Std. Error
NILAI IC50	Formulasi 1	Mean		130.2667	11.45615
		95% Confidence Interval for Mean	Lower Bound	80.9748	
			Upper Bound	179.5585	
		5% Trimmed Mean		.	
		Median		119.3700	
		Variance		393.730	
		Std. Deviation		19.84263	
		Minimum		118.26	
		Maximum		153.17	
		Range		34.91	
		Interquartile Range		.	
		Skewness		1.726	1.225
		Kurtosis		.	.
	Formulasi 2	Mean		63.0100	.10693
		95% Confidence Interval for Mean	Lower Bound	62.5499	
			Upper Bound	63.4701	
		5% Trimmed Mean		.	
		Median		63.0200	
		Variance		.034	
		Std. Deviation		.18520	
		Minimum		62.82	
		Maximum		63.19	
		Range		.37	
		Interquartile Range		.	
		Skewness		-.242	1.225
		Kurtosis		.	.
	Formulasi 3	Mean		18.9000	.15308
		95% Confidence Interval for Mean	Lower Bound	18.2414	
			Upper Bound	19.5586	
		5% Trimmed Mean		.	
		Median		18.8900	
		Variance		.070	
		Std. Deviation		.26514	
		Minimum		18.64	
		Maximum		19.17	
		Range		.53	
		Interquartile Range		.	
		Skewness		.169	1.225
		Kurtosis		.	.

Lampiran 26. Surat Plagiarisme

UNIVERSITAS NGUDI WALUYO
UPT PERPUSTAKAAN
Jl. Diponegoro No.186, Gedang Anak, Ungaran Timur, Kec. Ungaran Timur, Semarang, Jawa Tengah 50512
Website. unw.ac.id |Telepon: (024) 6925408

SURAT KETERANGAN CEK PLAGIARISME (TURNITIN)

No. Surat : 0261/PERPUSUNW/I/2024

UPT Perpustakaan Universitas Ngudi Waluyo menerangkan bahwa mahasiswa dengan identitas berikut:

Nama	:	SRI INDAH LESTARI
NIM	:	051201029
Program Studi	:	S1 Farmasi
Judul Skripsi/ KTI	:	KARAKTERISTIK FISIK DAN AKTIVITAS ANTIOKSIDAN NANO LIPOSOM MINYAK BIJI ANGGUR (Vitis vinifera Seed Oil)

Dinyatakan **SUDAH** memenuhi syarat batas maksimal plagiasi kurang dari 30% pada setiap subbab naskah Skripsi/ KTI yang disusun. Surat Keterangan ini digunakan sebagai prasyarat untuk mengikuti ujian Skripsi/ KTI.

Ungaran, 15/01/2024

Plt. Ka. UPT Perpustakaan,

Eko Nur Hermansyah, S. Hum., M. Kom.

261

Lampiran 27. TOEFL

NGUDI WALUYO
UNIVERSITY

TOEFL SCORE REPORT

Name	:	SRI INDAH LESTARI
Registration Number	:	014/XII/2023
DOB	:	Pati, 6 Maret 2001
Test Date	:	13 Desember 2023
Listening Comprehension	:	50
Structure and Writing Expression	:	45
Reading Comprehension	:	43
Total Score	:	460

The head of languange laboratory

Maya Kurnia Dewi, S.S., M.Hum

TOEFL is a registered trademark of educational Testing Service (ETS)
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*Sertifikat TOEFL hanya bisa digunakan di lingkungan internal Universitas Ngudi Waluyo

Lampiran 28. Lembar Konsultasi

LAPORAN BIMBINGAN TA/SKRIPSI
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Nomor Induk Mahasiswa :	051201029
Nama Mahasiswa :	**SRI INDAH LESTARI**
Ketua Program Studi :	**Richa Yuswantina, S.Farm,Apt, M.Si**
Dosen Pembimbing (1) :	**Istianatus Sunnah, S.Farm., Apt., M.Sc**
Dosen Pembimbing (2) :	**Istianatus Sunnah, S.Farm., Apt., M.Sc**
Judul Ta/Skripsi :	**AKTIVITAS AKTIOSIDAN DAN EVALUASI KARAKTERISTIK FISIK SEDIAAN LIPOSOM MINYAK BIJI ANGGUR (VITIS VINIFERA L)**

Abstrak :

