

LAMPIRAN

Lampiran 1. Certificate Of Analysis (CoA) Asam Stearat

Revisi: 001.150125

Sertifikat Analisis Certificate of Analysis (CoA) No. CoA : SACP0612

1. Identitas Produk

Nama Produk	: Asam Stearat
Sinonim	: Stearic acid, asam oktadekanoat, asam lemak jenuh
Rumus Kimia	: $\text{CH}_3(\text{CH}_2)_{16}\text{COOH}$
Kode Katalog	: BK0600971500
Kemasan	: 500 gram
Grade (Kelas)	: Chemical Pure (CP), Food Grade (FG)
Produsen	: PT. Dua Kuda Indonesia
Dikemas Ulang Oleh	: ROFA Laboratorium Centre
Kode Repack	: 1527241024
Tanggal Pembuatan / Manufacturing Date (MD)	: 29/06/2024
Tanggal Kadaluwarsa / Expire Date (ED)	: 29/06/2027

2. Sifat Kimia dan Fisika Produk

No.	Sifat Fisika/Kimia	Variabel
1	Bentuk	Butiran putih
2	Massa Molar	284.48 g/mol
3	Massa Jenis	0.845 g/mL
4	No. CAS	57-11-4
5	No. EC	200-313-4
6	Titik Leleh	69.4°C
7	Kelarutan	3 mg/L (H ₂ O, 25°C)

3. Hasil Analisis Produk

No.	Item	Spesifikasi	Hasil Analisis
1	Asam Lemak C ₁₂ -C ₁₄	≤ 1.5%	0.31%
2	Asam Lemak C ₁₆	30-36%	32.43%
3	Asam Lemak C ₁₈	63-68%	66.38%
4	Asam Lemak Lainnya	≤ 1.5%	0.88%
5	Kelembapan (H ₂ O)	≤ 0.2%	0.07%
6	Nilai Asam (mgKOH/g)	202-208	206.14
7	Nilai Safonifikasi (mgKOH/g)	203-209	207.20
8	Nilai Iodin (g I ₂ /100 g)	≤ 0.7	0.15

Link Download MSDS/SDS



Link Download CoA



Diterbitkan Oleh:

ROFA

*Dokumen ini dibuat secara elektronik dan sah tanpa tanda tangan.

Lampiran 2. Certificate Of Analysis (CoA) Setil Alkohol



TFA
บริษัท ไทยเฟตตีแอลกอฮอล์ จำกัด
Thai Fatty Alcohols Co., Ltd.

Head office: 555/1 Energy Complex Building A, 15th Fl., Vibhavadi-Rangsit Rd.,
Chomphon, Chatuchak, Bangkok 10900 Thailand.
Tel: +66 (0) 2265 8400 Fax: +66 (0) 2265 8125
Factory: 10 Soi G.12, Eastern Industrial Estate, Pakorn Songkhrao-Rat Rd.,
Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
Tel: +66 (0) 38994000 Fax: +66 (0) 38977444
Visit our website: www.thaifatty.com

Certificate of Analysis

Product: ThaiOL 1618
Description: Cetyl-Stearyl Alcohol
Batch No: 1217042008
Tank No: 3200T009B
Lab Report No: LAR-C4-1704-01440

Characteristics	Analysis Method	Specification	Result
Appearance	Visual check	White solid or Pastilles	White solid/Pastilles
Colour, APHA	In house Method Base on ISO 6271-1:2004 (E)	0- 10	3
Acid value, mg KOH/g	In house Method Base on DIN EN ISO 660-1996	0- 0.1	0.02
Sap. value, mg KOH/g	In house Method Base on ISO 3657:2002 (E)	0- 1.0	0.4
Hydroxyl value, mg KOH/g	In house Method Base on ASTM E 1899-02	210-220	215.7
Water content, %	ASTM E203-01	0- 0.3	0.068
Chain distribution, %	In house Method Base on Reference No.970059-0		
C14		0-3	0.02
C16		22-32	26.77
C18		66-76	72.47
C20		0-3	0.11
Iodine value, g Iodine/100g	ISO 3961-1996	0-0.5	0.04
Solidification range, °C	ISO 3841-1997	50-54	53.4
Hydrocarbon, %	In house Method Base on Reference No.970059-0	0-0.5	<0.01
Carbonyl Number, mg/kg	In house Method Base on Reference No.980144-01	150 max.	60

We hereby verify the analysis of the sample as shown above.
Agomsri Thavornchan
Senior Technical Support Engineer (QA)



(This is a computer generated document and will not bear any signature)

Manufacturing Date: 20 April 2017

Expiry Date: 19 April 2019

The test values listed above were determined from selected, representative samples taken from the batch(es) to be delivered.
The above information only applies to material directly after production. It does not release the purchaser from conducting his own incoming inspection and does not release a guarantee of certain characteristics, or of the suitability of the product for a certain

Lampiran 3. Certificate Of Analysis (CoA) Trietanolamin



CERTIFICATE OF ANALYSIS

Page 1 of 1

TRIEETHANOLAMINE 99% 232 KG STEEL DRUM

Carrier/Vehicle ID	:SIKU 3030714	Material ID	:72000240
Customer P.O. No.	:QTN-0000030398-1	Customer No.	:8010005243
Sales Order No.	:100323210	Batch No.	:R014NA500B
Delivery Qty	:80.000	Delivery No.	:500590720
Delivery Unit	:DR	Inspection Dt.	: 17 MAR 2024

NOTE: THE TEST CHARACTERISTICS AND THEIR UNITS, TOLERANCES AND RESULTS LISTED BELOW WILL VARY DEPENDING ON THE BUSINESS, CUSTOMER & MATERIAL REQUIREMENTS.

Test	Results	Unit	Tolerance	Method
C_h_a_r_a_c_t_e_r_i_s_t_i_c_s				L_i_m_i_t_s
TRIEETHANOLAMINE	99.6	WTP	99.0 - 100.0	1B-17A-0.1
MONOETHANOLAMINE	0.00	WTP	0.00 - 0.10	1B-17A-0.1
DIETHANOLAMINE	0.0	WTP	0.0 - 0.5	1B-17A-0.1
WATER	0.0	WTP	0.0 - 0.2	1B-17A-0.2
IRON	0	PPM	0 - 10	1B-17A-0.4
COLOR	3	PTCO	0 - 40	1B-17A-0
A P P E A R A N C E	PASS:Clear	-	-	1B-17A-0

This product meets the Product Sales Specification. This result is based on the sample being tested.

This is a computer generated document. No signature is required.

PETRONAS CHEMICALS MARKETING (LABUAN) LTD (LL08320) GST Registration Number:

002110029824

(Licensed as Labuan International Commodity Trading Company:LFSSA License No:LITC/14/0021)Registered Office: Unit Level 13(A), Main Office Tower, Financial Park Labuan, Jalan Merdeka, 87000 F.T.Labuan, Malaysia. Business Office: Level 34, Tower 1, PETRONAS Twin Towers, Kuala Lumpur City Centre, 50088 Kuala Lumpur, Malaysia.

Lampiran 4. Certificate Of Analysis (CoA) Gliserin



CERTIFICATE OF ANALYSIS

Nama Bahan : GlycerinPH
Batch : J 0373/18
(8085038811)
Ex : P & G Chemicals, SIngapura
ED : 10/2024
Grade : Farma

=====		
<i>Jenis Pemeriksaan</i>	<i>PersyaratanFIIV</i>	<i>Hasil</i>
Pemerian	Cairan, jernih, tidak berwarna, tidak berbau, rasa manis diikuti rasa hangat, higroskopik	Sesuai
Kelarutan	Dapat bercampur dengan air dan etanol, praktis tidak larut dalam kloroform dan dalam eter	Sesuai
Identifikasi	Panaskan dengan kalium bisulfat P; terjadi uap merangsang	Positif
pH	5,5 – 7,5	5,8
IndexBias	1,471-1,474	1,472
SusutPengeringan	≤ 2,0 %	0,00%
Bobotjenis	1,255 g/ml – 1,260 g/ml sesuai dengan kadar 98,0% – 100,0%	1,260 g/mL

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Kesimpulan : MemenuhiSyarat

Lampiran 5. Certificate Of Analysis (CoA) Minyak Zaitun

Certificate of Analysis (COA)

1. Product Data Information	
Product Name :	Pure Olive Oil
Scientific Name :	<i>Olea europaea</i>
Country of Origin :	Italy
Appearance :	Pale yellow to green
Odor :	Very mild olive odor
Solubility :	Soluble in alcohol and oils. Almost insoluble in water
Extraction Method :	Cold pressed
2. Product Data Properties	
Specific Gravity :	0.910 to 0.930 @ 20° Celcius
Optical Rotation :	-10.0 to +30.0 @ 20° Celcius
Refractive Index :	1.460 to 1.480 @ 20° Celcius
Flash point :	320 ° Celcius

Troy Siam Company, Limited

Remarks: Expiration Date is 06.Apr.2025

Lot: 23041149SK

Characteristics	Specification	Actual Lot Analysis	Method
Total Hydantoins, %	55 Min	56.0	QC02D-256
Color, APHA	10 Max	9	ASTM D1209
pH Value	6.5 - 7.5	7.11	Troy 0007

This Certificate is generated from a computerized system by the QC Manager. Authorized signature is not required.

Test Number: 123405

Order Number: 346490

F804-01

Lampiran 7. Certificate Of Analysis (CoA) Essence Oil

ZENITH SUPPLIES, INC.

MATERIAL SAFETY DATA SHEET

OCEAN FRAGRANCE OIL

24 HR EMERGENCY CONTACT CHEMTREC 800-424-9300

Info	Identification
FEMA No	N/A
CAS No.	N/A
Chemical Name	
Health	
Flammability	
Reactivity	
Info	Fire, Explosion & Reactivity
Flash Point	180 F
Extinguishing Media	Foam, Dry Chemical, Carbon Dioxide
Dot Classification	Combustible
Stability	Stable
NFPA Classification	1-2-0
Fire Fighting	Fire fighters should wear positive pressure self-contained breathing apparatus. Spray extinguishing media directly at the base of the flames.
Unusual Fire Hazard	Water is UNSUITABLE for use on burning materials, but may be used to cool containers exposed to heat.
Hazardous Combustible Decomposition Products	Burning liberates CO, CO2 and smoke. Does not form explosive mixtures with organic materials. Does not undergo explosive decomposition and is shock stable. Is not an oxygen donor.
Info	Physical Data
Color & Odor	Yellow tint liquid, Fragrant
Boiling Point	N/A
Melting Point	N/A
Vapor Pressure	N/Amm Hg @ 20C
Vapor Density	(Air=1) <1
Water Solubility	Insoluble
Info	Protection Data
Respiratory	No special protection; Odor mask or organic vapor respirator should be worn if vapors are found too annoying/irritating.
Ventilation	
Skin	Use oil/solvent resistant gloves.

Lampiran 8. Certificate Of Analysis (CoA) Aquades



Report No. 01779/ANBPAQ
Date: January 11, 2023



KAN
Komite Akreditasi Nasional
LP-024-IDN



SUCOFINDO
Issuing Office:
Jl. Arteri Tol Cibitung No. 1, Cibitung Bekasi 17520, Indonesia
Phone/Fax: +62 21 88321178/021 88321196
Email: cs.cbt@sucofindo.co.id

REPORT OF ANALYSIS

The following sample (s) was submitted and identified by Sucofindo Jakarta Branch Office :

CLIENT : PURE INDONESIA, CV
Central Park, SOHO Lantai 11 No. 1121, Room 1008
Jl. S. Parman Kav. 28 RT.003 RW. 005

TYPE OF SAMPLE : CLEAN WATER

DATE OF ORDER : January 2, 2023

DATE OF ANALYSIS : January 2, 2023 to January 11, 2023

TESTED FOR : Physical and Chemicals analysis

DESCRIPTION OF SAMPLE : Packing : Unsealed plastic bottle

SAMPLE IDENTIFICATION : Base Water (Purifier Water)

YOUR REFERENCE : -

Parameter	Unit	Test Result	Method *) Part Number
pH at Lab	-	7.7	4500 H*-B
Total Hardness as CaCO ₃	mg/L	< 1	2340 B
E. Conductivity at lab	µS/cm	1.9	2510 B
Turbidity at lab	NTU	< 0.06	2130 B
Total Dissolved Solid	mg/L	1	PO/LK/40 (Electrometric)
Chloride	mg/L	< 0.9	4500 Cl-D
Organic Matter by KMnO ₄ *	mg/L	< 1.5	SNI 06-6989.22 : 2004
Total Silica *	mg/L	< 0.6	3120 B, 3030 E
Iron	mg/L	< 0.02	3120 B, 3030 E
Appearance	-	Negative	Visual

*) Standard Methods, 23rd Edition 2017, APHA-AWWA-WEF
*) Excluded the scope of accreditation KAN

This Certificate/report is issued under our General Terms and Conditions, copy of which is available upon request or may be accessed at www.sucofindo.co.id
This test result (s) related to the sample (s) submitted only and the report cannot be reproduced in any way, except in full context and with the prior approval in writing from Sucofindo Laboratory

Sub Dept. Environment Laboratory



Eko Widaryanto

CBT102.1.00005323



4351807

SCI-2007A

Lampiran 9. Certificate Of Analysis (CoA) Etanol 96%

PT. RIV Chemicals
Certificate Of Analysis

Product Name : Solvent Ethanol Teknik
Reg. Number : V. 501
Lot Number : 5 / 501 / 2208195445
Issued : Agustus 2020

No	Test Item	Unit	Test Method	Specification	Result
1	Appearance	-	Visual	Clear	Clear
2	Purity	wt %	Alcoholmeter	Min. 96	96
3	Water Content	wt %	ASTM E1064 - 12	Max 0.1	0.009
4	Specific Gravity at 20°C		ASTM D4052 - 11	0.7910 - 0.7930	0.792
5	Colour	Hazen	ASTM D1209 - 05	Max 15	0
6	Acetone Content	mg / kg	IMPCA 001 - 09	Max 30	LT 30
7	Acidity (As Acetic Acid) / Free Acid	wt %	ASTM D1613 - 06	Max 0.003	LT 0.003
8	Hydrocarbons		ASTM D1722 - 09	-	Pass
9	Carbonisable Substances	Pt - Co	ASTM E346 - 08	Max 30	LT 15
10	Distillation Range at 760 mmHg	°C	ASTM D1078 - 11	Max 1	-
	IBP	°C	ASTM D1078 - 11		64.3
	DP	°C	ASTM D1078 - 11		64.9
11	Non Volatile Matter / Residue On Evaporation	mg / 100 ml	ASTM D1353 - 13	Max 1	LT 0.8
12	Permanganate (15°C)	Minutes	ASTM D1363 - 06	Min. 60	>60
13	Sulfur	mg / kg	ASTM D5453 - 09	Max 0.5	LT 0.5
14	Iron	mg / kg	ASTM E394 - 09	Max 0.1	LT 0.1
15	Chloride	mg / kg	IMPCA 002 - 96	Max 0.5	LT 0.5
16	Odor	-	ASTM E346 - 08	Odor Free	Odor Free

note : The Analysis Result are Only for the Own Circle

Verified By,



Quality Control

Lampiran 10. Certificate Of Analysis (CoA) Metanol PA



Certificate of Analysis

1.06009.2500 Methanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch I1258409

	Spec. Values		Batch Values	
Purity (GC)	≥ 99.9	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	clear		clear	
Color	≤ 10	Hazen	< 5	Hazen
Solubility in water	conforms		conforms	
Acidity	≤ 0.0002	meq/g	0.0001	meq/g
Alkalinity	≤ 0.0002	meq/g	< 0.0002	meq/g
Density (d 20 °C/20 °C)	0.791 - 0.793		0.793	
Boiling point	64 - 65	°C	64	°C
Benzene (impurity A) (GC)	≤ 2	ppm	< 1	ppm
Ethanol (GC)	≤ 0.05	%	< 0.01	%
Acetone	≤ 0.001	%	≤ 0.001	%
Acetaldehyde	≤ 0.001	%	≤ 0.001	%
Formaldehyde	≤ 0.001	%	≤ 0.001	%
Readily carbonizable substances	conforms		conforms	
Carbonyl compounds (as CO)	≤ 0.001	%	≤ 0.001	%
Chloride (Cl)	≤ 0.5	ppm	≤ 0.5	ppm
Sulfate (SO ₄)	≤ 1	ppm	≤ 1	ppm
Substances reducing potassium permanganate (as O)	≤ 0.00025	%	≤ 0.00025	%
Ag (Silver)	≤ 0.000002	%	≤ 0.000002	%
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
As (Arsenic)	≤ 0.000002	%	≤ 0.000002	%
Au (Gold)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Be (Beryllium)	≤ 0.000002	%	≤ 0.000002	%
Bi (Bismuth)	≤ 0.000002	%	≤ 0.000002	%
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	%
Ga (Gallium)	≤ 0.000002	%	≤ 0.000002	%
In (Indium)	≤ 0.000002	%	≤ 0.000002	%
Li (Lithium)	≤ 0.000002	%	≤ 0.000002	%
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)	≤ 0.00001	%	≤ 0.00001	%
Pt (Platinum)	≤ 0.000005	%	≤ 0.000005	%

Merck KGaA
 Corporation with General Partners
 Frankfurter Straße 250
 64293 Darmstadt, Germany

The life science business of Merck KGaA, Darmstadt,
 Germany operates as MilliporeSigma in the U.S. and
 Canada.

