

LAMPIRAN

Lampiran 1. Determinasi Tanaman



INSTITUT TEKNOLOGI BANDUNG

SEKOLAH ILMU DAN TEKNOLOGI HAYATI

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Nomor : 3140/IT1.C11.2/TA.00/2025
Hal : Determinasi tumbuhan

06 Mei 2025

Yth. Dekan
Fakultas Farmasi
Universitas Bhakti Kencana
Jalan Soekarno Hatta No. 754
Bandung

Memperhatikan permintaan Saudara dalam surat No. 171/03.S1-FF/UBK/II/2025 tanggal 10 Februari 2025 mengenai determinasi tumbuhan, dengan ini kami sampaikan bahwa setelah dilakukan pendeterminasian oleh staf kami, sampel tumbuhan yang dikirim oleh Sdr. Rheini Dwi Mulia (NIM: 231ff04034), yaitu:

No	Nama sampel	Hasil determinasi	Famili
1	Labu siam	<i>Sicyos edulis</i> Jacq.	Cucurbitaceae

Referensi:

1. de Wilde, W. J. J. O., & Duyfjes, B. (2010). Cucurbitaceae. *Flora Malesiana - Series 1, Spermatophyta*, 19(1), 1–333.
2. Blancke, R. (2016). *Tropical Fruits and Other Edible Plants of the World: An illustrated guide*. Comstock Publishing Associate.

Demikian yang kami sampaikan. Atas perhatian dan kerjasama yang diberikan, kami ucapkan terima kasih.



Wakil Dekan Bidang Sumber Daya,

Angga Dwiartama, S.Si., M.Si., Ph.D.
NIP. 198302052012121002

Tembusan:
1. Dekan SITH ITB

Terakreditasi oleh:



Lampiran 2. COA PVP K30

COA Code: JHNHPK30PG(USP41)0002



JH Nanhang Life Sciences Co., Ltd.
Certificate of Analysis

Product Name	Povidone K30	Batch No.	PK30-220919F31	Date of Mfg	20220919
Quantity	6000KG	Packaging	25KG/ Fibre Drum	Expiry Date	20260918
Source	PVP Workshop	Reference	USP41		
No.	Items	Specification			Test Results
1.	Appearance	White or yellowish-white, hygroscopic powder			Complies
2.	Solubility	Freely soluble in water, ethanol 96%, methanol, very slightly soluble in acetone			Complies
3.	Identifications A, B, C, D, E	Positive			Complies
4.	Appearance of solution	Clear and NMT B _s , B _y , or R _s			Complies
5.	pH	3.0-5.0			3.4
6.	K-value	27.0-32.4			29.6
7.	Aldehydes, ppm	≤ 500			21.1
8.	Peroxides, ppm	≤ 400			189
9.	Formic acid, %	≤ 0.5			0.3
10.	Hydrazine, ppm	≤ 1			<1
11.	Impurity A (1-vinylpyrrolidin-2-one), ppm	≤ 10			0.22
12.	Impurity B (2-pyrrolidone), %	≤ 3.0			1.1
13.	Heavy metals, ppm	≤ 10			<10
14.	Lead, ppm	≤ 10			<10
15.	Water, %	≤ 5.0			2.9
16.	Sulphated ash, %	≤ 0.1			0.08
17.	Nitrogen content, %	11.5 - 12.8			12.0
18.	* Total Aerobic Plate count, CFU/g	≤ 100			<10
19.	* Total Mold/Yeast count, CFU/g	≤ 100			<10
20.	* E.coli, CFU/g	Not detected			Complies
21.	* Staphylococcus Aureus, CFU/g	Not detected			Complies
22.	* Pseudomonas Aeruginosa, CFU/g	Not detected			Complies
23.	* Salmonella, CFU/g	Not detected			Complies

Note: The above tests with * are performed randomly.

Conclusion: Material meets the requirement for Povidone in USP41.

Completed by: Lan Qiao

Signature: *Lan Qiao*

Date: 30/9/2022

QC Manager: Tong Mengxin

Signature: *Tong Mengxin*

Date: 30/9/2022

Released by QA Manager: Zhang Ming

Signature: *Zhang Ming*

Date: 30/9/2022

Factory address: No.16 Luyin Road, Hi-Tech Industrial Zone, Quzhou, Zhejiang, 324004 P. R. China

Website: www.jh-nh.com

E-mail: info@jh-nh.com

Contact person: Zhang Ming

Tel: +86-0570-3883574

Lampiran 3. COA Kitosan

Result Of Analysis	
pharma	
Source	: SHRIMPSHELL extract
Batch	: chs_0424
Production Date	: April, 2024
Qty	: 1Kg
Exp Date	: April, 2027
Parameter	Result
Colour / Appearance	White
Particle Size	powder
Moisture Regaint	9.88%
Residue Of Ignition	0.89%
Degree Of Deacetylation	98.03%
Viscosity	190.21mPas
Molecular Weight	75.02KDa
Proteint Content	< 0.2 %
Heavy Metals	< 3ppm
Micro Organism	Negative

Lampiran 4. COA Laktosa



DFE Pharma GmbH & Co. KG / PO Box 20 21 20 / D-47568 Goch

Page nr. 1/2

0811342880-900001-20221010-133649-2008-3430_FCM7_01-000001

Certificate of Analysis

Customer number	: 160560	Lot/ Batchnumber	: 23174701
Delivery number	: 811342880	Date of production	: 03.06.2022
Delivery Date	: 24.10.2022	Expiry date	: 01.06.2025
Material number	: 0743826	Order number	: 15452851
Material description	HMS Impalpable (NZ) Milled lactose monohydrate USP-NF, Ph.Eur., JP Bag, PE liner, 25 kg net		
Your order number	: PH220517		

Analysis**Chemical & Physical**

Characteristic	Method of analysis	Unit	Specification	Results
Infrared absorption spectrum / Id A	USP-NF; Ph.Eur.; JP		Conforms to reference	Pass
Water / Id D Ph.Eur.	USP-NF; Ph.Eur.; JP	%(m)	4.5-5.5	5.1
Appearance of solution	Ph.Eur.		Not more intensely coloured than ref BY7	Pass
Lactose colour of sol.	USP-NF; JP		Nearly colourless	Pass
Lactose clarity of sol.	USP-NF; Ph.Eur.; JP		Clear	Pass
UV-Abs. 1% sol. 210-220 nm	USP-NF; Ph.Eur.; JP		0.00-0.25	0.02
UV-Abs. 1% sol. 270-300 nm	USP-NF; Ph.Eur.; JP		0.00-0.07	0.00
UV-Abs. 10% sol. 400 nm	USP-NF; Ph.Eur.; JP		0.00-0.04	0.00
Acidity (0.1N NaOH/6g)	USP-NF; Ph.Eur.; JP	ml	0.0-0.4	0.2
Specific optical rotation (anhydrous bas	USP-NF; Ph.Eur.; JP	Degree	54.4-55.9	55.1
Heavy Metals	USP-NF; Ph.Eur.; JP		max 5 ppm	Pass
Loss on Drying (2 hrs, 80°C)	USP-NF; JP	%(m)	0.0-0.5	0.1
Residue on ignition / Sulfated ash	USP-NF; Ph.Eur.; JP	%(m)	0.0-0.1	<0.1

Microbiological

Characteristic	Method of analysis	Unit	Specification	Results
Total Aerobic Micro Count	Pharmacopeia Harmonized Methods	cfu/g	0-100	<100
Total Yeast & Mould Count	Pharmacopeia Harmonized Methods	cfu/g	0-10	<10
Escherichia coli (10 g)	Pharmacopeia Harmonized Methods		Negative	Negative
Salmonella (750g)	equal to ISO 6579		Negative	Negative

OTHERS

Characteristic	Method of analysis	Unit	Specification	Results
Particle size <75 µm	Internal, ATM sonic sifter	%(m)	78-86	81
Particle size <180 µm	Internal, ATM sonic sifter	%(m)	>=98	99

Manufacturer: DFE Pharma GmbH & Co. KG, Goch, Germany (formerly named "DMV-Fonterra Excipients GmbH & Co. KG")

Lampiran 5. COA SSG

Sodium Starch Glycolate (Normal Residual Solvent Grade)-EP/BP	
Tests	Acceptance Criteria
Appearance	A white or almost white, fine, free-flowing powder, very hygroscopic
Solubility	Practically insoluble in methylene chloride. A translucent suspension in water
Identification A. pH B. Suspension test C. Iodine test D. Sodium test	5.5 ~ 7.5 A suspension forms that settles after standing The solution becomes blue or violet Dense white precipitate formed
Appearance of solution Clear Colorless	The opalescence is not more pronounced than reference suspension I Not more intensely colored than reference solution B ₉
Assay	2.8 % ~ 4.2 % of sodium
Sodium chloride	≤ 7.0 %
Sodium glycolate	≤ 2.0 %
Loss on drying	≤ 10.0 %
Iron	≤ 20 ppm
Settling volume	< 45 mL
Degree of substitution	For reference
Microbial contamination	Absence of <i>Salmonella</i> species and <i>Escherichia coli</i>
Particle size d(90%)	≤ 82 μm

Lampiran 6. COA DPPH



Certificate of Analysis

2023-09-07(JST)

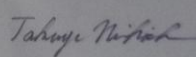
TOKYO CHEMICAL INDUSTRY CO., LTD.
T-PLUS Nihonbashi-kodemmacho
16-12 Nihonbashi-kodemmacho, Chuo-ku, Tokyo 103-0001, Japan

Chemical Name: 1,1-Diphenyl-2-picrylhydrazyl Free Radical		
Product Number: D4313		
CAS RN: 1898-66-4		
Lot: U6GJC		

Tests	Results	Specifications
Appearance	Black powder	Black powder to crystal
Purity(HPLC)	99.0 area%	min. 97.0 area%

CI Lot numbers are 4-5 characters in length. Characters listed after the first 4-5 characters are control numbers for internal purpose only.
The contents of the specifications are subject to change without advance notice. The specification values displayed here are the most up to date values. There may be cases where the product labels display a different specification, however, the product quality still meets the latest specification.