Anggur menjadi salah satu buah yang banyak digemari, karena mengandung banyak nutrisi dan memiliki sifat farmasetis. Salah satu contohnya ekstrak biji anggur memiliki potensi antioksidan yang tinggi; efek menguntungkannya termasuk modulasi ekspresi enzim antioksidan, perlindungan terhadap kerusakan oksidatif dalam sel, efek antiaterosklerotik dan anti-inflamasi, dan perlindungan terhadap beberapa jenis kanker, baik pada manusia maupun hewan (Garavaglia et al., 2016). Biji anggur mengandung sumber zat polifenol yang signifikan (20–55%), Minyak biji anggur memiliki komposisi asam lemak seperti, linoleate, olein, palmitin, iristinik, oleate, asam lemak,stearate dan vitamin E. Selain memiliki banyak manfaat, minyak biji anggur juga sering digunakan untuk tujuan farmasi dan medis karena memiliki stabilitas yang baik dan memiliki ketahanan yang tinggi terhadap oksidasi (Rachmadani et al., 2022; Sumaiyah
Leisyah, 2019).
Industri kecantikan dan perawatan kulit mencoba berbagai inovasi dalam merancang produk kosmetik demi menghasilkan produk dengan kinerja dan mutu yang lebih baik. Salah satu inovasi yang saat ini tengah populer dan berhasil menarik minat masyarakat internasional adalah nanoteknologi. Di banyak sektor, kemampuan untuk menembus sel hingga tingkat skala nano menjadi prospek yang menjanjikan di bidang kesehatan bagi masyarakat. Nanoteknologi juga dipandang sebagai solusi untuk penelitian pembuatan kosmetik baru (Cardoza et al., 2022). Industri kosmetik memperoleh manfaat nanoteknologi dengan mengembangkan nanopartikel untuk meningkatkan kinerja dan bioavailabilitas komponen aktif dalam kosmetik, tabir surya, krim anti penuaan, pelembab, dan parfum. Produk berbasis nano sangat membantu dalam penyerapan dan penetrasi yang efisien melalui kulit. Bahan aktif tersebut teradsorpsi pada permukaan nanopartikel yang berperan sebagai media penghantaran (Yadwade et al., 2021).
Nanoteknologi membantu dalam sintesis bahan menjadi nanomaterial. Nanomaterial digunakan untuk membantu memberikan karakteristik baru dalam kosmetik. Beragamnya jenis nanomaterial dengan karakteristik beragam dapat menimbulkan manfaat yang berbeda-beda. Jenis nanomaterial yang digunakan antara lain nanokapsul, dendrimer, nanoemulsi, nanoliposom, bahan nano-hidroksiapatit, yang telah digunakan dalam kosmetik untuk berbagai keperluan seperti perawatan mulut, pembawa pelindung dan mengantarkan bahan melalui kulit (Yadwade et al., 2021).
Liposom adalah struktur nano baru untuk enkapsulasi dan pengiriman agen bioaktif. Ada banyak bahan bioaktif yang dapat dimasukkan ke dalam liposom termasuk kosmetik, bahan makanan, dan obat-obatan. Liposom memiliki sifat tertentu seperti biokompatibilitas, biodegradabilitas; disertai dengan ukuran nanonya, mereka memiliki aplikasi potensial dalam kosmetik. Teknologi nanoliposom menawarkan peluang menarik di berbagai bidang termasuk enkapsulasi dan pelepasan bahan yang terkontrol, juga meningkatkan bioavailabilitas dan stabilitas bahan sensitif. Di tengah banyaknya sistem pengiriman obat dan gen baru yang brilian, liposom menyediakan teknologi canggih untuk membawa molekul aktif ke tempat kerja tertentu, dan saat ini, berbagai formulasi digunakan secara klinis (Panahi et al., 2017; Yadwade et al., 2021).
Liposom terdiri dari membran fosfolipid yang dapat bertindak sebagai sarana pengantaran molekul tertutup yang diinginkan ke dalam atau melalui kulit. Fosfolipid yang terdapat pada liposom mampu menjaga kelembutan dan kehalusan kulit. Lipid yang ada dalam liposom melindungi bahan aktif dari sinar UV dan pada gilirannya membantu meningkatkan umur simpan produk. liposom berisi obat dibuat dengan tujuan: memperbaiki kelarutan, mengurangi efek samping, pelepasan diperlama, melindungi obat, obat tertarget dan peningkat efikasi. Produk yang menerapkan sistem liposom diantaranya kosmetik seperti krim, bahan cukur, tabir surya, sampo (Febriyenti et al., 2018; Yadwade et al., 2021).

Berdasarkan latar belakang di atas, maka dilakukannya penelitian terhadap minyak biji anggur sebagai bahan dasar pembuatan liposom yang stabil dalam penyimpanan dan memiliki aktivitas antioksidan.