Page 1 of 2

Certificate of Analysis

1.06009.2500 Methanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch I1258409

Sn (Tin)	≤ 0.00001	%	≤ 0.00001	%
Ti (Titanium)	≤ 0.000002	%	≤ 0.000002	%
Tl (Thallium)	≤ 0.000002	%	≤ 0.000002	%
V (Vanadium)	≤ 0.000002	%	≤ 0.000002	%
Zn (Zinc)	≤ 0.00001	%	≤ 0.00001	%
Zr (Zirconium)	≤ 0.000002	%	≤ 0.000002	%
Evaporation residue	≤ 0.0005	%	< 0.0001	%
Water	≤ 0.05	%	< 0.01	%

ACS, ISO, Reag Ph Eur

Date of release (DD.MM.YYYY) 01.12.2022
Minimum shelf life (DD.MM.YYYY) 31.10.2027

Jeannette David
Responsible laboratory manager quality control

This document has been produced electronically and is valid without a signature.

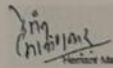
Merck KGaA
Corporation with General Partners
Frankfurter Straße 250
64293 Darmstadt, Germany

SALSA Version 1258409/990000030716/7 Date: 01.12.2022

The life science business of Merck KGaA, Darmstadt,
Germany operates as MilliporeSigma in the U.S. and
Canada.

Page 2 of 2

Lampiran 11. Certificate Of Analysis (CoA) DPPH

HiMedia Laboratories Pvt. Ltd.		HiMEDIA [®]
Certified ISO 9001-2015 and WHO GMP		C-40, Road No.21Y, MIDC, Waghe Ind. Area, Thane(W) - 400604 Website : www.himedialabs.com, Email : info@himedialabs.com
Certificate of Analysis		
Material Name: 2,2-Diphenyl-1-picrylhydrazyl, For Molecular Biology		
CAS Number : 1898-66-4		
Material Code : MB263	Molecular Formula	: C ₁₈ H ₁₂ N ₅ O ₆
Lot Number : 0000676845	Report No	: 10000619506
TEST	SPECIFICATIONS	RESULTS
Appearance	Green to dark violet to black-gold to black crystals or powder or solid	Black crystals
Solubility	33.3 mg soluble in 1 mL of dimethylformamide	Complies
FTIR	Matches with the standard pattern	Complies
DNases	None detected	Complies
RNases	None detected	Complies
Assay (HPLC)	≥ 85.00%	93.51%
STATUS : APPROVED		
QC Release Date	: 2024-12-09	
Expiry Date	: 2028-12-04	
 Swara S. Samant Quality Control Chemist Chemical Division  Anil Patil Manager, Quality Control Chemical Division  Himanshu Manager, Quality Assurance Chemical Division		
This is to certify that this lot passes and it confirms to the above mentioned tests and specifications. The information given here is believed to be correct and accurate, however, both the information and products are offered without warranty for any particulars use, other than that specified in the current technical data. This document has been produced electronically and is valid with out signature.		
		PAGE : 1 of 1

Lampiran 12. Certificate Of Analysis (CoA) Vitamin C



BADAN POM RI

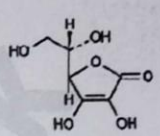
SERTIFIKAT ANALISIS

NAMA ZAT : ASAM ASKORBAT BPL

NO KONTROL : B0114243

FORMULA : $C_6H_8O_6$

BOBOT MOLEKUL : 176.12 g/mol



TUJUAN PENGGUNAAN :

- identifikasi secara spektrofotometri inframerah
- identifikasi secara spektrofotometri ultraviolet
- titik lebur dan kemurnian secara *differential scanning calorimetry*
- penetapan kadar secara kromatografi cair kinerja tinggi
- penetapan kadar secara spektrofotometri ultraviolet

WADAH DAN PENYIMPANAN : dalam wadah tertutup rapat, terhindar dari kontak langsung dengan cahaya.

PENGUJIAN	ACUAN/METODE	SPESIFIKASI	HASIL
Pemerian		Serbuk hablur putih atau hampir putih, atau hablur tidak berwarna	Memenuhi syarat
Identifikasi	Spektrofotometri Inframerah (USP 35 hal. 2242; BP 2009 hal. 173)	Sesuai dengan spektrum inframerah baku primer Ascorbic acid USPRS no. Lot ROK142	Memenuhi syarat
	Spektrofotometri Ultraviolet (BP 2009 hal. 173)	Sesuai dengan spektrum ultraviolet baku primer Ascorbic acid USPRS no. Lot ROK142; Serapan jenis pada 243 nm adalah 545-585	Memenuhi syarat ; Serapan jenis pada 243 nm = 550
Titik Lebur dan Kemurnian	<i>Differential Scanning Calorimetry</i> (BP 2009 hal. 173)	190°C	189,01°C; Kemurnian 99,60%
Penetapan Kadar	Spektrofotometri Ultraviolet (BP 2009 hal. 173)	99,0 – 100,5%	99,56 ± 2,03%
	Kromatografi Cair Kinerja Tinggi (Modifikasi MA 02/PK/12)	99,0 – 100,5%	100,15 ± 0,83 %



Kepala Pusat Pengujian Obat dan Makanan Nasional
Dit. Manajer Teknis Laboratorium Bahan Baku Pembanding

[Signature]

Dra. Dwi Prapti Karyani, M.Si., Apt.
NIP. 19601223 199503 2 001



BADAN PENGAWAS OBAT DAN MAKANAN REPUBLIK INDONESIA
Jl. Percetakan Negara No. 23, Jakarta Pusat 10560 Telp. 4245075, Fax. : 4201427, 4245150, E-mail. : ppomn@pom.go.id

Lampiran 13. Hasil Determinasi Daun Kirinyuh

HERBARIUM JATINANGORIENSE
LABORATORIUM BIOSISTEMATIKA DAN MOLEKULER
DEPARTEMEN BIOLOGI, FMIPA UNPAD
Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor
Telp. 022-7796412

LEMBAR IDENTIFIKASI TUMBUHAN
No.480/LBM/IT/XII/2024

Herbarium Jatinangor, Laboratorium Biosistematika dan Molekuler, Departemen Biologi FMIPA UNPAD, dengan ini menerangkan bahwa:

Nama : Marshya Haisyawa
NPM : 211FF03119
Instansi : Universitas Bhakti Kencana
Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: 599
Tanggal Koleksi : 2 Desember 2024
Lokasi : Sumedang, Jawa Barat.

Hasil Identifikasi,

Nama Ilmiah : *Chromolaena odorata* (L.) R.M. King & H. Rob
Sinonim : *Eupatorium odoratum* L.
Nama Lokal : Kirinyuh
Suku/Famili : *Asteraceae*

Referensi:

Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*.
Columbia University Press. New York
World Flora Online(2021): <https://powo.science.kew.org/>.

Jatinangor, 20 Desember 2024

Mengetahui,
Kepala Laboratorium



Annisa, M.Si., Ph.D.
NIP. 197802042006042001

Identifikator,



Dr. Budi Irawan, M.Si
NIP. 197312281999031003

Lampiran 14. Surat Keterangan Layak Etik



KOMISI ETIK PENELITIAN KESEHATAN UNIVERSITAS BHAKTI KENCANA

Jl. Soekarno - Hatta 754, Bandung
Telp : 022-7830 760 / 022-7830-768
Email : komisi.etik@bku.ac.id



KOMISI ETIK PENELITIAN KESEHATAN HEALTH RESEARCH ETHICS COMMITTEE UNIVERSITAS BHAKTI KENCANA BHAKTI KENCANA UNIVERSITY

KETERANGAN LAYAK ETIK DESCRIPTION OF ETHICAL APPROVAL "ETHICAL APPROVAL" 060/09.KEPK/UBK/V/2025

Protokol penelitian yang diusulkan oleh :
The research protocol proposed by :

Peneliti Utama : Marshya Haisyawa
Principal investigator

Nama institusi : Universitas Bhakti Kencana
Name of institution

Dengan judul :
Title

Formulasi Dan Evaluasi Sediaan Hand Body Lotion Berbasis Ekstrak Daun Kirinyuh (*Chromolaena Odorata* L.) Dengan Aktivitas Antioksidan Sebagai Agen Protektif Kulit

Formulation and Evaluation of Hand Body Lotion Preparations Based on Kirinyuh Leaf Extract (Chromolaena Odorata L.) with Antioxidant Activity as a Skin Protective Agent

Dinyatakan layak etik sesuai (tujuh) standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, dan 4) Risiko, 5) Bujukan atau eksploitasi, 6) Kerahasiaan atau Privacy, 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 standards, 1) Social Value, 2) Scientific Value, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and Informed Consent, referring to the 2016 CIOMS guidelines. This is as indicated by the fulfillment of the indicators of each standards.

Pernyataan Laik Etik ini berlaku selama kurun waktu 08 Mei 2025 sampai dengan tanggal 08 Mei 2026.

This declaration of ethics applies during the period 8 th May 2025 until 8 th May 2026.

08 Mei 2025
Professor and Chairperson

R. Nety Rustikayanti, S.Kp., M.Kep
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Lampiran 15. Hasil Ekstraksi Daun Kirinyuh

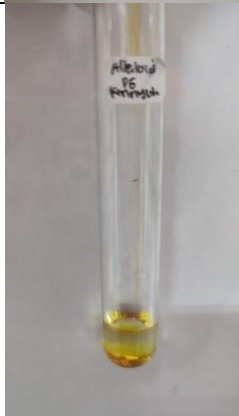
Dokumentasi Ekstraksi

			
Pengeringan simplisia	Proses maserasi	Proses Evaporasi	Proses pengentalan ekstrak dengan <i>waterbath</i>

Data Proses Ekstraksi Daun Kirinyuh

Tahapan	Data	Hasil
Simplisia	Diket: Bobot sampel basah: 2kg	Sampel kering utuh: 467,9 gr Kadar Air: 4,59%
Maserasi	Pelarut:	Maserat:
	Hari ke-1 : 4,5 L	Hari ke-1 : 3,5 L
	Hari ke-2 : 4,5 L	Hari ke-2 : 4,250 L
	Hari ke-3 : 4,5 L	Hari ke-3 : 4 L
Evaporasi	Jumlah larutan maserat: 11,750 mL	Hasil evaporasi : 800 mL
Waterbath	Larutan maserat: 800 mL	Bobot ekstrak : 83,4 gr
Hasil Ekstrak	Diket: % Rendemen = berat ekstrak/berat simplisia x 100%	% Rendemen = $83,4 / 458,8 \times 100\%$ = 18,17%

Lampiran 16. Hasil Skrinning Fitokimia

NO	Parameter Uji	Hasil	Keterangan	Dokumentas
1.	Alkaloid			
	Dragendorf	+	Terdapat endapan merah bata	
	Mayer	+	Terdapat endapan putih	
2.	Flavonoid	+	Terbentuk warna pada lapisan amil alkohol	
3.	Kuinon	+	Terbentuk warna merah	

4.	Tanin				
	FeCl ₃ 1%	+	Hitam kehijauan		
	Gelatin 1%	+	Endapan putih		
5.	Saponin	+	Terbentuk busa stabil		
6.	Steroid/Triterpenoid	+	Terbentuk warna merah keunguan		

Lampiran 17. Data Hasil Evaluasi Organoleptis

Formula	Hasil pengujian organoleptis		
	Aroma	Konsistensi	Warna
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F1	Segar, herba ringan	Lembut	Hijau pastel
F1	Segar, herba ringan	Lembut	Hijau pastel
F1	Segar, herba ringan	Lembut	Hijau pastel
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat

Lampiran 18. Data Hasil Evaluasi Homogenitas

Formula	Distribusi warna	Karakterisasi Tekstur dan Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel

F3	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel

Lampiran 19. Data Hasil Evaluasi pH

Formula	Batch 1	Batch 2	Batch 3	SD	Keterangan
F0	7,51	7,52	7,5	0,01	Memenuhi syarat
F1	7,46	7,45	7,45	0,01	Memenuhi syarat
F2	7,32	7,32	7,3	0,01	Memenuhi syarat
F3	7,27	7,26	7,28	0,01	Memenuhi syarat
F4	7,12	7,11	7,11	0,01	Memenuhi syarat

Lampiran 20. Data Hasil Evaluasi Viskositas

Formula	Batch 1	Batch 2	Batch 3	SD
F0	3363	3360	3366	3
F1	3287	3290	3293	3
F2	3181	3183	3185	2
F3	3037	3035	3039	2
F4	2995	2997	2999	2

Lampiran 21. Data Hasil Evaluasi Daya Sebar

Formula	Batch 1	Batch 2	Batch 3	SD
F0	5,9 cm	6,1 cm	6,1 cm	0,12
F1	6,3 cm	6,3 cm	6,2 cm	0,06
F2	6,4 cm	6,2 cm	6,4 cm	0,12

F3	6,5 cm	6,4 cm	6,5 cm	0,06
F4	7,1 cm	7,0 cm	7,1 cm	0,06

Lampiran 22. Data Hasil Evaluasi Daya Lekat

Formula	Batch 1	Batch 2	Batch 3	SD
F0	156 detik	155 detik	154 detik	0,58
F1	37,8 detik	37,4 detik	38,2 detik	0,40
F2	18,4 detik	18,7 detik	19 detik	0,30
F3	12,2 detik	12,5 detik	12,7 detik	0,25
F4	7,5 detik	7,3 detik	7,77 detik	0,24

Lampiran 23. Data Hasil Evaluasi Organoleptis Suhu Ruang (*Real time*)

Formula	Hasil pengujian organoleptis		
	Aroma	Konsistensi	Warna
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F1	Segar, herba ringan	Lembut	Hijau pastel
F1	Segar, herba ringan	Lembut	Hijau pastel
F1	Segar, herba ringan	Lembut	Hijau pastel
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat

Lampiran 24. Data Hasil Evaluasi Homogenitas Suhu Ruang (*Real time*)

Formula	Distribusi warna	Karakterisasi Tekstur dan Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel

Lampiran 25. Data Hasil Evaluasi pH Pada Suhu Ruang (*Real time*)

Siklus	F0	F1	F2	F3	F4
Hari ke-0	7,61	7,48	7,34	7,27	7,05
Hari ke-0	7,62	7,49	7,33	7,28	7,06
Hari ke-0	7,63	7,5	7,34	7,29	7,07
Hari ke-7	7,6	7,46	7,33	7,27	7,02
Hari ke-7	7,61	7,47	7,3	7,28	7,03
Hari ke-7	7,59	7,48	7,31	7,29	7,04
Hari ke-14	7,59	7,46	7,32	7,27	7,00
Hari ke-14	7,60	7,47	7,33	7,25	7,01
Hari ke-14	7,60	7,48	7,31	7,26	7,02
Hari ke-21	7,60	7,44	7,34	7,26	6,98
Hari ke-21	7,61	7,45	7,35	7,25	6,99

Hari ke-21	7,62	7,46	7,33	7,26	7,00
Hari ke-28	7,58	7,43	7,34	7,25	7,00
Hari ke-28	7,59	7,44	7,33	7,24	6,99
Hari ke-28	7,62	7,45	7,34	7,26	7,02

Lampiran 26. Data Hasil Evaluasi Viskositas Pada Suhu Ruang (*Real time*)

Siklus	F0	F1	F2	F3	F4
Hari ke-0	3356	3348	3335	3223	3092
Hari ke-0	3357	3349	3335	3223	3093
Hari ke-0	3358	3350	3333	3224	3094
Hari ke-7	3357	3345	3333	3222	3090
Hari ke-7	3355	3346	3334	3223	3091
Hari ke-7	3356	3347	3333	3224	3092
Hari ke-14	3355	3344	3335	3222	3086
Hari ke-14	3354	3345	3334	3221	3087
Hari ke-14	3356	3346	3332	3222	3088
Hari ke-21	3356	3342	3334	3224	3072
Hari ke-21	3356	3343	3334	3223	3073
Hari ke-21	3355	3344	3333	3222	3074
Hari ke-28	3357	3340	3234	3223	3071
Hari ke-28	3358	3341	3233	3223	3072
Hari ke-28	3356	3342	3234	3222	3073

Lampiran 27. Data Hasil Evaluasi Organoleptis Suhu Ekstrim (*Cycling test*)

Formula	Hasil pengujian organoleptis		
	Aroma	Konsistensi	Warna
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F0	Segar	Lembut	Putih susu
F1	Segar, herba ringan	Lembut	Hijau pastel
F1	Segar, herba ringan	Lembut	Hijau pastel

F1	Segar, herba ringan	Lembut	Hijau pastel
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F2	Segar, herba ringan	Lembut	Hijau cerah
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F3	Segar, herba ringan	Lembut	Hijau zaitun
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat
F4	Segar, herba ringan	Lembut	Hijau zaitun pekat

Lampiran 28. Data Hasil Evaluasi Homogenitas Suhu Ekstrim (*Cycling test*)

Formula	Distribusi warna	Karakterisasi Tekstur dan Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F0	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F1	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F2	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F3	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel
F4	Merata	Halus, Tanpa Agregasi Partikel

Lampiran 29. Data Hasil Evaluasi pH Pada Suhu Ekstrim (*Cycling test*)

Siklus	F0	F1	F2	F3	F4
Siklus 0	7,59	7,45	7,34	7,26	7,11
Siklus 0	7,57	7,46	7,34	7,27	7,11
Siklus 0	7,59	7,47	7,33	7,28	7,01
Siklus 1	7,58	7,44	7,34	7,28	7,11
Siklus 1	7,57	7,46	7,33	7,27	7,01
Siklus 1	7,58	7,45	7,33	7,27	7,09
Siklus 2	7,58	7,48	7,34	7,29	6,98
Siklus 2	7,59	7,49	7,30	7,26	6,99
Siklus 2	7,59	7,49	7,32	7,27	6,99
Siklus 3	7,57	7,48	7,33	7,25	6,98
Siklus 3	7,58	7,46	7,34	7,27	7,00
Siklus 3	7,58	7,47	7,33	7,27	6,99
Siklus 4	7,58	7,67	7,33	7,27	7,07
Siklus 4	7,58	7,68	7,32	7,29	7,05
Siklus 4	7,59	7,68	7,30	7,28	7,06
Siklus 5	7,57	7,42	7,32	7,25	7,02
Siklus 5	7,58	7,43	7,31	7,26	7,03
Siklus 5	7,58	7,43	7,32	7,26	7,03
Siklus 6	7,58	7,36	7,31	7,26	7,00
Siklus 6	7,57	7,34	7,32	7,26	7,01
Siklus 6	7,57	7,35	7,33	7,27	7,01