Customer Service:
TOKYO CHEMICAL INDUSTRY CO., LTD
E-mail: globalbusiness@TCIchemicals.com


Takuya Nishioka
Quality Assurance Department Manager

Lampiran 7. Hasil Desain Expert

1. Hasil desain expert mikropartikel

D:\APROPOSAL\Mikropartikel\CCD mikro baru.dpx* - Design-Expert 13

File Edit View Display Options Design Tools Help

Change View Round Columns Augment Design Hide/Show Columns

Navigation Pane

Design (Actual)

Information

Notes

Summary

Graph Columns

Evaluation

Constraints

Analysis [+]

R1 (Empty)

R2 (Empty)

Design Properties

Cell

Cell Status Normal

Run 13

Comment

Run Status Minimal

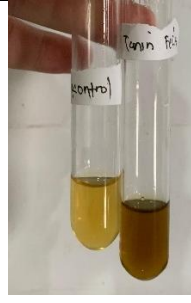
Std	Run	Factor 1 A: Chitosan %	Factor 2 B: PVP K30 %	Response 1 R1 %	Response 2 R2 menit	Response 3 R3 gram/detik	Response 4 R4 menit	Response 5 R5 mm
13	1	1,75	2,75					
6	2	3	0,5					
8	3	0,5	5					
7	4	0,5	5					
3	5	0,5	5					
1	6	0,5	0,5					
2	7	3	0,5					
10	8	1,75	2,75					
5	9	3	0,5					
12	10	1,75	2,75					
4	11	3	5					
9	12	1,75	2,75					
11	13	1,75	2,75					

Bahan	Batas bawah	Batas atas
Kitosan	0,5%	3%
PVP	0,5%	5%

*dengan Metode DoE CCD

Lampiran 8. Penapisan fitokimia

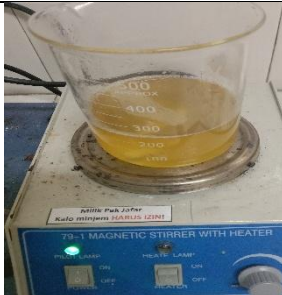
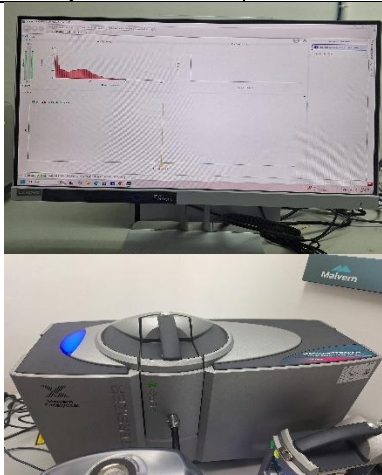
Penapisan fitokimia ekstrak etanol buah labu siam

				
Alkaloid	Flavonoid	Saponin	Tanin	Triterpenoid

Lampiran 9. Pembuatan Mikropartikel

Pembuatan mikropartikel			
			
Penimbangan bahan	Proses ekstruksi	Proses Sferonisasi	Pengeringan oven

Lampiran 10. Evaluasi Fisik Sediaan Mikropartikel

Evaluasi fisik sediaan mikropartikel			
			
Laju alir	Kompresibilitas	Distribusi ukuran partikel	Kadar air
			
Waktu melarut	Sudut diam	Distribusi ukuran partikel	

Lampiran 11. Data Hasil Evaluasi

1. Laju Alir

F1	gram	detik	hasil	SD
1	50	5,47	9,140768	0,215195
2	50	5,3	9,433962	
3	50	5,23	9,560229	
rata-rata			9,37832	
F2	gram	detik	hasil	SD
1	50	5,17	9,67118	0,273016
2	50	5,47	9,140768	
3	50	5,38	9,29368	
rata-rata			9,368543	
F3	gram	detik	hasil	SD
1	50	5,23	9,560229	0,167707
2	50	5,33	9,380863	
3	50	5,42	9,225092	
rata-rata			9,388728	
F4	gram	detik	hasil	SD
1	50	5,11	9,784736	0,144659
2	50	5,21	9,596929	
3	50	5,06	9,881423	
rata-rata			9,754363	
F5	gram	detik	hasil	SD
1	50	5,21	9,596929	0,172302
2	50	5,4	9,259259	
3	50	5,27	9,487666	
rata-rata			9,447951	

2. Sudut diam

F1	d	r	h	h/r	tangen	SD
1	8,3	4,15	2,2	0,53012	27,92898	1,428752
2	8	4	2,3	0,575	29,8989	
3	8,2	4,1	2,1	0,512195	27,1213	
rata-rata					28,31639	
F2	d	r	h	h/r	tangen	SD
1	8,3	4,15	2,4	0,578313	30,04136	1,33314
2	8,5	4,25	2,3	0,541176	28,42121	
3	8,3	4,15	2,5	0,60241	31,06516	
rata-rata					29,84258	
F3	d	r	h	h/r	tangen	SD
1	8,6	4,3	2,4	0,55814	29,16761	1,449127
2	8,6	4,3	2,2	0,511628	27,09555	

3	8,7	4,35	2,5	0,574713	29,88653	
rata-rata					28,71656	
F4	d	r	h	h/r	tangen	SD
1	8,5	4,25	2,3	0,541176	28,42121	1,174079
2	8,4	4,2	2,4	0,571429	29,74488	
3	8,4	4,2	2,5	0,595238	30,76272	
rata-rata					29,64294	
F5	d	r	h	h/r	tangen	SD
1	8,1	4,05	2,4	0,592593	30,65067	1,173936
2	8,5	4,25	2,3	0,541176	28,42121	
3	8,6	4,3	2,5	0,581395	30,17352	
rata-rata					29,74847	

3. Susut Pengerangan/ kadar air

F1		SD
1	3,234	0,166036
2	3,337	
3	3,0121	
rata-rata	3,194367	
F2		SD
1	3,527	0,154319
2	3,401	
3	3,22	
rata-rata	3,382667	
F3		SD
1	3,399	0,09945
2	3,264	
3	3,205	
rata-rata	3,289333	
f4		SD
1	3,195	0,125301
2	3,015	
3	3,256	
rata-rata	3,155333	
F5		SD
1	3,429	0,165049
2	3,271	
3	3,601	
rata-rata	3,433667	

4. Kompresibilitas

F1	V0	V1	gram	hasil	SD
1	82	73	50	10,97561	1,302906
2	81	71	50	12,34568	
3	81	70	50	13,58025	
rata-rata				12,30051	
F2	V0	V1	gram	hasil	SD
1	83	71	50	14,45783	1,648398
2	82	72	50	12,19512	
3	80	71	50	11,25	
rata-rata				12,63432	
F3	V0	V1	gram	hasil	SD
1	82	73	50	10,97561	0,75494
2	81	72	50	11,11111	
3	81	71	50	12,34568	
rata-rata				11,47747	
F4	V0	V1	gram	hasil	SD
1	84	75	50	10,71429	1,30576
2	84	73	50	13,09524	
3	82	73	50	10,97561	
rata-rata				11,59504	
F5	V0	V1	gram	hasil	SD
1	83	74	50	10,84337	0,612923
2	83	73	50	12,04819	
3	80	71	50	11,25	
rata-rata				11,38052	

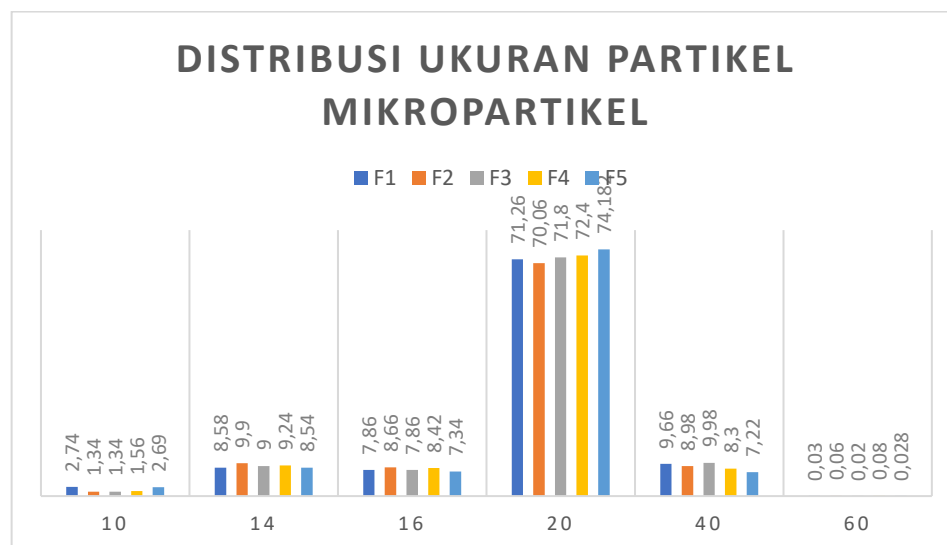
5. Waktu Melarut

F1		SD
1	1,17	0,015275252
2	1,2	
3	1,19	
rata-rata	1,186666667	
F2		SD
1	1,16	0,01
2	1,18	
3	1,17	
rata-rata	1,17	
F3		SD
1	1,17	0,01
2	1,19	
3	1,18	

rata-rata	1,18	
F4		SD
1	1,13	0,025166115
2	1,16	
3	1,11	
rata-rata	1,133333333	
F5		SD
1	1,18	0,01
2	1,19	
3	1,2	
rata-rata	1,19	