Tanggal Pengajuan : **05/10/2023 06:41:46**

Tanggal Acc Judul : 09/10/2023 12:01:12

Tanggal Selesai Proposal : 11/12/2023 03:19:12

Tanggal Selesai TA/Skripsi : -

No	Hari/Tgl	Keterangan	Dosen/Mhs
BIMBINGAN PROPOSAL			
1	Sabtu,14/10/2023 04:19:03	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 04:20:09	Bimbingan judul dan tema penentuan tema penentuan pustka metode yang digunakan 24 September 2023	Istianatus Sunnah, S.Farm., Apt., M.Sc
3	Jumat,03/11/2023 22:50:45	bimbingan bab 1-3	Istianatus Sunnah, S.Farm., Apt., M.Sc
4	Senin,11/12/2023 03:19:01	6 November 2023 Revisi Bab 1-3 acc masuk lab penelitian siapkan lembar persetujuan proposal	Istianatus Sunnah, S.Farm., Apt., M.Sc
BIMBINGAN TA/SKRIPSI			
5	Senin,11/12/2023 03:22:26	8 November 2023 Konsultasi Hasil Nano liposom MBA Ukuran partikel 12, 35 nm PDI 0,415 pH 7,72 panjang gelombang 517 nm OT 9 menit absorbansi blangko 0,518 hasil uji antioksidan kurva jelek Ic 50 71, 22 ppm silakan ulang uji antioksidan hasil kurva jelek	Istianatus Sunnah, S.Farm., Apt., M.Sc

6	Senin,11/12/2023 03:47:55	9 November 2023 Konsul ulang hasil antioksidan nano liposom minyak biji anggur ' IC 50 MBA 54,9 ppm IC 50 nano liposom 300 ppm (lemah) cek ulang IC 50 MBA 46,75 ppm liposom 76,52 ppm acc lanjutkan	Istianatus Sunnah, S.Farm., Apt., M.Sc
7	Senin,11/12/2023 03:52:50	16 November 2023 hasil uji antioksidan OT 24 menit panjang gel 516,6 nm MBA 47,412 ppm nanoliposom 99,07 ppm ukuran partikel nano liposom 12, 35 nm; 9,188 nm; 8,236 nm pH 6;5;5 PDI 0,415; 0,399 ; 0,38 acc lanjutkan evaluasi	Istianatus Sunnah, S.Farm., Apt., M.Sc
8	Senin,11/12/2023 04:06:14	27 November 2023 uji aktivitas antioksidan MBA 17.338 ppm Vit C 6,22 ppm ; 7,06 ppm; 6,3030 ppm nano liposom F1 119,368 ppm; 153,173 ppm; 118,257 ppm nano liposom F2 63,195 ppm; 63,018 ppm; 62,821 ppm lanjutkan pengujian karakteristik dan lakukan pembahasaN https://drive.google.com/drive/folders/1msrL0oYDaeolx3s86OkfrPSj4ONhVTIH?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc
9	Minggu,17/12/2023 15:46:17	Bimbingan revisi bab 1-5 penulisan masih banyak yang typo abstrak perbaiki pembahasan masih belum sinkron dengan bab 3 perbaiki https://drive.google.com/drive/folders/1gTRQ7zkgO-_6UkFS0GfKIexj_dOhqQsg?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc
10	Senin,01/01/2024 05:05:34	1 Januari 2024 jam 13.00-15.30 bimbingan revisi bab 1-5 kedua catatan terlampir di link https://drive.google.com/drive/folders/1fat-uD2RNHxCIBi7aubvzYC7_cJ8f_Yq?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc
11	Senin,01/01/2024 14:41:39	Bimbingan Bab 1-5 kesimpulan lampiran https://drive.google.com/drive/folders/1fat-uD2RNHxCIBi7aubvzYC7_cJ8f_Yq?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc

12	Sabtu,13/01/2024 22:23:48	Silakan perbaiki abstrak dan pembahasan terkait penmgaruh komponen nano dengan pH mengapa ph sediaan menjadi lebih tinggi dari PBS? revisi, lakukan cek turnitin dan siapkan untuk ujian https://drive.google.com/drive/folders/1bhQ0HpfYzyFATWUQntX5I_heCd1XBIsE?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc
13	Rabu,17/01/2024 04:10:51	naskah sudah baik, hanya ada sedikit revisi yg saya tandai kuning persiapkan untuk ujian hasil turnitini sdh di bawah 30, acc untuk ujian https://drive.google.com/drive/folders/1fzNJaj1plVKdtTLG69EPMeditFWTzdk-?usp=sharing	Istianatus Sunnah, S.Farm., Apt., M.Sc

Mengetahui,
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Richa Yuswantina, S.Farm,Apt, M.Si
(NIDN: 0630038702)

Semarang , 17 Januari 2024

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