Lampiran 30. Data Hasil Evaluasi Viskositas Pada Suhu Ekstrim (*Cycling test*)

Siklus	F0	F1	F2	F3	F4
Siklus 0	3362	3296	3193	3091	2989
Siklus 0	3362	3298	3189	3084	3003
Siklus 0	3361	3287	3188	3079	3001
Siklus 1	3358	3284	3186	3089	2990
Siklus 1	3360	3296	3176	3088	3001
Siklus 1	3361	3290	3186	3086	2974

Siklus 2	3359	3284	3181	3083	2990
Siklus 2	3358	3281	3168	3084	2984
Siklus 2	3359	3285	3178	3086	2987
Siklus 3	3362	3277	3178	3071	2964
Siklus 3	3359	3276	3171	3069	2971
Siklus 3	3358	3274	3162	3083	2963
Siklus 4	3359	3265	3174	3084	2949
Siklus 4	3357	3267	3166	3079	2953
Siklus 4	3361	3263	3178	3085	2950
Siklus 5	3361	3260	3170	3086	2943
Siklus 5	3357	3262	3161	3072	2921
Siklus 5	3360	3259	3155	3080	2933
Siklus 6	3359	3259	3166	3079	2923
Siklus 6	3360	3258	3162	3080	2932
Siklus 6	3362	3259	3160	3089	2917

Lampiran 31. Hasil Analisis Statistik Pengujian pH

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
Varian Sediaan		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil pH sediaan	Formula 0	.175	3	.	1.000	3	1.000
	Formula 1	.385	3	.	.750	3	<.001
	Formula 2	.385	3	.	.750	3	<.001
	Formula 3	.175	3	.	1.000	3	1.000
	Formula 4	.385	3	.	.750	3	<.001

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances					
Hasil pH sediaan		Levene	df1	df2	Sig.
		Statistic			
Hasil pH sediaan	Based on Mean	.583	4	10	.682
	Based on Median	.188	4	10	.940
	Based on Median and with adjusted df	.188	4	6.400	.937
	Based on trimmed mean	.543	4	10	.708

Kruskal-Wallis

Ranks

	Varian Sediaan	N	Mean Rank
Hasil pH sediaan	Formula 0	3	14.00
	Formula 1	3	11.00
	Formula 2	3	8.00
	Formula 3	3	5.00
	Formula 4	3	2.00
	Total	15	

Test Statistics^{a,b}

	Hasil pH sediaan
Kruskal-Wallis H	13.573
df	4
Asymp. Sig.	.009

a. Kruskal Wallis Test

b. Grouping Variable: Varian Sediaan

Post-Hoc

Multiple Comparisons

Dependent Variable: Hasil pH sediaan
Bonferroni

(I) Varian Sediaan	(J) Varian Sediaan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Formula 0	Formula 1	.05667 [*]	.00730	<.001	.0305	.0828
	Formula 2	.19667 [*]	.00730	<.001	.1705	.2228
	Formula 3	.24000 [*]	.00730	<.001	.2138	.2662
	Formula 4	.39333 [*]	.00730	<.001	.3672	.4195
Formula 1	Formula 0	-.05667 [*]	.00730	<.001	-.0828	-.0305
	Formula 2	.14000 [*]	.00730	<.001	.1138	.1662
	Formula 3	.18333 [*]	.00730	<.001	.1572	.2095
	Formula 4	.33667 [*]	.00730	<.001	.3105	.3628
Formula 2	Formula 0	-.19667 [*]	.00730	<.001	-.2228	-.1705
	Formula 1	-.14000 [*]	.00730	<.001	-.1662	-.1138
	Formula 3	.04333 [*]	.00730	.001	.0172	.0695
	Formula 4	.19667 [*]	.00730	<.001	.1705	.2228
Formula 3	Formula 0	-.24000 [*]	.00730	<.001	-.2662	-.2138
	Formula 1	-.18333 [*]	.00730	<.001	-.2095	-.1572
	Formula 2	-.04333 [*]	.00730	.001	-.0695	-.0172
	Formula 4	.15333 [*]	.00730	<.001	.1272	.1795
Formula 4	Formula 0	-.39333 [*]	.00730	<.001	-.4195	-.3672
	Formula 1	-.33667 [*]	.00730	<.001	-.3628	-.3105
	Formula 2	-.19667 [*]	.00730	<.001	-.2228	-.1705
	Formula 3	-.15333 [*]	.00730	<.001	-.1795	-.1272

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

Lampiran 32. Hasil analisis statistik Pengujian Viskositas

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Viskositas	Formula 0	.175	3	.	1.000	3	1.000
	Formula 1	.175	3	.	1.000	3	1.000
	Formula 2	.175	3	.	1.000	3	1.000
	Formula 3	.175	3	.	1.000	3	1.000
	Formula 4	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances					
		Levene	df1	df2	Sig.
		Statistic			
Viskositas	Based on Mean	.200	4	10	.933
	Based on Median	.200	4	10	.933
	Based on Median and with adjusted df	.200	4	8.571	.932
	Based on trimmed mean	.200	4	10	.933

One way ANOVA

ANOVA					
Viskositas					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	298068.000	4	74517.000	12419.500	<.001
Within Groups	60.000	10	6.000		
Total	298128.000	14			

Post-Hoc

Multiple Comparisons						
Dependent Variable: Viskositas						
Tukey HSD						
(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula 0	Formula 1	73.00000*	2.00000	<.001	66.4178	79.5822
	Formula 2	180.00000*	2.00000	<.001	173.4178	186.5822
	Formula 3	326.00000*	2.00000	<.001	319.4178	332.5822

Formula 1	Formula 4	366.00000*	2.00000	<,001	359.4178	372.5822
	Formula 0	-73.00000*	2.00000	<,001	-79.5822	-66.4178
	Formula 2	107.00000*	2.00000	<,001	100.4178	113.5822
	Formula 3	253.00000*	2.00000	<,001	246.4178	259.5822
	Formula 4	293.00000*	2.00000	<,001	286.4178	299.5822
Formula 2	Formula 0	-180.00000*	2.00000	<,001	-186.5822	-173.4178
	Formula 1	-107.00000*	2.00000	<,001	-113.5822	-100.4178
	Formula 3	146.00000*	2.00000	<,001	139.4178	152.5822
	Formula 4	186.00000*	2.00000	<,001	179.4178	192.5822
Formula 3	Formula 0	-326.00000*	2.00000	<,001	-332.5822	-319.4178
	Formula 1	-253.00000*	2.00000	<,001	-259.5822	-246.4178
	Formula 2	-146.00000*	2.00000	<,001	-152.5822	-139.4178
	Formula 4	40.00000*	2.00000	<,001	33.4178	46.5822
Formula 4	Formula 0	-366.00000*	2.00000	<,001	-372.5822	-359.4178
	Formula 1	-293.00000*	2.00000	<,001	-299.5822	-286.4178
	Formula 2	-186.00000*	2.00000	<,001	-192.5822	-179.4178
	Formula 3	-40.00000*	2.00000	<,001	-46.5822	-33.4178

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

Lampiran 33. Hasil Analisis Statistik Pengujian Daya Sebar

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
Variasi Sediaan		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Daya Sebar	Formula 0	.385	3	.	.750	3	<,001
	Formula 1	.385	3	.	.750	3	<,001
	Formula 2	.385	3	.	.750	3	<,001
	Formula 3	.385	3	.	.750	3	<,001
	Formula 4	.385	3	.	.750	3	<,001

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Daya Sebar	Based on Mean	2.182	4	10	.145
	Based on Median	.136	4	10	.965
	Based on Median and with adjusted df	.136	4	6.914	.964
	Based on trimmed mean	1.719	4	10	.222

Kruskal-Wallis

Ranks

	Variasi Sediaan	N	Mean Rank
Daya Sebar	Formula 0	3	2.00
	Formula 1	3	5.83
	Formula 2	3	7.50
	Formula 3	3	10.67
	Formula 4	3	14.00
	Total	15	

Test Statistics^{a,b}

Daya Sebar	
Kruskal-Wallis H	12.814
df	4
Asymp. Sig.	.012

a. Kruskal Wallis Test

b. Grouping Variable:
Variasi Sediaan

Post-Hoc

Multiple Comparisons

Dependent Variable: Viskositas

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula 0	Formula 1	73.00000 [*]	2.00000	<,001	66.4178	79.5822
	Formula 2	180.00000 [*]	2.00000	<,001	173.4178	186.5822
	Formula 3	326.00000 [*]	2.00000	<,001	319.4178	332.5822
	Formula 4	366.00000 [*]	2.00000	<,001	359.4178	372.5822
Formula 1	Formula 0	-73.00000 [*]	2.00000	<,001	-79.5822	-66.4178
	Formula 2	107.00000 [*]	2.00000	<,001	100.4178	113.5822
	Formula 3	253.00000 [*]	2.00000	<,001	246.4178	259.5822
	Formula 4	293.00000 [*]	2.00000	<,001	286.4178	299.5822
Formula 2	Formula 0	-180.00000 [*]	2.00000	<,001	-186.5822	-173.4178
	Formula 1	-107.00000 [*]	2.00000	<,001	-113.5822	-100.4178
	Formula 3	146.00000 [*]	2.00000	<,001	139.4178	152.5822
	Formula 4	186.00000 [*]	2.00000	<,001	179.4178	192.5822
Formula 3	Formula 0	-326.00000 [*]	2.00000	<,001	-332.5822	-319.4178
	Formula 1	-253.00000 [*]	2.00000	<,001	-259.5822	-246.4178
	Formula 2	-146.00000 [*]	2.00000	<,001	-152.5822	-139.4178
	Formula 4	40.00000 [*]	2.00000	<,001	33.4178	46.5822
Formula 4	Formula 0	-366.00000 [*]	2.00000	<,001	-372.5822	-359.4178
	Formula 1	-293.00000 [*]	2.00000	<,001	-299.5822	-286.4178
	Formula 2	-186.00000 [*]	2.00000	<,001	-192.5822	-179.4178
	Formula 3	-40.00000 [*]	2.00000	<,001	-46.5822	-33.4178

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

Lampiran 34. Hasil Analisis Statistik Pengujian Daya Lekat

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Daya_lekat	Formula 0	.385	3	.	.750	3	<.001
	Formula 1	.175	3	.	1.000	3	1.000
	Formula 2	.175	3	.	1.000	3	1.000
	Formula 3	.219	3	.	.987	3	.780
	Formula 4	.206	3	.	.993	3	.836

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Daya_lekat	Based on Mean	1.316	4	10	.329
	Based on Median	.181	4	10	.943
	Based on Median and with adjusted df	.181	4	3.649	.936
	Based on trimmed mean	1.189	4	10	.373

Kruskal-Wallis

Ranks			
	Formula	N	Mean Rank
Daya_lekat	Formula 0	3	14.00
	Formula 1	3	11.00
	Formula 2	3	8.00
	Formula 3	3	5.00
	Formula 4	3	2.00
	Total	15	

Test Statistics^{a,b}

Daya_lekat	
Kruskal-Wallis H	13.524
df	4
Asymp. Sig.	.009

a. Kruskal Wallis Test

b. Grouping Variable:
Formula

Post-Hoc

Multiple Comparisons

Dependent Variable: Daya_lekat

Bonferroni

(I) Formula	(J) Formula	Mean	Std. Error	Sig.	95% Confidence Interval	
		Difference (I-J)			Lower Bound	Upper Bound
Formula 0	Formula 1	117.86667 [*]	.30601	<,001	116.7707	118.9626
	Formula 2	136.96667 [*]	.30601	<,001	135.8707	138.0626
	Formula 3	143.20000 [*]	.30601	<,001	142.1041	144.2959
	Formula 4	148.14333 [*]	.30601	<,001	147.0474	149.2393
Formula 1	Formula 0	-117.86667 [*]	.30601	<,001	-118.9626	-116.7707
	Formula 2	19.10000 [*]	.30601	<,001	18.0041	20.1959
	Formula 3	25.33333 [*]	.30601	<,001	24.2374	26.4293
	Formula 4	30.27667 [*]	.30601	<,001	29.1807	31.3726
Formula 2	Formula 0	-136.96667 [*]	.30601	<,001	-138.0626	-135.8707
	Formula 1	-19.10000 [*]	.30601	<,001	-20.1959	-18.0041
	Formula 3	6.23333 [*]	.30601	<,001	5.1374	7.3293
	Formula 4	11.17667 [*]	.30601	<,001	10.0807	12.2726
Formula 3	Formula 0	-143.20000 [*]	.30601	<,001	-144.2959	-142.1041
	Formula 1	-25.33333 [*]	.30601	<,001	-26.4293	-24.2374
	Formula 2	-6.23333 [*]	.30601	<,001	-7.3293	-5.1374
	Formula 4	4.94333 [*]	.30601	<,001	3.8474	6.0393
Formula 4	Formula 0	-148.14333 [*]	.30601	<,001	-149.2393	-147.0474
	Formula 1	-30.27667 [*]	.30601	<,001	-31.3726	-29.1807
	Formula 2	-11.17667 [*]	.30601	<,001	-12.2726	-10.0807
	Formula 3	-4.94333 [*]	.30601	<,001	-6.0393	-3.8474

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

Lampiran 35. Hasil Analisis Statistik Pengujian pH Suhu Ruang (*Real Time*)

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality

	Siklus	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
pH_F0	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.385	3	.	.750	3	<,001
	Hari ke-21	.175	3	.	1.000	3	1.000
	Hari ke-28	.292	3	.	.923	3	.463
pH_F1	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.175	3	.	1.000	3	1.000

pH_F2	Hari ke-21	.175	3	.	1.000	3	1.000
	Hari ke-28	.175	3	.	1.000	3	1.000
	Hari ke-0	.385	3	.	.750	3	<,001
	Hari ke-7	.	3	.	.	3	.
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.175	3	.	1.000	3	1.000
	Hari ke-28	.385	3	.	.750	3	<,001
pH_F3	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.385	3	.	.750	3	<,001
	Hari ke-14	.385	3	.	.750	3	<,001
	Hari ke-21	.385	3	.	.750	3	<,001
	Hari ke-28	.175	3	.	1.000	3	1.000
pH_F4	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.175	3	.	1.000	3	1.000
	Hari ke-28	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
pH_F0	Based on Mean	1.617	4	10	.245
	Based on Median	.545	4	10	.707
	Based on Median and with adjusted df	.545	4	4.566	.713
	Based on trimmed mean	1.527	4	10	.267
pH_F1	Based on Mean	.000	4	10	1.000
	Based on Median	.000	4	10	1.000
	Based on Median and with adjusted df	.000	4	10.000	1.000
	Based on trimmed mean	.000	4	10	1.000
pH_F2	Based on Mean	1.500	4	10	.274
	Based on Median	.875	4	10	.512
	Based on Median and with adjusted df	.875	4	8.000	.519
	Based on trimmed mean	1.466	4	10	.284
pH_F3	Based on Mean	.519	4	10	.724
	Based on Median	.091	4	10	.983
	Based on Median and with adjusted df	.091	4	6.914	.982
	Based on trimmed mean	.462	4	10	.762

pH_F4	Based on Mean	.327	4	10	.854
	Based on Median	.143	4	10	.962
	Based on Median and with adjusted df	.143	4	7.538	.961
	Based on trimmed mean	.314	4	10	.862

Kruskal-Wallis

Ranks

	Siklus	N	Mean Rank
pH_F0	Hari ke-0	3	12.67
	Hari ke-7	3	6.50
	Hari ke-14	3	5.33
	Hari ke-21	3	9.83
	Hari ke-28	3	5.67
	Total	15	
pH_F1	Hari ke-0	3	13.67
	Hari ke-7	3	9.50
	Hari ke-14	3	9.50
	Hari ke-21	3	4.67
	Hari ke-28	3	2.67
	Total	15	
pH_F2	Hari ke-0	3	9.33
	Hari ke-7	3	5.00
	Hari ke-14	3	5.83
	Hari ke-21	3	10.50
	Hari ke-28	3	9.33
	Total	15	
pH_F3	Hari ke-0	3	12.00
	Hari ke-7	3	10.83
	Hari ke-14	3	5.67
	Hari ke-21	3	6.83
	Hari ke-28	3	4.67
	Total	15	
pH_F4	Hari ke-0	3	14.00
	Hari ke-7	3	10.67
	Hari ke-14	3	7.00
	Hari ke-21	3	2.83
	Hari ke-28	3	5.50
	Total	15	