**Lampiran 12. Hasil Distribusi Ukuran Partikel
Dengan Alat *shieve shaker***

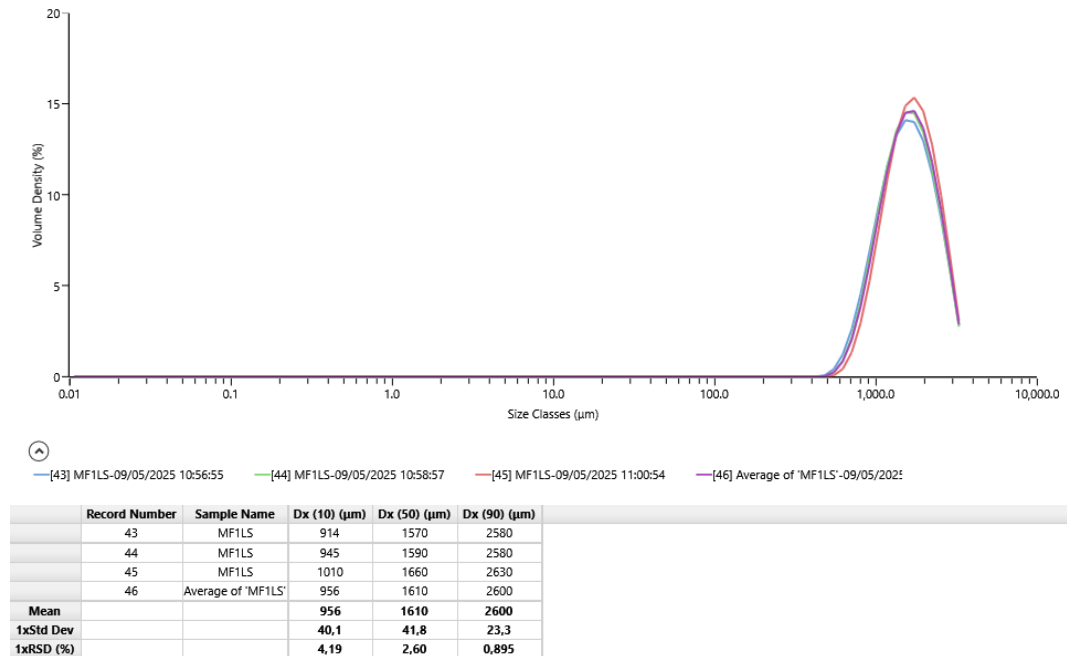
Mesh	Bobot tiap mesh (%)				
	F1	F2	F3	F4	F5
10 (1410-2000 μm)	2,74	1,34	1,34	1,56	2,69
14 (1190-1410 μm)	8,56	9,9	9	9,24	8,54
16 (850-1190 μm)	7,86	8,66	7,86	8,42	7,34
20 (426-850 μm)	71,26	70,06	71,8	71,4	74,182
40 (251-425 μm)	9,66	8,98	9,88	8,3	7,22
60 (181-250 μm)	0,03	0,06	0,02	0,08	0,028



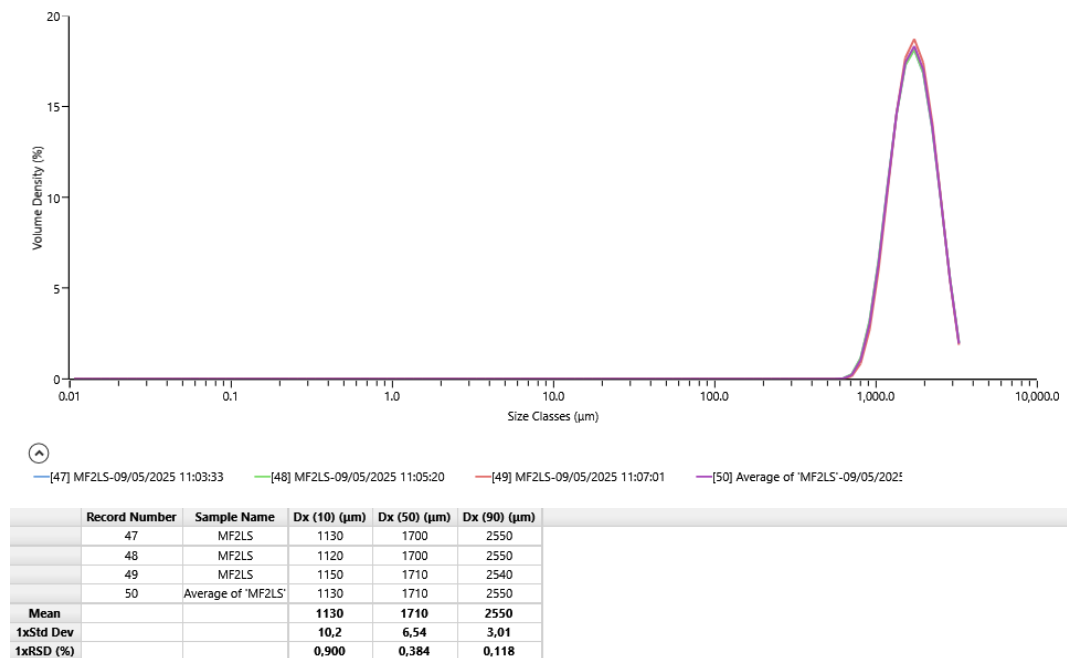
Gambar 14. Grafik Distribusi Ukuran Partikel Mikropartikel