Test Statistics^{a,b}

	pH_F0	pH_F1	pH_F2	pH_F3	pH_F4
Kruskal-Wallis H	6.237	11.654	4.209	6.802	11.747
df	4	4	4	4	4
Asymp. Sig.	.182	.020	.378	.147	.019

a. Kruskal Wallis Test

b. Grouping Variable: Siklus

Post-Hoc

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Siklus	(J) Siklus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
pH_F0	Hari ke-0	Hari ke-7	.02000	.01011	.761	-.0162	.0562
		Hari ke-14	.02333	.01011	.437	-.0129	.0595
		Hari ke-21	.01000	.01011	1.000	-.0262	.0462
		Hari ke-28	.02333	.01011	.437	-.0129	.0595
	Hari ke-7	Hari ke-0	-.02000	.01011	.761	-.0562	.0162
		Hari ke-14	.00333	.01011	1.000	-.0329	.0395
		Hari ke-21	-.01000	.01011	1.000	-.0462	.0262
		Hari ke-28	.00333	.01011	1.000	-.0329	.0395
	Hari ke-14	Hari ke-0	-.02333	.01011	.437	-.0595	.0129
		Hari ke-7	-.00333	.01011	1.000	-.0395	.0329
		Hari ke-21	-.01333	.01011	1.000	-.0495	.0229
		Hari ke-28	.00000	.01011	1.000	-.0362	.0362
	Hari ke-21	Hari ke-0	-.01000	.01011	1.000	-.0462	.0262
		Hari ke-7	.01000	.01011	1.000	-.0262	.0462
		Hari ke-14	.01333	.01011	1.000	-.0229	.0495
		Hari ke-28	.01333	.01011	1.000	-.0229	.0495
	Hari ke-28	Hari ke-0	-.02333	.01011	.437	-.0595	.0129
		Hari ke-7	-.00333	.01011	1.000	-.0395	.0329
		Hari ke-14	.00000	.01011	1.000	-.0362	.0362
		Hari ke-21	-.01333	.01011	1.000	-.0495	.0229
pH_F1	Hari ke-0	Hari ke-7	.02000	.00816	.343	-.0092	.0492
		Hari ke-14	.02000	.00816	.343	-.0092	.0492
		Hari ke-21	.04000*	.00816	.006	.0108	.0692
		Hari ke-28	.05000*	.00816	.001	.0208	.0792
	Hari ke-7	Hari ke-0	-.02000	.00816	.343	-.0492	.0092
		Hari ke-14	.00000	.00816	1.000	-.0292	.0292
		Hari ke-21	.02000	.00816	.343	-.0092	.0492
		Hari ke-28	.03000*	.00816	.043	.0008	.0592
	Hari ke-14	Hari ke-0	-.02000	.00816	.343	-.0492	.0092
		Hari ke-7	.00000	.00816	1.000	-.0292	.0292
		Hari ke-21	.02000	.00816	.343	-.0092	.0492
		Hari ke-28	.03000*	.00816	.043	.0008	.0592
	Hari ke-21	Hari ke-0	-.04000*	.00816	.006	-.0692	-.0108
		Hari ke-7	-.02000	.00816	.343	-.0492	.0092
		Hari ke-14	-.02000	.00816	.343	-.0492	.0092
		Hari ke-28	.01000	.00816	1.000	-.0192	.0392
	Hari ke-28	Hari ke-0	-.05000*	.00816	.001	-.0792	-.0208
		Hari ke-7	-.03000*	.00816	.043	-.0592	-.0008
		Hari ke-14	-.03000*	.00816	.043	-.0592	-.0008
		Hari ke-21	-.01000	.00816	1.000	-.0392	.0192
pH_F2	Hari ke-0	Hari ke-7	.00667	.00596	1.000	-.0147	.0280

		Hari ke-14	.00667	.00596	1.000	-.0147	.0280
		Hari ke-21	-.00333	.00596	1.000	-.0247	.0180
		Hari ke-28	.00000	.00596	1.000	-.0214	.0214
		Hari ke-0	-.00667	.00596	1.000	-.0280	.0147
	Hari ke-7	Hari ke-14	.00000	.00596	1.000	-.0214	.0214
		Hari ke-21	-.01000	.00596	1.000	-.0314	.0114
		Hari ke-28	-.00667	.00596	1.000	-.0280	.0147
		Hari ke-0	-.00667	.00596	1.000	-.0280	.0147
	Hari ke-14	Hari ke-7	.00000	.00596	1.000	-.0214	.0214
		Hari ke-21	-.01000	.00596	1.000	-.0314	.0114
		Hari ke-28	-.00667	.00596	1.000	-.0280	.0147
		Hari ke-0	.00333	.00596	1.000	-.0180	.0247
	Hari ke-21	Hari ke-7	.01000	.00596	1.000	-.0114	.0314
		Hari ke-14	.01000	.00596	1.000	-.0114	.0314
		Hari ke-28	.00333	.00596	1.000	-.0180	.0247
		Hari ke-0	.00000	.00596	1.000	-.0214	.0214
	Hari ke-28	Hari ke-7	.00667	.00596	1.000	-.0147	.0280
		Hari ke-14	.00667	.00596	1.000	-.0147	.0280
		Hari ke-21	-.00333	.00596	1.000	-.0247	.0180
		Hari ke-0	.00333	.00816	1.000	-.0259	.0326
pH_F3	Hari ke-0	Hari ke-14	.01667	.00816	.685	-.0126	.0459
		Hari ke-21	.01333	.00816	1.000	-.0159	.0426
		Hari ke-28	.02000	.00816	.343	-.0092	.0492
		Hari ke-0	-.00333	.00816	1.000	-.0326	.0259
	Hari ke-7	Hari ke-14	.01333	.00816	1.000	-.0159	.0426
		Hari ke-21	.01000	.00816	1.000	-.0192	.0392
		Hari ke-28	.01667	.00816	.685	-.0126	.0459
		Hari ke-0	-.01667	.00816	.685	-.0459	.0126
	Hari ke-14	Hari ke-7	-.01333	.00816	1.000	-.0426	.0159
		Hari ke-21	-.00333	.00816	1.000	-.0326	.0259
		Hari ke-28	.00333	.00816	1.000	-.0259	.0326
		Hari ke-0	-.01333	.00816	1.000	-.0426	.0159
	Hari ke-21	Hari ke-7	-.01000	.00816	1.000	-.0392	.0192
		Hari ke-14	.00333	.00816	1.000	-.0259	.0326
		Hari ke-28	.00667	.00816	1.000	-.0226	.0359
		Hari ke-0	-.02000	.00816	.343	-.0492	.0092
	Hari ke-28	Hari ke-7	-.01667	.00816	.685	-.0459	.0126
		Hari ke-14	-.00333	.00816	1.000	-.0326	.0259
		Hari ke-21	-.00667	.00816	1.000	-.0359	.0226
		Hari ke-0	.03000	.00919	.085	-.0029	.0629
pH_F4	Hari ke-0	Hari ke-14	.05000*	.00919	.003	.0171	.0829
		Hari ke-21	.07000*	.00919	<.001	.0371	.1029
		Hari ke-28	.05667*	.00919	.001	.0238	.0896
		Hari ke-0	-.03000	.00919	.085	-.0629	.0029
	Hari ke-7	Hari ke-14	.02000	.00919	.546	-.0129	.0529
		Hari ke-21	.04000*	.00919	.014	.0071	.0729
		Hari ke-28	.02667	.00919	.158	-.0062	.0596
		Hari ke-0	-.05000*	.00919	.003	-.0829	-.0171
	Hari ke-14	Hari ke-7	-.02000	.00919	.546	-.0529	.0129
		Hari ke-21	.02000	.00919	.546	-.0129	.0529
		Hari ke-28	.00667	.00919	1.000	-.0262	.0396
		Hari ke-0	-.07000*	.00919	<.001	-.1029	-.0371
	Hari ke-21	Hari ke-7	-.04000*	.00919	.014	-.0729	-.0071
		Hari ke-14	-.02000	.00919	.546	-.0529	.0129
		Hari ke-28	-.01333	.00919	1.000	-.0462	.0196
		Hari ke-0	-.05667*	.00919	.001	-.0896	-.0238
	Hari ke-28	Hari ke-7	-.02667	.00919	.158	-.0596	.0062
		Hari ke-14	-.00667	.00919	1.000	-.0396	.0262
		Hari ke-21	.01333	.00919	1.000	-.0196	.0462

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

Lampiran 36. Hasil Analisis Statistik Pengujian Viskositas Suhu Ruang (*Real Time*)

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
	Siklus	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Viskositas_F0	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.385	3	.	.750	3	<.001
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.385	3	.	.750	3	<.001
	Hari ke-28	.175	3	.	1.000	3	1.000
Viskositas_F1	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.175	3	.	1.000	3	1.000
	Hari ke-28	.175	3	.	1.000	3	1.000
Viskositas_F2	Hari ke-0	.385	3	.	.750	3	<.001
	Hari ke-7	.385	3	.	.750	3	<.001
	Hari ke-14	.253	3	.	.964	3	.637
	Hari ke-21	.385	3	.	.750	3	<.001
Viskositas_F3	Hari ke-28	.385	3	.	.750	3	<.001
	Hari ke-0	.385	3	.	.750	3	<.001
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.385	3	.	.750	3	<.001
	Hari ke-21	.175	3	.	1.000	3	1.000
Viskositas_F4	Hari ke-28	.385	3	.	.750	3	<.001
	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.175	3	.	1.000	3	1.000
Viskositas_F5	Hari ke-28	.175	3	.	1.000	3	1.000
	Hari ke-0	.175	3	.	1.000	3	1.000
	Hari ke-7	.175	3	.	1.000	3	1.000
	Hari ke-14	.175	3	.	1.000	3	1.000
	Hari ke-21	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Viskositas_F0	Based on Mean	.207	4	10	.929
	Based on Median	.300	4	10	.871
	Based on Median and with adjusted df	.300	4	10.000	.871
	Based on trimmed mean	.215	4	10	.924

Viskositas_F1	Based on Mean	.000	4	10	1.000
	Based on Median	.000	4	10	1.000
	Based on Median and with adjusted df	.000	4	10.000	1.000
	Based on trimmed mean	.000	4	10	1.000
Viskositas_F2	Based on Mean	2.000	4	10	.171
	Based on Median	.400	4	10	.804
	Based on Median and with adjusted df	.400	4	7.143	.803
	Based on trimmed mean	1.789	4	10	.208
Viskositas_F3	Based on Mean	.286	4	10	.881
	Based on Median	.300	4	10	.871
	Based on Median and with adjusted df	.300	4	10.000	.871
	Based on trimmed mean	.292	4	10	.877
Viskositas_F4	Based on Mean	.000	4	10	1.000
	Based on Median	.000	4	10	1.000
	Based on Median and with adjusted df	.000	4	10.000	1.000
	Based on trimmed mean	.000	4	10	1.000

Kruskal-Wallis

Ranks			
	Siklus	N	Mean Rank
Viskositas_F0	Hari ke-0	3	9.67
	Hari ke-7	3	11.33
	Hari ke-14	3	5.50
	Hari ke-21	3	3.83
	Hari ke-28	3	9.67
	Total	15	
Viskositas_F1	Hari ke-0	3	14.00
	Hari ke-7	3	10.33
	Hari ke-14	3	8.50
	Hari ke-21	3	5.00
	Hari ke-28	3	2.17
	Total	15	
Viskositas_F2	Hari ke-0	3	11.50
	Hari ke-7	3	7.83
	Hari ke-14	3	9.50
	Hari ke-21	3	9.17
	Hari ke-28	3	2.00
	Total	15	
Viskositas_F3	Hari ke-0	3	11.00
	Hari ke-7	3	9.17
	Hari ke-14	3	3.00

Viskositas_F4	Hari ke-21	3	9.17
	Hari ke-28	3	7.67
	Total	15	
	Hari ke-0	3	13.83
	Hari ke-7	3	11.17
	Hari ke-14	3	8.00
	Hari ke-21	3	4.33
	Hari ke-28	3	2.67
	Total	15	

Test Statistics^{a,b}

	Viskositas_F0	Viskositas_F1	Viskositas_F2	Viskositas_F3	Viskositas_F4
Kruskal-Wallis H	6.570	12.800	8.147	6.176	12.961
df	4	4	4	4	4
Asymp. Sig.	.160	.012	.086	.186	.011

a. Kruskal Wallis Test

b. Grouping Variable: Siklus

Post-Hoc

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Siklus	(J) Siklus	Mean Difference (I-J)		Sig.	95% Confidence Interval	
				Std. Error		Lower Bound	Upper Bound
Viskositas_F0	Hari ke-0	Hari ke-7	-.33333	.69921	1.000	-2.8375	2.1708
		Hari ke-14	1.00000	.69921	1.000	-1.5041	3.5041
		Hari ke-21	1.33333	.69921	.856	-1.1708	3.8375
		Hari ke-28	.00000	.69921	1.000	-2.5041	2.5041
	Hari ke-7	Hari ke-0	.33333	.69921	1.000	-2.1708	2.8375
		Hari ke-14	1.33333	.69921	.856	-1.1708	3.8375
		Hari ke-21	1.66667	.69921	.384	-.8375	4.1708
		Hari ke-28	.33333	.69921	1.000	-2.1708	2.8375
	Hari ke-14	Hari ke-0	-1.00000	.69921	1.000	-3.5041	1.5041
		Hari ke-7	-1.33333	.69921	.856	-3.8375	1.1708
		Hari ke-21	.33333	.69921	1.000	-2.1708	2.8375
		Hari ke-28	-1.00000	.69921	1.000	-3.5041	1.5041
	Hari ke-21	Hari ke-0	-1.33333	.69921	.856	-3.8375	1.1708
		Hari ke-7	-1.66667	.69921	.384	-4.1708	.8375
		Hari ke-14	-.33333	.69921	1.000	-2.8375	2.1708
		Hari ke-28	-1.33333	.69921	.856	-3.8375	1.1708
	Hari ke-28	Hari ke-0	.00000	.69921	1.000	-2.5041	2.5041
		Hari ke-7	-.33333	.69921	1.000	-2.8375	2.1708
		Hari ke-14	1.00000	.69921	1.000	-1.5041	3.5041
		Hari ke-21	1.33333	.69921	.856	-1.1708	3.8375
Viskositas_F1	Hari ke-0	Hari ke-7	3.00000*	.81650	.043	.0758	5.9242
		Hari ke-14	4.00000*	.81650	.006	1.0758	6.9242
		Hari ke-21	6.00000*	.81650	<.001	3.0758	8.9242
		Hari ke-28	8.00000*	.81650	<.001	5.0758	10.9242
	Hari ke-7	Hari ke-0	-3.00000*	.81650	.043	-5.9242	-.0758

		Hari ke-14	1.00000	.81650	1.000	-1.9242	3.9242
		Hari ke-21	3.00000*	.81650	.043	.0758	5.9242
		Hari ke-28	5.00000*	.81650	.001	2.0758	7.9242
		Hari ke-0	-4.00000*	.81650	.006	-6.9242	-1.0758
	Hari ke-14	Hari ke-7	-1.00000	.81650	1.000	-3.9242	1.9242
		Hari ke-21	2.00000	.81650	.343	-.9242	4.9242
		Hari ke-28	4.00000*	.81650	.006	1.0758	6.9242
		Hari ke-0	-6.00000*	.81650	<.001	-8.9242	-3.0758
	Hari ke-21	Hari ke-7	-3.00000*	.81650	.043	-5.9242	-.0758
		Hari ke-14	-2.00000	.81650	.343	-4.9242	.9242
		Hari ke-28	2.00000	.81650	.343	-.9242	4.9242
		Hari ke-0	-8.00000*	.81650	<.001	-10.9242	-5.0758
	Hari ke-28	Hari ke-7	-5.00000*	.81650	.001	-7.9242	-2.0758
		Hari ke-14	-4.00000*	.81650	.006	-6.9242	-1.0758
		Hari ke-21	-2.00000	.81650	.343	-4.9242	.9242
		Hari ke-0	1.00000	.78881	1.000	-1.8251	3.8251
Viskositas_F2	Hari ke-0	Hari ke-7	.66667	.78881	1.000	-2.1584	3.4917
		Hari ke-14	.66667	.78881	1.000	-2.1584	3.4917
		Hari ke-21	100.66667*	.78881	<.001	97.8416	103.4917
		Hari ke-28	100.66667*	.78881	<.001	97.8416	103.4917
	Hari ke-7	Hari ke-0	-1.00000	.78881	1.000	-3.8251	1.8251
		Hari ke-14	-.33333	.78881	1.000	-3.1584	2.4917
		Hari ke-21	-.33333	.78881	1.000	-3.1584	2.4917
		Hari ke-28	99.66667*	.78881	<.001	96.8416	102.4917
	Hari ke-14	Hari ke-0	-.66667	.78881	1.000	-3.4917	2.1584
		Hari ke-7	.33333	.78881	1.000	-2.4917	3.1584
		Hari ke-21	.00000	.78881	1.000	-2.8251	2.8251
		Hari ke-28	100.00000*	.78881	<.001	97.1749	102.8251
	Hari ke-21	Hari ke-0	-.66667	.78881	1.000	-3.4917	2.1584
		Hari ke-7	.33333	.78881	1.000	-2.4917	3.1584
		Hari ke-14	.00000	.78881	1.000	-2.8251	2.8251
		Hari ke-28	100.00000*	.78881	<.001	97.1749	102.8251
	Hari ke-28	Hari ke-0	-100.66667*	.78881	<.001	-103.4917	-97.8416
		Hari ke-7	-99.66667*	.78881	<.001	-102.4917	-96.8416
		Hari ke-14	-100.00000*	.78881	<.001	-102.8251	-97.1749
		Hari ke-21	-100.00000*	.78881	<.001	-102.8251	-97.1749
Viskositas_F3	Hari ke-0	Hari ke-7	.33333	.63246	1.000	-1.9317	2.5984
		Hari ke-14	1.66667	.63246	.249	-.5984	3.9317
		Hari ke-21	.33333	.63246	1.000	-1.9317	2.5984
		Hari ke-28	.66667	.63246	1.000	-1.5984	2.9317
	Hari ke-7	Hari ke-0	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-14	1.33333	.63246	.612	-.9317	3.5984
		Hari ke-21	.00000	.63246	1.000	-2.2651	2.2651
		Hari ke-28	.33333	.63246	1.000	-1.9317	2.5984
	Hari ke-14	Hari ke-0	-1.66667	.63246	.249	-3.9317	.5984
		Hari ke-7	-1.33333	.63246	.612	-3.5984	.9317
		Hari ke-21	-1.33333	.63246	.612	-3.5984	.9317
		Hari ke-28	-1.00000	.63246	1.000	-3.2651	1.2651
	Hari ke-21	Hari ke-0	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-7	.00000	.63246	1.000	-2.2651	2.2651
		Hari ke-14	1.33333	.63246	.612	-.9317	3.5984
		Hari ke-28	.33333	.63246	1.000	-1.9317	2.5984
	Hari ke-28	Hari ke-0	-.66667	.63246	1.000	-2.9317	1.5984
		Hari ke-7	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-14	1.00000	.63246	1.000	-1.2651	3.2651
		Hari ke-21	-.33333	.63246	1.000	-2.5984	1.9317