Dengan Alat PSA

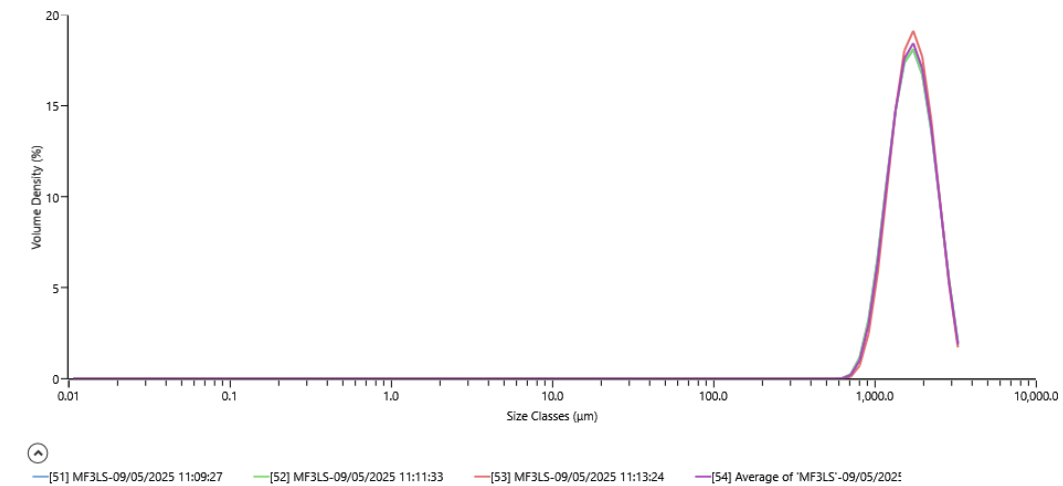
1. Formula 1



2. Formula 2

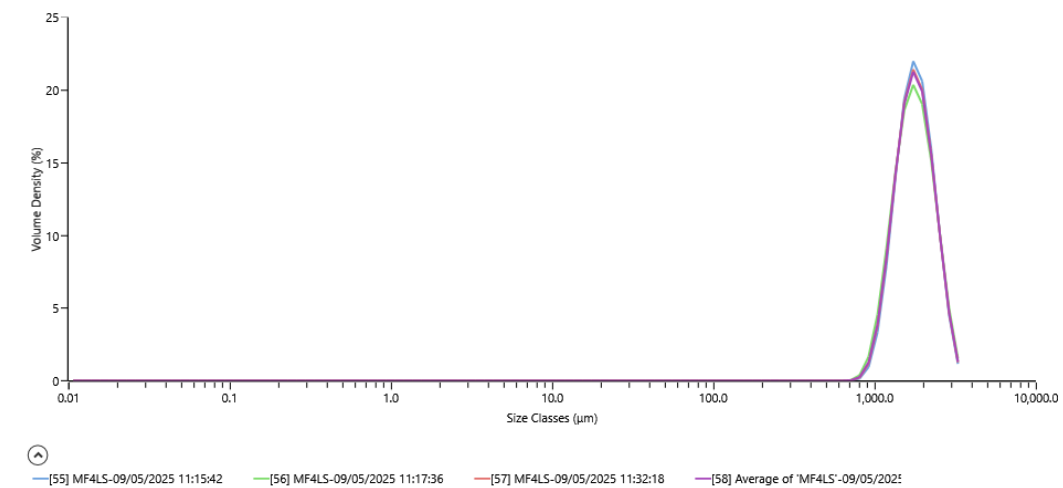


3. Formula 3



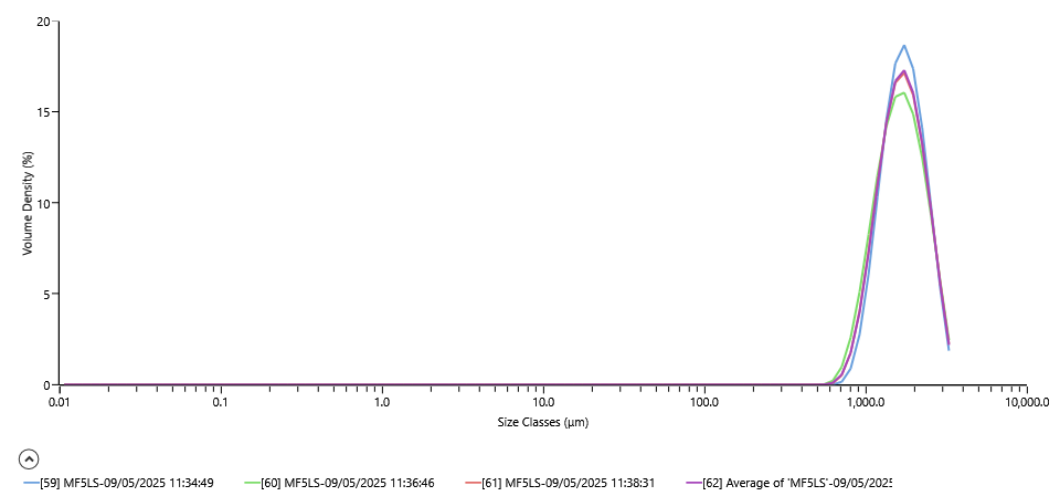
Record Number	Sample Name	Dx (10) (μm)	Dx (50) (μm)	Dx (90) (μm)
51	MF3LS	1120	1690	2540
52	MF3LS	1120	1700	2540
53	MF3LS	1160	1720	2530
54	Average of 'MF3LS'	1130	1700	2540
Mean		1130	1700	2540
1xStd Dev		15,8	10,1	7,46
1xRSD (%)		1,40	0,593	0,294

4. Formula 4



Record Number	Sample Name	Dx (10) (μm)	Dx (50) (μm)	Dx (90) (μm)
55	MF4LS	1260	1770	2490
56	MF4LS	1200	1750	2520
57	MF4LS	1240	1760	2500
58	Average of 'MF4LS'	1230	1760	2500
Mean		1230	1760	2500
1xStd Dev		24,7	9,10	13,4
1xRSD (%)		2,00	0,518	0,535

5. Formula 5

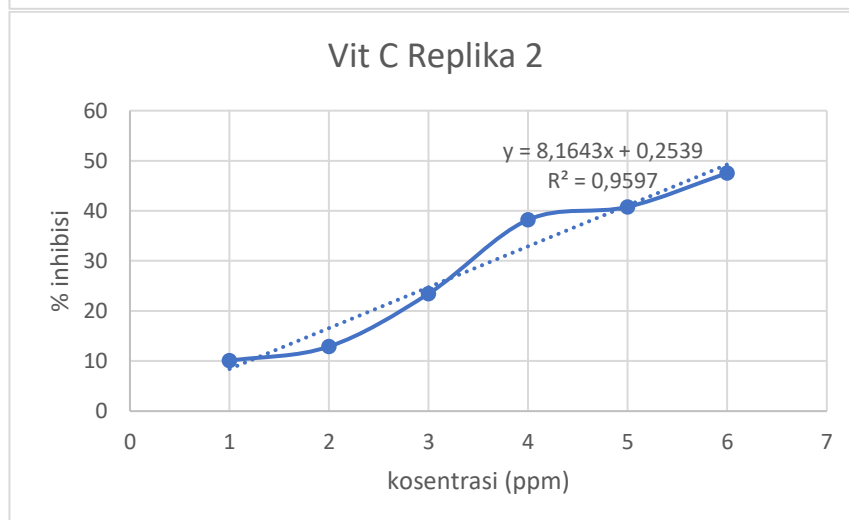
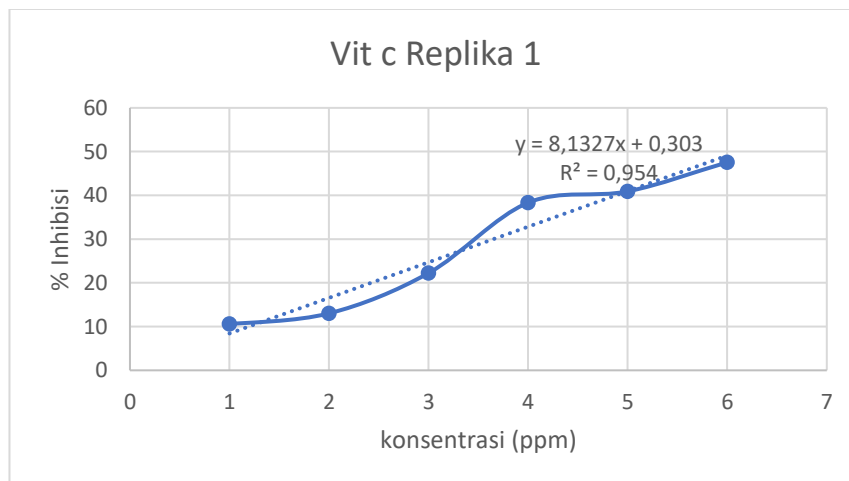


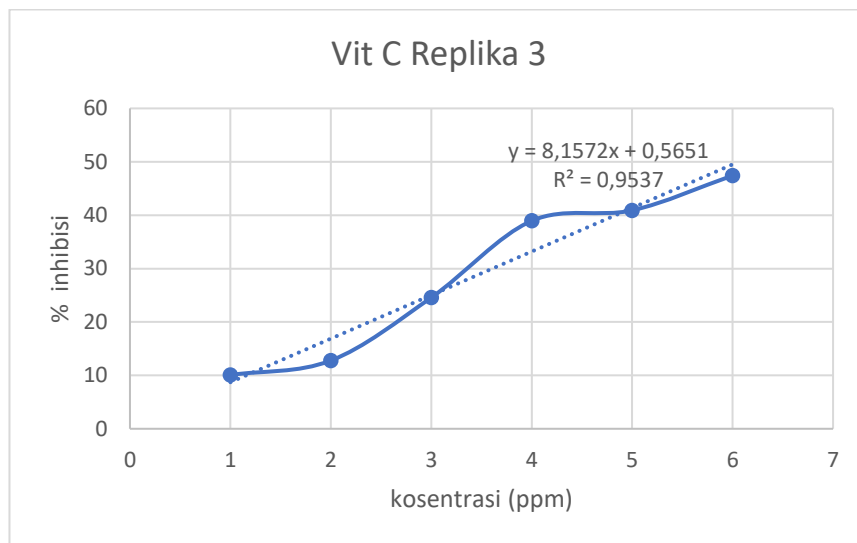
Record Number	Sample Name	Dx (10) (µm)	Dx (50) (µm)	Dx (90) (µm)
59	MF5LS	1140	1710	2540
60	MF5LS	1030	1640	2570
61	MF5LS	1080	1680	2560
62	Average of 'MF5LS'	1080	1680	2560
Mean		1080	1680	2560
1xStd Dev		47,3	28,3	12,4
1xRSD (%)		4,36	1,69	0,486

Lampiran 13. Hasil Aktivitas Antioksidan

1. Pembanding Vitamin C

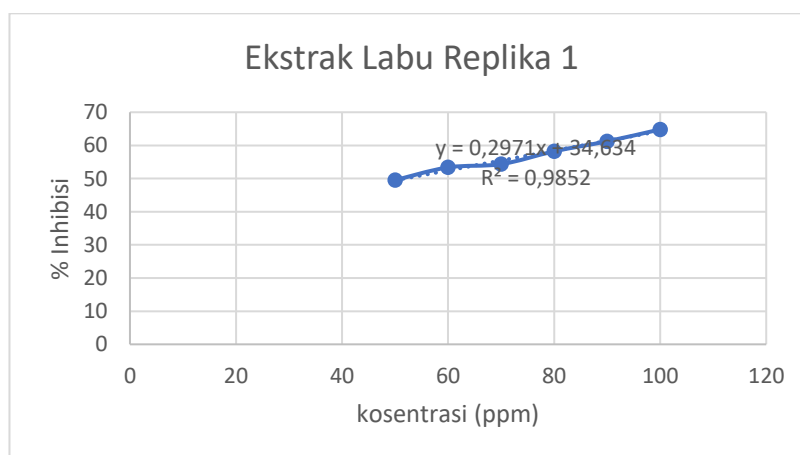
konsentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
1	0,814	0,73	0,73	0,73	0,73	10,57	10,07	10,07	10,24	6,11	6,1	6,09	6,099	0,01
2	0,814	0,71	0,71	0,71	0,71	13,02	12,9	12,78	12,9					
3	0,814	0,63	0,62	0,61	0,62	22,24	23,46	24,57	23,42					
4	0,814	0,5	0,5	0,5	0,5	38,33	38,21	38,94	38,49					
5	0,814	0,48	0,48	0,48	0,48	40,91	40,79	40,91	40,87					
6	0,814	0,43	0,43	0,43	0,43	47,54	47,54	47,42	47,5					