	Hari ke-28	Hari ke-0	100.00000*	.78881	<,001	97.1749	102.8251
		Hari ke-7	-100.66667*	.78881	<,001	-103.4917	-97.8416
		Hari ke-14	-99.66667*	.78881	<,001	-102.4917	-96.8416
		Hari ke-21	-100.00000*	.78881	<,001	-102.8251	-97.1749
		Hari ke-28	-100.00000*	.78881	<,001	-102.8251	-97.1749
Viskositas_F3	Hari ke-0	Hari ke-7	.33333	.63246	1.000	-1.9317	2.5984
		Hari ke-14	1.66667	.63246	.249	-.5984	3.9317
		Hari ke-21	.33333	.63246	1.000	-1.9317	2.5984
		Hari ke-28	.66667	.63246	1.000	-1.5984	2.9317
	Hari ke-7	Hari ke-0	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-14	1.33333	.63246	.612	-.9317	3.5984
		Hari ke-21	.00000	.63246	1.000	-2.2651	2.2651
		Hari ke-28	.33333	.63246	1.000	-1.9317	2.5984
	Hari ke-14	Hari ke-0	-1.66667	.63246	.249	-3.9317	.5984
		Hari ke-7	-1.33333	.63246	.612	-3.5984	.9317
		Hari ke-21	-1.33333	.63246	.612	-3.5984	.9317
		Hari ke-28	-1.00000	.63246	1.000	-3.2651	1.2651
	Hari ke-21	Hari ke-0	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-7	.00000	.63246	1.000	-2.2651	2.2651
		Hari ke-14	1.33333	.63246	.612	-.9317	3.5984
		Hari ke-28	.33333	.63246	1.000	-1.9317	2.5984
	Hari ke-28	Hari ke-0	-.66667	.63246	1.000	-2.9317	1.5984
		Hari ke-7	-.33333	.63246	1.000	-2.5984	1.9317
		Hari ke-14	1.00000	.63246	1.000	-1.2651	3.2651
		Hari ke-21	-.33333	.63246	1.000	-2.5984	1.9317
Viskositas_F4	Hari ke-0	Hari ke-7	2.00000	.81650	.343	-.9242	4.9242
		Hari ke-14	6.00000*	.81650	<,001	3.0758	8.9242
		Hari ke-21	20.00000*	.81650	<,001	17.0758	22.9242
		Hari ke-28	21.00000*	.81650	<,001	18.0758	23.9242
	Hari ke-7	Hari ke-0	-2.00000	.81650	.343	-4.9242	.9242
		Hari ke-14	4.00000*	.81650	.006	1.0758	6.9242
		Hari ke-21	18.00000*	.81650	<,001	15.0758	20.9242
		Hari ke-28	19.00000*	.81650	<,001	16.0758	21.9242
	Hari ke-14	Hari ke-0	-6.00000*	.81650	<,001	-8.9242	-3.0758
		Hari ke-7	-4.00000*	.81650	.006	-6.9242	-1.0758
		Hari ke-21	14.00000*	.81650	<,001	11.0758	16.9242
		Hari ke-28	15.00000*	.81650	<,001	12.0758	17.9242
	Hari ke-21	Hari ke-0	-20.00000*	.81650	<,001	-22.9242	-17.0758
		Hari ke-7	-18.00000*	.81650	<,001	-20.9242	-15.0758
		Hari ke-14	-14.00000*	.81650	<,001	-16.9242	-11.0758
		Hari ke-28	1.00000	.81650	1.000	-1.9242	3.9242
	Hari ke-28	Hari ke-0	-21.00000*	.81650	<,001	-23.9242	-18.0758
		Hari ke-7	-19.00000*	.81650	<,001	-21.9242	-16.0758
		Hari ke-14	-15.00000*	.81650	<,001	-17.9242	-12.0758
		Hari ke-21	-1.00000	.81650	1.000	-3.9242	1.9242

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

Lampiran 37. Hasil Analisis Statistik Pengujian pH Suhu Ekstrim (*Cycling Test*)

Uji Normalitas (*Shapiro-Wilk*)

Tests of Normality							
	Siklus	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
pH_F0	Siklus 0	.385	3	.	.750	3	<,.001
	Siklus 1	.385	3	.	.750	3	<,.001
	Siklus 2	.385	3	.	.750	3	<,.001
	Siklus 3	.385	3	.	.750	3	<,.001
	Siklus 4	.385	3	.	.750	3	<,.001
	Siklus 5	.385	3	.	.750	3	<,.001
	Siklus 6	.385	3	.	.750	3	<,.001
pH_F1	Siklus 0	.175	3	.	1.000	3	1.000
	Siklus 1	.175	3	.	1.000	3	1.000
	Siklus 2	.385	3	.	.750	3	<,.001
	Siklus 3	.175	3	.	1.000	3	1.000
	Siklus 4	.385	3	.	.750	3	<,.001
	Siklus 5	.385	3	.	.750	3	<,.001
	Siklus 6	.175	3	.	1.000	3	1.000
pH_F2	Siklus 0	.385	3	.	.750	3	<,.001
	Siklus 1	.385	3	.	.750	3	<,.001
	Siklus 2	.175	3	.	1.000	3	1.000
	Siklus 3	.385	3	.	.750	3	<,.001
	Siklus 4	.253	3	.	.964	3	.637
	Siklus 5	.385	3	.	.750	3	<,.001
	Siklus 6	.175	3	.	1.000	3	1.000
pH_F3	Siklus 0	.175	3	.	1.000	3	1.000
	Siklus 1	.385	3	.	.750	3	<,.001
	Siklus 2	.253	3	.	.964	3	.637
	Siklus 3	.385	3	.	.750	3	<,.001
	Siklus 4	.175	3	.	1.000	3	1.000
	Siklus 5	.385	3	.	.750	3	<,.001
	Siklus 6	.385	3	.	.750	3	<,.001
pH_F4	Siklus 0	.385	3	.	.750	3	<,.001
	Siklus 1	.175	3	.	1.000	3	1.000
	Siklus 2	.385	3	.	.750	3	<,.001
	Siklus 3	.175	3	.	1.000	3	1.000
	Siklus 4	.175	3	.	1.000	3	1.000
	Siklus 5	.385	3	.	.750	3	<,.001
	Siklus 6	.385	3	.	.750	3	<,.001

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
pH_F0	Based on Mean	1.600	6	14	.219
	Based on Median	.100	6	14	.995
	Based on Median and with adjusted df	.100	6	9.091	.994
	Based on trimmed mean	1.260	6	14	.336
pH_F1	Based on Mean	.205	6	14	.969
	Based on Median	.286	6	14	.934
	Based on Median and with adjusted df	.286	6	14.000	.934
	Based on trimmed mean	.213	6	14	.967
pH_F2	Based on Mean	1.269	6	14	.332
	Based on Median	.861	6	14	.546
	Based on Median and with adjusted df	.861	6	9.600	.555
	Based on trimmed mean	1.250	6	14	.340
pH_F3	Based on Mean	.982	6	14	.473
	Based on Median	.333	6	14	.908
	Based on Median and with adjusted df	.333	6	9.600	.904
	Based on trimmed mean	.922	6	14	.508
pH_F4	Based on Mean	.258	6	14	.948
	Based on Median	.286	6	14	.934
	Based on Median and with adjusted df	.286	6	14.000	.934
	Based on trimmed mean	.265	6	14	.945

Kruskal-Wallis

Ranks

	Siklus	N	Mean Rank
pH_F0	Siklus 0	3	9.33
	Siklus 1	3	5.33
	Siklus 2	3	11.00
	Siklus 3	3	5.33
	Siklus 4	3	9.00
	Total	15	
pH_F1	Siklus 0	3	5.00
	Siklus 1	3	2.83
	Siklus 2	3	10.83

	Siklus 3	3	7.33
	Siklus 4	3	14.00
	Total	15	
pH_F2	Siklus 0	3	11.17
	Siklus 1	3	9.33
	Siklus 2	3	6.00
	Siklus 3	3	9.33
	Siklus 4	3	4.17
	Total	15	
pH_F3	Siklus 0	3	7.17
	Siklus 1	3	8.67
	Siklus 2	3	8.00
	Siklus 3	3	5.00
	Siklus 4	3	11.17
	Total	15	
pH_F4	Siklus 0	3	13.17
	Siklus 1	3	11.83
	Siklus 2	3	3.17
	Siklus 3	3	3.83
	Siklus 4	3	8.00
	Total	15	

Test Statistics^{a,b}

	pH_F0	pH_F1	pH_F2	pH_F3	pH_F4
Kruskal-Wallis H	4.550	12.221	5.390	3.402	12.541
df	4	4	4	4	4
Asymp. Sig.	.337	.016	.250	.493	.014

a. Kruskal Wallis Test

b. Grouping Variable: Siklus

Post-Hoc

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Siklus	(J) Siklus	Mean	Std. Error	Sig.	95% Confidence Interval	
			Difference (I-J)			Lower Bound	Upper Bound
pH_F0	Siklus 0	Siklus 1	.00667	.00563	1.000	-.0142	.0275
		Siklus 2	-.00333	.00563	1.000	-.0242	.0175
		Siklus 3	.00667	.00563	1.000	-.0142	.0275
		Siklus 4	.00000	.00563	1.000	-.0208	.0208
		Siklus 5	.00667	.00563	1.000	-.0142	.0275
		Siklus 6	.01000	.00563	1.000	-.0108	.0308
	Siklus 1	Siklus 0	-.00667	.00563	1.000	-.0275	.0142
		Siklus 2	-.01000	.00563	1.000	-.0308	.0108
		Siklus 3	.00000	.00563	1.000	-.0208	.0208

pH_F1	Siklus 2	Siklus 4	-0.00667	.00563	1.000	-.0275	.0142
		Siklus 5	.00000	.00563	1.000	-.0208	.0208
		Siklus 6	.00333	.00563	1.000	-.0175	.0242
		Siklus 0	.00333	.00563	1.000	-.0175	.0242
		Siklus 1	.01000	.00563	1.000	-.0108	.0308
		Siklus 3	.01000	.00563	1.000	-.0108	.0308
		Siklus 4	.00333	.00563	1.000	-.0175	.0242
		Siklus 5	.01000	.00563	1.000	-.0108	.0308
	Siklus 3	Siklus 6	.01333	.00563	.691	-.0075	.0342
		Siklus 0	-0.00667	.00563	1.000	-.0275	.0142
		Siklus 1	.00000	.00563	1.000	-.0208	.0208
		Siklus 2	-.01000	.00563	1.000	-.0308	.0108
		Siklus 4	-0.00667	.00563	1.000	-.0275	.0142
		Siklus 5	.00000	.00563	1.000	-.0208	.0208
	Siklus 4	Siklus 6	.00333	.00563	1.000	-.0175	.0242
		Siklus 0	.00000	.00563	1.000	-.0208	.0208
		Siklus 1	.00667	.00563	1.000	-.0142	.0275
		Siklus 2	-.00333	.00563	1.000	-.0242	.0175
		Siklus 3	.00667	.00563	1.000	-.0142	.0275
		Siklus 5	.00667	.00563	1.000	-.0142	.0275
		Siklus 6	.01000	.00563	1.000	-.0108	.0308
	Siklus 5	Siklus 0	-0.00667	.00563	1.000	-.0275	.0142
		Siklus 1	.00000	.00563	1.000	-.0208	.0208
		Siklus 2	-.01000	.00563	1.000	-.0308	.0108
		Siklus 3	.00000	.00563	1.000	-.0208	.0208
		Siklus 4	-0.00667	.00563	1.000	-.0275	.0142
		Siklus 6	.00333	.00563	1.000	-.0175	.0242
	Siklus 6	Siklus 0	-.01000	.00563	1.000	-.0308	.0108
		Siklus 1	-.00333	.00563	1.000	-.0242	.0175
		Siklus 2	-.01333	.00563	.691	-.0342	.0075
		Siklus 3	-.00333	.00563	1.000	-.0242	.0175
		Siklus 4	-.01000	.00563	1.000	-.0308	.0108
		Siklus 5	-.00333	.00563	1.000	-.0242	.0175
	Siklus 0	Siklus 1	.01000	.00690	1.000	-.0155	.0355
		Siklus 2	-.02667*	.00690	.036	-.0522	-.0011
		Siklus 3	-.01000	.00690	1.000	-.0355	.0155
		Siklus 4	-.21667*	.00690	<.001	-.2422	-.1911
		Siklus 5	.03333*	.00690	.006	.0078	.0589
		Siklus 6	.11000*	.00690	<.001	.0845	.1355
	Siklus 1	Siklus 0	-.01000	.00690	1.000	-.0355	.0155
		Siklus 2	-.03667*	.00690	.002	-.0622	-.0111
		Siklus 3	-.02000	.00690	.245	-.0455	.0055
		Siklus 4	-.22667*	.00690	<.001	-.2522	-.2011
		Siklus 5	.02333	.00690	.094	-.0022	.0489
		Siklus 6	.10000*	.00690	<.001	.0745	.1255
	Siklus 2	Siklus 0	.02667*	.00690	.036	.0011	.0522
		Siklus 1	.03667*	.00690	.002	.0111	.0622
		Siklus 3	.01667	.00690	.630	-.0089	.0422
		Siklus 4	-.19000*	.00690	<.001	-.2155	-.1645
		Siklus 5	.06000*	.00690	<.001	.0345	.0855
		Siklus 6	.13667*	.00690	<.001	.1111	.1622
	Siklus 3	Siklus 0	.01000	.00690	1.000	-.0155	.0355
		Siklus 1	.02000	.00690	.245	-.0055	.0455
		Siklus 2	-.01667	.00690	.630	-.0422	.0089
		Siklus 4	-.20667*	.00690	<.001	-.2322	-.1811

	Siklus 4	Siklus 5	.04333 [*]	.00690	<,001	.0178	.0689
		Siklus 6	.12000 [*]	.00690	<,001	.0945	.1455
		Siklus 0	.21667 [*]	.00690	<,001	.1911	.2422
		Siklus 1	.22667 [*]	.00690	<,001	.2011	.2522
		Siklus 2	.19000 [*]	.00690	<,001	.1645	.2155
		Siklus 3	.20667 [*]	.00690	<,001	.1811	.2322
	Siklus 5	Siklus 5	.25000 [*]	.00690	<,001	.2245	.2755
		Siklus 6	.32667 [*]	.00690	<,001	.3011	.3522
		Siklus 0	-.03333 [*]	.00690	.006	-.0589	-.0078
		Siklus 1	-.02333	.00690	.094	-.0489	.0022
		Siklus 2	-.06000 [*]	.00690	<,001	-.0855	-.0345
		Siklus 3	-.04333 [*]	.00690	<,001	-.0689	-.0178
	Siklus 6	Siklus 4	-.25000 [*]	.00690	<,001	-.2755	-.2245
		Siklus 6	.07667 [*]	.00690	<,001	.0511	.1022
		Siklus 0	-.11000 [*]	.00690	<,001	-.1355	-.0845
		Siklus 1	-.10000 [*]	.00690	<,001	-.1255	-.0745
		Siklus 2	-.13667 [*]	.00690	<,001	-.1622	-.1111
		Siklus 3	-.12000 [*]	.00690	<,001	-.1455	-.0945
pH_F2	Siklus 0	Siklus 4	-.32667 [*]	.00690	<,001	-.3522	-.3011
		Siklus 5	-.07667 [*]	.00690	<,001	-.1022	-.0511
		Siklus 1	.00333	.00909	1.000	-.0303	.0369
		Siklus 2	.01667	.00909	1.000	-.0169	.0503
		Siklus 3	.00333	.00909	1.000	-.0303	.0369
		Siklus 4	.02000	.00909	.945	-.0136	.0536
	Siklus 1	Siklus 5	.02000	.00909	.945	-.0136	.0536
		Siklus 6	.01667	.00909	1.000	-.0169	.0503
		Siklus 0	-.00333	.00909	1.000	-.0369	.0303
		Siklus 2	.01333	.00909	1.000	-.0203	.0469
		Siklus 3	.00000	.00909	1.000	-.0336	.0336
		Siklus 4	.01667	.00909	1.000	-.0169	.0503
	Siklus 2	Siklus 5	.01667	.00909	1.000	-.0169	.0503
		Siklus 6	.01333	.00909	1.000	-.0203	.0469
		Siklus 0	-.01667	.00909	1.000	-.0503	.0169
		Siklus 1	-.01333	.00909	1.000	-.0469	.0203
		Siklus 3	-.01333	.00909	1.000	-.0469	.0203
		Siklus 4	.00333	.00909	1.000	-.0303	.0369
	Siklus 3	Siklus 5	.00333	.00909	1.000	-.0303	.0369
		Siklus 6	.00000	.00909	1.000	-.0336	.0336
		Siklus 0	-.00333	.00909	1.000	-.0369	.0303
		Siklus 1	.00000	.00909	1.000	-.0336	.0336
		Siklus 2	.01333	.00909	1.000	-.0203	.0469
		Siklus 4	.01667	.00909	1.000	-.0169	.0503
	Siklus 4	Siklus 5	.01667	.00909	1.000	-.0169	.0503
		Siklus 6	.01333	.00909	1.000	-.0203	.0469
		Siklus 0	-.02000	.00909	.945	-.0536	.0136
		Siklus 1	-.01667	.00909	1.000	-.0503	.0169
		Siklus 2	-.00333	.00909	1.000	-.0369	.0303
		Siklus 3	-.01667	.00909	1.000	-.0503	.0169
	Siklus 5	Siklus 5	.00000	.00909	1.000	-.0336	.0336
		Siklus 6	-.00333	.00909	1.000	-.0369	.0303
		Siklus 0	-.02000	.00909	.945	-.0536	.0136
		Siklus 1	-.01667	.00909	1.000	-.0503	.0169
		Siklus 2	-.00333	.00909	1.000	-.0369	.0303
		Siklus 3	-.01667	.00909	1.000	-.0503	.0169
	Siklus 6	Siklus 4	.00000	.00909	1.000	-.0336	.0336
		Siklus 5	-.00333	.00909	1.000	-.0369	.0303
		Siklus 6	-.00333	.00909	1.000	-.0369	.0303
		Siklus 0	-.00333	.00909	1.000	-.0369	.0303