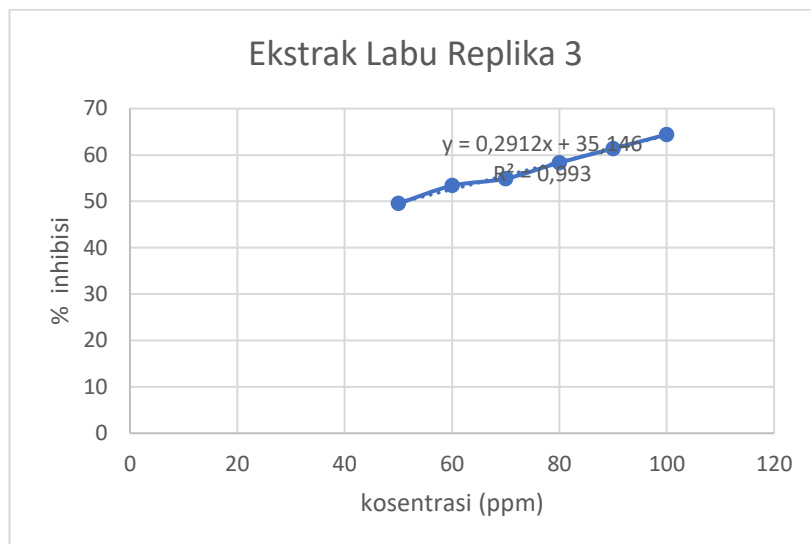
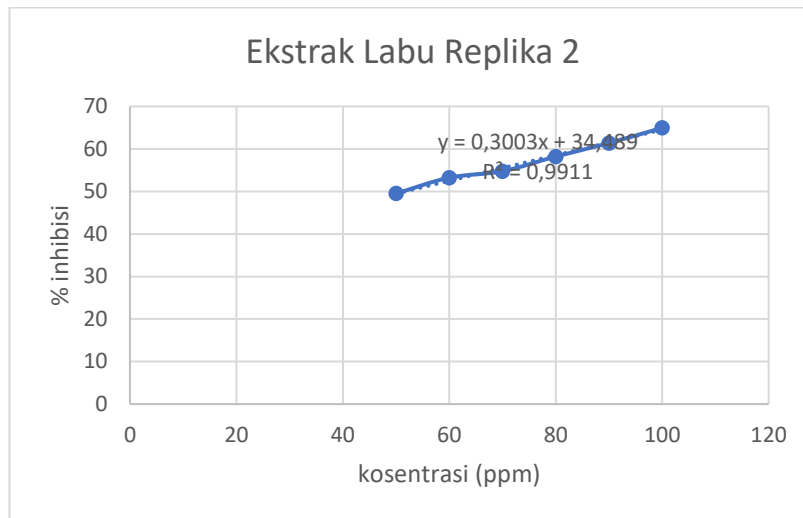




2. Ekstrak Labu Siam

konsentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,37	0,37	0,37	0,37	49,52	49,52	49,52	49,52	51,72	51,65	51,65	51,67	0,0394
60	0,725	0,34	0,34	0,34	0,34	53,38	53,24	53,38	53,33					
70	0,725	0,33	0,33	0,33	0,33	54,34	54,76	54,9	54,67					
80	0,725	0,3	0,3	0,3	0,3	58,21	58,21	58,34	58,25					
90	0,725	0,28	0,28	0,28	0,28	61,24	61,38	61,38	61,33					
100	0,725	0,26	0,25	0,26	0,26	64,83	64,97	64,41	64,74					

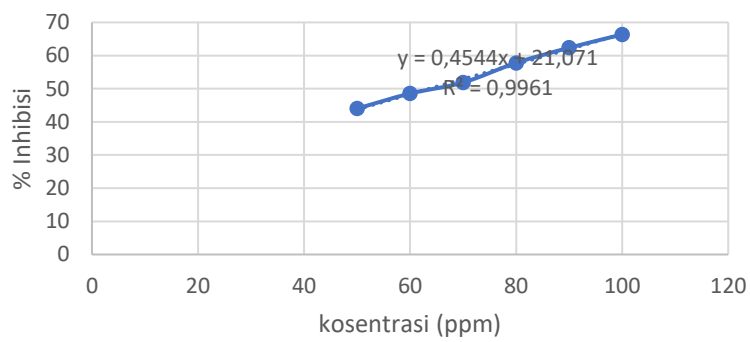




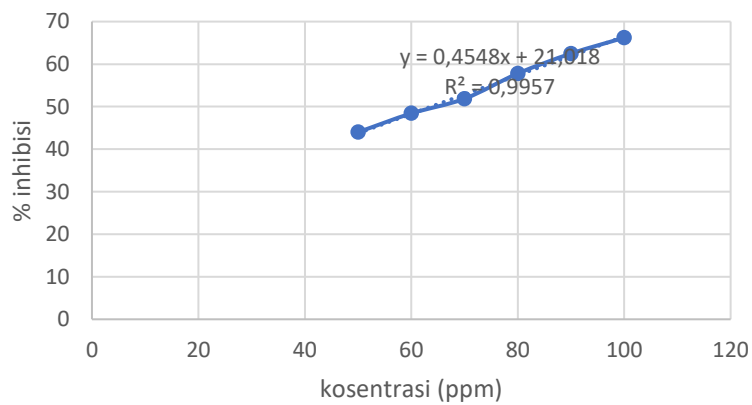
3. Mikropartikel F1

konsentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,41	0,41	0,41	0,406	44	44	44,14	44,05	63,66	63,72	63,72	63,705	0,035
60	0,725	0,37	0,37	0,37	0,373	48,55	48,41	48,55	48,51					
70	0,725	0,35	0,35	0,35	0,348	51,86	51,86	52,14	51,95					
80	0,725	0,31	0,31	0,31	0,306	57,79	57,79	57,79	57,79					
90	0,725	0,27	0,27	0,27	0,273	62,34	62,48	62,34	62,39					
100	0,725	0,24	0,25	0,25	0,245	66,34	66,21	66,07	66,21					

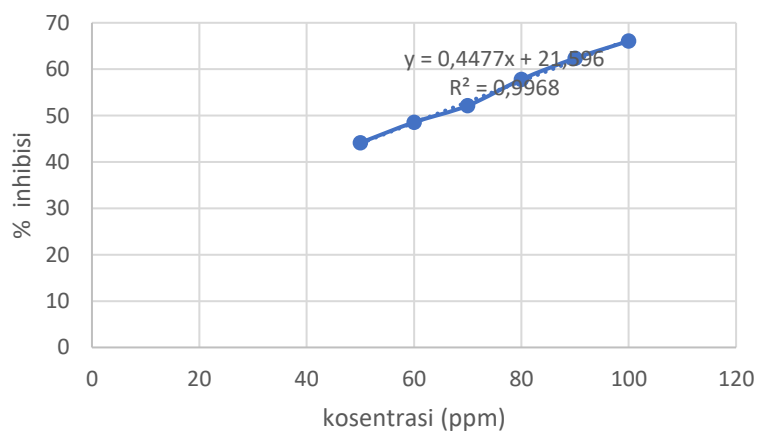
F1 Replika 1



F1 Replika 2

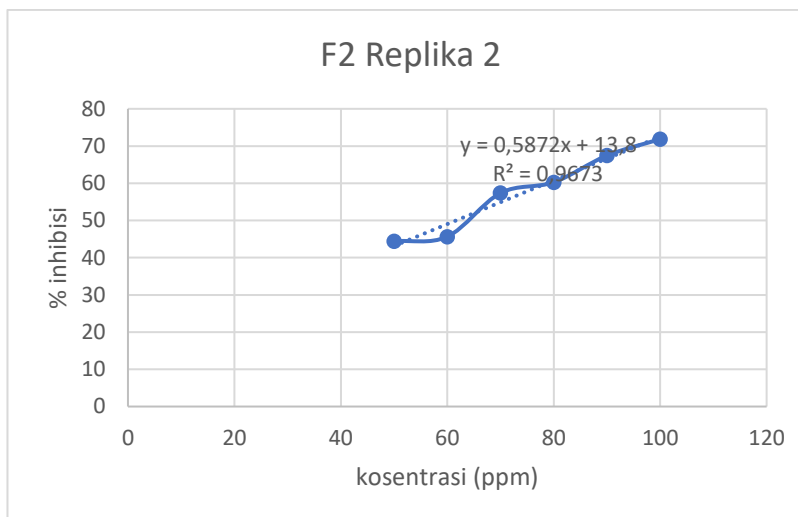
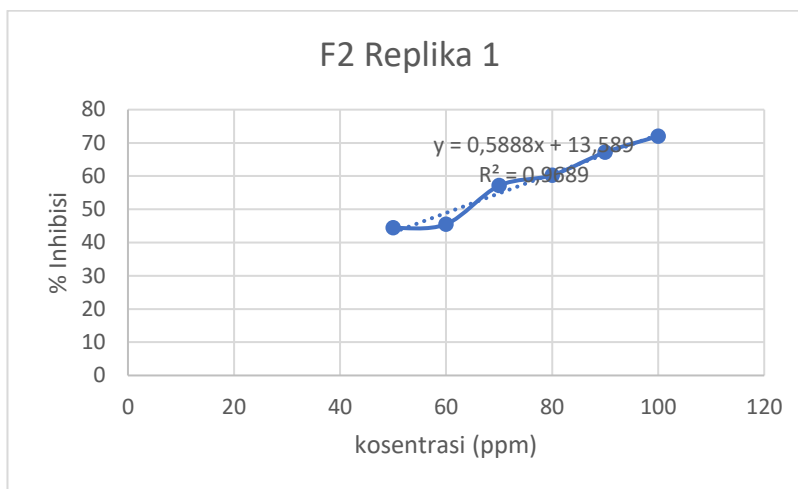