	Siklus 6	Siklus 0	-0.01667	.00909	1.000	-0.0503	.0169
		Siklus 1	-0.01333	.00909	1.000	-0.0469	.0203
		Siklus 2	.00000	.00909	1.000	-0.0336	.0336
		Siklus 3	-0.01333	.00909	1.000	-0.0469	.0203
		Siklus 4	.00333	.00909	1.000	-0.0303	.0369
		Siklus 5	.00333	.00909	1.000	-0.0303	.0369
pH_F3	Siklus 0	Siklus 1	-0.00333	.00797	1.000	-0.0328	.0261
		Siklus 2	-0.00333	.00797	1.000	-0.0328	.0261
		Siklus 3	.00667	.00797	1.000	-0.0228	.0361
		Siklus 4	-0.01000	.00797	1.000	-0.0395	.0195
		Siklus 5	.01333	.00797	1.000	-0.0161	.0428
		Siklus 6	.00667	.00797	1.000	-0.0228	.0361
	Siklus 1	Siklus 0	.00333	.00797	1.000	-0.0261	.0328
		Siklus 2	.00000	.00797	1.000	-0.0295	.0295
		Siklus 3	.01000	.00797	1.000	-0.0195	.0395
		Siklus 4	-0.00667	.00797	1.000	-0.0361	.0228
		Siklus 5	.01667	.00797	1.000	-0.0128	.0461
		Siklus 6	.01000	.00797	1.000	-0.0195	.0395
	Siklus 2	Siklus 0	.00333	.00797	1.000	-0.0261	.0328
		Siklus 1	.00000	.00797	1.000	-0.0295	.0295
		Siklus 3	.01000	.00797	1.000	-0.0195	.0395
		Siklus 4	-0.00667	.00797	1.000	-0.0361	.0228
		Siklus 5	.01667	.00797	1.000	-0.0128	.0461
		Siklus 6	.01000	.00797	1.000	-0.0195	.0395
	Siklus 3	Siklus 0	-0.00667	.00797	1.000	-0.0361	.0228
		Siklus 1	-0.01000	.00797	1.000	-0.0395	.0195
		Siklus 2	-0.01000	.00797	1.000	-0.0395	.0195
		Siklus 4	-0.01667	.00797	1.000	-0.0461	.0128
		Siklus 5	.00667	.00797	1.000	-0.0228	.0361
		Siklus 6	.00000	.00797	1.000	-0.0295	.0295
	Siklus 4	Siklus 0	.01000	.00797	1.000	-0.0195	.0395
		Siklus 1	.00667	.00797	1.000	-0.0228	.0361
		Siklus 2	.00667	.00797	1.000	-0.0228	.0361
		Siklus 3	.01667	.00797	1.000	-0.0128	.0461
		Siklus 5	.02333	.00797	.231	-0.0061	.0528
		Siklus 6	.01667	.00797	1.000	-0.0128	.0461
	Siklus 5	Siklus 0	-0.01333	.00797	1.000	-0.0428	.0161
		Siklus 1	-0.01667	.00797	1.000	-0.0461	.0128
		Siklus 2	-0.01667	.00797	1.000	-0.0461	.0128
		Siklus 3	-0.00667	.00797	1.000	-0.0361	.0228
		Siklus 4	-0.02333	.00797	.231	-0.0528	.0061
		Siklus 6	-0.00667	.00797	1.000	-0.0361	.0228
	Siklus 6	Siklus 0	-0.00667	.00797	1.000	-0.0361	.0228
		Siklus 1	-0.01000	.00797	1.000	-0.0395	.0195
		Siklus 2	-0.01000	.00797	1.000	-0.0395	.0195
		Siklus 3	.00000	.00797	1.000	-0.0295	.0295
		Siklus 4	-0.01667	.00797	1.000	-0.0461	.0128
		Siklus 5	.00667	.00797	1.000	-0.0228	.0361
pH_F4	Siklus 0	Siklus 1	.00667	.00642	1.000	-0.0171	.0304
		Siklus 2	.12000*	.00642	<.001	.0962	.1438
		Siklus 3	.11667*	.00642	<.001	.0929	.1404
		Siklus 4	.04667*	.00642	<.001	.0229	.0704
		Siklus 5	.08000*	.00642	<.001	.0562	.1038
		Siklus 6	.10000*	.00642	<.001	.0762	.1238
	Siklus 1	Siklus 0	-0.00667	.00642	1.000	-0.0304	.0171
		Siklus 2	.11333*	.00642	<.001	.0896	.1371

	Siklus 2	Siklus 3	.11000*	.00642	<,001	.0862	.1338
		Siklus 4	.04000*	.00642	<,001	.0162	.0638
		Siklus 5	.07333*	.00642	<,001	.0496	.0971
		Siklus 6	.09333*	.00642	<,001	.0696	.1171
		Siklus 0	-.12000*	.00642	<,001	-.1438	-.0962
		Siklus 1	-.11333*	.00642	<,001	-.1371	-.0896
	Siklus 3	Siklus 3	-.00333	.00642	1.000	-.0271	.0204
		Siklus 4	-.07333*	.00642	<,001	-.0971	-.0496
		Siklus 5	-.04000*	.00642	<,001	-.0638	-.0162
		Siklus 6	-.02000	.00642	.160	-.0438	.0038
		Siklus 0	-.11667*	.00642	<,001	-.1404	-.0929
		Siklus 1	-.11000*	.00642	<,001	-.1338	-.0862
	Siklus 4	Siklus 2	.00333	.00642	1.000	-.0204	.0271
		Siklus 4	-.07000*	.00642	<,001	-.0938	-.0462
		Siklus 5	-.03667*	.00642	.001	-.0604	-.0129
		Siklus 6	-.01667	.00642	.445	-.0404	.0071
		Siklus 0	-.04667*	.00642	<,001	-.0704	-.0229
		Siklus 1	-.04000*	.00642	<,001	-.0638	-.0162
	Siklus 5	Siklus 2	.07333*	.00642	<,001	.0496	.0971
		Siklus 3	.07000*	.00642	<,001	.0462	.0938
		Siklus 5	.03333*	.00642	.003	.0096	.0571
		Siklus 6	.05333*	.00642	<,001	.0296	.0771
		Siklus 0	-.08000*	.00642	<,001	-.1038	-.0562
		Siklus 1	-.07333*	.00642	<,001	-.0971	-.0496
	Siklus 6	Siklus 2	.04000*	.00642	<,001	.0162	.0638
		Siklus 3	.03667*	.00642	.001	.0129	.0604
		Siklus 4	-.03333*	.00642	.003	-.0571	-.0096
		Siklus 6	.02000	.00642	.160	-.0038	.0438
		Siklus 0	-.10000*	.00642	<,001	-.1238	-.0762
		Siklus 1	-.09333*	.00642	<,001	-.1171	-.0696
		Siklus 2	.02000	.00642	.160	-.0038	.0438
		Siklus 3	.01667	.00642	.445	-.0071	.0404
		Siklus 4	-.05333*	.00642	<,001	-.0771	-.0296
		Siklus 5	-.02000	.00642	.160	-.0438	.0038

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

Lampiran 38. Hasil Analisis Statistik Pengujian Viskositas Suhu Ekstrim (Cycling Test)

Uji Normalitas (Shapiro-Wilk)

Tests of Normality							
	Siklus	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Viskositas_F0	Siklus 0	.385	3	.	.750	3	<,001
	Siklus 1	.253	3	.	.964	3	.637
	Siklus 2	.385	3	.	.750	3	<,001
	Siklus 3	.292	3	.	.923	3	.463
	Siklus 4	.175	3	.	1.000	3	1.000

Viskositas_F1	Siklus 5	.292	3	.	.923	3	.463
	Siklus 6	.253	3	.	.964	3	.637
	Siklus 0	.321	3	.	.881	3	.328
	Siklus 1	.175	3	.	1.000	3	1.000
	Siklus 2	.292	3	.	.923	3	.463
	Siklus 3	.253	3	.	.964	3	.637
	Siklus 4	.175	3	.	1.000	3	1.000
	Siklus 5	.253	3	.	.964	3	.637
	Siklus 6	.385	3	.	.750	3	<.001
Viskositas_F2	Siklus 0	.314	3	.	.893	3	.363
	Siklus 1	.385	3	.	.750	3	<.001
	Siklus 2	.301	3	.	.912	3	.424
	Siklus 3	.200	3	.	.995	3	.862
	Siklus 4	.253	3	.	.964	3	.637
	Siklus 5	.219	3	.	.987	3	.780
	Siklus 6	.253	3	.	.964	3	.637
Viskositas_F3	Siklus 0	.211	3	.	.991	3	.817
	Siklus 1	.253	3	.	.964	3	.637
	Siklus 2	.253	3	.	.964	3	.637
	Siklus 3	.337	3	.	.855	3	.253
	Siklus 4	.328	3	.	.871	3	.298
	Siklus 5	.204	3	.	.993	3	.843
	Siklus 6	.353	3	.	.824	3	.174
Viskositas_F4	Siklus 0	.337	3	.	.855	3	.253
	Siklus 1	.216	3	.	.989	3	.797
	Siklus 2	.175	3	.	1.000	3	1.000
	Siklus 3	.343	3	.	.842	3	.220
	Siklus 4	.292	3	.	.923	3	.463
	Siklus 5	.191	3	.	.997	3	.900
	Siklus 6	.219	3	.	.987	3	.780

a. Lilliefors Significance Correction

Uji Homogenitas

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Viskositas_F0	Based on Mean	1.229	6	14	.349
	Based on Median	.487	6	14	.807
	Based on Median and with adjusted df	.487	6	10.090	.804
	Based on trimmed mean	1.166	6	14	.378
Viskositas_F1	Based on Mean	2.592	6	14	.067
	Based on Median	1.058	6	14	.431
	Based on Median and with adjusted df	1.058	6	4.989	.486

	Based on trimmed mean	2.475	6	14	.076
Viskositas_F2	Based on Mean	.833	6	14	.564
	Based on Median	.330	6	14	.910
	Based on Median and with adjusted df	.330	6	10.684	.907
	Based on trimmed mean	.789	6	14	.593
Viskositas_F3	Based on Mean	1.990	6	14	.135
	Based on Median	.522	6	14	.783
	Based on Median and with adjusted df	.522	6	7.816	.778
	Based on trimmed mean	1.839	6	14	.163
Viskositas_F4	Based on Mean	1.633	6	14	.210
	Based on Median	.886	6	14	.531
	Based on Median and with adjusted df	.886	6	8.458	.544
	Based on trimmed mean	1.582	6	14	.224

Kruskal-Wallis

Ranks

	Siklus	N	Mean Rank
Viskositas_F0	Siklus 0	3	13.00
	Siklus 1	3	7.67
	Siklus 2	3	5.33
	Siklus 3	3	7.83
	Siklus 4	3	6.17
	Total	15	
Viskositas_F1	Siklus 0	3	13.17
	Siklus 1	3	11.33
	Siklus 2	3	8.50
	Siklus 3	3	5.00
	Siklus 4	3	2.00
	Total	15	
Viskositas_F2	Siklus 0	3	14.00
	Siklus 1	3	9.67
	Siklus 2	3	7.00
	Siklus 3	3	4.33
	Siklus 4	3	5.00
	Total	15	
Viskositas_F3	Siklus 0	3	8.83
	Siklus 1	3	12.83
	Siklus 2	3	8.33
	Siklus 3	3	2.83
	Siklus 4	3	7.17

	Total	15	
Viskositas_F4	Siklus 0	3	12.83
	Siklus 1	3	10.67
	Siklus 2	3	9.50
	Siklus 3	3	5.00
	Siklus 4	3	2.00
	Total	15	

Test Statistics^{a,b}

	Viskositas_F0	Viskositas_F1	Viskositas_F2	Viskositas_F3	Viskositas_F4
Kruskal-Wallis H	5.560	12.503	9.417	7.831	11.700
df	4	4	4	4	4
Asymp. Sig.	.234	.014	.051	.098	.020

a. Kruskal Wallis Test

b. Grouping Variable: Siklus

Post-Hoc

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Siklus	(J) Siklus	Mean	Std. Error	Sig.	95% Confidence Interval	
			Difference (I-J)			Lower Bound	Upper Bound
Viskositas_F0	Siklus 0	Siklus 1	2.00000	1.30931	1.000	-2.8434	6.8434
		Siklus 2	3.00000	1.30931	.797	-1.8434	7.8434
		Siklus 3	2.00000	1.30931	1.000	-2.8434	6.8434
		Siklus 4	2.66667	1.30931	1.000	-2.1768	7.5101
		Siklus 5	2.33333	1.30931	1.000	-2.5101	7.1768
		Siklus 6	1.33333	1.30931	1.000	-3.5101	6.1768
	Siklus 1	Siklus 0	-2.00000	1.30931	1.000	-6.8434	2.8434
		Siklus 2	1.00000	1.30931	1.000	-3.8434	5.8434
		Siklus 3	.00000	1.30931	1.000	-4.8434	4.8434
		Siklus 4	.66667	1.30931	1.000	-4.1768	5.5101
		Siklus 5	.33333	1.30931	1.000	-4.5101	5.1768
		Siklus 6	-.66667	1.30931	1.000	-5.5101	4.1768
	Siklus 2	Siklus 0	-3.00000	1.30931	.797	-7.8434	1.8434
		Siklus 1	-1.00000	1.30931	1.000	-5.8434	3.8434
		Siklus 3	-1.00000	1.30931	1.000	-5.8434	3.8434
		Siklus 4	-.33333	1.30931	1.000	-5.1768	4.5101
		Siklus 5	-.66667	1.30931	1.000	-5.5101	4.1768
		Siklus 6	-1.66667	1.30931	1.000	-6.5101	3.1768
	Siklus 3	Siklus 0	-2.00000	1.30931	1.000	-6.8434	2.8434
		Siklus 1	.00000	1.30931	1.000	-4.8434	4.8434
		Siklus 2	1.00000	1.30931	1.000	-3.8434	5.8434
		Siklus 4	.66667	1.30931	1.000	-4.1768	5.5101
		Siklus 5	.33333	1.30931	1.000	-4.5101	5.1768
		Siklus 6	-.66667	1.30931	1.000	-5.5101	4.1768
	Siklus 4	Siklus 0	-2.66667	1.30931	1.000	-7.5101	2.1768
		Siklus 1	-.66667	1.30931	1.000	-5.5101	4.1768
		Siklus 2	.33333	1.30931	1.000	-4.5101	5.1768
		Siklus 3	-.66667	1.30931	1.000	-5.5101	4.1768

Viskositas_F1	Siklus 5	Siklus 5	-.33333	1.30931	1.000	-5.1768	4.5101
		Siklus 6	-1.33333	1.30931	1.000	-6.1768	3.5101
		Siklus 0	-2.33333	1.30931	1.000	-7.1768	2.5101
		Siklus 1	-.33333	1.30931	1.000	-5.1768	4.5101
		Siklus 2	.66667	1.30931	1.000	-4.1768	5.5101
		Siklus 3	-.33333	1.30931	1.000	-5.1768	4.5101
		Siklus 4	.33333	1.30931	1.000	-4.5101	5.1768
	Siklus 6	Siklus 6	-1.00000	1.30931	1.000	-5.8434	3.8434
		Siklus 0	-1.33333	1.30931	1.000	-6.1768	3.5101
		Siklus 1	.66667	1.30931	1.000	-4.1768	5.5101
		Siklus 2	1.66667	1.30931	1.000	-3.1768	6.5101
		Siklus 3	.66667	1.30931	1.000	-4.1768	5.5101
		Siklus 4	1.33333	1.30931	1.000	-3.5101	6.1768
		Siklus 5	1.00000	1.30931	1.000	-3.8434	5.8434
	Siklus 0	Siklus 1	3.66667	2.82281	1.000	-6.7756	14.1089
		Siklus 2	10.33333	2.82281	.054	-1.1089	20.7756
		Siklus 3	18.00000*	2.82281	<.001	7.5578	28.4422
		Siklus 4	28.66667*	2.82281	<.001	18.2244	39.1089
		Siklus 5	33.33333*	2.82281	<.001	22.8911	43.7756
		Siklus 6	35.00000*	2.82281	<.001	24.5578	45.4422
	Siklus 1	Siklus 0	-3.66667	2.82281	1.000	-14.1089	6.7756
		Siklus 2	6.66667	2.82281	.697	-3.7756	17.1089
		Siklus 3	14.33333*	2.82281	.004	3.8911	24.7756
		Siklus 4	25.00000*	2.82281	<.001	14.5578	35.4422
		Siklus 5	29.66667*	2.82281	<.001	19.2244	40.1089
		Siklus 6	31.33333*	2.82281	<.001	20.8911	41.7756
	Siklus 2	Siklus 0	-10.33333	2.82281	.054	-20.7756	.1089
		Siklus 1	-6.66667	2.82281	.697	-17.1089	3.7756
		Siklus 3	7.66667	2.82281	.351	-2.7756	18.1089
		Siklus 4	18.33333*	2.82281	<.001	7.8911	28.7756
		Siklus 5	23.00000*	2.82281	<.001	12.5578	33.4422
		Siklus 6	24.66667*	2.82281	<.001	14.2244	35.1089
	Siklus 3	Siklus 0	-18.00000*	2.82281	<.001	-28.4422	-7.5578
		Siklus 1	-14.33333*	2.82281	.004	-24.7756	-3.8911
		Siklus 2	-7.66667	2.82281	.351	-18.1089	2.7756
		Siklus 4	10.66667*	2.82281	.043	.2244	21.1089
		Siklus 5	15.33333*	2.82281	.002	4.8911	25.7756
		Siklus 6	17.00000*	2.82281	<.001	6.5578	27.4422
	Siklus 4	Siklus 0	-28.66667*	2.82281	<.001	-39.1089	-18.2244
		Siklus 1	-25.00000*	2.82281	<.001	-35.4422	-14.5578
		Siklus 2	-18.33333*	2.82281	<.001	-28.7756	-7.8911
		Siklus 3	-10.66667*	2.82281	.043	-21.1089	-.2244
		Siklus 5	4.66667	2.82281	1.000	-5.7756	15.1089
		Siklus 6	6.33333	2.82281	.873	-4.1089	16.7756
	Siklus 5	Siklus 0	-33.33333*	2.82281	<.001	-43.7756	-22.8911
		Siklus 1	-29.66667*	2.82281	<.001	-40.1089	-19.2244
		Siklus 2	-23.00000*	2.82281	<.001	-33.4422	-12.5578
		Siklus 3	-15.33333*	2.82281	.002	-25.7756	-4.8911
		Siklus 4	-4.66667	2.82281	1.000	-15.1089	5.7756
		Siklus 6	1.66667	2.82281	1.000	-8.7756	12.1089
	Siklus 6	Siklus 0	-35.00000*	2.82281	<.001	-45.4422	-24.5578
		Siklus 1	-31.33333*	2.82281	<.001	-41.7756	-20.8911
		Siklus 2	-24.66667*	2.82281	<.001	-35.1089	-14.2244