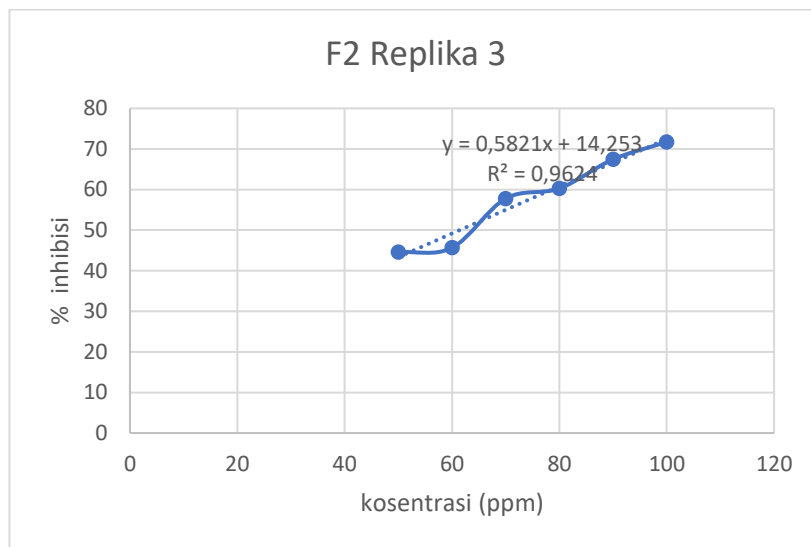
F1 Replika 3



4. Mikropartikel F2

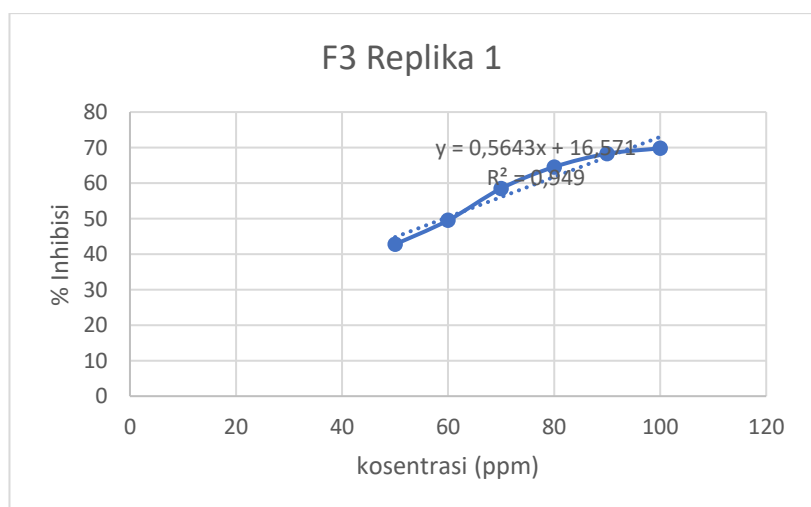
kosentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,403	0,4	0,4	0,4	44,4	44,41	44,55	44,46	61,84	61,65	61,65	61,71	0,11
60	0,725	0,395	0,39	0,39	0,39	45,5	45,66	45,66	45,609					
70	0,725	0,311	0,31	0,31	0,31	57,1	57,38	57,79	57,425					
80	0,725	0,288	0,29	0,29	0,29	60,3	60,28	60,28	60,276					
90	0,725	0,238	0,24	0,24	0,24	67,2	67,45	67,45	67,356					
100	0,725	0,203	0,2	0,21	0,2	72	71,86	71,72	71,862					

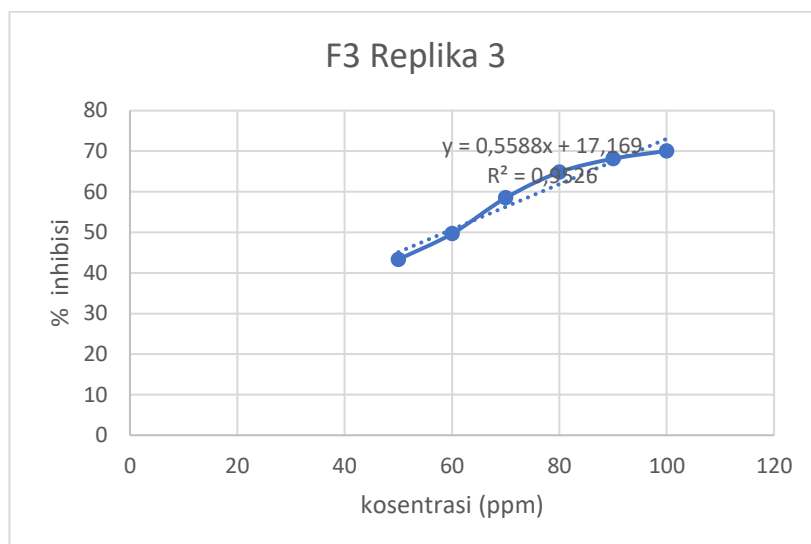
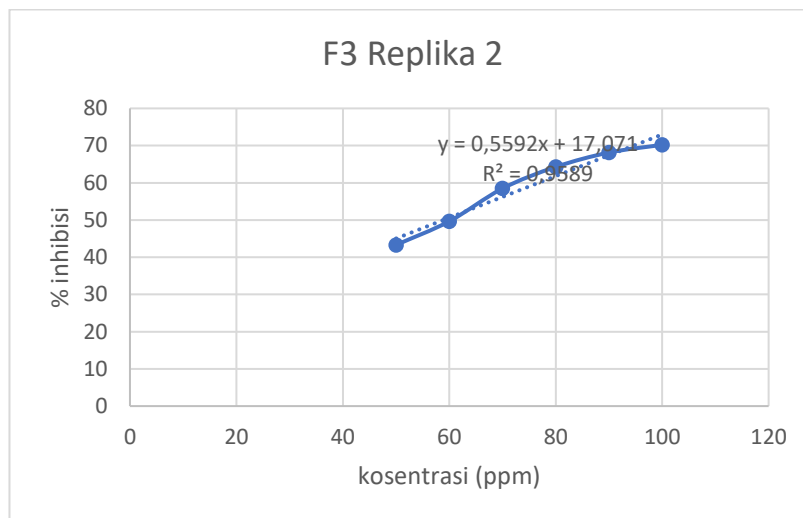




5. Mikropartikel F3

kosentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,42	0,41	0,41	0,41	42,76	43,3	43,31	43,126	59,24	58,89	58,9	59,004	0,2043
60	0,725	0,37	0,37	0,37	0,37	49,52	49,7	49,66	49,609					
70	0,725	0,3	0,3	0,3	0,3	58,48	58,5	58,48	58,483					
80	0,725	0,26	0,26	0,26	0,26	64,55	64,3	64,83	64,552					
90	0,725	0,23	0,23	0,23	0,23	68,28	68,1	68,14	68,184					
100	0,725	0,22	0,22	0,22	0,22	69,79	70,2	70,07	70,023					

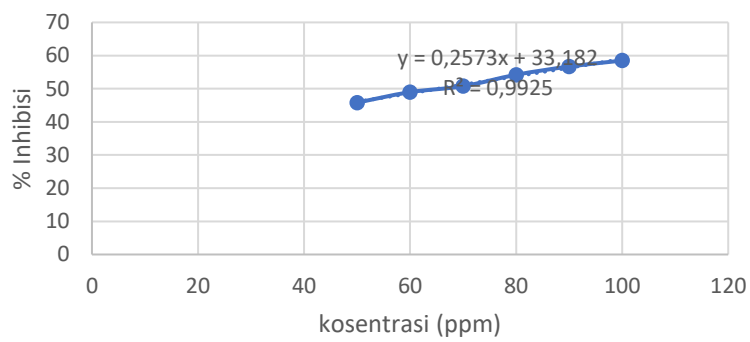




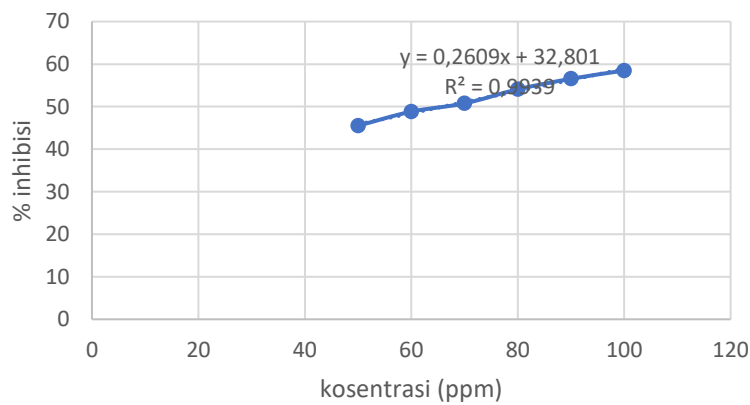
6. Mikropartikel F4

konsentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,39	0,4	0,39	0,394	45,79	45,52	45,66	45,66	65,36	65,9	65,92	65,736	0,322
60	0,725	0,37	0,37	0,37	0,37	48,97	48,83	48,97	48,92					
70	0,725	0,36	0,36	0,36	0,357	50,76	50,76	50,76	50,76					
80	0,725	0,33	0,33	0,33	0,333	54,21	54,07	53,93	54,07					
90	0,725	0,31	0,32	0,32	0,315	56,69	56,55	56,55	56,6					
100	0,725	0,3	0,3	0,3	0,302	58,48	58,48	58,21	58,39					

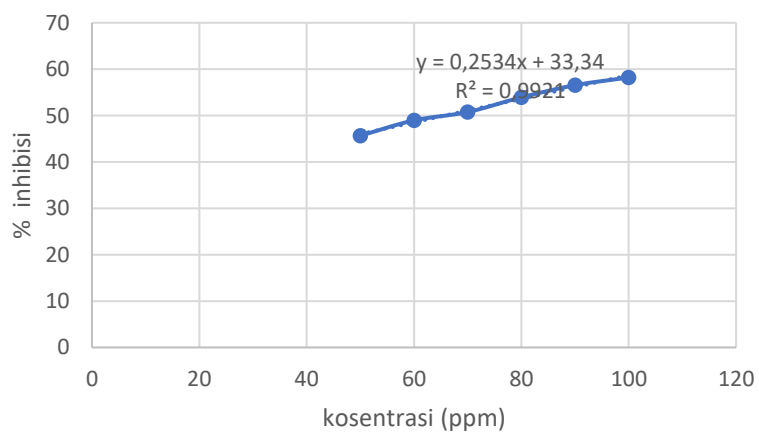
F4 Replika 1



F4 Replika 2

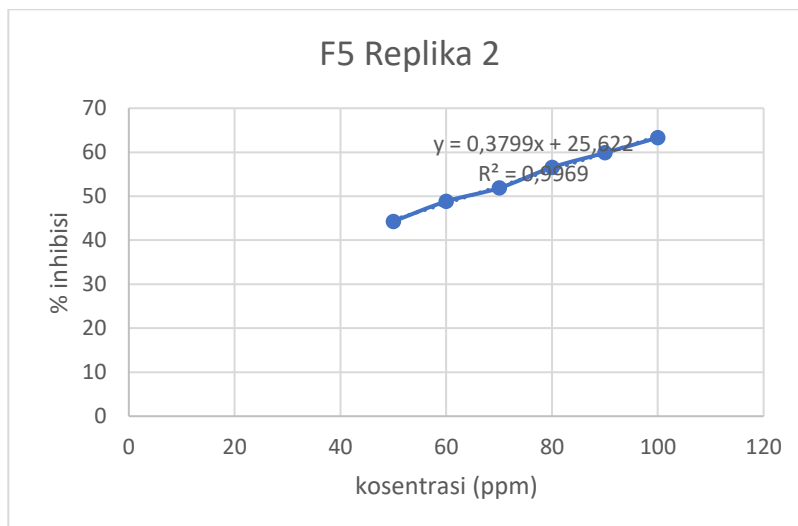
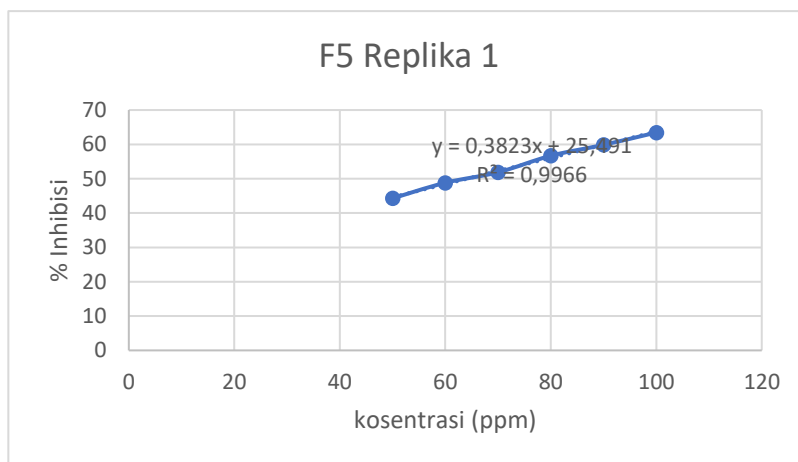


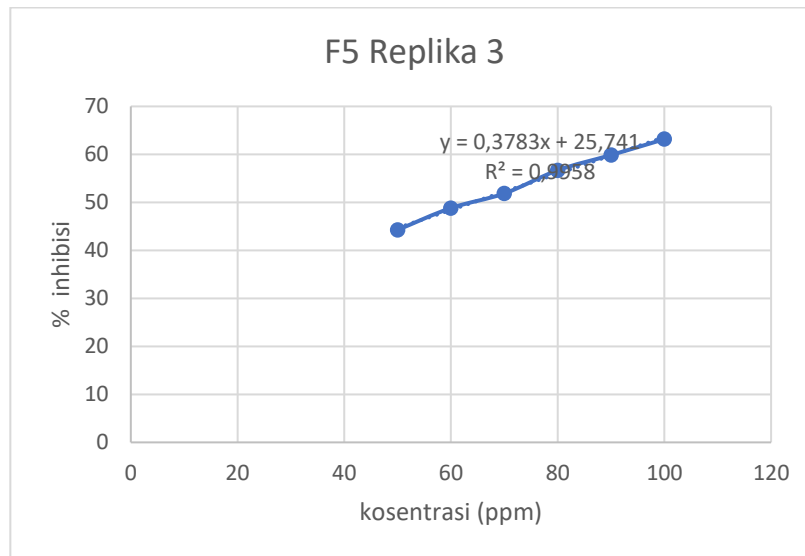
F4 Replika 3



7. Mikropartikel F5

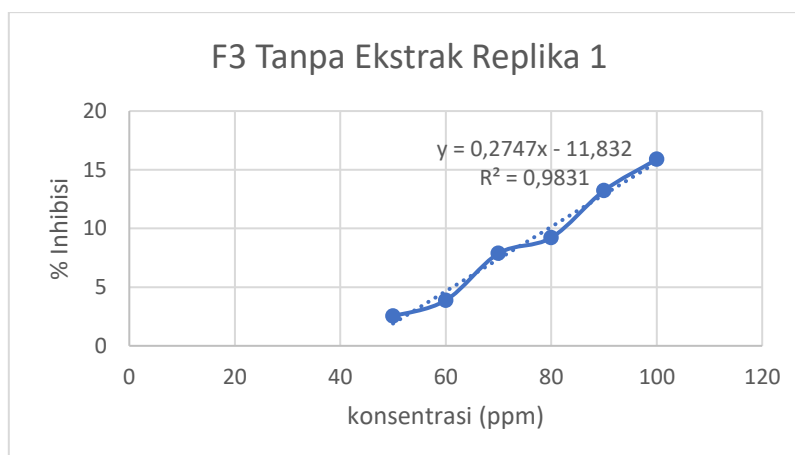
kosentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,725	0,4	0,4	0,4	0,4	44,28	44,28	44,28	44,28	64,11	64,17	64,17	64,1495	0,0347
60	0,725	0,37	0,37	0,37	0,37	48,83	48,83	48,83	48,83					
70	0,725	0,35	0,35	0,35	0,35	51,86	51,86	51,86	51,86					
80	0,725	0,31	0,32	0,31	0,31	56,69	56,55	56,69	56,64					
90	0,725	0,29	0,29	0,29	0,29	59,86	59,86	59,86	59,86					
100	0,725	0,27	0,27	0,27	0,27	63,45	63,31	63,17	63,31					



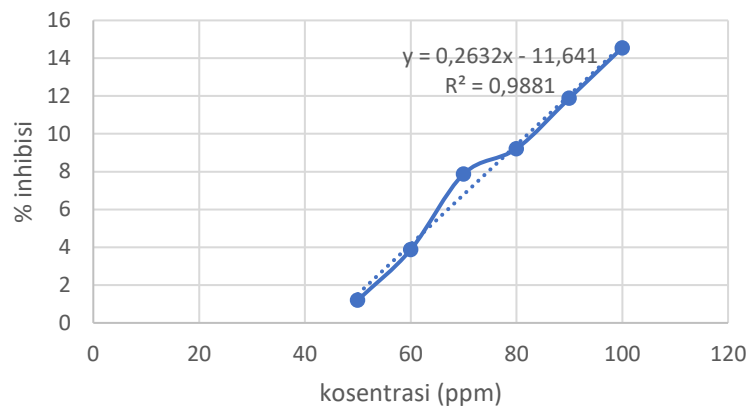


8. Mikropartikel F3 tanpa ekstrak

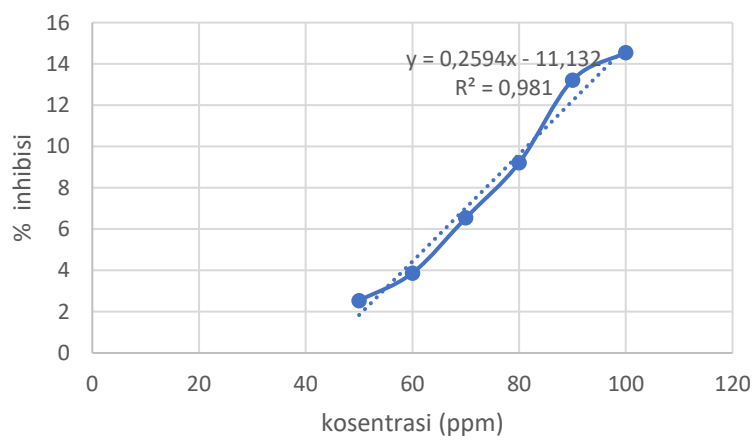
konsentrasi (ppm)	Abs Kontrol	Abs. Sampel			rata-rata	% Inhibisi			rata-rata	IC50			rata-rata	SD
		1	2	3		1	2	3		1	2	3		
50	0,749	0,73	0,74	0,73	0,73	2,54	1,2	2,54	2,09	225,1	234,198	234,2	231,162	5,2592
60	0,749	0,72	0,72	0,72	0,72	3,87	3,87	3,87	3,87					
70	0,749	0,69	0,69	0,7	0,69	7,88	7,88	6,54	7,43					
80	0,749	0,68	0,68	0,68	0,68	9,21	9,21	9,21	9,21					
90	0,749	0,65	0,66	0,65	0,65	13,2	11,9	13,2	12,8					
100	0,749	0,63	0,64	0,64	0,64	15,9	14,6	14,6	15					



F3 tanpa ekstrak Replika 2



F3 tanpa ekstrak Replika 3



Lampiran 14. Data Uji Statistik

Tests of Normality

	FORMULA	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
LAJU_ALIR	F1	.269	3	.	.950	3	.568
	F2	.275	3	.	.944	3	.543
	F3	.185	3	.	.998	3	.924
	F4	.266	3	.	.952	3	.579
	F5	.258	3	.	.960	3	.614