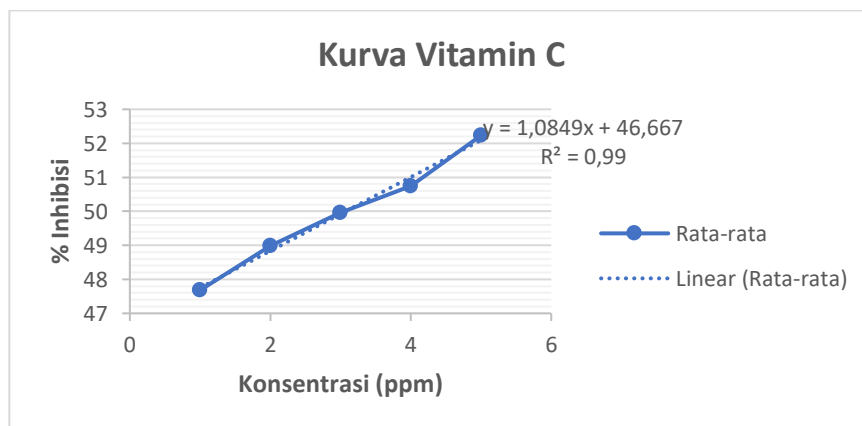
Viskositas_F2		Siklus 3	-17.00000*	2.82281	<.001	-27.4422	-6.5578
		Siklus 4	-6.33333	2.82281	.873	-16.7756	4.1089
		Siklus 5	-1.66667	2.82281	1.000	-12.1089	8.7756
	Siklus 0	Siklus 1	7.33333	4.92483	1.000	-10.8847	25.5514
		Siklus 2	14.33333	4.92483	.239	-3.8847	32.5514
		Siklus 3	19.66667*	4.92483	.028	1.4486	37.8847
		Siklus 4	17.33333	4.92483	.071	-.8847	35.5514
		Siklus 5	28.00000*	4.92483	.001	9.7819	46.2181
		Siklus 6	27.33333*	4.92483	.002	9.1153	45.5514
	Siklus 1	Siklus 0	-7.33333	4.92483	1.000	-25.5514	10.8847
		Siklus 2	7.00000	4.92483	1.000	-11.2181	25.2181
		Siklus 3	12.33333	4.92483	.530	-5.8847	30.5514
		Siklus 4	10.00000	4.92483	1.000	-8.2181	28.2181
		Siklus 5	20.66667*	4.92483	.019	2.4486	38.8847
		Siklus 6	20.00000*	4.92483	.025	1.7819	38.2181
	Siklus 2	Siklus 0	-14.33333	4.92483	.239	-32.5514	3.8847
		Siklus 1	-7.00000	4.92483	1.000	-25.2181	11.2181
		Siklus 3	5.33333	4.92483	1.000	-12.8847	23.5514
		Siklus 4	3.00000	4.92483	1.000	-15.2181	21.2181
		Siklus 5	13.66667	4.92483	.313	-4.5514	31.8847
		Siklus 6	13.00000	4.92483	.408	-5.2181	31.2181
	Siklus 3	Siklus 0	-19.66667*	4.92483	.028	-37.8847	-1.4486
		Siklus 1	-12.33333	4.92483	.530	-30.5514	5.8847
		Siklus 2	-5.33333	4.92483	1.000	-23.5514	12.8847
		Siklus 4	-2.33333	4.92483	1.000	-20.5514	15.8847
		Siklus 5	8.33333	4.92483	1.000	-9.8847	26.5514
		Siklus 6	7.66667	4.92483	1.000	-10.5514	25.8847
	Siklus 4	Siklus 0	-17.33333	4.92483	.071	-35.5514	.8847
		Siklus 1	-10.00000	4.92483	1.000	-28.2181	8.2181
		Siklus 2	-3.00000	4.92483	1.000	-21.2181	15.2181
		Siklus 3	2.33333	4.92483	1.000	-15.8847	20.5514
		Siklus 5	10.66667	4.92483	1.000	-7.5514	28.8847
		Siklus 6	10.00000	4.92483	1.000	-8.2181	28.2181
	Siklus 5	Siklus 0	-28.00000*	4.92483	.001	-46.2181	-9.7819
		Siklus 1	-20.66667*	4.92483	.019	-38.8847	-2.4486
		Siklus 2	-13.66667	4.92483	.313	-31.8847	4.5514
		Siklus 3	-8.33333	4.92483	1.000	-26.5514	9.8847
		Siklus 4	-10.66667	4.92483	1.000	-28.8847	7.5514
		Siklus 6	-.66667	4.92483	1.000	-18.8847	17.5514
	Siklus 6	Siklus 0	-27.33333*	4.92483	.002	-45.5514	-9.1153
		Siklus 1	-20.00000*	4.92483	.025	-38.2181	-1.7819
		Siklus 2	-13.00000	4.92483	.408	-31.2181	5.2181
		Siklus 3	-7.66667	4.92483	1.000	-25.8847	10.5514
		Siklus 4	-10.00000	4.92483	1.000	-28.2181	8.2181
		Siklus 5	.66667	4.92483	1.000	-17.5514	18.8847
Viskositas_F3	Siklus 0	Siklus 1	-3.00000	4.23515	1.000	-18.6668	12.6668
		Siklus 2	.33333	4.23515	1.000	-15.3335	16.0001
		Siklus 3	10.33333	4.23515	.600	-5.3335	26.0001
		Siklus 4	2.00000	4.23515	1.000	-13.6668	17.6668
		Siklus 5	5.33333	4.23515	1.000	-10.3335	21.0001
		Siklus 6	2.00000	4.23515	1.000	-13.6668	17.6668
	Siklus 1	Siklus 0	3.00000	4.23515	1.000	-12.6668	18.6668
		Siklus 2	3.33333	4.23515	1.000	-12.3335	19.0001
		Siklus 3	13.33333	4.23515	.149	-2.3335	29.0001
		Siklus 4	5.00000	4.23515	1.000	-10.6668	20.6668
		Siklus 5	8.33333	4.23515	1.000	-7.3335	24.0001
		Siklus 6	5.00000	4.23515	1.000	-10.6668	20.6668

	Siklus 2	Siklus 0	- .33333	4.23515	1.000	-16.0001	15.3335
		Siklus 1	-3.33333	4.23515	1.000	-19.0001	12.3335
		Siklus 3	10.00000	4.23515	.698	-5.6668	25.6668
		Siklus 4	1.66667	4.23515	1.000	-14.0001	17.3335
		Siklus 5	5.00000	4.23515	1.000	-10.6668	20.6668
		Siklus 6	1.66667	4.23515	1.000	-14.0001	17.3335
	Siklus 3	Siklus 0	-10.33333	4.23515	.600	-26.0001	5.3335
		Siklus 1	-13.33333	4.23515	.149	-29.0001	2.3335
		Siklus 2	-10.00000	4.23515	.698	-25.6668	5.6668
		Siklus 4	-8.33333	4.23515	1.000	-24.0001	7.3335
		Siklus 5	-5.00000	4.23515	1.000	-20.6668	10.6668
		Siklus 6	-8.33333	4.23515	1.000	-24.0001	7.3335
	Siklus 4	Siklus 0	-2.00000	4.23515	1.000	-17.6668	13.6668
		Siklus 1	-5.00000	4.23515	1.000	-20.6668	10.6668
		Siklus 2	-1.66667	4.23515	1.000	-17.3335	14.0001
		Siklus 3	8.33333	4.23515	1.000	-7.3335	24.0001
		Siklus 5	3.33333	4.23515	1.000	-12.3335	19.0001
		Siklus 6	.00000	4.23515	1.000	-15.6668	15.6668
	Siklus 5	Siklus 0	-5.33333	4.23515	1.000	-21.0001	10.3335
		Siklus 1	-8.33333	4.23515	1.000	-24.0001	7.3335
		Siklus 2	-5.00000	4.23515	1.000	-20.6668	10.6668
		Siklus 3	5.00000	4.23515	1.000	-10.6668	20.6668
		Siklus 4	-3.33333	4.23515	1.000	-19.0001	12.3335
		Siklus 6	-3.33333	4.23515	1.000	-19.0001	12.3335
	Siklus 6	Siklus 0	-2.00000	4.23515	1.000	-17.6668	13.6668
		Siklus 1	-5.00000	4.23515	1.000	-20.6668	10.6668
		Siklus 2	-1.66667	4.23515	1.000	-17.3335	14.0001
		Siklus 3	8.33333	4.23515	1.000	-7.3335	24.0001
		Siklus 4	.00000	4.23515	1.000	-15.6668	15.6668
		Siklus 5	3.33333	4.23515	1.000	-12.3335	19.0001
Viskositas_F4	Siklus 0	Siklus 1	9.33333	6.56349	1.000	-14.9465	33.6132
		Siklus 2	10.66667	6.56349	1.000	-13.6132	34.9465
		Siklus 3	31.66667*	6.56349	.006	7.3868	55.9465
		Siklus 4	47.00000*	6.56349	<.001	22.7202	71.2798
		Siklus 5	65.33333*	6.56349	<.001	41.0535	89.6132
		Siklus 6	73.66667*	6.56349	<.001	49.3868	97.9465
	Siklus 1	Siklus 0	-9.33333	6.56349	1.000	-33.6132	14.9465
		Siklus 2	1.33333	6.56349	1.000	-22.9465	25.6132
		Siklus 3	22.33333	6.56349	.090	-1.9465	46.6132
		Siklus 4	37.66667*	6.56349	.001	13.3868	61.9465
		Siklus 5	56.00000*	6.56349	<.001	31.7202	80.2798
		Siklus 6	64.33333*	6.56349	<.001	40.0535	88.6132
	Siklus 2	Siklus 0	-10.66667	6.56349	1.000	-34.9465	13.6132
		Siklus 1	-1.33333	6.56349	1.000	-25.6132	22.9465
		Siklus 3	21.00000	6.56349	.135	-3.2798	45.2798
		Siklus 4	36.33333*	6.56349	.002	12.0535	60.6132
		Siklus 5	54.66667*	6.56349	<.001	30.3868	78.9465
		Siklus 6	63.00000*	6.56349	<.001	38.7202	87.2798
	Siklus 3	Siklus 0	-31.66667*	6.56349	.006	-55.9465	-7.3868
		Siklus 1	-22.33333	6.56349	.090	-46.6132	1.9465
		Siklus 2	-21.00000	6.56349	.135	-45.2798	3.2798
		Siklus 4	15.33333	6.56349	.732	-8.9465	39.6132
		Siklus 5	33.66667*	6.56349	.003	9.3868	57.9465
		Siklus 6	42.00000*	6.56349	<.001	17.7202	66.2798
	Siklus 4	Siklus 0	-47.00000*	6.56349	<.001	-71.2798	-22.7202
		Siklus 1	-37.66667*	6.56349	.001	-61.9465	-13.3868
		Siklus 2	-36.33333*	6.56349	.002	-60.6132	-12.0535
		Siklus 3	-15.33333	6.56349	.732	-39.6132	8.9465

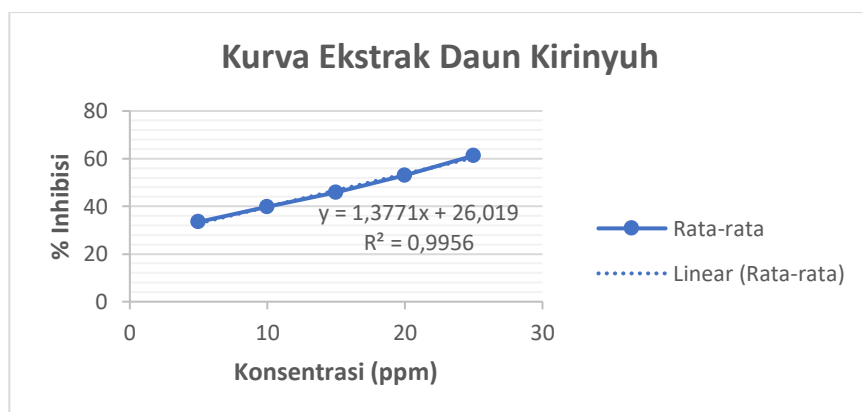
	Siklus 4	15.33333	6.56349	.732	-8.9465	39.6132
	Siklus 5	33.66667*	6.56349	.003	9.3868	57.9465
	Siklus 6	42.00000*	6.56349	<.001	17.7202	66.2798
Siklus 4	Siklus 0	-47.00000*	6.56349	<.001	-71.2798	-22.7202
	Siklus 1	-37.66667*	6.56349	.001	-61.9465	-13.3868
	Siklus 2	-36.33333*	6.56349	.002	-60.6132	-12.0535
	Siklus 3	-15.33333	6.56349	.732	-39.6132	8.9465
	Siklus 5	18.33333	6.56349	.302	-5.9465	42.6132
	Siklus 6	26.66667*	6.56349	.024	2.3868	50.9465
Siklus 5	Siklus 0	-65.33333*	6.56349	<.001	-89.6132	-41.0535
	Siklus 1	-56.00000*	6.56349	<.001	-80.2798	-31.7202
	Siklus 2	-54.66667*	6.56349	<.001	-78.9465	-30.3868
	Siklus 3	-33.66667*	6.56349	.003	-57.9465	-9.3868
	Siklus 4	-18.33333	6.56349	.302	-42.6132	5.9465
	Siklus 6	8.33333	6.56349	1.000	-15.9465	32.6132
Siklus 6	Siklus 0	-73.66667*	6.56349	<.001	-97.9465	-49.3868
	Siklus 1	-64.33333*	6.56349	<.001	-88.6132	-40.0535
	Siklus 2	-63.00000*	6.56349	<.001	-87.2798	-38.7202
	Siklus 3	-42.00000*	6.56349	<.001	-66.2798	-17.7202
	Siklus 4	-26.66667*	6.56349	.024	-50.9465	-2.3868
	Siklus 5	-8.33333	6.56349	1.000	-32.6132	15.9465

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

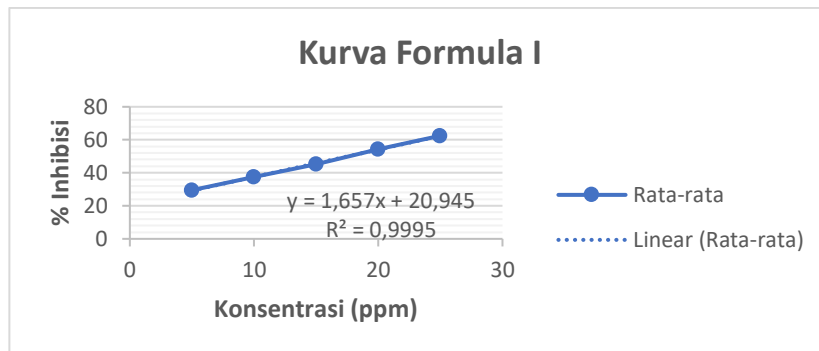
Lampiran 39. Kurva Vitamin C



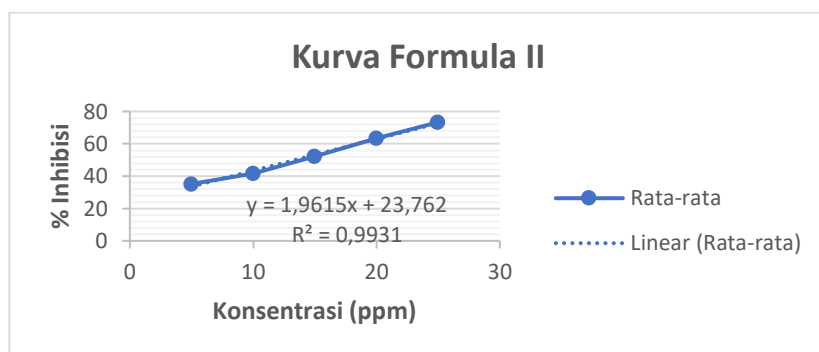
Lampiran 40. Kurva Ekstrak Daun Kirinyuh