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene	df1	df2	Sig.
		Statistic			
LAJU_ALIR	Based on Mean	.487	4	10	.746
	Based on Median	.144	4	10	.961
	Based on Median and with adjusted df	.144	4	7.840	.960
	Based on trimmed mean	.455	4	10	.767

ANOVA

LAJU_ALIR

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.303	4	.076	1.852	.196
Within Groups	.409	10	.041		
Total	.712	14			

Tests of Normality

	FORMULA	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
SUDUT_ISTIRAHAT	F1	.273	3	.	.945	3	.547
	F2	.226	3	.	.983	3	.753
	F3	.289	3	.	.927	3	.478
	F4	.201	3	.	.994	3	.856
	F5	.308	3	.	.902	3	.392

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
SUDUT_ISTIRAHAT	Based on Mean	.109	4	10	.977
	Based on Median	.027	4	10	.998
	Based on Median and with adjusted df	.027	4	9.308	.998
	Based on trimmed mean	.100	4	10	.980

ANOVA

SUDUT_ISTIRAHAT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.729	4	1.432	.826	.538
Within Groups	17.351	10	1.735		
Total	23.080	14			

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	FORMULA	Statistic	df	Sig.	Statistic	df	Sig.
LOD	F1	.261	3	.	.957	3	.602
	F2	.214	3	.	.989	3	.803
	F3	.267	3	.	.951	3	.575
	F4	.291	3	.	.925	3	.470
	F5	.178	3	.	.999	3	.953

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
LOD	Based on Mean	.216	4	10	.923
	Based on Median	.137	4	10	.965
	Based on Median and with adjusted df	.137	4	9.241	.964
	Based on trimmed mean	.210	4	10	.927

ANOVA

LOD

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.170	4	.042	2.033	.165
Within Groups	.208	10	.021		
Total	.378	14			

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	FORMULA	Statistic	df	Sig.	Statistic	df	Sig.
KOMPRESIBILITAS	F1	.181	3	.	.999	3	.943
	F2	.268	3	.	.951	3	.573
	F3	.353	3	.	.823	3	.172
	F4	.349	3	.	.831	3	.191
	F5	.251	3	.	.966	3	.646

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
KOMPRESIBILITAS	Based on Mean	1.067	4	10	.422
	Based on Median	.324	4	10	.855
	Based on Median and with adjusted df	.324	4	7.258	.854
	Based on trimmed mean	.994	4	10	.454

ANOVA

KOMPRESIBILITAS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.655	4	.914	.642	.645
Within Groups	14.242	10	1.424		
Total	17.898	14			

Tests of Normality

Kolmogorov-Smirnov ^a					Shapiro-Wilk		
	FORMULA	Statistic	df	Sig.	Statistic	df	Sig.
WAKTU_MELARUT	F1	.253	3	.	.964	3	.637
	F2	.175	3	.	1.000	3	1.000
	F3	.253	3	.	.964	3	.637
	F4	.219	3	.	.987	3	.780
	F5	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
WAKTU_MELARUT	Based on Mean	.966	4	10	.468
	Based on Median	.500	4	10	.737
	Based on Median and with adjusted df	.500	4	6.522	.738
	Based on trimmed mean	.932	4	10	.483

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
WAKTU_MELARUT	Based on Mean	.966	4	10	.468
	Based on Median	.500	4	10	.737
	Based on Median and with adjusted df	.500	4	6.522	.738
	Based on trimmed mean	.932	4	10	.483

ANOVA

WAKTU_MELARUT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.007	4	.002	6.474	.008
Within Groups	.003	10	.000		
Total	.009	14			

Multiple Comparisons

Dependent Variable: WAKTU_MELARUT

Tukey HSD

(I) FORMULA	(J) FORMULA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	.01667	.01317	.716	-.0267	.0600
	F3	.00000	.01317	1.000	-.0433	.0433
	F4	.05333*	.01317	.015	.0100	.0967
	F5	-.00333	.01317	.999	-.0467	.0400
F2	F1	-.01667	.01317	.716	-.0600	.0267
	F3	-.01667	.01317	.716	-.0600	.0267
	F4	.03667	.01317	.109	-.0067	.0800
	F5	-.02000	.01317	.574	-.0633	.0233
F3	F1	.00000	.01317	1.000	-.0433	.0433
	F2	.01667	.01317	.716	-.0267	.0600
	F4	.05333*	.01317	.015	.0100	.0967
	F5	-.00333	.01317	.999	-.0467	.0400
F4	F1	-.05333*	.01317	.015	-.0967	-.0100
	F2	-.03667	.01317	.109	-.0800	.0067
	F3	-.05333*	.01317	.015	-.0967	-.0100
	F5	-.05667*	.01317	.011	-.1000	-.0133
F5	F1	.00333	.01317	.999	-.0400	.0467
	F2	.02000	.01317	.574	-.0233	.0633
	F3	.00333	.01317	.999	-.0400	.0467
	F4	.05667*	.01317	.011	.0133	.1000

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

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
ANTIOKSIDAN	Based on Mean	3.813	4	10	.039
	Based on Median	.854	4	10	.523
	Based on Median and with adjusted df	.854	4	3.878	.561
	Based on trimmed mean	3.497	4	10	.049

ANOVA

ANTIOKSIDAN

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	82.703	4	20.676	459.868	.000
Within Groups	.450	10	.045		
Total	83.152	14			

Multiple Comparisons

Dependent Variable: ANTIOKSIDAN

Tukey HSD

(I) FORMULA	(J) FORMULA	Mean Difference (I- J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	1.98667 [*]	.17313	.000	1.4169	2.5564
	F3	4.79333 [*]	.17313	.000	4.2236	5.3631
	F4	-2.03333 [*]	.17313	.000	-2.6031	-1.4636
	F5	-.45000	.17313	.144	-1.0198	.1198
F2	F1	-1.98667 [*]	.17313	.000	-2.5564	-1.4169
	F3	2.80667 [*]	.17313	.000	2.2369	3.3764
	F4	-4.02000 [*]	.17313	.000	-4.5898	-3.4502
	F5	-2.43667 [*]	.17313	.000	-3.0064	-1.8669
F3	F1	-4.79333 [*]	.17313	.000	-5.3631	-4.2236
	F2	-2.80667 [*]	.17313	.000	-3.3764	-2.2369
	F4	-6.82667 [*]	.17313	.000	-7.3964	-6.2569
	F5	-5.24333 [*]	.17313	.000	-5.8131	-4.6736
F4	F1	2.03333 [*]	.17313	.000	1.4636	2.6031
	F2	4.02000 [*]	.17313	.000	3.4502	4.5898
	F3	6.82667 [*]	.17313	.000	6.2569	7.3964
	F5	1.58333 [*]	.17313	.000	1.0136	2.1531
F5	F1	.45000	.17313	.144	-.1198	1.0198
	F2	2.43667 [*]	.17313	.000	1.8669	3.0064
	F3	5.24333 [*]	.17313	.000	4.6736	5.8131
	F4	-1.58333 [*]	.17313	.000	-2.1531	-1.0136

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

Lampiran 15. Bukti Bimbingan

Browser tabs: Pengecekan Biodata Lulusan, Data Mahasiswa_Rheini Dwi M., Bimbingan Tugas Akhir - Daftar

URL: bku.siakadcloud.com/siakad/list_bimbingan/7782

1	29 April 2025	Dr. apt. Garnadi Jafar, M.Si	Hasil revisi Proposal	✓		
1	8 Maret 2025	Drs. apt. Rahmat Santoso, M.Si	konsultasi sediaan mikro	✓		
2	11 Maret 2025	Drs. apt. Rahmat Santoso, M.Si	konsultasi sediaan mikro	✓		
2	5 Mei 2025	Dr. apt. Garnadi Jafar, M.Si	laporan kemajuan 1	✓		
3	1 Mei 2025	Drs. apt. Rahmat Santoso, M.Si	Revisi proposal	✓		
3	26 Mei 2025	Dr. apt. Garnadi Jafar, M.Si	Hasil Pengujian Antioksidan	✓		
4	9 Mei 2025	Drs. apt. Rahmat Santoso, M.Si	uji PSA	✓		
4	17 Mei 2025	Dr. apt. Garnadi Jafar, M.Si	Hasil Data Evaluasi PSA	✓		
5	3 Juni 2025	Dr. apt. Garnadi Jafar, M.Si	laporan kemajuan 2	✓		
5	27 Mei 2025	Drs. apt. Rahmat Santoso, M.Si	laporan progres	✓		
6	17 Juni 2025	Drs. apt. Rahmat Santoso, M.Si	laporan kemajuan 2	✓		
6	18 Juni 2025	Dr. apt. Garnadi Jafar, M.Si	Hasil PSA dengan nilai span	✓		
7	2 Juli 2025	Drs. apt. Rahmat Santoso, M.Si	konsultasi sediaan nano	✓		
7	7 Juli 2025	Dr. apt. Garnadi Jafar, M.Si	Draf Skripsi	✓		
8	10 Juli 2025	Dr. apt. Garnadi Jafar, M.Si	Revisi Draf	✓		
8	5 Juli 2025	Drs. apt. Rahmat Santoso, M.Si	laporan progres	✓		

Taskbar: Search, 21:05 03/09/2025

Lampiran 16. Hasil Turnitin

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Lampiran 17. Curriculum vitae

Nama : Rheini Dwi Mulia
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Riwayat Pendidikan

1. SD Negeri 4 Lahat (2006-2012)
2. SMP Negeri 1 Lahat (2012-2015)
3. SMA Negeri 1 Lahat (2015-2018)
4. Poltekkes Kemenkes Palembang Jurusan Farmasi (2018-2021)
5. Universitas Bhakti Kencana S1 Farmasi (2023-2025)