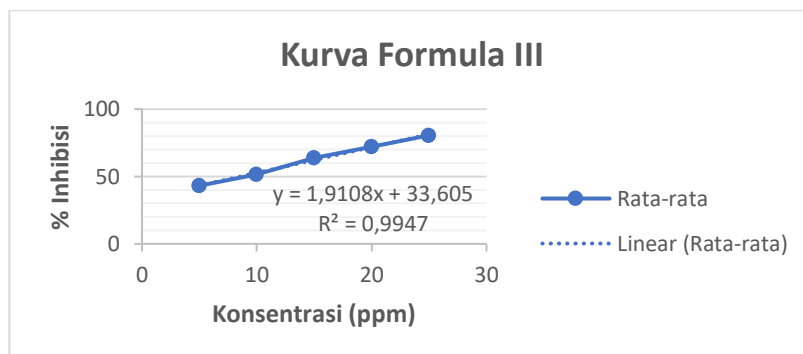
Lampiran 41. Kurva Sediaan *Hand Body Lotion* Formula 1



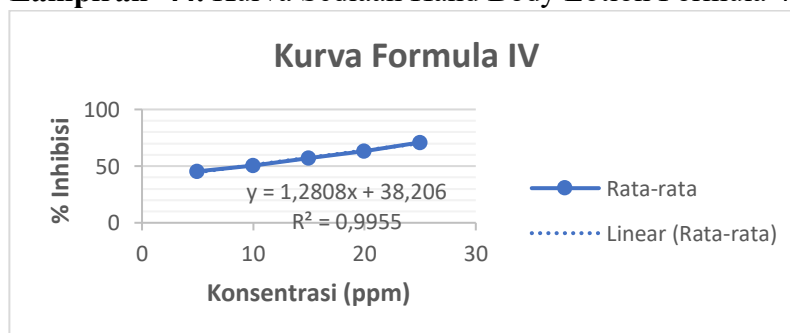
Lampiran 42. Kurva Sediaan *Hand Body Lotion* Formula 2



Lampiran 43. Kurva Sediaan *Hand Body Lotion* Formula 3



Lampiran 44. Kurva Sediaan *Hand Body Lotion* Formula 4



Lampiran 45. Lampiran Data Uji Iritasi

Waktu Pengamatan	Formula	Panelis	Reaksi kulit			Hasil pengamatan
			Merah	Gatal	Panas	
0 jam sebelum pengolesan sediaan	F0	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F1	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F2	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F3	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F4	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
Waktu Pengamatan	Formula	Panelis	Reaksi kulit			Hasil pengamatan
			Merah	Gatal	Panas	
24 Jam setelah pengolesan sediaan	F0	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F1	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F2	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi

	F3	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi
	F4	K1	-	-	-	Tidak terjadi iritasi
		K2	-	-	-	Tidak terjadi iritasi
		K3	-	-	-	Tidak terjadi iritasi

Keterangan :

K1 = Kelompok umur 17-an

K2 = Kelompok umur 20-an

K3 = Kelompok umur 50-an

- = negatif terjadi iritasi

+ = positif terjadi iritasi

Lampiran 46. Tabel Data Hasil Pengujian Aktivitas Antioksidan

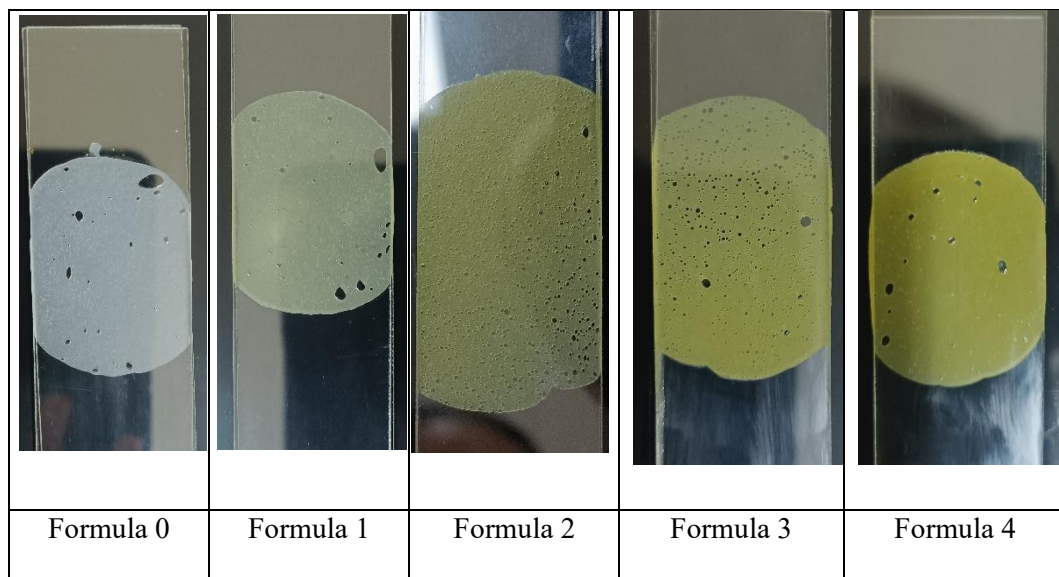
Asam askorbat	Konsentrasi ppm	Abs K	Abs Sampel			rata-rata Abs	%inhibisi			rata-rata Inhibisi	Rata-rata IC50	
			1	2	3		1	2	3			
	1	0,762	0,399	0,399	0,398	0,398667	47,6378	47,6378	47,76903	47,68154	6,98	
	2	0,762	0,389	0,389	0,388	0,388667	48,95013	48,95013	49,08136	48,99388		
	3	0,762	0,382	0,381	0,381	0,381333	49,86877	50	50	49,95626		
4	0,762	0,376	0,375	0,375	0,375333	50,65617	50,7874	50,7874	50,74366			
5	0,762	0,365	0,364	0,363	0,364	52,09974	52,23097	52,3622	52,23097			
Ekstrak Daun Kirinyuh	Konsentrasi ppm	Abs K	Abs Sampel			rata-rata Abs	%inhibisi			rata-rata Inhibisi	Rata-rata IC50	SD
			1	2	3		1	2	3			
	5	0,762	0,508	0,507	0,506	0,507	33,33333	33,46457	33,5958	33,46457	31,1	0,001
	10	0,762	0,459	0,458	0,459	0,458667	39,76378	39,89501	39,76378	39,80752		0,00057
	15	0,762	0,414	0,413	0,412	0,413	45,66929	45,80052	45,93176	45,80052		0,001
	20	0,762	0,359	0,358	0,357	0,358	52,88714	53,01837	53,14961	53,01837		0,001
25	0,762	0,296	0,295	0,294	0,295	61,15486	61,28609	61,41732	61,28609	0,001		
Formula 1	Konsentrasi ppm	Abs K	Abs Sampel			rata-rata	%inhibisi			rata-rata	Rata-rata IC50	SD
			1	2	3		1	2	3			
	5	0,762	0,537	0,538	0,537	0,537333	29,52756	29,39633	29,52756	29,48381	37,35	0,000577
	10	0,762	0,478	0,477	0,476	0,477	37,27034	37,40157	37,53281	37,40157		0,001
	15	0,762	0,416	0,417	0,416	0,416333	45,40682	45,27559	45,40682	45,36308		0,000577
	20	0,762	0,348	0,349	0,348	0,348333	54,33071	54,19948	54,33071	54,28696		0,000577
25	0,762	0,287	0,286	0,285	0,286	62,33596	62,46719	62,59843	62,46719	0,001		
Formula 2	Konsentrasi ppm	Abs K	Abs Sampel			rata-rata	%inhibisi			rata-rata	Rata-rata IC50	SD
			1	2	3		1	2	3			
	5	0,762	0,495	0,494	0,493	0,494	35,03937	35,1706	35,30184	35,1706	37,88	0,001
	10	0,762	0,445	0,444	0,443	0,444	41,60105	41,73228	41,86352	41,73228		0,001
	15	0,762	0,365	0,363	0,364	0,364	52,09974	52,3622	52,23097	52,23097		0,001
	20	0,762	0,279	0,279	0,278	0,278667	63,38583	63,38583	63,51706	63,42957		0,000577
25	0,762	0,204	0,203	0,202	0,203	73,22835	73,35958	73,49081	73,35958	0,001		

Formula 3	Konsentrasi ppm	Abs Sampel				rata-rata	%inhibisi			rata-rata	Rata-rata IC50	SD
		Abs K	1	2	3		1	2	3			
	5	0,762	0,434	0,433	0,432	0,433	43,04462	43,17585	43,30709	43,17585		
10	0,762	0,37	0,37	0,369	0,369667	51,44357	51,44357	51,5748	51,48731	0,000577		
15	0,762	0,276	0,276	0,274	0,275333	63,77953	63,77953	64,04199	63,86702	0,001155		
20	0,762	0,212	0,212	0,211	0,211667	72,17848	72,17848	72,30971	72,22222	0,000577		
25	0,762	0,149	0,148	0,147	0,148	80,44619	80,57743	80,70866	80,57743	0,001		

Formula 4	Konsentrasi ppm	Abs Sampel				rata-rata	%inhibisi			rata-rata	Rata-rata IC50	SD
		Abs K	1	2	3		1	2	3			
	5	0,762	0,417	0,416	0,415	0,416	45,27559	45,40682	45,53806	45,40682		
10	0,762	0,379	0,378	0,377	0,378	50,26247	50,3937	50,52493	50,3937	0,001		
15	0,762	0,329	0,328	0,327	0,308	56,82415	56,95538	57,08661	56,95538	0,001		
20	0,762	0,279	0,279	0,278	0,279667	63,38583	63,38583	63,51706	63,42957	0,000577		
25	0,762	0,222	0,222	0,221	0,200667	70,86614	70,86614	70,99738	70,90989	0,000577		

Lampiran 47. Lampiran Dokumentasi Penelitian

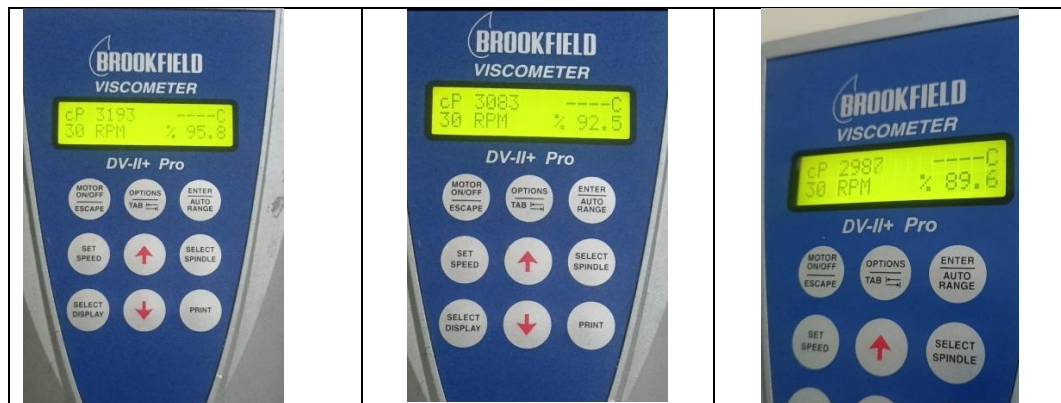
Uji Organoleptis dan Homogenitas



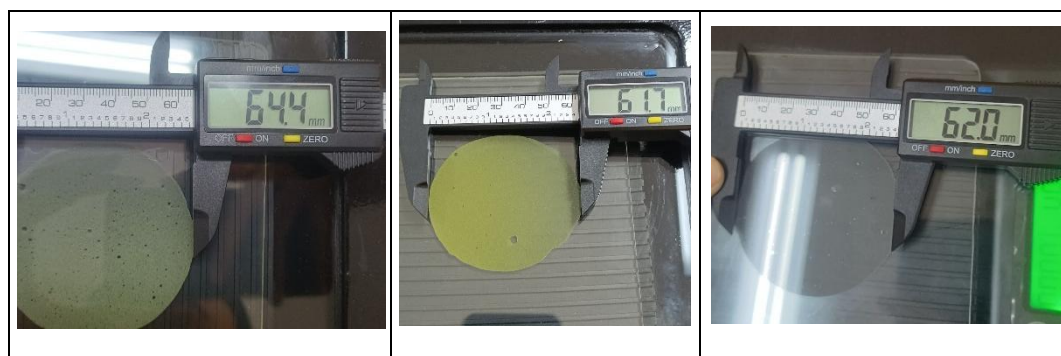
Uji pH



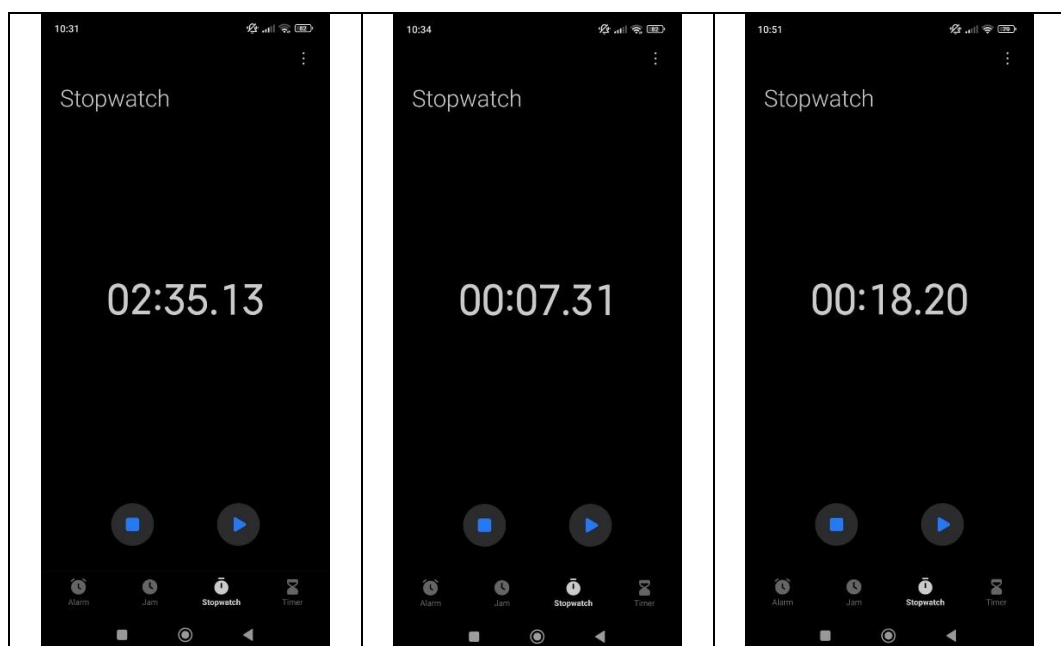
Uji Viskositas



Uji Daya Sebar



Uji Daya Lekat



Uji Stabilitas

		
Stabilitas Suhu Ruang (<i>Real time</i>)	Stabilitas Suhu Panas 40°C (<i>Cycling test</i>)	Stabilitas Suhu Dingin 4°C (<i>Cycling test</i>)

Uji Iritasi Sediaan



Uji Aktivitas



Lampiran 48. Kartu Bimbingan

No	Tanggal	Dosen Pembimbing	Topik	Disetujui	Aksi
1	21 Februari 2025	apt. Deny Puriyani Azhary, M.Si	Laporan progres revisi sesi sempro dan laporan outline penelitian	✓	 
1	6 Februari 2025	Dr Fenti Fatmawati, M.Si	Koordinasi tahap skrinning fitokimia	✓	 
2	26 Februari 2025	apt. Deny Puriyani Azhary, M.Si	Bimbingan terkait tahap decolorisasi	✓	 
2	11 Februari 2025	Dr Fenti Fatmawati, M.Si	Laporan progres penelitian	✓	 
3	17 Maret 2025	apt. Deny Puriyani Azhary, M.Si	Melakukan diskusi jadwal bimbingan lanjutan	✓	 
3	12 Februari 2025	Dr Fenti Fatmawati, M.Si	Diskusi waktu eval	✓	 
4	20 Maret 2025	apt. Deny Puriyani Azhary, M.Si	Melakukan bimbingan laporan progres penelitian	✓	 
4	8 Maret 2025	Dr Fenti Fatmawati, M.Si	Laporan progres Penelitian sekaligus koordinasi metode pengujian stabilitas yang digunakan	✓	 
5	14 April 2025	apt. Deny Puriyani Azhary, M.Si	Administrasi kode etik	✓	 
5	15 Maret 2025	Dr Fenti Fatmawati, M.Si	Laporan progres Penelitian	✓	 
6	16 Mei 2025	apt. Deny Puriyani Azhary, M.Si	diskusi terkait jadwal bimbingan	✓	 
6	11 April 2025	Dr Fenti Fatmawati, M.Si	Laporan Progress dan pengajuan tanda tangan	✓	 
7	14 April 2025	Dr Fenti Fatmawati, M.Si	Progress penelitian	✓	 
7	22 April 2025	apt. Deny Puriyani Azhary, M.Si	konsultasi pengujian antioksidan dan konfirmasi jumlah sampel yang perlu diproduksi	✓	 
8	16 April 2025	Dr Fenti Fatmawati, M.Si	Administrasi kode etik	✓	 
8	29 April 2025	apt. Deny Puriyani Azhary, M.Si	kemajuan TA I	✓	 
9	23 Mei 2025	Dr Fenti Fatmawati, M.Si	Diskusi progres TA	✓	 
9	2 Mei 2025	apt. Deny Puriyani Azhary, M.Si	Konfirmasi jadwal kemajuan	✓	 

Lampiran 49. Daftar Riwayat Hidup

DAFTAR RIWAYAT HIDUP



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	:

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SMP	: SMP Negeri 1 Belo
SMK	: SMK Kesehatan Banten
S1	: Universitas Bhakti Kencana Bandung

Lampiran 50. Hasil Cek Plagiasi Turnitin

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